Analytical Resources, Incorporated
Analytical Chemists and Consultants

01 September 2021

Cindy Fields
Anchor QEA, LLC
1201 3rd Ave, Suite 2600
Seattle, WA 98101

RE: Lower Duwamish AOC4

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
21G0305	N/A

Susan Dunnihoo

Digitally signed by Susan Dunnihoo
Date: 2021.09.01 18:23:58 -07'00'

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Susan Dunnihoo, Director, Client Services

Cert# 100006-012

21G0305

1 of 1

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 4102

Project/Client Name: Duwamish AOC4
Project Number: 180067-02.02
Contact Name: Amara Vanderwort
Sampled By: Windward

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: Courier
Form filled out by: Brandi Quinlisk

Shipping Date: 7/22/2021
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	PCBs	TOC/Total Solids	Archive	BBP	Mercury			Comments / Instructions [Jar tag number(s)]
7/22/21	0910	LDW21-SC569	3	Sediment	X	X	X					
	0934	LDW21-SC567	3		X	X	X					
	0948	LDW21-SC566	3		X	X	X					
	1009	LDW21-SC561	3		X	X	X					
	10:26	LDW21-SC526	3		X	X	X					
	10:26	LDW21-SC526FD	3		X	X	X					
	10:44	LDW21-SC530	3		X	X	X	X				
	10:58	LDW21-SC540	3		X	X	X					
	11:20	LDW21-SC574	4		X	X	X		X			
7/22/21	15:32	LDW21-SC551	3	Sediment	X	X	X					
		Total Number of Containers		Purchase Order / Statement of Work #	CLF-052021-ARI							

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: C. Orreito		Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: AQEA		Company:	
Date/Time: 7/22/21 1730	Date/Time: 07/22/2021 1730	Date/Time:	Date/Time:

* Distribution: White copies accompany shipment; yellow retained by consignor.

Wind Ward environmental LLC

200 1st Ave W, Suite 500
Seattle, WA 98119

206.378.1364

To be completed by Laboratory upon sample receipt:

Date of receipt::	Laboratory W.O. #:
Condition upon receipt:	Time of receipt:
Cooler temperature:	Received by:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward/Anchor

Project Name: Lower Duwamish AOC4

COC No(s): 4102 NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 21G0305

Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1755 3.8 ____ ____ ____ ____ ____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO5006

Cooler Accepted by: JSL Date: 07/26/21 Time: 1730

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	_____	

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: JL Date: 07/26/21 Time: 1031 Labels checked by: _____

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Anchor QEA, LLC	Project:	Lower Duwamish AOC4	
1201 3rd Ave, Suite 2600	Project Number:	180067-02.03	**Reported:**
Seattle, WA 98101	Project Manager:	Cindy Fields	09/01/2021 18:05

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
21G0305-01	LDW21-SC569	Solid	07/22/21 09:10	07/22/21 17:30
21G0305-02	LDW21-SC567	Solid	07/22/21 09:34	07/22/21 17:30
21G0305-03	LDW21-SC566	Solid	07/22/21 09:48	07/22/21 17:30
21G0305-04	LDW21-SC561	Solid	07/22/21 10:09	07/22/21 17:30
21G0305-05	LDW21-SC526	Solid	07/22/21 10:26	07/22/21 17:30
21G0305-06	LDW21-SC526FD	Solid	07/22/21 10:26	07/22/21 17:30
21G0305-07	LDW21-SC530	Solid	07/22/21 10:44	07/22/21 17:30
21G0305-08	LDW21-SC540	Solid	07/22/21 10:58	07/22/21 17:30
21G0305-09	LDW21-SC574	Solid	07/22/21 11:20	07/22/21 17:30
21G0305-10	LDW21-SC551	Solid	07/22/21 15:32	07/22/21 17:30

Anchor QEA, LLC	Project: Lower Duwamish AOC4	
1201 3rd Ave, Suite 2600	Project Number: 180067-02.03	**Reported:**
Seattle WA, 98101	Project Manager: Cindy Fields	01-Sep-2021 18:05

Case Narrative

Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Work Order: 21G0305

Sample receipt

Samples as listed on the preceding page were received 22-Jul-2021 17:30 under ARI work order 21G0305. For details regarding sample receipt, please refer to the Cooler Receipt Form. Mercury aliquots were frozen to meet QAPP requirements.

Semivolatiles - EPA Method SW8270E

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times. The extract for sample LDW21-SC530 was initially diluted due to screens and extract characteristics. Samples LDW21-SC567, LDS21-SC566 and LDW21-SC551 required reanalysis at dilution due to response over the calibrated range of the instrument.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The batch BJH0034 matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits, reported under work order 21G0303.

The reference material (SRM) percent recoveries were within control limits.

Total Mercury - EPA Method 7471

Anchor QEA, LLC	Project: Lower Duwamish AOC4	
1201 3rd Ave, Suite 2600	Project Number: 180067-02.03	**Reported:**
Seattle WA, 98101	Project Manager: Cindy Fields	01-Sep-2021 18:05

Case Narrative

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

The batch BJH0135 matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits, reported under work order 21G0286.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

The TOC batch BJH0300 matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits, reported under work order 21G0269.

The TOC batch BJH0301 matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
NRS	This surrogate not reported due to chromatographic interference
J	Estimated concentration value detected below the reporting limit.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
D	The reported value is from a dilution
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC530

Form I
ORGANIC ANALYSIS DATA SHEET
EPA 8270E
Semivolatiles (20ug/kg - 0.2ug/L SepF)

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-07 B	SDG:	21G0305
Sampled:	07/22/21 10:44	Prepared:	08/05/21 10:25	File ID:	NT1021082007.D
% Solids:	64.90	Preparation:	EPA 3546 (Microwave)	Analyzed:	08/20/21 12:16
Batch:	BJH0139	Sequence:	SJH0258	Initial/Final:	15.41 g Wet / 1 mL
Instrument:	NT10	Column:	ZB-5MSi	Calibration:	EH00053
Cleanups:	GPC				

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg dry)	Q	DL	RL
85-68-7	Butylbenzylphthalate	1	15.8	J	9.4	20.0

SURROGATES	ADDED: (ug/kg dry)	FOUND: (ug/kg dry)	% REC	QC LIMITS	Q
p-Terphenyl-d14	499.95	459	91.7	37 - 120	

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

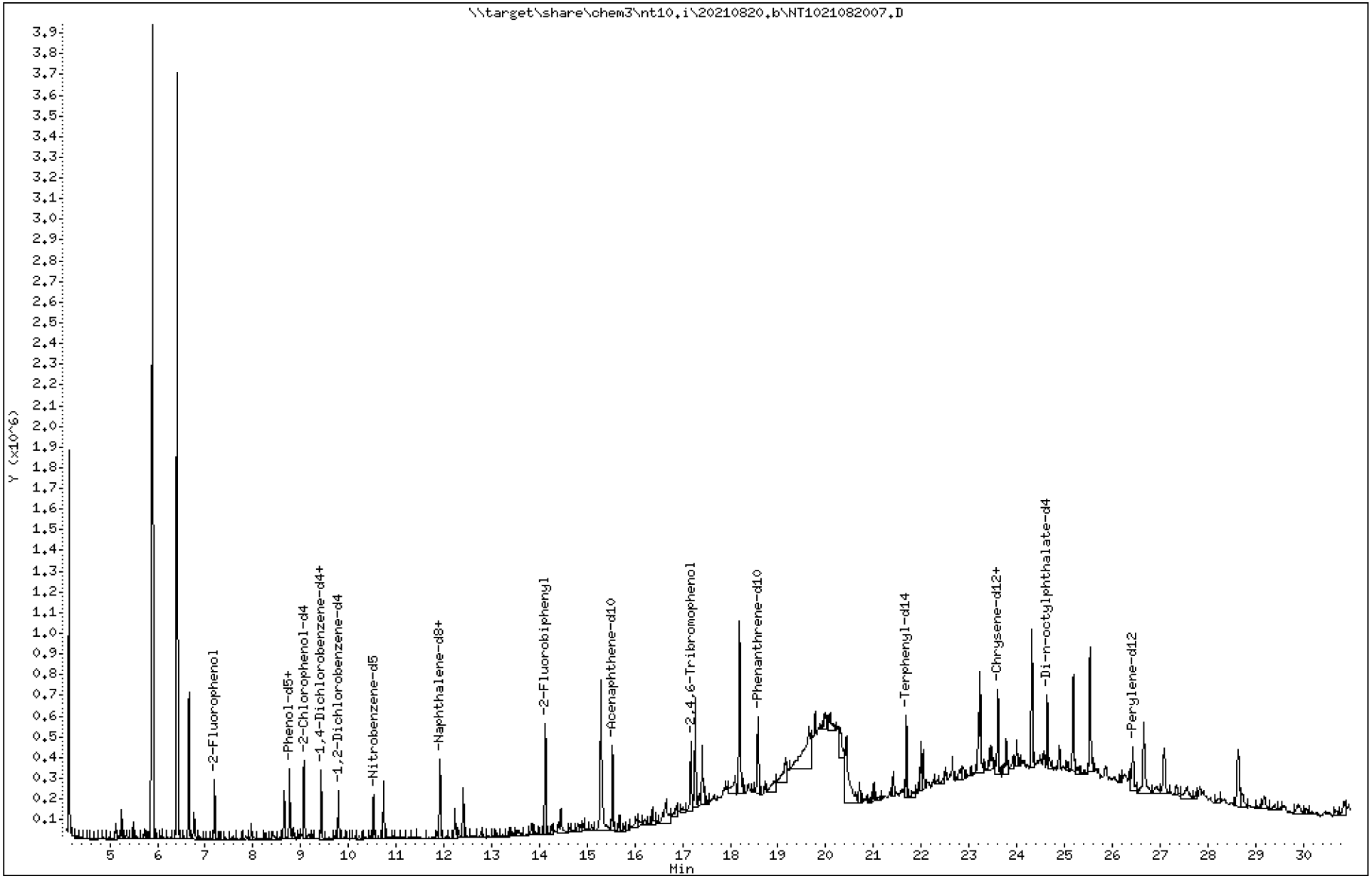
Instrument: nt10.i

Sample Info: 21G0305-07

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

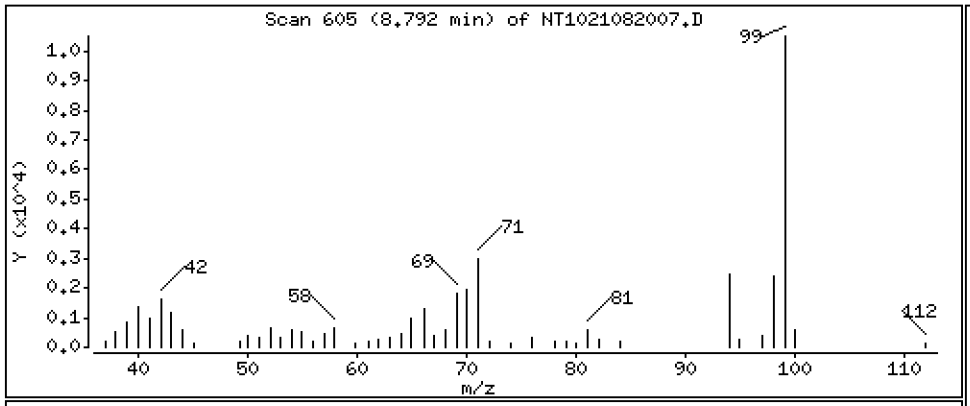
Operator: VTS

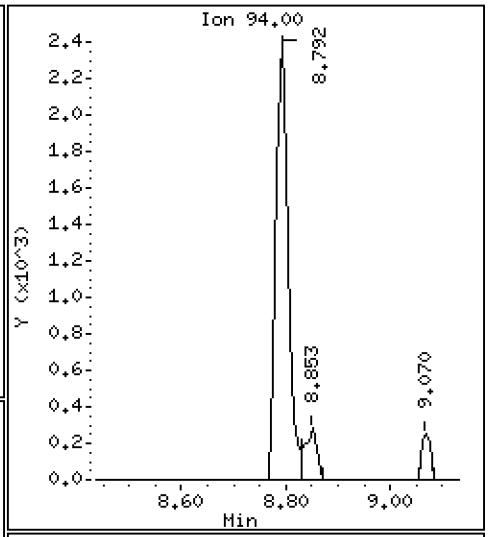
Column phase: ZB-5msi

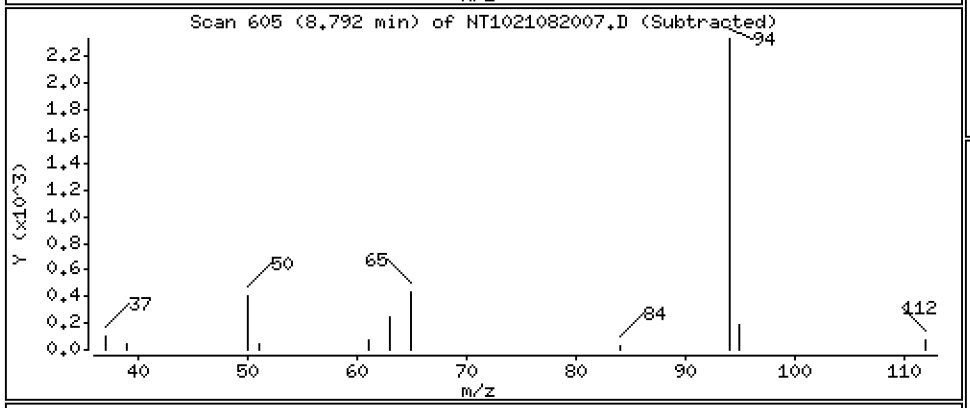
Column diameter: 0.25

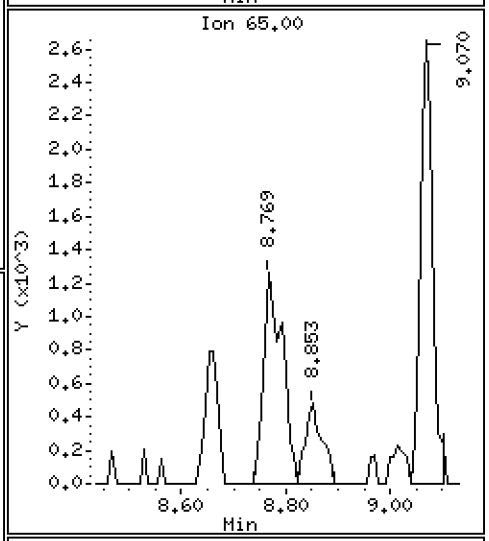
3 Phenol

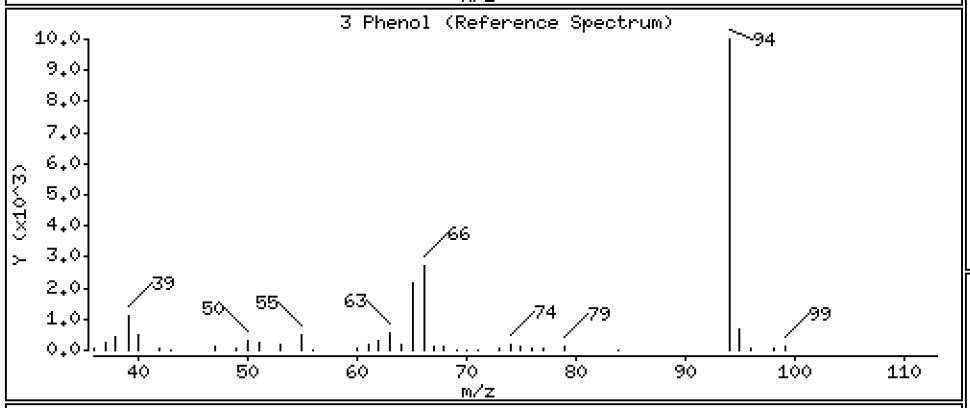
Concentration: 0.09654 ug/mL

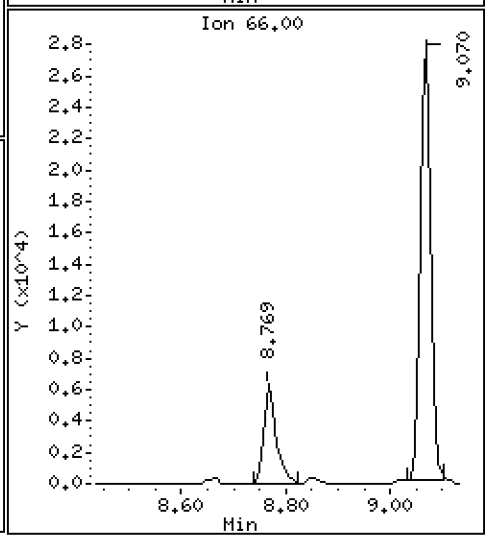


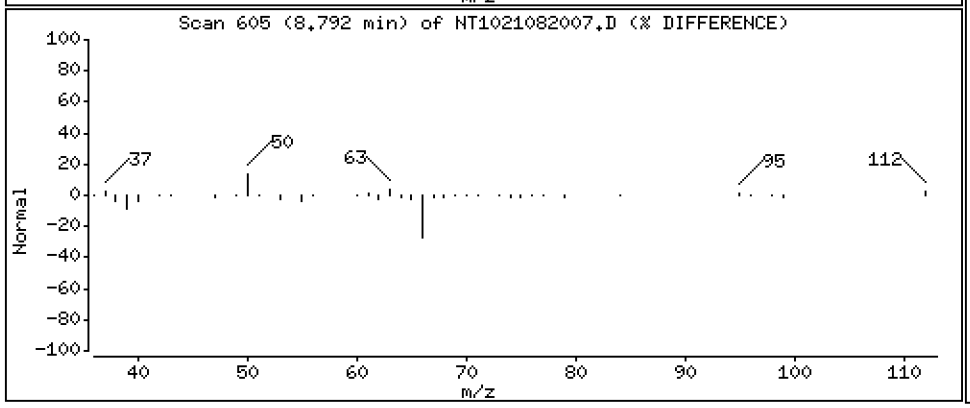












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

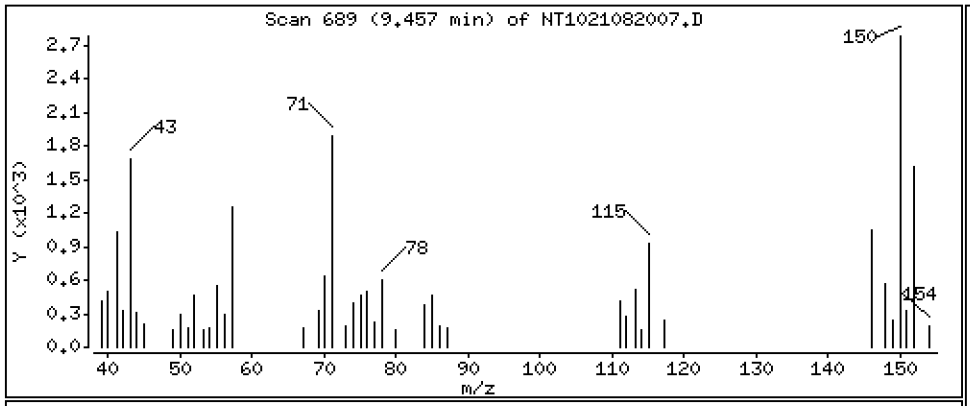
Operator: VTS

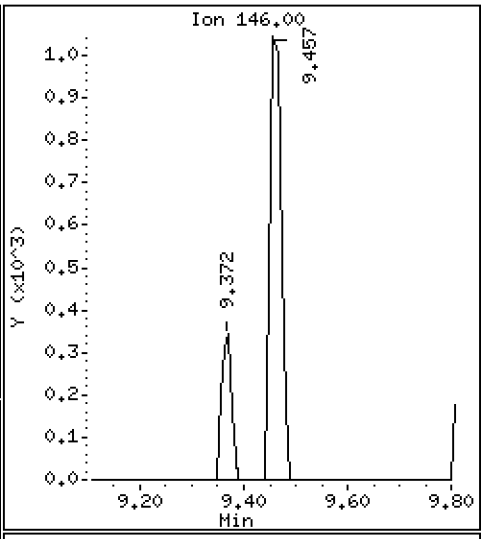
Column phase: ZB-5msi

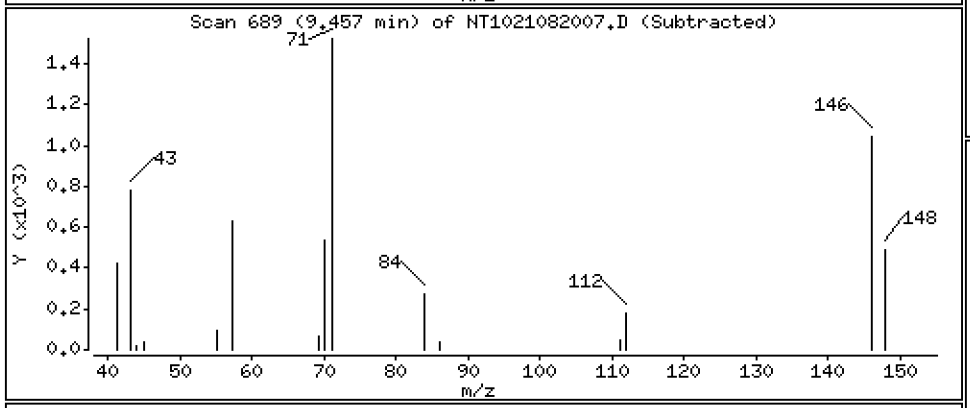
Column diameter: 0.25

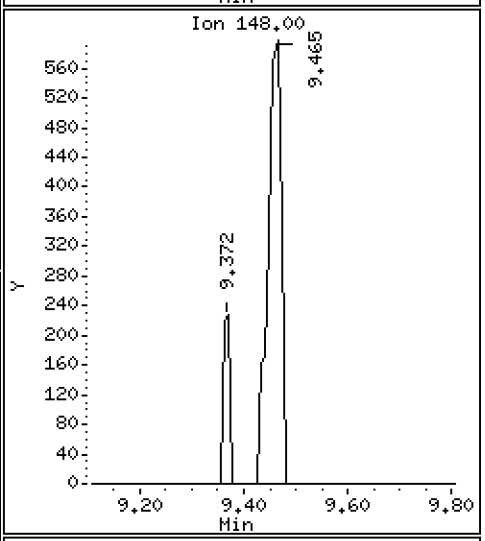
9 1,4-Dichlorobenzene

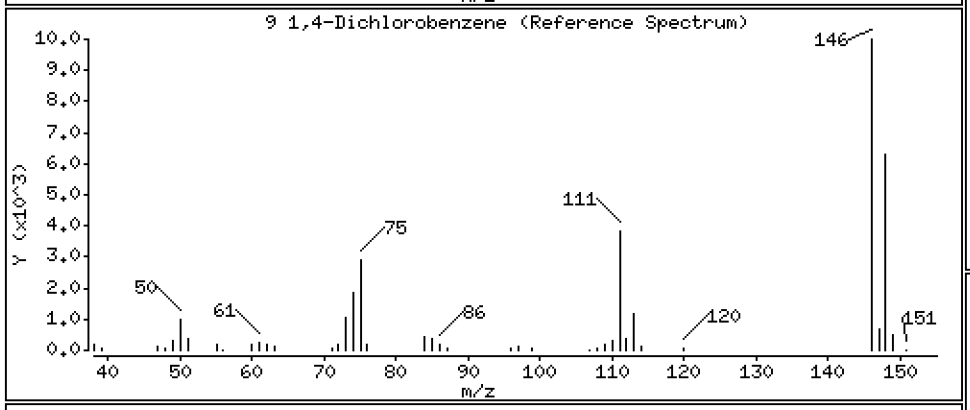
Concentration: 0.05963 ug/mL

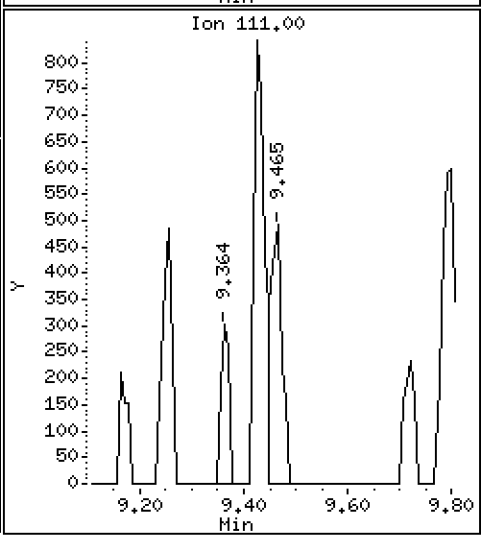


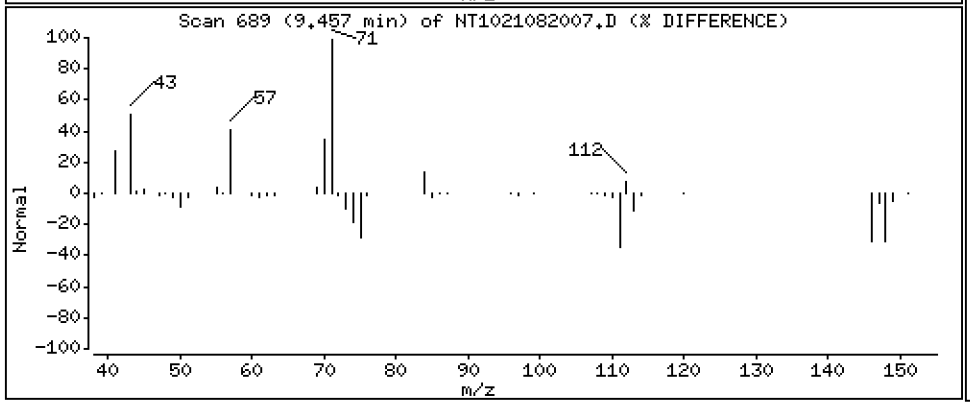












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

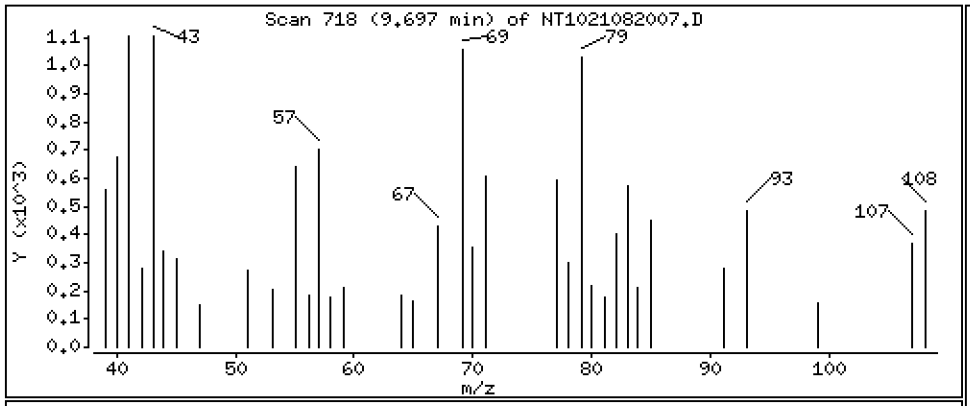
Operator: VTS

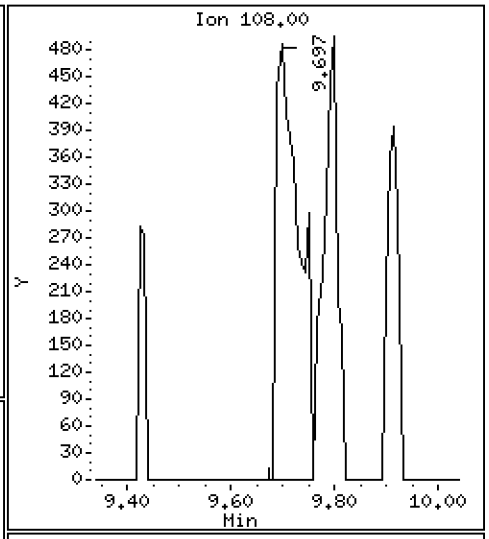
Column phase: ZB-5msi

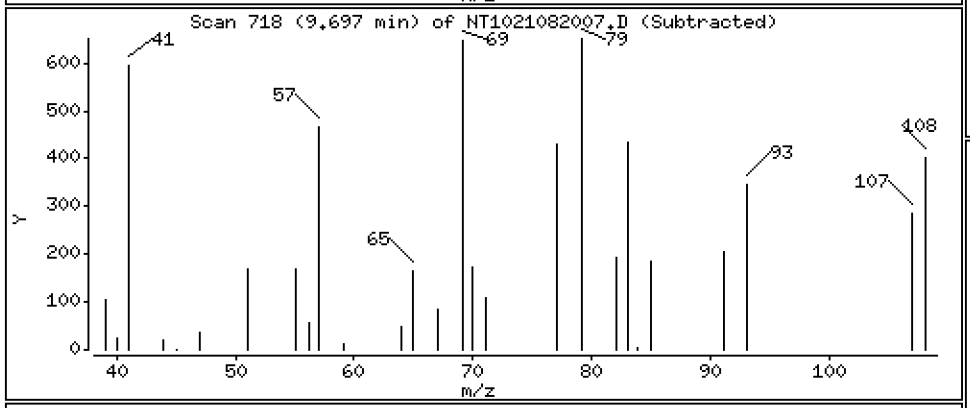
Column diameter: 0.25

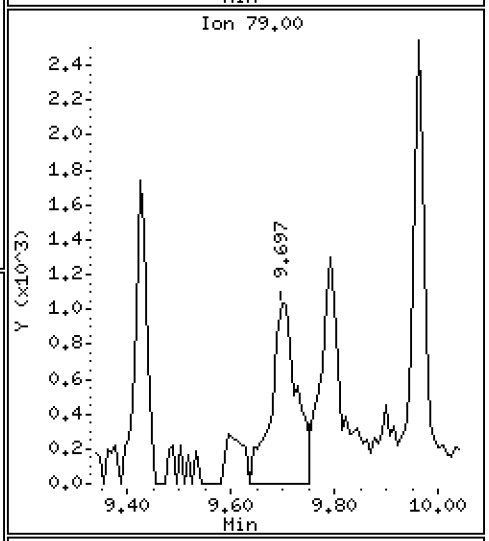
11 Benzyl alcohol

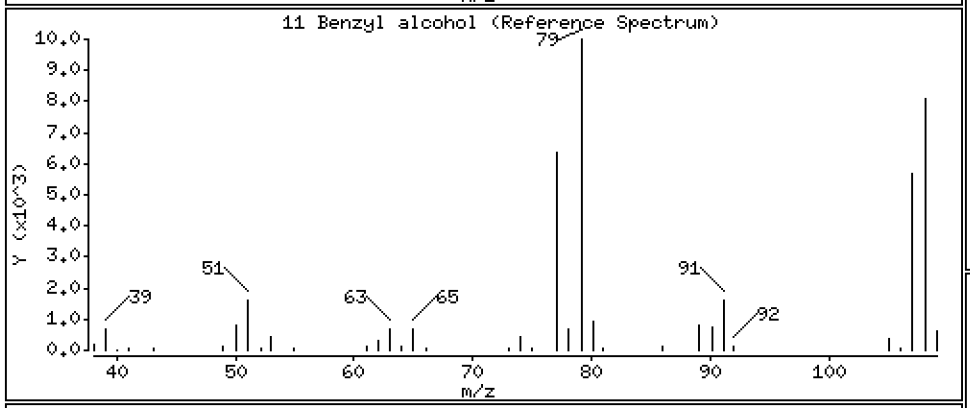
Concentration: 0.08234 ug/mL

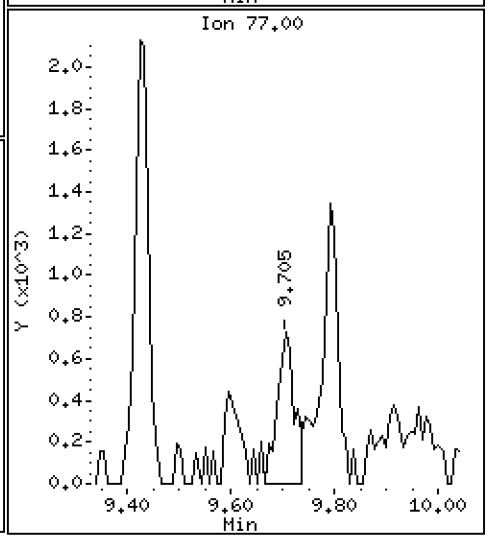


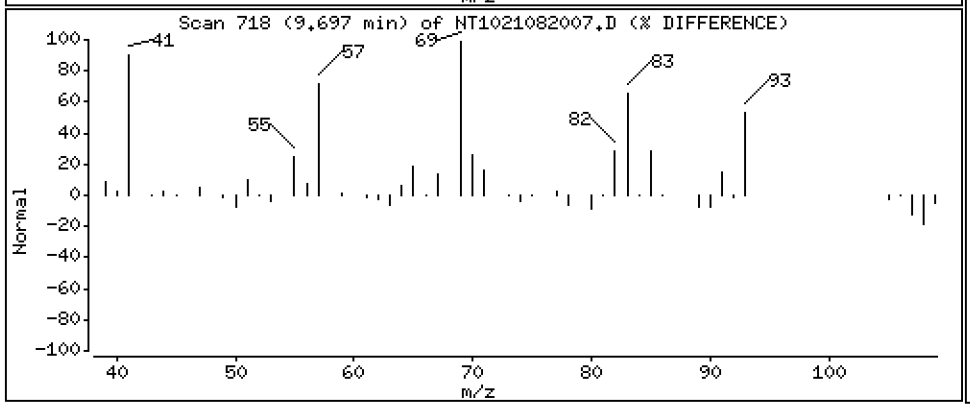












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

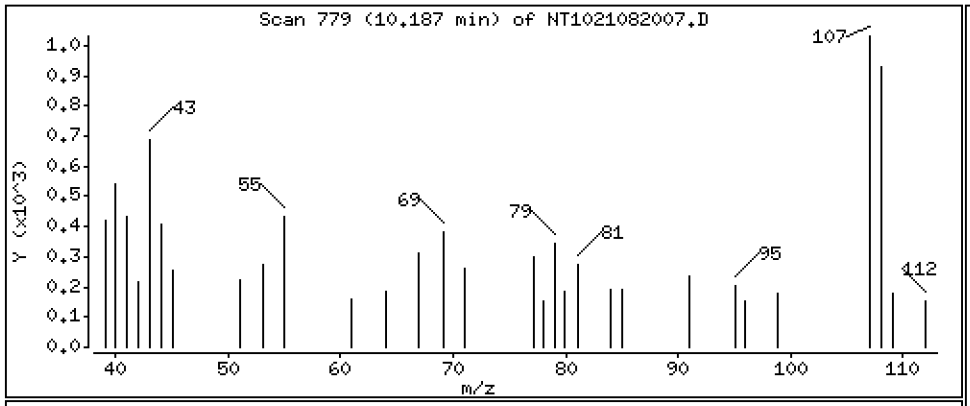
Operator: VTS

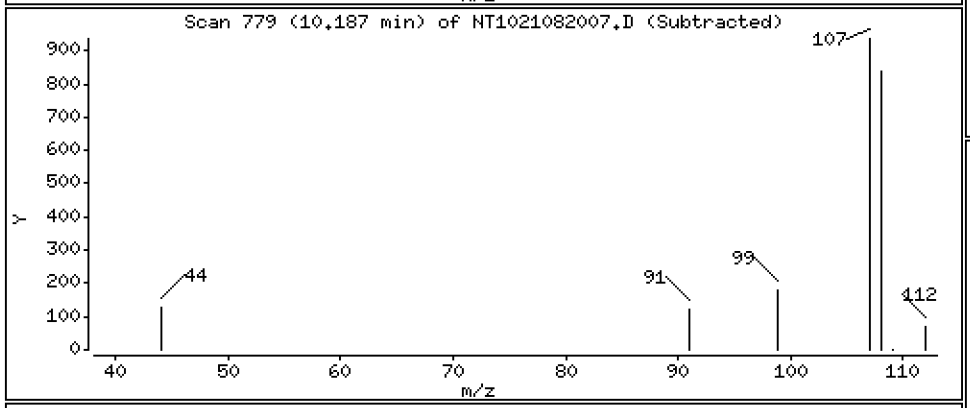
Column phase: ZB-5msi

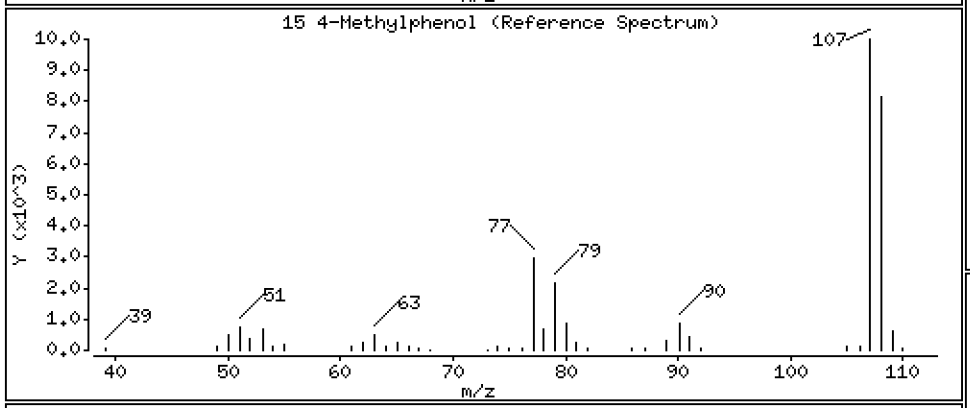
Column diameter: 0.25

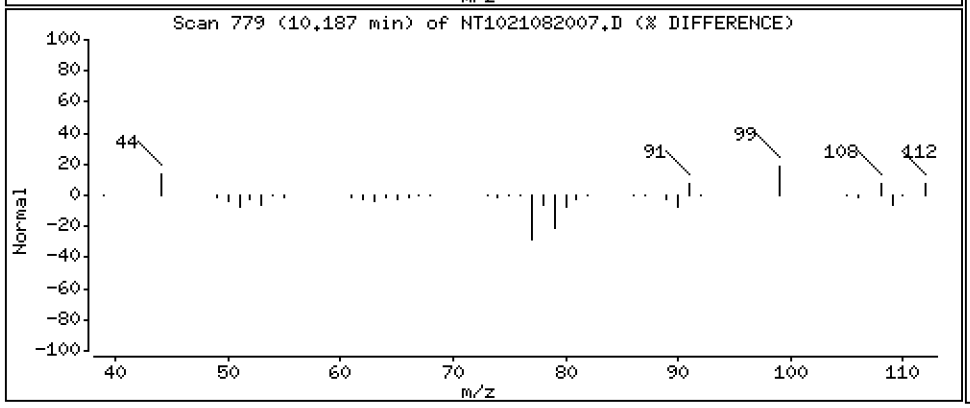
15 4-Methylphenol

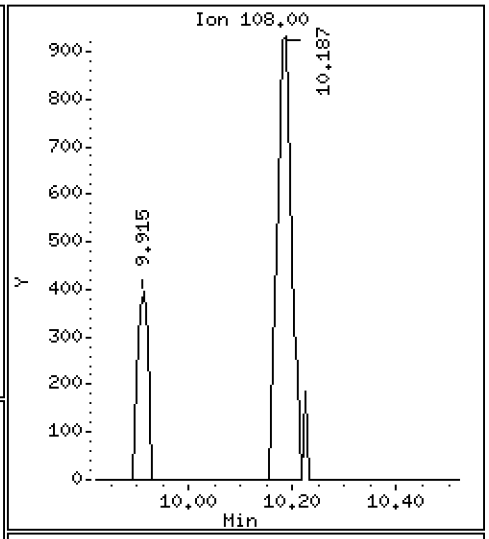
Concentration: 0.07013 ug/mL

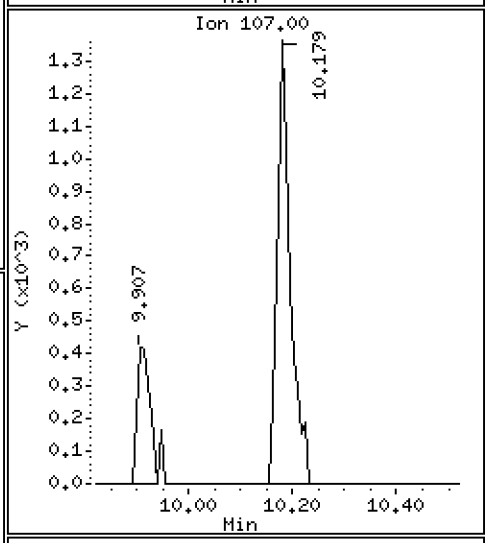


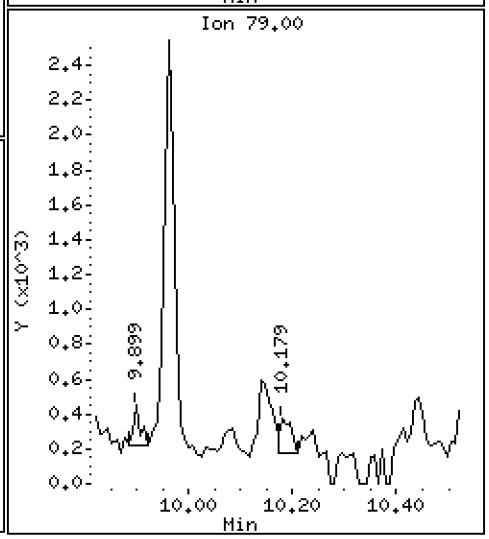












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

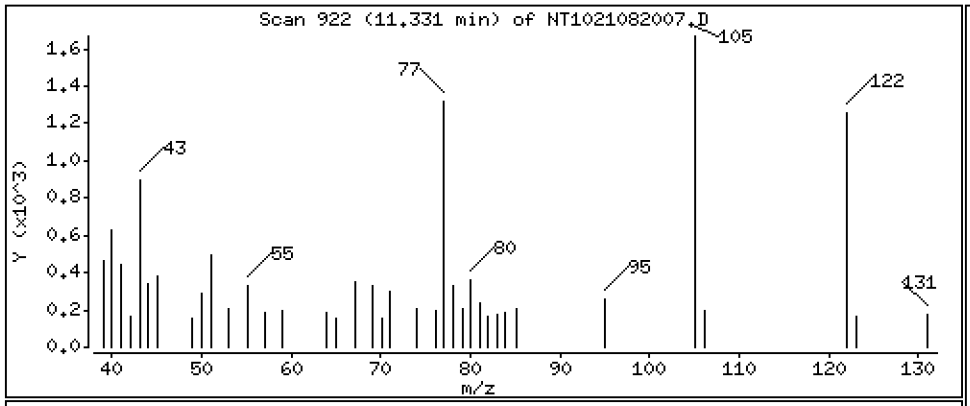
Operator: VTS

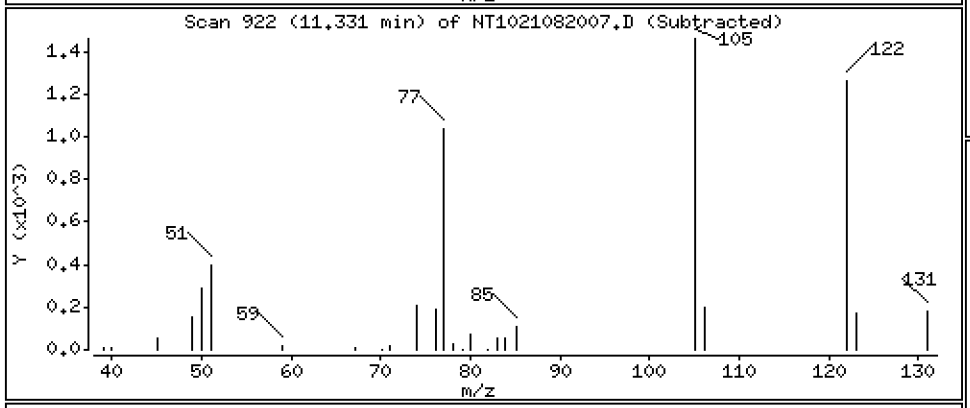
Column phase: ZB-5msi

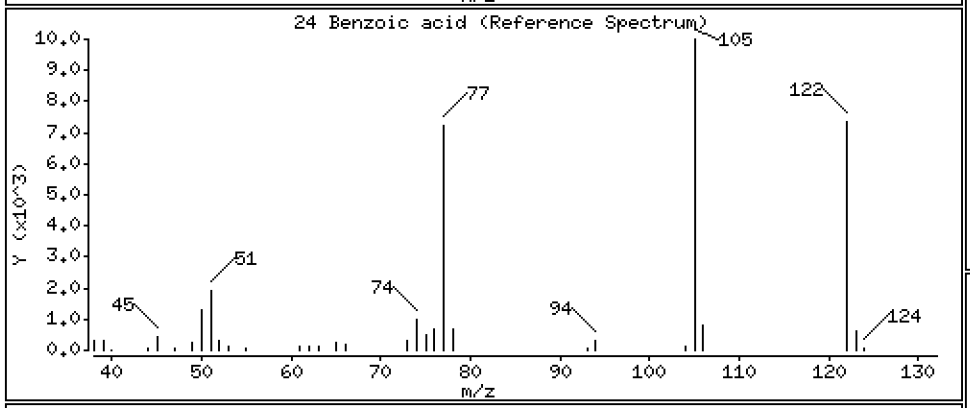
Column diameter: 0.25

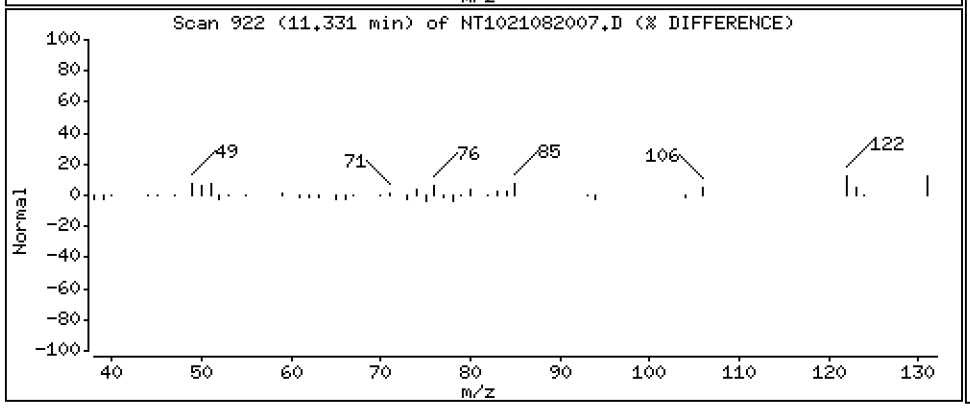
24 Benzoic acid

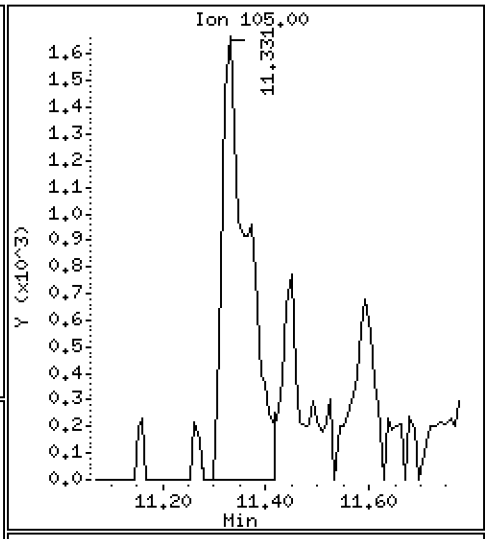
Concentration: 0.4360 ug/mL

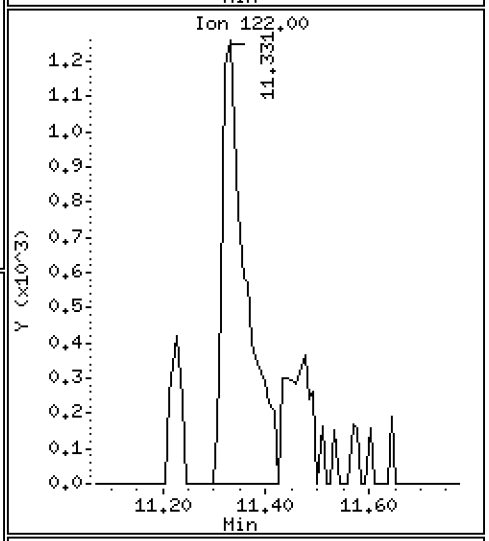


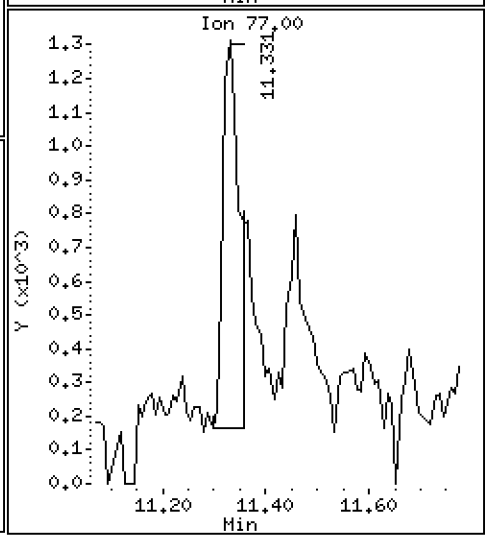












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

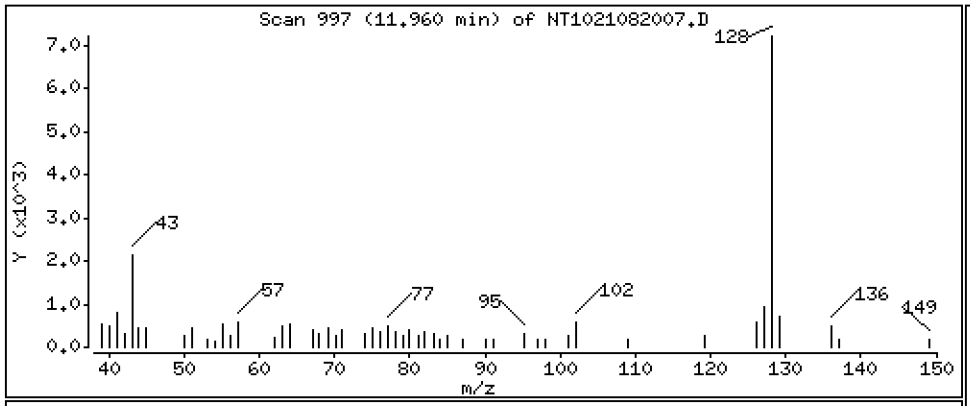
Operator: VTS

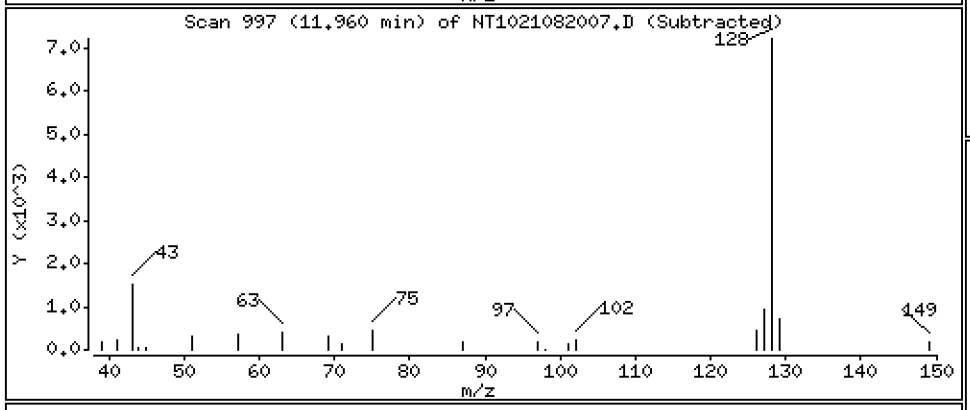
Column phase: ZB-5msi

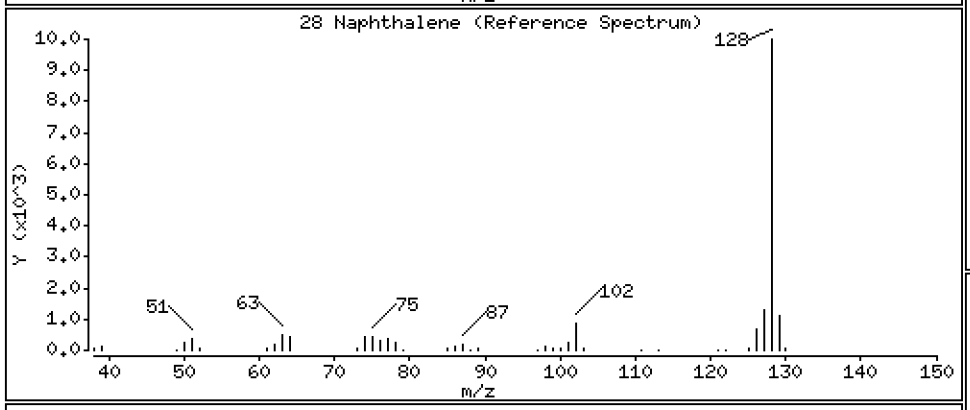
Column diameter: 0.25

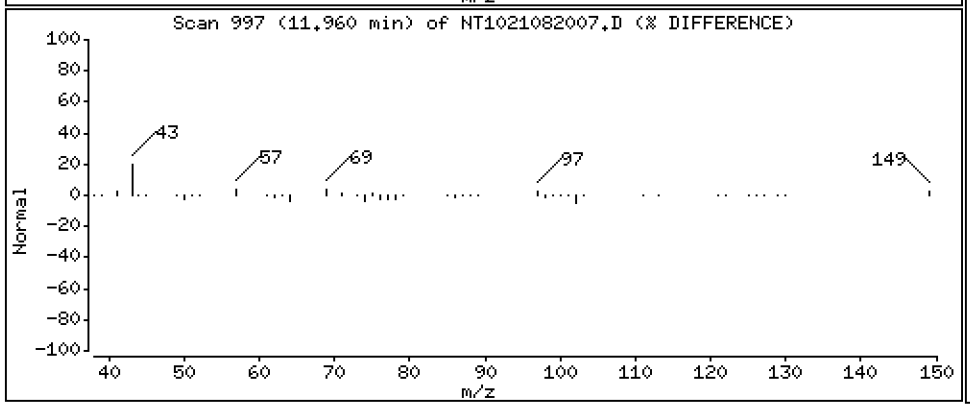
28 Naphthalene

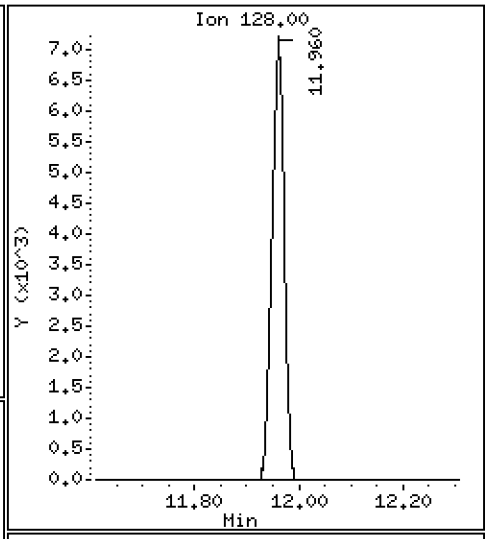
Concentration: 0.1491 ug/mL

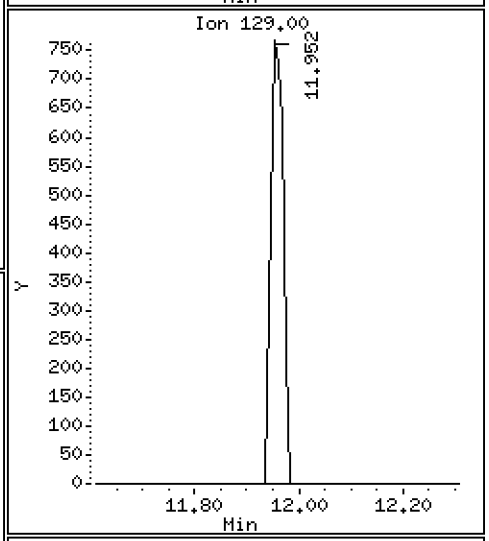


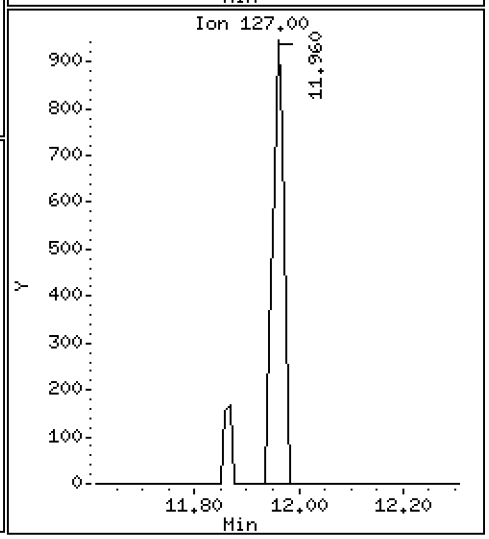












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

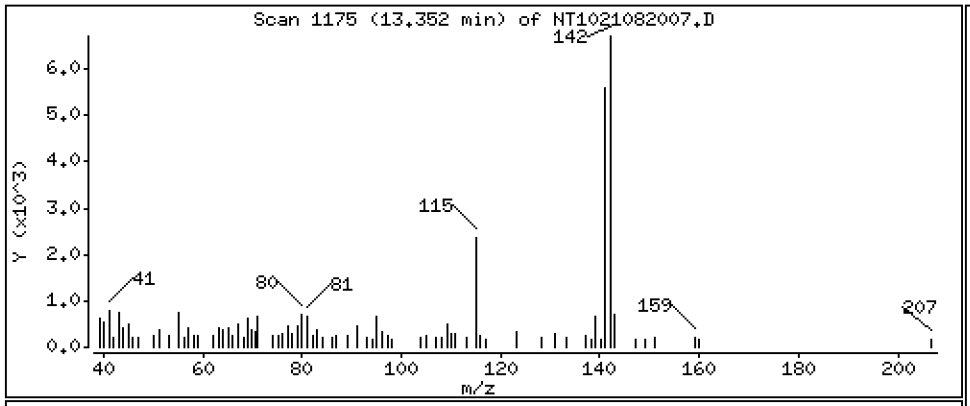
Operator: VTS

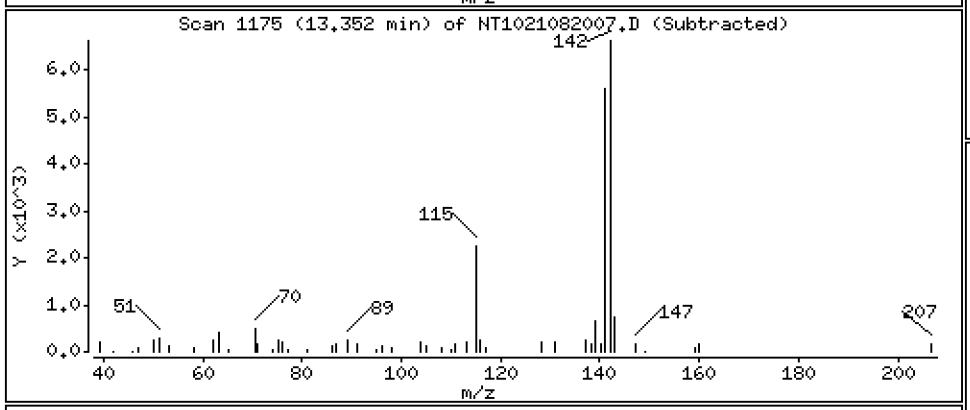
Column phase: ZB-5msi

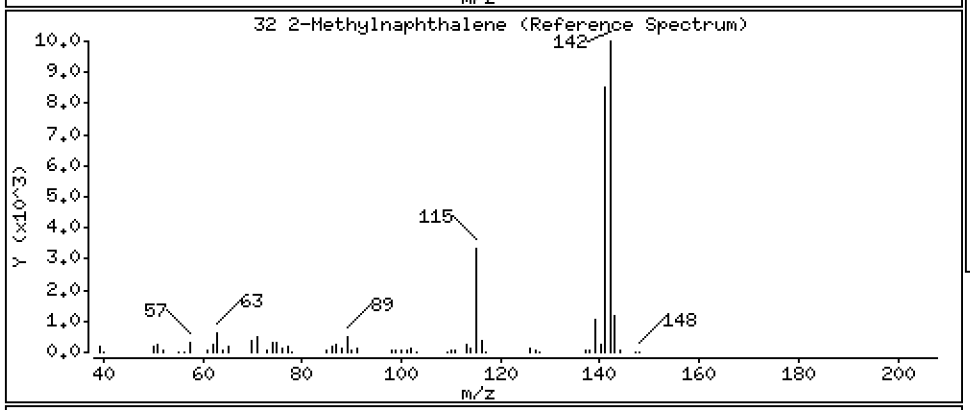
Column diameter: 0.25

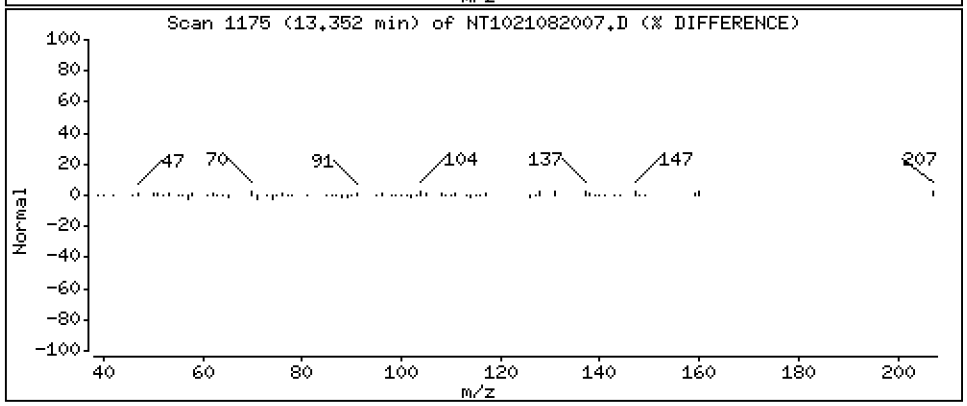
32 2-Methylnaphthalene

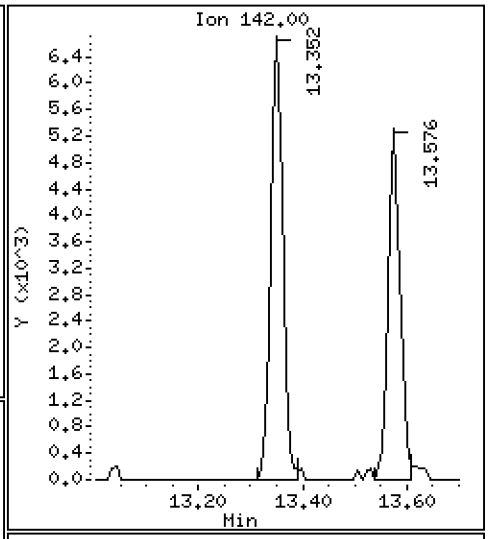
Concentration: 0.1407 ug/mL

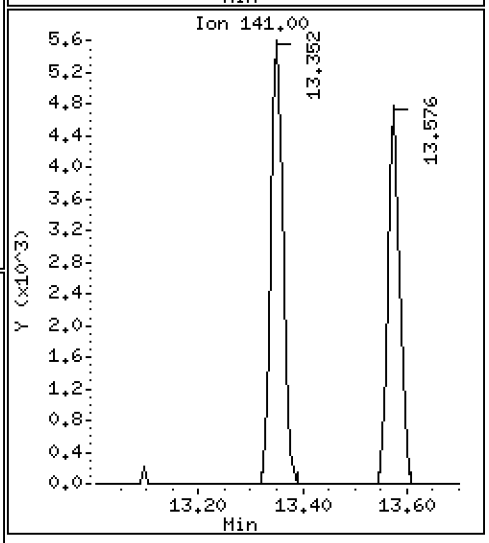












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

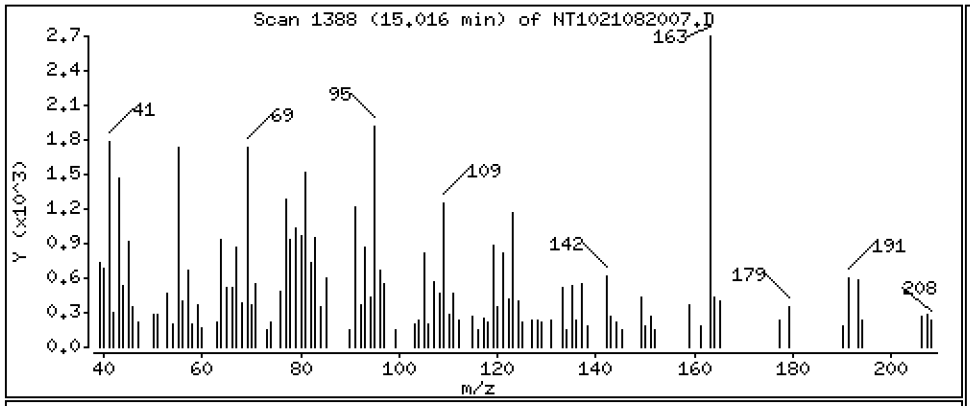
Operator: VTS

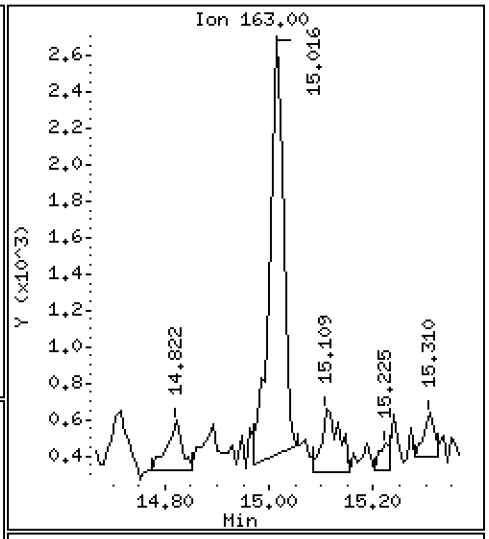
Column phase: ZB-5msi

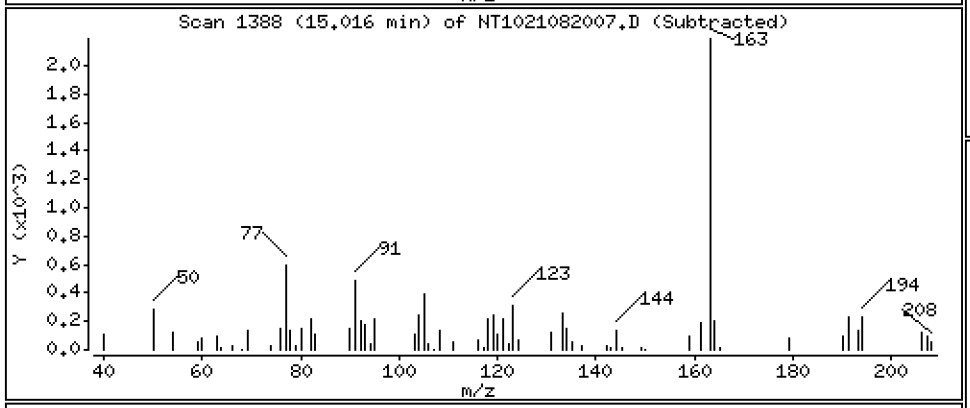
Column diameter: 0.25

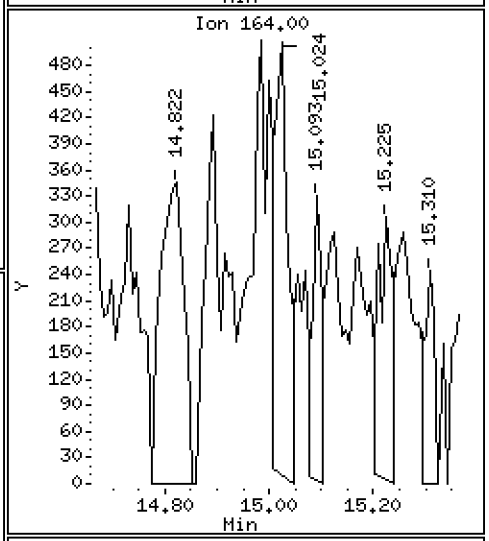
39 Dimethylphthalate

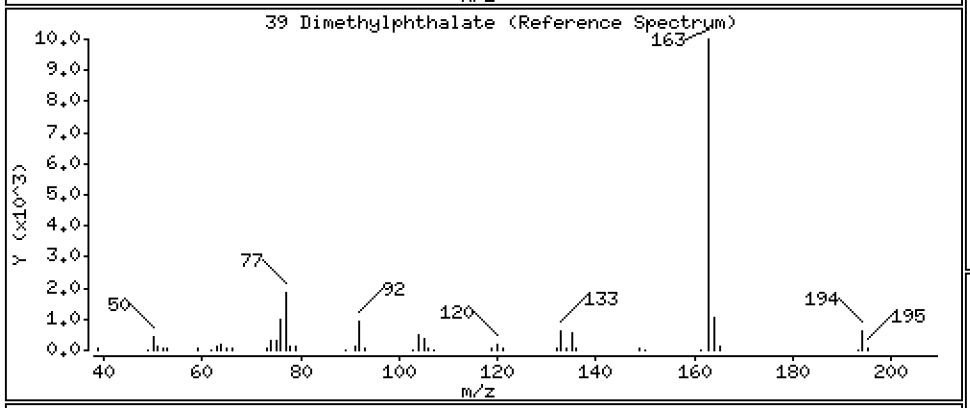
Concentration: 0.07320 ug/mL

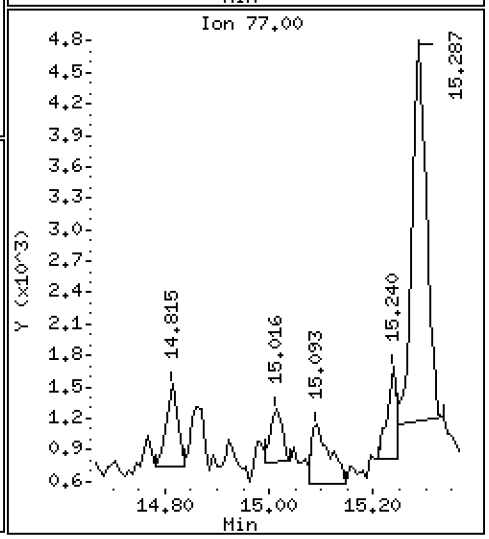


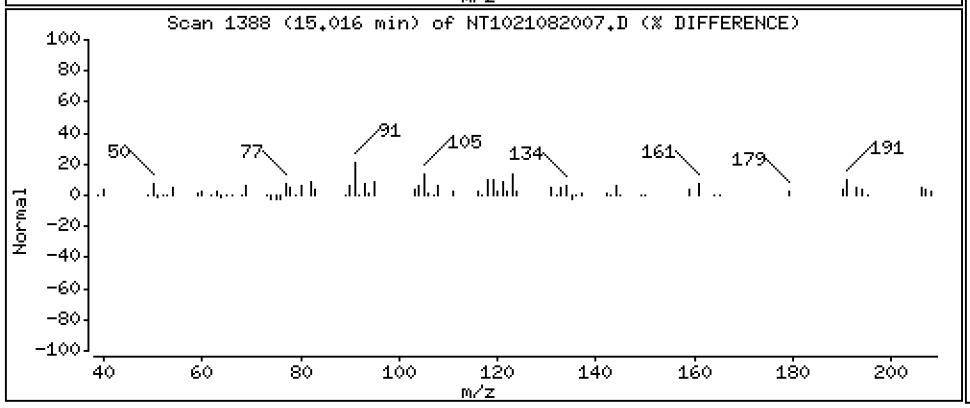












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

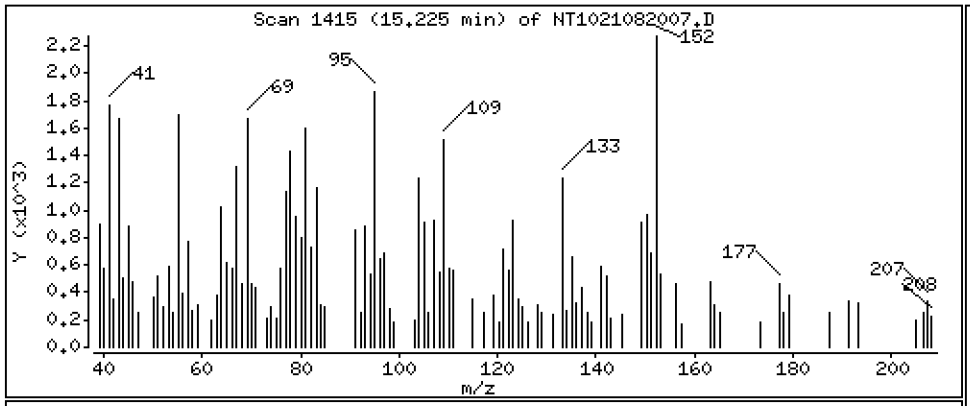
Operator: VTS

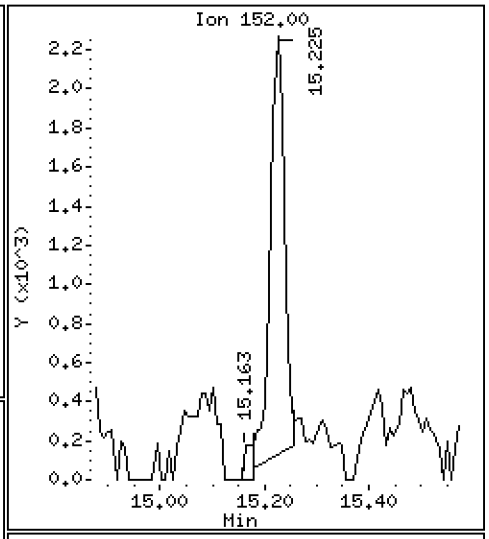
Column phase: ZB-5msi

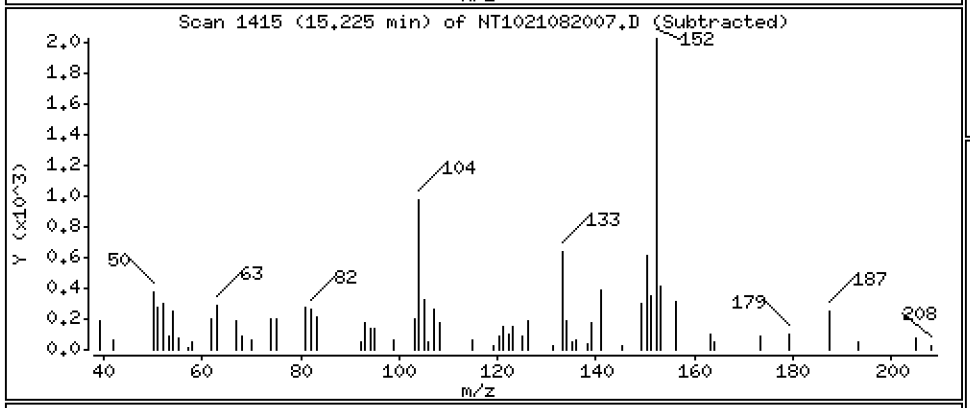
Column diameter: 0.25

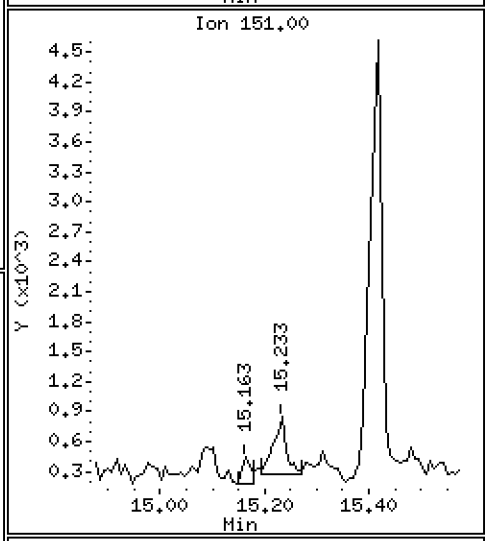
40 Acenaphthylene

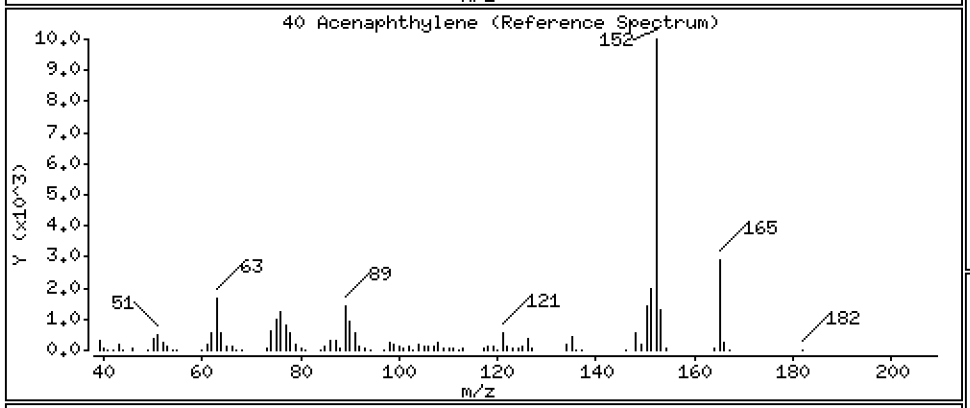
Concentration: 0.04765 ug/mL

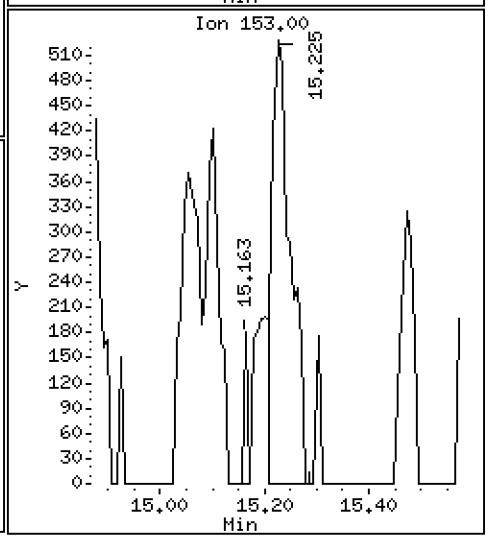


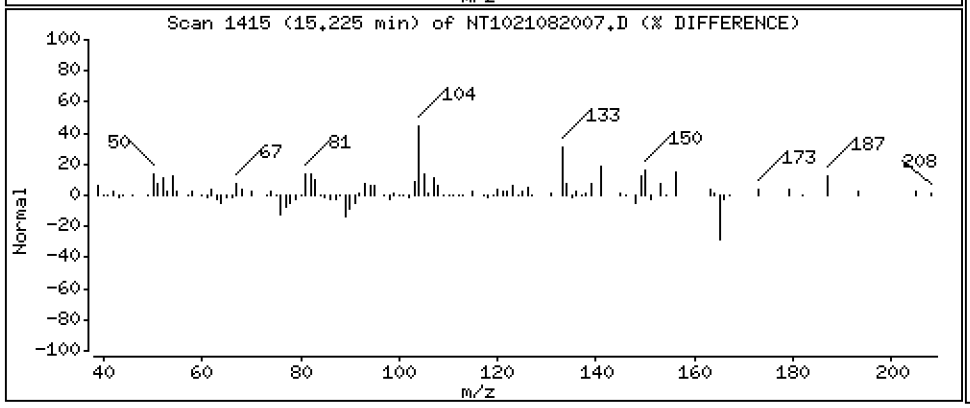












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

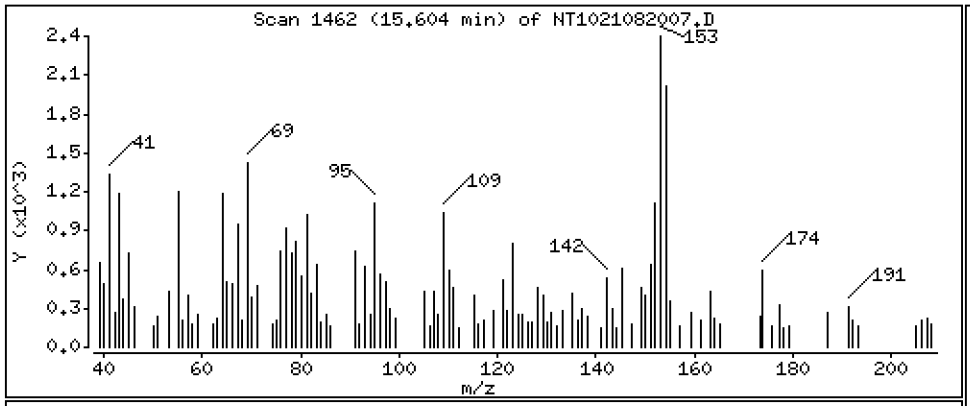
Operator: VTS

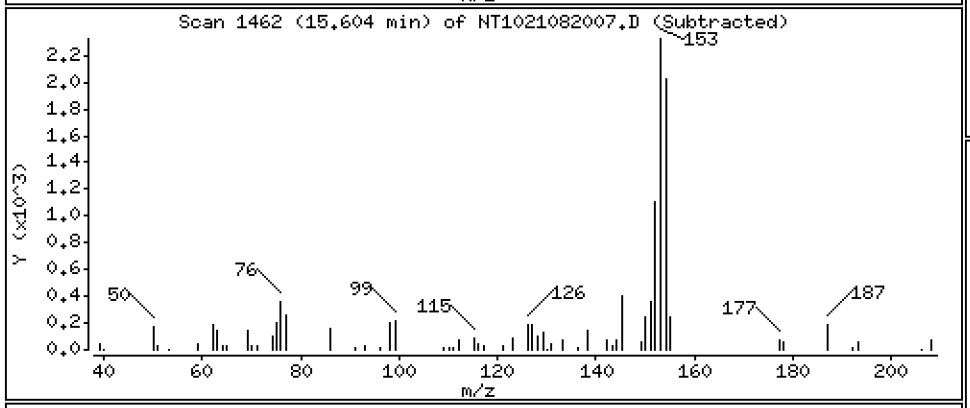
Column phase: ZB-5msi

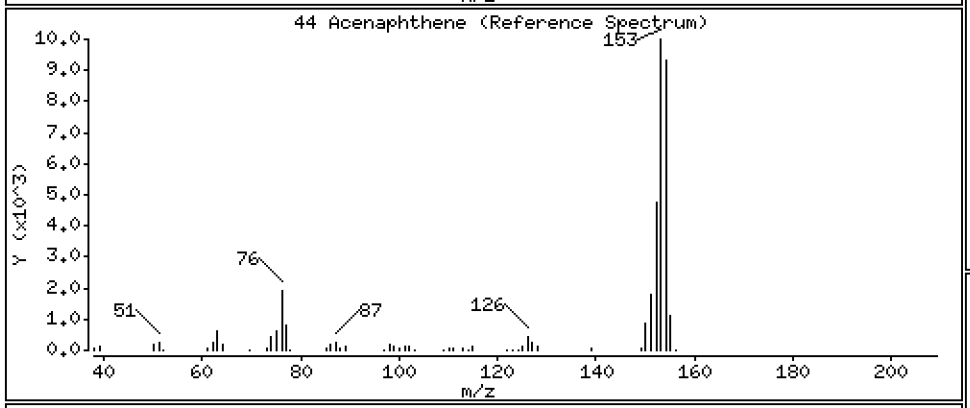
Column diameter: 0.25

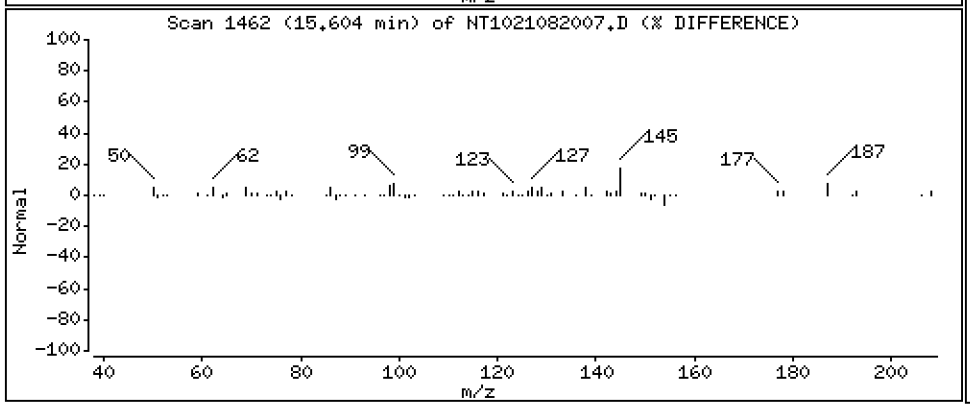
44 Acenaphthene

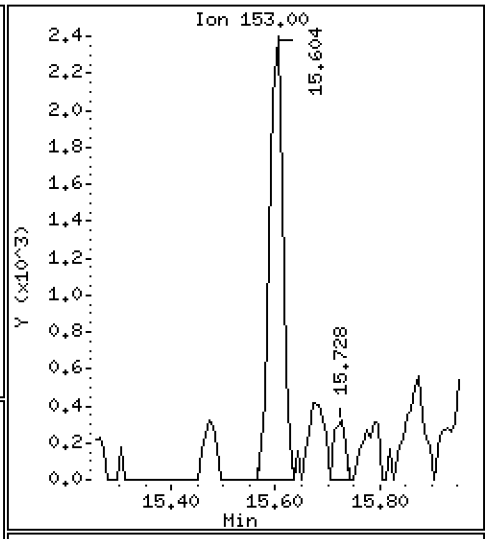
Concentration: 0.09243 ug/mL

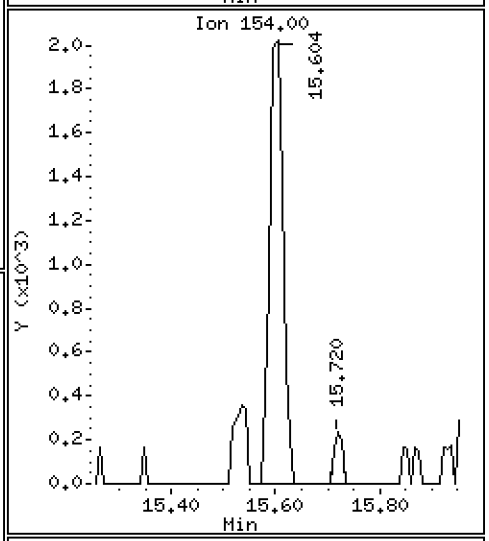


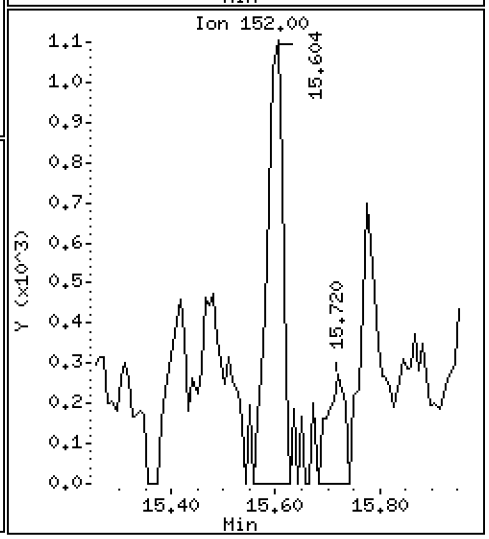












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

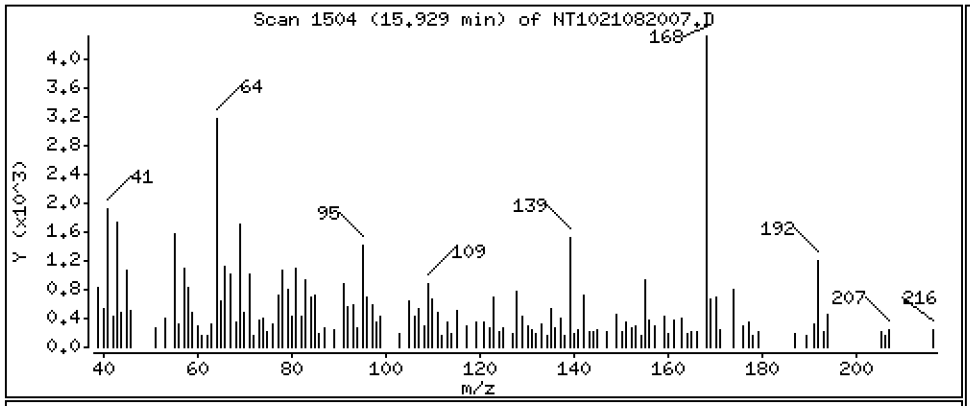
Operator: VTS

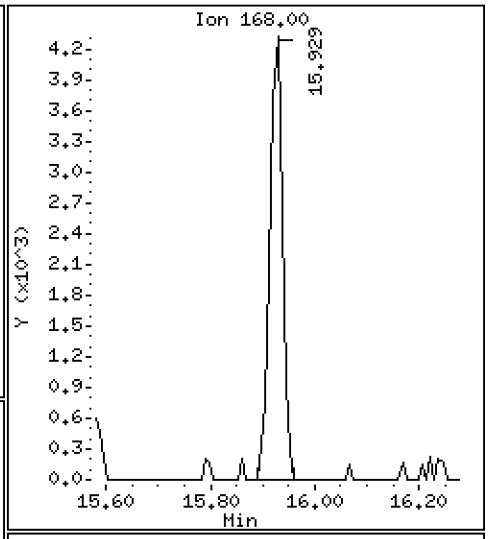
Column phase: ZB-5msi

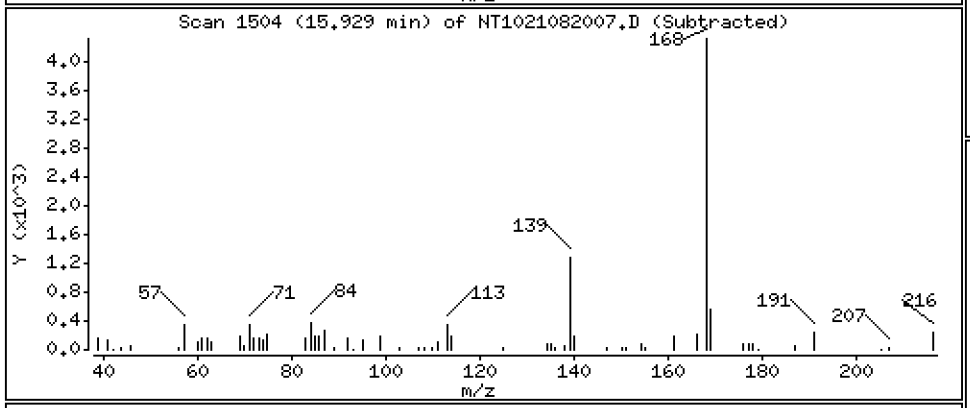
Column diameter: 0.25

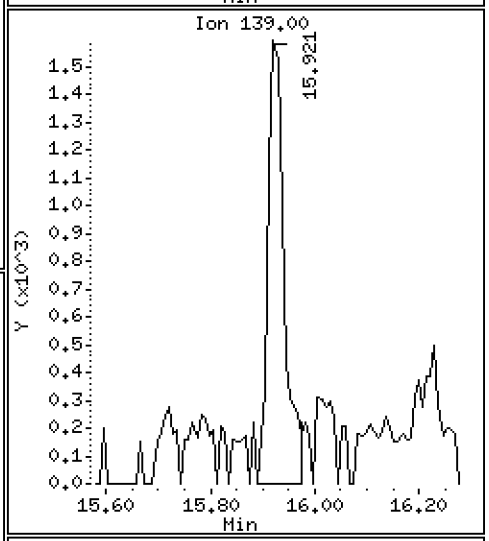
46 Dibenzofuran

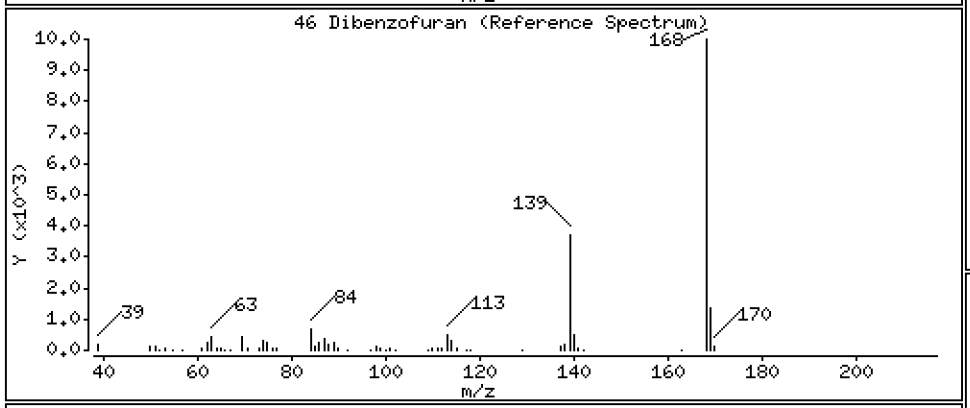
Concentration: 0.08851 ug/mL

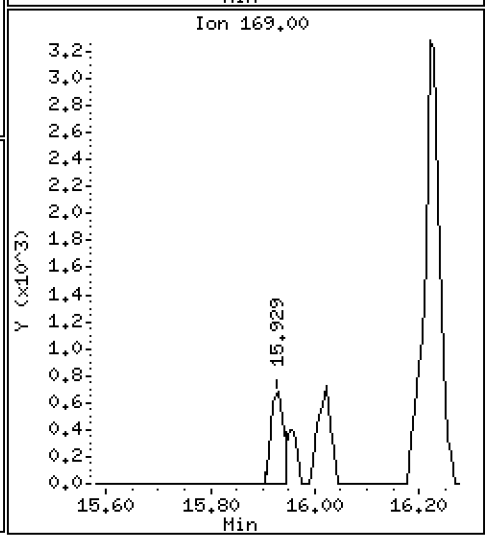


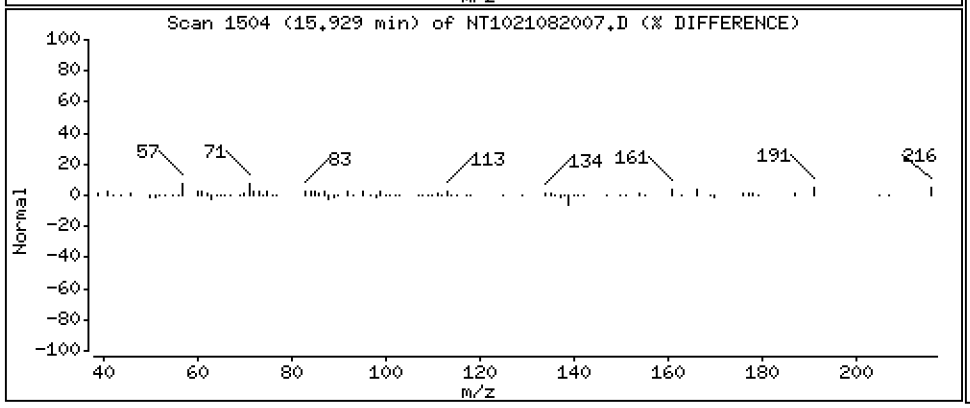












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

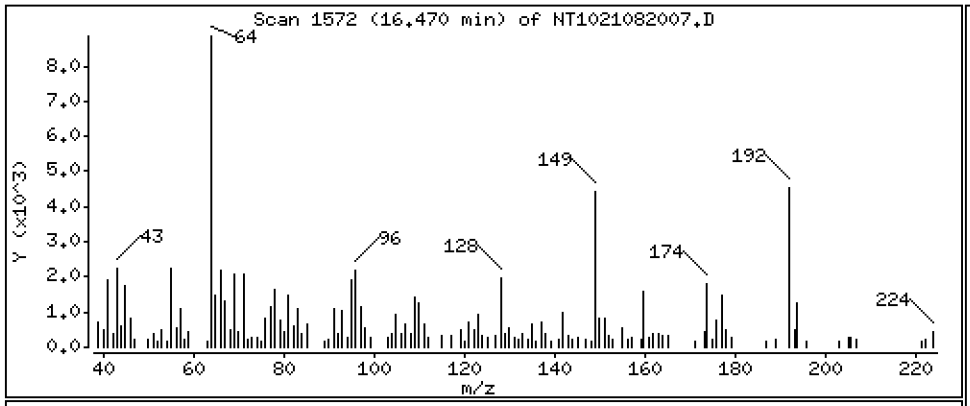
Operator: VTS

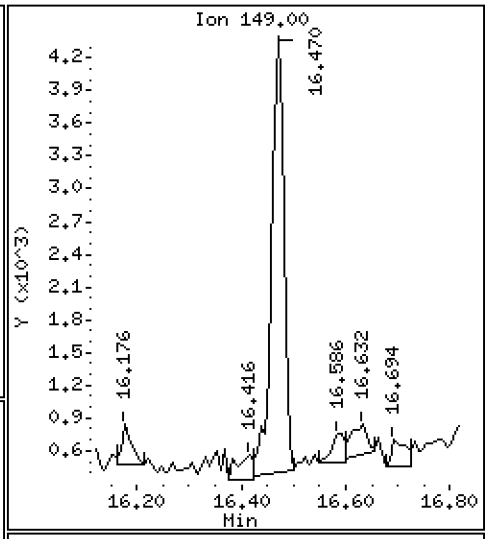
Column phase: ZB-5msi

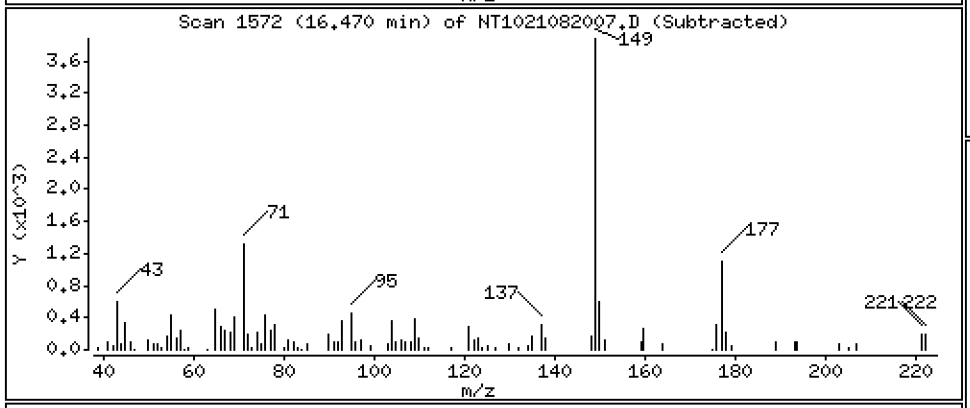
Column diameter: 0.25

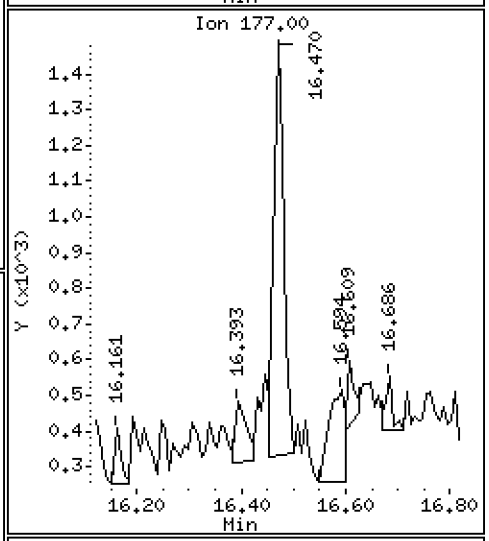
50 Diethylphthalate

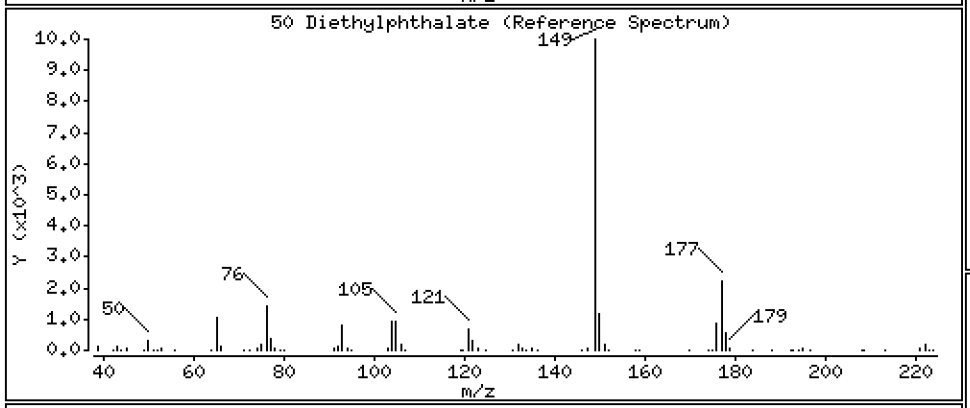
Concentration: 0.1275 ug/mL

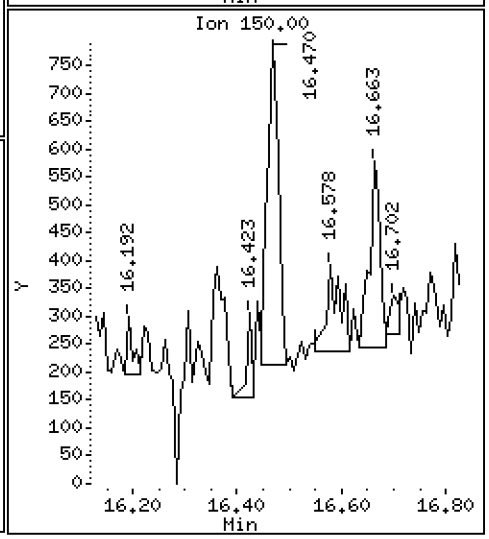


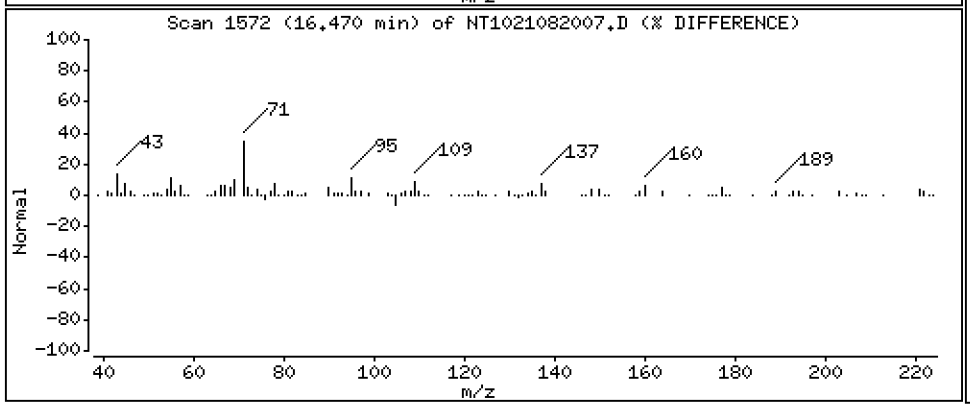












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

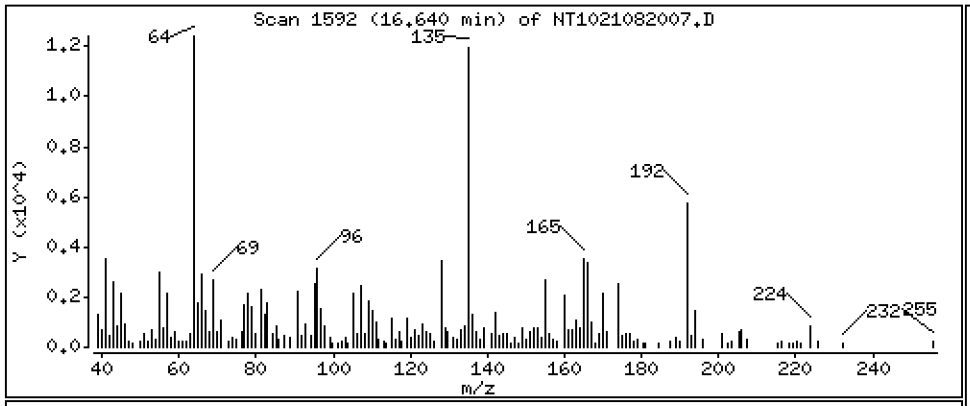
Operator: VTS

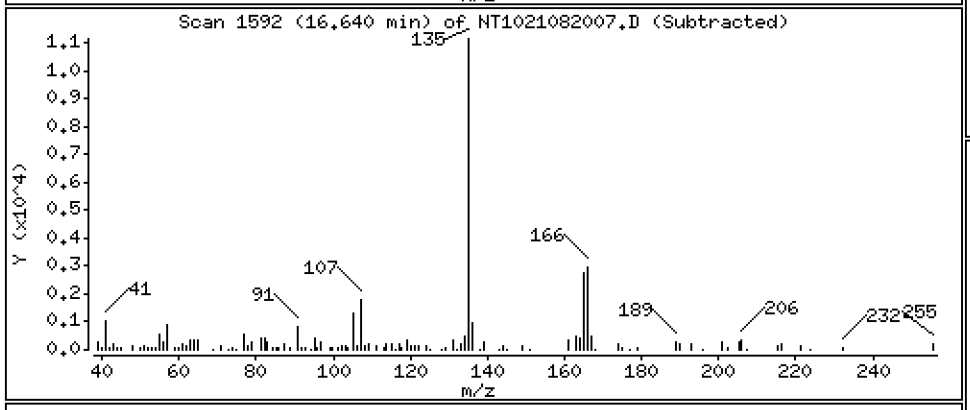
Column phase: ZB-5msi

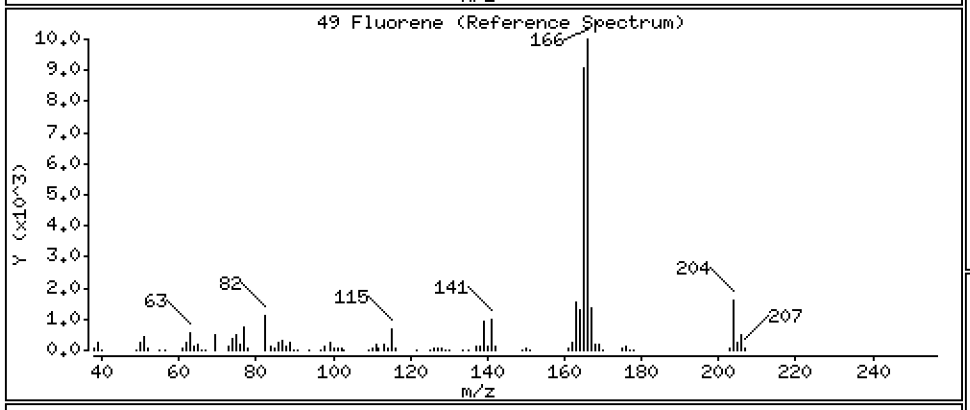
Column diameter: 0.25

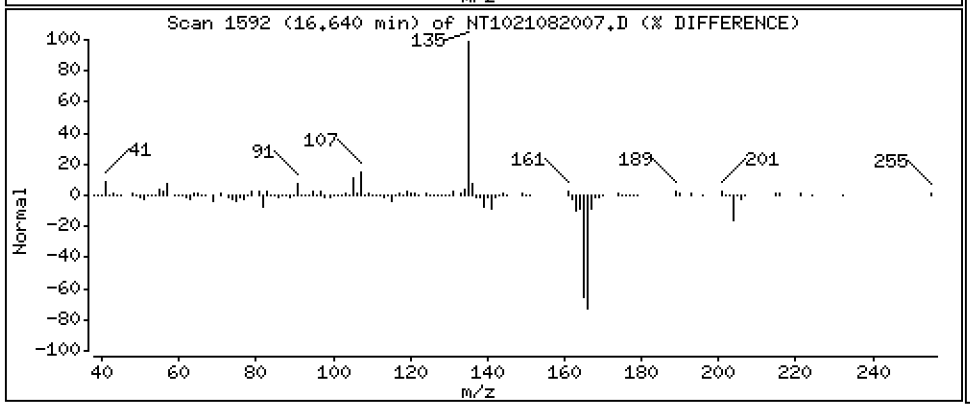
49 Fluorene

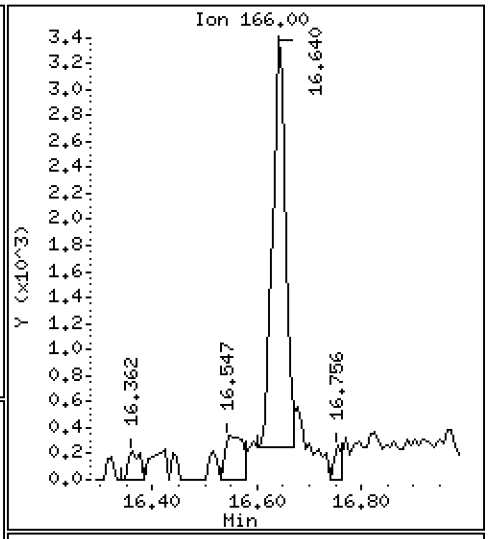
Concentration: 0.07829 ug/mL

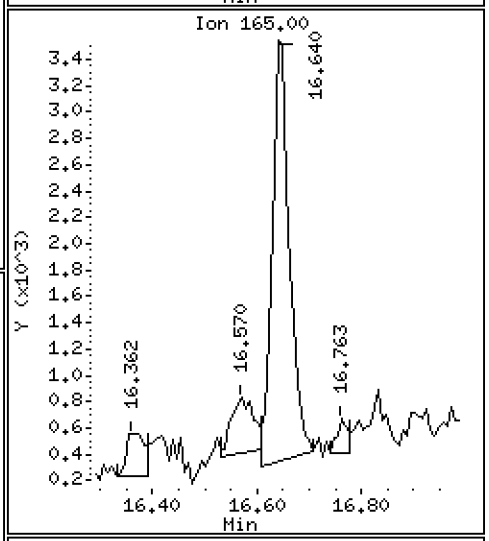


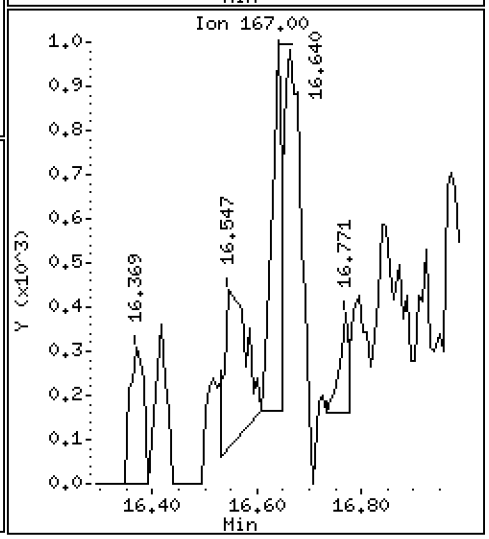












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

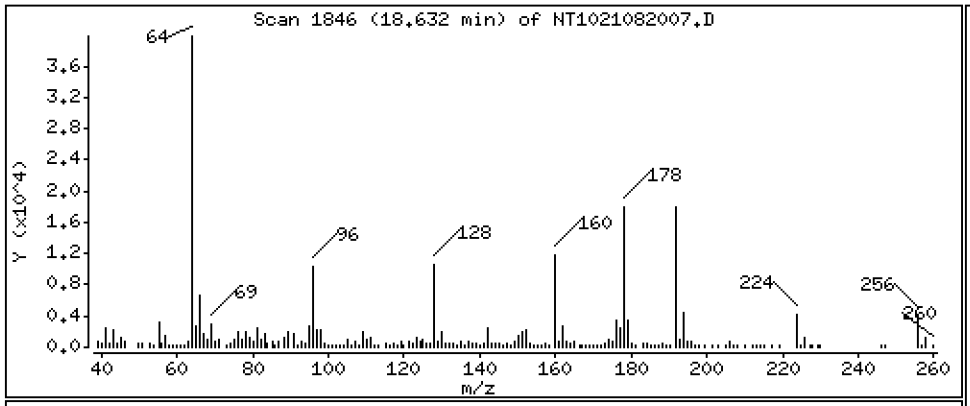
Operator: VTS

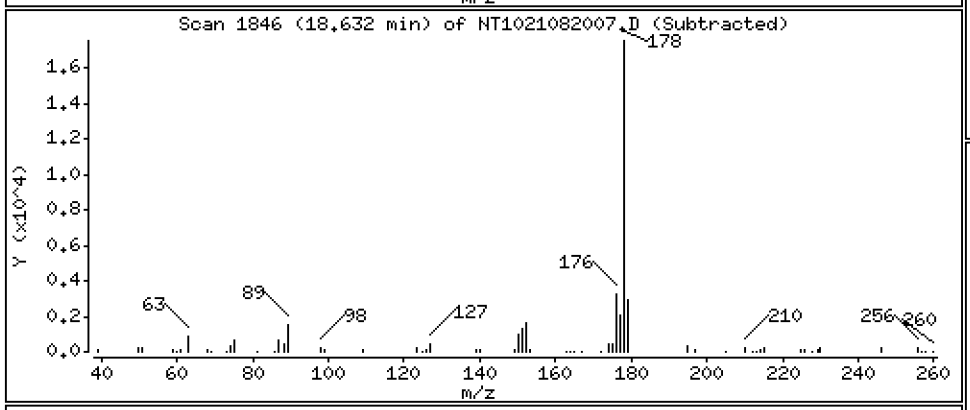
Column phase: ZB-5msi

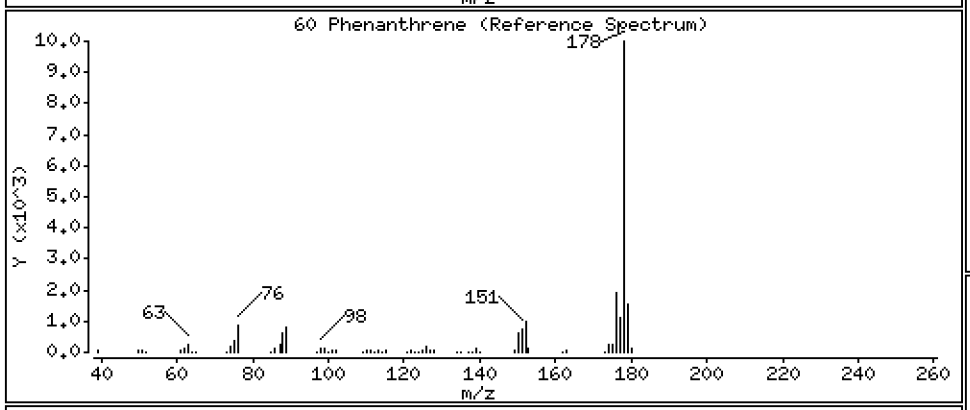
Column diameter: 0.25

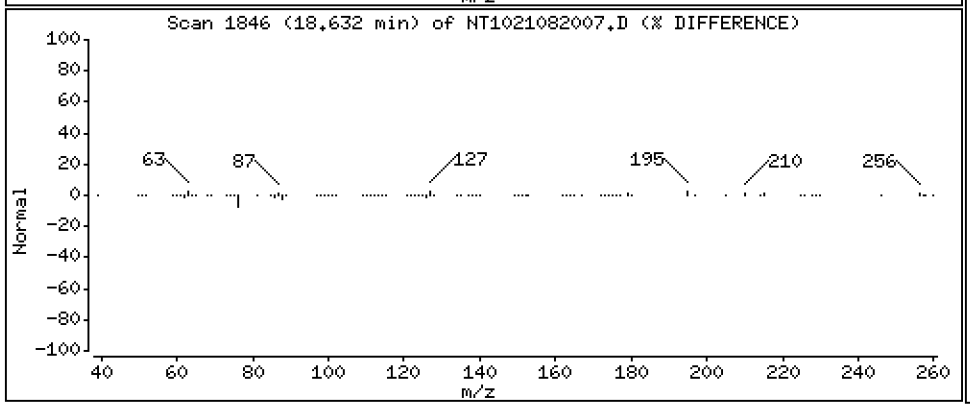
60 Phenanthrene

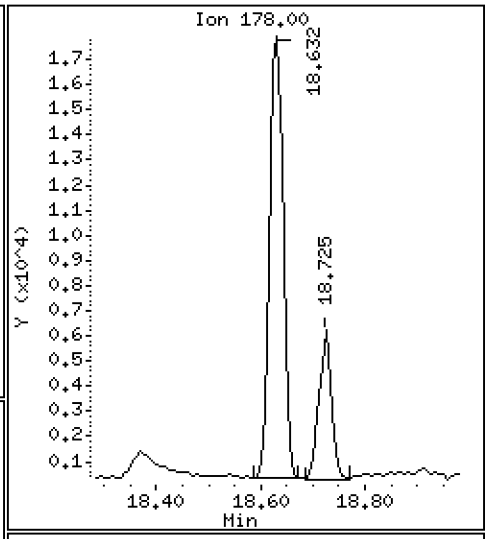
Concentration: 0.4558 ug/mL

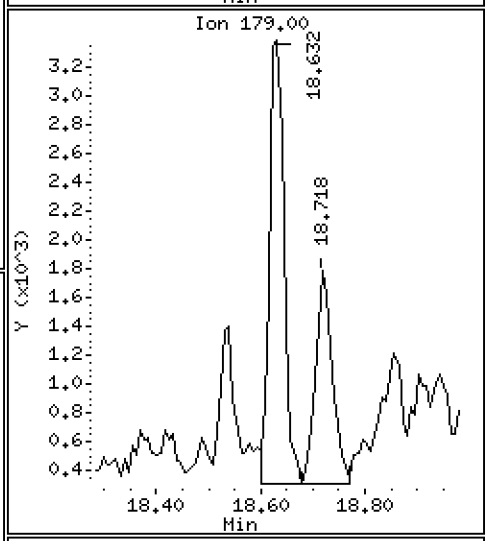


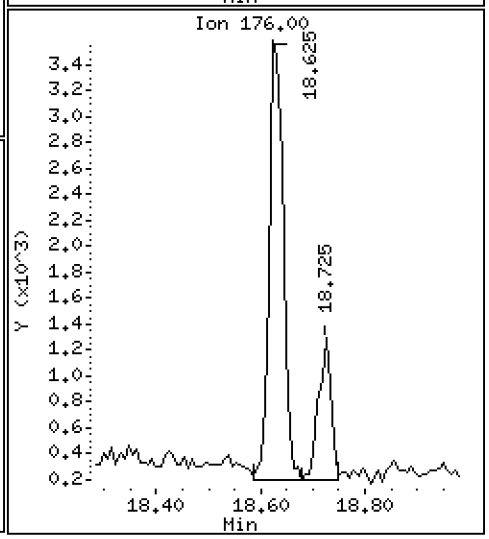












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

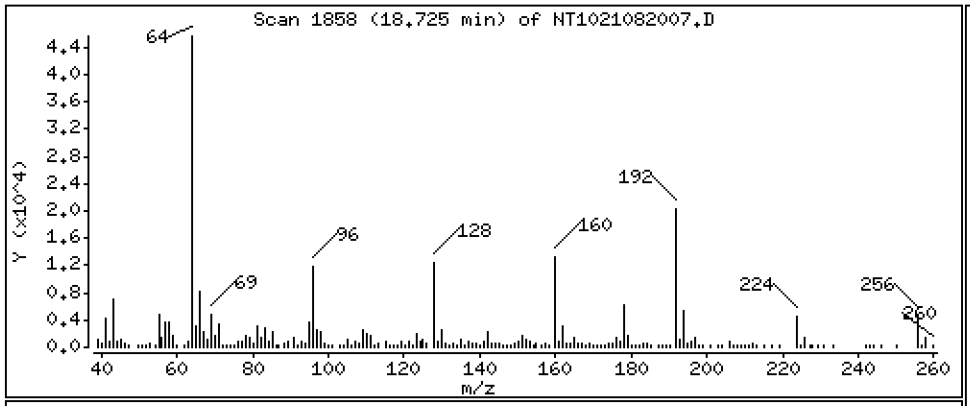
Operator: VTS

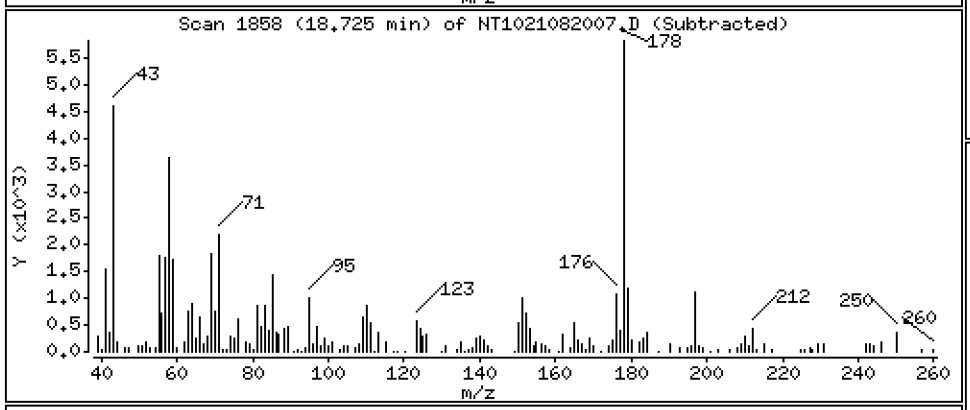
Column phase: ZB-5msi

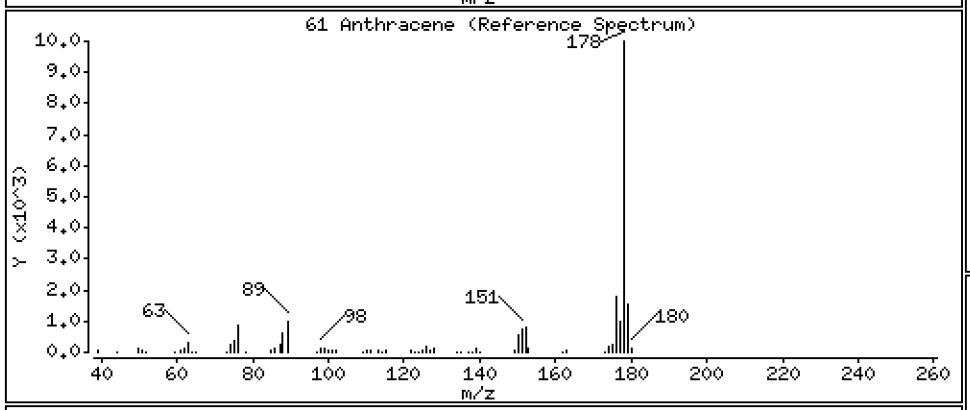
Column diameter: 0.25

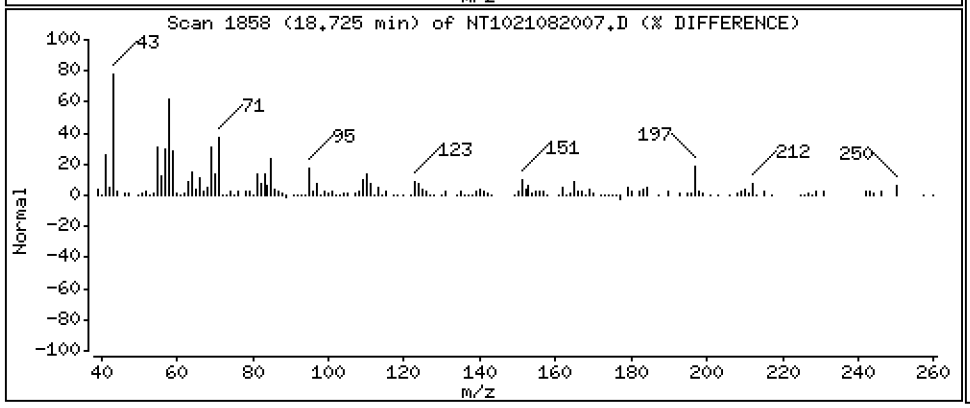
61 Anthracene

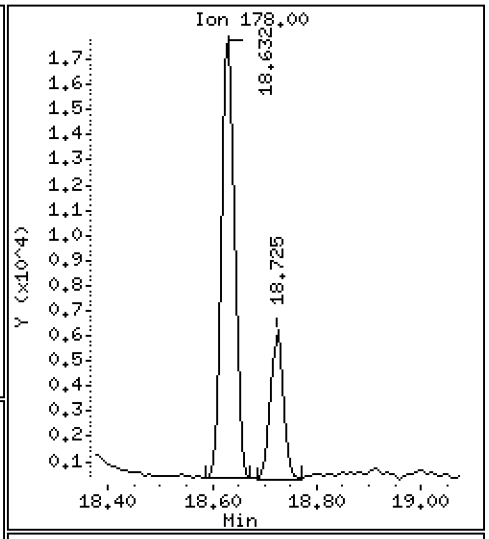
Concentration: 0.1341 ug/mL

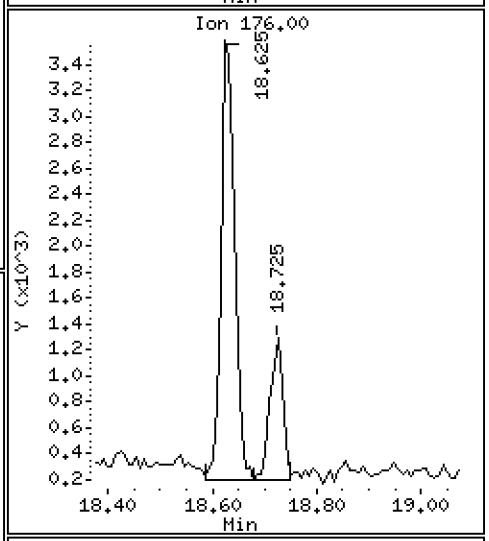


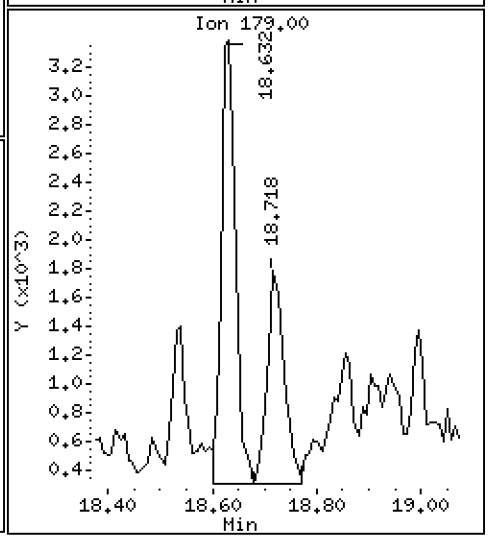












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

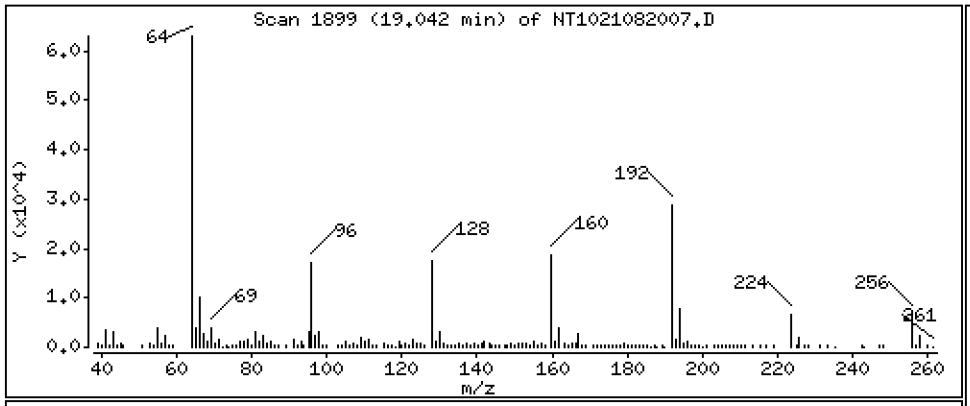
Operator: VTS

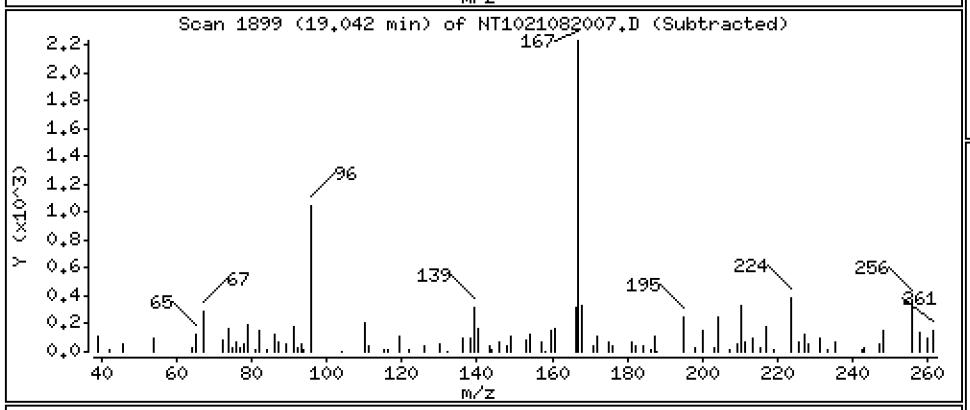
Column phase: ZB-5msi

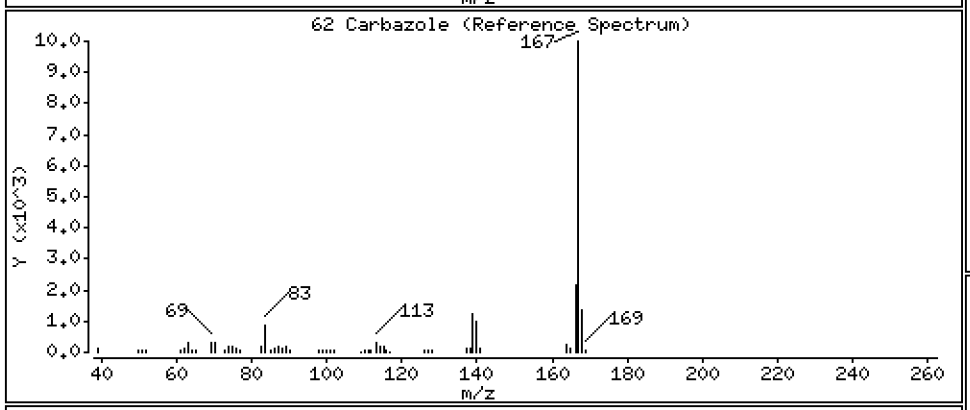
Column diameter: 0.25

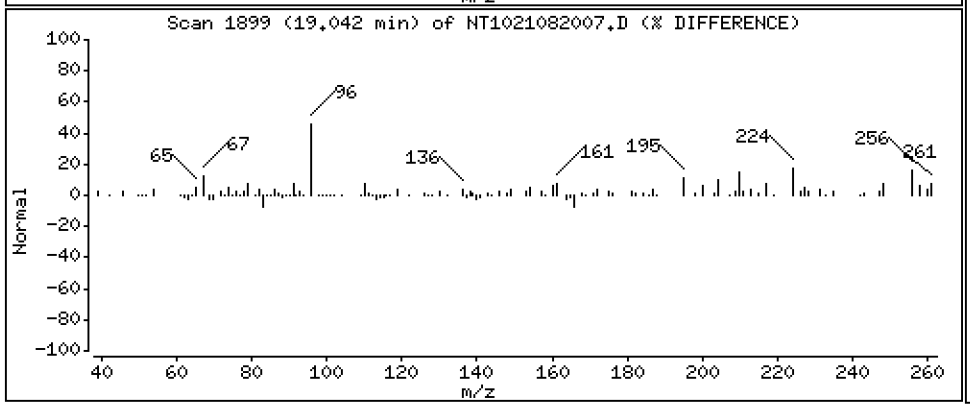
62 Carbazole

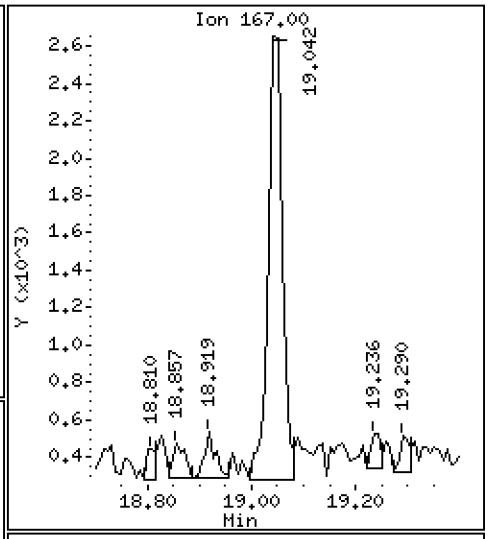
Concentration: 0.05815 ug/mL

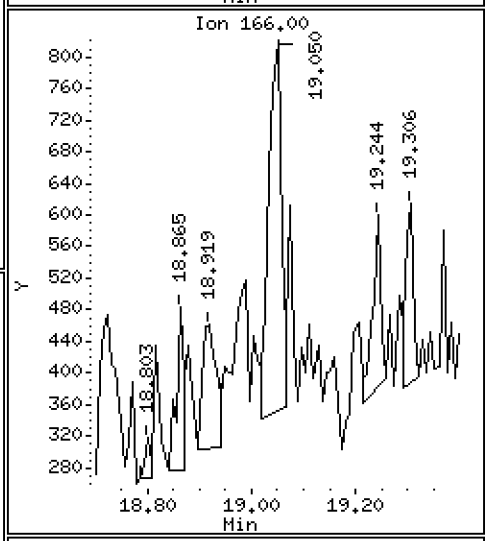


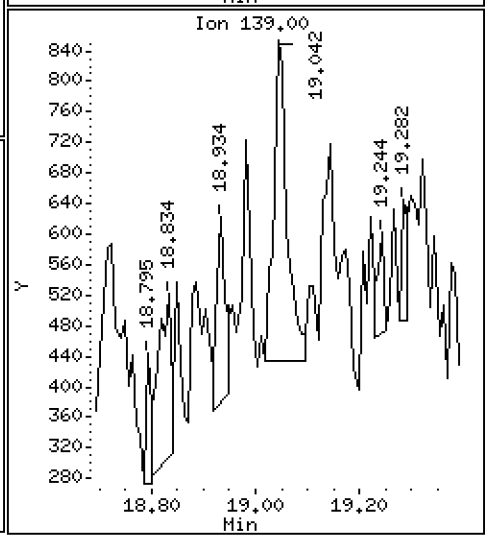












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

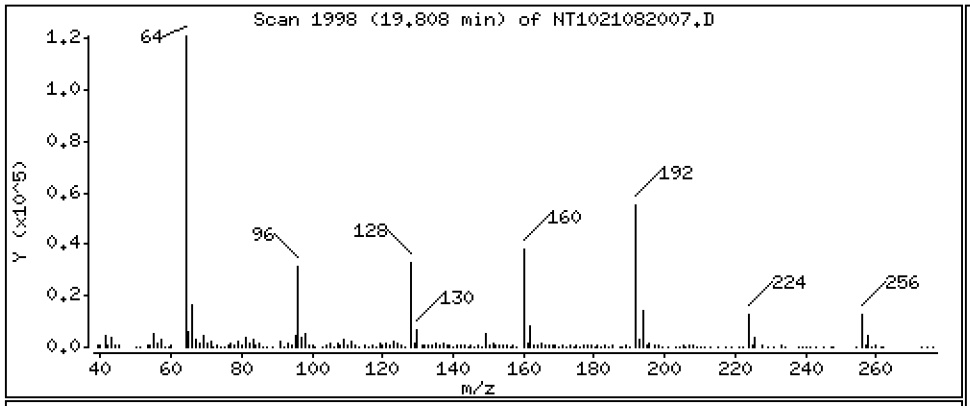
Operator: VTS

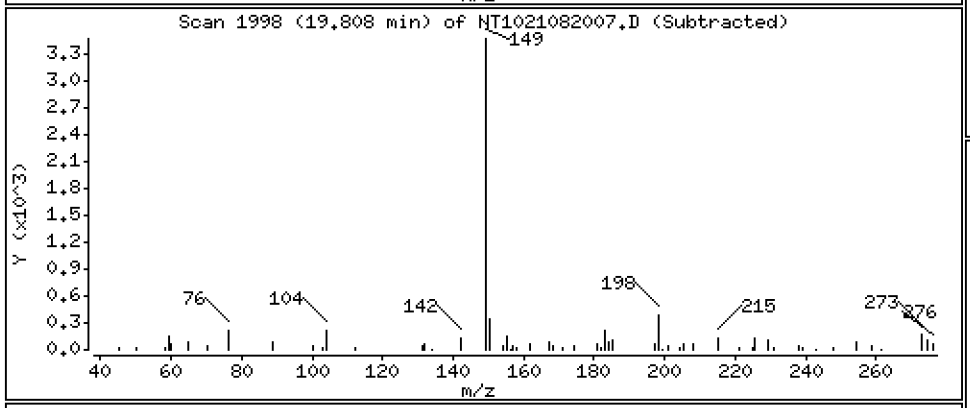
Column phase: ZB-5msi

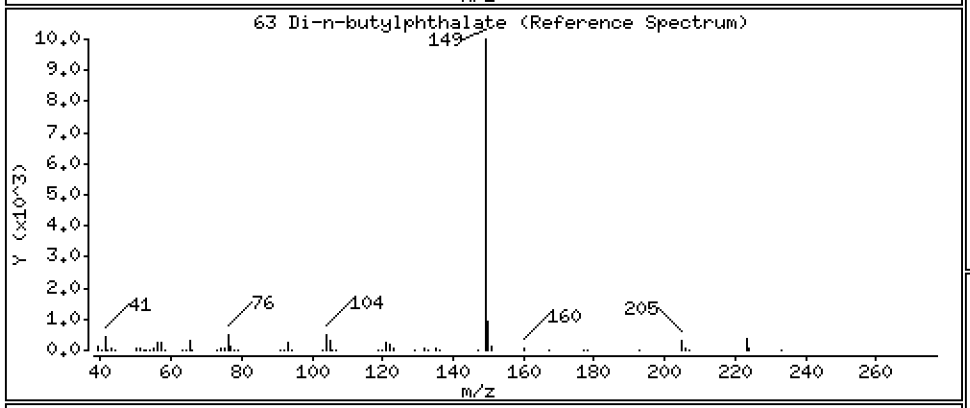
Column diameter: 0.25

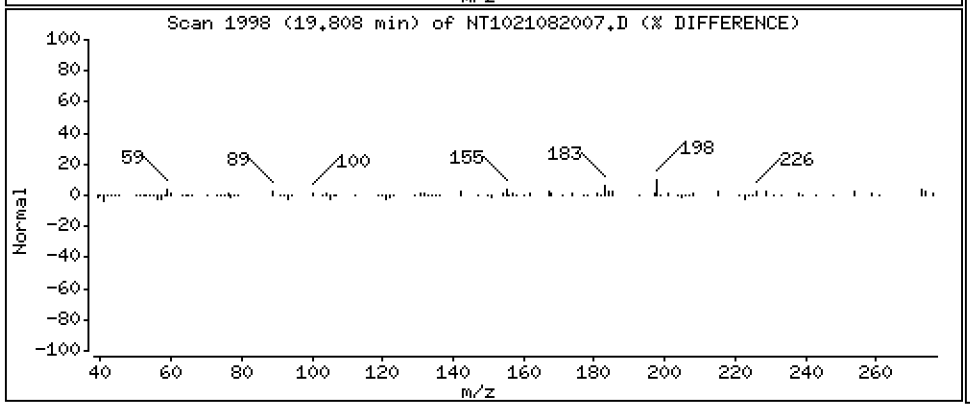
63 Di-n-butylphthalate

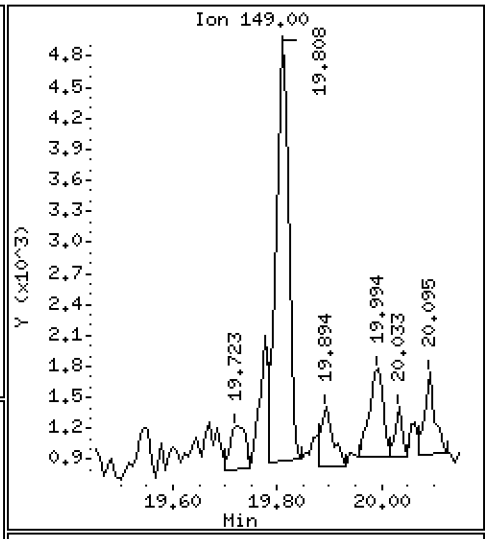
Concentration: 0.07562 ug/mL

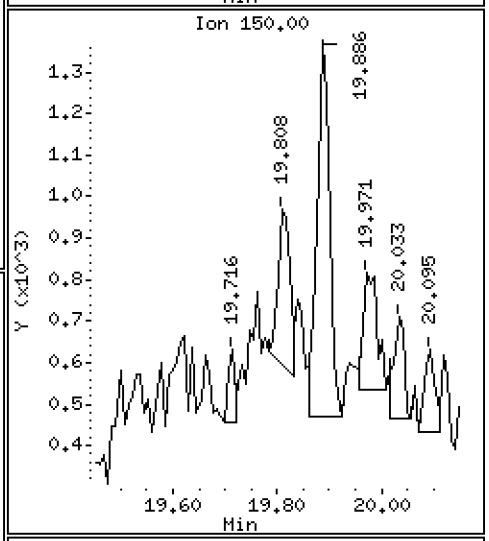


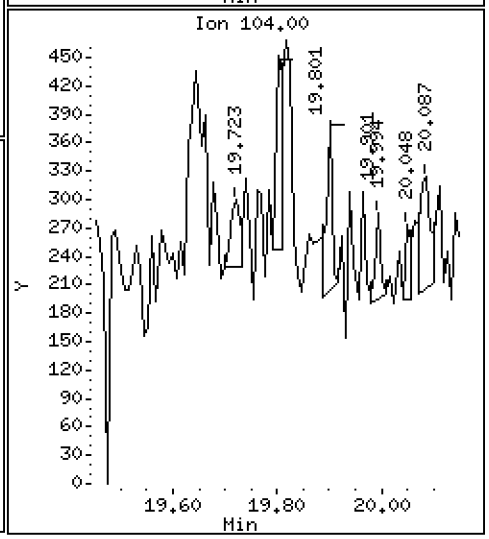












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

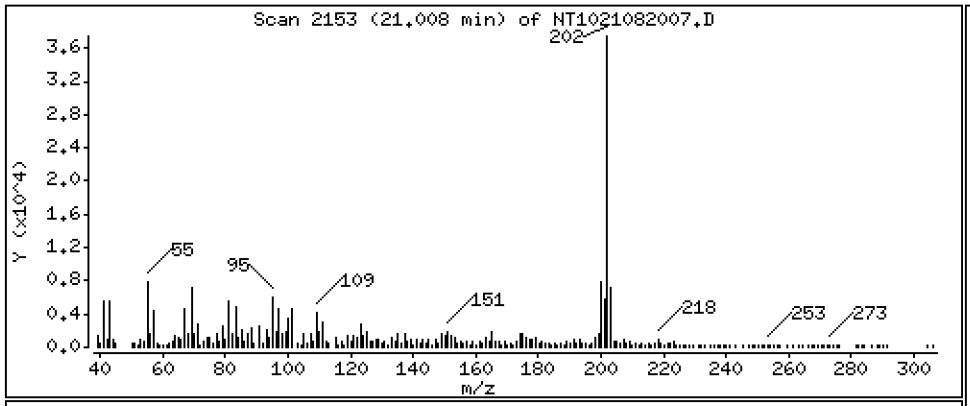
Operator: VTS

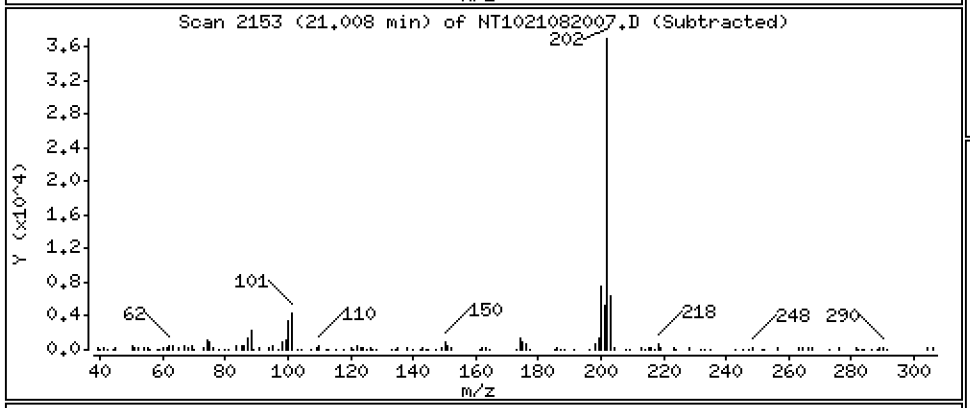
Column phase: ZB-5msi

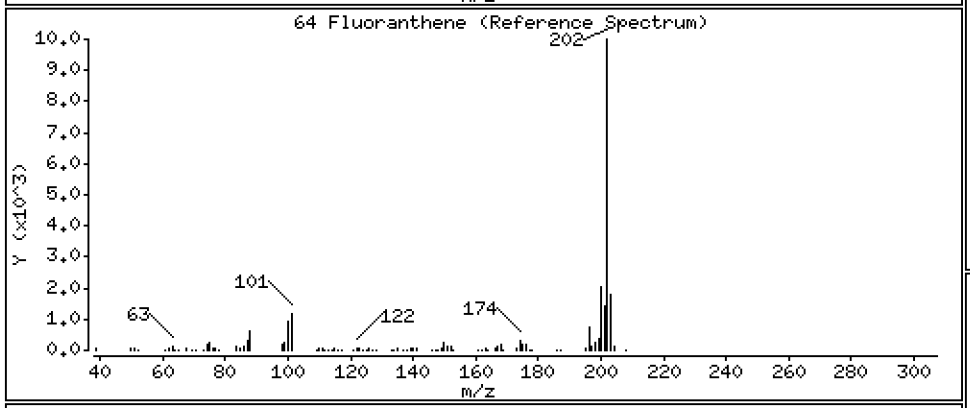
Column diameter: 0.25

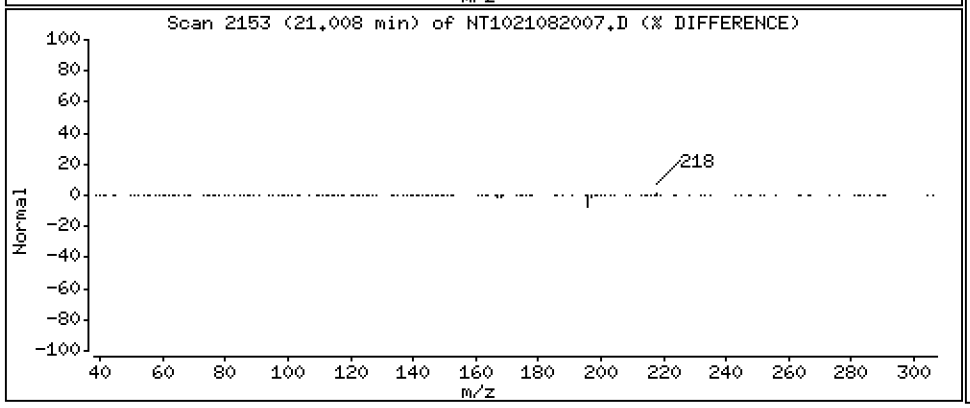
64 Fluoranthene

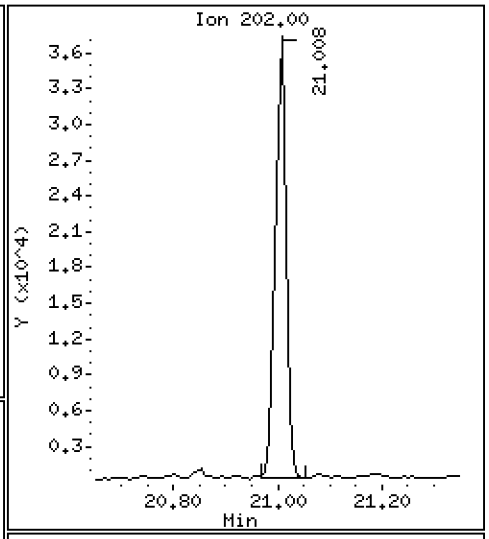
Concentration: 0.7312 ug/mL

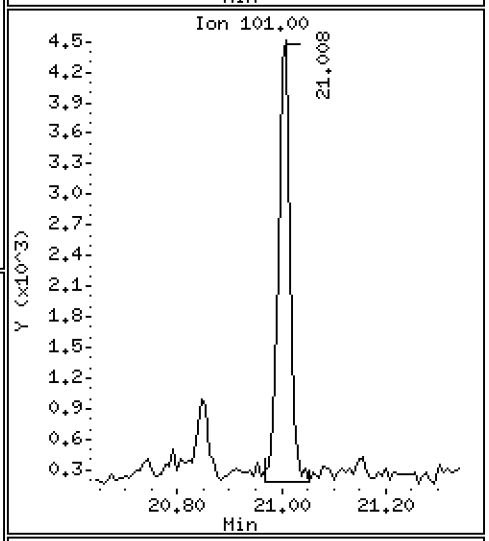


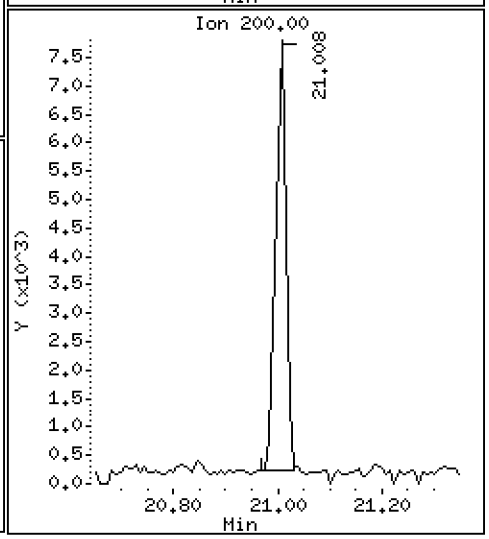












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

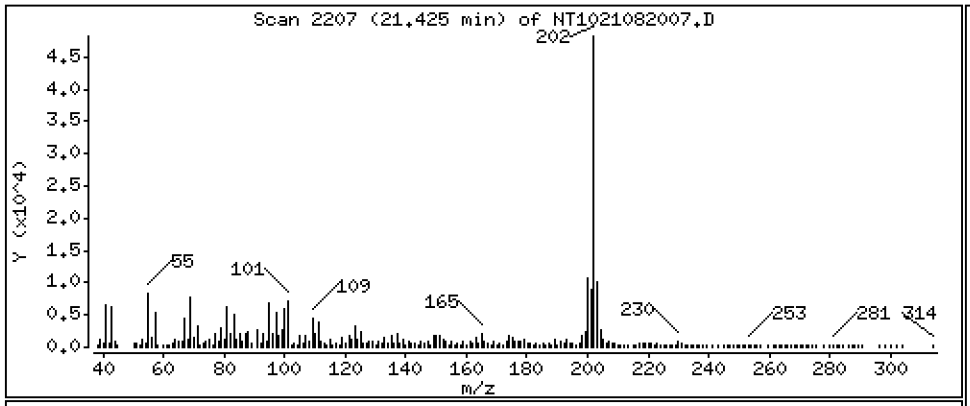
Operator: VTS

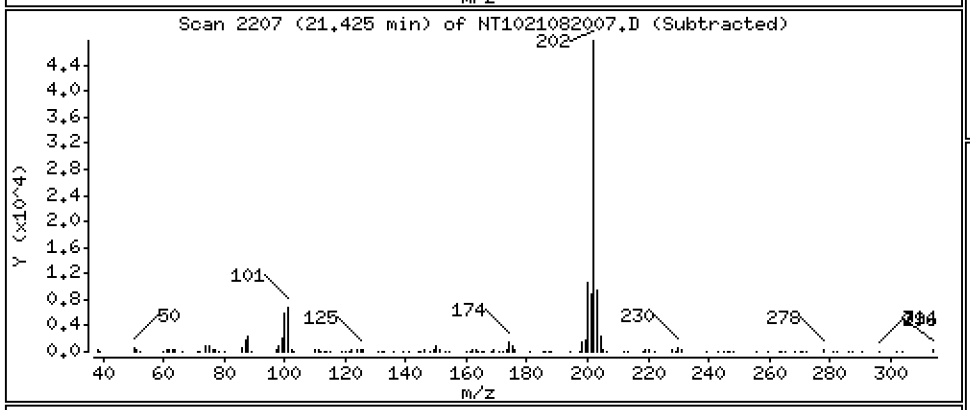
Column phase: ZB-5msi

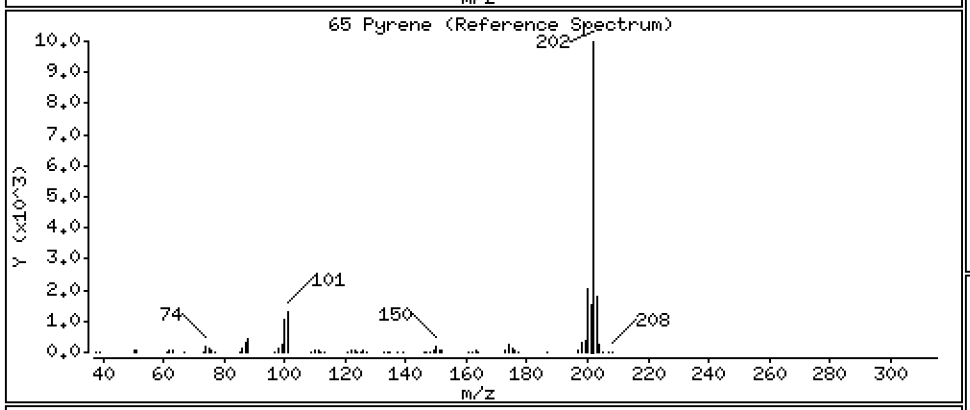
Column diameter: 0.25

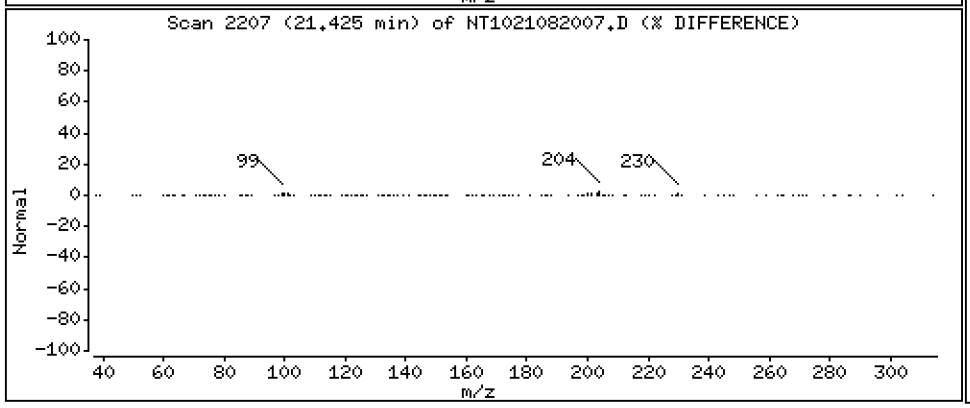
65 Pyrene

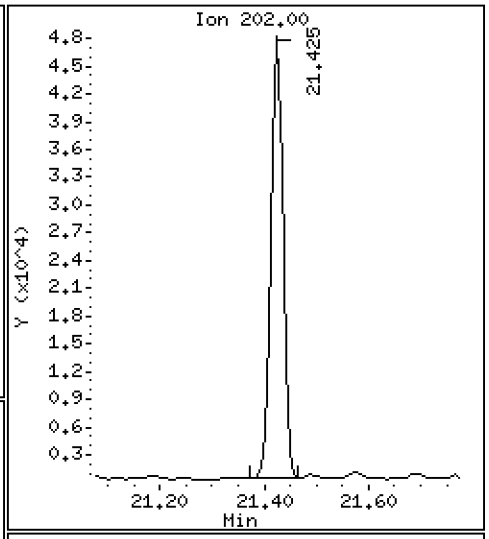
Concentration: 1.004 ug/mL

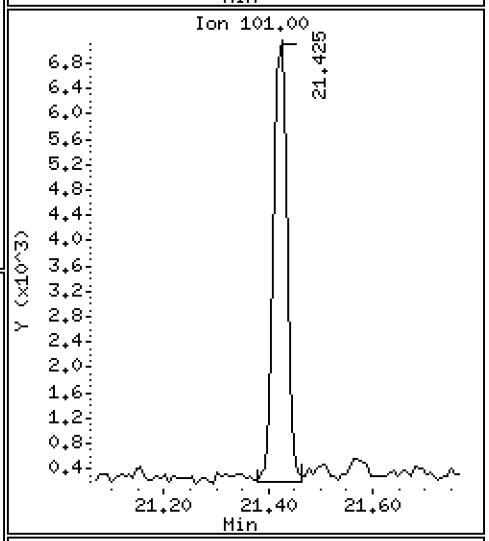


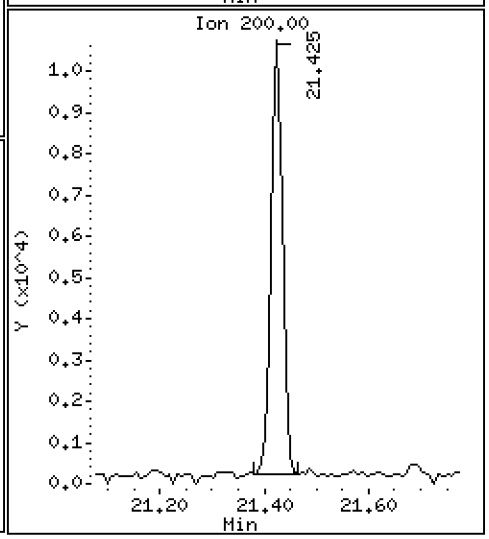












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

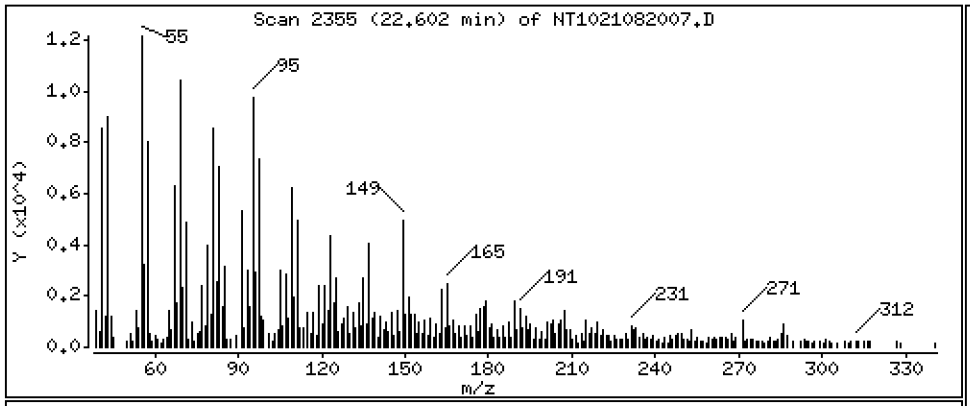
Operator: VTS

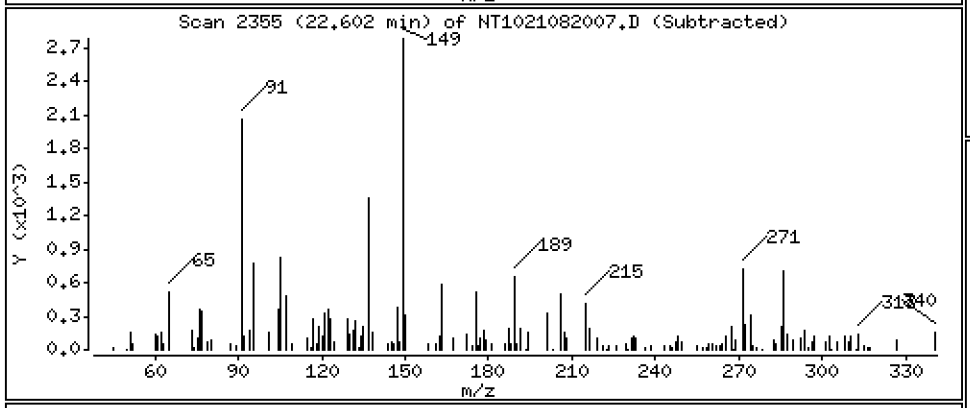
Column phase: ZB-5msi

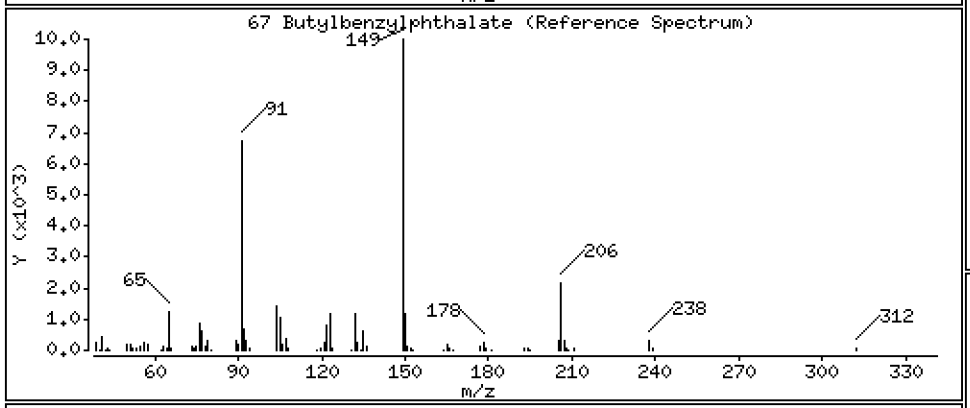
Column diameter: 0.25

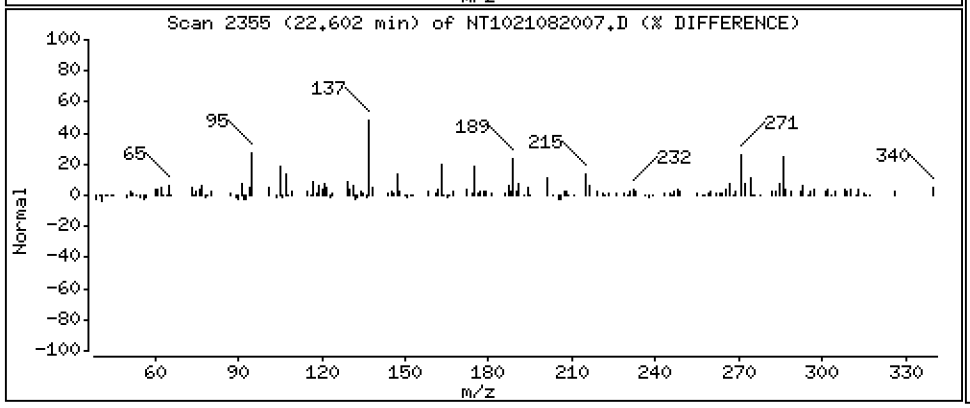
67 Butylbenzylphthalate

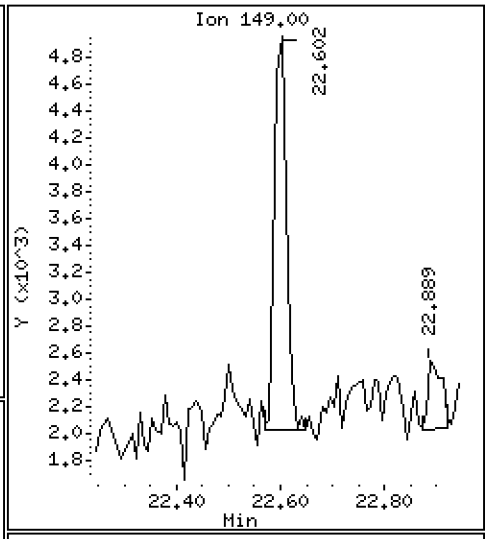
Concentration: 0.1584 ug/mL

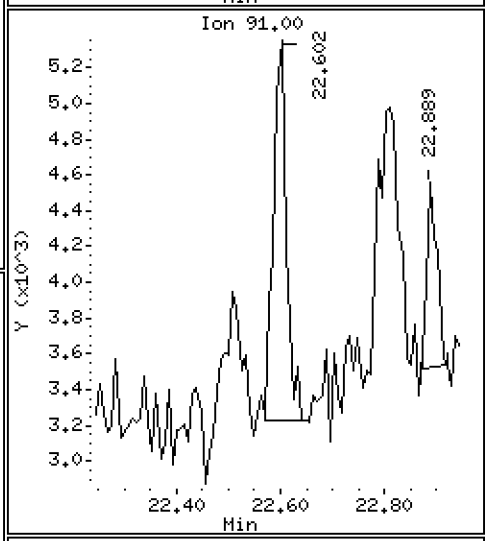


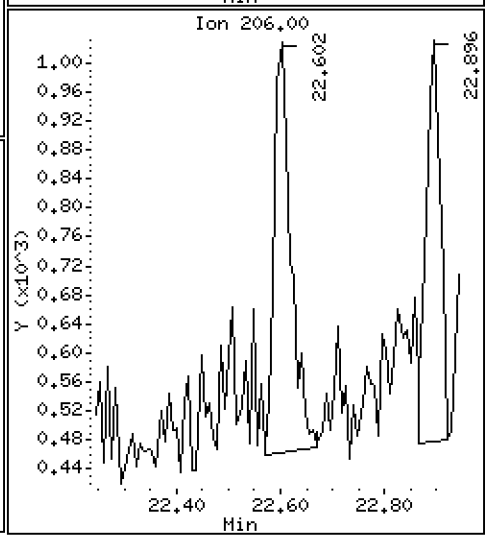












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

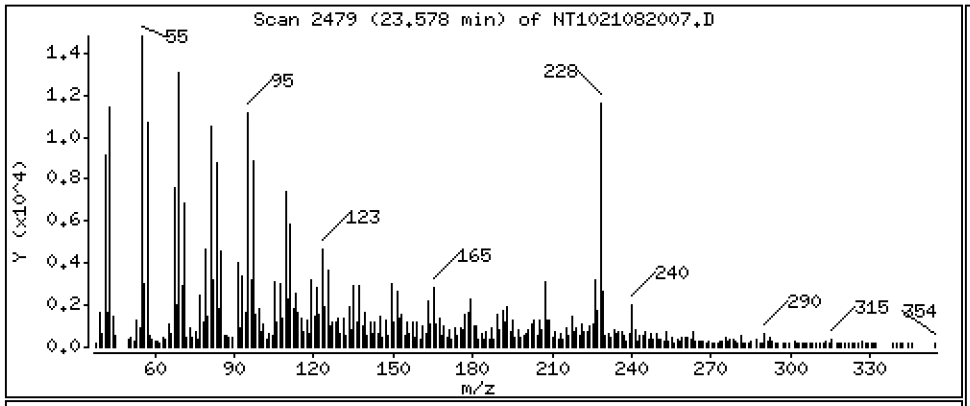
Operator: VTS

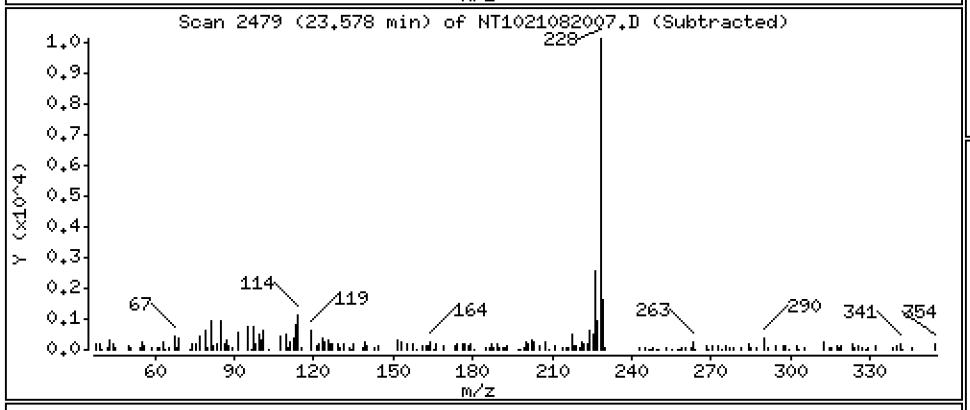
Column phase: ZB-5msi

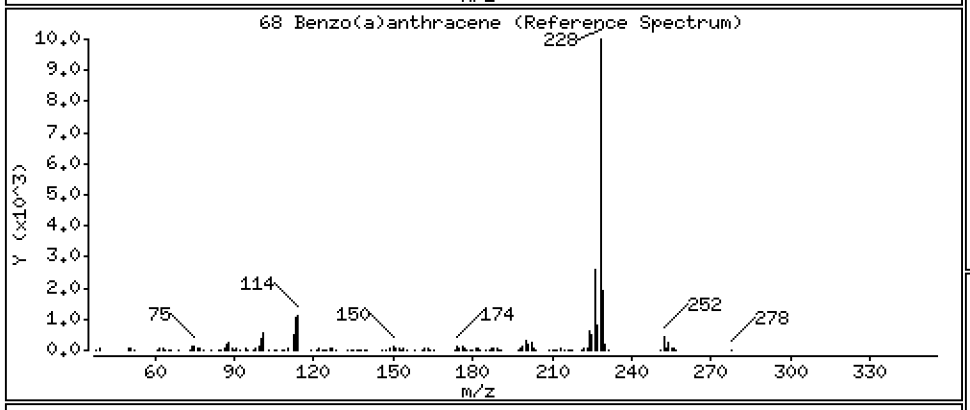
Column diameter: 0.25

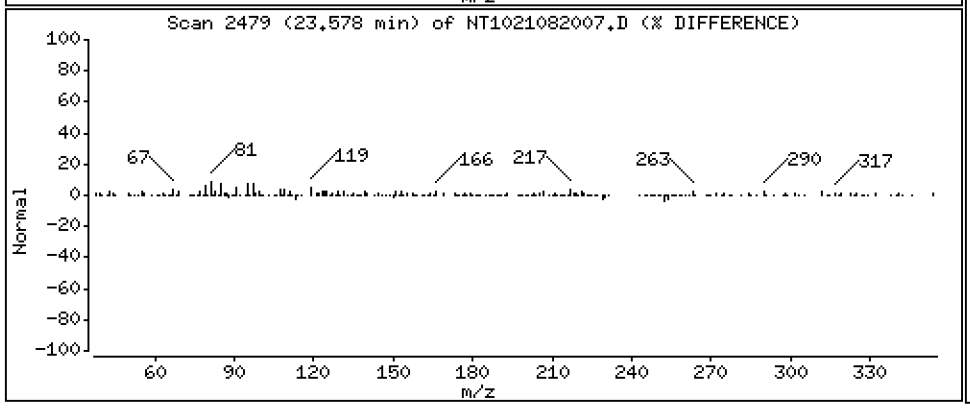
68 Benzo(a)anthracene

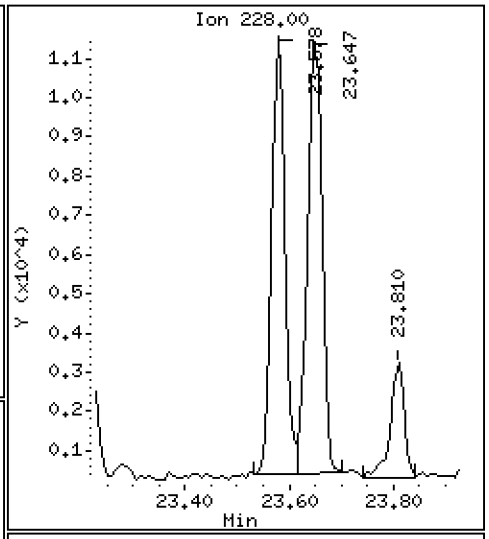
Concentration: 0.3390 ug/mL

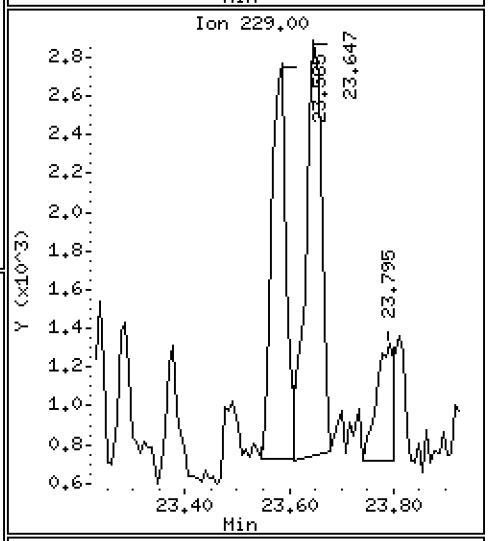


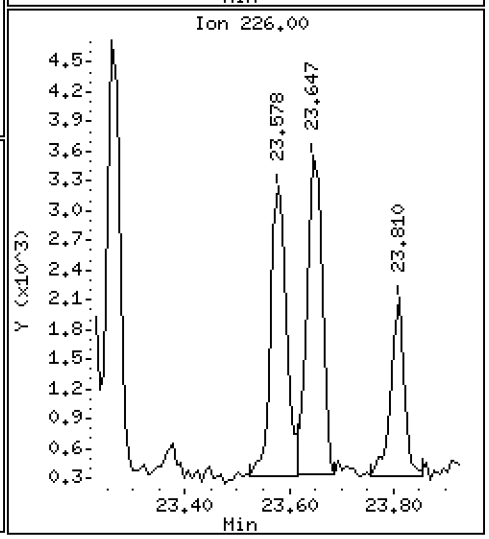












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

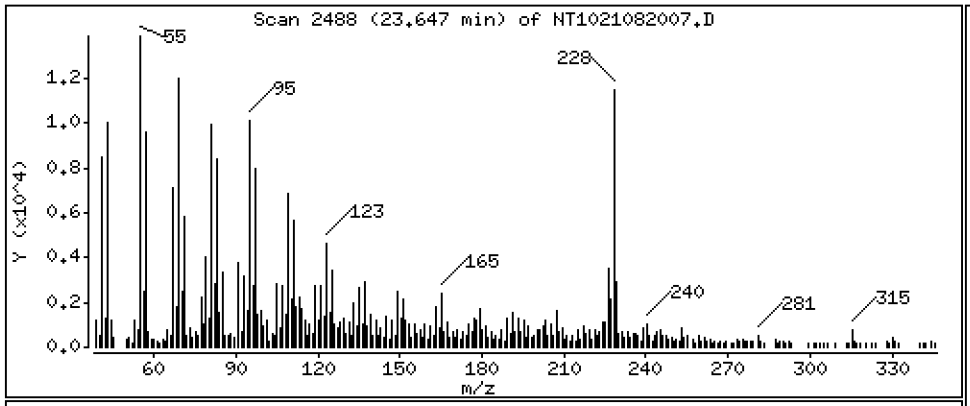
Operator: VTS

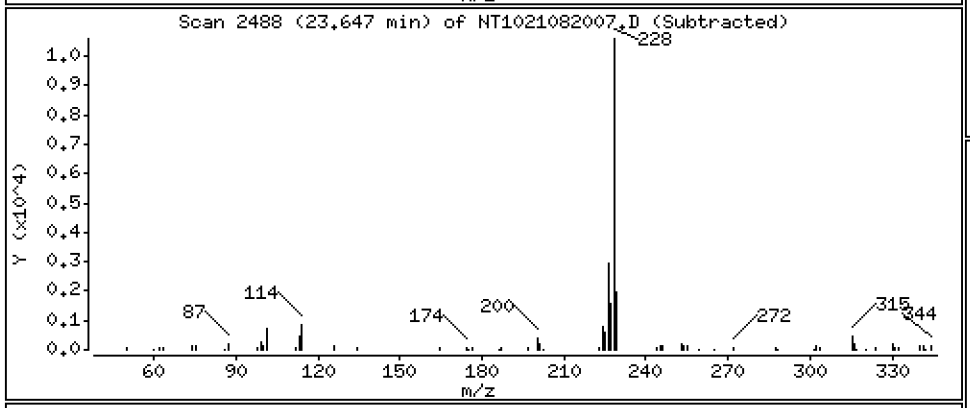
Column phase: ZB-5msi

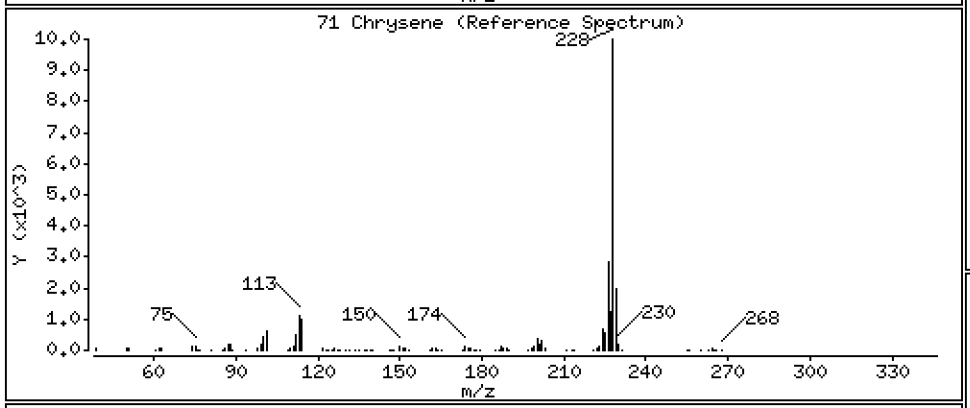
Column diameter: 0.25

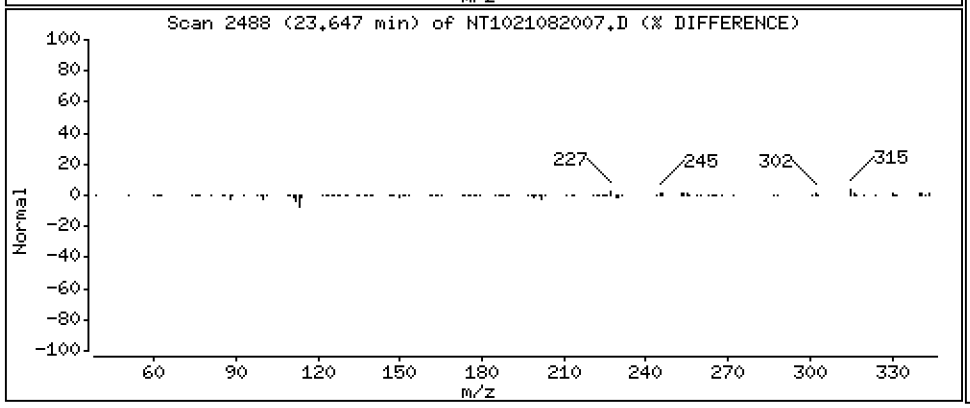
71 Chrysene

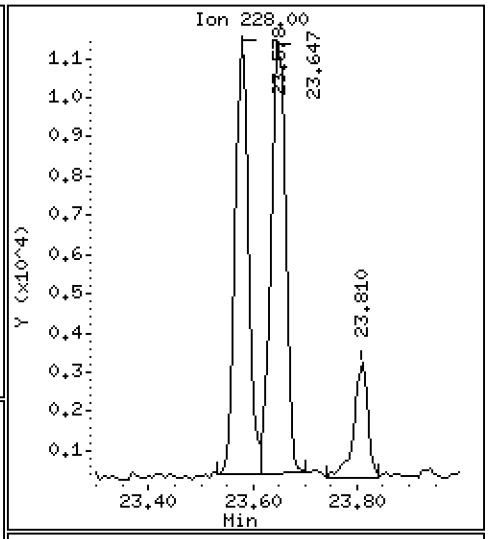
Concentration: 0.4616 ug/mL

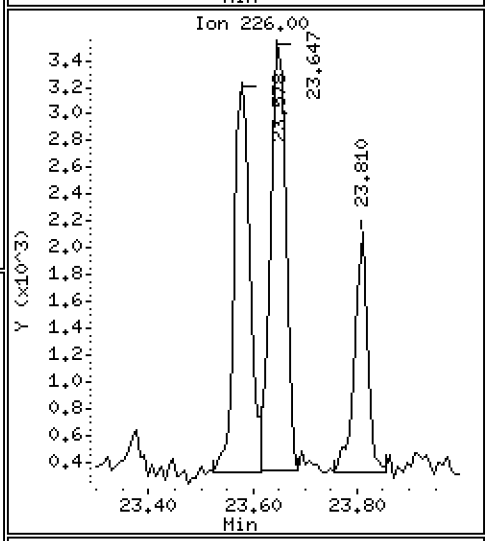


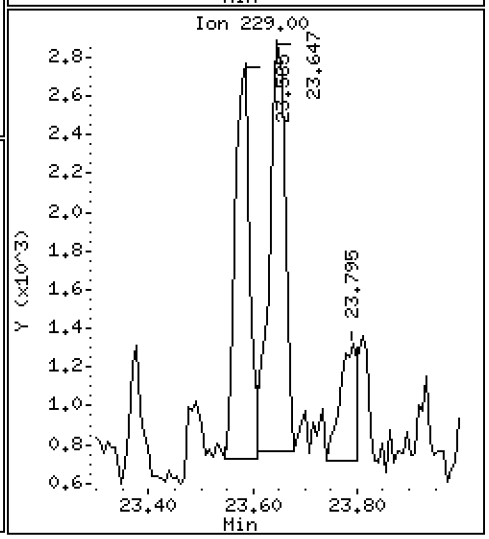












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

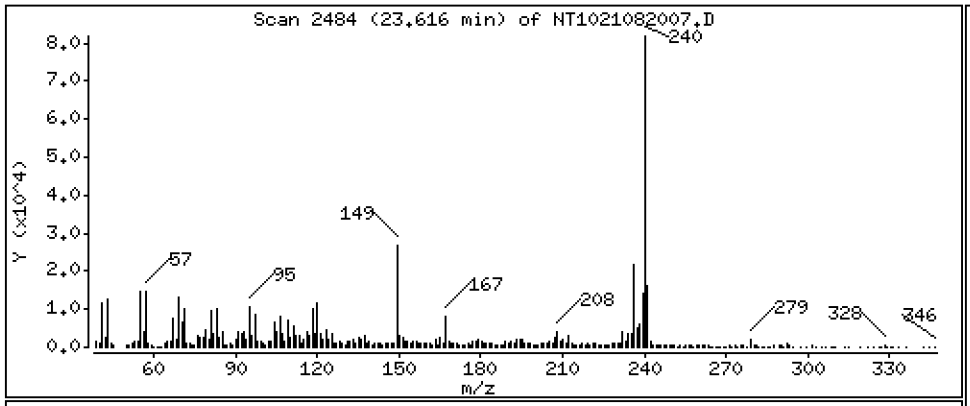
Operator: VTS

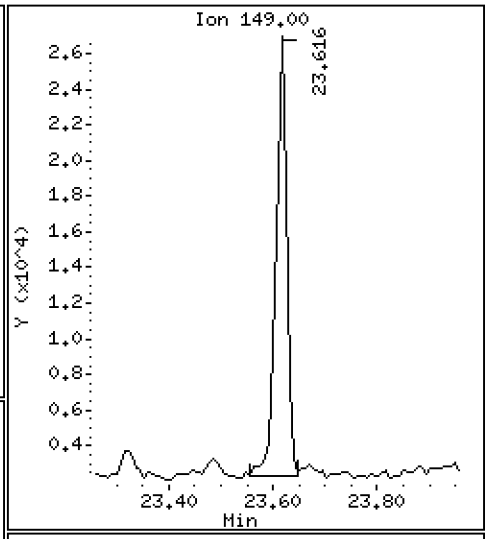
Column phase: ZB-5msi

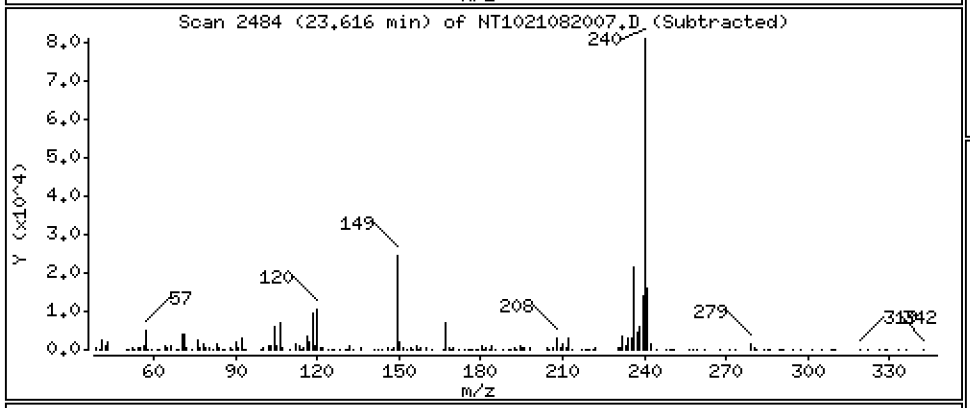
Column diameter: 0.25

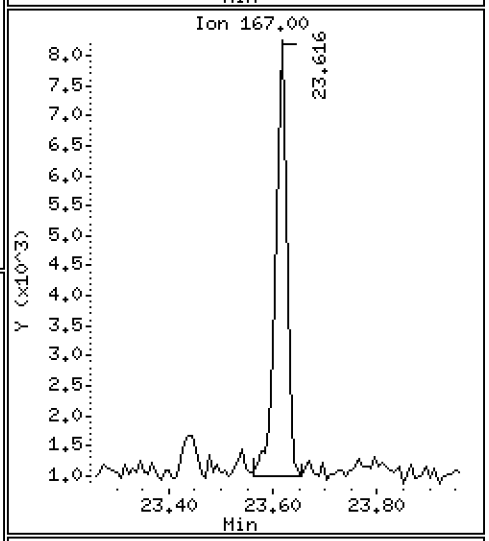
72 bis(2-Ethylhexyl)phthalate

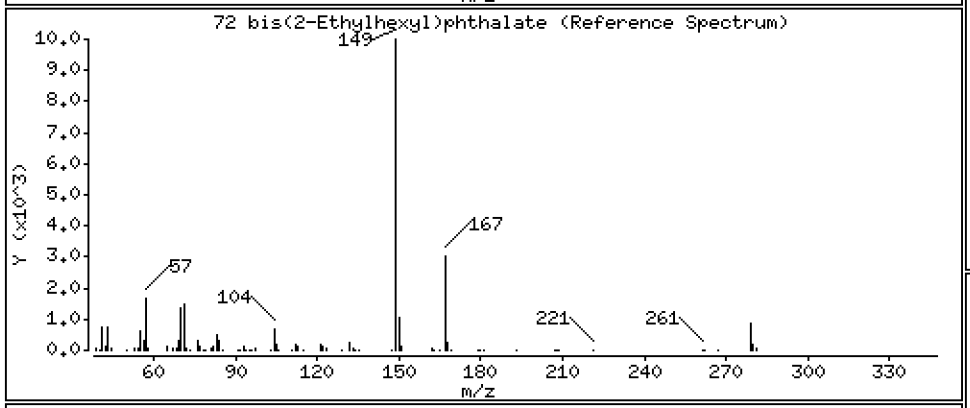
Concentration: 1.266 ug/mL

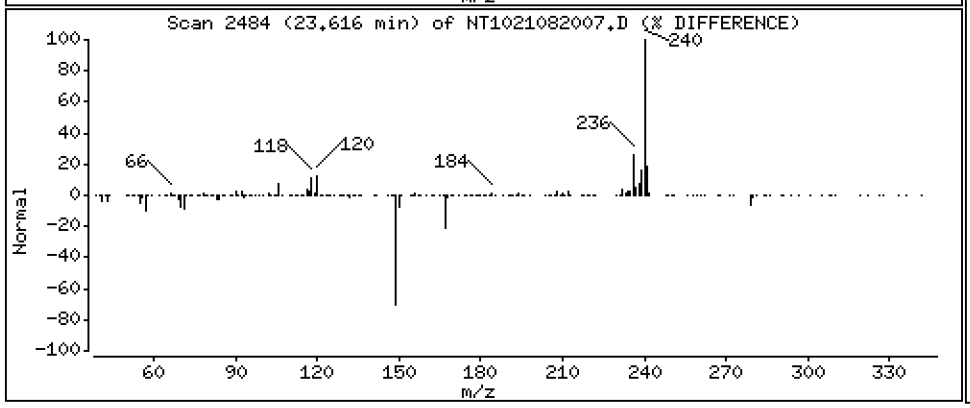


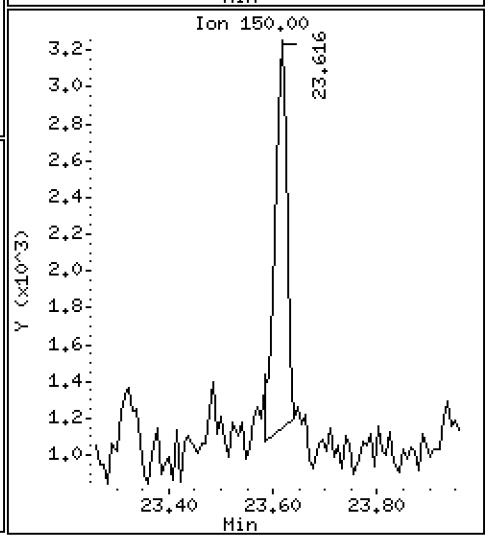












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

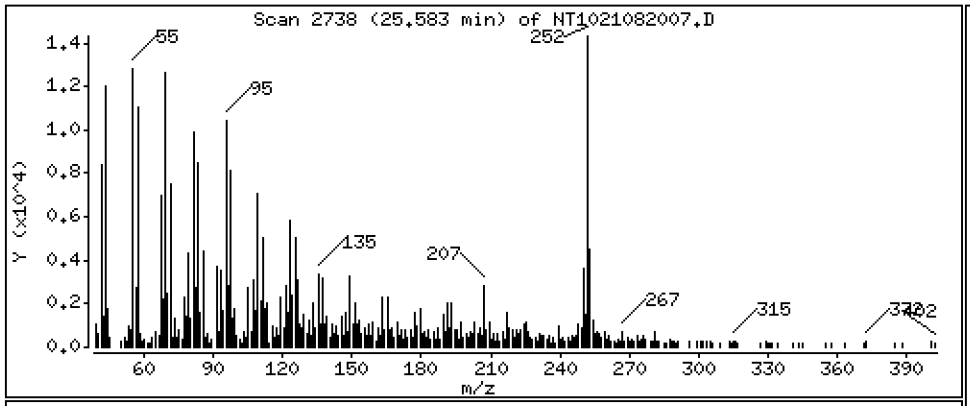
Operator: VTS

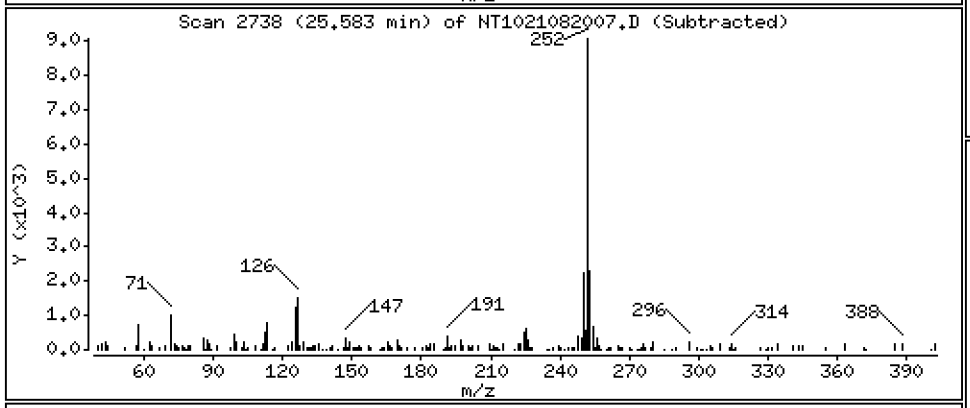
Column phase: ZB-5msi

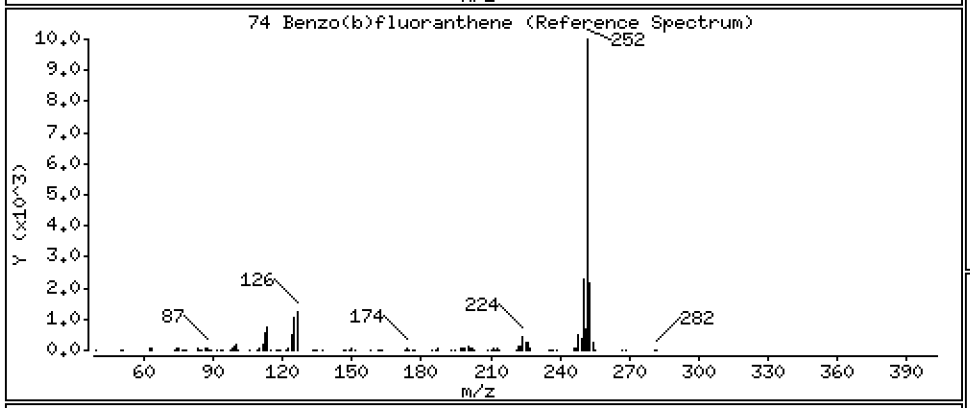
Column diameter: 0.25

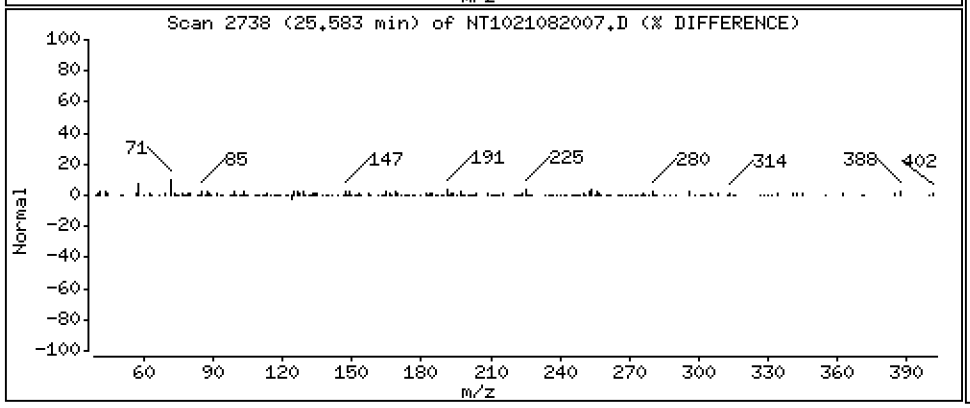
74 Benzo(b)fluoranthene

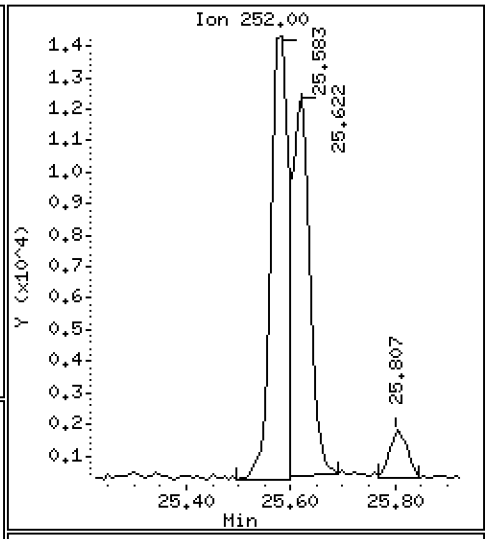
Concentration: 0.6108 ug/mL

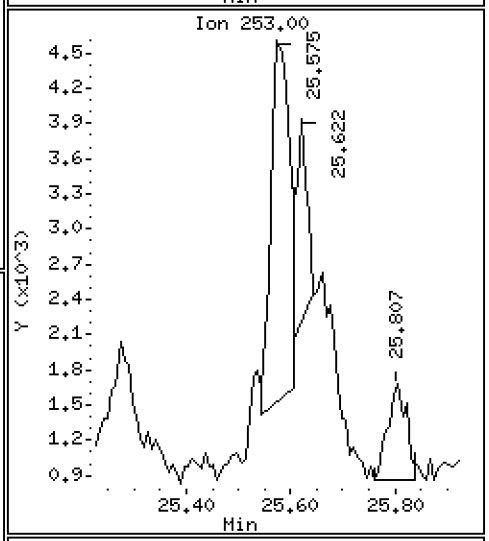


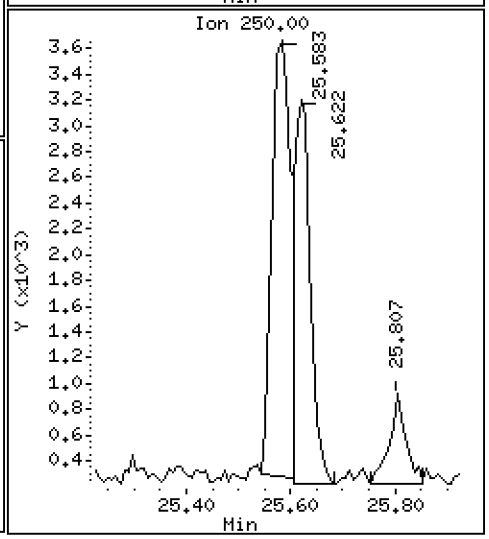












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

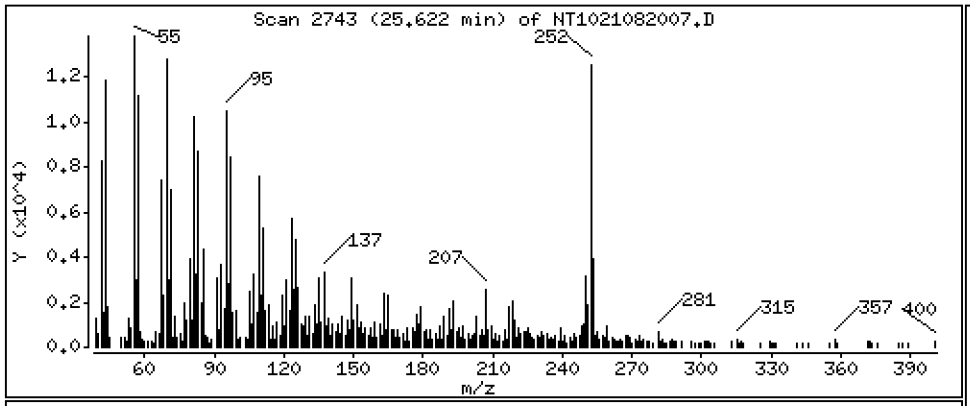
Operator: VTS

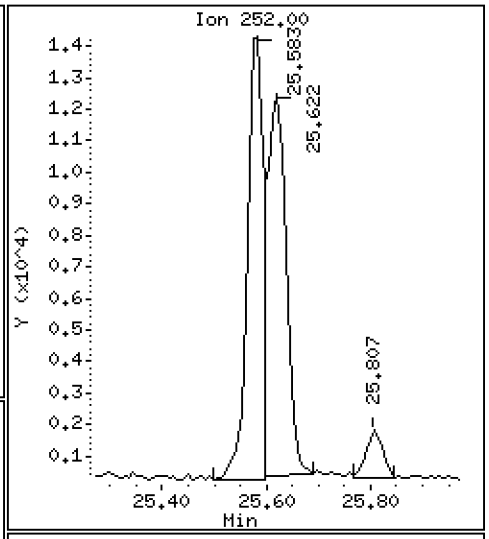
Column phase: ZB-5msi

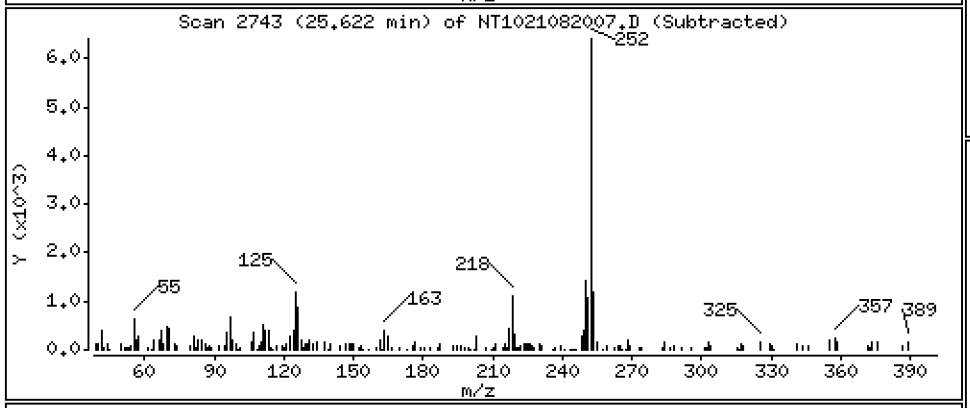
Column diameter: 0.25

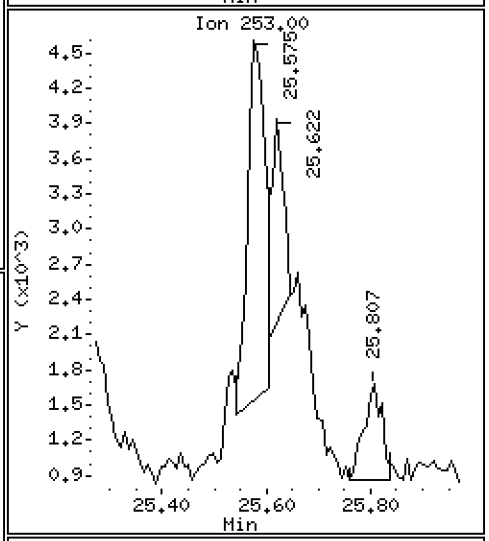
75 Benzo(k)fluoranthene

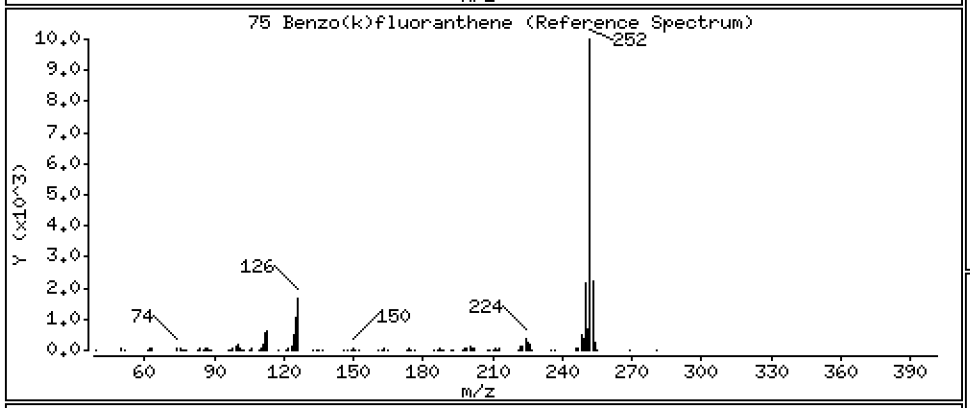
Concentration: 0.6109 ug/mL

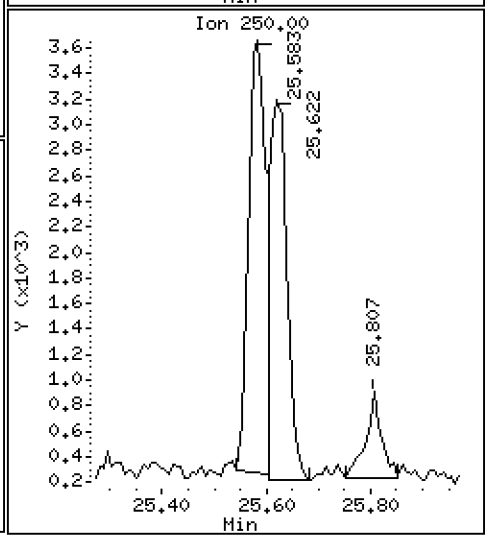


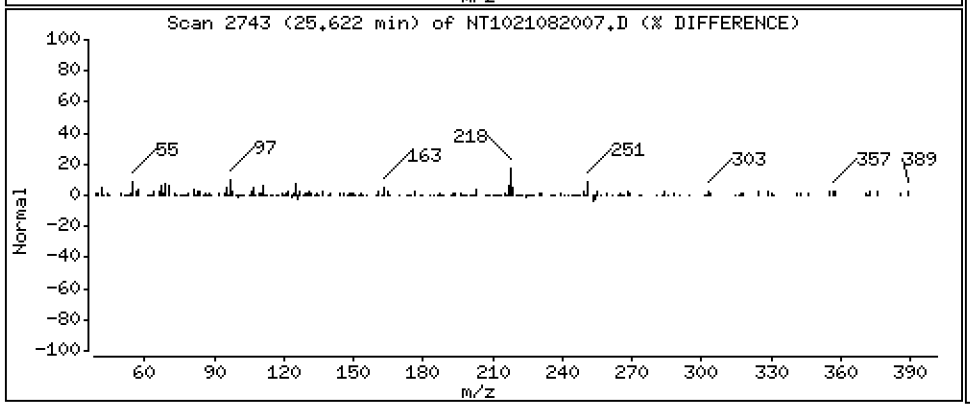












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D

Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

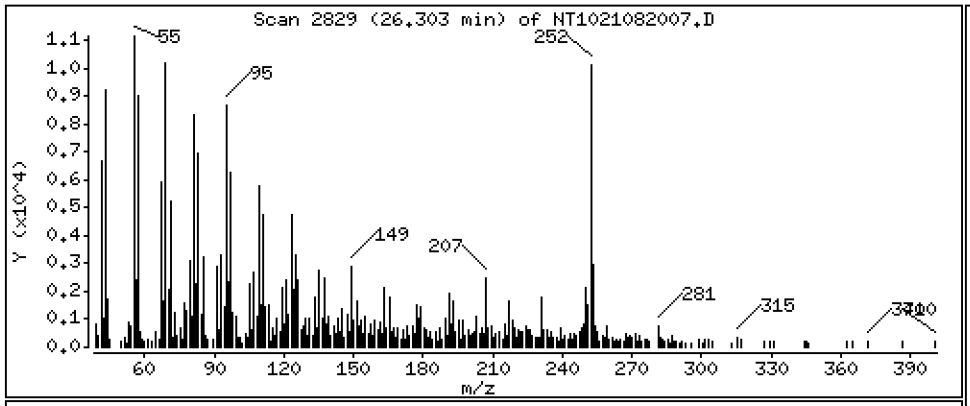
Operator: VTS

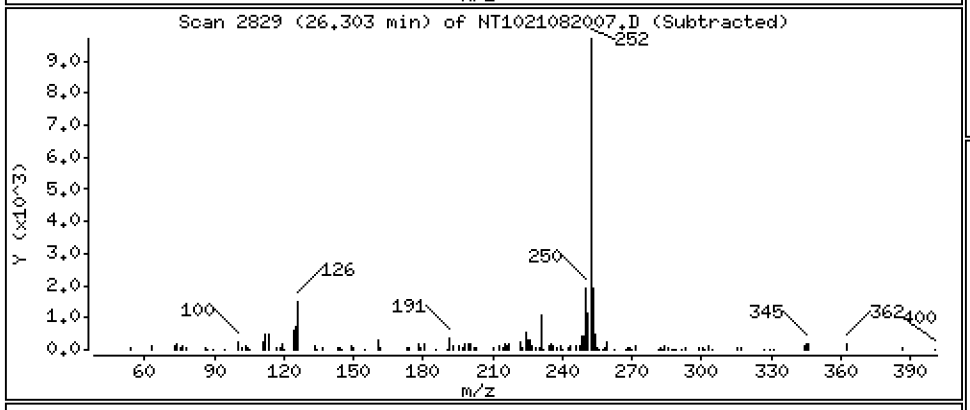
Column phase: ZB-5msi

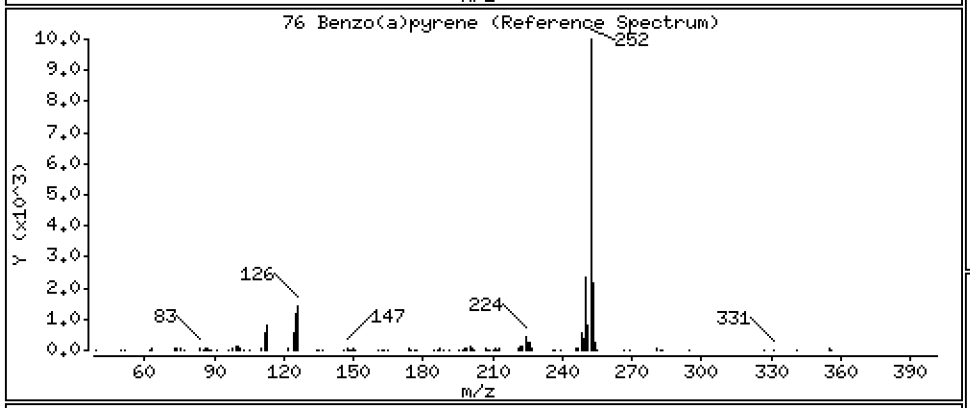
Column diameter: 0.25

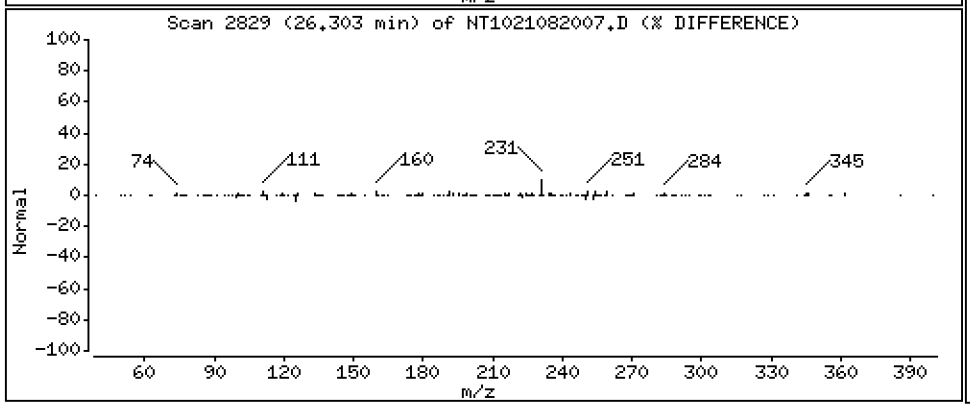
76 Benzo(a)pyrene

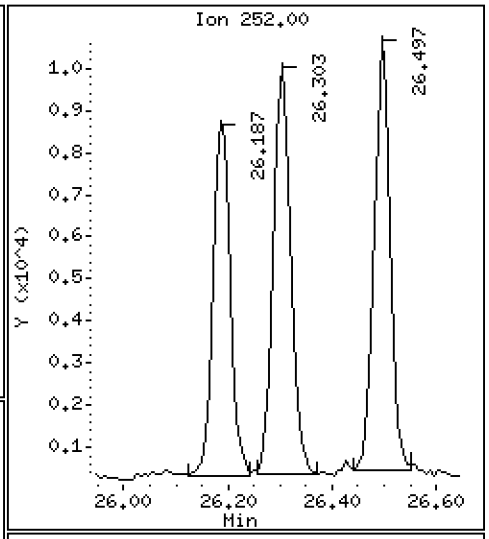
Concentration: 0.4756 ug/mL

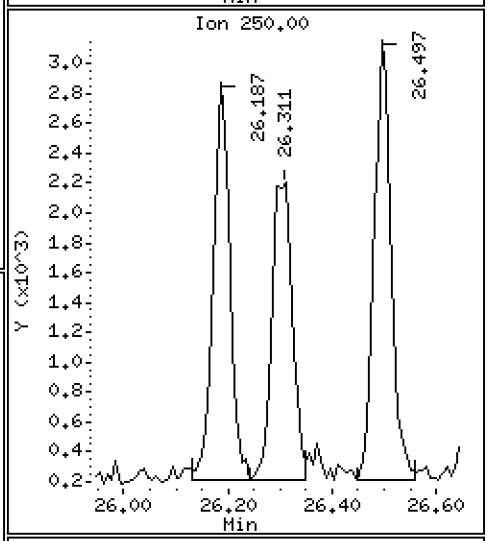


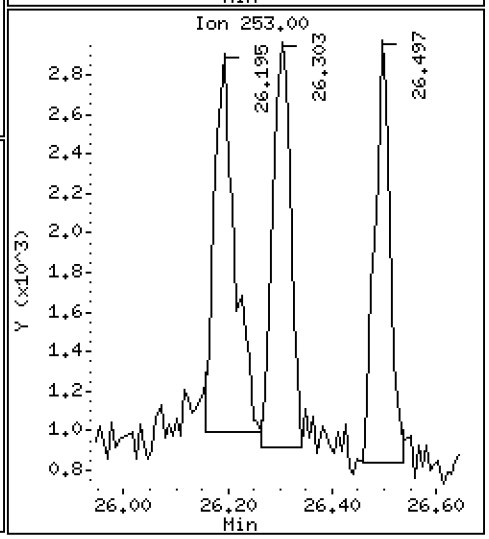












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

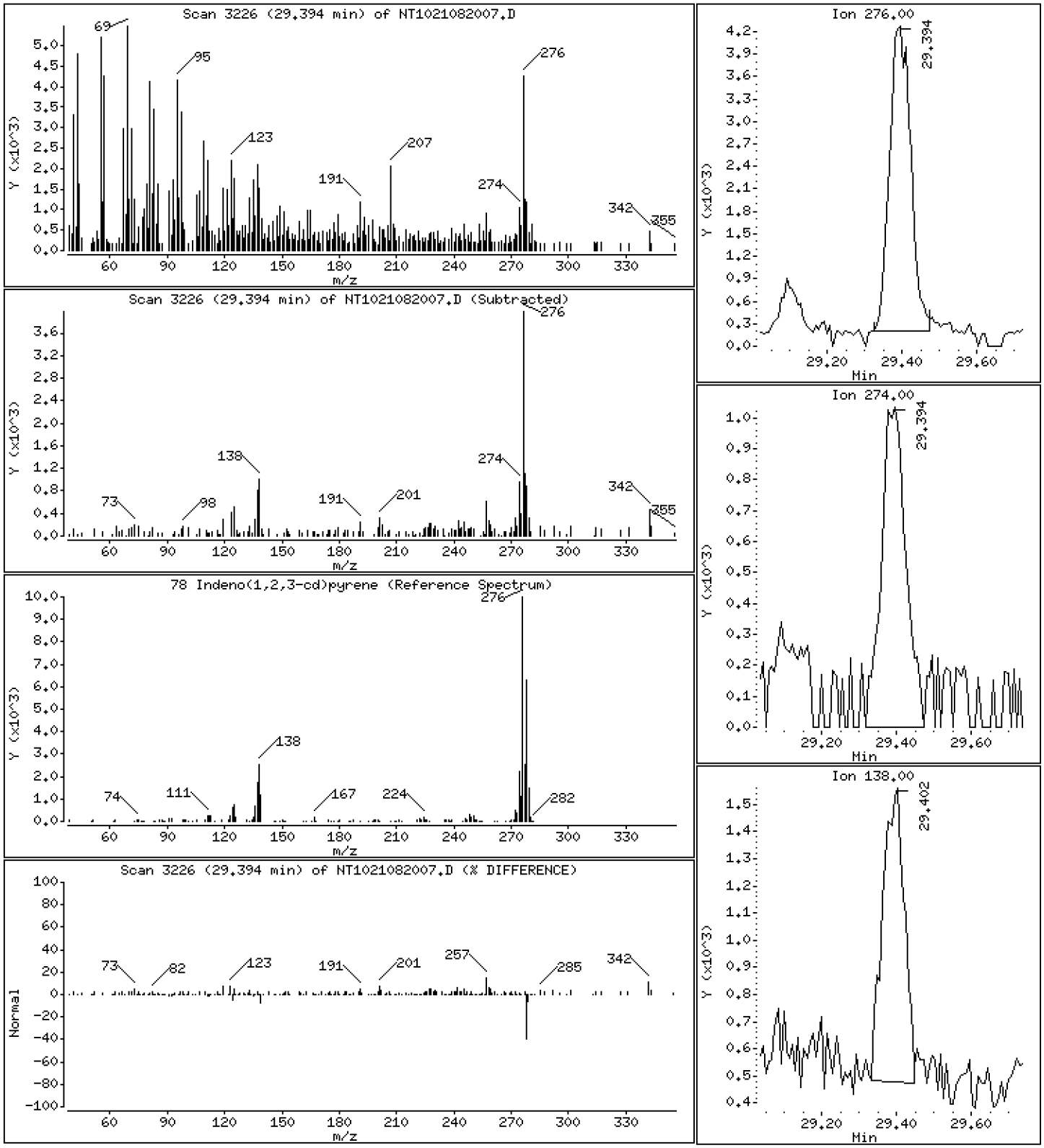
Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25

78 Indeno(1,2,3-cd)pyrene

Concentration: 0.3418 ug/mL



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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

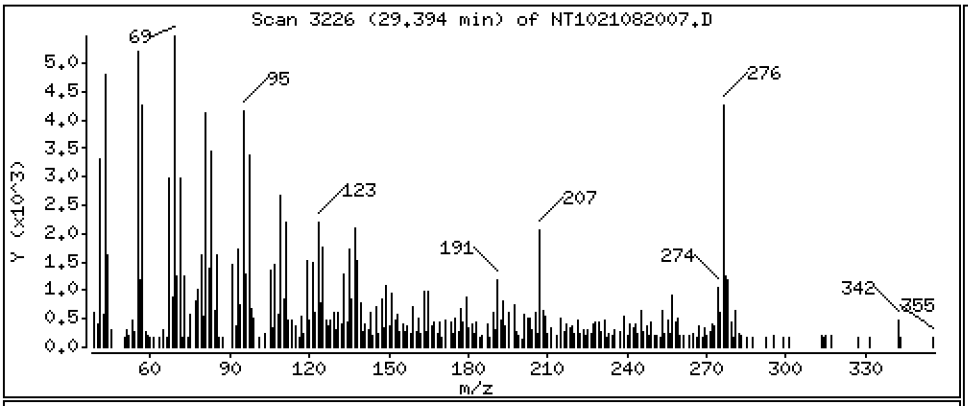
Operator: VTS

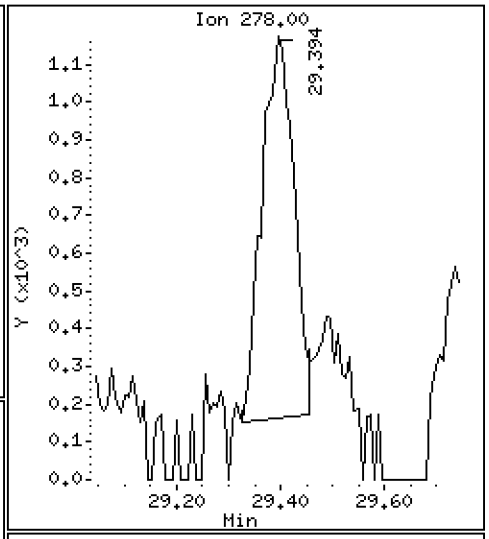
Column phase: ZB-5msi

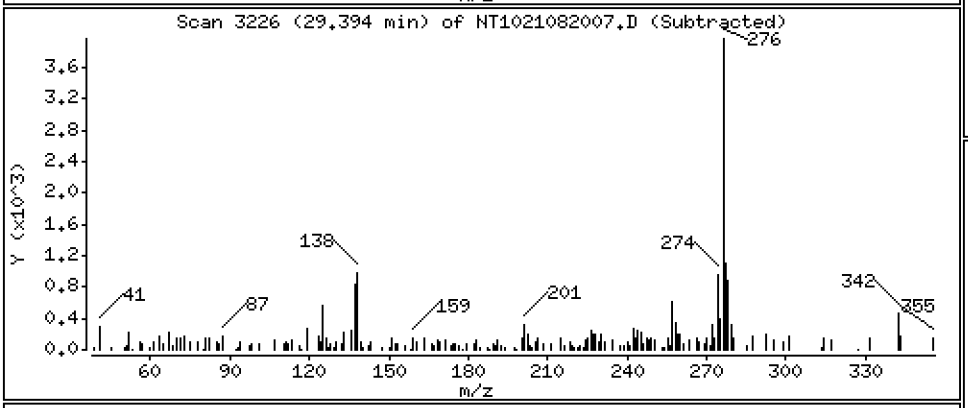
Column diameter: 0.25

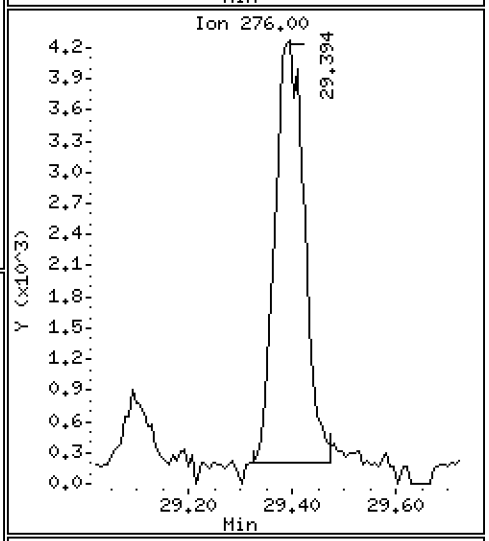
79 Dibenzo(a,h)anthracene

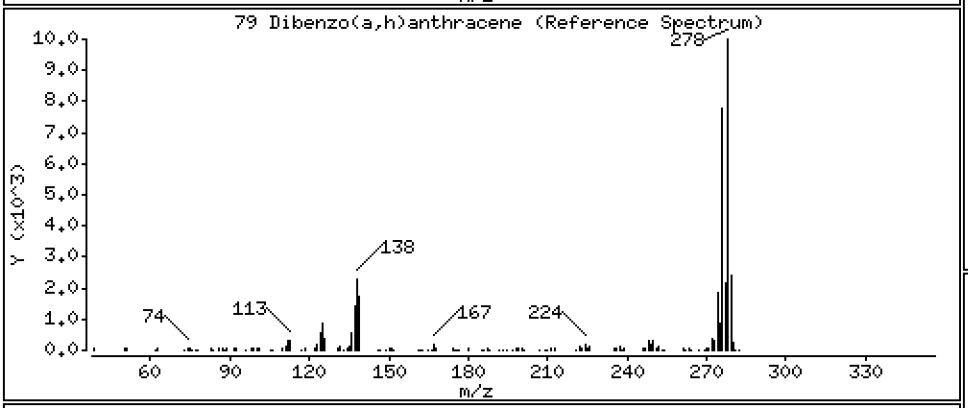
Concentration: 0.1192 ug/mL

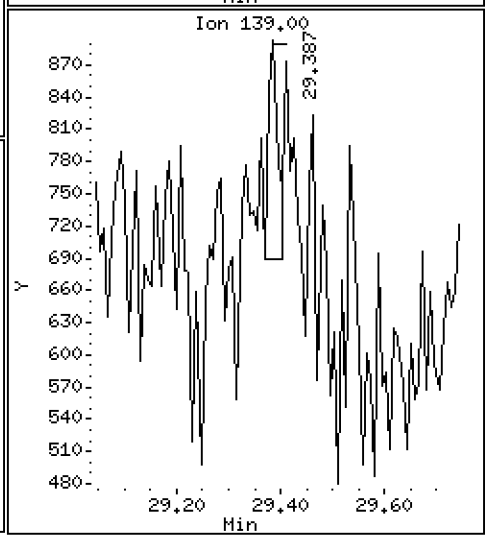


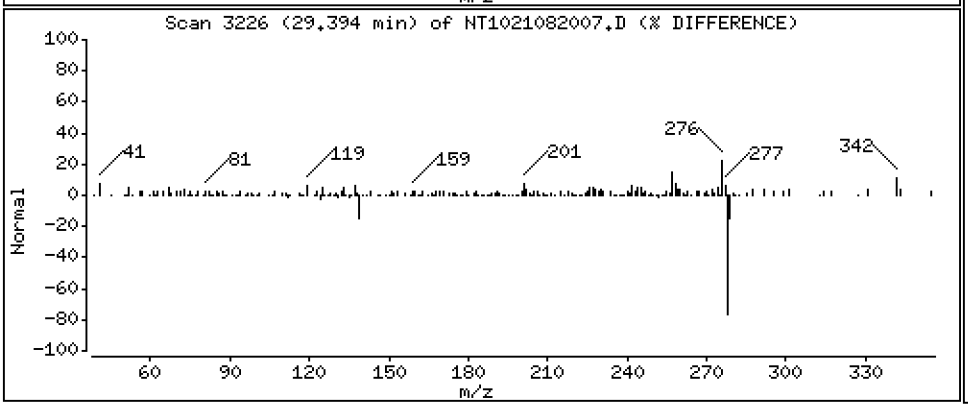












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

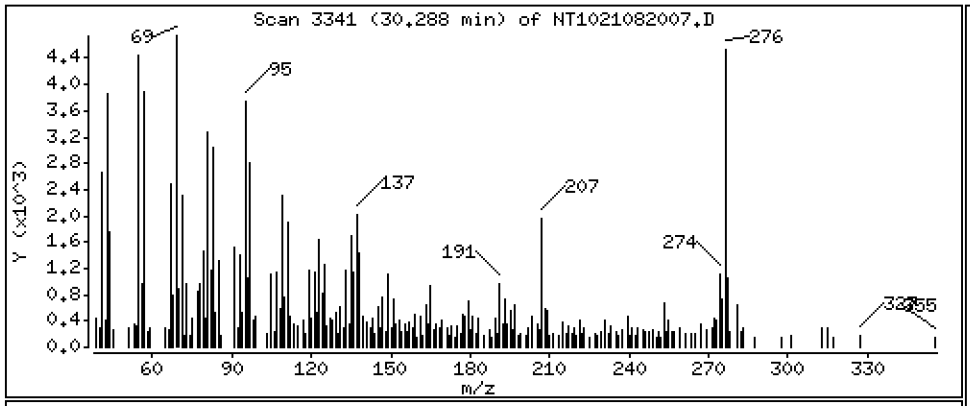
Operator: VTS

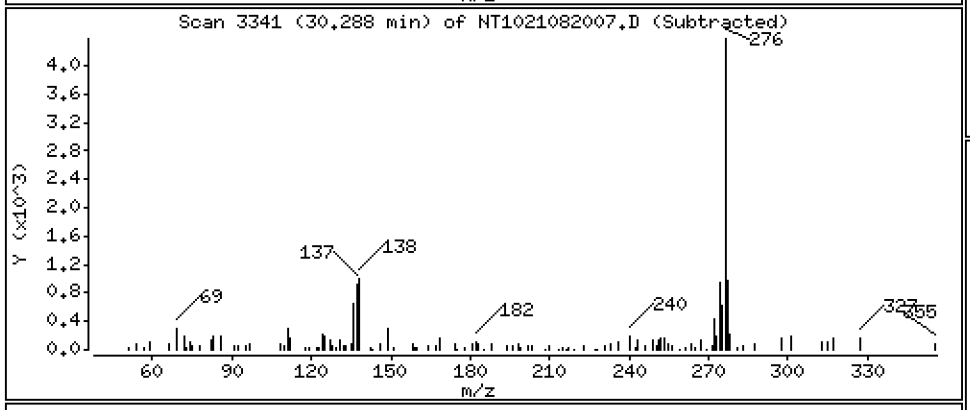
Column phase: ZB-5msi

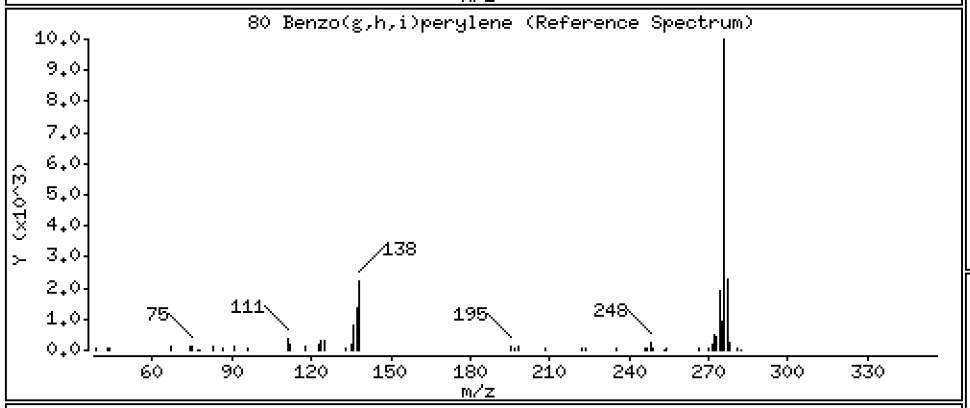
Column diameter: 0.25

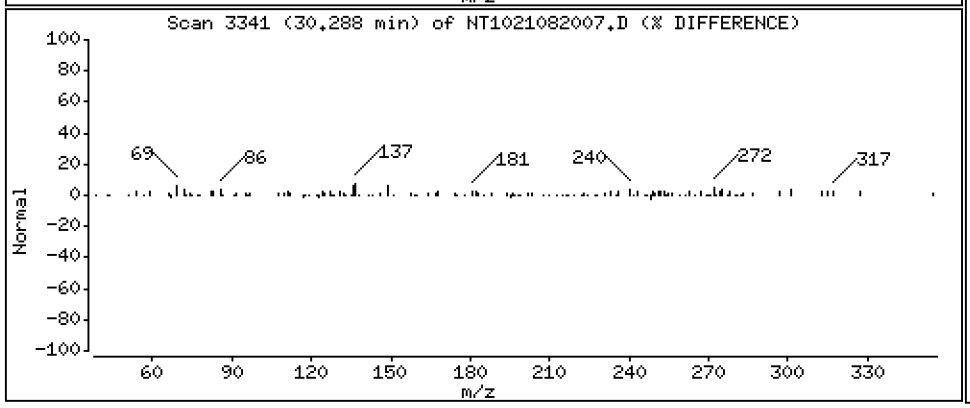
80 Benzo(g,h,i)perylene

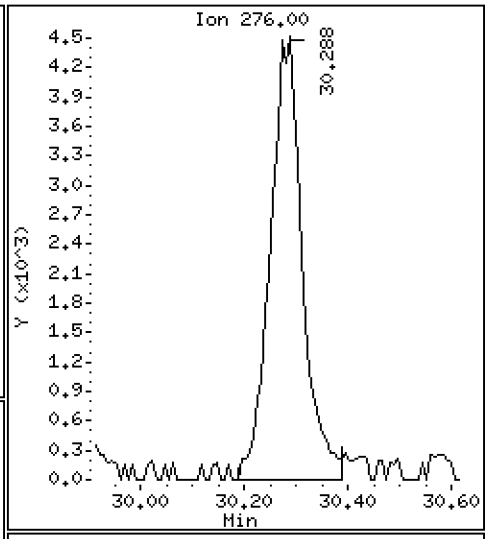
Concentration: 0.4694 ug/mL

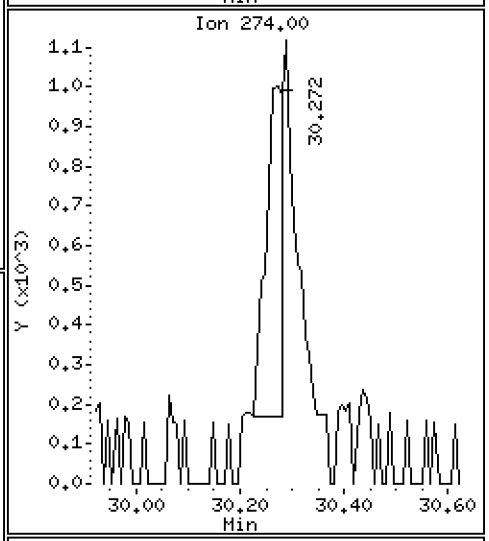


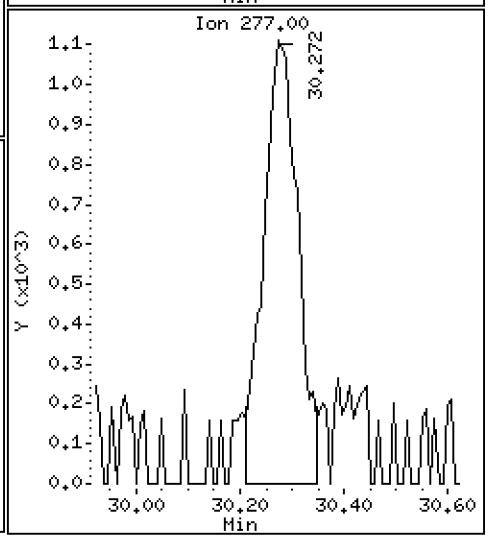












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

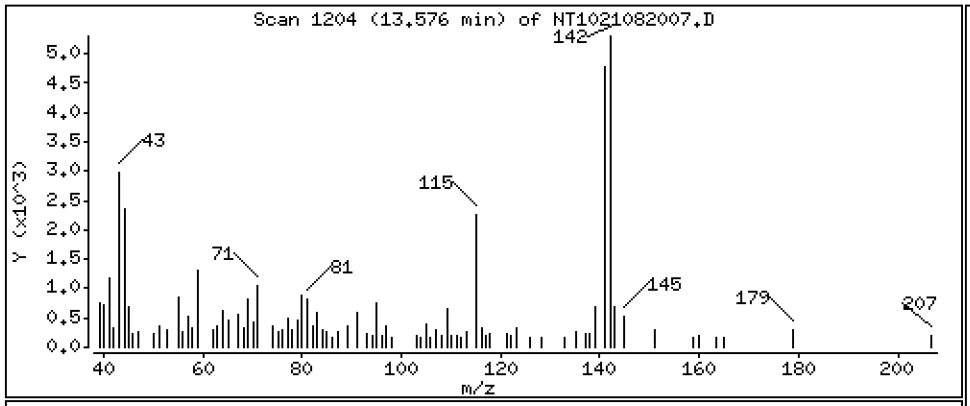
Operator: VTS

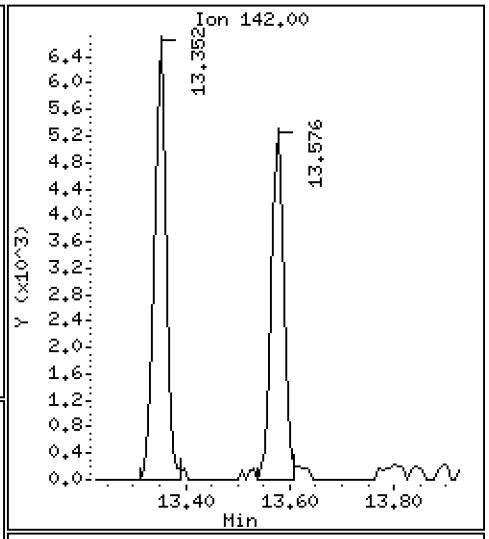
Column phase: ZB-5msi

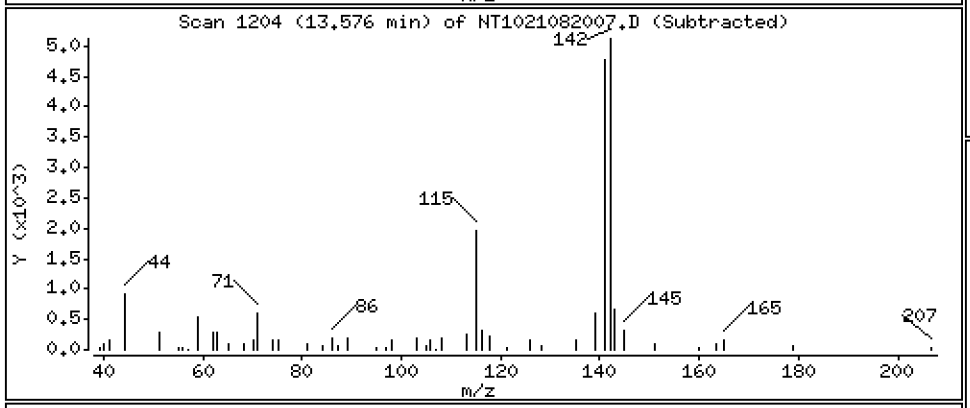
Column diameter: 0.25

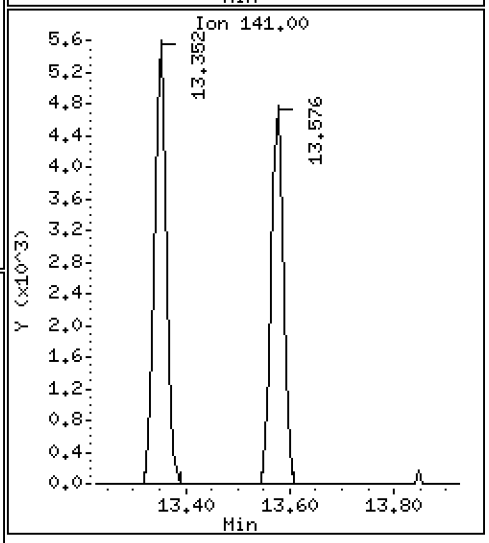
105 1-methylnaphthalene

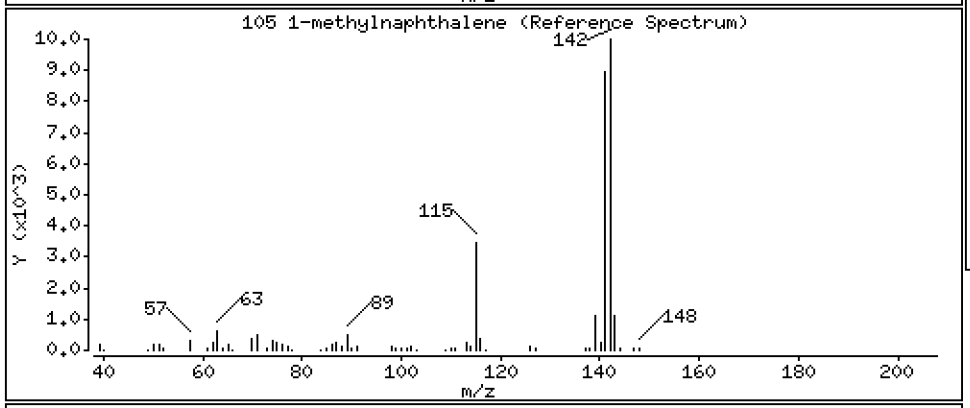
Concentration: 0.1193 ug/mL

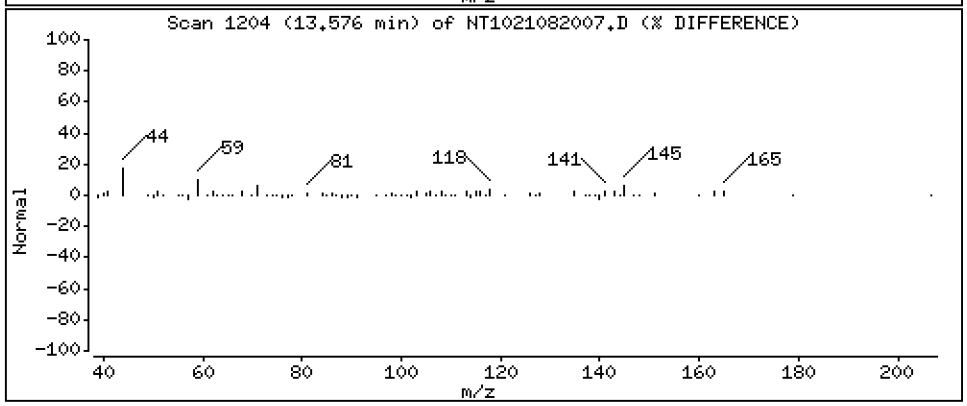












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Date : 20-AUG-2021 12:16

Client ID:

Instrument: nt10.i

Sample Info: 21G0305-07

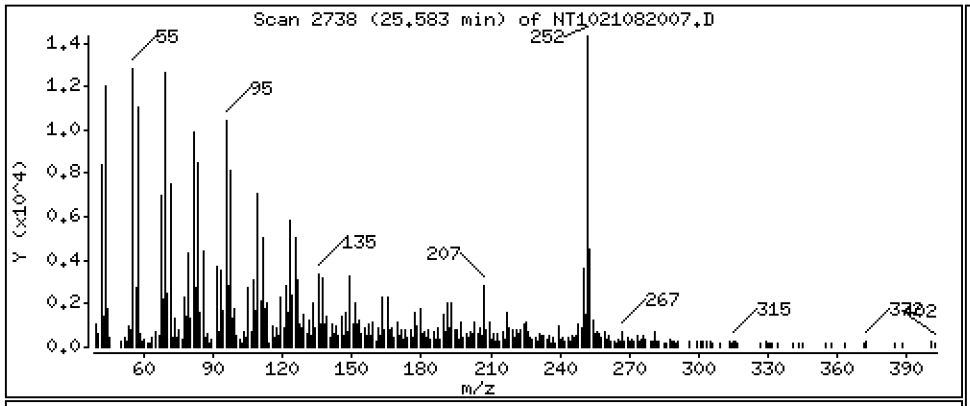
Operator: VTS

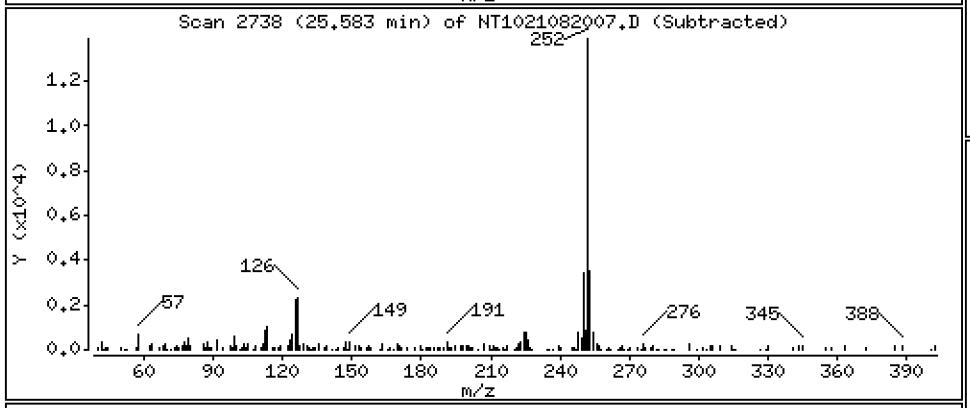
Column phase: ZB-5msi

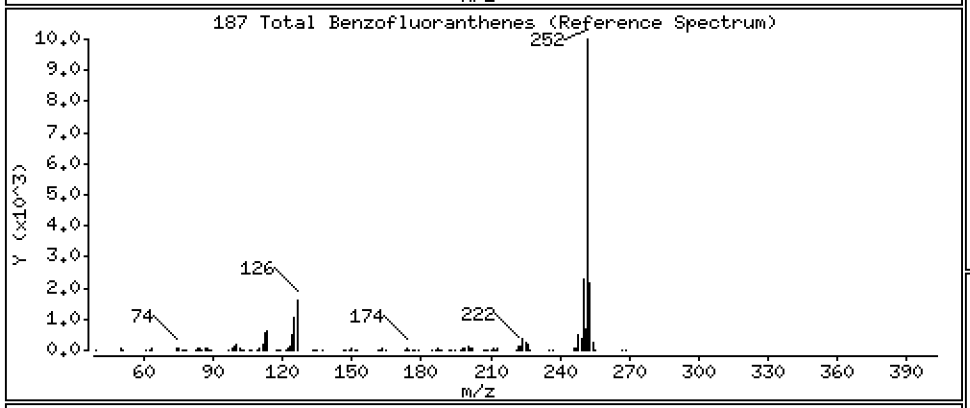
Column diameter: 0.25

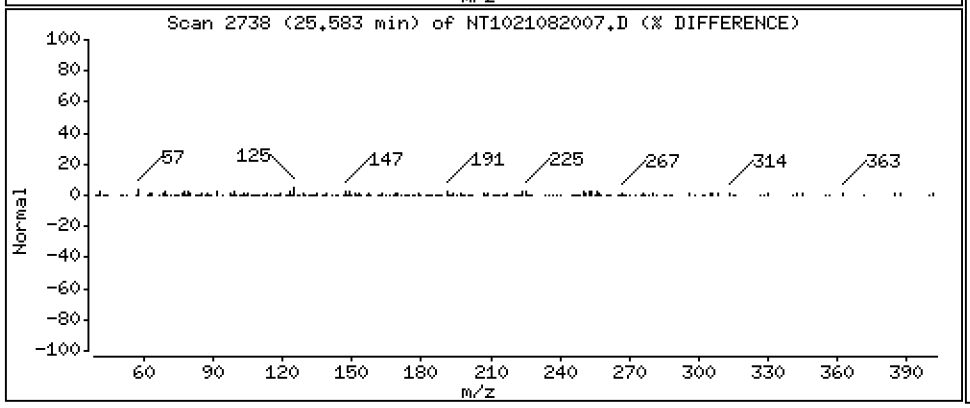
187 Total Benzofluoranthenes

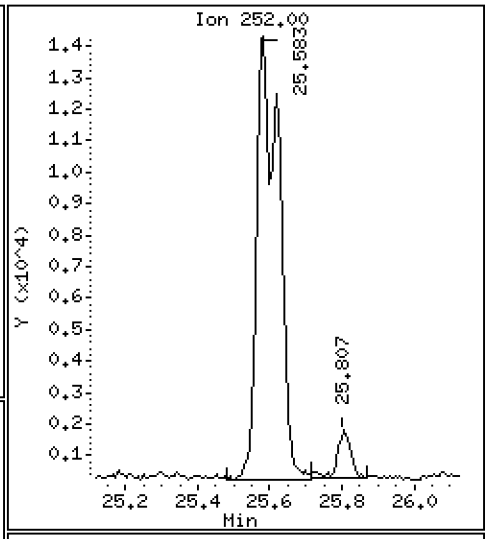
Concentration: 1.206 ug/mL

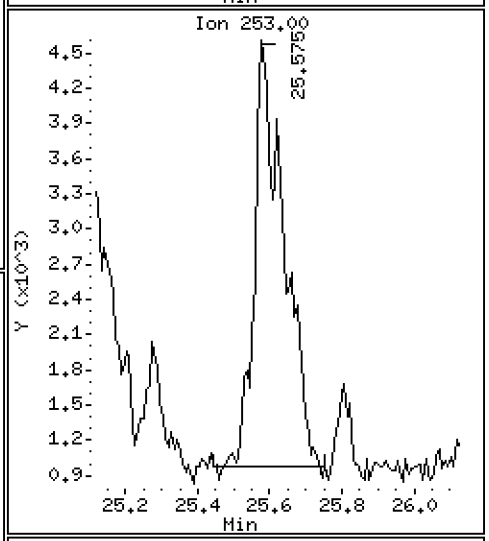


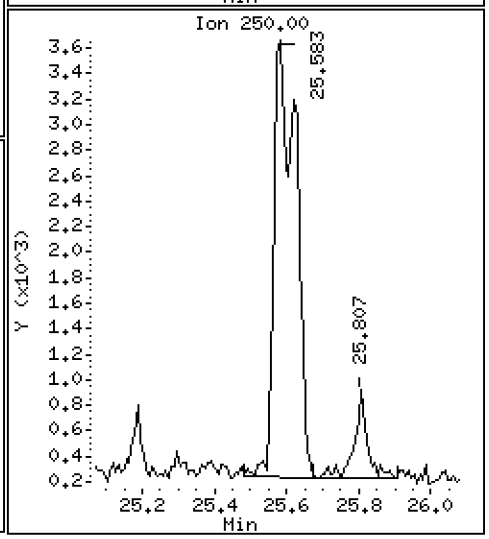












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D
Lab Smp Id: 21G0305-07
Inj Date : 20-AUG-2021 12:16
Operator : VTS Inst ID: nt10.i
Smp Info : 21G0305-07
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.200	7.184	(0.764)	130962	4.48731	4.487
$	2 Phenol-d5	99	8.768	8.760	(0.930)	191152	4.57621	4.576
	3 Phenol	94	8.791	8.784	(0.933)	3691	0.09654	0.09654
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.962)	163820	5.50558	5.506
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	9.425	9.425	(1.000)	87295	4.00000	
	9 1,4-Dichlorobenzene	146	9.456	9.456	(1.003)	1489	0.05963	0.05963
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	61001	3.01805	3.018
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	9.697	9.689	(1.029)	1448	0.08234	0.08234(M)
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	10.186	10.171	(1.081)	1814	0.07013	0.07013
$	18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	115019	3.58565	3.586
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	11.330	11.424	(0.950)	5723	0.43600	0.4360(MH)
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.921	11.921	(1.000)	306365	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	11335	0.14914	0.1491
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	13.351	13.352	(1.120)	10202	0.14066	0.1407
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	14.125	14.125	(0.909)	263777	3.94099	3.941
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	15.015	15.016	(0.967)	4022	0.07320	0.07320
	40 Acenaphthylene	152	15.225	15.225	(0.980)	3956	0.04765	0.04765
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	167528	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	15.604	15.604	(1.004)	4059	0.09243	0.09243
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.928	15.928	(1.025)	6907	0.08851	0.08851
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	16.469	16.469	(1.060)	6313	0.12747	0.1275
	49 Fluorene	166	16.639	16.639	(1.071)	5422	0.07829	0.07829
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	17.179	17.179	(1.106)	48334	7.50718	7.507
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	272105	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.002)	30282	0.45583	0.4558
	61 Anthracene	178	18.725	18.725	(1.007)	9570	0.13408	0.1341
	62 Carbazole	167	19.042	19.050	(1.025)	4275	0.05815	0.05815
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	6877	0.07562	0.07562
	64 Fluoranthene	202	21.007	20.999	(0.890)	51326	0.73122	0.7312
	65 Pyrene	202	21.425	21.425	(0.908)	72317	1.00384	1.004
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	207605	4.58608	4.586
	67 Butylbenzylphthalate	149	22.602	22.594	(0.957)	4492	0.15843	0.1584
	68 Benzo(a)anthracene	228	23.577	23.577	(0.999)	18992	0.33901	0.3390
*	69 Chrysene-d12	240	23.608	23.608	(1.000)	160357	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	23.647	23.647	(1.002)	20500	0.46158	0.4616
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	35226	1.26569	1.266
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	289189	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	25.582	25.575	(0.968)	31934	0.61082	0.6108
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.969)	31310	0.61092	0.6109
	76 Benzo(a)pyrene	252	26.302	26.295	(0.995)	21965	0.47560	0.4756
*	77 Perylene-d12	264	26.434	26.426	(1.000)	142103	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.394	29.371	(1.112)	16306	0.34178	0.3418
	79 Dibenzo(a,h)anthracene	278	29.394	29.394	(1.112)	4350	0.11918	0.1192(M)
	80 Benzo(g,h,i)perylene	276	30.287	30.264	(1.146)	19558	0.46942	0.4694
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	8346	0.11929	0.1193
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.582	25.621	(0.968)	60156	1.20609	1.206
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082007.D Page 1
Report Date: 24-Aug-2021 11:25

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082007.D
Lab Smp Id: 21G0305-07
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	87295	12.25
27 Naphthalene-d8	262289	131145	524578	306365	16.80
42 Acenaphthene-d10	161630	80815	323260	167528	3.65
59 Phenanthrene-d10	276890	138445	553780	272105	-1.73
69 Chrysene-d12	212964	106482	425928	160357	-24.70
134 Di-n-octylphthala	413838	206919	827676	289189	-30.12
77 Perylene-d12	196991	98496	393982	142103	-27.86

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	-0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.61	-0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	-0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082007.D

Lab ID: 21G0305-07
nt10.i, ABN.m, 20-AUG-2021 12:16

RT	CO-ELUTION COMPOUNDS
29.394	Indeno(1,2,3-cd)pyrene and Dibenzo(a,h)anthracene
29.394	Dibenzo(a,h)anthracene and Indeno(1,2,3-cd)pyrene

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.950	0.958	-0.0078	Benzoic acid

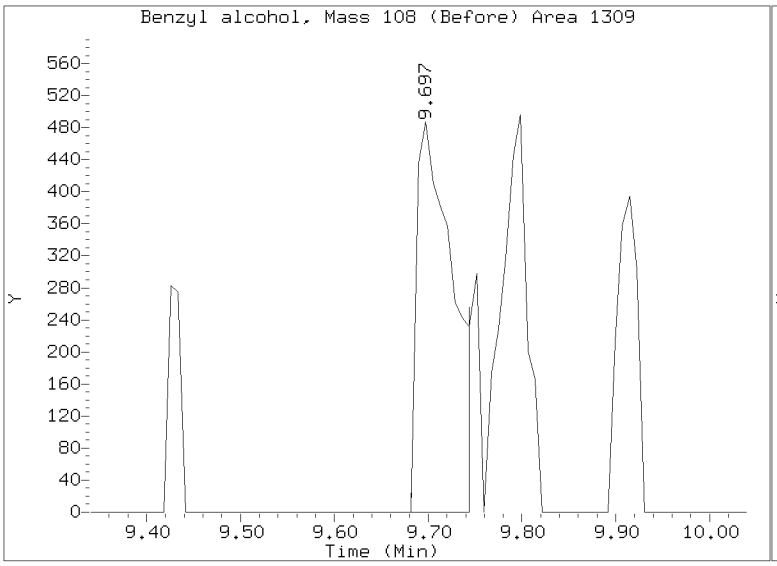
RRT check based on Ccal File: NT1021082002.D

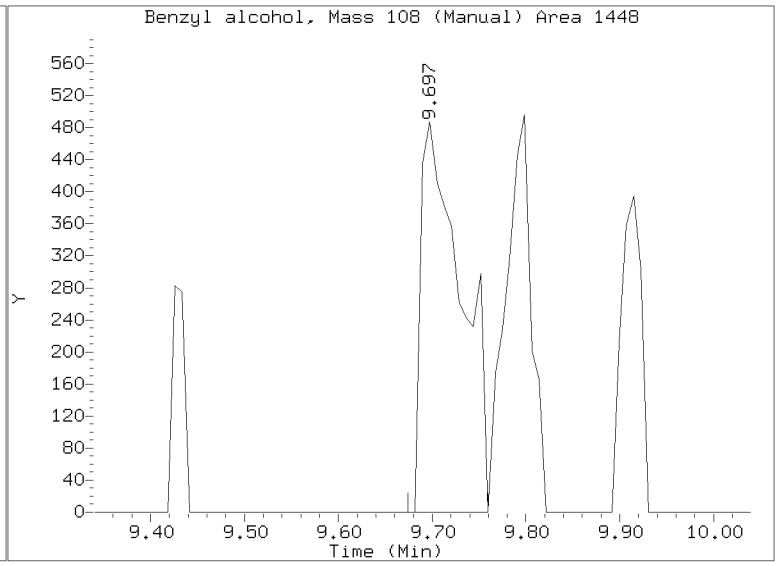
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

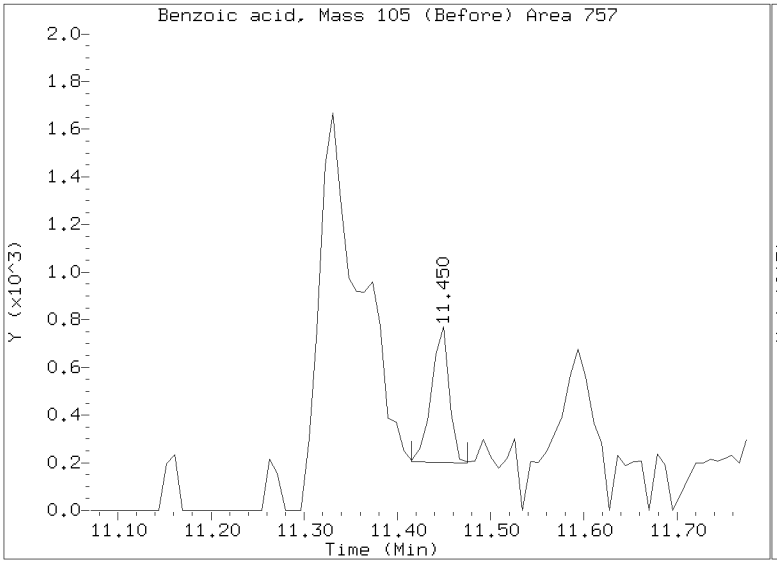
* Only compounds listed in the work order have been verified by the analyst *

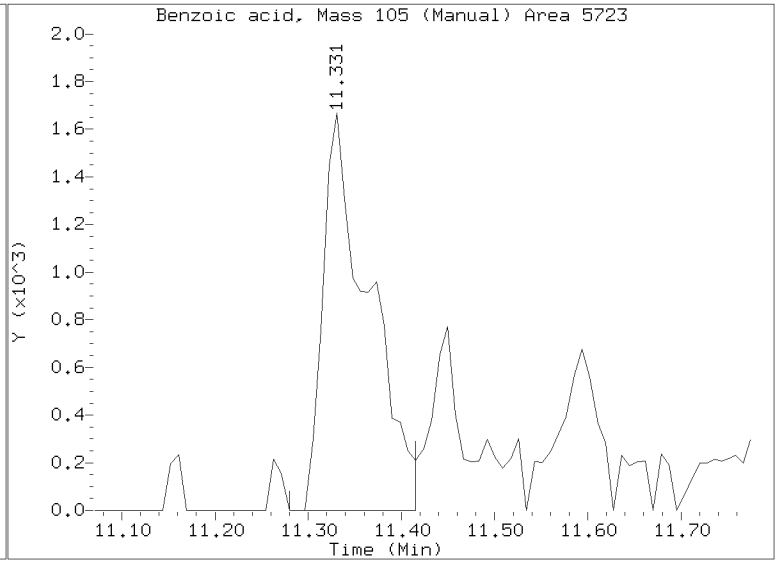
Quant Ion Manual Peak Adjustment Report

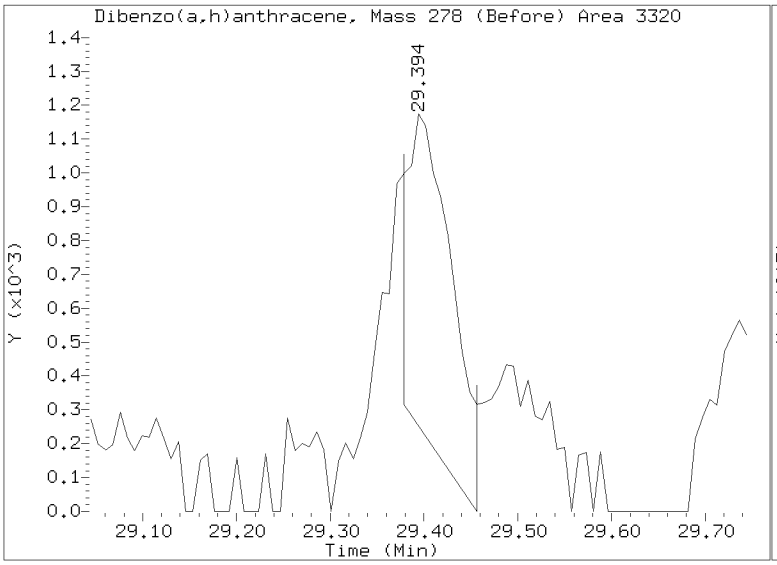
Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082007.D
Injection Date: 20-AUG-2021 12:16
Lab ID:21G0305-07 Client ID:
Report Date: 08/24/2021 11:25

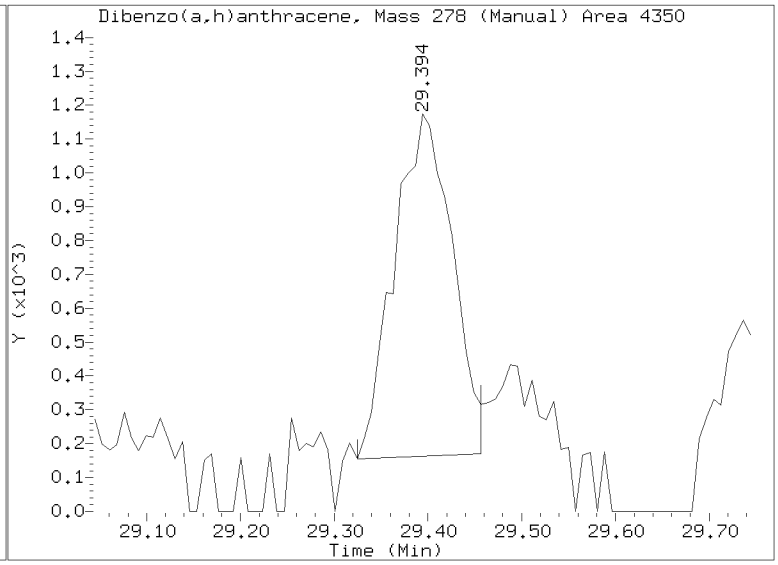












Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Batch:	BJH0139 Batch Matrix: Solid	Preparation:	EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC530	21G0305-07	NT1021082007.D	08/05/21 10:25	
Blank	BJH0139-BLK1	NT1021082004.D	08/05/21 10:25	
LCS	BJH0139-BS1	NT1021082005.D	08/05/21 10:25	
LDW21-SC530	BJH0139-MS1	NT1021082008.D	08/05/21 10:25	
LDW21-SC530	BJH0139-MSD1	NT1021082009.D	08/05/21 10:25	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0139

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:ButylBenzylPhth Only)

Matrix: Solid **Date Prepared:** 08/05/21 **Balance ID:** B1462614 **Set Up By:** GO 8/5/21

WO Comments
21G0305: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>

The following standards may be missing from this batch!

Designator	Description
39	Benzidine Spike
QLS 14	QLS Spike (Freezer)

Analysis: 8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf)

Lab Number & Container	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
21G0305-07 B	64.9	(15.41) 15.41	(1:1)	1mL	1	0.5	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 10 (Wet) Actual	(REQ) GPC C/U (1:1) 1 2 3	Water Wash 1mL	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BJH0139-BLK1	100.0	(10.00) 10.00	(1:1)	1mL	1	0.5	Use 5g Neutral Sodium Sulfate for Blanks
BJH0139-BS1	100.0	(10.00) 10.00	(1:1)	1mL	1	0.5	Use 5g Neutral Sodium Sulfate for Blanks
BJH0139-MS1	64.9	(15.41) 15.41	(1:1)	1mL	1	0.5	Use 21G0305-07
BJH0139-MSD1	64.9	(15.41) 15.41	(1:1)	1mL	1	0.5	Use 21G0305-07
BJH0139-SRM1	100.0	~~(10.00)~~ (1.00) 1.00	(1:1)	1mL	1	0.5	Use ~~I005638~~ I005667

+1g DI H2O

Client ID verified By 08/05/21 Date

JWC 8/18/21 Preparation Reviewed By Date

08/05/21 10:25 Extraction Date and Time

Printed: 8/5/2021 8:24:55AM

3036F
Page 1 of 2

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0139

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:ButylBenzylPhth Only)

WO Comments
21G0305: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>

Prep Steps

Microwave
1 (2) 3
CT 08/05/21
Analyst/Date

KD 100°C
1 2 3 4 (5) 6
RM 8/12/21
Analyst/Date

TurboVap Pre GPC
1 2 3 (4) 5
SH 8/16/21
Analyst/Date

GPC Prep Filter (1:1)
no filter req BT 08/16/21
Analyst/Date

Post GPC KD 80-85°C
1 2 3 4 5 (6)
08/17/21
Analyst/Date

TurboVap
1 2 3 4 (5)
TWC 8/18/21
Analyst/Date

Water Wash
TWC 8/18/21
Analyst/Date

Vialing
TWC 8/18/21
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CT Date: 08/05/21	
Anhydrous Sodium Sulfate	J008034
1:1 Methylene Chloride/Acetone	J007931
Methylene Chloride J006423	~~J006423~~ 8/16/21
Pre-Deactivated Glass Wool	J007894
Pre GPC KD Analyst: RM Date: 8/12/21	
Pre-Deactivated Glass Wool	N/A
Anhydrous Sodium Sulfate	J008126
Methylene Chloride	J007004
Hexane	J005194
GPC Filter Prep Analyst: Date:	
Methylene Chloride	
GPC Analyst: SH Date: 8/16/21	
Methylene Chloride	J007004
GPC Calibration File	CJF0417
Post GPC KD Analyst: Date: 08/17/21	
Methylene Chloride	J007004
Vialing Analyst: TWC Date: 8/18/21	
Methylene Chloride	J007004

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 100/150µg/mL	A J004253 Exp: 04/20/2022	50µL	CT	
Full List Spike (Freezer) 100µg/mL	7 J008035 (V) Exp: 01/04/2022 J007898	50µL	CT	
Base Spike 200µg/mL	56 J008035 (V) Exp: 01/04/2022 J004231	50µL	CT	
Acid Spike 100/200µg/mL	38 J008035 (V) Exp: 01/04/2022 J004232	50µL	CT	

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: SVOA Extraction Batch BJH0139

Total Solids Batch: BJ60689 Work Order(s): 21G0305

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01, 02, 04-09	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☒ Other Notes/Comments= (Note problems, concerns, corrective actions).	
No ~~GPC~~ Pre-GPC filter required	SH 8/16/21
SH 8/16/21	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0139

Prepared using: EPA 3546 (Microwave)

8270E SVOC (20ug/kg solid or 0.2ug/L low H2O Sepf) in Solid (Version:ButylBenzylPhth Only)

WO Comments

21G0305: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh into beakers-lightly dry with Sodium Sulfate. 2. Transfer to microwave vessel. 3. Add DCM ONLY to the vessels (until solvent is 3 inches above soil layer after homogenization). 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-re-homogenize while hot then let cool 10-15 min in Refridgerator 05. Re-homogenize while cool. 7. Decant DCM into Erlenmeyer flask with a funnel containing pre-deactivated glasswool. 8. Rinse with DCM 9. Microwave a 2nd time using 1:1 DCM/ACE. 10. Let cool and decant the solvent then empty the soil into the funnel and rinse with DCM. 11. KD: Add 10 mL Hexane directly to extract in the KD. 12. GPC REQUIRED 100ºC water bath (CLP) KD to 5mL. 13. (After GPC) KD at 80ºC. 14.TurboVap 15. Vial in DCM. 16. Water Wash Required 17. 0.5mL (1:2) Split to Lab. A. Need Total Solids Y/N B. Archive/Freeze Y/N	

BLK1

BJH0139 21G0305 SVOC

Date:2021-08-16,10:21:18 PM
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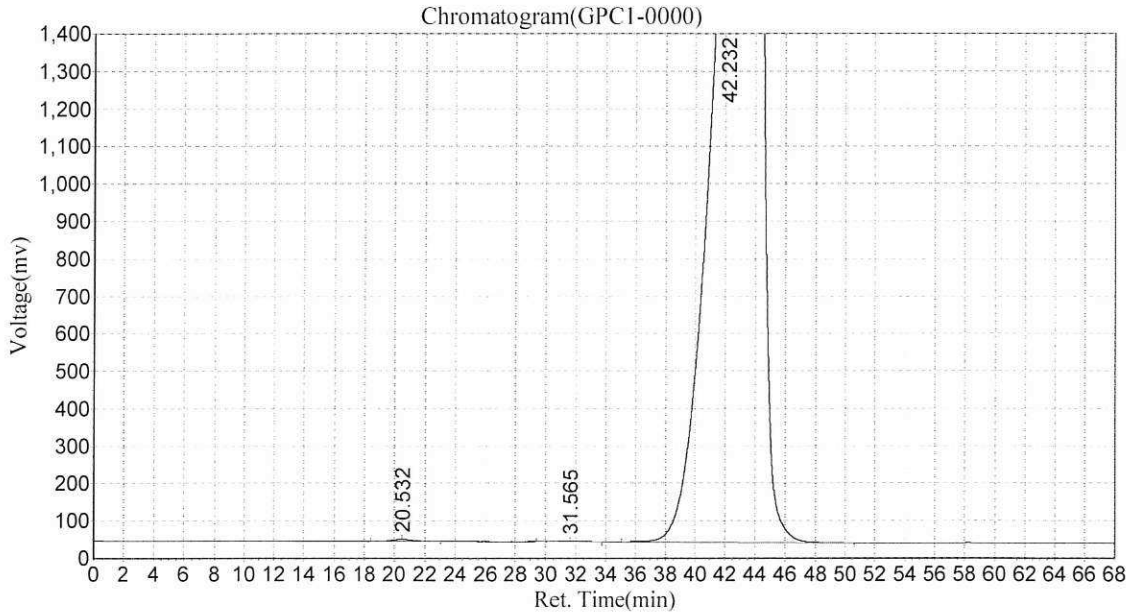
Method File:C:\N2000\GPC1_InHouse.mtd

Analyst£°SH
Date/Time2021-08-16,10:21:18 PM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		20.532	5687.543	587115.625	0.1523
2		31.565	1107.500	139281.594	0.0361
3		42.232	1383393.500	384789856.000	99.8116
Total			1390188.543	385516253.219	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	28.000	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	33.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	56.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	60.000	0.010	0.00E+000	0.00E+000	0.0000

BJH0139 21G0305 SVOC

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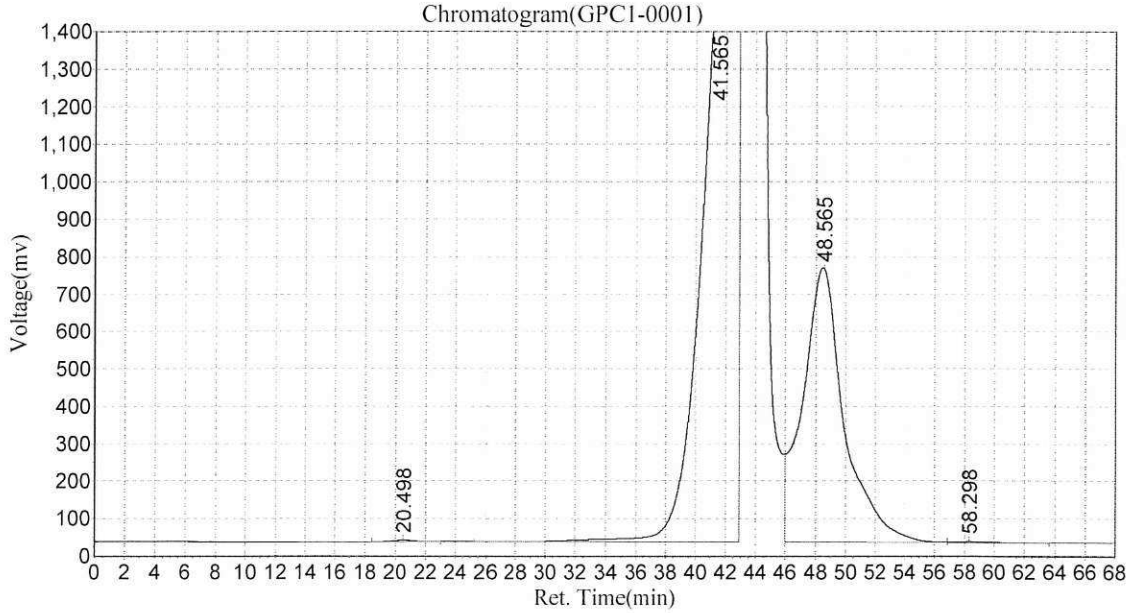

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		20.498	4425.511	464163.813	0.1207
2		41.565	1387957.375	242602384.000	63.0703
3		48.565	732952.938	141187600.000	36.7051
4		58.298	2746.704	399724.906	0.1039
Total			2128082.527	384653872.719	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	28.000	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	33.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	56.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	60.000	0.010	0.00E+000	0.00E+000	0.0000

SRM 1

BJH0139 21G0305 SVOC

Date:2021-08-17,12:40:54 AM
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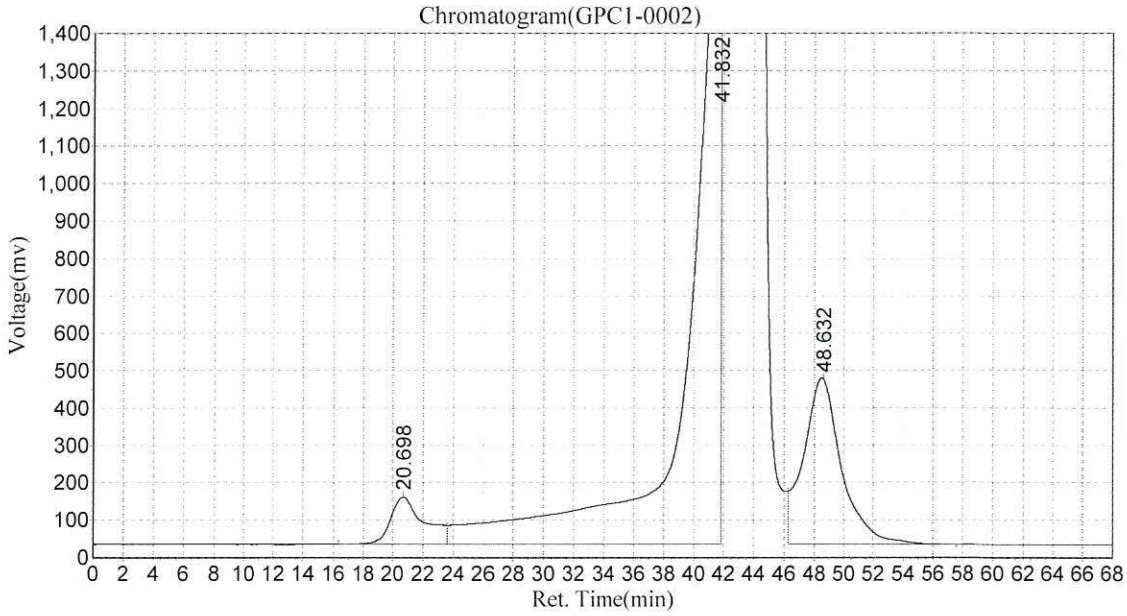

Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		20.698	125592.984	19718614.000	5.6387
2		41.832	1390407.625	250053712.000	71.5051
3		48.632	443787.656	79928208.000	22.8562
Total			1959788.266	349700534.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	28.000	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	33.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	56.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	60.000	0.010	0.00E+000	0.00E+000	0.0000

BJH0139 21G0305 SVOC

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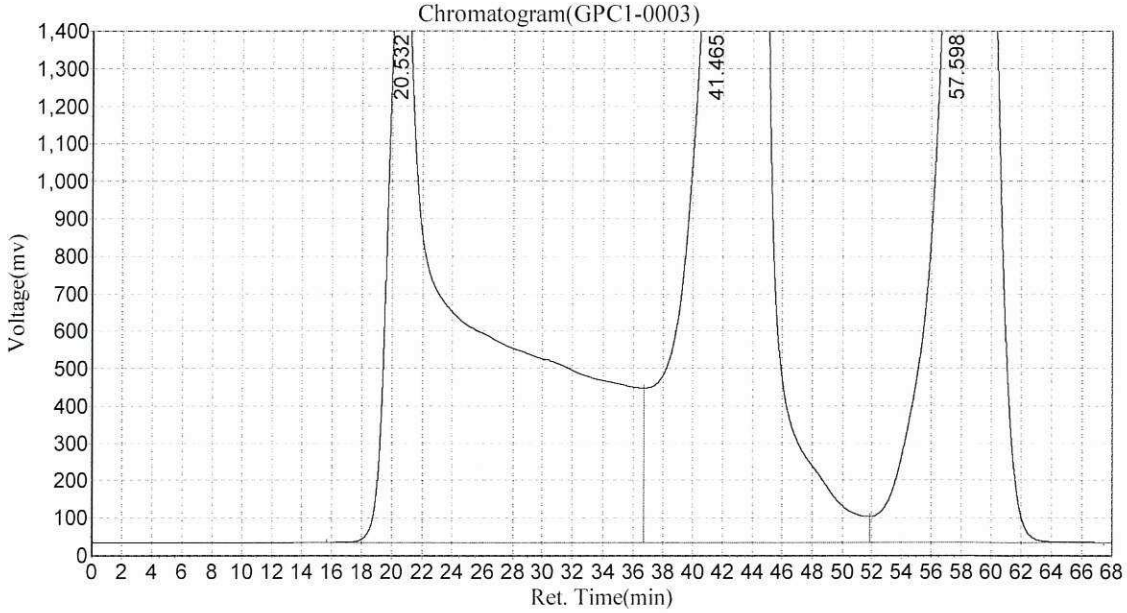
Method File:C:\N2000\GPC1_InHouse.mtd

Analyst£ºSH
Date/Time2021-08-17,1:50:44 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		20.532	1390948.625	650047040.000	37.1294
2		41.465	1390819.875	628402752.000	35.8931
3		57.598	1390720.625	472311456.000	26.9775
Total			4172489.125	1750761248.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	28.000	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	33.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	56.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	60.000	0.010	0.00E+000	0.00E+000	0.0000

MS 1

BJH0139 21G0305 SVOC

Date:2021-08-17,3:00:30 AM
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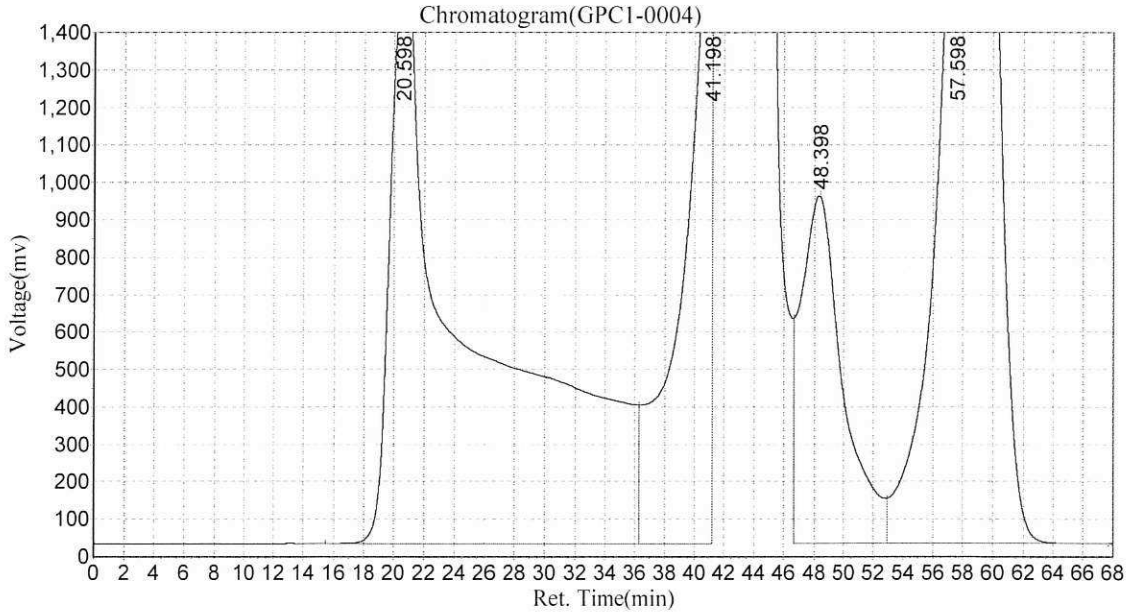
Method File:C:\N2000\GPC1_InHouse.mtd

Analyst£°SH
Date/Time2021-08-17,3:00:31 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		20.598	1390971.875	591453568.000	40.8413
2		41.198	1390660.750	216529776.000	14.9519
3		48.398	929318.000	182997056.000	12.6364
4		57.598	1390413.000	457196192.000	31.5705
Total			5101363.625	1448176592.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	28.000	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	33.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	56.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	60.000	0.010	0.00E+000	0.00E+000	0.0000

MSD1

BJH0139 21G0305 SVOC

Date:2021-08-17,4:10:19 AM
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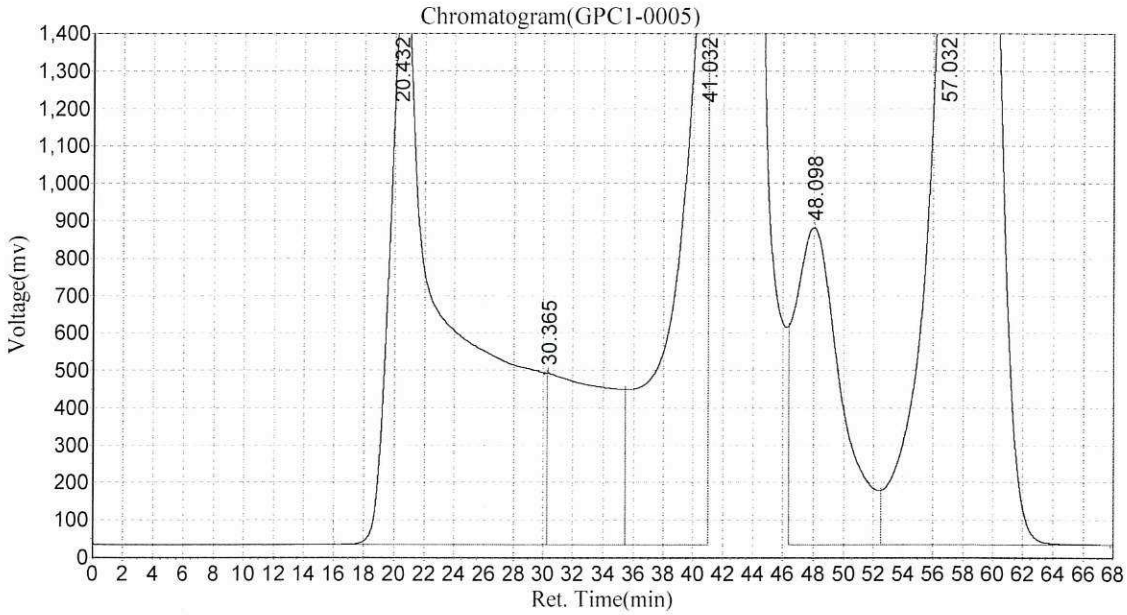
Method File:C:\N2000\GPC1_InHouse.mtd

Analyst£°SH
Date/Time2021-08-17,4:10:19 AM



Results

Peak No.	Peak ID	Ret Time	Height	Area	Conc
1		20.432	1390713.125	449119232.000	29.5665
2		30.365	459812.063	133707008.000	8.8022
3		41.032	1390657.000	248902880.000	16.3858
4		48.098	847259.750	179169184.000	11.7951
5		57.032	1390613.375	508117088.000	33.4504
Total			5479055.313	1519015392.000	100.000

Ingredient Table

No	Peak ID	Ret Time	Peak Width	Factor1	Factor2	ISTD Wt.
1	Collect BAN	28.000	0.010	0.00E+000	0.00E+000	0.0000
2	Collect Pest	33.000	0.010	0.00E+000	0.00E+000	0.0000
3	Dump Pest	56.000	0.010	0.00E+000	0.00E+000	0.0000
4	Dump BAN	60.000	0.010	0.00E+000	0.00E+000	0.0000

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0159	Cleanup Type:	GPC
Cleanup Method:	EPA 3640A GPC Cleanup 1:1	Analysis:	EPA 8270E

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC530	21G0305-07	NT1021082007.D	08/16/2021	
Matrix Spike	BJH0139-MS1	NT1021082008.D	08/16/2021	
LCS	BJH0139-BS1	NT1021082005.D	08/16/2021	
Blank	BJH0139-BLK1	NT1021082004.D	08/16/2021	
Matrix Spike Dup	BJH0139-MSD1	NT1021082009.D	08/16/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJH0159

Matrix: Solid | **Cleanup using: Organics - EPA 3640A GPC Cleanup 1:1** | **Printed: 8/18/2021 2:34:55PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0305-07	B	LDW21-SC530	B 02	1	1	SVOC (20ug/kg solid or 0.2ug/L low H2	8/16/2021	SH	
BJH0139-BLK1	-	Blank	-	1	1	-	8/16/2021	SH	
BJH0139-BS1	-	LCS	-	1	1	-	8/16/2021	SH	
BJH0139-MS1	-	Matrix Spike	-	1	1	-	8/16/2021	SH	
BJH0139-MSD1	-	Matrix Spike Dup	-	1	1	-	8/16/2021	SH	
BJH0139-SRM1	-	Reference	-	1	1	-	8/16/2021	SH	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
METHOD BLANK DATA SHEET
EPA 8270E

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0139-BLK1	File ID:	NT1021082004.D
Sampled:	N/A	Prepared:	08/05/21 10:25	Analyzed:	08/20/21 10:22
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	10 g / 1 mL
Batch:	BJH0139	Sequence:	SJH0258	Calibration:	EH00053
Instrument:	NT10	Column:	ZB-5MSi	Cleanups:	GPC

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
85-68-7	Butylbenzylphthalate	1	20.0	U	9.4	20.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
p-Terphenyl-d14	500.00	449	89.8	37 - 120	

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082004.D

Date : 20-AUG-2021 10:22

Client ID:

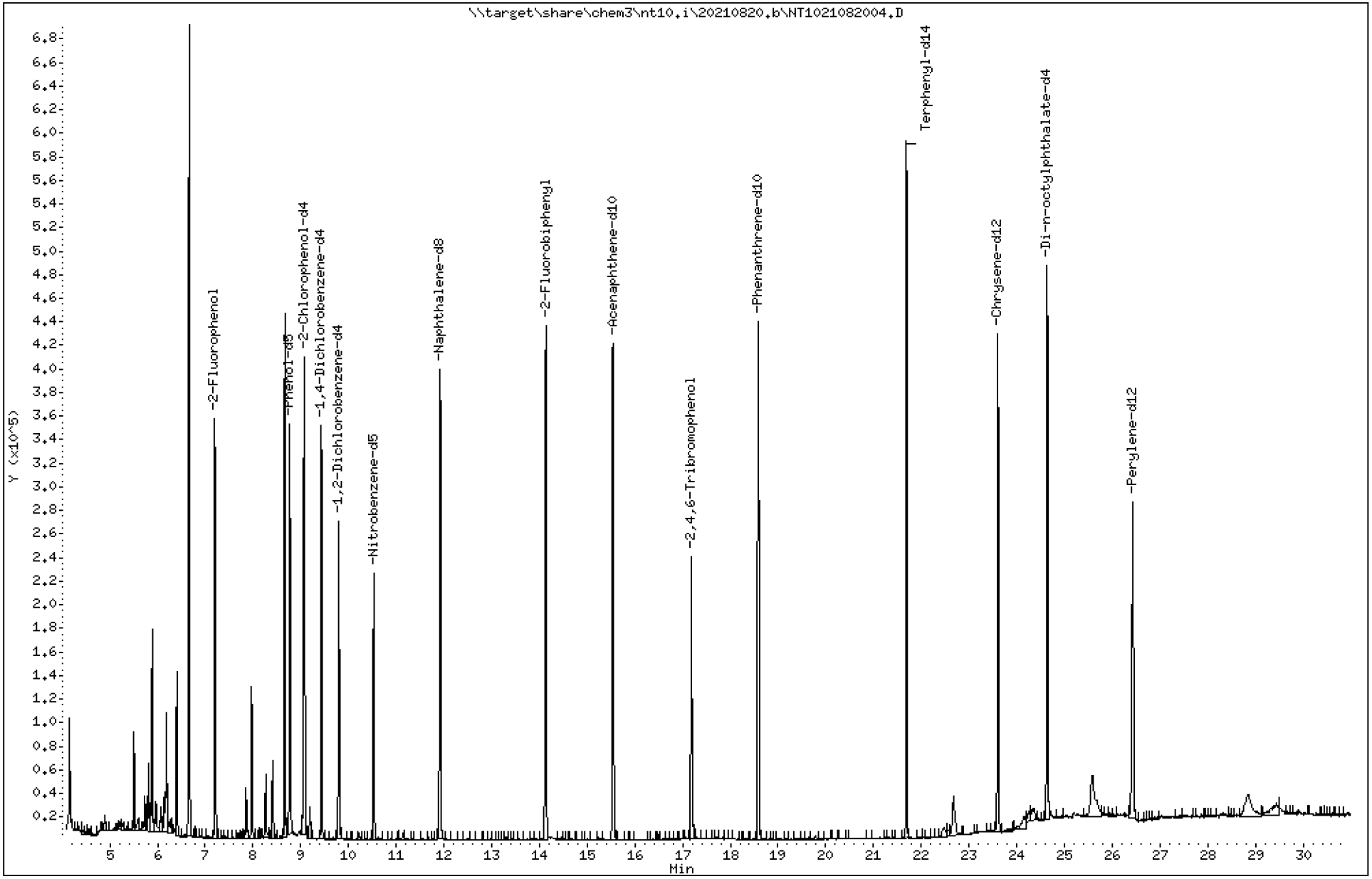
Instrument: nt10.i

Sample Info: BJH0139-BLK1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082004.D
Lab Smp Id: BJH0139-BLK1
Inj Date : 20-AUG-2021 10:22
Operator : VTS Inst ID: nt10.i
Smp Info : BJH0139-BLK1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.200	7.184	(0.763)	155702	5.04933	5.049
$	2 Phenol-d5	99	8.776	8.760	(0.930)	210276	4.76447	4.764
	3 Phenol	94	Compound Not Detected.					
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	181932	5.78687	5.787
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.425	(1.000)	92234	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	70266	3.29028	3.290
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	Compound Not Detected.					
$	18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	123988	3.64468	3.645
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.921	11.921	(1.000)	324906	4.00000	
	28 Naphthalene	128	Compound Not Detected.					
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	Compound Not Detected.					
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	14.133	14.125	(0.909)	259674	3.52370	3.524
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	Compound Not Detected.					
	40 Acenaphthylene	152	Compound Not Detected.					
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	184453	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	Compound Not Detected.					
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	Compound Not Detected.					
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	Compound Not Detected.					
	49 Fluorene	166	Compound Not Detected.					
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	17.187	17.179	(1.106)	39855	5.63903	5.639
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	321224	4.00000	
	60 Phenanthrene	178	Compound Not Detected.					
	61 Anthracene	178	Compound Not Detected.					
	62 Carbazole	167	Compound Not Detected.					
	63 Di-n-butylphthalate	149	Compound Not Detected.					
	64 Fluoranthene	202	Compound Not Detected.					
	65 Pyrene	202	Compound Not Detected.					
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	318002	4.49114	4.491
	67 Butylbenzylphthalate	149	Compound Not Detected.					
	68 Benzo(a)anthracene	228	Compound Not Detected.					
*	69 Chrysene-d12	240	23.608	23.608	(1.000)	250822	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	Compound Not Detected.					
	72 bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.					
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	419717	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	Compound Not Detected.					
	75 Benzo(k)fluoranthene	252	Compound Not Detected.					
	76 Benzo(a)pyrene	252	Compound Not Detected.					
*	77 Perylene-d12	264	26.427	26.426	(1.000)	222225	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	Compound Not Detected.					
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082004.D Page 1
Report Date: 24-Aug-2021 11:24

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082004.D
Lab Smp Id: BJH0139-BLK1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	92234	18.60
27 Naphthalene-d8	262289	131145	524578	324906	23.87
42 Acenaphthene-d10	161630	80815	323260	184453	14.12
59 Phenanthrene-d10	276890	138445	553780	321224	16.01
69 Chrysene-d12	212964	106482	425928	250822	17.78
134 Di-n-octylphthala	413838	206919	827676	419717	1.42
77 Perylene-d12	196991	98496	393982	222225	12.81

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082004.D

Lab ID: BJH0139-BLK1
nt10.i, ABN.m, 20-AUG-2021 10:22

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: NT1021082002.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/20/21 11:00
Batch:	BJH0139	Laboratory ID:	BJH0139-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	10 g / 1 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Butylbenzylphthalate	500	399		79.8	45 - 132

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Page 1

Date : 20-AUG-2021 11:00

Client ID:

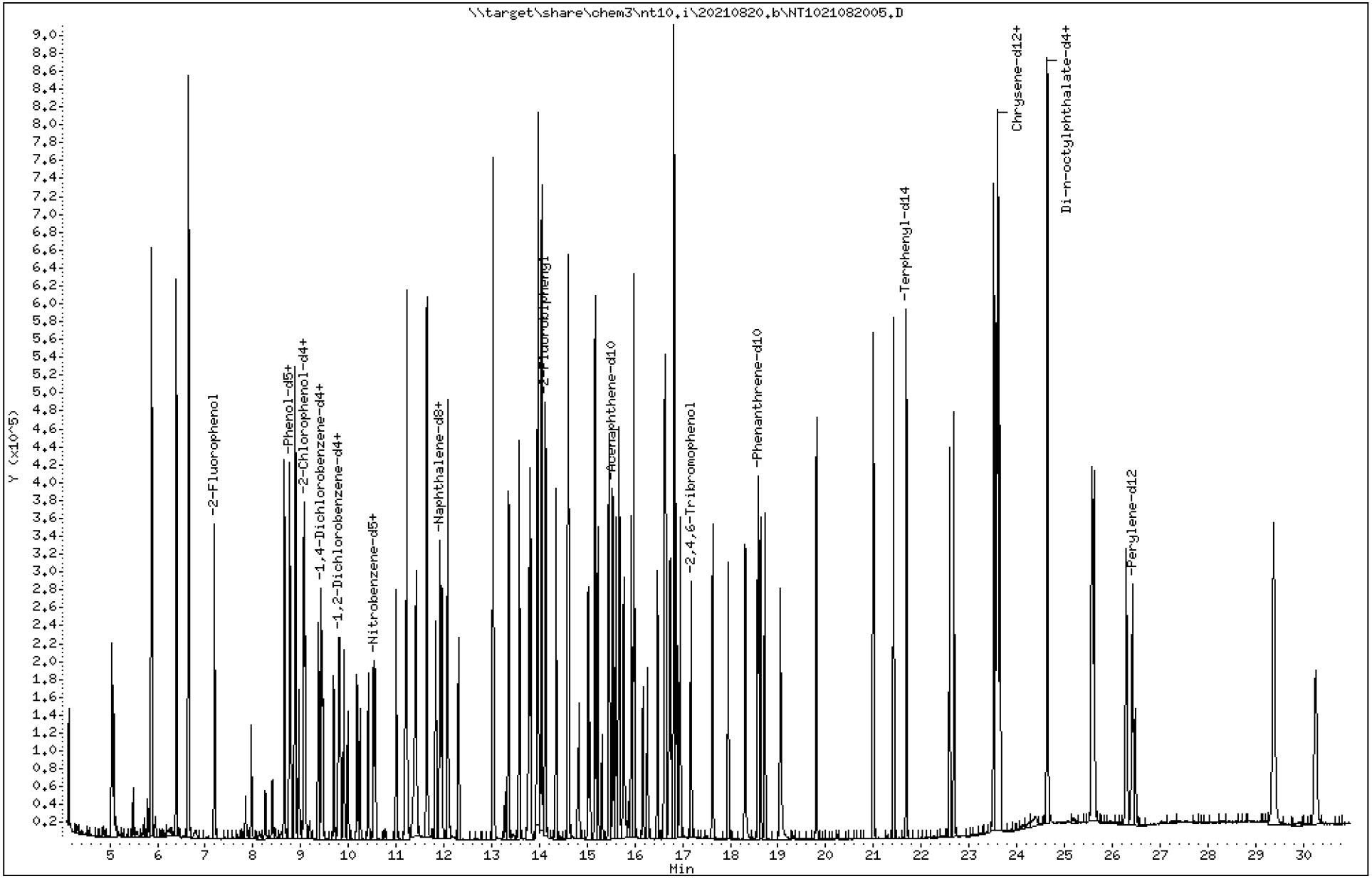
Instrument: nt10.i

Sample Info: BJH0139-BS1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

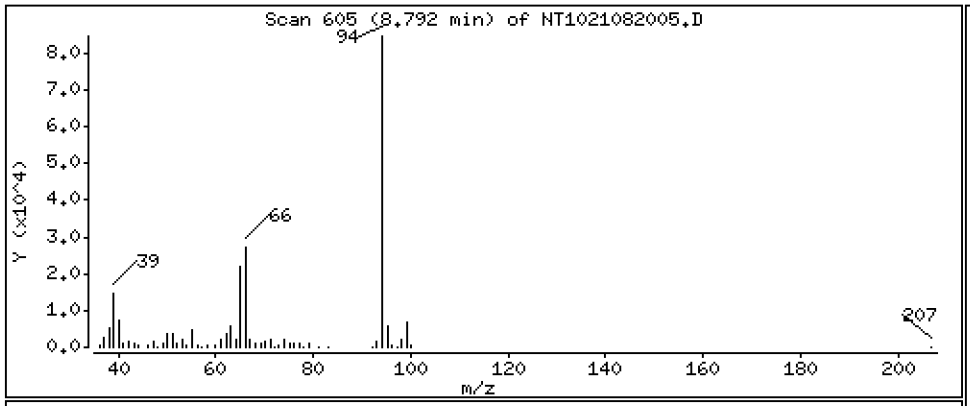
Operator: VTS

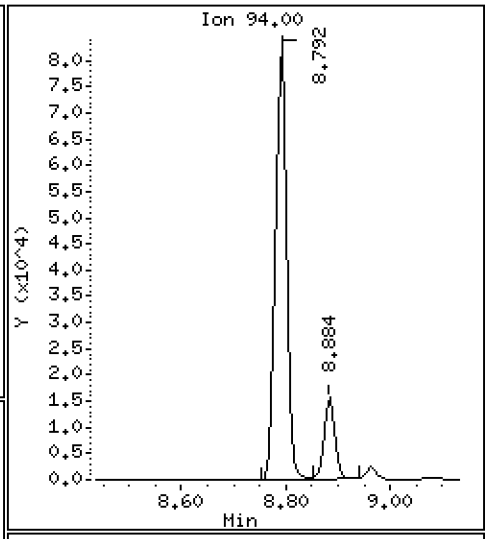
Column phase: ZB-5msi

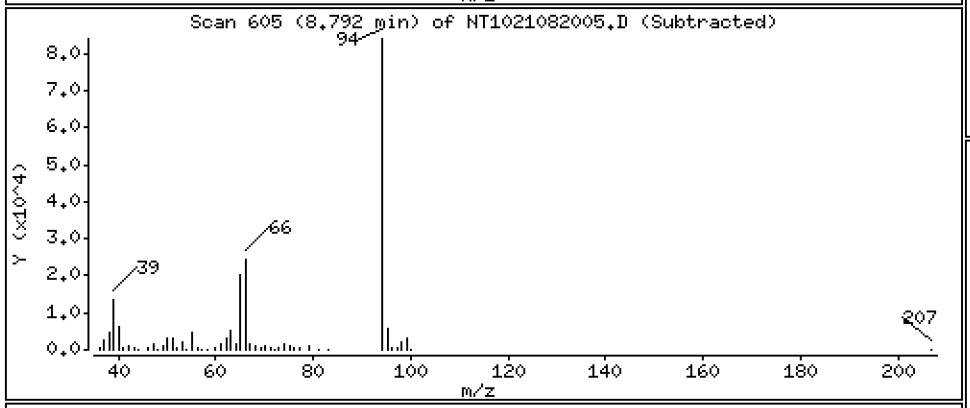
Column diameter: 0.25

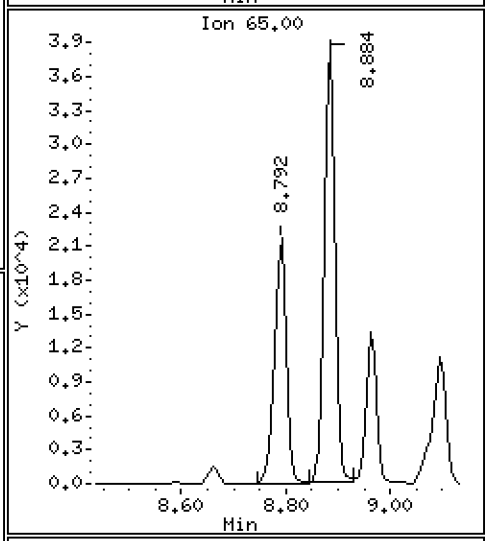
3 Phenol

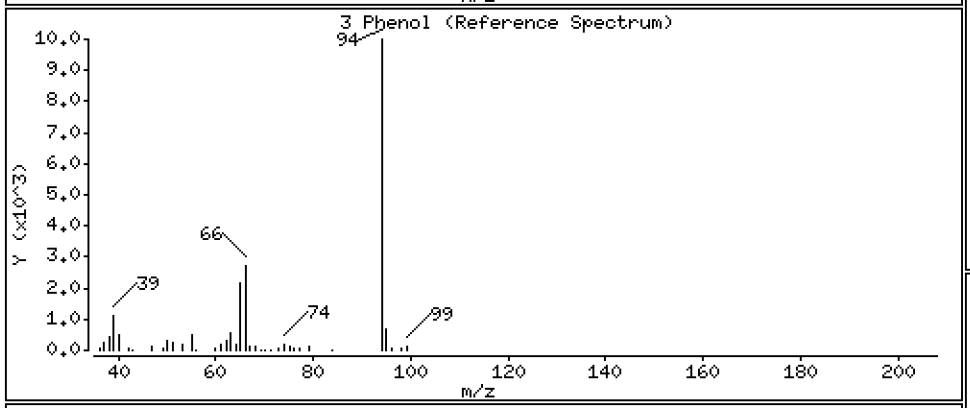
Concentration: 3.538 ug/mL

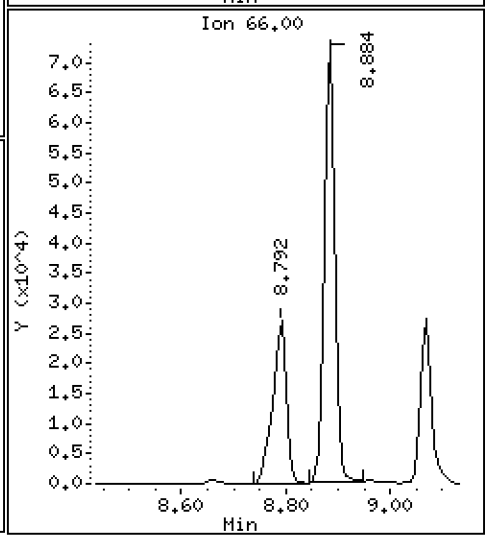


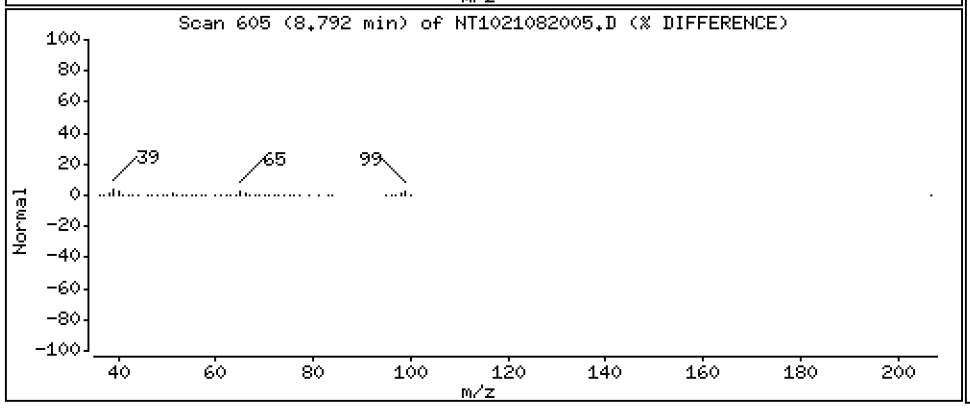












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

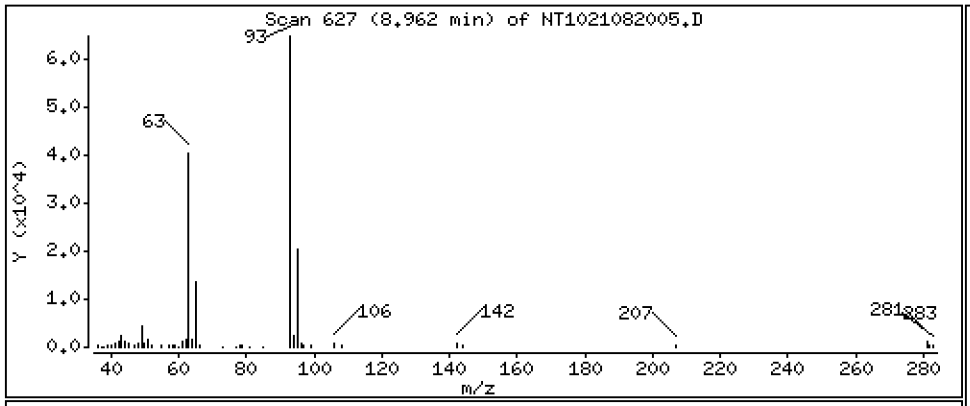
Operator: VTS

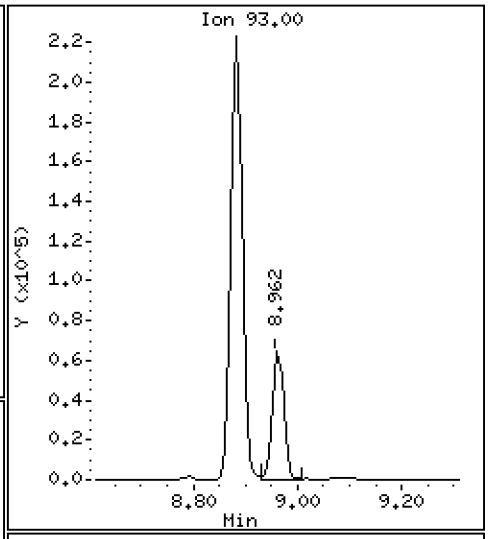
Column phase: ZB-5msi

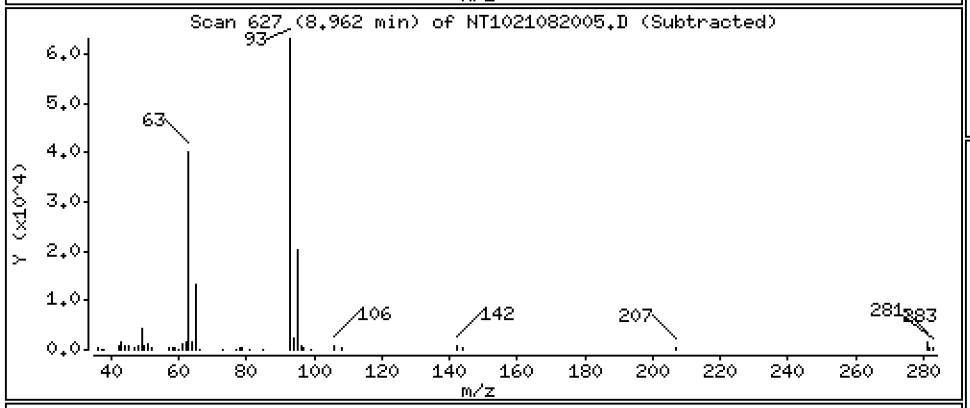
Column diameter: 0.25

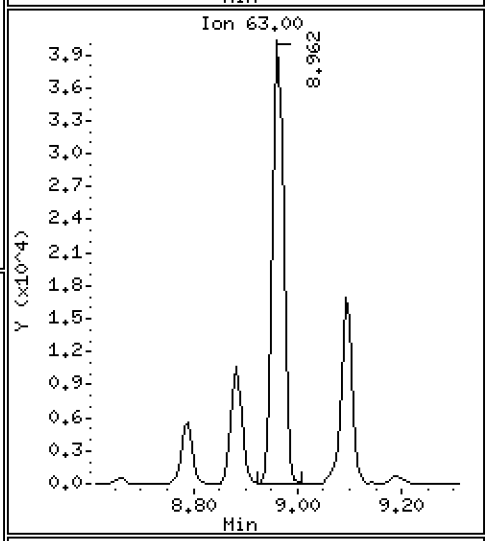
4 Bis(2-Chloroethyl)ether

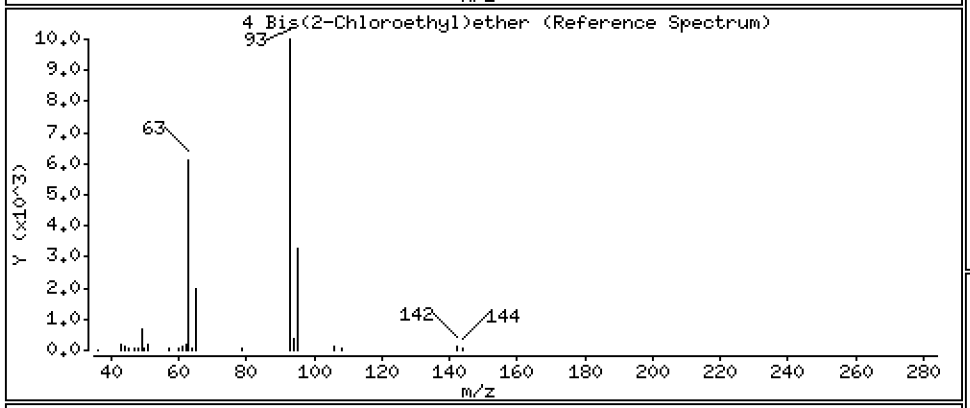
Concentration: 3.706 ug/mL

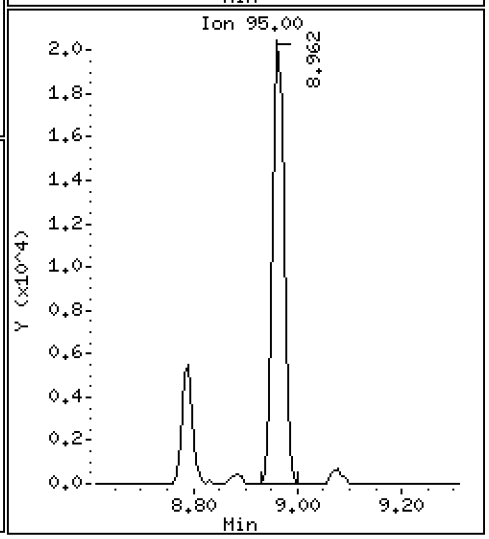


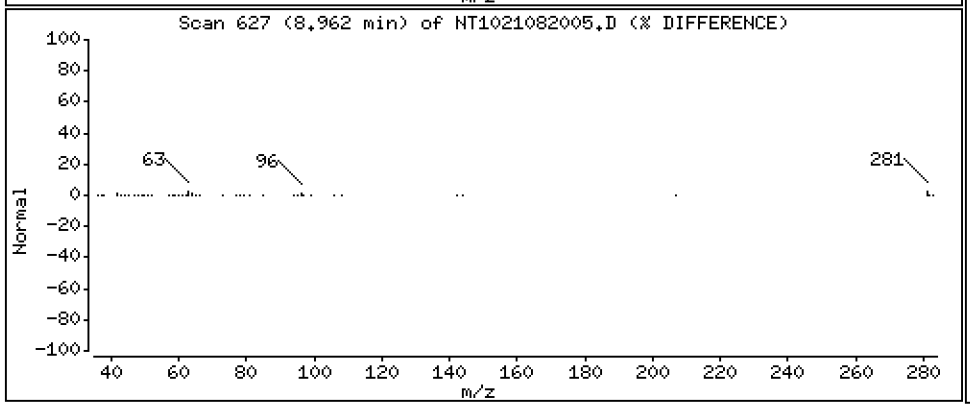












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

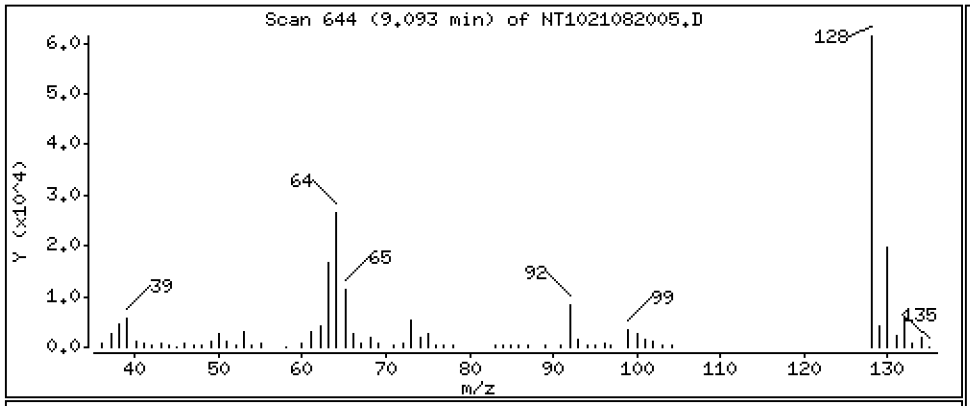
Operator: VTS

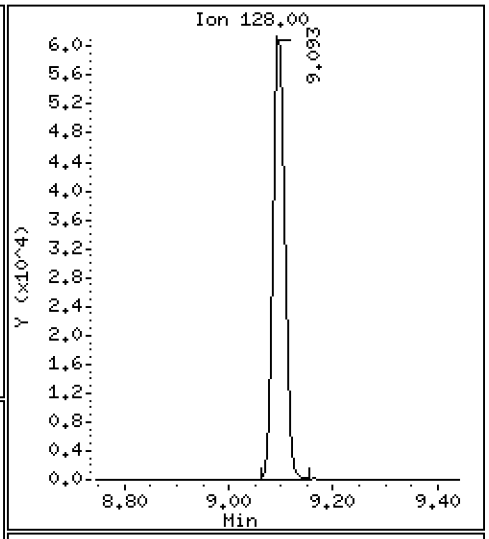
Column phase: ZB-5msi

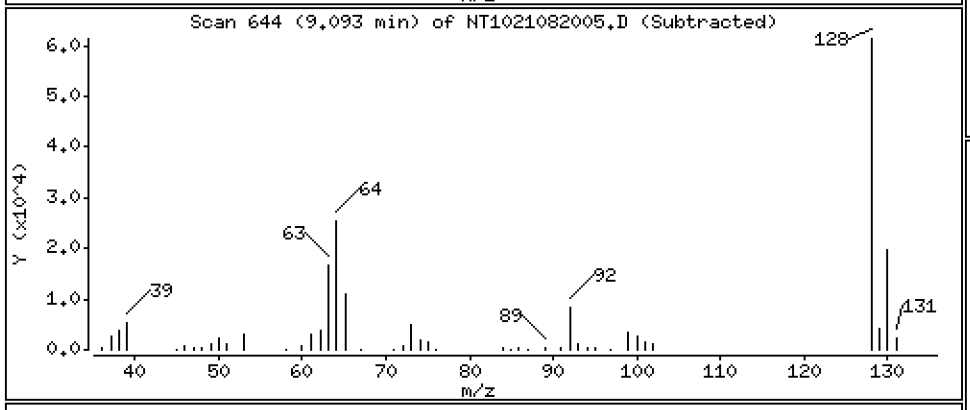
Column diameter: 0.25

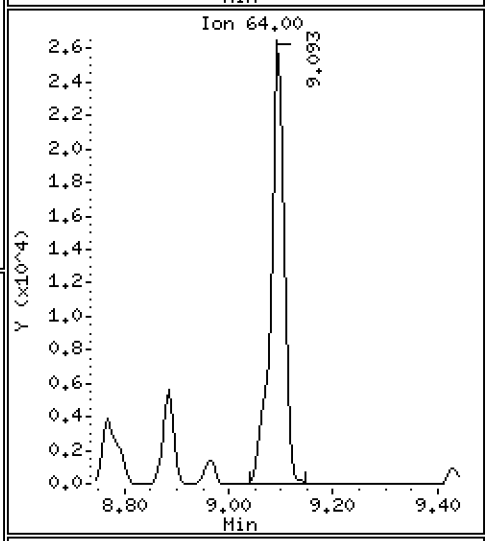
6 2-Chlorophenol

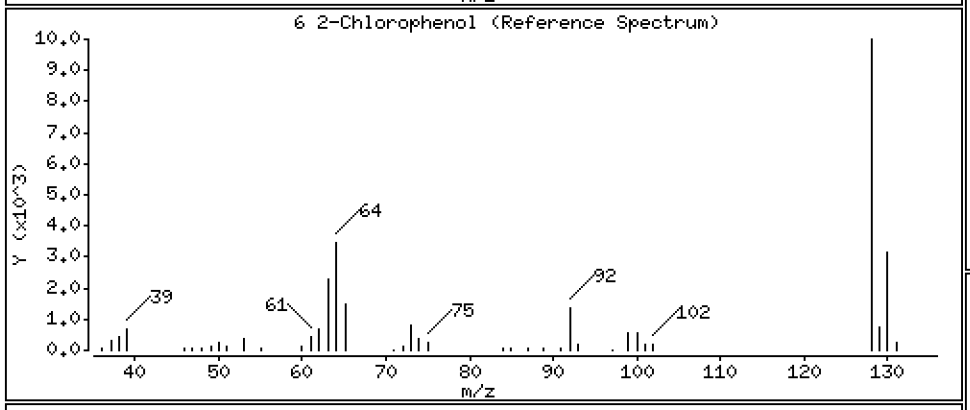
Concentration: 3.288 ug/mL

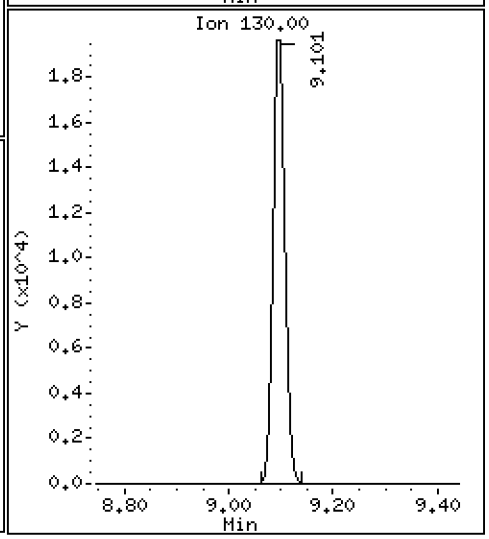


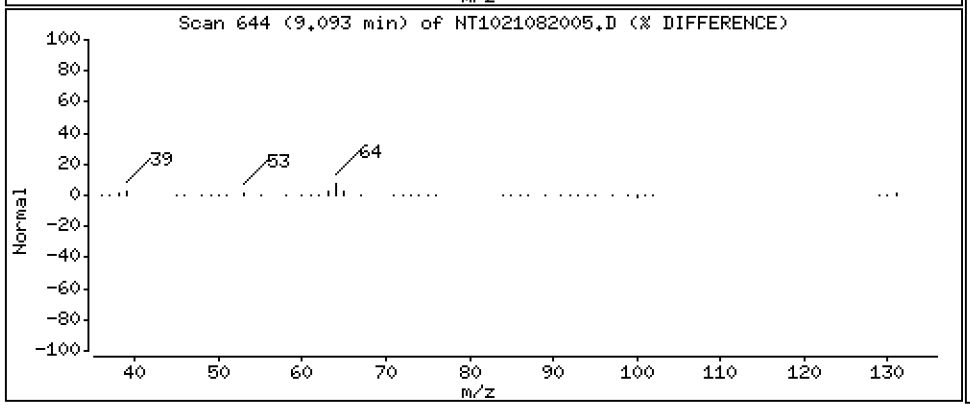












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

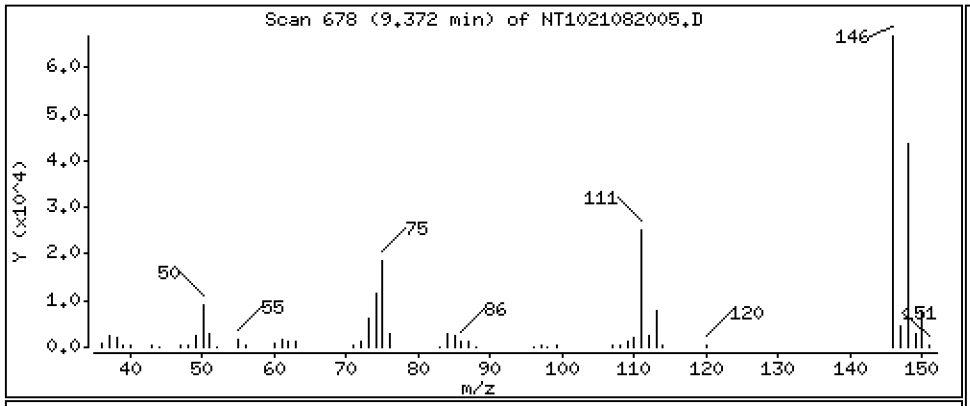
Operator: VTS

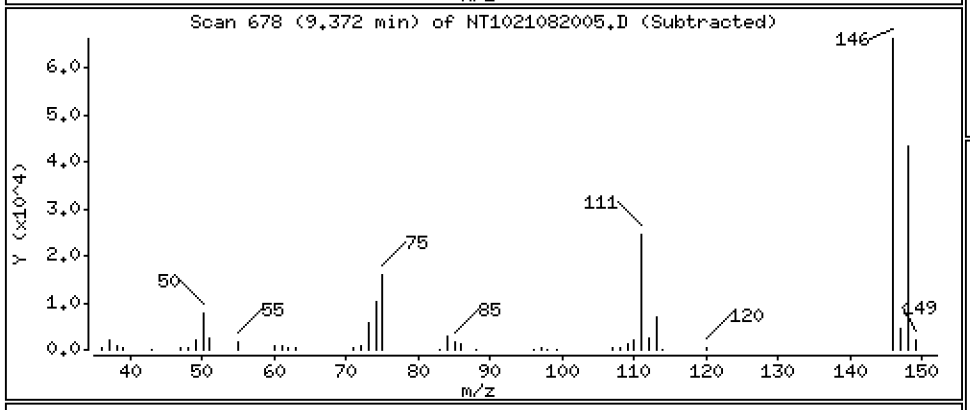
Column phase: ZB-5msi

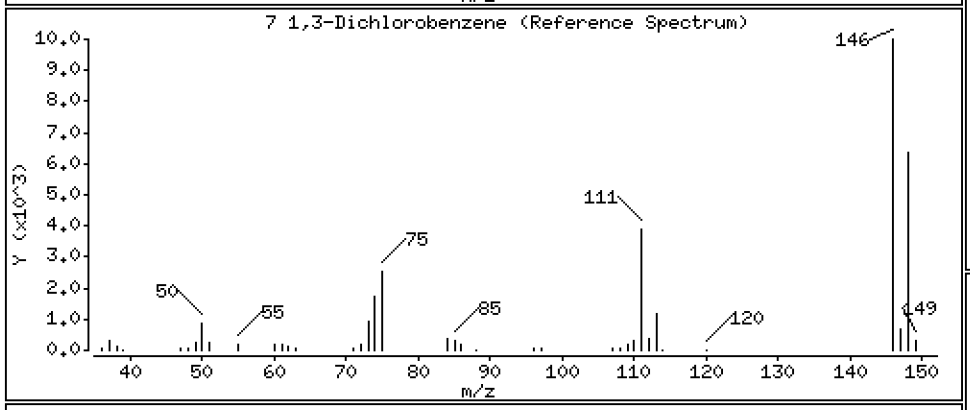
Column diameter: 0.25

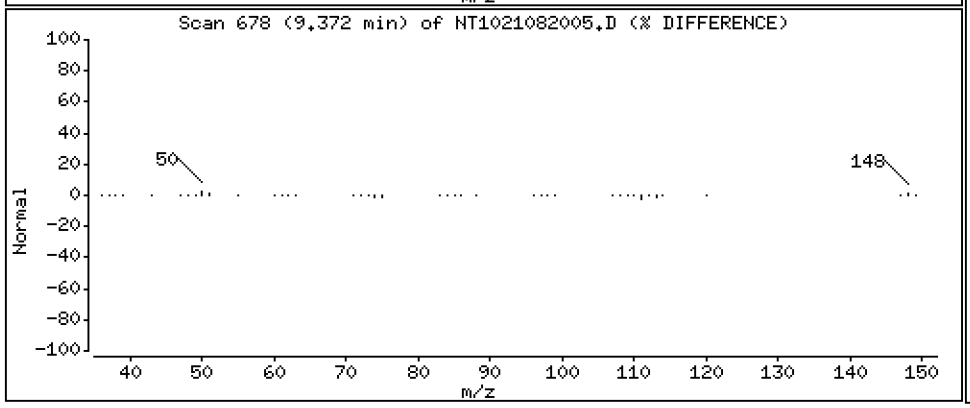
7 1,3-Dichlorobenzene

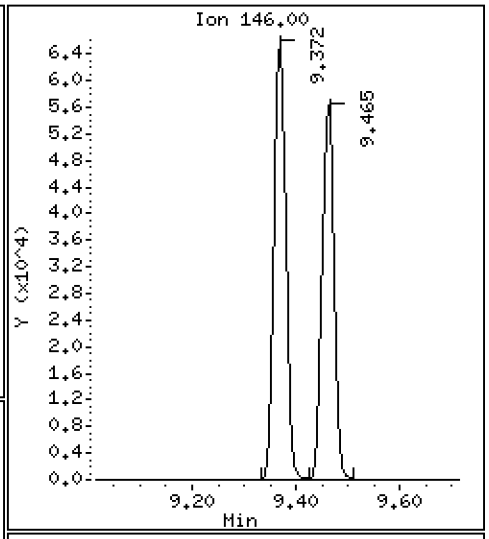
Concentration: 3.384 ug/mL

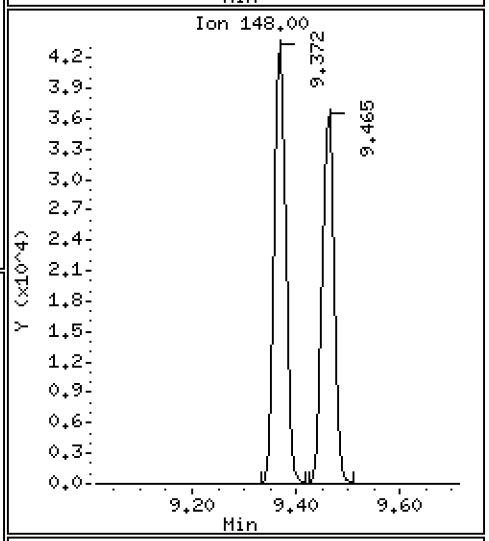


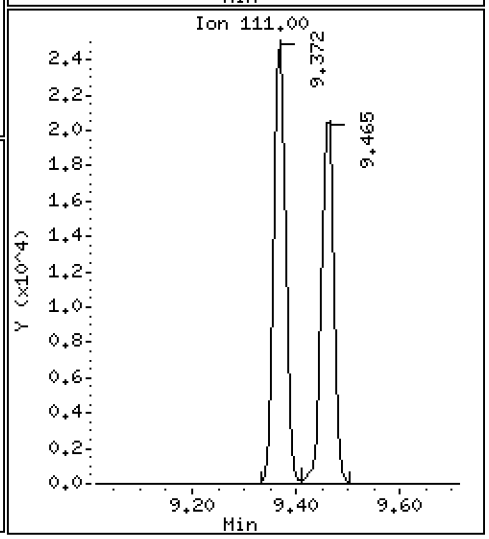












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

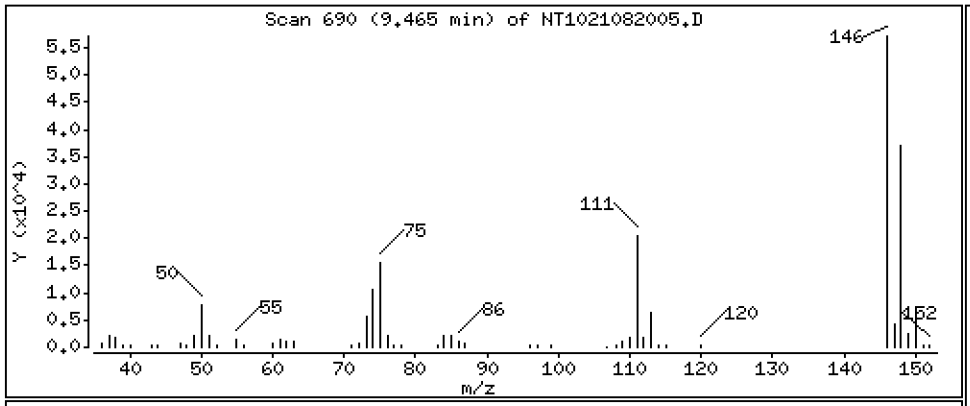
Operator: VTS

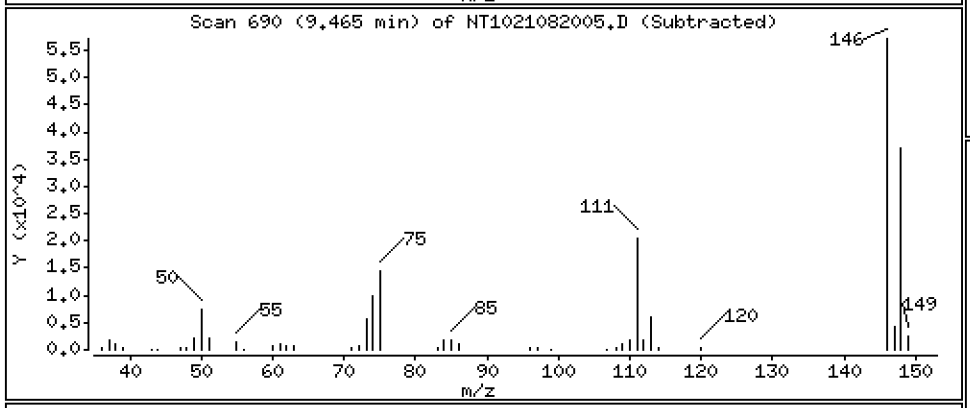
Column phase: ZB-5msi

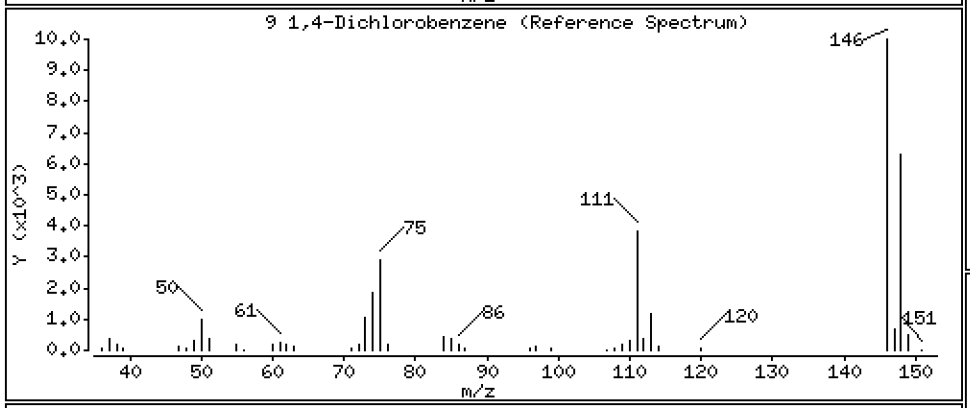
Column diameter: 0.25

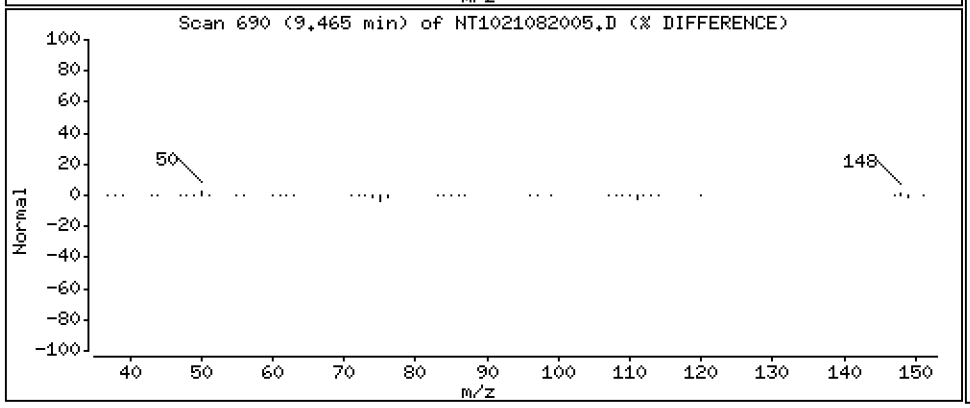
9 1,4-Dichlorobenzene

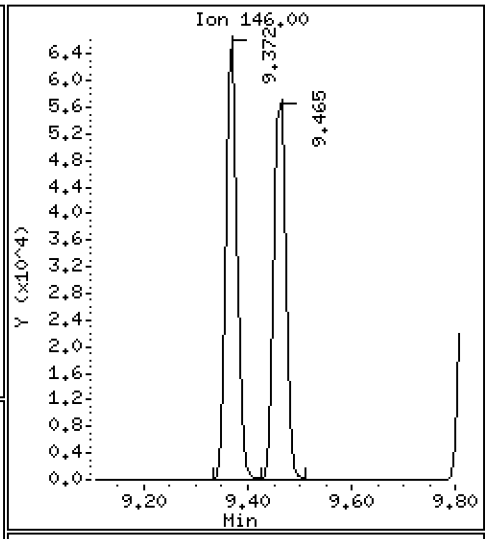
Concentration: 3.937 ug/mL

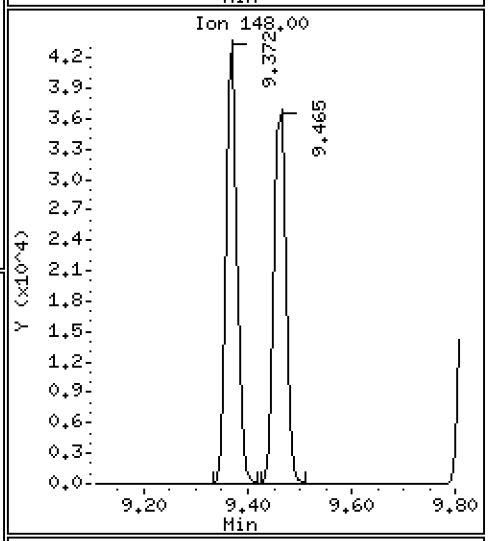


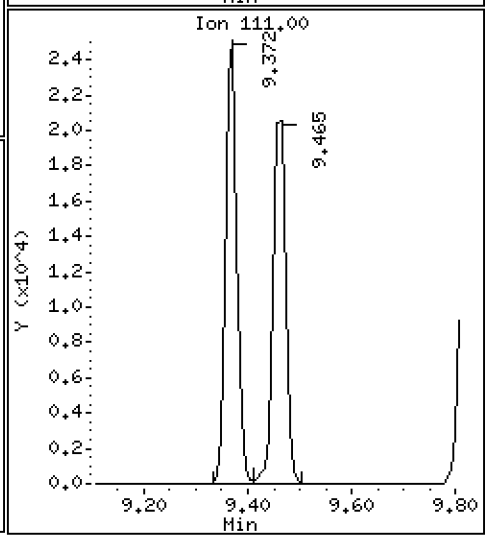












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

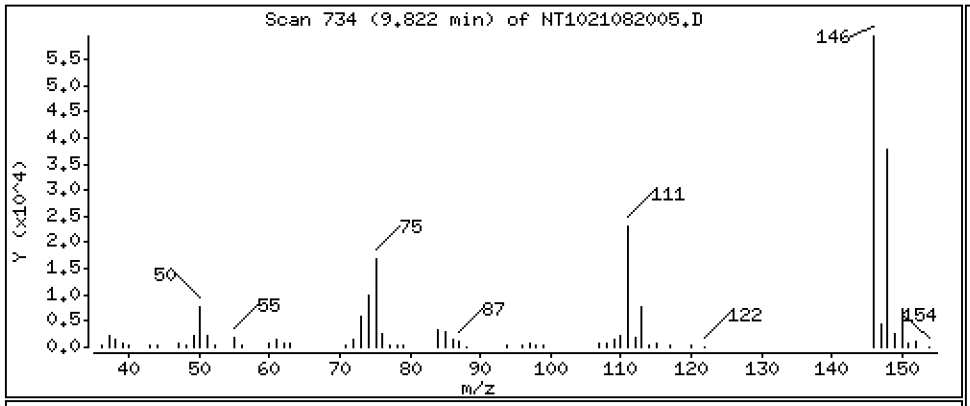
Operator: VTS

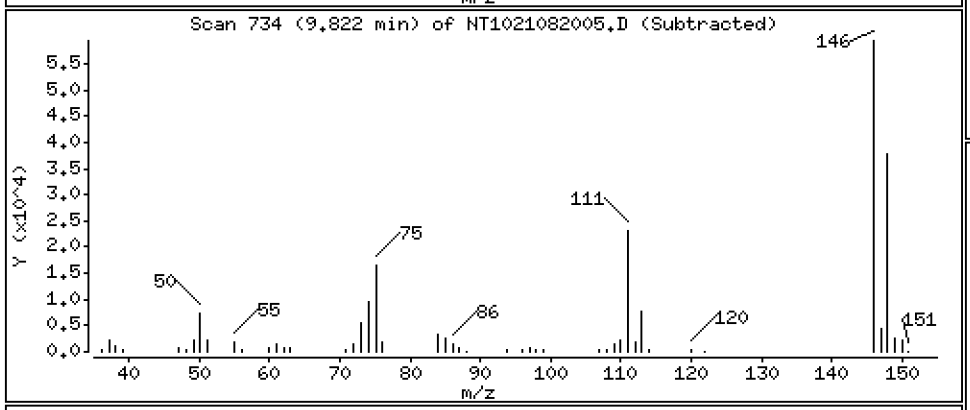
Column phase: ZB-5msi

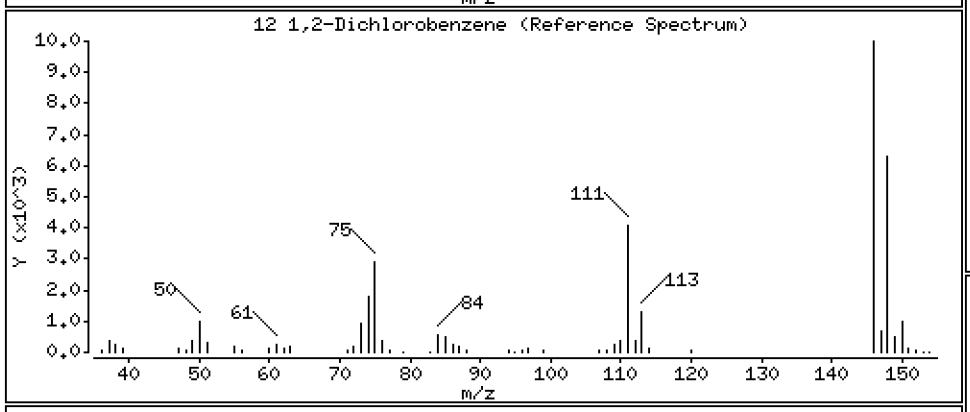
Column diameter: 0.25

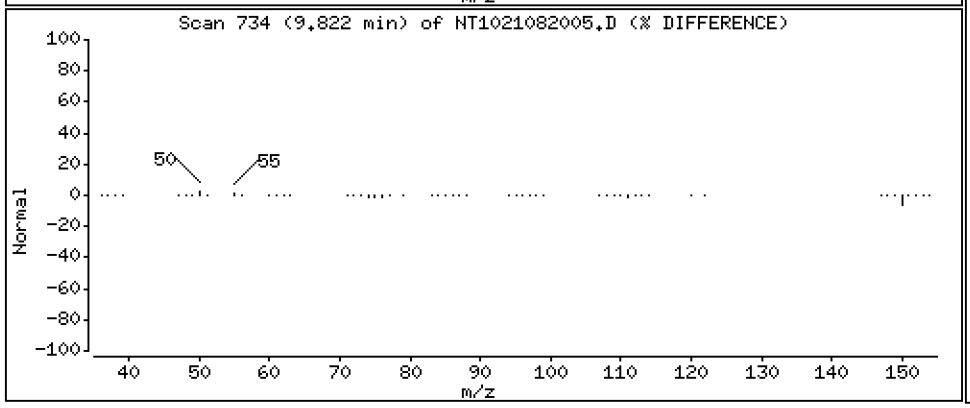
12 1,2-Dichlorobenzene

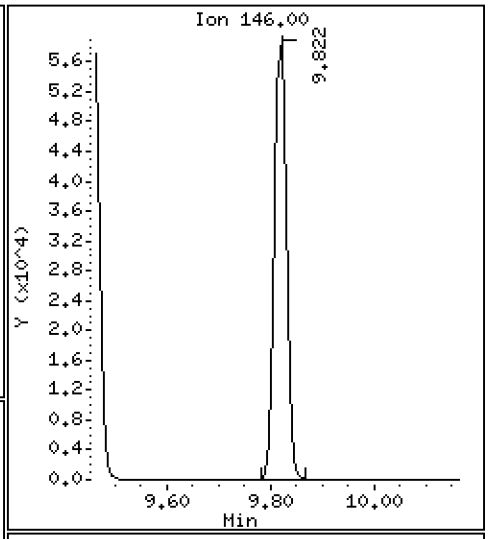
Concentration: 3.577 ug/mL

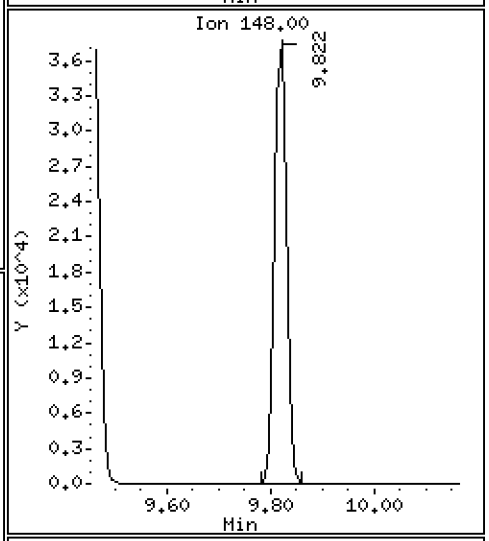


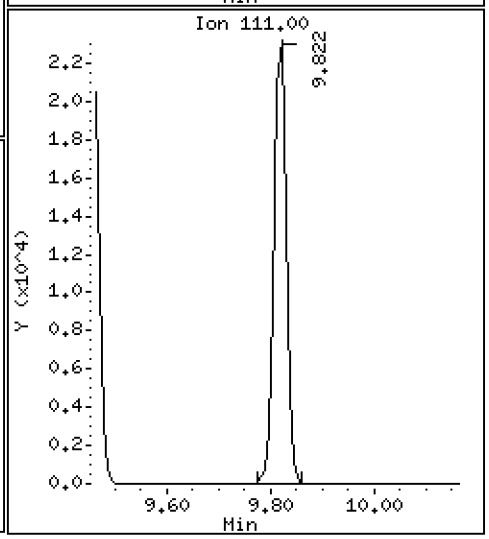












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

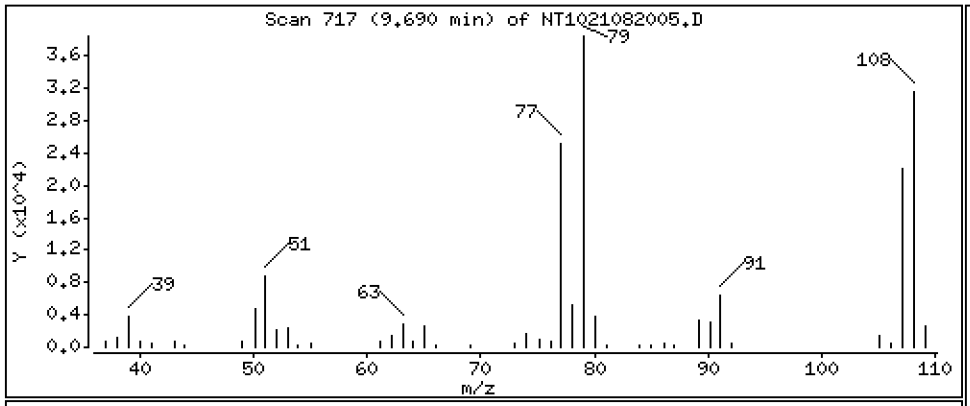
Operator: VTS

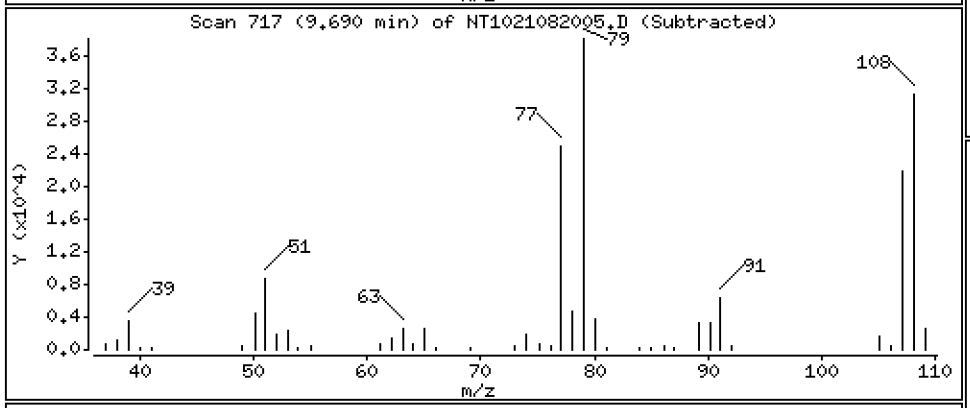
Column phase: ZB-5msi

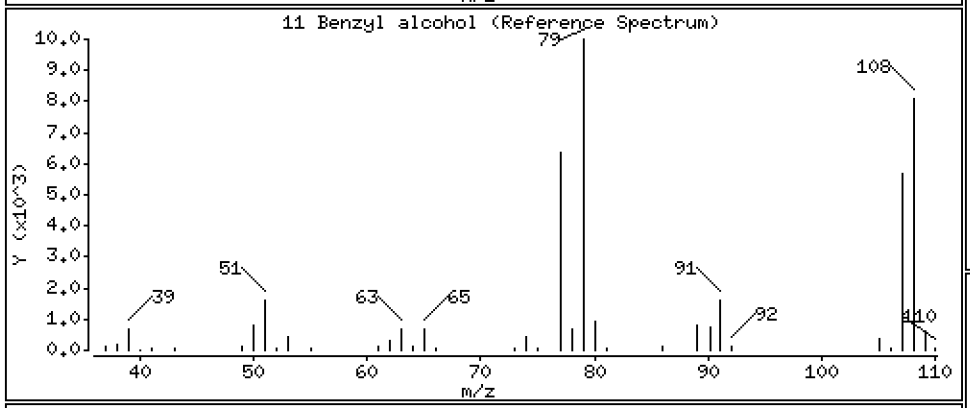
Column diameter: 0.25

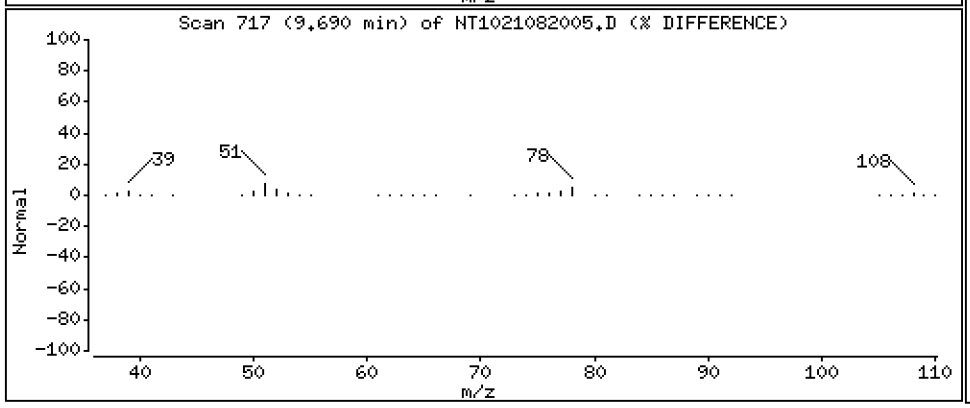
11 Benzyl alcohol

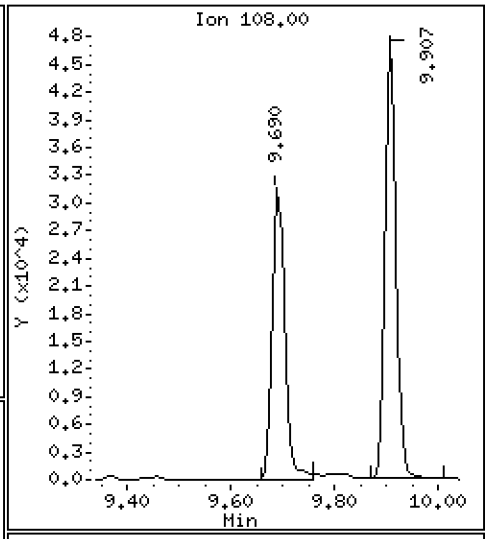
Concentration: 3.222 ug/mL

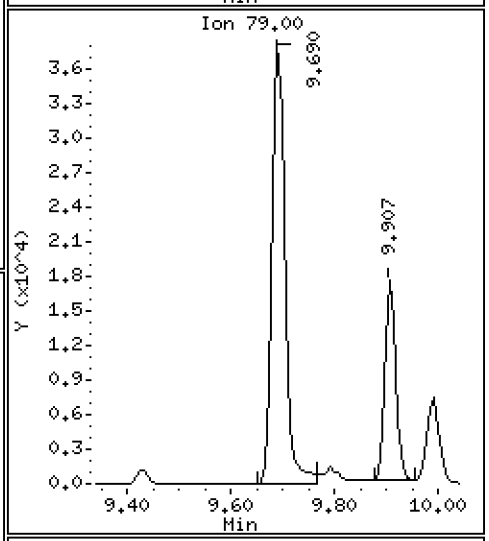


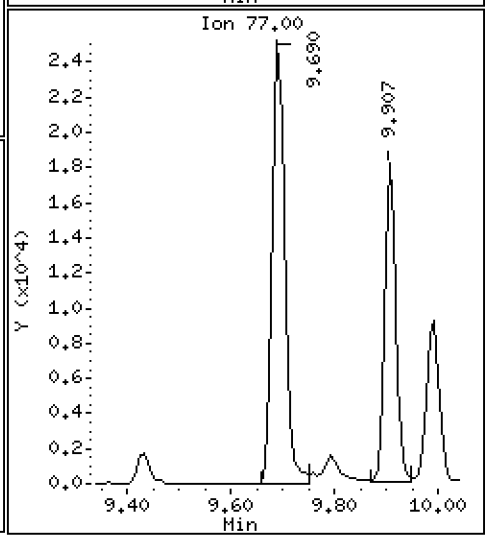












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

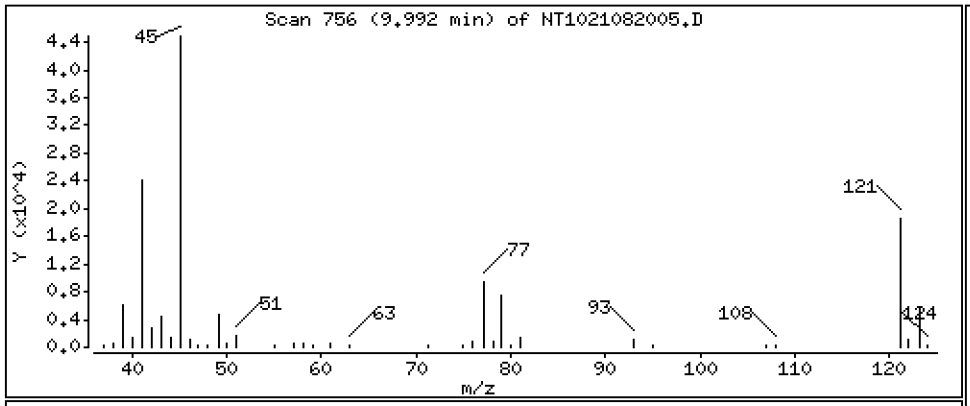
Operator: VTS

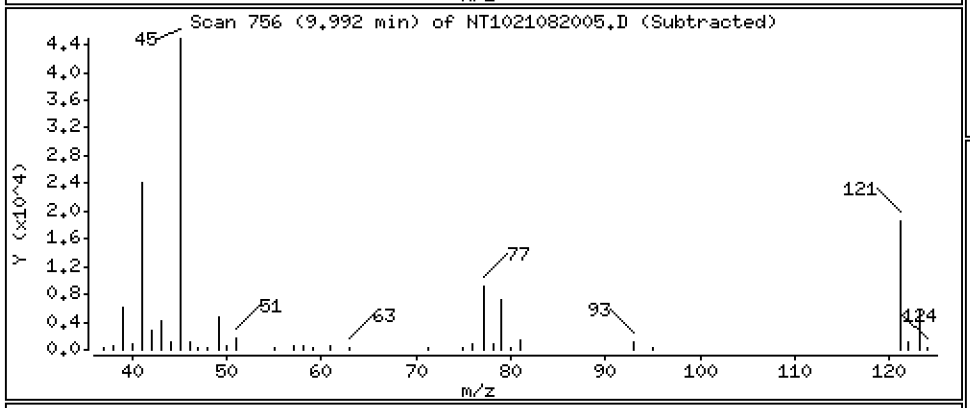
Column phase: ZB-5msi

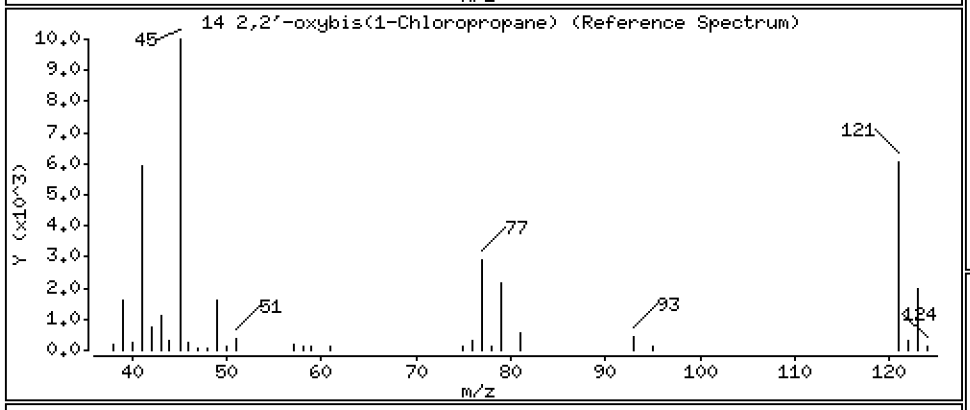
Column diameter: 0.25

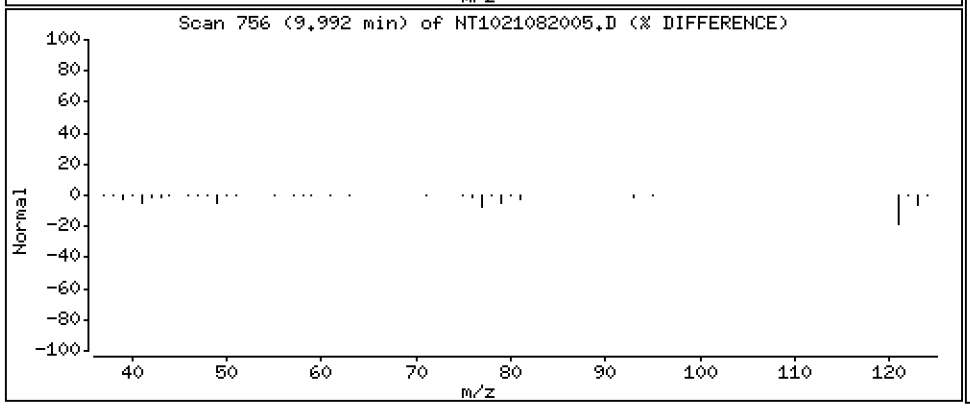
14 2,2'-oxybis(1-Chloropropane)

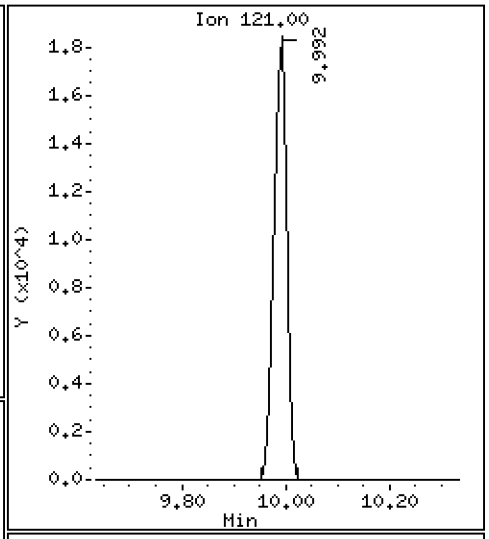
Concentration: 4.081 ug/mL

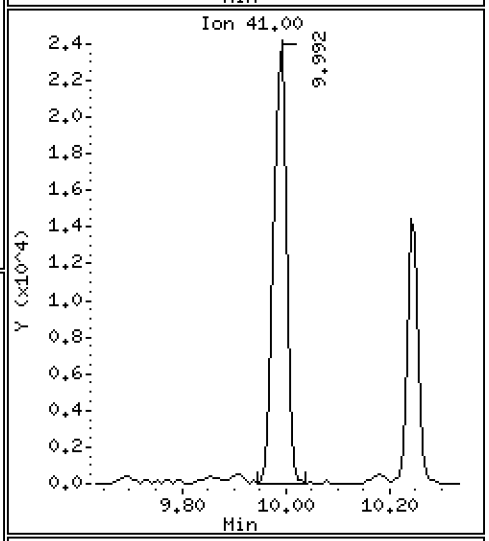


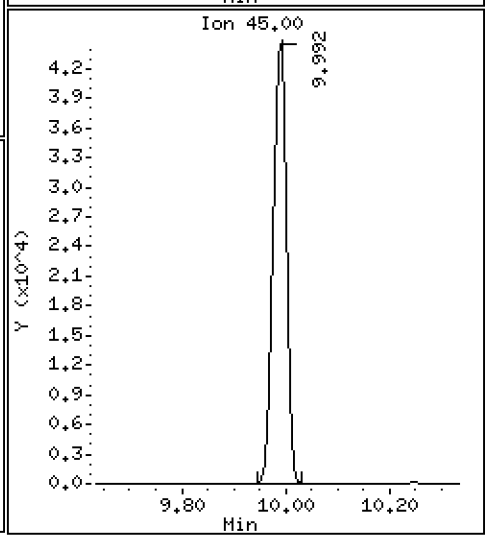












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

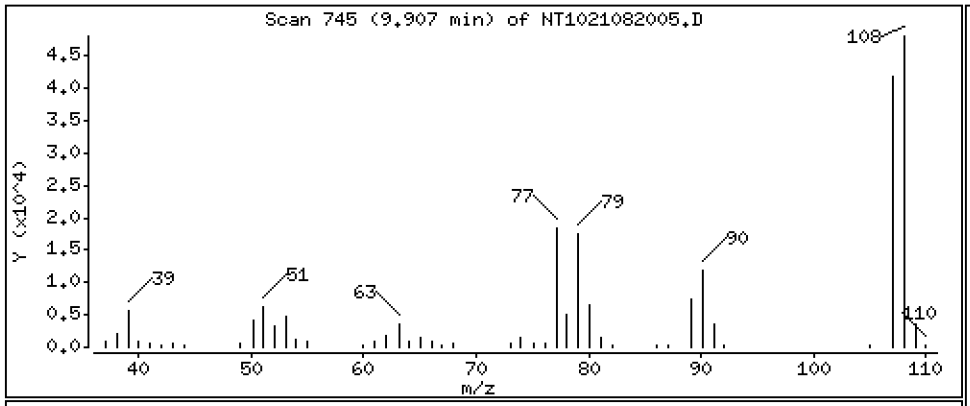
Operator: VTS

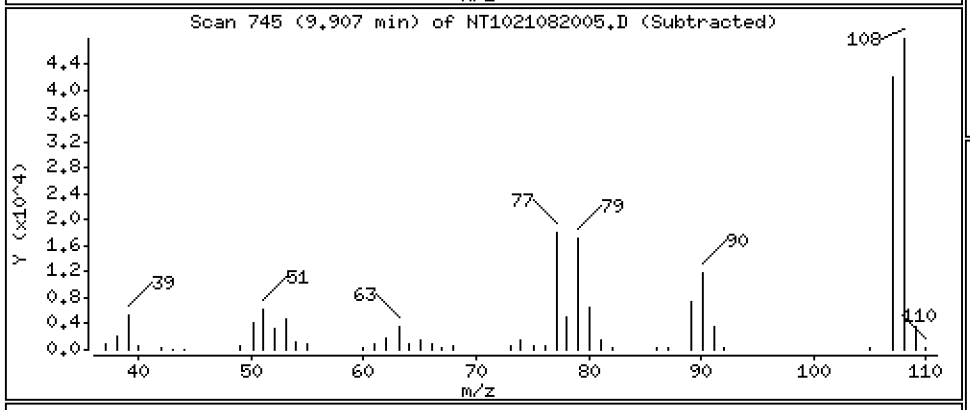
Column phase: ZB-5msi

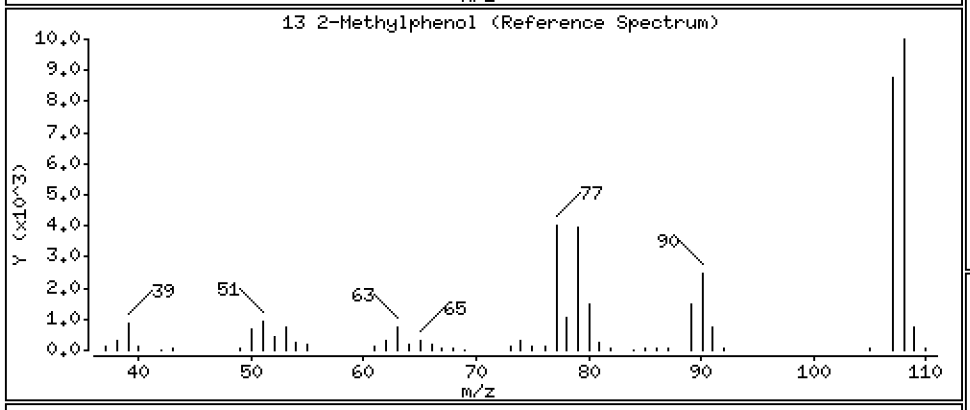
Column diameter: 0.25

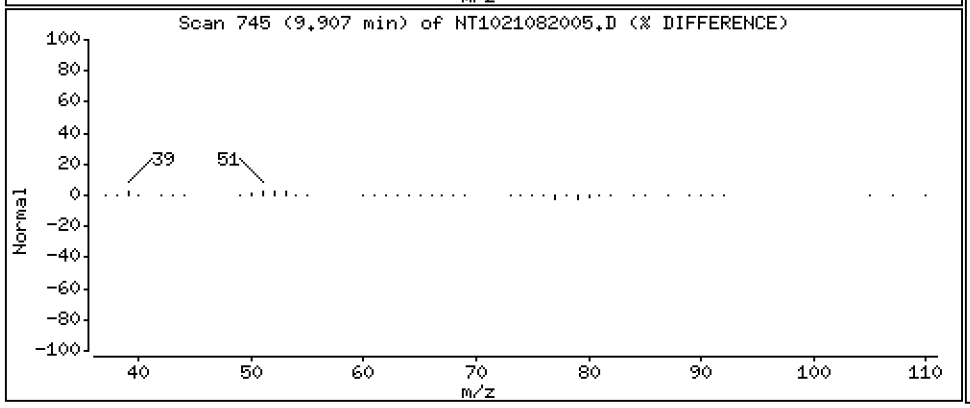
13 2-Methylphenol

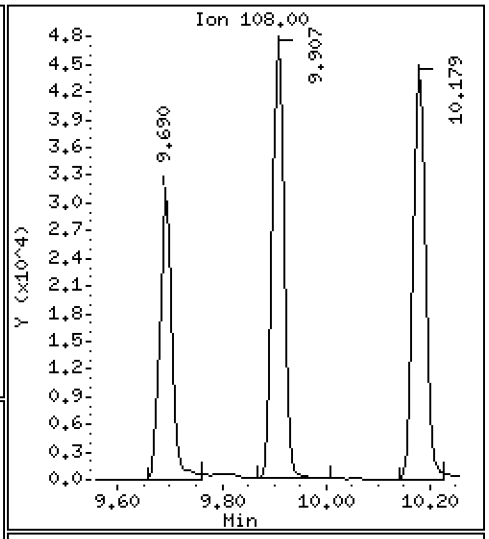
Concentration: 3.302 ug/mL

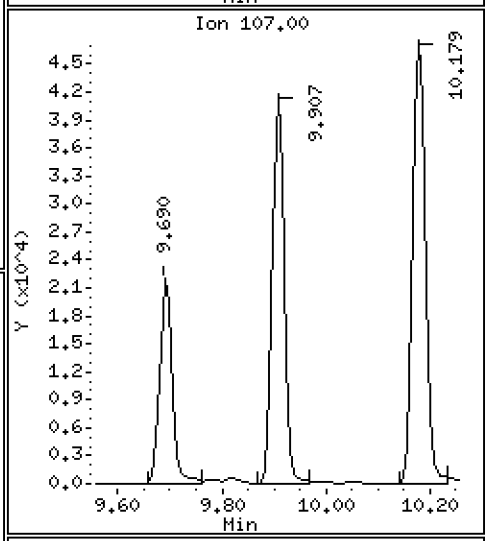


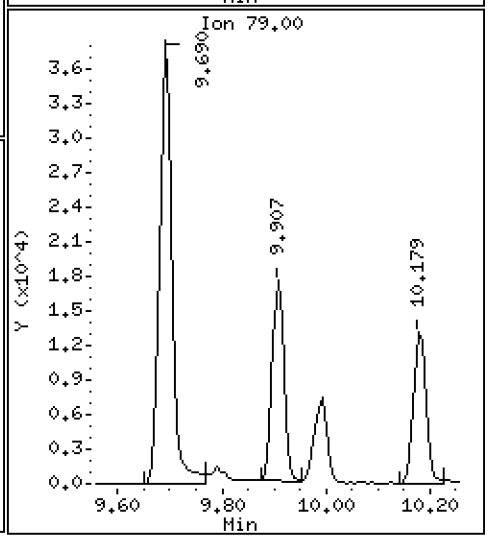












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

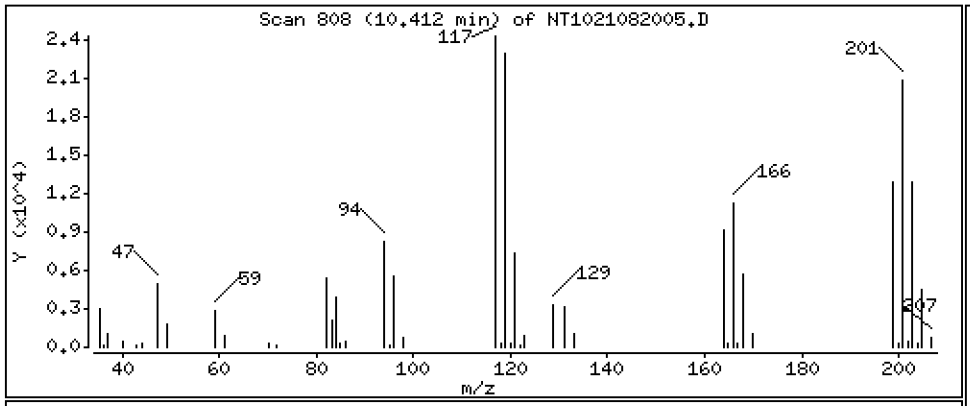
Operator: VTS

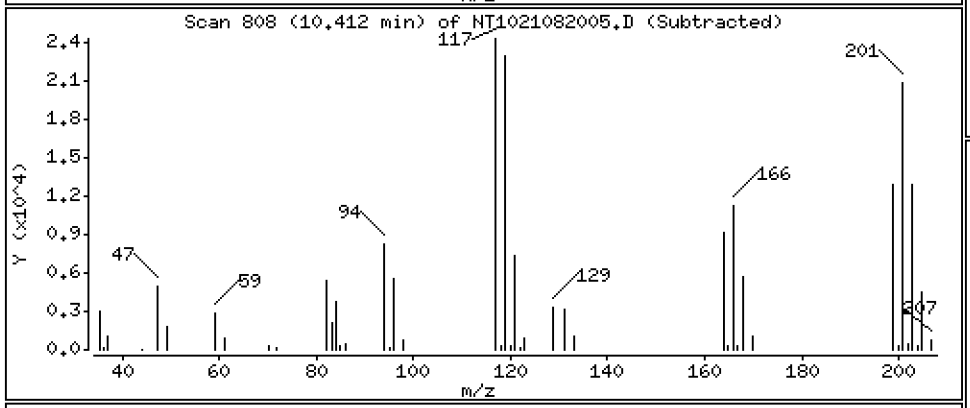
Column phase: ZB-5msi

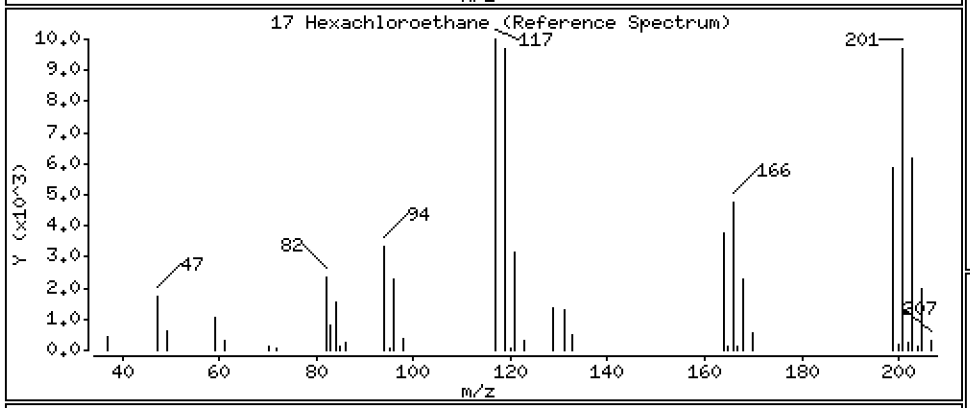
Column diameter: 0.25

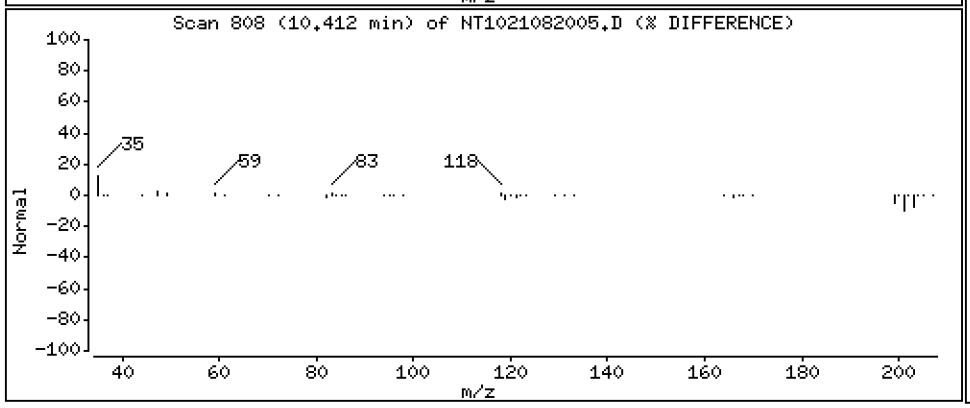
17 Hexachloroethane

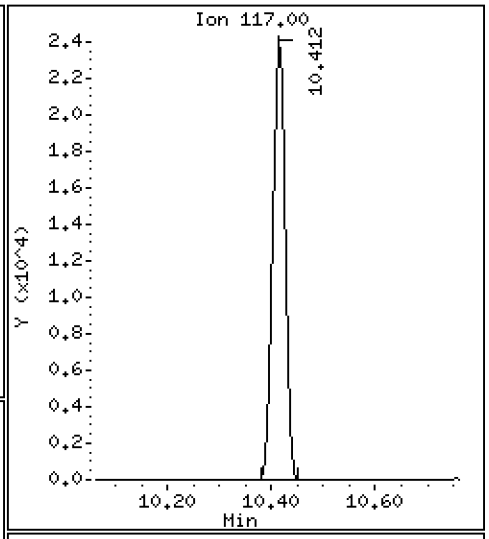
Concentration: 3.945 ug/mL

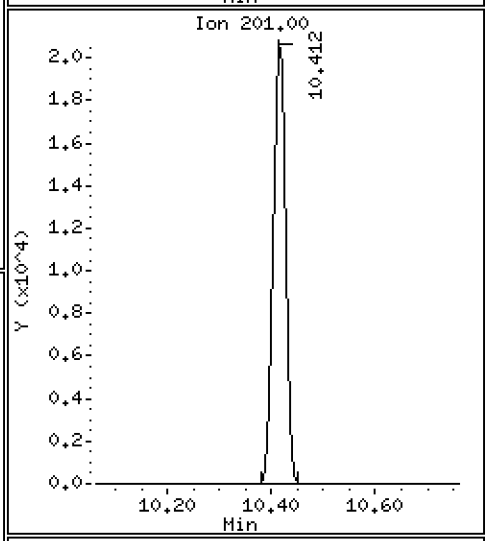


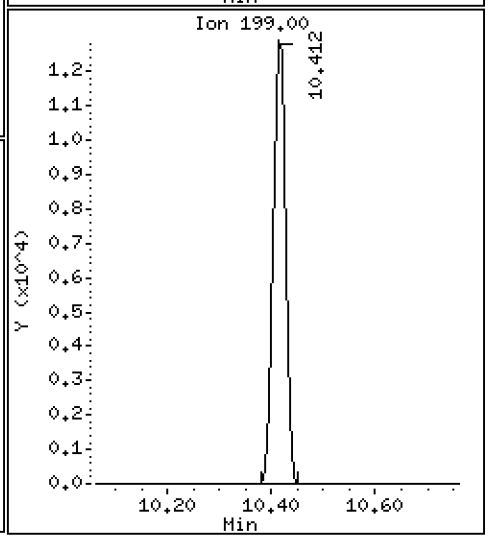












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

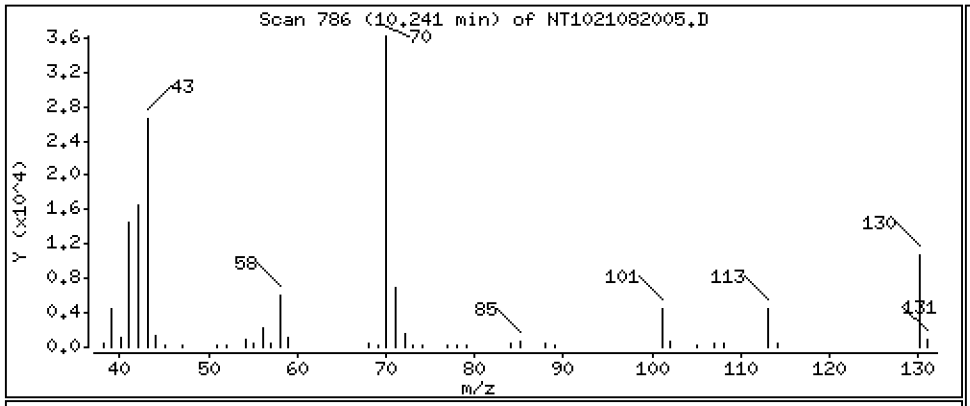
Operator: VTS

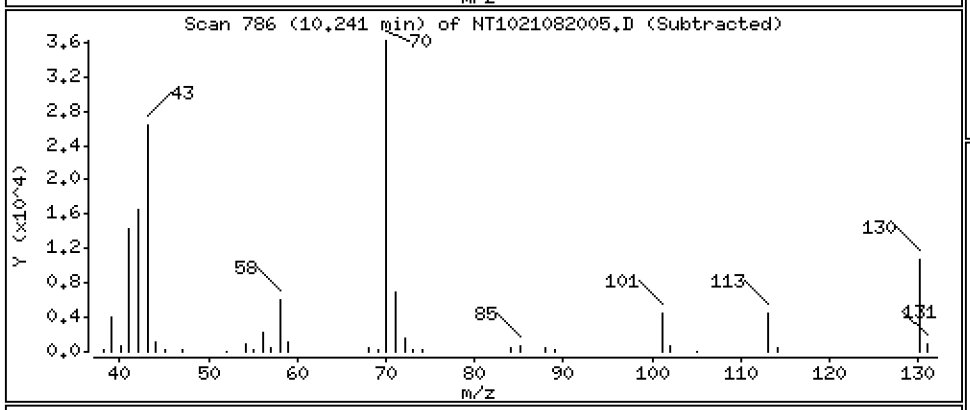
Column phase: ZB-5msi

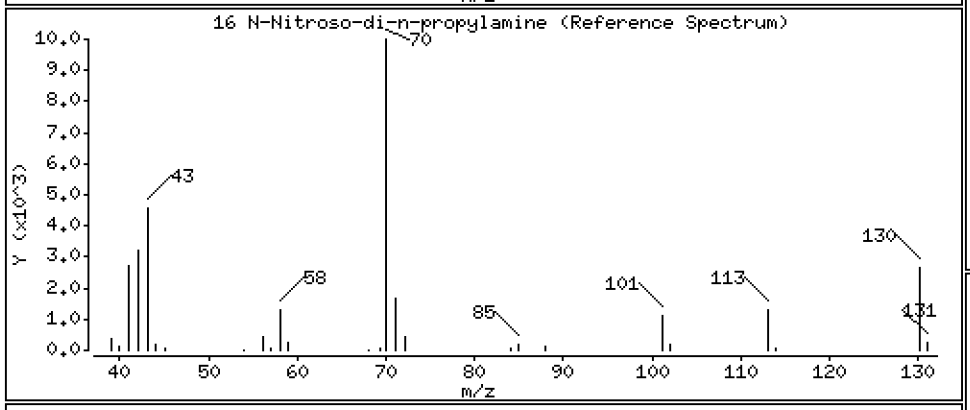
Column diameter: 0.25

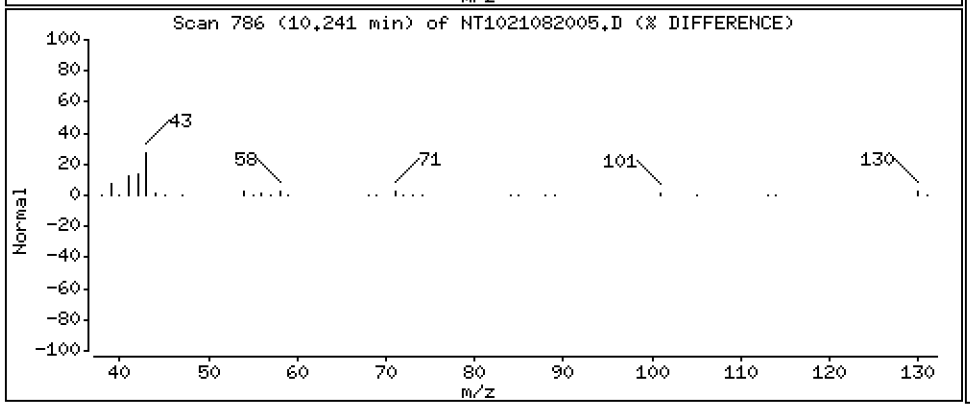
16 N-Nitroso-di-n-propylamine

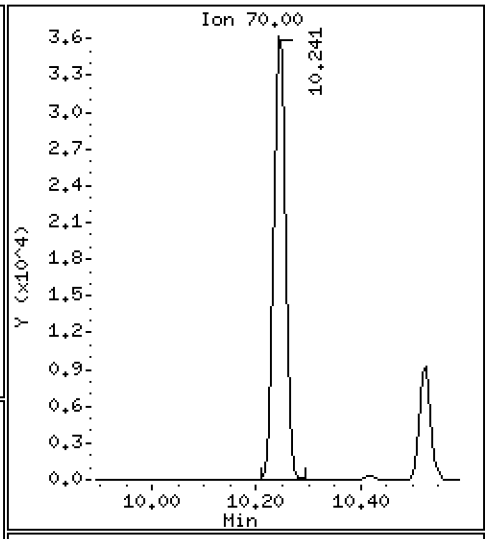
Concentration: 3.648 ug/mL

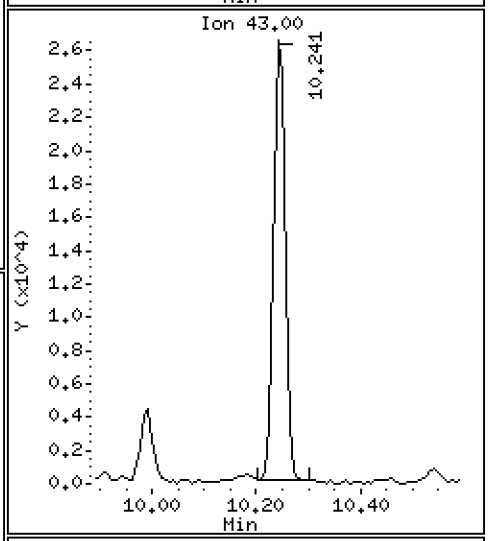


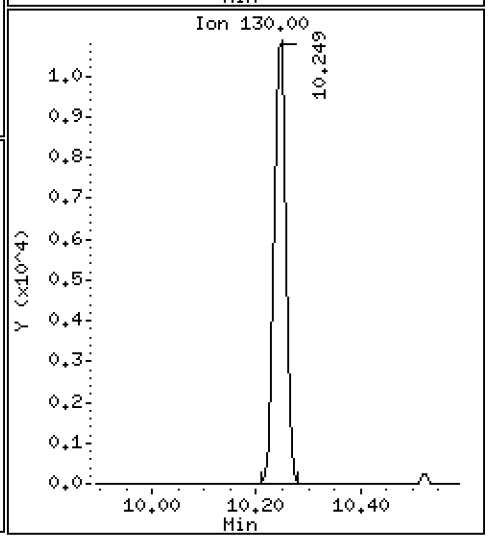












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

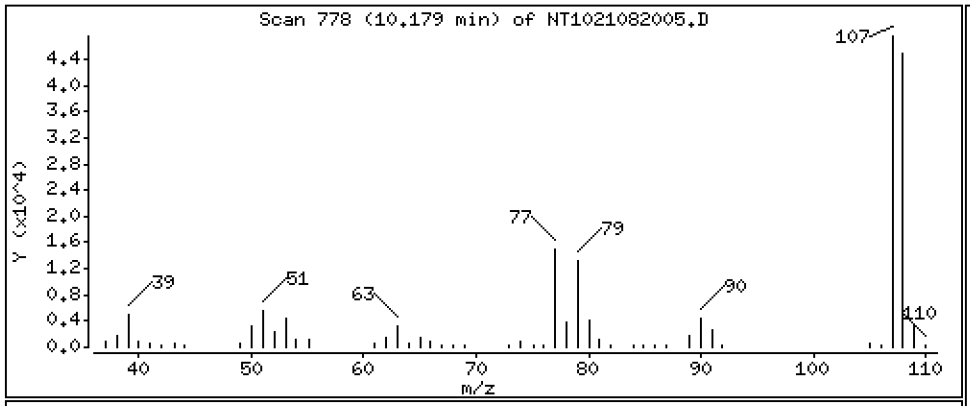
Operator: VTS

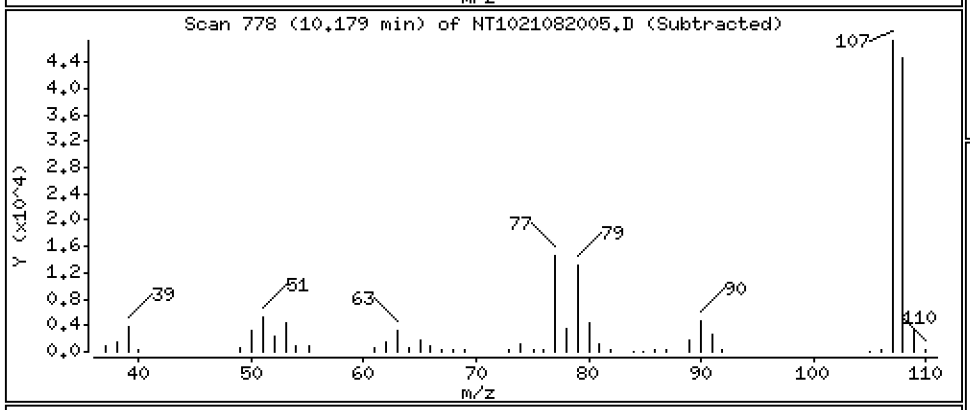
Column phase: ZB-5msi

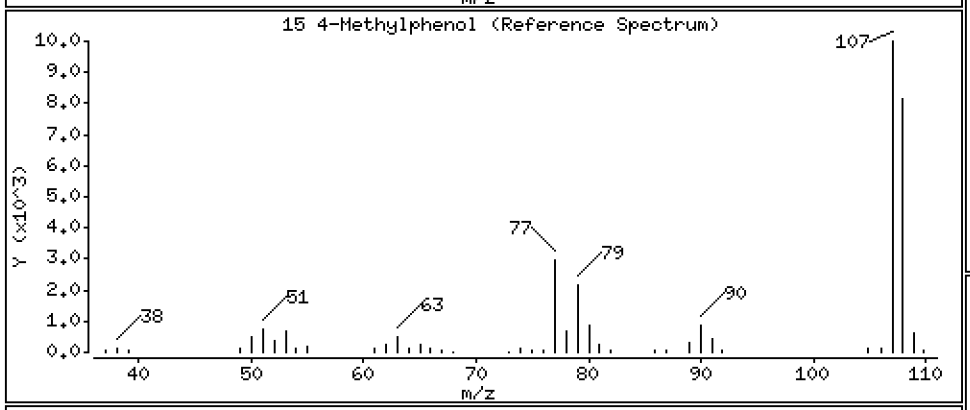
Column diameter: 0.25

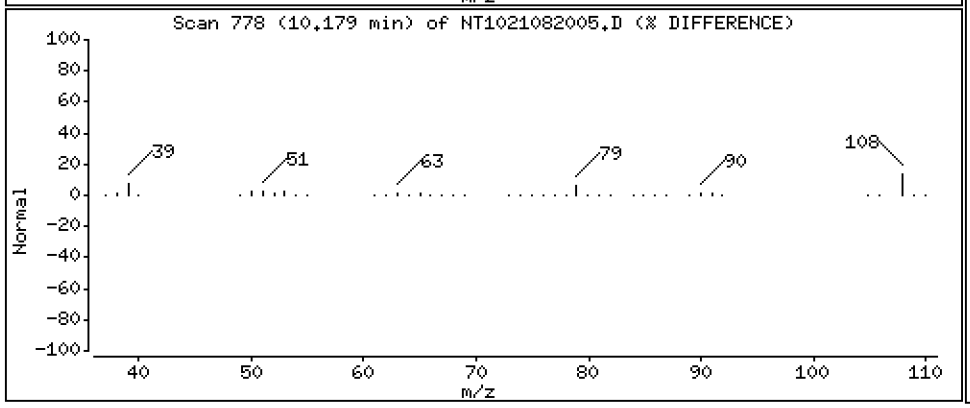
15 4-Methylphenol

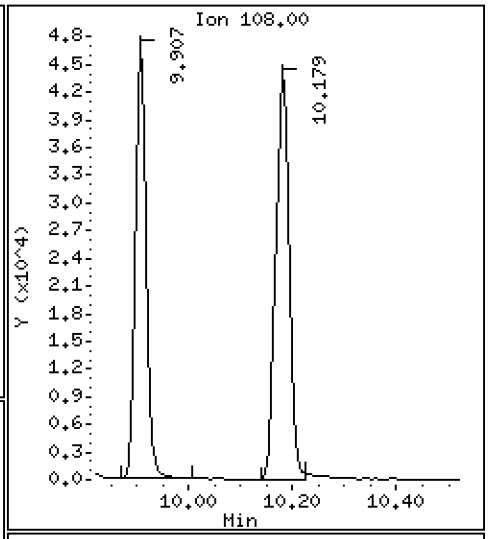
Concentration: 3.433 ug/mL

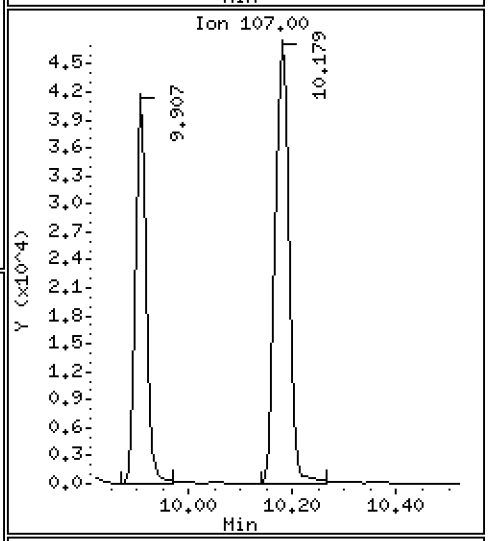


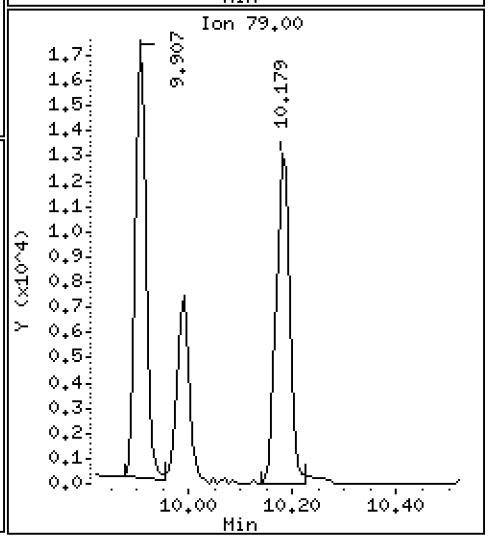












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

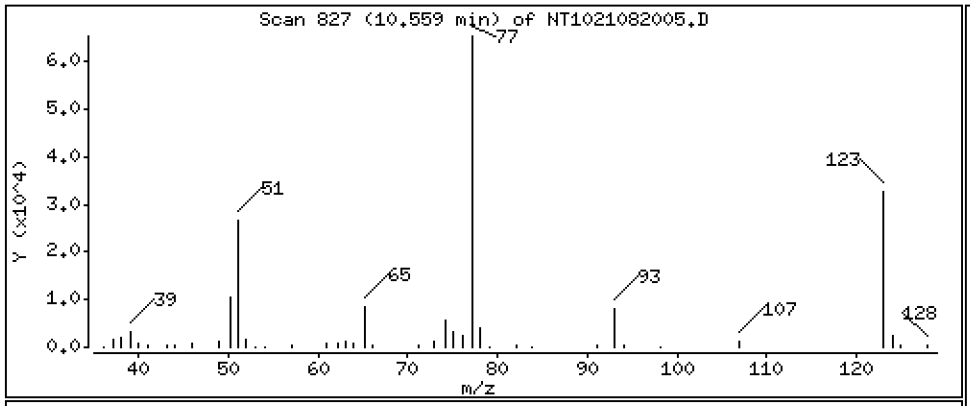
Operator: VTS

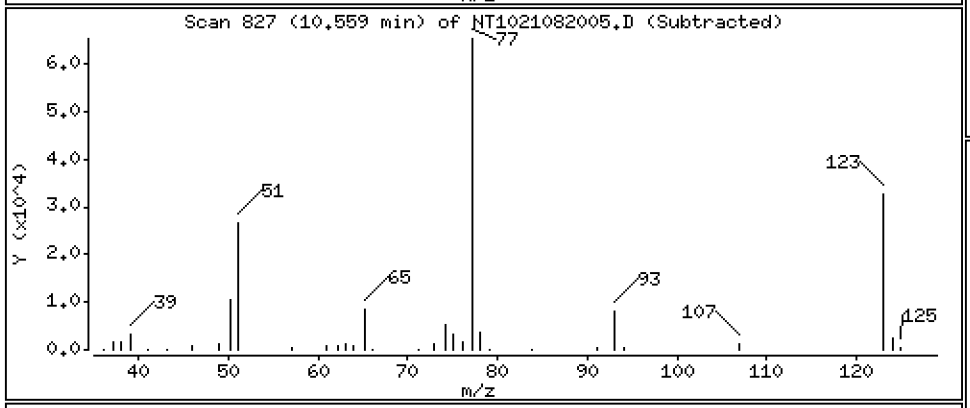
Column phase: ZB-5msi

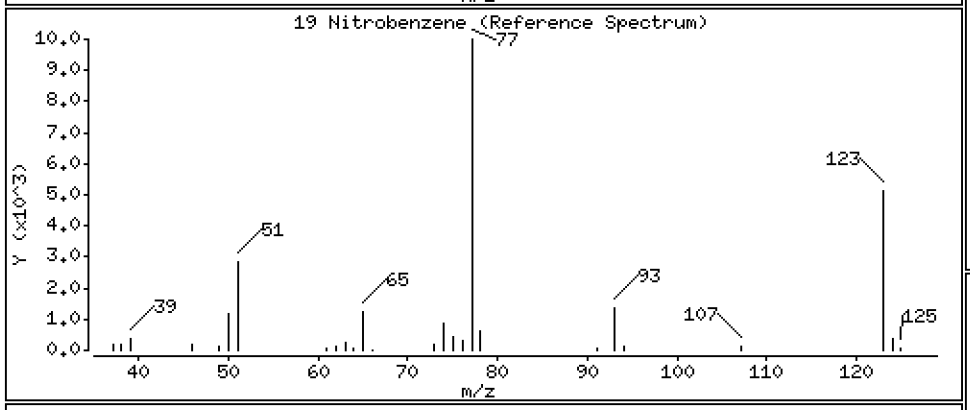
Column diameter: 0.25

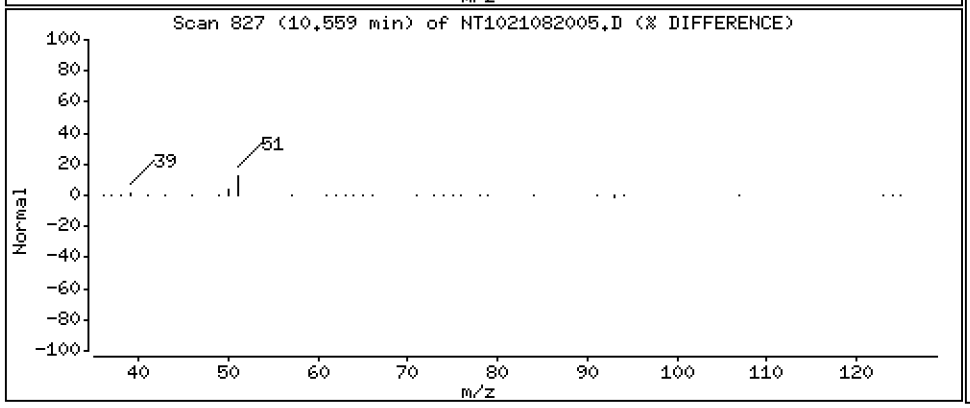
19 Nitrobenzene

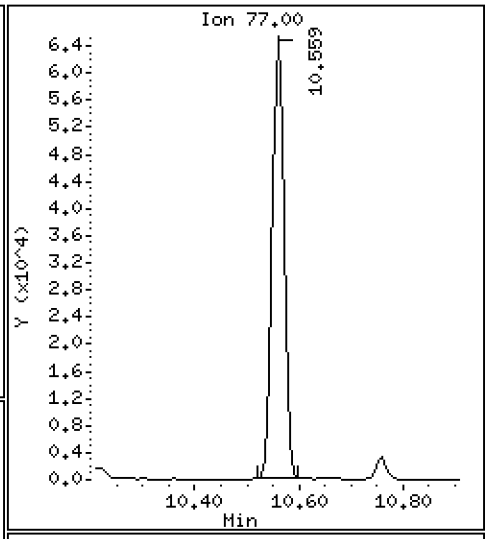
Concentration: 3.841 ug/mL

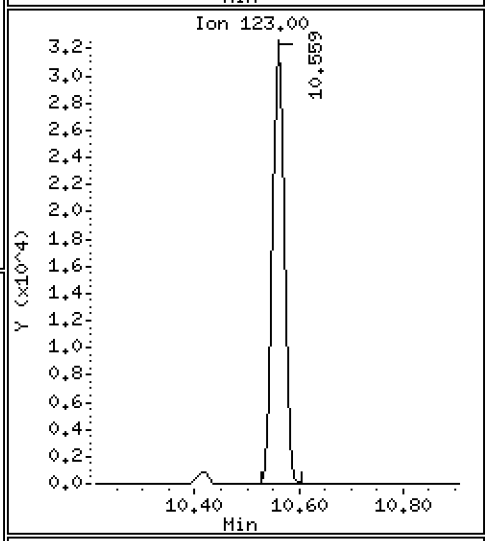


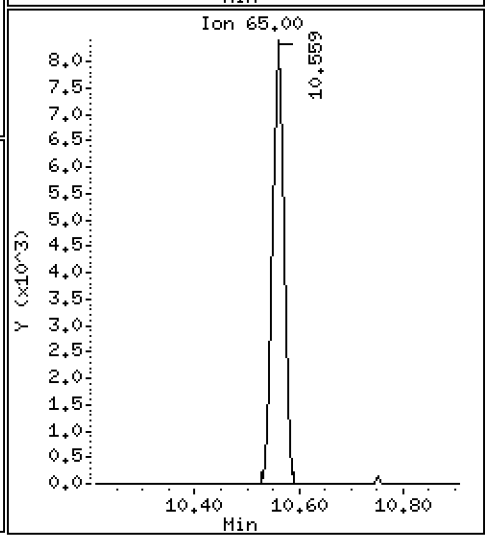












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

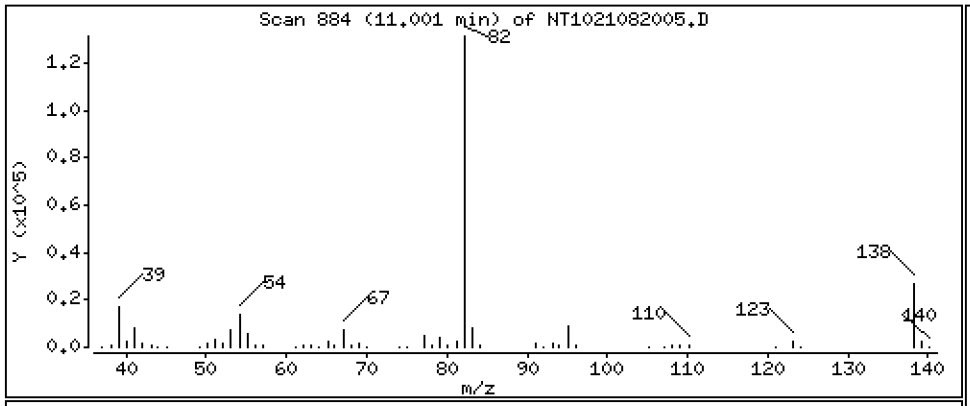
Operator: VTS

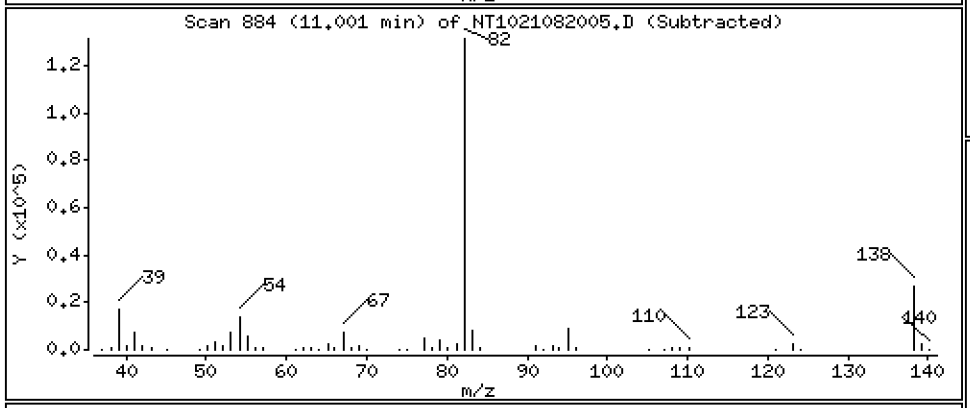
Column phase: ZB-5msi

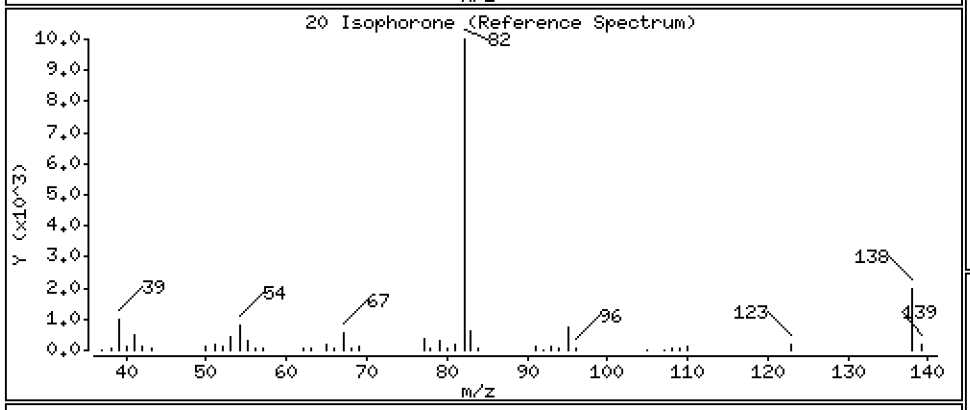
Column diameter: 0.25

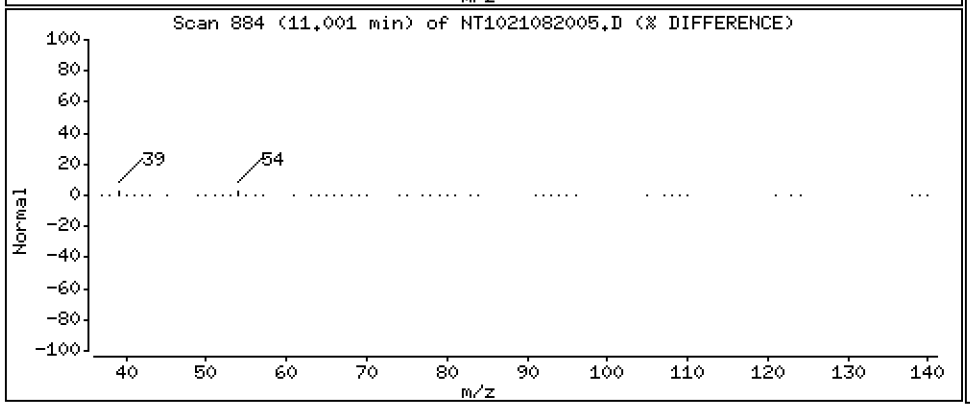
20 Isophorone

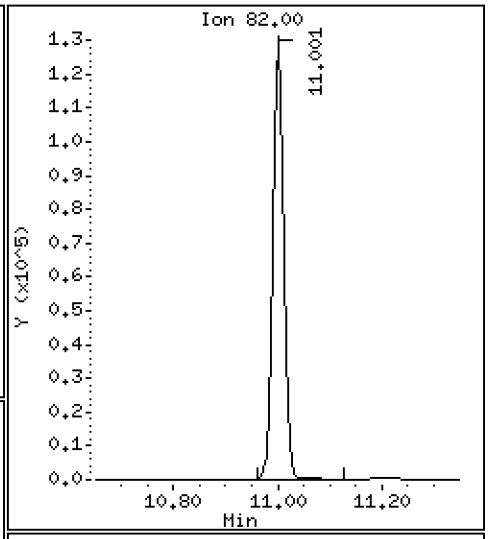
Concentration: 5.687 ug/mL

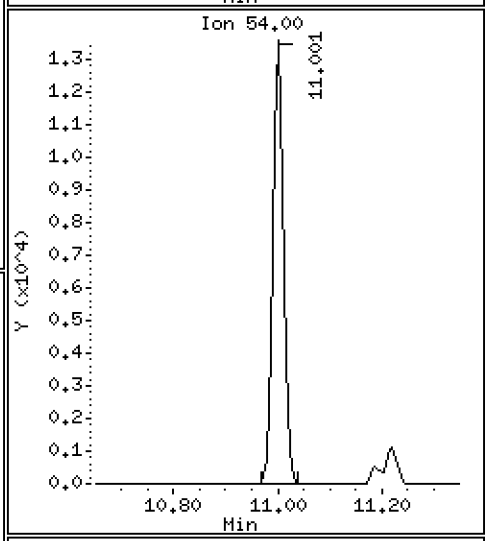


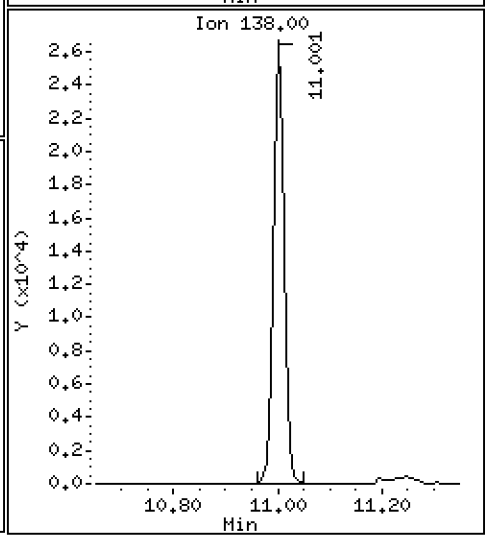












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

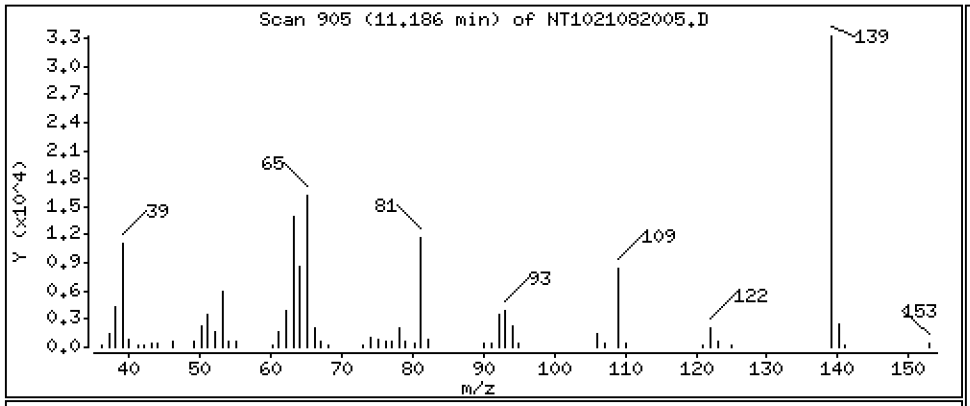
Operator: VTS

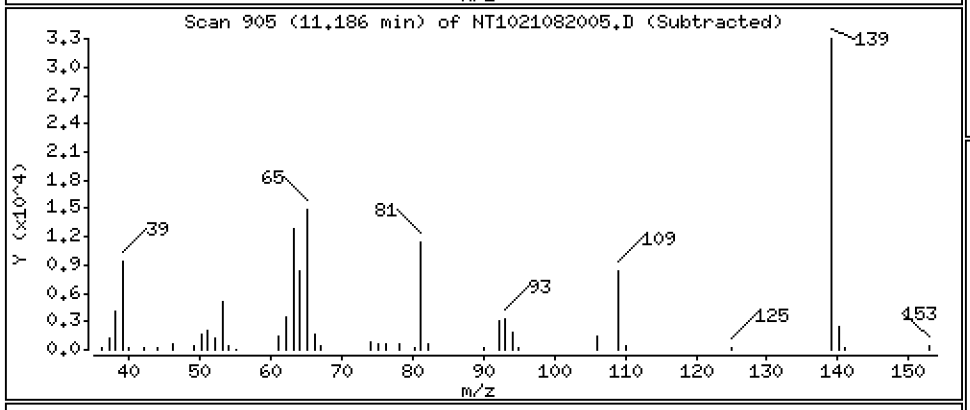
Column phase: ZB-5msi

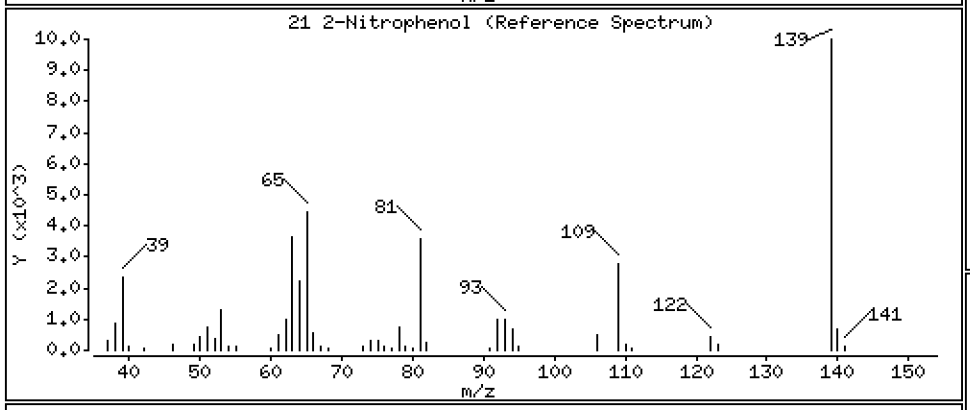
Column diameter: 0.25

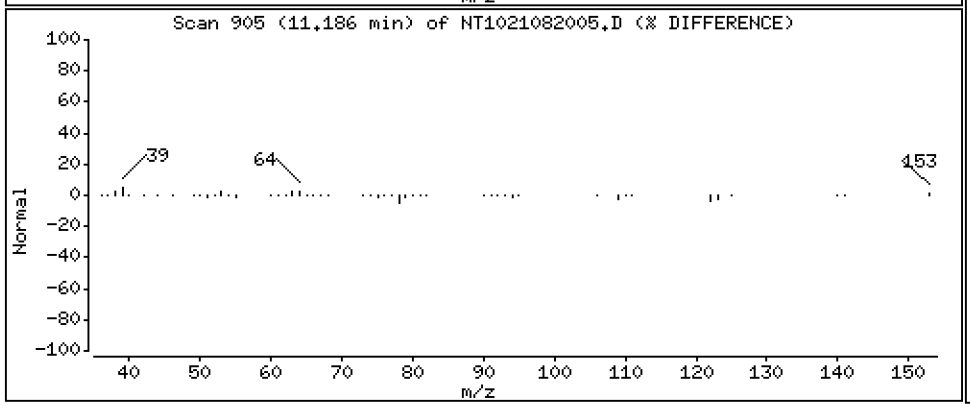
21 2-Nitrophenol

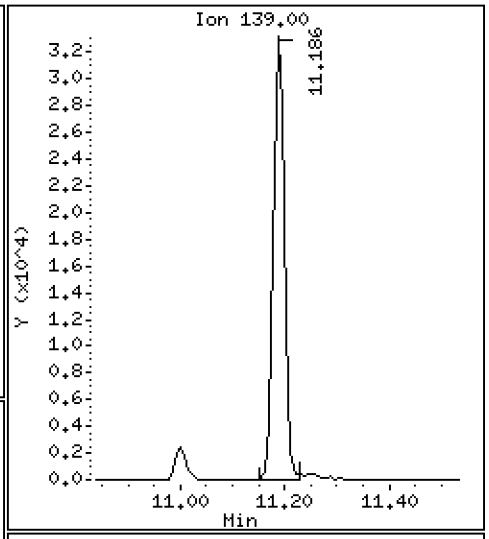
Concentration: 3.498 ug/mL

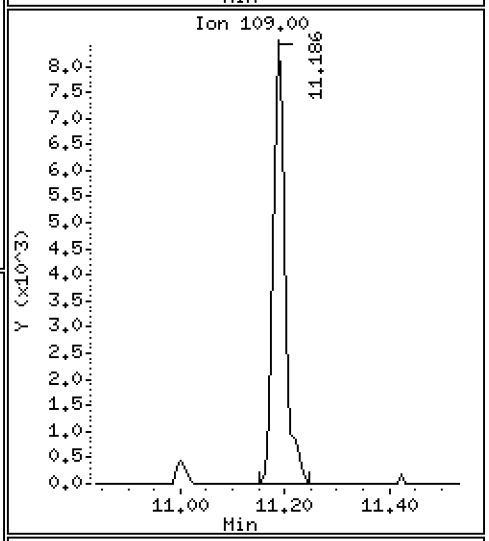


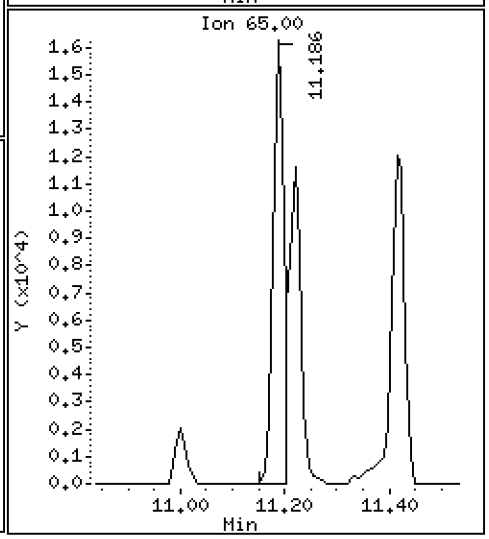












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

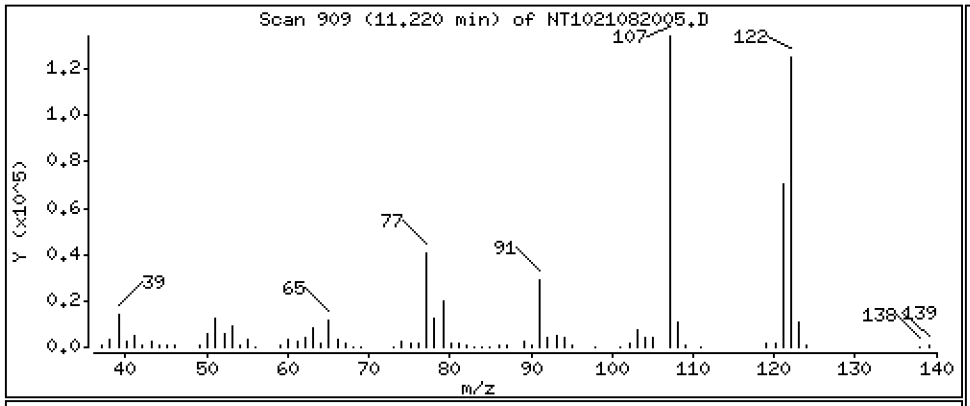
Operator: VTS

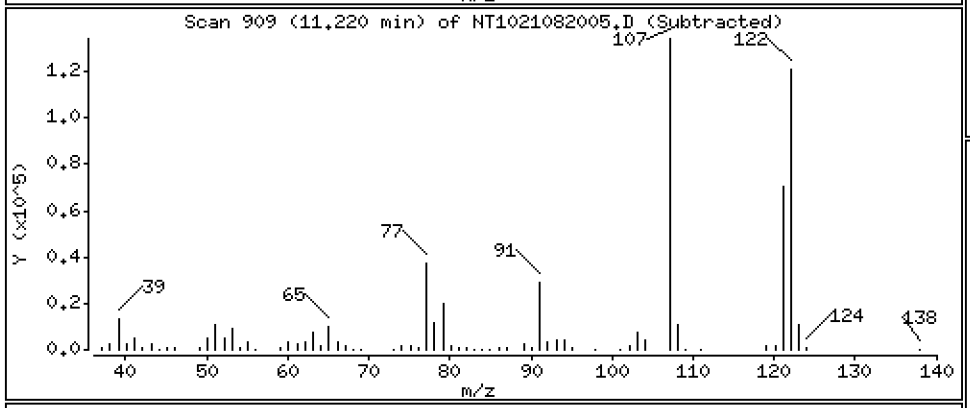
Column phase: ZB-5msi

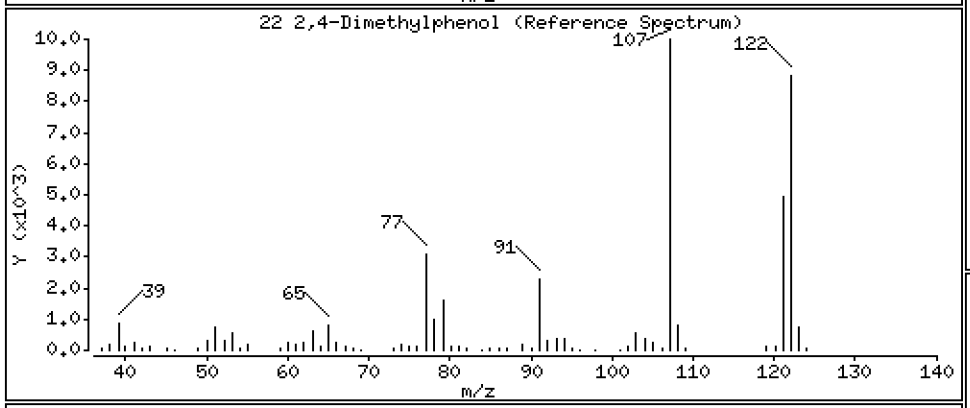
Column diameter: 0.25

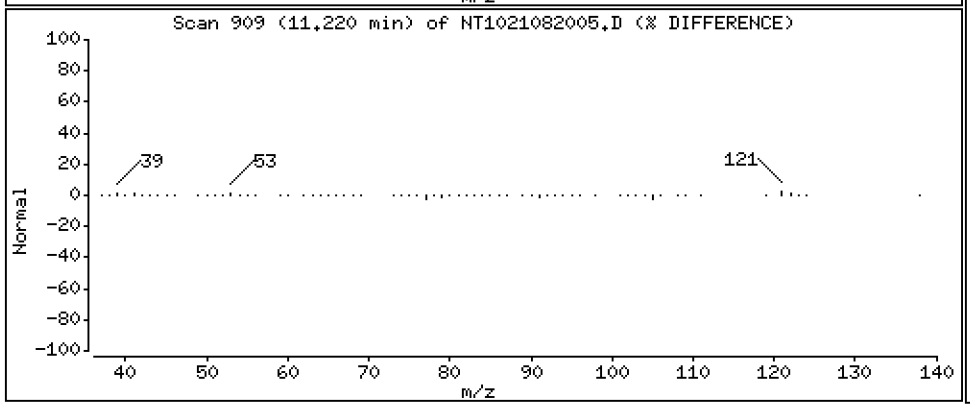
22 2,4-Dimethylphenol

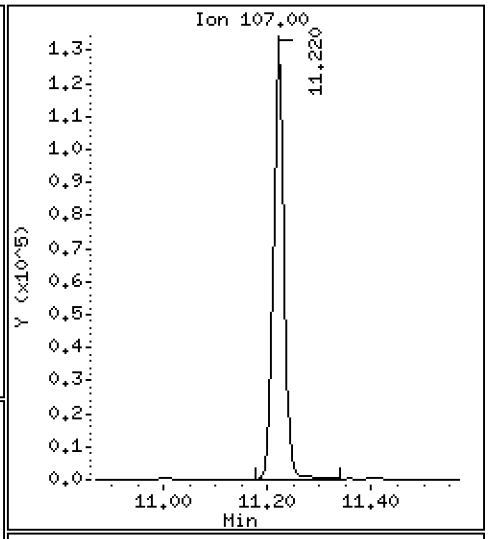
Concentration: 8.902 ug/mL

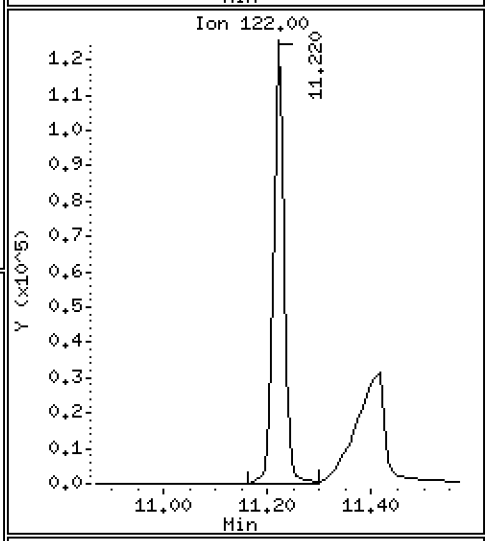


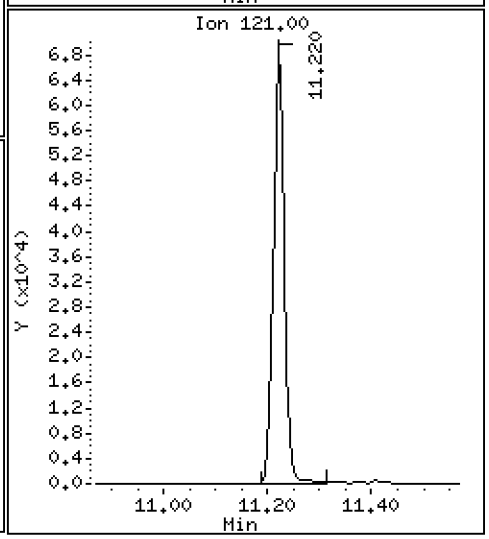












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

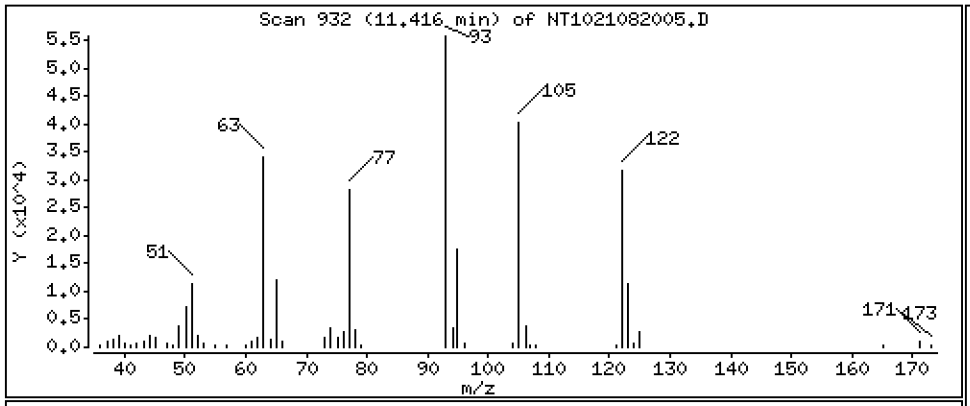
Operator: VTS

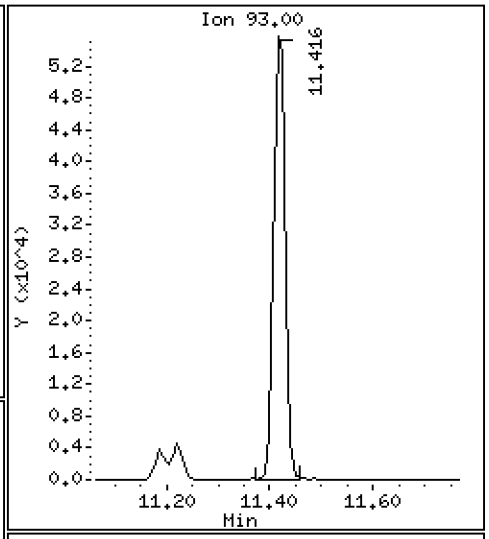
Column phase: ZB-5msi

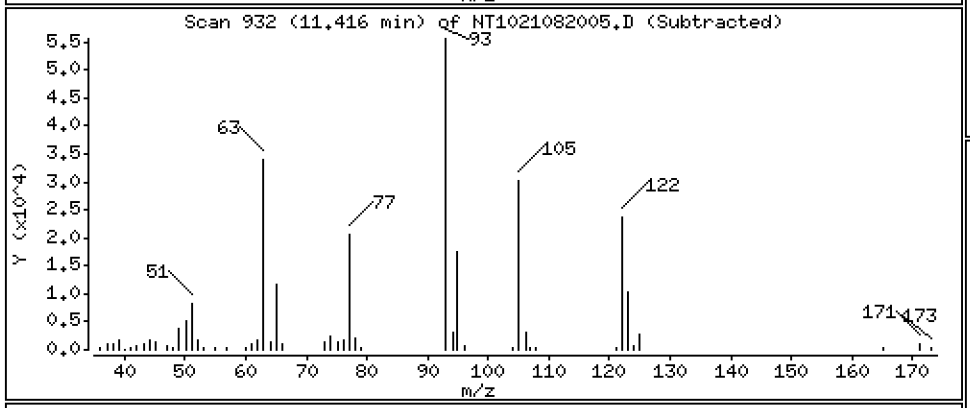
Column diameter: 0.25

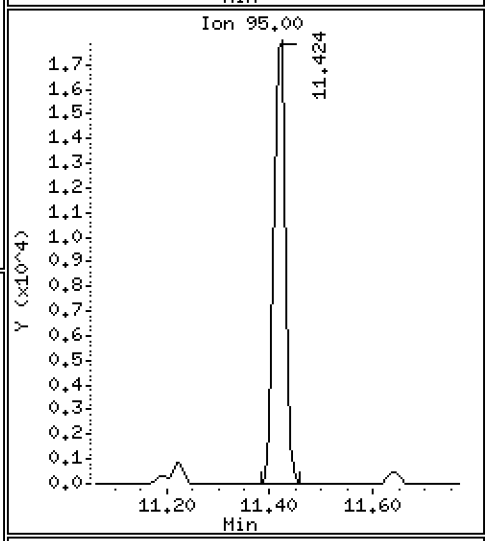
23 Bis(2-Chloroethoxy)methane

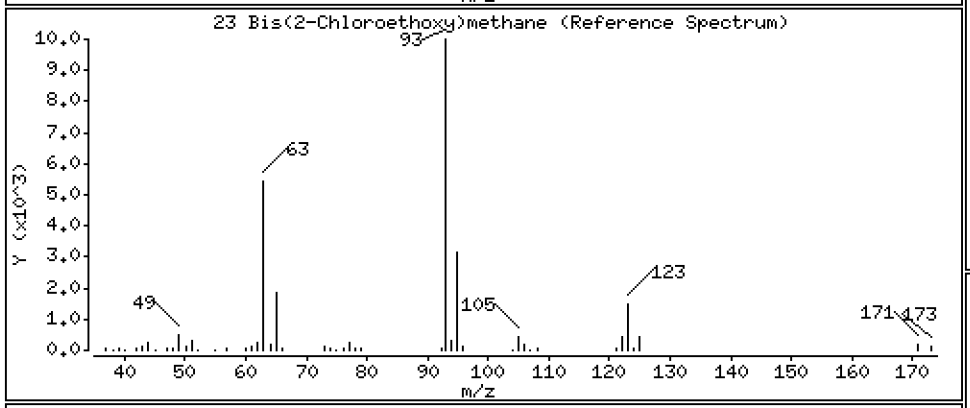
Concentration: 3.855 ug/mL

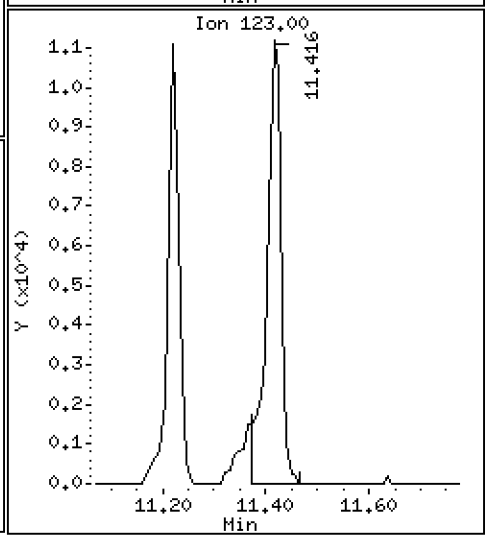


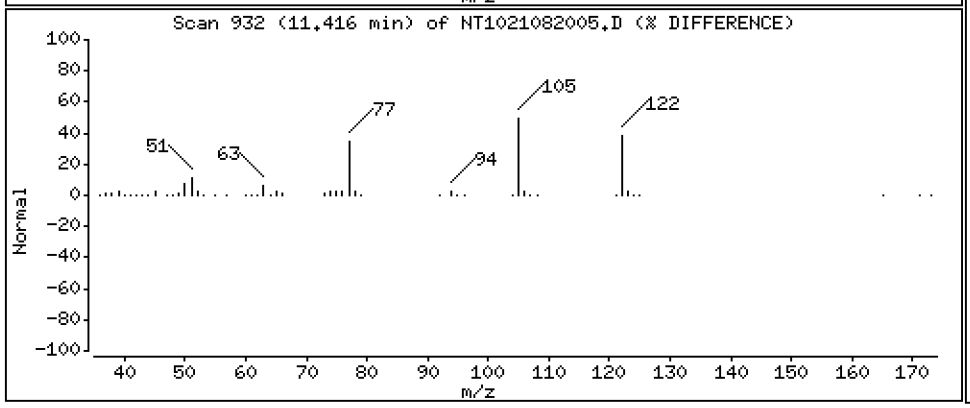












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

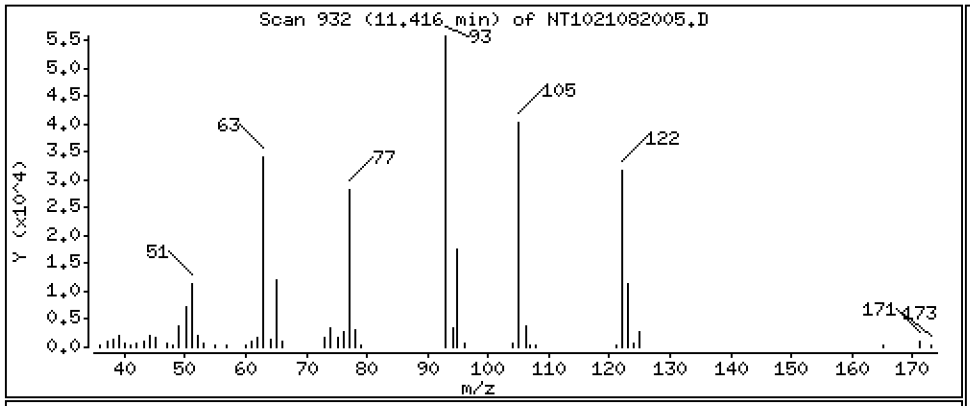
Operator: VTS

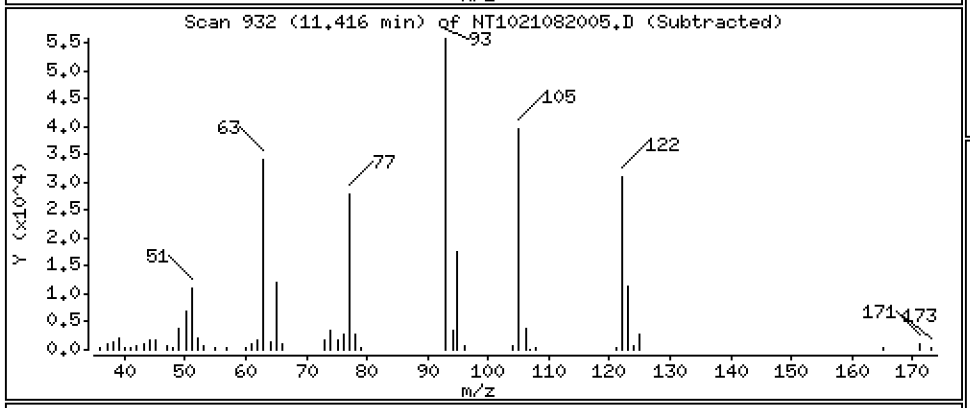
Column phase: ZB-5msi

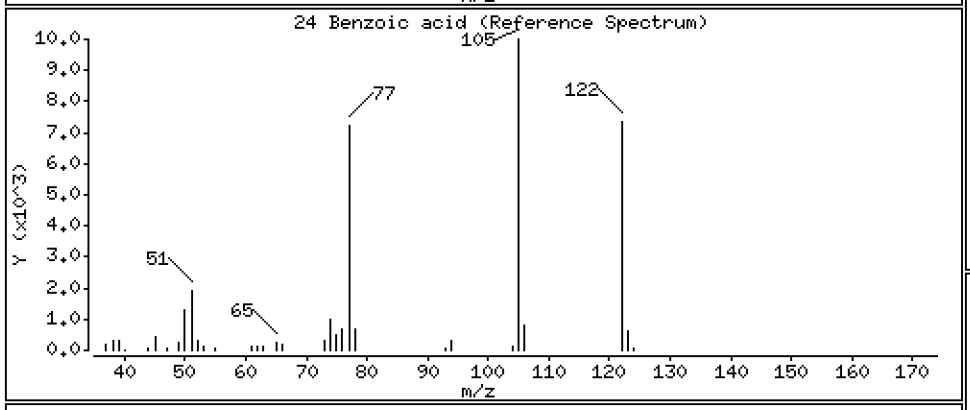
Column diameter: 0.25

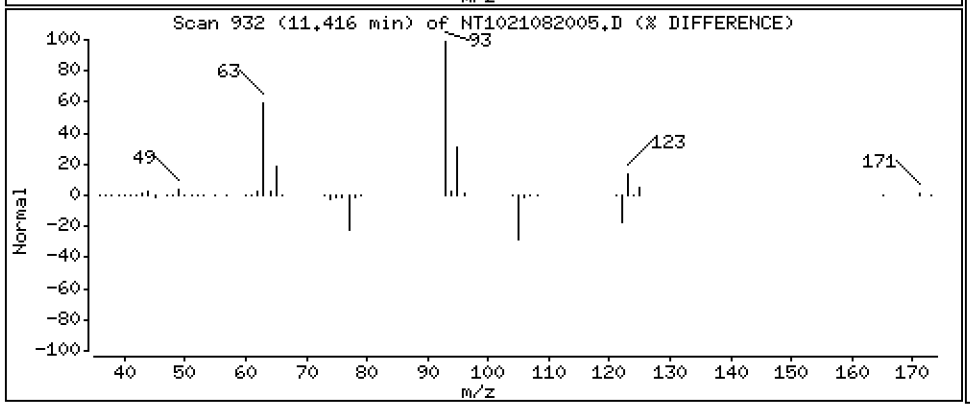
24 Benzoic acid

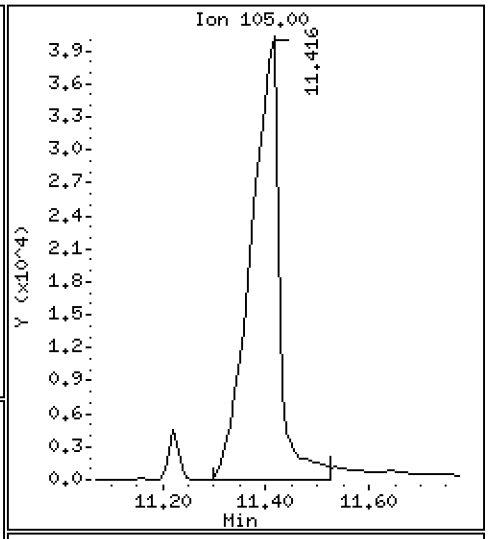
Concentration: 13.68 ug/mL

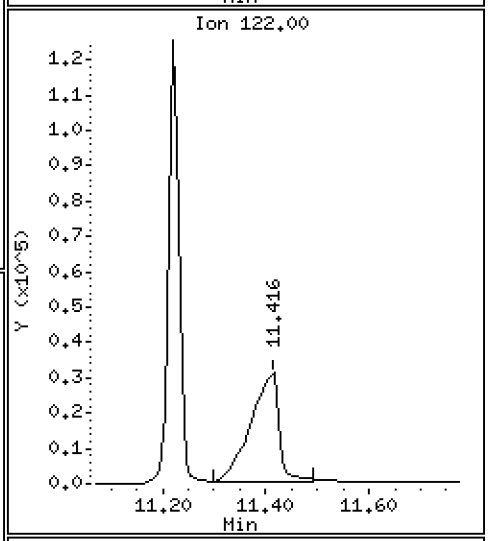


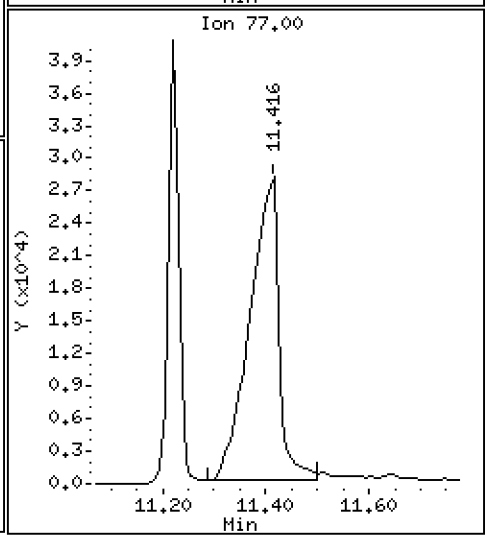












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

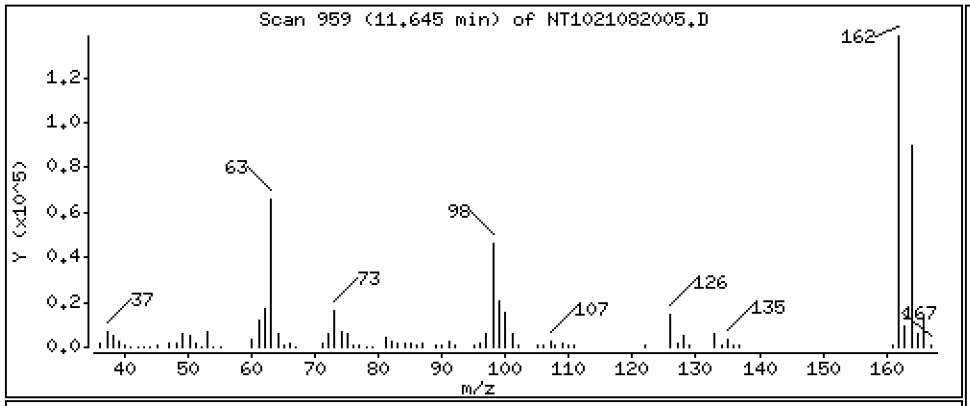
Operator: VTS

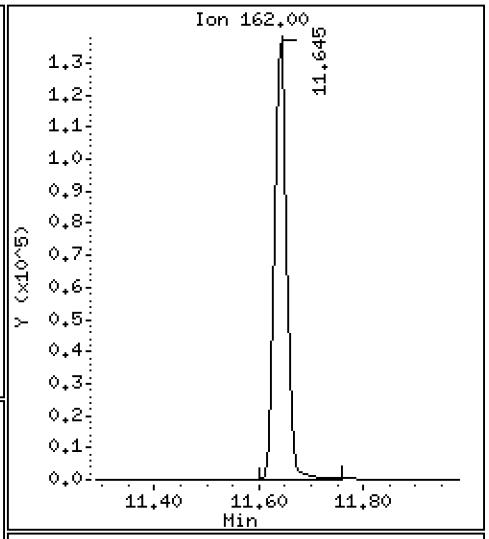
Column phase: ZB-5msi

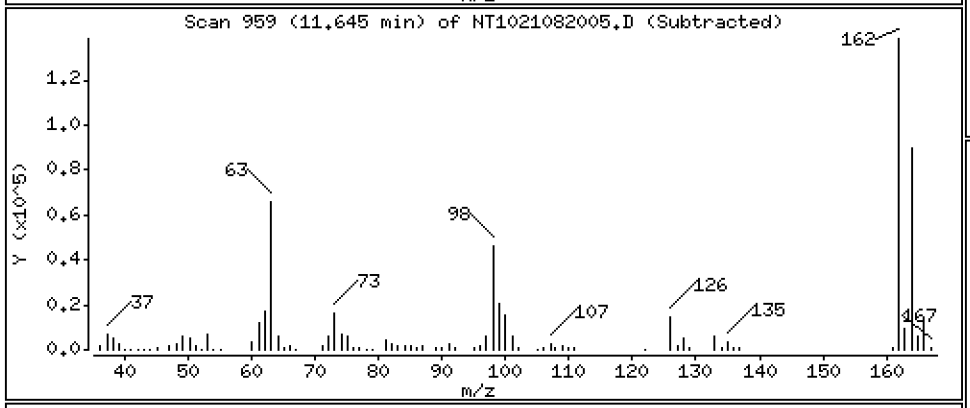
Column diameter: 0.25

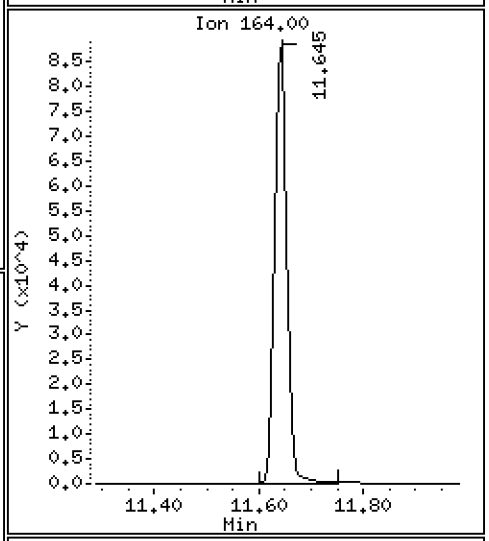
25 2,4-Dichlorophenol

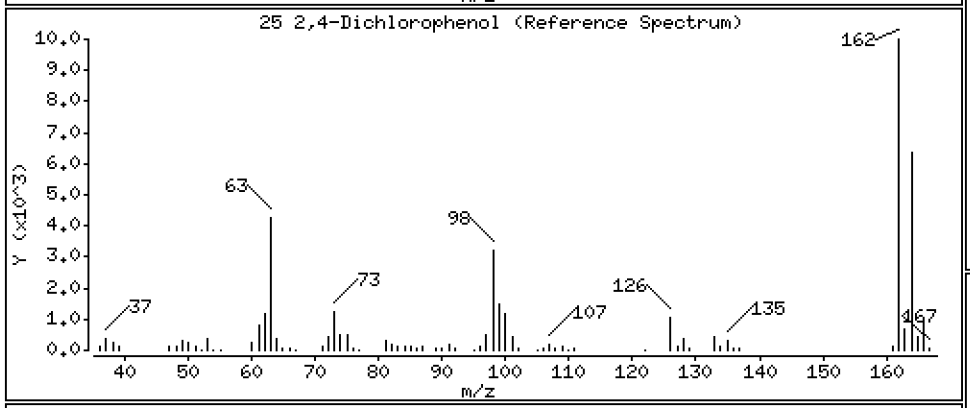
Concentration: 10.72 ug/mL

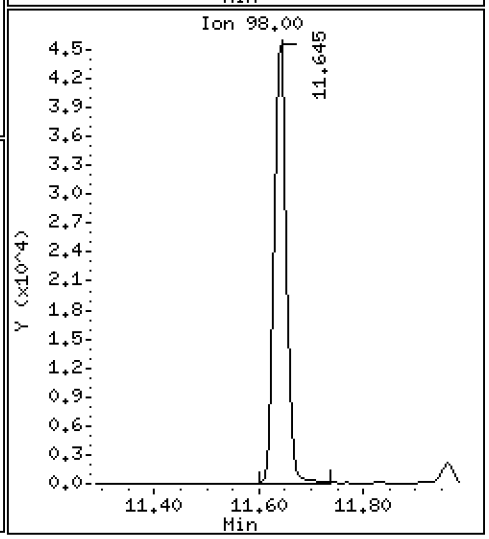


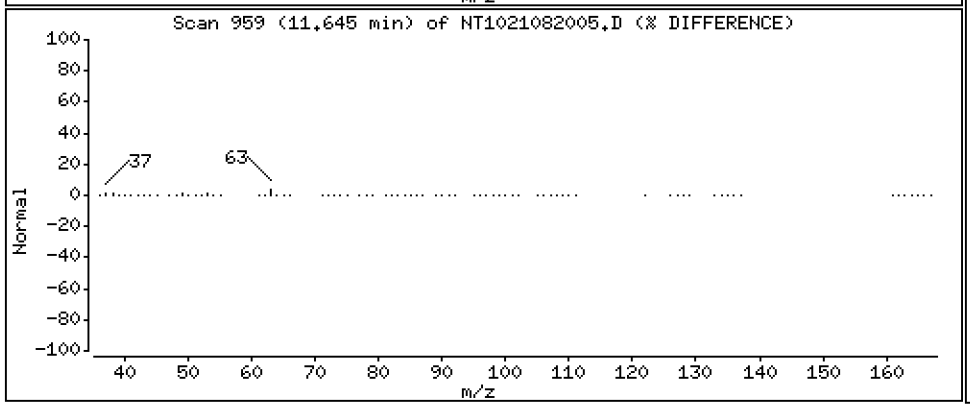












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

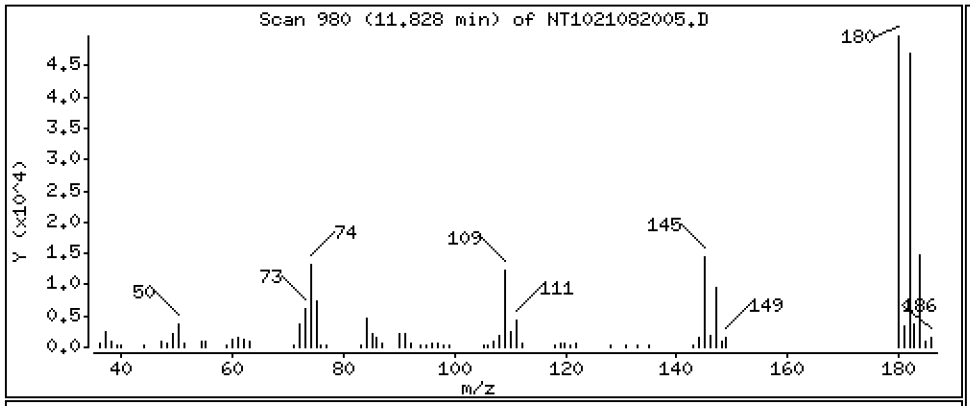
Operator: VTS

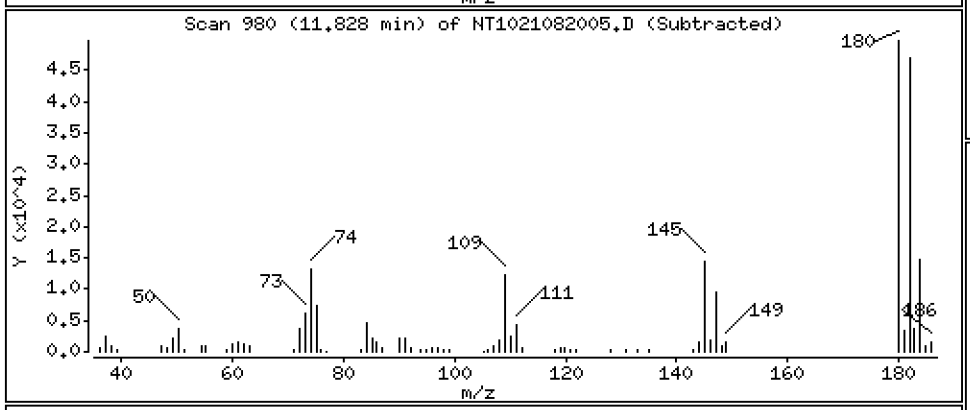
Column phase: ZB-5msi

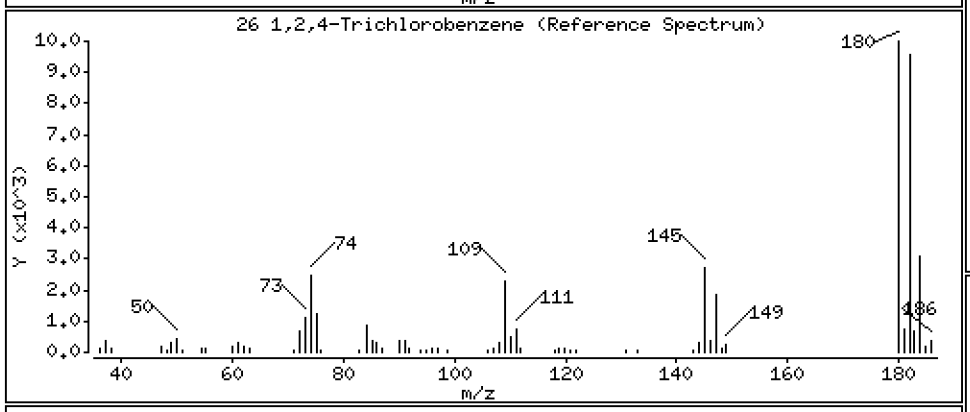
Column diameter: 0.25

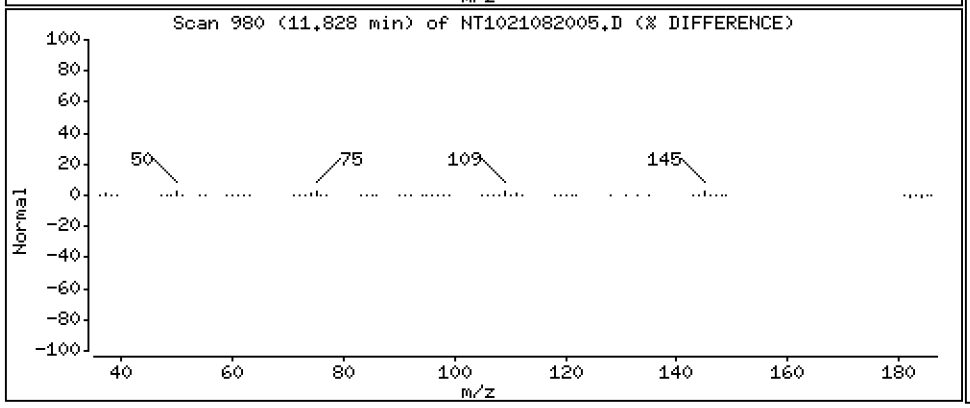
26 1,2,4-Trichlorobenzene

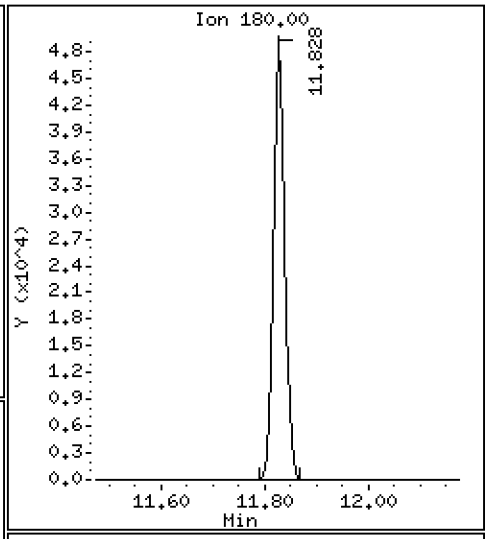
Concentration: 3.373 ug/mL

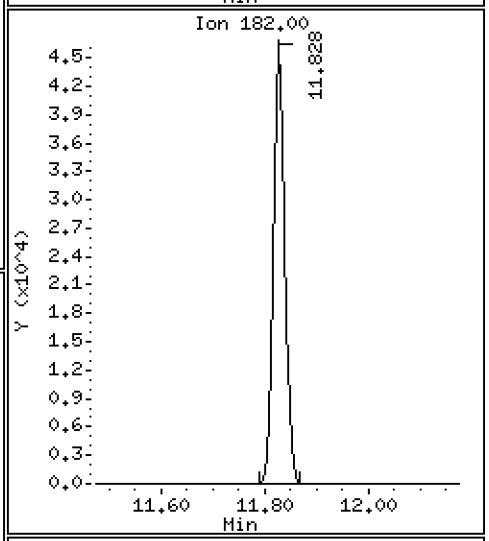


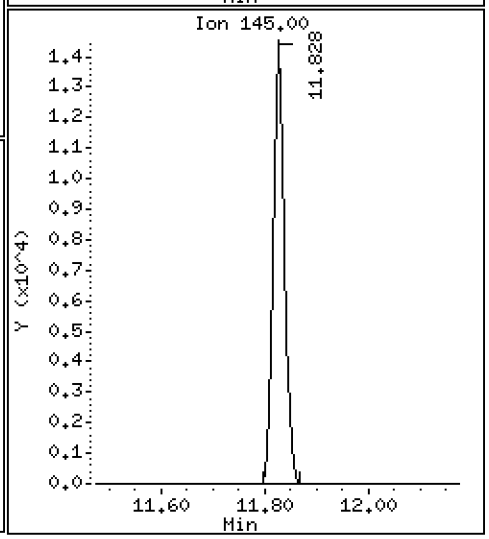












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

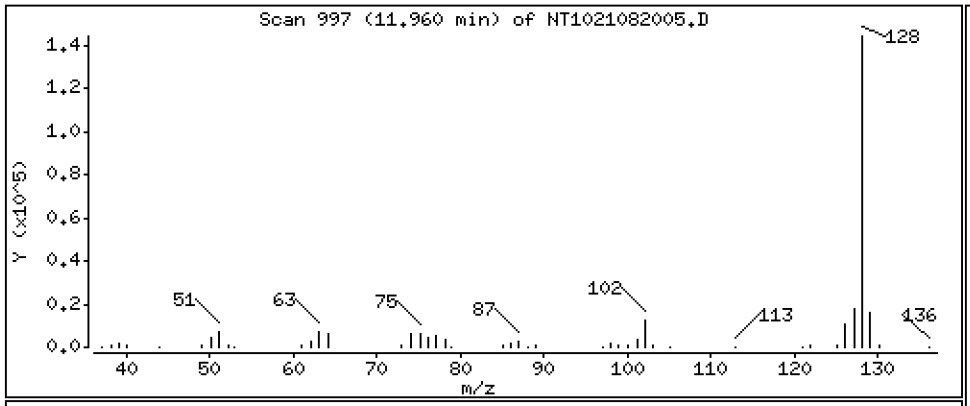
Operator: VTS

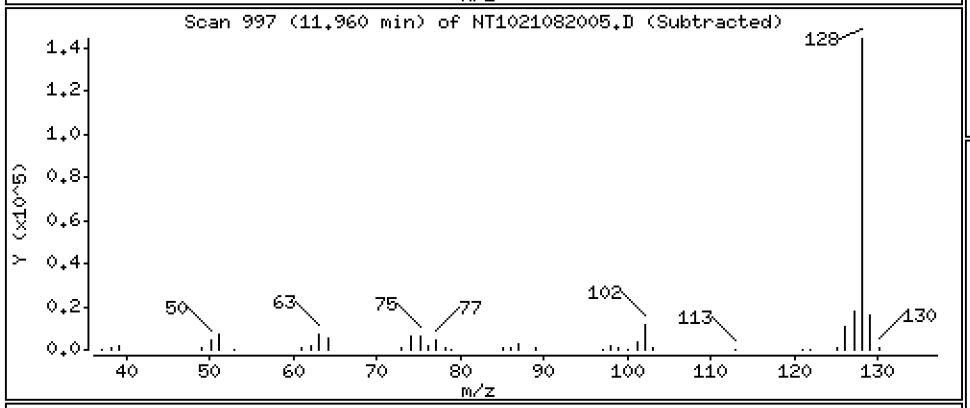
Column phase: ZB-5msi

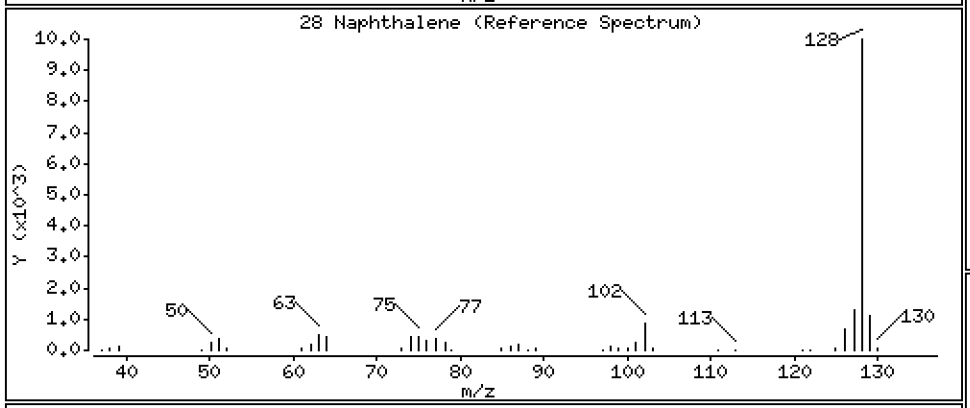
Column diameter: 0.25

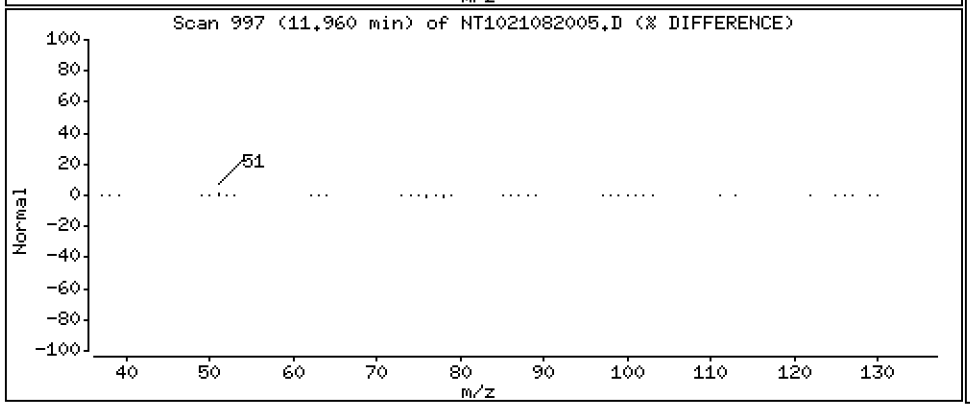
28 Naphthalene

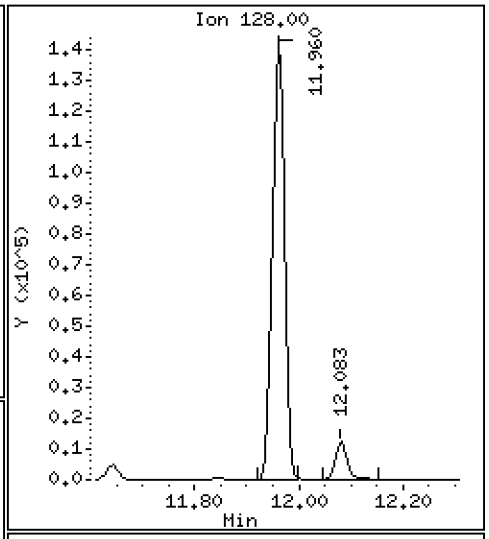
Concentration: 3.498 ug/mL

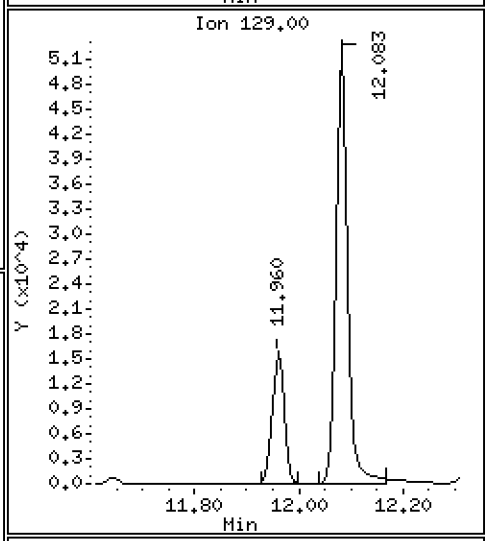


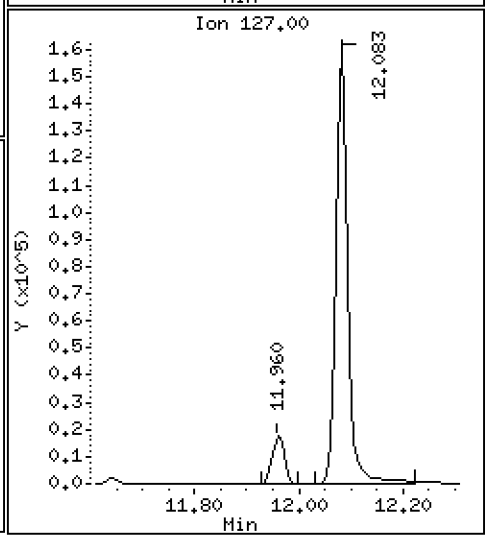












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

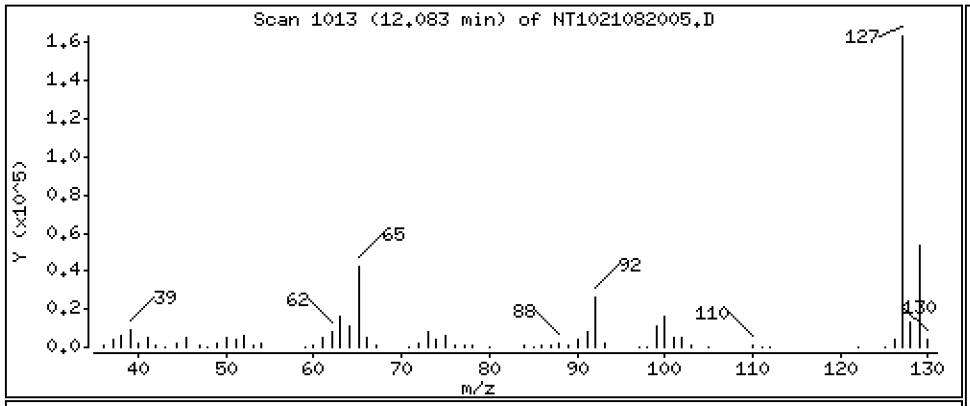
Operator: VTS

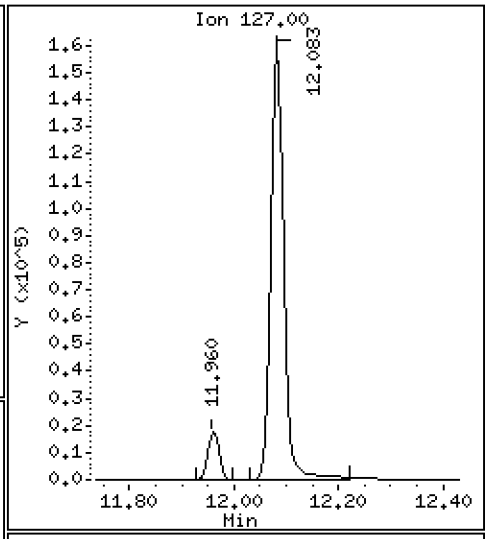
Column phase: ZB-5msi

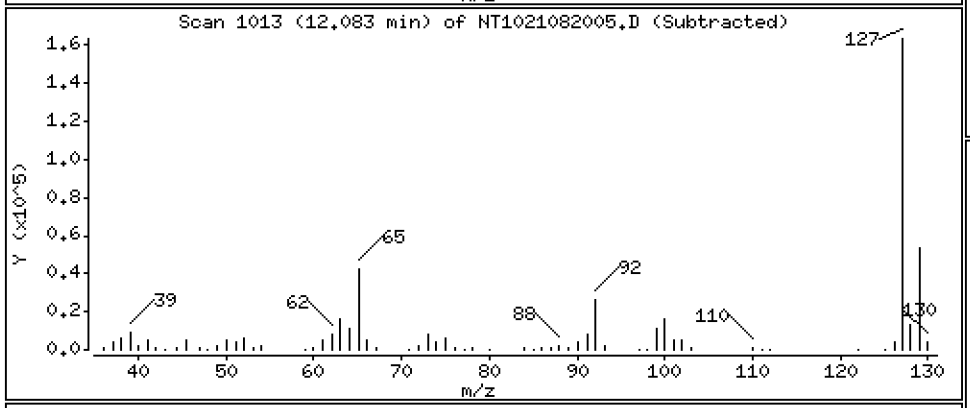
Column diameter: 0.25

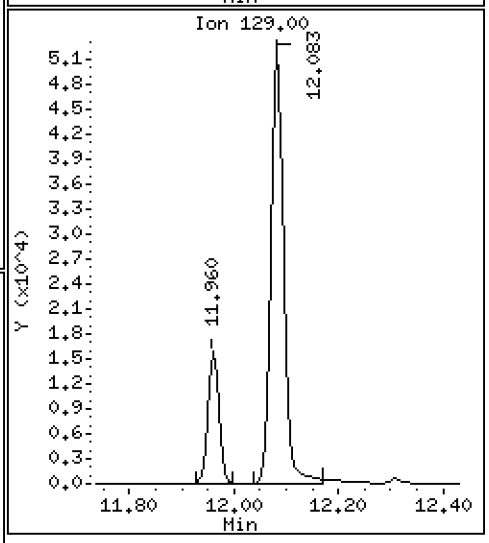
29 4-Chloroaniline

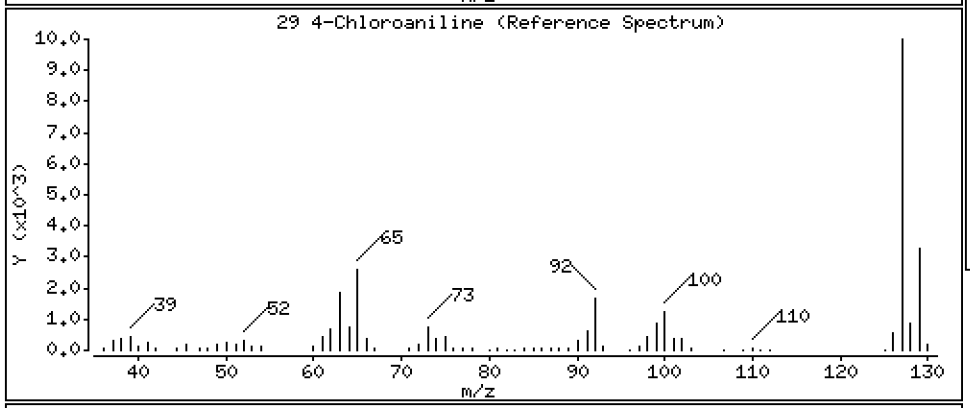
Concentration: 9.022 ug/mL

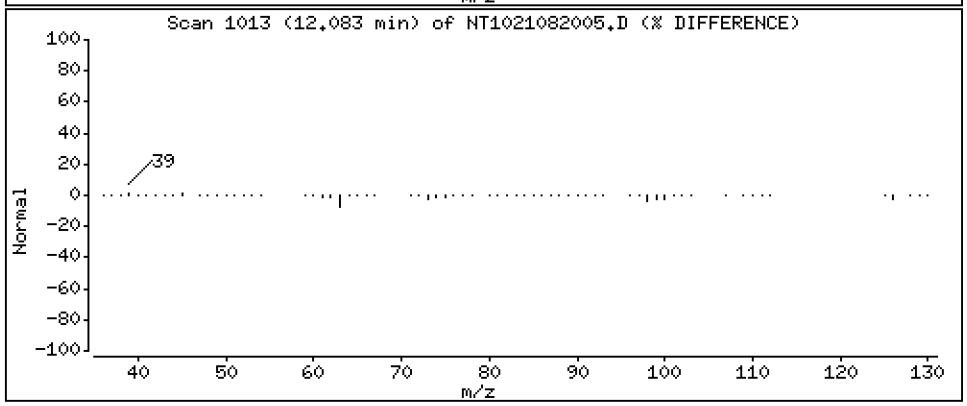












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

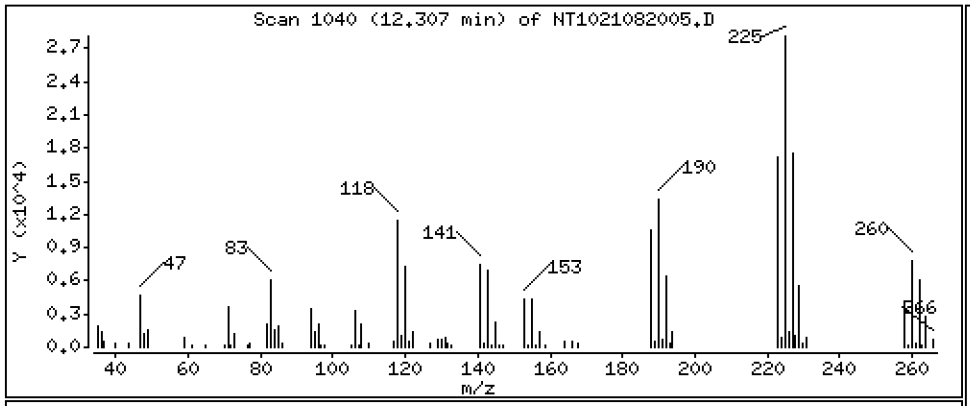
Operator: VTS

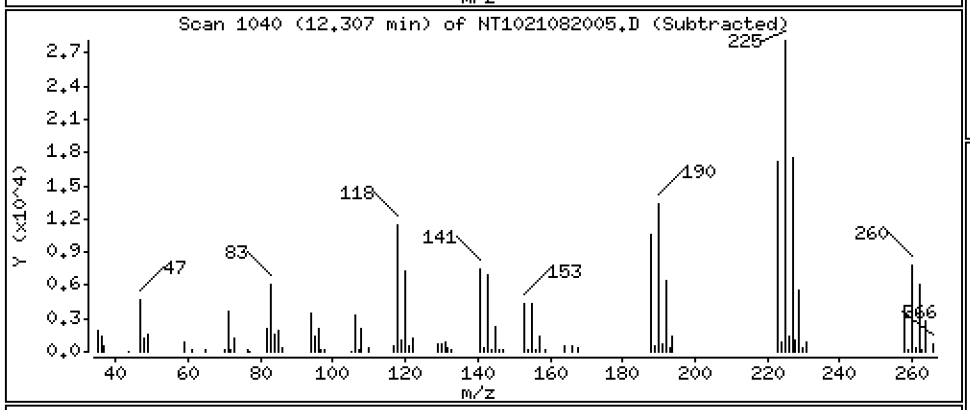
Column phase: ZB-5msi

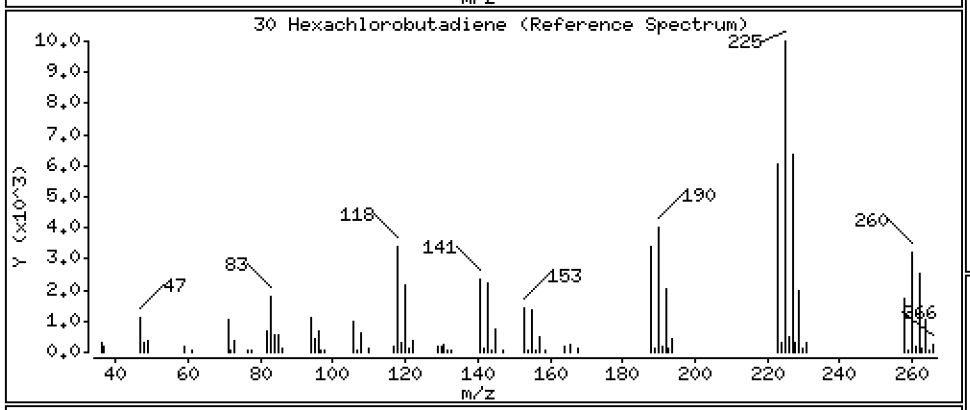
Column diameter: 0.25

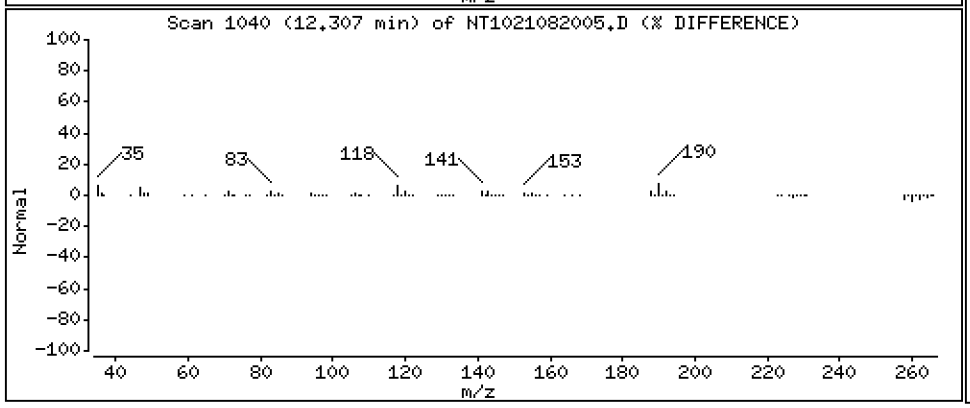
30 Hexachlorobutadiene

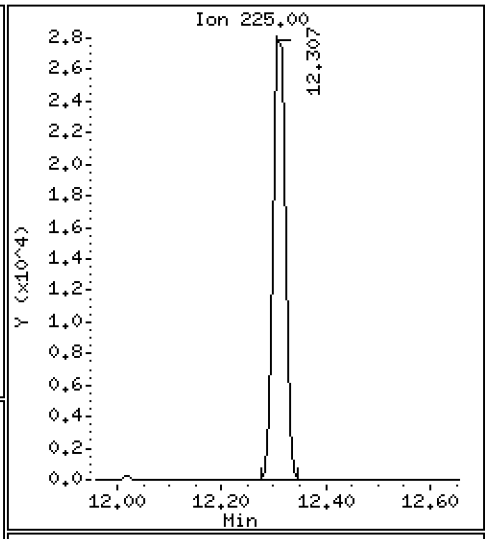
Concentration: 3.571 ug/mL

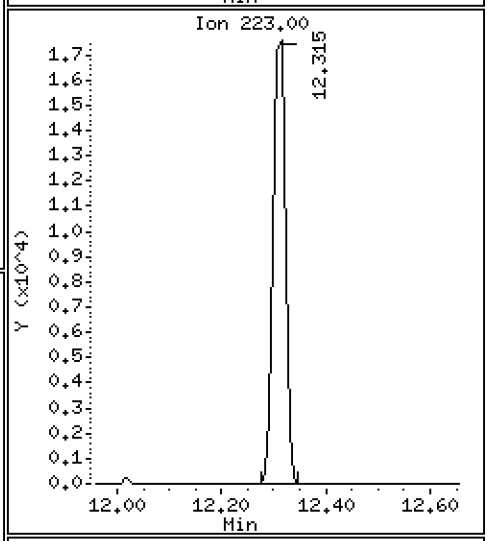


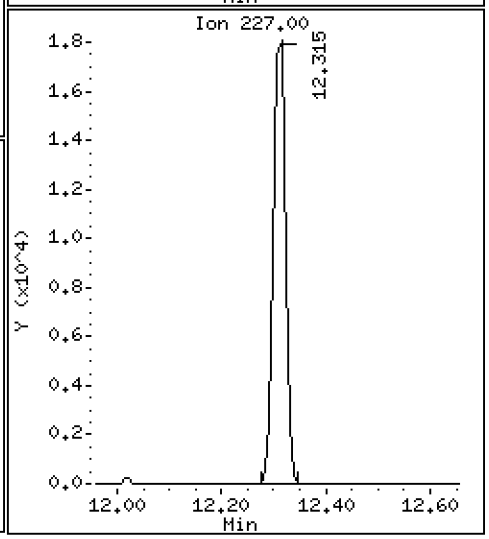












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

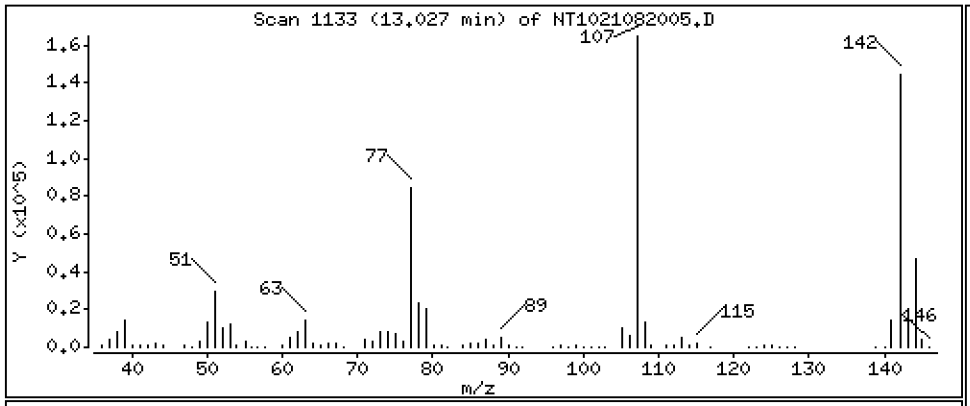
Operator: VTS

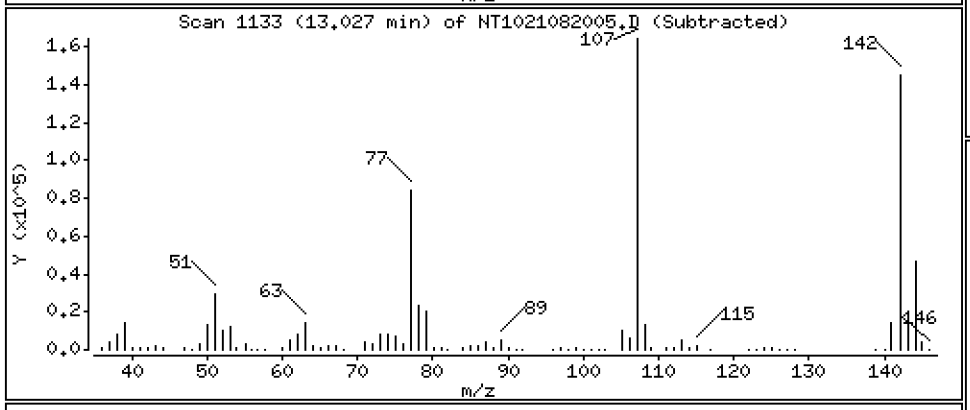
Column phase: ZB-5msi

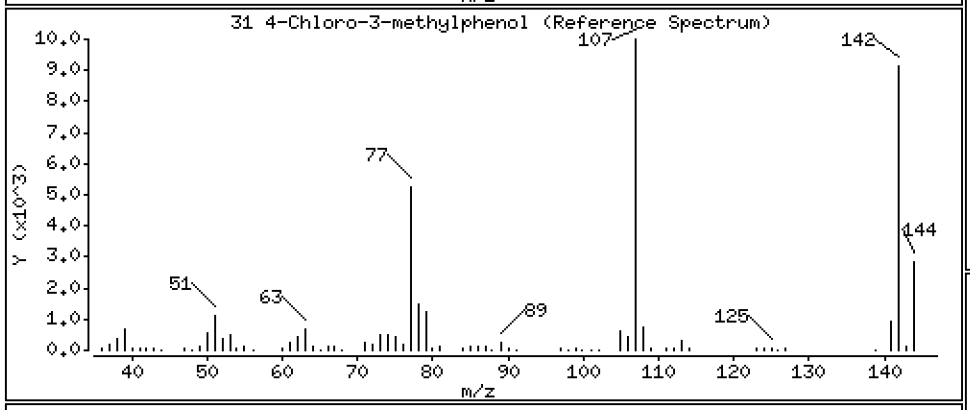
Column diameter: 0.25

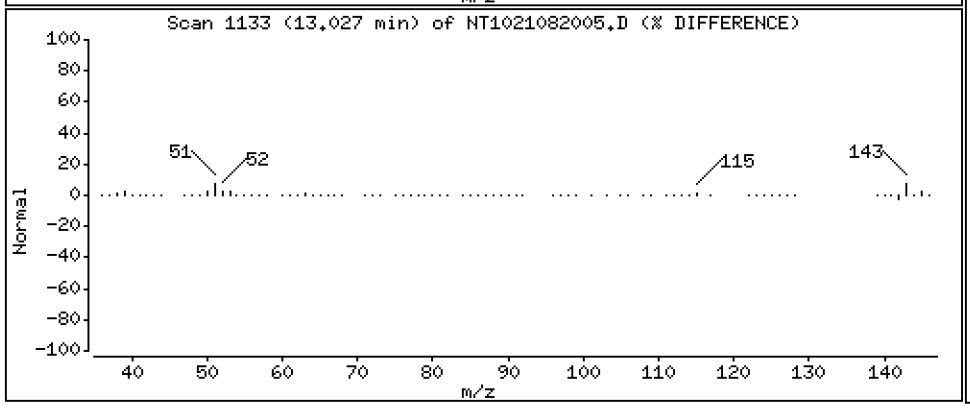
31 4-Chloro-3-methylphenol

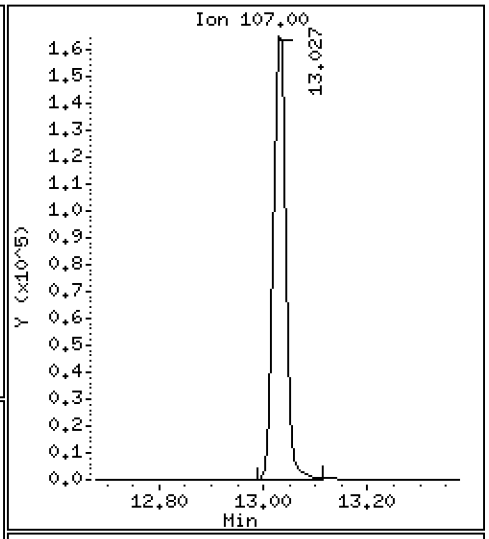
Concentration: 11.62 ug/mL

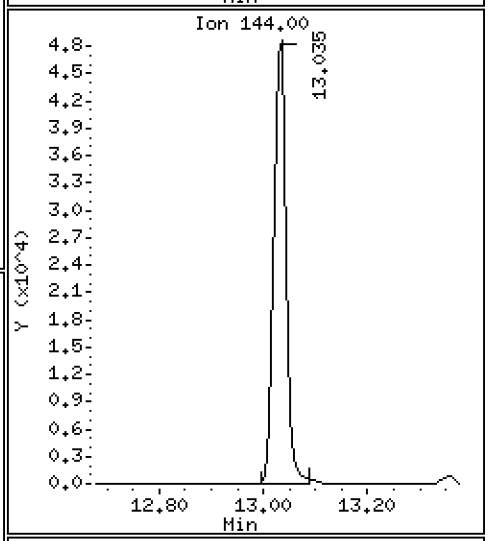


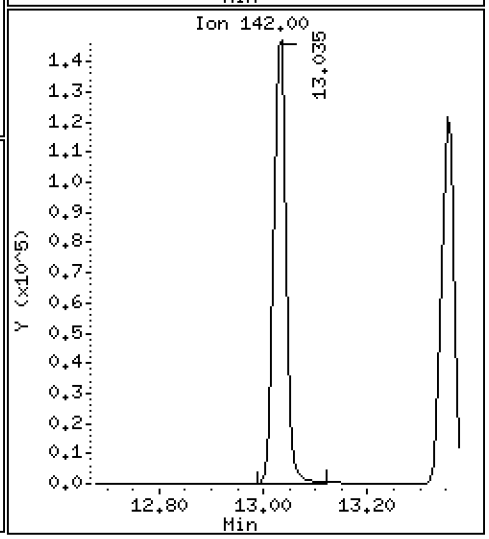












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

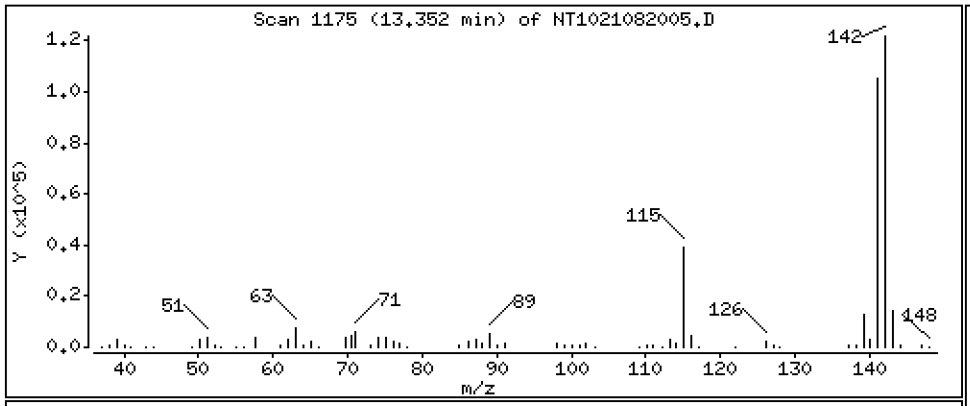
Operator: VTS

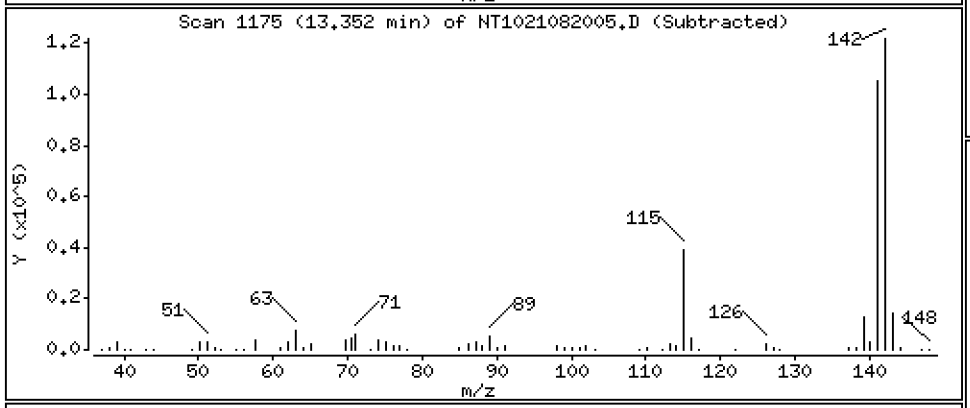
Column phase: ZB-5msi

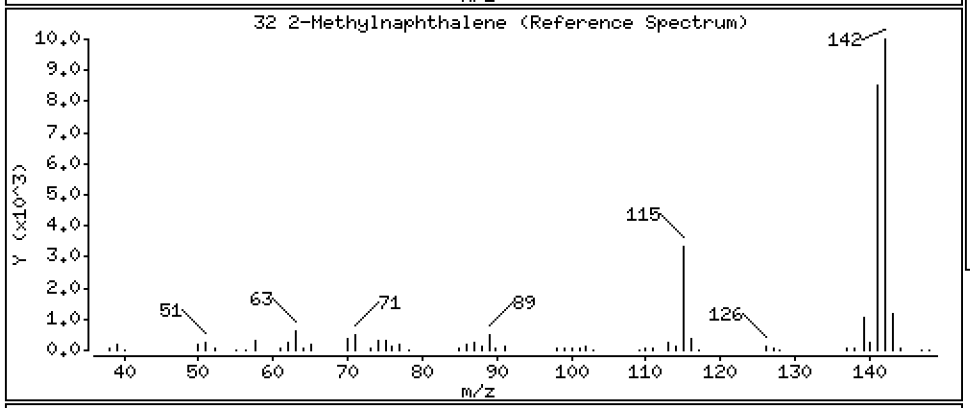
Column diameter: 0.25

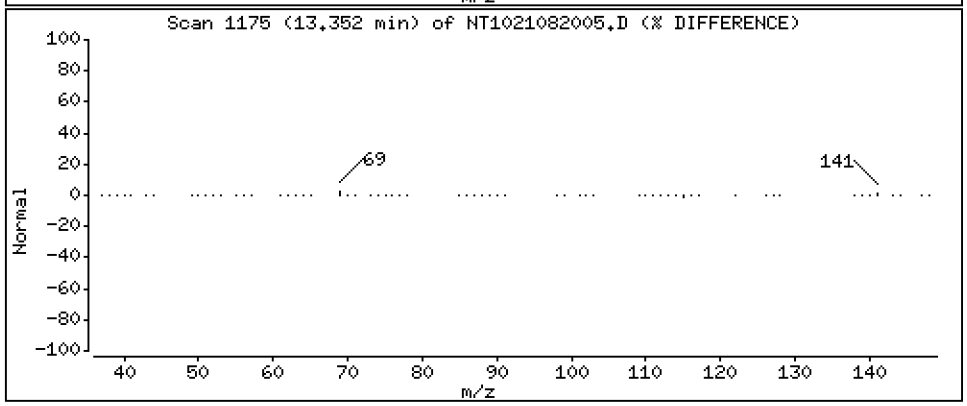
32 2-Methylnaphthalene

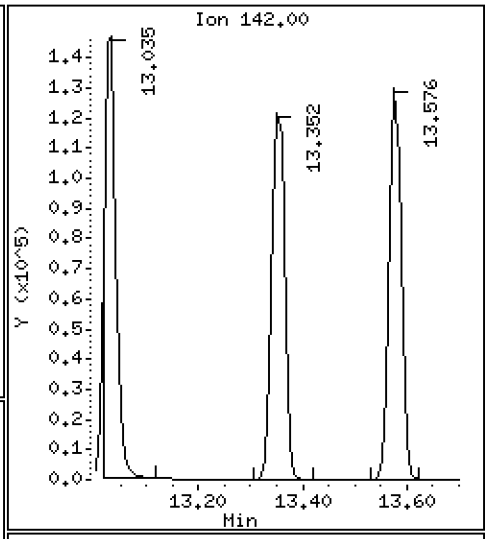
Concentration: 3.280 ug/mL

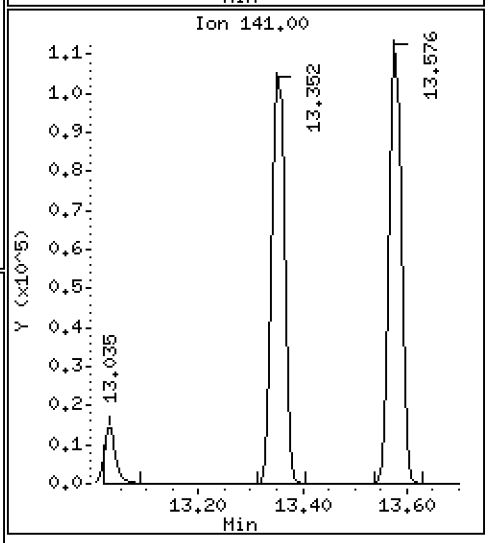












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

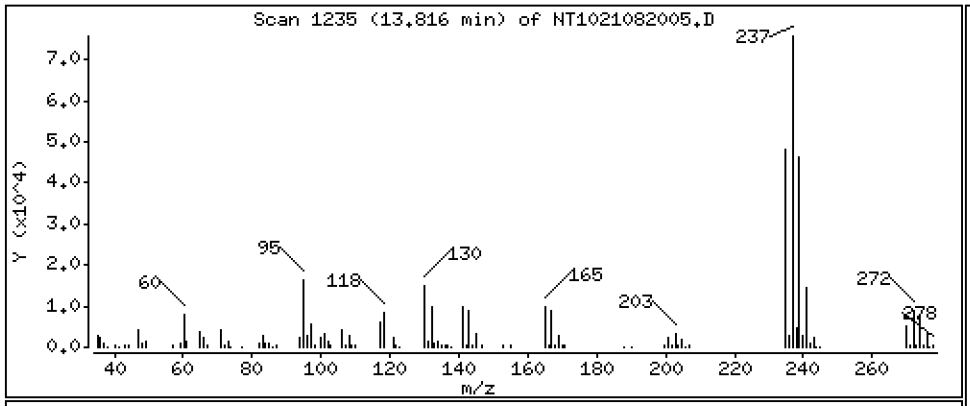
Operator: VTS

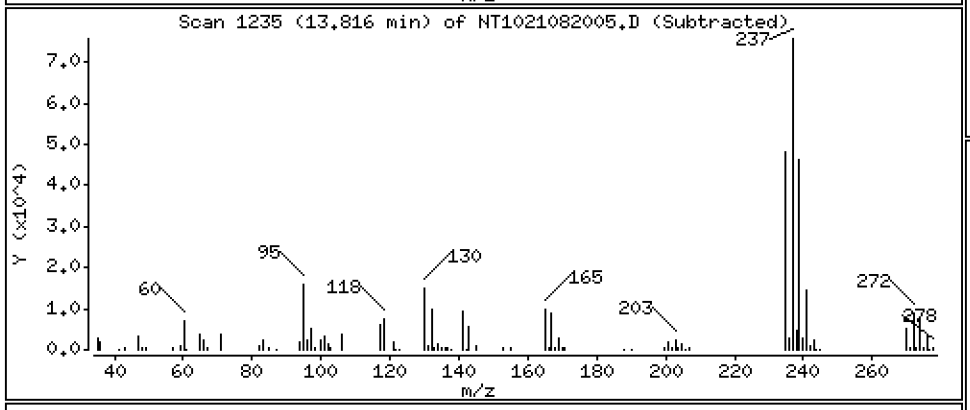
Column phase: ZB-5msi

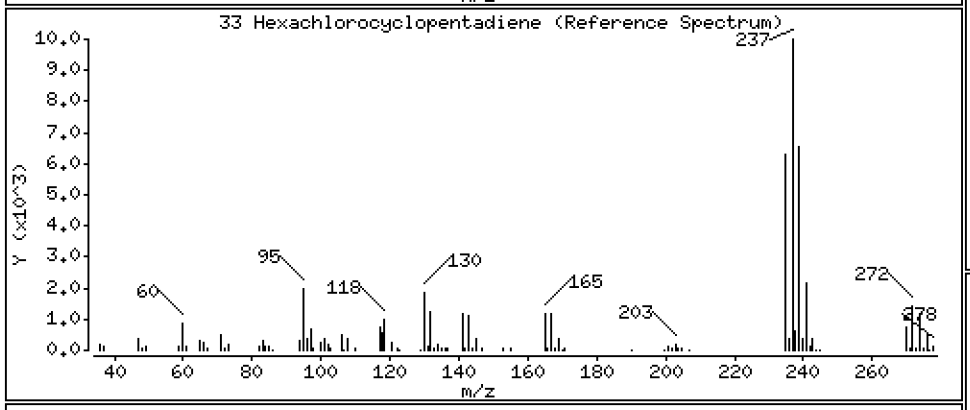
Column diameter: 0.25

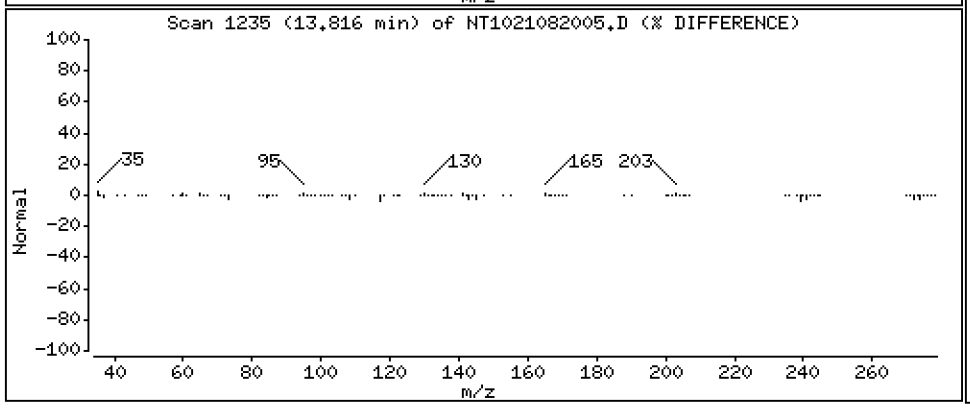
33 Hexachlorocyclopentadiene

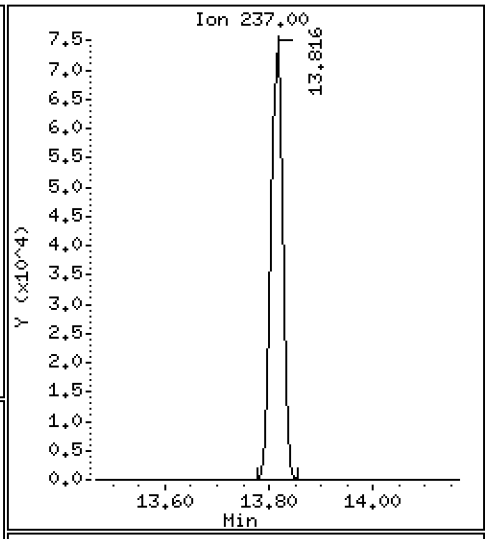
Concentration: 9.446 ug/mL

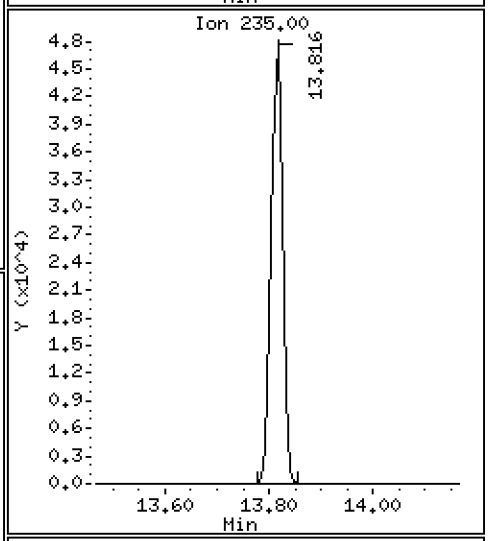


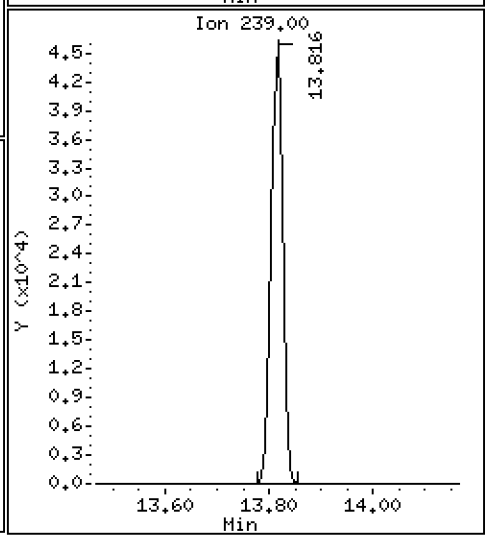












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

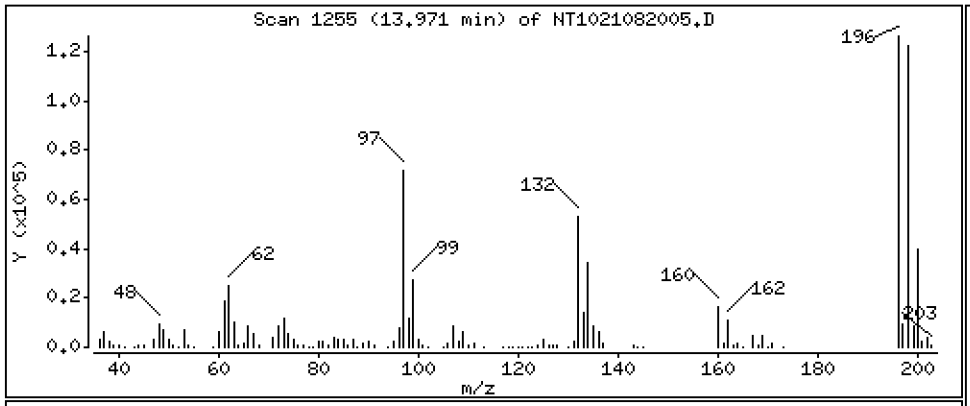
Operator: VTS

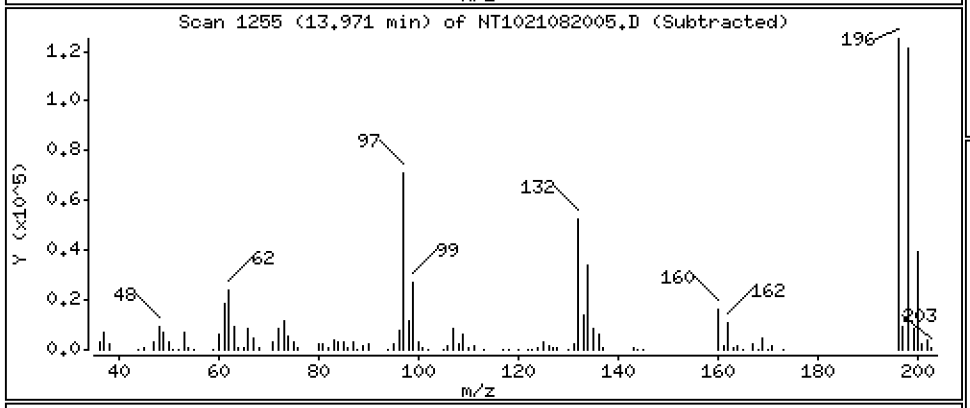
Column phase: ZB-5msi

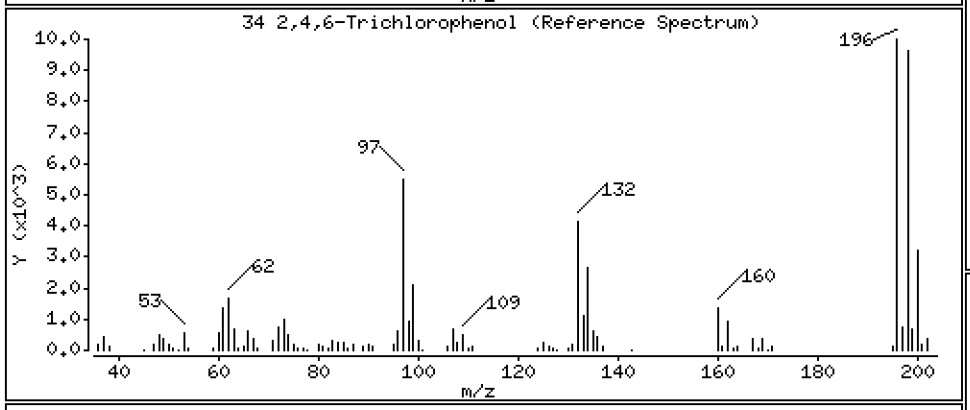
Column diameter: 0.25

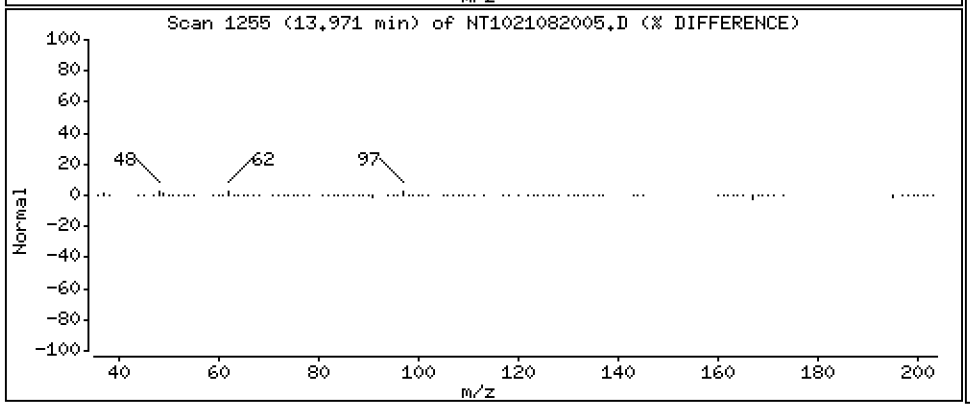
34 2,4,6-Trichlorophenol

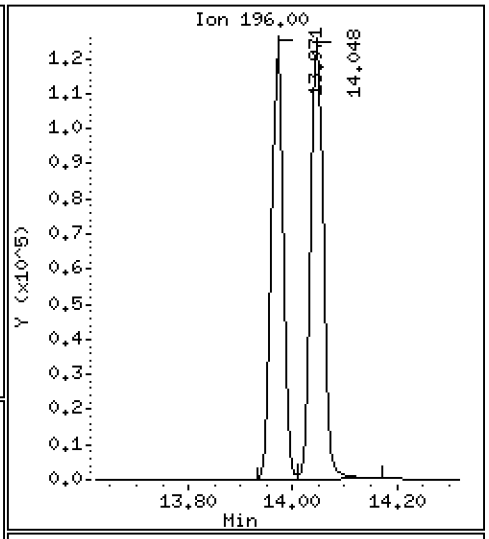
Concentration: 11.38 ug/mL

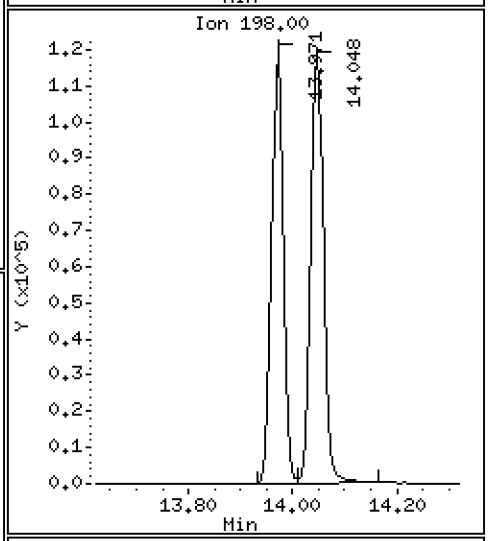


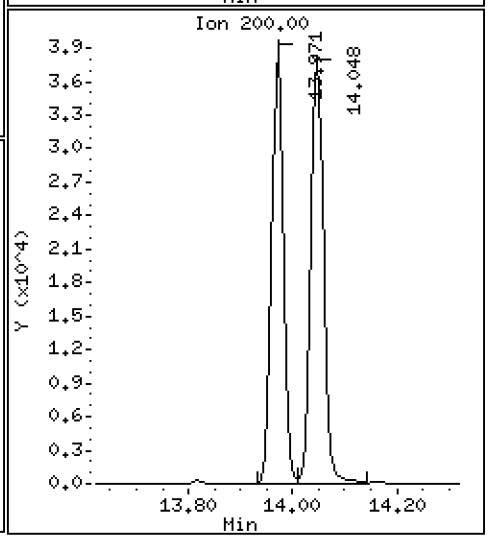












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

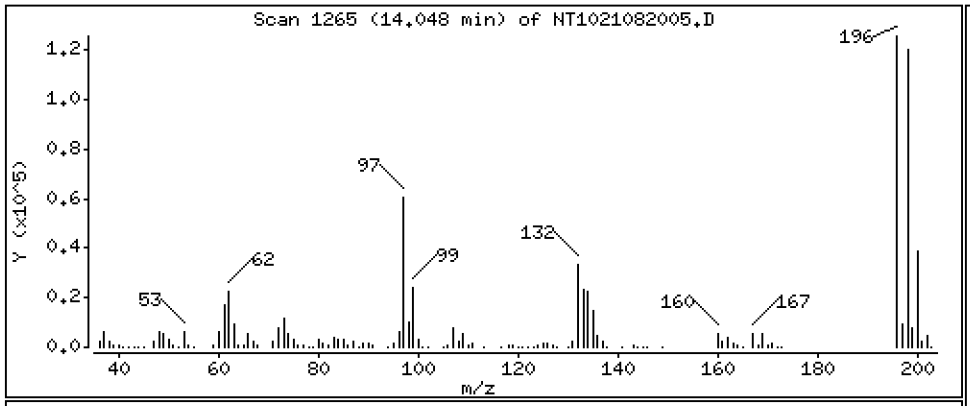
Operator: VTS

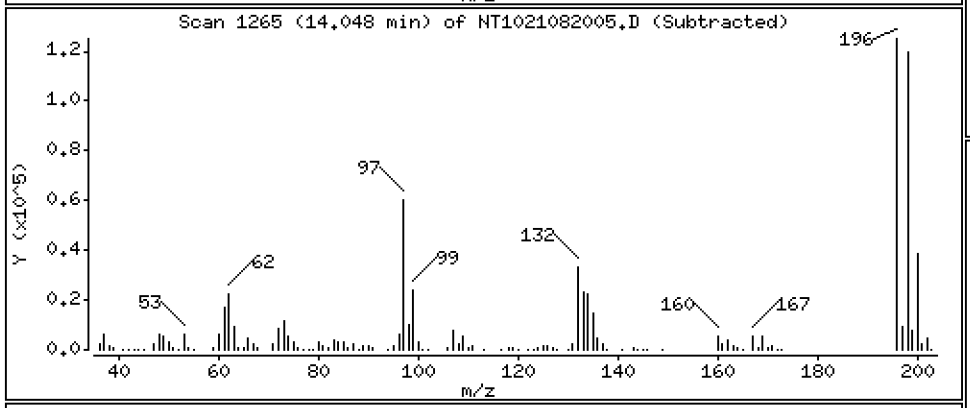
Column phase: ZB-5msi

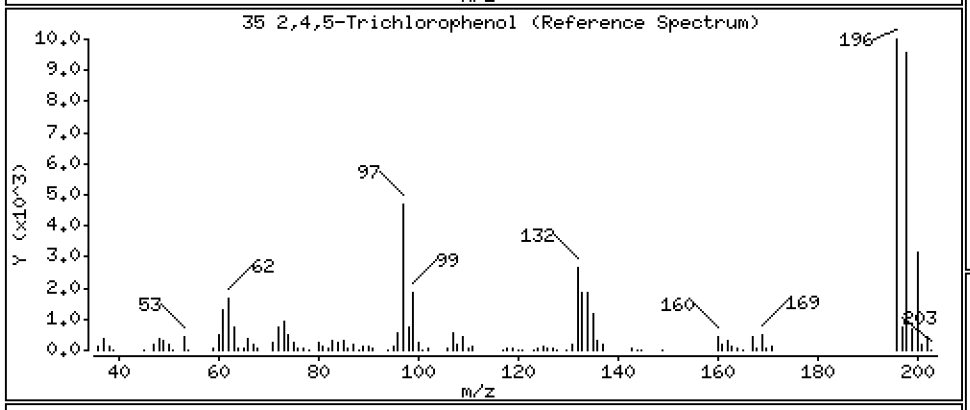
Column diameter: 0.25

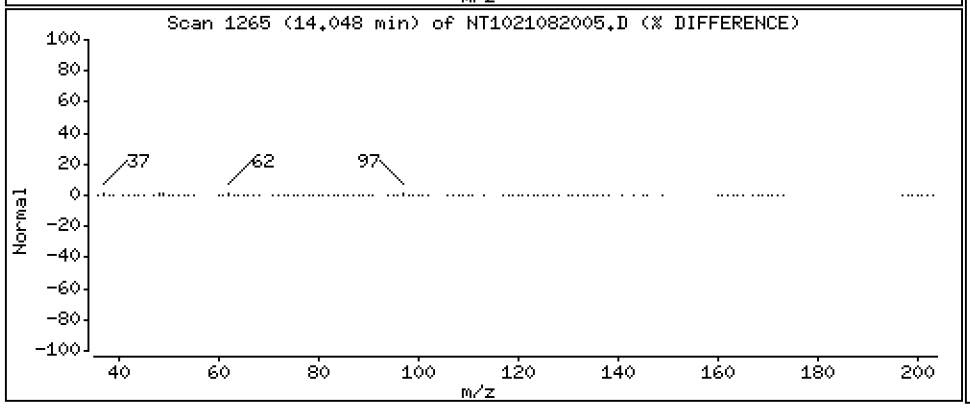
35 2,4,5-Trichlorophenol

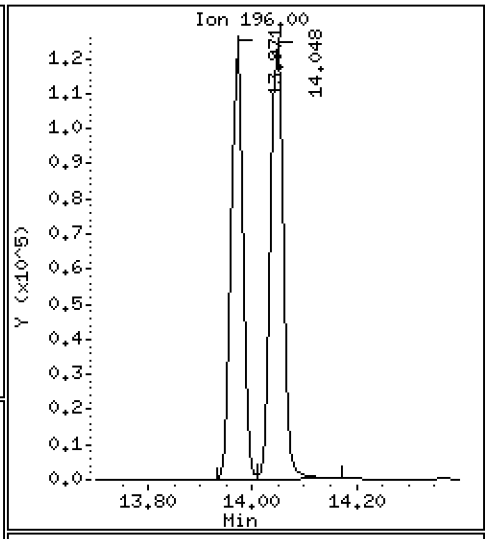
Concentration: 11.96 ug/mL

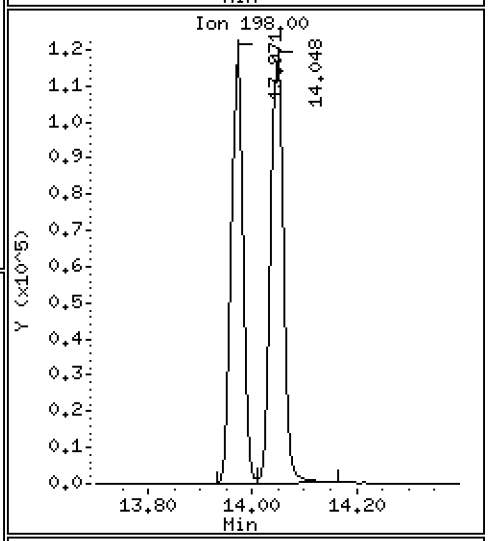


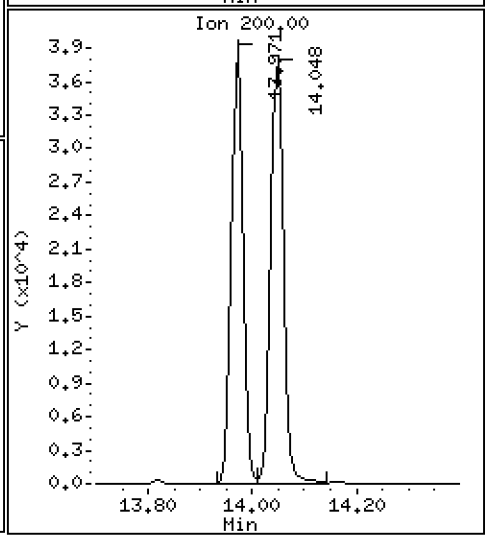












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

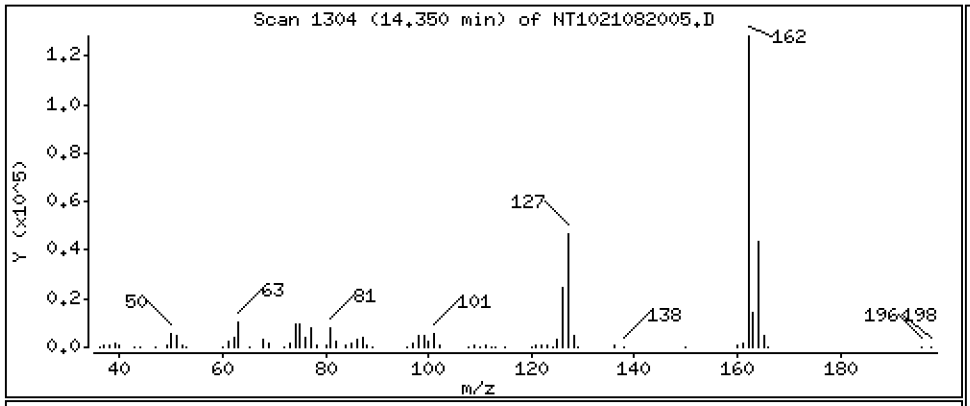
Operator: VTS

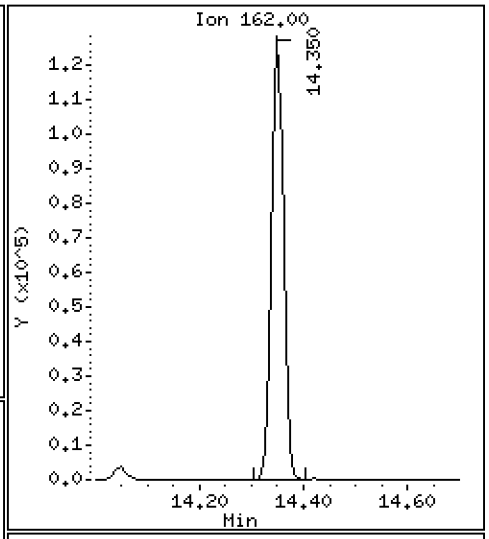
Column phase: ZB-5msi

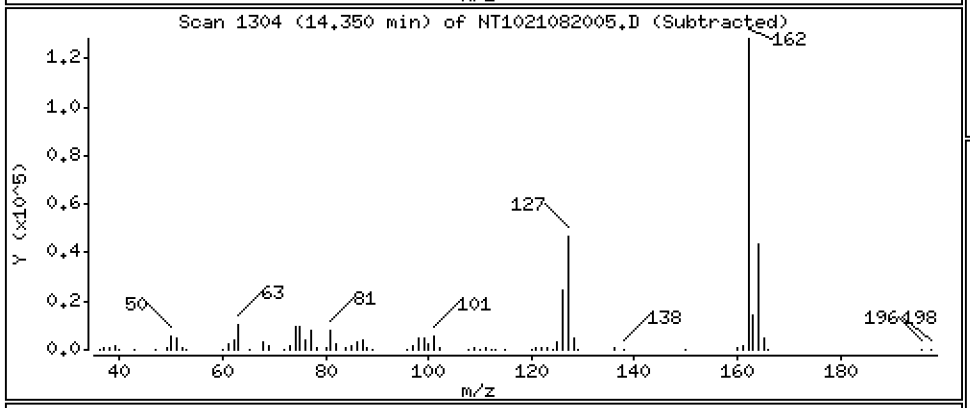
Column diameter: 0.25

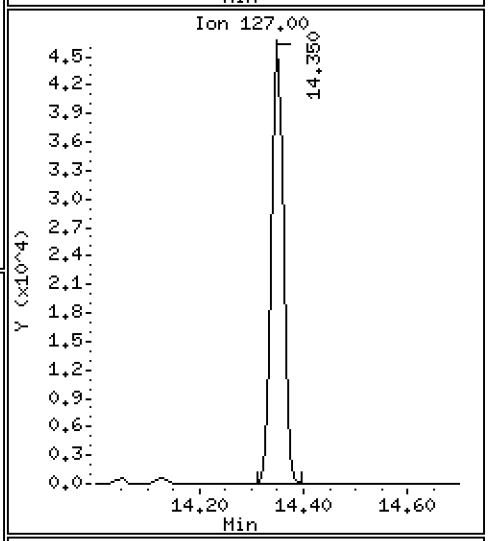
37 2-Chloronaphthalene

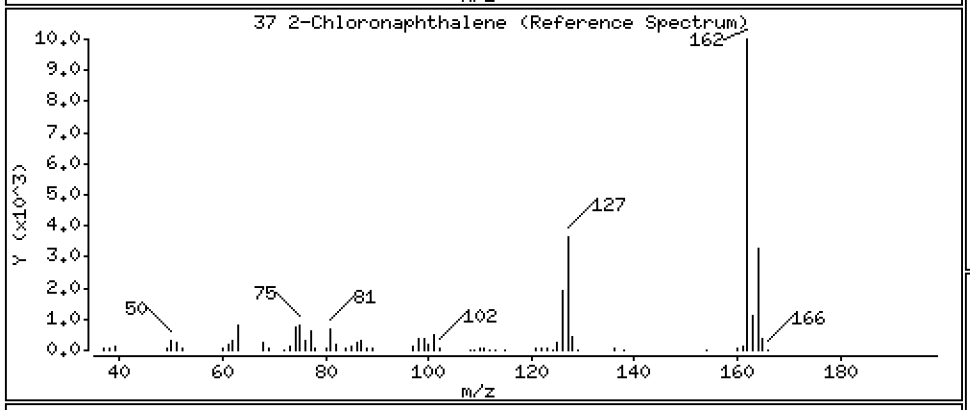
Concentration: 3.817 ug/mL

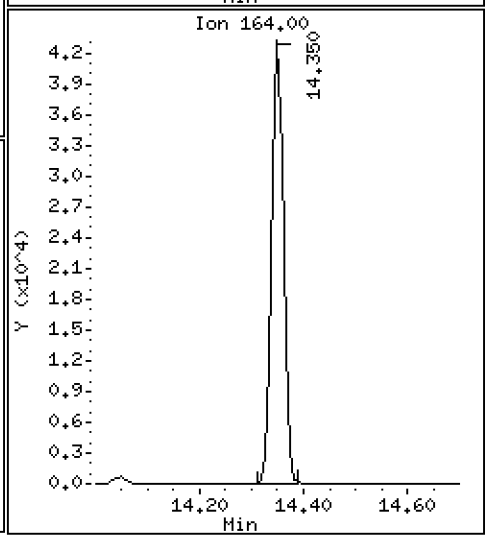


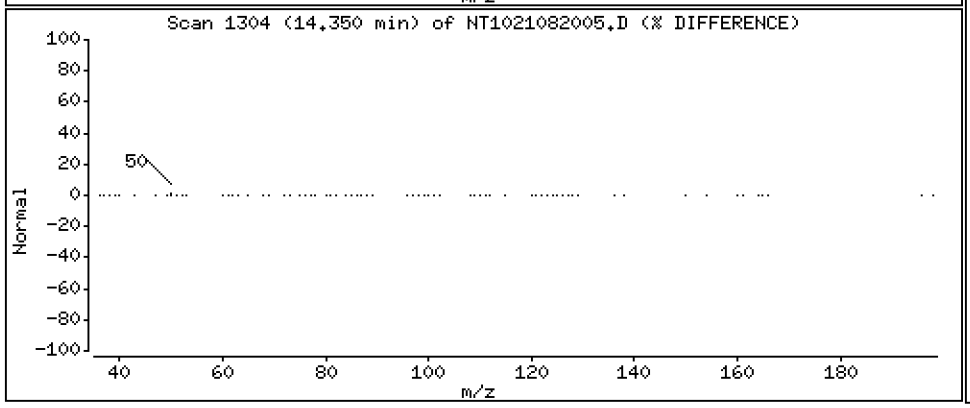












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

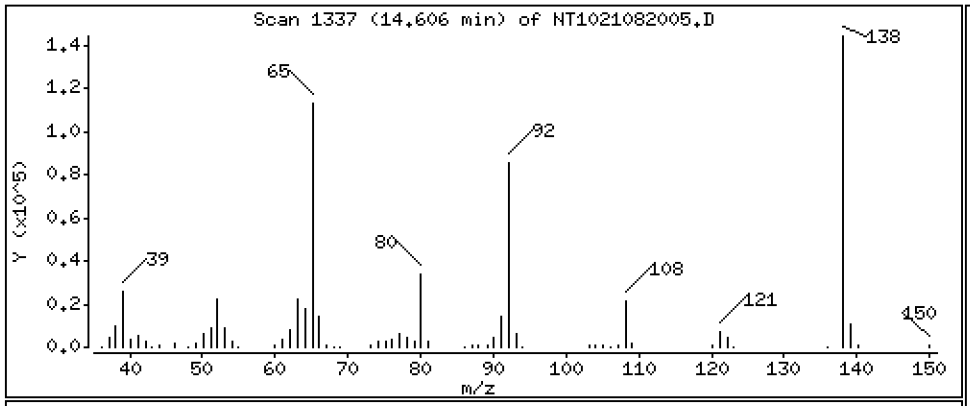
Operator: VTS

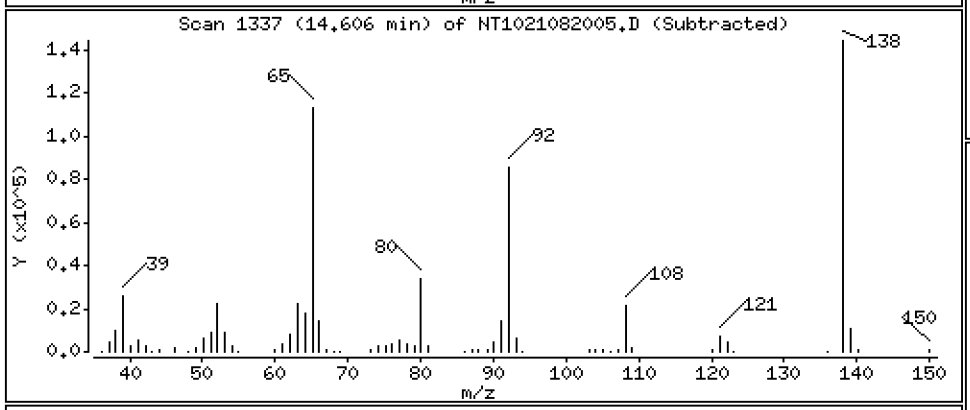
Column phase: ZB-5msi

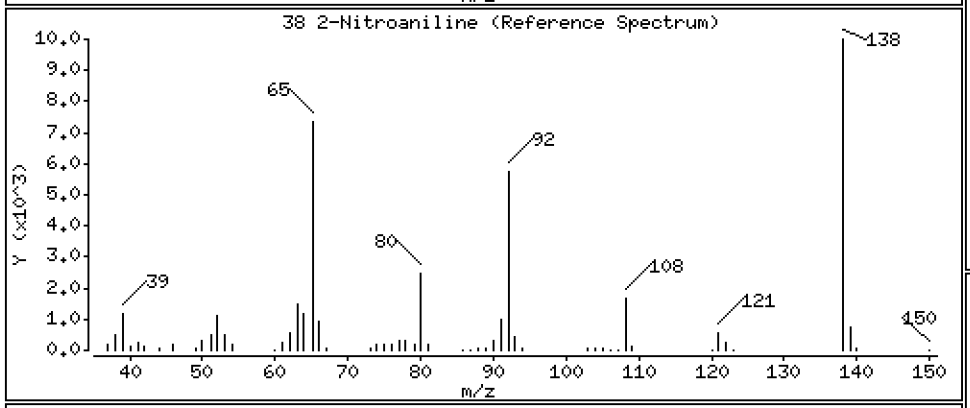
Column diameter: 0.25

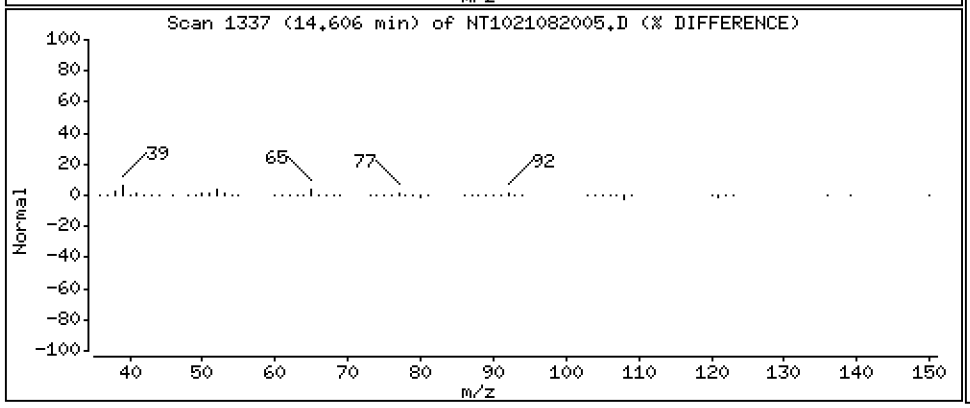
38 2-Nitroaniline

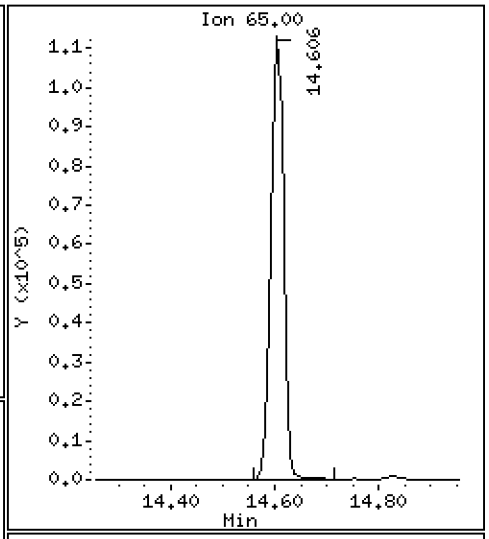
Concentration: 12.09 ug/mL

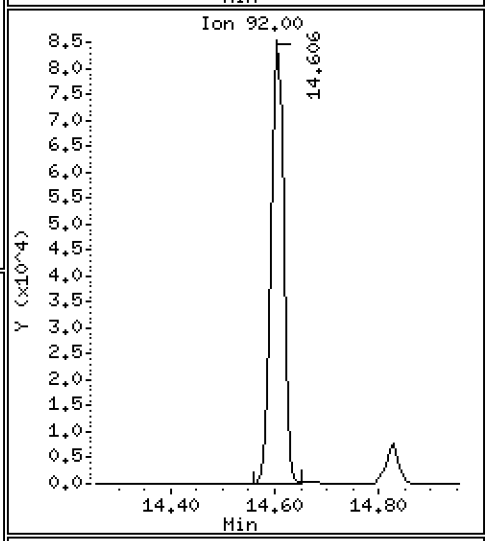


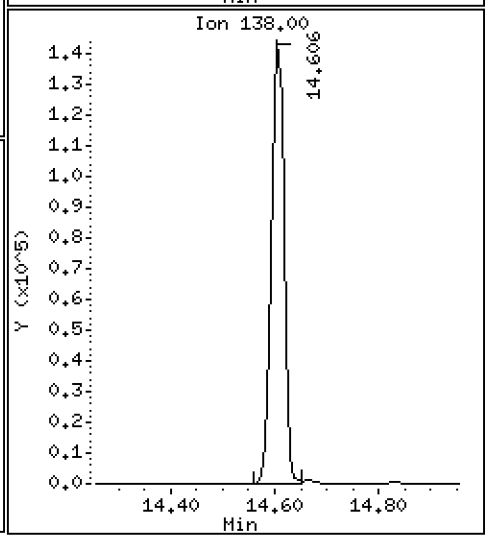












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

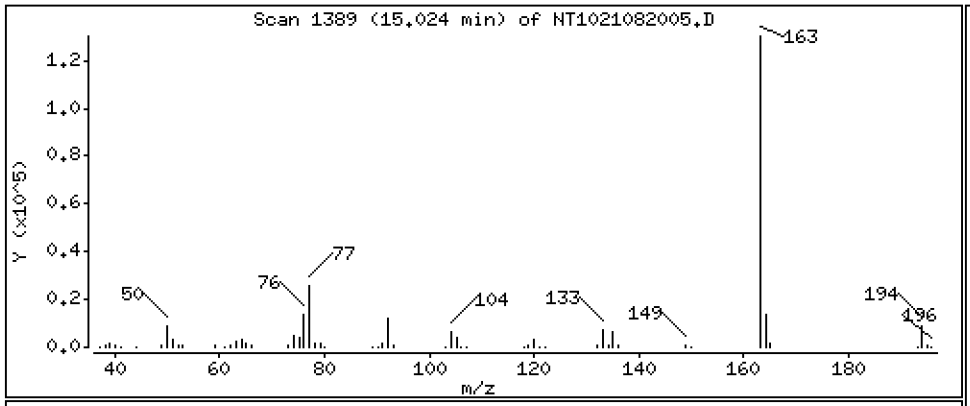
Operator: VTS

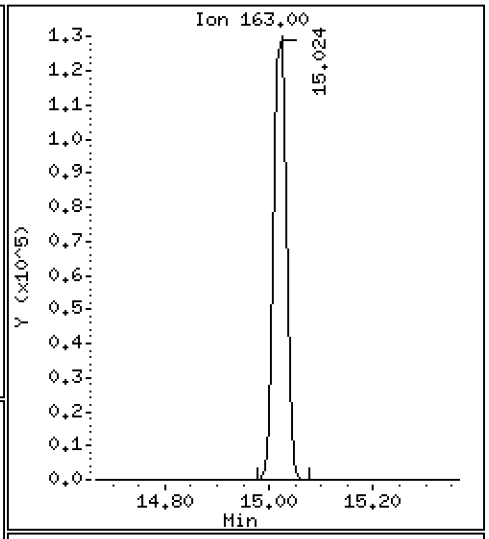
Column phase: ZB-5msi

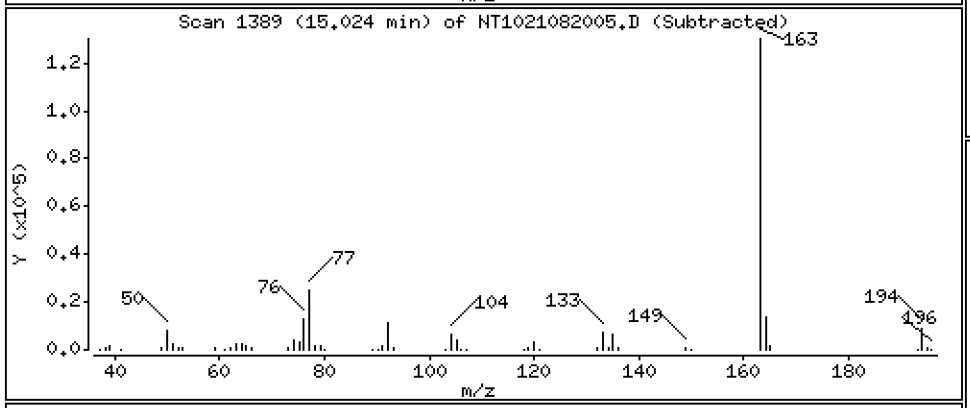
Column diameter: 0.25

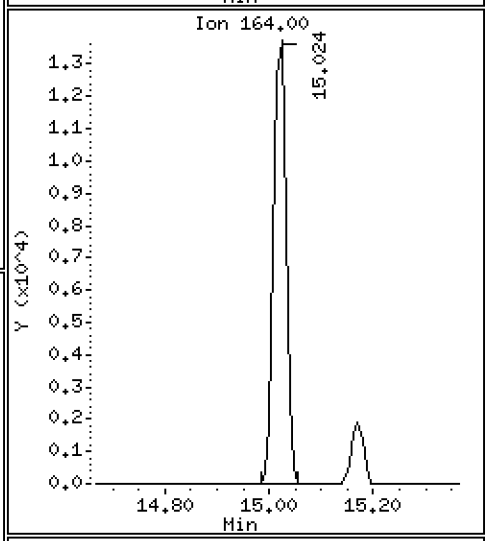
39 Dimethylphthalate

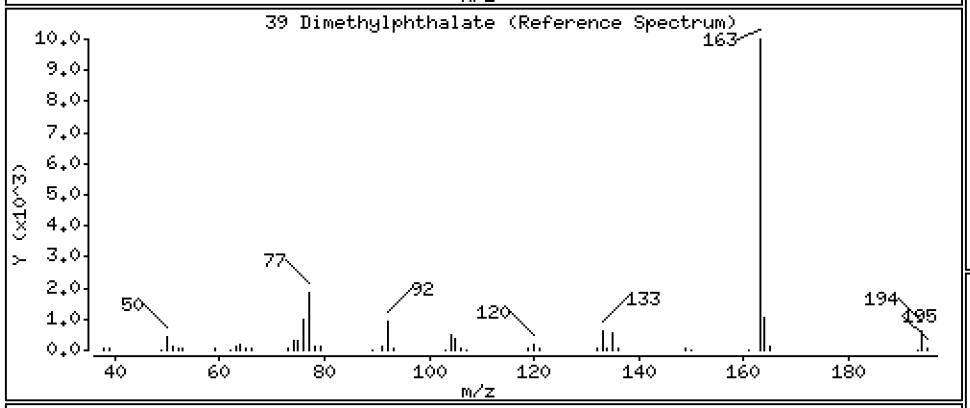
Concentration: 4.031 ug/mL

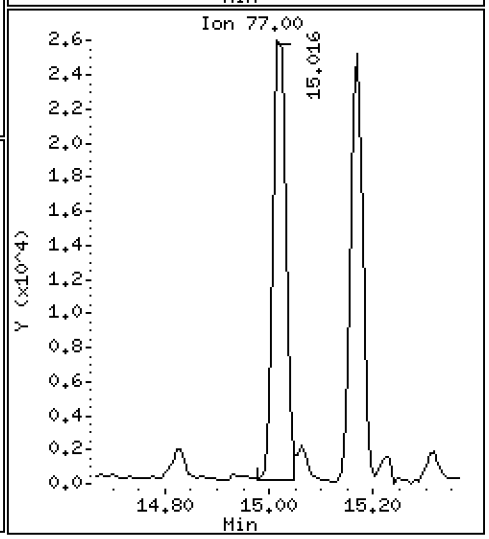


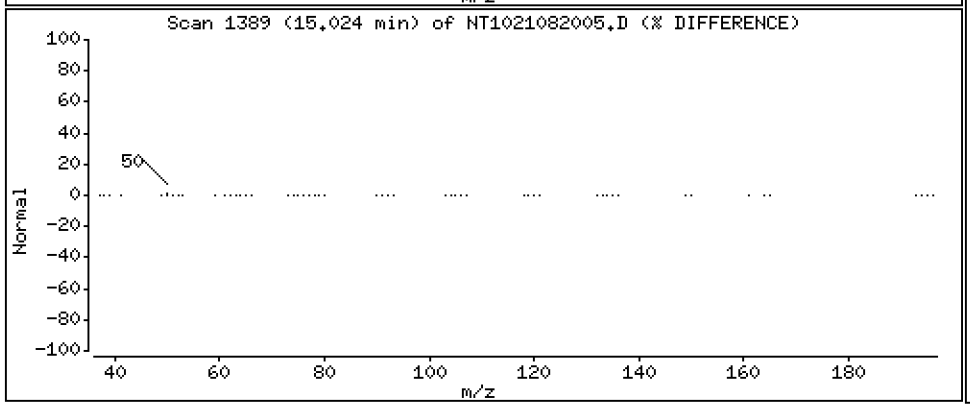












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

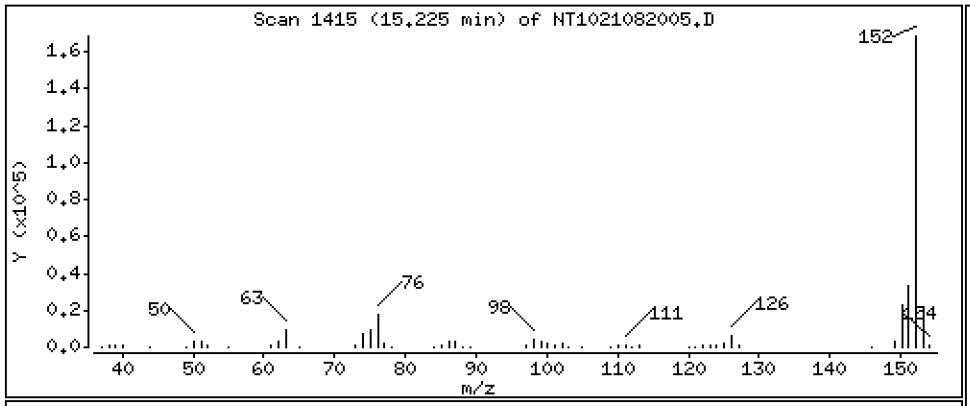
Operator: VTS

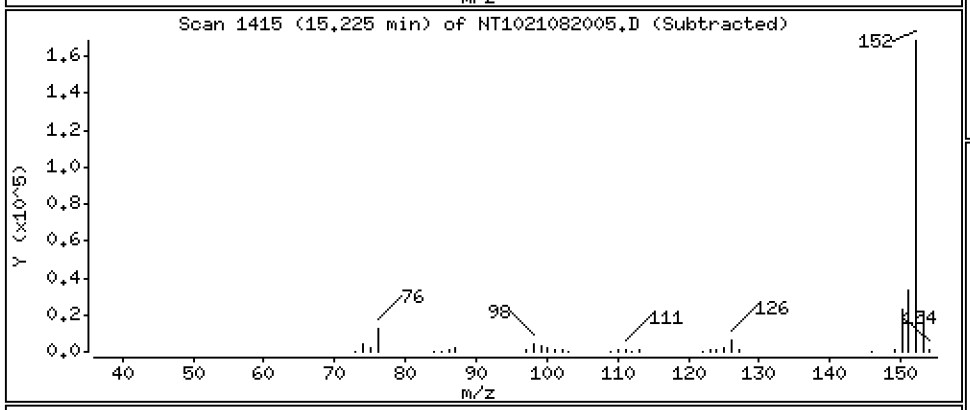
Column phase: ZB-5msi

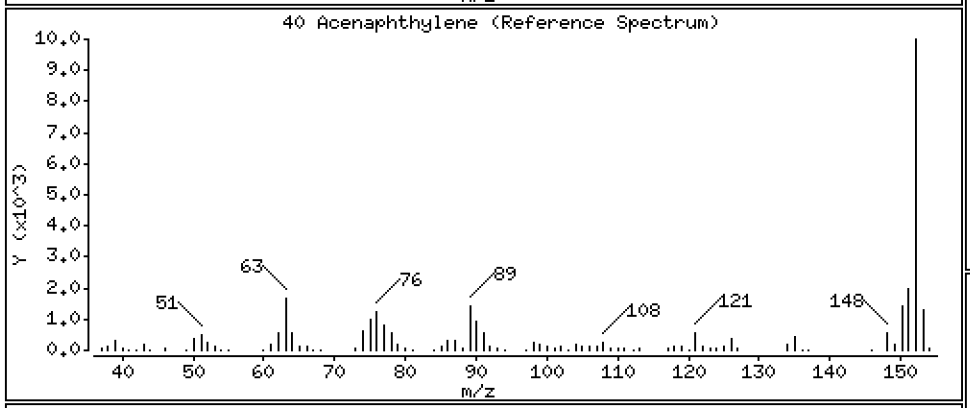
Column diameter: 0.25

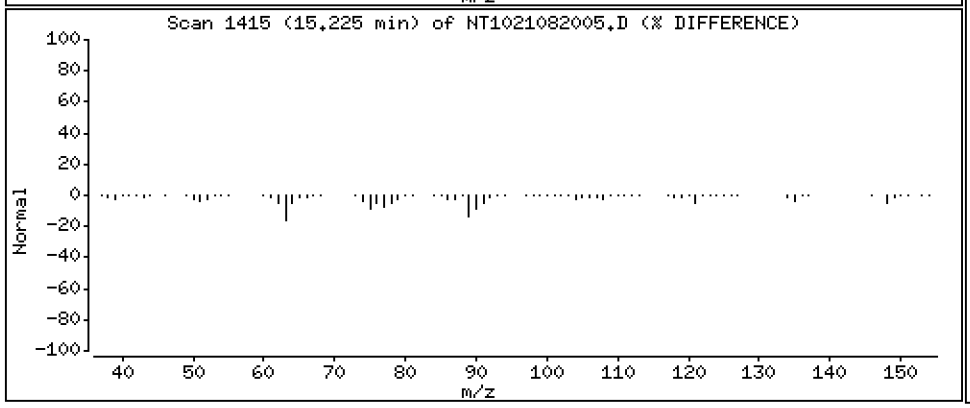
40 Acenaphthylene

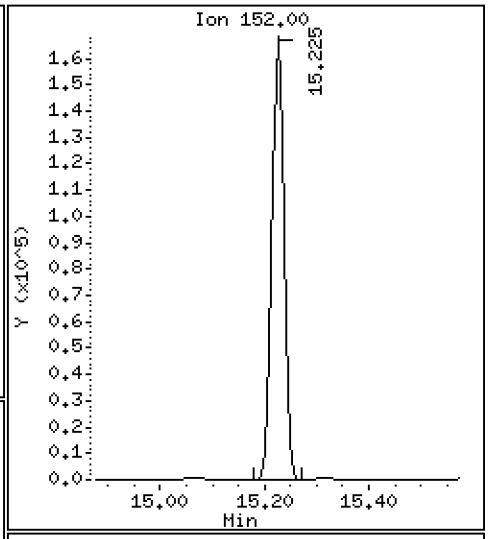
Concentration: 3.270 ug/mL

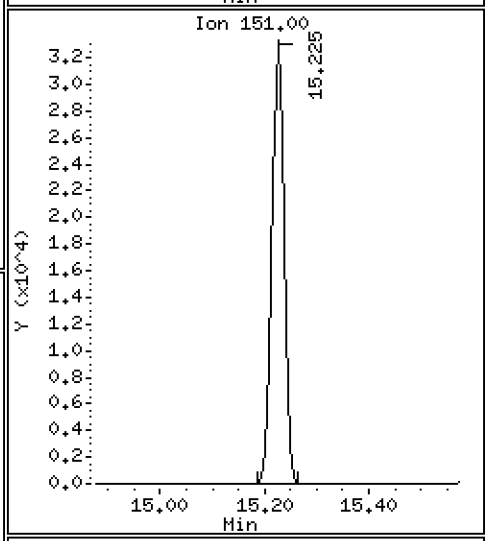


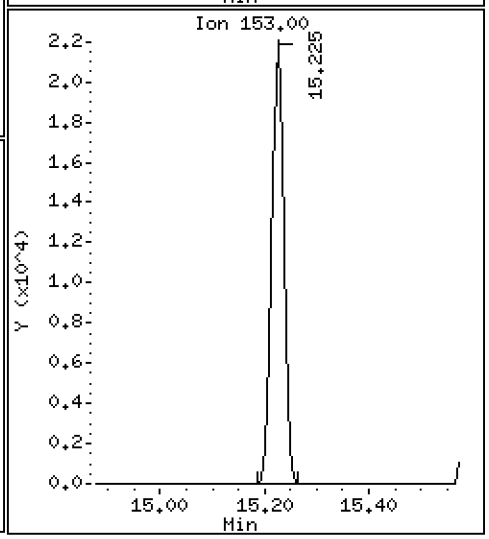












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

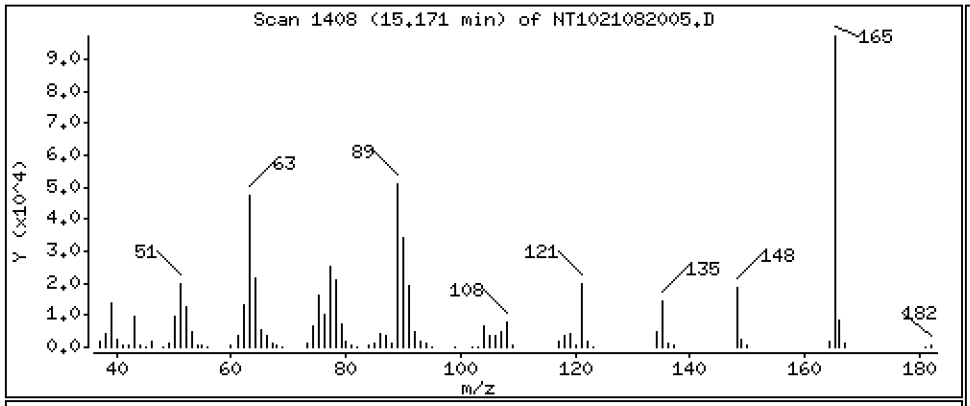
Operator: VTS

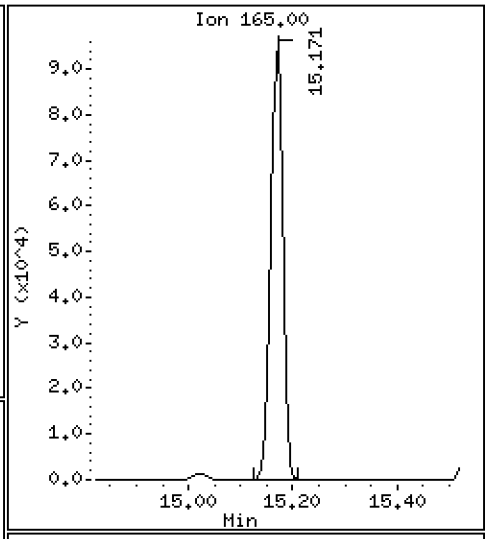
Column phase: ZB-5msi

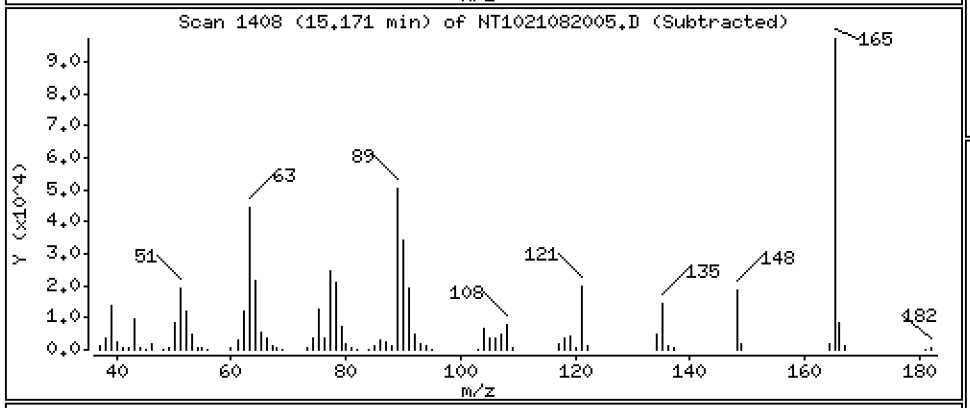
Column diameter: 0.25

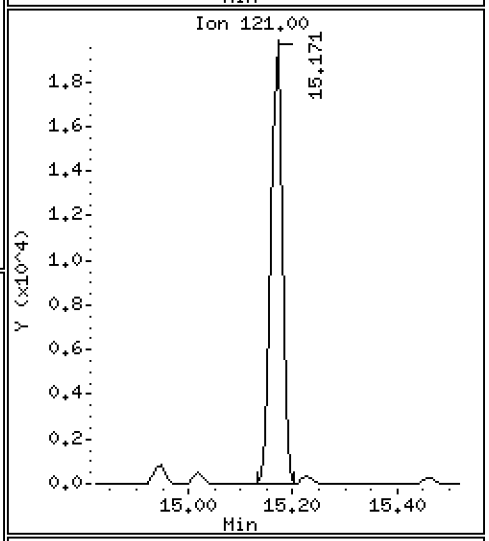
41 2,6-Dinitrotoluene

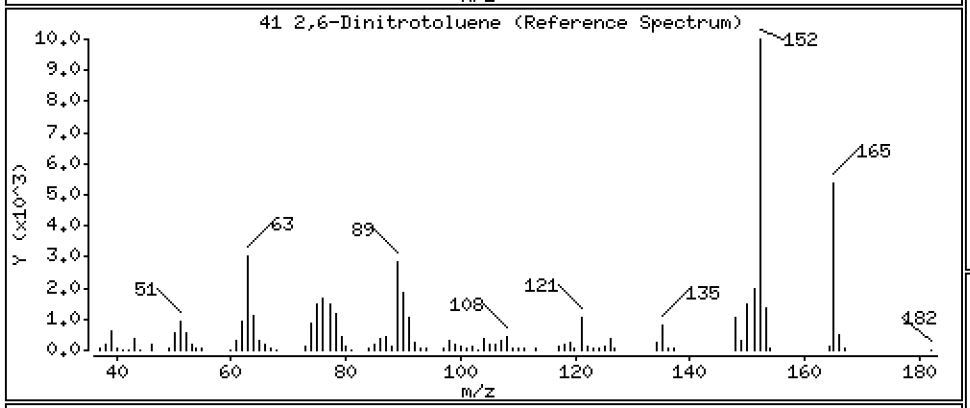
Concentration: 12.65 ug/mL

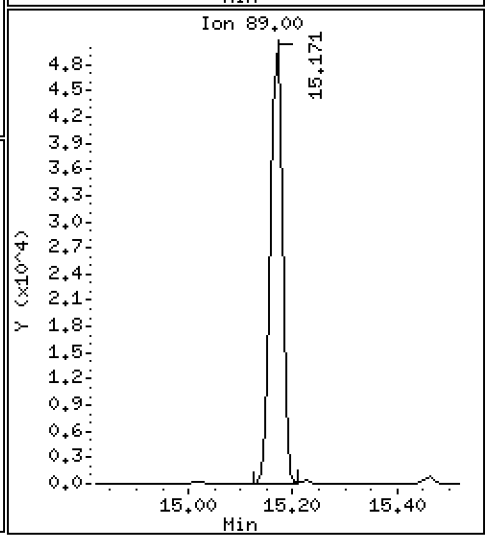


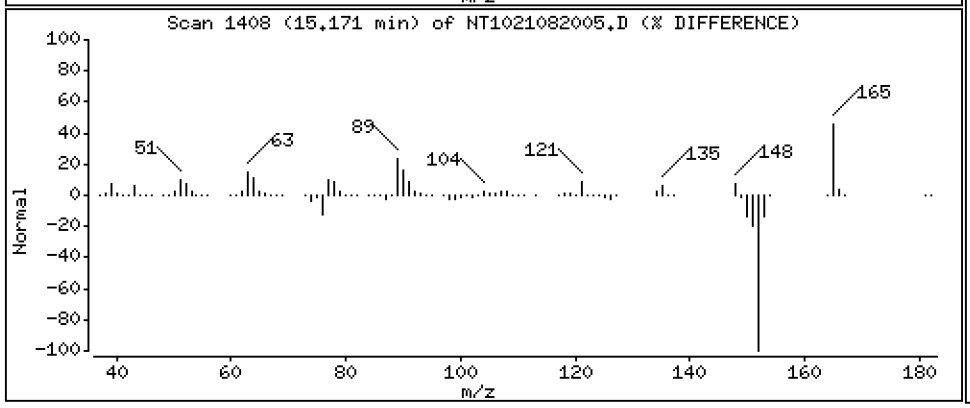












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

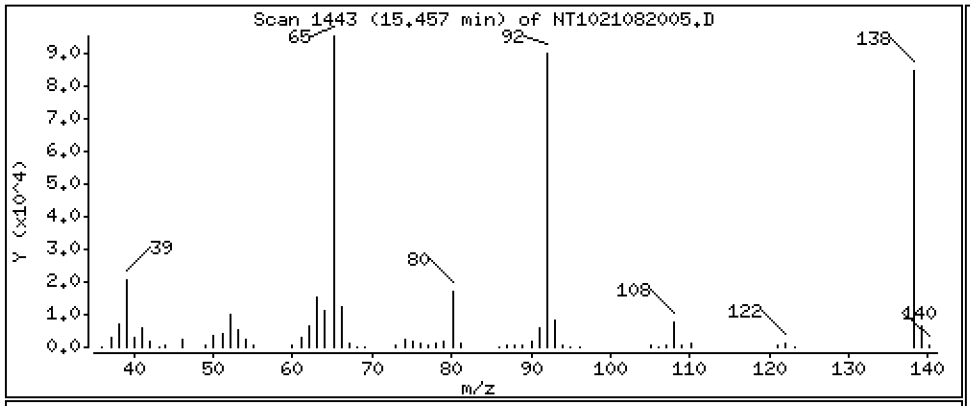
Operator: VTS

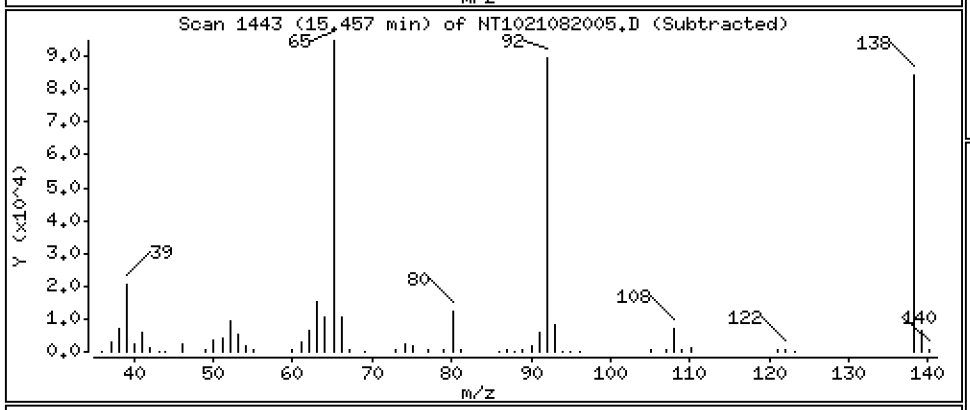
Column phase: ZB-5msi

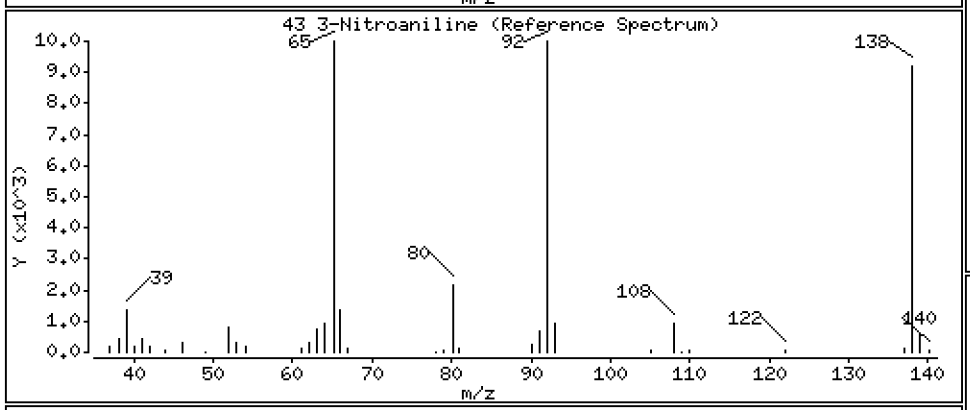
Column diameter: 0.25

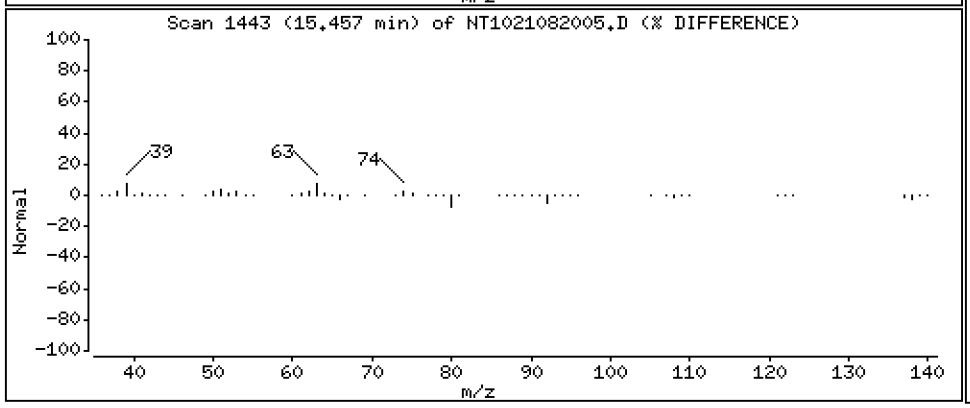
43 3-Nitroaniline

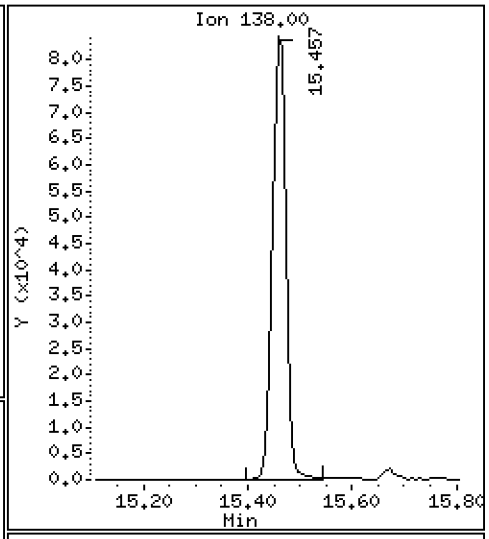
Concentration: 10.56 ug/mL

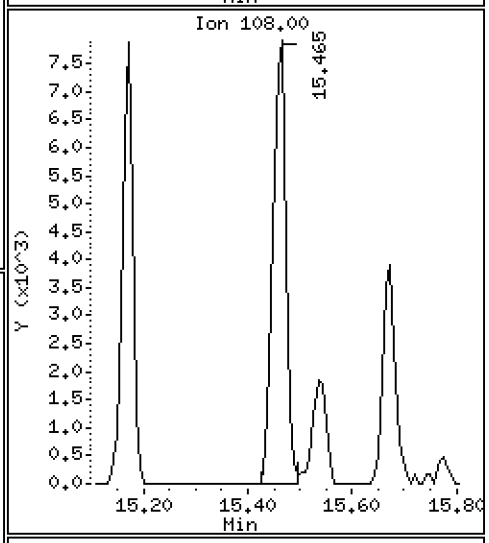


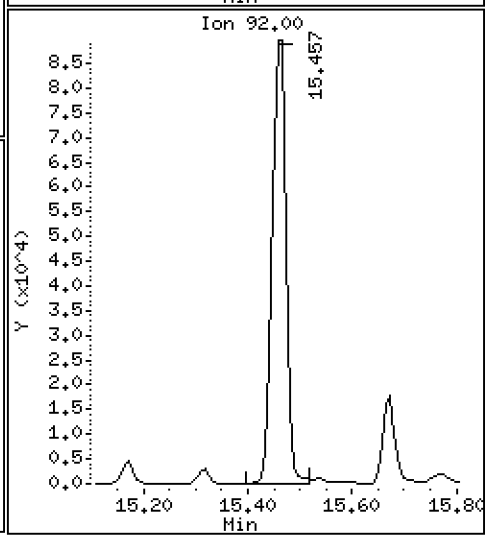












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

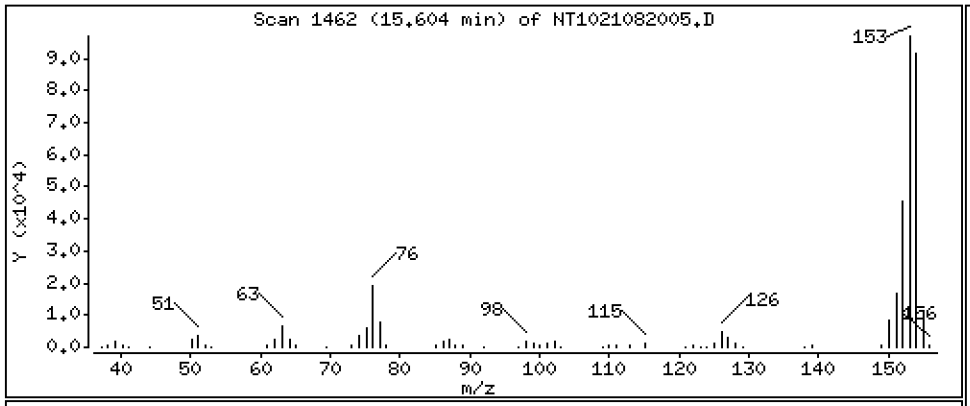
Operator: VTS

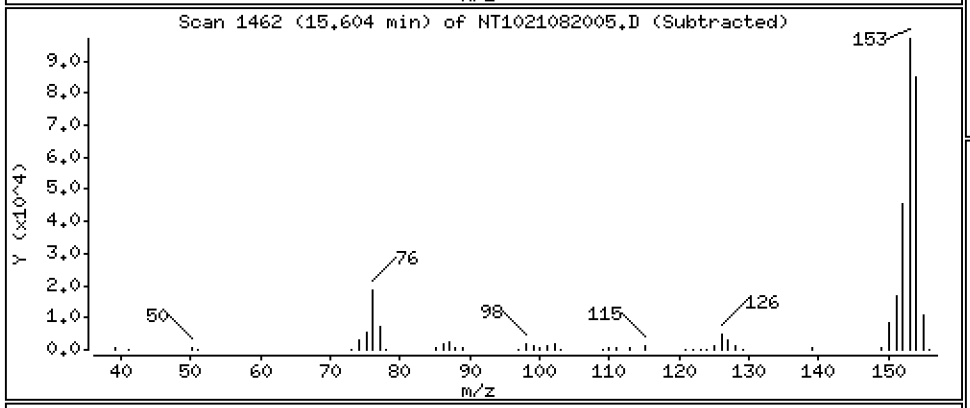
Column phase: ZB-5msi

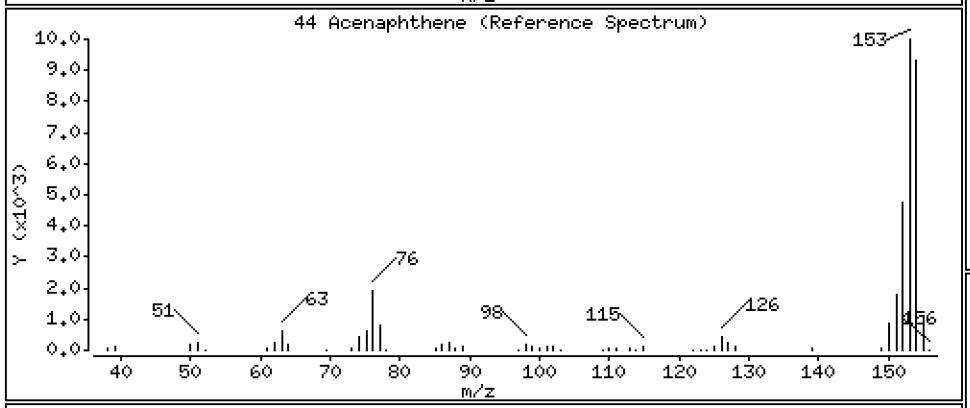
Column diameter: 0.25

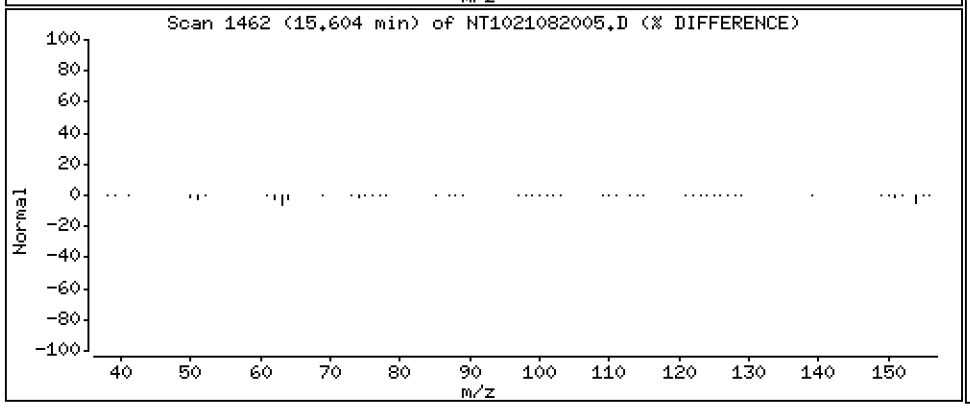
44 Acenaphthene

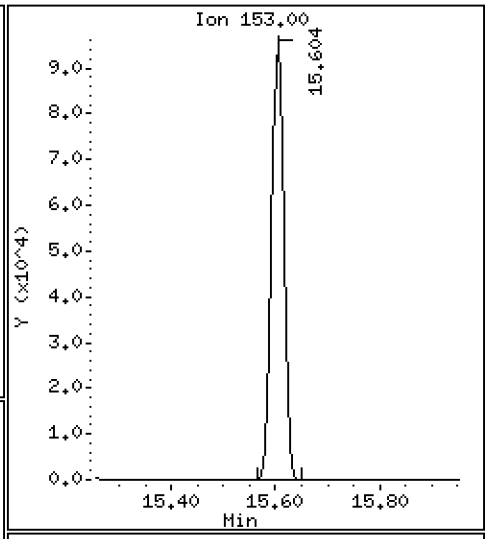
Concentration: 3.587 ug/mL

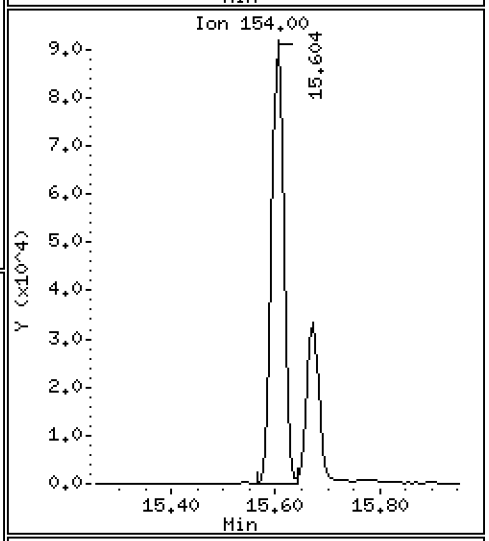


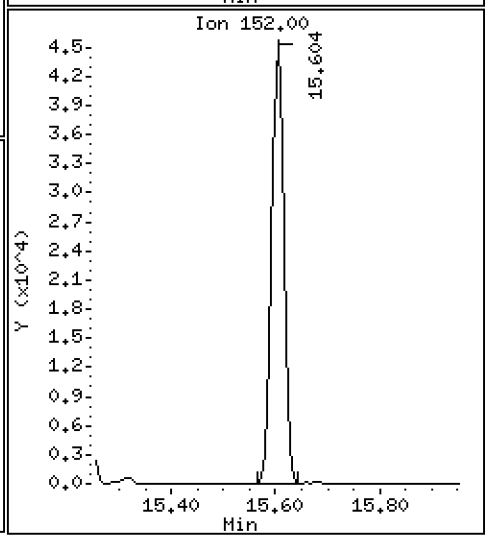












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

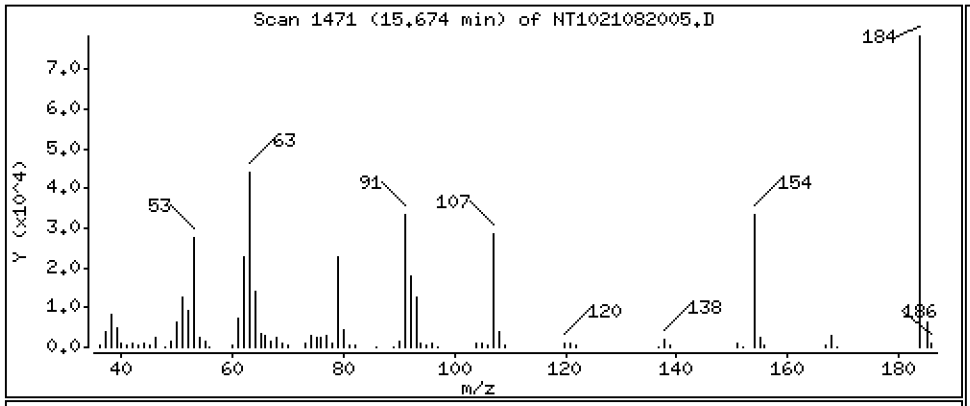
Operator: VTS

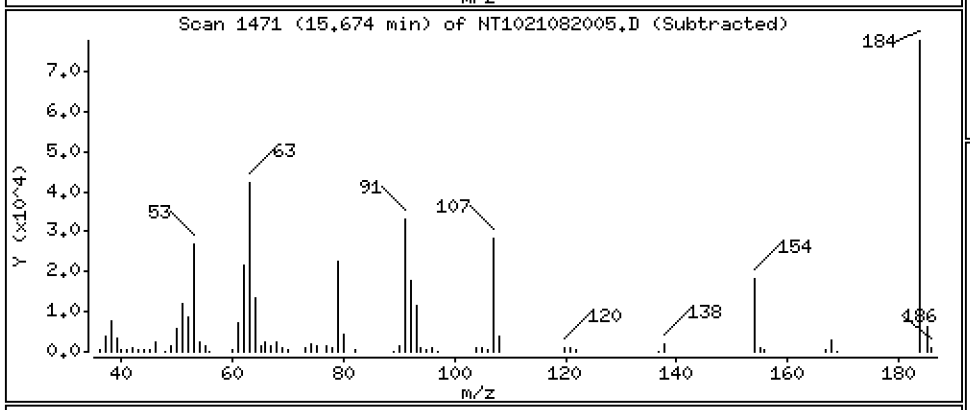
Column phase: ZB-5msi

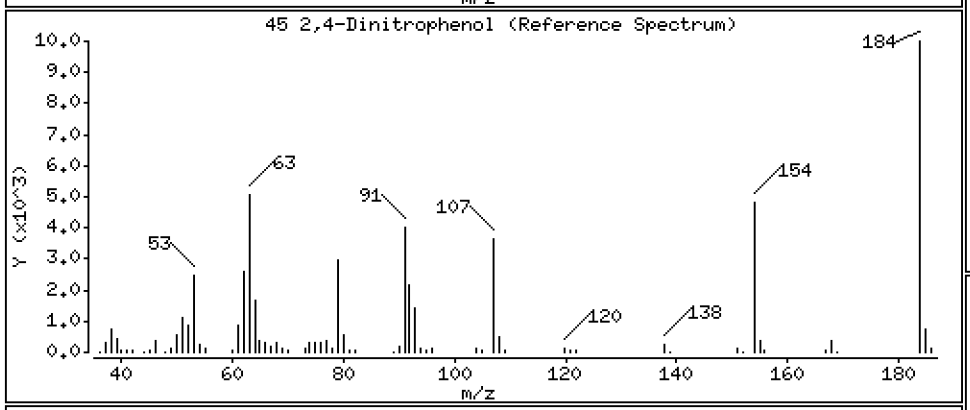
Column diameter: 0.25

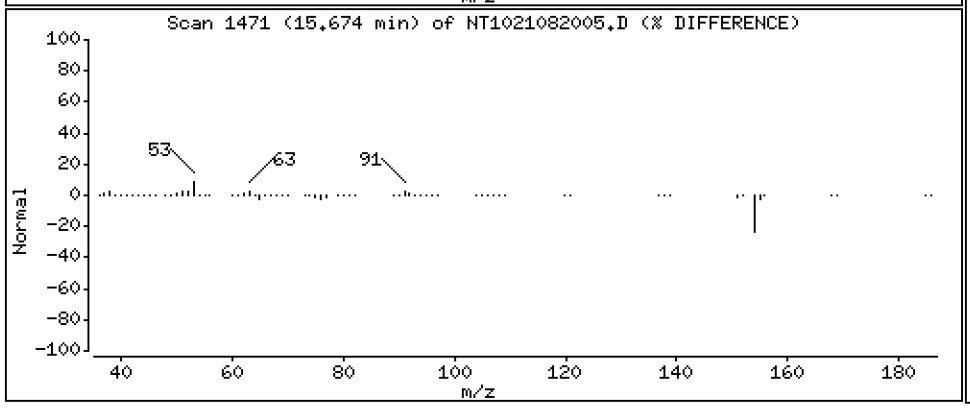
45 2,4-Dinitrophenol

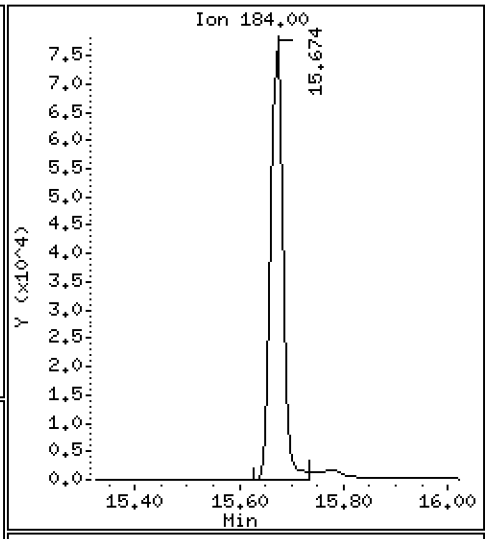
Concentration: 19.35 ug/mL

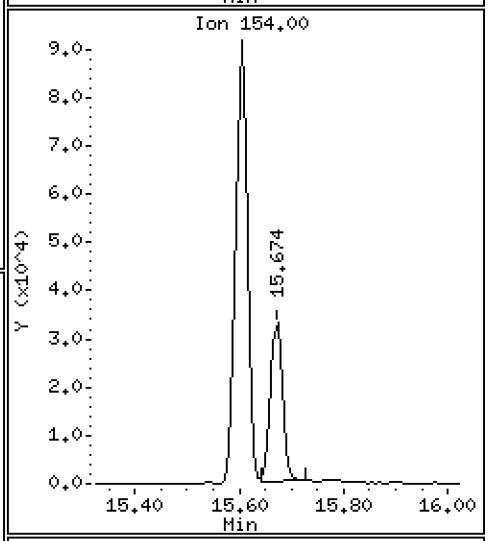


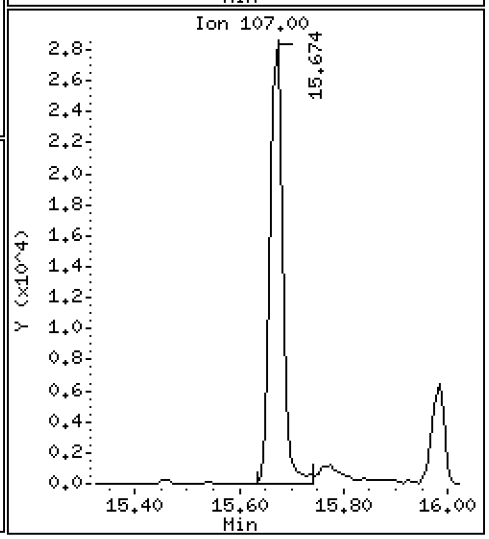












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

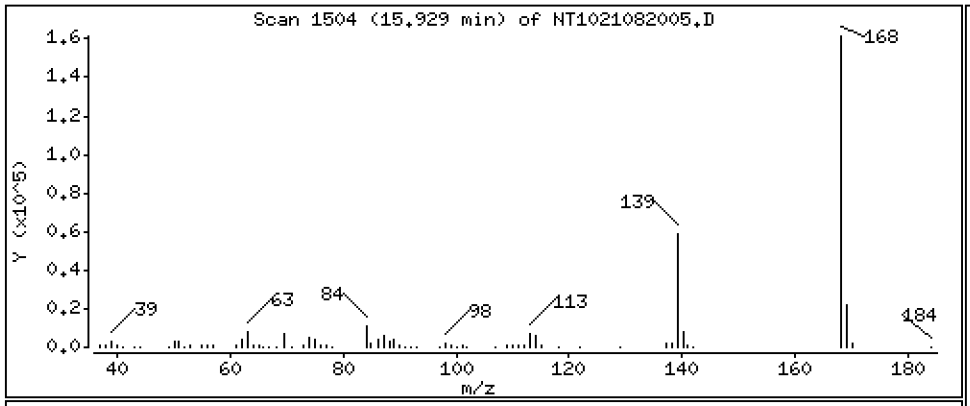
Operator: VTS

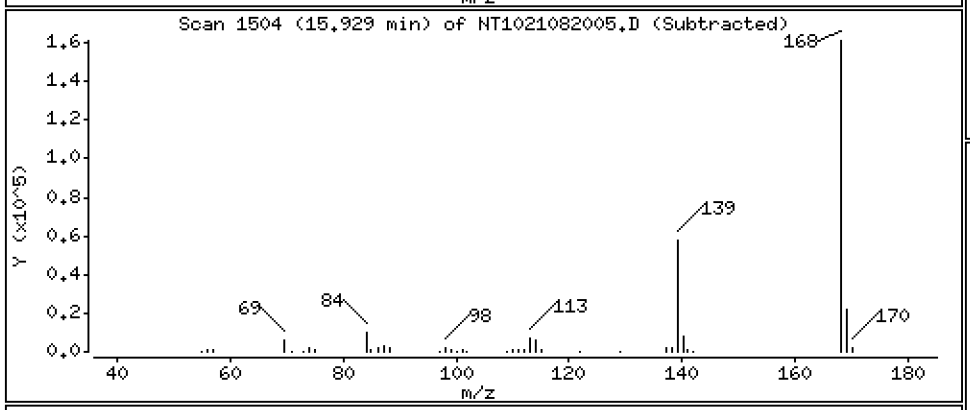
Column phase: ZB-5msi

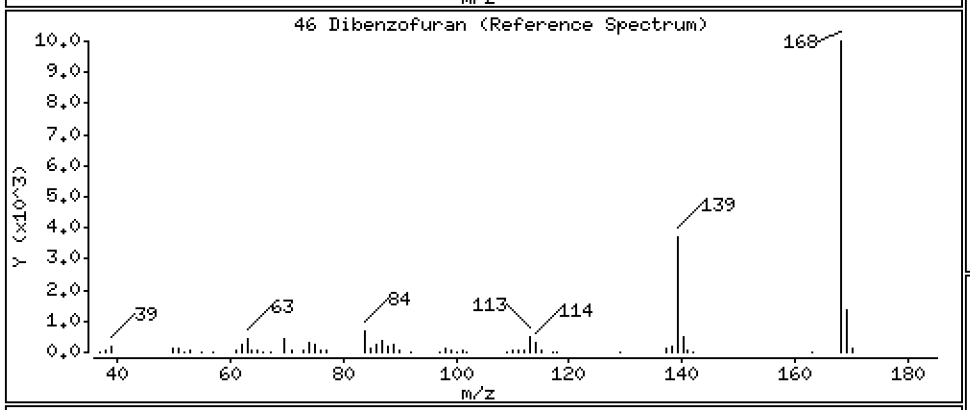
Column diameter: 0.25

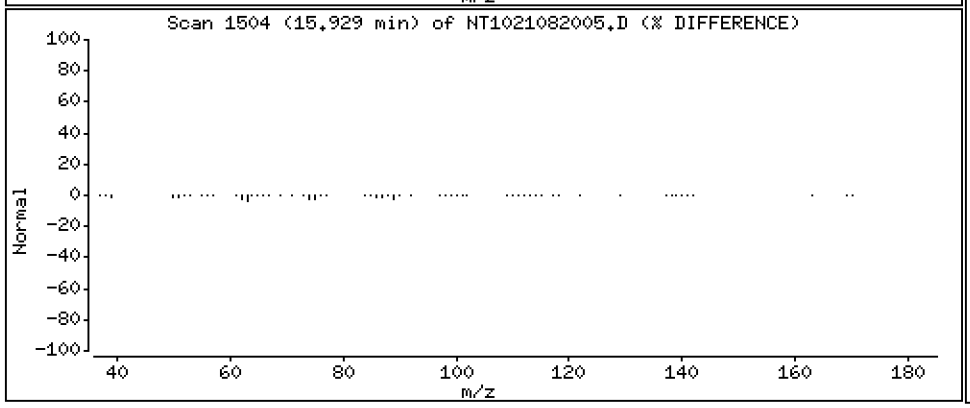
46 Dibenzofuran

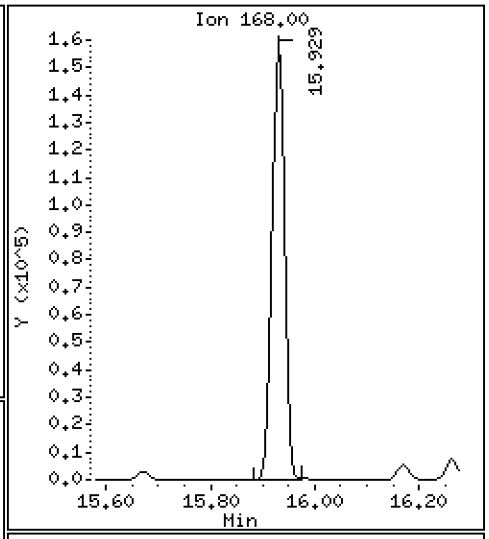
Concentration: 3.397 ug/mL

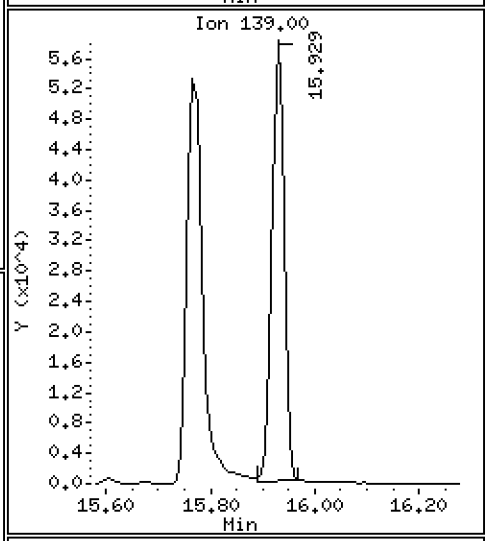


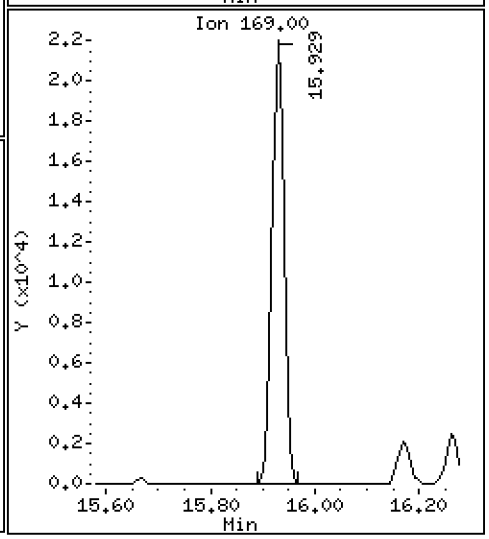












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

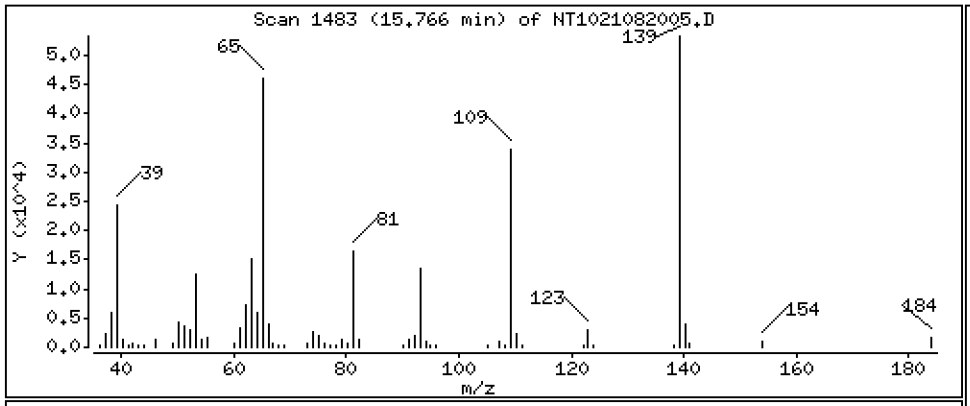
Operator: VTS

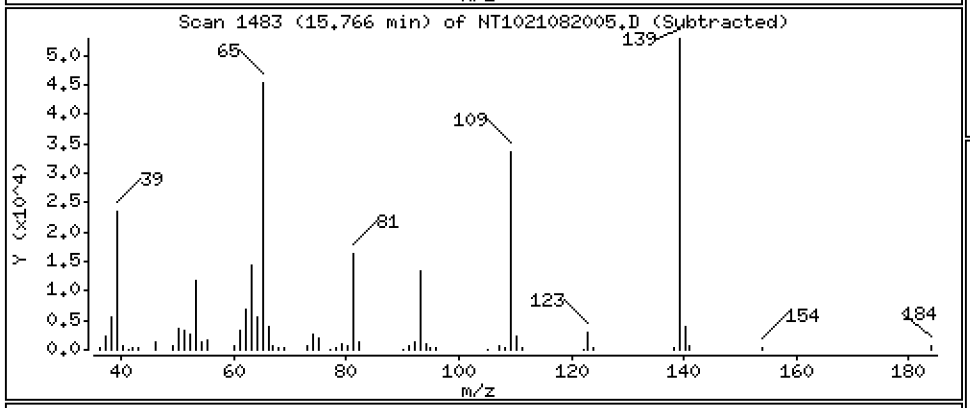
Column phase: ZB-5msi

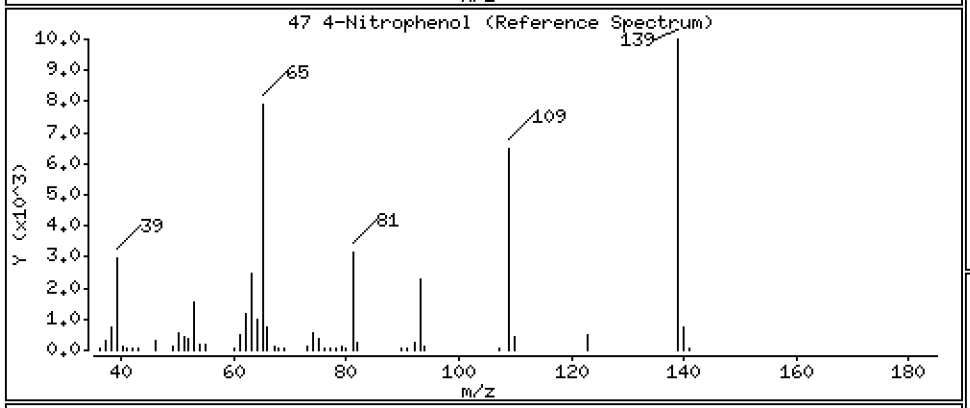
Column diameter: 0.25

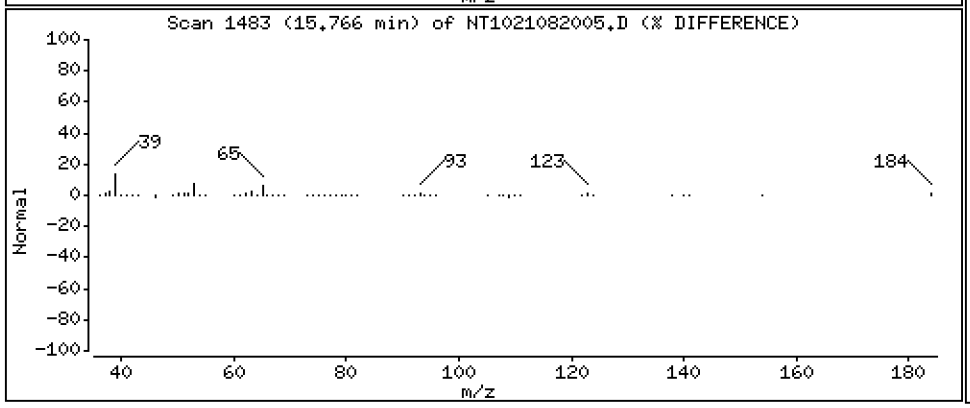
47 4-Nitrophenol

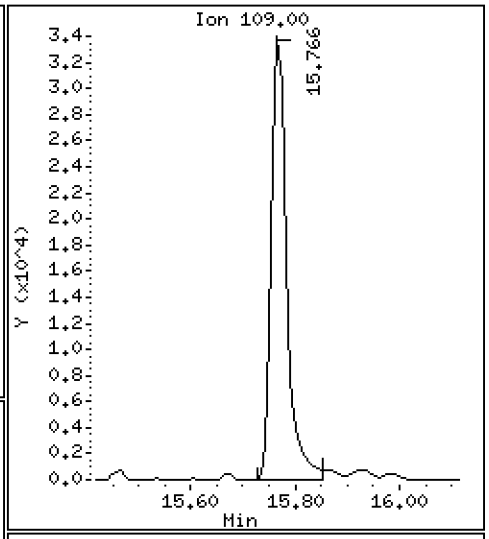
Concentration: 11.90 ug/mL

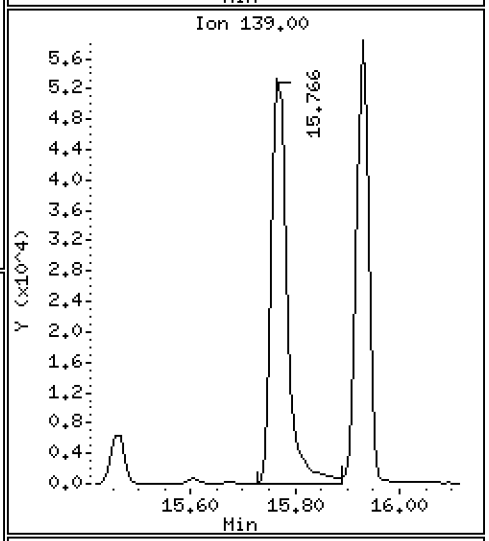


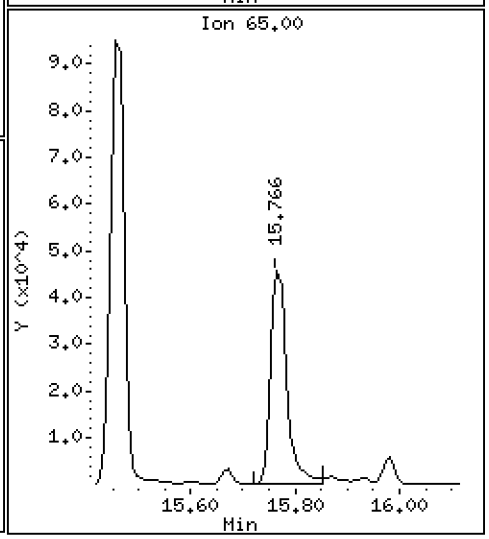












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

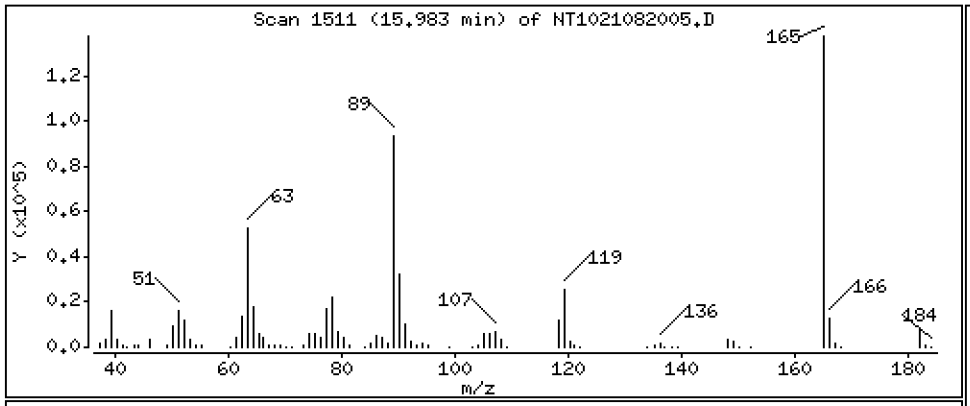
Operator: VTS

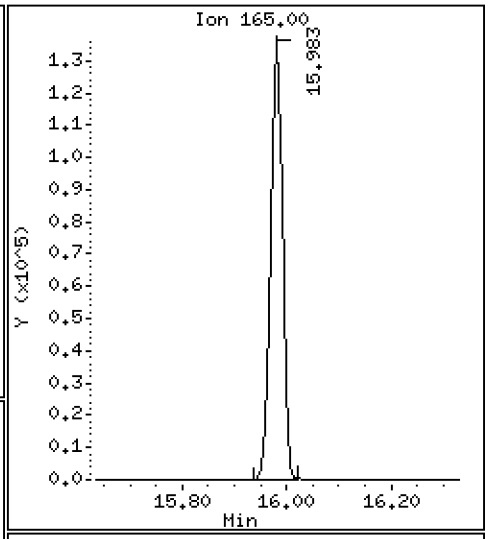
Column phase: ZB-5msi

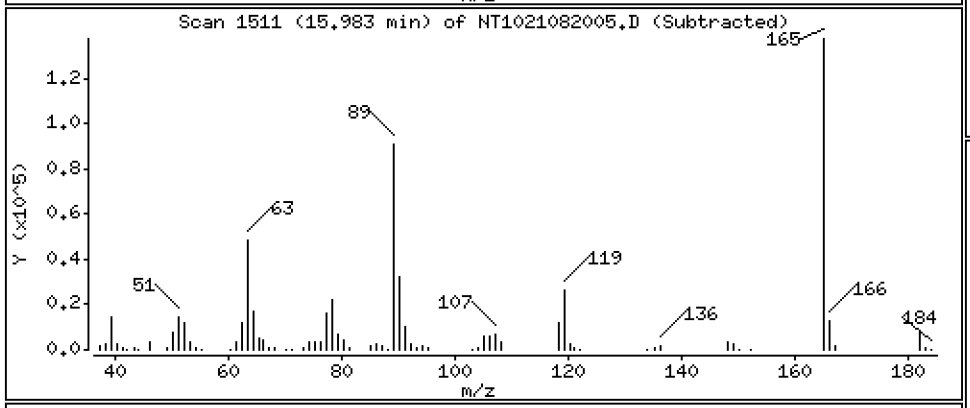
Column diameter: 0.25

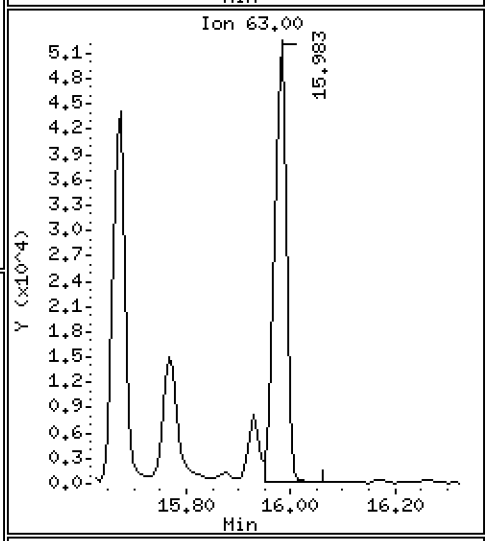
48 2,4-Dinitrotoluene

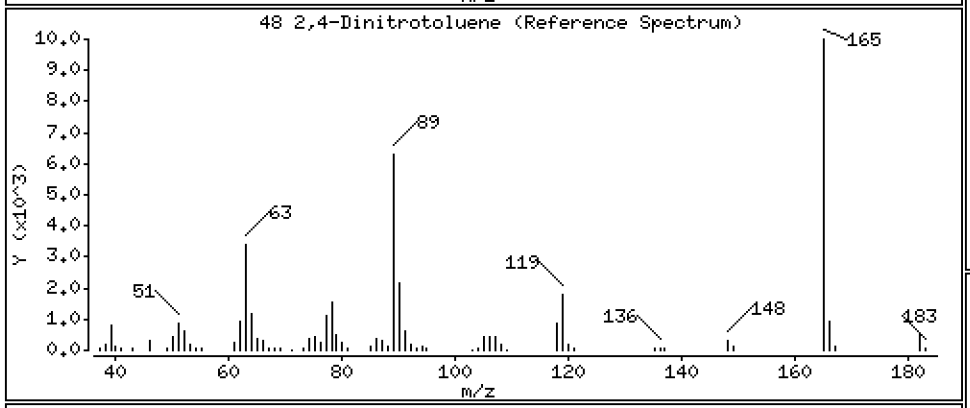
Concentration: 12.59 ug/mL

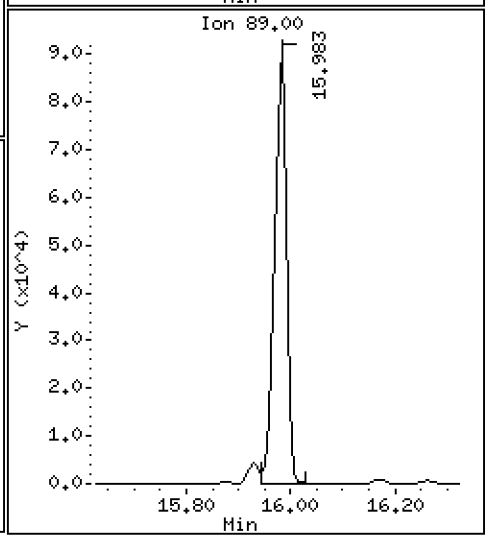


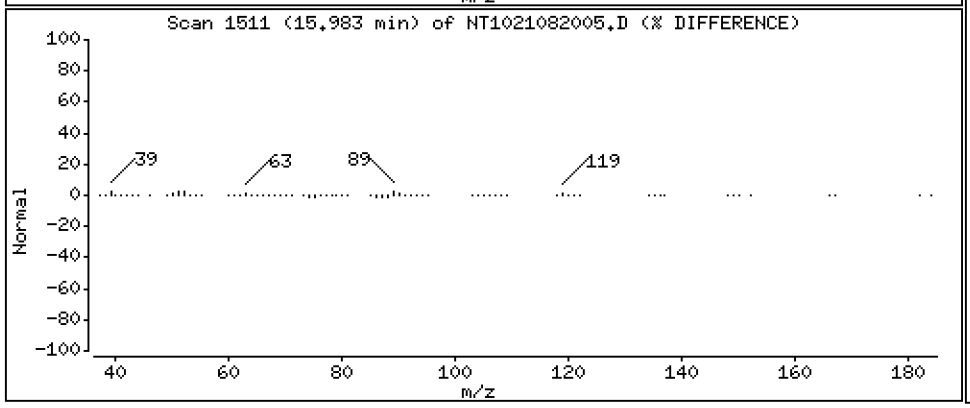












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

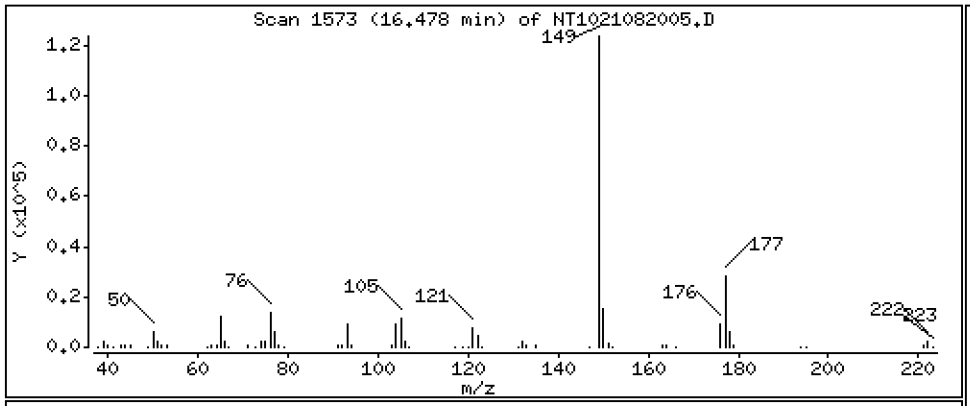
Operator: VTS

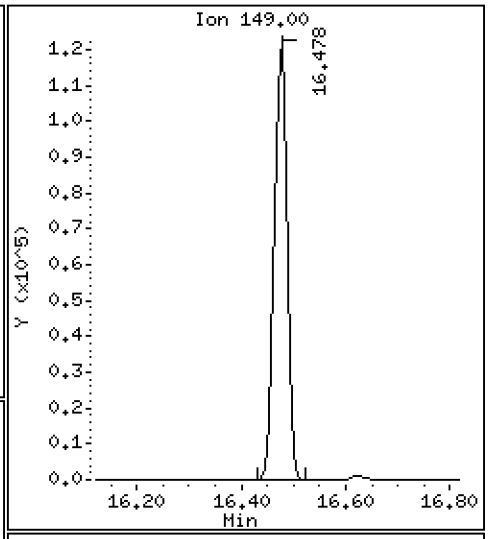
Column phase: ZB-5msi

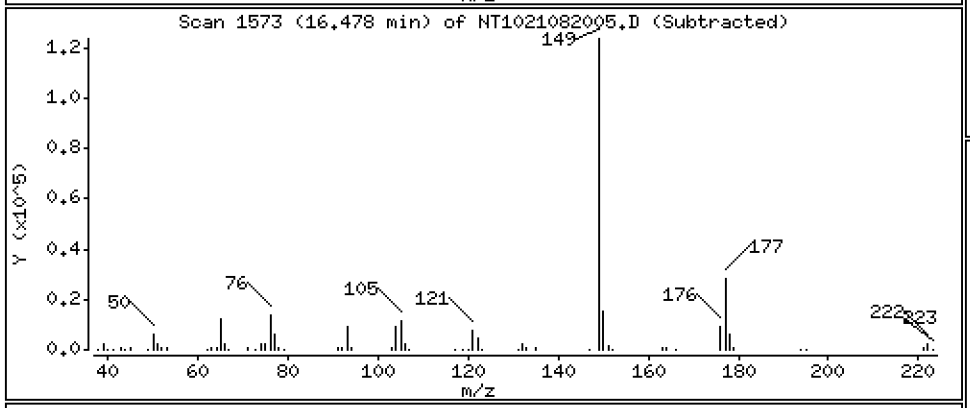
Column diameter: 0.25

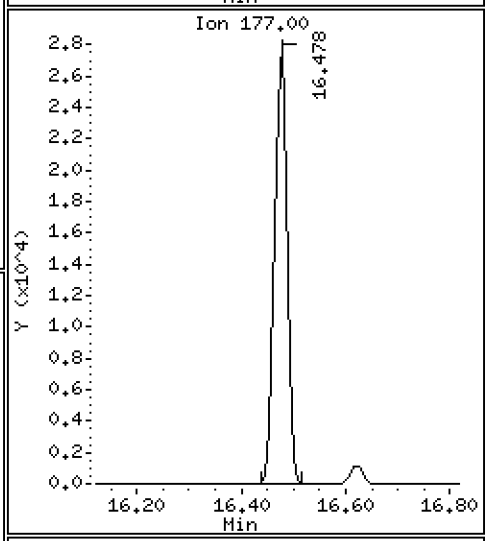
50 Diethylphthalate

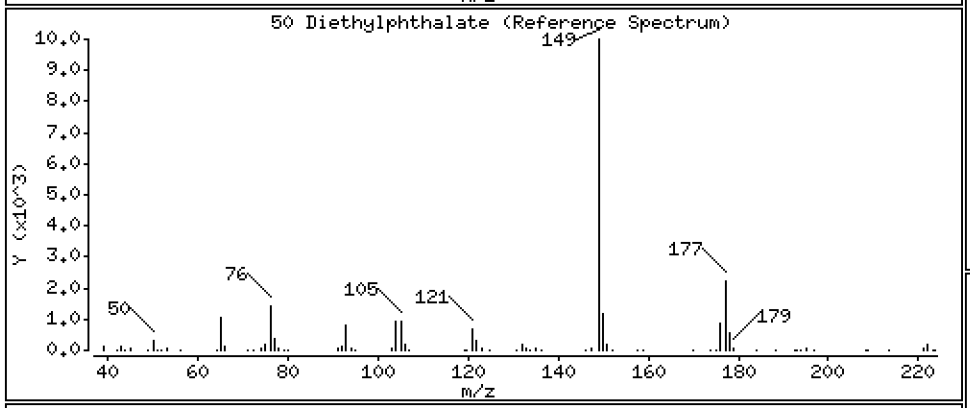
Concentration: 4.309 ug/mL

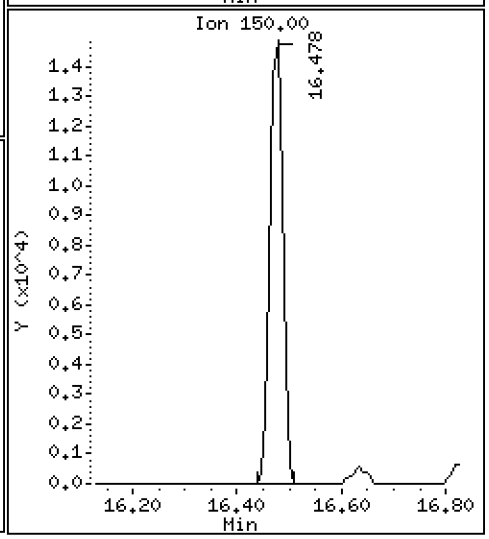


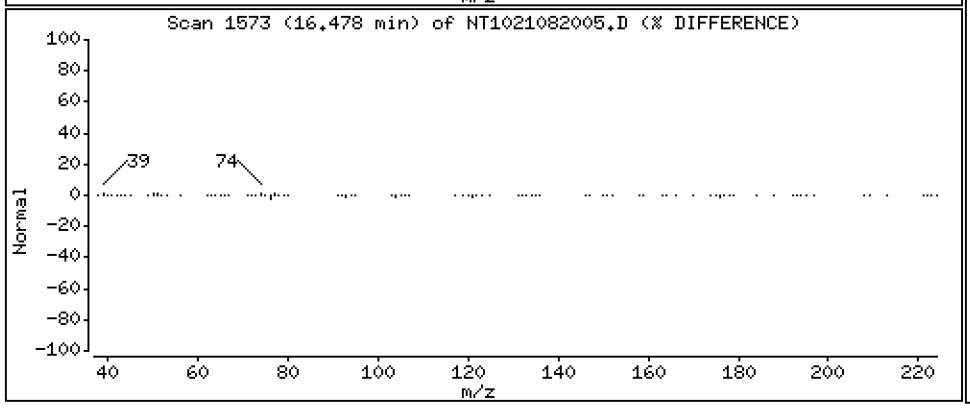












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

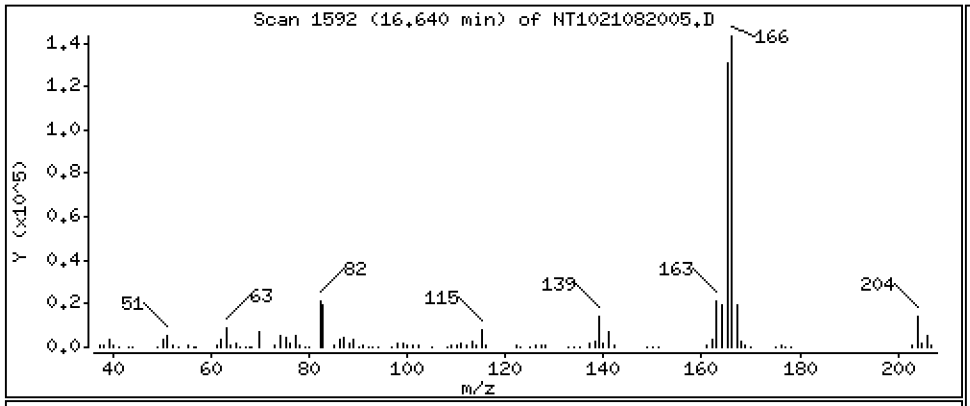
Operator: VTS

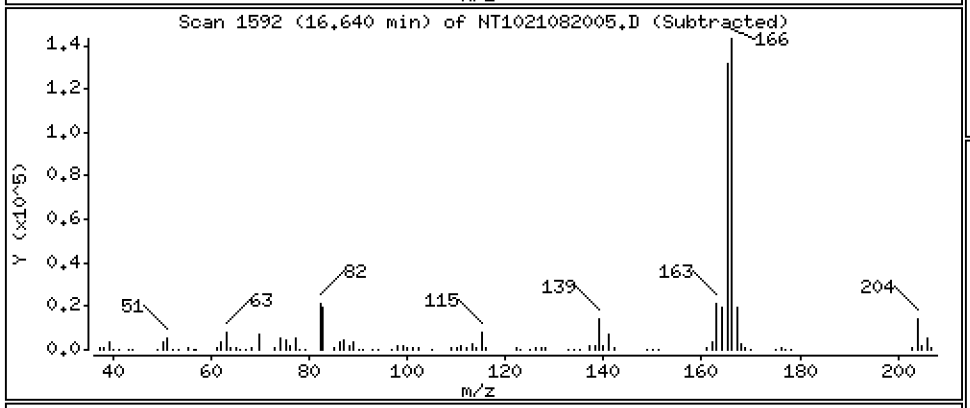
Column phase: ZB-5msi

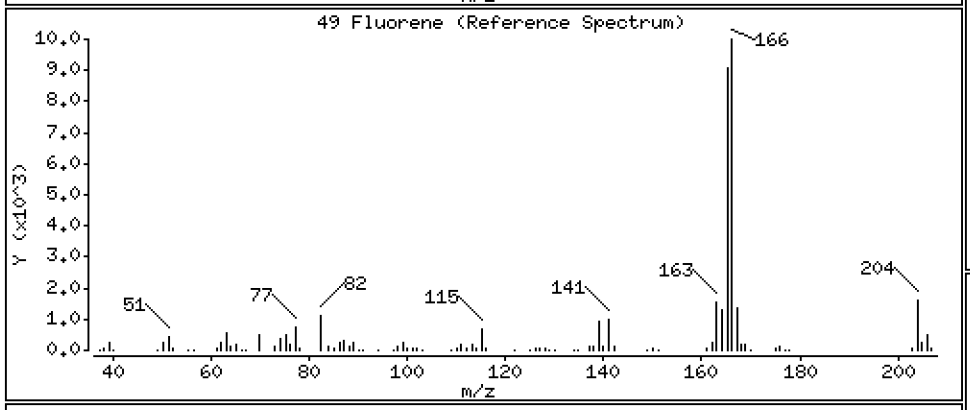
Column diameter: 0.25

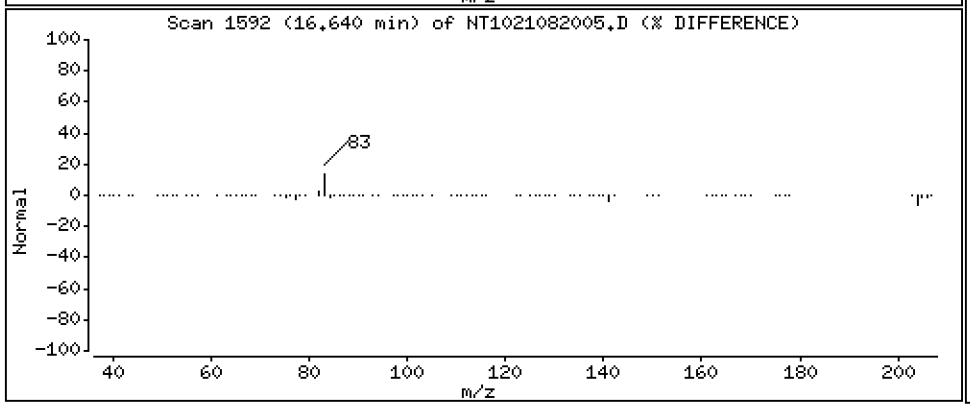
49 Fluorene

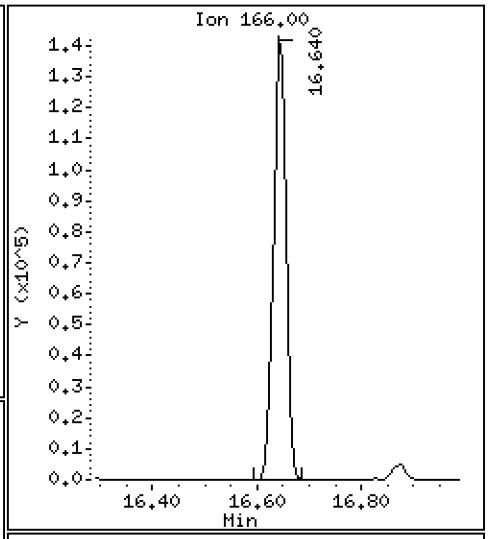
Concentration: 3.642 ug/mL

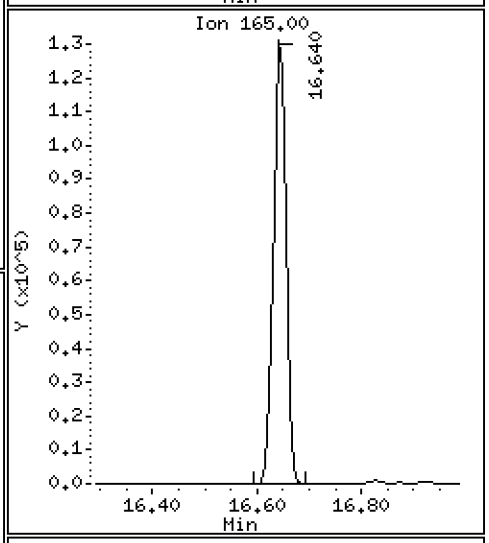


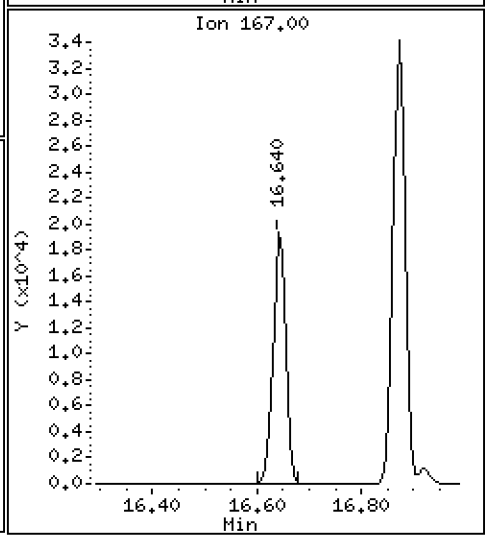












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

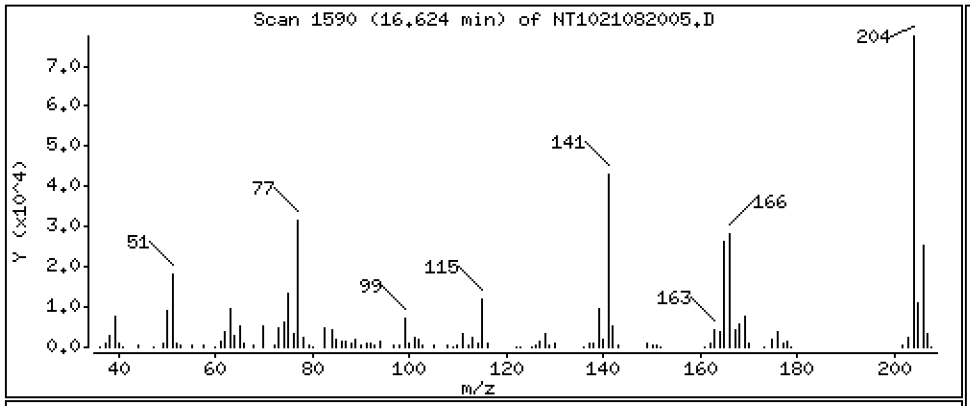
Operator: VTS

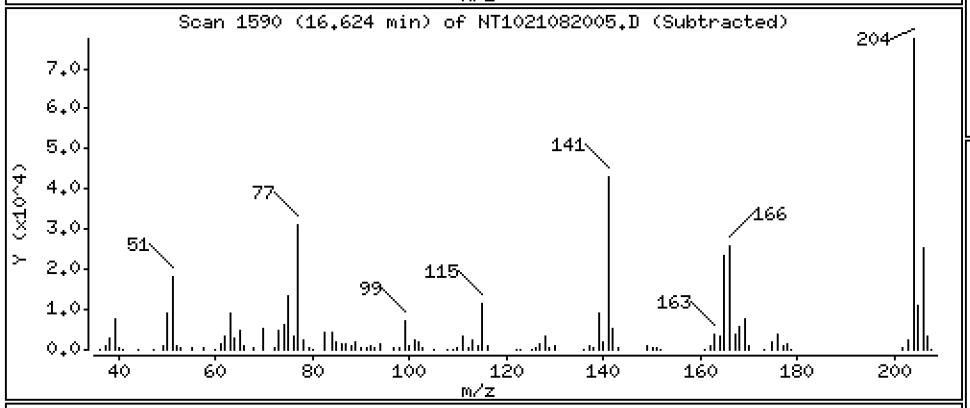
Column phase: ZB-5msi

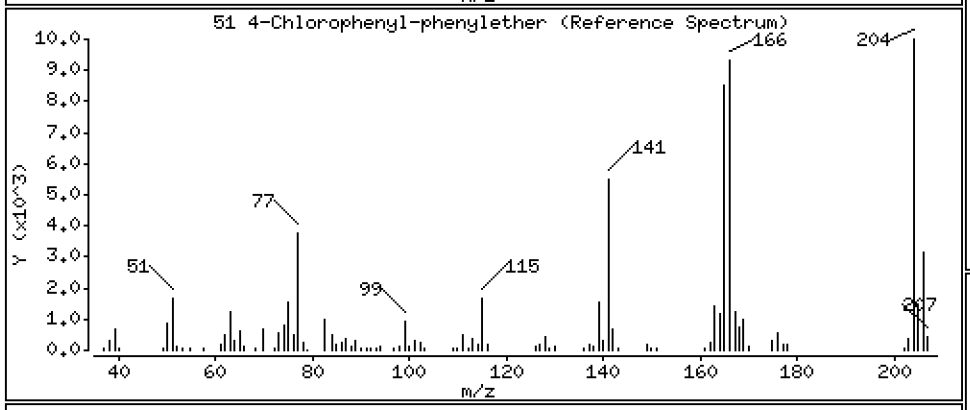
Column diameter: 0.25

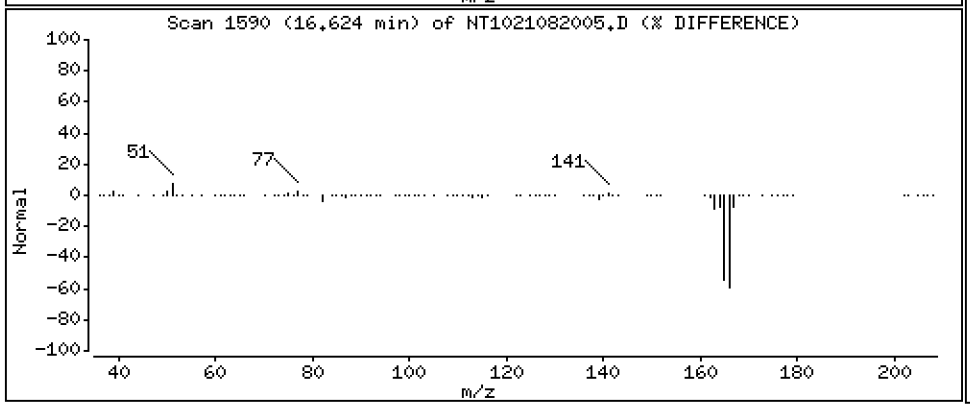
51 4-Chlorophenyl-phenylether

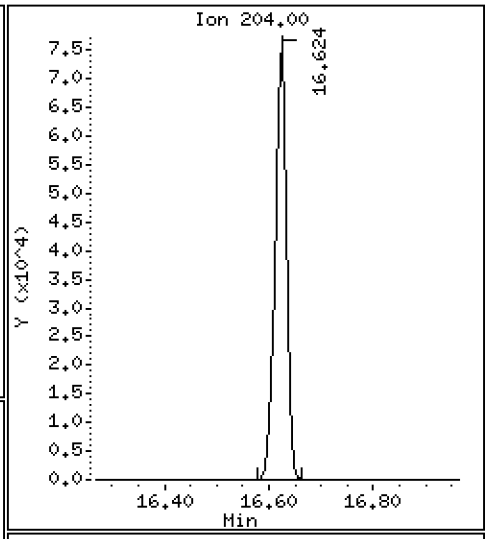
Concentration: 3.979 ug/mL

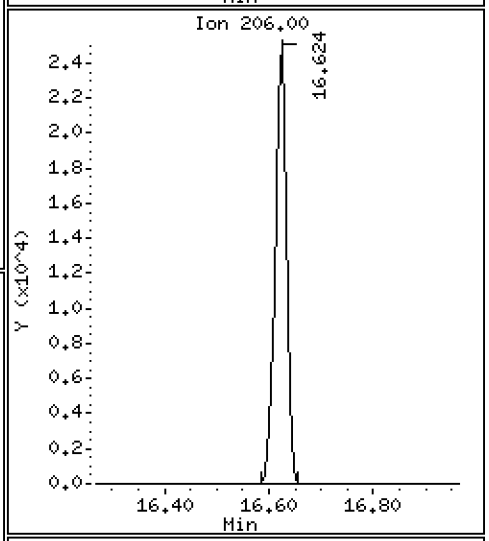


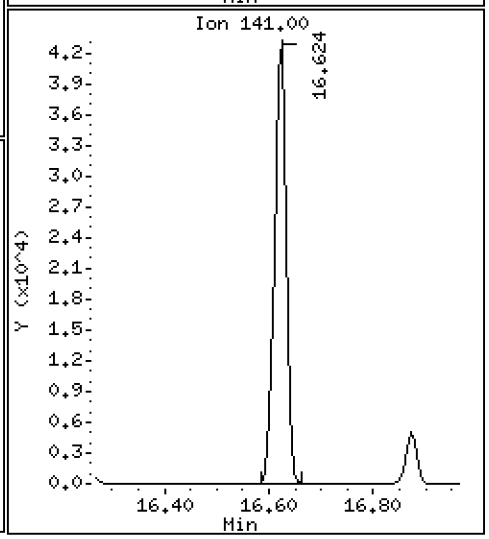












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

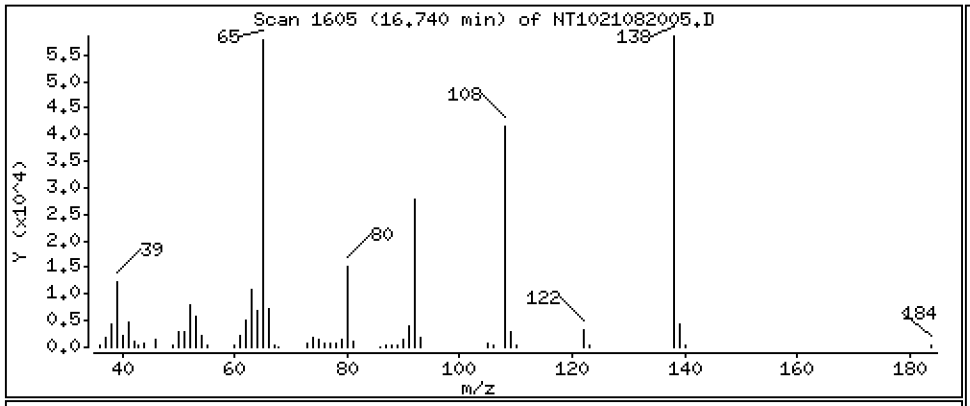
Operator: VTS

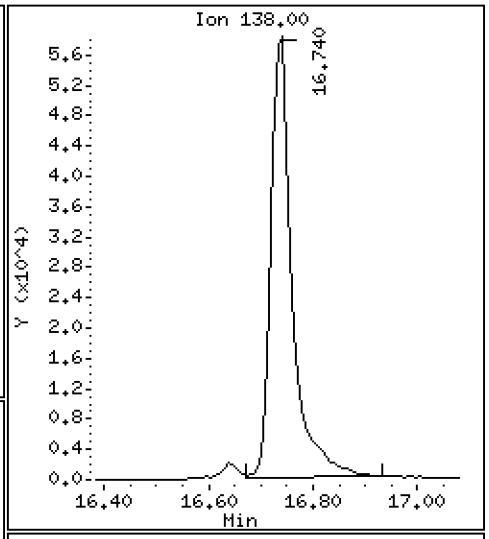
Column phase: ZB-5msi

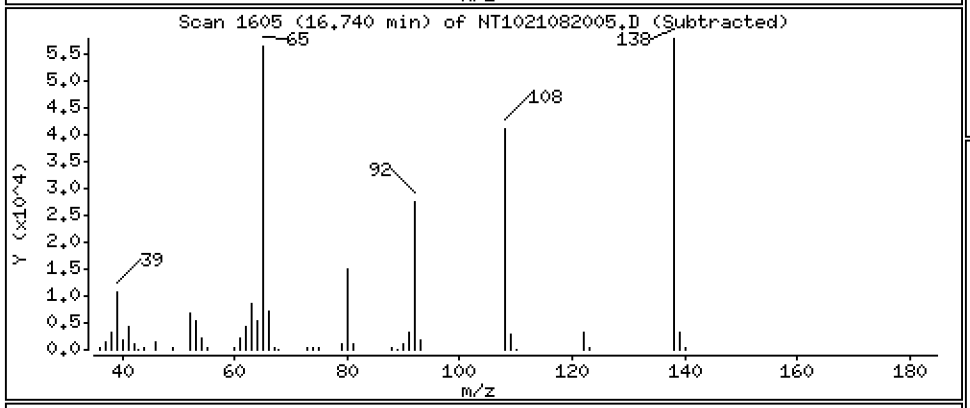
Column diameter: 0.25

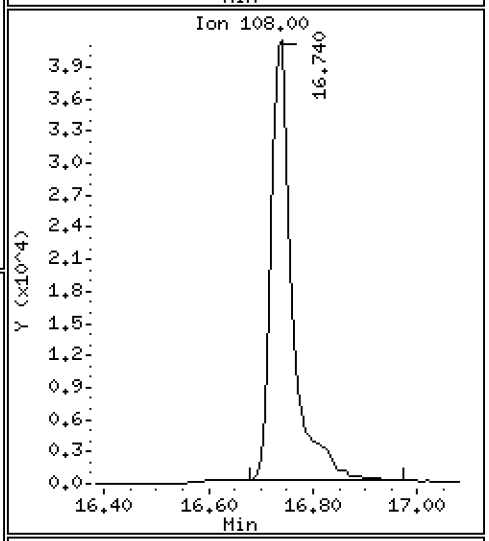
52 4-Nitroaniline

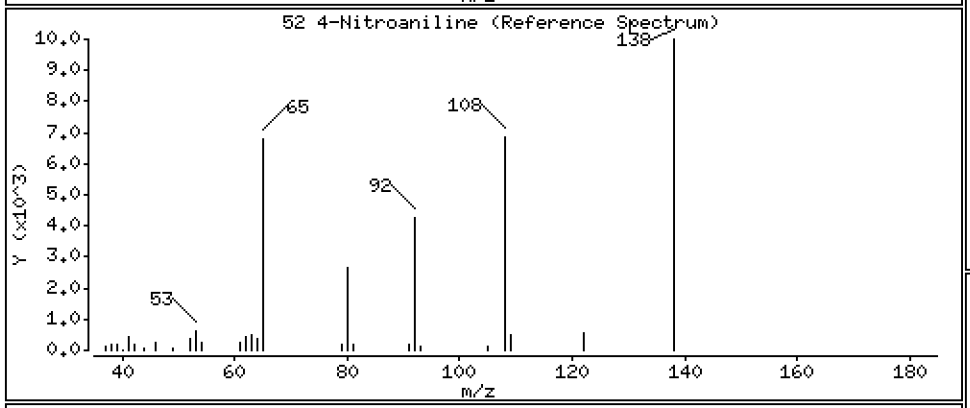
Concentration: 9.992 ug/mL

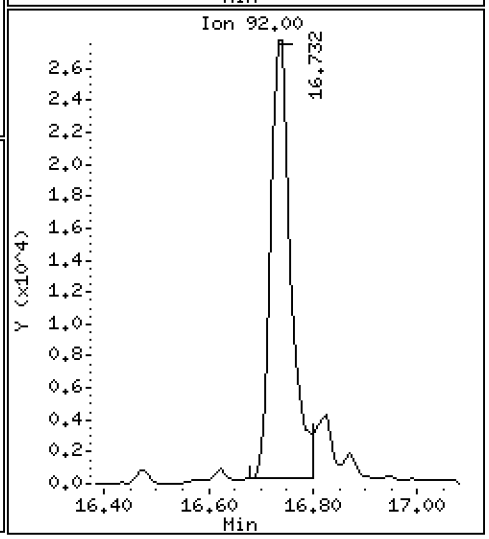


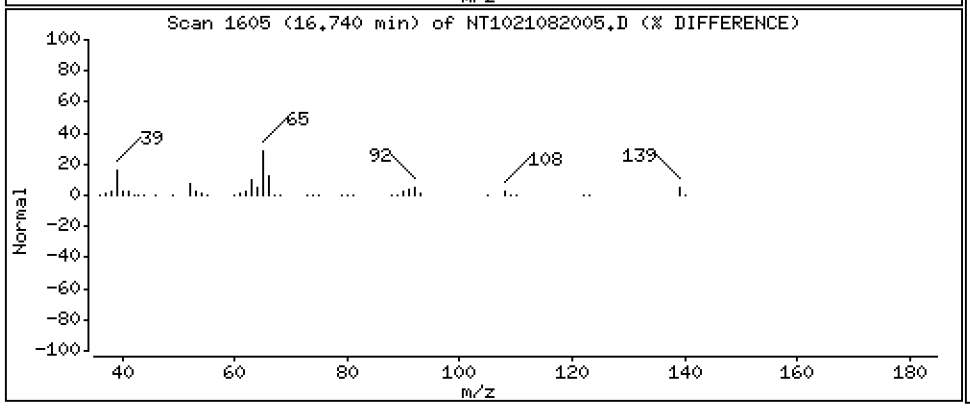












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

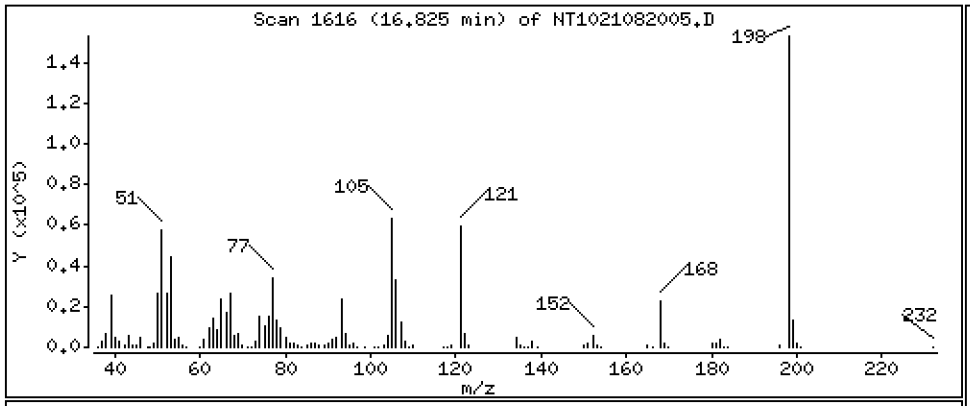
Operator: VTS

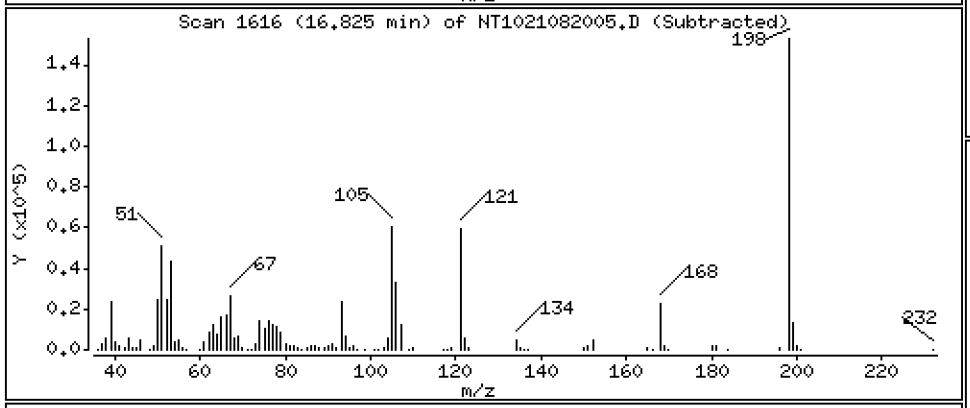
Column phase: ZB-5msi

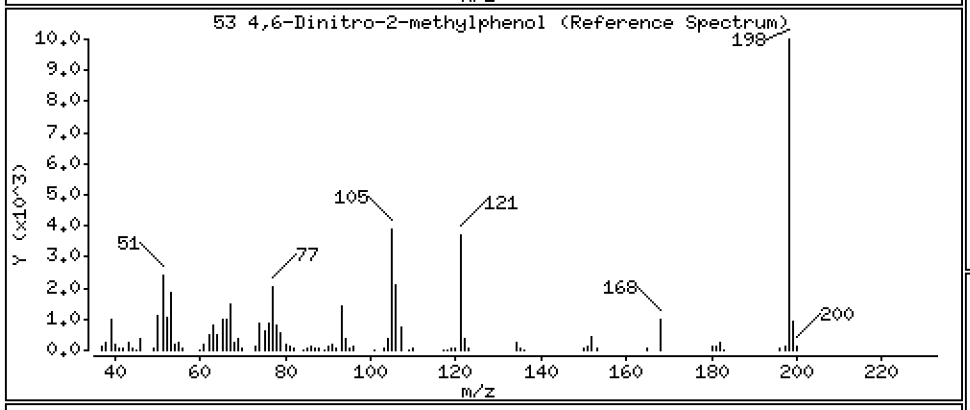
Column diameter: 0.25

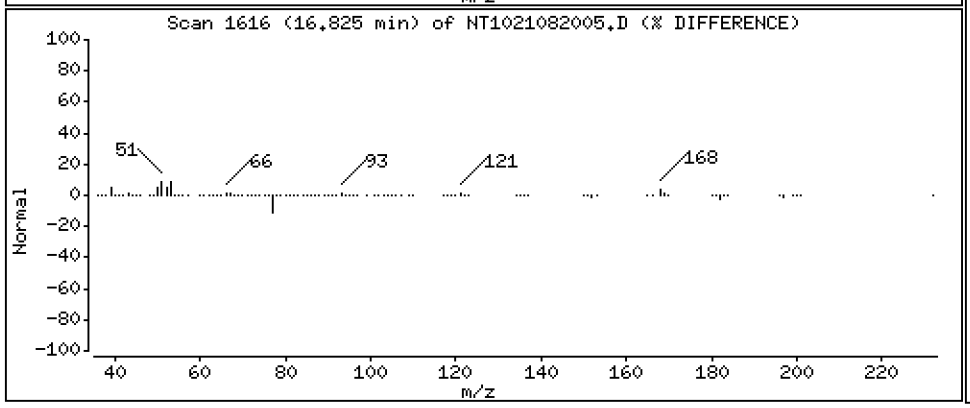
53 4,6-Dinitro-2-methylphenol

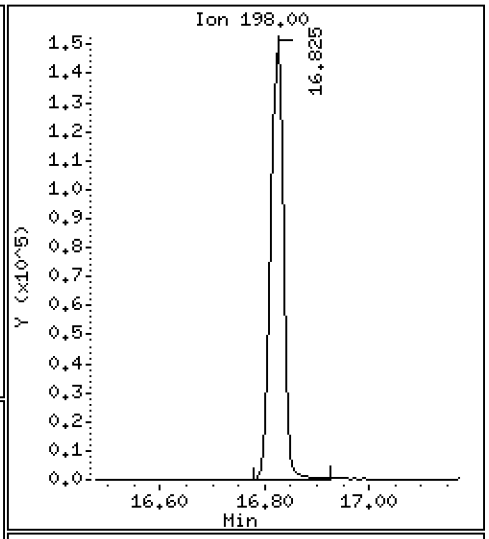
Concentration: 21.31 ug/mL

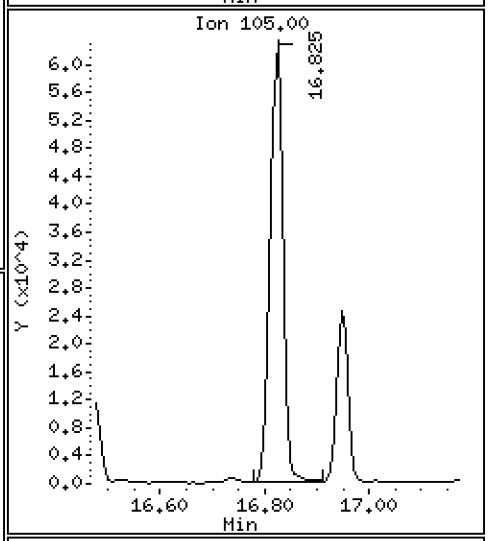


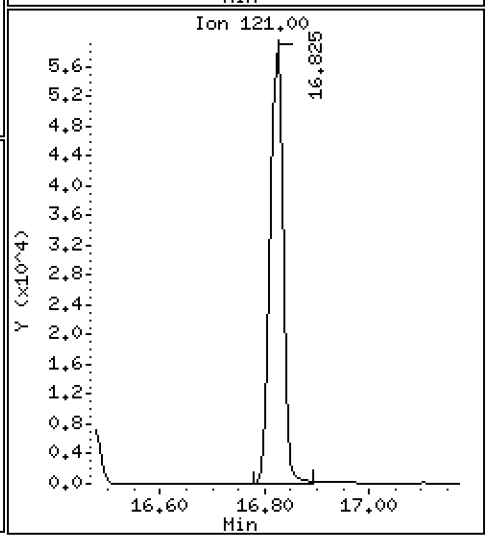












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

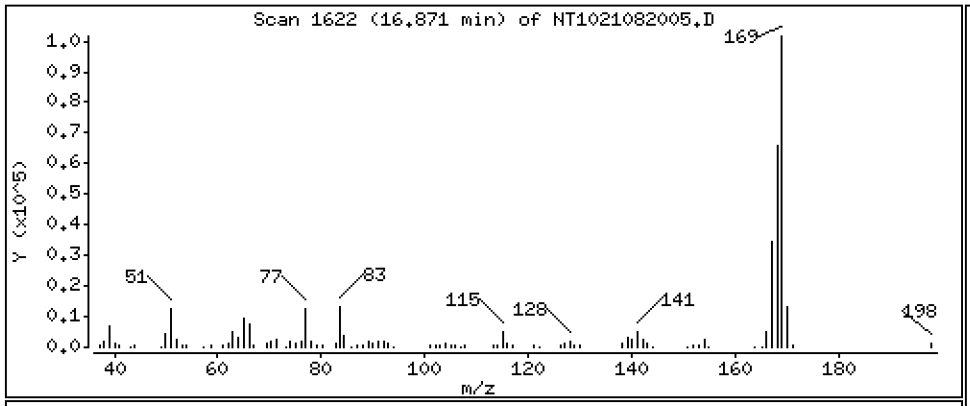
Operator: VTS

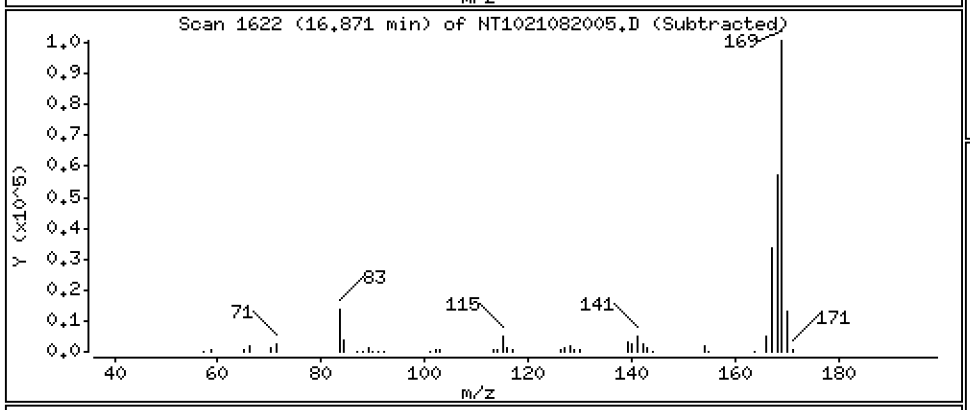
Column phase: ZB-5msi

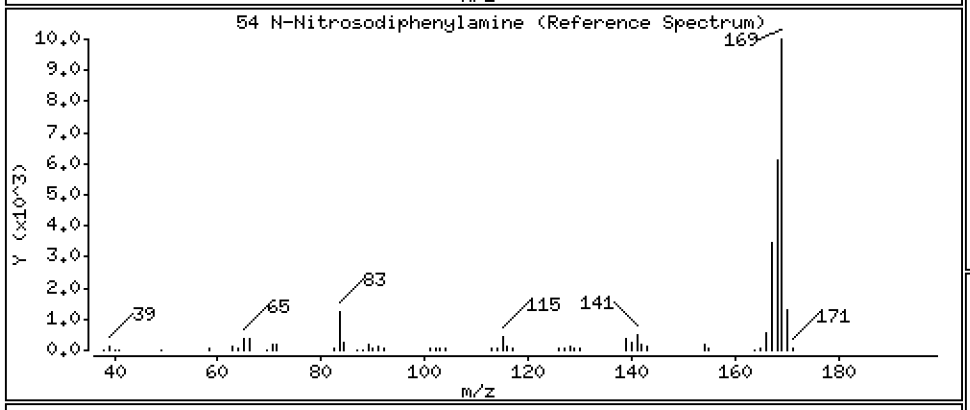
Column diameter: 0.25

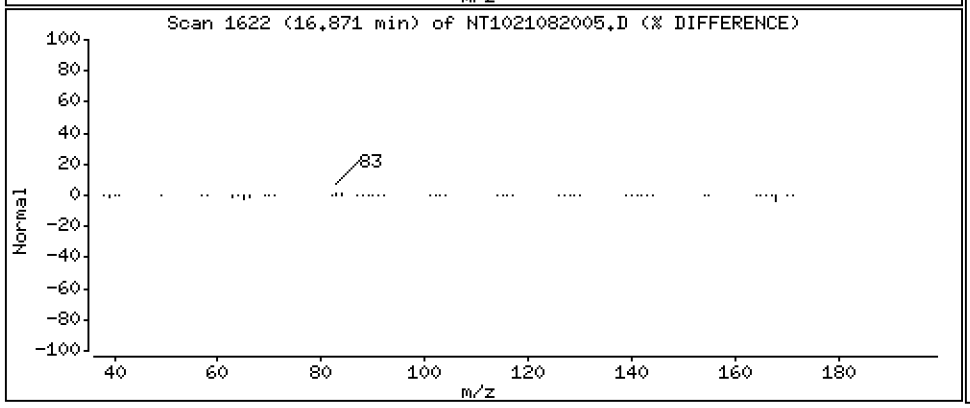
54 N-Nitrosodiphenylamine

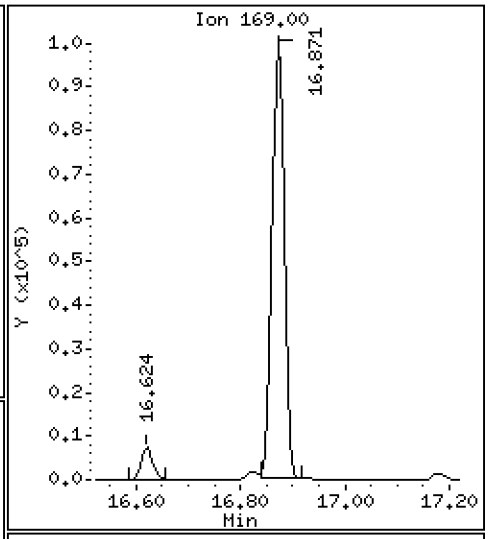
Concentration: 3.694 ug/mL

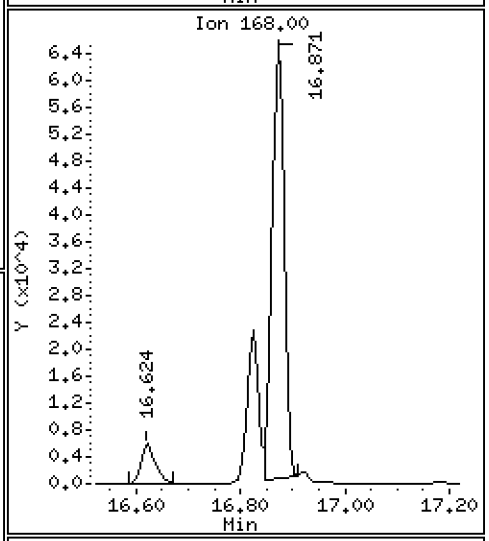


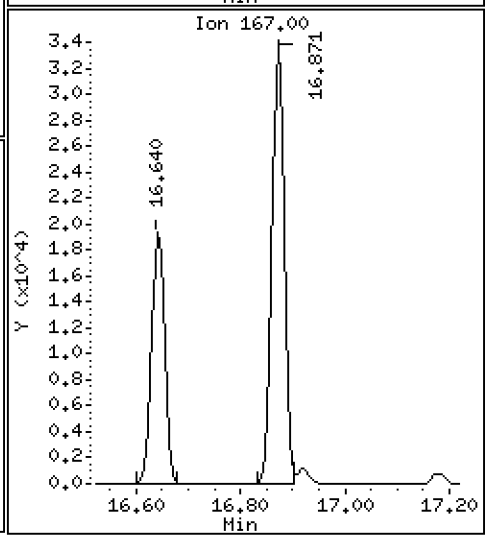












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

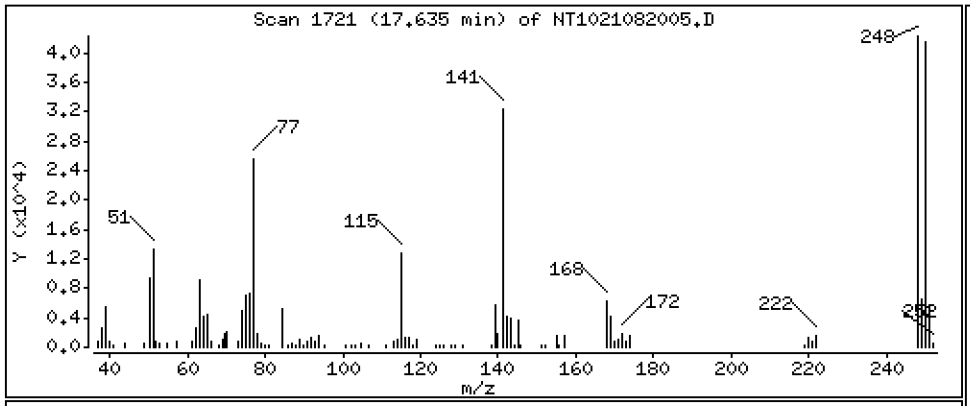
Operator: VTS

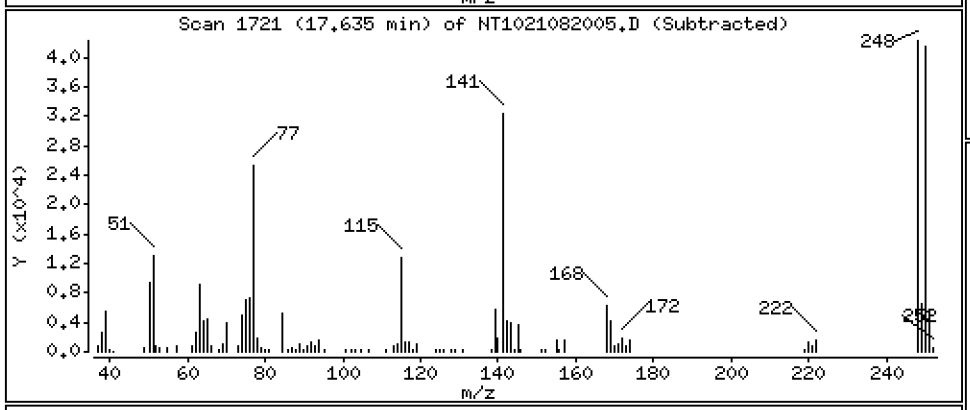
Column phase: ZB-5msi

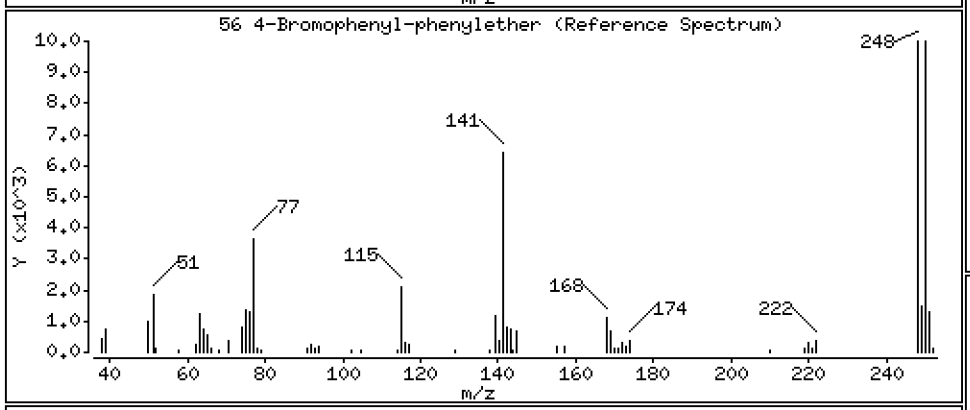
Column diameter: 0.25

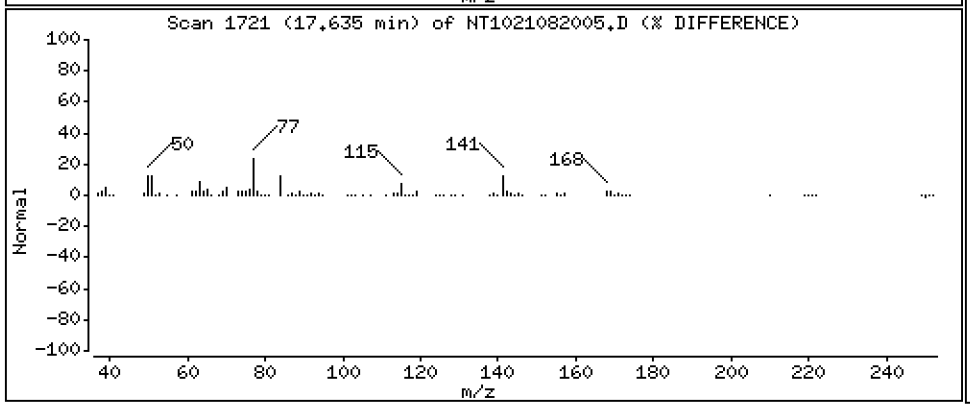
56 4-Bromophenyl-phenylether

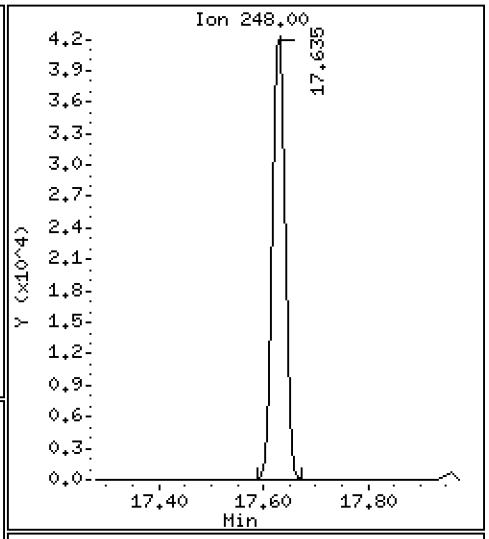
Concentration: 4.145 ug/mL

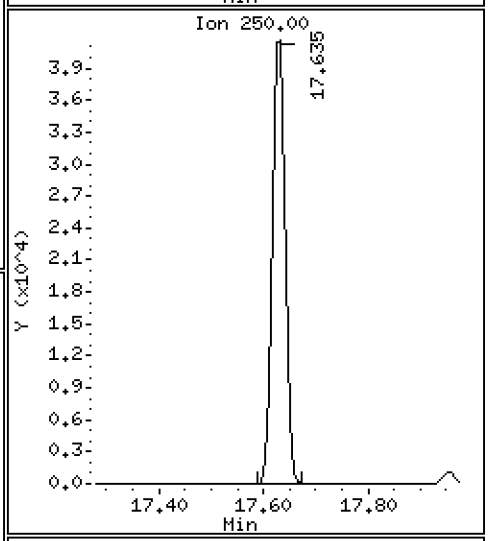


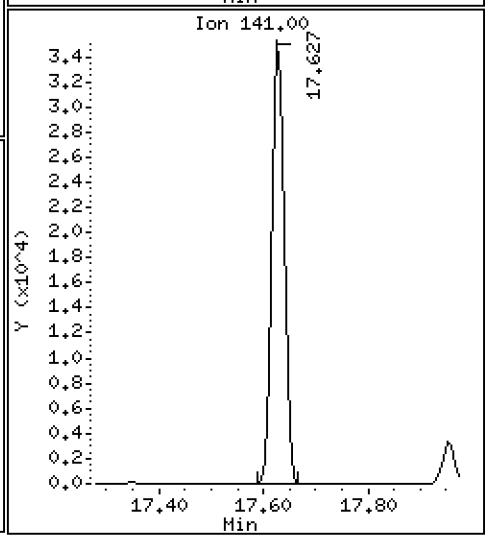












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

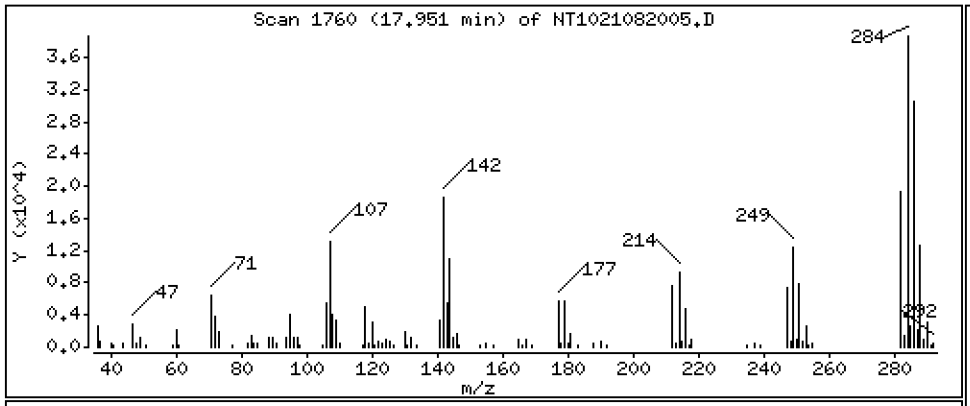
Operator: VTS

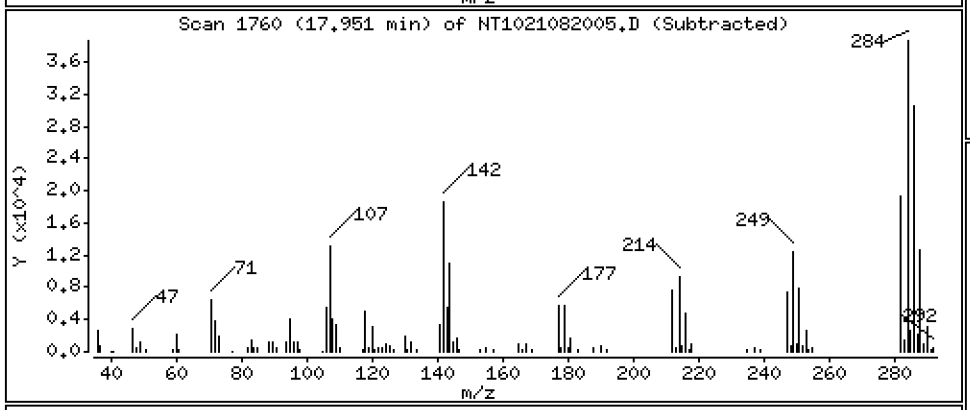
Column phase: ZB-5msi

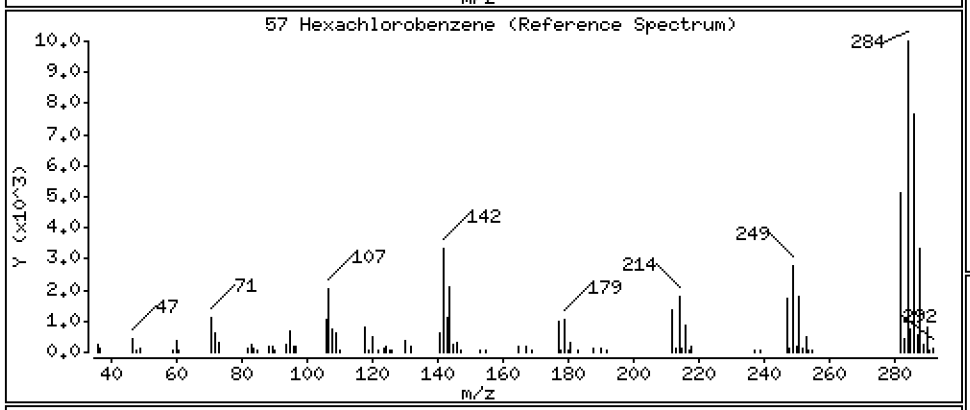
Column diameter: 0.25

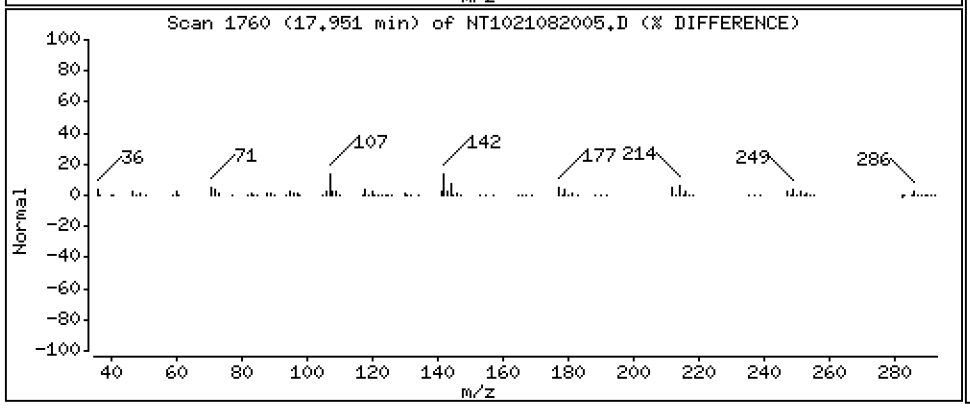
57 Hexachlorobenzene

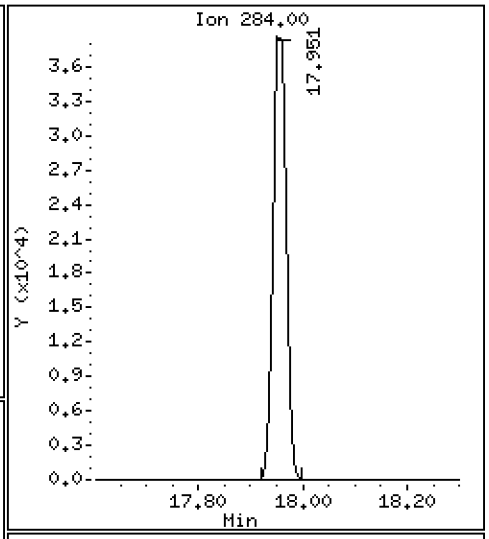
Concentration: 4.027 ug/mL

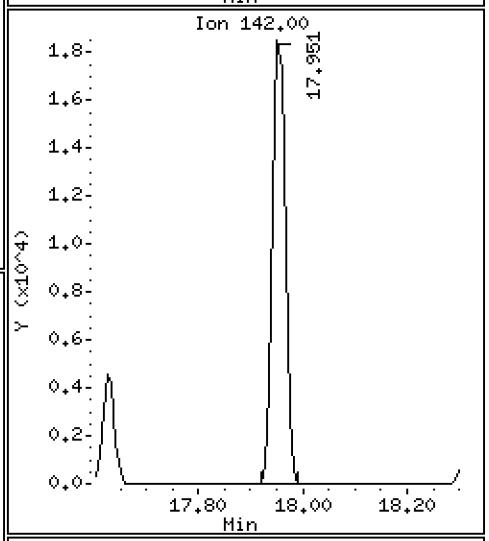


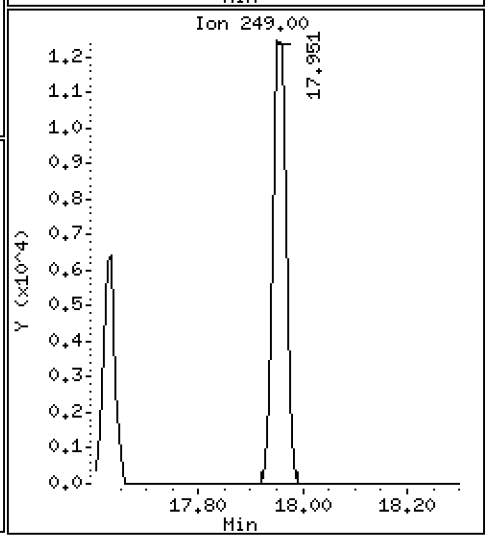












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

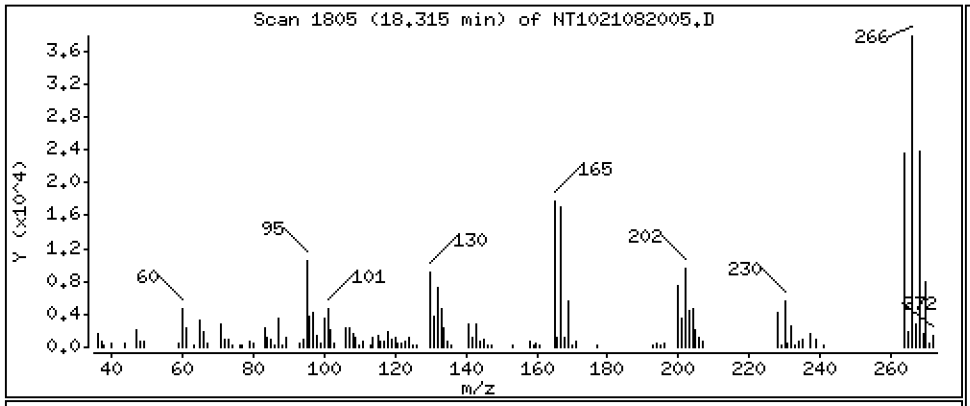
Operator: VTS

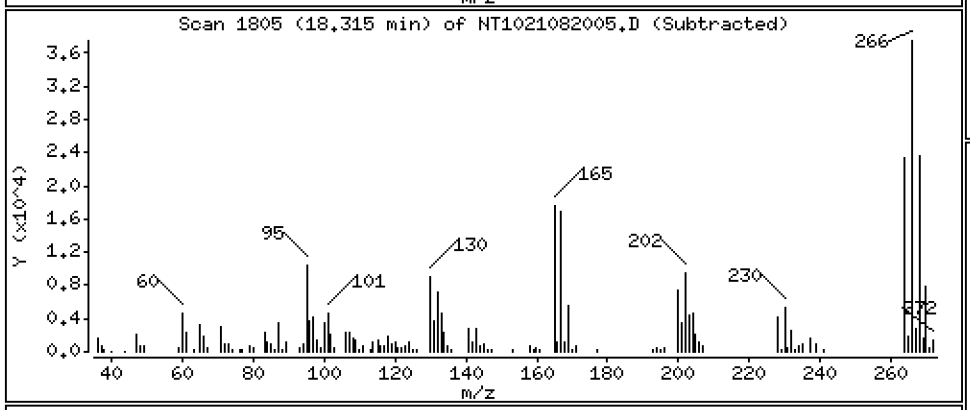
Column phase: ZB-5msi

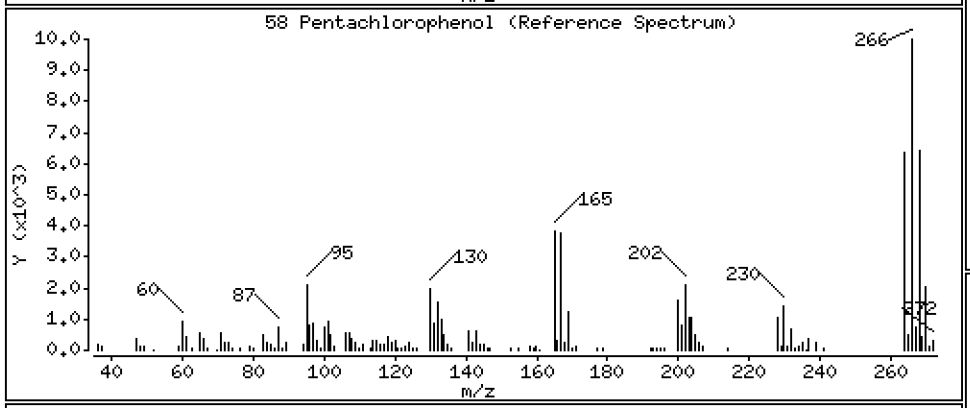
Column diameter: 0.25

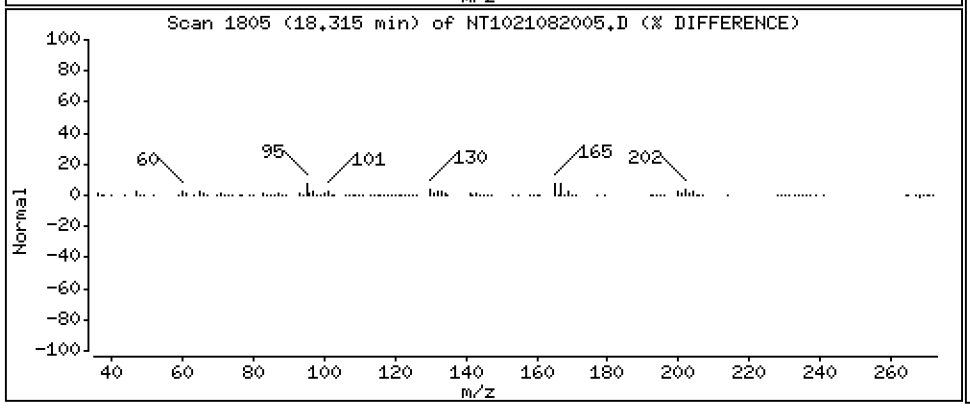
58 Pentachlorophenol

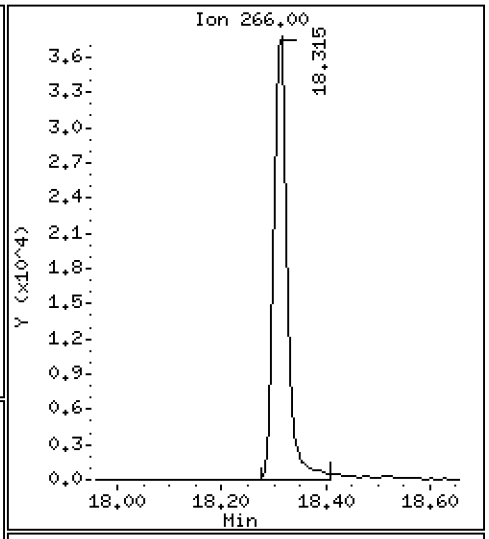
Concentration: 11.02 ug/mL

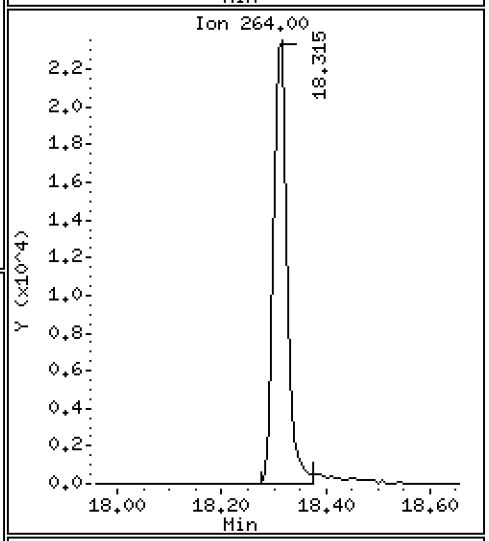


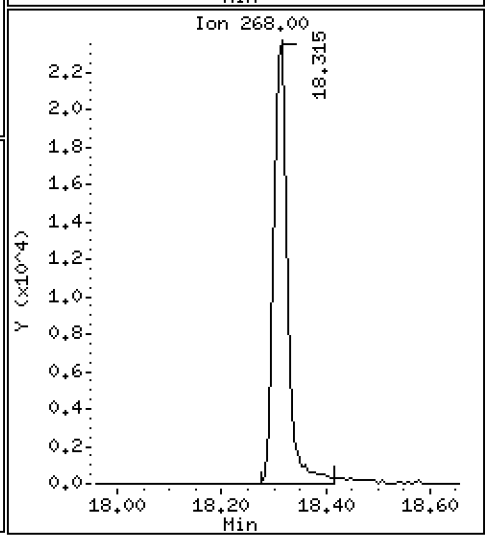












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

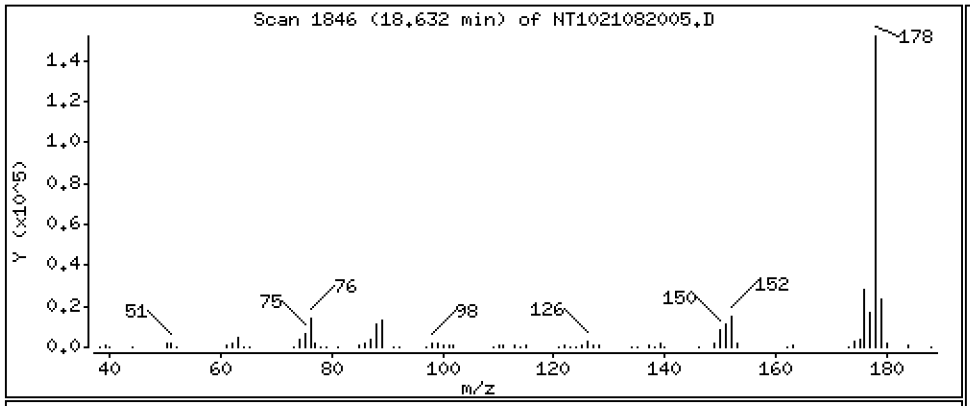
Operator: VTS

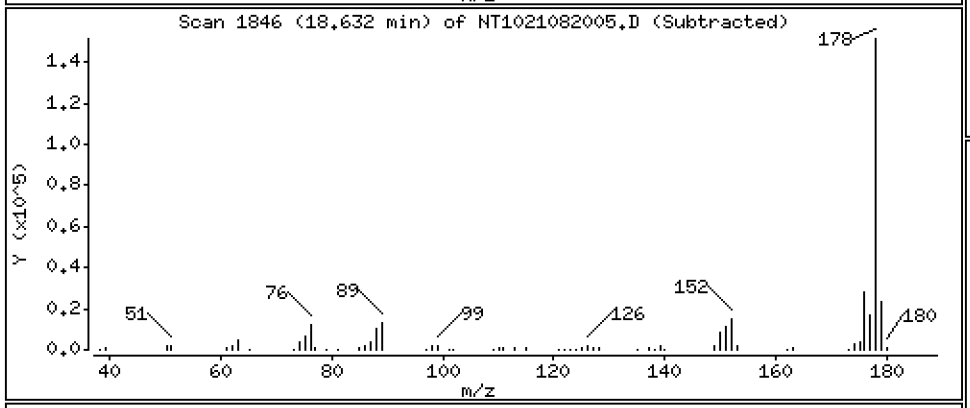
Column phase: ZB-5msi

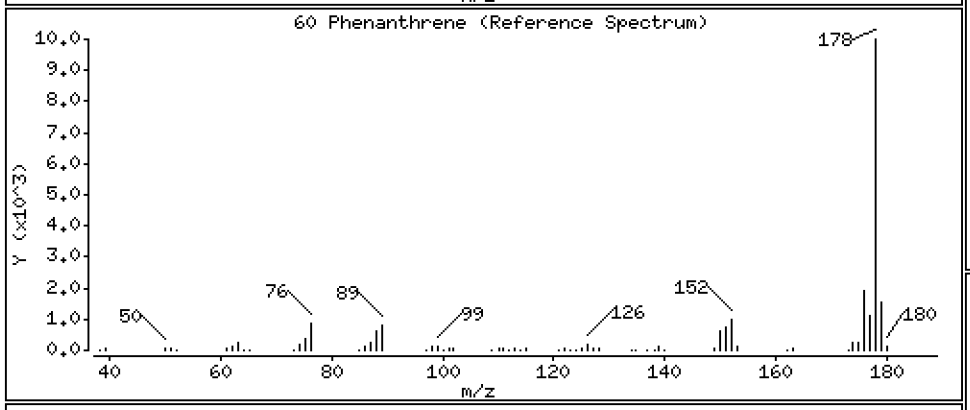
Column diameter: 0.25

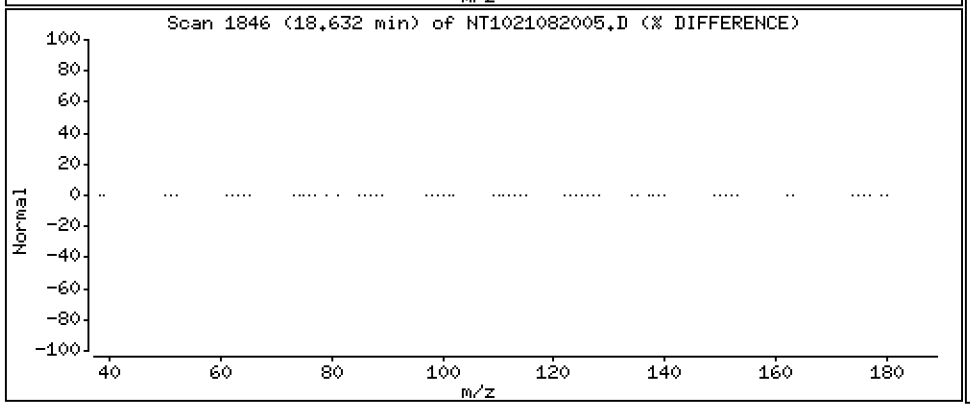
60 Phenanthrene

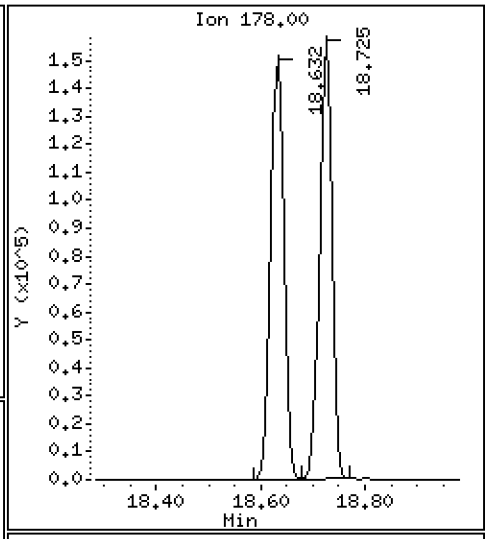
Concentration: 3.770 ug/mL

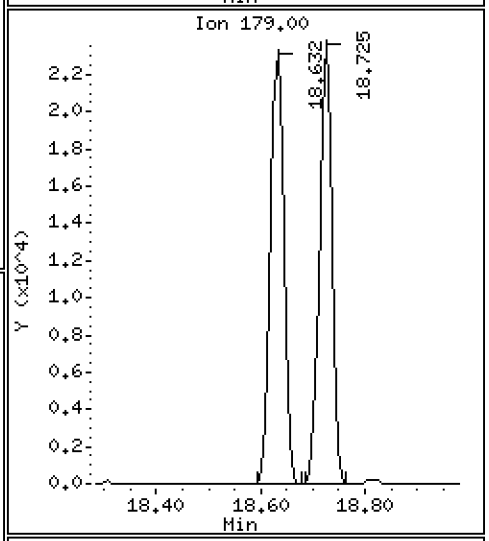


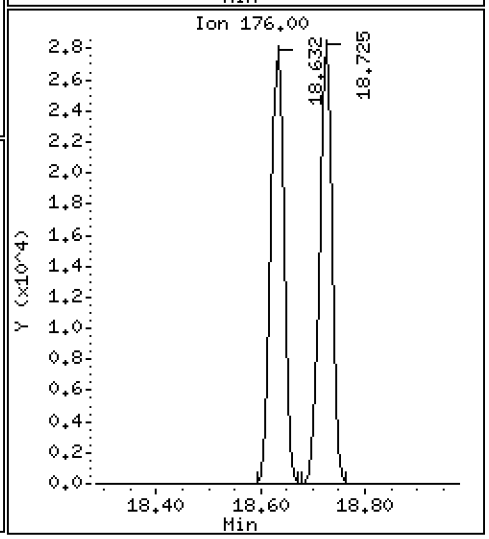












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

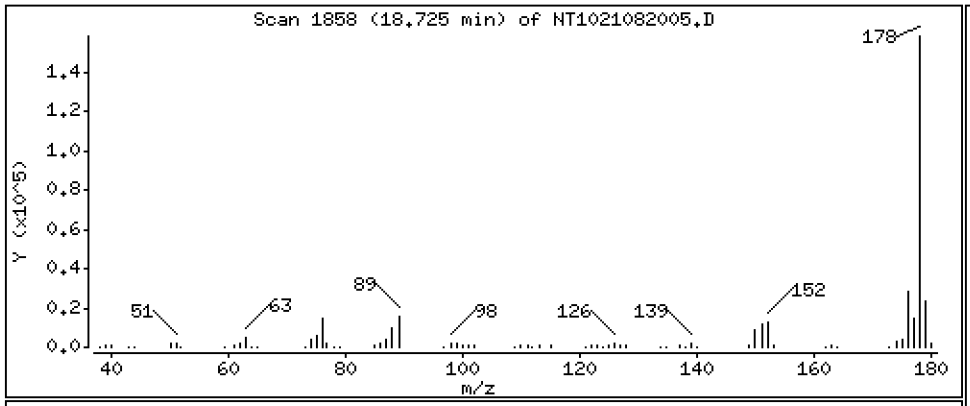
Operator: VTS

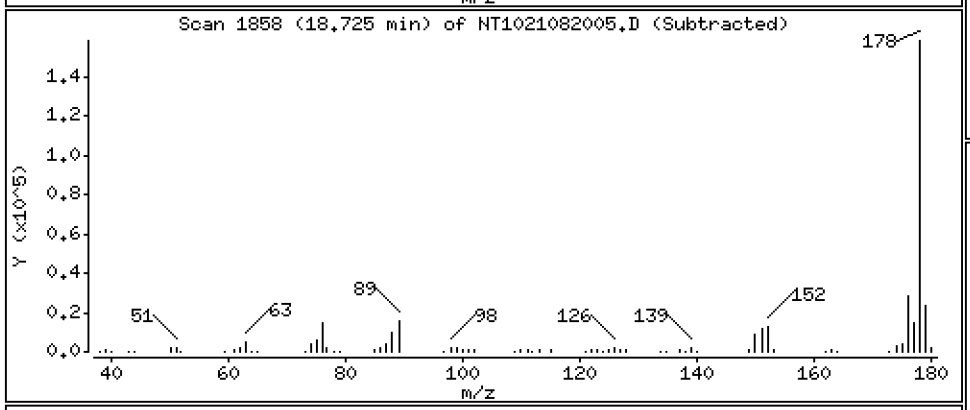
Column phase: ZB-5msi

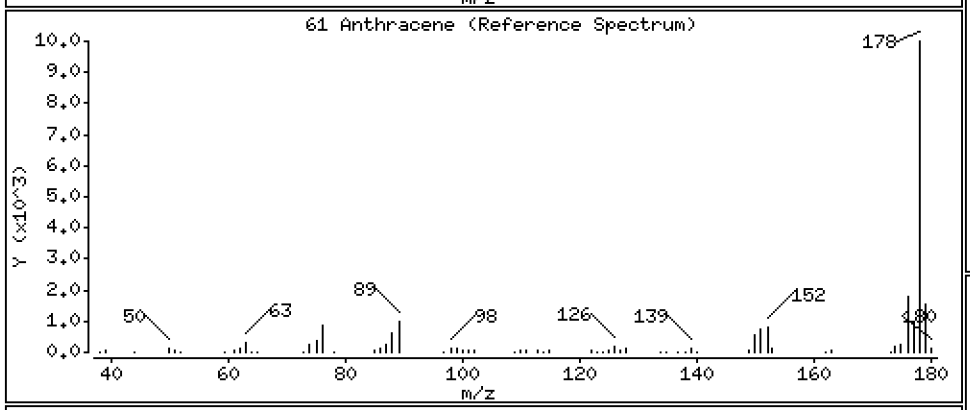
Column diameter: 0.25

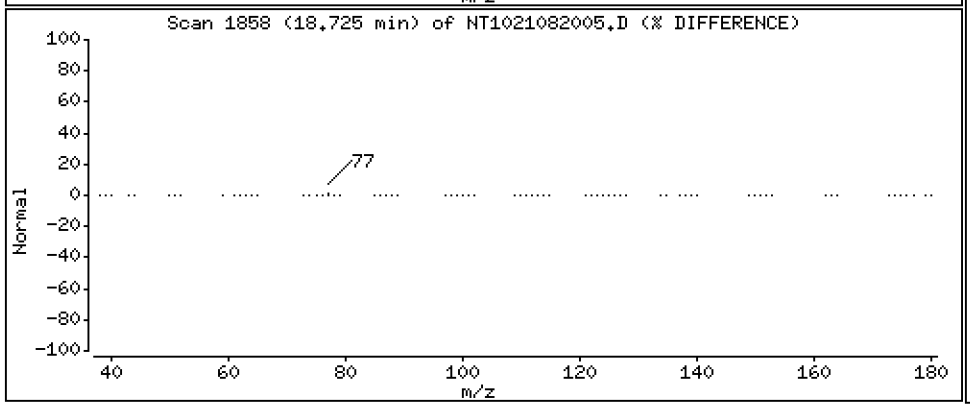
61 Anthracene

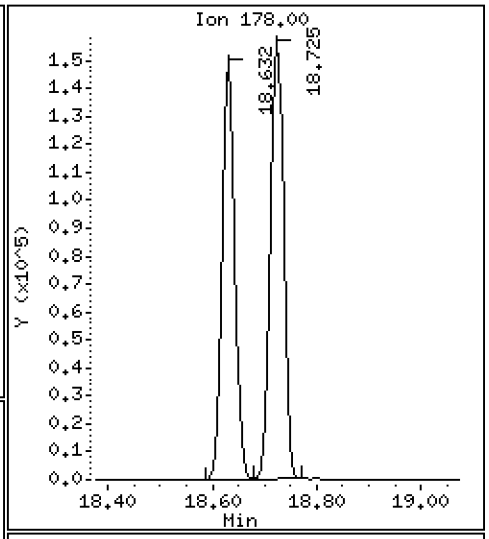
Concentration: 3.621 ug/mL

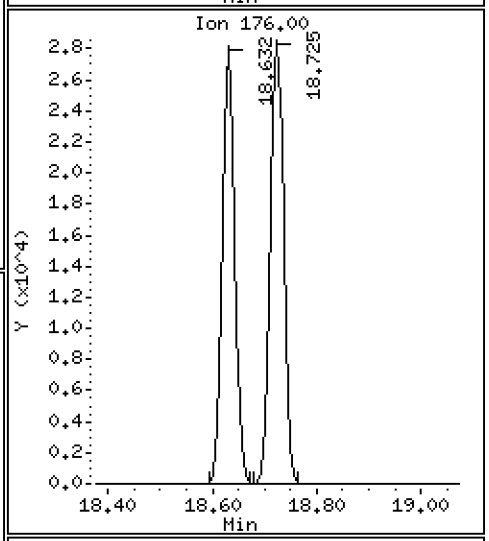


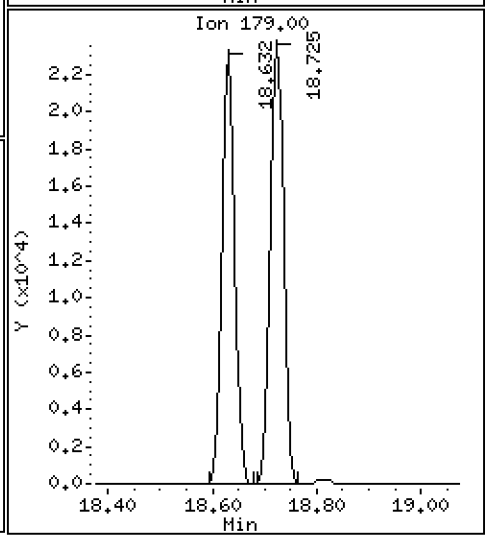












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

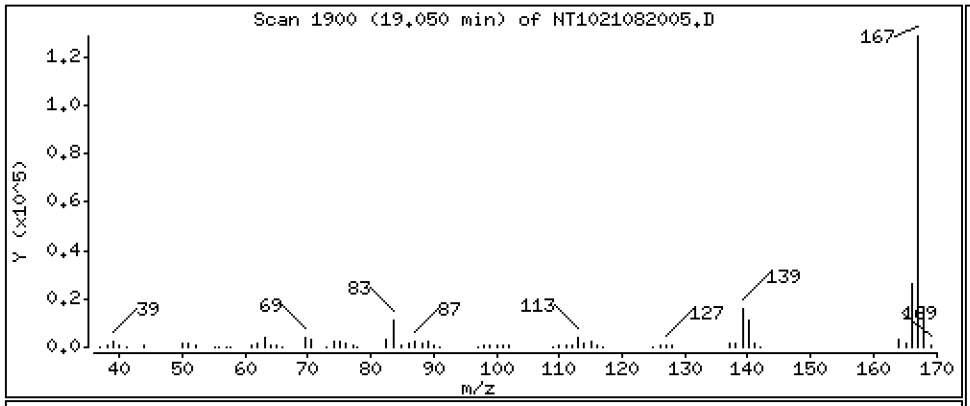
Operator: VTS

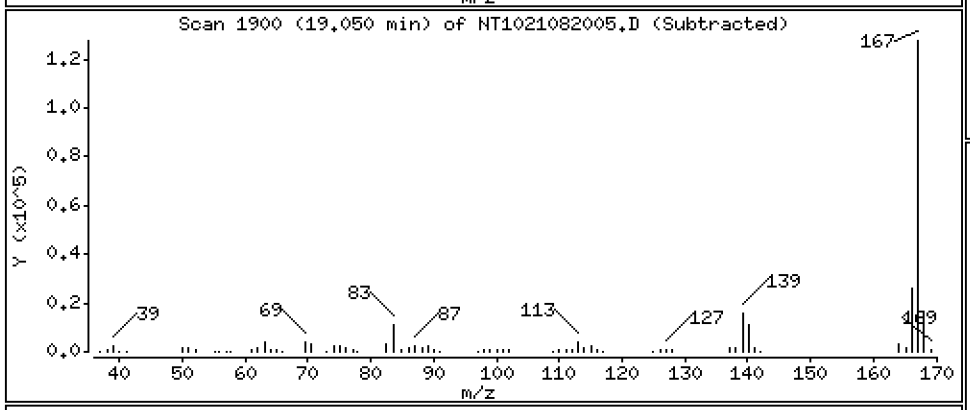
Column phase: ZB-5msi

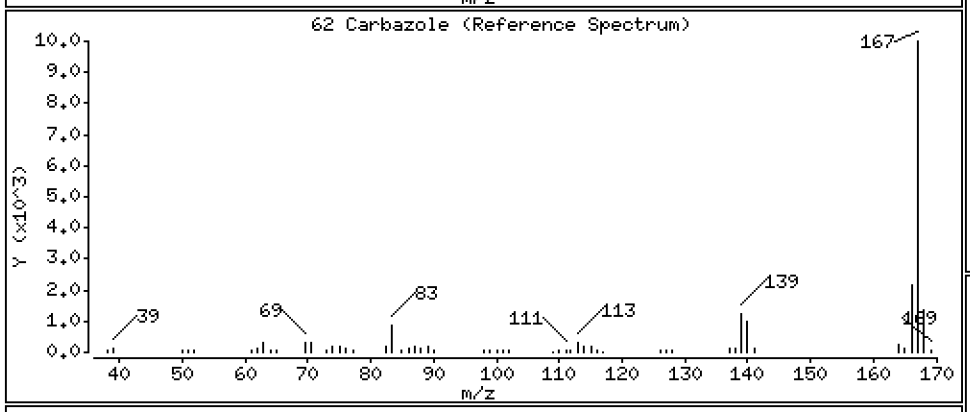
Column diameter: 0.25

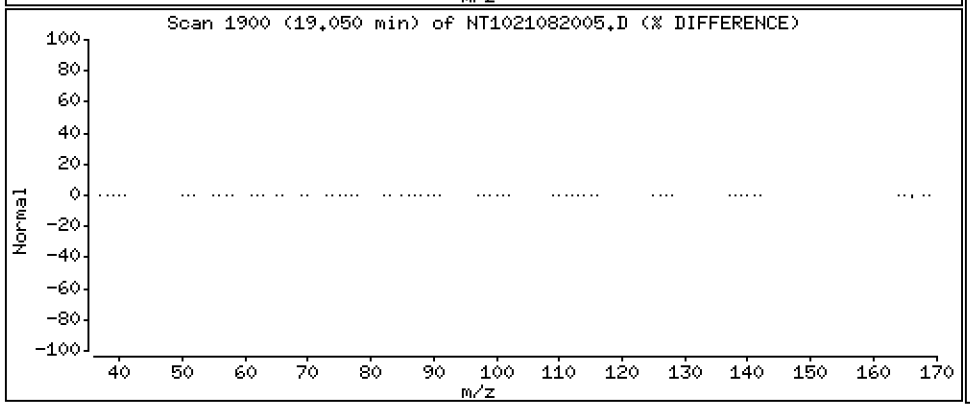
62 Carbazole

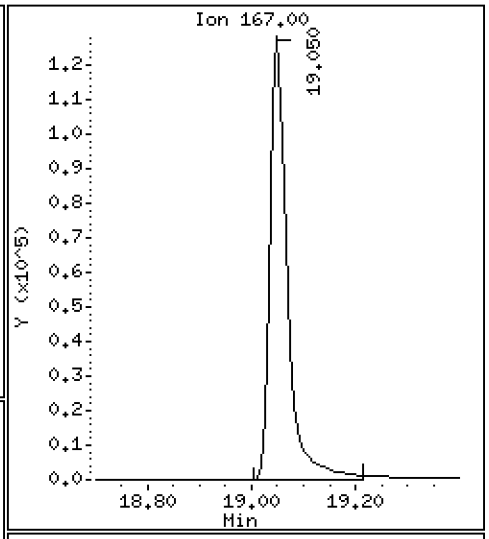
Concentration: 3.813 ug/mL

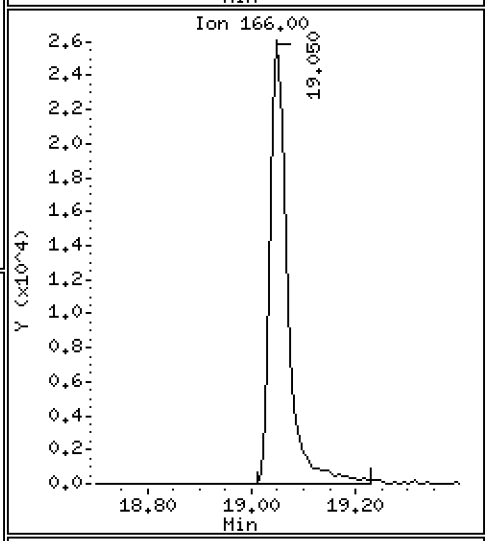


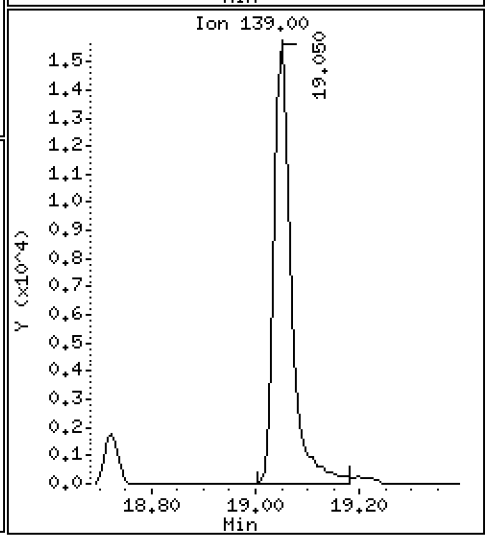












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

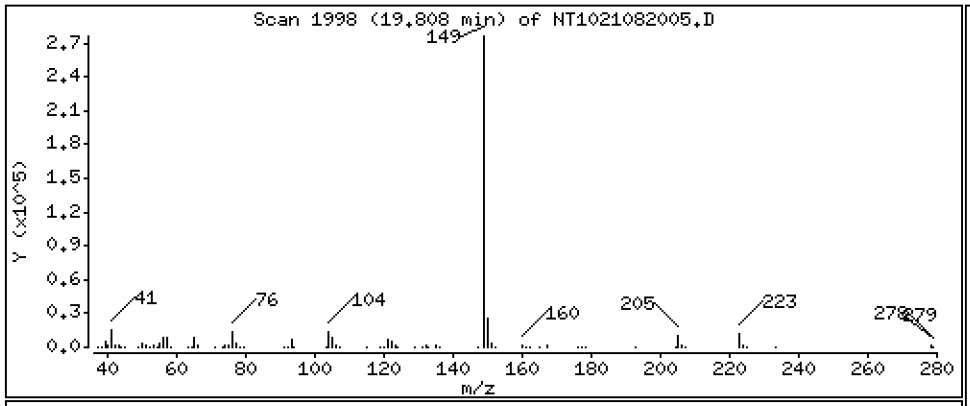
Operator: VTS

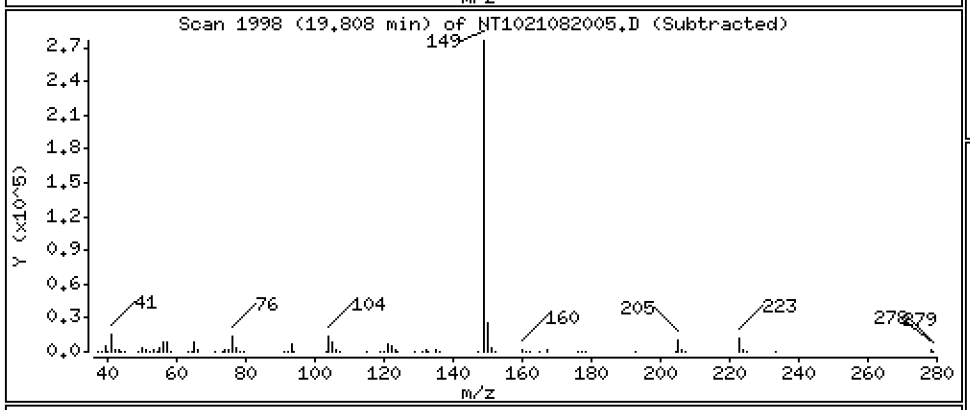
Column phase: ZB-5msi

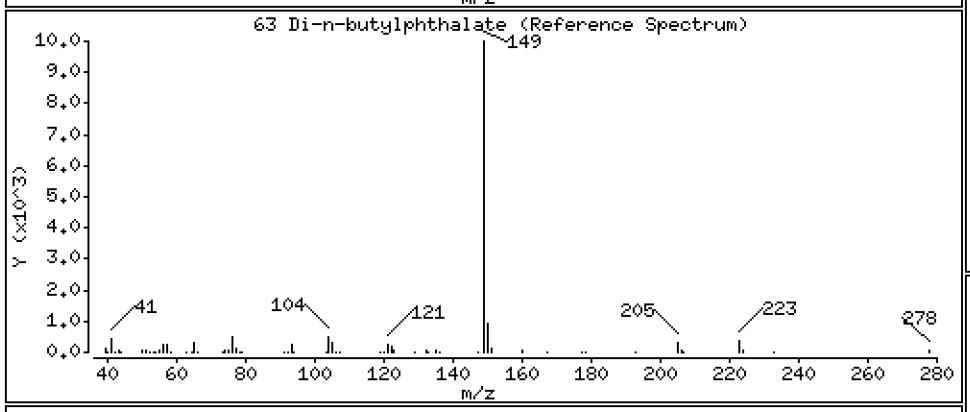
Column diameter: 0.25

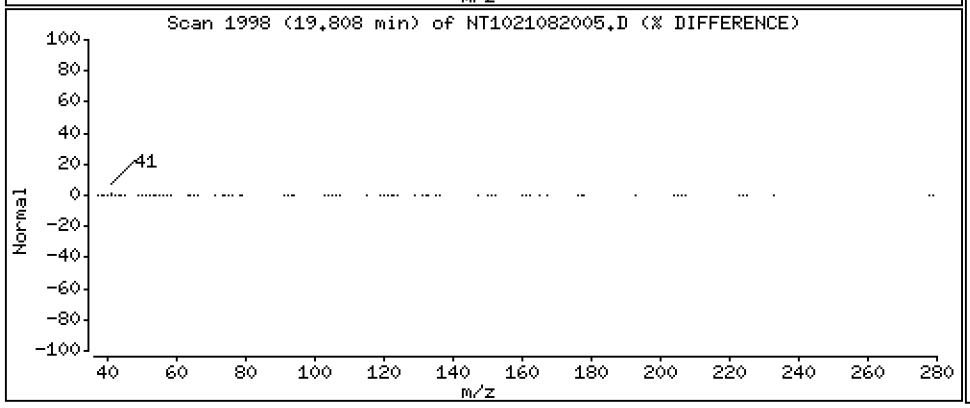
63 Di-n-butylphthalate

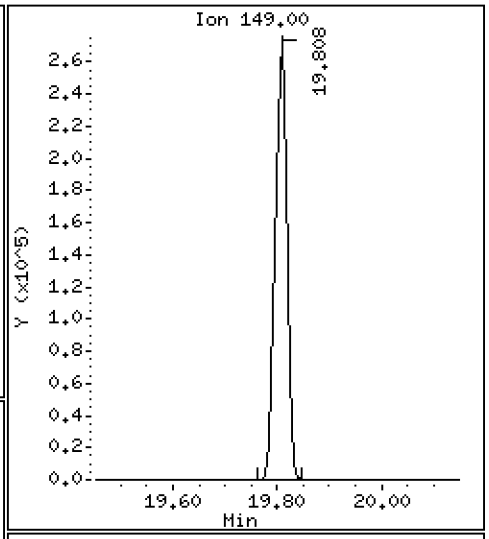
Concentration: 4.455 ug/mL

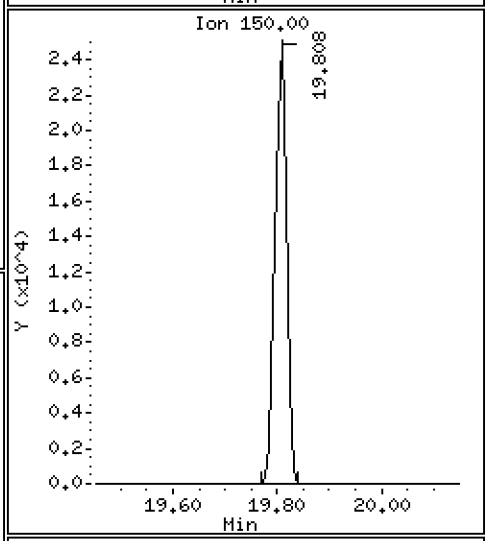


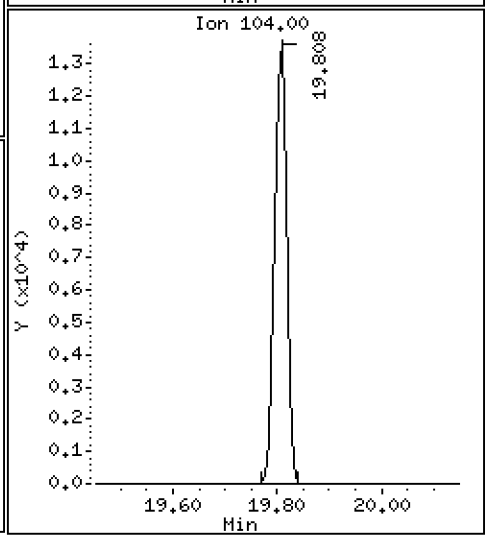












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

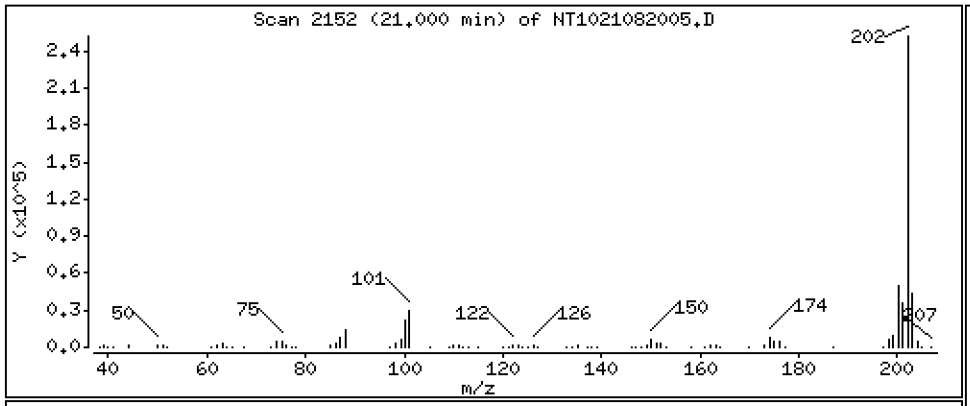
Operator: VTS

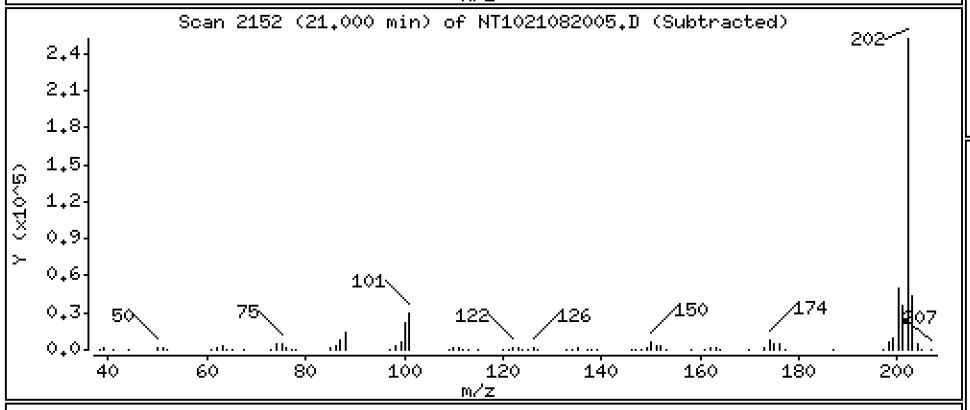
Column phase: ZB-5msi

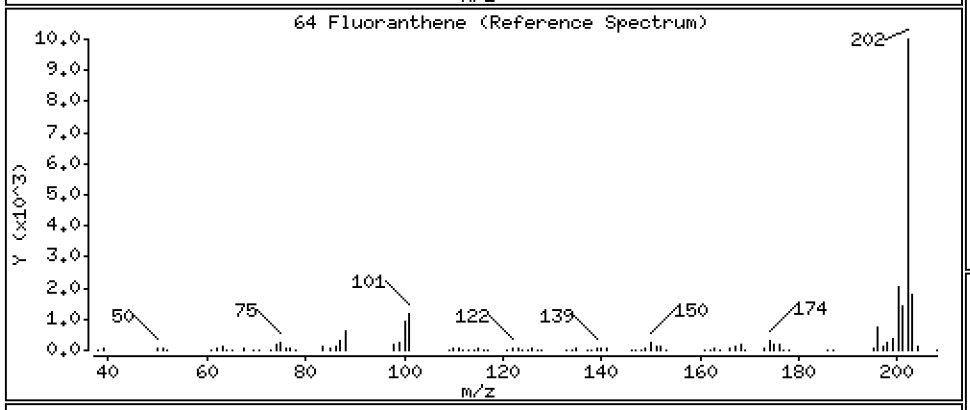
Column diameter: 0.25

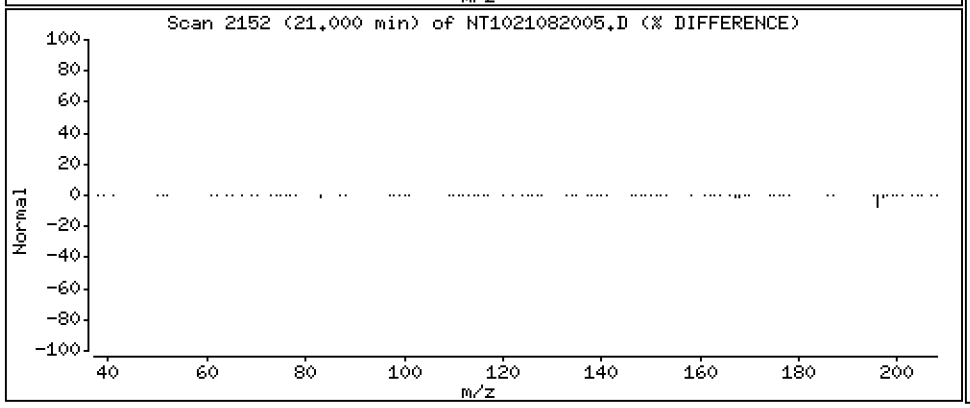
64 Fluoranthene

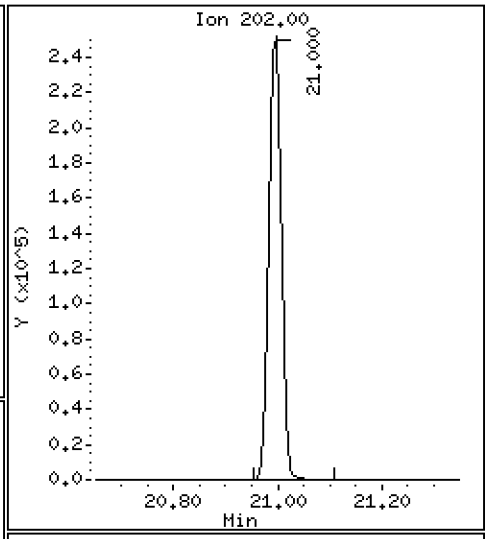
Concentration: 4.044 ug/mL

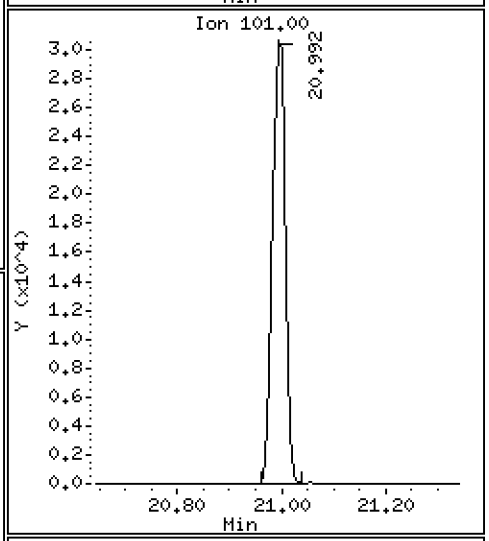


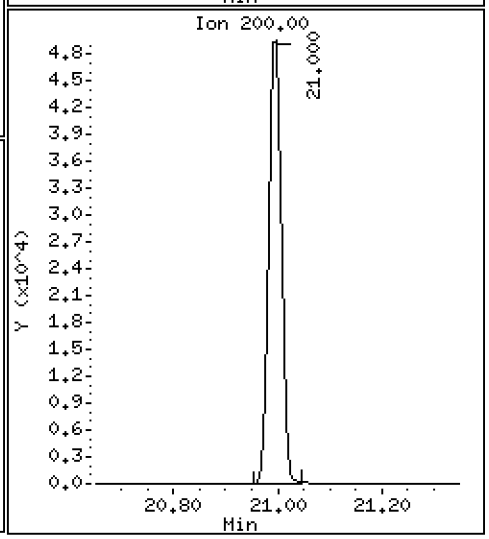












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

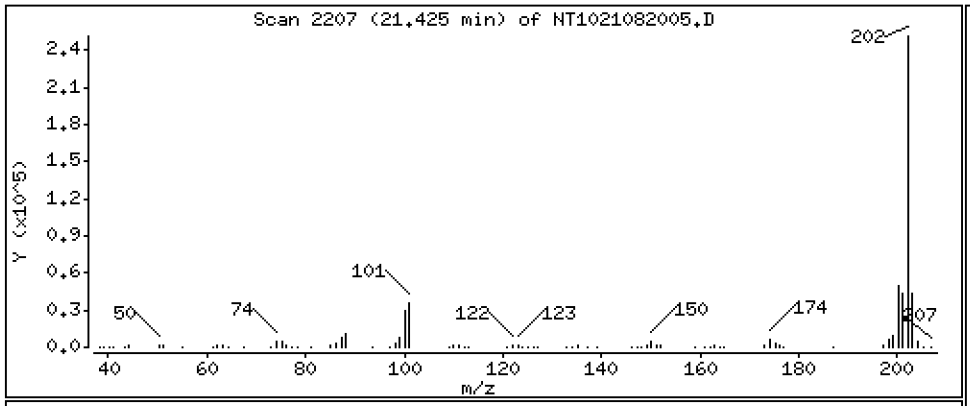
Operator: VTS

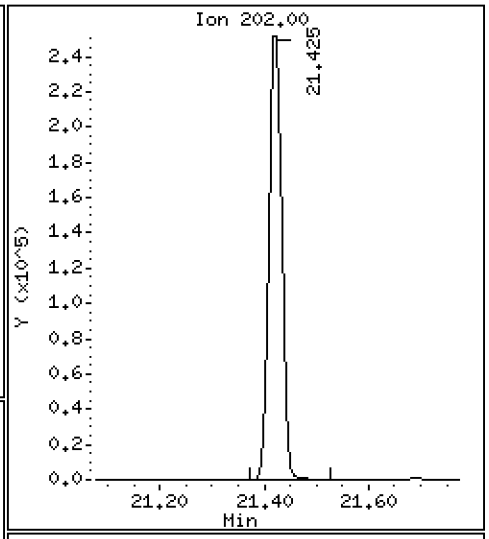
Column phase: ZB-5msi

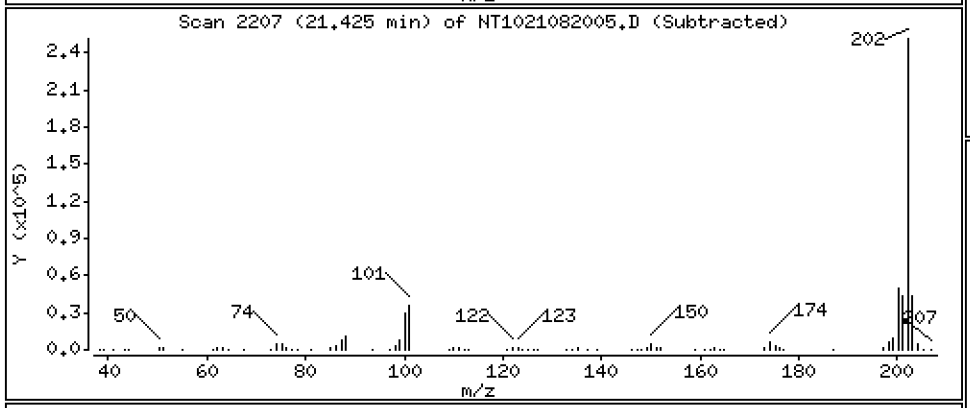
Column diameter: 0.25

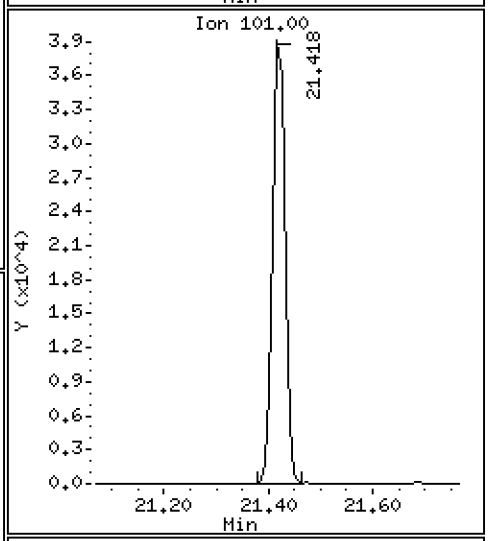
65 Pyrene

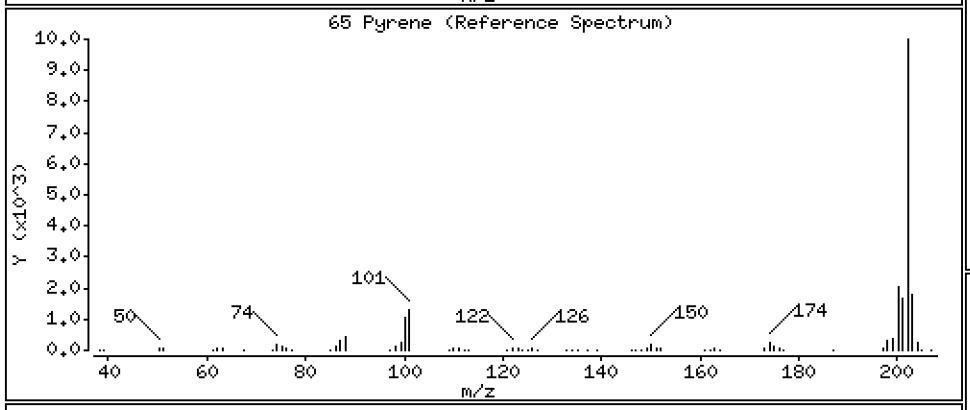
Concentration: 4.041 ug/mL

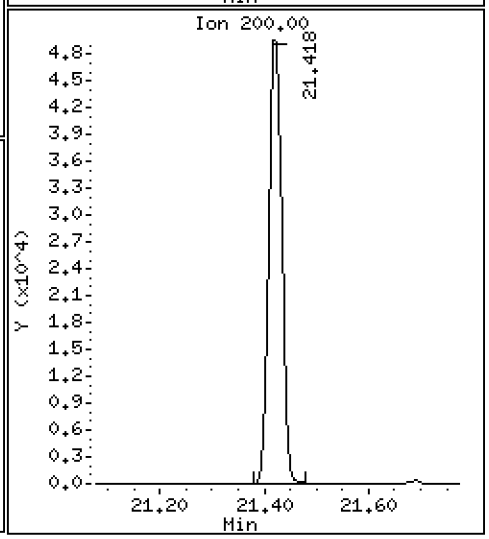


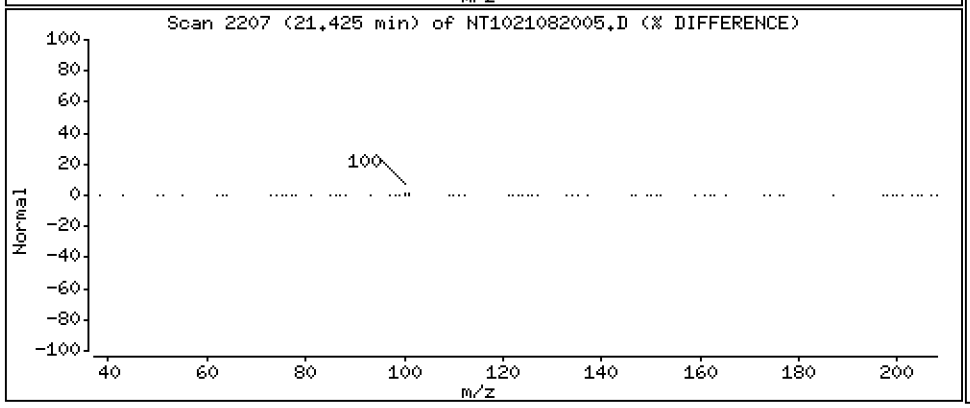












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

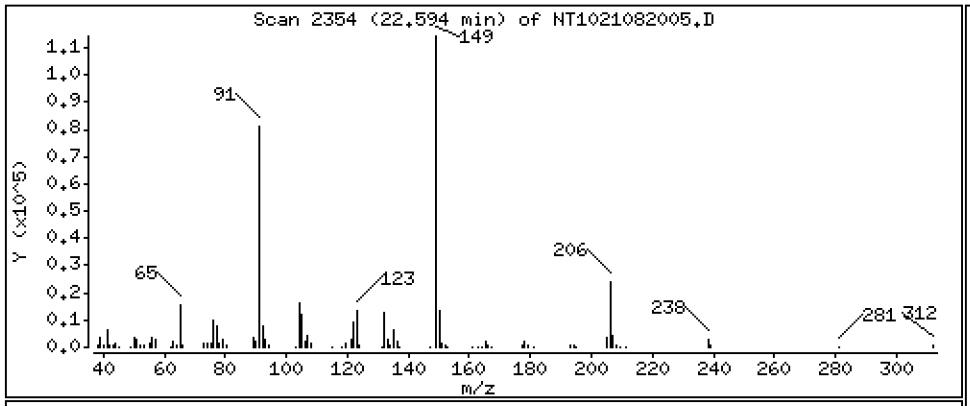
Operator: VTS

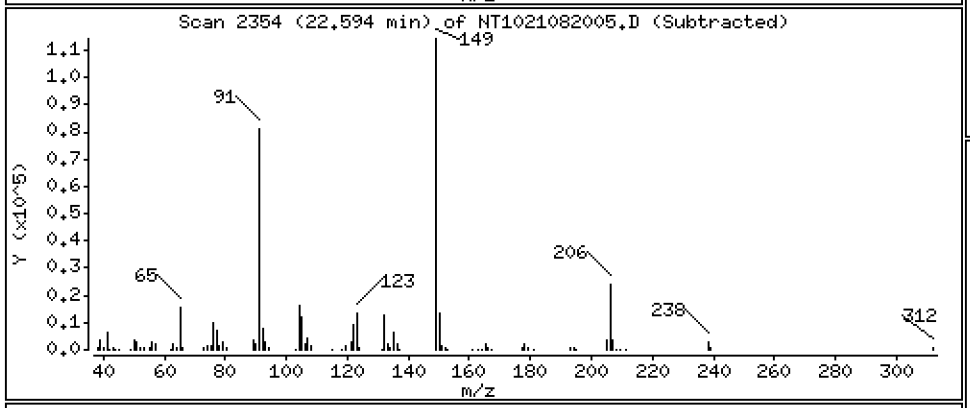
Column phase: ZB-5msi

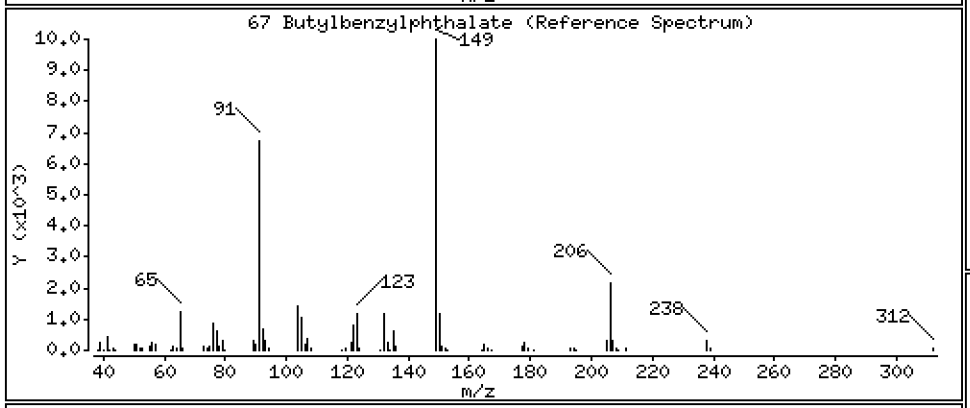
Column diameter: 0.25

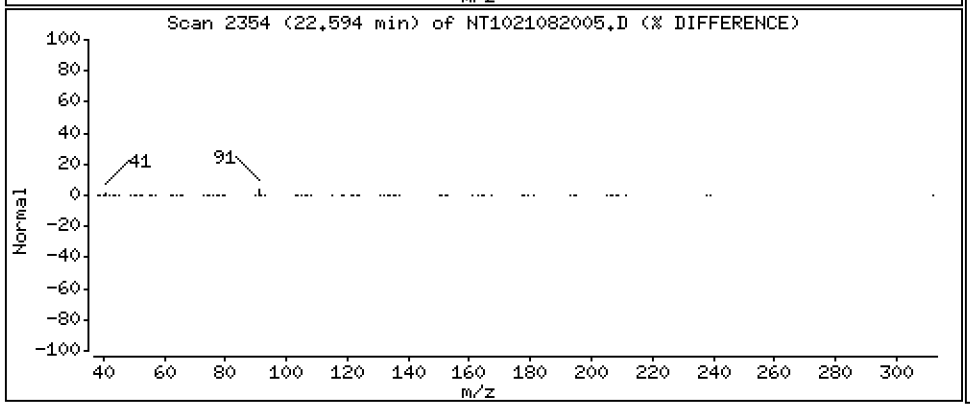
67 Butylbenzylphthalate

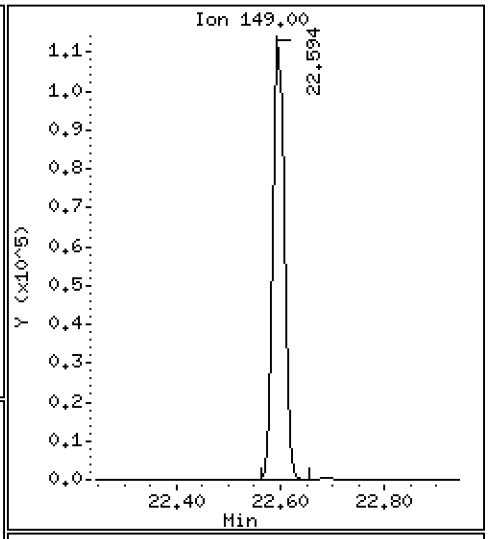
Concentration: 3.988 ug/mL

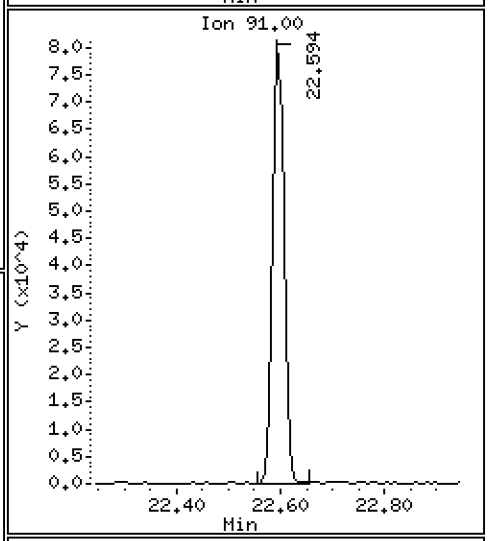


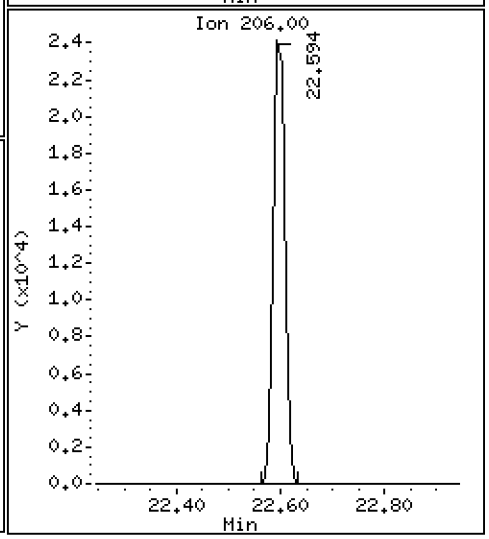












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

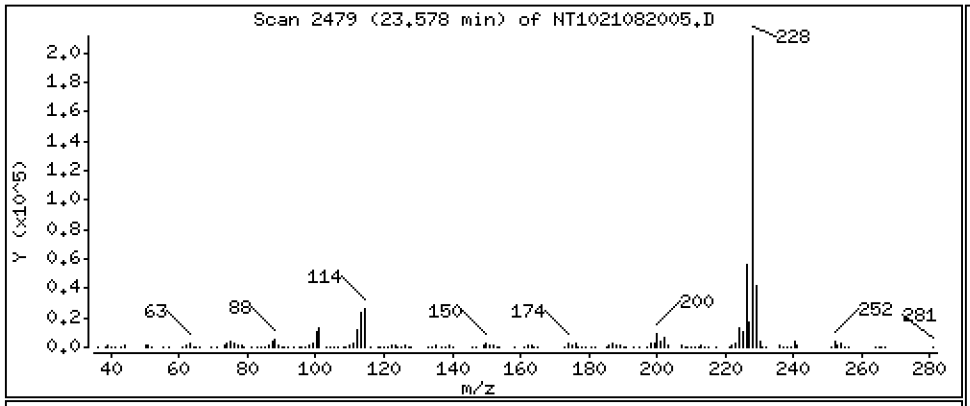
Operator: VTS

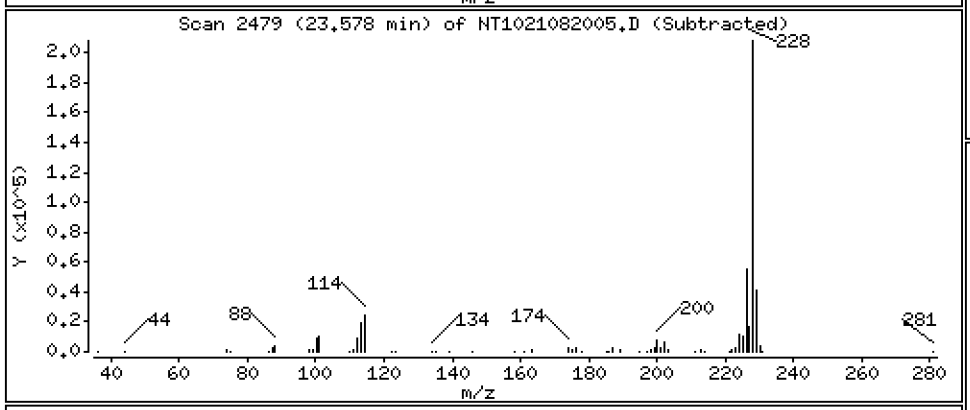
Column phase: ZB-5msi

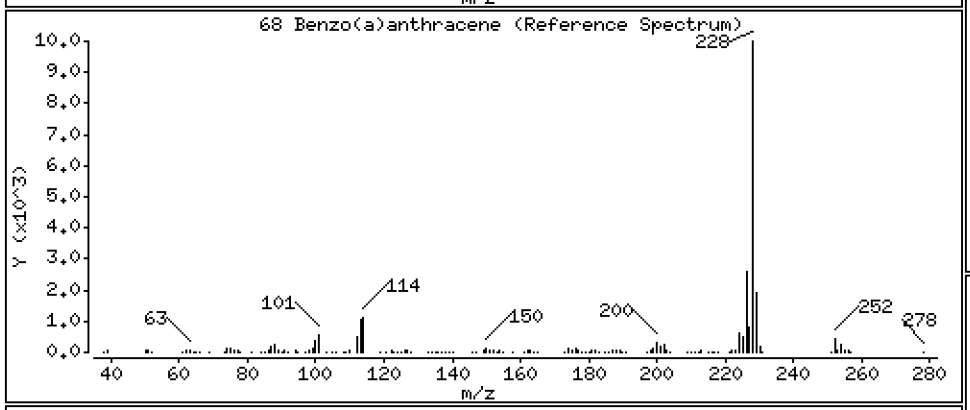
Column diameter: 0.25

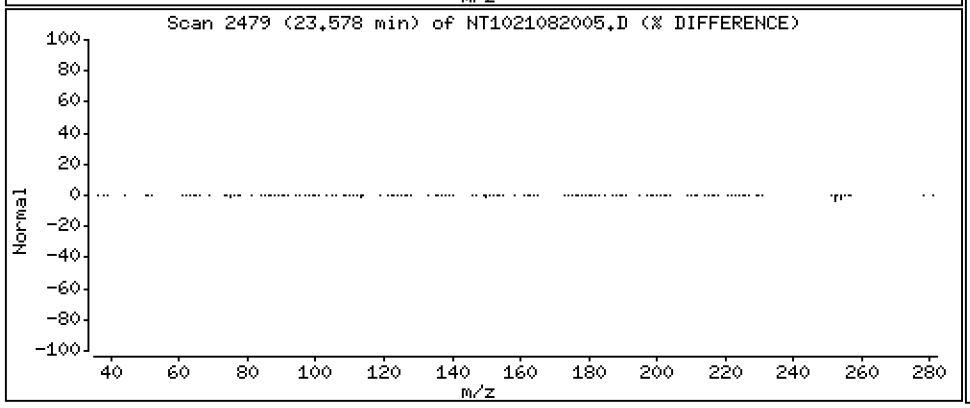
68 Benzo(a)anthracene

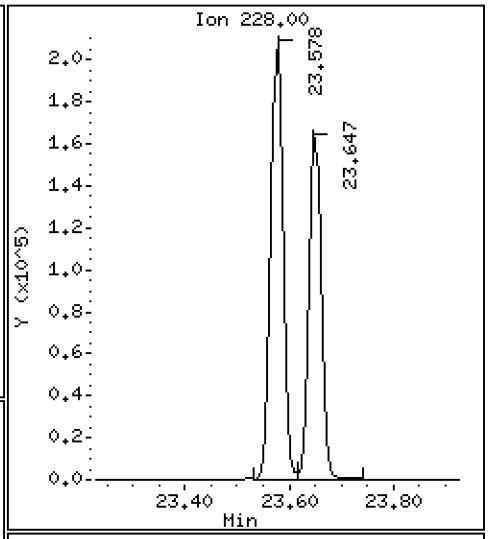
Concentration: 4.076 ug/mL

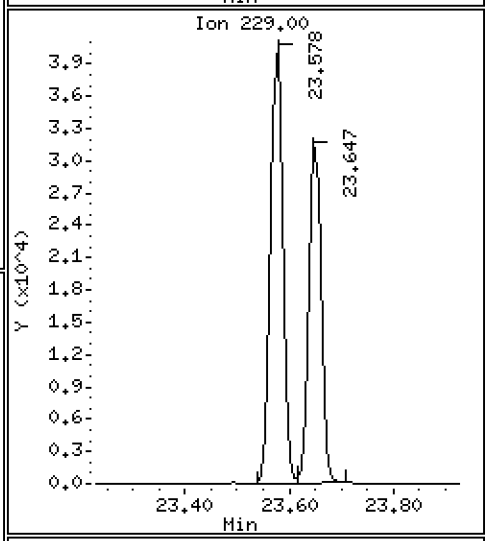


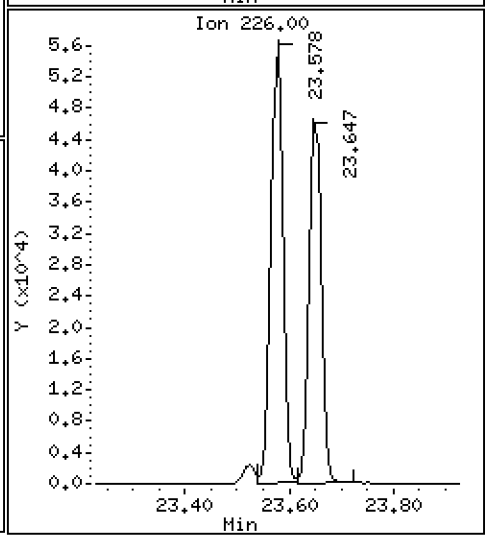












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

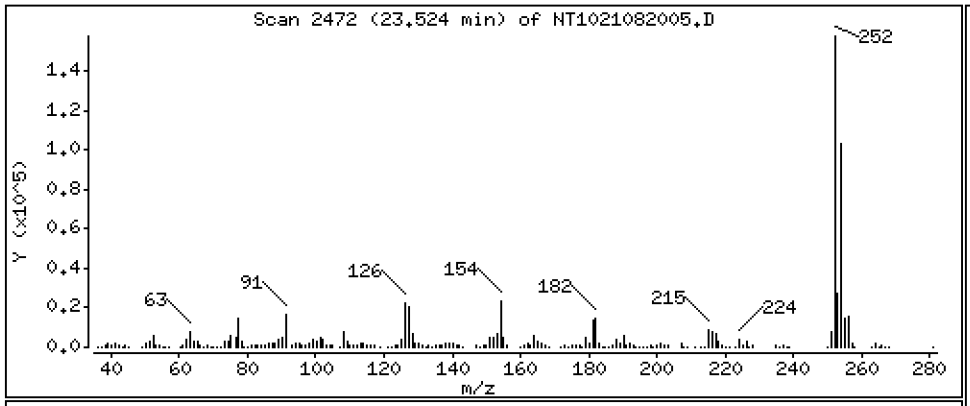
Operator: VTS

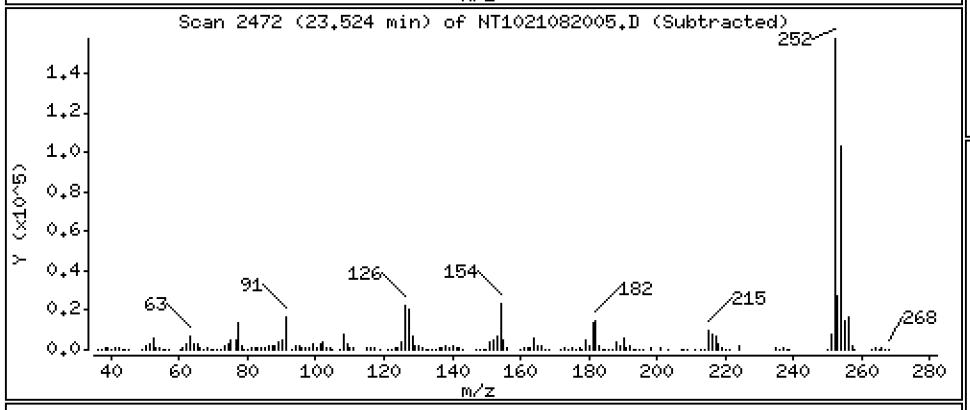
Column phase: ZB-5msi

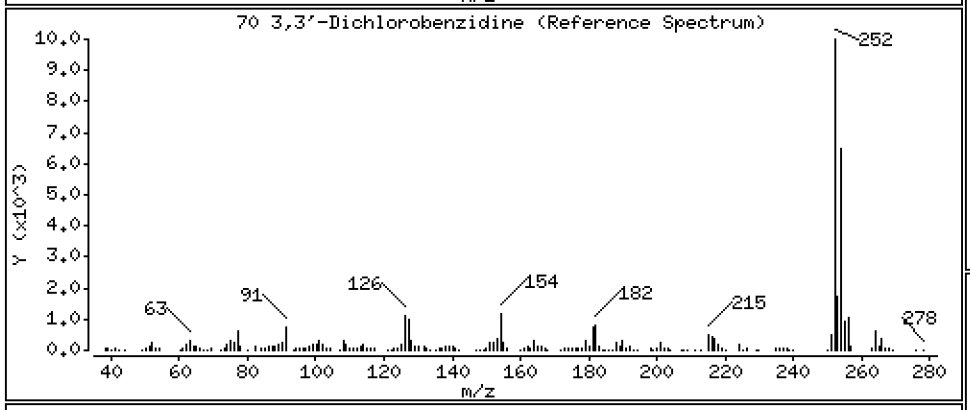
Column diameter: 0.25

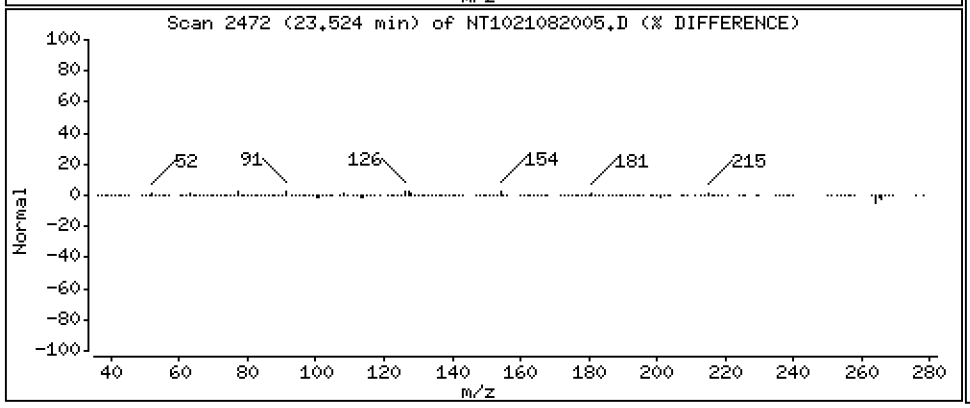
70 3,3'-Dichlorobenzidine

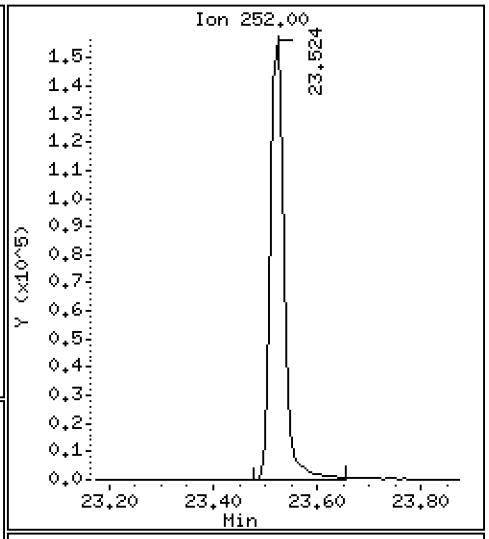
Concentration: 8.599 ug/mL

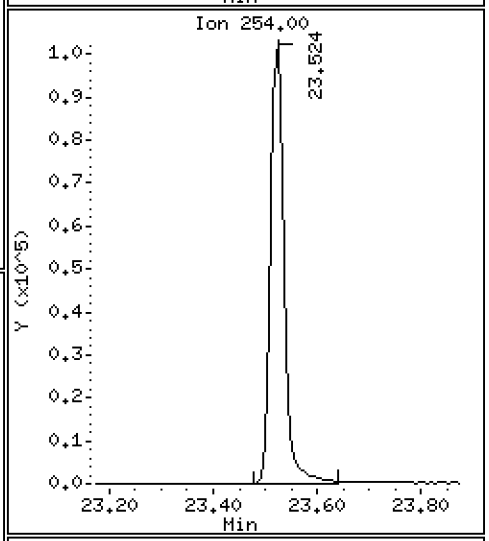


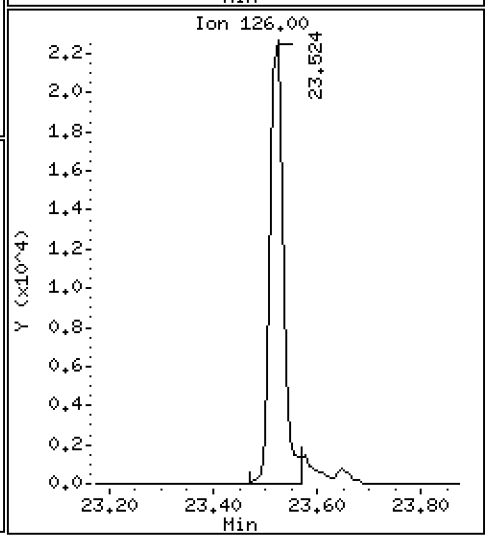












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

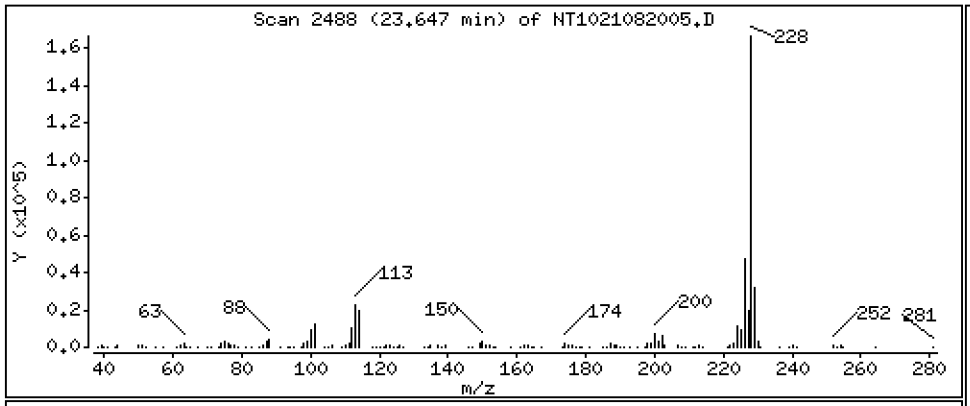
Operator: VTS

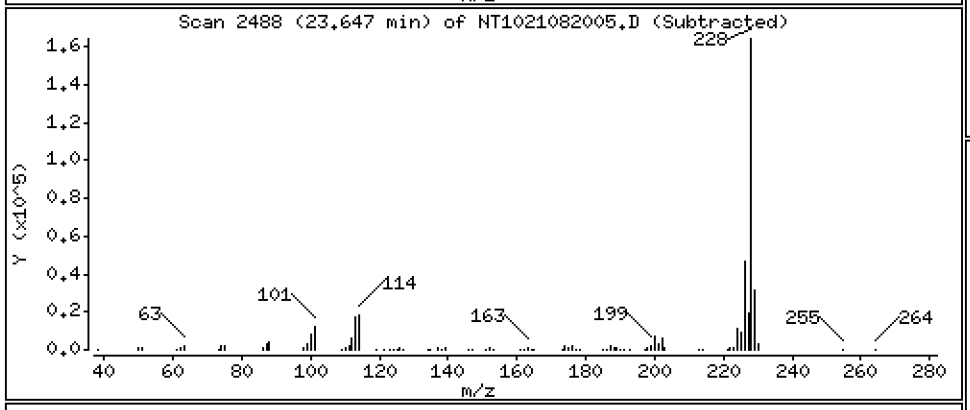
Column phase: ZB-5msi

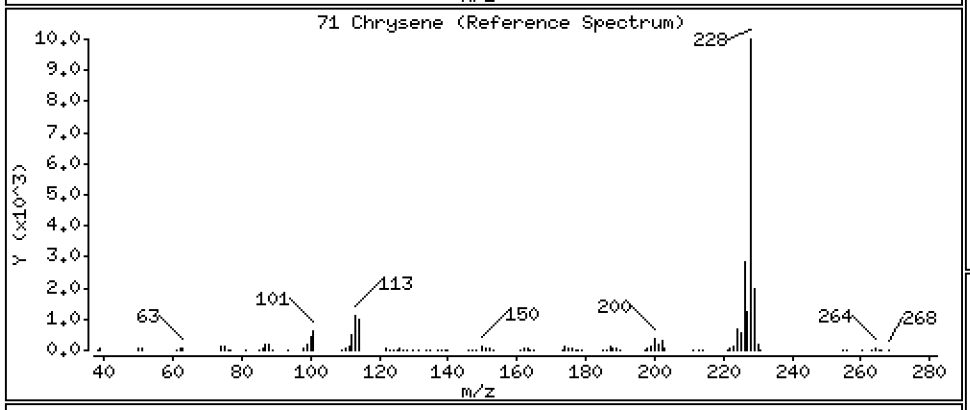
Column diameter: 0.25

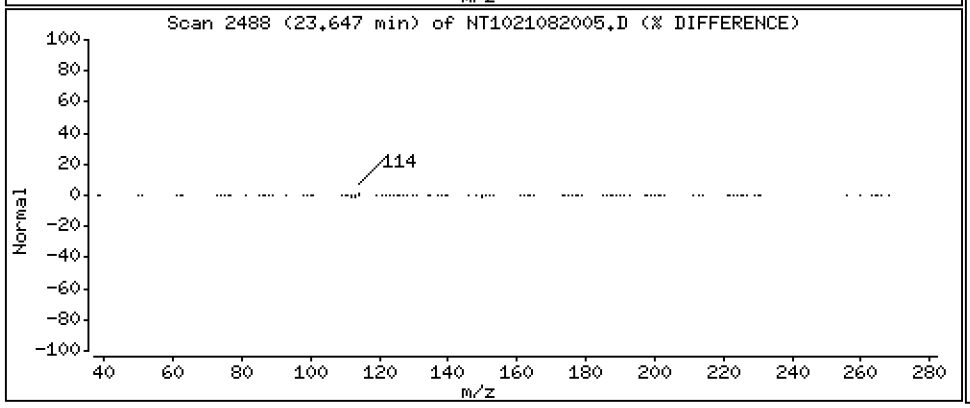
71 Chrysene

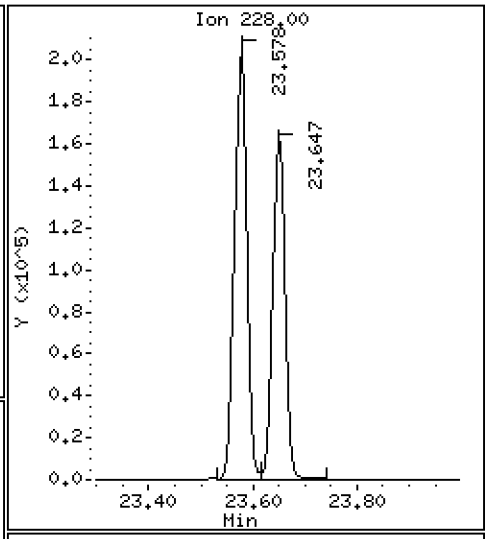
Concentration: 3.985 ug/mL

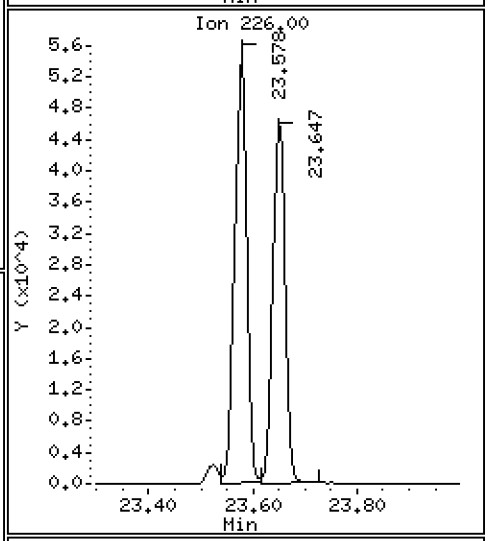


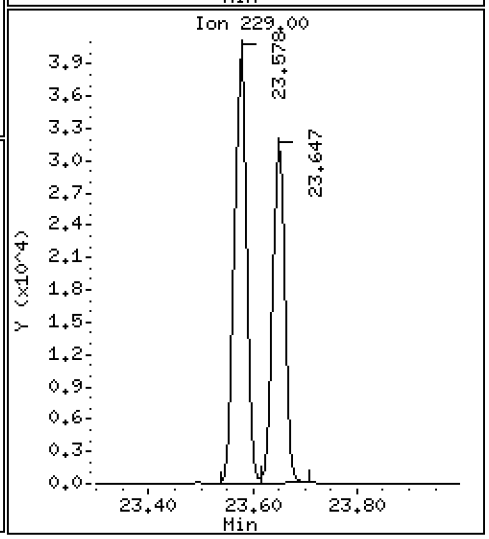












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

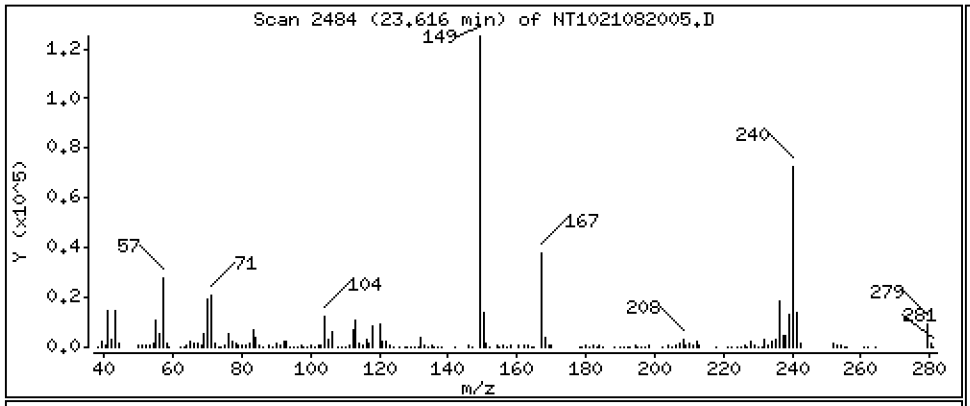
Operator: VTS

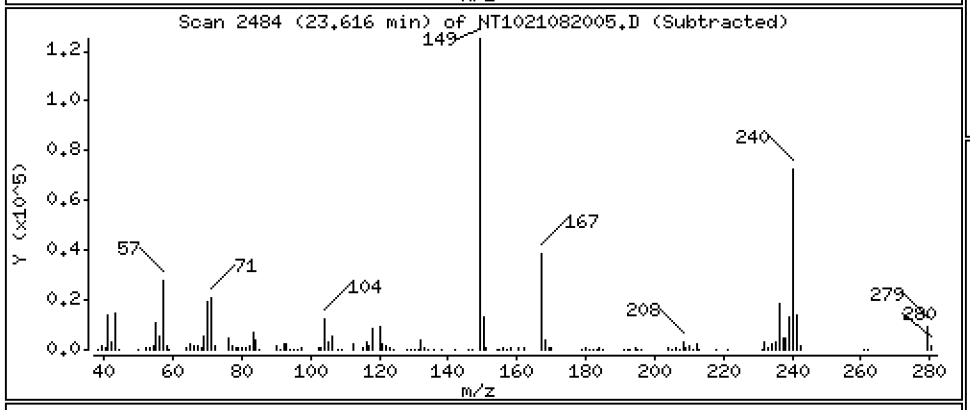
Column phase: ZB-5msi

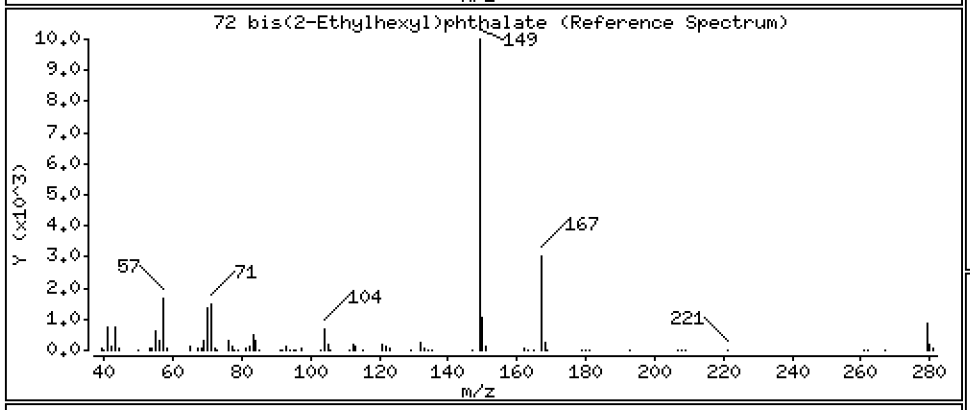
Column diameter: 0.25

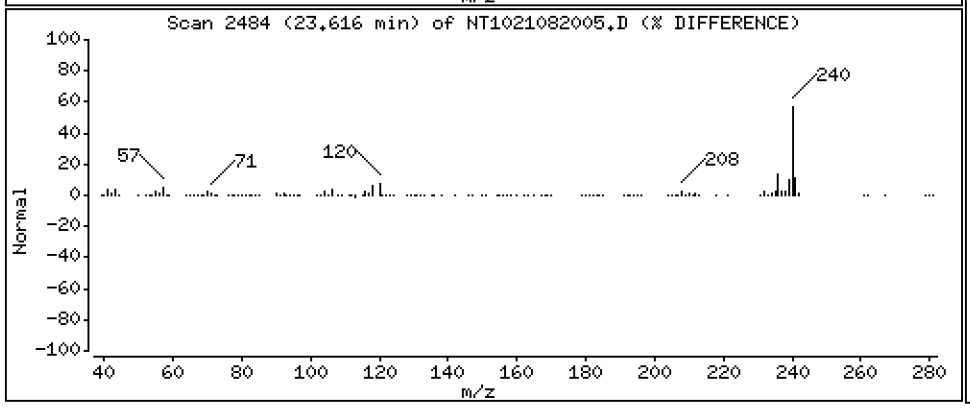
72 bis(2-Ethylhexyl)phthalate

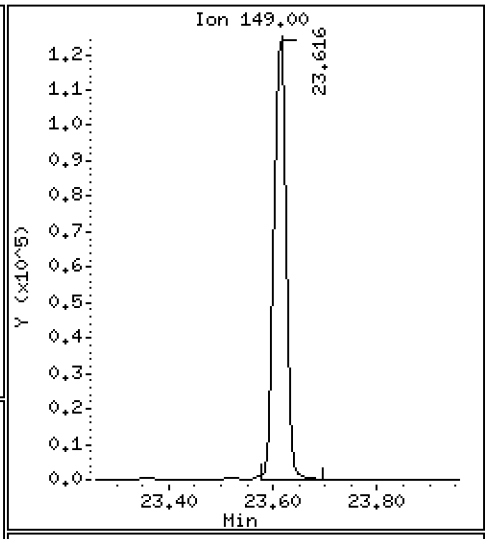
Concentration: 4.500 ug/mL

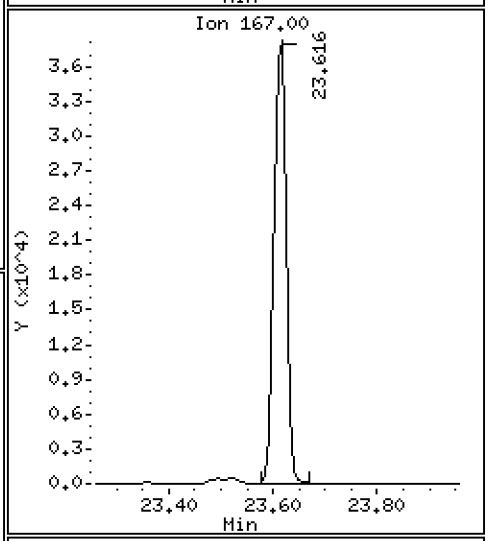


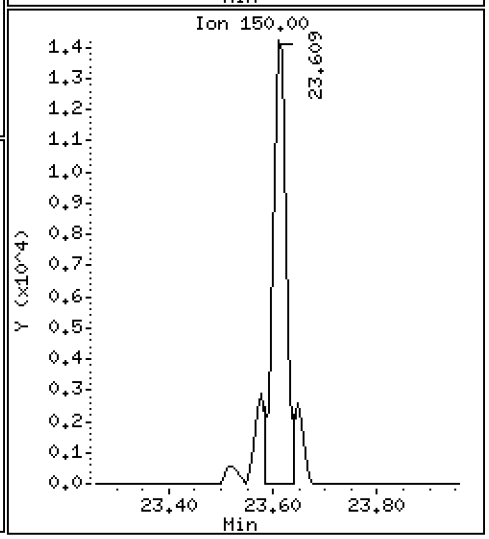












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

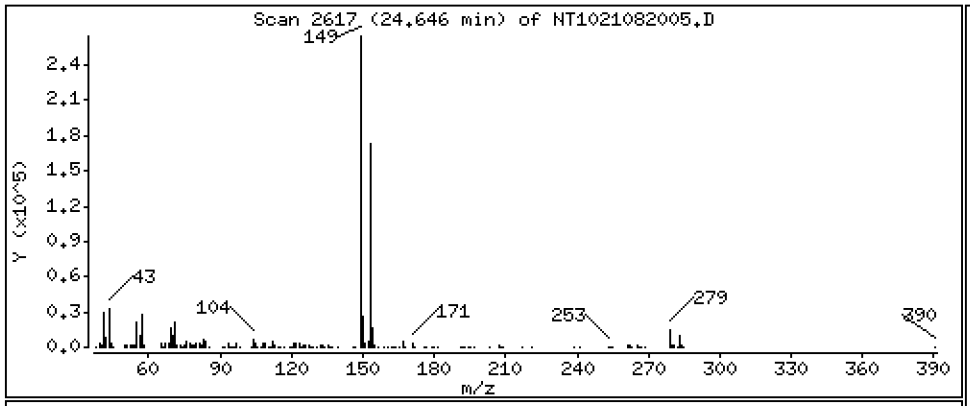
Operator: VTS

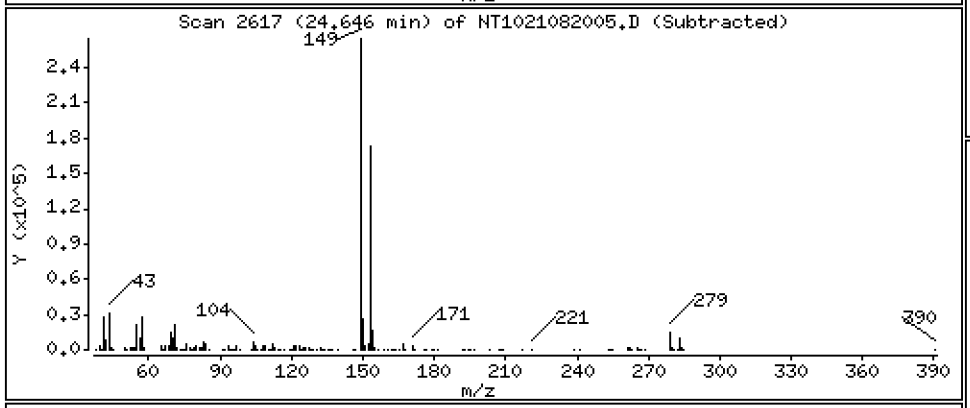
Column phase: ZB-5msi

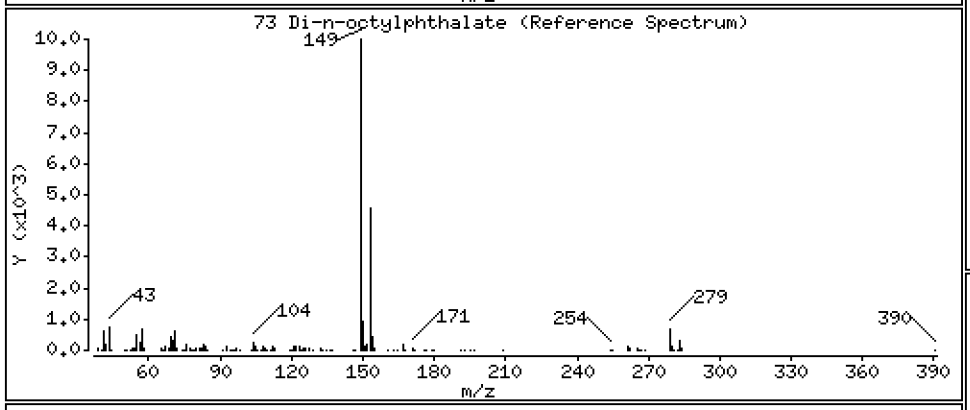
Column diameter: 0.25

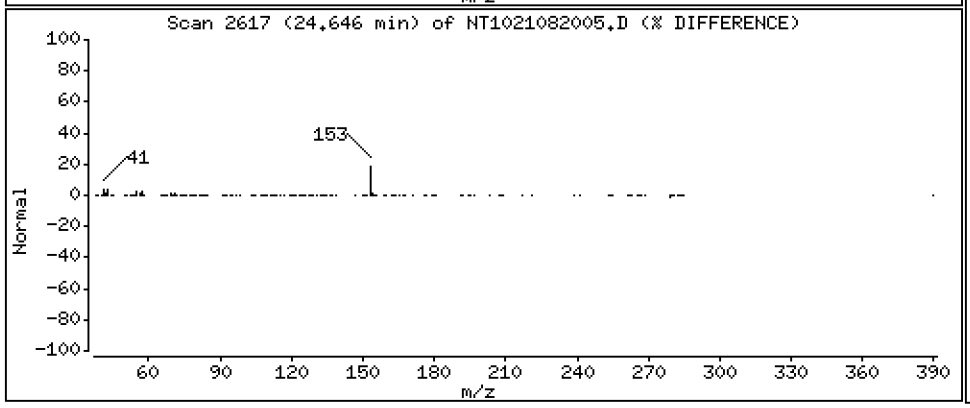
73 Di-n-octylphthalate

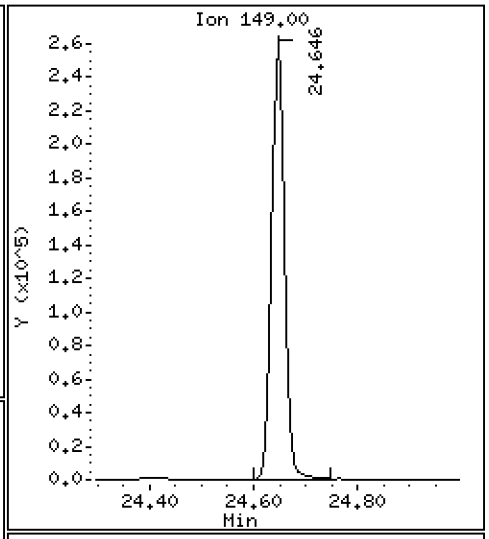
Concentration: 4.290 ug/mL

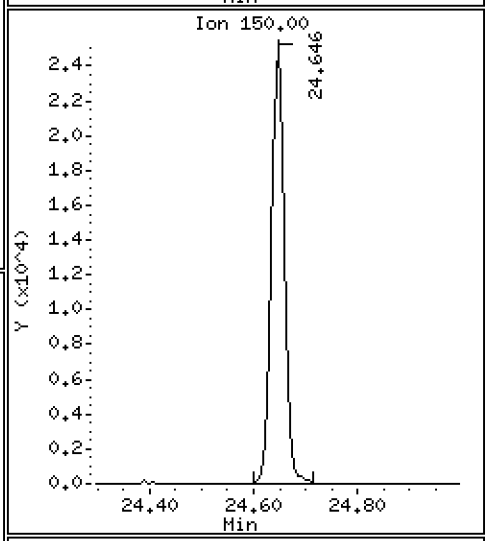


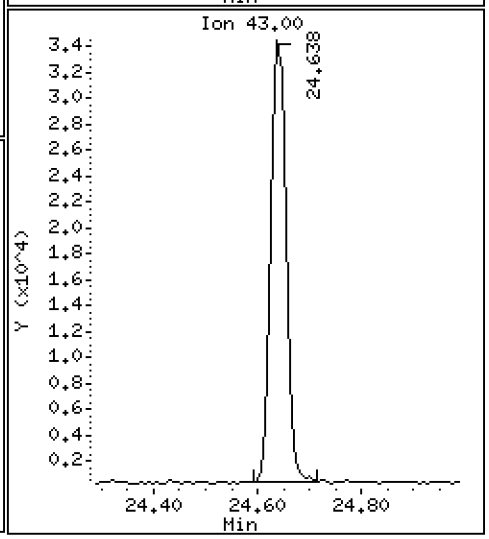












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

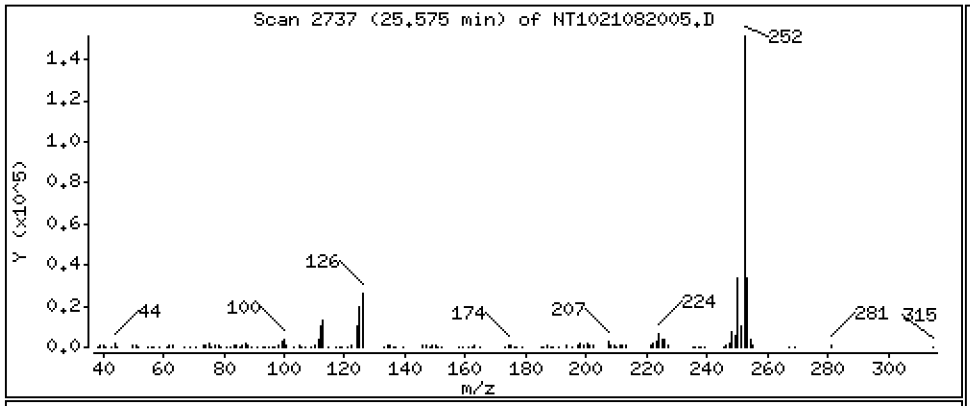
Operator: VTS

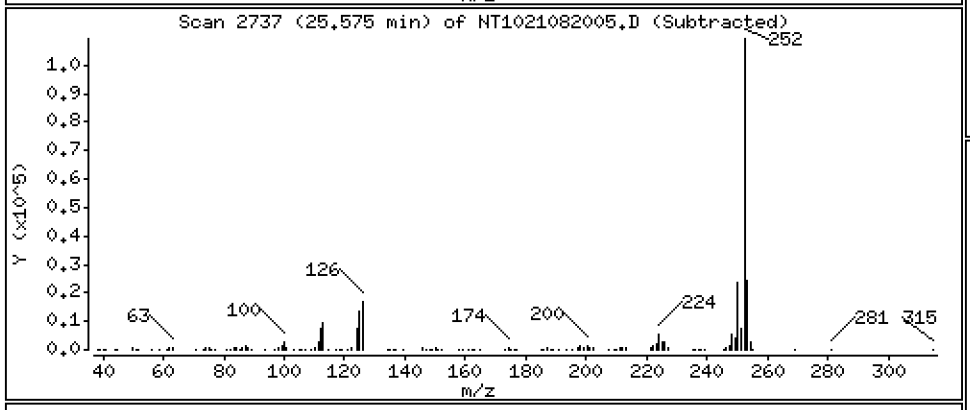
Column phase: ZB-5msi

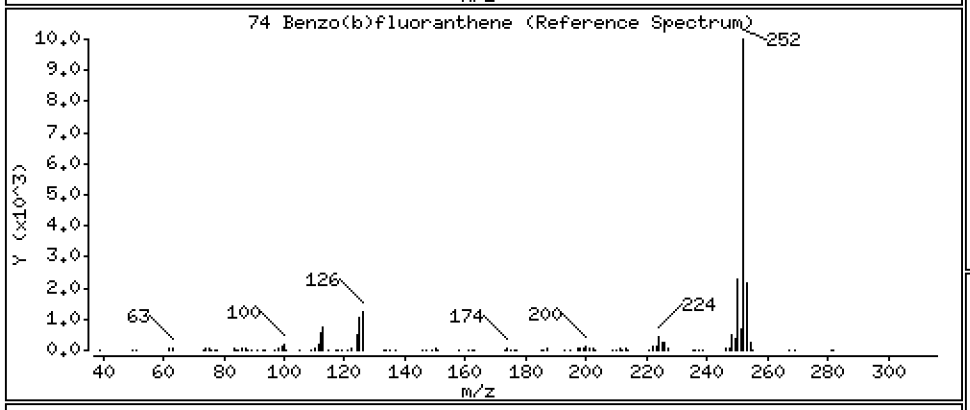
Column diameter: 0.25

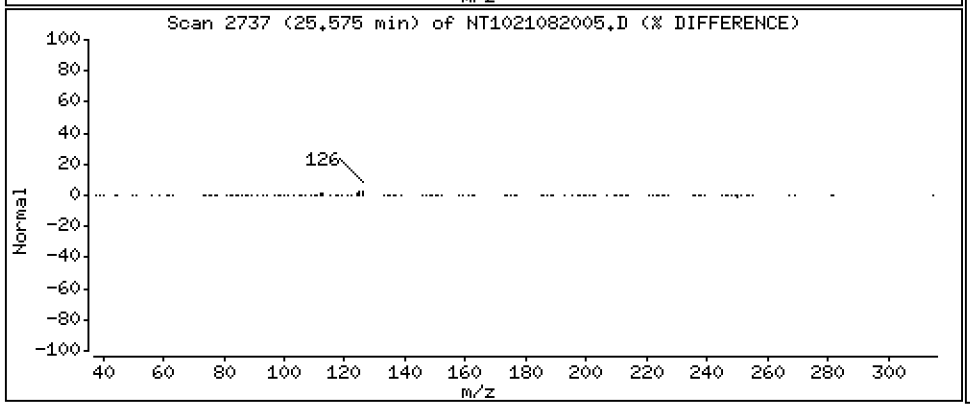
74 Benzo(b)fluoranthene

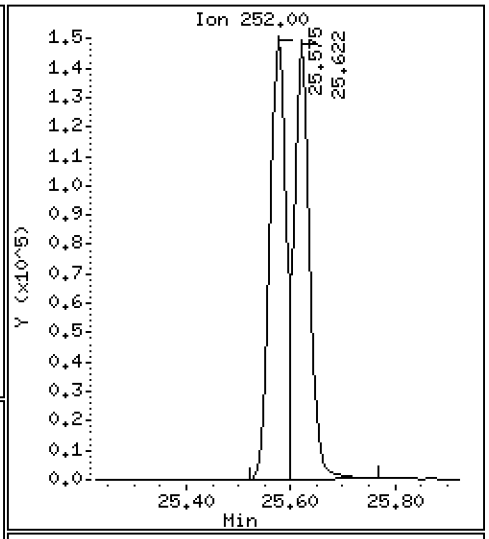
Concentration: 4.136 ug/mL

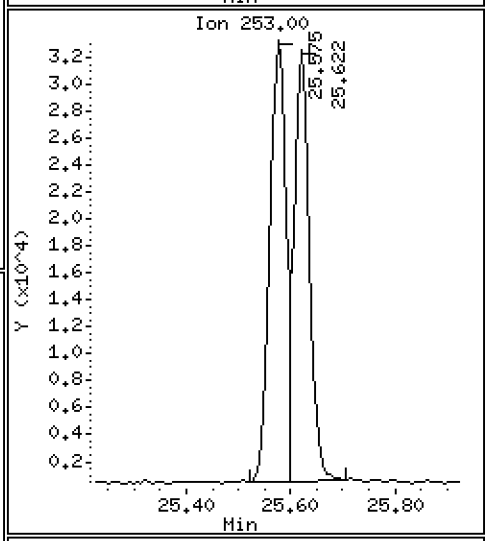


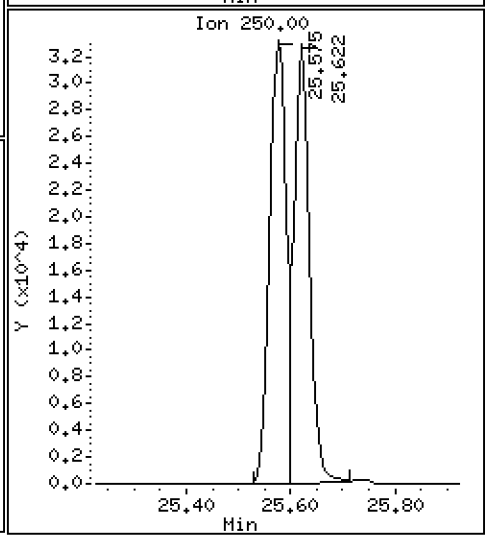












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

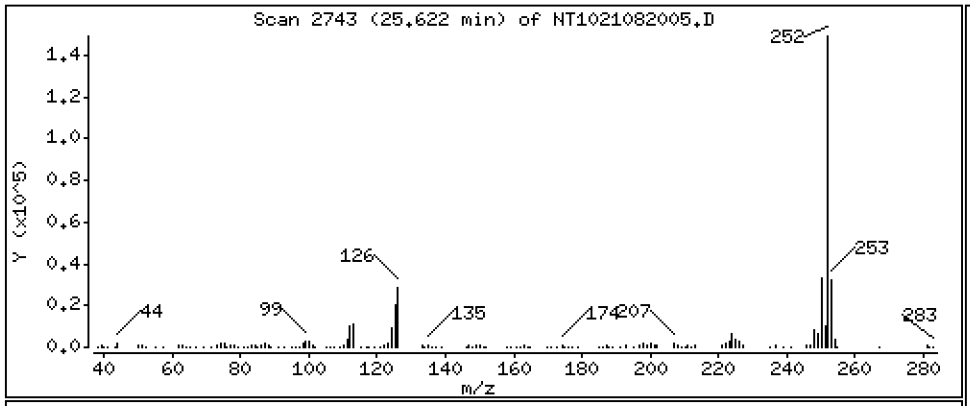
Operator: VTS

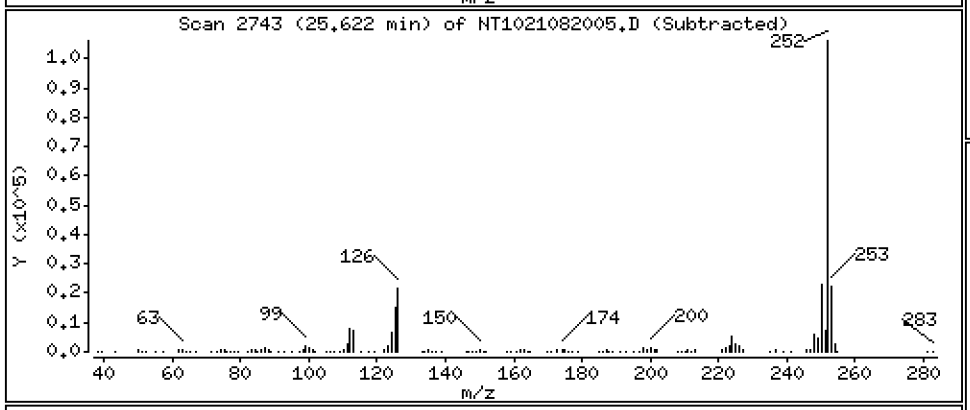
Column phase: ZB-5msi

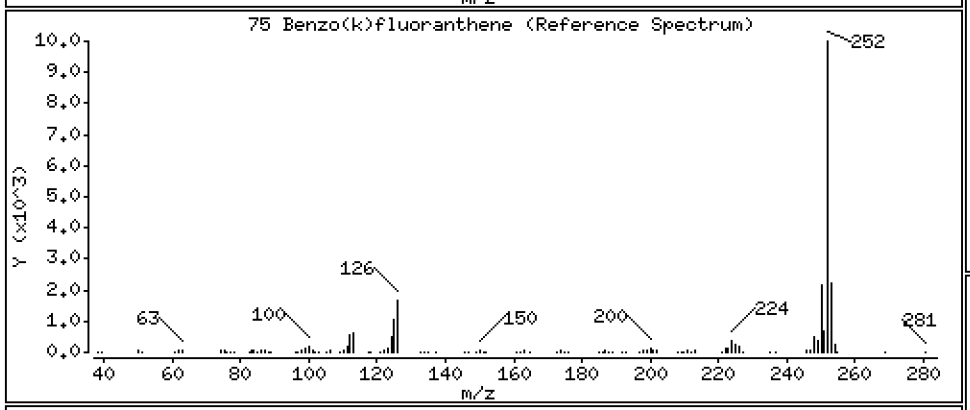
Column diameter: 0.25

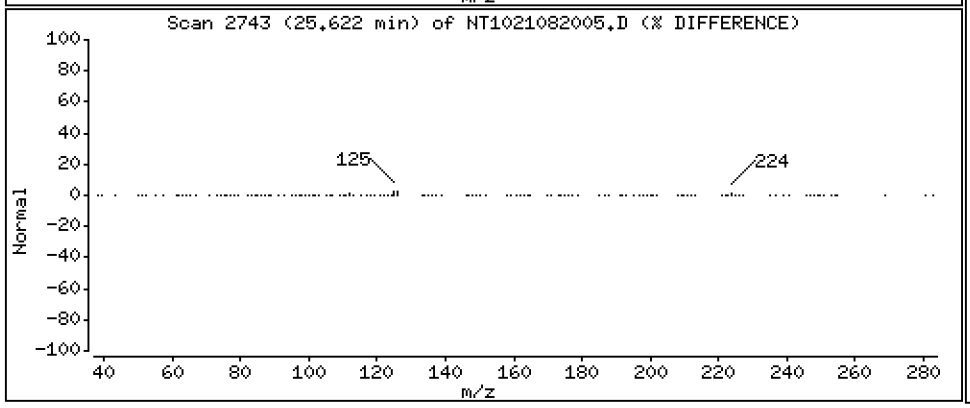
75 Benzo(k)fluoranthene

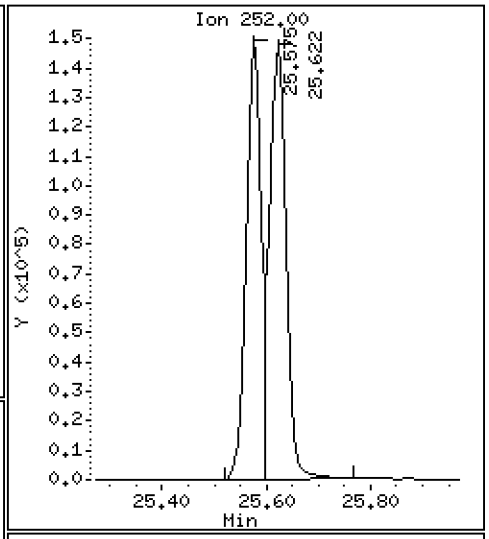
Concentration: 4.339 ug/mL

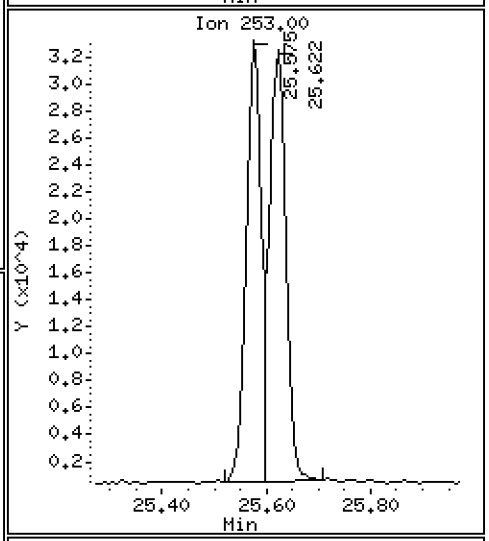


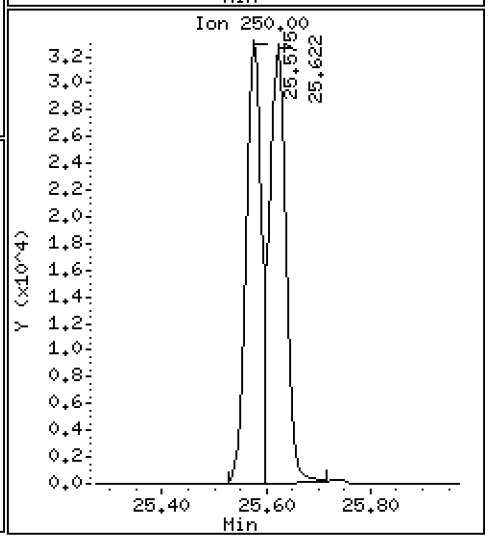












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

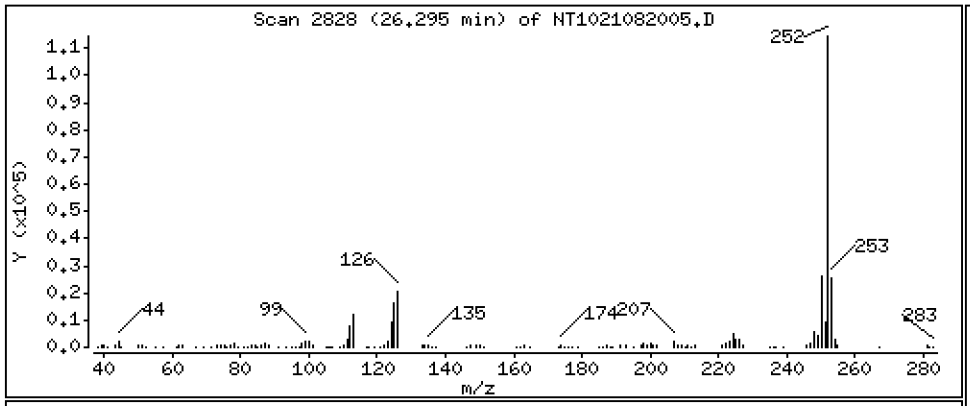
Operator: VTS

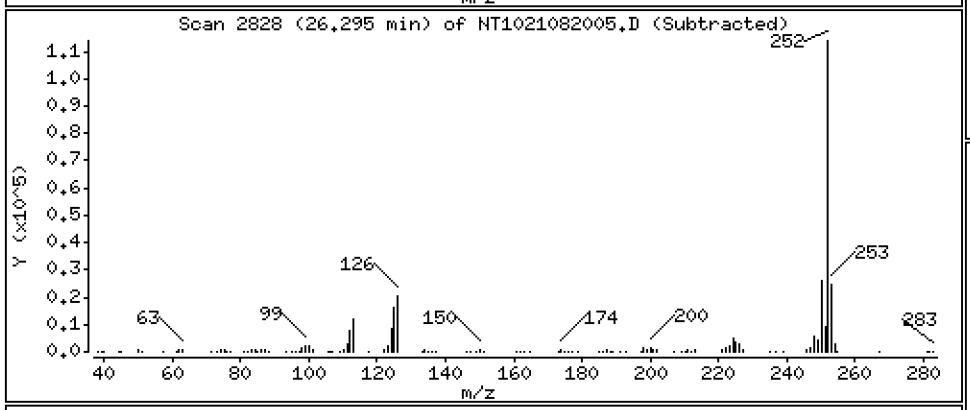
Column phase: ZB-5msi

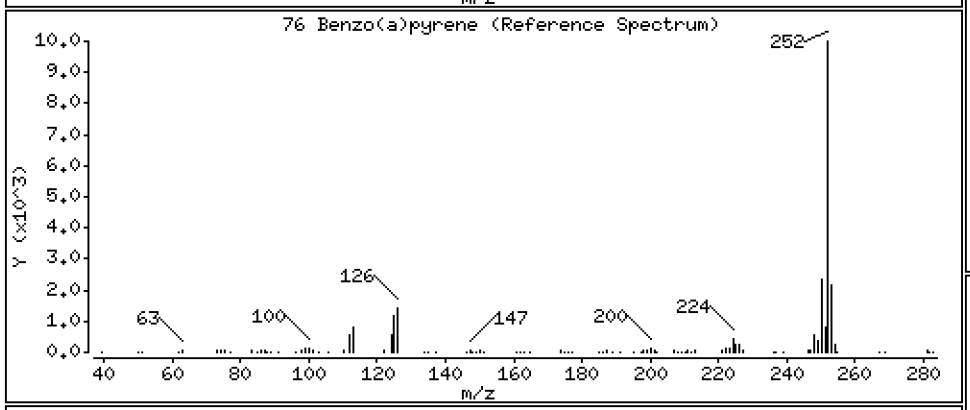
Column diameter: 0.25

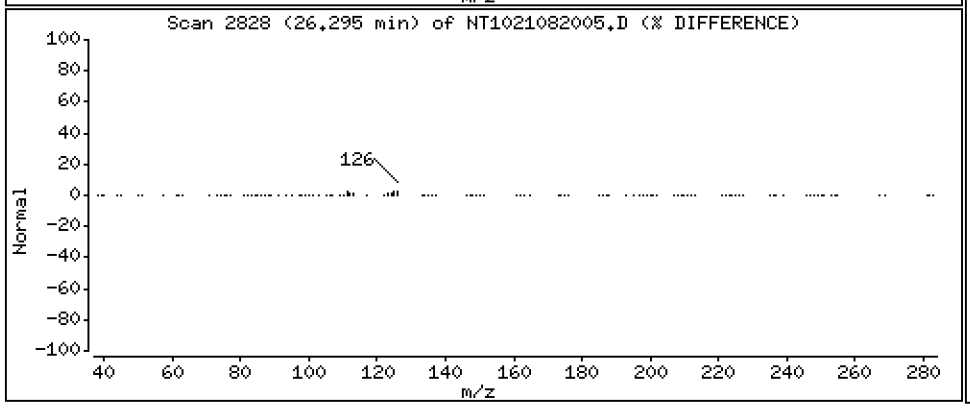
76 Benzo(a)pyrene

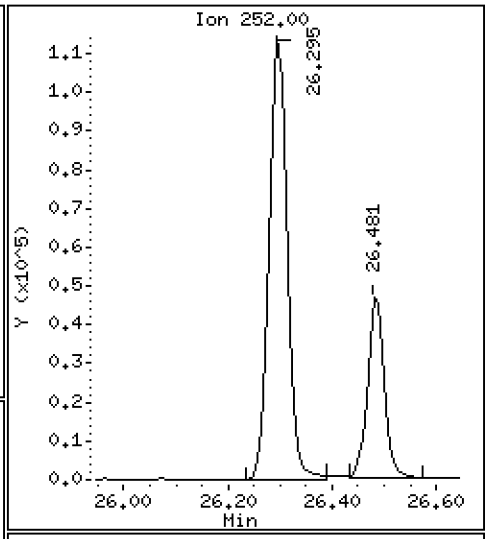
Concentration: 3.925 ug/mL

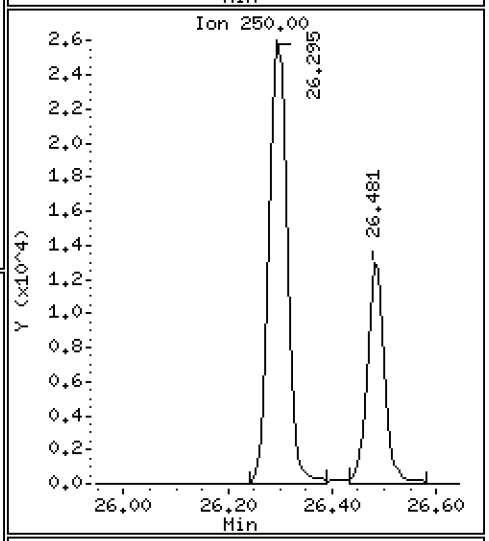


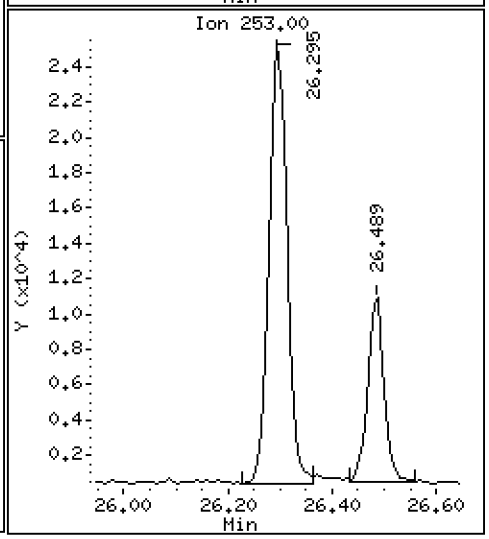












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

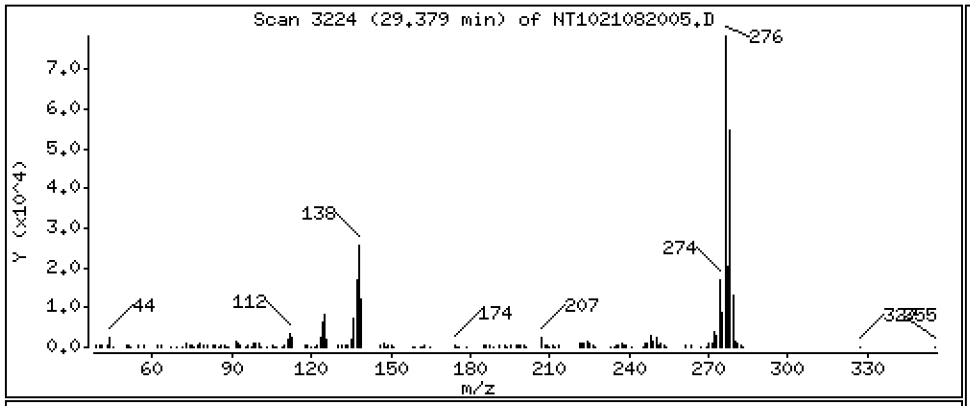
Operator: VTS

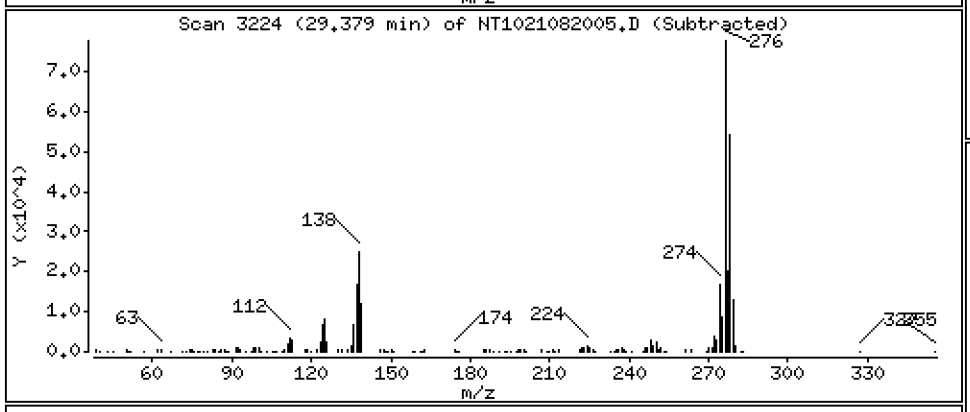
Column phase: ZB-5msi

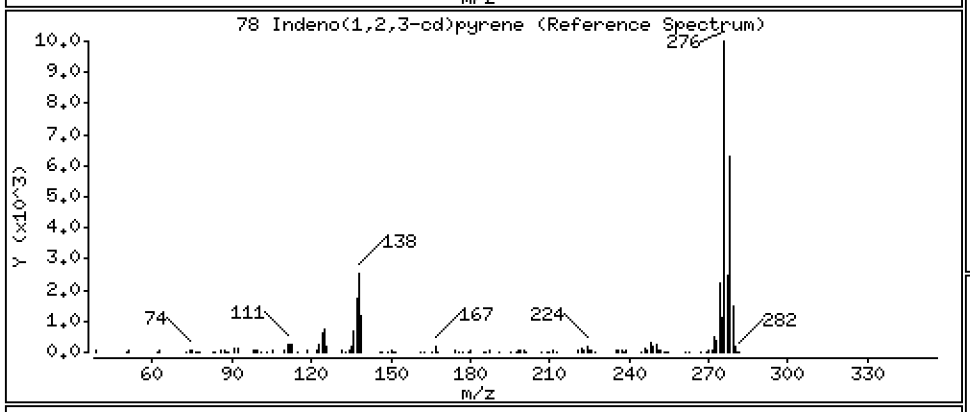
Column diameter: 0.25

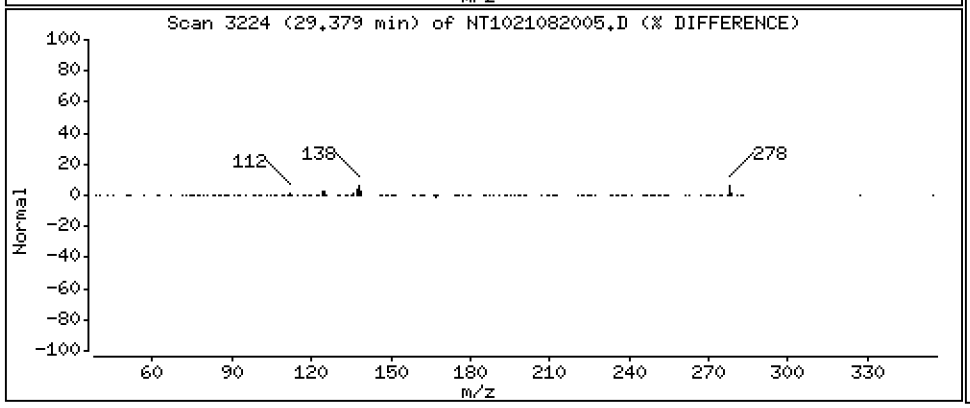
78 Indeno(1,2,3-cd)pyrene

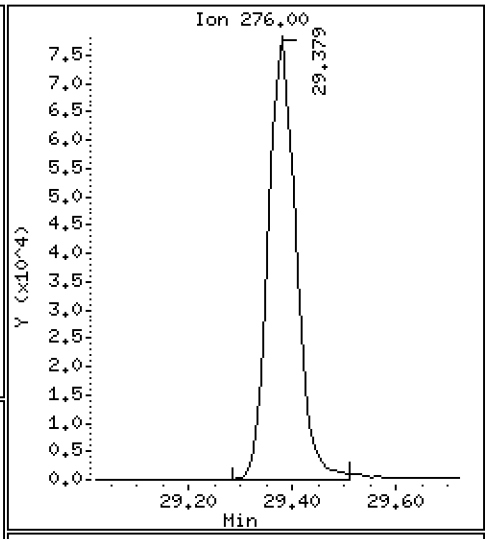
Concentration: 4.145 ug/mL

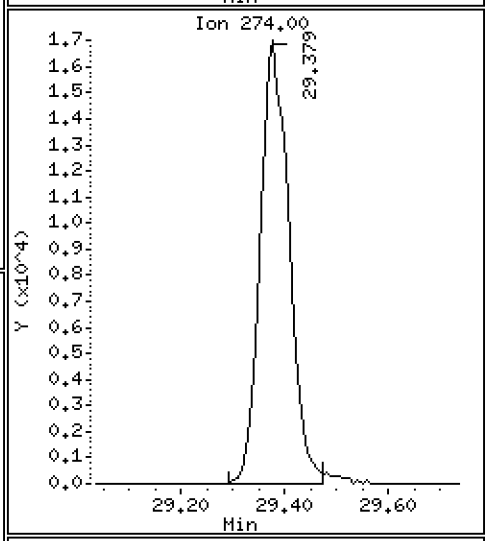


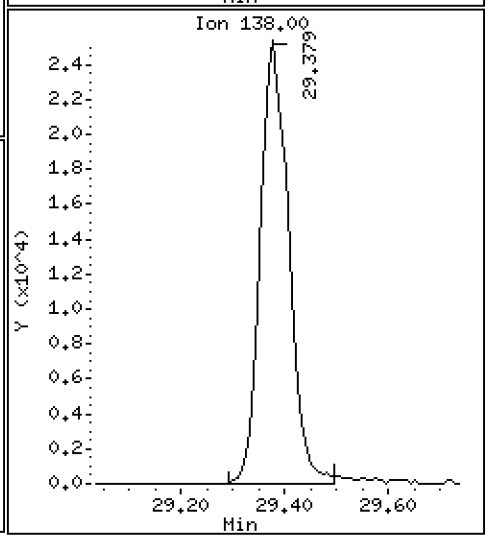












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

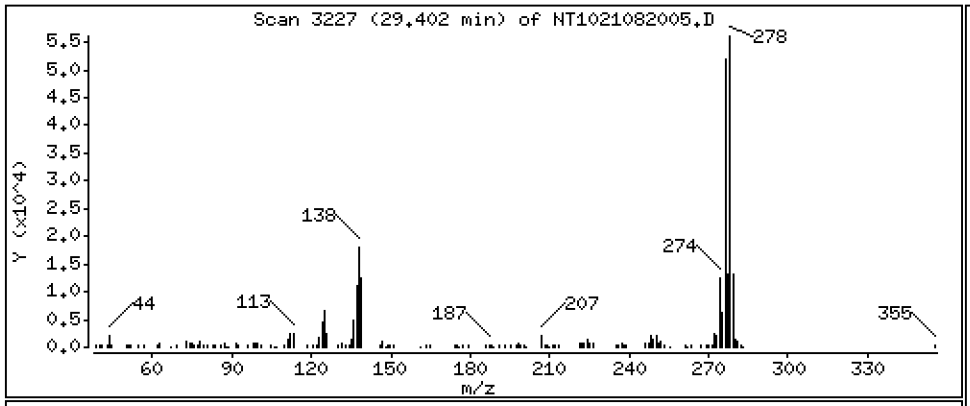
Operator: VTS

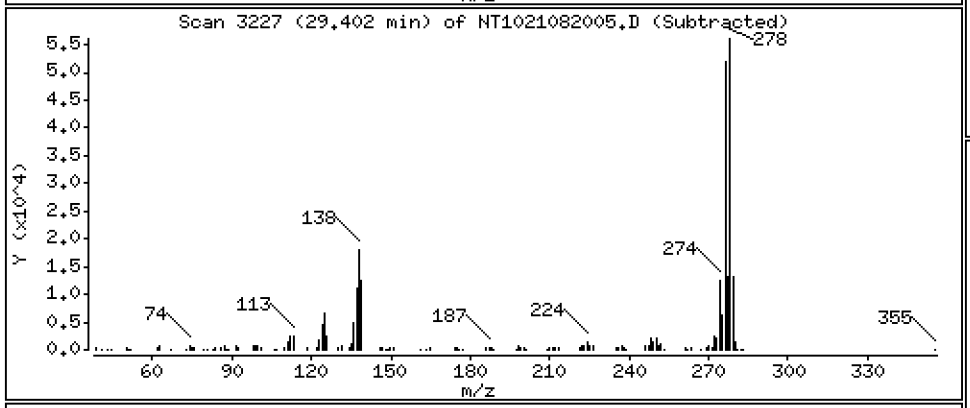
Column phase: ZB-5msi

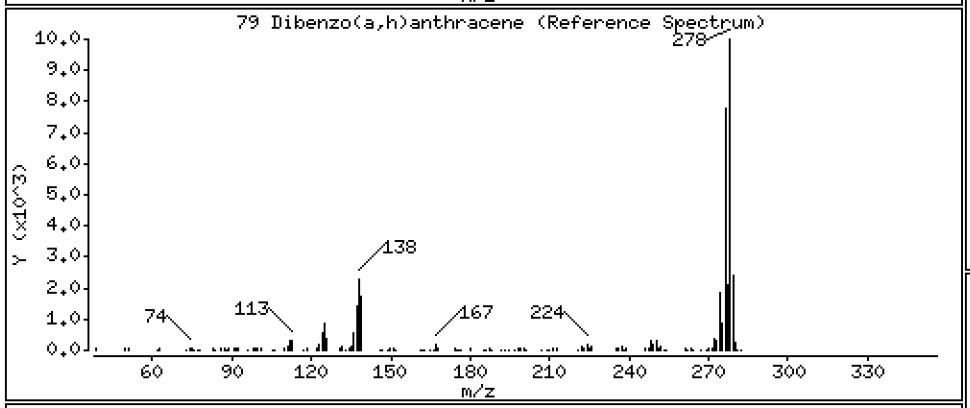
Column diameter: 0.25

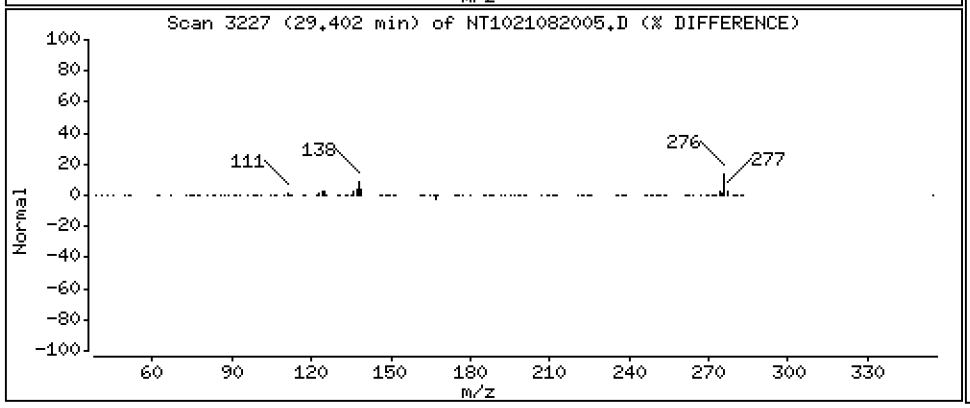
79 Dibenzo(a,h)anthracene

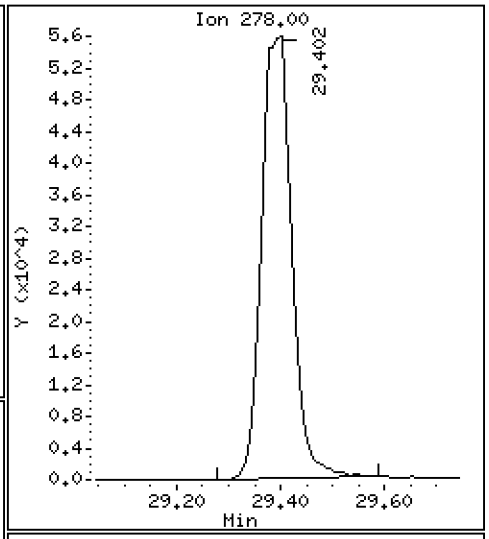
Concentration: 4.176 ug/mL

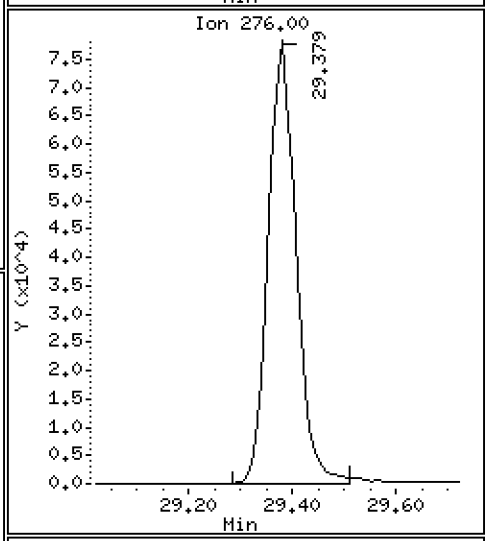


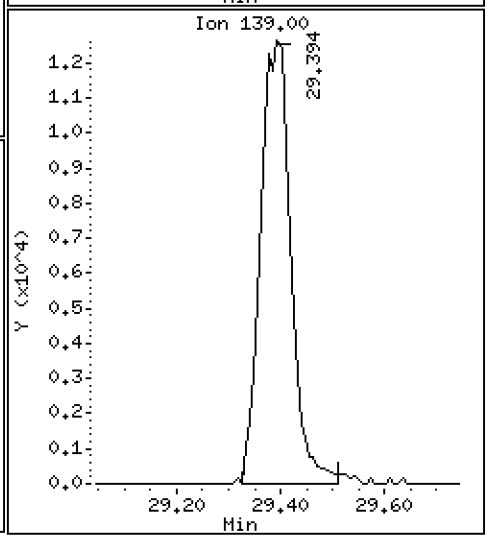












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

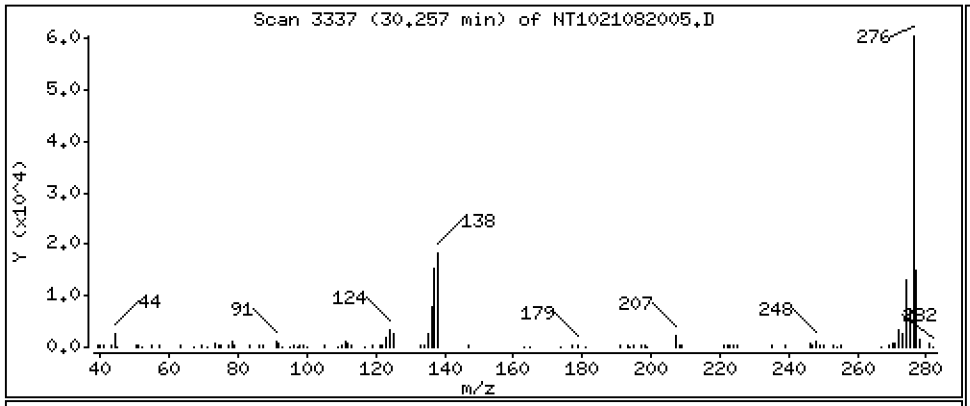
Operator: VTS

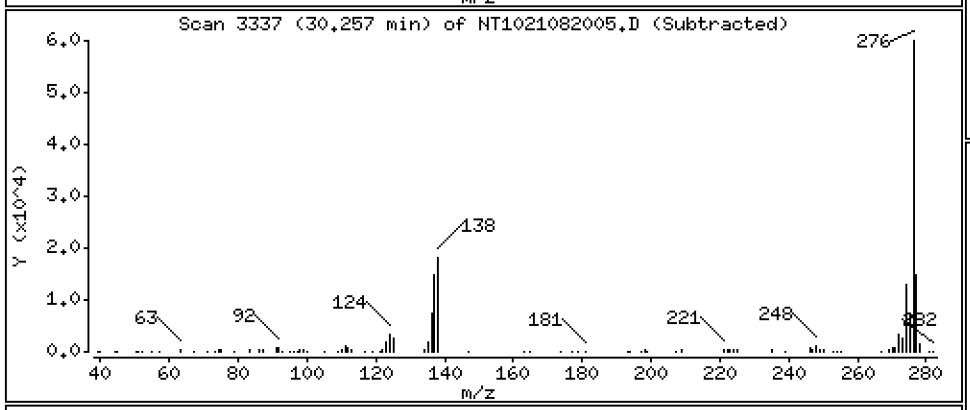
Column phase: ZB-5msi

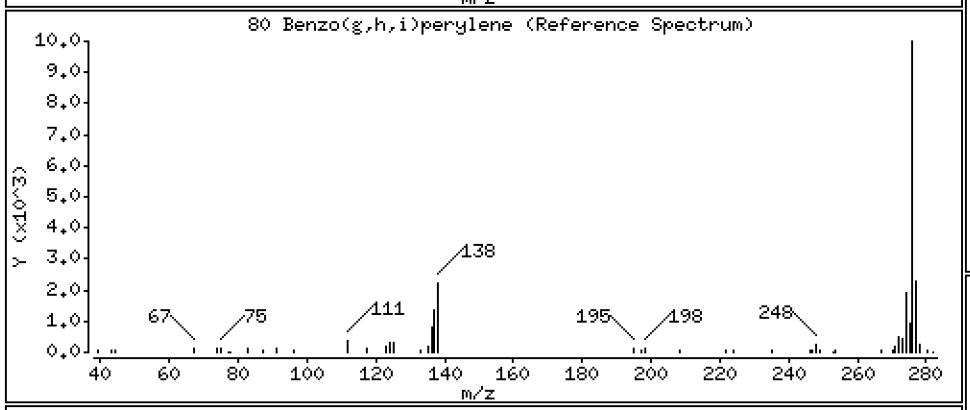
Column diameter: 0.25

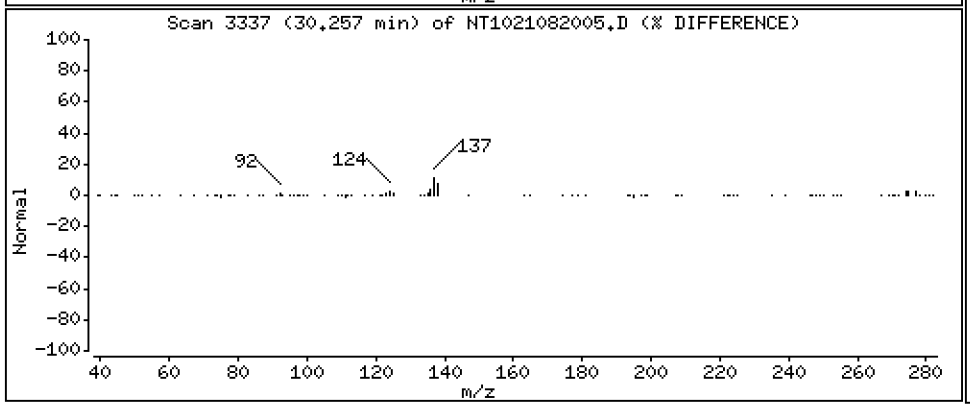
80 Benzo(g,h,i)perylene

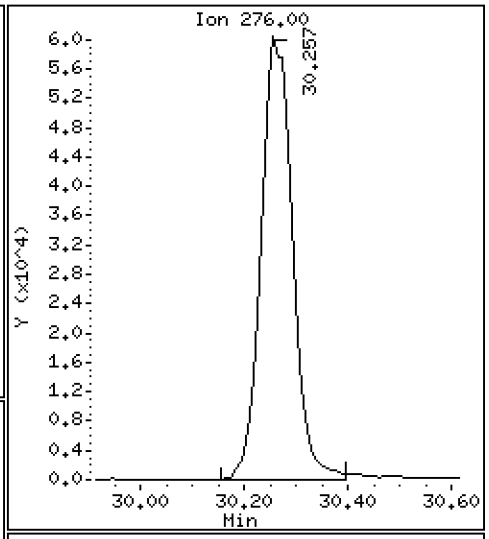
Concentration: 4.129 ug/mL

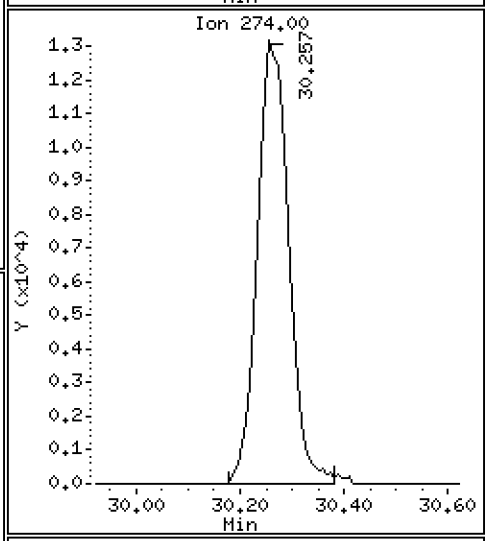


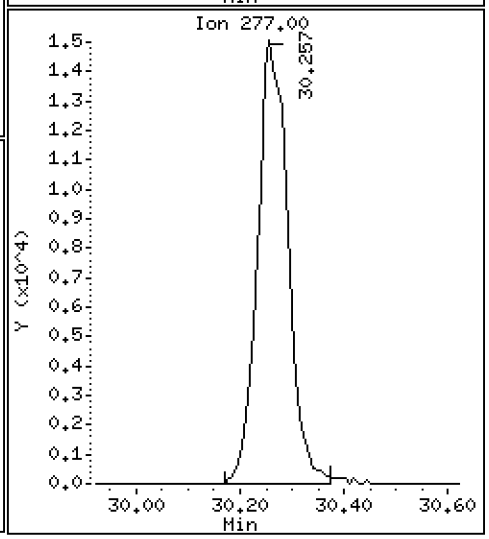












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

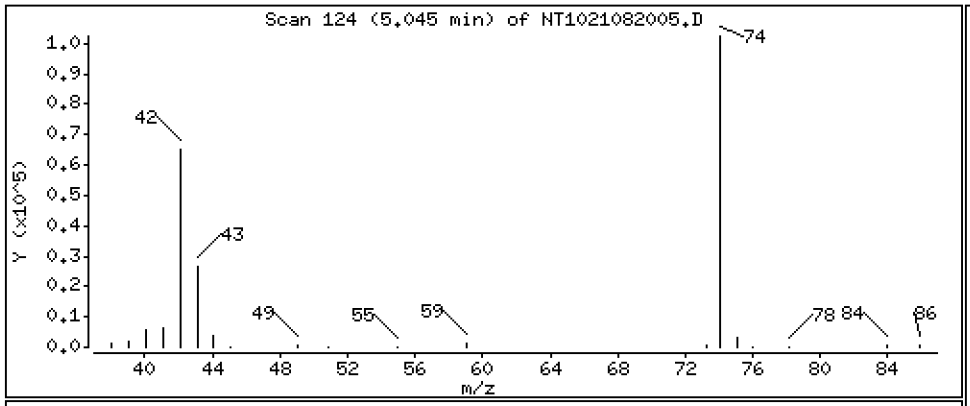
Operator: VTS

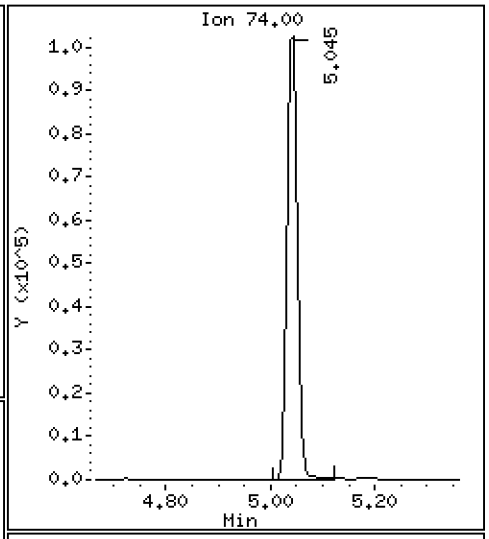
Column phase: ZB-5msi

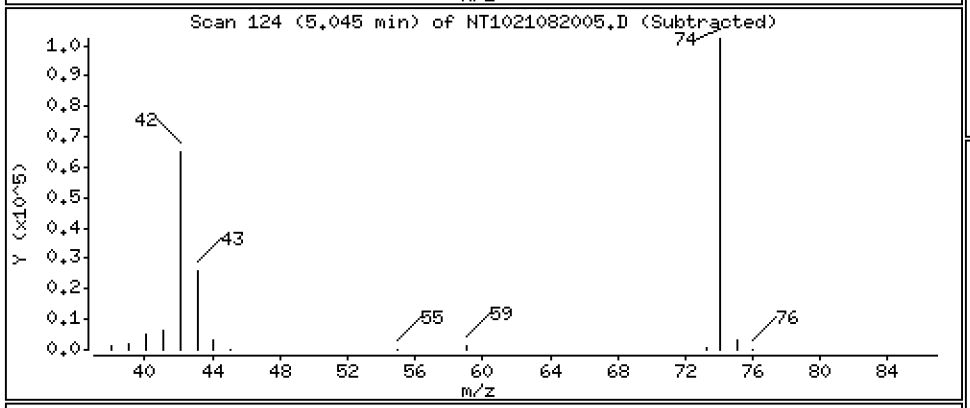
Column diameter: 0.25

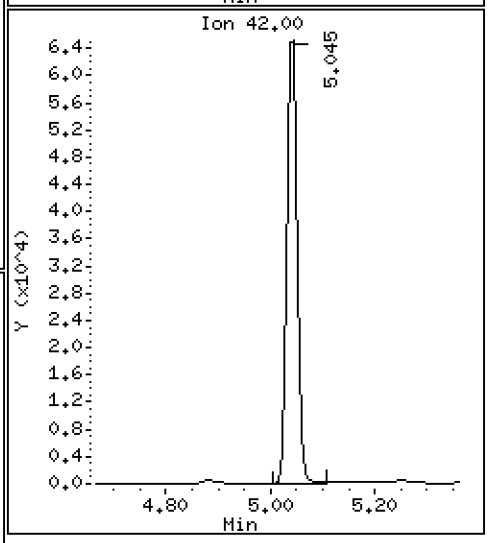
90 N-Nitrosodimethylamine

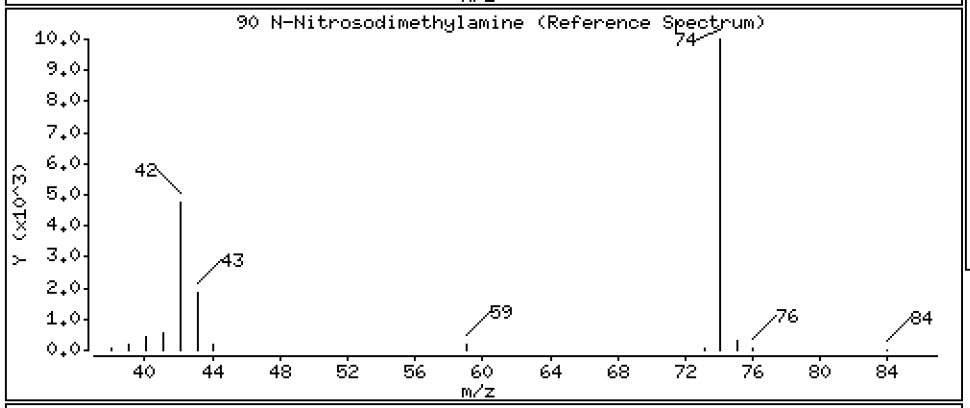
Concentration: 9.030 ug/mL

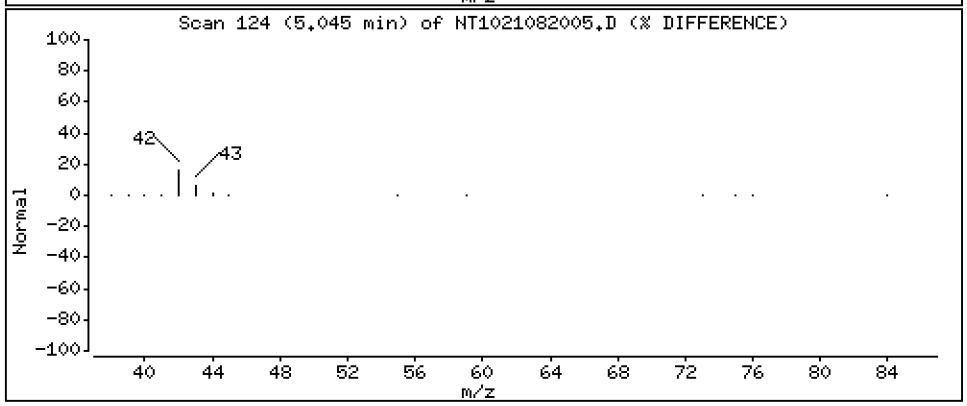












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D

Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

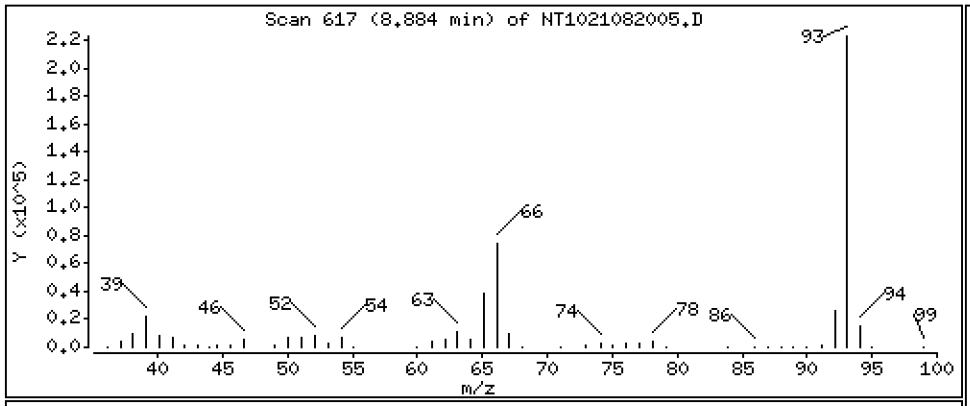
Operator: VTS

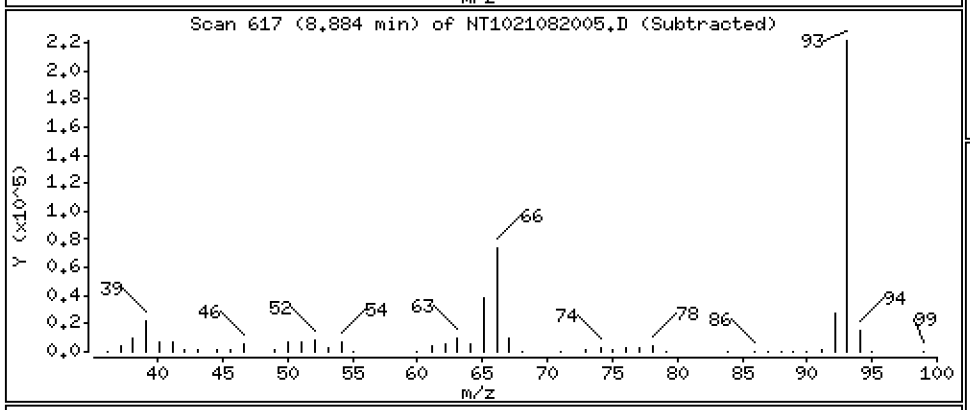
Column phase: ZB-5msi

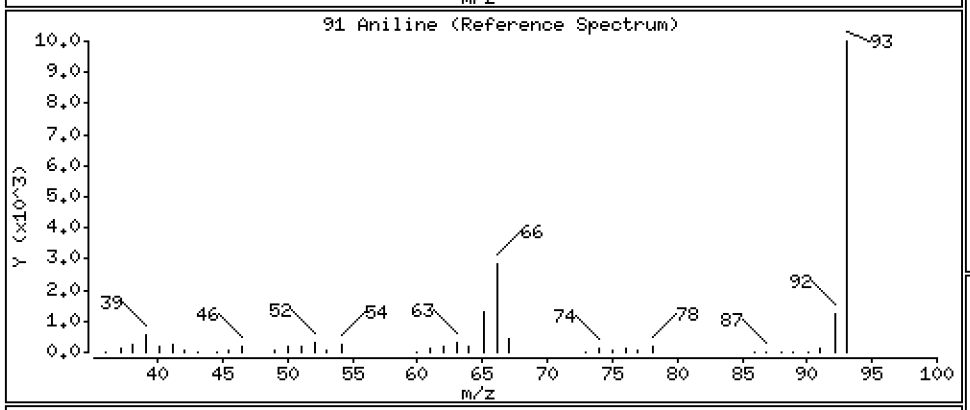
Column diameter: 0.25

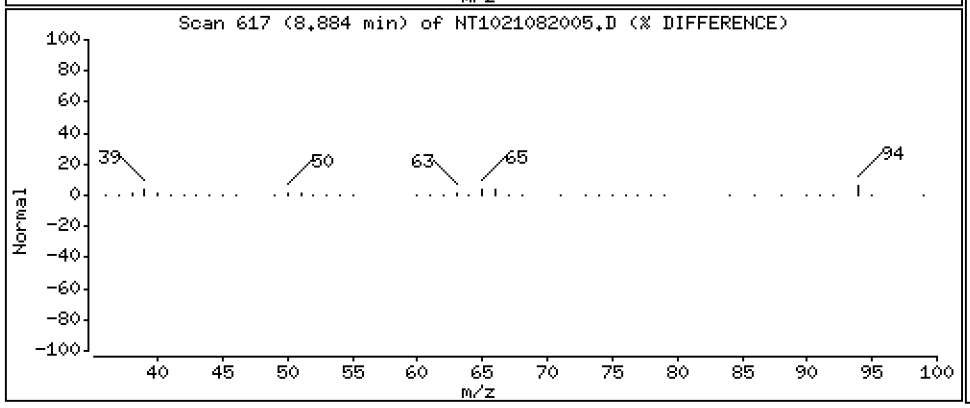
91 Aniline

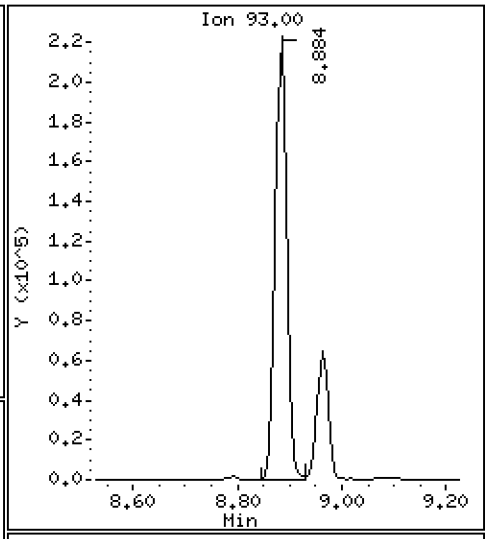
Concentration: 8.335 ug/mL

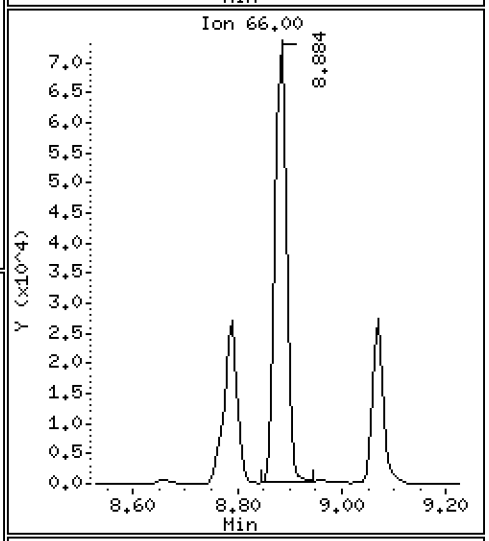


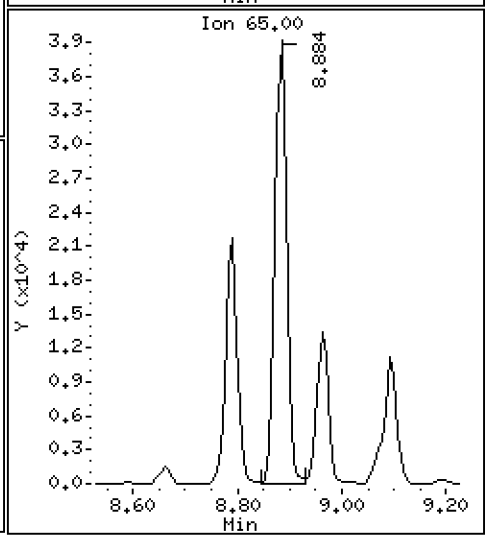












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

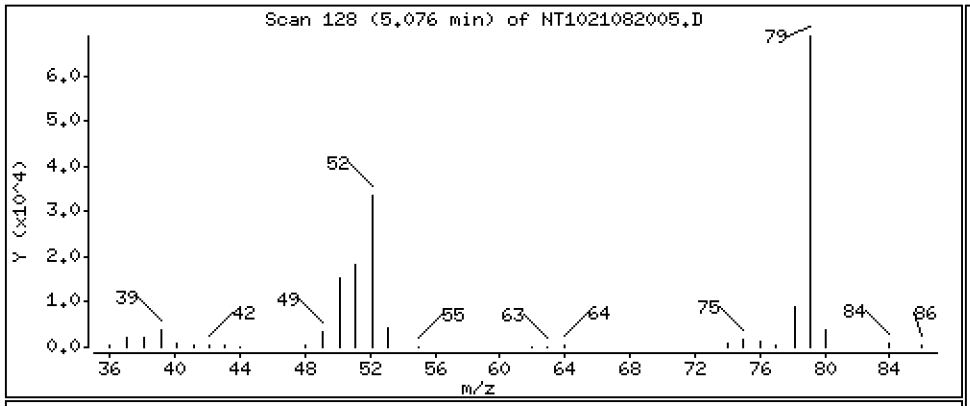
Operator: VTS

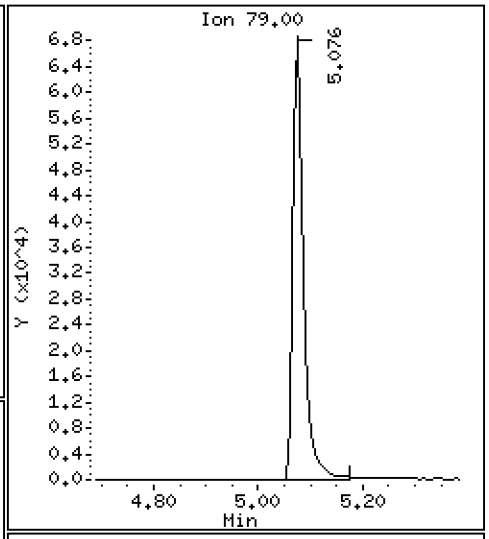
Column phase: ZB-5msi

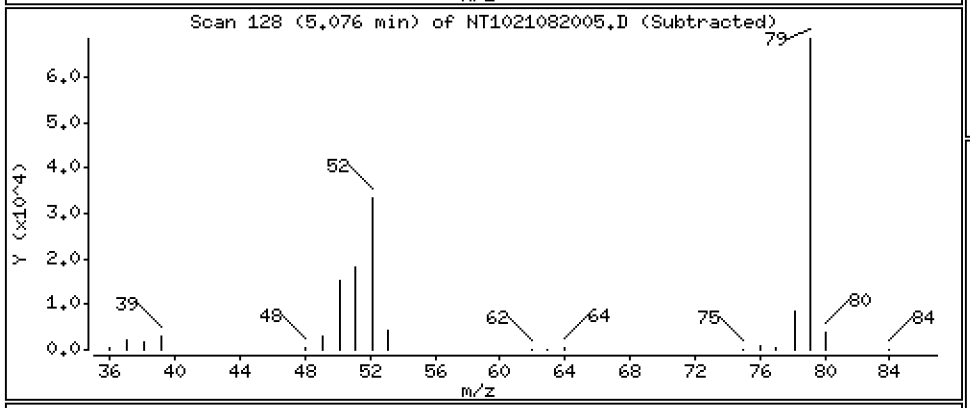
Column diameter: 0.25

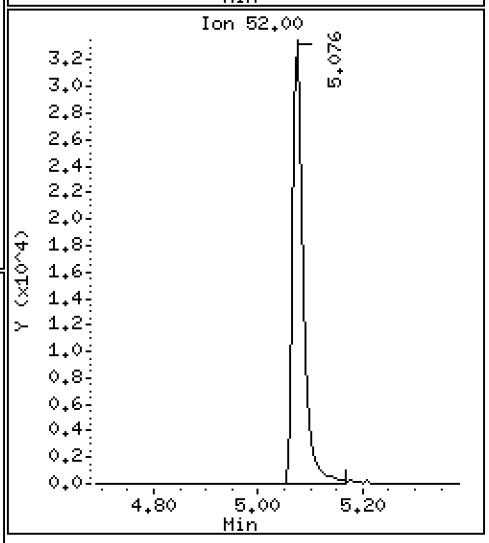
103 Pyridine

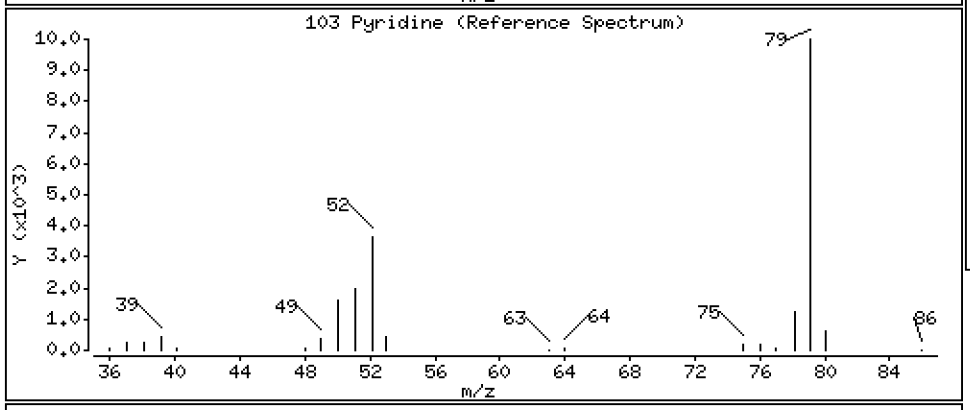
Concentration: 1.943 ug/mL

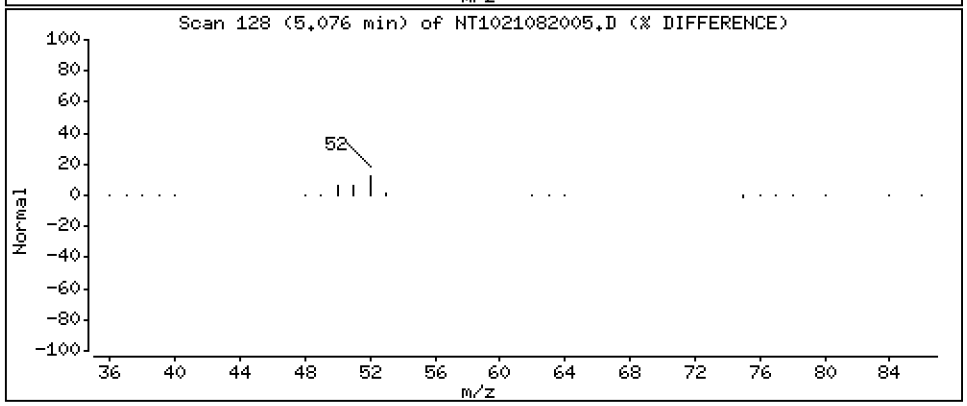












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

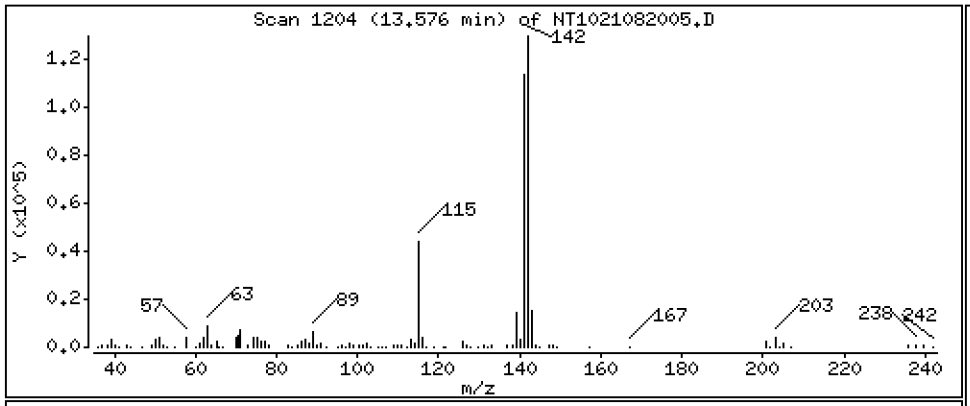
Operator: VTS

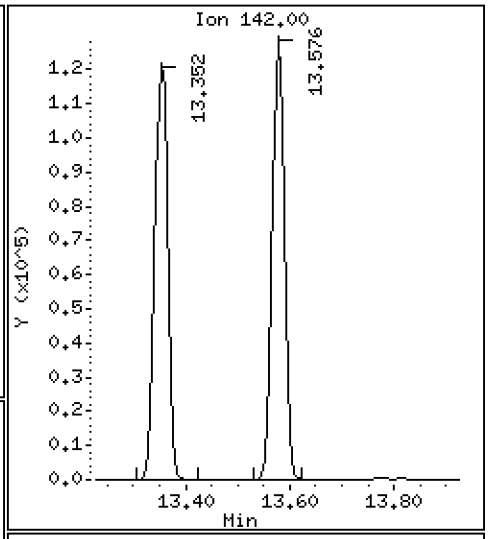
Column phase: ZB-5msi

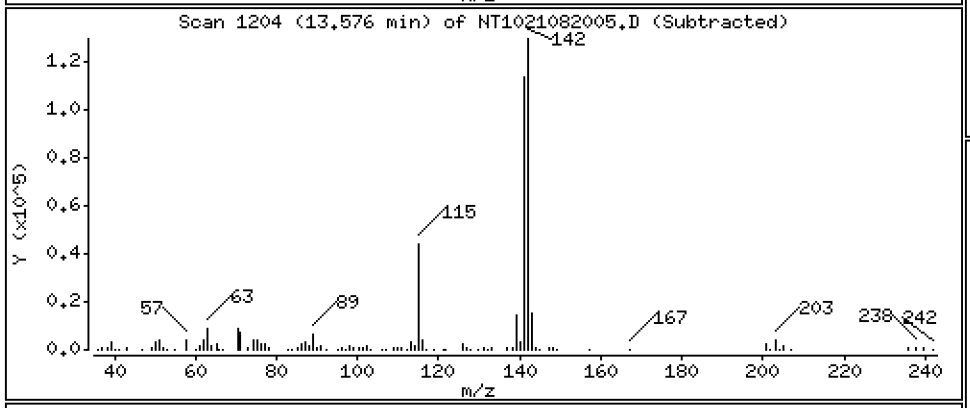
Column diameter: 0.25

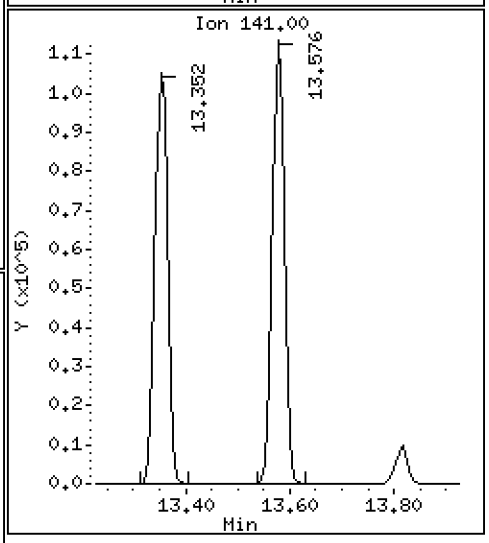
105 1-methylnaphthalene

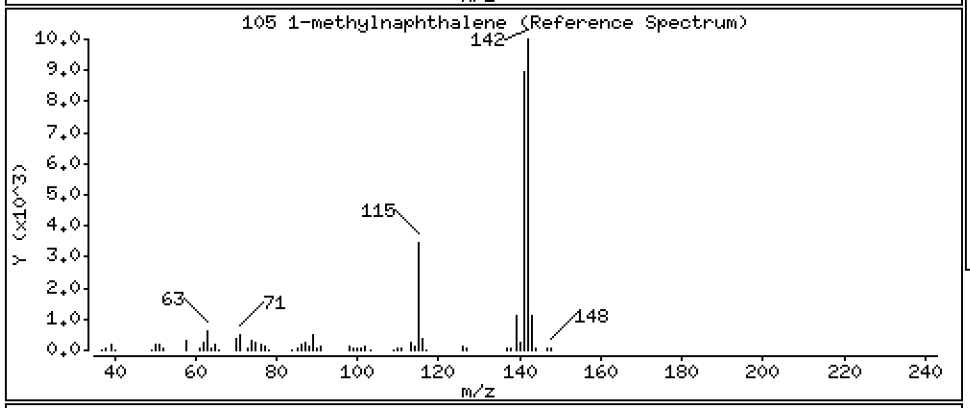
Concentration: 3.329 ug/mL

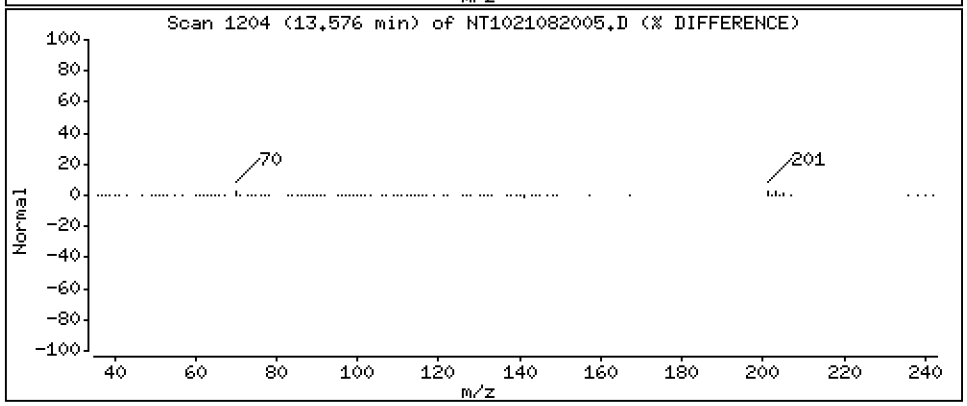












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

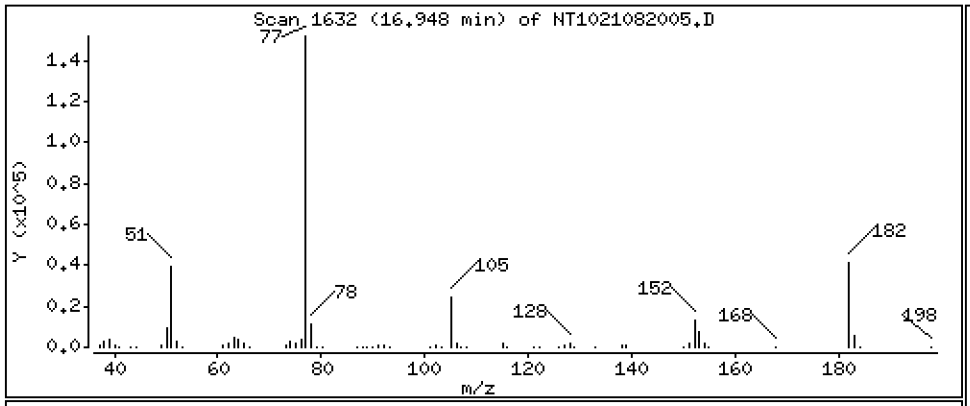
Operator: VTS

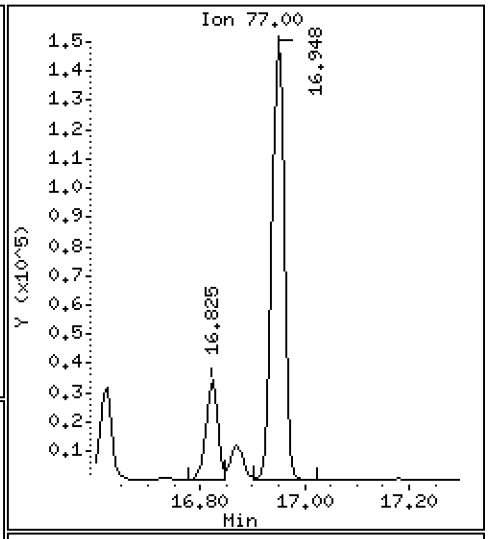
Column phase: ZB-5msi

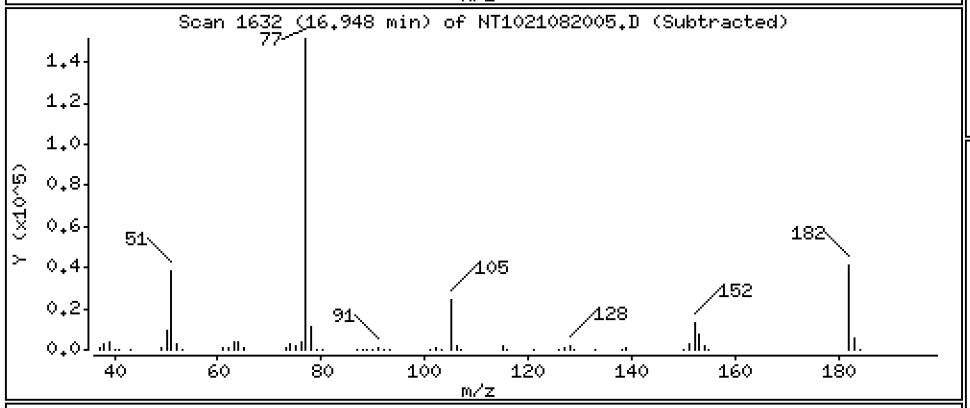
Column diameter: 0.25

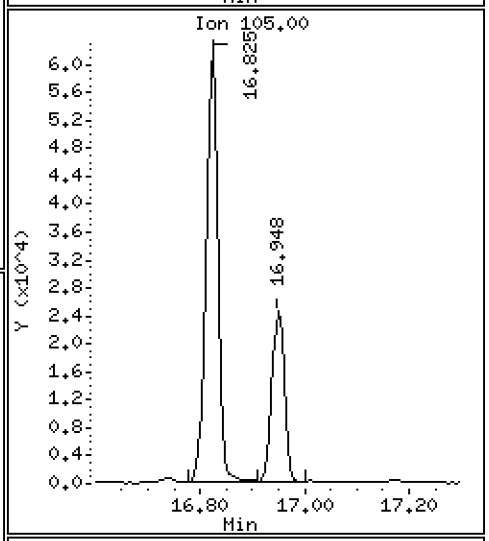
111 Azobenzene (1,2-DP-Hydrazine)

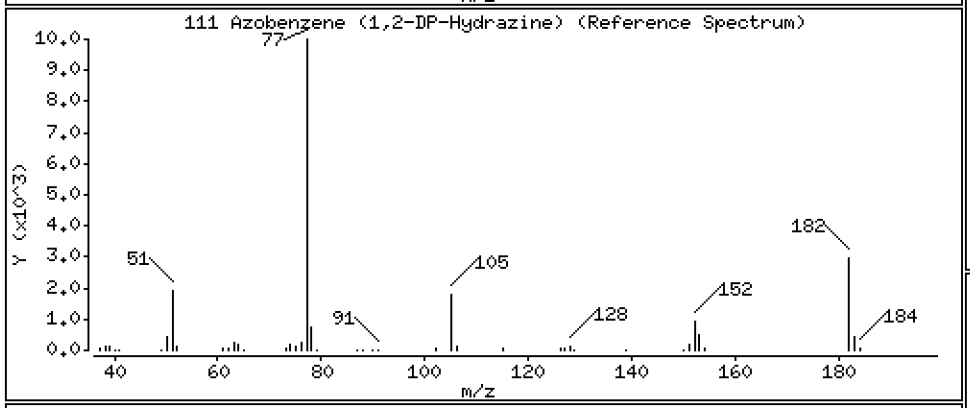
Concentration: 4.306 ug/mL

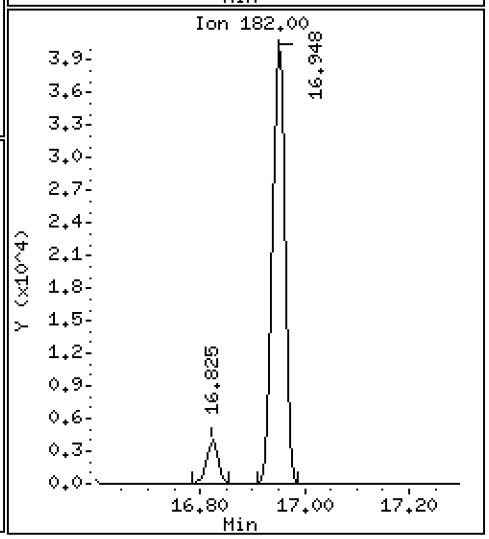


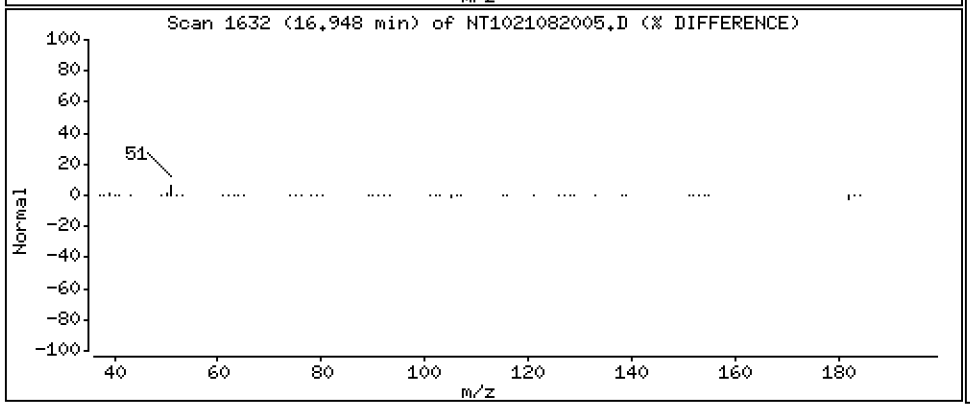












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

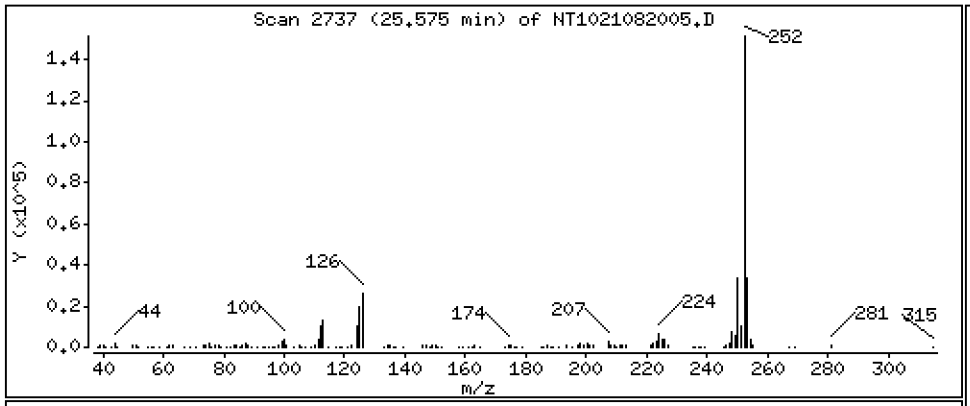
Operator: VTS

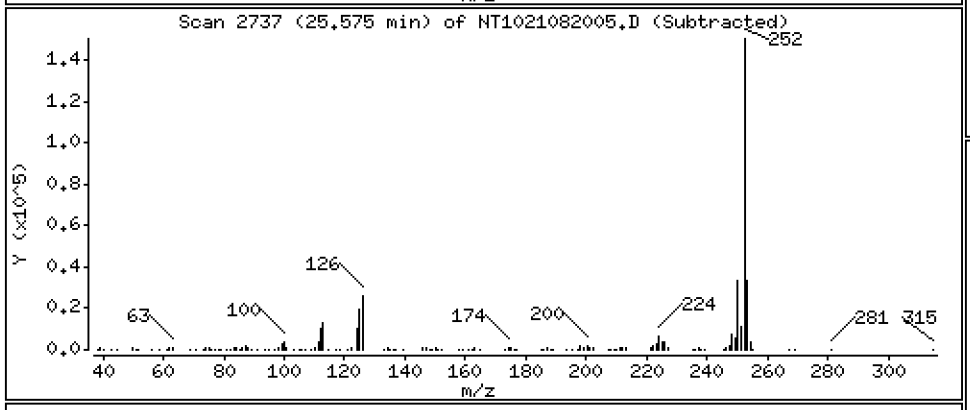
Column phase: ZB-5msi

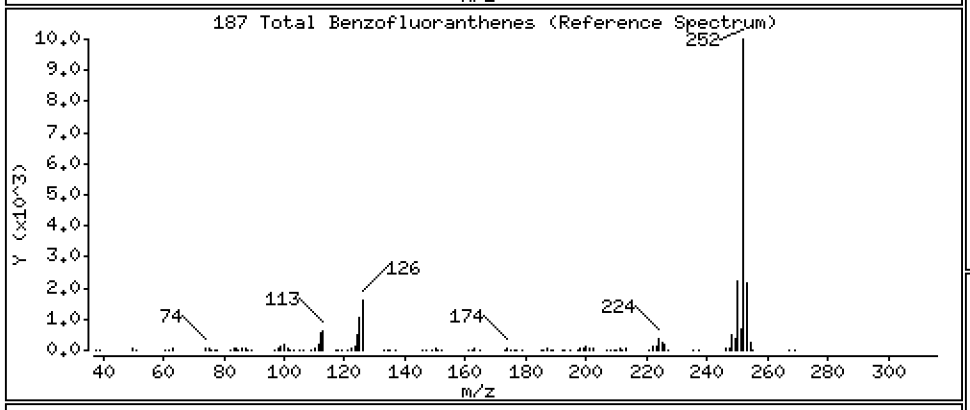
Column diameter: 0.25

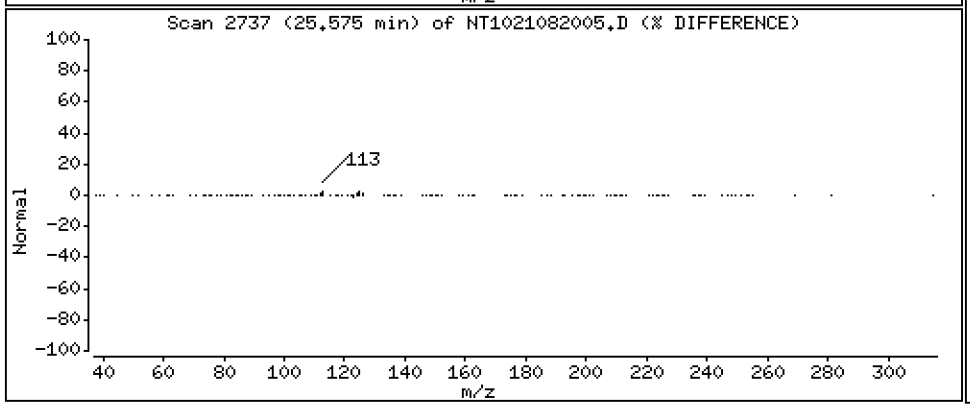
187 Total Benzofluoranthenes

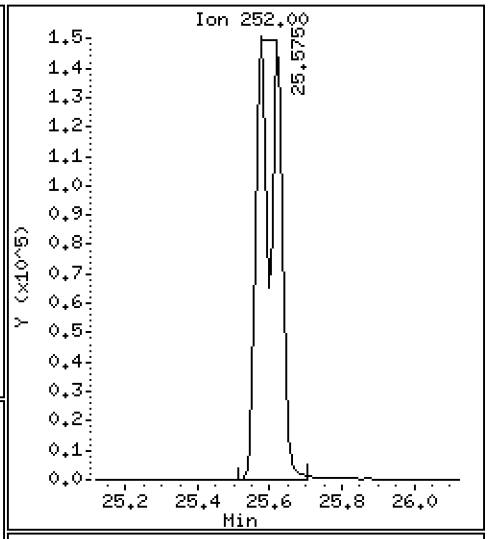
Concentration: 8.393 ug/mL

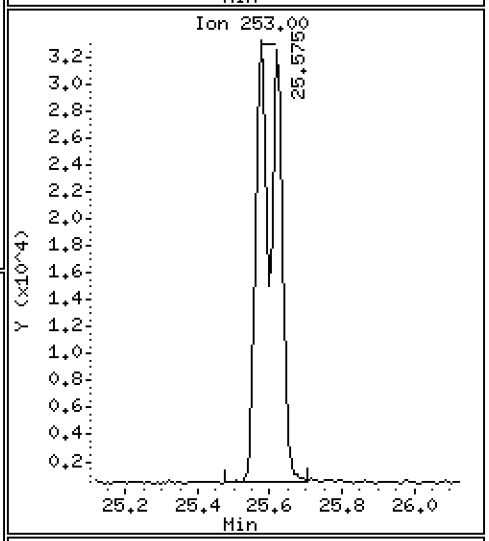


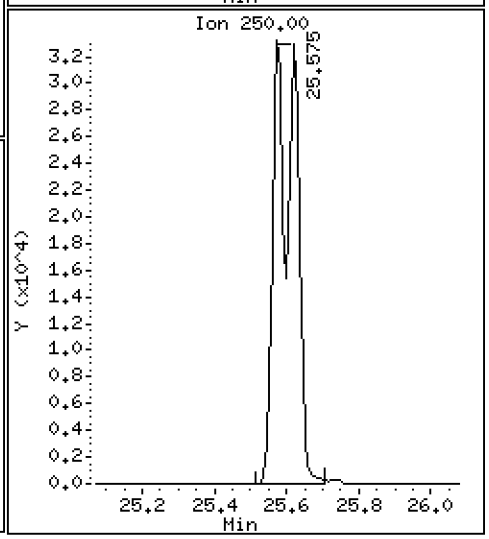












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Date : 20-AUG-2021 11:00

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-BS1

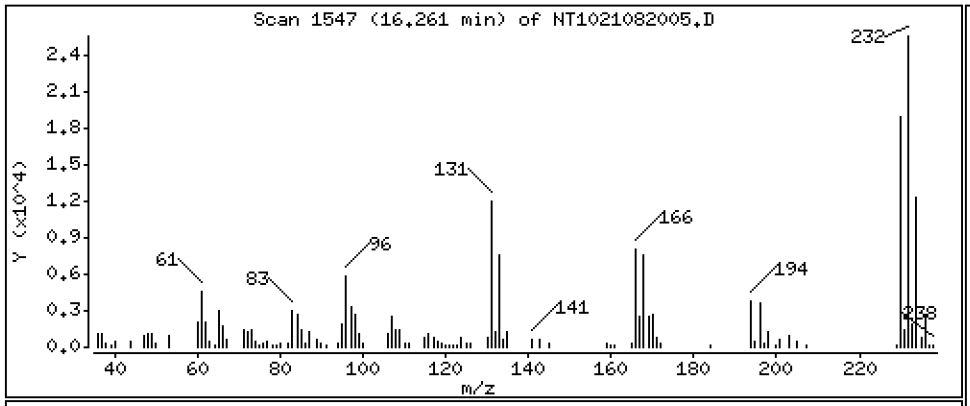
Operator: VTS

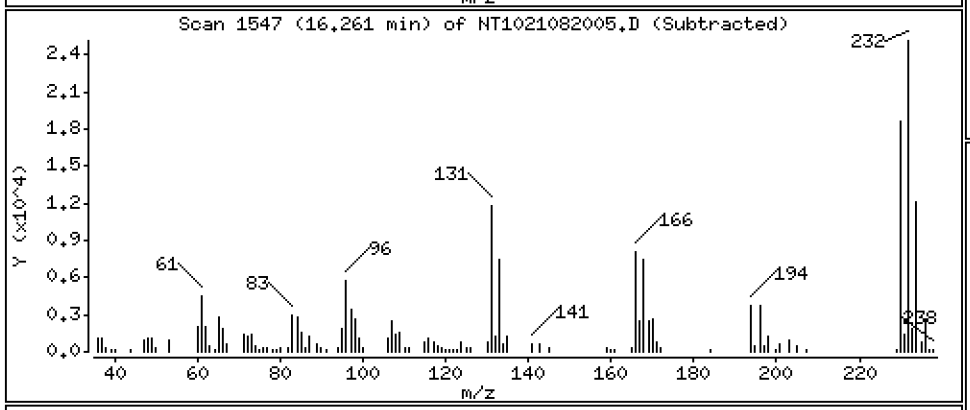
Column phase: ZB-5msi

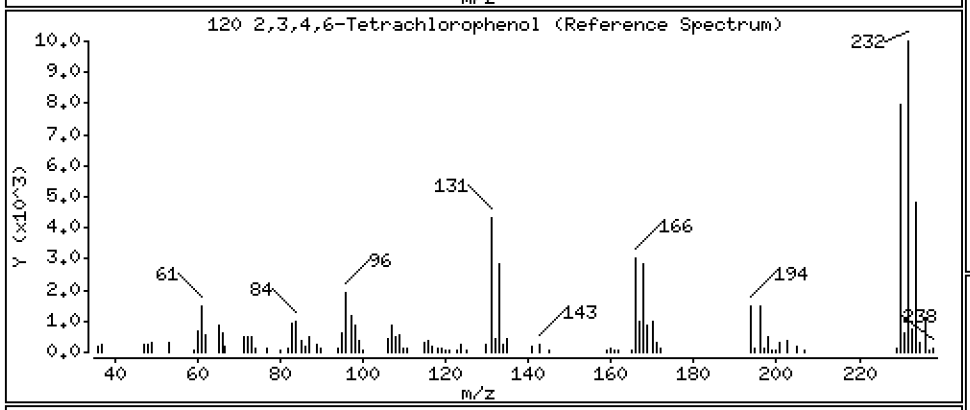
Column diameter: 0.25

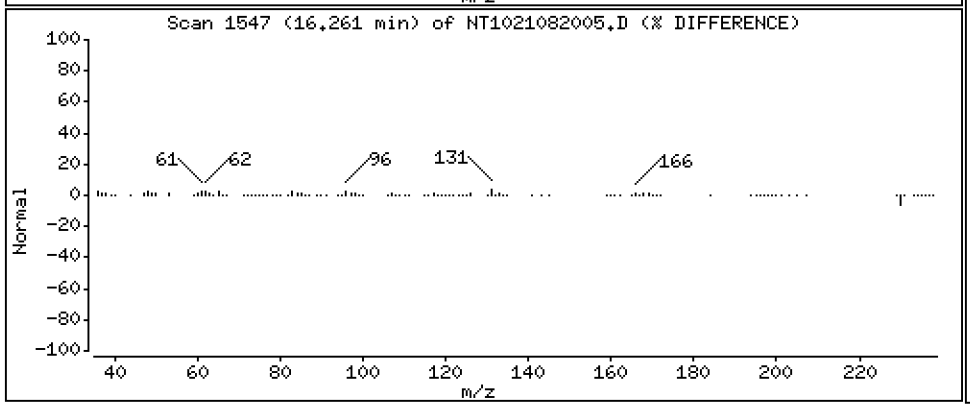
120 2,3,4,6-Tetrachlorophenol

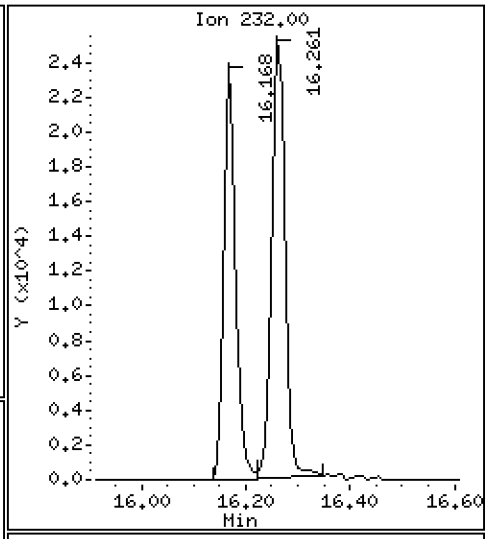
Concentration: 3.622 ug/mL

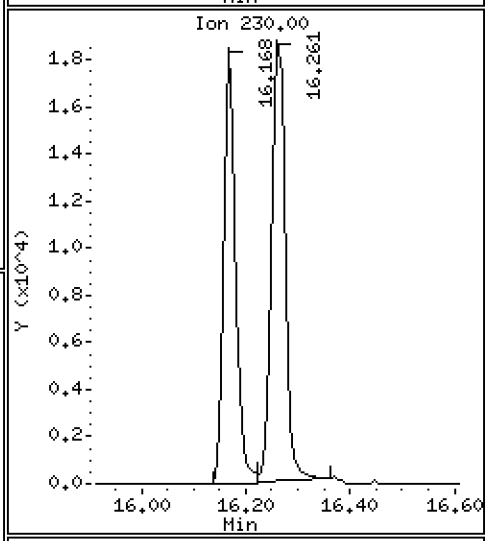


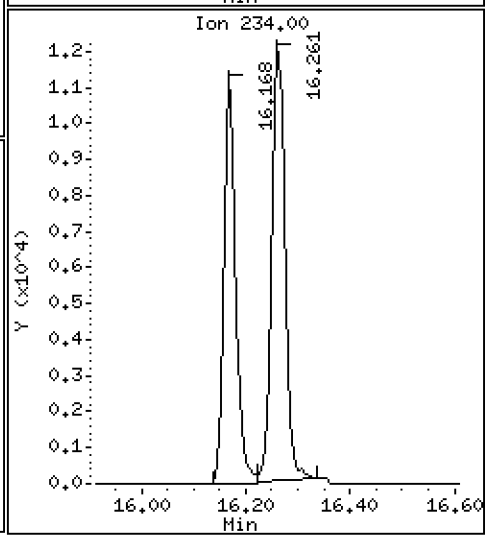












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D
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Inj Date : 20-AUG-2021 11:00
Operator : VTS Inst ID: nt10.i
Smp Info : BJH0139-BS1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.762)	153680	5.95430	5.954
$	2 Phenol-d5	99	8.768	8.760	(0.929)	219921	5.95341	5.953
	3 Phenol	94	8.791	8.784	(0.932)	119608	3.53766	3.538
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	157661	5.99146	5.991
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	91671	3.70588	3.706
	6 2-Chlorophenol	128	9.092	9.092	(0.964)	92246	3.28806	3.288
	7 1,3-Dichlorobenzene	146	9.371	9.363	(0.993)	98700	3.38353	3.384
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.425	(1.000)	77200	4.00000	
	9 1,4-Dichlorobenzene	146	9.464	9.456	(1.003)	86953	3.93731	3.937
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.038)	60758	3.39910	3.399
	12 1,2-Dichlorobenzene	146	9.821	9.813	(1.041)	89899	3.57694	3.577
	11 Benzyl alcohol	108	9.689	9.689	(1.027)	50114	3.22230	3.222
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	30420	4.08096	4.081
	13 2-Methylphenol	108	9.907	9.907	(1.050)	70704	3.30165	3.302
	17 Hexachloroethane	117	10.411	10.411	(1.104)	37680	3.94499	3.945
	16 N-Nitroso-di-n-propylamine	70	10.240	10.240	(1.086)	54797	3.64783	3.648
	15 4-Methylphenol	108	10.178	10.171	(1.079)	78533	3.43330	3.433
$	18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	108655	3.99190	3.992
	19 Nitrobenzene	77	10.559	10.559	(0.886)	96388	3.84089	3.841
	20 Isophorone	82	11.001	11.001	(0.923)	220580	5.68742	5.687
	21 2-Nitrophenol	139	11.186	11.186	(0.938)	49993	3.49803	3.498
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.941)	196328	8.90199	8.902
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	88264	3.85517	3.855
	24 Benzoic acid	105	11.415	11.424	(0.958)	155268	13.6850	13.68
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	242249	10.7180	10.72
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	73793	3.37324	3.373
*	27 Naphthalene-d8	136	11.920	11.921	(1.000)	259961	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	225619	3.49838	3.498
	29 4-Chloroaniline	127	12.083	12.083	(1.014)	281913	9.02218	9.022
	30 Hexachlorobutadiene	225	12.307	12.307	(1.032)	42978	3.57091	3.571
	31 4-Chloro-3-methylphenol	107	13.026	13.027	(1.093)	263876	11.6182	11.62
	32 2-Methylnaphthalene	142	13.351	13.352	(1.120)	201858	3.27983	3.280
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	110305	9.44577	9.446

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	182907	11.3805	11.38
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	201854	11.9551	11.96
$	36 2-Fluorobiphenyl	172	14.125	14.125	(0.909)	253269	3.99975	4.000
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	192398	3.81672	3.817
	38 2-Nitroaniline	65	14.605	14.605	(0.940)	180958	12.0899	12.09
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	209543	4.03116	4.031
	40 Acenaphthylene	152	15.224	15.225	(0.980)	256813	3.26962	3.270
	41 2,6-Dinitrotoluene	165	15.170	15.170	(0.977)	145170	12.6458	12.65
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	158491	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	163274	10.5632	10.56
	44 Acenaphthene	153	15.604	15.604	(1.004)	149022	3.58697	3.587
	45 2,4-Dinitrophenol	184	15.673	15.673	(1.009)	120833	19.3542	19.35
	46 Dibenzofuran	168	15.928	15.928	(1.025)	250787	3.39704	3.397
	47 4-Nitrophenol	109	15.766	15.766	(1.015)	66995	11.9032	11.90
	48 2,4-Dinitrotoluene	165	15.982	15.982	(1.029)	201743	12.5896	12.59
	50 Diethylphthalate	149	16.477	16.469	(1.061)	201872	4.30854	4.309
	49 Fluorene	166	16.639	16.639	(1.071)	238599	3.64158	3.642
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	116696	3.97905	3.979
	52 4-Nitroaniline	138	16.740	16.732	(1.078)	160590	9.99226	9.992
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.824	(0.905)	244774	21.3089	21.31
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	153742	3.69422	3.694
$	55 2,4,6-Tribromophenol	330	17.179	17.179	(1.106)	43358	7.12269	7.123
	56 4-Bromophenyl-phenylether	248	17.634	17.626	(0.949)	69148	4.14530	4.145
	57 Hexachlorobenzene	284	17.951	17.951	(0.966)	63682	4.02716	4.027
	58 Pentachlorophenol	266	18.315	18.307	(0.985)	66028	11.0239	11.02
*	59 Phenanthrene-d10	188	18.585	18.578	(1.000)	278239	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.002)	256097	3.76996	3.770
	61 Anthracene	178	18.725	18.725	(1.007)	264304	3.62127	3.621
	62 Carbazole	167	19.050	19.050	(1.025)	286632	3.81313	3.813
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	414325	4.45529	4.455
	64 Fluoranthene	202	20.999	20.999	(0.890)	403670	4.04374	4.044
	65 Pyrene	202	21.425	21.425	(0.908)	414010	4.04092	4.041
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	306073	4.75418	4.754
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	160795	3.98775	3.988
	68 Benzo(a)anthracene	228	23.577	23.577	(0.999)	324732	4.07578	4.076
*	69 Chrysene-d12	240	23.600	23.608	(1.000)	228056	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.997)	272578	8.59899	8.599
	71 Chrysene	228	23.647	23.647	(1.002)	251711	3.98510	3.985
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	193897	4.50006	4.500
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	447711	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	423358	4.29042	4.290
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	317985	4.13605	4.136
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	327035	4.33923	4.339
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	266559	3.92487	3.925
*	77 Perylene-d12	264	26.426	26.426	(1.000)	208971	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	290826	4.14520	4.145
	79 Dibenzo(a,h)anthracene	278	29.402	29.394	(1.113)	224176	4.17642	4.176(M)
	80 Benzo(g,h,i)perylene	276	30.256	30.264	(1.145)	253008	4.12940	4.129
	90 N-Nitrosodimethylamine	74	5.044	5.013	(0.535)	150081	9.02954	9.030
	91 Aniline	93	8.884	8.876	(0.942)	321738	8.33540	8.335
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	5.075	5.037	(0.538)	102038	1.94324	1.943
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	197640	3.32926	3.329
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.948	(1.091)	232777	4.30565	4.306

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.575	25.621	(0.968)	615629	8.39338	8.393
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.047)	42157	3.62237	3.622

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082005.D Page 1
Report Date: 24-Aug-2021 11:24

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082005.D
Lab Smp Id: BJH0139-BS1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	77200	-0.73
27 Naphthalene-d8	262289	131145	524578	259961	-0.89
42 Acenaphthene-d10	161630	80815	323260	158491	-1.94
59 Phenanthrene-d10	276890	138445	553780	278239	0.49
69 Chrysene-d12	212964	106482	425928	228056	7.09
134 Di-n-octylphthala	413838	206919	827676	447711	8.19
77 Perylene-d12	196991	98496	393982	208971	6.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	-0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.60	-0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	-0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082005.D

Lab ID: BJH0139-BS1
nt10.i, ABN.m, 20-AUG-2021 11:00

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

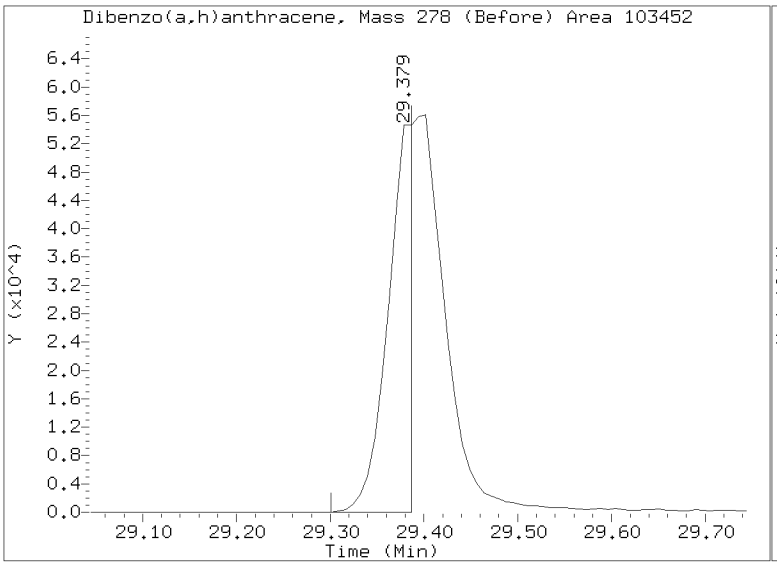
RRT check based on Ccal File: NT1021082002.D

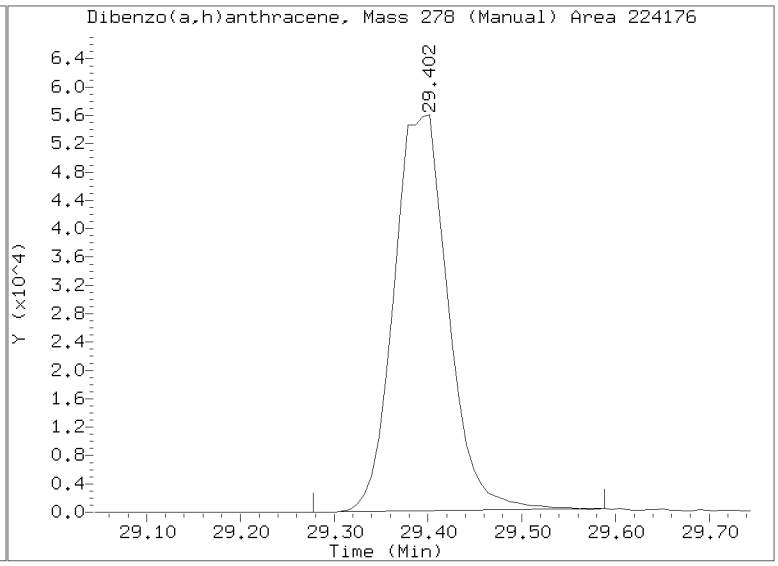
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082005.D
Injection Date: 20-AUG-2021 11:00
Lab ID:BJH0139-BS1 Client ID:
Report Date: 08/24/2021 11:24





Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC530

MS / MS DUPLICATE RECOVERY
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/20/21 12:54
Batch:	BJH0139	Laboratory ID:	BJH0139-MS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike
Initial/Final:	15.41 g / 1 mL	Source Sample:	LDW21-SC530

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	Q	MS CONCENTRATION (ug/kg dry)	Q	MS % REC. #	QC LIMITS REC.
Butylbenzylphthalate	500	15.8	J	436		84.1	45 - 132

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC530

MS / MS DUPLICATE RECOVERY
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/20/21 13:32
Batch:	BJH0139	Laboratory ID:	BJH0139-MSD1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	Matrix Spike Dup
Initial/Final:	15.41 g / 1 mL	Source Sample:	LDW21-SC530

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	Q	MSD % REC. #	% RPD #	QC LIMITS	
						RPD	REC.
Butylbenzylphthalate	500	466		90.0	6.62	30	45 - 132

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

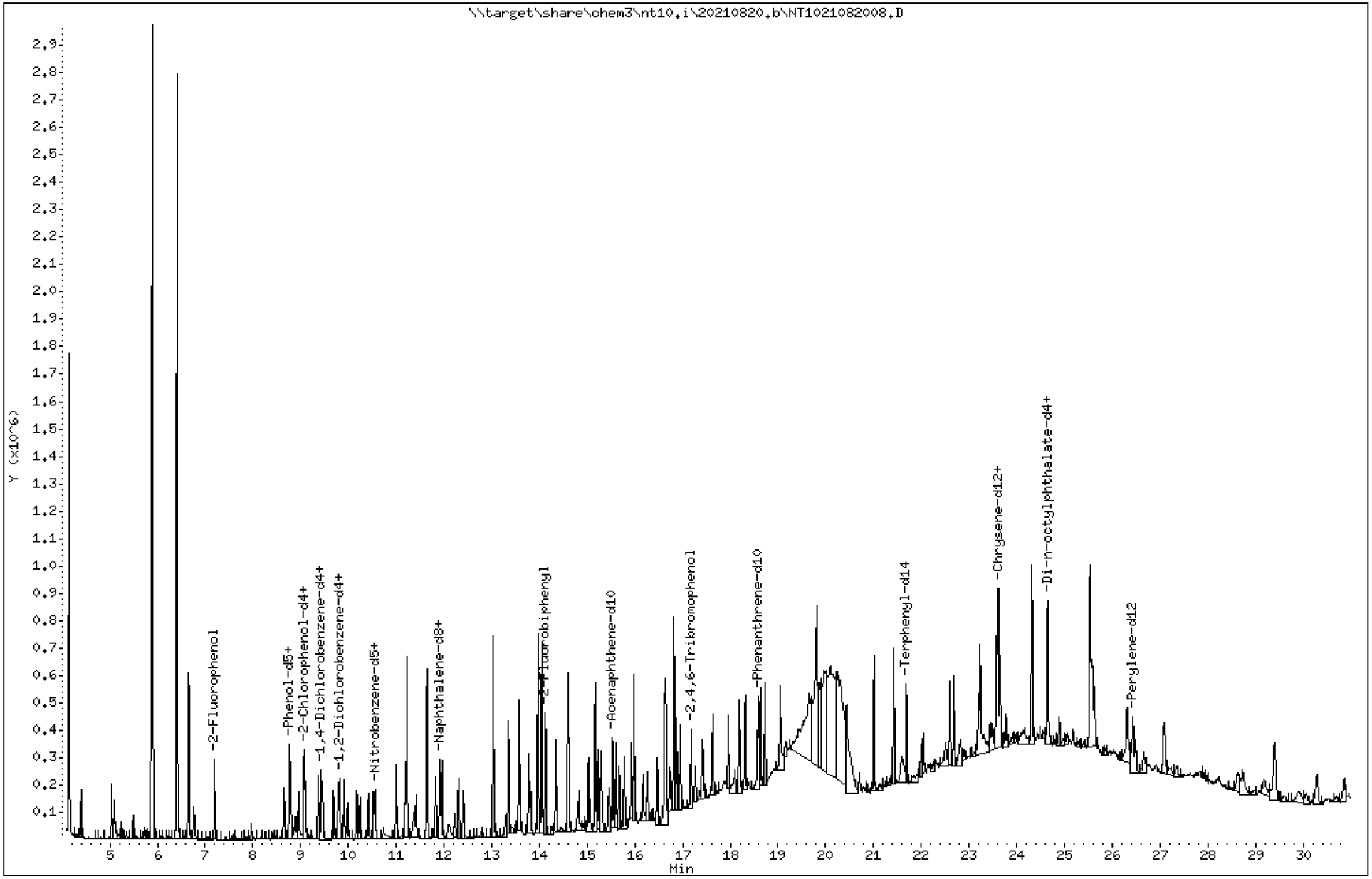
Instrument: nt10.i

Sample Info: BJH0139-MS1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

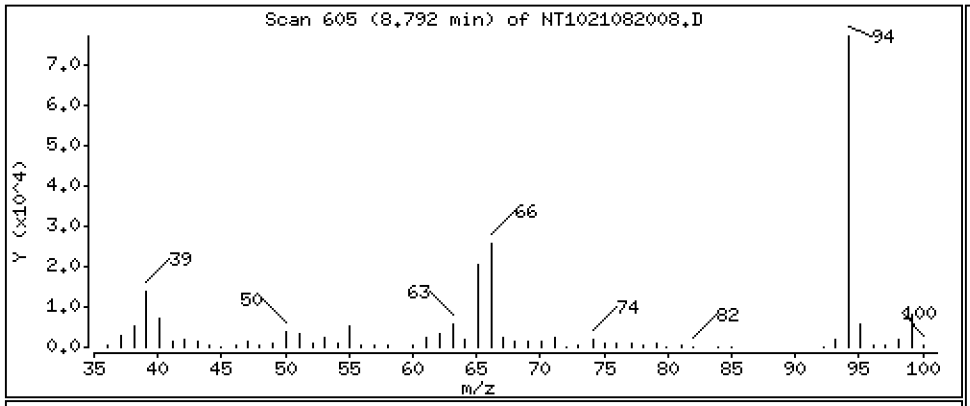
Operator: VTS

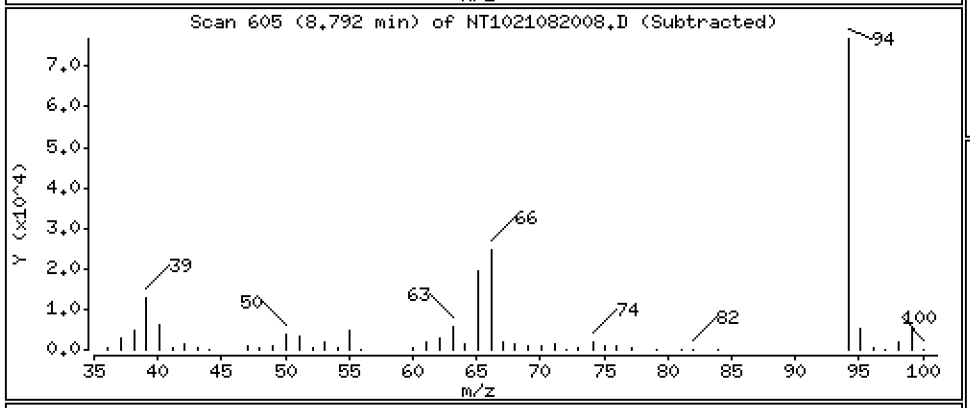
Column phase: ZB-5msi

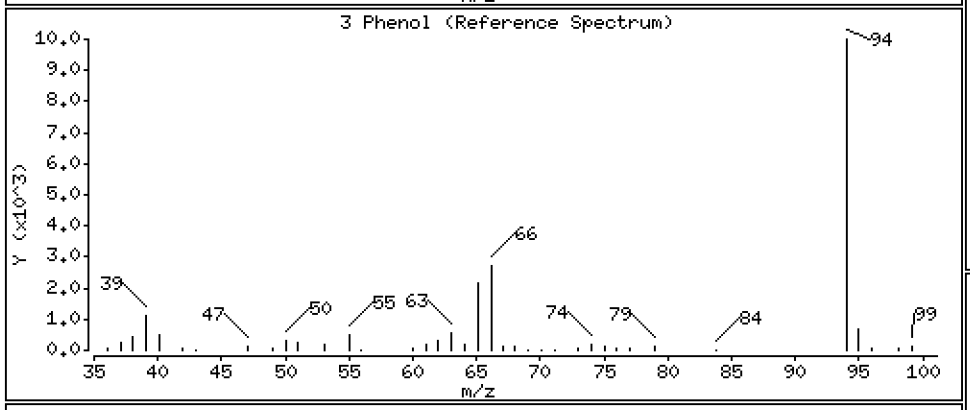
Column diameter: 0.25

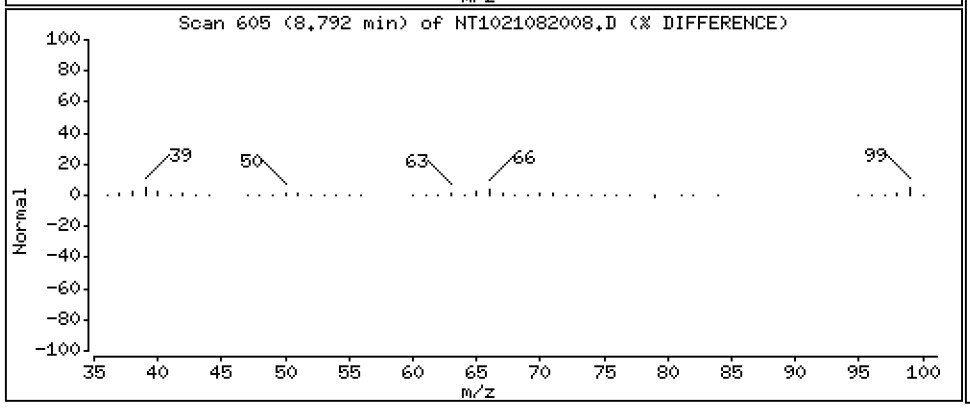
3 Phenol

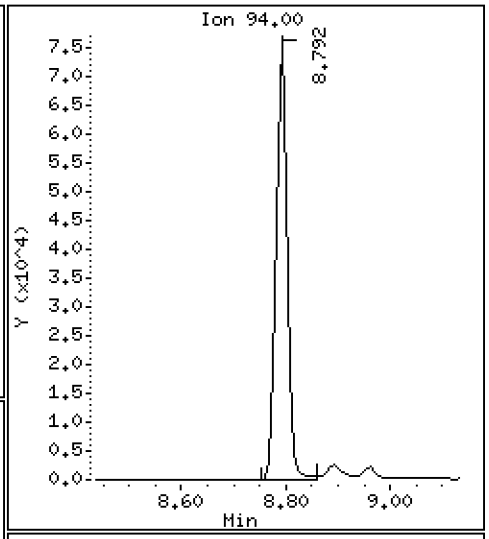
Concentration: 3.829 ug/mL

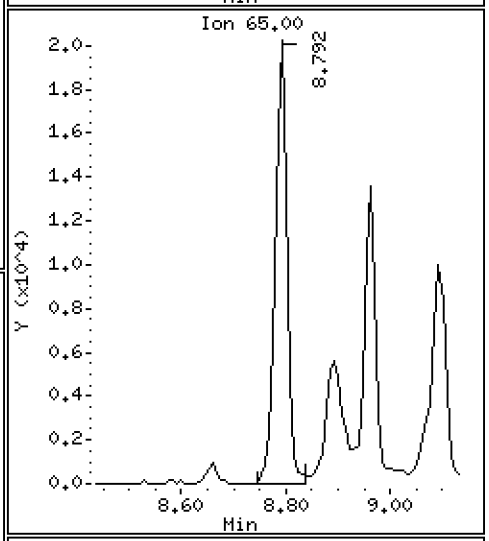


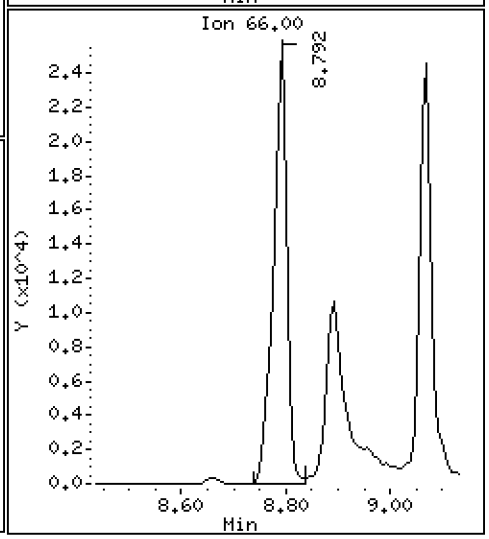












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

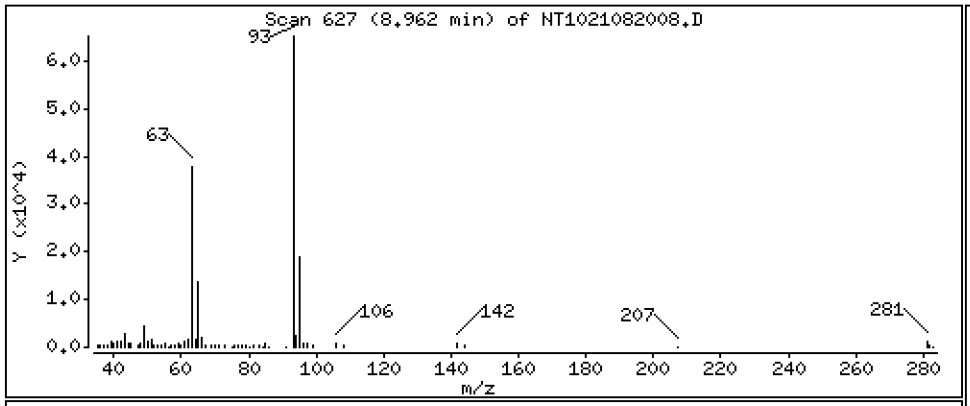
Operator: VTS

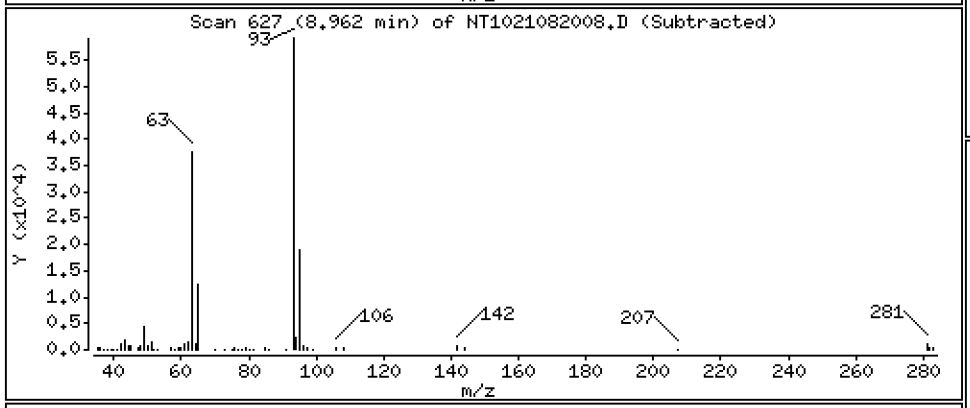
Column phase: ZB-5msi

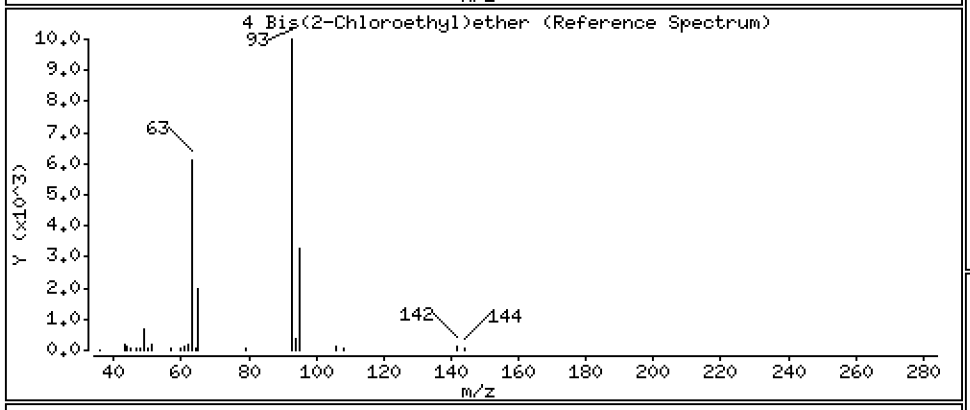
Column diameter: 0.25

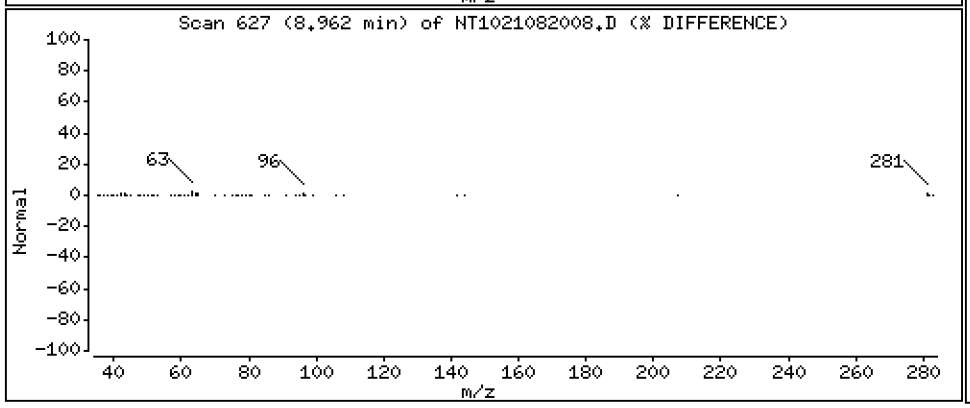
4 Bis(2-Chloroethyl)ether

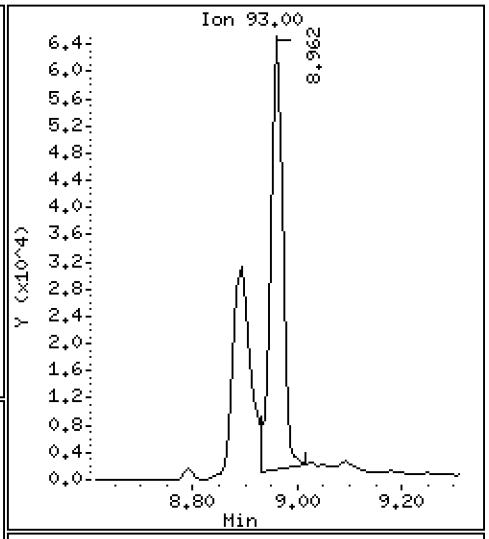
Concentration: 4.626 ug/mL

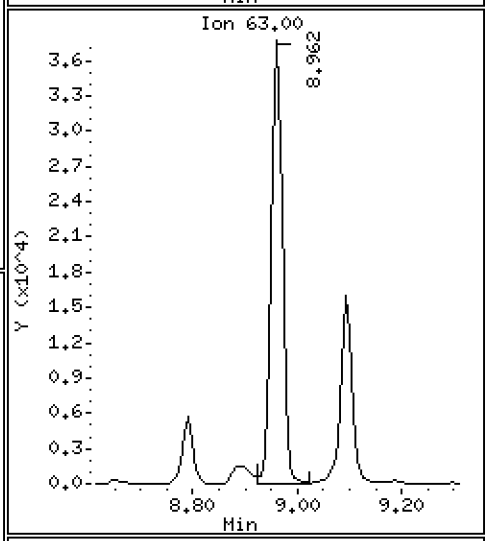


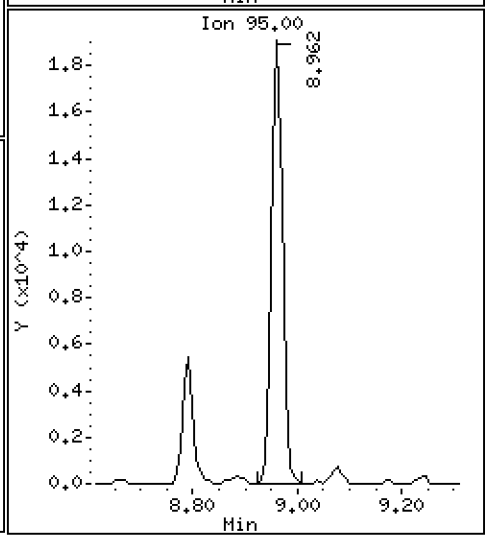












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

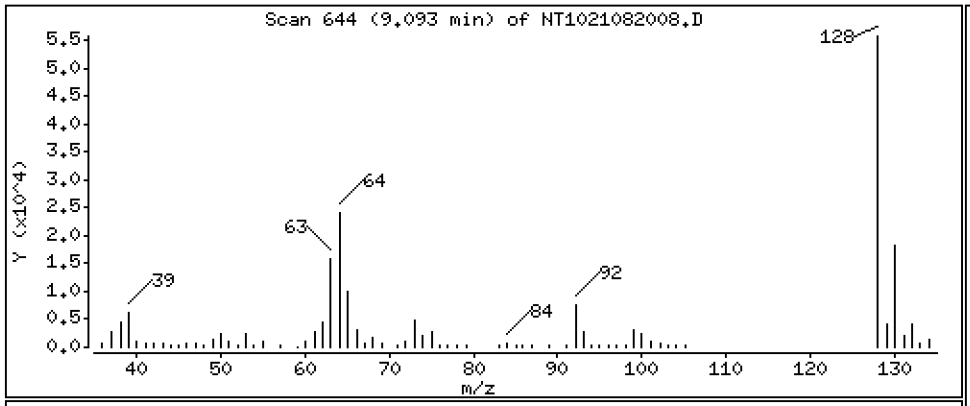
Operator: VTS

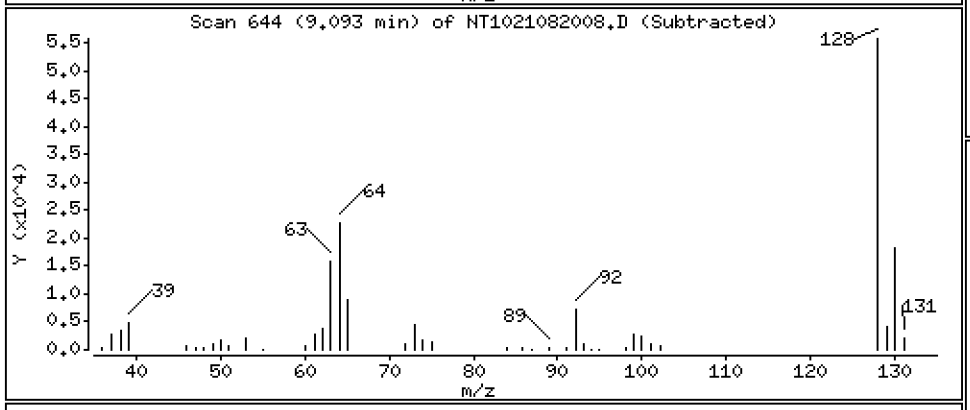
Column phase: ZB-5msi

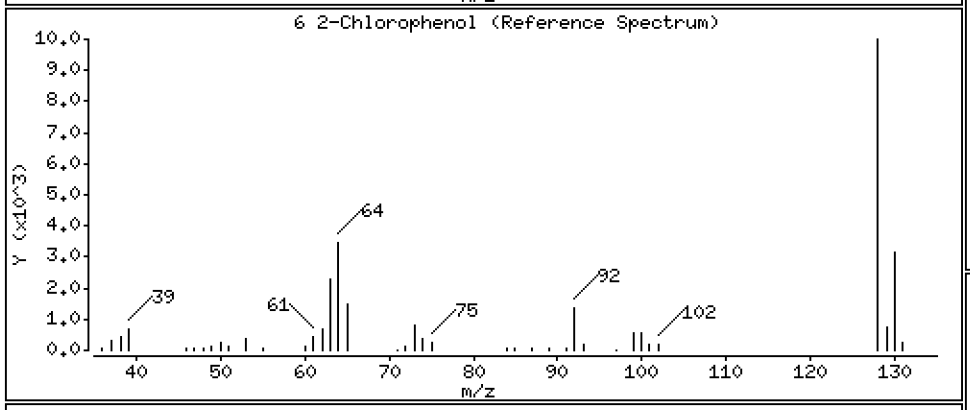
Column diameter: 0.25

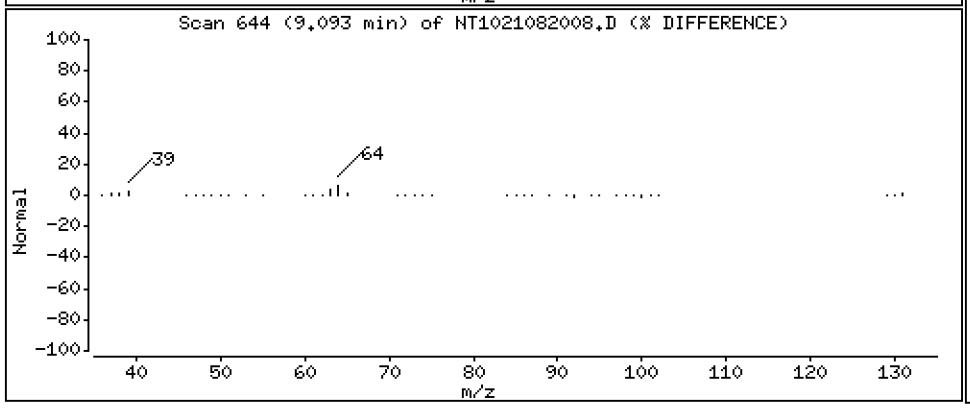
6 2-Chlorophenol

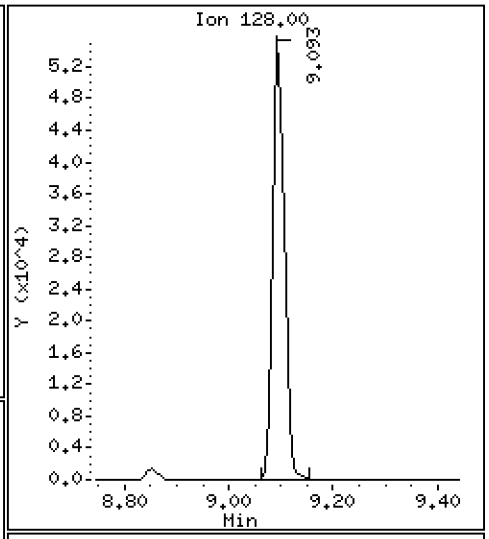
Concentration: 3.501 ug/mL

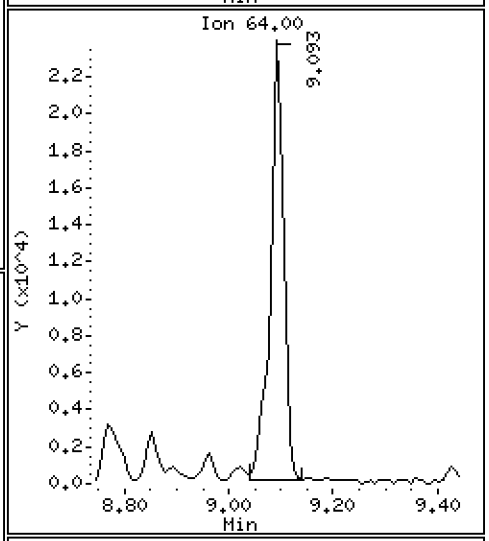


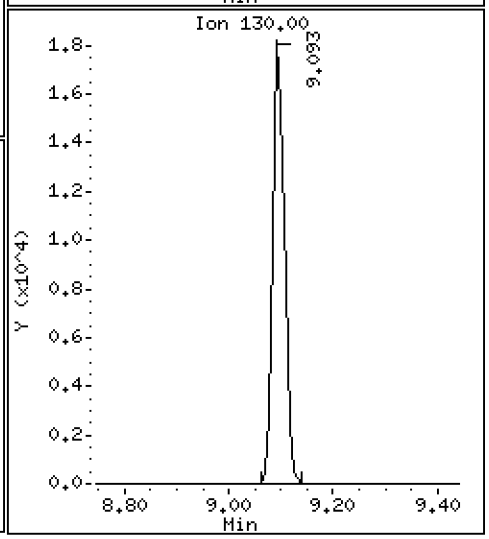












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

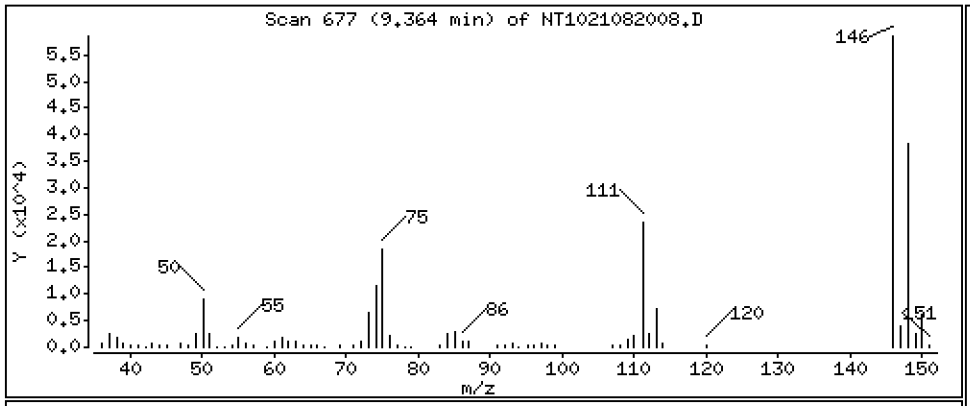
Operator: VTS

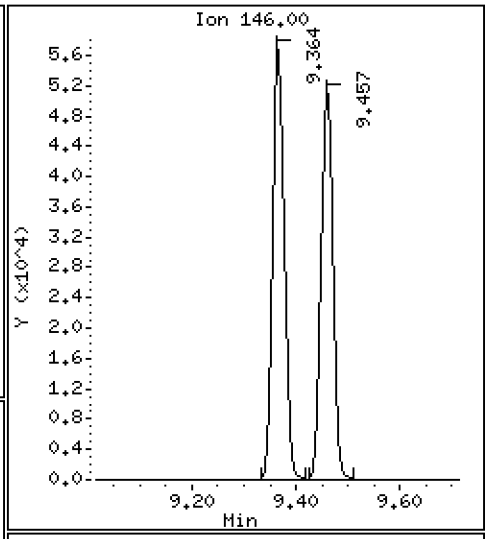
Column phase: ZB-5msi

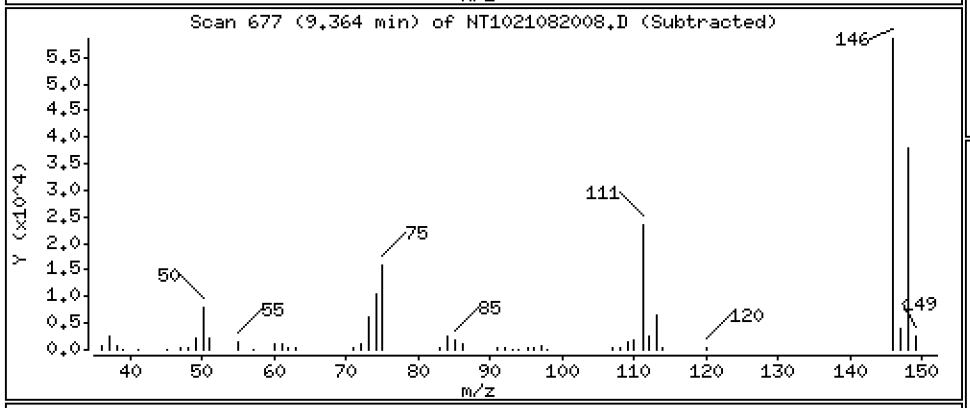
Column diameter: 0.25

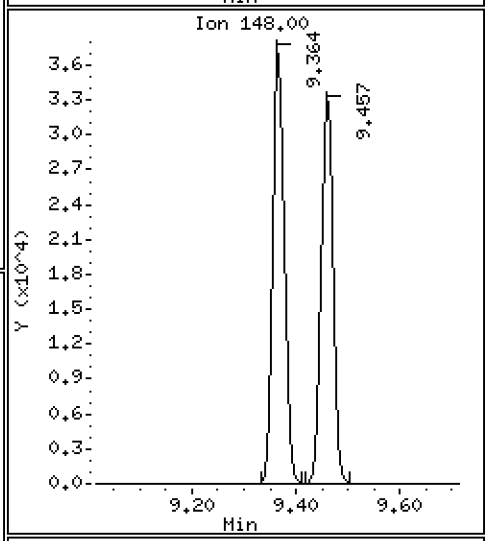
7 1,3-Dichlorobenzene

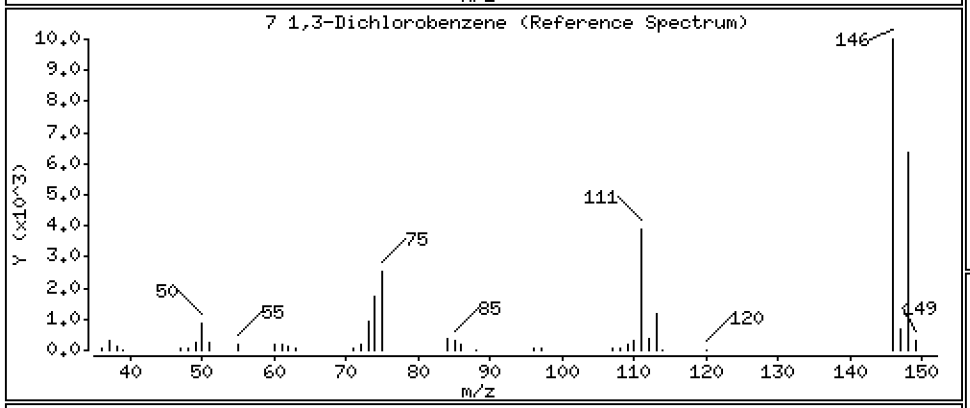
Concentration: 3.494 ug/mL

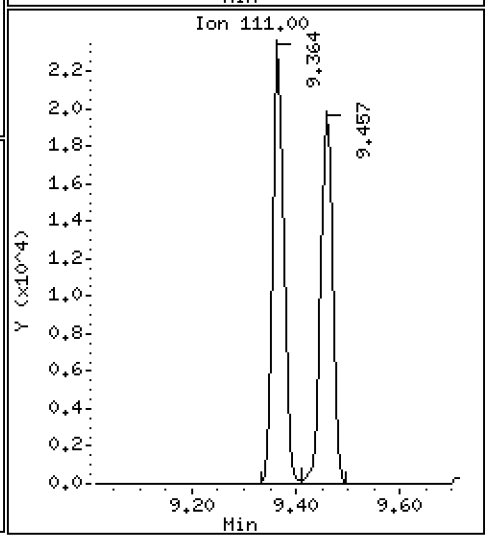


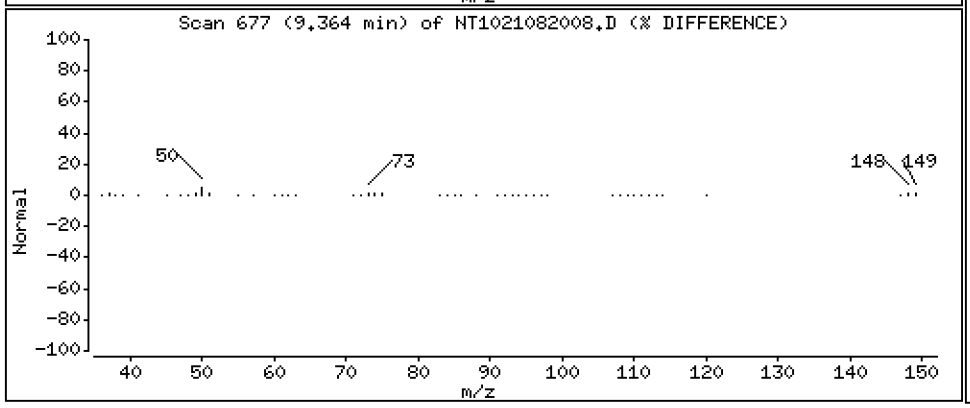












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

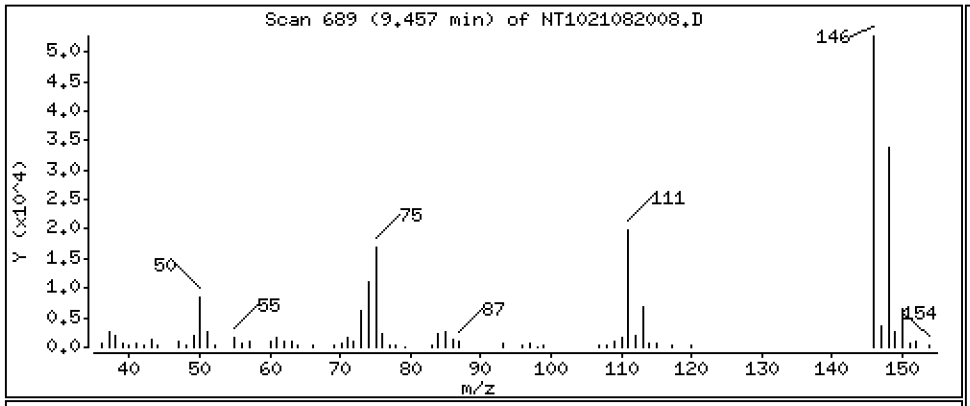
Operator: VTS

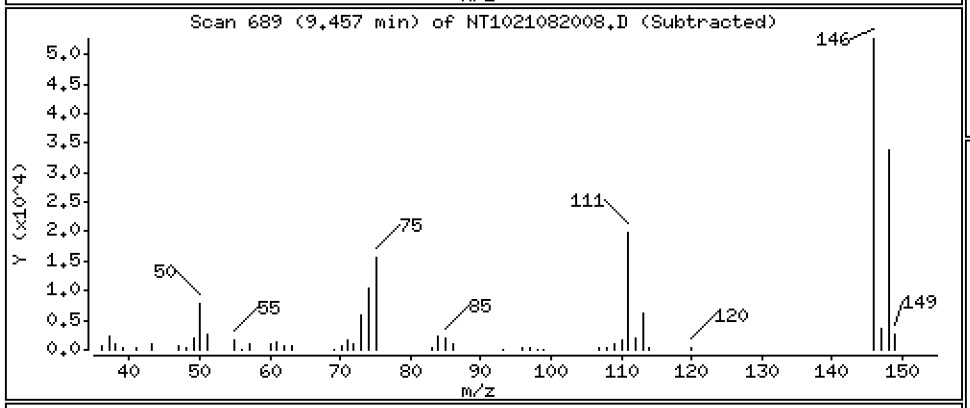
Column phase: ZB-5msi

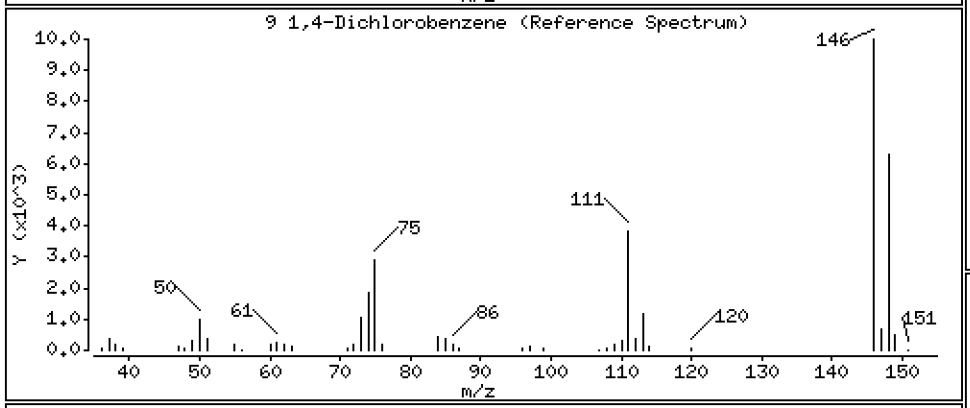
Column diameter: 0.25

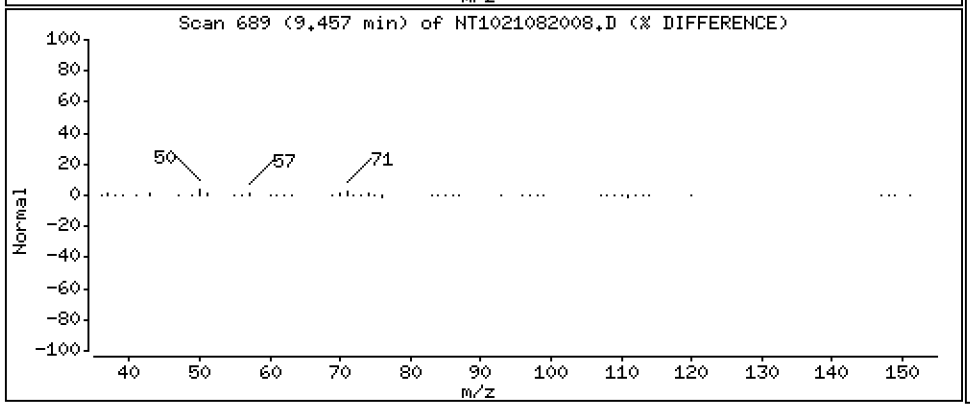
9 1,4-Dichlorobenzene

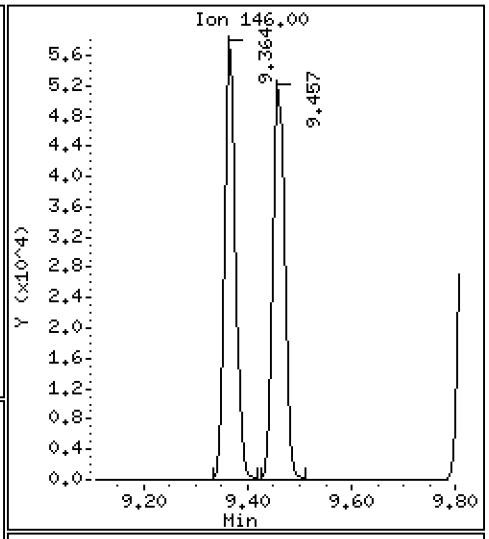
Concentration: 4.158 ug/mL

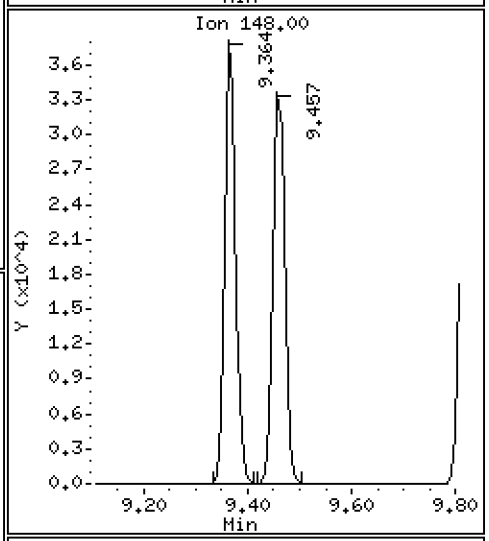


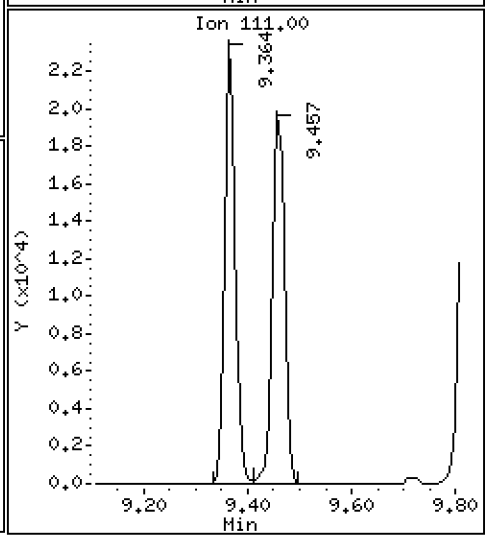












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

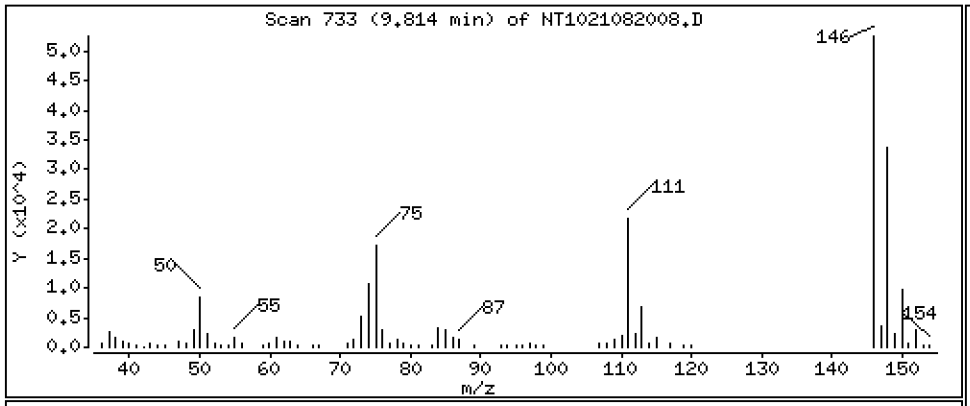
Operator: VTS

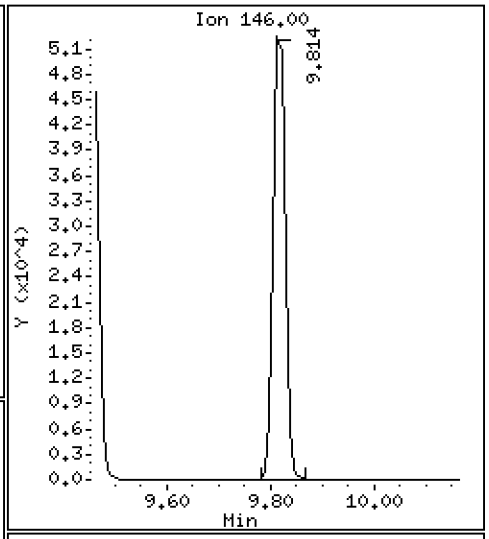
Column phase: ZB-5msi

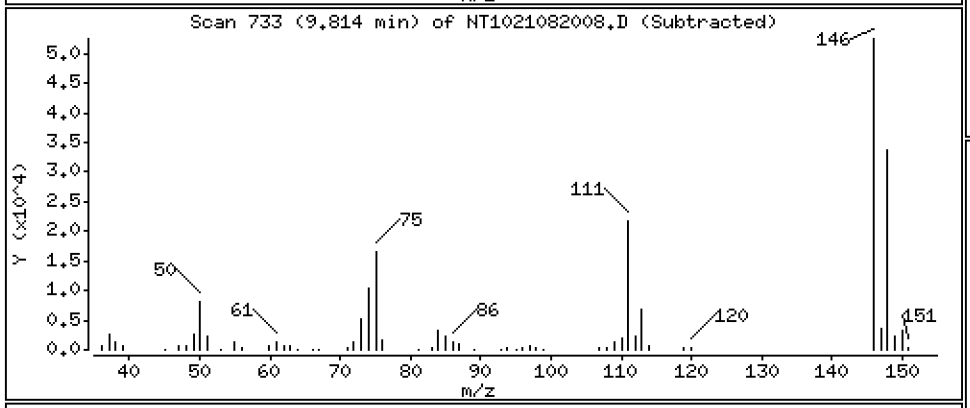
Column diameter: 0.25

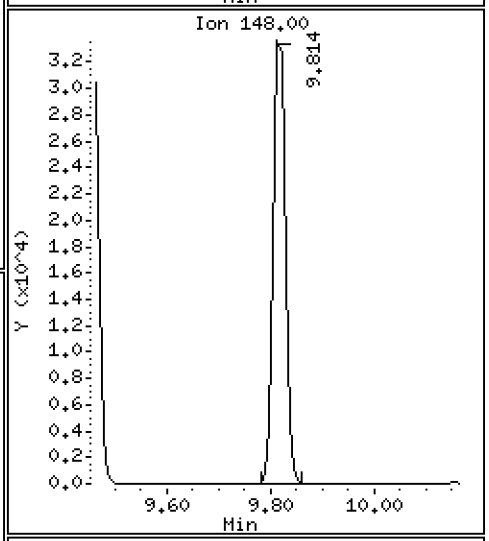
12 1,2-Dichlorobenzene

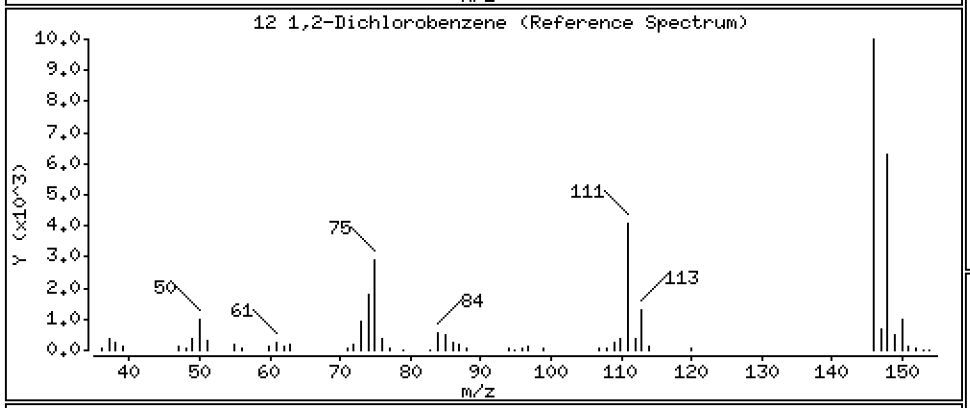
Concentration: 3.786 ug/mL

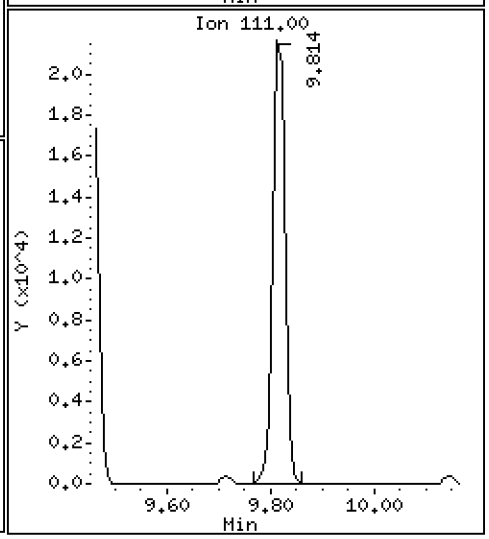


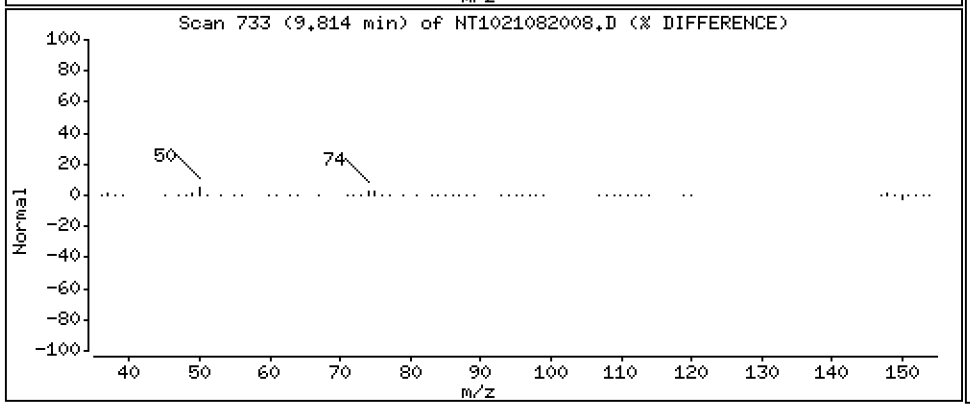












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

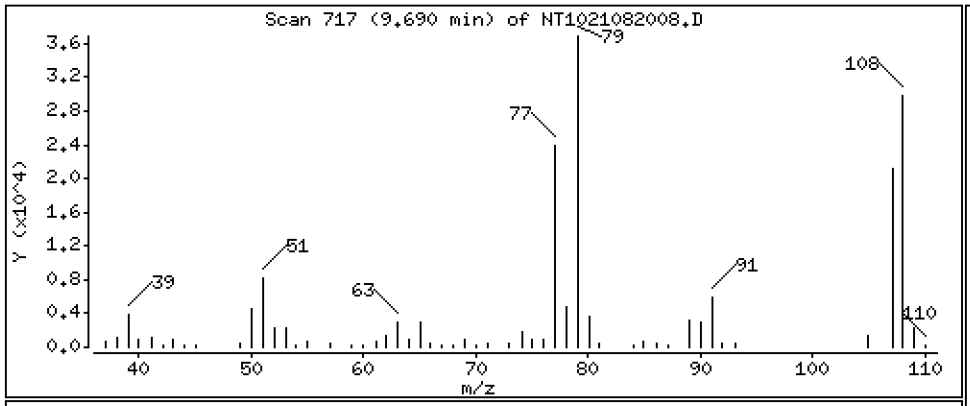
Operator: VTS

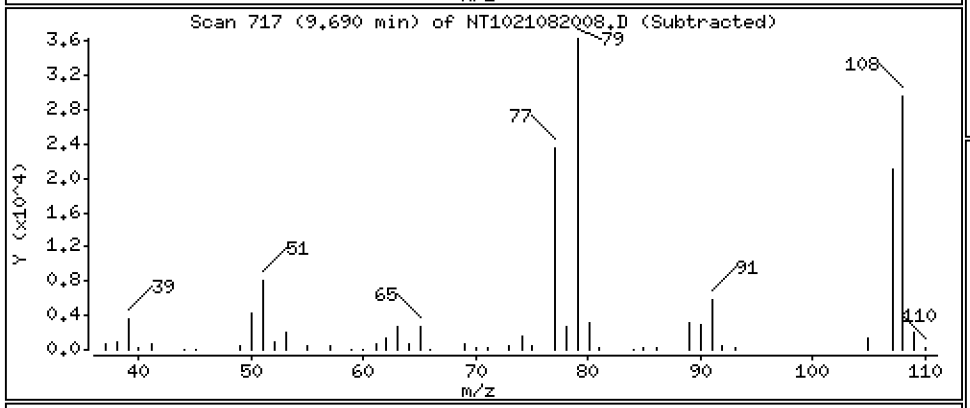
Column phase: ZB-5msi

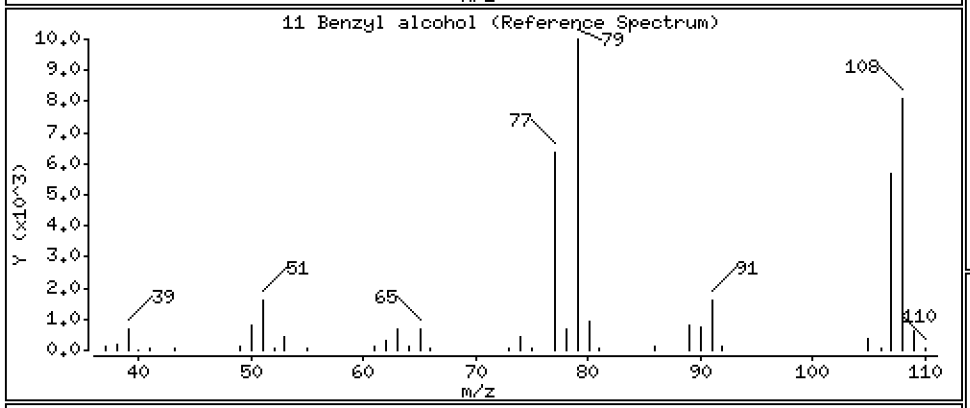
Column diameter: 0.25

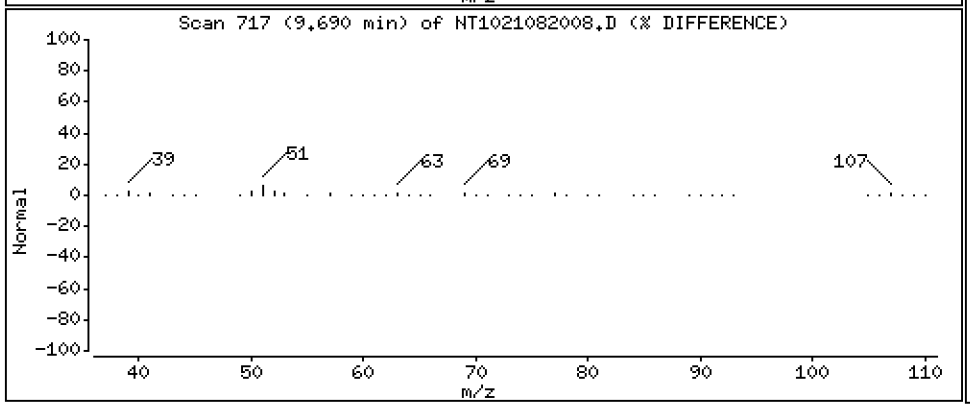
11 Benzyl alcohol

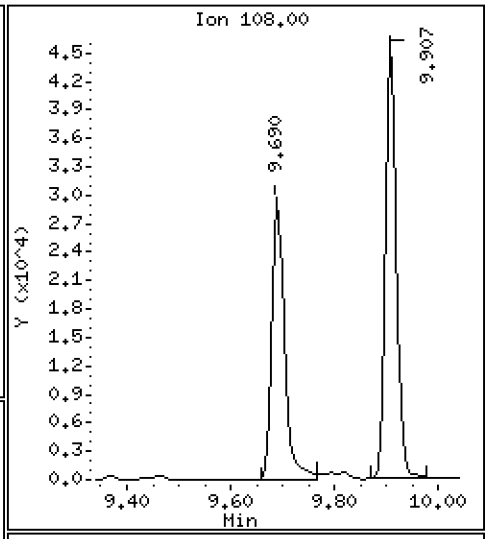
Concentration: 3.647 ug/mL

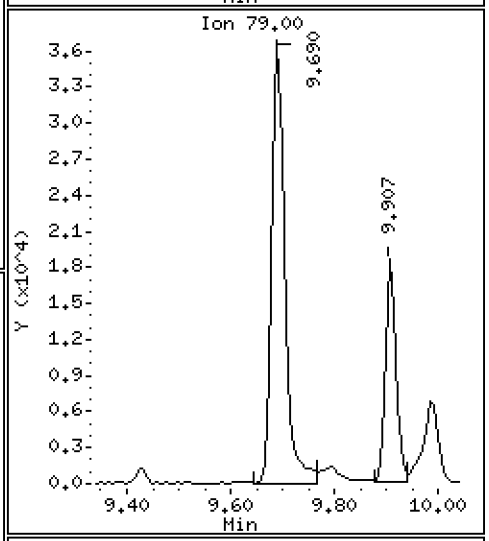


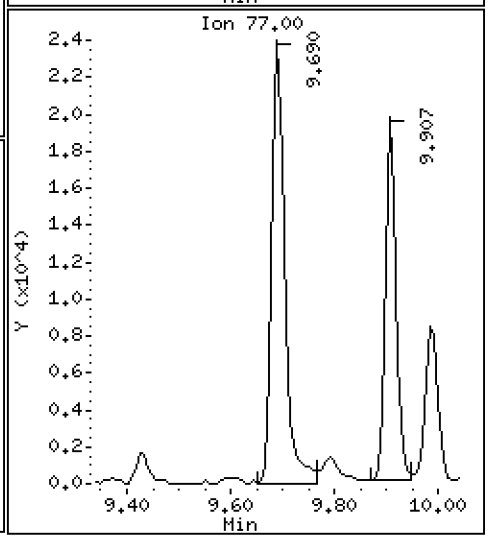












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

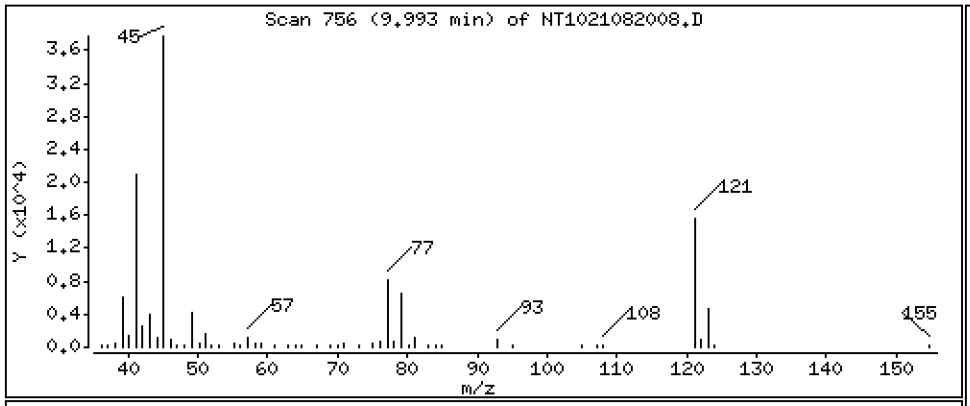
Operator: VTS

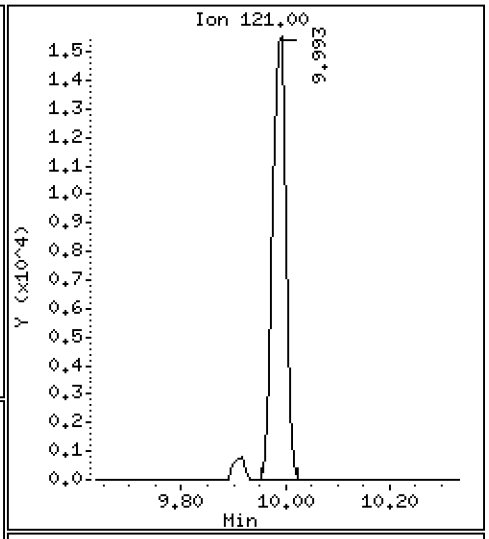
Column phase: ZB-5msi

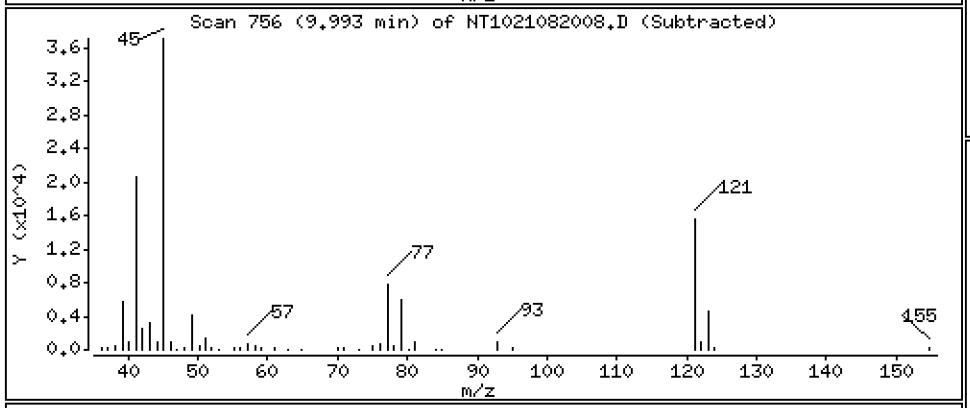
Column diameter: 0.25

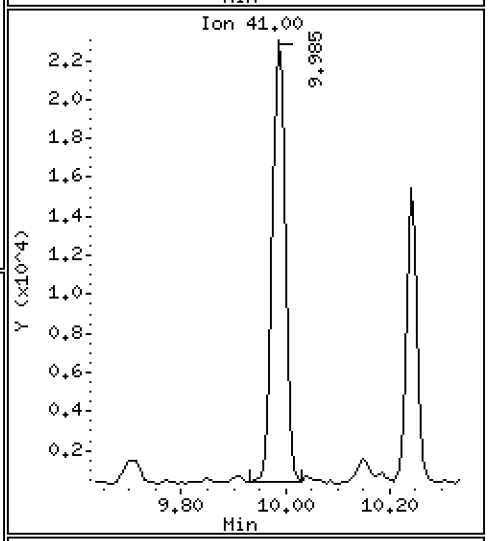
14 2,2'-oxybis(1-Chloropropane)

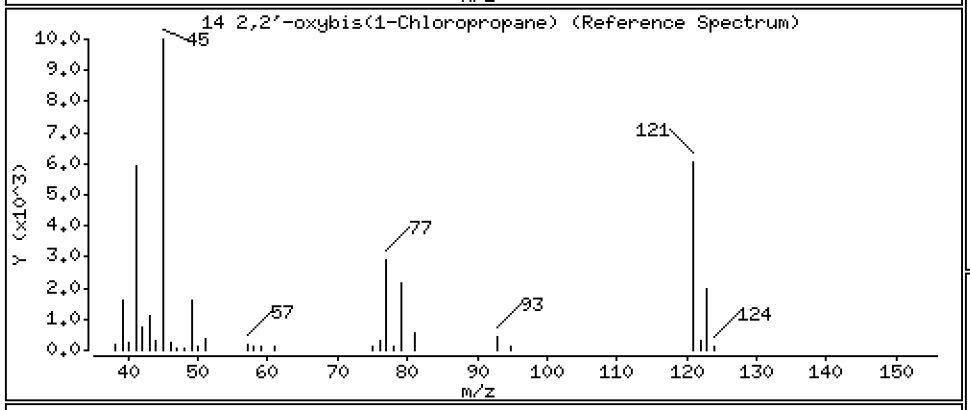
Concentration: 4.244 ug/mL

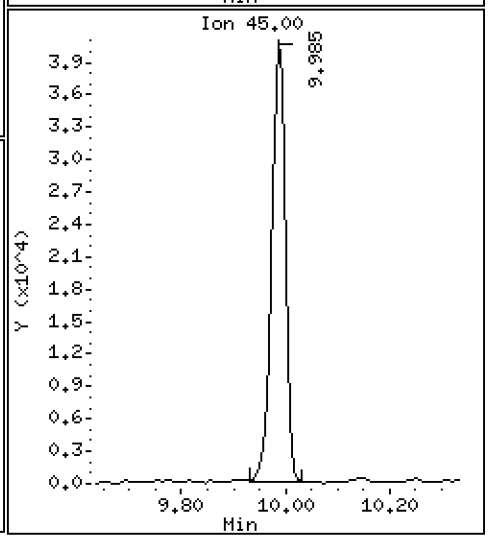


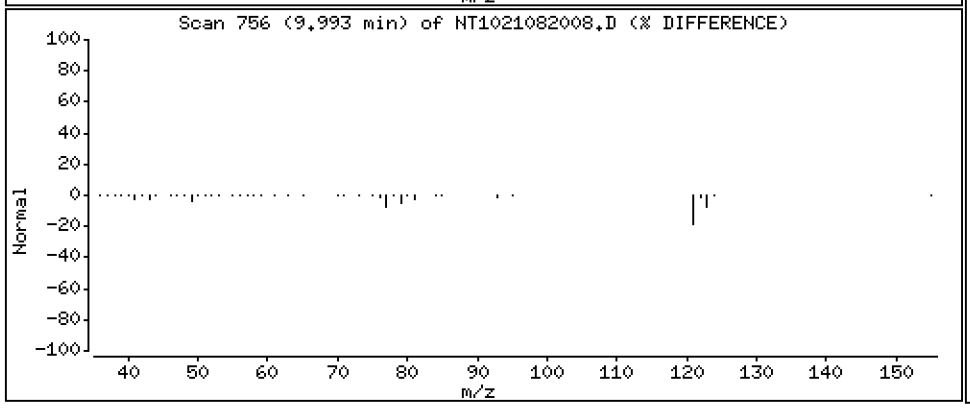












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

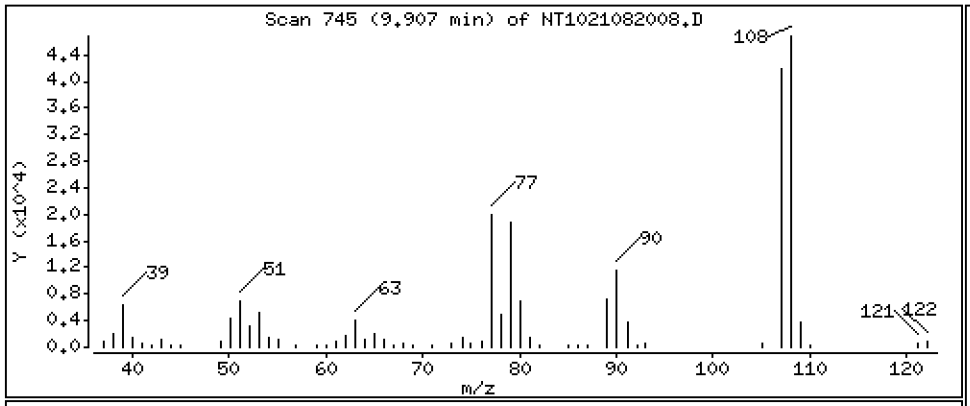
Operator: VTS

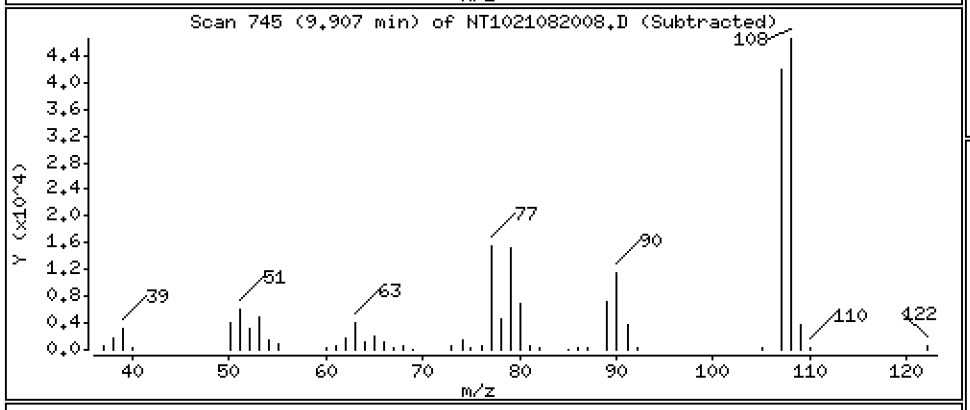
Column phase: ZB-5msi

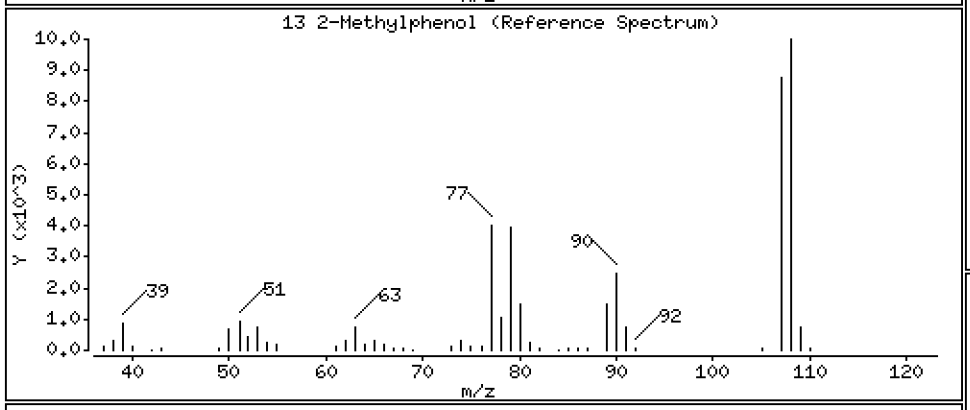
Column diameter: 0.25

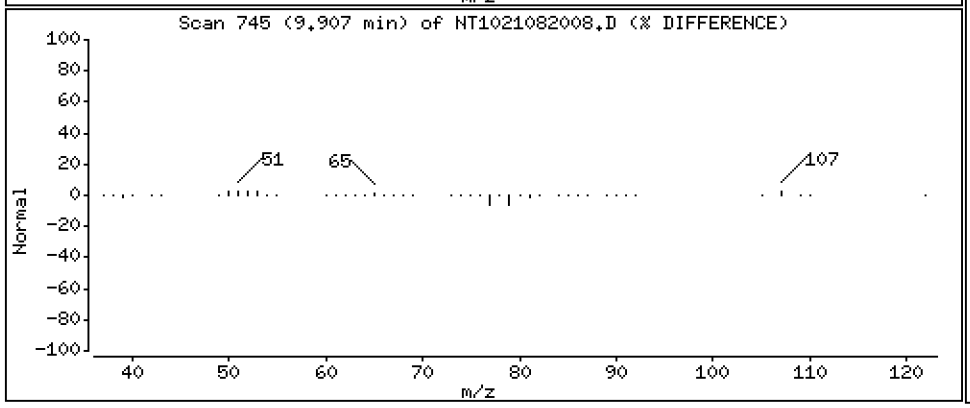
13 2-Methylphenol

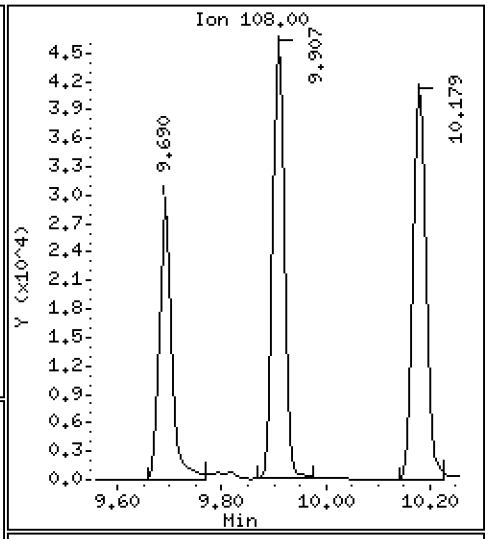
Concentration: 3.754 ug/mL

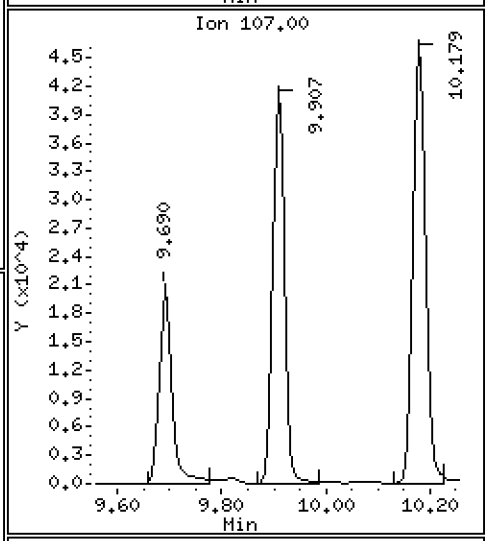


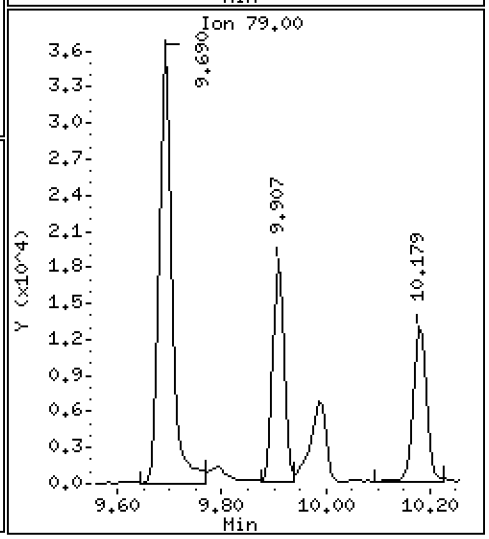












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

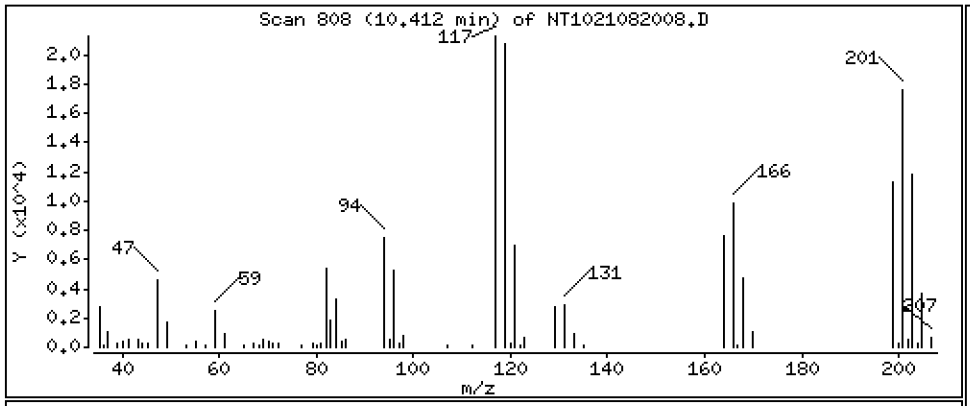
Operator: VTS

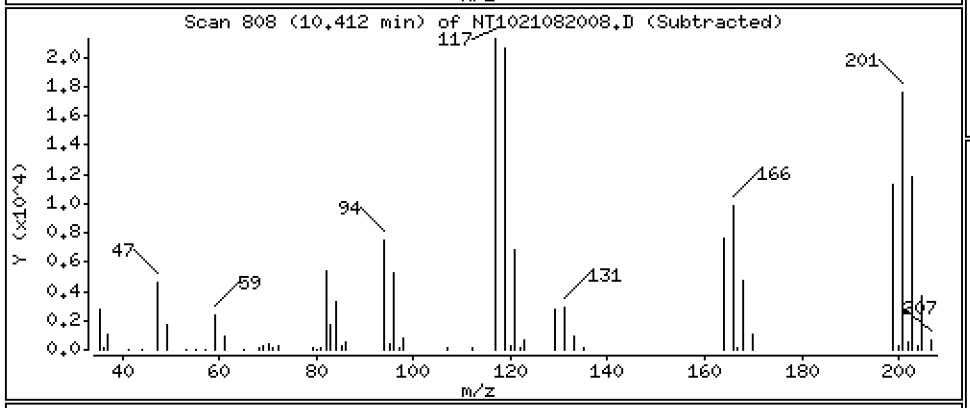
Column phase: ZB-5msi

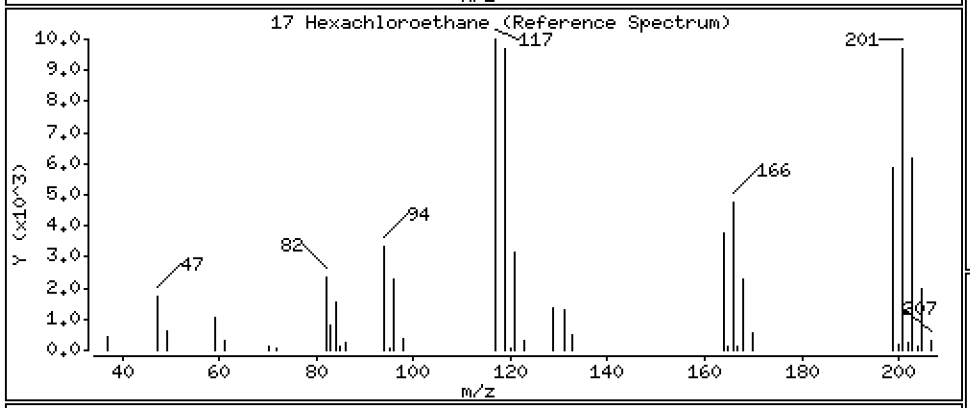
Column diameter: 0.25

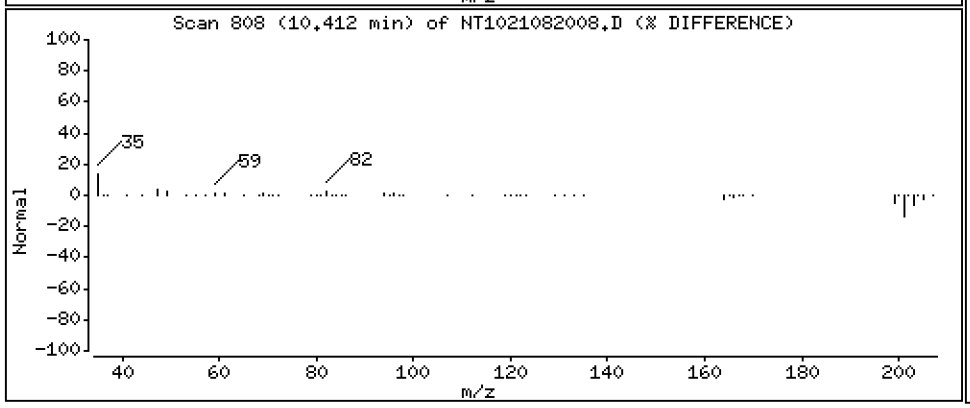
17 Hexachloroethane

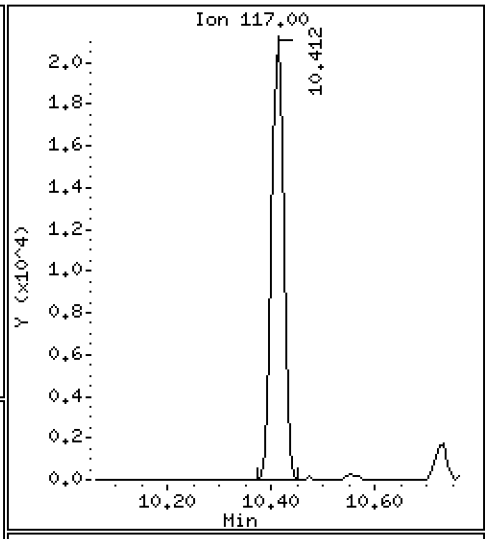
Concentration: 4.046 ug/mL

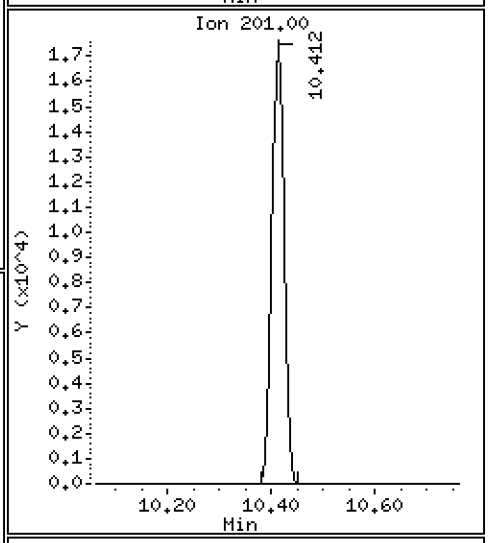


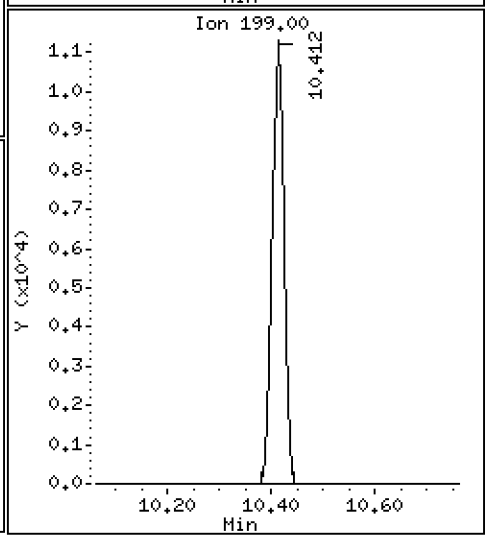












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

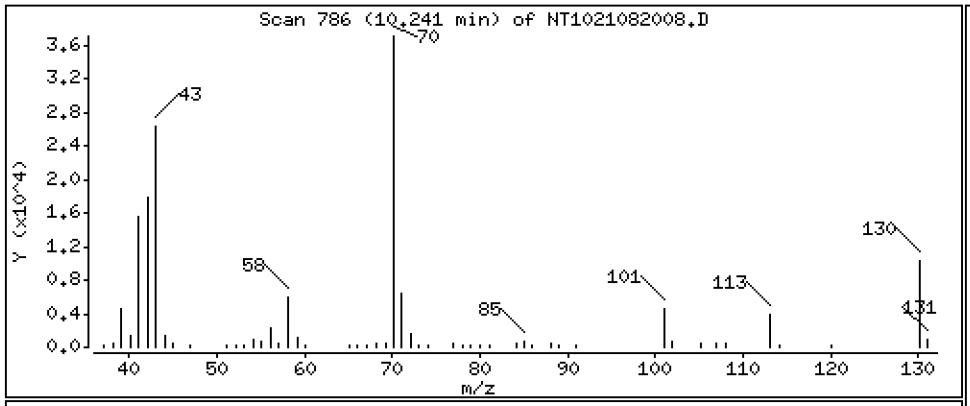
Operator: VTS

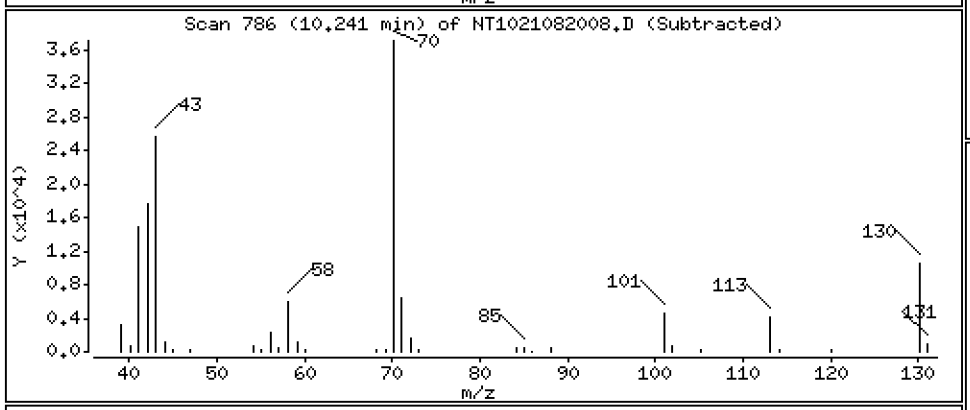
Column phase: ZB-5msi

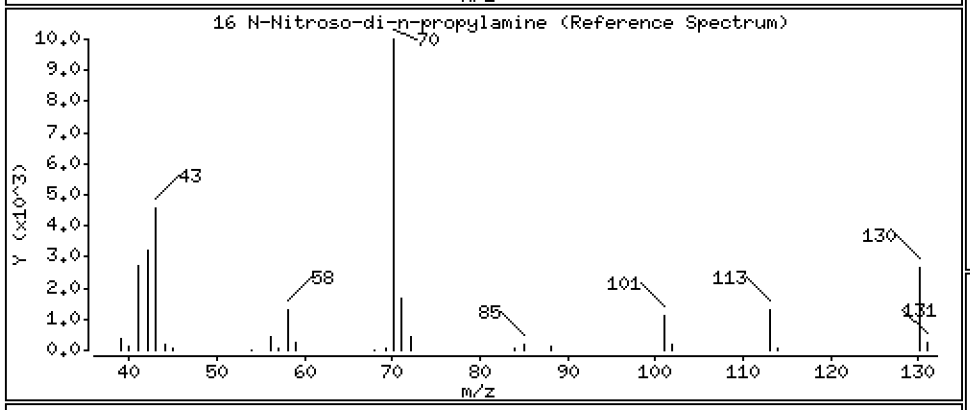
Column diameter: 0.25

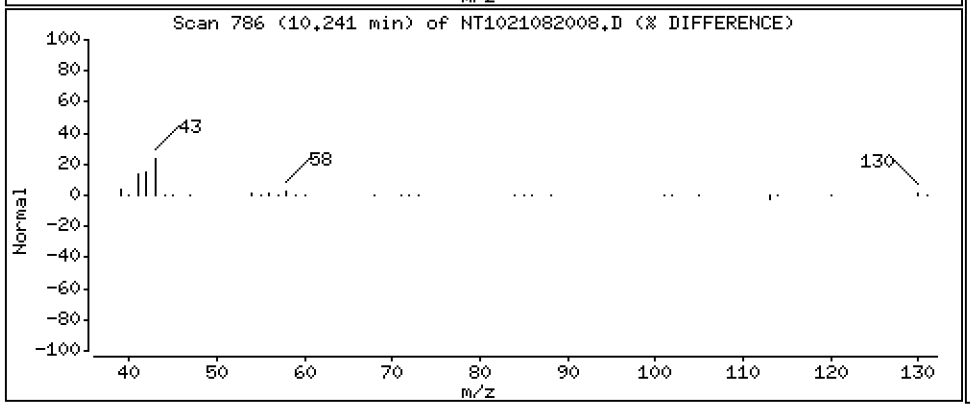
16 N-Nitroso-di-n-propylamine

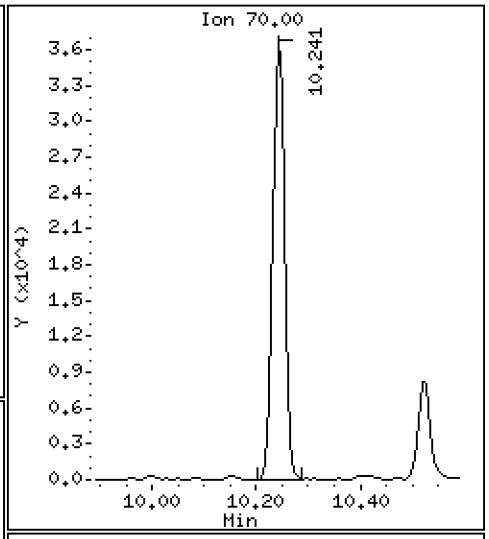
Concentration: 4.306 ug/mL

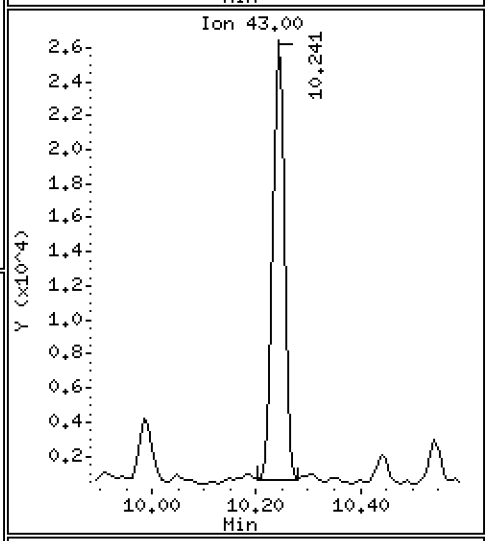


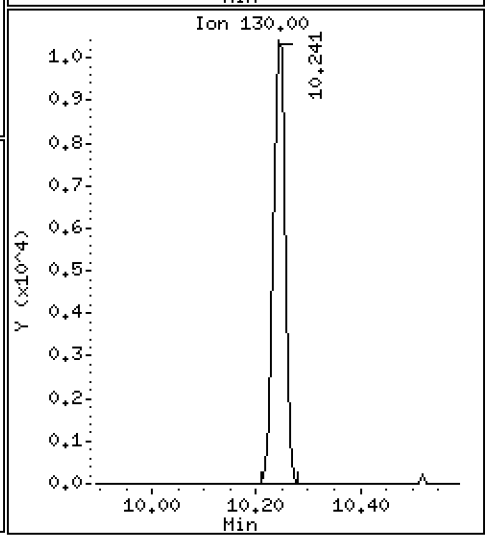












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

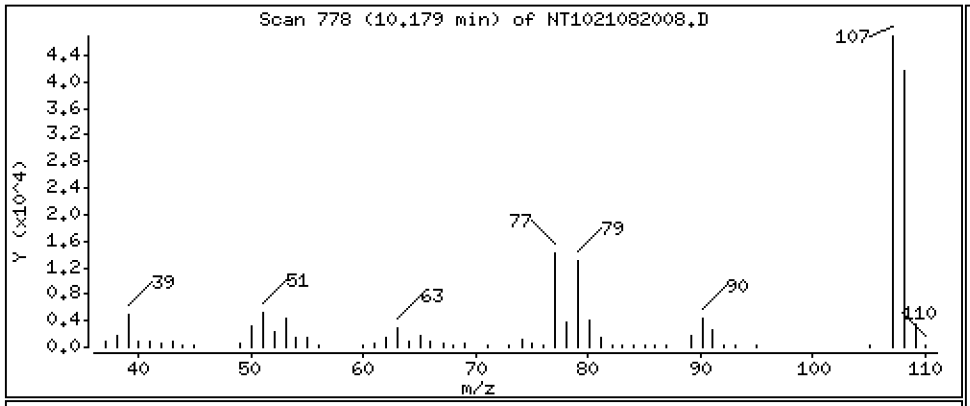
Operator: VTS

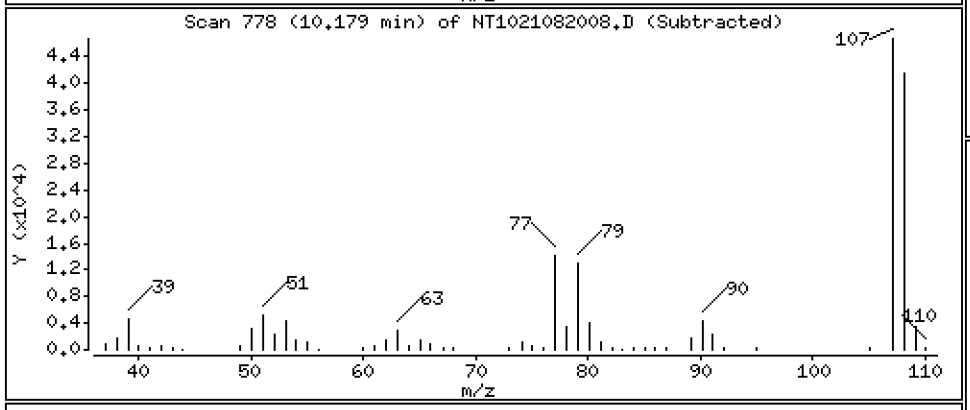
Column phase: ZB-5msi

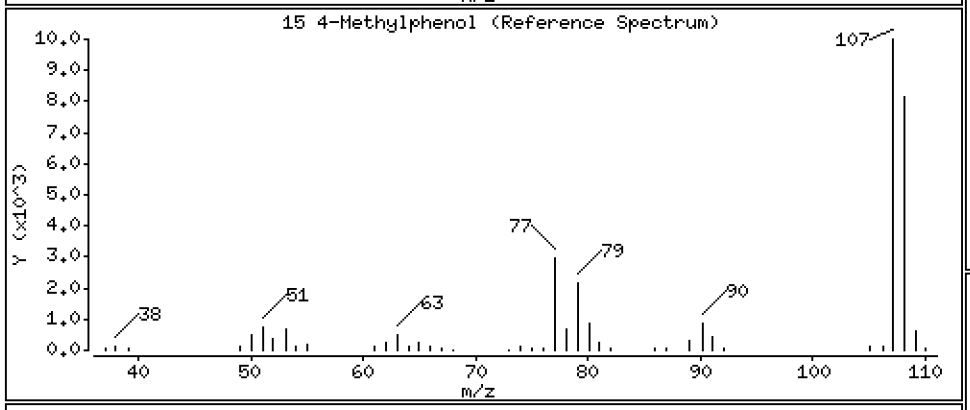
Column diameter: 0.25

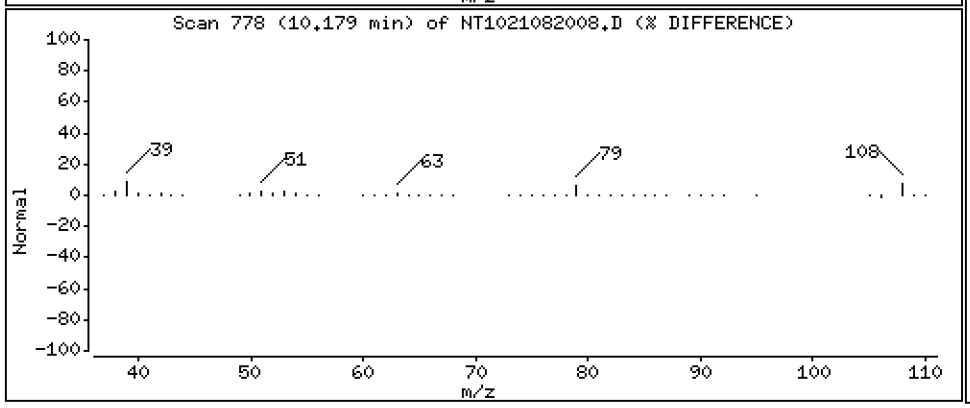
15 4-Methylphenol

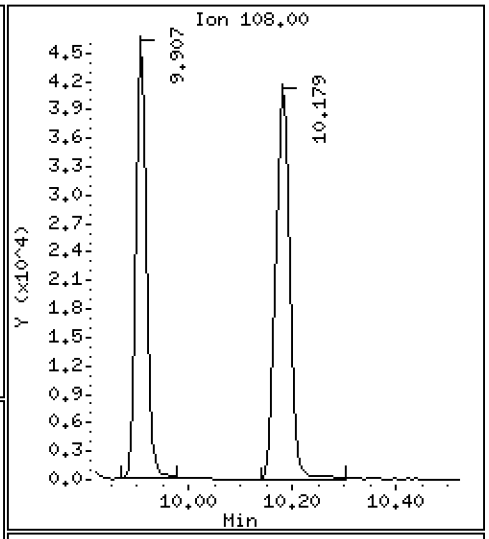
Concentration: 4.050 ug/mL

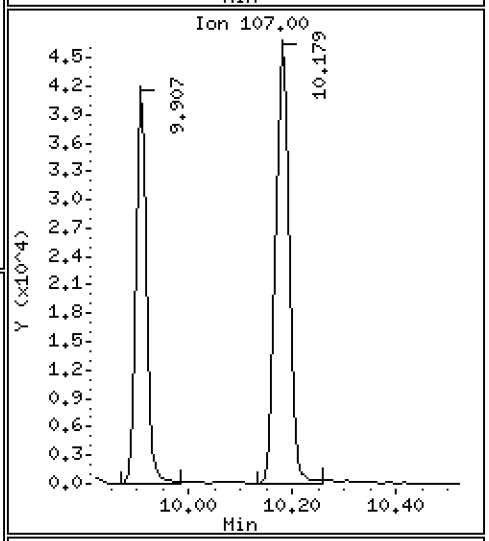


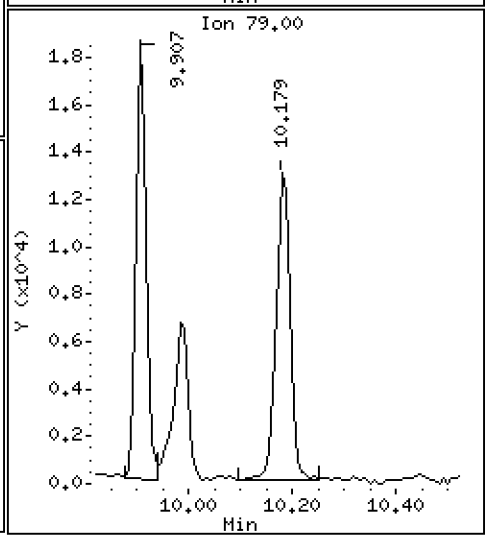












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

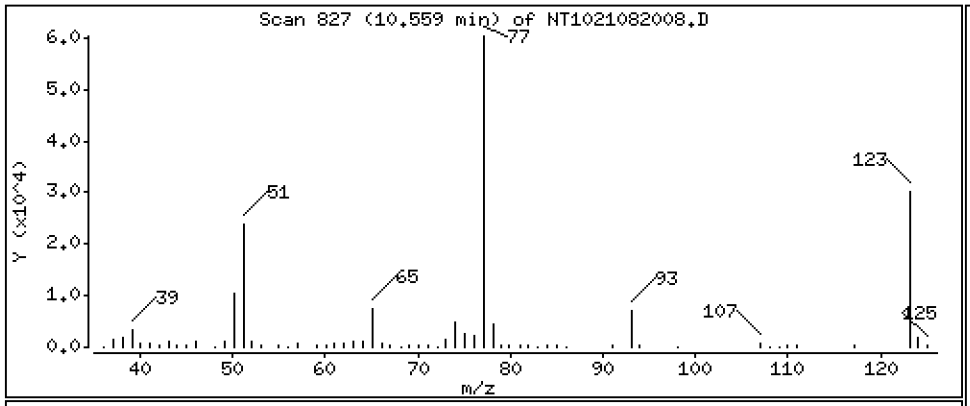
Operator: VTS

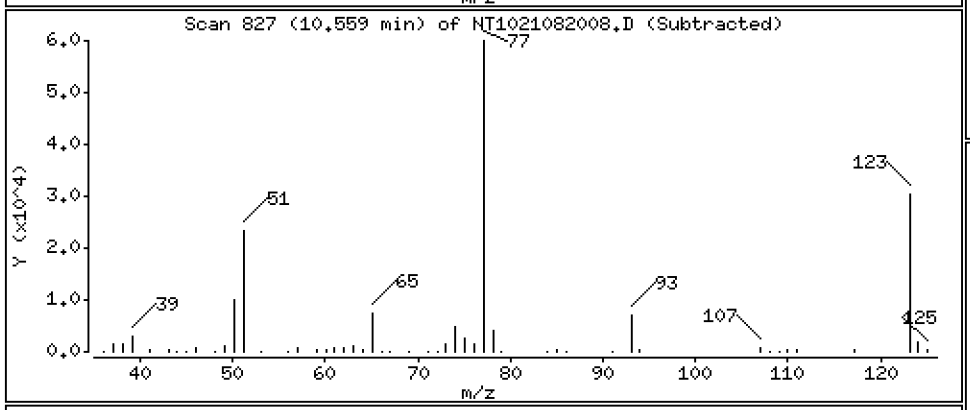
Column phase: ZB-5msi

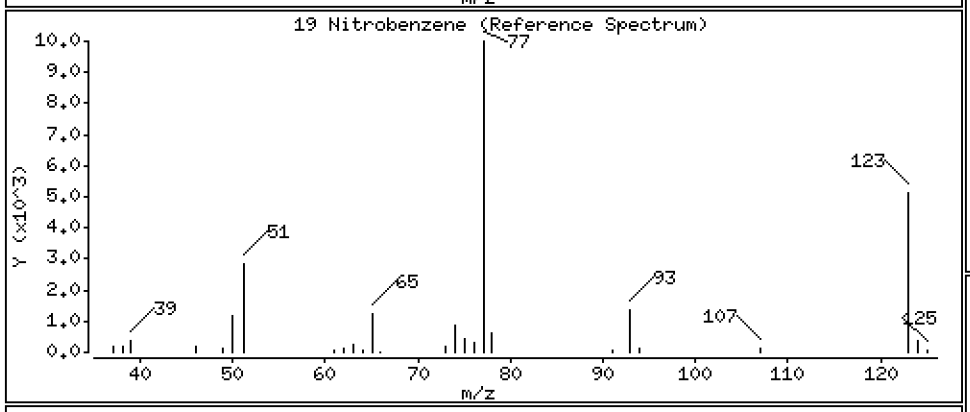
Column diameter: 0.25

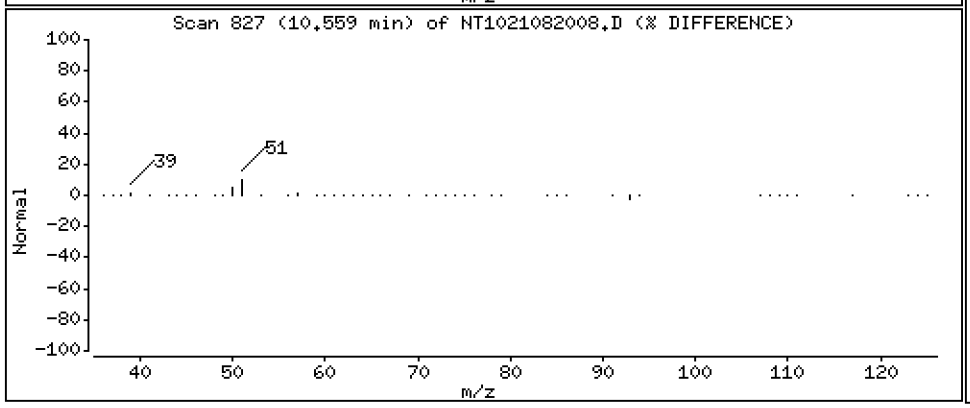
19 Nitrobenzene

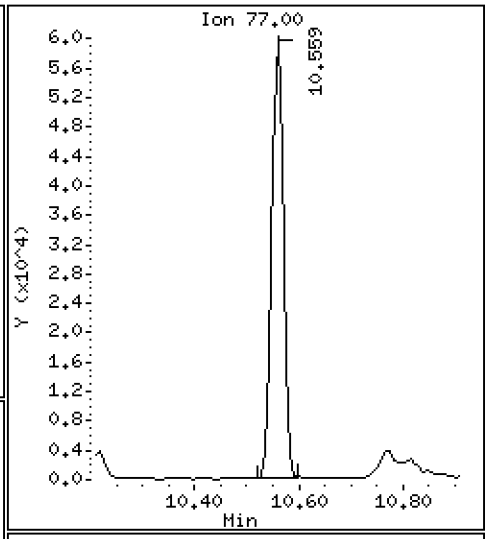
Concentration: 3.918 ug/mL

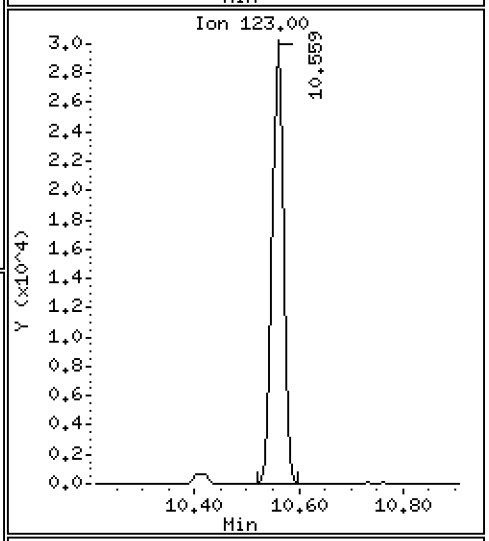


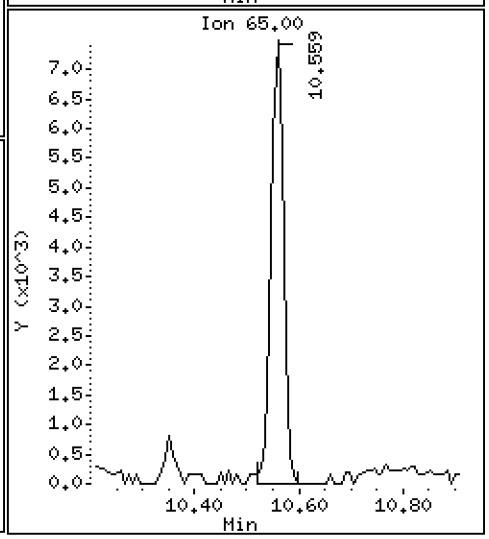












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

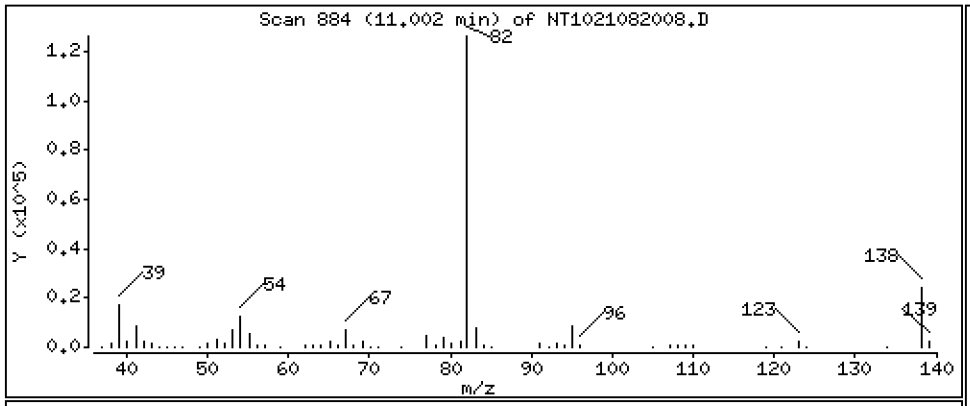
Operator: VTS

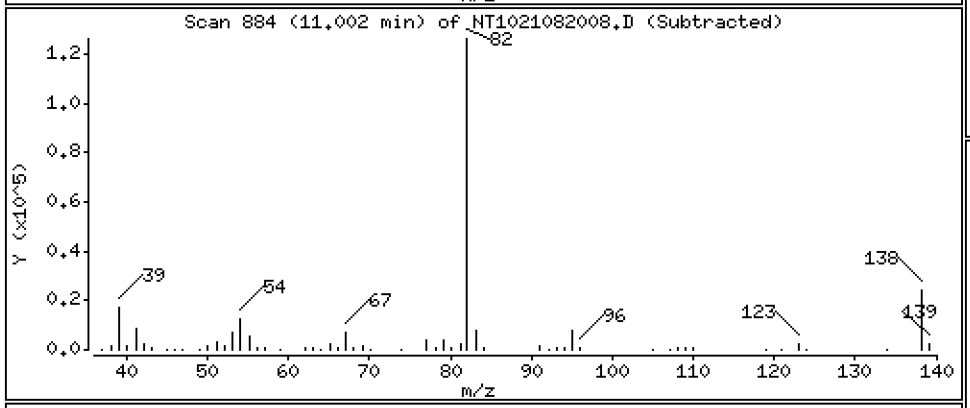
Column phase: ZB-5msi

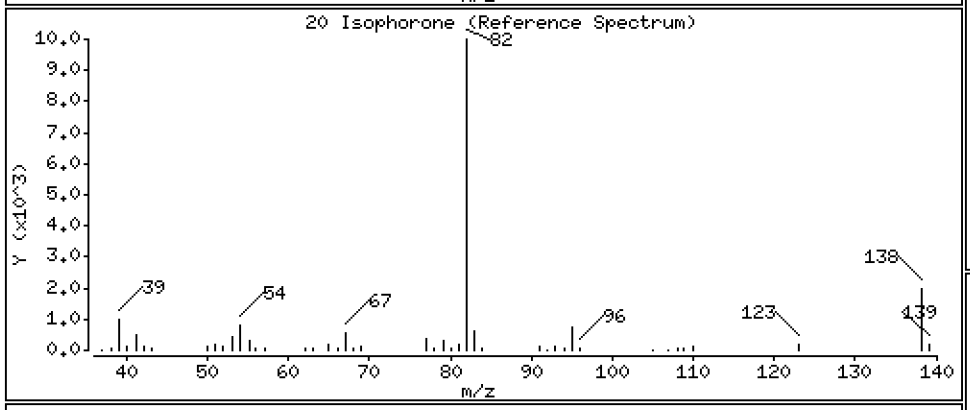
Column diameter: 0.25

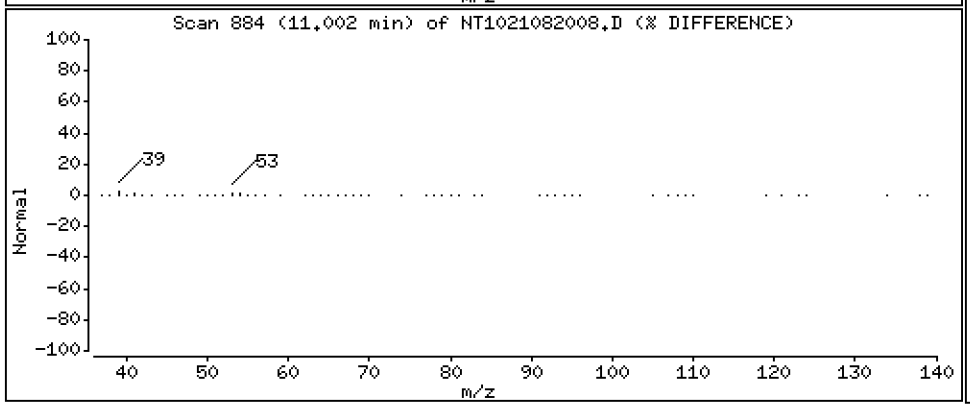
20 Isophorone

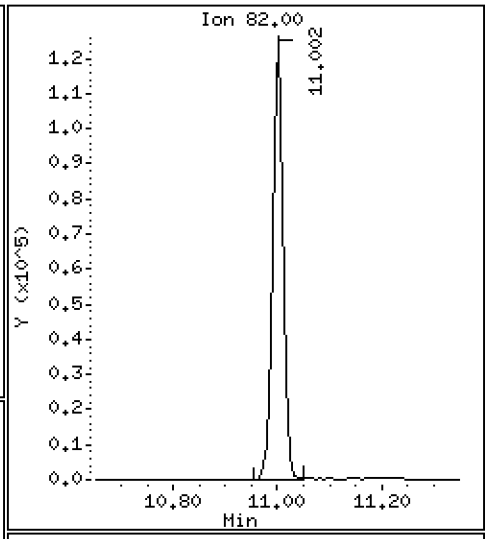
Concentration: 5.284 ug/mL

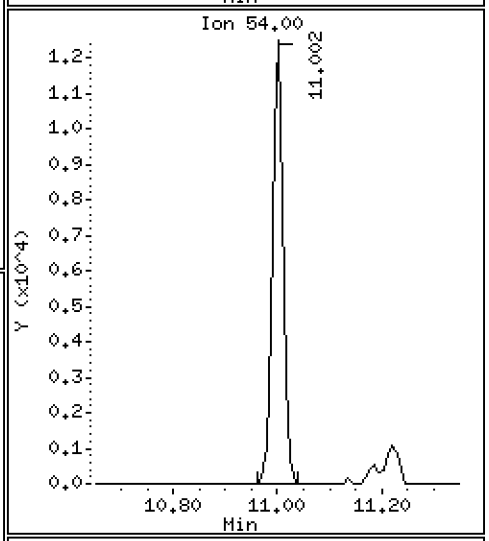


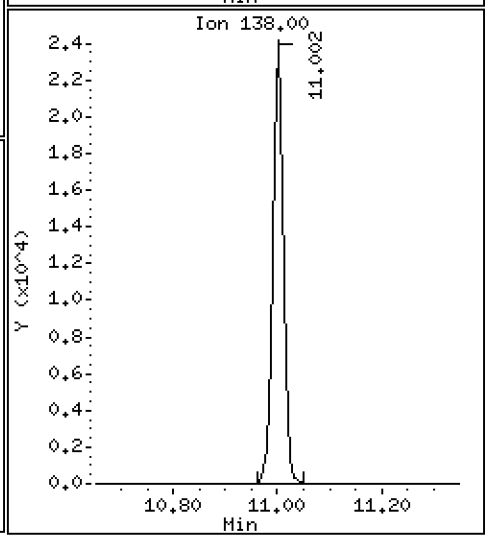












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

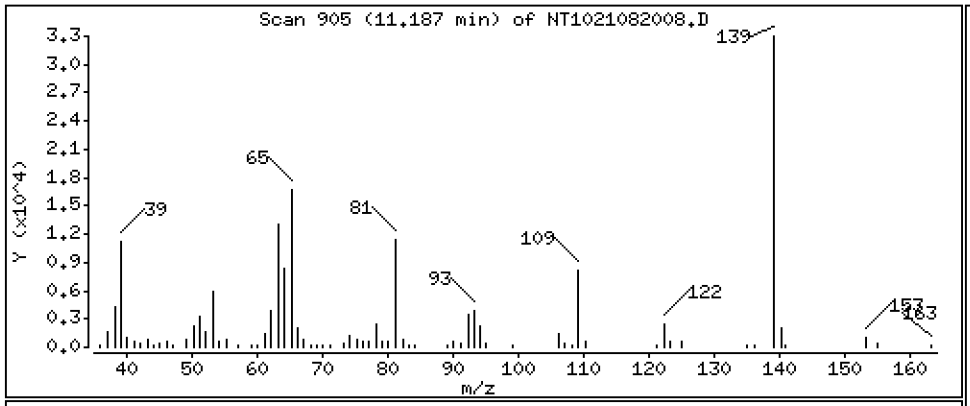
Operator: VTS

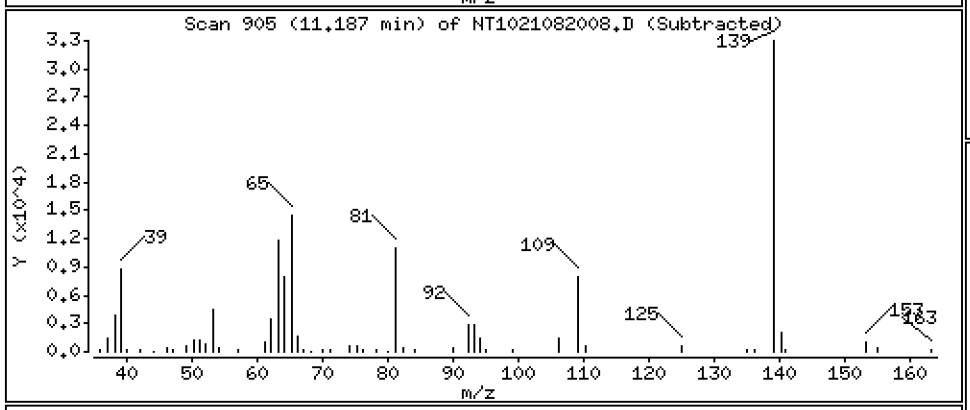
Column phase: ZB-5msi

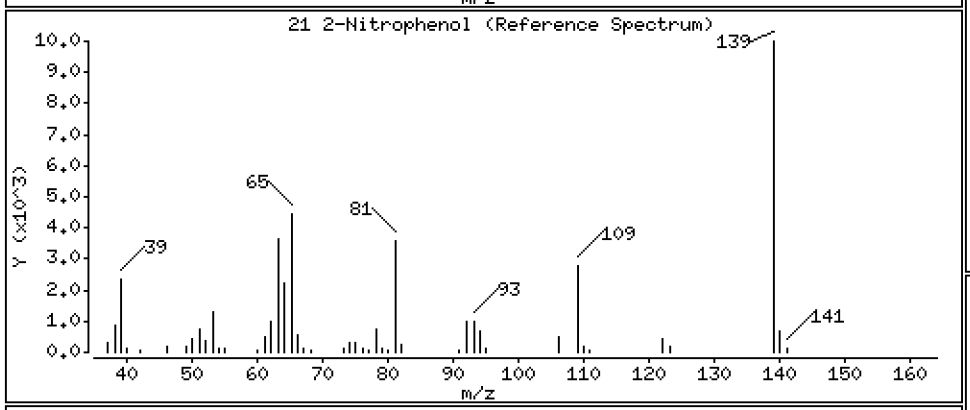
Column diameter: 0.25

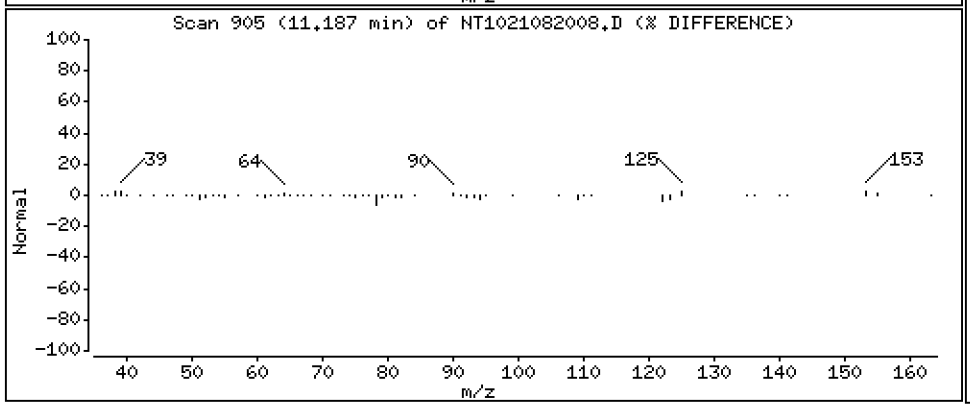
21 2-Nitrophenol

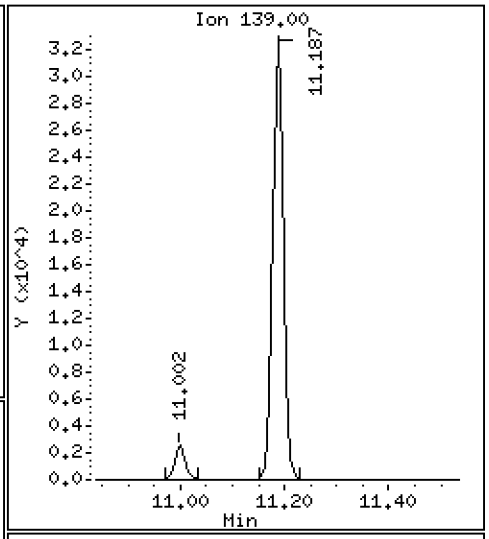
Concentration: 3.717 ug/mL

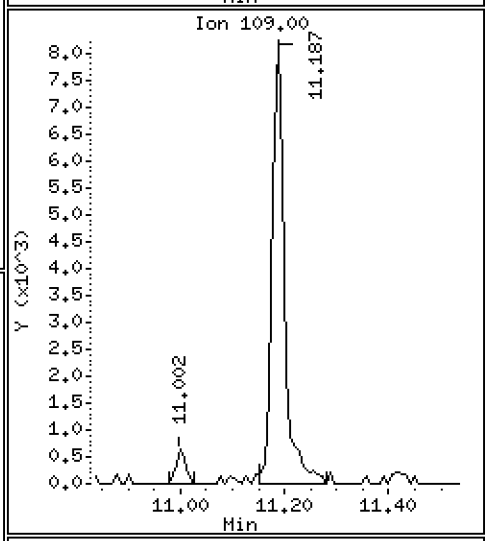


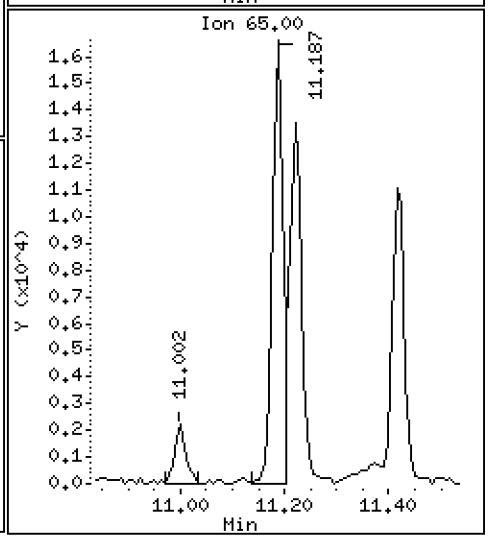












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

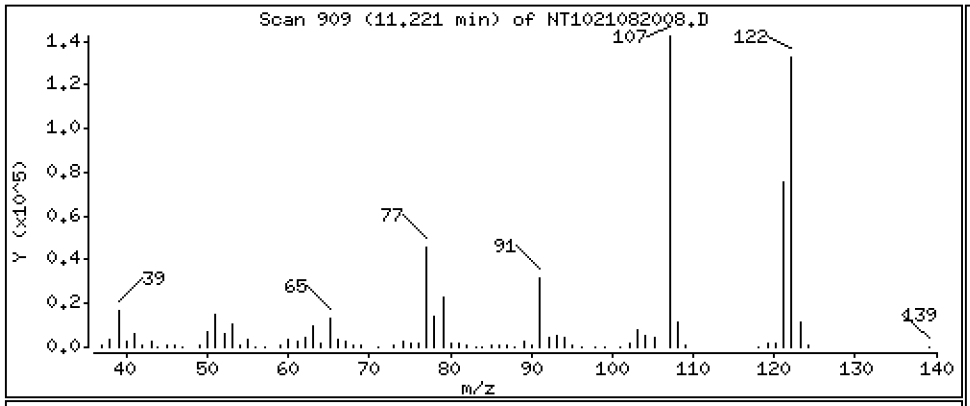
Operator: VTS

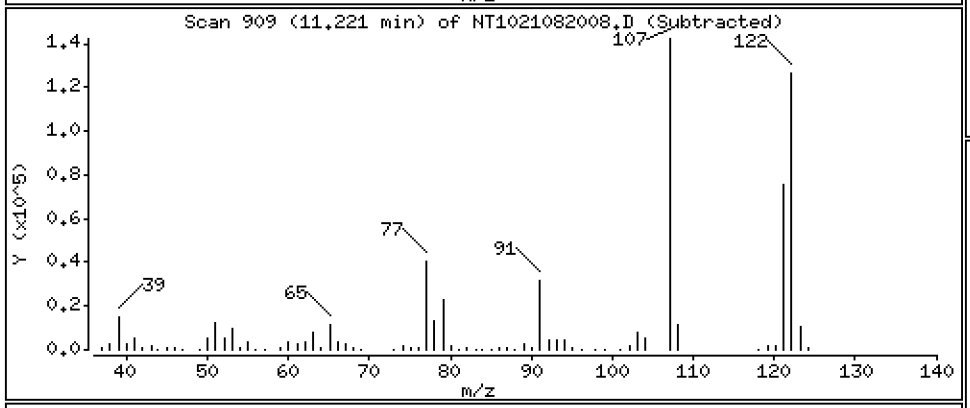
Column phase: ZB-5msi

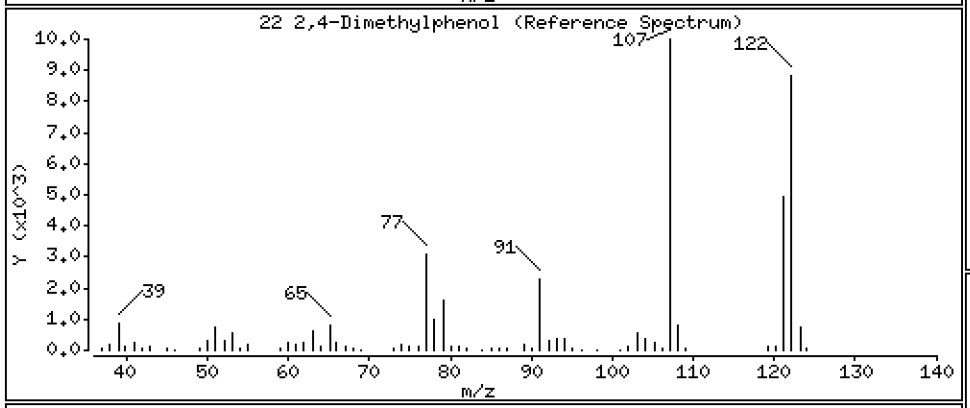
Column diameter: 0.25

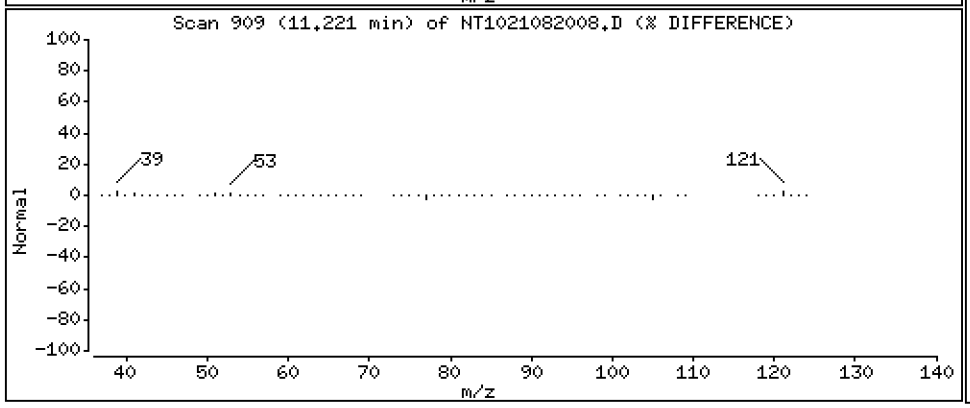
22 2,4-Dimethylphenol

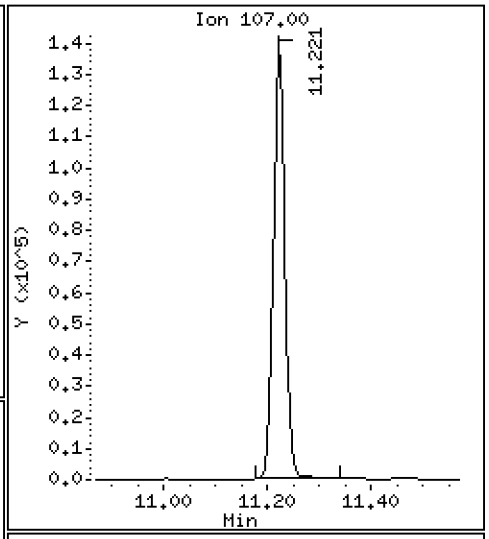
Concentration: 11.42 ug/mL

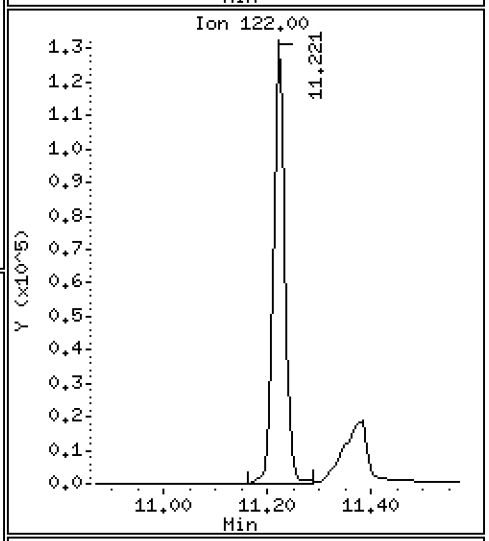


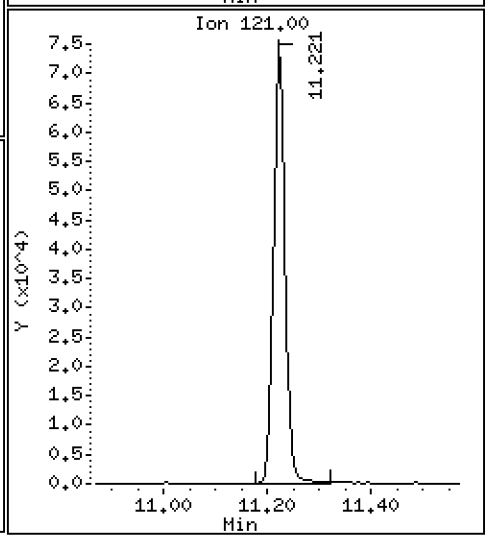












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

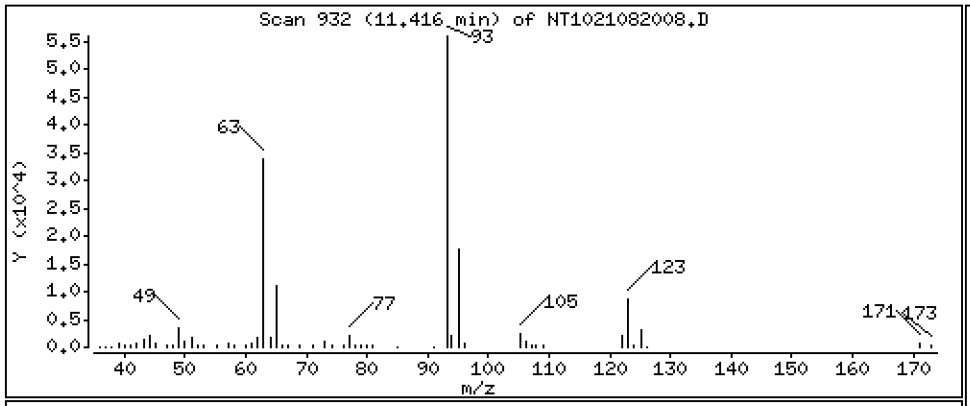
Operator: VTS

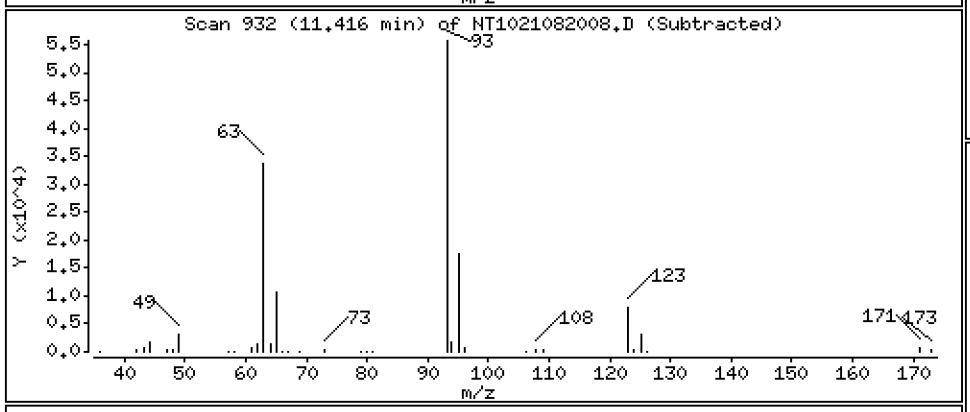
Column phase: ZB-5msi

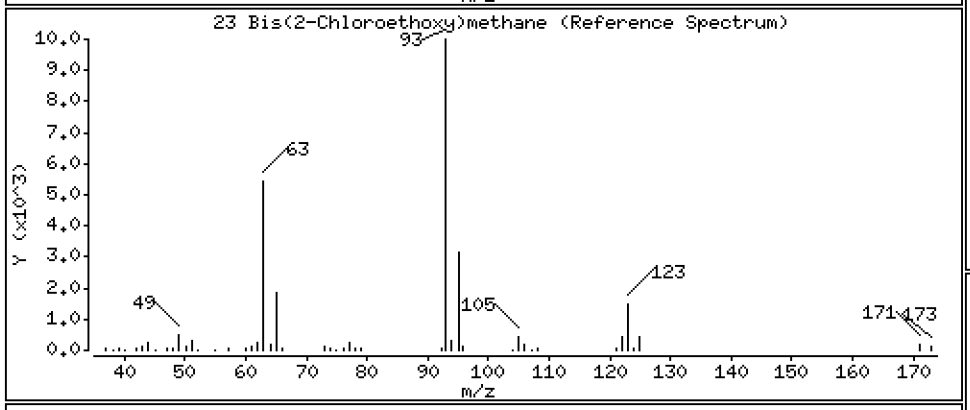
Column diameter: 0.25

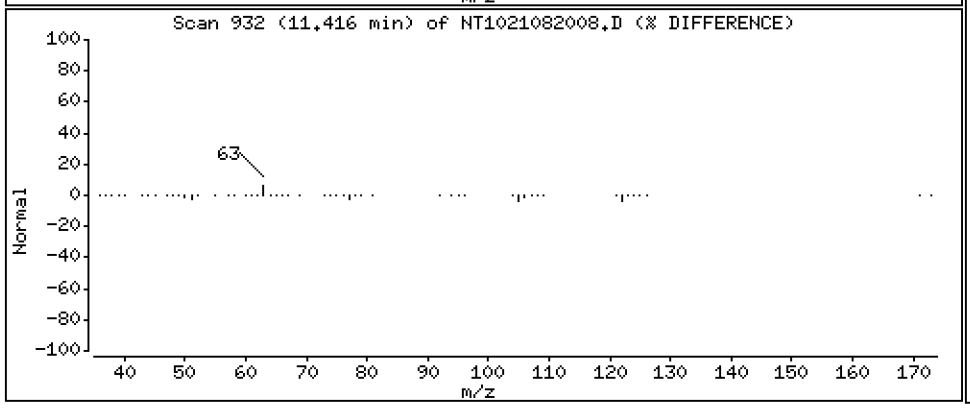
23 Bis(2-Chloroethoxy)methane

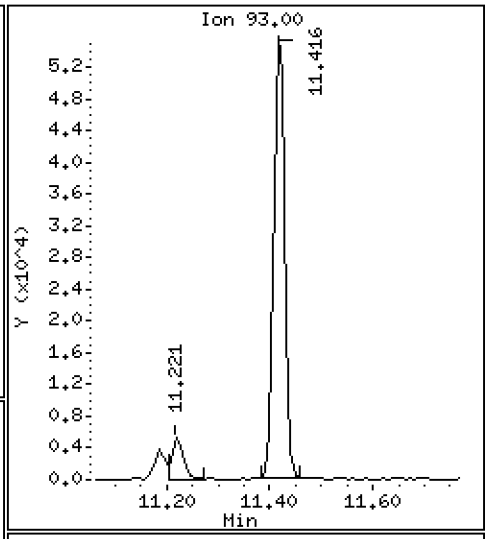
Concentration: 4.076 ug/mL

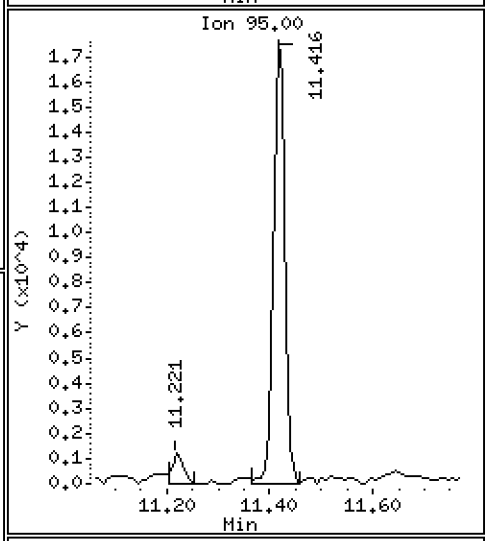


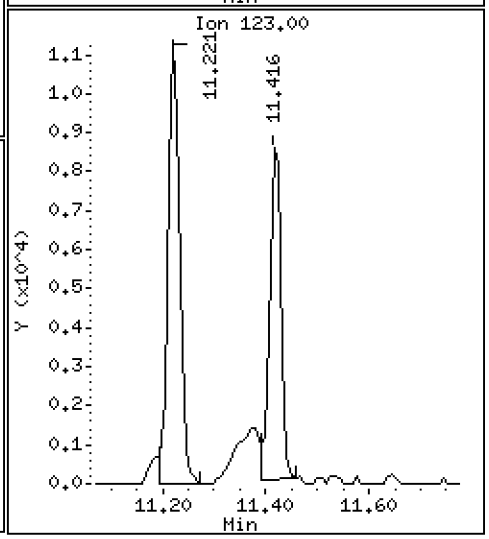












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

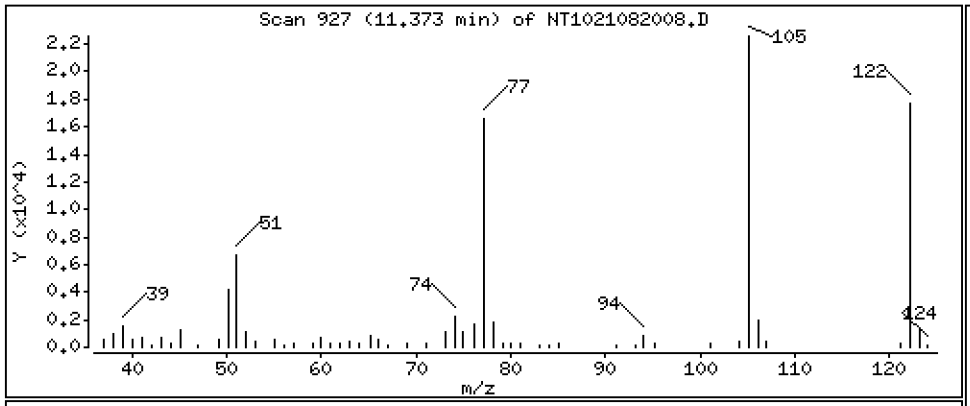
Operator: VTS

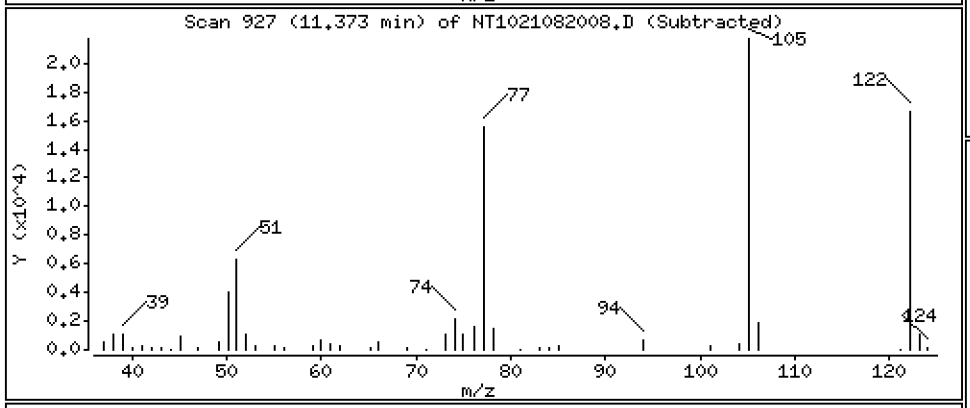
Column phase: ZB-5msi

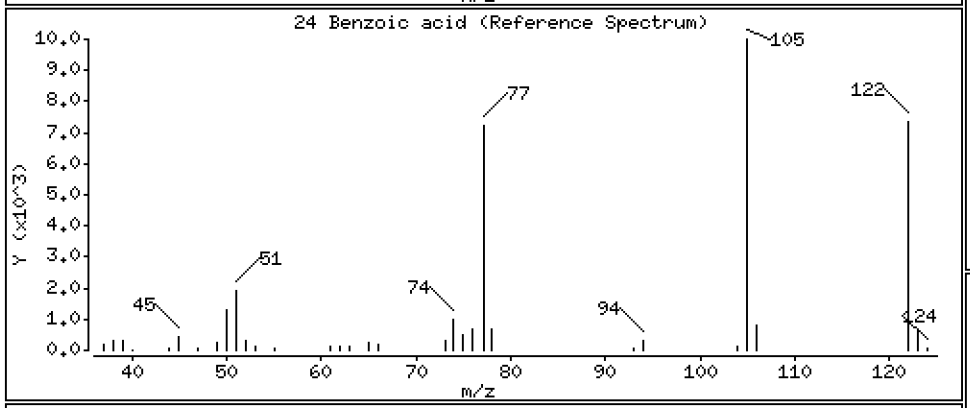
Column diameter: 0.25

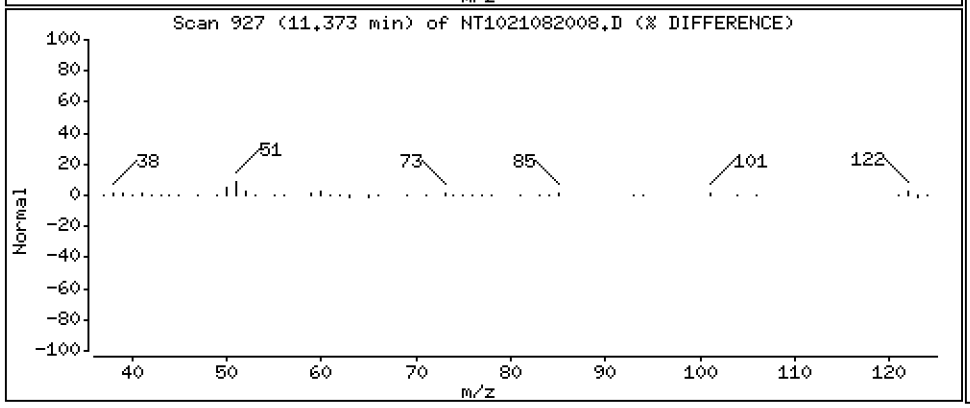
24 Benzoic acid

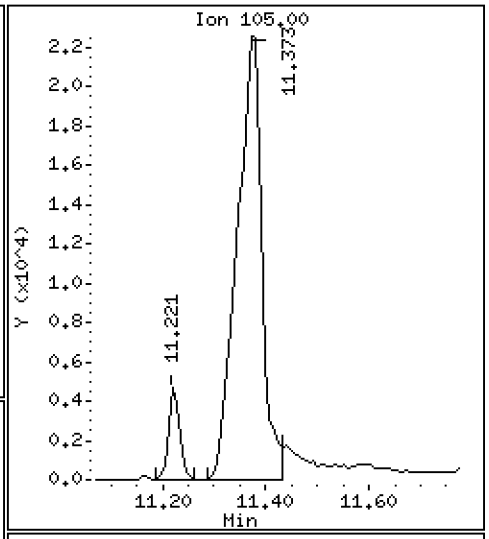
Concentration: 7.655 ug/mL

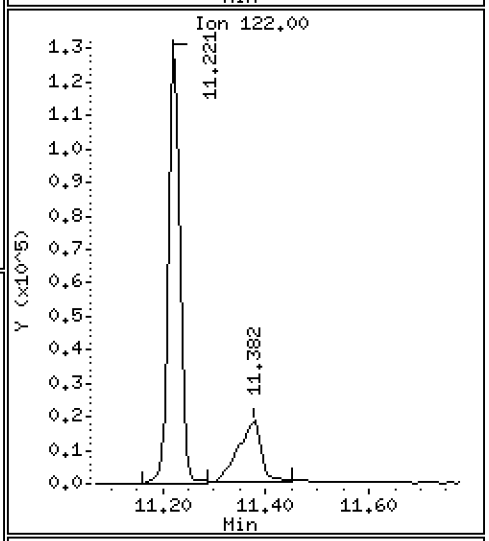


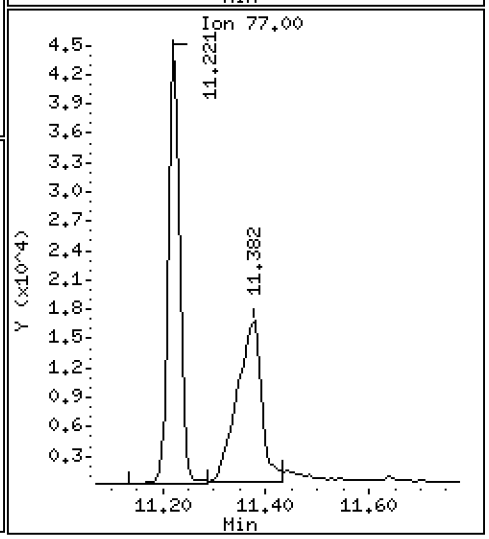












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

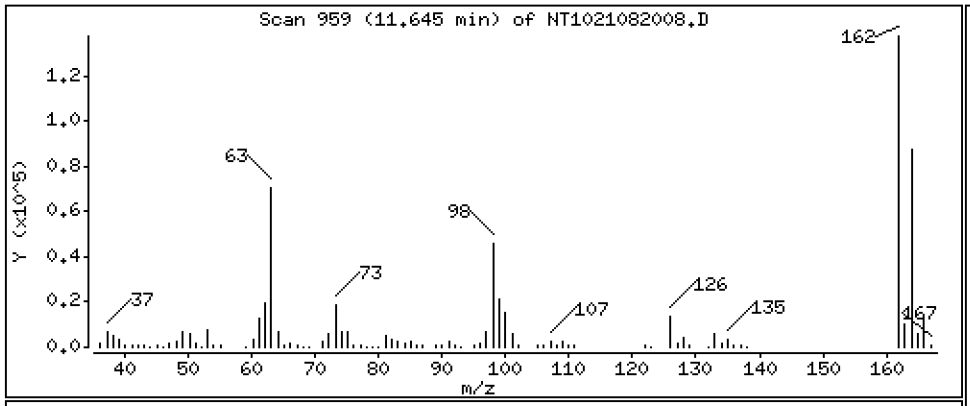
Operator: VTS

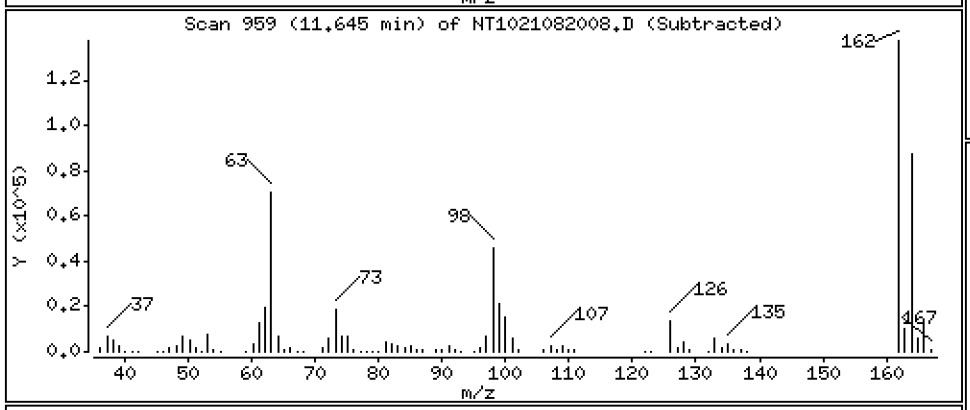
Column phase: ZB-5msi

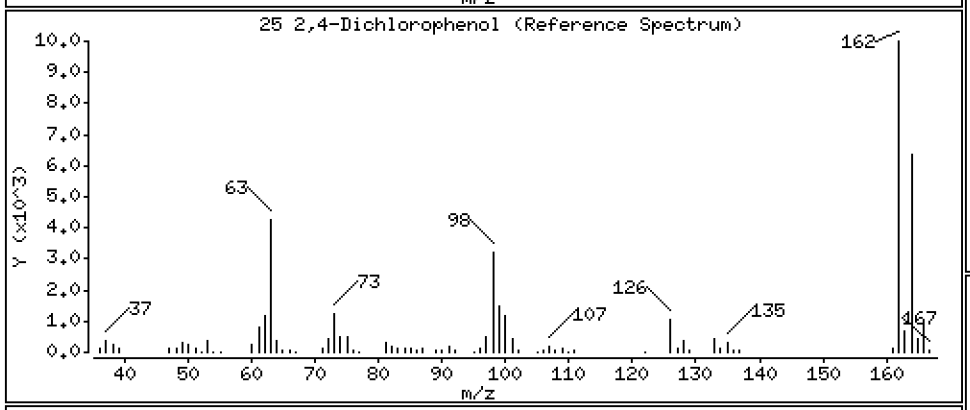
Column diameter: 0.25

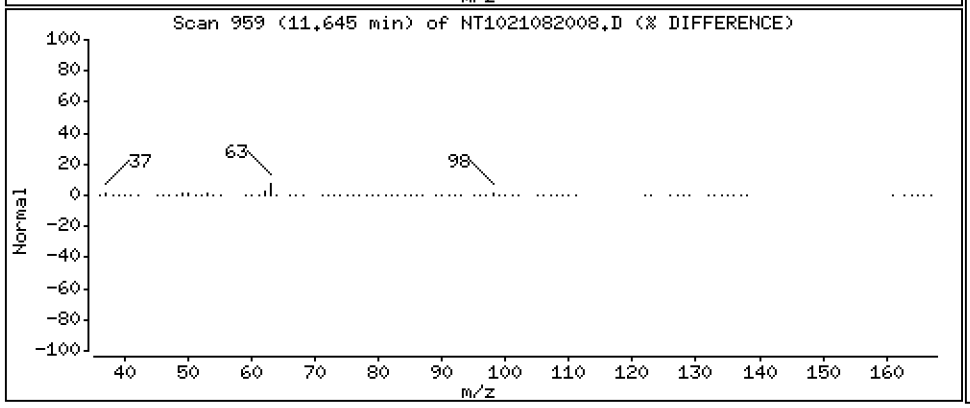
25 2,4-Dichlorophenol

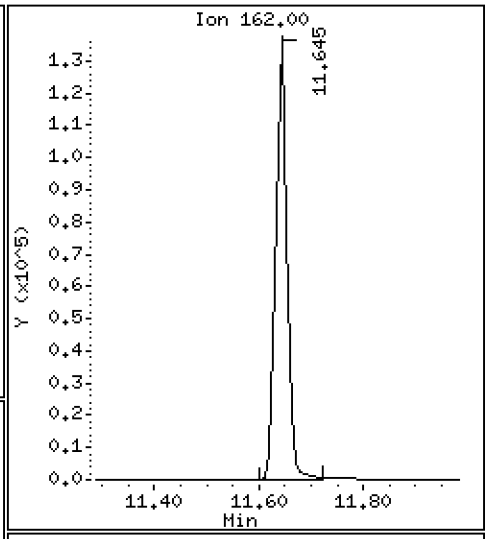
Concentration: 11.83 ug/mL

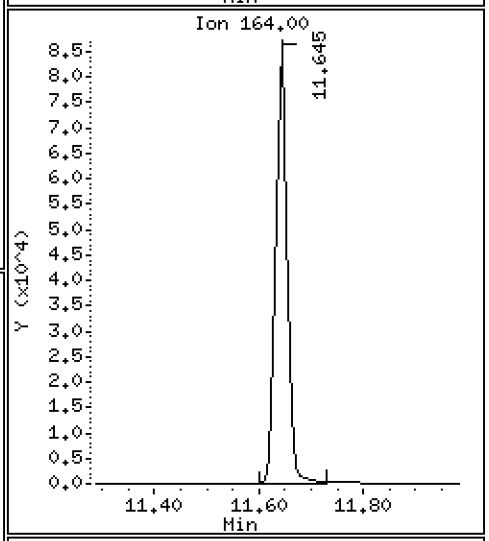


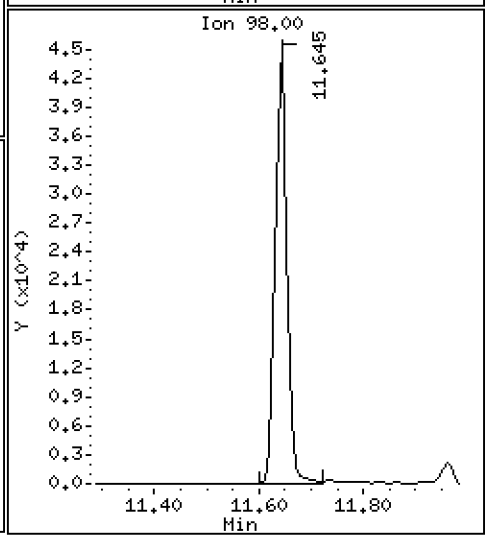












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

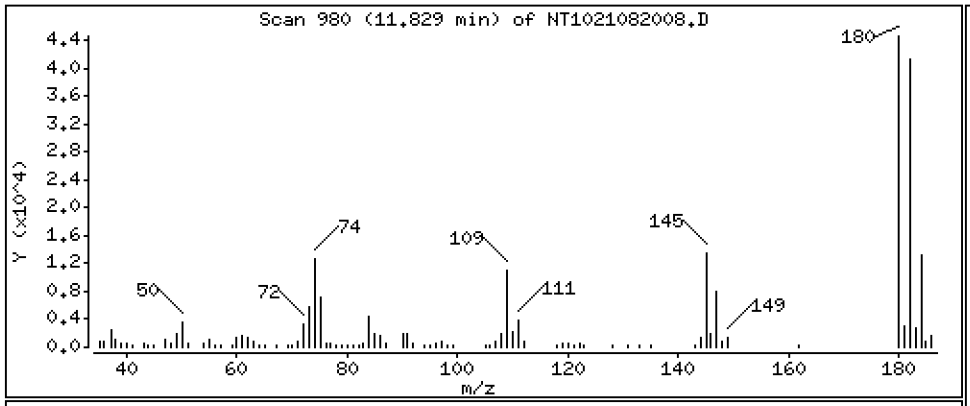
Operator: VTS

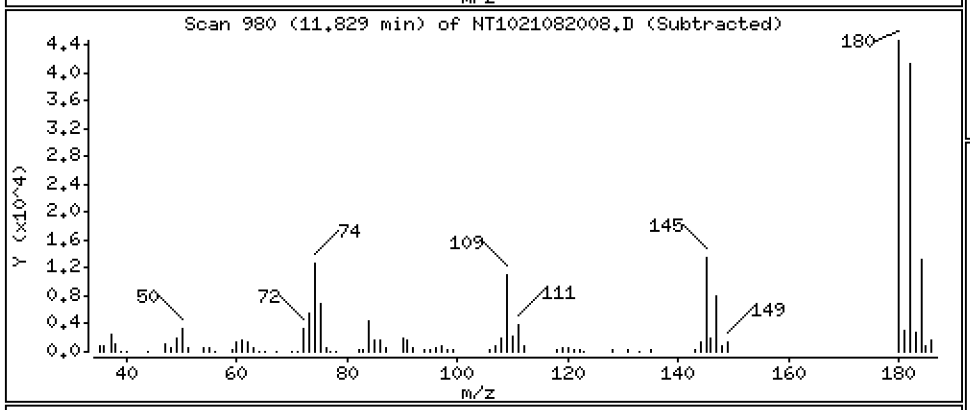
Column phase: ZB-5msi

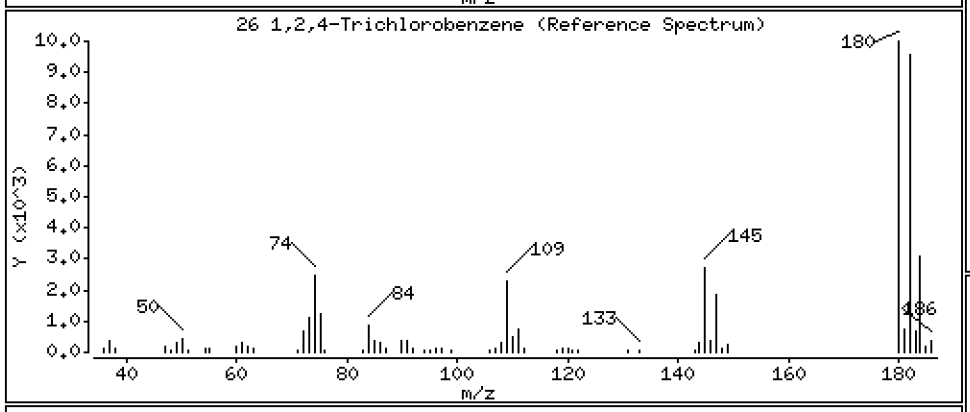
Column diameter: 0.25

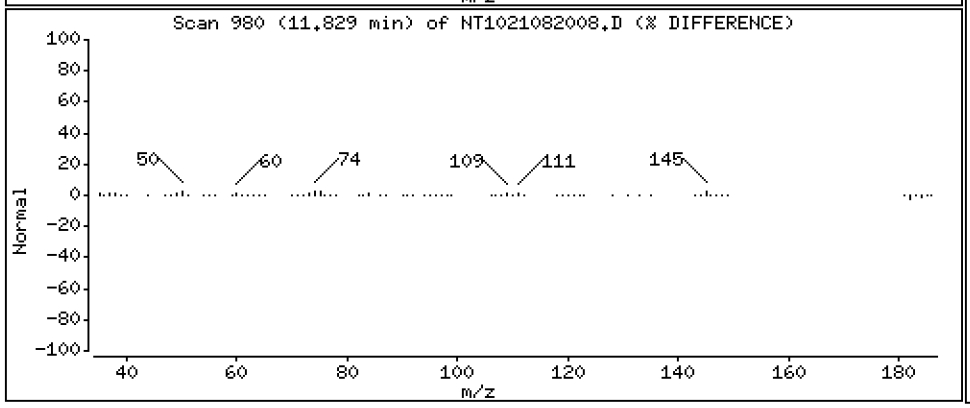
26 1,2,4-Trichlorobenzene

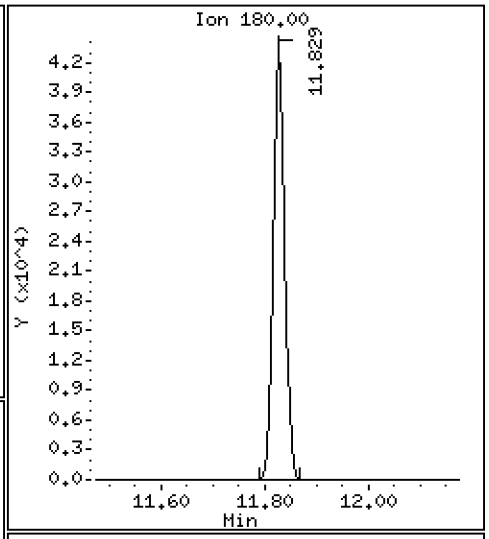
Concentration: 3.451 ug/mL

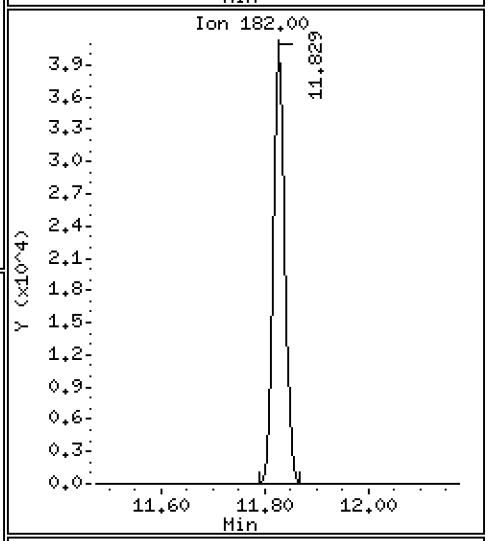


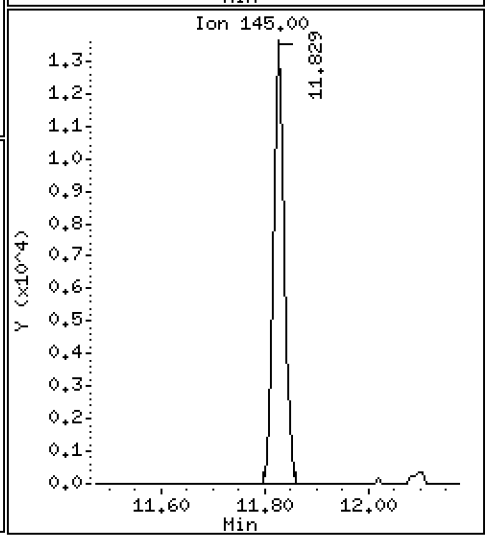












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

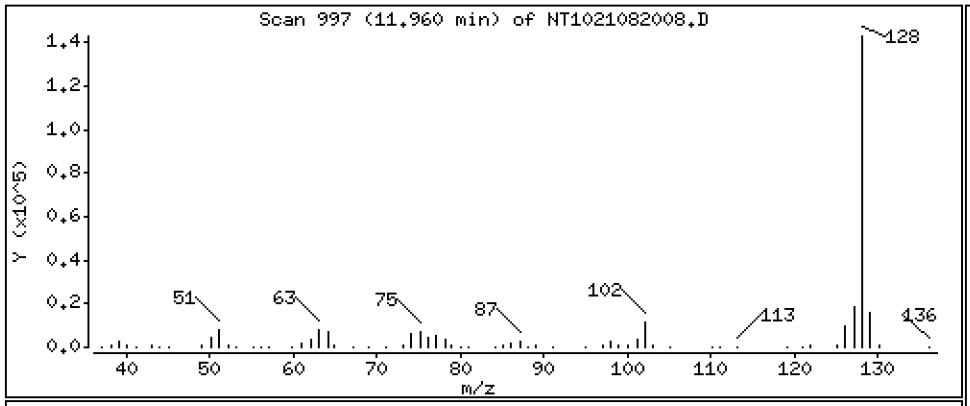
Operator: VTS

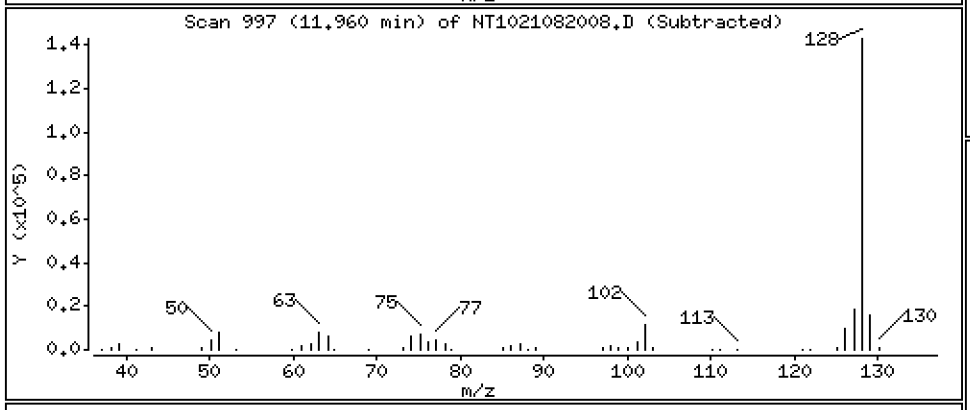
Column phase: ZB-5msi

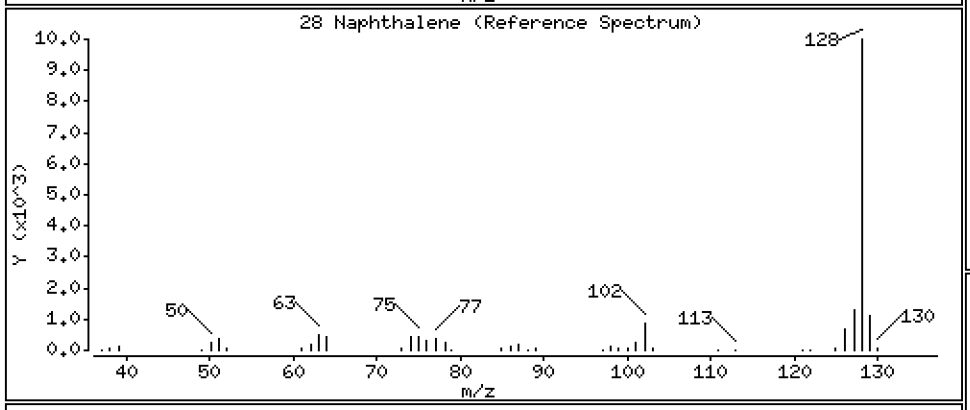
Column diameter: 0.25

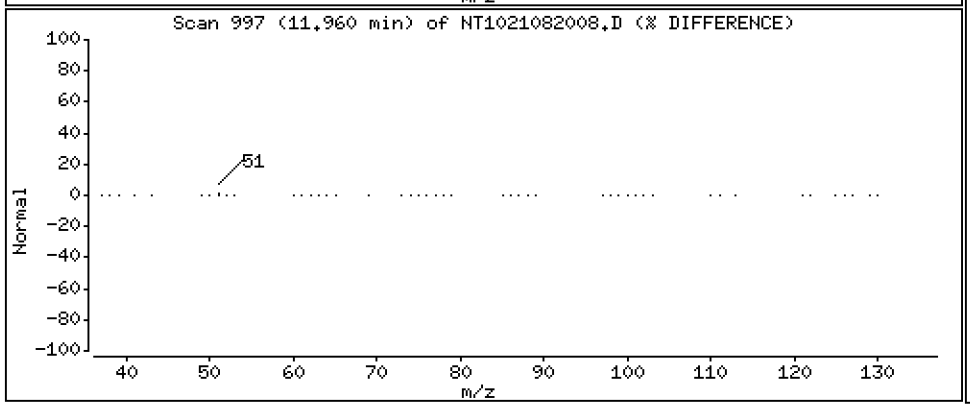
28 Naphthalene

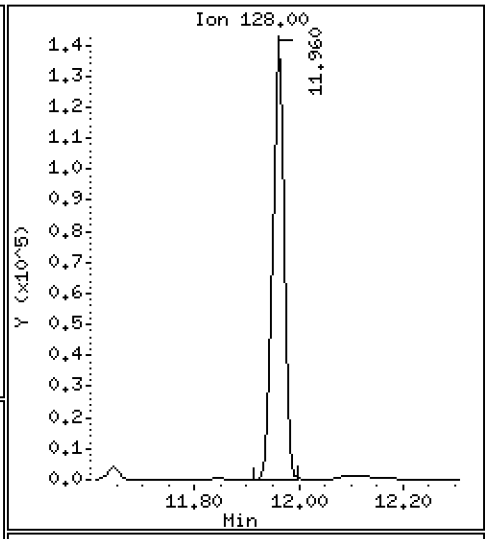
Concentration: 3.697 ug/mL

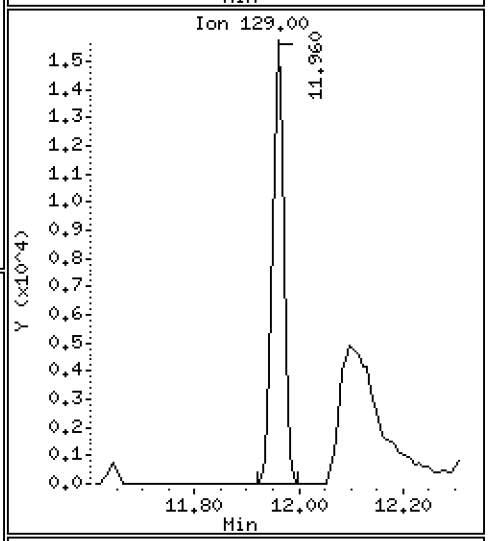


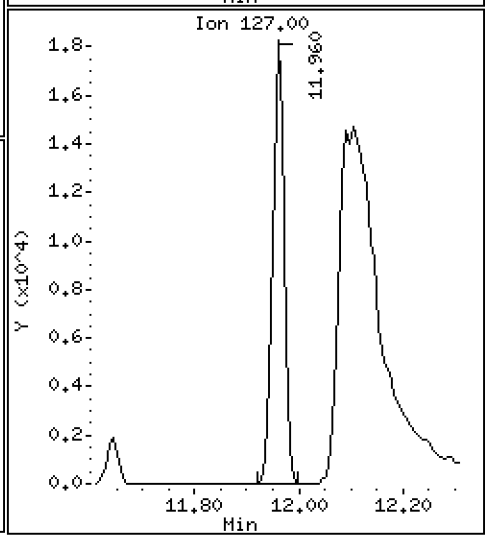












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

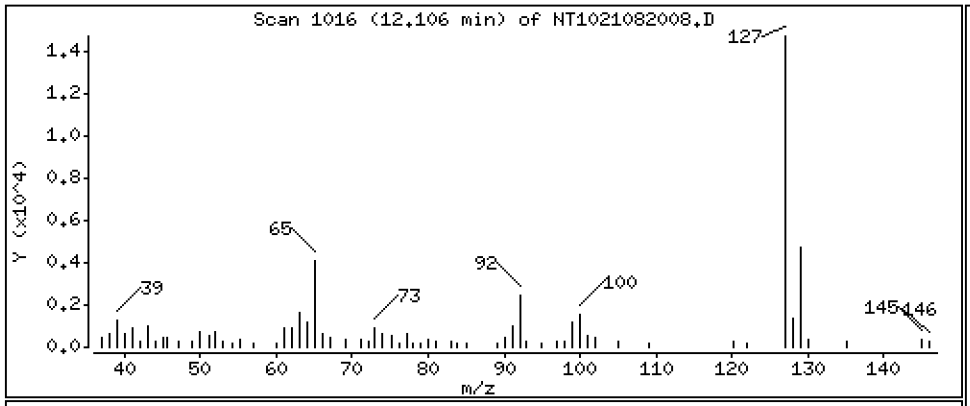
Operator: VTS

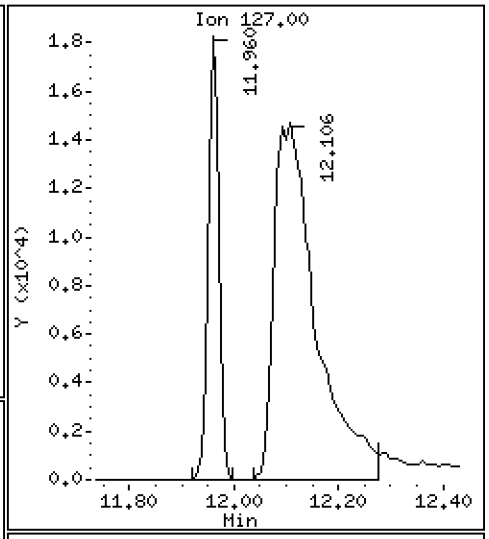
Column phase: ZB-5msi

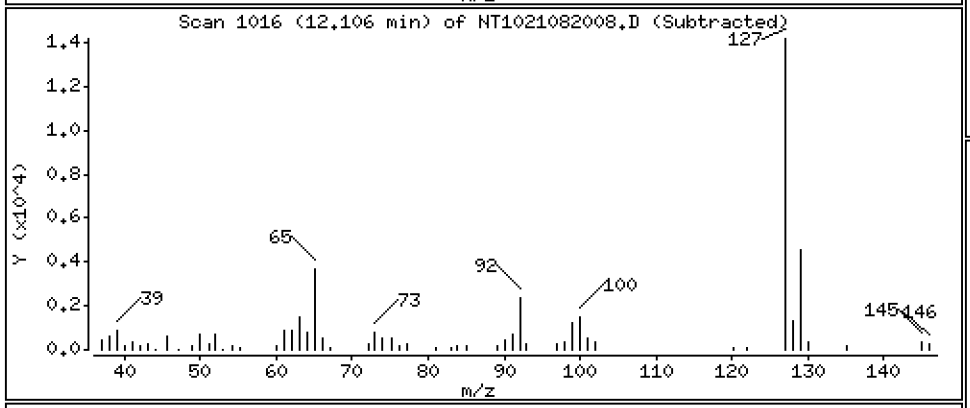
Column diameter: 0.25

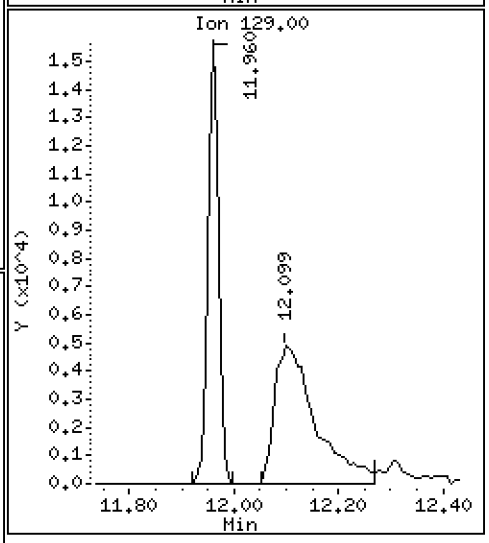
29 4-Chloroaniline

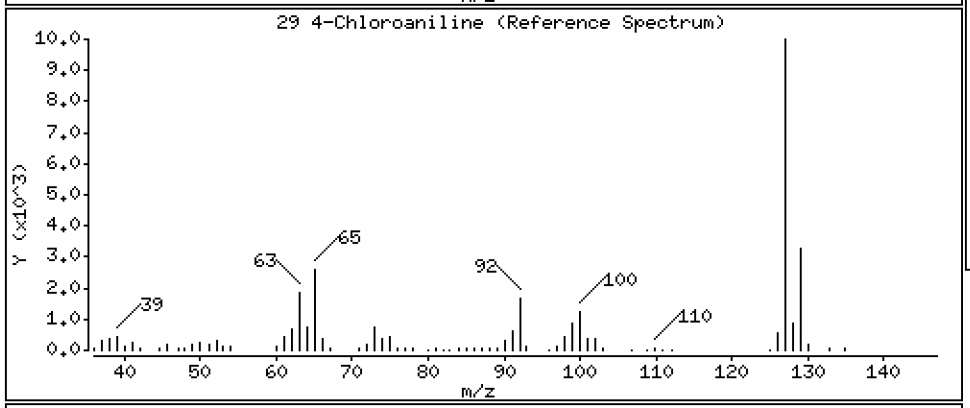
Concentration: 3.072 ug/mL

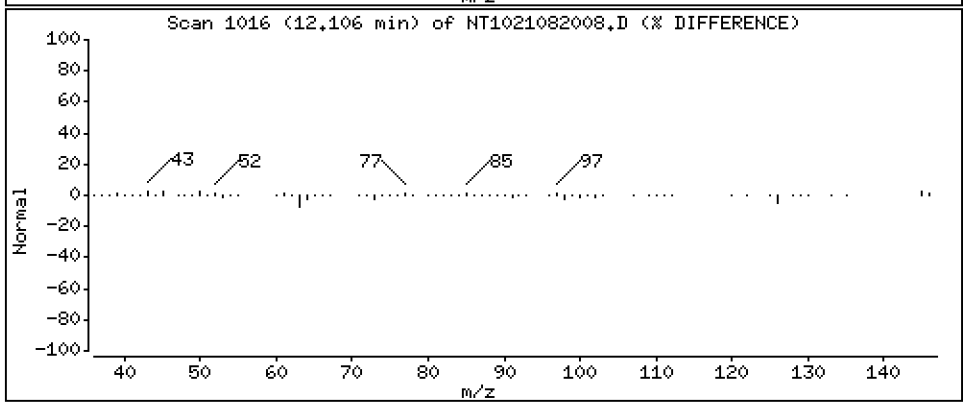












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

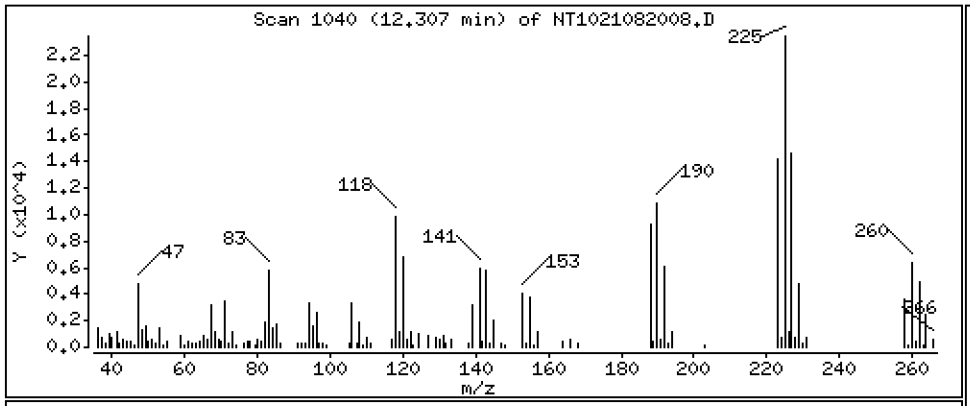
Operator: VTS

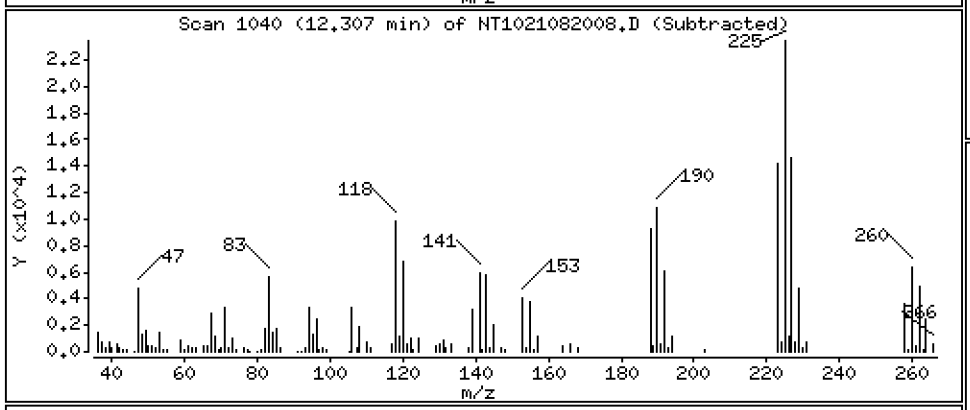
Column phase: ZB-5msi

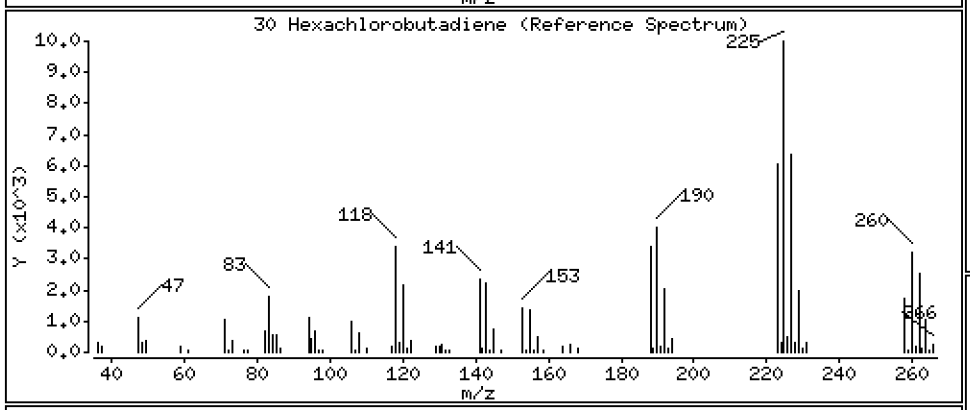
Column diameter: 0.25

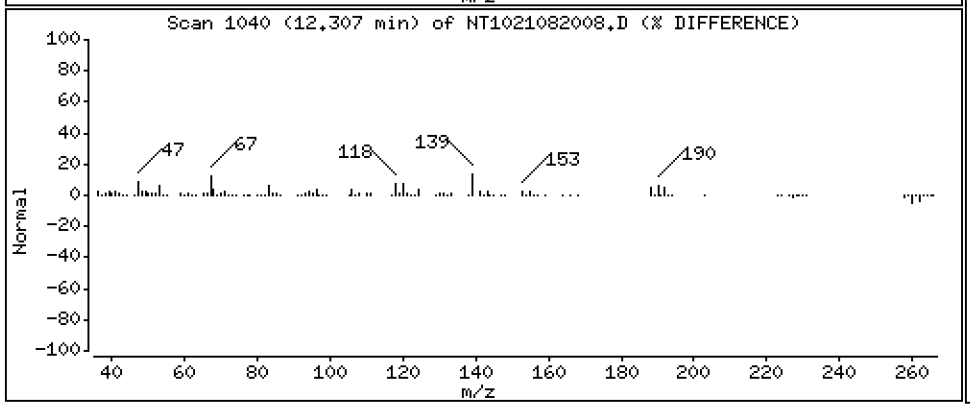
30 Hexachlorobutadiene

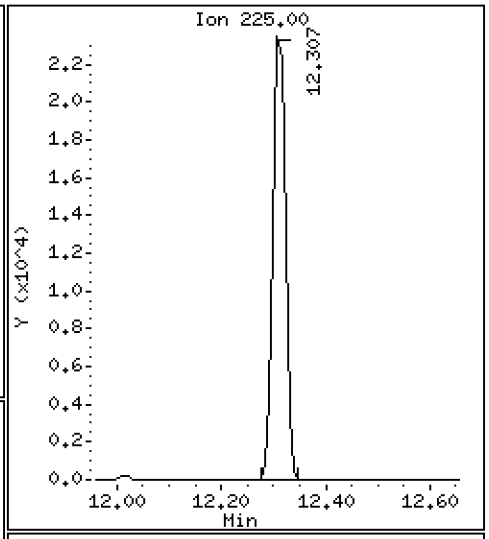
Concentration: 3.512 ug/mL

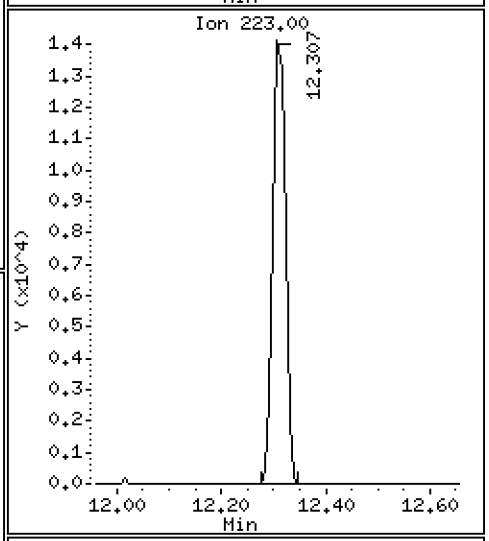


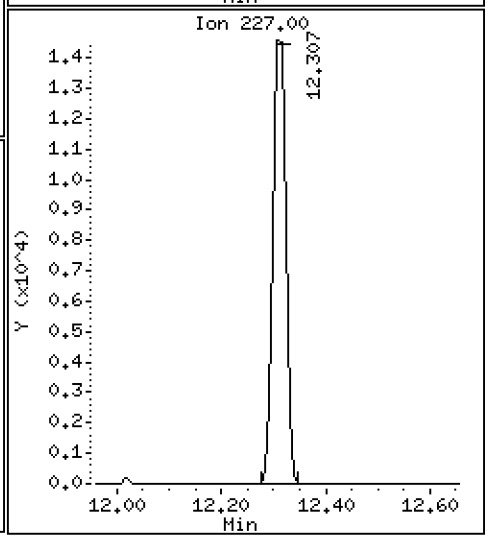












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

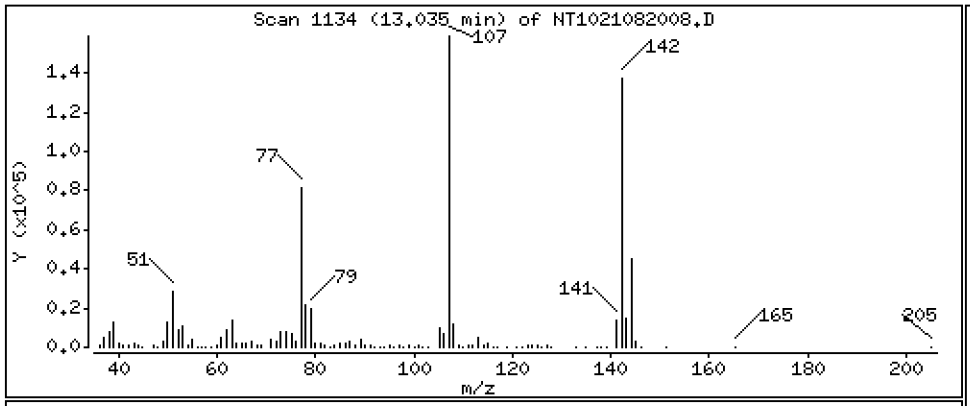
Operator: VTS

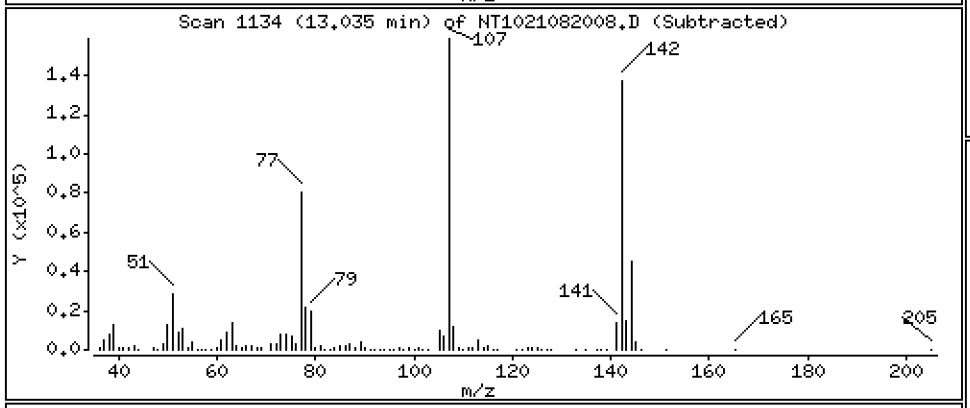
Column phase: ZB-5msi

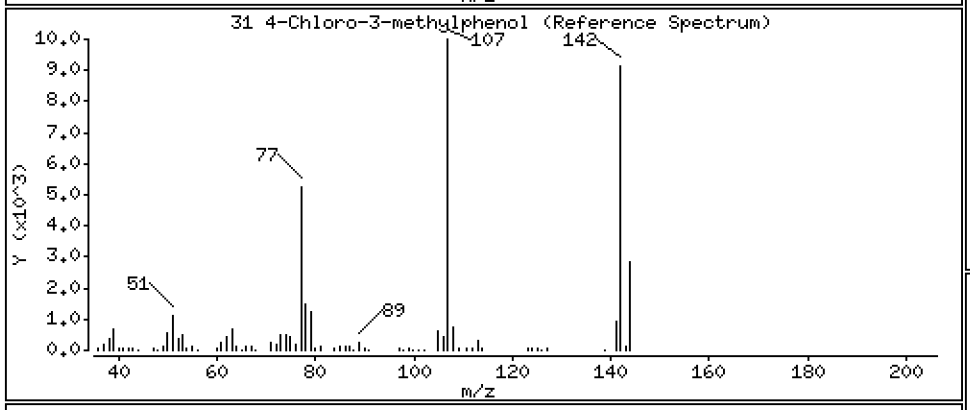
Column diameter: 0.25

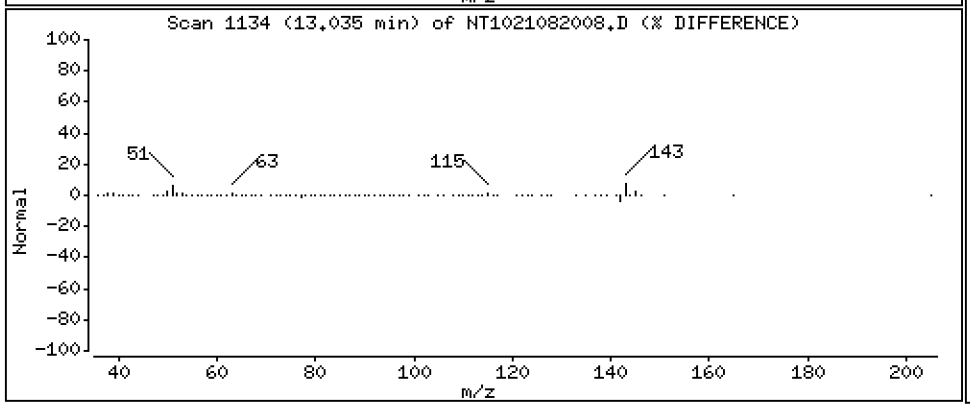
31 4-Chloro-3-methylphenol

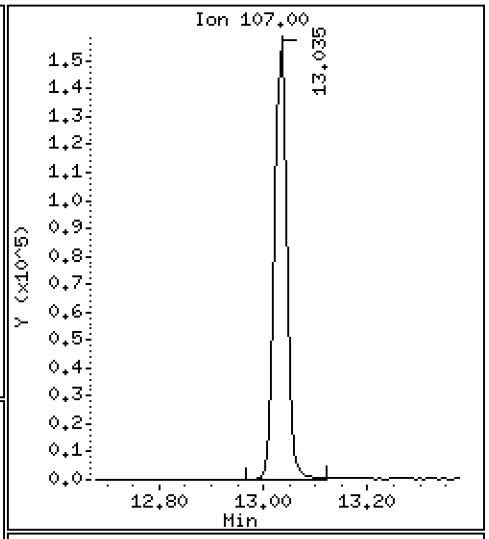
Concentration: 12.29 ug/mL

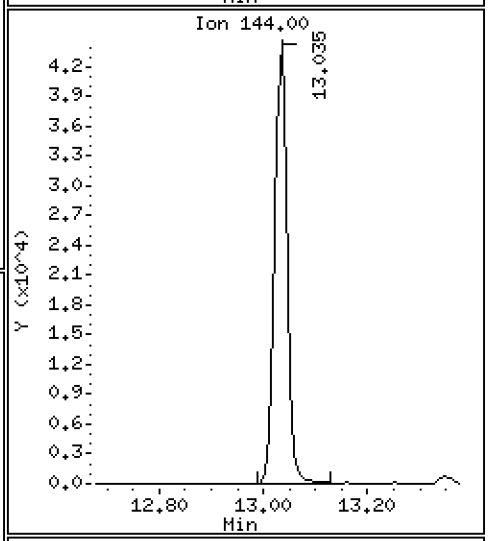


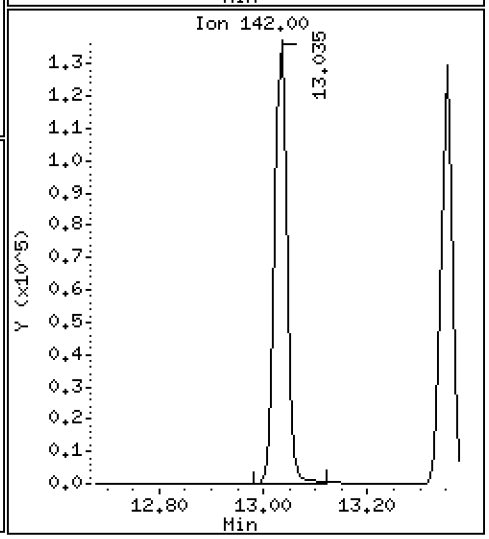












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

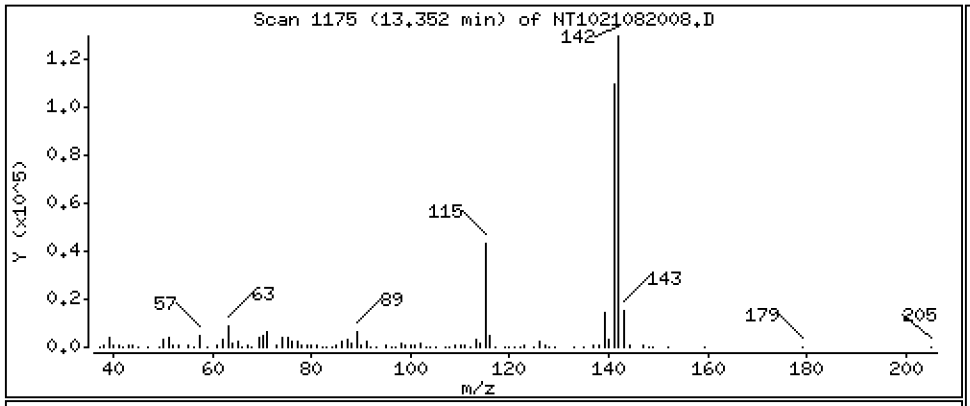
Operator: VTS

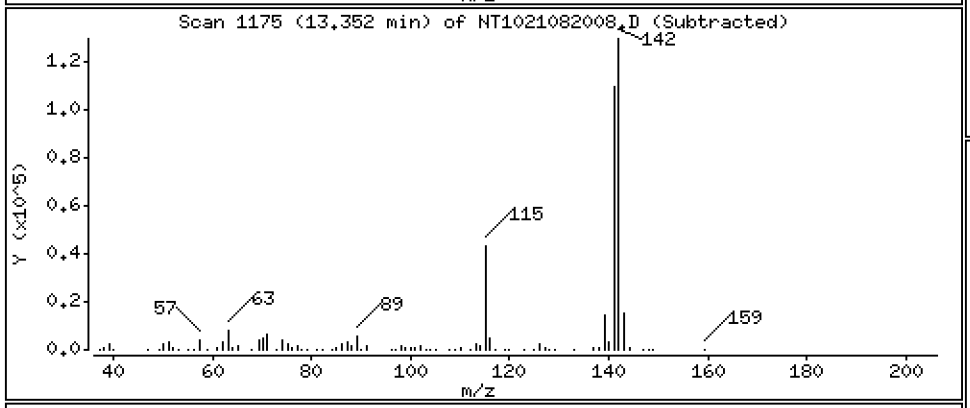
Column phase: ZB-5msi

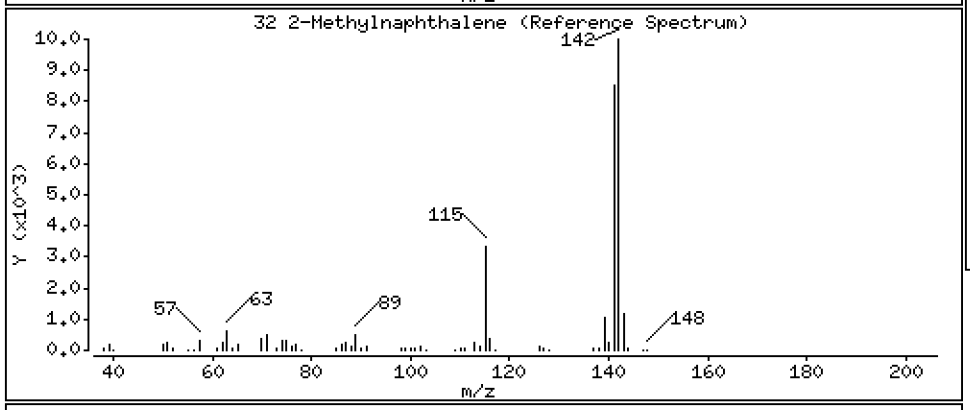
Column diameter: 0.25

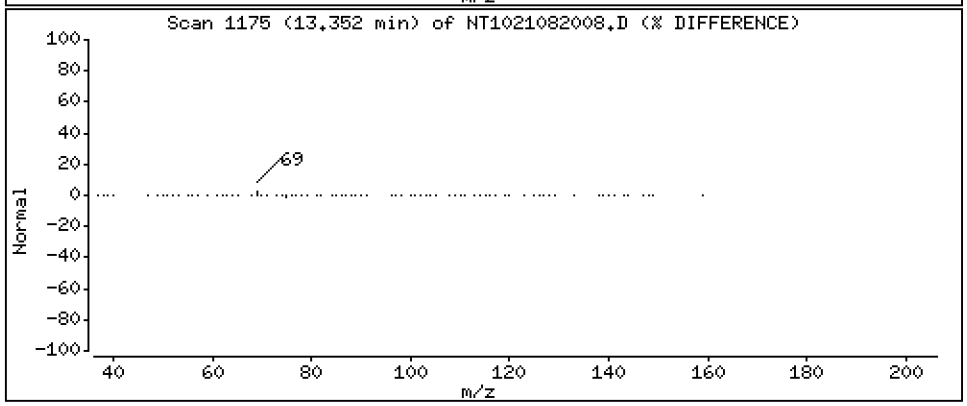
32 2-Methylnaphthalene

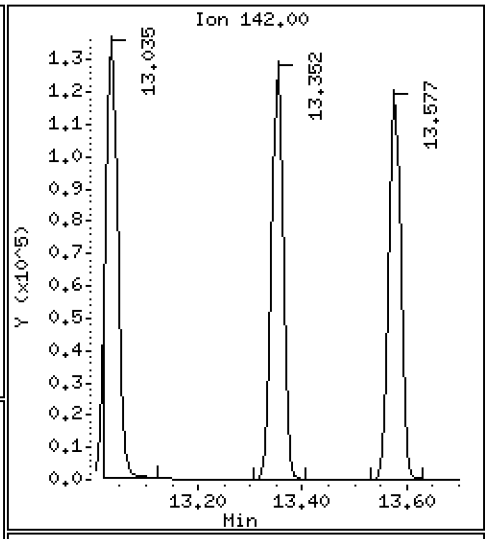
Concentration: 3.461 ug/mL

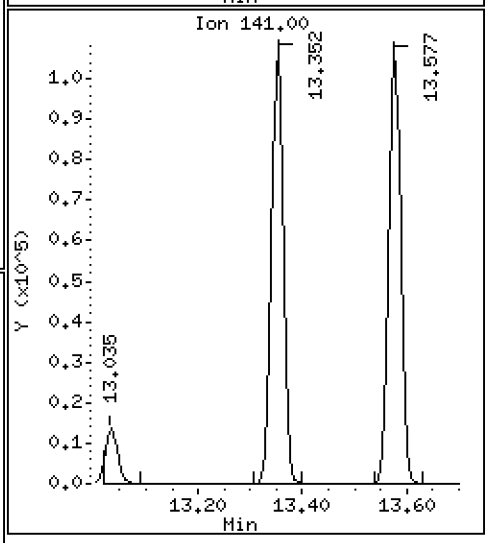












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

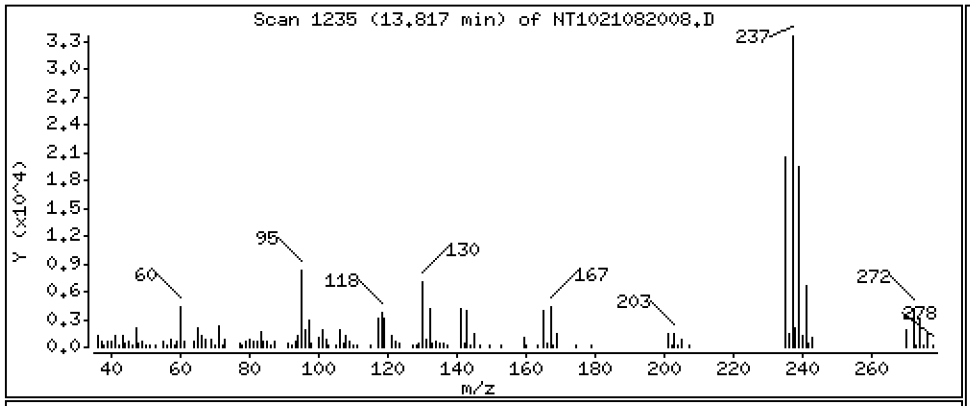
Operator: VTS

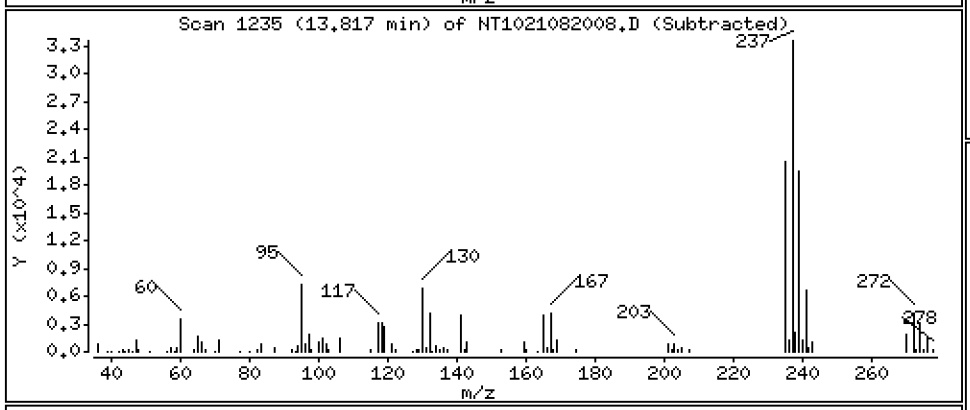
Column phase: ZB-5msi

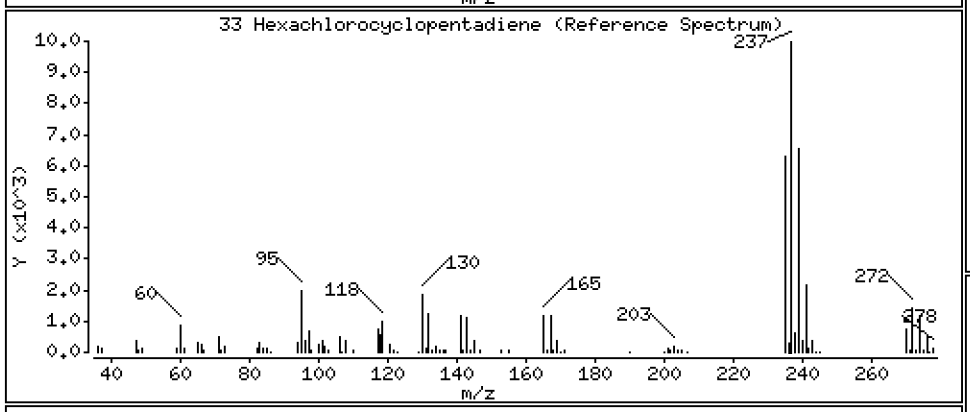
Column diameter: 0.25

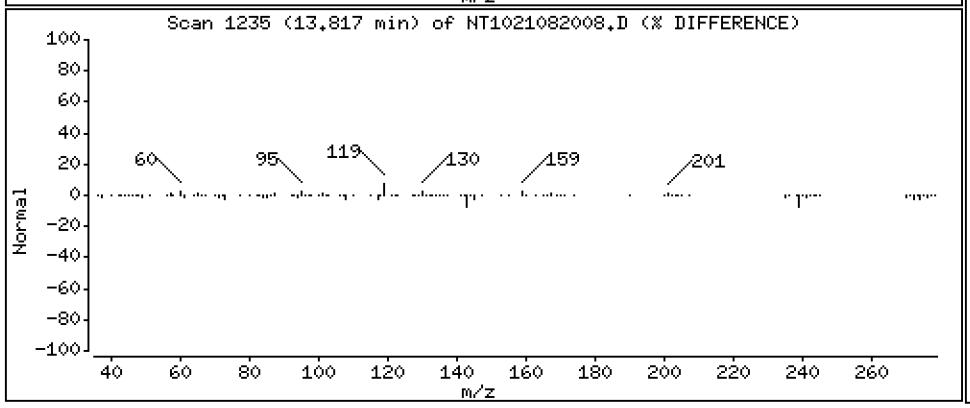
33 Hexachlorocyclopentadiene

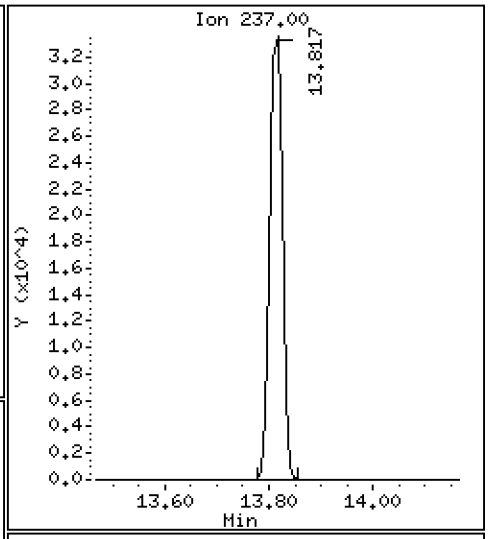
Concentration: 5.468 ug/mL

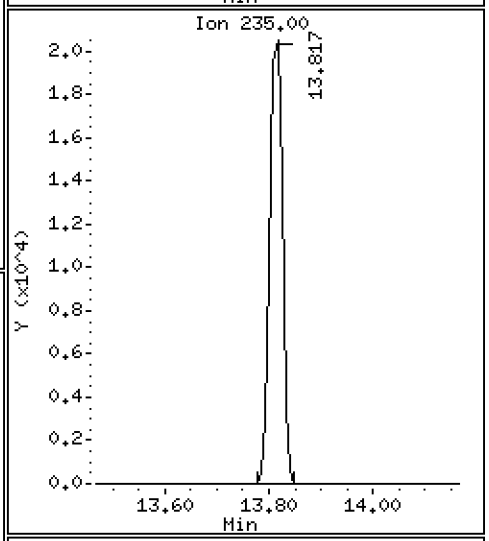


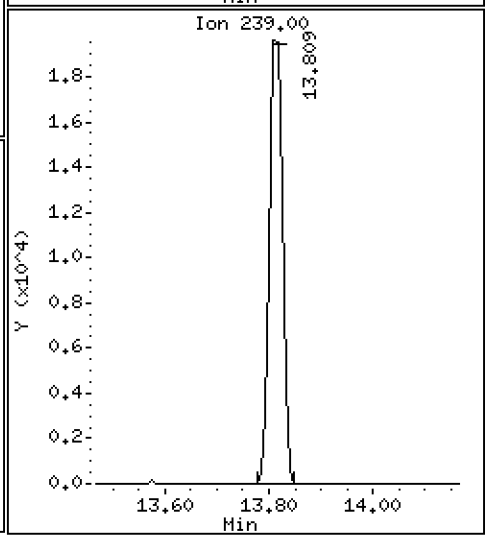












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

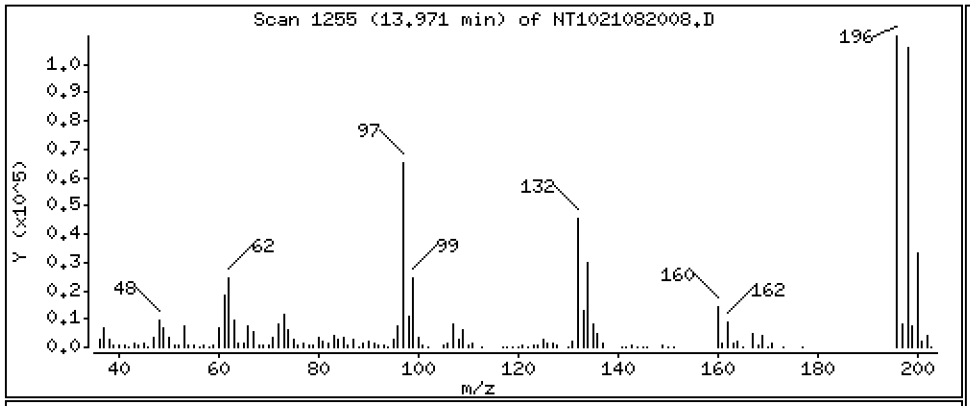
Operator: VTS

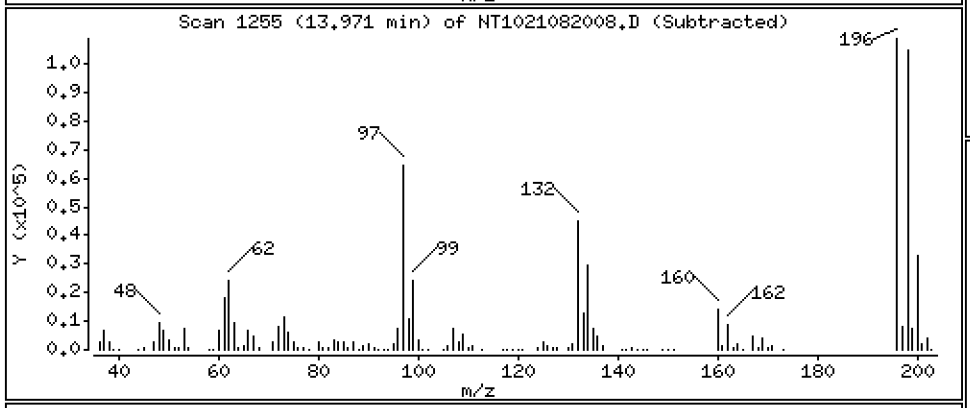
Column phase: ZB-5msi

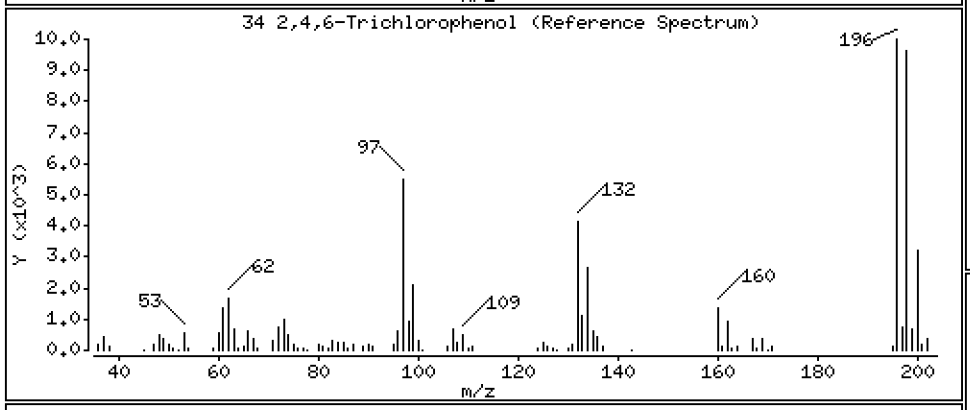
Column diameter: 0.25

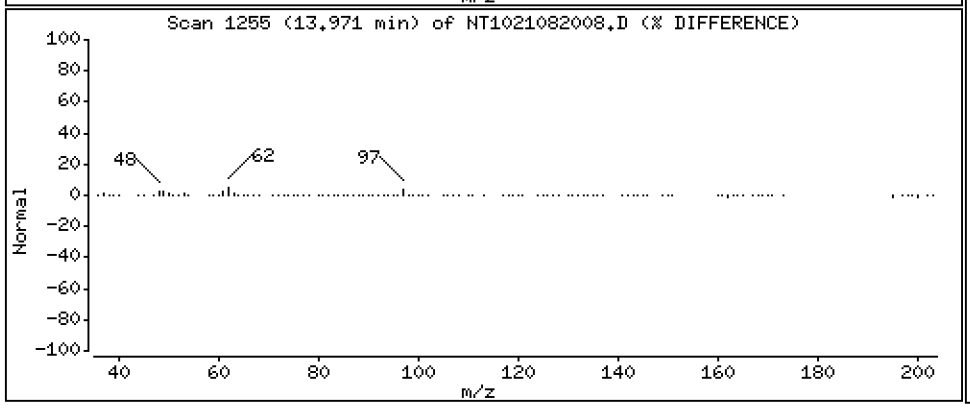
34 2,4,6-Trichlorophenol

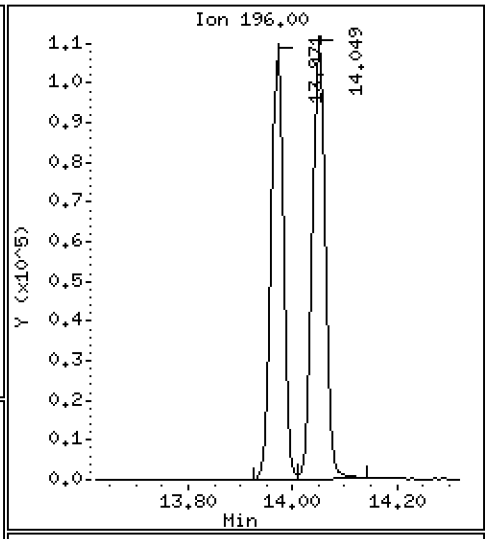
Concentration: 12.28 ug/mL

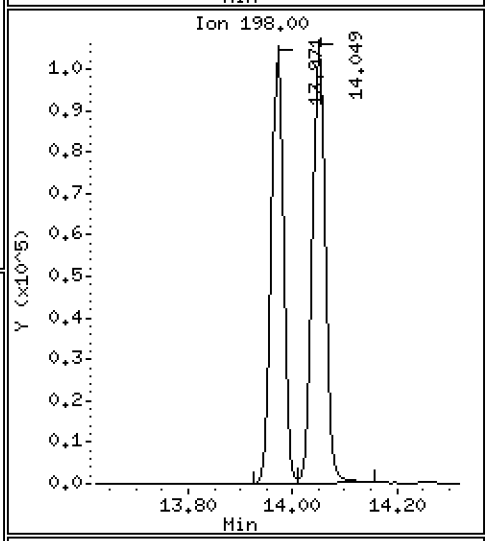


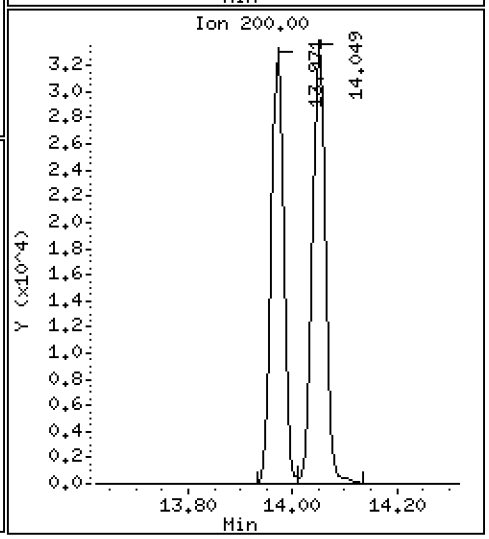












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

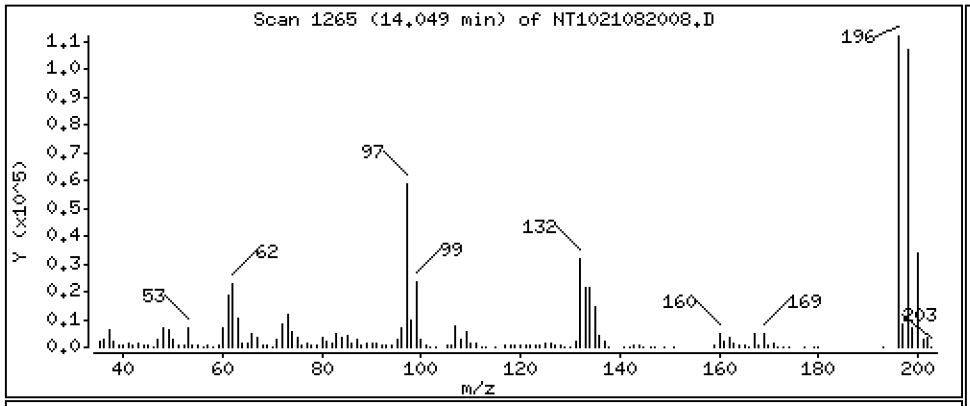
Operator: VTS

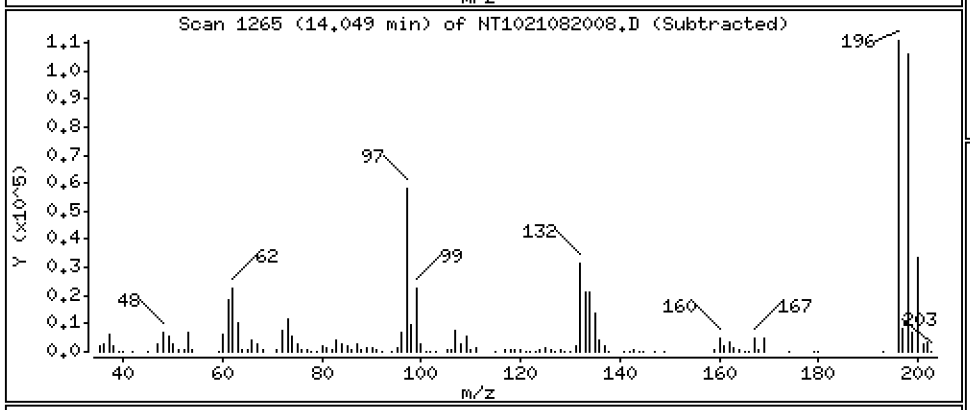
Column phase: ZB-5msi

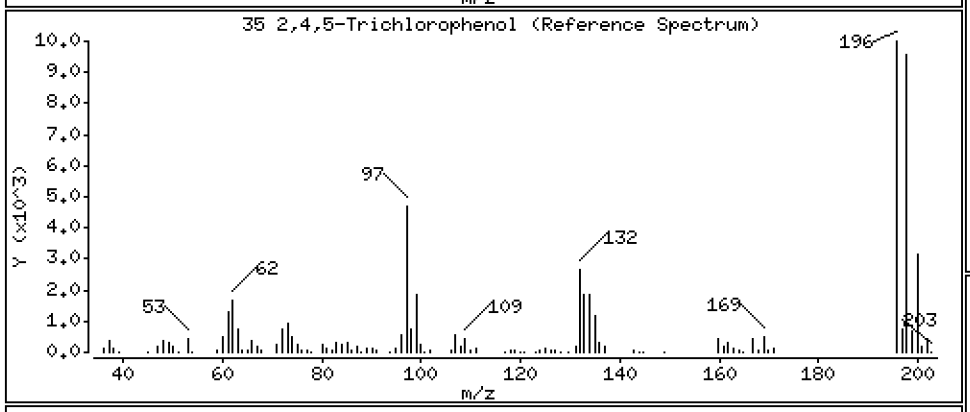
Column diameter: 0.25

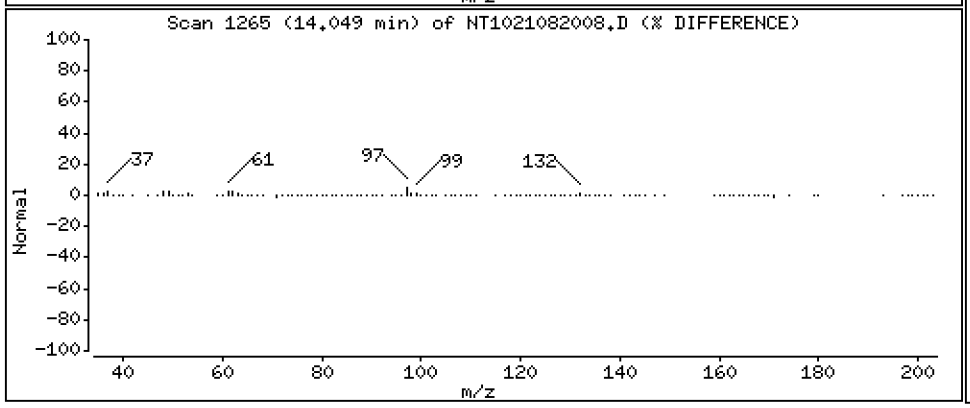
35 2,4,5-Trichlorophenol

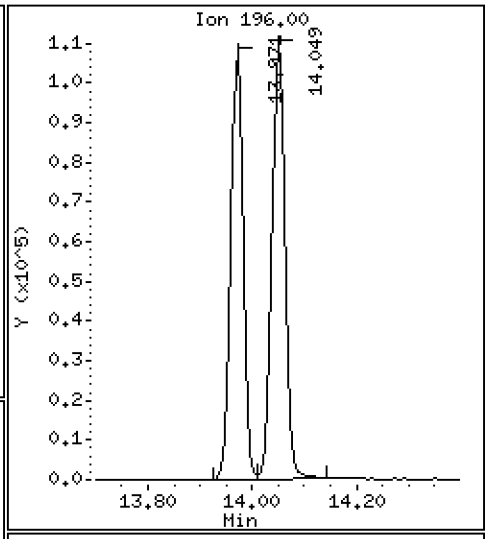
Concentration: 12.59 ug/mL

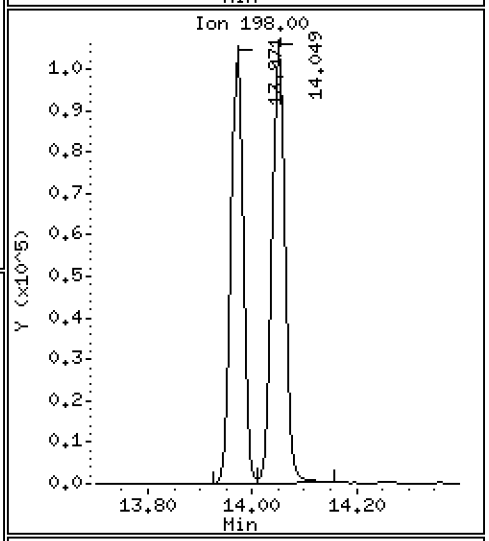


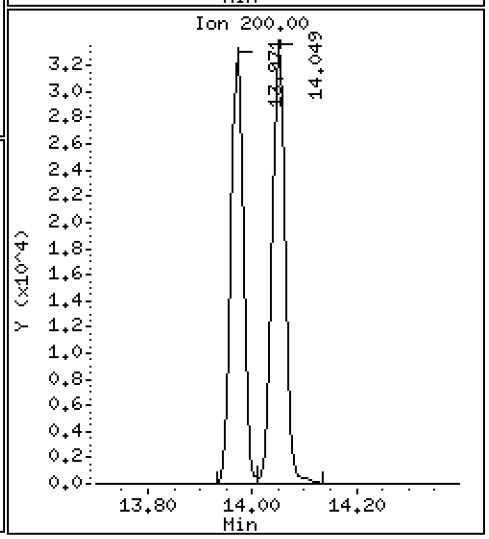












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

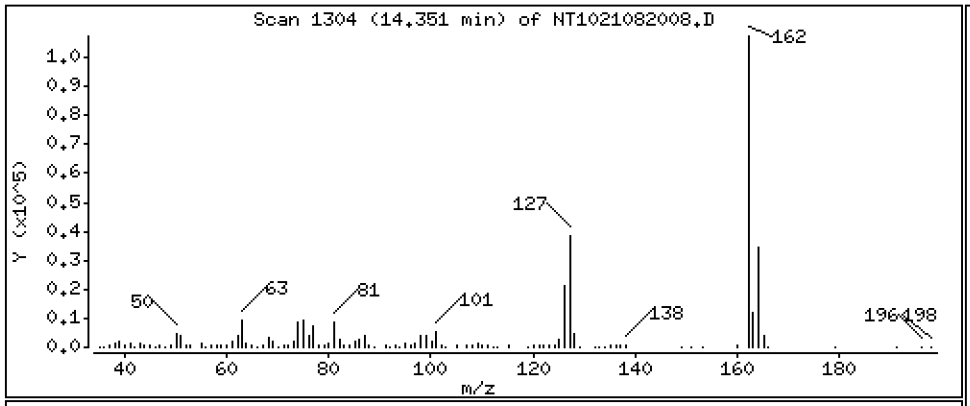
Operator: VTS

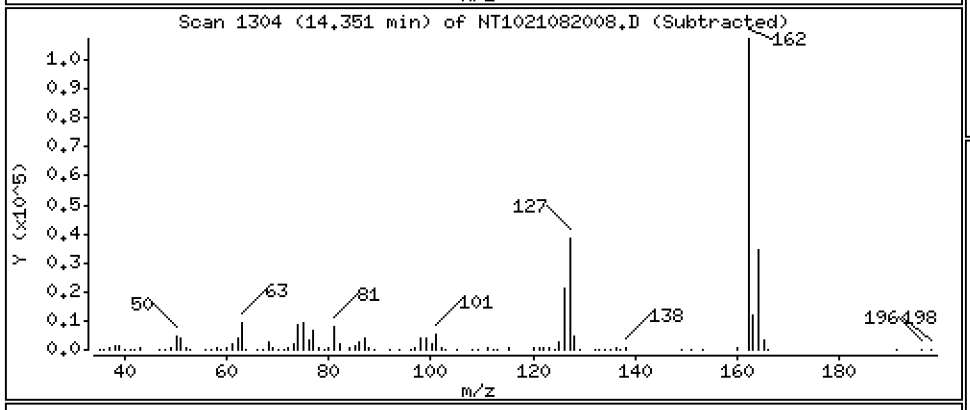
Column phase: ZB-5msi

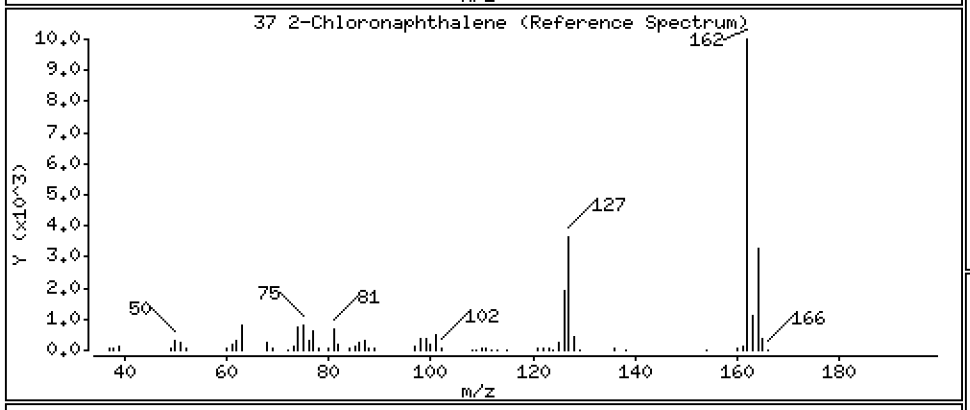
Column diameter: 0.25

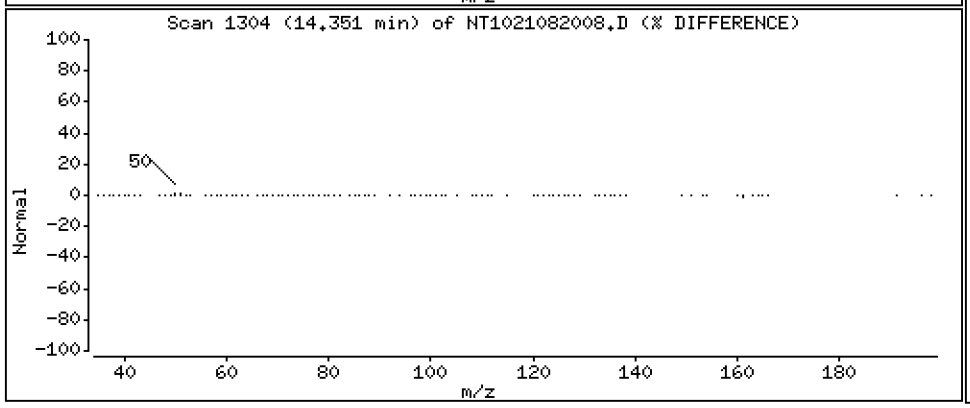
37 2-Chloronaphthalene

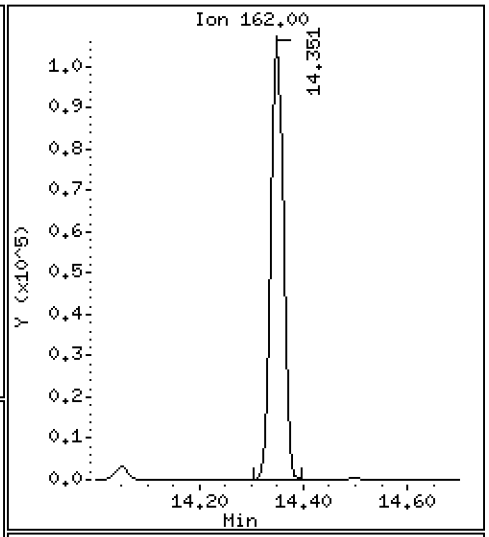
Concentration: 3.891 ug/mL

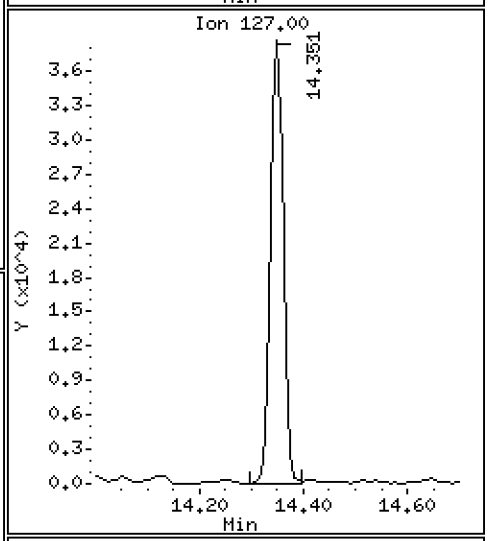


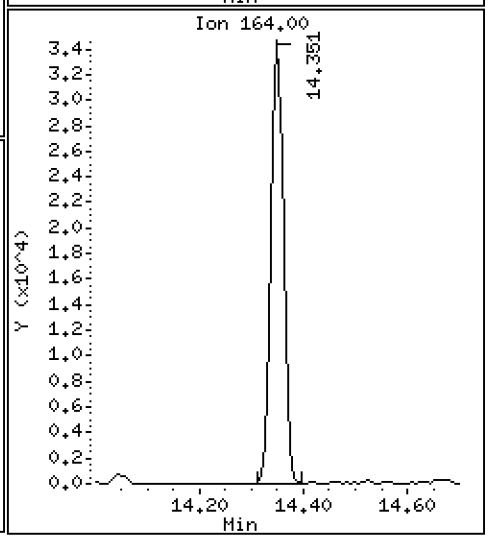












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

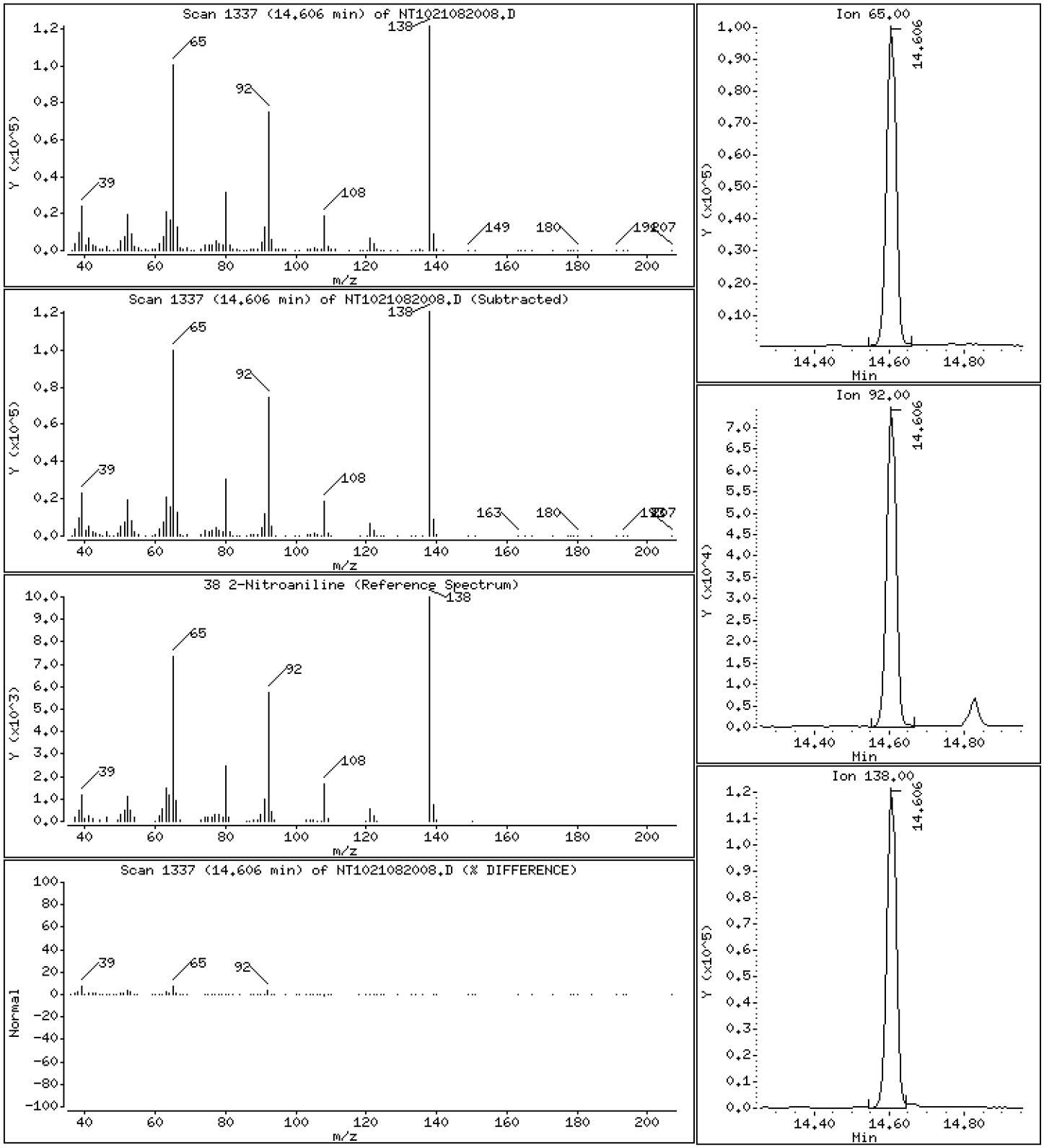
Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25

38 2-Nitroaniline

Concentration: 13.04 ug/mL



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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

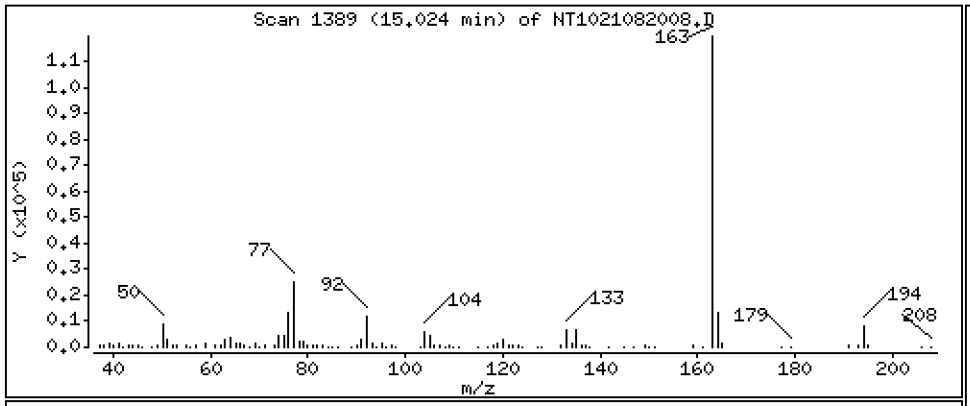
Operator: VTS

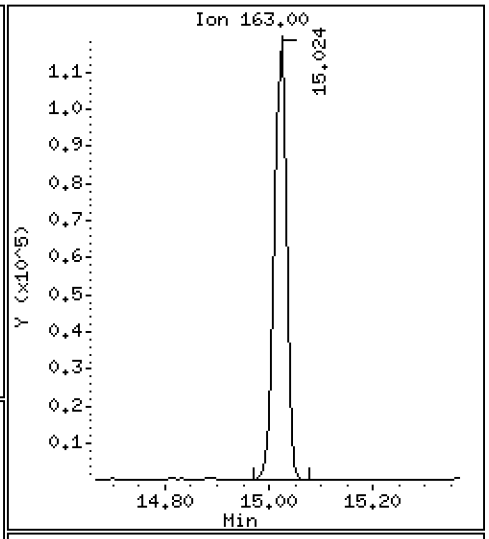
Column phase: ZB-5msi

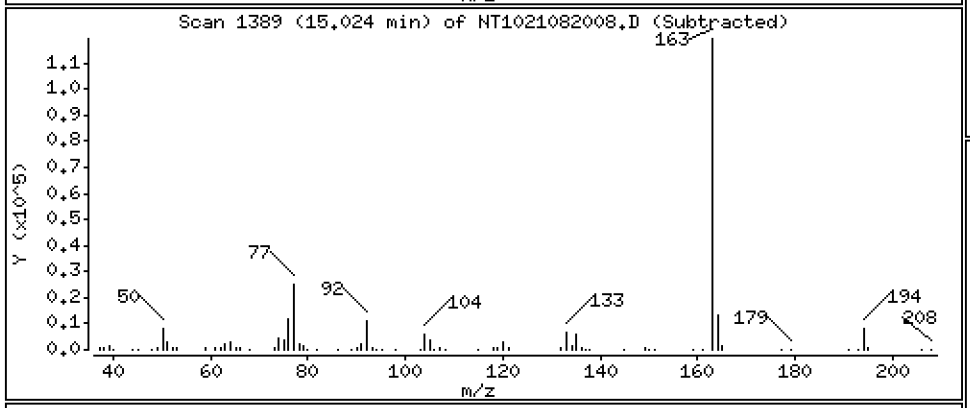
Column diameter: 0.25

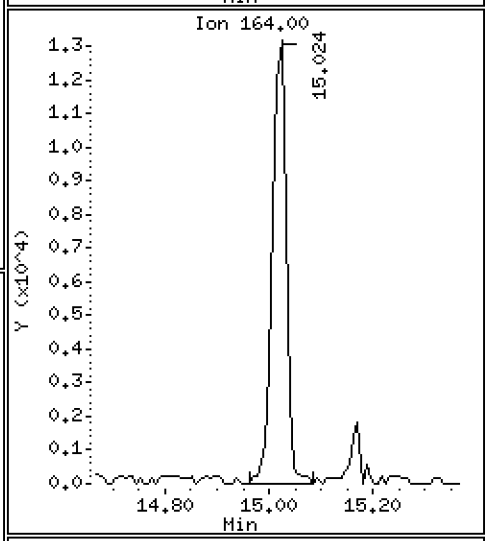
39 Dimethylphthalate

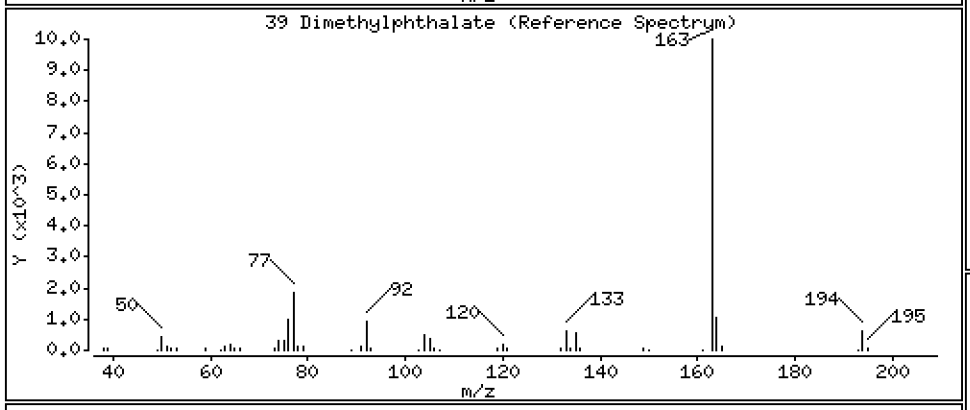
Concentration: 4.071 ug/mL

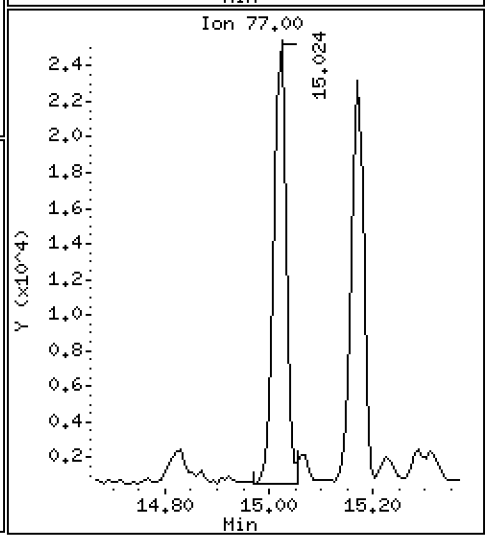


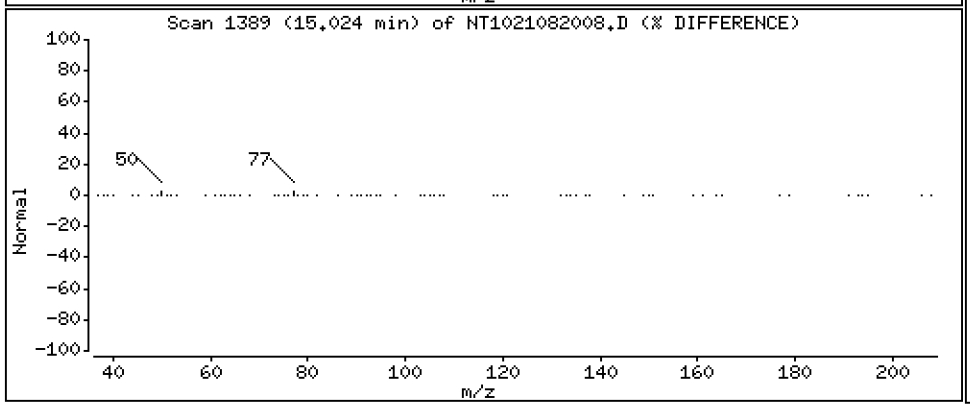












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

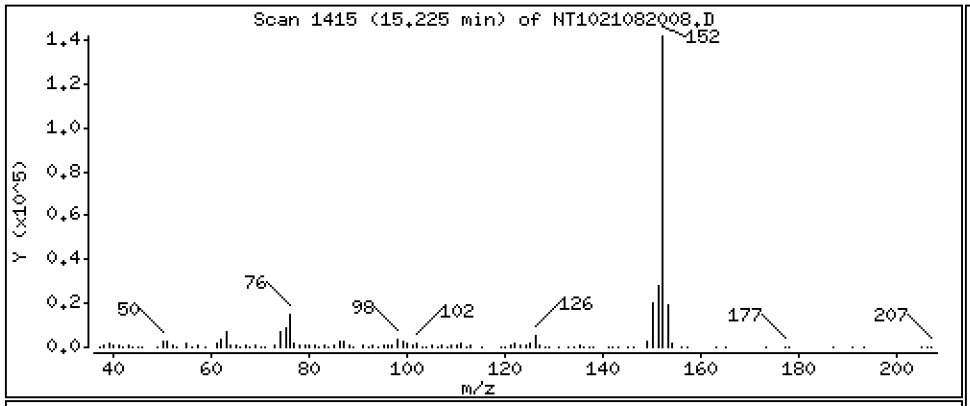
Operator: VTS

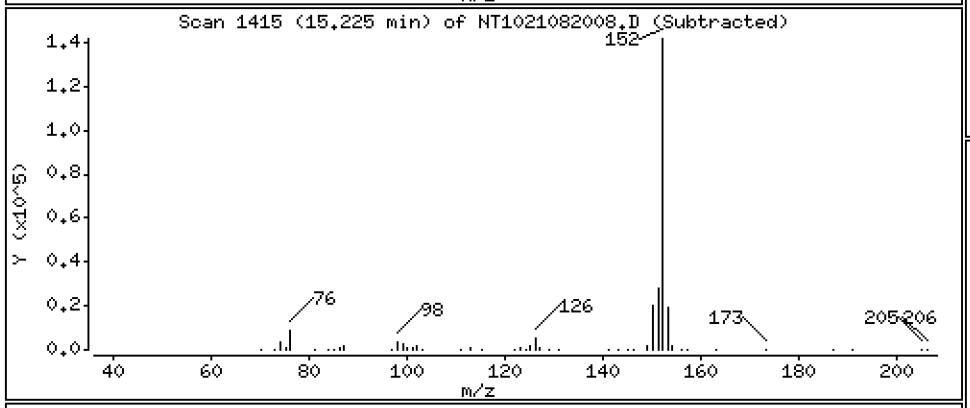
Column phase: ZB-5msi

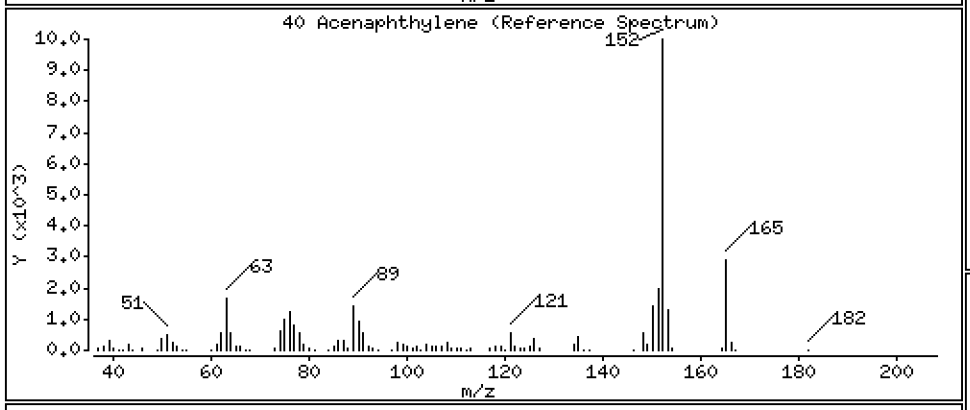
Column diameter: 0.25

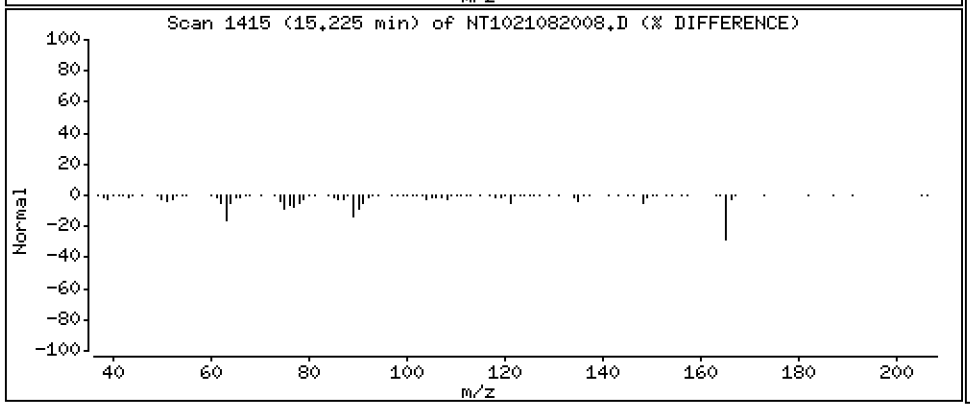
40 Acenaphthylene

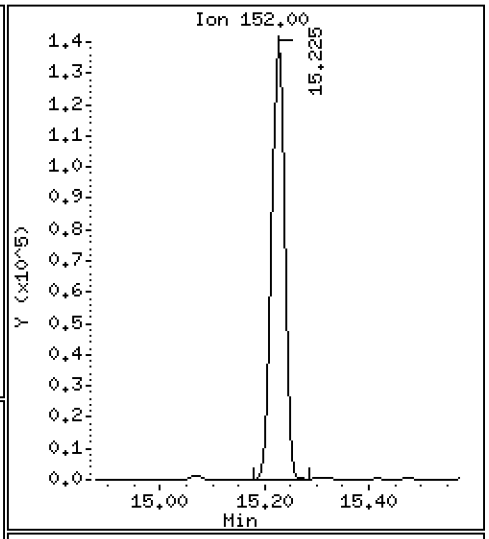
Concentration: 3.428 ug/mL

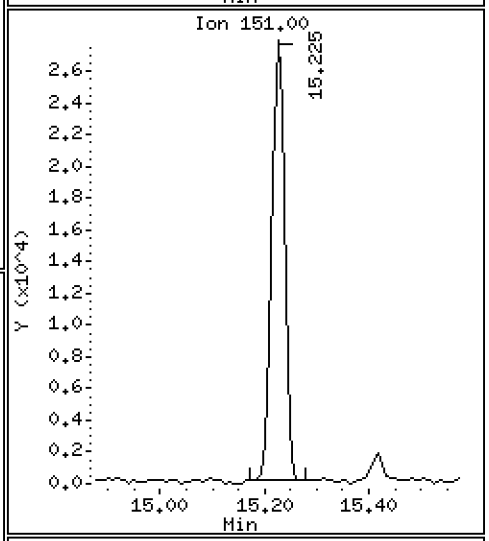


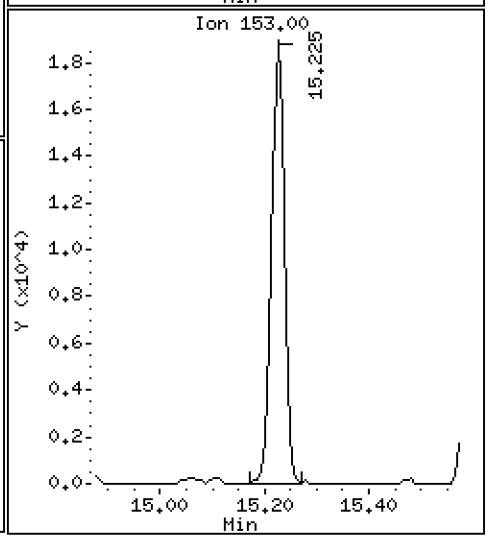












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

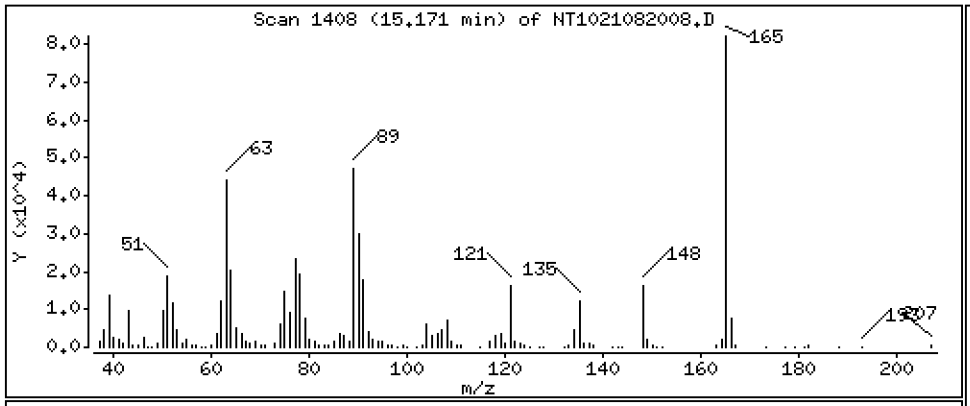
Operator: VTS

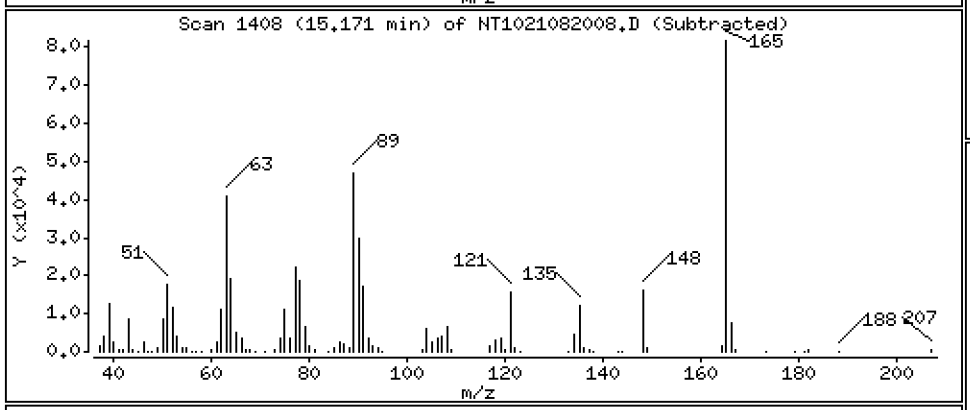
Column phase: ZB-5msi

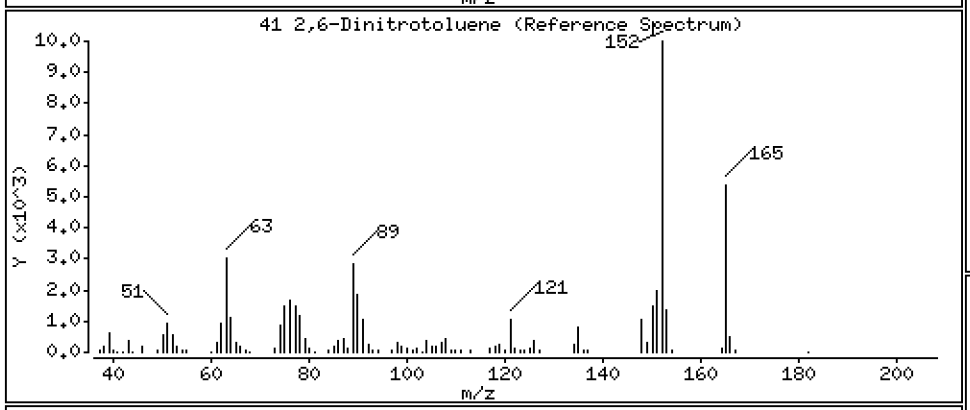
Column diameter: 0.25

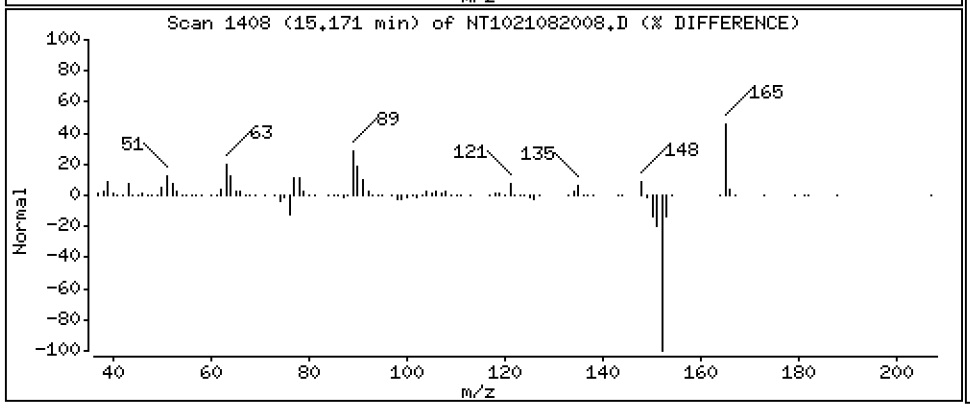
41 2,6-Dinitrotoluene

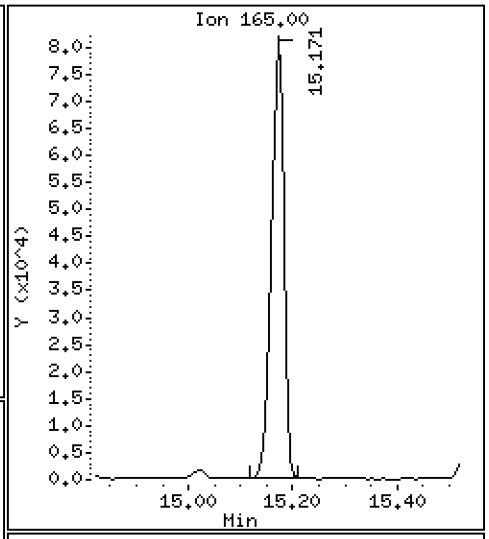
Concentration: 12.94 ug/mL

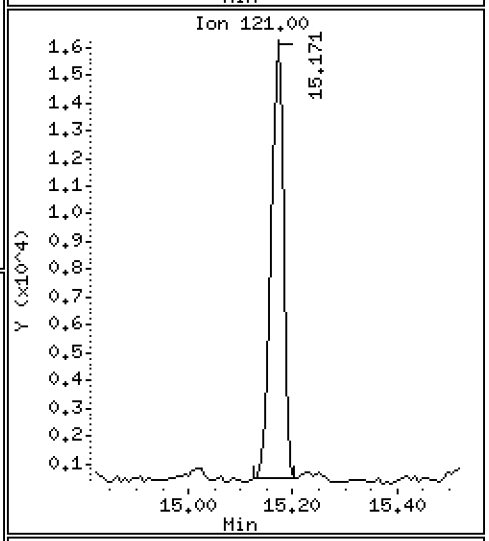


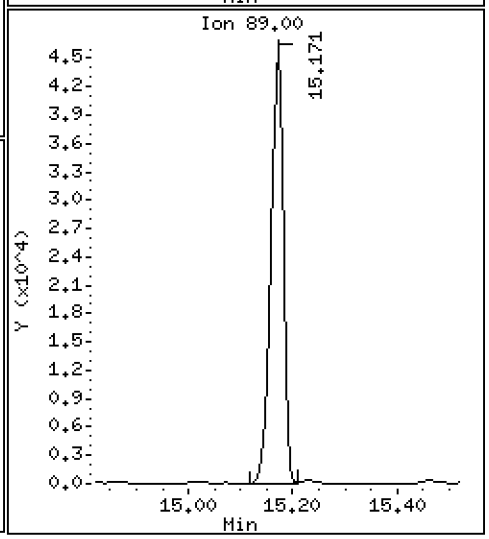












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

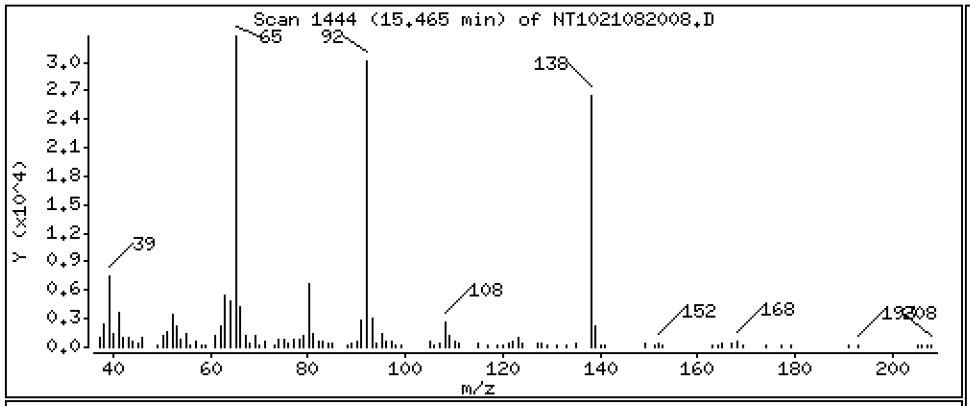
Operator: VTS

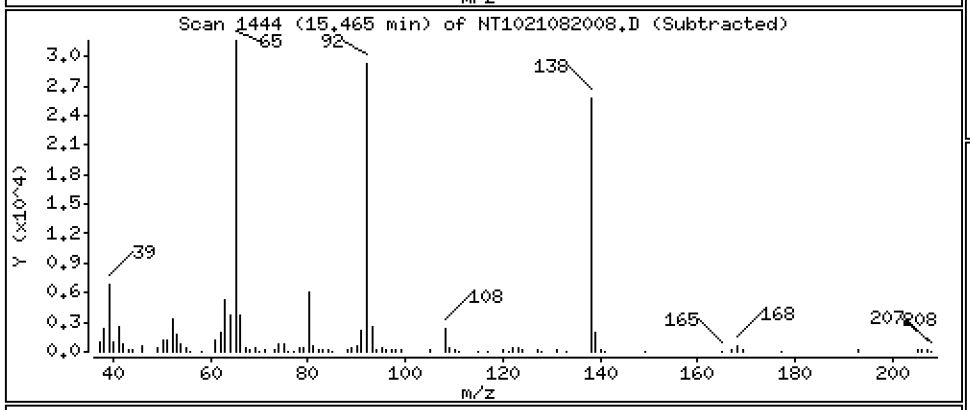
Column phase: ZB-5msi

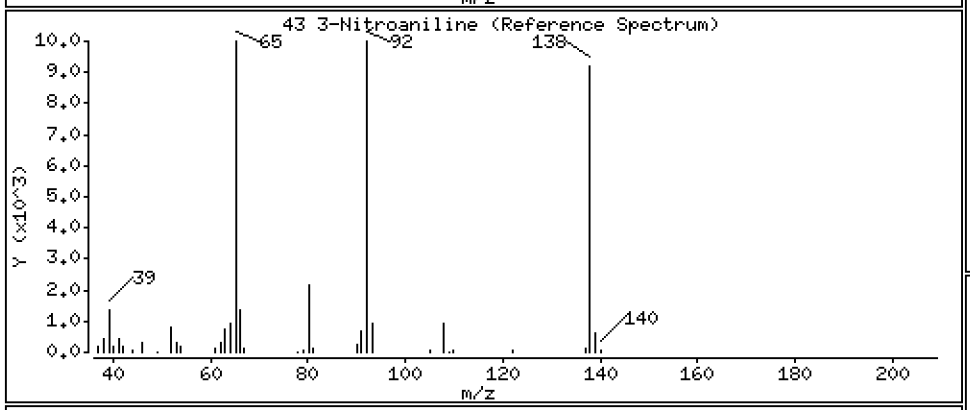
Column diameter: 0.25

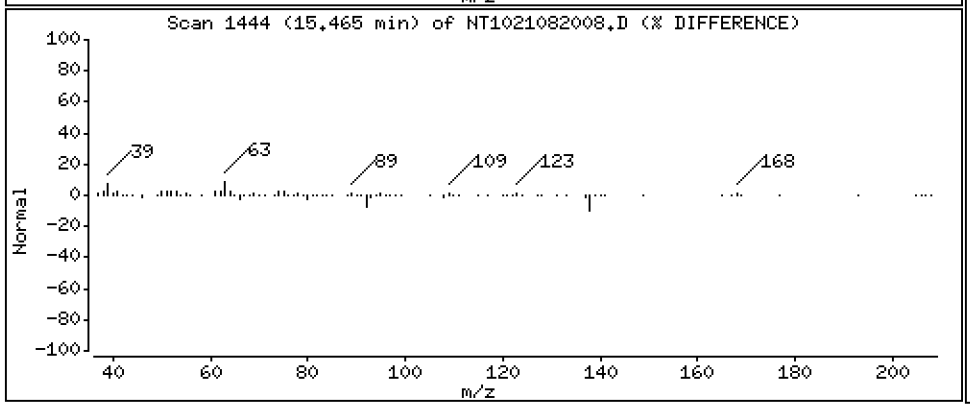
43 3-Nitroaniline

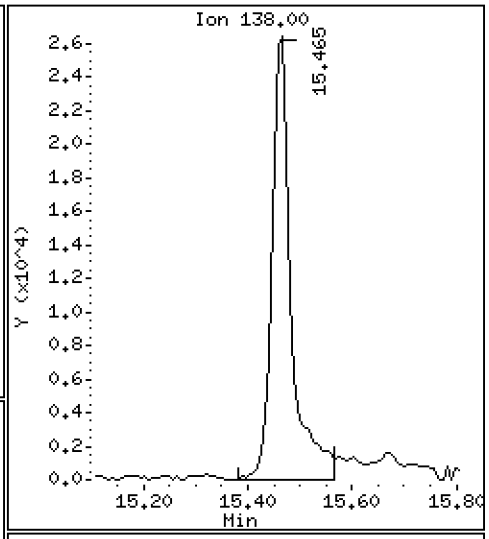
Concentration: 5.452 ug/mL

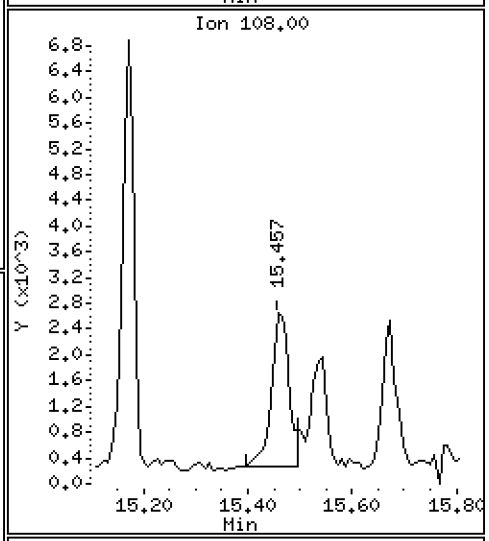


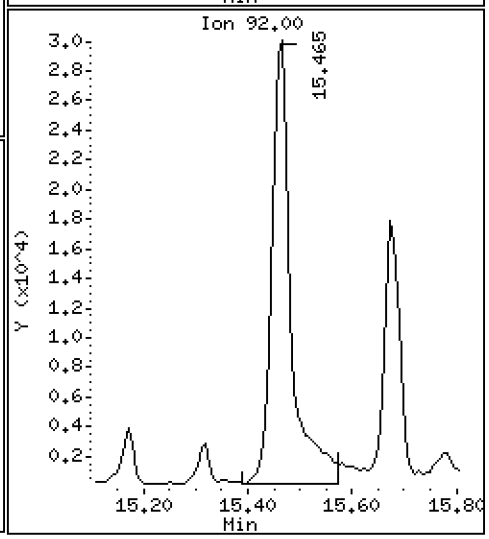












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

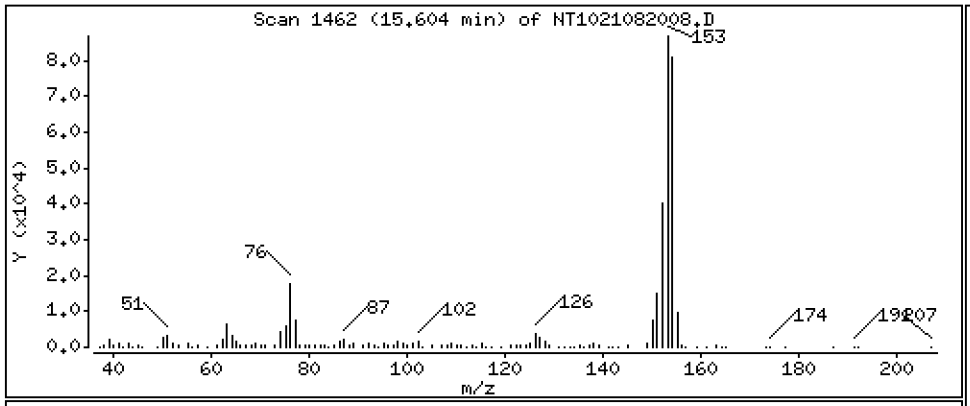
Operator: VTS

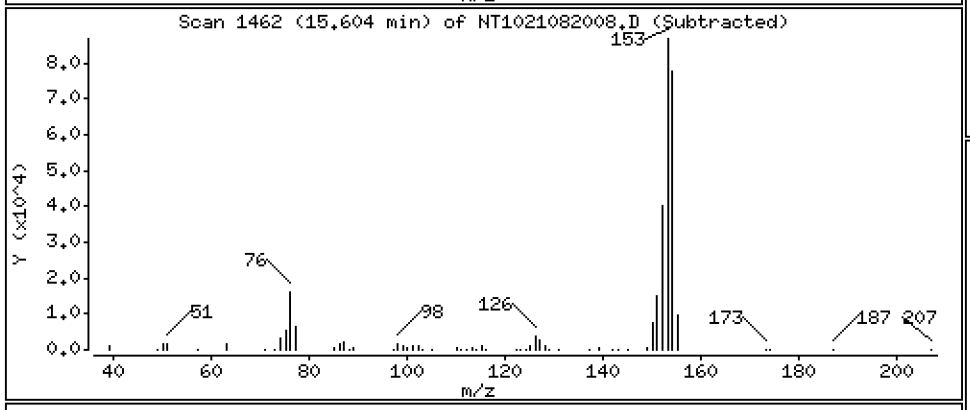
Column phase: ZB-5msi

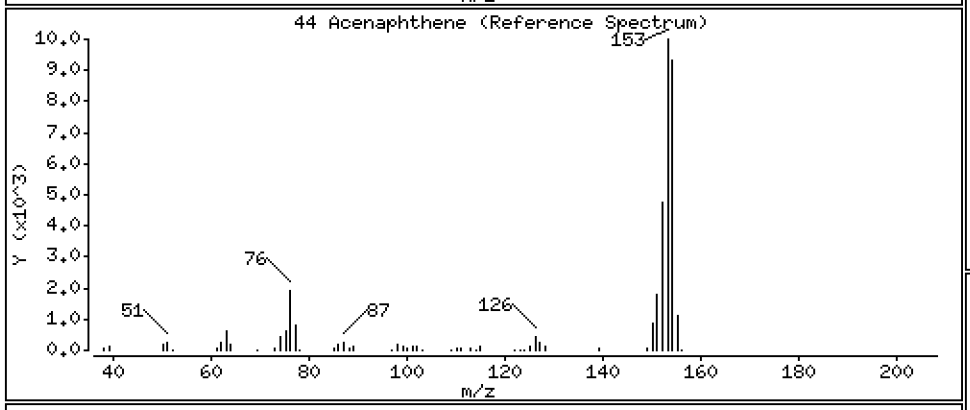
Column diameter: 0.25

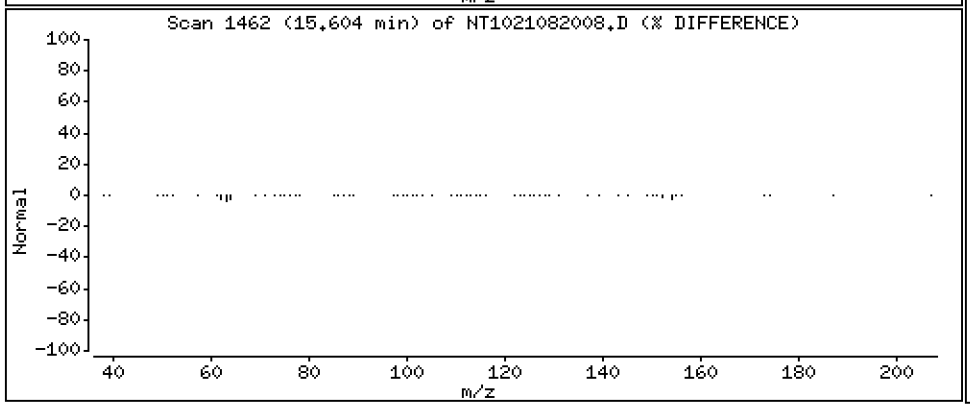
44 Acenaphthene

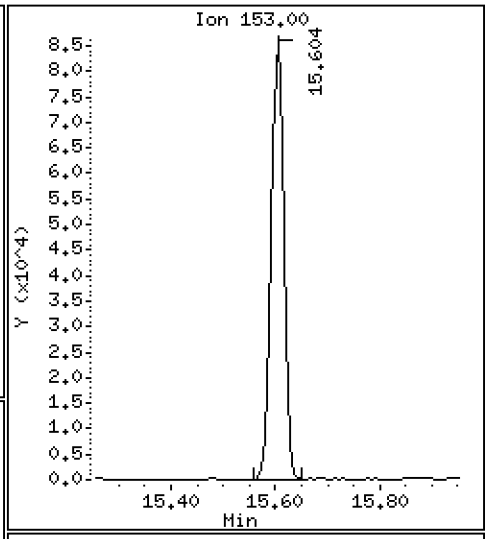
Concentration: 3.853 ug/mL

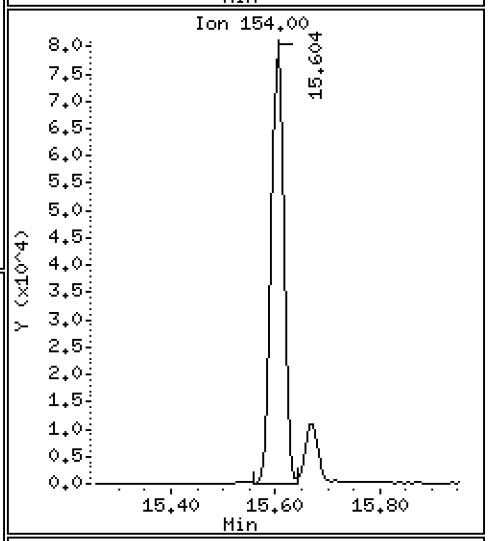


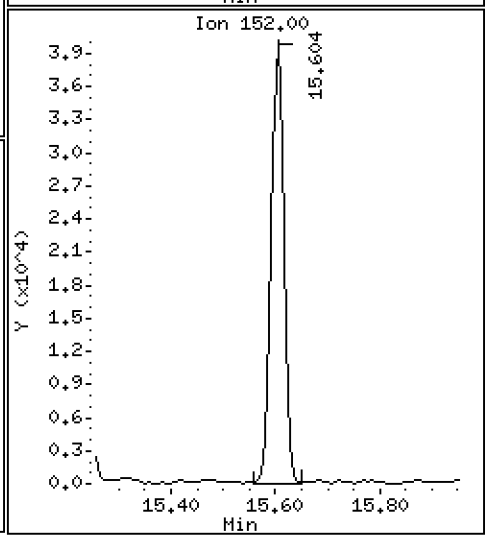












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

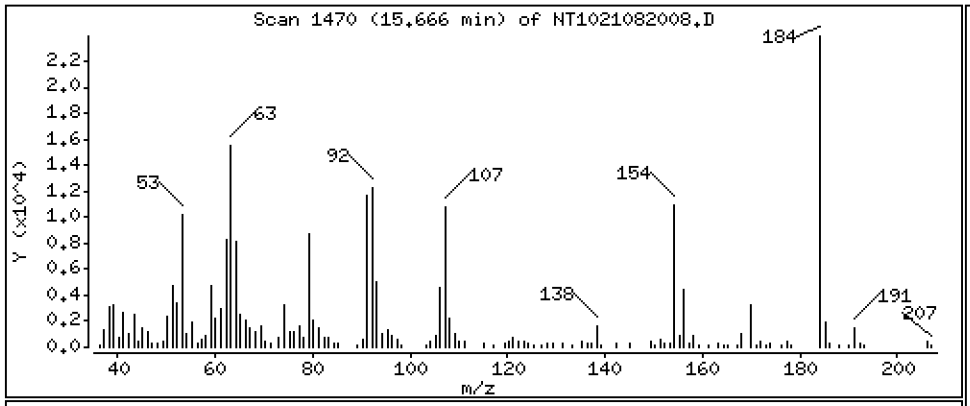
Operator: VTS

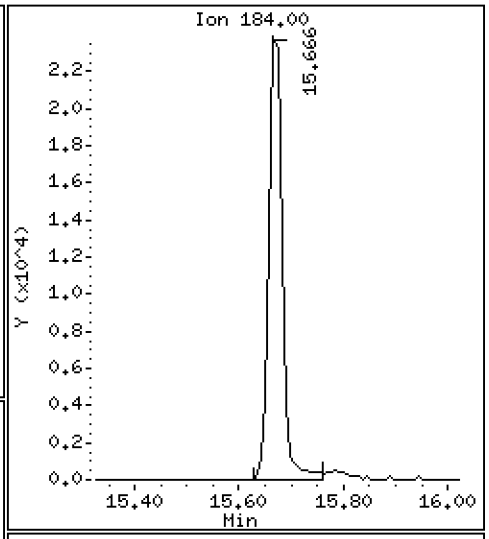
Column phase: ZB-5msi

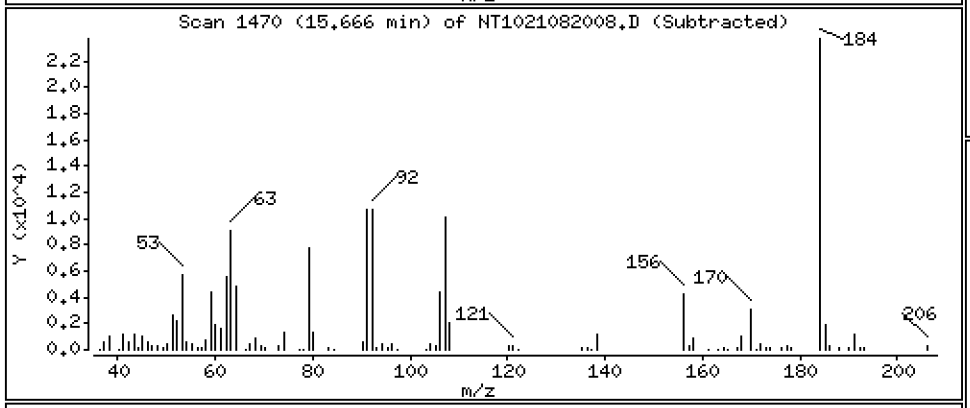
Column diameter: 0.25

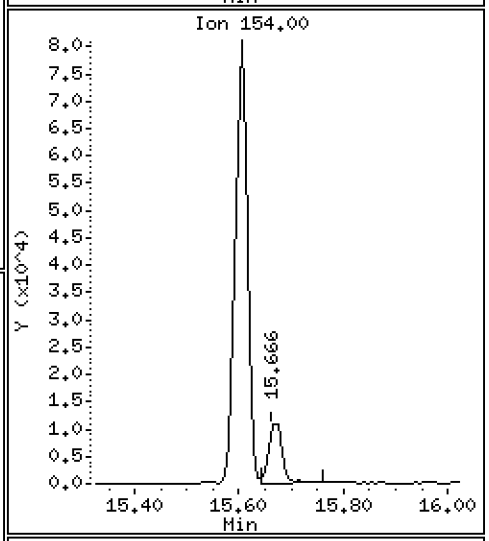
45 2,4-Dinitrophenol

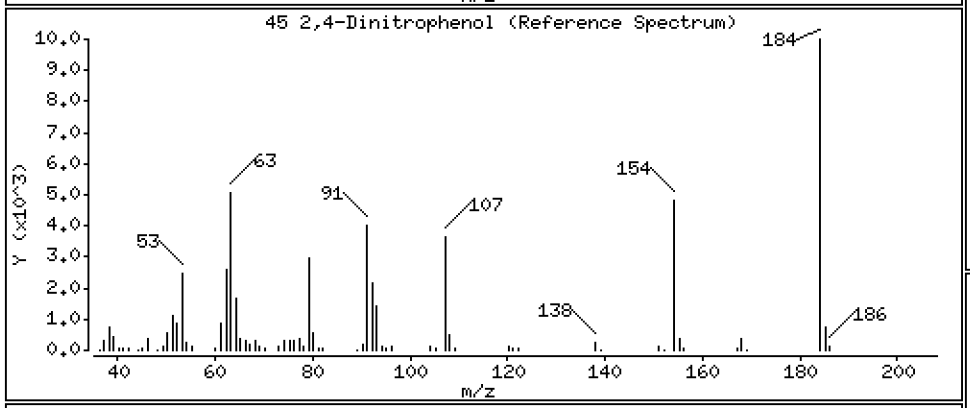
Concentration: 7.825 ug/mL

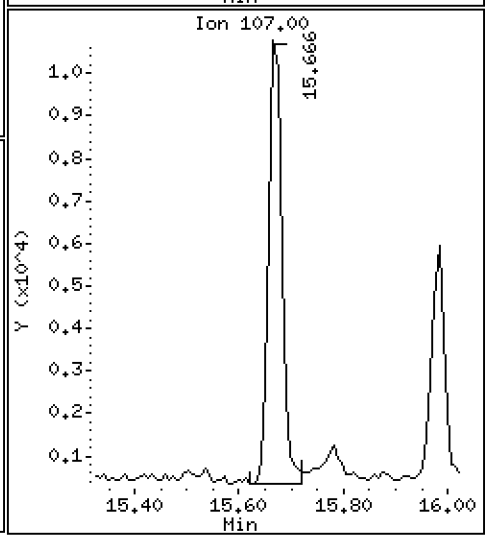


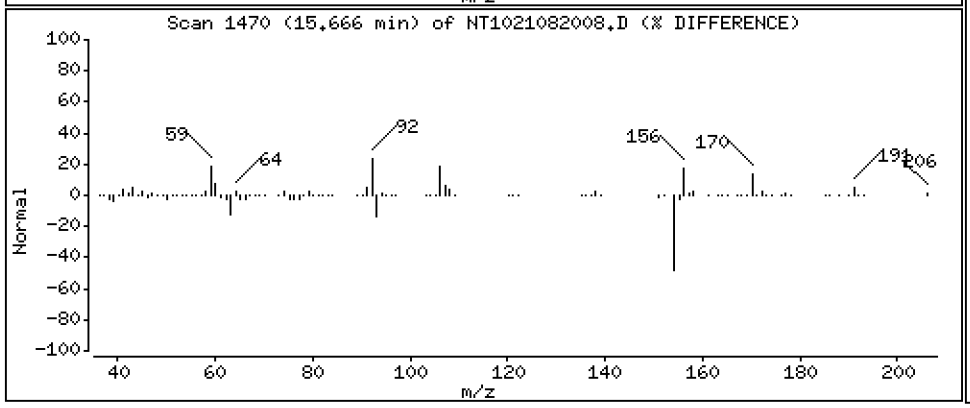












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

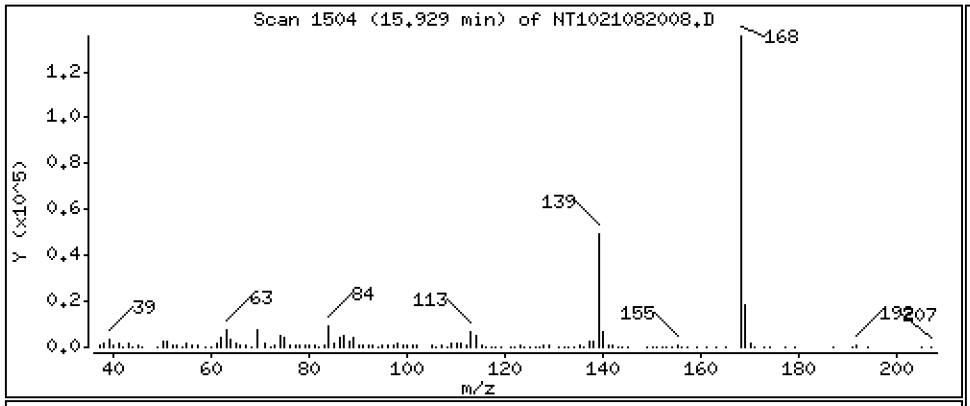
Operator: VTS

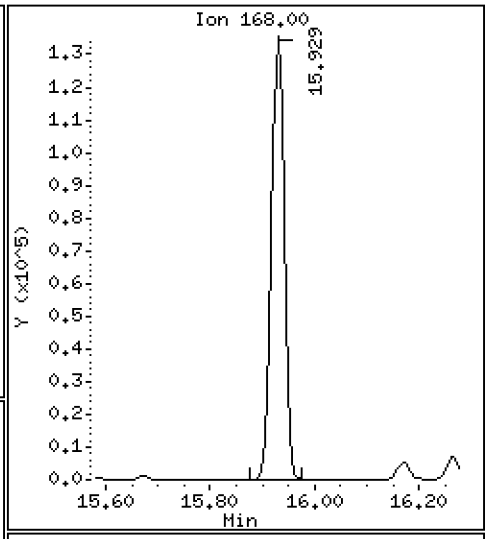
Column phase: ZB-5msi

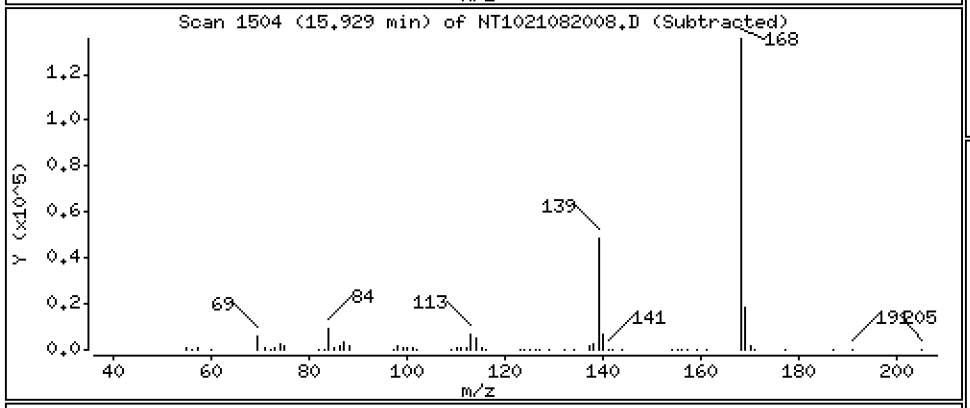
Column diameter: 0.25

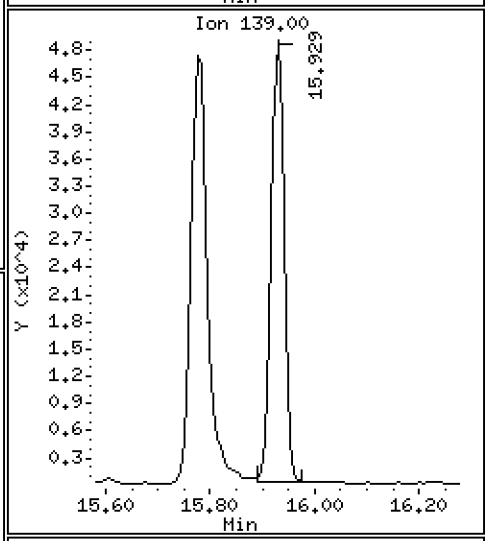
46 Dibenzofuran

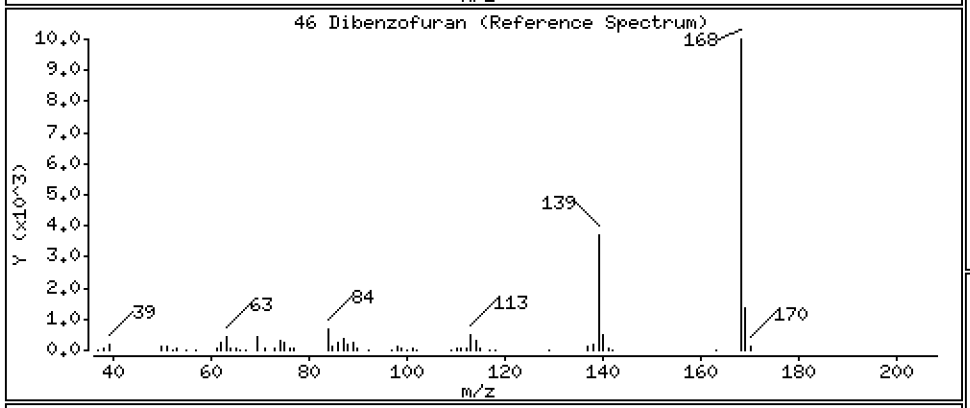
Concentration: 3.492 ug/mL

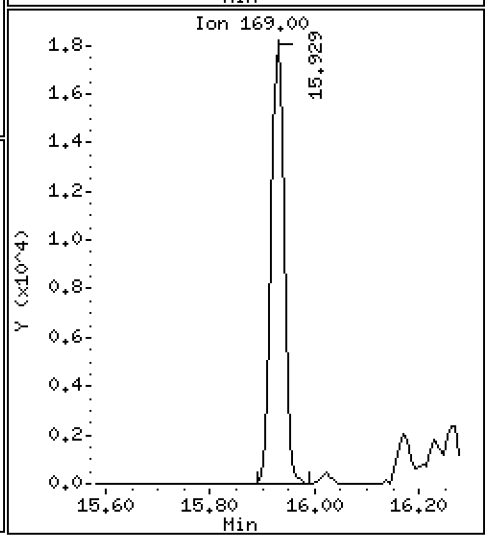


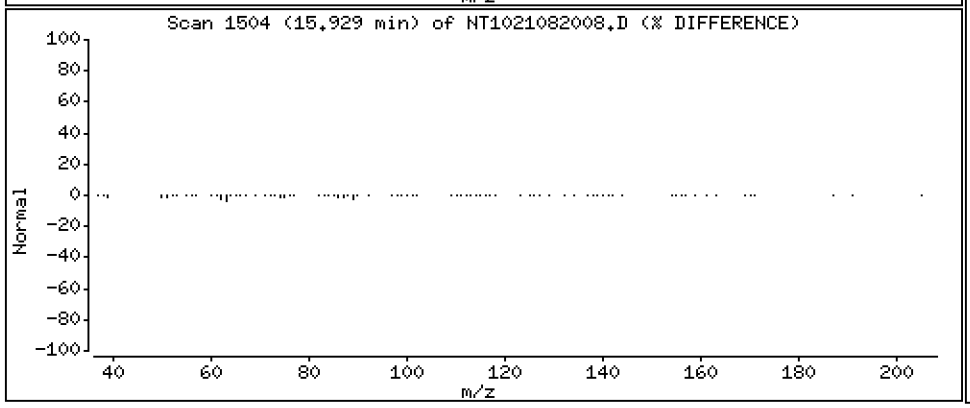












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

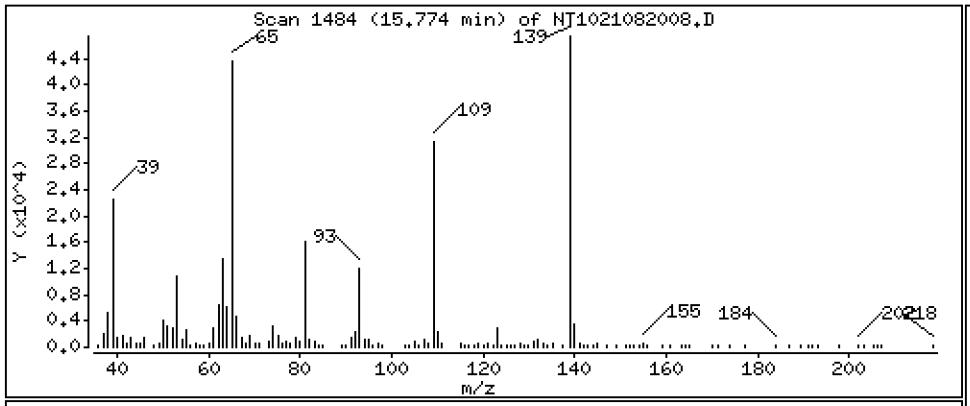
Operator: VTS

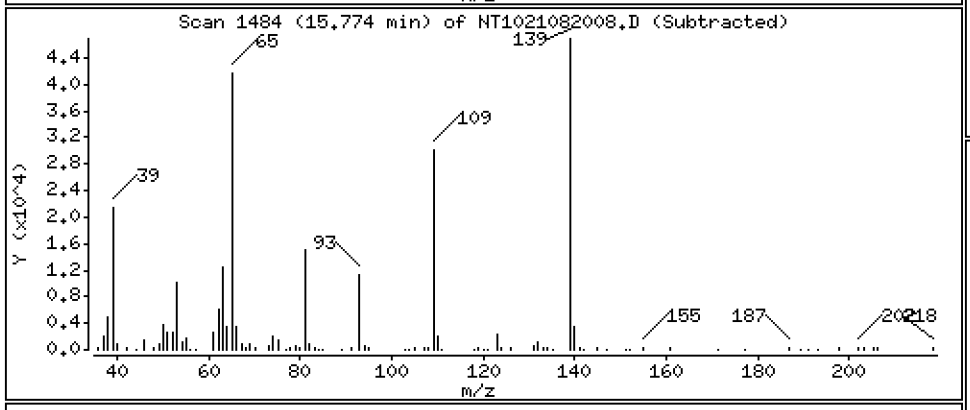
Column phase: ZB-5msi

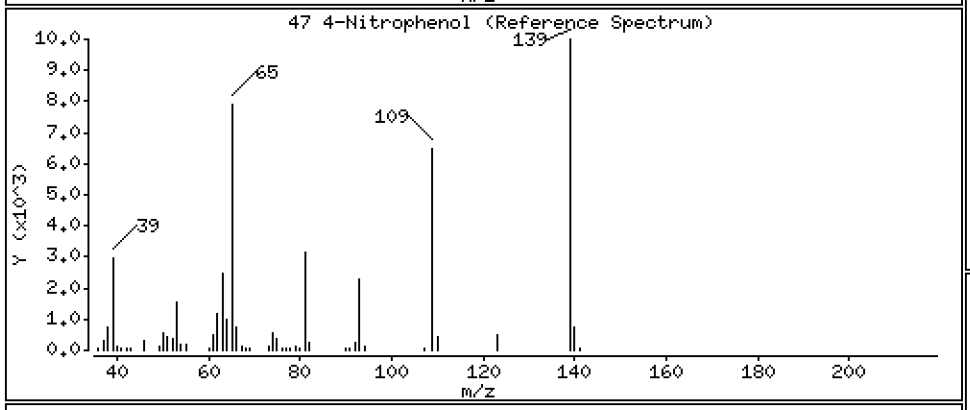
Column diameter: 0.25

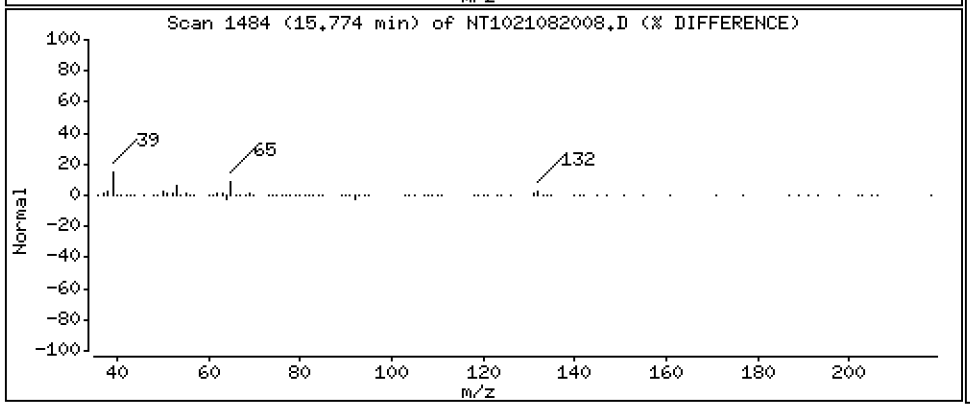
47 4-Nitrophenol

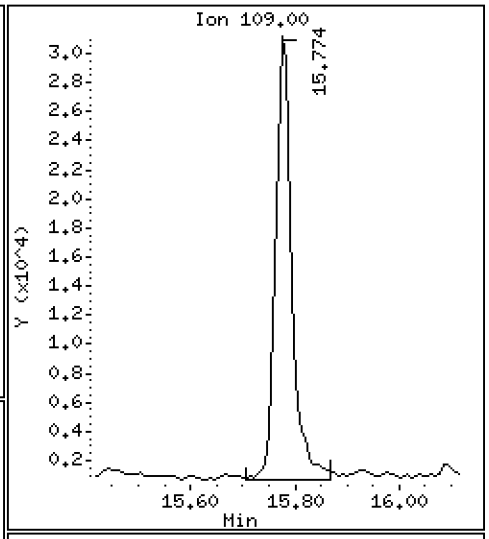
Concentration: 13.60 ug/mL

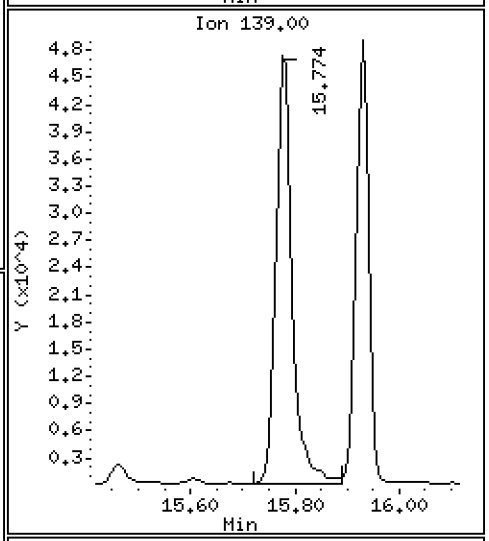


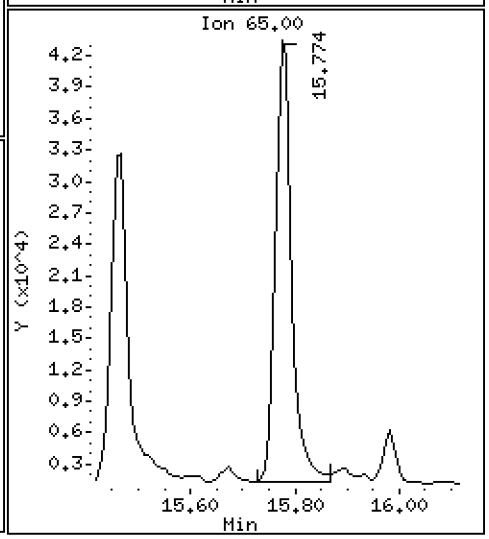












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

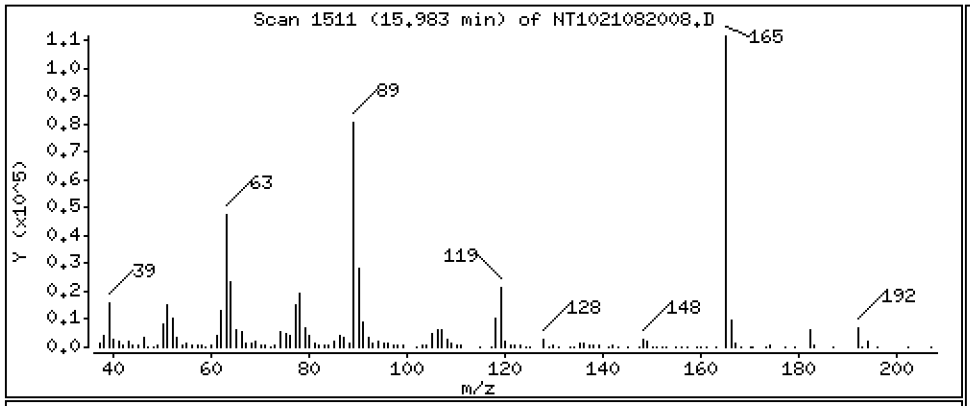
Operator: VTS

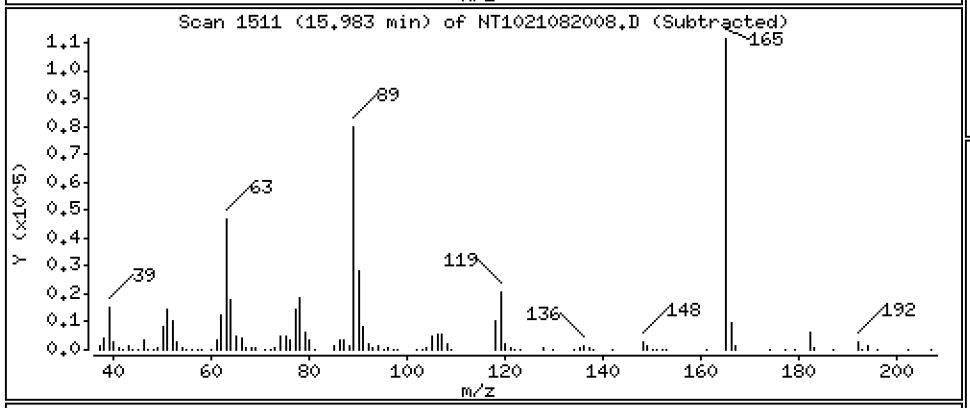
Column phase: ZB-5msi

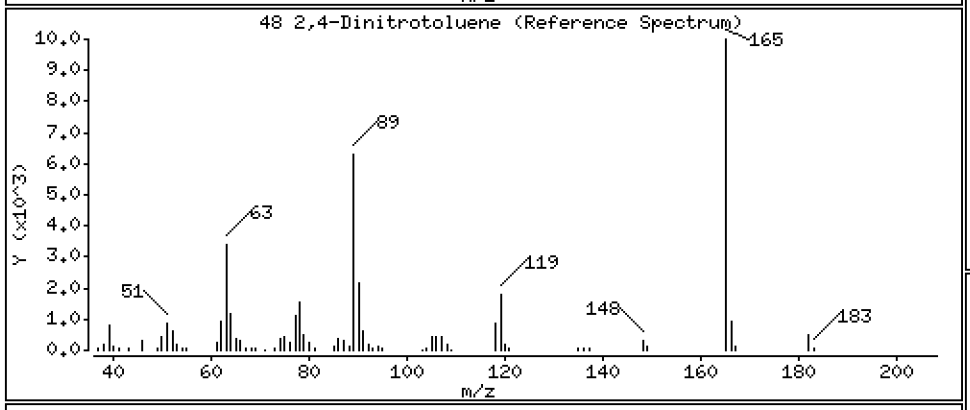
Column diameter: 0.25

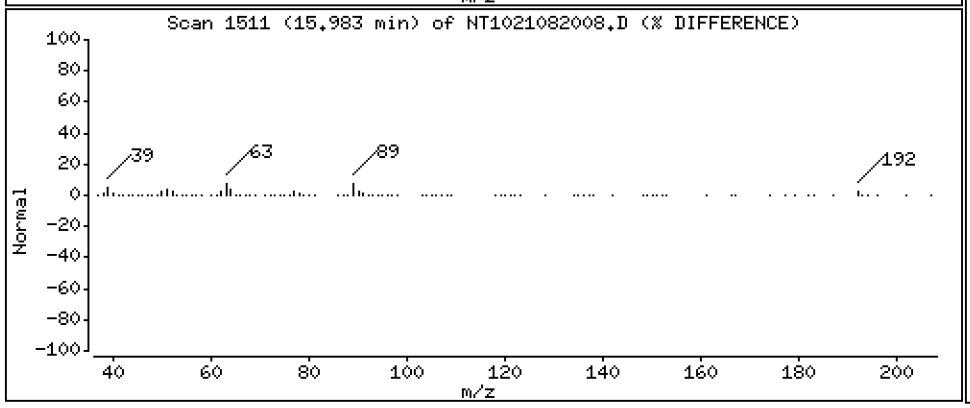
48 2,4-Dinitrotoluene

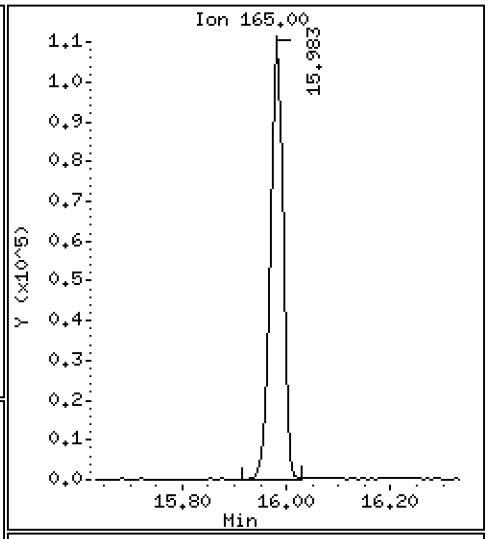
Concentration: 12.78 ug/mL

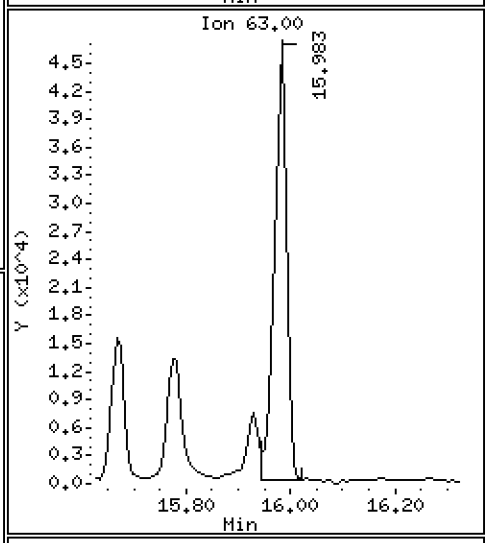


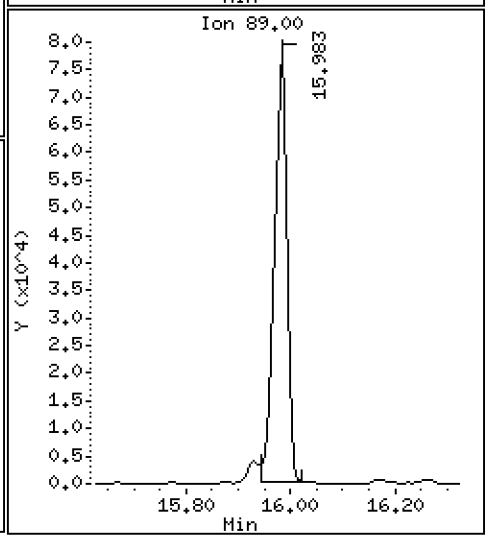












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

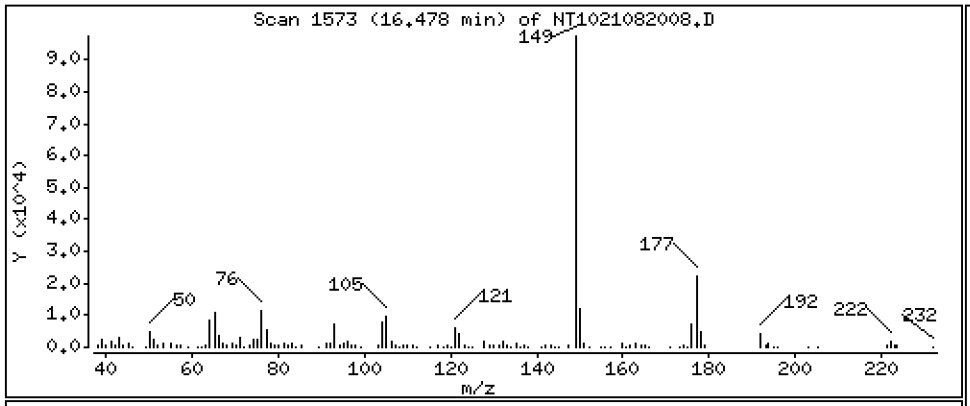
Operator: VTS

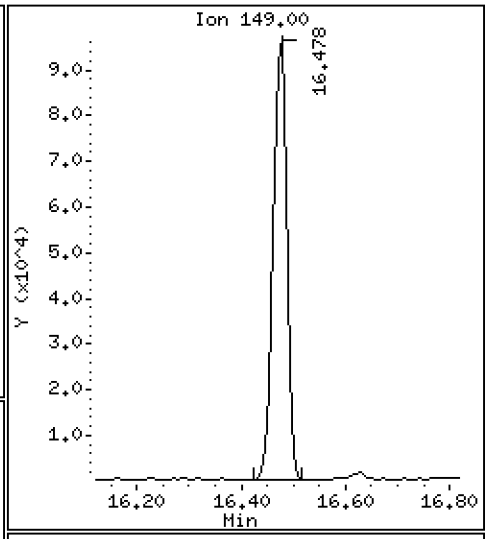
Column phase: ZB-5msi

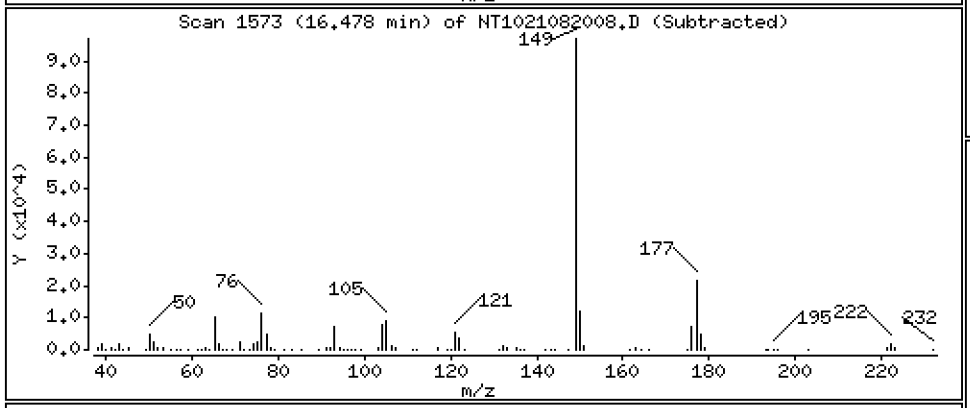
Column diameter: 0.25

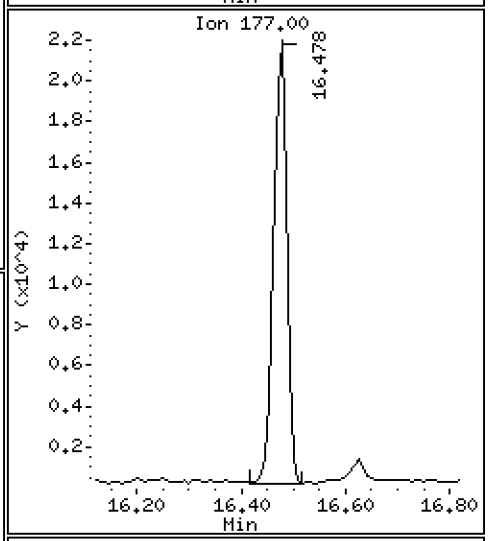
50 Diethylphthalate

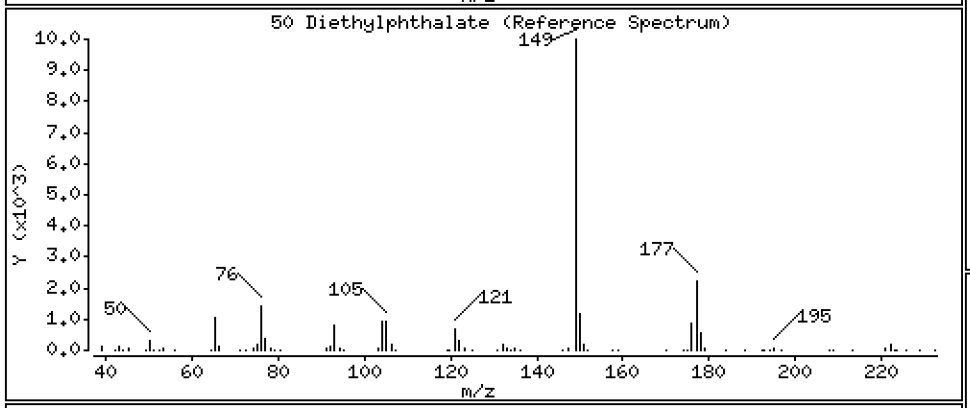
Concentration: 4.212 ug/mL

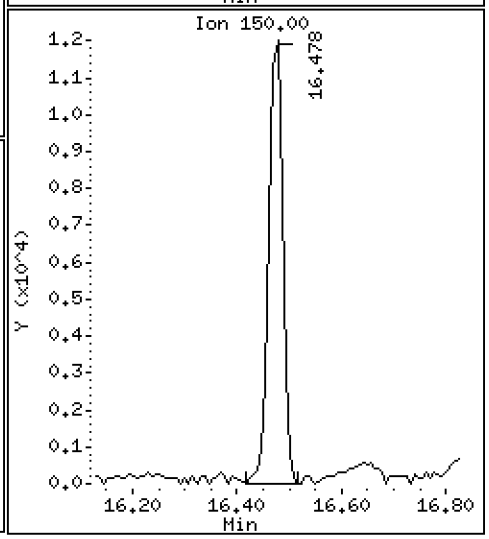


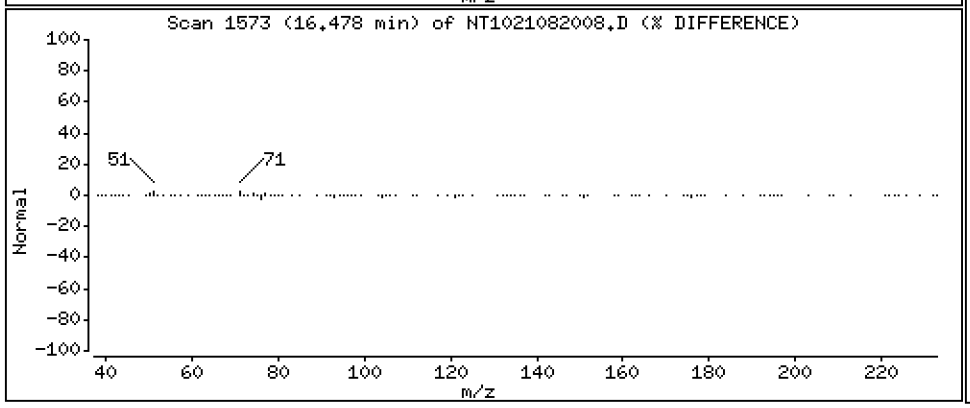












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

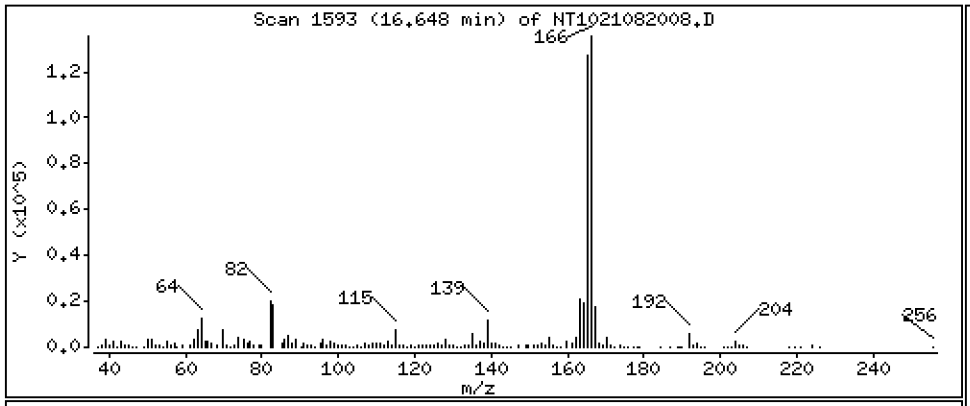
Operator: VTS

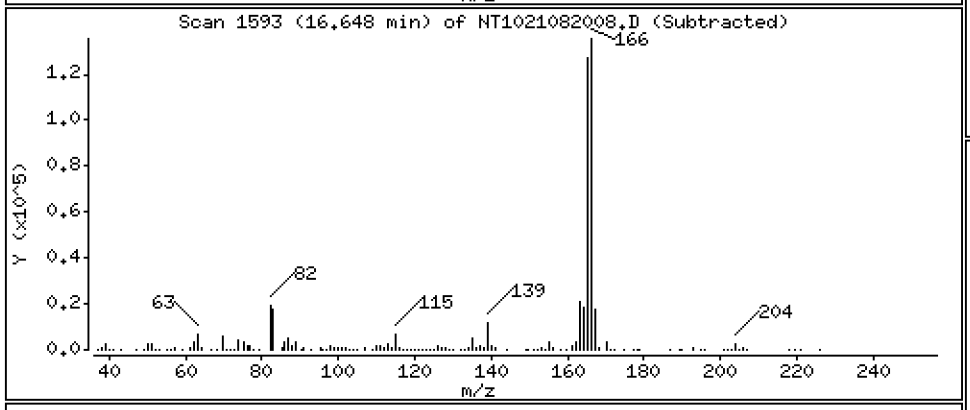
Column phase: ZB-5msi

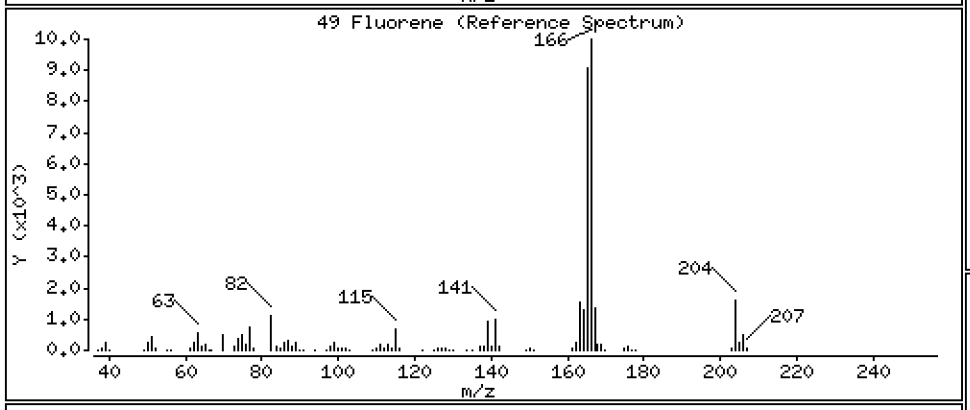
Column diameter: 0.25

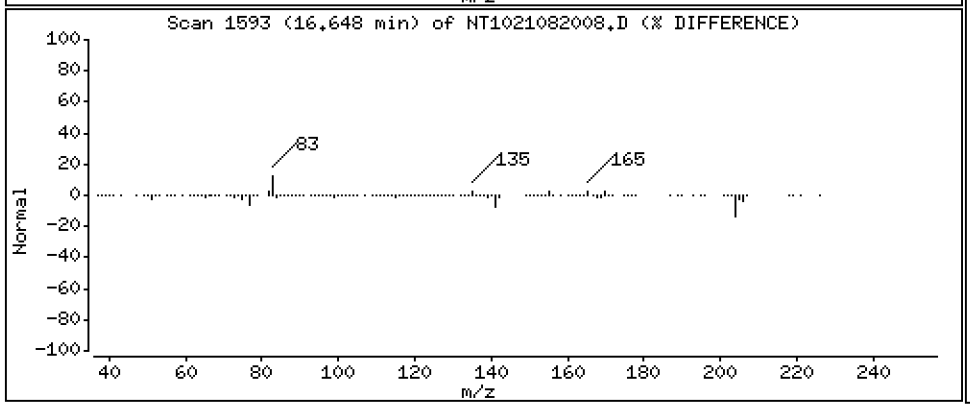
49 Fluorene

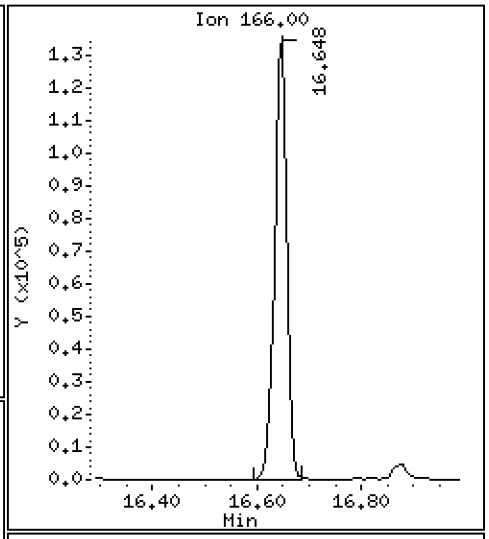
Concentration: 3.911 ug/mL

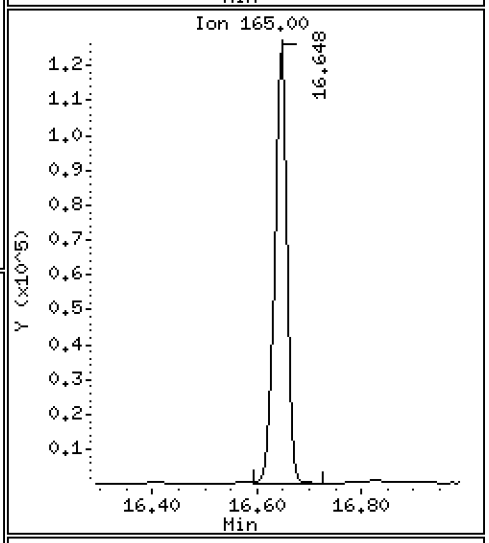


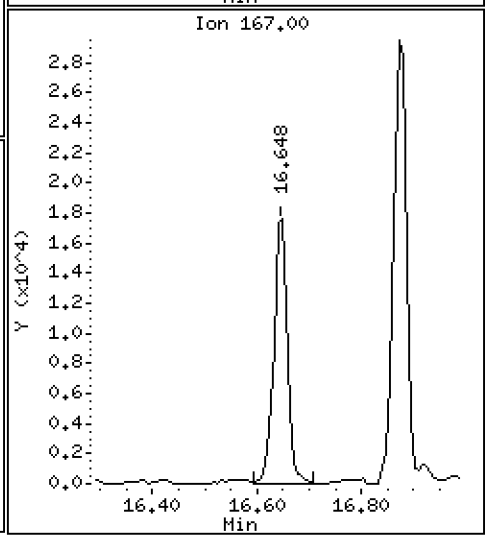












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

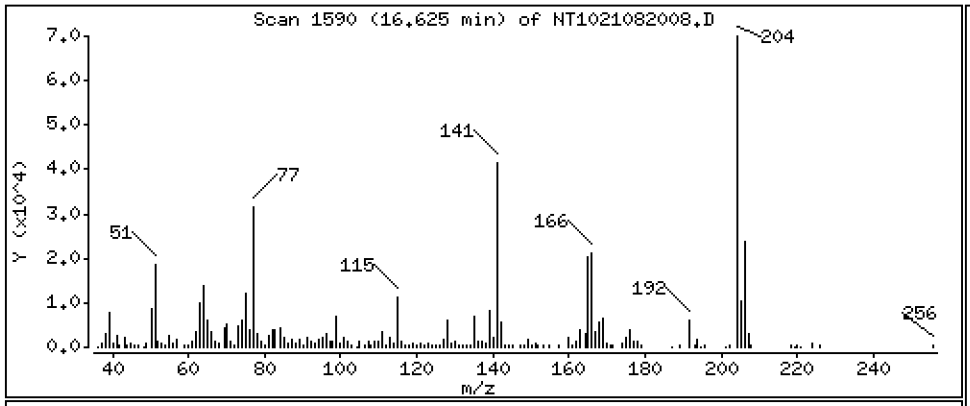
Operator: VTS

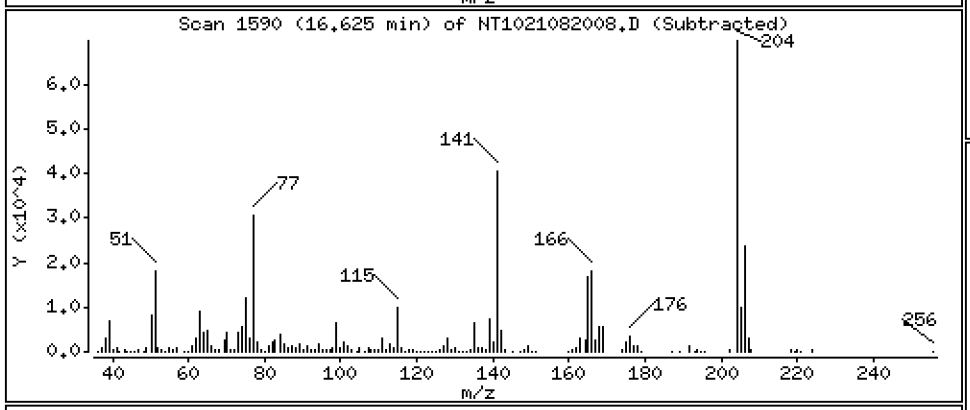
Column phase: ZB-5msi

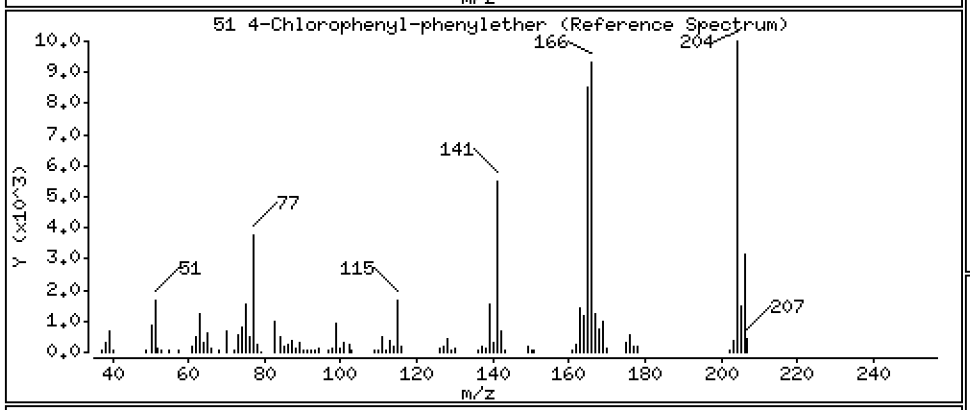
Column diameter: 0.25

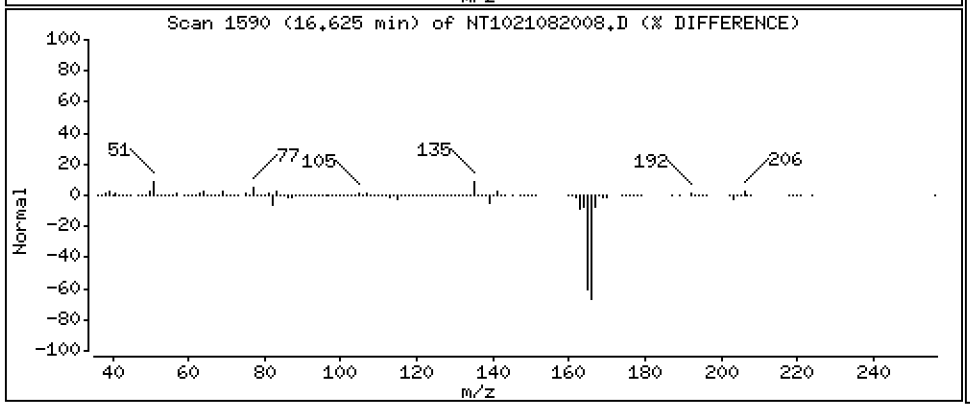
51 4-Chlorophenyl-phenylether

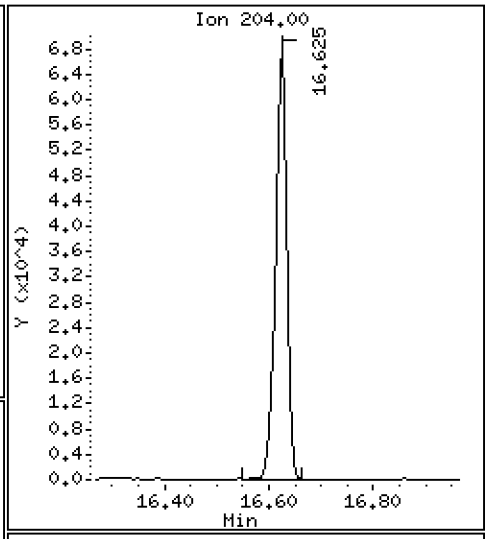
Concentration: 4.737 ug/mL

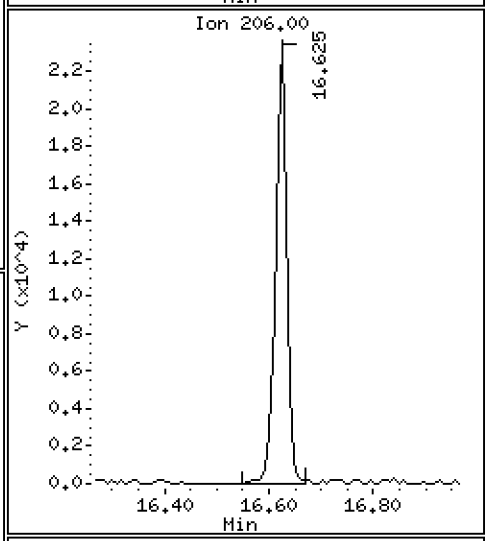


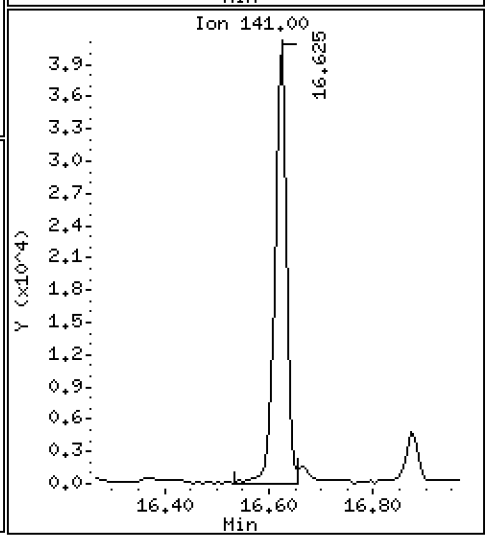












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

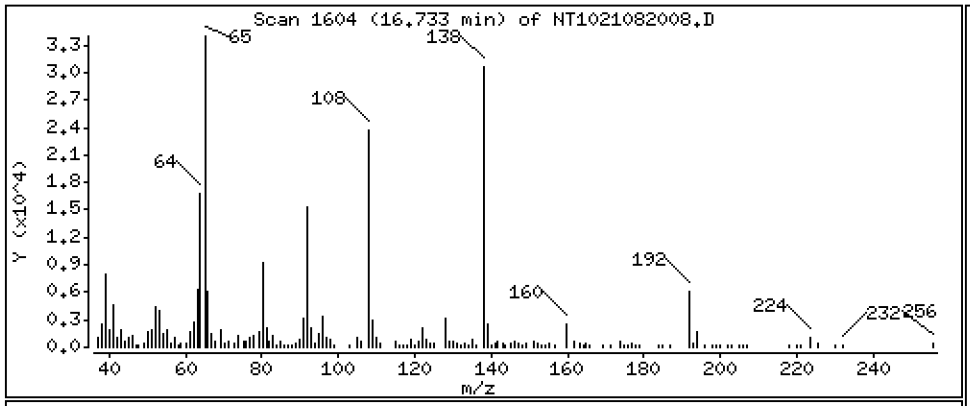
Operator: VTS

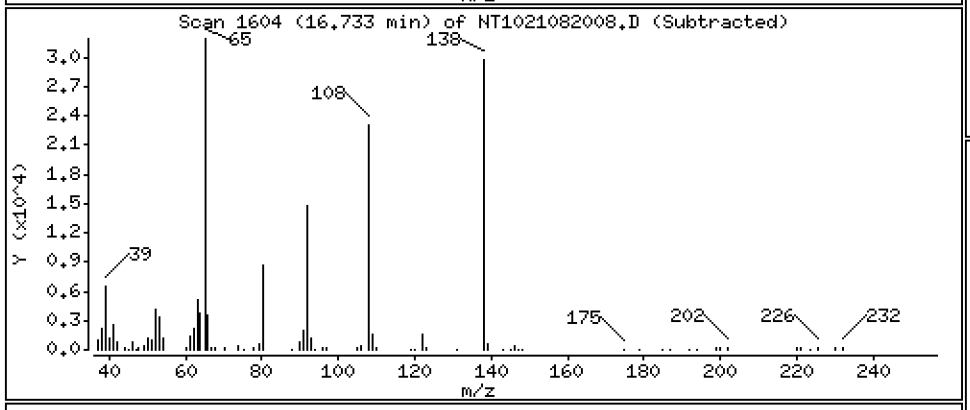
Column phase: ZB-5msi

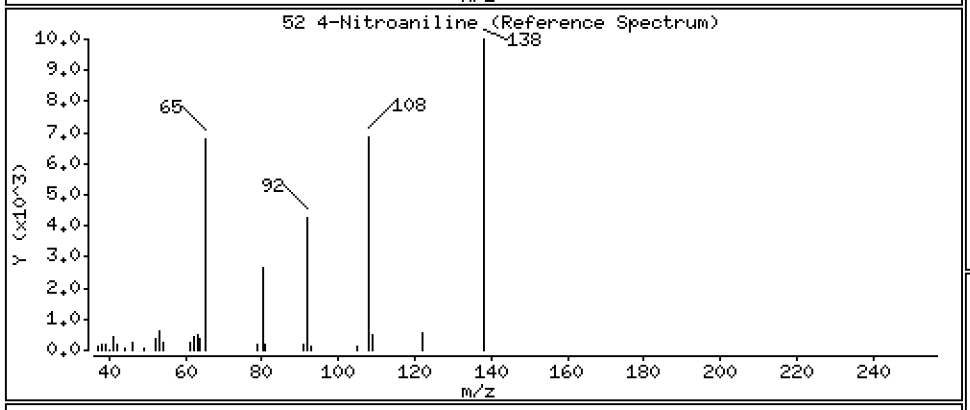
Column diameter: 0.25

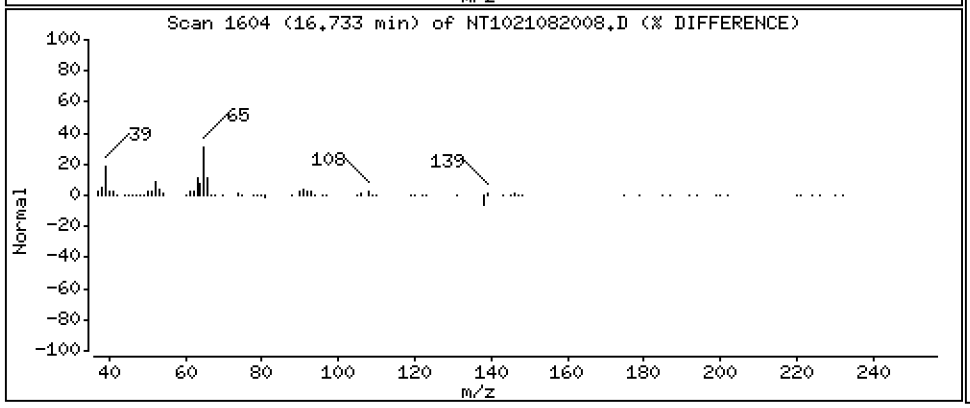
52 4-Nitroaniline

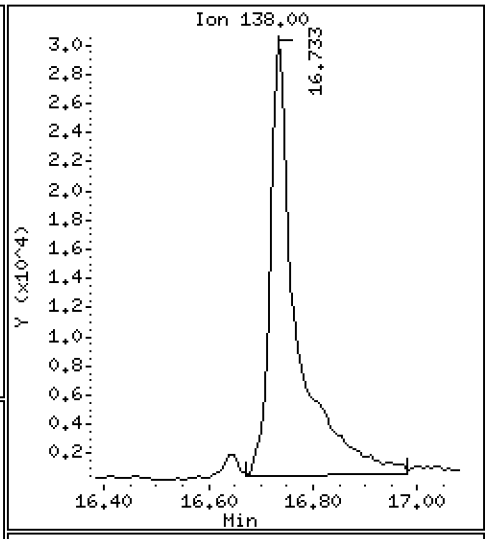
Concentration: 7.500 ug/mL

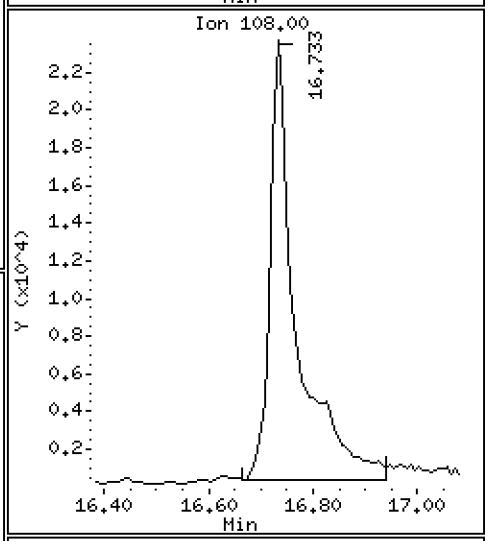


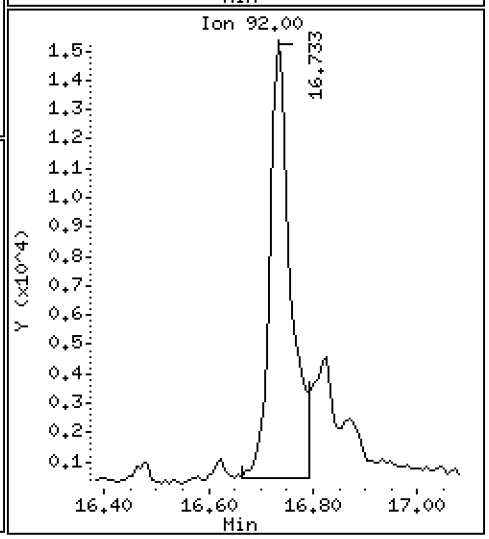












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

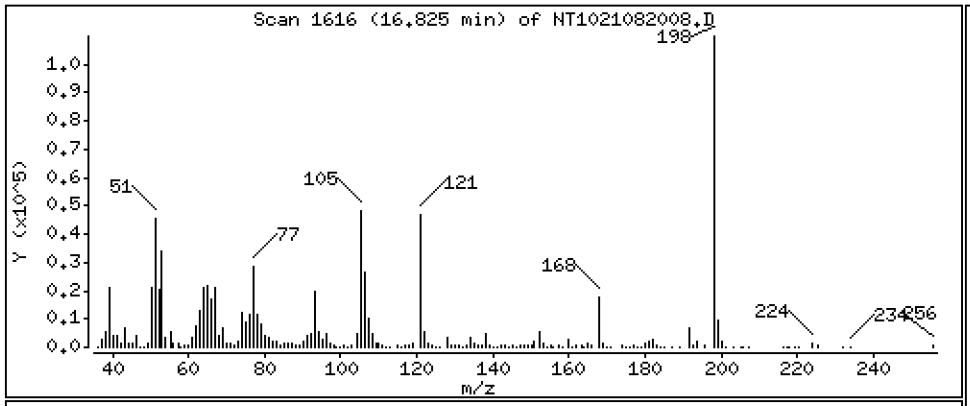
Operator: VTS

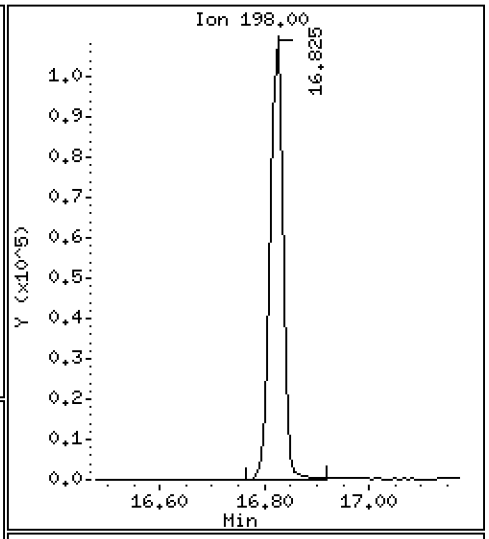
Column phase: ZB-5msi

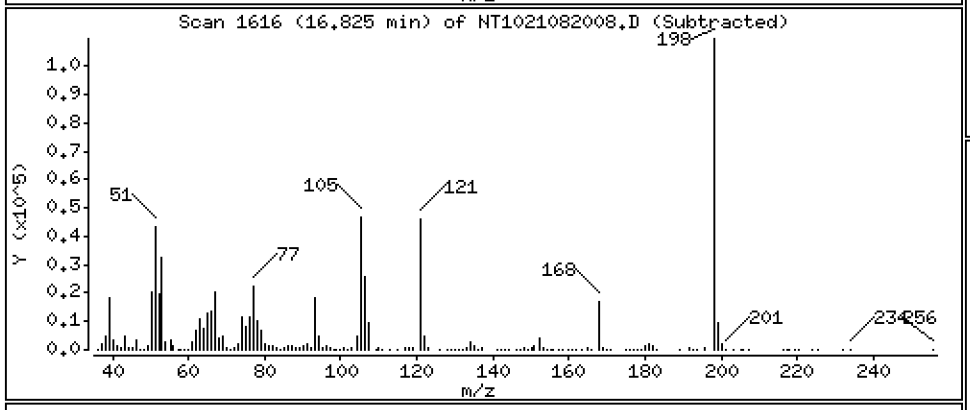
Column diameter: 0.25

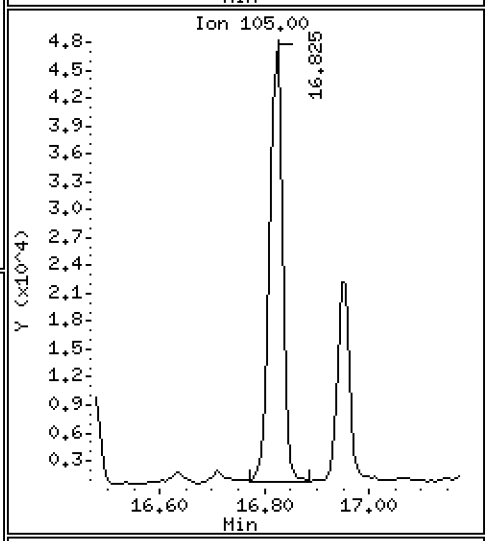
53 4,6-Dinitro-2-methylphenol

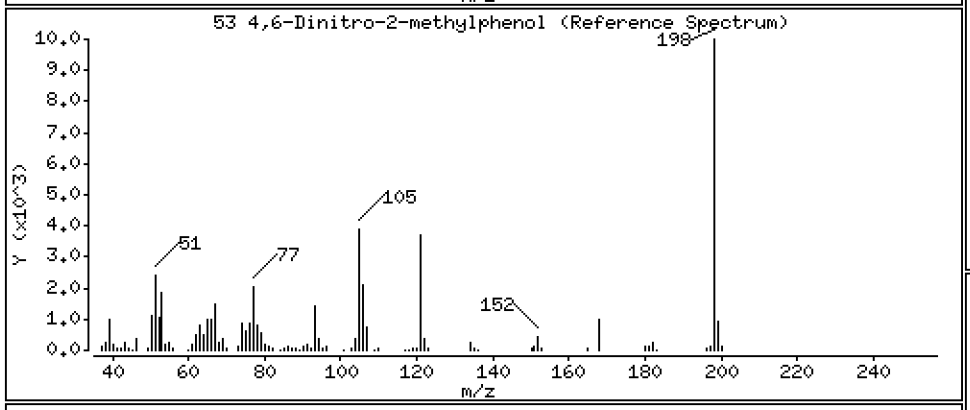
Concentration: 20.13 ug/mL

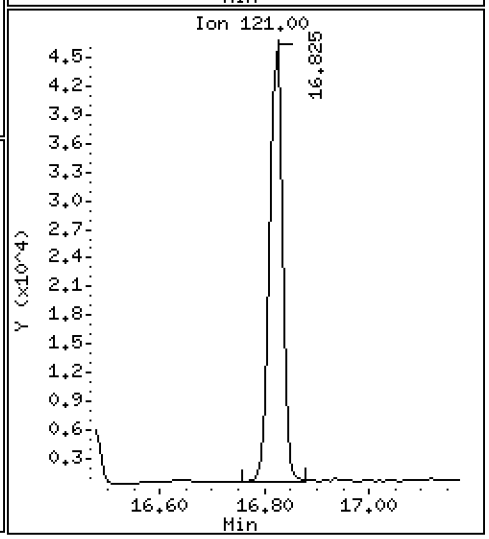


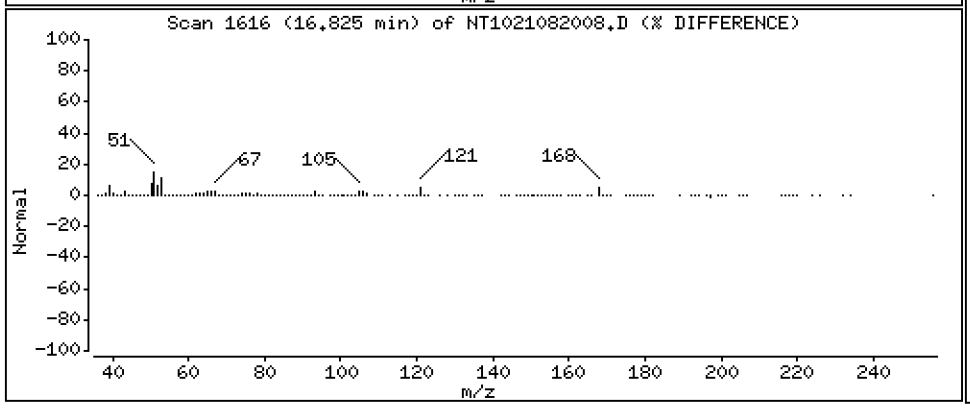












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

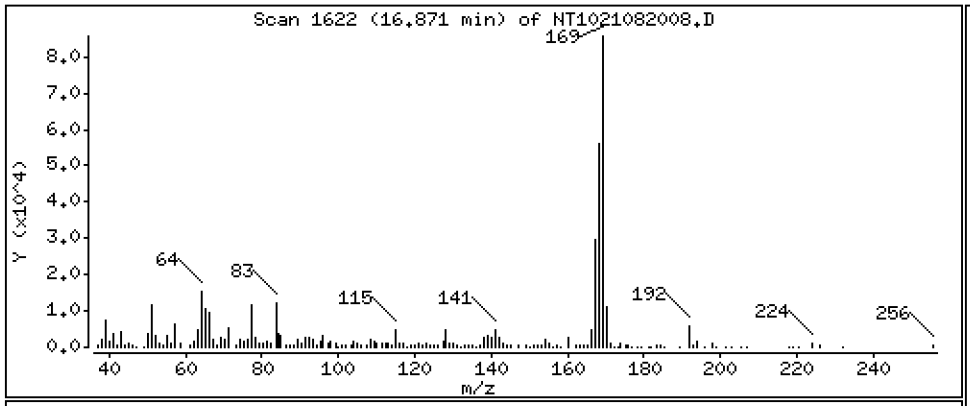
Operator: VTS

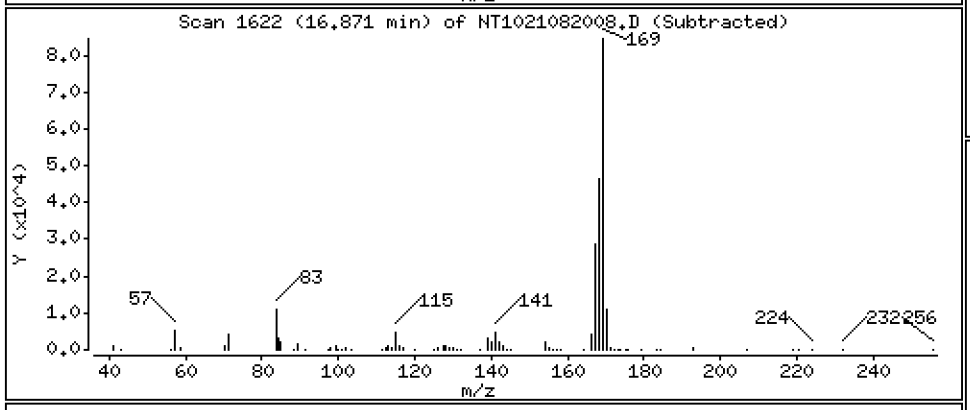
Column phase: ZB-5msi

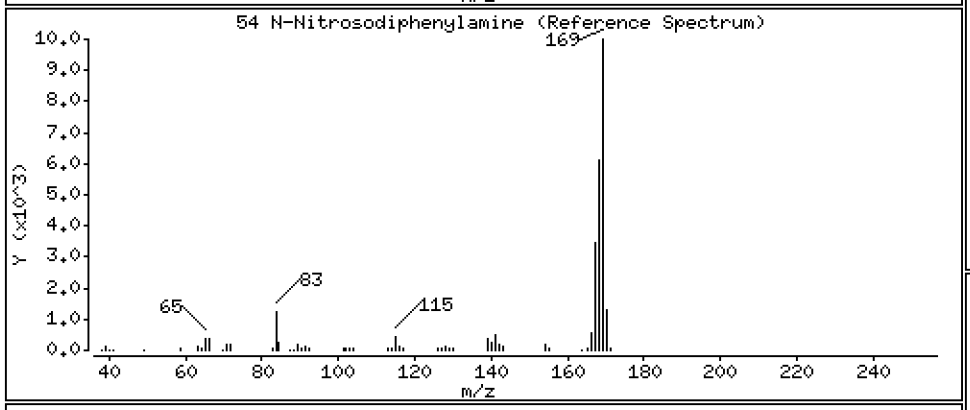
Column diameter: 0.25

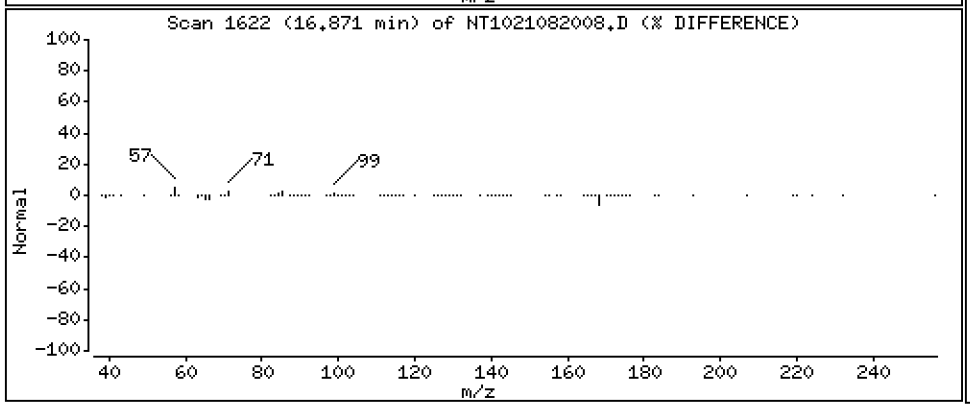
54 N-Nitrosodiphenylamine

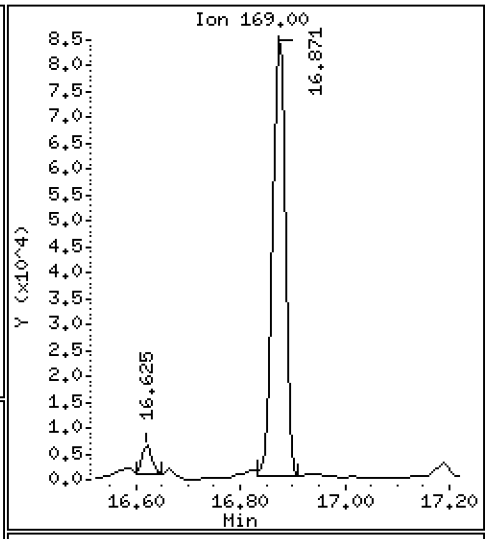
Concentration: 4.254 ug/mL

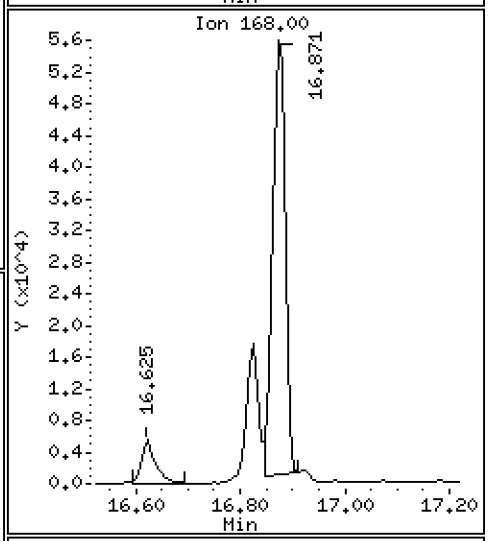


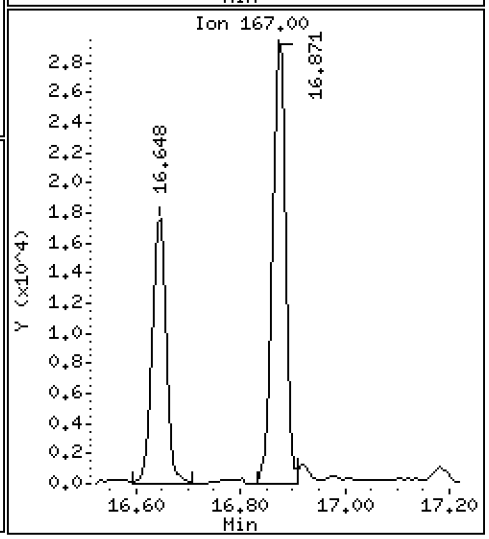












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

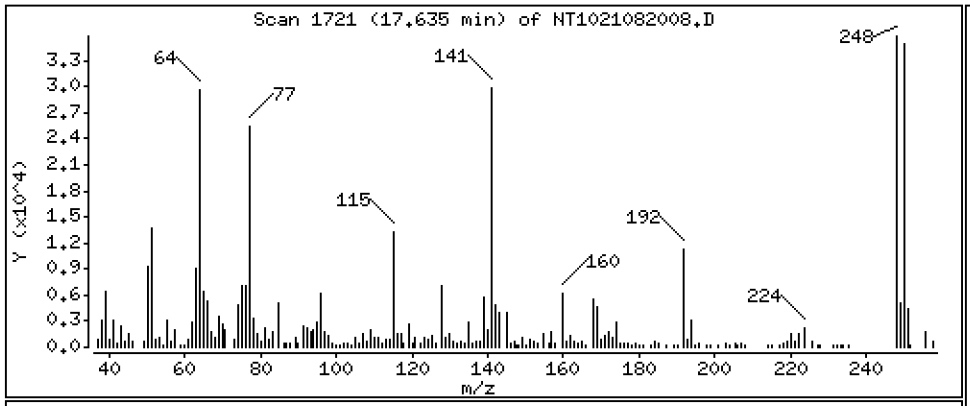
Operator: VTS

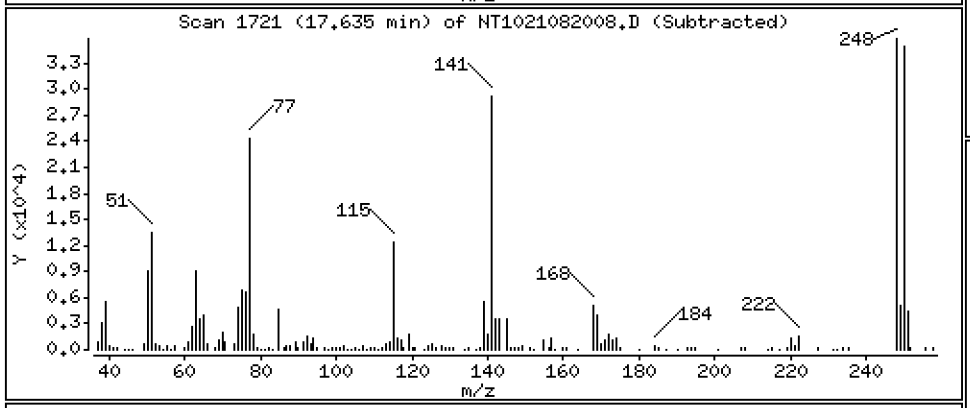
Column phase: ZB-5msi

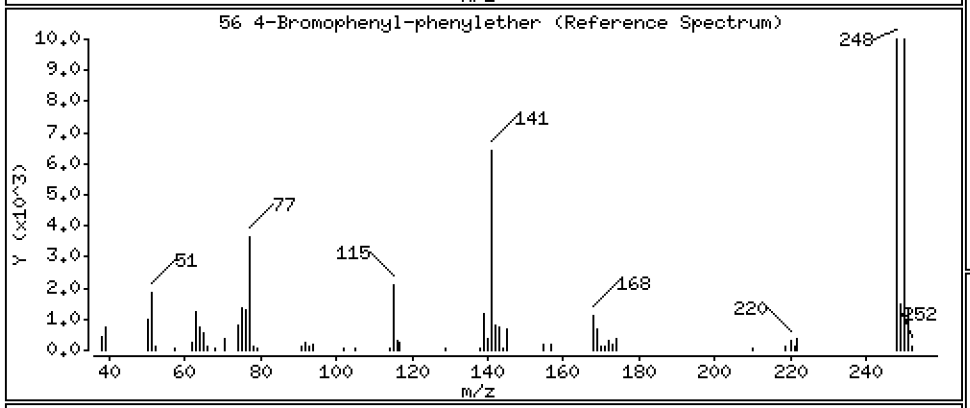
Column diameter: 0.25

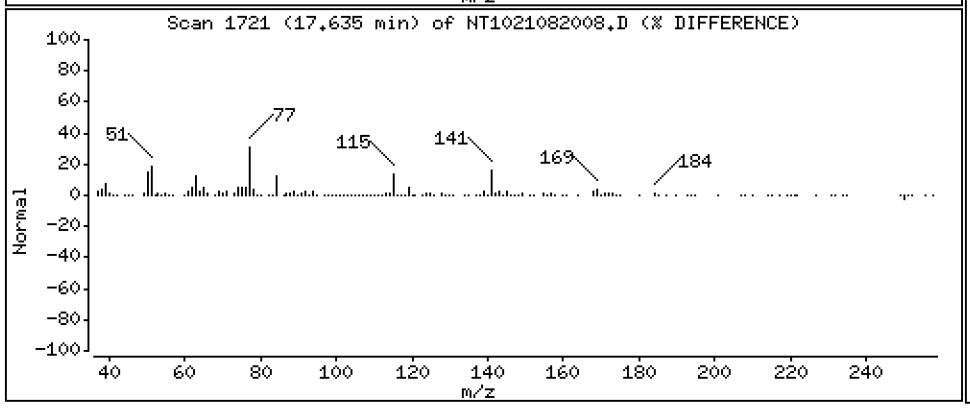
56 4-Bromophenyl-phenylether

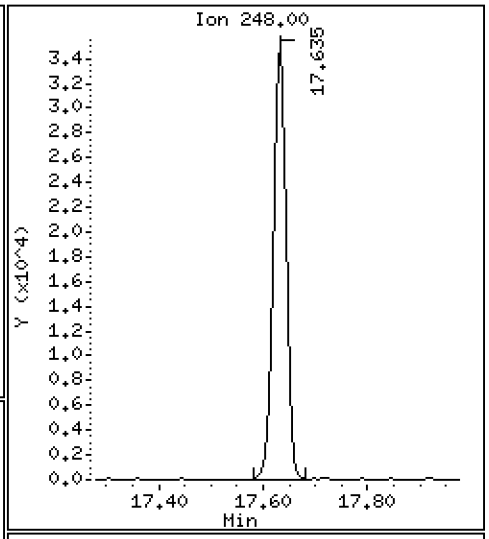
Concentration: 4.411 ug/mL

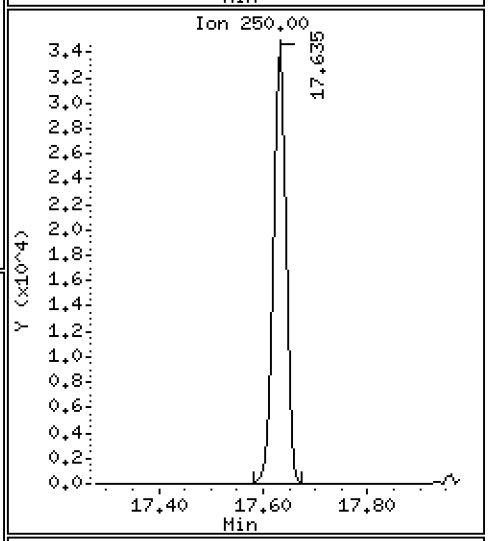


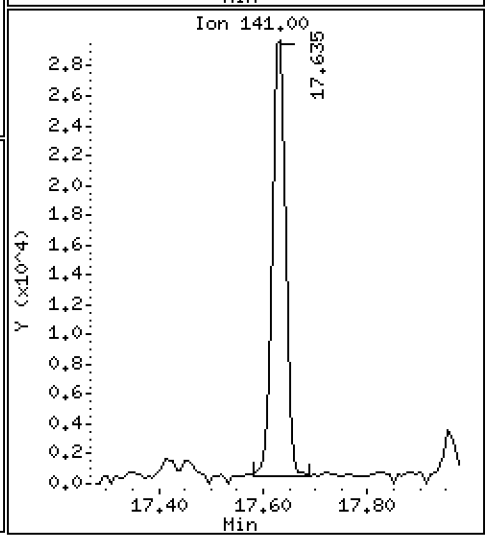












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

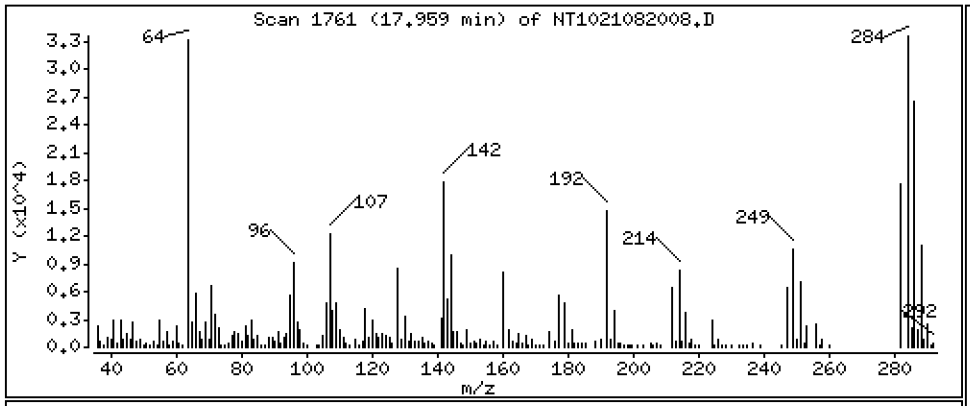
Operator: VTS

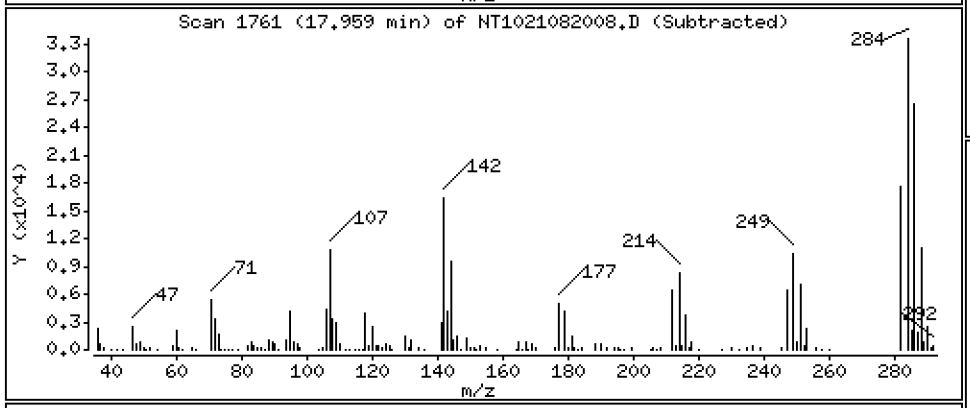
Column phase: ZB-5msi

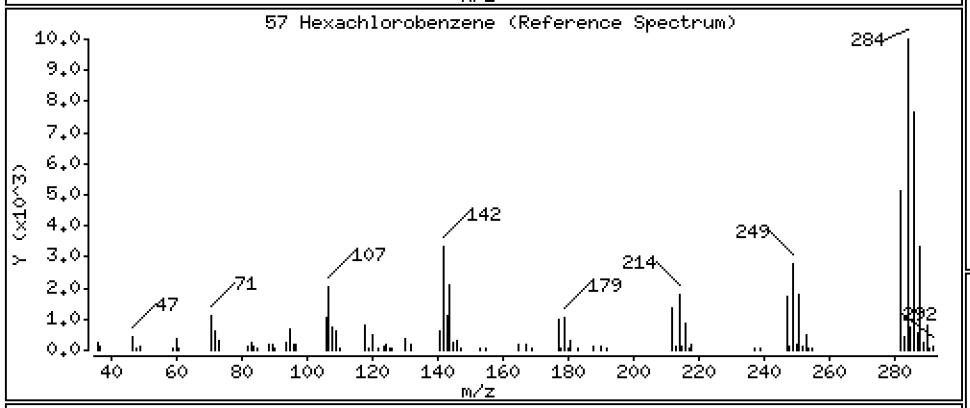
Column diameter: 0.25

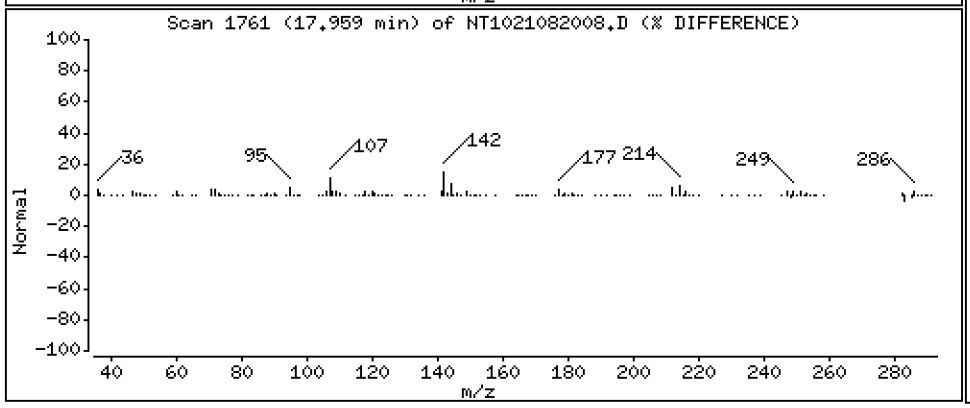
57 Hexachlorobenzene

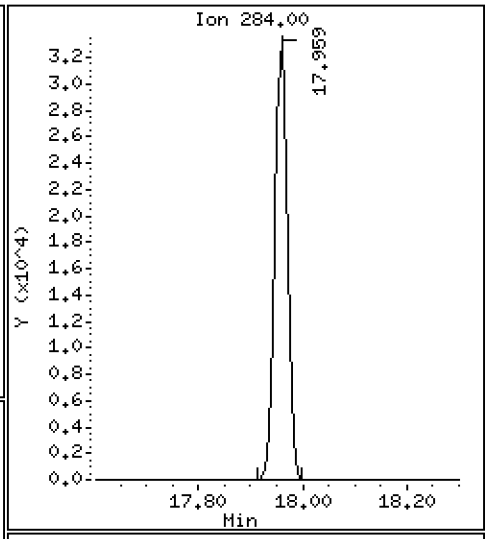
Concentration: 4.354 ug/mL

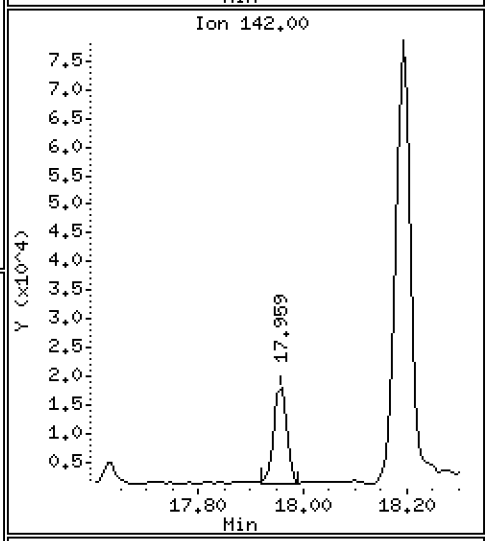


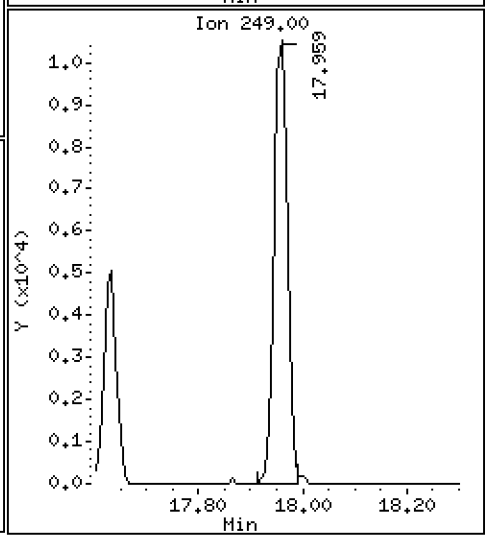












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

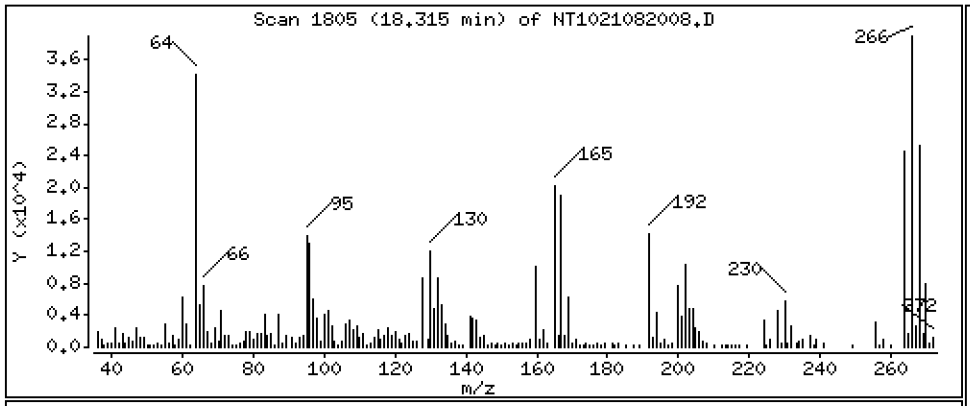
Operator: VTS

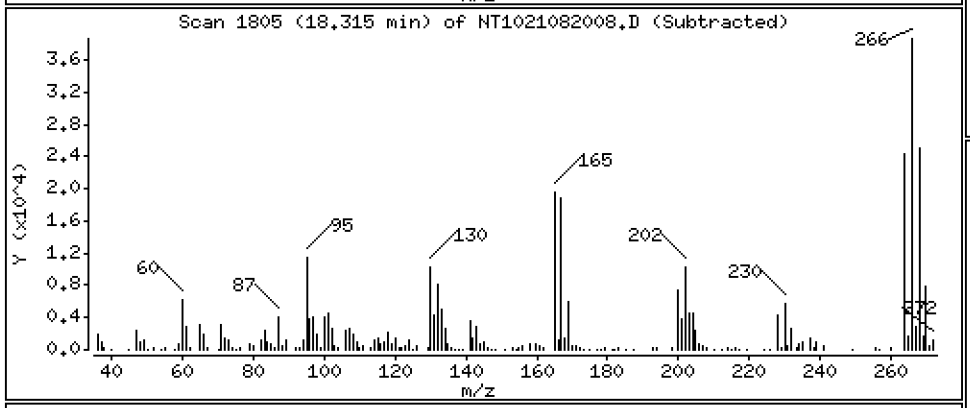
Column phase: ZB-5msi

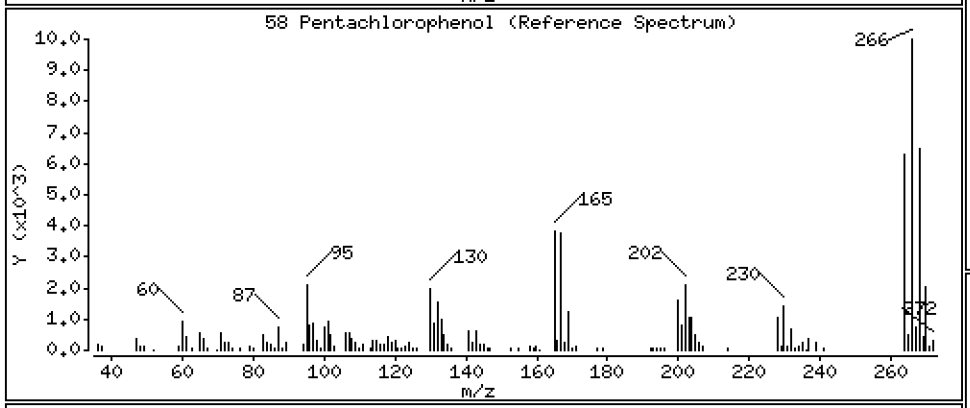
Column diameter: 0.25

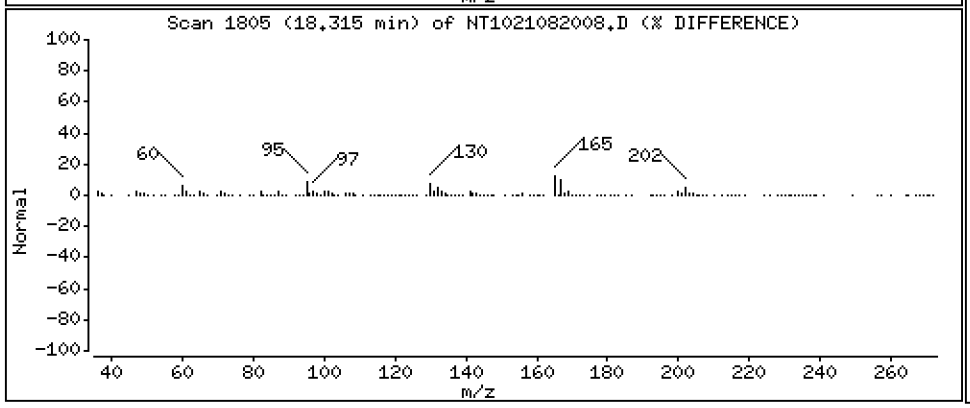
58 Pentachlorophenol

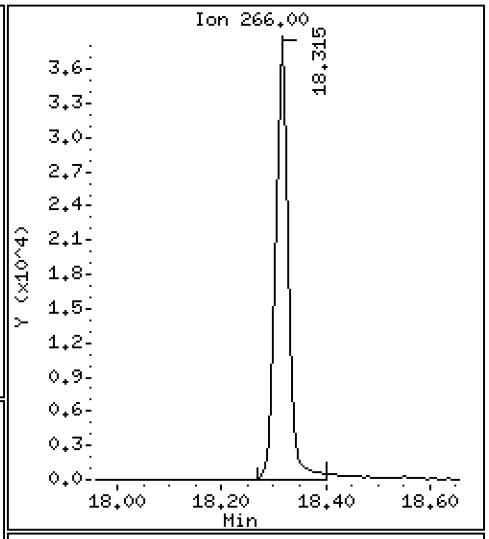
Concentration: 13.84 ug/mL

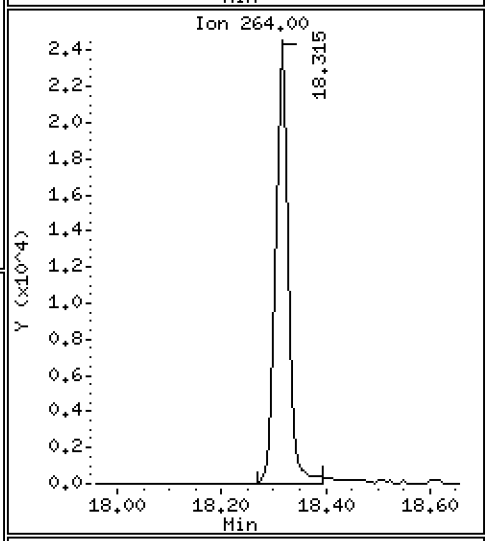


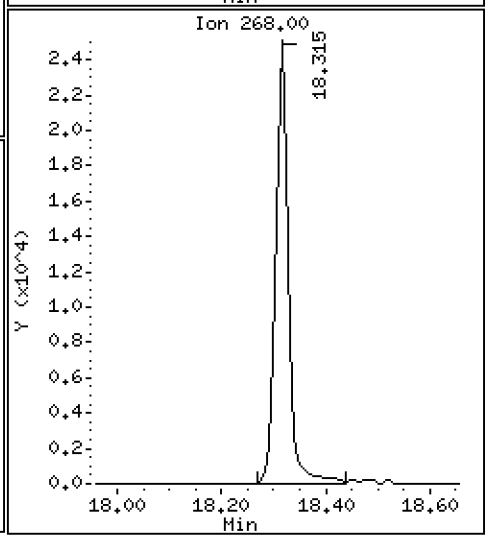












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

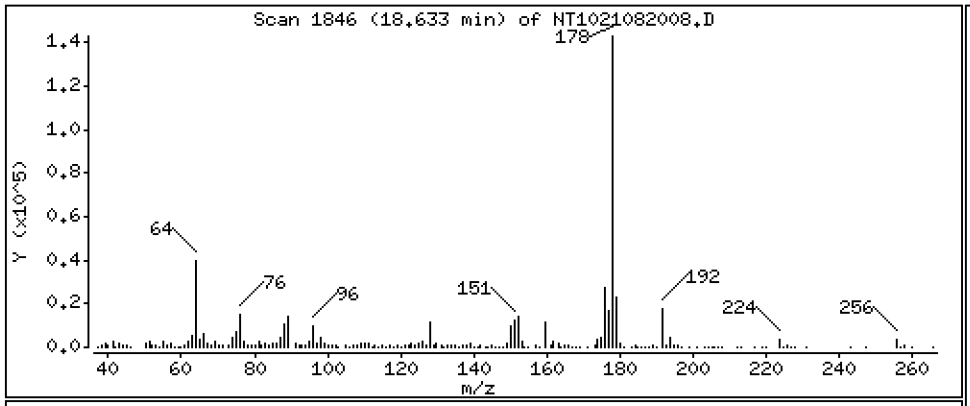
Operator: VTS

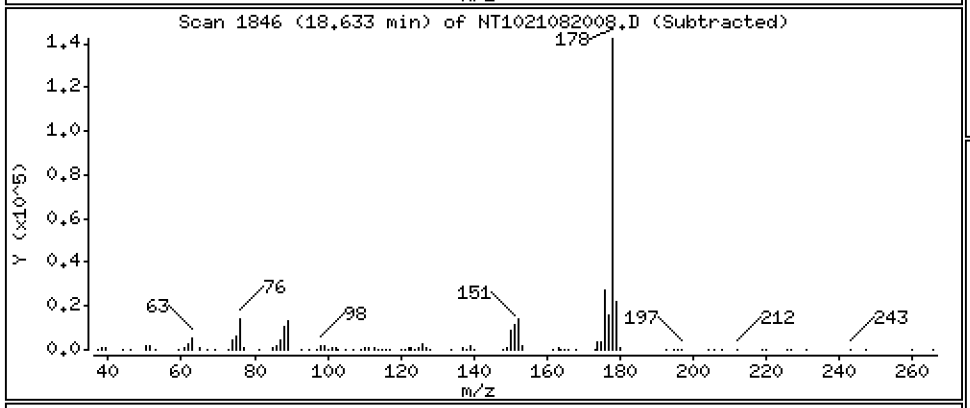
Column phase: ZB-5msi

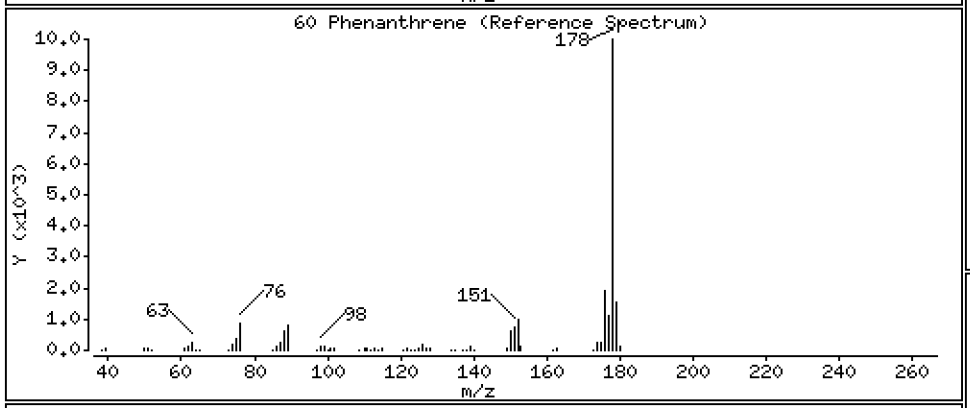
Column diameter: 0.25

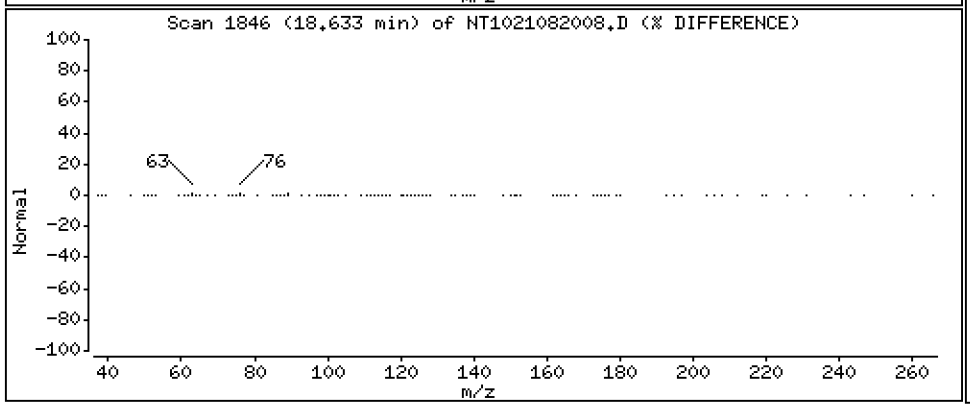
60 Phenanthrene

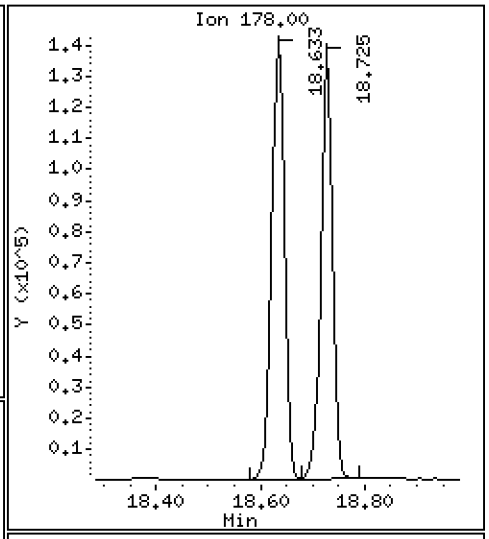
Concentration: 4.374 ug/mL

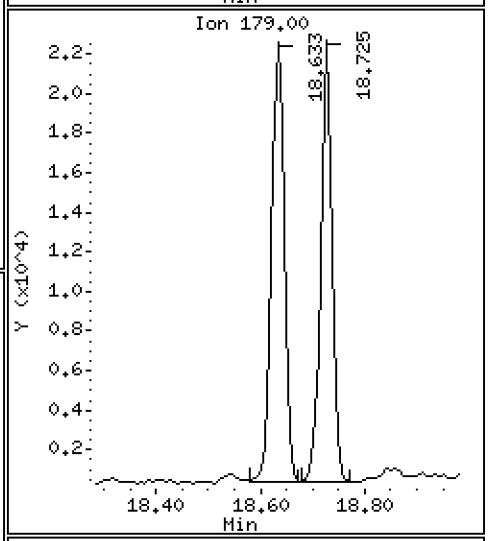


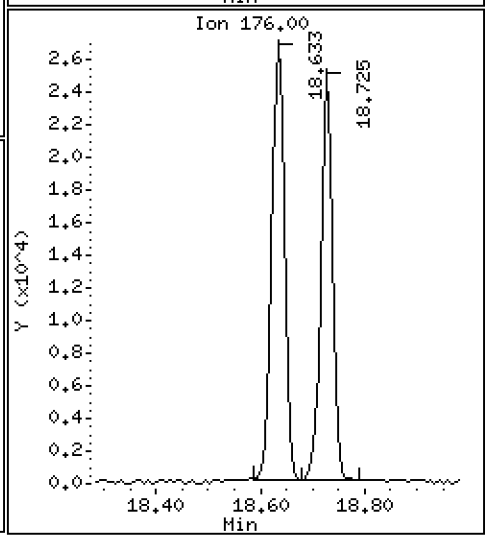












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

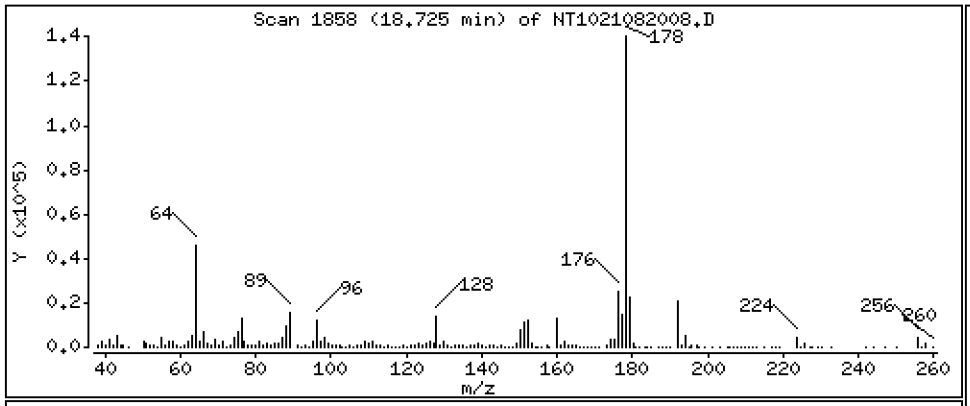
Operator: VTS

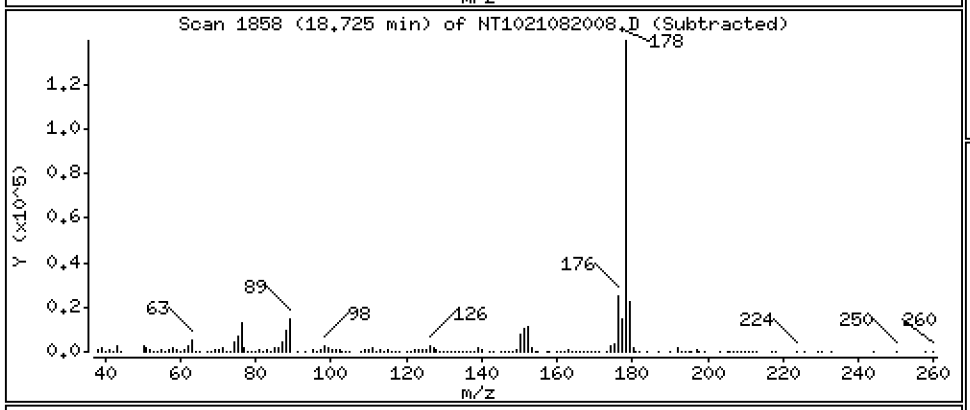
Column phase: ZB-5msi

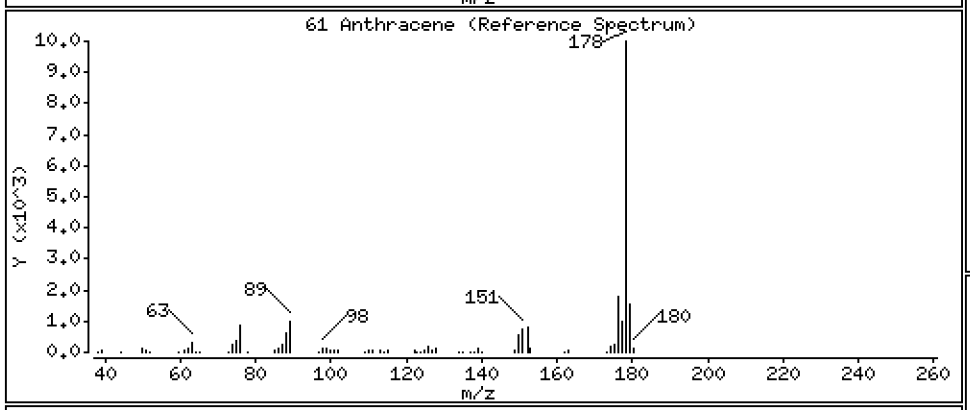
Column diameter: 0.25

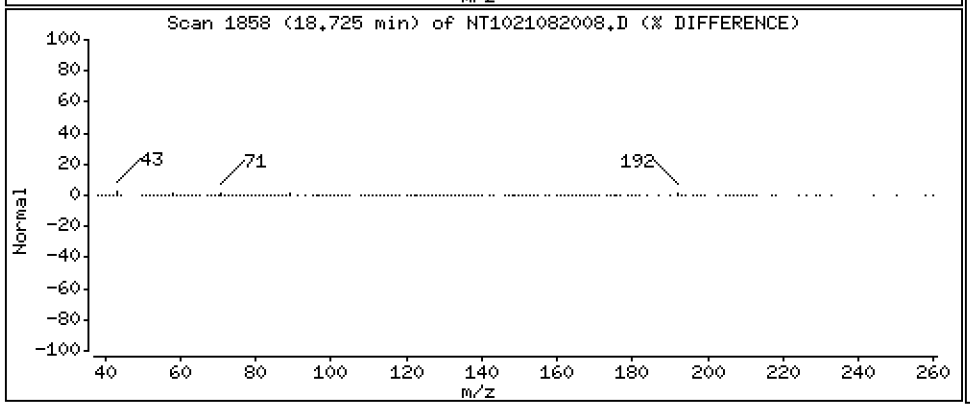
61 Anthracene

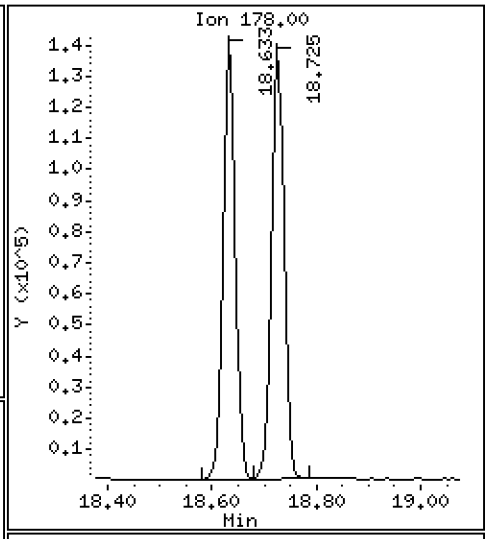
Concentration: 3.854 ug/mL

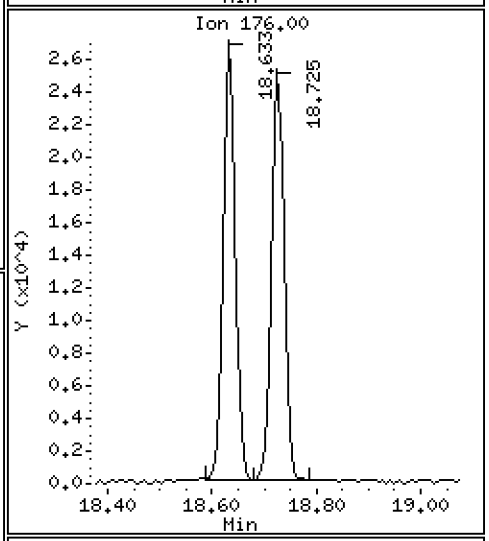


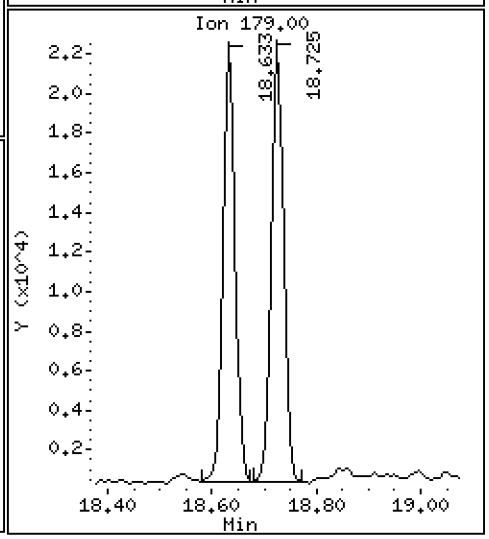












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

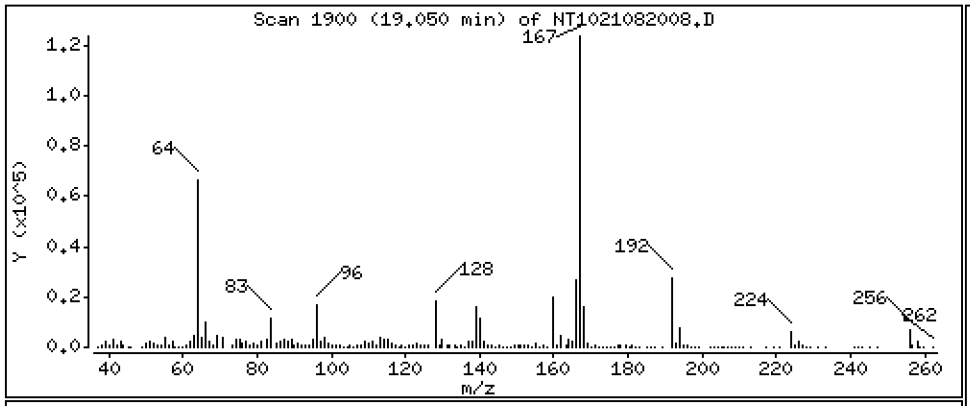
Operator: VTS

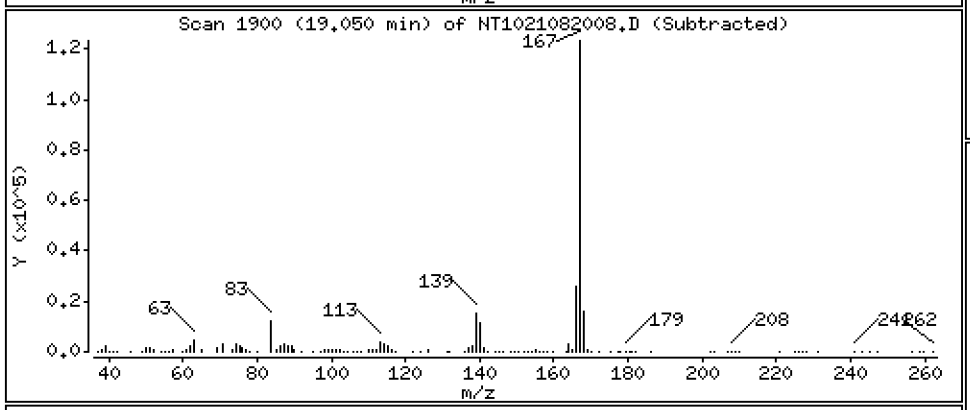
Column phase: ZB-5msi

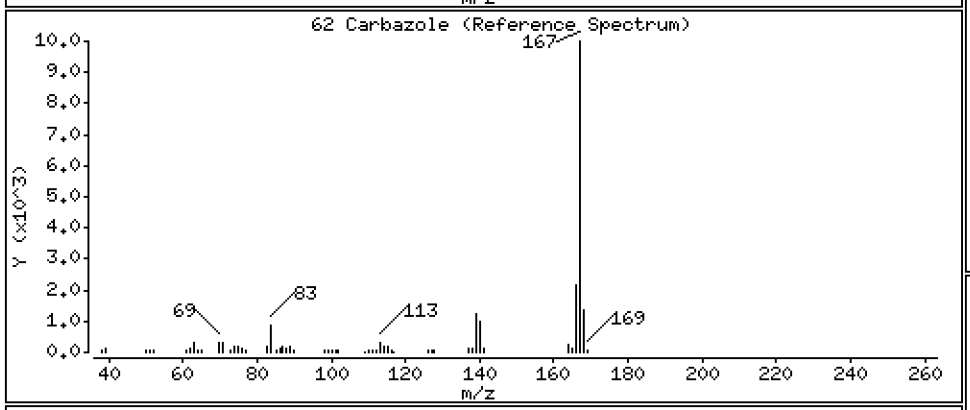
Column diameter: 0.25

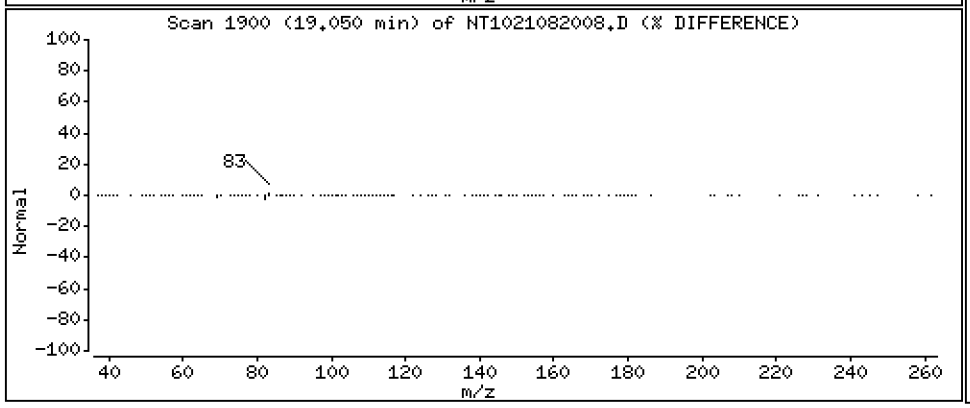
62 Carbazole

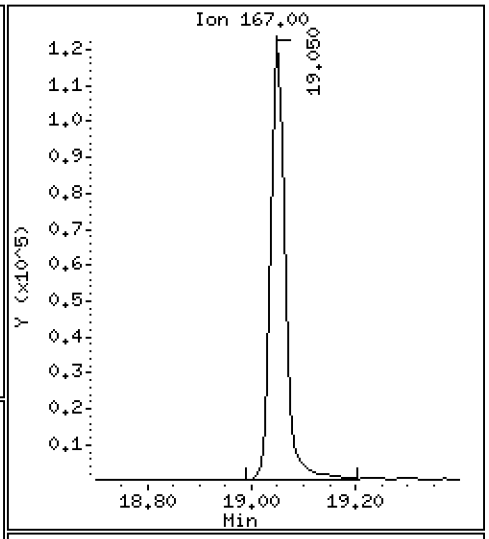
Concentration: 3.920 ug/mL

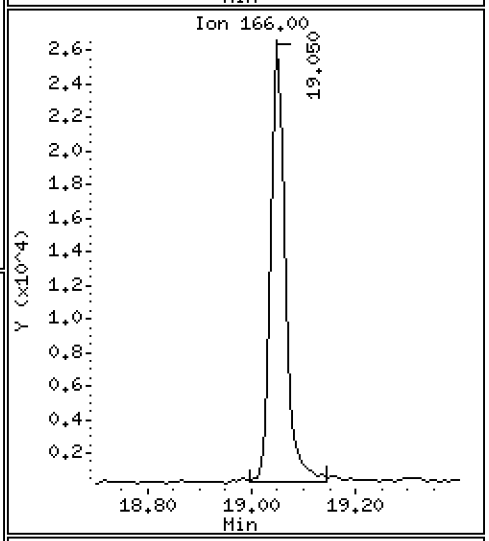


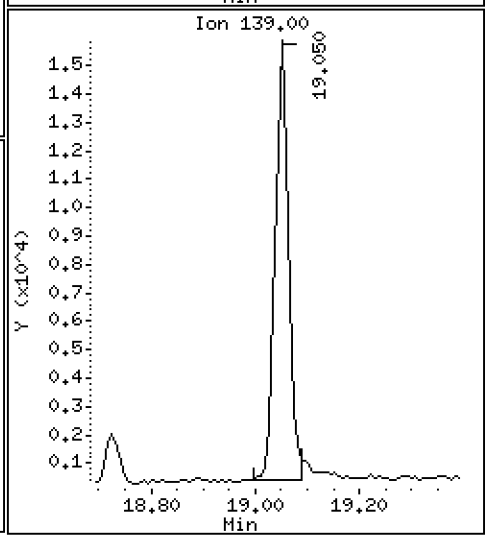












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

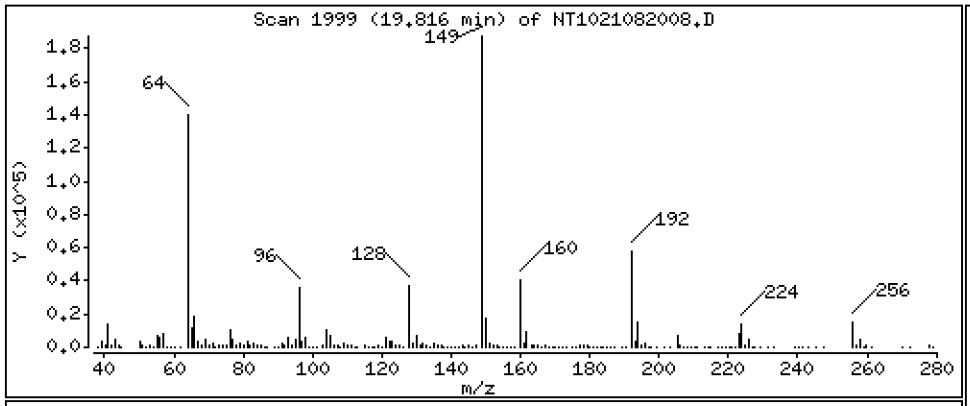
Operator: VTS

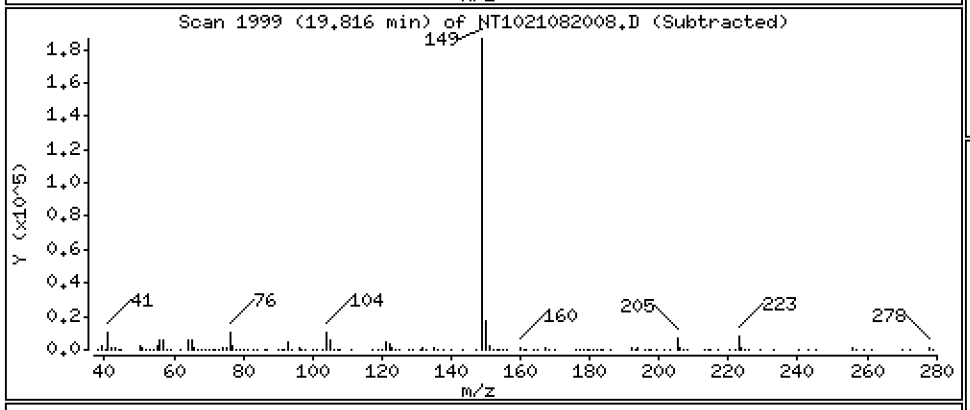
Column phase: ZB-5msi

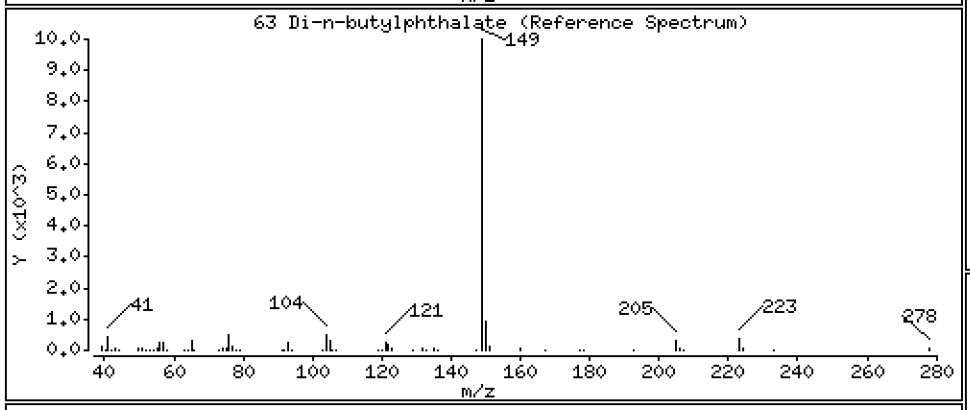
Column diameter: 0.25

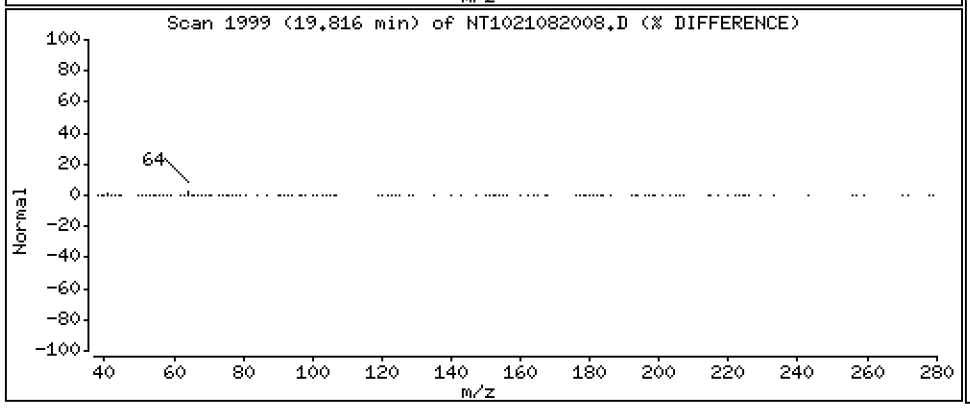
63 Di-n-butylphthalate

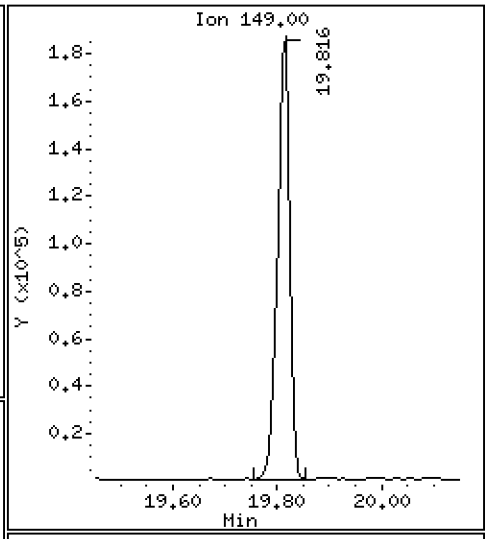
Concentration: 4.205 ug/mL

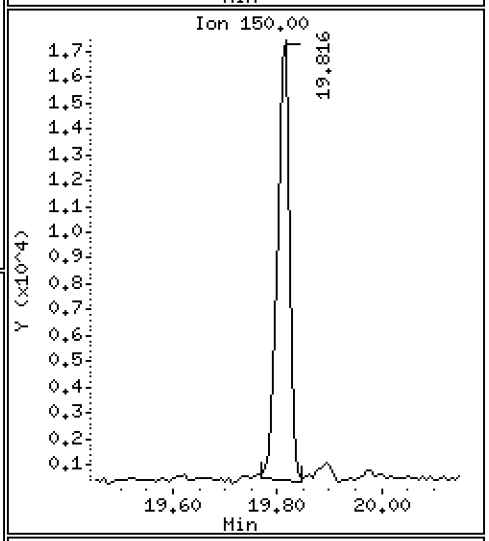


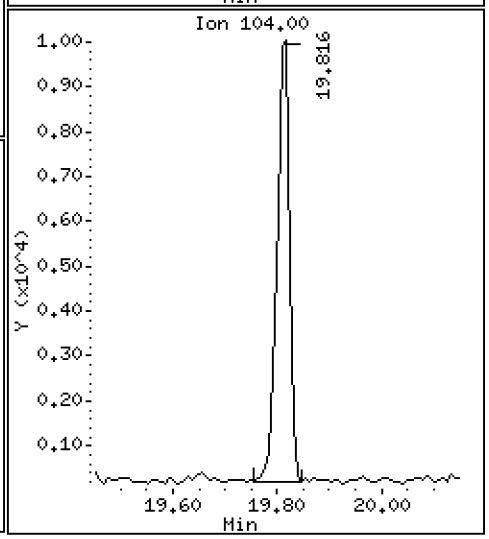












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

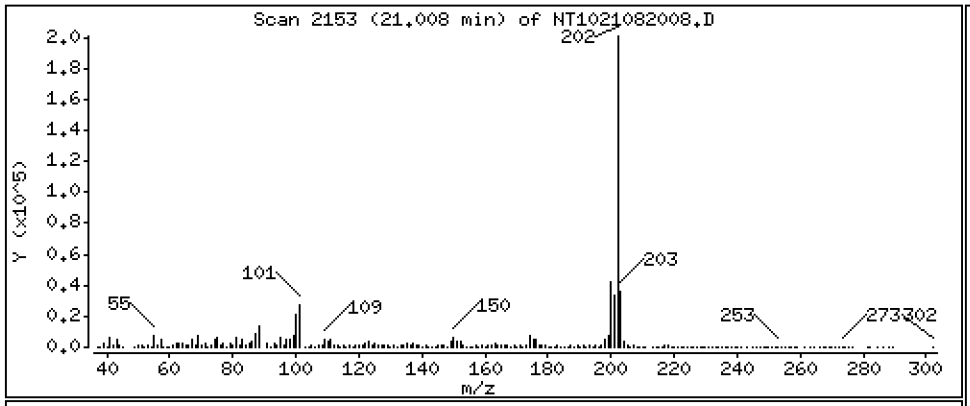
Operator: VTS

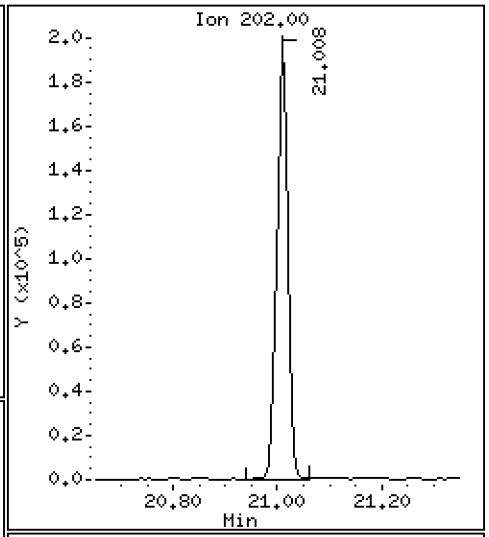
Column phase: ZB-5msi

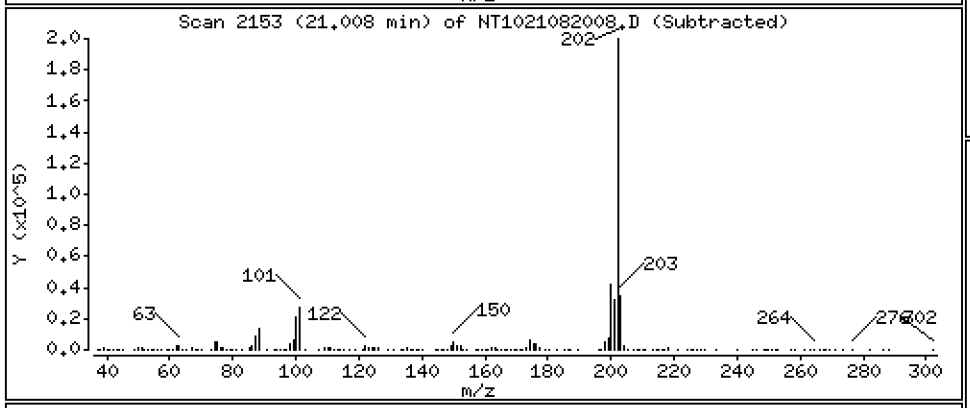
Column diameter: 0.25

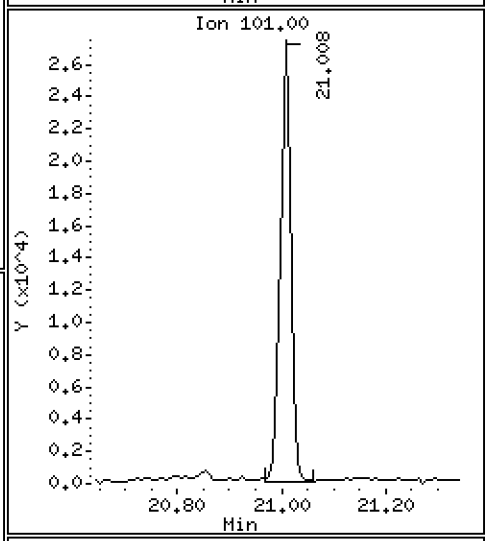
64 Fluoranthene

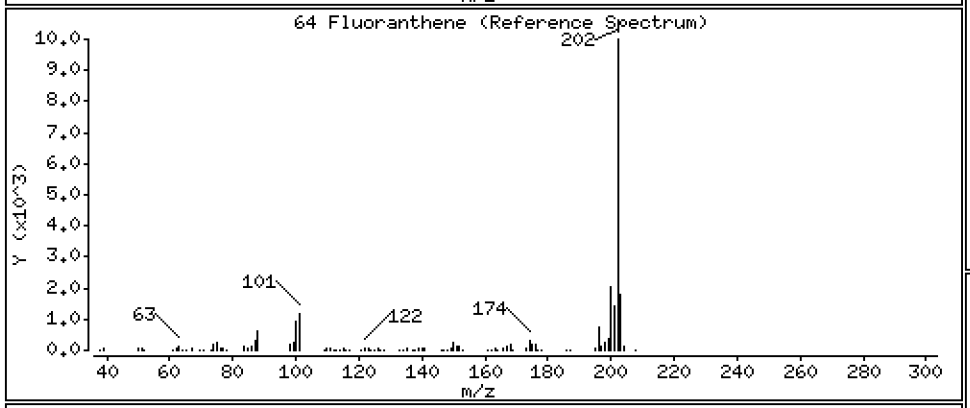
Concentration: 4.713 ug/mL

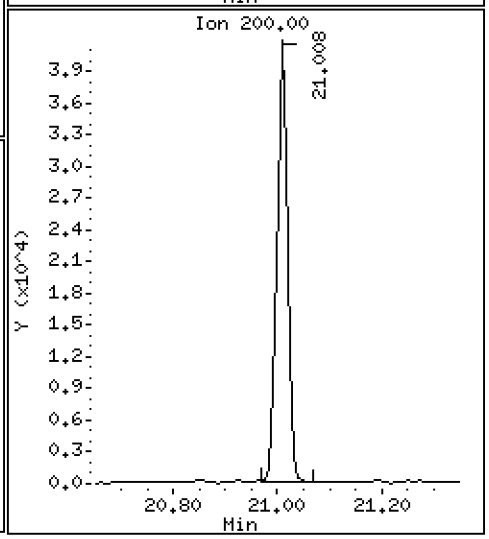


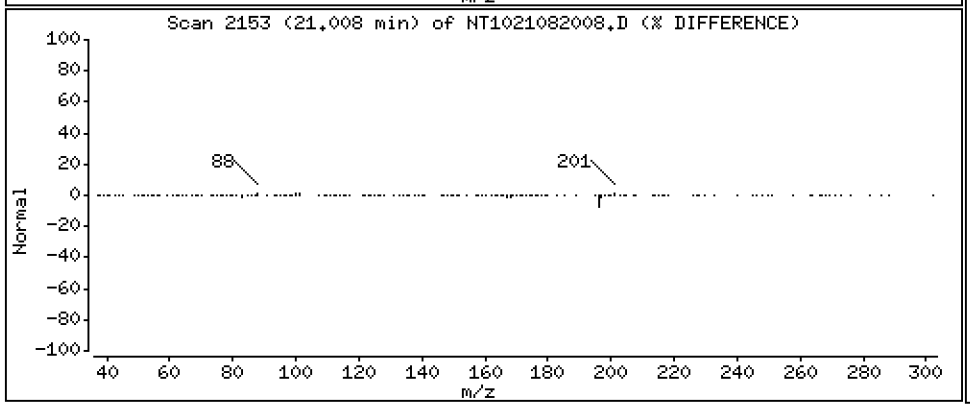












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

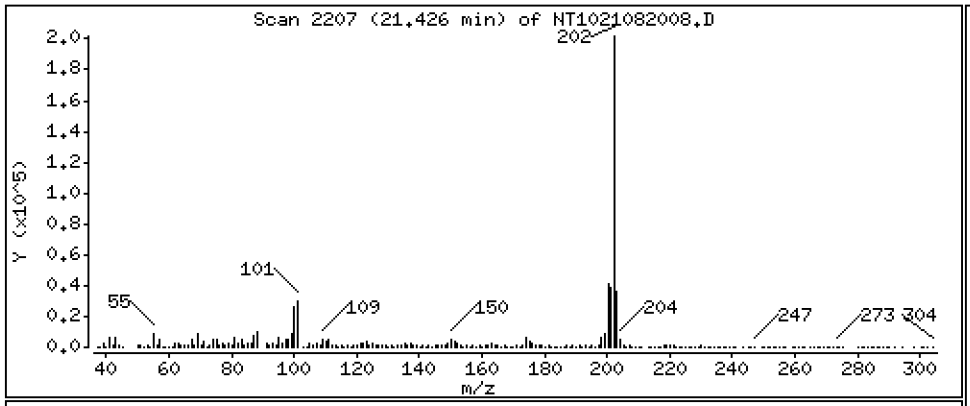
Operator: VTS

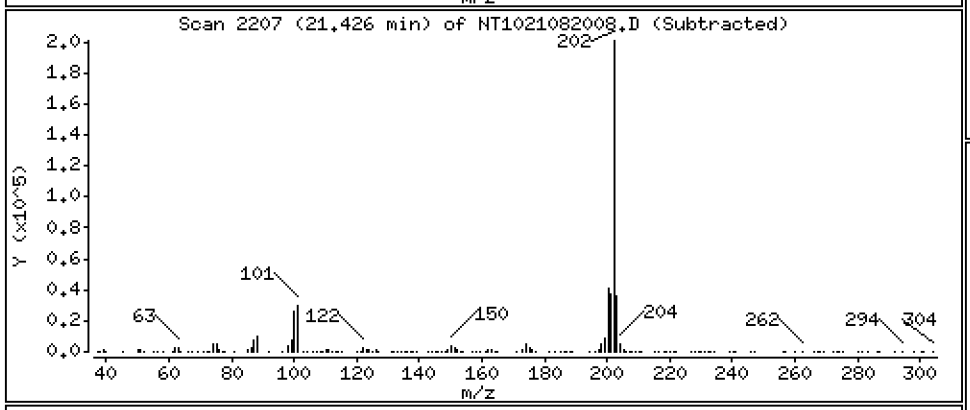
Column phase: ZB-5msi

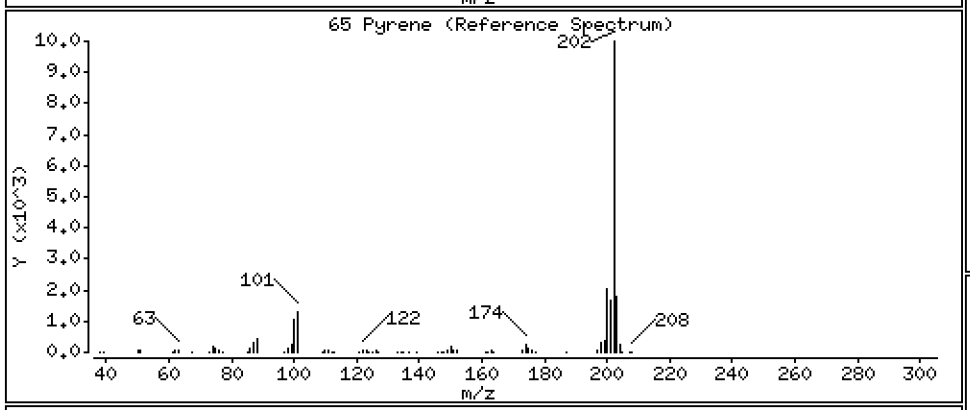
Column diameter: 0.25

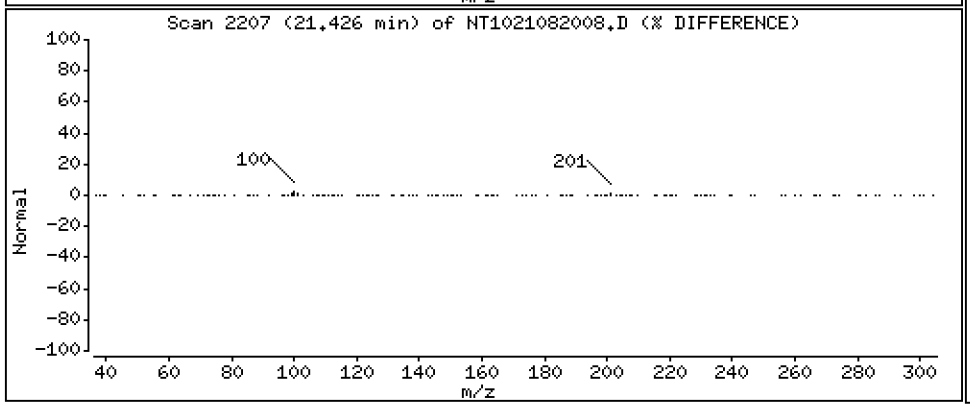
65 Pyrene

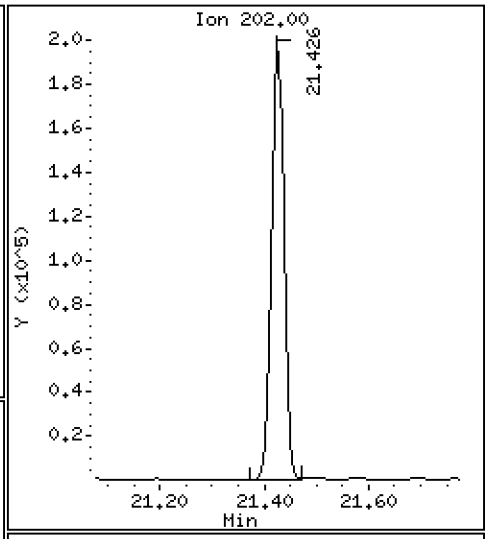
Concentration: 5.012 ug/mL

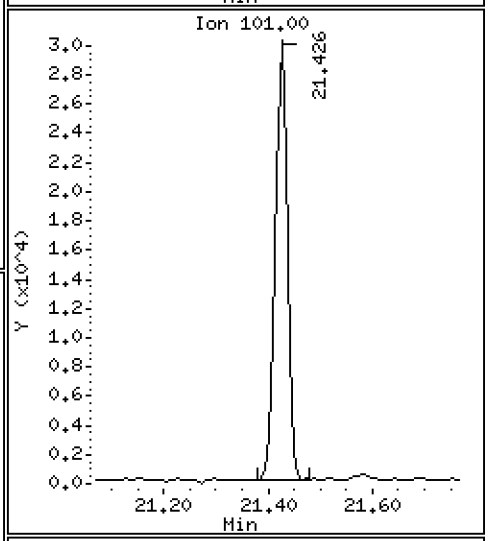


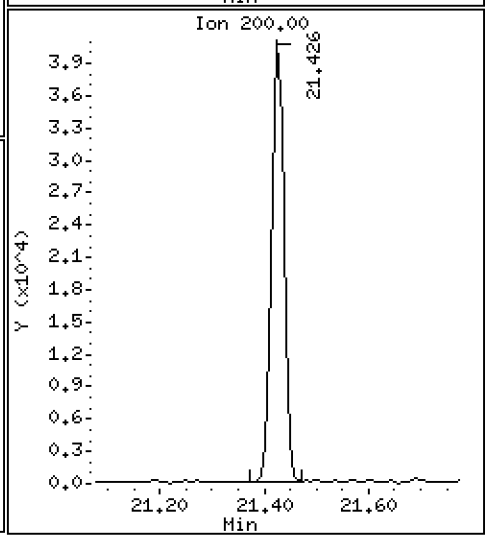












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

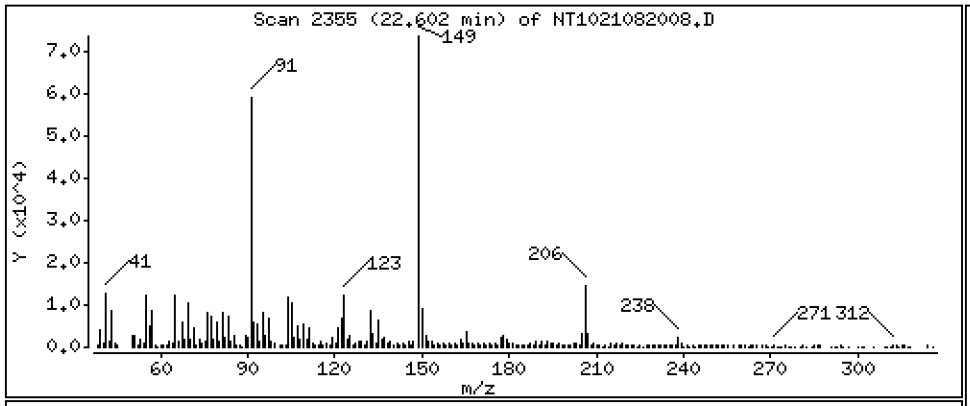
Operator: VTS

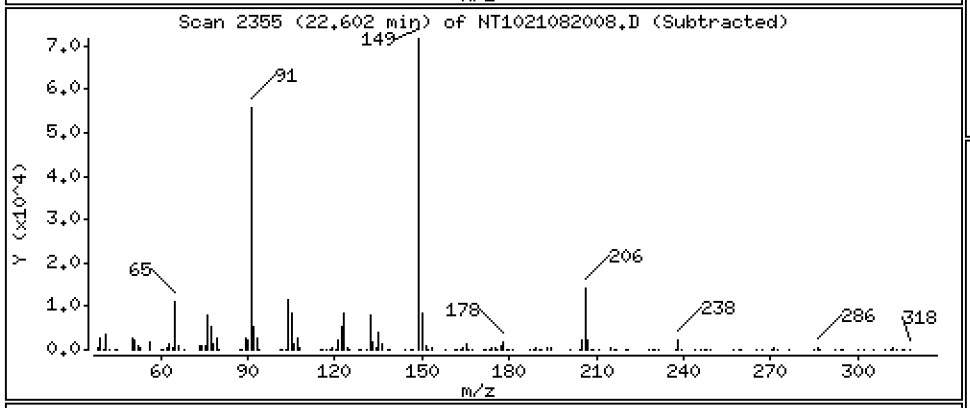
Column phase: ZB-5msi

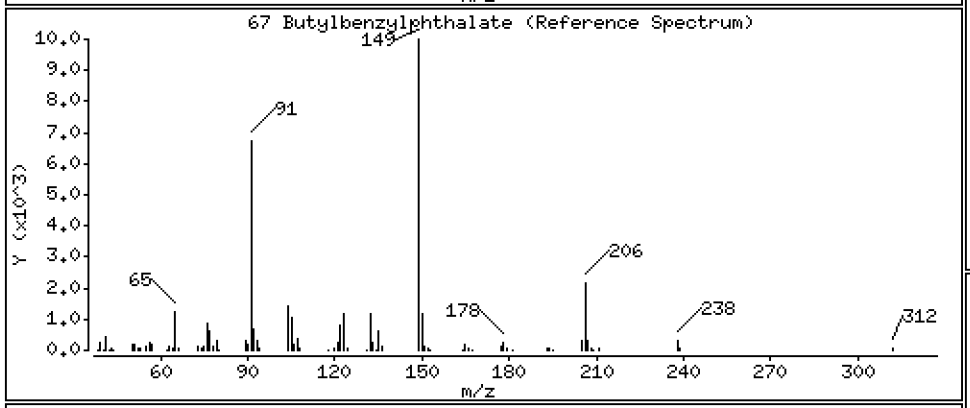
Column diameter: 0.25

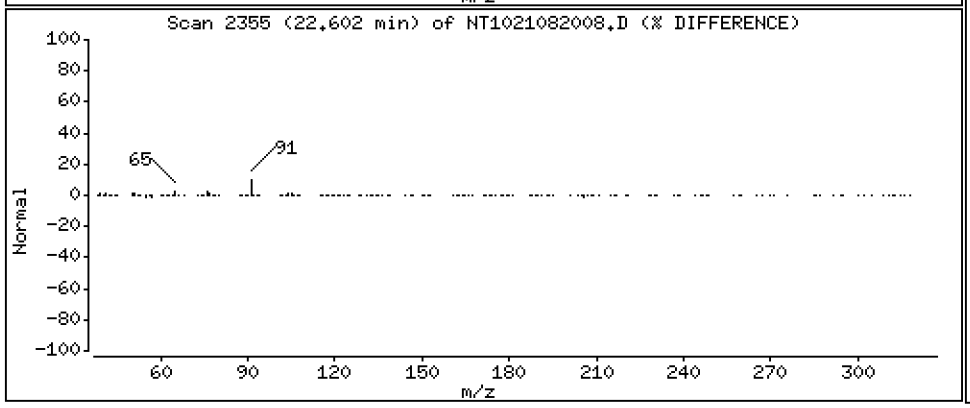
67 Butylbenzylphthalate

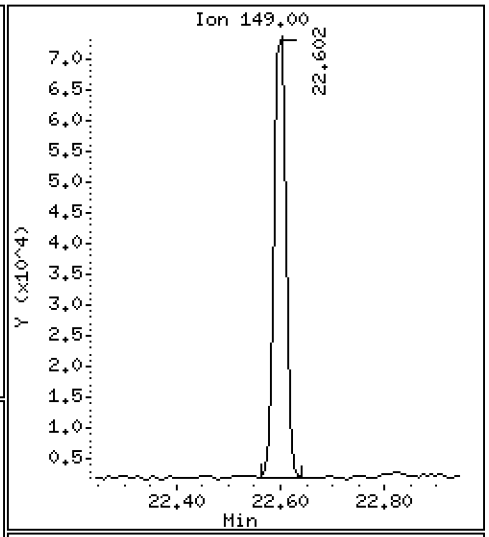
Concentration: 4.361 ug/mL

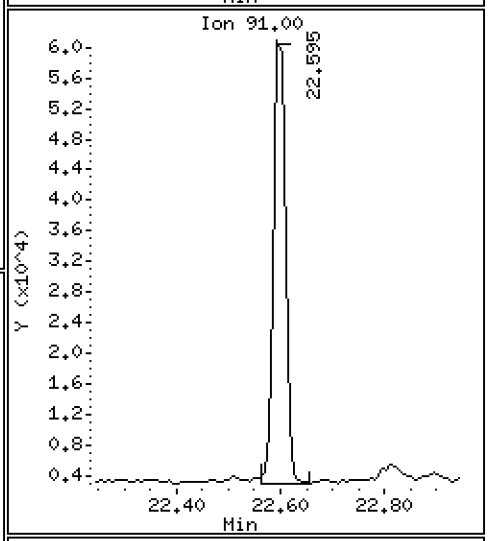


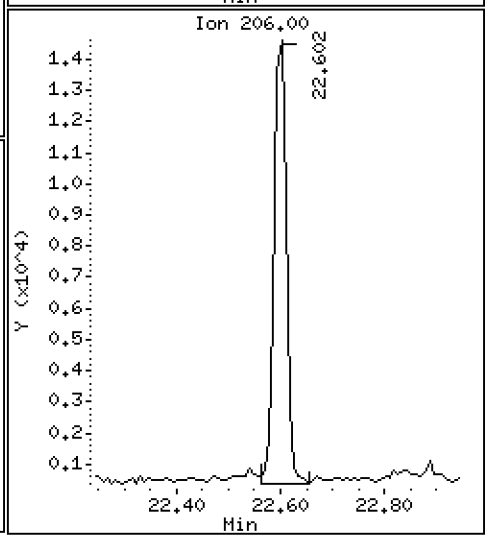












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

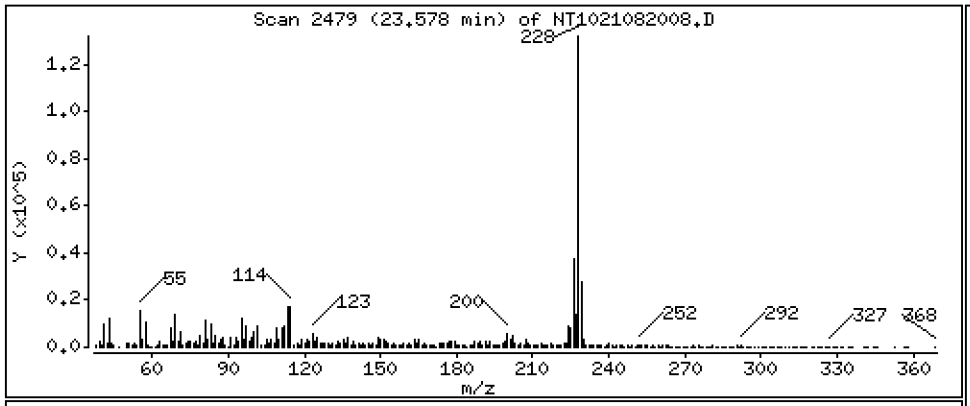
Operator: VTS

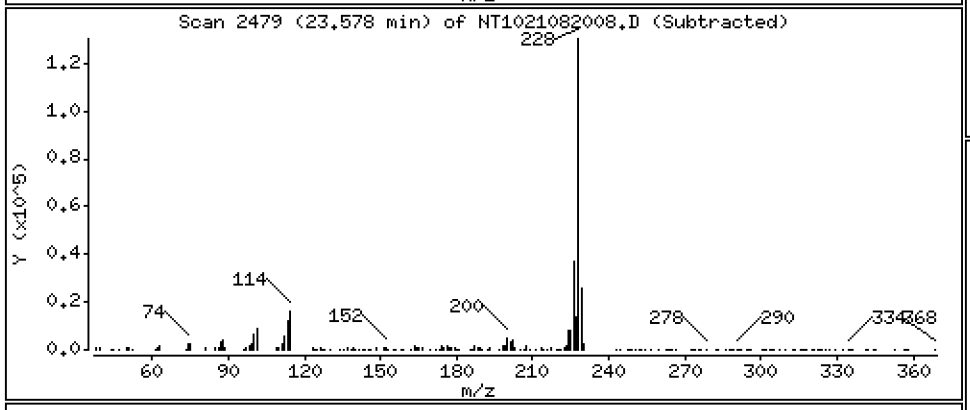
Column phase: ZB-5msi

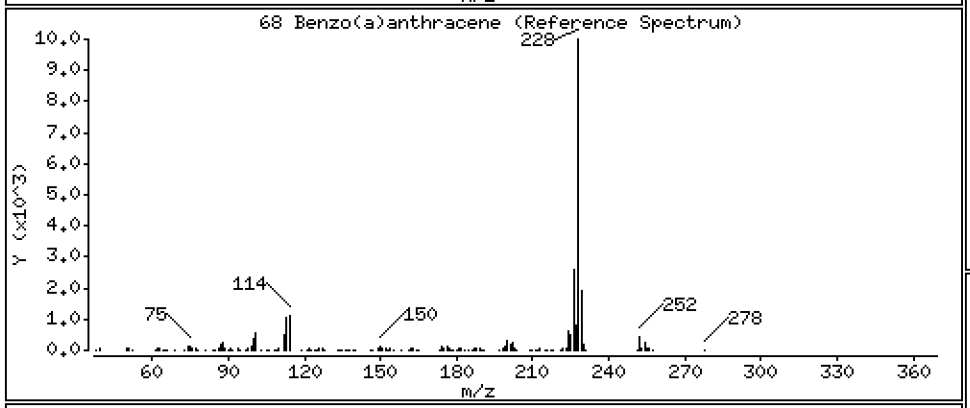
Column diameter: 0.25

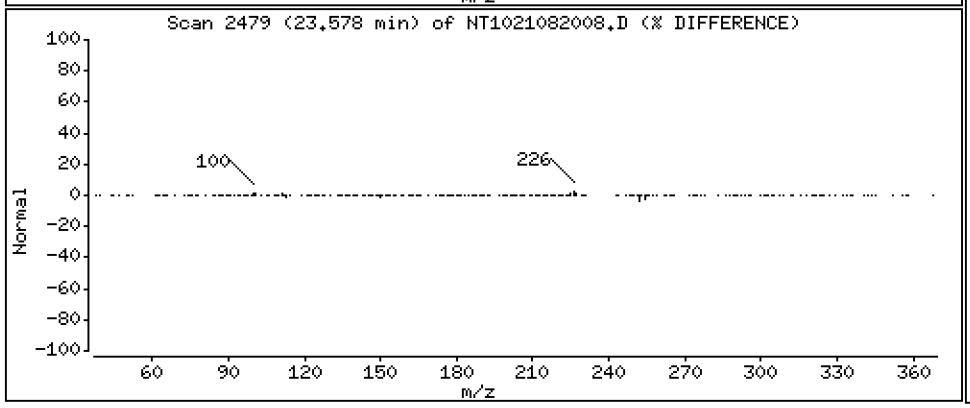
68 Benzo(a)anthracene

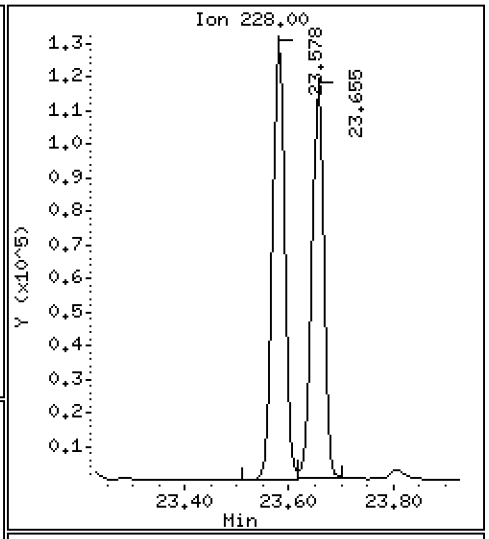
Concentration: 4.214 ug/mL

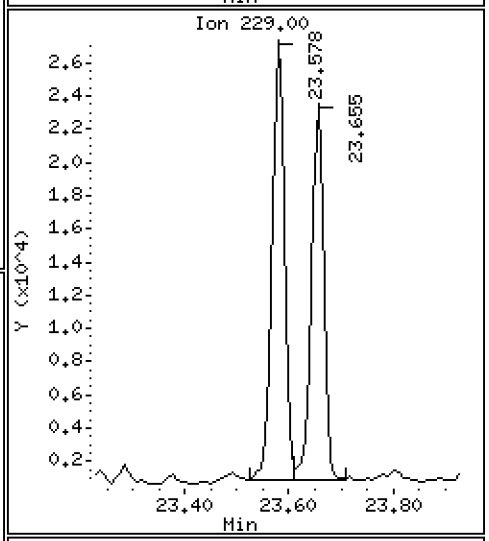


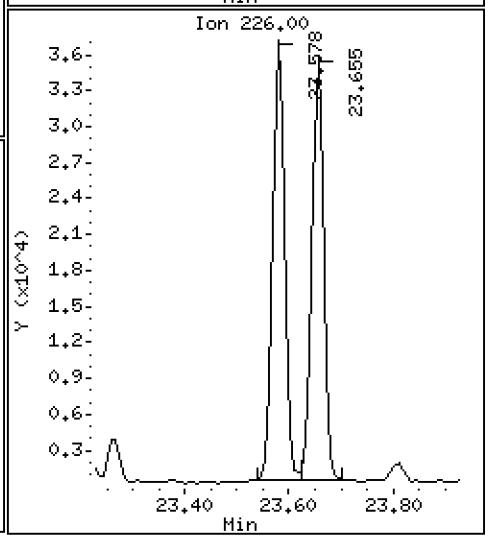












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

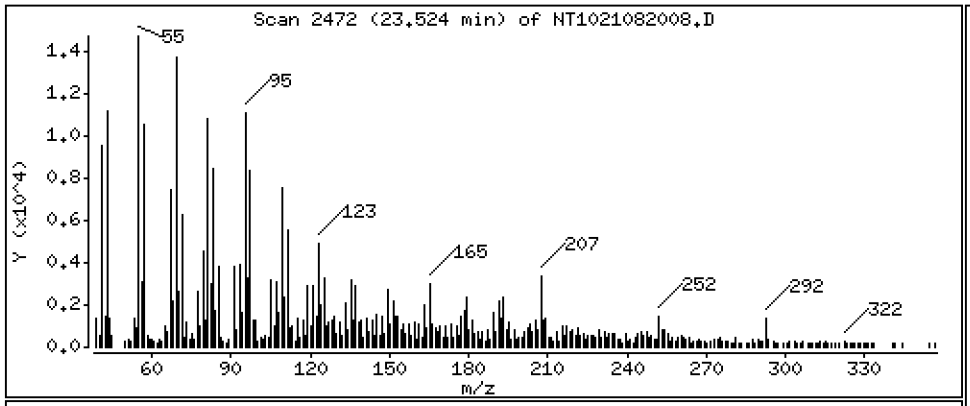
Operator: VTS

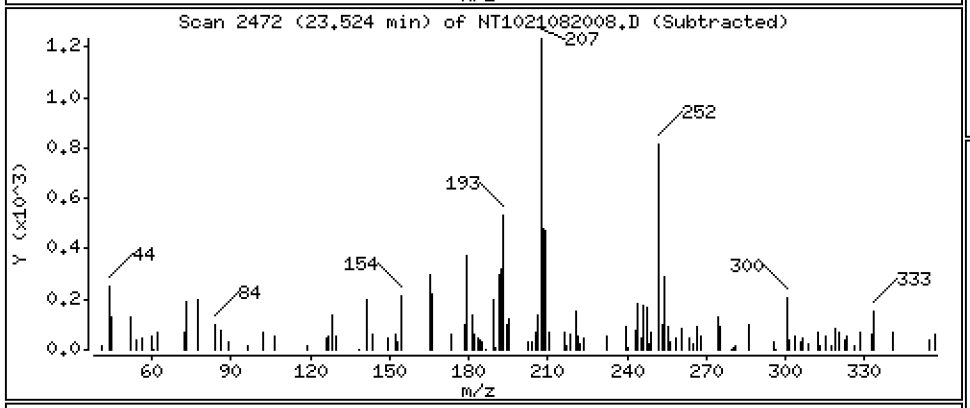
Column phase: ZB-5msi

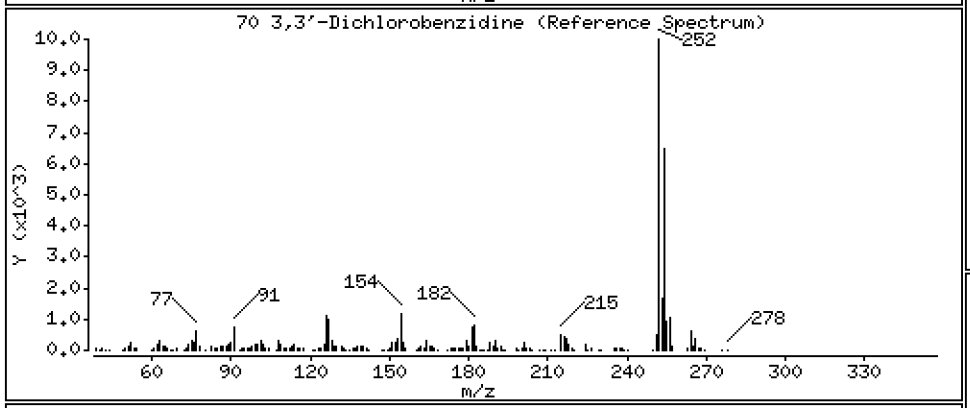
Column diameter: 0.25

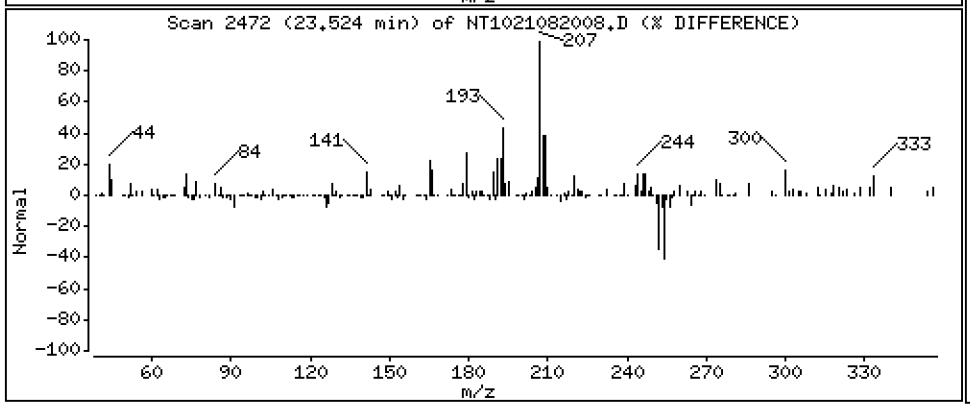
70 3,3'-Dichlorobenzidine

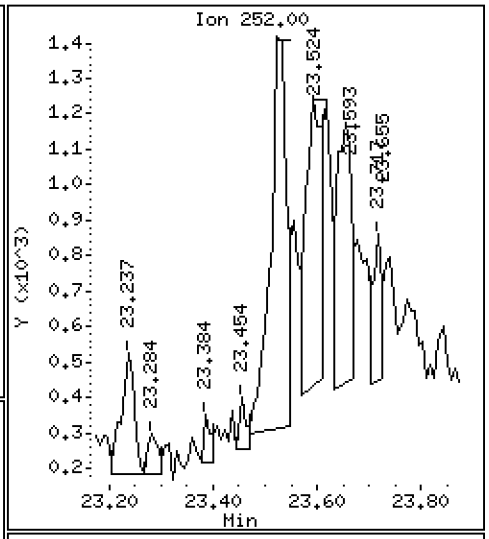
Concentration: 0.1224 ug/mL

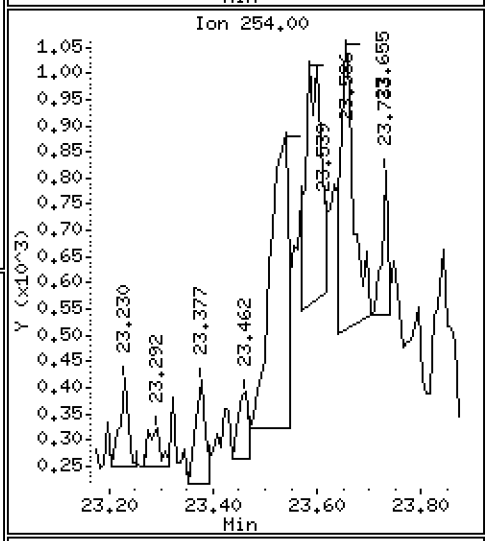


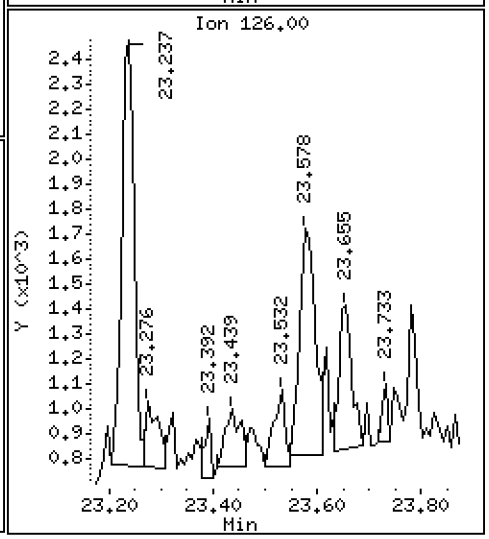












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

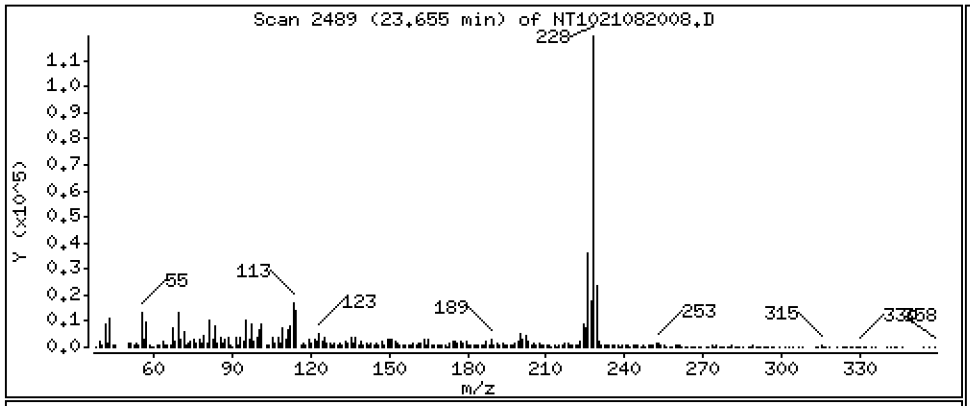
Operator: VTS

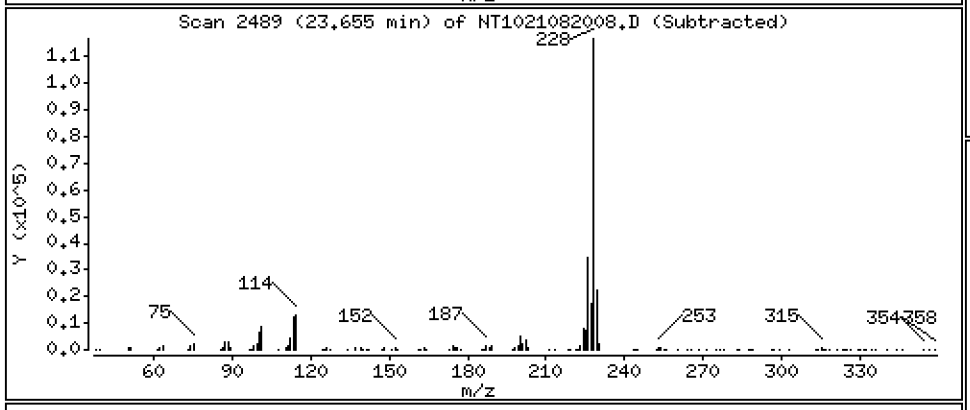
Column phase: ZB-5msi

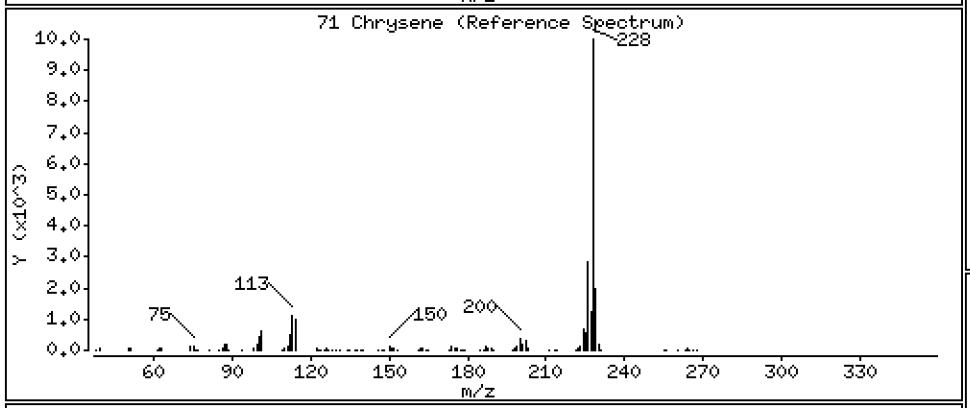
Column diameter: 0.25

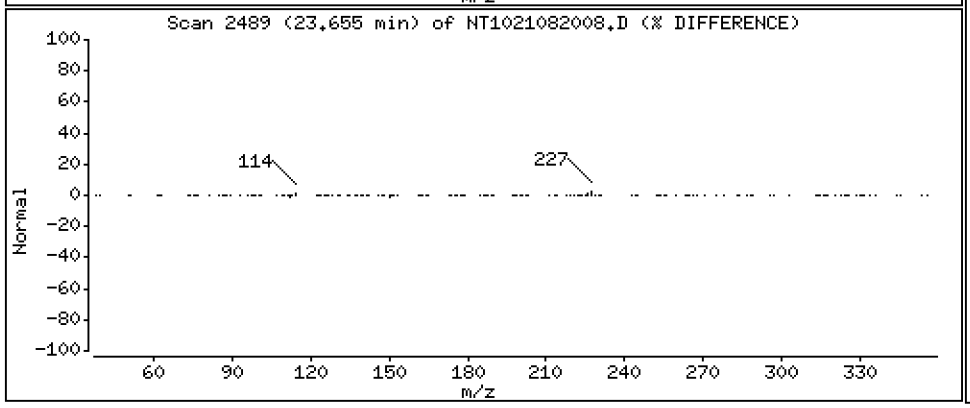
71 Chrysene

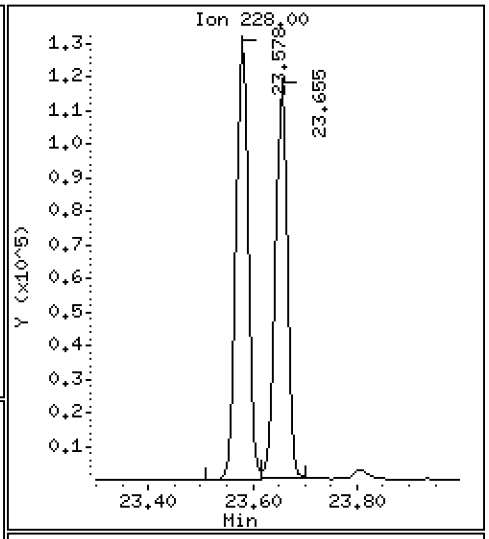
Concentration: 4.617 ug/mL

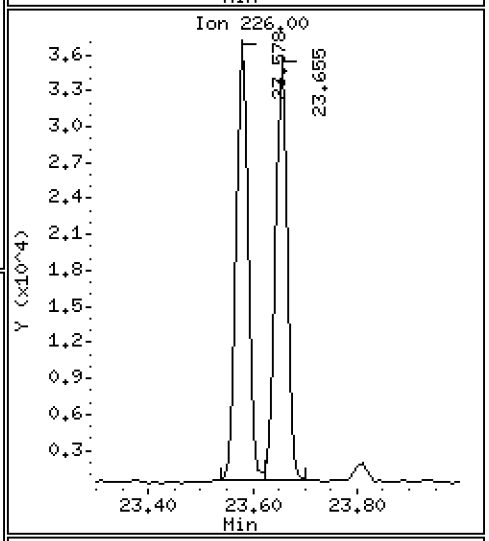


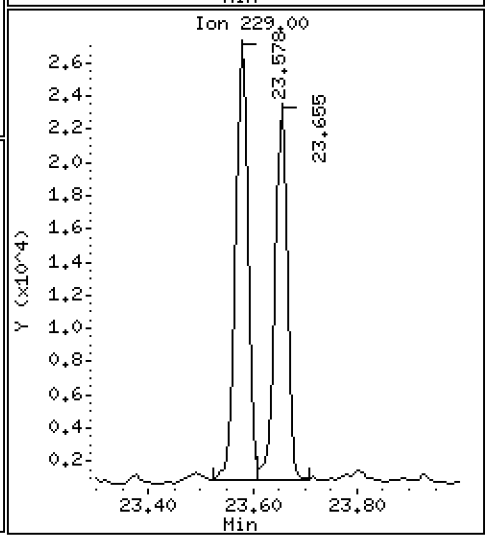












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

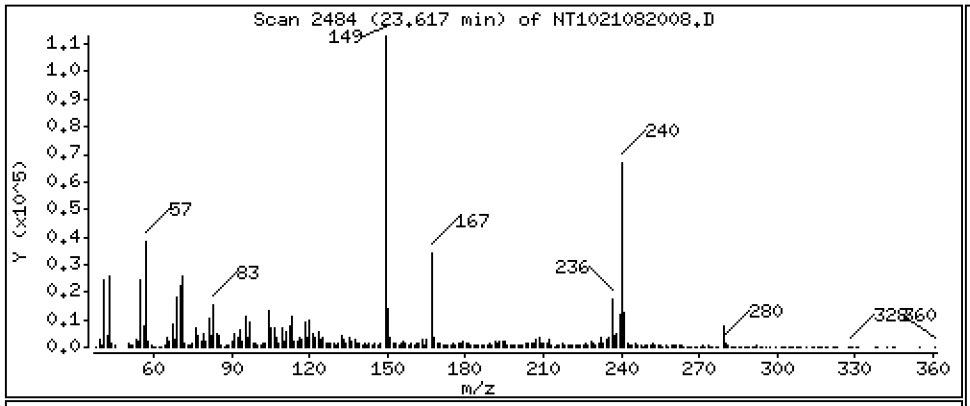
Operator: VTS

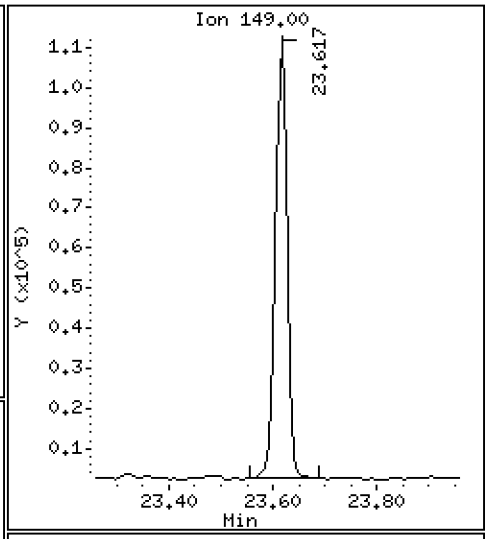
Column phase: ZB-5msi

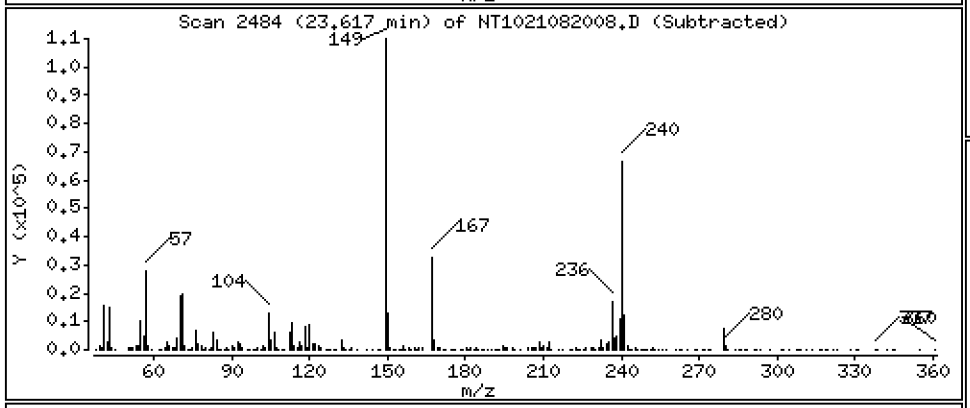
Column diameter: 0.25

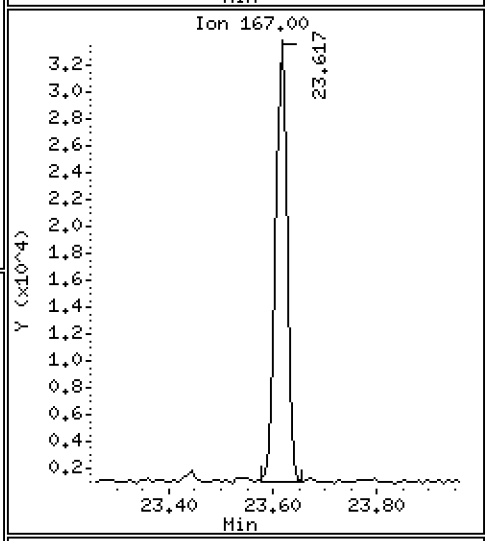
72 bis(2-Ethylhexyl)phthalate

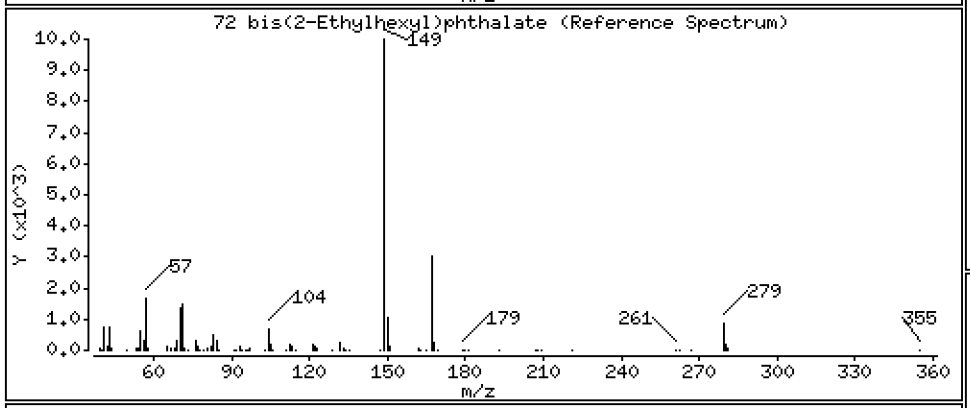
Concentration: 6.443 ug/mL

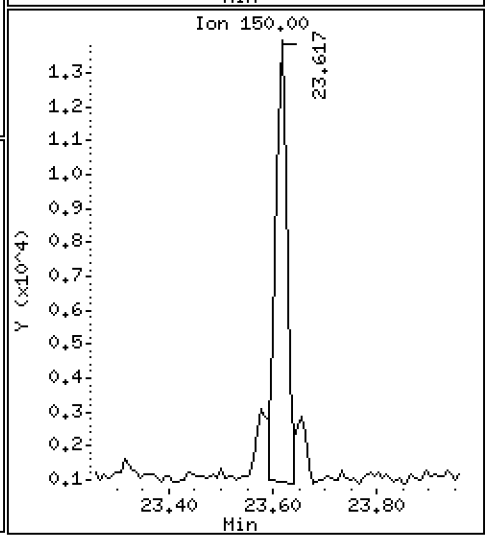


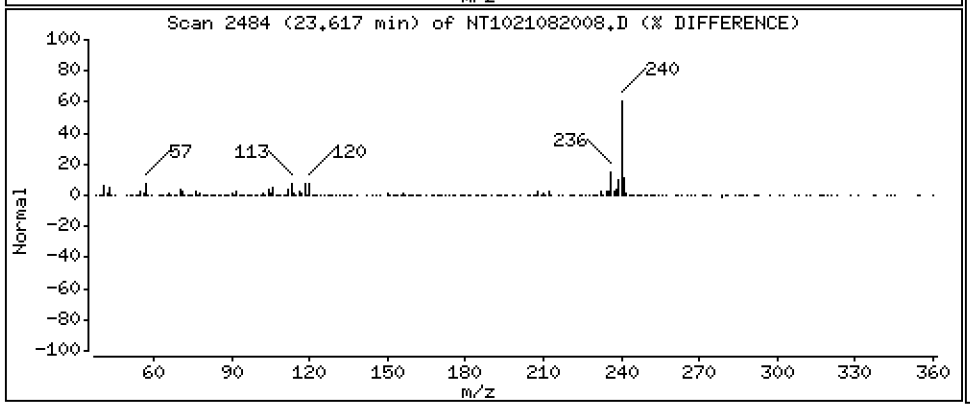












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

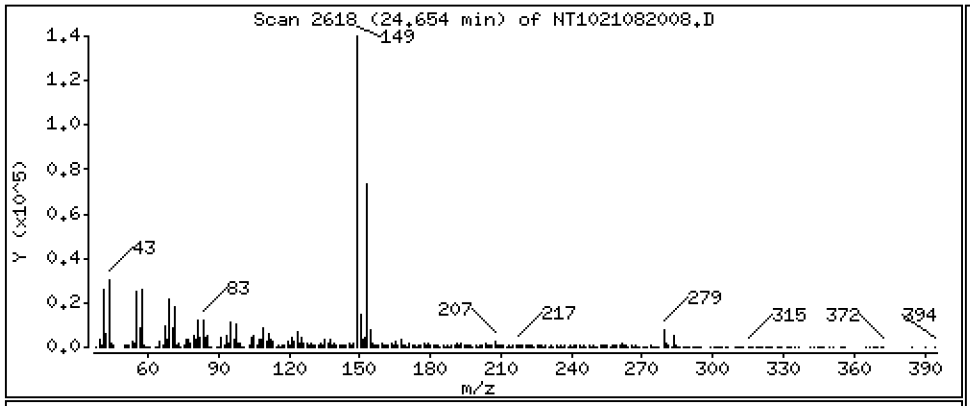
Operator: VTS

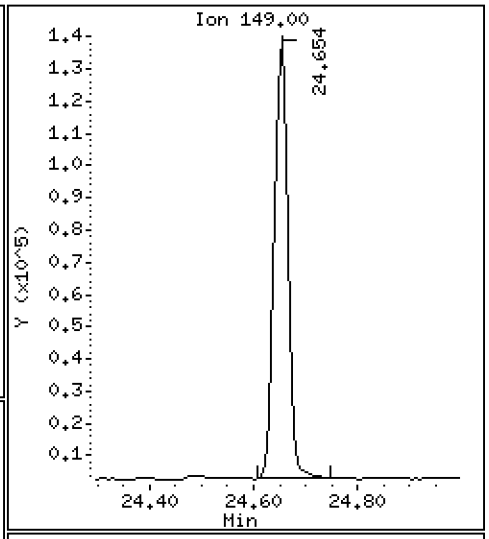
Column phase: ZB-5msi

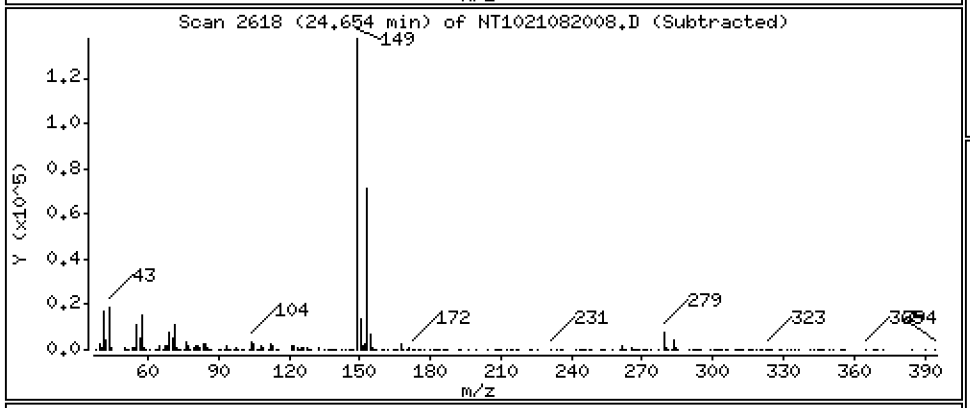
Column diameter: 0.25

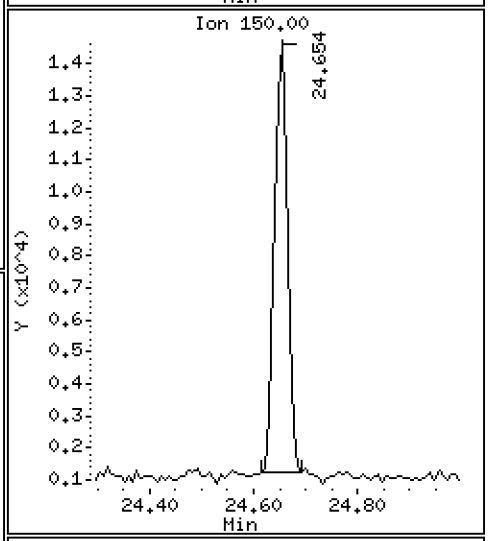
73 Di-n-octylphthalate

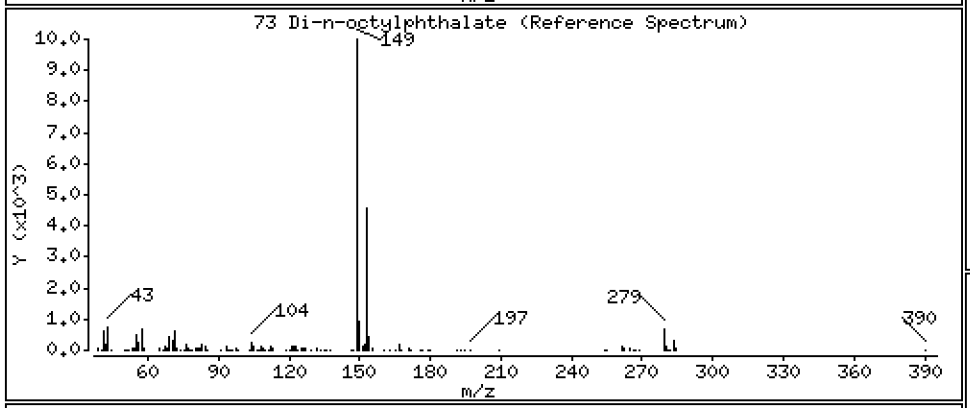
Concentration: 4.271 ug/mL

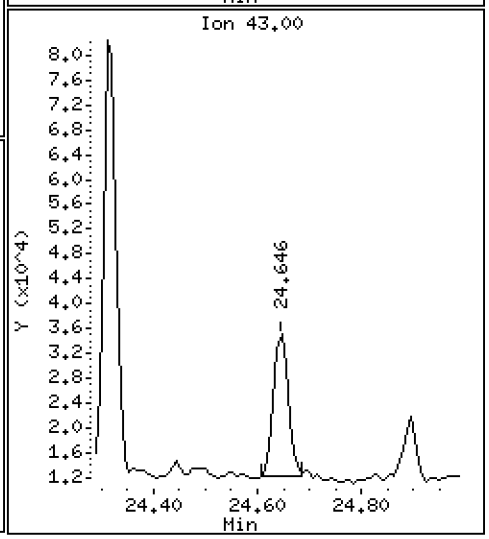


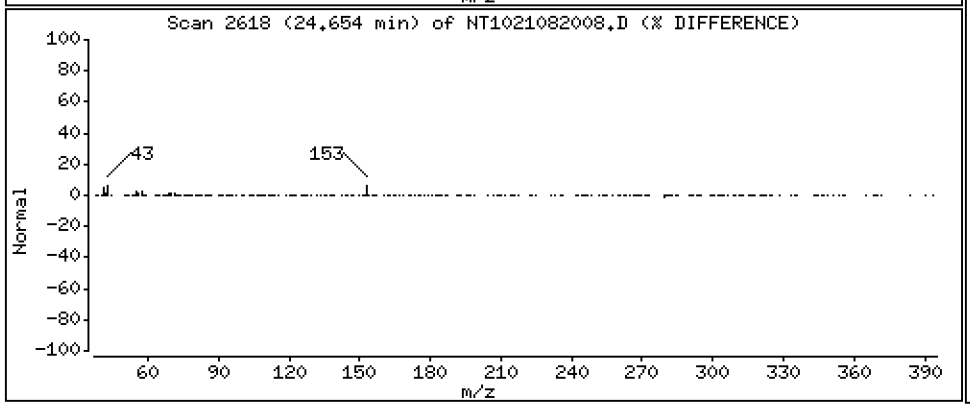












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

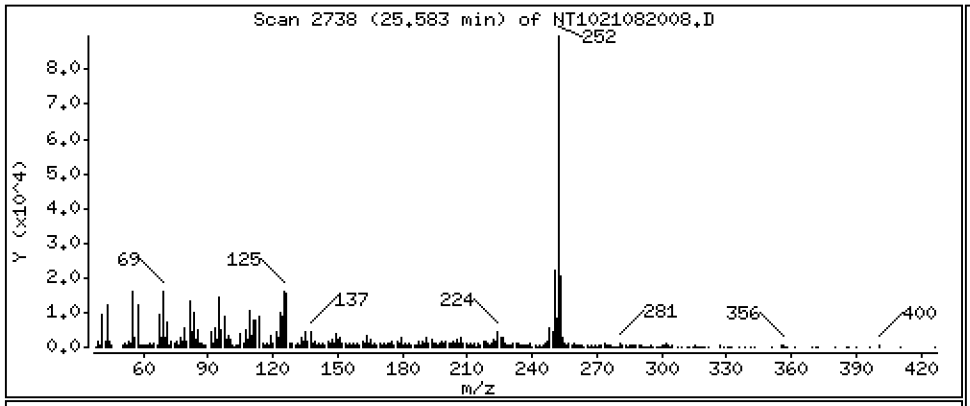
Operator: VTS

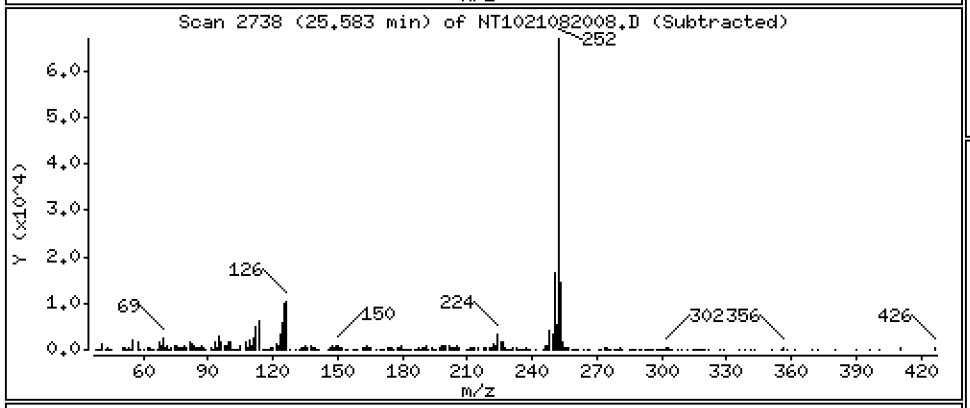
Column phase: ZB-5msi

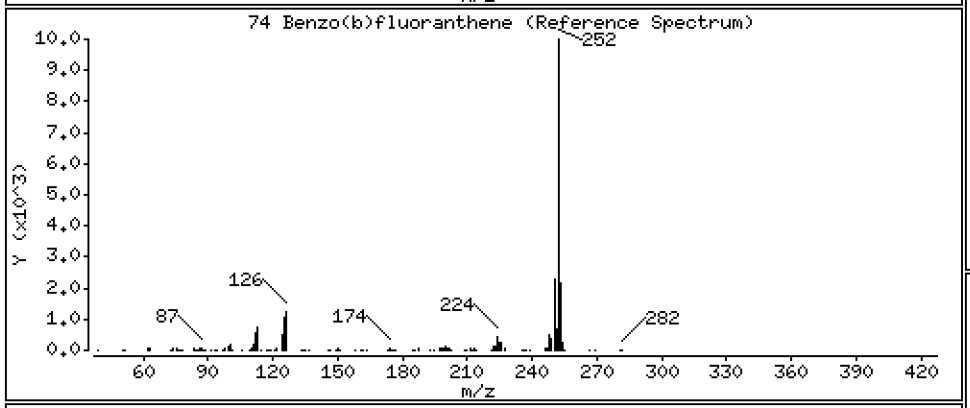
Column diameter: 0.25

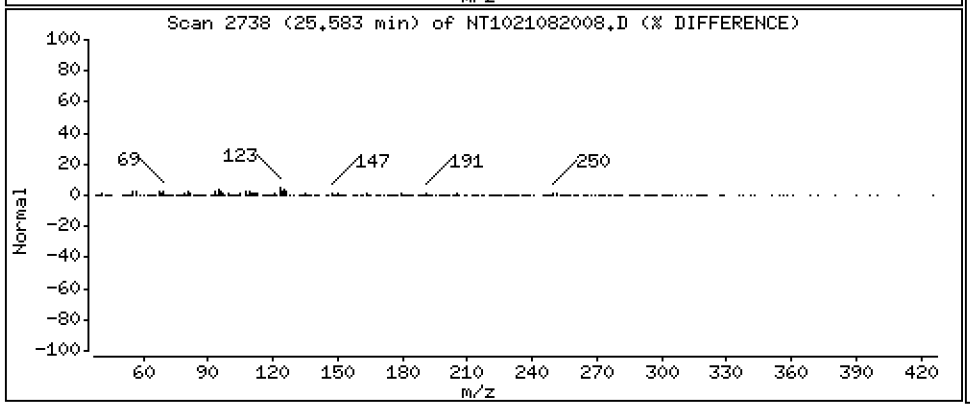
74 Benzo(b)fluoranthene

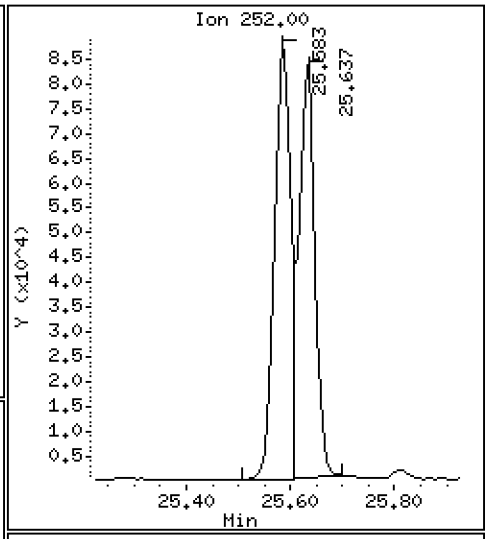
Concentration: 4.138 ug/mL

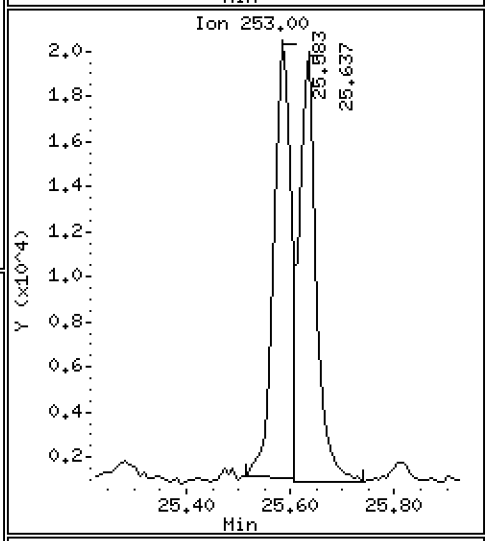


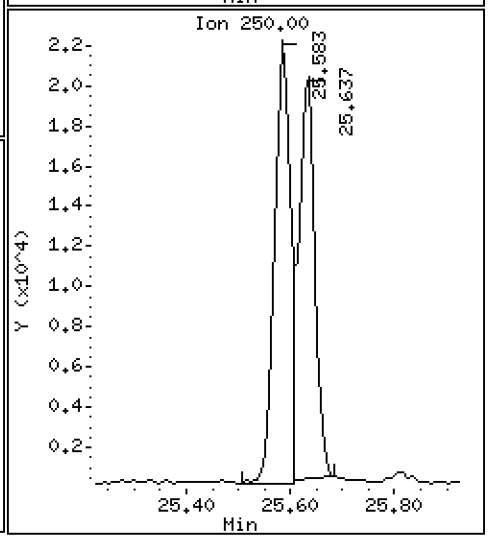












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

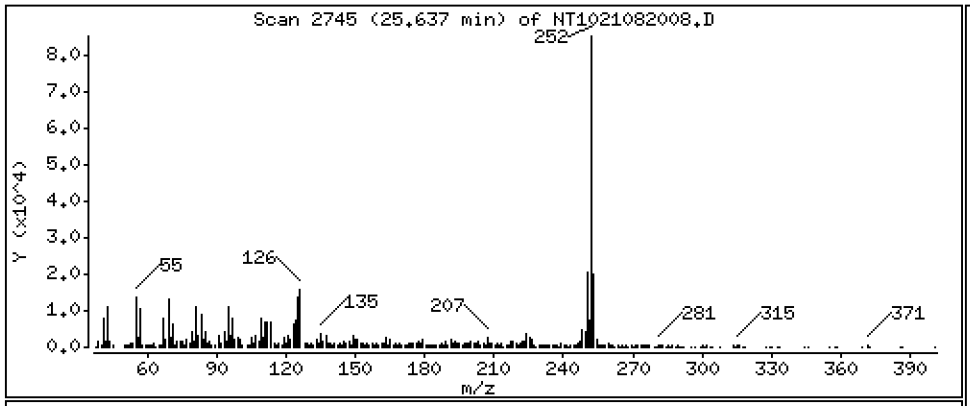
Operator: VTS

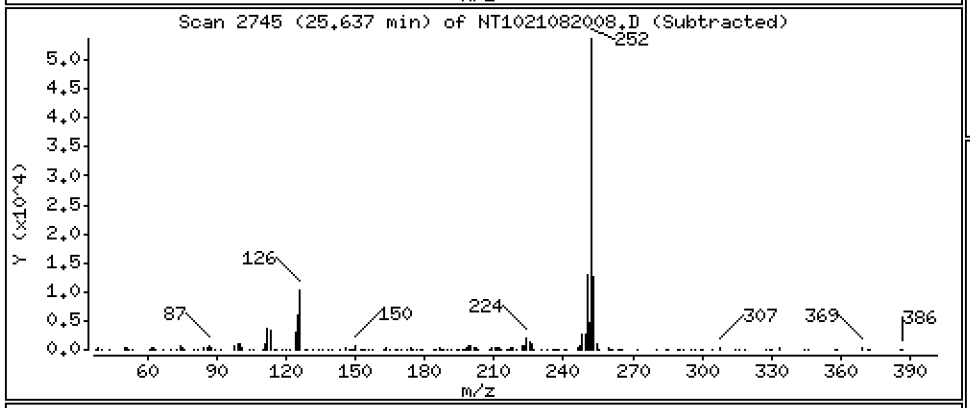
Column phase: ZB-5msi

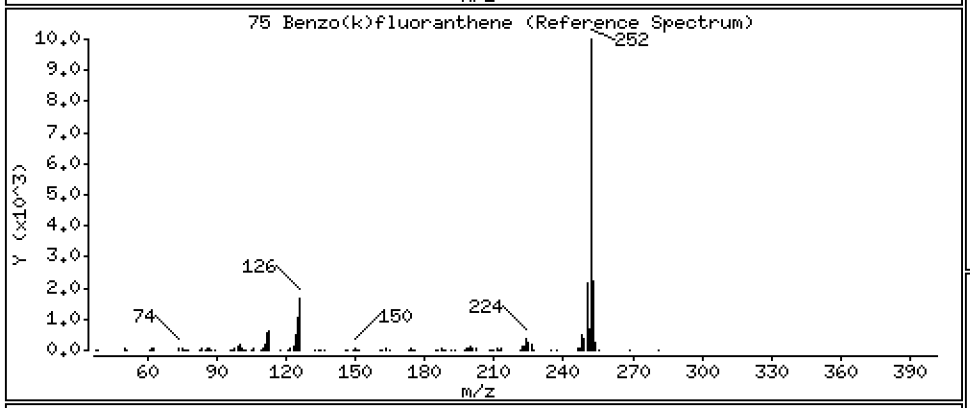
Column diameter: 0.25

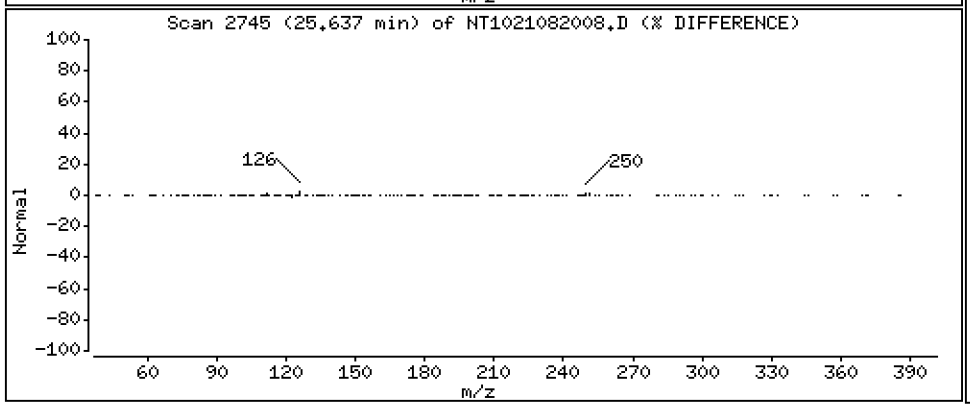
75 Benzo(k)fluoranthene

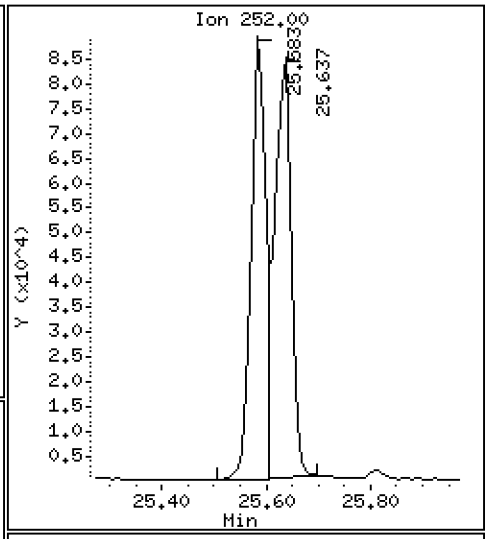
Concentration: 4.367 ug/mL

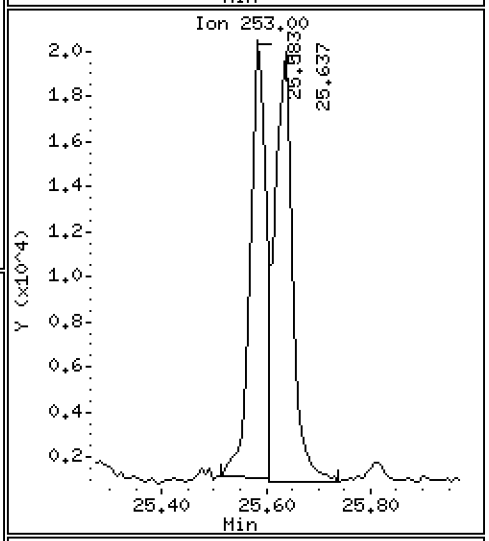


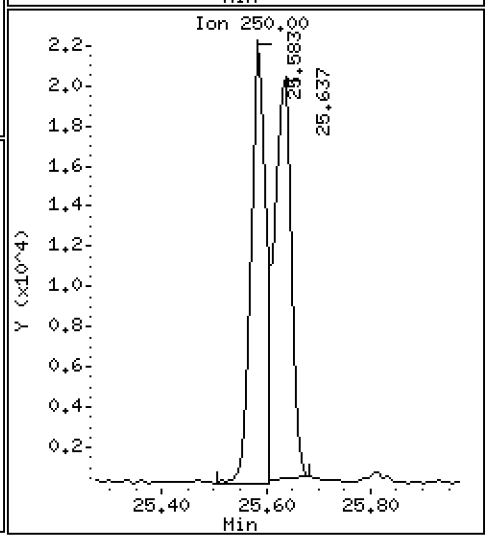












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

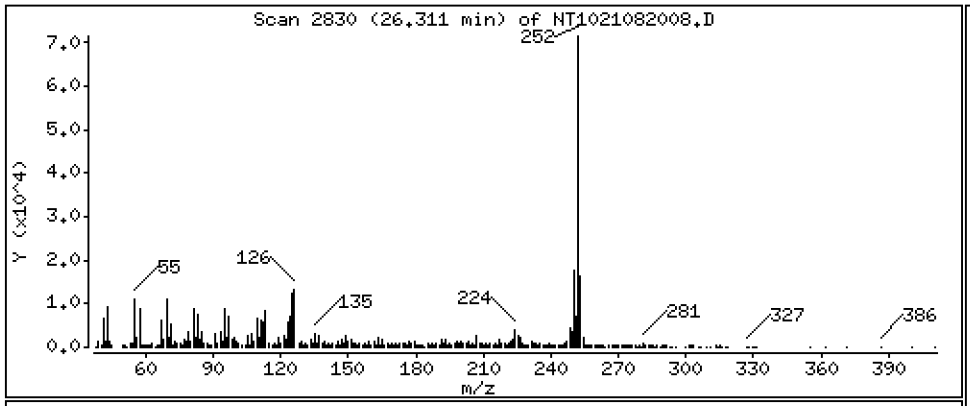
Operator: VTS

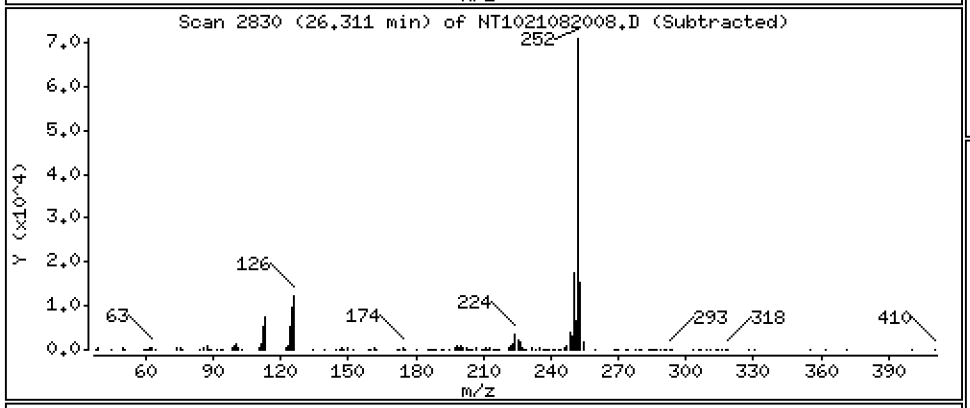
Column phase: ZB-5msi

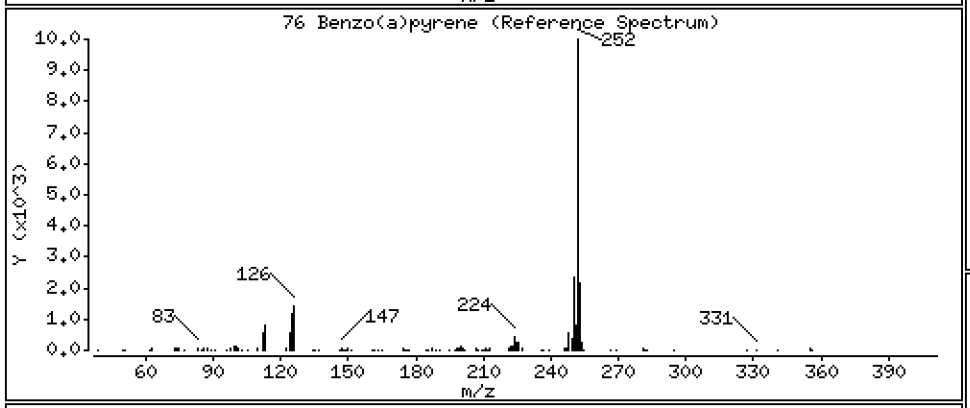
Column diameter: 0.25

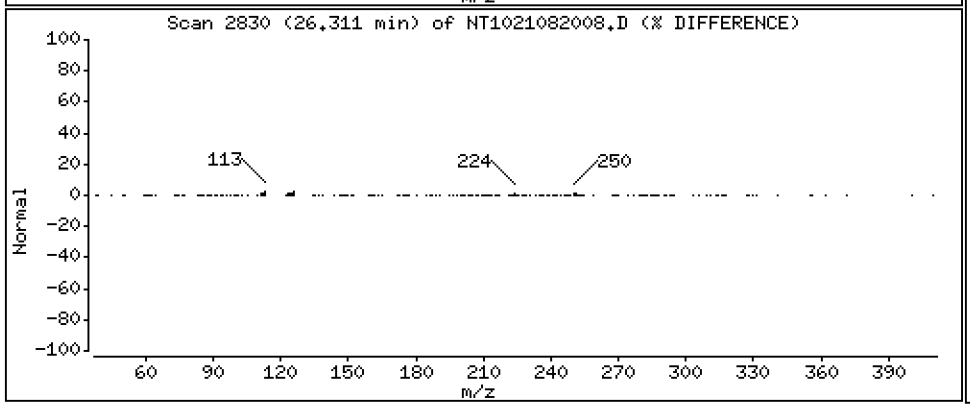
76 Benzo(a)pyrene

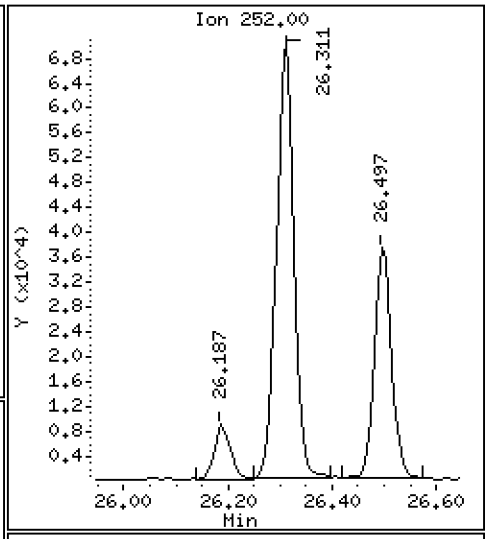
Concentration: 4.101 ug/mL

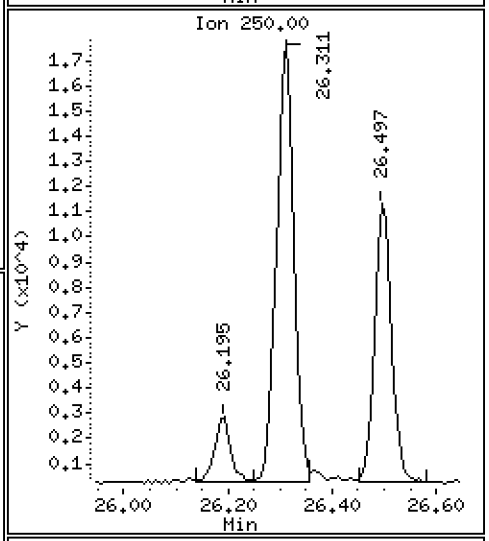


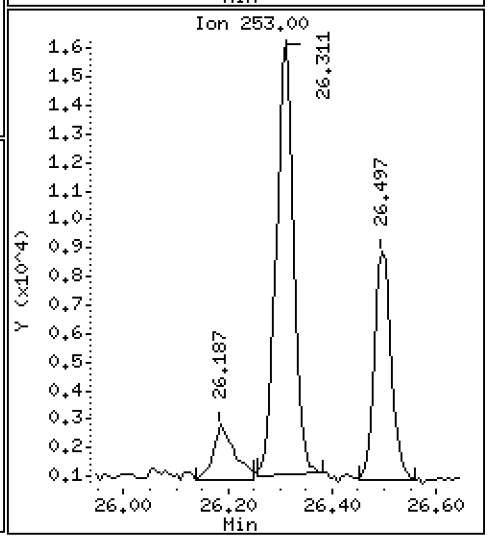












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

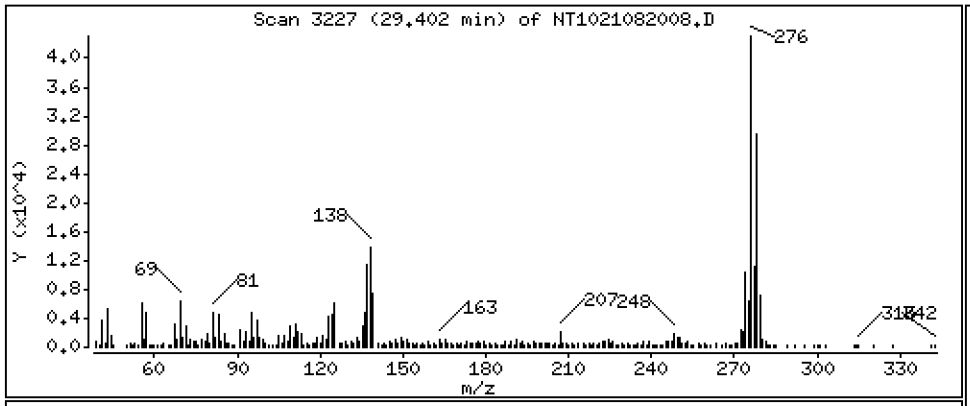
Operator: VTS

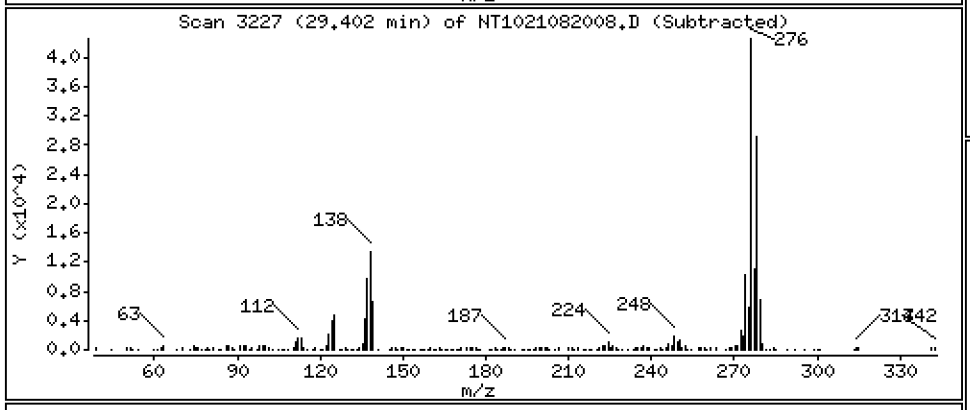
Column phase: ZB-5msi

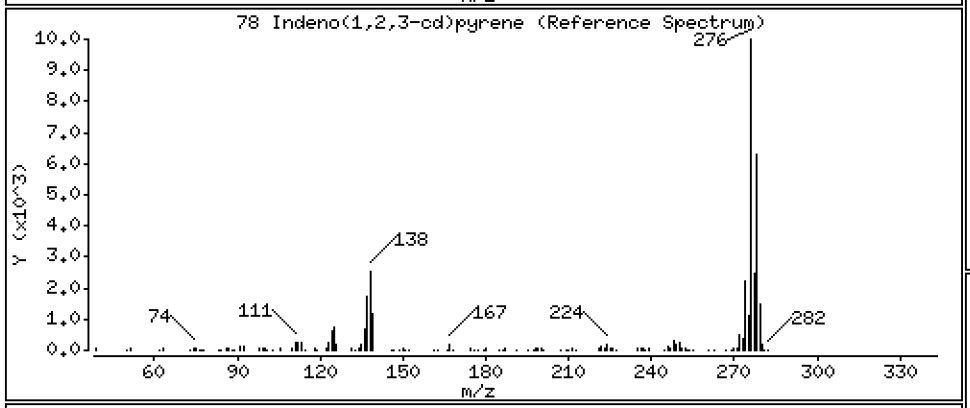
Column diameter: 0.25

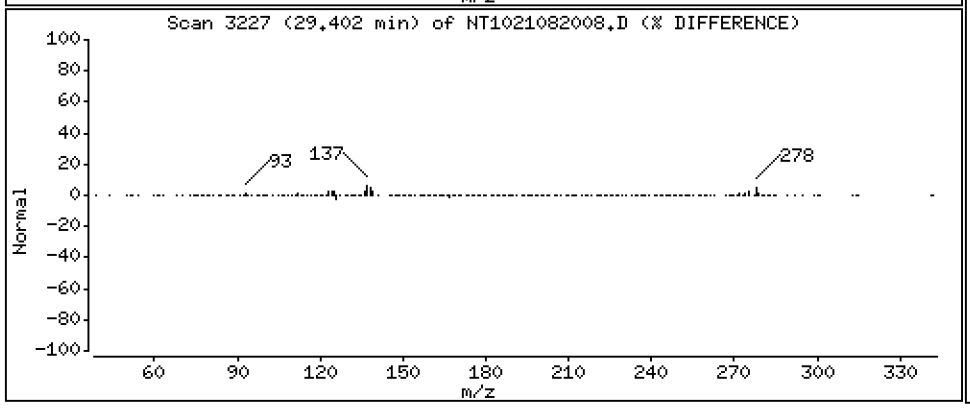
78 Indeno(1,2,3-cd)pyrene

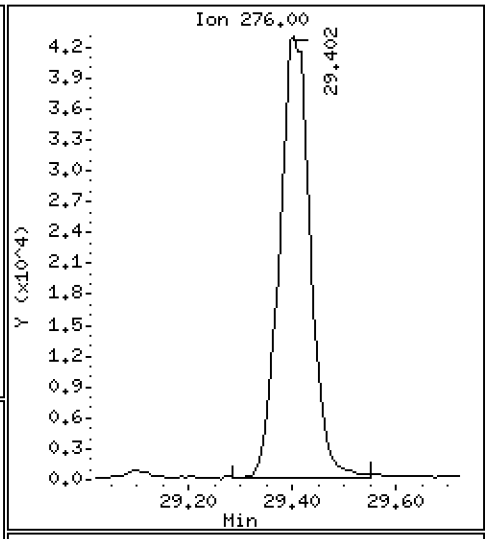
Concentration: 4.386 ug/mL

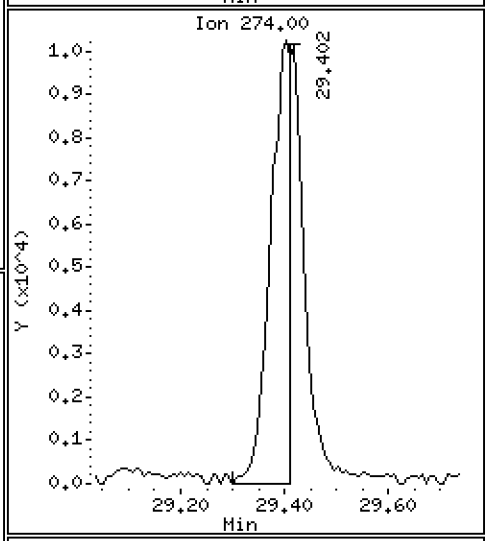


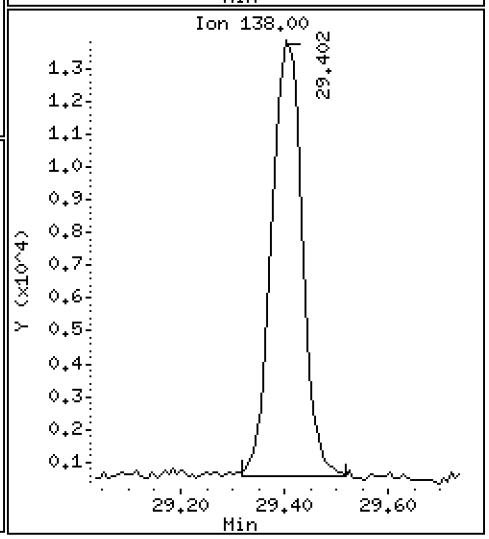












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

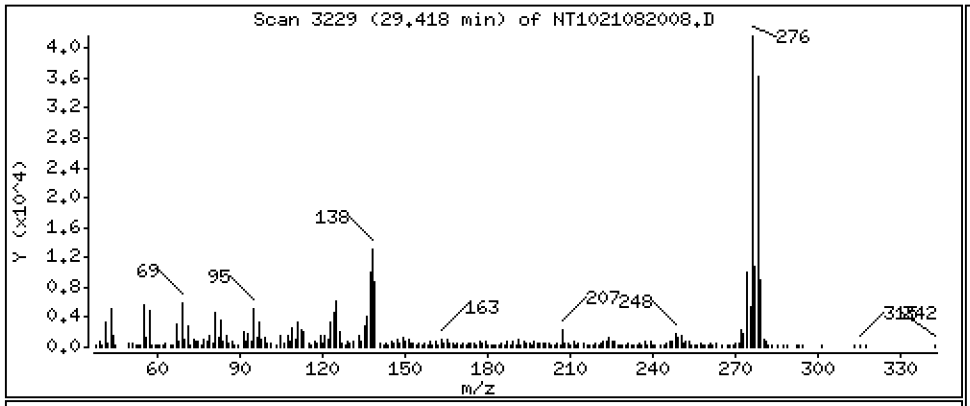
Operator: VTS

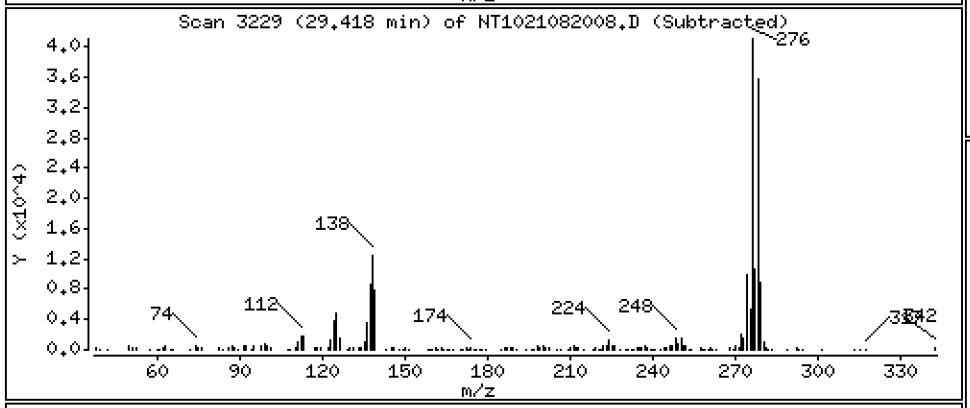
Column phase: ZB-5msi

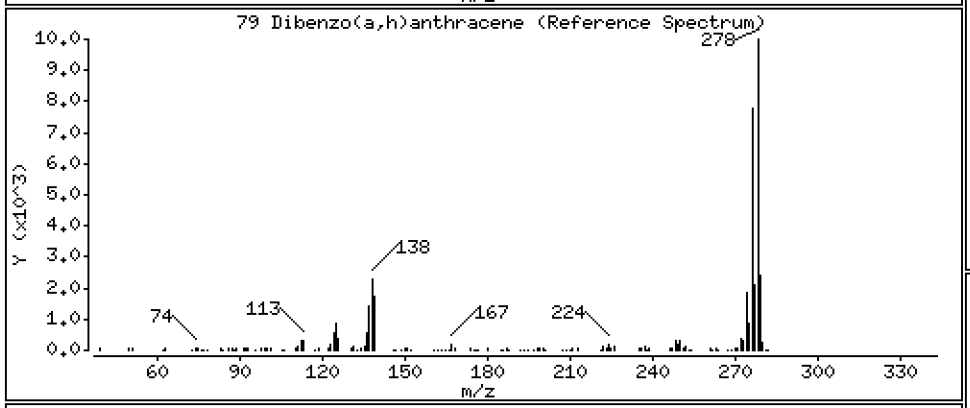
Column diameter: 0.25

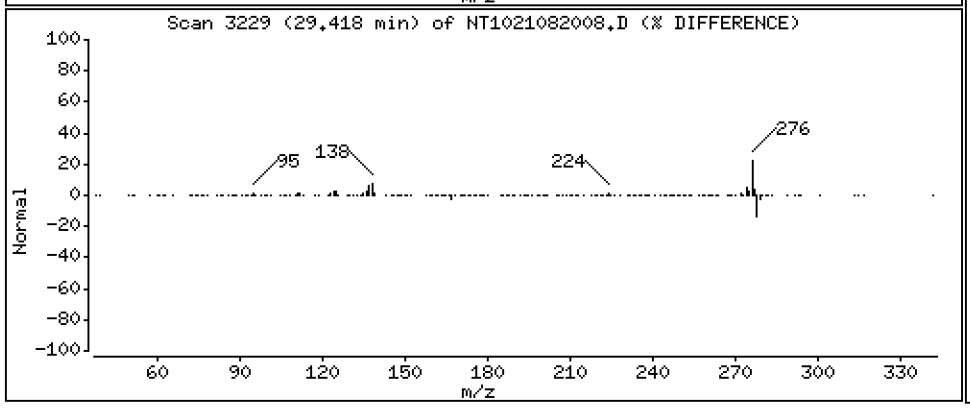
79 Dibenzo(a,h)anthracene

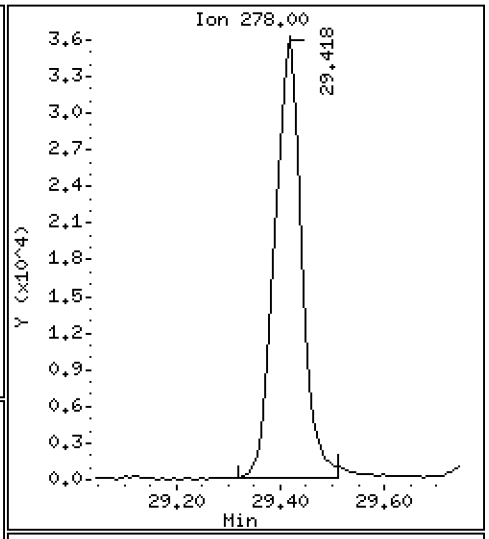
Concentration: 4.152 ug/mL

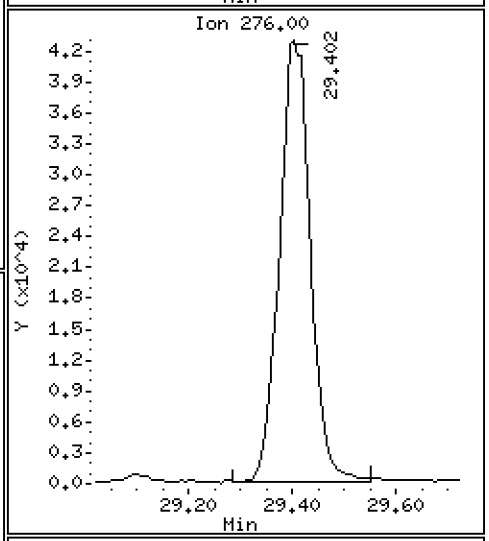


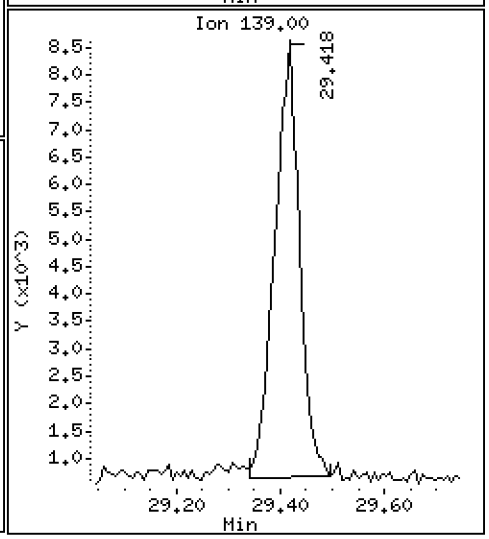












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

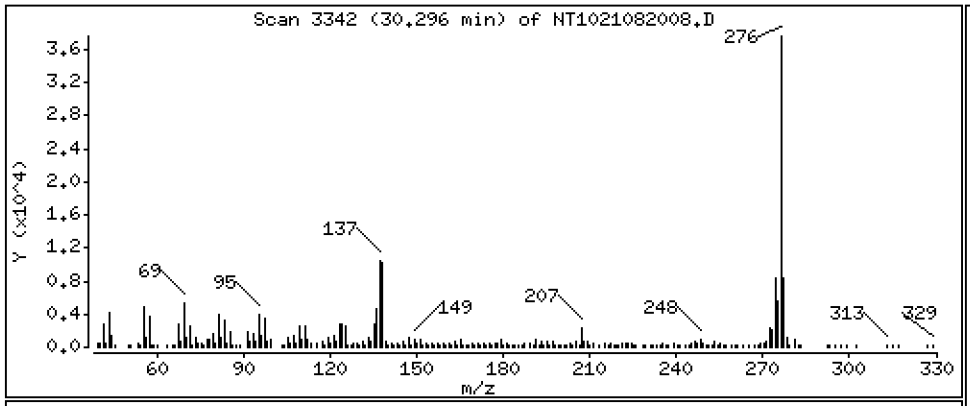
Operator: VTS

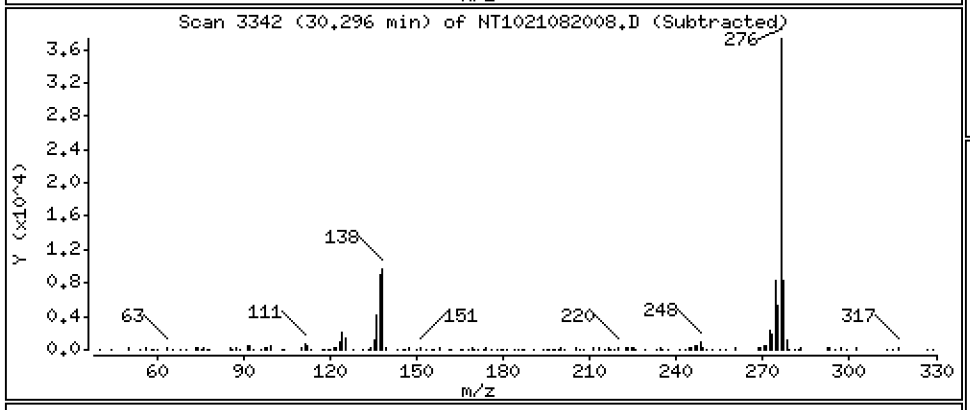
Column phase: ZB-5msi

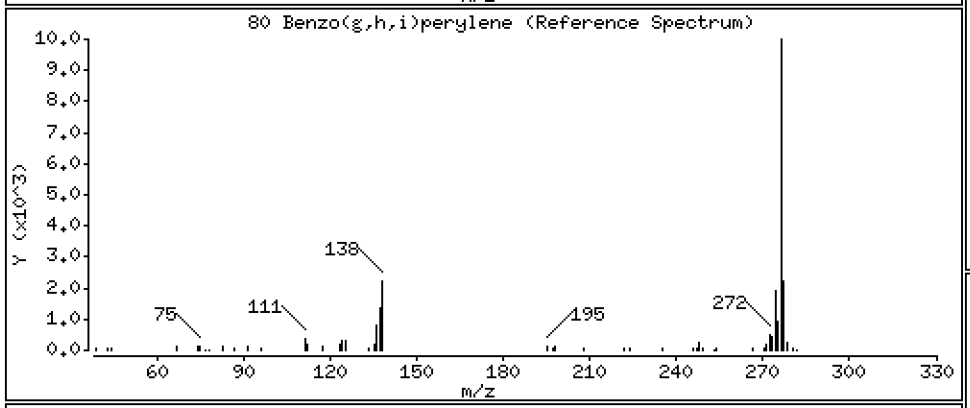
Column diameter: 0.25

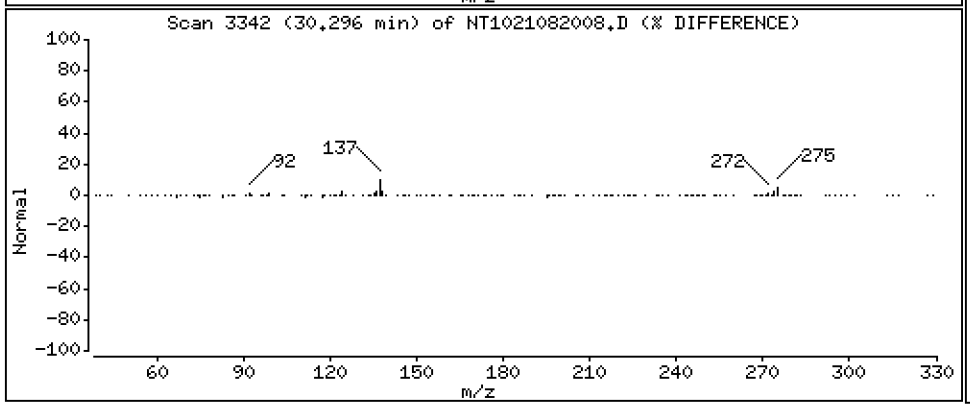
80 Benzo(g,h,i)perylene

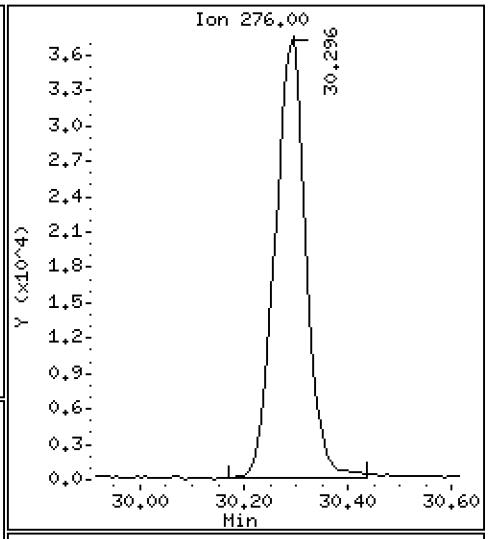
Concentration: 4.354 ug/mL

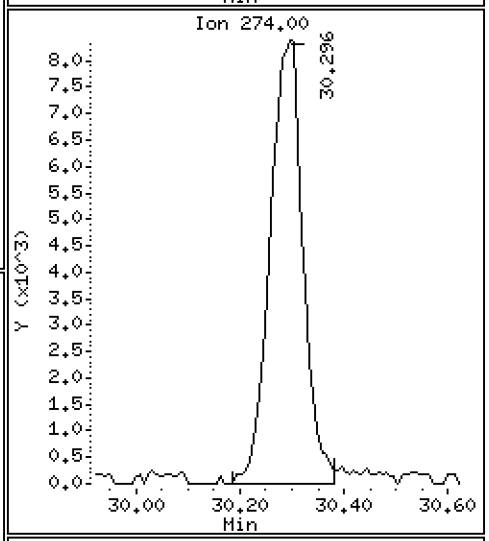


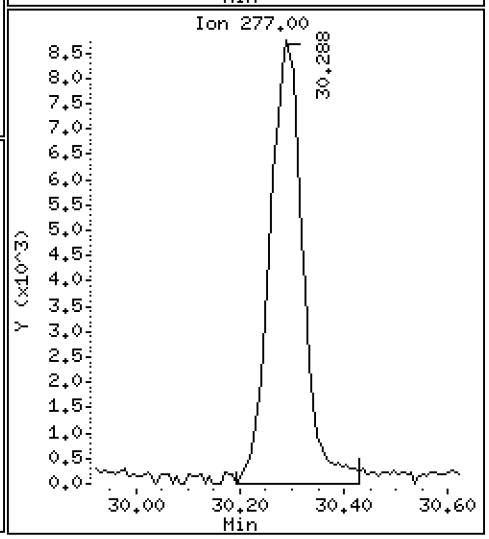












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

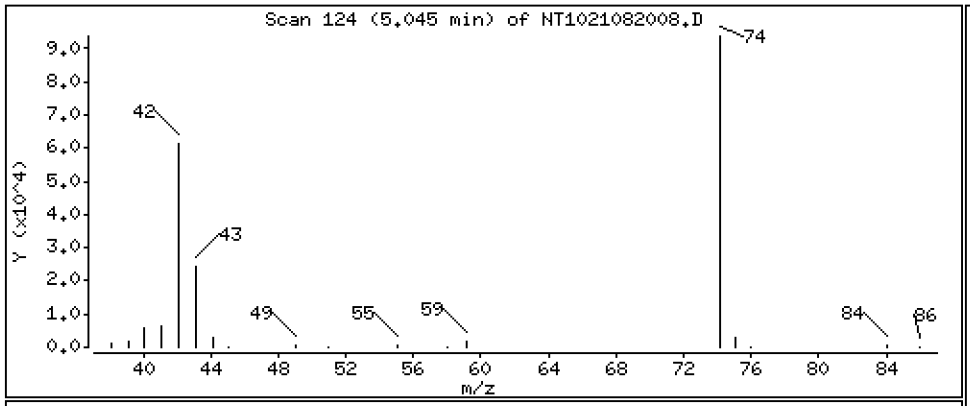
Operator: VTS

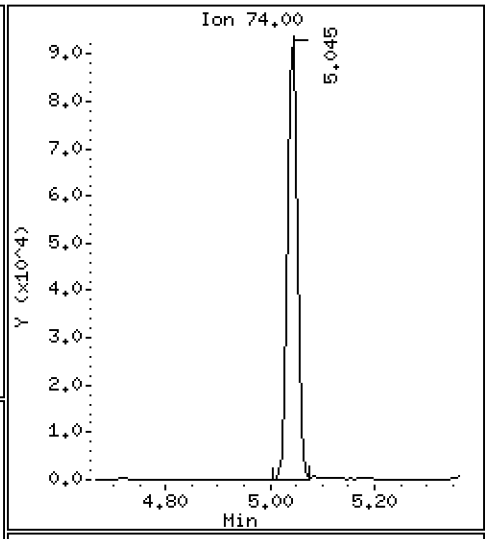
Column phase: ZB-5msi

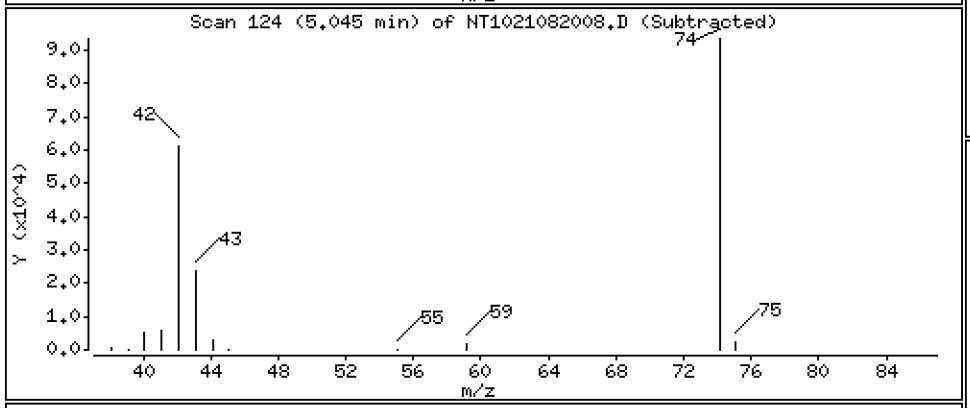
Column diameter: 0.25

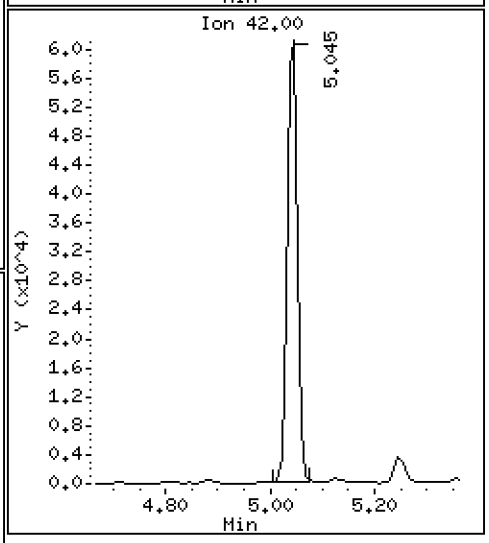
90 N-Nitrosodimethylamine

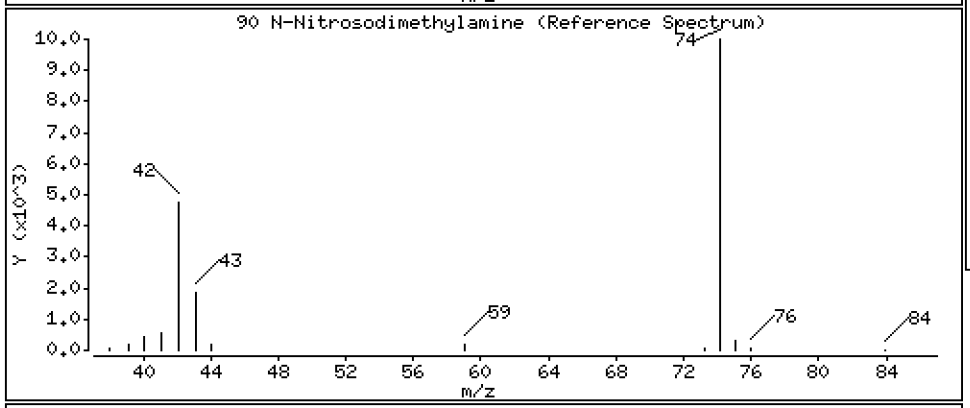
Concentration: 9.321 ug/mL

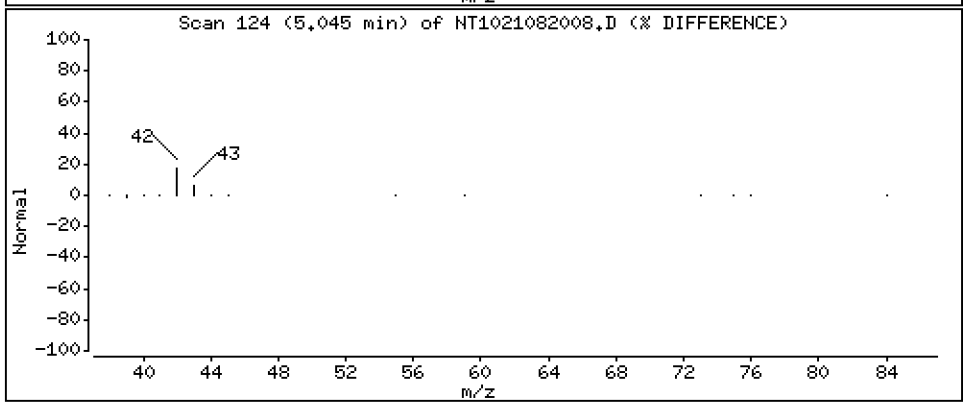












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

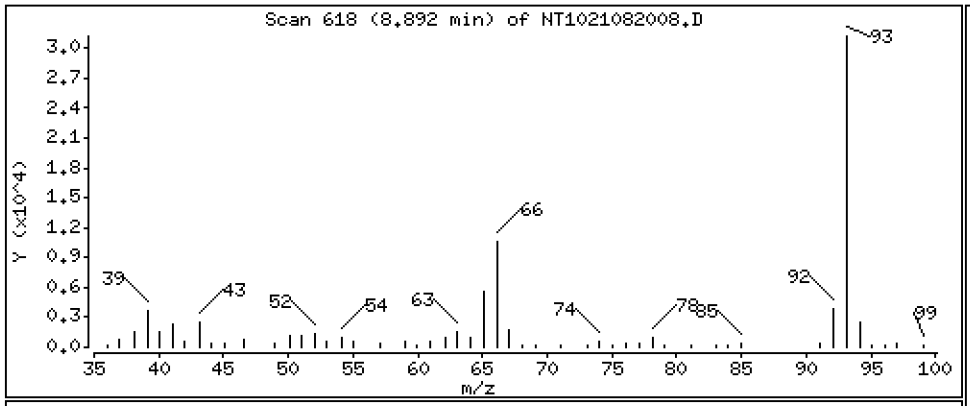
Operator: VTS

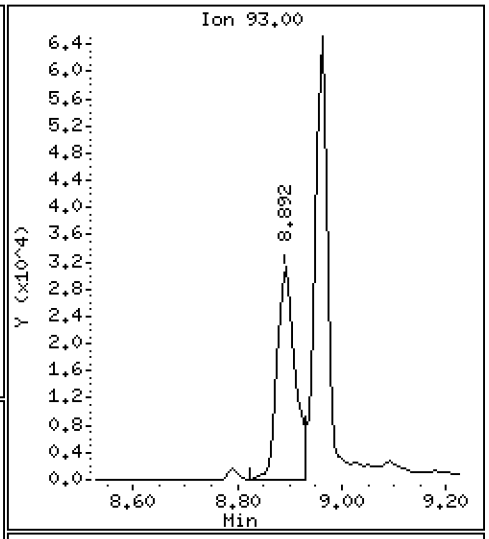
Column phase: ZB-5msi

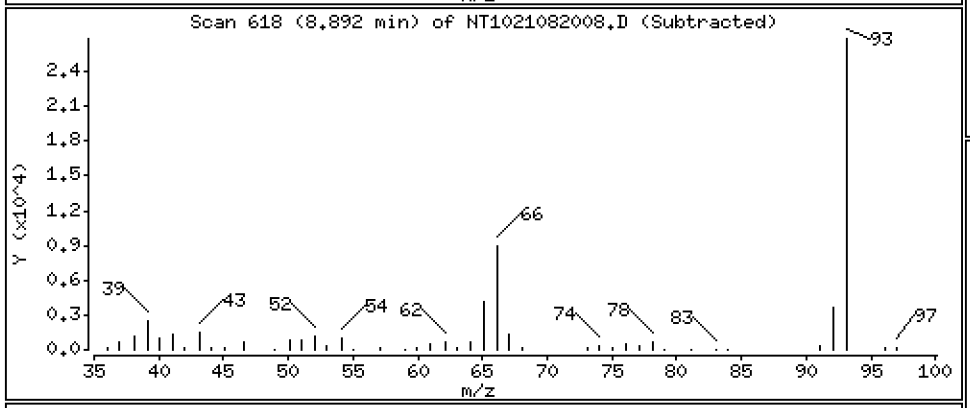
Column diameter: 0.25

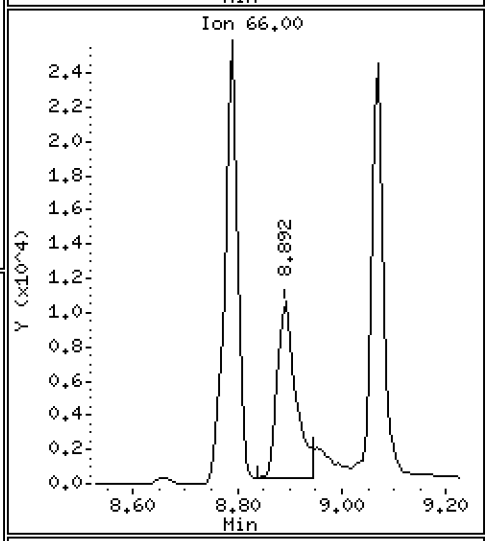
91 Aniline

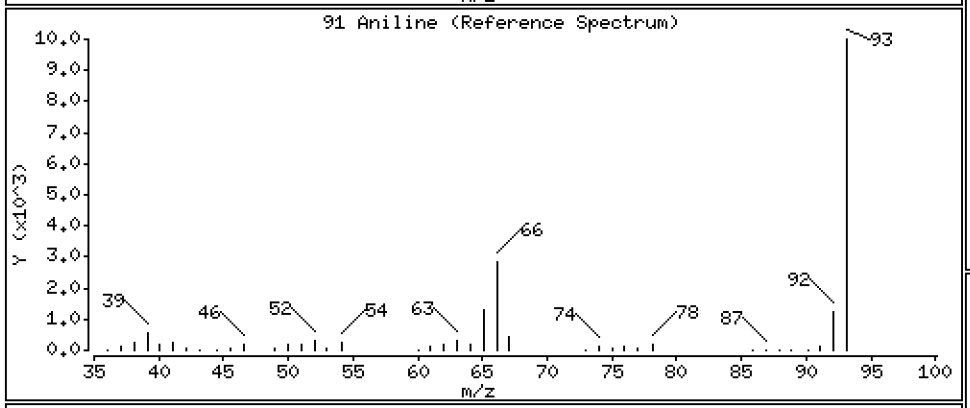
Concentration: 2.290 ug/mL

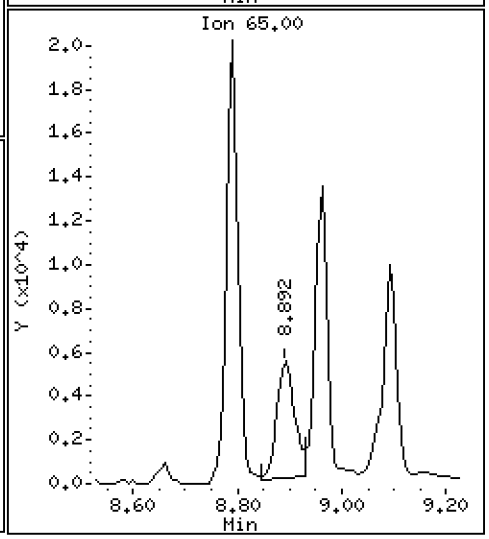


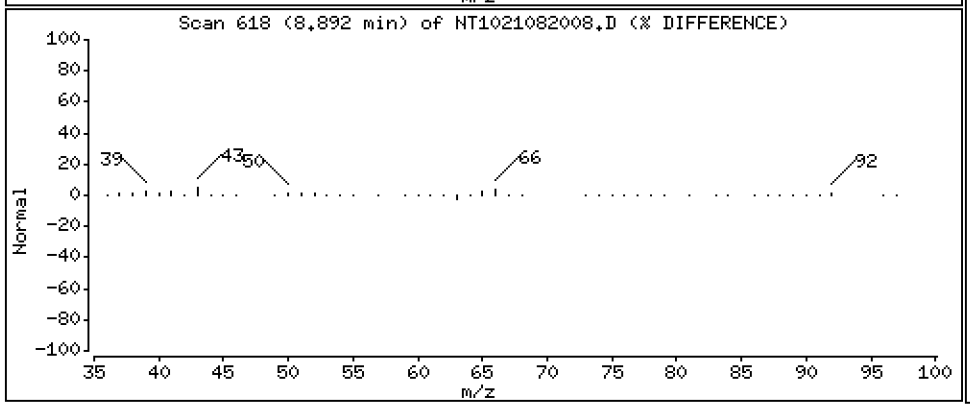












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

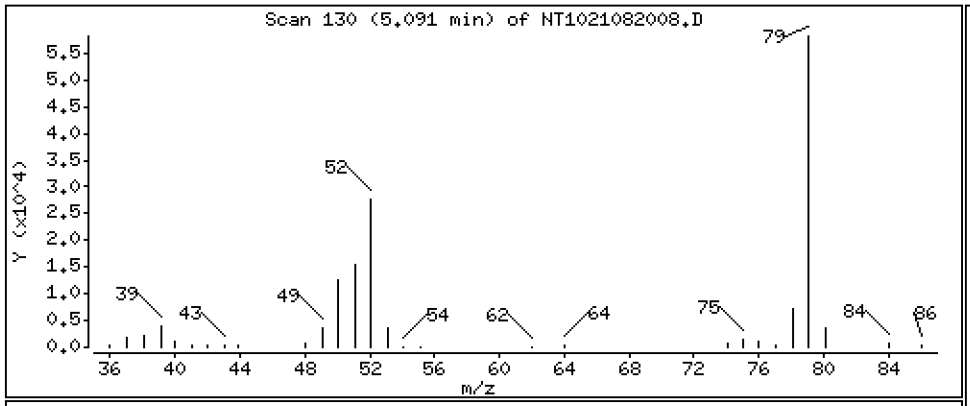
Operator: VTS

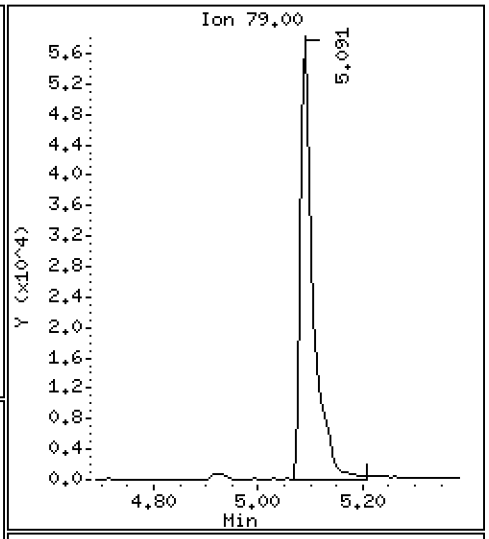
Column phase: ZB-5msi

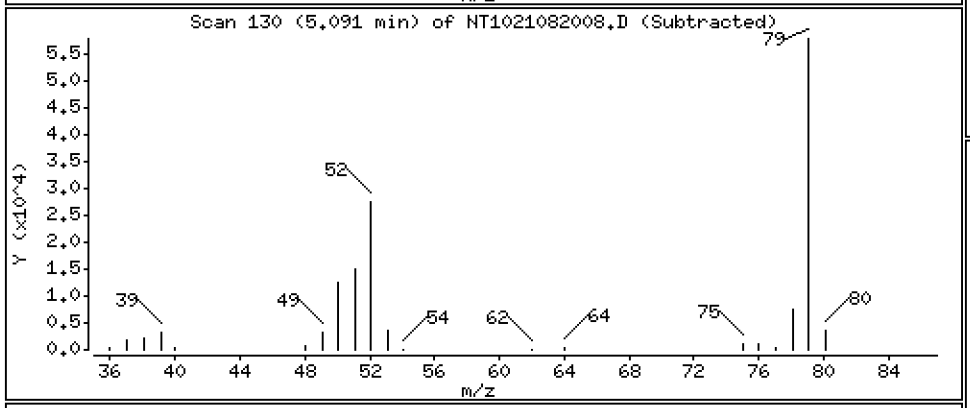
Column diameter: 0.25

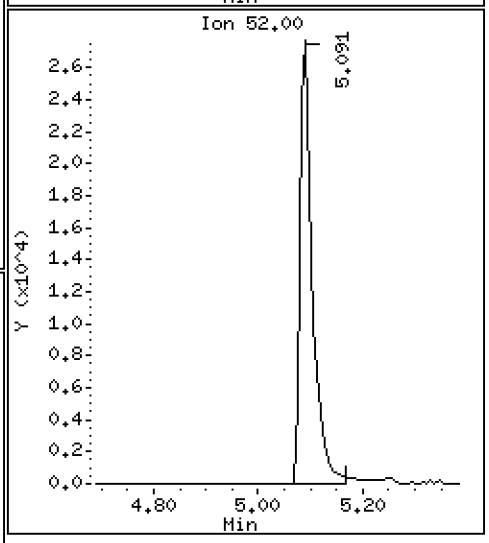
103 Pyridine

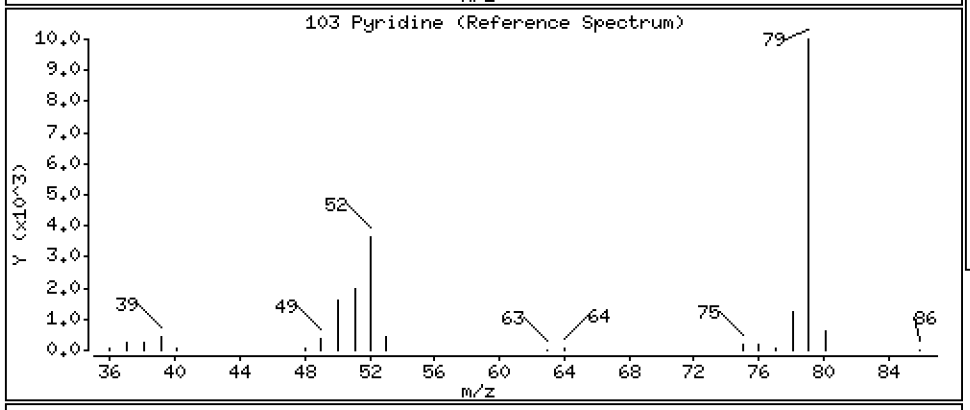
Concentration: 2.275 ug/mL

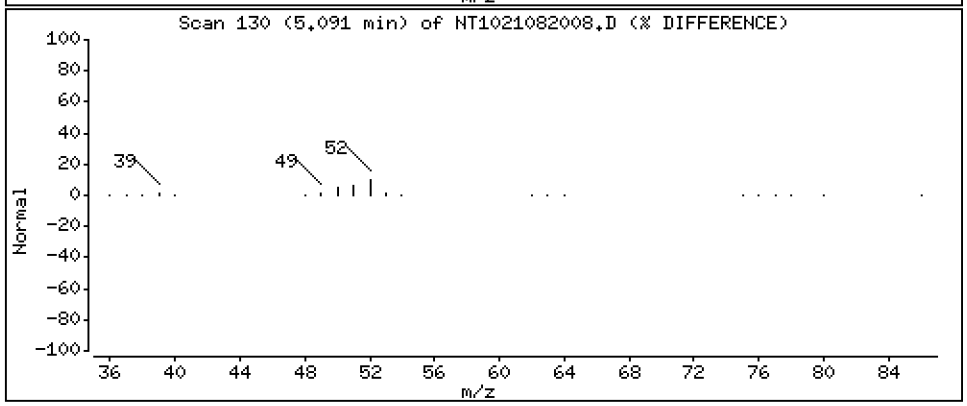












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D

Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

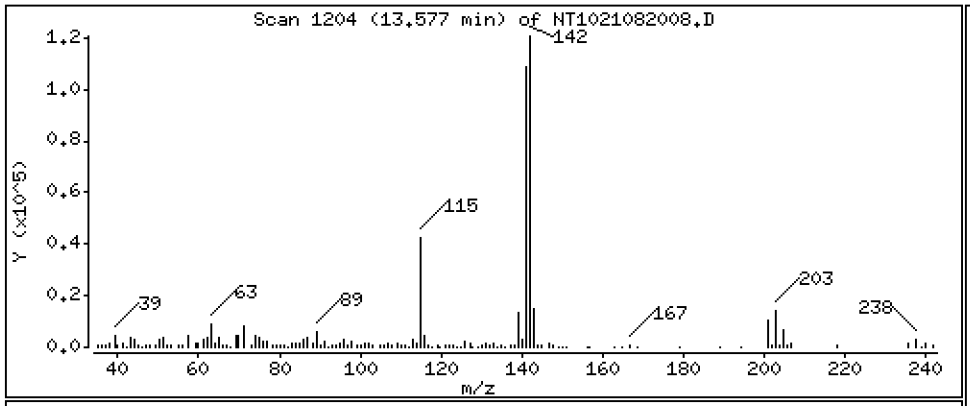
Operator: VTS

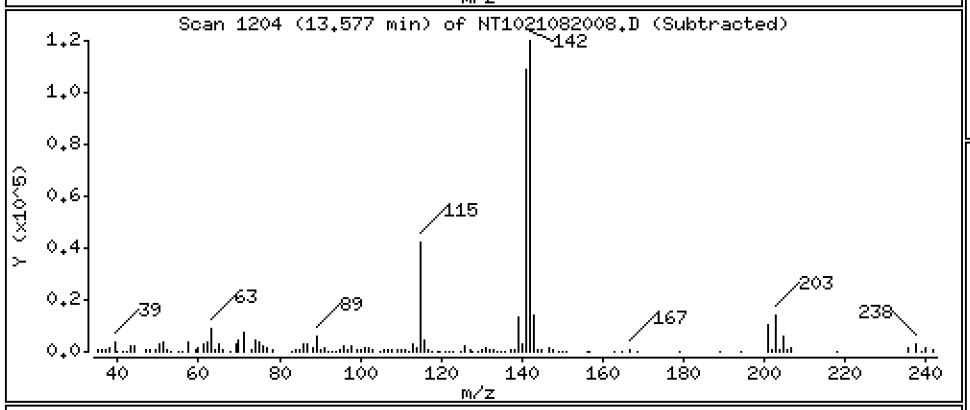
Column phase: ZB-5msi

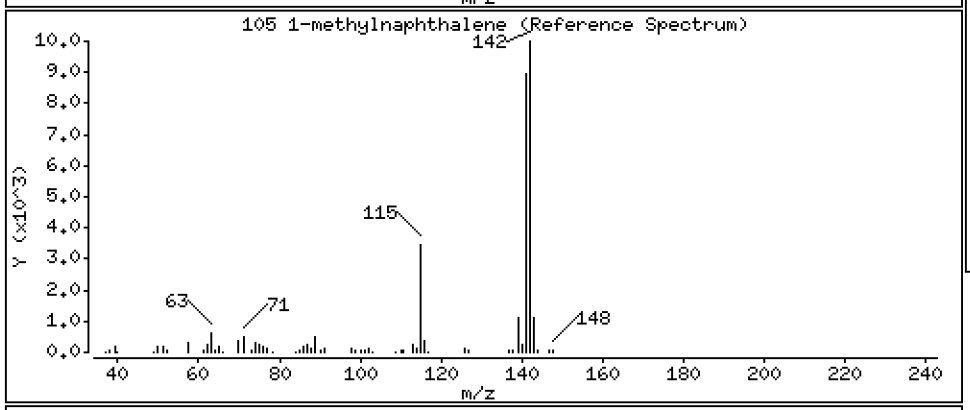
Column diameter: 0.25

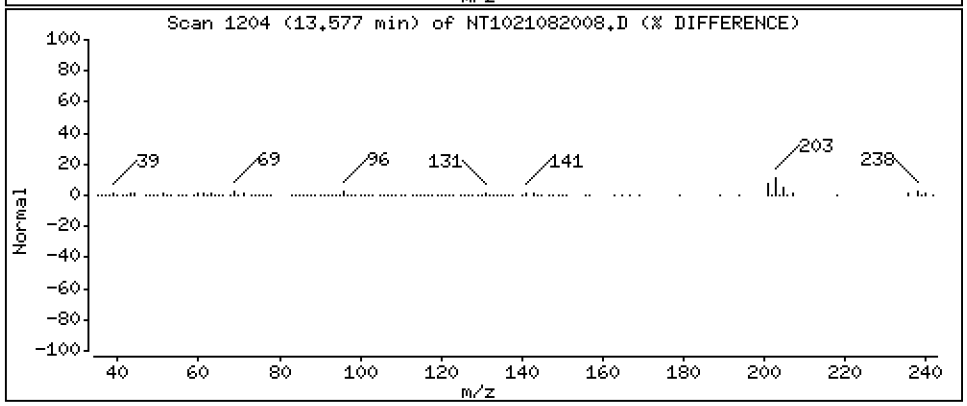
105 1-methylnaphthalene

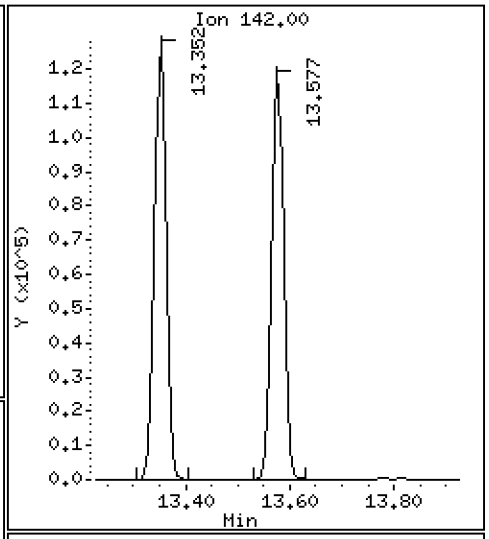
Concentration: 3.445 ug/mL

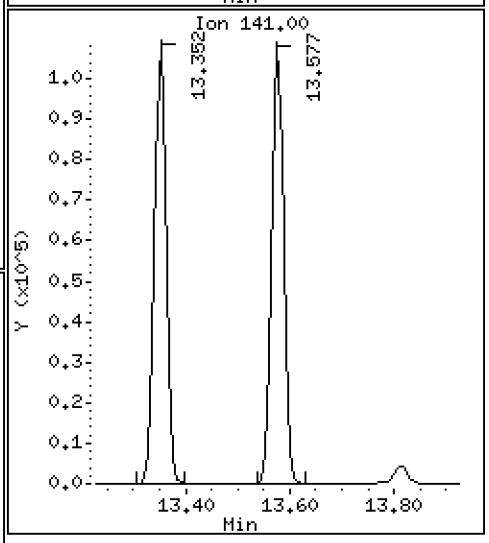












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

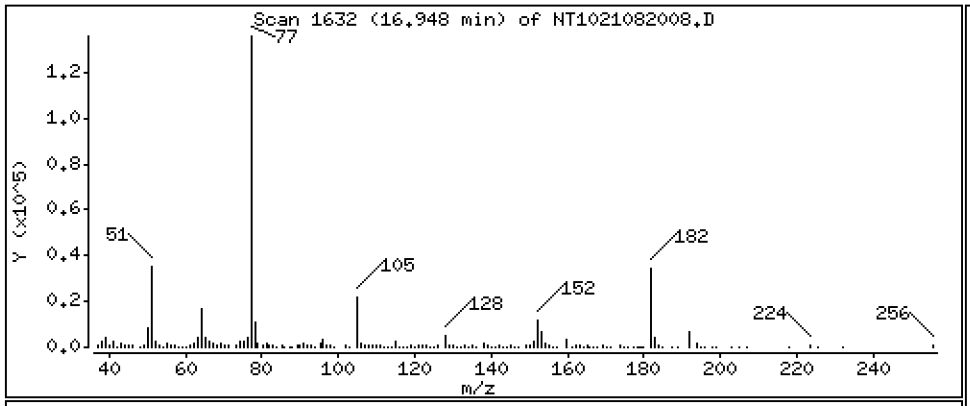
Operator: VTS

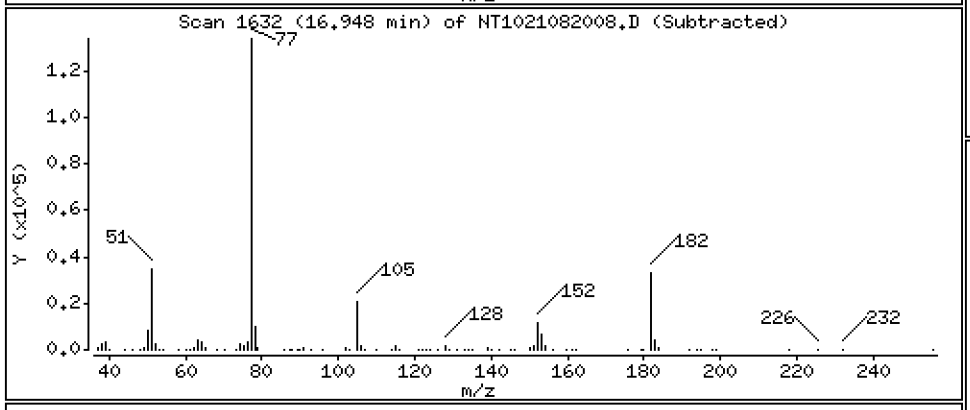
Column phase: ZB-5msi

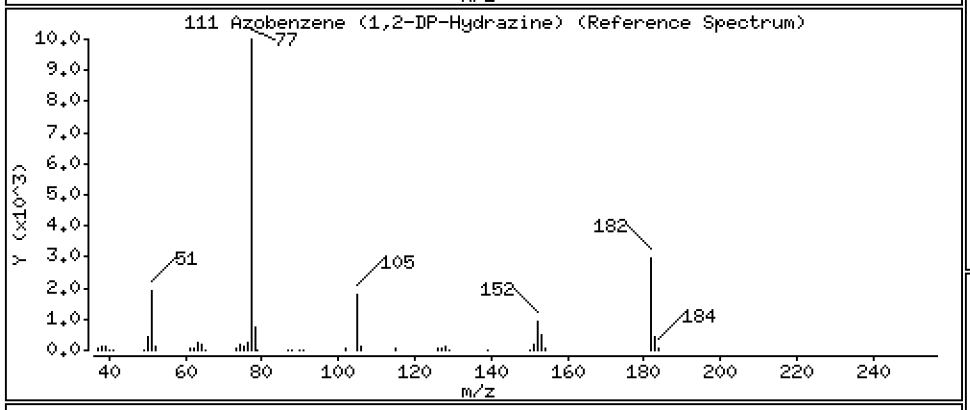
Column diameter: 0.25

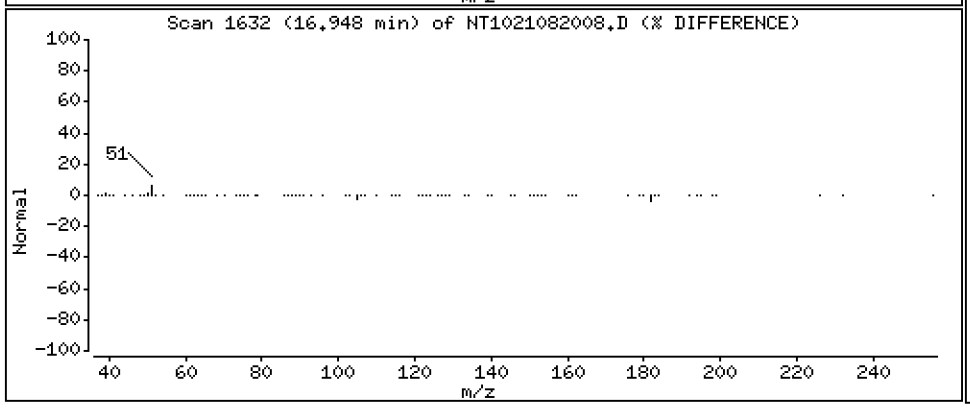
111 Azobenzene (1,2-DP-Hydrazine)

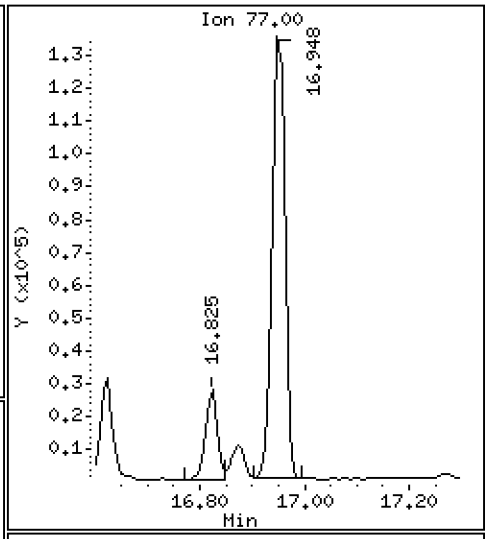
Concentration: 4.693 ug/mL

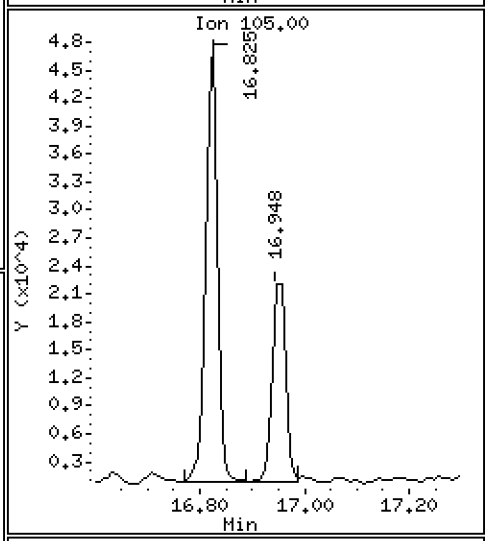


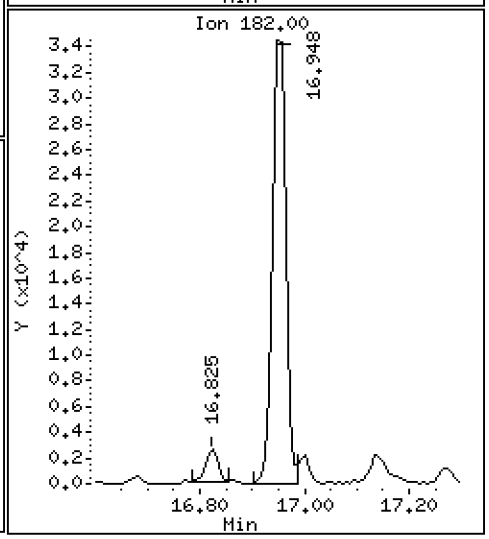












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

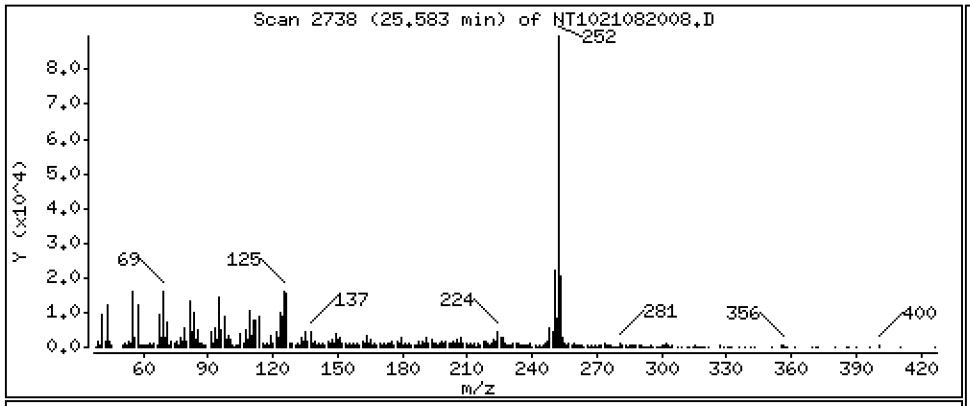
Operator: VTS

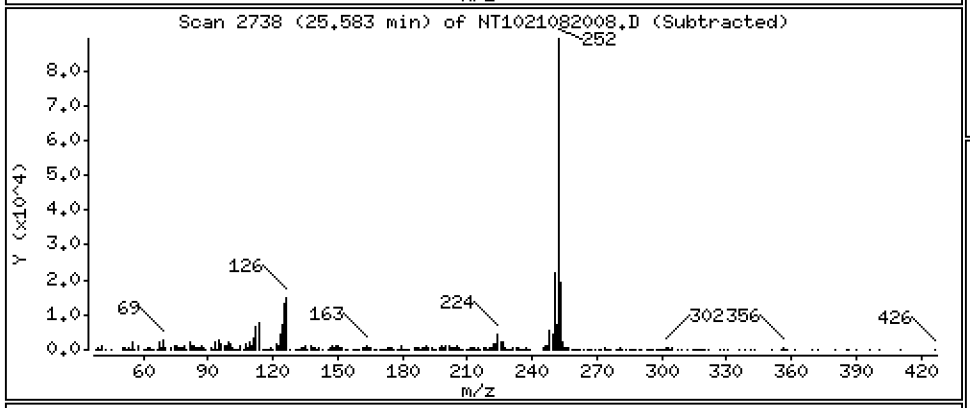
Column phase: ZB-5msi

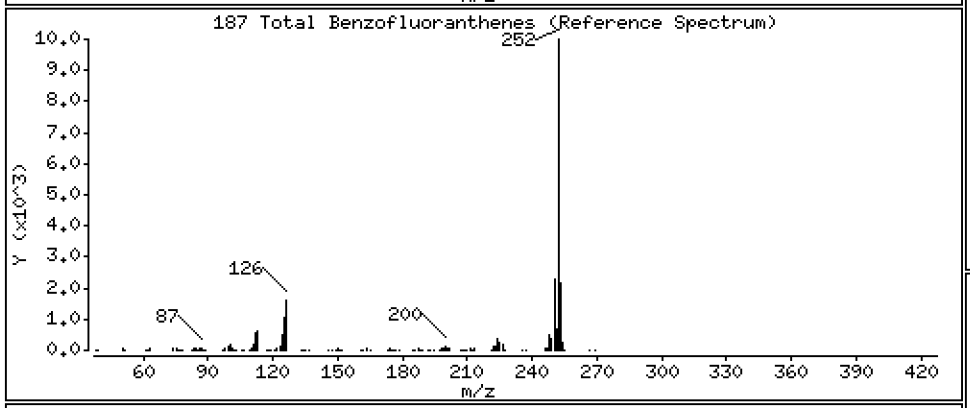
Column diameter: 0.25

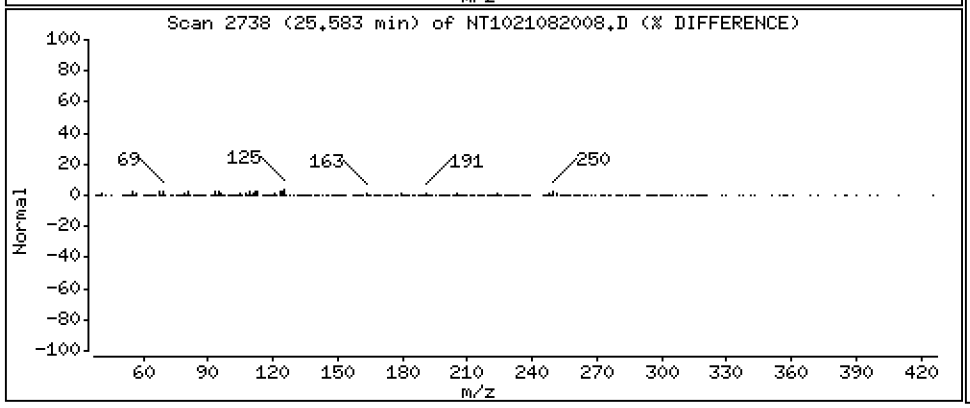
187 Total Benzofluoranthenes

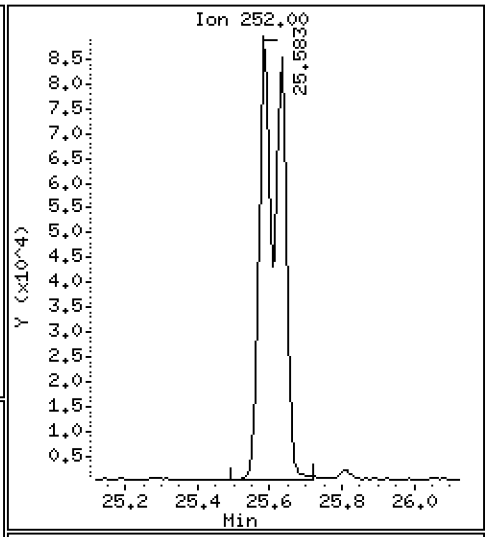
Concentration: 8.427 ug/mL

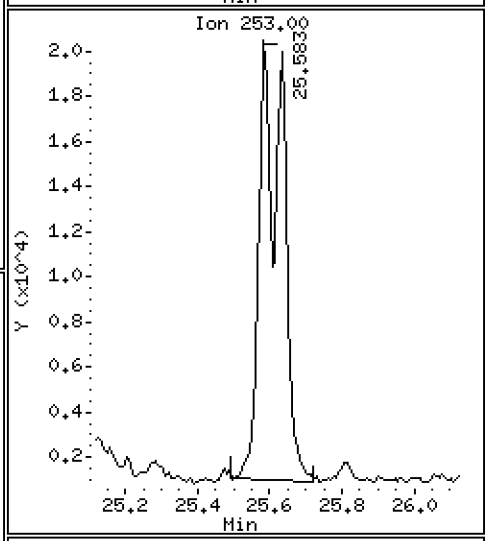


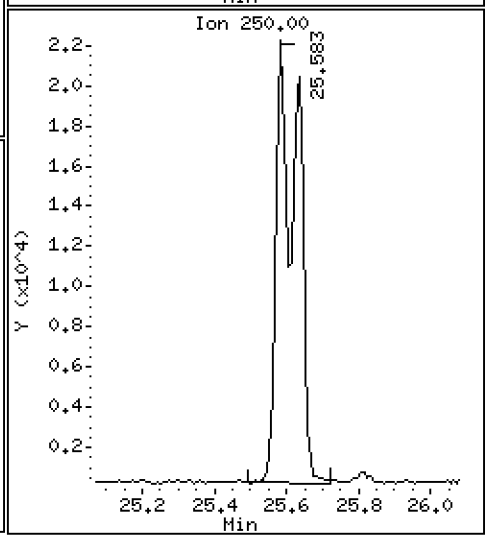












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Date : 20-AUG-2021 12:54

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MS1

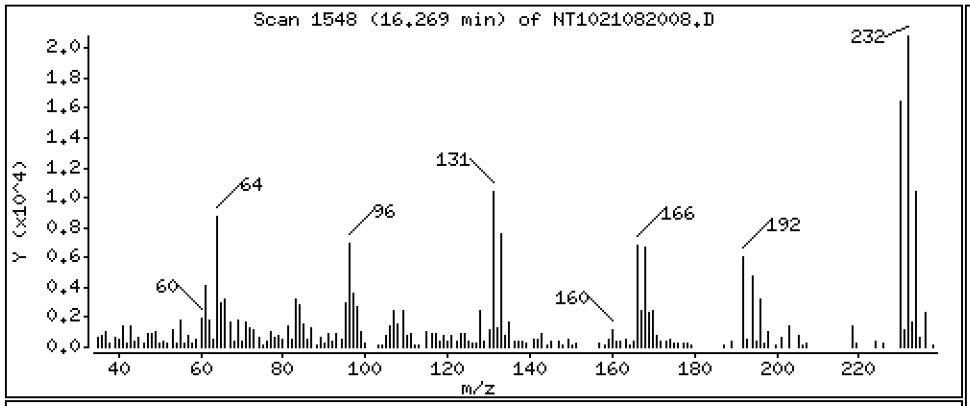
Operator: VTS

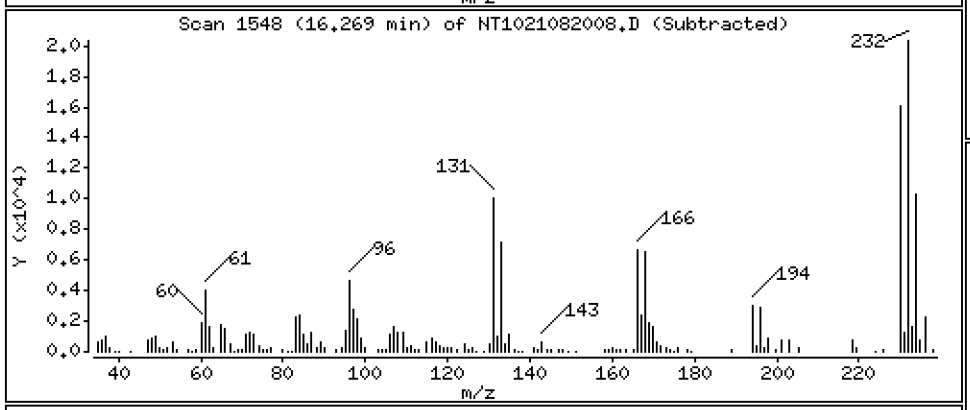
Column phase: ZB-5msi

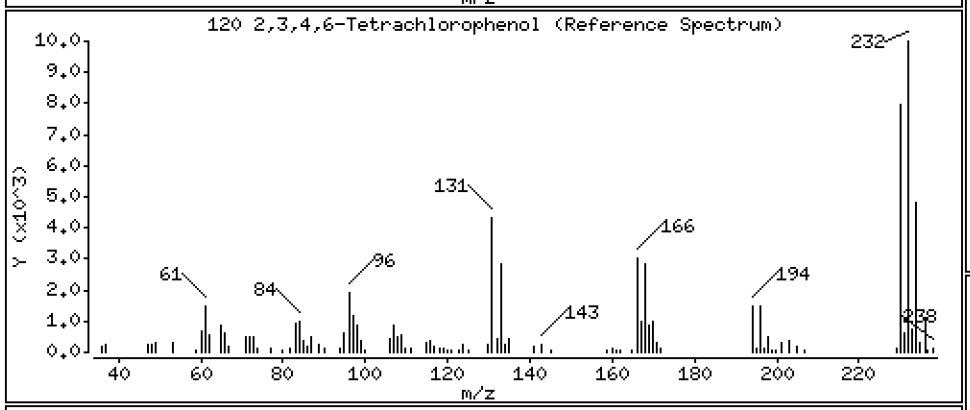
Column diameter: 0.25

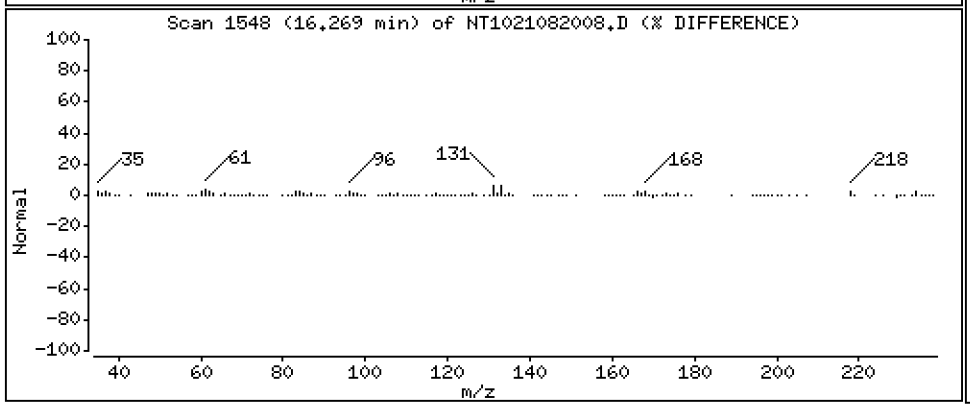
120 2,3,4,6-Tetrachlorophenol

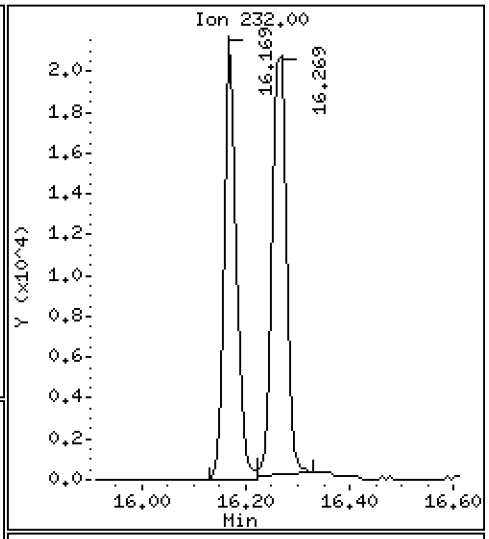
Concentration: 3.746 ug/mL

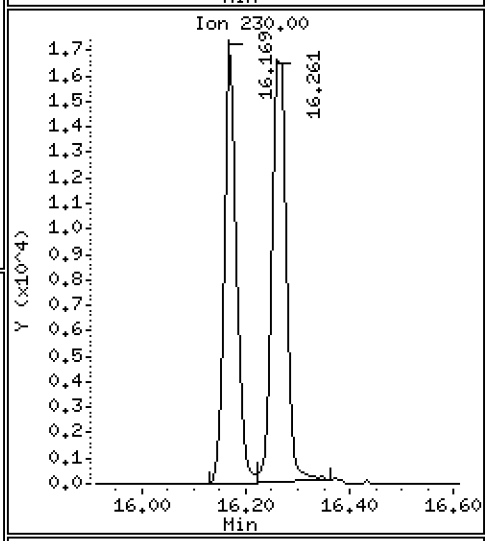


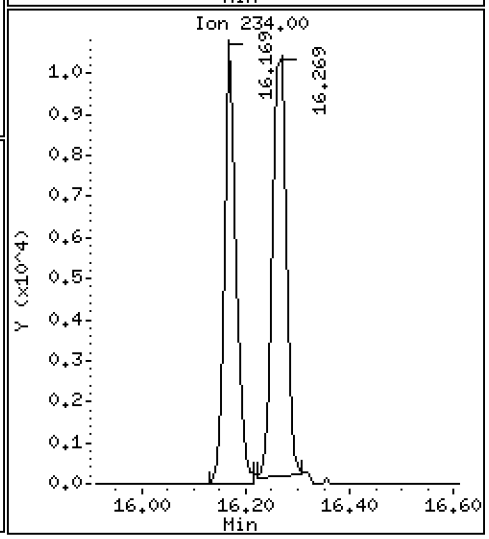












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Inj Date : 20-AUG-2021 12:54
Operator : VTS Inst ID: nt10.i
Smp Info : BJH0139-MS1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.763)	123223	5.67820	5.678
$	2 Phenol-d5	99	8.768	8.760	(0.930)	187521	6.03747	6.037
	3 Phenol	94	8.791	8.784	(0.933)	108836	3.82855	3.829
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.962)	136588	6.17343	6.173
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.951)	96208	4.62569	4.626
	6 2-Chlorophenol	128	9.093	9.092	(0.965)	82576	3.50068	3.501
	7 1,3-Dichlorobenzene	146	9.364	9.363	(0.993)	85688	3.49364	3.494
*	8 1,4-Dichlorobenzene-d4	152	9.426	9.425	(1.000)	64910	4.00000	
	9 1,4-Dichlorobenzene	146	9.457	9.456	(1.003)	77212	4.15820	4.158
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	51322	3.41484	3.415
	12 1,2-Dichlorobenzene	146	9.814	9.813	(1.041)	80014	3.78642	3.786
	11 Benzyl alcohol	108	9.689	9.689	(1.028)	47686	3.64673	3.647
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.060)	26599	4.24399	4.244
	13 2-Methylphenol	108	9.907	9.907	(1.051)	67602	3.75450	3.754
	17 Hexachloroethane	117	10.411	10.411	(1.105)	32490	4.04567	4.046
	16 N-Nitroso-di-n-propylamine	70	10.241	10.240	(1.086)	54387	4.30605	4.306
	15 4-Methylphenol	108	10.179	10.171	(1.080)	77898	4.05034	4.050
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.883)	97165	4.04162	4.042
	19 Nitrobenzene	77	10.559	10.559	(0.886)	86845	3.91804	3.918
	20 Isophorone	82	11.001	11.001	(0.923)	181016	5.28423	5.284
	21 2-Nitrophenol	139	11.186	11.186	(0.938)	46921	3.71704	3.717
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.941)	222445	11.4194	11.42
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	82426	4.07606	4.076
	24 Benzoic acid	105	11.373	11.424	(0.954)	76060	7.65497	7.655
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	236155	11.8294	11.83
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	66689	3.45145	3.451
*	27 Naphthalene-d8	136	11.921	11.921	(1.000)	229611	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	210594	3.69702	3.697
	29 4-Chloroaniline	127	12.106	12.083	(1.016)	84782	3.07196	3.072
	30 Hexachlorobutadiene	225	12.307	12.307	(1.032)	37335	3.51208	3.512
	31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	246459	12.2857	12.29
	32 2-Methylnaphthalene	142	13.352	13.352	(1.120)	188142	3.46104	3.461
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	54041	5.46764	5.468

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	169083	12.2777	12.28
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	182102	12.5868	12.59
$	36 2-Fluorobiphenyl	172	14.126	14.125	(0.909)	218304	4.02345	4.023
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	168079	3.89125	3.891
	38 2-Nitroaniline	65	14.605	14.605	(0.940)	167198	13.0365	13.04
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	181315	4.07077	4.071
	40 Acenaphthylene	152	15.225	15.225	(0.980)	230718	3.42805	3.428
	41 2,6-Dinitrotoluene	165	15.171	15.170	(0.977)	127259	12.9373	12.94
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	135806	4.00000	
	43 3-Nitroaniline	138	15.465	15.457	(0.996)	72205	5.45170	5.452
	44 Acenaphthene	153	15.604	15.604	(1.004)	137160	3.85293	3.853
	45 2,4-Dinitrophenol	184	15.666	15.673	(1.008)	40990	7.82452	7.825
	46 Dibenzofuran	168	15.928	15.928	(1.025)	220888	3.49183	3.492
	47 4-Nitrophenol	109	15.774	15.766	(1.015)	65630	13.5973	13.60
	48 2,4-Dinitrotoluene	165	15.983	15.982	(1.029)	175468	12.7790	12.78
	50 Diethylphthalate	149	16.477	16.469	(1.061)	169111	4.21222	4.212
	49 Fluorene	166	16.647	16.639	(1.072)	219580	3.91110	3.911
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	119031	4.73662	4.737
	52 4-Nitroaniline	138	16.732	16.732	(1.077)	103288	7.50034	7.500
	53 4,6-Dinitro-2-methylphenol	198	16.825	16.824	(0.905)	178393	20.1318	20.13
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	136575	4.25437	4.254
$	55 2,4,6-Tribromophenol	330	17.179	17.179	(1.106)	39741	7.61303	7.613
	56 4-Bromophenyl-phenylether	248	17.634	17.626	(0.949)	56756	4.41084	4.411
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	53113	4.35428	4.354
	58 Pentachlorophenol	266	18.315	18.307	(0.985)	64549	13.8368	13.84
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	214627	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.002)	229210	4.37421	4.374
	61 Anthracene	178	18.725	18.725	(1.007)	217008	3.85449	3.854
	62 Carbazole	167	19.050	19.050	(1.025)	227311	3.92023	3.920
	63 Di-n-butylphthalate	149	19.816	19.800	(1.066)	301648	4.20503	4.205
	64 Fluoranthene	202	21.007	20.999	(0.890)	282893	4.71310	4.713
	65 Pyrene	202	21.425	21.425	(0.908)	308751	5.01194	5.012
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	180558	4.66439	4.664
	67 Butylbenzylphthalate	149	22.602	22.594	(0.957)	105742	4.36145	4.361
	68 Benzo(a)anthracene	228	23.577	23.577	(0.999)	201869	4.21390	4.214
*	69 Chrysene-d12	240	23.608	23.608	(1.000)	137124	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	2333	0.12241	0.1224
	71 Chrysene	228	23.655	23.647	(1.002)	175345	4.61699	4.617
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	159784	6.44271	6.443
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	257697	4.00000	
	73 Di-n-octylphthalate	149	24.654	24.646	(1.001)	242597	4.27136	4.271
	74 Benzo(b)fluoranthene	252	25.583	25.575	(0.967)	186146	4.13805	4.138
	75 Benzo(k)fluoranthene	252	25.637	25.621	(0.970)	192590	4.36731	4.367
	76 Benzo(a)pyrene	252	26.310	26.295	(0.995)	162979	4.10134	4.101
*	77 Perylene-d12	264	26.442	26.426	(1.000)	122271	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.402	29.371	(1.112)	180048	4.38595	4.386
	79 Dibenzo(a,h)anthracene	278	29.417	29.394	(1.113)	130390	4.15166	4.152
	80 Benzo(g,h,i)perylene	276	30.295	30.264	(1.146)	156093	4.35410	4.354
	90 N-Nitrosodimethylamine	74	5.044	5.013	(0.535)	130261	9.32095	9.321
	91 Aniline	93	8.892	8.876	(0.943)	74315	2.28985	2.290
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	5.091	5.037	(0.540)	100423	2.27459	2.275
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	180641	3.44512	3.445
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.948	(1.091)	217415	4.69325	4.693

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.583	25.621	(0.967)	361639	8.42667	8.427
120 2,3,4,6-Tetrachlorophenol	232	16.269	16.261	(1.047)	37368	3.74600	3.746

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082008.D Page 1
Report Date: 24-Aug-2021 11:25

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082008.D
Lab Smp Id: BJH0139-MS1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	64910	-16.53
27 Naphthalene-d8	262289	131145	524578	229611	-12.46
42 Acenaphthene-d10	161630	80815	323260	135806	-15.98
59 Phenanthrene-d10	276890	138445	553780	214627	-22.49
69 Chrysene-d12	212964	106482	425928	137124	-35.61
134 Di-n-octylphthala	413838	206919	827676	257697	-37.73
77 Perylene-d12	196991	98496	393982	122271	-37.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	0.00
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.44	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082008.D

Lab ID: BJH0139-MS1
nt10.i, ABN.m, 20-AUG-2021 12:54

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.540	0.534	0.0057	Pyridine

RRT check based on Ccal File: NT1021082002.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

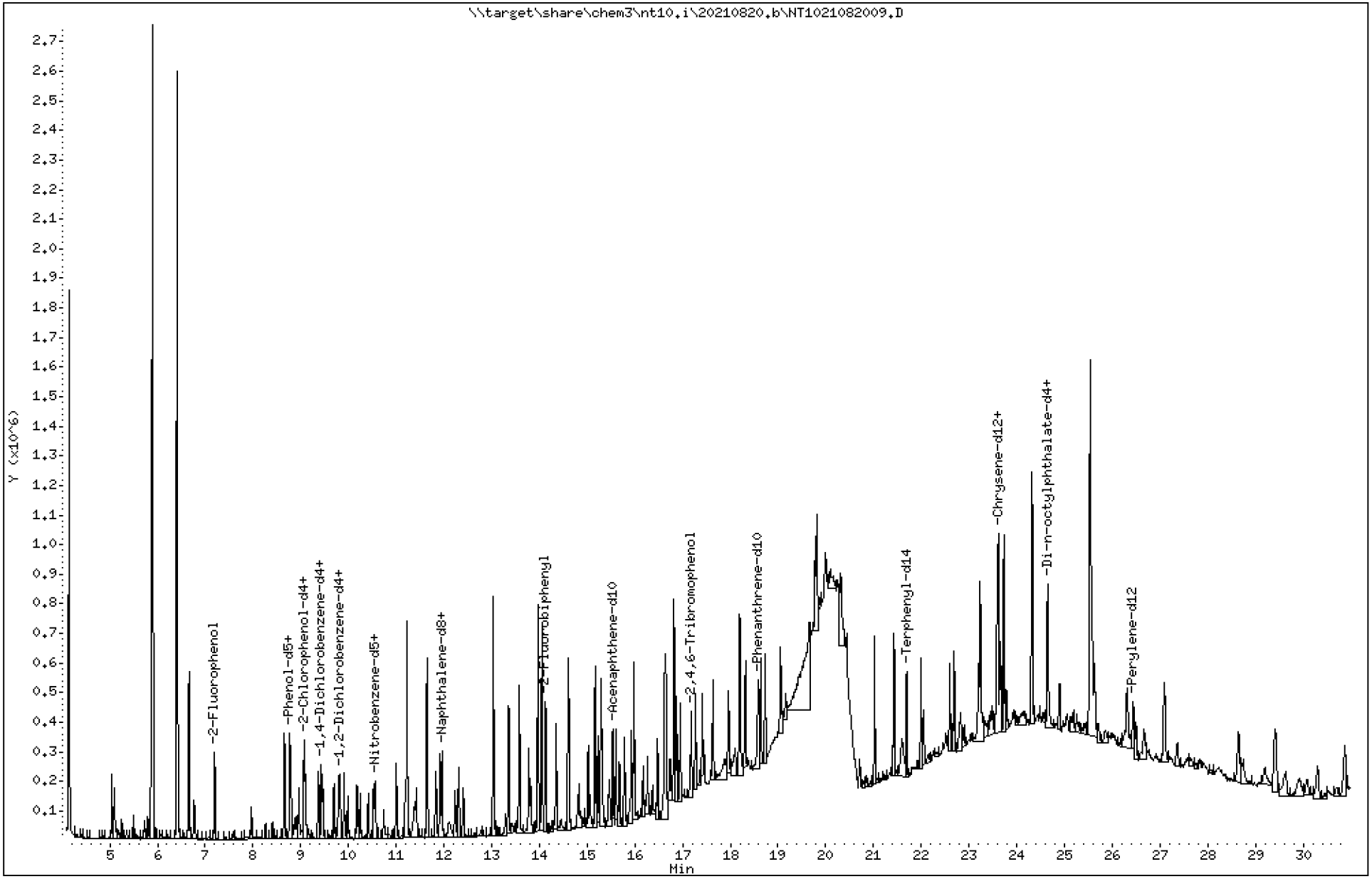
Instrument: nt10.i

Sample Info: BJH0139-MSD1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

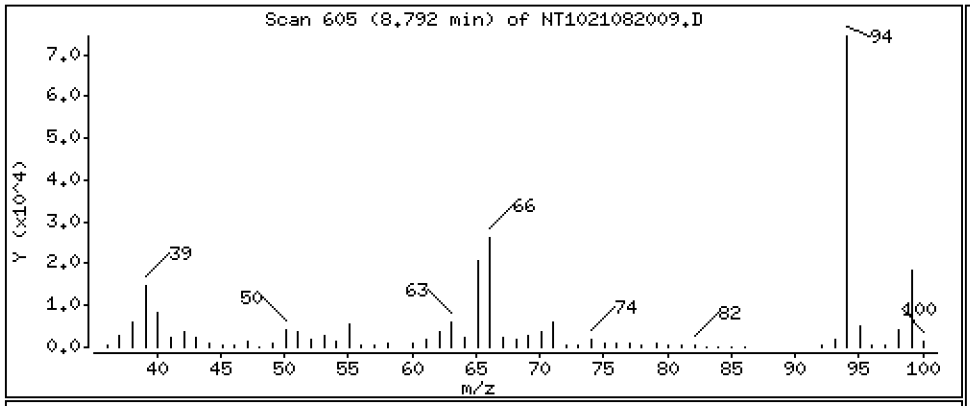
Operator: VTS

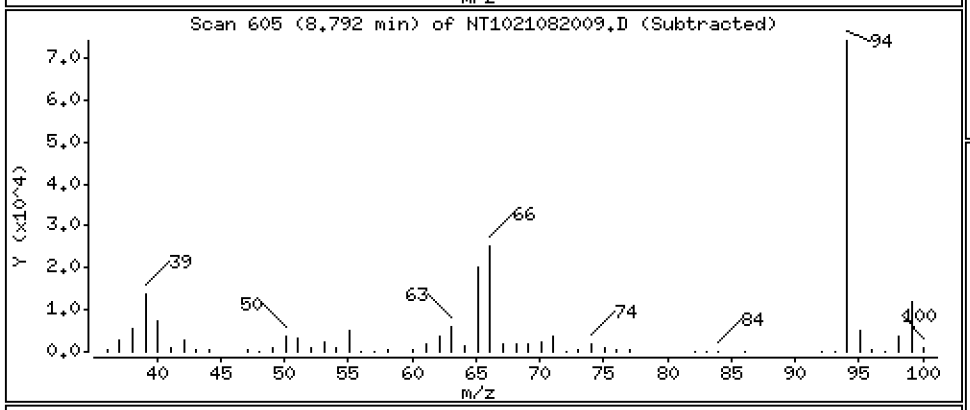
Column phase: ZB-5msi

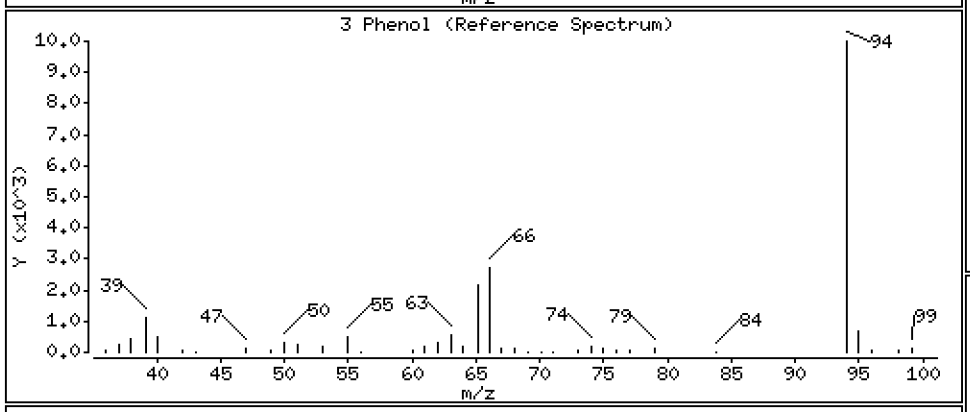
Column diameter: 0.25

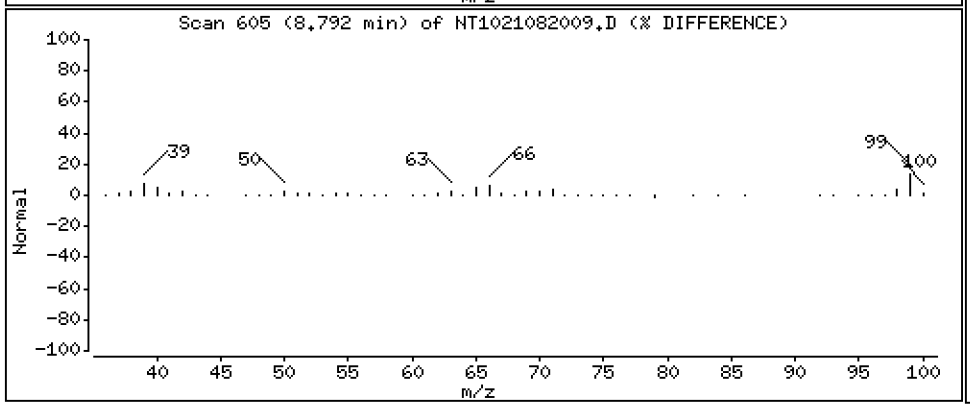
3 Phenol

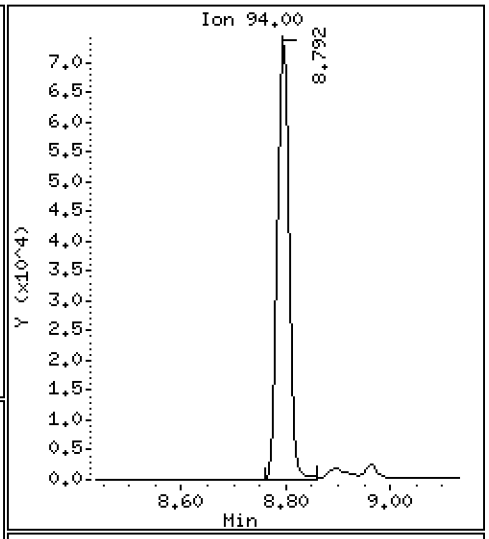
Concentration: 4.038 ug/mL

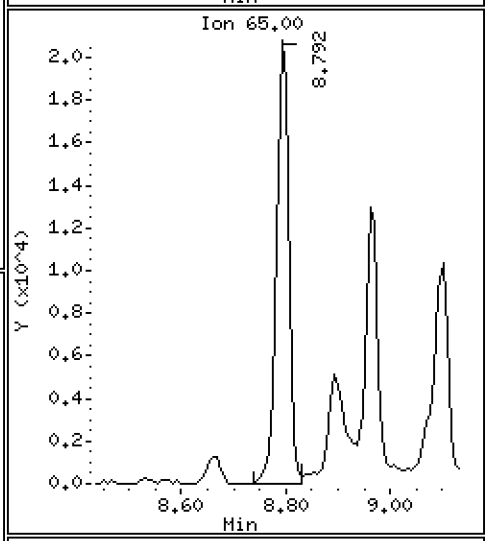


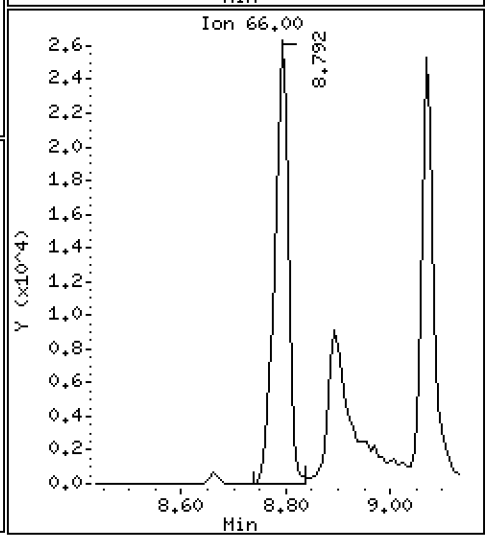












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

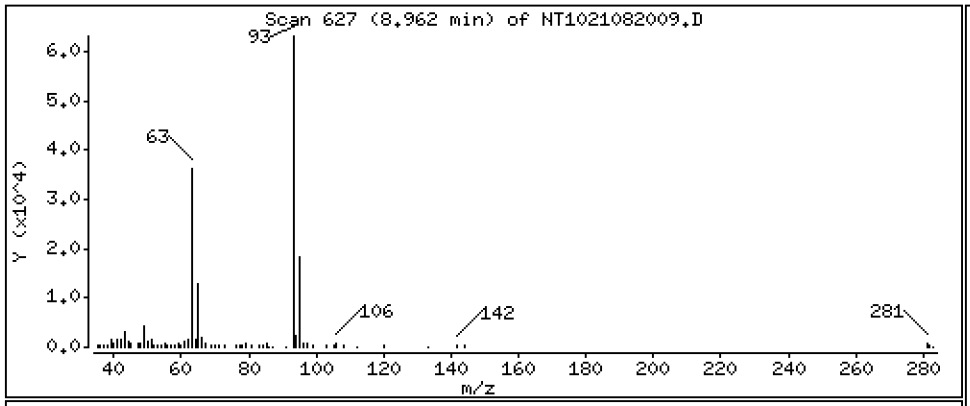
Operator: VTS

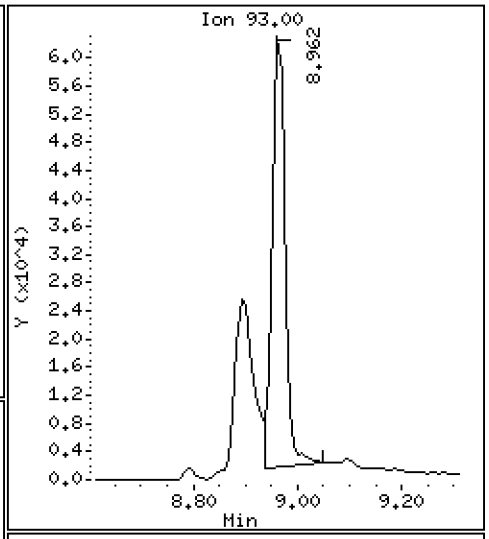
Column phase: ZB-5msi

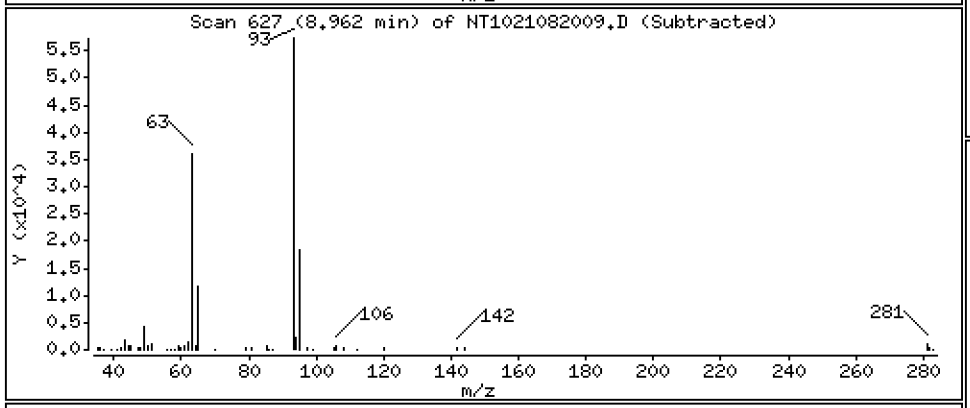
Column diameter: 0.25

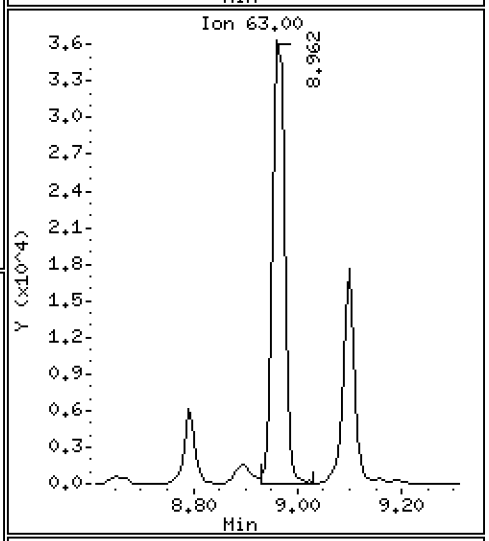
4 Bis(2-Chloroethyl)ether

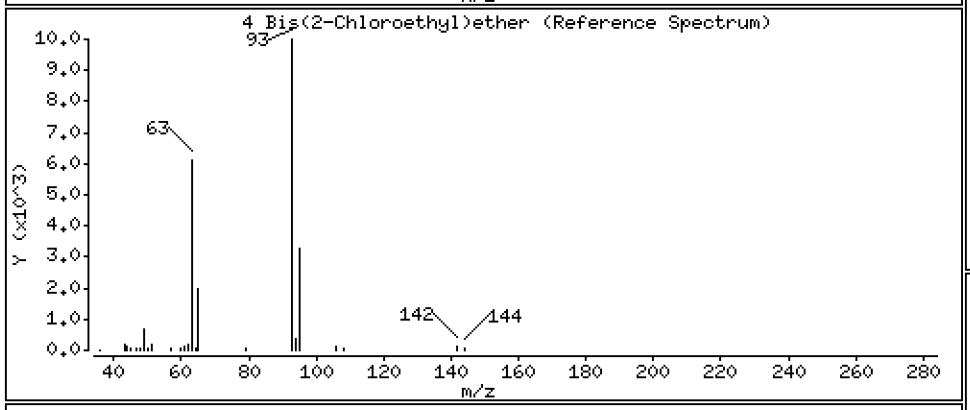
Concentration: 4.990 ug/mL

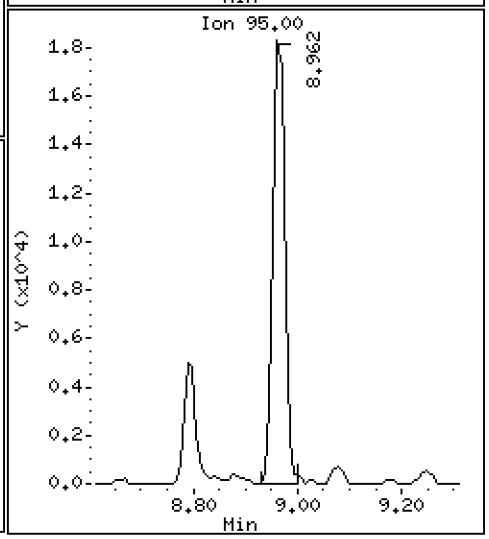


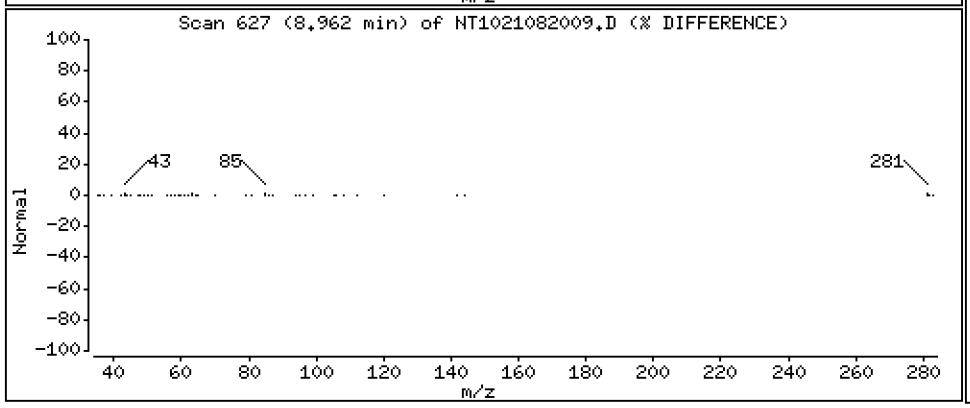












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

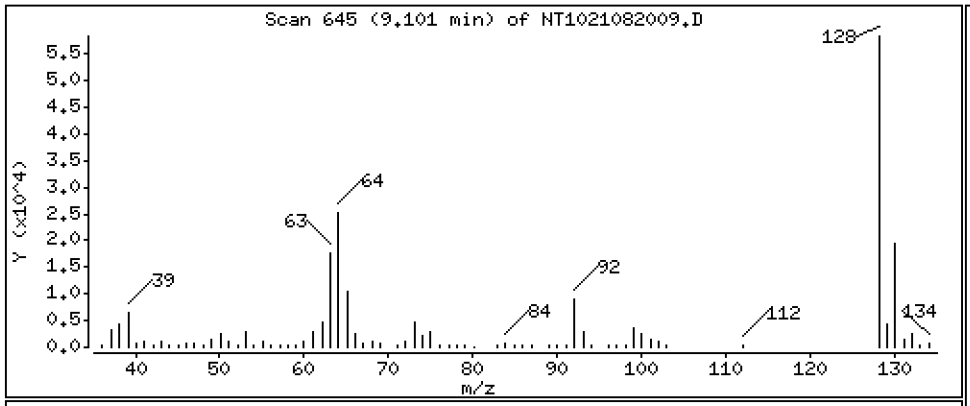
Operator: VTS

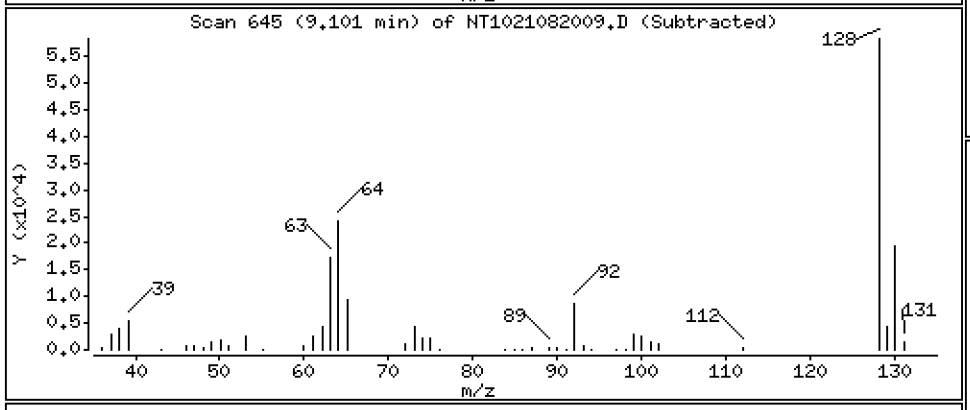
Column phase: ZB-5msi

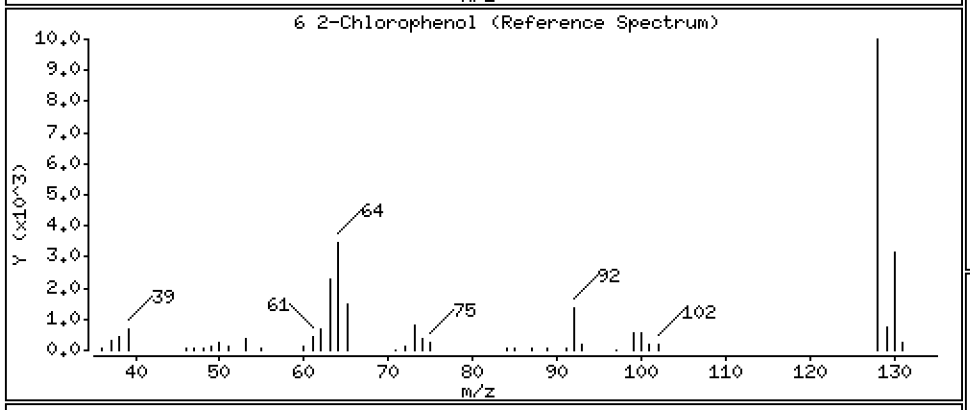
Column diameter: 0.25

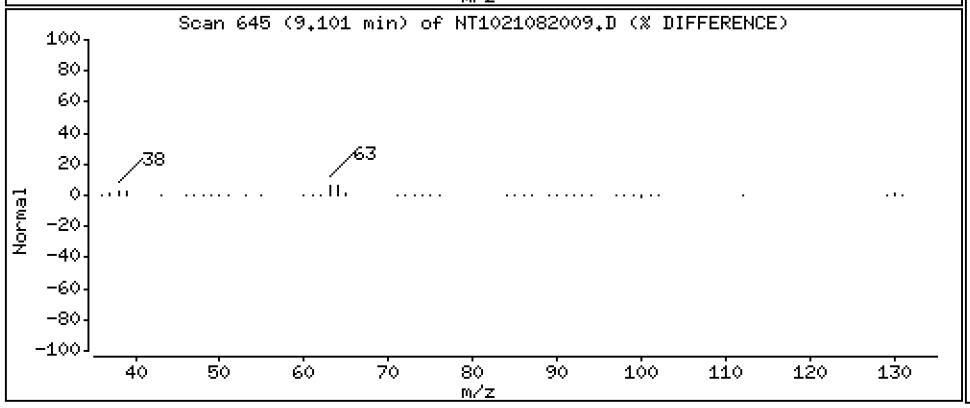
6 2-Chlorophenol

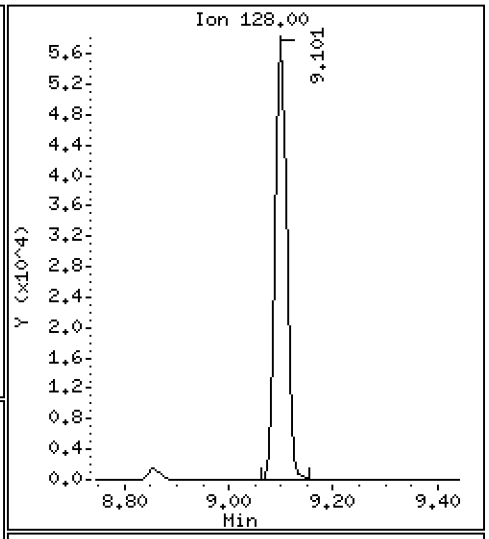
Concentration: 3.730 ug/mL

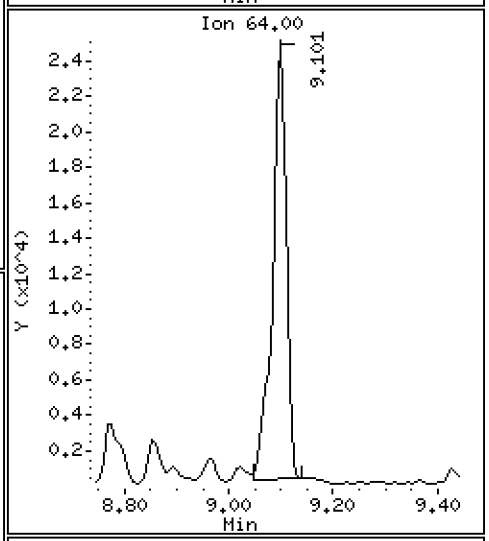


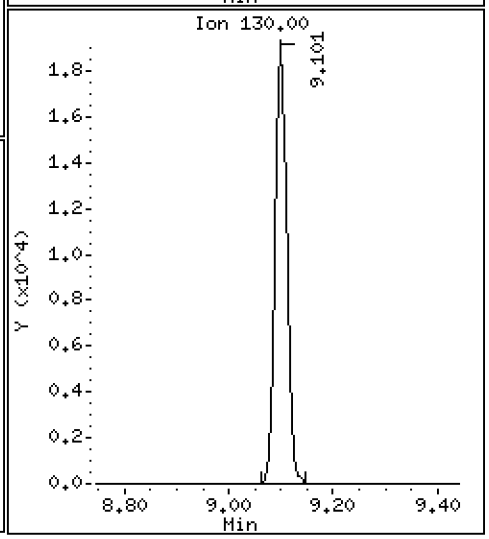












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

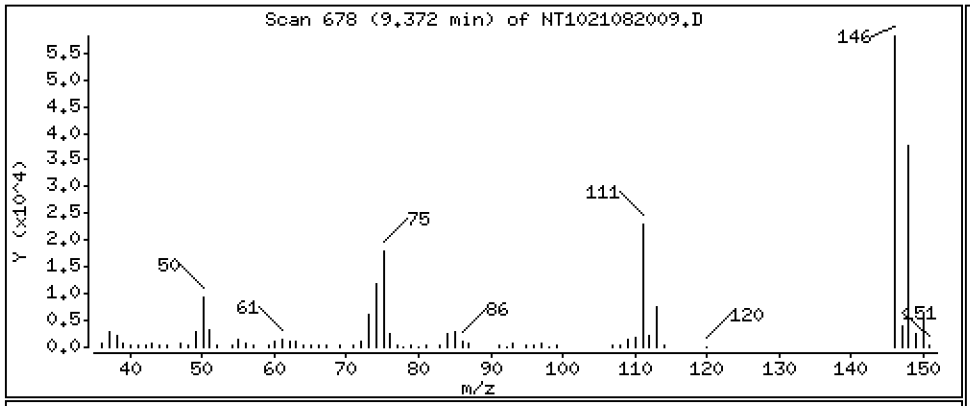
Operator: VTS

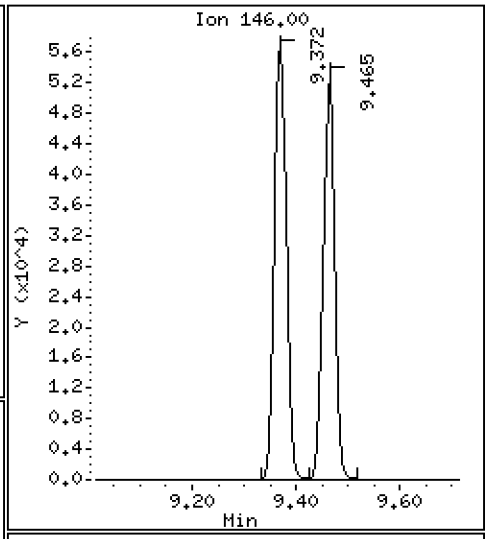
Column phase: ZB-5msi

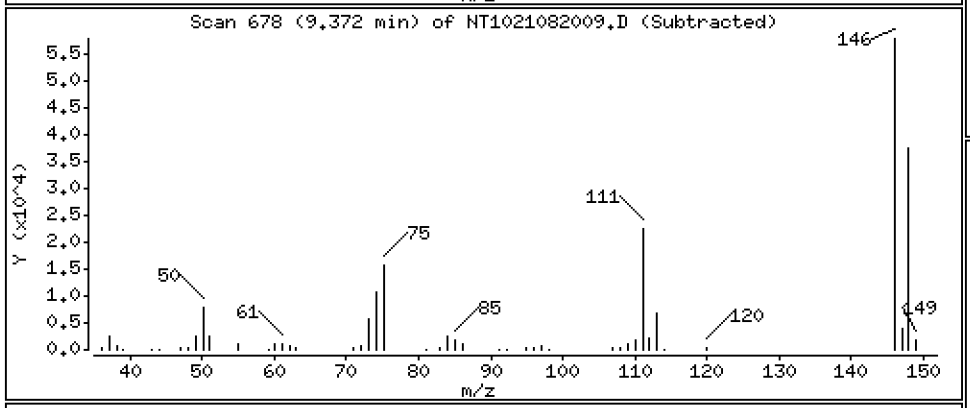
Column diameter: 0.25

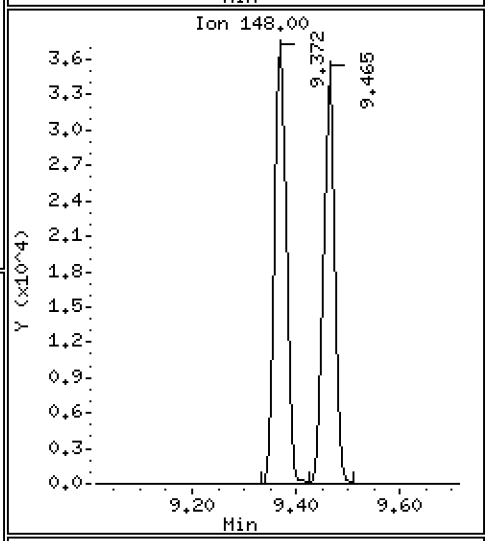
7 1,3-Dichlorobenzene

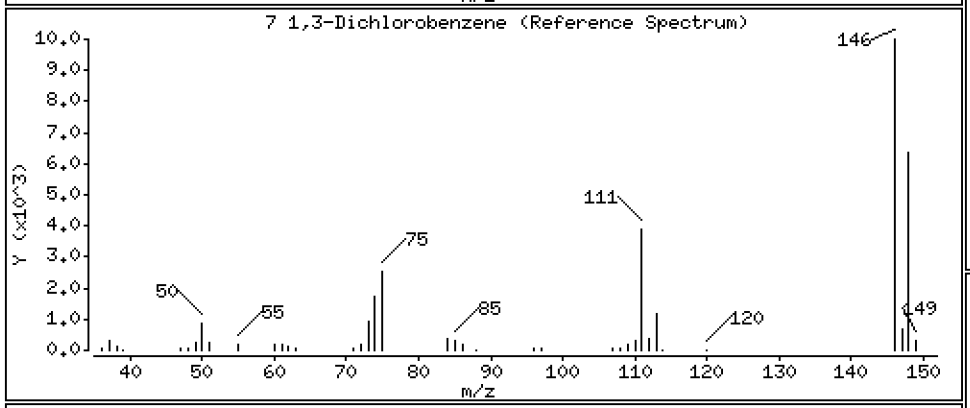
Concentration: 3.705 ug/mL

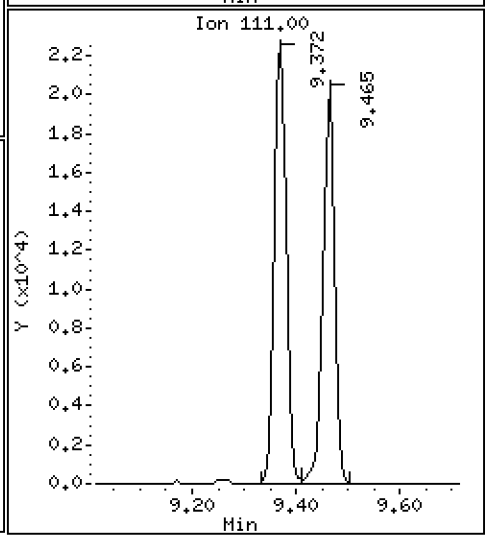


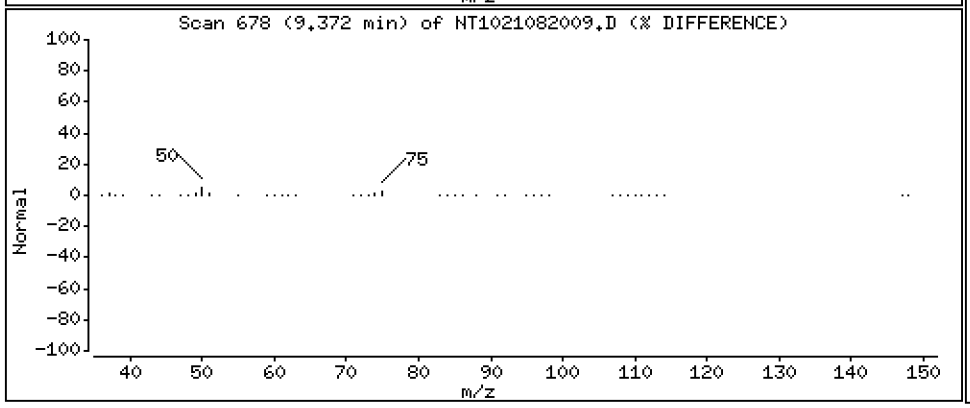












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

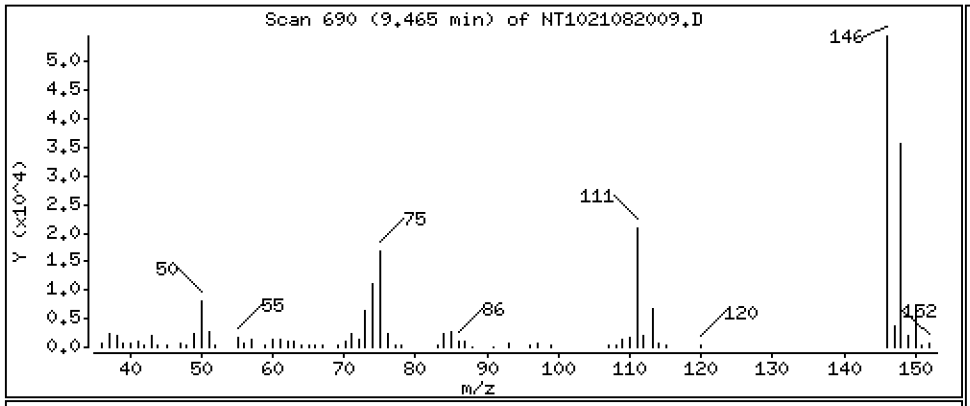
Operator: VTS

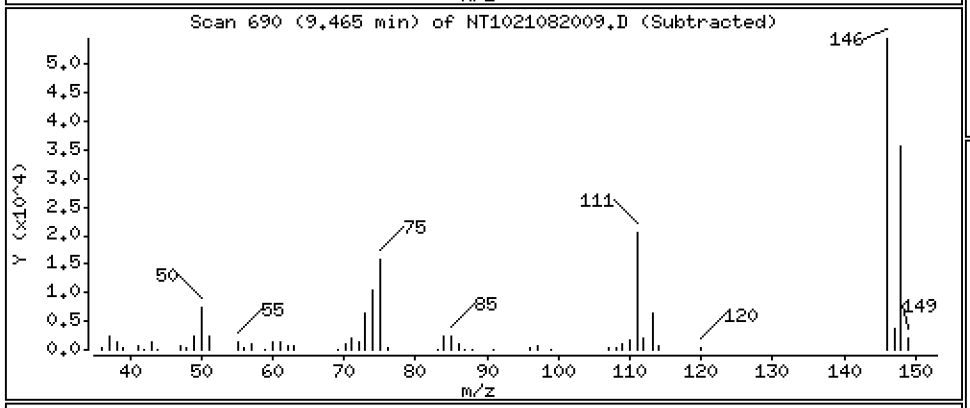
Column phase: ZB-5msi

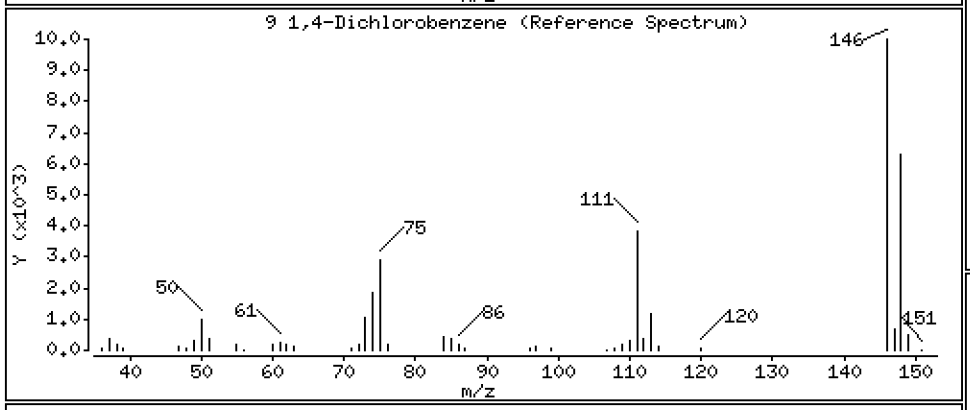
Column diameter: 0.25

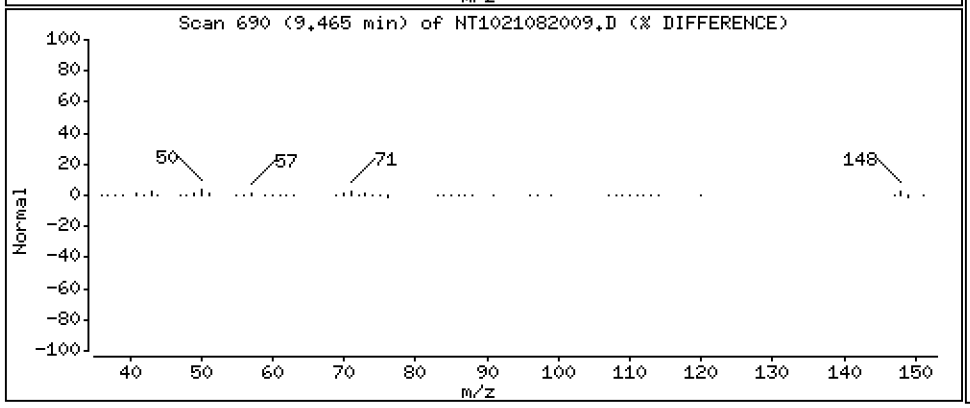
9 1,4-Dichlorobenzene

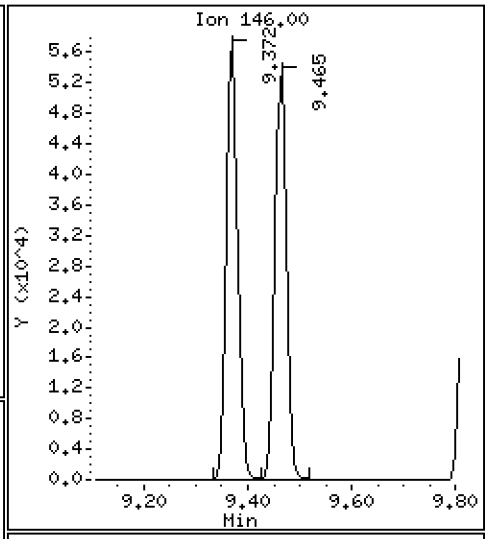
Concentration: 4.403 ug/mL

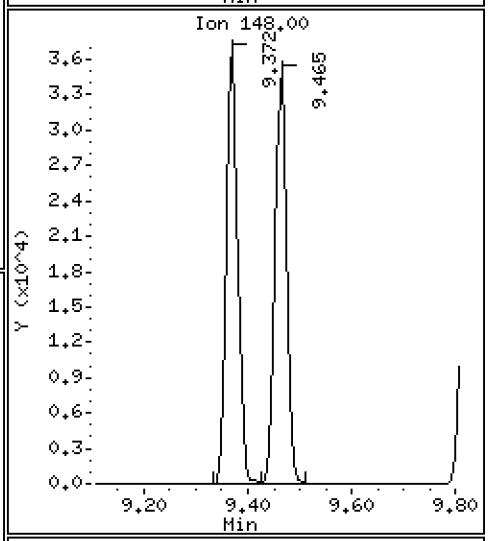


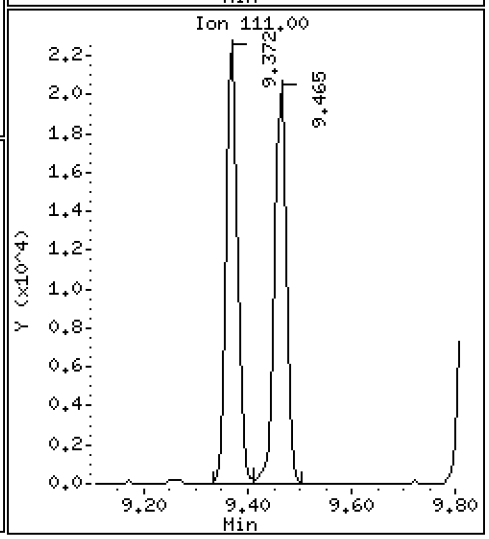












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

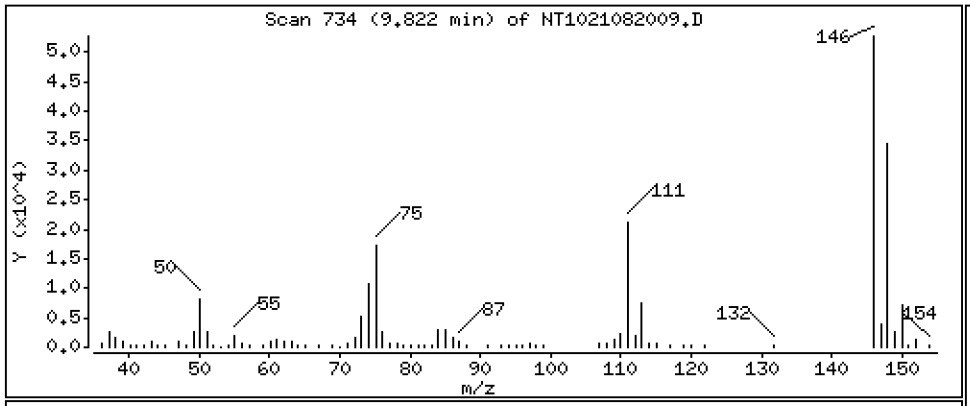
Operator: VTS

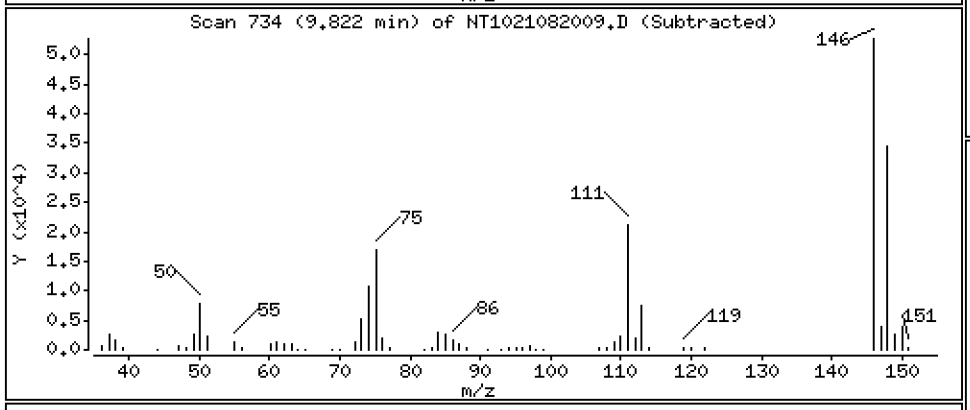
Column phase: ZB-5msi

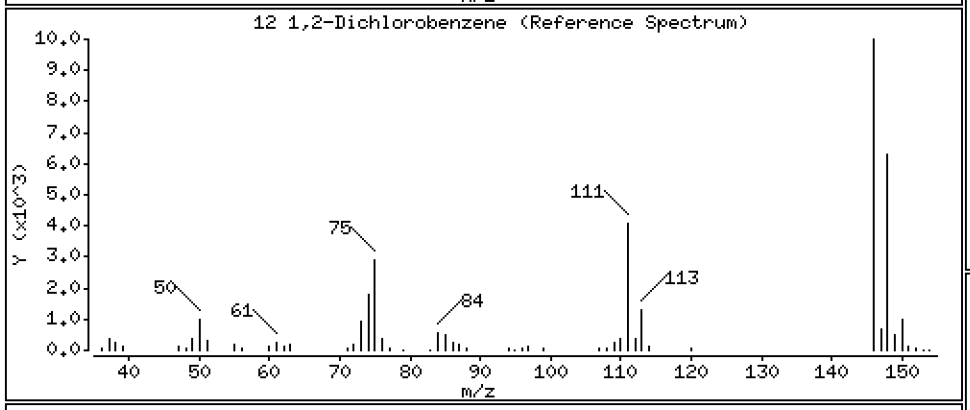
Column diameter: 0.25

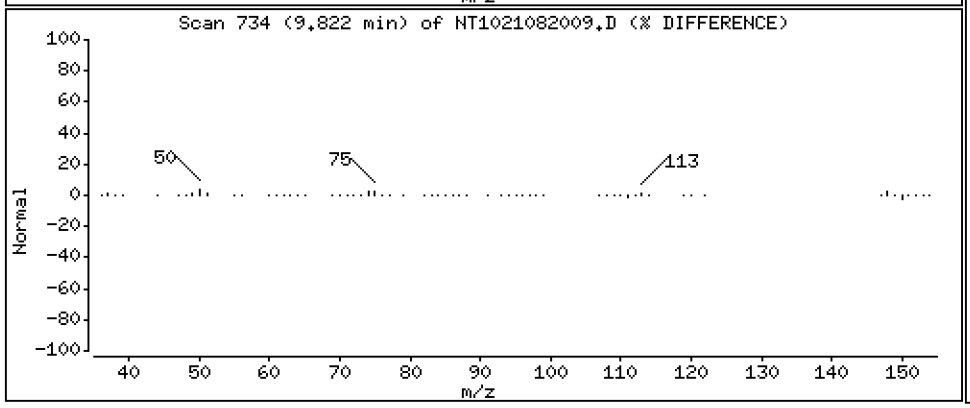
12 1,2-Dichlorobenzene

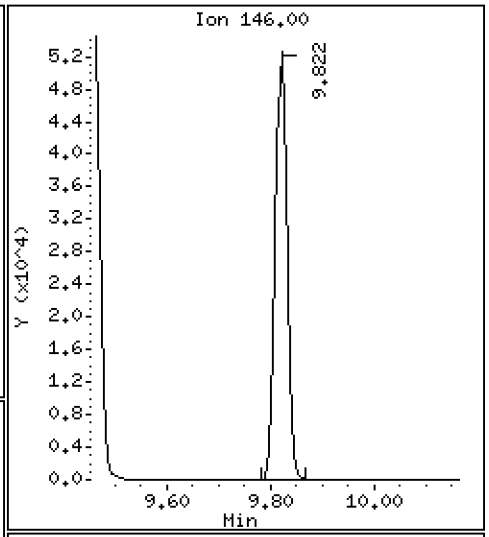
Concentration: 3.893 ug/mL

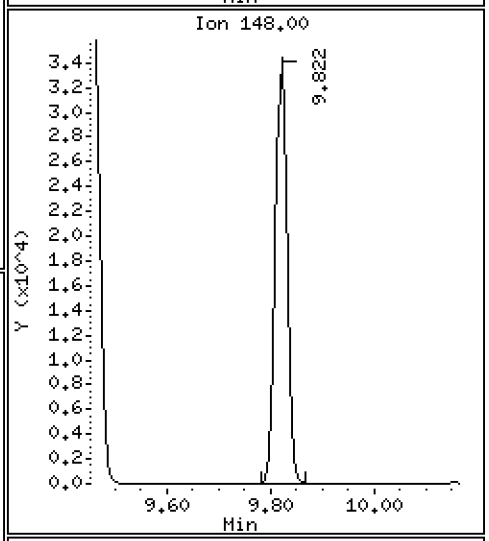


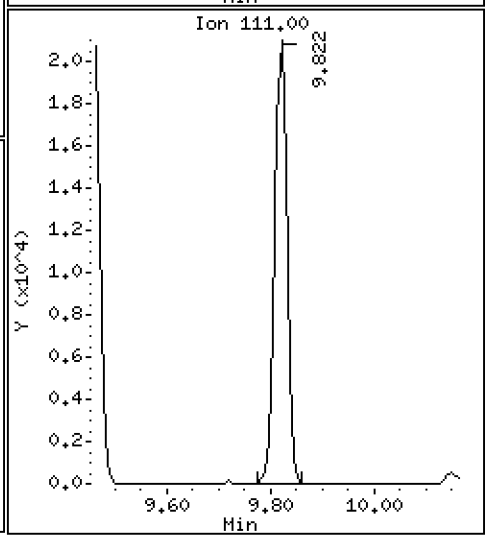












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

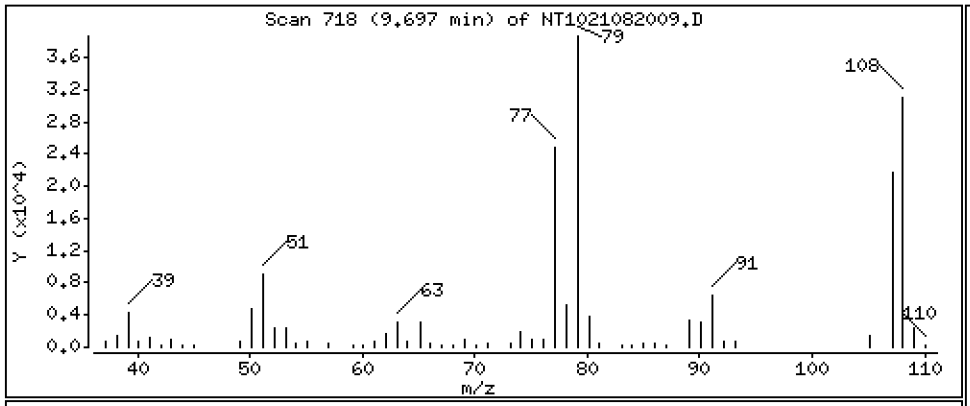
Operator: VTS

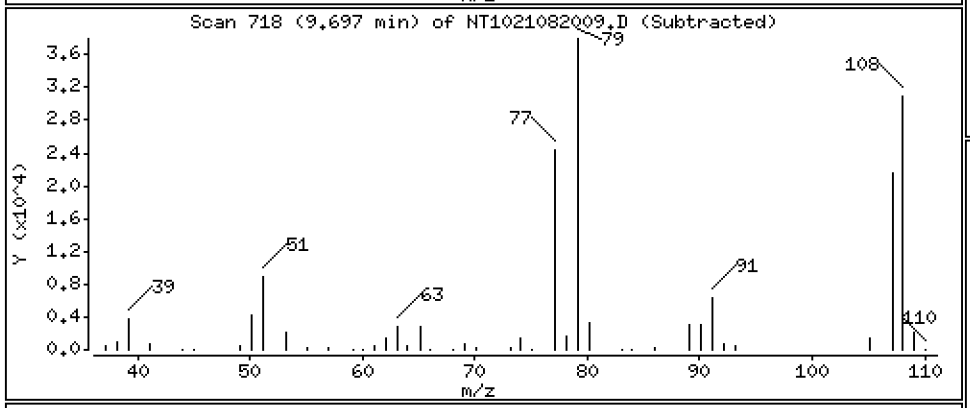
Column phase: ZB-5msi

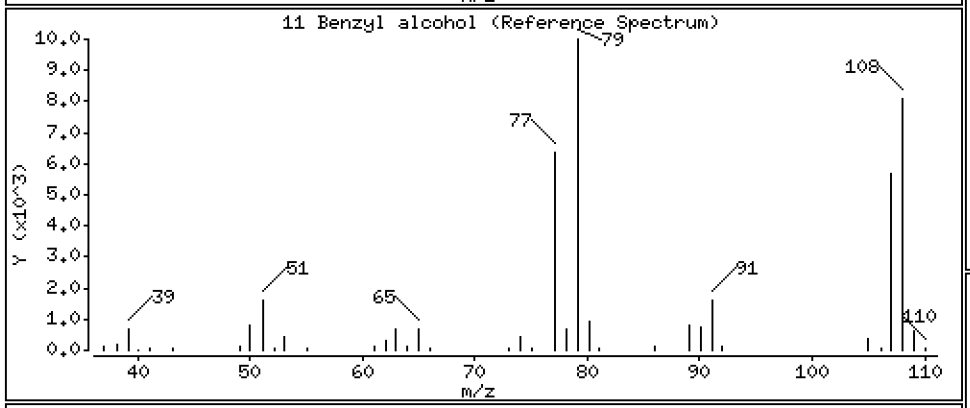
Column diameter: 0.25

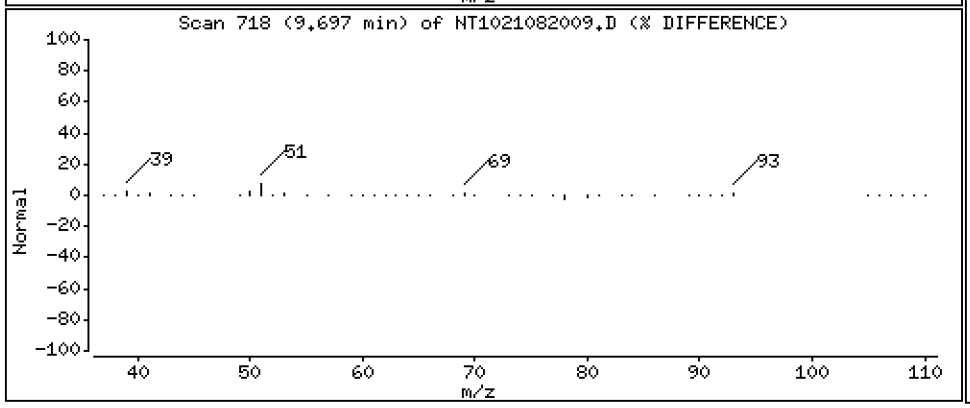
11 Benzyl alcohol

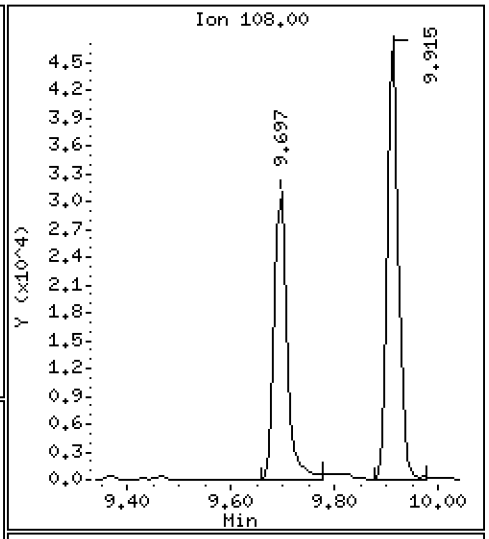
Concentration: 4.087 ug/mL

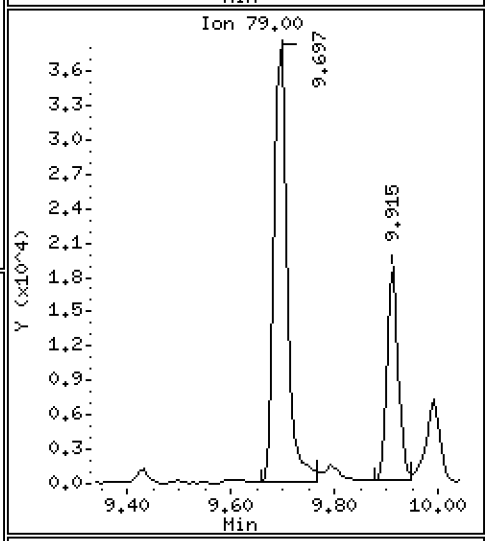


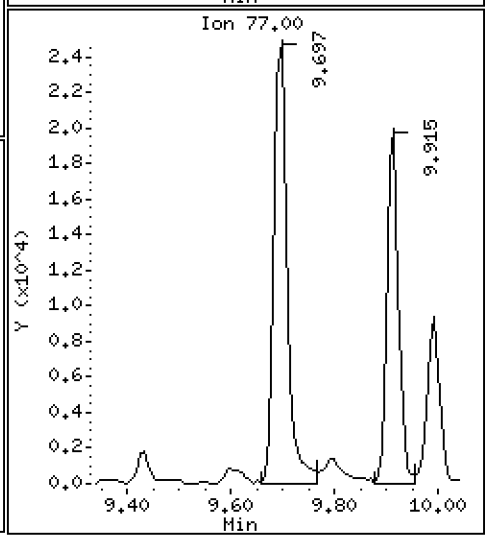












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

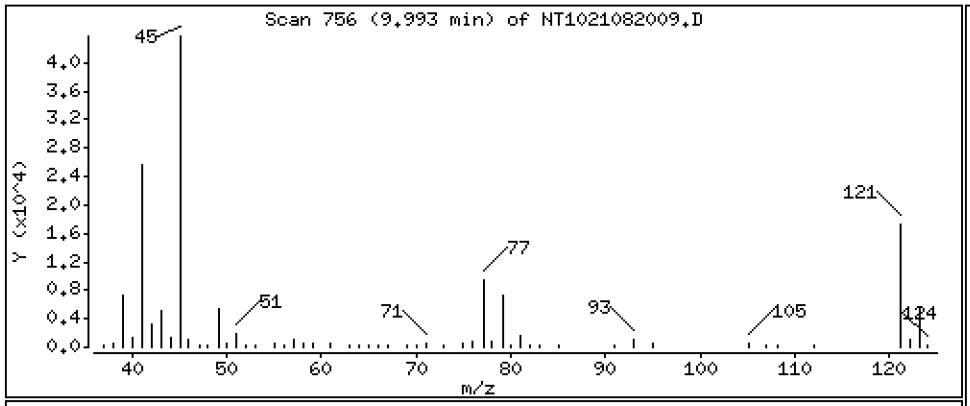
Operator: VTS

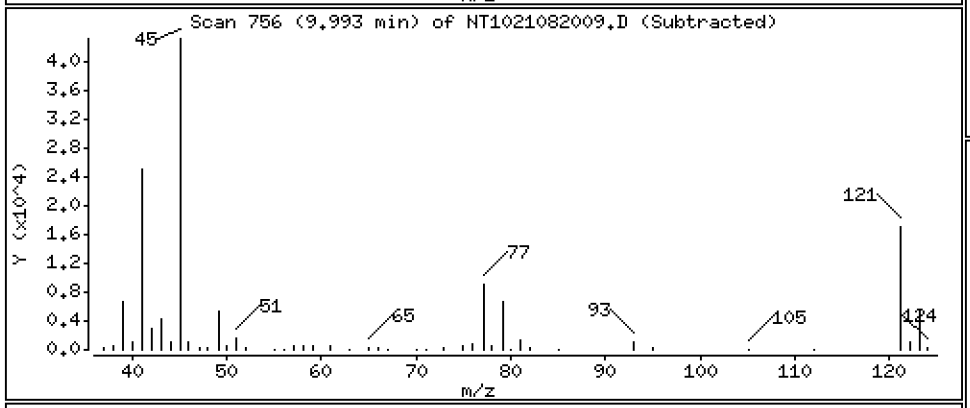
Column phase: ZB-5msi

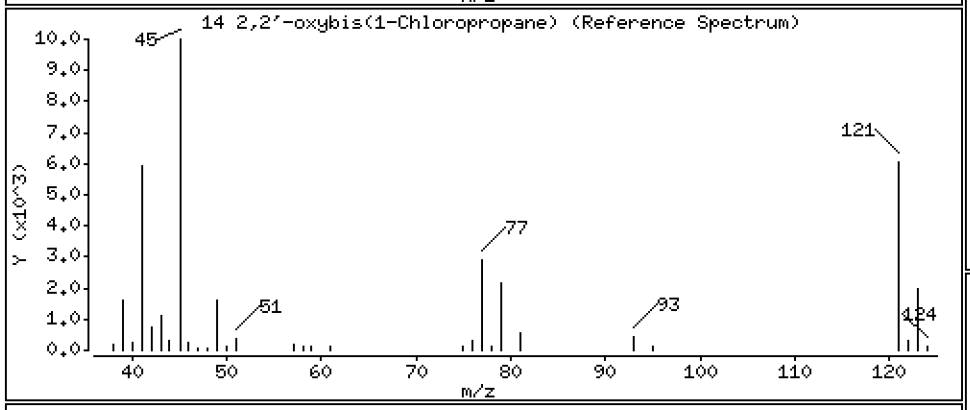
Column diameter: 0.25

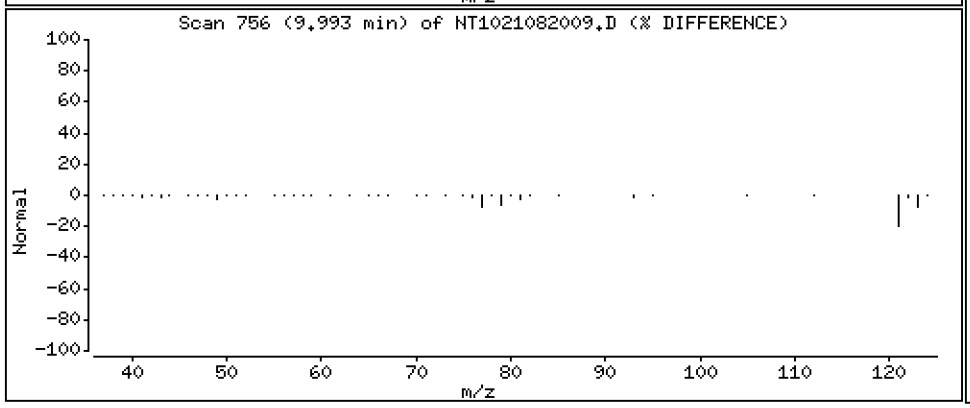
14 2,2'-oxybis(1-Chloropropane)

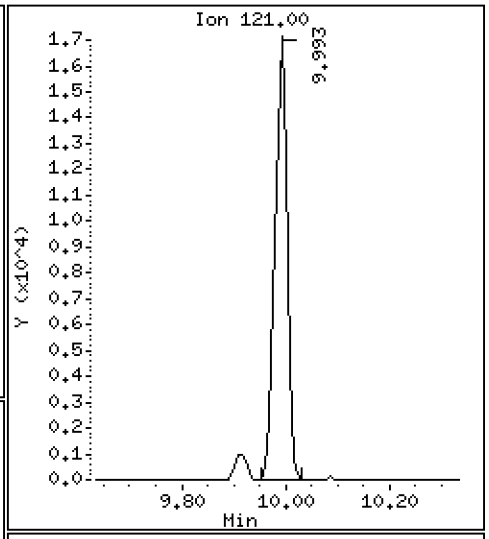
Concentration: 4.543 ug/mL

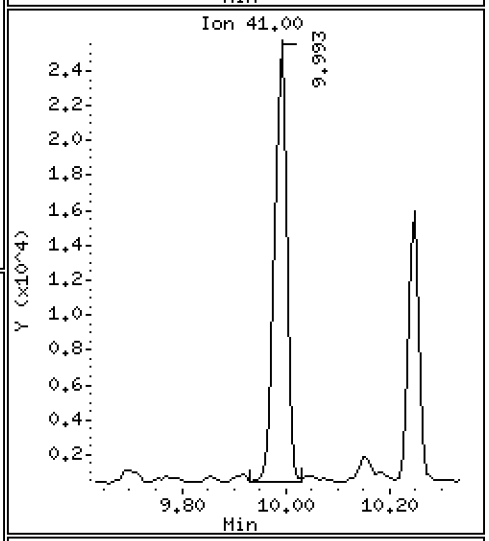


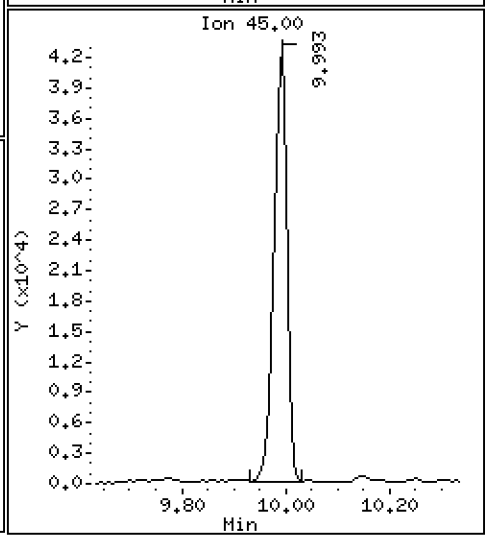












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

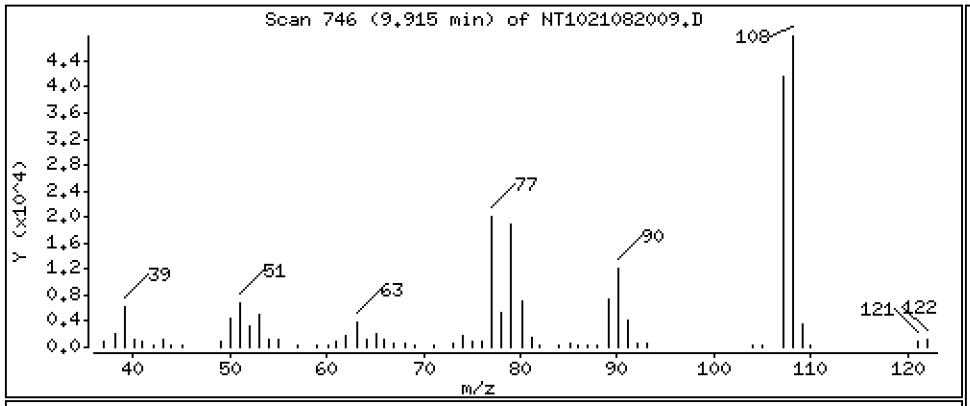
Operator: VTS

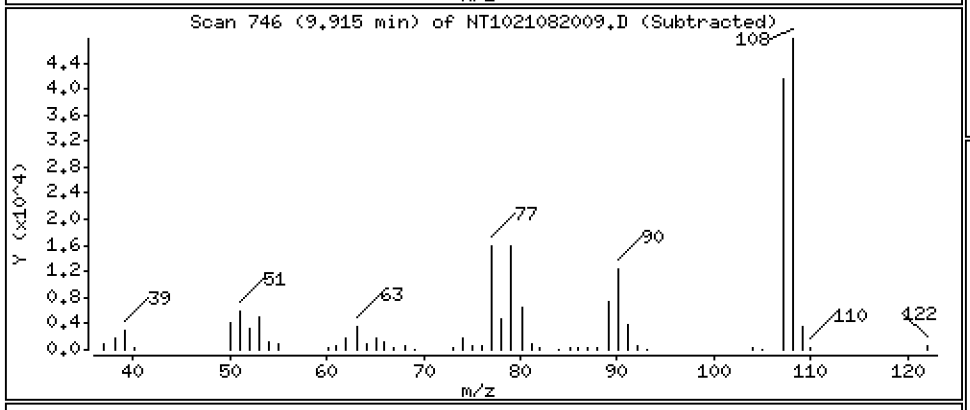
Column phase: ZB-5msi

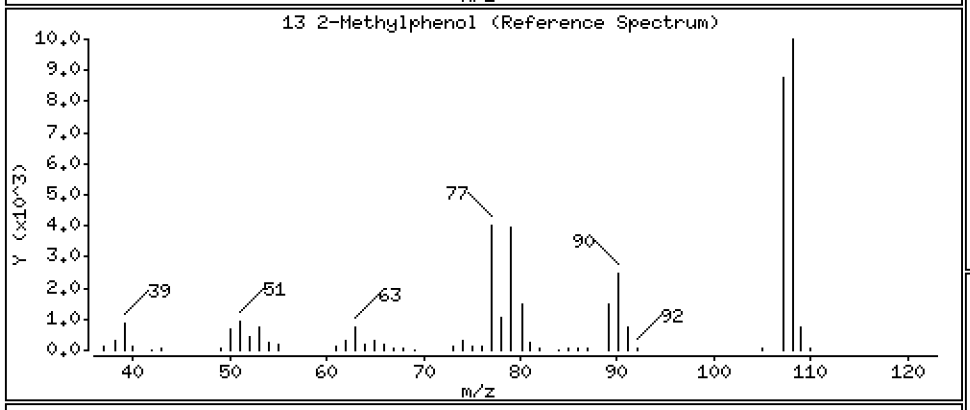
Column diameter: 0.25

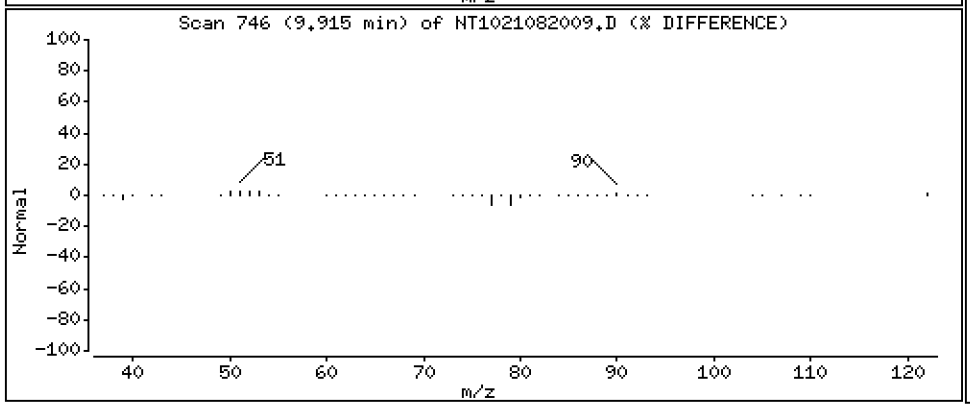
13 2-Methylphenol

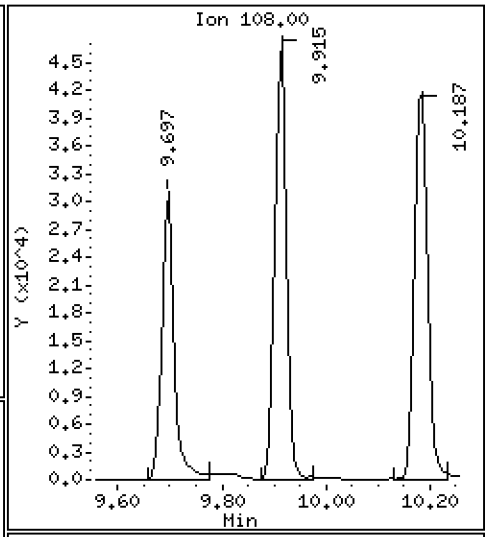
Concentration: 4.120 ug/mL

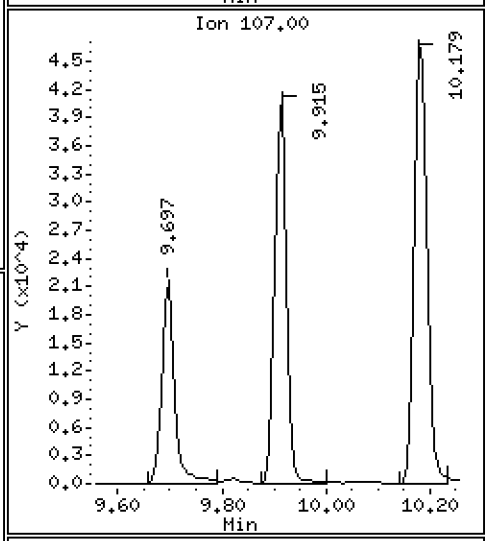


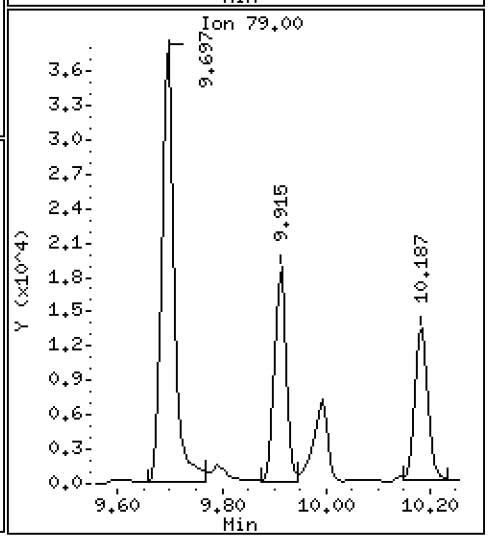












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

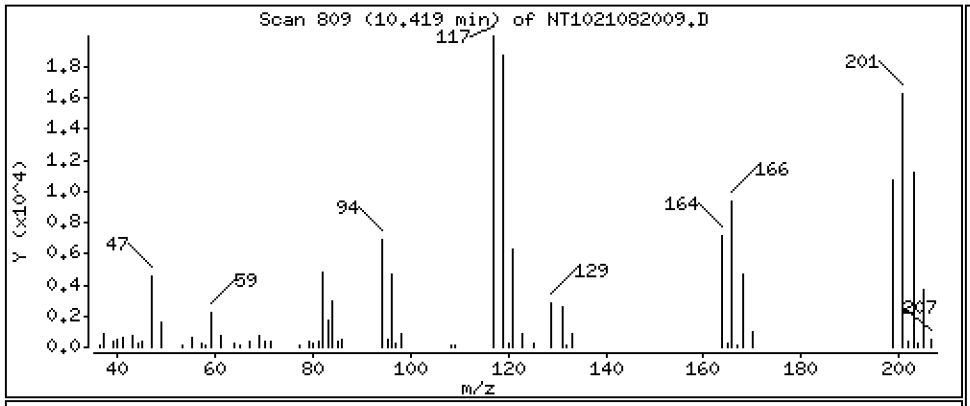
Operator: VTS

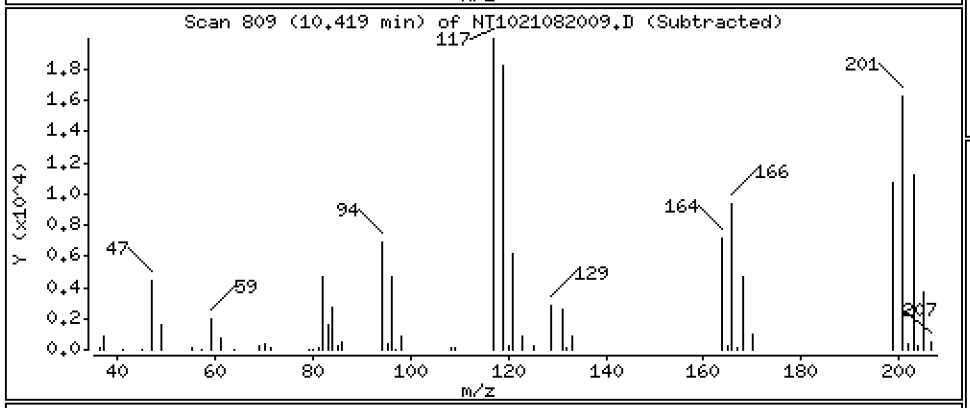
Column phase: ZB-5msi

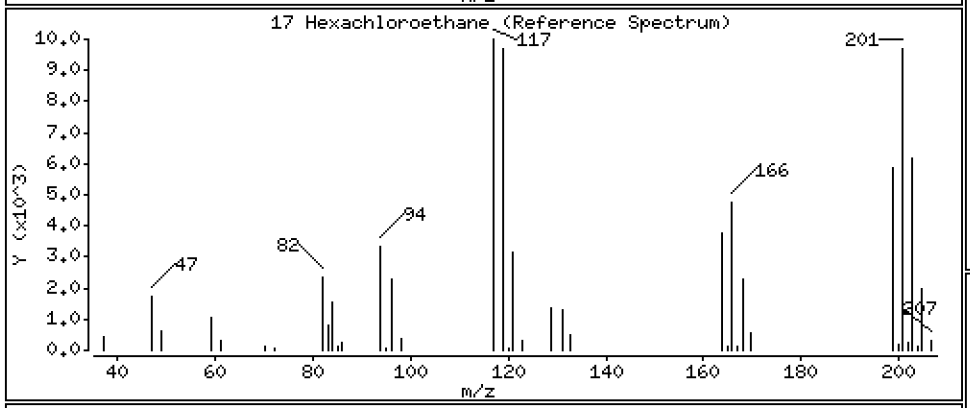
Column diameter: 0.25

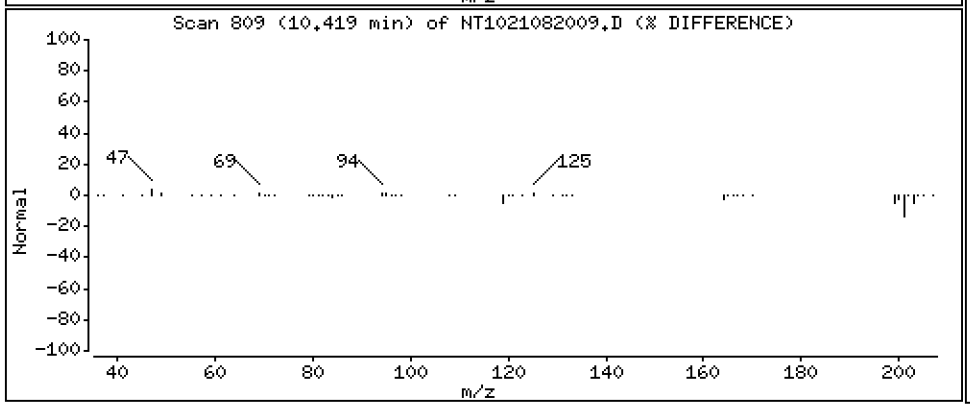
17 Hexachloroethane

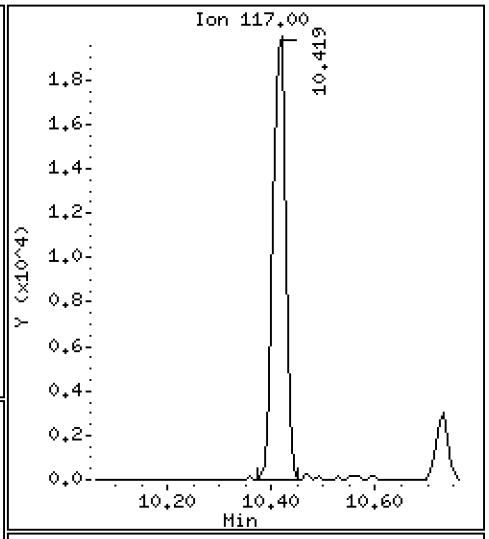
Concentration: 4.260 ug/mL

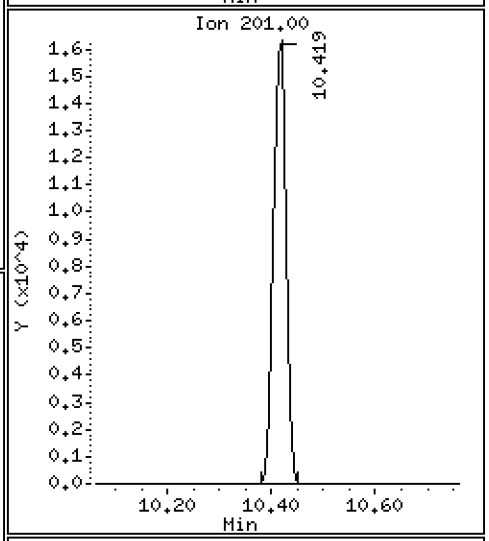


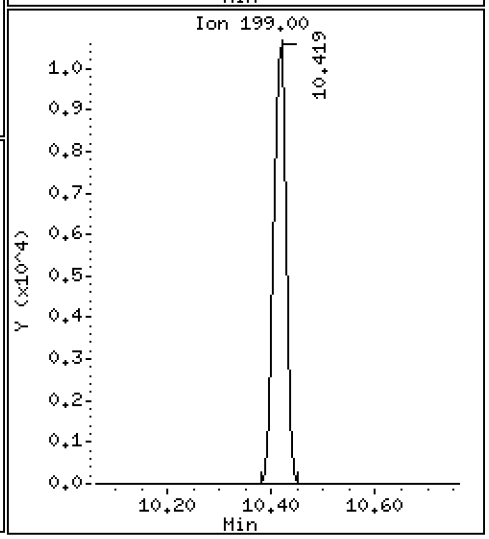












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

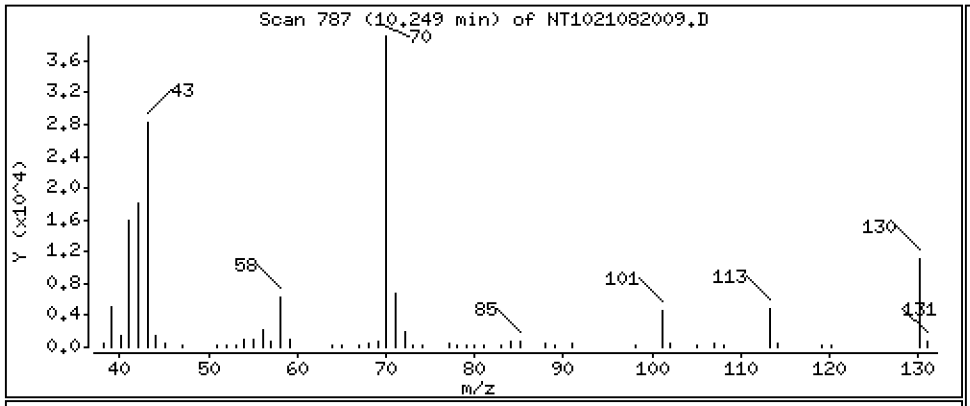
Operator: VTS

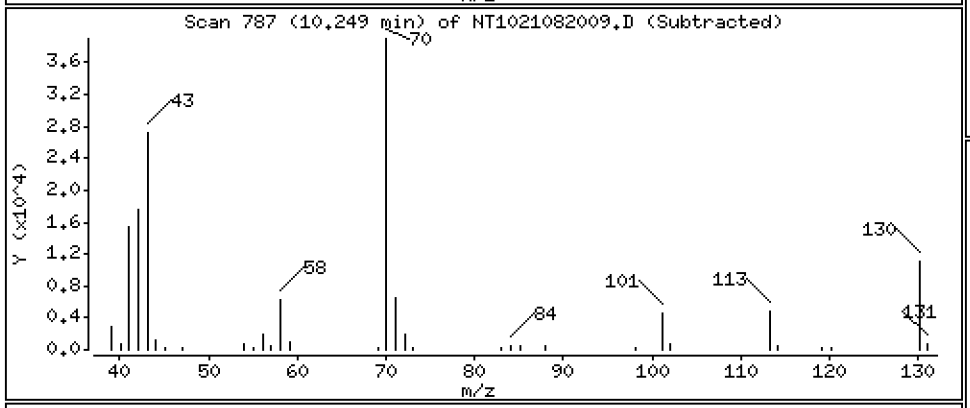
Column phase: ZB-5msi

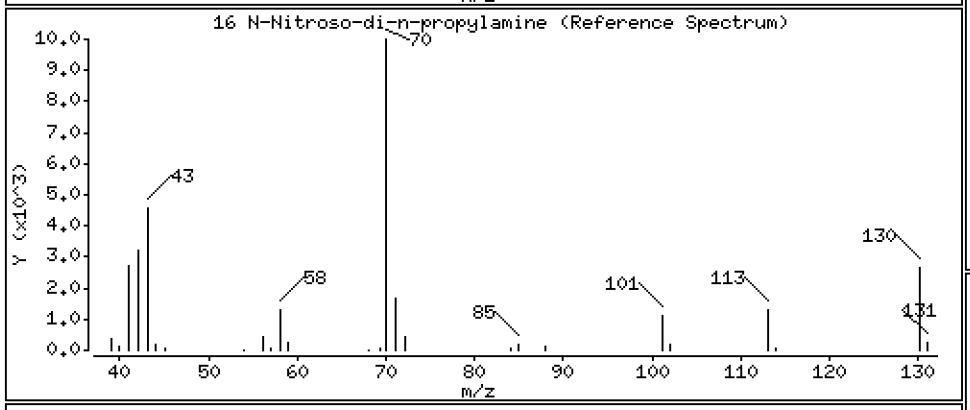
Column diameter: 0.25

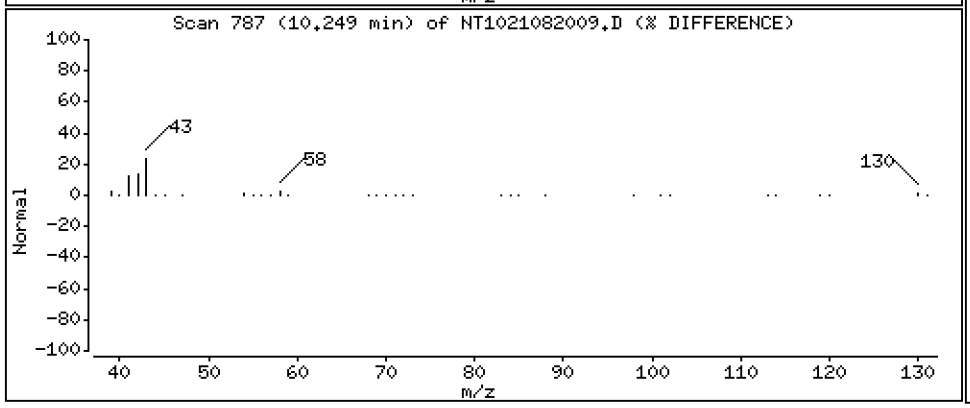
16 N-Nitroso-di-n-propylamine

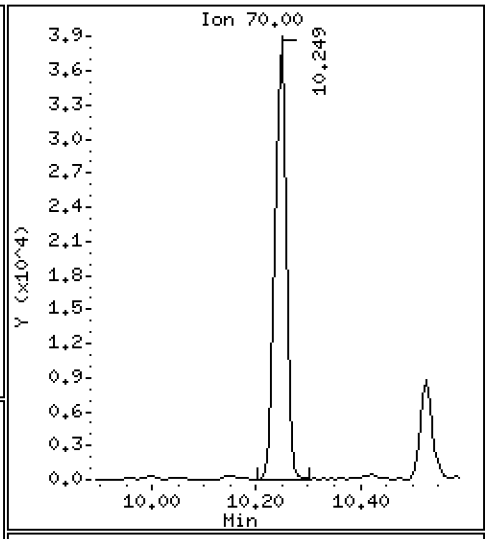
Concentration: 4.715 ug/mL

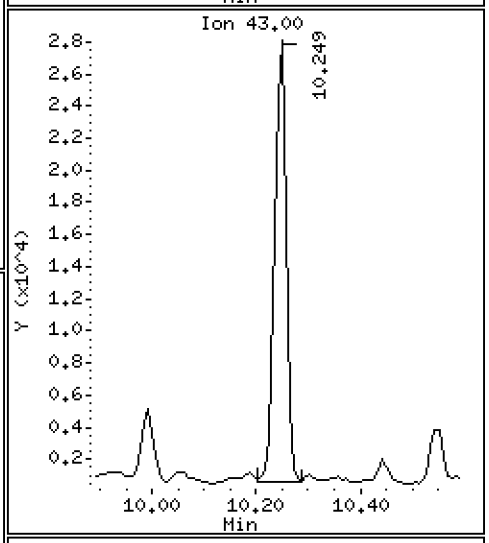


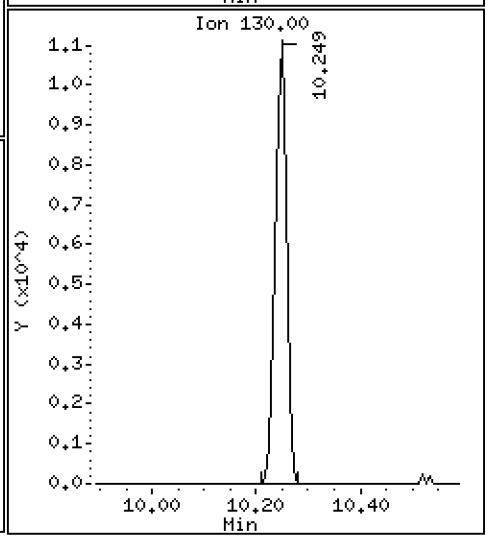












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

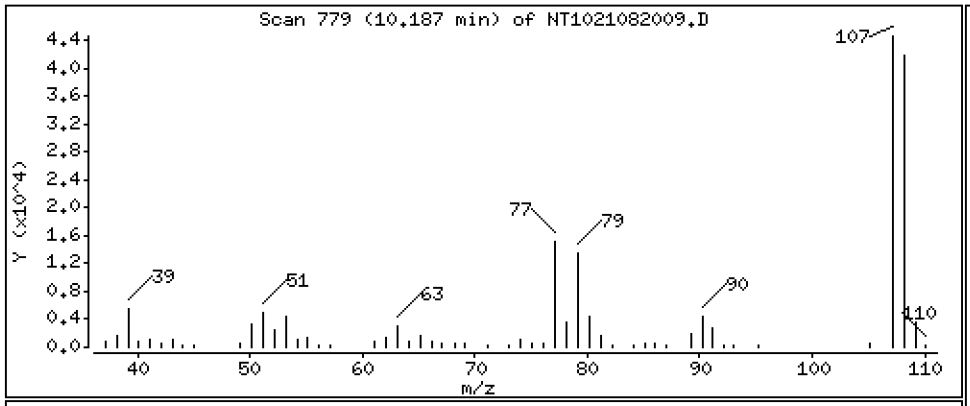
Operator: VTS

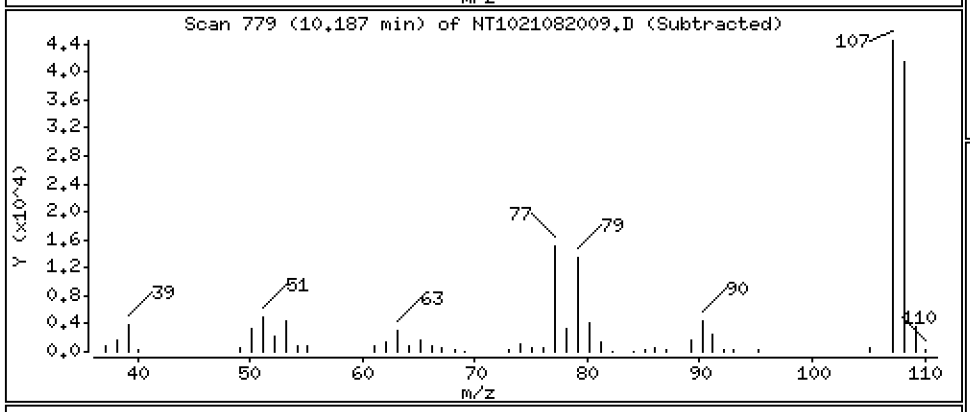
Column phase: ZB-5msi

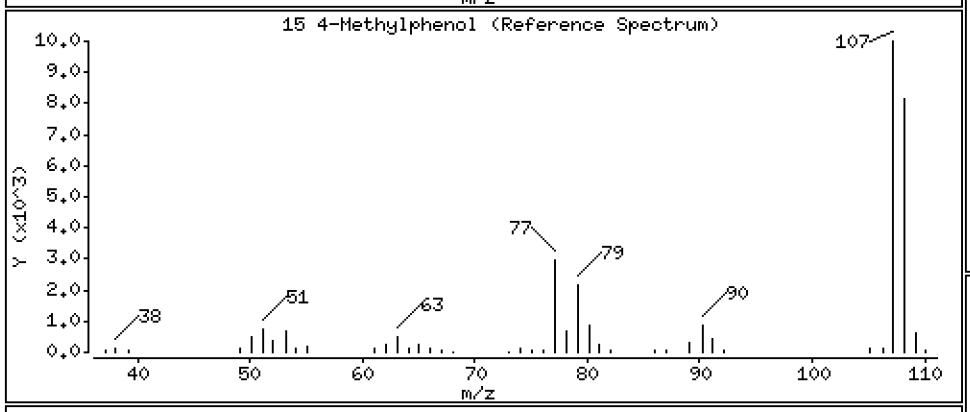
Column diameter: 0.25

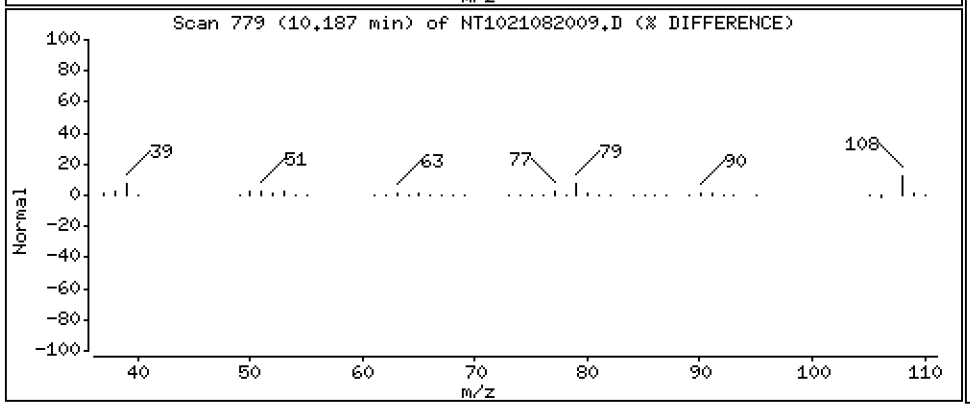
15 4-Methylphenol

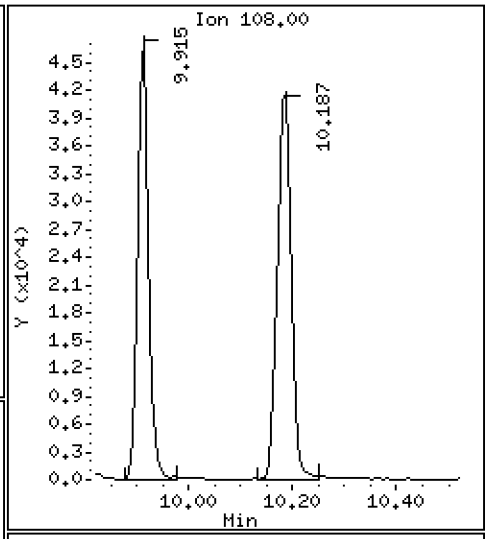
Concentration: 4.271 ug/mL

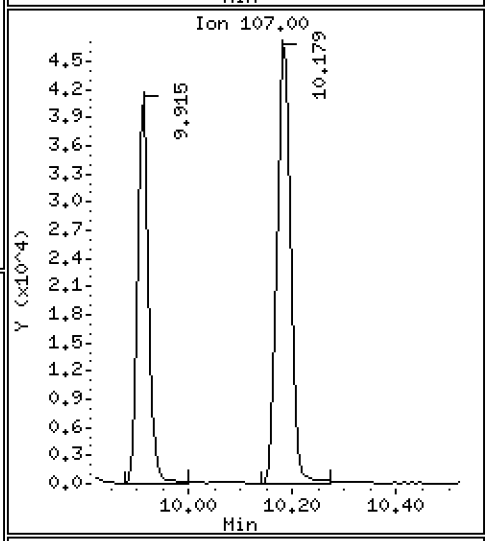


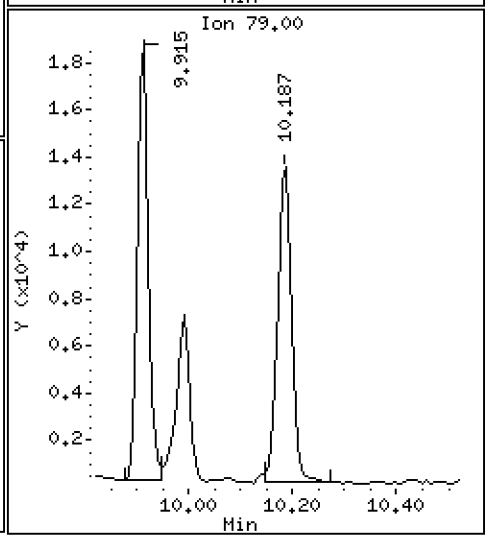












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

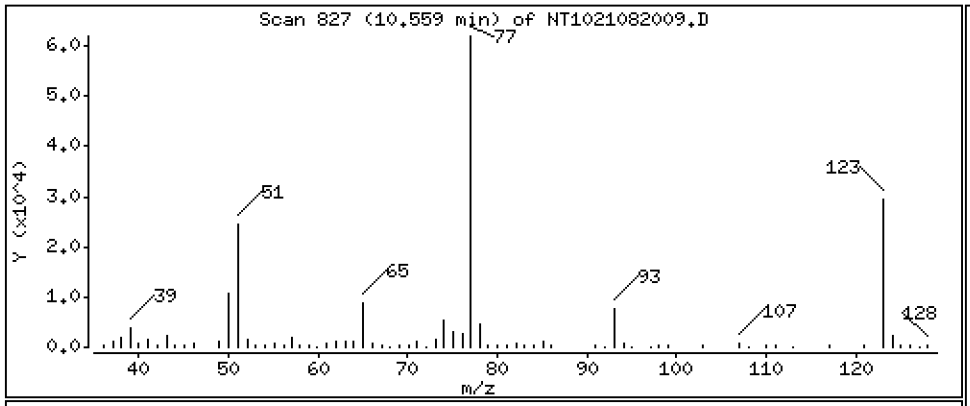
Operator: VTS

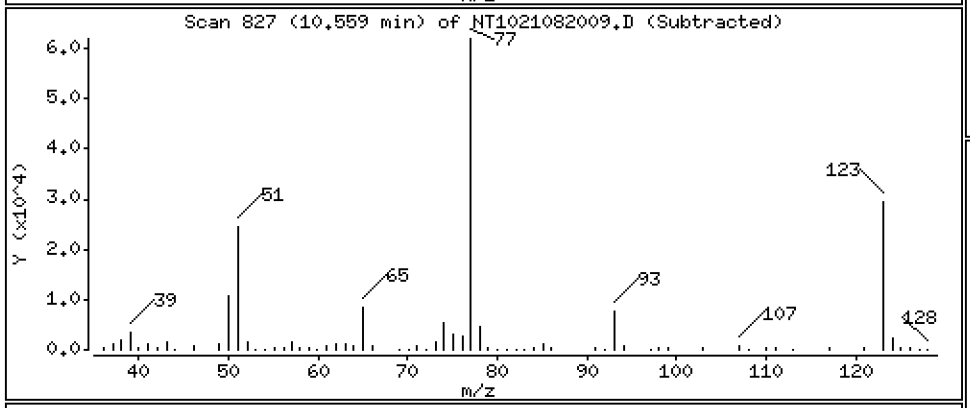
Column phase: ZB-5msi

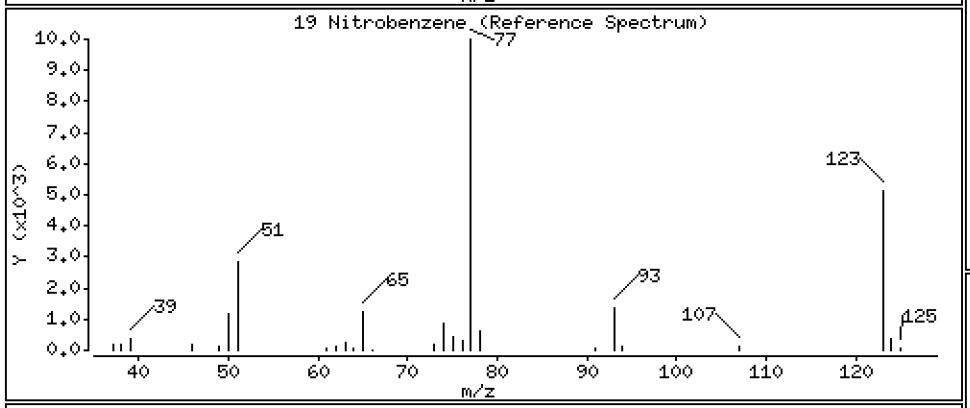
Column diameter: 0.25

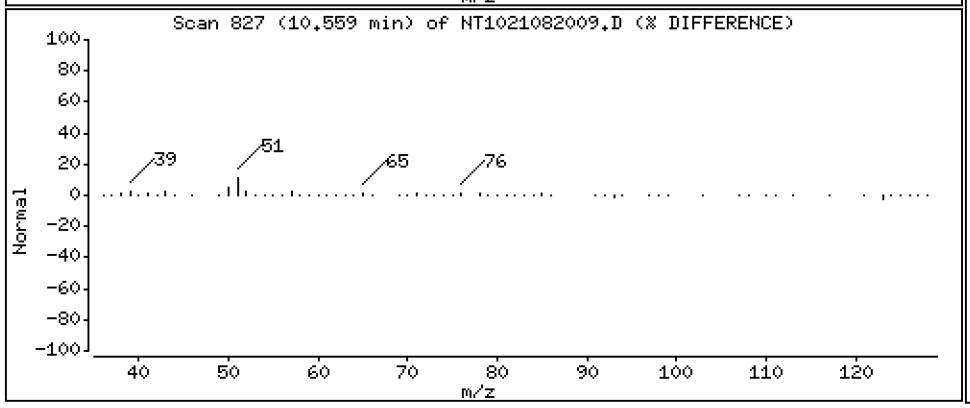
19 Nitrobenzene

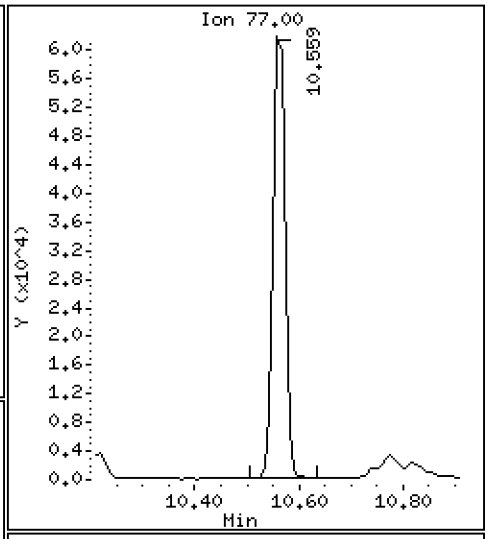
Concentration: 4.462 ug/mL

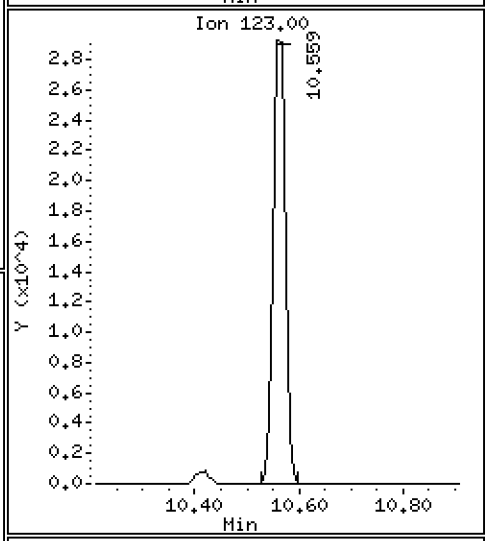


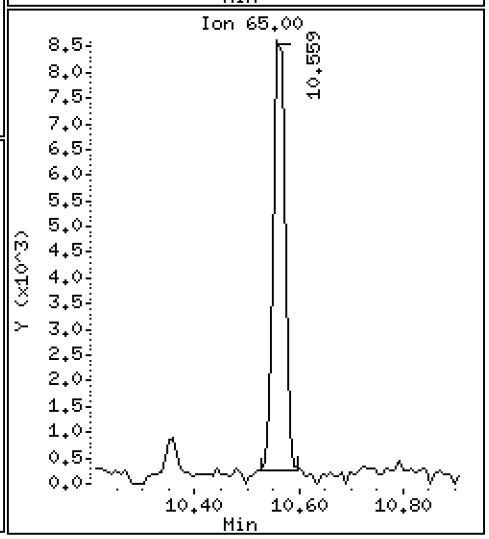












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

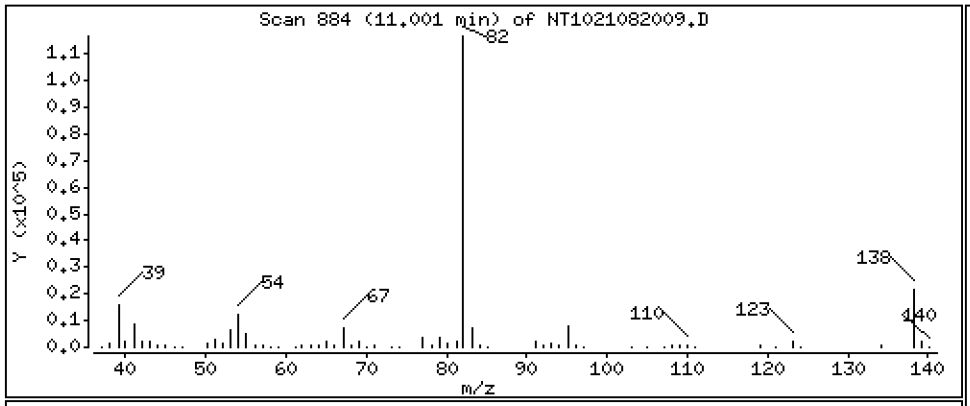
Operator: VTS

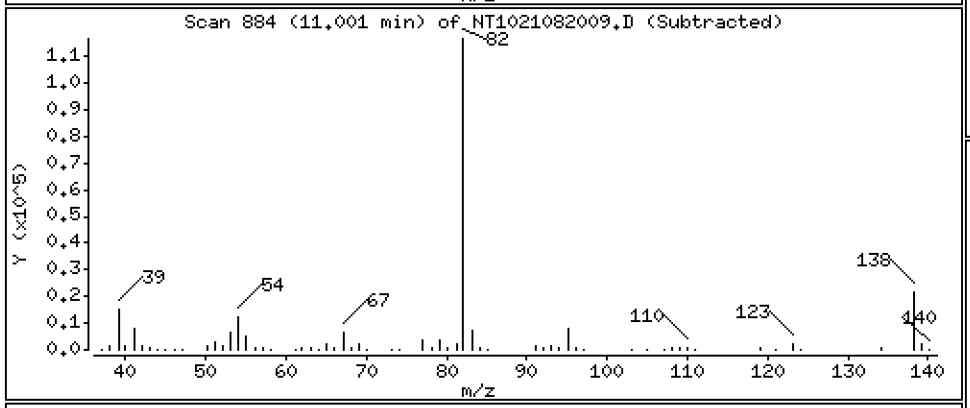
Column phase: ZB-5msi

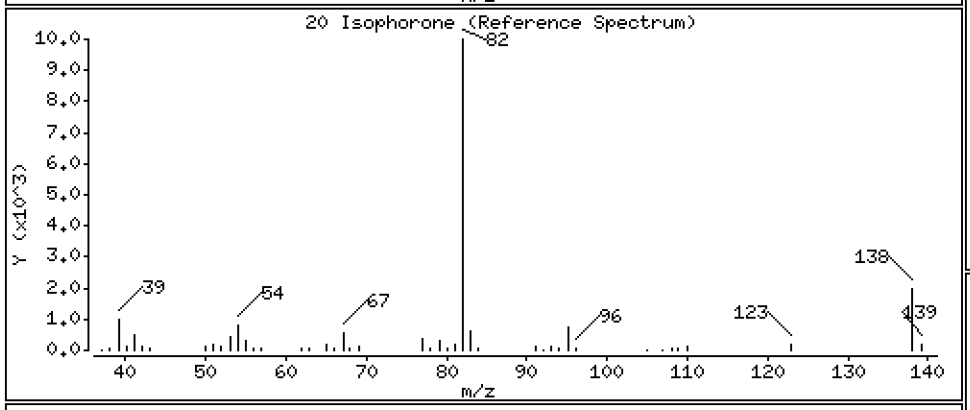
Column diameter: 0.25

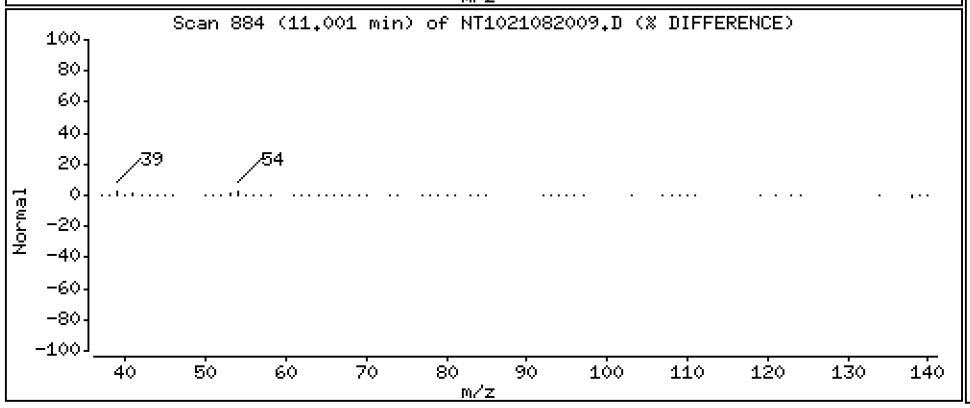
20 Isophorone

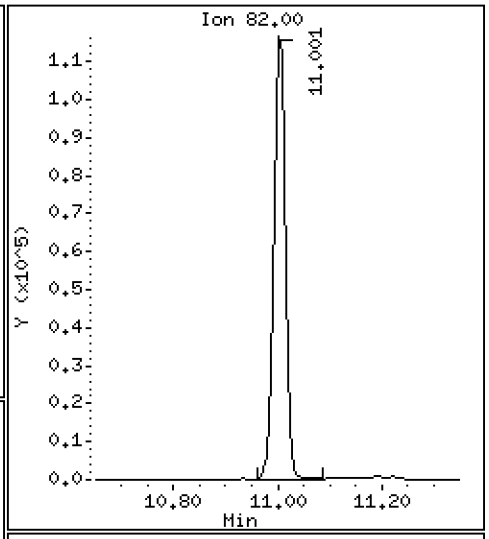
Concentration: 5.820 ug/mL

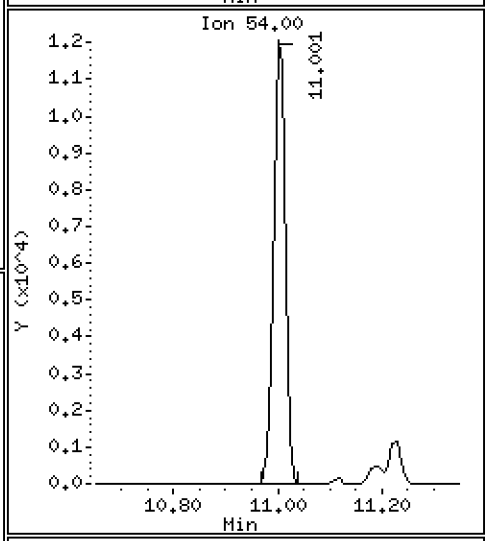


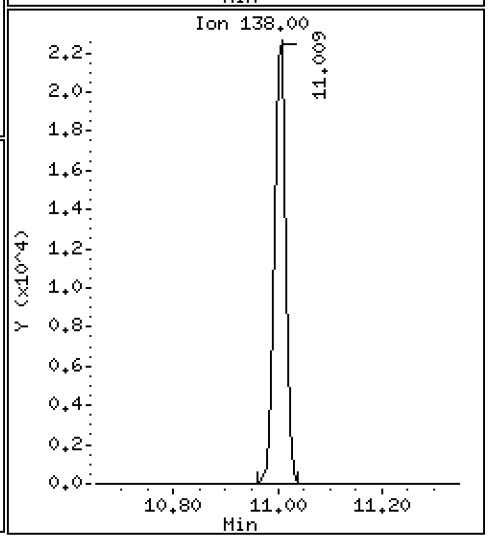












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

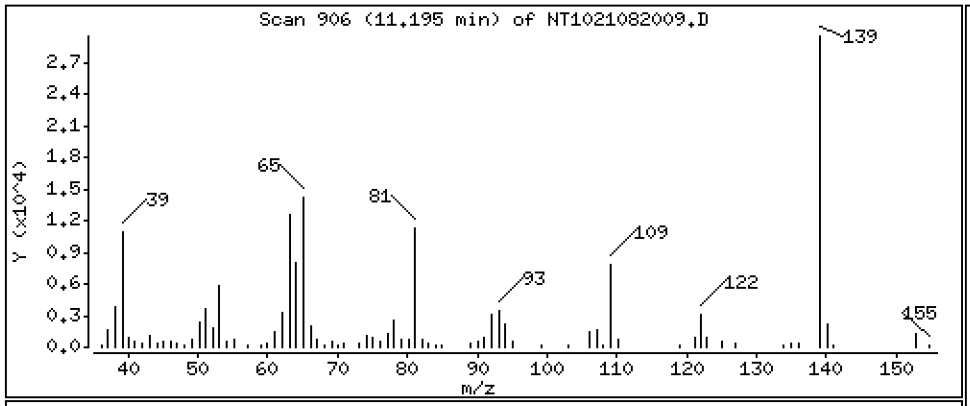
Operator: VTS

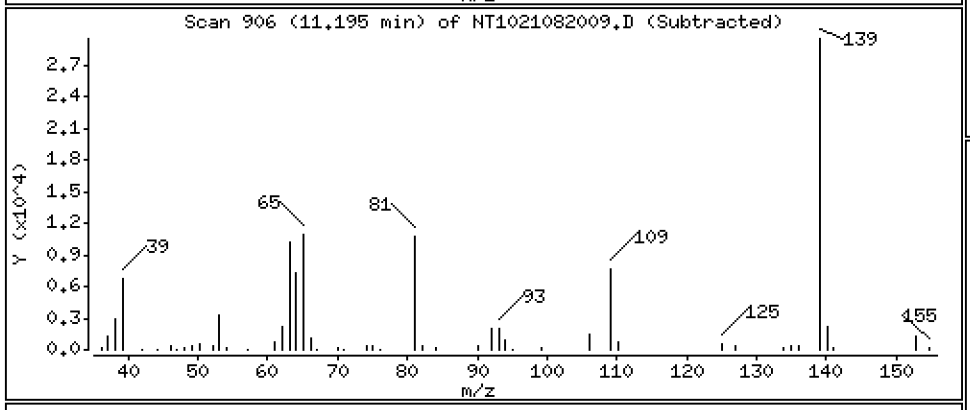
Column phase: ZB-5msi

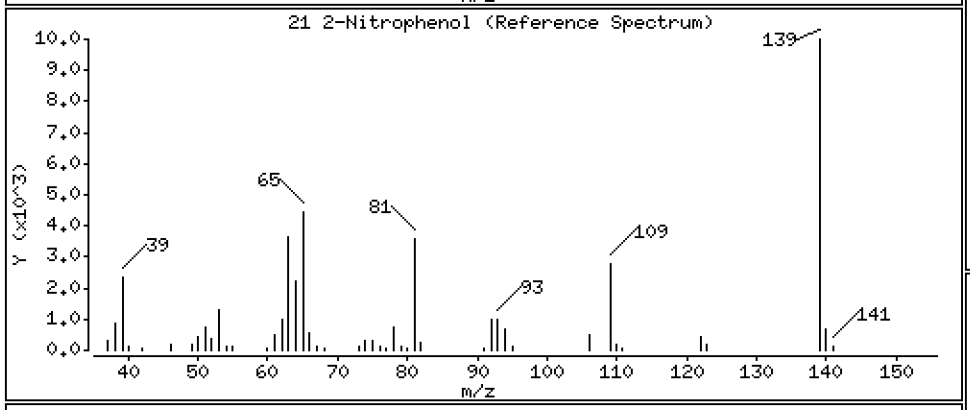
Column diameter: 0.25

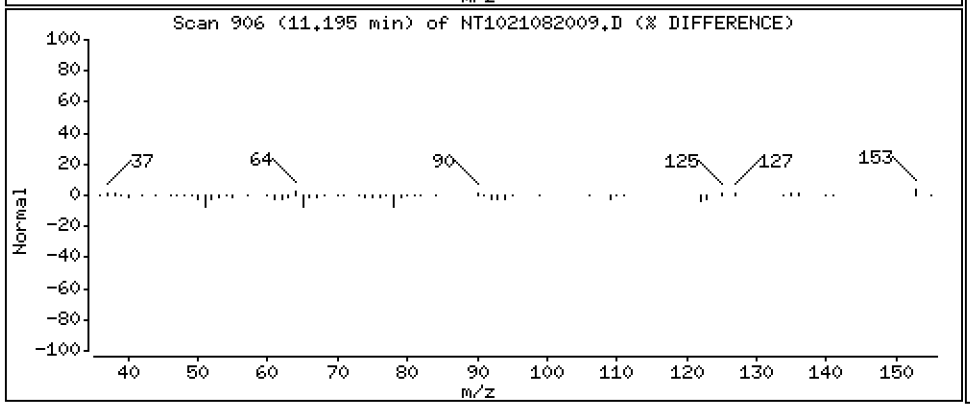
21 2-Nitrophenol

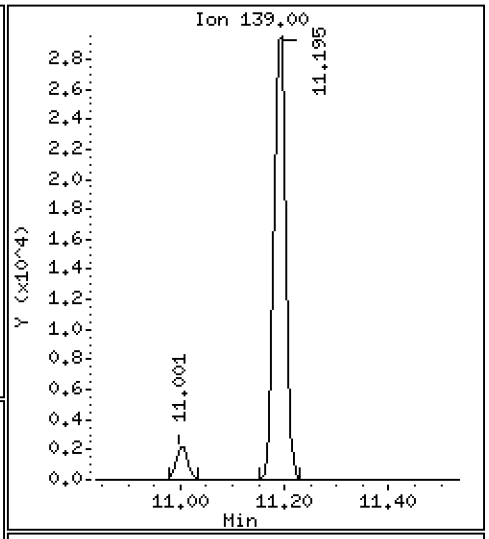
Concentration: 4.025 ug/mL

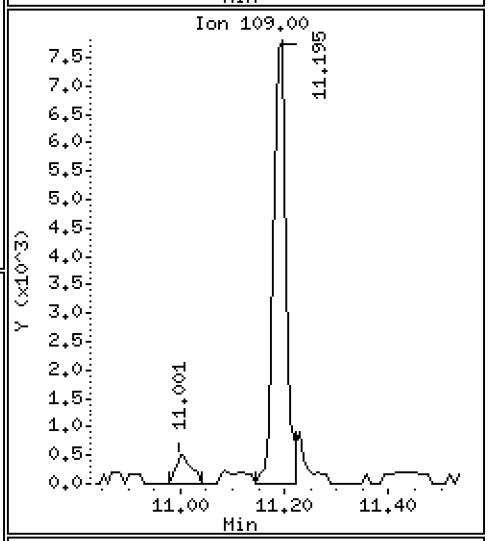


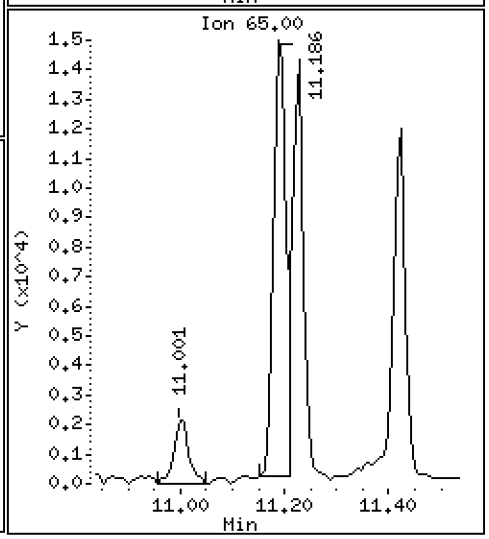












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

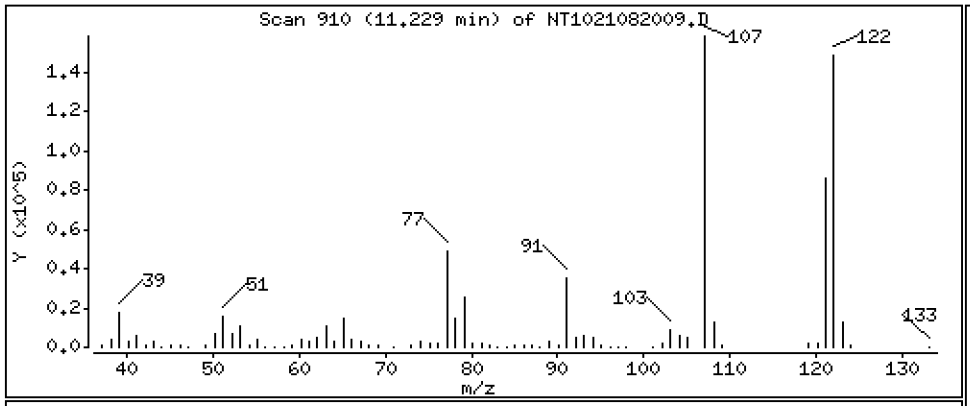
Operator: VTS

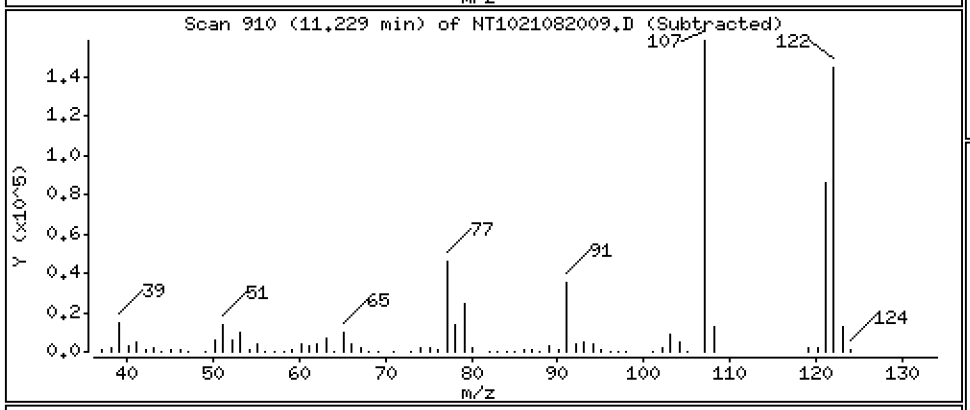
Column phase: ZB-5msi

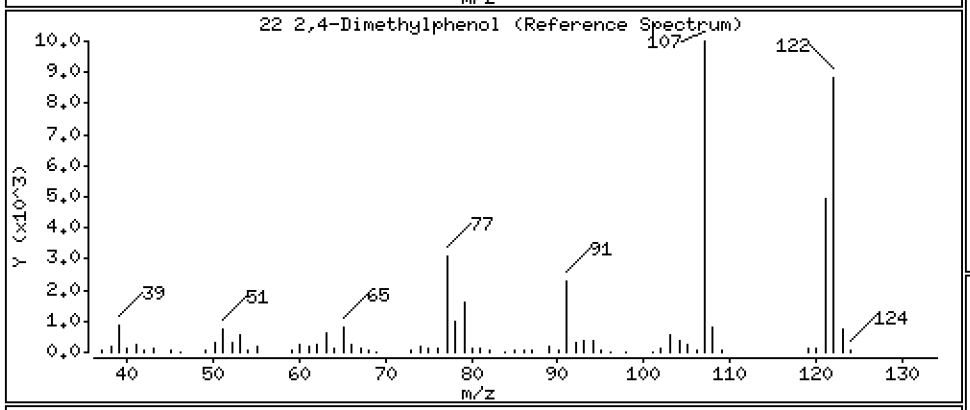
Column diameter: 0.25

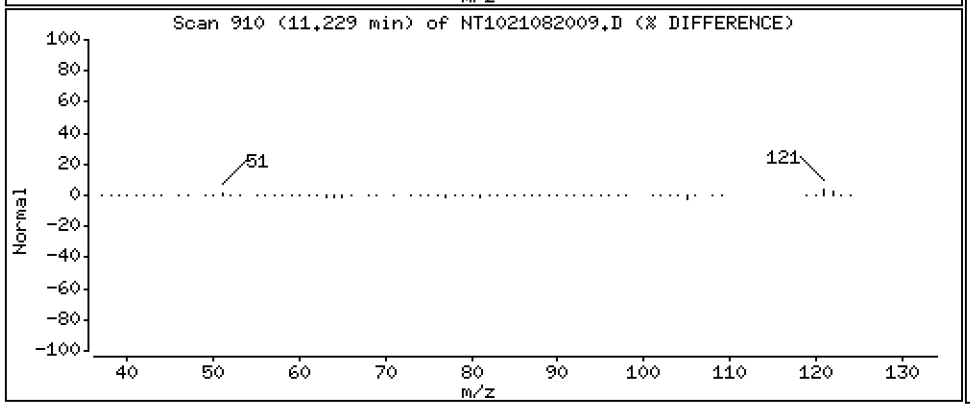
22 2,4-Dimethylphenol

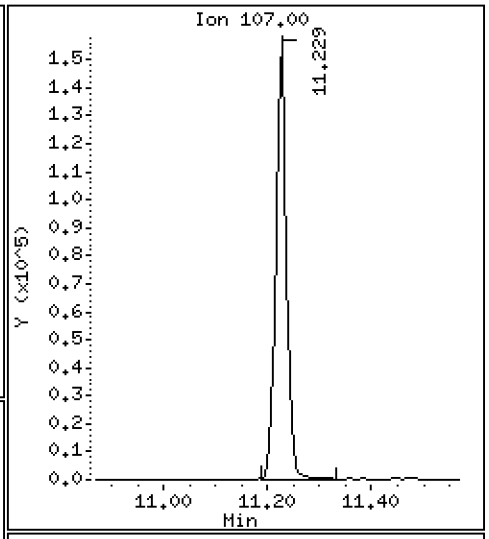
Concentration: 12.49 ug/mL

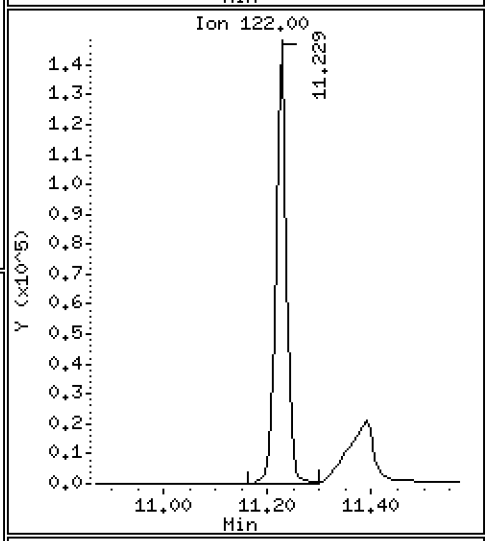


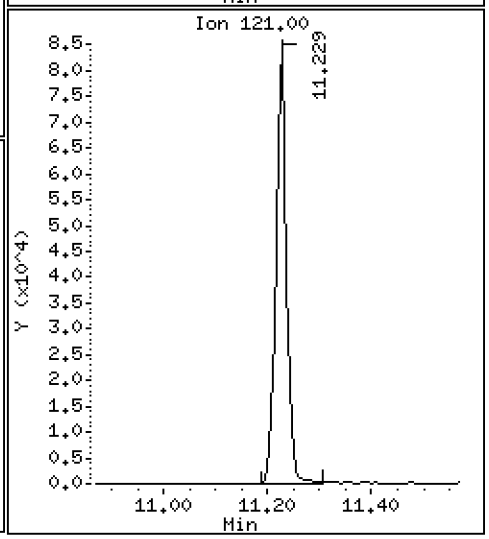












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

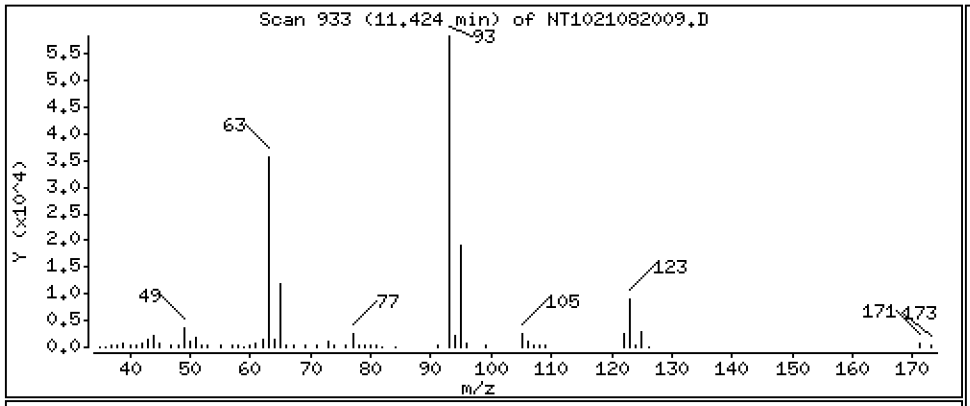
Operator: VTS

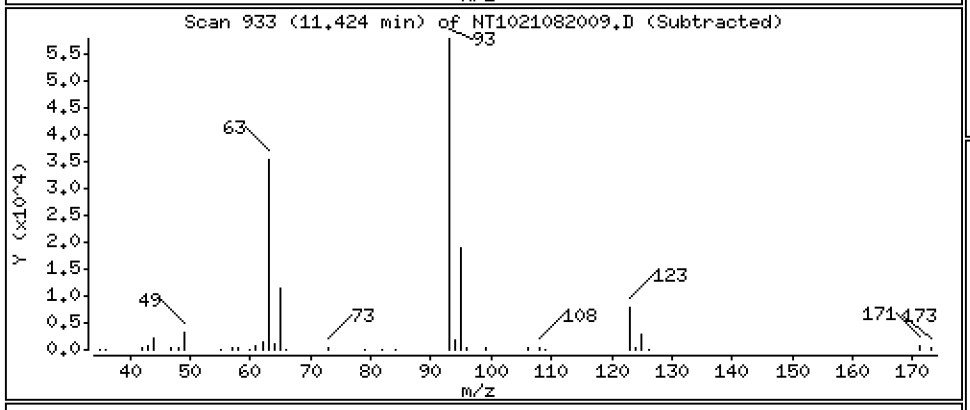
Column phase: ZB-5msi

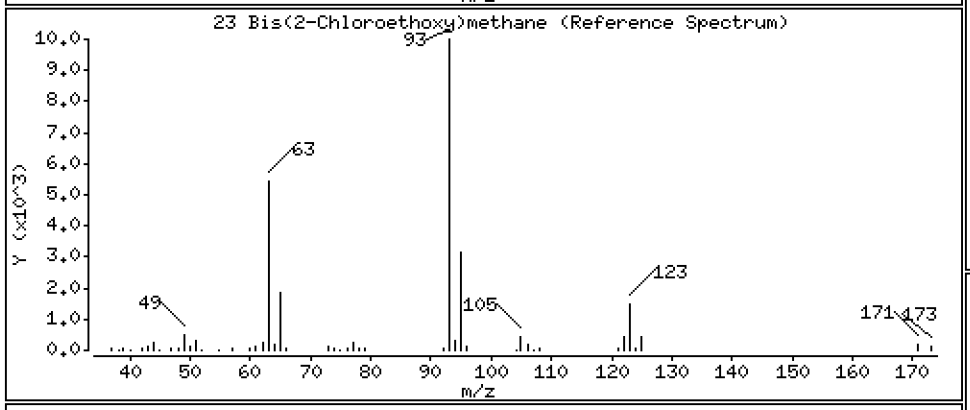
Column diameter: 0.25

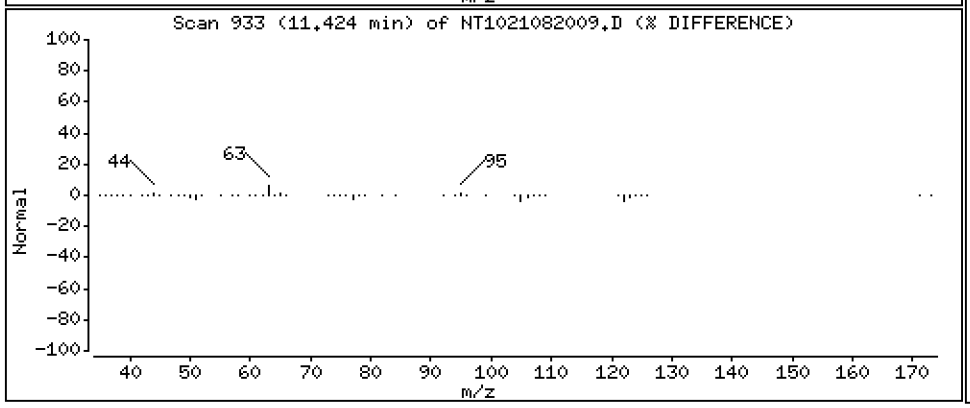
23 Bis(2-Chloroethoxy)methane

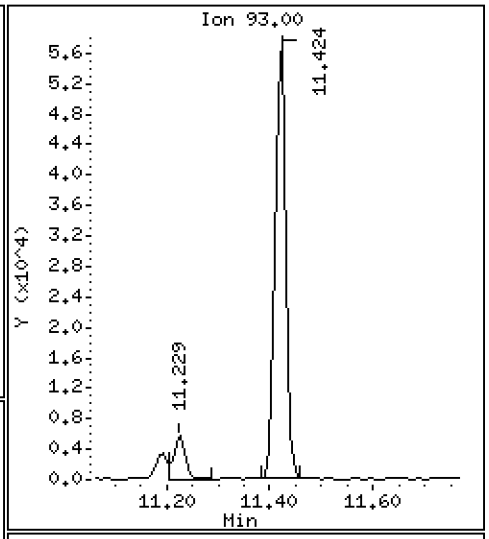
Concentration: 4.403 ug/mL

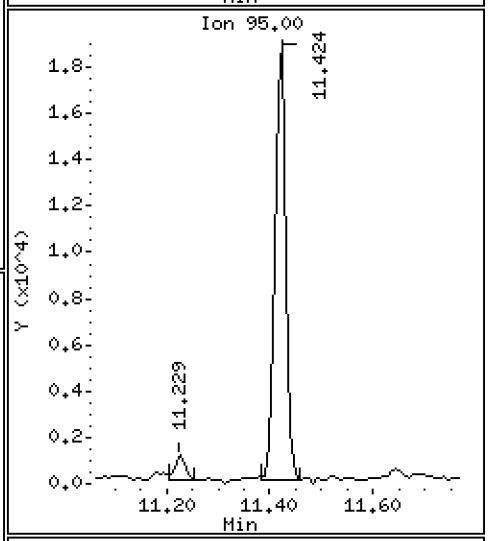


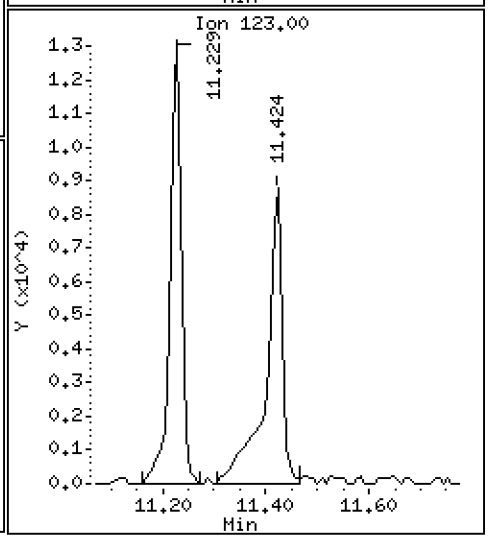












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

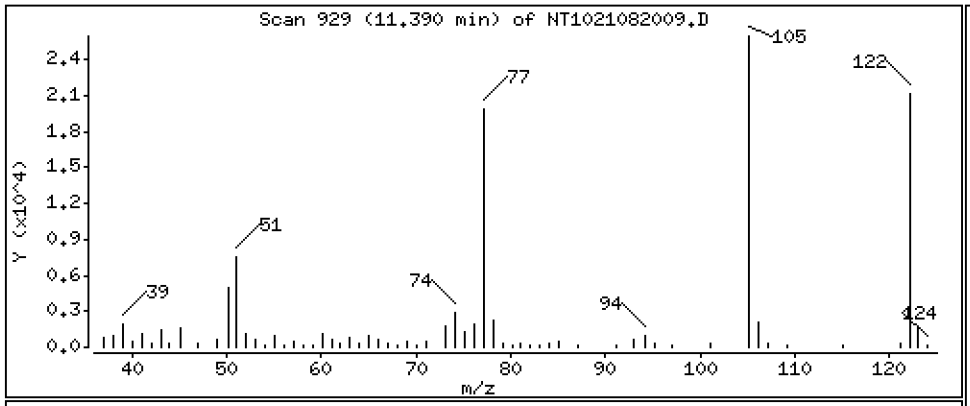
Operator: VTS

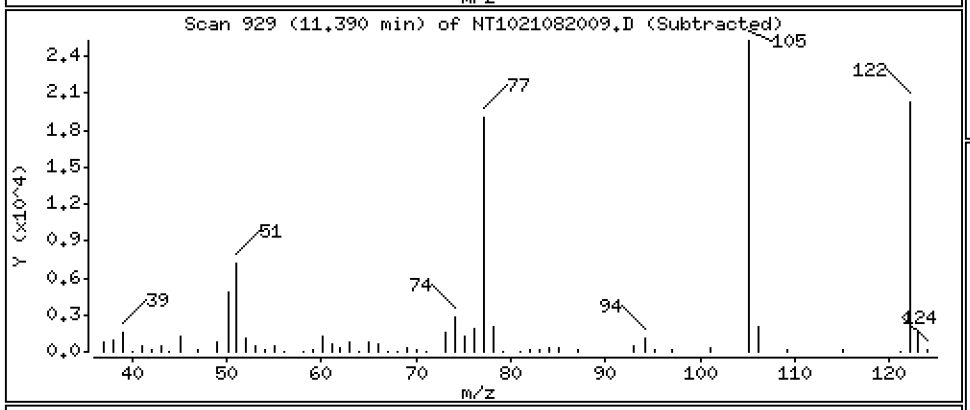
Column phase: ZB-5msi

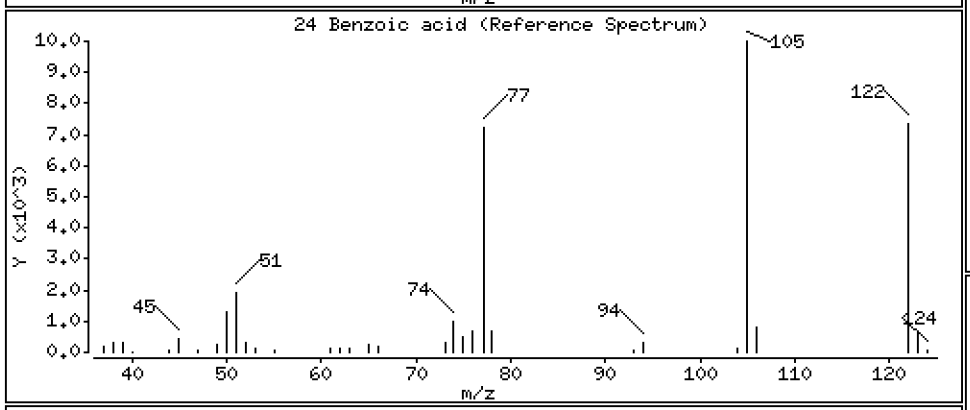
Column diameter: 0.25

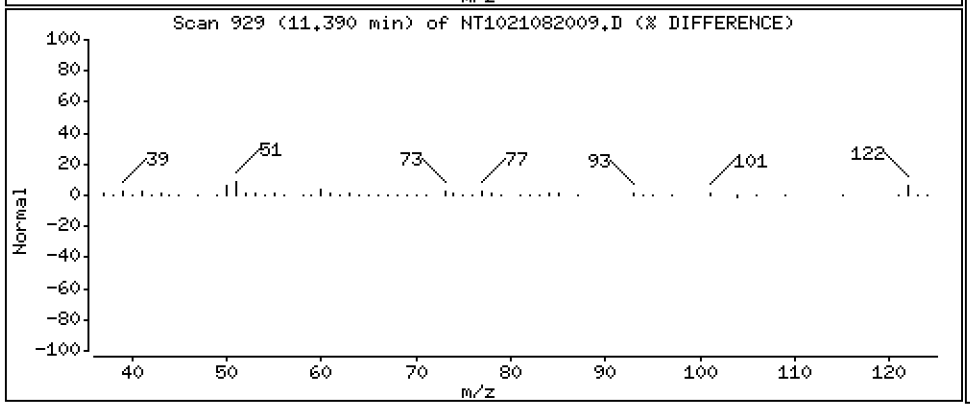
24 Benzoic acid

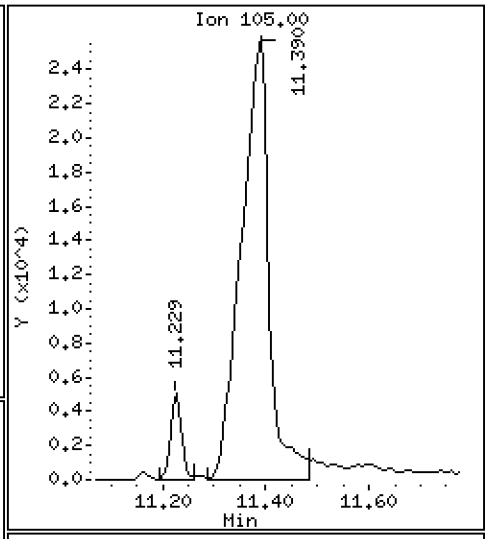
Concentration: 10.16 ug/mL

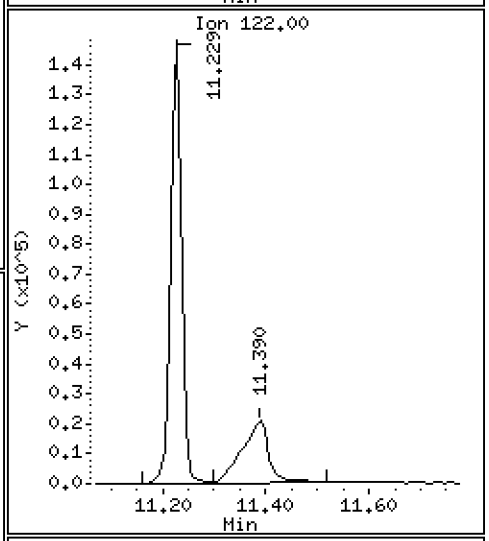


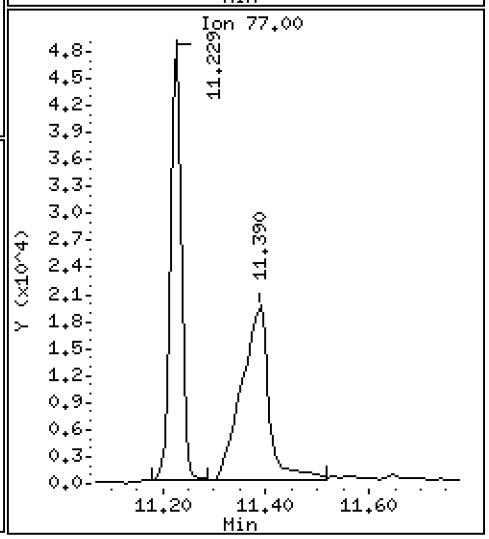












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

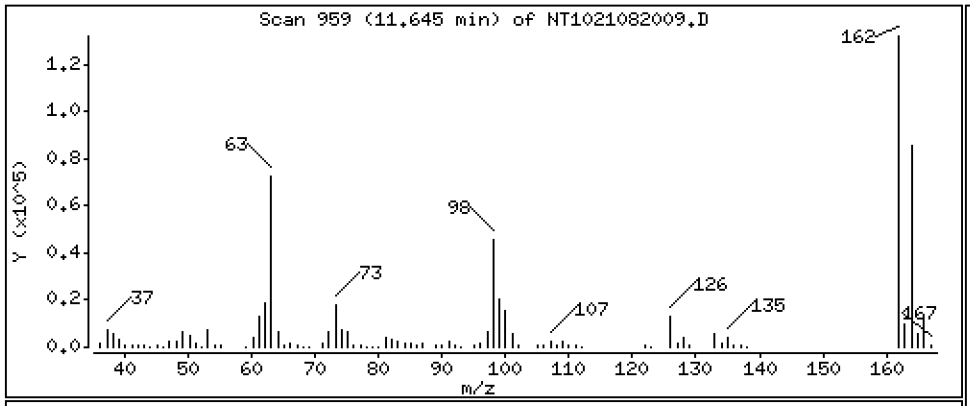
Operator: VTS

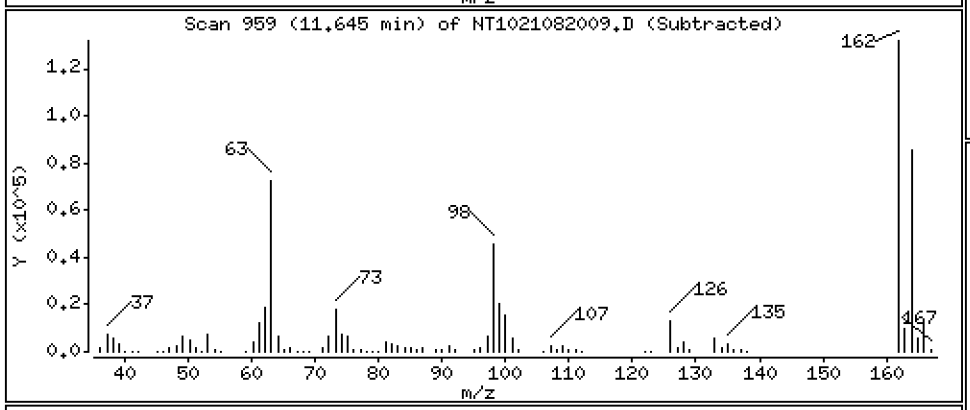
Column phase: ZB-5msi

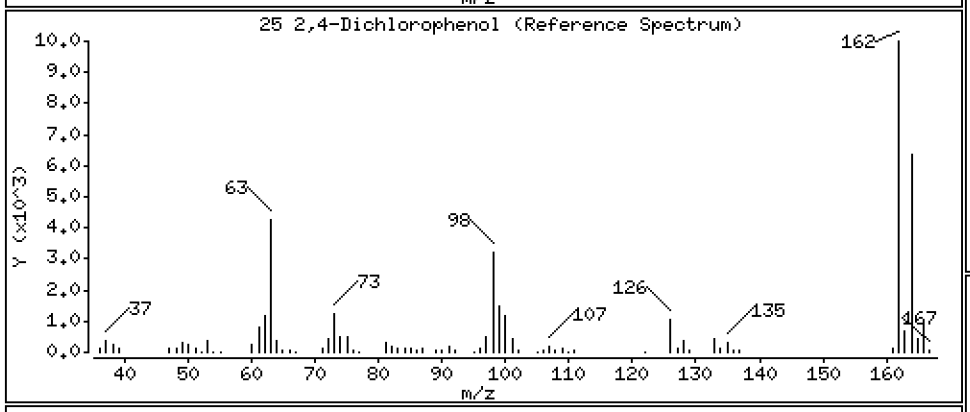
Column diameter: 0.25

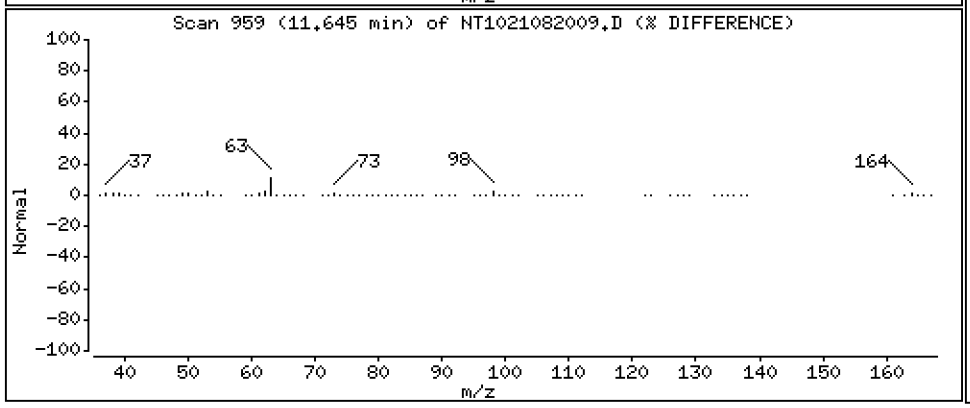
25 2,4-Dichlorophenol

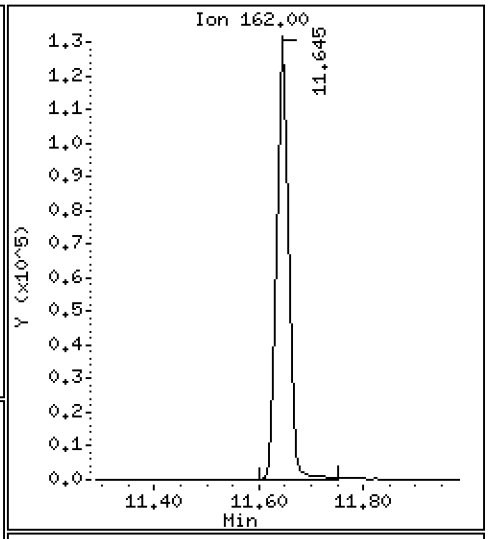
Concentration: 11.99 ug/mL

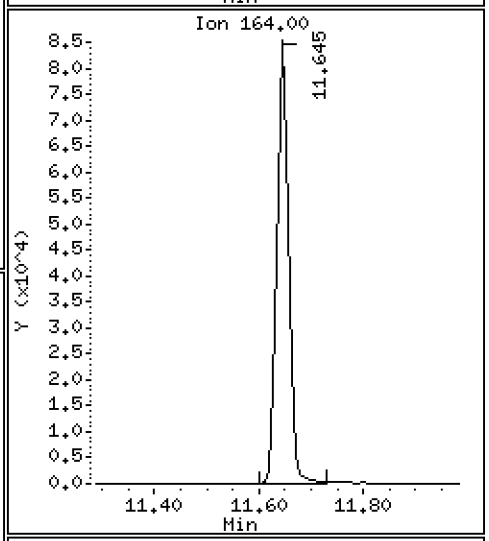


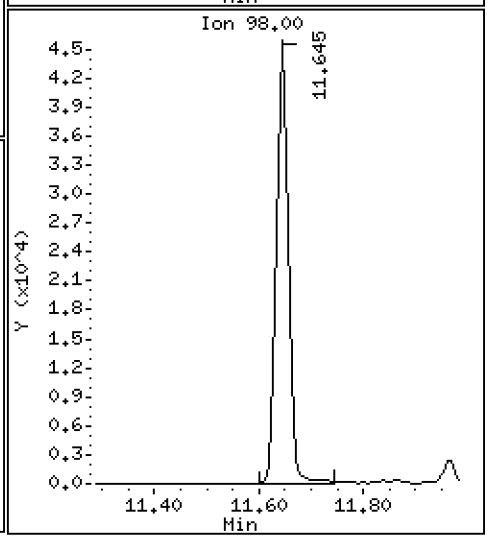












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

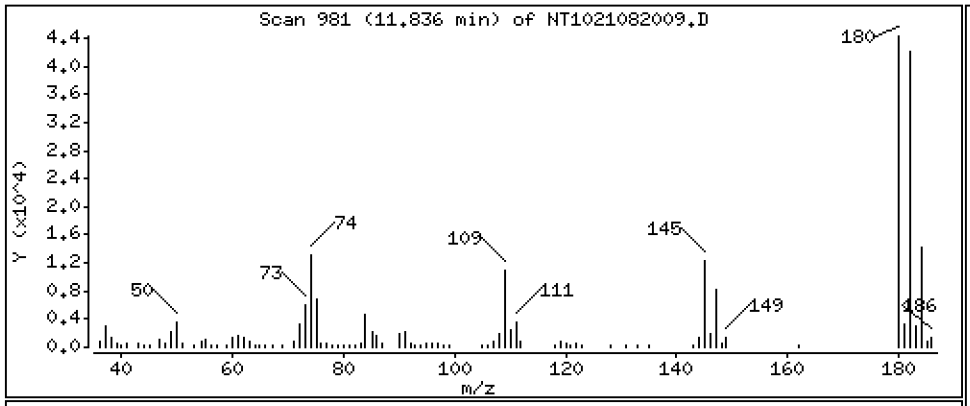
Operator: VTS

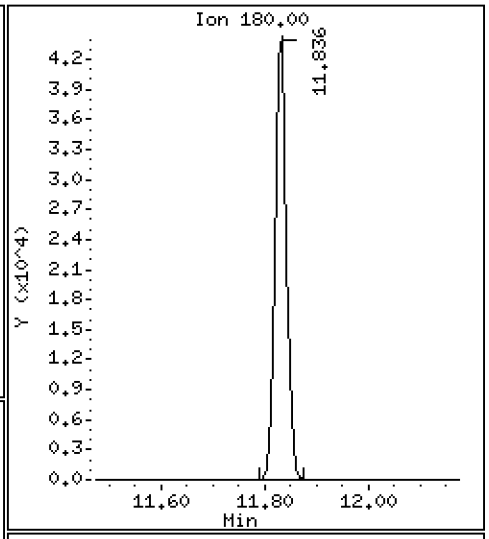
Column phase: ZB-5msi

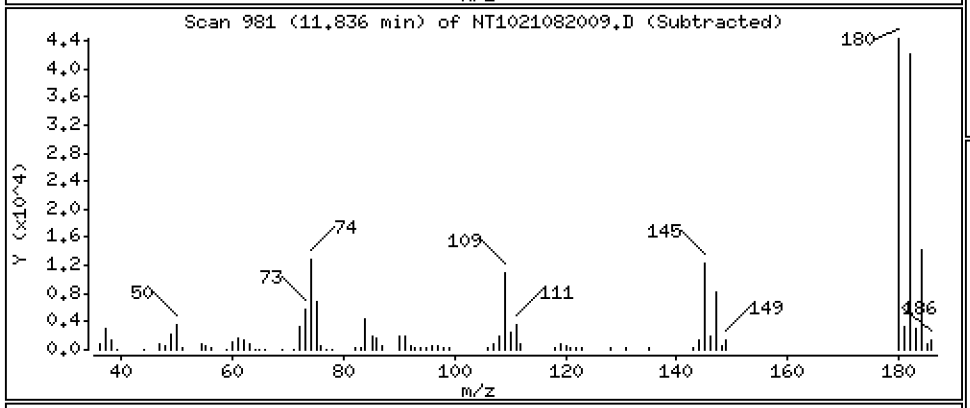
Column diameter: 0.25

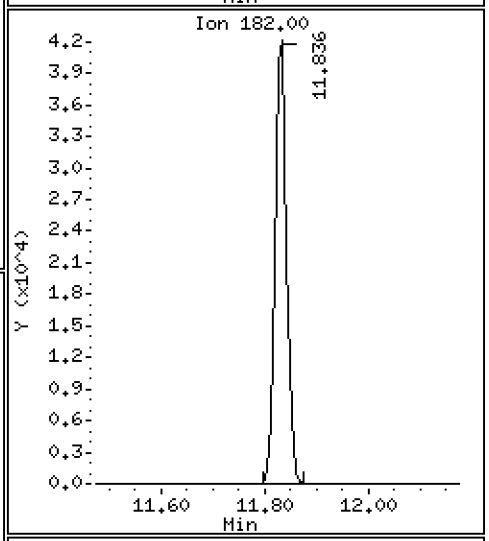
26 1,2,4-Trichlorobenzene

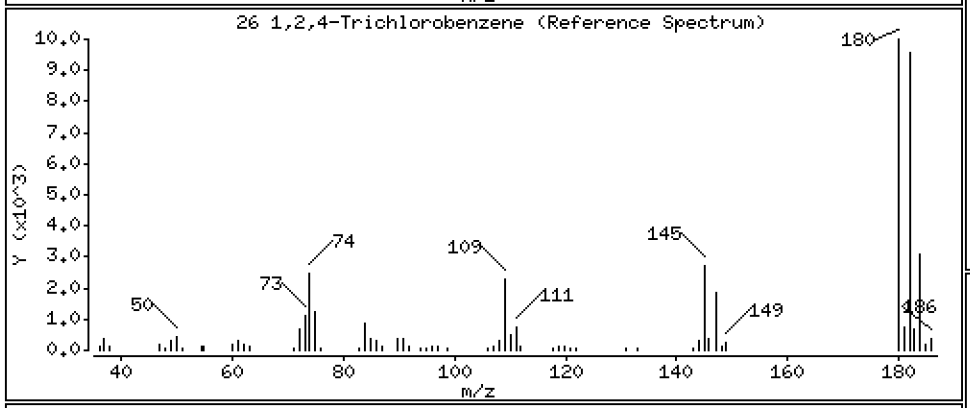
Concentration: 3.645 ug/mL

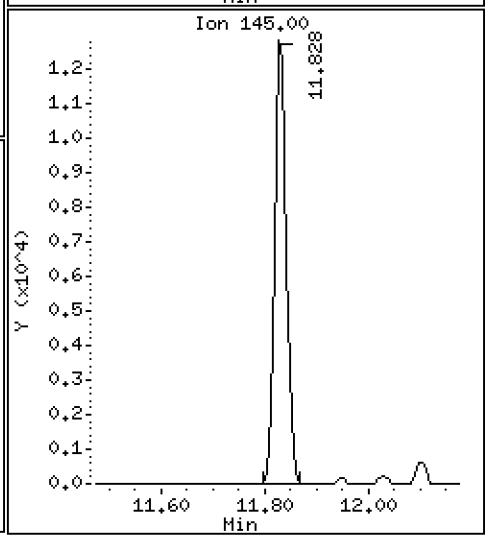


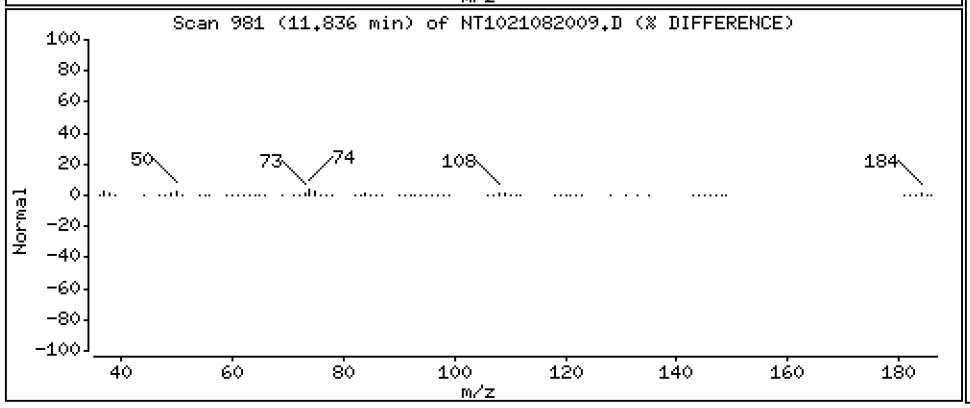












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

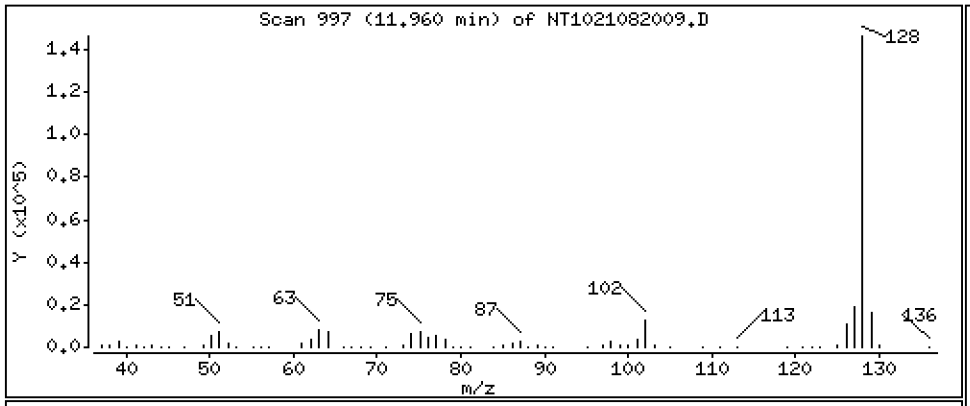
Operator: VTS

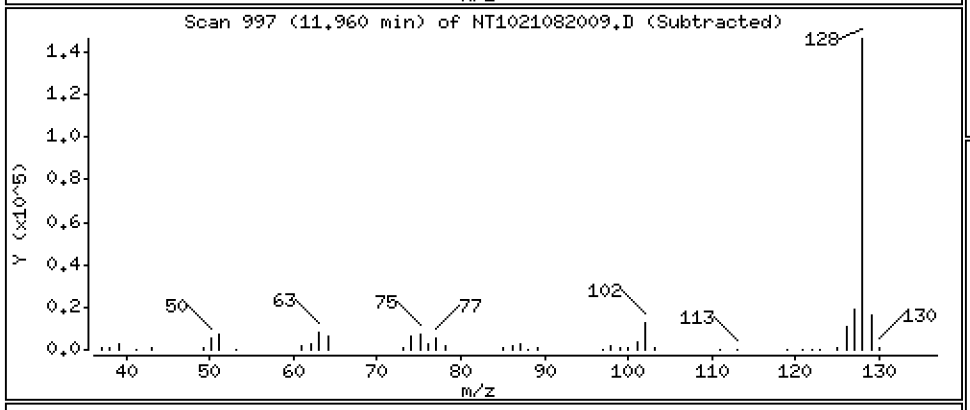
Column phase: ZB-5msi

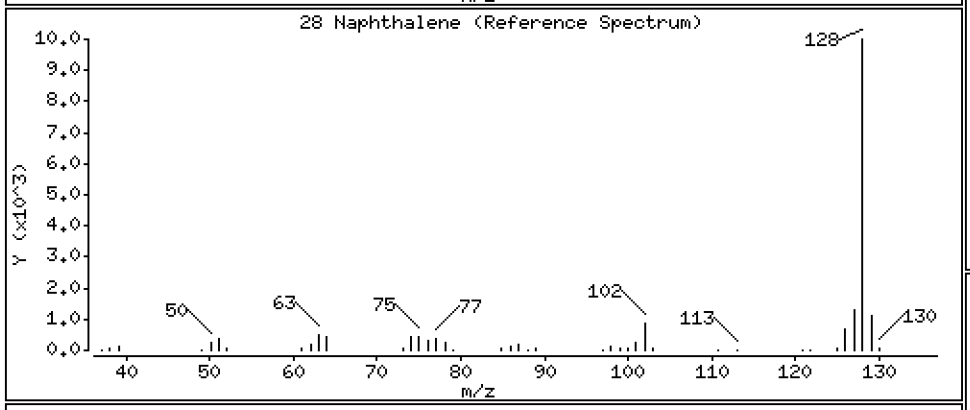
Column diameter: 0.25

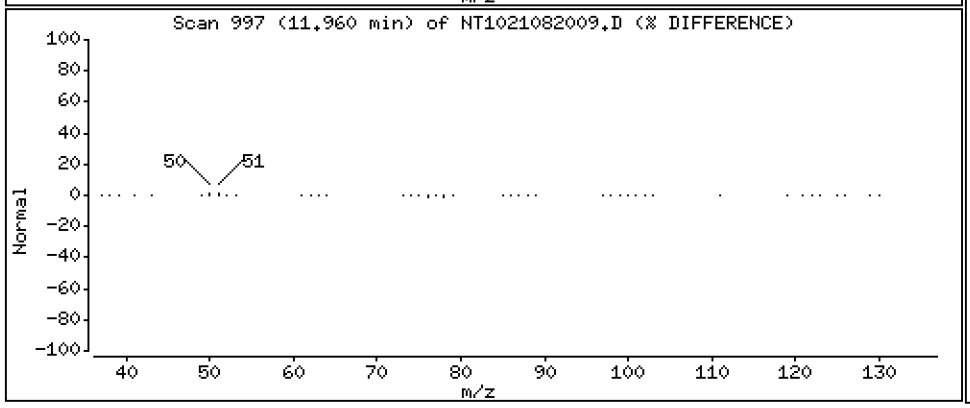
28 Naphthalene

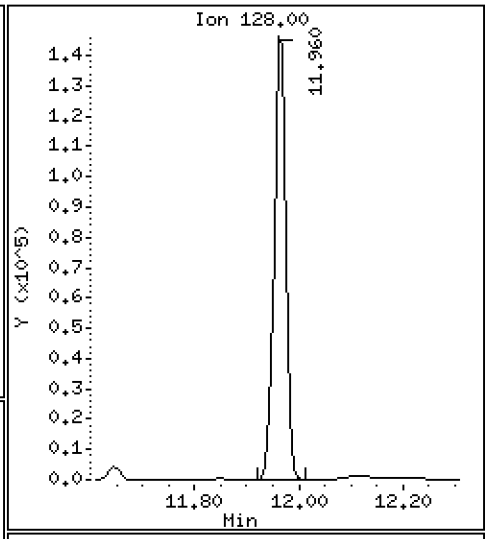
Concentration: 4.212 ug/mL

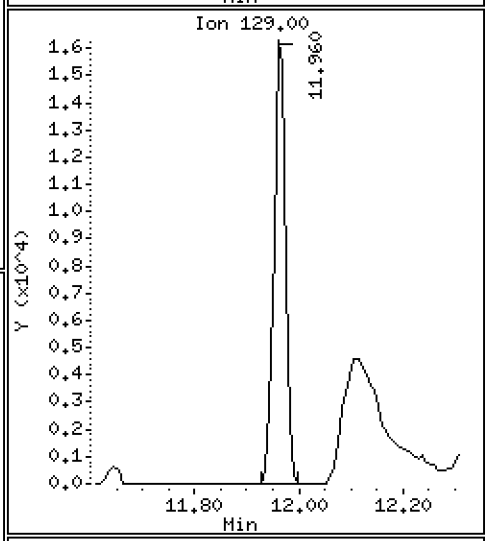


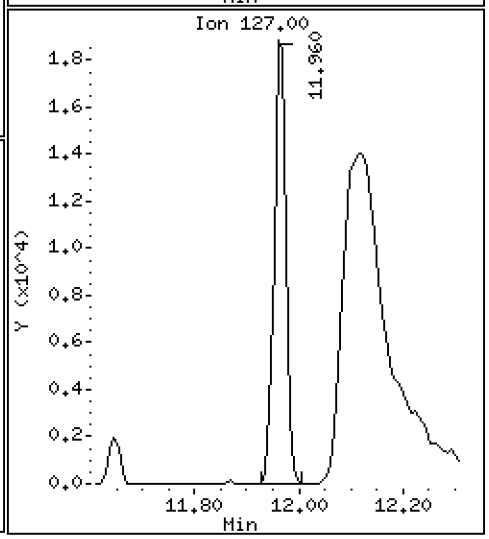












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

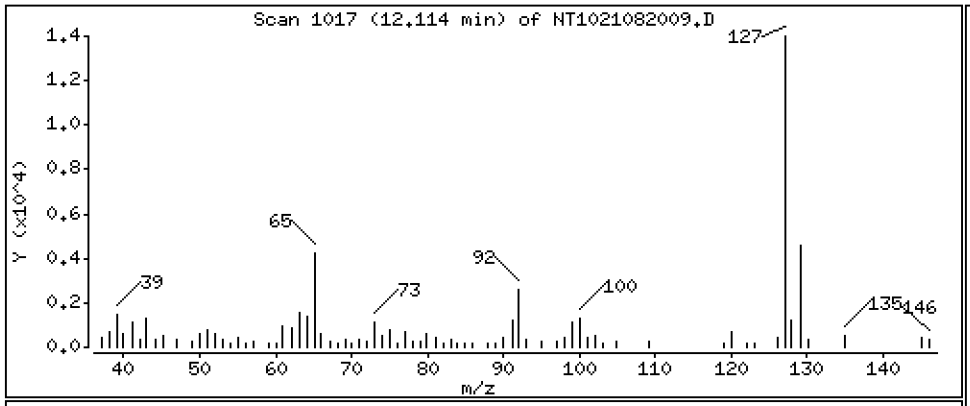
Operator: VTS

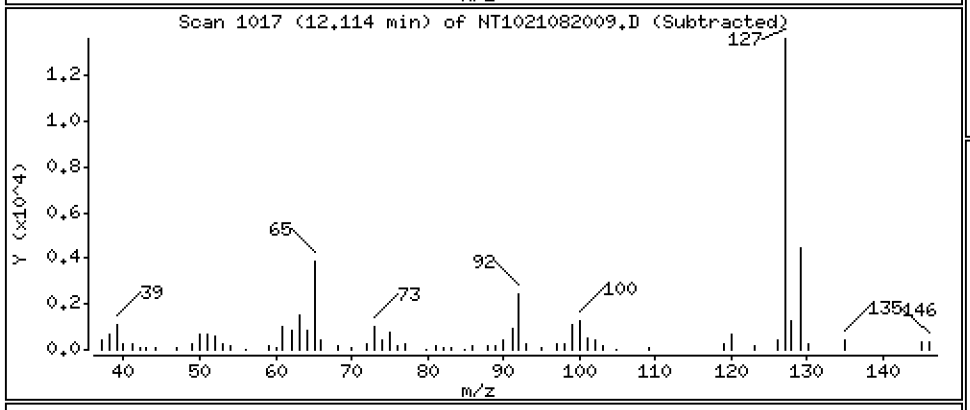
Column phase: ZB-5msi

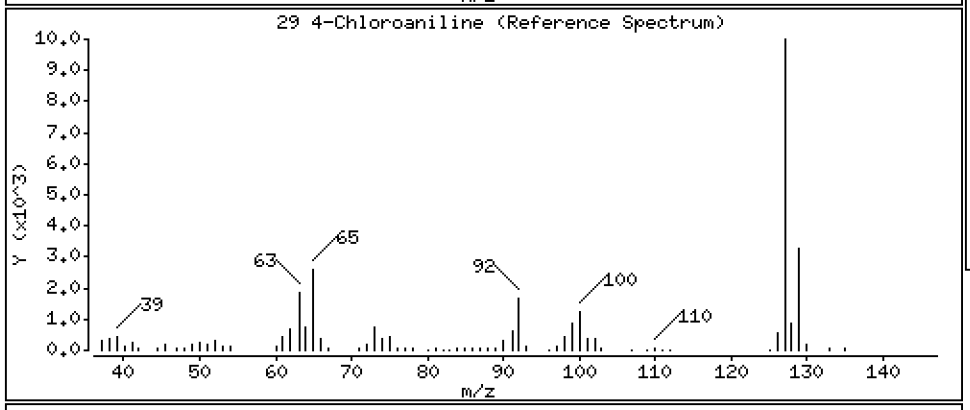
Column diameter: 0.25

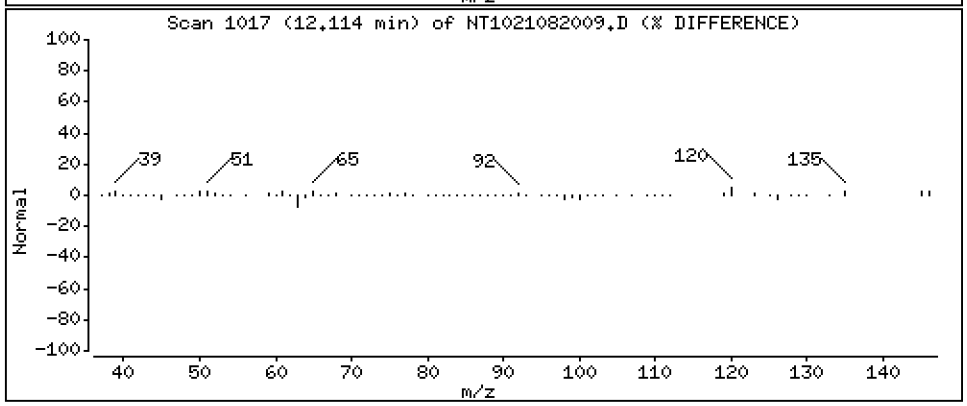
29 4-Chloroaniline

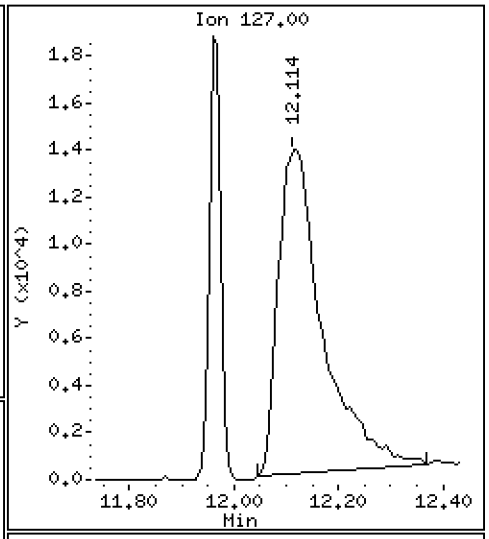
Concentration: 3.164 ug/mL

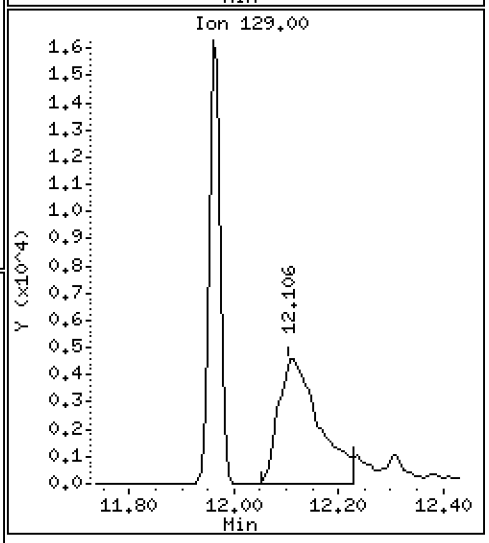












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

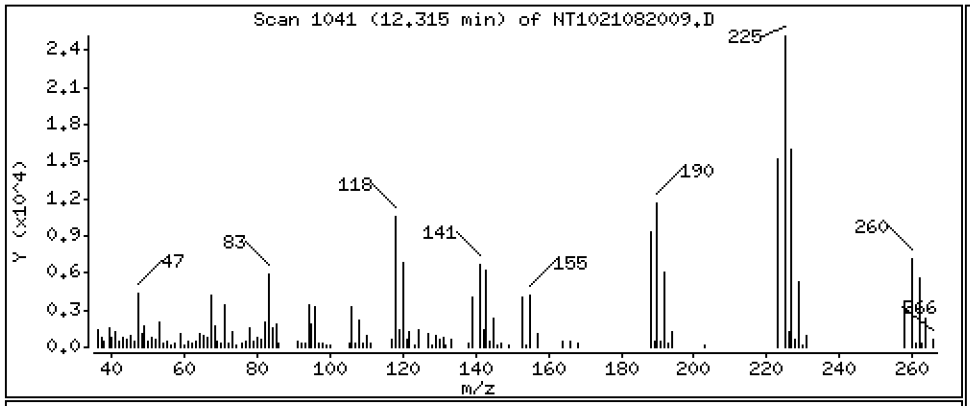
Operator: VTS

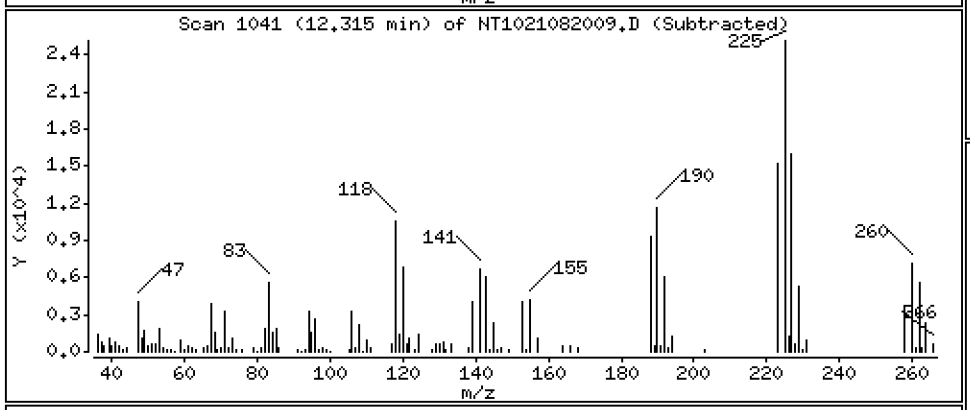
Column phase: ZB-5msi

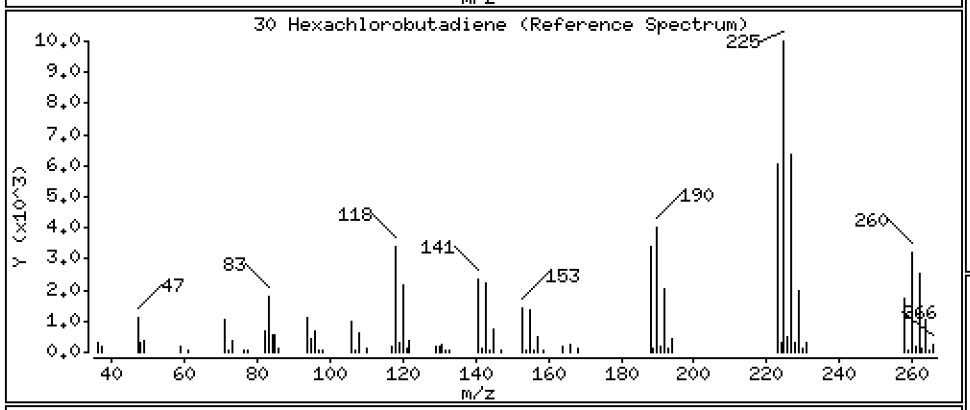
Column diameter: 0.25

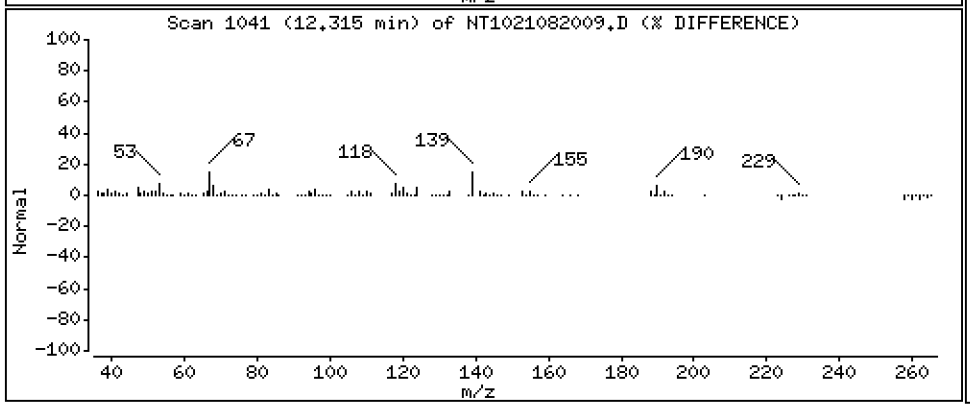
30 Hexachlorobutadiene

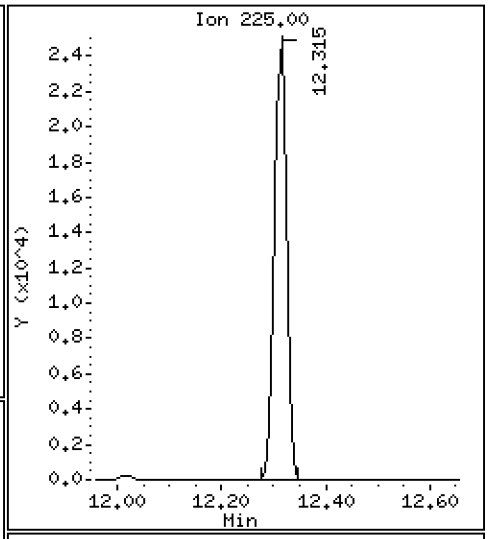
Concentration: 3.774 ug/mL

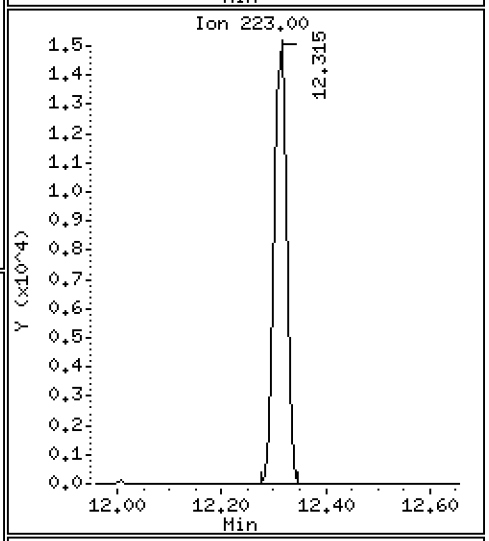


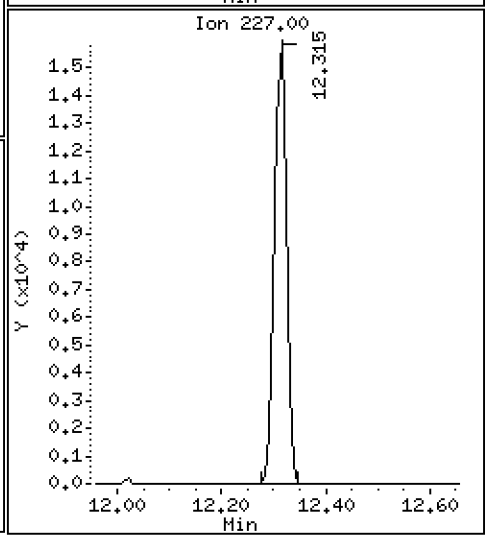












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

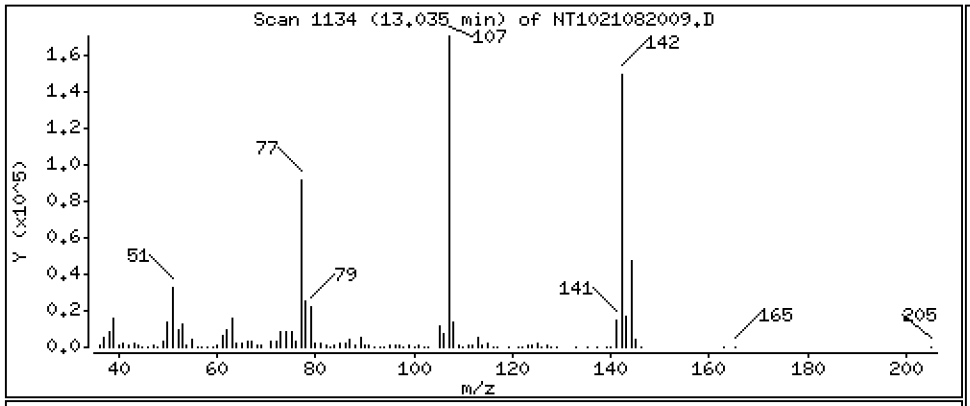
Operator: VTS

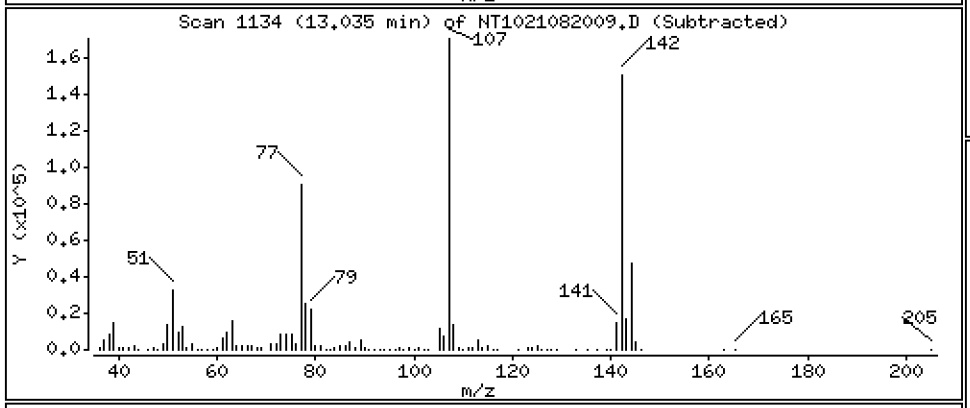
Column phase: ZB-5msi

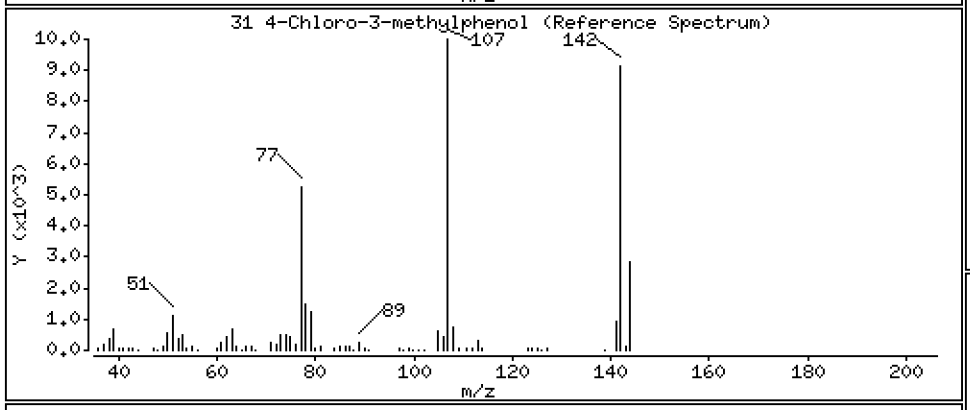
Column diameter: 0.25

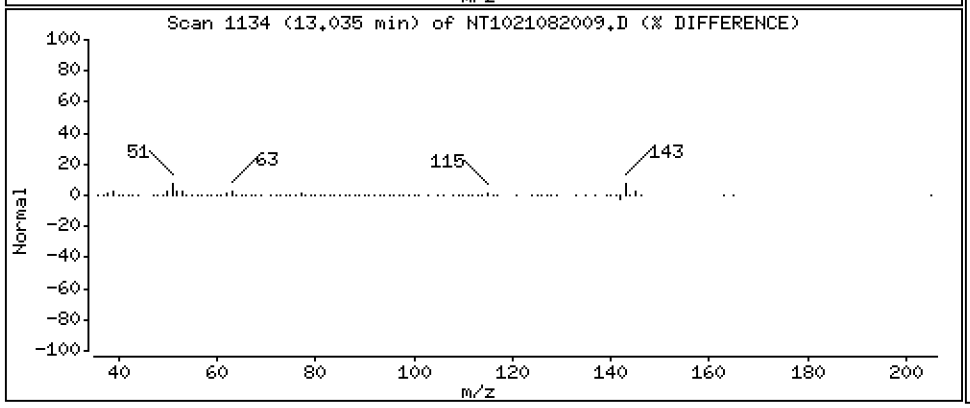
31 4-Chloro-3-methylphenol

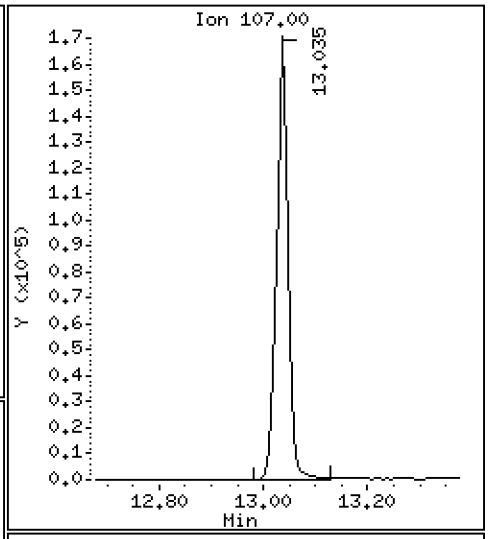
Concentration: 13.16 ug/mL

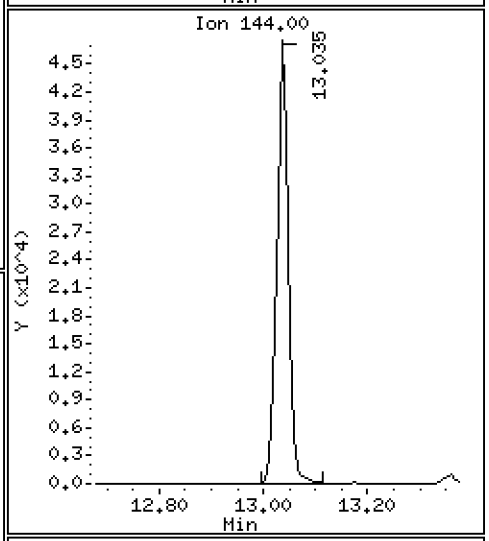


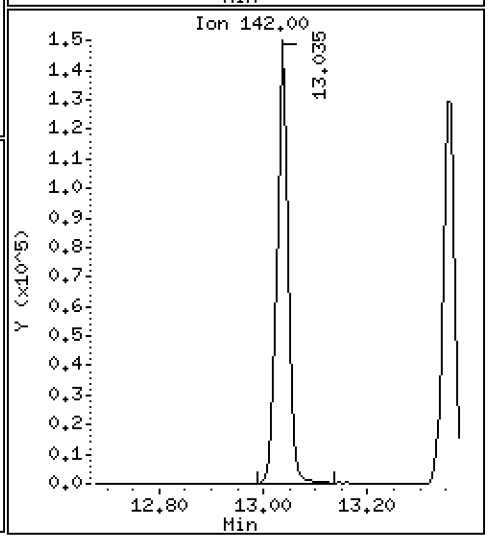












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

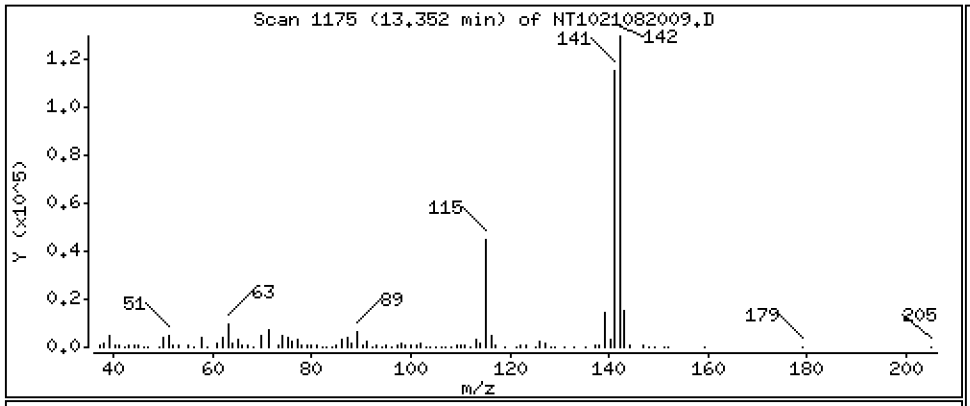
Operator: VTS

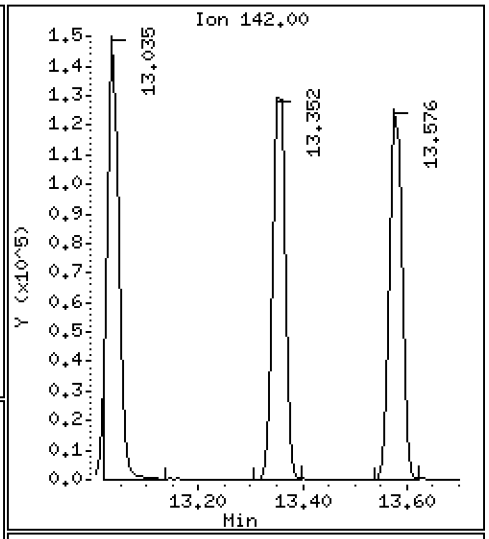
Column phase: ZB-5msi

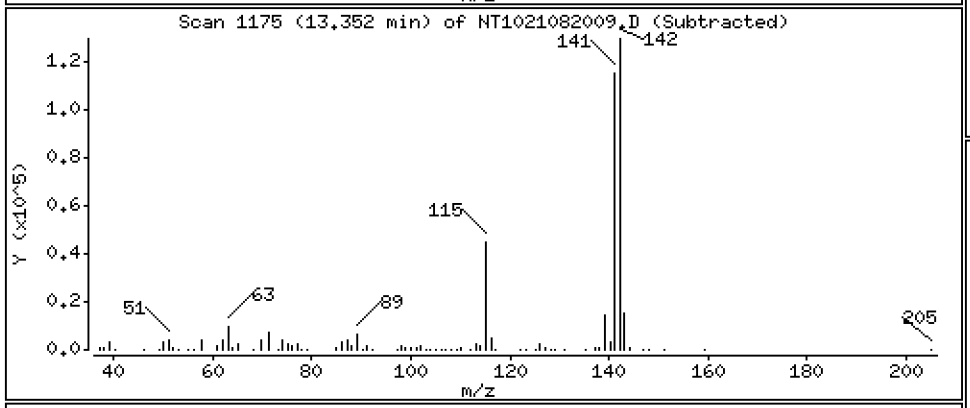
Column diameter: 0.25

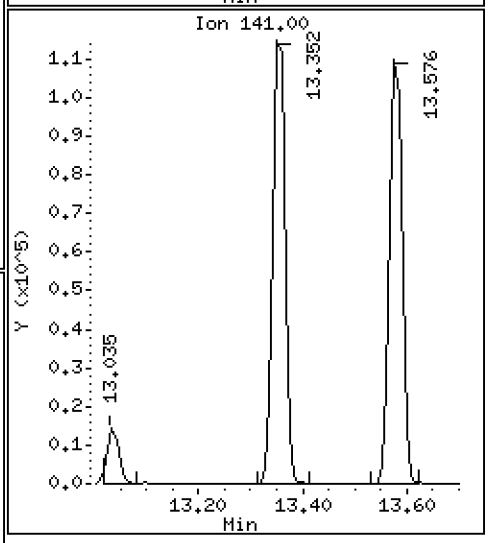
32 2-Methylnaphthalene

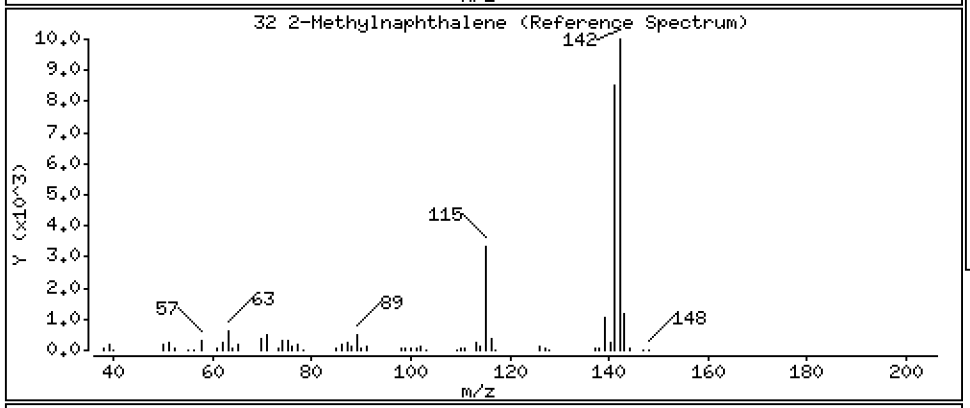
Concentration: 3.948 ug/mL

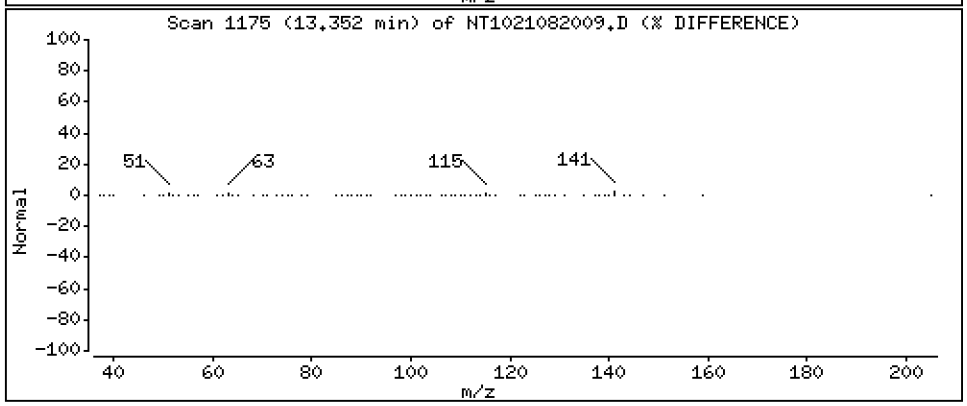












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

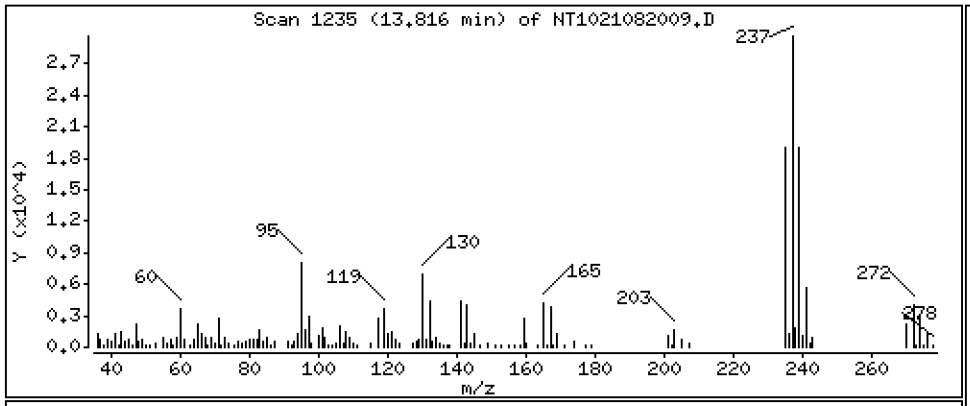
Operator: VTS

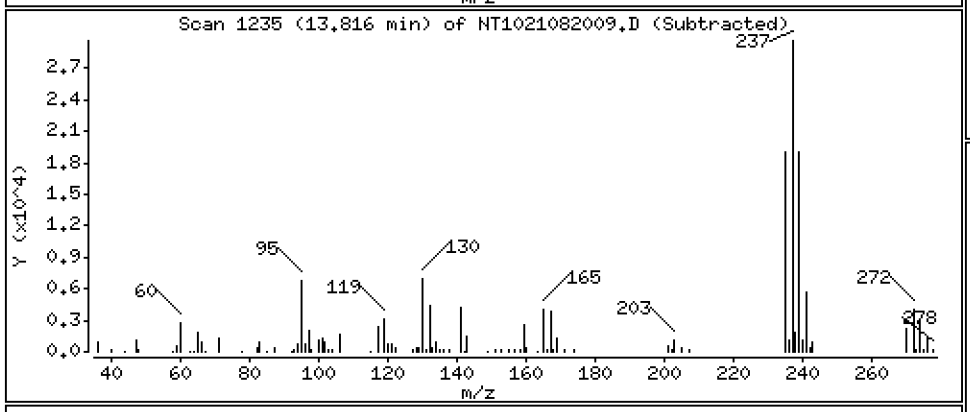
Column phase: ZB-5msi

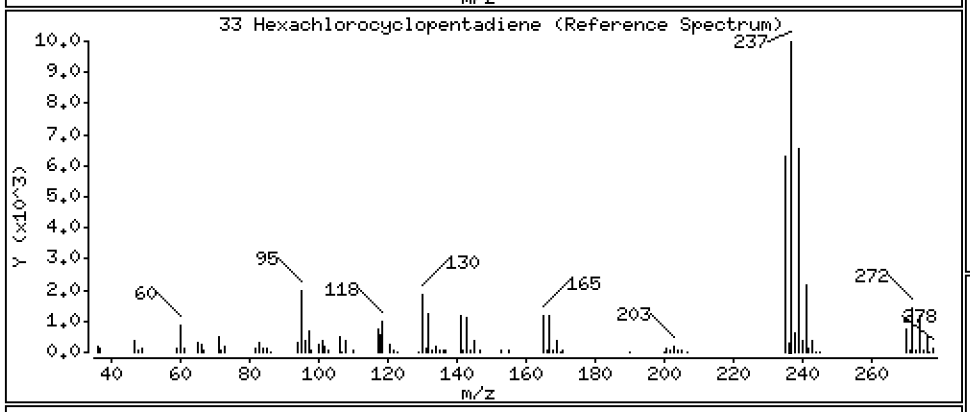
Column diameter: 0.25

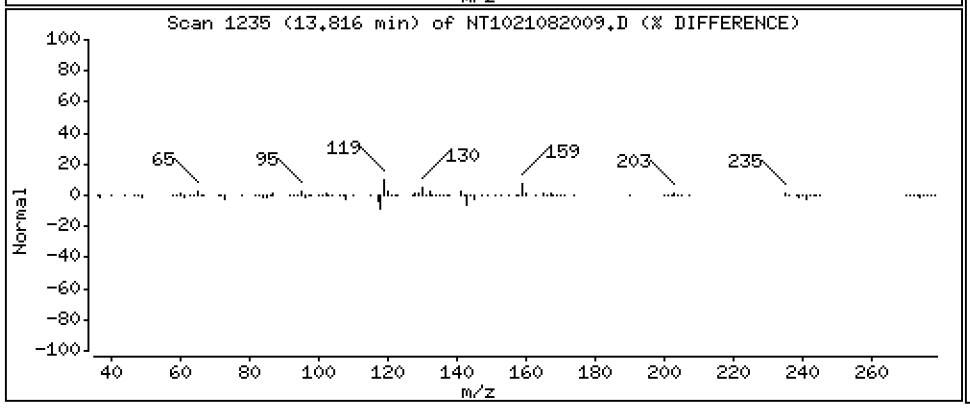
33 Hexachlorocyclopentadiene

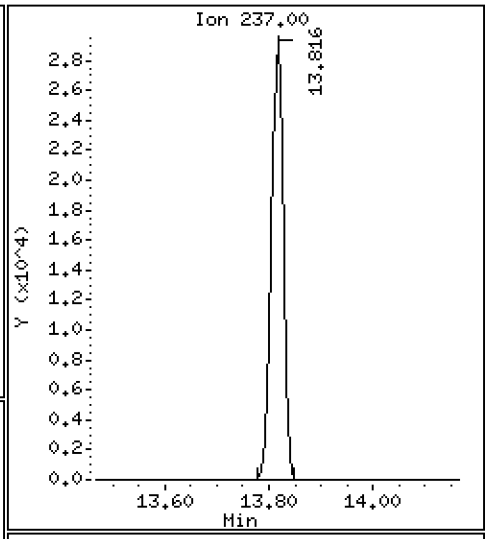
Concentration: 4.705 ug/mL

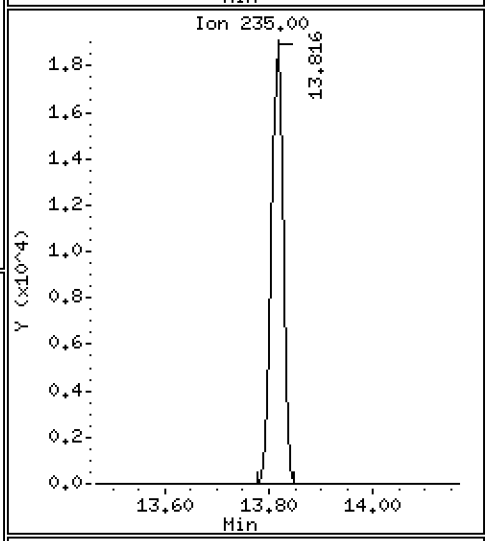


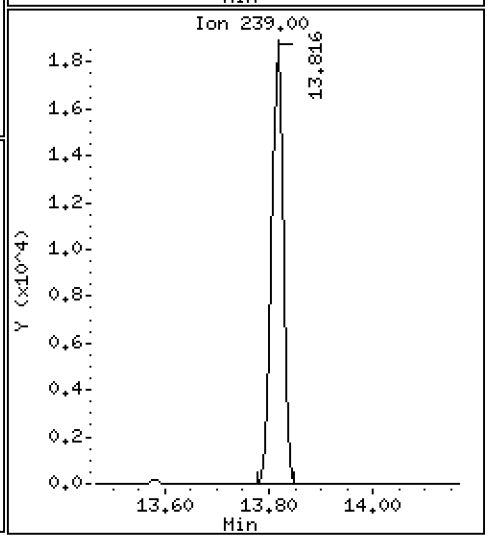












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

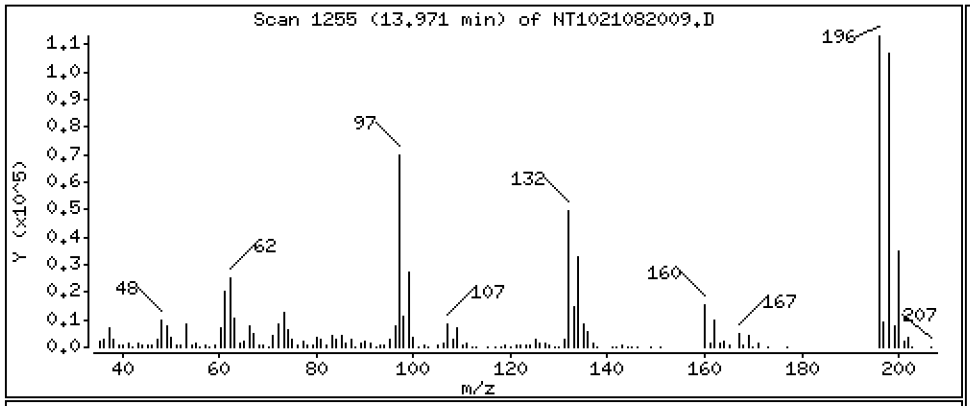
Operator: VTS

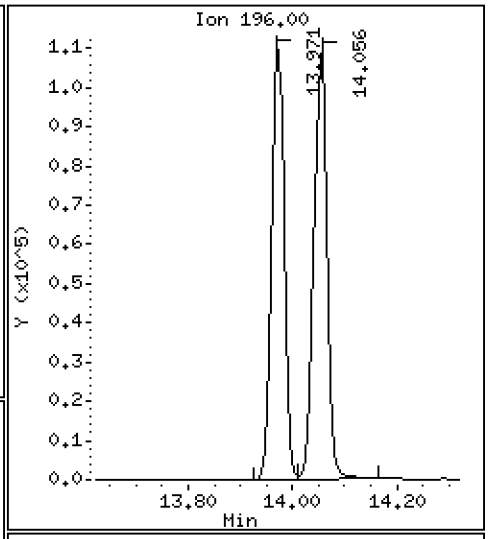
Column phase: ZB-5msi

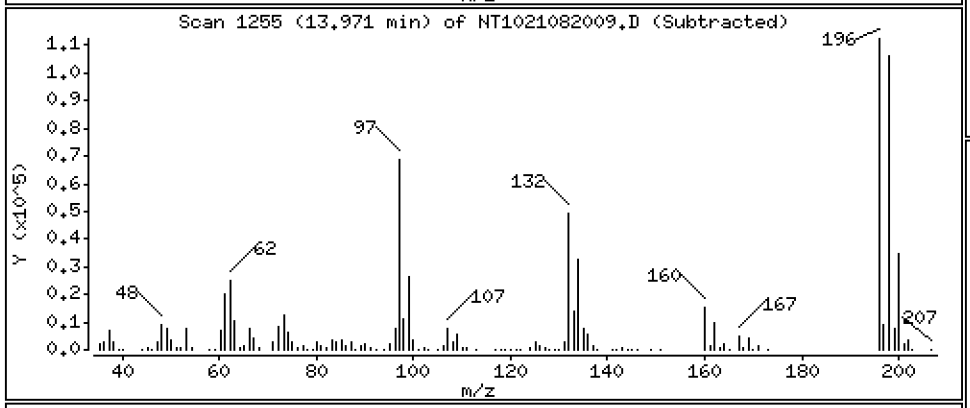
Column diameter: 0.25

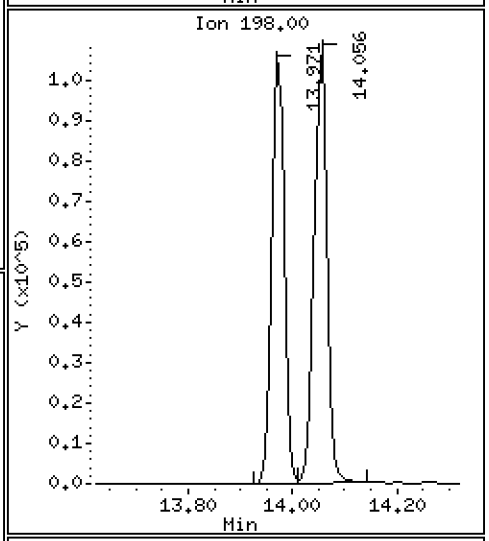
34 2,4,6-Trichlorophenol

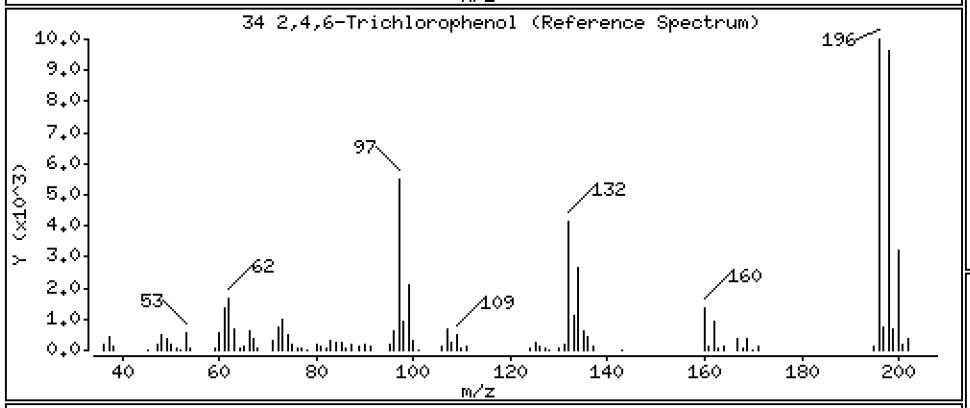
Concentration: 13.39 ug/mL

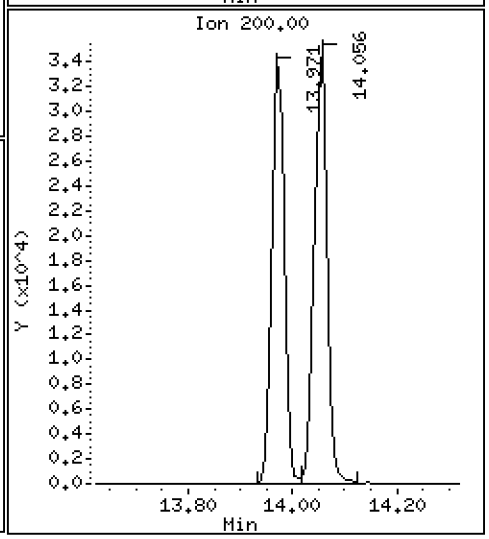


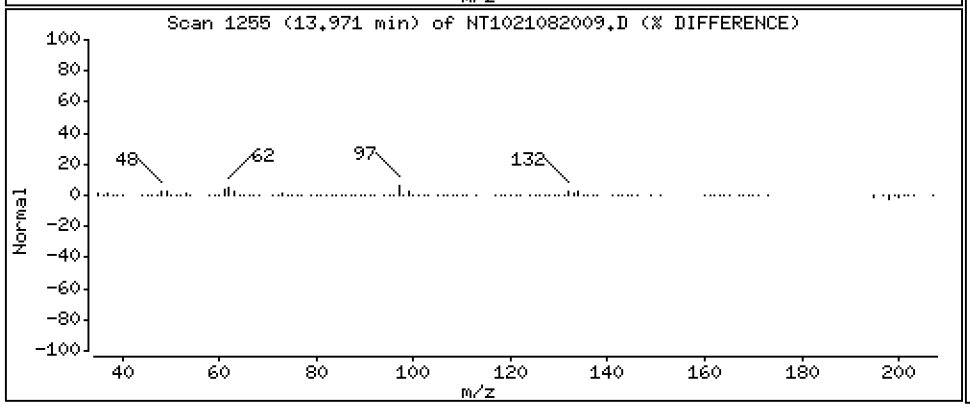












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

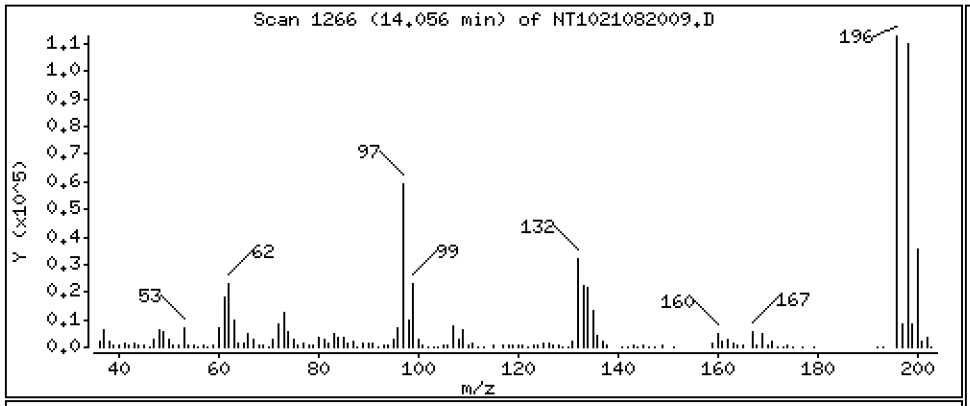
Operator: VTS

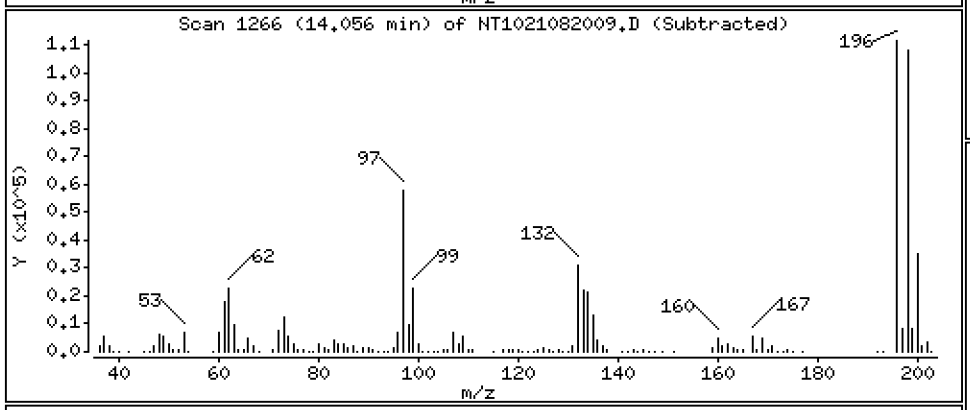
Column phase: ZB-5msi

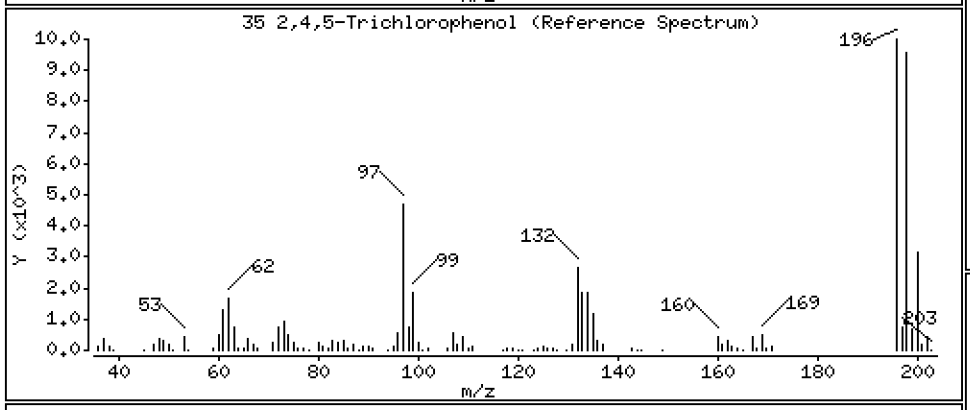
Column diameter: 0.25

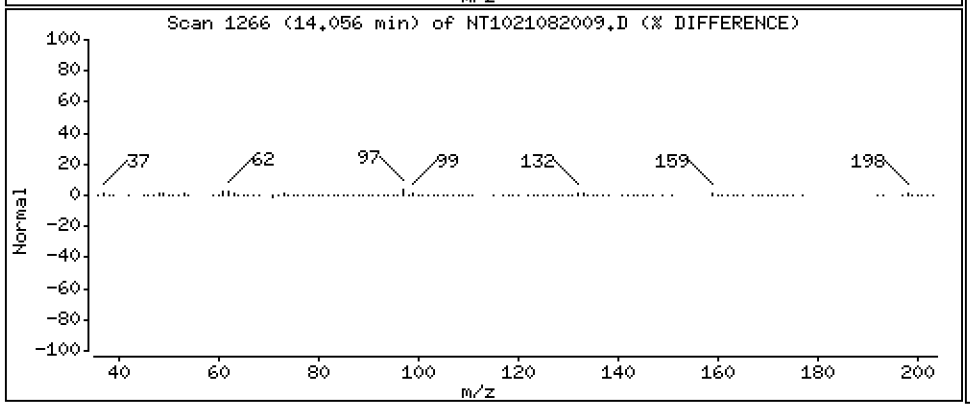
35 2,4,5-Trichlorophenol

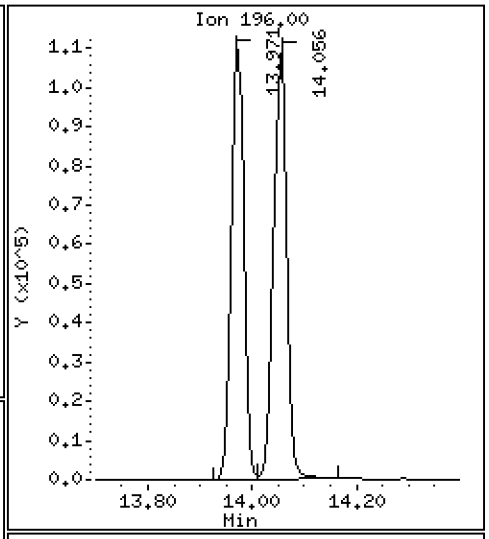
Concentration: 13.58 ug/mL

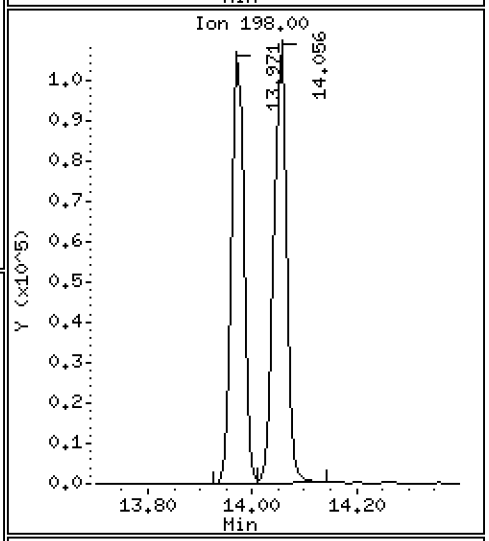


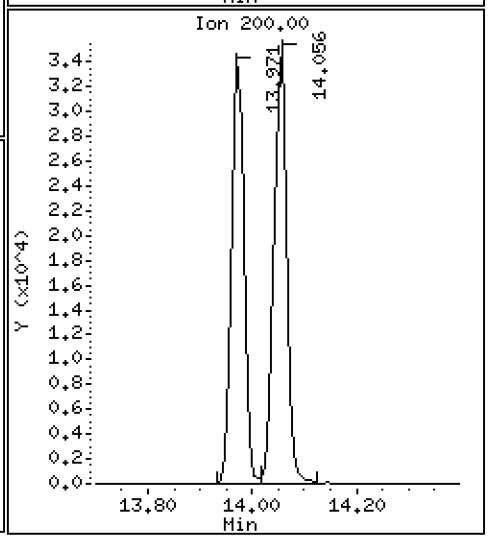












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

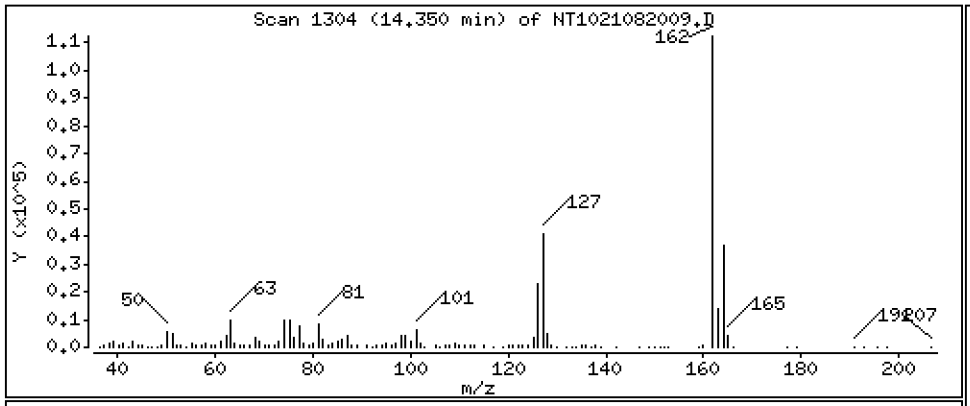
Operator: VTS

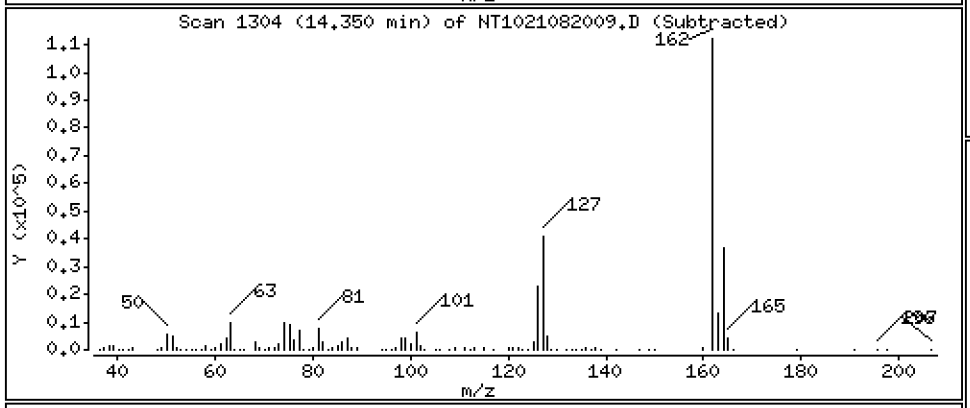
Column phase: ZB-5msi

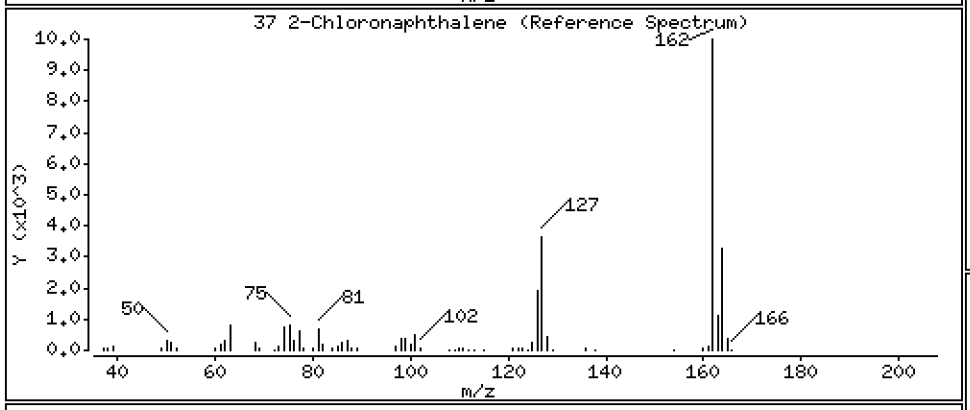
Column diameter: 0.25

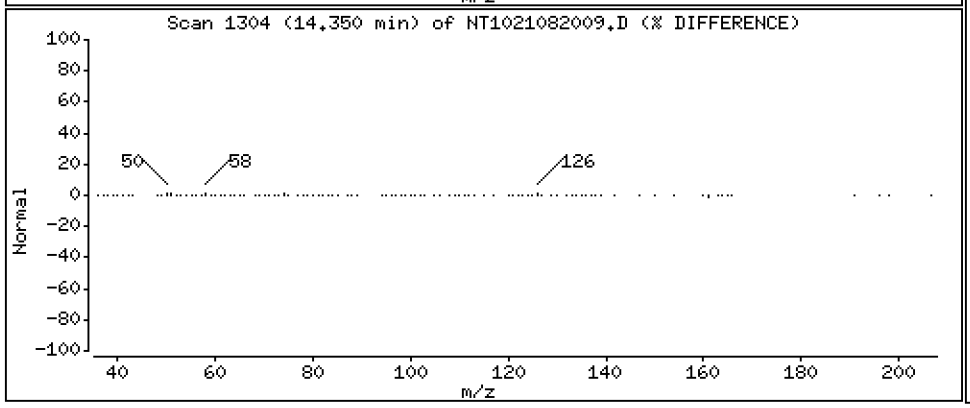
37 2-Chloronaphthalene

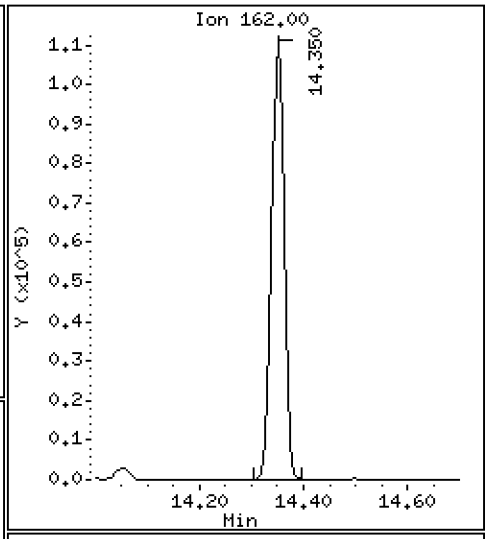
Concentration: 4.317 ug/mL

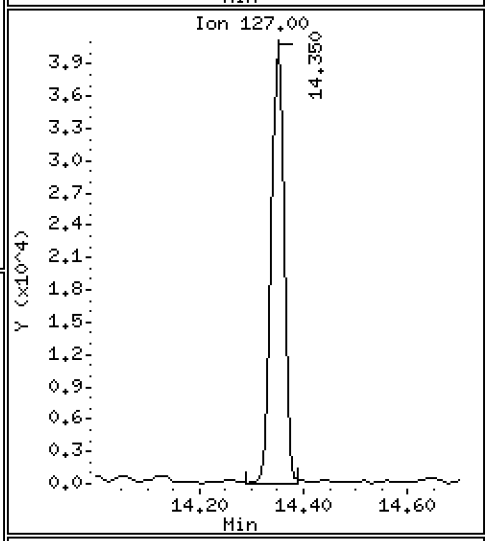


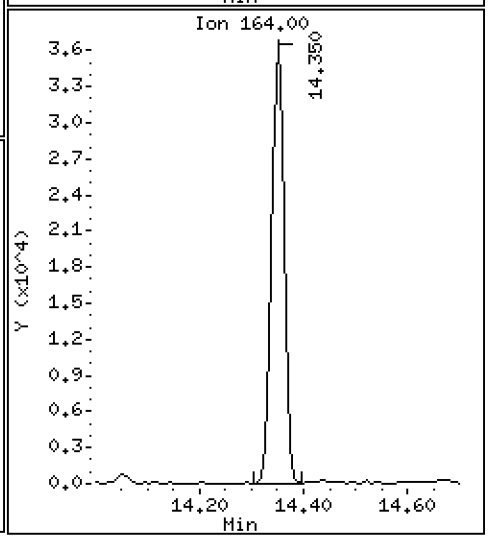












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

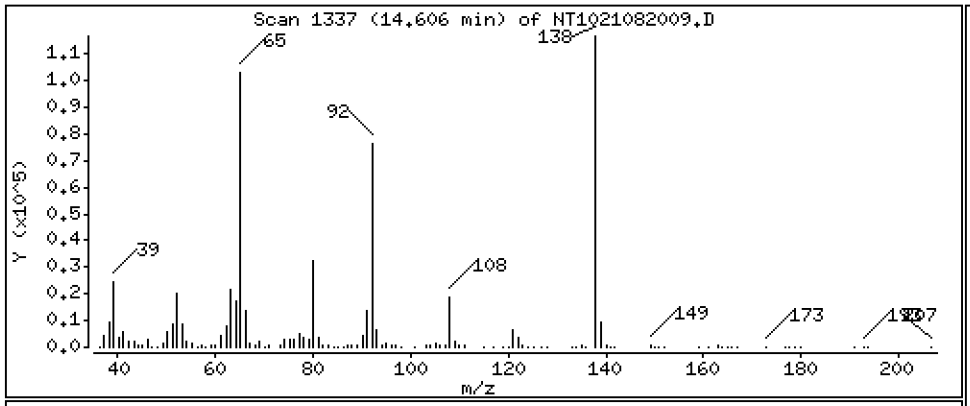
Operator: VTS

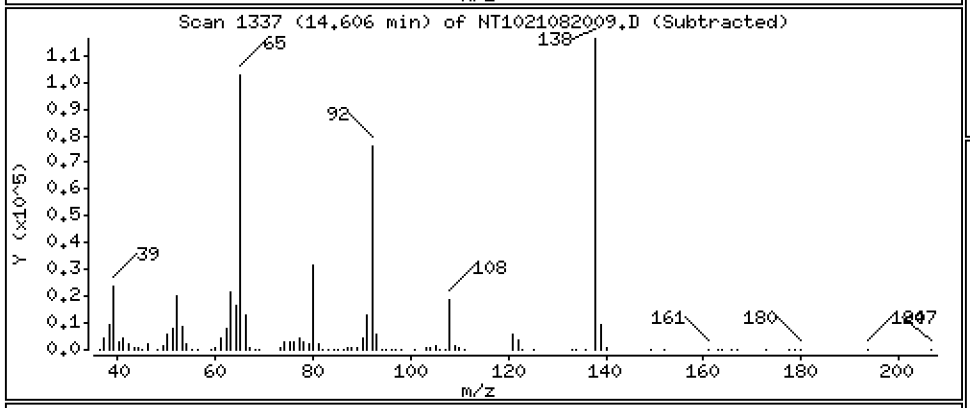
Column phase: ZB-5msi

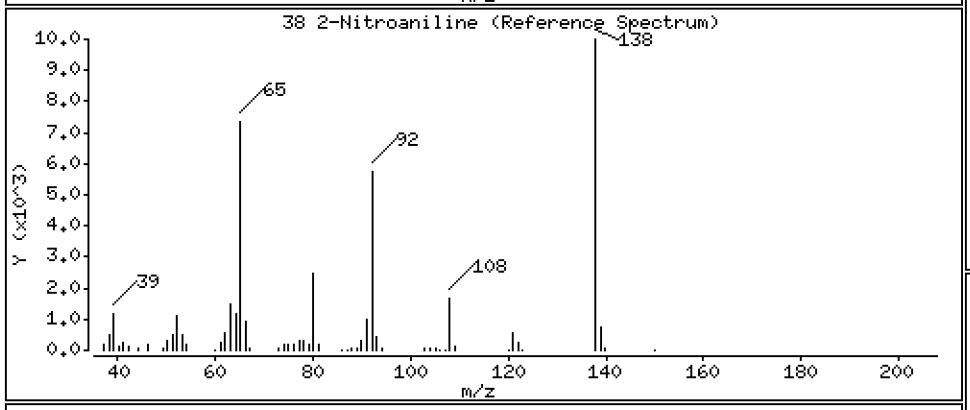
Column diameter: 0.25

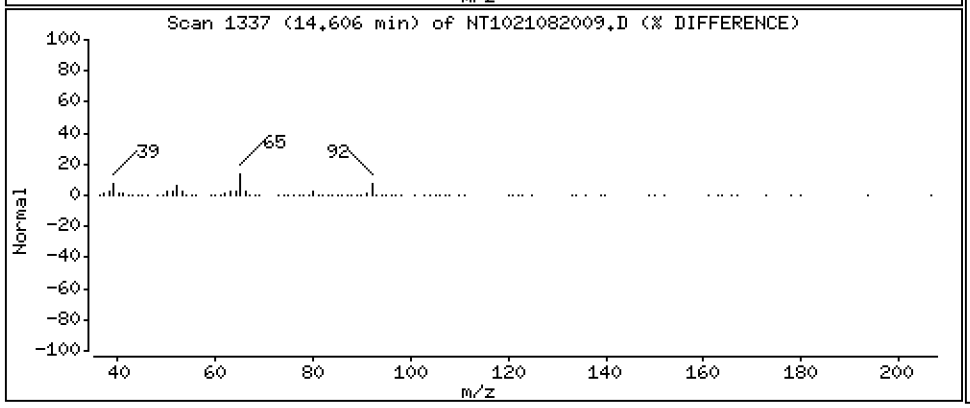
38 2-Nitroaniline

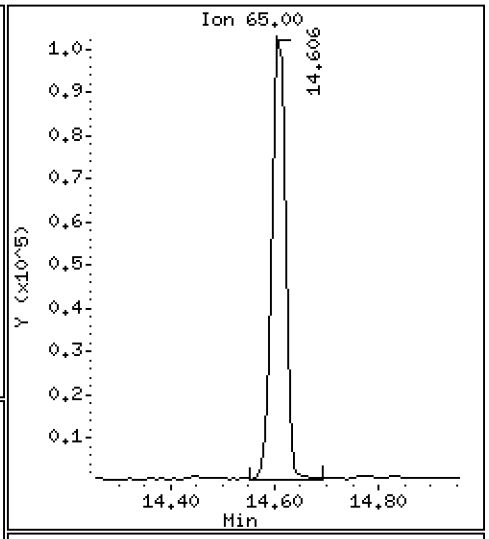
Concentration: 14.62 ug/mL

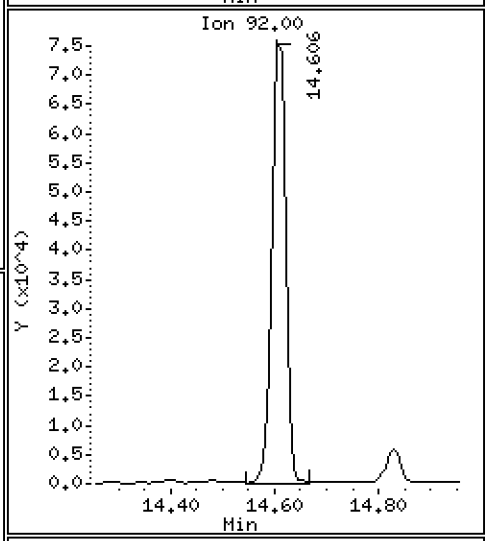


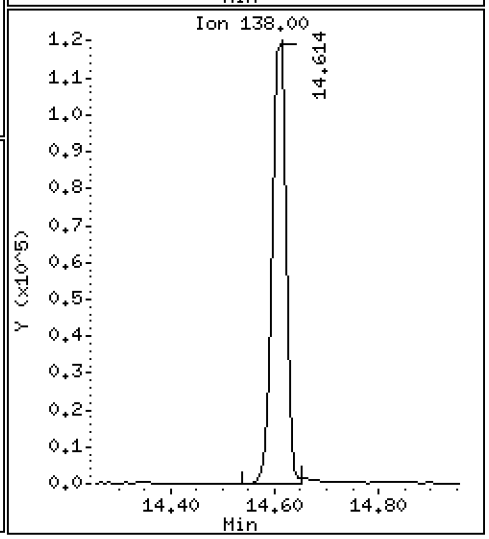












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

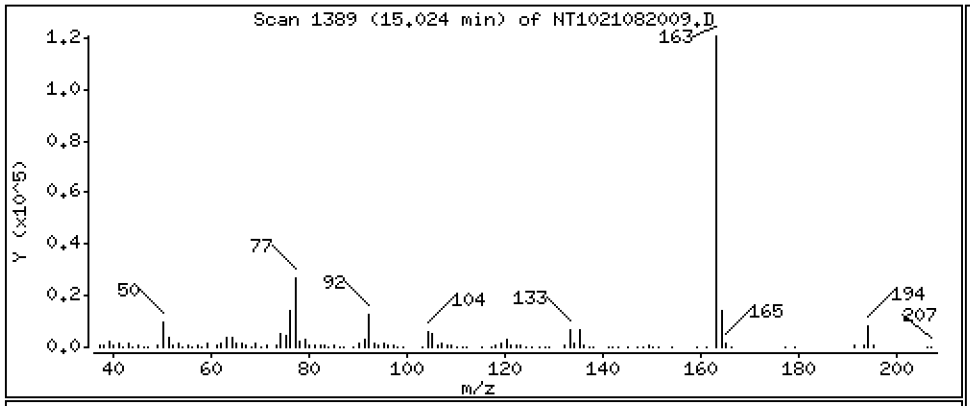
Operator: VTS

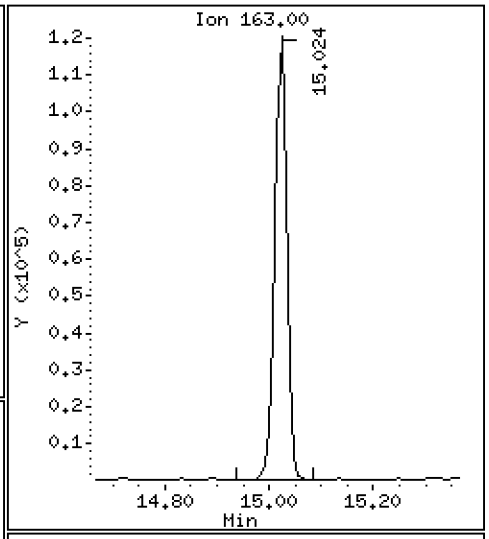
Column phase: ZB-5msi

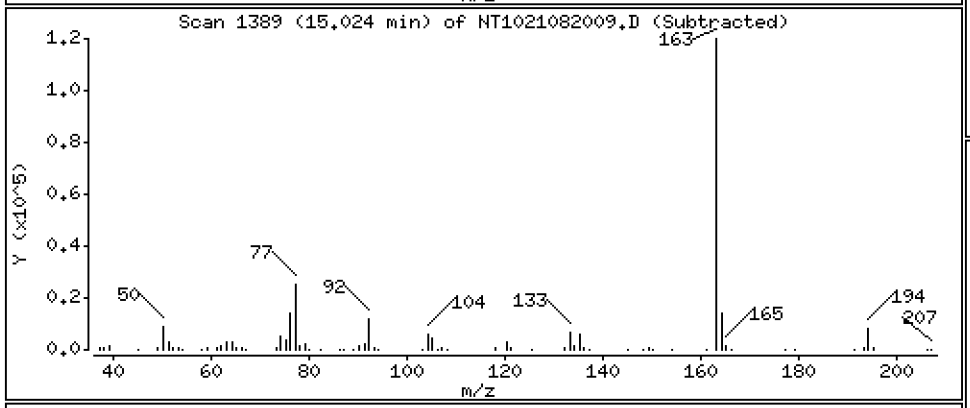
Column diameter: 0.25

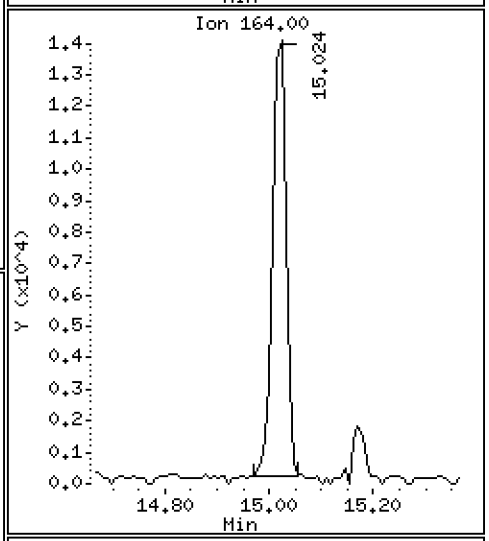
39 Dimethylphthalate

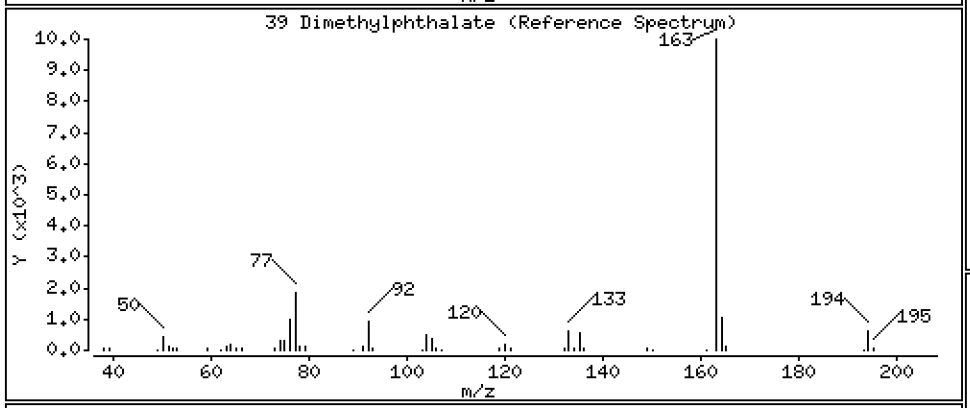
Concentration: 4.289 ug/mL

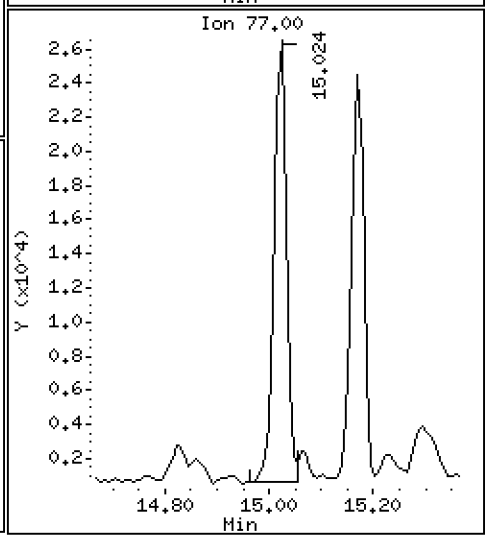


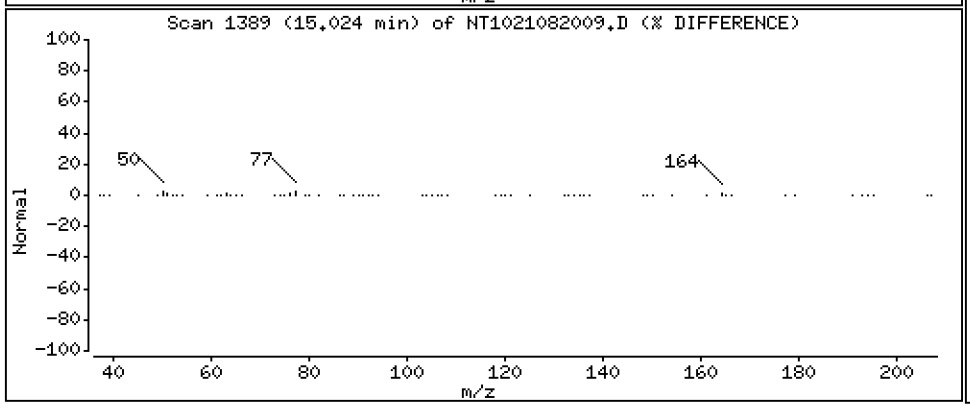












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

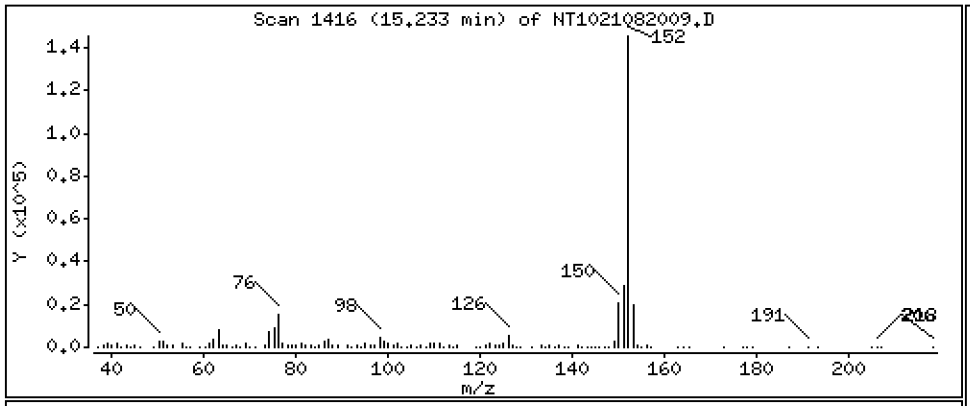
Operator: VTS

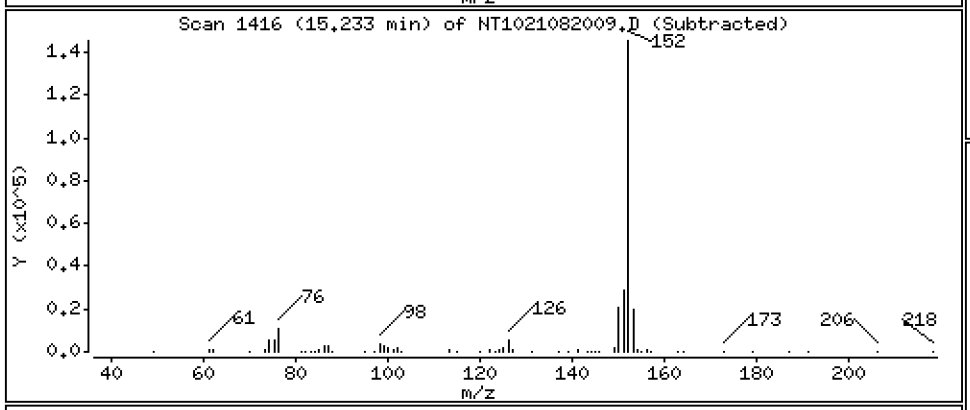
Column phase: ZB-5msi

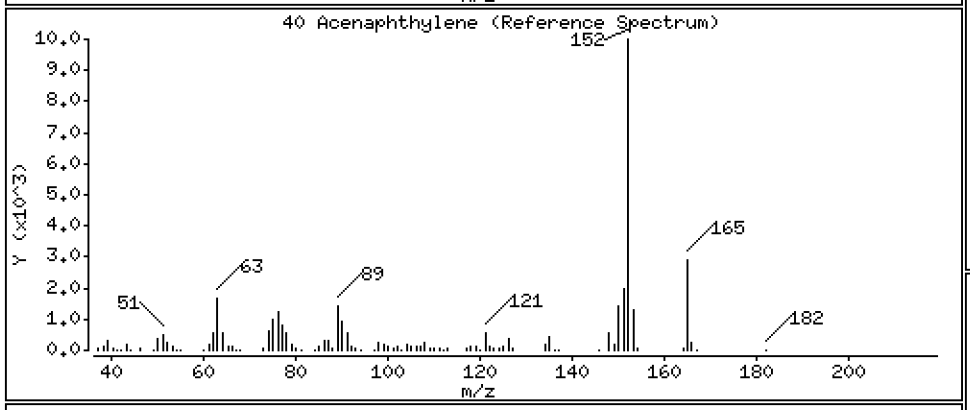
Column diameter: 0.25

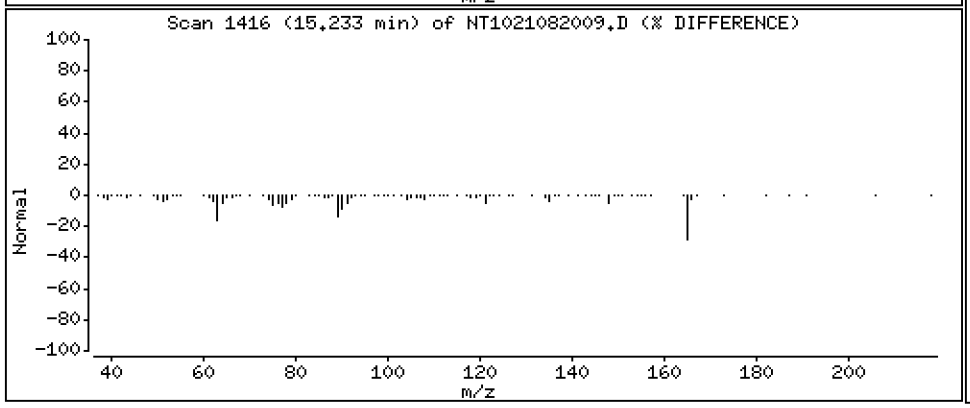
40 Acenaphthylene

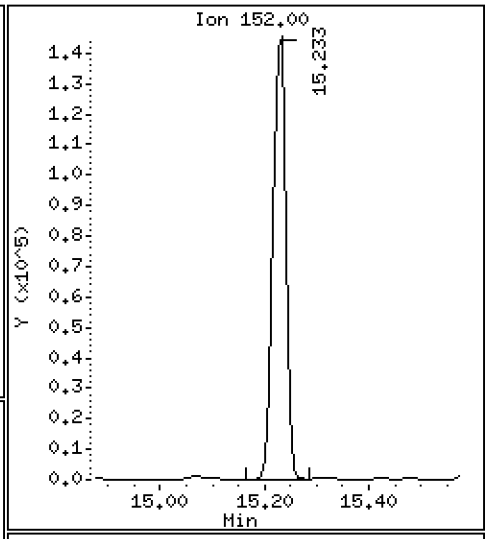
Concentration: 3.774 ug/mL

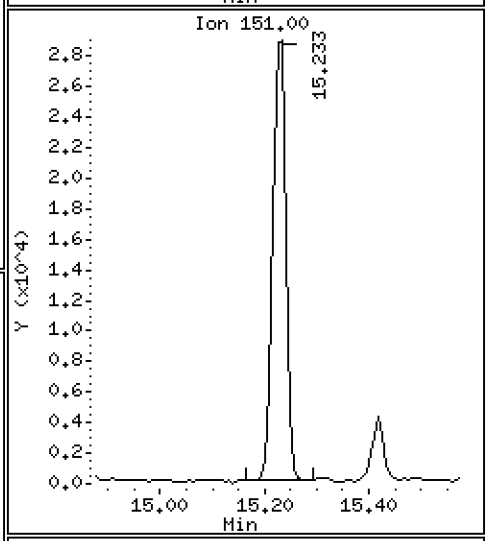


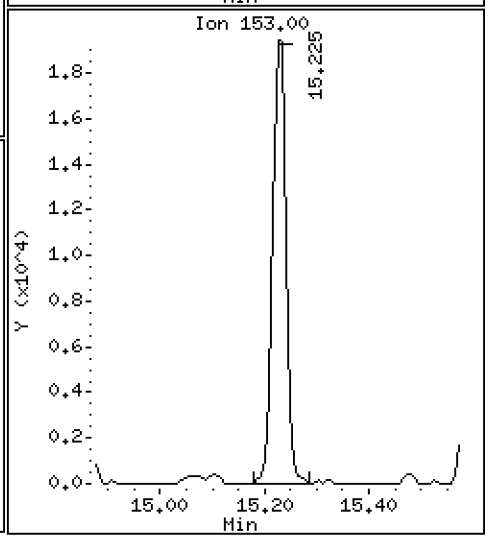












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

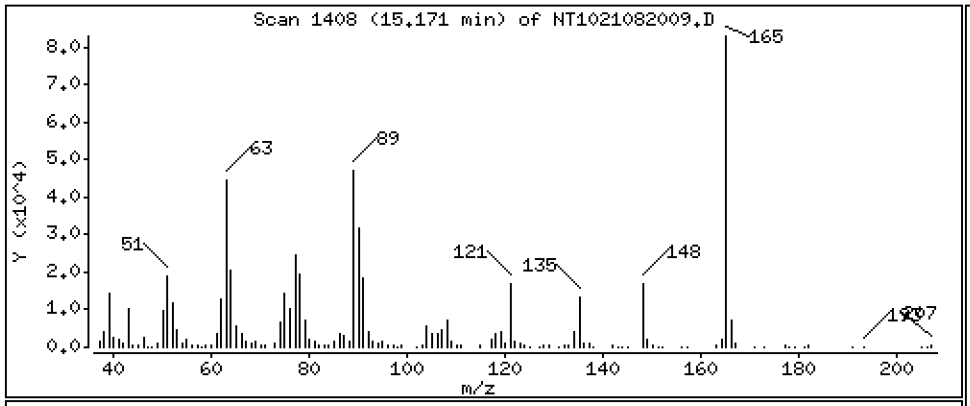
Operator: VTS

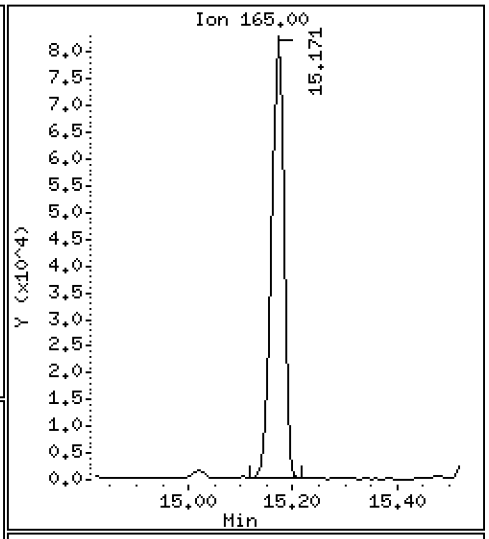
Column phase: ZB-5msi

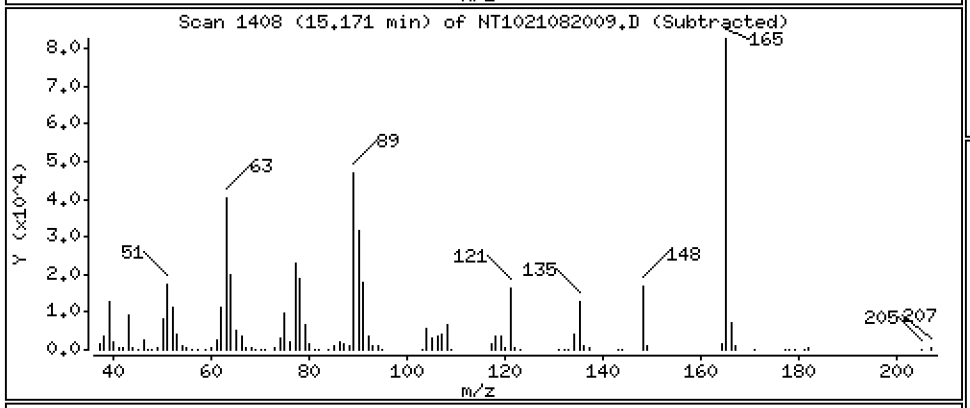
Column diameter: 0.25

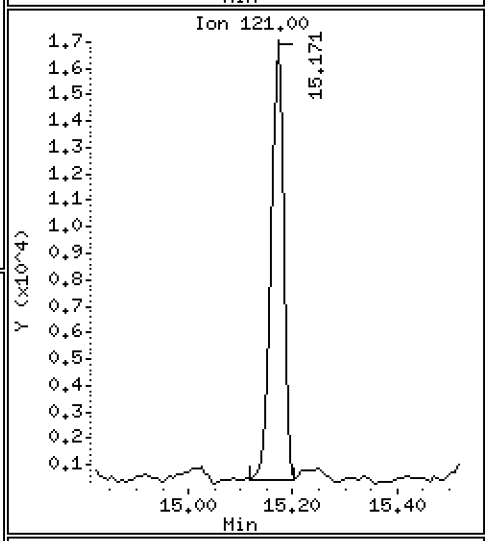
41 2,6-Dinitrotoluene

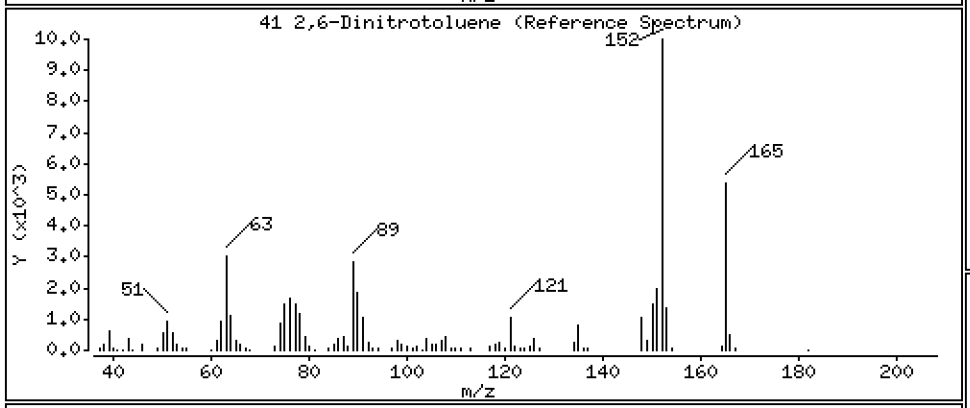
Concentration: 13.95 ug/mL

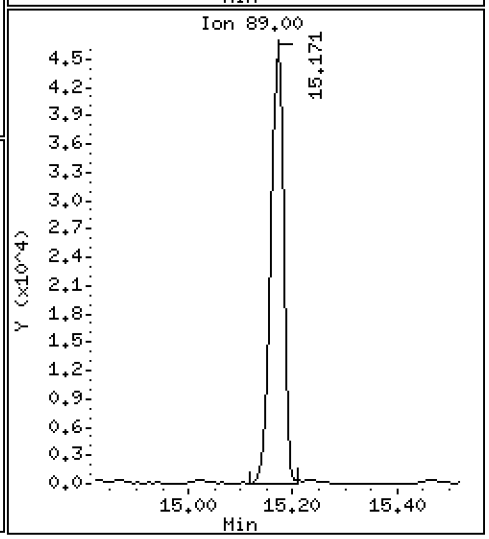


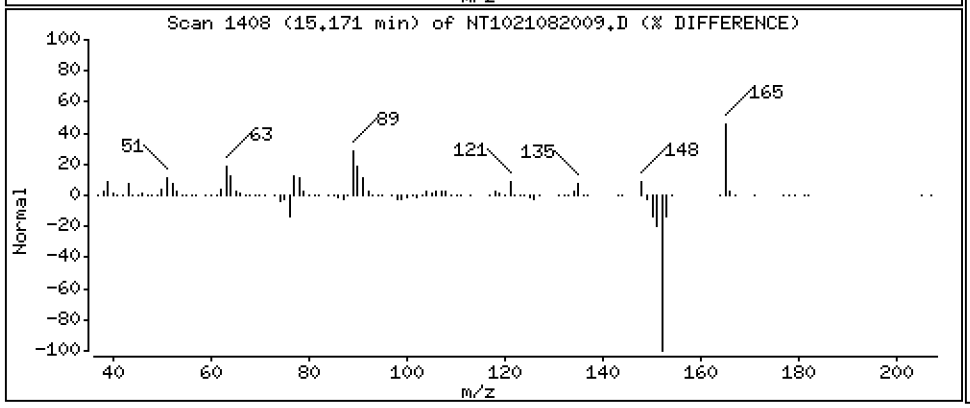












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

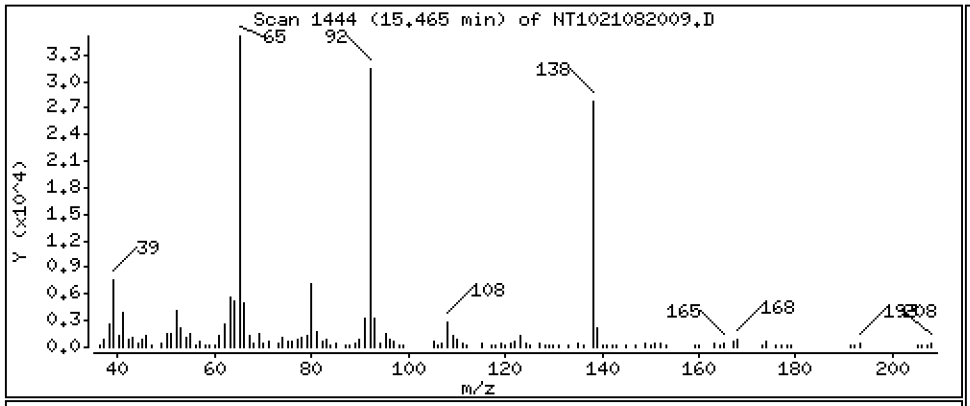
Operator: VTS

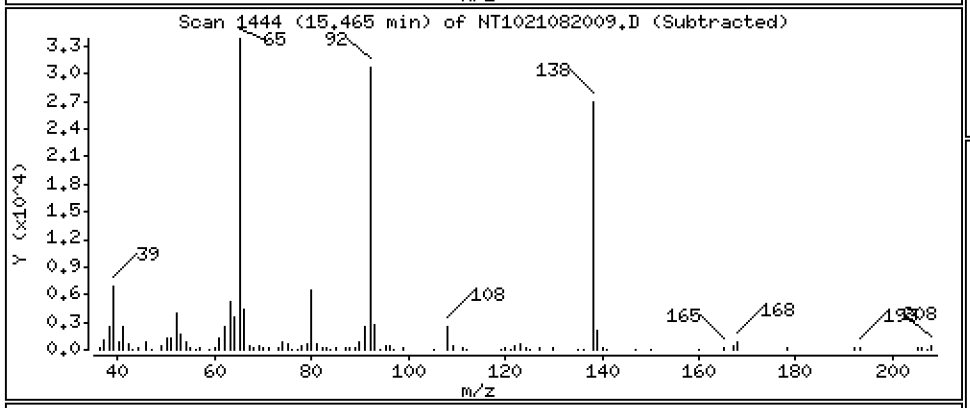
Column phase: ZB-5msi

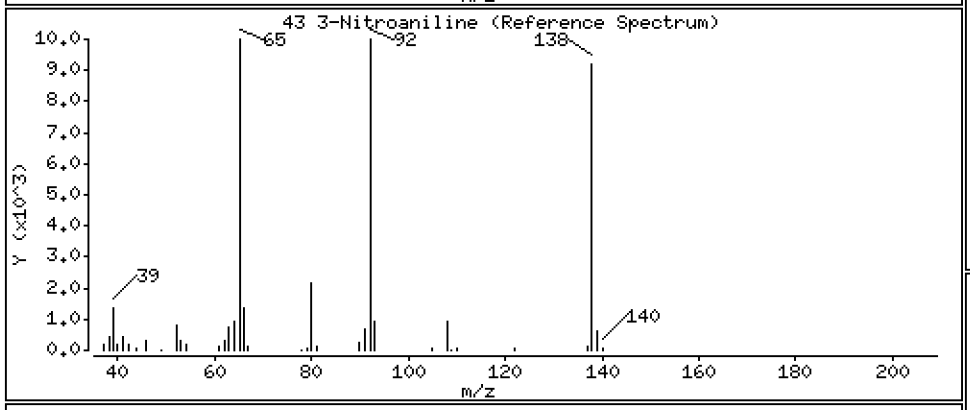
Column diameter: 0.25

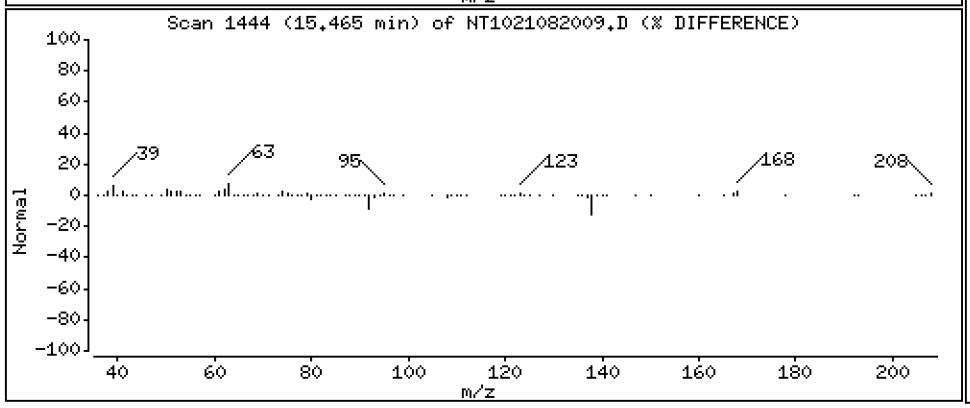
43 3-Nitroaniline

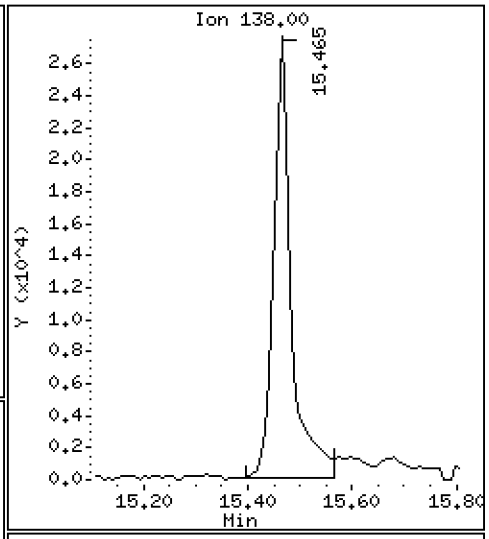
Concentration: 5.499 ug/mL

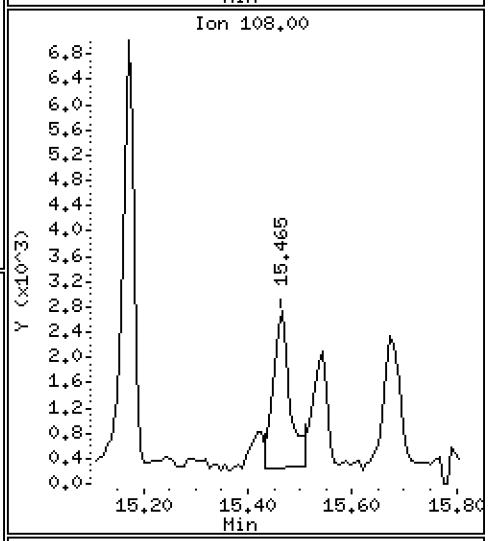


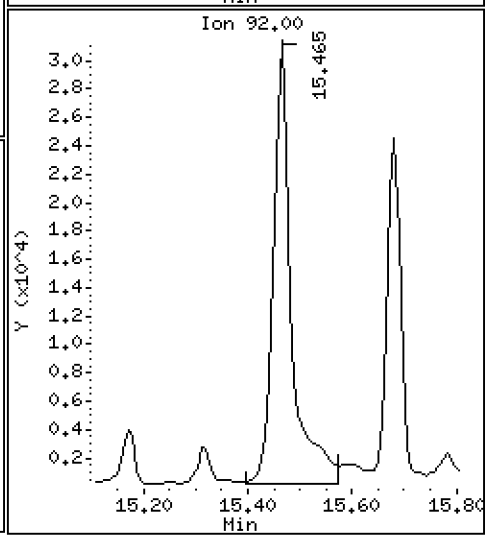












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

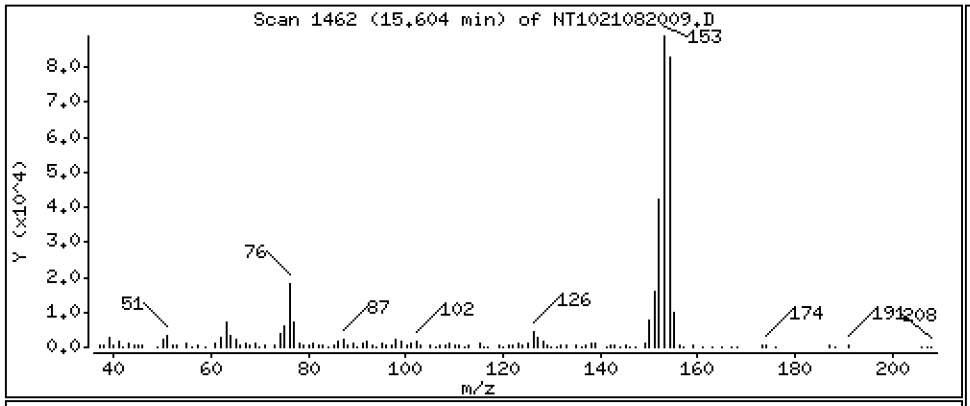
Operator: VTS

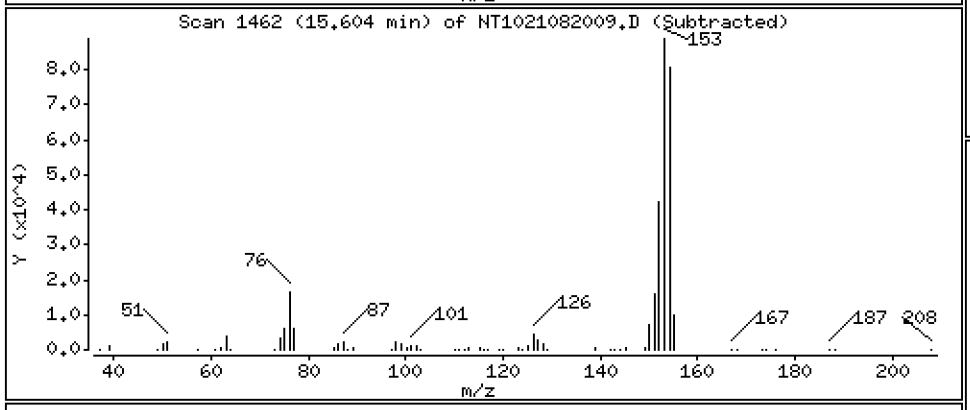
Column phase: ZB-5msi

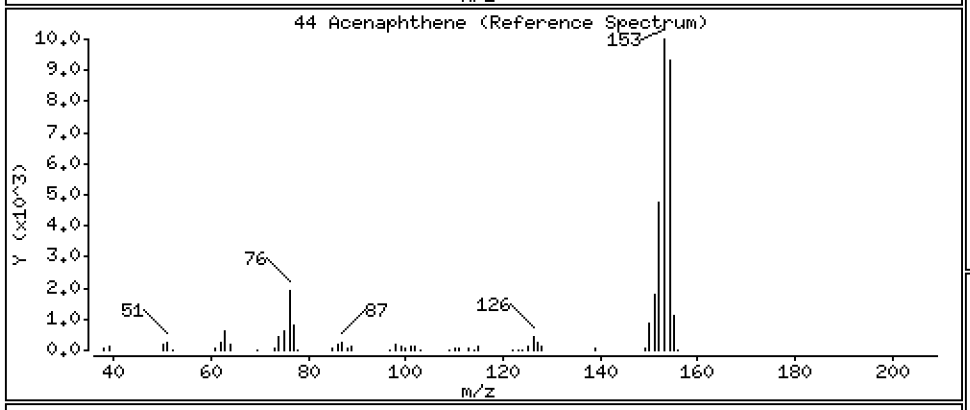
Column diameter: 0.25

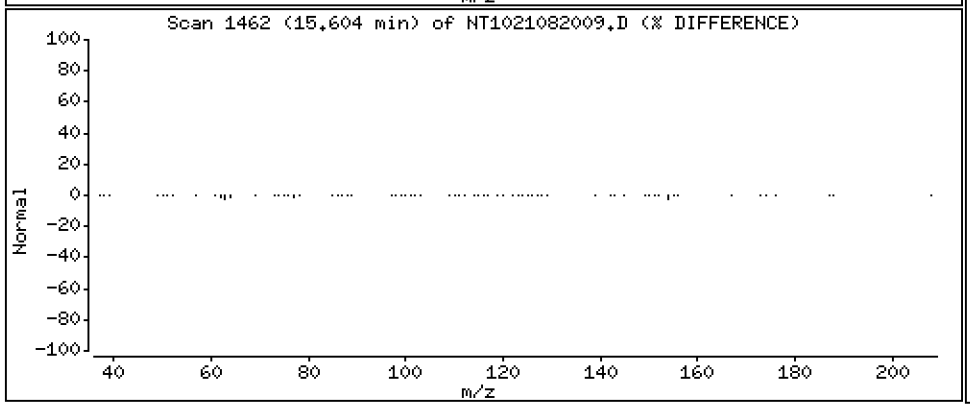
44 Acenaphthene

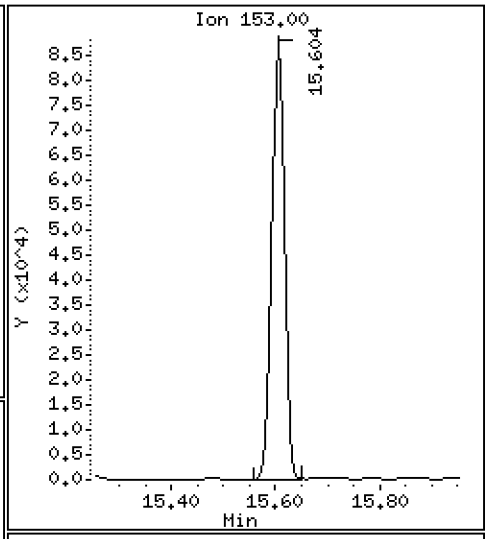
Concentration: 4.181 ug/mL

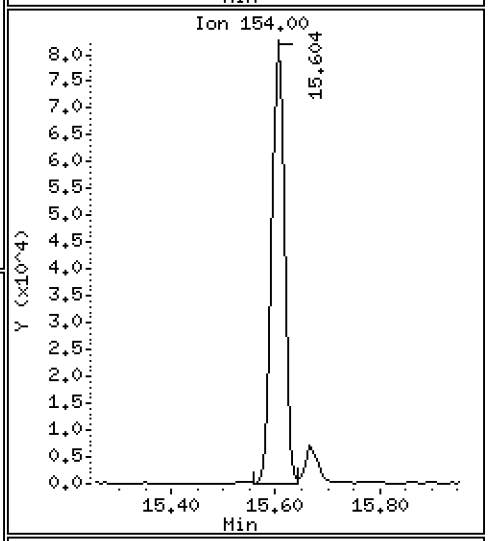


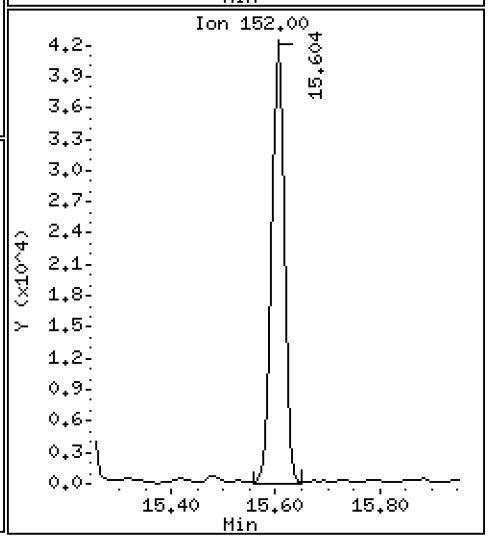












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

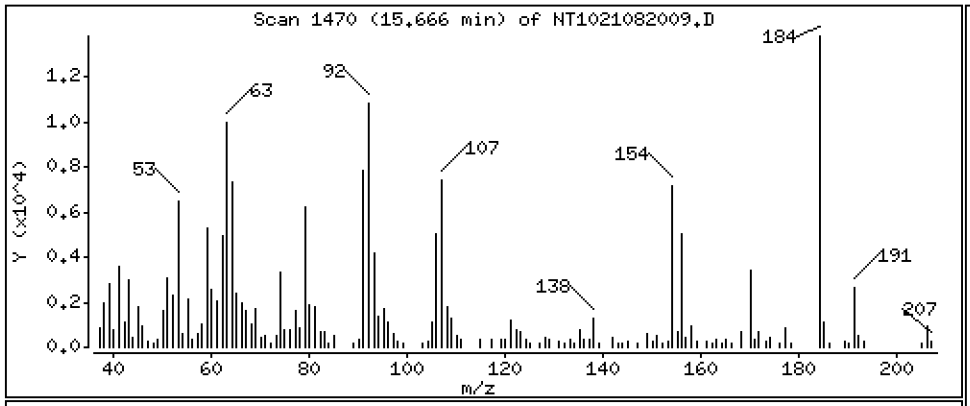
Operator: VTS

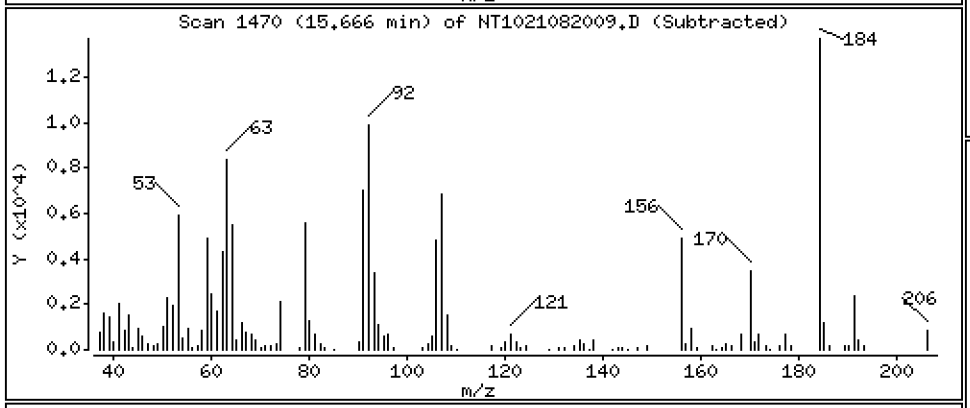
Column phase: ZB-5msi

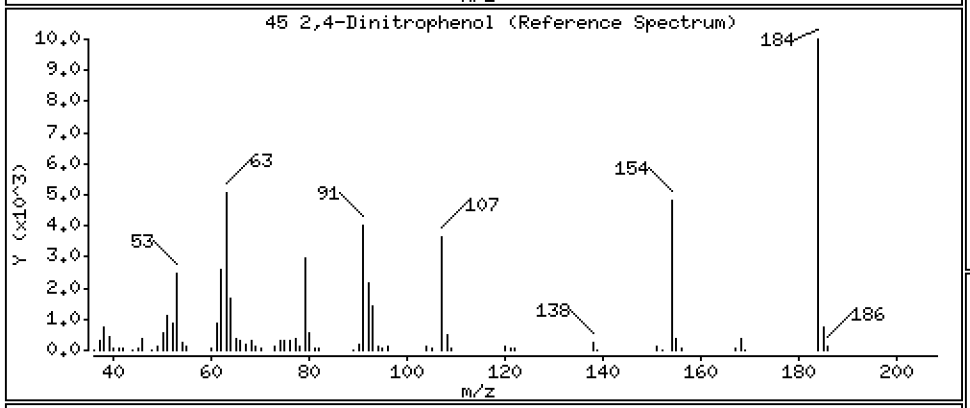
Column diameter: 0.25

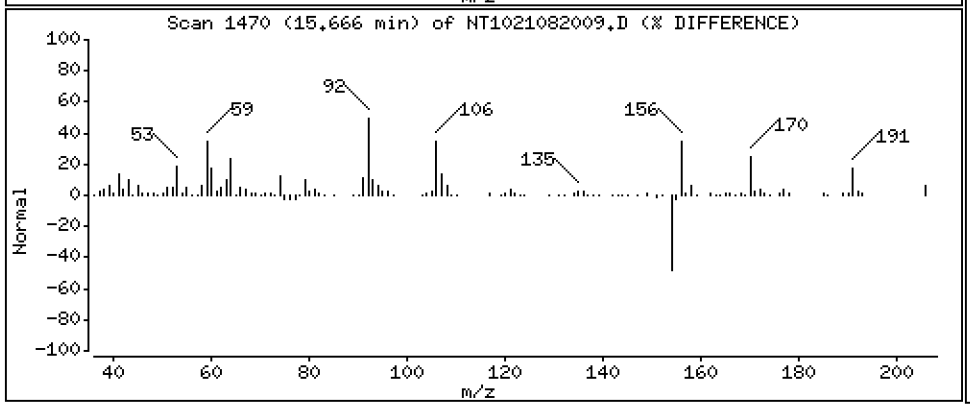
45 2,4-Dinitrophenol

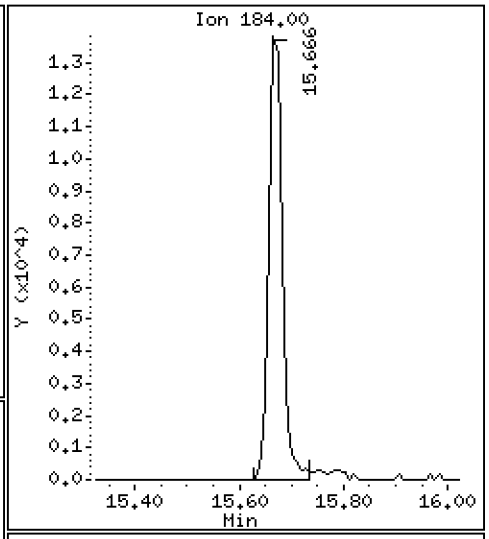
Concentration: 4.796 ug/mL

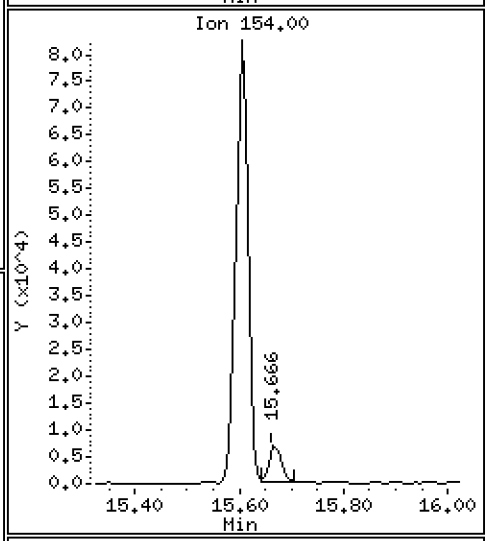


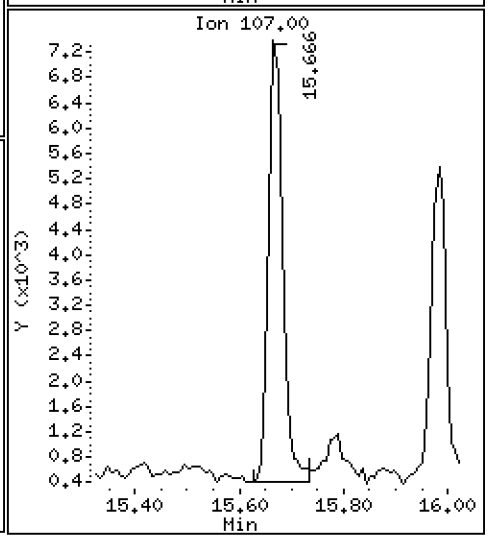












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

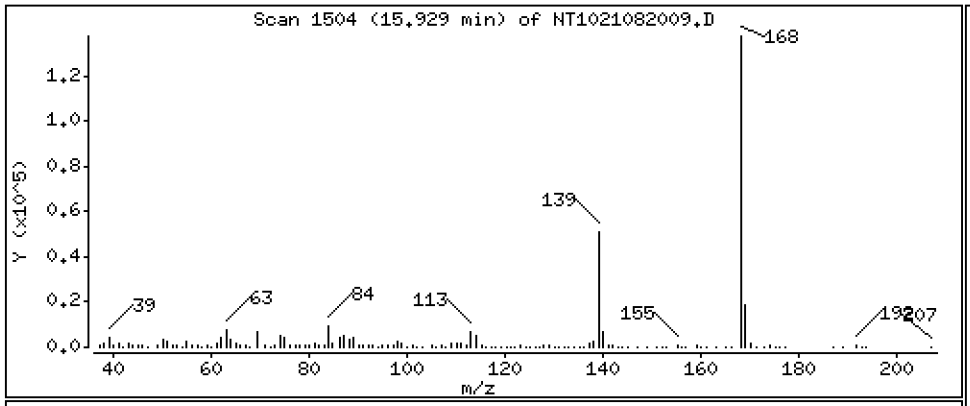
Operator: VTS

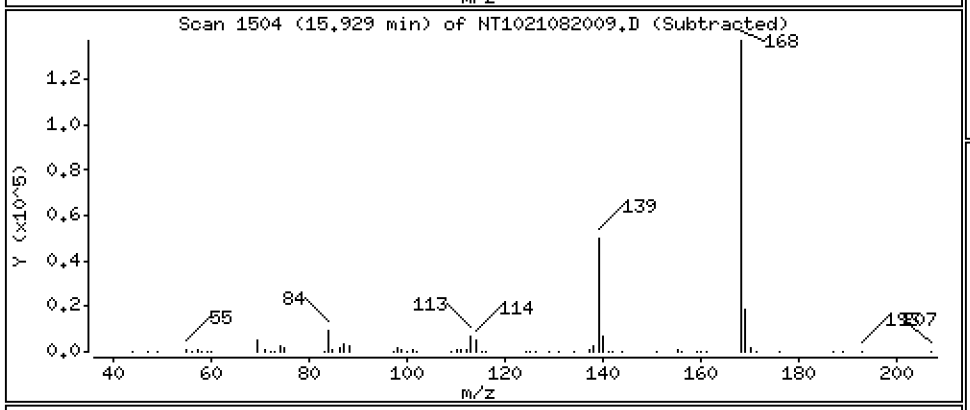
Column phase: ZB-5msi

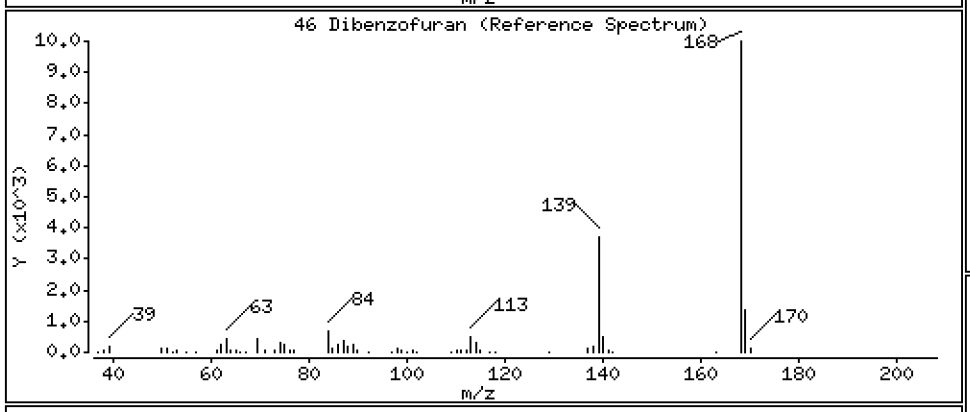
Column diameter: 0.25

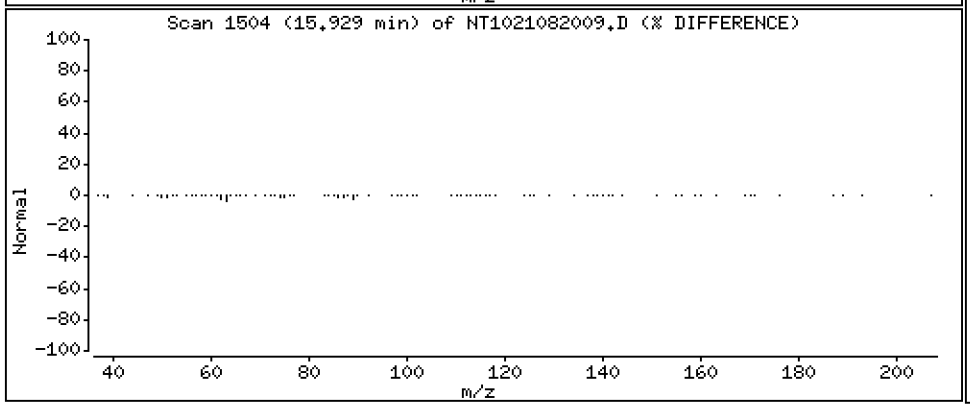
46 Dibenzofuran

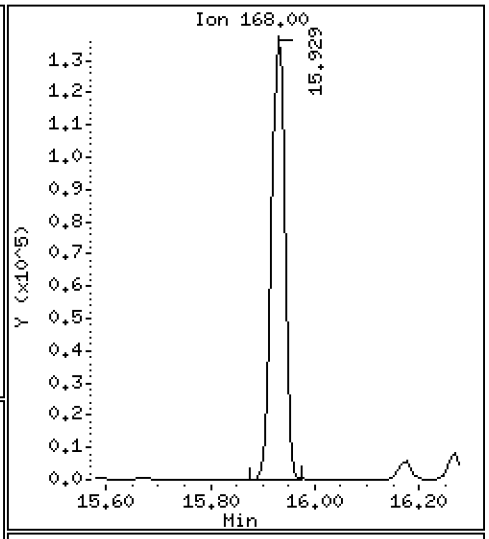
Concentration: 3.891 ug/mL

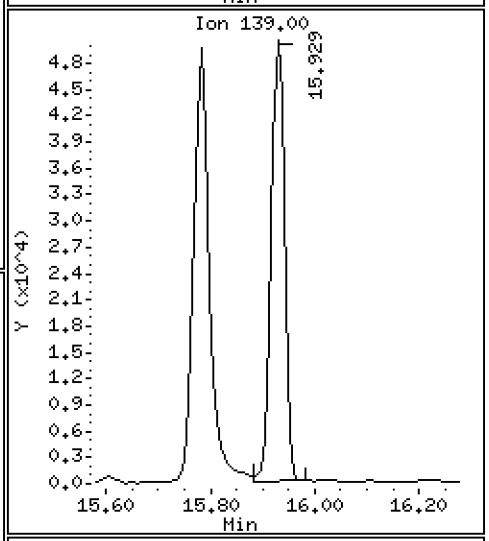


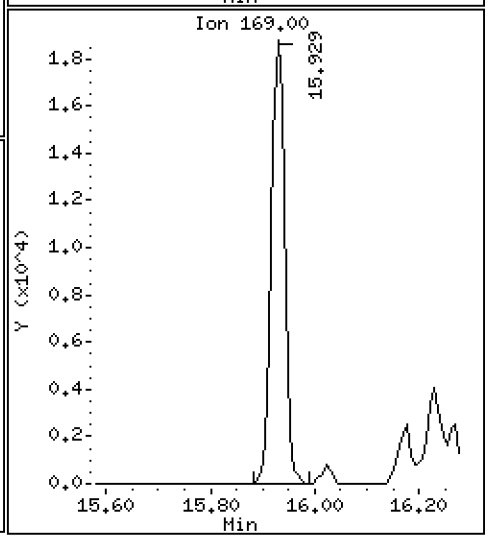












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

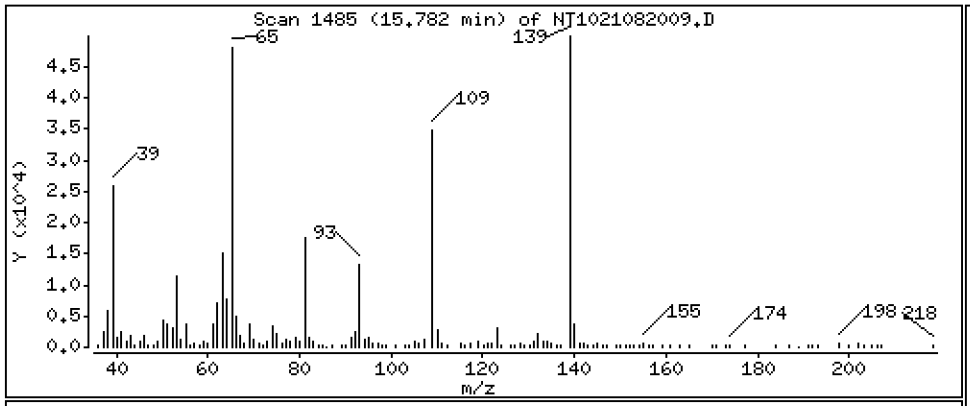
Operator: VTS

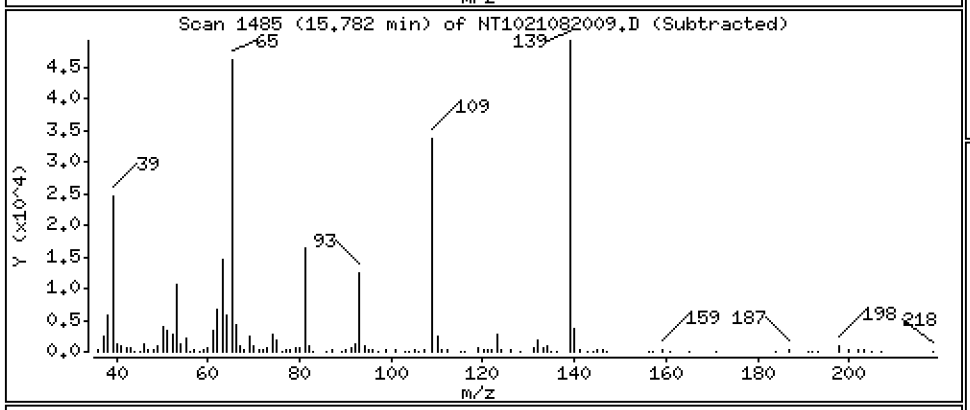
Column phase: ZB-5msi

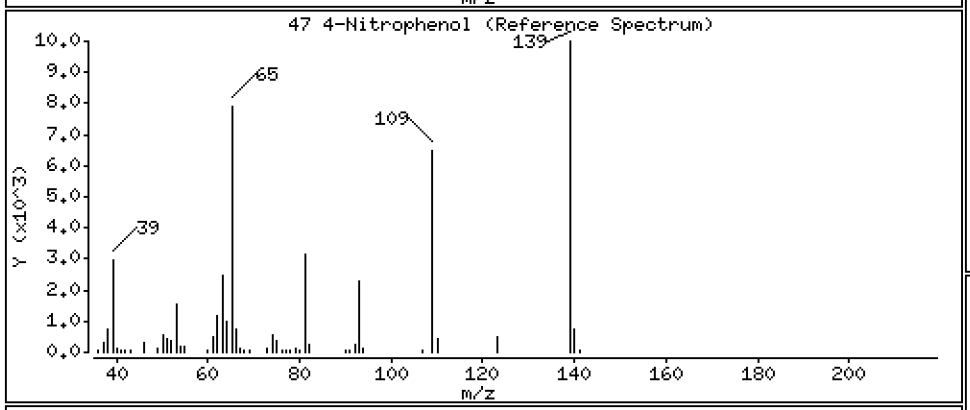
Column diameter: 0.25

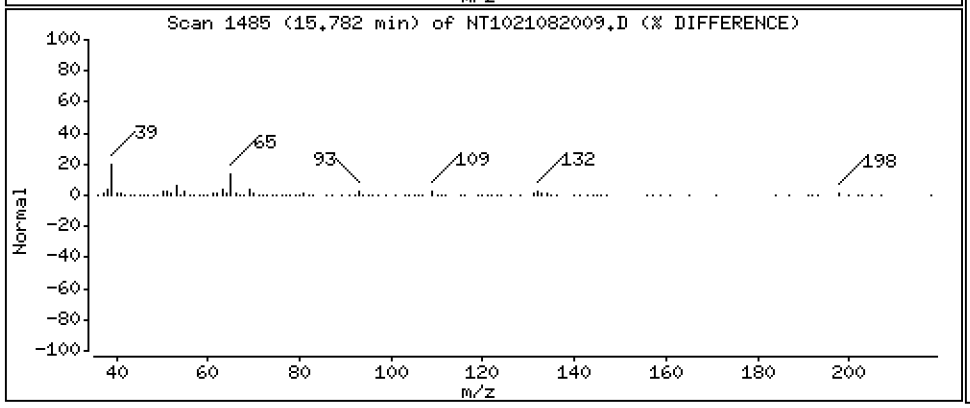
47 4-Nitrophenol

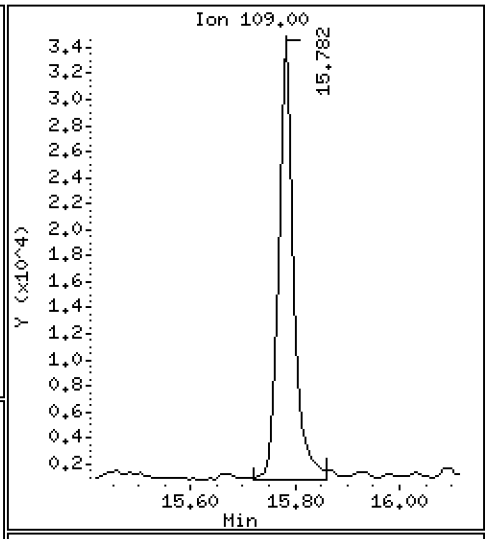
Concentration: 14.85 ug/mL

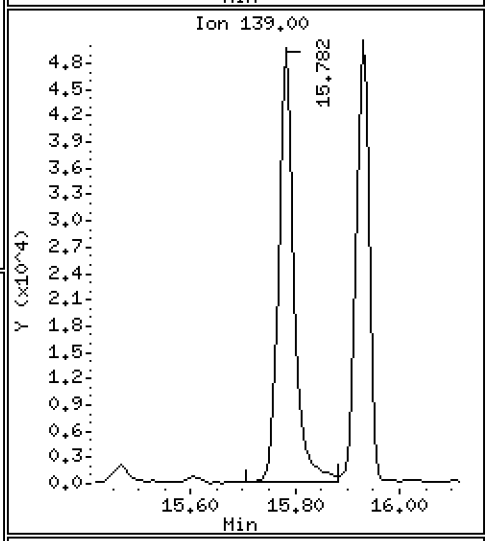


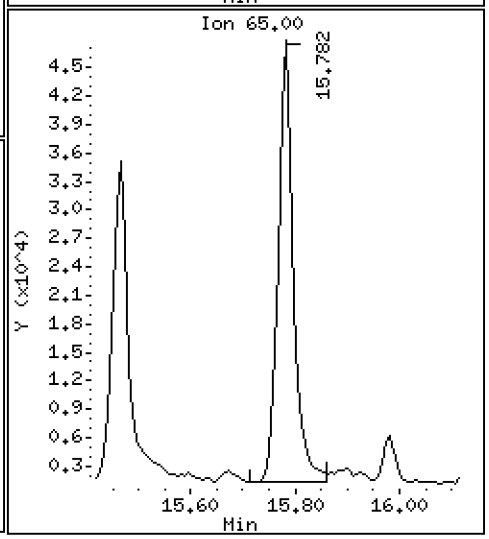












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

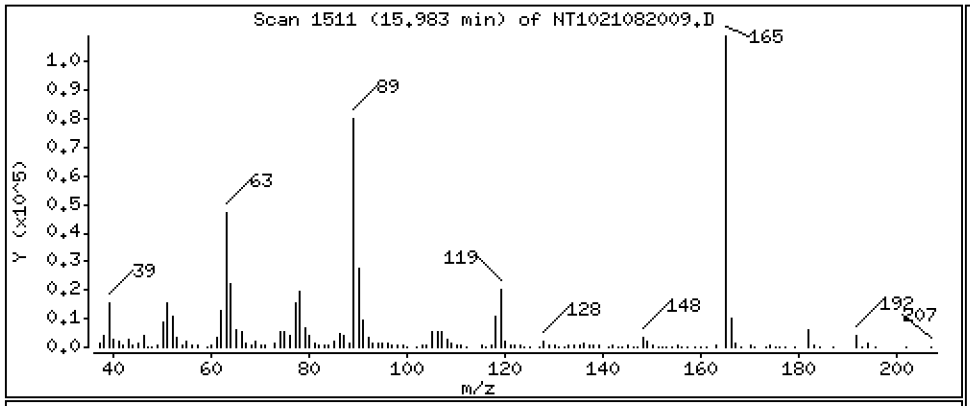
Operator: VTS

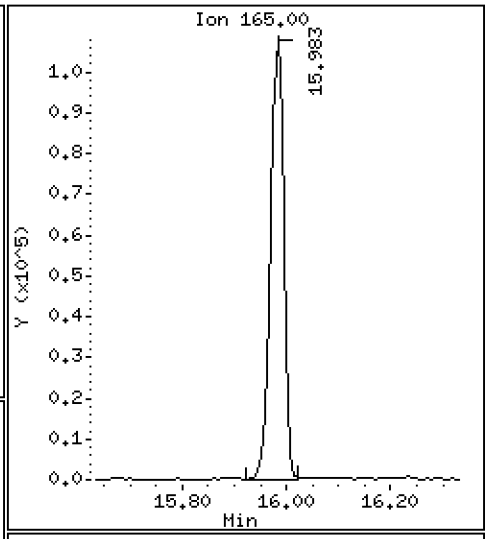
Column phase: ZB-5msi

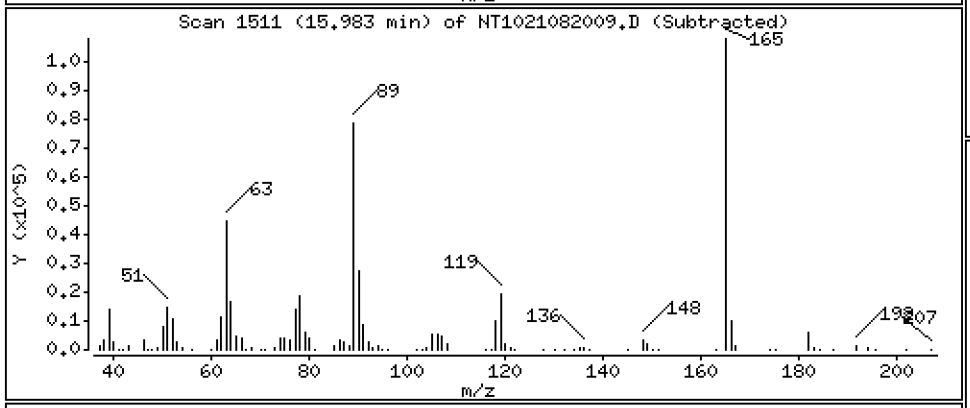
Column diameter: 0.25

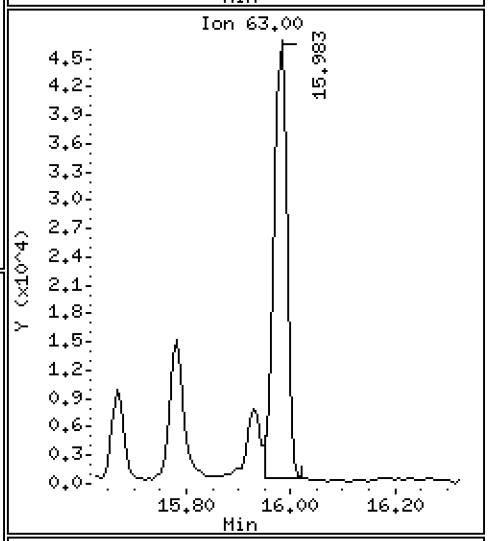
48 2,4-Dinitrotoluene

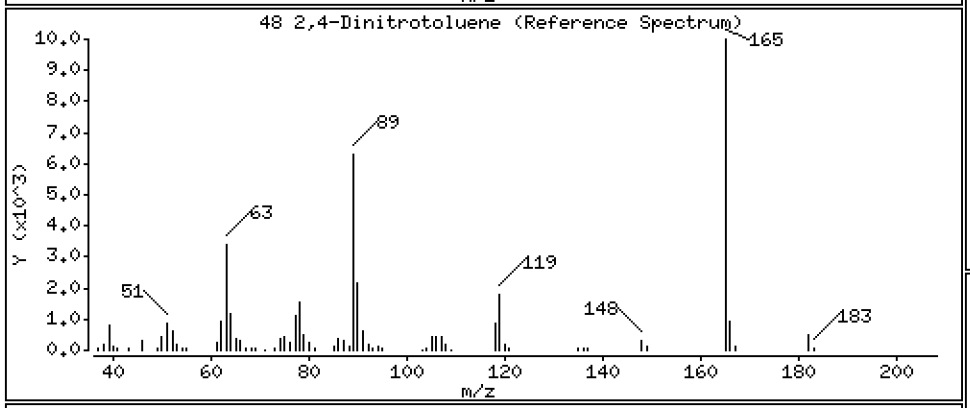
Concentration: 13.89 ug/mL

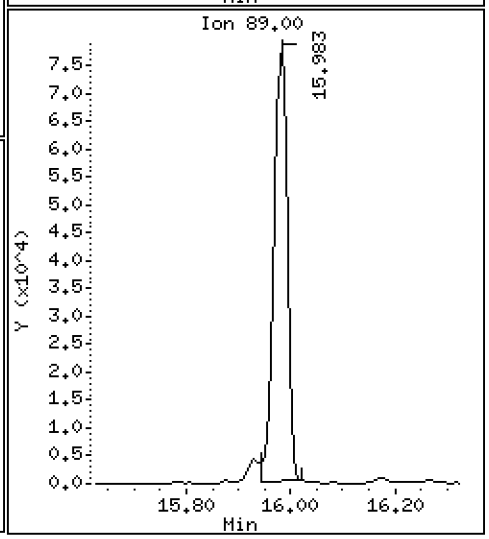


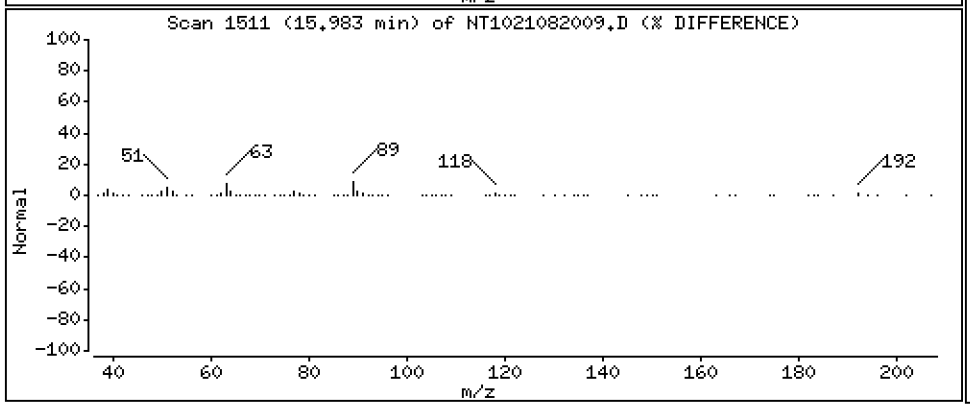












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

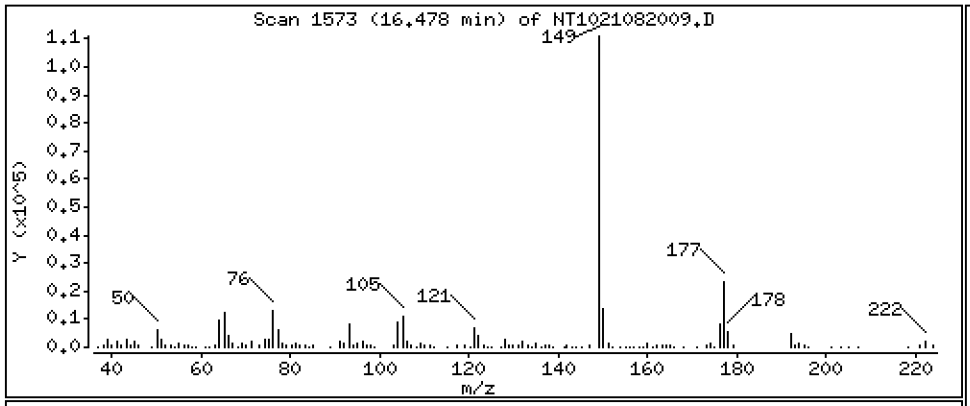
Operator: VTS

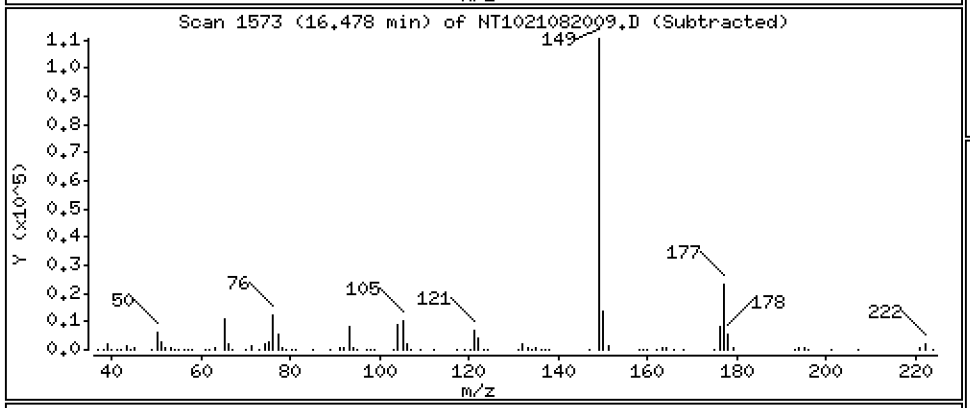
Column phase: ZB-5msi

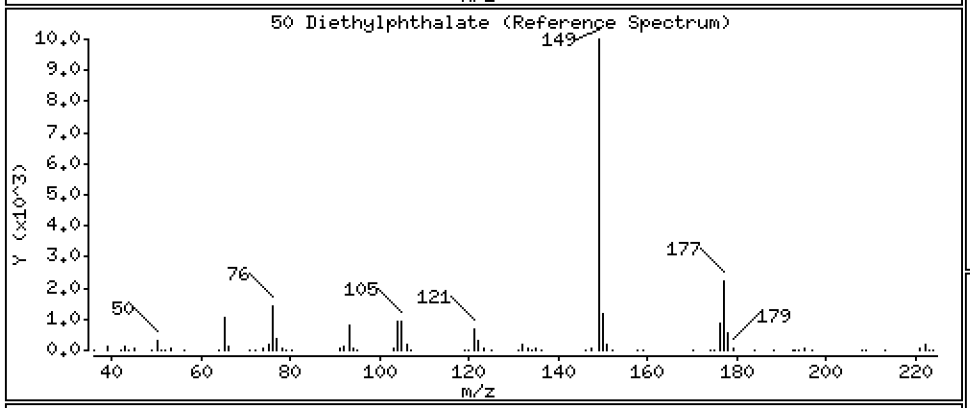
Column diameter: 0.25

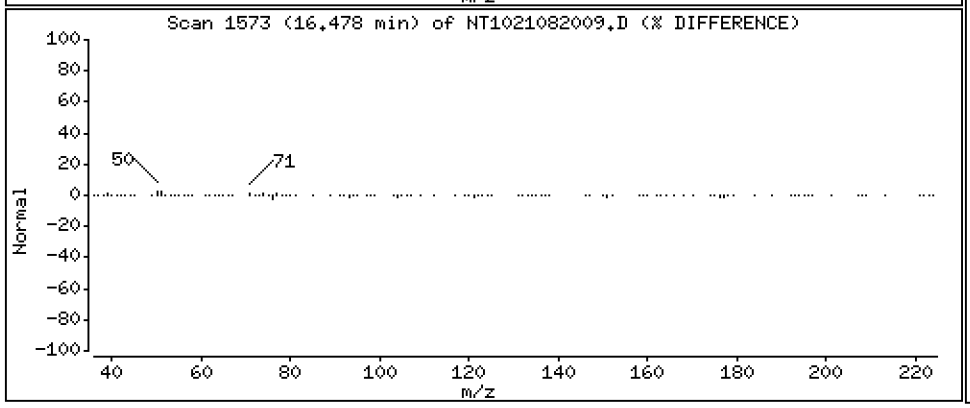
50 Diethylphthalate

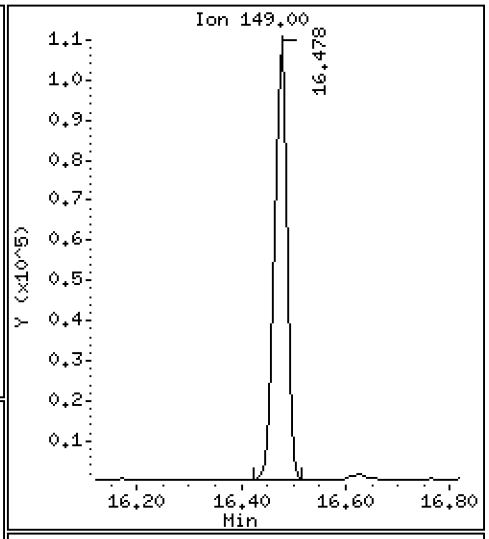
Concentration: 4.637 ug/mL

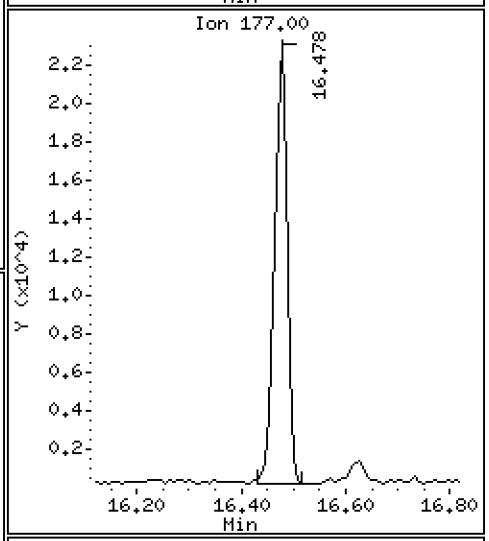


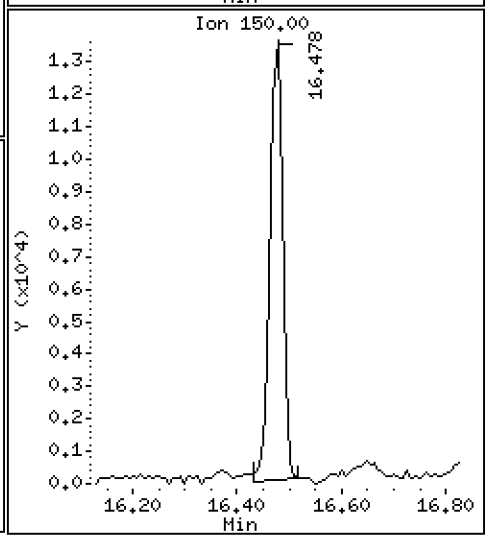












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

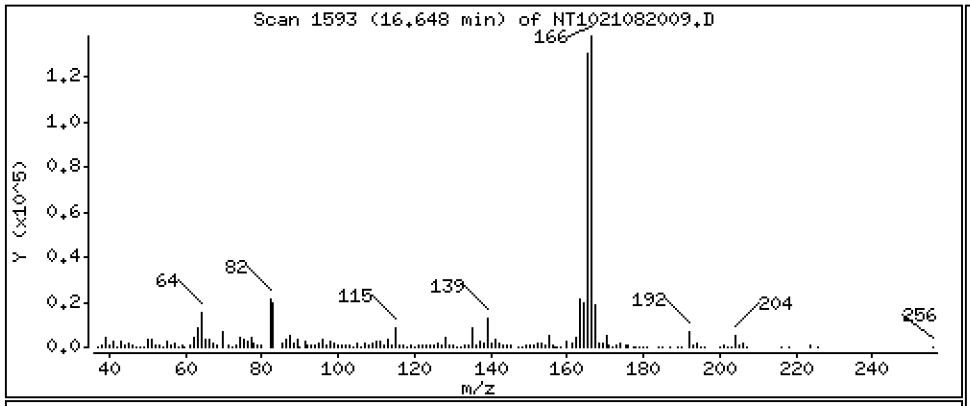
Operator: VTS

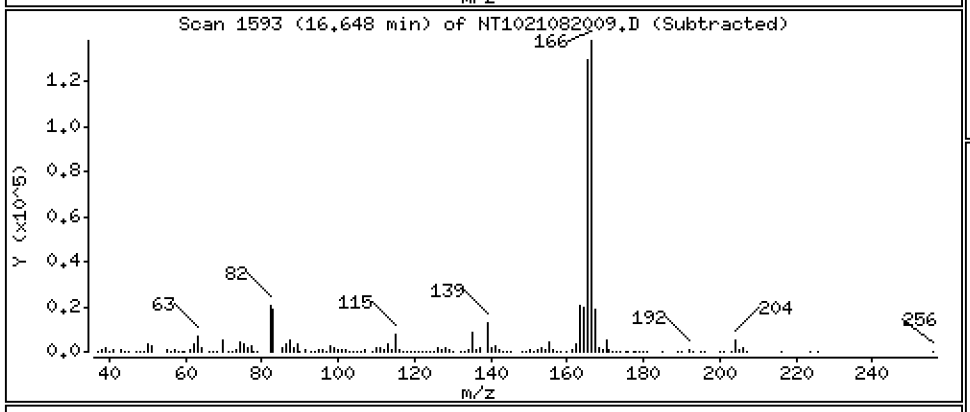
Column phase: ZB-5msi

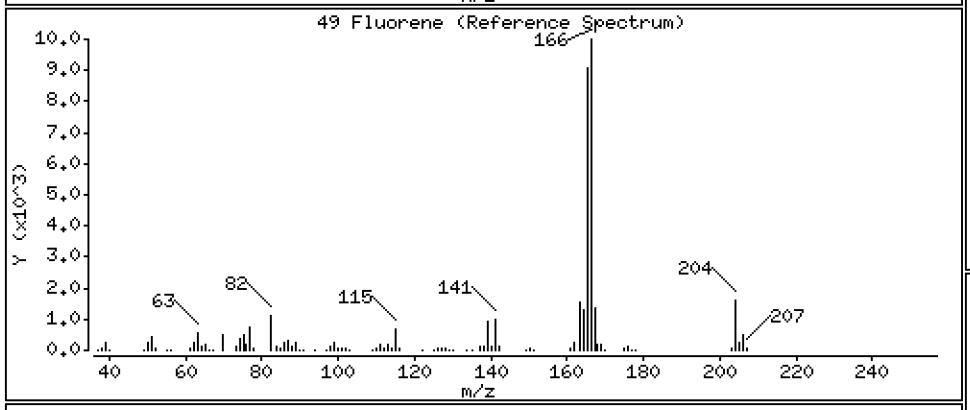
Column diameter: 0.25

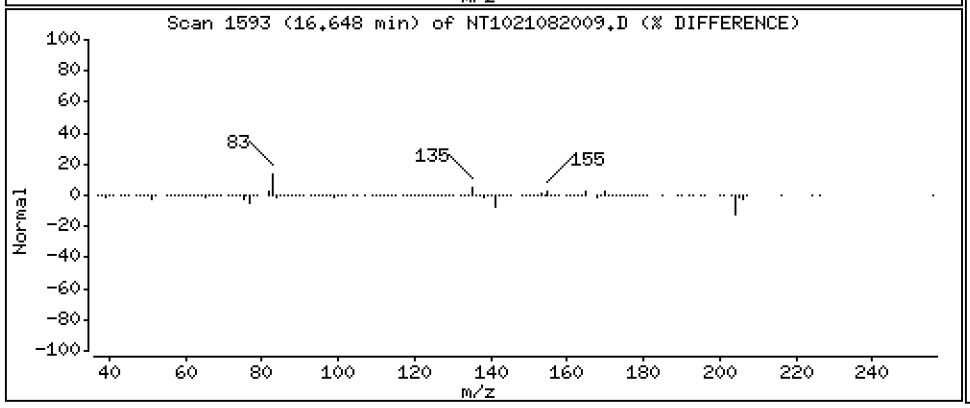
49 Fluorene

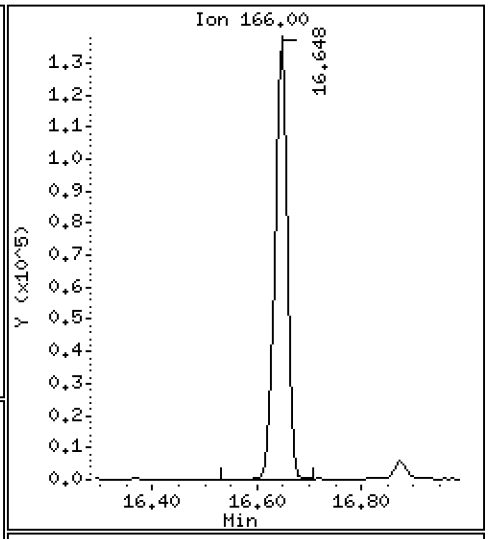
Concentration: 4.719 ug/mL

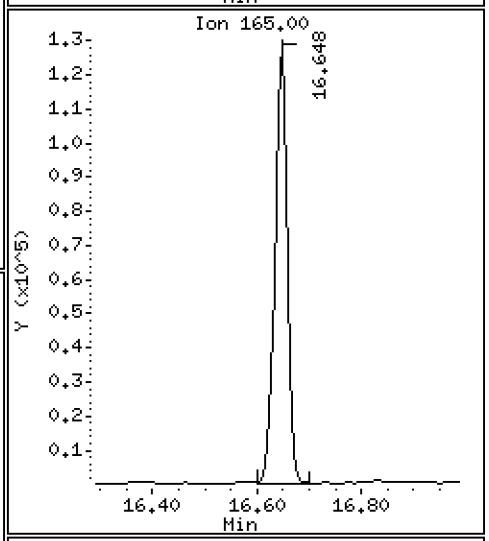


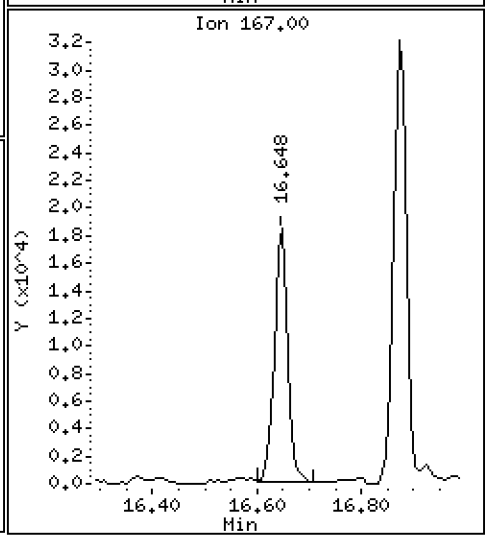












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

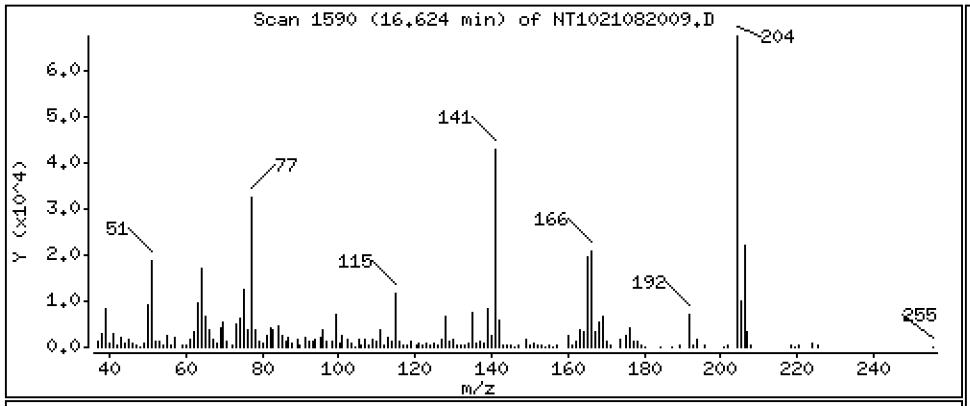
Operator: VTS

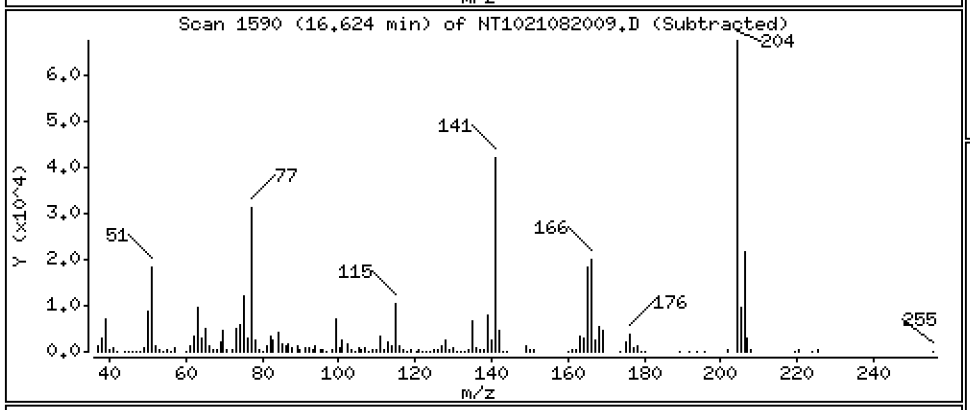
Column phase: ZB-5msi

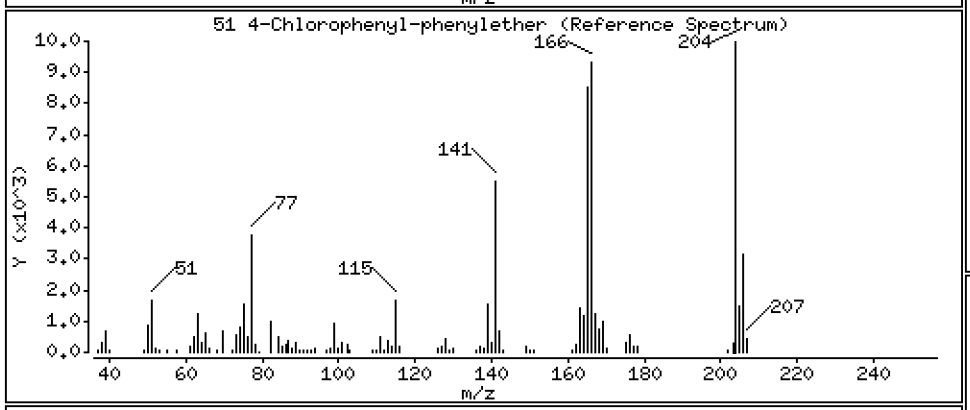
Column diameter: 0.25

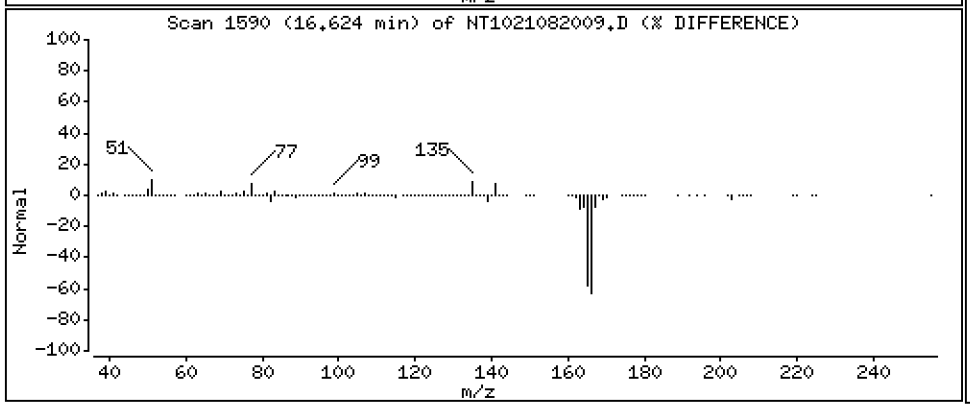
51 4-Chlorophenyl-phenylether

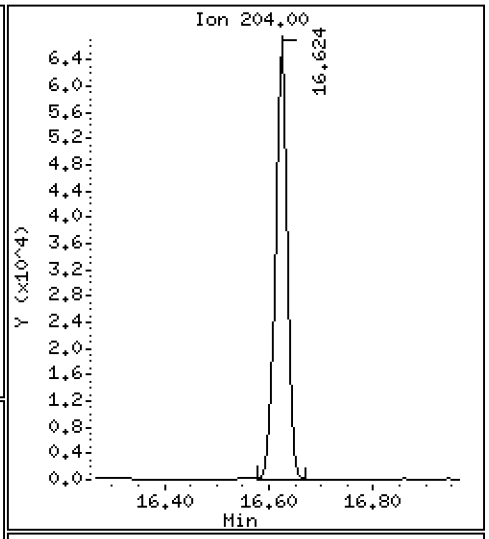
Concentration: 4.450 ug/mL

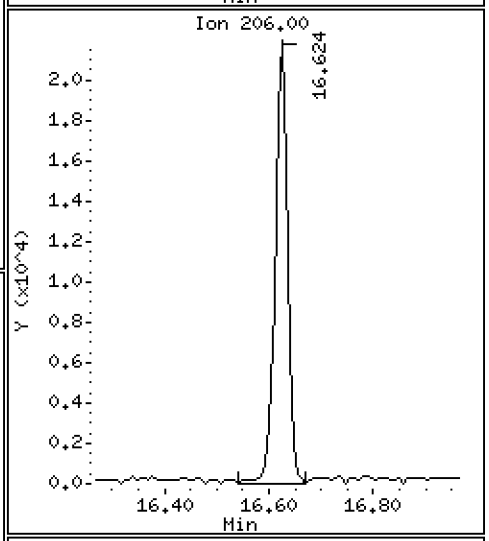


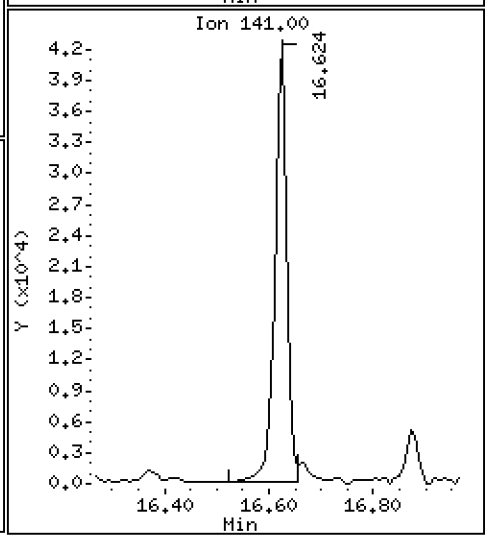












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

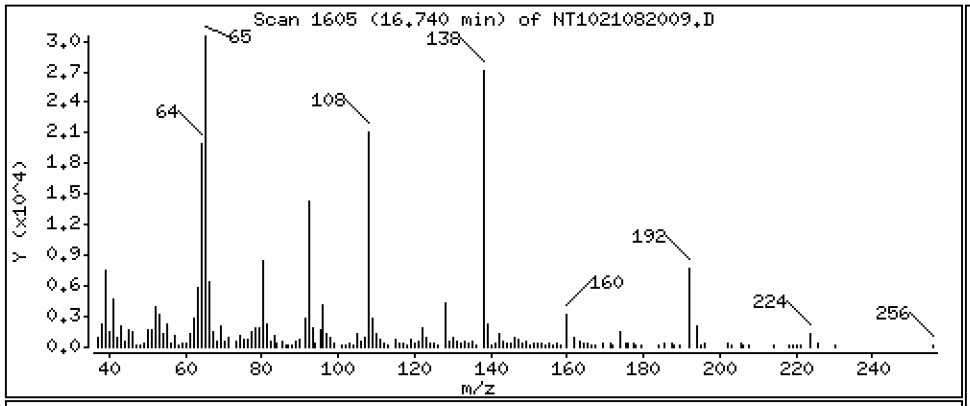
Operator: VTS

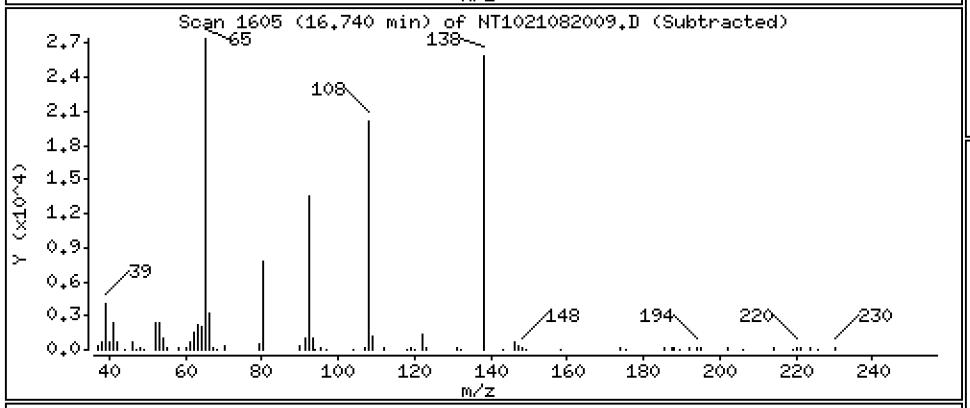
Column phase: ZB-5msi

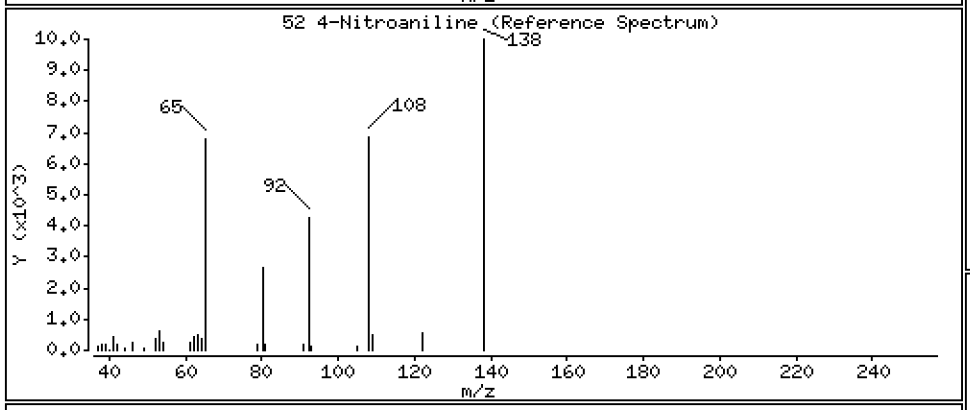
Column diameter: 0.25

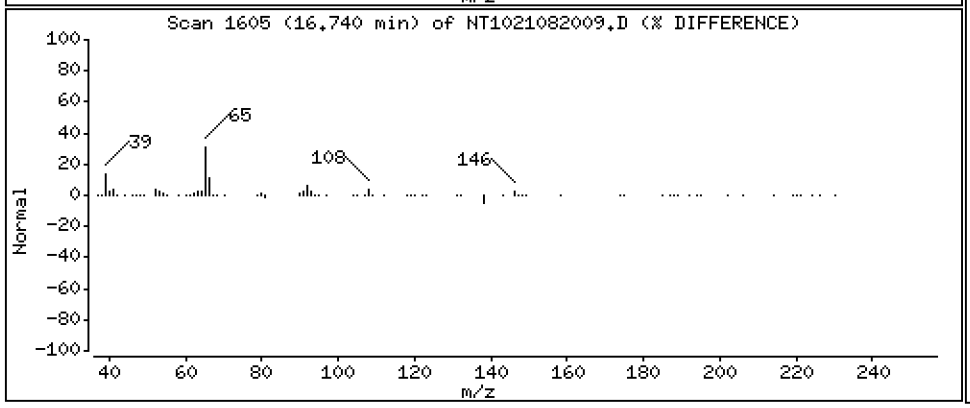
52 4-Nitroaniline

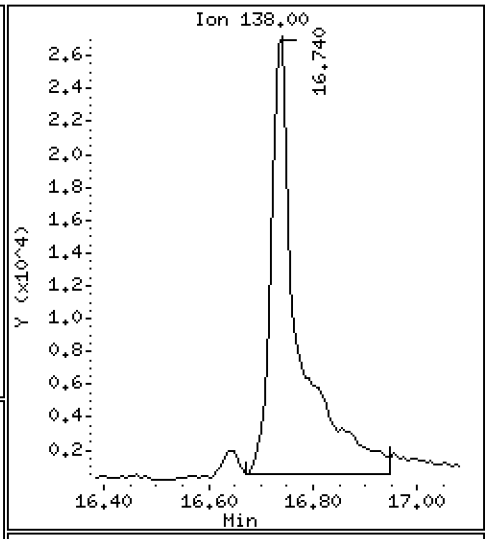
Concentration: 7.308 ug/mL

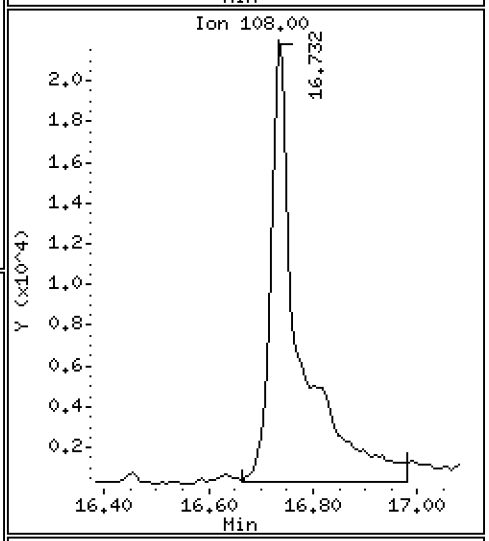


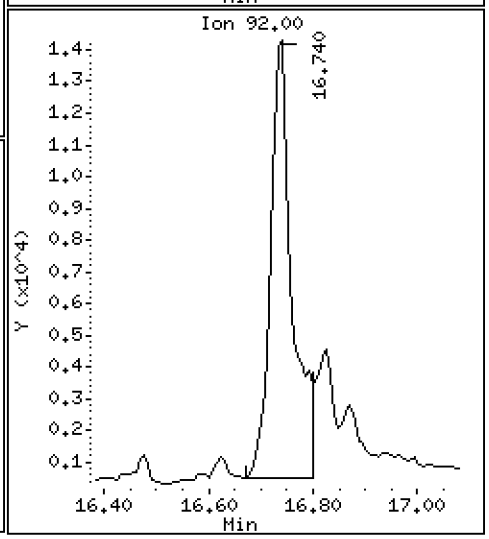












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

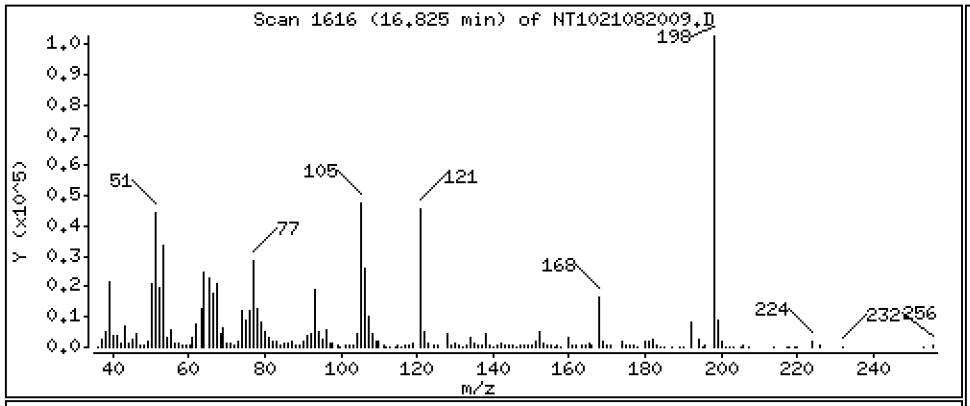
Operator: VTS

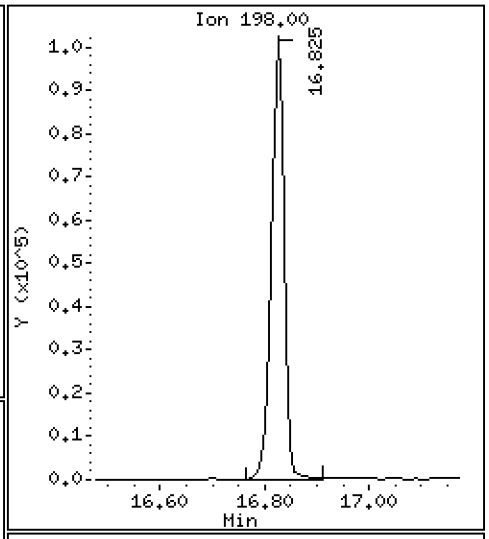
Column phase: ZB-5msi

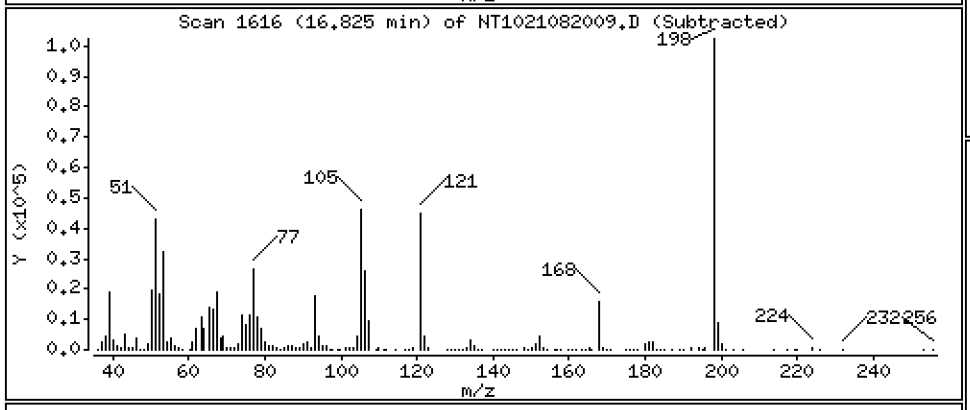
Column diameter: 0.25

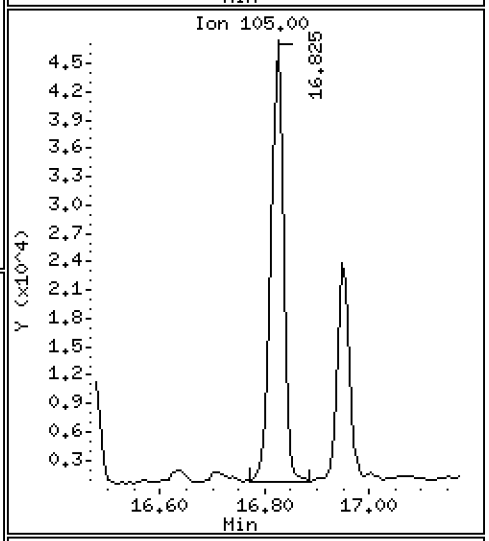
53 4,6-Dinitro-2-methylphenol

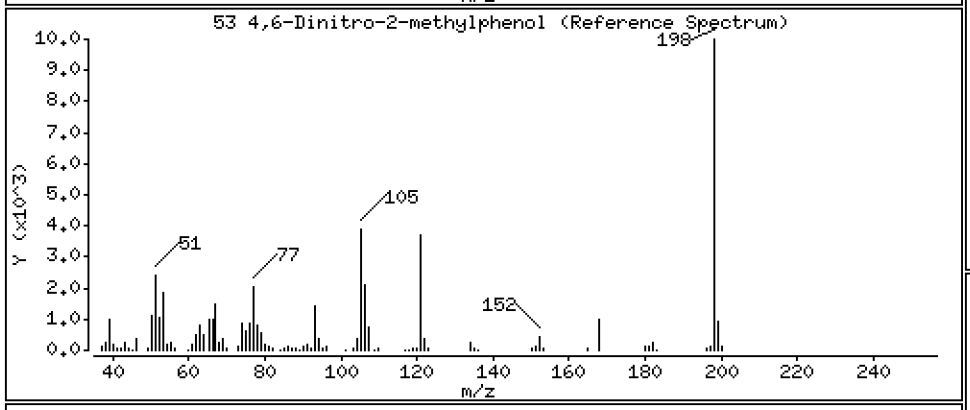
Concentration: 20.03 ug/mL

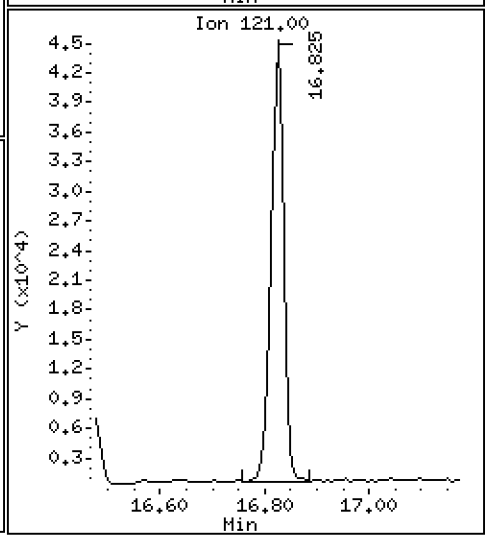


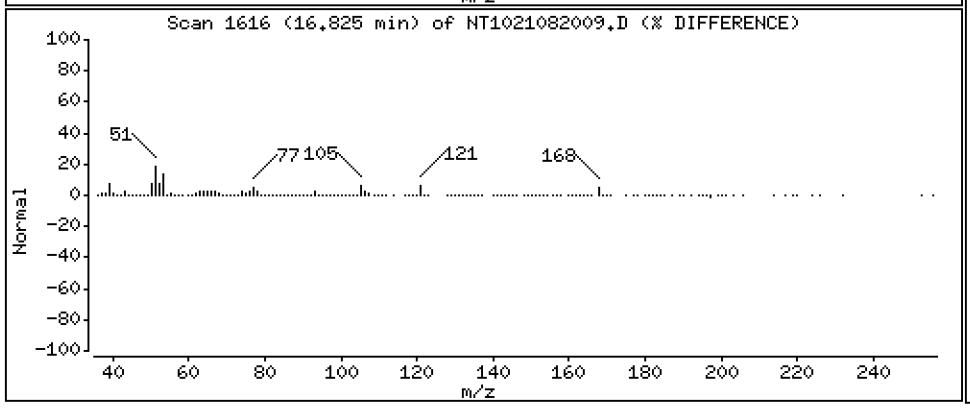












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

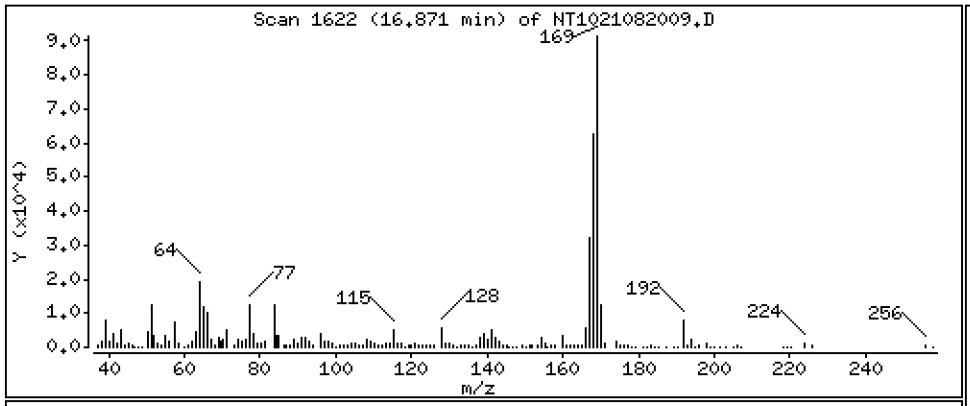
Operator: VTS

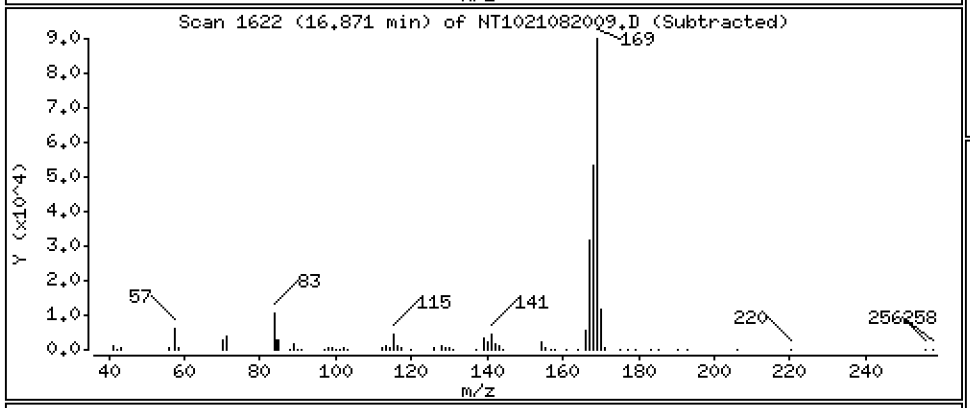
Column phase: ZB-5msi

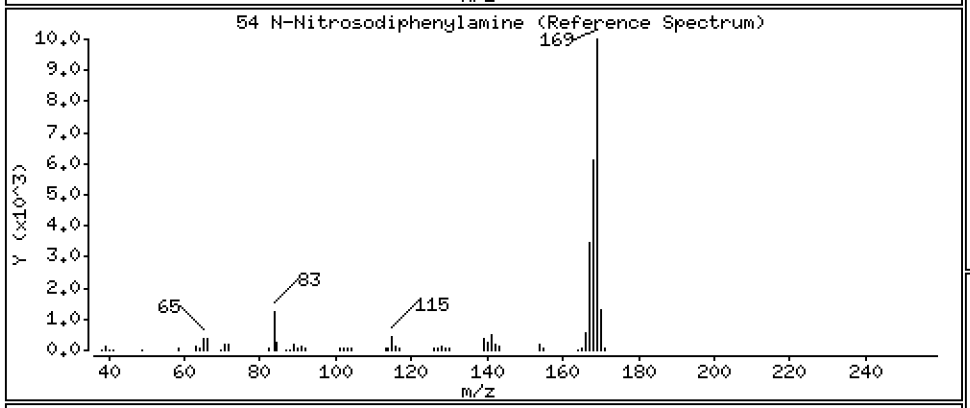
Column diameter: 0.25

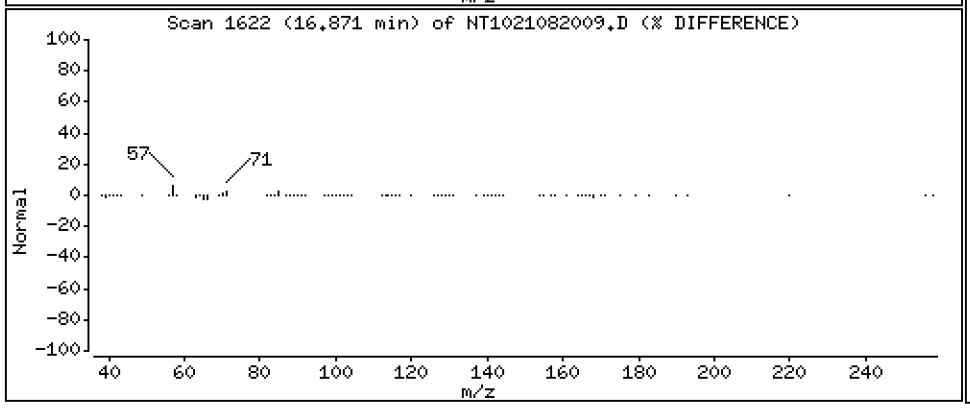
54 N-Nitrosodiphenylamine

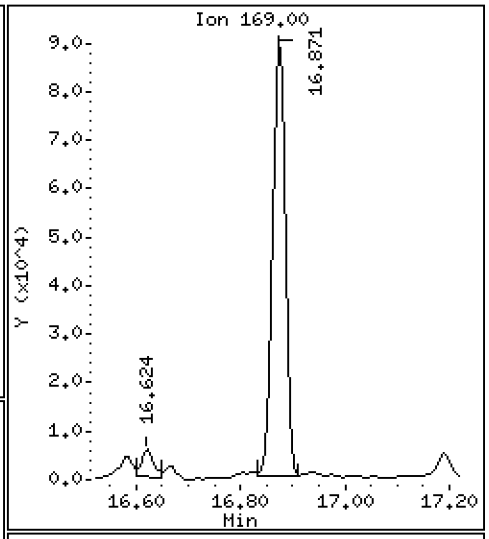
Concentration: 4.856 ug/mL

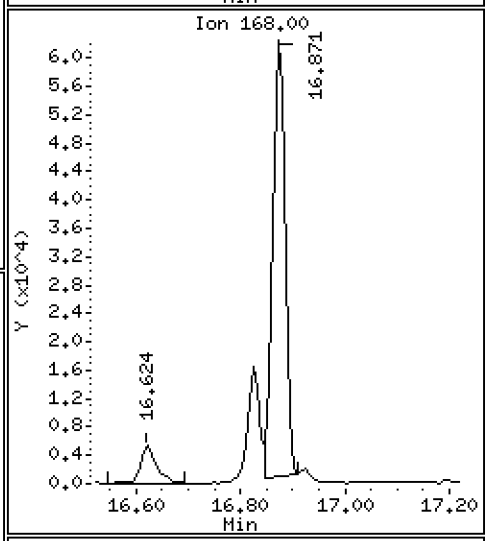


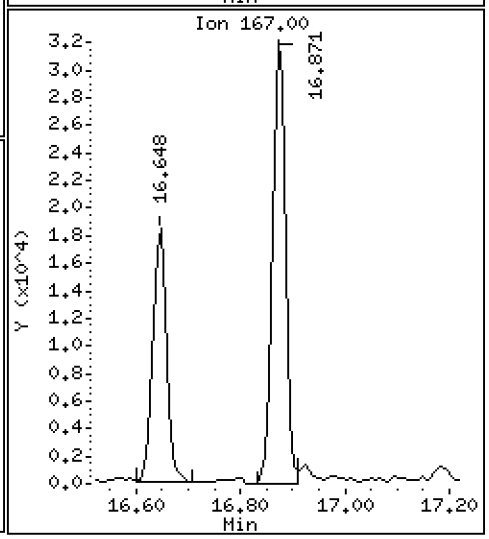












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

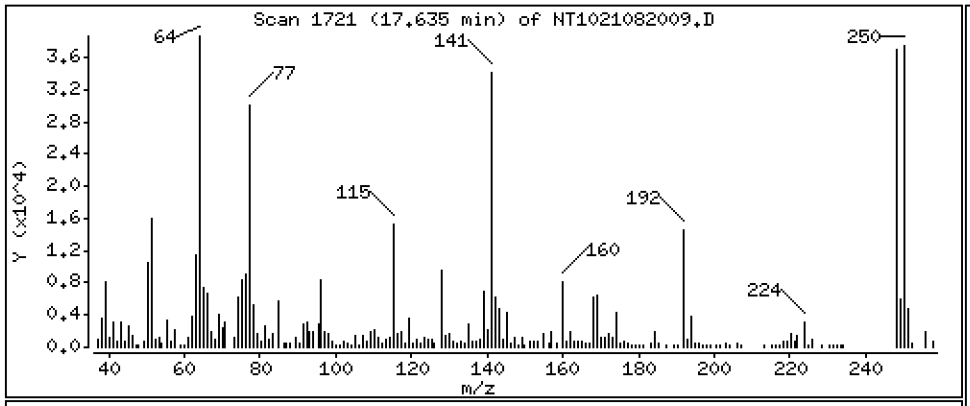
Operator: VTS

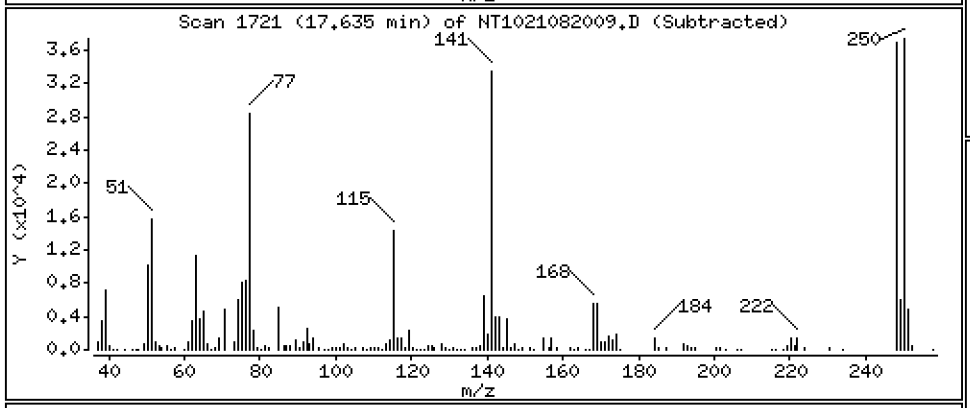
Column phase: ZB-5msi

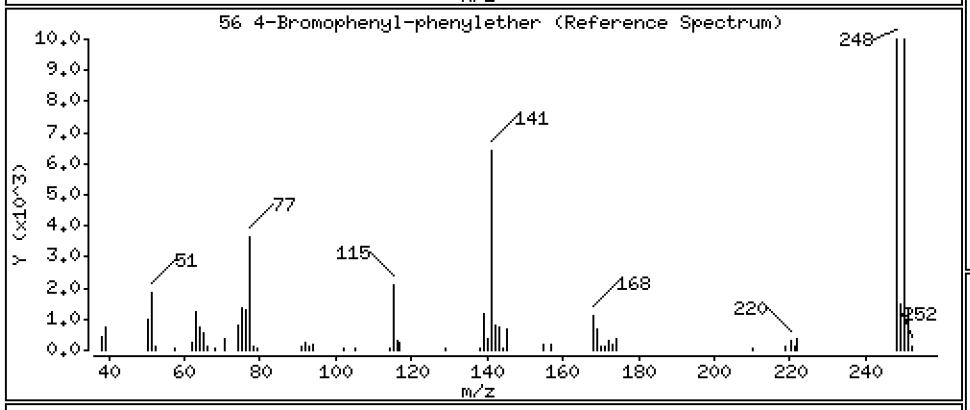
Column diameter: 0.25

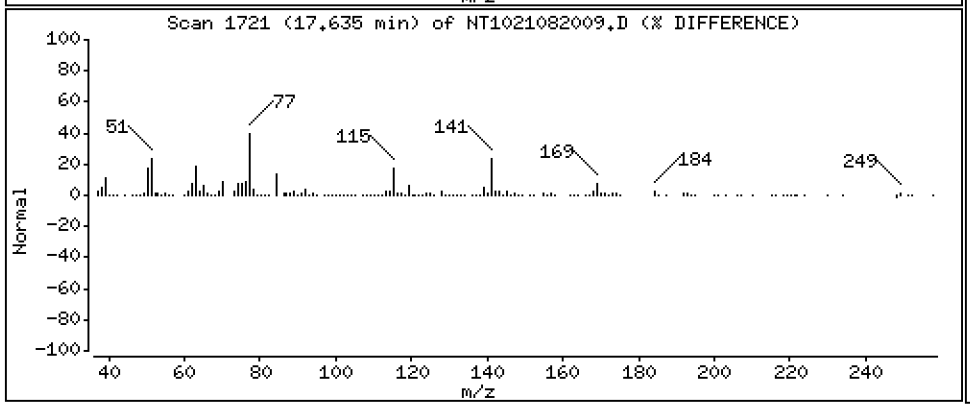
56 4-Bromophenyl-phenylether

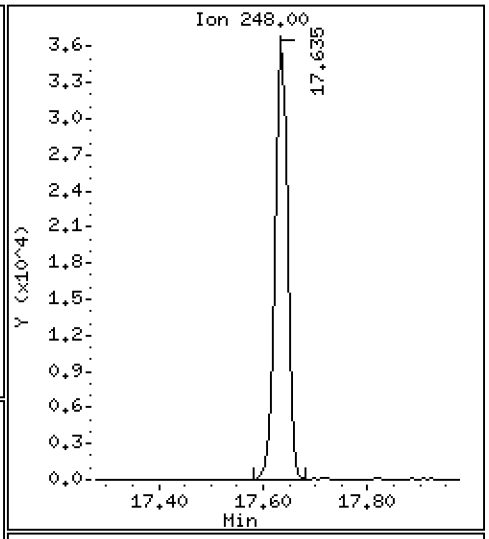
Concentration: 4.752 ug/mL

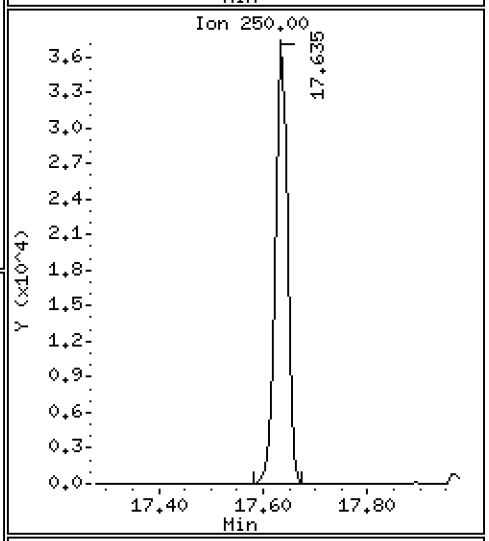


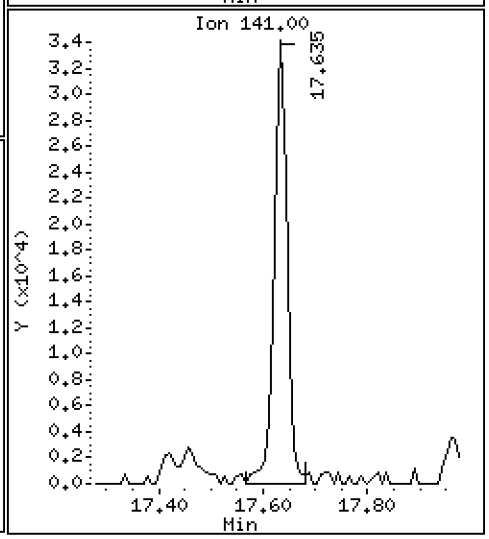












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

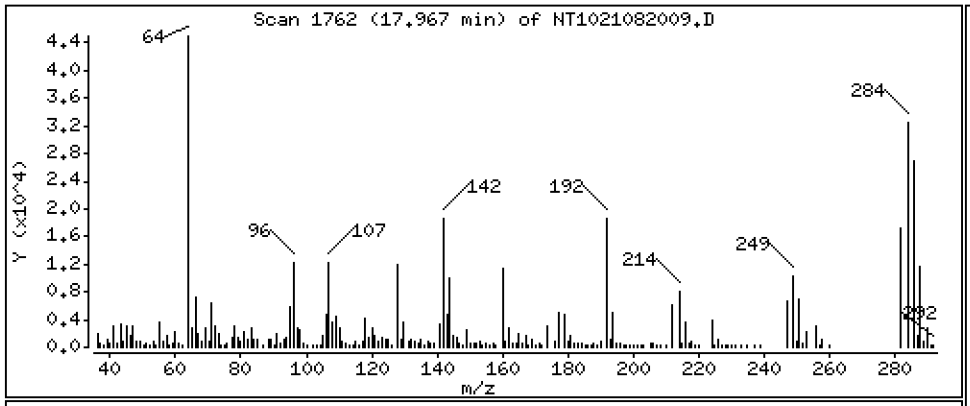
Operator: VTS

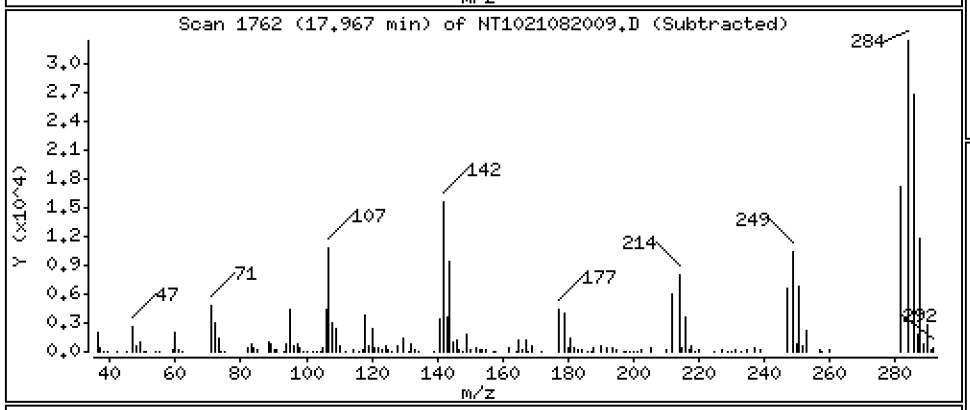
Column phase: ZB-5msi

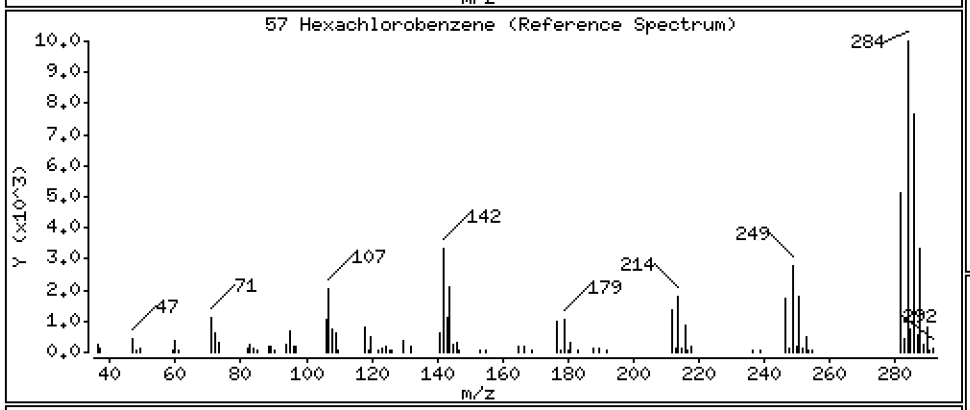
Column diameter: 0.25

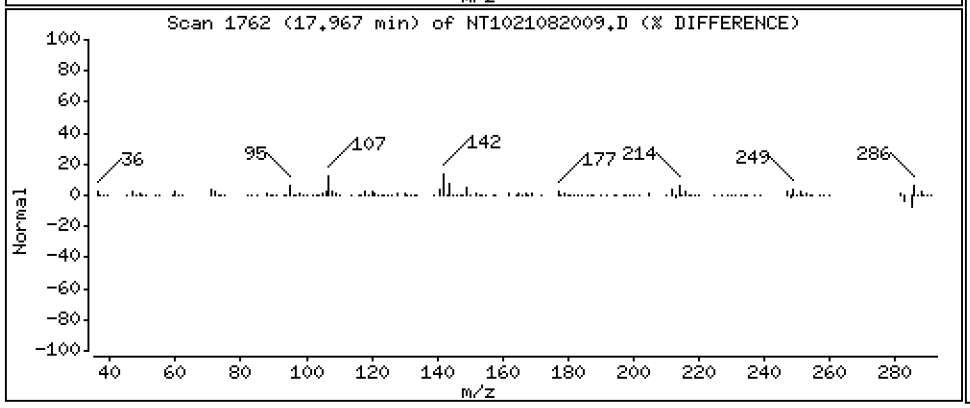
57 Hexachlorobenzene

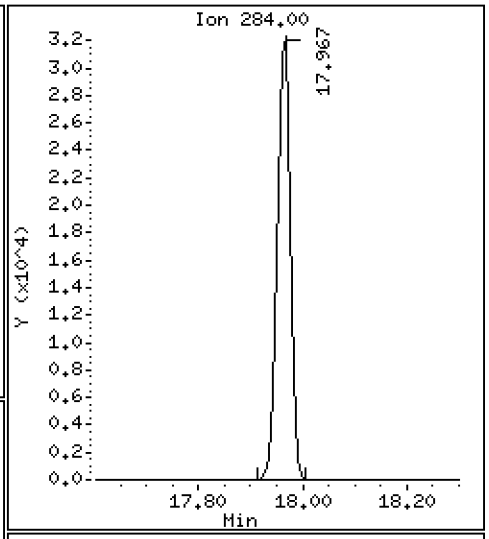
Concentration: 4.784 ug/mL

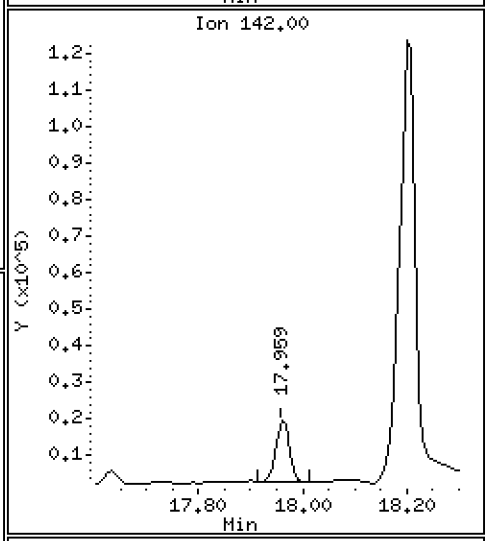


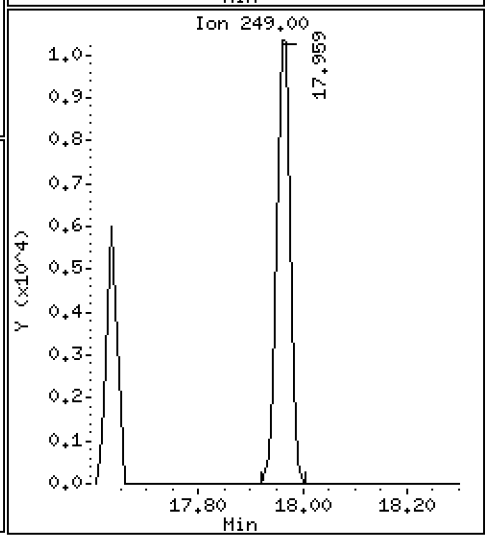












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

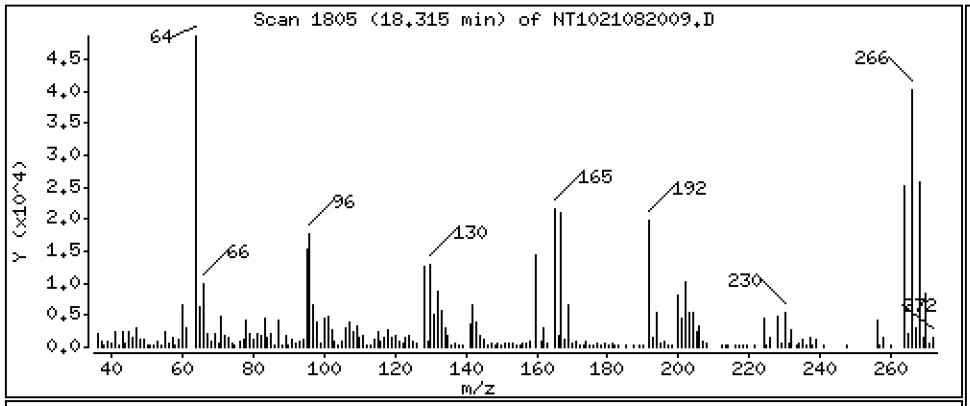
Operator: VTS

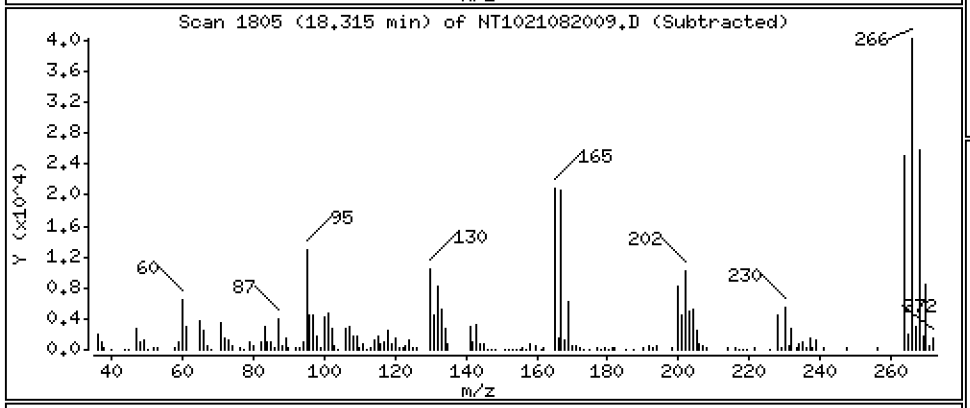
Column phase: ZB-5msi

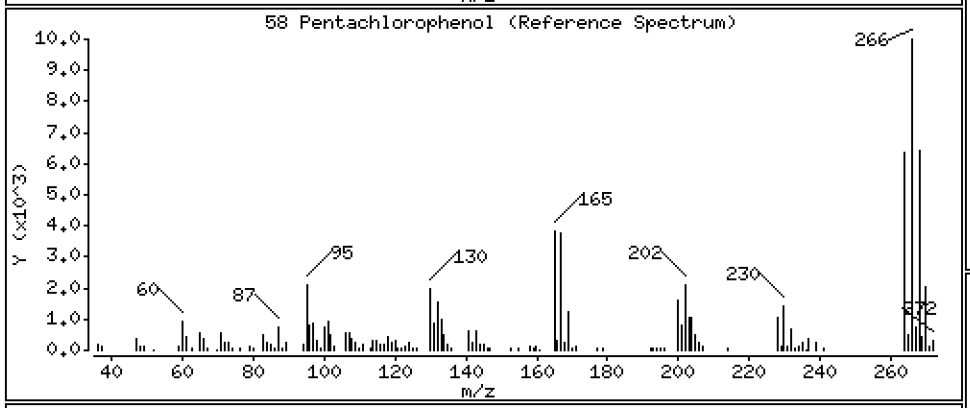
Column diameter: 0.25

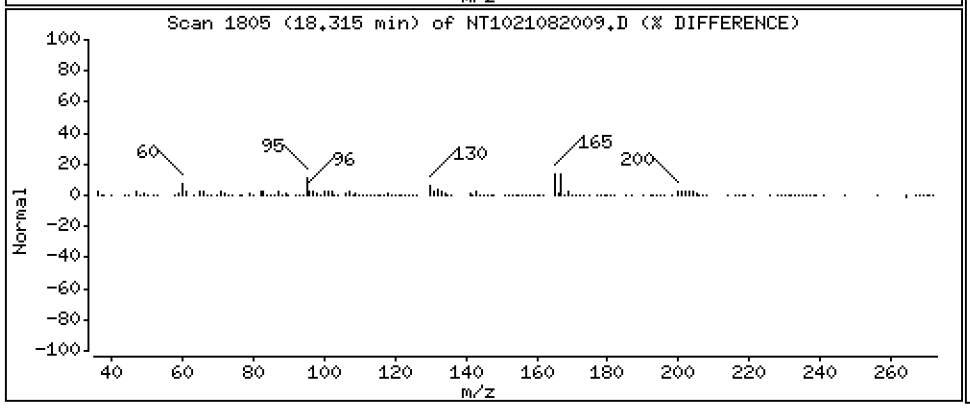
58 Pentachlorophenol

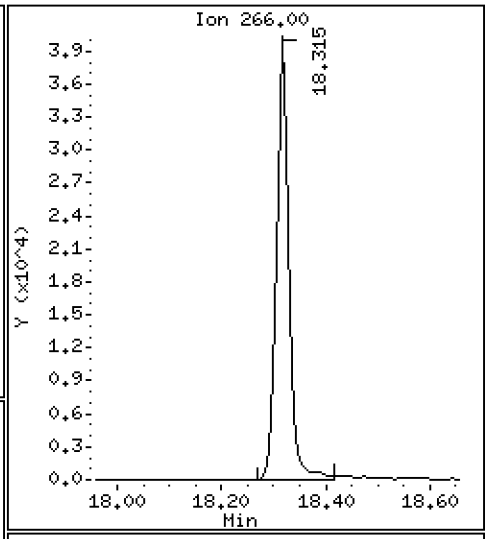
Concentration: 15.04 ug/mL

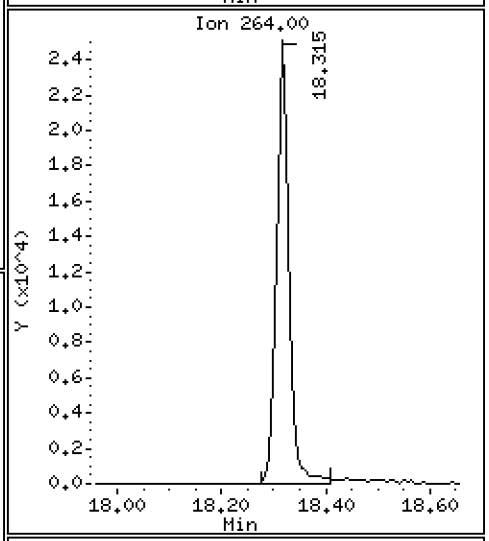


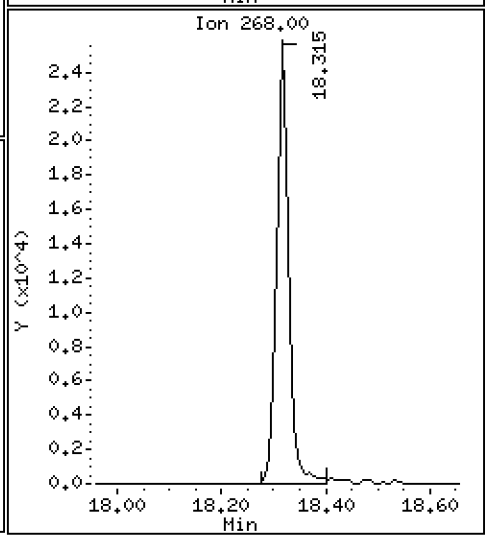












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

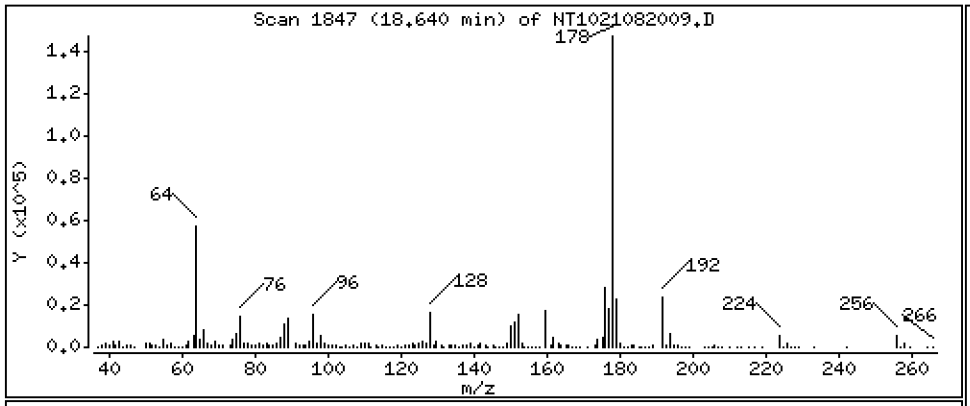
Operator: VTS

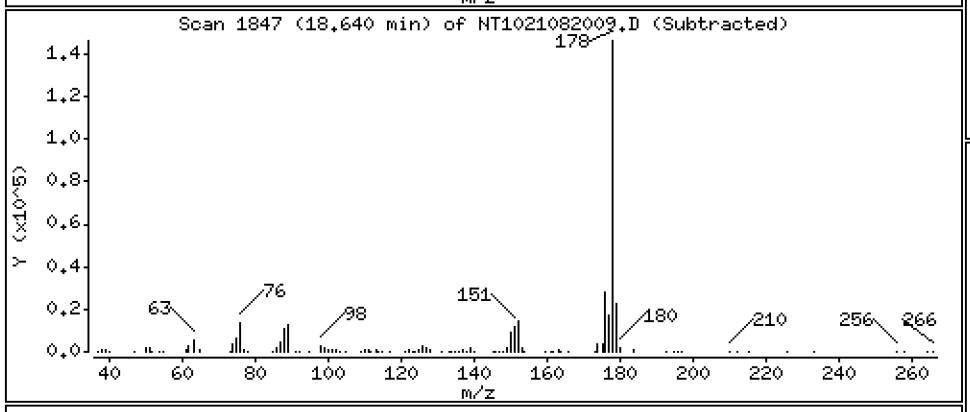
Column phase: ZB-5msi

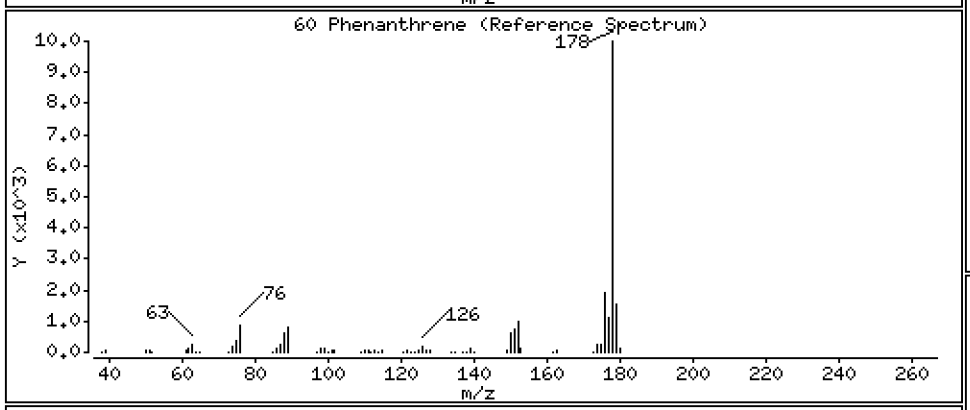
Column diameter: 0.25

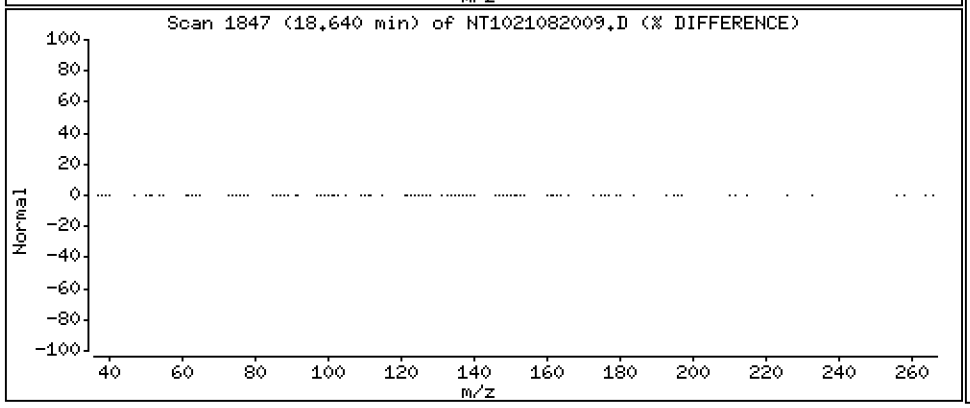
60 Phenanthrene

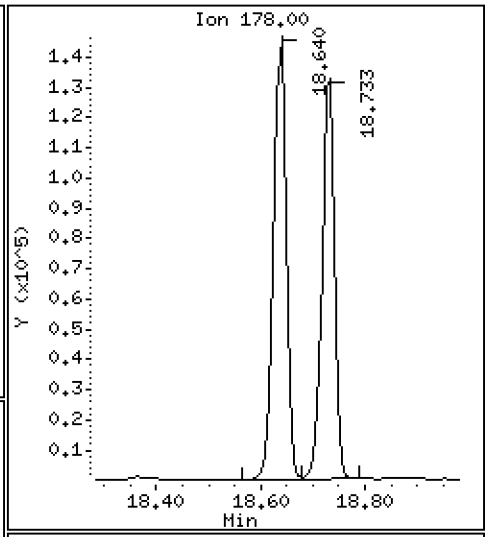
Concentration: 4.827 ug/mL

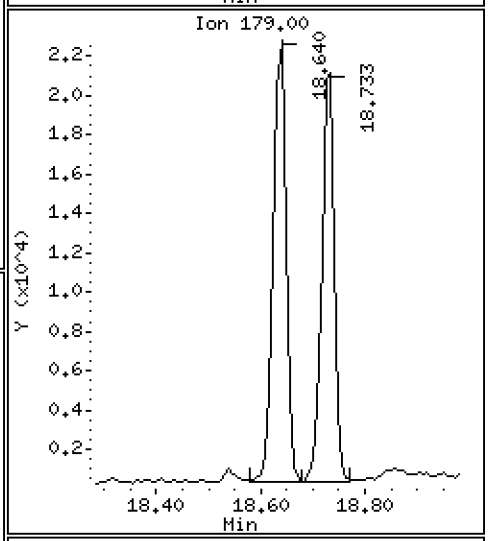


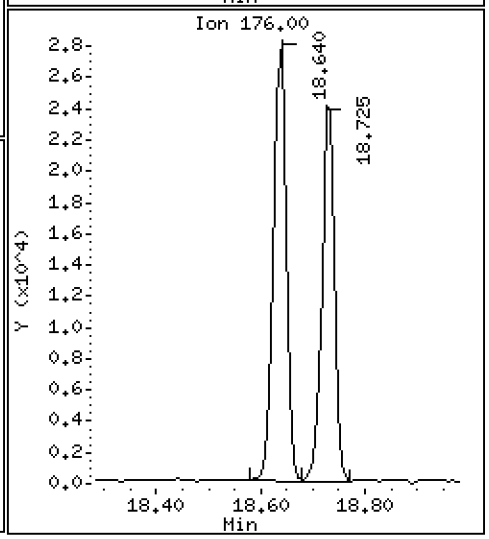












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

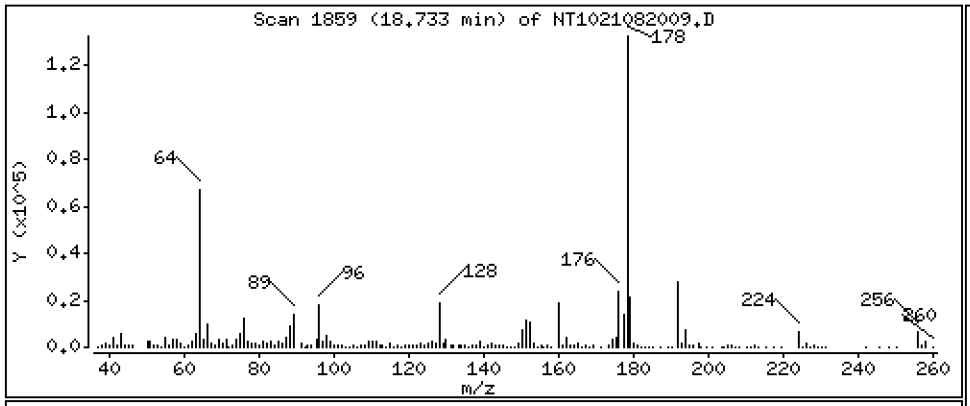
Operator: VTS

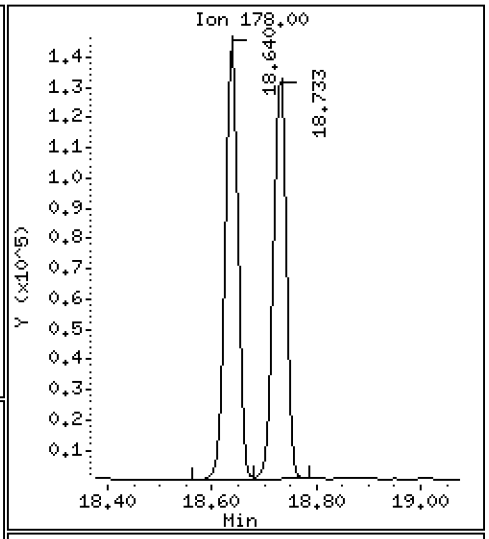
Column phase: ZB-5msi

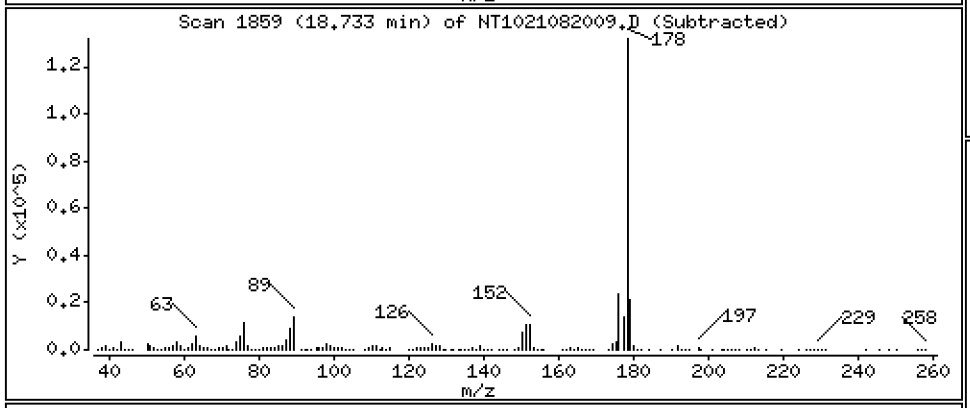
Column diameter: 0.25

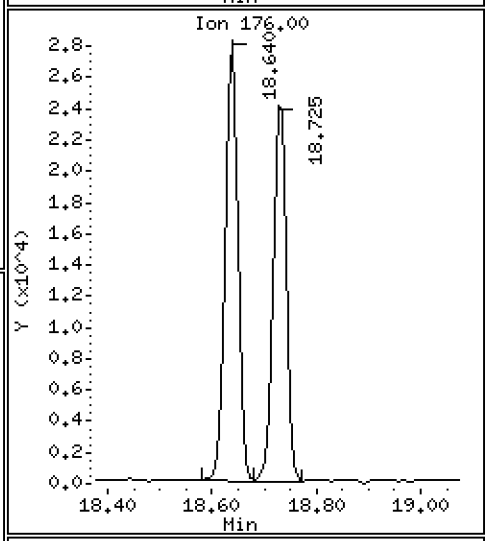
61 Anthracene

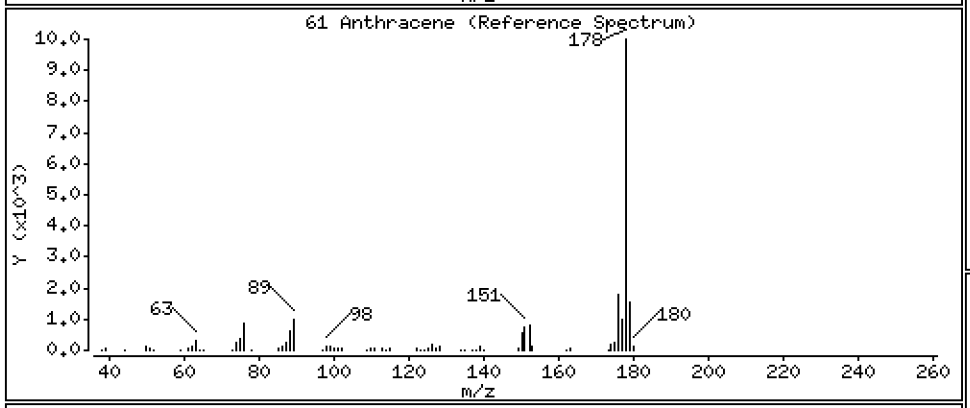
Concentration: 4.244 ug/mL

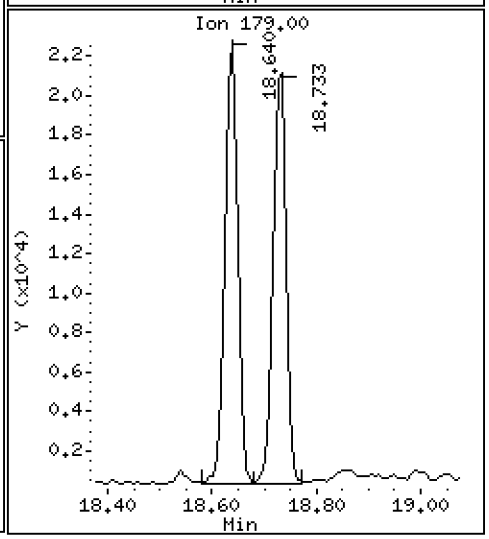


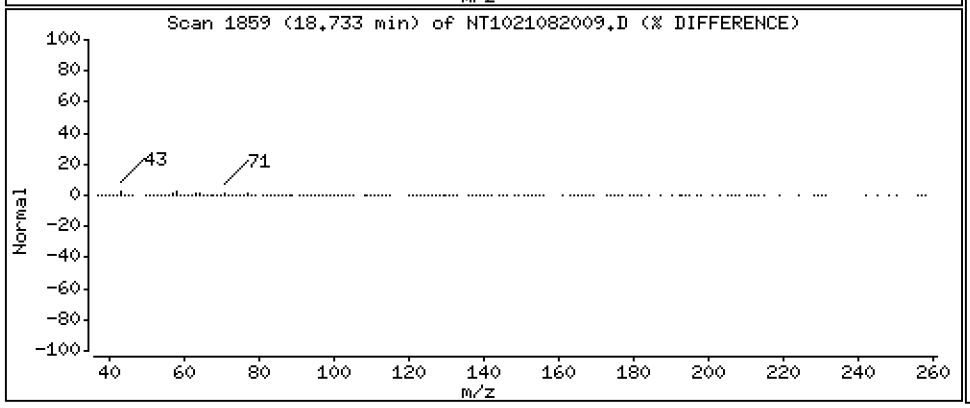












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

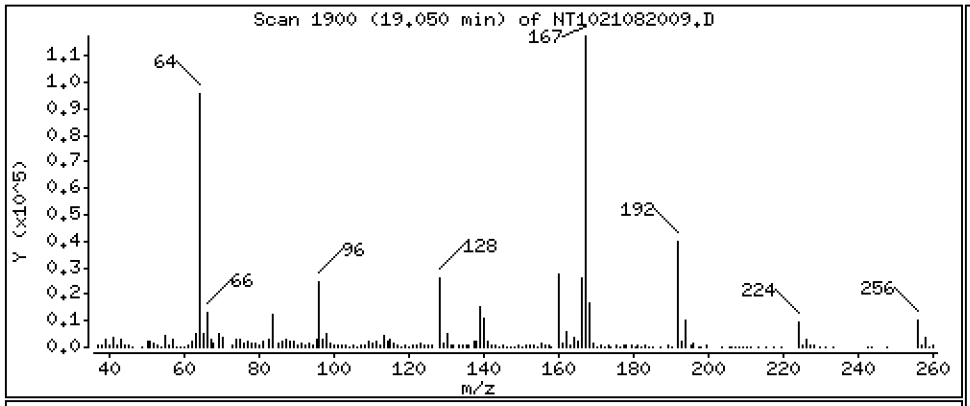
Operator: VTS

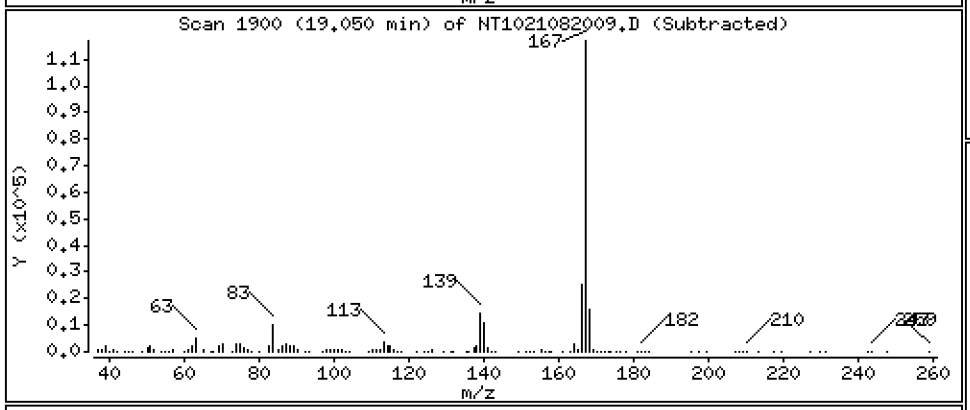
Column phase: ZB-5msi

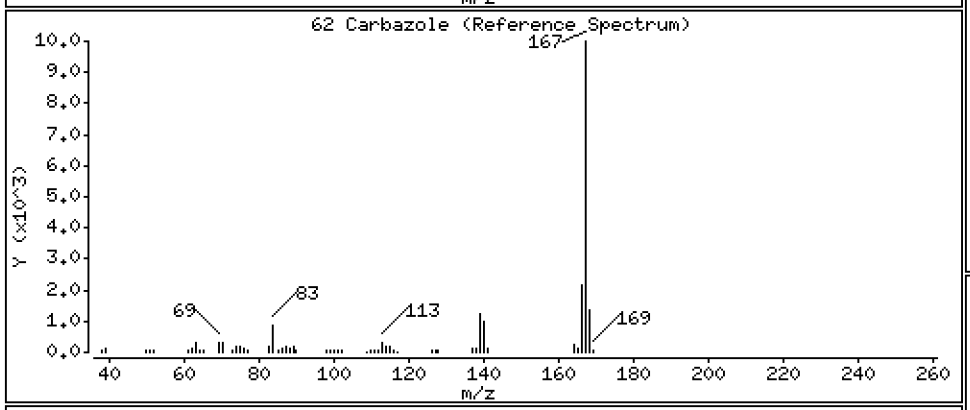
Column diameter: 0.25

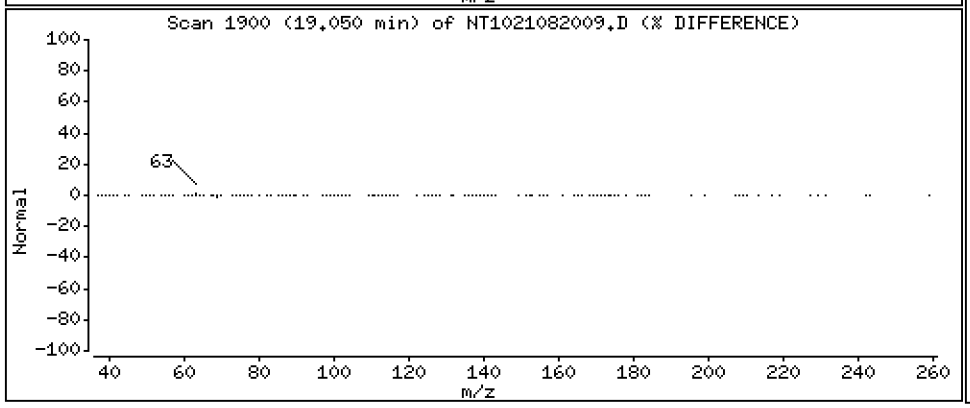
62 Carbazole

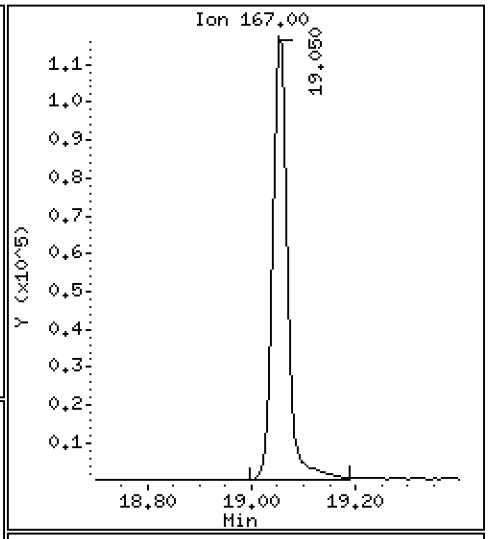
Concentration: 4.182 ug/mL

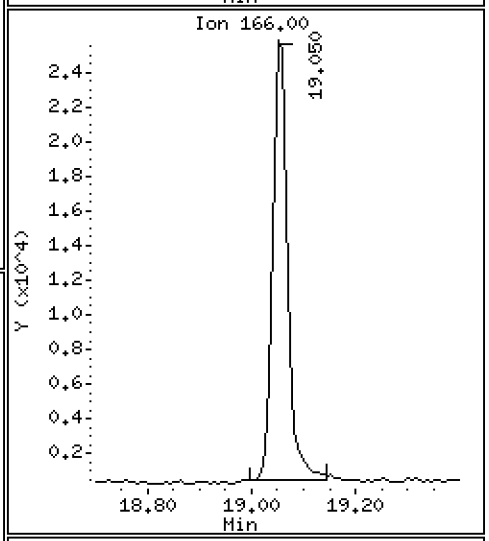


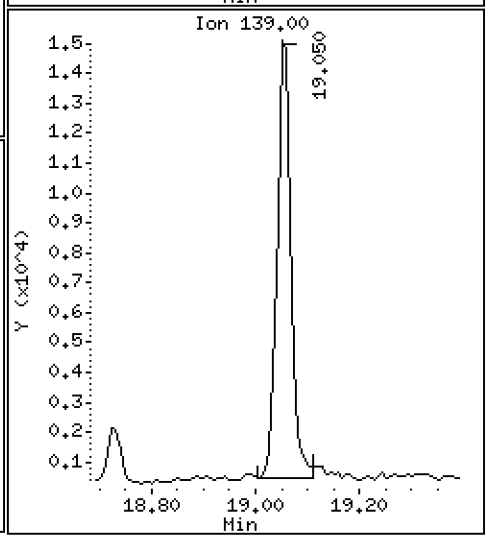












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

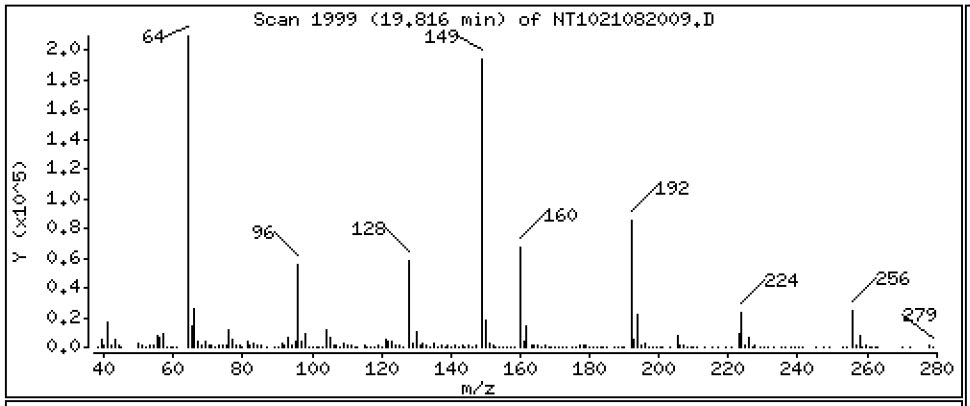
Operator: VTS

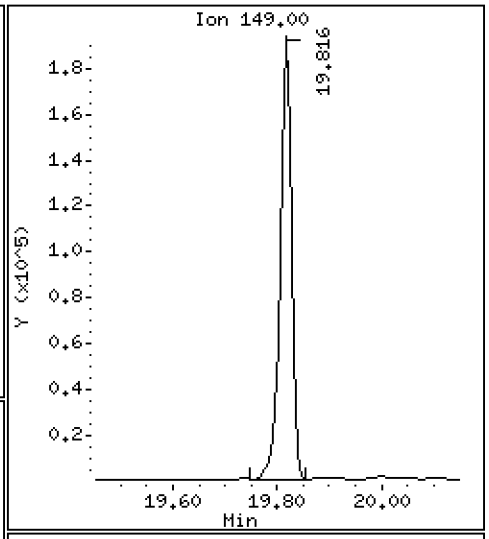
Column phase: ZB-5msi

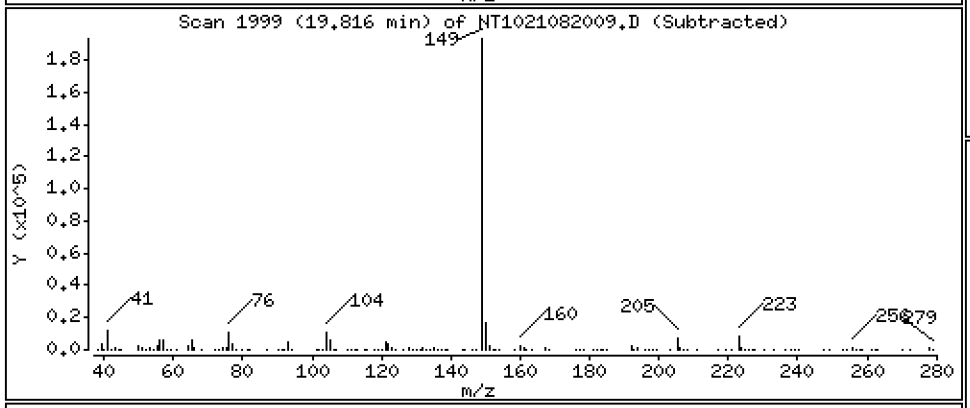
Column diameter: 0.25

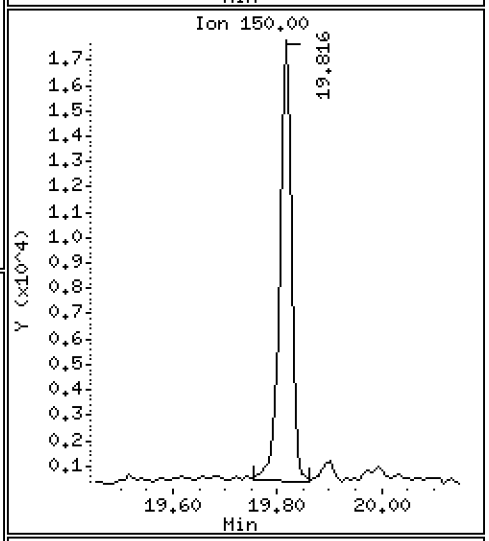
63 Di-n-butylphthalate

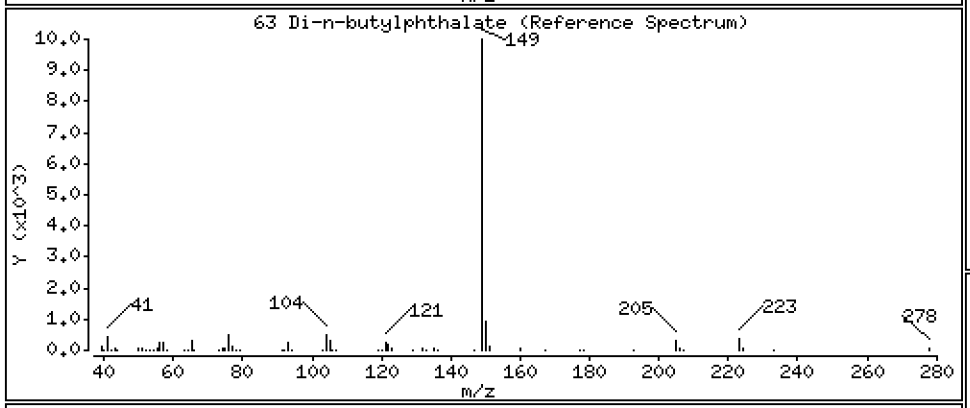
Concentration: 4.470 ug/mL

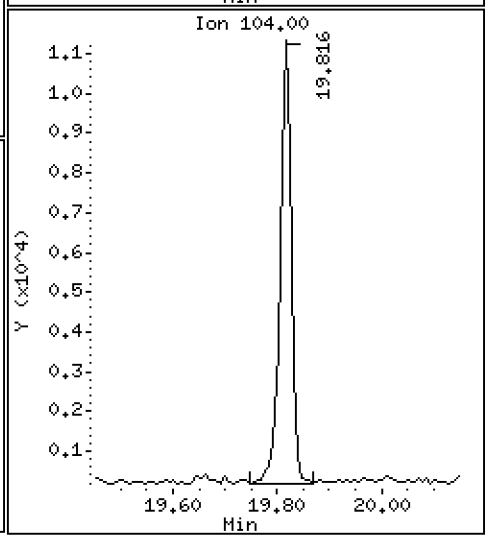


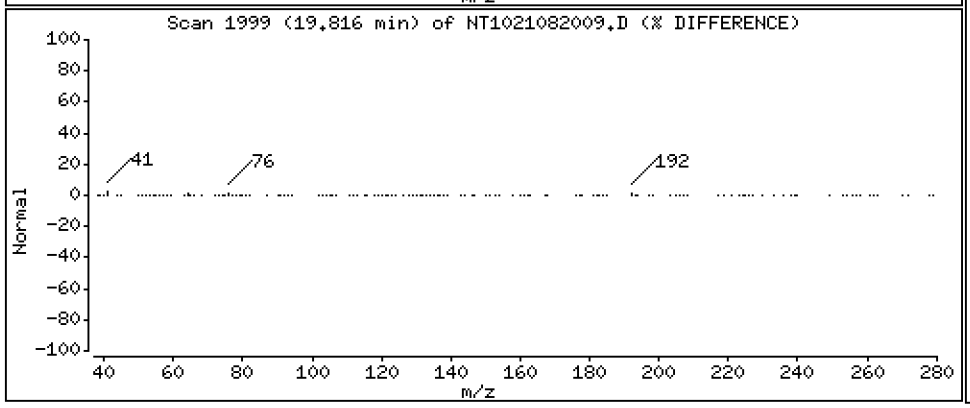












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

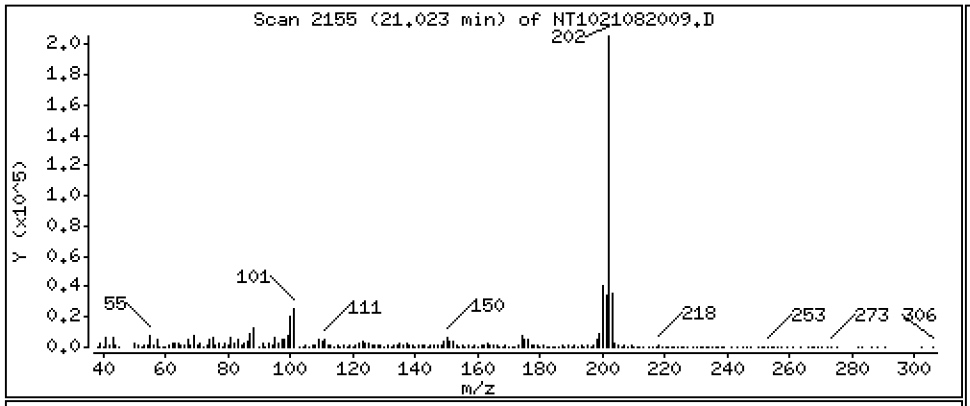
Operator: VTS

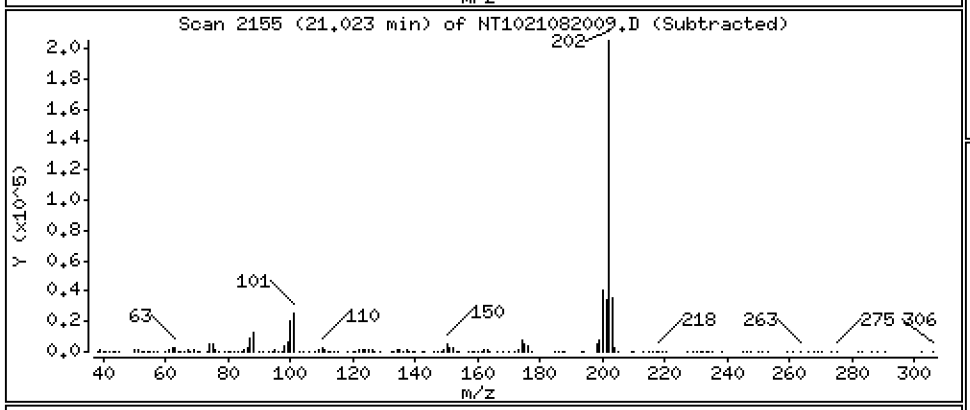
Column phase: ZB-5msi

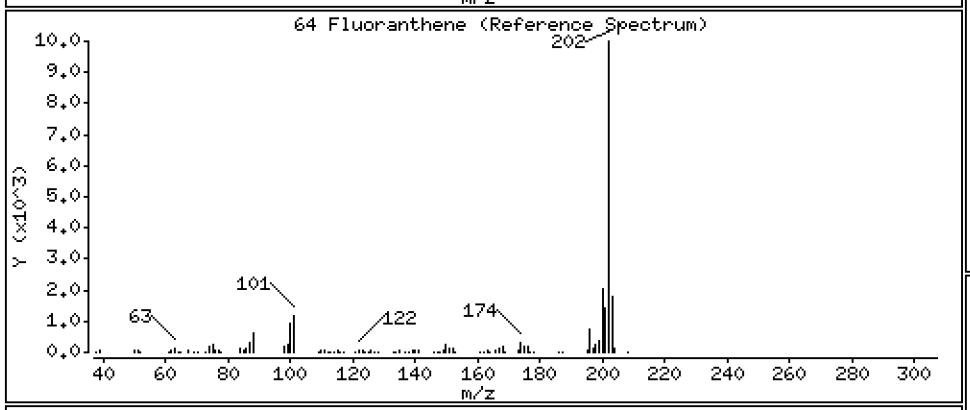
Column diameter: 0.25

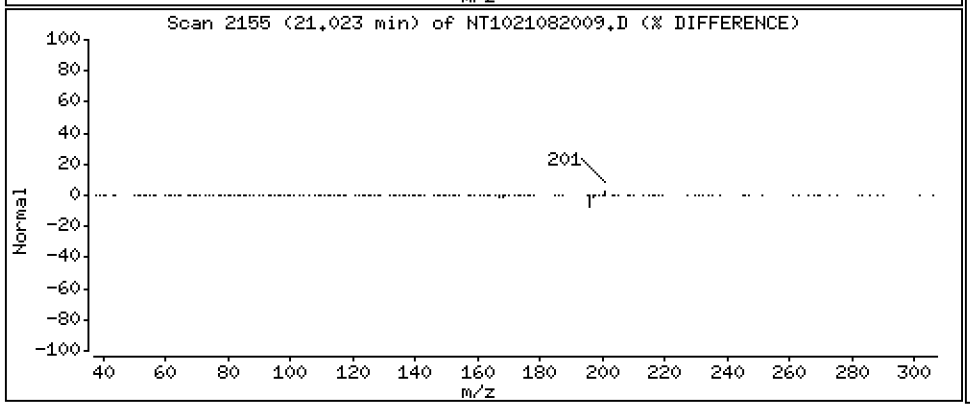
64 Fluoranthene

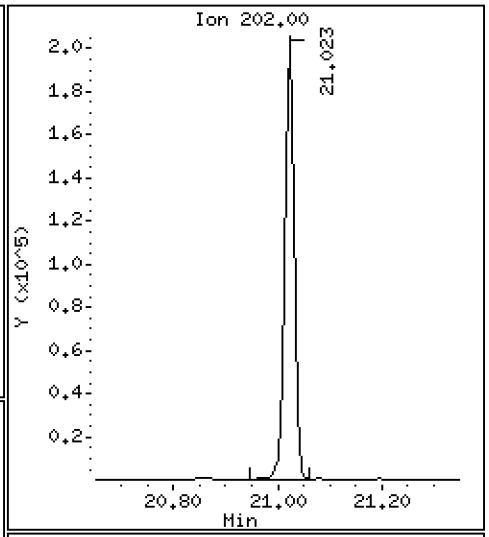
Concentration: 4.726 ug/mL

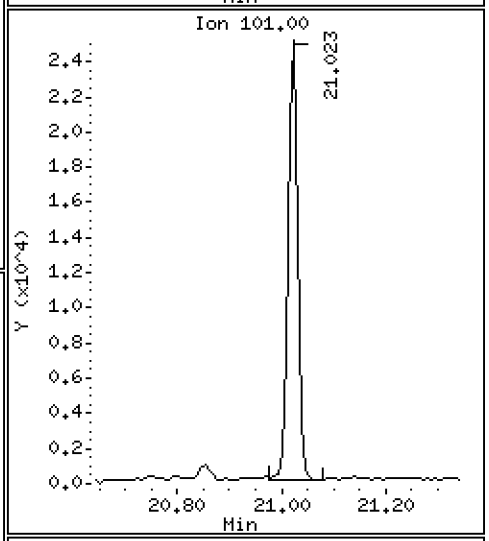


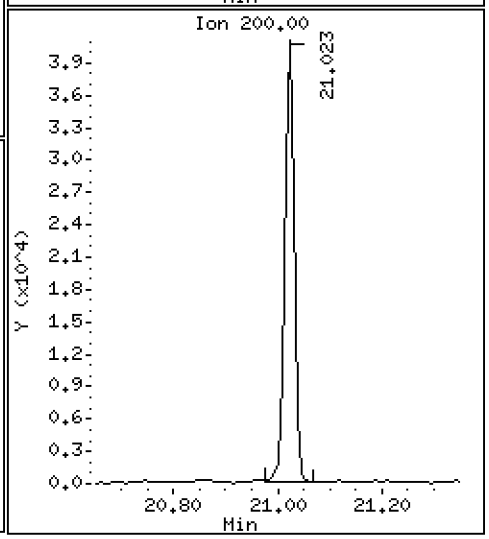












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

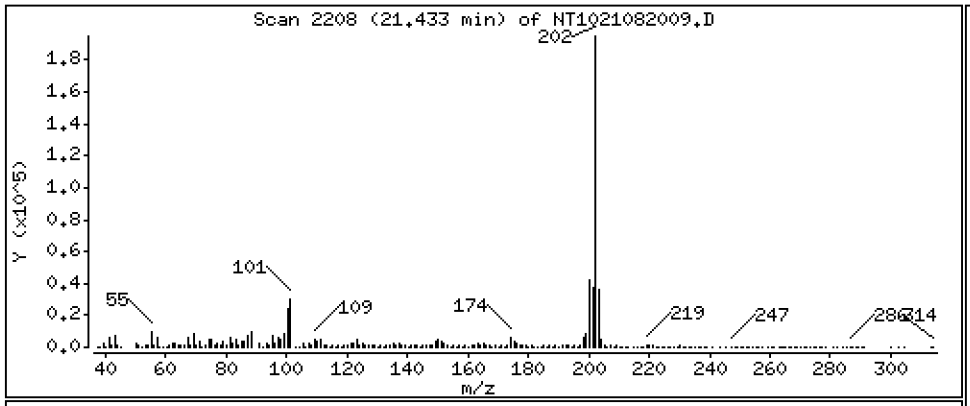
Operator: VTS

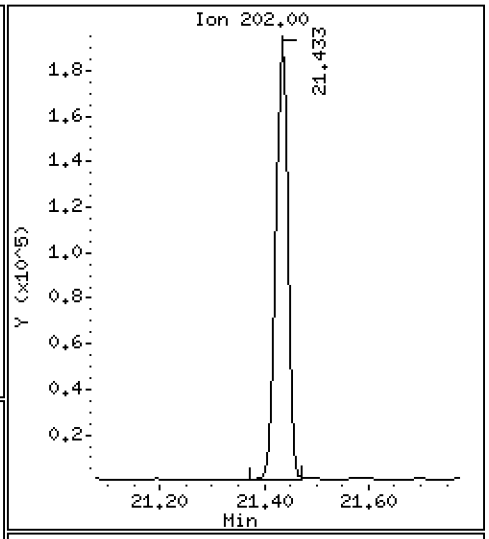
Column phase: ZB-5msi

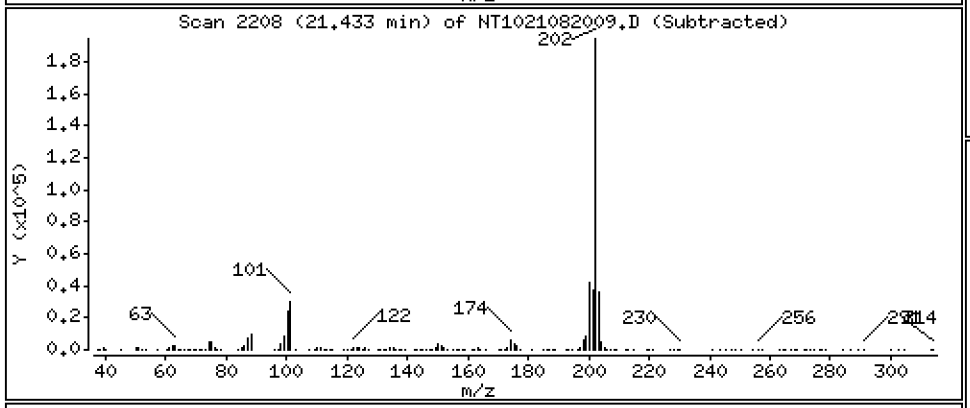
Column diameter: 0.25

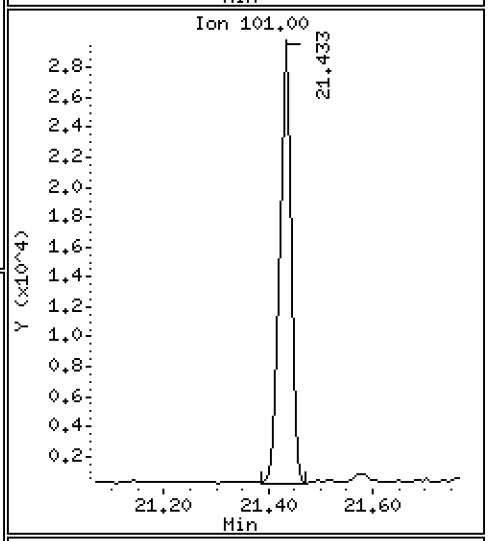
65 Pyrene

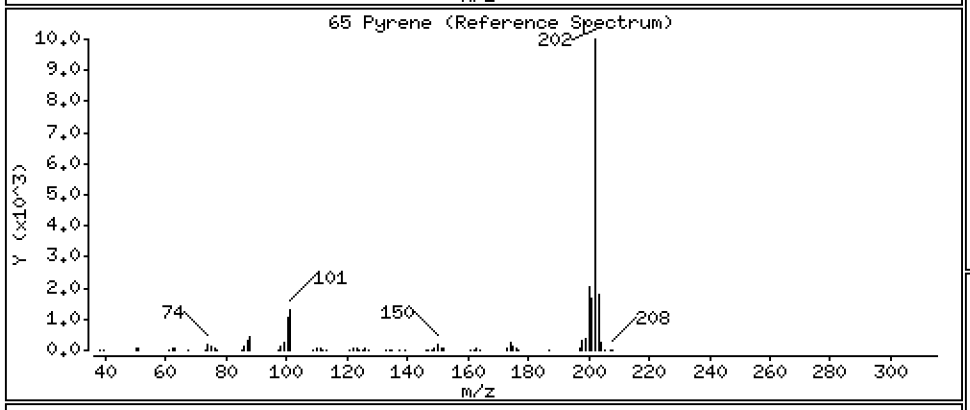
Concentration: 5.050 ug/mL

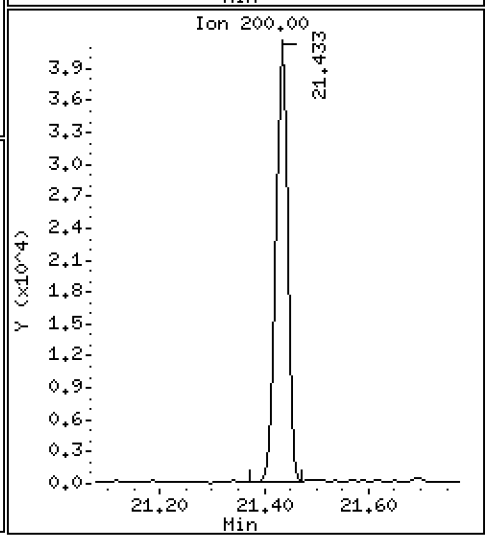


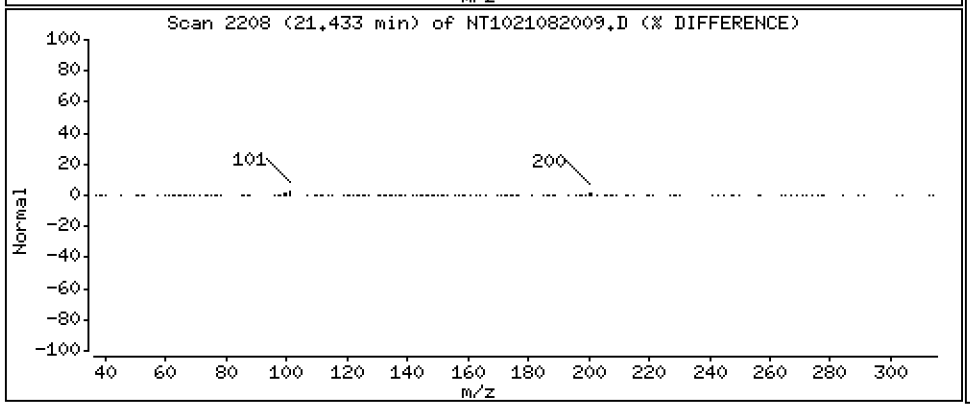












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

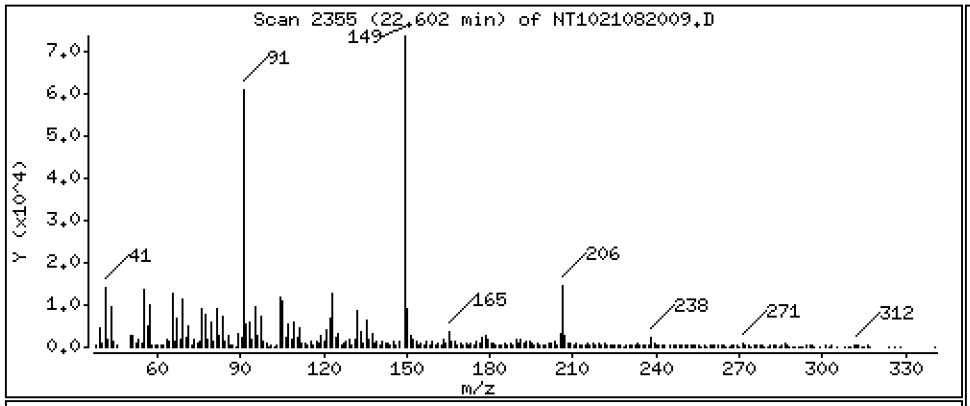
Operator: VTS

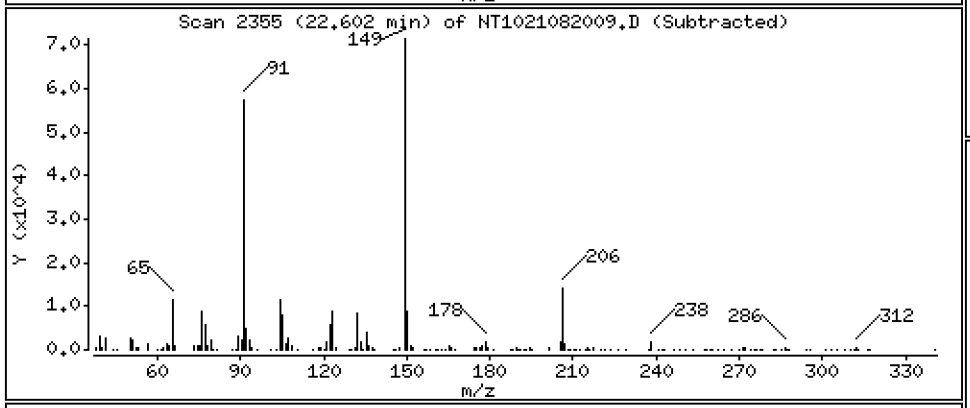
Column phase: ZB-5msi

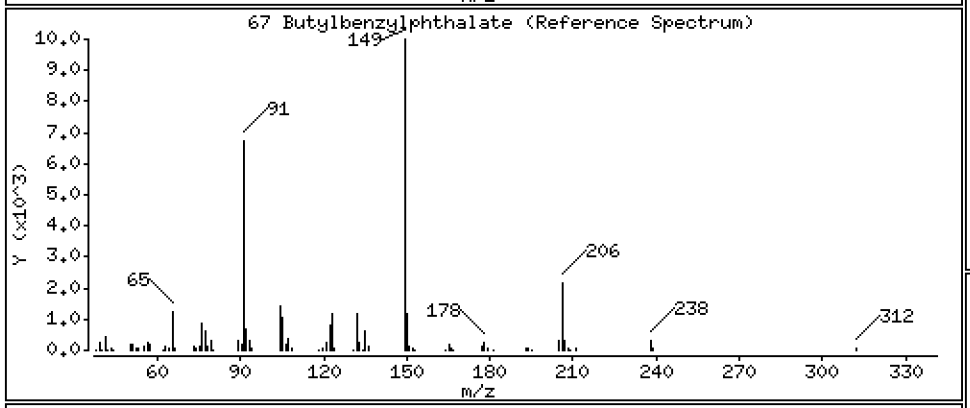
Column diameter: 0.25

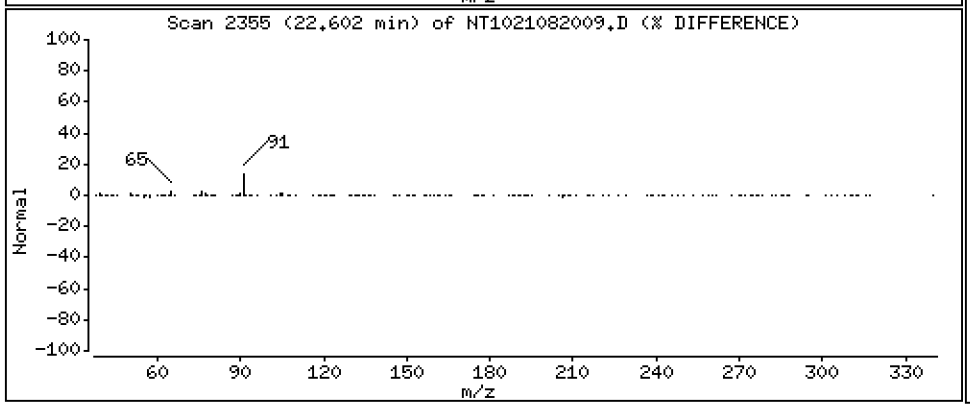
67 Butylbenzylphthalate

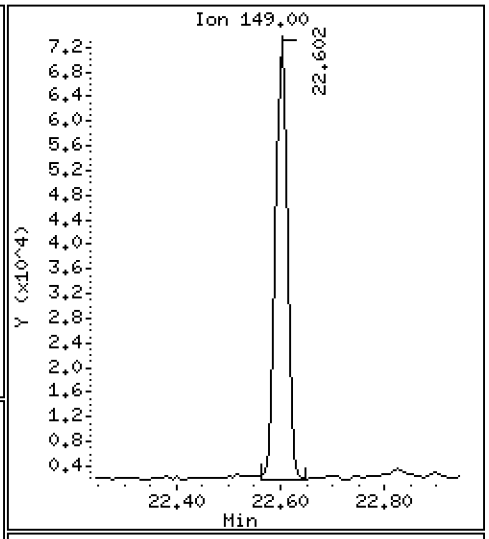
Concentration: 4.660 ug/mL

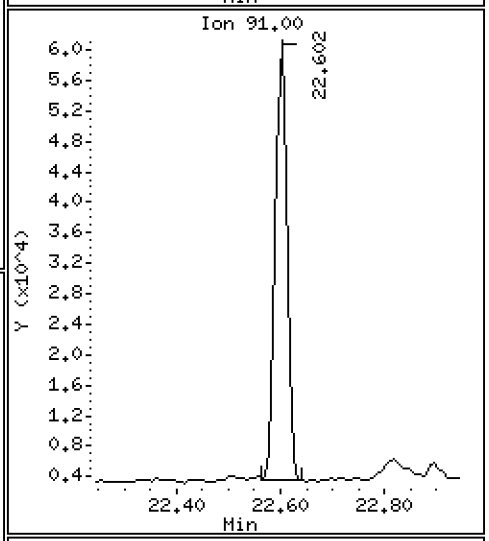


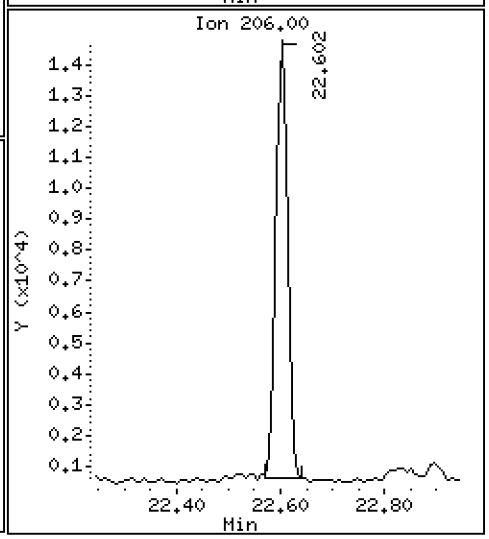












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

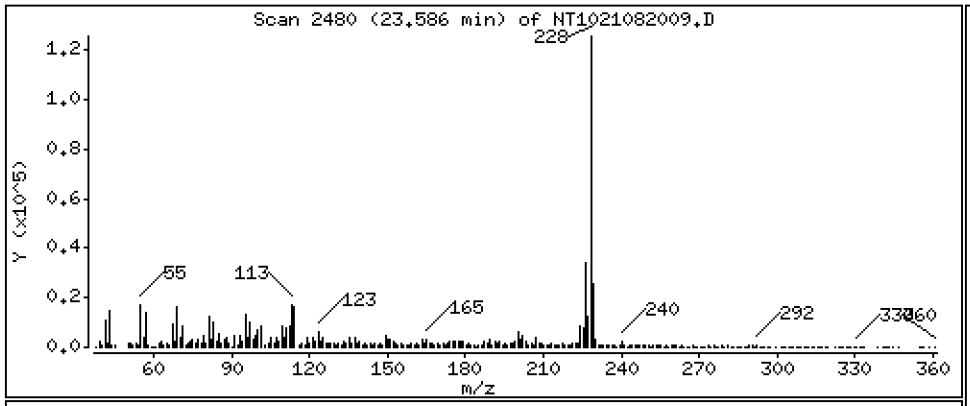
Operator: VTS

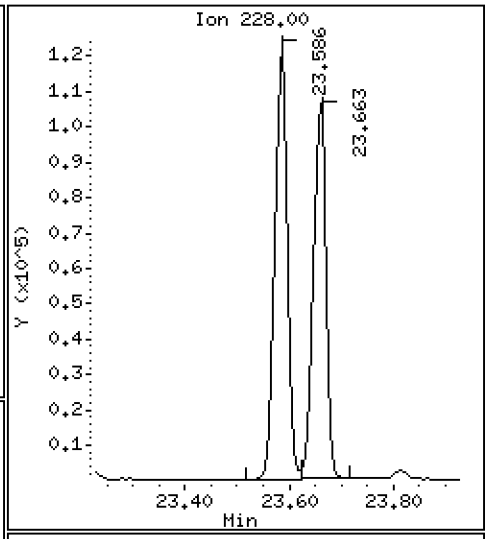
Column phase: ZB-5msi

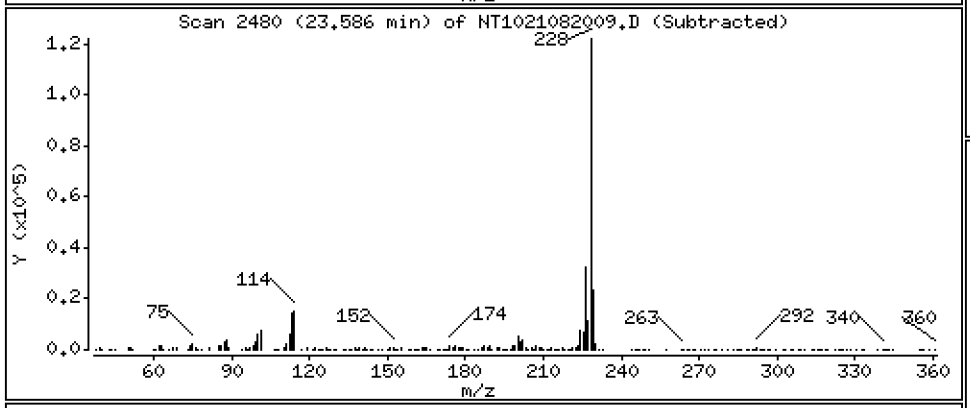
Column diameter: 0.25

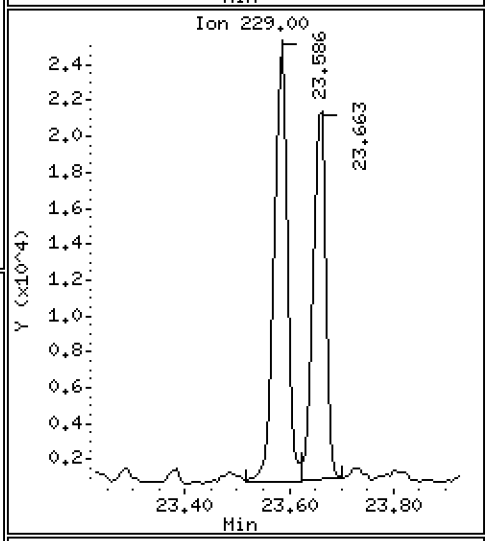
68 Benzo(a)anthracene

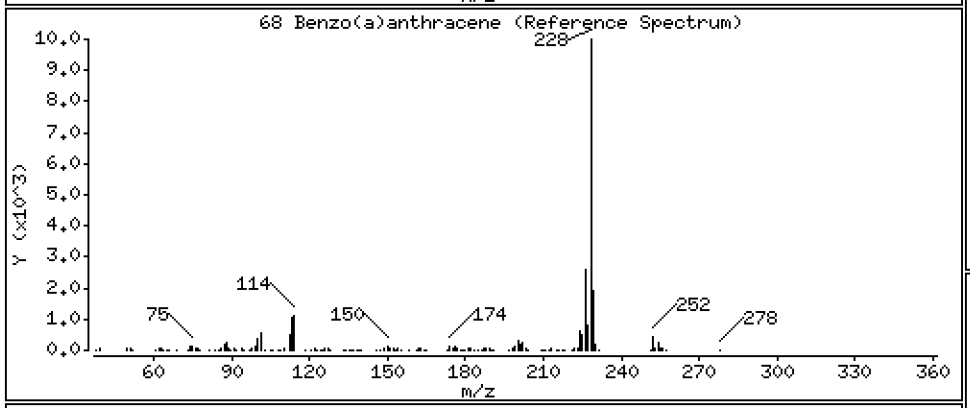
Concentration: 4.373 ug/mL

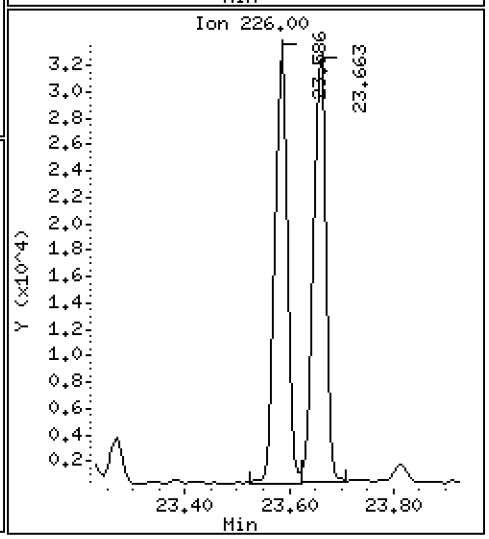


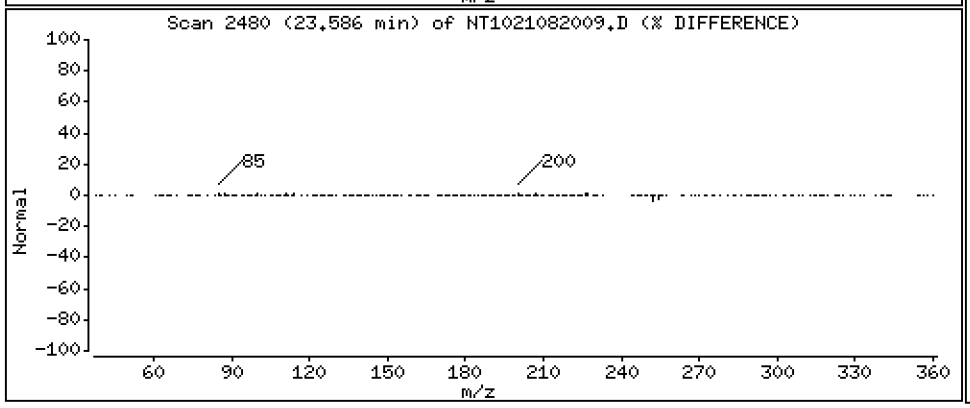












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

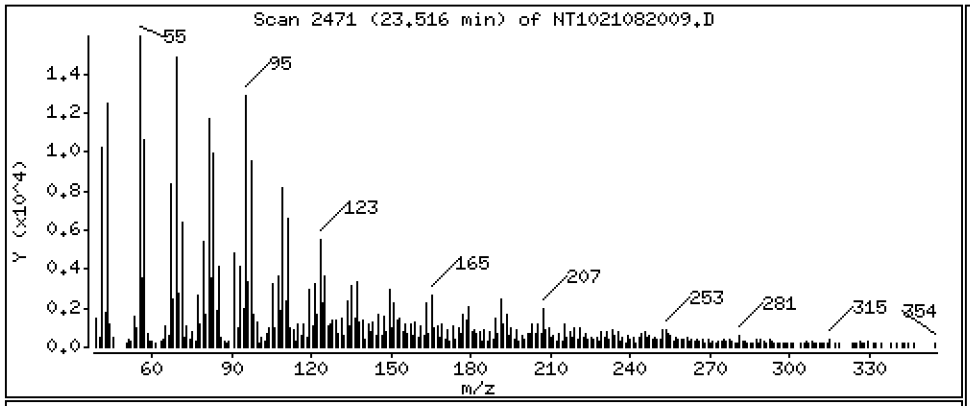
Operator: VTS

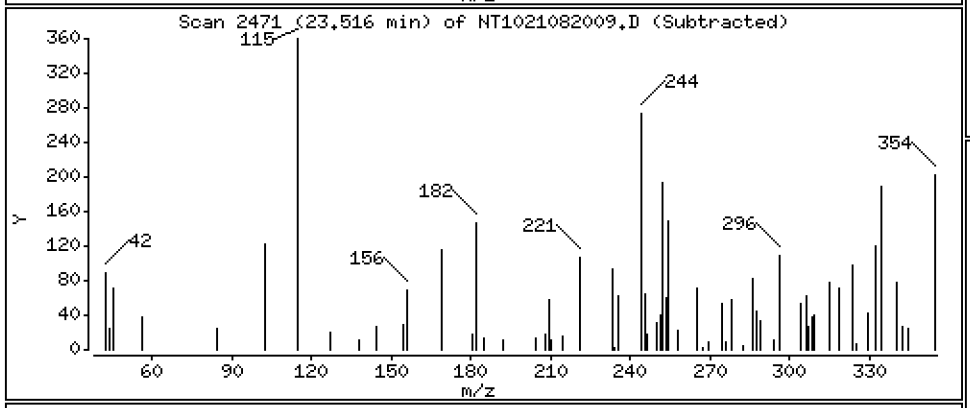
Column phase: ZB-5msi

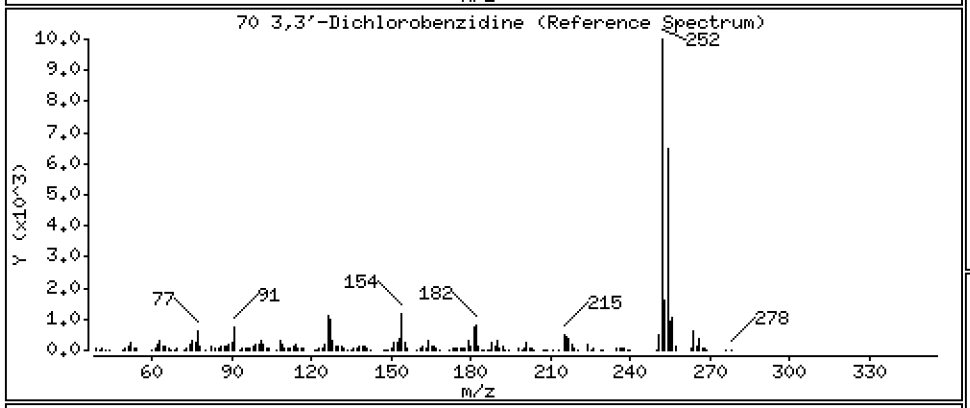
Column diameter: 0.25

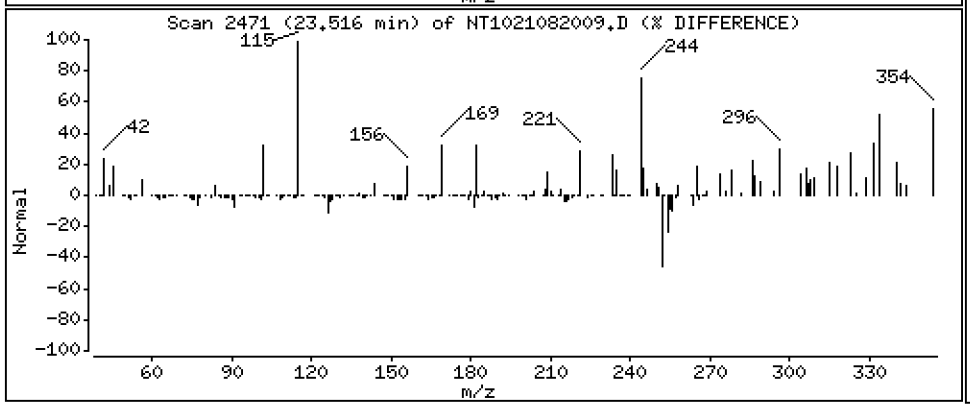
70 3,3'-Dichlorobenzidine

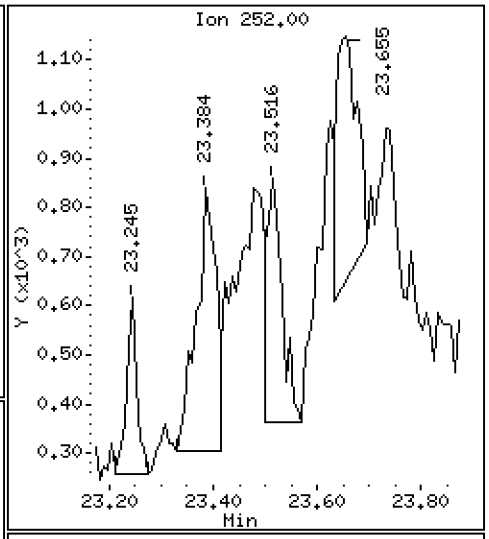
Concentration: 0.05870 ug/mL

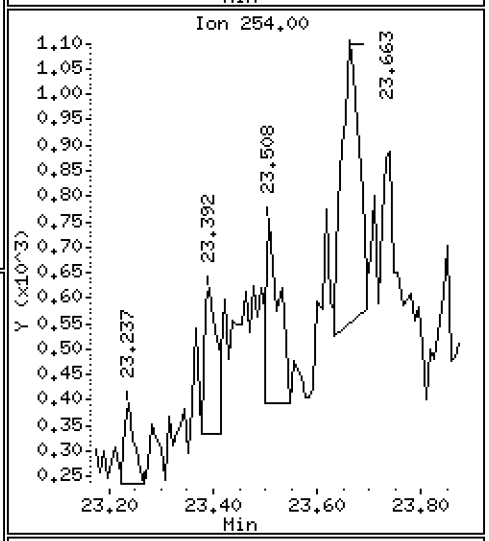


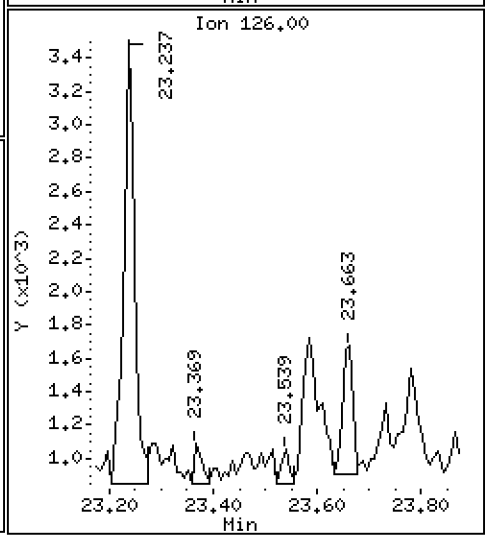












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

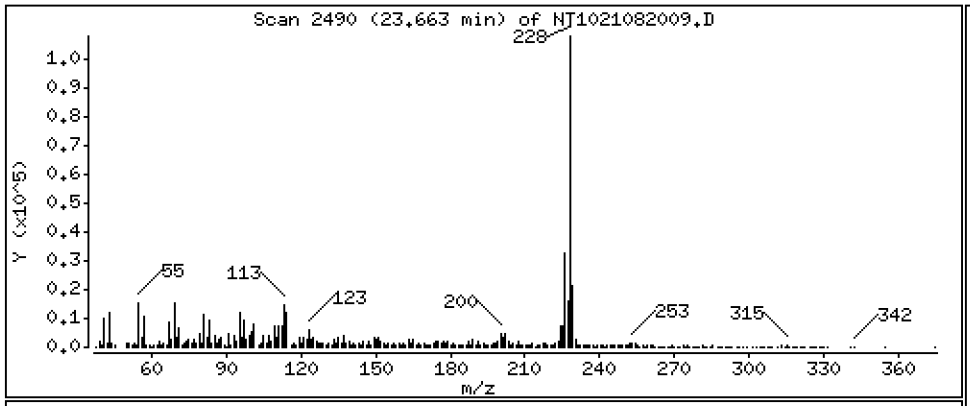
Operator: VTS

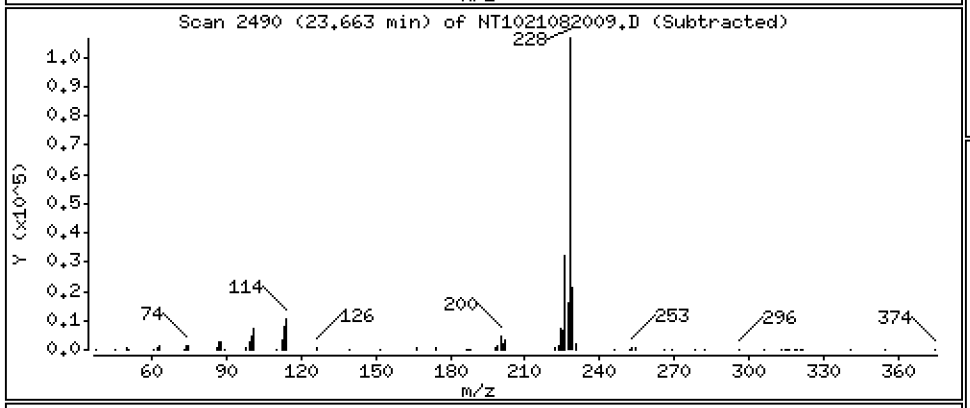
Column phase: ZB-5msi

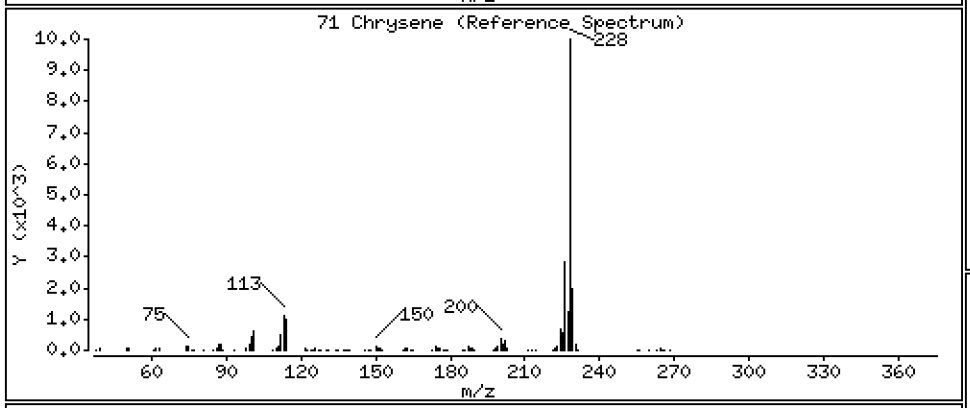
Column diameter: 0.25

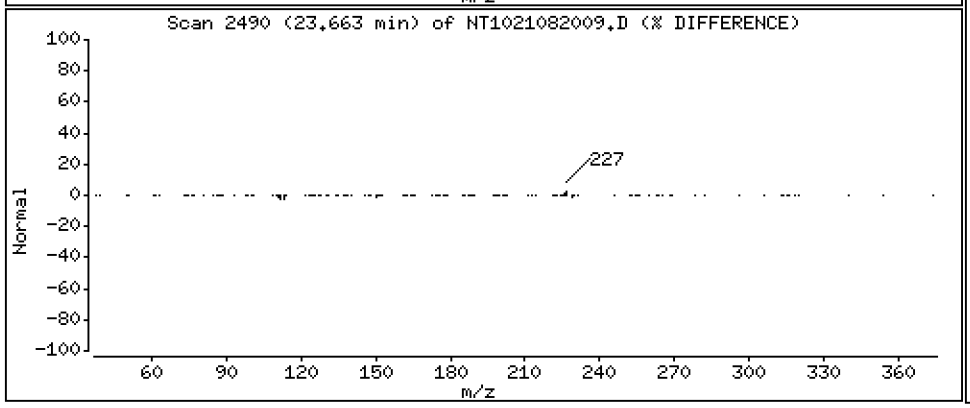
71 Chrysene

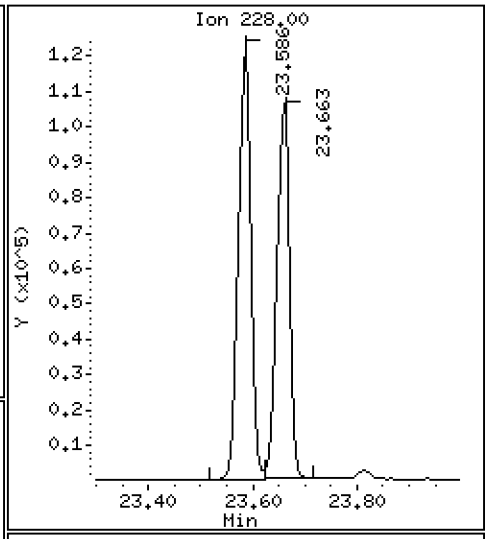
Concentration: 4.770 ug/mL

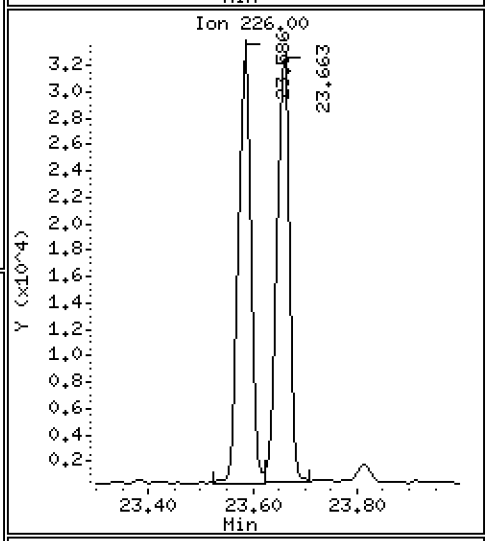


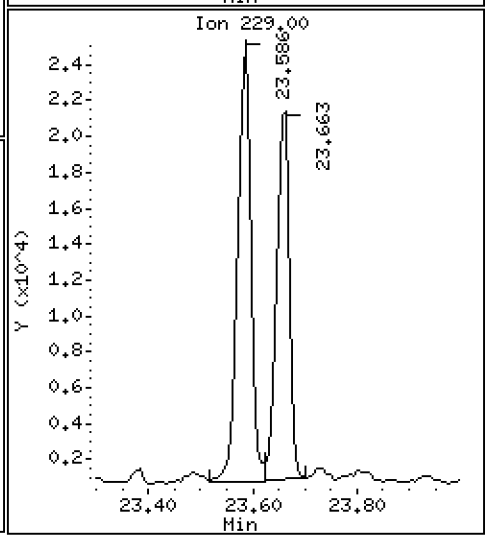












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

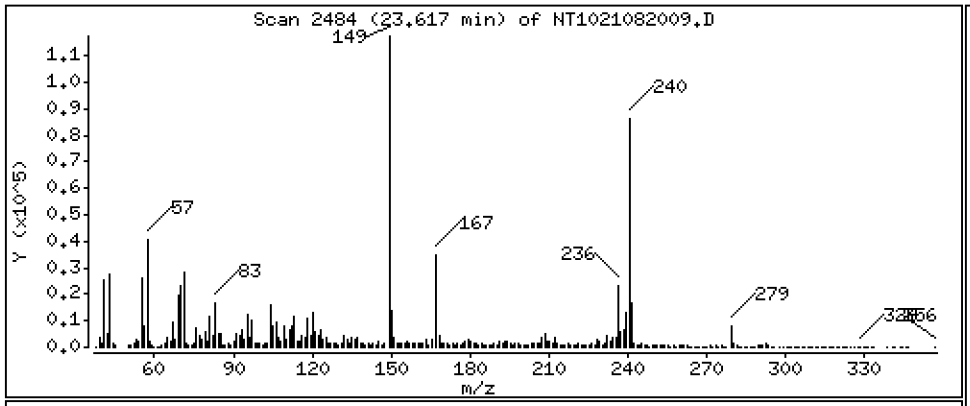
Operator: VTS

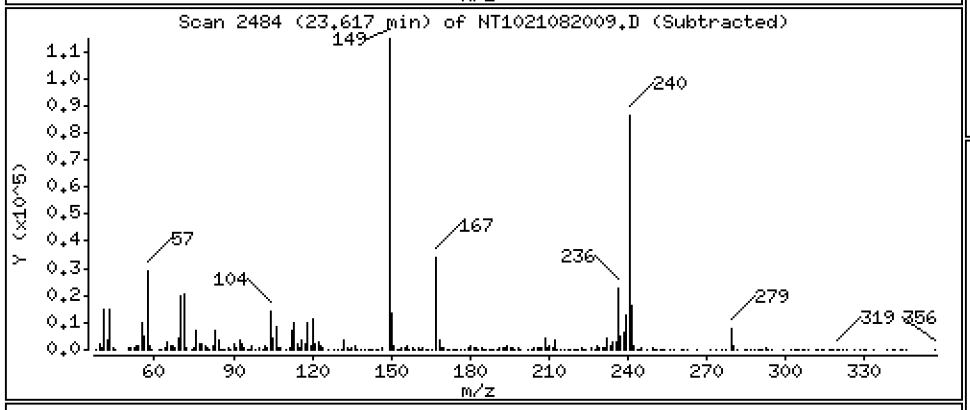
Column phase: ZB-5msi

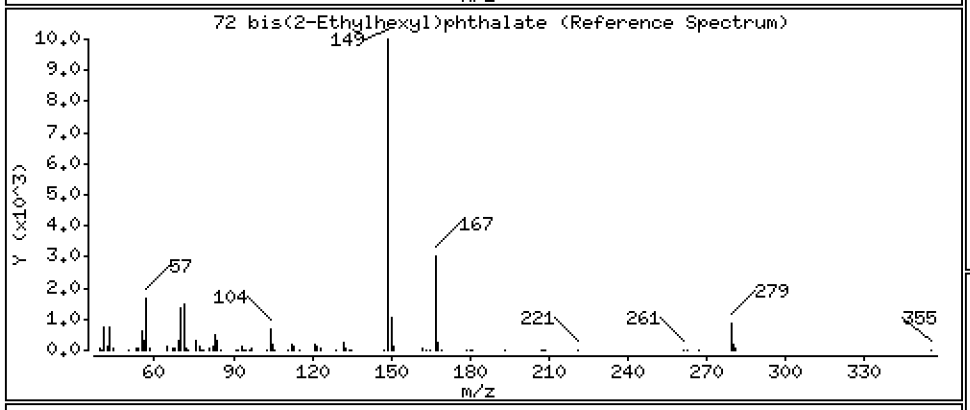
Column diameter: 0.25

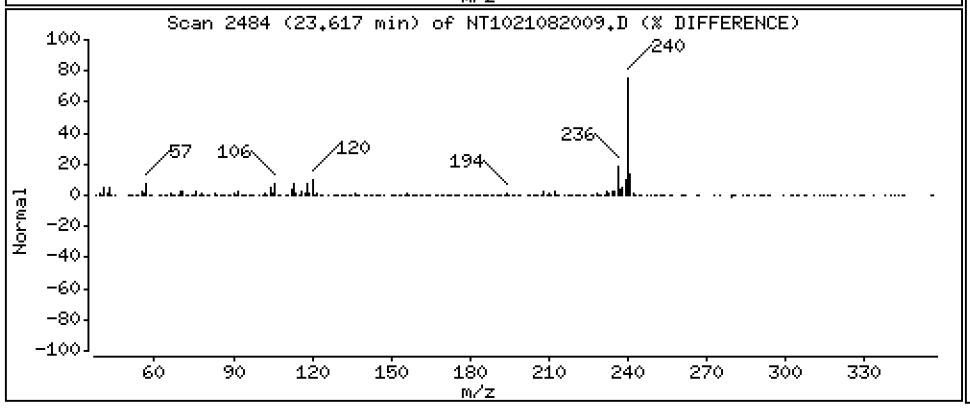
72 bis(2-Ethylhexyl)phthalate

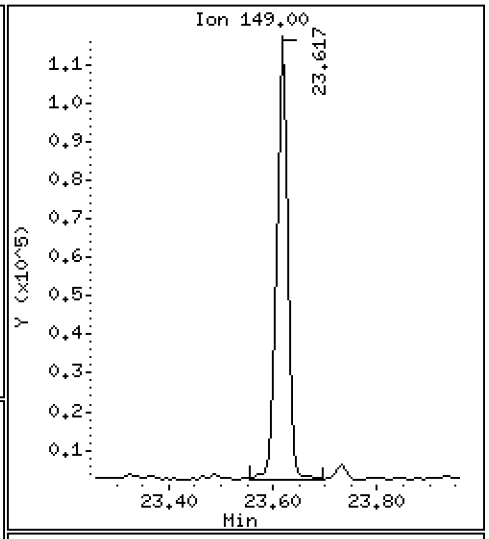
Concentration: 7.230 ug/mL

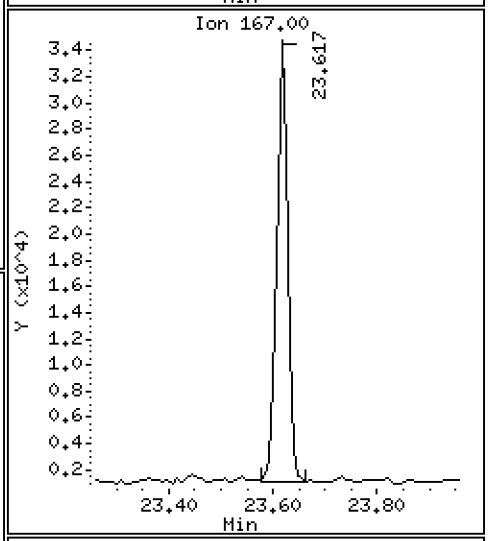


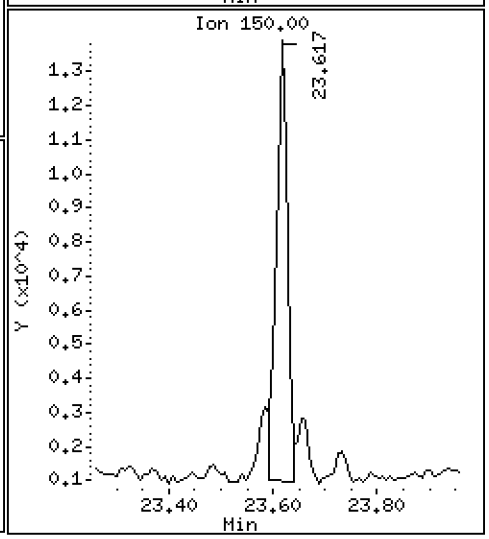












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

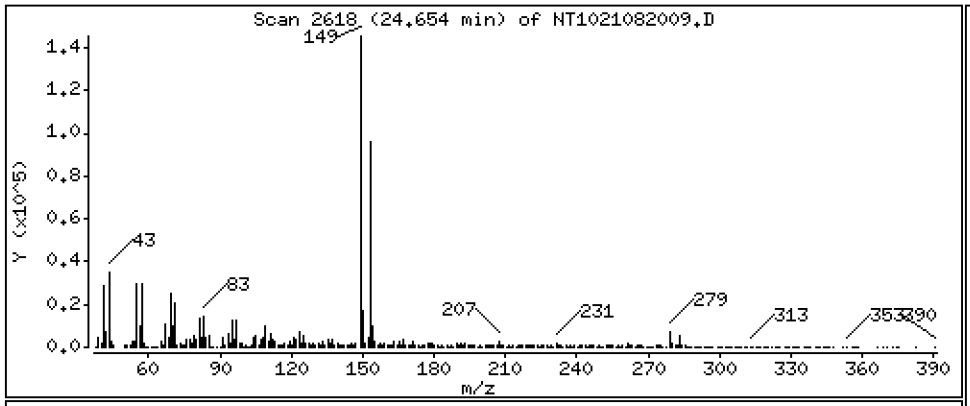
Operator: VTS

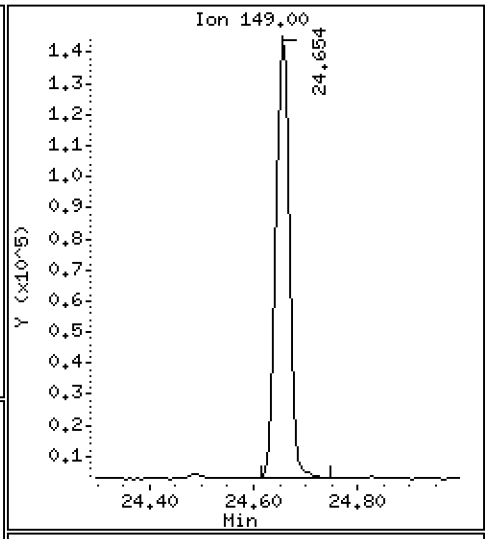
Column phase: ZB-5msi

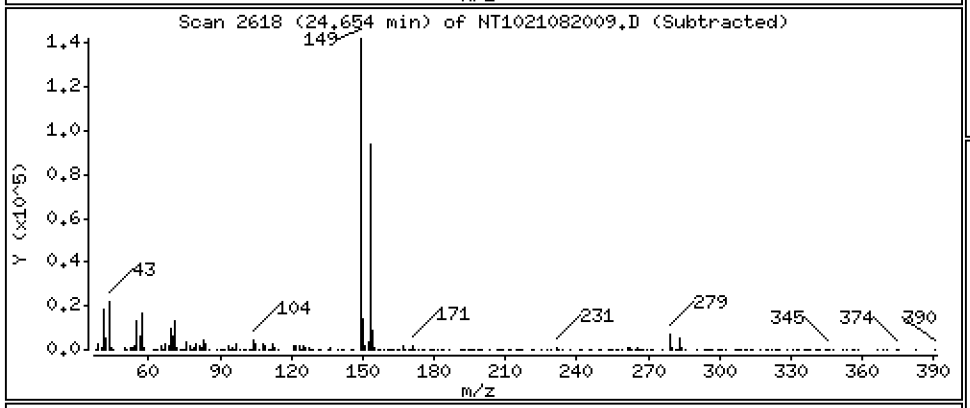
Column diameter: 0.25

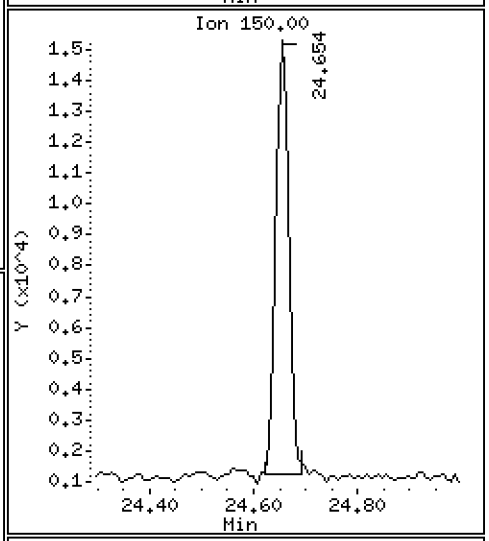
73 Di-n-octylphthalate

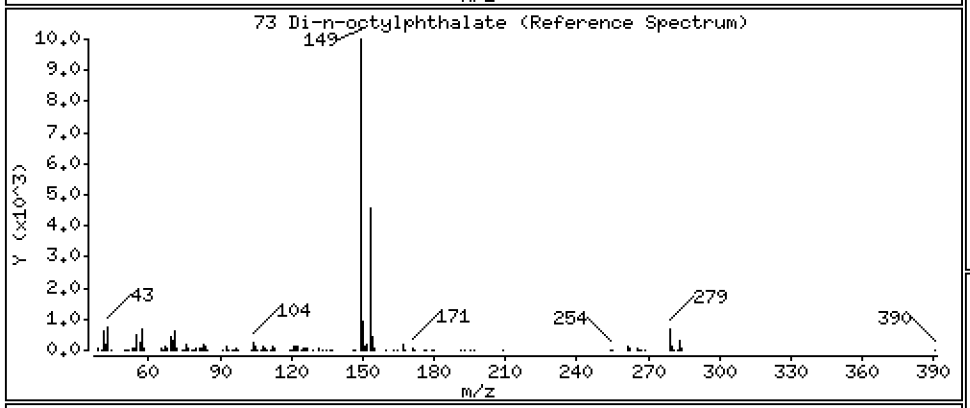
Concentration: 4.660 ug/mL

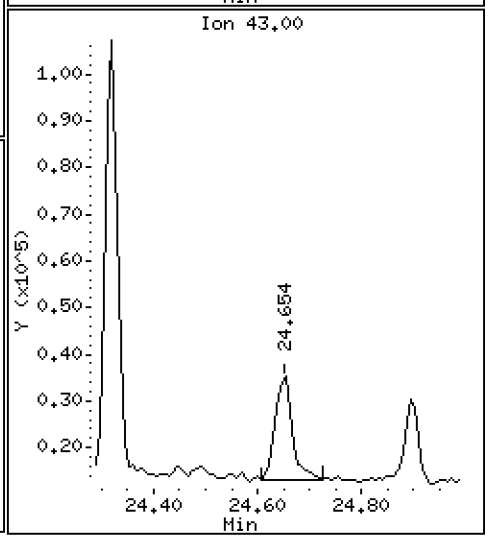


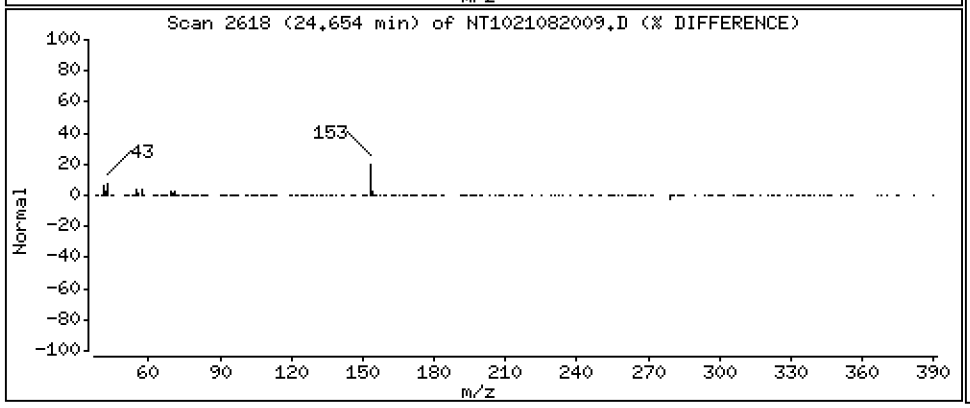












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

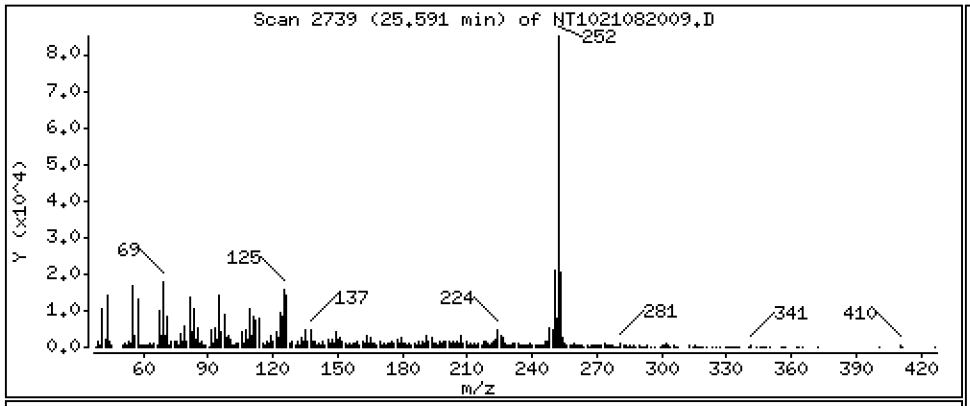
Operator: VTS

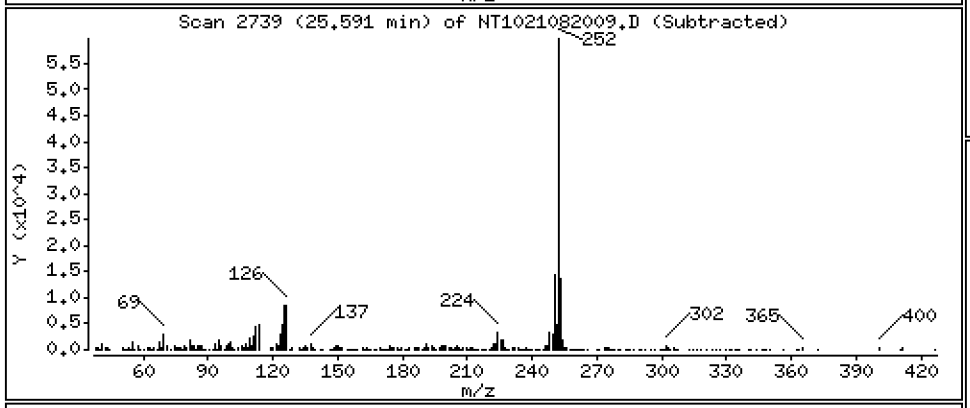
Column phase: ZB-5msi

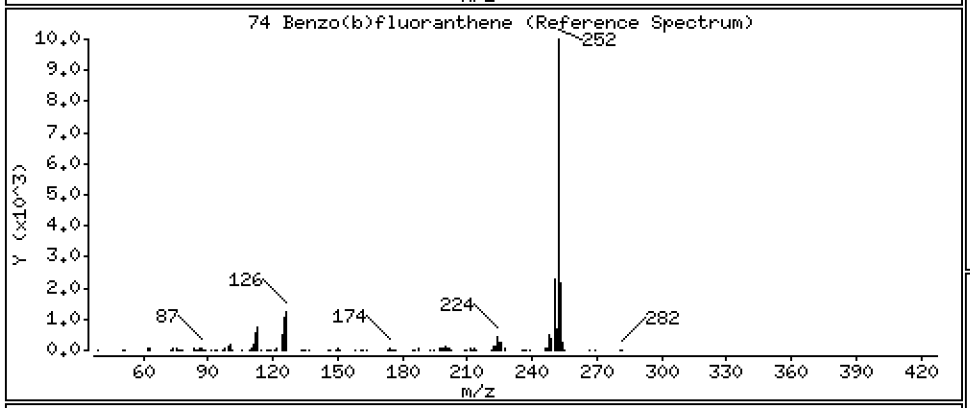
Column diameter: 0.25

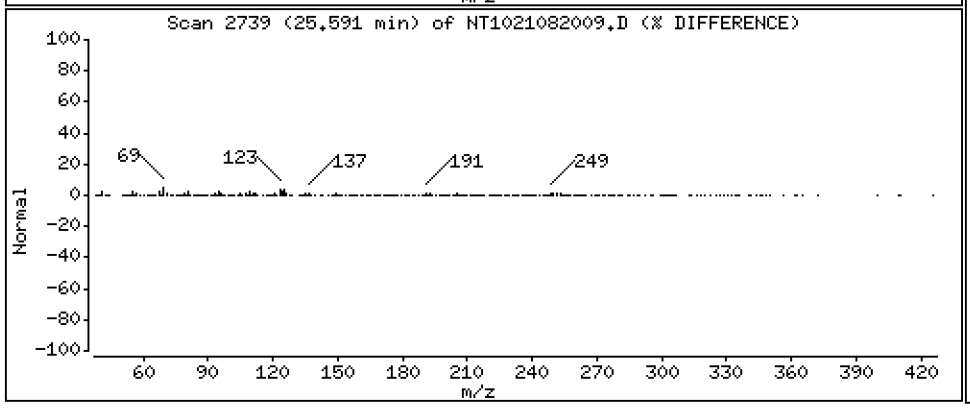
74 Benzo(b)fluoranthene

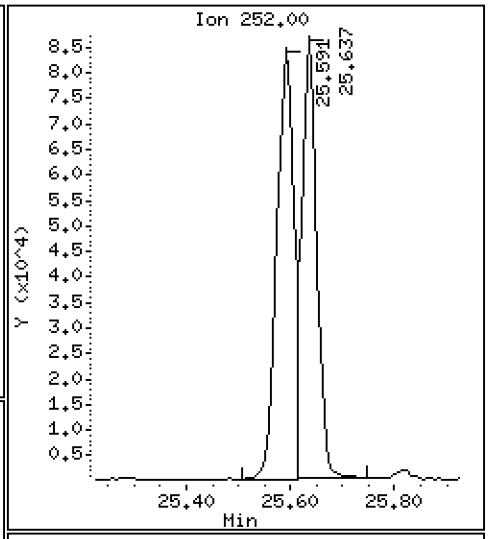
Concentration: 4.624 ug/mL

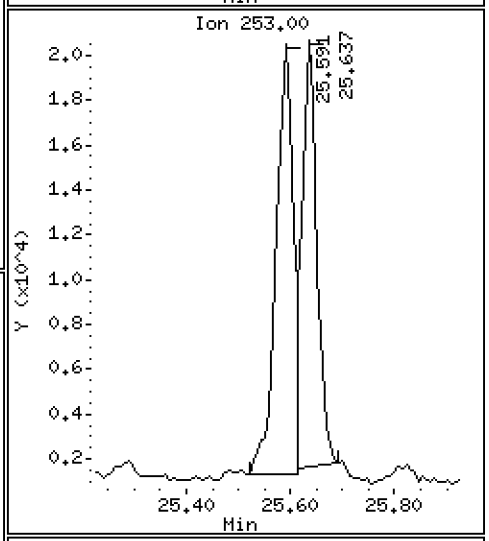


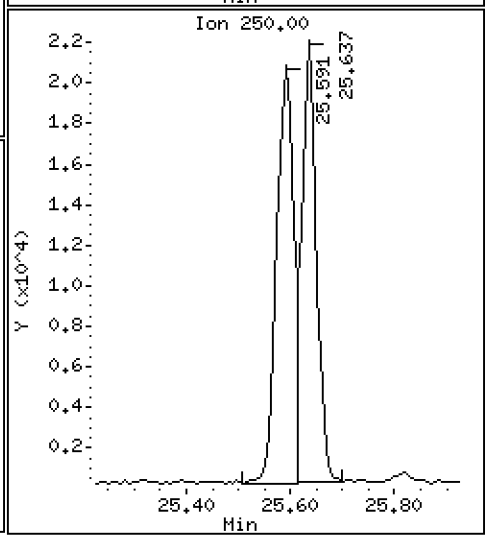












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

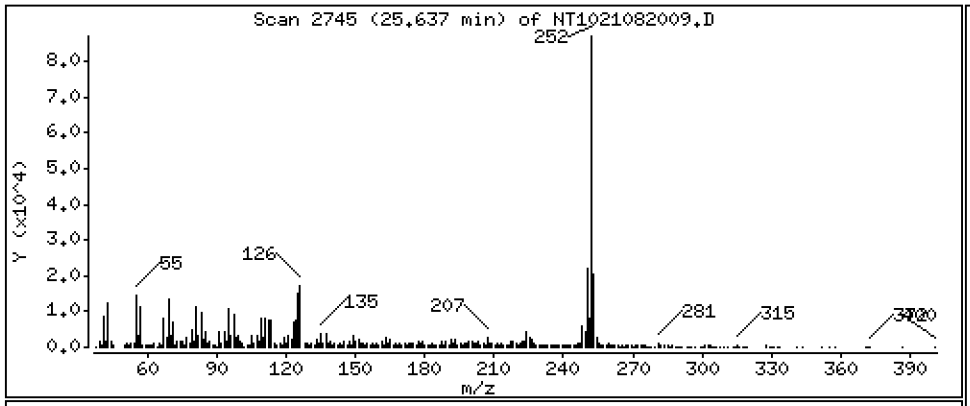
Operator: VTS

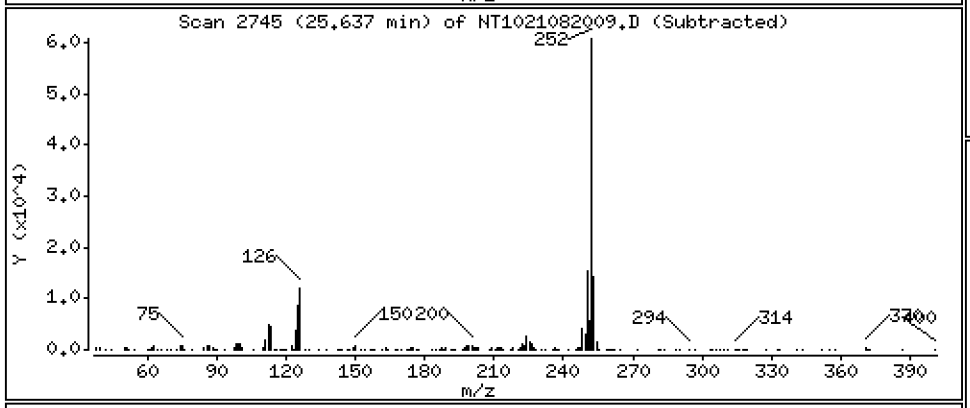
Column phase: ZB-5msi

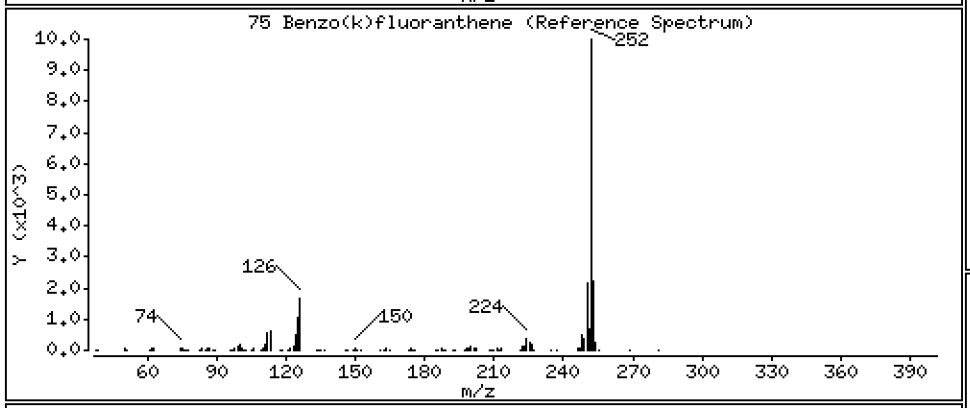
Column diameter: 0.25

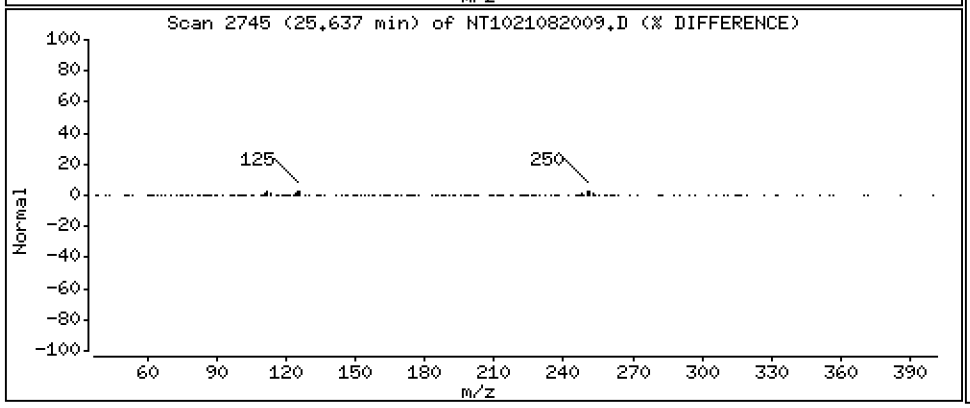
75 Benzo(k)fluoranthene

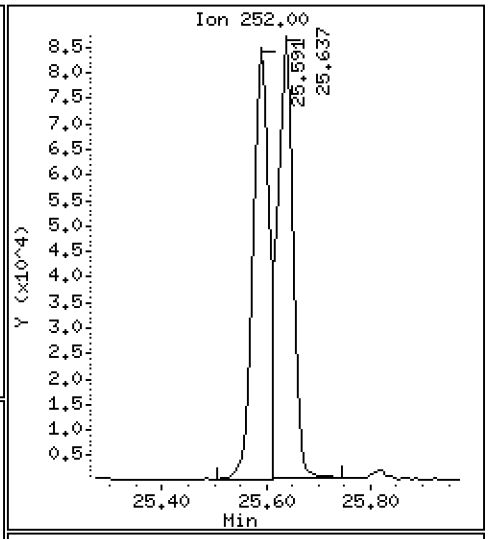
Concentration: 4.460 ug/mL

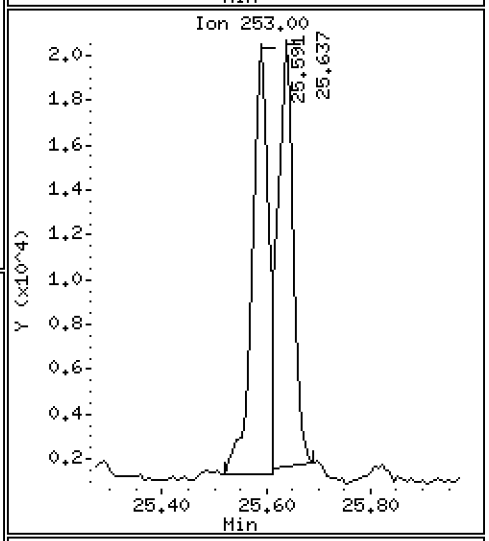


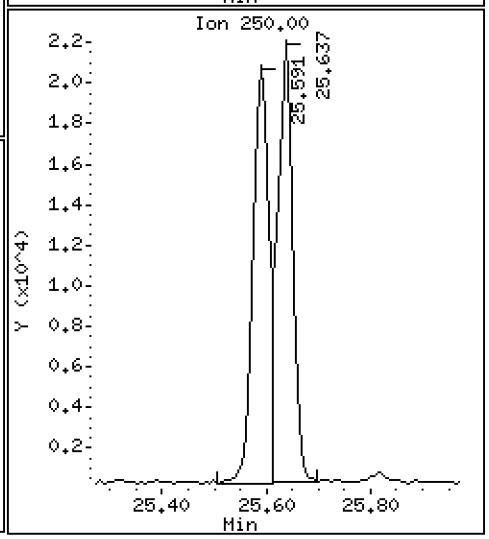












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

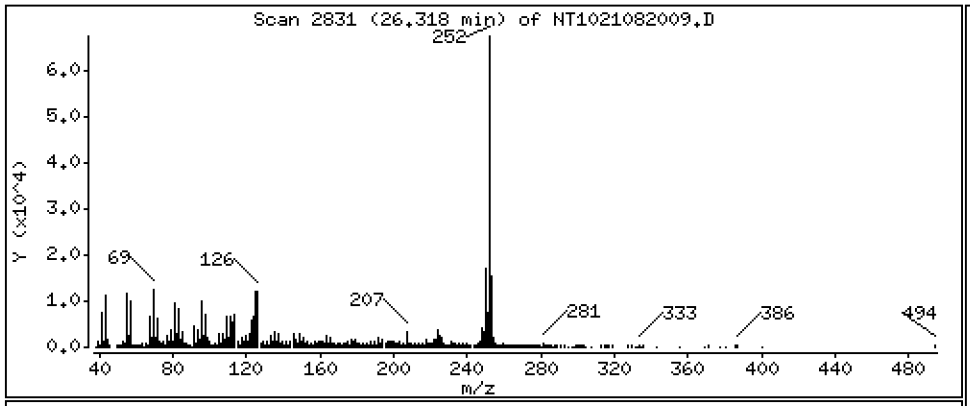
Operator: VTS

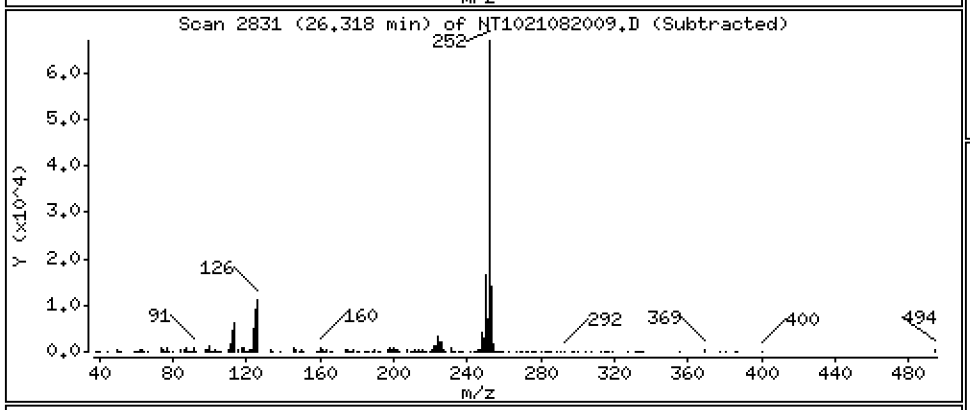
Column phase: ZB-5msi

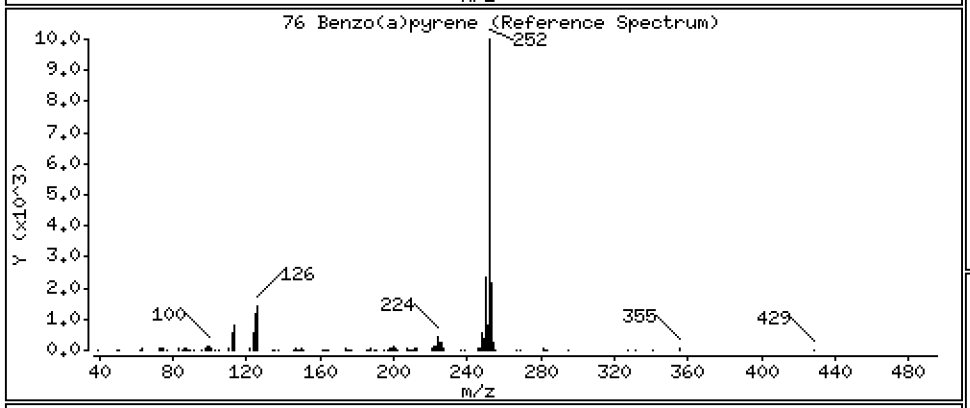
Column diameter: 0.25

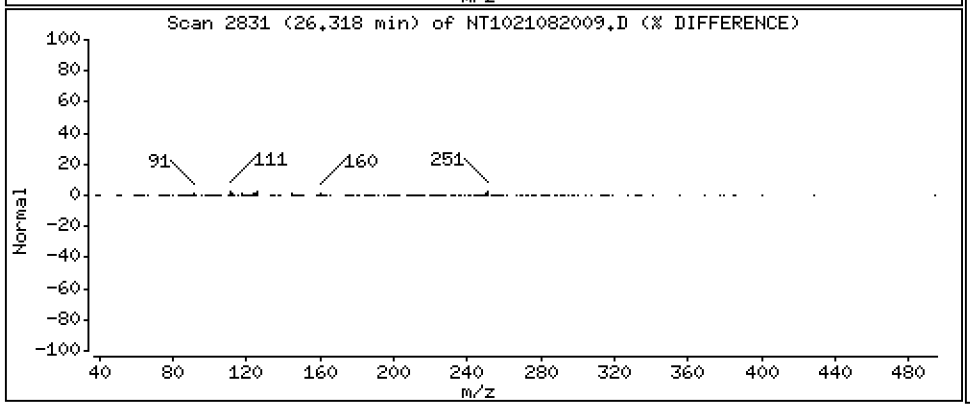
76 Benzo(a)pyrene

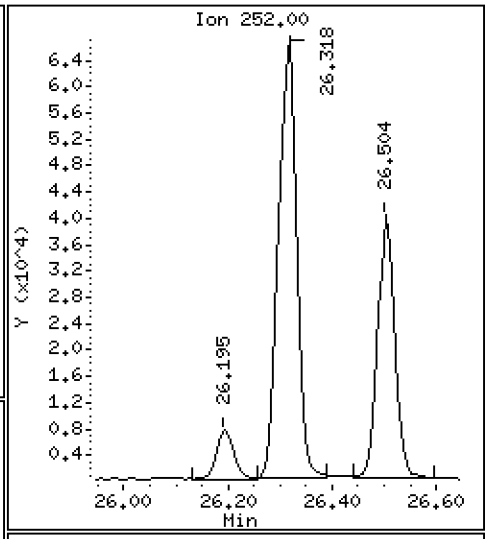
Concentration: 4.359 ug/mL

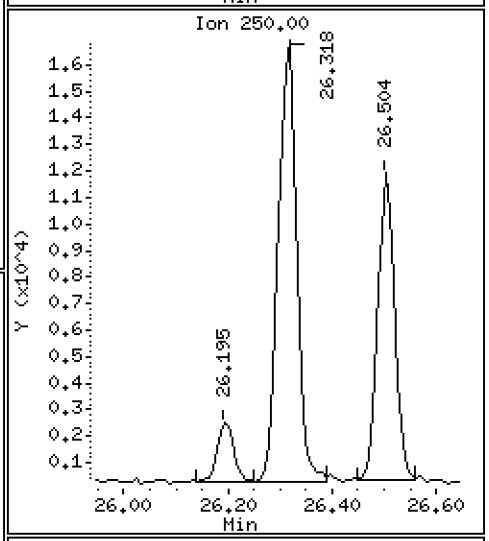


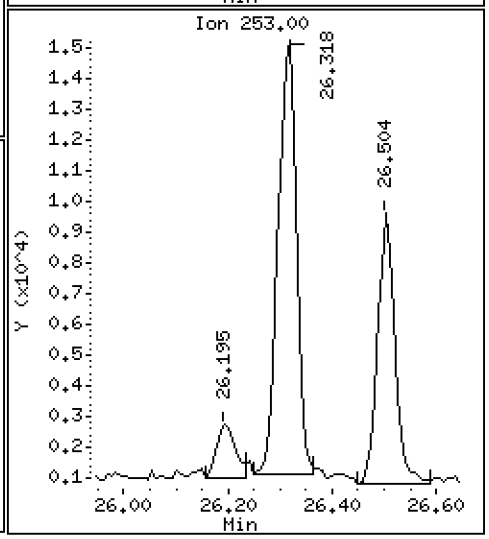












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

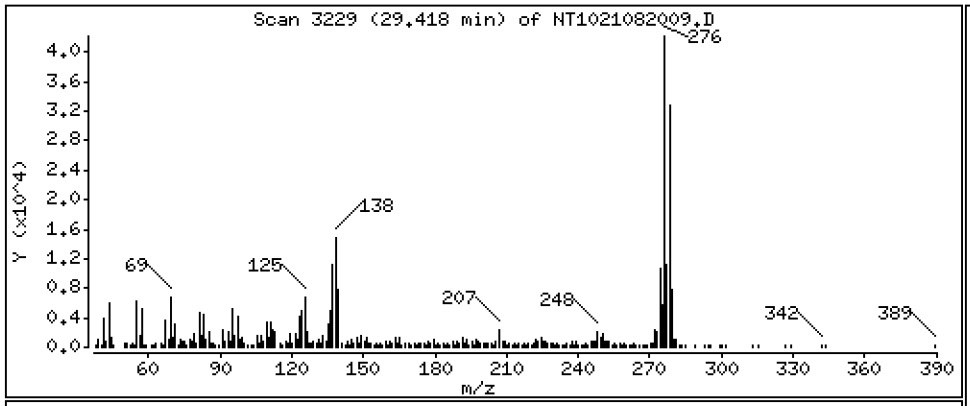
Operator: VTS

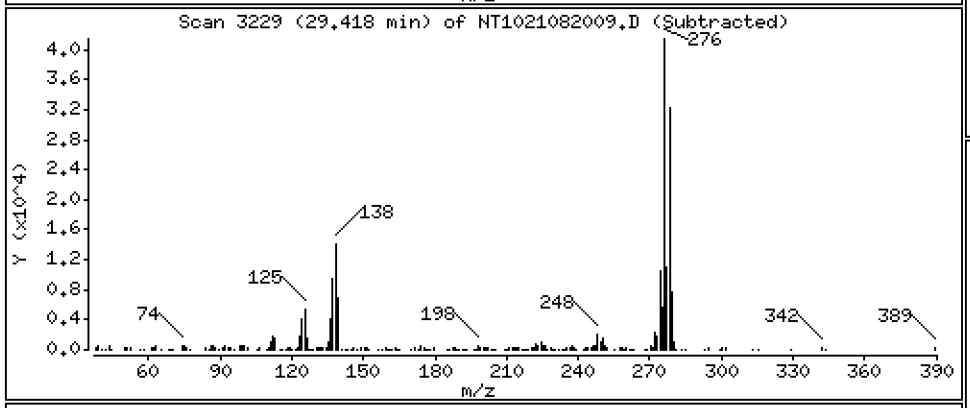
Column phase: ZB-5msi

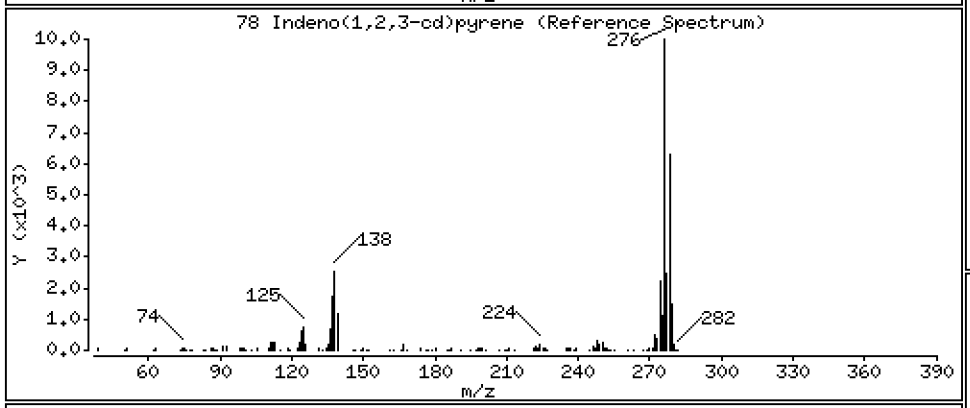
Column diameter: 0.25

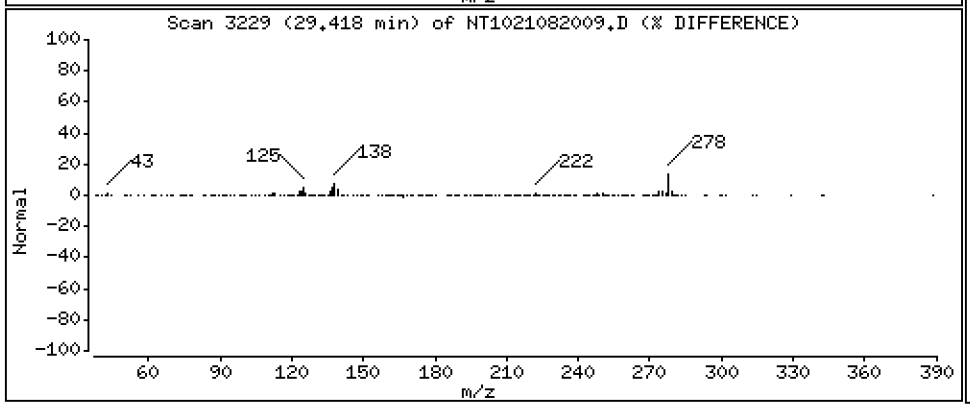
78 Indeno(1,2,3-cd)pyrene

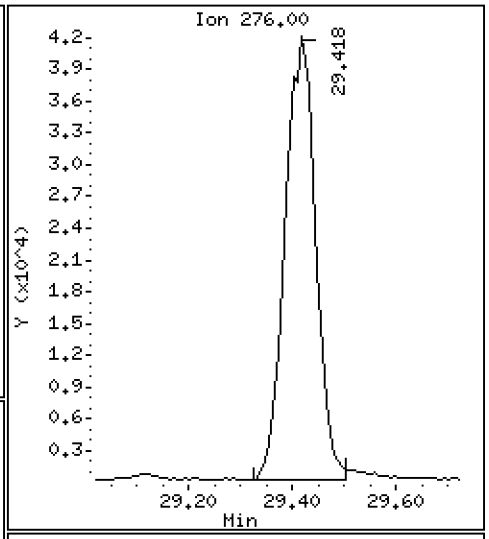
Concentration: 4.598 ug/mL

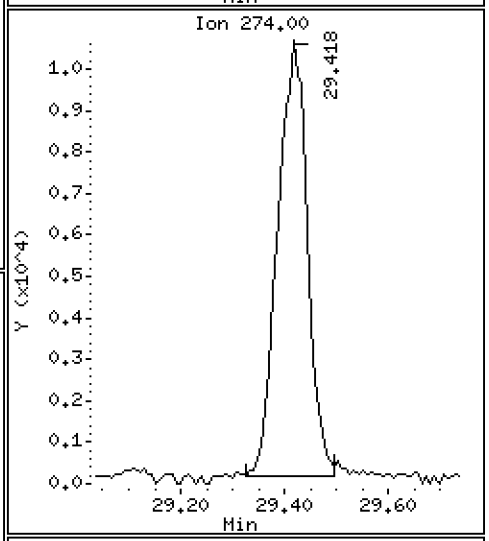


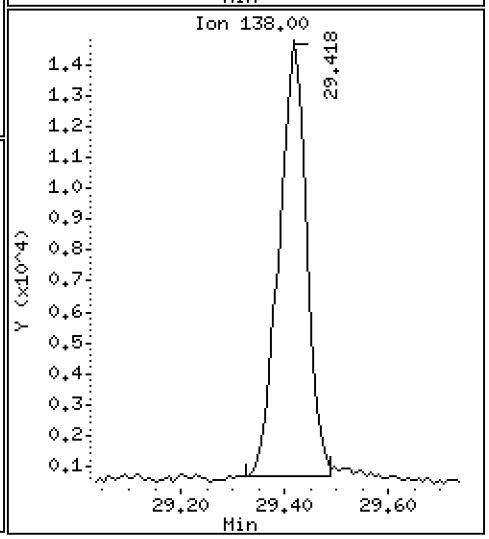












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

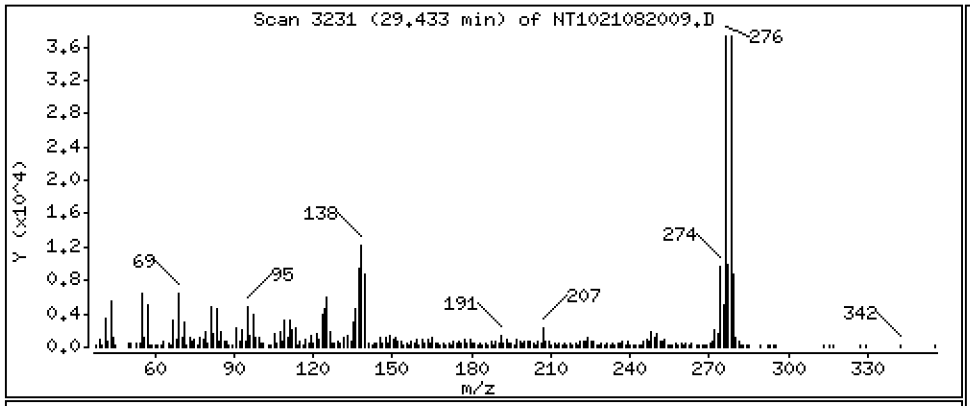
Operator: VTS

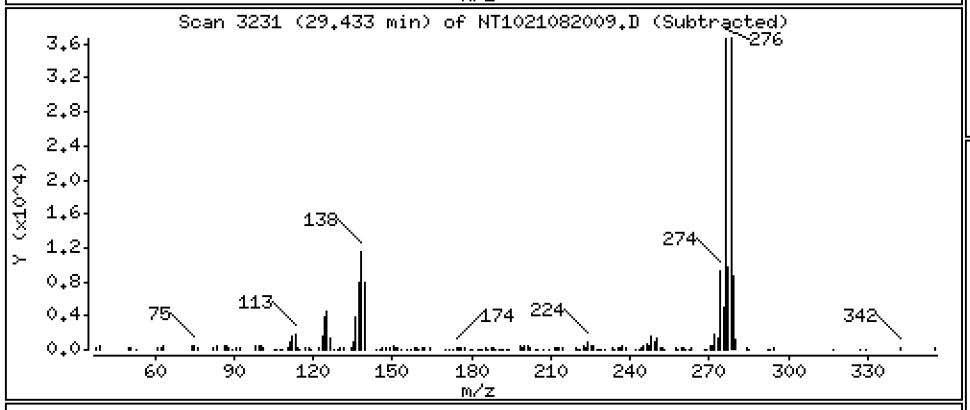
Column phase: ZB-5msi

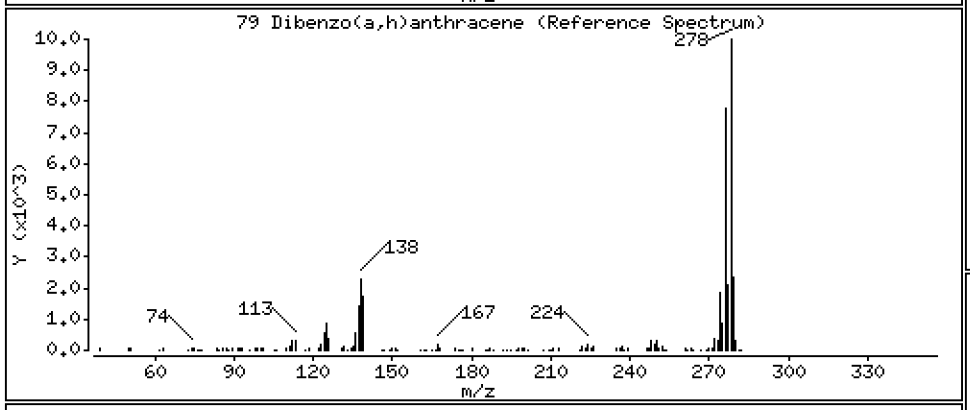
Column diameter: 0.25

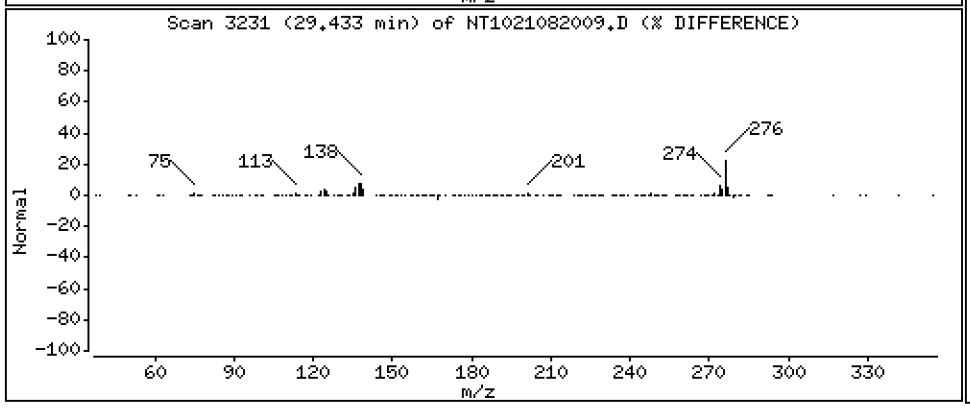
79 Dibenzo(a,h)anthracene

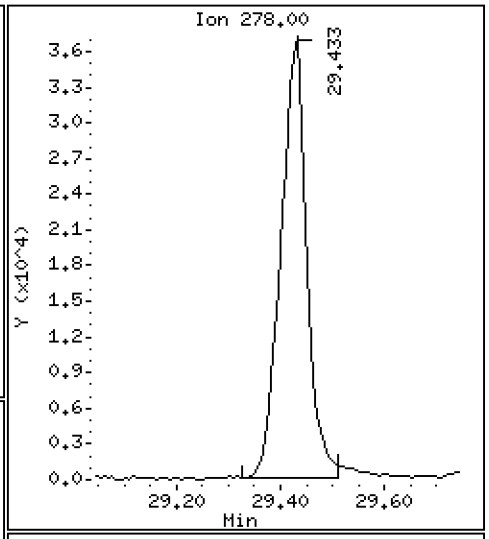
Concentration: 4.473 ug/mL

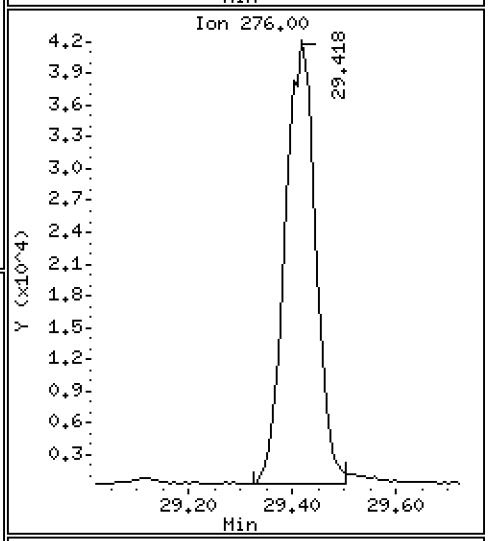


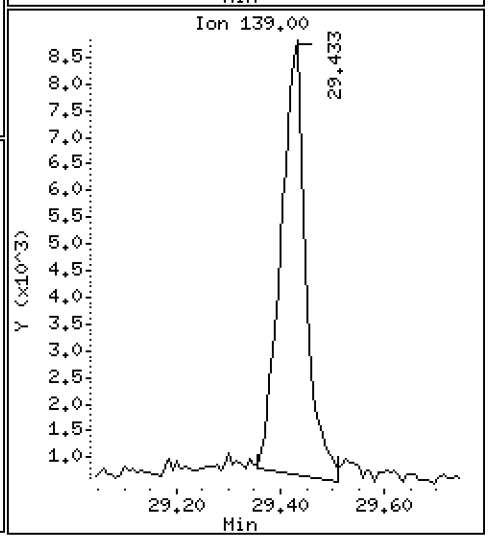












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

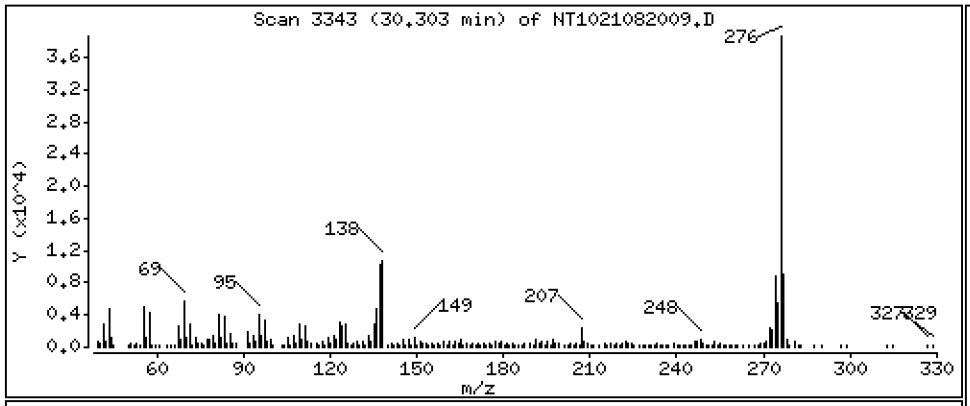
Operator: VTS

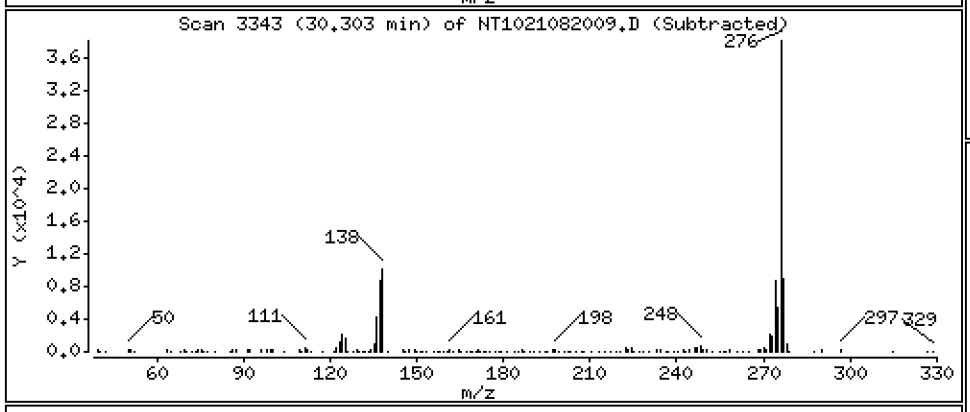
Column phase: ZB-5msi

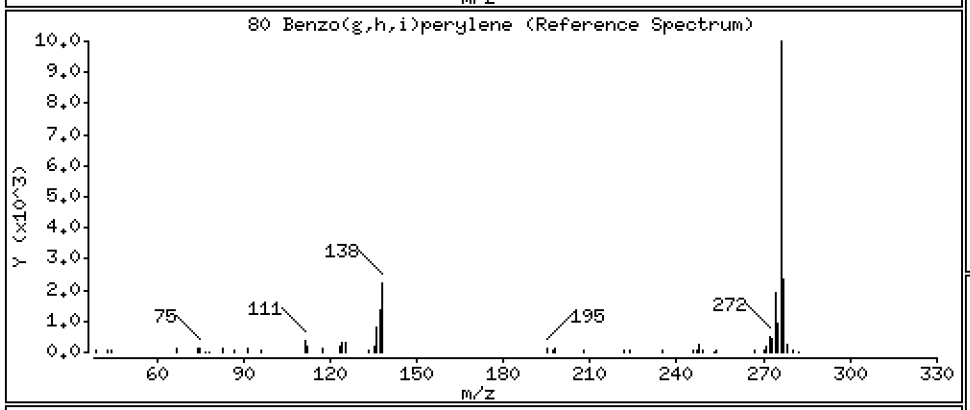
Column diameter: 0.25

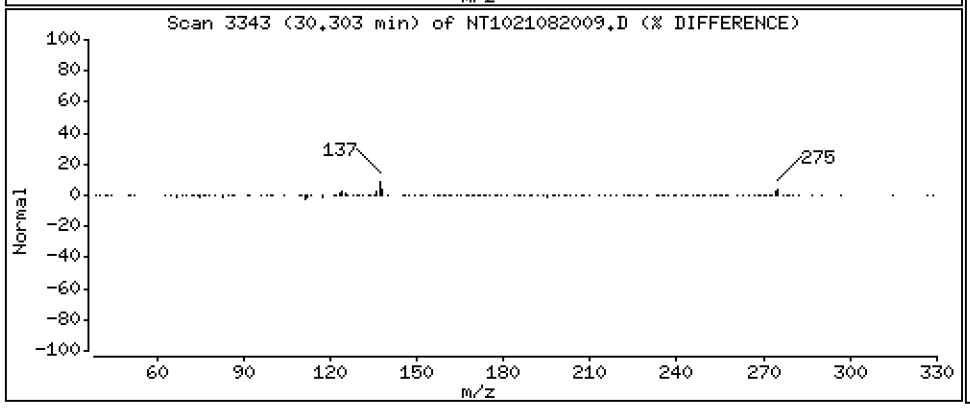
80 Benzo(g,h,i)perylene

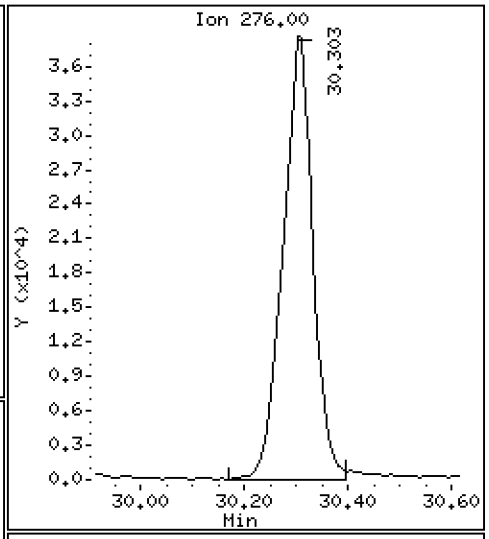
Concentration: 4.722 ug/mL

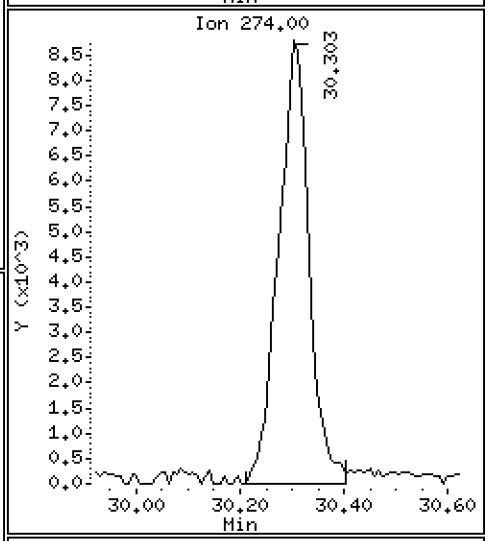


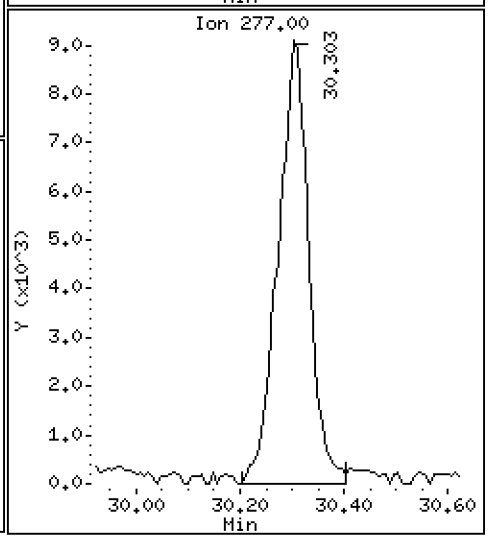












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

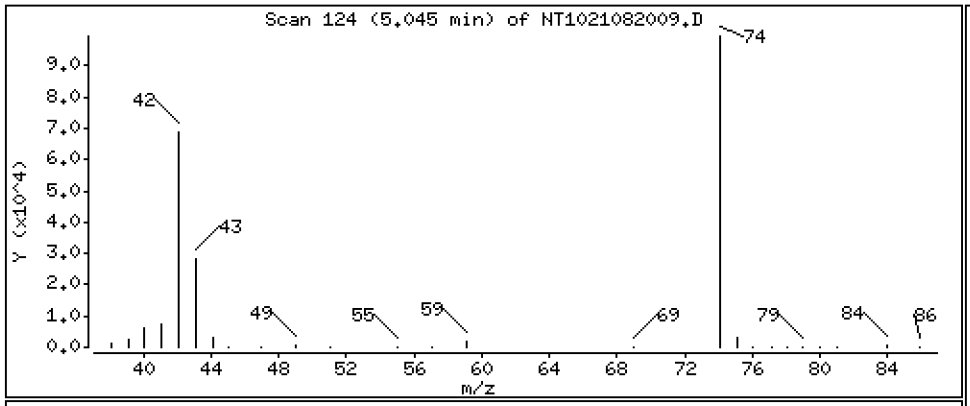
Operator: VTS

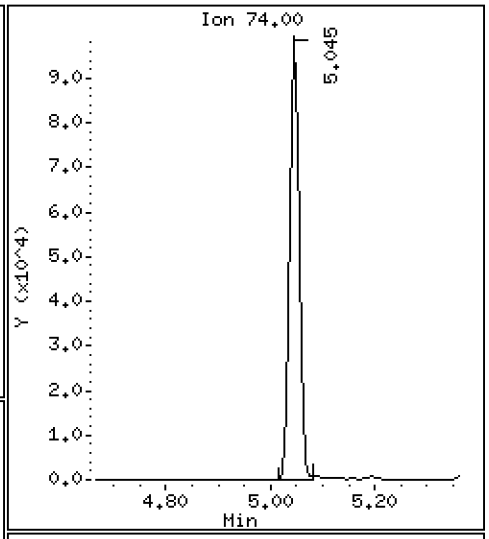
Column phase: ZB-5msi

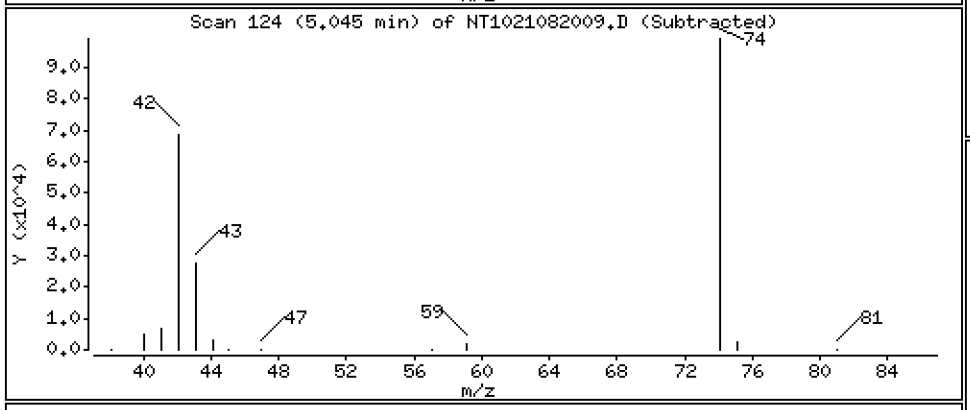
Column diameter: 0.25

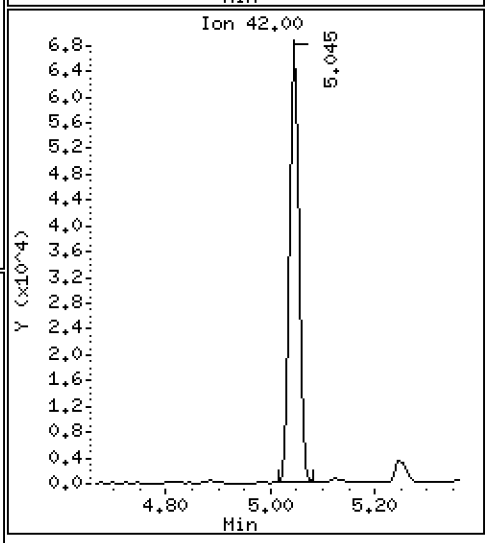
90 N-Nitrosodimethylamine

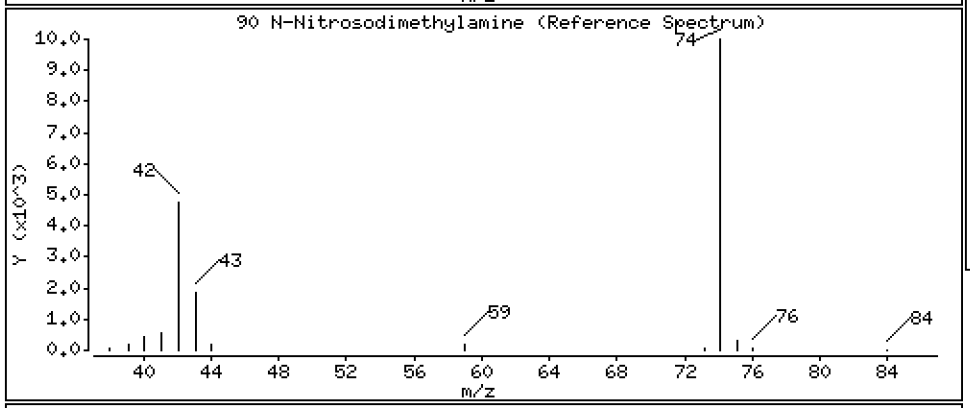
Concentration: 9.914 ug/mL

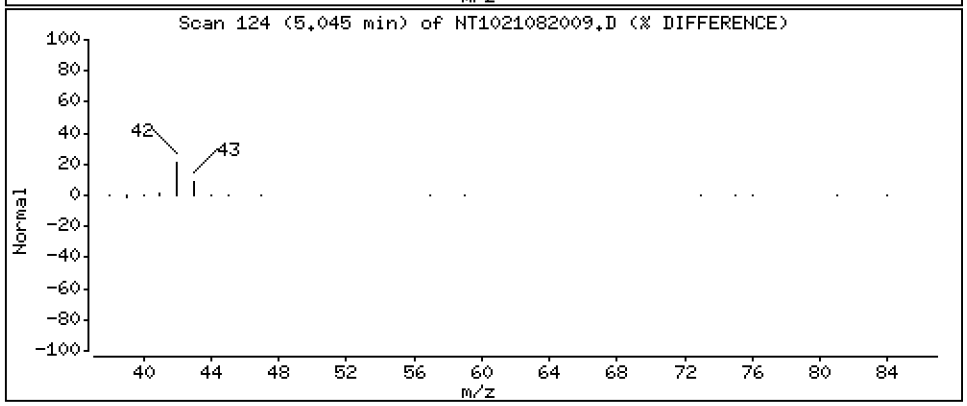












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

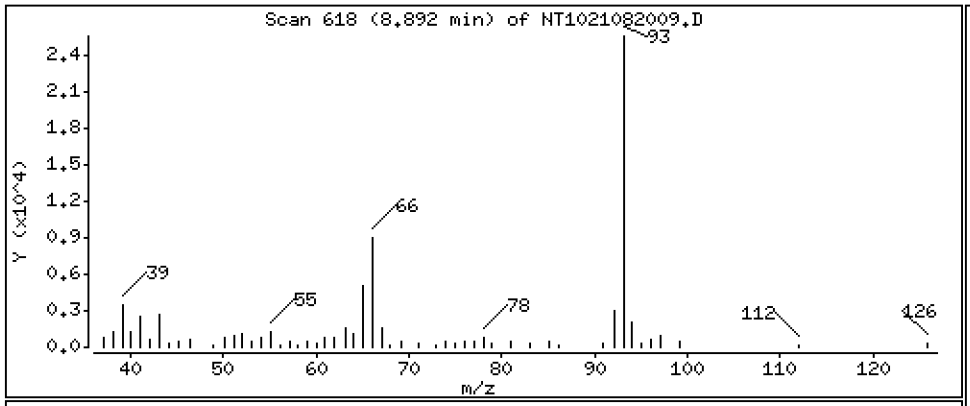
Operator: VTS

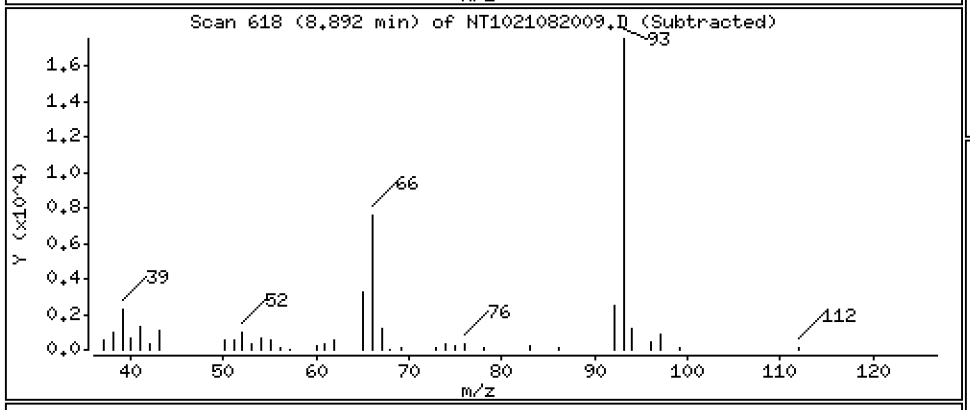
Column phase: ZB-5msi

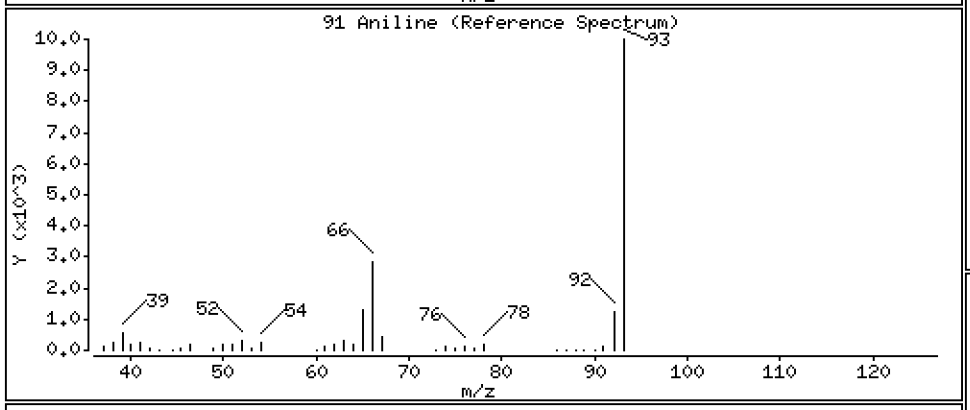
Column diameter: 0.25

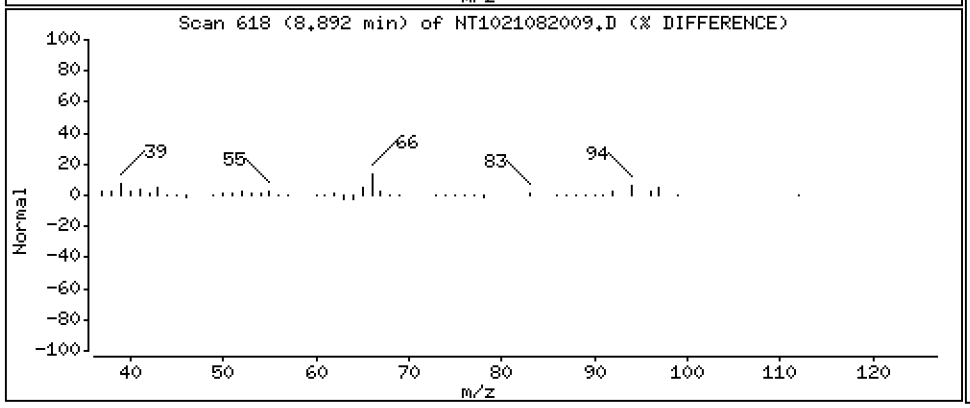
91 Aniline

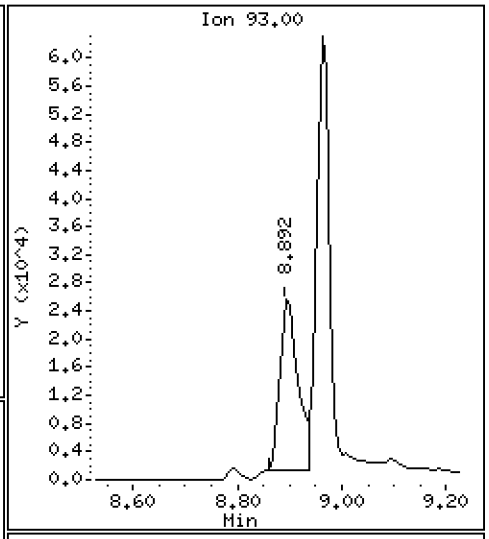
Concentration: 1.944 ug/mL

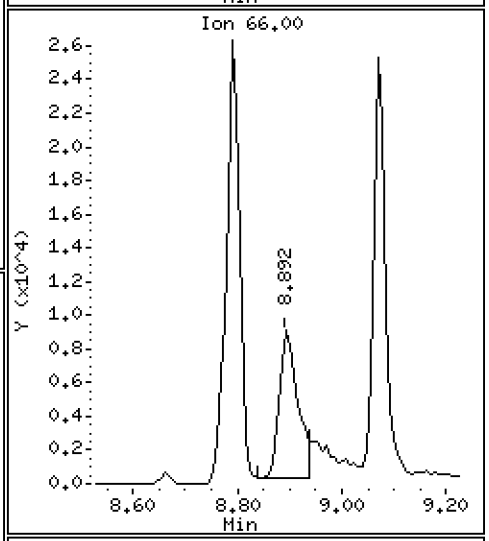


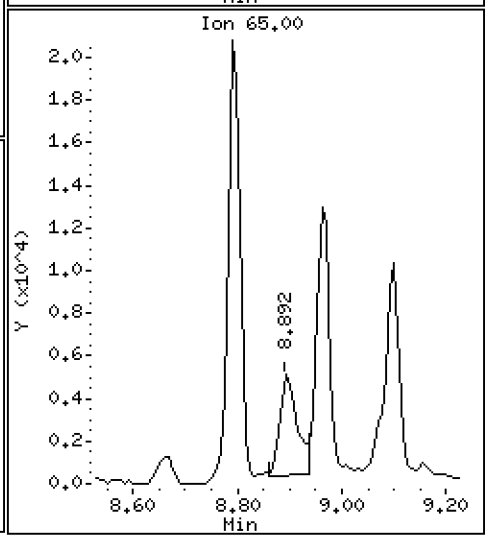












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

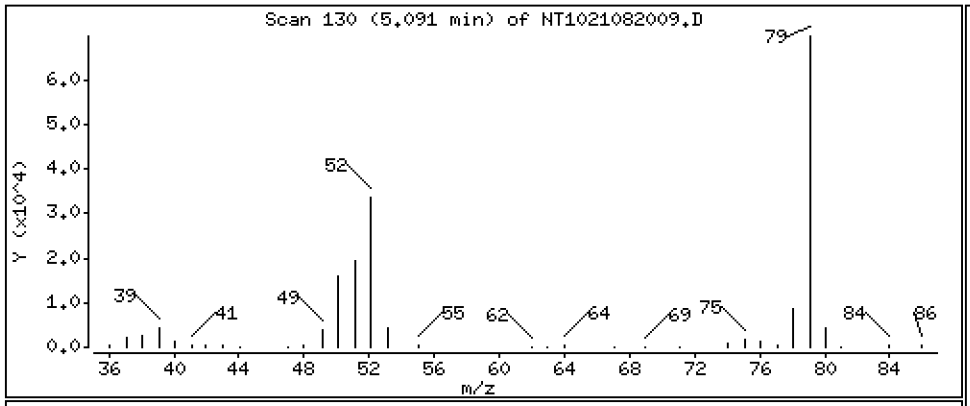
Operator: VTS

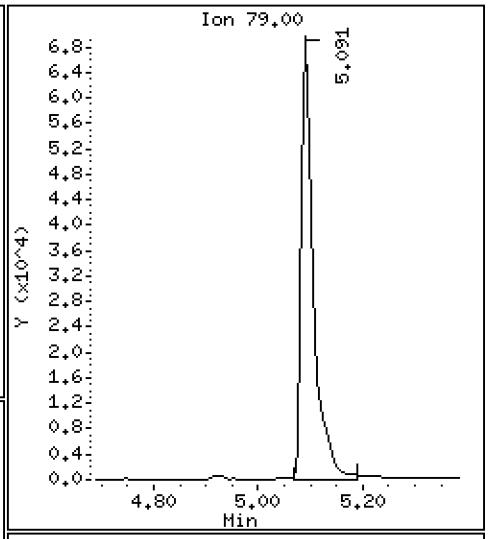
Column phase: ZB-5msi

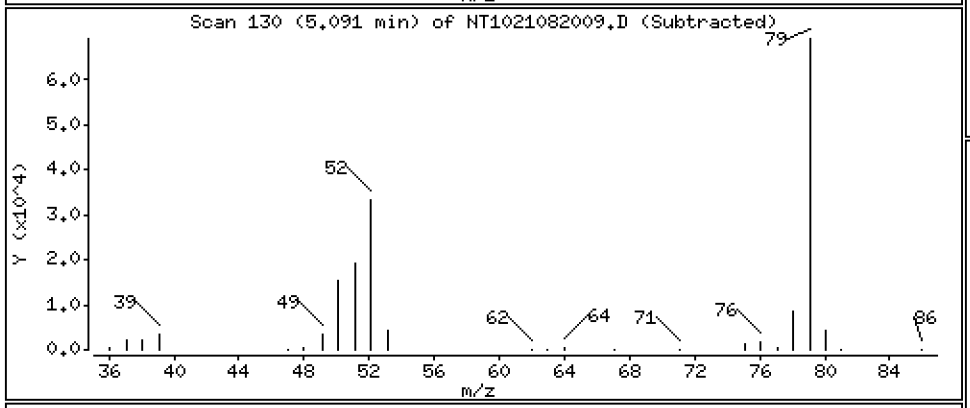
Column diameter: 0.25

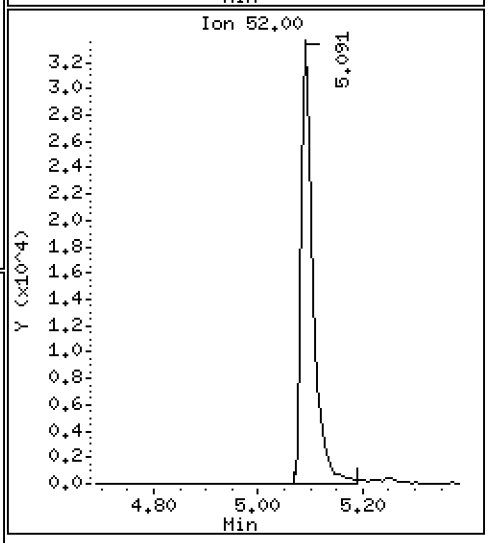
103 Pyridine

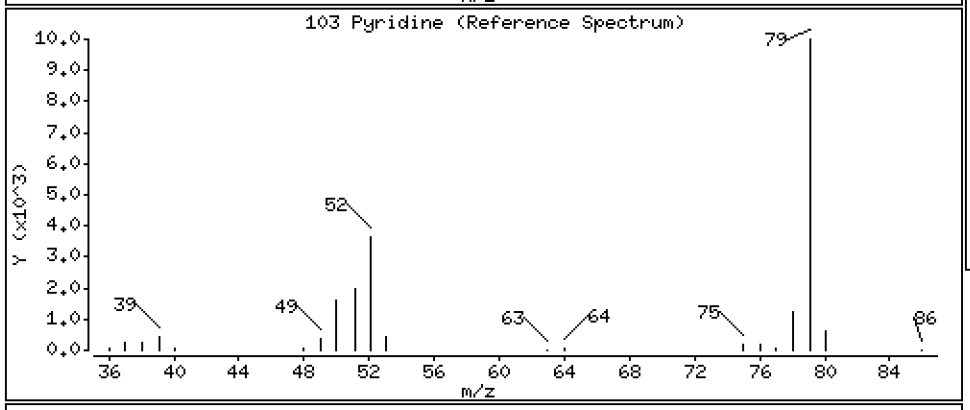
Concentration: 2.781 ug/mL

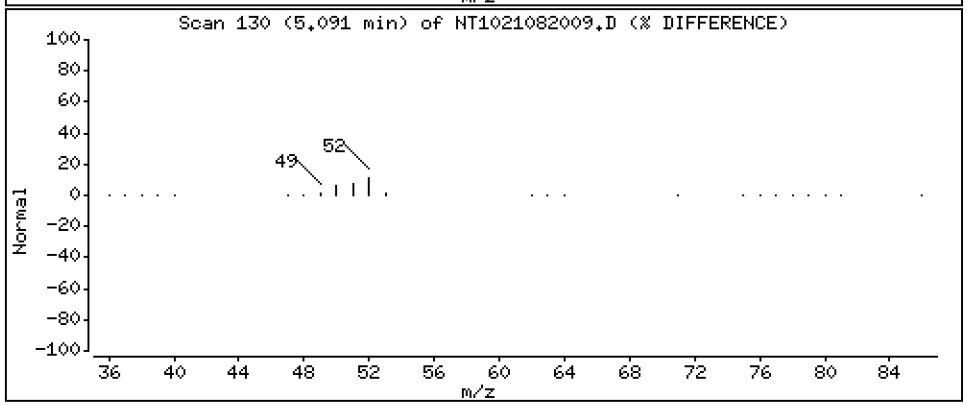












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

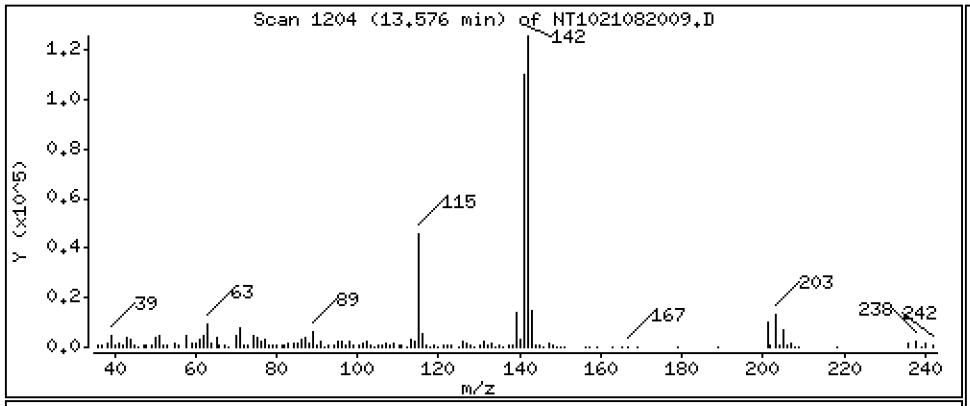
Operator: VTS

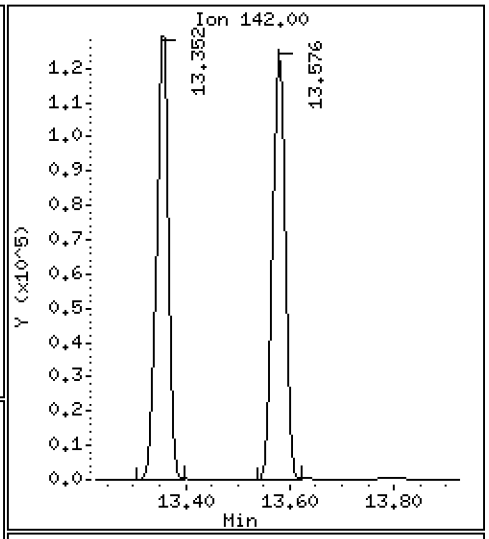
Column phase: ZB-5msi

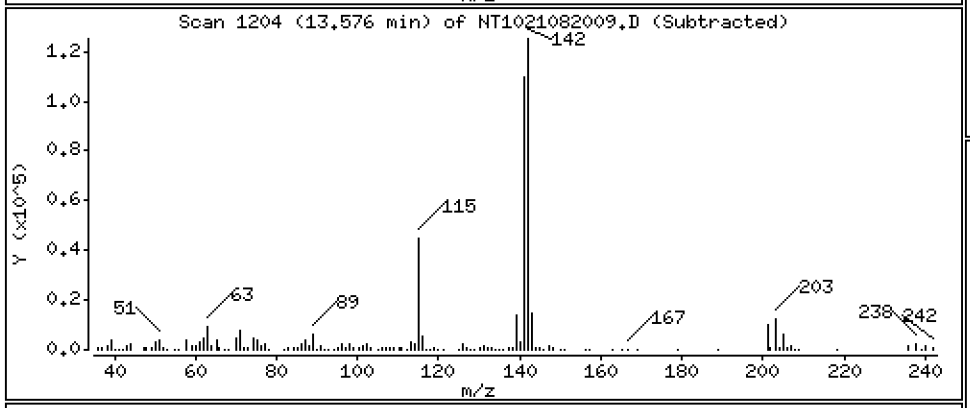
Column diameter: 0.25

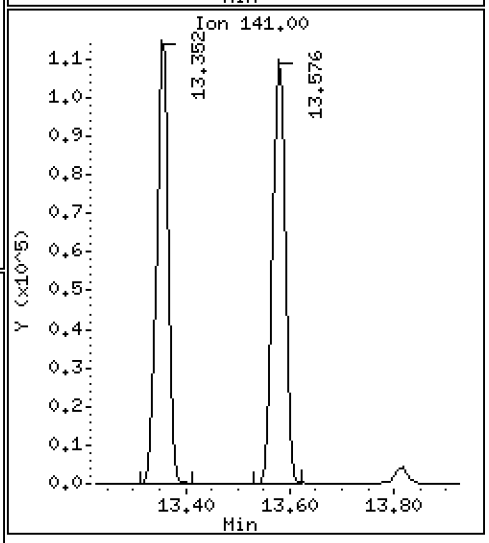
105 1-methylnaphthalene

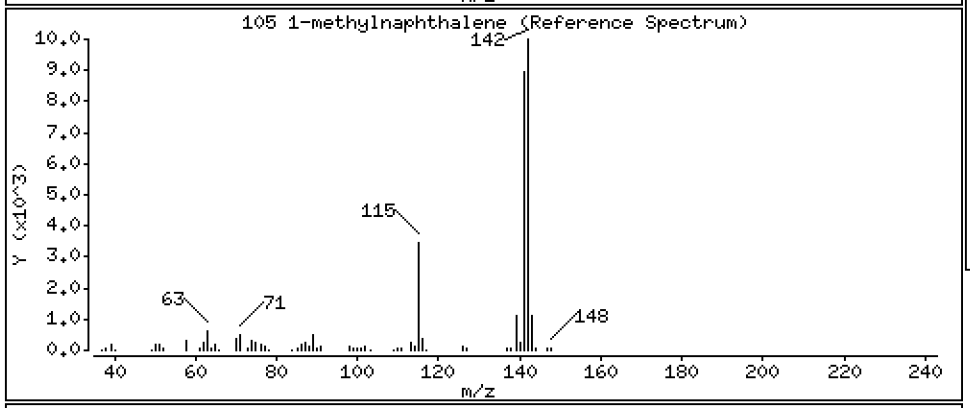
Concentration: 3.955 ug/mL

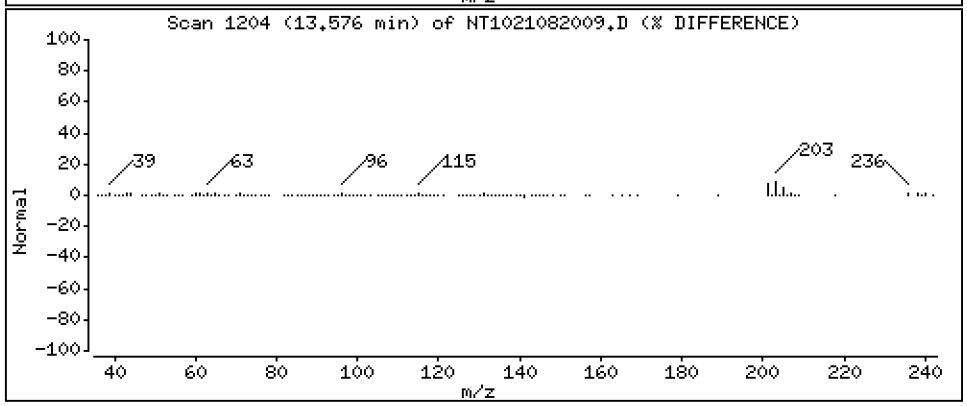












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

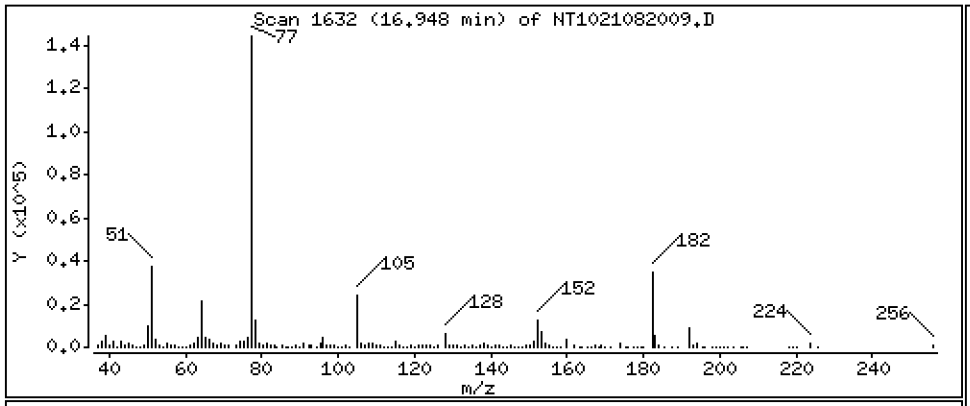
Operator: VTS

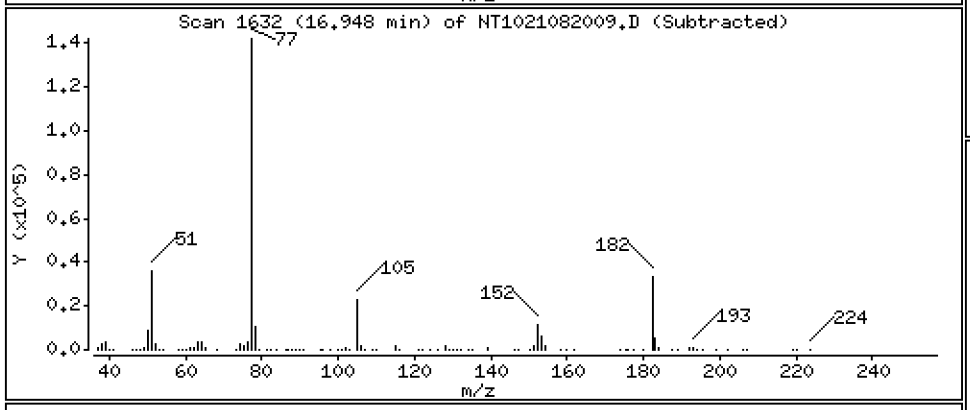
Column phase: ZB-5msi

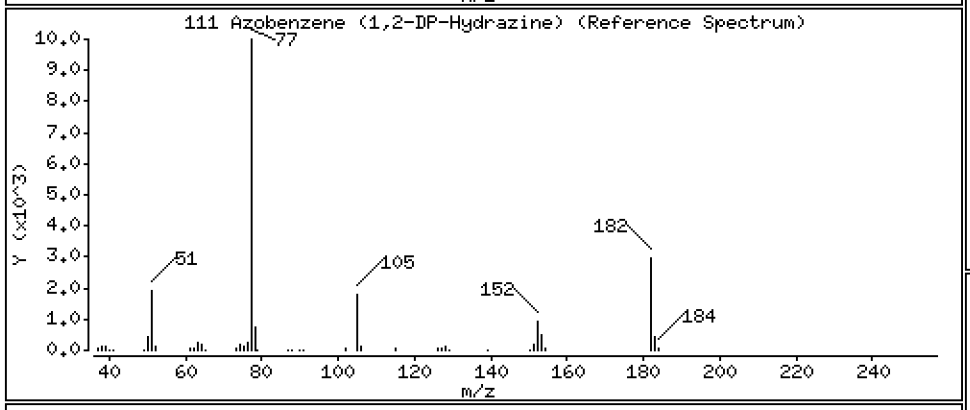
Column diameter: 0.25

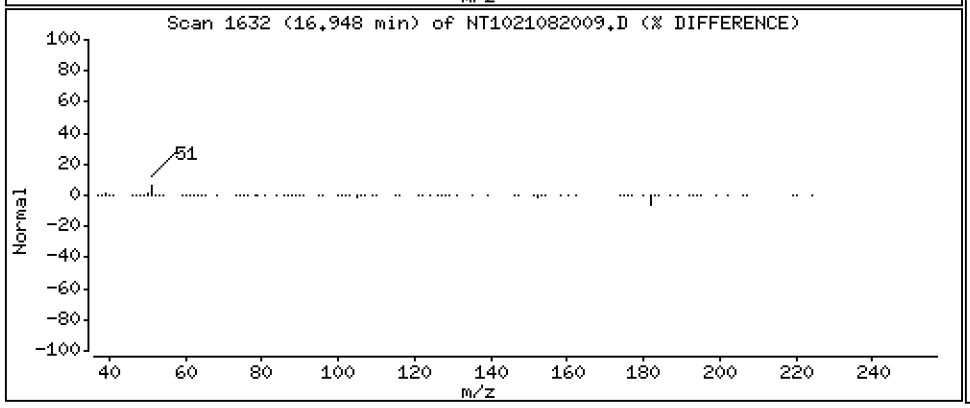
111 Azobenzene (1,2-DP-Hydrazine)

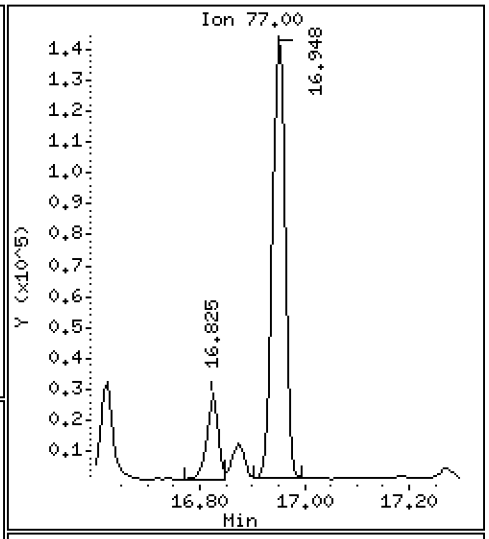
Concentration: 5.176 ug/mL

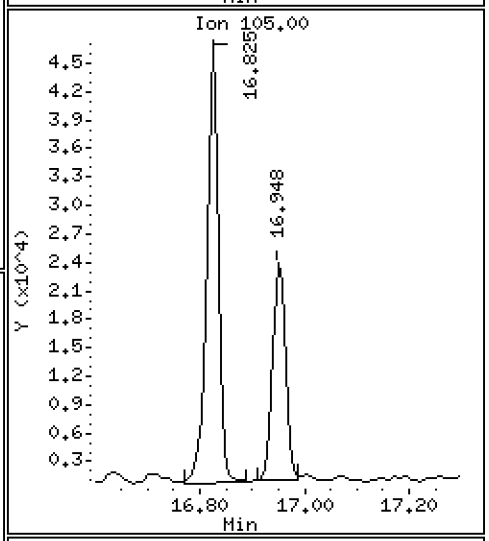


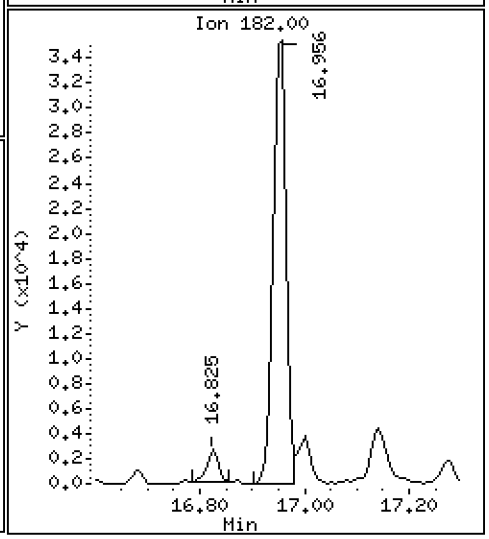












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Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

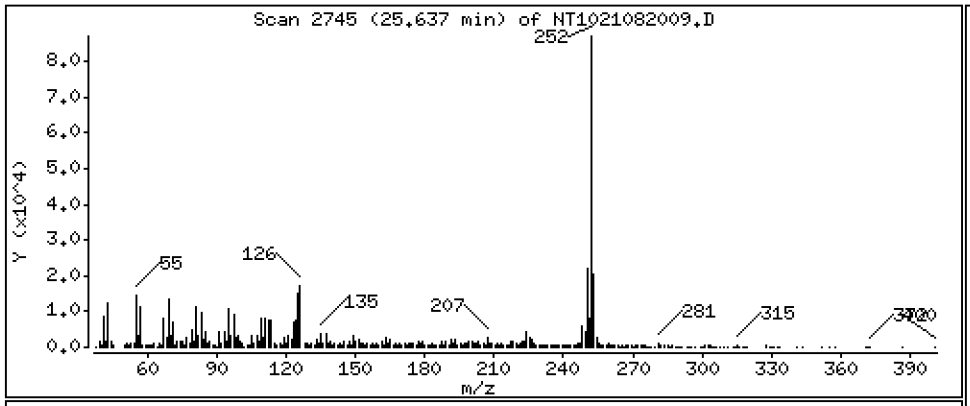
Operator: VTS

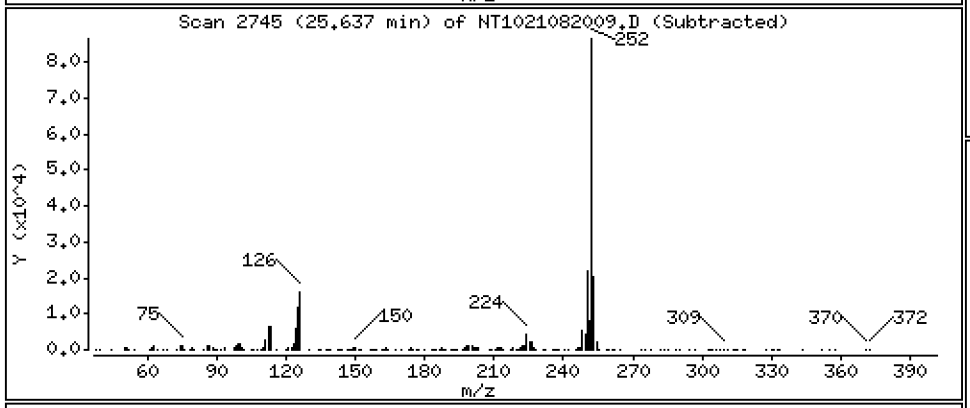
Column phase: ZB-5msi

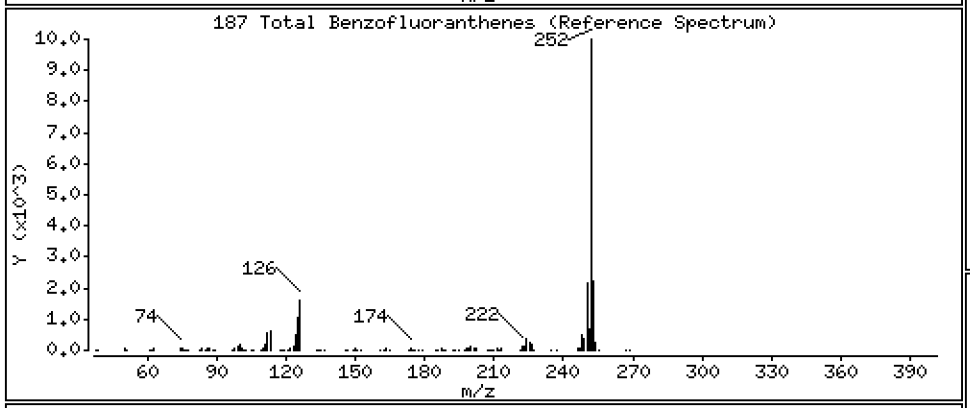
Column diameter: 0.25

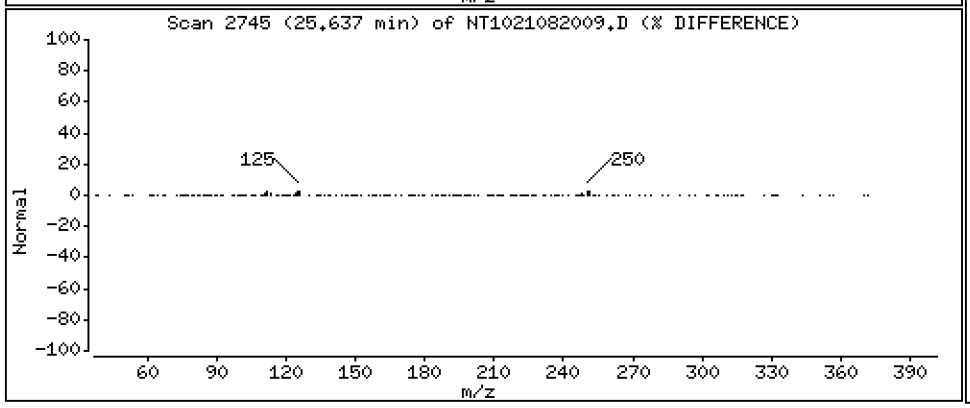
187 Total Benzofluoranthenes

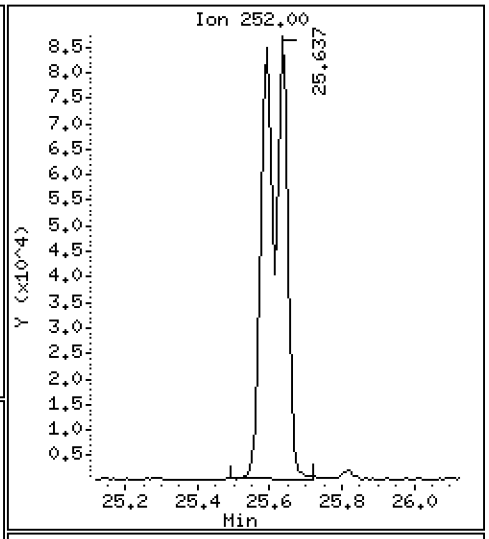
Concentration: 9.003 ug/mL

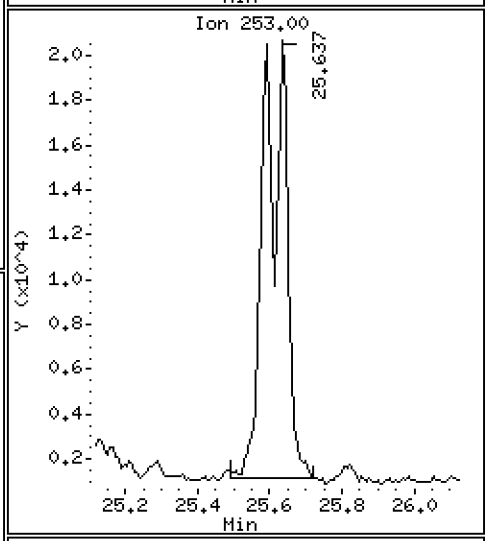


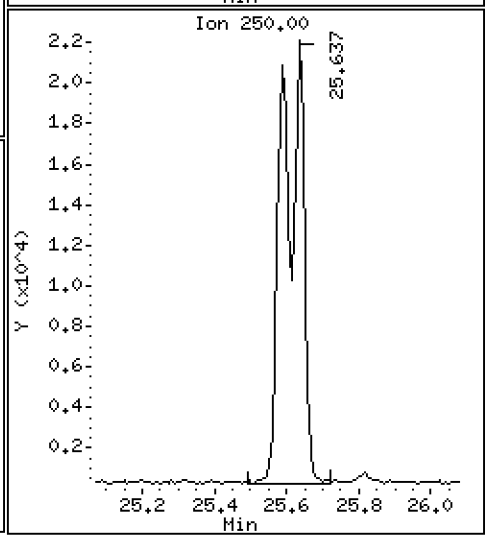












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D

Date : 20-AUG-2021 13:32

Client ID:

Instrument: nt10.i

Sample Info: BJH0139-MSD1

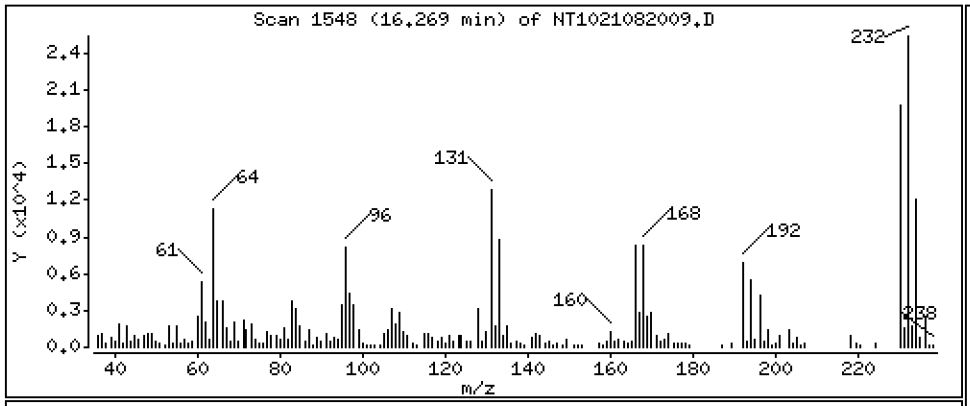
Operator: VTS

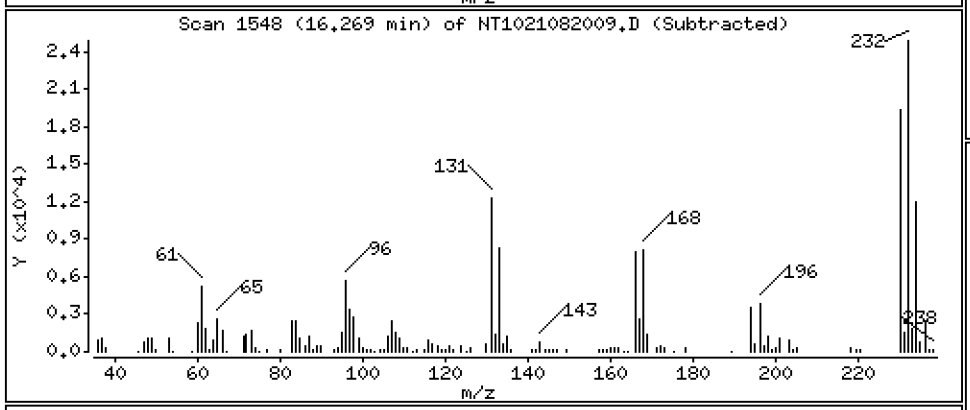
Column phase: ZB-5msi

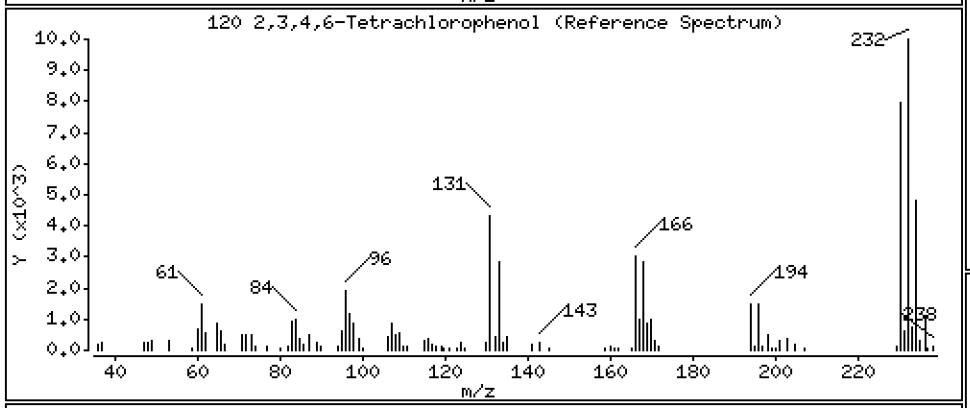
Column diameter: 0.25

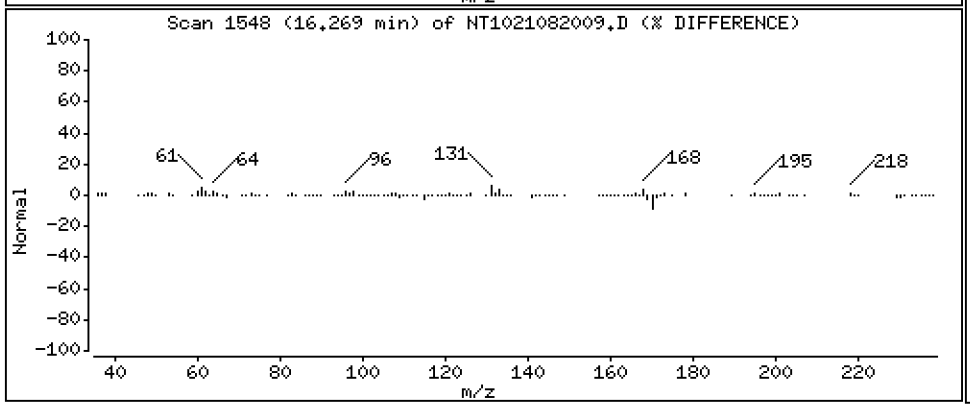
120 2,3,4,6-Tetrachlorophenol

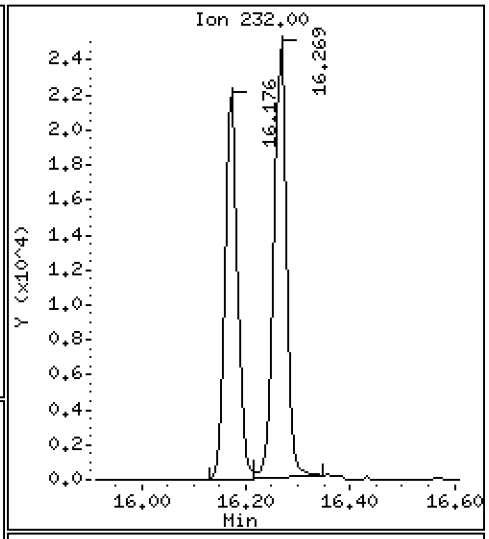
Concentration: 4.181 ug/mL

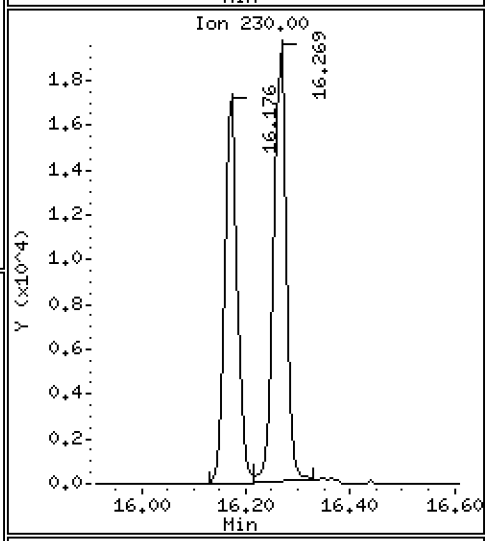


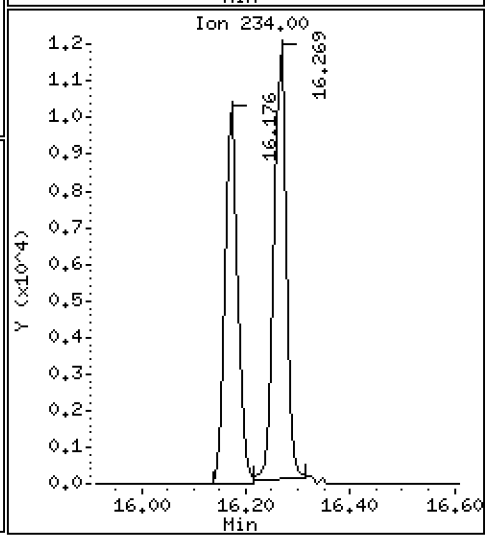












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D
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Inj Date : 20-AUG-2021 13:32
Operator : VTS Inst ID: nt10.i
Smp Info : BJH0139-MSD1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.200	7.184	(0.763)	121178	5.85077	5.851
$	2 Phenol-d5	99	8.776	8.760	(0.930)	185399	6.25435	6.254
	3 Phenol	94	8.791	8.784	(0.932)	109562	4.03824	4.038
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	136077	6.44420	6.444
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	99053	4.99003	4.990
	6 2-Chlorophenol	128	9.100	9.092	(0.965)	83978	3.73022	3.730
	7 1,3-Dichlorobenzene	146	9.371	9.363	(0.993)	86727	3.70495	3.705
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.425	(1.000)	61950	4.00000	
	9 1,4-Dichlorobenzene	146	9.464	9.456	(1.003)	78025	4.40275	4.403
$	10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	50001	3.48591	3.486
	12 1,2-Dichlorobenzene	146	9.821	9.813	(1.041)	78517	3.89311	3.893
	11 Benzyl alcohol	108	9.697	9.689	(1.028)	51007	4.08708	4.087
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	27175	4.54307	4.543
	13 2-Methylphenol	108	9.914	9.907	(1.051)	70807	4.12039	4.120
	17 Hexachloroethane	117	10.419	10.411	(1.104)	32650	4.25985	4.260
	16 N-Nitroso-di-n-propylamine	70	10.248	10.240	(1.086)	56835	4.71487	4.715
	15 4-Methylphenol	108	10.186	10.171	(1.080)	78393	4.27084	4.271
$	18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	99043	4.32851	4.329
	19 Nitrobenzene	77	10.559	10.559	(0.886)	94141	4.46244	4.462
	20 Isophorone	82	11.001	11.001	(0.923)	189746	5.81979	5.820
	21 2-Nitrophenol	139	11.194	11.186	(0.939)	48360	4.02518	4.025
	22 2,4-Dimethylphenol	107	11.228	11.220	(0.942)	231583	12.4910	12.49
	23 Bis(2-Chloroethoxy)methane	93	11.424	11.415	(0.958)	84745	4.40311	4.403
	24 Benzoic acid	105	11.390	11.424	(0.955)	96391	10.1570	10.16
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	227721	11.9850	11.99
	26 1,2,4-Trichlorobenzene	180	11.836	11.828	(0.993)	67036	3.64523	3.645
*	27 Naphthalene-d8	136	11.921	11.921	(1.000)	218536	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	228380	4.21244	4.212
	29 4-Chloroaniline	127	12.114	12.083	(1.016)	83110	3.16399	3.164(M)
	30 Hexachlorobutadiene	225	12.315	12.307	(1.033)	38183	3.77388	3.774
	31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	251352	13.1646	13.16
	32 2-Methylnaphthalene	142	13.352	13.352	(1.120)	204244	3.94766	3.948
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	44039	4.70525	4.705

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	175054	13.3923	13.39
	35 2,4,5-Trichlorophenol	196	14.056	14.048	(0.904)	186445	13.5774	13.58
$	36 2-Fluorobiphenyl	172	14.125	14.125	(0.909)	215938	4.19307	4.193
	37 2-Chloronaphthalene	162	14.350	14.350	(0.923)	176998	4.31727	4.317
	38 2-Nitroaniline	65	14.605	14.605	(0.940)	177999	14.6223	14.62
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	181331	4.28924	4.289
	40 Acenaphthylene	152	15.232	15.225	(0.980)	241080	3.77392	3.774
	41 2,6-Dinitrotoluene	165	15.170	15.170	(0.976)	130220	13.9476	13.95
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	128900	4.00000	
	43 3-Nitroaniline	138	15.464	15.457	(0.995)	69125	5.49878	5.499
	44 Acenaphthene	153	15.604	15.604	(1.004)	141283	4.18138	4.181
	45 2,4-Dinitrophenol	184	15.665	15.673	(1.008)	23720	4.79578	4.796
	46 Dibenzofuran	168	15.928	15.928	(1.025)	233626	3.89107	3.891
	47 4-Nitrophenol	109	15.781	15.766	(1.015)	68088	14.8533	14.85
	48 2,4-Dinitrotoluene	165	15.982	15.982	(1.028)	181041	13.8912	13.89
	50 Diethylphthalate	149	16.477	16.469	(1.060)	176710	4.63732	4.637
	49 Fluorene	166	16.647	16.639	(1.071)	251488	4.71943	4.719
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	106139	4.44989	4.450
	52 4-Nitroaniline	138	16.740	16.732	(1.077)	95525	7.30826	7.308
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.824	(0.905)	164232	20.0256	20.03
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	144280	4.85620	4.856
$	55 2,4,6-Tribromophenol	330	17.187	17.179	(1.106)	40255	8.11806	8.118
	56 4-Bromophenyl-phenylether	248	17.634	17.626	(0.949)	56592	4.75216	4.752
	57 Hexachlorobenzene	284	17.966	17.951	(0.967)	54006	4.78392	4.784
	58 Pentachlorophenol	266	18.315	18.307	(0.985)	65224	15.0433	15.04
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	198636	4.00000	
	60 Phenanthrene	178	18.640	18.632	(1.003)	234087	4.82692	4.827
	61 Anthracene	178	18.733	18.725	(1.008)	221161	4.24450	4.244
	62 Carbazole	167	19.050	19.050	(1.025)	224397	4.18152	4.182
	63 Di-n-butylphthalate	149	19.816	19.800	(1.066)	296797	4.47049	4.470
	64 Fluoranthene	202	21.023	20.999	(0.890)	266970	4.72576	4.726
	65 Pyrene	202	21.433	21.425	(0.908)	292811	5.05022	5.050
$	66 Terphenyl-d14	244	21.696	21.688	(0.919)	168203	4.61676	4.617
	67 Butylbenzylphthalate	149	22.602	22.594	(0.957)	106339	4.66016	4.660
	68 Benzo(a)anthracene	228	23.585	23.577	(0.999)	197165	4.37290	4.373
*	69 Chrysene-d12	240	23.616	23.608	(1.000)	129059	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.515	23.523	(0.996)	1053	0.05870	0.05870
	71 Chrysene	228	23.662	23.647	(1.002)	170492	4.76974	4.770
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.958)	167140	7.22990	7.230
*	134 Di-n-octylphthalate-d4	153	24.646	24.638	(1.000)	240211	4.00000	
	73 Di-n-octylphthalate	149	24.653	24.646	(1.000)	246689	4.65958	4.660
	74 Benzo(b)fluoranthene	252	25.590	25.575	(0.968)	192554	4.62416	4.624
	75 Benzo(k)fluoranthene	252	25.637	25.621	(0.970)	182062	4.46004	4.460
	76 Benzo(a)pyrene	252	26.318	26.295	(0.995)	160352	4.35920	4.359
*	77 Perylene-d12	264	26.442	26.426	(1.000)	113184	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.417	29.371	(1.113)	174726	4.59802	4.598
	79 Dibenzo(a,h)anthracene	278	29.433	29.394	(1.113)	130041	4.47298	4.473
	80 Benzo(g,h,i)perylene	276	30.303	30.264	(1.146)	156715	4.72242	4.722
	90 N-Nitrosodimethylamine	74	5.044	5.013	(0.535)	132229	9.91386	9.914
	91 Aniline	93	8.892	8.876	(0.943)	60211	1.94391	1.944
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	5.091	5.037	(0.540)	117190	2.78120	2.781
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	197384	3.95521	3.955
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.948	(1.090)	227573	5.17572	5.176

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.637	25.621	(0.970)	357655	9.00292	9.003
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	39631	4.18095	4.181

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082009.D Page 1
Report Date: 24-Aug-2021 11:25

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082009.D
Lab Smp Id: BJH0139-MSD1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	61950	-20.34
27 Naphthalene-d8	262289	131145	524578	218536	-16.68
42 Acenaphthene-d10	161630	80815	323260	128900	-20.25
59 Phenanthrene-d10	276890	138445	553780	198636	-28.26
69 Chrysene-d12	212964	106482	425928	129059	-39.40
134 Di-n-octylphthala	413838	206919	827676	240211	-41.96
77 Perylene-d12	196991	98496	393982	113184	-42.54

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.62	0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.65	0.03
77 Perylene-d12	26.43	25.93	26.93	26.44	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082009.D

Lab ID: BJH0139-MSD1
nt10.i, ABN.m, 20-AUG-2021 13:32

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.540	0.534	0.0053	Pyridine

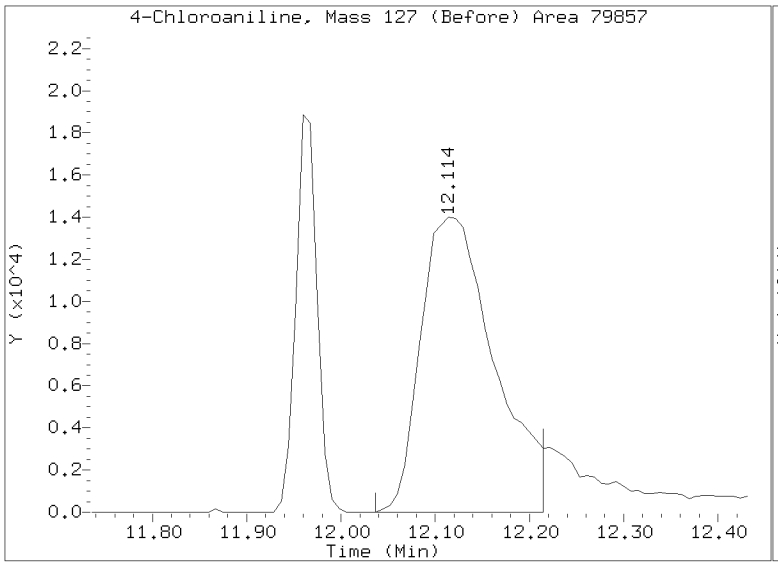
RRT check based on Ccal File: NT1021082002.D

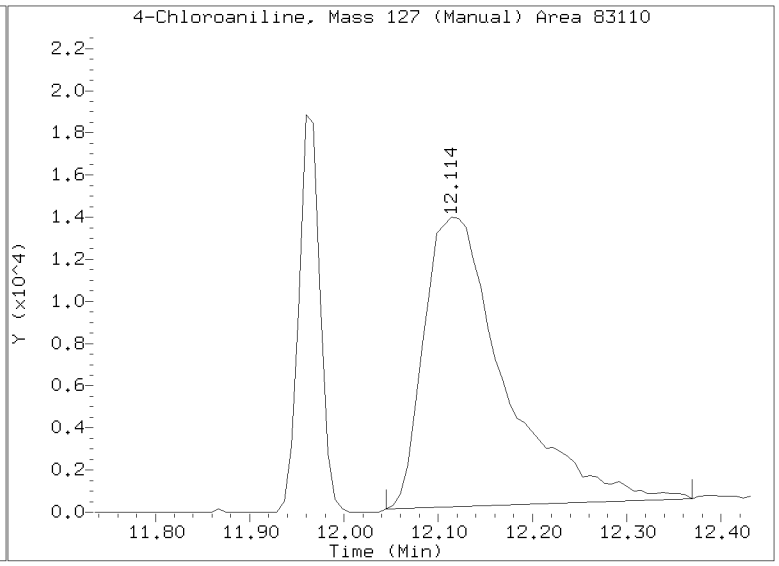
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082009.D
Injection Date: 20-AUG-2021 13:32
Lab ID:BJH0139-MSD1 Client ID:
Report Date: 08/24/2021 11:25





Analytical Resources, Incorporated
Analytical Chemists and Consultants

MASS SPECTROMETER
INSTRUMENT PERFORMANCE CHECK
EPA 8270E

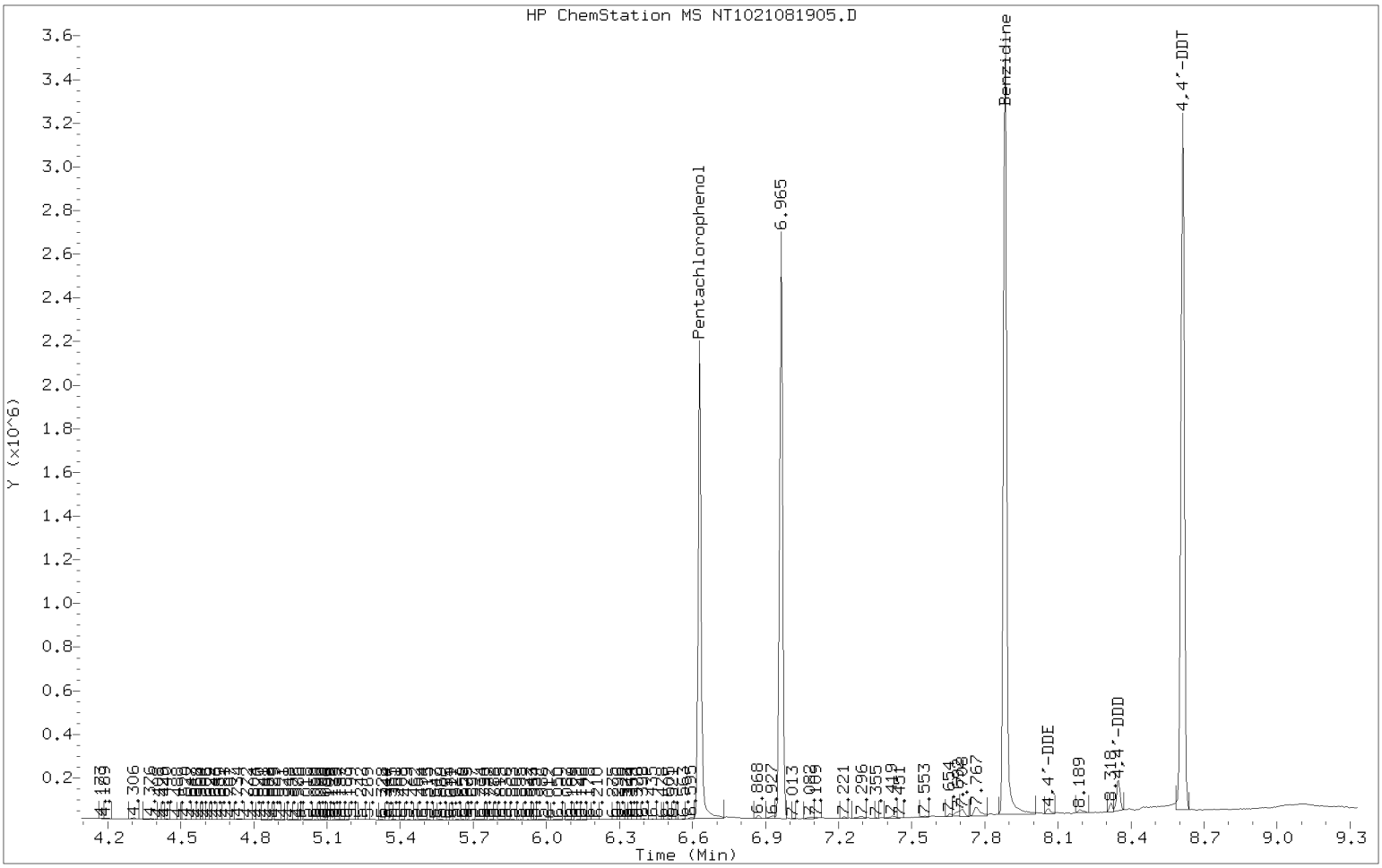
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Lab File ID:	NT1021081905.D	Injection Date:	08/19/21
Instrument ID:	NT10	Injection Time:	14:35
Sequence:	SJH0235	Lab Sample ID:	SJH0235-TUN1

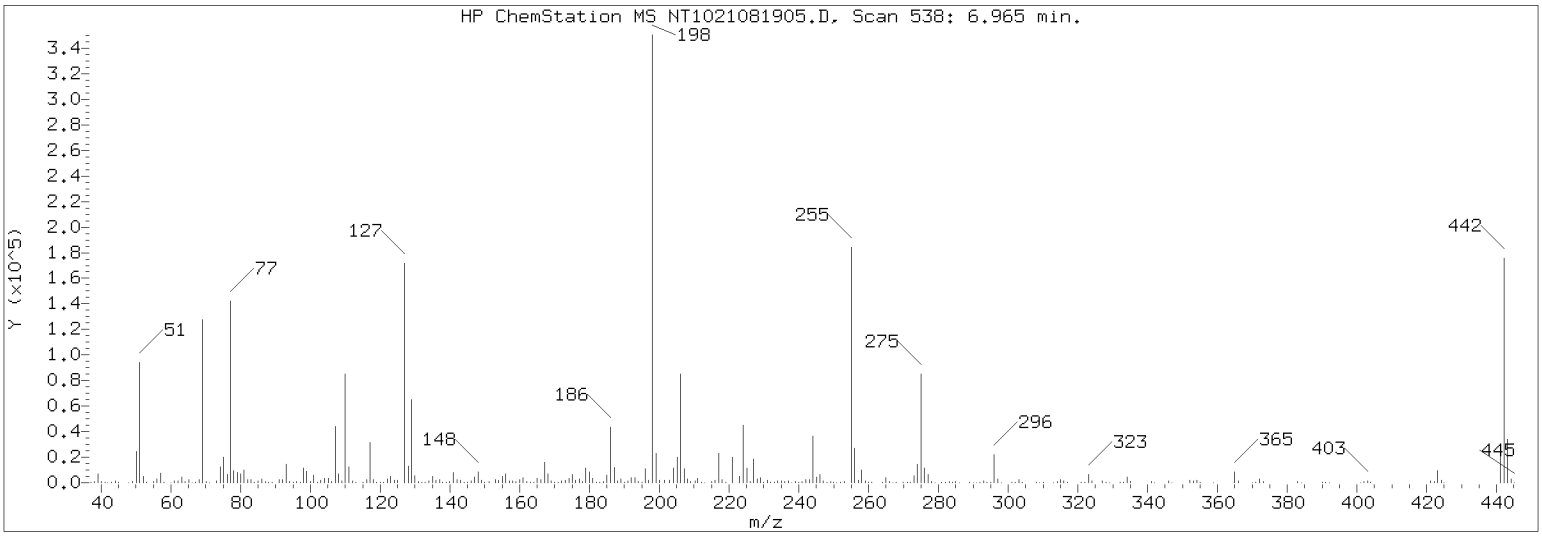
m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
68	Less than 2% of 69	1.73	PASS
69	Less than 100% of 198	37.2	PASS
70	Less than 2% of 69	0.469	PASS
197	Less than 2% of 198	0.372	PASS
198	Base peak, 100% relative abundance	100	PASS
199	5 - 9% of 198	6.67	PASS
365	1 - 100% of 198	2.48	PASS
441	Less than 150% of 443	77.6	PASS
442	1 - 200% of 198	53.3	PASS
443	15 - 24% of 442	19.1	PASS
4,4'-DDD	Less than 20% of 4,4'-DDT		
4,4'-DDE	Less than 20% of		
4,4'-DDT	Base peak, 100% relative abundance		

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
MS Tune	SJH0235-TUN1	NT1021081905.D	08/19/2021	14:35
Cal Standard	SJH0235-CAL5	NT1021081906.D	08/19/2021	14:58
Cal Standard	SJH0235-CAL7	NT1021081907.D	08/19/2021	15:36
Cal Standard	SJH0235-CAL1	NT1021081908.D	08/19/2021	16:15
Cal Standard	SJH0235-CAL6	NT1021081909.D	08/19/2021	16:53
Cal Standard	SJH0235-CAL2	NT1021081910.D	08/19/2021	17:31
Cal Standard	SJH0235-CAL4	NT1021081911.D	08/19/2021	18:09
Cal Standard	SJH0235-CAL3	NT1021081912.D	08/19/2021	18:48
Secondary Cal Check	SJH0235-SCV1	NT1021081915.D	08/19/2021	20:42
Initial Cal Blank	SJH0235-ICB1	NT1021081916.D	08/19/2021	21:20

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20210819.b/NT1021081905.D/NT1021081905.D
Method Used: \20210819.b\DFTPP8270E.m Inst: nt10
Injection Date: 19-AUG-2021 14:35 Operator: YZ/VTS
Sample Info: SJH0235-TUN1 SJH0235-TUN1
Report Date: 08/20/2021 12:56





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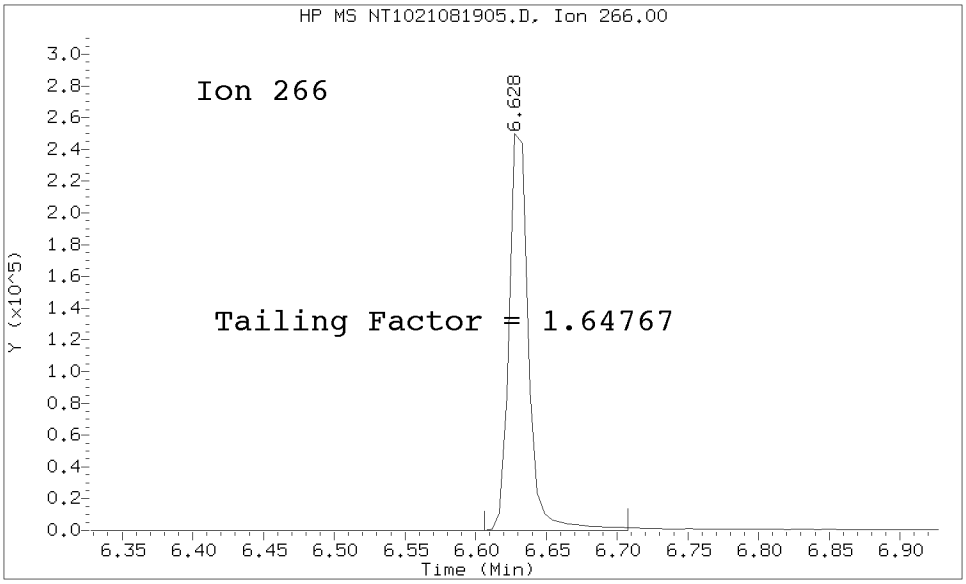
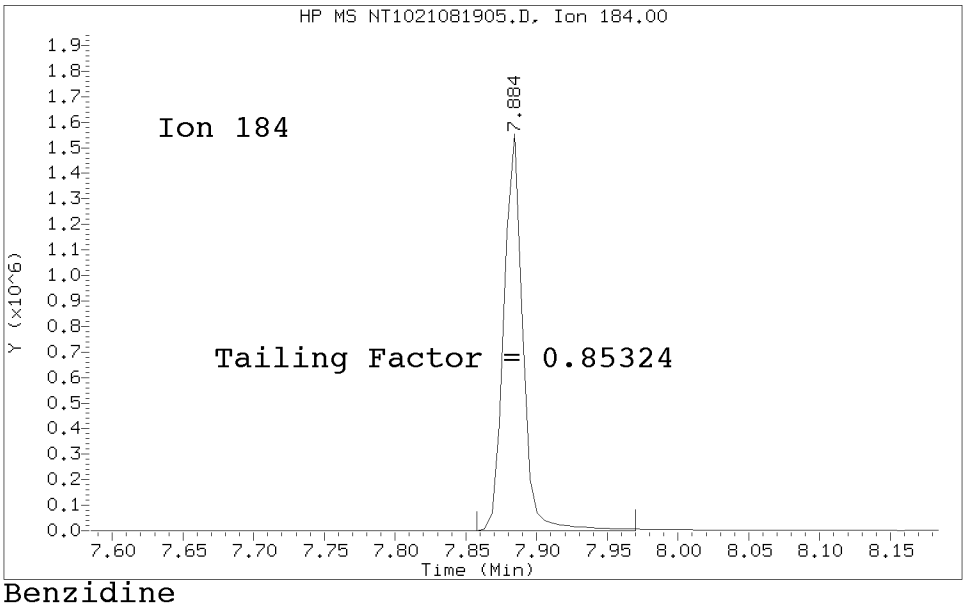
Method Used: \20210819.b\DFTPP8270E.m\sw846ddt.m Inst: nt10
Injection Date: 19-AUG-2021 14:35 Operator: YZ/VTS
Sample Info: SJH0235-TUN1
Report Date: 08/20/2021 12:56



Pentachlorophenol
==========
 Exp. RT = 6.627
Found RT = 6.628

Tail Factor = 1.648 Maximum Allowed = 2.0



Benzidine
==========
 Exp. RT = 7.890
Found RT = 7.884

Tail Factor = 0.853 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.6476684	2.000	PASS
Benzidine	0.8532423	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	650075			N/A
4,4-DDE	2478	0.4	20.0	PASS
4,4-DDD	27913	4.1	20.0	PASS
4,4-DDD + DDE	30391	4.5	20.0	PASS

Tuning Sample, nt10.i/20210819.b/NT1021081905.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.65 (1.73)
69	Mass 69 relative abundance	37.22
70	Less than 2.00% of mass 69	0.17 (0.47)
197	Less than 2.00% of mass 198	0.37
199	5.00 - 9.00% of mass 198	6.67
365	1.00 - 100.00% of mass 198	2.48
441	Less than 150.00% of mass 443	7.91 (77.63)
442	Less than 200.00% of mass 198	53.27
443	15.00 - 24.00% of mass 442	10.20 (19.14)

Data File: NT1021081905.D
Spectrum: Avg. Scans 537-539 (6.96), Background Scan 532
Location of Maximum: 198.00
Number of points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	344	122.00	2122	198.00	269696	281.00	34
38.00	956	123.00	3696	199.00	17992	282.00	196
39.00	5577	124.00	1568	200.00	1448	283.00	667
40.00	188	125.00	1551	201.00	1105	284.00	453
41.00	21	127.00	133056	203.00	1502	285.00	874
44.00	43	128.00	9989	204.00	9033	286.00	117
45.00	33	129.00	50272	205.00	15831	289.00	236
47.00	77	130.00	4225	206.00	65448	290.00	107
48.00	103	131.00	598	207.00	8326	291.00	71
49.00	478	132.00	488	208.00	2139	292.00	251
50.00	19736	133.00	15	209.00	588	293.00	1122
51.00	73632	134.00	1355	210.00	1108	294.00	262
52.00	3968	135.00	3719	211.00	2561	295.00	266
53.00	258	136.00	1656	212.00	209	296.00	16936
55.00	37	137.00	1759	213.00	188	297.00	2290
56.00	2234	138.00	426	215.00	402	298.00	109
57.00	5342	139.00	279	216.00	1174	301.00	246
58.00	356	140.00	569	217.00	18048	302.00	336
59.00	56	141.00	6109	218.00	2225	303.00	2049
60.00	176	142.00	2053	219.00	248	304.00	569
61.00	1045	143.00	1504	221.00	15202	308.00	244
62.00	1186	144.00	360	222.00	1640	309.00	121
63.00	3519	145.00	198	223.00	3894	310.00	252
64.00	430	146.00	1198	224.00	35336	313.00	134
65.00	1779	147.00	2947	225.00	8829	314.00	757
66.00	185	148.00	6817	226.00	916	315.00	1989
68.00	1740	149.00	1213	227.00	14281	316.00	985
69.00	100384	150.00	433	228.00	2085	317.00	212
70.00	471	151.00	843	229.00	3094	321.00	500
73.00	659	152.00	249	230.00	329	322.00	228
74.00	9672	153.00	1956	231.00	1440	323.00	5227
75.00	15416	154.00	1605	232.00	310	324.00	1074
76.00	5213	155.00	3571	233.00	300	327.00	991
77.00	111000	156.00	5362	234.00	1115	328.00	546
78.00	7473	157.00	1086	235.00	1106	329.00	60
79.00	6291	158.00	1135	236.00	764	332.00	380
80.00	5535	159.00	905	237.00	1292	333.00	496
81.00	7358	160.00	1962	238.00	241	334.00	3387
82.00	1843	161.00	2730	239.00	662	335.00	836
83.00	1896	162.00	662	240.00	486	336.00	51
84.00	62	163.00	365	241.00	902	341.00	644
85.00	1222	164.00	310	242.00	1876	342.00	197
86.00	2004	165.00	2382	243.00	2006	346.00	1086
87.00	1035	166.00	1883	244.00	28392	347.00	223
88.00	412	167.00	12081	245.00	3787	352.00	1543
89.00	260	168.00	5304	246.00	4993	353.00	1141
91.00	1352	169.00	1099	247.00	1150	354.00	1539
92.00	1713	170.00	455	248.00	234	355.00	336
93.00	11076	171.00	580	249.00	1013	359.00	60

94.00	694	172.00	1132	250.00	213	365.00	6691
95.00	10	173.00	1536	251.00	249	366.00	983
96.00	501	174.00	2618	252.00	278	370.00	80
97.00	108	175.00	4792	253.00	675	371.00	405
98.00	9069	176.00	1415	255.00	144064	372.00	2657
99.00	7146	177.00	2240	256.00	21368	373.00	614
100.00	668	178.00	758	257.00	1552	383.00	675
101.00	4613	179.00	8999	258.00	7812	384.00	132
102.00	196	180.00	6363	259.00	1284	390.00	327
103.00	1415	181.00	3049	260.00	247	391.00	253
104.00	2963	182.00	565	261.00	184	392.00	114
105.00	2261	183.00	337	264.00	220	401.00	141
106.00	652	184.00	886	265.00	3201	402.00	861
107.00	33688	185.00	4639	266.00	422	403.00	1334
108.00	5138	186.00	33880	267.00	108	404.00	405
109.00	986	187.00	9503	268.00	125	421.00	1076
110.00	64760	188.00	1019	270.00	244	422.00	994
111.00	9645	189.00	2062	271.00	289	423.00	7627
112.00	1273	190.00	317	272.00	407	424.00	1542
113.00	404	191.00	1085	273.00	4311	425.00	129
114.00	52	192.00	2829	274.00	11458	441.00	21344
115.00	106	193.00	3179	275.00	66816	442.00	143680
116.00	1902	194.00	648	276.00	8837	443.00	27496
117.00	24328	195.00	521	277.00	5117	444.00	2538
118.00	1877	196.00	8340	278.00	869	445.00	122
120.00	340	197.00	1004	279.00	61		

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
Phenol	0.2	1.638875	0.5	1.778501	1	1.821245	2.5	1.822355	5	1.816313	10	1.754332
bis(2-chloroethyl) ether	0.2	1.347472	0.5	1.410166	1	1.358596	2.5	1.284298	5	1.237712	10	1.1944
2-Chlorophenol	0.2	1.415826	0.5	1.495396	1	1.493287	2.5	1.425353	5	1.520523	10	1.441371
1,3-Dichlorobenzene	0.2	1.54318	0.5	1.602374	1	1.621442	2.5	1.547217	5	1.489809	10	1.426544
1,4-Dichlorobenzene	0.2	1.103556	0.5	1.183421	1	1.178684	2.5	1.182083	5	1.145897	10	1.134043
1,2-Dichlorobenzene	0.2	1.286133	0.5	1.361692	1	1.374712	2.5	1.331201	5	1.299198	10	1.259211
Benzyl Alcohol	0.2	0.6248988	0.5	0.6632335	1	0.8090362	2.5	0.8527447	5	0.920831	10	0.8873588
2,2'-Oxybis(1-chloropropane)	0.2	0.3831418	0.5	0.3135063	1	0.4240032	2.5	0.389361	5	0.3891466	10	0.4062283
2-Methylphenol	0.2	1.061285	0.5	1.104623	1	1.144261	2.5	1.12457	5	1.144839	10	1.113897
Hexachloroethane	0.2	0.4903495	0.5	0.4874127	1	0.4869643	2.5	0.4959996	5	0.5046863	10	0.5027831
N-Nitroso-di-n-Propylamine	0.2	0.7466767	0.5	0.8033694	1	0.8049362	2.5	0.8018961	5	0.7926496	10	0.7687589
4-Methylphenol	0.2	1.040958	0.5	1.199426	1	1.215462	2.5	1.213665	5	1.249131	10	1.219449
Nitrobenzene	0.2	0.3915227	0.5	0.3930143	1	0.3857849	2.5	0.3896712	5	0.3743154	10	0.3933162
Isophorone	0.2	0.4759093	0.5	0.5401303	1	0.552249	2.5	0.6600952	5	0.6124437	10	0.63729
2-Nitrophenol	0.2	0.1720294	0.5	0.1936405	1	0.2112905	2.5	0.2179004	5	0.2475049	10	0.2457927
2,4-Dimethylphenol			1	0.3539854	2	0.36434	5	0.3512318	10	0.3292755	20	0.3239117
Bis(2-Chloroethoxy)methane	0.2	0.3674044	0.5	0.3908995	1	0.3812702	2.5	0.3571166	5	0.3154854	10	0.3335888
2,4-Dichlorophenol			1	0.3318393	2	0.3502593	5	0.3522415	10	0.3689393	20	0.3548525
1,2,4-Trichlorobenzene	0.2	0.363817	0.5	0.3684362	1	0.3596095	2.5	0.3410534	5	0.3291029	10	0.3076867
Naphthalene	0.2	0.9175451	0.5	0.9751811	1	0.9909891	2.5	1.020441	5	0.9873921	10	1.033932
Benzoic acid			2	3.718433E-02	4	6.445784E-02	10	0.1047087	20	0.1830882	40	0.1848
4-Chloroaniline			1	0.407888	2	0.4187446	5	0.4925716	10	0.4821002	20	0.5391198
Hexachlorobutadiene	0.2	0.1750648	0.5	0.1876722	1	0.1982398	2.5	0.1958482	5	0.183977	10	0.1814075
4-Chloro-3-Methylphenol			1	0.2963233	2	0.3130439	5	0.3353914	10	0.3747152	20	0.387681
2-Methylnaphthalene	0.2	0.7890612	0.5	0.8759524	1	0.9235893	2.5	0.9585372	5	0.9949886	10	1.028664
Hexachlorocyclopentadiene			1	0.1133246	2	0.1583608	5	0.2239161	10	0.2881793	20	0.315376
2,4,6-Trichlorophenol			1	0.3520533	2	0.3600806	5	0.3907764	10	0.4595792	20	0.4404445
2,4,5-Trichlorophenol			1	0.3635847	2	0.3741254	5	0.4052588	10	0.4855536	20	0.4688358

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
2-Chloronaphthalene	0.2	1.189389	0.5	1.271217	1	1.240491	2.5	1.294047	5	1.342539	10	1.311197
2-Nitroaniline			1	0.3485208	2	0.3484753	5	0.3857669	10	0.3952657	20	0.4051861
Acenaphthylene	0.2	2.134405	0.5	2.130591	1	2.051025	2.5	2.034983	5	1.957588	10	1.856727
Dimethylphthalate	0.2	1.467825	0.5	1.466195	1	1.379673	2.5	1.342613	5	1.290536	10	1.179631
2,6-Dinitrotoluene			1	0.2955128	2	0.2930108	5	0.296983	10	0.30167	20	0.2869019
Acenaphthene	0.2	0.986207	0.5	1.025727	1	1.010365	2.5	1.064315	5	1.072858	10	1.102238
3-Nitroaniline			1	0.3390195	2	0.335686	5	0.4045085	10	0.4150265	20	0.4250925
2,4-Dinitrophenol			2	7.61317E-03	4	3.679604E-02	10	8.478582E-02	20	0.157956	40	0.169159
Dibenzofuran	0.2	1.783886	0.5	1.797683	1	1.800301	2.5	1.901024	5	1.96192	10	1.906413
4-Nitrophenol	0.4	5.361758E-02	1	8.500358E-02	2	9.525122E-02	5	0.1133469	10	0.1425177	20	0.1457004
2,4-Dinitrotoluene			1	0.3648637	2	0.3719615	5	0.4111324	10	0.4432861	20	0.4306717
Fluorene	0.2	1.766459	0.5	1.777503	1	1.725933	2.5	1.700883	5	1.634721	10	1.556904
4-Chlorophenylphenyl ether	0.2	0.7800541	0.5	0.7955458	1	0.7712777	2.5	0.7477259	5	0.7360612	10	0.6993629
Diethyl phthalate	0.2	1.279099	0.5	1.253432	1	1.202174	2.5	1.224675	5	1.171221	10	1.086504
4-Nitroaniline			1	0.3956615	2	0.38767	5	0.4051495	10	0.4268721	20	0.4228579
4,6-Dinitro-2-methylphenol	0.8	5.357806E-02	2	9.424886E-02	4	0.1227918	10	0.1438563	20	0.1681125	40	0.1667387
N-Nitrosodiphenylamine	0.2	0.6776761	0.5	0.688012	1	0.6412242	2.5	0.6105401	5	0.5680242	10	0.5192081
4-Bromophenyl phenyl ether	0.2	0.2349369	0.5	0.2502032	1	0.2406109	2.5	0.238504	5	0.2463424	10	0.2351805
Hexachlorobenzene	0.2	0.2450764	0.5	0.2596422	1	0.2435572	2.5	0.228788	5	0.2172873	10	0.2050154
Pentachlorophenol			1	2.706074E-02	2	3.961277E-02	5	5.343547E-02	10	9.409818E-02	20	8.833918E-02
Phenanthrene	0.2	0.9652693	0.5	0.9604039	1	0.9680957	2.5	0.9634894	5	1.001463	10	0.9801089
Anthracene	0.2	0.9950541	0.5	1.023964	1	1.040226	2.5	1.034566	5	1.109972	10	1.066799
Carbazole	0.2	1.022534	0.5	1.029341	1	1.029054	2.5	1.048808	5	1.147921	10	1.131171
Di-n-Butylphthalate	0.2	1.201877	0.5	1.222418	1	1.236763	2.5	1.337532	5	1.46634	10	1.423409
Fluoranthene	0.2	1.595778	0.5	1.692185	1	1.691925	2.5	1.71917	5	1.849784	10	1.881029
Pyrene	0.2	1.688661	0.5	1.763461	1	1.782669	2.5	1.785504	5	1.845963	10	1.894909
Butylbenzylphthalate	0.2	0.8545606	0.5	0.8021147	1	0.7271126	2.5	0.6817688	5	0.6817366	10	0.6343196
Benzo(a)anthracene	0.2	1.45145	0.5	1.462035	1	1.483652	2.5	1.430421	5	1.373574	10	1.328119

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
3,3'-Dichlorobenzidine	0.6	0.5206654	1.5	0.5337801	3	0.5386766	7.5	0.5499128	15	0.5696943	30	0.5855975
Chrysene	0.2	1.089416	0.5	1.110749	1	1.096369	2.5	1.102474	5	1.129654	10	1.137527
bis(2-Ethylhexyl)phthalate	0.2	0.4055111	0.5	0.3887167	1	0.3812053	2.5	0.3856965	5	0.3905401	10	0.3814212
Di-n-Octylphthalate	0.2	0.8944643	0.5	0.9001747	1	0.890219	2.5	0.8908634	5	0.8971881	10	0.8625497
Benzofluoranthenes, Total	0.4	1.431742	1	1.408585	2	1.412087	5	1.405557	10	1.434762	20	1.404413
Benzo(a)pyrene	0.2	1.282044	0.5	1.286836	1	1.29942	2.5	1.29677	5	1.335285	10	1.316988
Indeno(1,2,3-cd)pyrene	0.2	1.380889	0.5	1.3924	1	1.415734	2.5	1.373258	5	1.330118	10	1.281503
Dibenzo(a,h)anthracene	0.2	1.071926	0.5	1.088443	1	1.083798	2.5	1.047672	5	1.009423	10	0.9754453
Benzo(g,h,i)perylene	0.2	1.188022	0.5	1.181172	1	1.18051	2.5	1.197183	5	1.183885	10	1.166979
1-Methylnaphthalene	0.2	0.7810586	0.5	0.8432443	1	0.9060733	2.5	0.9101682	5	0.9568681	10	0.9940132
2-Fluorophenol	0.3	1.299684	0.75	1.384053	1.5	1.36731	3.75	1.457573	7.5	1.342319	15	1.285865
Phenol-d5	0.3	1.651647	0.75	1.851428	1.5	1.768757	3.75	1.993804	7.5	1.980801	15	2.040031
2-Chlorophenol-d4	0.3	1.341176	0.75	1.38875	1.5	1.309829	3.75	1.435471	7.5	1.392197	15	1.323769
1,2-Dichlorobenzene-d4	0.2	0.902092	0.5	0.9335503	1	0.9111298	2.5	0.9782289	5	0.9440965	10	0.8975231
Nitrobenzene-d5	0.2	0.4192836	0.5	0.433171	1	0.4028568	2.5	0.4404531	5	0.4061745	10	0.4147321
2-Fluorobiphenyl	0.2	1.591893	0.5	1.626295	1	1.533165	2.5	1.71509	5	1.625736	10	1.562951
2,4,6-Tribromophenol	0.3	0.1029114	0.75	0.1222709	1.5	0.1234904	3.75	0.1500782	7.5	0.1593851	15	0.1543324
p-Terphenyl-d14	0.2	1.243606	0.5	1.241714	1	1.132168	2.5	1.226183	5	1.088886	10	1.006632

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Phenol	20	1.63105										
bis(2-chloroethyl) ether	20	1.139188										
2-Chlorophenol	20	1.383564										
1,3-Dichlorobenzene	20	1.349502										
1,4-Dichlorobenzene	20	1.082199										
1,2-Dichlorobenzene	20	1.203419										
Benzyl Alcohol	20	0.8825996										
2,2'-Oxybis(1-chloropropane)	20	0.3981807										
2-Methylphenol	20	1.073544										
Hexachloroethane	20	0.4960264										
N-Nitroso-di-n-Propylamine	20	0.7300351										
4-Methylphenol	20	1.158141										
Nitrobenzene	20	0.3753451										
Isophorone	20	0.699229										
2-Nitrophenol	20	0.2511864										
2,4-Dimethylphenol	40	0.3133511										
Bis(2-Chloroethoxy)methane	20	0.3202143										
2,4-Dichlorophenol	40	0.3285314										
1,2,4-Trichlorobenzene	20	0.2865253										
Naphthalene	20	1.020907										
Benzoic acid	80	0.1949815										
4-Chloroaniline	40	0.5443149										
Hexachlorobutadiene	20	0.1741241										
4-Chloro-3-Methylphenol	40	0.389671										
2-Methylnaphthalene	20	1.05816										
Hexachlorocyclopentadiene	40	0.3294118										
2,4,6-Trichlorophenol	40	0.4308084										
2,4,5-Trichlorophenol	40	0.4594137										

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
2-Chloronaphthalene	20	1.256732										
2-Nitroaniline	40	0.3833148										
Acenaphthylene	20	1.710965										
Dimethylphthalate	20	1.056777										
2,6-Dinitrotoluene	40	0.2642654										
Acenaphthene	20	1.077944										
3-Nitroaniline	40	0.4212683										
2,4-Dinitrophenol	80	0.1808689										
Dibenzofuran	20	1.89118										
4-Nitrophenol	40	0.1436532										
2,4-Dinitrotoluene	40	0.4046626										
Fluorene	20	1.412908										
4-Chlorophenylphenyl ether	20	0.6511728										
Diethyl phthalate	20	1.060404										
4-Nitroaniline	40	0.3954563										
4,6-Dinitro-2-methylphenol	80	0.1644057										
N-Nitrosodiphenylamine	20	0.4833474										
4-Bromophenyl phenyl ether	20	0.2328862										
Hexachlorobenzene	20	0.1919563										
Pentachlorophenol	40	9.676396E-02										
Phenanthrene	20	0.9972546										
Anthracene	20	1.074262										
Carbazole	20	1.155712										
Di-n-Butylphthalate	20	1.470129										
Fluoranthene	20	1.826452										
Pyrene	20	1.817864										
Butylbenzylphthalate	20	0.5690242										
Benzo(a)anthracene	20	1.252811										

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
3,3'-Dichlorobenzidine	60	0.593557										
Chrysene	20	1.088763										
bis(2-Ethylhexyl)phthalate	20	0.3616282										
Di-n-Octylphthalate	20	0.8357172										
Benzofluoranthenes, Total	40	1.330602										
Benzo(a)pyrene	20	1.282632										
Indeno(1,2,3-cd)pyrene	20	1.226787										
Dibenzo(a,h)anthracene	20	0.9154087										
Benzo(g,h,i)perylene	20	1.111799										
1-Methylnaphthalene	20	1.002638										
2-Fluorophenol	30	1.224311										
Phenol-d5	30	2.111586										
2-Chlorophenol-d4	30	1.352852										
1,2-Dichlorobenzene-d4	20	0.916436										
Nitrobenzene-d5	20	0.4150332										
2-Fluorobiphenyl	20	1.53158										
2,4,6-Tribromophenol	30	0.1597897										
p-Terphenyl-d14	20	0.9651568										

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Phenol	1.75181	4.8			RSD (15)	
bis(2-chloroethyl) ether	1.28169	7.6			RSD (15)	
2-Chlorophenol	1.453617	3.4			RSD (15)	
1,3-Dichlorobenzene	1.511438	6.4			RSD (15)	
1,4-Dichlorobenzene	1.144269	3.5			RSD (15)	
1,2-Dichlorobenzene	1.302224	4.6			RSD (15)	
Benzyl Alcohol	0.8058147	14.4			RSD (15)	
2,2'-Oxybis(1-chloropropane)	0.386224	9.0			RSD (15)	
2-Methylphenol	1.109574	2.9			RSD (15)	
Hexachloroethane	0.4948888	1.4			RSD (15)	
N-Nitroso-di-n-Propylamine	0.7783317	3.9			RSD (15)	
4-Methylphenol	1.185176	5.8			RSD (15)	
Nitrobenzene	0.3861385	2.1			RSD (15)	
Isophorone	0.5967638	13.0			RSD (15)	
2-Nitrophenol	0.2199064	13.7			RSD (15)	
2,4-Dimethylphenol	0.3393492	5.9			RSD (15)	
Bis(2-Chloroethoxy)methane	0.3522827	8.4			RSD (15)	
2,4-Dichlorophenol	0.3477772	4.4			RSD (15)	
1,2,4-Trichlorobenzene	0.3366044	9.2			RSD (15)	
Naphthalene	0.9923411	4.0			RSD (15)	
Benzoic acid	0.1282034	53.6		0.9944	QCOD (0.99)	
4-Chloroaniline	0.4807898	12.0			RSD (15)	
Hexachlorobutadiene	0.1851905	5.1			RSD (15)	
4-Chloro-3-Methylphenol	0.349471	11.5			RSD (15)	
2-Methylnaphthalene	0.9469932	9.8			RSD (15)	
Hexachlorocyclopentadiene	0.2380948	37.1		0.9974	QCOD (0.99)	
2,4,6-Trichlorophenol	0.4056237	11.0			RSD (15)	
2,4,5-Trichlorophenol	0.4261287	12.2			RSD (15)	
2-Chloronaphthalene	1.27223	3.9			RSD (15)	
2-Nitroaniline	0.3777549	6.3			RSD (15)	
Acenaphthylene	1.982326	7.8			RSD (15)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Dimethylphthalate	1.311893	11.5			RSD (15)	
2,6-Dinitrotoluene	0.289724	4.6			RSD (15)	
Acenaphthene	1.048522	4.0			RSD (15)	
3-Nitroaniline	0.3901002	10.6			RSD (15)	
2,4-Dinitrophenol	0.1061965	69.5		0.9923	QCOD (0.99)	
Dibenzofuran	1.863201	3.7			RSD (15)	
4-Nitrophenol	0.1112987	31.7		0.9985	QCOD (0.99)	
2,4-Dinitrotoluene	0.4044297	7.7			RSD (15)	
Fluorene	1.653616	7.9			RSD (15)	
4-Chlorophenylphenyl ether	0.7401715	6.8			RSD (15)	
Diethyl phthalate	1.182501	7.0			RSD (15)	
4-Nitroaniline	0.4056112	3.9			RSD (15)	
4,6-Dinitro-2-methylphenol	0.1305331	33.3		0.9992	QCOD (0.99)	
N-Nitrosodiphenylamine	0.5982903	13.1			RSD (15)	
4-Bromophenyl phenyl ether	0.2398092	2.7			RSD (15)	
Hexachlorobenzene	0.2273318	10.6			RSD (15)	
Pentachlorophenol	6.655172E-02	45.6		0.9949	QCOD (0.99)	
Phenanthrene	0.9765836	1.7			RSD (15)	
Anthracene	1.049263	3.6			RSD (15)	
Carbazole	1.080649	5.7			RSD (15)	
Di-n-Butylphthalate	1.336924	8.8			RSD (15)	
Fluoranthene	1.750903	5.9			RSD (15)	
Pyrene	1.797004	3.6			RSD (15)	
Butylbenzylphthalate	0.7072339	13.8			RSD (15)	
Benzo(a)anthracene	1.397437	6.0			RSD (15)	
3,3'-Dichlorobenzidine	0.5559834	5.0			RSD (15)	
Chrysene	1.10785	1.7			RSD (15)	
bis(2-Ethylhexyl)phthalate	0.3849599	3.4			RSD (15)	
Di-n-Octylphthalate	0.8815966	2.7			RSD (15)	
Benzofluoranthenes, Total	1.403964	2.5			RSD (15)	
Benzo(a)pyrene	1.299996	1.5			RSD (15)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00053	Instrument:	NT10
Calibration Date:	08/19/2021	Column (1):	ZB-5MSi

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Indeno(1,2,3-cd)pyrene	1.342956	5.0			RSD (15)	
Dibenzo(a,h)anthracene	1.027445	6.3			RSD (15)	
Benzo(g,h,i)perylene	1.172793	2.4			RSD (15)	
1-Methylnaphthalene	0.9134377	8.8			RSD (15)	
2-Fluorophenol	1.337302	5.7			RSD (15)	
Phenol-d5	1.914008	8.5			RSD (15)	
2-Chlorophenol-d4	1.363435	3.2			RSD (15)	
1,2-Dichlorobenzene-d4	0.9261509	3.1			RSD (15)	
Nitrobenzene-d5	0.4188149	3.3			RSD (15)	
2-Fluorobiphenyl	1.598101	4.1			RSD (15)	
2,4,6-Tribromophenol	0.138894	16.2		0.9997	QCOD (0.99)	
p-Terphenyl-d14	1.129192	10.1			RSD (15)	

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Printed: 8/21/2021 1:53:28PM

ANALYSIS SEQUENCE

SJH0235

Instrument: NT10 Element Column ID: J008063
Calibration ID: EH00053 Tune File: 210819.U
EM Voltage: 1900

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0235-TUN1	MS Tune	QC		1	J006358	J002469	
SJH0235-CAL5	CAL 5	QC		2	J008834	J002469	
SJH0235-CAL7	CAL 20	QC		3	J008836	J002469	
SJH0235-CAL1	CAL 0.2	QC		4	J008828	J002469	
SJH0235-CAL6	CAL 10	QC		5	J008835	J002469	
SJH0235-CAL2	CAL 0.5	QC		6	J008831	J002469	
SJH0235-CAL4	CAL 2.5	QC		7	J008833	J002469	
SJH0235-CAL3	CAL 1.0	QC		8	J008832	J002469	
SJH0235-SCV1	SCV 5.0	QC		9	J008837	J002469	
SJH0235-ICB1	Initial Cal Blank	QC		10	J008838	J002469	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210819.b

	Time	Filename	LabID	ClientId	DF													
1	1435	NT1021081905.D	SJH0235-TUN1		1	|NO ISTDS FOUND||												
2	1458	NT1021081906.D	SJH0235-CAL5		1	| 9.43	97518	||11.92	336155	||15.53	204971	||18.59	357720	||23.61	291052	||26.43	273109	||24.64	588887|
3	1536	NT1021081907.D	SJH0235-CAL7		1	| 9.43	63872	||11.92	216866	||15.54	139621	||18.59	235813	||23.61	196773	||26.43	184324	||24.64	422665|
4	1615	NT1021081908.D	SJH0235-CAL1		1	| 9.43	111186	||11.91	362380	||15.53	201986	||18.58	347157	||23.60	271742	||26.42	244625	||24.63	492317|
5	1653	NT1021081909.D	SJH0235-CAL6		1	| 9.43	76425	||11.92	258836	||15.53	161817	||18.58	285323	||23.61	226646	||26.43	209239	||24.64	476779|
6	1731	NT1021081910.D	SJH0235-CAL2		1	| 9.43	104470	||11.91	340466	||15.53	197027	||18.58	340715	||23.60	268590	||26.42	241218	||24.63	484857|
7	1809	NT1021081911.D	SJH0235-CAL4		1	| 9.43	83542	||11.92	276508	||15.53	168481	||18.58	296582	||23.60	238624	||26.43	221651	||24.64	448647|
8	1848	NT1021081912.D	SJH0235-CAL3		1	| 9.43	98537	||11.91	324274	||15.53	195945	||18.58	332620	||23.60	268052	||26.42	243444	||24.63	490203|
9	1926	NT1021081913.D	SIM-CAL2		1	| 9.43	107402	||11.91	343652	||15.53	193479	||18.58	331995	||23.60	258848	||26.42	232116	||24.63	437388|
10	2004	NT1021081914.D	SIM-CAL1		1	| 9.43	109982	||11.91	354966	||15.53	194314	||18.58	339087	||23.60	264409	||26.42	237449	||24.64	452795|
11	2042	NT1021081915.D	SJH0235-SCV1		1	| 9.43	86567	||11.92	286011	||15.54	175555	||18.59	315282	||23.61	260128	||26.43	235857	||24.64	500551|
12	2120	NT1021081916.D	SJH0235-ICB1		1	| 9.43	96156	||11.92	334081	||15.53	189445	||18.58	329398	||23.60	256298	||26.42	233002	||24.63	434712|

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210819.b

Instrument: nt10.i Date: 19-AUG-2021

Time	Filename	LabID	DF	Manually Integrated Compounds
1435	NT1021081905.D	SJH0235-TUN1	1	NO MANUAL INTEGRATION
1458	NT1021081906.D	SJH0235-CAL5	1	2,2'-oxybis(1-Chloropropane),
1536	NT1021081907.D	SJH0235-CAL7	1	2,2'-oxybis(1-Chloropropane),
1615	NT1021081908.D	SJH0235-CAL1	1	Benzoic acid, 4-Nitrophenol, Pentachlorophenol, Benzo(g,h,i)perylene,
1653	NT1021081909.D	SJH0235-CAL6	1	2,2'-oxybis(1-Chloropropane),
1731	NT1021081910.D	SJH0235-CAL2	1	2,4-Dinitrophenol, 4-Nitrophenol,
1809	NT1021081911.D	SJH0235-CAL4	1	2,2'-oxybis(1-Chloropropane),
1848	NT1021081912.D	SJH0235-CAL3	1	2,2'-oxybis(1-Chloropropane), 4-Nitrophenol,
1926	NT1021081913.D	SIM-CAL2	1	NO MANUAL INTEGRATION
2004	NT1021081914.D	SIM-CAL1	1	NO MANUAL INTEGRATION
2042	NT1021081915.D	SJH0235-SCV1	1	NO MANUAL INTEGRATION
2120	NT1021081916.D	SJH0235-ICB1	1	NO MANUAL INTEGRATION

Security Status Report

Date: 21-Aug-2021 13:54

NT1021081905.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081906.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081907.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081908.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081909.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081910.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081911.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081912.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081913.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081914.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081915.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081916.D	Data Locked	van, 21-Aug-2021 13:54

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-AUG-2021 14:58
End Cal Date : 19-AUG-2021 18:48
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Calibration File Names:
Level 1: \\target\share\chem3\nt10.i\20210819.b\NT1021081908.D
Level 2: \\target\share\chem3\nt10.i\20210819.b\NT1021081910.D
Level 3: \\target\share\chem3\nt10.i\20210819.b\NT1021081912.D
Level 4: \\target\share\chem3\nt10.i\20210819.b\NT1021081911.D
Level 5: \\target\share\chem3\nt10.i\20210819.b\NT1021081906.D
Level 6: \\target\share\chem3\nt10.i\20210819.b\NT1021081909.D
Level 7: \\target\share\chem3\nt10.i\20210819.b\NT1021081907.D

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
186 Carbaryl	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
179 n-Decane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
180 n-Octadecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
169 4-tert-Butylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-AUG-2021 14:58
End Cal Date : 19-AUG-2021 18:48
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	20.0000 Level 7											
170 N,N-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
171 2,3-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
172 2,4-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
173 2,5-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
174 2,6-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
175 3,4-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
176 3,5-Dimethylaniline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-AUG-2021 14:58
End Cal Date : 19-AUG-2021 18:48
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	20.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2	
177 p-Benzoquinone	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-
168 Pentachlorobenzene	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-
145 4,4'-DDE	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-
146 4,4'-DDD	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-
147 4,4'-DDT	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-
148 Dieldrin	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-
149 TCMX	#####	#####	#####	#####	#####	#####	#####						
								AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-AUG-2021 14:58
End Cal Date : 19-AUG-2021 18:48
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
150 DCBP	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-
138 Chlorobenzilate	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-
139 Isodrin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-
140 Diallate A	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-
141 Diallate B	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-
142 1,2-Dibromo-3-Chloropropane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-
135 2,3,5,6-Tetrachlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++						
							AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-AUG-2021 14:58
End Cal Date : 19-AUG-2021 18:48
Quant Method : ISTD
Origin : Force
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Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
136 2,3,4,5-tetrachlorophenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
133 Butylatedhydroxytoluene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
132 3,6-Dimethylphenanthrene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
131 1-Methylphenanthrene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
130 Dibenzothiophene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
129 1-Methylfluorene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
128 N-Hexadecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
127 2-Isopropylnaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
126 N-Tetradecane	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
144 alpha-Terpineol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
125 Safrole	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
124 3,4-Dimethylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
123 Acetophenone	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
122 Furfuraldehyde	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
143 1,4-Dioxane	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
121 Quinoline	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
120 2,3,4,6-Tetrachlorophenol	1379	4597	10281	25888	78931	121195						
	214471						QUAD	0.000e+000	3.43648	-0.11982	0.99935	
178 2-Benzyl-4-Chlorophenol	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
119 7,12-Dimethylbenz(a)anthracen	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
118 Triphenyl Phosphate	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-
117 Butyl Diphenyl Phosphate	#####	#####	#####	#####	#####	#####						
	#####						AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
116 Dibutyl Phenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
115 Tributyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
114 Beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
113 Diphenyl Oxide	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
112 Biphenyl	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
111 Azobenzene (1,2-DP-Hydrazine)	1.51852	1.45003	1.41801	1.37158	1.30602	1.29440						
	1.19257						AVRG		1.36445		8.01984	
110 Tetrachloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
109 3,4,5-Trichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
181 3,4,6-Trichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
108 4,5,6-Trichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
184 3,4-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
107 4,5-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
182 4,6-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
185 4-Chloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
106 Guaiacol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
105 1-methylnaphthalene	0.78106	0.84324	0.90607	0.91017	0.95687	0.99401						
	1.00264						AVRG		0.91344		8.80948	
151 1,2,4,5-Tetrachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
152 Benzo(e)pyrene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
153 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
154 Diazinon	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
155 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
156 Methyl Parathion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
157 Ethyl Parathion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
158 Ethion	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
159 4-Nonylphenol	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
160 Tetraethyl Tin	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
161 1,2,3-Trichloronaphthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-
162 1,2,3,4-Tetrachloronapthalene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	AVRG		0.000e+000		0.000e+000	<-

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
163 1,2,3,5,8-Pentachloronaphthal	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
164 1,2,3,4,6,7-Hexachloronaphtha	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
165 1,2,3,4,5,6,7-Heptachloronaph	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
166 Octachloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
167 2,2',4,4',5-Pentabromobipheny	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
3 Phenol	1.63888	1.77850	1.82124	1.82236	1.81631	1.75433						
	1.63105						AVRG		1.75181		4.77680	
4 Bis(2-Chloroethyl)ether	1.34747	1.41017	1.35860	1.28430	1.23771	1.19440						
	1.13919						AVRG		1.28169		7.57893	

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Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	20.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
6 2-Chlorophenol	1.41583	1.49540	1.49329	1.42535	1.52052	1.44137	1.38356	AVRG		1.45362		3.44886
7 1,3-Dichlorobenzene	1.54318	1.60237	1.62144	1.54722	1.48981	1.42654	1.34950	AVRG		1.51144		6.42352
9 1,4-Dichlorobenzene	1.10356	1.18342	1.17868	1.18208	1.14590	1.13404	1.08220	AVRG		1.14427		3.52554
11 Benzyl alcohol	0.62490	0.66323	0.80904	0.85274	0.92083	0.88736	0.88260	AVRG		0.80581		14.42306
12 1,2-Dichlorobenzene	1.28613	1.36169	1.37471	1.33120	1.29920	1.25921	1.20342	AVRG		1.30222		4.59802
13 2-Methylphenol	1.06128	1.10462	1.14426	1.12457	1.14484	1.11390	1.07354	AVRG		1.10957		2.93075
14 2,2'-oxybis(1-Chloropropane)	0.38314	0.31351	0.42400	0.38936	0.38915	0.40623	0.39818	AVRG		0.38622		9.02265

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Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
15 4-Methylphenol	1.04096	1.19943	1.21546	1.21366	1.24913	1.21945					
	1.15814						AVRG		1.18518		5.83825
16 N-Nitroso-di-n-propylamine	0.74668	0.80337	0.80494	0.80190	0.79265	0.76876					
	0.73004						AVRG		0.77833		3.89741
17 Hexachloroethane	0.49035	0.48741	0.48696	0.49600	0.50469	0.50278					
	0.49603						AVRG		0.49489		1.42914
19 Nitrobenzene	0.39152	0.39301	0.38578	0.38967	0.37432	0.39332					
	0.37535						AVRG		0.38614		2.10570
20 Isophorone	0.47591	0.54013	0.55225	0.66010	0.61244	0.63729					
	0.69923						AVRG		0.59676		13.01469
21 2-Nitrophenol	0.17203	0.19364	0.21129	0.21790	0.24750	0.24579					
	0.25119						AVRG		0.21991		13.73104
22 2,4-Dimethylphenol	+++++	0.35399	0.36434	0.35123	0.32928	0.32391					
	0.31335						AVRG		0.33935		5.88723

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
23 Bis(2-Chloroethoxy)methane	0.36740	0.39090	0.38127	0.35712	0.31549	0.33359					
	0.32021						AVRG		0.35228		8.44895
24 Benzoic acid	+++++	6330	20902	72382	307730	478329					
	845697						QUAD	0.000e+000	5.83842	-0.18473	0.99740
25 2,4-Dichlorophenol	+++++	0.33184	0.35026	0.35224	0.36894	0.35485					
	0.32853						AVRG		0.34778		4.35774
26 1,2,4-Trichlorobenzene	0.36382	0.36844	0.35961	0.34105	0.32910	0.30769					
	0.28653						AVRG		0.33660		9.15936
28 Naphthalene	0.91755	0.97518	0.99099	1.02044	0.98739	1.03393					
	1.02091						AVRG		0.99234		3.95684
29 4-Chloroaniline	+++++	0.40789	0.41874	0.49257	0.48210	0.53912					
	0.54431						AVRG		0.48079		12.03570
30 Hexachlorobutadiene	0.17506	0.18767	0.19824	0.19585	0.18398	0.18141					
	0.17412						AVRG		0.18519		5.07895

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
31 4-Chloro-3-methylphenol	+++++	0.29632	0.31304	0.33539	0.37472	0.38768					
	0.38967						AVRG		0.34947		11.49097
32 2-Methylnaphthalene	0.78906	0.87595	0.92359	0.95854	0.99499	1.02866					
	1.05816						AVRG		0.94699		9.83078
33 Hexachlorocyclopentadiene	+++++	5582	15515	47157	147671	255166					
	459928						QUAD	0.000e+000	3.49121	-0.14108	0.99892
34 2,4,6-Trichlorophenol	+++++	0.35205	0.36008	0.39078	0.45958	0.44044					
	0.43081						AVRG		0.40562		10.98244
35 2,4,5-Trichlorophenol	+++++	0.36358	0.37413	0.40526	0.48555	0.46884					
	0.45941						AVRG		0.42613		12.20052
37 2-Chloronaphthalene	1.18939	1.27122	1.24049	1.29405	1.34254	1.31120					
	1.25673						AVRG		1.27223		3.93652
38 2-Nitroaniline	+++++	0.34852	0.34848	0.38577	0.39527	0.40519					
	0.38331						AVRG		0.37775		6.33801

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Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
	20.0000 Level 7											
39 Dimethylphthalate	1.46782	1.46619	1.37967	1.34261	1.29054	1.17963						
	1.05678						AVRG		1.31189		11.50543	
40 Acenaphthylene	2.13441	2.13059	2.05102	2.03498	1.95759	1.85673						
	1.71096						AVRG		1.98233		7.77768	
41 2,6-Dinitrotoluene	+++++	0.29551	0.29301	0.29698	0.30167	0.28690						
	0.26427						AVRG		0.28972		4.61998	
43 3-Nitroaniline	+++++	0.33902	0.33569	0.40451	0.41503	0.42509						
	0.42127						AVRG		0.39010		10.62823	
44 Acenaphthene	0.98621	1.02573	1.01037	1.06431	1.07286	1.10224						
	1.07794						AVRG		1.04852		3.98046	
45 2,4-Dinitrophenol	+++++	750	7210	35712	161882	273728						
	505062						QUAD	0.000e+000	6.56906	-0.29190	0.99706	<-
46 Dibenzofuran	1.78389	1.79768	1.80030	1.90102	1.96192	1.90641						
	1.89118						AVRG		1.86320		3.69032	

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 19-AUG-2021 14:58
End Cal Date : 19-AUG-2021 18:48
Quant Method : ISTD
Origin : Force
Target Version : 4.14
Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	20.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2
47 4-Nitrophenol	+++++	4187	9332	23871	73030	117884	200570	QUAD	0.000e+000	7.08010	-0.09518	0.99919
48 2,4-Dinitrotoluene	+++++	0.36486	0.37196	0.41113	0.44329	0.43067	0.40466	AVRG		0.40443		7.71131
49 Fluorene	1.76646	1.77750	1.72593	1.70088	1.63472	1.55690	1.41291	AVRG		1.65362		7.93087
50 Diethylphthalate	1.27910	1.25343	1.20217	1.22467	1.17122	1.08650	1.06040	AVRG		1.18250		6.97169
51 4-Chlorophenyl-phenylether	0.78005	0.79555	0.77128	0.74773	0.73606	0.69936	0.65117	AVRG		0.74017		6.81897
52 4-Nitroaniline	+++++	0.39566	0.38767	0.40515	0.42687	0.42286	0.39546	AVRG		0.40561		3.93493
53 4,6-Dinitro-2-methylphenol	+++++	16056	40843	106663	300686	475744	775380	QUAD	0.000e+000	6.04895	0.00752	0.99959

ARI Labs, Inc.

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Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
54 N-Nitrosodiphenylamine	0.67768	0.68801	0.64122	0.61054	0.56802	0.51921					
	0.48335						AVRG		0.59829		13.07698
56 4-Bromophenyl-phenylether	0.23494	0.25020	0.24061	0.23850	0.24634	0.23518					
	0.23289						AVRG		0.23981		2.67094
57 Hexachlorobenzene	0.24508	0.25964	0.24356	0.22879	0.21729	0.20502					
	0.19196						AVRG		0.22733		10.58556
58 Pentachlorophenol	+++++	2305	6588	19810	84152	126026					
	228182						QUAD	0.000e+000	12.03101	-1.75910	0.99689
60 Phenanthrene	0.96527	0.96040	0.96810	0.96349	1.00146	0.98011					
	0.99725						AVRG		0.97658		1.71954
61 Anthracene	0.99505	1.02396	1.04023	1.03457	1.10997	1.06680					
	1.07426						AVRG		1.04926		3.58596
62 Carbazole	1.02253	1.02934	1.02905	1.04881	1.14792	1.13117					
	1.15571						AVRG		1.08065		5.65388

ARI Labs, Inc.

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Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
63 Di-n-butylphthalate	1.20188	1.22242	1.23676	1.33753	1.46634	1.42341					
	1.47013						AVRG		1.33692		8.81618
64 Fluoranthene	1.59578	1.69219	1.69193	1.71917	1.84978	1.88103					
	1.82645						AVRG		1.75090		5.91771
65 Pyrene	1.68866	1.76346	1.78267	1.78550	1.84596	1.89491					
	1.81786						AVRG		1.79700		3.63625
67 Butylbenzylphthalate	0.85456	0.80211	0.72711	0.68177	0.68174	0.63432					
	0.56902						AVRG		0.70723		13.75976
68 Benzo(a)anthracene	1.45145	1.46204	1.48365	1.43042	1.37357	1.32812					
	1.25281						AVRG		1.39744		5.98015
70 3,3'-Dichlorobenzidine	0.52067	0.53378	0.53868	0.54991	0.56969	0.58560					
	0.59356						AVRG		0.55598		4.95490
71 Chrysene	1.08942	1.11075	1.09637	1.10247	1.12965	1.13753					
	1.08876						AVRG		1.10785		1.73994

ARI Labs, Inc.

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Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
	20.0000 Level 7										
72 bis(2-Ethylhexyl)phthalate	0.40551	0.38872	0.38121	0.38570	0.39054	0.38142					
	0.36163						AVRG		0.38496		3.41857
73 Di-n-octylphthalate	0.89446	0.90017	0.89022	0.89086	0.89719	0.86255					
	0.83572						AVRG		0.88160		2.69293
74 Benzo(b)fluoranthene	1.47131	1.49471	1.49976	1.45688	1.44390	1.48165					
	1.45308						AVRG		1.47162		1.45617
75 Benzo(k)fluoranthene	1.42160	1.41054	1.45256	1.48152	1.56572	1.44185					
	1.32464						AVRG		1.44263		5.07449
187 Total Benzofluoranthenes	1.43174	1.40858	1.41209	1.40556	1.43476	1.40441					
	1.33060						AVRG		1.40396		2.46603
76 Benzo(a)pyrene	1.28204	1.28684	1.29942	1.29677	1.33529	1.31699					
	1.28263						AVRG		1.30000		1.51969
78 Indeno(1,2,3-cd)pyrene	1.38089	1.39240	1.41573	1.37326	1.33012	1.28150					
	1.22679						AVRG		1.34296		5.04437

ARI Labs, Inc.

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Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
79 Dibenzo(a,h)anthracene	1.07193	1.08844	1.08380	1.04767	1.00942	0.97545					
	0.91541						AVRG		1.02745		6.26556
80 Benzo(g,h,i)perylene	1.18802	1.18117	1.18051	1.19718	1.18388	1.16698					
	1.11180						AVRG		1.17279		2.42015
90 N-Nitrosodimethylamine	0.77501	0.85058	0.91174	0.92182	0.89356	0.88142					
	0.79425						AVRG		0.86120		6.65501
91 Aniline	+++++	2.12394	2.13408	2.05249	1.96094	1.89004					
	1.83819						AVRG		1.99995		6.16022
92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-
93 Benzidine	+++++	0.72871	0.72792	0.75960	0.65820	0.72439					
	0.94813						AVRG		0.75782		13.06382
96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-

ARI Labs, Inc.

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Integrator : HP RTE
Method file : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
97 Caffeine	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
98 Retene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
99 Perylene	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
100 3-beta-Coprostanol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
101 Cholesterol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
102 beta-Sitosterol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
103 Pyridine	2.52298	2.79299	2.89443	2.83115	2.68914	2.59340						
	+++++						AVRG		2.72068		5.29842	

ARI Labs, Inc.

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Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2	
188 2,6-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
189 N-Nitrosomethylethylamine	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
$ 1 2-Fluorophenol	1.29968	1.38405	1.36731	1.45757	1.34232	1.28587						
	1.22431						AVRG		1.33730		5.66239	
$ 137 d8-1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++						
	+++++						AVRG		0.000e+000		0.000e+000	<-
$ 2 Phenol-d5	1.65165	1.85143	1.76876	1.99380	1.98080	2.04003						
	2.11159						AVRG		1.91401		8.52099	
$ 5 2-Chlorophenol-d4	1.34118	1.38875	1.30983	1.43547	1.39220	1.32377						
	1.35285						AVRG		1.36343		3.24041	
$ 10 1,2-Dichlorobenzene-d4	0.90209	0.93355	0.91113	0.97823	0.94410	0.89752						
	0.91644						AVRG		0.92615		3.05628	

ARI Labs, Inc.

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Last Edit : 20-Aug-2021 09:50 van

Compound	0.2000000 Level 1 / 20.0000 Level 7	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	Curve	Coefficients b	m1	m2	%RSD or R^2
$ 18 Nitrobenzene-d5	0.41928	0.43317	0.40286	0.44045	0.40617	0.41473					
	0.41503						AVRG		0.41881		3.26211
$ 36 2-Fluorobiphenyl	1.59189	1.62629	1.53316	1.71509	1.62574	1.56295					
	1.53158						AVRG		1.59810		4.05211
$ 55 2,4,6-Tribromophenol	1559	4517	9074	23705	61255	93651					
	167325						QUAD	0.000e+000	6.58249	-0.26837	0.99977
$ 66 Terphenyl-d14	1.24361	1.24171	1.13217	1.22618	1.08889	1.00663					
	0.96516						AVRG		1.12919		10.14382
$ 85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-
$ 86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-
$ 87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++					
	+++++						AVRG		0.000e+000		0.000e+000 <-

ARI Labs, Inc.

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Compound	0.2000000 Level 1	0.5000000 Level 2	1.0000 Level 3	2.5000 Level 4	5.0000 Level 5	10.0000 Level 6	20.0000 Level 7	Curve	Coefficients b	m1	m2	%RSD or R^2	
$ 88 Dibenz(a,h)anthracene-d14	#####	#####	#####	#####	#####	#####	#####	AVRG		0.000e+000		0.000e+000	<-
$ 89 Diphenyl-d10	#####	#####	#####	#####	#####	#####	#####	AVRG		0.000e+000		0.000e+000	<-
$ 95 D10-1-methylnaphthalene	#####	#####	#####	#####	#####	#####	#####	AVRG		0.000e+000		0.000e+000	<-

ARI Labs, Inc.

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Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20210819.b
Inst ID: nt10.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06	RT07
FILENAME:	NT1021081906	NT1021081907	NT1021081908	NT1021081909	NT1021081910	NT1021081911	NT1021081912
INJ.DATE:	19-AUG-2021	19-AUG-2021	19-AUG-2021	19-AUG-2021	19-AUG-2021	19-AUG-2021	19-AUG-2021
INJ.TIME:	14:58	15:36	16:15	16:53	17:31	18:09	18:48

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
$ 1 2-Fluorophenol	7.200	7.192	7.192	7.185	7.192	7.185	7.185	7.185	4.185-10.185	7.190	0.006
186 Carbaryl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.785	15.785-21.785	+++++	+++++
179 n-Decane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.599	5.599-11.599	+++++	+++++
180 n-Octadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.908	14.908-20.908	+++++	+++++
169 4-tert-Butylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.871	17.871-23.871	+++++	+++++
170 N,N-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.494	16.494-22.494	+++++	+++++
171 2,3-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
172 2,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
173 2,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	23.210	20.210-26.210	+++++	+++++
174 2,6-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.196	16.196-22.196	+++++	+++++
175 3,4-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.559	16.559-22.559	+++++	+++++
176 3,5-Dimethylaniline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	20.686	17.686-23.686	+++++	+++++
177 p-Benzoquinone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	8.244	5.244-11.244	+++++	+++++
168 Pentachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.842	12.842-18.842	+++++	+++++
145 4,4'-DDE	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.212	44.212-50.212	+++++	+++++
146 4,4'-DDD	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.746	44.746-50.746	+++++	+++++
147 4,4'-DDT	+++++	+++++	+++++	+++++	+++++	+++++	+++++	48.216	45.216-51.216	+++++	+++++

Reviewer 1 _____ Date:_____
Reviewer 2 _____ Date:_____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20210819.b
Inst ID: nt10.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
148 Dieldrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.281	44.281-50.281	+++++	+++++
149 TCMX	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.387	40.387-46.387	+++++	+++++
150 DCBP	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.989	47.989-53.989	+++++	+++++
138 Chlorobenzilate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	67.733	64.733-70.733	+++++	+++++
139 Isodrin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.067	62.067-68.067	+++++	+++++
140 Diallate A	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.487	62.487-68.487	+++++	+++++
141 Diallate B	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.487	62.487-68.487	+++++	+++++
142 1,2-Dibromo-3-Chloropr	+++++	+++++	+++++	+++++	+++++	+++++	+++++	49.917	46.917-52.917	+++++	+++++
135 2,3,5,6-Tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.672	13.672-19.672	+++++	+++++
136 2,3,4,5-tetrachlorophe	+++++	+++++	+++++	+++++	+++++	+++++	+++++	39.317	36.317-42.317	+++++	+++++
$ 137 d8-1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.445	0.000-5.445	+++++	+++++
* 134 Di-n-octylphthalate-d4	24.638	24.638	24.631	24.638	24.631	24.639	24.631	24.631	21.631-27.631	24.635	0.004
133 Butylatedhydroxytoluen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.668	12.668-18.668	+++++	+++++
132 3,6-Dimethylphenanthre	+++++	+++++	+++++	+++++	+++++	+++++	+++++	65.450	62.450-68.450	+++++	+++++
131 1-Methylphenanthrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	64.400	61.400-67.400	+++++	+++++
130 Dibenzothiophene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	62.100	59.100-65.100	+++++	+++++
129 1-Methylfluorene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.912	51.912-57.912	+++++	+++++
128 N-Hexadecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.212	51.212-57.212	+++++	+++++
127 2-Isopropylnaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	57.650	54.650-60.650	+++++	+++++
126 N-Tetradecane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	56.750	53.750-59.750	+++++	+++++
144 alpha-Terpineol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.498	8.498-14.498	+++++	+++++
125 Safrole	+++++	+++++	+++++	+++++	+++++	+++++	+++++	52.166	49.166-55.166	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Batch File: \\target\share\chem3\nt10.i\20210819.b
Inst ID: nt10.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
124 3,4-Dimethylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.617	47.617-53.617	+++++	+++++
123 Acetophenone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	10.686	7.686-13.686	+++++	+++++
122 Furfuraldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	43.467	40.467-46.467	+++++	+++++
143 1,4-Dioxane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	2.697	0.000-5.697	+++++	+++++
121 Quinoline	+++++	+++++	+++++	+++++	+++++	+++++	+++++	54.500	51.500-57.500	+++++	+++++
120 2,3,4,6-Tetrachlorophe	16.261	16.269	16.269	16.261	16.269	16.261	16.261	16.261	13.261-19.261	16.264	0.004
178 2-Benzyl-4-Chloropheno	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.963	15.963-21.963	+++++	+++++
119 7,12-Dimethylbenz(a)an	+++++	+++++	+++++	+++++	+++++	+++++	+++++	47.069	44.069-50.069	+++++	+++++
118 Triphenyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	21.215	18.215-24.215	+++++	+++++
117 Butyl Diphenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.057	14.057-20.057	+++++	+++++
116 Dibutyl Phenyl Phospha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.747	15.747-21.747	+++++	+++++
115 Tributyl Phosphate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.049	14.049-20.049	+++++	+++++
114 Beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	48.950	45.950-51.950	+++++	+++++
113 Diphenyl Oxide	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.341	11.341-17.341	+++++	+++++
112 Biphenyl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.632	11.632-17.632	+++++	+++++
111 Azobenzene (1,2-DP-Hyd	16.948	16.956	16.948	16.948	16.948	16.948	16.941	16.941	13.941-19.941	16.948	0.004
110 Tetrachloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	17.366	14.366-20.366	+++++	+++++
109 3,4,5-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.070	12.070-18.070	+++++	+++++
181 3,4,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	15.232	12.232-18.232	+++++	+++++
108 4,5,6-Trichloroguaiaco	+++++	+++++	+++++	+++++	+++++	+++++	+++++	16.374	13.374-19.374	+++++	+++++
184 3,4-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	13.208	10.208-16.208	+++++	+++++
107 4,5-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.160	11.160-17.160	+++++	+++++
182 4,6-Dichloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	14.160	11.160-17.160	+++++	+++++
185 4-Chloroguaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.737	8.737-14.737	+++++	+++++

ARI Labs, Inc.
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Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
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Inst ID: nt10.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
106 Guaiacol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	9.227	6.227-12.227	+++++	+++++
105 1-methylnaphthalene	13.576	13.577	13.576	13.576	13.576	13.577	13.577	13.577	10.577-16.577	13.576	0.000
151 1,2,4,5-Tetrachloroben	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.499	8.499-14.499	+++++	+++++
152 Benzo(e)pyrene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	30.943	27.943-33.943	+++++	+++++
153 Chlorpyrifos	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.781	24.781-30.781	+++++	+++++
154 Diazinon	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.082	23.082-29.082	+++++	+++++
155 Kelthane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	28.270	25.270-31.270	+++++	+++++
156 Methyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.586	23.586-29.586	+++++	+++++
157 Ethyl Parathion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	27.276	24.276-30.276	+++++	+++++
158 Ethion	+++++	+++++	+++++	+++++	+++++	+++++	+++++	24.503	21.503-27.503	+++++	+++++
159 4-Nonylphenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.261	22.261-28.261	+++++	+++++
160 Tetraethyl Tin	+++++	+++++	+++++	+++++	+++++	+++++	+++++	19.528	16.528-22.528	+++++	+++++
161 1,2,3-Trichloronaphtha	+++++	+++++	+++++	+++++	+++++	+++++	+++++	36.246	33.246-39.246	+++++	+++++
162 1,2,3,4-Tetrachloronap	+++++	+++++	+++++	+++++	+++++	+++++	+++++	37.506	34.506-40.506	+++++	+++++
163 1,2,3,5,8-Pentachloron	+++++	+++++	+++++	+++++	+++++	+++++	+++++	38.893	35.893-41.893	+++++	+++++
164 1,2,3,4,6,7-Hexachloro	+++++	+++++	+++++	+++++	+++++	+++++	+++++	39.681	36.681-42.681	+++++	+++++
165 1,2,3,4,5,6,7-Heptachl	+++++	+++++	+++++	+++++	+++++	+++++	+++++	41.123	38.123-44.123	+++++	+++++
166 Octachloronaphthalene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	42.253	39.253-45.253	+++++	+++++
167 2,2',4,4',5-Pentabromo	+++++	+++++	+++++	+++++	+++++	+++++	+++++	42.033	39.033-45.033	+++++	+++++
$ 2 Phenol-d5	8.776	8.776	8.768	8.776	8.761	8.761	8.761	8.761	5.761-11.761	8.769	0.008
3 Phenol	8.792	8.800	8.784	8.792	8.784	8.784	8.784	8.784	5.784-11.784	8.788	0.006
4 Bis(2-Chloroethyl)ethe	8.969	8.969	8.962	8.969	8.962	8.962	8.962	8.962	5.962-11.962	8.965	0.004
$ 5 2-Chlorophenol-d4	9.070	9.070	9.062	9.070	9.070	9.062	9.062	9.062	6.062-12.062	9.066	0.004

ARI Labs, Inc.
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Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
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Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	6 2-Chlorophenol	9.101	9.101	9.093	9.101	9.093	9.093	9.093	9.093	6.093-12.093	9.096	0.004
	7 1,3-Dichlorobenzene	9.372	9.372	9.364	9.372	9.364	9.364	9.364	9.364	6.364-12.364	9.367	0.004
*	8 1,4-Dichlorobenzene-d4	9.434	9.434	9.426	9.434	9.426	9.426	9.426	9.426	6.426-12.426	9.429	0.004
	9 1,4-Dichlorobenzene	9.465	9.465	9.457	9.465	9.457	9.457	9.457	9.457	6.457-12.457	9.460	0.004
$	10 1,2-Dichlorobenzene-d4	9.798	9.799	9.791	9.791	9.791	9.791	9.791	9.791	6.791-12.791	9.793	0.004
	11 Benzyl alcohol	9.697	9.698	9.690	9.697	9.690	9.690	9.690	9.690	6.690-12.690	9.693	0.004
	12 1,2-Dichlorobenzene	9.822	9.822	9.814	9.822	9.822	9.814	9.814	9.814	6.814-12.814	9.818	0.004
	13 2-Methylphenol	9.915	9.907	9.907	9.907	9.907	9.907	9.907	9.907	6.907-12.907	9.908	0.003
	14 2,2'-oxybis(1-Chloropr	9.993	9.985	9.985	9.992	9.985	9.985	9.985	9.985	6.985-12.985	9.987	0.004
	15 4-Methylphenol	10.179	10.179	10.179	10.179	10.171	10.171	10.171	10.171	7.171-13.171	10.176	0.004
	16 N-Nitroso-di-n-propyla	10.249	10.257	10.241	10.249	10.241	10.241	10.241	10.241	7.241-13.241	10.245	0.006
	17 Hexachloroethane	10.419	10.412	10.412	10.412	10.412	10.412	10.412	10.412	7.412-13.412	10.413	0.003
$	18 Nitrobenzene-d5	10.528	10.528	10.520	10.528	10.520	10.520	10.521	10.521	7.521-13.521	10.524	0.004
	19 Nitrobenzene	10.567	10.567	10.559	10.567	10.559	10.559	10.559	10.559	7.559-13.559	10.562	0.004
	20 Isophorone	11.001	11.017	11.001	11.009	11.001	11.002	11.002	11.002	8.002-14.002	11.005	0.006
	21 2-Nitrophenol	11.186	11.187	11.186	11.195	11.186	11.187	11.187	11.187	8.187-14.187	11.188	0.003
	22 2,4-Dimethylphenol	11.220	11.229	11.220	11.220	11.220	11.221	11.221	11.221	8.221-14.221	11.222	0.003
	23 Bis(2-Chloroethoxy)met	11.424	11.424	11.415	11.424	11.416	11.416	11.416	11.416	8.416-14.416	11.419	0.005
	24 Benzoic acid	11.424	11.543	11.348	11.483	11.331	11.373	11.339	11.339	8.339-14.339	11.406	0.081
	25 2,4-Dichlorophenol	11.645	11.645	11.653	11.645	11.645	11.636	11.636	11.636	8.636-14.636	11.644	0.006
	26 1,2,4-Trichlorobenzene	11.836	11.828	11.828	11.828	11.828	11.829	11.829	11.829	8.829-14.829	11.830	0.003
*	27 Naphthalene-d8	11.921	11.921	11.913	11.921	11.913	11.921	11.914	11.914	8.914-14.914	11.918	0.004
	28 Naphthalene	11.967	11.967	11.960	11.960	11.960	11.960	11.960	11.960	8.960-14.960	11.962	0.004
	29 4-Chloroaniline	12.083	12.091	12.083	12.083	12.083	12.083	12.076	12.076	9.076-15.076	12.083	0.004

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Inst ID: nt10.i

	Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
	30 Hexachlorobutadiene	12.315	12.307	12.307	12.307	12.307	12.307	12.307	12.307	9.307-15.307	12.308	0.003
	31 4-Chloro-3-methylpheno	13.035	13.035	13.042	13.035	13.035	13.027	13.027	13.027	10.027-16.027	13.034	0.005
	32 2-Methylnaphthalene	13.352	13.352	13.352	13.352	13.352	13.352	13.352	13.352	10.352-16.352	13.352	0.000
	33 Hexachlorocyclopentadi	13.816	13.816	13.816	13.816	13.816	13.816	13.817	13.817	10.817-16.817	13.816	0.000
	34 2,4,6-Trichlorophenol	13.971	13.971	13.971	13.971	13.971	13.971	13.971	13.971	10.971-16.971	13.971	0.000
	35 2,4,5-Trichlorophenol	14.049	14.049	14.064	14.048	14.056	14.049	14.049	14.049	11.049-17.049	14.052	0.006
$	36 2-Fluorobiphenyl	14.126	14.134	14.126	14.126	14.126	14.126	14.126	14.126	11.126-17.126	14.127	0.003
	37 2-Chloronaphthalene	14.350	14.350	14.350	14.350	14.350	14.350	14.351	14.351	11.351-17.351	14.350	0.000
	38 2-Nitroaniline	14.606	14.614	14.606	14.613	14.598	14.598	14.598	14.598	11.598-17.598	14.605	0.007
	39 Dimethylphthalate	15.024	15.032	15.016	15.024	15.016	15.016	15.016	15.016	12.016-18.016	15.020	0.006
	40 Acenaphthylene	15.225	15.233	15.225	15.225	15.225	15.225	15.225	15.225	12.225-18.225	15.226	0.003
	41 2,6-Dinitrotoluene	15.171	15.179	15.171	15.171	15.163	15.163	15.163	15.163	12.163-18.163	15.169	0.006
*	42 Acenaphthene-d10	15.535	15.542	15.534	15.534	15.535	15.535	15.535	15.535	12.535-18.535	15.536	0.003
	43 3-Nitroaniline	15.457	15.473	15.465	15.465	15.457	15.457	15.457	15.457	12.457-18.457	15.462	0.006
	44 Acenaphthene	15.604	15.604	15.604	15.604	15.604	15.604	15.597	15.597	12.597-18.597	15.603	0.003
	45 2,4-Dinitrophenol	15.674	15.689	+++++	15.681	15.674	15.666	15.674	15.674	12.674-18.674	15.676	0.008
	46 Dibenzofuran	15.929	15.937	15.929	15.929	15.929	15.929	15.929	15.929	12.929-18.929	15.930	0.003
	47 4-Nitrophenol	15.766	15.782	15.813	15.774	15.797	15.774	15.782	15.782	12.782-18.782	15.784	0.016
	48 2,4-Dinitrotoluene	15.983	15.991	15.975	15.983	15.975	15.975	15.975	15.975	12.975-18.975	15.980	0.006
	49 Fluorene	16.648	16.648	16.640	16.648	16.640	16.640	16.640	16.640	13.640-19.640	16.643	0.004
	50 Diethylphthalate	16.478	16.493	16.470	16.478	16.470	16.470	16.470	16.470	13.470-19.470	16.475	0.009
	51 4-Chlorophenyl-phenyle	16.624	16.625	16.624	16.624	16.617	16.617	16.617	16.617	13.617-19.617	16.621	0.004
	52 4-Nitroaniline	16.740	16.763	16.740	16.748	16.732	16.725	16.725	16.725	13.725-19.725	16.739	0.014
	53 4,6-Dinitro-2-methylph	16.825	16.848	16.825	16.833	16.825	16.817	16.817	16.817	13.817-19.817	16.827	0.011

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Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
54 N-Nitrosodiphenylamine	16.871	16.887	16.871	16.879	16.871	16.871	16.871	16.871	13.871-19.871	16.875	0.006
$ 55 2,4,6-Tribromophenol	17.180	17.187	17.187	17.180	17.180	17.180	17.180	17.180	14.180-20.180	17.182	0.004
56 4-Bromophenyl-phenylet	17.627	17.635	17.627	17.627	17.627	17.627	17.627	17.627	14.627-20.627	17.628	0.003
57 Hexachlorobenzene	17.951	17.959	17.959	17.959	17.951	17.951	17.952	17.952	14.952-20.952	17.955	0.004
58 Pentachlorophenol	18.315	18.315	18.338	18.315	18.323	18.315	18.315	18.315	15.315-21.315	18.320	0.009
* 59 Phenanthrene-d10	18.586	18.586	18.578	18.578	18.578	18.578	18.578	18.578	15.578-21.578	18.581	0.004
60 Phenanthrene	18.632	18.640	18.632	18.632	18.625	18.633	18.625	18.625	15.625-21.625	18.631	0.005
61 Anthracene	18.725	18.733	18.725	18.725	18.725	18.725	18.718	18.718	15.718-21.718	18.725	0.004
62 Carbazole	19.050	19.050	19.050	19.050	19.050	19.043	19.043	19.043	16.043-22.043	19.048	0.004
63 Di-n-butylphthalate	19.808	19.809	19.808	19.808	19.808	19.809	19.801	19.801	16.801-22.801	19.807	0.003
64 Fluoranthene	21.000	21.000	21.000	21.000	20.992	21.000	20.992	20.992	17.992-23.992	20.998	0.004
65 Pyrene	21.425	21.426	21.418	21.425	21.418	21.426	21.418	21.418	18.418-24.418	21.422	0.004
$ 66 Terphenyl-d14	21.689	21.689	21.688	21.689	21.689	21.689	21.689	21.689	18.689-24.689	21.689	0.000
67 Butylbenzylphthalate	22.594	22.602	22.594	22.594	22.594	22.595	22.595	22.595	19.595-25.595	22.596	0.003
68 Benzo(a)anthracene	23.578	23.586	23.570	23.578	23.570	23.578	23.570	23.570	20.570-26.570	23.576	0.006
* 69 Chrysene-d12	23.609	23.609	23.601	23.609	23.601	23.601	23.601	23.601	20.601-26.601	23.604	0.004
70 3,3'-Dichlorobenzidine	23.524	23.539	23.523	23.531	23.524	23.524	23.524	23.524	20.524-26.524	23.527	0.006
71 Chrysene	23.647	23.663	23.647	23.655	23.647	23.648	23.648	23.648	20.648-26.648	23.651	0.006
72 bis(2-Ethylhexyl)phtha	23.609	23.617	23.609	23.616	23.609	23.609	23.609	23.609	20.609-26.609	23.611	0.004
73 Di-n-octylphthalate	24.646	24.654	24.646	24.646	24.646	24.646	24.646	24.646	21.646-27.646	24.647	0.003
74 Benzo(b)fluoranthene	25.575	25.591	25.567	25.583	25.567	25.575	25.575	25.575	22.575-28.575	25.576	0.008
75 Benzo(k)fluoranthene	25.622	25.637	25.621	25.629	25.622	25.622	25.622	25.622	22.622-28.622	25.625	0.006
187 Total Benzofluoranthen	25.622	25.637	25.621	25.629	25.622	25.622	25.622	25.622	22.622-28.622	25.625	0.006
76 Benzo(a)pyrene	26.295	26.311	26.295	26.303	26.295	26.295	26.295	26.295	23.295-29.295	26.299	0.006

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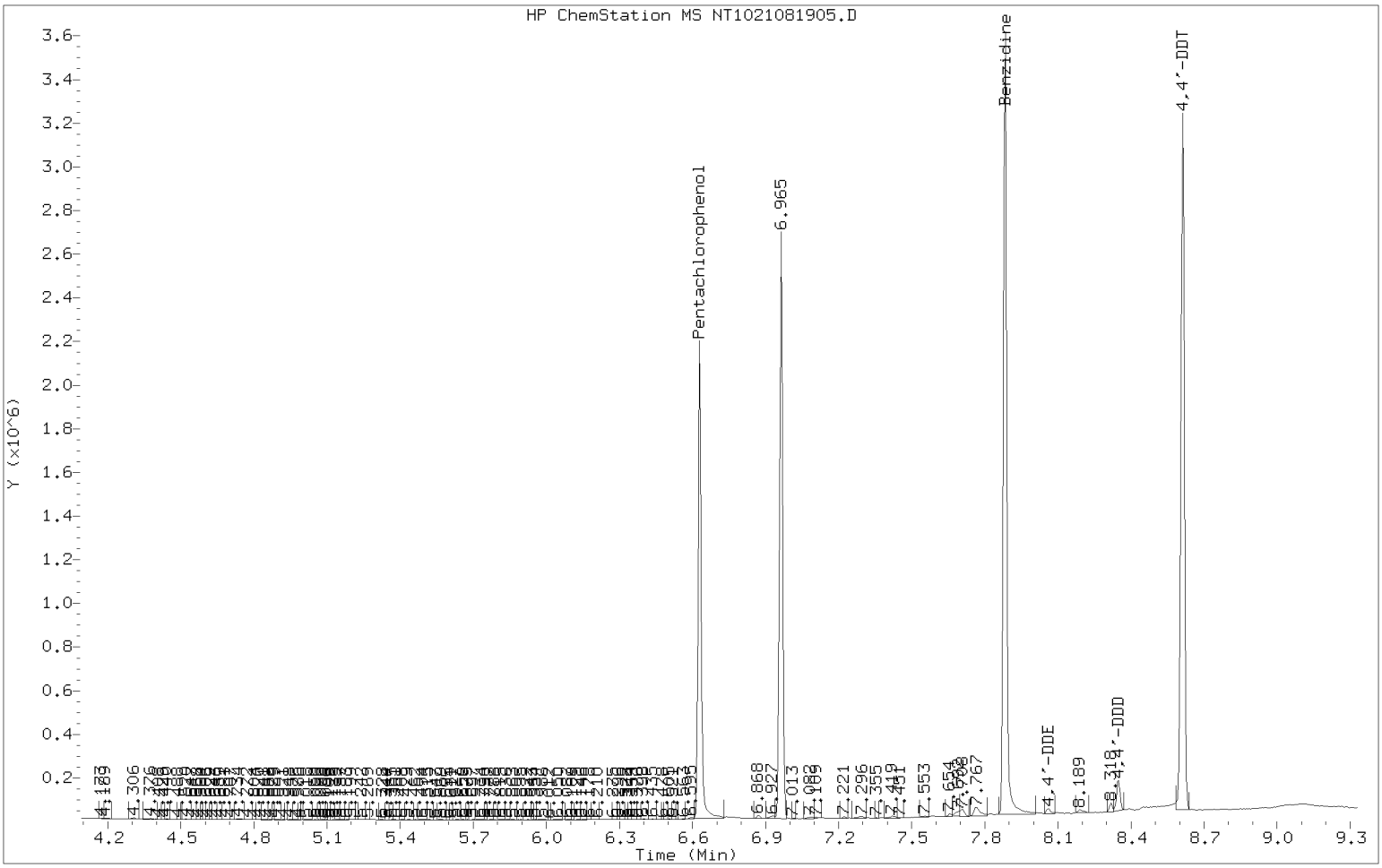
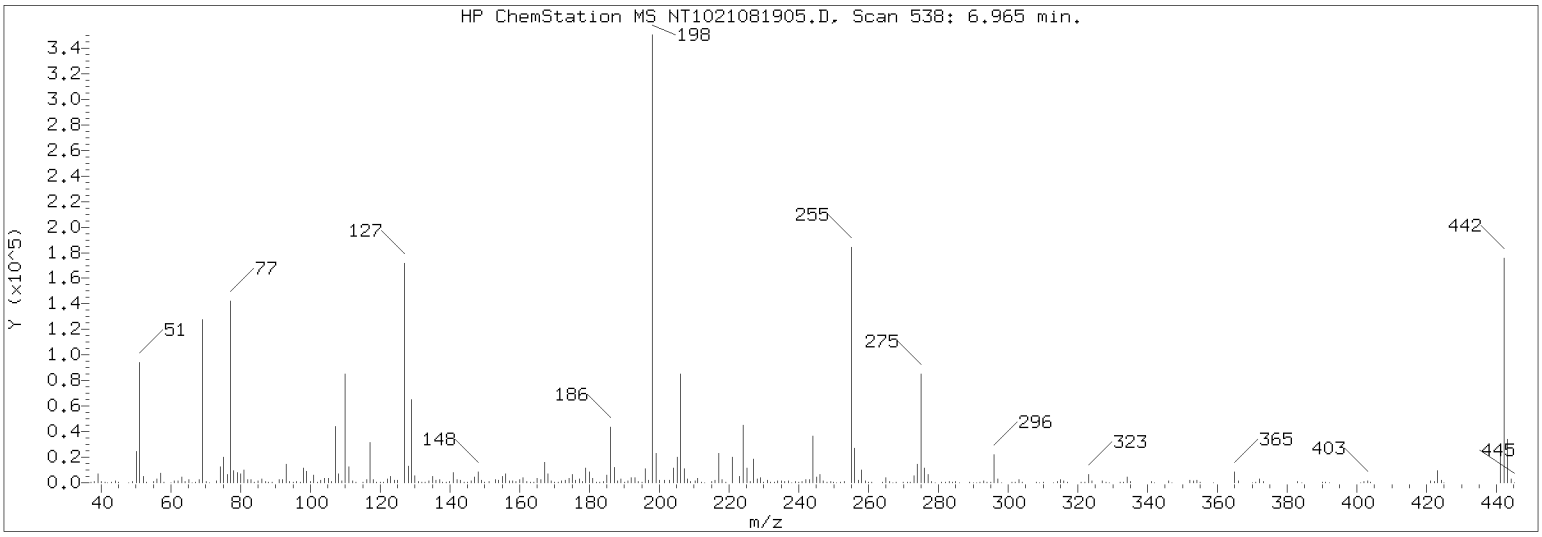
Inst ID: nt10.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	RT07	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 77 Perylene-d12	26.427	26.427	26.419	26.427	26.419	26.427	26.419	26.419	23.419-29.419	26.424	0.004
78 Indeno(1,2,3-cd)pyrene	29.394	29.418	29.379	29.402	29.387	29.371	29.371	29.371	26.371-32.371	29.389	0.017
79 Dibenzo(a,h)anthracene	29.402	29.433	29.402	29.418	29.402	29.395	29.387	29.387	26.387-32.387	29.406	0.015
80 Benzo(g,h,i)perylene	30.272	30.303	30.256	30.288	30.257	30.264	30.257	30.257	27.257-33.257	30.271	0.018
$ 85 p-Cresol-d4	+++++	+++++	+++++	+++++	+++++	+++++	+++++	51.633	48.633-54.633	+++++	+++++
$ 86 Anthracene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	63.533	60.533-66.533	+++++	+++++
$ 87 Fluoranthene-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	60.273	57.273-63.273	+++++	+++++
$ 88 Dibenz(a,h)anthracene-	+++++	+++++	+++++	+++++	+++++	+++++	+++++	78.600	75.600-81.600	+++++	+++++
$ 89 Diphenyl-d10	+++++	+++++	+++++	+++++	+++++	+++++	+++++	50.841	47.841-53.841	+++++	+++++
90 N-Nitrosodimethylamine	5.045	5.029	5.022	5.022	5.014	5.014	5.022	5.022	2.022-8.022	5.024	0.011
91 Aniline	8.892	8.892	8.884	8.884	8.877	8.877	8.877	8.877	5.877-11.877	8.883	0.007
92 1,2-Diphenylhydrazine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	56.160	53.160-59.160	+++++	+++++
93 Benzidine	21.217	21.224	21.224	21.224	21.224	21.217	21.217	21.217	18.217-24.217	21.221	0.004
$ 95 D10-1-methylnaphthalen	+++++	+++++	+++++	+++++	+++++	+++++	+++++	52.075	49.075-55.075	+++++	+++++
96 p-Cymene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	49.250	46.250-52.250	+++++	+++++
97 Caffeine	+++++	+++++	+++++	+++++	+++++	+++++	+++++	61.202	58.202-64.202	+++++	+++++
98 Retene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	18.248	15.248-21.248	+++++	+++++
99 Perylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.008	23.008-29.008	+++++	+++++
100 3-beta-Coprostanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	25.411	22.411-28.411	+++++	+++++
101 Cholesterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	26.023	23.023-29.023	+++++	+++++
102 beta-Sitosterol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	79.550	76.550-82.550	+++++	+++++
103 Pyridine	5.068	5.037	5.076	5.045	5.060	5.045	5.053	5.053	2.053-8.053	5.055	0.014
188 2,6-Dichlorophenol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	11.874	8.874-14.874	+++++	+++++
189 N-Nitrosomethylethylam	+++++	+++++	+++++	+++++	+++++	+++++	+++++	5.818	2.818-8.818	+++++	+++++

DFTPP TAILING FACTOR AND BREAKDOWN GRAPHIC REPORT

Datafile Analyzed: /20210819.b/NT1021081905.D/NT1021081905.D
Method Used: \20210819.b\DFTPP8270E.m Inst: nt10
Injection Date: 19-AUG-2021 14:35 Operator: YZ/VTS
Sample Info: SJH0235-TUN1 SJH0235-TUN1
Report Date: 08/20/2021 12:56





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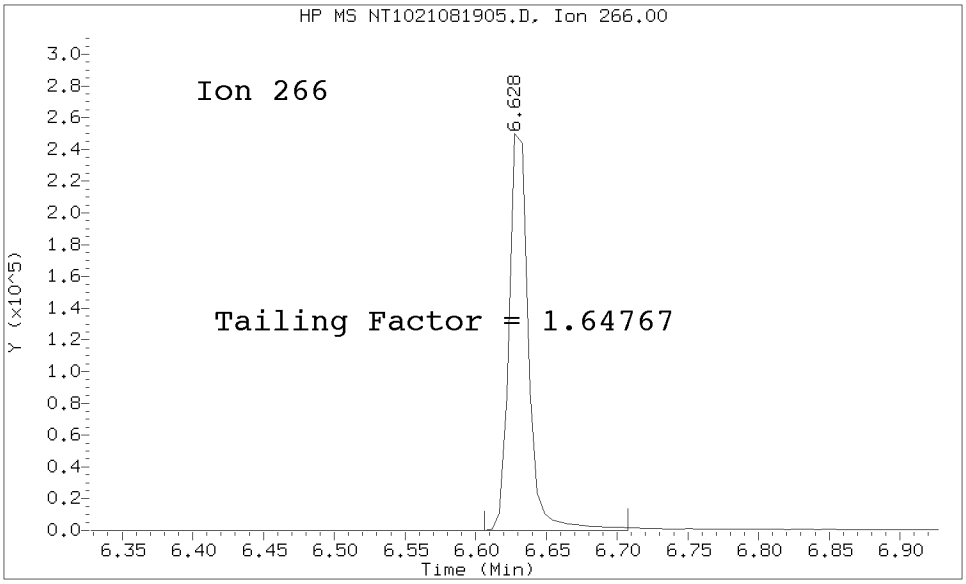
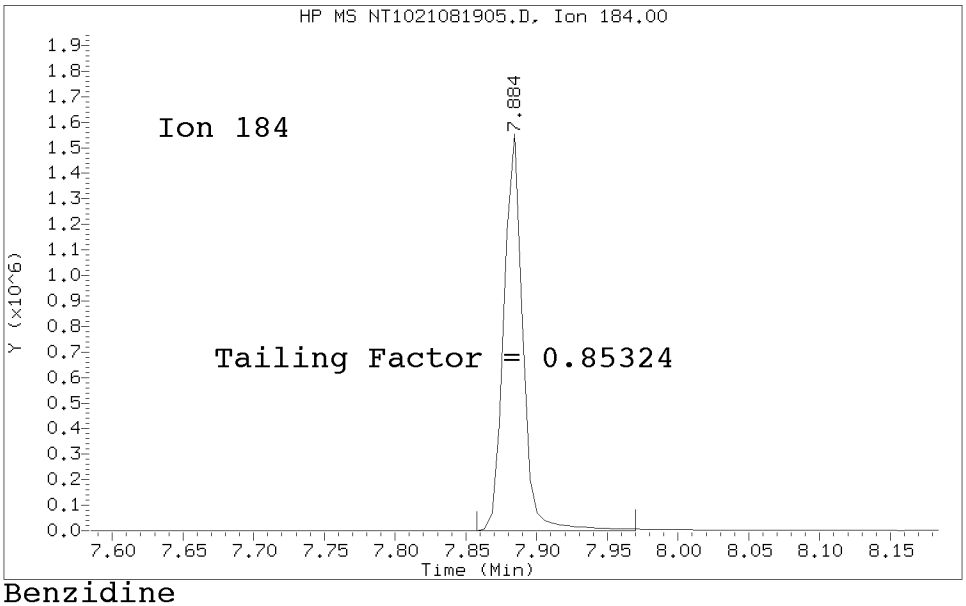
Injection Date: 19-AUG-2021 14:35 Operator: YZ/VTS
Sample Info: SJH0235-TUN1
Report Date: 08/20/2021 12:56



Pentachlorophenol
==========
Exp. RT = 6.627
Found RT = 6.628

Tail Factor = 1.648 Maximum Allowed = 2.0



Benzidine
==========
Exp. RT = 7.890
Found RT = 7.884

Tail Factor = 0.853 Maximum Allowed = 2.0

8270 TAILING FACTOR/BREAKDOWN SUMMARY RESULTS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.6476684	2.000	PASS
Benzidine	0.8532423	2.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	650075			N/A
4,4-DDE	2478	0.4	20.0	PASS
4,4-DDD	27913	4.1	20.0	PASS
4,4-DDD + DDE	30391	4.5	20.0	PASS

Tuning Sample, nt10.i/20210819.b/NT1021081905.D, *** PASSED ***

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
68	Less than 2.00% of mass 69	0.65 (1.73)
69	Mass 69 relative abundance	37.22
70	Less than 2.00% of mass 69	0.17 (0.47)
197	Less than 2.00% of mass 198	0.37
199	5.00 - 9.00% of mass 198	6.67
365	1.00 - 100.00% of mass 198	2.48
441	Less than 150.00% of mass 443	7.91 (77.63)
442	Less than 200.00% of mass 198	53.27
443	15.00 - 24.00% of mass 442	10.20 (19.14)

Data File: NT1021081905.D
Spectrum: Avg. Scans 537-539 (6.96), Background Scan 532
Location of Maximum: 198.00
Number of points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	344	122.00	2122	198.00	269696	281.00	34
38.00	956	123.00	3696	199.00	17992	282.00	196
39.00	5577	124.00	1568	200.00	1448	283.00	667
40.00	188	125.00	1551	201.00	1105	284.00	453
41.00	21	127.00	133056	203.00	1502	285.00	874
44.00	43	128.00	9989	204.00	9033	286.00	117
45.00	33	129.00	50272	205.00	15831	289.00	236
47.00	77	130.00	4225	206.00	65448	290.00	107
48.00	103	131.00	598	207.00	8326	291.00	71
49.00	478	132.00	488	208.00	2139	292.00	251
50.00	19736	133.00	15	209.00	588	293.00	1122
51.00	73632	134.00	1355	210.00	1108	294.00	262
52.00	3968	135.00	3719	211.00	2561	295.00	266
53.00	258	136.00	1656	212.00	209	296.00	16936
55.00	37	137.00	1759	213.00	188	297.00	2290
56.00	2234	138.00	426	215.00	402	298.00	109
57.00	5342	139.00	279	216.00	1174	301.00	246
58.00	356	140.00	569	217.00	18048	302.00	336
59.00	56	141.00	6109	218.00	2225	303.00	2049
60.00	176	142.00	2053	219.00	248	304.00	569
61.00	1045	143.00	1504	221.00	15202	308.00	244
62.00	1186	144.00	360	222.00	1640	309.00	121
63.00	3519	145.00	198	223.00	3894	310.00	252
64.00	430	146.00	1198	224.00	35336	313.00	134
65.00	1779	147.00	2947	225.00	8829	314.00	757
66.00	185	148.00	6817	226.00	916	315.00	1989
68.00	1740	149.00	1213	227.00	14281	316.00	985
69.00	100384	150.00	433	228.00	2085	317.00	212
70.00	471	151.00	843	229.00	3094	321.00	500
73.00	659	152.00	249	230.00	329	322.00	228
74.00	9672	153.00	1956	231.00	1440	323.00	5227
75.00	15416	154.00	1605	232.00	310	324.00	1074
76.00	5213	155.00	3571	233.00	300	327.00	991
77.00	111000	156.00	5362	234.00	1115	328.00	546
78.00	7473	157.00	1086	235.00	1106	329.00	60
79.00	6291	158.00	1135	236.00	764	332.00	380
80.00	5535	159.00	905	237.00	1292	333.00	496
81.00	7358	160.00	1962	238.00	241	334.00	3387
82.00	1843	161.00	2730	239.00	662	335.00	836
83.00	1896	162.00	662	240.00	486	336.00	51
84.00	62	163.00	365	241.00	902	341.00	644
85.00	1222	164.00	310	242.00	1876	342.00	197
86.00	2004	165.00	2382	243.00	2006	346.00	1086
87.00	1035	166.00	1883	244.00	28392	347.00	223
88.00	412	167.00	12081	245.00	3787	352.00	1543
89.00	260	168.00	5304	246.00	4993	353.00	1141
91.00	1352	169.00	1099	247.00	1150	354.00	1539
92.00	1713	170.00	455	248.00	234	355.00	336
93.00	11076	171.00	580	249.00	1013	359.00	60

94.00	694	172.00	1132	250.00	213	365.00	6691
95.00	10	173.00	1536	251.00	249	366.00	983
96.00	501	174.00	2618	252.00	278	370.00	80
97.00	108	175.00	4792	253.00	675	371.00	405
98.00	9069	176.00	1415	255.00	144064	372.00	2657
99.00	7146	177.00	2240	256.00	21368	373.00	614
100.00	668	178.00	758	257.00	1552	383.00	675
101.00	4613	179.00	8999	258.00	7812	384.00	132
102.00	196	180.00	6363	259.00	1284	390.00	327
103.00	1415	181.00	3049	260.00	247	391.00	253
104.00	2963	182.00	565	261.00	184	392.00	114
105.00	2261	183.00	337	264.00	220	401.00	141
106.00	652	184.00	886	265.00	3201	402.00	861
107.00	33688	185.00	4639	266.00	422	403.00	1334
108.00	5138	186.00	33880	267.00	108	404.00	405
109.00	986	187.00	9503	268.00	125	421.00	1076
110.00	64760	188.00	1019	270.00	244	422.00	994
111.00	9645	189.00	2062	271.00	289	423.00	7627
112.00	1273	190.00	317	272.00	407	424.00	1542
113.00	404	191.00	1085	273.00	4311	425.00	129
114.00	52	192.00	2829	274.00	11458	441.00	21344
115.00	106	193.00	3179	275.00	66816	442.00	143680
116.00	1902	194.00	648	276.00	8837	443.00	27496
117.00	24328	195.00	521	277.00	5117	444.00	2538
118.00	1877	196.00	8340	278.00	869	445.00	122
120.00	340	197.00	1004	279.00	61		

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081906.D

Date : 19-AUG-2021 14:58

Client ID:

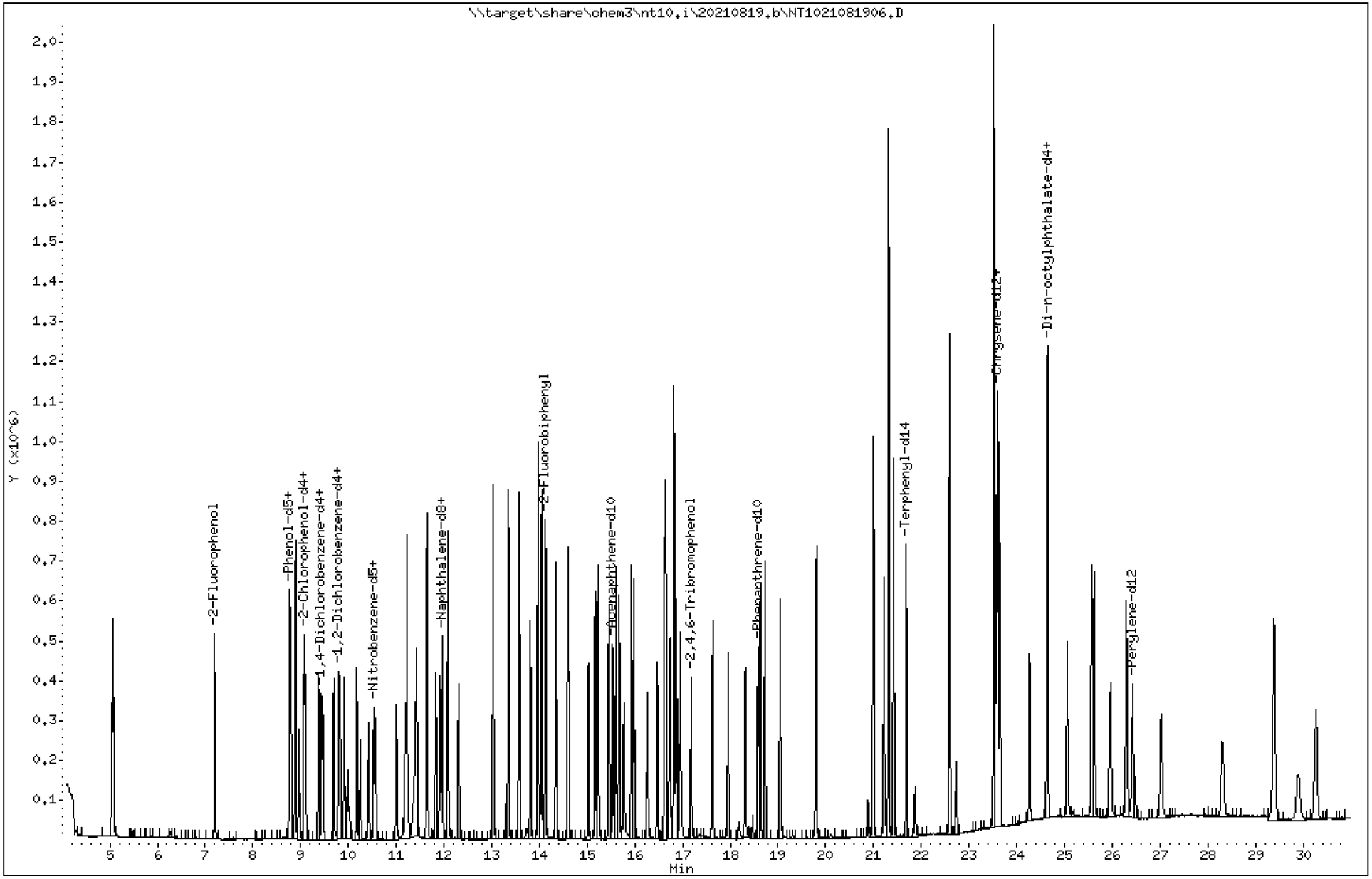
Instrument: nt10.i

Sample Info: SJH0235-CAL5

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Inj Date : 19-AUG-2021 14:58
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL5
Misc Info :
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Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 2 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 1 2-Fluorophenol	112	7.200	7.184	(0.763)	245438	7.50000	7.528
$ 2 Phenol-d5	99	8.776	8.761	(0.930)	362182	7.50000	7.762
3 Phenol	94	8.791	8.784	(0.932)	221404	5.00000	5.184
$ 5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	254558	7.50000	7.658
4 Bis(2-Chloroethyl)ether	93	8.969	8.961	(0.951)	150874	5.00000	4.828
6 2-Chlorophenol	128	9.100	9.093	(0.965)	185348	5.00000	5.230
7 1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	181604	5.00000	4.928
* 8 1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	97518	4.00000	
9 1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	139682	5.00000	5.007
$ 10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	115083	5.00000	5.097
12 1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	158369	5.00000	4.988
11 Benzyl alcohol	108	9.697	9.689	(1.028)	112247	5.00000	5.714
14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	47436	5.00000	5.038(M)
13 2-Methylphenol	108	9.914	9.907	(1.051)	139553	5.00000	5.159
17 Hexachloroethane	117	10.419	10.411	(1.104)	61520	5.00000	5.099
16 N-Nitroso-di-n-propylamine	70	10.248	10.241	(1.086)	96622	5.00000	5.092
15 4-Methylphenol	108	10.178	10.171	(1.079)	152266	5.00000	5.270
$ 18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	170672	5.00000	4.849
19 Nitrobenzene	77	10.566	10.559	(0.886)	157285	5.00000	4.847
20 Isophorone	82	11.001	11.001	(0.923)	257345	5.00000	5.131
21 2-Nitrophenol	139	11.186	11.186	(0.938)	104000	5.00000	5.628
22 2,4-Dimethylphenol	107	11.220	11.220	(0.941)	276719	10.0000	9.703
23 Bis(2-Chloroethoxy)methane	93	11.424	11.415	(0.958)	132565	5.00000	4.478
24 Benzoic acid	105	11.424	11.339	(0.958)	307730	20.0000	20.76
25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	310052	10.0000	10.61
26 1,2,4-Trichlorobenzene	180	11.836	11.828	(0.993)	138287	5.00000	4.889
* 27 Naphthalene-d8	136	11.921	11.913	(1.000)	336155	4.00000	
28 Naphthalene	128	11.967	11.959	(1.004)	414896	5.00000	4.975
29 4-Chloroaniline	127	12.083	12.075	(1.014)	405151	10.0000	10.03
30 Hexachlorobutadiene	225	12.315	12.307	(1.033)	77306	5.00000	4.967
31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	314906	10.0000	10.72
32 2-Methylnaphthalene	142	13.352	13.352	(1.120)	418088	5.00000	5.253
33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	147671	10.0000	9.768

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	235501	10.0000	11.33
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	248811	10.0000	11.39
$	36 2-Fluorobiphenyl	172	14.125	14.126	(0.909)	416536	5.00000	5.086
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	343977	5.00000	5.276
	38 2-Nitroaniline	65	14.605	14.598	(0.940)	202545	10.0000	10.46
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	330653	5.00000	4.919
	40 Acenaphthylene	152	15.225	15.225	(0.980)	501561	5.00000	4.938
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.977)	154584	10.0000	10.41
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	204971	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	212671	10.0000	10.64
	44 Acenaphthene	153	15.604	15.596	(1.004)	274881	5.00000	5.116
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.009)	161882	20.0000	20.02
	46 Dibenzofuran	168	15.928	15.928	(1.025)	502671	5.00000	5.265
	47 4-Nitrophenol	109	15.766	15.782	(1.015)	73030	10.0000	10.04
	48 2,4-Dinitrotoluene	165	15.982	15.975	(1.029)	227152	10.0000	10.96
	50 Diethylphthalate	149	16.477	16.470	(1.061)	300083	5.00000	4.952
	49 Fluorene	166	16.647	16.640	(1.072)	418838	5.00000	4.943
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	188589	5.00000	4.972
	52 4-Nitroaniline	138	16.740	16.724	(1.078)	218741	10.0000	10.52
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.817	(0.905)	300686	20.0000	20.36
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	253992	5.00000	4.747
$	55 2,4,6-Tribromophenol	330	17.179	17.180	(1.106)	61255	7.50000	7.773
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.948)	110152	5.00000	5.136
	57 Hexachlorobenzene	284	17.951	17.951	(0.966)	97160	5.00000	4.779
	58 Pentachlorophenol	266	18.315	18.315	(0.985)	84152	10.0000	10.93
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	357720	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.002)	447804	5.00000	5.127
	61 Anthracene	178	18.725	18.717	(1.007)	496324	5.00000	5.289
	62 Carbazole	167	19.050	19.042	(1.025)	513293	5.00000	5.311
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	655674	5.00000	5.484
	64 Fluoranthene	202	20.999	20.992	(0.889)	672979	5.00000	5.282
	65 Pyrene	202	21.425	21.417	(0.908)	671589	5.00000	5.136
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	396153	5.00000	4.822
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	248026	5.00000	4.820
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	499727	5.00000	4.915
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	291052	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	621790	15.0000	15.37
	71 Chrysene	228	23.647	23.647	(1.002)	410985	5.00000	5.098
	72 bis(2-Ethylhexyl)phthalate	149	23.608	23.608	(0.958)	287480	5.00000	5.072
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	588887	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	660428	5.00000	5.088
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	492927	5.00000	4.906
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	534515	5.00000	5.427
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	455848	5.00000	5.136
*	77 Perylene-d12	264	26.426	26.419	(1.000)	273109	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.394	29.371	(1.112)	454084	5.00000	4.952
	79 Dibenzo(a,h)anthracene	278	29.402	29.386	(1.113)	344603	5.00000	4.912
	80 Benzo(g,h,i)perylene	276	30.272	30.256	(1.146)	404162	5.00000	5.047
	90 N-Nitrosodimethylamine	74	5.044	5.021	(0.535)	217846	10.0000	10.38
	91 Aniline	93	8.892	8.876	(0.943)	478068	10.0000	9.805
	93 Benzidine	184	21.216	21.216	(0.899)	478924	10.0000	8.685
	103 Pyridine	79	5.067	5.052	(0.537)	327799	5.00000	4.942
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	402070	5.00000	5.238
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.091)	334621	5.00000	4.786

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.621	25.621	(0.970)	979616	10.0000	10.22
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.047)	78931	5.00000	5.222

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081906.D Page 1
Report Date: 21-Aug-2021 12:16

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081906.D
Lab Smp Id: SJH0235-CAL5
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	97518	0.00
27 Naphthalene-d8	336155	168078	672310	336155	0.00
42 Acenaphthene-d10	204971	102486	409942	204971	0.00
59 Phenanthrene-d10	357720	178860	715440	357720	0.00
69 Chrysene-d12	291052	145526	582104	291052	0.00
134 Di-n-octylphthala	588887	294444	1177774	588887	0.00
77 Perylene-d12	273109	136555	546218	273109	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.59	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081906.D

Lab ID: SJH0235-CAL5
nt10.i, ABN.m, 19-AUG-2021 14:58

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.958	0.952	0.0065	Benzoic acid

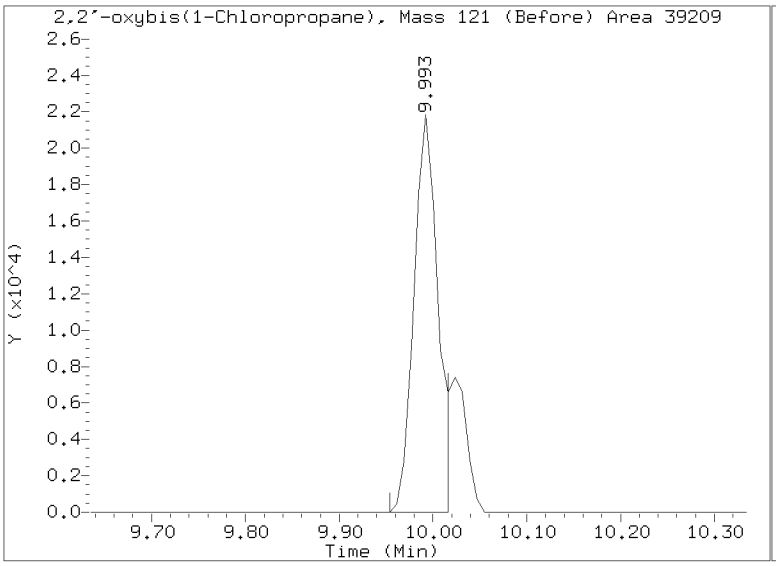
RRT check based on Ccal File: NT1021081912.D

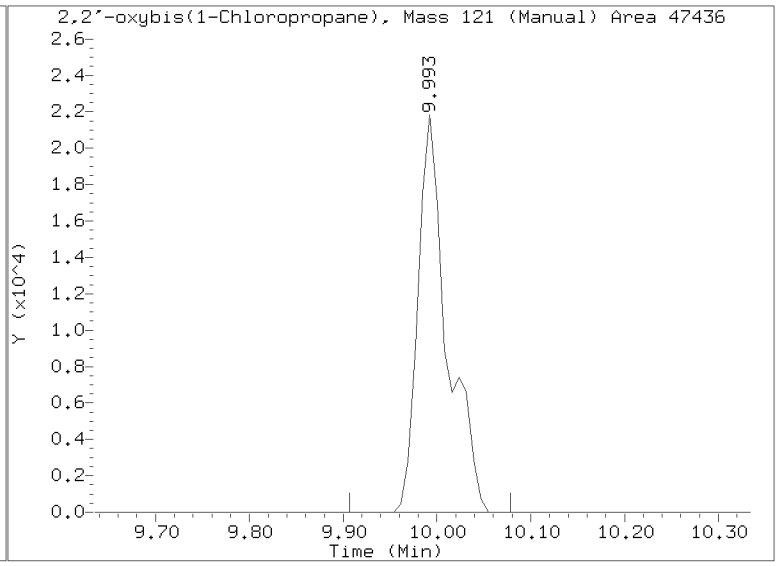
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081906.D
Injection Date: 19-AUG-2021 14:58
Lab ID:SJH0235-CAL5 Client ID:
Report Date: 08/21/2021 12:16





Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081907.D

Date : 19-AUG-2021 15:36

Client ID:

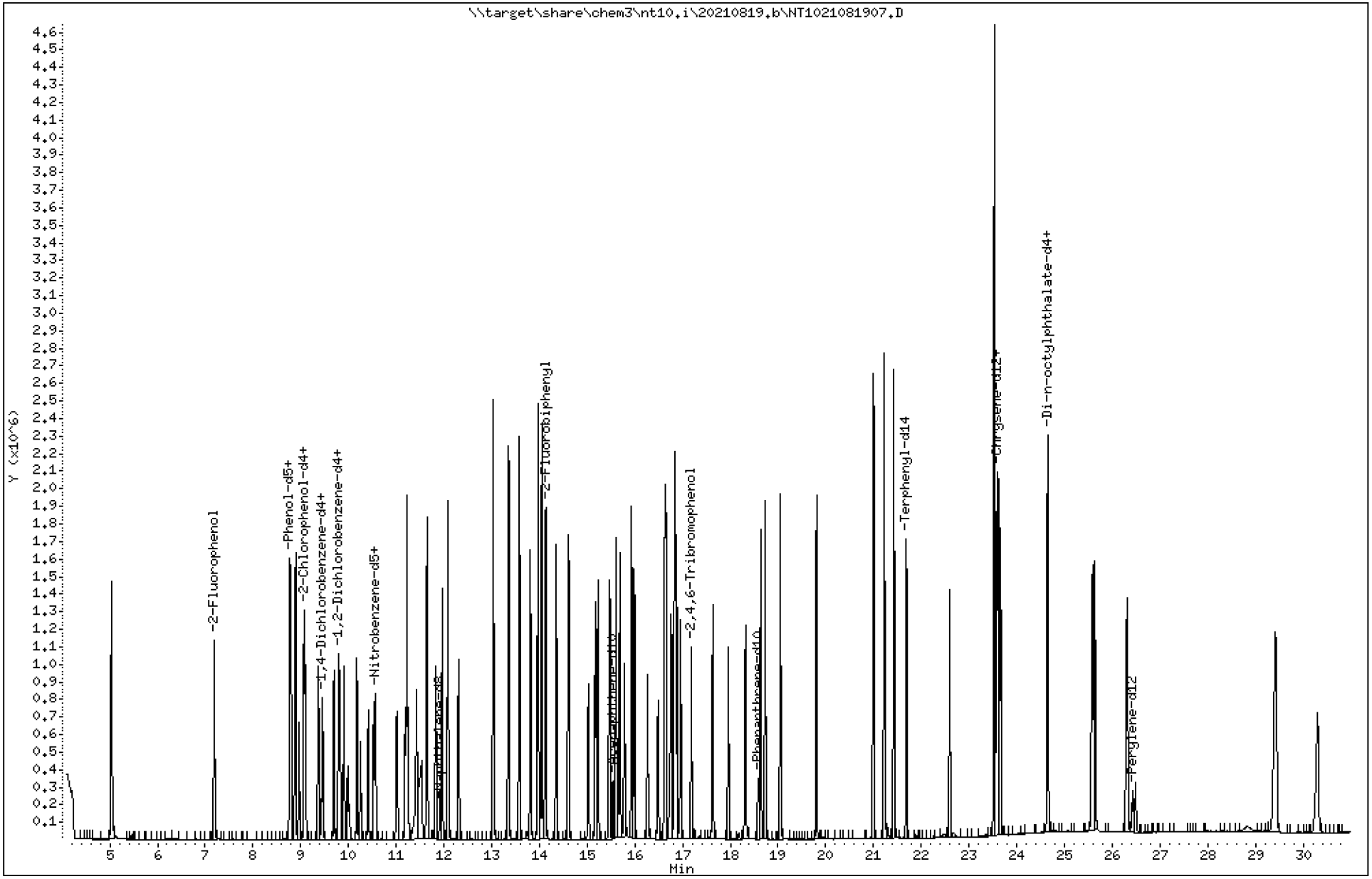
Instrument: nt10.i

Sample Info: SJH0235-CAL7

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081907.D
Lab Smp Id: SJH0235-CAL7
Inj Date : 19-AUG-2021 15:36
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL7
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 3 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$ 1 2-Fluorophenol	112	7.192	7.184	(0.762)	586494	30.0000	27.47
$ 2 Phenol-d5	99	8.776	8.761	(0.930)	1011534	30.0000	33.10
3 Phenol	94	8.799	8.784	(0.933)	520892	20.0000	18.62
$ 5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	648070	30.0000	29.77
4 Bis(2-Chloroethyl)ether	93	8.969	8.961	(0.951)	363811	20.0000	17.78
6 2-Chlorophenol	128	9.100	9.093	(0.965)	441855	20.0000	19.04
7 1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	430977	20.0000	17.86
* 8 1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	63872	4.00000	
9 1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	345611	20.0000	18.92
$ 10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	292673	20.0000	19.79
12 1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	384324	20.0000	18.48
11 Benzyl alcohol	108	9.697	9.689	(1.028)	281867	20.0000	21.91
14 2,2'-oxybis(1-Chloropropane)	121	9.984	9.984	(1.058)	127163	20.0000	20.62(M)
13 2-Methylphenol	108	9.907	9.907	(1.050)	342847	20.0000	19.35
17 Hexachloroethane	117	10.411	10.411	(1.104)	158411	20.0000	20.05
16 N-Nitroso-di-n-propylamine	70	10.256	10.241	(1.087)	233144	20.0000	18.76
15 4-Methylphenol	108	10.178	10.171	(1.079)	369864	20.0000	19.54
$ 18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	450033	20.0000	19.82
19 Nitrobenzene	77	10.566	10.559	(0.886)	406998	20.0000	19.44
20 Isophorone	82	11.017	11.001	(0.924)	758195	20.0000	23.43
21 2-Nitrophenol	139	11.186	11.186	(0.938)	272369	20.0000	22.84
22 2,4-Dimethylphenol	107	11.228	11.220	(0.942)	679552	40.0000	36.94
23 Bis(2-Chloroethoxy)methane	93	11.424	11.415	(0.958)	347218	20.0000	18.18
24 Benzoic acid	105	11.542	11.339	(0.968)	845697	80.0000	79.83
25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	712473	40.0000	37.79
26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	310688	20.0000	17.02
* 27 Naphthalene-d8	136	11.921	11.913	(1.000)	216866	4.00000	
28 Naphthalene	128	11.967	11.959	(1.004)	1107000	20.0000	20.58
29 4-Chloroaniline	127	12.090	12.075	(1.014)	1180434	40.0000	45.29
30 Hexachlorobutadiene	225	12.307	12.307	(1.032)	188808	20.0000	18.80
31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	845064	40.0000	44.60
32 2-Methylnaphthalene	142	13.352	13.352	(1.120)	1147395	20.0000	22.35
33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	459928	40.0000	39.88

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	601499	40.0000	42.48
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	641438	40.0000	43.12
$	36 2-Fluorobiphenyl	172	14.133	14.126	(0.909)	1069204	20.0000	19.17
	37 2-Chloronaphthalene	162	14.350	14.350	(0.923)	877331	20.0000	19.76
	38 2-Nitroaniline	65	14.613	14.598	(0.940)	535188	40.0000	40.59
	39 Dimethylphthalate	163	15.031	15.016	(0.967)	737741	20.0000	16.11
	40 Acenaphthylene	152	15.232	15.225	(0.980)	1194433	20.0000	17.26
	41 2,6-Dinitrotoluene	165	15.178	15.163	(0.977)	368970	40.0000	36.49
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	139621	4.00000	
	43 3-Nitroaniline	138	15.472	15.457	(0.996)	588179	40.0000	43.20
	44 Acenaphthene	153	15.604	15.596	(1.004)	752518	20.0000	20.56
	45 2,4-Dinitrophenol	184	15.689	15.674	(1.009)	505062	80.0000	79.77
	46 Dibenzofuran	168	15.936	15.928	(1.025)	1320242	20.0000	20.30
	47 4-Nitrophenol	109	15.781	15.782	(1.015)	200570	40.0000	39.90
	48 2,4-Dinitrotoluene	165	15.990	15.975	(1.029)	564994	40.0000	40.02
	50 Diethylphthalate	149	16.493	16.470	(1.061)	740273	20.0000	17.93
	49 Fluorene	166	16.647	16.640	(1.071)	986358	20.0000	17.09
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	454587	20.0000	17.60
	52 4-Nitroaniline	138	16.763	16.724	(1.079)	552140	40.0000	39.00
	53 4,6-Dinitro-2-methylphenol	198	16.848	16.817	(0.906)	775380	80.0000	79.88
	54 N-Nitrosodiphenylamine	169	16.886	16.871	(0.909)	569898	20.0000	16.16
$	55 2,4,6-Tribromophenol	330	17.187	17.180	(1.106)	167325	30.0000	30.01
	56 4-Bromophenyl-phenylether	248	17.634	17.627	(0.949)	274588	20.0000	19.42
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	226329	20.0000	16.89
	58 Pentachlorophenol	266	18.315	18.315	(0.985)	228182	40.0000	39.98
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	235813	4.00000	
	60 Phenanthrene	178	18.640	18.624	(1.003)	1175828	20.0000	20.42
	61 Anthracene	178	18.733	18.717	(1.008)	1266625	20.0000	20.48
	62 Carbazole	167	19.050	19.042	(1.025)	1362660	20.0000	21.39
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	1733378	20.0000	21.99
	64 Fluoranthene	202	21.000	20.992	(0.889)	1796982	20.0000	20.86
	65 Pyrene	202	21.425	21.417	(0.908)	1788533	20.0000	20.23
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	949584	20.0000	17.09
	67 Butylbenzylphthalate	149	22.602	22.594	(0.957)	559843	20.0000	16.09
	68 Benzo(a)anthracene	228	23.585	23.570	(0.999)	1232597	20.0000	17.93
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	196773	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.539	23.523	(0.997)	1751940	60.0000	64.05
	71 Chrysene	228	23.663	23.647	(1.002)	1071196	20.0000	19.66
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	764238	20.0000	18.79
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	422665	4.00000	
	73 Di-n-octylphthalate	149	24.653	24.646	(1.001)	1766142	20.0000	18.96
	74 Benzo(b)fluoranthene	252	25.590	25.575	(0.968)	1339191	20.0000	19.75
	75 Benzo(k)fluoranthene	252	25.637	25.621	(0.970)	1220819	20.0000	18.36
	76 Benzo(a)pyrene	252	26.310	26.295	(0.996)	1182099	20.0000	19.73
*	77 Perylene-d12	264	26.426	26.419	(1.000)	184324	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.417	29.371	(1.113)	1130631	20.0000	18.27
	79 Dibenzo(a,h)anthracene	278	29.433	29.386	(1.114)	843659	20.0000	17.82
	80 Benzo(g,h,i)perylene	276	30.303	30.256	(1.147)	1024656	20.0000	18.96
	90 N-Nitrosodimethylamine	74	5.029	5.021	(0.533)	507306	40.0000	36.89
	91 Aniline	93	8.892	8.876	(0.943)	1174089	40.0000	36.76
	93 Benzidine	184	21.224	21.216	(0.899)	1865669	40.0000	50.04
	103 Pyridine	79	5.037	5.052	(0.534)	766491	20.0000	17.64
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	1087191	20.0000	21.95
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.956	16.940	(1.091)	832540	20.0000	17.48

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.637	25.621	(0.970)	2452619	40.0000	37.91
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	214471	20.0000	19.98

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081907.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081907.D
Lab Smp Id: SJH0235-CAL7
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	63872	-34.50
27 Naphthalene-d8	336155	168078	672310	216866	-35.49
42 Acenaphthene-d10	204971	102486	409942	139621	-31.88
59 Phenanthrene-d10	357720	178860	715440	235813	-34.08
69 Chrysene-d12	291052	145526	582104	196773	-32.39
134 Di-n-octylphthala	588887	294444	1177774	422665	-28.23
77 Perylene-d12	273109	136555	546218	184324	-32.51

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.59	18.09	19.09	18.59	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081907.D

Lab ID: SJH0235-CAL7
nt10.i, ABN.m, 19-AUG-2021 15:36

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.968	0.952	0.0165	Benzoic acid

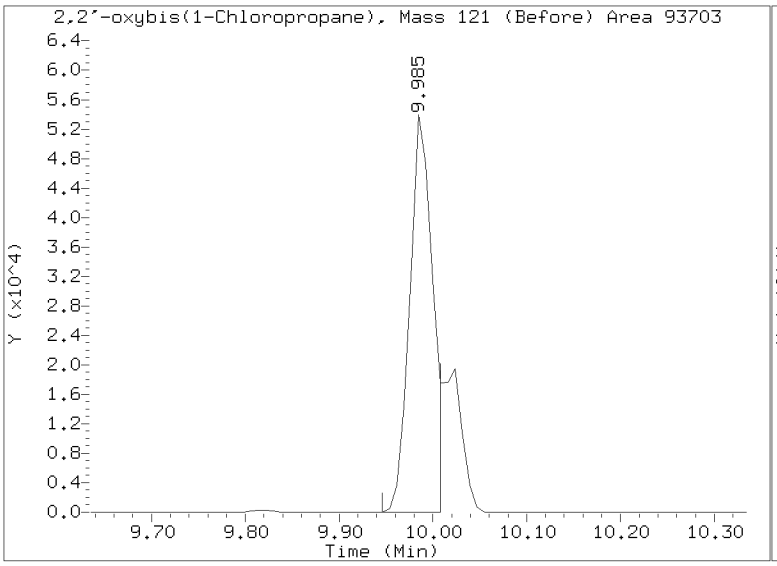
RRT check based on Ccal File: NT1021081912.D

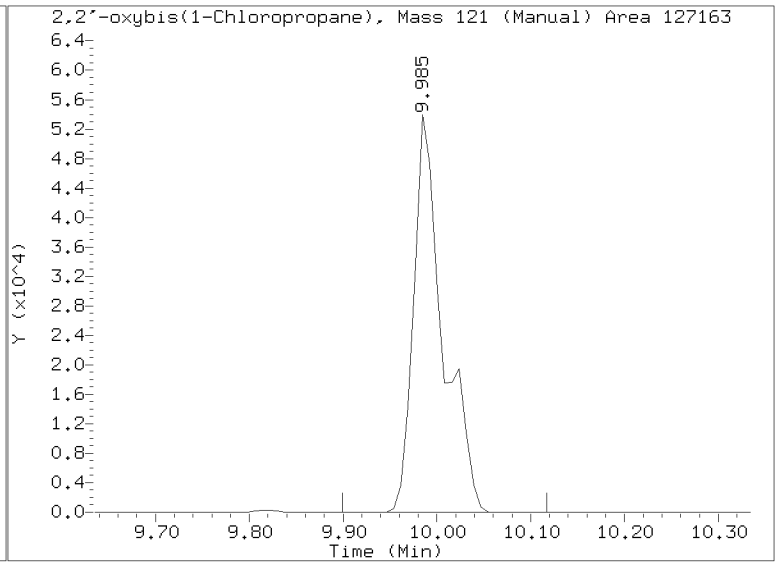
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081907.D
Injection Date: 19-AUG-2021 15:36
Lab ID:SJH0235-CAL7 Client ID:
Report Date: 08/20/2021 12:55





Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081908.D

Page 1

Date : 19-AUG-2021 16:15

Client ID:

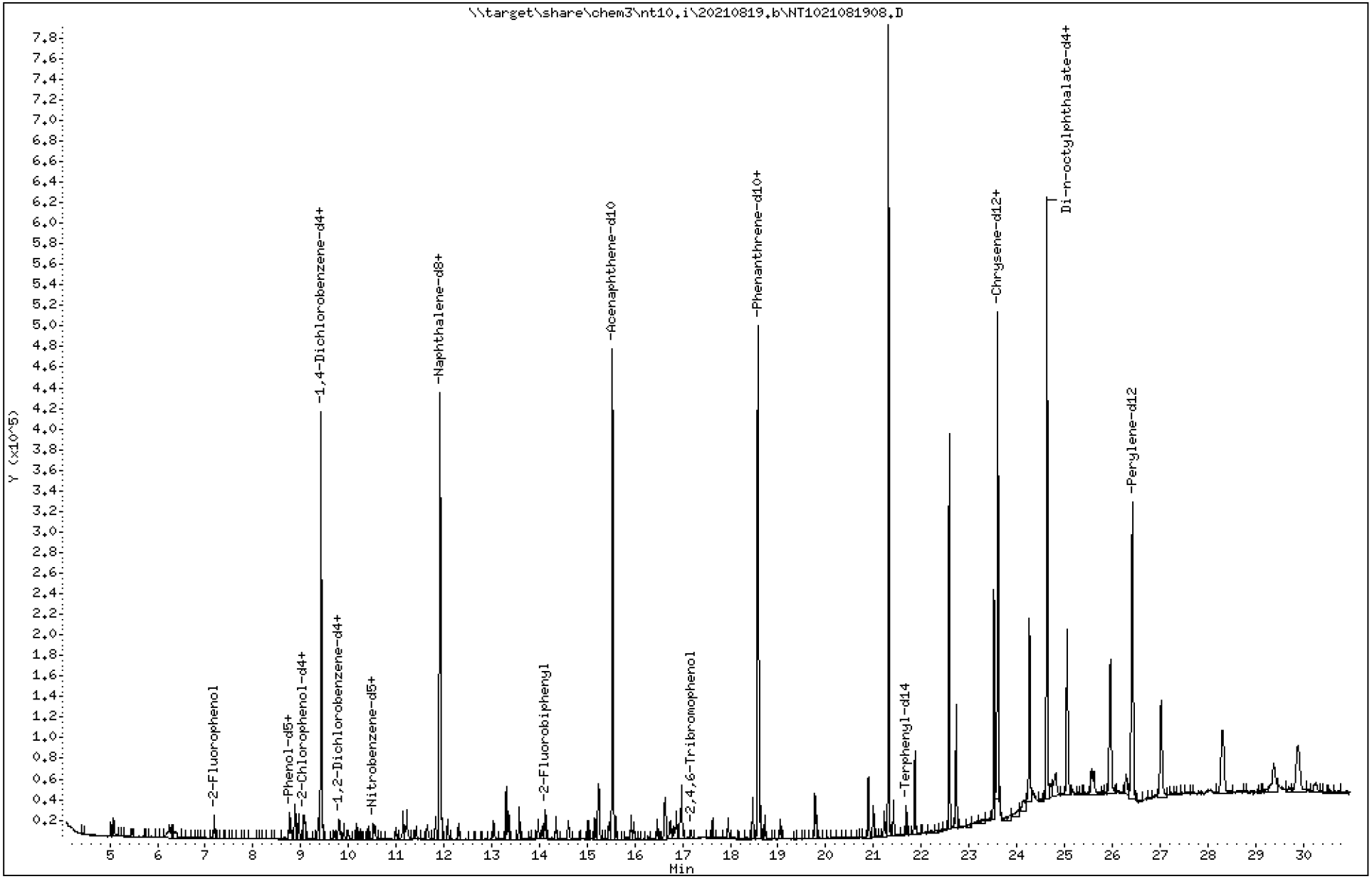
Instrument: nt10.i

Sample Info: SJH0235-CAL1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081908.D
Lab Smp Id: SJH0235-CAL1
Inj Date : 19-AUG-2021 16:15
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 4 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.763)	10838	0.30000	0.2916
$	2 Phenol-d5	99	8.768	8.761	(0.930)	13773	0.30000	0.2589
	3 Phenol	94	8.783	8.784	(0.932)	9111	0.20000	0.1871
$	5 2-Chlorophenol-d4	132	9.061	9.062	(0.961)	11184	0.30000	0.2951
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.951)	7491	0.20000	0.2103
	6 2-Chlorophenol	128	9.092	9.093	(0.965)	7871	0.20000	0.1948
	7 1,3-Dichlorobenzene	146	9.363	9.364	(0.993)	8579	0.20000	0.2042
*	8 1,4-Dichlorobenzene-d4	152	9.425	9.426	(1.000)	111186	4.00000	
	9 1,4-Dichlorobenzene	146	9.456	9.457	(1.003)	6135	0.20000	0.1929
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	5015	0.20000	0.1948
	12 1,2-Dichlorobenzene	146	9.813	9.814	(1.041)	7150	0.20000	0.1975
	11 Benzyl alcohol	108	9.689	9.689	(1.028)	3474	0.20000	0.1551
	14 2,2'-oxybis(1-Chloropropane)	121	9.984	9.984	(1.059)	2130	0.20000	0.1984
	13 2-Methylphenol	108	9.907	9.907	(1.051)	5900	0.20000	0.1913
	17 Hexachloroethane	117	10.411	10.411	(1.105)	2726	0.20000	0.1982
	16 N-Nitroso-di-n-propylamine	70	10.240	10.241	(1.086)	4151	0.20000	0.1919
	15 4-Methylphenol	108	10.178	10.171	(1.080)	5787	0.20000	0.1757
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.883)	7597	0.20000	0.2002
	19 Nitrobenzene	77	10.559	10.559	(0.886)	7094	0.20000	0.2028
	20 Isophorone	82	11.001	11.001	(0.923)	8623	0.20000	0.1595
	21 2-Nitrophenol	139	11.186	11.186	(0.939)	3117	0.20000	0.1565
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.942)	11860	0.40000	0.3858
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	6657	0.20000	0.2086
	24 Benzoic acid	105	11.347	11.339	(0.953)	1686	0.80000	0.1086(M)
	25 2,4-Dichlorophenol	162	11.653	11.636	(0.978)	10345	0.40000	0.3283
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.993)	6592	0.20000	0.2162
*	27 Naphthalene-d8	136	11.913	11.913	(1.000)	362380	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.004)	16625	0.20000	0.1849
	29 4-Chloroaniline	127	12.083	12.075	(1.014)	13161	0.40000	0.3022
	30 Hexachlorobutadiene	225	12.307	12.307	(1.033)	3172	0.20000	0.1891
	31 4-Chloro-3-methylphenol	107	13.042	13.027	(1.095)	9274	0.40000	0.2929
	32 2-Methylnaphthalene	142	13.351	13.352	(1.121)	14297	0.20000	0.1666
	33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	991	0.40000	0.06850

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	6038	0.40000	0.2948
	35 2,4,5-Trichlorophenol	196	14.063	14.048	(0.905)	6981	0.40000	0.3244
$	36 2-Fluorobiphenyl	172	14.125	14.126	(0.909)	16077	0.20000	0.1992
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	12012	0.20000	0.1870
	38 2-Nitroaniline	65	14.605	14.598	(0.940)	6298	0.40000	0.3302
	39 Dimethylphthalate	163	15.015	15.016	(0.967)	14824	0.20000	0.2238
	40 Acenaphthylene	152	15.224	15.225	(0.980)	21556	0.20000	0.2153
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.977)	5487	0.40000	0.3751
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	201986	4.00000	
	43 3-Nitroaniline	138	15.464	15.457	(0.996)	5842	0.40000	0.2966
	44 Acenaphthene	153	15.603	15.596	(1.004)	9960	0.20000	0.1881
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	15.928	15.928	(1.025)	18016	0.20000	0.1915
	47 4-Nitrophenol	109	15.812	15.782	(1.018)	1083	0.40000	0.1518(M)
	48 2,4-Dinitrotoluene	165	15.975	15.975	(1.028)	5886	0.40000	0.2882
	50 Diethylphthalate	149	16.469	16.470	(1.060)	12918	0.20000	0.2163
	49 Fluorene	166	16.639	16.640	(1.071)	17840	0.20000	0.2136
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	7878	0.20000	0.2108
	52 4-Nitroaniline	138	16.740	16.724	(1.078)	6744	0.40000	0.3293
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.817	(0.906)	3720	0.80000	0.2593
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	11763	0.20000	0.2265
$	55 2,4,6-Tribromophenol	330	17.187	17.180	(1.106)	1559	0.30000	0.2032
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.949)	4078	0.20000	0.1959
	57 Hexachlorobenzene	284	17.959	17.951	(0.967)	4254	0.20000	0.2156
	58 Pentachlorophenol	266	18.338	18.315	(0.987)	284	0.40000	0.03936(M)
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	347157	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.003)	16755	0.20000	0.1977
	61 Anthracene	178	18.725	18.717	(1.008)	17272	0.20000	0.1897
	62 Carbazole	167	19.050	19.042	(1.025)	17749	0.20000	0.1892
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	20862	0.20000	0.1798
	64 Fluoranthene	202	20.999	20.992	(0.890)	21682	0.20000	0.1823
	65 Pyrene	202	21.417	21.417	(0.907)	22944	0.20000	0.1879
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	16897	0.20000	0.2203
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	11611	0.20000	0.2417
	68 Benzo(a)anthracene	228	23.569	23.570	(0.999)	19721	0.20000	0.2077
*	69 Chrysene-d12	240	23.600	23.601	(1.000)	271742	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.997)	21223	0.60000	0.5619
	71 Chrysene	228	23.647	23.647	(1.002)	14802	0.20000	0.1967
	72 bis(2-Ethylhexyl)phthalate	149	23.608	23.608	(0.959)	9982	0.20000	0.2107
*	134 Di-n-octylphthalate-d4	153	24.630	24.630	(1.000)	492317	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.001)	22018	0.20000	0.2029
	74 Benzo(b)fluoranthene	252	25.567	25.575	(0.968)	17996	0.20000	0.2000
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	17388	0.20000	0.1971
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	15681	0.20000	0.1972
*	77 Perylene-d12	264	26.419	26.419	(1.000)	244625	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	16890	0.20000	0.2056
	79 Dibenzo(a,h)anthracene	278	29.402	29.386	(1.113)	13111	0.20000	0.2087
	80 Benzo(g,h,i)perylene	276	30.256	30.256	(1.145)	14531	0.20000	0.2026(M)
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.533)	8617	0.40000	0.3600
	91 Aniline	93	8.884	8.876	(0.943)	22632	0.40000	0.4071
	93 Benzidine	184	21.224	21.216	(0.899)	21849	0.40000	0.4244
	103 Pyridine	79	5.075	5.052	(0.538)	14026	0.20000	0.1855
	105 1-methylnaphthalene	142	13.576	13.576	(1.140)	14152	0.20000	0.1710
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.091)	15336	0.20000	0.2226

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.621	25.621	(0.970)	35024	0.40000	0.4079
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	1379	0.20000	0.09382

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081908.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081908.D
Lab Smp Id: SJH0235-CAL1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	111186	14.02
27 Naphthalene-d8	336155	168078	672310	362380	7.80
42 Acenaphthene-d10	204971	102486	409942	201986	-1.46
59 Phenanthrene-d10	357720	178860	715440	347157	-2.95
69 Chrysene-d12	291052	145526	582104	271742	-6.63
134 Di-n-octylphthala	588887	294444	1177774	492317	-16.40
77 Perylene-d12	273109	136555	546218	244625	-10.43

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.91	-0.07
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.58	-0.04
69 Chrysene-d12	23.61	23.11	24.11	23.60	-0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.63	-0.03
77 Perylene-d12	26.43	25.93	26.93	26.42	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081908.D

Lab ID: SJH0235-CAL1
nt10.i, ABN.m, 19-AUG-2021 16:15

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

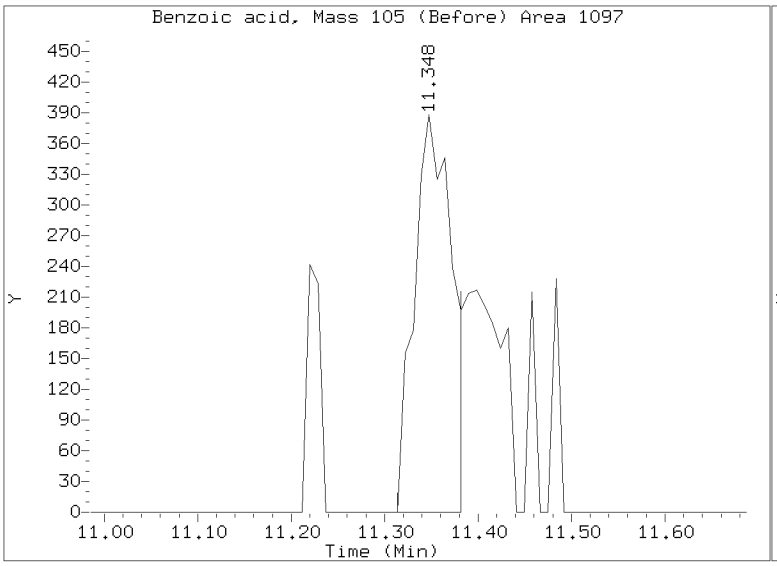
RRT check based on Ccal File: NT1021081912.D

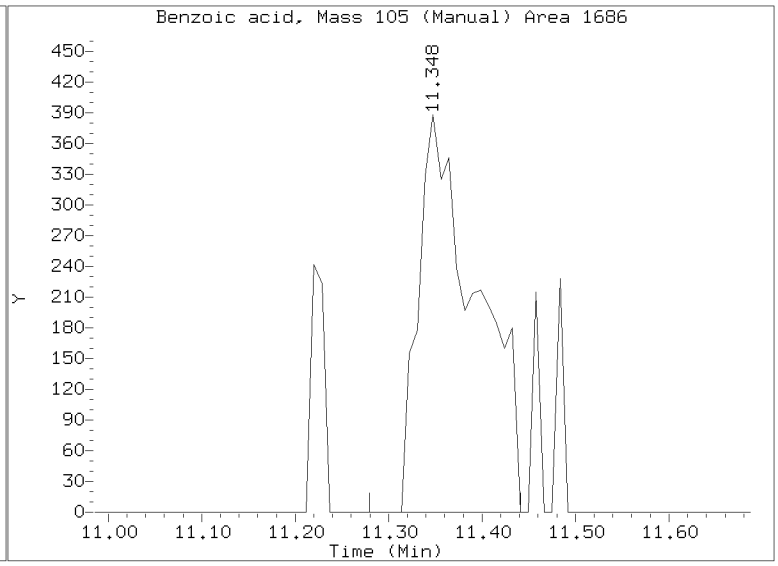
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

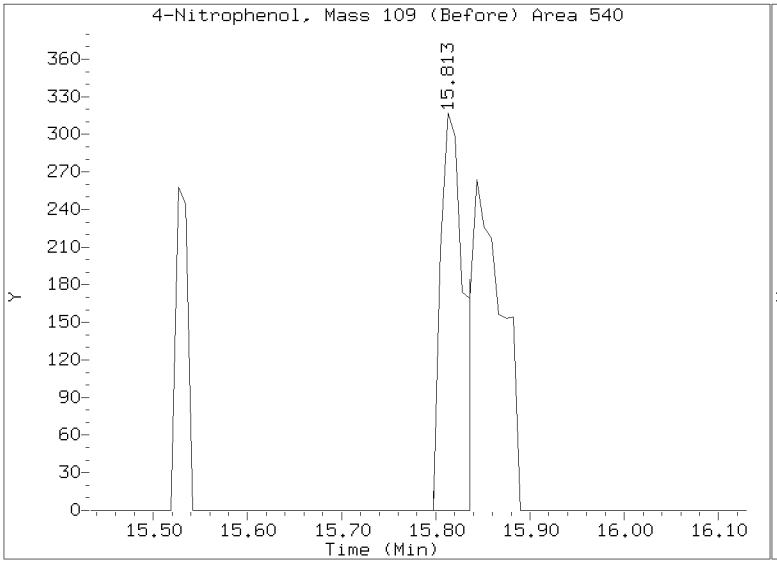
* Only compounds listed in the work order have been verified by the analyst *

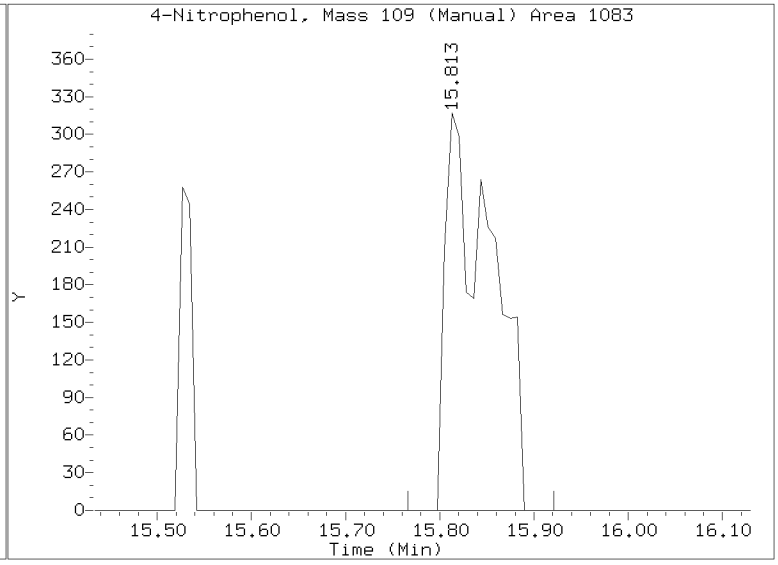
Quant Ion Manual Peak Adjustment Report

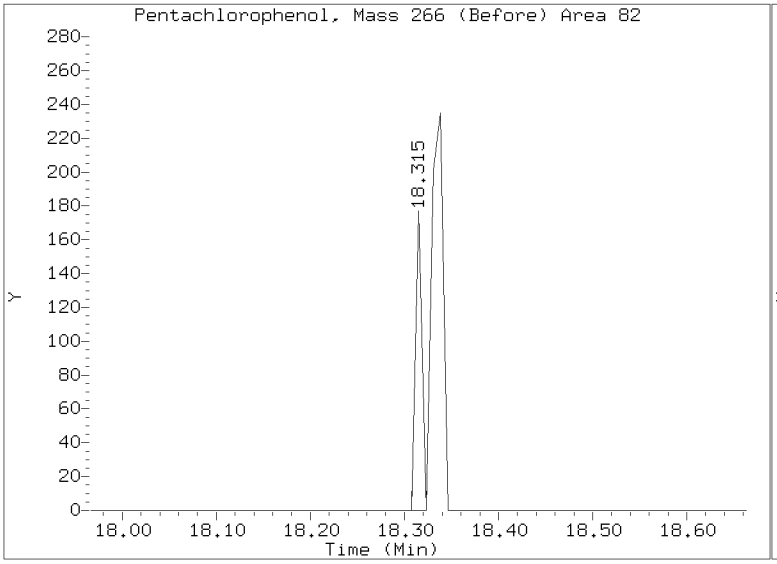
Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081908.D
Injection Date: 19-AUG-2021 16:15
Lab ID:SJH0235-CAL1 Client ID:
Report Date: 08/20/2021 12:55

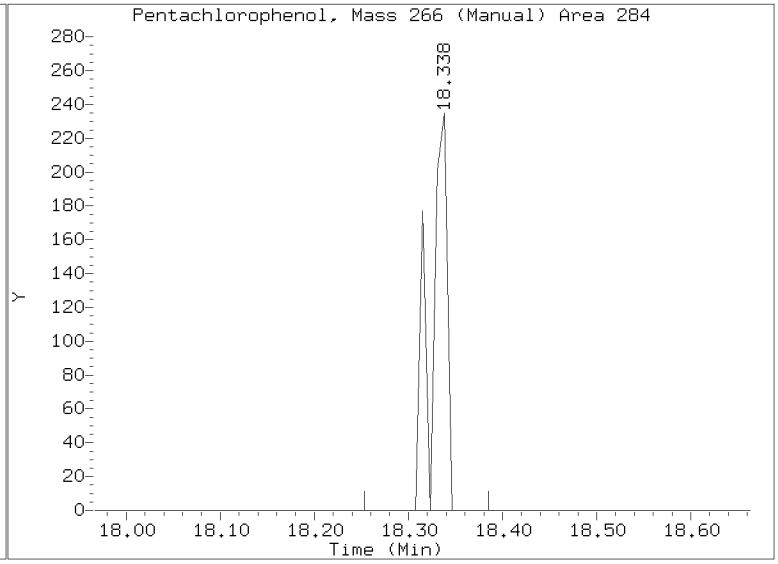












Quant Ion Manual Peak Adjustment Report

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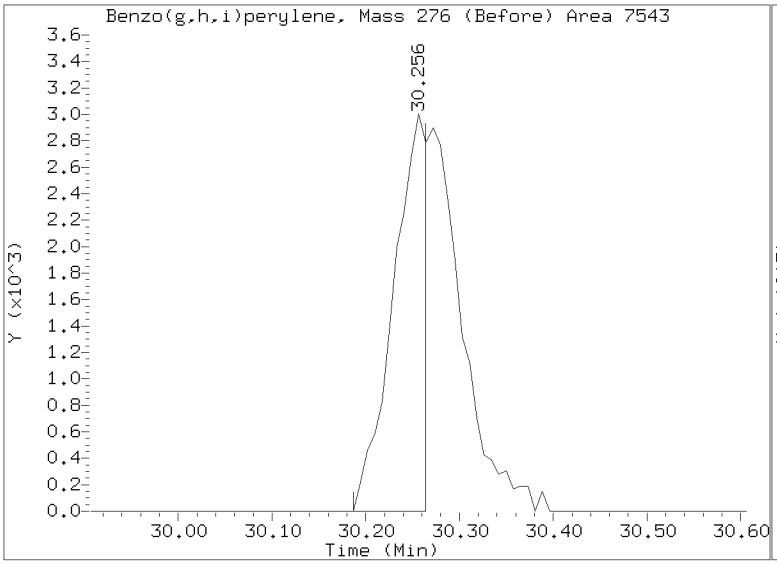
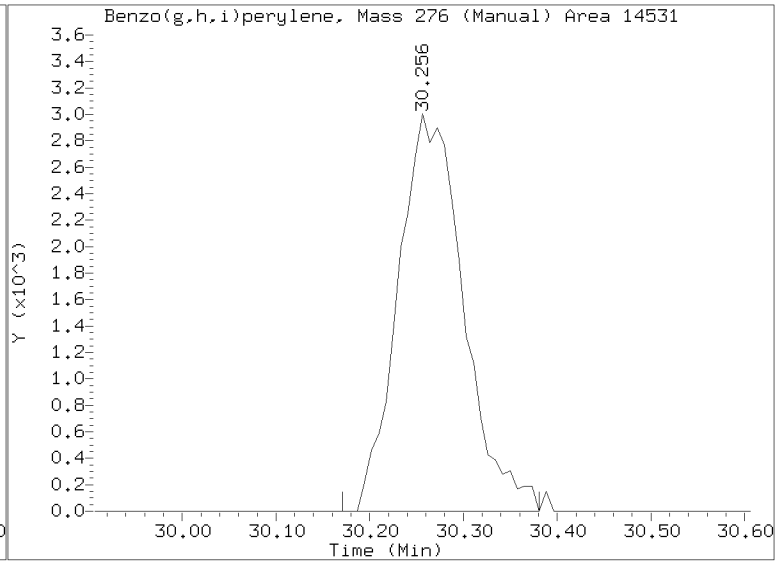
Injection Date: 19-AUG-2021 16:15
Lab ID:SJH0235-CAL1 Client ID:
Report Date: 08/20/2021 12:55





Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081909.D

Page 1

Date : 19-AUG-2021 16:53

Client ID:

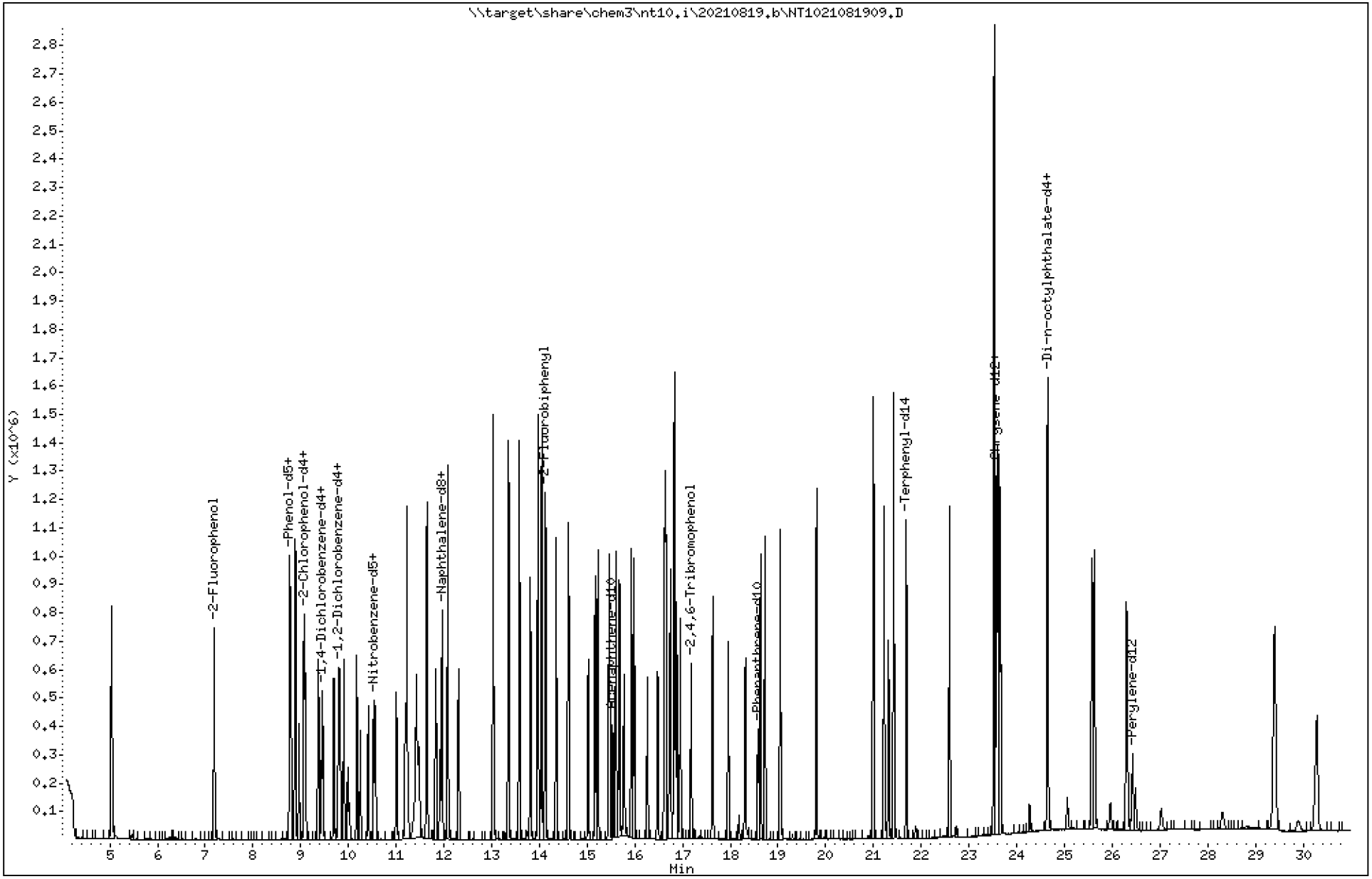
Instrument: nt10.i

Sample Info: SJH0235-CAL6

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081909.D
Lab Smp Id: SJH0235-CAL6
Inj Date : 19-AUG-2021 16:53
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL6
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 5 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

		QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
Compounds								
$	1 2-Fluorophenol	112	7.184	7.184	(0.762)	368521	15.0000	14.42
$	2 Phenol-d5	99	8.776	8.761	(0.930)	584660	15.0000	15.99
	3 Phenol	94	8.791	8.784	(0.932)	335187	10.0000	10.01
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	379384	15.0000	14.56
	4 Bis(2-Chloroethyl)ether	93	8.969	8.961	(0.951)	228205	10.0000	9.319
	6 2-Chlorophenol	128	9.100	9.093	(0.965)	275392	10.0000	9.916
	7 1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	272559	10.0000	9.438
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	76425	4.00000	
	9 1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	216673	10.0000	9.911
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.038)	171483	10.0000	9.691
	12 1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	240588	10.0000	9.670
	11 Benzyl alcohol	108	9.697	9.689	(1.028)	169541	10.0000	11.01
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	77615	10.0000	10.52(M)
	13 2-Methylphenol	108	9.907	9.907	(1.050)	212824	10.0000	10.04
	17 Hexachloroethane	117	10.411	10.411	(1.104)	96063	10.0000	10.16
	16 N-Nitroso-di-n-propylamine	70	10.248	10.241	(1.086)	146881	10.0000	9.877
	15 4-Methylphenol	108	10.178	10.171	(1.079)	232991	10.0000	10.29
$	18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	268369	10.0000	9.903
	19 Nitrobenzene	77	10.566	10.559	(0.886)	254511	10.0000	10.19
	20 Isophorone	82	11.009	11.001	(0.924)	412384	10.0000	10.68
	21 2-Nitrophenol	139	11.194	11.186	(0.939)	159050	10.0000	11.18
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.941)	419200	20.0000	19.09
	23 Bis(2-Chloroethoxy)methane	93	11.424	11.415	(0.958)	215862	10.0000	9.469
	24 Benzoic acid	105	11.483	11.339	(0.963)	478329	40.0000	40.63
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	459243	20.0000	20.41
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	199101	10.0000	9.141
*	27 Naphthalene-d8	136	11.920	11.913	(1.000)	258836	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	669047	10.0000	10.42
	29 4-Chloroaniline	127	12.083	12.075	(1.014)	697718	20.0000	22.43
	30 Hexachlorobutadiene	225	12.307	12.307	(1.032)	117387	10.0000	9.796
	31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	501729	20.0000	22.19
	32 2-Methylnaphthalene	142	13.351	13.352	(1.120)	665638	10.0000	10.86
	33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	255166	20.0000	20.62

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	356357	20.0000	21.72
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	379328	20.0000	22.00
$	36 2-Fluorobiphenyl	172	14.125	14.126	(0.909)	632280	10.0000	9.780
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	530435	10.0000	10.31
	38 2-Nitroaniline	65	14.613	14.598	(0.941)	327830	20.0000	21.45
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	477211	10.0000	8.992
	40 Acenaphthylene	152	15.224	15.225	(0.980)	751125	10.0000	9.366
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.977)	232128	20.0000	19.81
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	161817	4.00000	
	43 3-Nitroaniline	138	15.464	15.457	(0.996)	343936	20.0000	21.79
	44 Acenaphthene	153	15.604	15.596	(1.004)	445902	10.0000	10.51
	45 2,4-Dinitrophenol	184	15.681	15.674	(1.009)	273728	40.0000	41.11
	46 Dibenzofuran	168	15.928	15.928	(1.025)	771225	10.0000	10.23
	47 4-Nitrophenol	109	15.774	15.782	(1.015)	117884	20.0000	20.43
	48 2,4-Dinitrotoluene	165	15.982	15.975	(1.029)	348450	20.0000	21.30
	50 Diethylphthalate	149	16.477	16.470	(1.061)	439537	10.0000	9.188
	49 Fluorene	166	16.647	16.640	(1.072)	629834	10.0000	9.415
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	282922	10.0000	9.449
	52 4-Nitroaniline	138	16.747	16.724	(1.078)	342128	20.0000	20.85
	53 4,6-Dinitro-2-methylphenol	198	16.832	16.817	(0.906)	475744	40.0000	40.43
	54 N-Nitrosodiphenylamine	169	16.878	16.871	(0.909)	370355	10.0000	8.678
$	55 2,4,6-Tribromophenol	330	17.179	17.180	(1.106)	93651	15.0000	14.88
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.949)	167756	10.0000	9.807
	57 Hexachlorobenzene	284	17.959	17.951	(0.967)	146239	10.0000	9.018
	58 Pentachlorophenol	266	18.315	18.315	(0.986)	126026	20.0000	19.88
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	285323	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.003)	699119	10.0000	10.04
	61 Anthracene	178	18.725	18.717	(1.008)	760956	10.0000	10.17
	62 Carbazole	167	19.050	19.042	(1.025)	806873	10.0000	10.47
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	1015328	10.0000	10.65
	64 Fluoranthene	202	20.999	20.992	(0.889)	1065819	10.0000	10.74
	65 Pyrene	202	21.425	21.417	(0.908)	1073684	10.0000	10.54
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	570373	10.0000	8.915
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	359415	10.0000	8.969
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	752532	10.0000	9.504
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	226646	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.531	23.523	(0.997)	995425	30.0000	31.60
	71 Chrysene	228	23.655	23.647	(1.002)	644540	10.0000	10.27
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	454634	10.0000	9.908
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	476779	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	1028114	10.0000	9.784
	74 Benzo(b)fluoranthene	252	25.582	25.575	(0.968)	775049	10.0000	10.07
	75 Benzo(k)fluoranthene	252	25.629	25.621	(0.970)	754226	10.0000	9.995
	76 Benzo(a)pyrene	252	26.302	26.295	(0.995)	688913	10.0000	10.13
*	77 Perylene-d12	264	26.426	26.419	(1.000)	209239	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.402	29.371	(1.113)	670351	10.0000	9.542
	79 Dibenzo(a,h)anthracene	278	29.417	29.386	(1.113)	510253	10.0000	9.494
	80 Benzo(g,h,i)perylene	276	30.287	30.256	(1.146)	610444	10.0000	9.950
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.532)	336814	20.0000	20.47
	91 Aniline	93	8.884	8.876	(0.942)	722232	20.0000	18.90
	93 Benzidine	184	21.224	21.216	(0.899)	820901	20.0000	19.12
	103 Pyridine	79	5.044	5.052	(0.535)	495502	10.0000	9.532
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	643216	10.0000	10.88
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.091)	523640	10.0000	9.487

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.629	25.621	(0.970)	1469290	20.0000	20.01
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.047)	121195	10.0000	10.03

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081909.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081909.D
Lab Smp Id: SJH0235-CAL6
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	76425	-21.63
27 Naphthalene-d8	336155	168078	672310	258836	-23.00
42 Acenaphthene-d10	204971	102486	409942	161817	-21.05
59 Phenanthrene-d10	357720	178860	715440	285323	-20.24
69 Chrysene-d12	291052	145526	582104	226646	-22.13
134 Di-n-octylphthala	588887	294444	1177774	476779	-19.04
77 Perylene-d12	273109	136555	546218	209239	-23.39

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	-0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.58	-0.04
69 Chrysene-d12	23.61	23.11	24.11	23.61	-0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	-0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081909.D

Lab ID: SJH0235-CAL6
nt10.i, ABN.m, 19-AUG-2021 16:53

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.963	0.952	0.0115	Benzoic acid

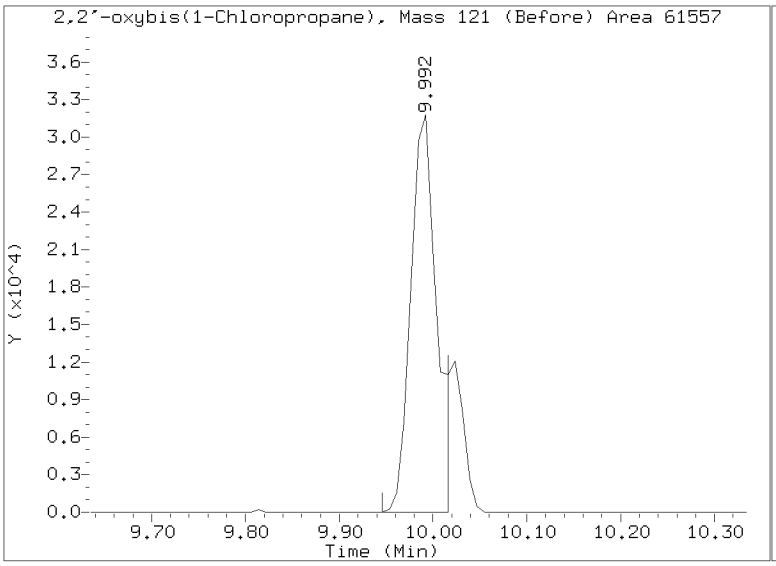
RRT check based on Ccal File: NT1021081912.D

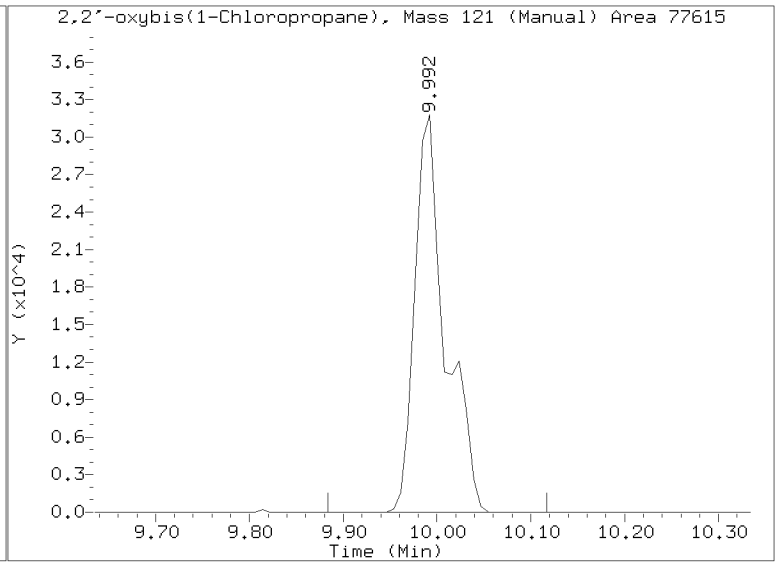
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081909.D
Injection Date: 19-AUG-2021 16:53
Lab ID:SJH0235-CAL6 Client ID:
Report Date: 08/20/2021 12:55





Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081910.D

Page 1

Date : 19-AUG-2021 17:31

Client ID:

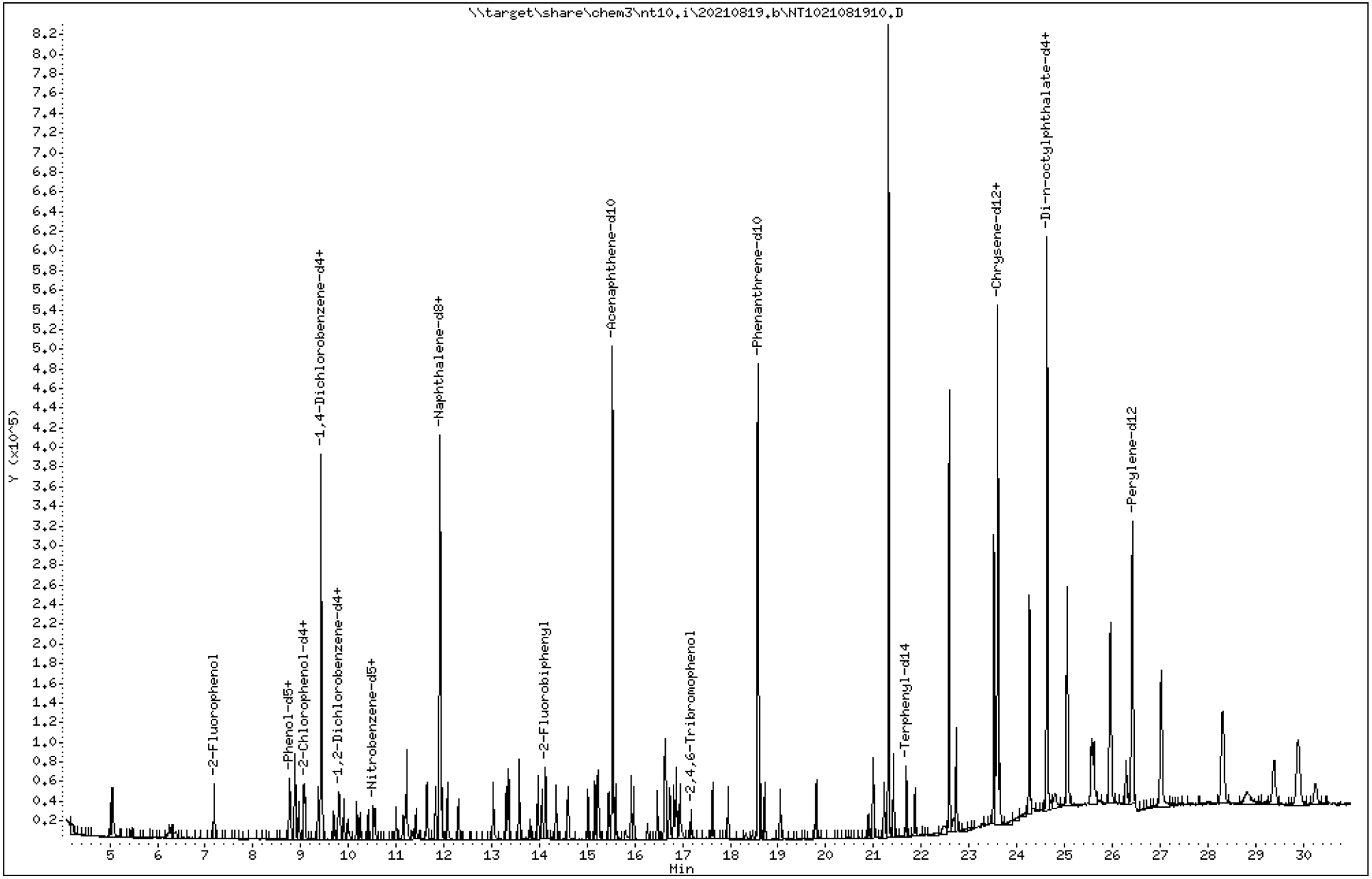
Instrument: nt10.i

Sample Info: SJH0235-CAL2

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081910.D
Lab Smp Id: SJH0235-CAL2
Inj Date : 19-AUG-2021 17:31
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL2
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/mL)	ON-COL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.763)	27111	0.75000	0.7762
$	2 Phenol-d5	99	8.760	8.761	(0.929)	36266	0.75000	0.7255
	3 Phenol	94	8.784	8.784	(0.932)	23225	0.50000	0.5076
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.962)	27203	0.75000	0.7639
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.951)	18415	0.50000	0.5501
	6 2-Chlorophenol	128	9.092	9.093	(0.965)	19528	0.50000	0.5144
	7 1,3-Dichlorobenzene	146	9.363	9.364	(0.993)	20925	0.50000	0.5301
*	8 1,4-Dichlorobenzene-d4	152	9.425	9.426	(1.000)	104470	4.00000	
	9 1,4-Dichlorobenzene	146	9.456	9.457	(1.003)	15454	0.50000	0.5171
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	12191	0.50000	0.5040
	12 1,2-Dichlorobenzene	146	9.821	9.814	(1.042)	17782	0.50000	0.5228
	11 Benzyl alcohol	108	9.689	9.689	(1.028)	8661	0.50000	0.4115
	14 2,2'-oxybis(1-Chloropropane)	121	9.984	9.984	(1.059)	4094	0.50000	0.4059
	13 2-Methylphenol	108	9.907	9.907	(1.051)	14425	0.50000	0.4978
	17 Hexachloroethane	117	10.411	10.411	(1.105)	6365	0.50000	0.4924
	16 N-Nitroso-di-n-propylamine	70	10.240	10.241	(1.086)	10491	0.50000	0.5161
	15 4-Methylphenol	108	10.171	10.171	(1.079)	15663	0.50000	0.5060
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.883)	18435	0.50000	0.5171
	19 Nitrobenzene	77	10.559	10.559	(0.886)	16726	0.50000	0.5089
	20 Isophorone	82	11.001	11.001	(0.923)	22987	0.50000	0.4525
	21 2-Nitrophenol	139	11.186	11.186	(0.939)	8241	0.50000	0.4403
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.942)	30130	1.00000	1.043
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	16636	0.50000	0.5548
	24 Benzoic acid	105	11.330	11.339	(0.951)	6330	2.00000	0.4339
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	28245	1.00000	0.9542
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.993)	15680	0.50000	0.5473
*	27 Naphthalene-d8	136	11.913	11.913	(1.000)	340466	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.004)	41502	0.50000	0.4914
	29 4-Chloroaniline	127	12.083	12.075	(1.014)	34718	1.00000	0.8484
	30 Hexachlorobutadiene	225	12.307	12.307	(1.033)	7987	0.50000	0.5067
	31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.094)	25222	1.00000	0.8479
	32 2-Methylnaphthalene	142	13.352	13.352	(1.121)	37279	0.50000	0.4625
	33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	5582	1.00000	0.3952

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	17341	1.00000	0.8679
	35 2,4,5-Trichlorophenol	196	14.056	14.048	(0.905)	17909	1.00000	0.8532
$	36 2-Fluorobiphenyl	172	14.125	14.126	(0.909)	40053	0.50000	0.5088
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	31308	0.50000	0.4996
	38 2-Nitroaniline	65	14.598	14.598	(0.940)	17167	1.00000	0.9226
	39 Dimethylphthalate	163	15.016	15.016	(0.967)	36110	0.50000	0.5588
	40 Acenaphthylene	152	15.225	15.225	(0.980)	52473	0.50000	0.5374
	41 2,6-Dinitrotoluene	165	15.163	15.163	(0.976)	14556	1.00000	1.020
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	197027	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	16699	1.00000	0.8691
	44 Acenaphthene	153	15.604	15.596	(1.004)	25262	0.50000	0.4891
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.009)	750	2.00000	0.1000(M)
	46 Dibenzofuran	168	15.928	15.928	(1.025)	44274	0.50000	0.4824
	47 4-Nitrophenol	109	15.797	15.782	(1.017)	4187	1.00000	0.6017(M)
	48 2,4-Dinitrotoluene	165	15.975	15.975	(1.028)	17972	1.00000	0.9022
	50 Diethylphthalate	149	16.469	16.470	(1.060)	30870	0.50000	0.5300
	49 Fluorene	166	16.639	16.640	(1.071)	43777	0.50000	0.5375
	51 4-Chlorophenyl-phenylether	204	16.616	16.616	(1.070)	19593	0.50000	0.5374
	52 4-Nitroaniline	138	16.732	16.724	(1.077)	19489	1.00000	0.9755
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.817	(0.906)	16056	2.00000	1.140
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	29302	0.50000	0.5750
$	55 2,4,6-Tribromophenol	330	17.179	17.180	(1.106)	4517	0.75000	0.6031
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.949)	10656	0.50000	0.5217
	57 Hexachlorobenzene	284	17.951	17.951	(0.966)	11058	0.50000	0.5711
	58 Pentachlorophenol	266	18.323	18.315	(0.986)	2305	1.00000	0.3252
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	340715	4.00000	
	60 Phenanthrene	178	18.624	18.624	(1.002)	40903	0.50000	0.4917
	61 Anthracene	178	18.725	18.717	(1.008)	43610	0.50000	0.4879
	62 Carbazole	167	19.050	19.042	(1.025)	43839	0.50000	0.4763
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	52062	0.50000	0.4572
	64 Fluoranthene	202	20.992	20.992	(0.889)	56813	0.50000	0.4832
	65 Pyrene	202	21.417	21.417	(0.907)	59206	0.50000	0.4907
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	41689	0.50000	0.5498
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	26930	0.50000	0.5671
	68 Benzo(a)anthracene	228	23.570	23.570	(0.999)	49086	0.50000	0.5231
*	69 Chrysene-d12	240	23.601	23.601	(1.000)	268590	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.997)	53763	1.50000	1.440
	71 Chrysene	228	23.647	23.647	(1.002)	37292	0.50000	0.5013
	72 bis(2-Ethylhexyl)phthalate	149	23.608	23.608	(0.959)	23559	0.50000	0.5049
*	134 Di-n-octylphthalate-d4	153	24.630	24.630	(1.000)	484857	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.001)	54557	0.50000	0.5105
	74 Benzo(b)fluoranthene	252	25.567	25.575	(0.968)	45069	0.50000	0.5078
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	42531	0.50000	0.4889
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	38801	0.50000	0.4949
*	77 Perylene-d12	264	26.419	26.419	(1.000)	241218	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.386	29.371	(1.112)	41984	0.50000	0.5184
	79 Dibenzo(a,h)anthracene	278	29.402	29.386	(1.113)	32819	0.50000	0.5297
	80 Benzo(g,h,i)perylene	276	30.256	30.256	(1.145)	35615	0.50000	0.5036
	90 N-Nitrosodimethylamine	74	5.013	5.021	(0.532)	22215	1.00000	0.9877
	91 Aniline	93	8.876	8.876	(0.942)	55472	1.00000	1.062
	93 Benzidine	184	21.224	21.216	(0.899)	48931	1.00000	0.9616
	103 Pyridine	79	5.060	5.052	(0.537)	36473	0.50000	0.5133
	105 1-methylnaphthalene	142	13.576	13.576	(1.140)	35887	0.50000	0.4616
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.091)	35712	0.50000	0.5314

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.621	25.621	(0.970)	84944	1.00000	1.003
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	4597	0.50000	0.3205

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081910.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081910.D
Lab Smp Id: SJH0235-CAL2
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	104470	7.13
27 Naphthalene-d8	336155	168078	672310	340466	1.28
42 Acenaphthene-d10	204971	102486	409942	197027	-3.88
59 Phenanthrene-d10	357720	178860	715440	340715	-4.75
69 Chrysene-d12	291052	145526	582104	268590	-7.72
134 Di-n-octylphthala	588887	294444	1177774	484857	-17.67
77 Perylene-d12	273109	136555	546218	241218	-11.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.91	-0.06
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.58	-0.04
69 Chrysene-d12	23.61	23.11	24.11	23.60	-0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.63	-0.03
77 Perylene-d12	26.43	25.93	26.93	26.42	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081910.D

Lab ID: SJH0235-CAL2
nt10.i, ABN.m, 19-AUG-2021 17:31

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

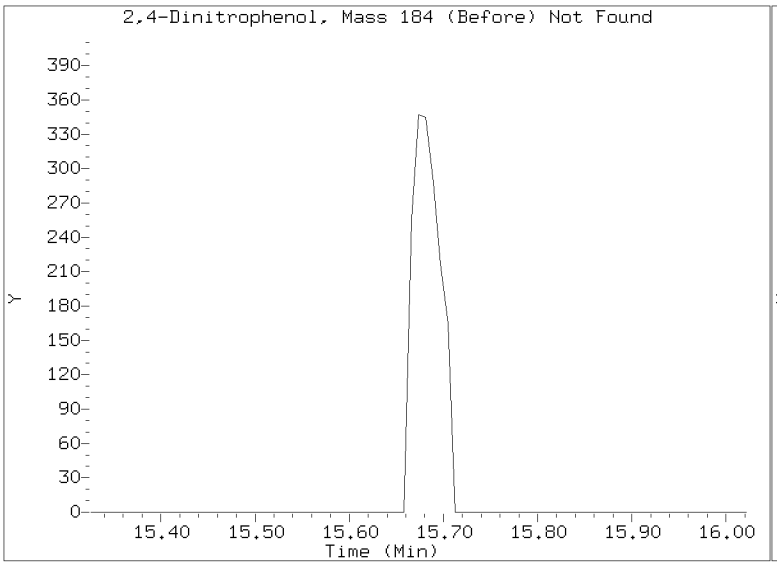
RRT check based on Ccal File: NT1021081912.D

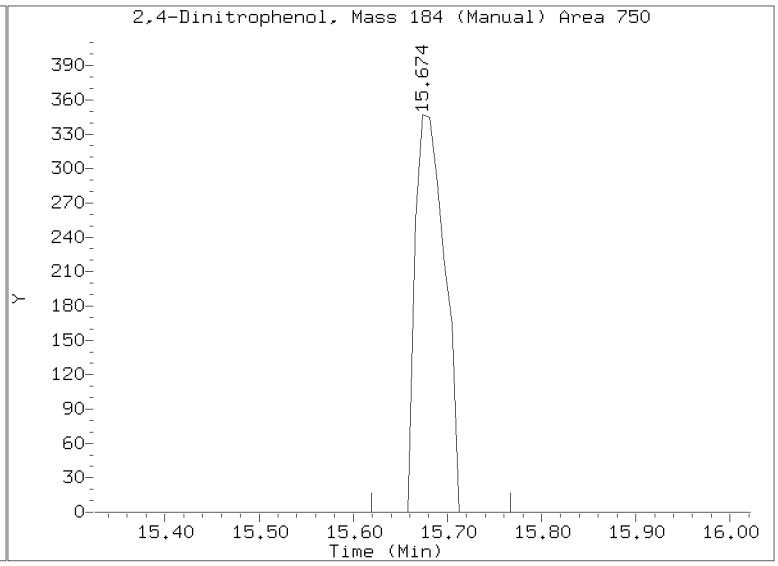
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

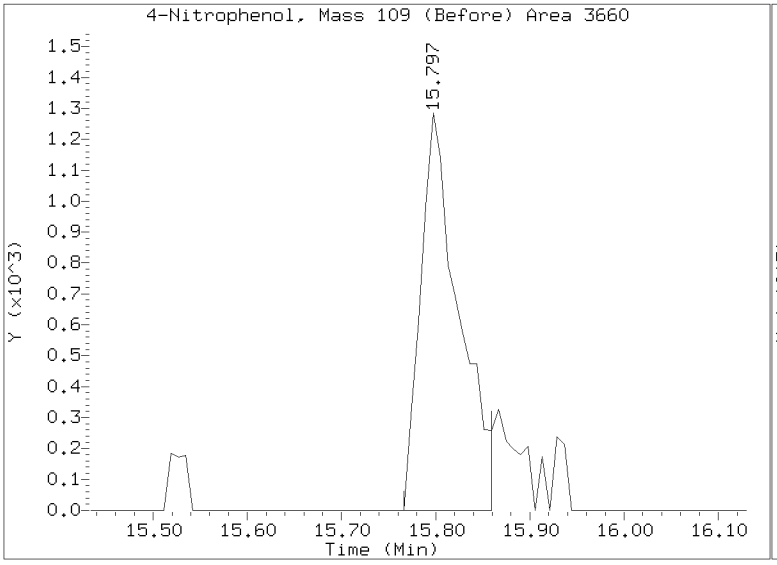
* Only compounds listed in the work order have been verified by the analyst *

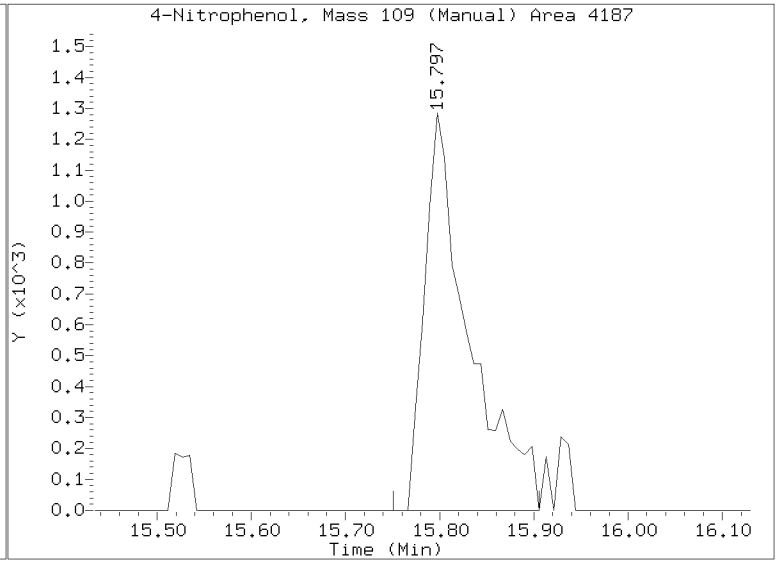
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081910.D
Injection Date: 19-AUG-2021 17:31
Lab ID:SJH0235-CAL2 Client ID:
Report Date: 08/20/2021 12:55









Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081911.D

Page 1

Date : 19-AUG-2021 18:09

Client ID:

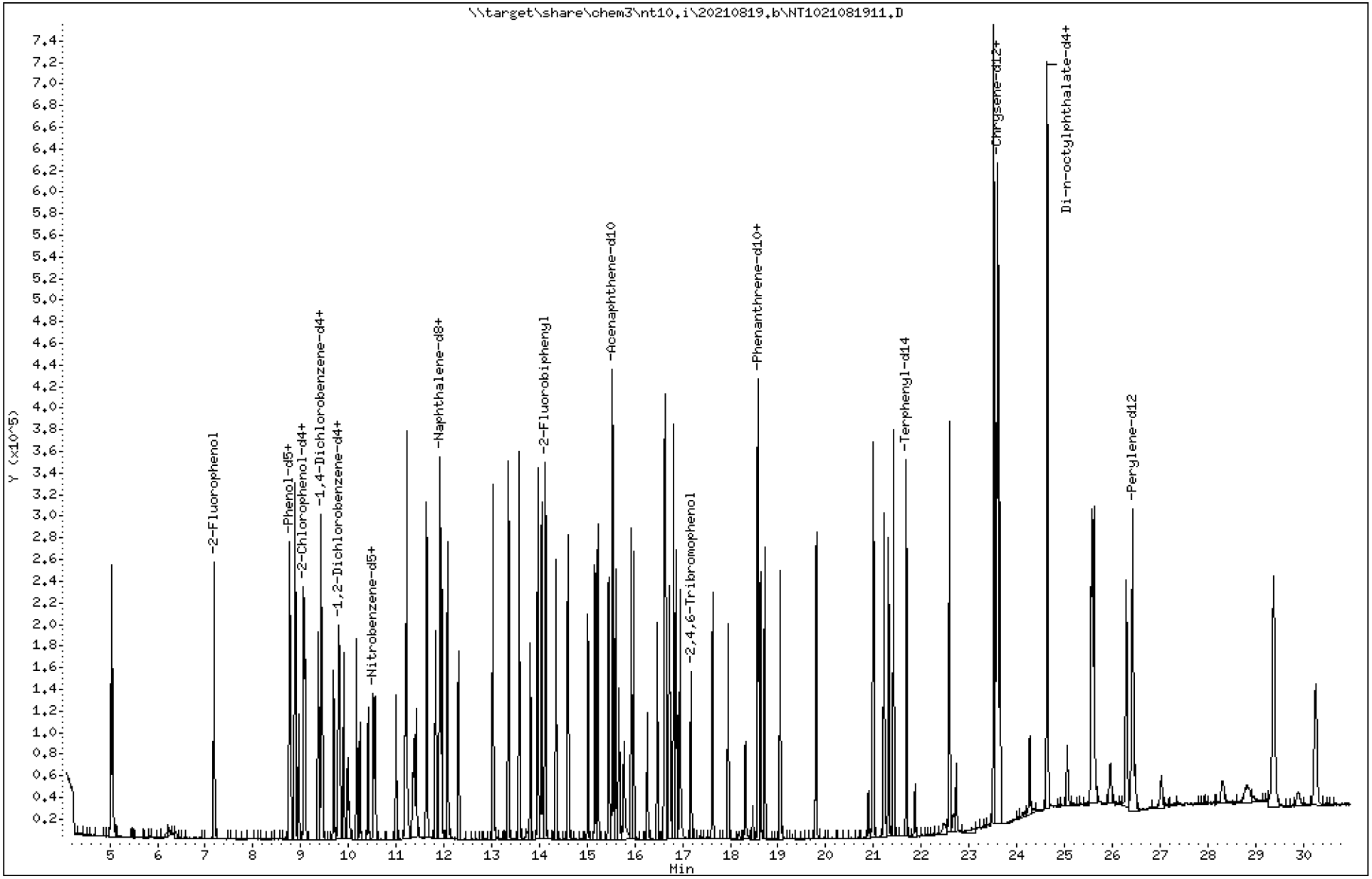
Instrument: nt10.i

Sample Info: SJH0235-CAL4

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081911.D
Lab Smp Id: SJH0235-CAL4
Inj Date : 19-AUG-2021 18:09
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL4
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:09 Cal File: NT1021081911.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 2-Fluorophenol	112	7.184	7.184	(0.762)	114158	3.75000	4.087
$	2 Phenol-d5	99	8.760	8.761	(0.929)	156156	3.75000	3.906
	3 Phenol	94	8.784	8.784	(0.932)	95152	2.50000	2.601
$	5 2-Chlorophenol-d4	132	9.062	9.062	(0.961)	112427	3.75000	3.948
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.951)	67058	2.50000	2.505
	6 2-Chlorophenol	128	9.093	9.093	(0.965)	74423	2.50000	2.451
	7 1,3-Dichlorobenzene	146	9.364	9.364	(0.993)	80786	2.50000	2.559
*	8 1,4-Dichlorobenzene-d4	152	9.426	9.426	(1.000)	83542	4.00000	
	9 1,4-Dichlorobenzene	146	9.457	9.457	(1.003)	61721	2.50000	2.583
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	51077	2.50000	2.641
	12 1,2-Dichlorobenzene	146	9.814	9.814	(1.041)	69507	2.50000	2.556
	11 Benzyl alcohol	108	9.689	9.689	(1.028)	44525	2.50000	2.646
	14 2,2'-oxybis(1-Chloropropane)	121	9.984	9.984	(1.059)	20330	2.50000	2.520(M)
	13 2-Methylphenol	108	9.907	9.907	(1.051)	58718	2.50000	2.534
	17 Hexachloroethane	117	10.411	10.411	(1.105)	25898	2.50000	2.506
	16 N-Nitroso-di-n-propylamine	70	10.241	10.241	(1.086)	41870	2.50000	2.576
	15 4-Methylphenol	108	10.171	10.171	(1.079)	63370	2.50000	2.560
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.883)	76118	2.50000	2.629
	19 Nitrobenzene	77	10.559	10.559	(0.886)	67342	2.50000	2.523
	20 Isophorone	82	11.001	11.001	(0.923)	114076	2.50000	2.765
	21 2-Nitrophenol	139	11.186	11.186	(0.938)	37657	2.50000	2.477
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.941)	121398	5.00000	5.175
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	61716	2.50000	2.534
	24 Benzoic acid	105	11.373	11.339	(0.954)	72382	10.0000	6.063
	25 2,4-Dichlorophenol	162	11.636	11.636	(0.976)	121747	5.00000	5.064
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	58940	2.50000	2.533
*	27 Naphthalene-d8	136	11.921	11.913	(1.000)	276508	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	176350	2.50000	2.571
	29 4-Chloroaniline	127	12.083	12.075	(1.014)	170250	5.00000	5.123
	30 Hexachlorobutadiene	225	12.307	12.307	(1.032)	33846	2.50000	2.644
	31 4-Chloro-3-methylphenol	107	13.027	13.027	(1.093)	115923	5.00000	4.799
	32 2-Methylnaphthalene	142	13.352	13.352	(1.120)	165652	2.50000	2.530
	33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	47157	5.00000	3.864
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	82298	5.00000	4.817

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	85348	5.00000	4.755
$	36 2-Fluorobiphenyl	172	14.126	14.126	(0.909)	180600	2.50000	2.683
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	136264	2.50000	2.543
	38 2-Nitroaniline	65	14.598	14.598	(0.940)	81243	5.00000	5.106
	39 Dimethylphthalate	163	15.016	15.016	(0.967)	141378	2.50000	2.559
	40 Acenaphthylene	152	15.225	15.225	(0.980)	214285	2.50000	2.566
	41 2,6-Dinitrotoluene	165	15.163	15.163	(0.976)	62545	5.00000	5.125
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	168481	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	85190	5.00000	5.185
	44 Acenaphthene	153	15.604	15.596	(1.004)	112073	2.50000	2.538
	45 2,4-Dinitrophenol	184	15.666	15.674	(1.008)	35712	10.0000	5.517
	46 Dibenzofuran	168	15.928	15.928	(1.025)	200179	2.50000	2.551
	47 4-Nitrophenol	109	15.774	15.782	(1.015)	23871	5.00000	4.005
	48 2,4-Dinitrotoluene	165	15.975	15.975	(1.028)	86585	5.00000	5.083
	50 Diethylphthalate	149	16.470	16.470	(1.060)	128959	2.50000	2.589
	49 Fluorene	166	16.640	16.640	(1.071)	179104	2.50000	2.571
	51 4-Chlorophenyl-phenylether	204	16.616	16.616	(1.070)	78736	2.50000	2.526
	52 4-Nitroaniline	138	16.724	16.724	(1.077)	85325	5.00000	4.994
	53 4,6-Dinitro-2-methylphenol	198	16.817	16.817	(0.905)	106663	10.0000	8.706
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	113172	2.50000	2.551
$	55 2,4,6-Tribromophenol	330	17.179	17.180	(1.106)	23705	3.75000	3.683
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.949)	44210	2.50000	2.486
	57 Hexachlorobenzene	284	17.951	17.951	(0.966)	42409	2.50000	2.516
	58 Pentachlorophenol	266	18.315	18.315	(0.986)	19810	5.00000	3.183
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	296582	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.003)	178596	2.50000	2.466
	61 Anthracene	178	18.725	18.717	(1.008)	191771	2.50000	2.465
	62 Carbazole	167	19.042	19.042	(1.025)	194411	2.50000	2.426
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	247930	2.50000	2.501
	64 Fluoranthene	202	21.000	20.992	(0.890)	256397	2.50000	2.455
	65 Pyrene	202	21.425	21.417	(0.908)	266290	2.50000	2.484
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	182873	2.50000	2.715
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	101679	2.50000	2.410
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	213333	2.50000	2.559
*	69 Chrysene-d12	240	23.601	23.601	(1.000)	238624	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.997)	246042	7.50000	7.418
	71 Chrysene	228	23.647	23.647	(1.002)	164423	2.50000	2.488
	72 bis(2-Ethylhexyl)phthalate	149	23.608	23.608	(0.958)	108151	2.50000	2.505
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	448647	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	249802	2.50000	2.526
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	201825	2.50000	2.475
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	205238	2.50000	2.567
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	179644	2.50000	2.494
*	77 Perylene-d12	264	26.427	26.419	(1.000)	221651	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.371	29.371	(1.111)	190240	2.50000	2.556
	79 Dibenzo(a,h)anthracene	278	29.394	29.386	(1.112)	145136	2.50000	2.549
	80 Benzo(g,h,i)perylene	276	30.264	30.256	(1.145)	165848	2.50000	2.552
	90 N-Nitrosodimethylamine	74	5.014	5.021	(0.532)	96263	5.00000	5.352
	91 Aniline	93	8.876	8.876	(0.942)	214336	5.00000	5.131
	93 Benzidine	184	21.216	21.216	(0.899)	226574	5.00000	5.012
	103 Pyridine	79	5.044	5.052	(0.535)	147825	2.50000	2.602
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	157293	2.50000	2.491
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.091)	144428	2.50000	2.513
	187 Total Benzofluoranthenes	252	25.621	25.621	(0.970)	389429	5.00000	5.006

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.047)	25888	2.50000	2.101

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081911.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081911.D
Lab Smp Id: SJH0235-CAL4
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	83542	-14.33
27 Naphthalene-d8	336155	168078	672310	276508	-17.74
42 Acenaphthene-d10	204971	102486	409942	168481	-17.80
59 Phenanthrene-d10	357720	178860	715440	296582	-17.09
69 Chrysene-d12	291052	145526	582104	238624	-18.01
134 Di-n-octylphthala	588887	294444	1177774	448647	-23.81
77 Perylene-d12	273109	136555	546218	221651	-18.84

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.58	-0.04
69 Chrysene-d12	23.61	23.11	24.11	23.60	-0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081911.D

Lab ID: SJH0235-CAL4
nt10.i, ABN.m, 19-AUG-2021 18:09

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

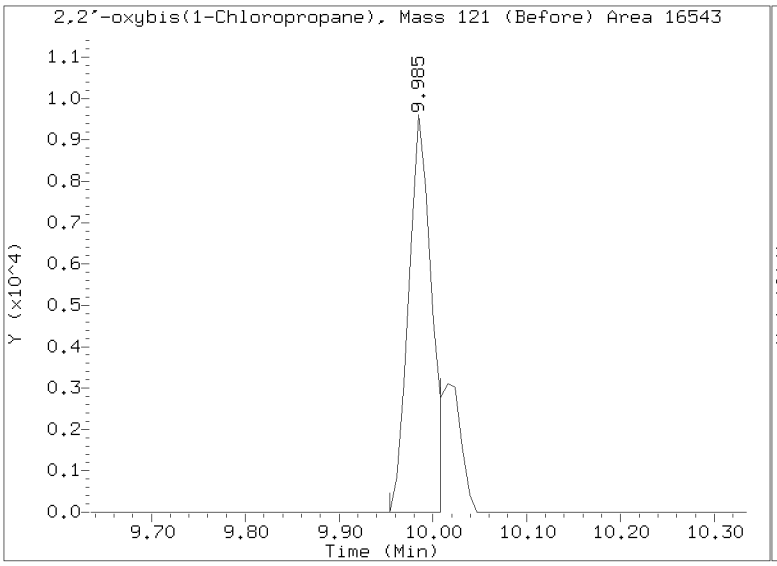
RRT check based on Ccal File: NT1021081912.D

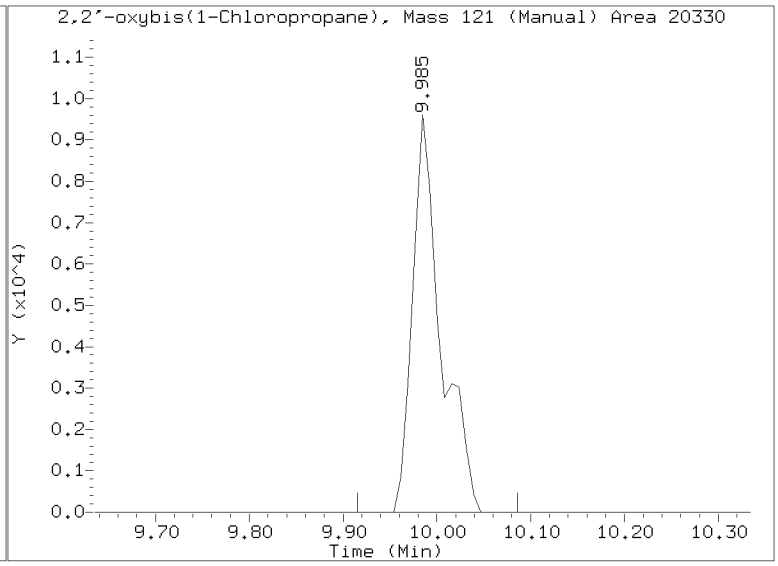
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081911.D
Injection Date: 19-AUG-2021 18:09
Lab ID:SJH0235-CAL4 Client ID:
Report Date: 08/20/2021 12:55





Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081912.D

Date : 19-AUG-2021 18:48

Client ID:

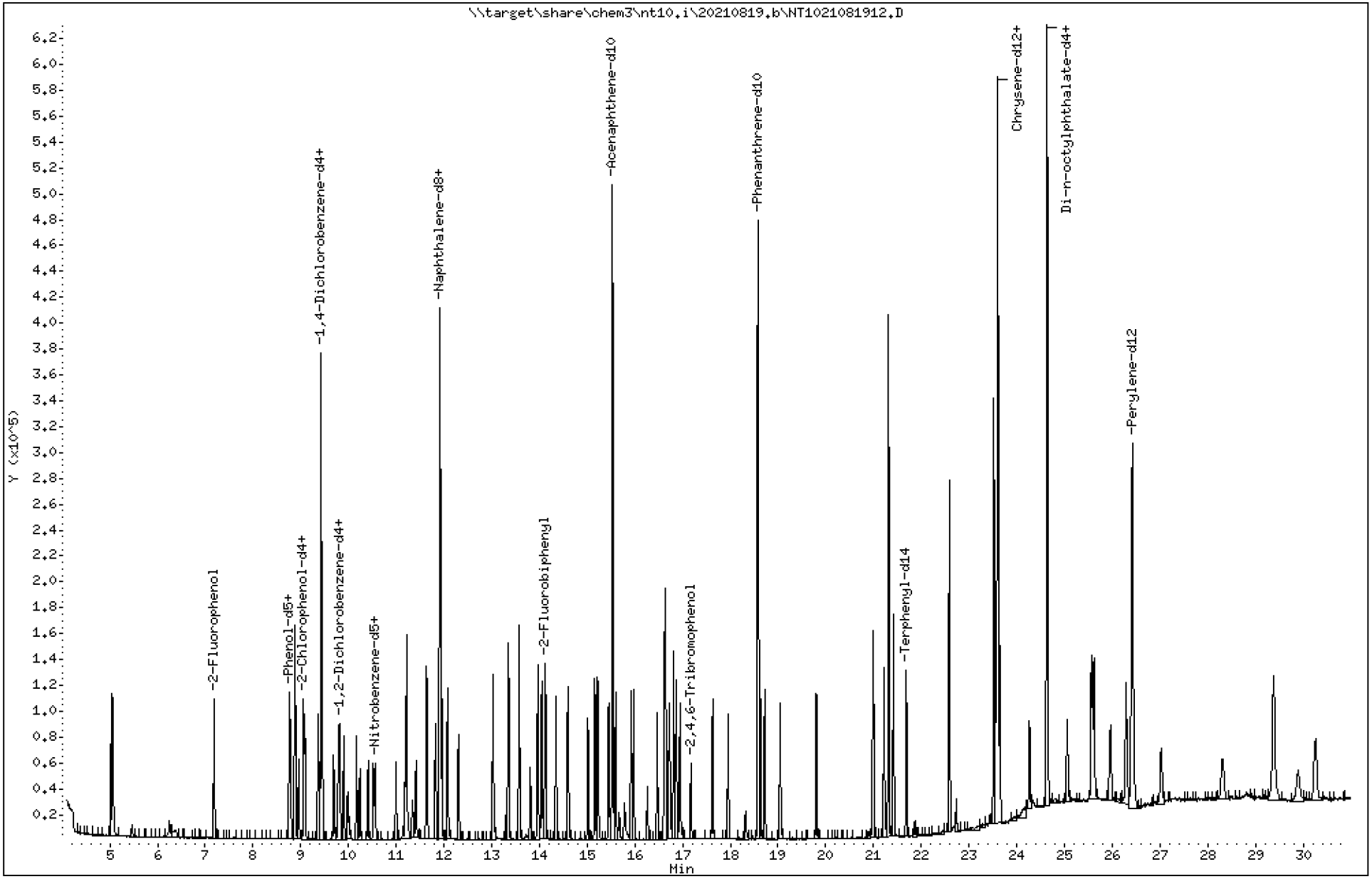
Instrument: nt10.i

Sample Info: SJH0235-CAL3

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081912.D
Lab Smp Id: SJH0235-CAL3
Inj Date : 19-AUG-2021 18:48
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-CAL3
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 8 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 2-Fluorophenol	112	7.184	7.184	(0.762)	50524	1.50000	1.534
$	2 Phenol-d5	99	8.761	8.761	(0.929)	65358	1.50000	1.386
	3 Phenol	94	8.784	8.784	(0.932)	44865	1.00000	1.040
$	5 2-Chlorophenol-d4	132	9.062	9.062	(0.961)	48400	1.50000	1.441
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.951)	33468	1.00000	1.060
	6 2-Chlorophenol	128	9.093	9.093	(0.965)	36786	1.00000	1.027
	7 1,3-Dichlorobenzene	146	9.364	9.364	(0.993)	39943	1.00000	1.073
*	8 1,4-Dichlorobenzene-d4	152	9.426	9.426	(1.000)	98537	4.00000	
	9 1,4-Dichlorobenzene	146	9.457	9.457	(1.003)	29036	1.00000	1.030
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	22445	1.00000	0.9838
	12 1,2-Dichlorobenzene	146	9.814	9.814	(1.041)	33865	1.00000	1.056
	11 Benzyl alcohol	108	9.689	9.689	(1.028)	19930	1.00000	1.004
	14 2,2'-oxybis(1-Chloropropane)	121	9.984	9.984	(1.059)	10445	1.00000	1.098(M)
	13 2-Methylphenol	108	9.907	9.907	(1.051)	28188	1.00000	1.031
	17 Hexachloroethane	117	10.411	10.411	(1.105)	11996	1.00000	0.9840
	16 N-Nitroso-di-n-propylamine	70	10.241	10.241	(1.086)	19829	1.00000	1.034
	15 4-Methylphenol	108	10.171	10.171	(1.079)	29942	1.00000	1.026
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.883)	32659	1.00000	0.9619
	19 Nitrobenzene	77	10.559	10.559	(0.886)	31275	1.00000	0.9991
	20 Isophorone	82	11.001	11.001	(0.923)	44770	1.00000	0.9254
	21 2-Nitrophenol	139	11.186	11.186	(0.939)	17129	1.00000	0.9608
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.942)	59073	2.00000	2.147
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	30909	1.00000	1.082
	24 Benzoic acid	105	11.339	11.339	(0.952)	20902	4.00000	1.502
	25 2,4-Dichlorophenol	162	11.636	11.636	(0.977)	56790	2.00000	2.014
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.993)	29153	1.00000	1.068
*	27 Naphthalene-d8	136	11.913	11.913	(1.000)	324274	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.004)	80338	1.00000	0.9986
	29 4-Chloroaniline	127	12.075	12.075	(1.014)	67894	2.00000	1.742
	30 Hexachlorobutadiene	225	12.307	12.307	(1.033)	16071	1.00000	1.070
	31 4-Chloro-3-methylphenol	107	13.027	13.027	(1.093)	50756	2.00000	1.792
	32 2-Methylnaphthalene	142	13.352	13.352	(1.121)	74874	1.00000	0.9753
	33 Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	15515	2.00000	1.102

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	35278	2.00000	1.775
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	36654	2.00000	1.756
$	36 2-Fluorobiphenyl	172	14.126	14.126	(0.909)	75104	1.00000	0.9594
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	60767	1.00000	0.9751
	38 2-Nitroaniline	65	14.598	14.598	(0.940)	34141	2.00000	1.845
	39 Dimethylphthalate	163	15.016	15.016	(0.967)	67585	1.00000	1.052
	40 Acenaphthylene	152	15.225	15.225	(0.980)	100472	1.00000	1.035
	41 2,6-Dinitrotoluene	165	15.163	15.163	(0.976)	28707	2.00000	2.023
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	195945	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	32888	2.00000	1.721
	44 Acenaphthene	153	15.596	15.596	(1.004)	49494	1.00000	0.9636
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.009)	7210	4.00000	0.9653
	46 Dibenzofuran	168	15.928	15.928	(1.025)	88190	1.00000	0.9662
	47 4-Nitrophenol	109	15.782	15.782	(1.016)	9332	2.00000	1.348(M)
	48 2,4-Dinitrotoluene	165	15.975	15.975	(1.028)	36442	2.00000	1.839
	50 Diethylphthalate	149	16.470	16.470	(1.060)	58890	1.00000	1.017
	49 Fluorene	166	16.640	16.640	(1.071)	84547	1.00000	1.044
	51 4-Chlorophenyl-phenylether	204	16.616	16.616	(1.070)	37782	1.00000	1.042
	52 4-Nitroaniline	138	16.724	16.724	(1.077)	37981	2.00000	1.912
	53 4,6-Dinitro-2-methylphenol	198	16.817	16.817	(0.905)	40843	4.00000	2.971
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	53321	1.00000	1.072
$	55 2,4,6-Tribromophenol	330	17.179	17.180	(1.106)	9074	1.50000	1.217
	56 4-Bromophenyl-phenylether	248	17.627	17.627	(0.949)	20008	1.00000	1.003
	57 Hexachlorobenzene	284	17.951	17.951	(0.966)	20253	1.00000	1.071
	58 Pentachlorophenol	266	18.315	18.315	(0.986)	6588	2.00000	0.9504
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	332620	4.00000	
	60 Phenanthrene	178	18.624	18.624	(1.002)	80502	1.00000	0.9913
	61 Anthracene	178	18.717	18.717	(1.007)	86500	1.00000	0.9914
	62 Carbazole	167	19.042	19.042	(1.025)	85571	1.00000	0.9523
	63 Di-n-butylphthalate	149	19.800	19.800	(1.066)	102843	1.00000	0.9251
	64 Fluoranthene	202	20.992	20.992	(0.889)	113381	1.00000	0.9663
	65 Pyrene	202	21.417	21.417	(0.907)	119462	1.00000	0.9920
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	75870	1.00000	1.003
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	48726	1.00000	1.028
	68 Benzo(a)anthracene	228	23.570	23.570	(0.999)	99424	1.00000	1.062
*	69 Chrysene-d12	240	23.601	23.601	(1.000)	268052	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.997)	108295	3.00000	2.907
	71 Chrysene	228	23.647	23.647	(1.002)	73471	1.00000	0.9896
	72 bis(2-Ethylhexyl)phthalate	149	23.608	23.608	(0.959)	46717	1.00000	0.9902
*	134 Di-n-octylphthalate-d4	153	24.630	24.630	(1.000)	490203	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.001)	109097	1.00000	1.010
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	91277	1.00000	1.019
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	88404	1.00000	1.007
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	79084	1.00000	0.9996
*	77 Perylene-d12	264	26.419	26.419	(1.000)	243444	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.371	29.371	(1.112)	86163	1.00000	1.054
	79 Dibenzo(a,h)anthracene	278	29.386	29.386	(1.112)	65961	1.00000	1.055
	80 Benzo(g,h,i)perylene	276	30.256	30.256	(1.145)	71847	1.00000	1.007
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.533)	44920	2.00000	2.117
	91 Aniline	93	8.876	8.876	(0.942)	105143	2.00000	2.134
	93 Benzidine	184	21.216	21.216	(0.899)	97560	2.00000	1.921
	103 Pyridine	79	5.052	5.052	(0.536)	71302	1.00000	1.064
	105 1-methylnaphthalene	142	13.576	13.576	(1.140)	73454	1.00000	0.9919
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.940	16.940	(1.091)	69463	1.00000	1.039

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.621	25.621	(0.970)	171882	2.00000	2.012
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.047)	10281	1.00000	0.7199

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081912.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081912.D
Lab Smp Id: SJH0235-CAL3
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	98537	1.04
27 Naphthalene-d8	336155	168078	672310	324274	-3.53
42 Acenaphthene-d10	204971	102486	409942	195945	-4.40
59 Phenanthrene-d10	357720	178860	715440	332620	-7.02
69 Chrysene-d12	291052	145526	582104	268052	-7.90
134 Di-n-octylphthala	588887	294444	1177774	490203	-16.76
77 Perylene-d12	273109	136555	546218	243444	-10.86

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.91	-0.06
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.58	-0.04
69 Chrysene-d12	23.61	23.11	24.11	23.60	-0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.63	-0.03
77 Perylene-d12	26.43	25.93	26.93	26.42	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081912.D

Lab ID: SJH0235-CAL3
nt10.i, ABN.m, 19-AUG-2021 18:48

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

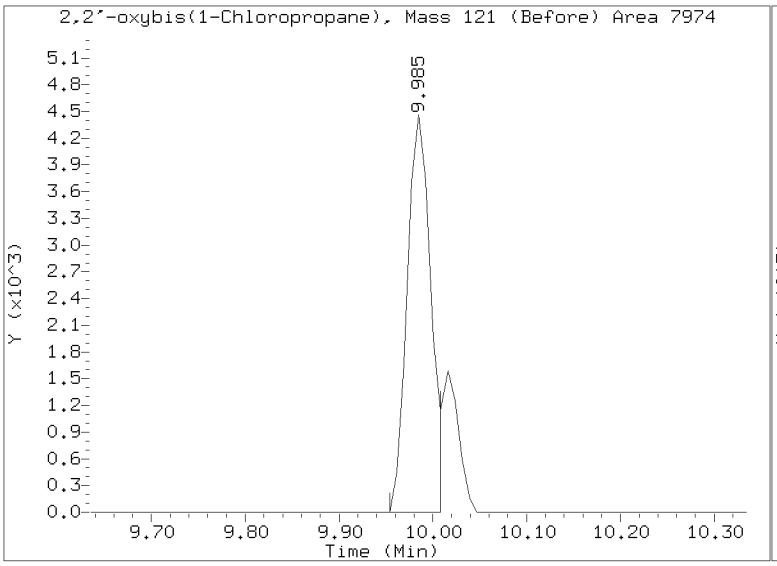
RRT check based on Ccal File: NT1021081912.D

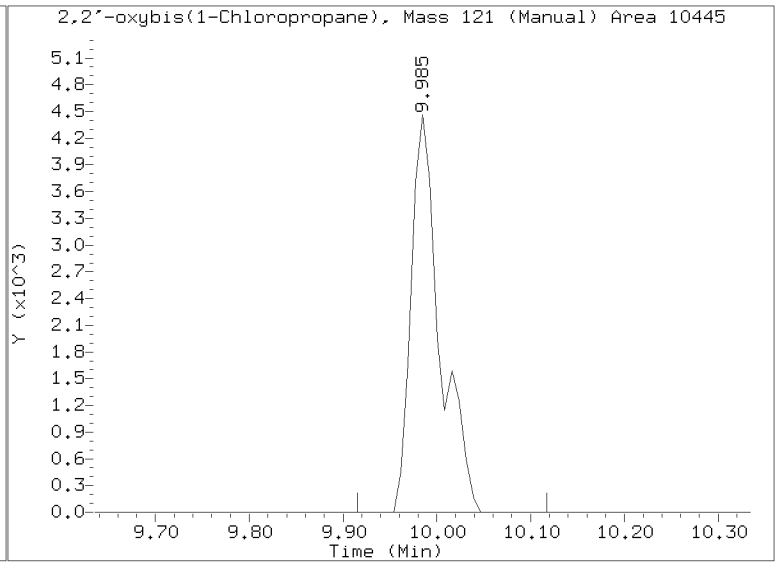
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

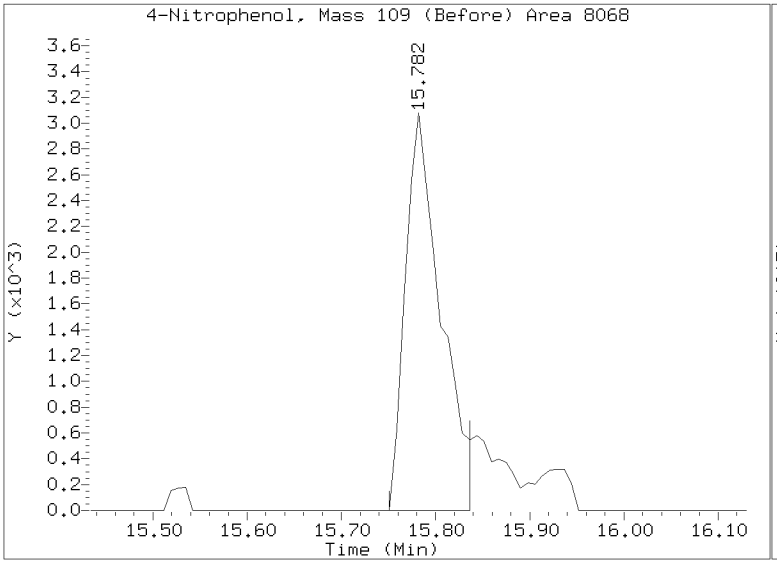
* Only compounds listed in the work order have been verified by the analyst *

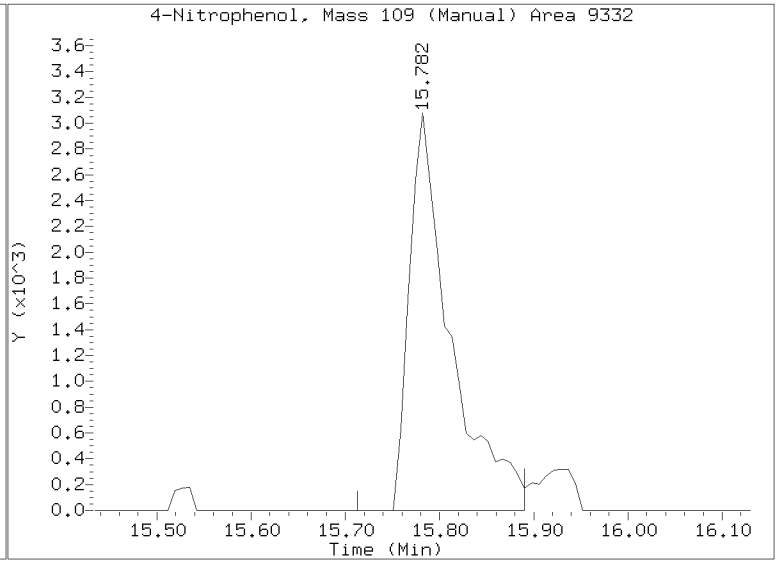
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210819.b/NT1021081912.D
Injection Date: 19-AUG-2021 18:48
Lab ID:SJH0235-CAL3 Client ID:
Report Date: 08/20/2021 12:55









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Date : 19-AUG-2021 20:42

Client ID:

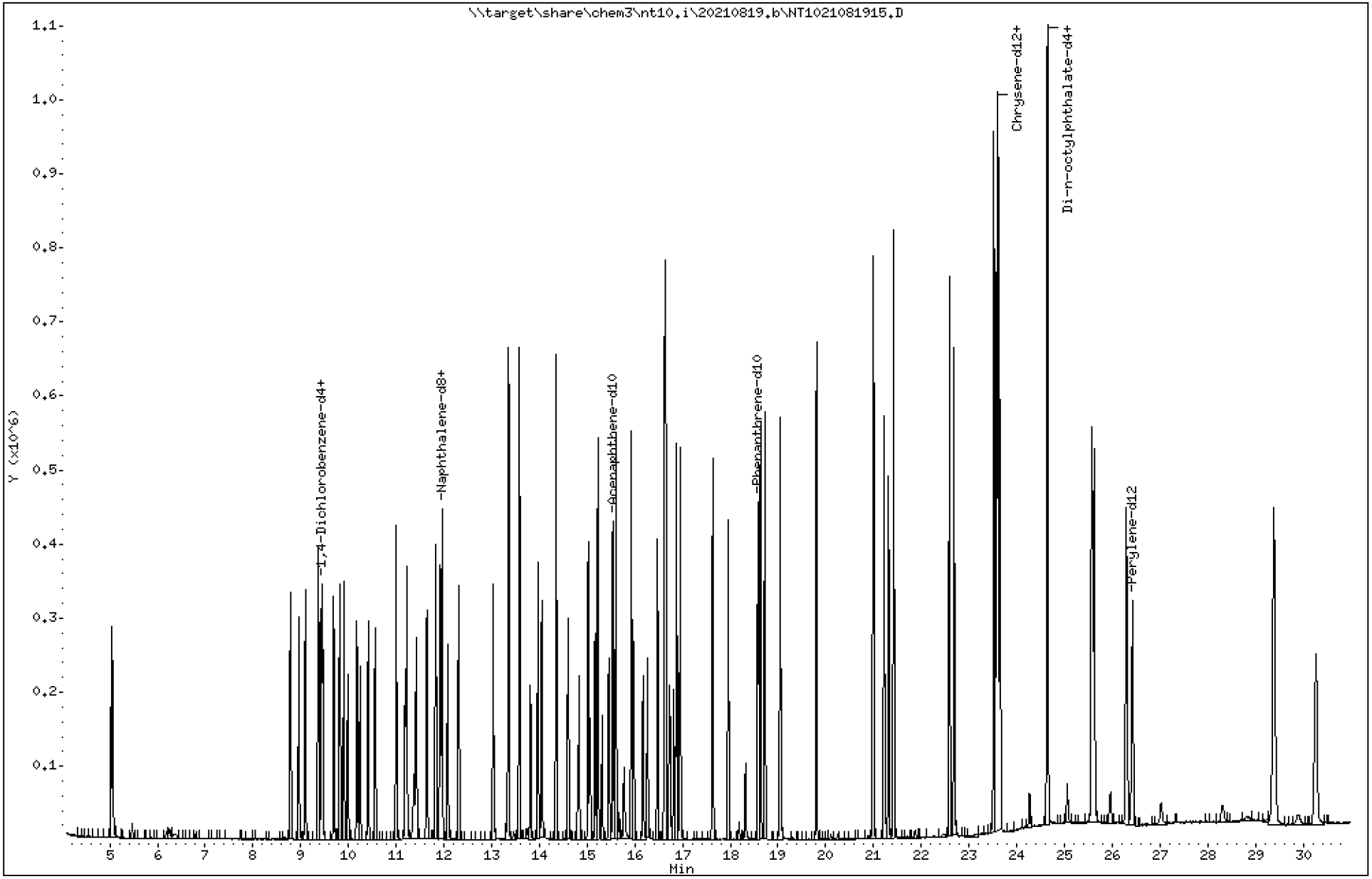
Instrument: nt10.i

Sample Info: SJH0235-SCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

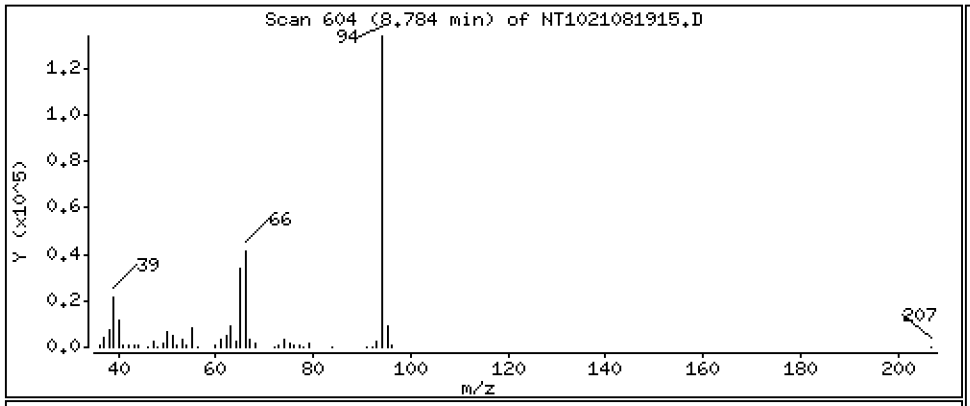
Operator: VTS

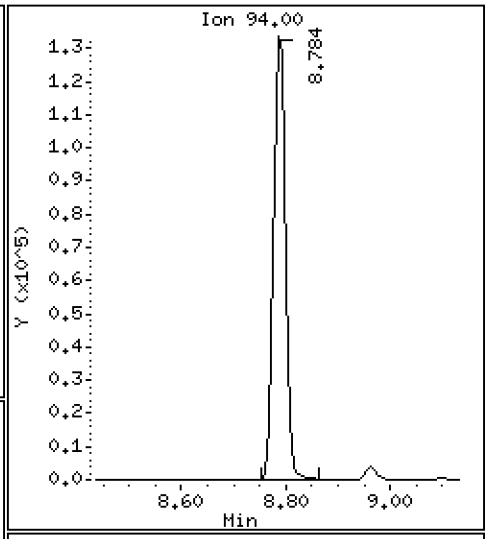
Column phase: ZB-5msi

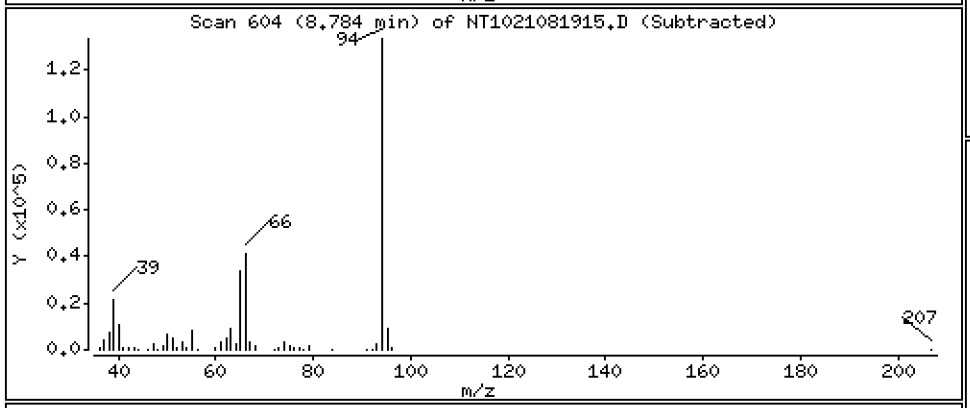
Column diameter: 0.25

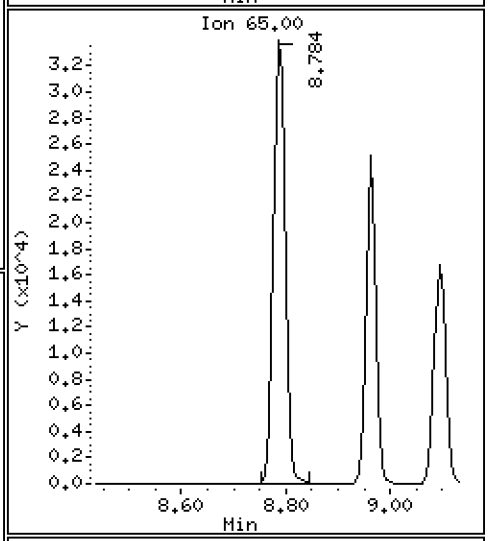
3 Phenol

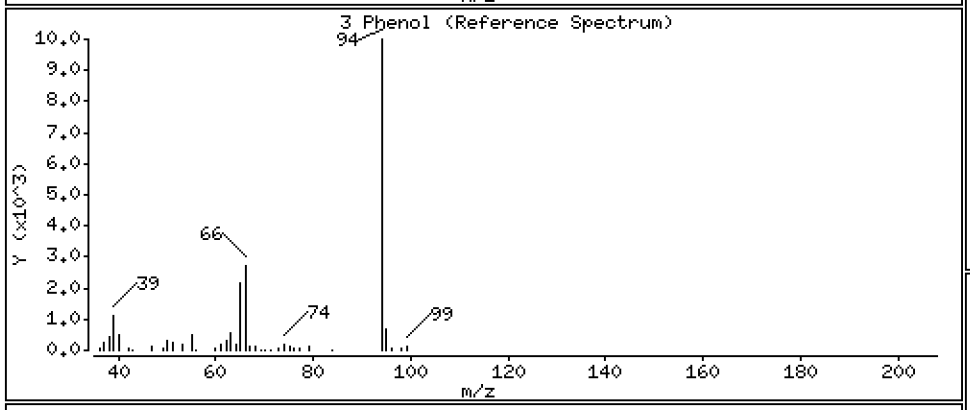
Concentration: 5.259 ug/mL

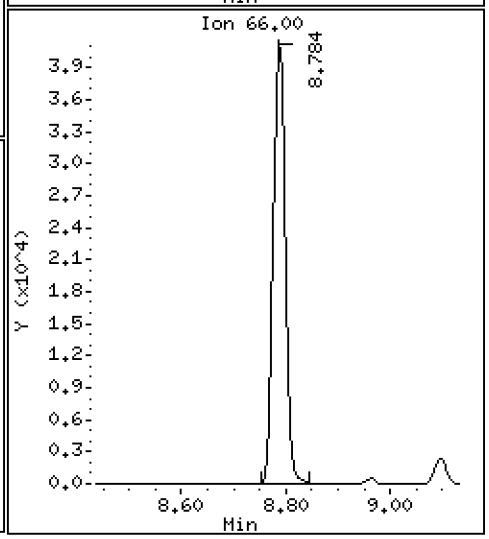


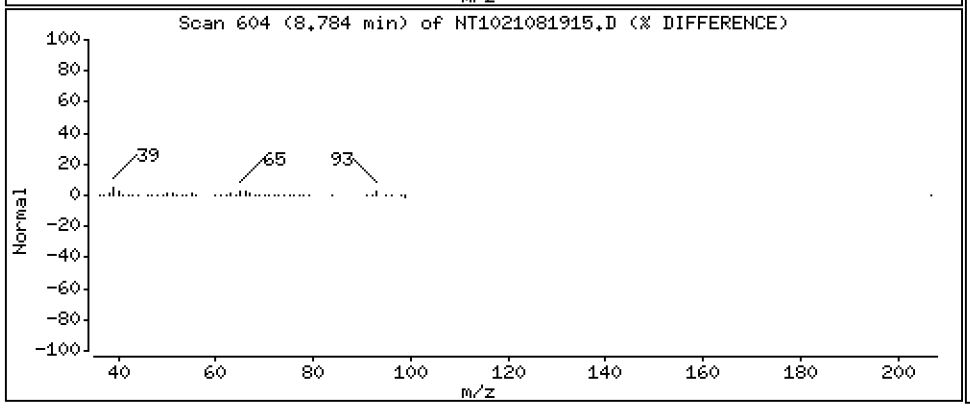












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

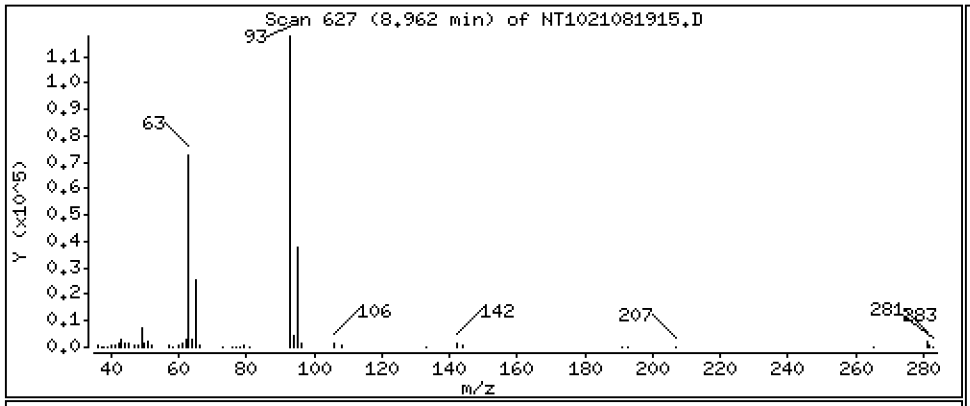
Operator: VTS

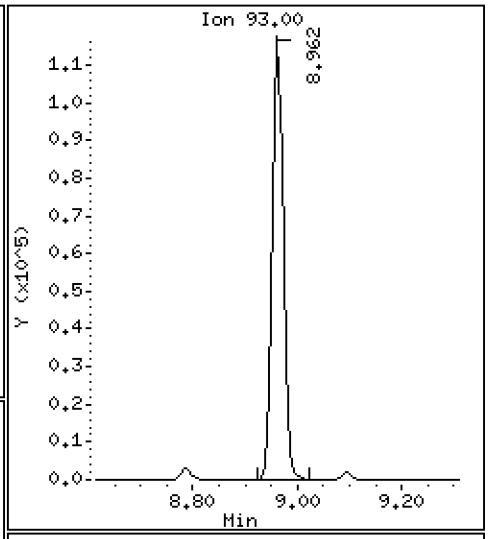
Column phase: ZB-5msi

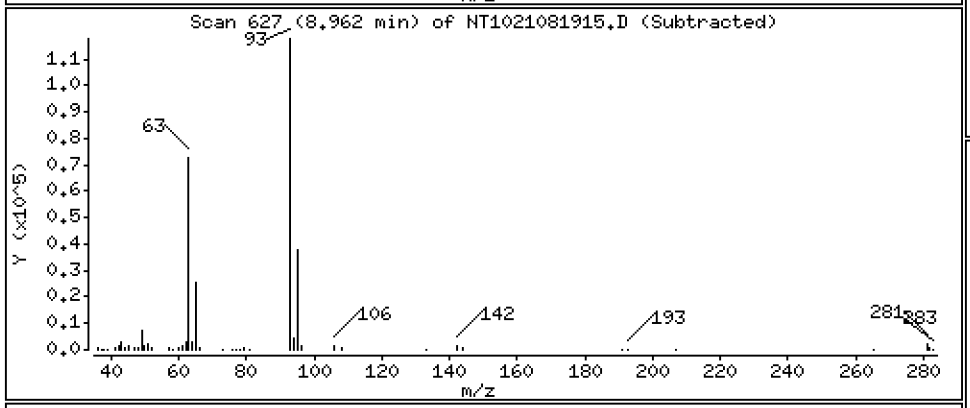
Column diameter: 0.25

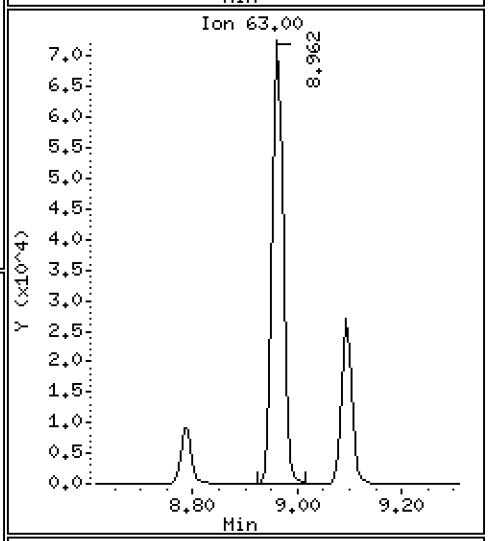
4 Bis(2-Chloroethyl)ether

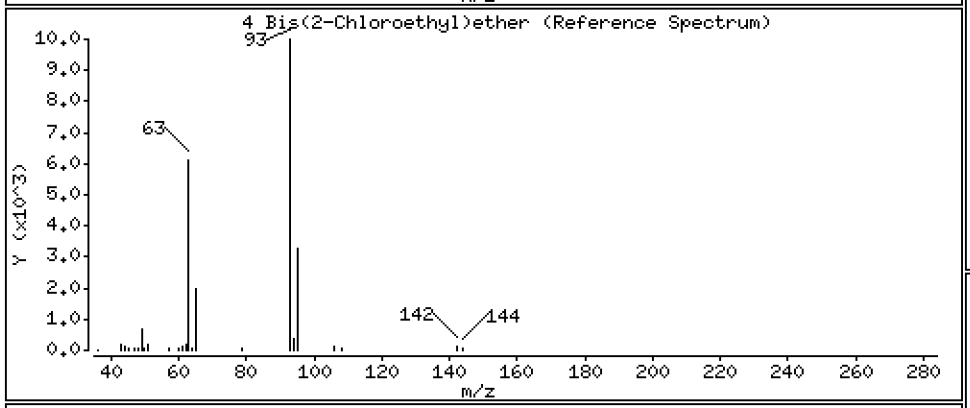
Concentration: 5.781 ug/mL

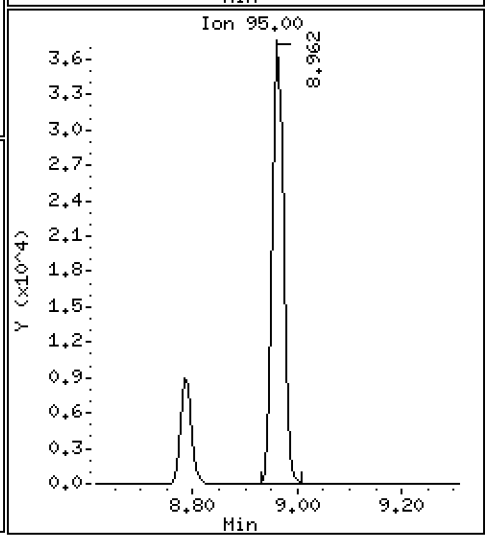


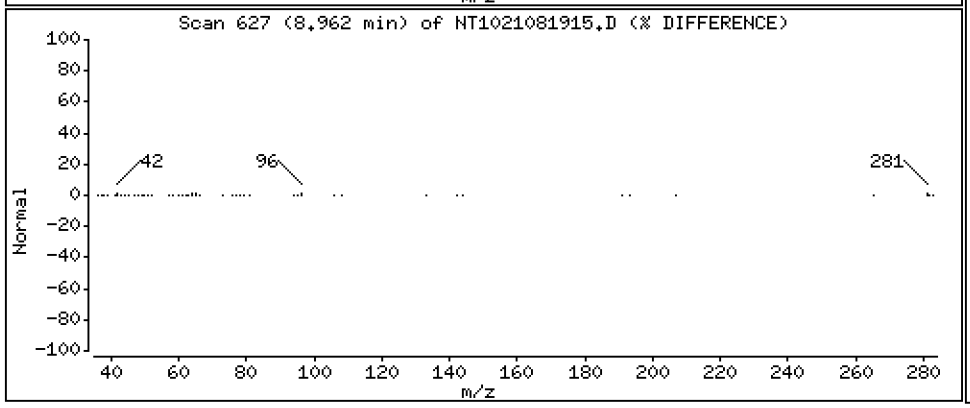












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

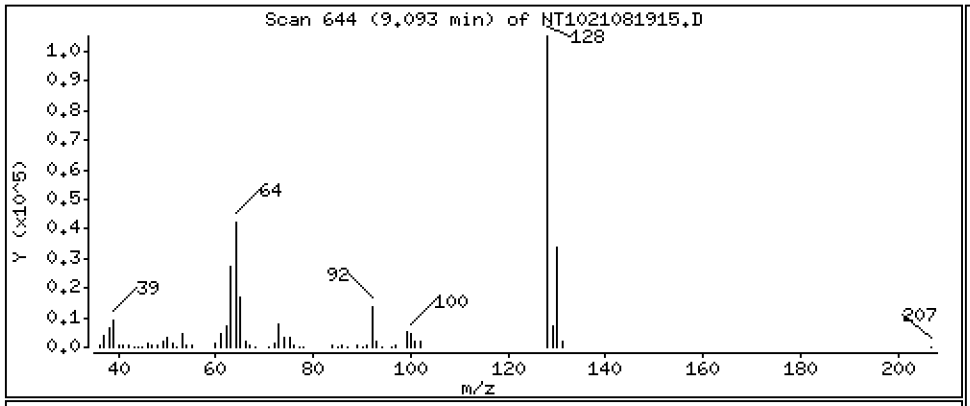
Operator: VTS

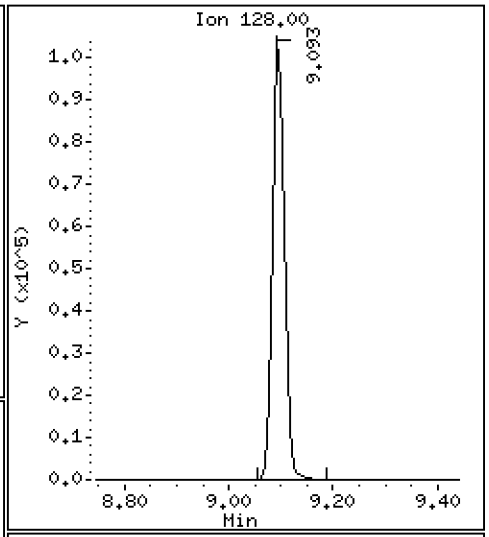
Column phase: ZB-5msi

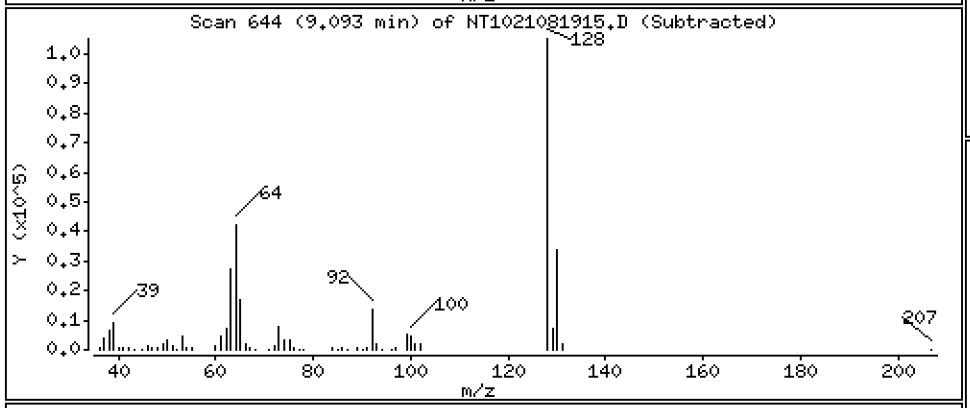
Column diameter: 0.25

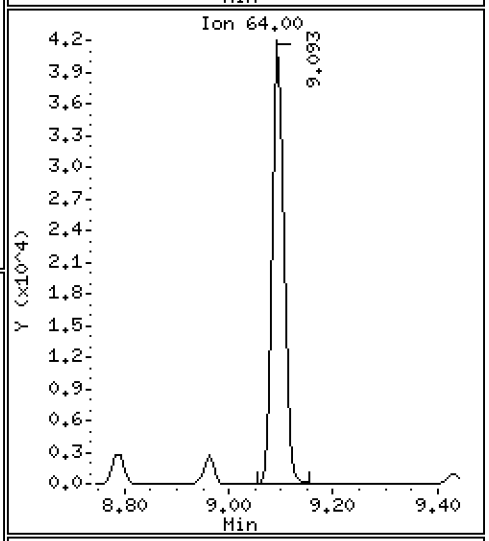
6 2-Chlorophenol

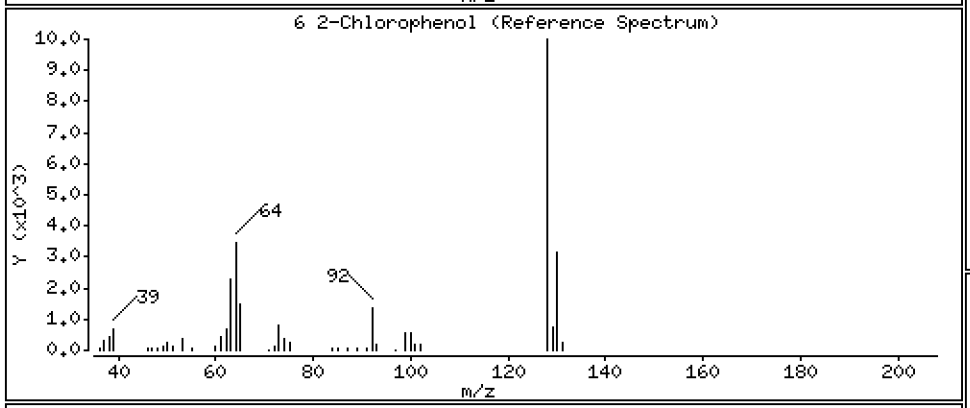
Concentration: 5.034 ug/mL

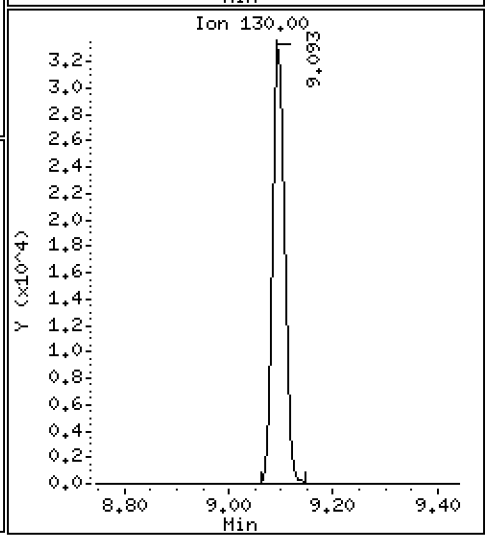


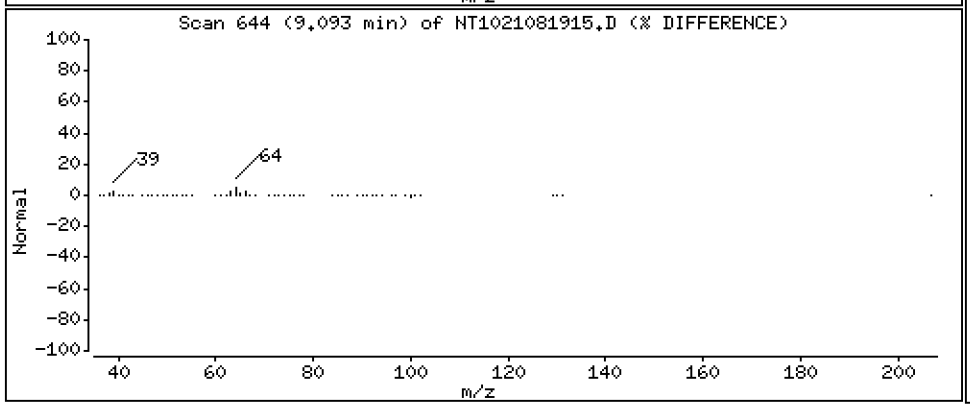












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

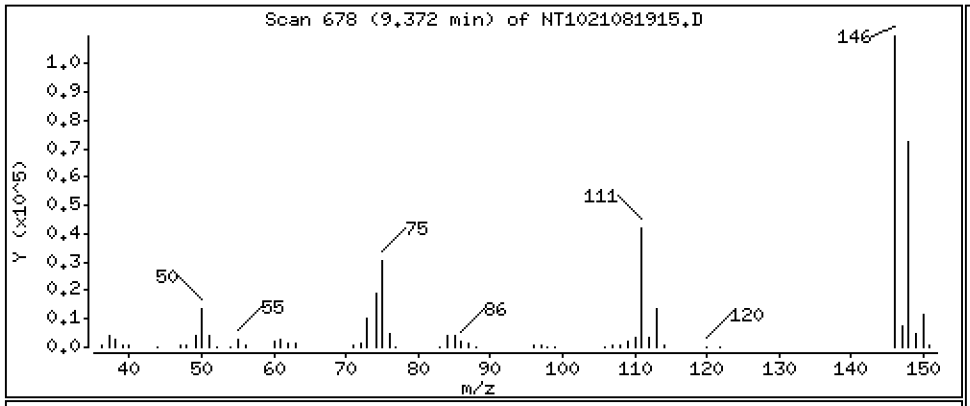
Operator: VTS

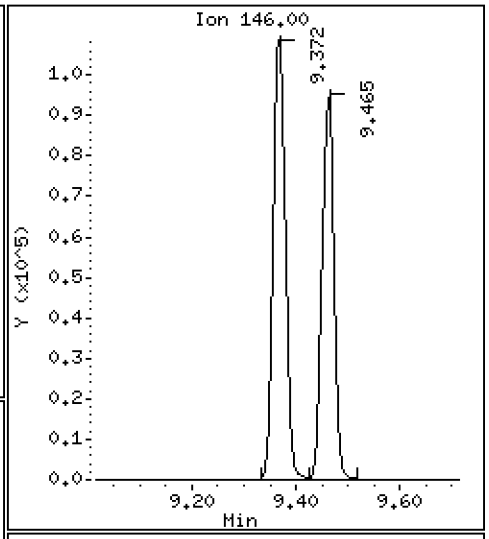
Column phase: ZB-5msi

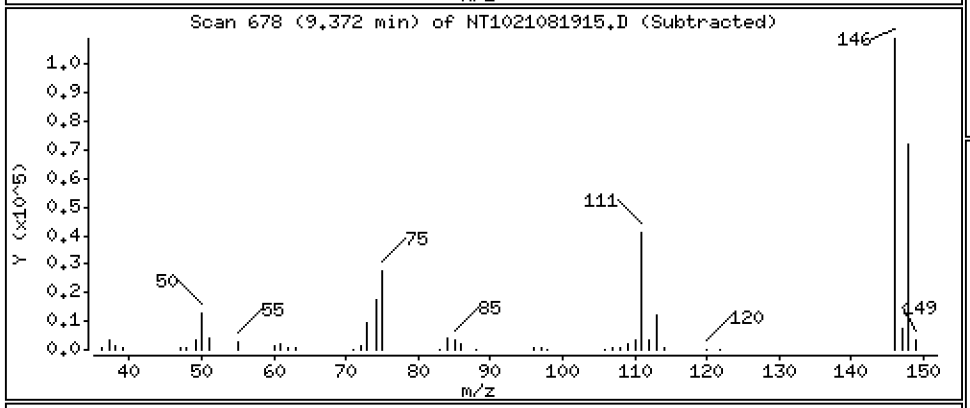
Column diameter: 0.25

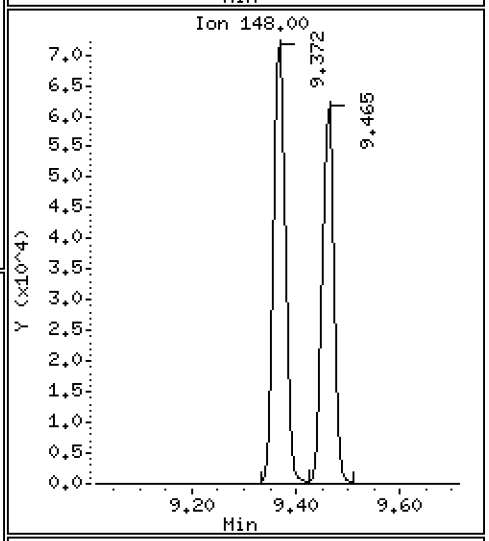
7 1,3-Dichlorobenzene

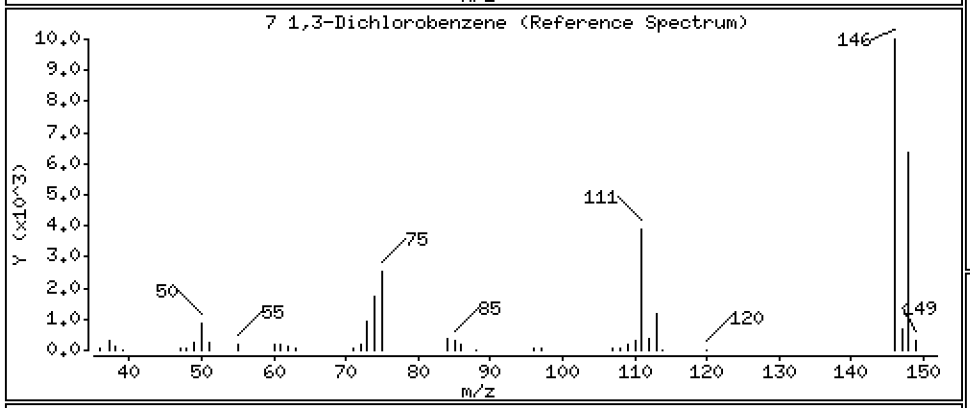
Concentration: 5.186 ug/mL

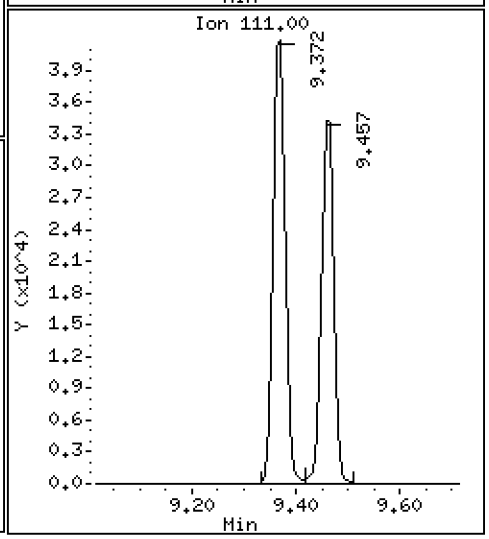


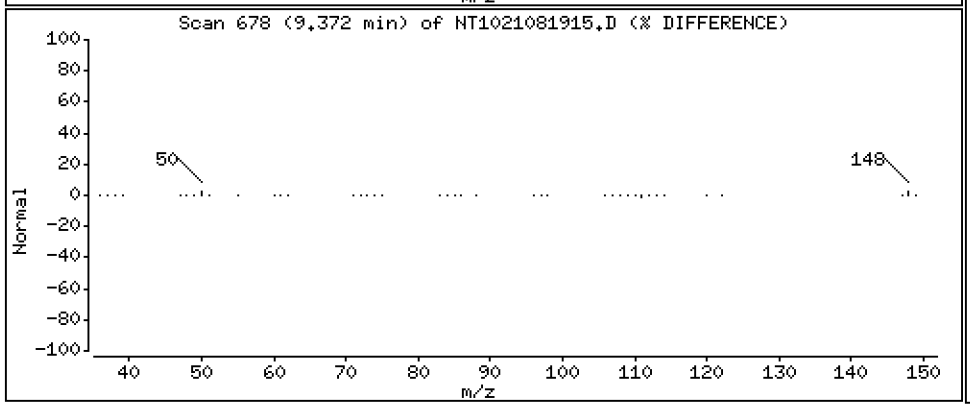












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

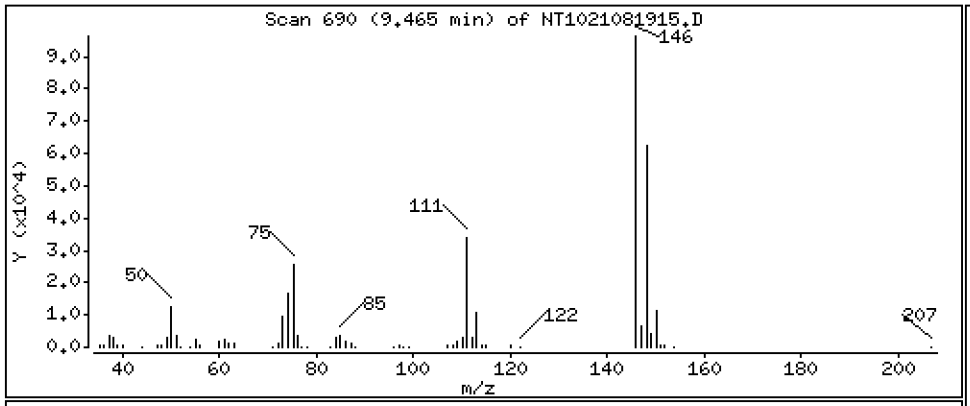
Operator: VTS

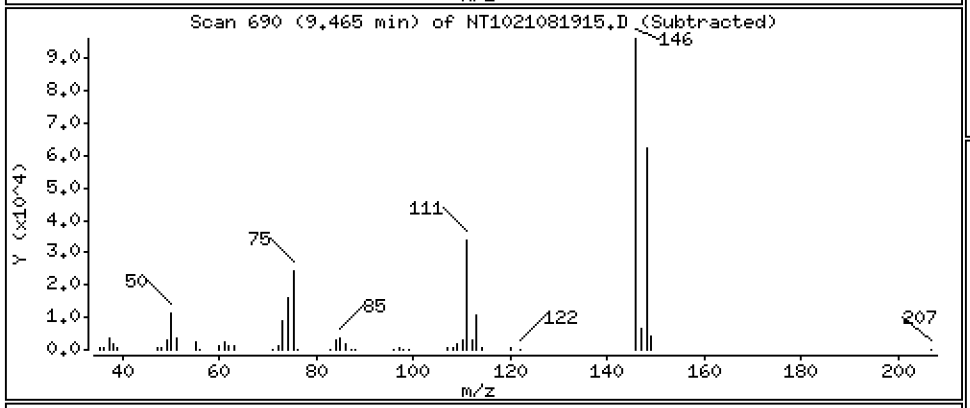
Column phase: ZB-5msi

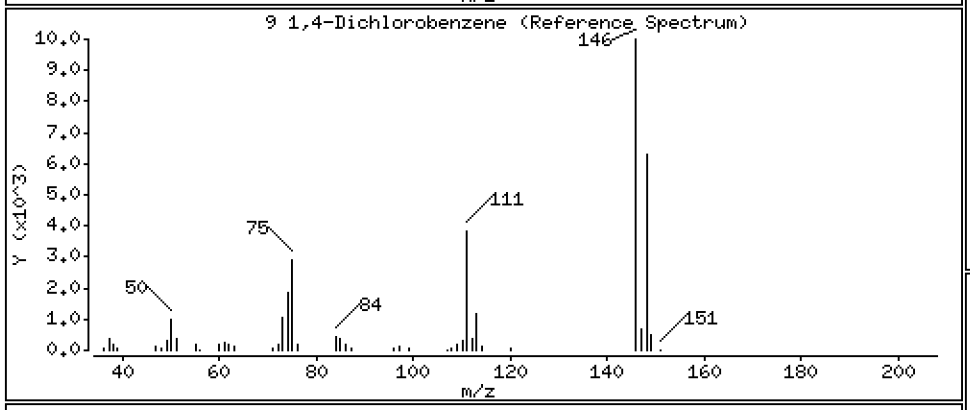
Column diameter: 0.25

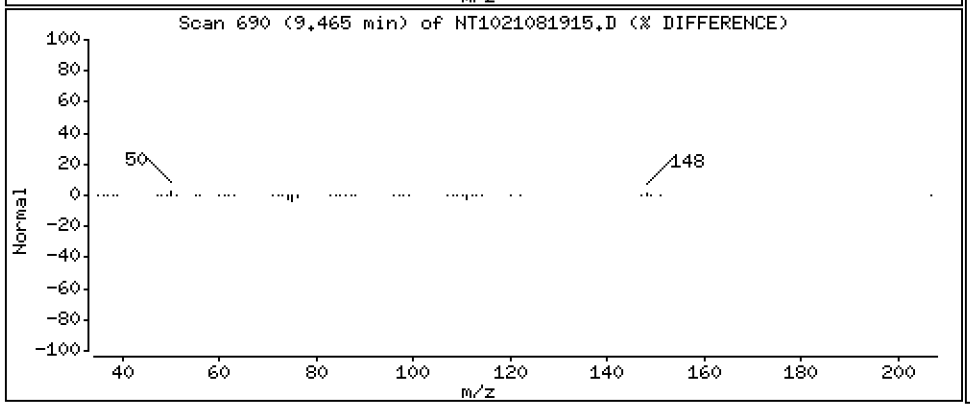
9 1,4-Dichlorobenzene

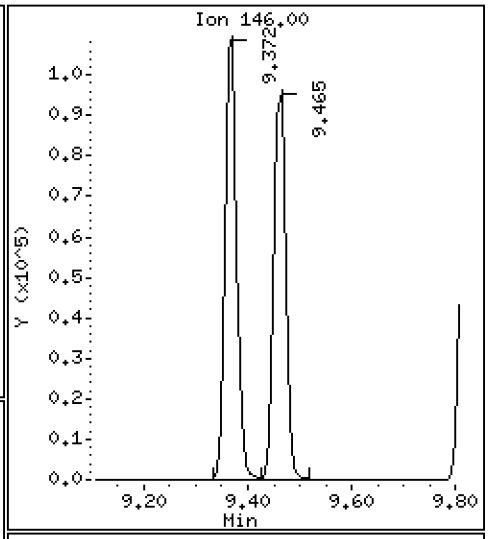
Concentration: 5.858 ug/mL

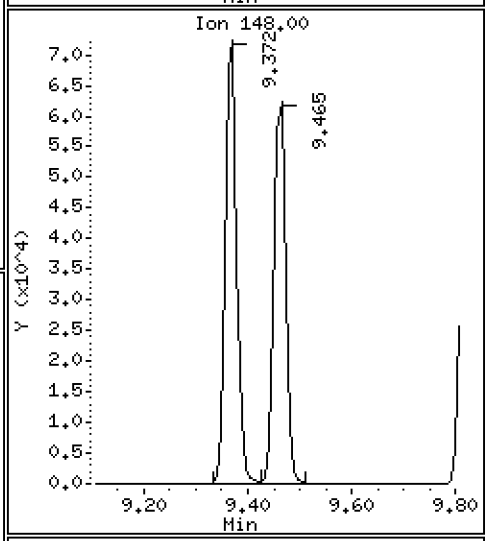


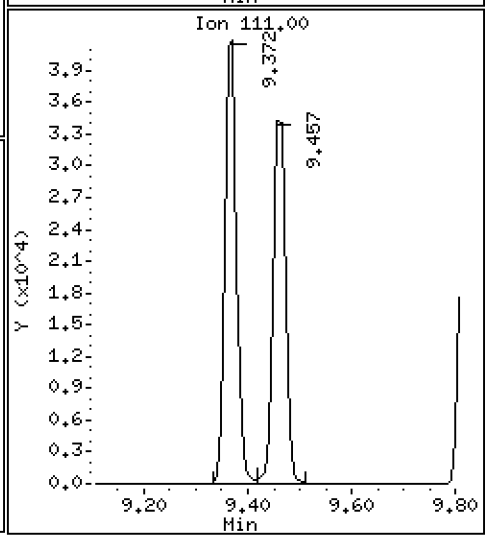












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

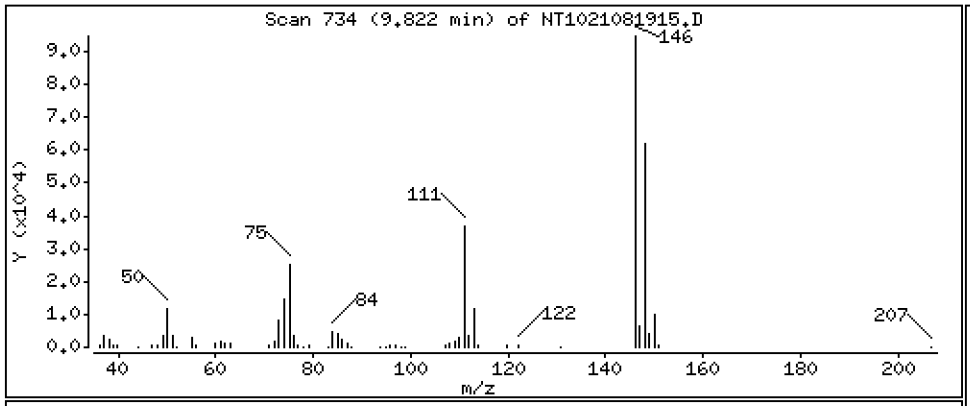
Operator: VTS

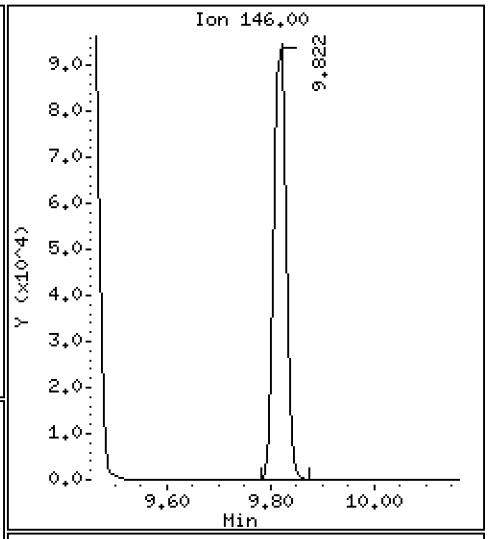
Column phase: ZB-5msi

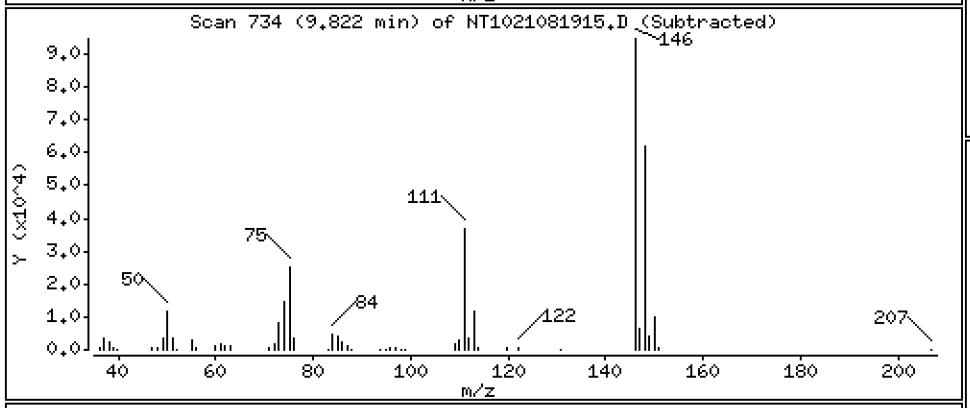
Column diameter: 0.25

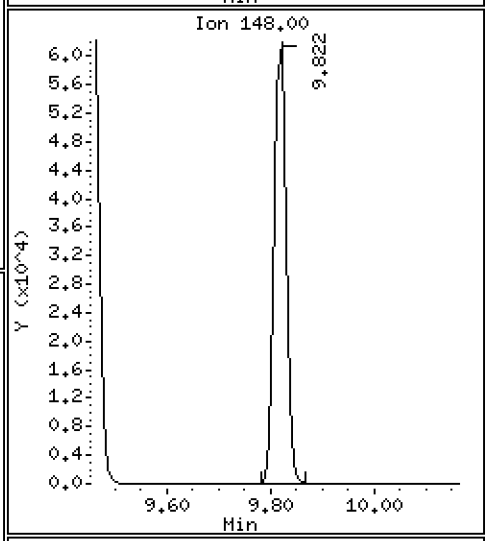
12 1,2-Dichlorobenzene

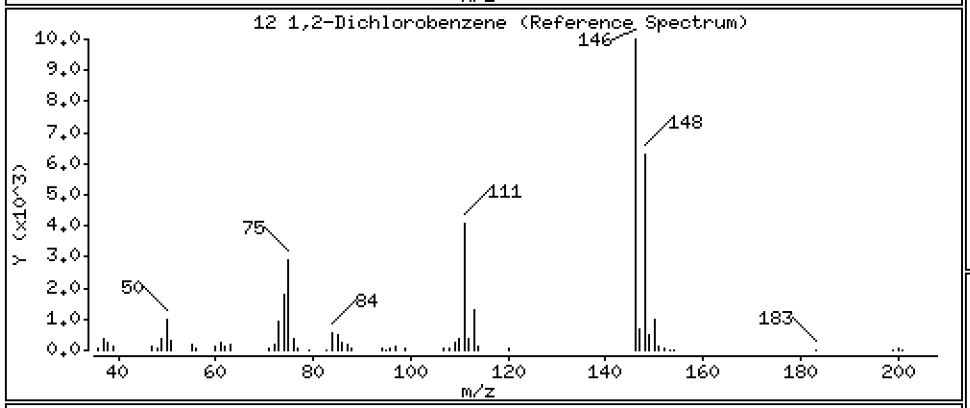
Concentration: 5.200 ug/mL

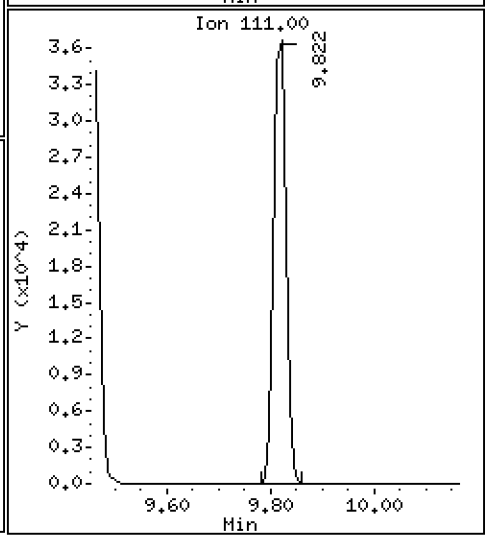


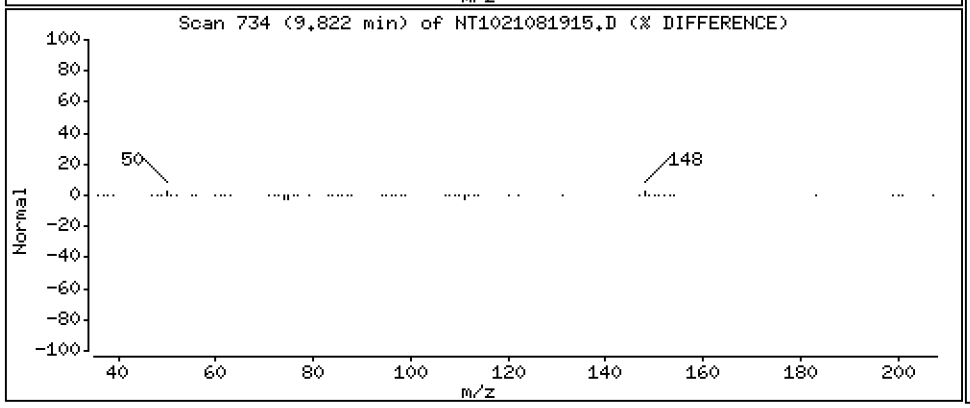












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

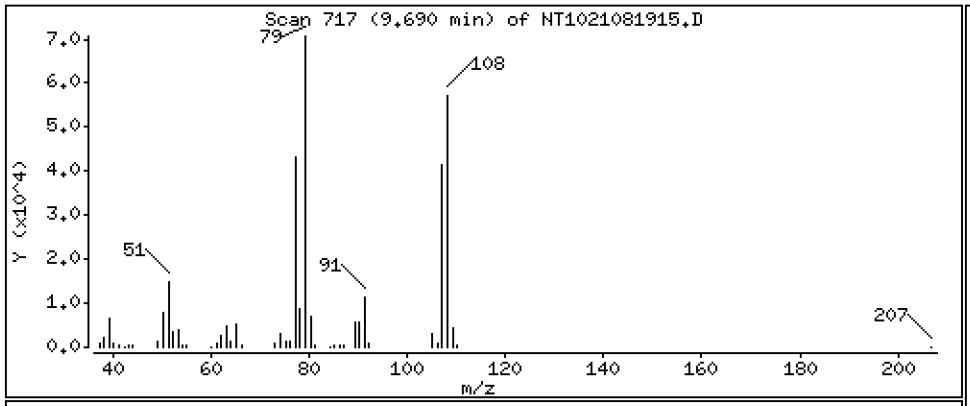
Operator: VTS

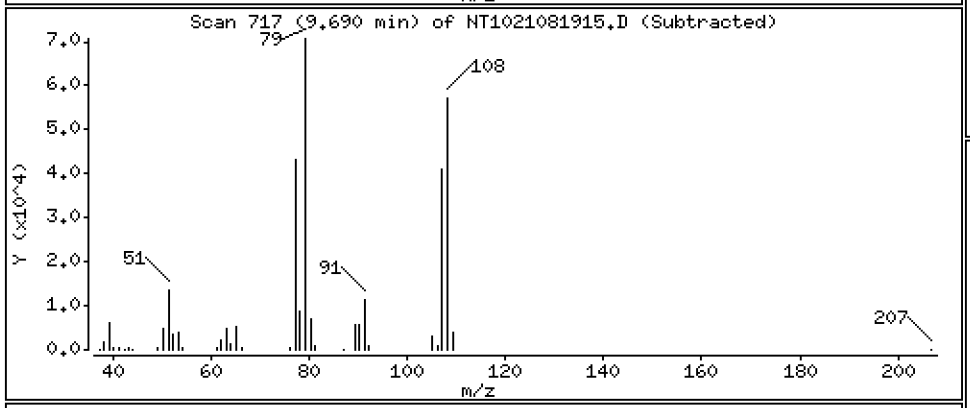
Column phase: ZB-5msi

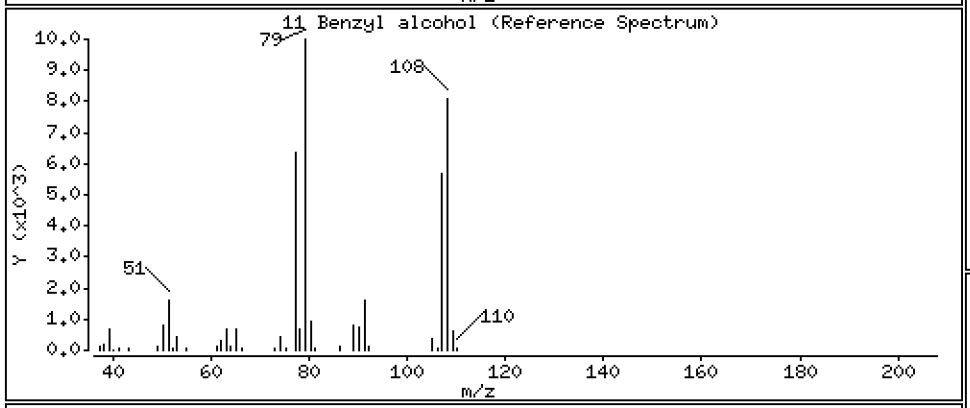
Column diameter: 0.25

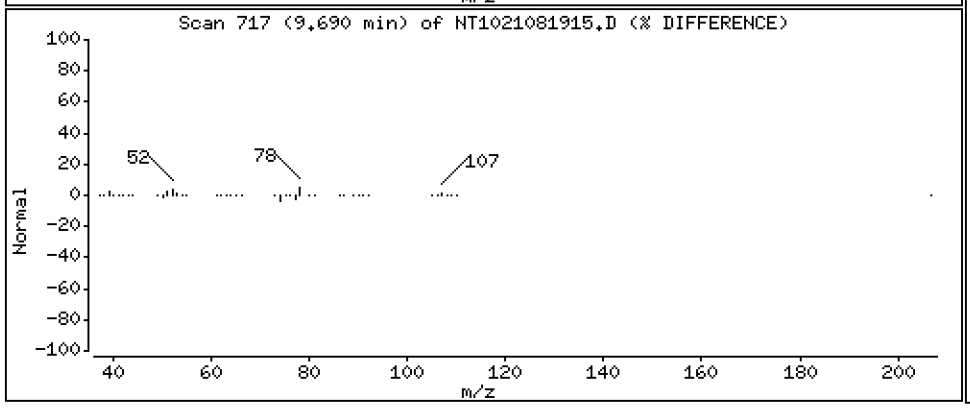
11 Benzyl alcohol

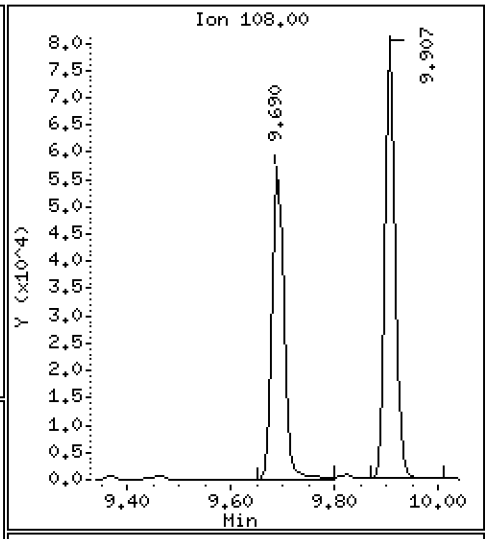
Concentration: 4.934 ug/mL

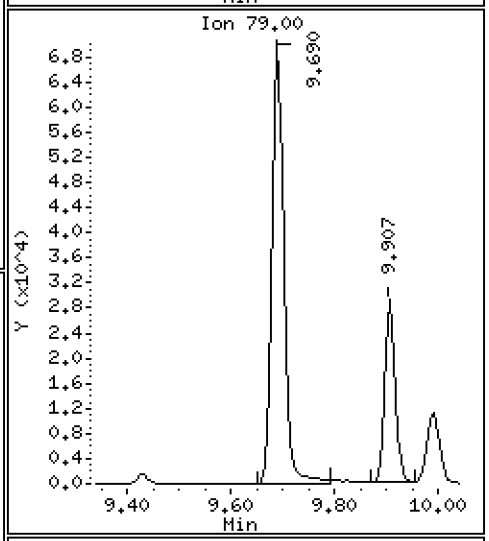


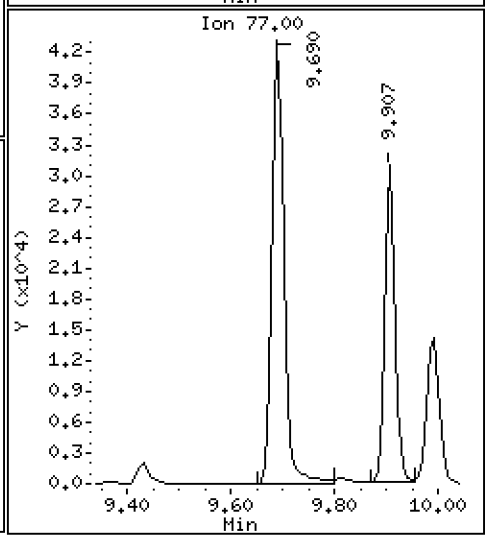












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

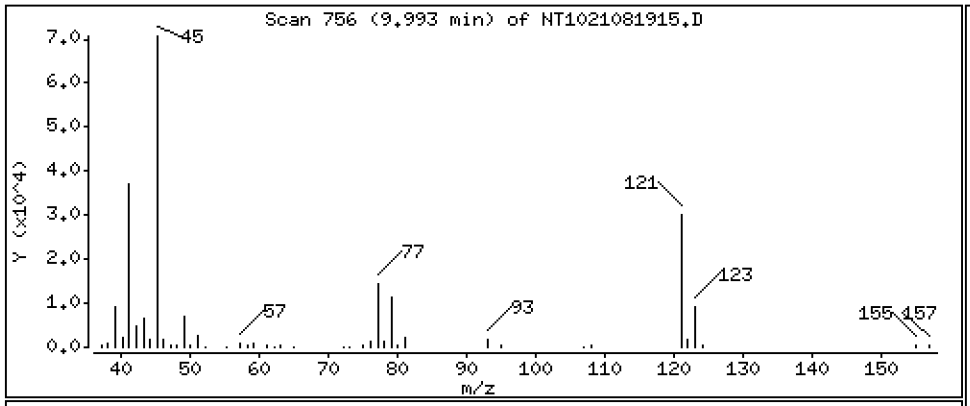
Operator: VTS

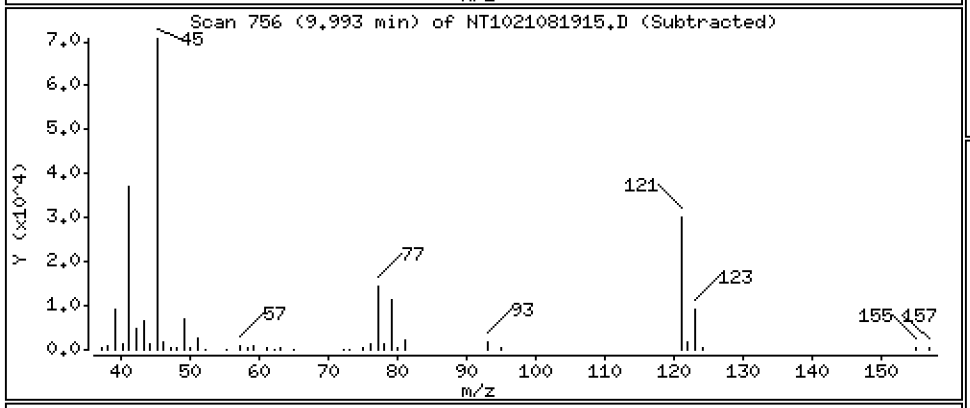
Column phase: ZB-5msi

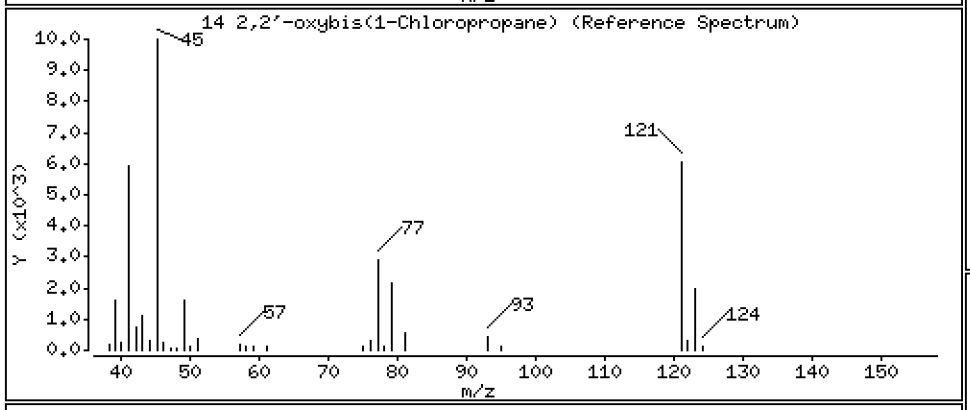
Column diameter: 0.25

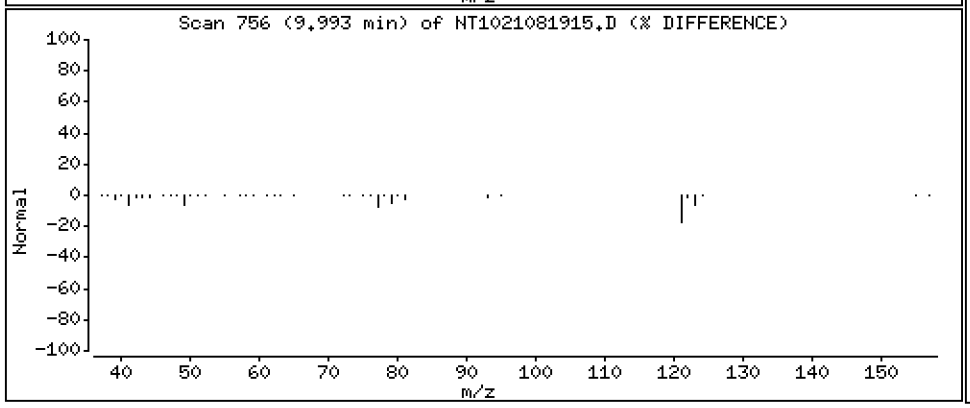
14 2,2'-oxybis(1-Chloropropane)

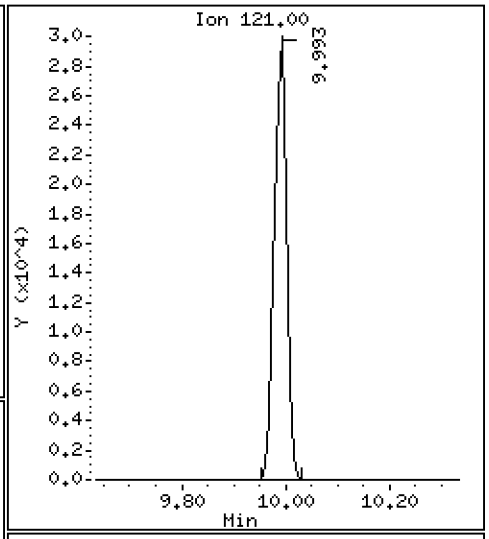
Concentration: 5.720 ug/mL

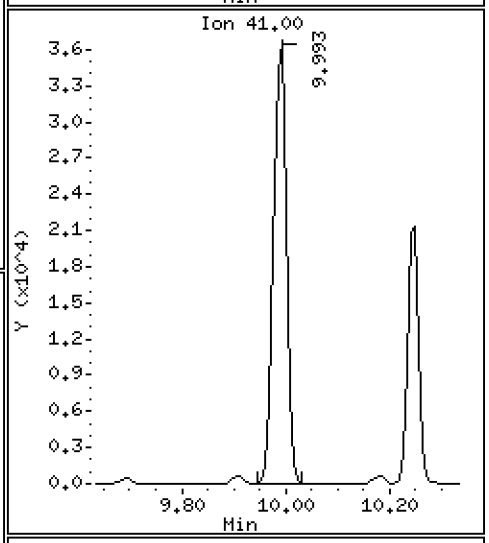


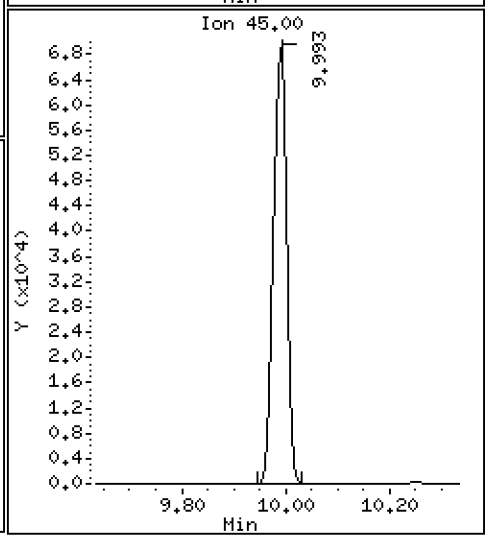












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

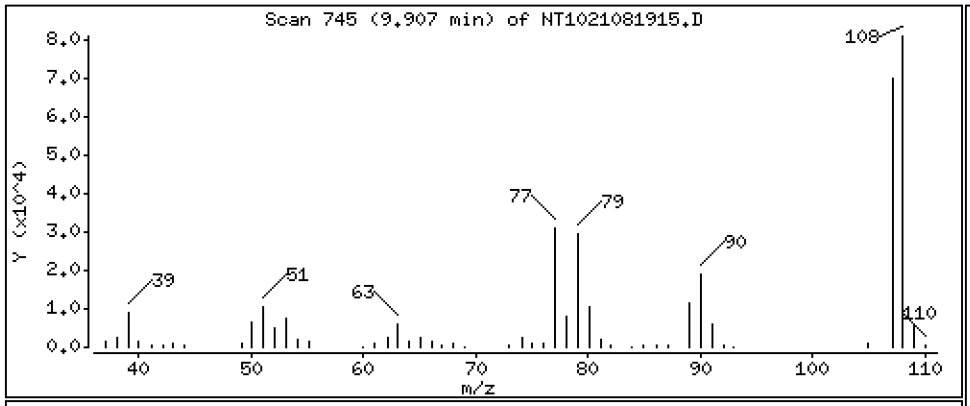
Operator: VTS

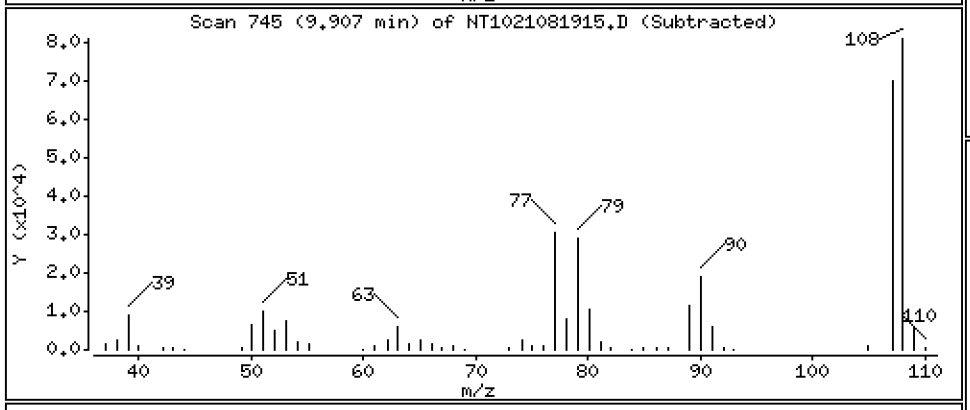
Column phase: ZB-5msi

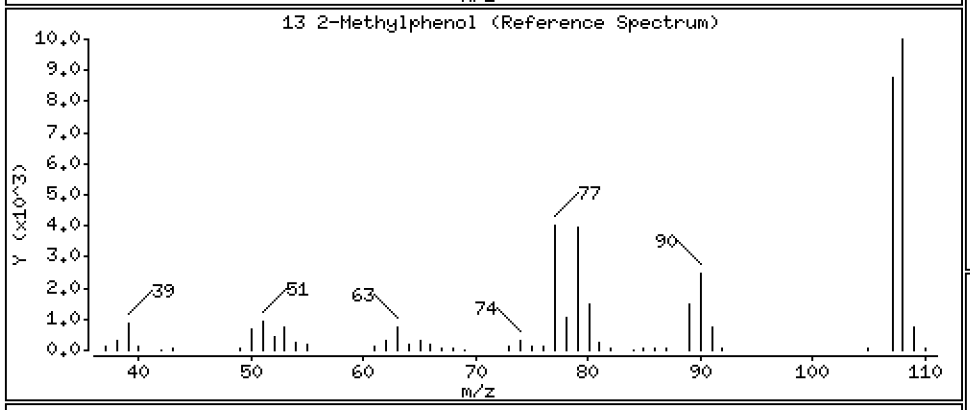
Column diameter: 0.25

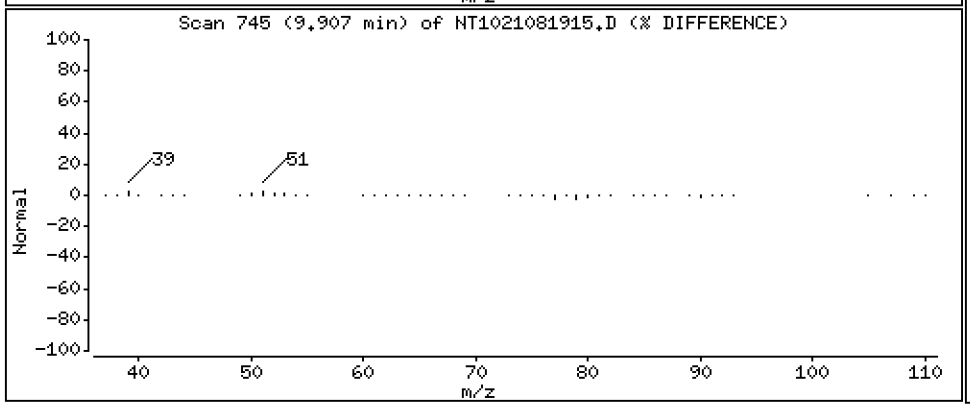
13 2-Methylphenol

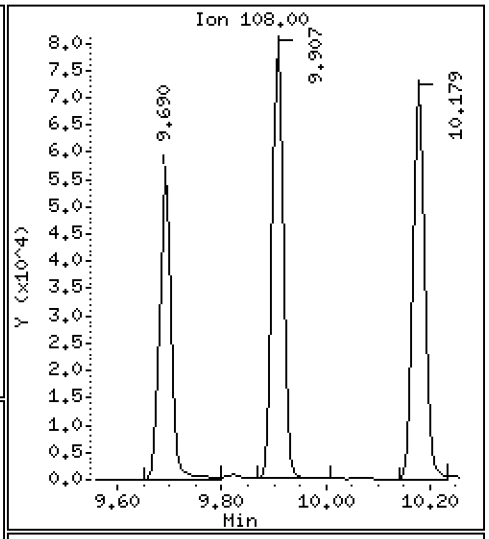
Concentration: 4.657 ug/mL

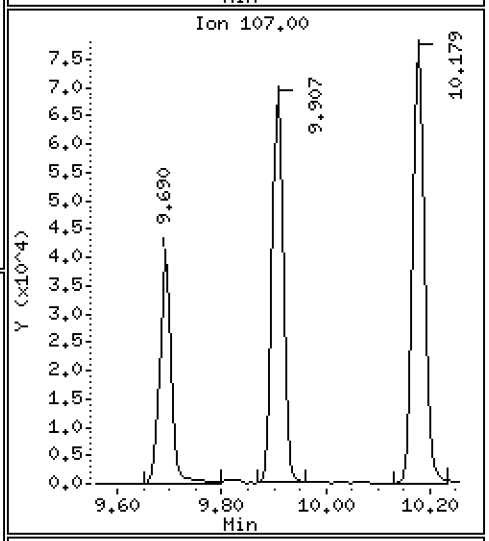


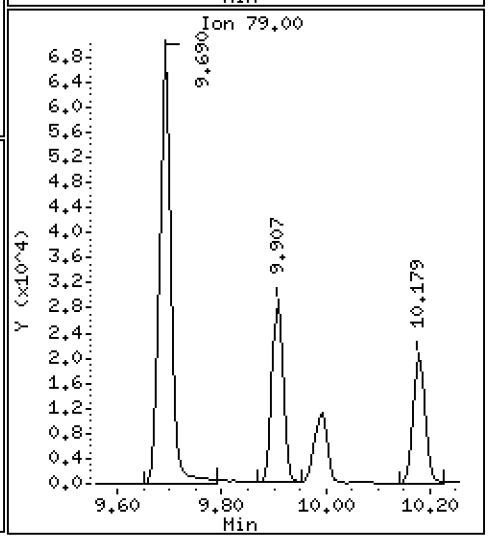












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

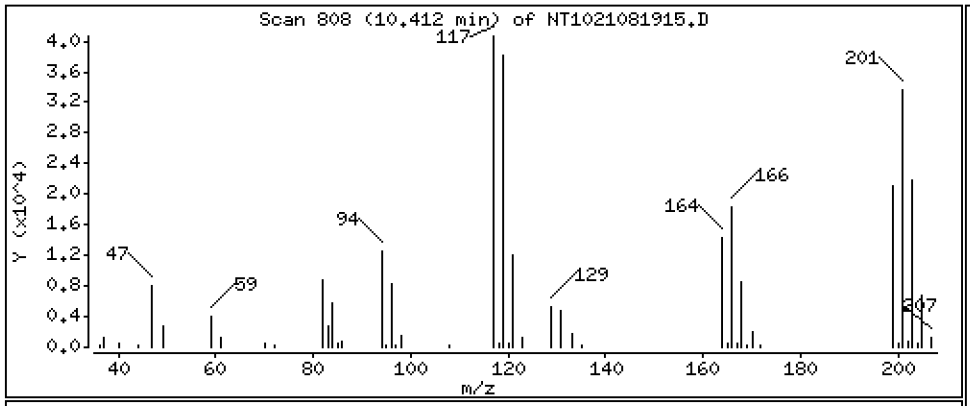
Operator: VTS

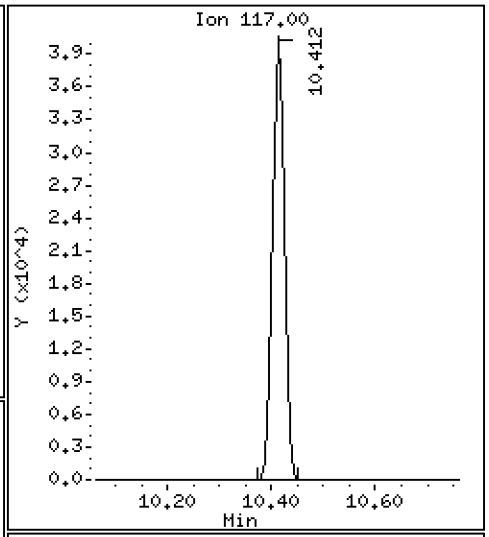
Column phase: ZB-5msi

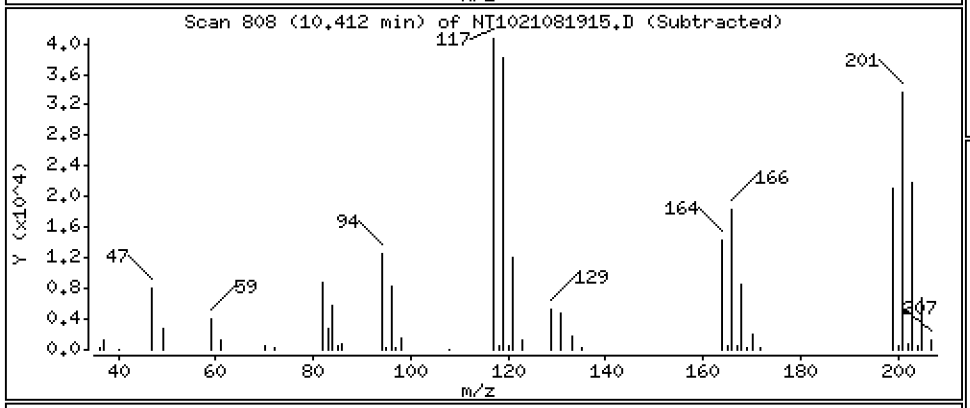
Column diameter: 0.25

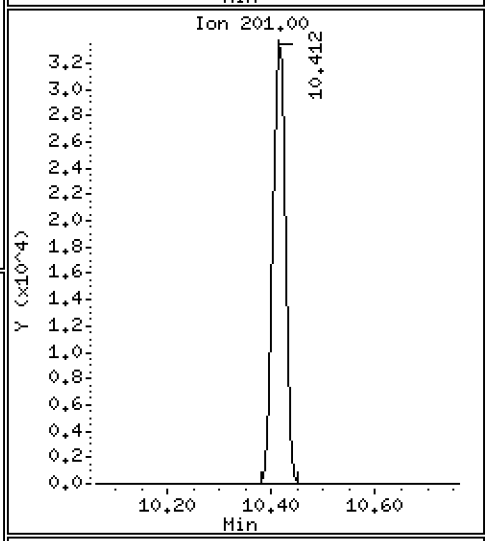
17 Hexachloroethane

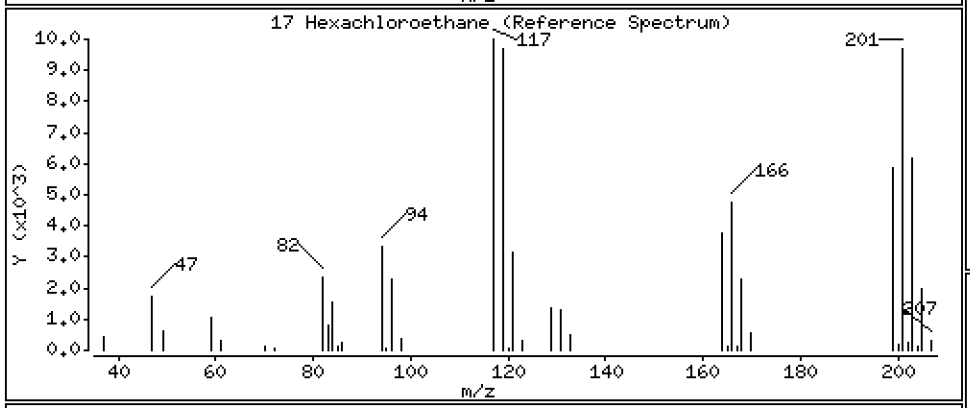
Concentration: 5.674 ug/mL

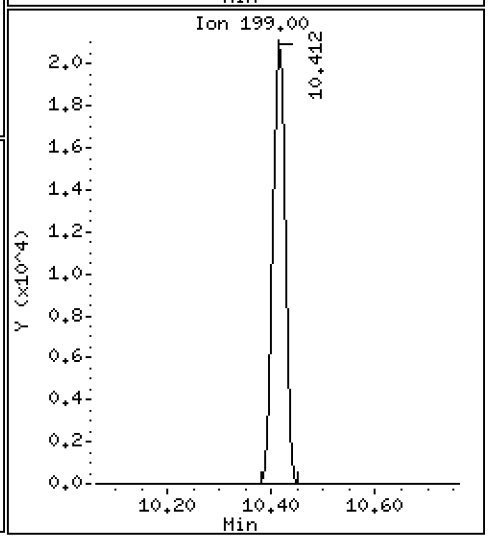


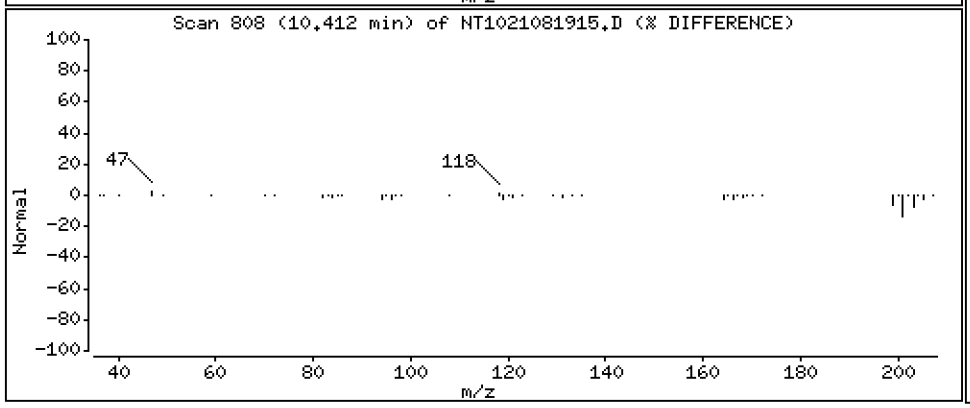












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

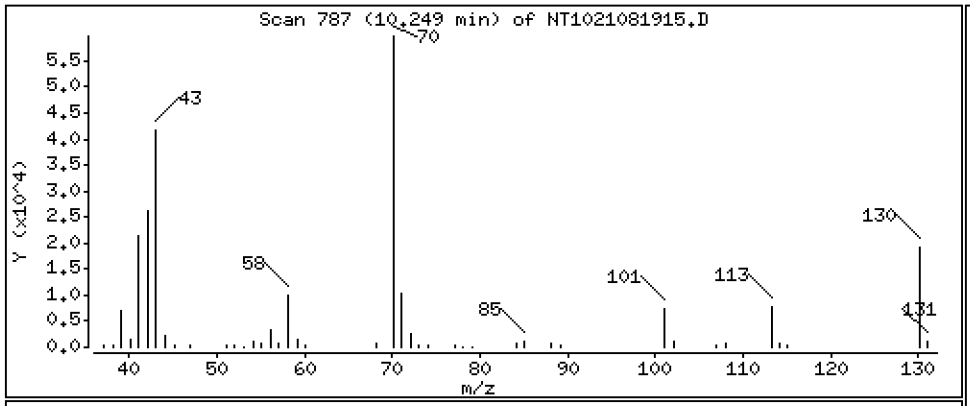
Operator: VTS

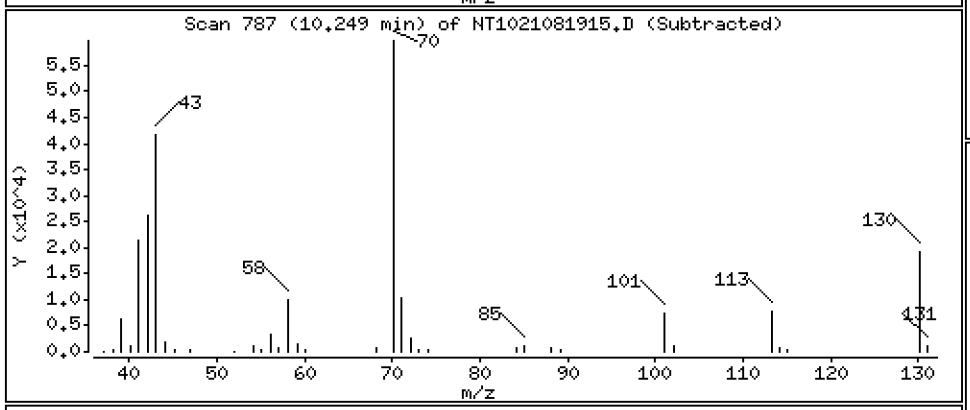
Column phase: ZB-5msi

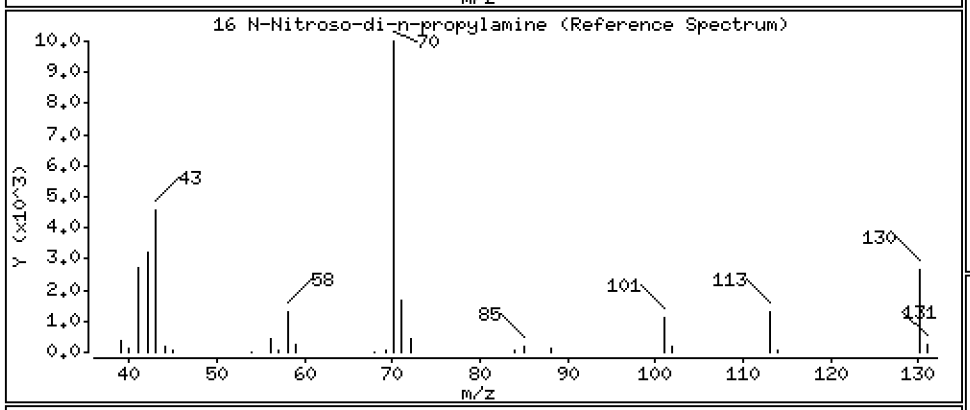
Column diameter: 0.25

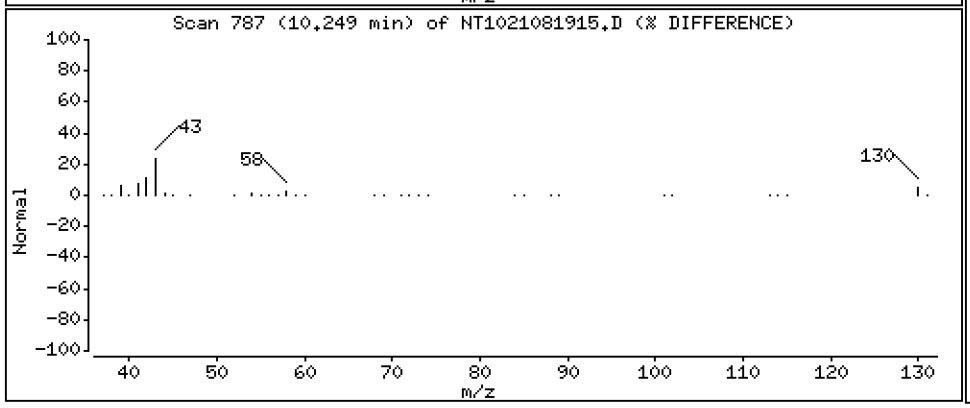
16 N-Nitroso-di-n-propylamine

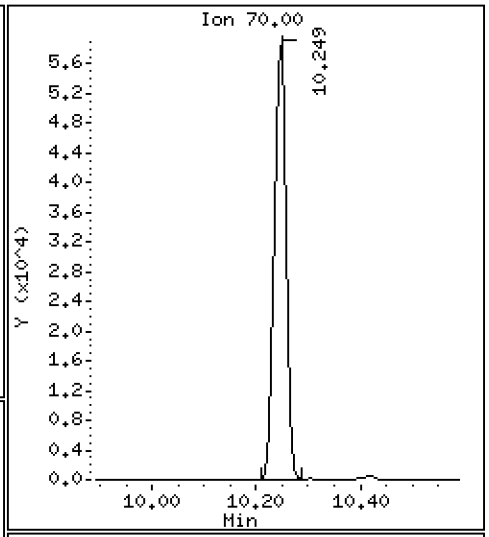
Concentration: 5.292 ug/mL

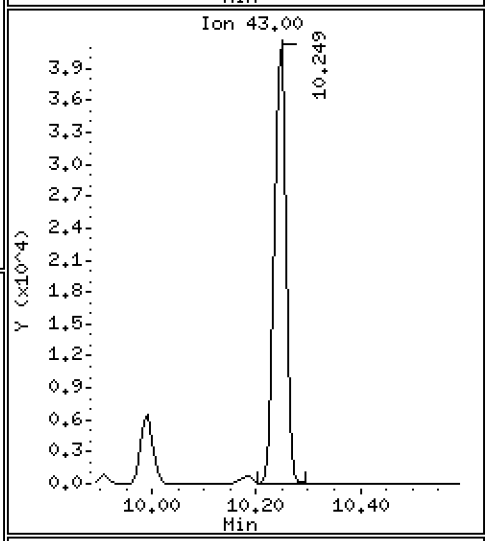


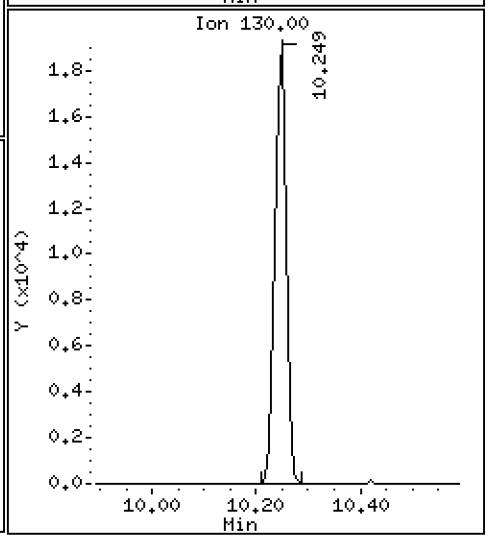












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

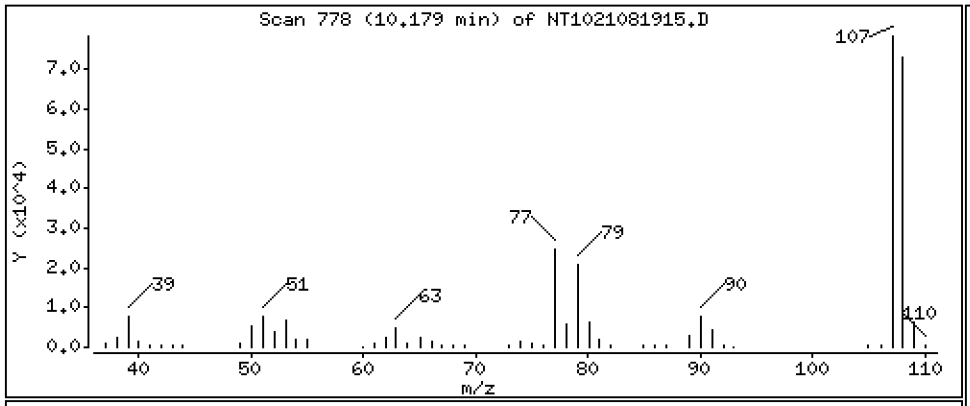
Operator: VTS

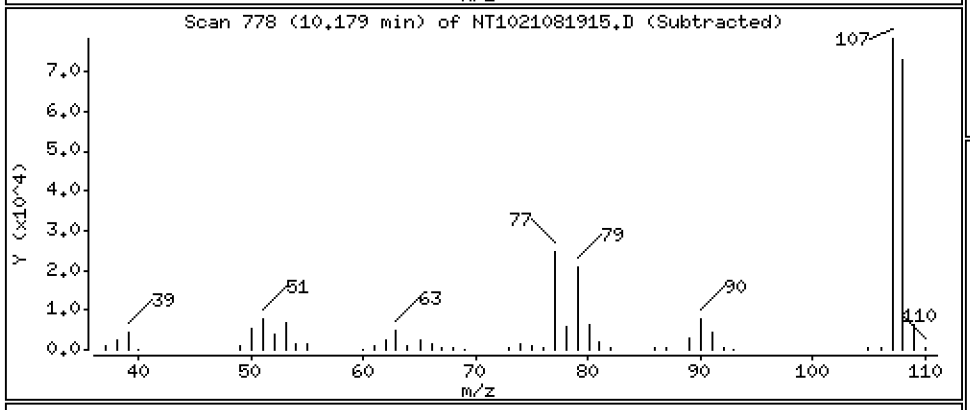
Column phase: ZB-5msi

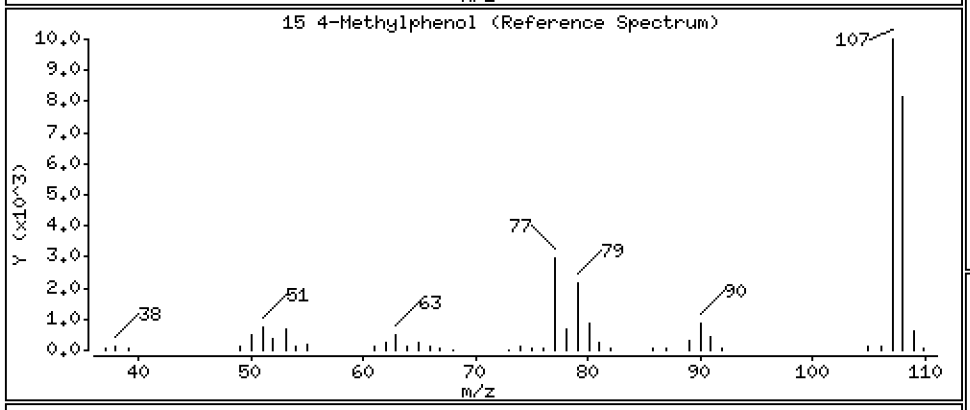
Column diameter: 0.25

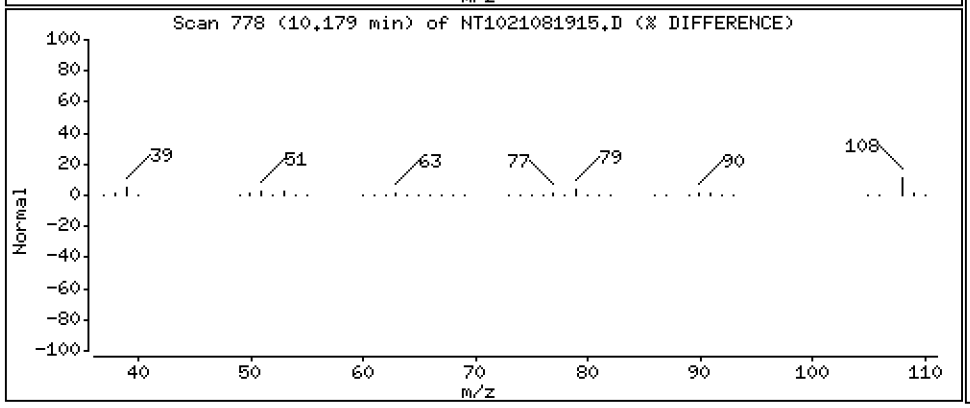
15 4-Methylphenol

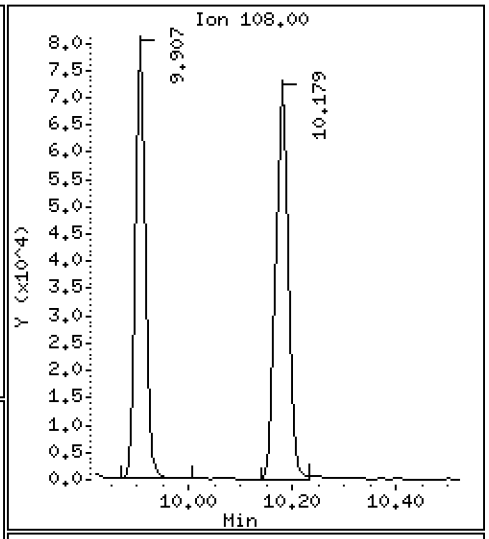
Concentration: 4.688 ug/mL

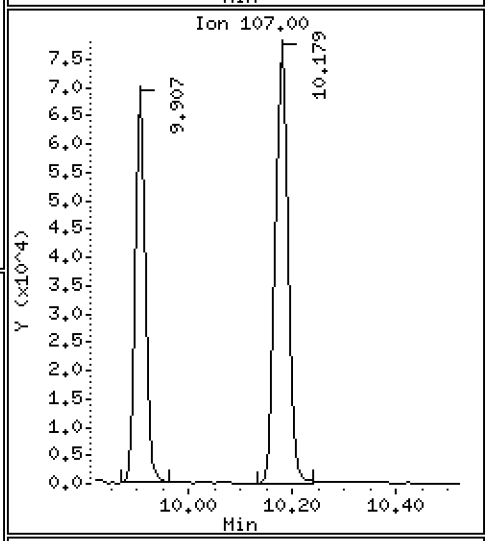


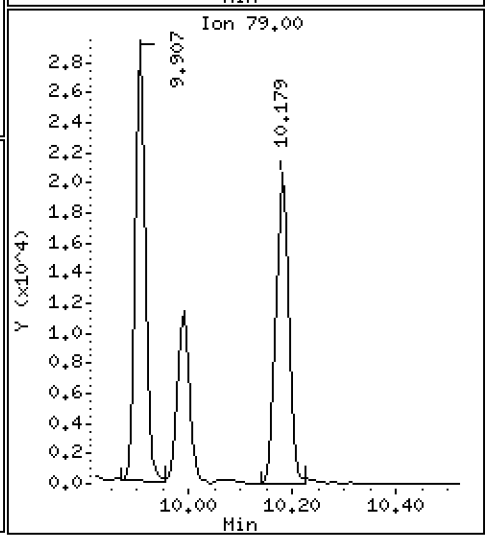












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

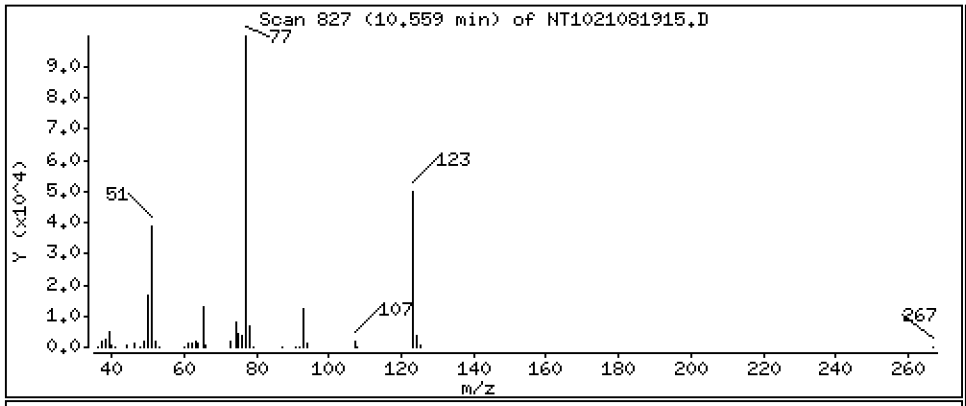
Operator: VTS

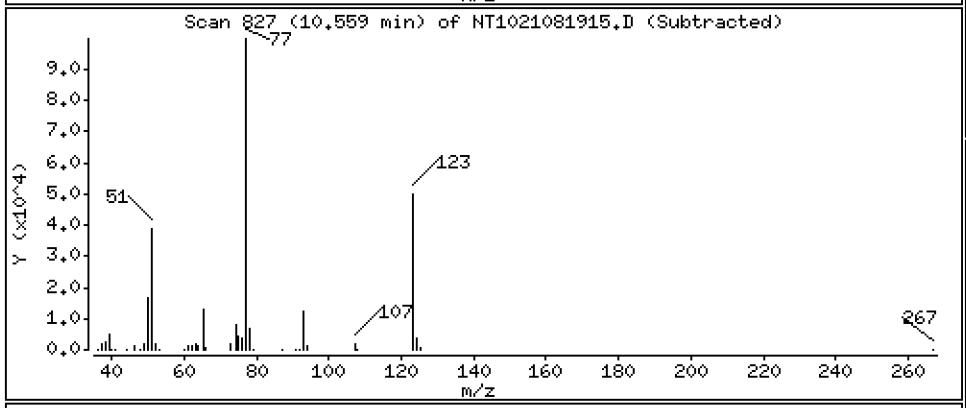
Column phase: ZB-5msi

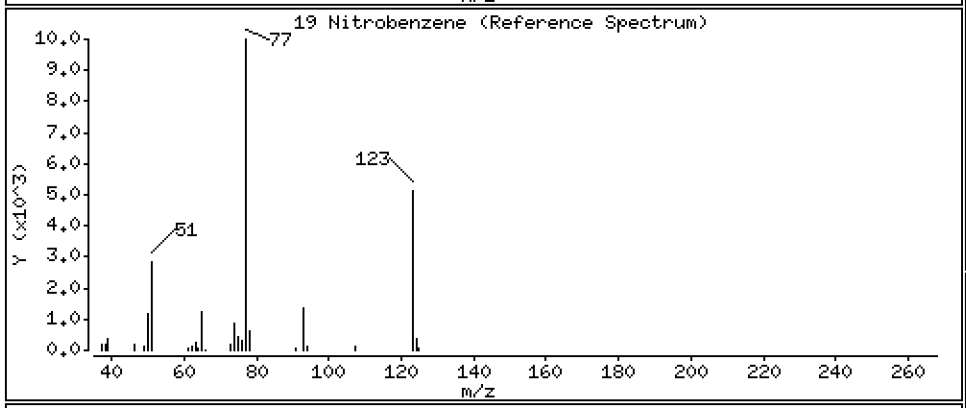
Column diameter: 0.25

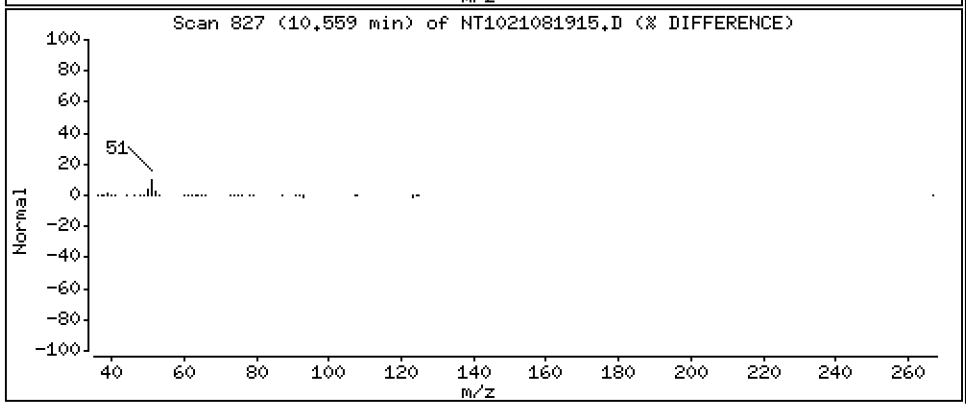
19 Nitrobenzene

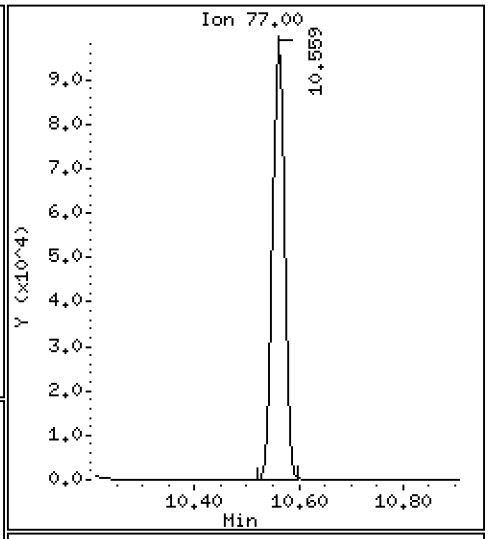
Concentration: 5.403 ug/mL

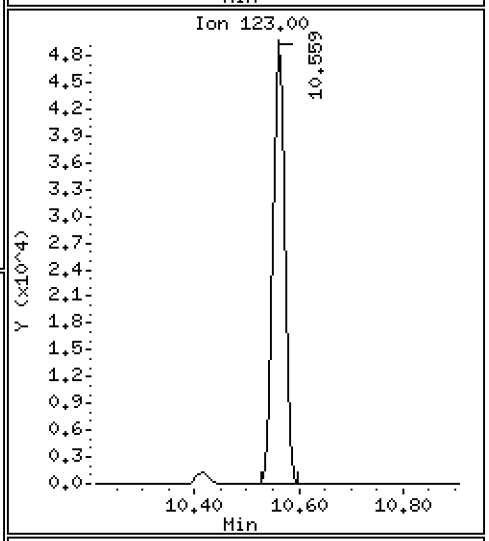


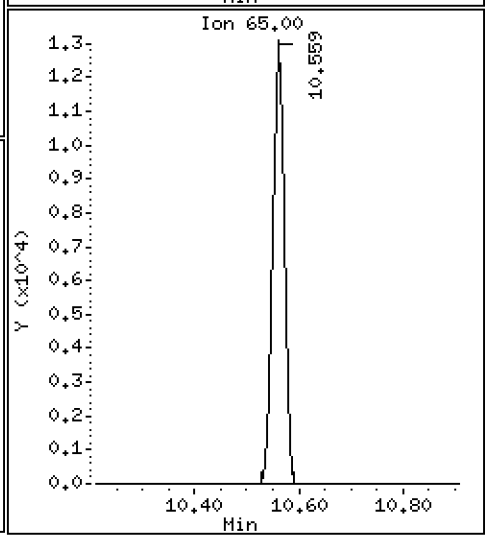












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

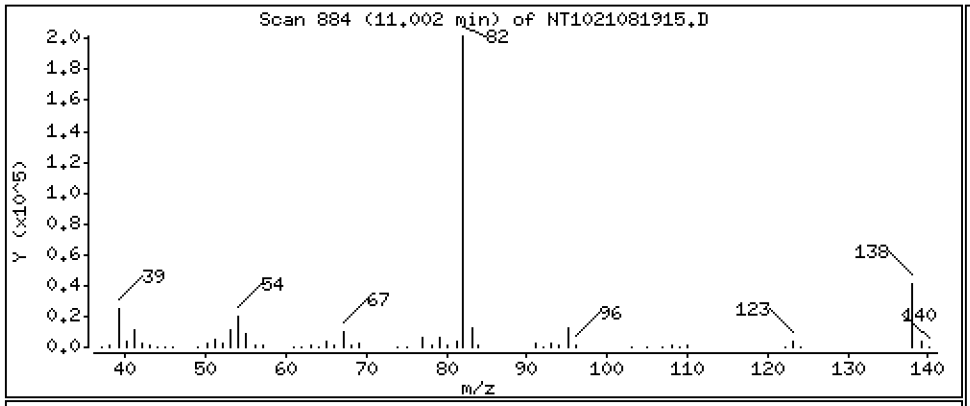
Operator: VTS

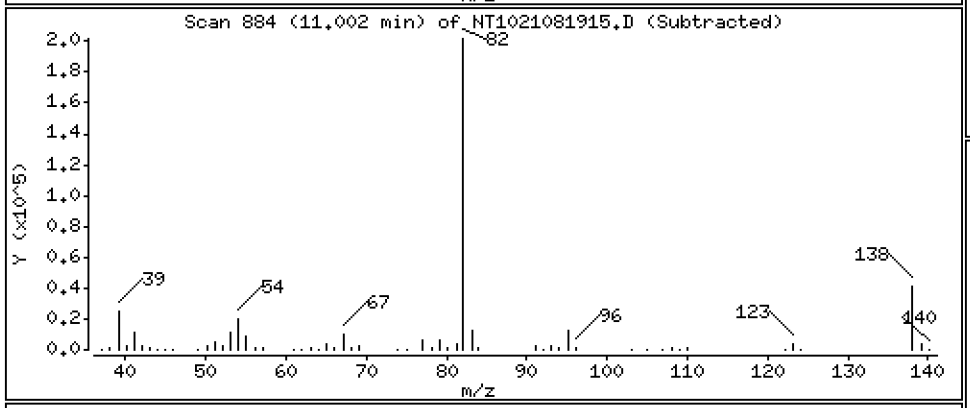
Column phase: ZB-5msi

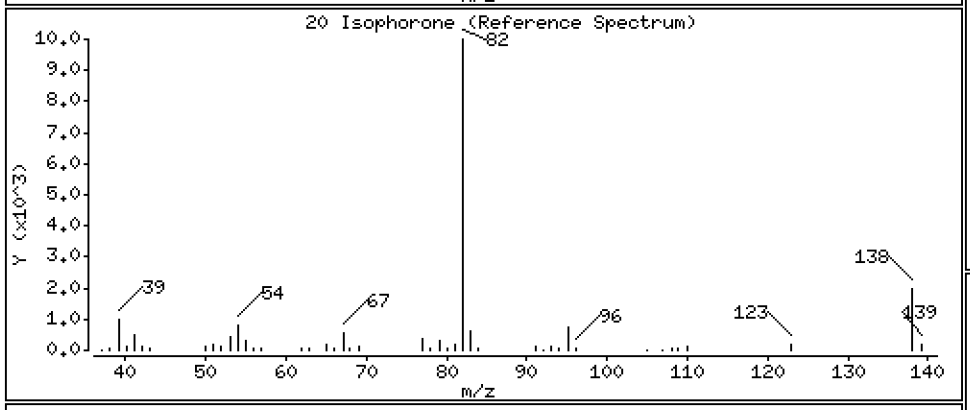
Column diameter: 0.25

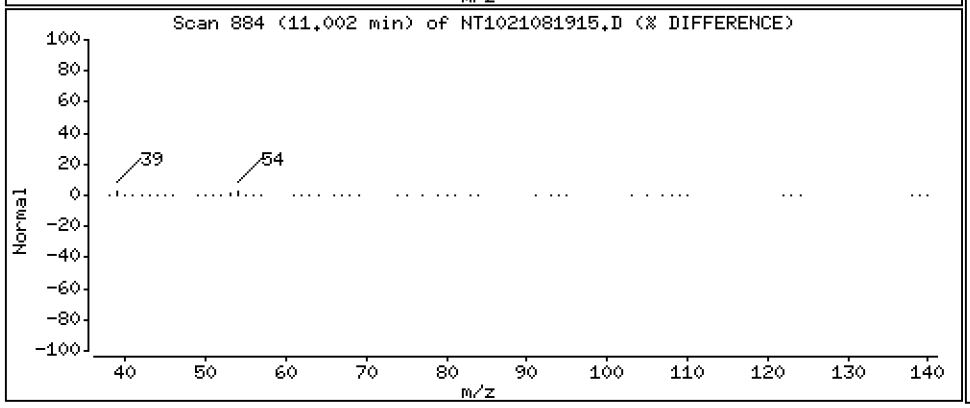
20 Isophorone

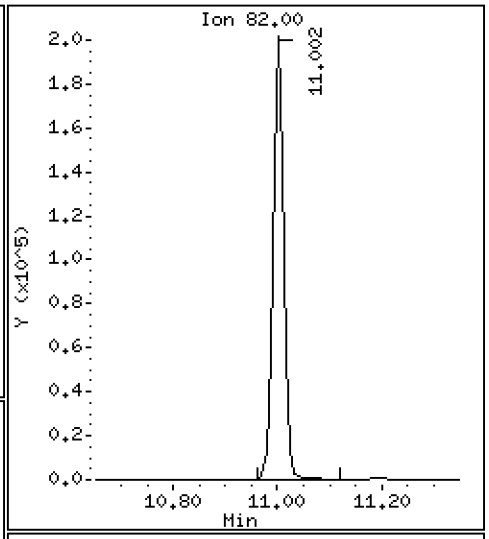
Concentration: 7.778 ug/mL

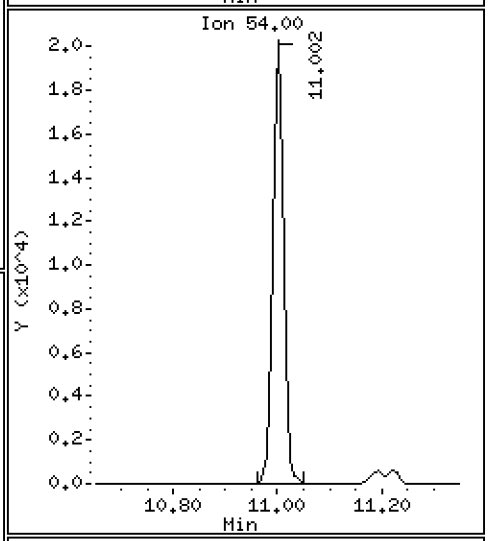


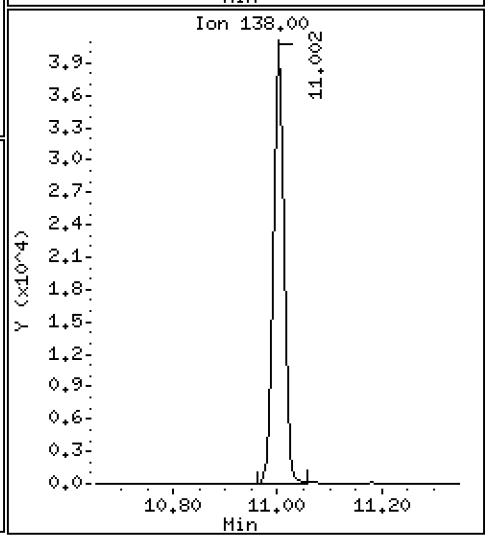












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

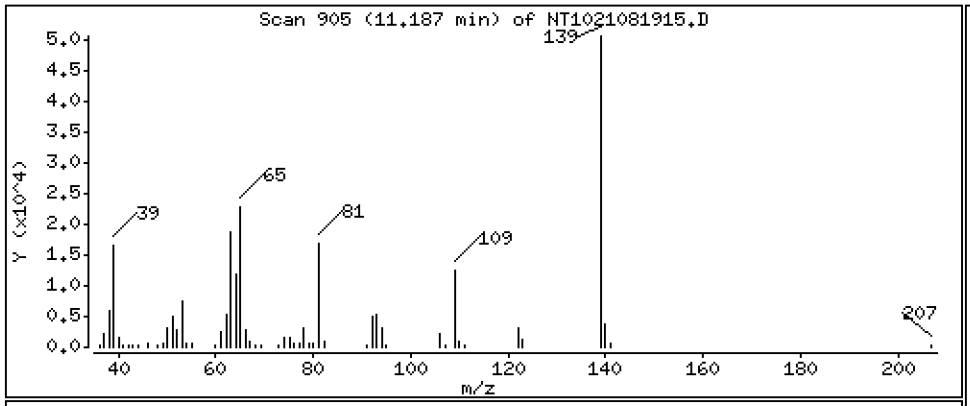
Operator: VTS

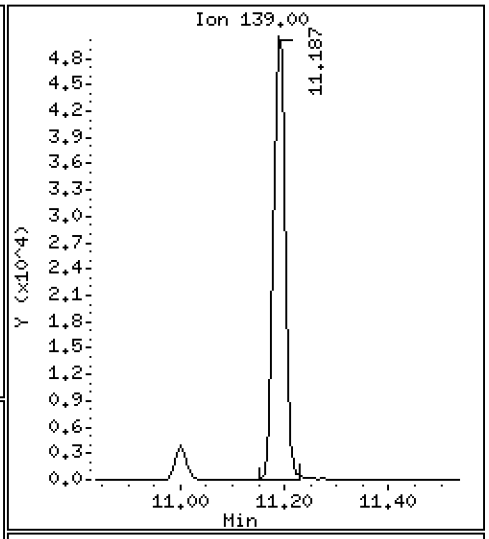
Column phase: ZB-5msi

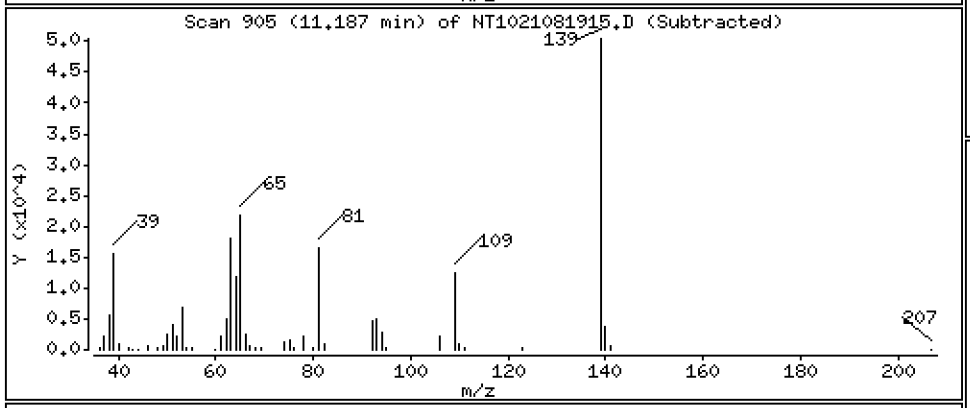
Column diameter: 0.25

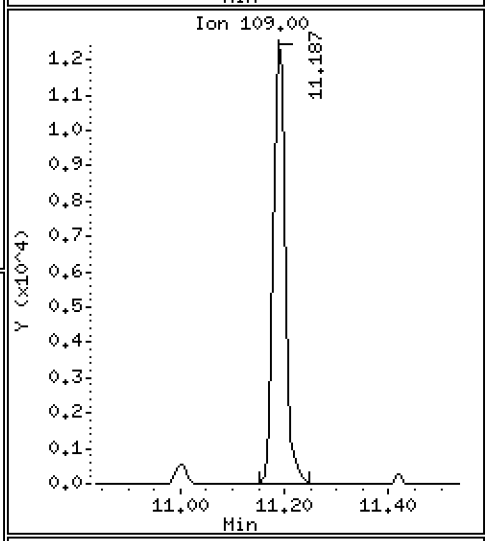
21 2-Nitrophenol

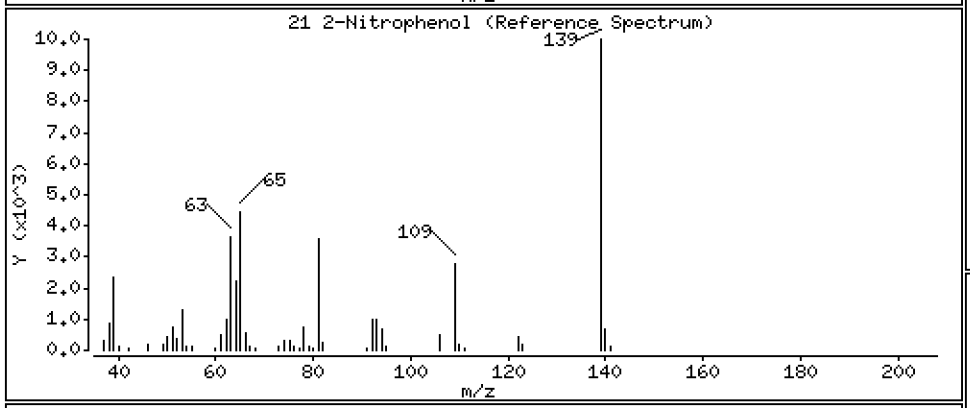
Concentration: 5.178 ug/mL

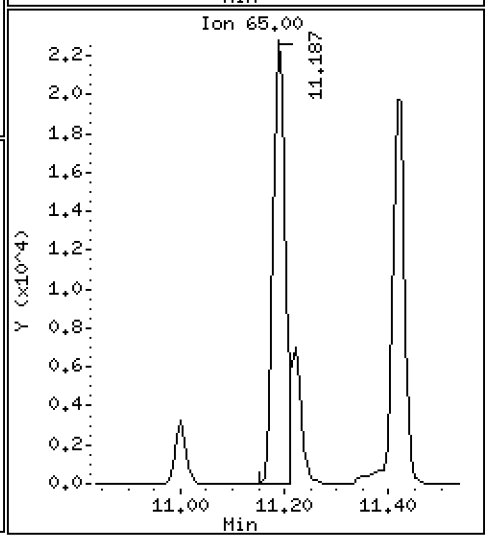


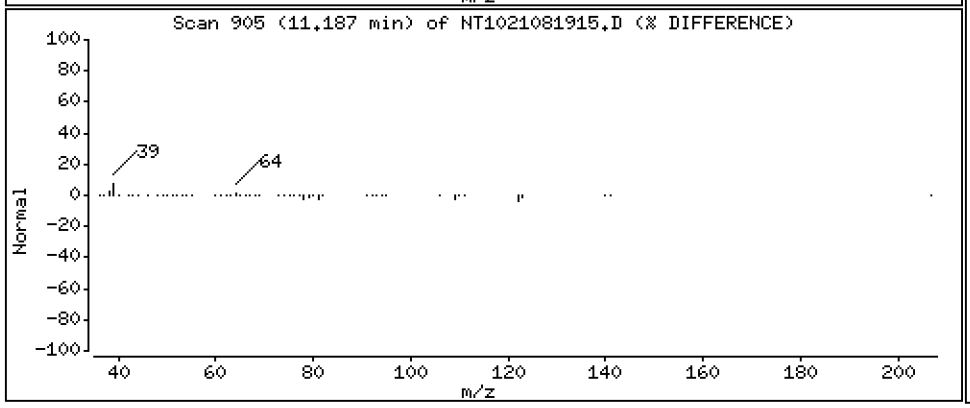












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

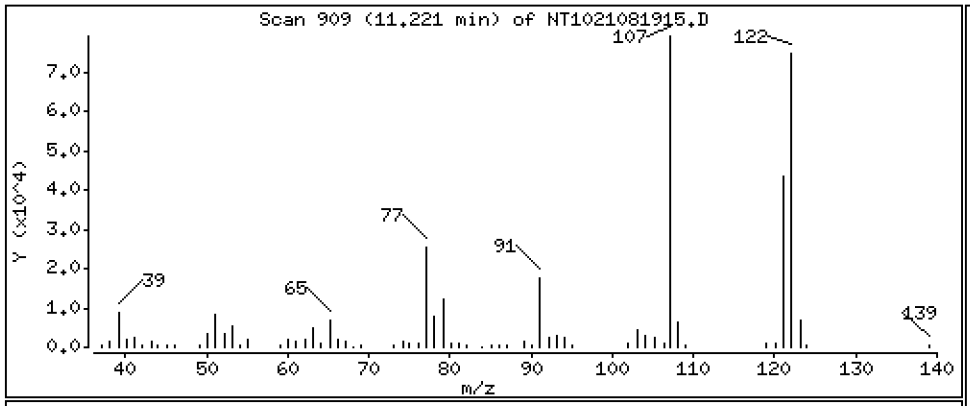
Operator: VTS

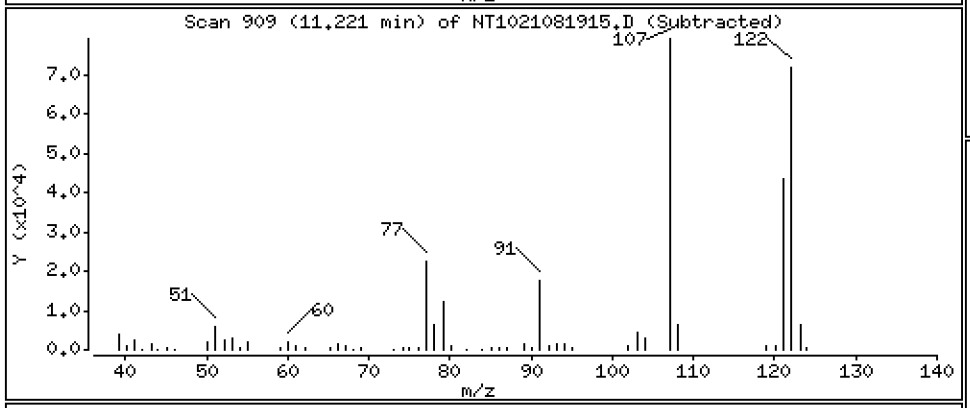
Column phase: ZB-5msi

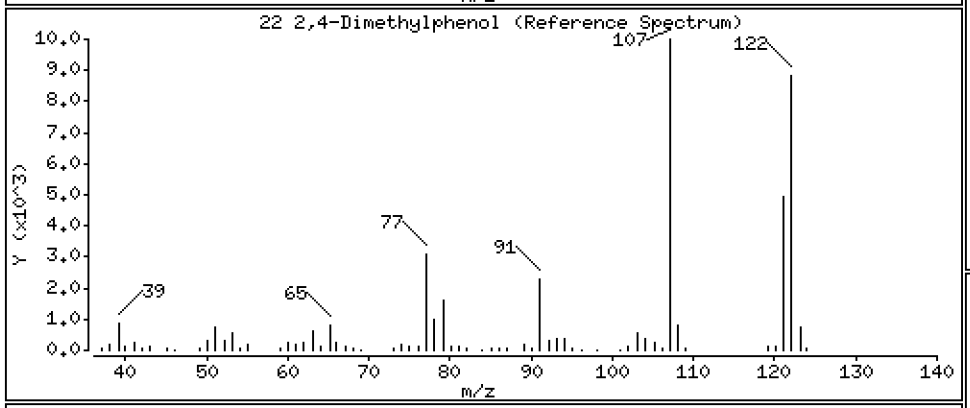
Column diameter: 0.25

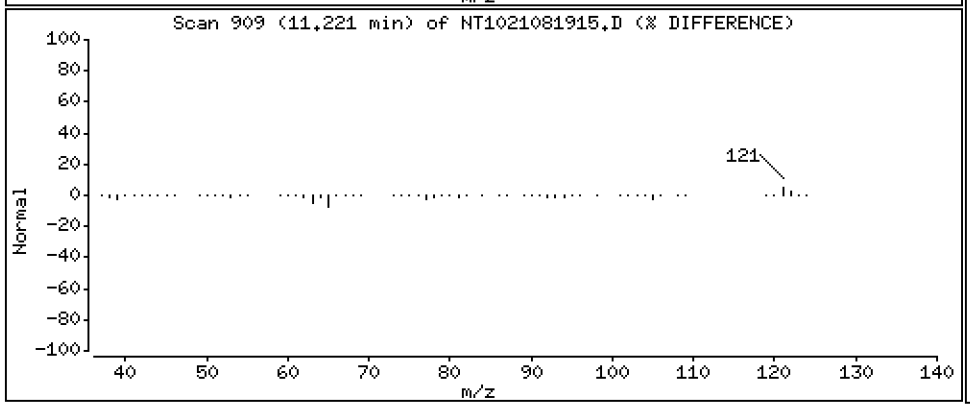
22 2,4-Dimethylphenol

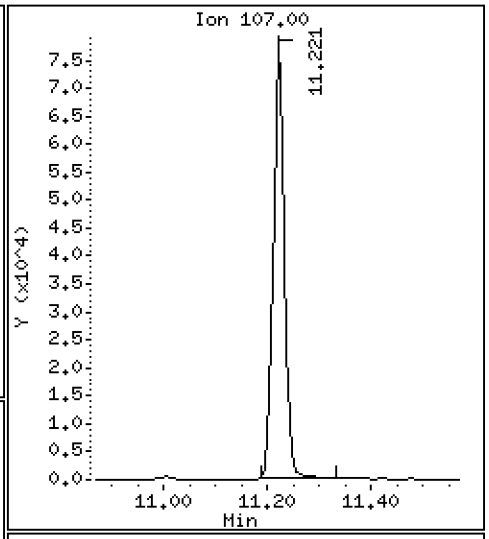
Concentration: 4.920 ug/mL

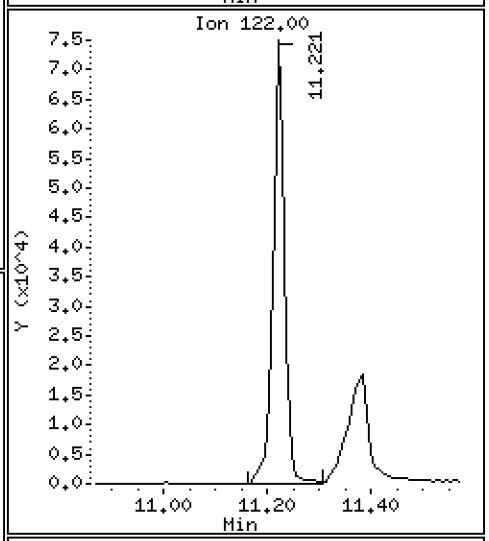


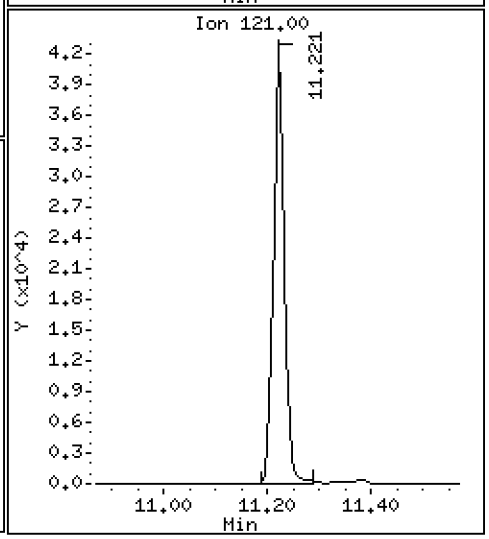












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

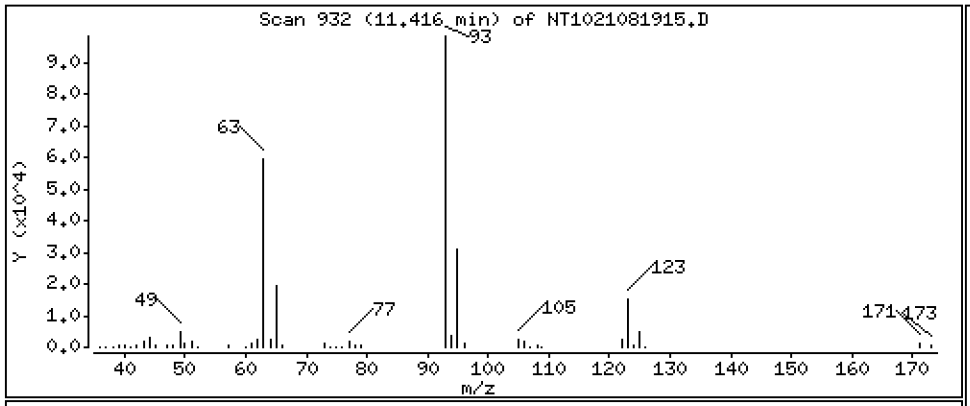
Operator: VTS

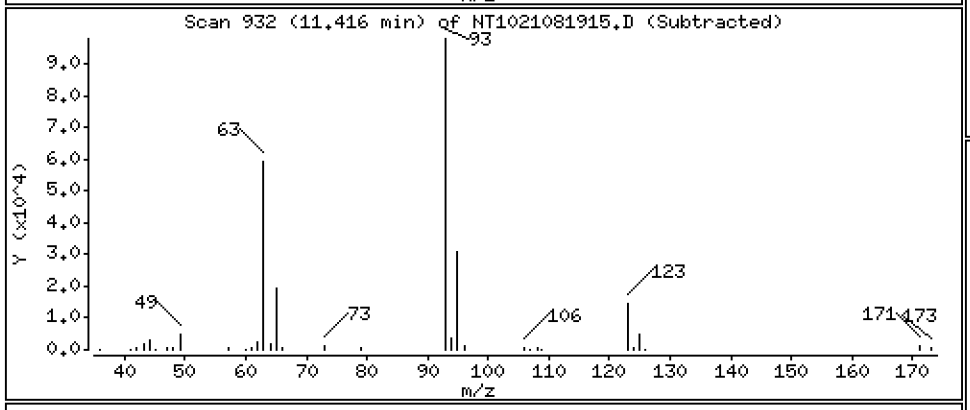
Column phase: ZB-5msi

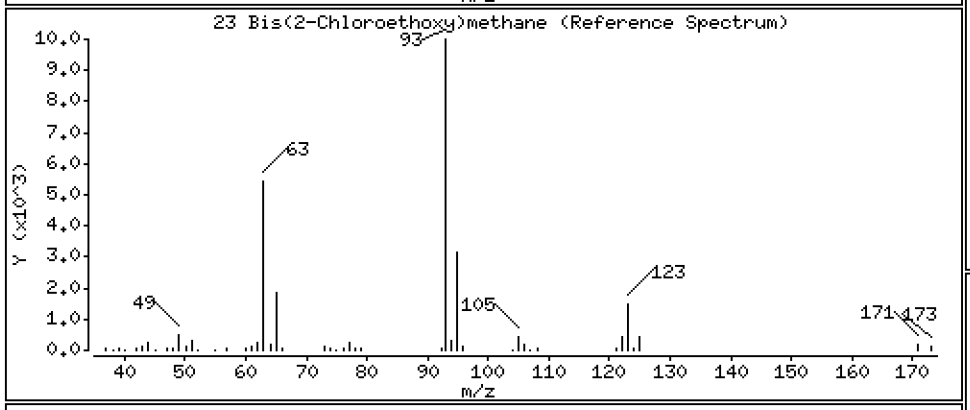
Column diameter: 0.25

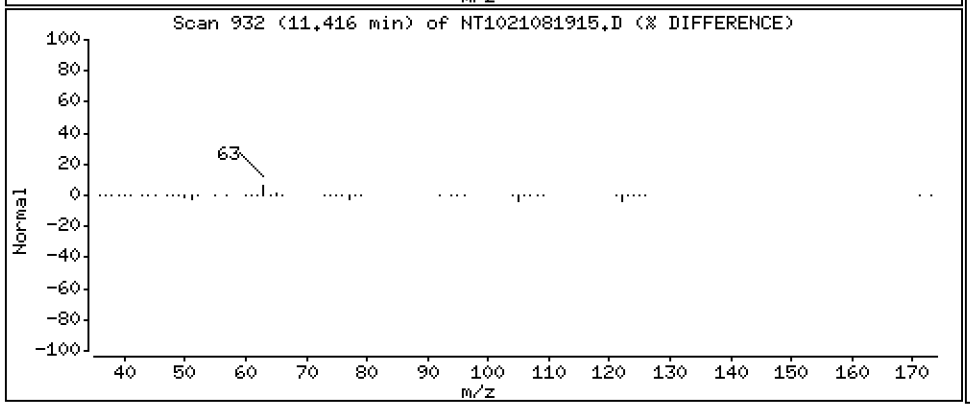
23 Bis(2-Chloroethoxy)methane

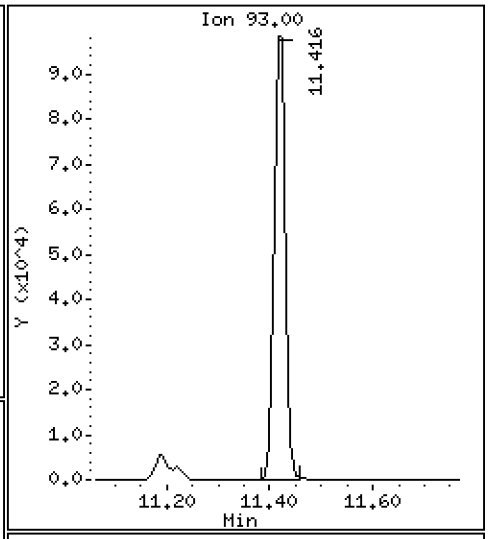
Concentration: 5.938 ug/mL

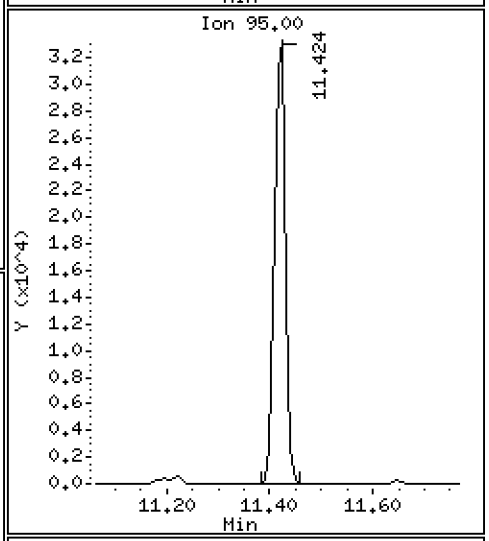


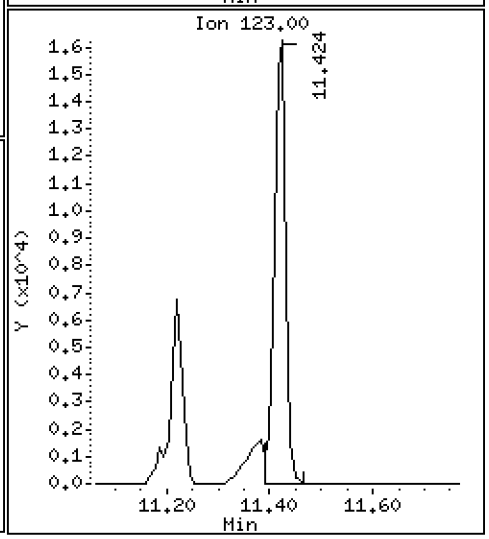












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

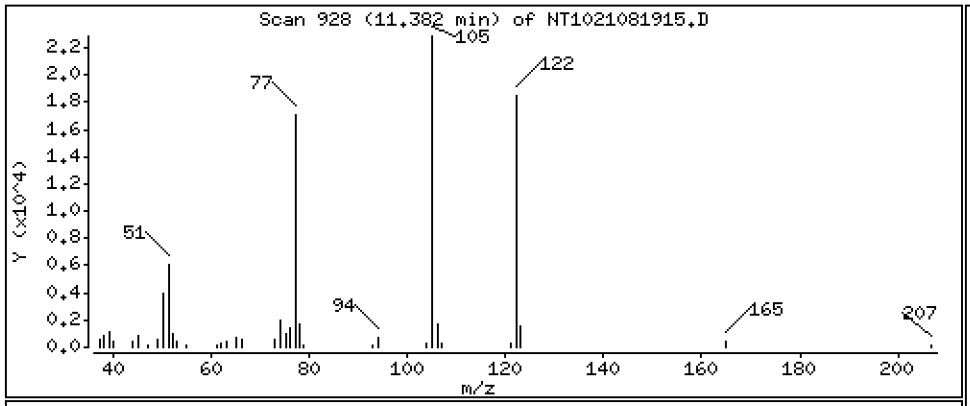
Operator: VTS

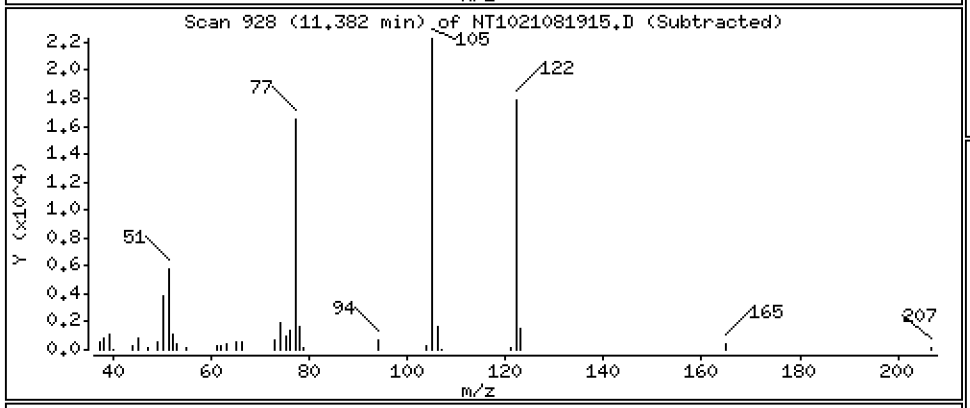
Column phase: ZB-5msi

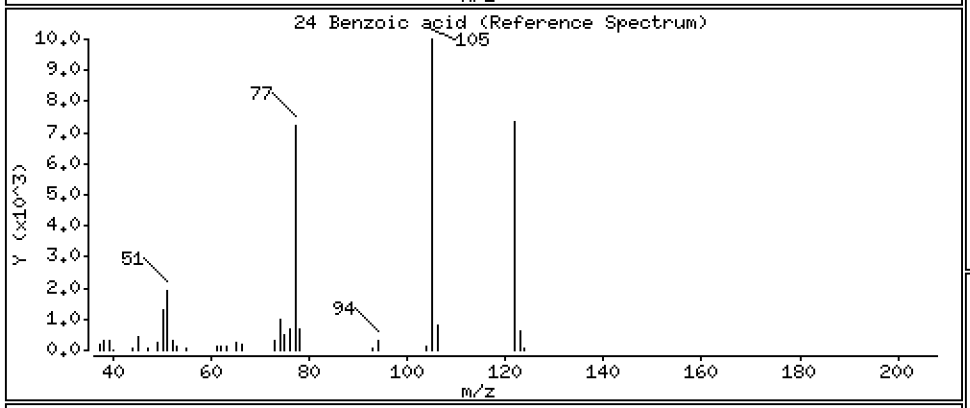
Column diameter: 0.25

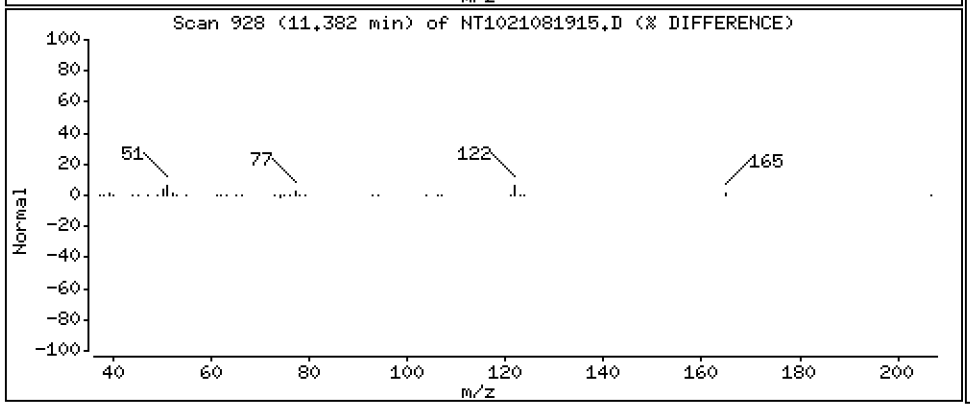
24 Benzoic acid

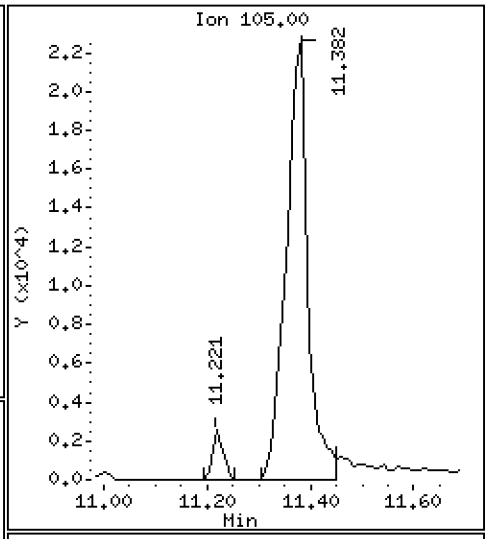
Concentration: 5.378 ug/mL

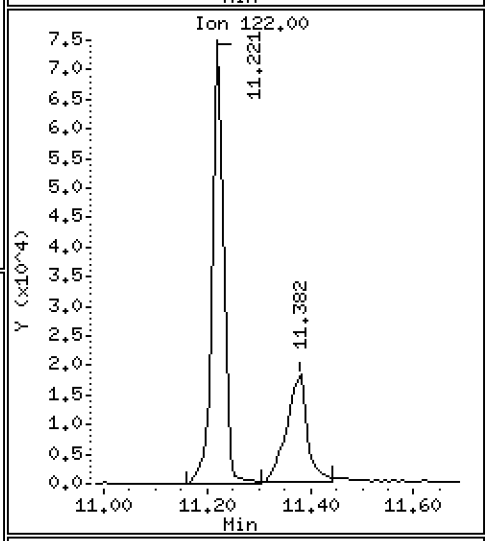


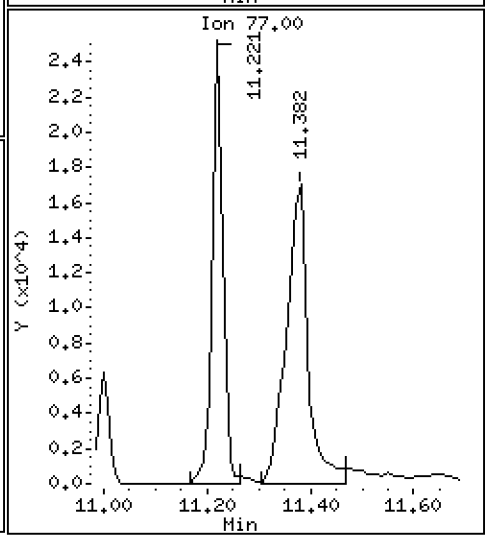












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

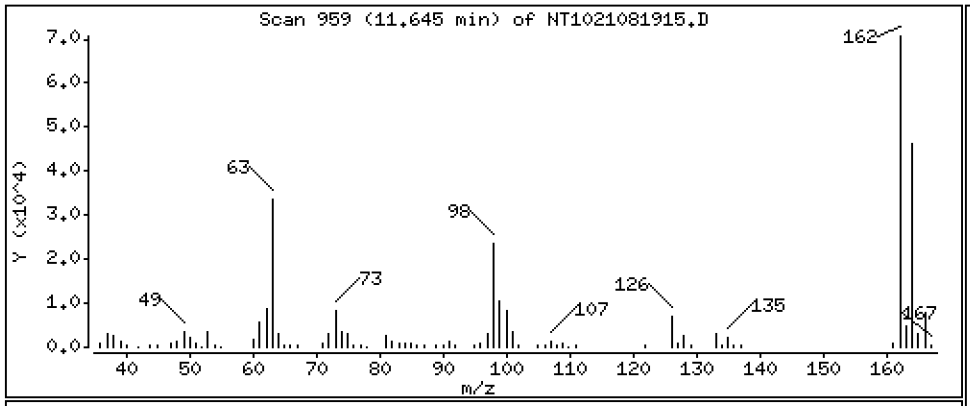
Operator: VTS

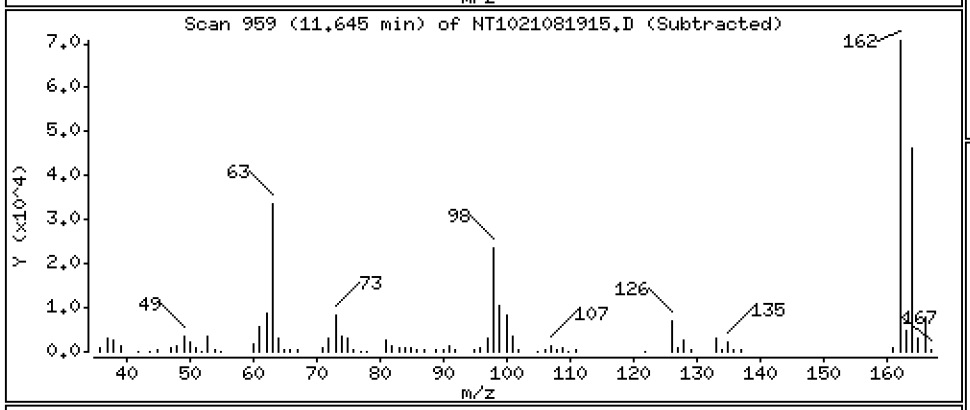
Column phase: ZB-5msi

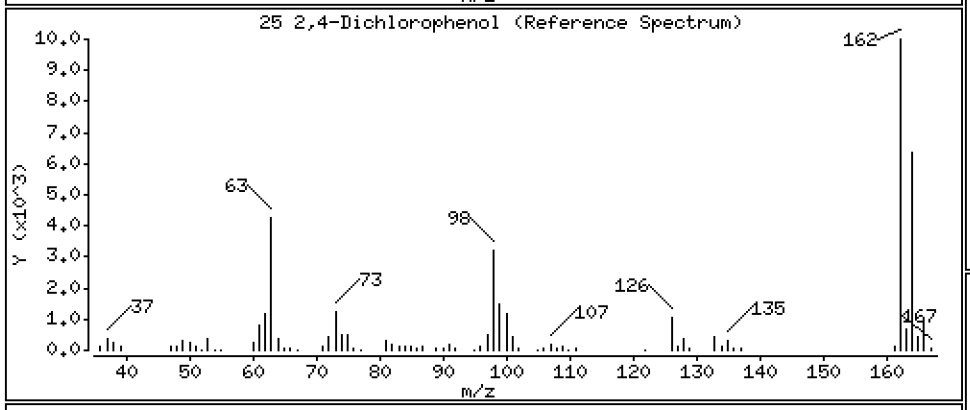
Column diameter: 0.25

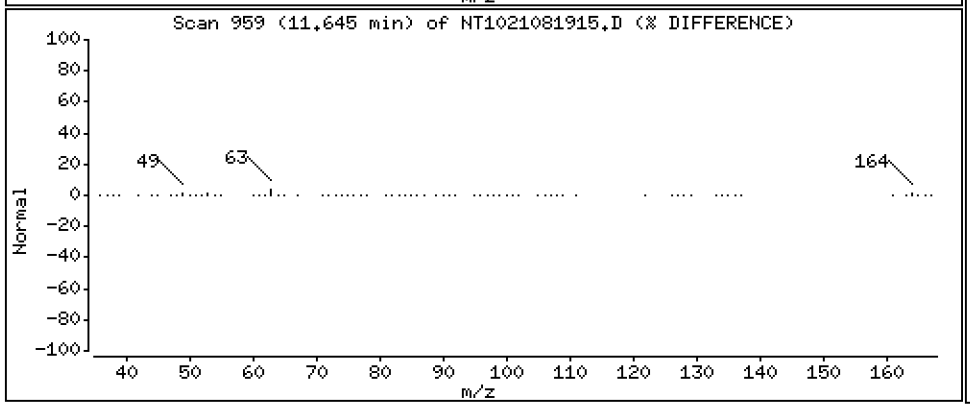
25 2,4-Dichlorophenol

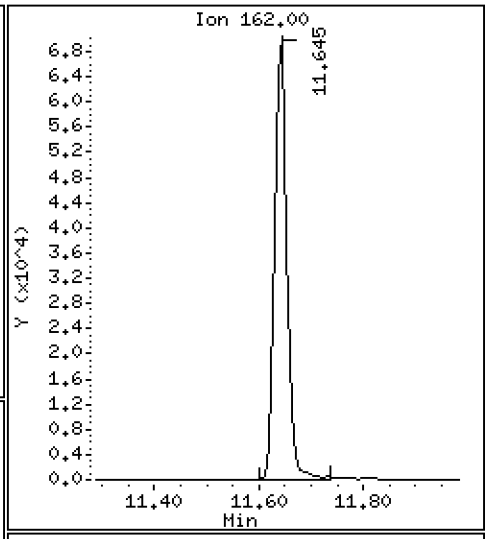
Concentration: 5.147 ug/mL

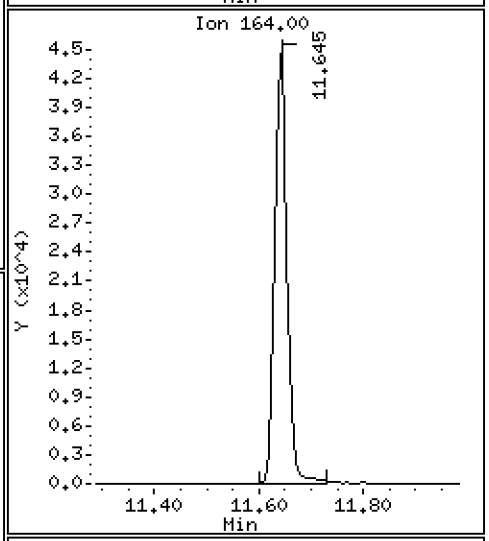


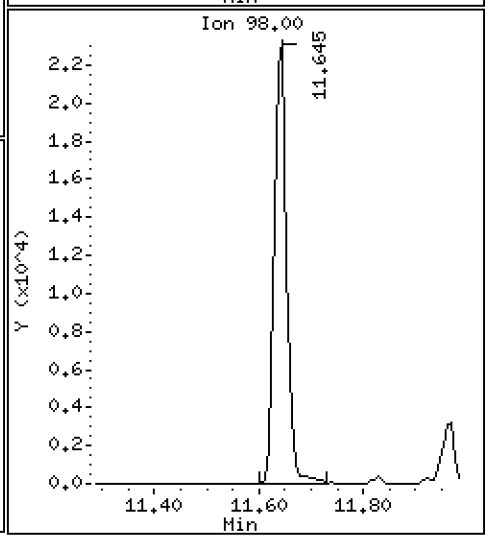












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

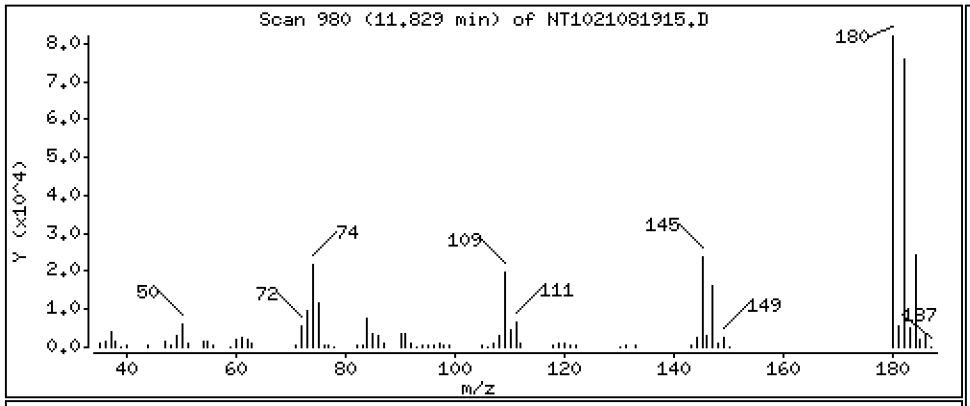
Operator: VTS

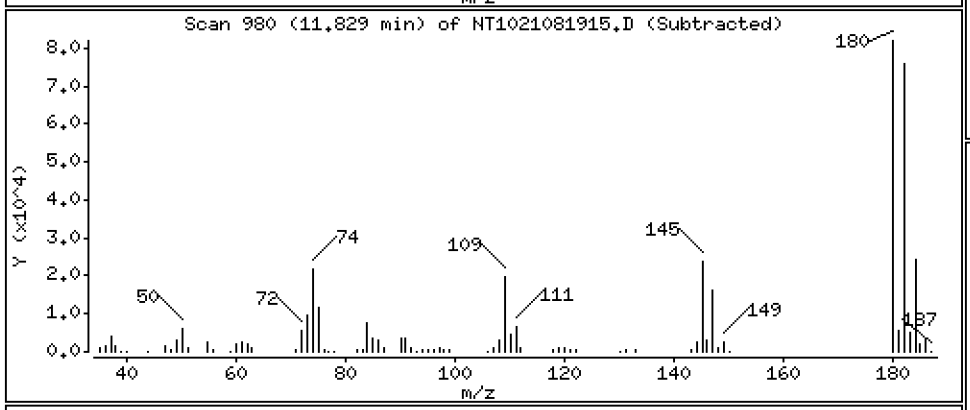
Column phase: ZB-5msi

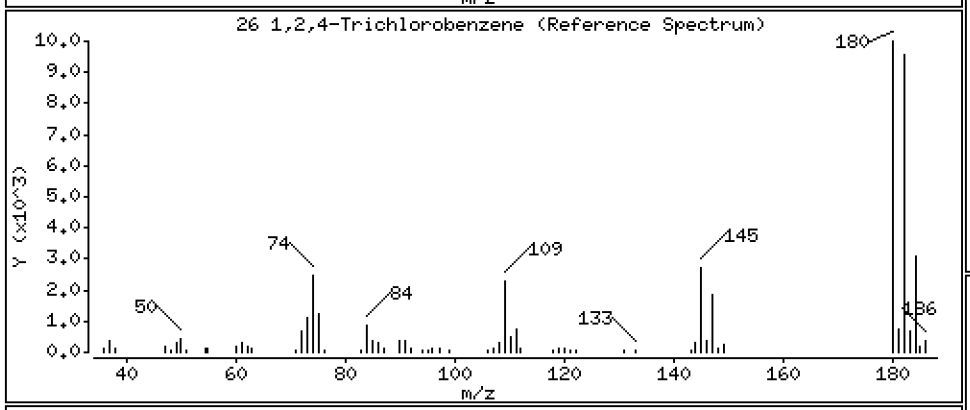
Column diameter: 0.25

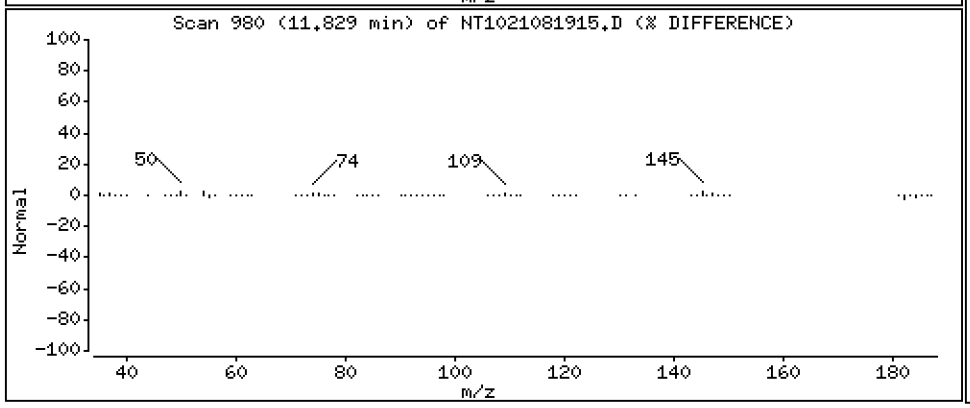
26 1,2,4-Trichlorobenzene

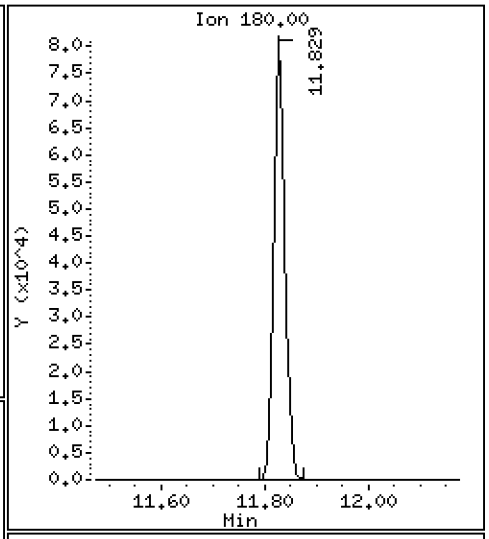
Concentration: 5.000 ug/mL

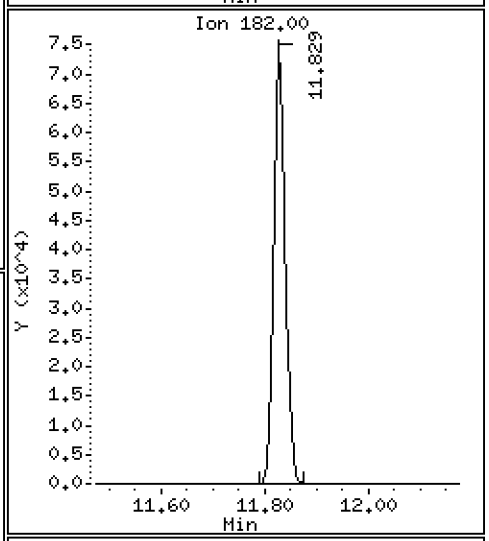


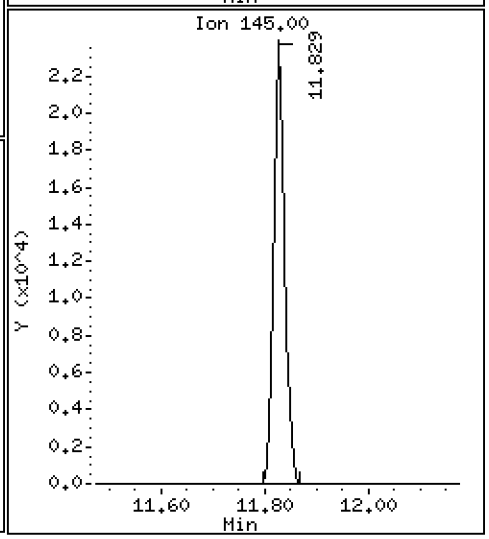












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

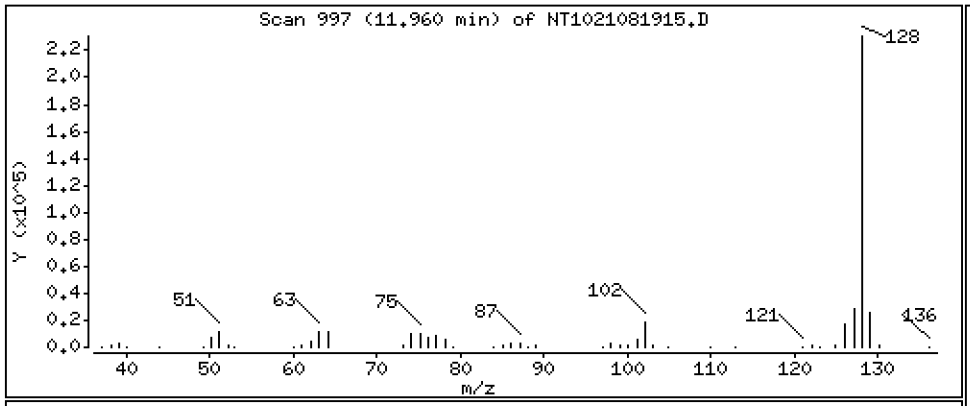
Operator: VTS

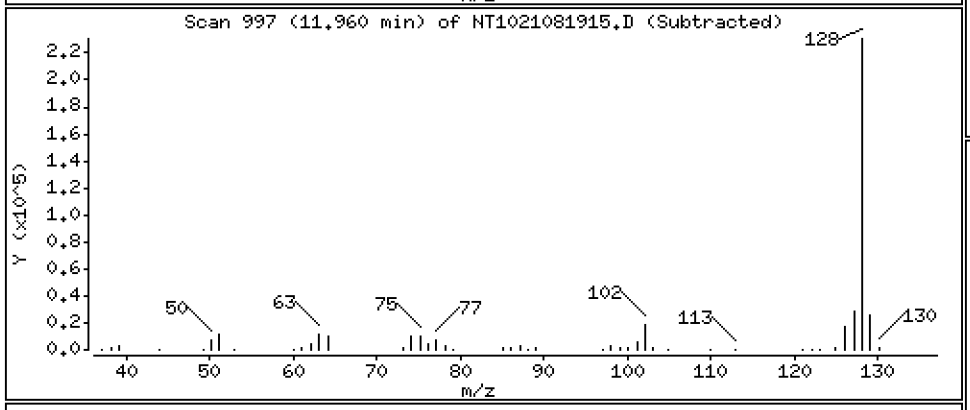
Column phase: ZB-5msi

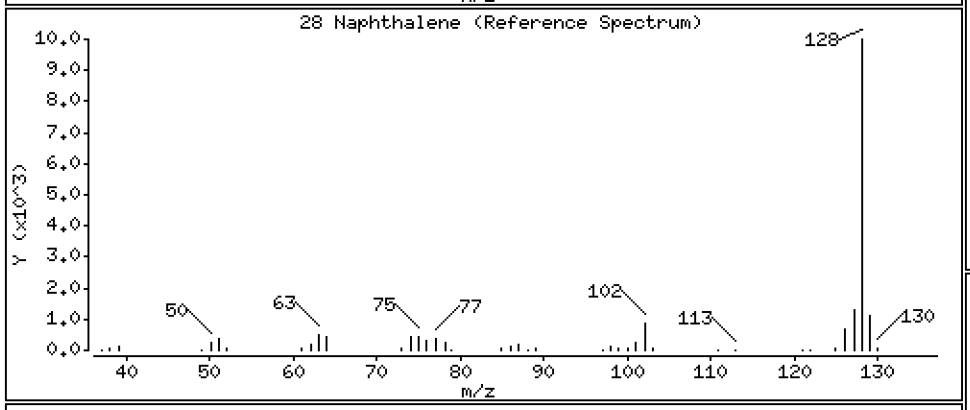
Column diameter: 0.25

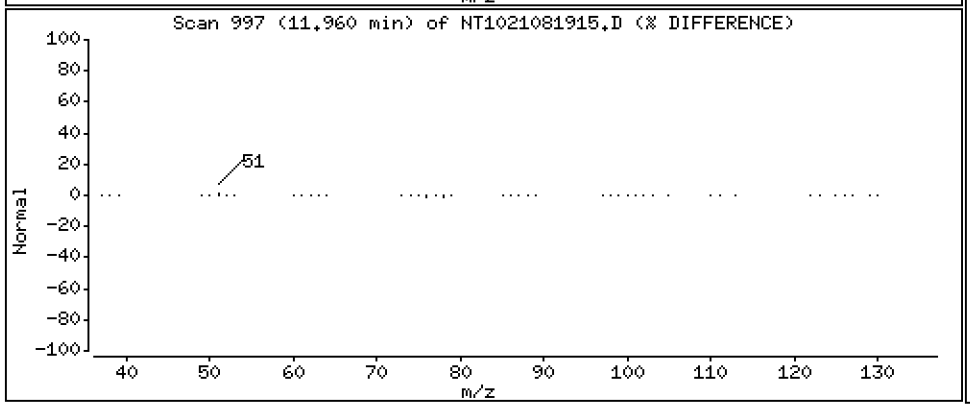
28 Naphthalene

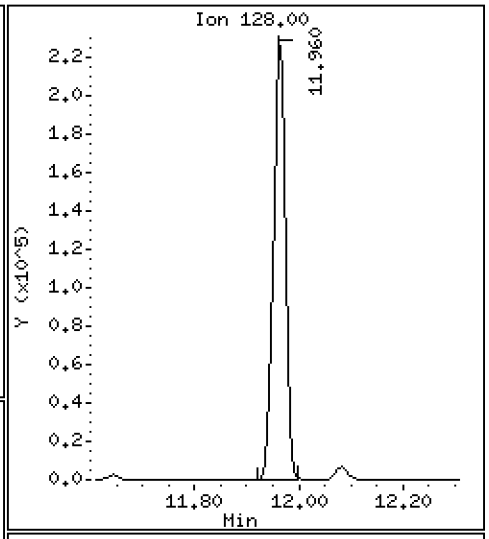
Concentration: 5.100 ug/mL

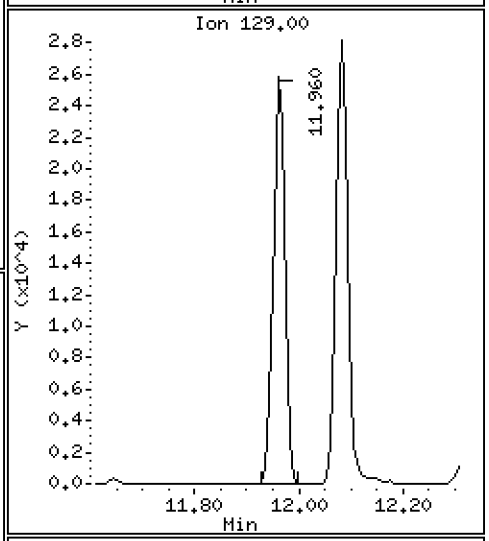


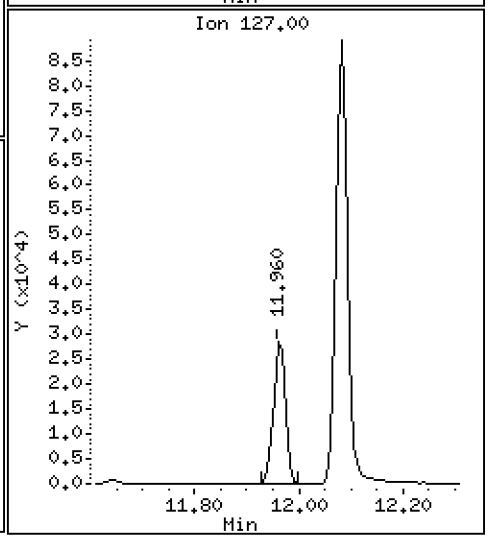












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

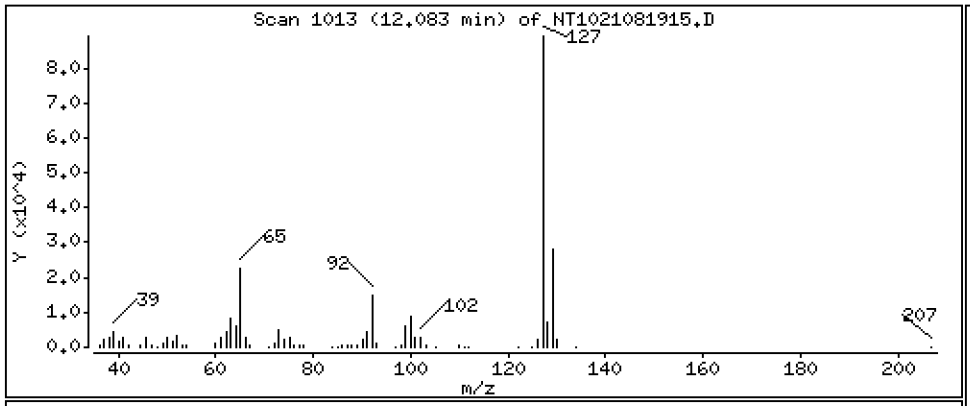
Operator: VTS

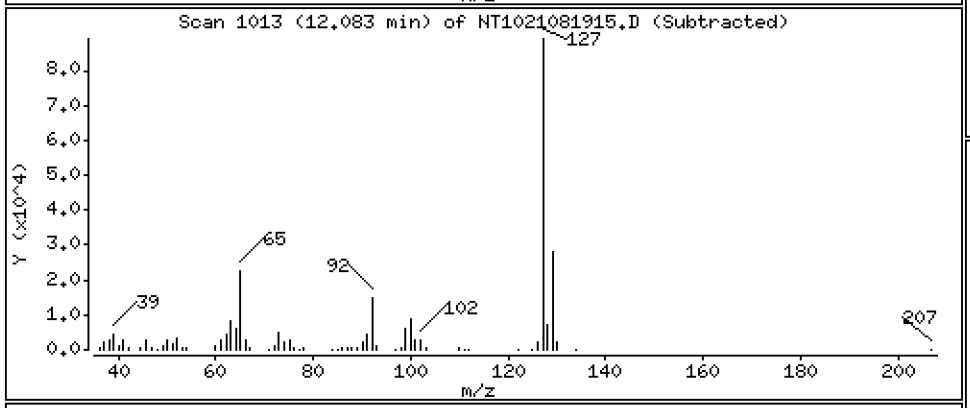
Column phase: ZB-5msi

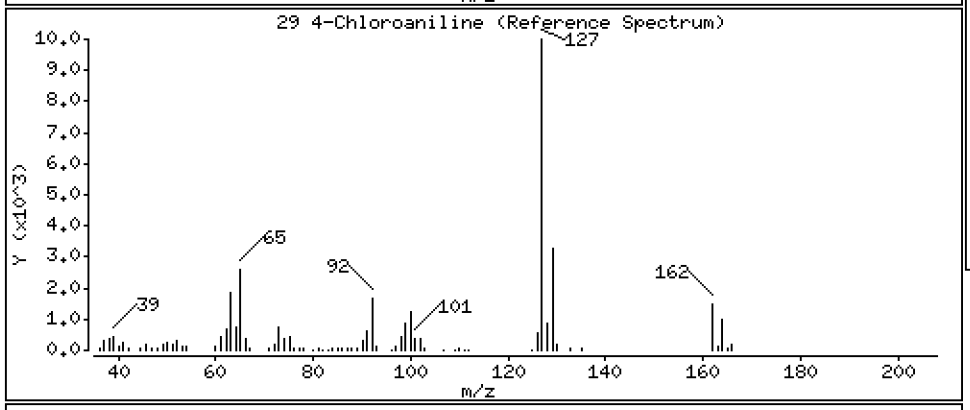
Column diameter: 0.25

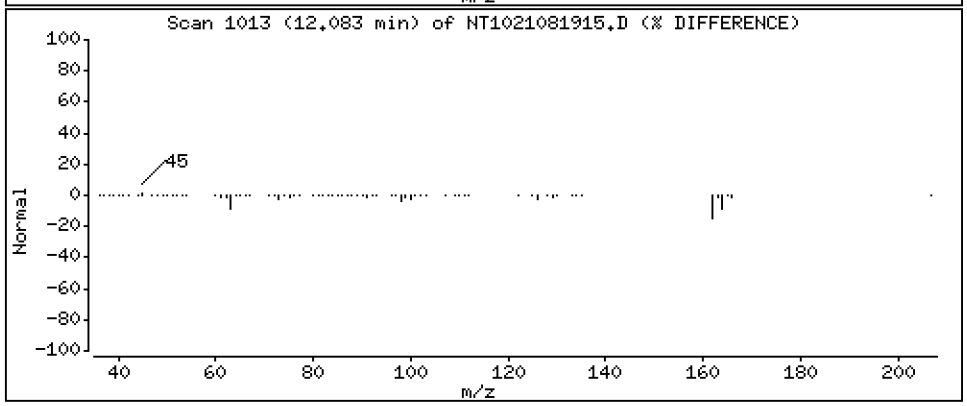
29 4-Chloroaniline

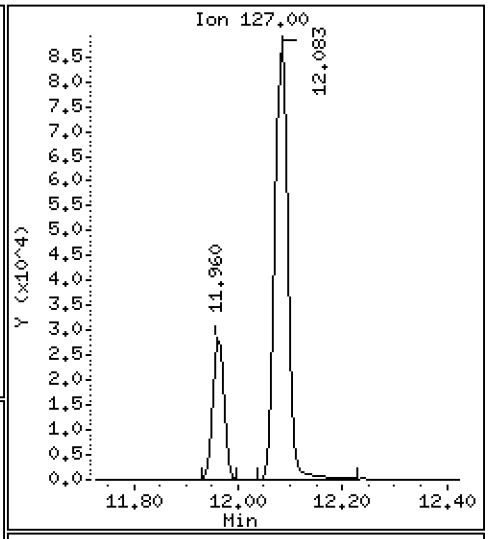
Concentration: 4.593 ug/mL

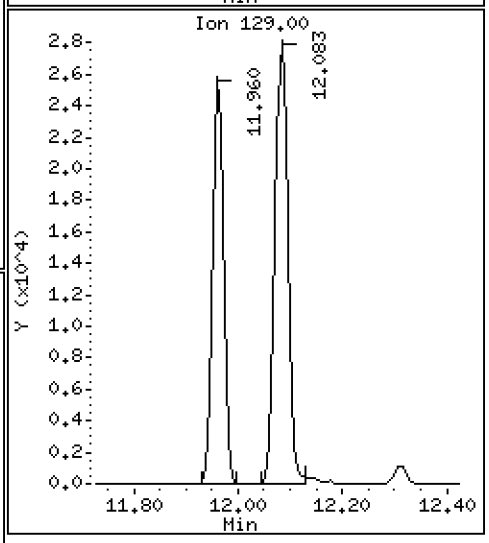












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

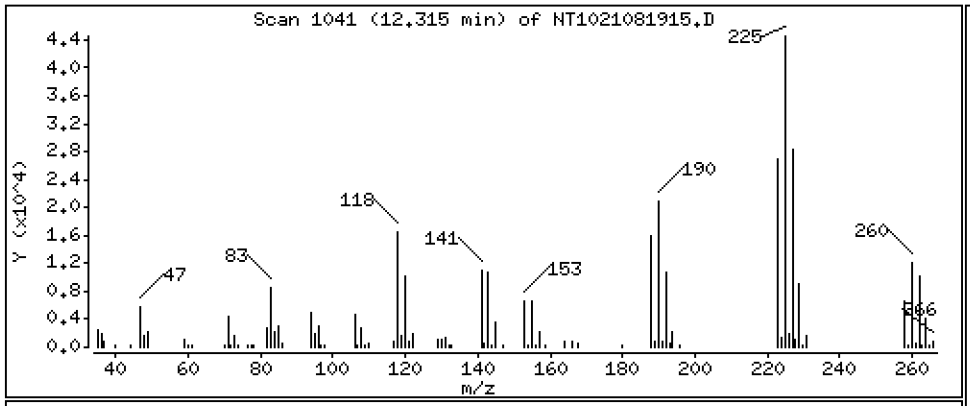
Operator: VTS

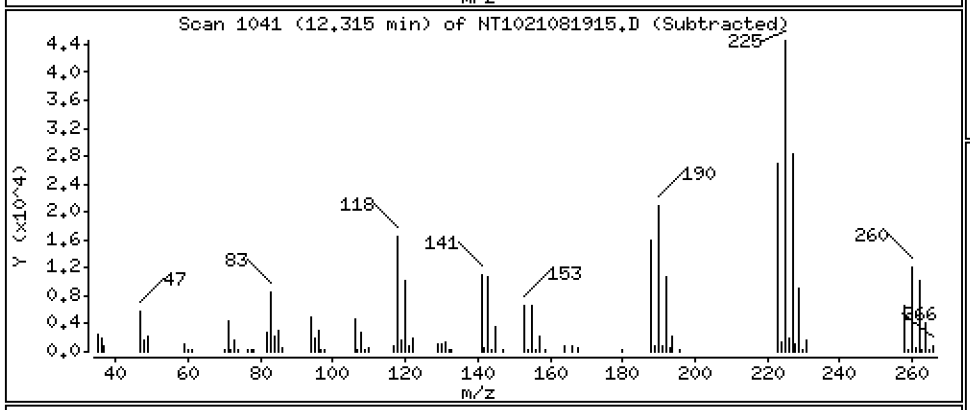
Column phase: ZB-5msi

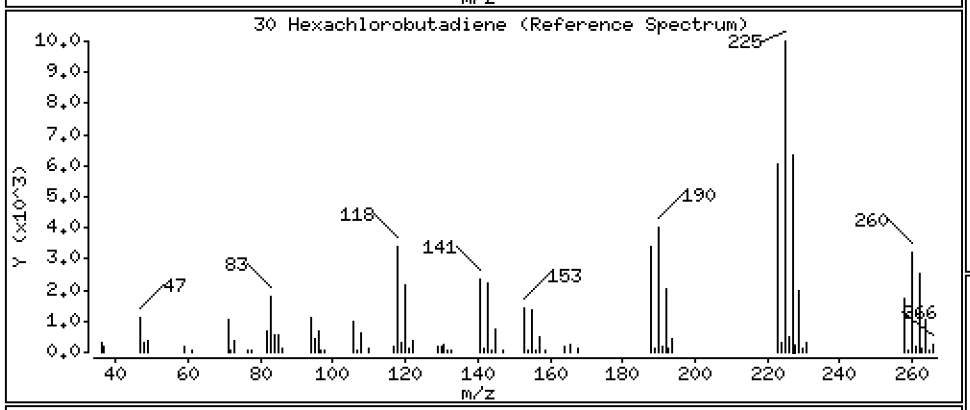
Column diameter: 0.25

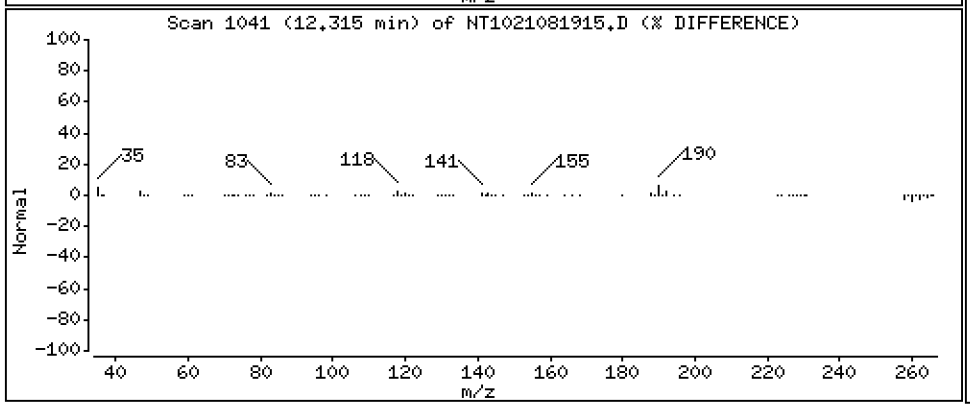
30 Hexachlorobutadiene

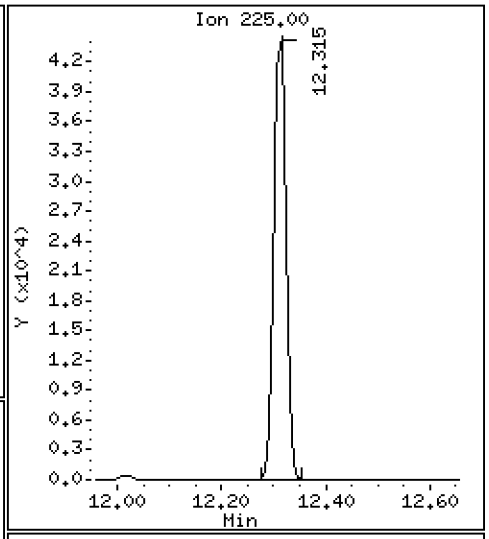
Concentration: 5.107 ug/mL

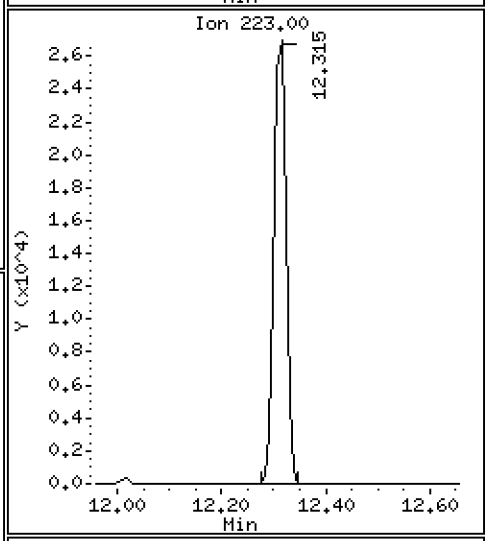


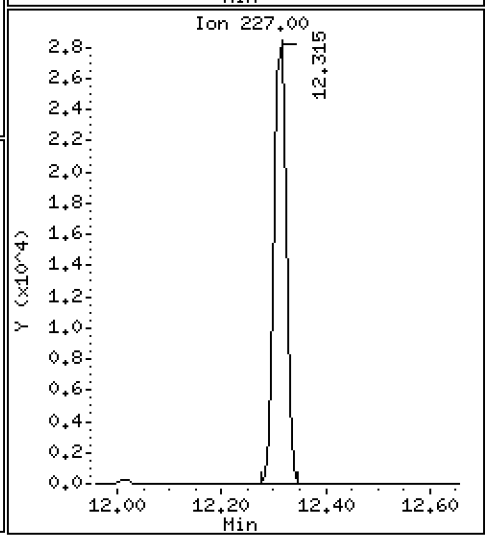












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

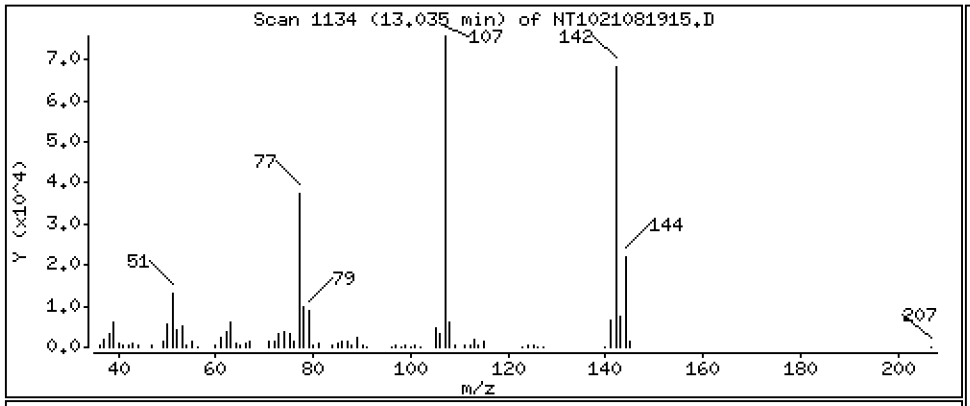
Operator: VTS

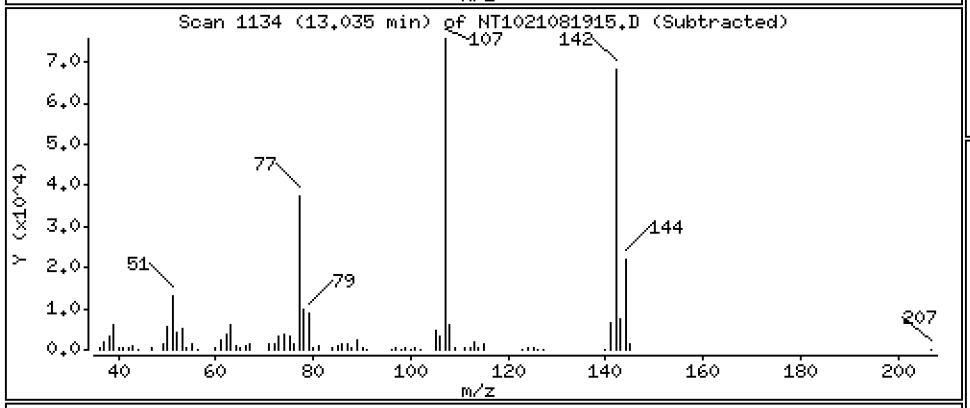
Column phase: ZB-5msi

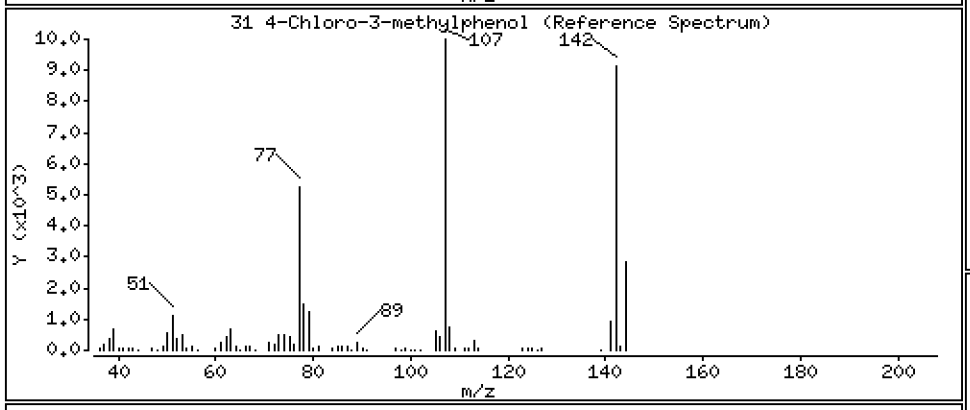
Column diameter: 0.25

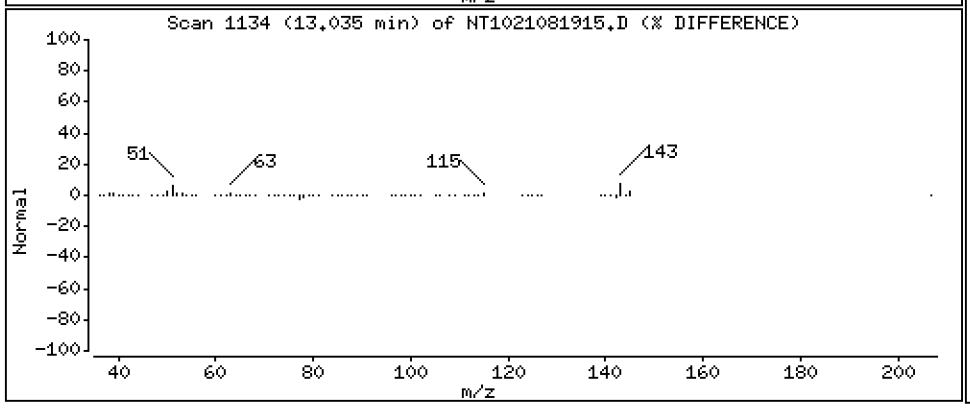
31 4-Chloro-3-methylphenol

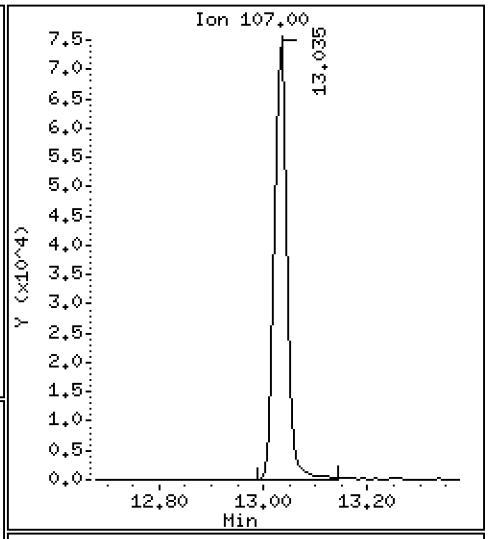
Concentration: 4.925 ug/mL

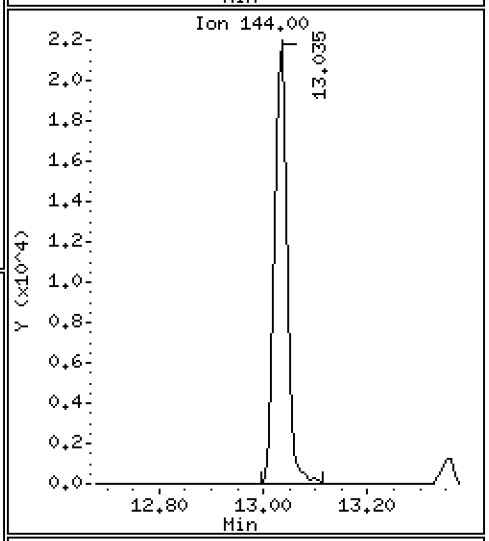


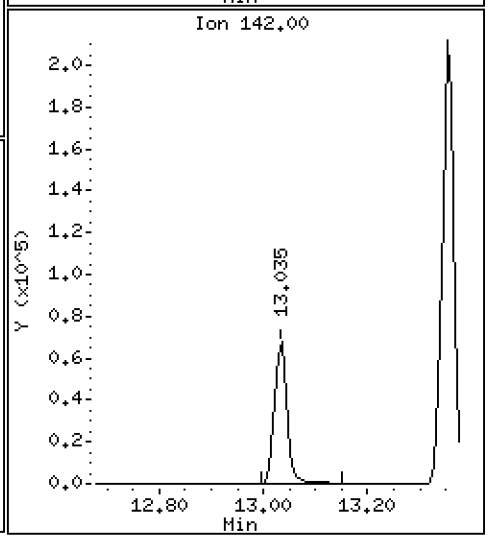












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

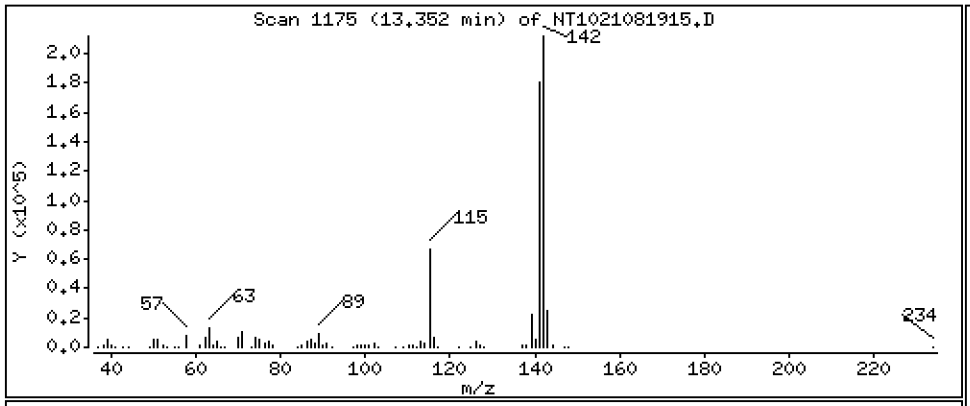
Operator: VTS

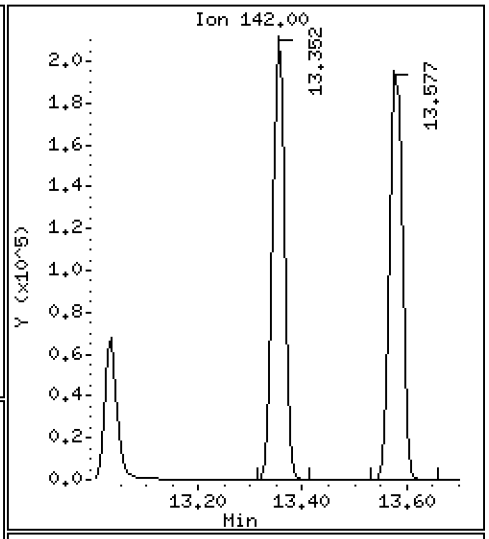
Column phase: ZB-5msi

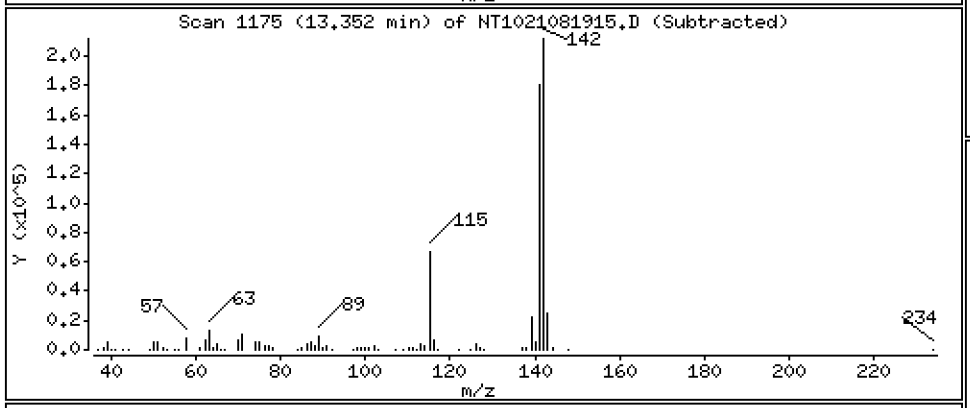
Column diameter: 0.25

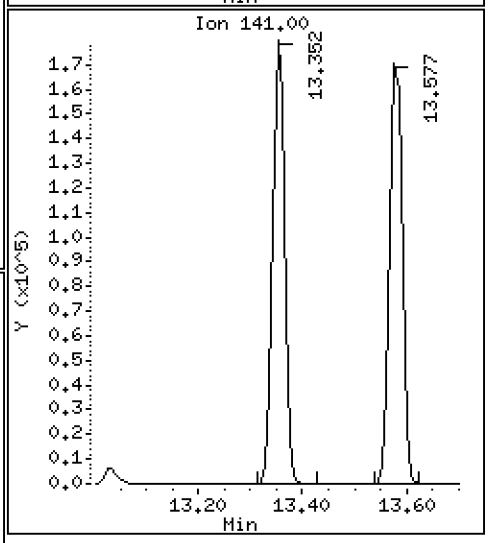
32 2-Methylnaphthalene

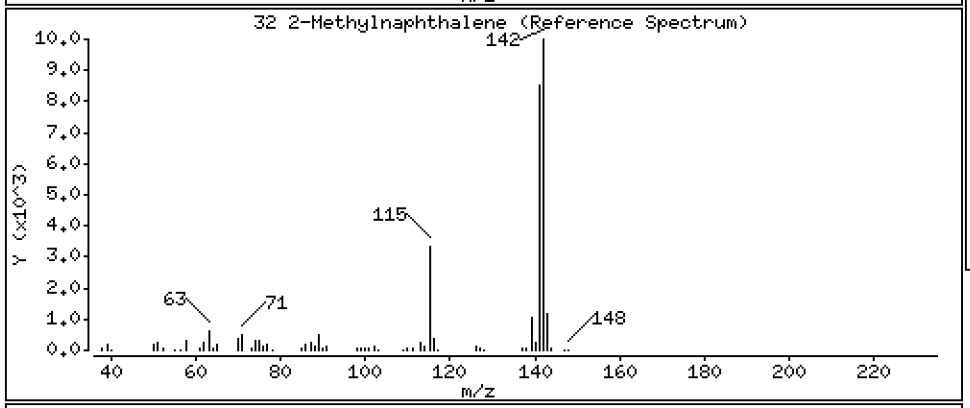
Concentration: 4.723 ug/mL

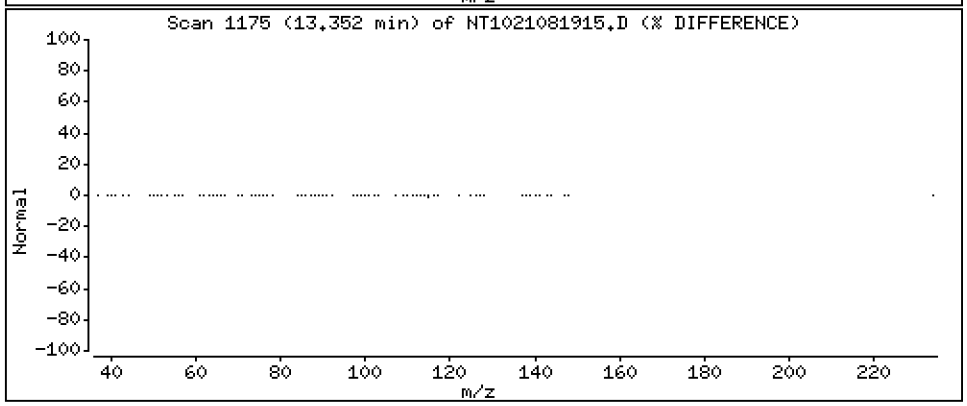












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

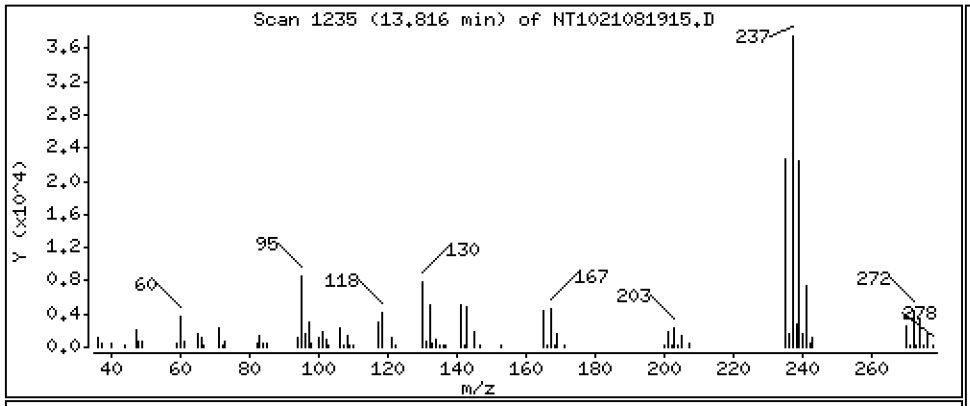
Operator: VTS

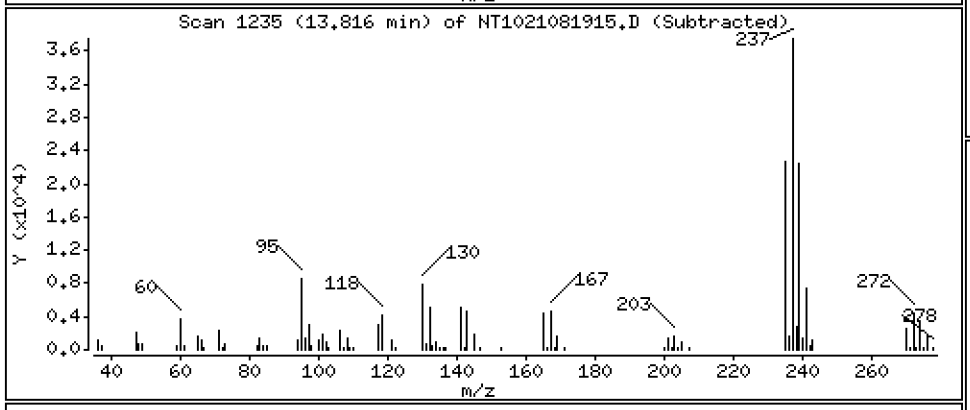
Column phase: ZB-5msi

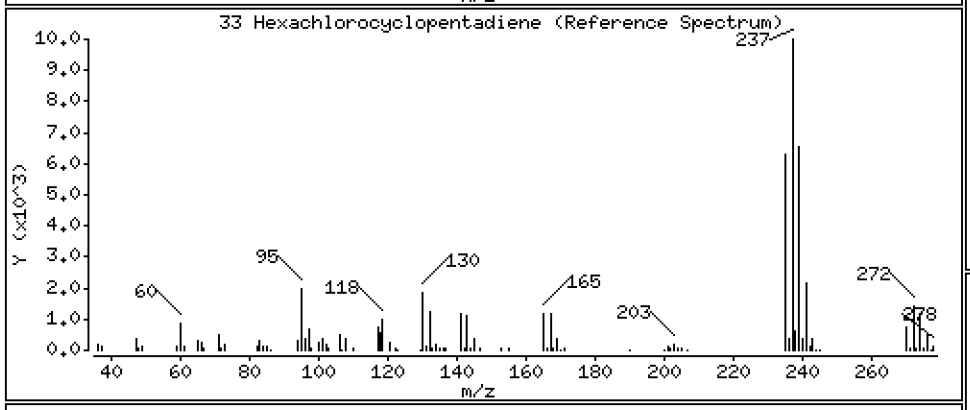
Column diameter: 0.25

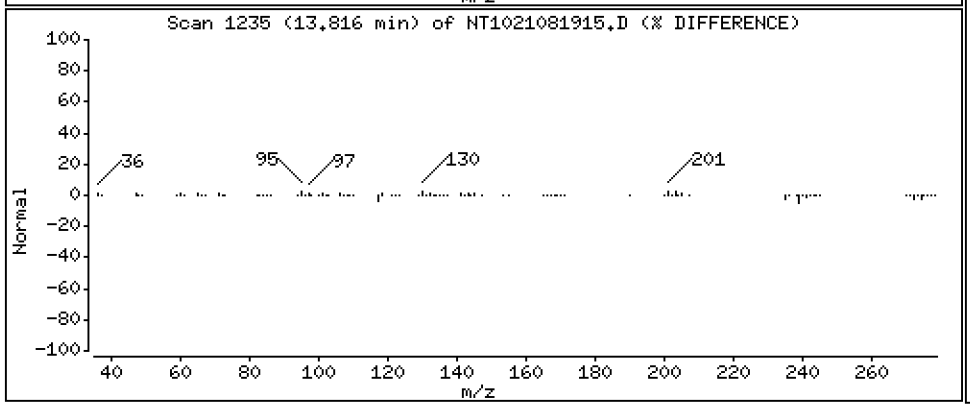
33 Hexachlorocyclopentadiene

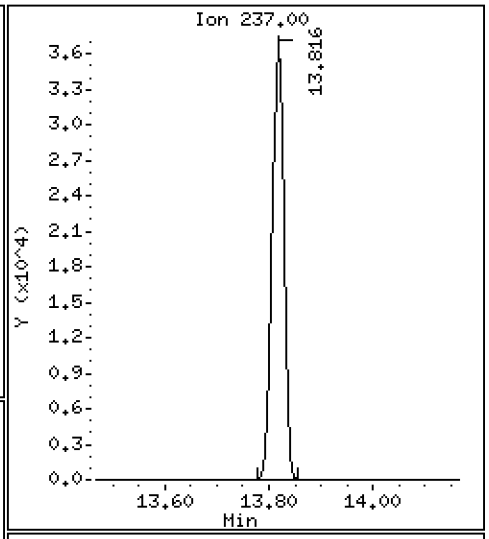
Concentration: 4.314 ug/mL

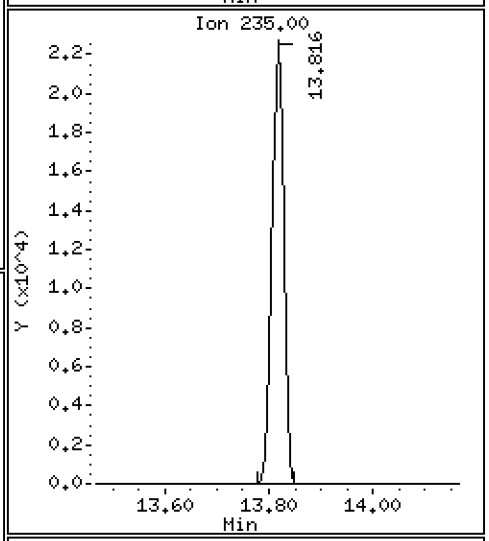


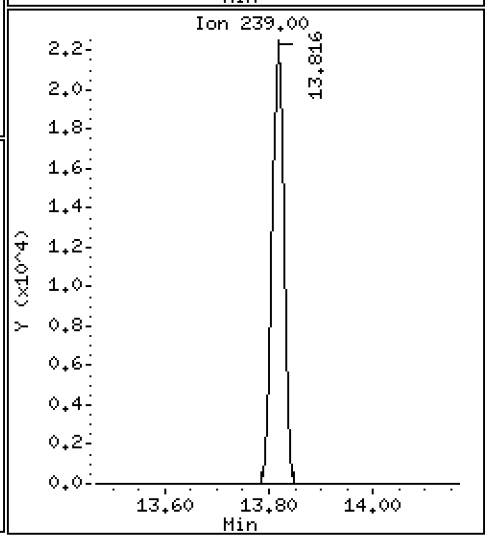












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

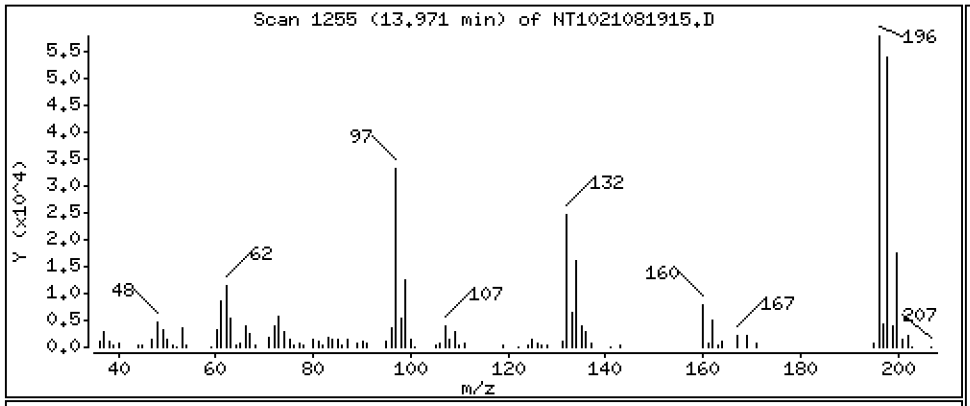
Operator: VTS

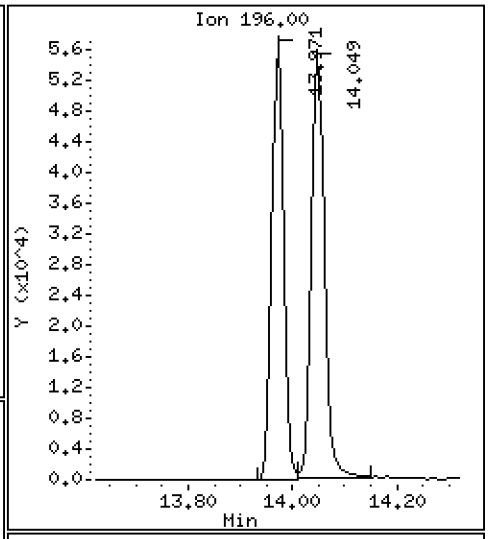
Column phase: ZB-5msi

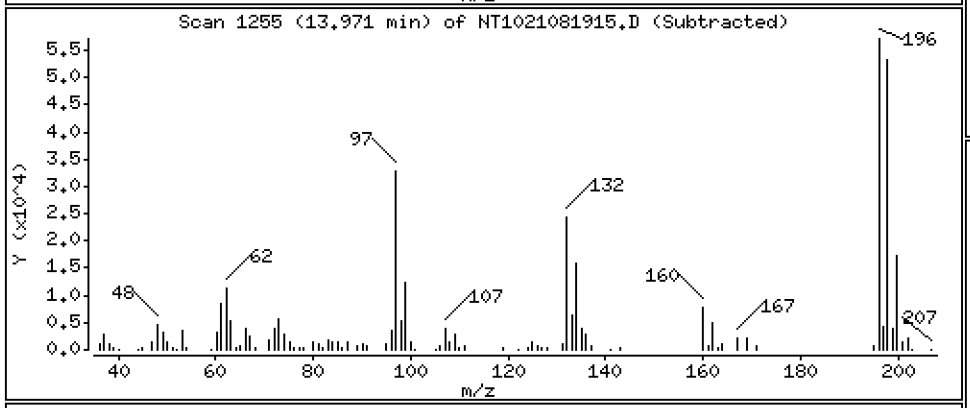
Column diameter: 0.25

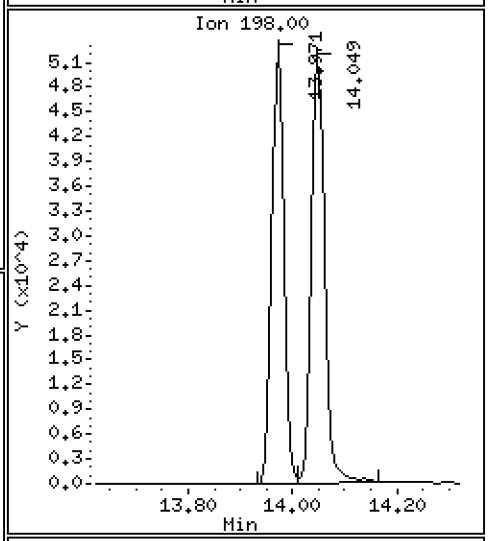
34 2,4,6-Trichlorophenol

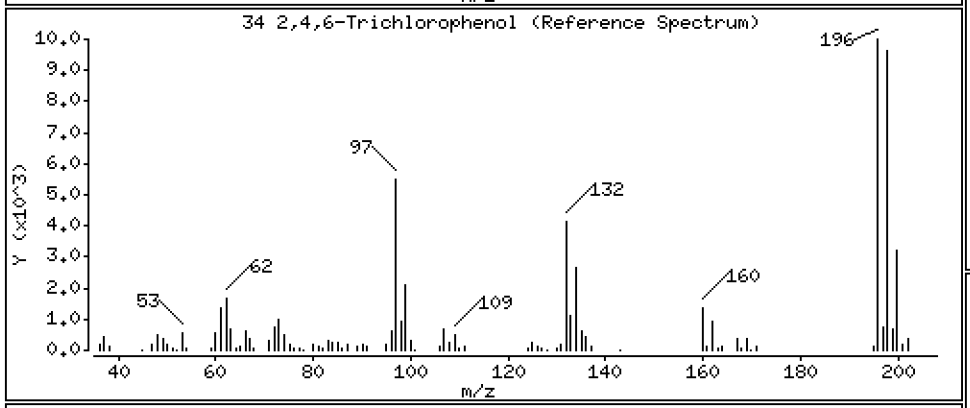
Concentration: 4.770 ug/mL

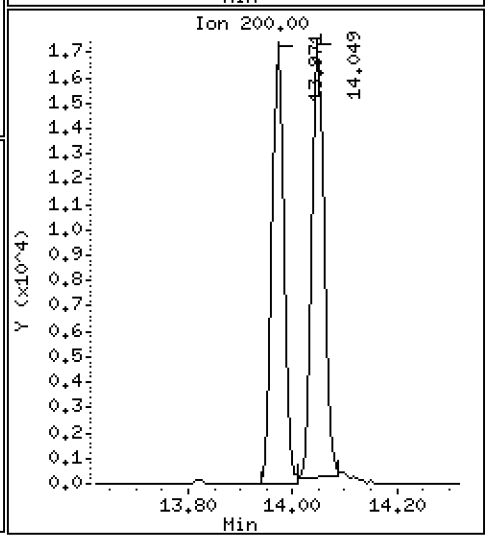


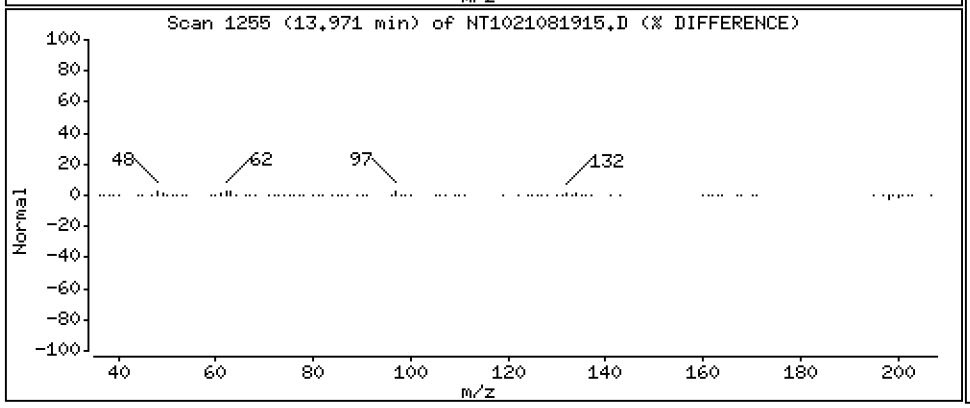












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

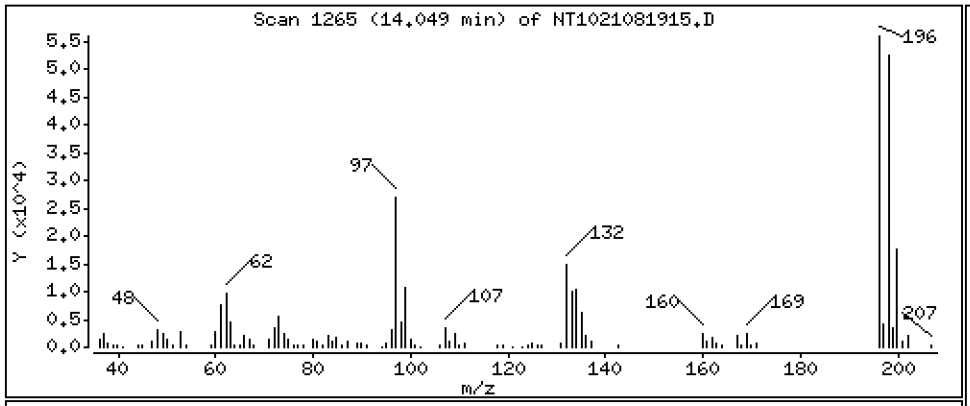
Operator: VTS

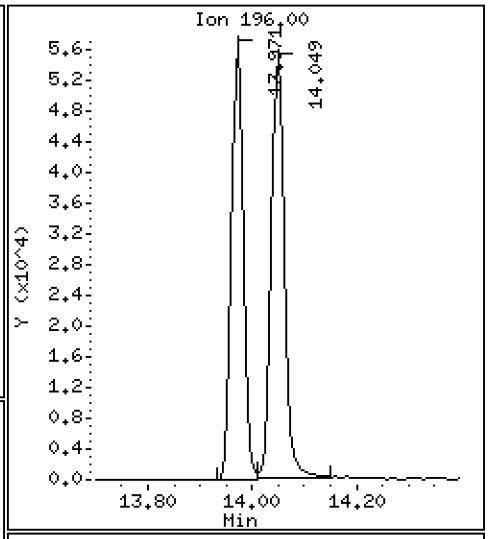
Column phase: ZB-5msi

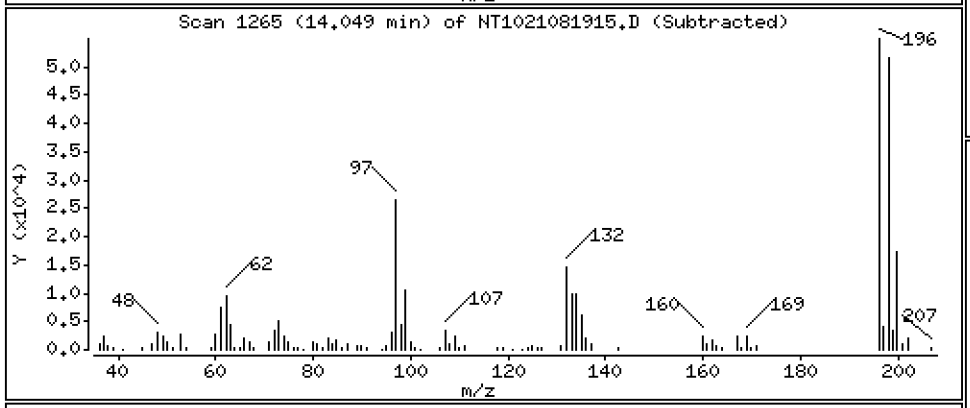
Column diameter: 0.25

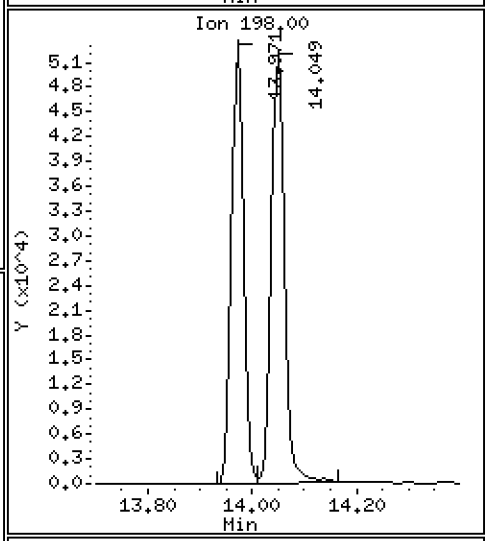
35 2,4,5-Trichlorophenol

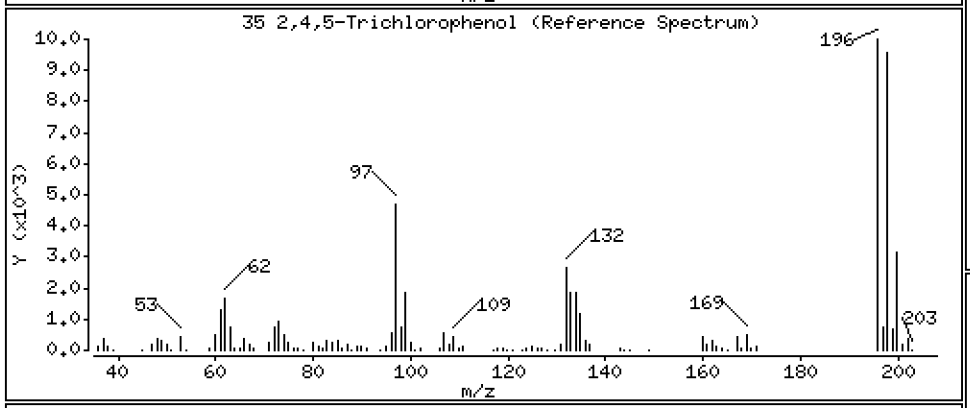
Concentration: 4.914 ug/mL

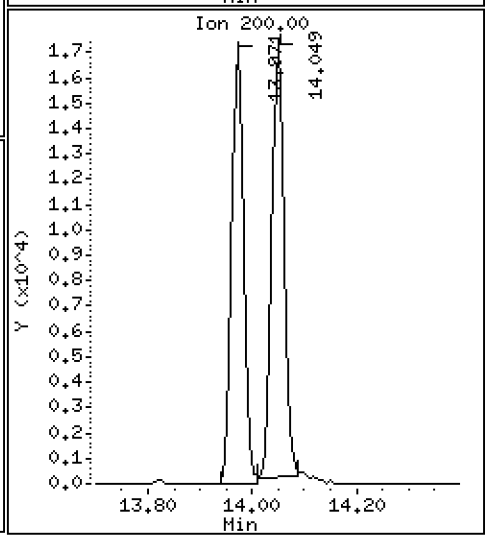


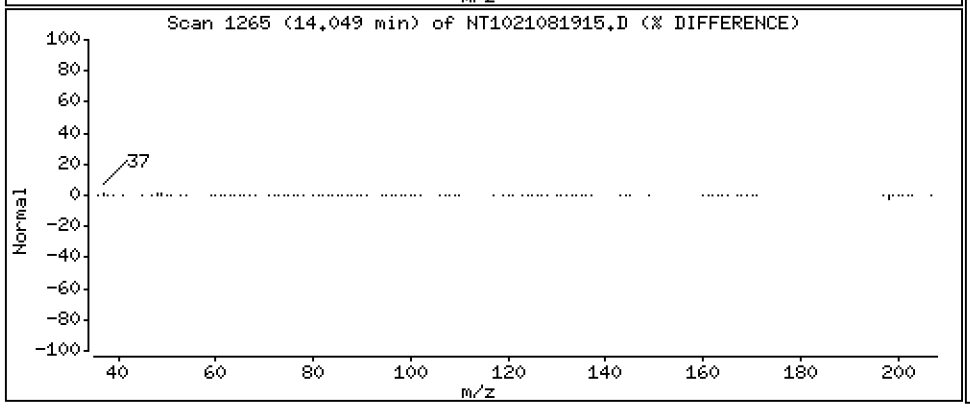












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

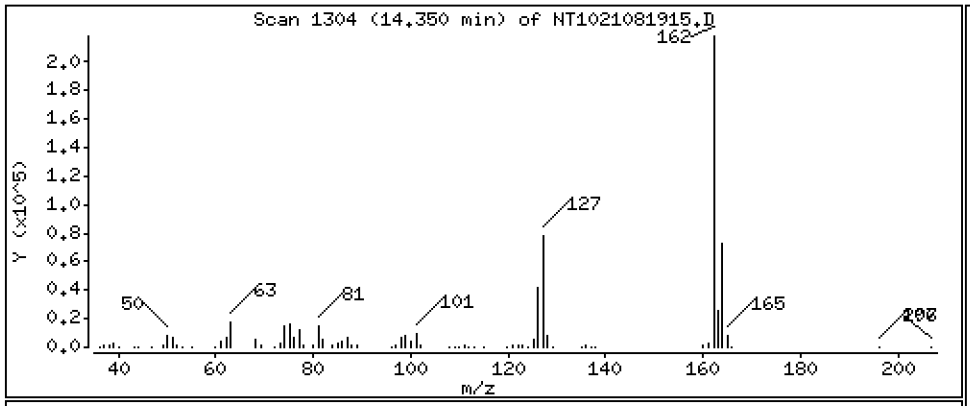
Operator: VTS

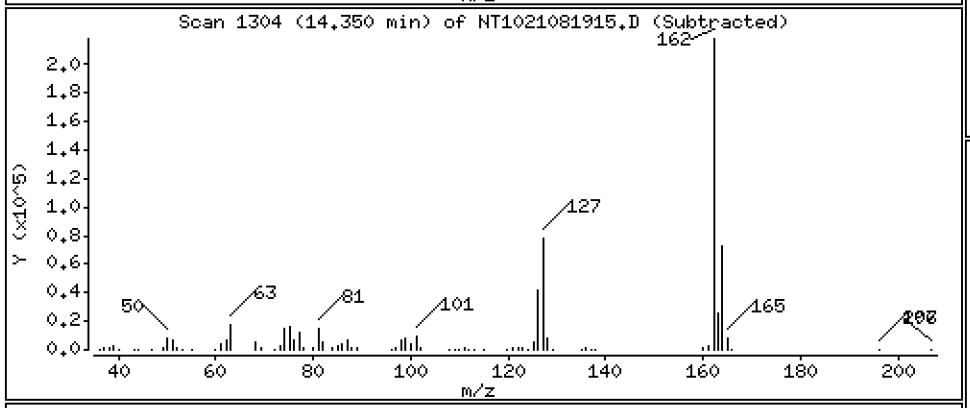
Column phase: ZB-5msi

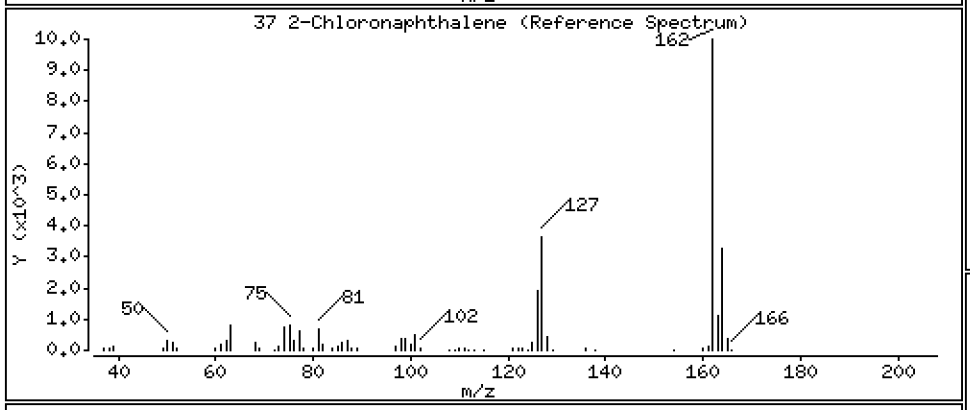
Column diameter: 0.25

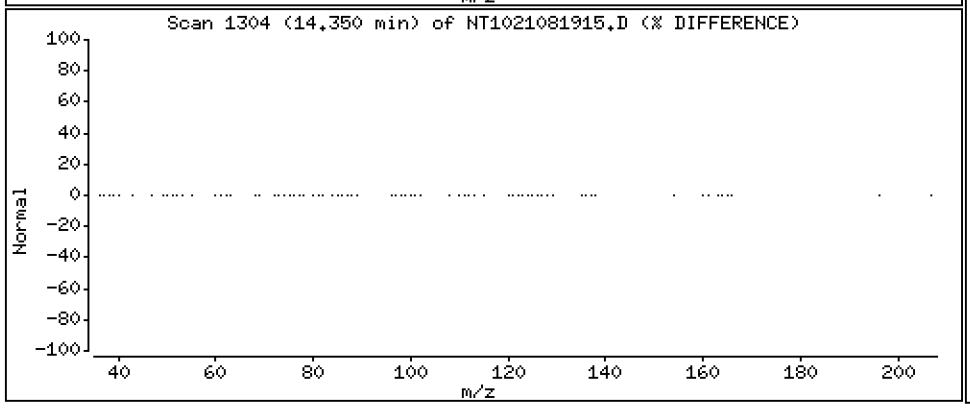
37 2-Chloronaphthalene

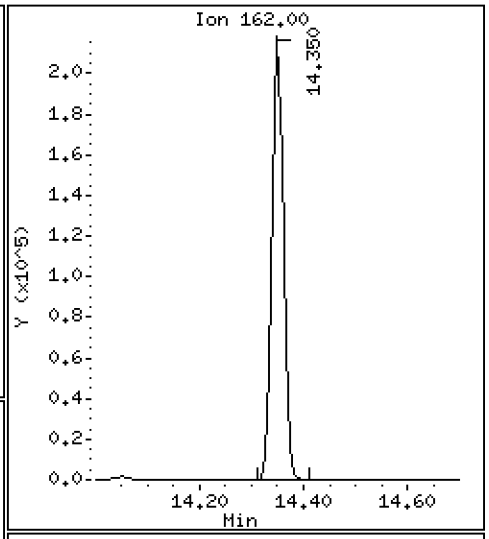
Concentration: 5.585 ug/mL

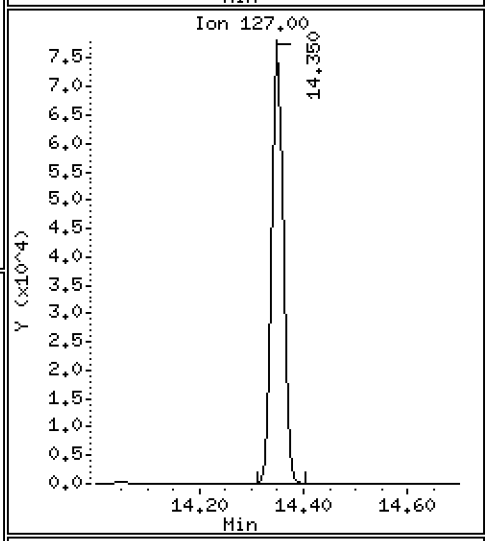


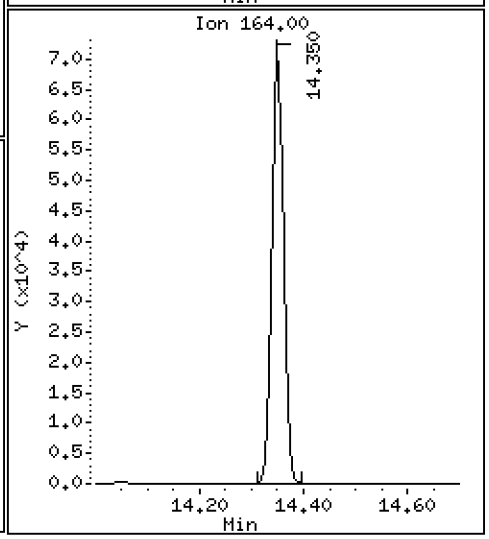












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

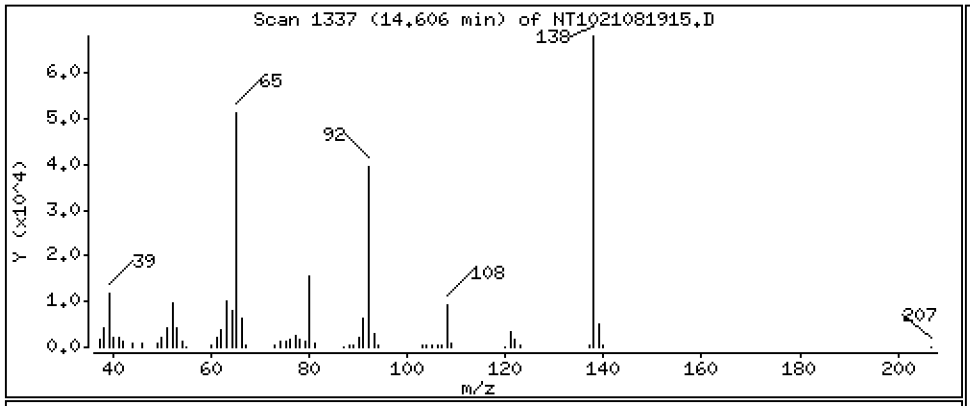
Operator: VTS

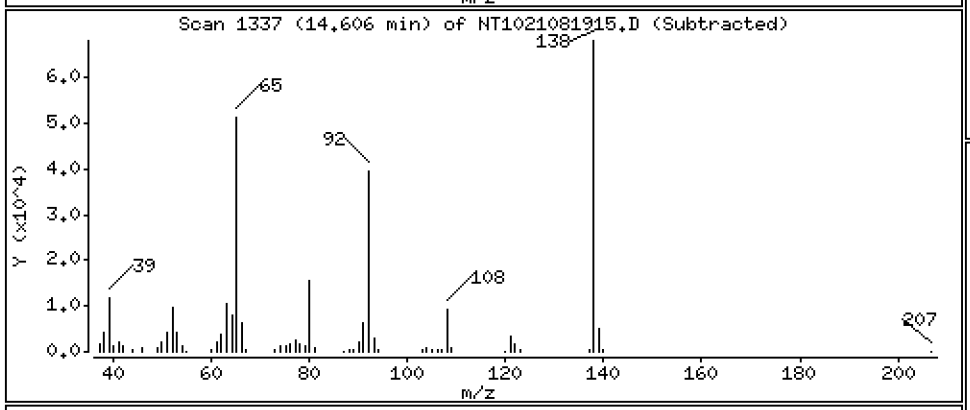
Column phase: ZB-5msi

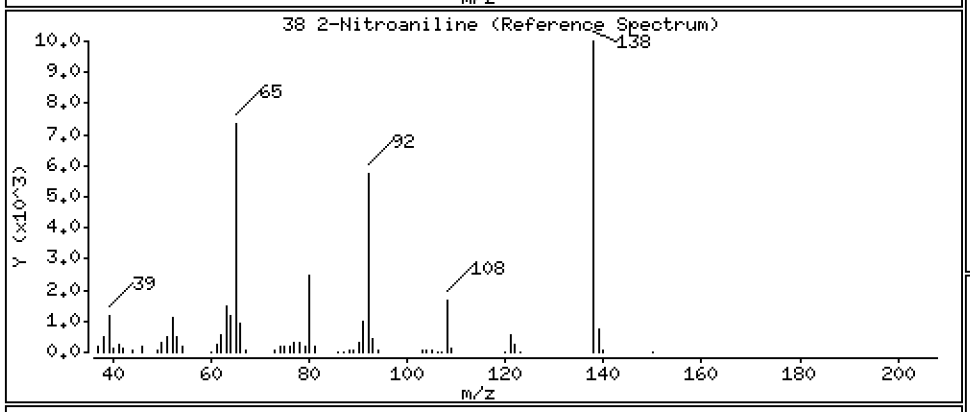
Column diameter: 0.25

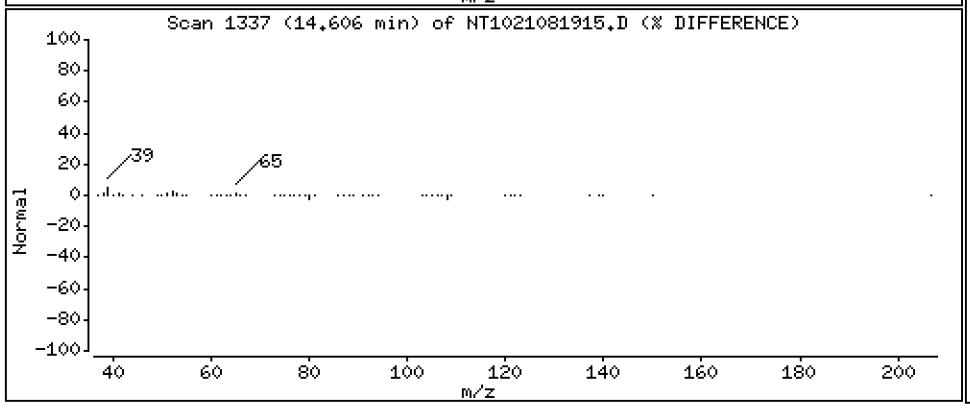
38 2-Nitroaniline

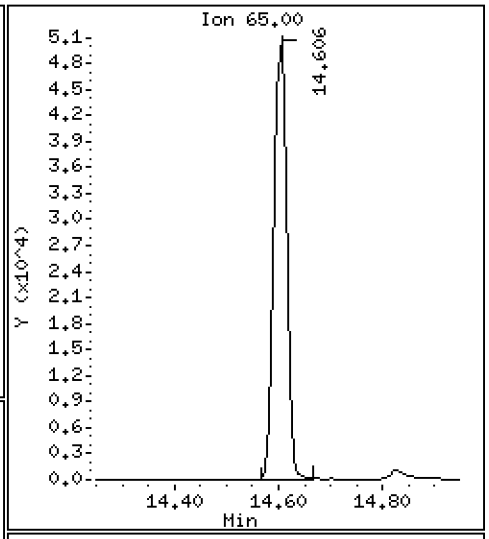
Concentration: 4.972 ug/mL

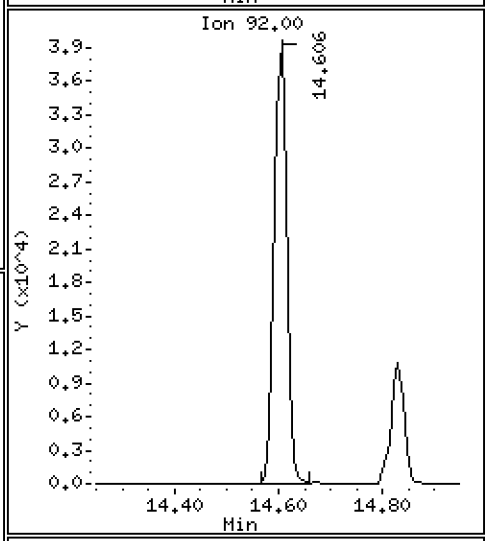


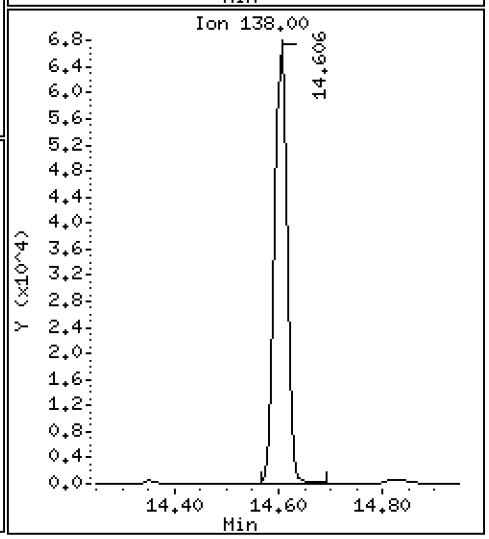












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

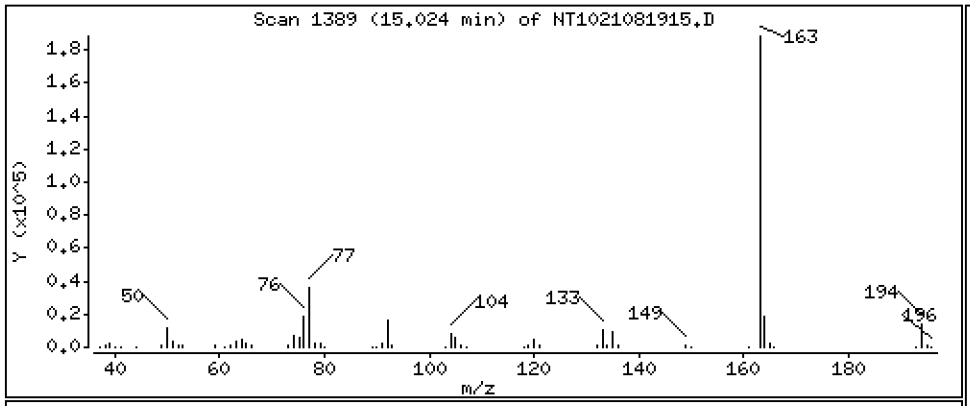
Operator: VTS

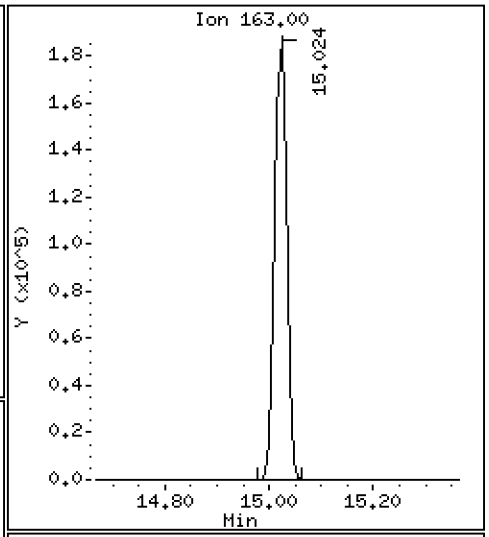
Column phase: ZB-5msi

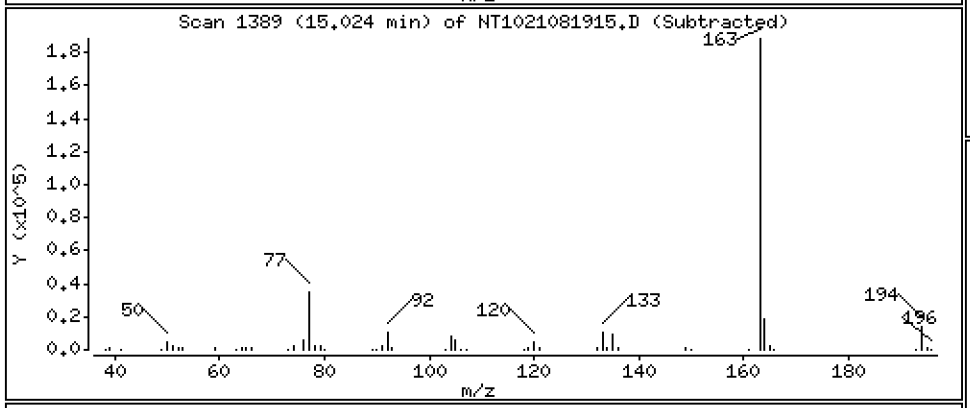
Column diameter: 0.25

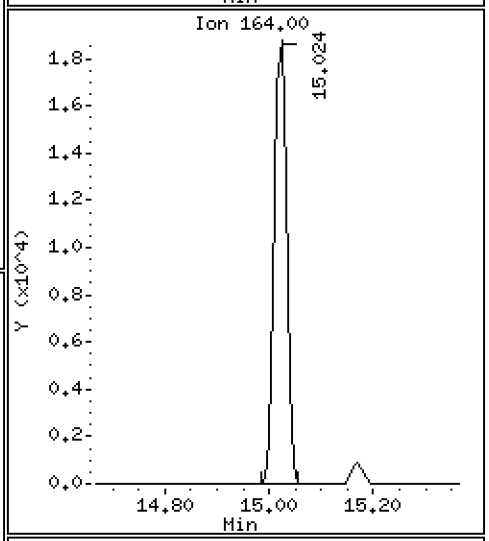
39 Dimethylphthalate

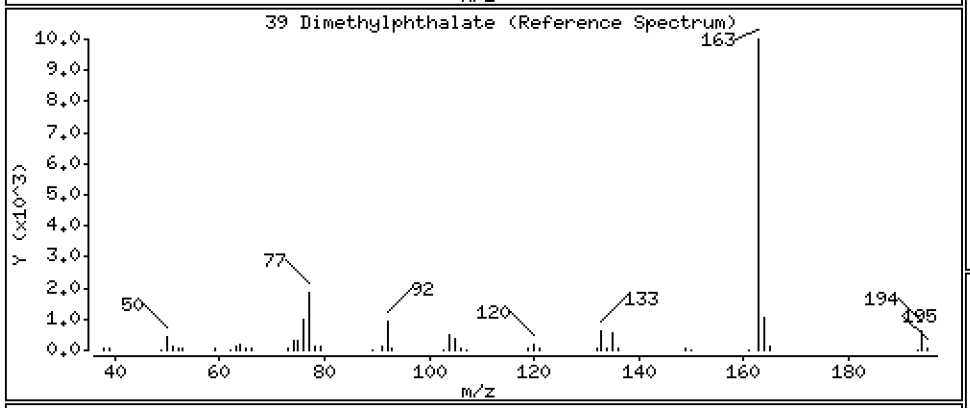
Concentration: 4.979 ug/mL

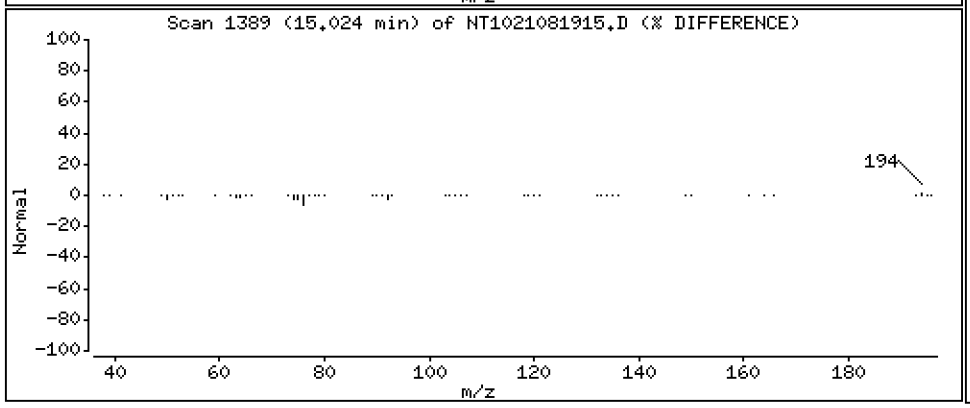


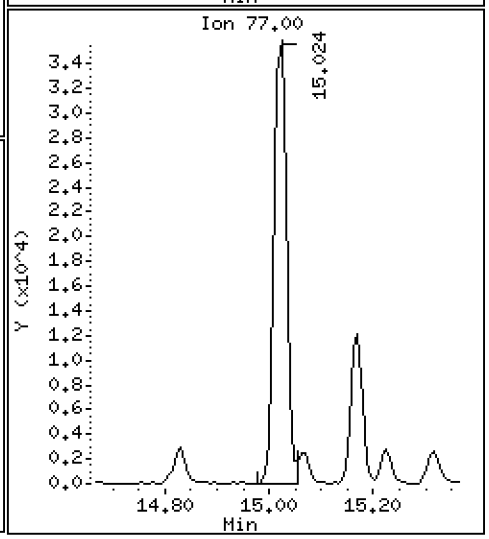












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

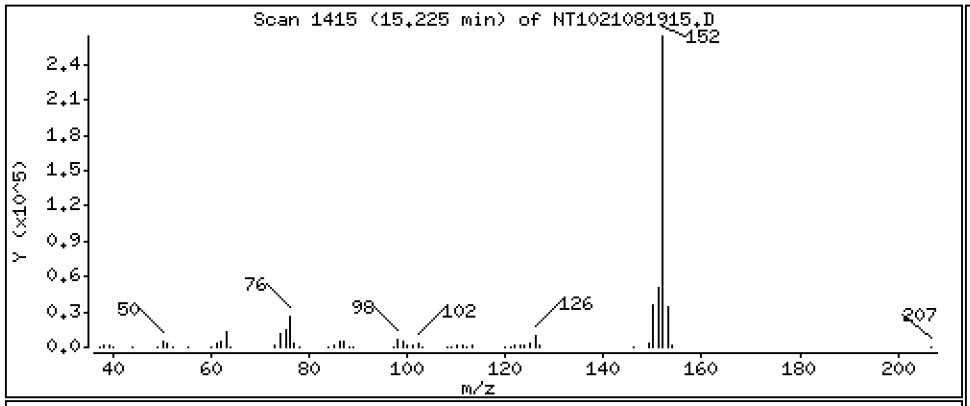
Operator: VTS

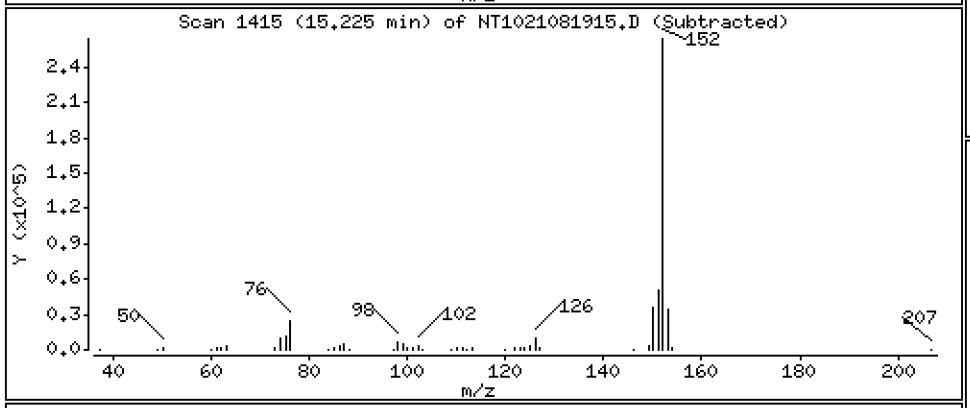
Column phase: ZB-5msi

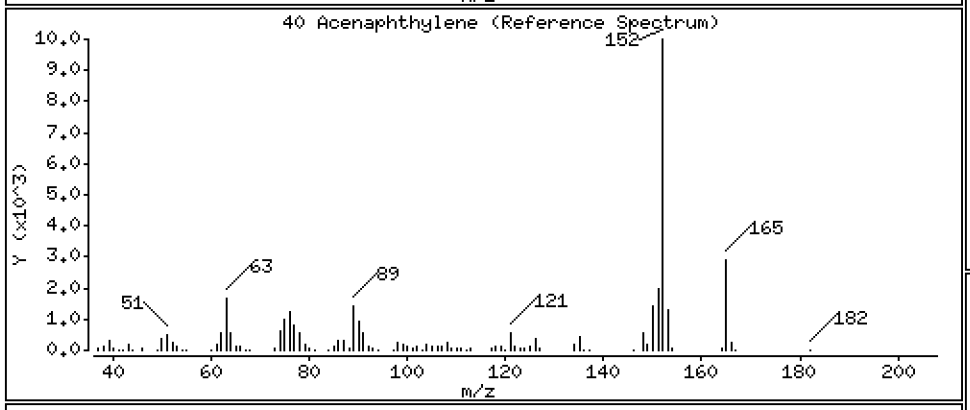
Column diameter: 0.25

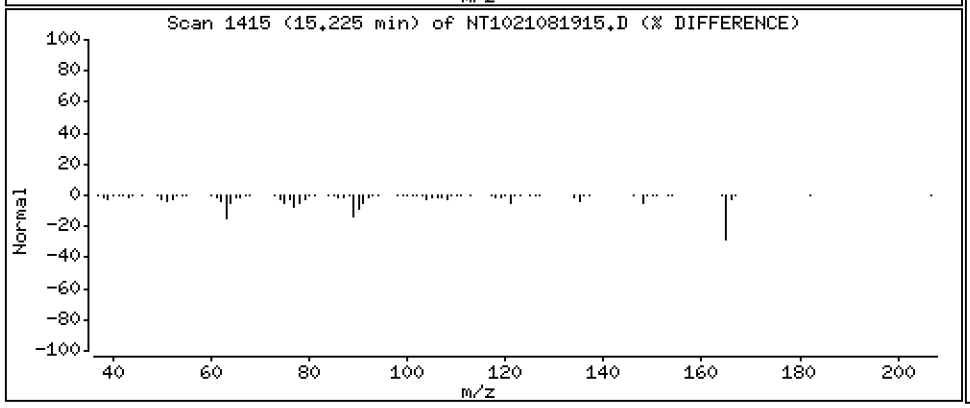
40 Acenaphthylene

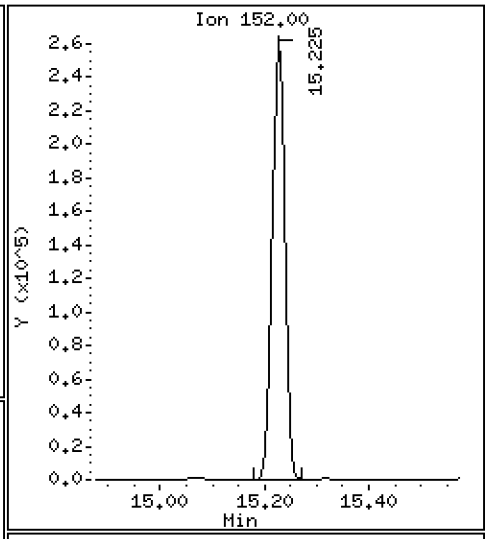
Concentration: 4.796 ug/mL

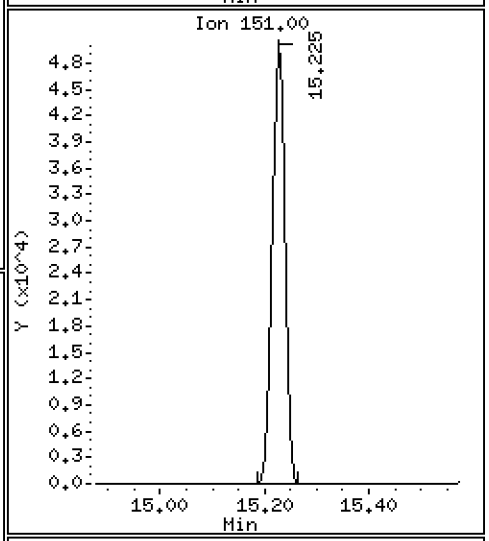


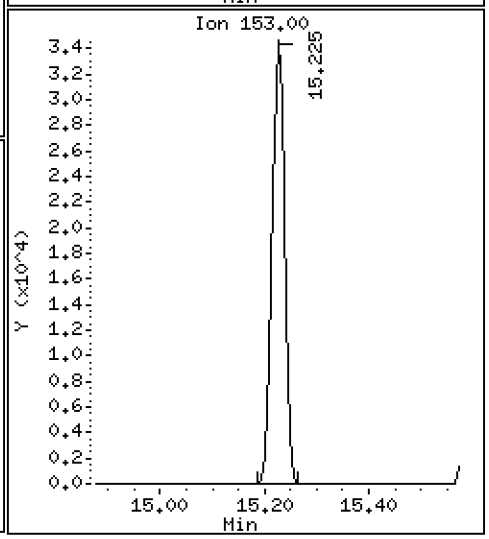












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

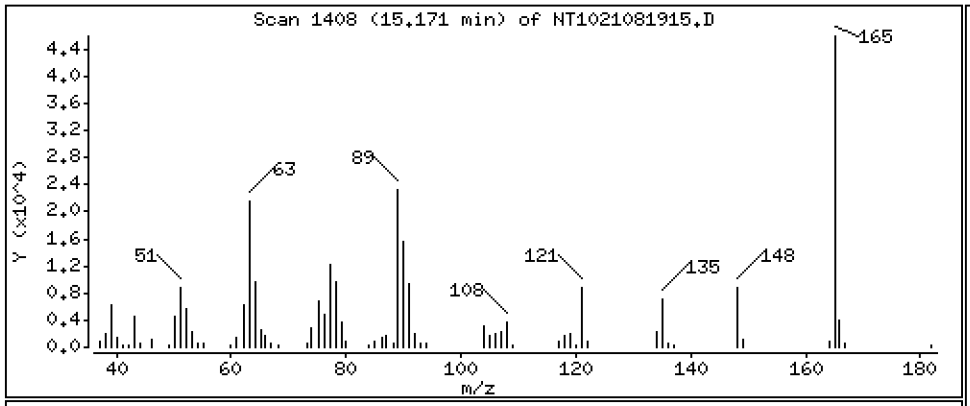
Operator: VTS

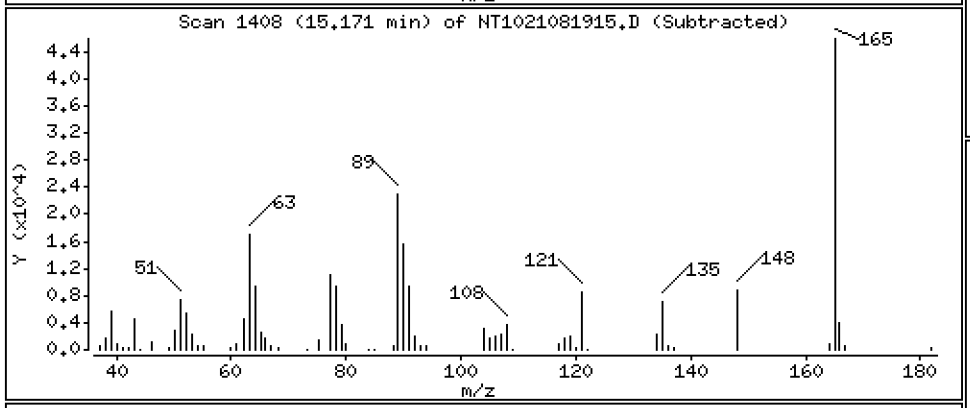
Column phase: ZB-5msi

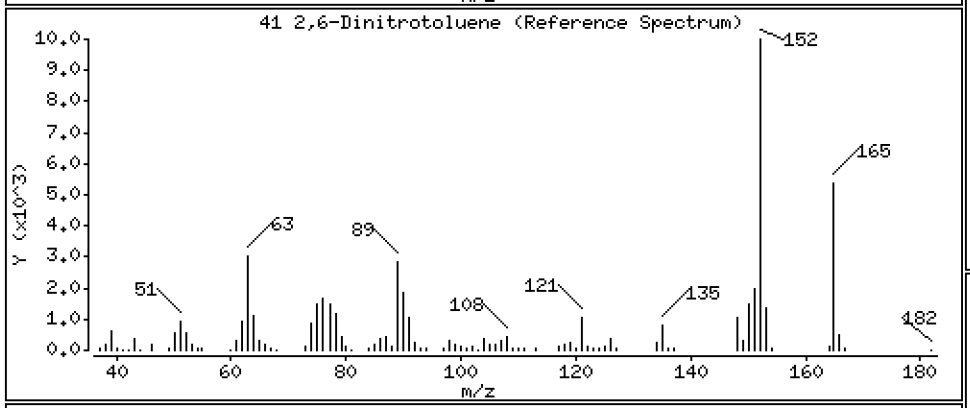
Column diameter: 0.25

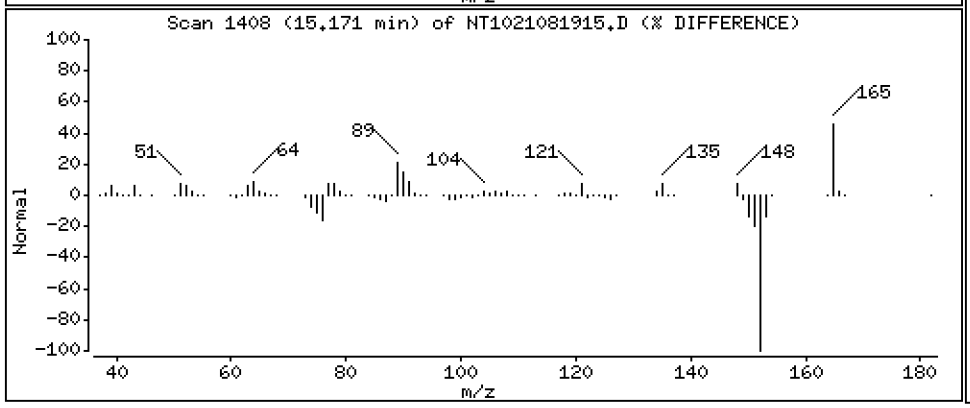
41 2,6-Dinitrotoluene

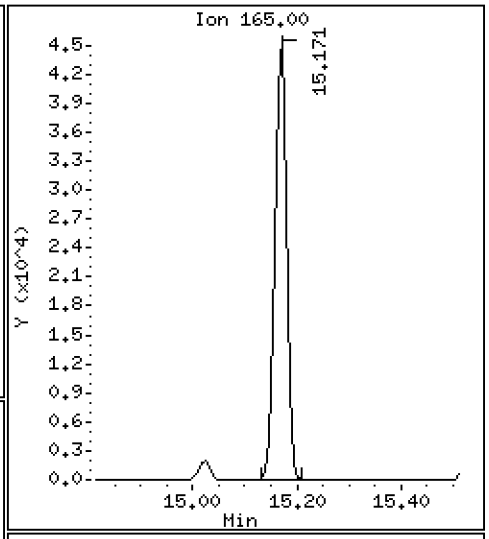
Concentration: 5.369 ug/mL

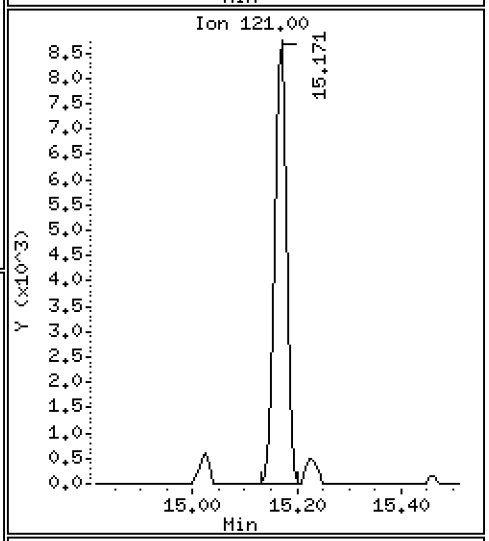


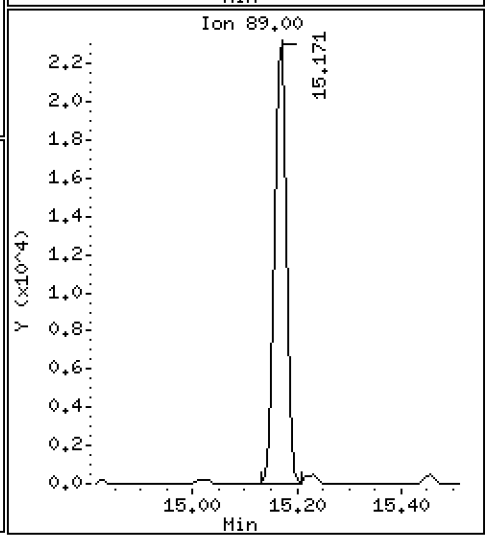












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Date : 19-AUG-2021 20:42

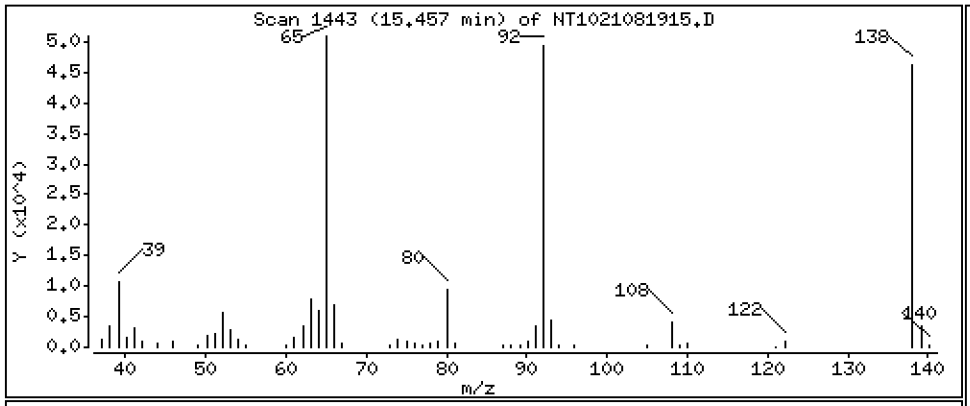
Client ID: Instrument: nt10.i

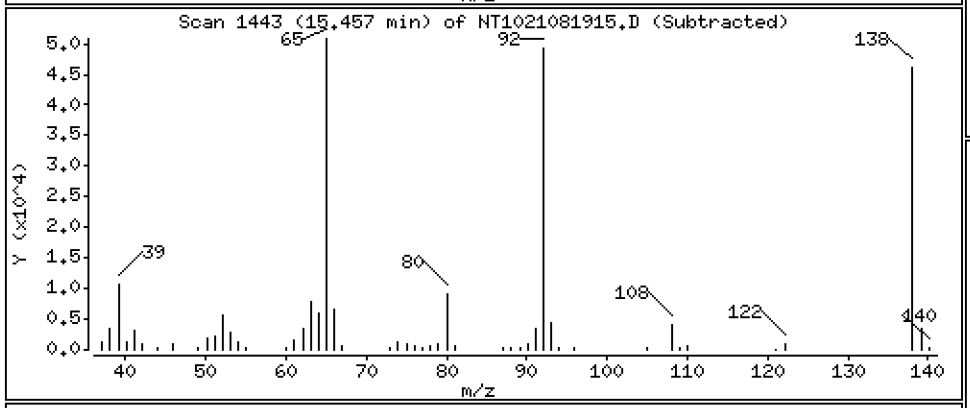
Sample Info: SJH0235-SCV1

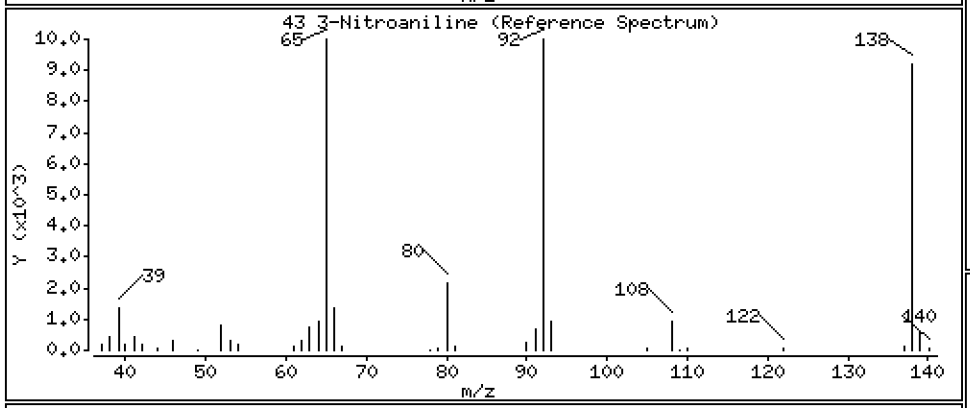
Operator: VTS

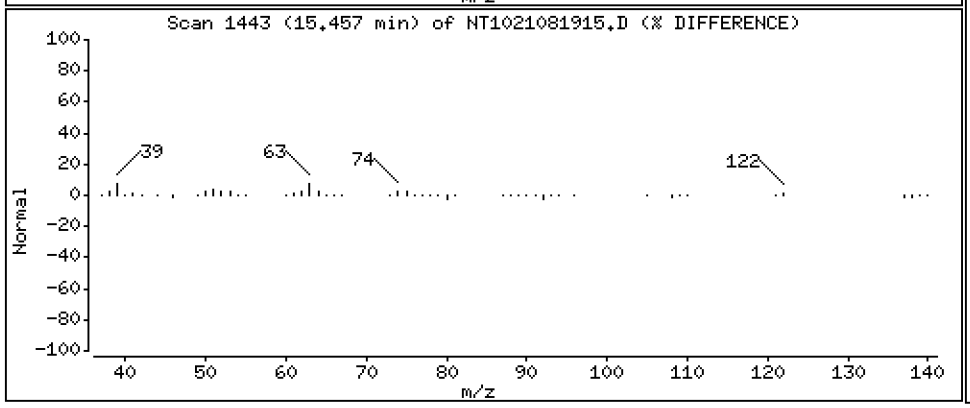
Column phase: ZB-5msi Column diameter: 0.25

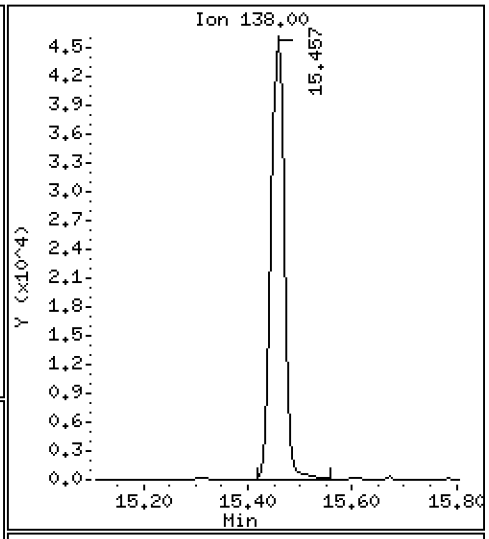
43 3-Nitroaniline Concentration: 4.562 ug/mL

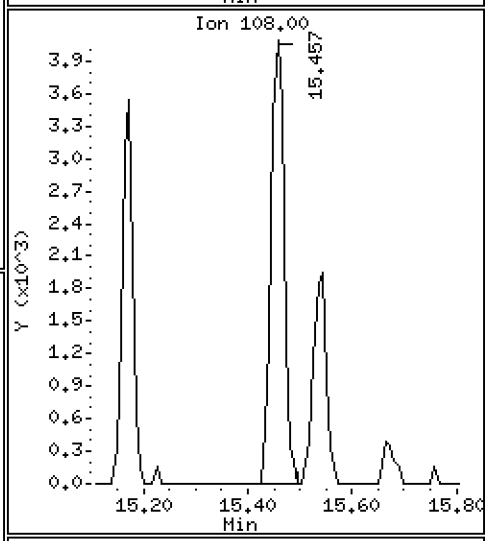


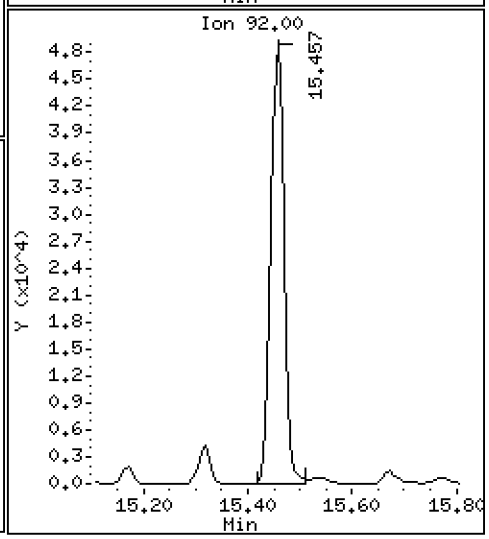












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

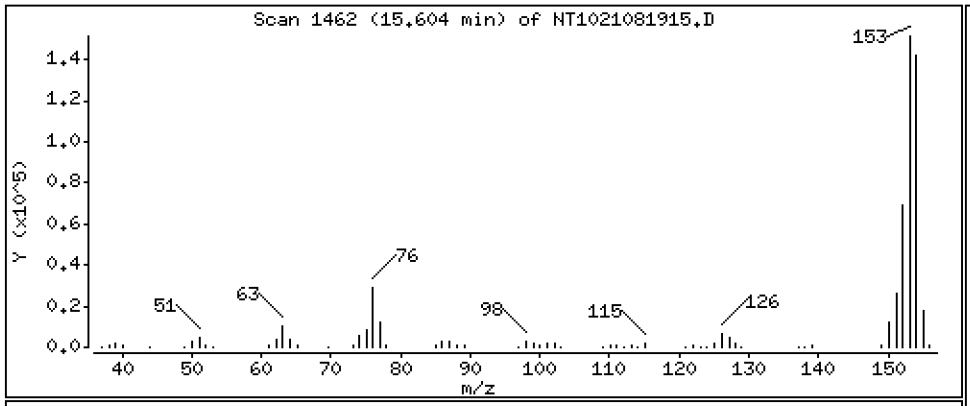
Operator: VTS

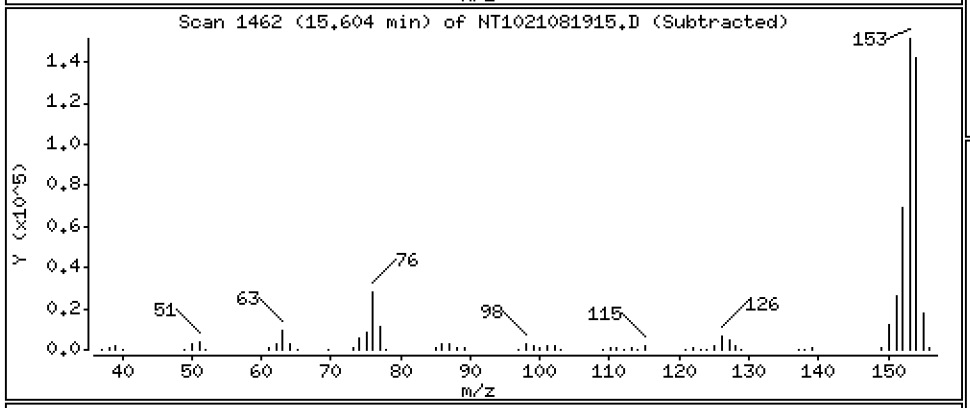
Column phase: ZB-5msi

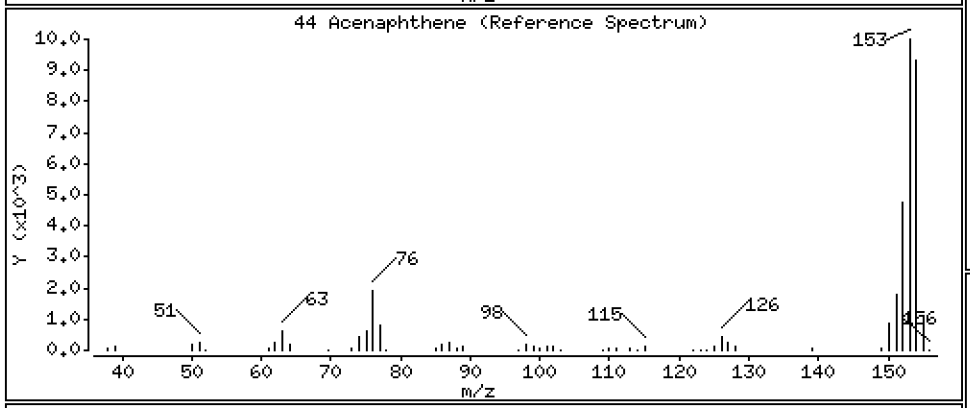
Column diameter: 0.25

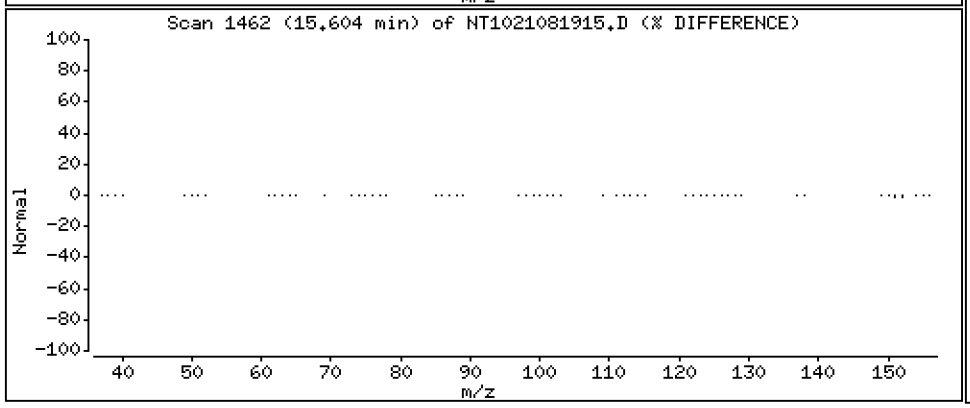
44 Acenaphthene

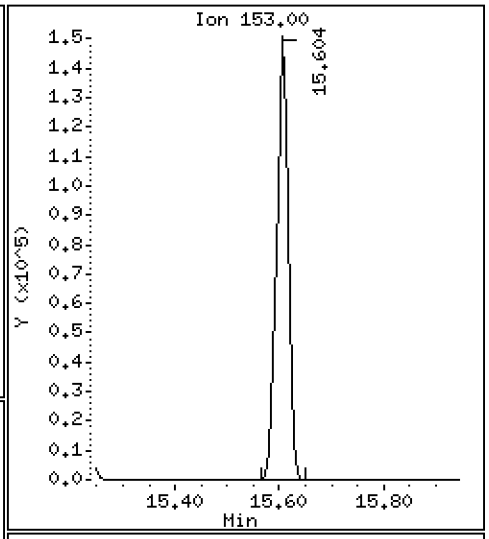
Concentration: 4.975 ug/mL

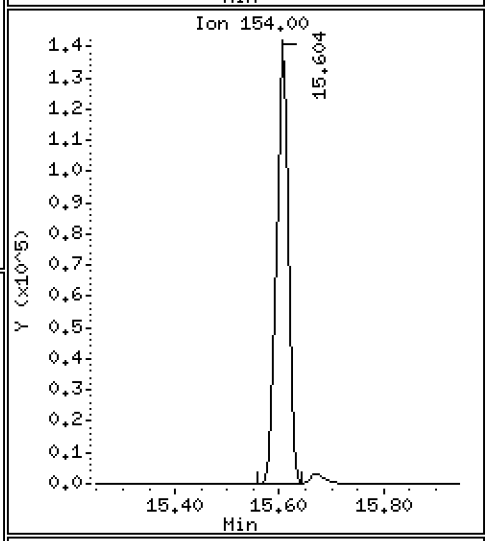


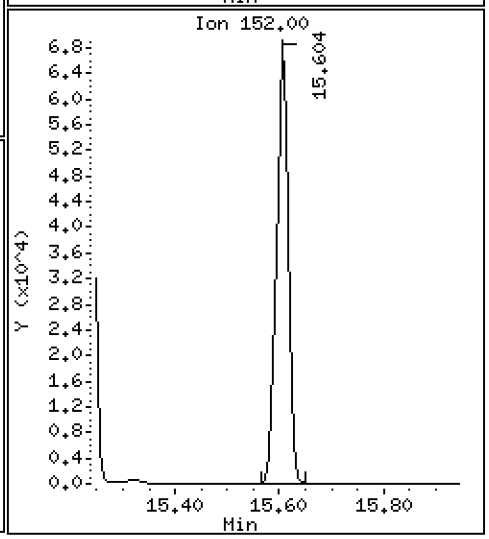












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

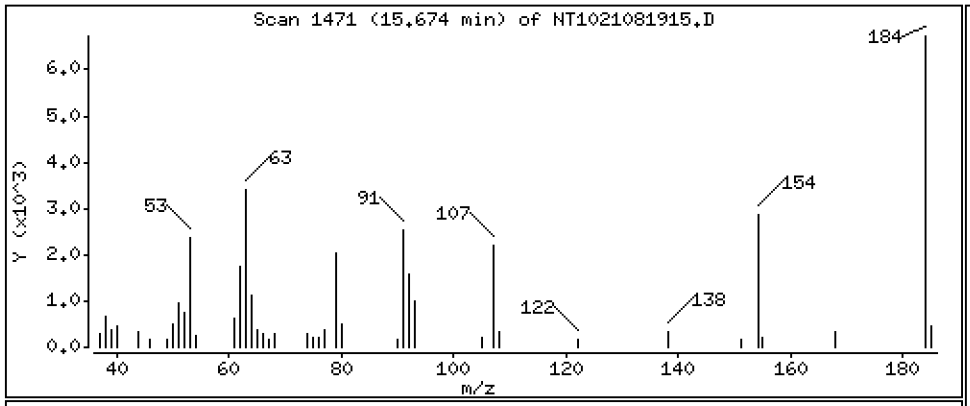
Operator: VTS

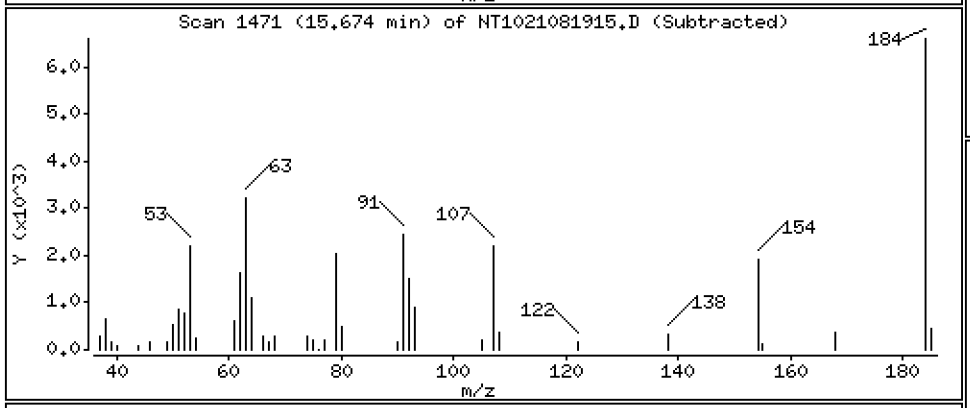
Column phase: ZB-5msi

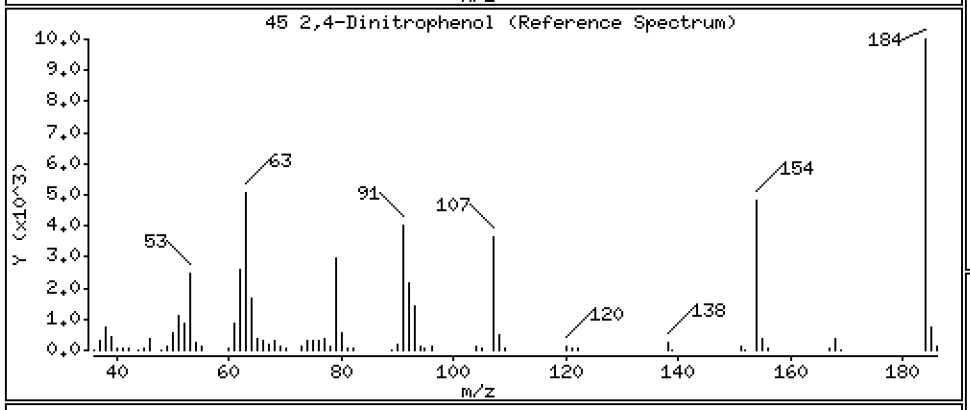
Column diameter: 0.25

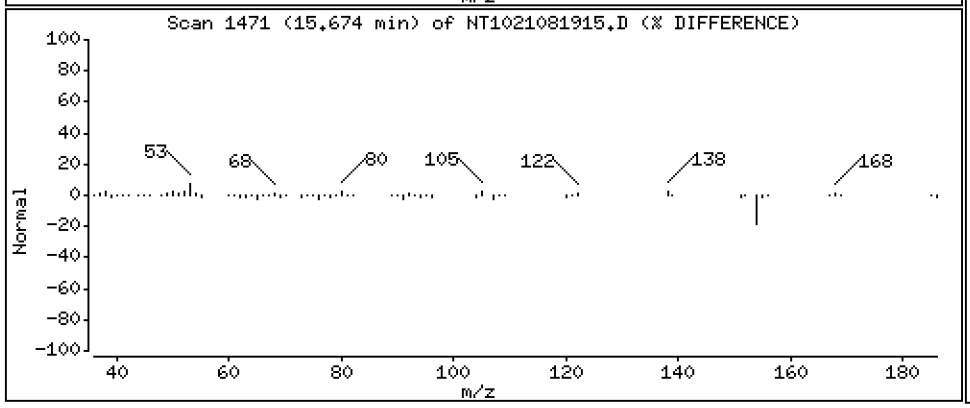
45 2,4-Dinitrophenol

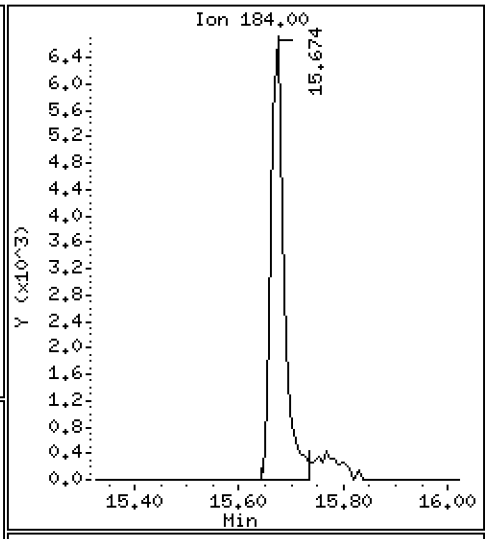
Concentration: 1.665 ug/mL

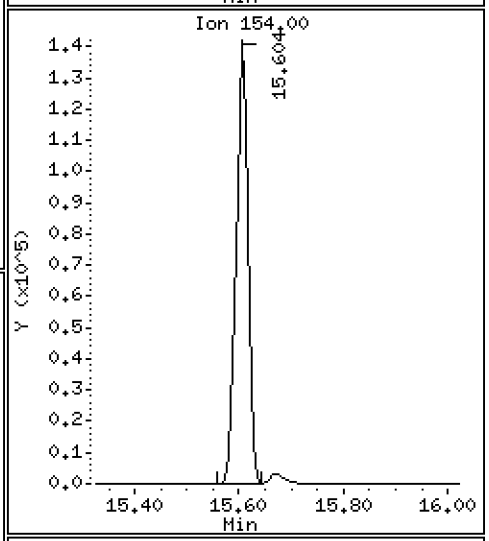


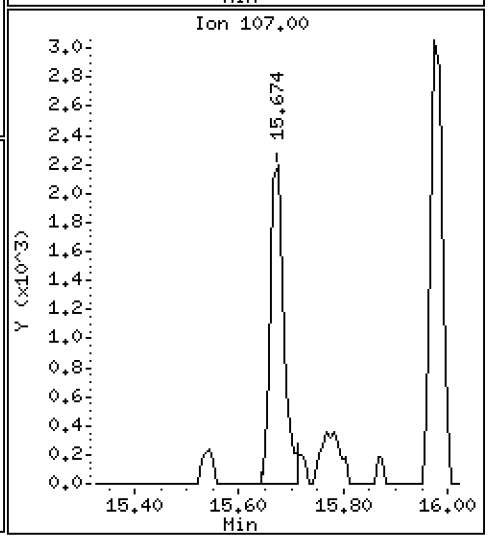












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

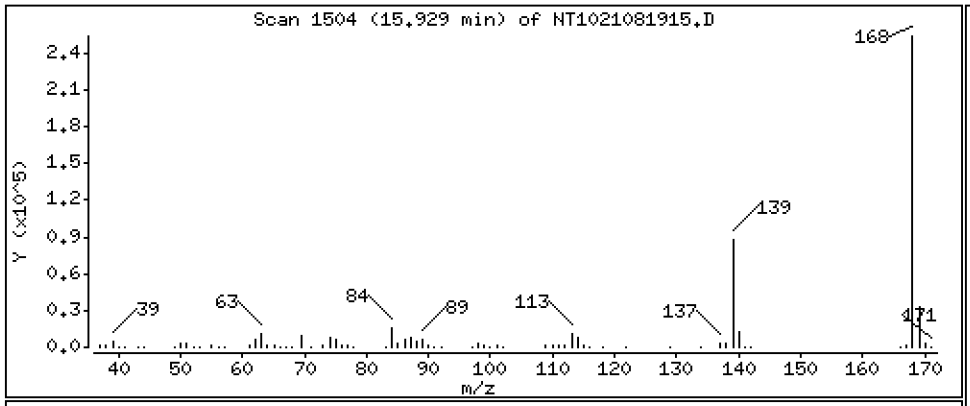
Operator: VTS

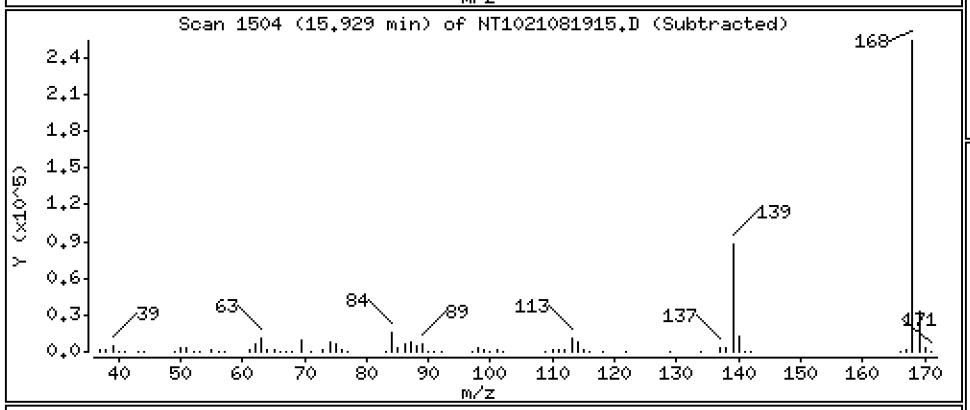
Column phase: ZB-5msi

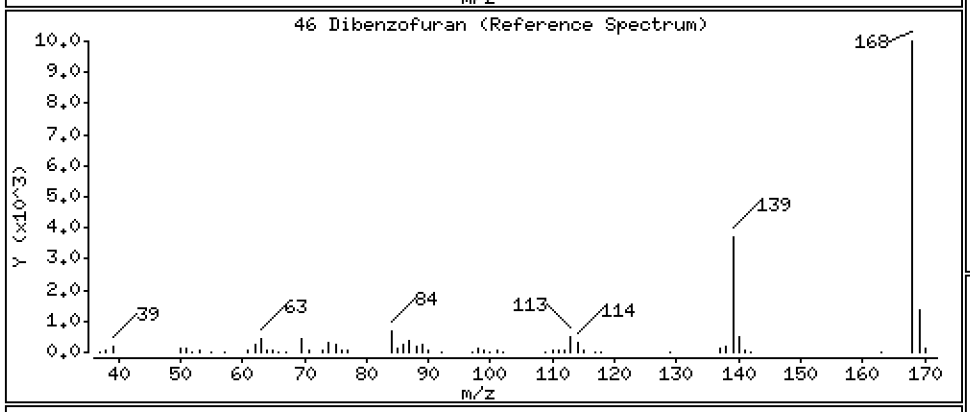
Column diameter: 0.25

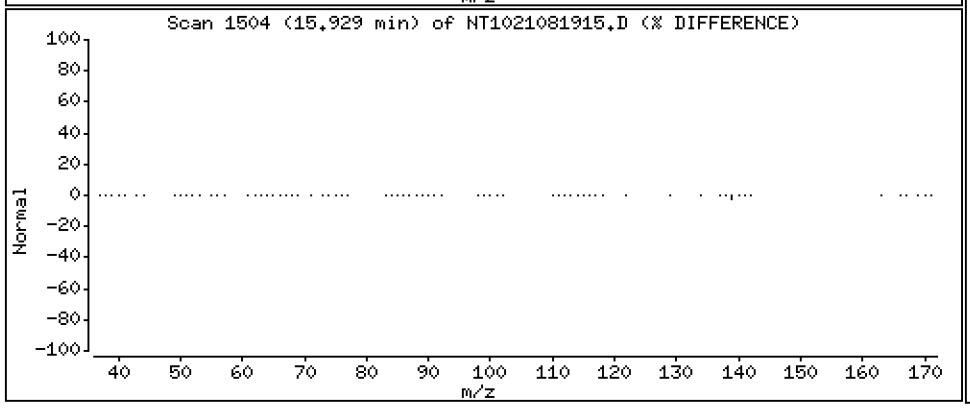
46 Dibenzofuran

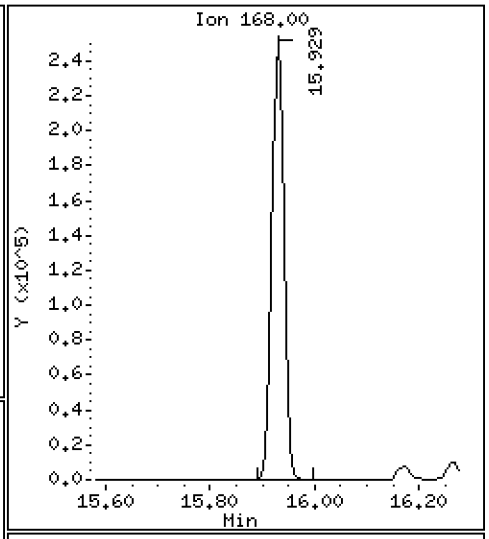
Concentration: 4.691 ug/mL

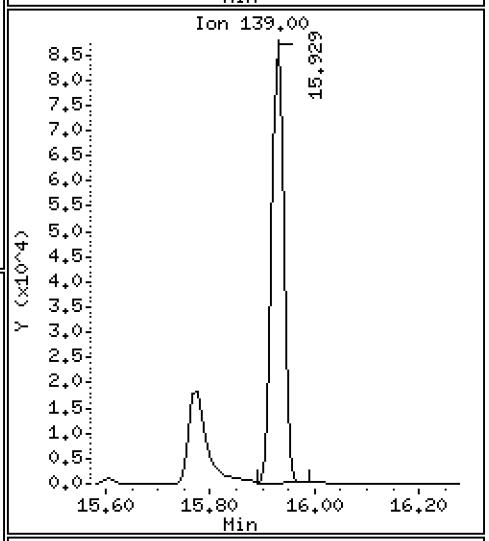


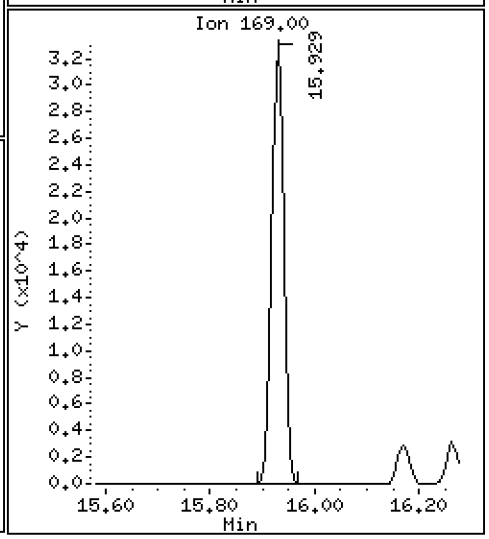












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

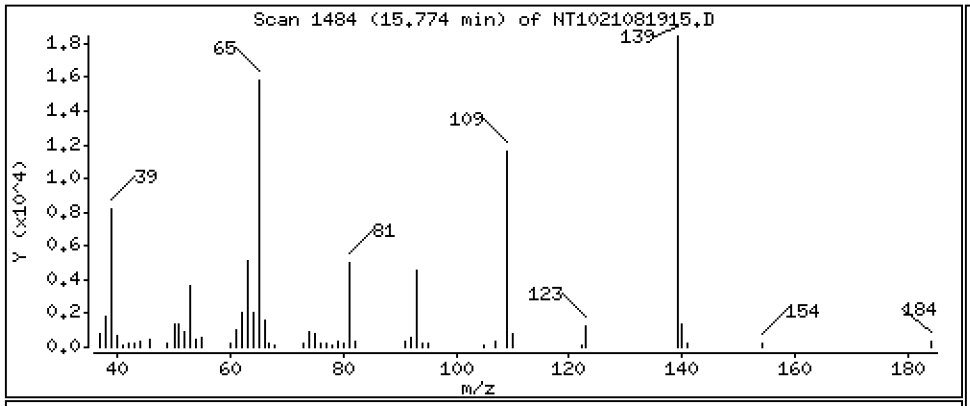
Operator: VTS

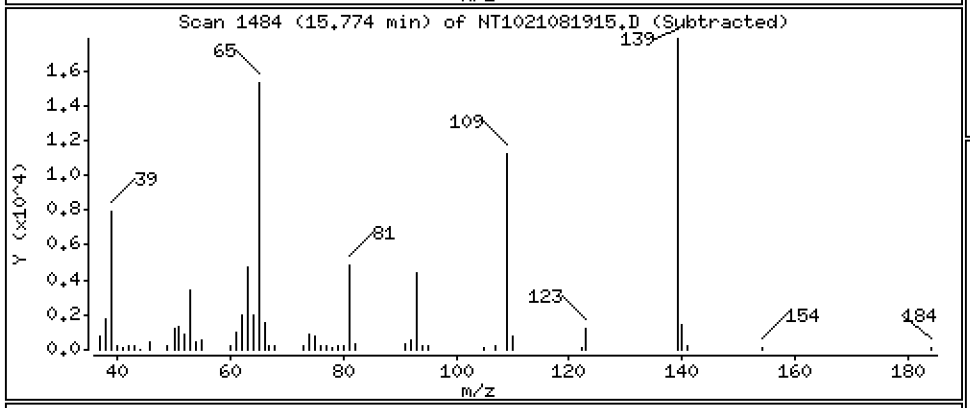
Column phase: ZB-5msi

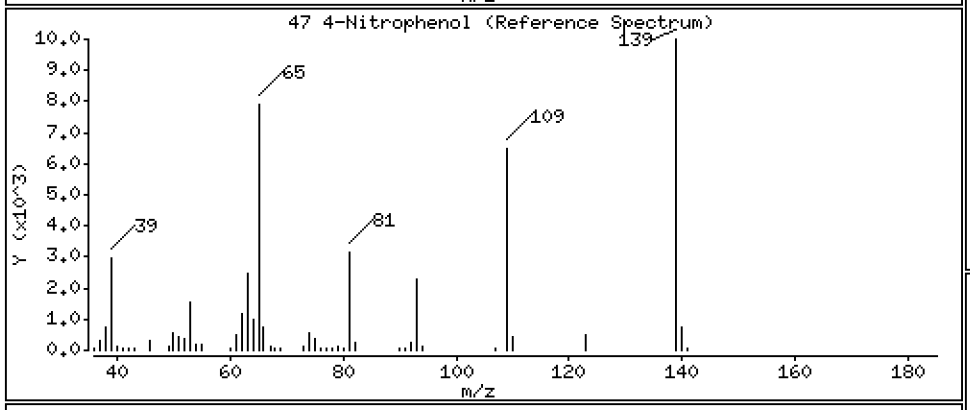
Column diameter: 0.25

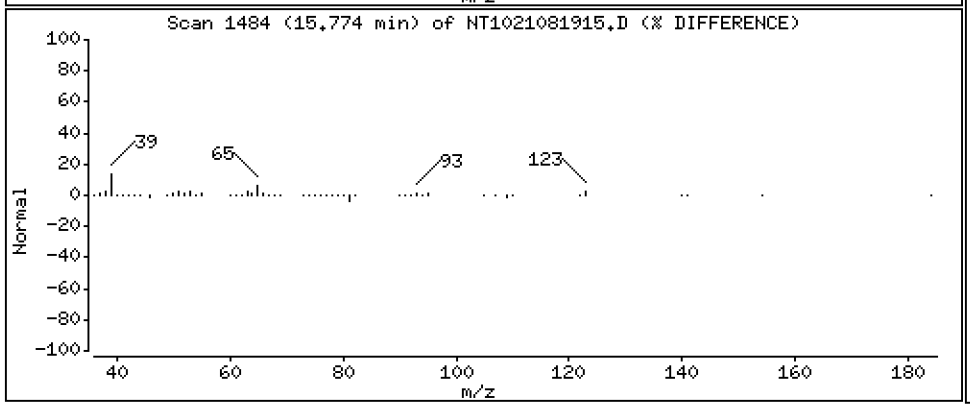
47 4-Nitrophenol

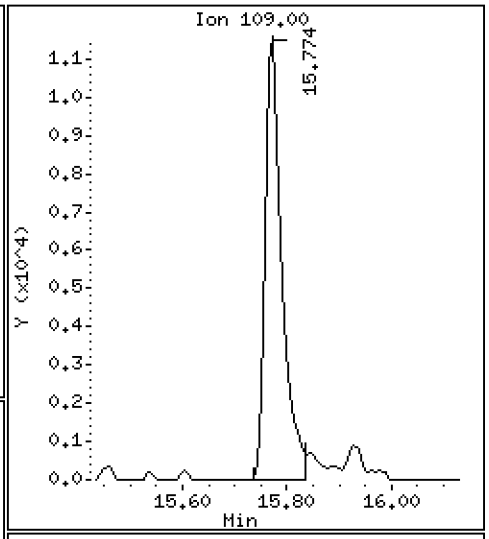
Concentration: 4.018 ug/mL

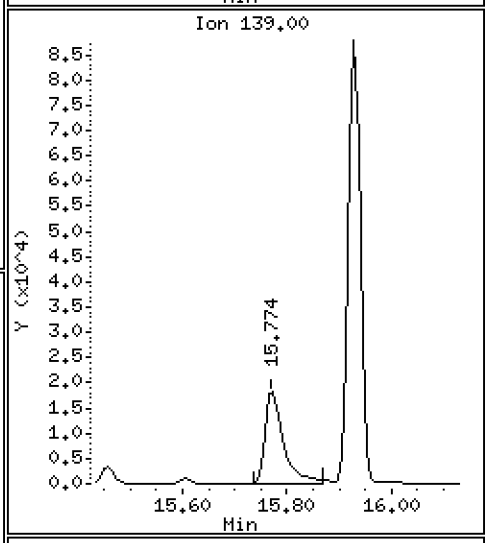


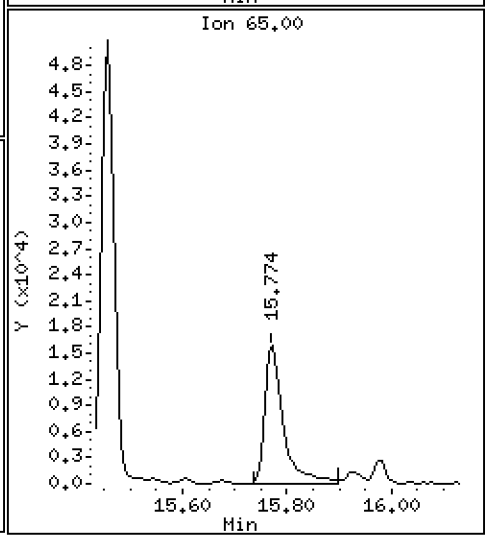












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

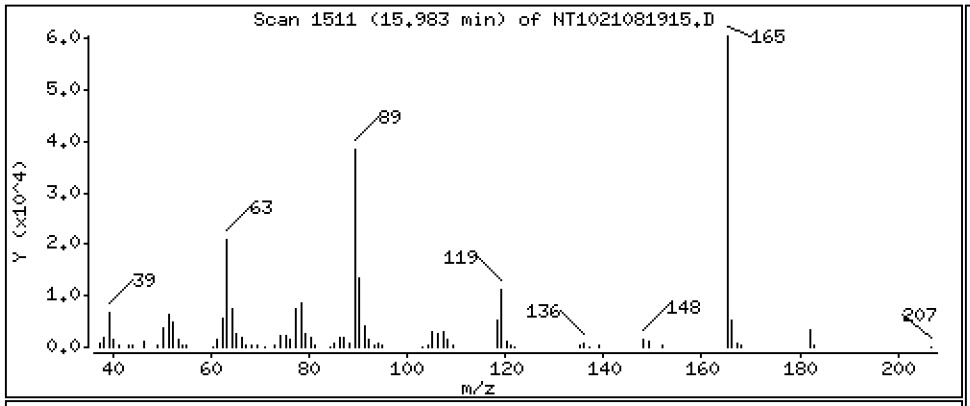
Operator: VTS

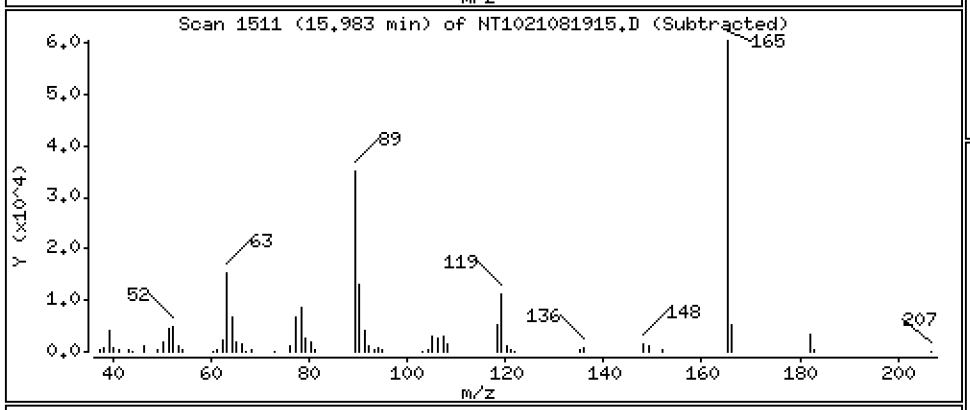
Column phase: ZB-5msi

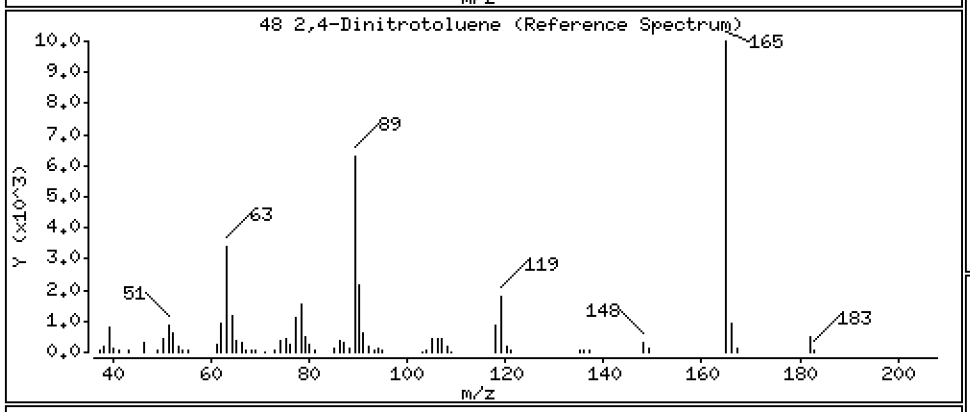
Column diameter: 0.25

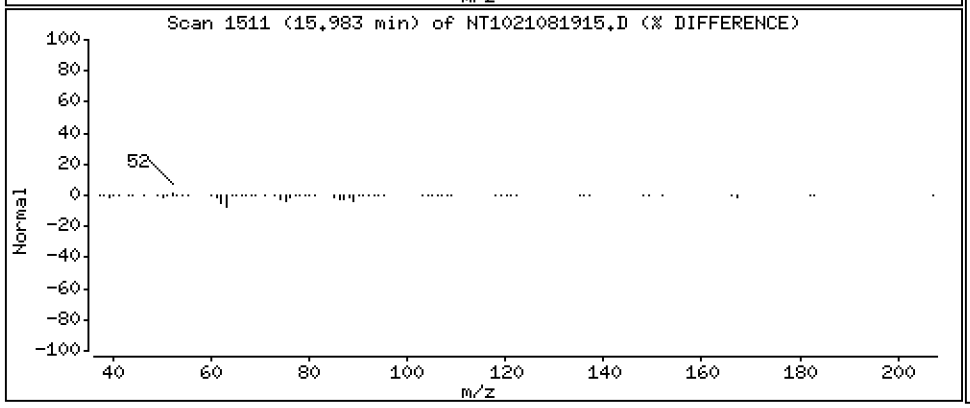
48 2,4-Dinitrotoluene

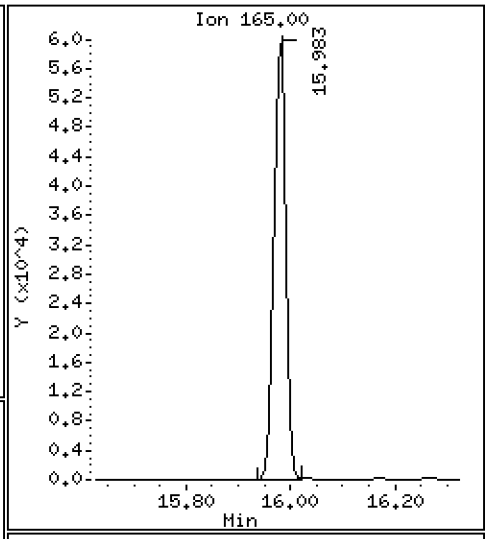
Concentration: 5.106 ug/mL

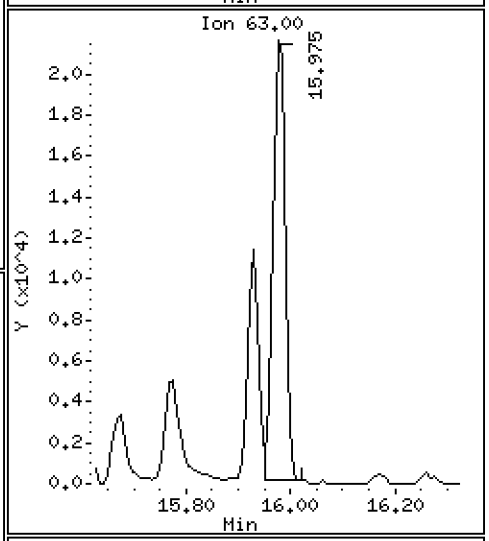


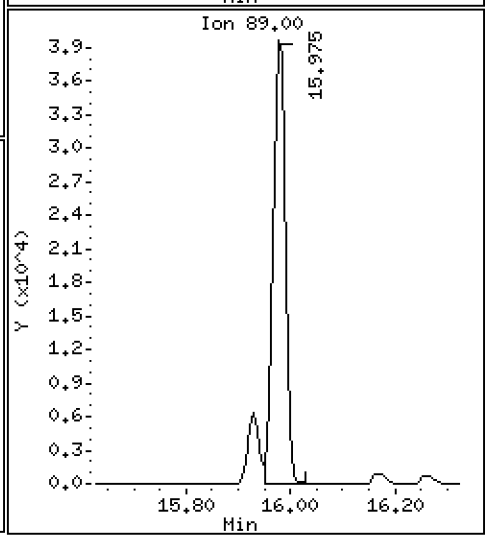












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

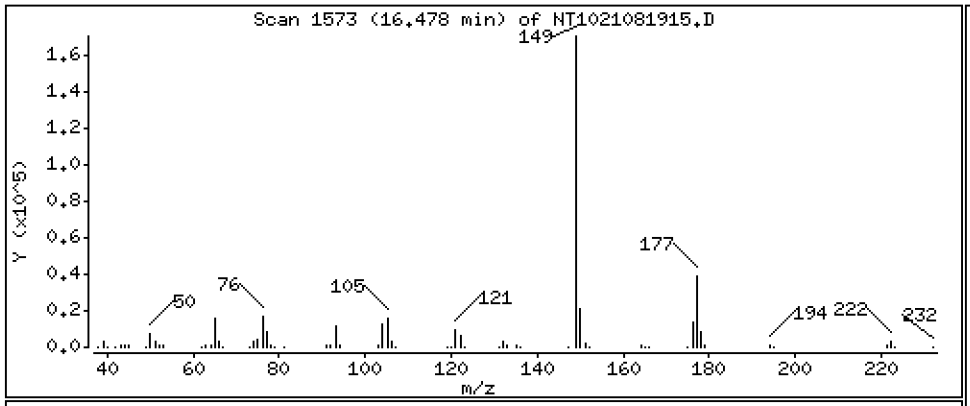
Operator: VTS

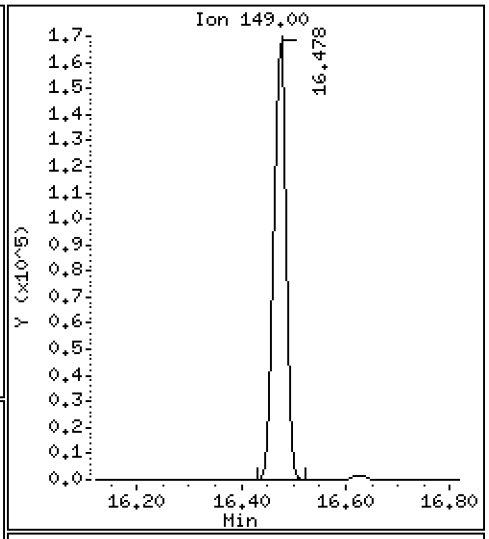
Column phase: ZB-5msi

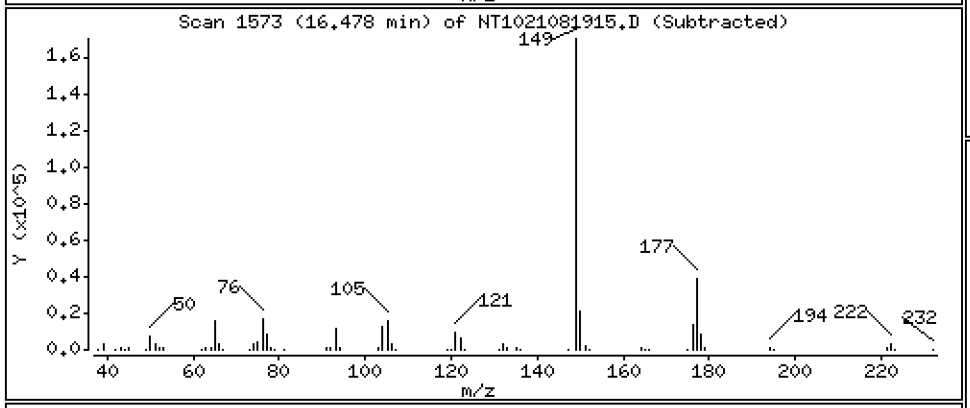
Column diameter: 0.25

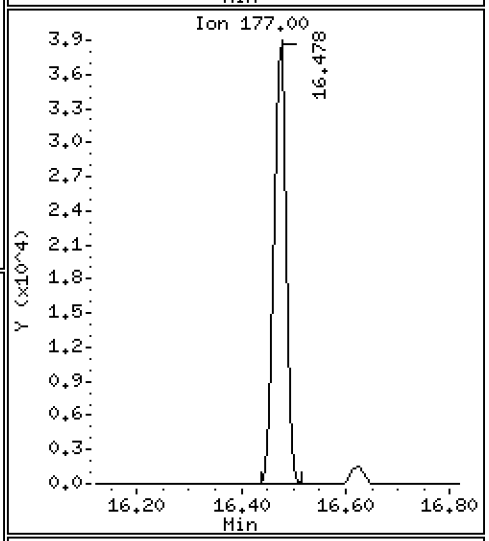
50 Diethylphthalate

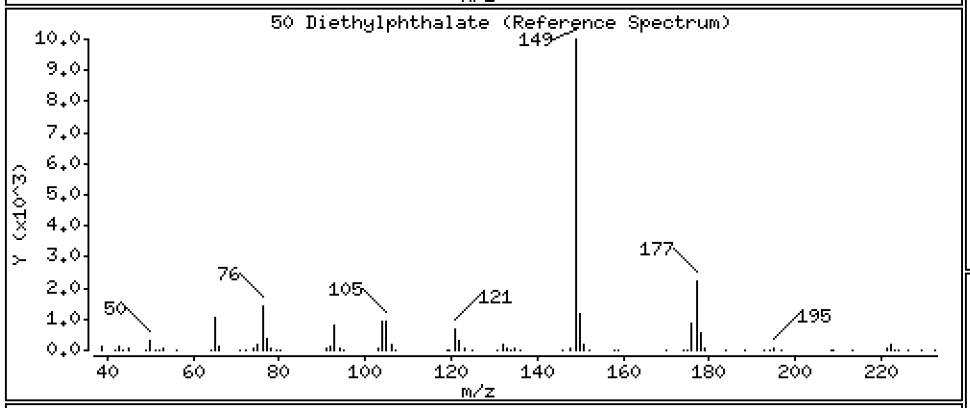
Concentration: 5.096 ug/mL

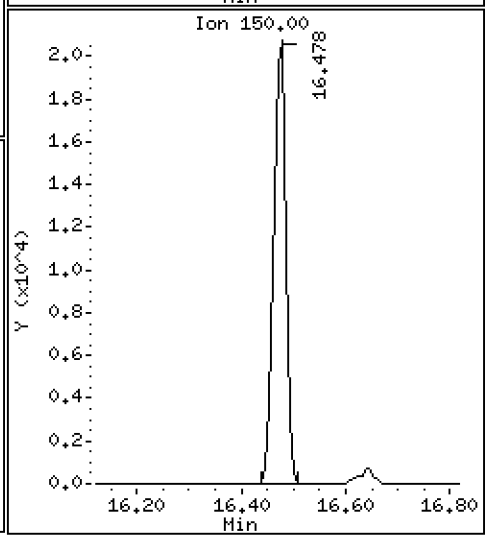


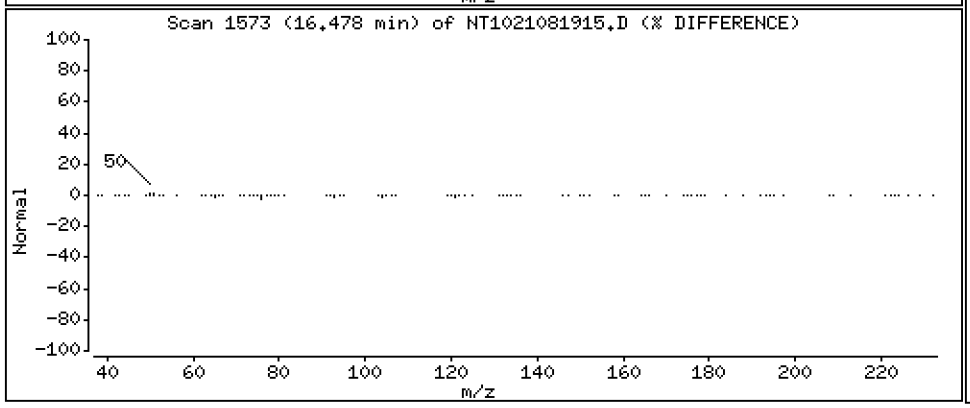












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

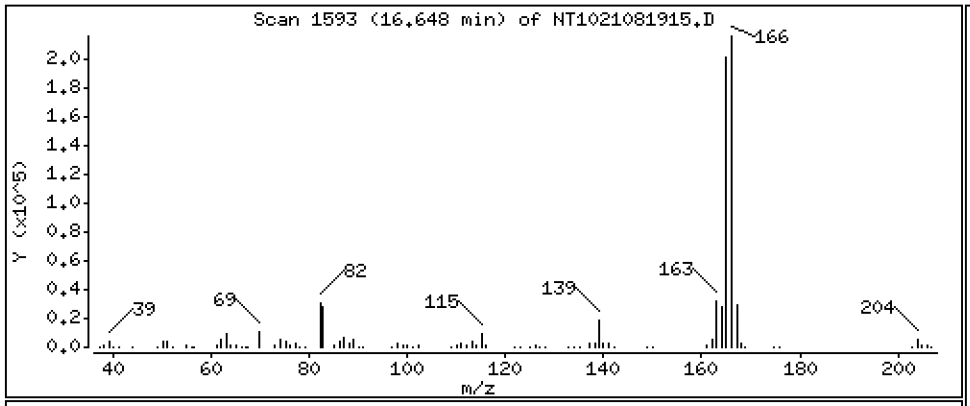
Operator: VTS

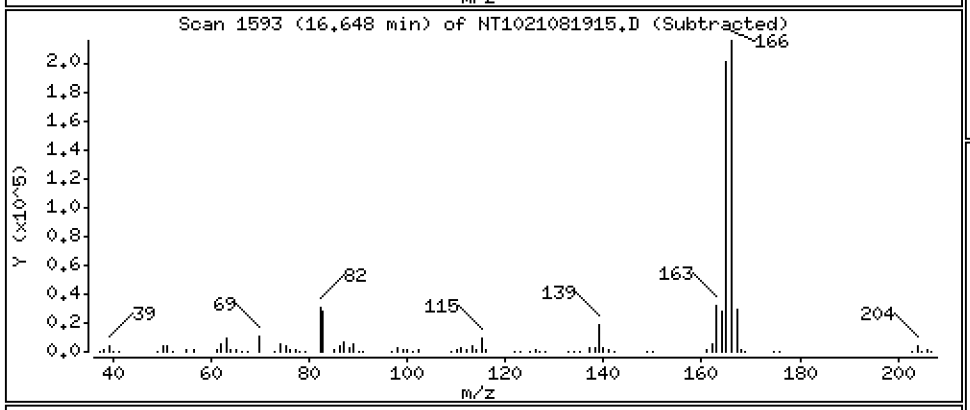
Column phase: ZB-5msi

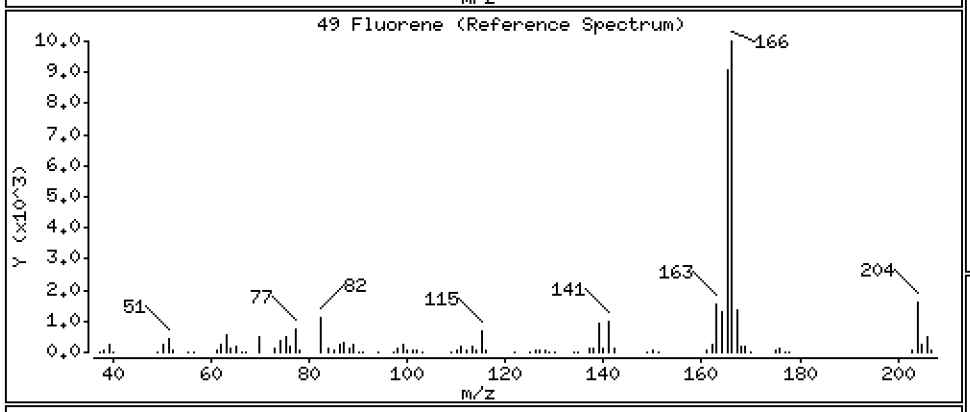
Column diameter: 0.25

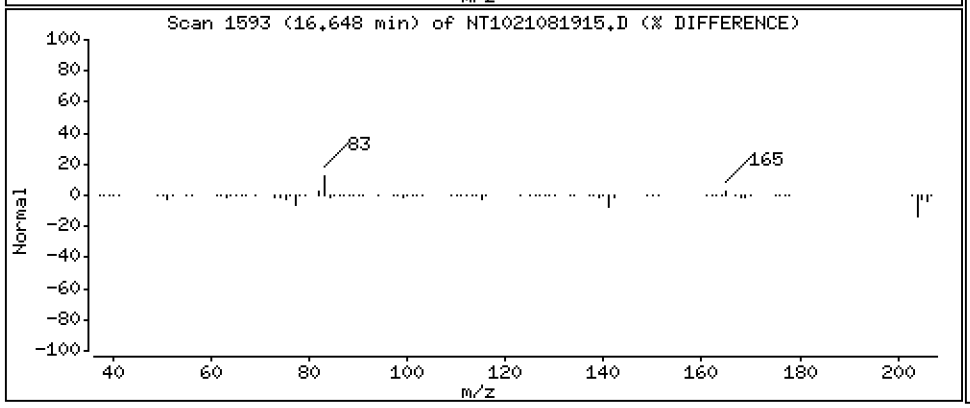
49 Fluorene

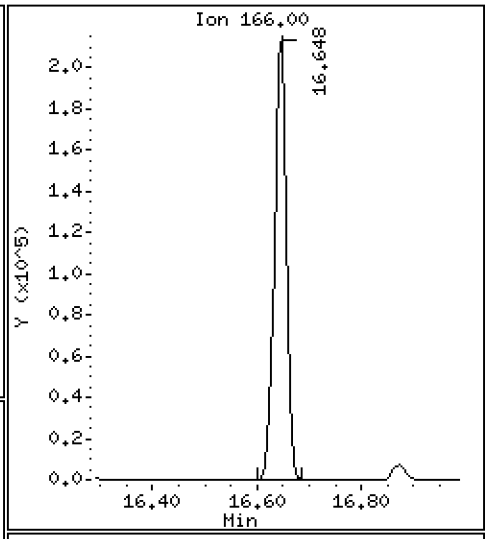
Concentration: 4.723 ug/mL

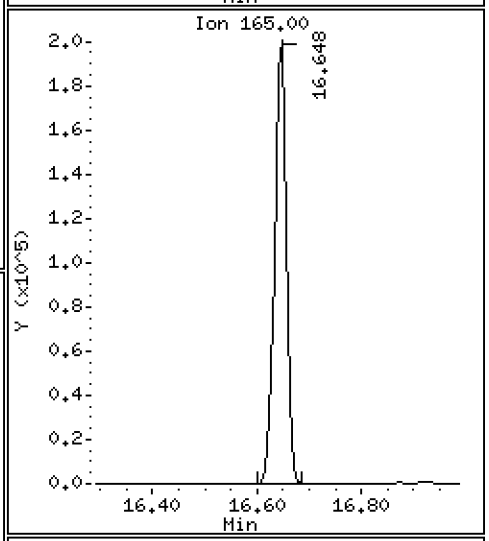


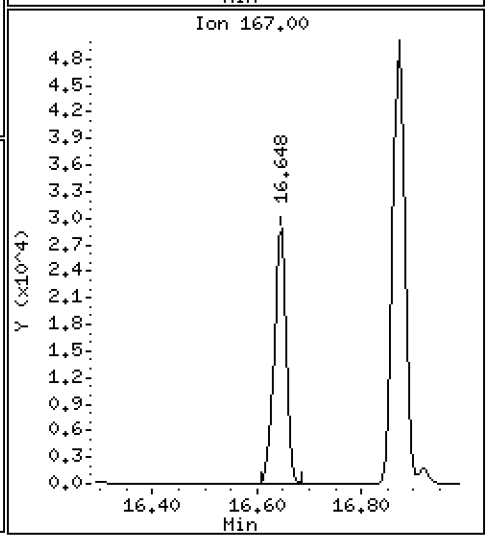












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

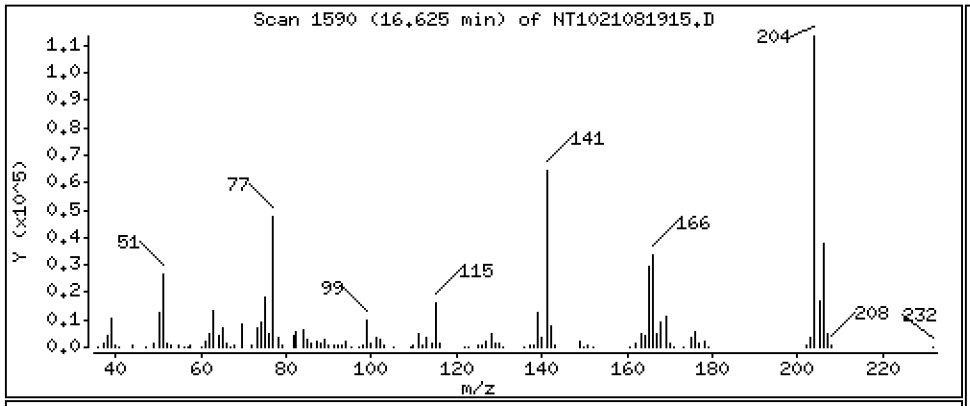
Operator: VTS

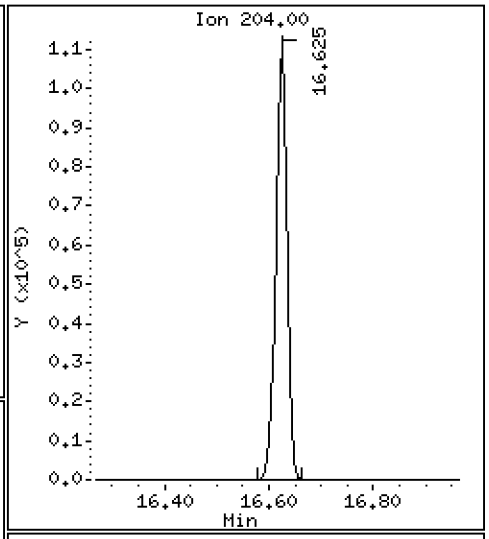
Column phase: ZB-5msi

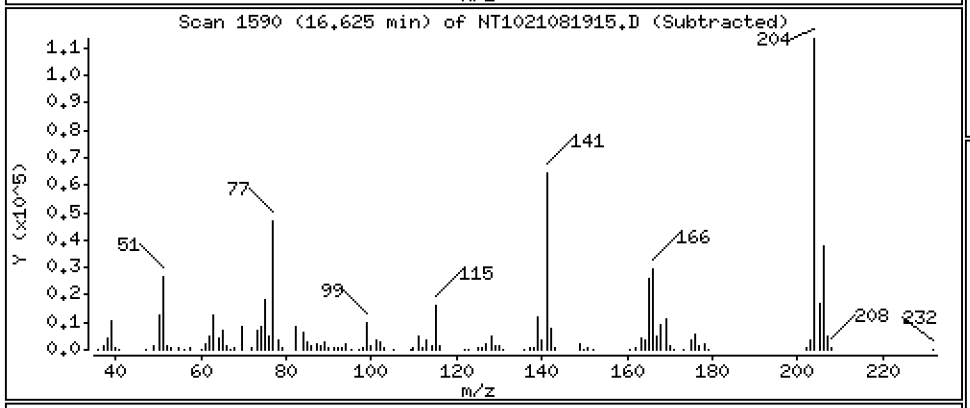
Column diameter: 0.25

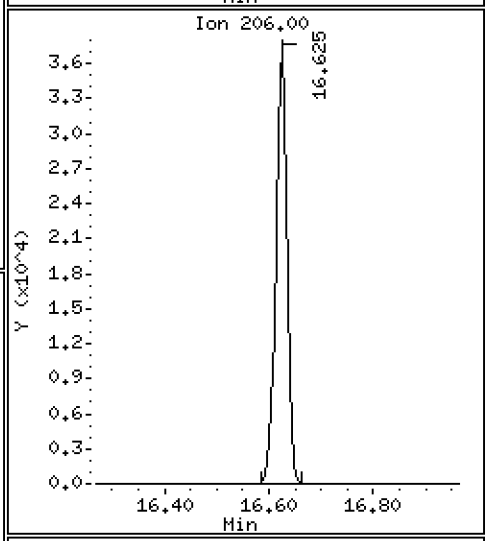
51 4-Chlorophenyl-phenylether

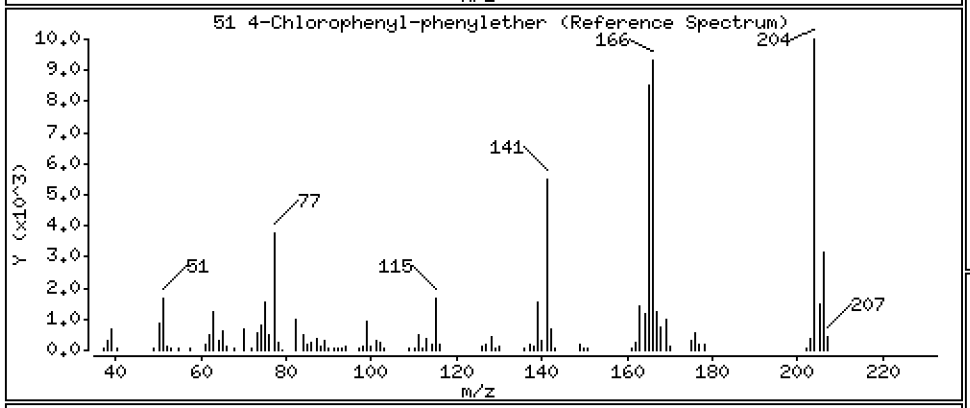
Concentration: 5.187 ug/mL

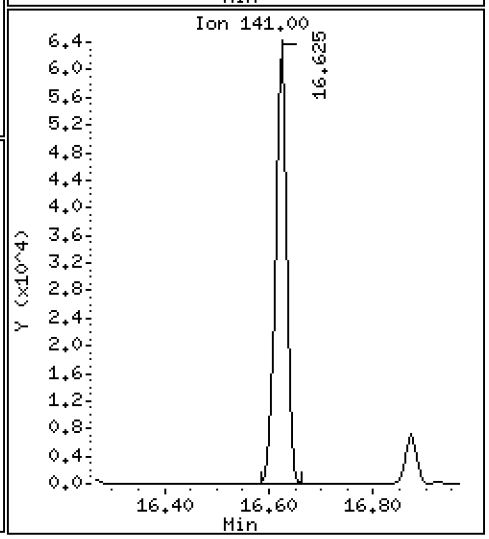


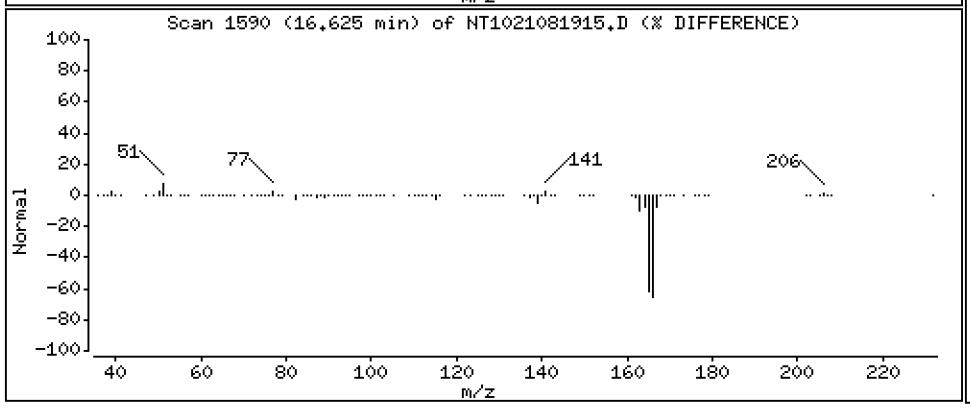












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

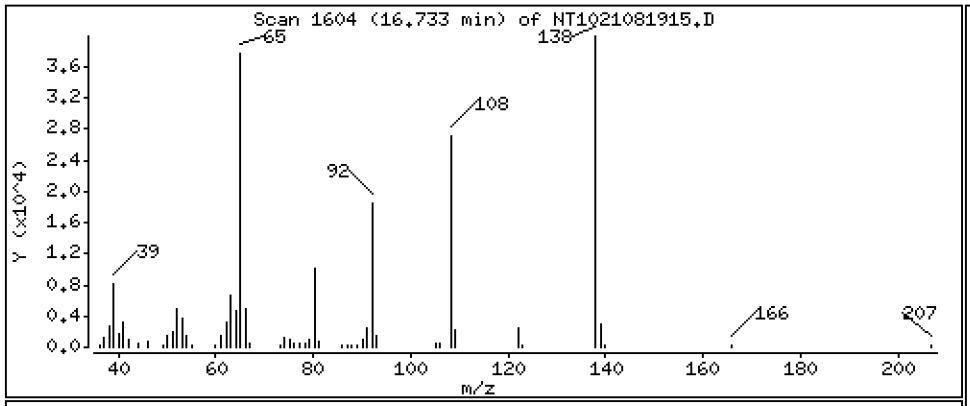
Operator: VTS

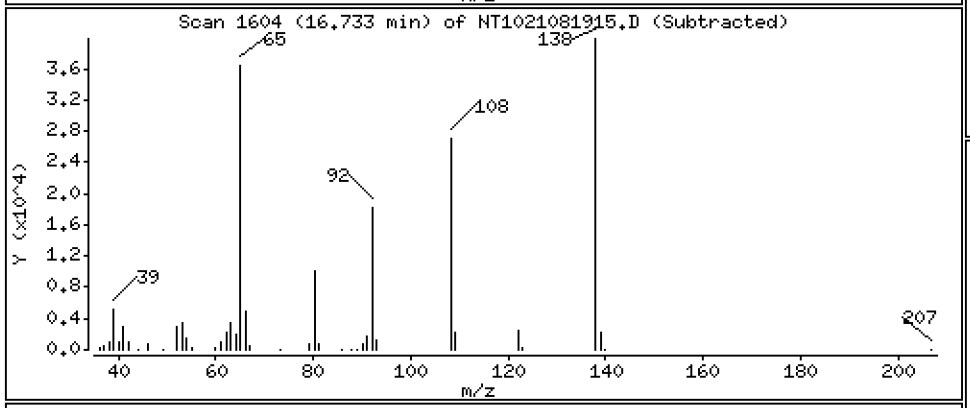
Column phase: ZB-5msi

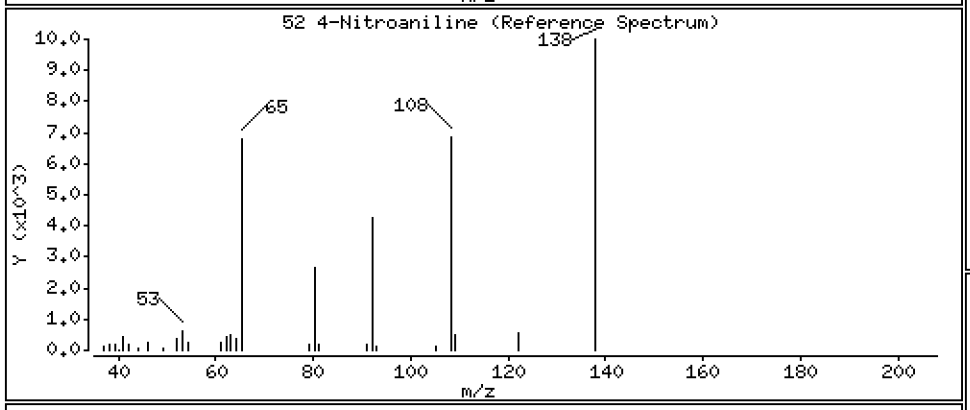
Column diameter: 0.25

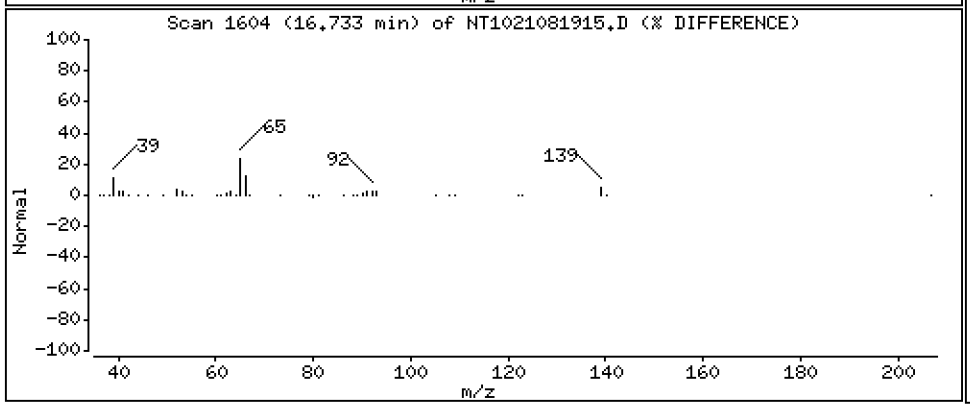
52 4-Nitroaniline

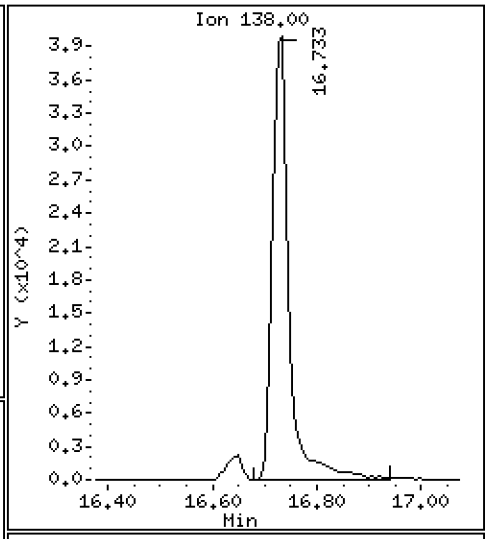
Concentration: 4.788 ug/mL

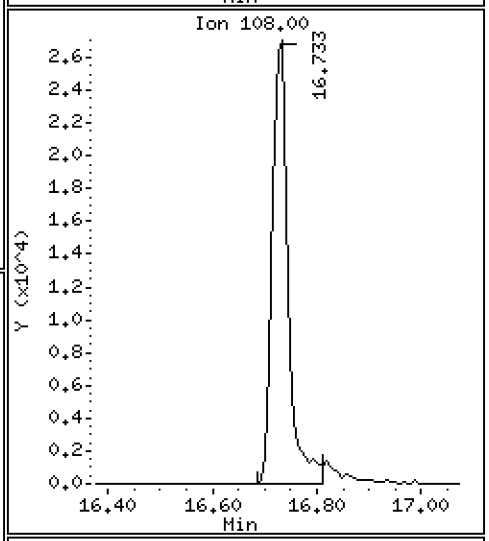


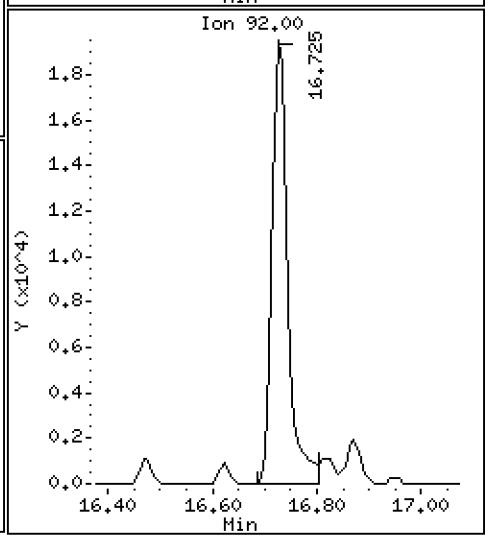












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

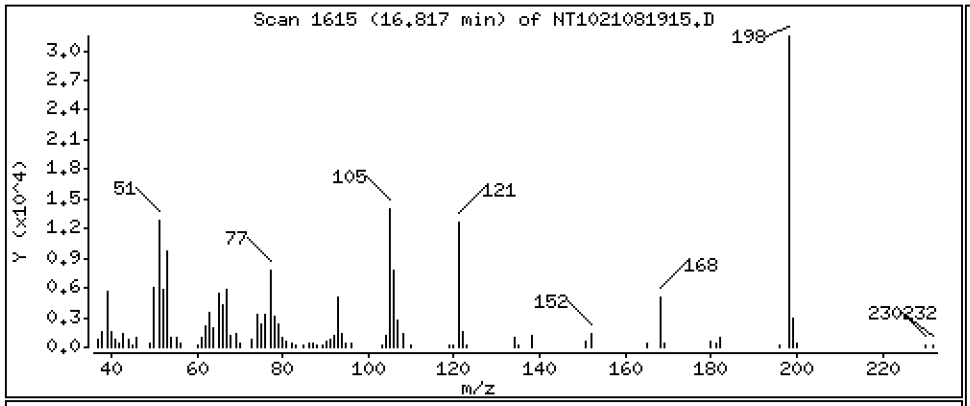
Operator: VTS

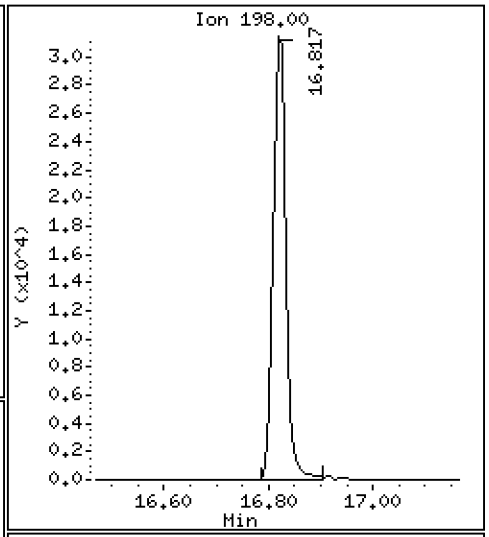
Column phase: ZB-5msi

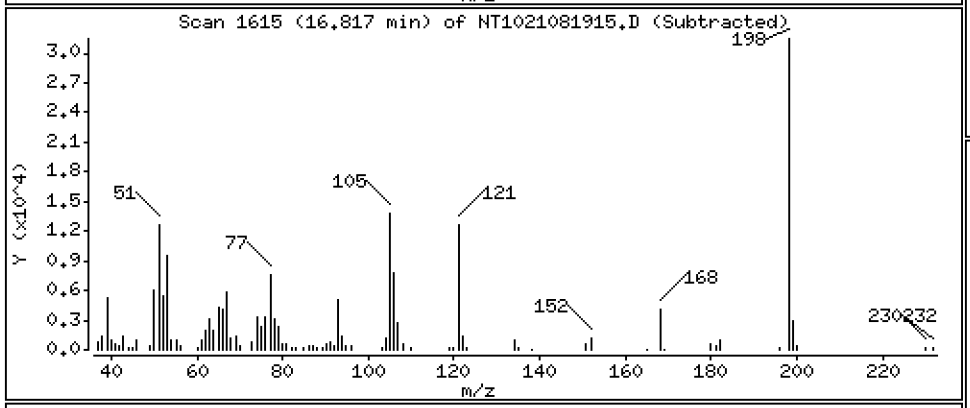
Column diameter: 0.25

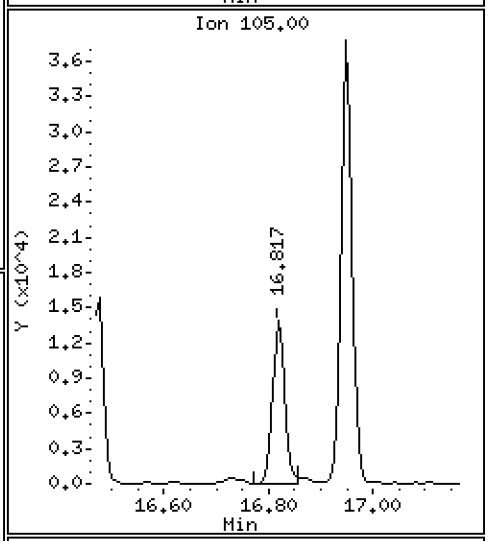
53 4,6-Dinitro-2-methylphenol

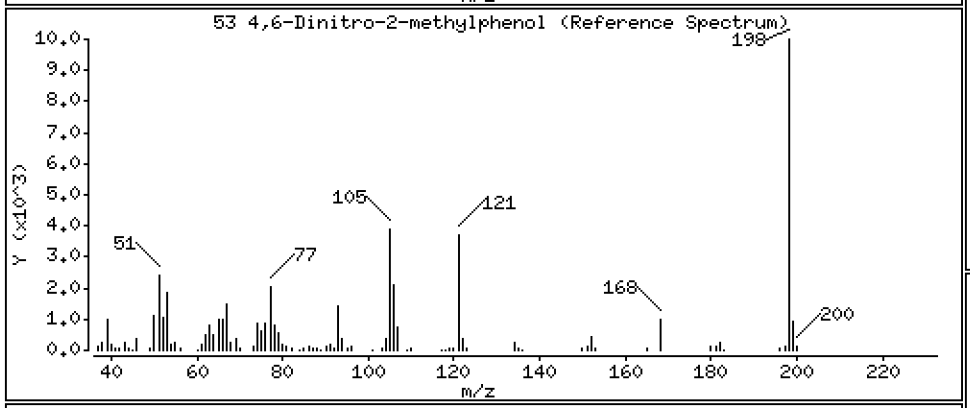
Concentration: 3.885 ug/mL

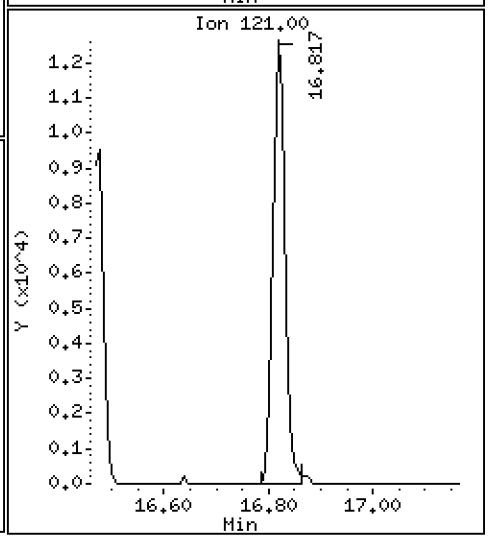


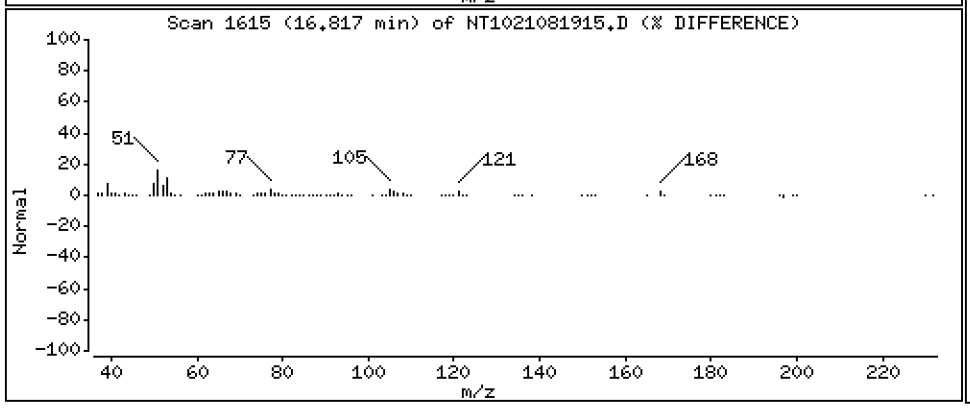












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

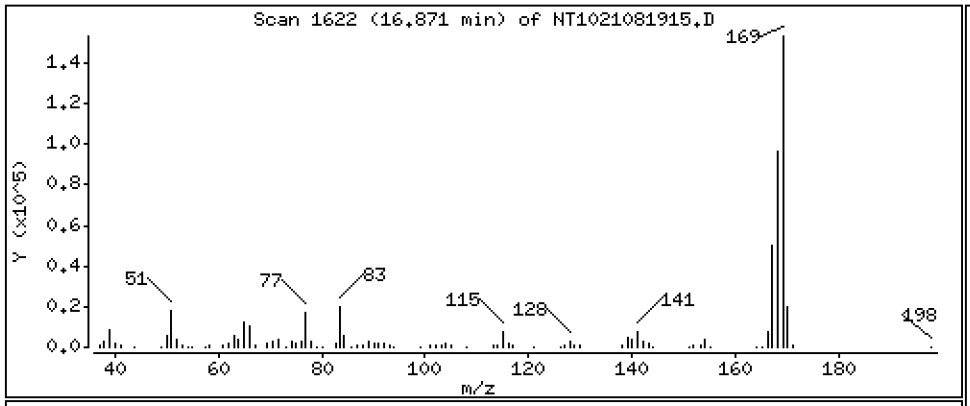
Operator: VTS

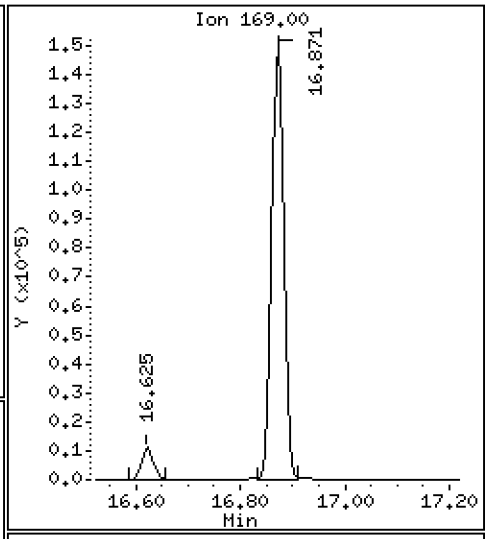
Column phase: ZB-5msi

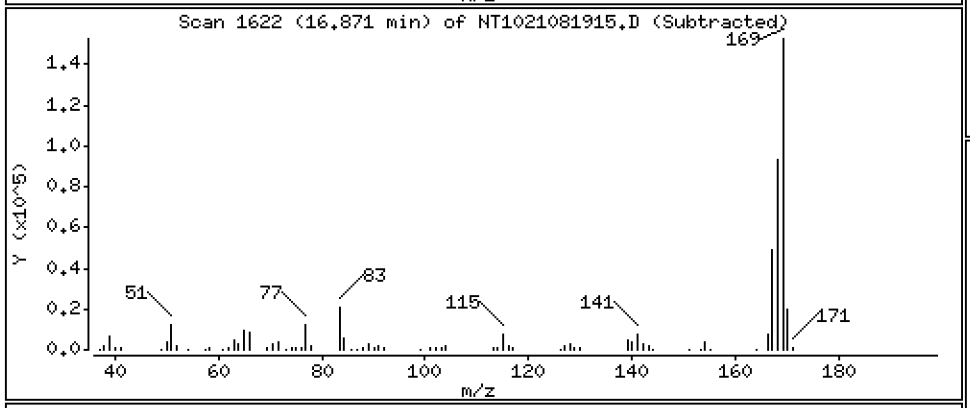
Column diameter: 0.25

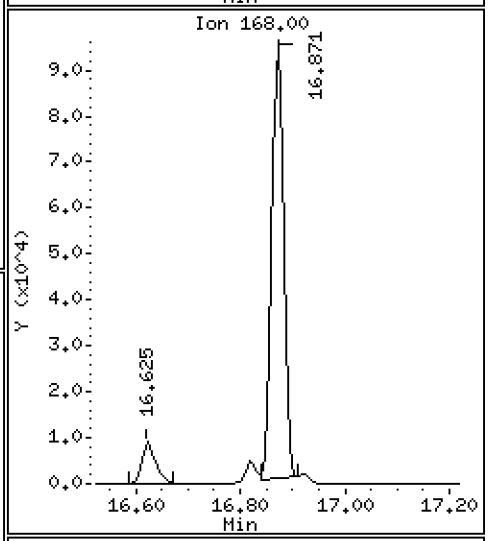
54 N-Nitrosodiphenylamine

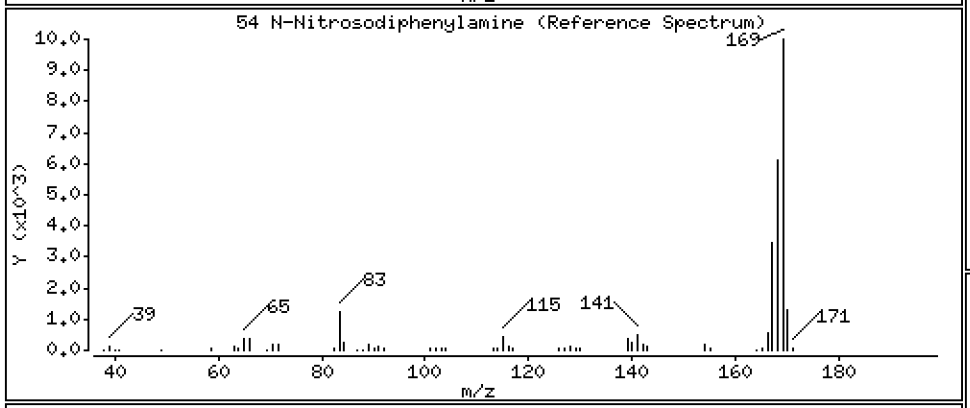
Concentration: 4.835 ug/mL

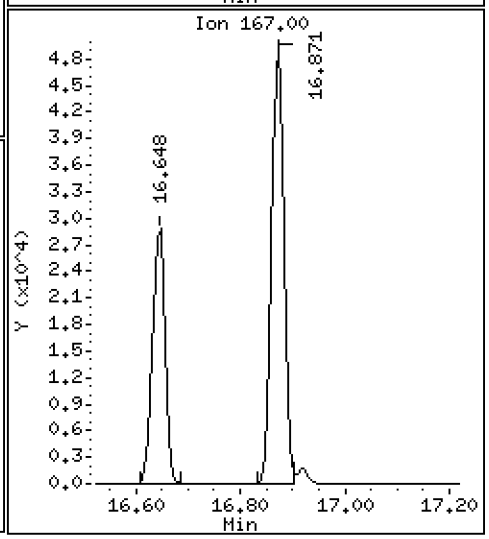


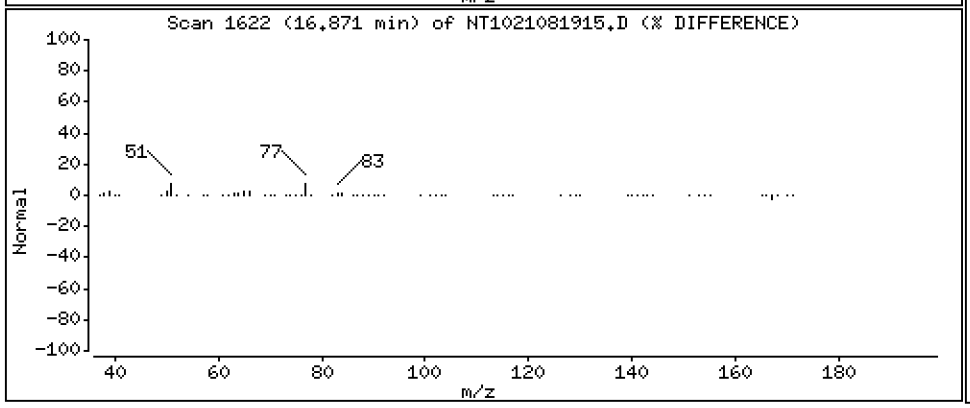












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

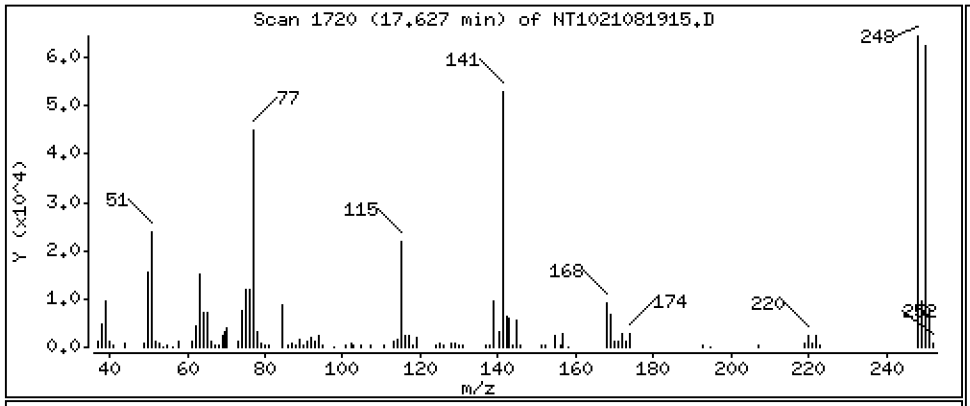
Operator: VTS

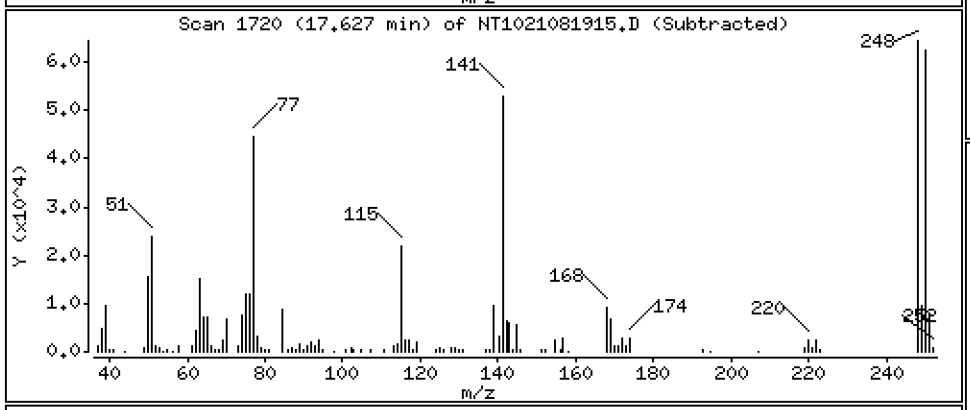
Column phase: ZB-5msi

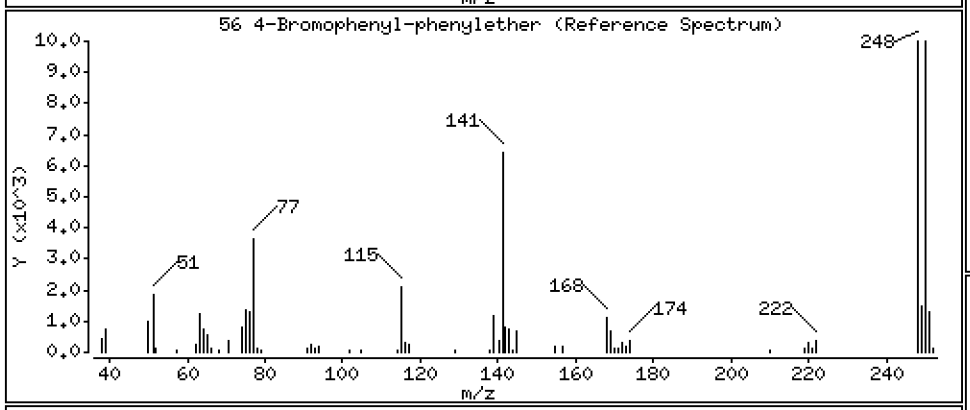
Column diameter: 0.25

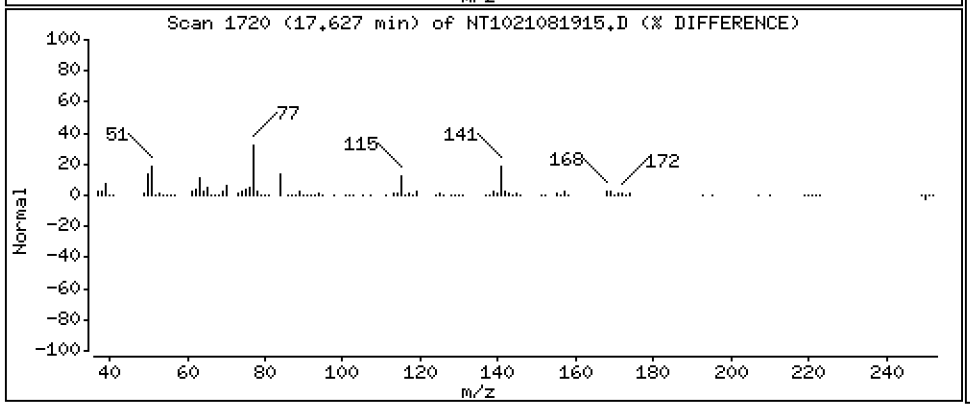
56 4-Bromophenyl-phenylether

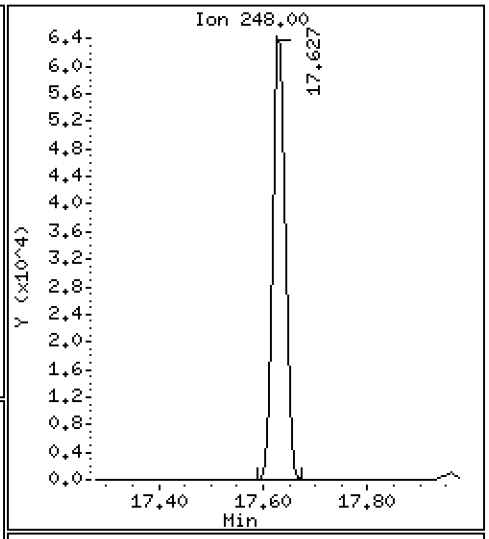
Concentration: 5.399 ug/mL

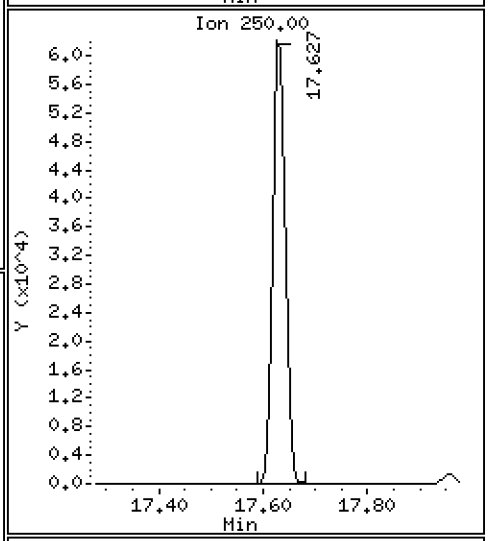


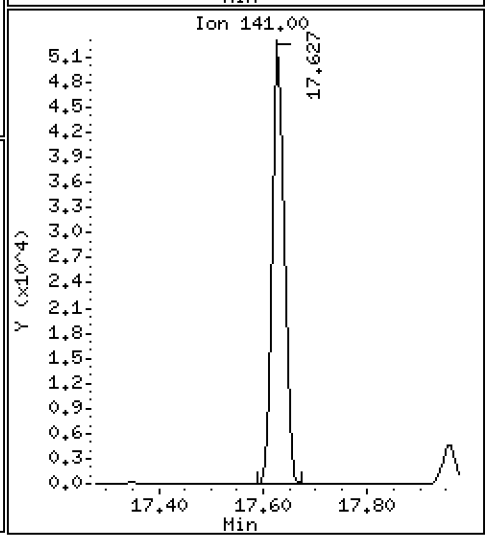












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

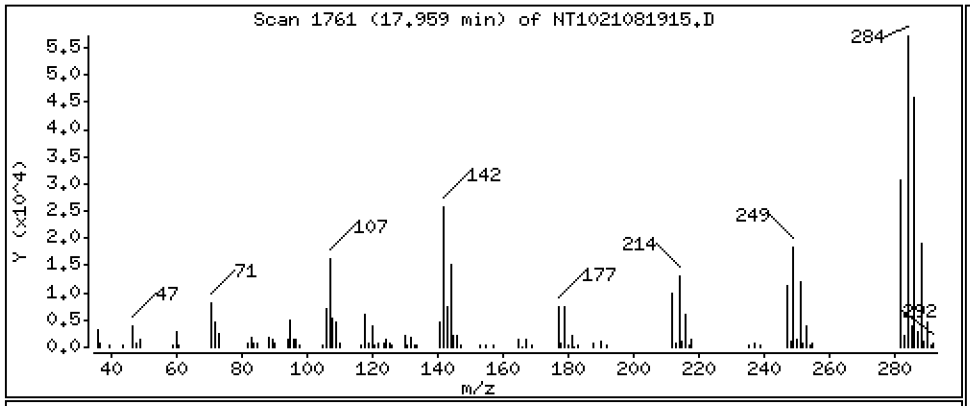
Operator: VTS

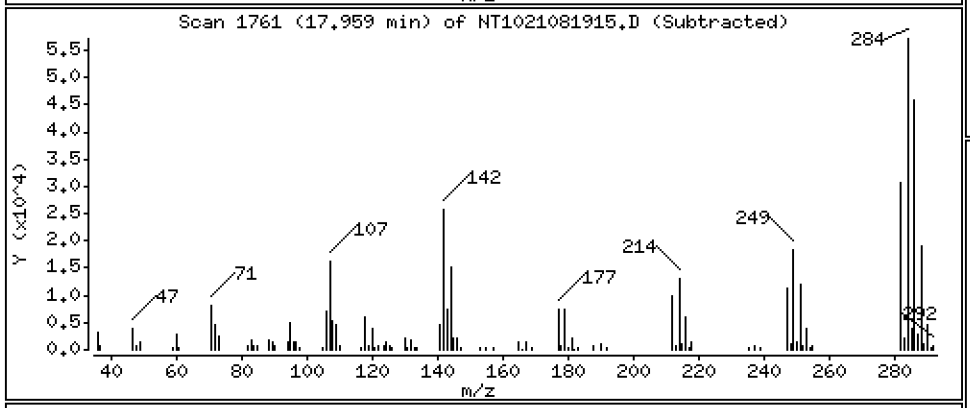
Column phase: ZB-5msi

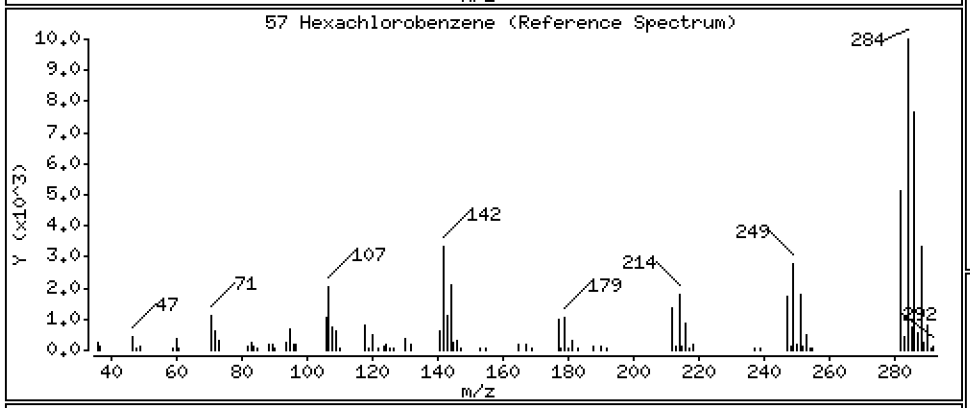
Column diameter: 0.25

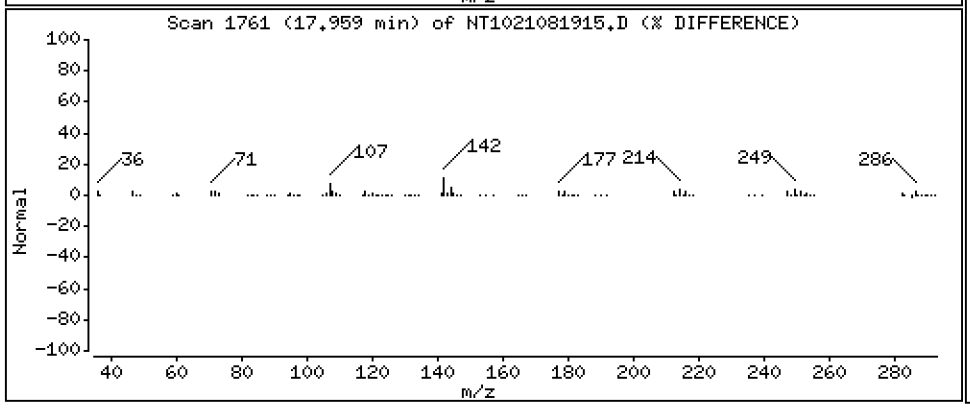
57 Hexachlorobenzene

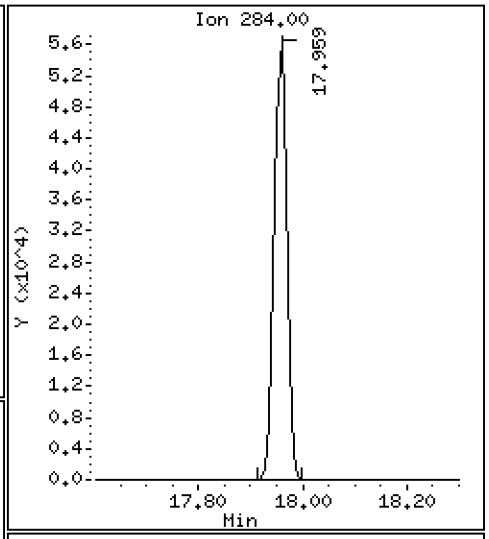
Concentration: 5.063 ug/mL

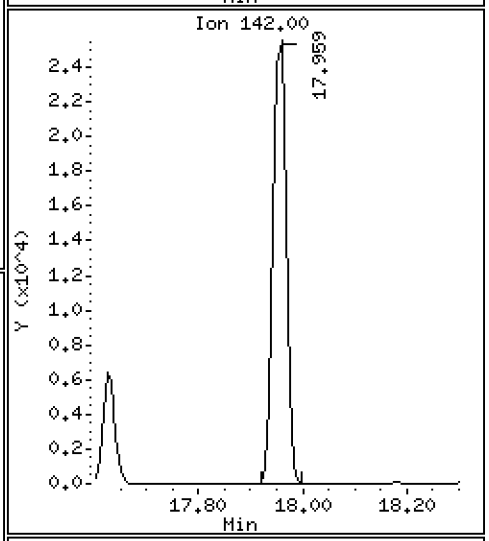


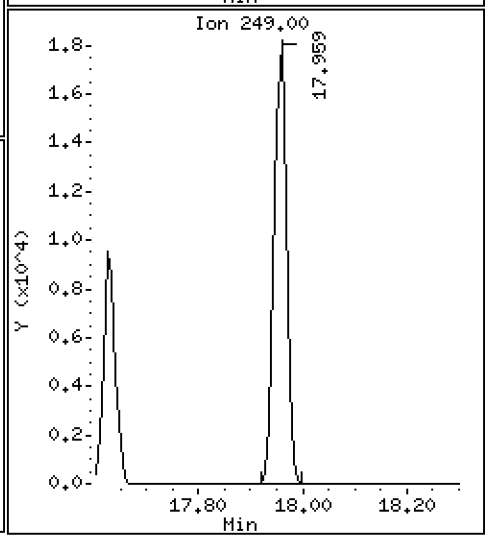












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

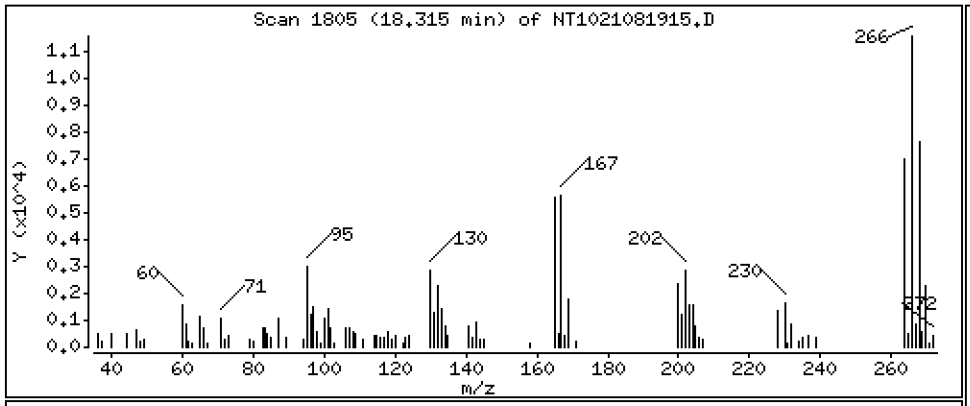
Operator: VTS

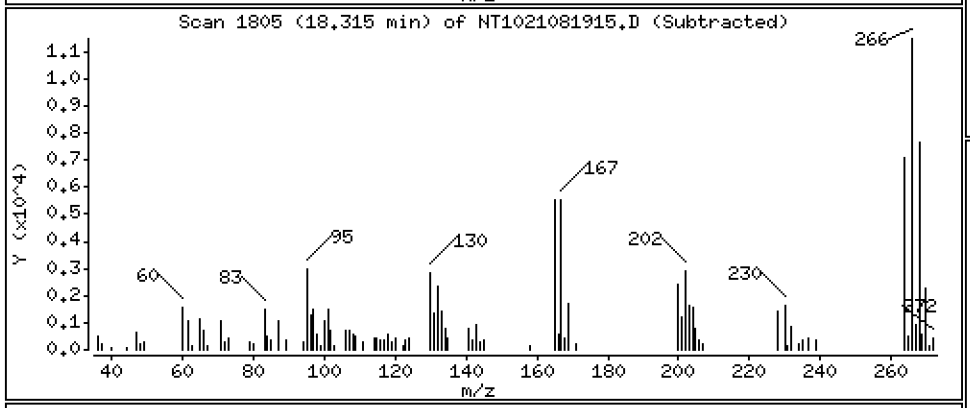
Column phase: ZB-5msi

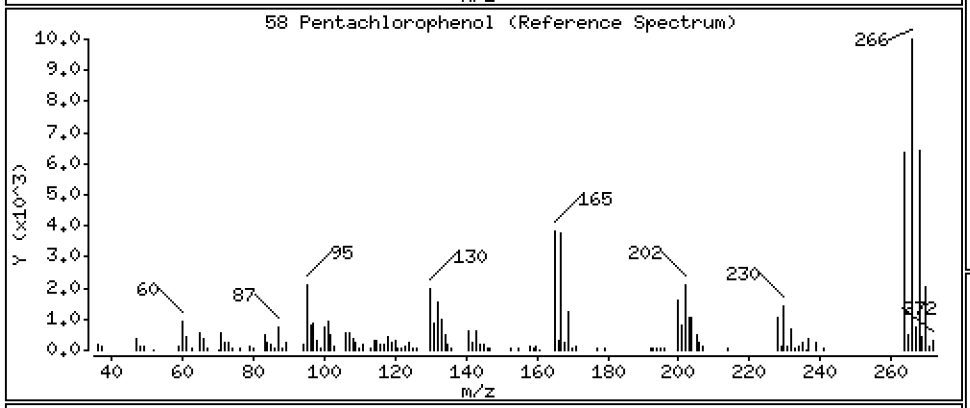
Column diameter: 0.25

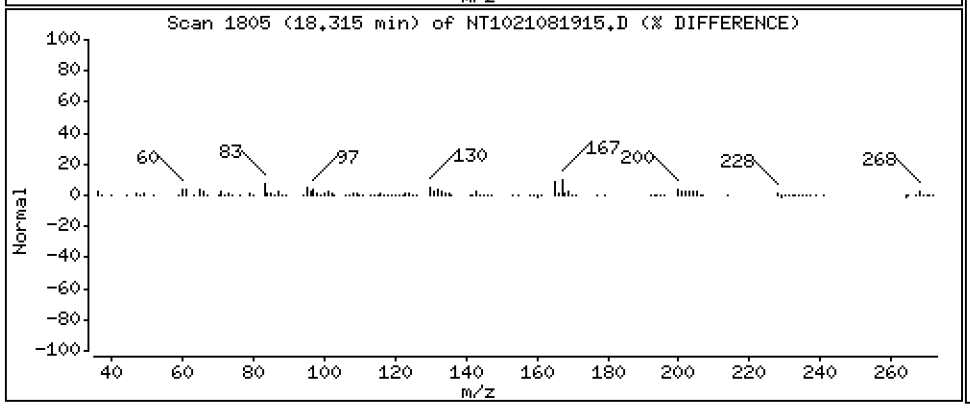
58 Pentachlorophenol

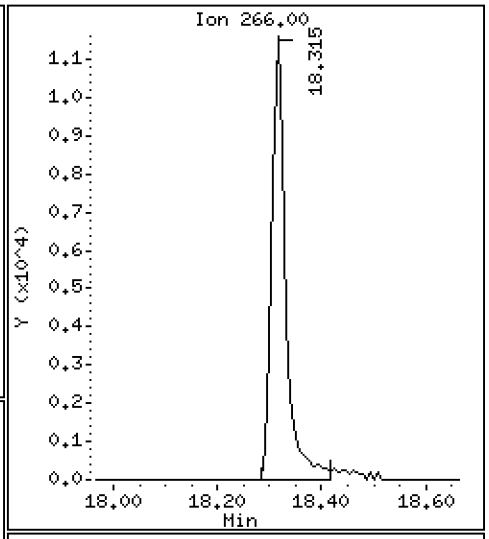
Concentration: 3.120 ug/mL

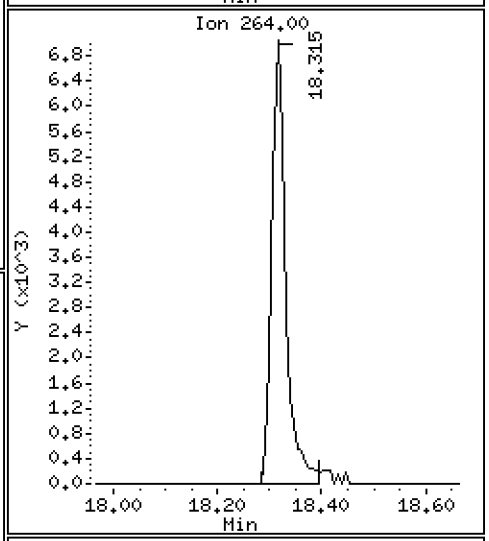


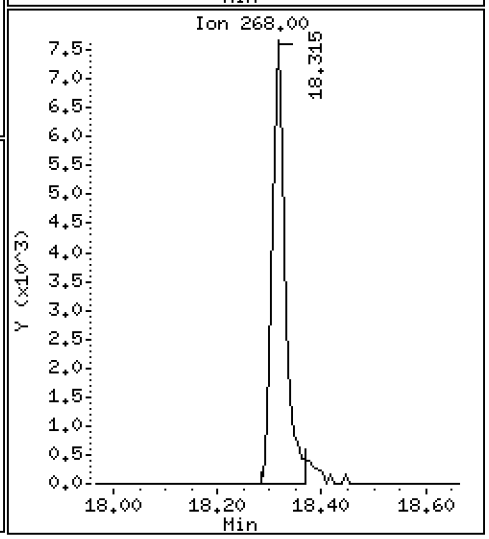












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

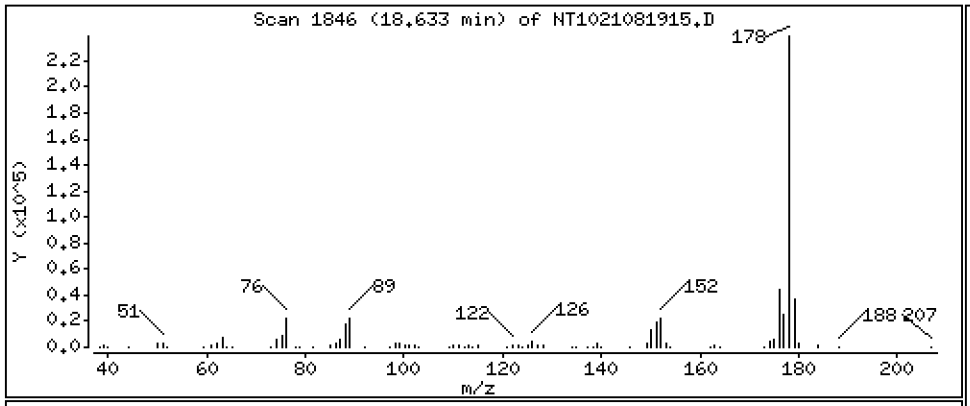
Operator: VTS

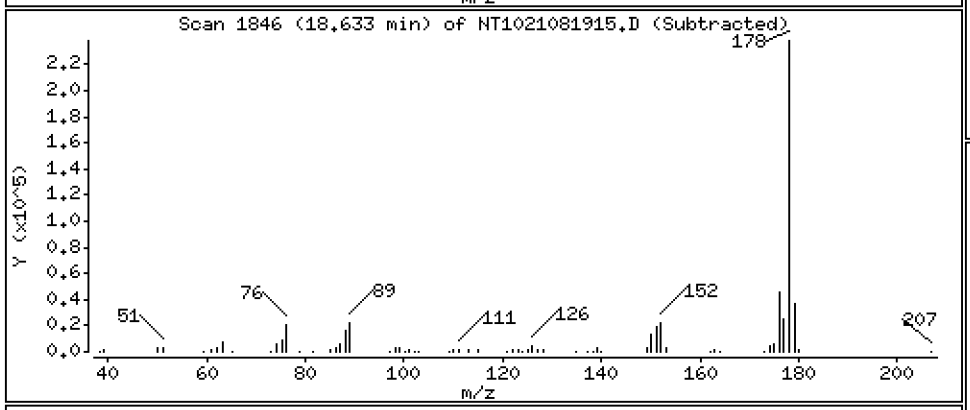
Column phase: ZB-5msi

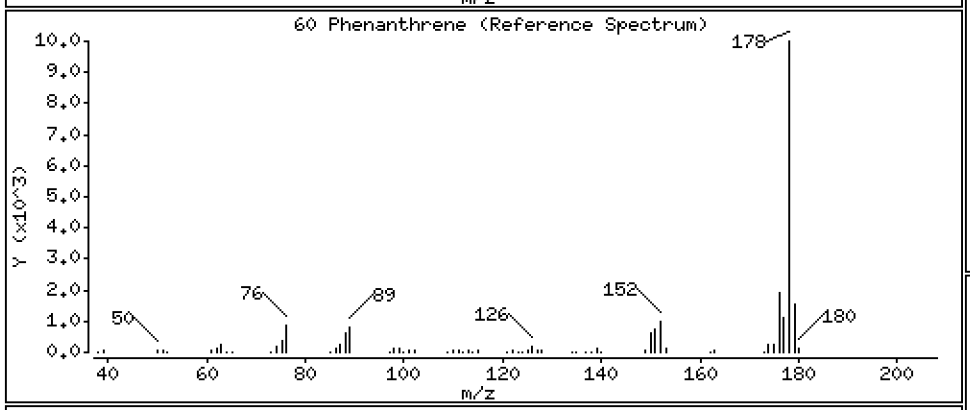
Column diameter: 0.25

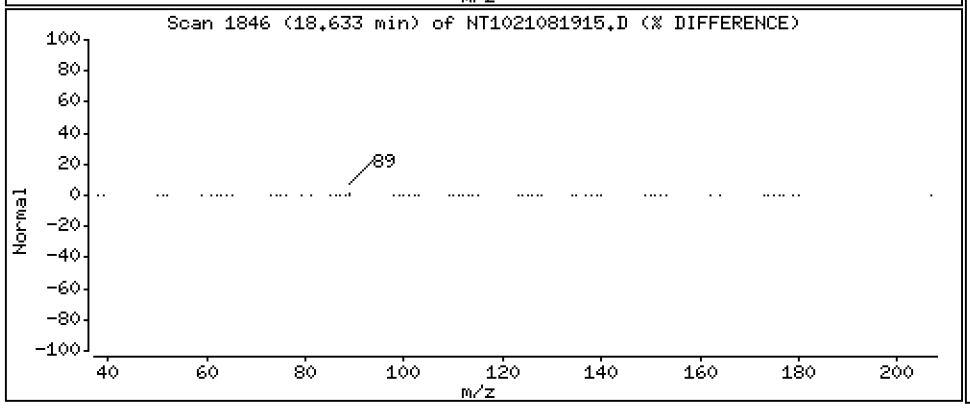
60 Phenanthrene

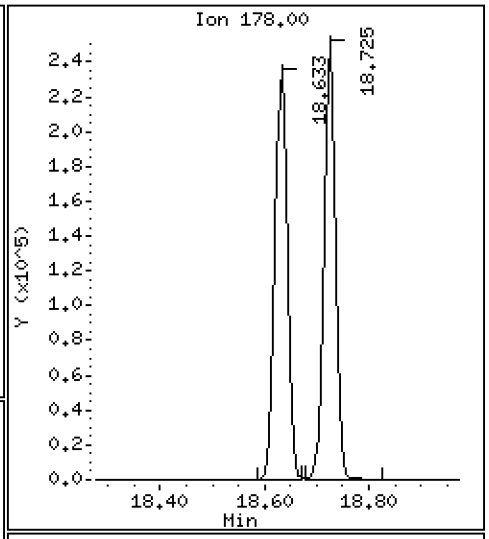
Concentration: 4.855 ug/mL

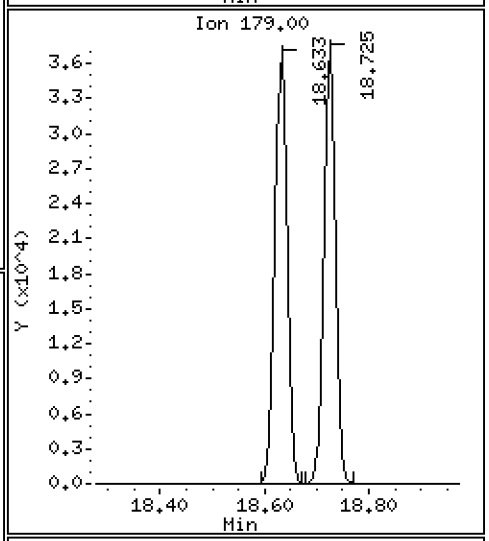


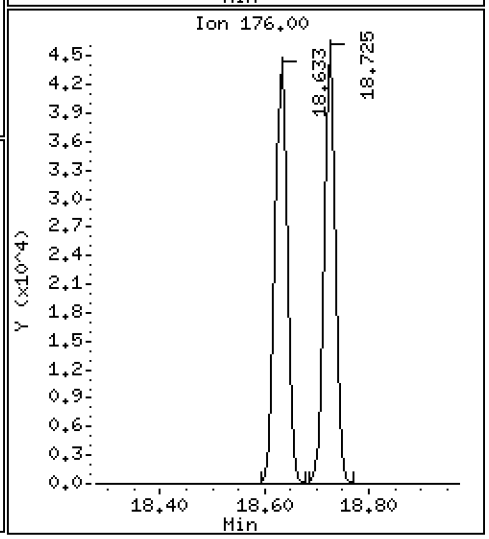












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

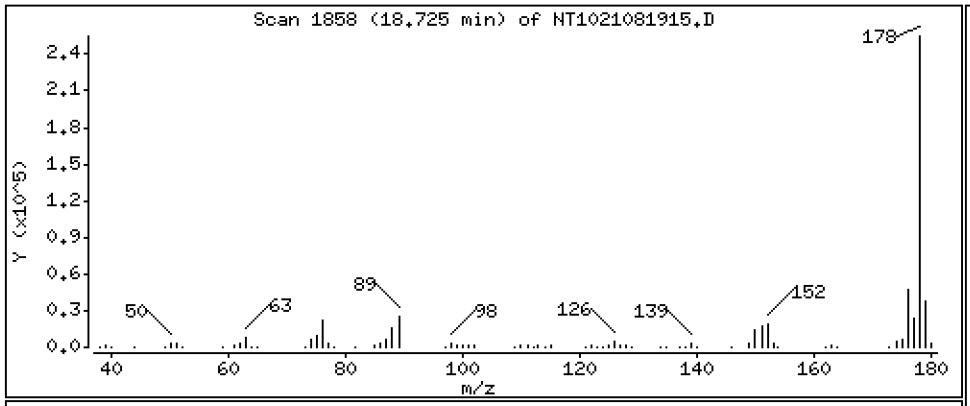
Operator: VTS

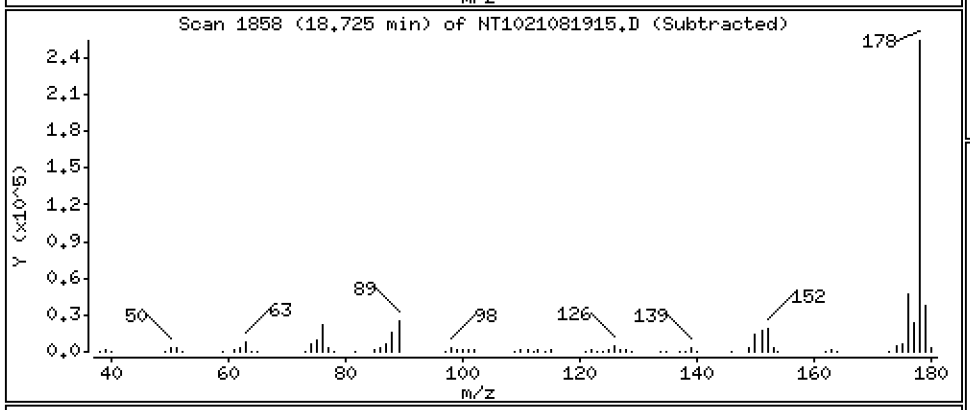
Column phase: ZB-5msi

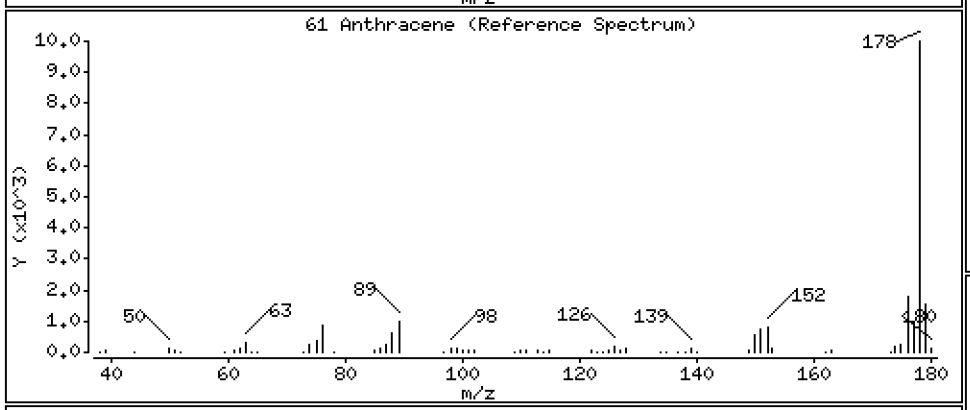
Column diameter: 0.25

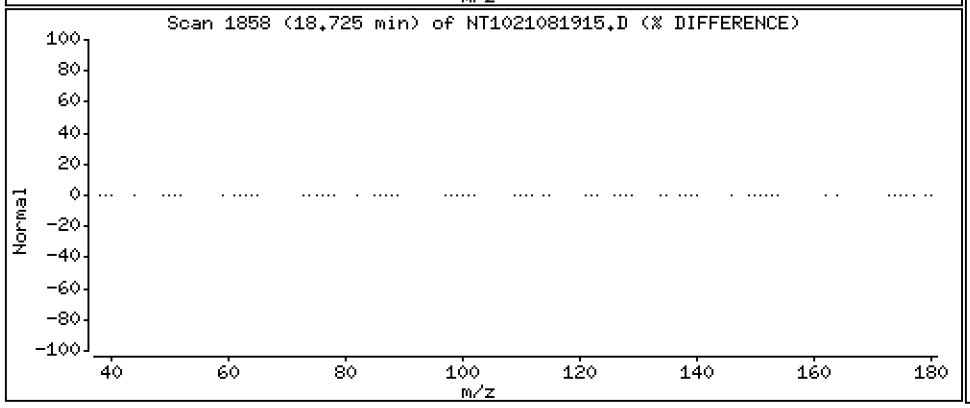
61 Anthracene

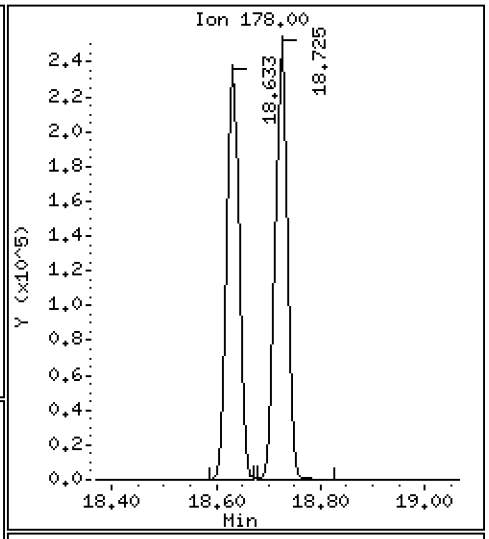
Concentration: 4.813 ug/mL

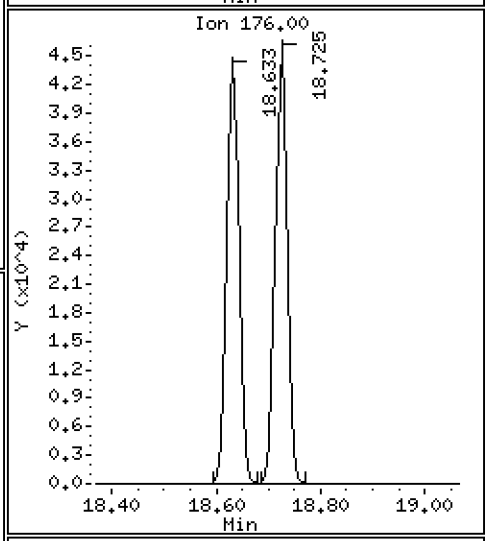


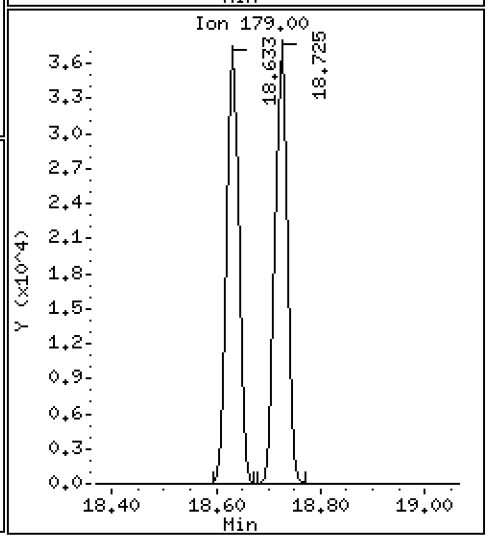












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

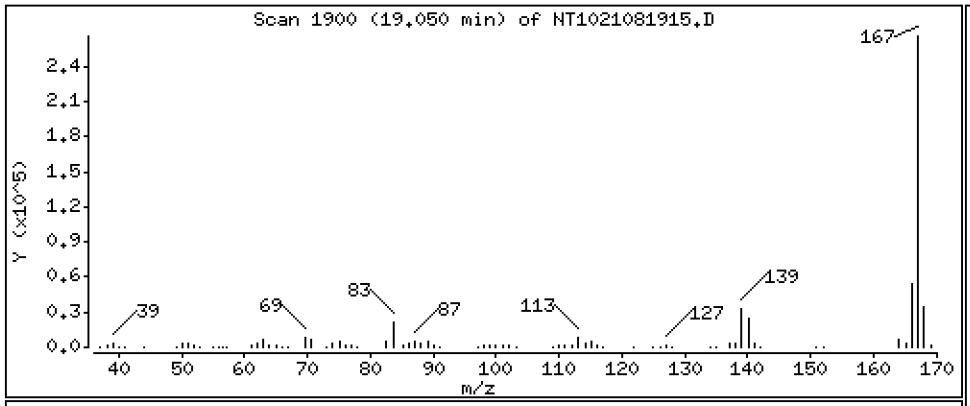
Operator: VTS

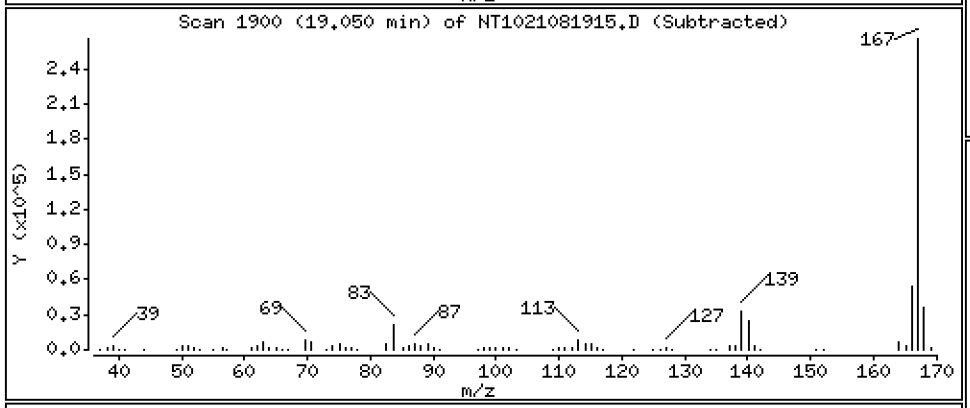
Column phase: ZB-5msi

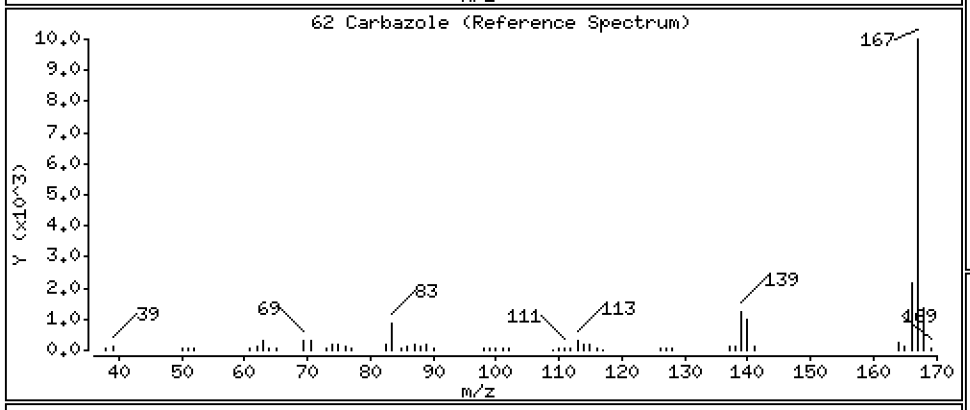
Column diameter: 0.25

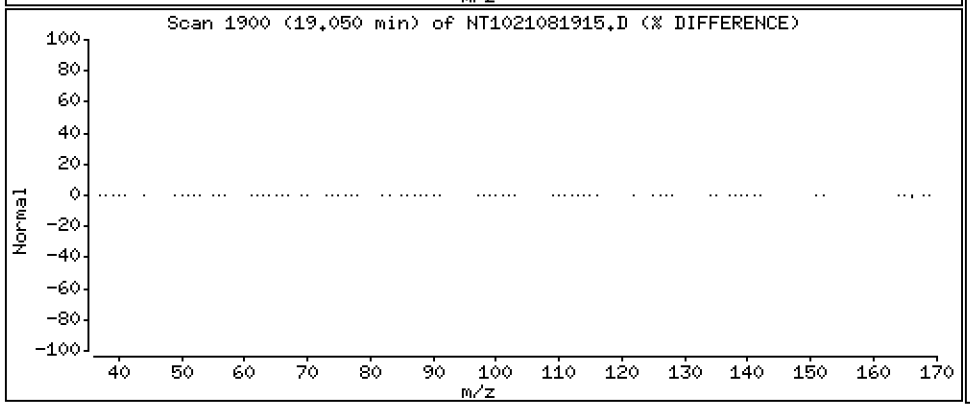
62 Carbazole

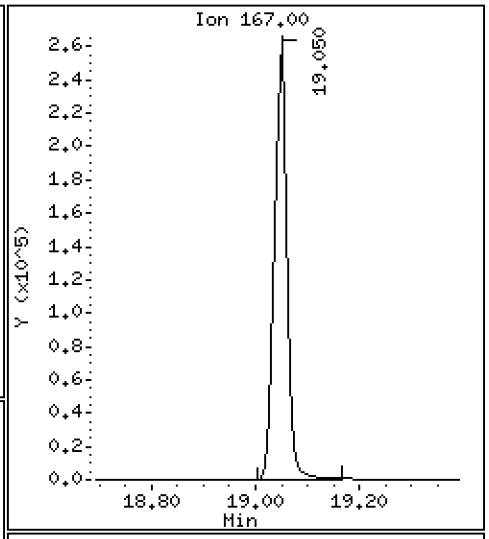
Concentration: 4.972 ug/mL

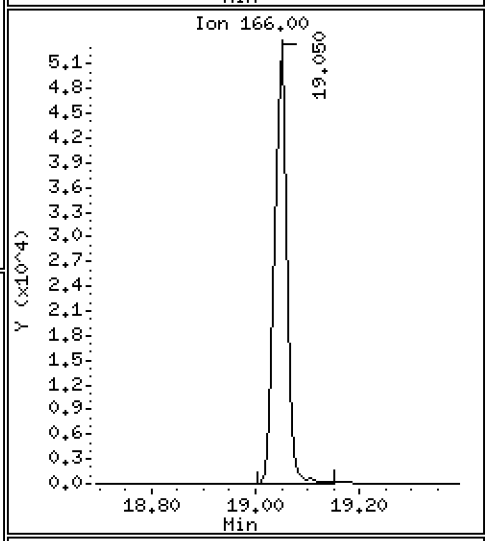


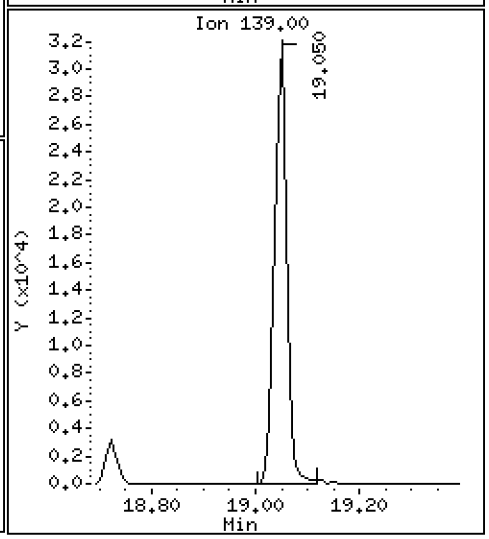












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

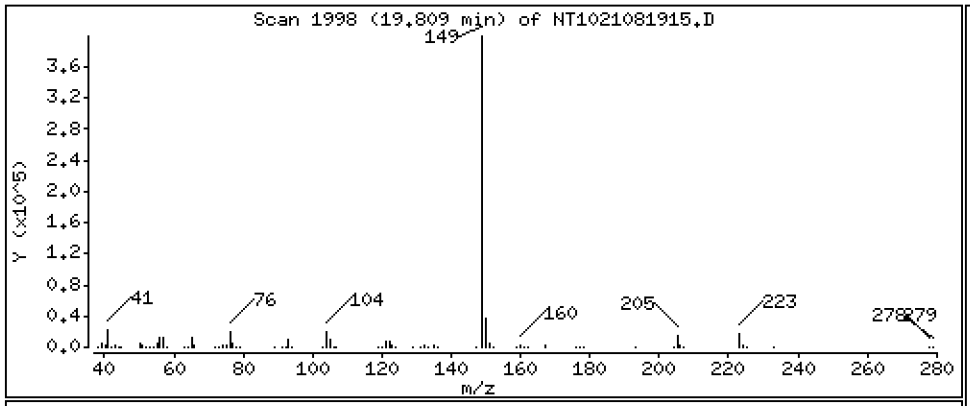
Operator: VTS

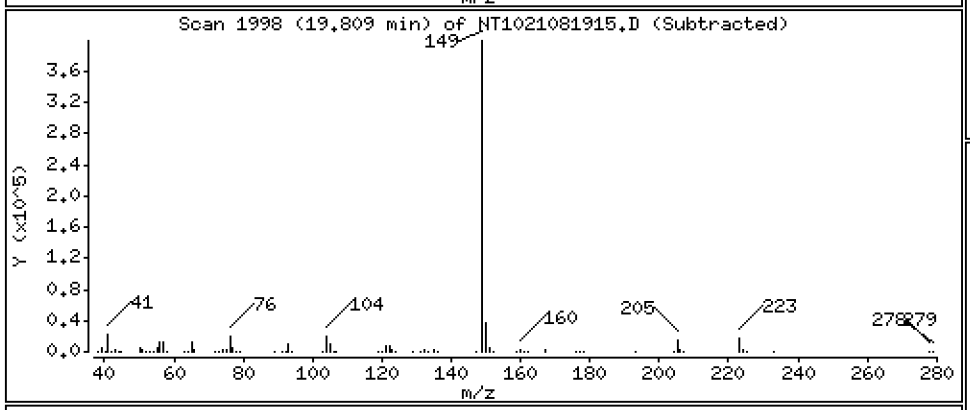
Column phase: ZB-5msi

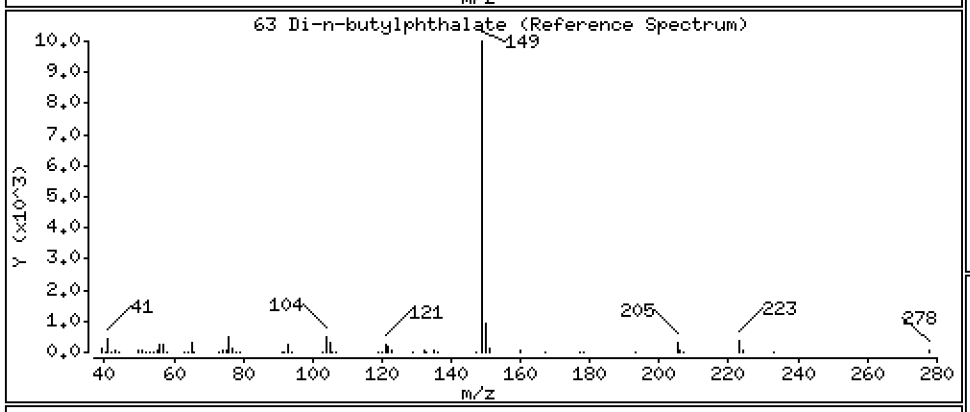
Column diameter: 0.25

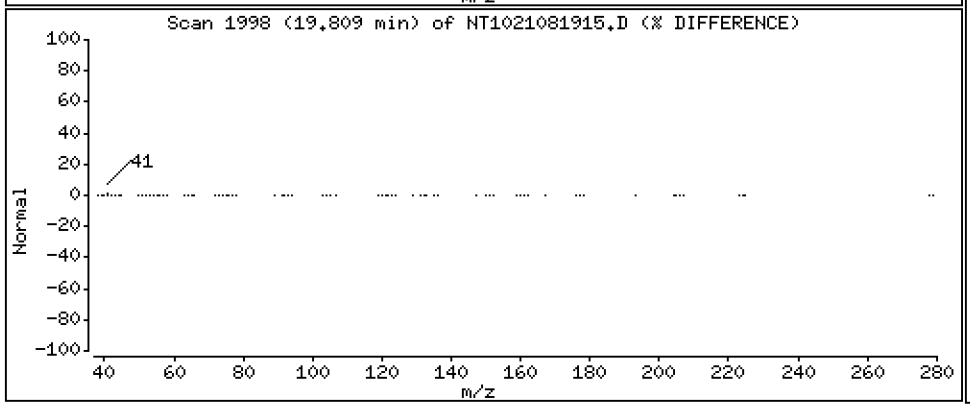
63 Di-n-butylphthalate

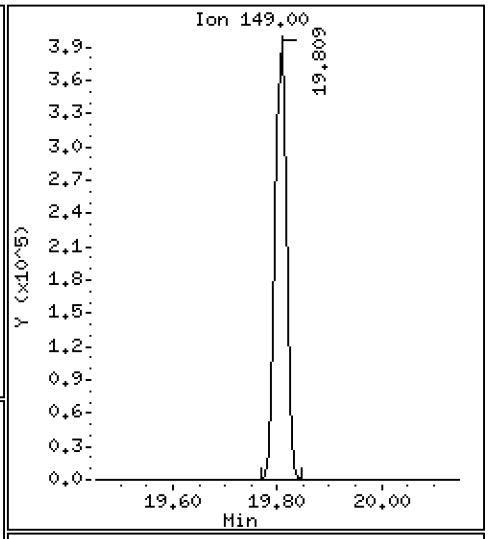
Concentration: 5.375 ug/mL

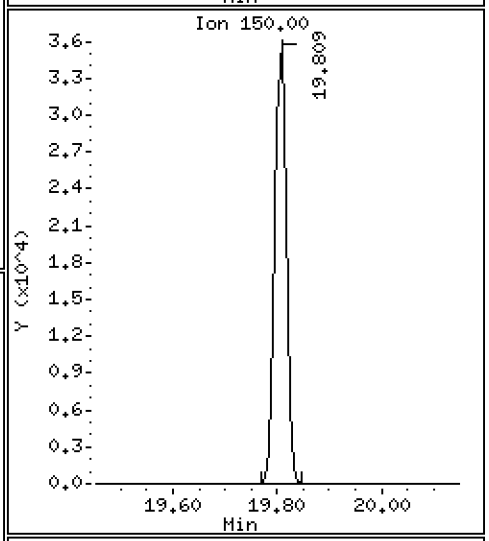


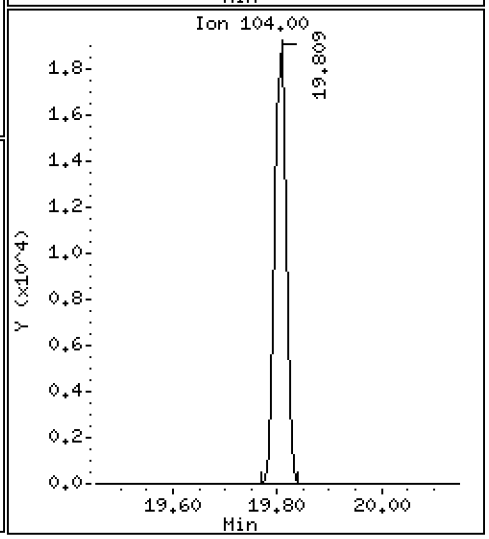












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

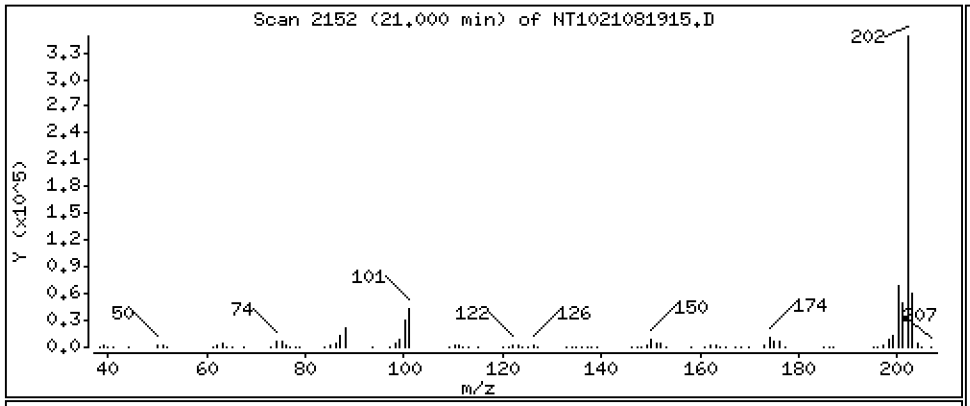
Operator: VTS

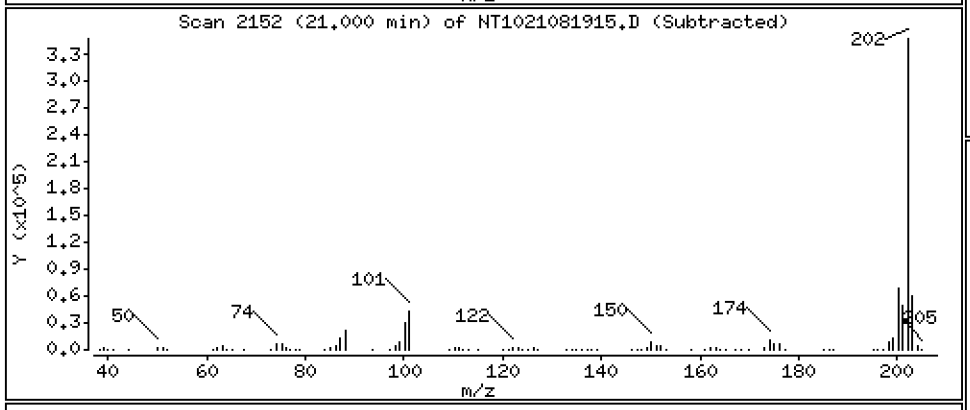
Column phase: ZB-5msi

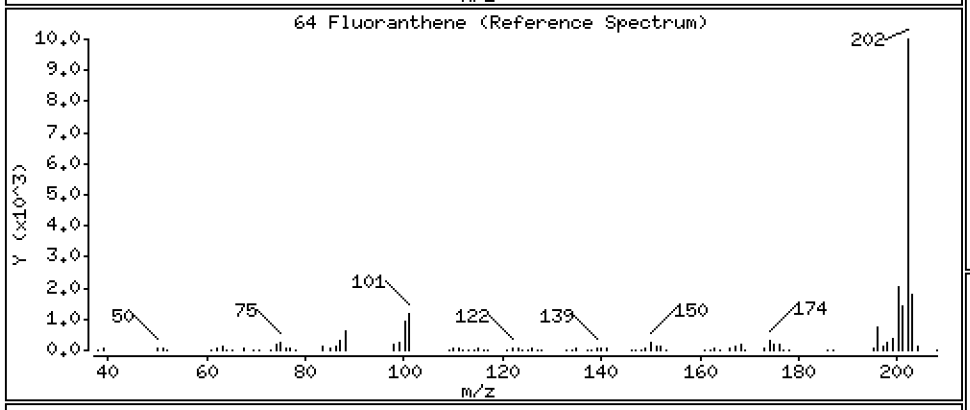
Column diameter: 0.25

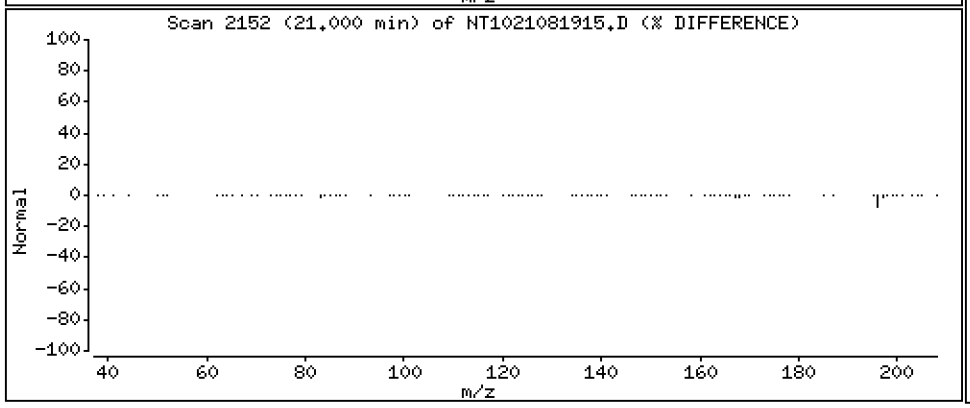
64 Fluoranthene

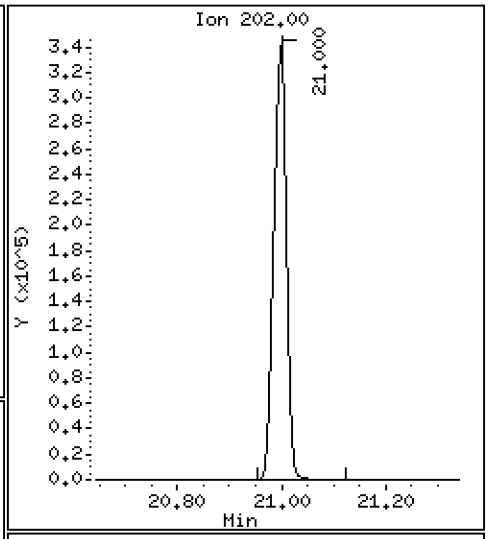
Concentration: 4.853 ug/mL

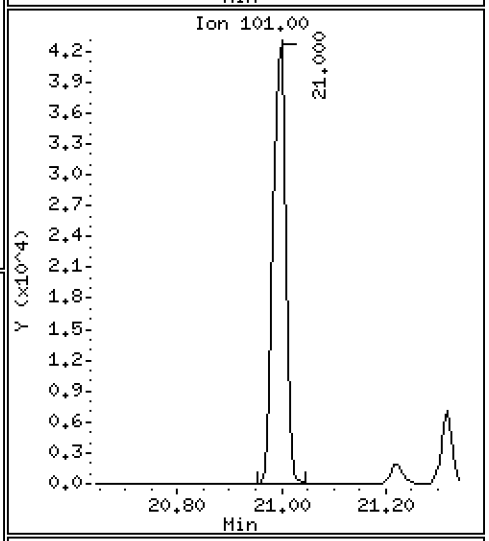


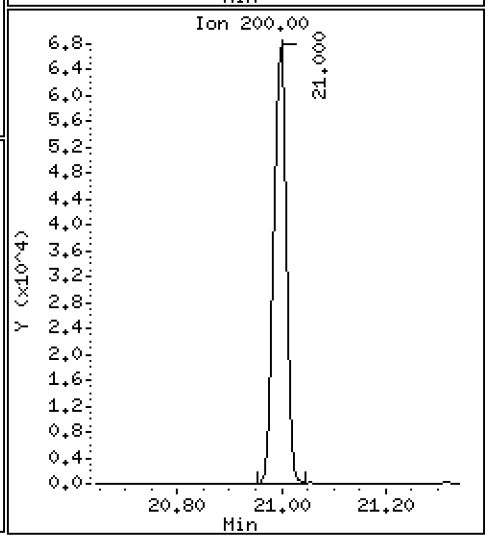












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

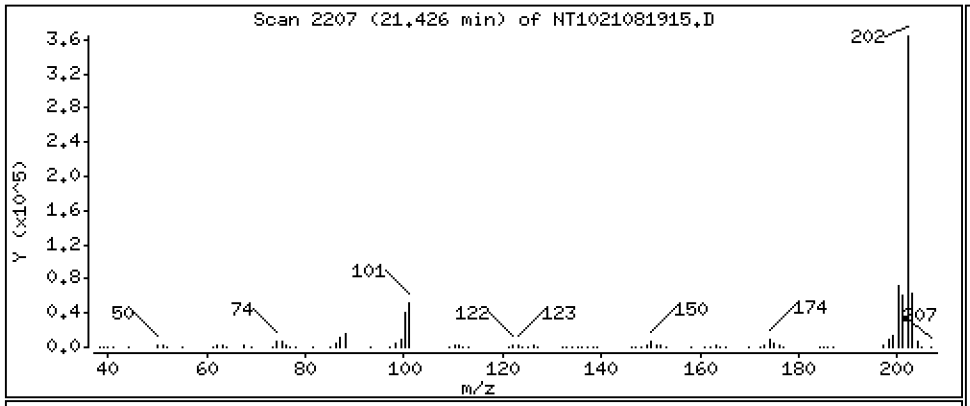
Operator: VTS

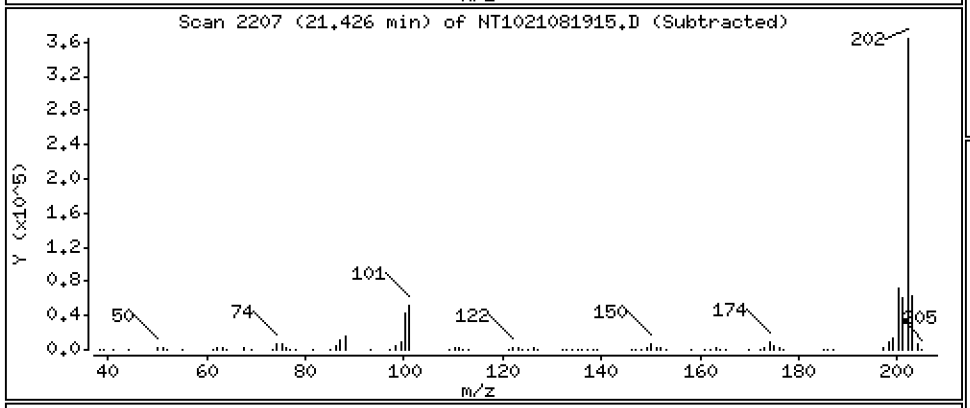
Column phase: ZB-5msi

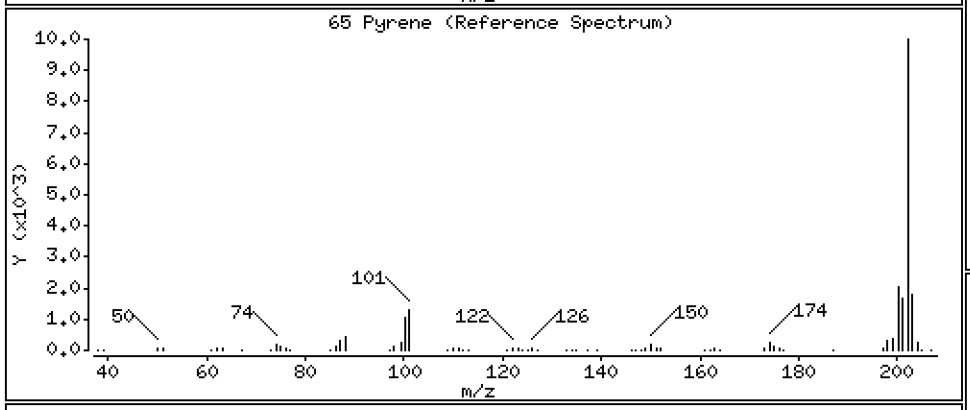
Column diameter: 0.25

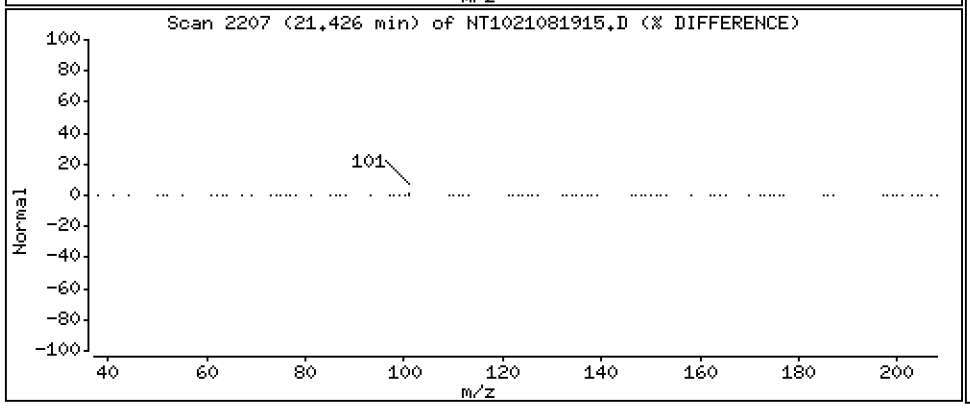
65 Pyrene

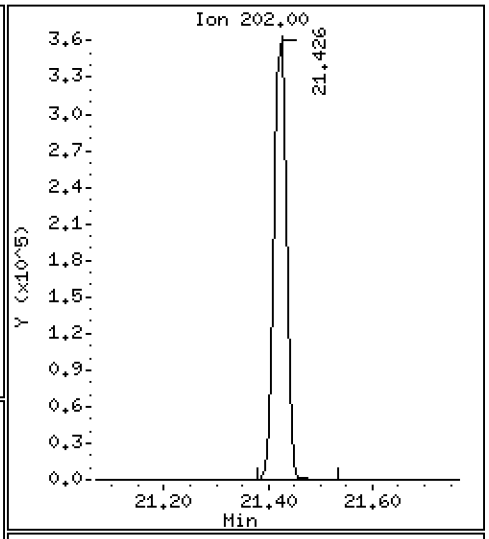
Concentration: 4.862 ug/mL

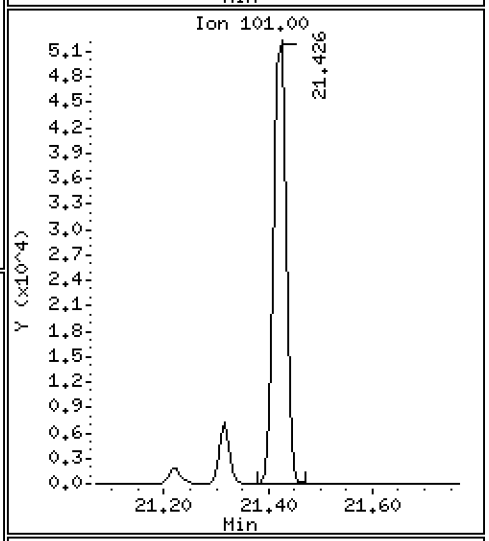


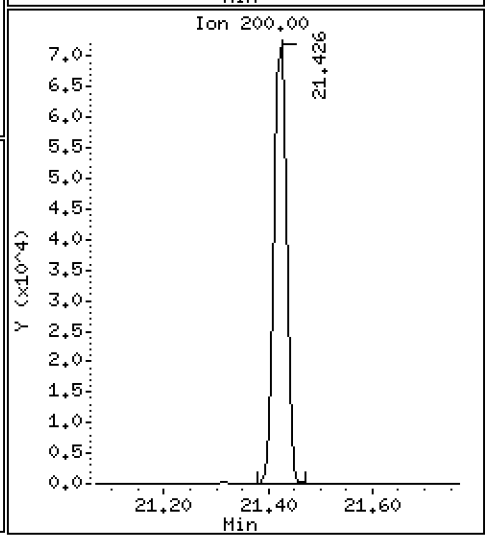












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

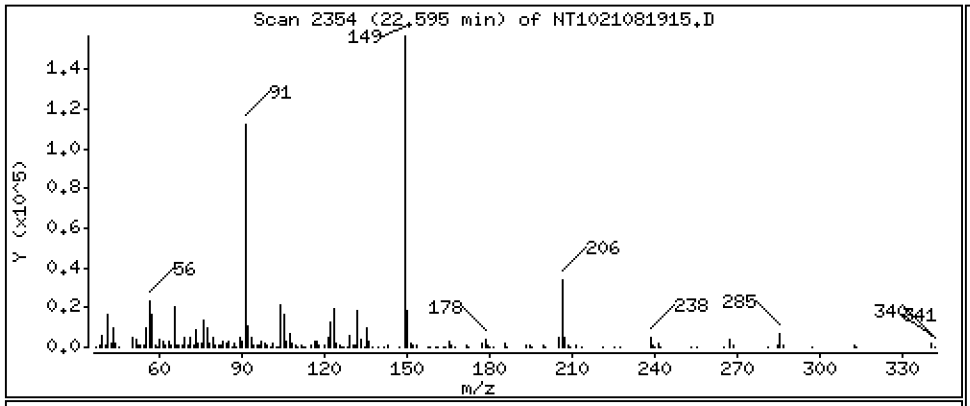
Operator: VTS

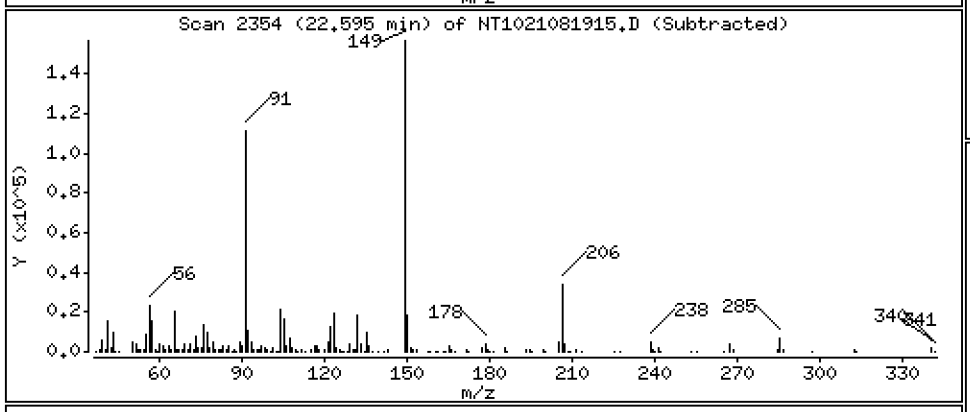
Column phase: ZB-5msi

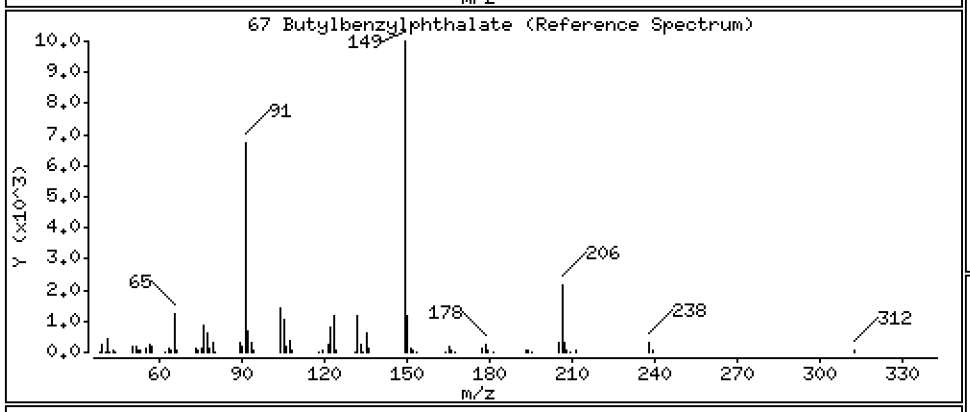
Column diameter: 0.25

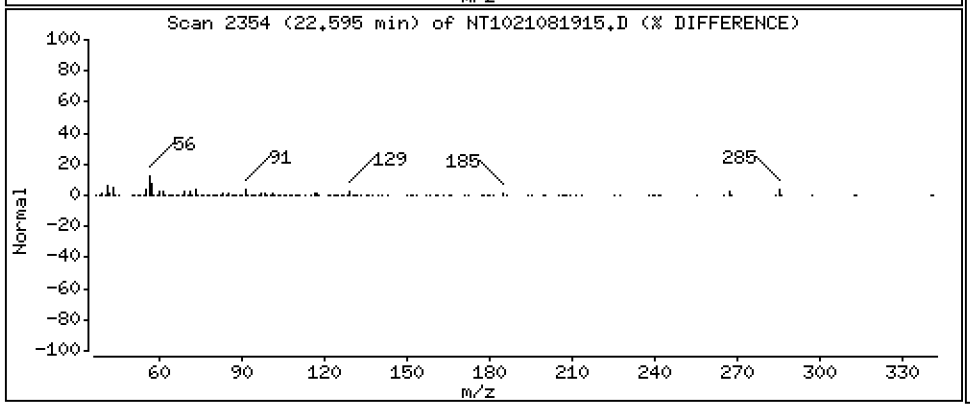
67 Butylbenzylphthalate

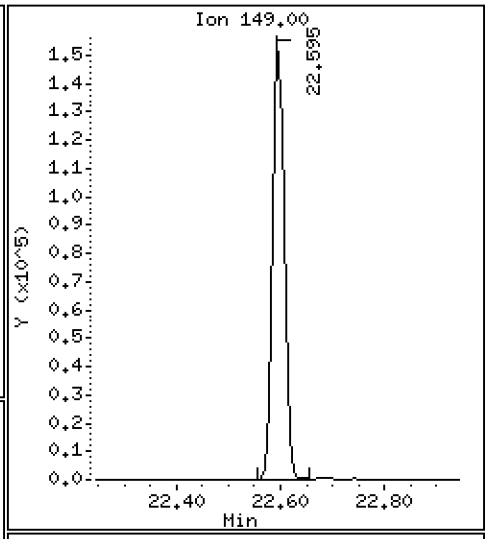
Concentration: 4.889 ug/mL

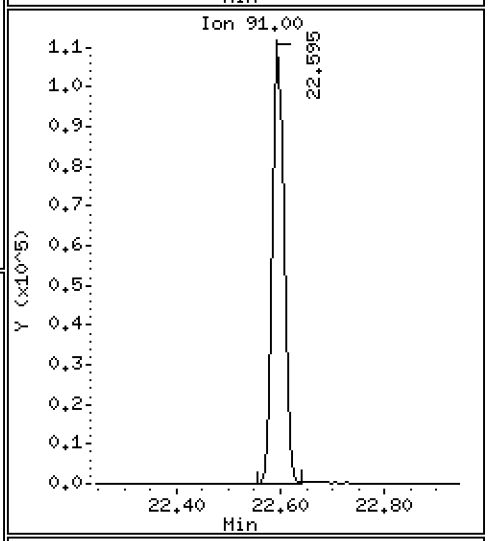


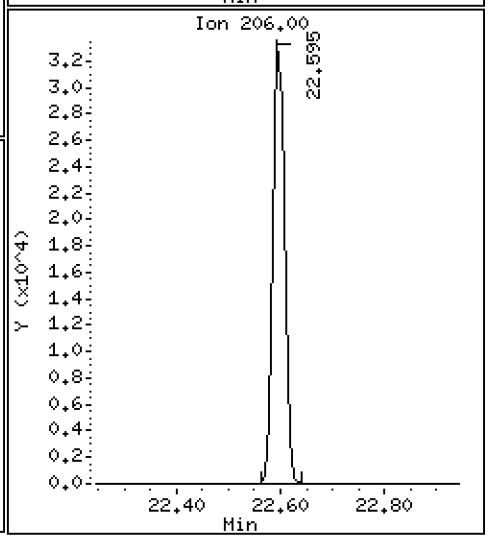












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

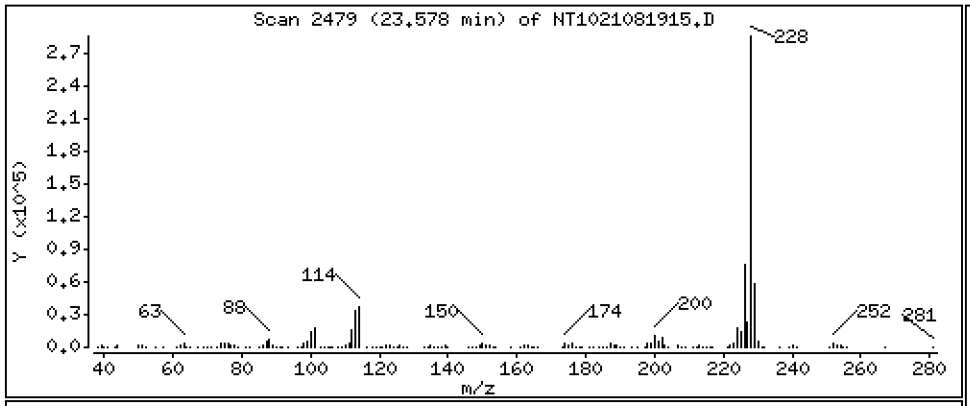
Operator: VTS

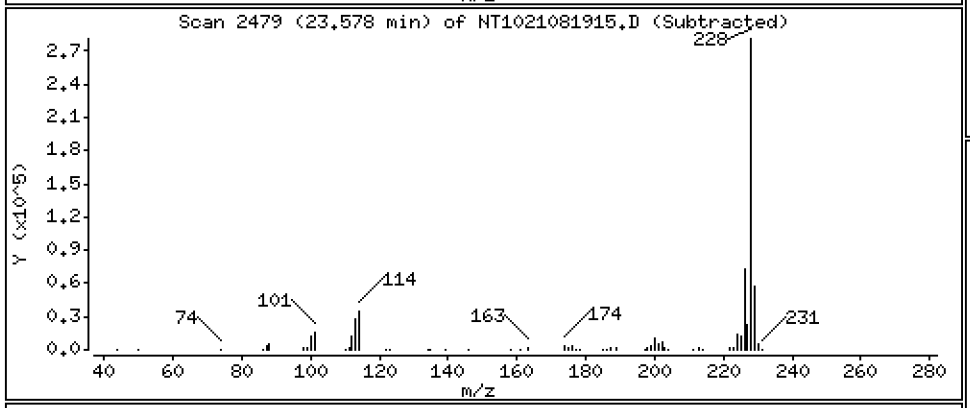
Column phase: ZB-5msi

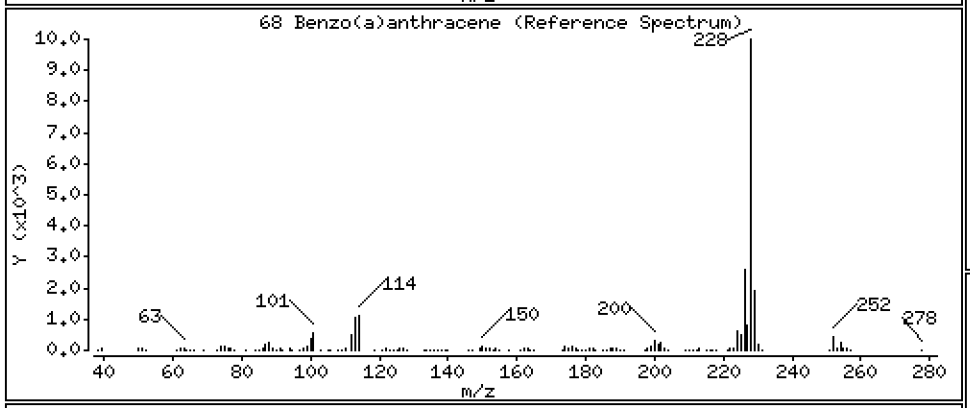
Column diameter: 0.25

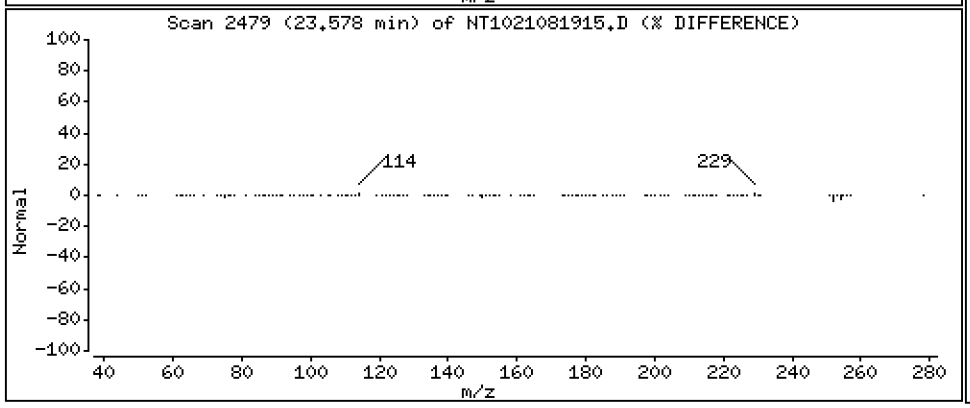
68 Benzo(a)anthracene

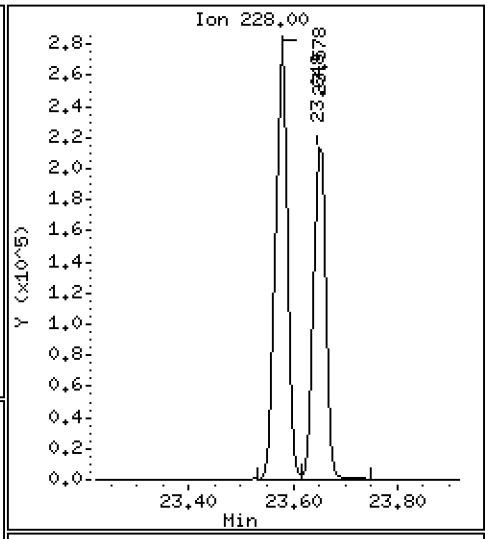
Concentration: 4.800 ug/mL

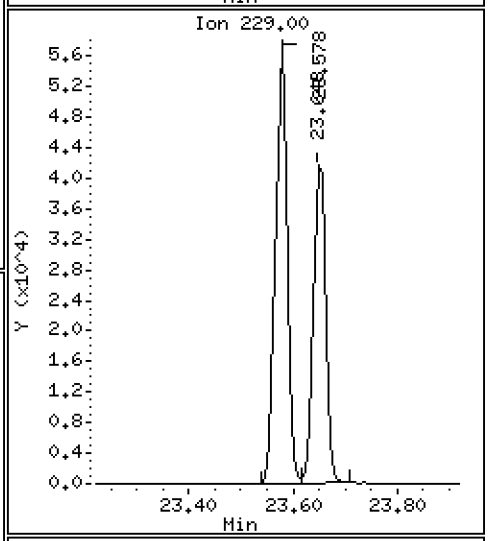


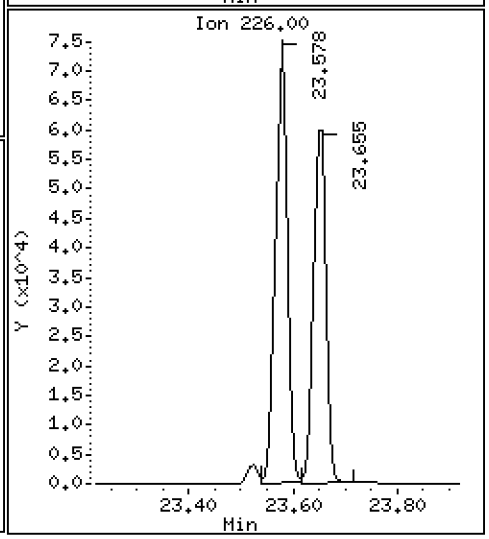












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

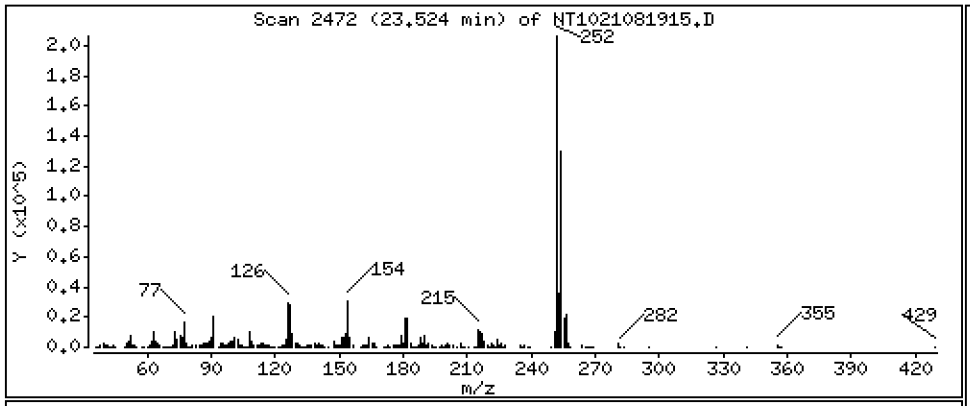
Operator: VTS

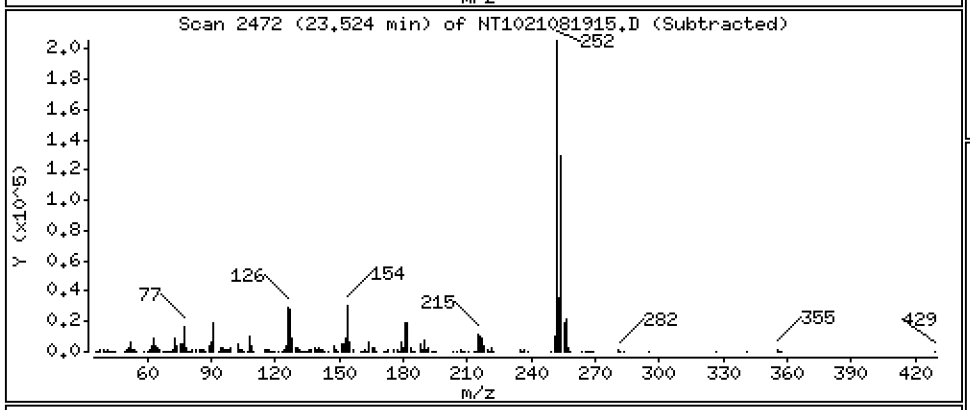
Column phase: ZB-5msi

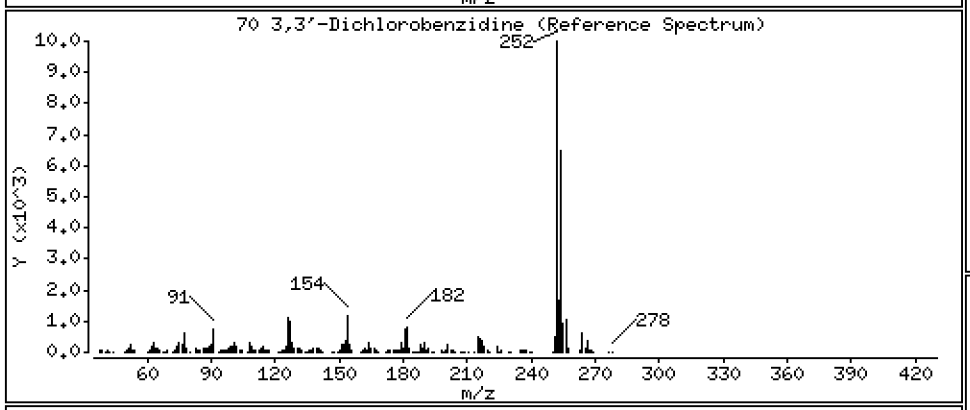
Column diameter: 0.25

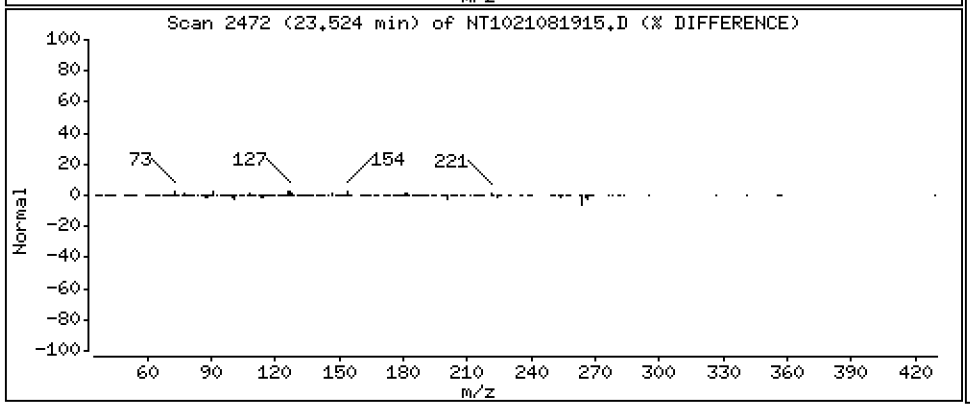
70 3,3'-Dichlorobenzidine

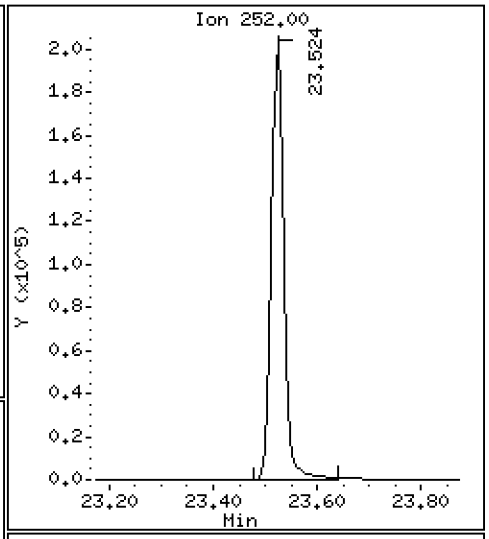
Concentration: 8.830 ug/mL

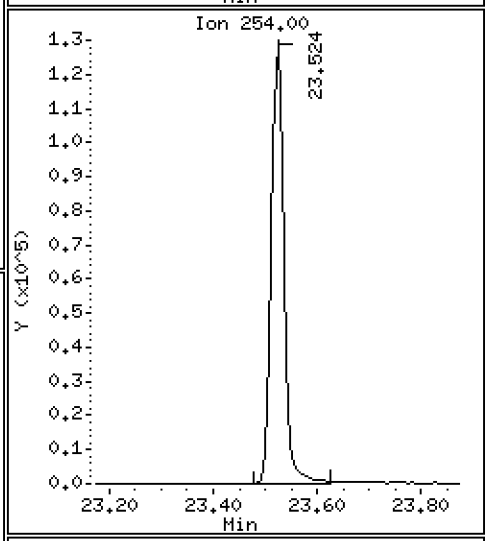


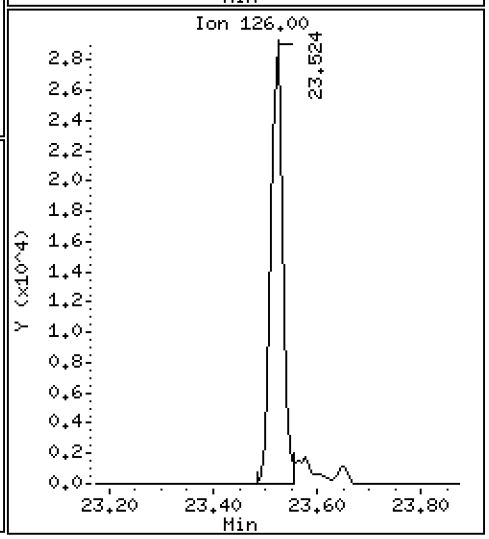












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

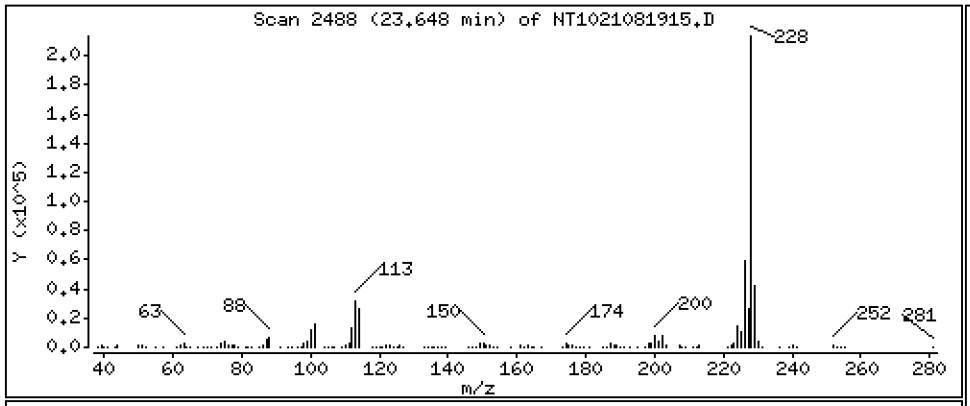
Operator: VTS

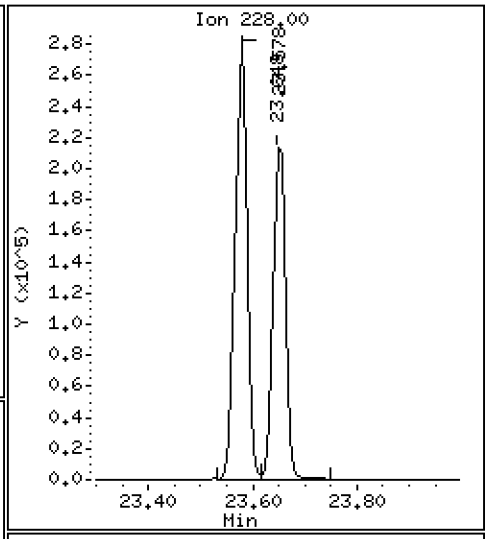
Column phase: ZB-5msi

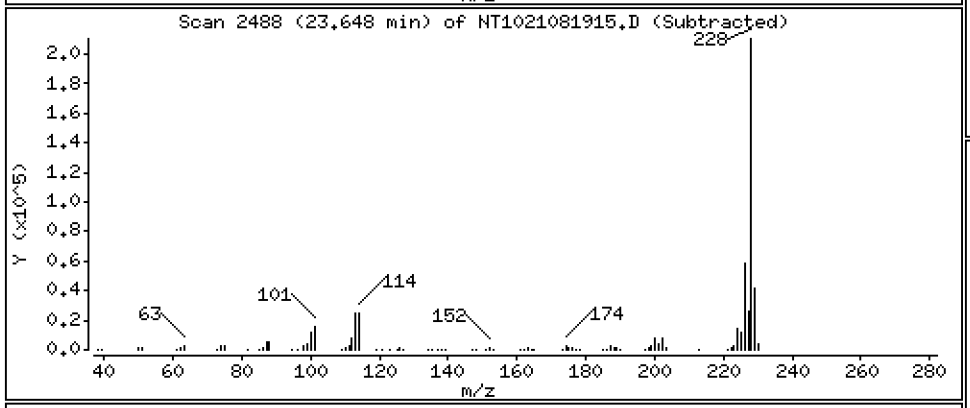
Column diameter: 0.25

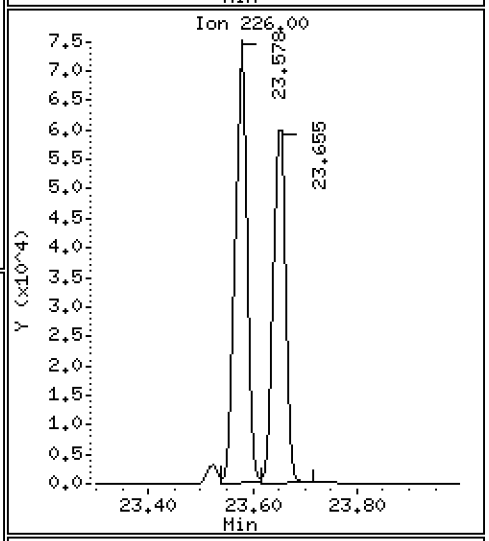
71 Chrysene

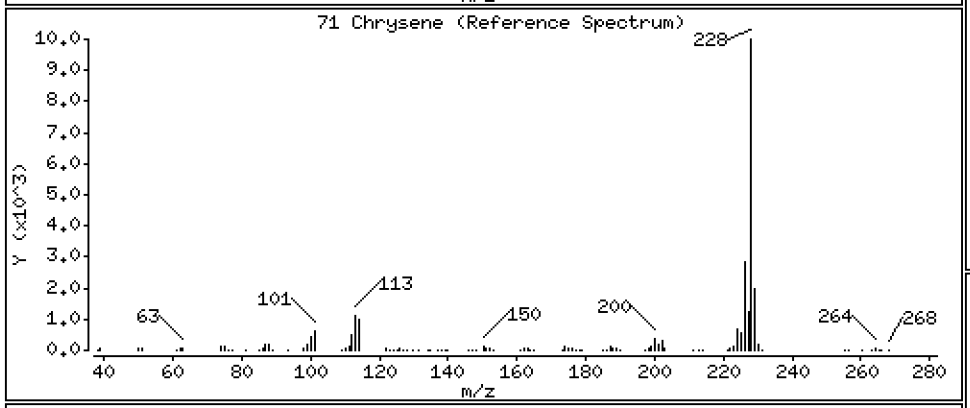
Concentration: 4.687 ug/mL

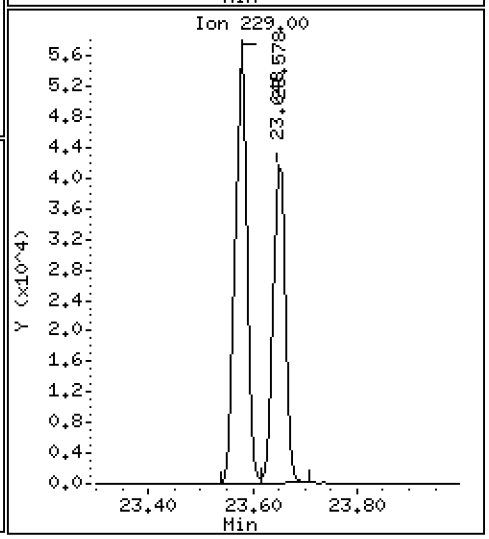


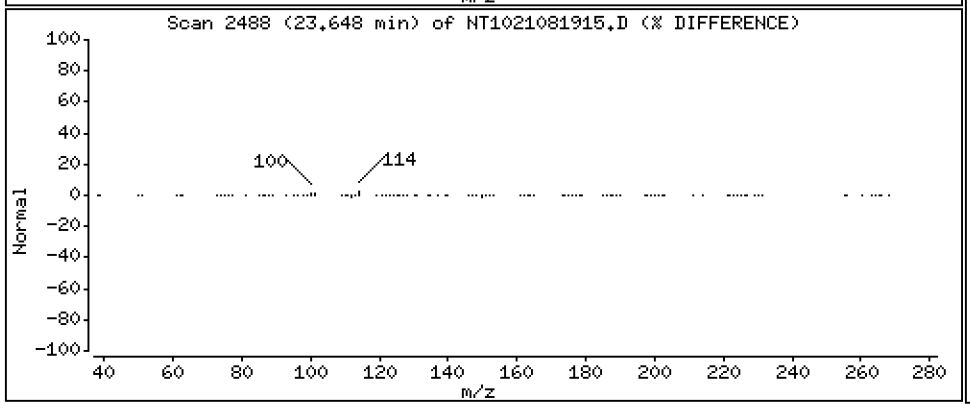












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

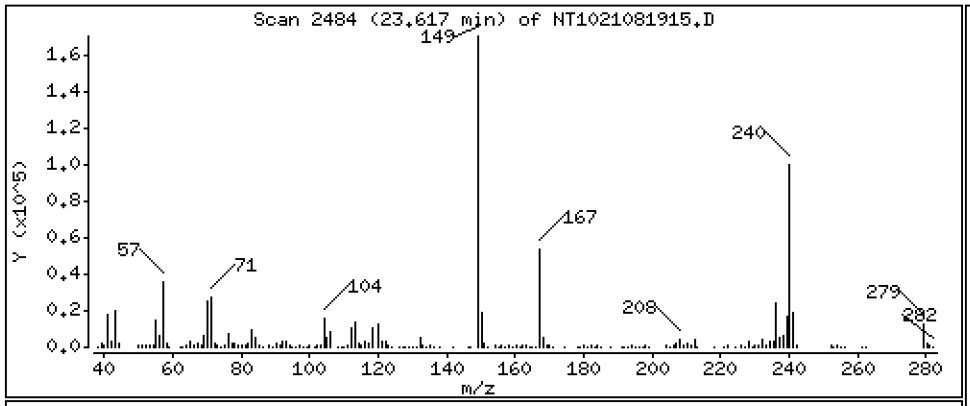
Operator: VTS

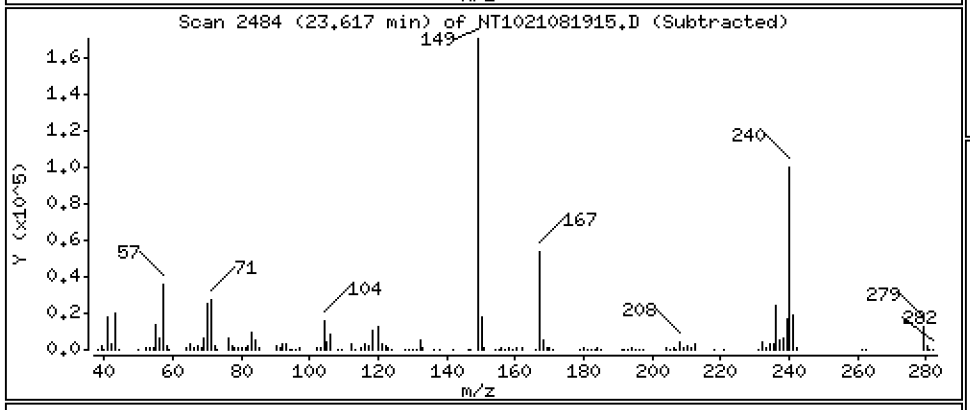
Column phase: ZB-5msi

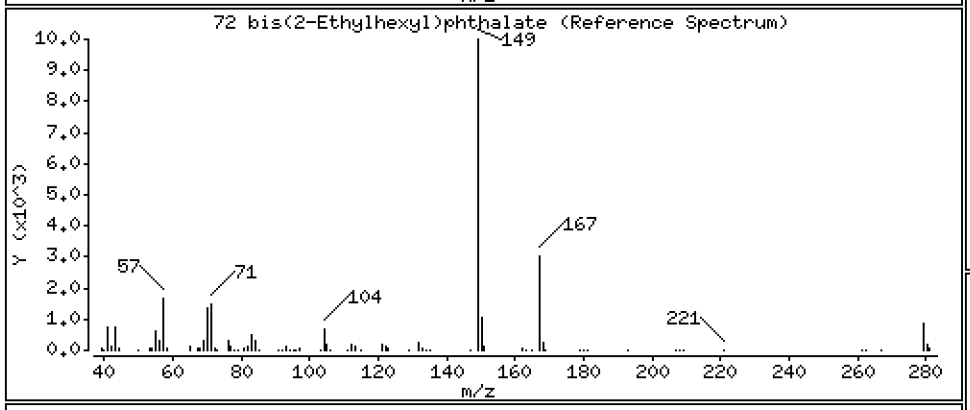
Column diameter: 0.25

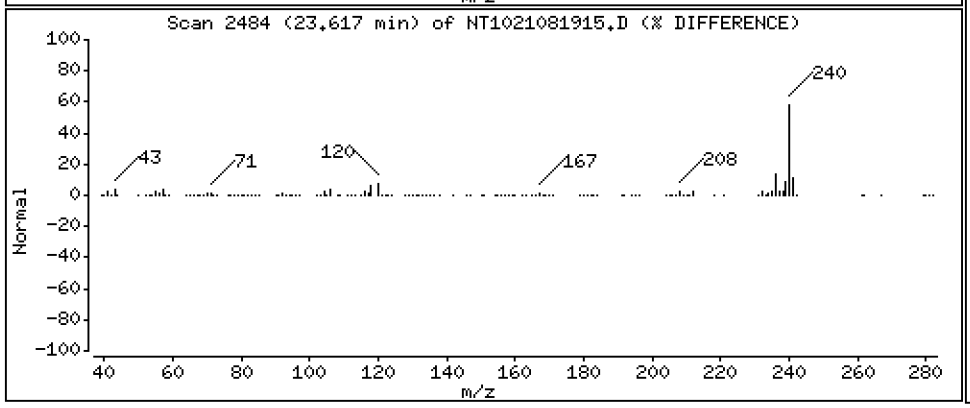
72 bis(2-Ethylhexyl)phthalate

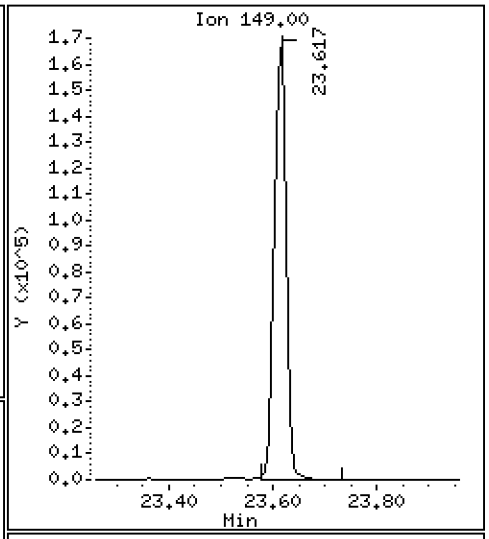
Concentration: 5.362 ug/mL

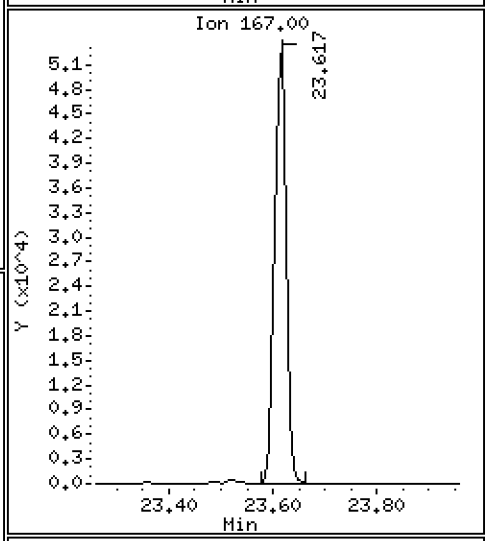


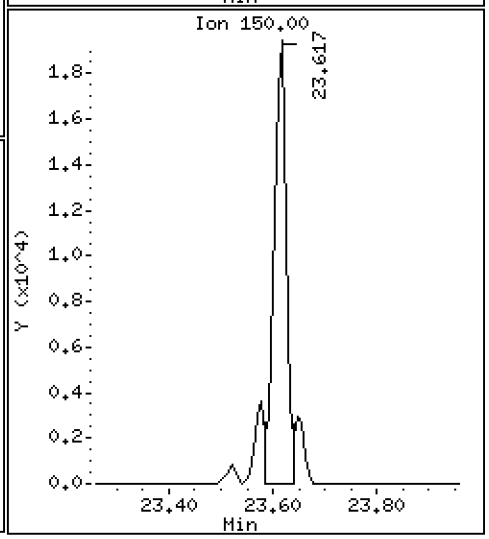












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

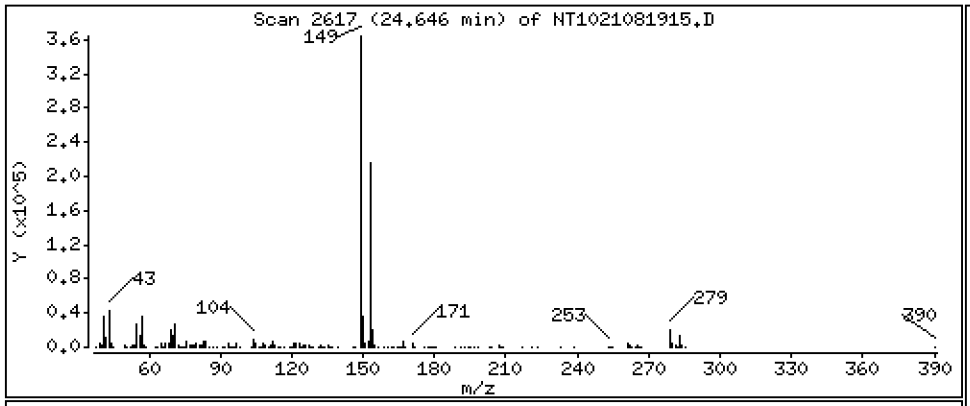
Operator: VTS

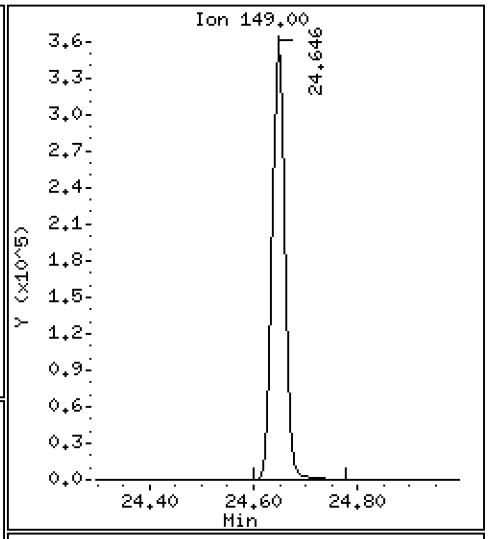
Column phase: ZB-5msi

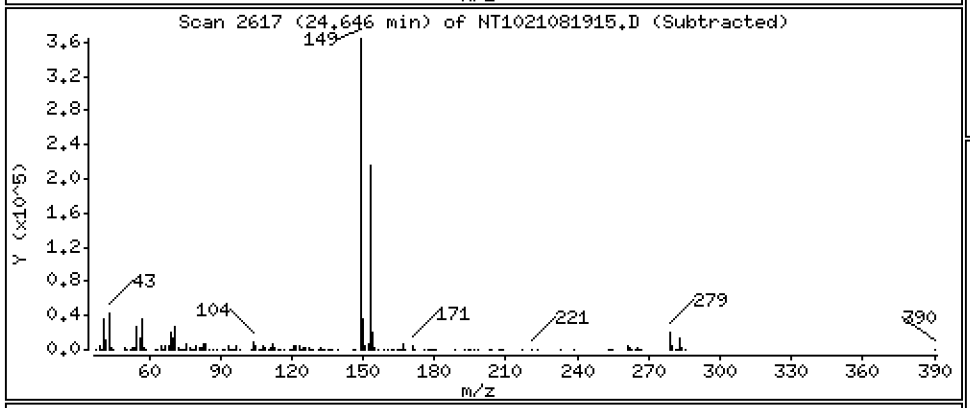
Column diameter: 0.25

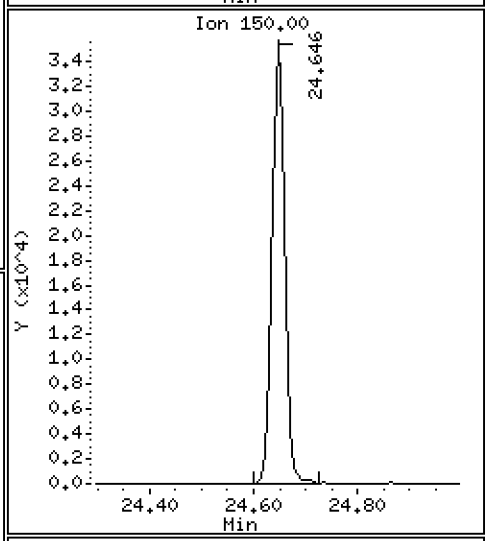
73 Di-n-octylphthalate

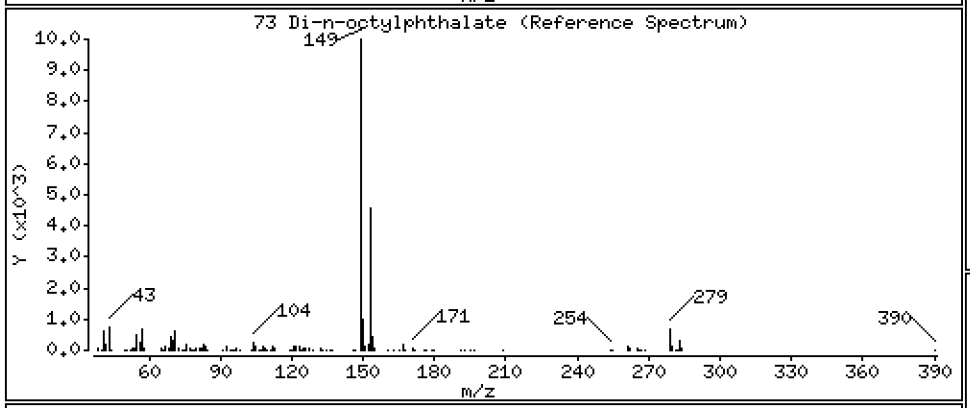
Concentration: 5.228 ug/mL

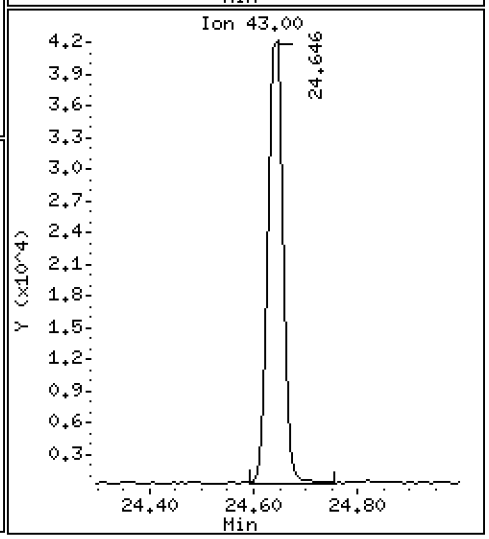


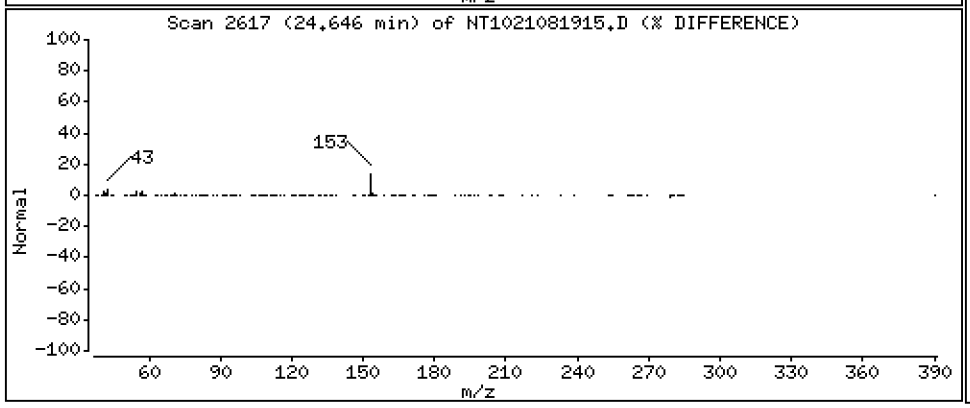












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

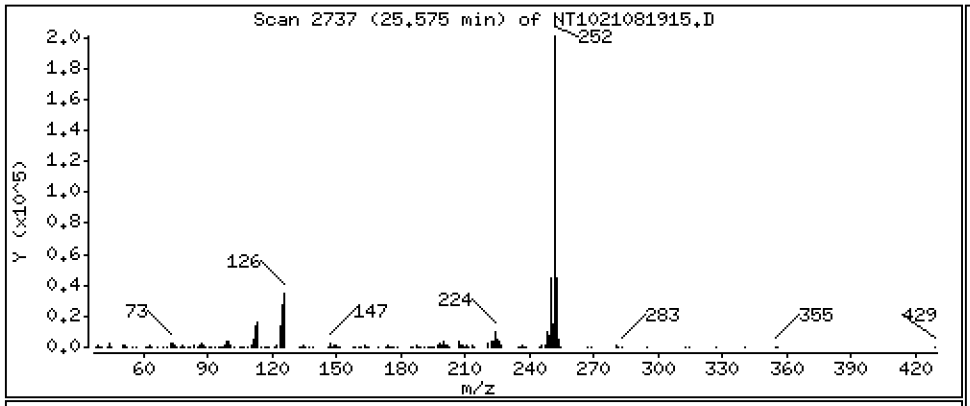
Operator: VTS

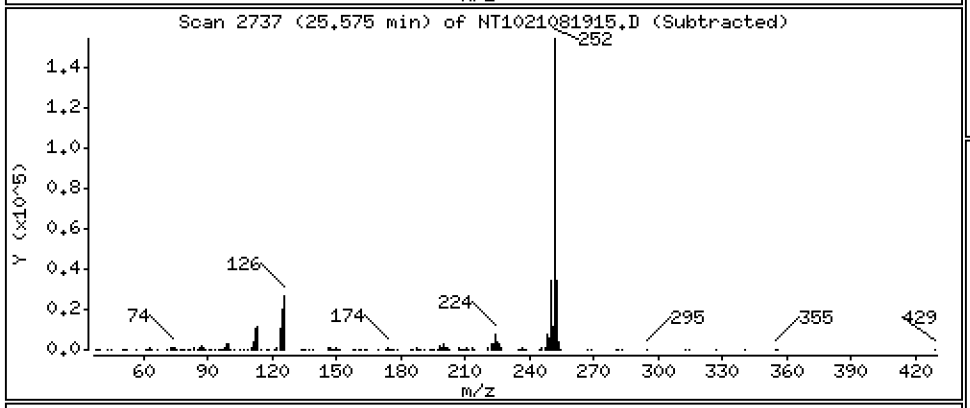
Column phase: ZB-5msi

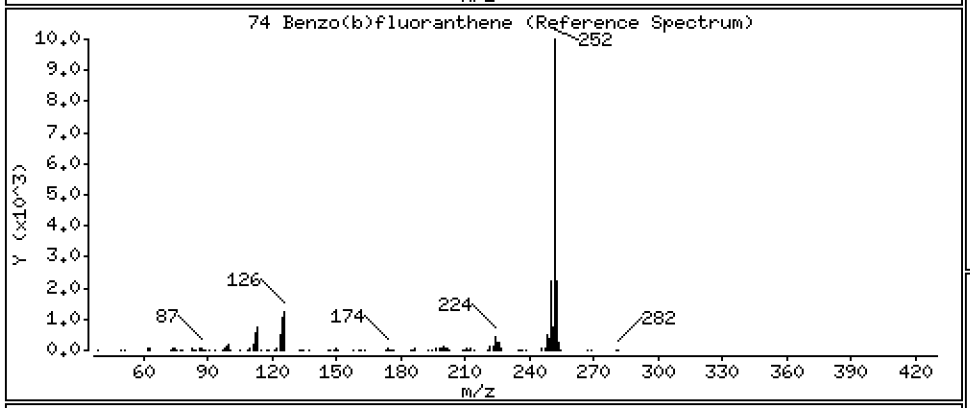
Column diameter: 0.25

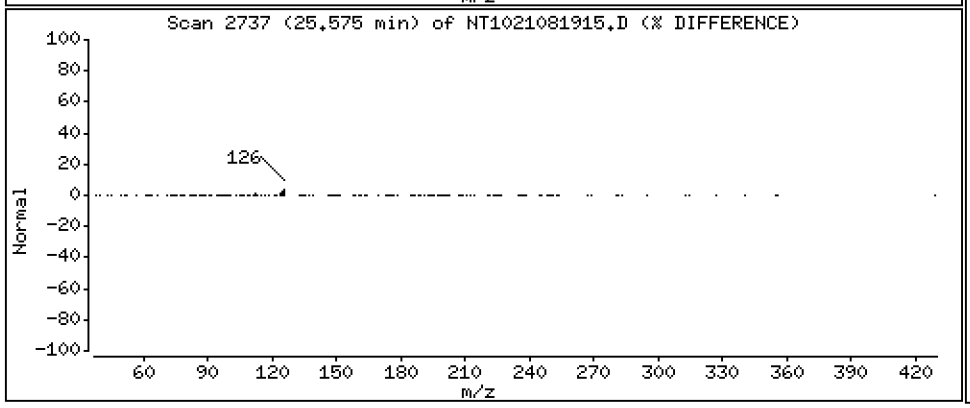
74 Benzo(b)fluoranthene

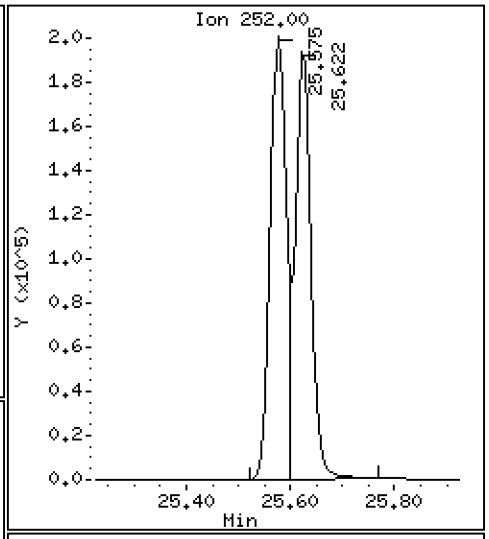
Concentration: 4.877 ug/mL

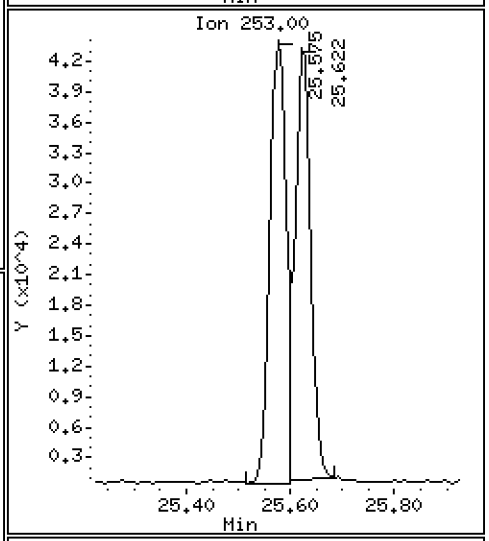


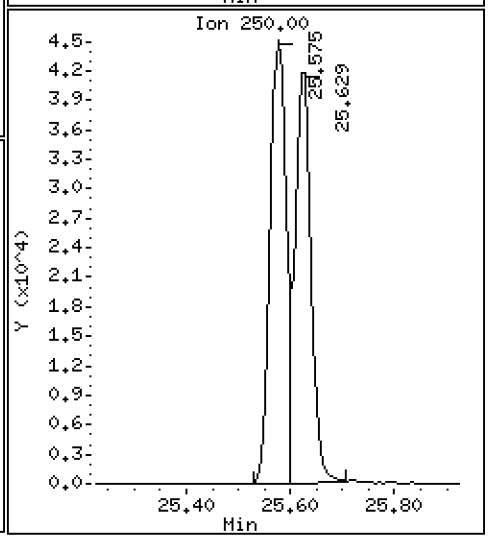












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

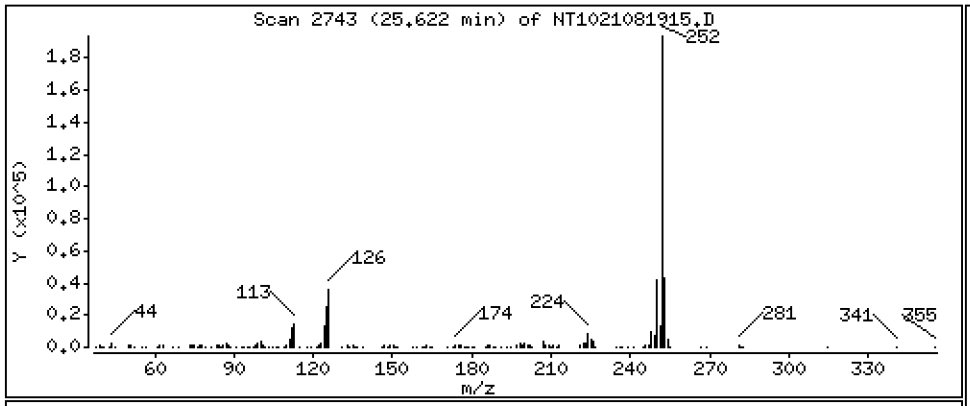
Operator: VTS

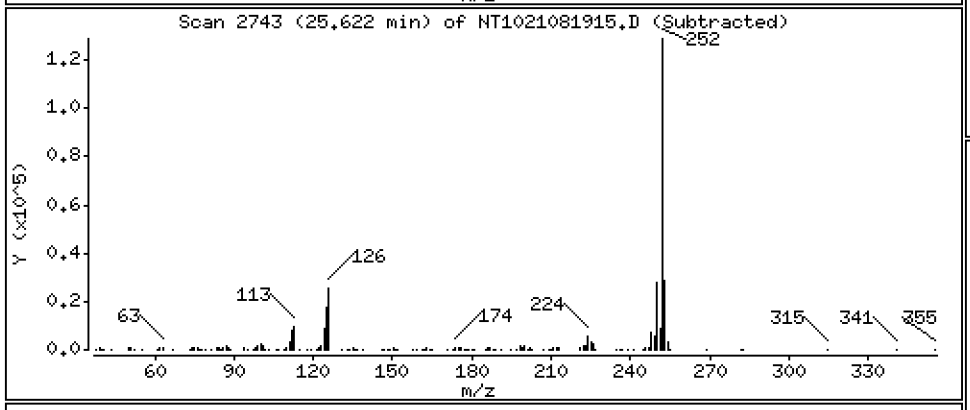
Column phase: ZB-5msi

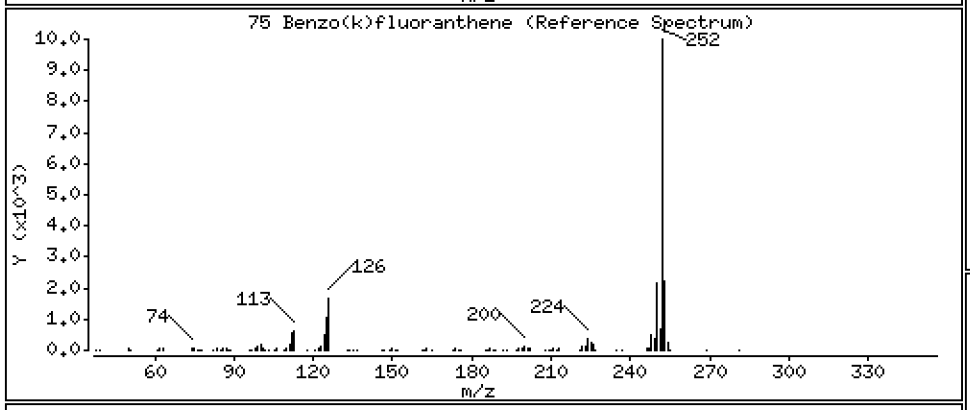
Column diameter: 0.25

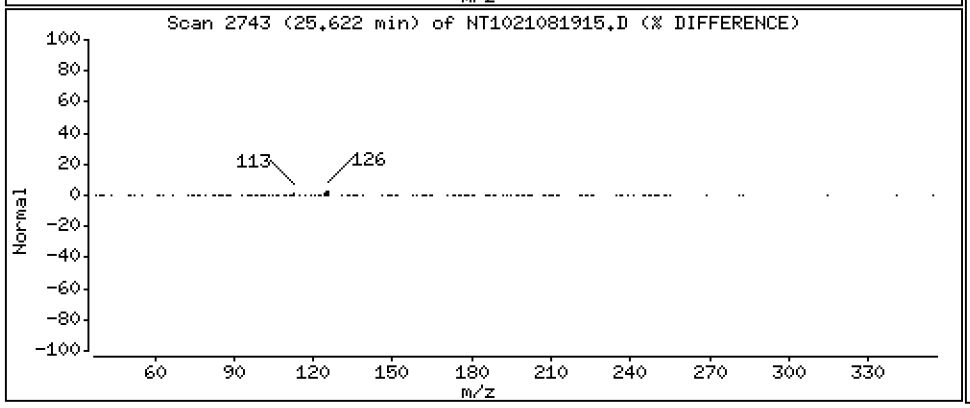
75 Benzo(k)fluoranthene

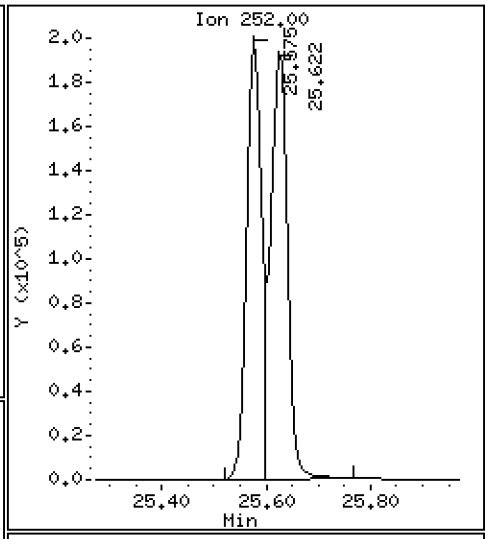
Concentration: 5.195 ug/mL

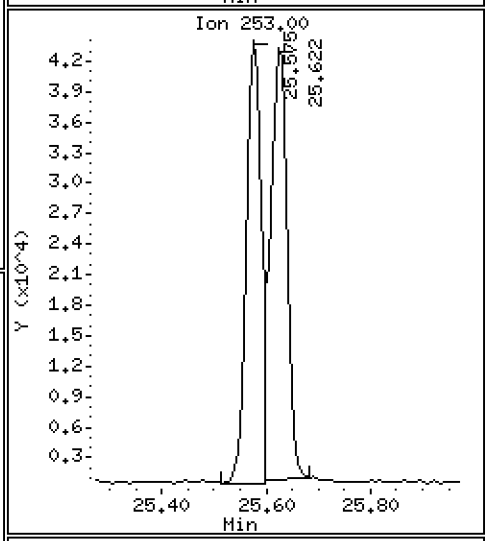


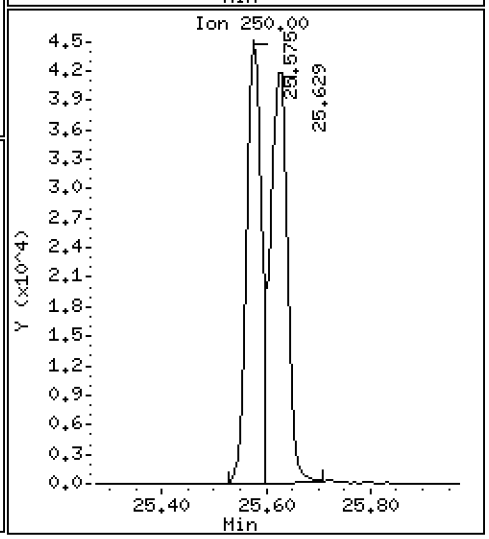












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

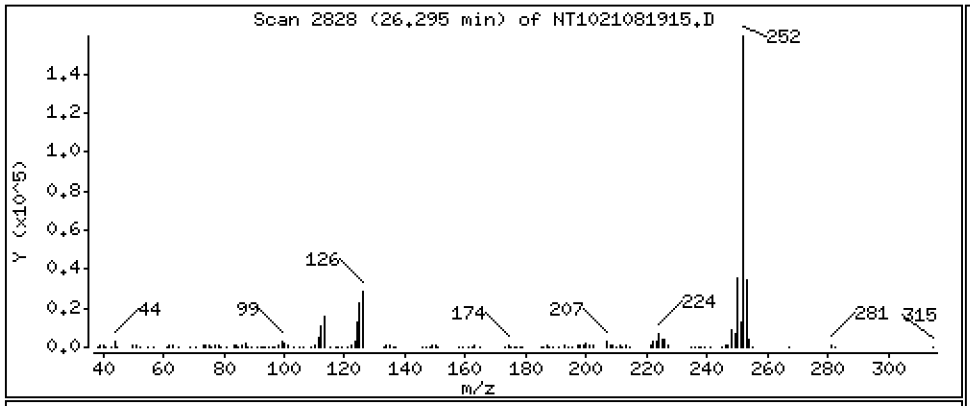
Operator: VTS

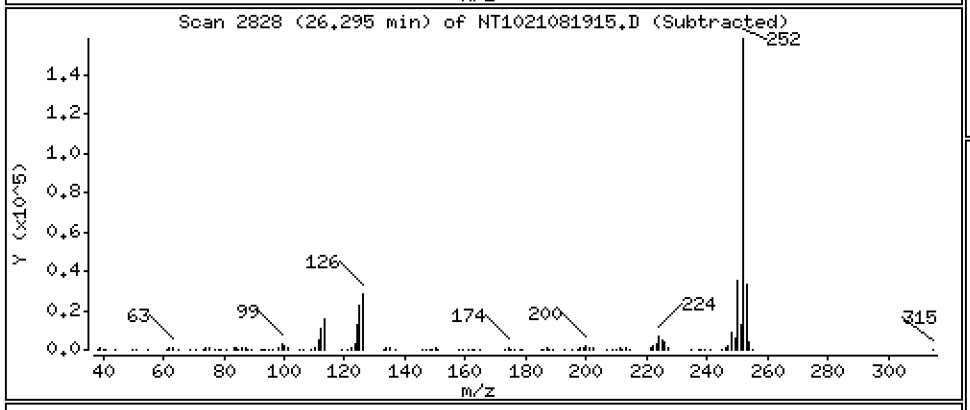
Column phase: ZB-5msi

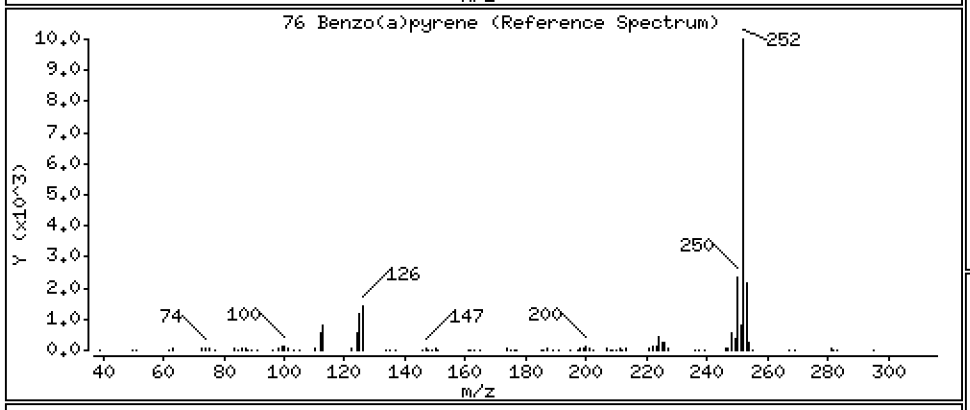
Column diameter: 0.25

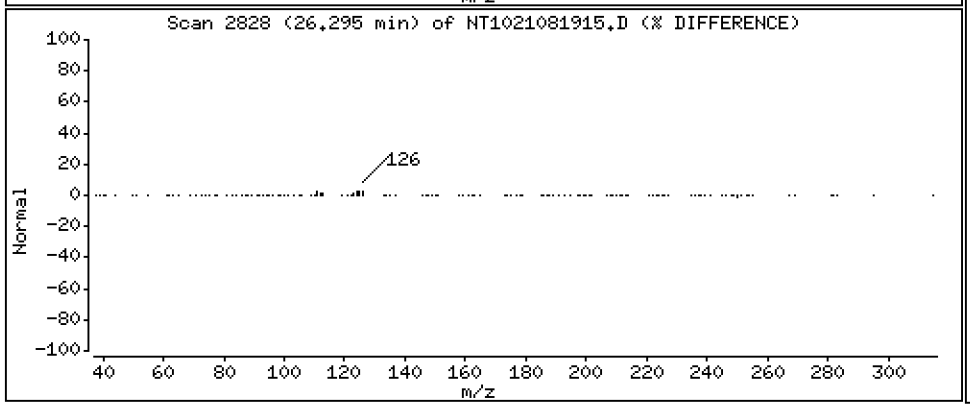
76 Benzo(a)pyrene

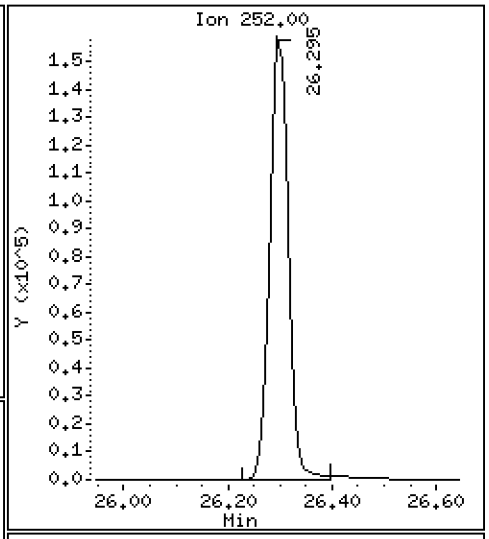
Concentration: 4.980 ug/mL

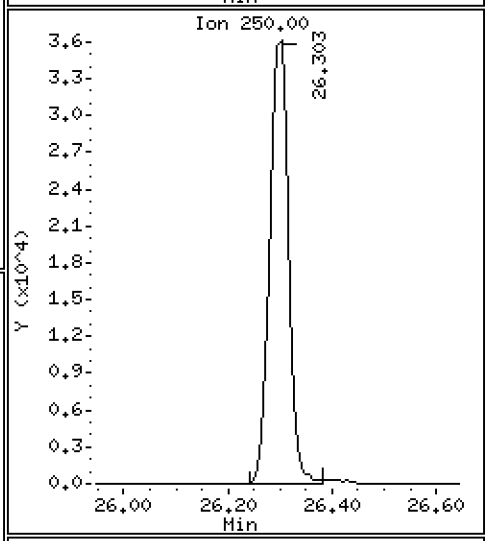


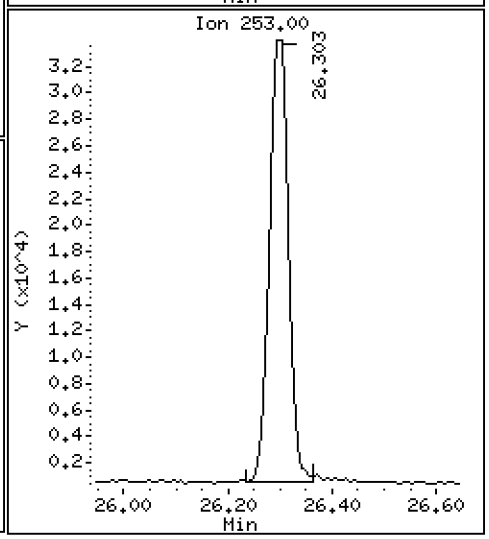












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

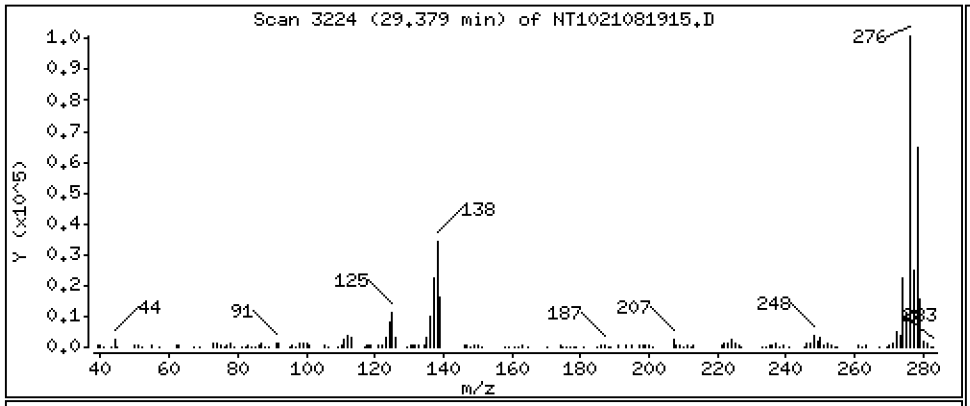
Operator: VTS

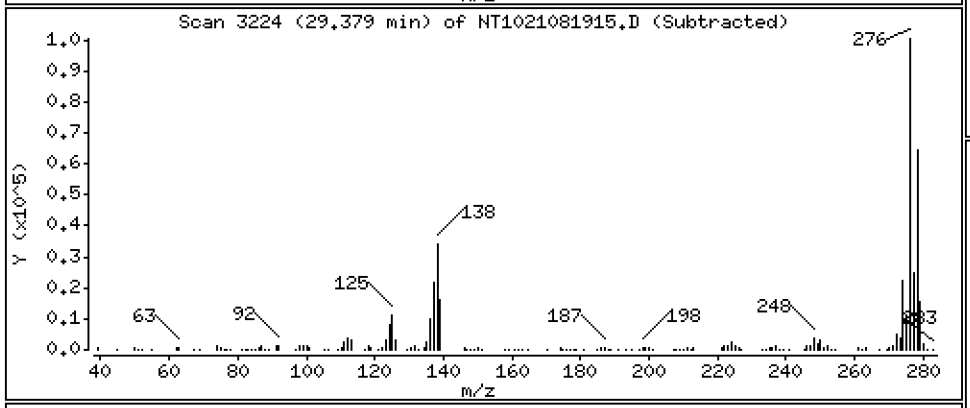
Column phase: ZB-5msi

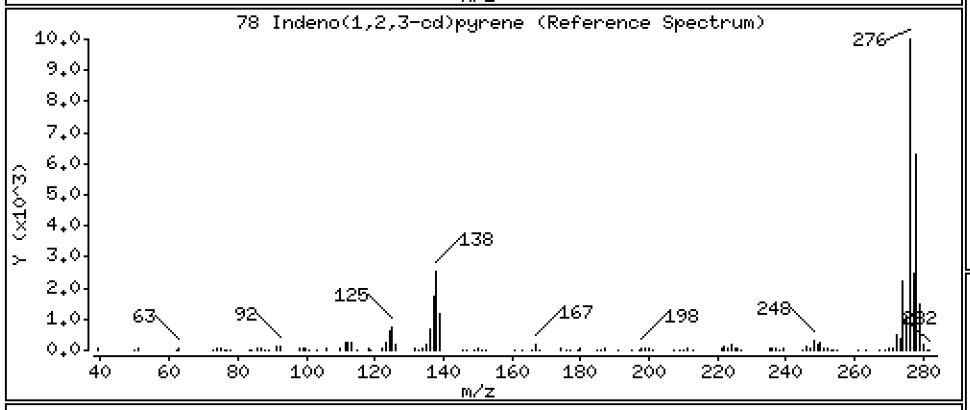
Column diameter: 0.25

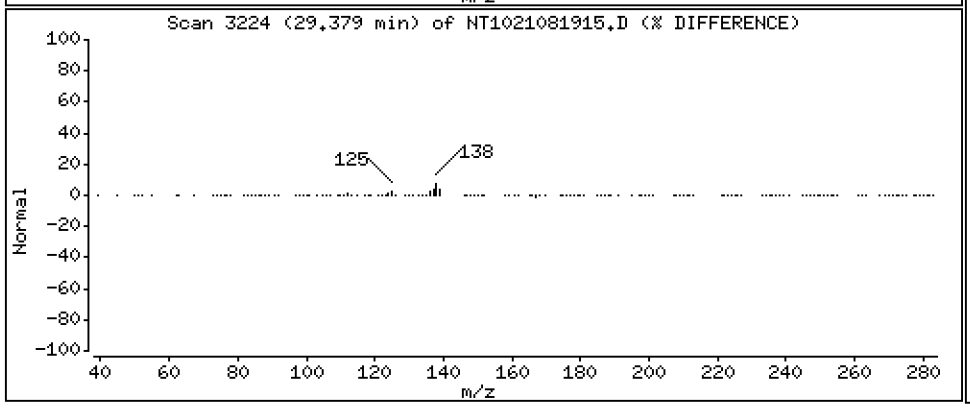
78 Indeno(1,2,3-cd)pyrene

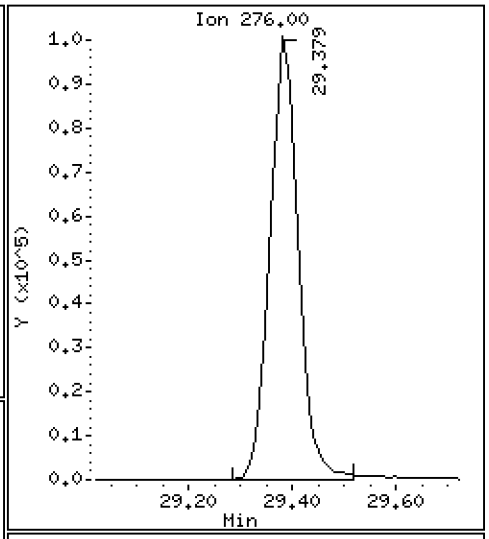
Concentration: 4.855 ug/mL

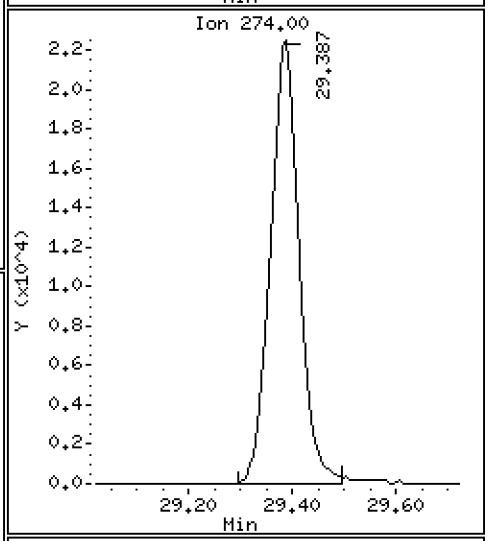


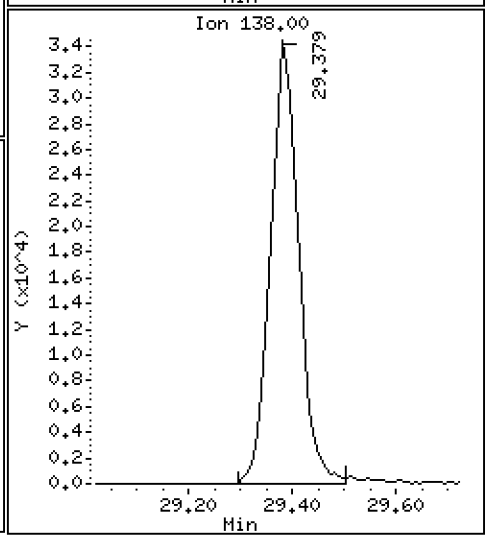












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

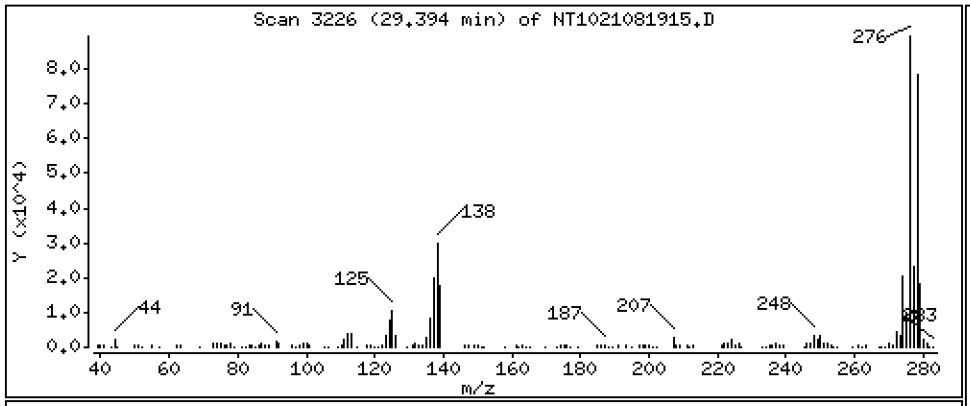
Operator: VTS

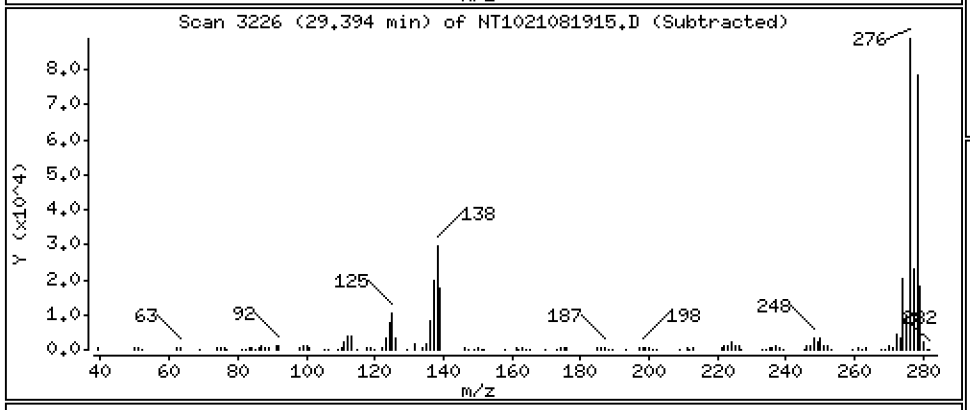
Column phase: ZB-5msi

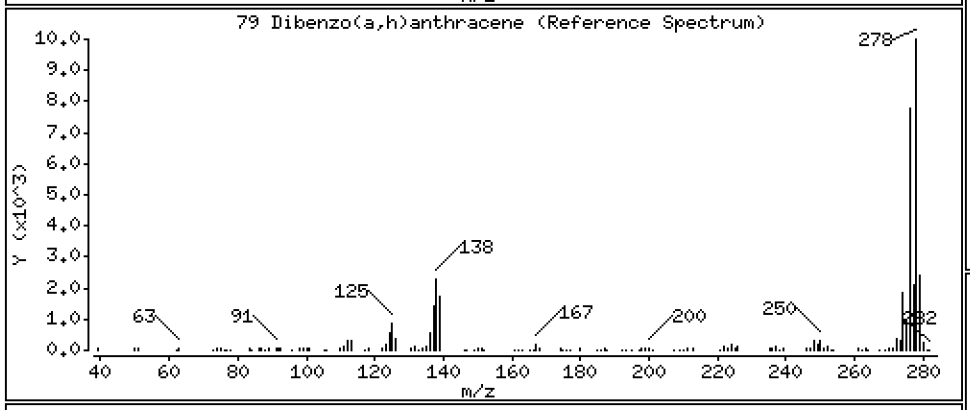
Column diameter: 0.25

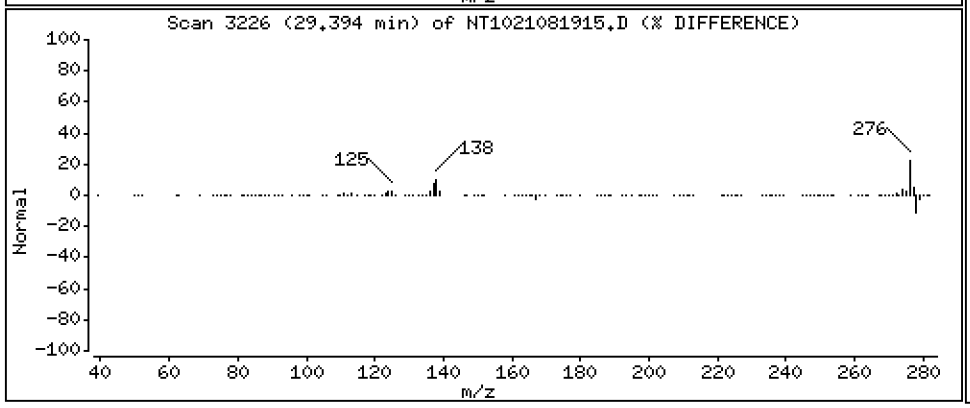
79 Dibenzo(a,h)anthracene

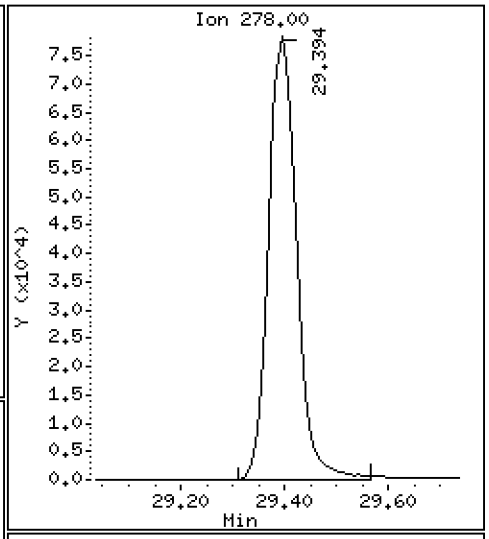
Concentration: 4.838 ug/mL

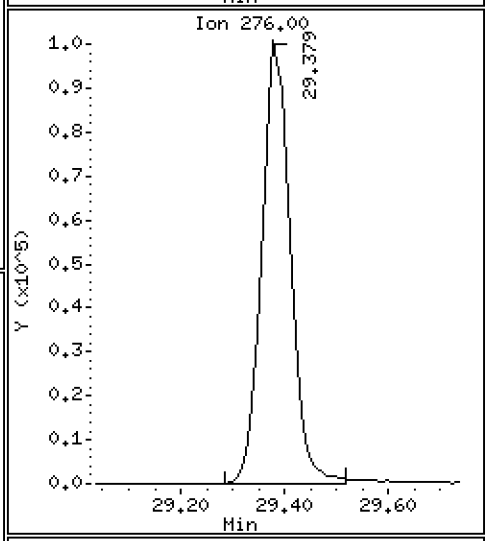


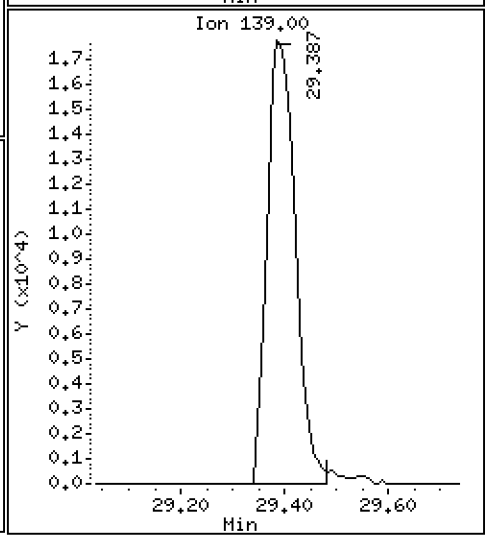












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

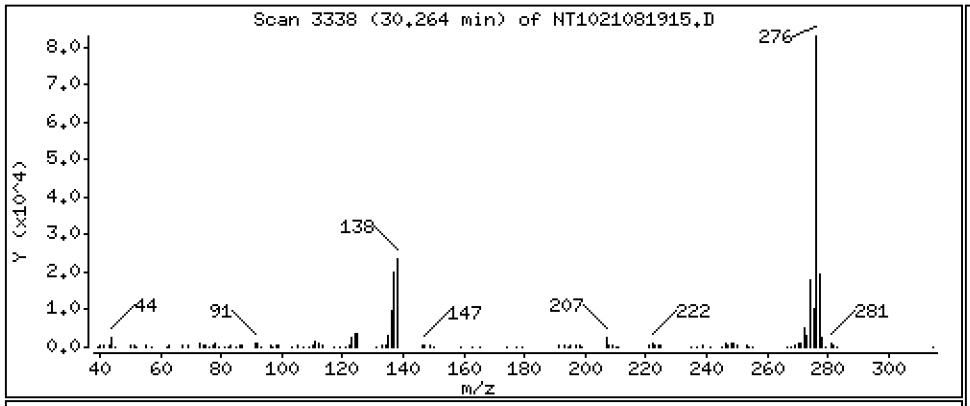
Operator: VTS

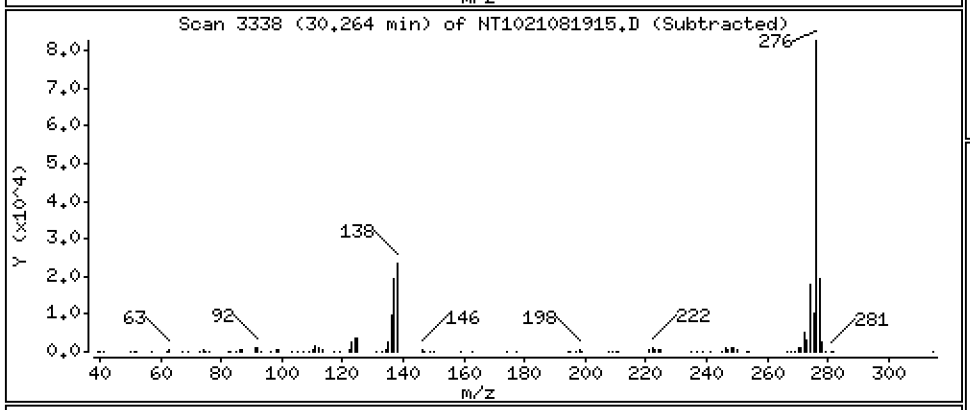
Column phase: ZB-5msi

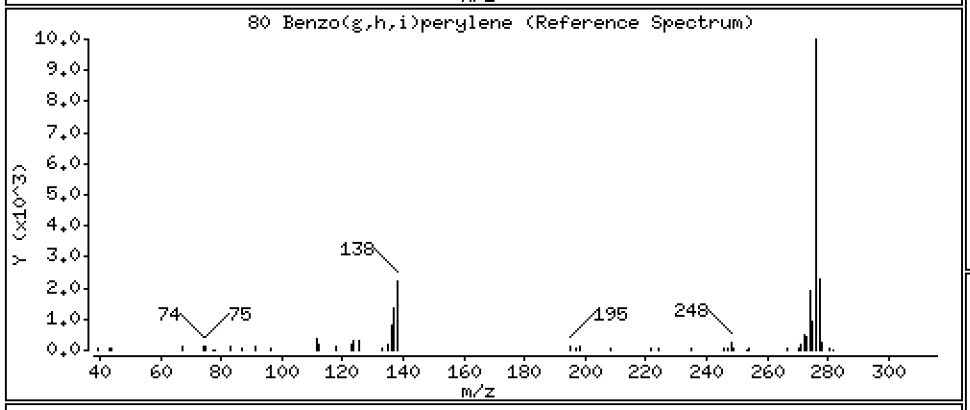
Column diameter: 0.25

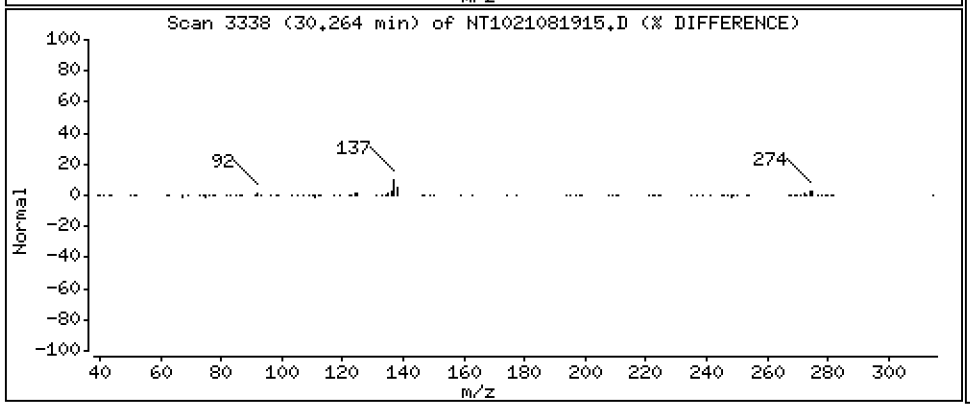
80 Benzo(g,h,i)perylene

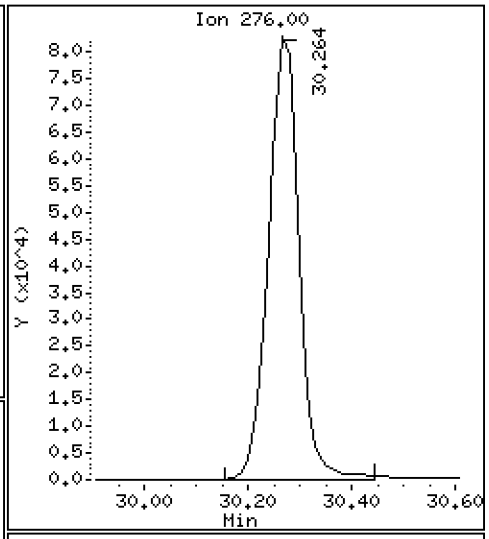
Concentration: 4.923 ug/mL

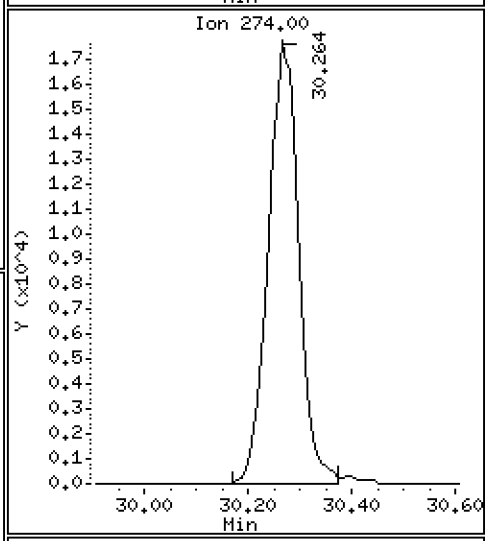


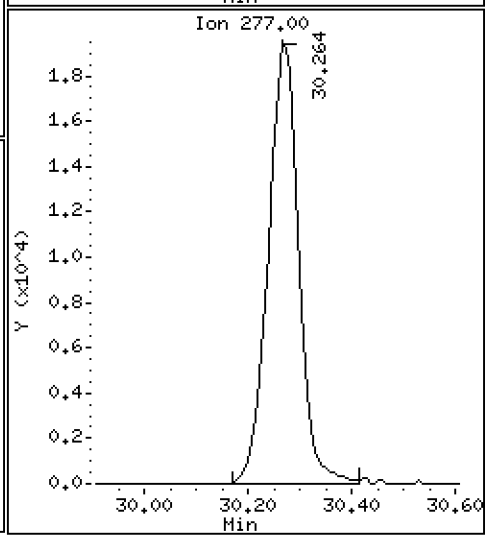












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

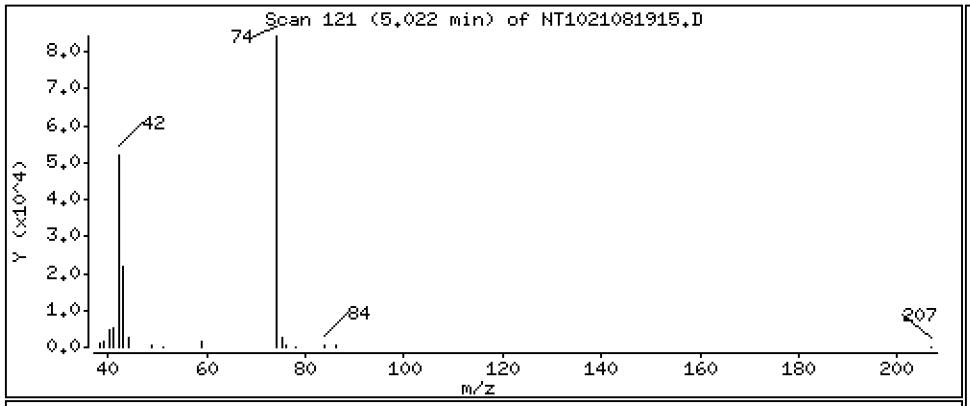
Operator: VTS

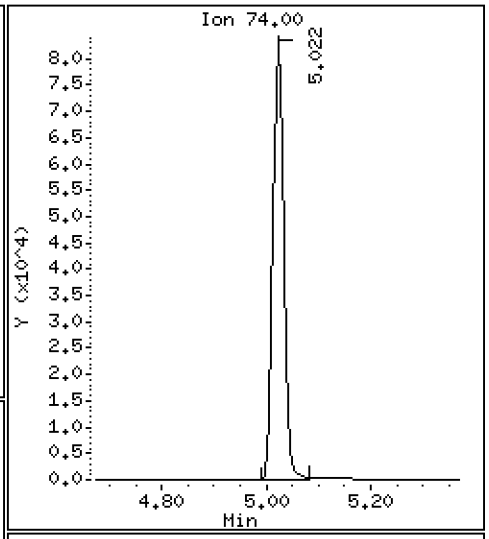
Column phase: ZB-5msi

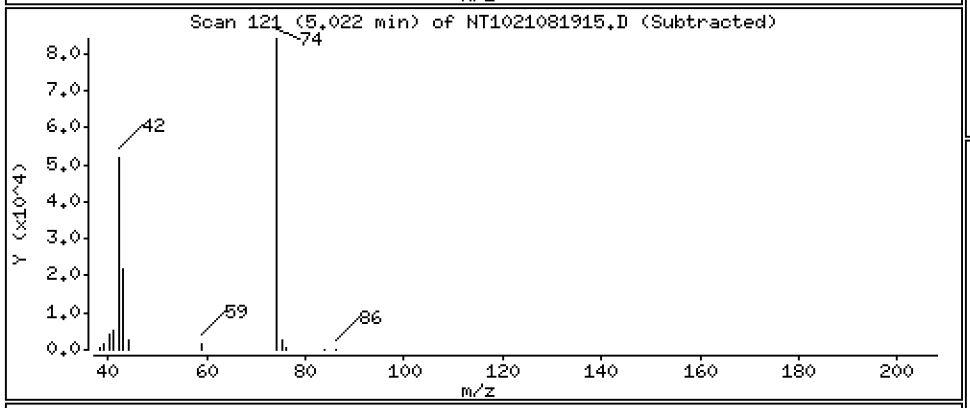
Column diameter: 0.25

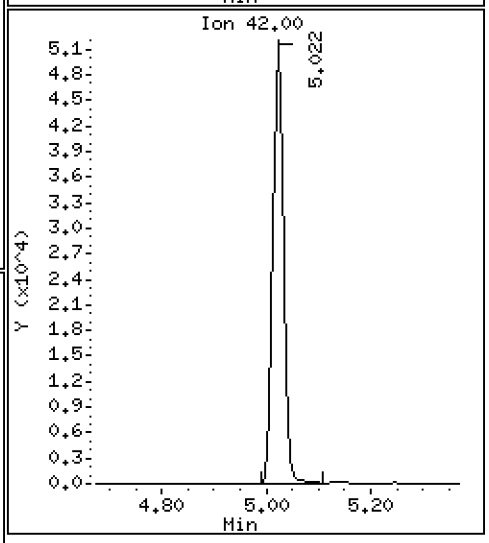
90 N-Nitrosodimethylamine

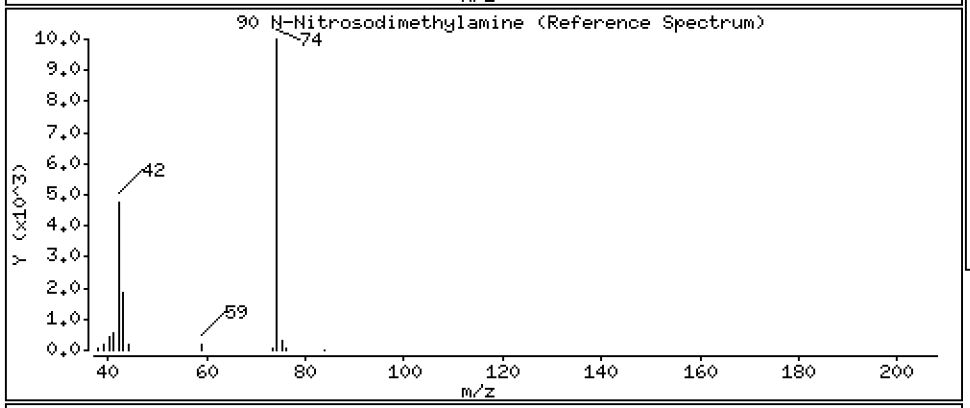
Concentration: 6.037 ug/mL

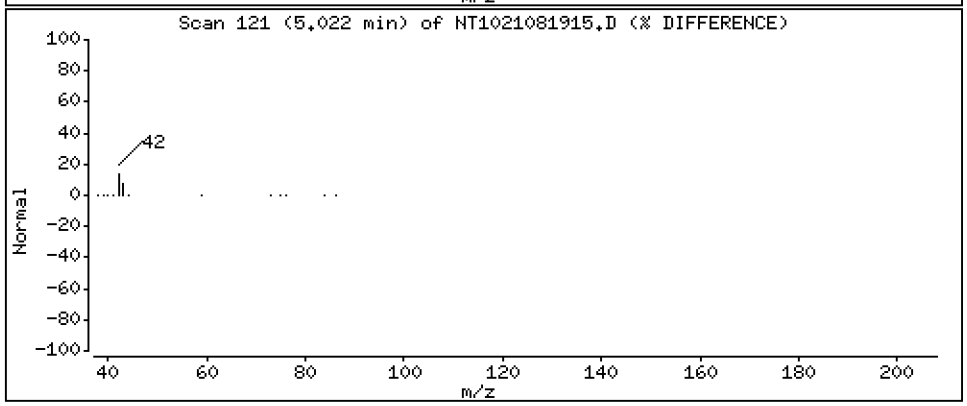












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

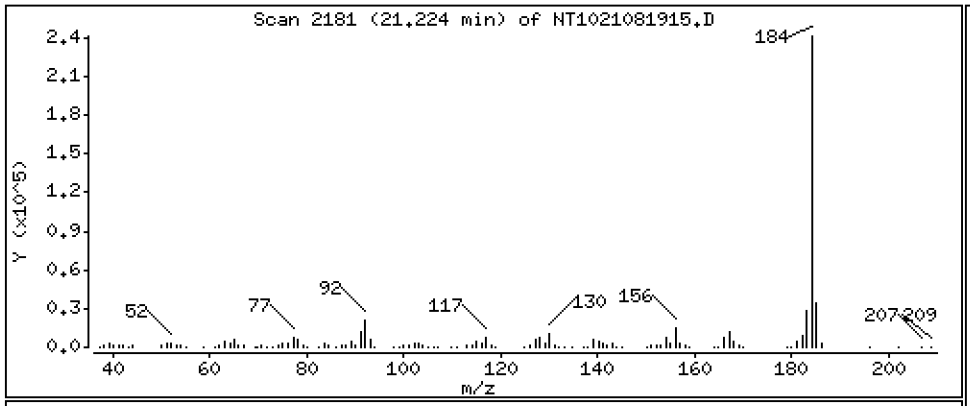
Operator: VTS

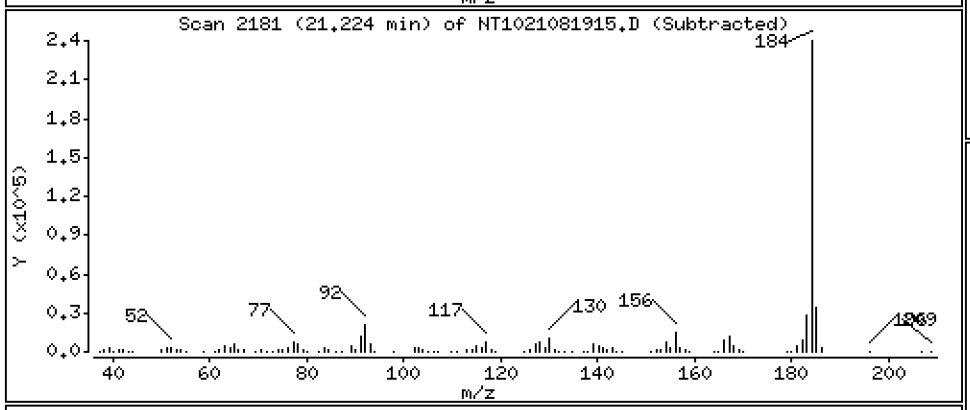
Column phase: ZB-5msi

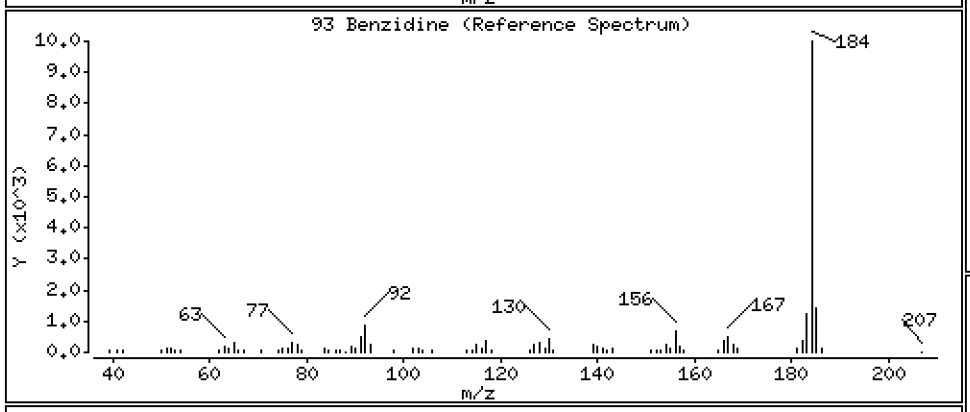
Column diameter: 0.25

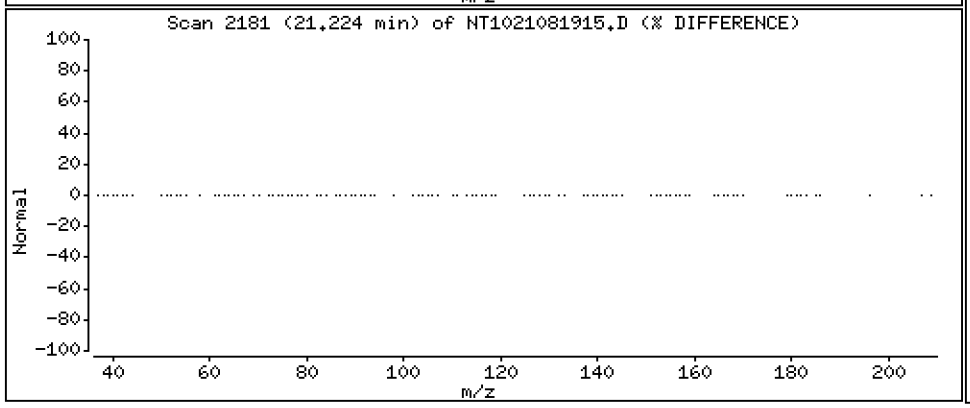
93 Benzidine

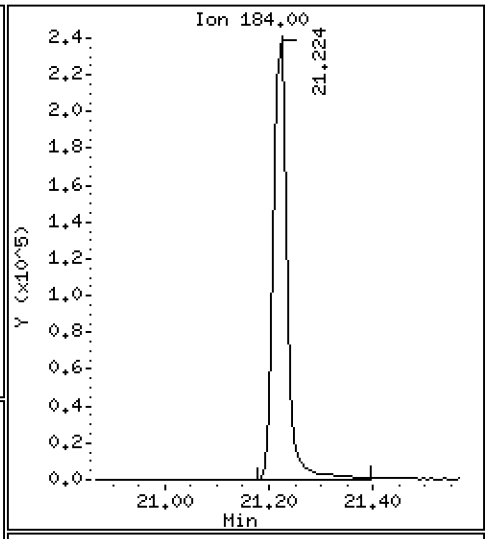
Concentration: 8.480 ug/mL

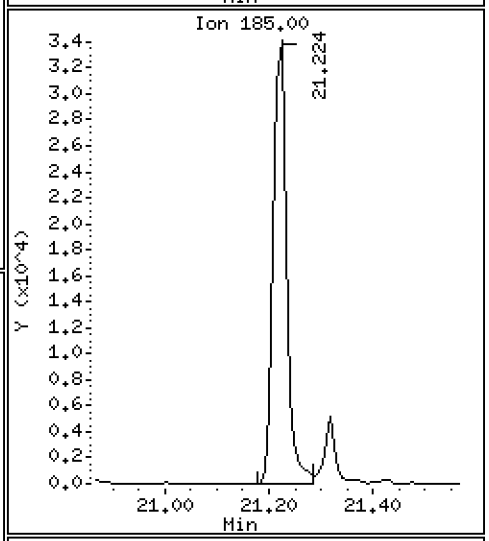


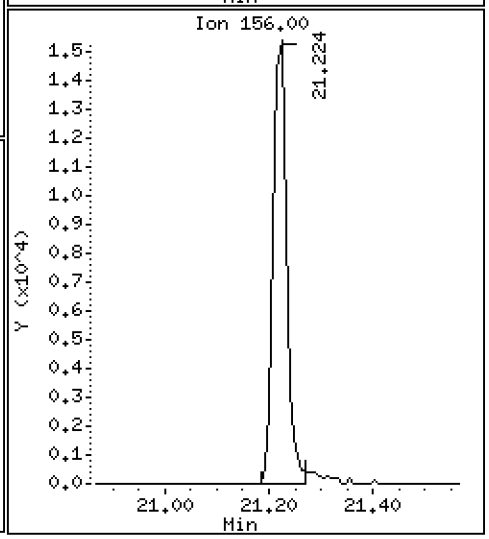












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

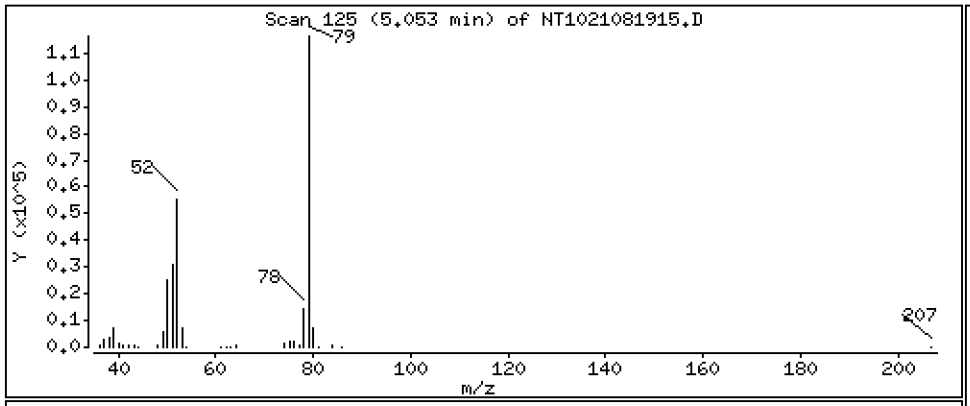
Operator: VTS

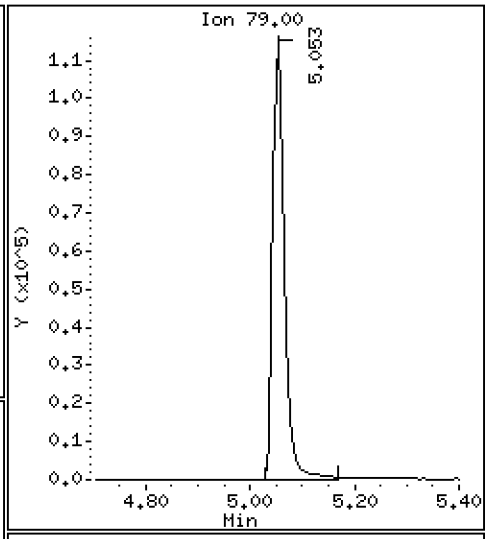
Column phase: ZB-5msi

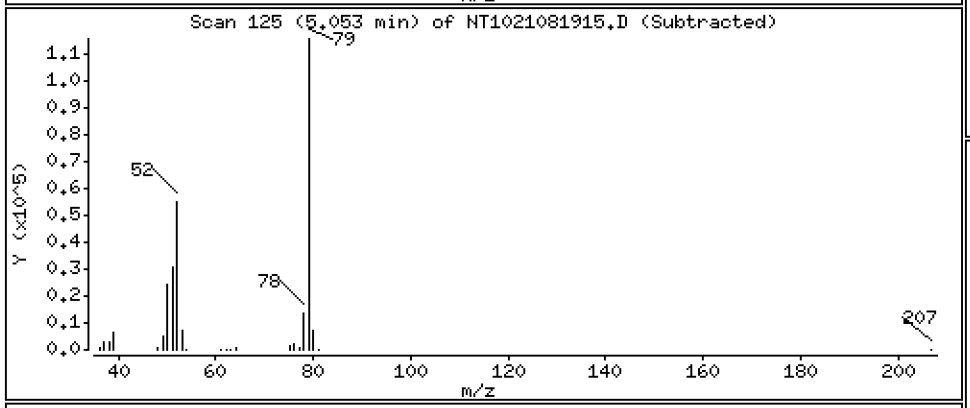
Column diameter: 0.25

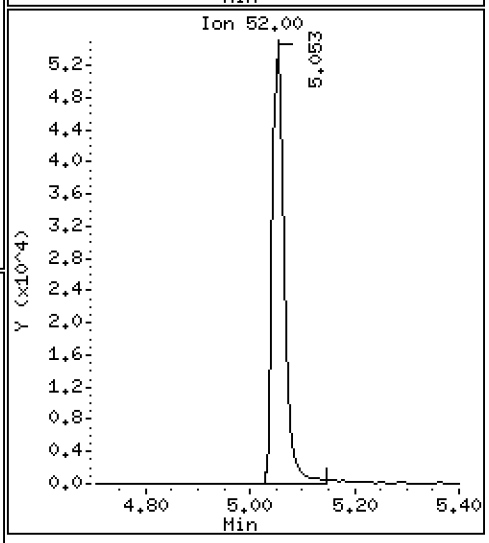
103 Pyridine

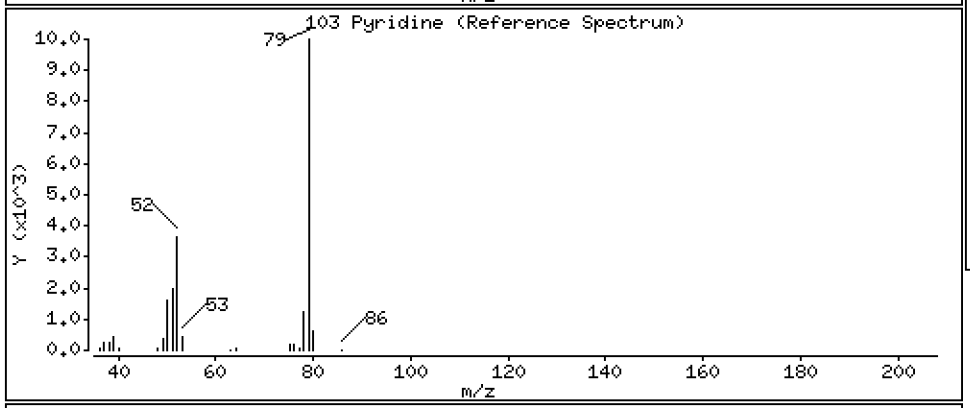
Concentration: 2.866 ug/mL

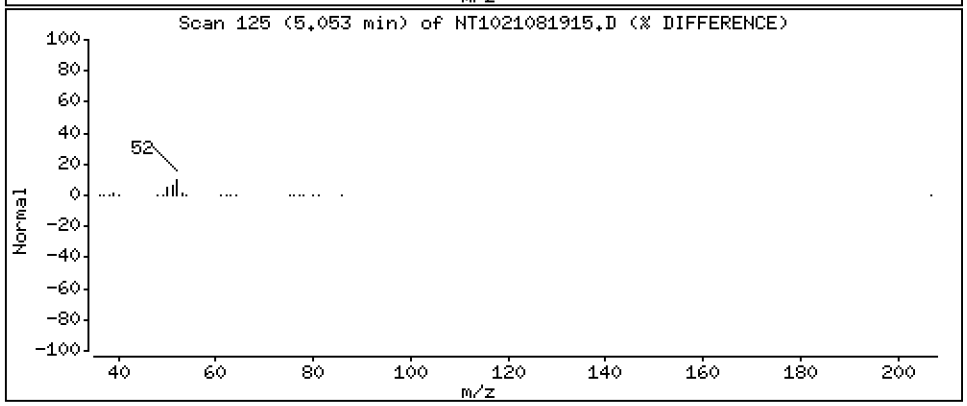












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

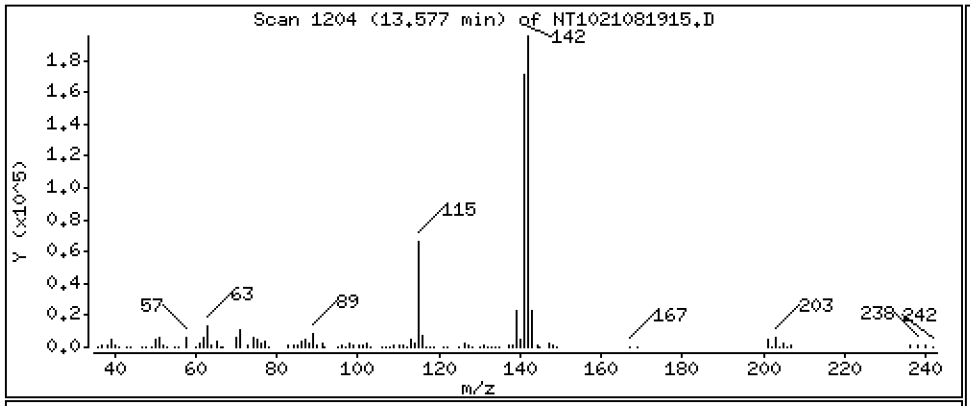
Operator: VTS

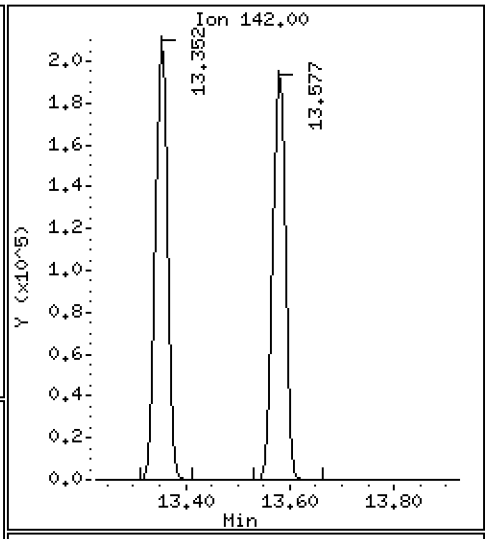
Column phase: ZB-5msi

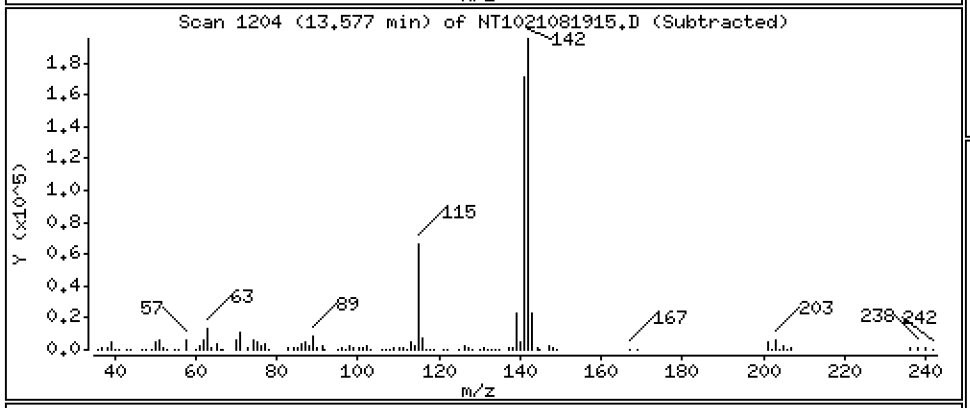
Column diameter: 0.25

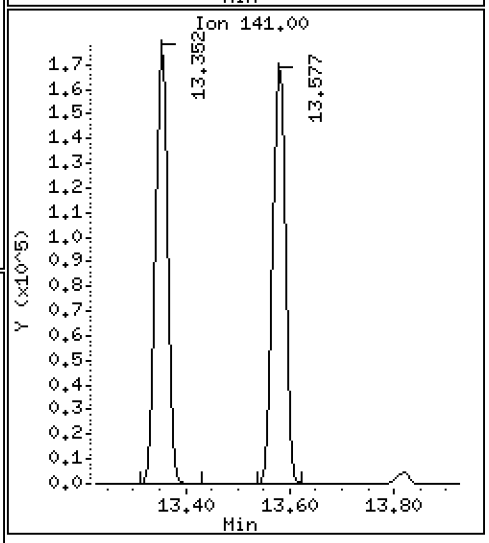
105 1-methylnaphthalene

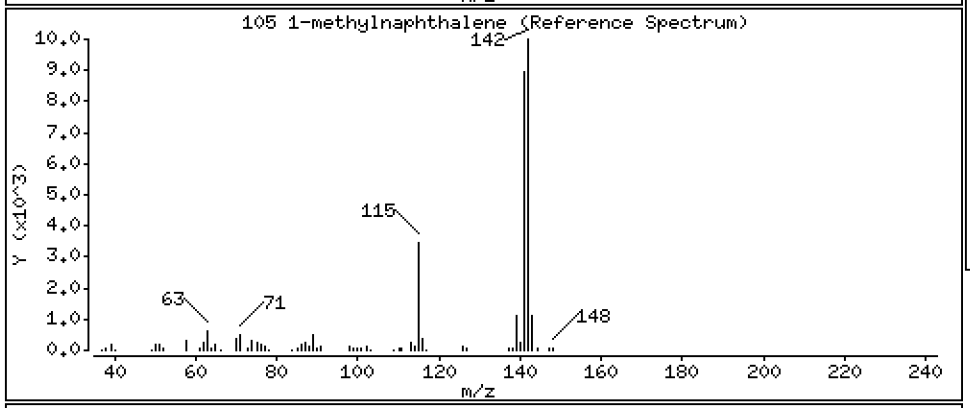
Concentration: 4.815 ug/mL

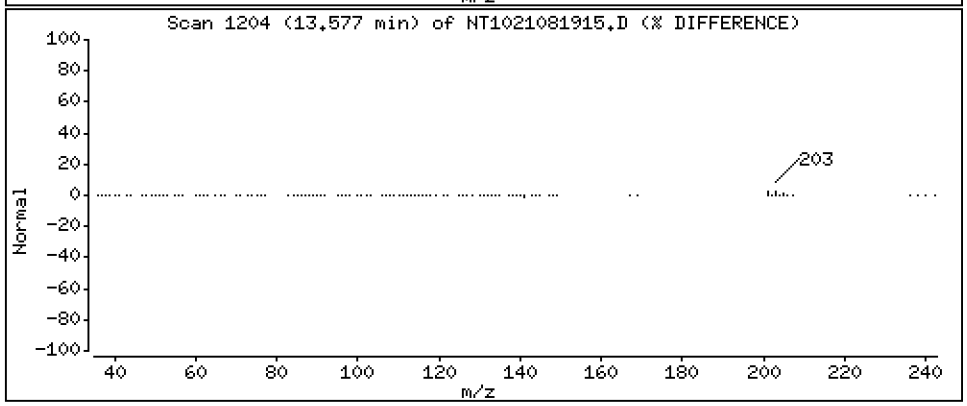












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

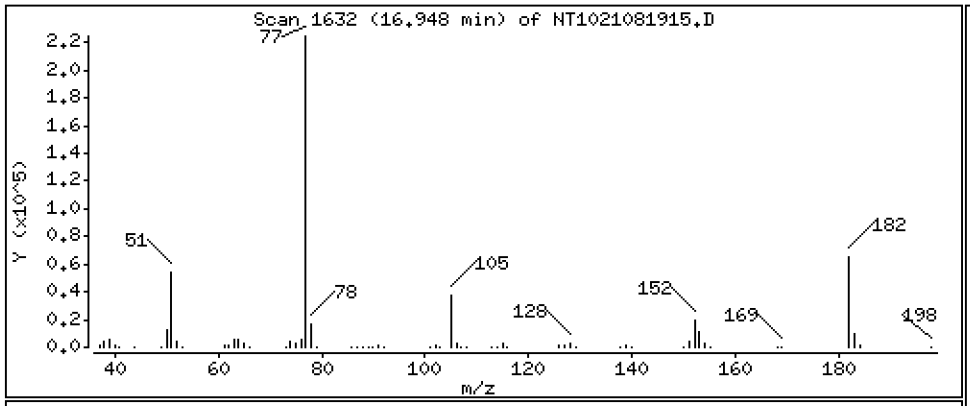
Operator: VTS

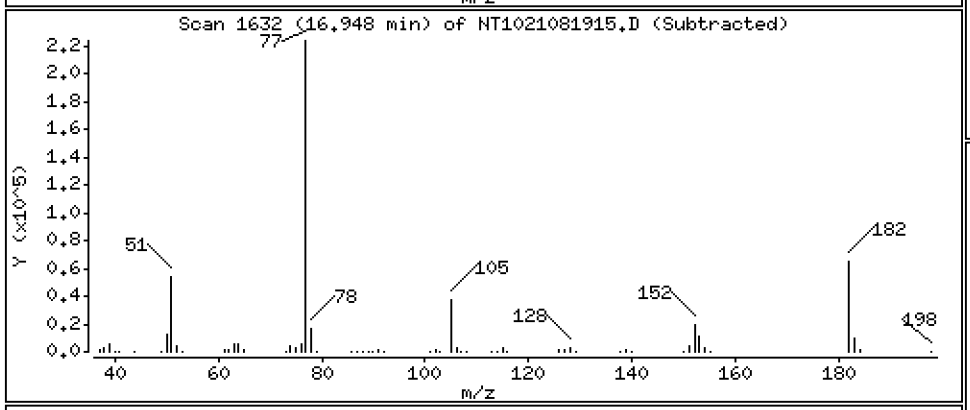
Column phase: ZB-5msi

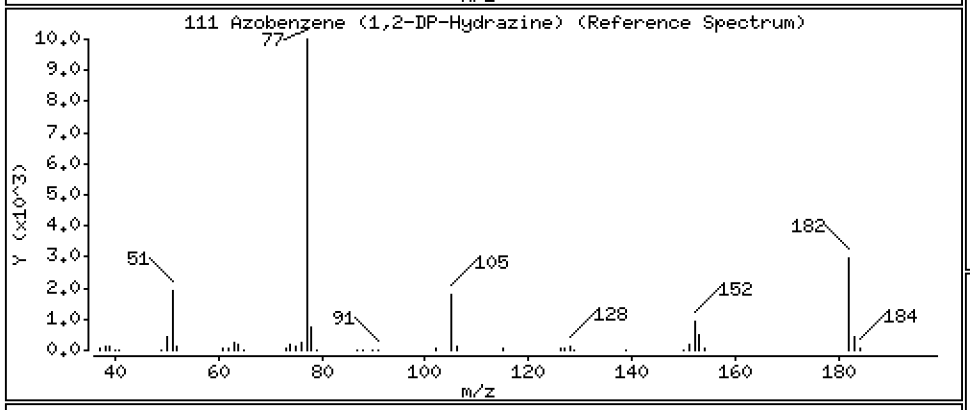
Column diameter: 0.25

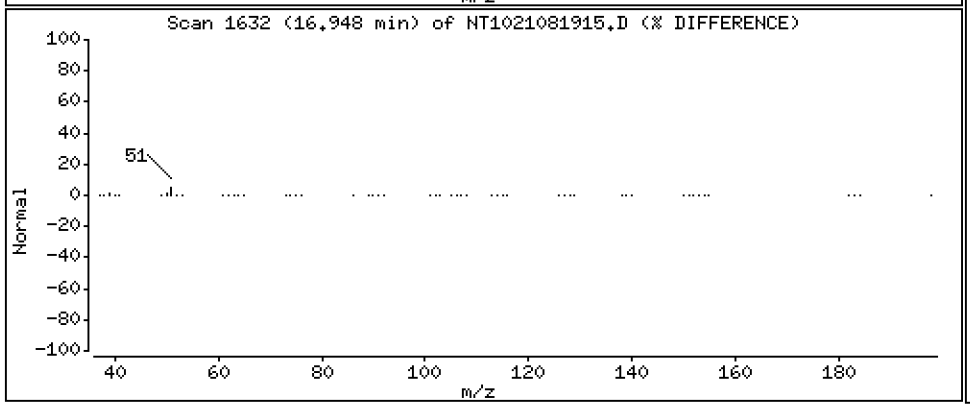
111 Azobenzene (1,2-DP-Hydrazine)

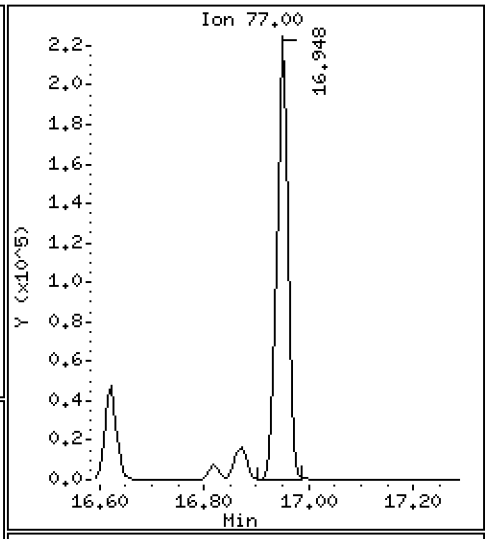
Concentration: 5.417 ug/mL

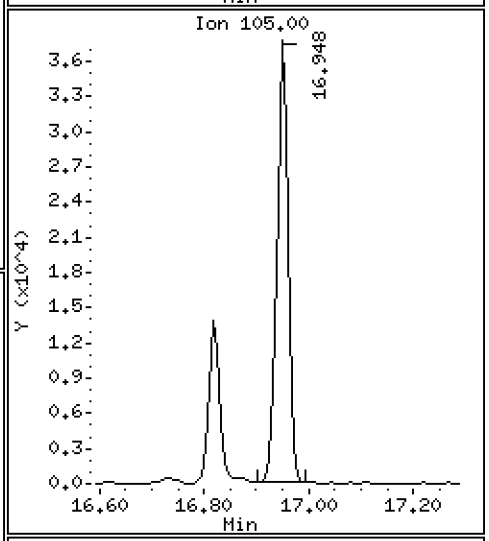


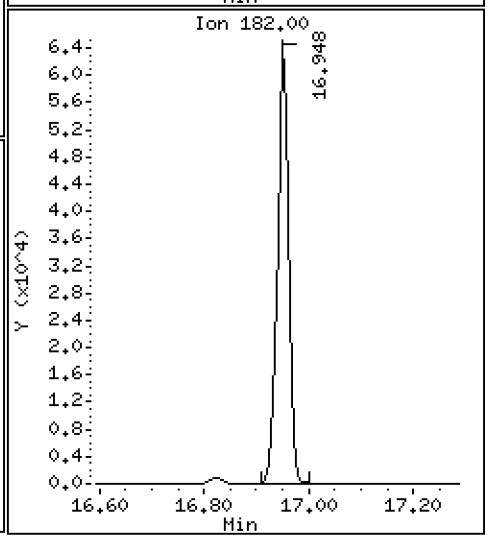












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

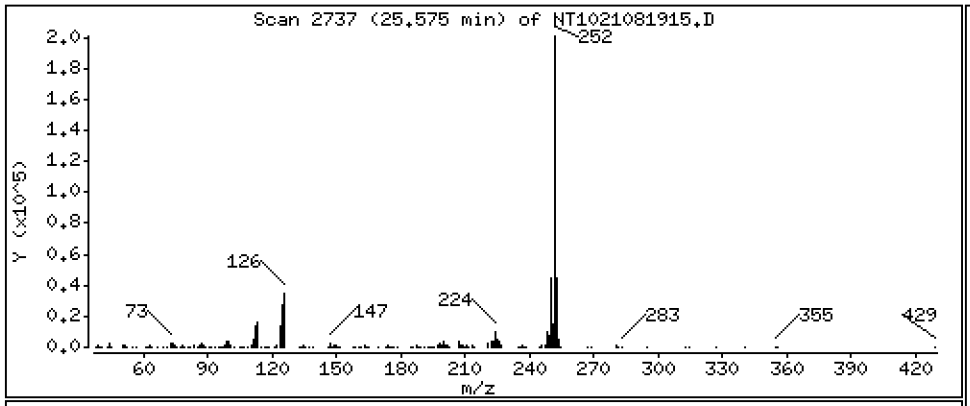
Operator: VTS

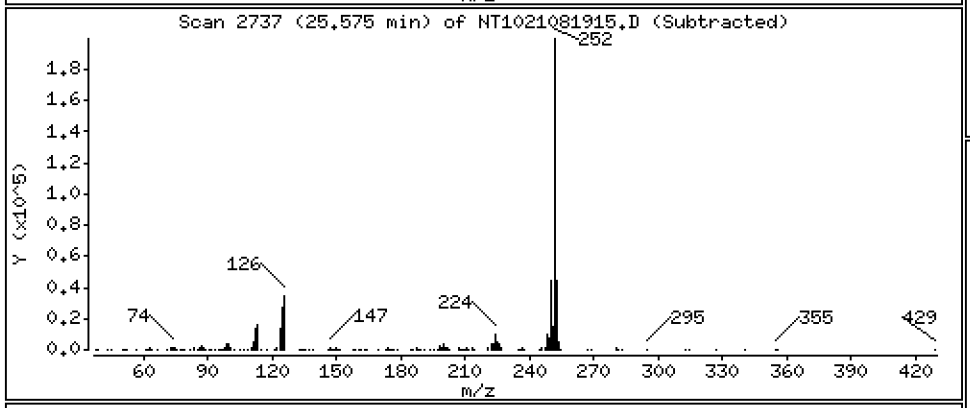
Column phase: ZB-5msi

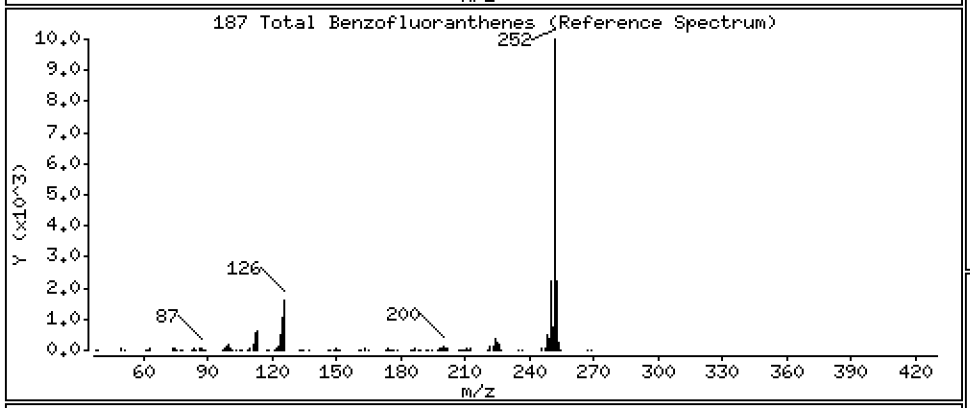
Column diameter: 0.25

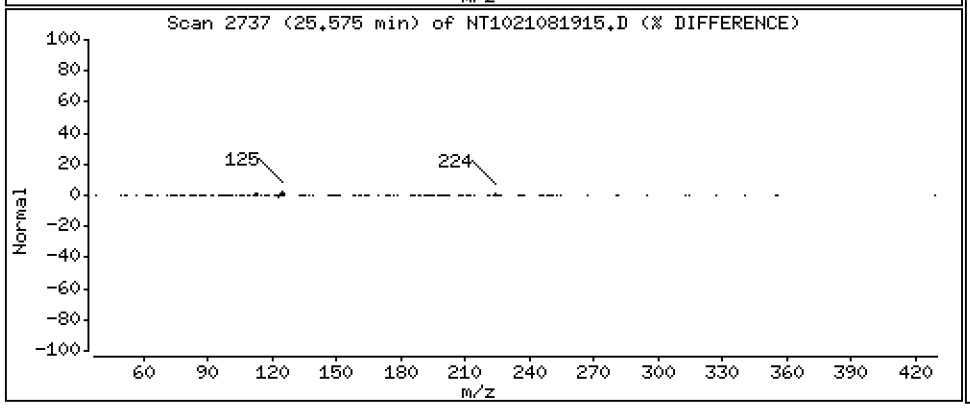
187 Total Benzofluoranthenes

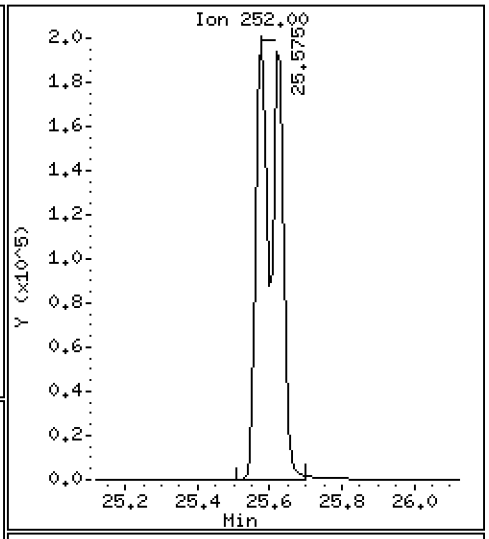
Concentration: 9.959 ug/mL

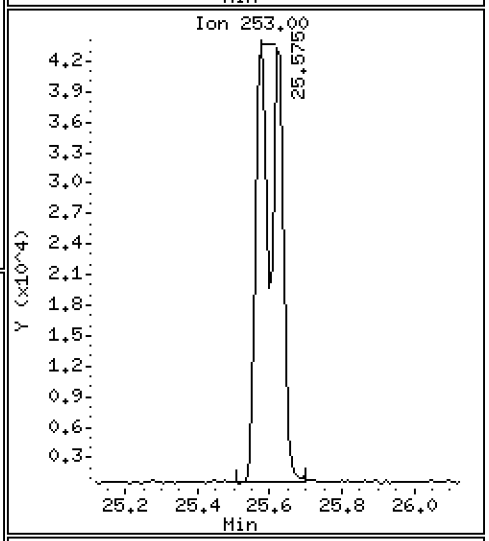


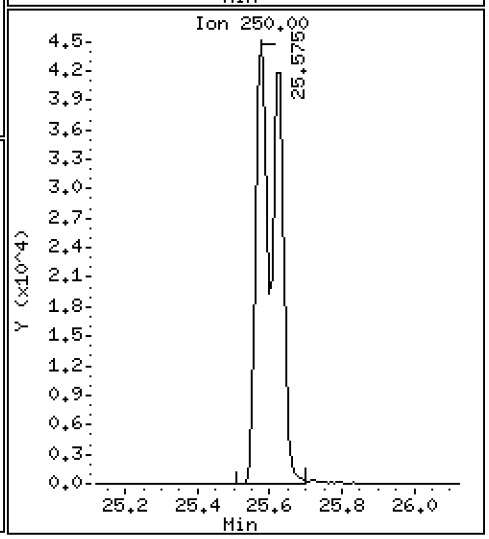












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

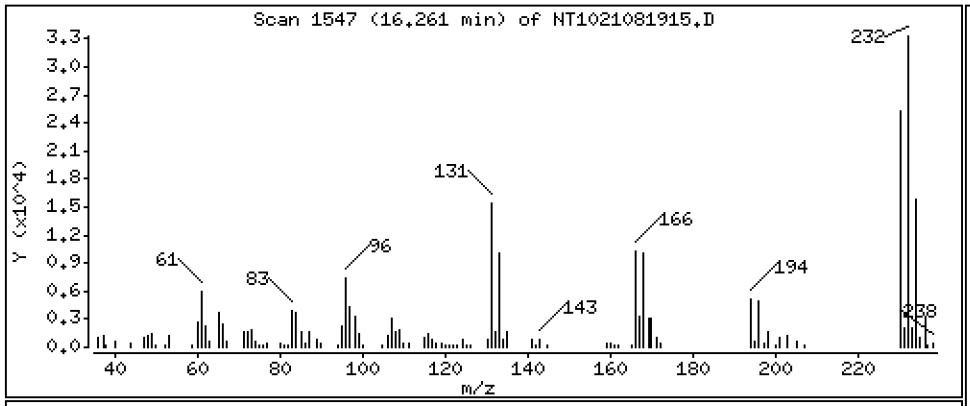
Operator: VTS

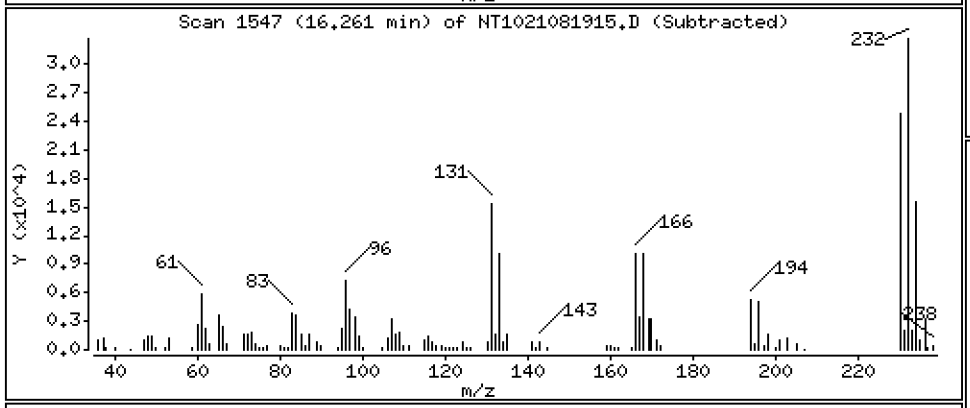
Column phase: ZB-5msi

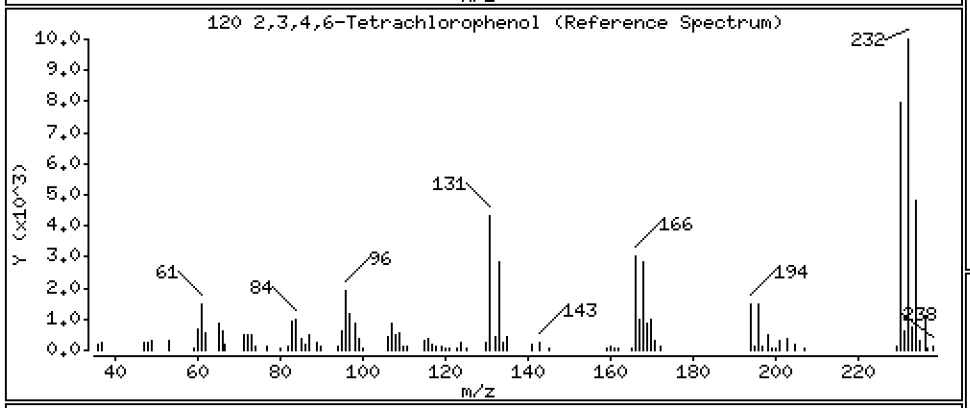
Column diameter: 0.25

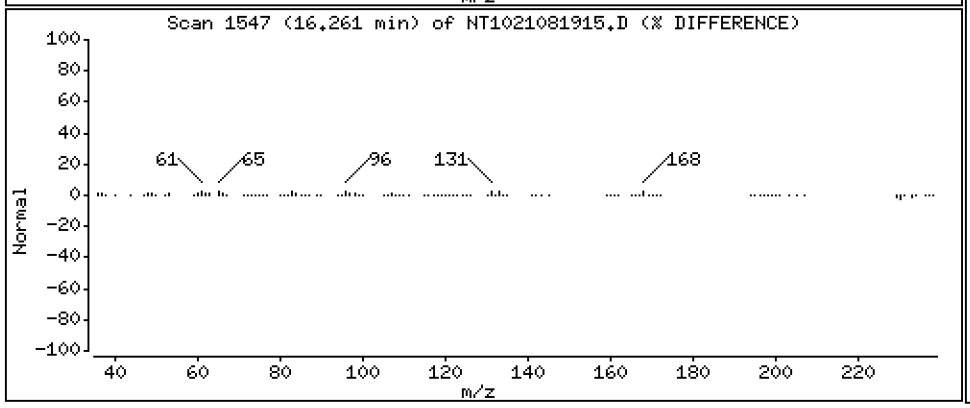
120 2,3,4,6-Tetrachlorophenol

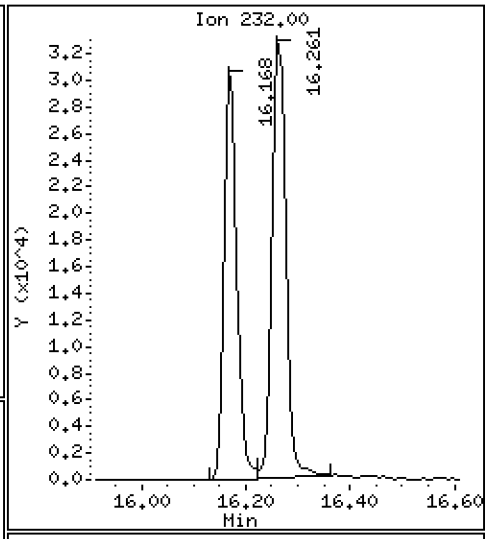
Concentration: 4.467 ug/mL

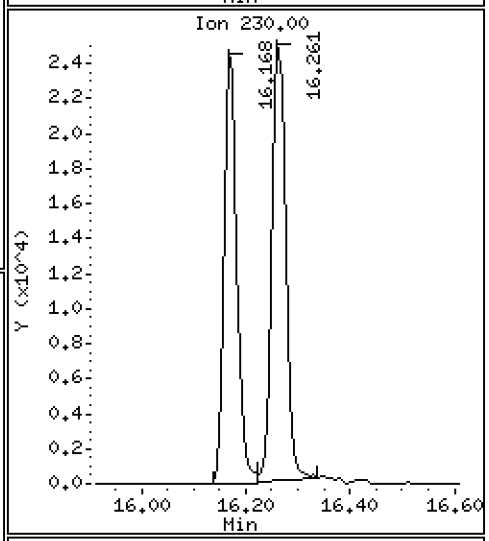


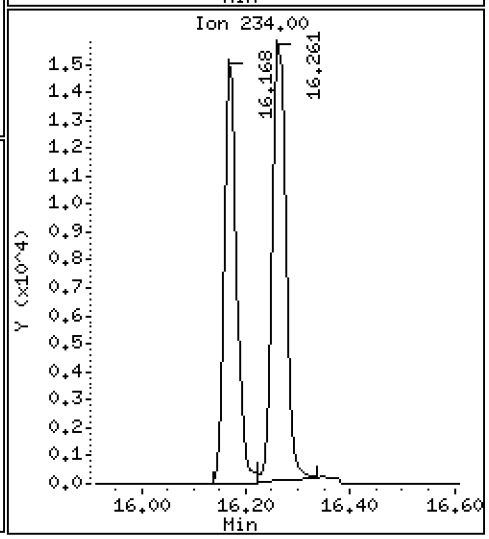












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Lab Smp Id: SJH0235-SCV1
Inj Date : 19-AUG-2021 20:42
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.784	8.784	(0.931)	199380	5.25899	5.259
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	160344	5.78066	5.781
6	2-Chlorophenol	128	9.093	9.093	(0.964)	158353	5.03366	5.034
7	1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	169628	5.18579	5.186
* 8	1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	86567	4.00000	
9	1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	145074	5.85827	5.858
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	146550	5.20005	5.200
11	Benzyl alcohol	108	9.689	9.689	(1.027)	86052	4.93439	4.934
14	2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	47815	5.72048	5.720
13	2-Methylphenol	108	9.907	9.907	(1.050)	111834	4.65720	4.657
17	Hexachloroethane	117	10.411	10.411	(1.104)	60775	5.67447	5.674
16	N-Nitroso-di-n-propylamine	70	10.248	10.241	(1.086)	89139	5.29189	5.292
15	4-Methylphenol	108	10.178	10.171	(1.079)	120235	4.68765	4.688
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					
19	Nitrobenzene	77	10.559	10.559	(0.886)	149166	5.40261	5.403
20	Isophorone	82	11.001	11.001	(0.923)	331869	7.77753	7.778
21	2-Nitrophenol	139	11.186	11.186	(0.938)	81411	5.17753	5.178
22	2,4-Dimethylphenol	107	11.220	11.220	(0.941)	119391	4.92042	4.920
23	Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	149566	5.93771	5.938
24	Benzoic acid	105	11.381	11.339	(0.955)	66350	5.37792	5.378
25	2,4-Dichlorophenol	162	11.644	11.636	(0.977)	127985	5.14677	5.147
26	1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	120347	5.00026	5.000
* 27	Naphthalene-d8	136	11.921	11.913	(1.000)	286011	4.00000	
28	Naphthalene	128	11.959	11.959	(1.003)	361857	5.09980	5.100
29	4-Chloroaniline	127	12.083	12.075	(1.014)	157895	4.59294	4.593
30	Hexachlorobutadiene	225	12.315	12.307	(1.033)	67621	5.10670	5.107
31	4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	123056	4.92458	4.925
32	2-Methylnaphthalene	142	13.352	13.352	(1.120)	319793	4.72280	4.723
33	Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	54933	4.31449	4.314

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	84924	4.77039	4.770
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	91907	4.91422	4.914
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	14.350	14.350	(0.923)	311867	5.58535	5.585
	38 2-Nitroaniline	65	14.605	14.598	(0.940)	82438	4.97238	4.972
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	286677	4.97899	4.979
	40 Acenaphthylene	152	15.225	15.225	(0.980)	417239	4.79575	4.796
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.976)	68264	5.36851	5.369
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	175555	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	78104	4.56188	4.562
	44 Acenaphthene	153	15.604	15.596	(1.004)	228953	4.97526	4.975
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.008)	11153	1.66462	1.665
	46 Dibenzofuran	168	15.928	15.928	(1.025)	383631	4.69138	4.691
	47 4-Nitrophenol	109	15.774	15.782	(1.015)	24955	4.01803	4.018
	48 2,4-Dinitrotoluene	165	15.982	15.975	(1.028)	90638	5.10639	5.106
	50 Diethylphthalate	149	16.477	16.470	(1.060)	264476	5.09602	5.096
	49 Fluorene	166	16.647	16.640	(1.071)	342768	4.72294	4.723
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	168489	5.18664	5.187
	52 4-Nitroaniline	138	16.732	16.724	(1.077)	85236	4.78806	4.788
	53 4,6-Dinitro-2-methylphenol	198	16.817	16.817	(0.905)	50611	3.88483	3.885
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	227997	4.83479	4.835
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.948)	102044	5.39862	5.399
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	90728	5.06340	5.063
	58 Pentachlorophenol	266	18.315	18.315	(0.985)	20638	3.12000	3.120
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	315282	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.002)	373708	4.85494	4.855
	61 Anthracene	178	18.725	18.717	(1.007)	398068	4.81320	4.813
	62 Carbazole	167	19.050	19.042	(1.025)	423459	4.97150	4.972
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	566417	5.37515	5.375
	64 Fluoranthene	202	21.000	20.992	(0.889)	552591	4.85305	4.853
	65 Pyrene	202	21.425	21.417	(0.908)	568141	4.86161	4.862
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	224852	4.88885	4.889
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	436185	4.79967	4.800
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	260128	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	319253	8.82970	8.830
	71 Chrysene	228	23.647	23.647	(1.002)	337651	4.68662	4.687
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	258287	5.36165	5.362
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	500551	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	576721	5.22766	5.228
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	423157	4.87661	4.877
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	441864	5.19450	5.195
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	381697	4.97952	4.980
*	77 Perylene-d12	264	26.427	26.419	(1.000)	235857	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	384449	4.85499	4.855
	79 Dibenzo(a,h)anthracene	278	29.394	29.386	(1.112)	293070	4.83753	4.838
	80 Benzo(g,h,i)perylene	276	30.264	30.256	(1.145)	340450	4.92315	4.923
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.532)	112508	6.03654	6.037
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	21.224	21.216	(0.899)	417920	8.48003	8.480
	103 Pyridine	79	5.052	5.052	(0.536)	168778	2.86646	2.866
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	314464	4.81470	4.815
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.090)	324373	5.41670	5.417

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.575	25.621	(0.968)	824481	9.95946	9.959
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.046)	57716	4.46735	4.467

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	86567	-11.23
27 Naphthalene-d8	336155	168078	672310	286011	-14.92
42 Acenaphthene-d10	204971	102486	409942	175555	-14.35
59 Phenanthrene-d10	357720	178860	715440	315282	-11.86
69 Chrysene-d12	291052	145526	582104	260128	-10.62
134 Di-n-octylphthala	588887	294444	1177774	500551	-15.00
77 Perylene-d12	273109	136555	546218	235857	-13.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.59	18.09	19.09	18.59	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081915.D

Lab ID: SJH0235-SCV1
nt10.i, ABN.m, 19-AUG-2021 20:42

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1021081912.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081916.D

Date : 19-AUG-2021 21:20

Client ID:

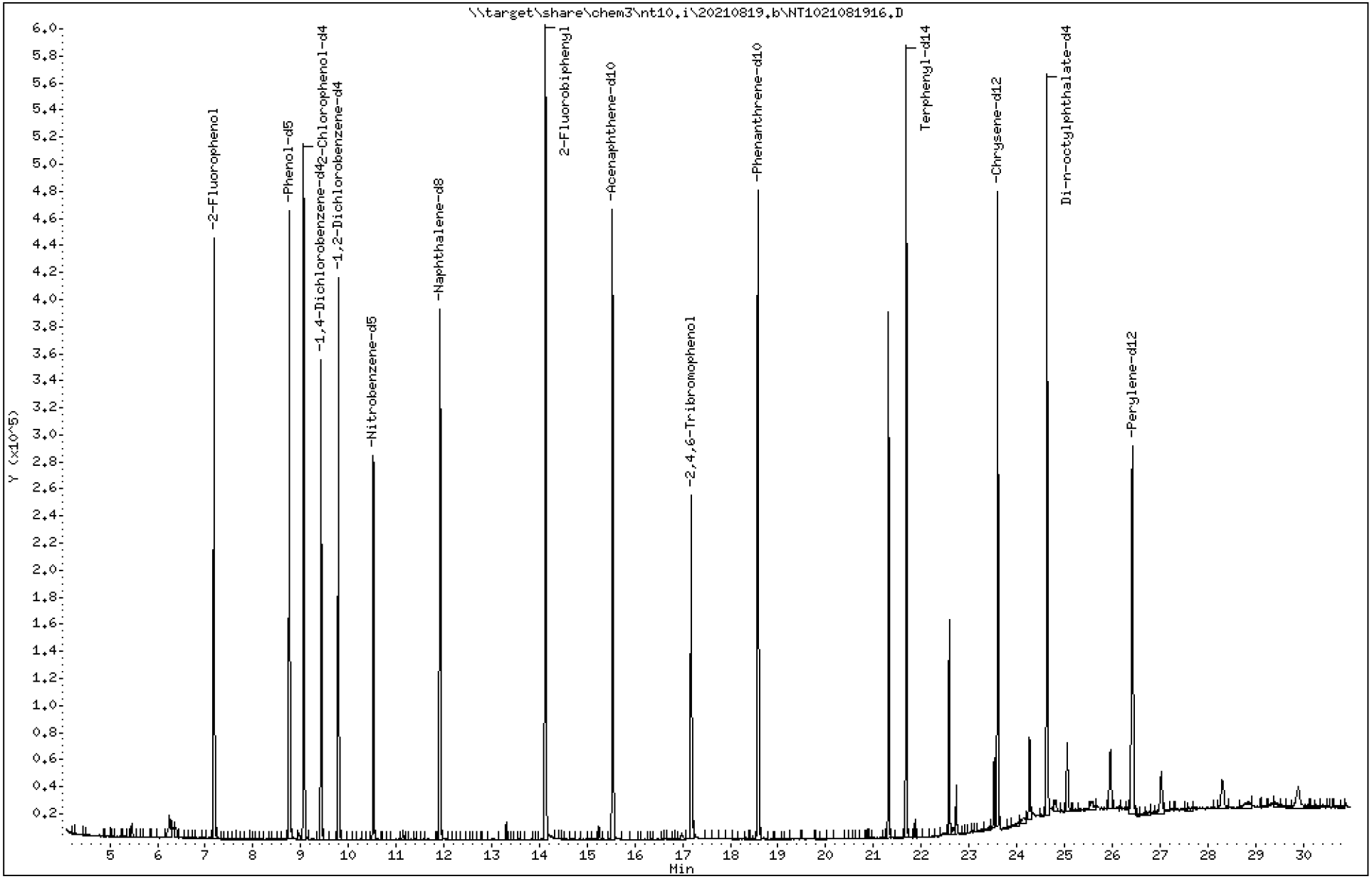
Instrument: nt10.i

Sample Info: SJH0235-ICB1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081916.D
Lab Smp Id: SJH0235-ICB1
Inj Date : 19-AUG-2021 21:20
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-ICB1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.184	7.184	(0.762)	203658	6.33513	6.335
$	2 Phenol-d5	99	8.760	8.761	(0.929)	277384	6.02867	6.029
	3 Phenol	94	Compound Not Detected.					
$	5 2-Chlorophenol-d4	132	9.061	9.062	(0.961)	234466	7.15367	7.154
	4 Bis(2-Chloroethyl)ether	93	Compound Not Detected.					
	6 2-Chlorophenol	128	Compound Not Detected.					
	7 1,3-Dichlorobenzene	146	Compound Not Detected.					
*	8 1,4-Dichlorobenzene-d4	152	9.425	9.426	(1.000)	96156	4.00000	
	9 1,4-Dichlorobenzene	146	Compound Not Detected.					
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	106621	4.78900	4.789
	12 1,2-Dichlorobenzene	146	Compound Not Detected.					
	11 Benzyl alcohol	108	Compound Not Detected.					
	14 2,2'-oxybis(1-Chloropropane)	121	Compound Not Detected.					
	13 2-Methylphenol	108	Compound Not Detected.					
	17 Hexachloroethane	117	Compound Not Detected.					
	16 N-Nitroso-di-n-propylamine	70	Compound Not Detected.					
	15 4-Methylphenol	108	Compound Not Detected.					
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.882)	156094	4.46244	4.462
	19 Nitrobenzene	77	Compound Not Detected.					
	20 Isophorone	82	Compound Not Detected.					
	21 2-Nitrophenol	139	Compound Not Detected.					
	22 2,4-Dimethylphenol	107	Compound Not Detected.					
	23 Bis(2-Chloroethoxy)methane	93	Compound Not Detected.					
	24 Benzoic acid	105	Compound Not Detected.					
	25 2,4-Dichlorophenol	162	Compound Not Detected.					
	26 1,2,4-Trichlorobenzene	180	Compound Not Detected.					
*	27 Naphthalene-d8	136	11.920	11.913	(1.000)	334081	4.00000	
	28 Naphthalene	128	Compound Not Detected.					
	29 4-Chloroaniline	127	Compound Not Detected.					
	30 Hexachlorobutadiene	225	Compound Not Detected.					
	31 4-Chloro-3-methylphenol	107	Compound Not Detected.					
	32 2-Methylnaphthalene	142	Compound Not Detected.					
	33 Hexachlorocyclopentadiene	237	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	Compound Not Detected.					
	35 2,4,5-Trichlorophenol	196	Compound Not Detected.					
$	36 2-Fluorobiphenyl	172	14.125	14.126	(0.909)	345879	4.56980	4.570
	37 2-Chloronaphthalene	162	Compound Not Detected.					
	38 2-Nitroaniline	65	Compound Not Detected.					
	39 Dimethylphthalate	163	Compound Not Detected.					
	40 Acenaphthylene	152	Compound Not Detected.					
	41 2,6-Dinitrotoluene	165	Compound Not Detected.					
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	189445	4.00000	
	43 3-Nitroaniline	138	Compound Not Detected.					
	44 Acenaphthene	153	Compound Not Detected.					
	45 2,4-Dinitrophenol	184	Compound Not Detected.					
	46 Dibenzofuran	168	Compound Not Detected.					
	47 4-Nitrophenol	109	Compound Not Detected.					
	48 2,4-Dinitrotoluene	165	Compound Not Detected.					
	50 Diethylphthalate	149	Compound Not Detected.					
	49 Fluorene	166	Compound Not Detected.					
	51 4-Chlorophenyl-phenylether	204	Compound Not Detected.					
	52 4-Nitroaniline	138	Compound Not Detected.					
	53 4,6-Dinitro-2-methylphenol	198	Compound Not Detected.					
	54 N-Nitrosodiphenylamine	169	Compound Not Detected.					
$	55 2,4,6-Tribromophenol	330	17.179	17.180	(1.106)	46360	6.37905	6.379
	56 4-Bromophenyl-phenylether	248	Compound Not Detected.					
	57 Hexachlorobenzene	284	Compound Not Detected.					
	58 Pentachlorophenol	266	Compound Not Detected.					
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	329398	4.00000	
	60 Phenanthrene	178	Compound Not Detected.					
	61 Anthracene	178	Compound Not Detected.					
	62 Carbazole	167	Compound Not Detected.					
	63 Di-n-butylphthalate	149	Compound Not Detected.					
	64 Fluoranthene	202	Compound Not Detected.					
	65 Pyrene	202	Compound Not Detected.					
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	339450	4.69162	4.692
	67 Butylbenzylphthalate	149	Compound Not Detected.					
	68 Benzo(a)anthracene	228	Compound Not Detected.					
*	69 Chrysene-d12	240	23.600	23.601	(1.000)	256298	4.00000	
	70 3,3'-Dichlorobenzidine	252	Compound Not Detected.					
	71 Chrysene	228	Compound Not Detected.					
	72 bis(2-Ethylhexyl)phthalate	149	Compound Not Detected.					
*	134 Di-n-octylphthalate-d4	153	24.630	24.630	(1.000)	434712	4.00000	
	73 Di-n-octylphthalate	149	Compound Not Detected.					
	74 Benzo(b)fluoranthene	252	Compound Not Detected.					
	75 Benzo(k)fluoranthene	252	Compound Not Detected.					
	76 Benzo(a)pyrene	252	Compound Not Detected.					
*	77 Perylene-d12	264	26.418	26.419	(1.000)	233002	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.					
	79 Dibenzo(a,h)anthracene	278	Compound Not Detected.					
	80 Benzo(g,h,i)perylene	276	Compound Not Detected.					
	90 N-Nitrosodimethylamine	74	Compound Not Detected.					
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	Compound Not Detected.					
	103 Pyridine	79	Compound Not Detected.					
	105 1-methylnaphthalene	142	Compound Not Detected.					
	111 Azobenzene (1,2-DP-Hydrazine)	77	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	Compound Not Detected.					
120 2,3,4,6-Tetrachlorophenol	232	Compound Not Detected.					

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081916.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081916.D
Lab Smp Id: SJH0235-ICB1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	96156	-1.40
27 Naphthalene-d8	336155	168078	672310	334081	-0.62
42 Acenaphthene-d10	204971	102486	409942	189445	-7.57
59 Phenanthrene-d10	357720	178860	715440	329398	-7.92
69 Chrysene-d12	291052	145526	582104	256298	-11.94
134 Di-n-octylphthala	588887	294444	1177774	434712	-26.18
77 Perylene-d12	273109	136555	546218	233002	-14.69

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	-0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	-0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.59	18.09	19.09	18.58	-0.04
69 Chrysene-d12	23.61	23.11	24.11	23.60	-0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.63	-0.03
77 Perylene-d12	26.43	25.93	26.93	26.42	-0.03

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081916.D

Lab ID: SJH0235-ICB1
nt10.i, ABN.m, 19-AUG-2021 21:20

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
NONE			

RRT check based on Ccal File: NT1021081912.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00053
Sequence: SJH0235

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0235-SCV1
Sequence Name: SCV 5.0
Standard ID: J008837

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	5.0000	5.3	5.2	20.00
bis(2-chloroethyl) ether	5.0000	5.8	15.6	20.00
2-Chlorophenol	5.0000	5.0	0.7	20.00
1,3-Dichlorobenzene	5.0000	5.2	3.7	20.00
1,4-Dichlorobenzene	5.0000	5.9	17.2	20.00
1,2-Dichlorobenzene	5.0000	5.2	4.0	20.00
Benzyl Alcohol	5.0000	4.9	-1.3	20.00
2,2'-Oxybis(1-chloropropane)	5.0000	5.7	14.4	20.00
2-Methylphenol	5.0000	4.7	-6.9	20.00
Hexachloroethane	5.0000	5.7	13.5	20.00
N-Nitroso-di-n-Propylamine	5.0000	5.3	5.8	20.00
4-Methylphenol	5.0000	4.7	-6.2	20.00
Nitrobenzene	5.0000	5.4	8.1	20.00
Isophorone	5.0000	7.8	55.6 *	20.00
2-Nitrophenol	5.0000	5.2	3.6	20.00
2,4-Dimethylphenol	5.0000	4.9	-1.6	20.00
Bis(2-Chloroethoxy)methane	5.0000	5.9	18.8	20.00
2,4-Dichlorophenol	5.0000	5.1	2.9	20.00
1,2,4-Trichlorobenzene	5.0000	5.0	0.005	20.00
Naphthalene	5.0000	5.1	2.0	20.00
Benzoic acid	10.000	5.4	-46.2 *	20.00
4-Chloroaniline	5.0000	4.6	-8.1	20.00
Hexachlorobutadiene	5.0000	5.1	2.1	20.00
4-Chloro-3-Methylphenol	5.0000	4.9	-1.5	20.00
2-Methylnaphthalene	5.0000	4.7	-5.5	20.00
Hexachlorocyclopentadiene	5.0000	4.3	-13.7	20.00
2,4,6-Trichlorophenol	5.0000	4.8	-4.6	20.00
2,4,5-Trichlorophenol	5.0000	4.9	-1.7	20.00
2-Chloronaphthalene	5.0000	5.6	11.7	20.00
2-Nitroaniline	5.0000	5.0	-0.6	20.00
Acenaphthylene	5.0000	4.8	-4.1	20.00
Dimethylphthalate	5.0000	5.0	-0.4	20.00
2,6-Dinitrotoluene	5.0000	5.4	7.4	20.00
Acenaphthene	5.0000	5.0	-0.5	20.00
3-Nitroaniline	5.0000	4.6	-8.8	20.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00053
Laboratory ID: SJH0235-SCV1
Sequence: SJH0235
Sequence Name: SCV 5.0
Standard ID: J008837

2,4-Dinitrophenol	5.0000	1.7	-66.7 *	20.00
Dibenzofuran	5.0000	4.7	-6.2	20.00
4-Nitrophenol	5.0000	4.0	-19.6	20.00
2,4-Dinitrotoluene	5.0000	5.1	2.1	20.00
Fluorene	5.0000	4.7	-5.5	20.00
4-Chlorophenylphenyl ether	5.0000	5.2	3.7	20.00
Diethyl phthalate	5.0000	5.1	1.9	20.00
4-Nitroaniline	5.0000	4.8	-4.2	20.00
4,6-Dinitro-2-methylphenol	5.0000	3.9	-22.3 *	20.00
N-Nitrosodiphenylamine	5.0000	4.8	-3.3	20.00
4-Bromophenyl phenyl ether	5.0000	5.4	8.0	20.00
Hexachlorobenzene	5.0000	5.1	1.3	20.00
Pentachlorophenol	5.0000	3.1	-37.6 *	20.00
Phenanthrene	5.0000	4.9	-2.9	20.00
Anthracene	5.0000	4.8	-3.7	20.00
Carbazole	5.0000	5.0	-0.6	20.00
Di-n-Butylphthalate	5.0000	5.4	7.5	20.00
Fluoranthene	5.0000	4.9	-2.9	20.00
Pyrene	5.0000	4.9	-2.8	20.00
Butylbenzylphthalate	5.0000	4.9	-2.2	20.00
Benzo(a)anthracene	5.0000	4.8	-4.0	20.00
3,3'-Dichlorobenzidine	10.000	8.8	-11.7	20.00
Chrysene	5.0000	4.7	-6.3	20.00
bis(2-Ethylhexyl)phthalate	5.0000	5.4	7.2	20.00
Di-n-Octylphthalate	5.0000	5.2	4.6	20.00
Benzofluoranthenes, Total	10.000	10.0	-0.4	20.00
Benzo(a)pyrene	5.0000	5.0	-0.4	20.00
Indeno(1,2,3-cd)pyrene	5.0000	4.9	-2.9	20.00
Dibenzo(a,h)anthracene	5.0000	4.8	-3.2	20.00
Benzo(g,h,i)perylene	5.0000	4.9	-1.5	20.00
1-Methylnaphthalene	5.0000	4.8	-3.7	20.00

* Indicates values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

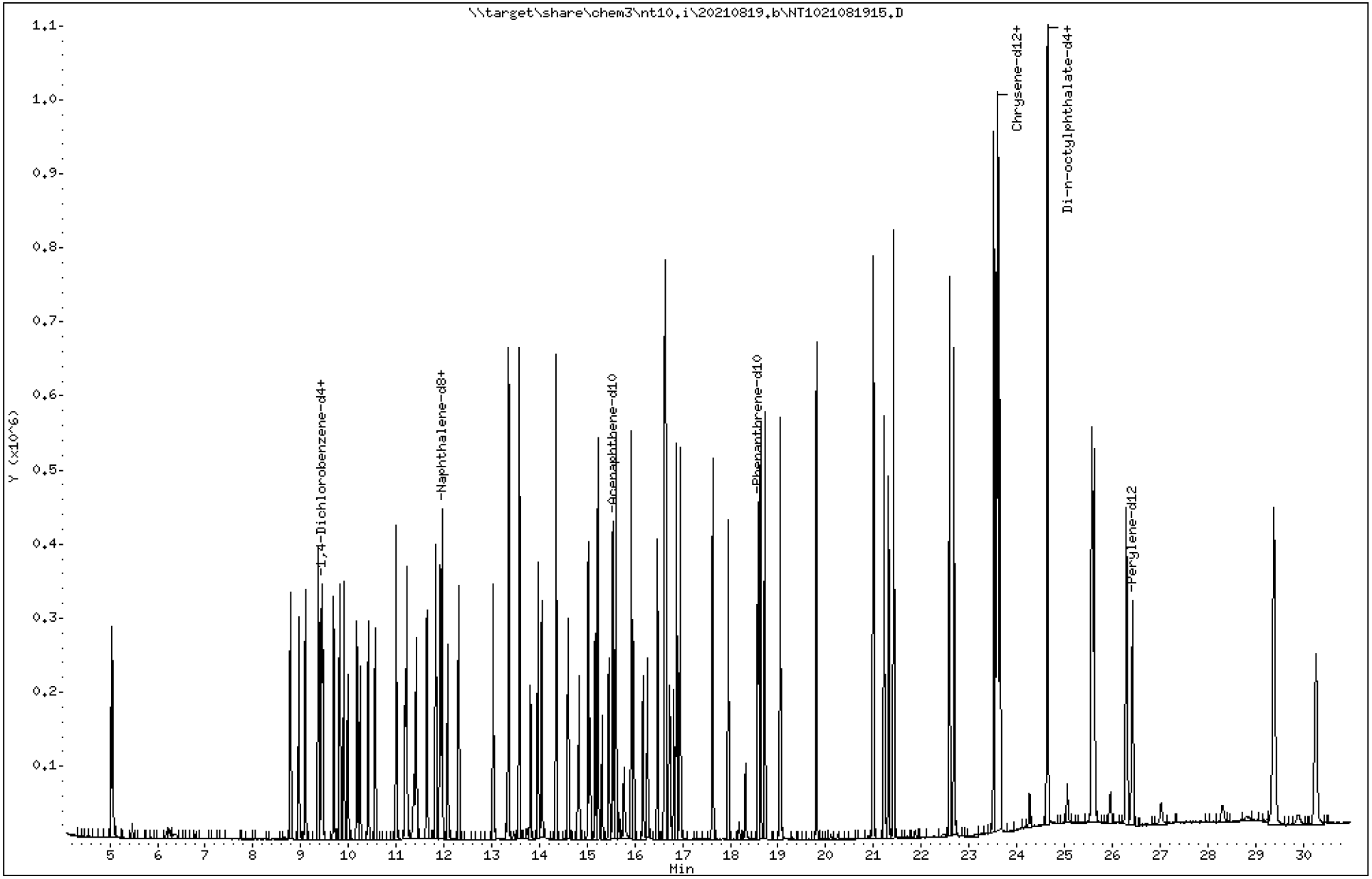
Instrument: nt10.i

Sample Info: SJH0235-SCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

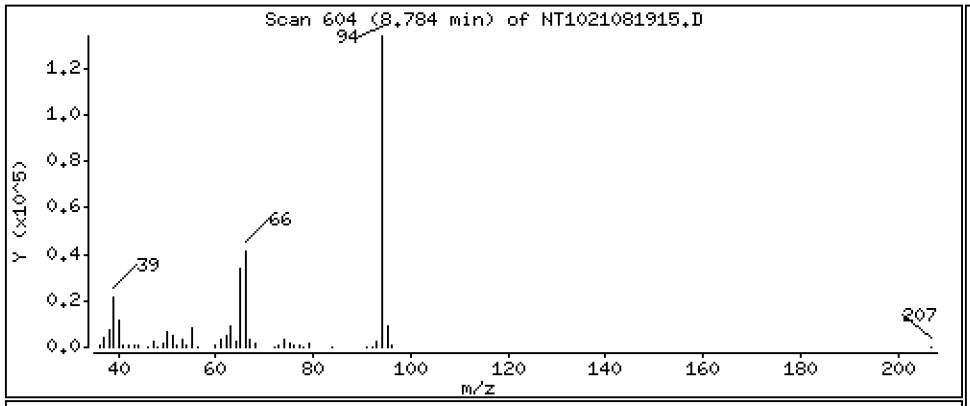
Operator: VTS

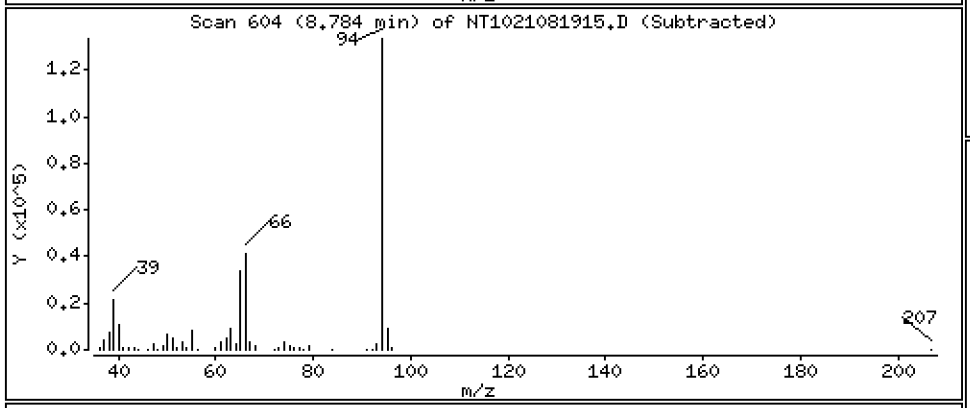
Column phase: ZB-5msi

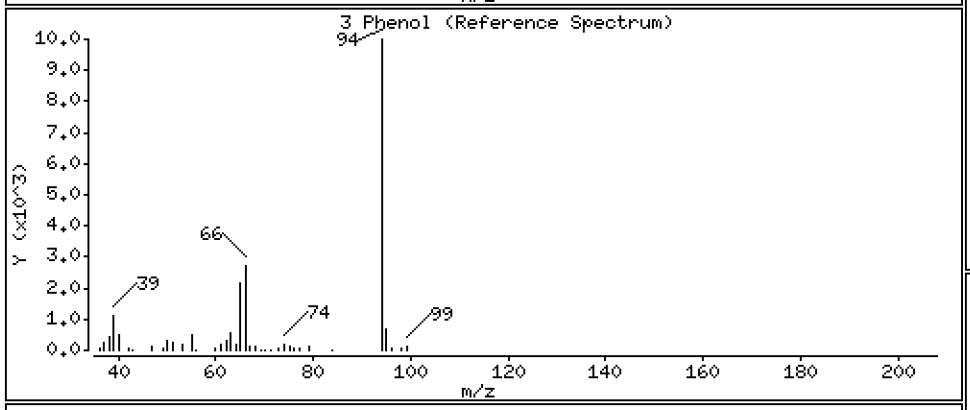
Column diameter: 0.25

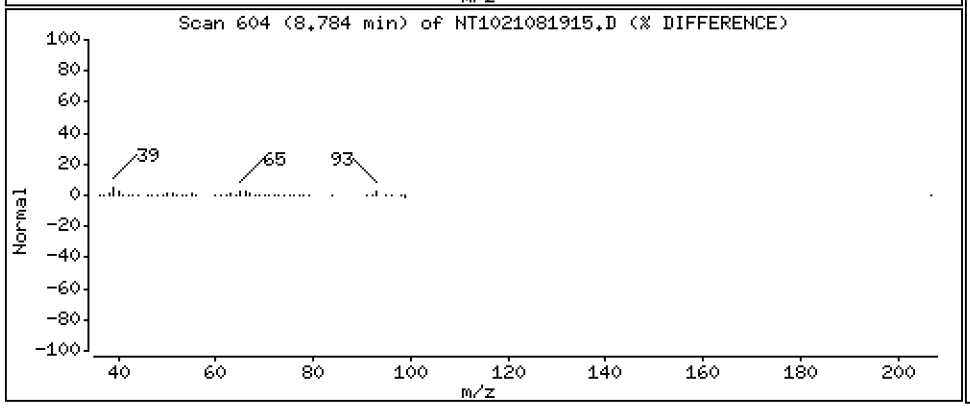
3 Phenol

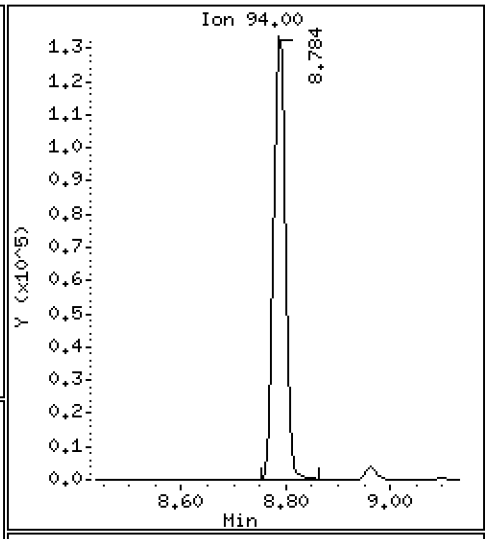
Concentration: 5.259 ug/mL

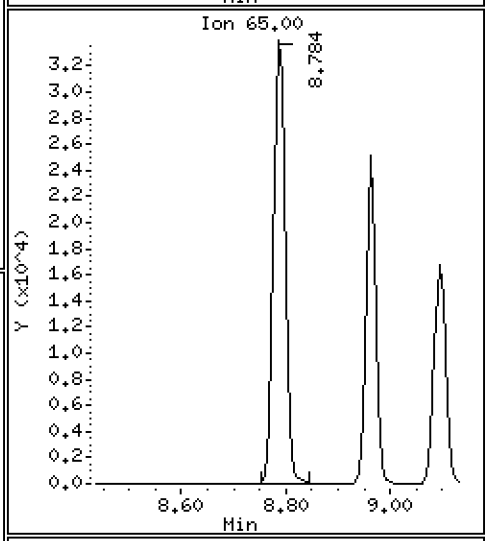


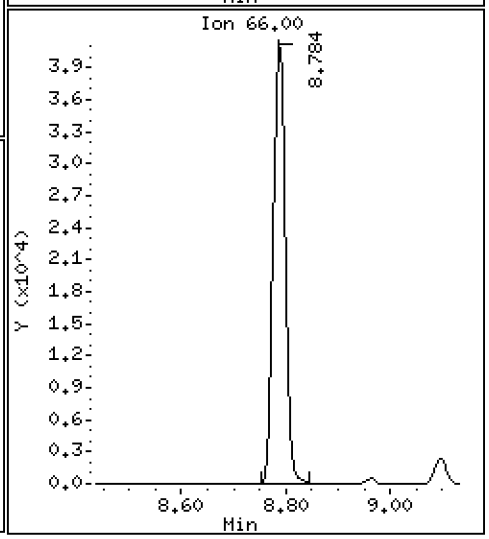












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

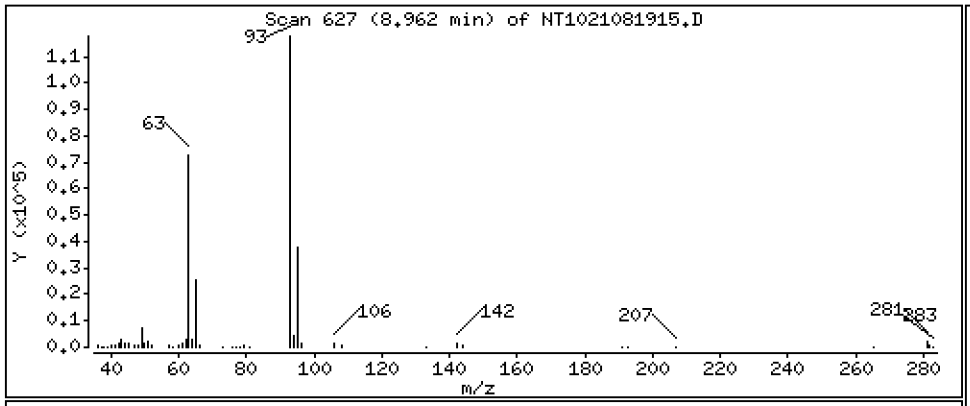
Operator: VTS

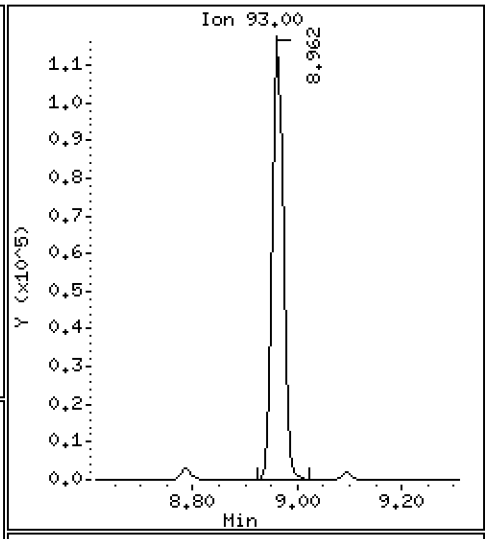
Column phase: ZB-5msi

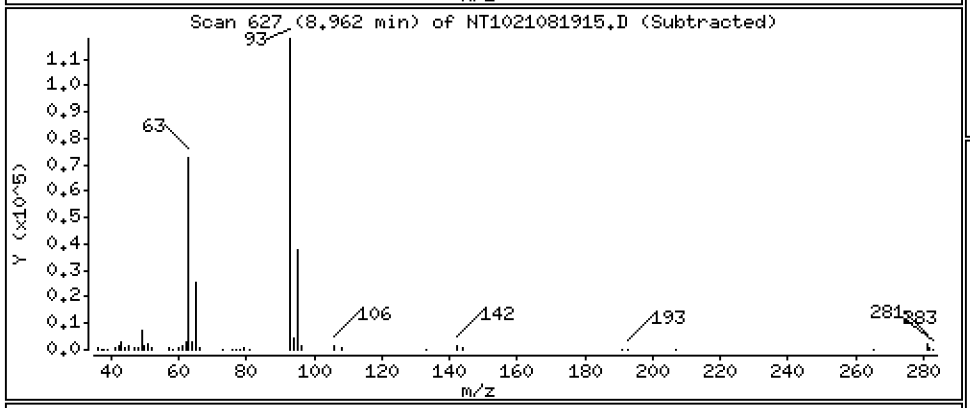
Column diameter: 0.25

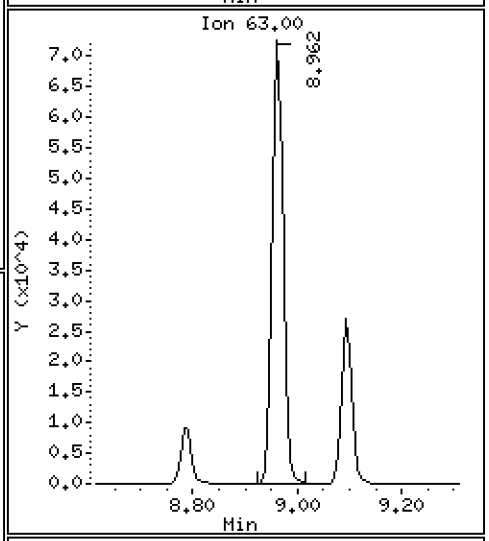
4 Bis(2-Chloroethyl)ether

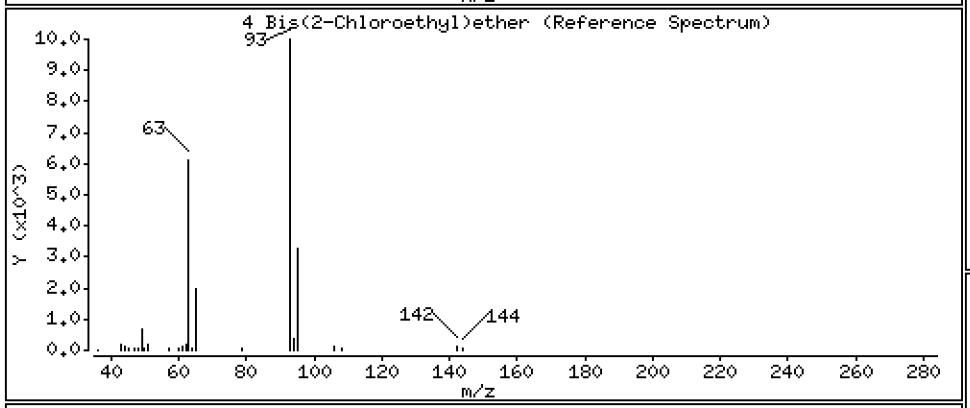
Concentration: 5.781 ug/mL

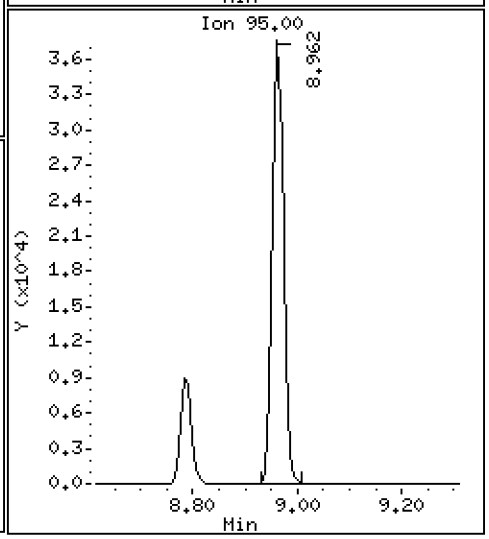


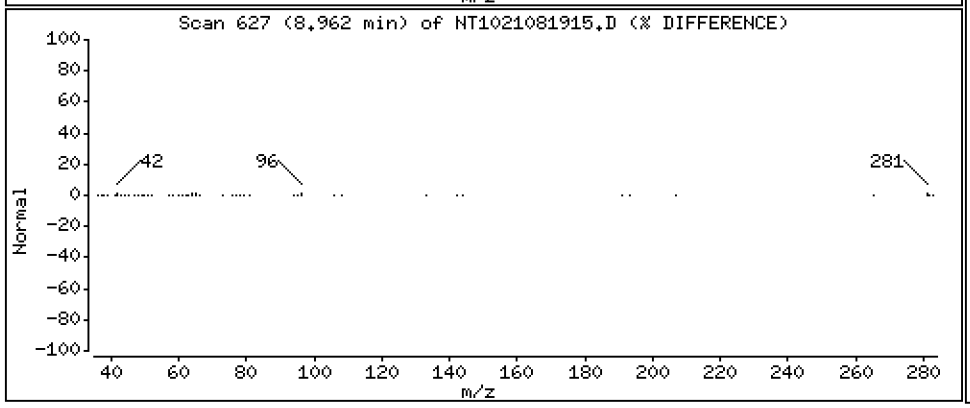












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

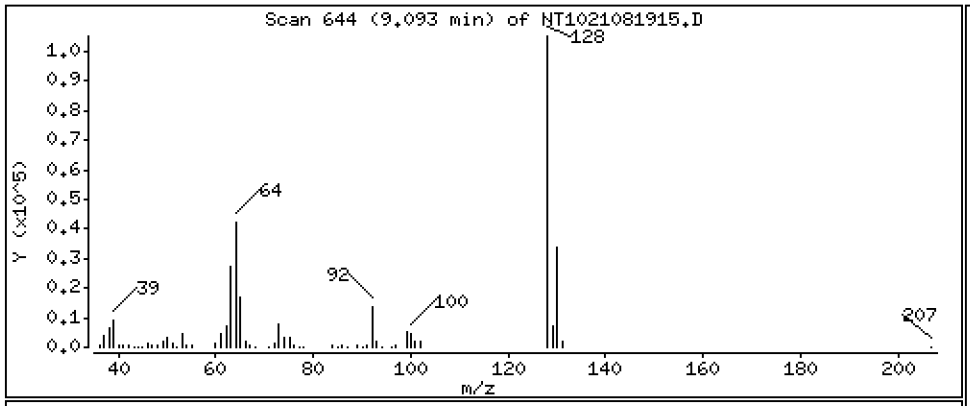
Operator: VTS

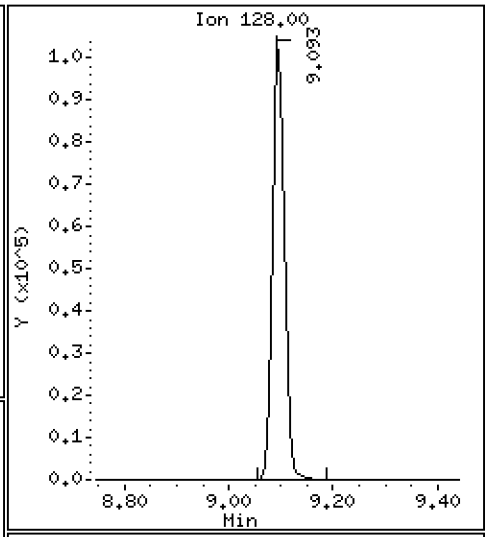
Column phase: ZB-5msi

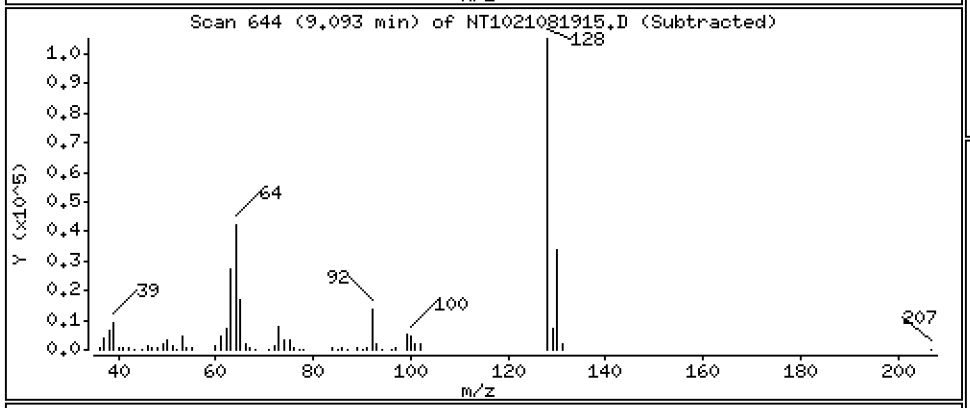
Column diameter: 0.25

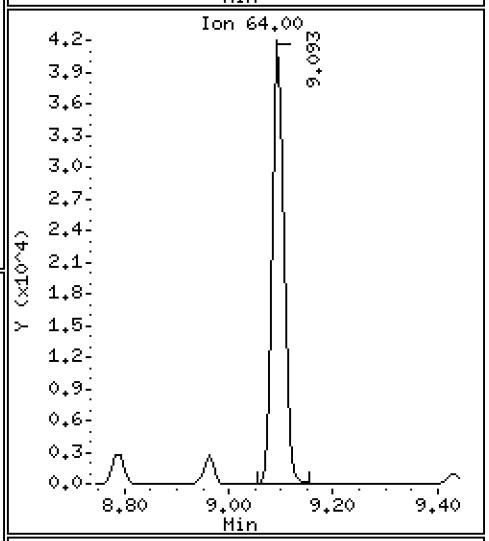
6 2-Chlorophenol

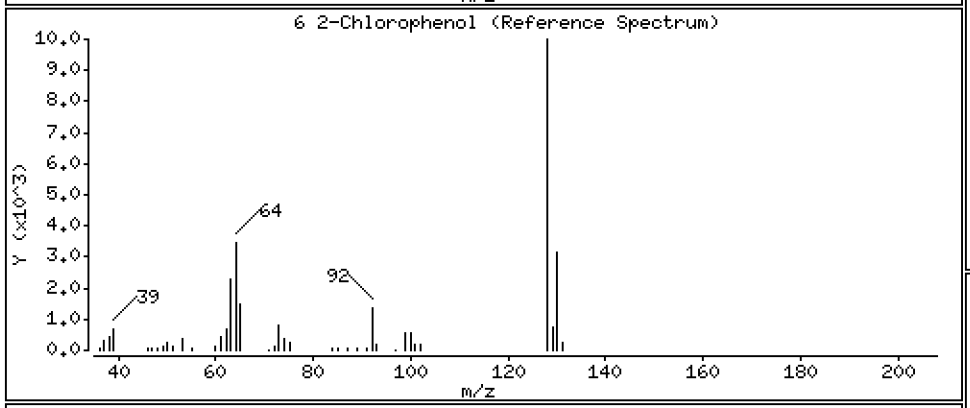
Concentration: 5.034 ug/mL

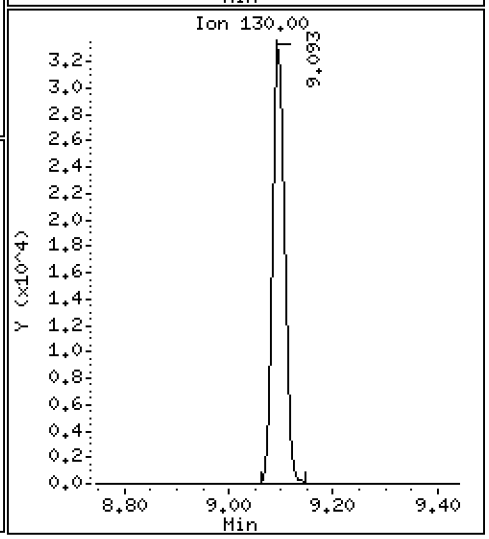


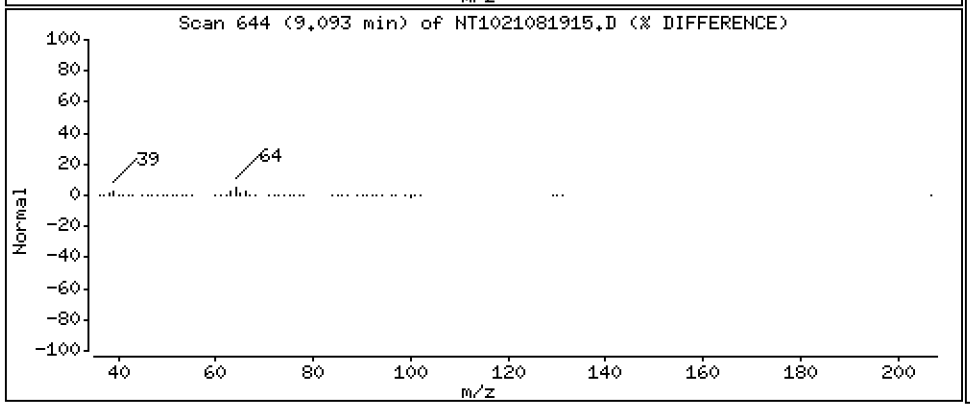












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

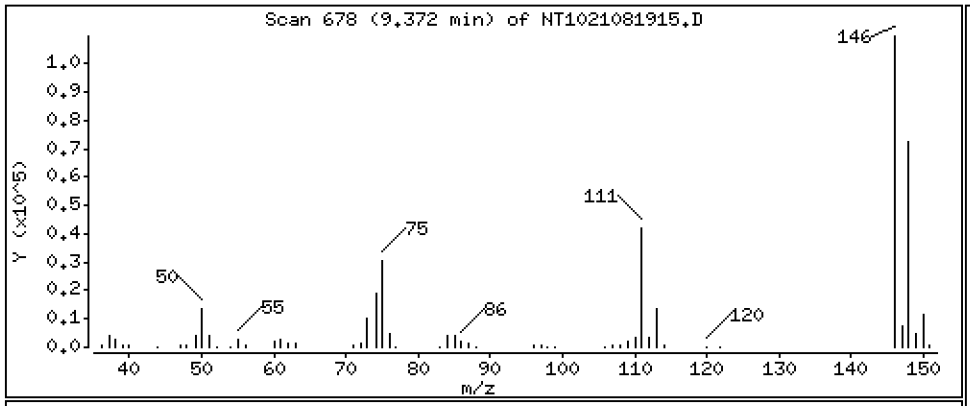
Operator: VTS

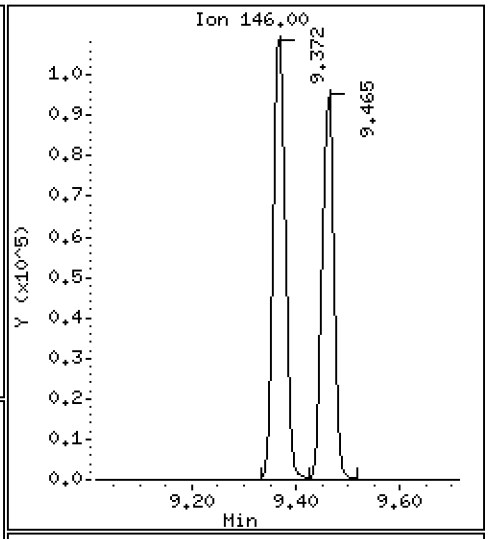
Column phase: ZB-5msi

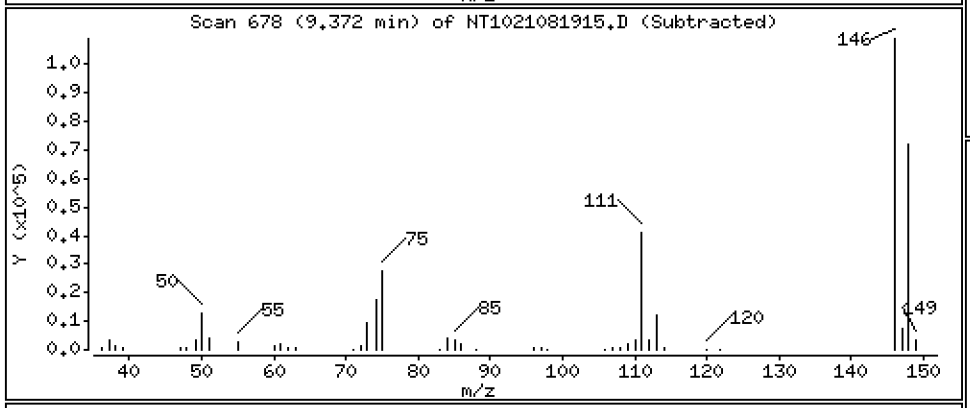
Column diameter: 0.25

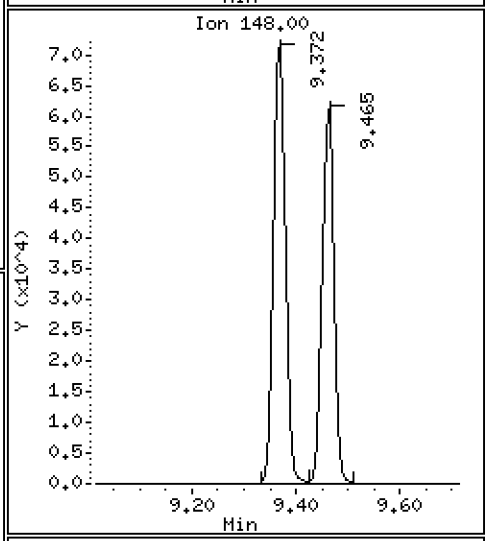
7 1,3-Dichlorobenzene

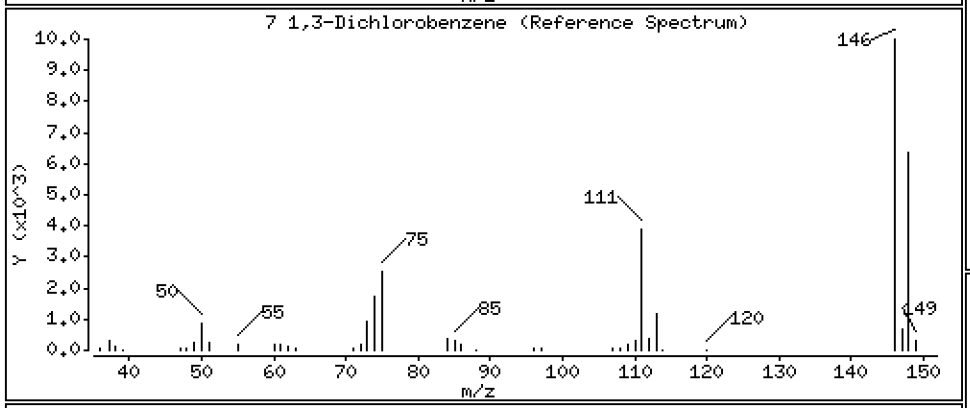
Concentration: 5.186 ug/mL

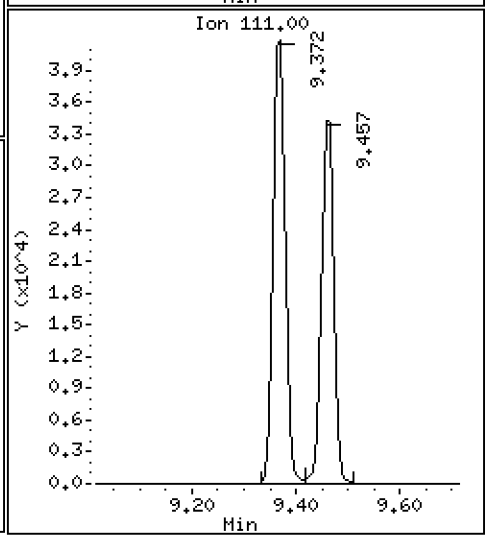


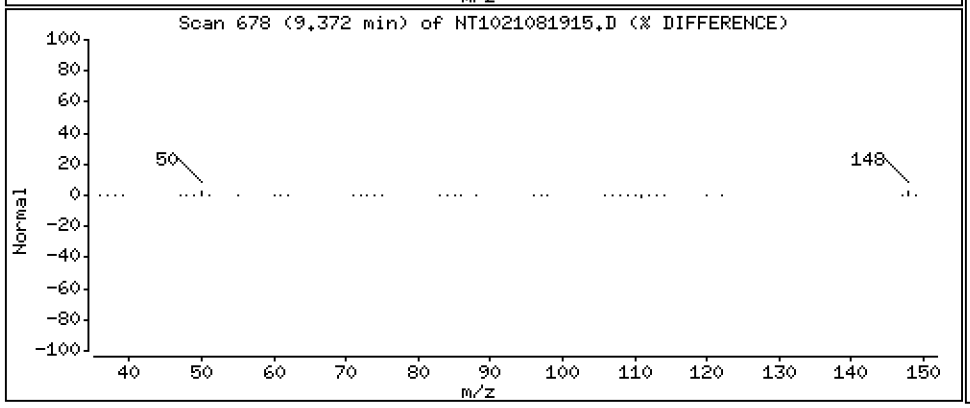












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

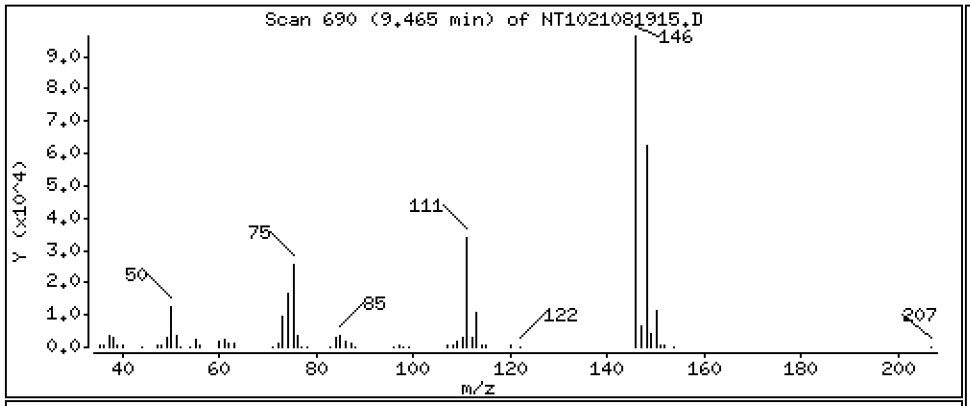
Operator: VTS

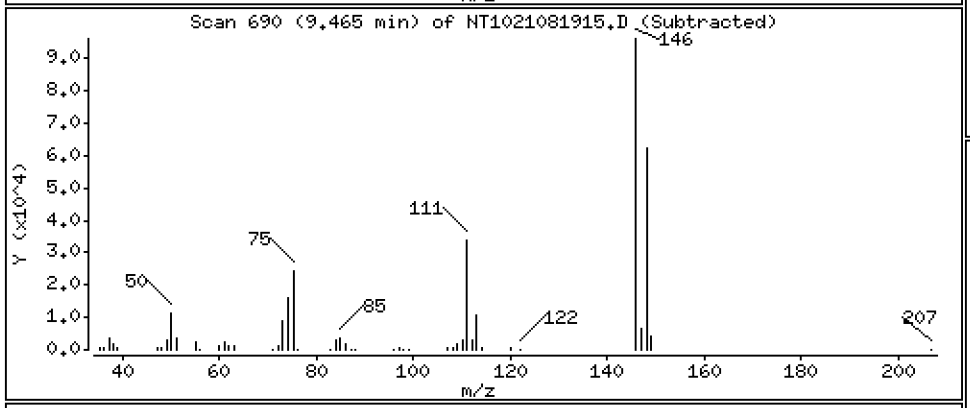
Column phase: ZB-5msi

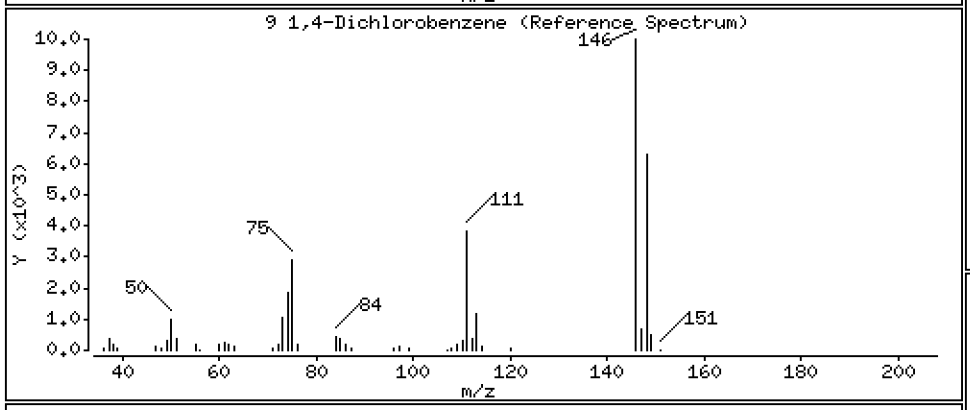
Column diameter: 0.25

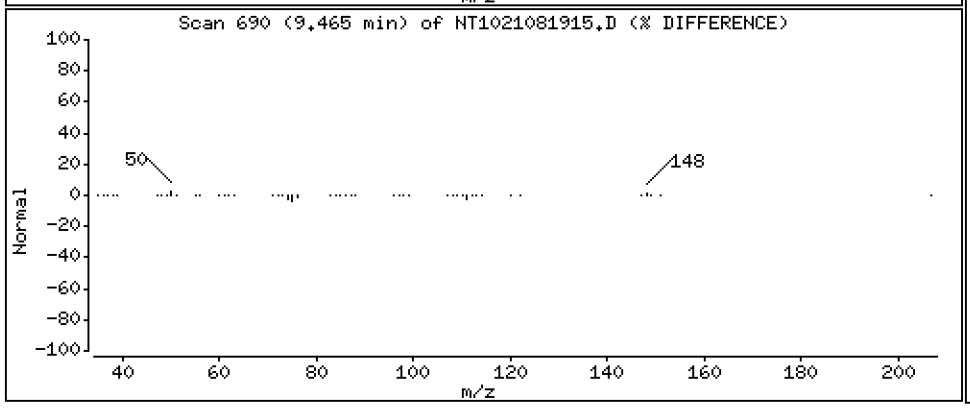
9 1,4-Dichlorobenzene

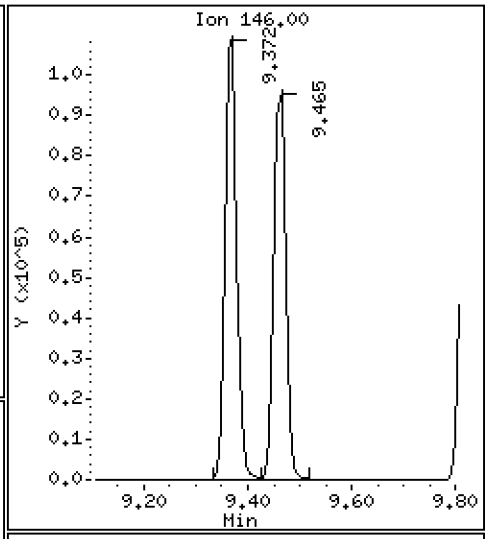
Concentration: 5.858 ug/mL

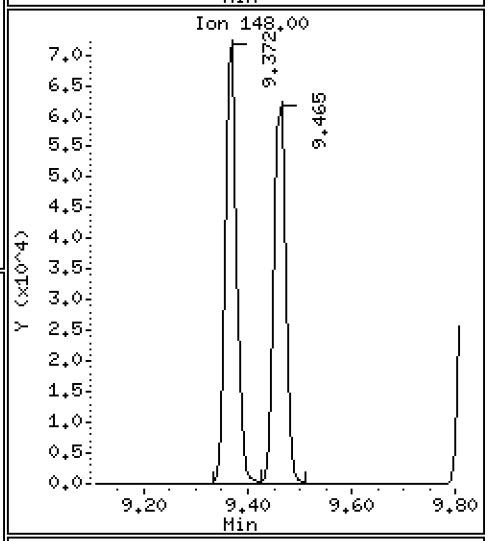


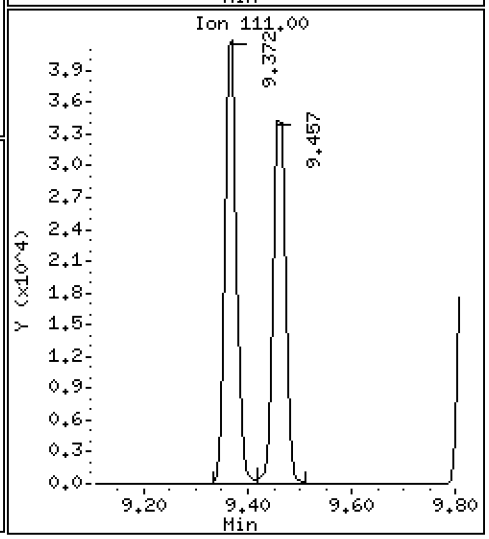












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

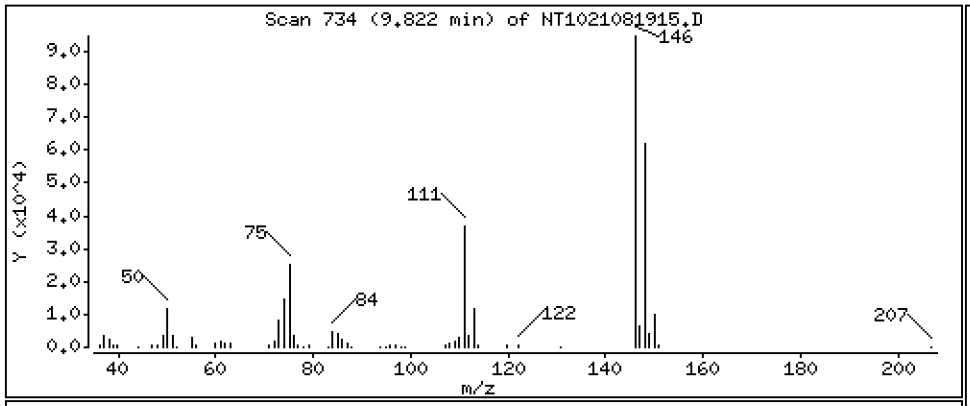
Operator: VTS

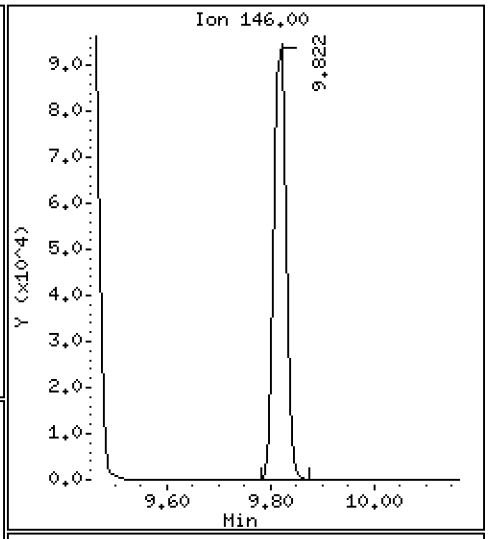
Column phase: ZB-5msi

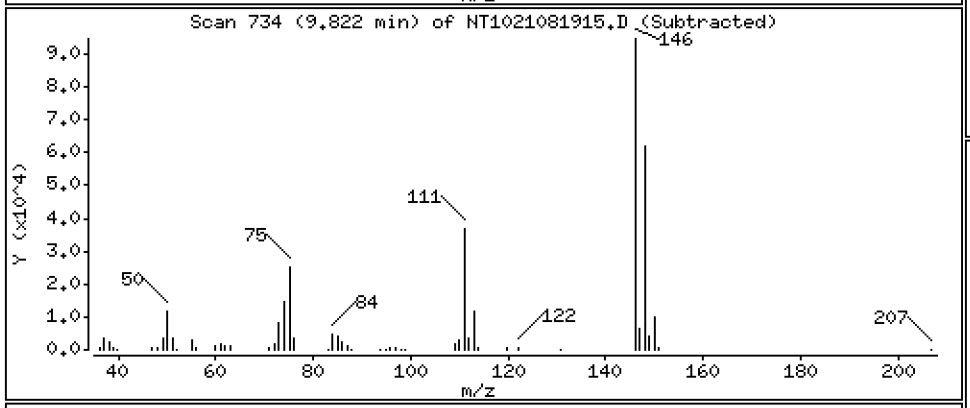
Column diameter: 0.25

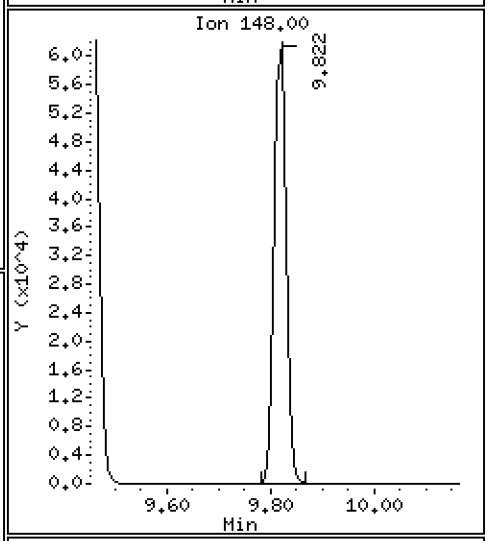
12 1,2-Dichlorobenzene

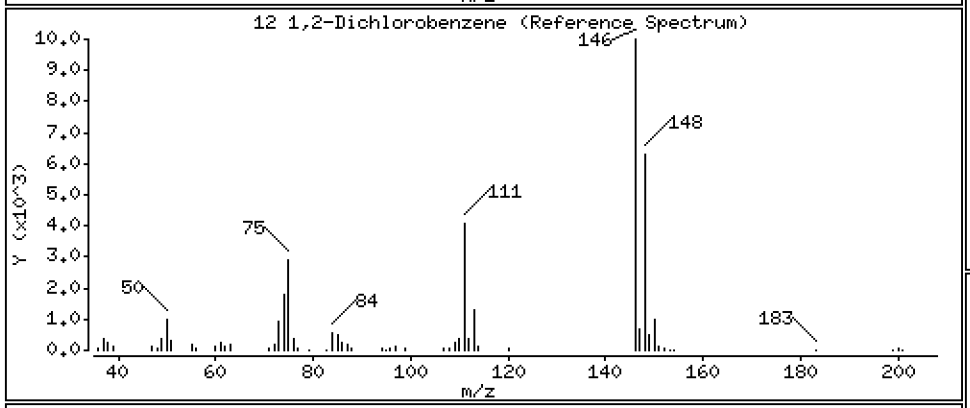
Concentration: 5.200 ug/mL

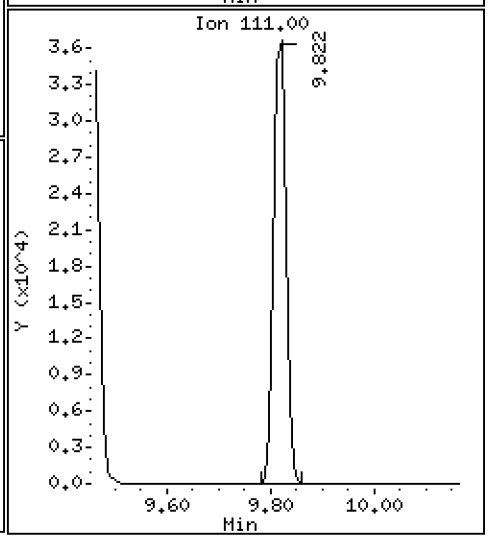


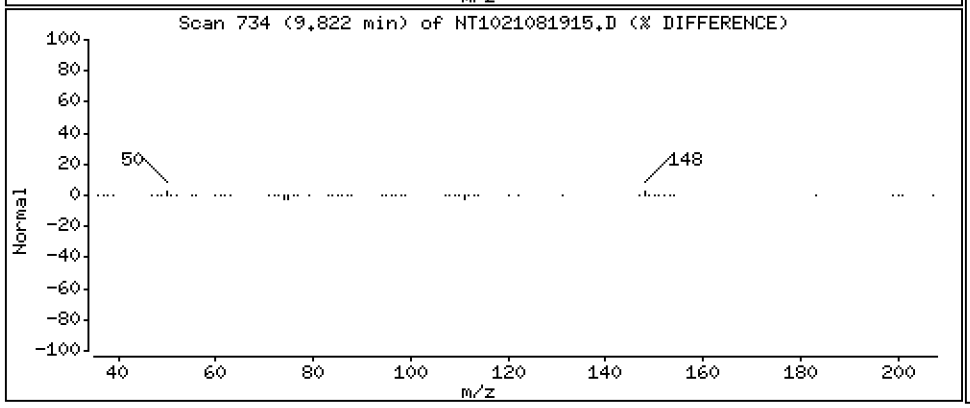












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

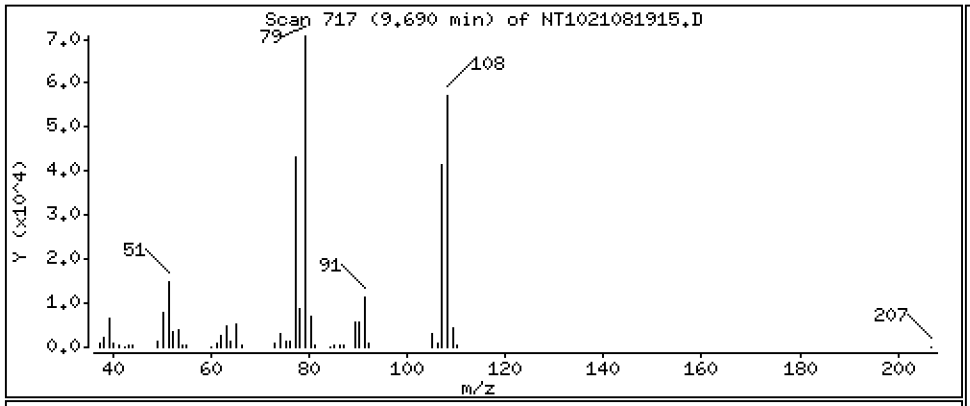
Operator: VTS

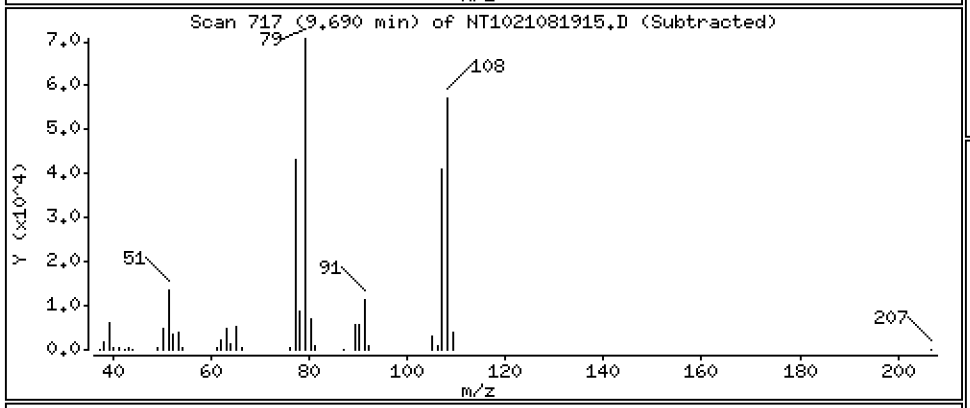
Column phase: ZB-5msi

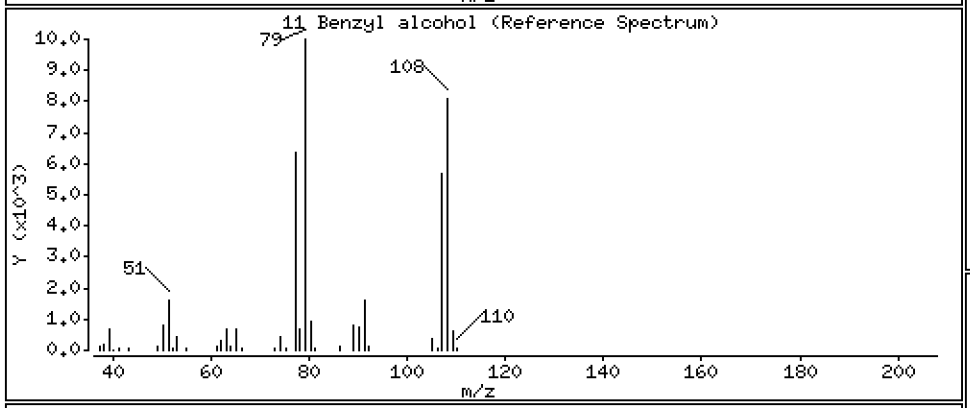
Column diameter: 0.25

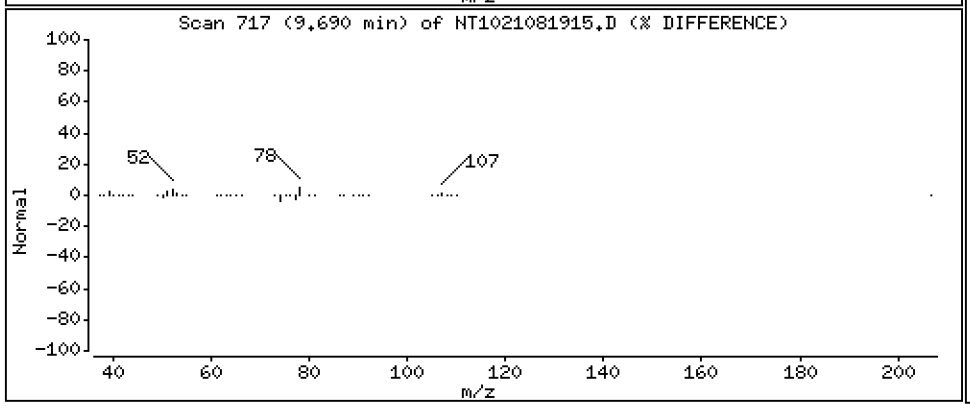
11 Benzyl alcohol

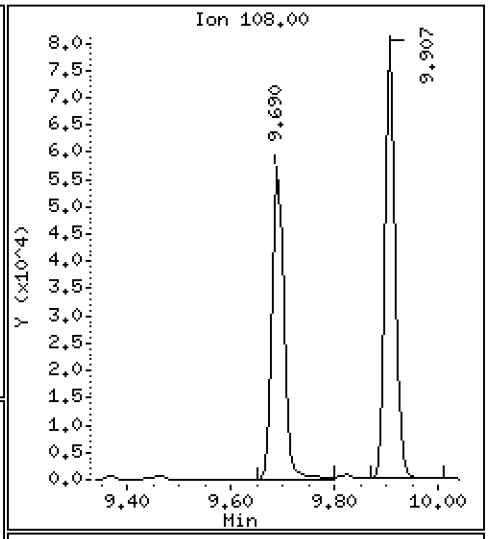
Concentration: 4.934 ug/mL

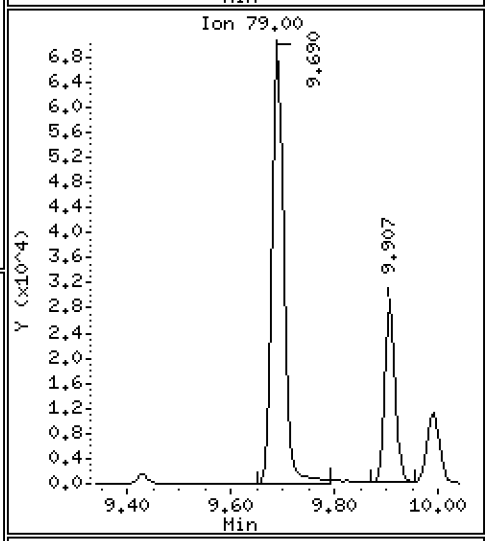


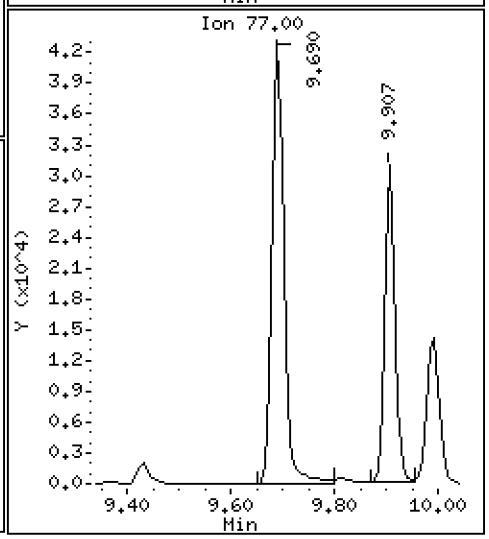












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

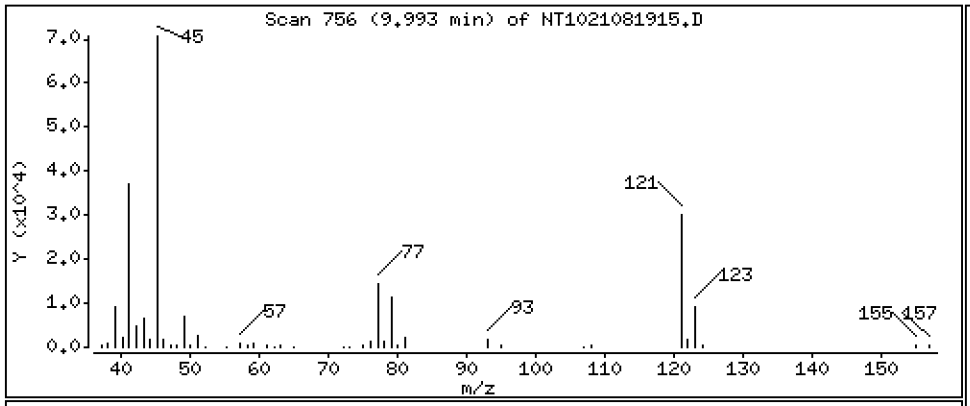
Operator: VTS

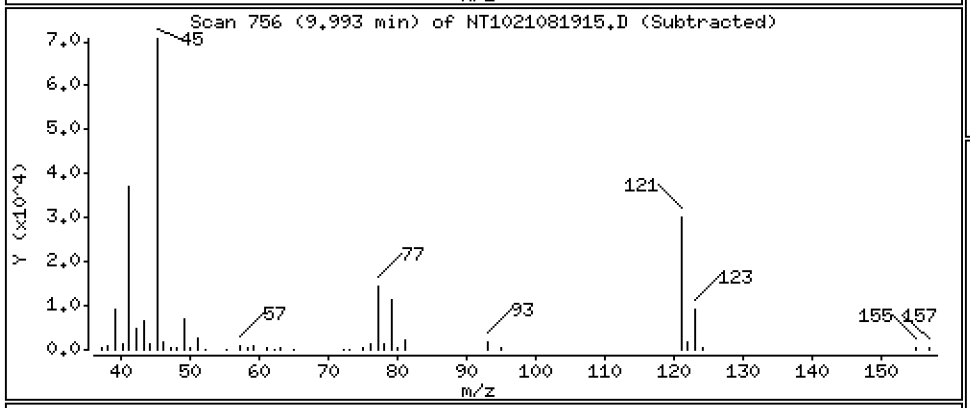
Column phase: ZB-5msi

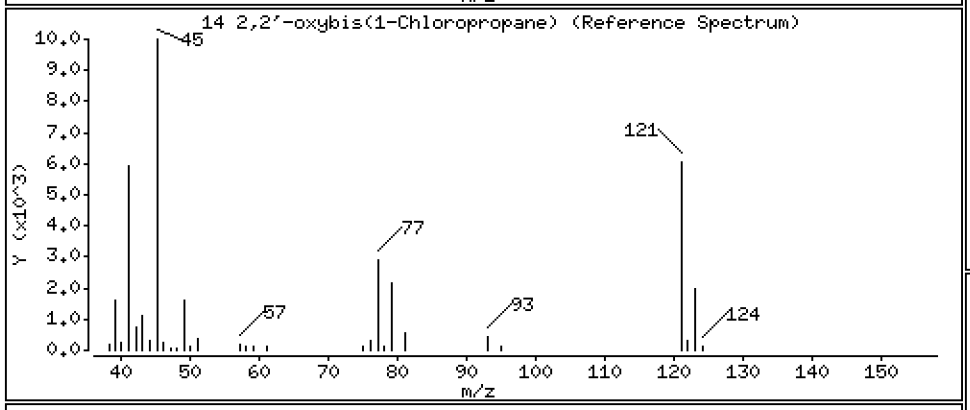
Column diameter: 0.25

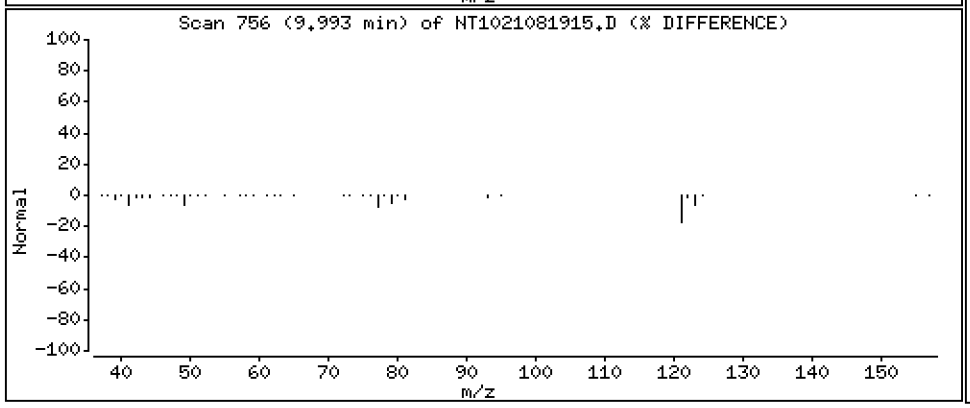
14 2,2'-oxybis(1-Chloropropane)

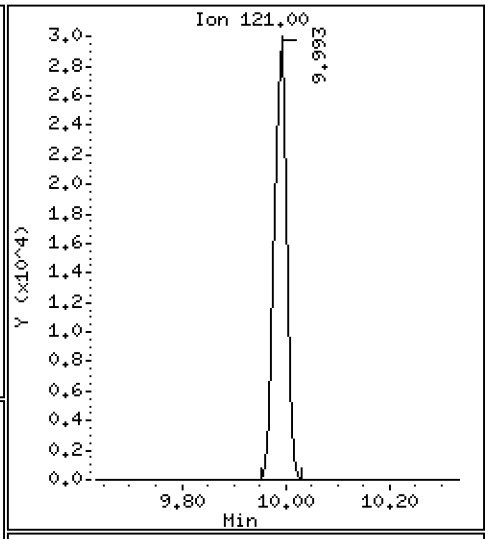
Concentration: 5.720 ug/mL

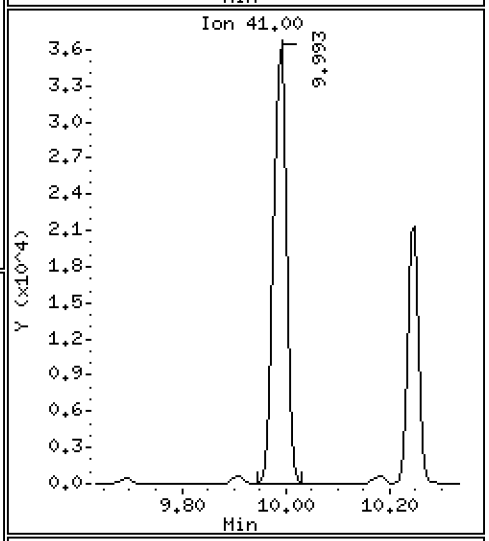


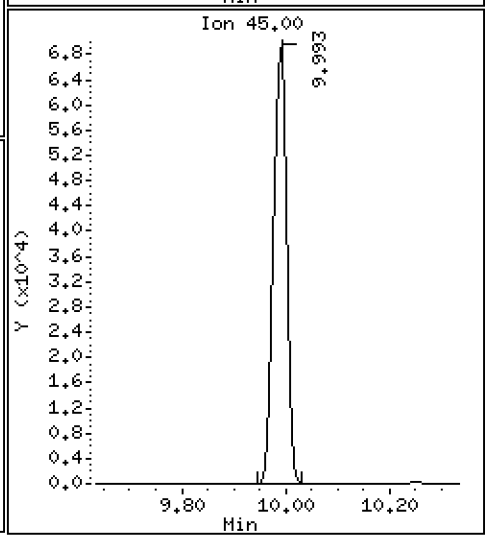












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

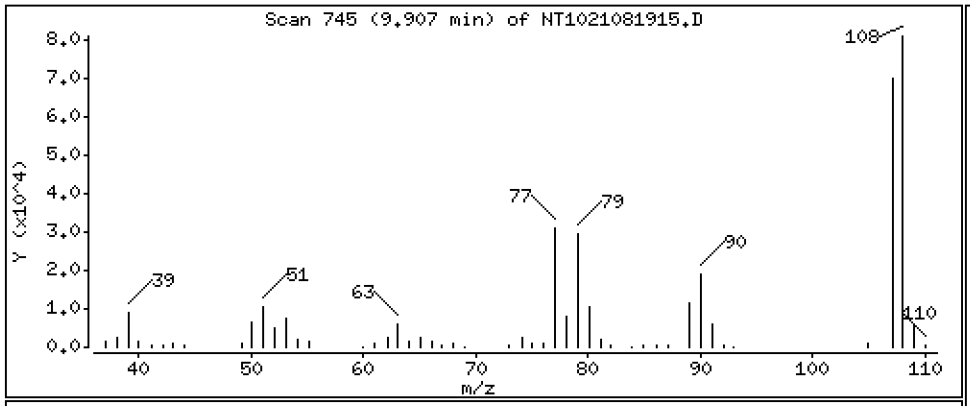
Operator: VTS

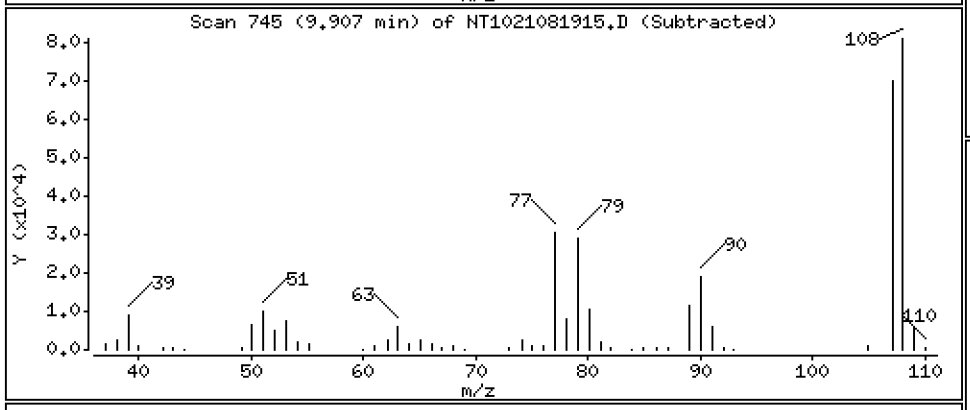
Column phase: ZB-5msi

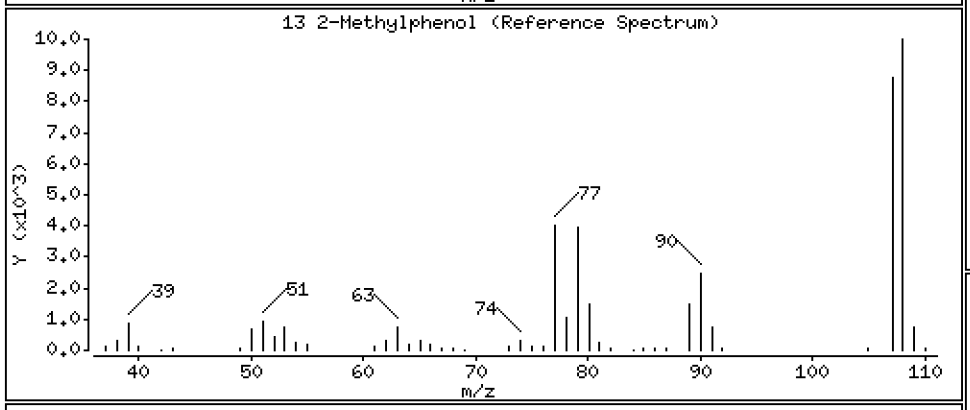
Column diameter: 0.25

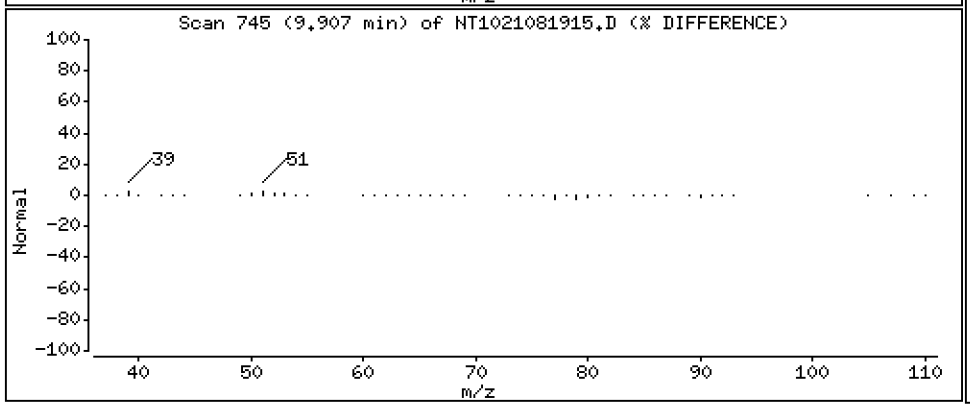
13 2-Methylphenol

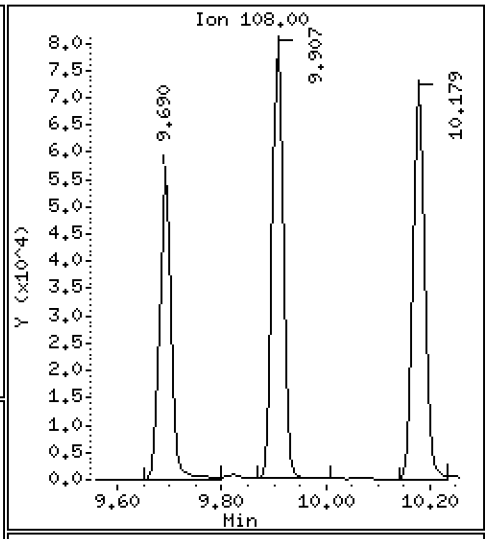
Concentration: 4.657 ug/mL

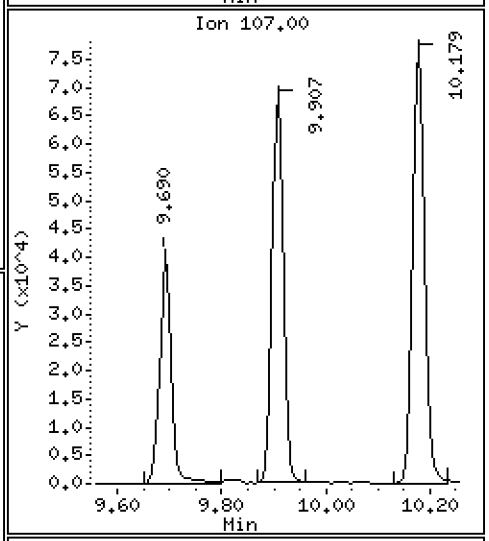


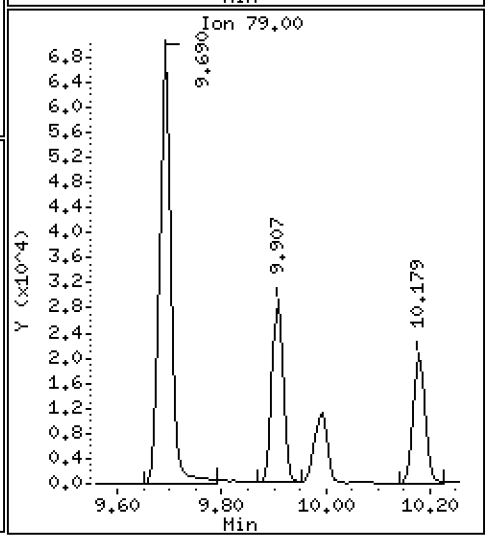












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

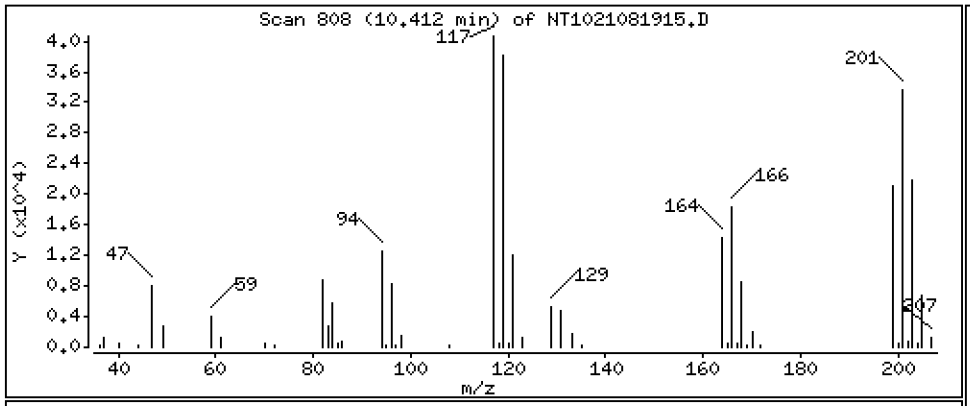
Operator: VTS

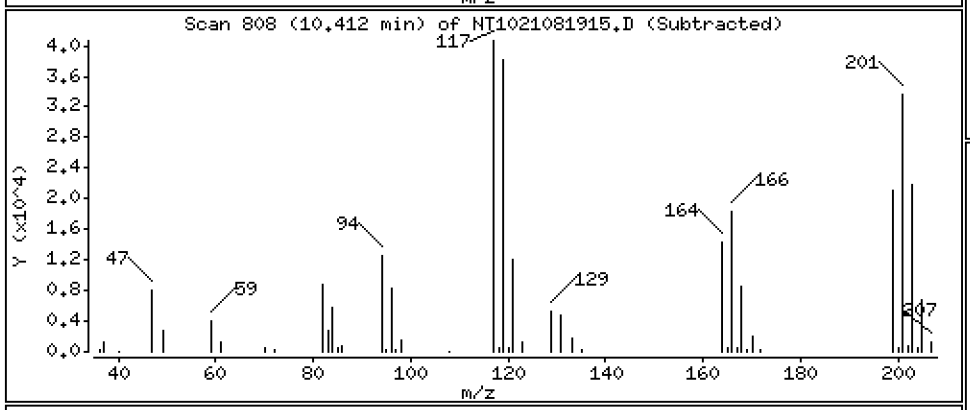
Column phase: ZB-5msi

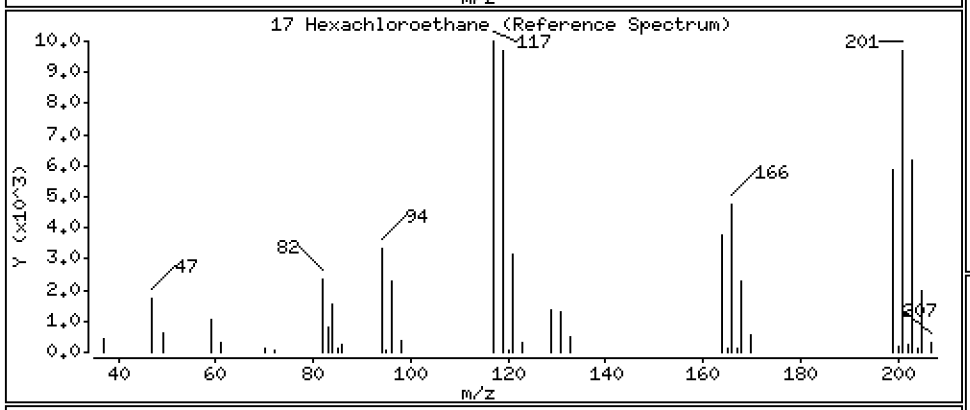
Column diameter: 0.25

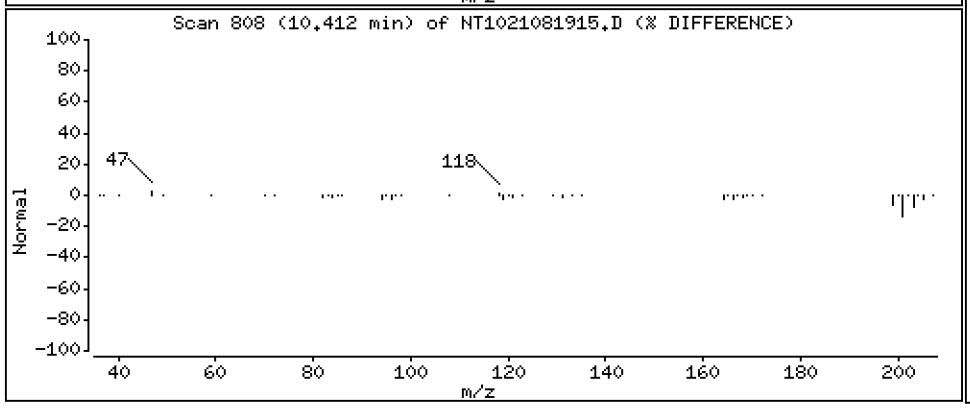
17 Hexachloroethane

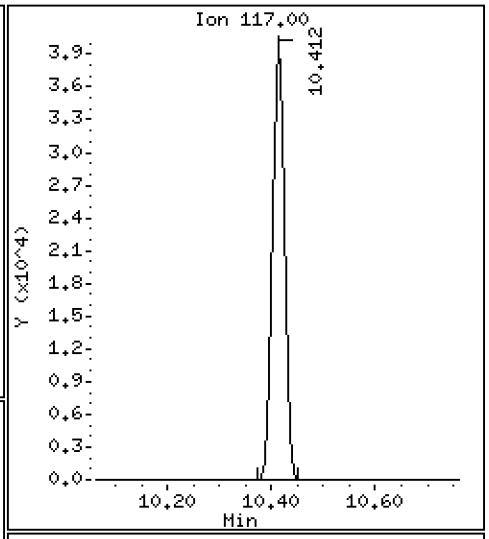
Concentration: 5.674 ug/mL

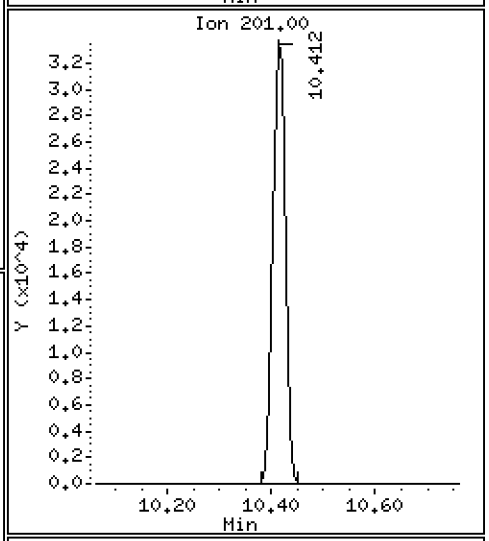


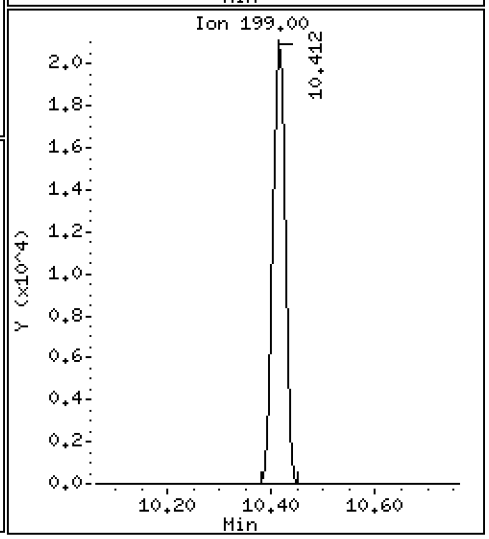












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

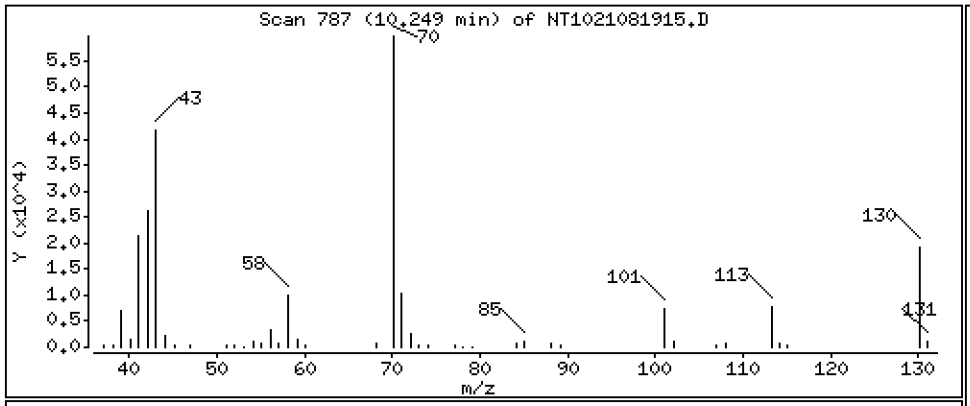
Operator: VTS

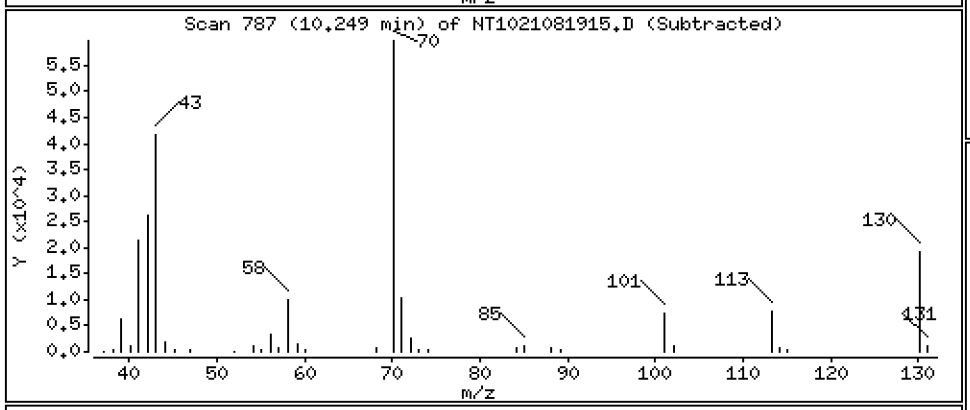
Column phase: ZB-5msi

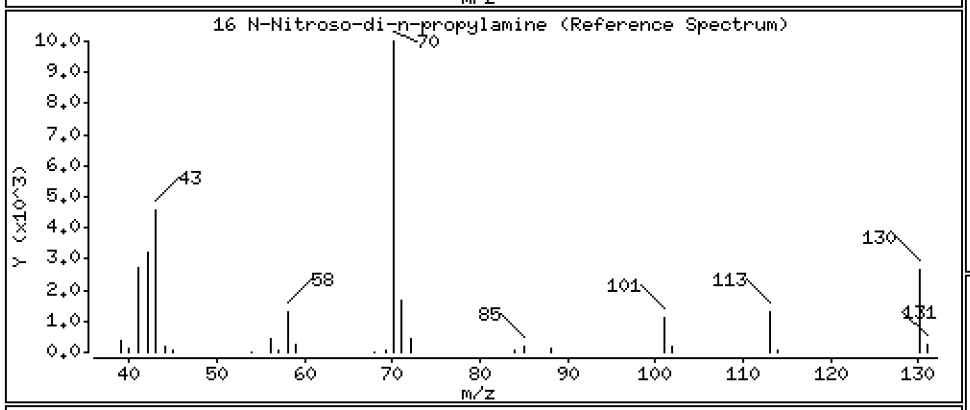
Column diameter: 0.25

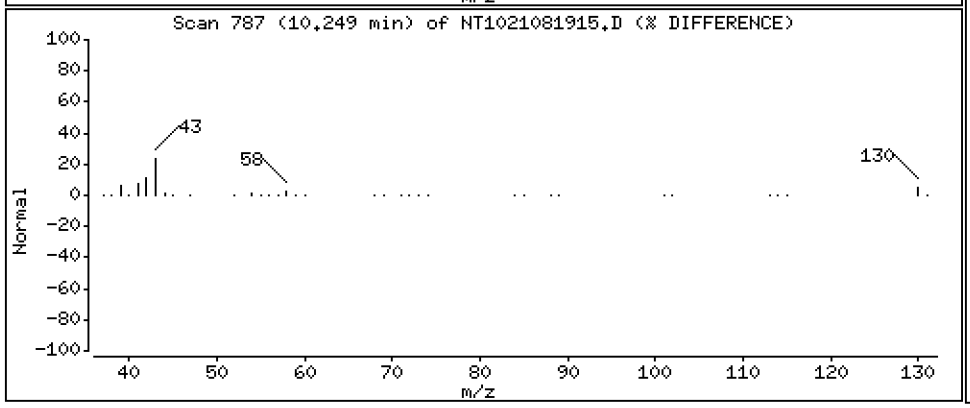
16 N-Nitroso-di-n-propylamine

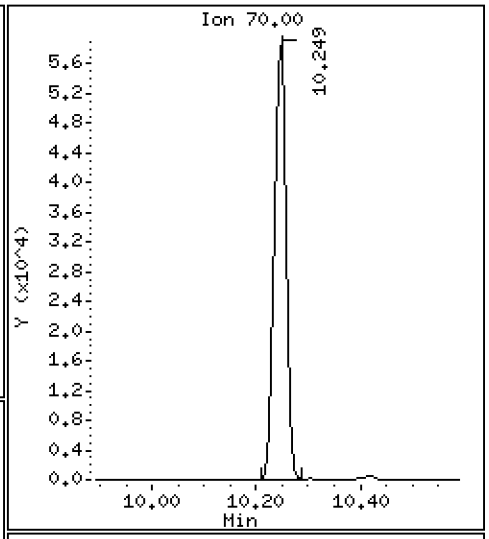
Concentration: 5.292 ug/mL

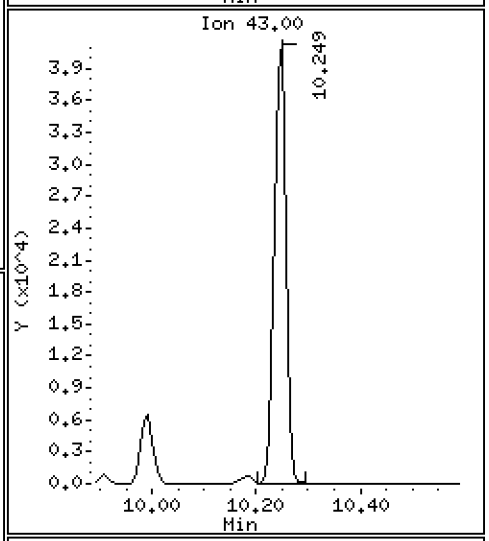


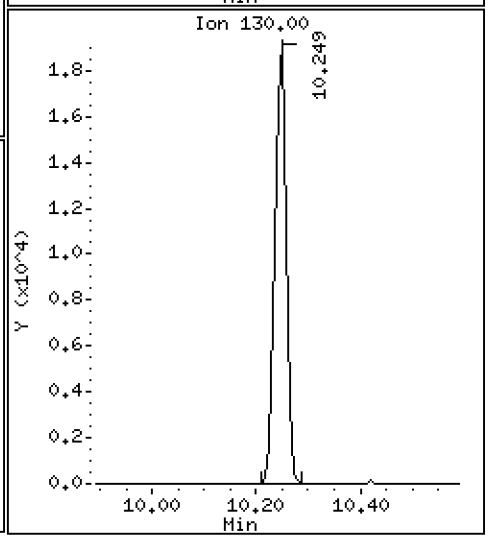












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

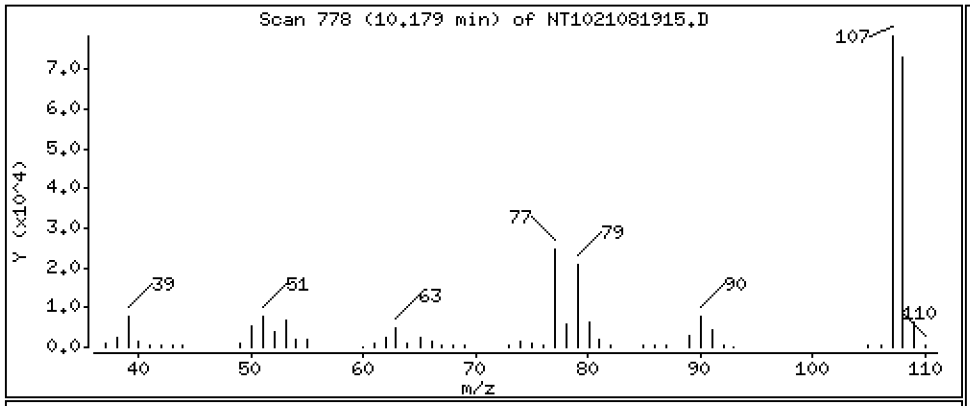
Operator: VTS

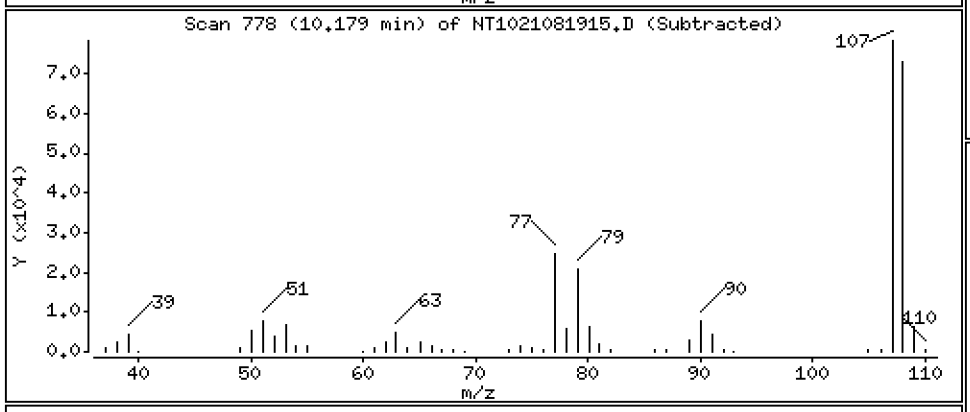
Column phase: ZB-5msi

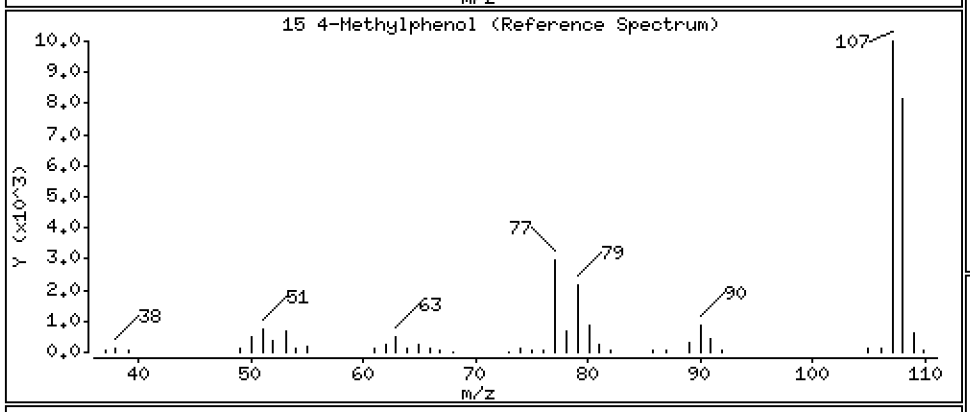
Column diameter: 0.25

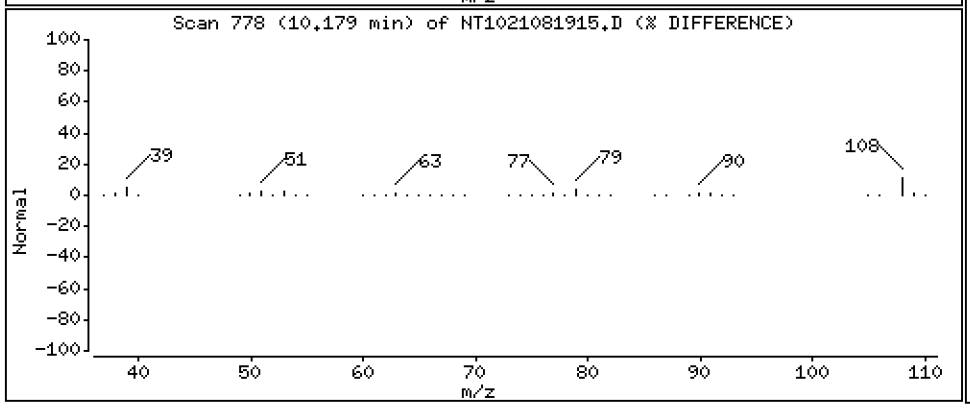
15 4-Methylphenol

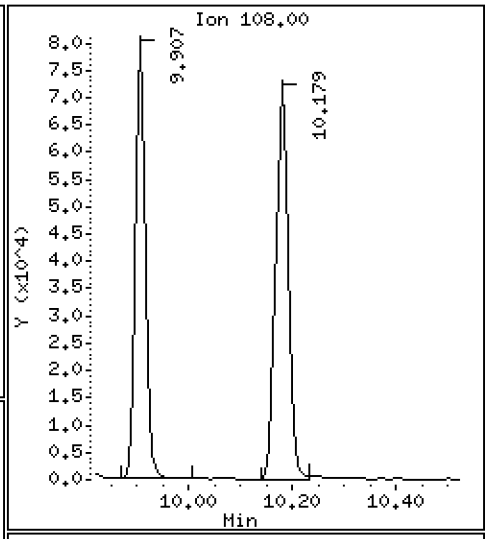
Concentration: 4.688 ug/mL

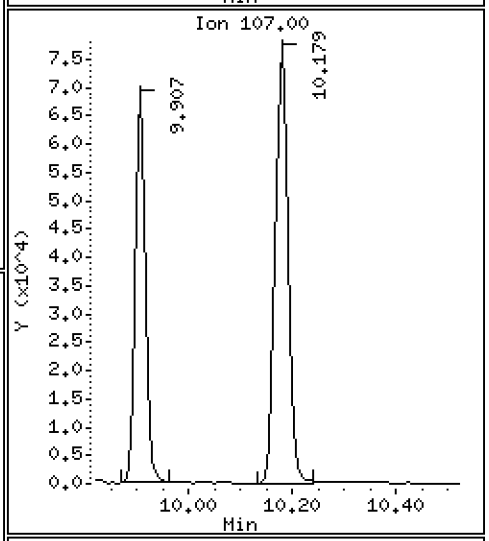


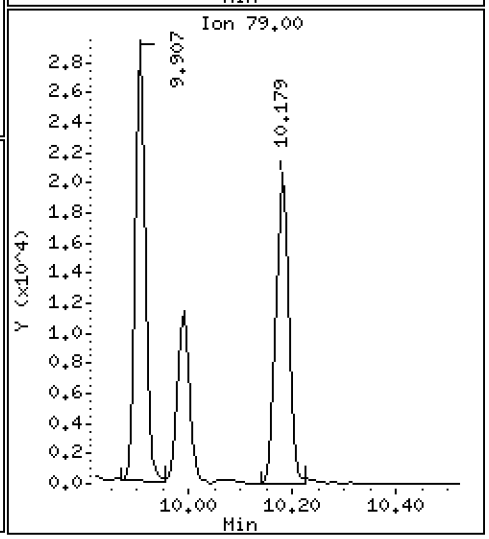












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

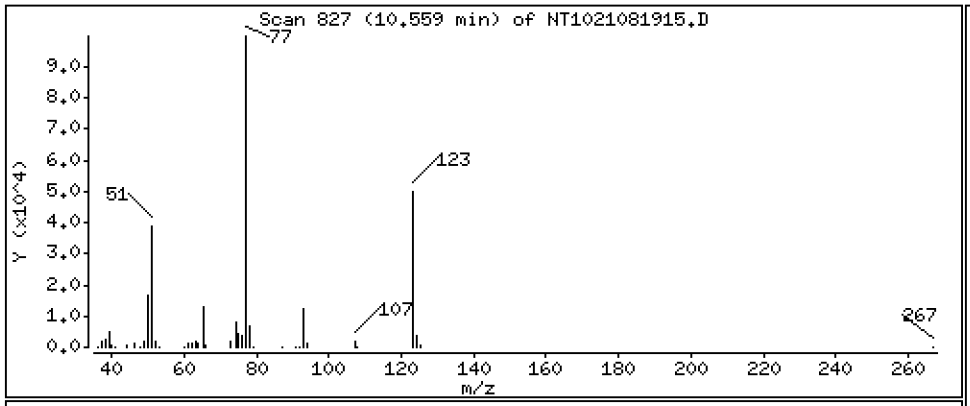
Operator: VTS

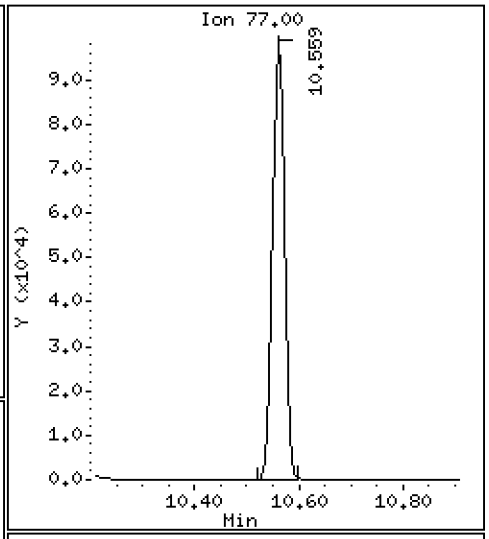
Column phase: ZB-5msi

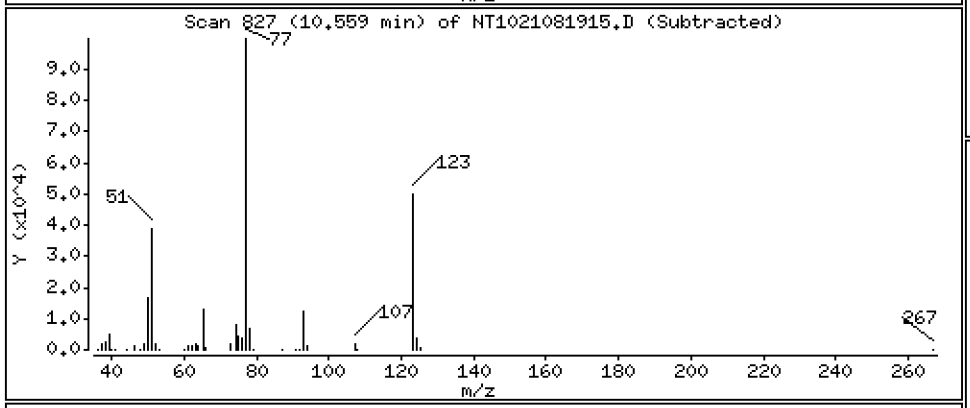
Column diameter: 0.25

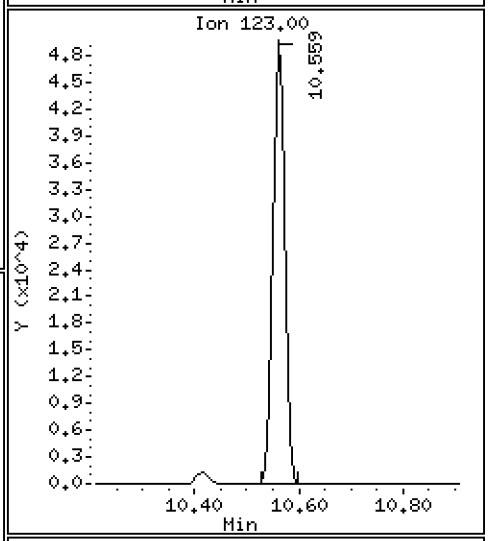
19 Nitrobenzene

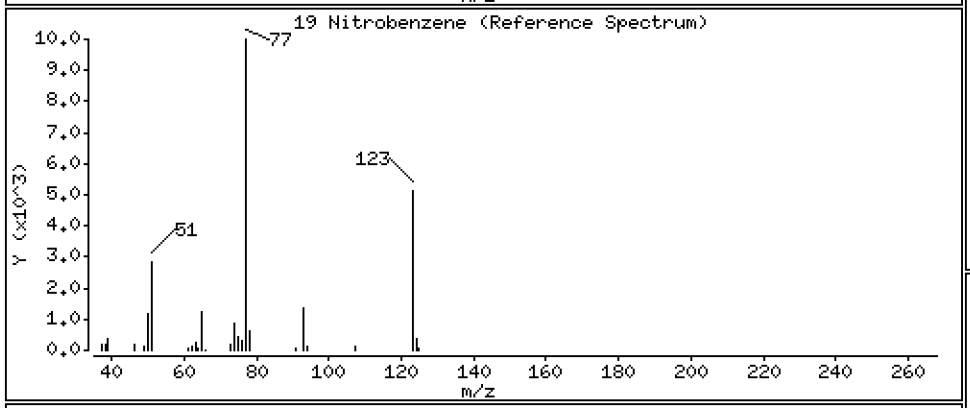
Concentration: 5.403 ug/mL

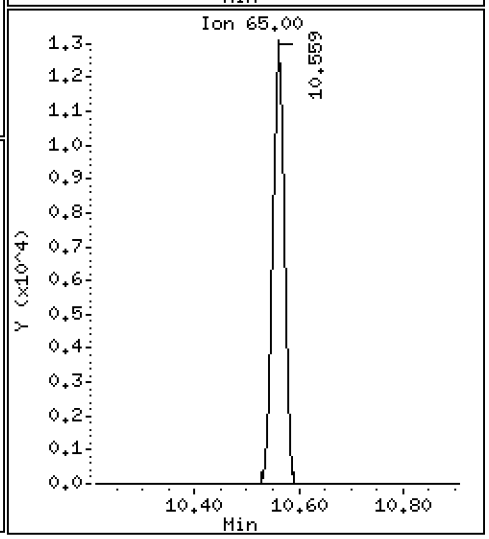


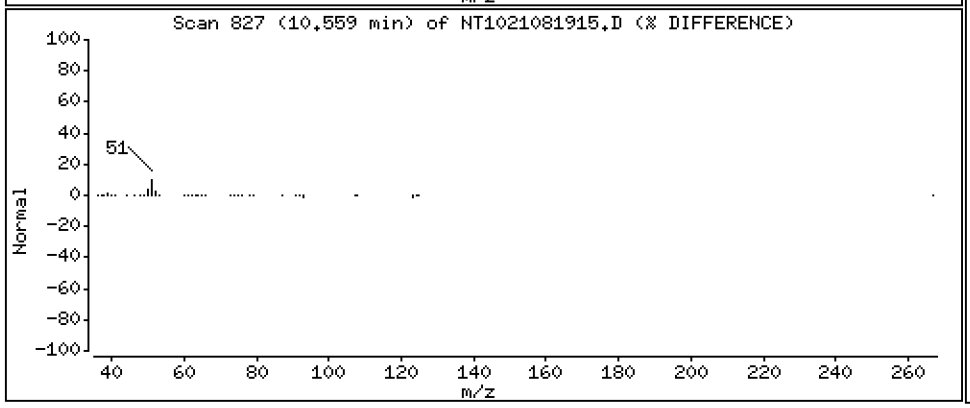












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

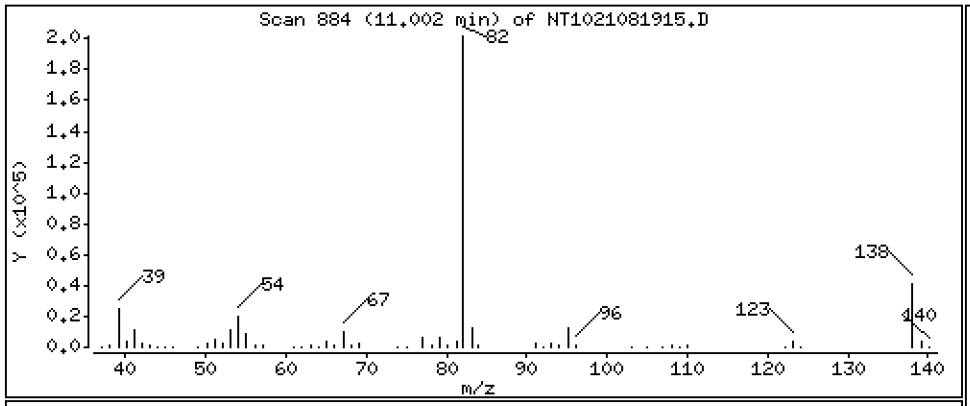
Operator: VTS

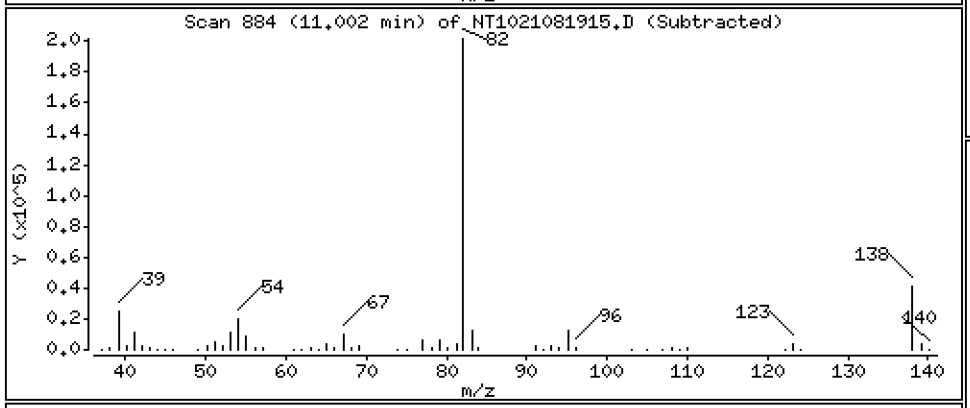
Column phase: ZB-5msi

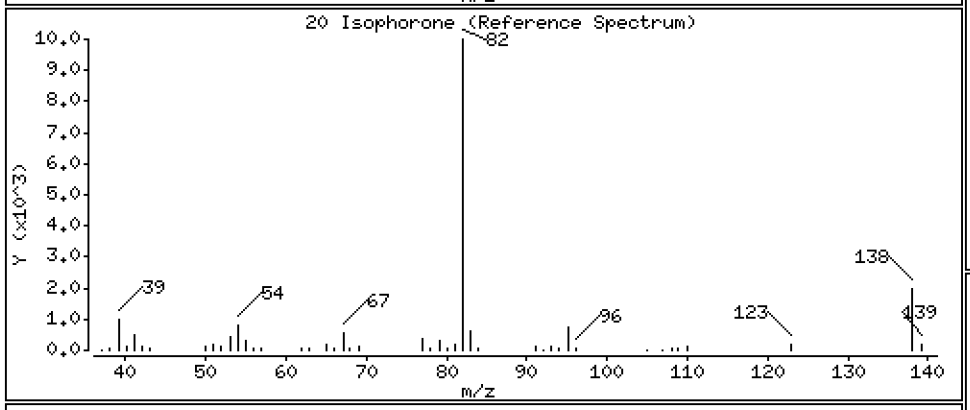
Column diameter: 0.25

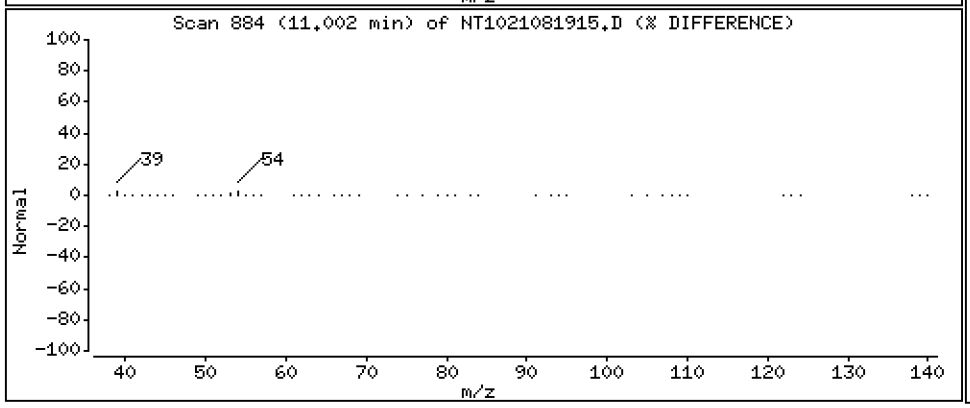
20 Isophorone

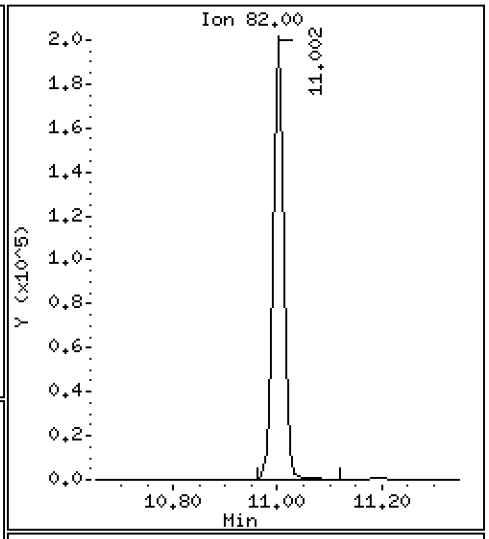
Concentration: 7.778 ug/mL

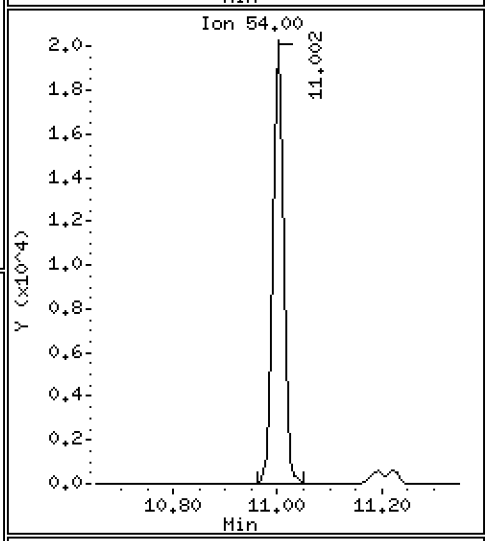


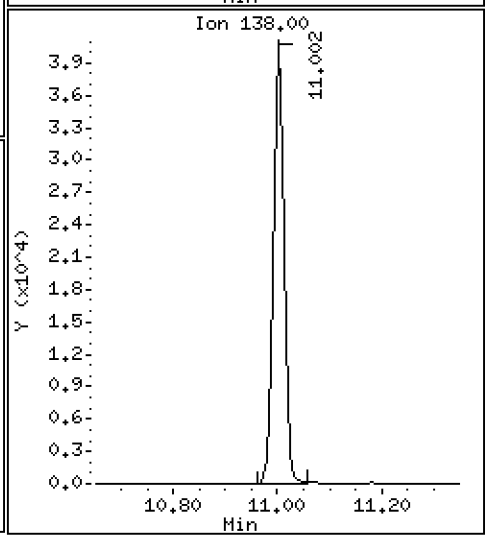












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

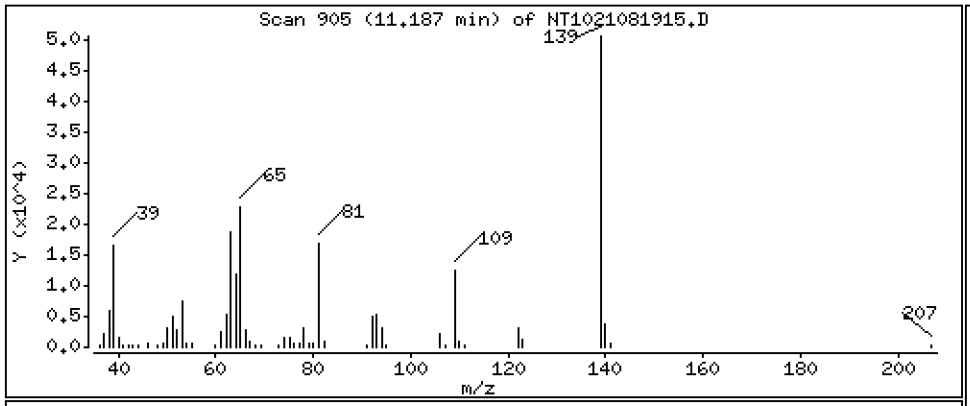
Operator: VTS

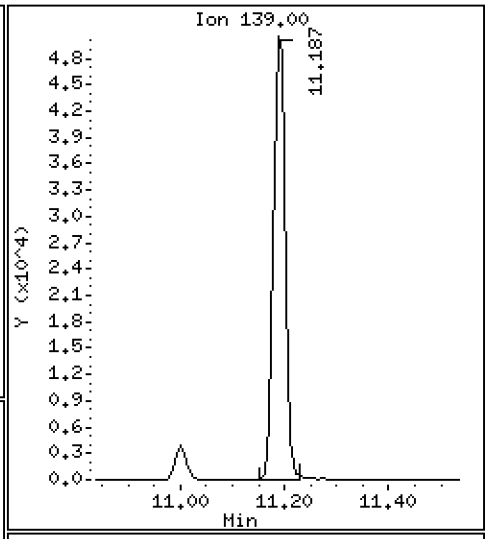
Column phase: ZB-5msi

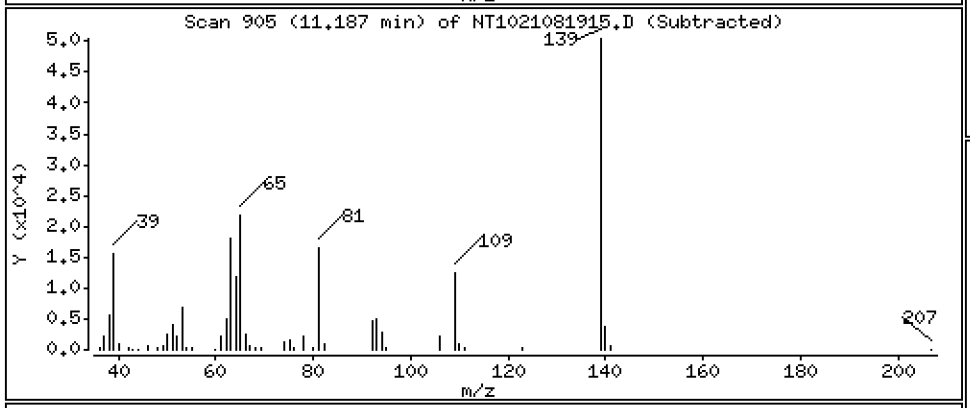
Column diameter: 0.25

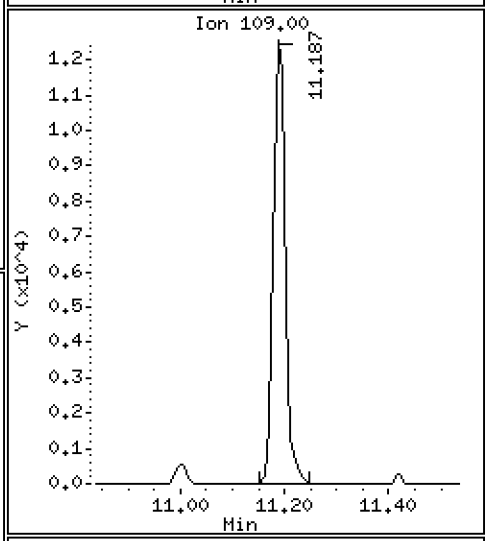
21 2-Nitrophenol

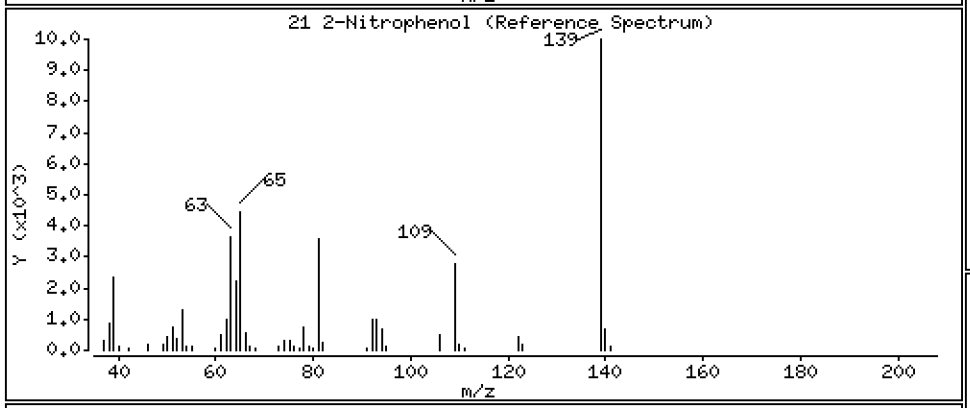
Concentration: 5.178 ug/mL

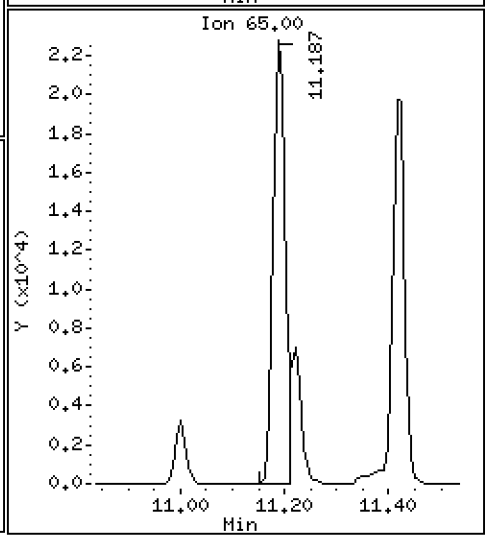


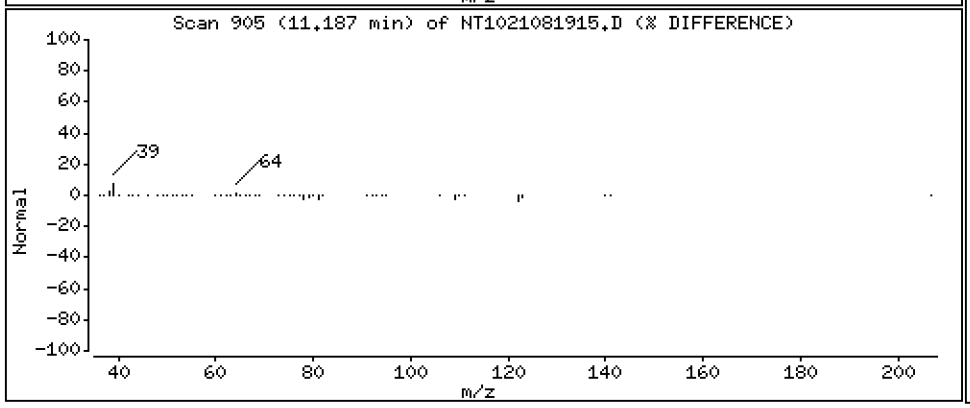












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

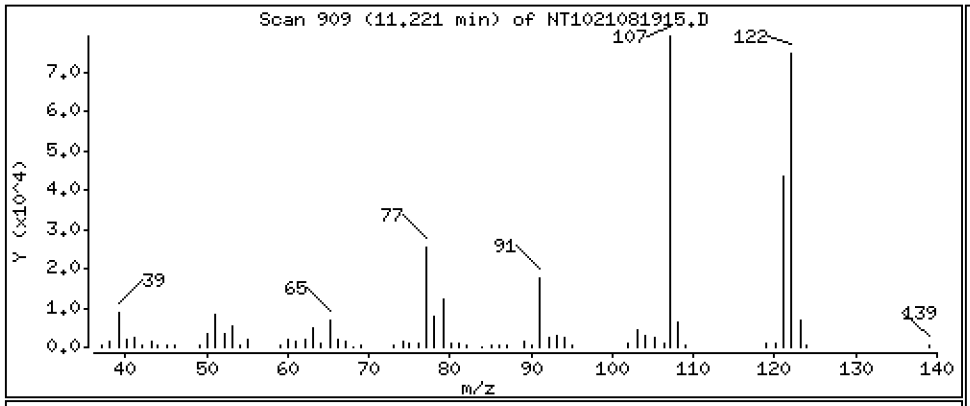
Operator: VTS

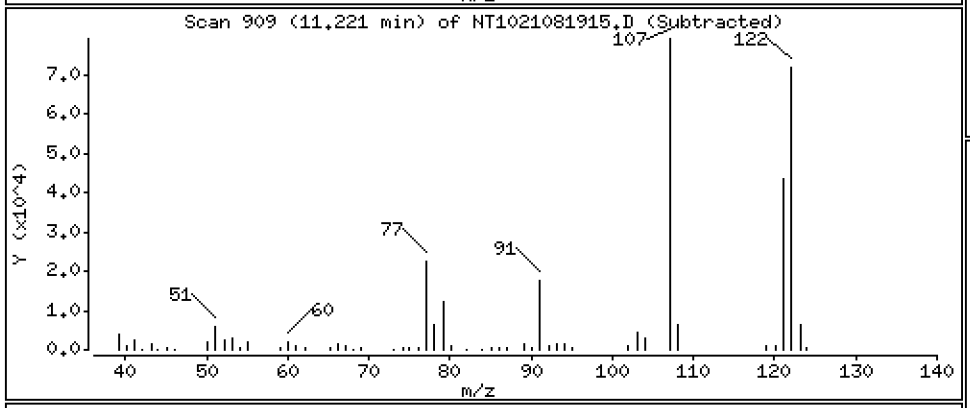
Column phase: ZB-5msi

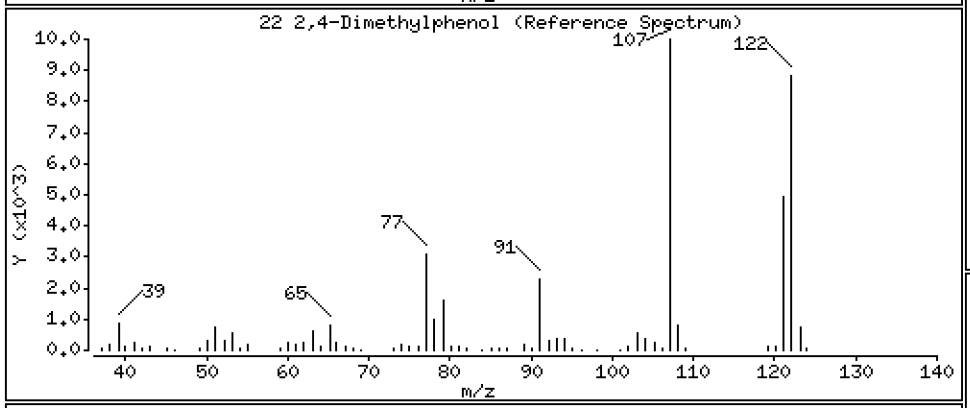
Column diameter: 0.25

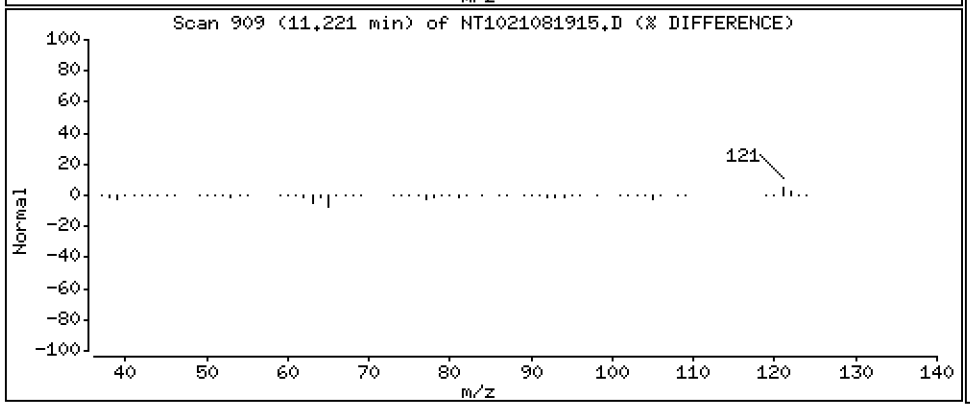
22 2,4-Dimethylphenol

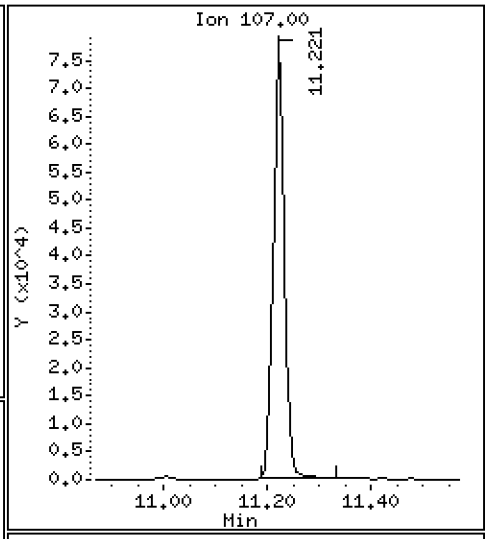
Concentration: 4.920 ug/mL

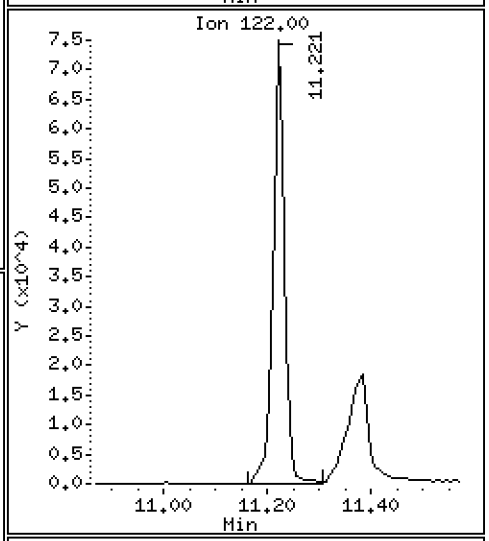


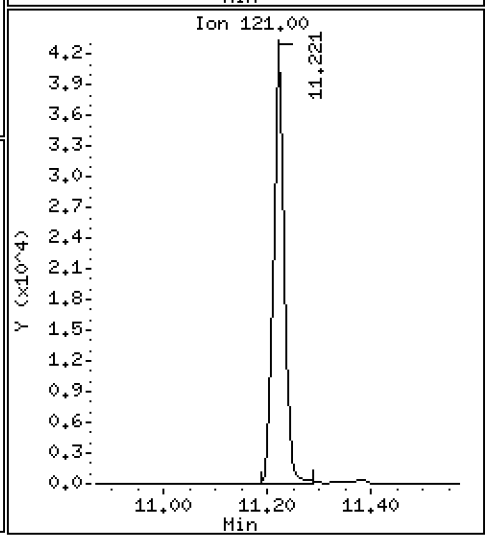












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

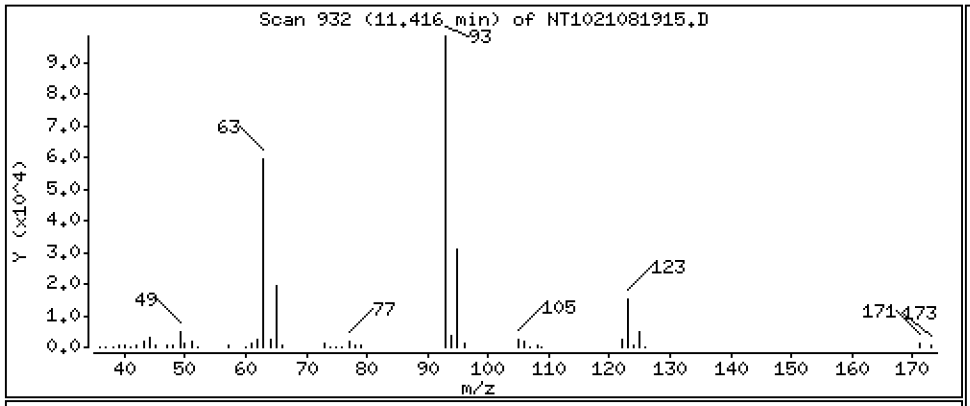
Operator: VTS

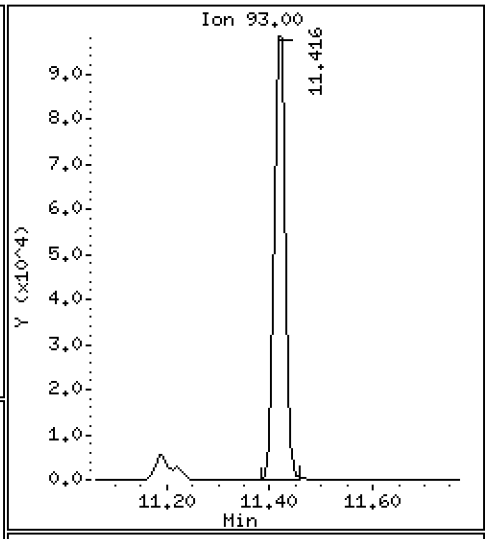
Column phase: ZB-5msi

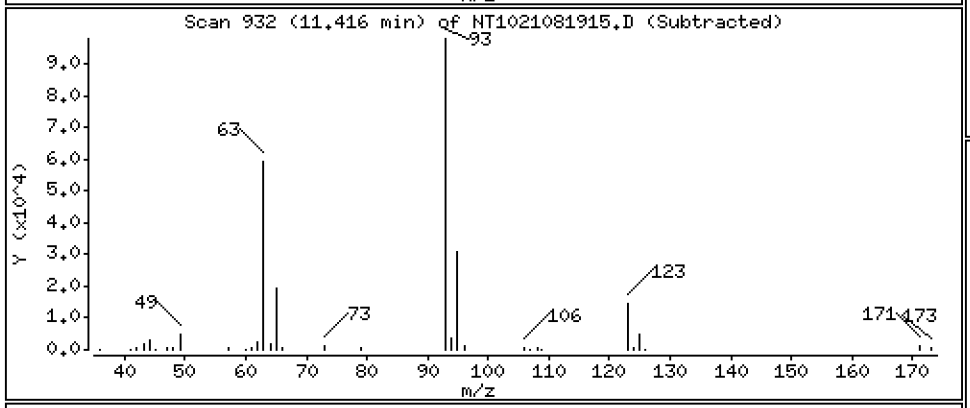
Column diameter: 0.25

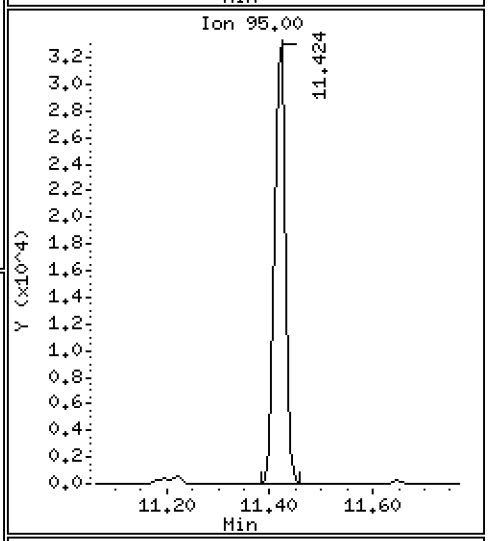
23 Bis(2-Chloroethoxy)methane

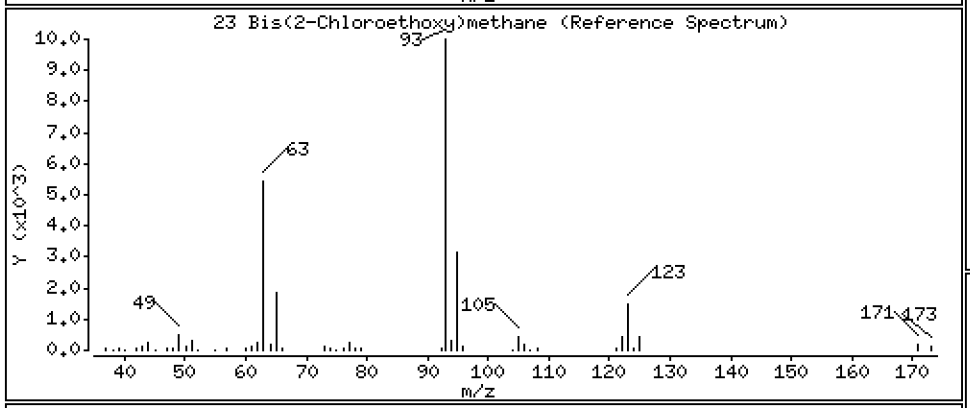
Concentration: 5.938 ug/mL

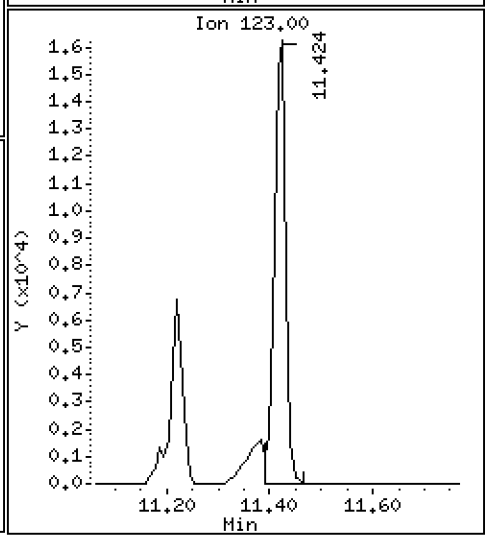


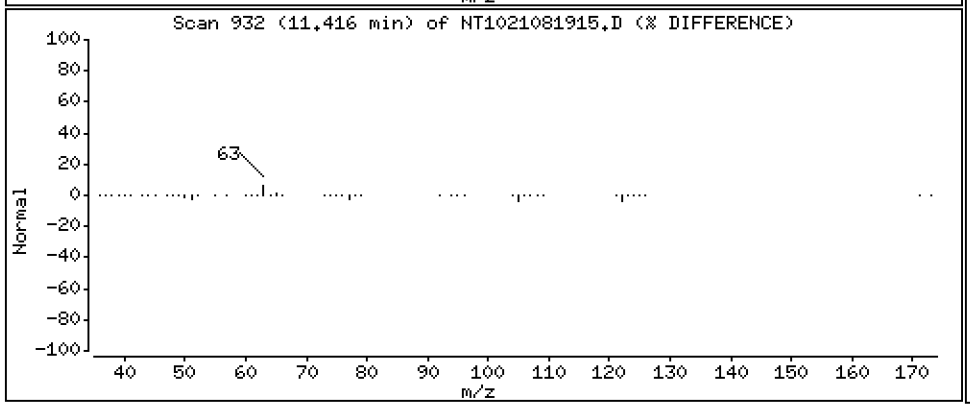












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

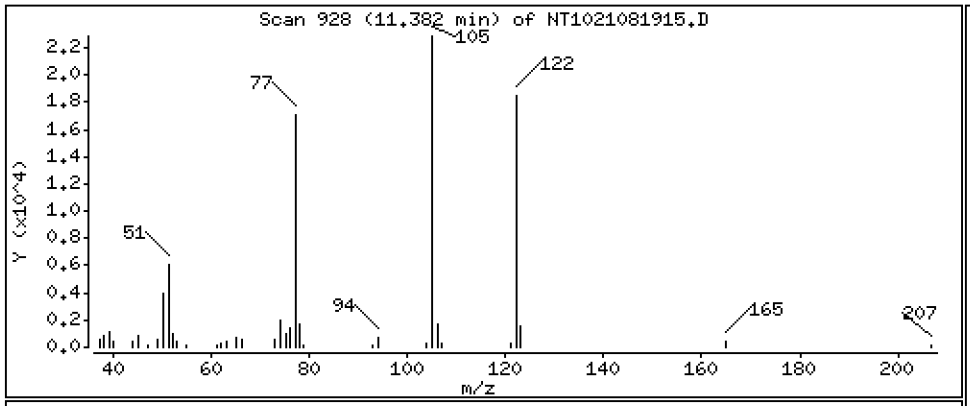
Operator: VTS

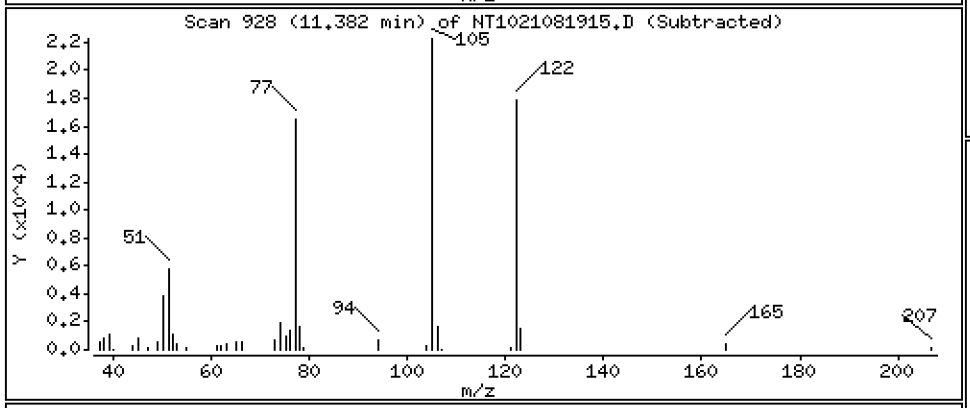
Column phase: ZB-5msi

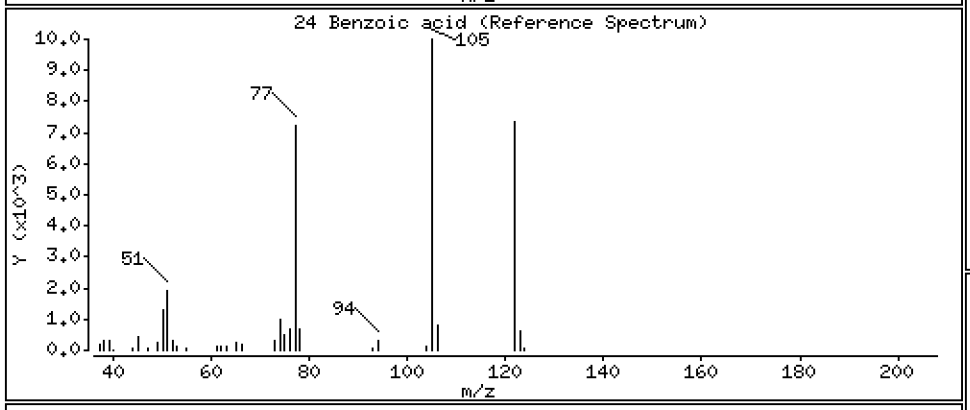
Column diameter: 0.25

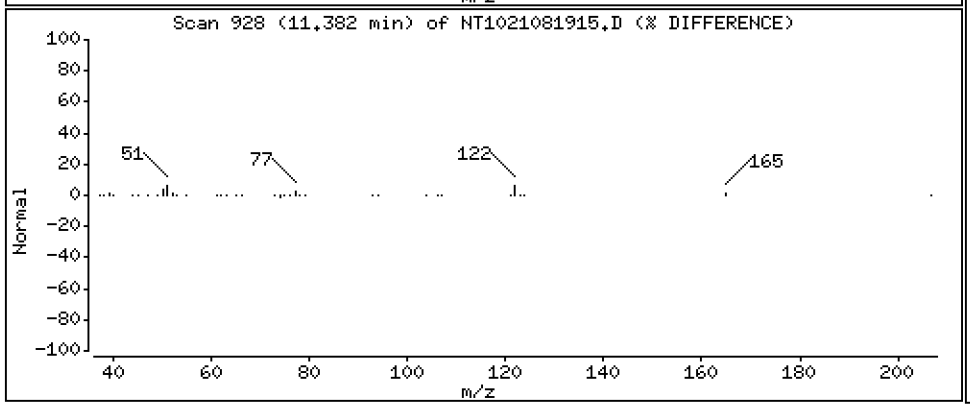
24 Benzoic acid

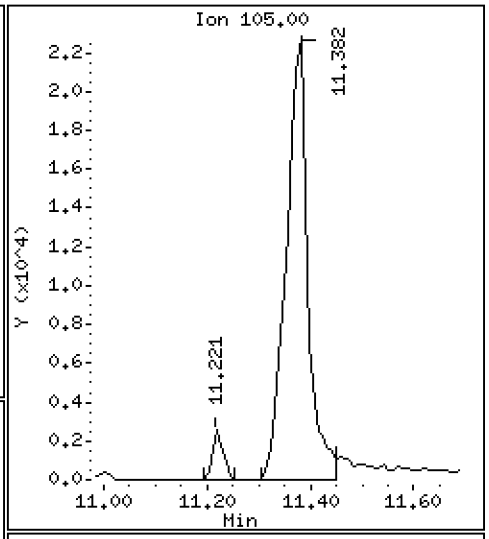
Concentration: 5.378 ug/mL

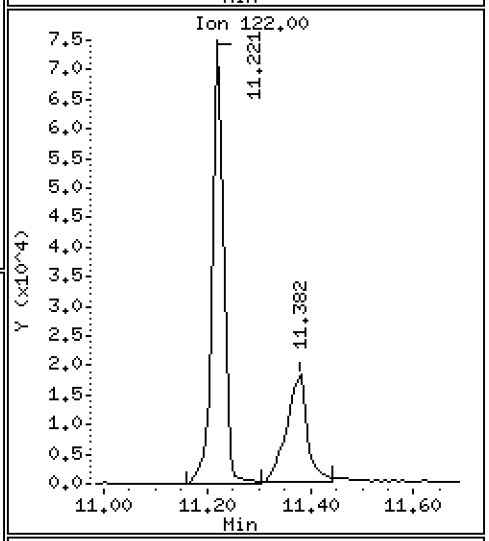


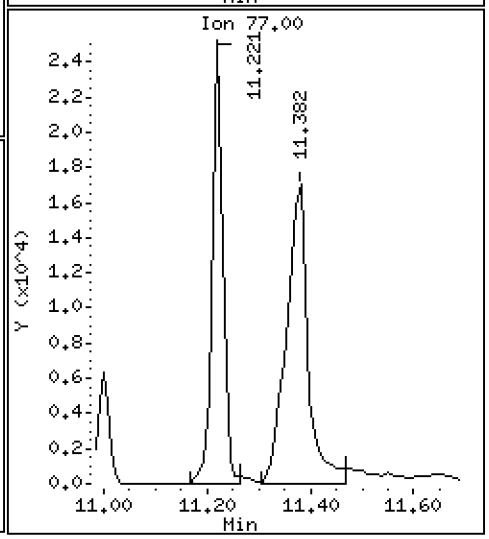












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

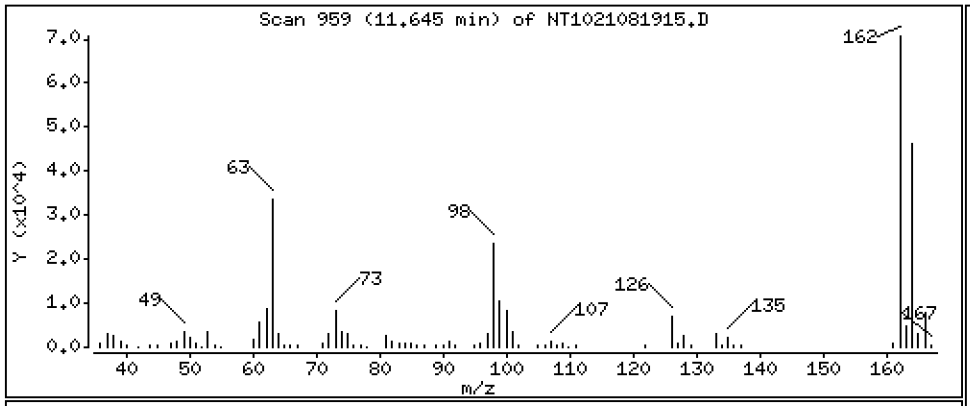
Operator: VTS

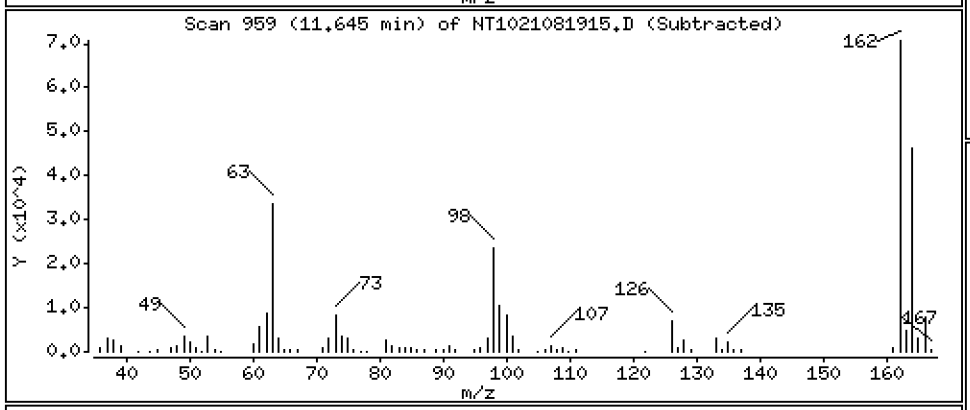
Column phase: ZB-5msi

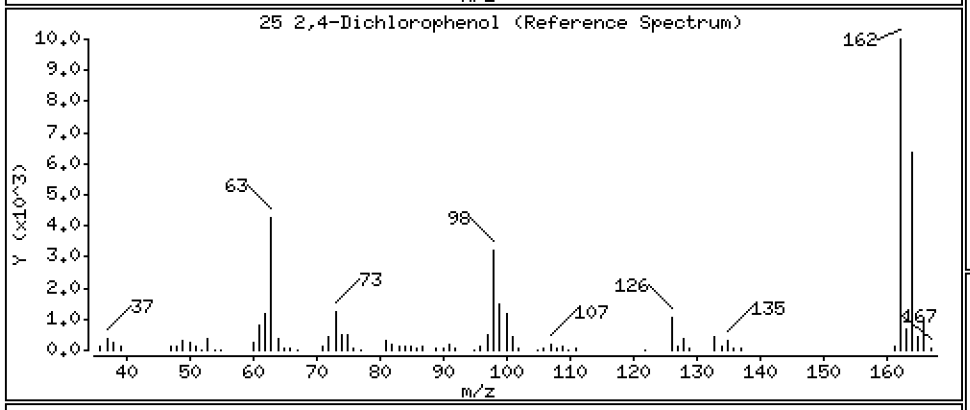
Column diameter: 0.25

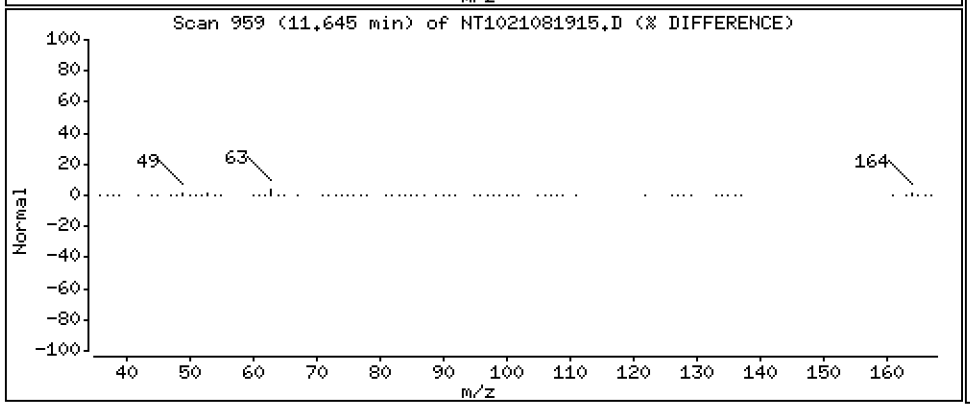
25 2,4-Dichlorophenol

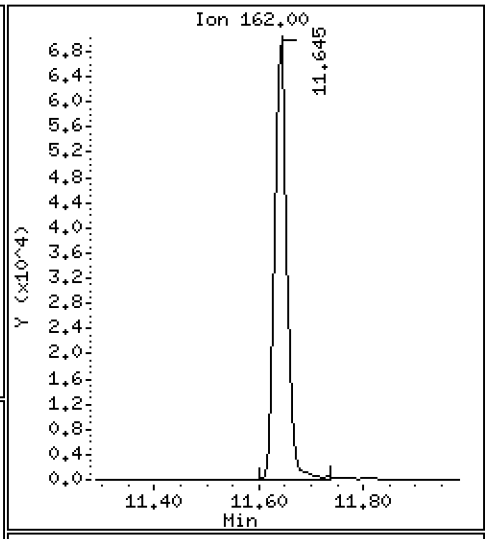
Concentration: 5.147 ug/mL

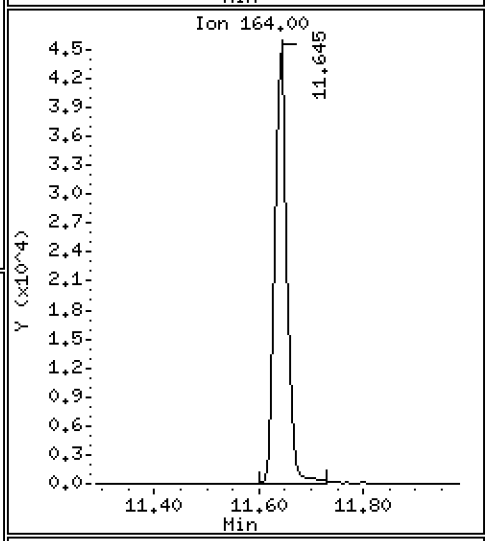


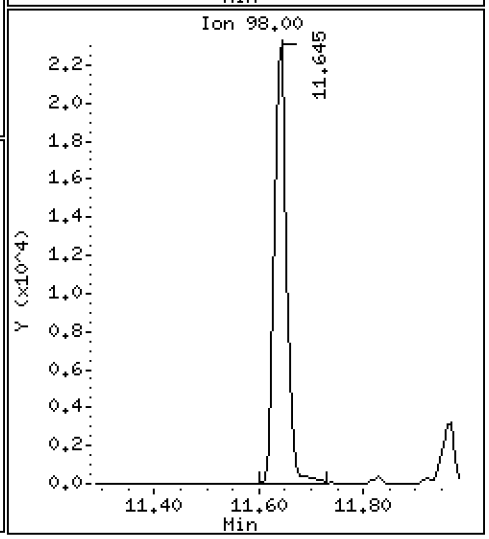












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

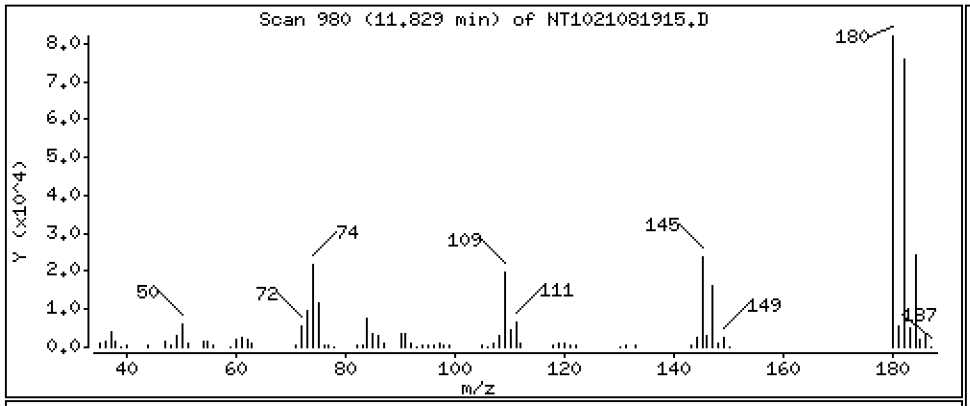
Operator: VTS

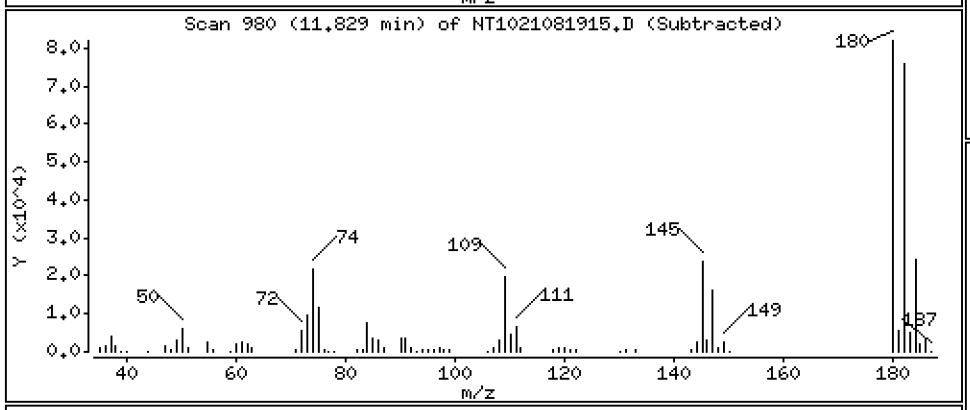
Column phase: ZB-5msi

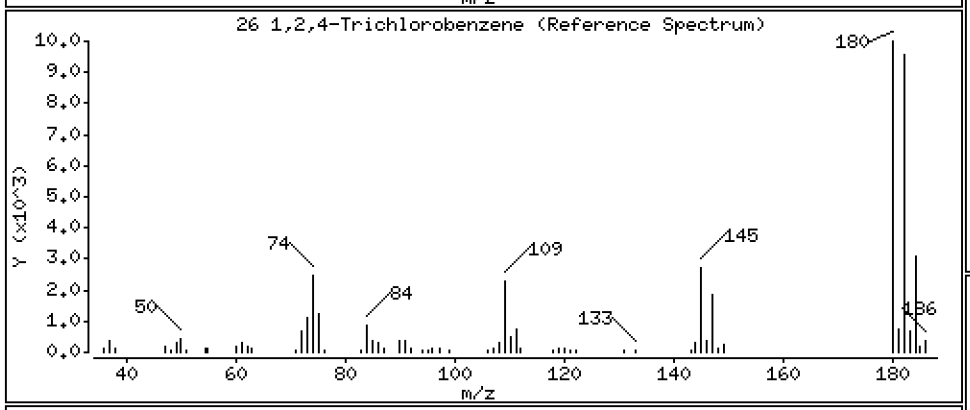
Column diameter: 0.25

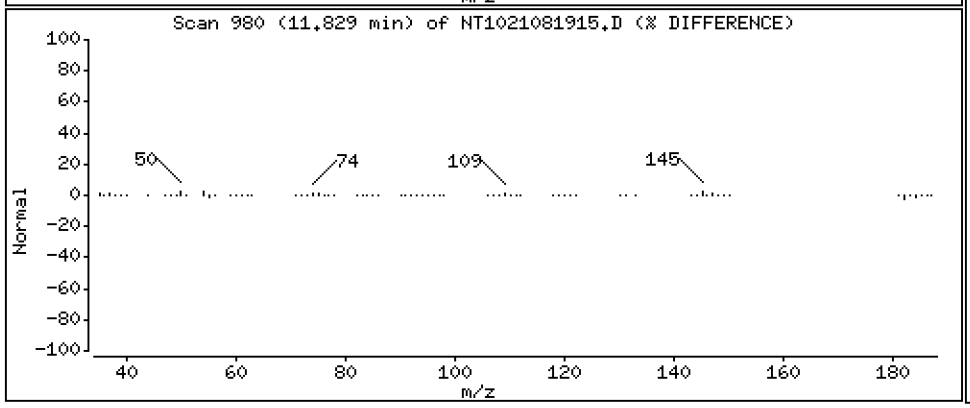
26 1,2,4-Trichlorobenzene

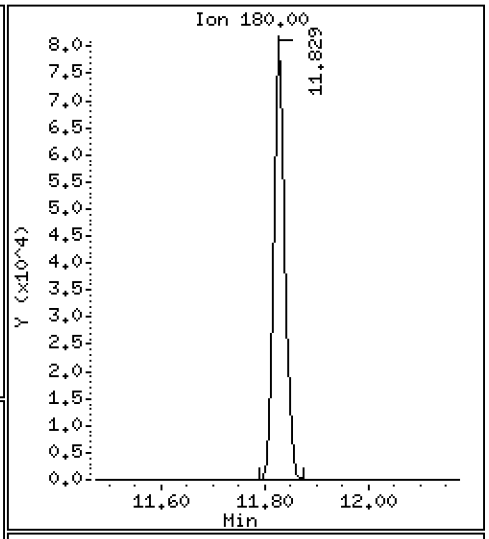
Concentration: 5.000 ug/mL

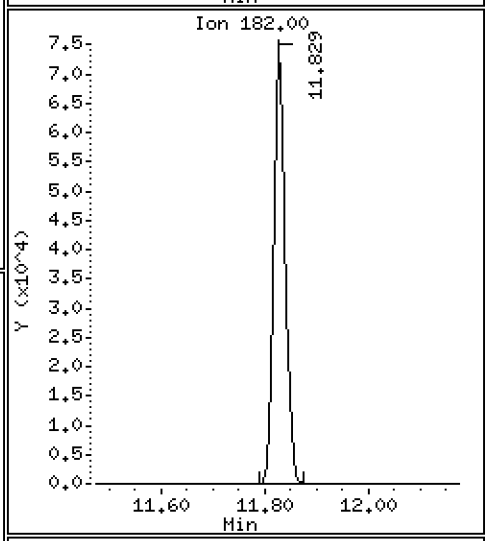


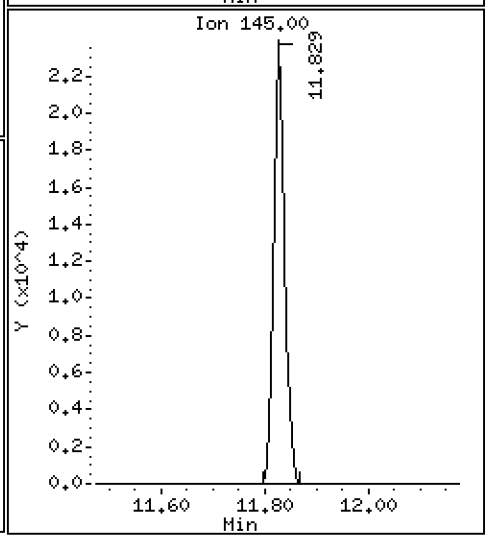












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

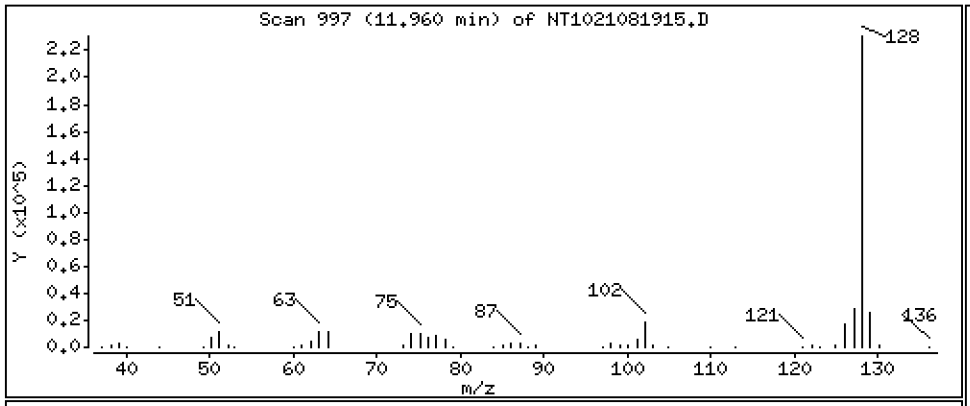
Operator: VTS

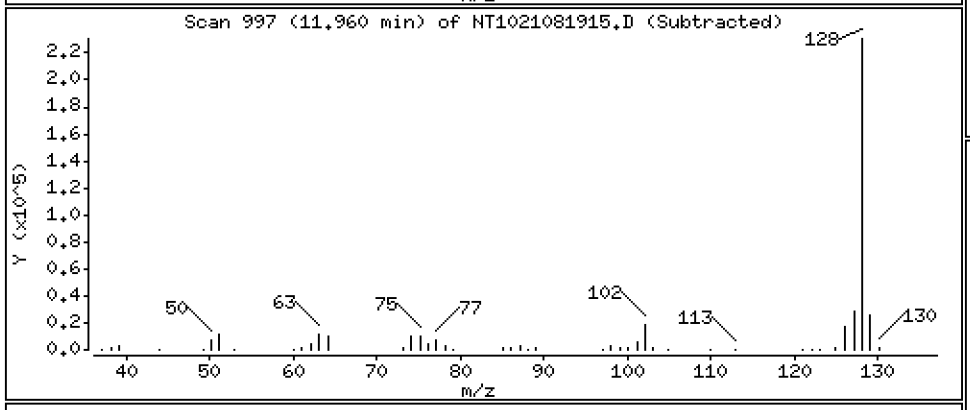
Column phase: ZB-5msi

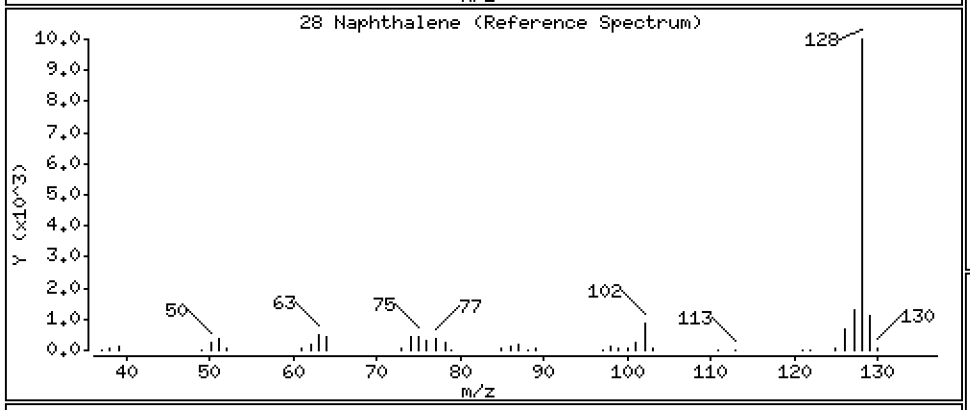
Column diameter: 0.25

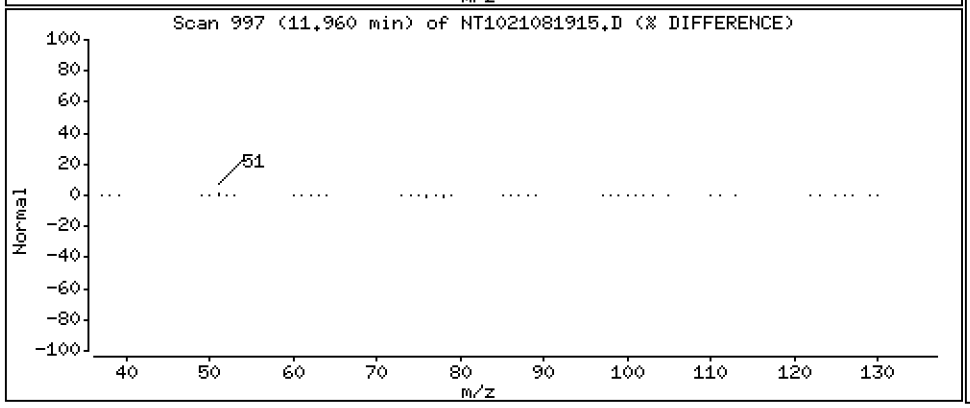
28 Naphthalene

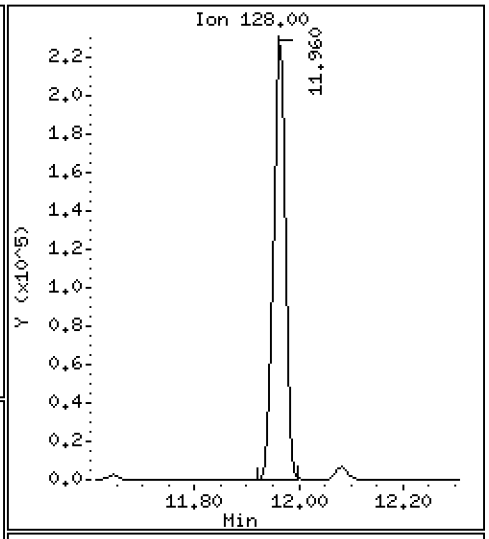
Concentration: 5.100 ug/mL

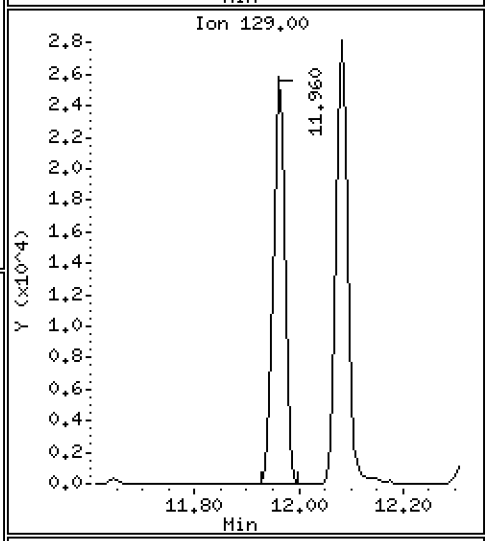


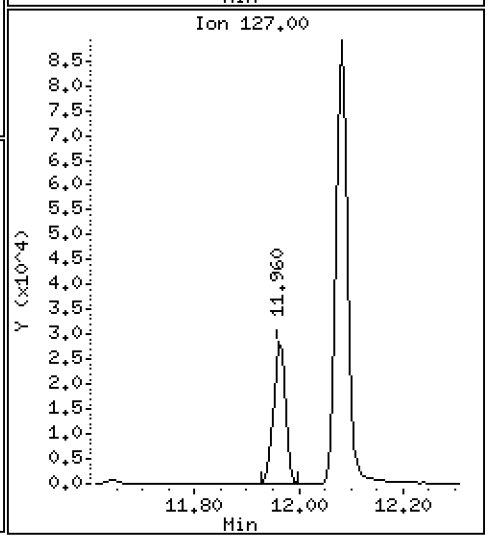












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

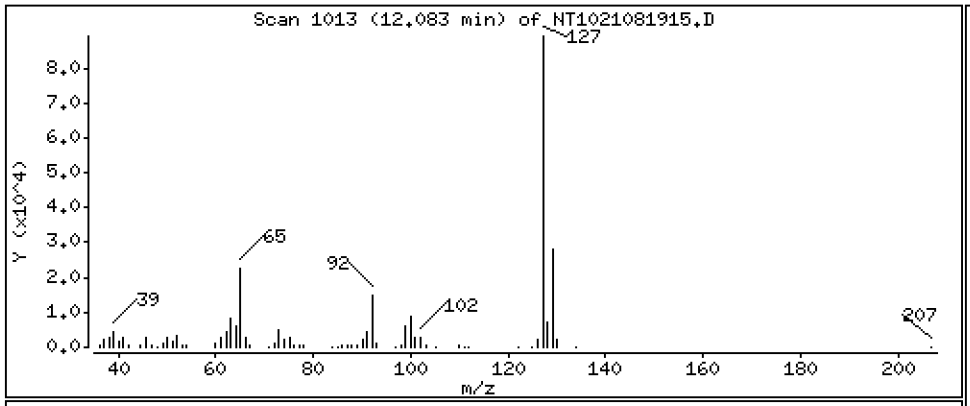
Operator: VTS

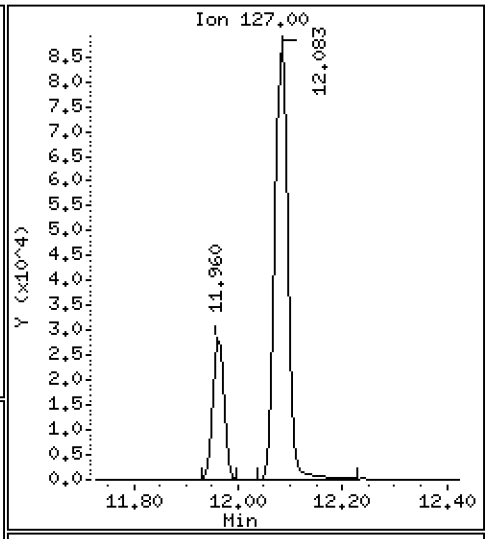
Column phase: ZB-5msi

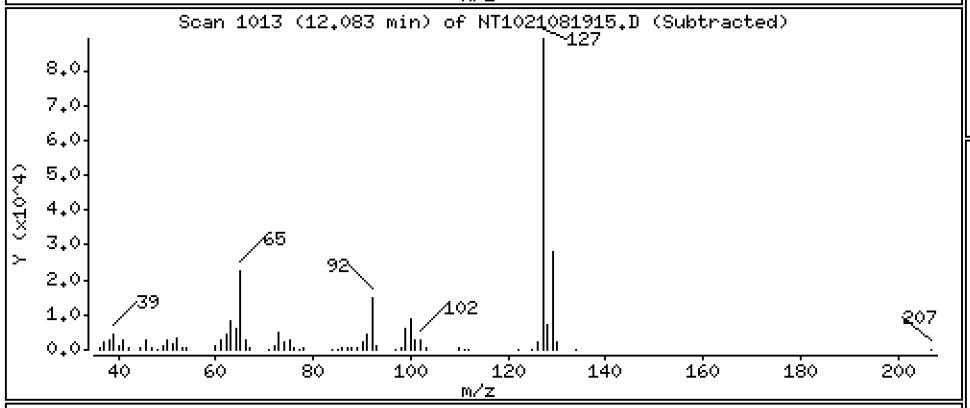
Column diameter: 0.25

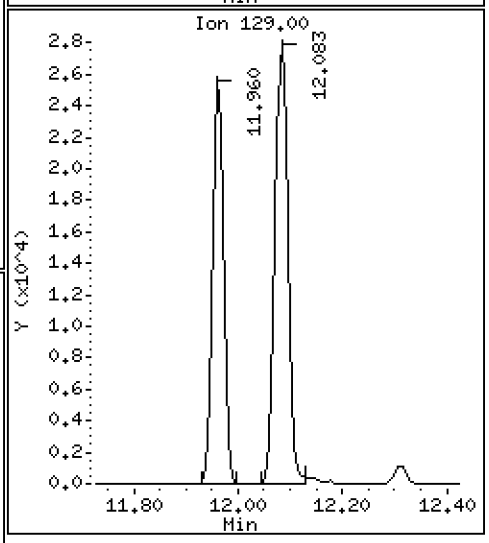
29 4-Chloroaniline

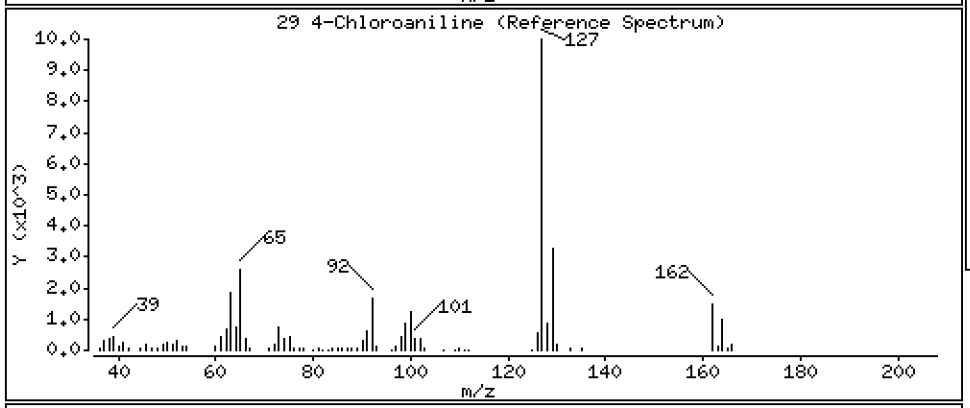
Concentration: 4.593 ug/mL

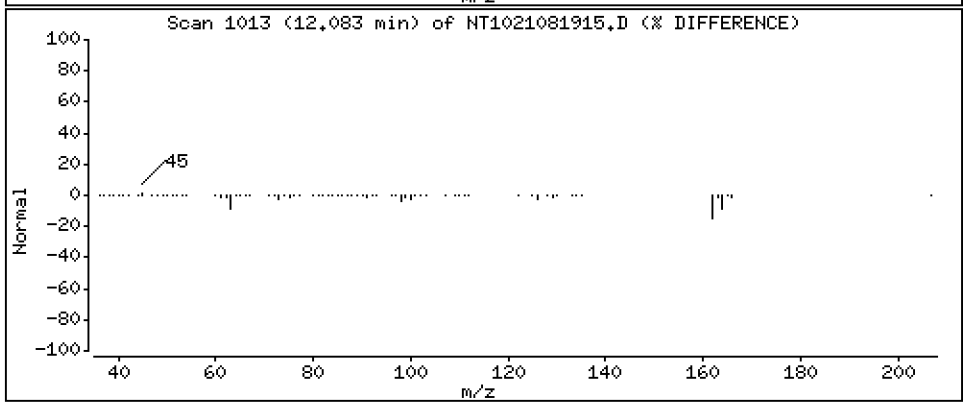












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

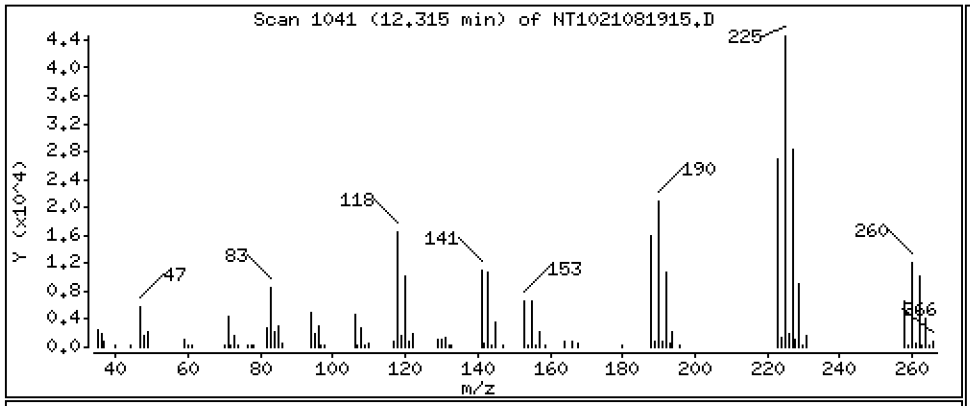
Operator: VTS

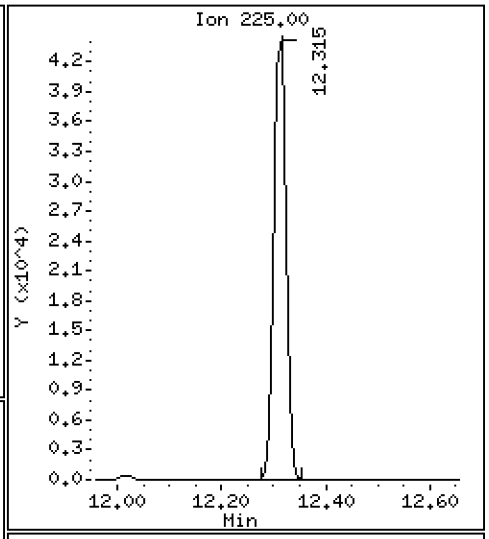
Column phase: ZB-5msi

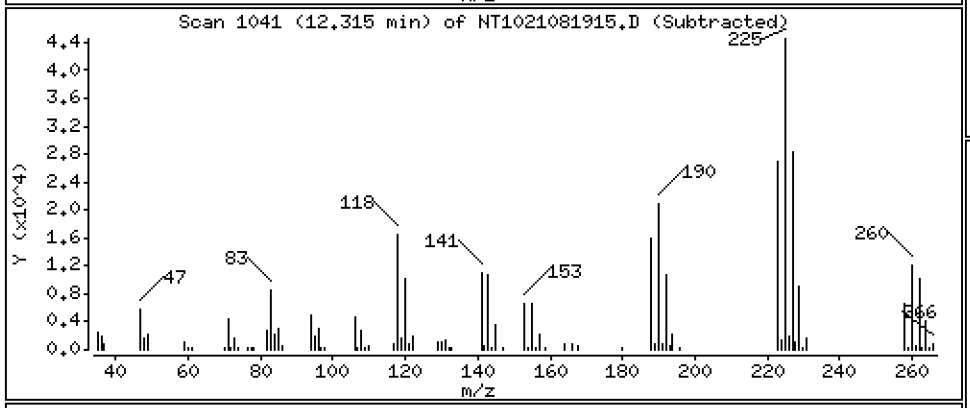
Column diameter: 0.25

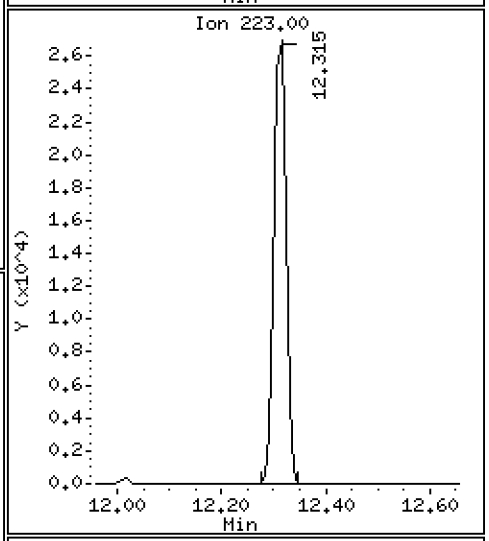
30 Hexachlorobutadiene

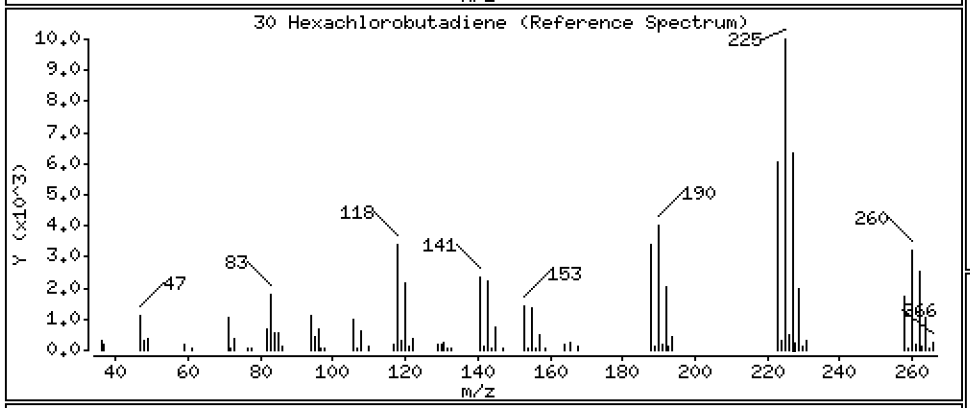
Concentration: 5.107 ug/mL

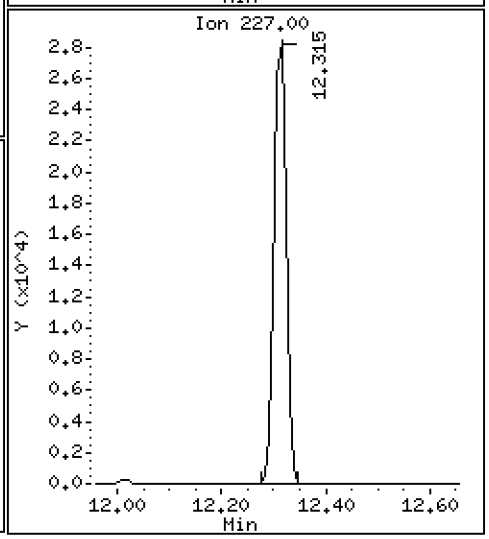


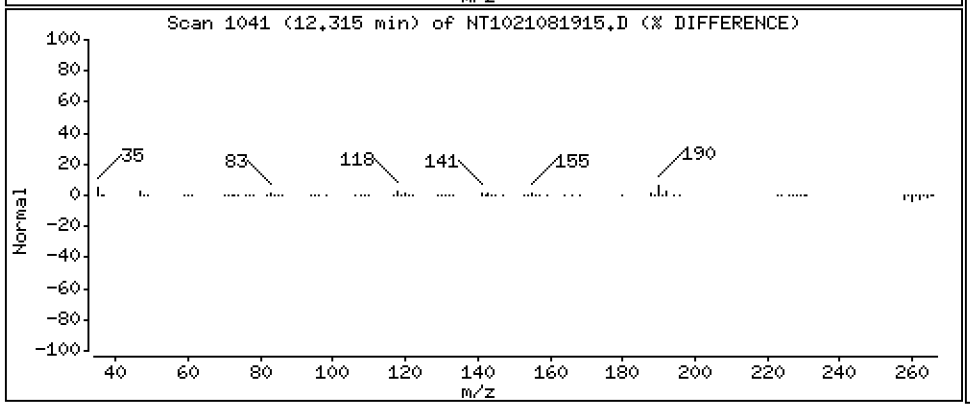












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

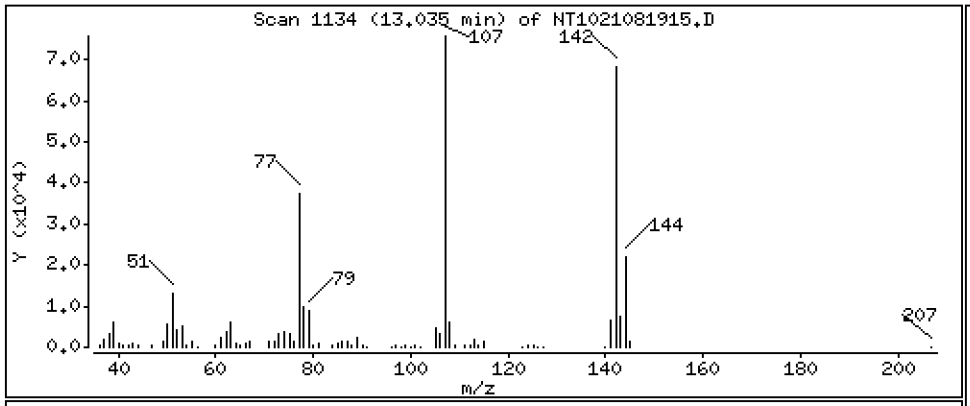
Operator: VTS

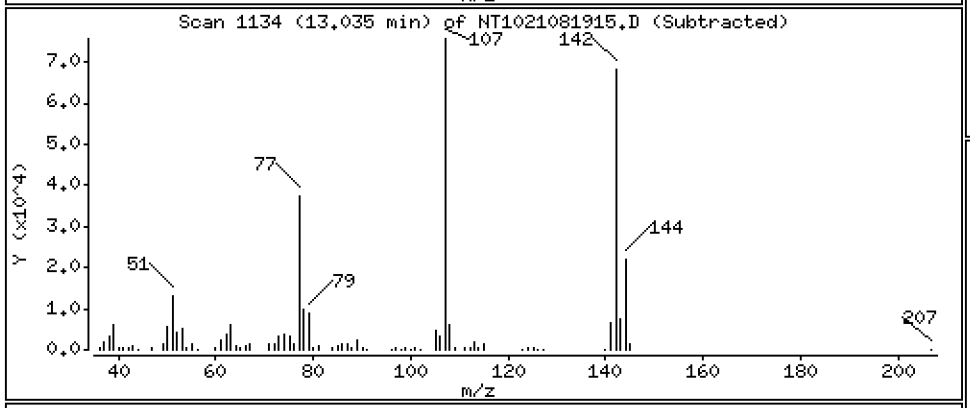
Column phase: ZB-5msi

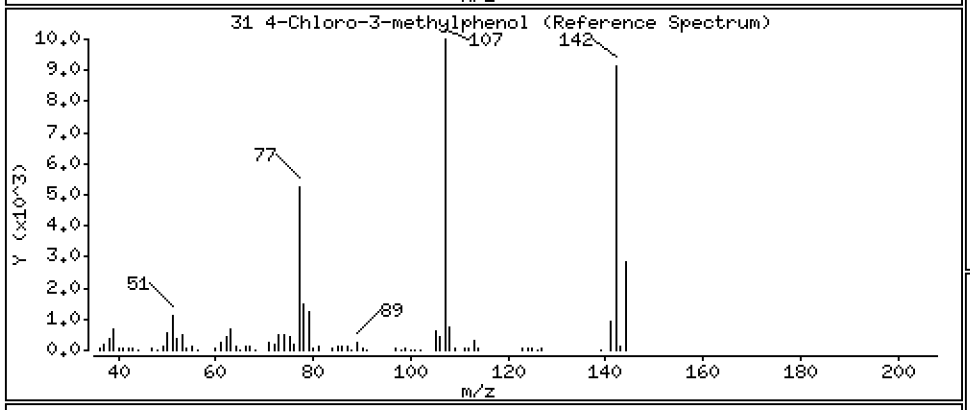
Column diameter: 0.25

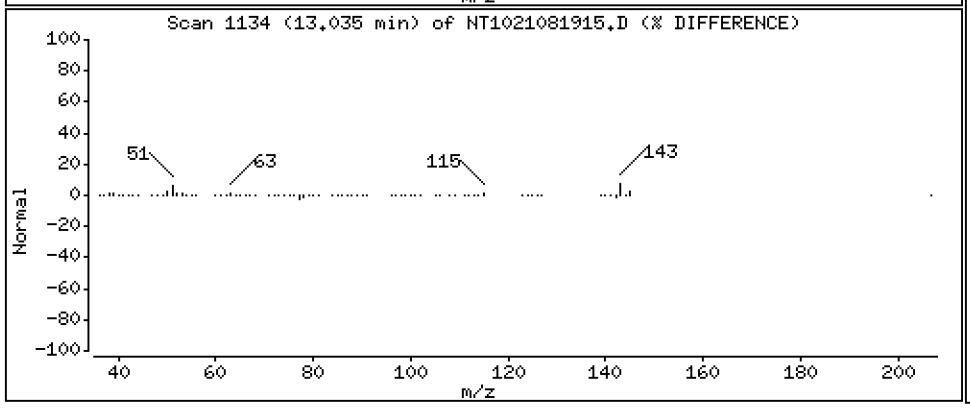
31 4-Chloro-3-methylphenol

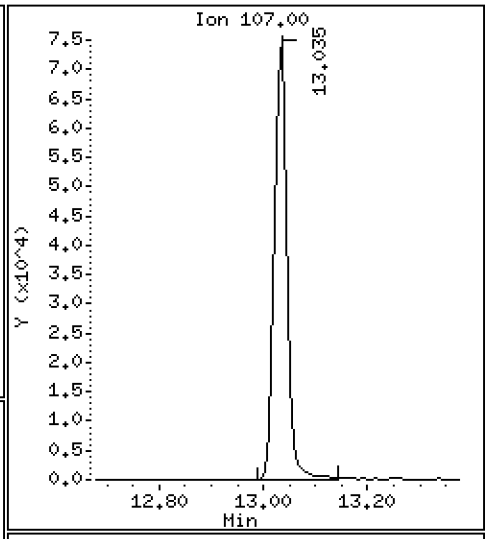
Concentration: 4.925 ug/mL

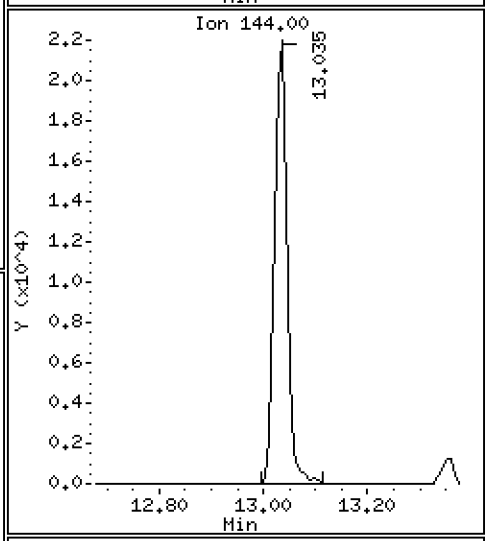


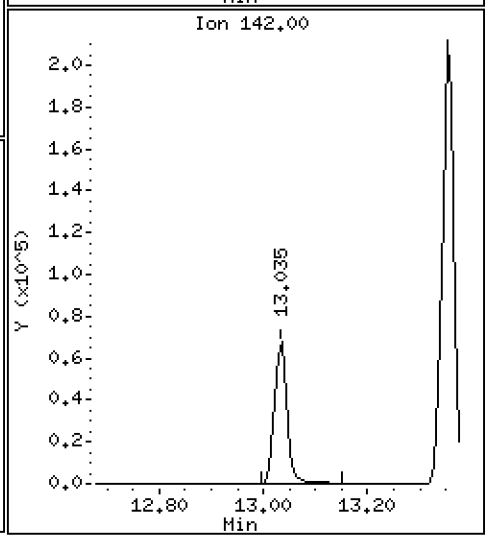












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

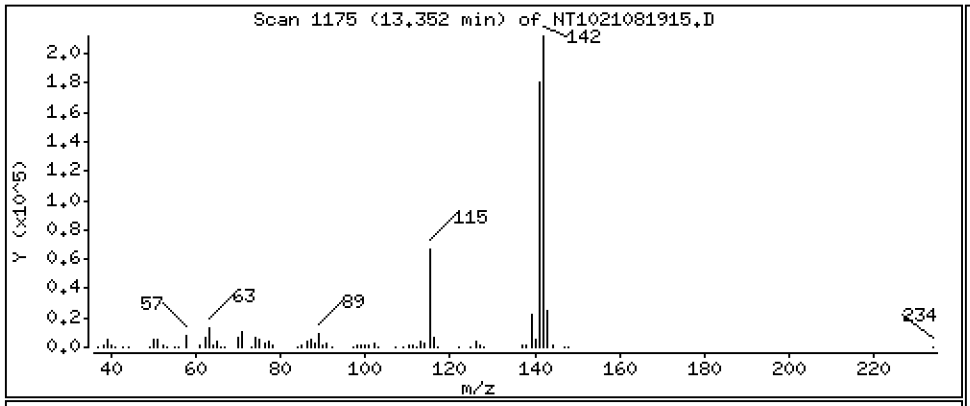
Operator: VTS

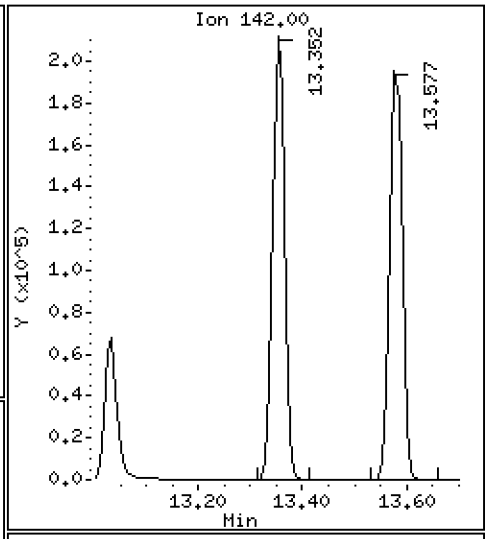
Column phase: ZB-5msi

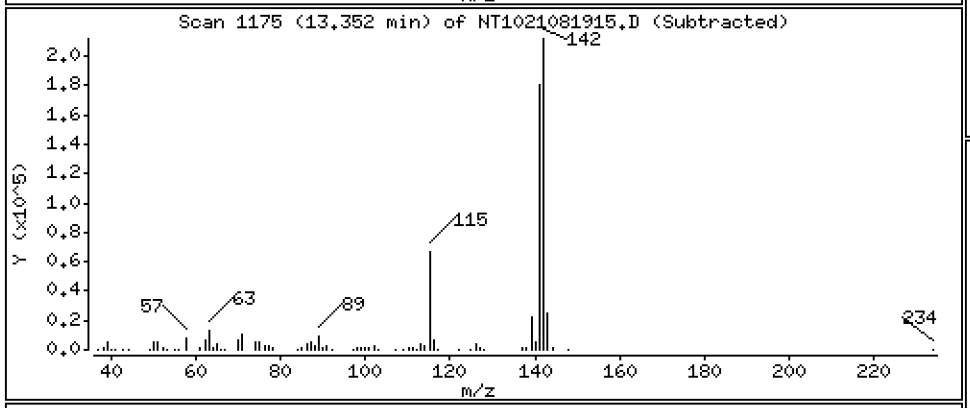
Column diameter: 0.25

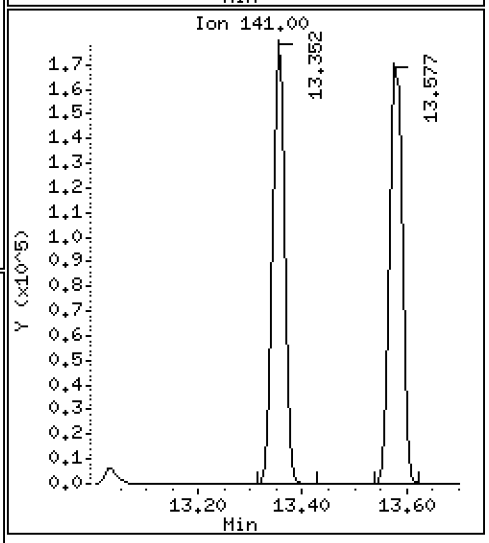
32 2-Methylnaphthalene

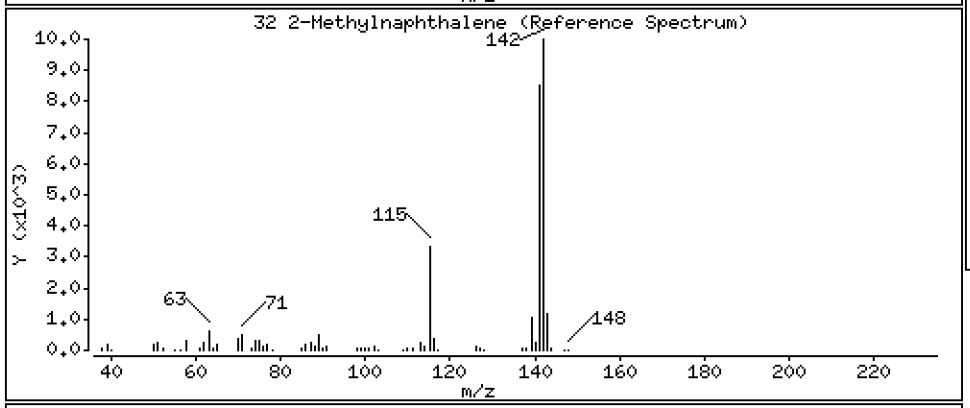
Concentration: 4.723 ug/mL

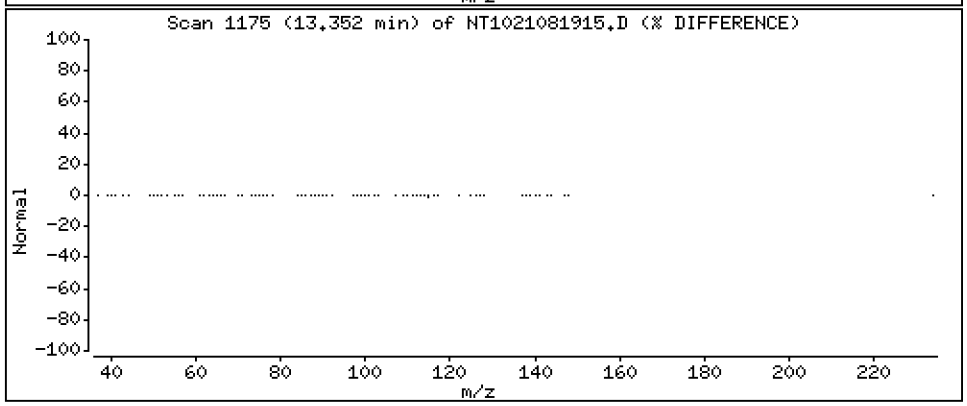












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

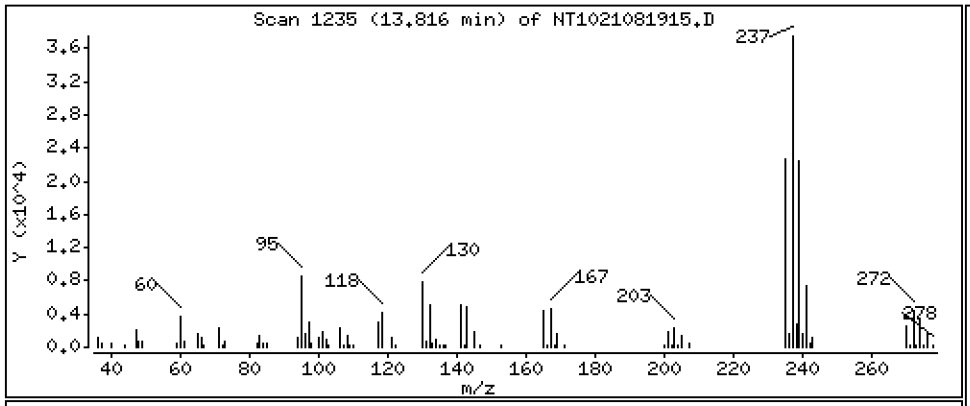
Operator: VTS

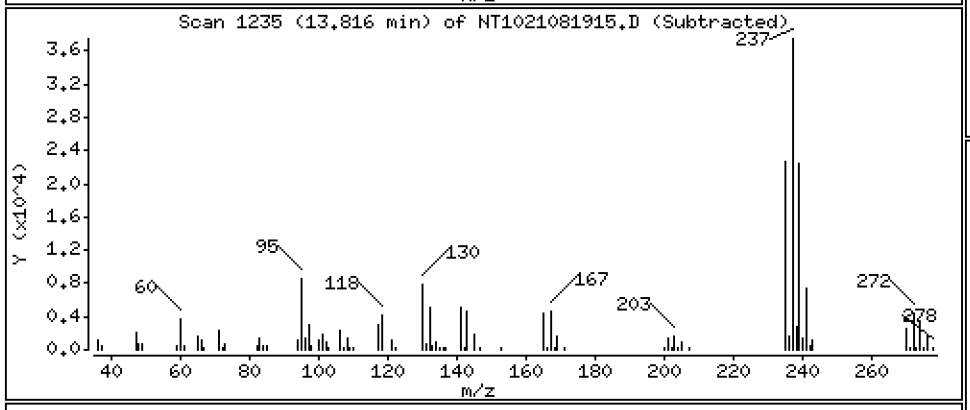
Column phase: ZB-5msi

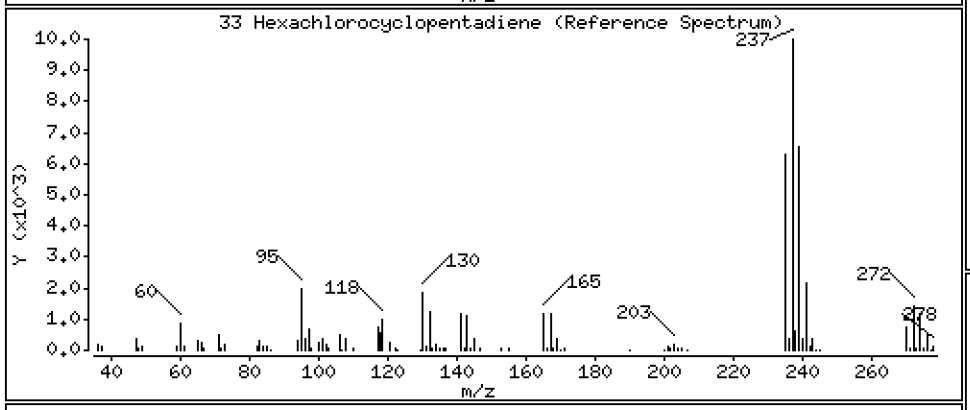
Column diameter: 0.25

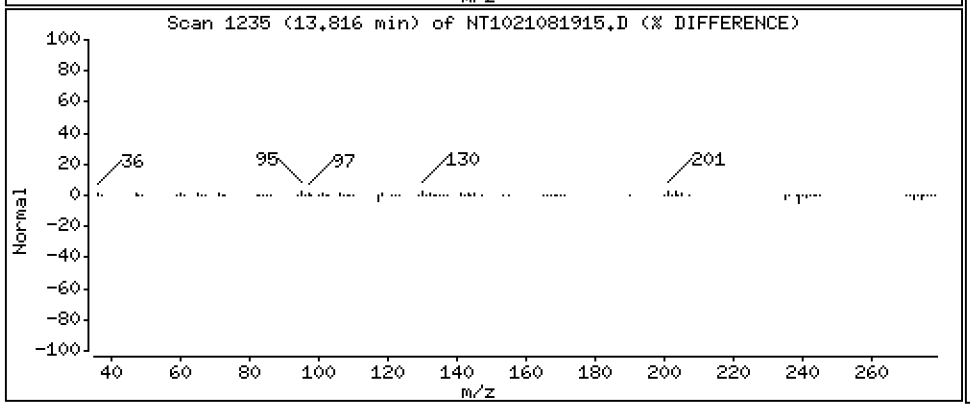
33 Hexachlorocyclopentadiene

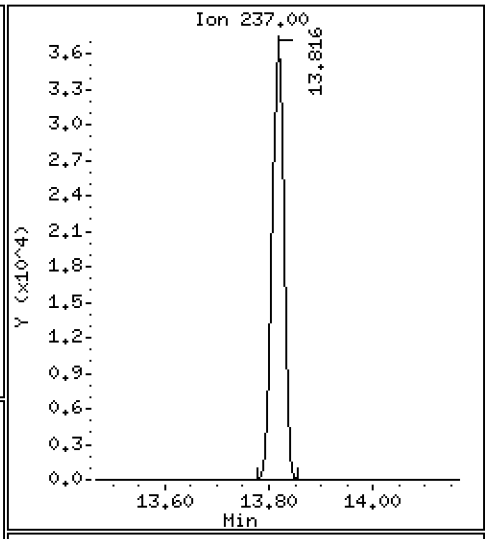
Concentration: 4.314 ug/mL

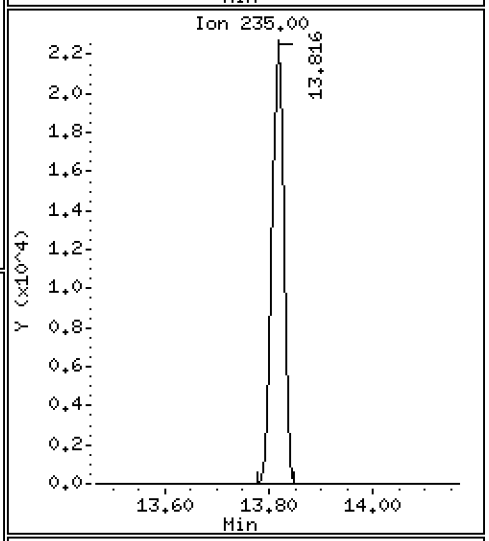


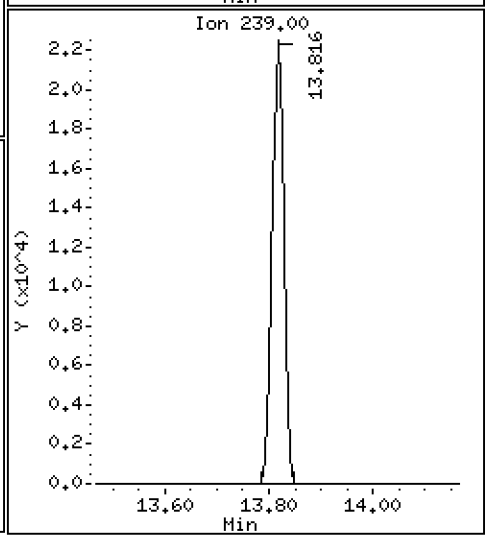












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

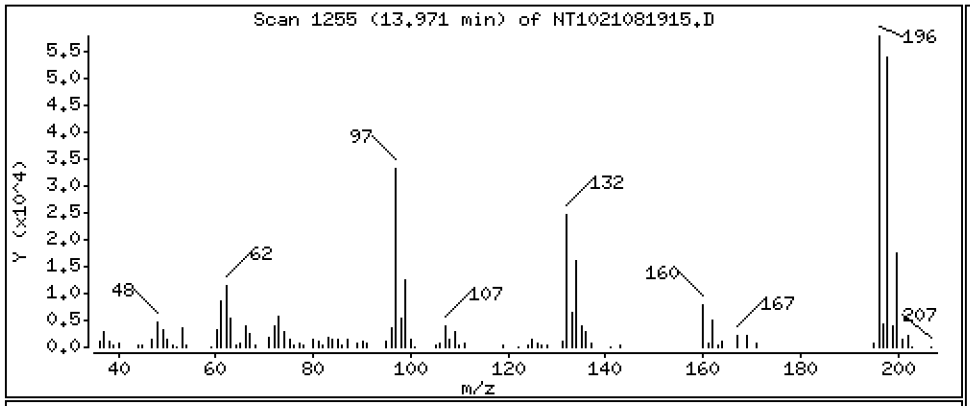
Operator: VTS

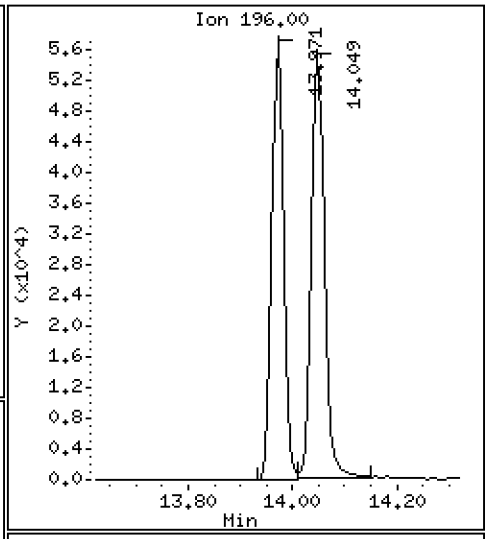
Column phase: ZB-5msi

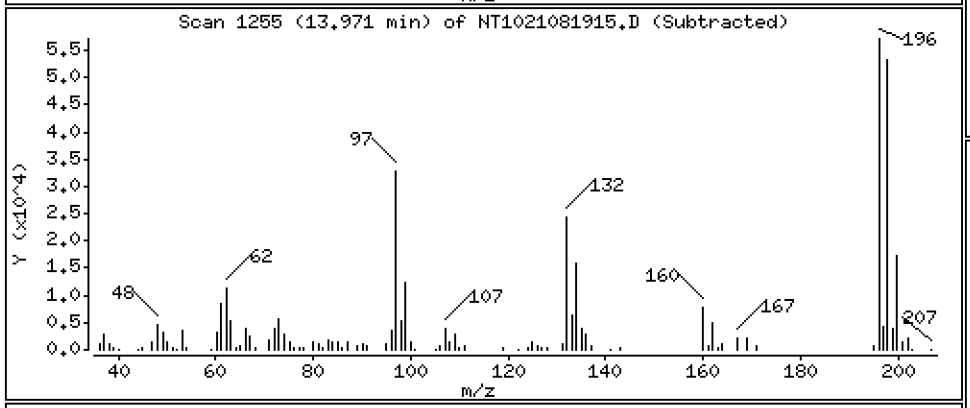
Column diameter: 0.25

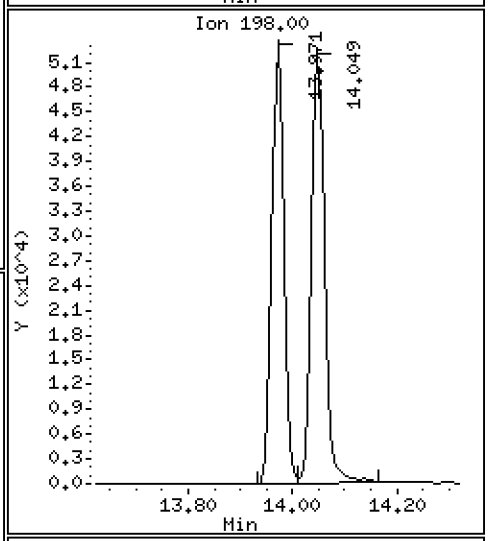
34 2,4,6-Trichlorophenol

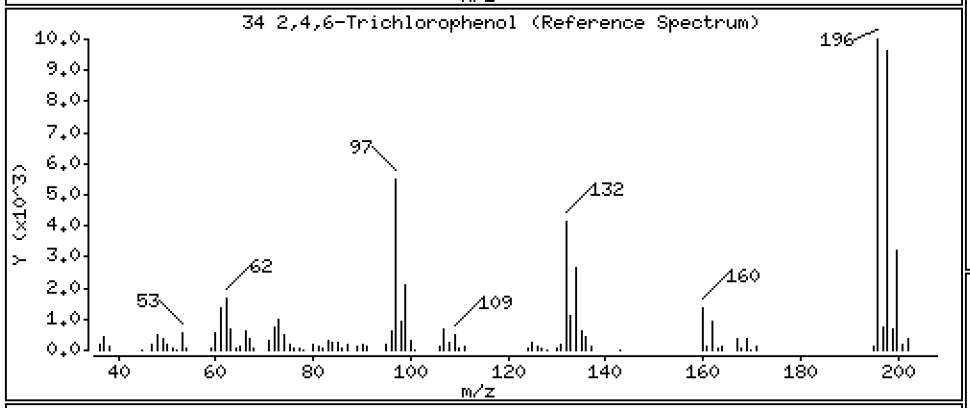
Concentration: 4.770 ug/mL

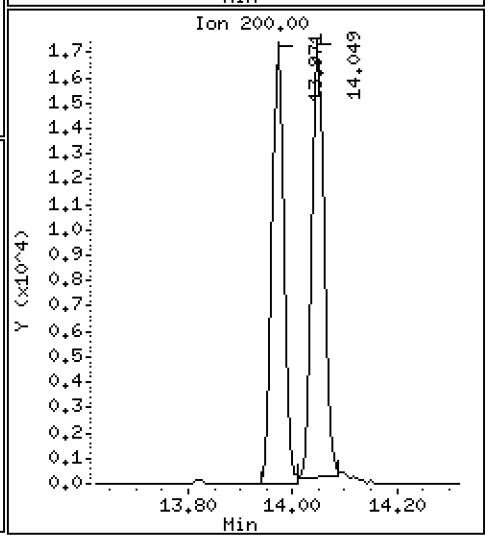


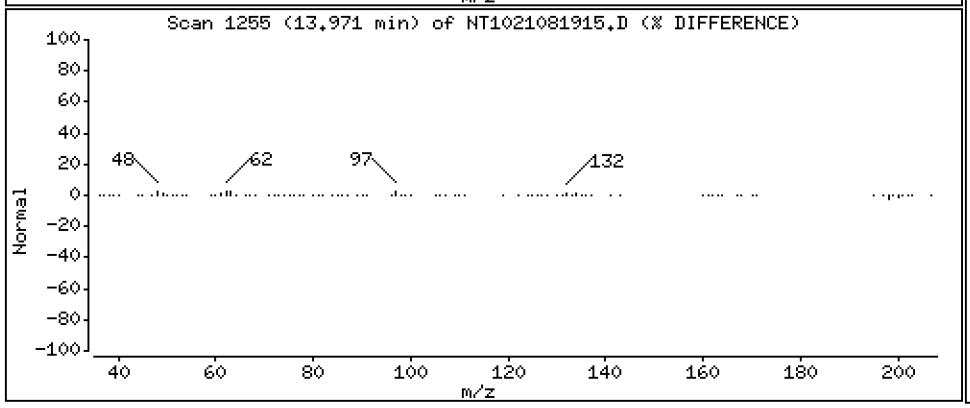












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

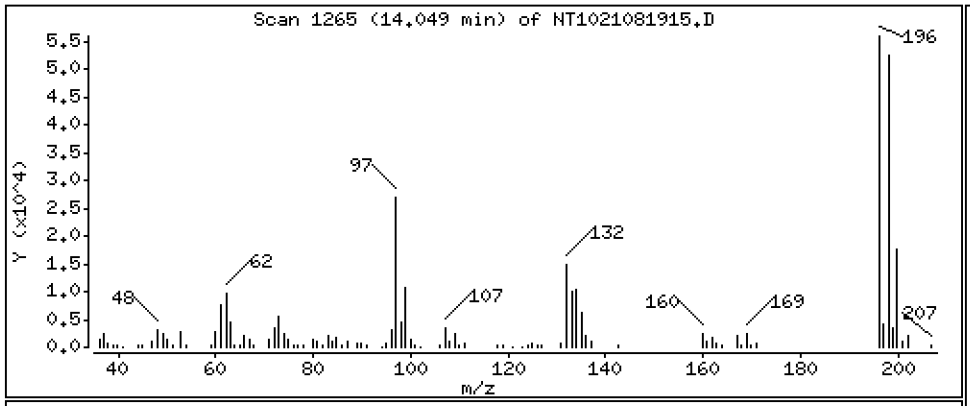
Operator: VTS

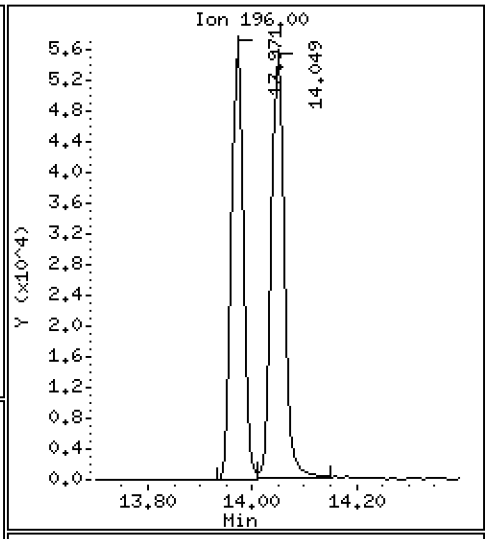
Column phase: ZB-5msi

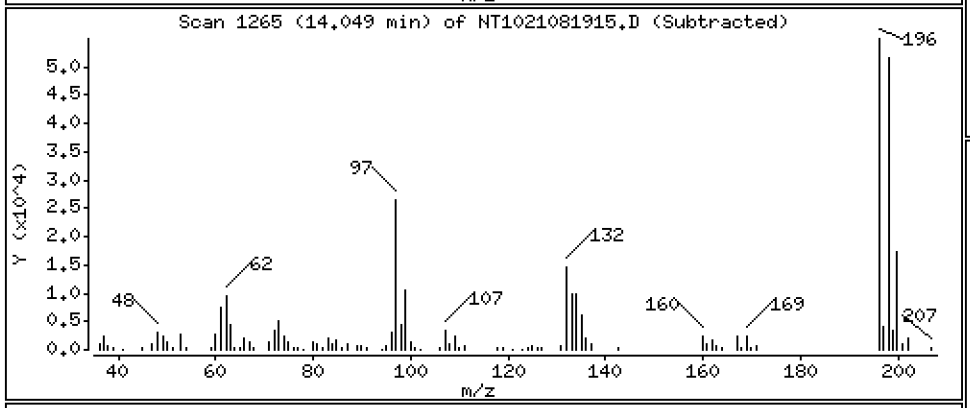
Column diameter: 0.25

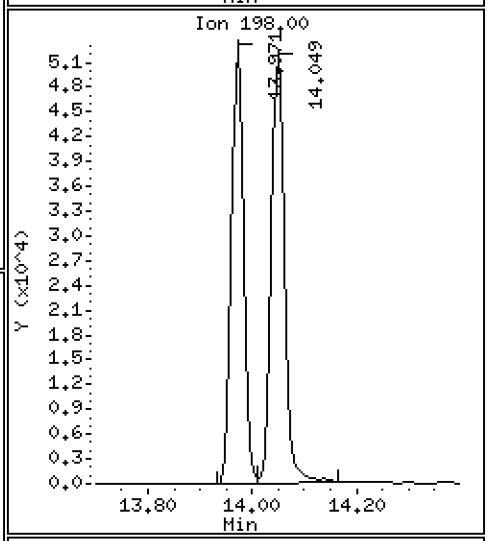
35 2,4,5-Trichlorophenol

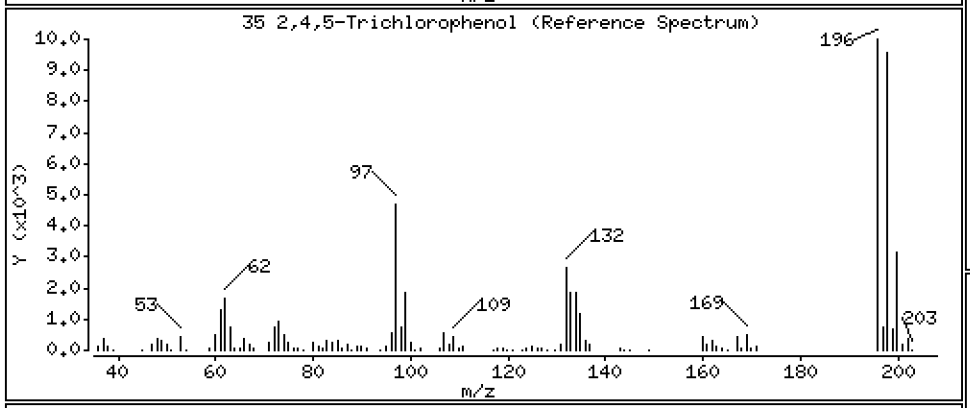
Concentration: 4.914 ug/mL

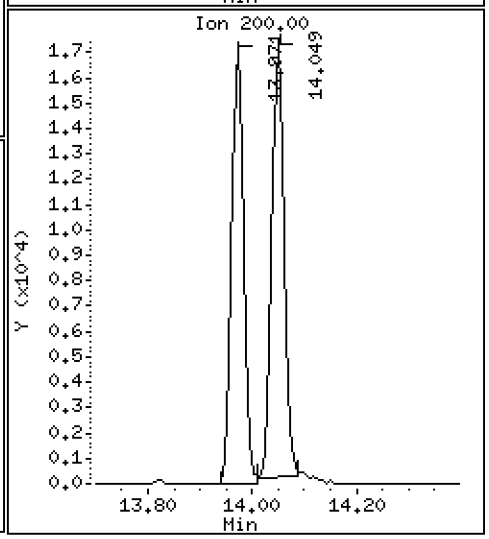


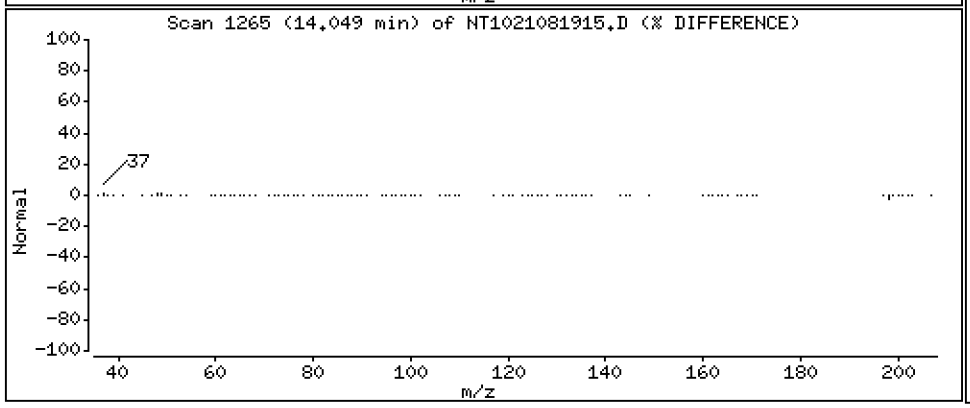












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

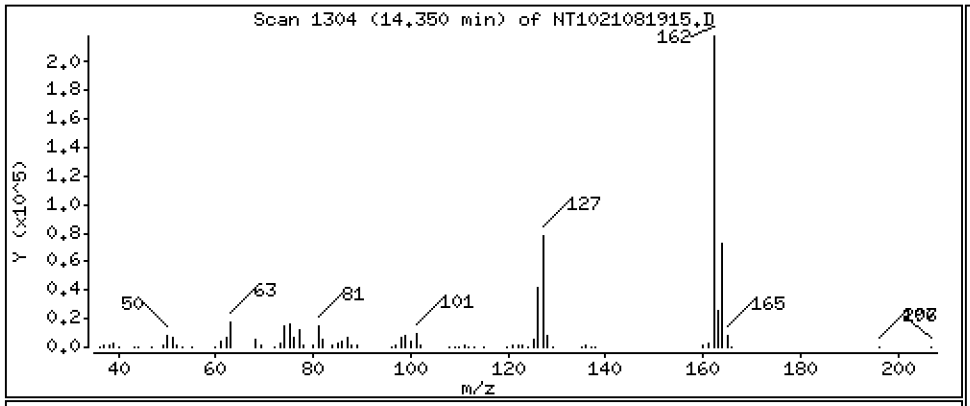
Operator: VTS

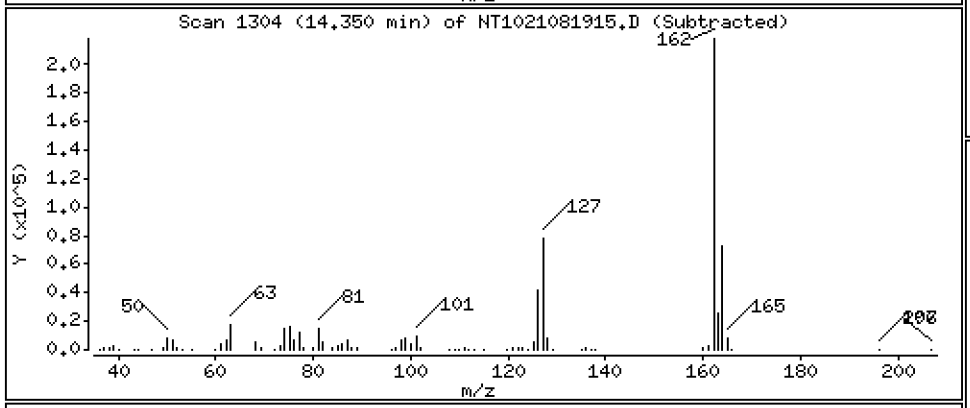
Column phase: ZB-5msi

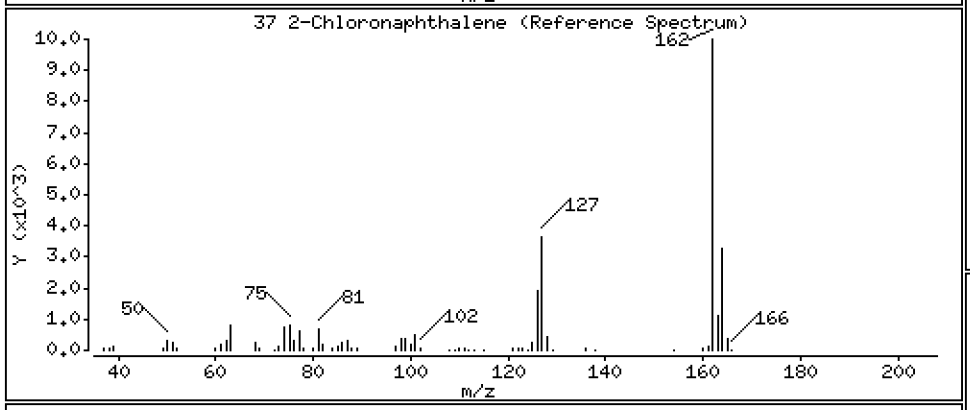
Column diameter: 0.25

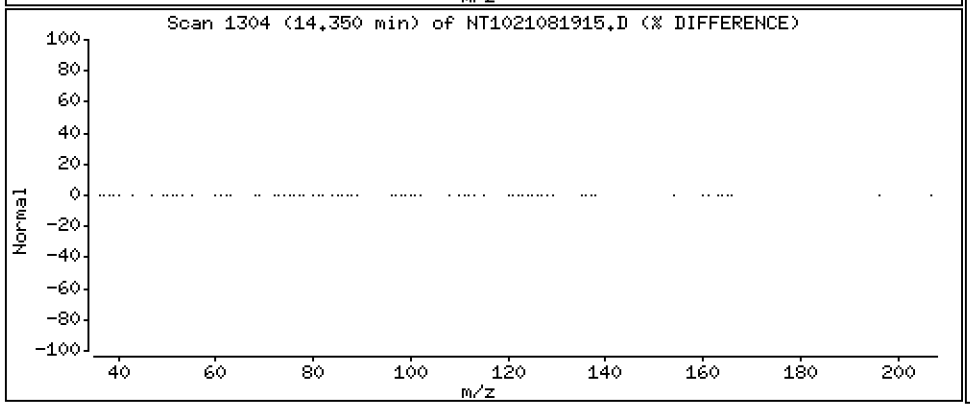
37 2-Chloronaphthalene

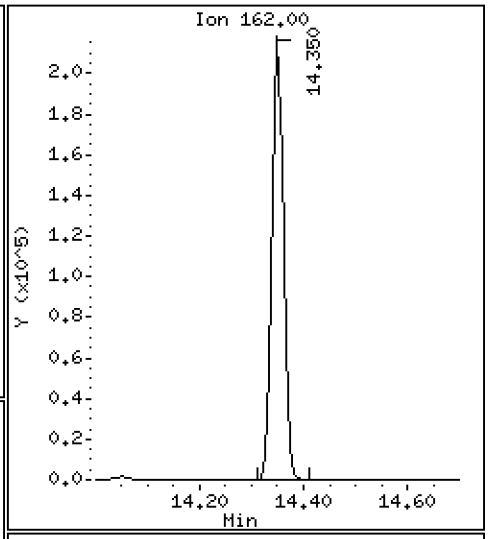
Concentration: 5.585 ug/mL

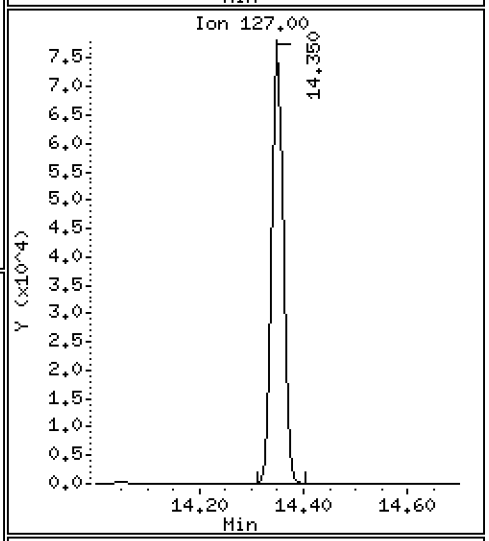


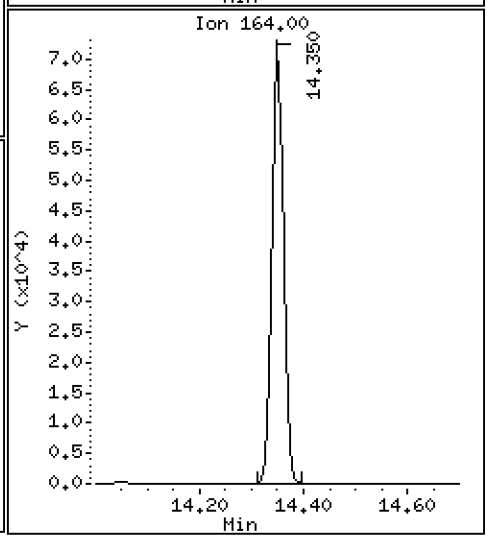












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

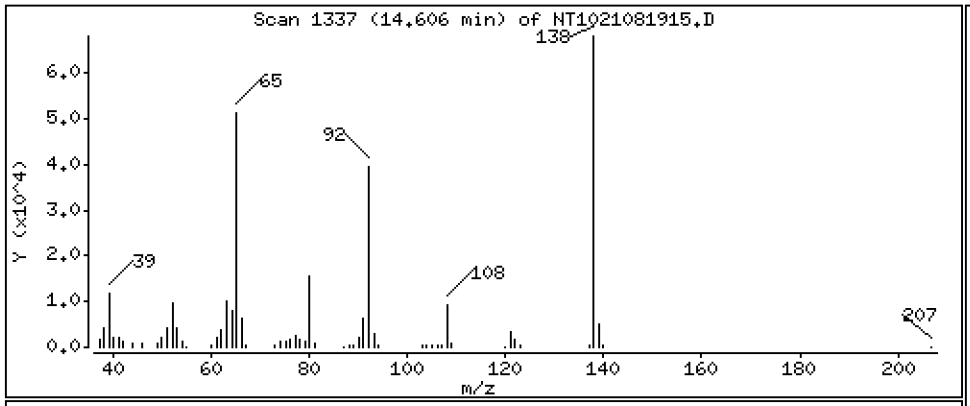
Operator: VTS

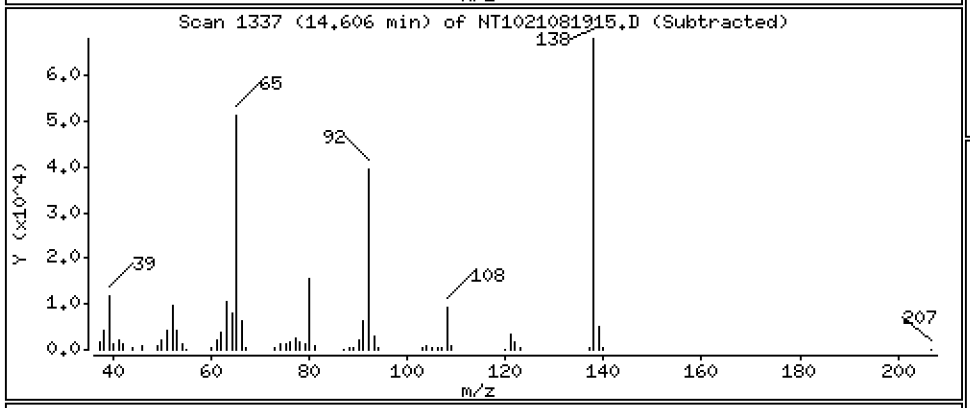
Column phase: ZB-5msi

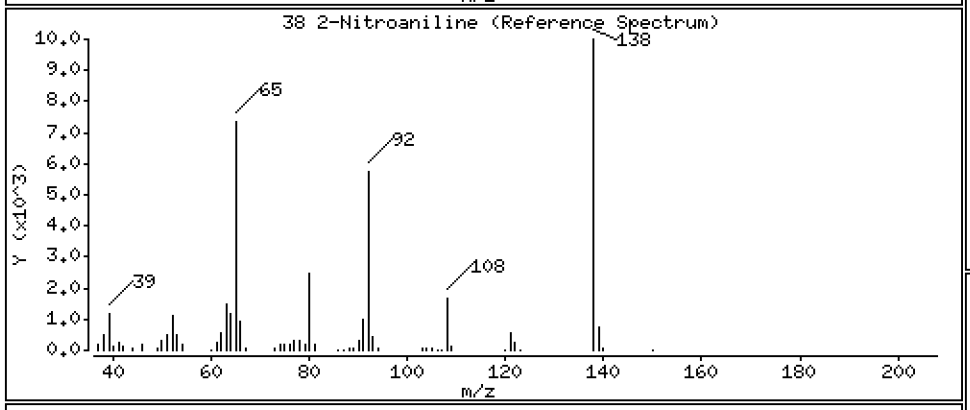
Column diameter: 0.25

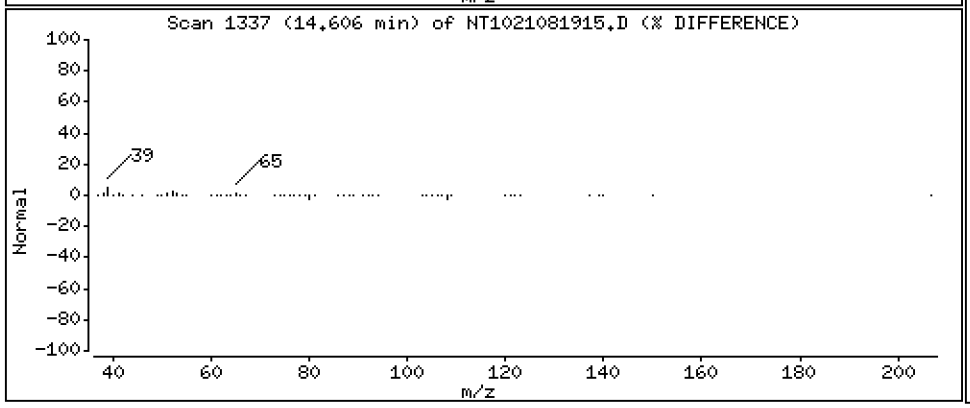
38 2-Nitroaniline

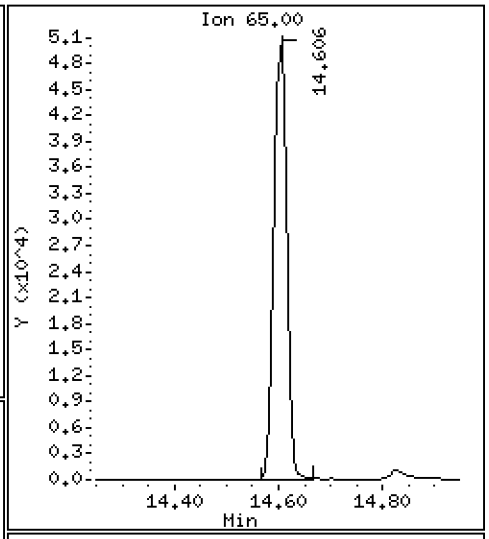
Concentration: 4.972 ug/mL

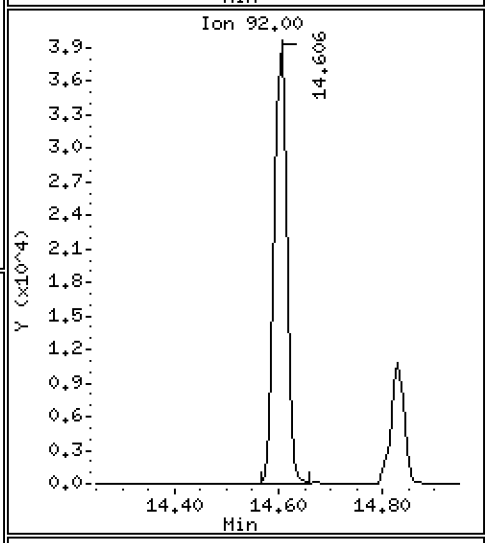


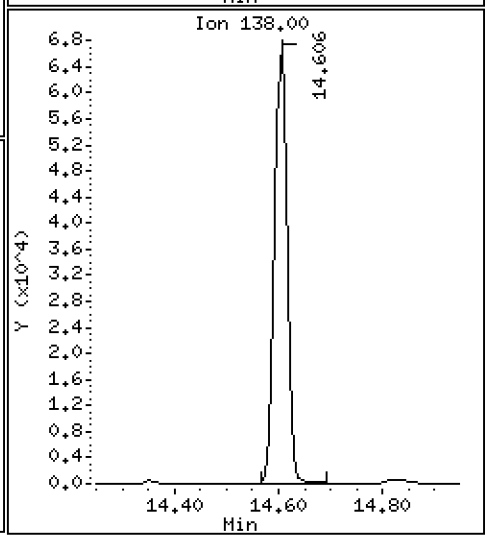












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

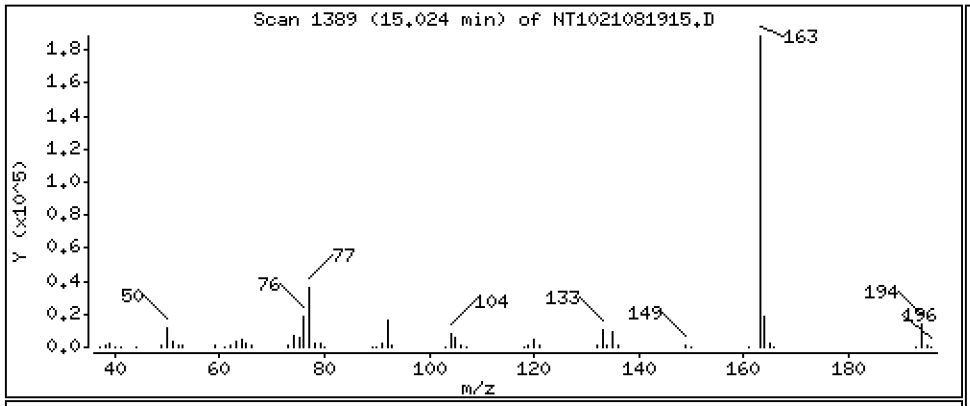
Operator: VTS

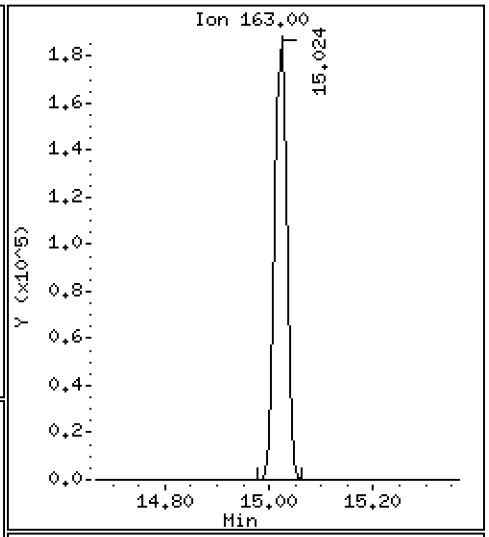
Column phase: ZB-5msi

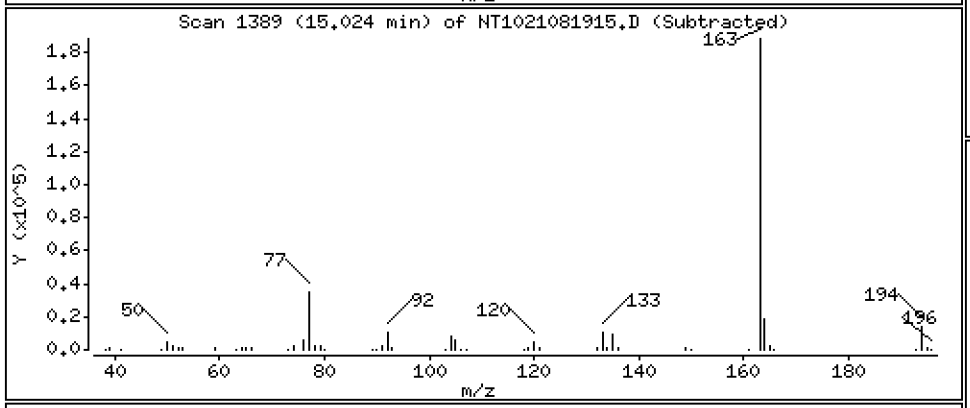
Column diameter: 0.25

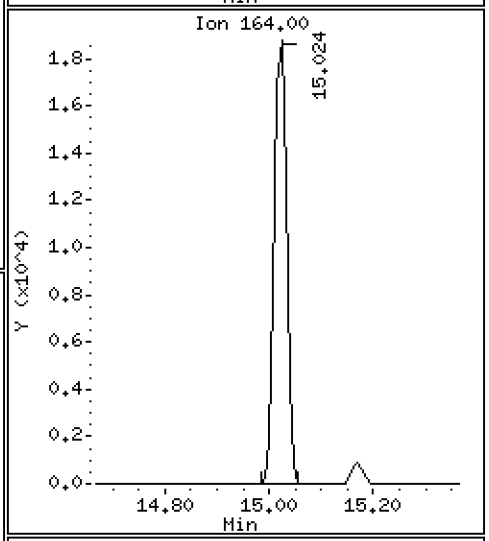
39 Dimethylphthalate

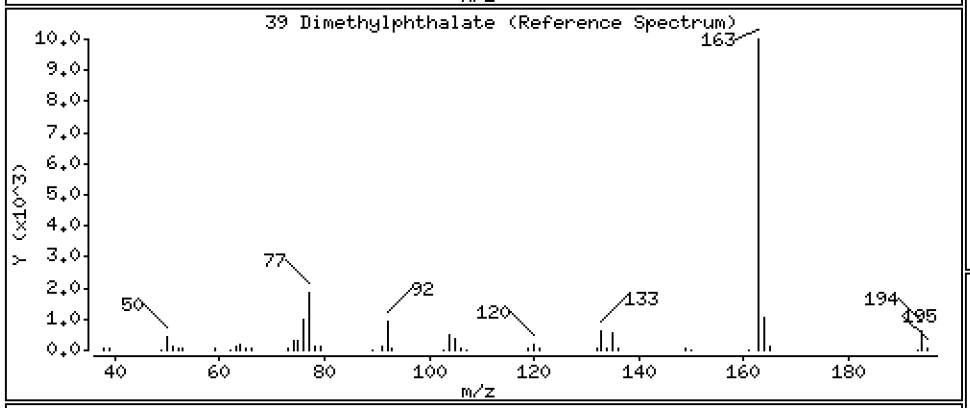
Concentration: 4.979 ug/mL

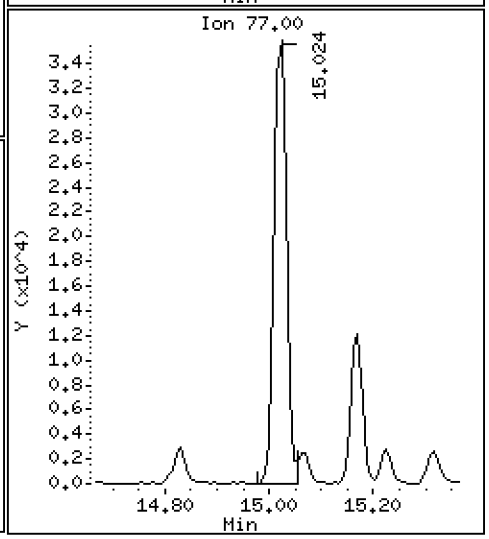


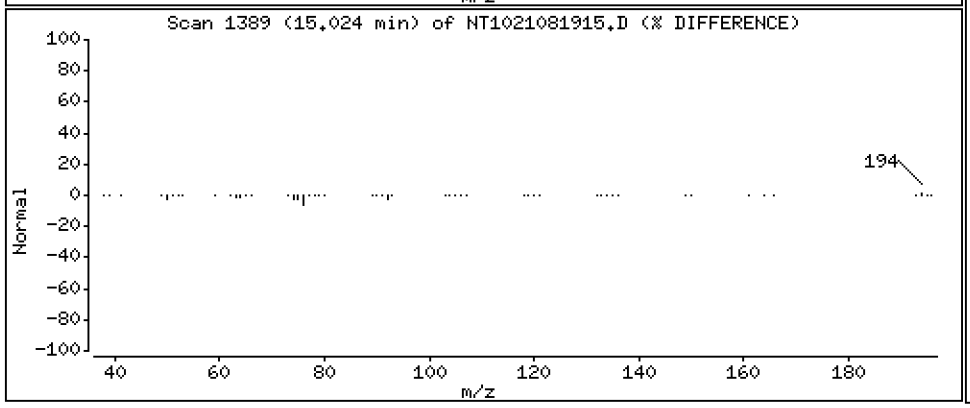












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

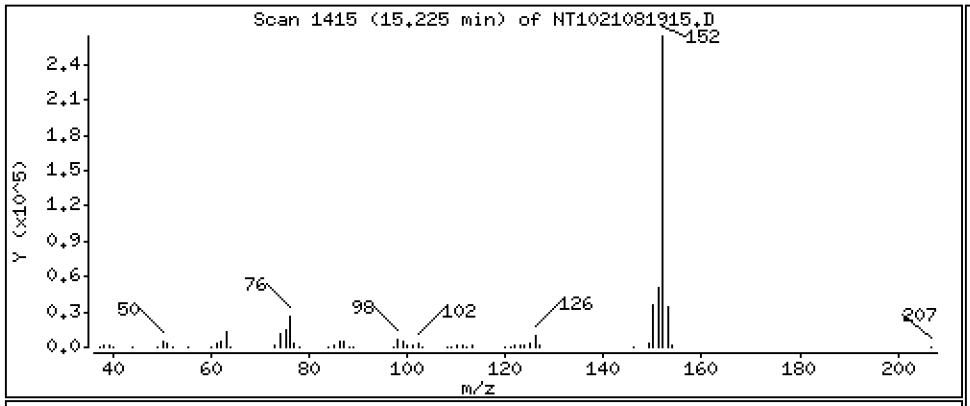
Operator: VTS

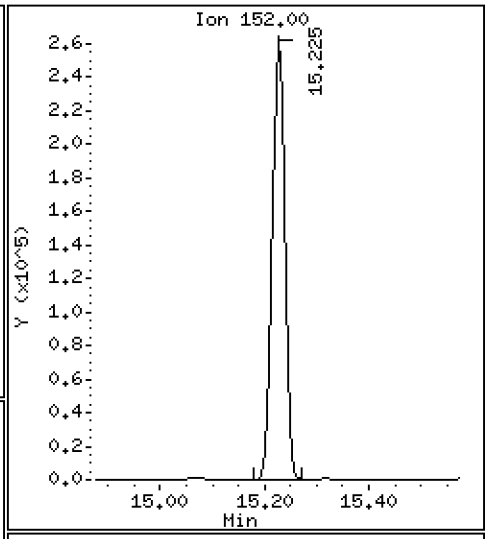
Column phase: ZB-5msi

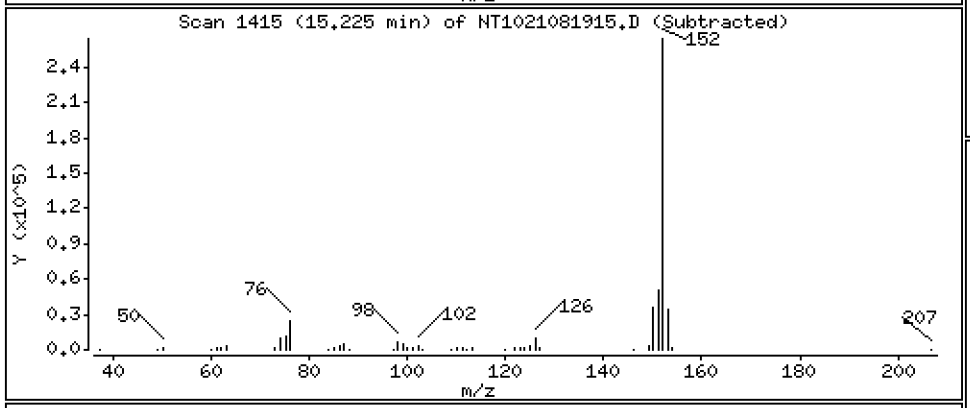
Column diameter: 0.25

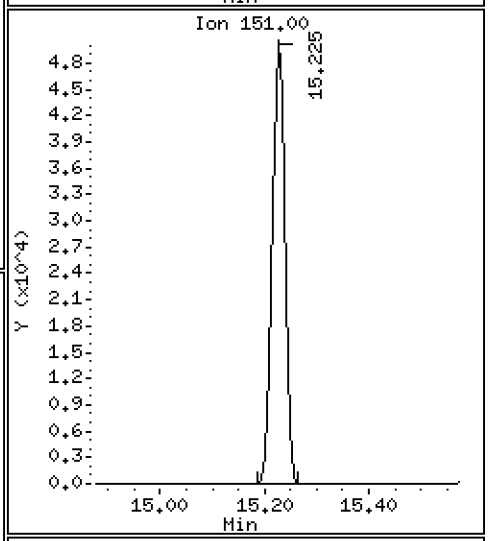
40 Acenaphthylene

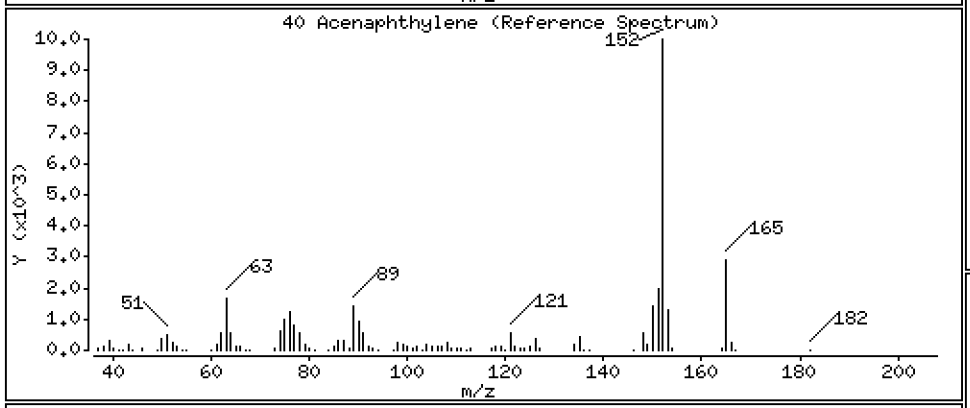
Concentration: 4.796 ug/mL

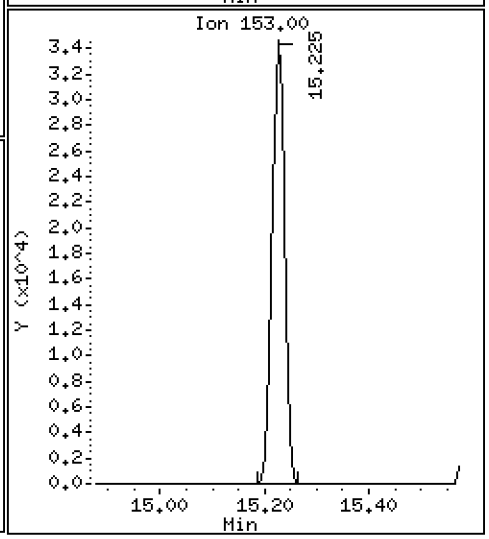


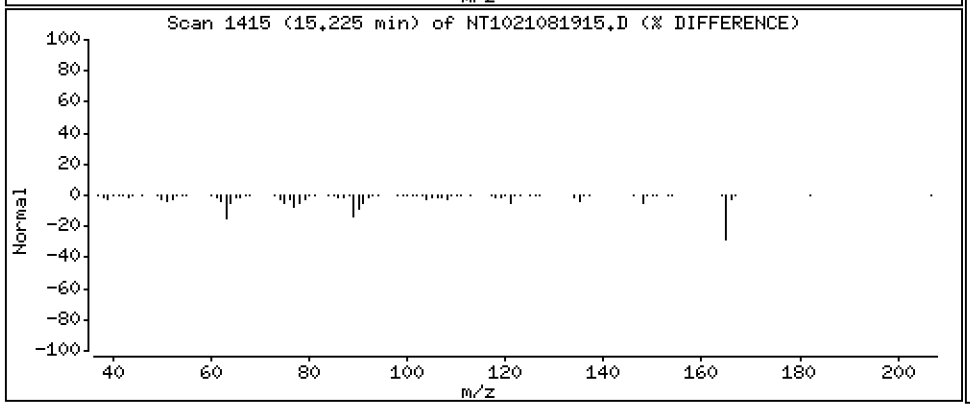












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

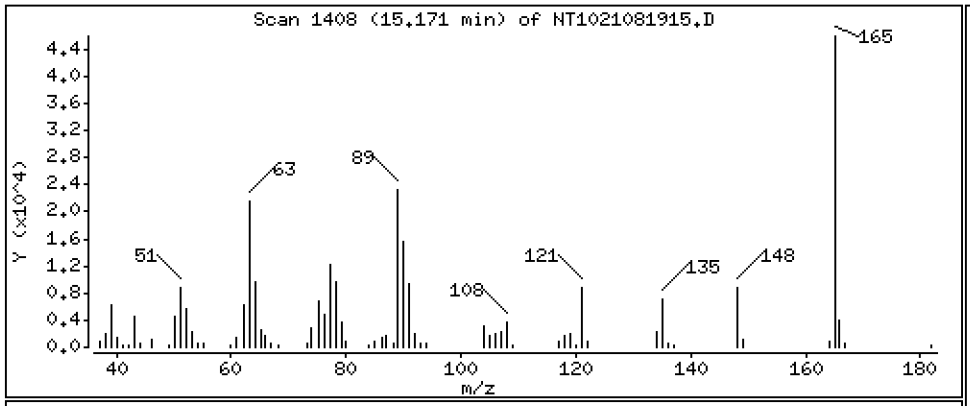
Operator: VTS

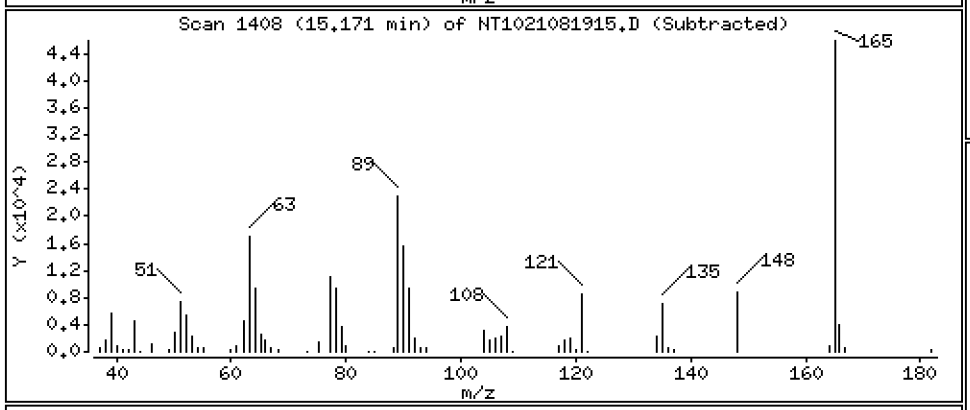
Column phase: ZB-5msi

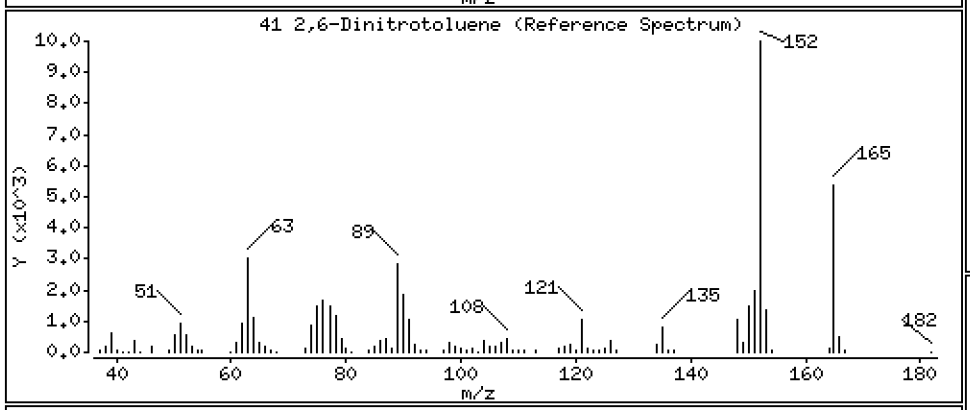
Column diameter: 0.25

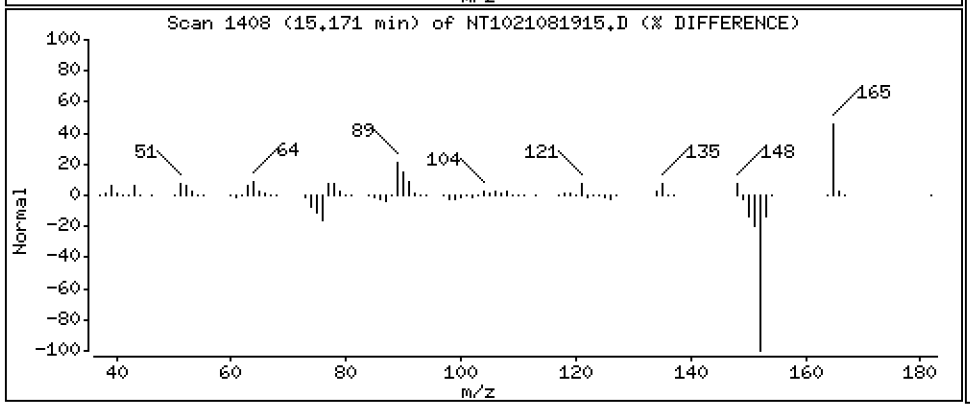
41 2,6-Dinitrotoluene

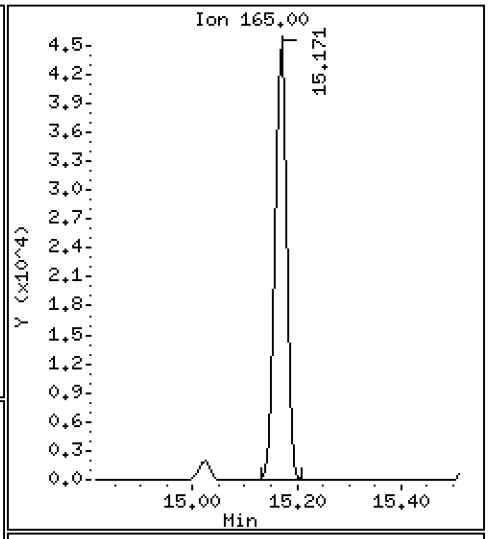
Concentration: 5.369 ug/mL

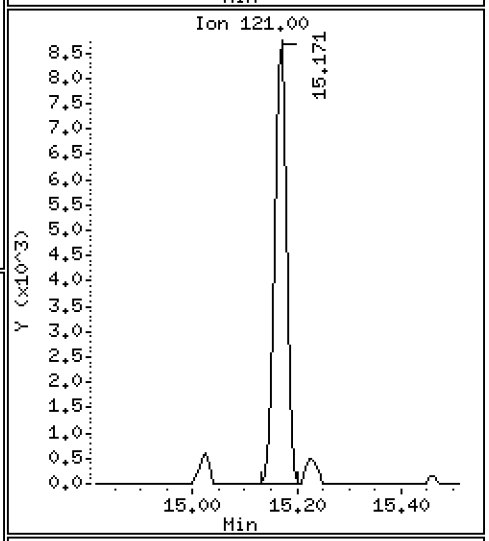


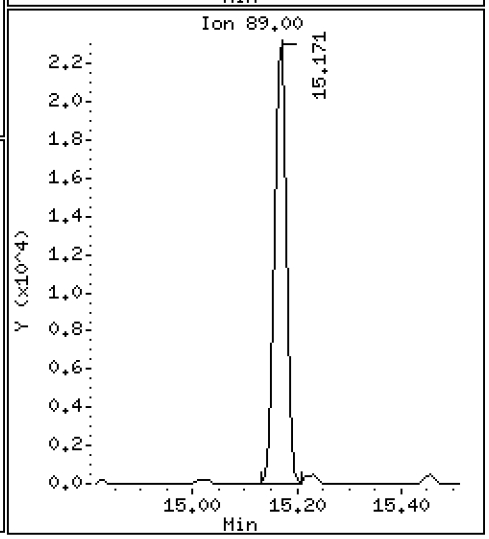












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

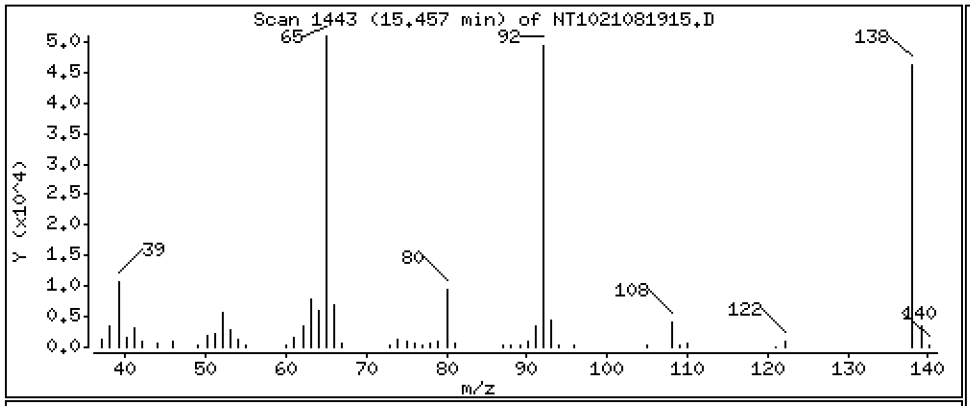
Operator: VTS

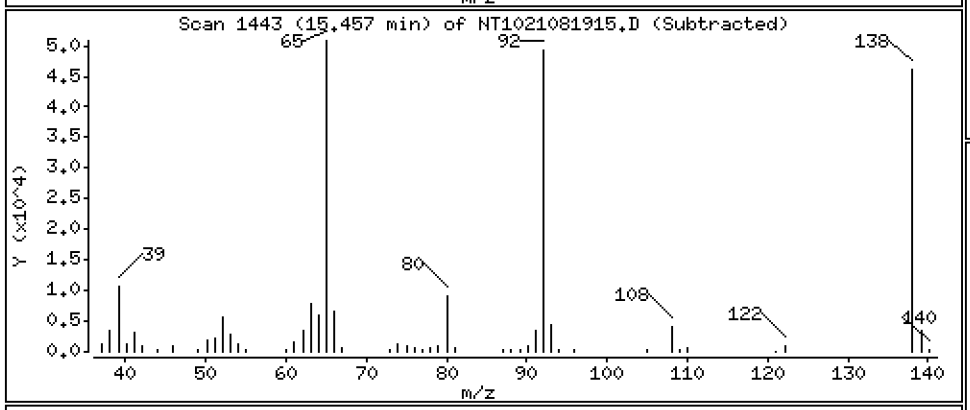
Column phase: ZB-5msi

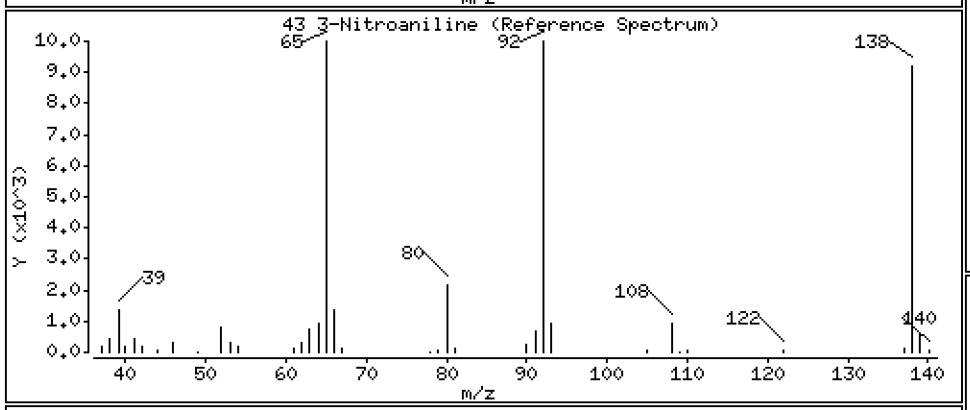
Column diameter: 0.25

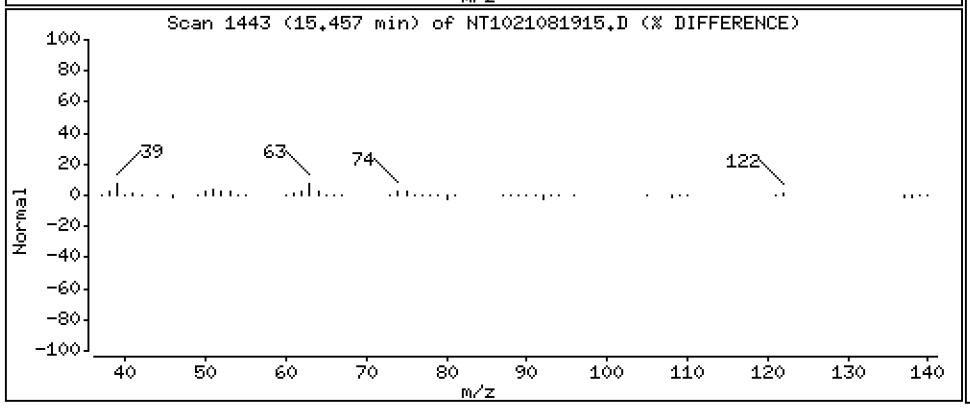
43 3-Nitroaniline

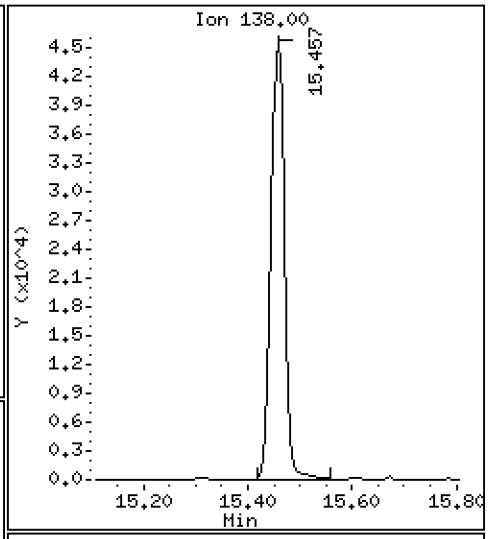
Concentration: 4.562 ug/mL

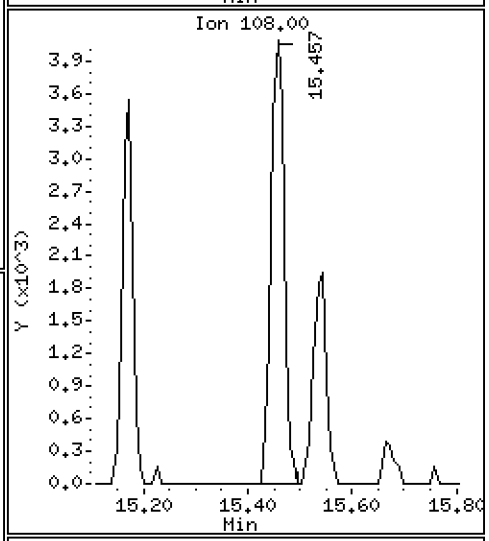


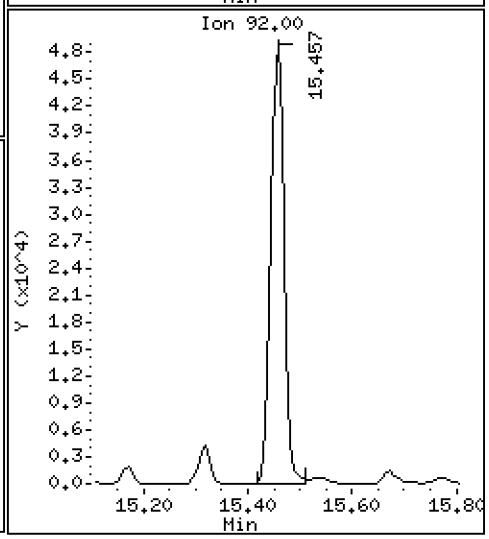












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

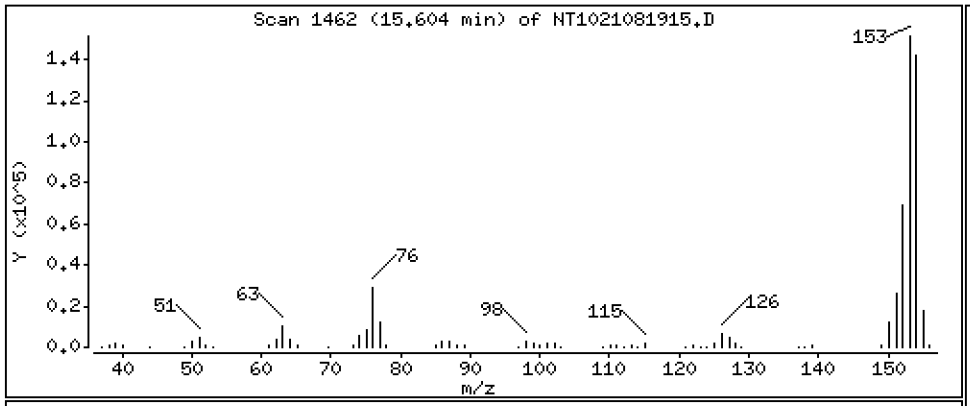
Operator: VTS

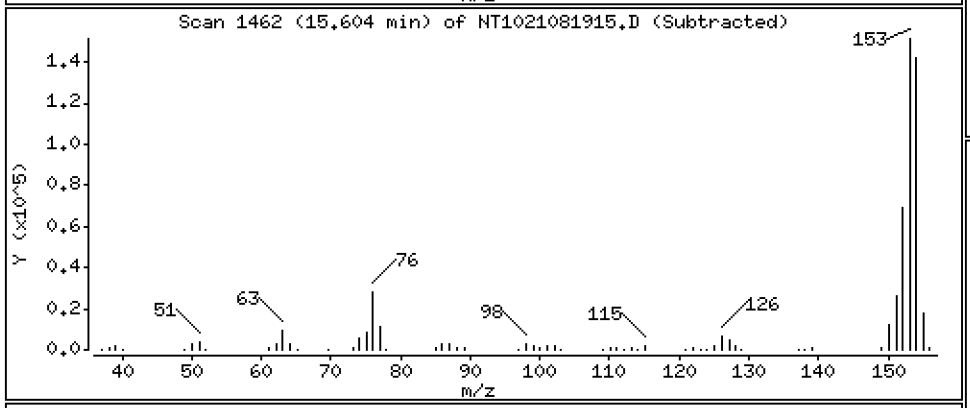
Column phase: ZB-5msi

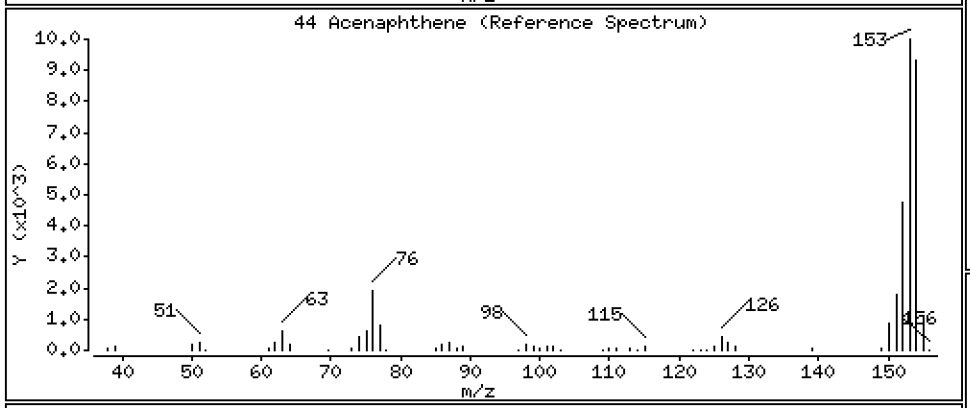
Column diameter: 0.25

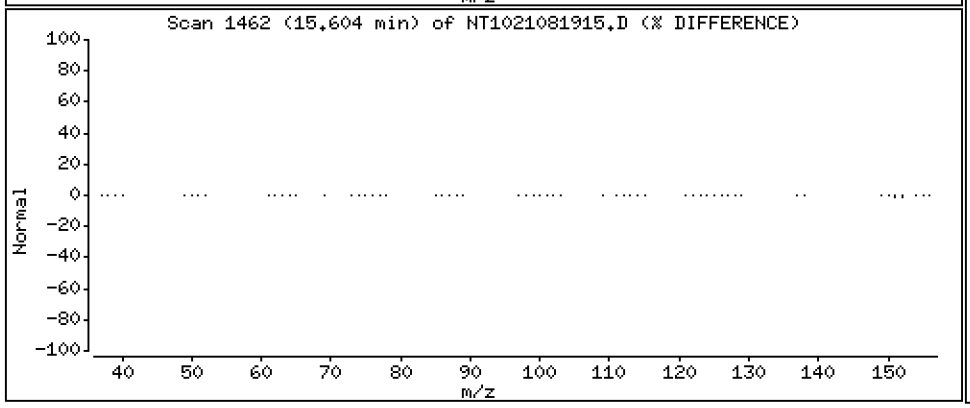
44 Acenaphthene

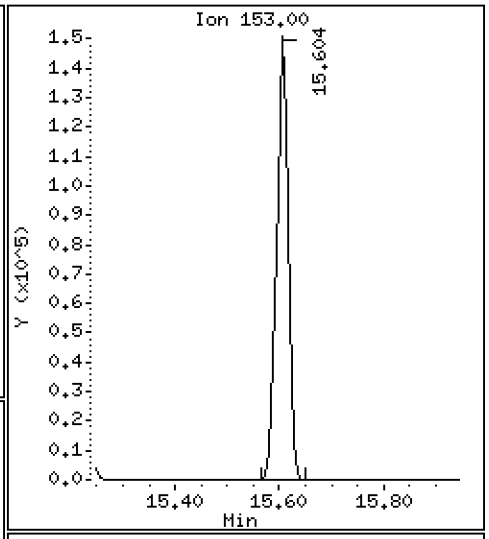
Concentration: 4.975 ug/mL

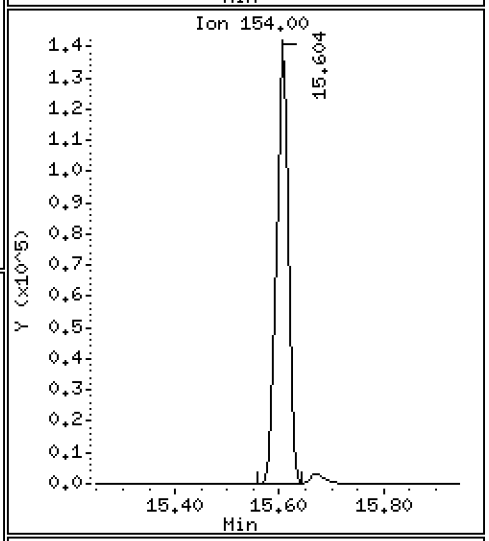


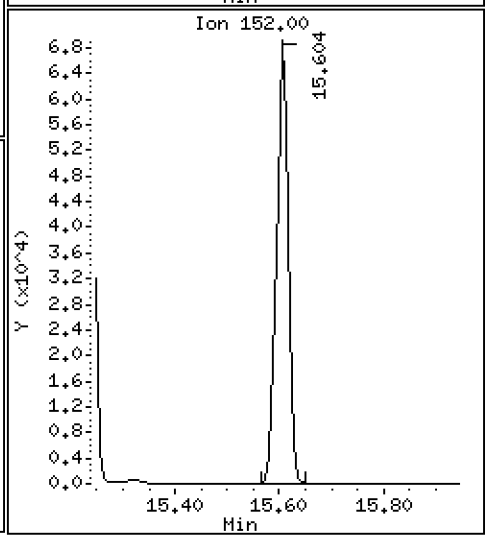












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

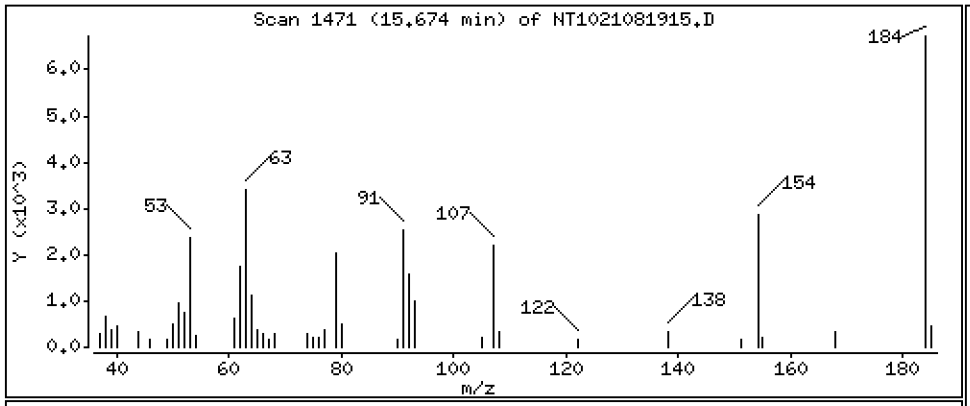
Operator: VTS

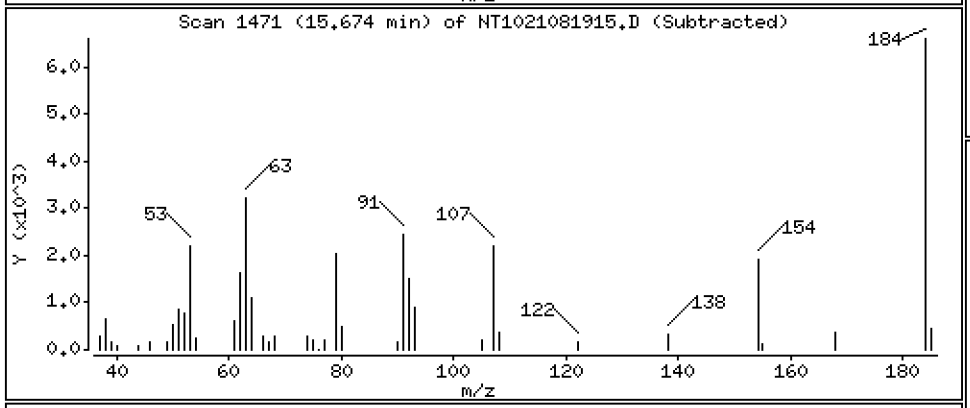
Column phase: ZB-5msi

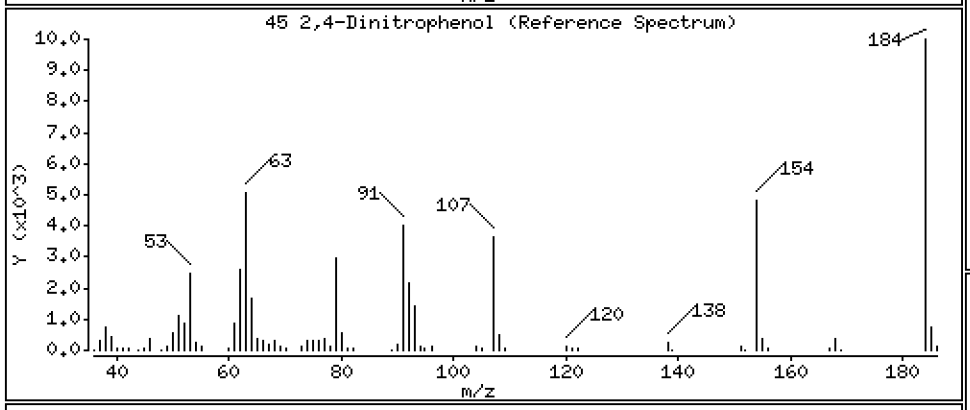
Column diameter: 0.25

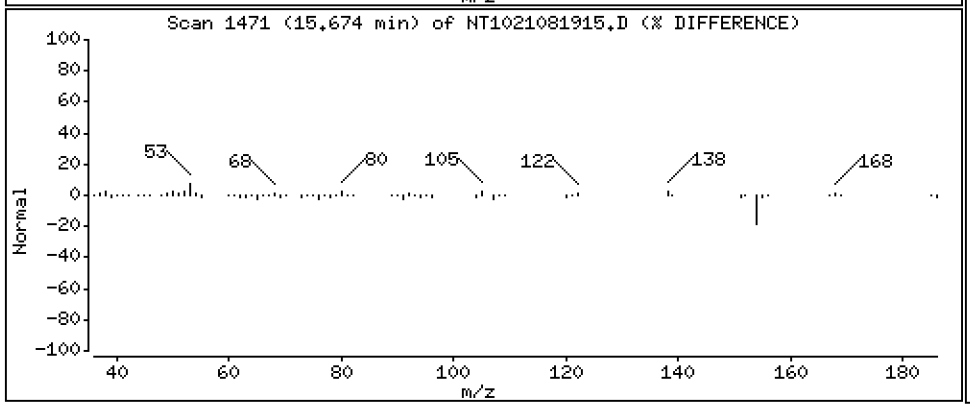
45 2,4-Dinitrophenol

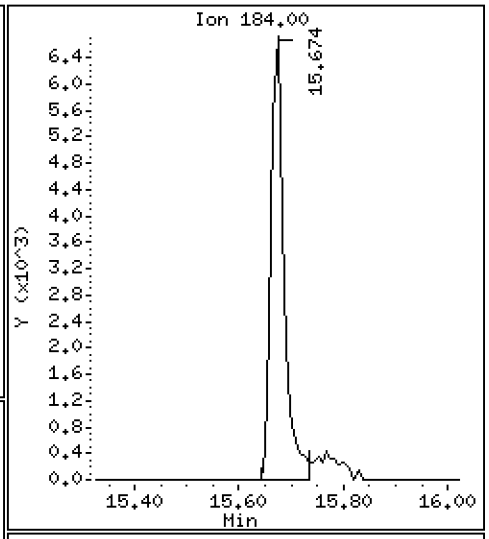
Concentration: 1.665 ug/mL

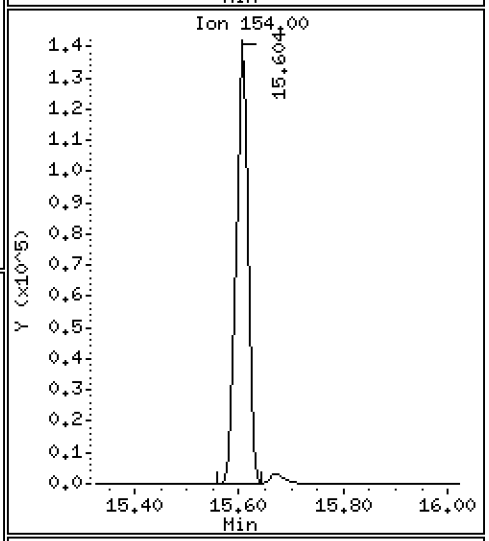


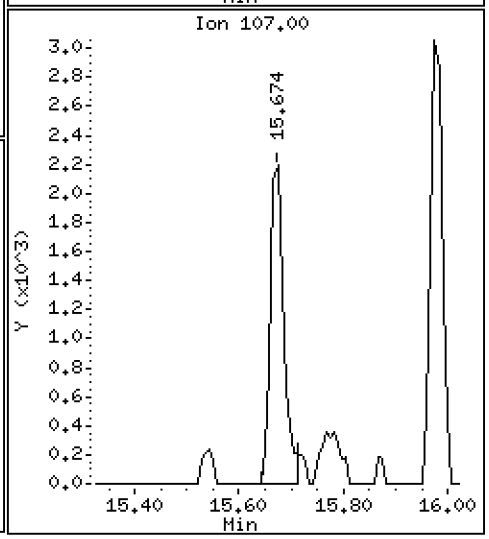












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

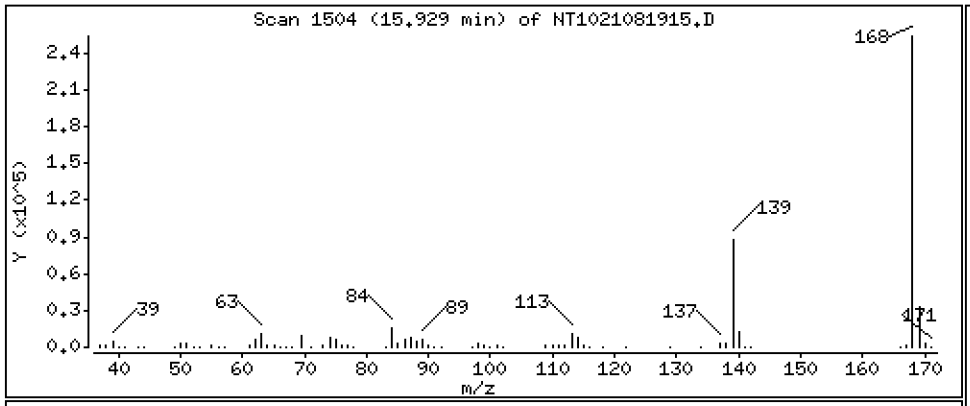
Operator: VTS

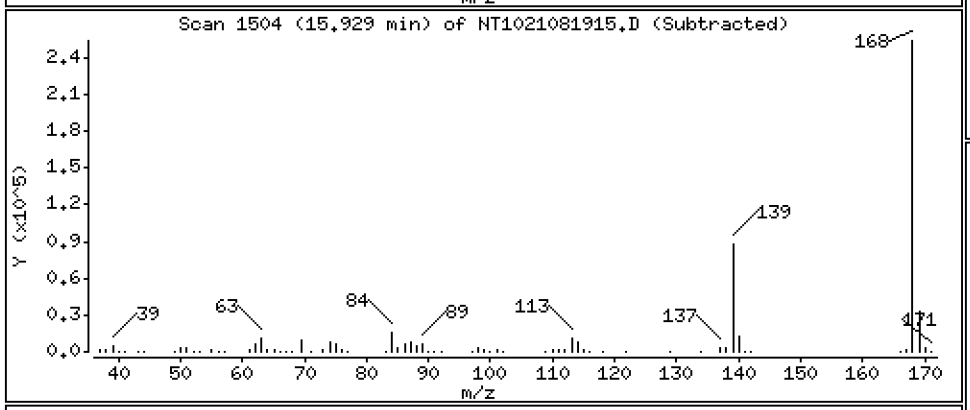
Column phase: ZB-5msi

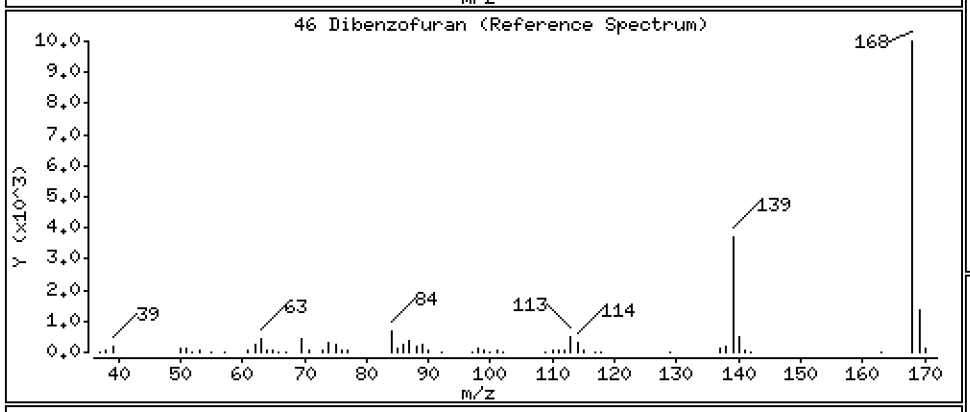
Column diameter: 0.25

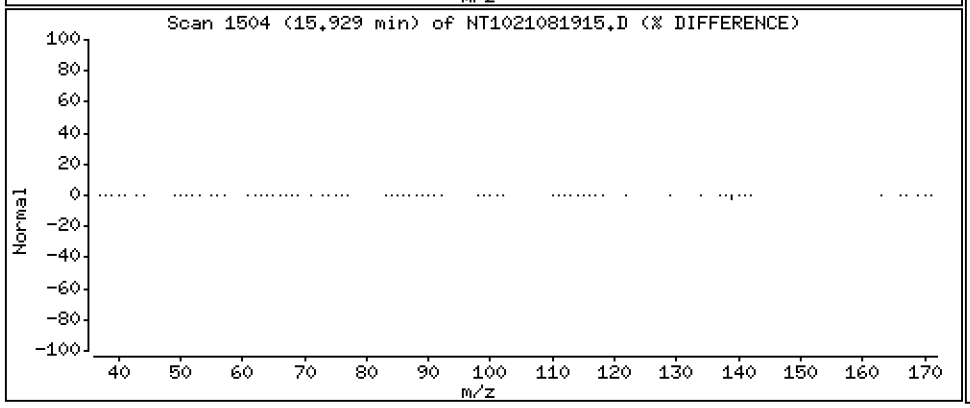
46 Dibenzofuran

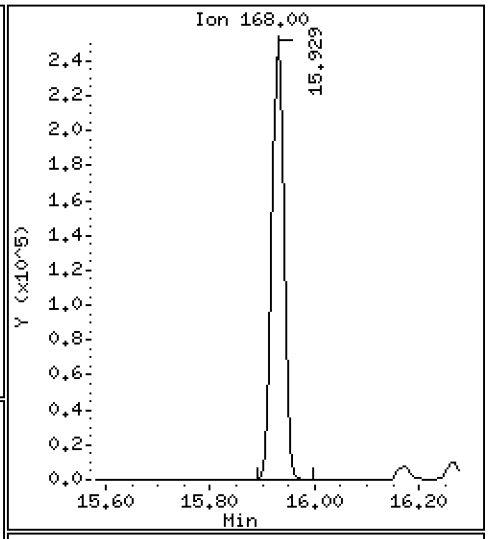
Concentration: 4.691 ug/mL

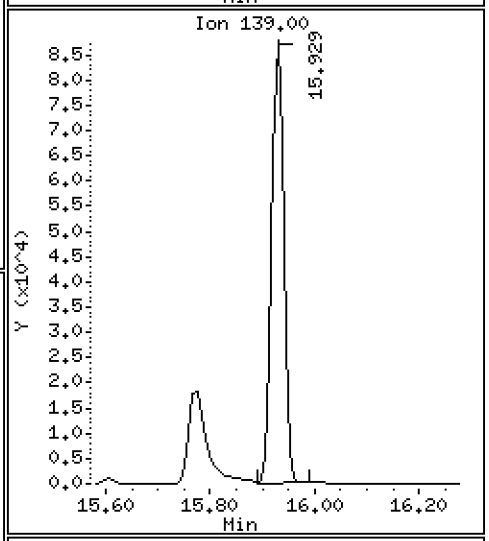


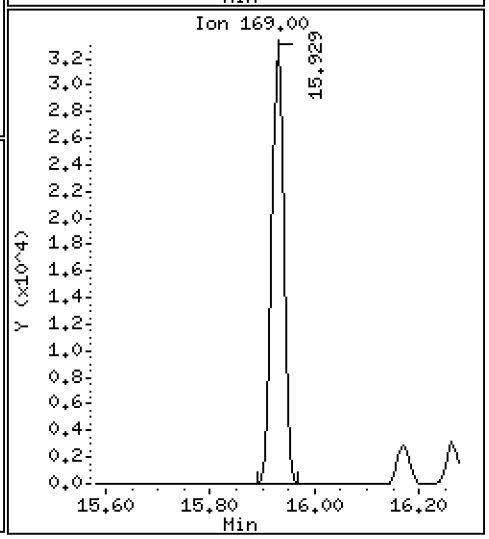












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

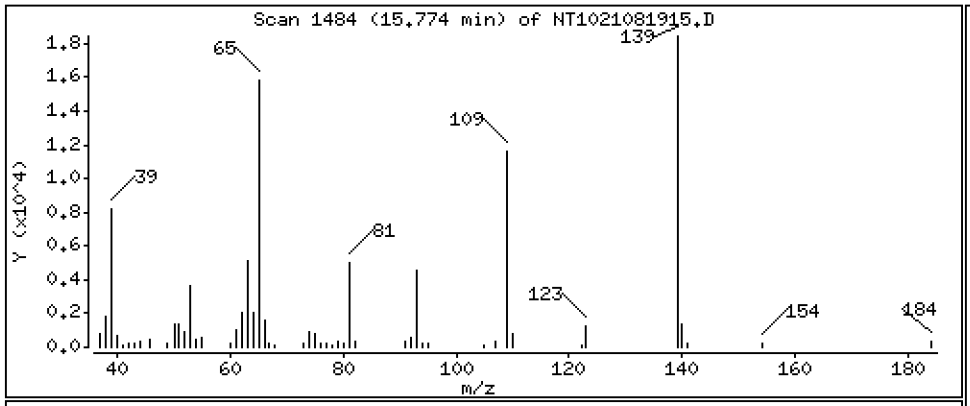
Operator: VTS

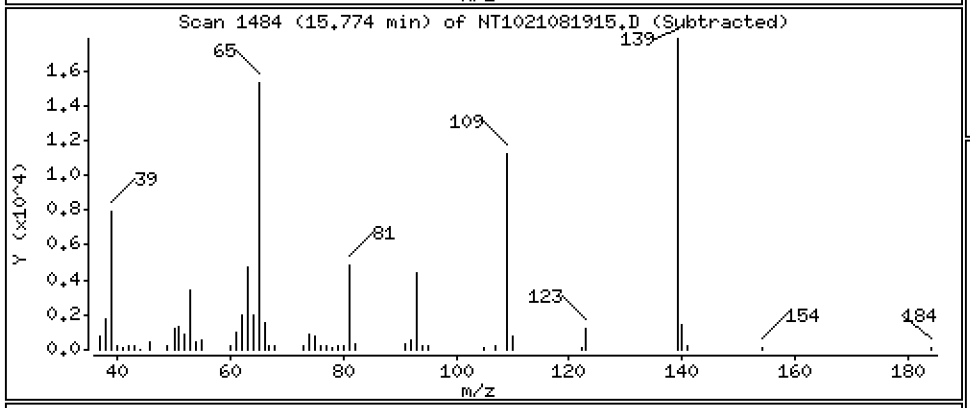
Column phase: ZB-5msi

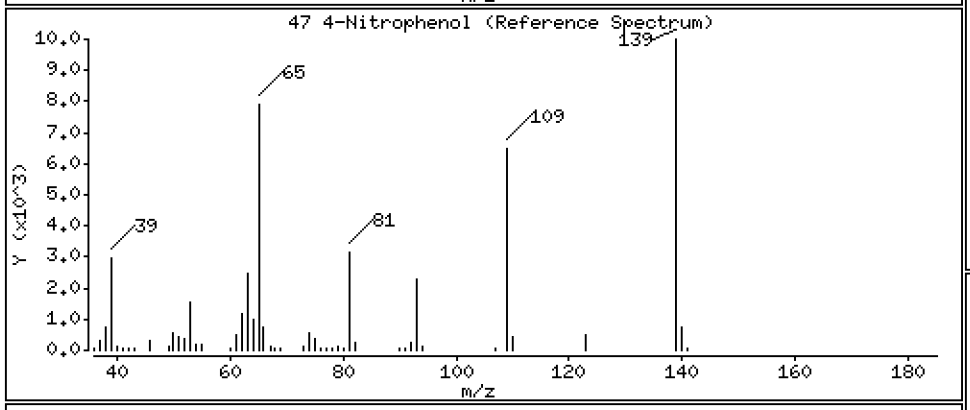
Column diameter: 0.25

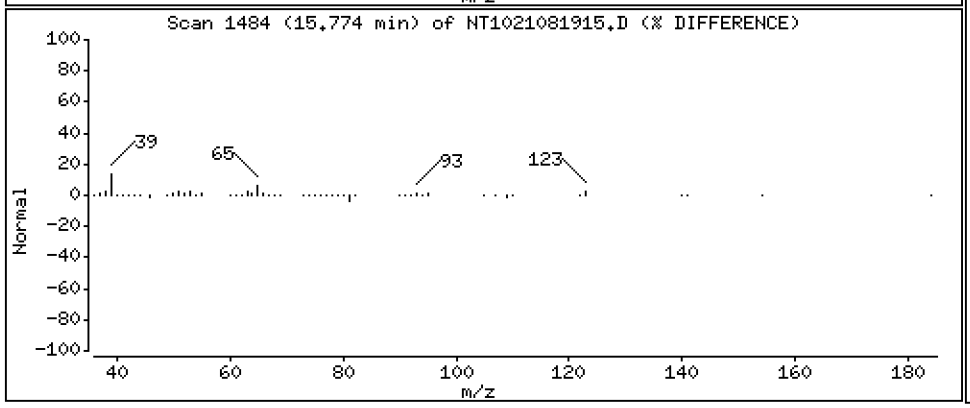
47 4-Nitrophenol

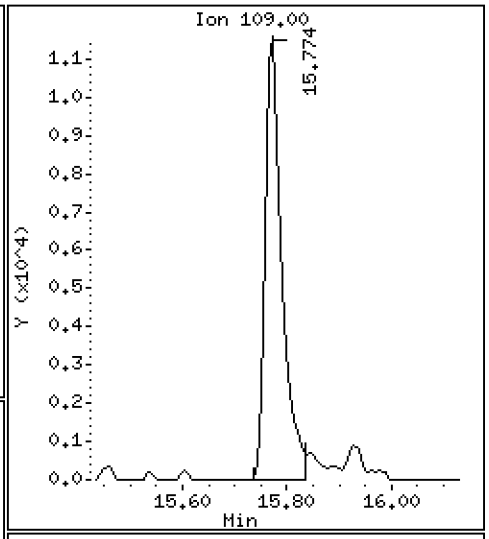
Concentration: 4.018 ug/mL

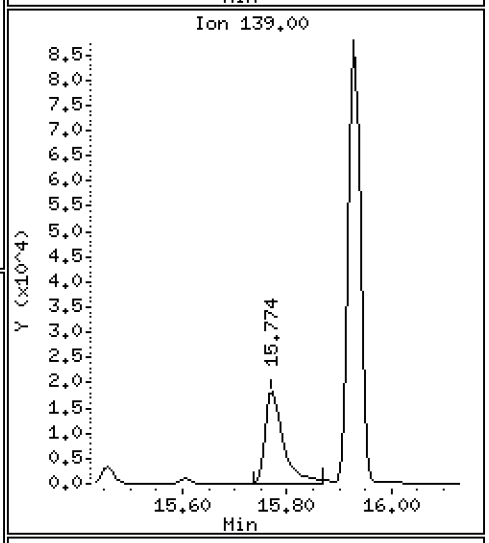


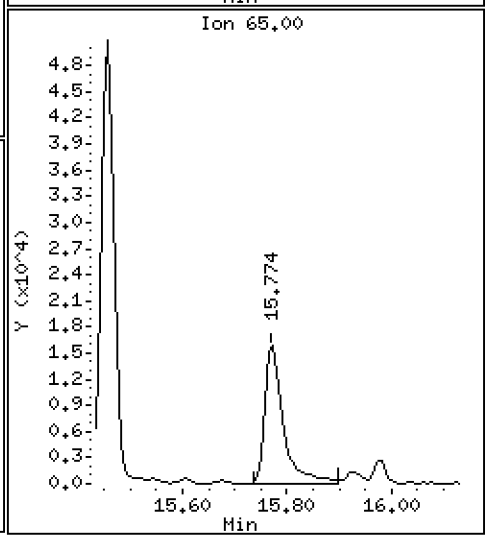












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

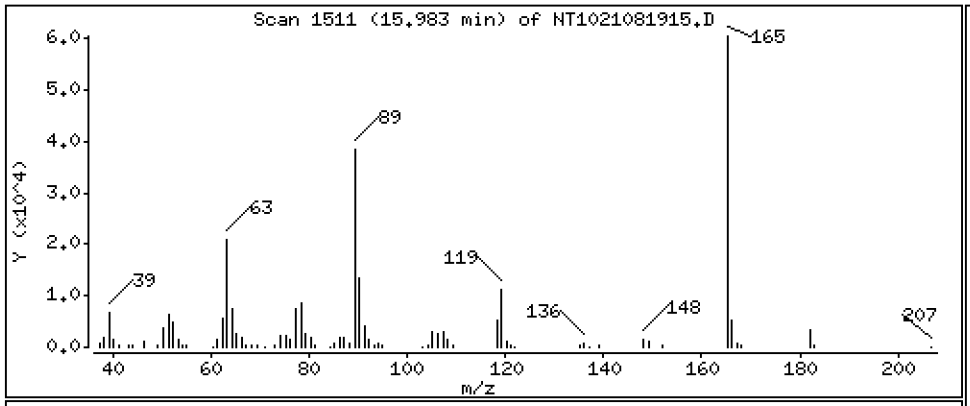
Operator: VTS

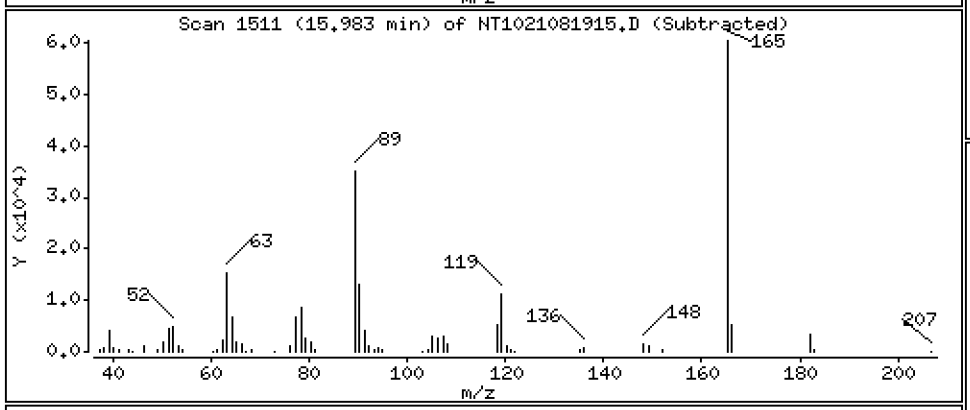
Column phase: ZB-5msi

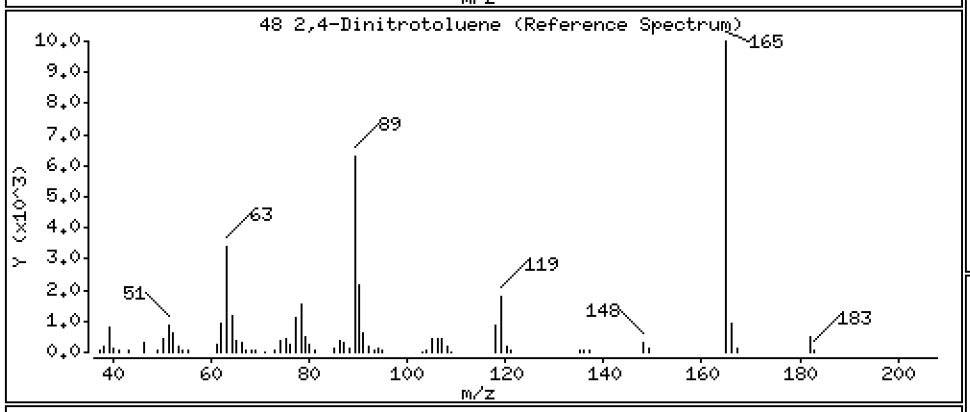
Column diameter: 0.25

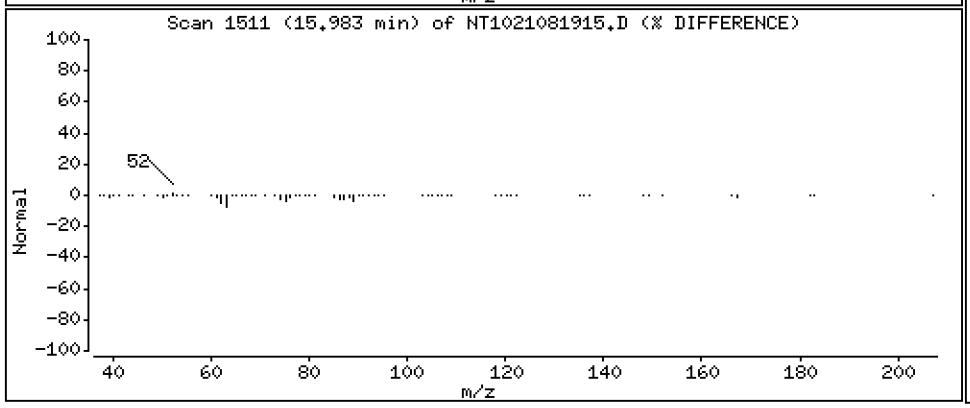
48 2,4-Dinitrotoluene

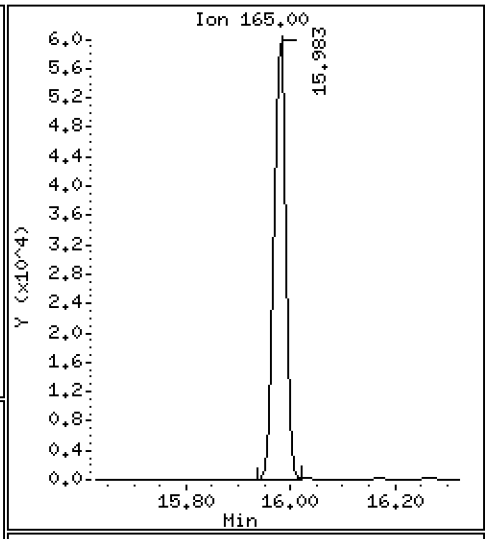
Concentration: 5.106 ug/mL

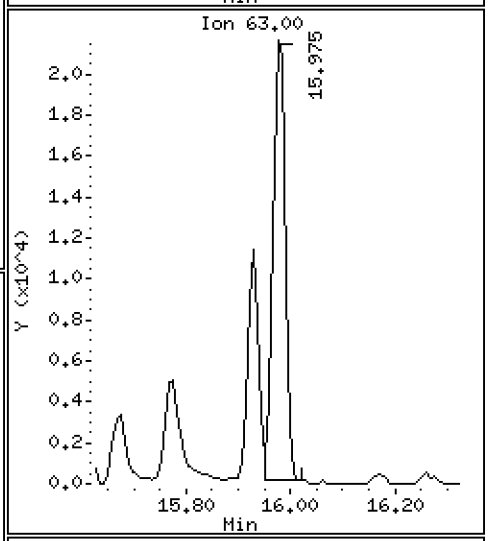


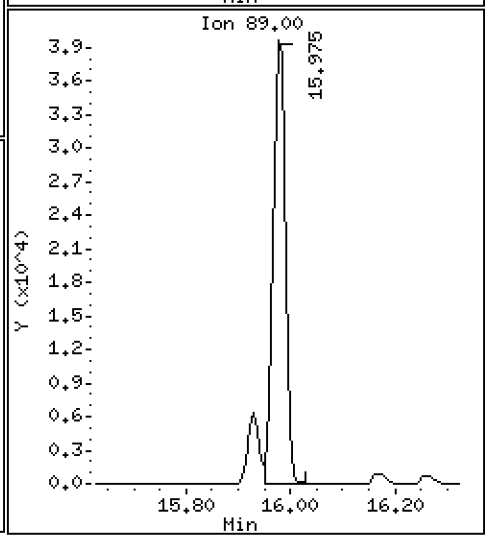












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

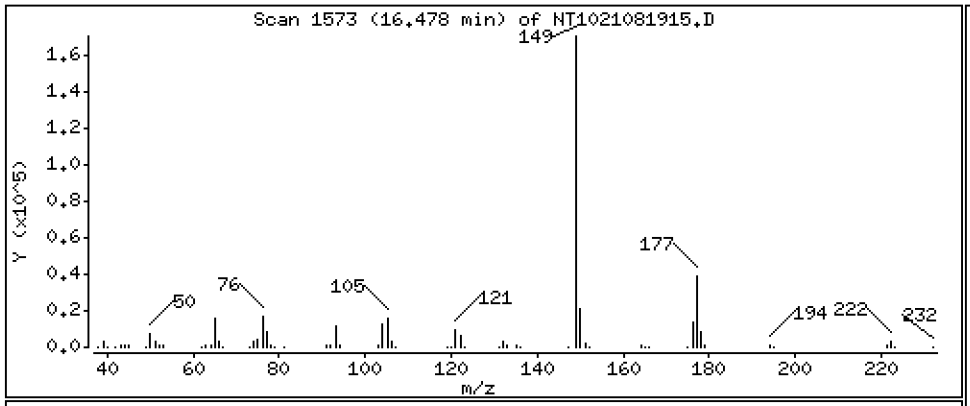
Operator: VTS

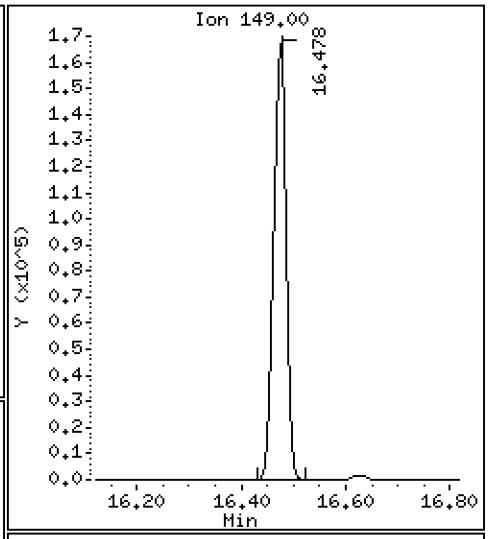
Column phase: ZB-5msi

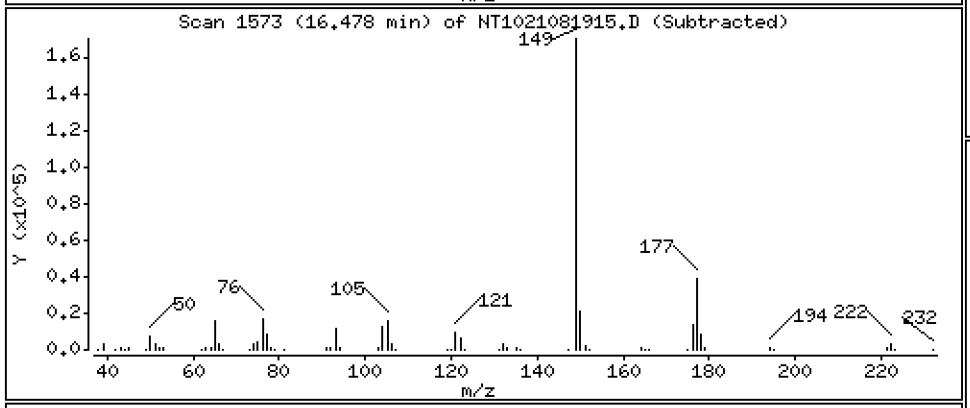
Column diameter: 0.25

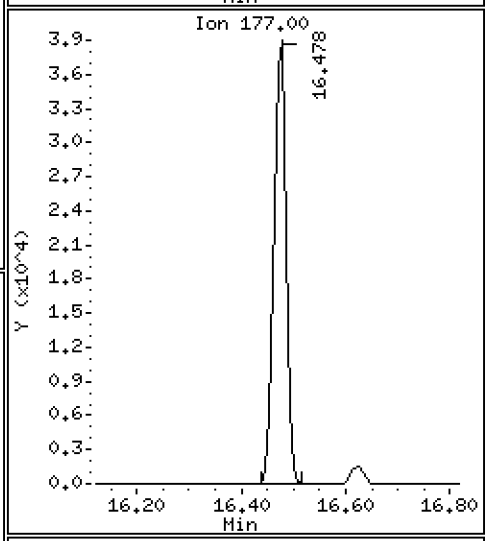
50 Diethylphthalate

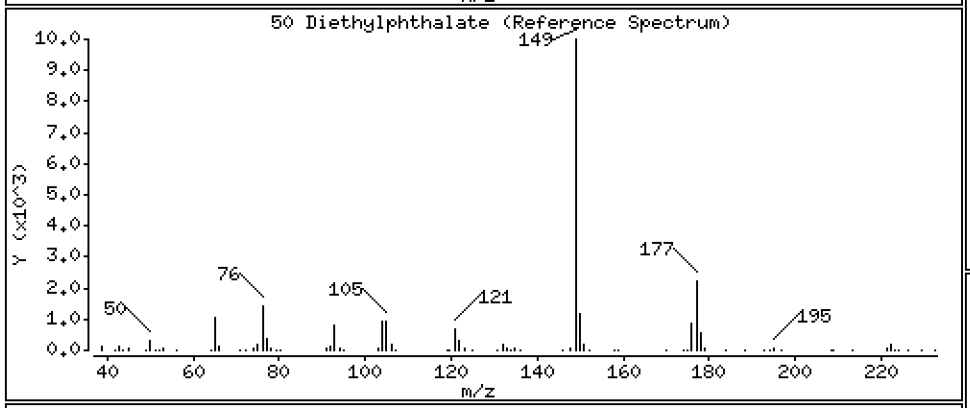
Concentration: 5.096 ug/mL

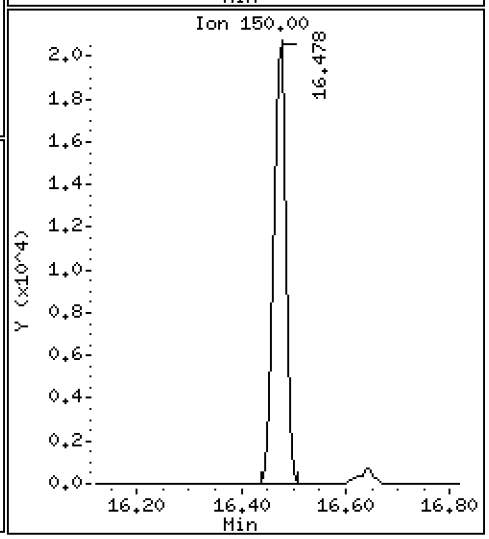


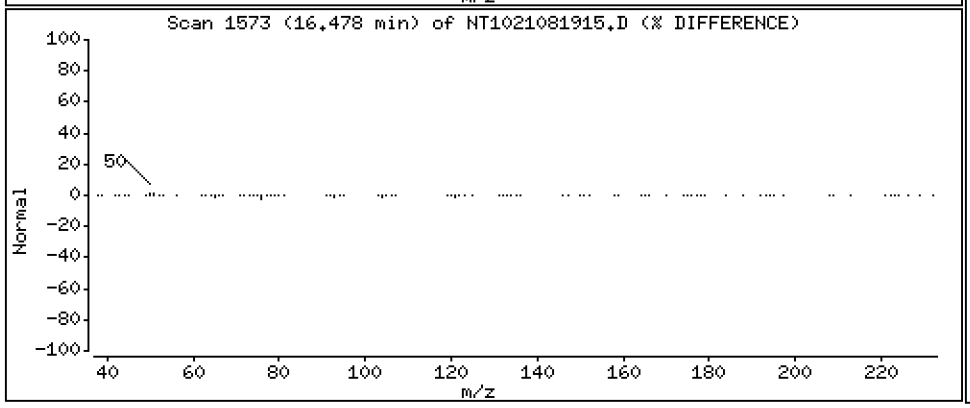












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

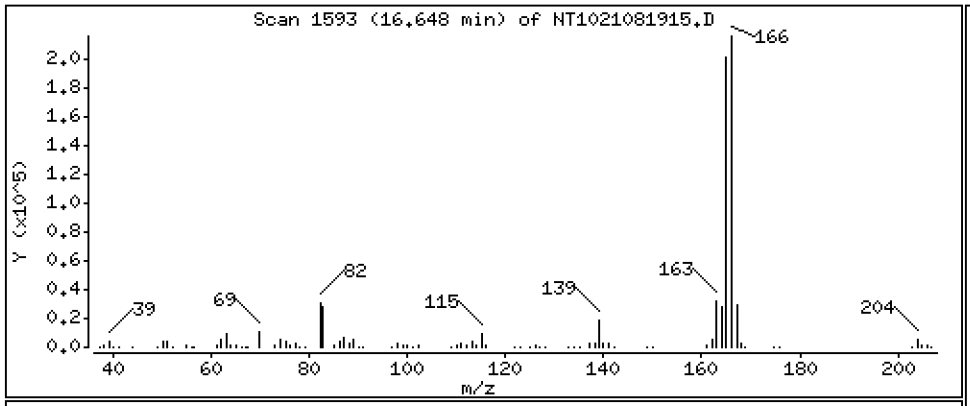
Operator: VTS

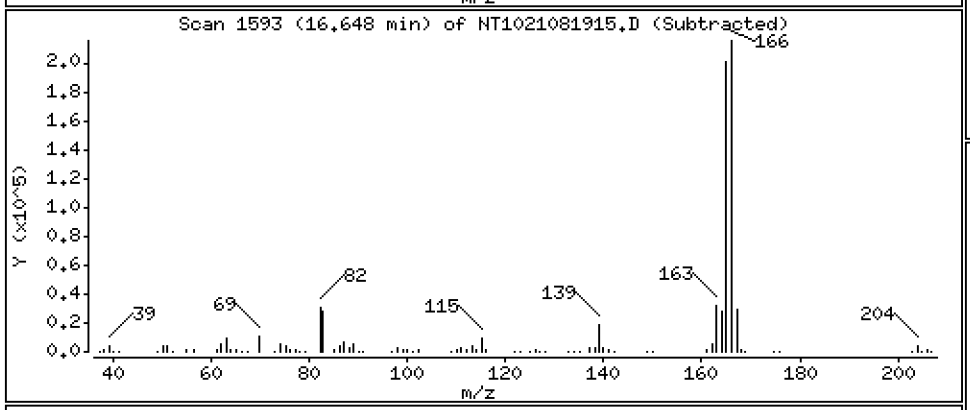
Column phase: ZB-5msi

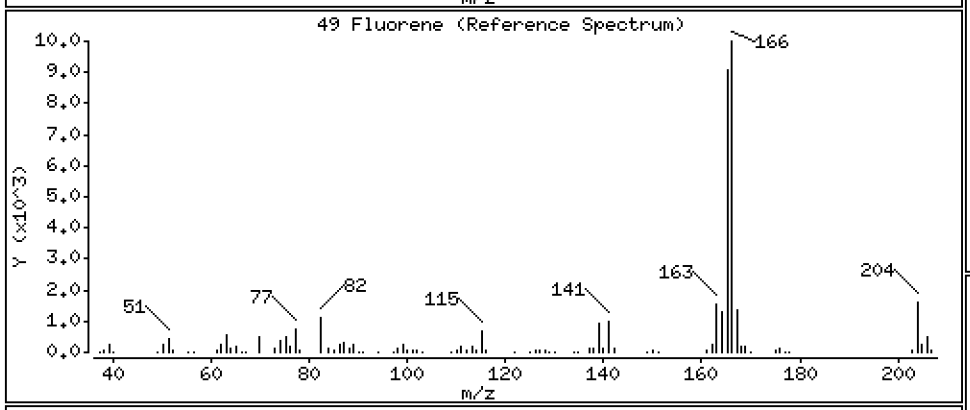
Column diameter: 0.25

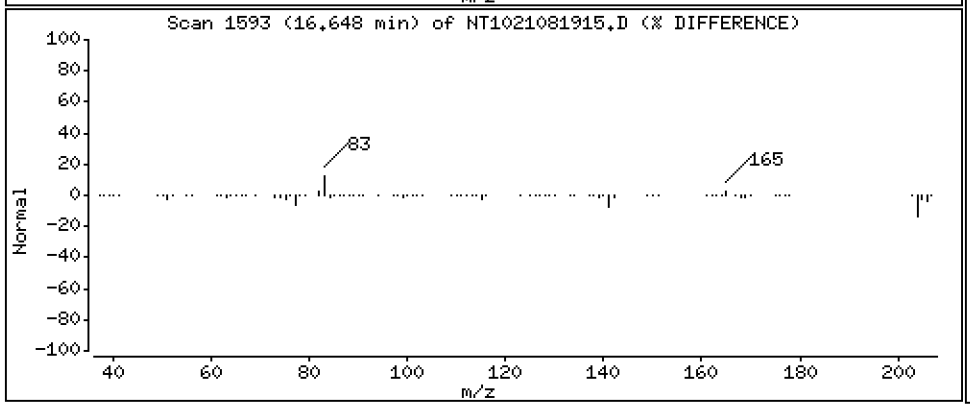
49 Fluorene

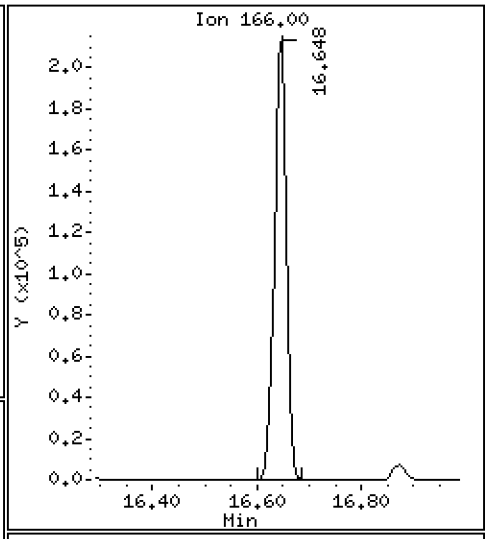
Concentration: 4.723 ug/mL

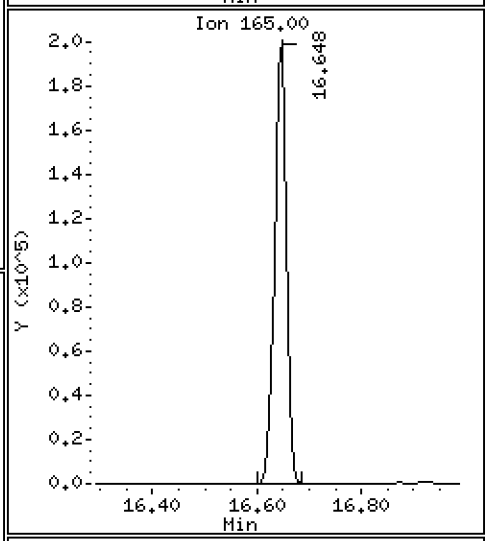


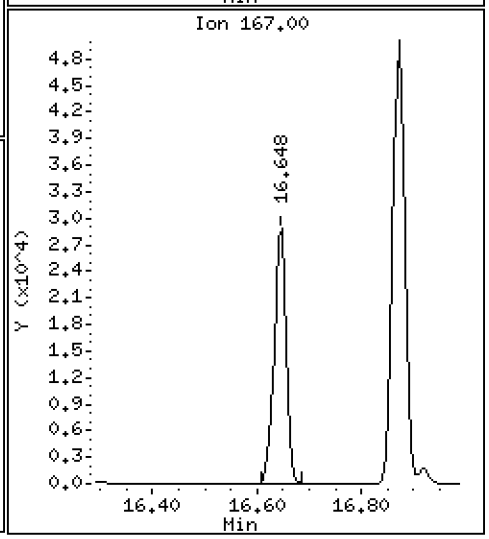












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

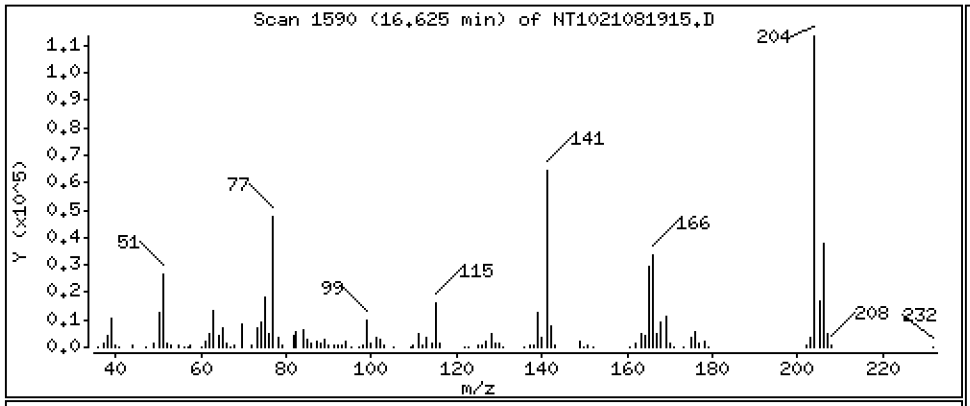
Operator: VTS

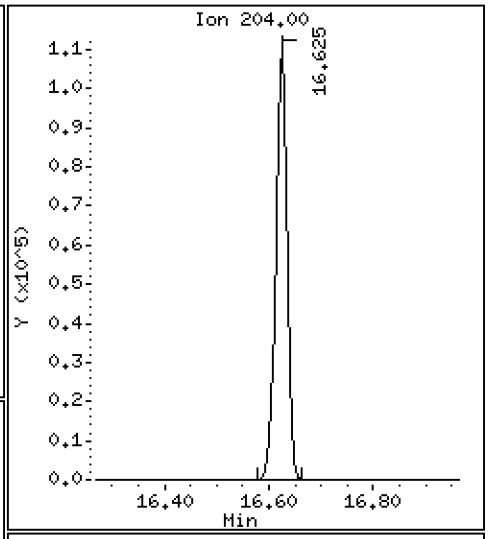
Column phase: ZB-5msi

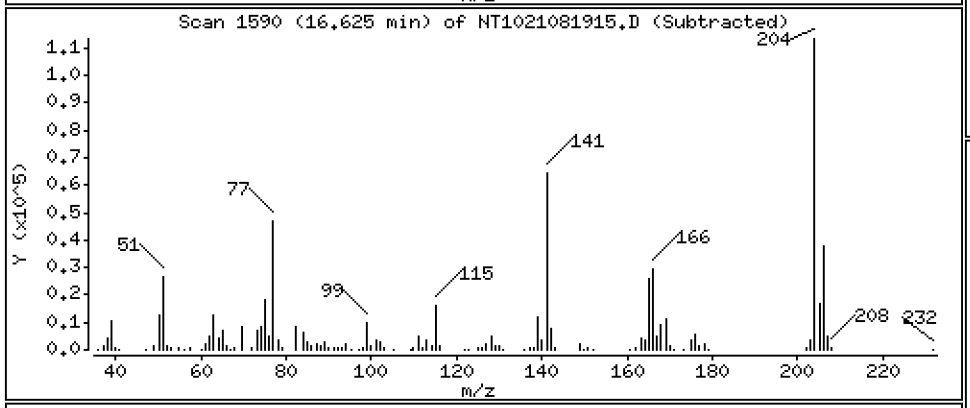
Column diameter: 0.25

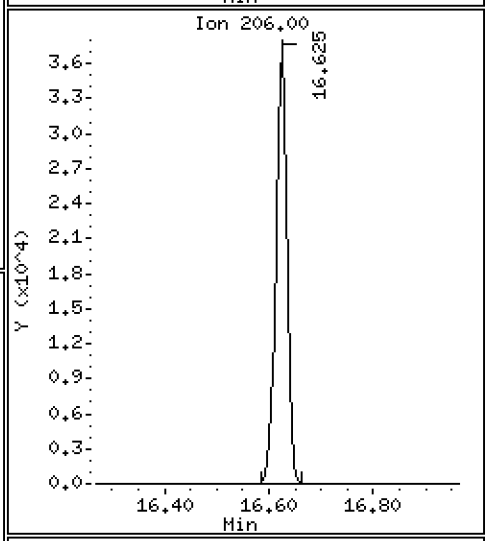
51 4-Chlorophenyl-phenylether

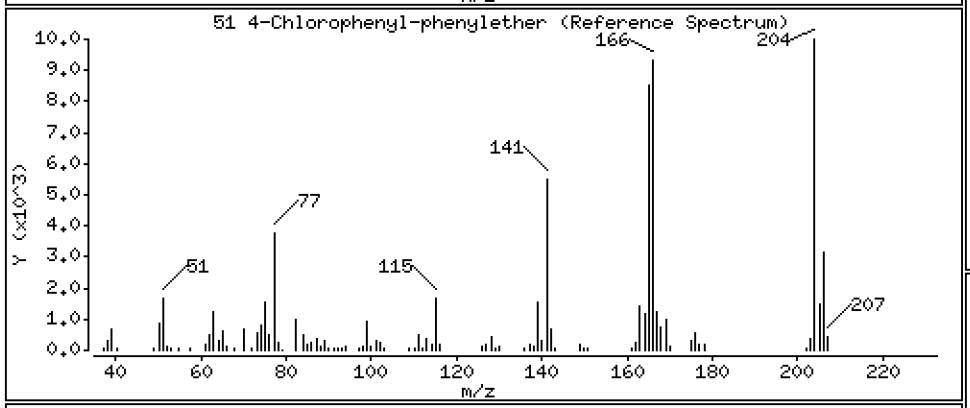
Concentration: 5.187 ug/mL

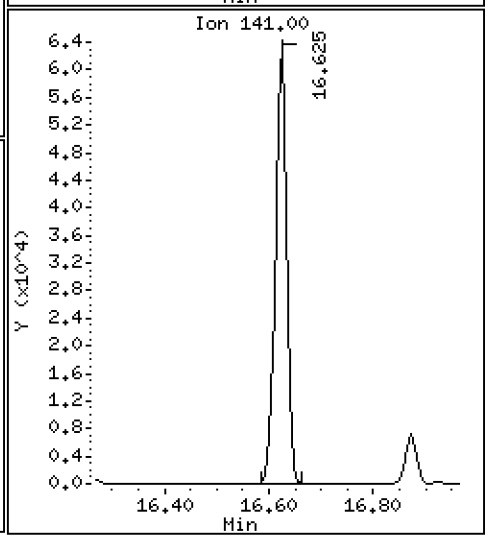


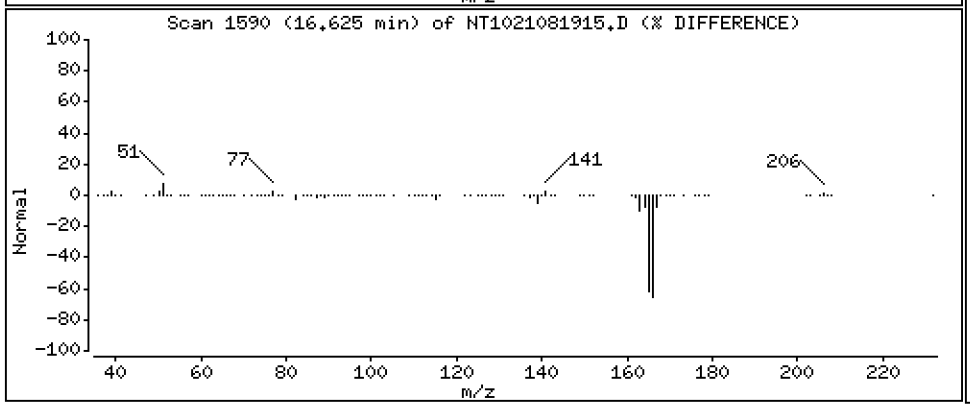












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

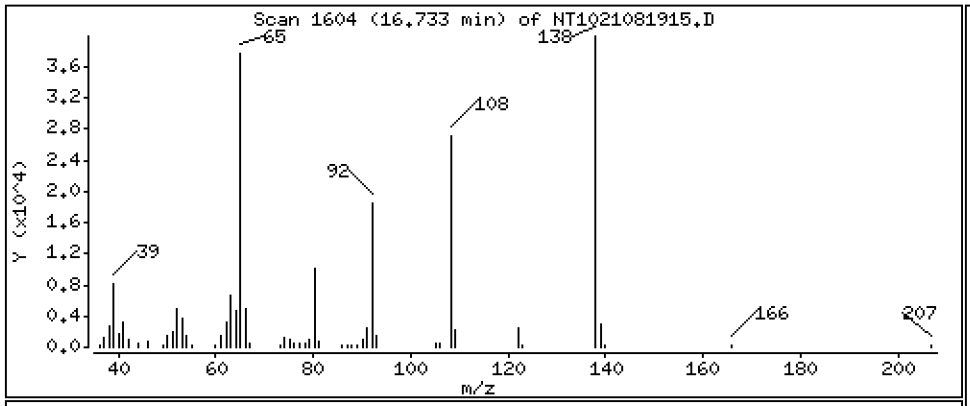
Operator: VTS

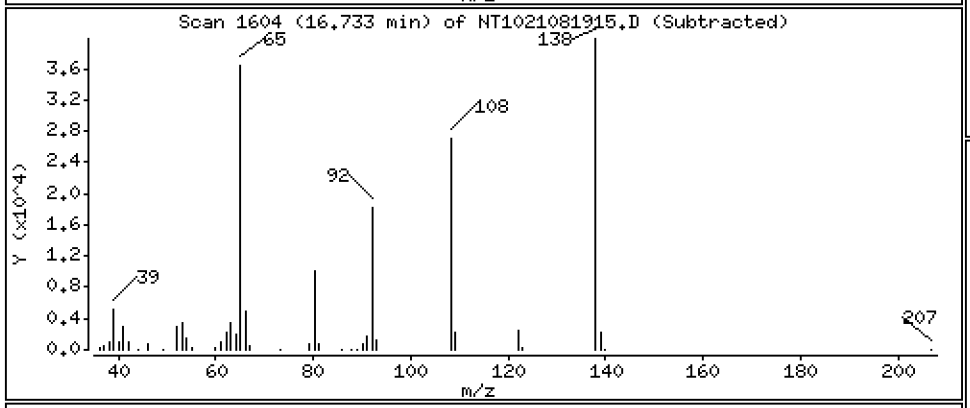
Column phase: ZB-5msi

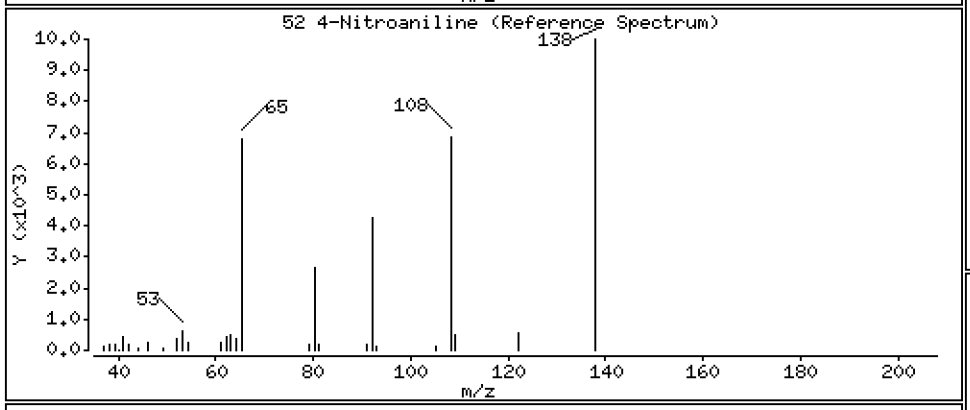
Column diameter: 0.25

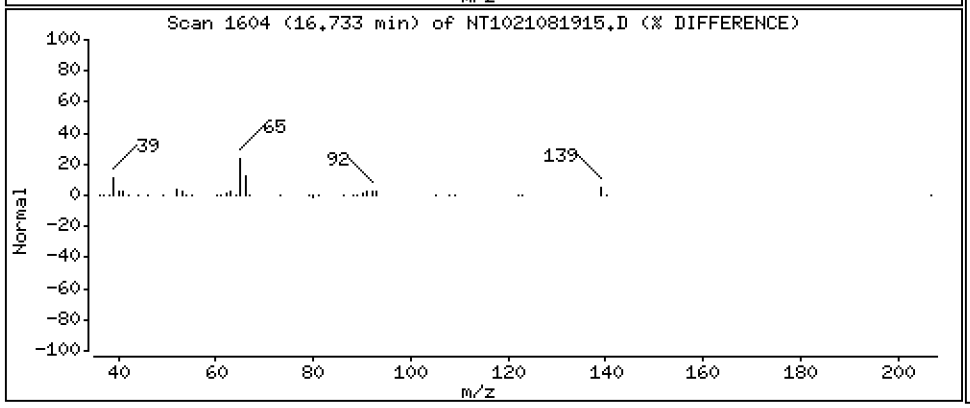
52 4-Nitroaniline

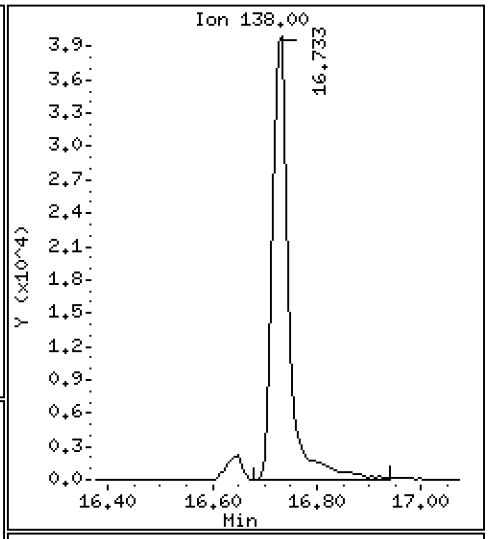
Concentration: 4.788 ug/mL

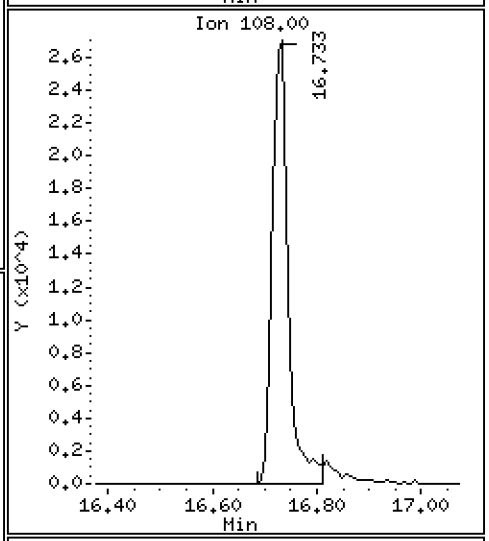


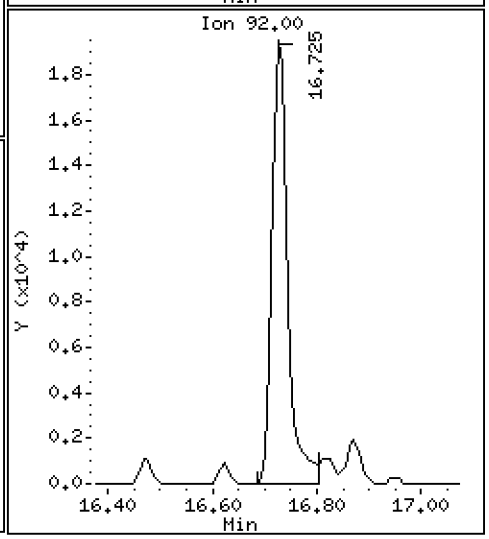












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

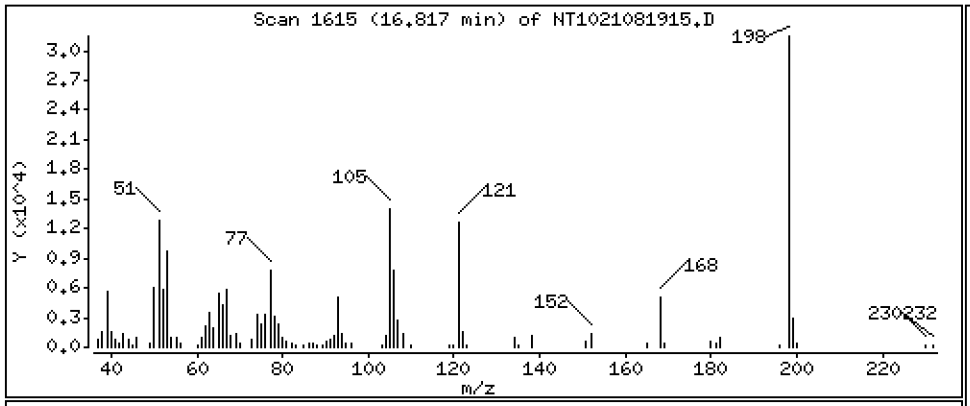
Operator: VTS

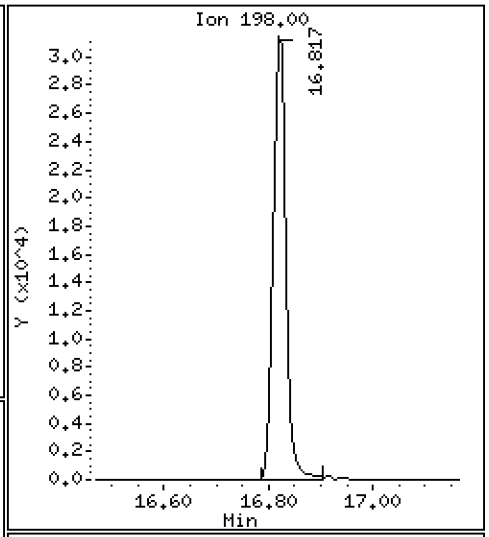
Column phase: ZB-5msi

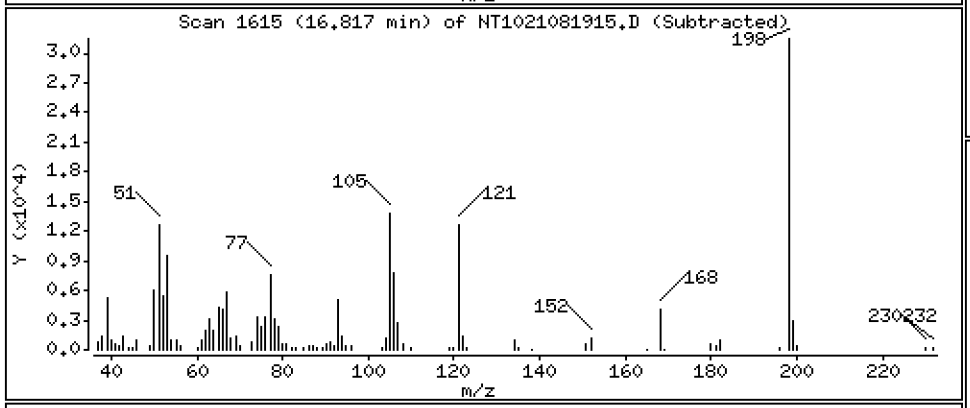
Column diameter: 0.25

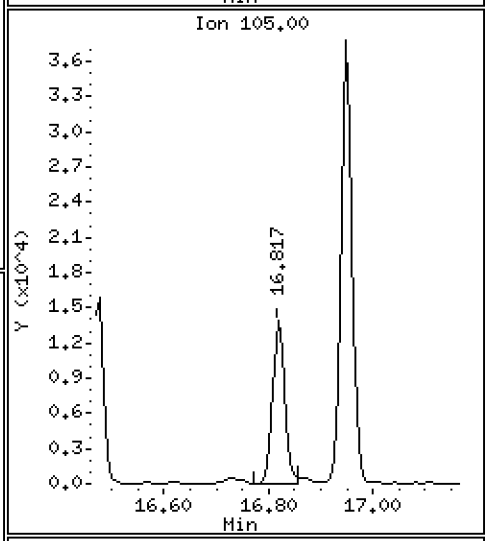
53 4,6-Dinitro-2-methylphenol

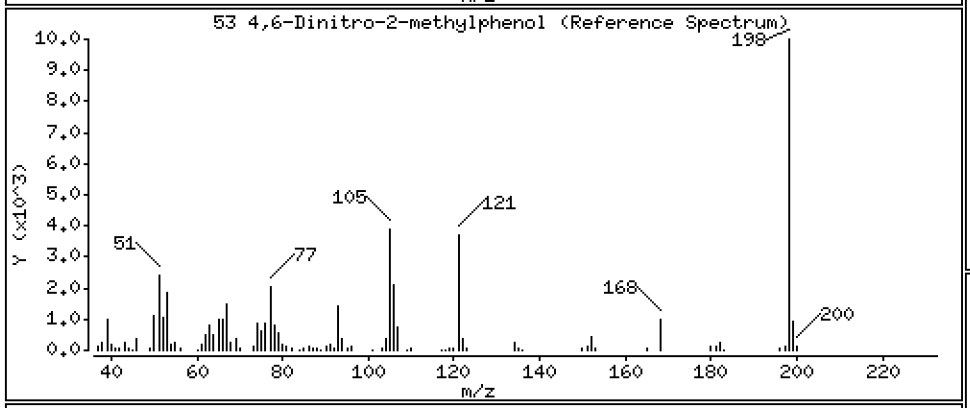
Concentration: 3.885 ug/mL

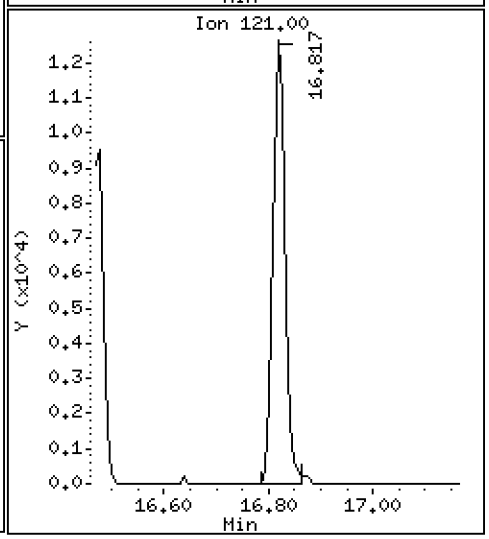


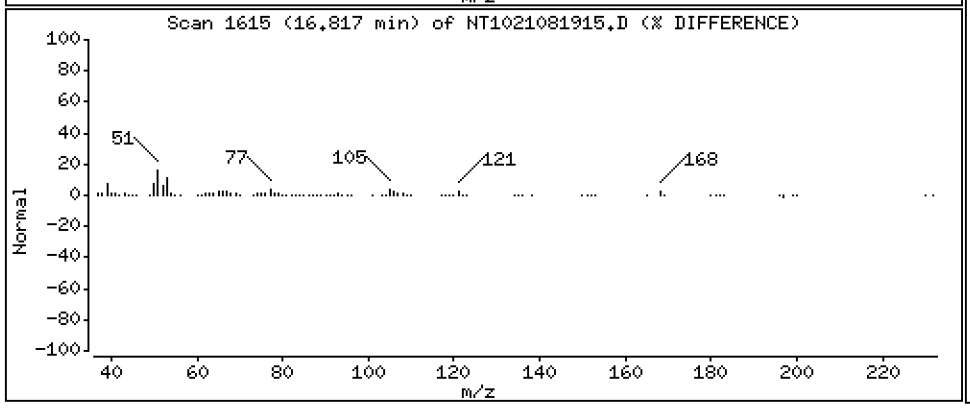












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

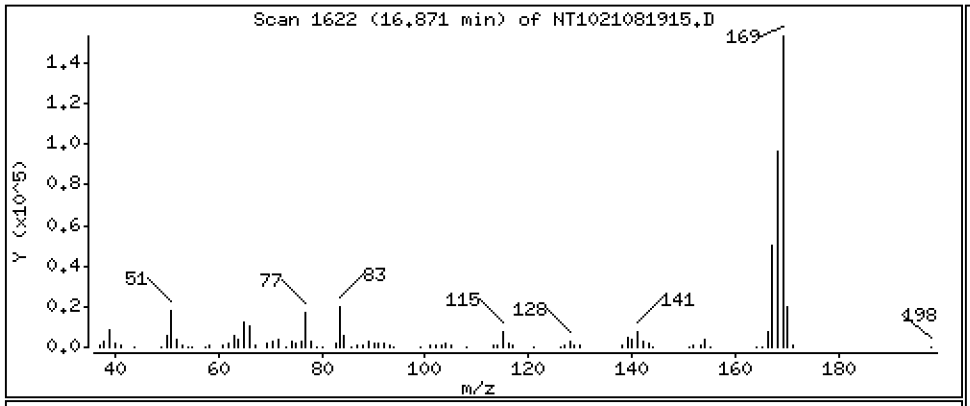
Operator: VTS

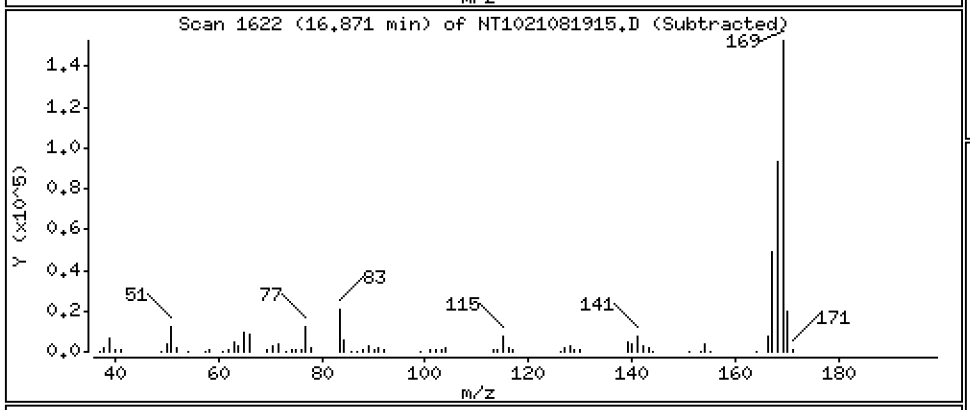
Column phase: ZB-5msi

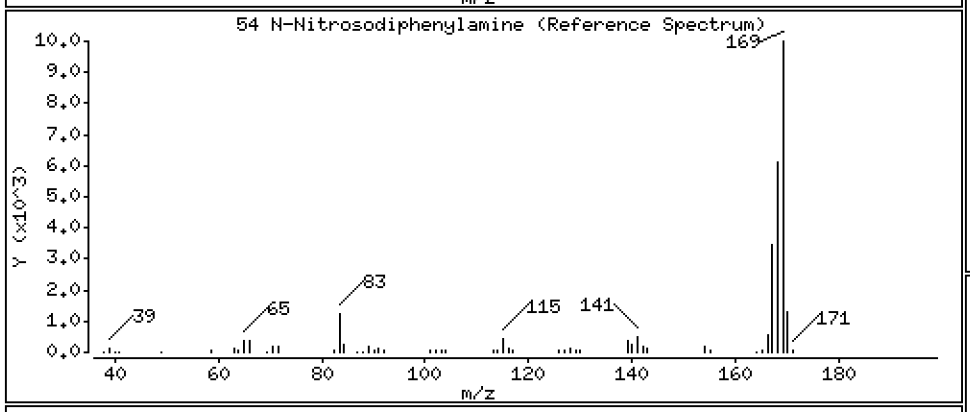
Column diameter: 0.25

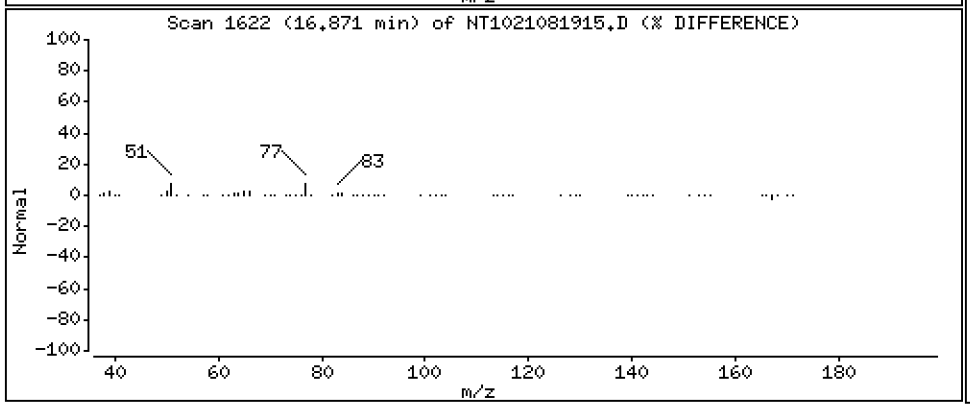
54 N-Nitrosodiphenylamine

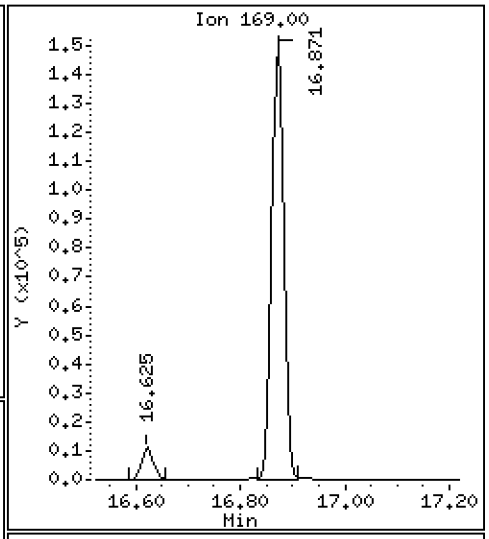
Concentration: 4.835 ug/mL

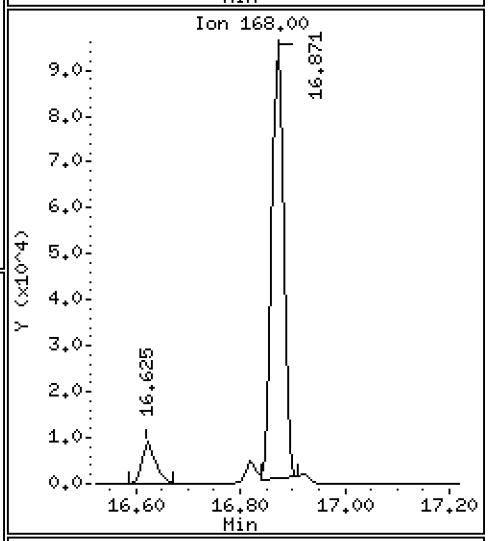


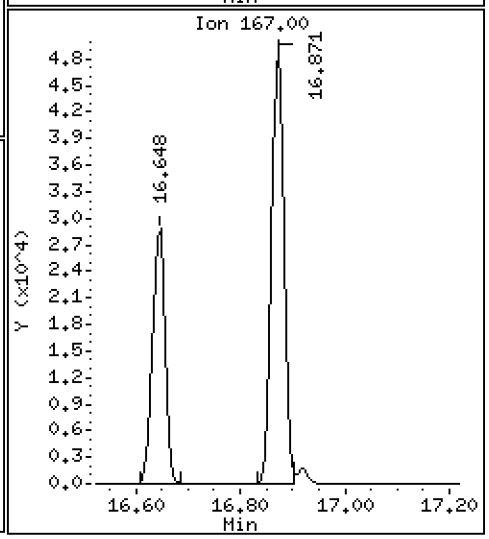












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

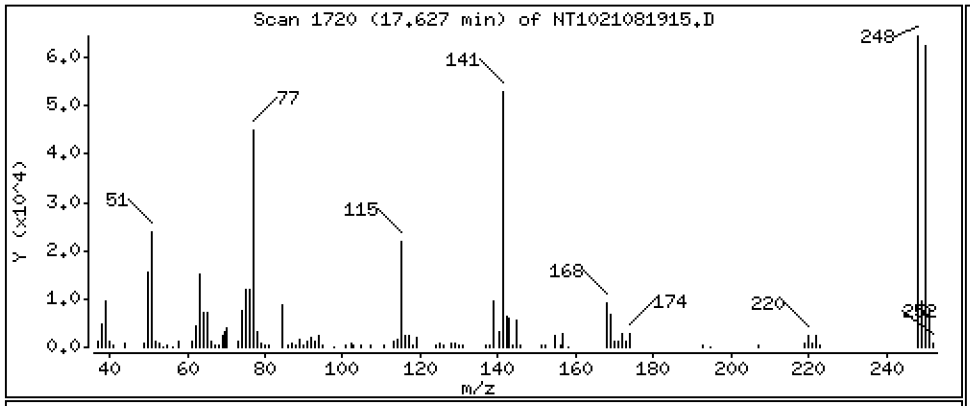
Operator: VTS

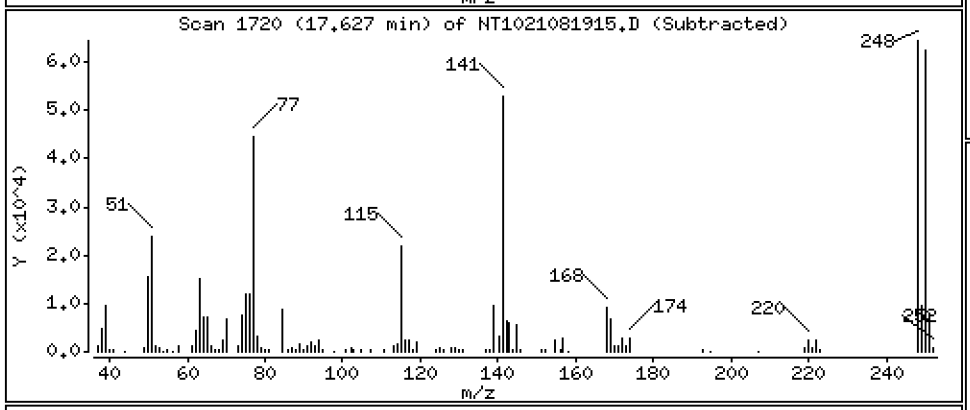
Column phase: ZB-5msi

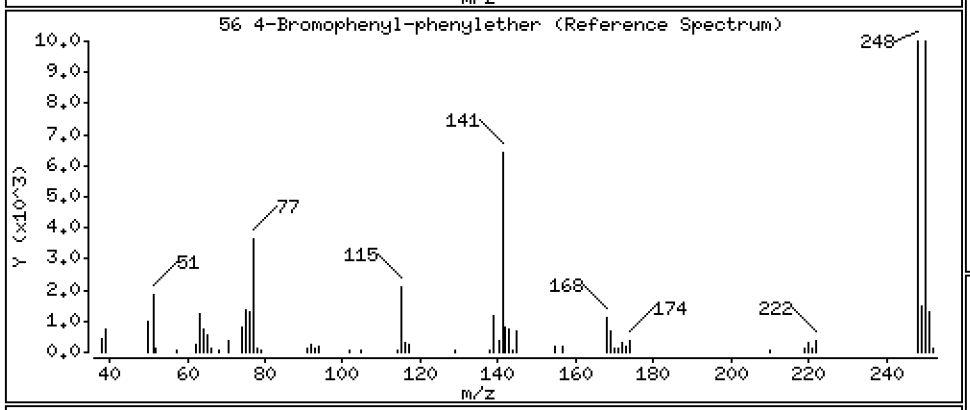
Column diameter: 0.25

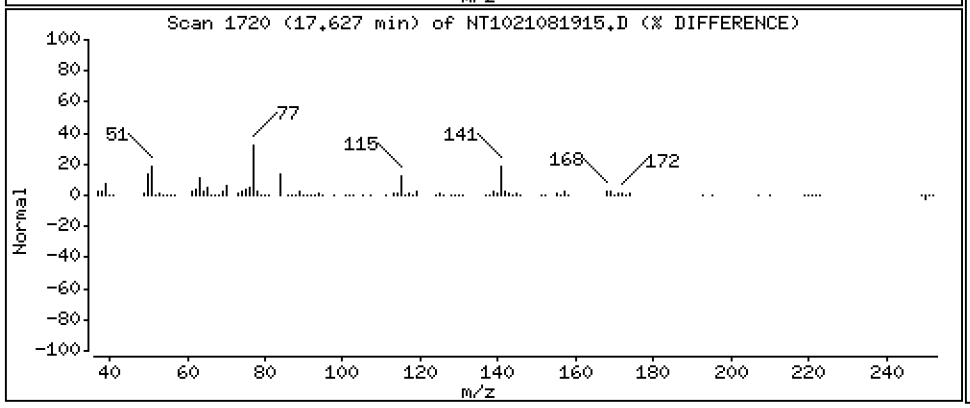
56 4-Bromophenyl-phenylether

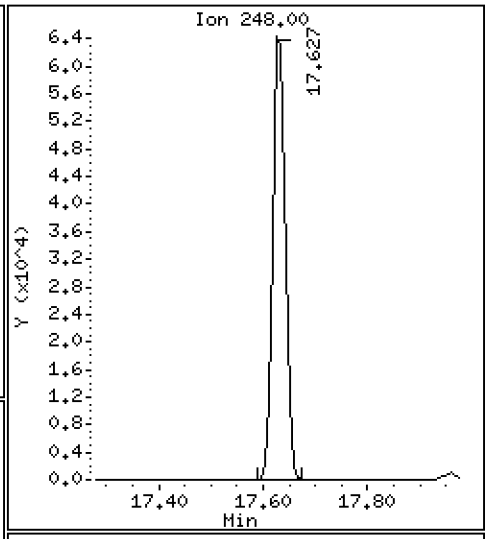
Concentration: 5.399 ug/mL

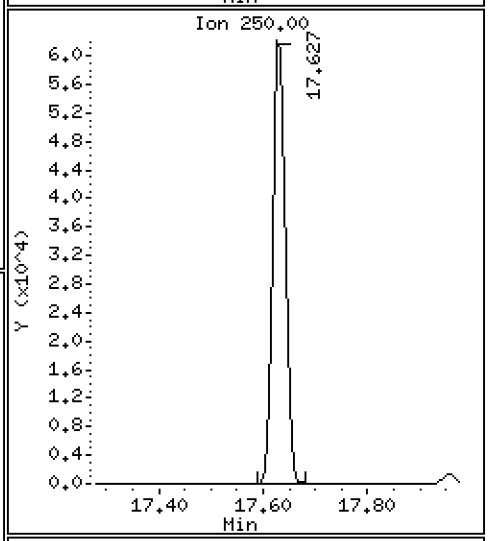


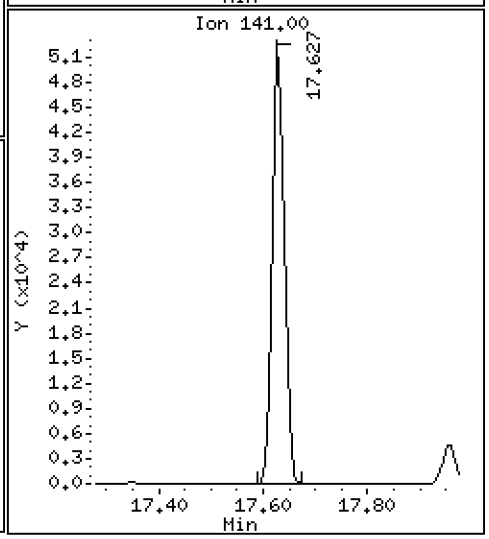












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

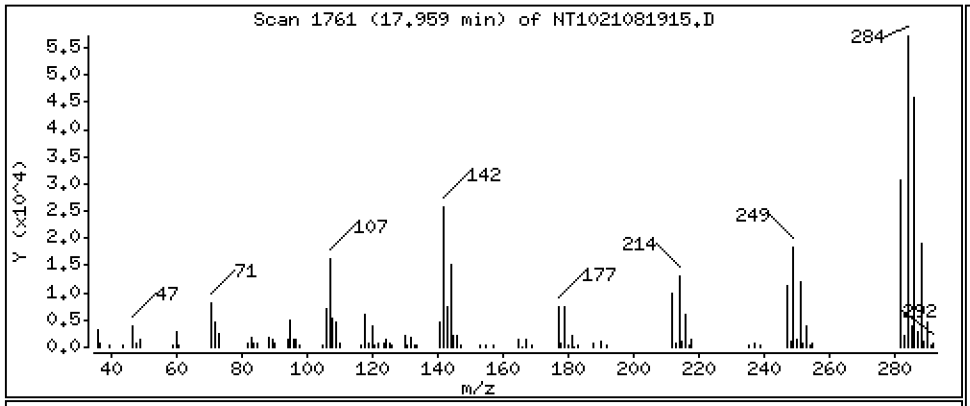
Operator: VTS

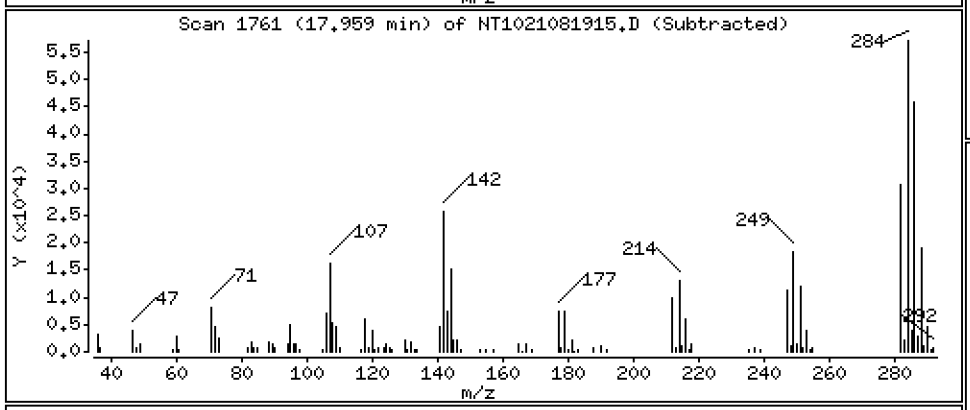
Column phase: ZB-5msi

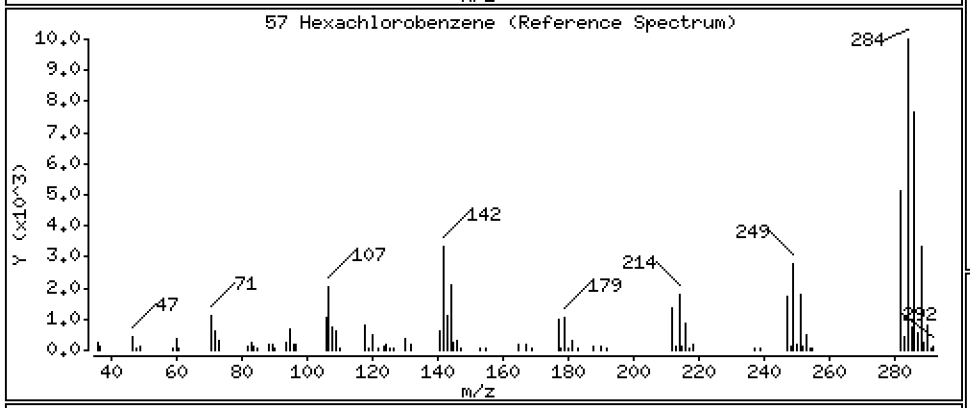
Column diameter: 0.25

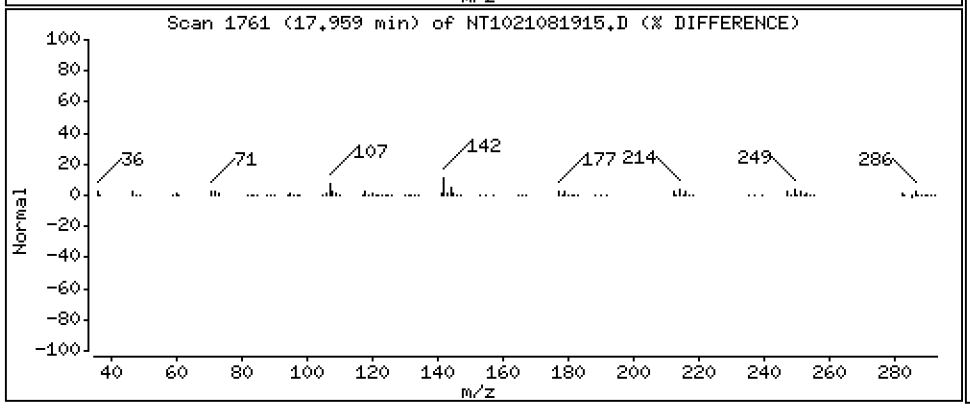
57 Hexachlorobenzene

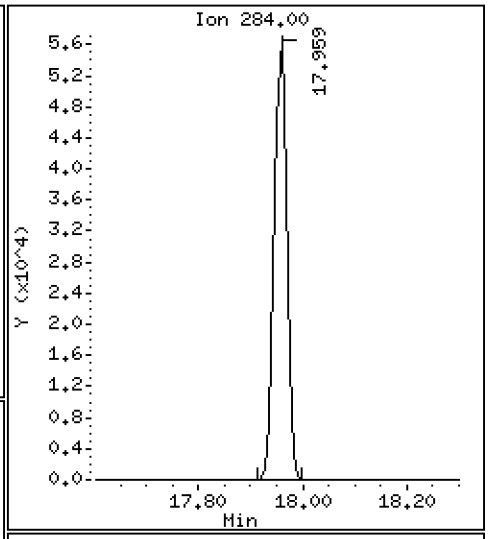
Concentration: 5.063 ug/mL

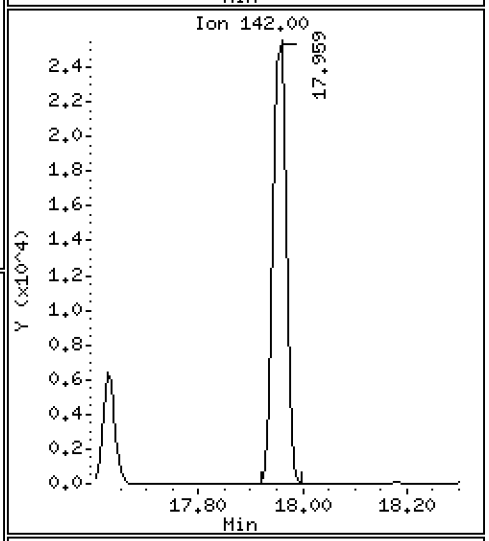


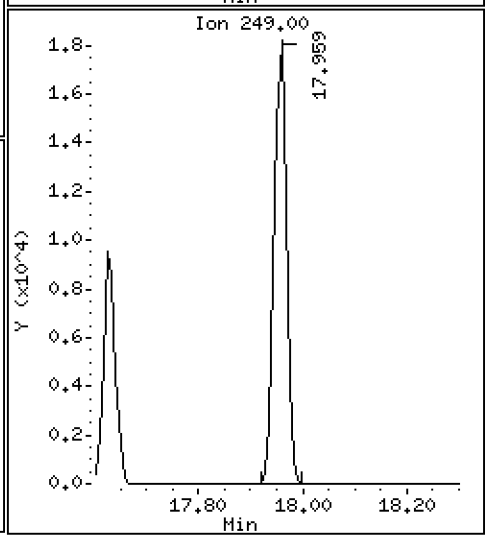












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

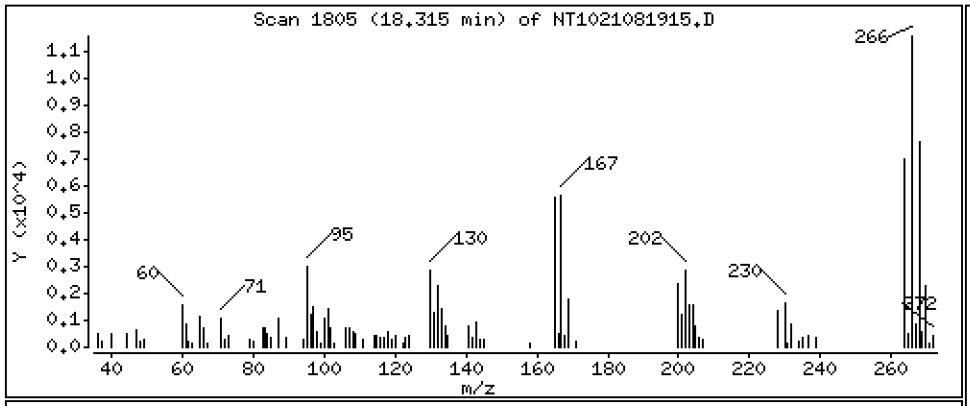
Operator: VTS

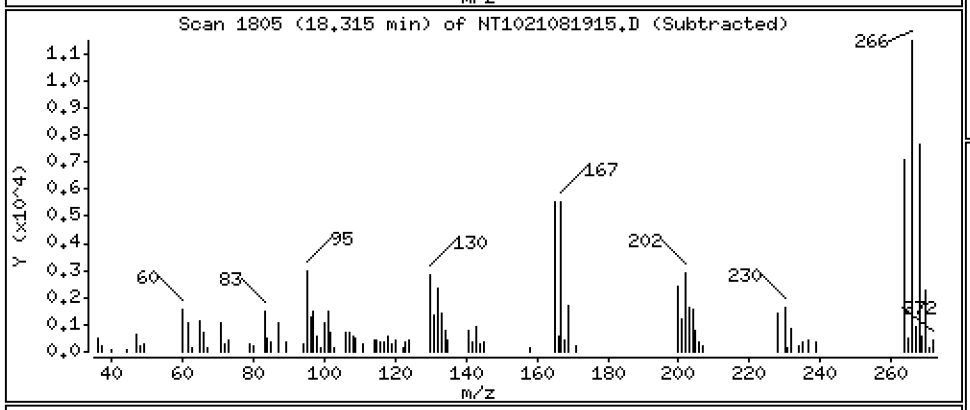
Column phase: ZB-5msi

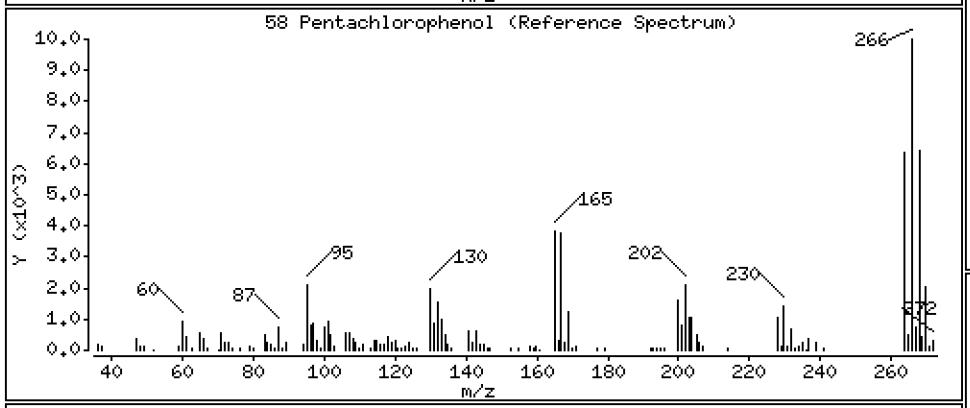
Column diameter: 0.25

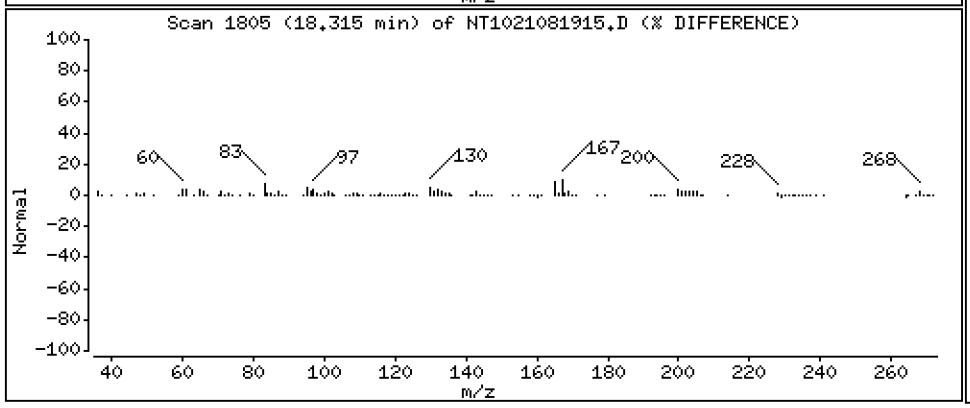
58 Pentachlorophenol

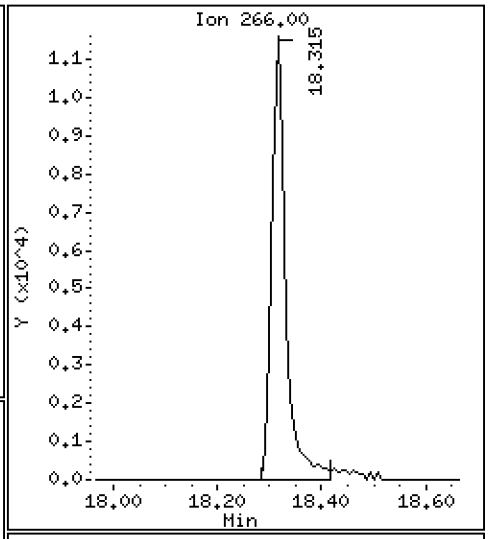
Concentration: 3.120 ug/mL

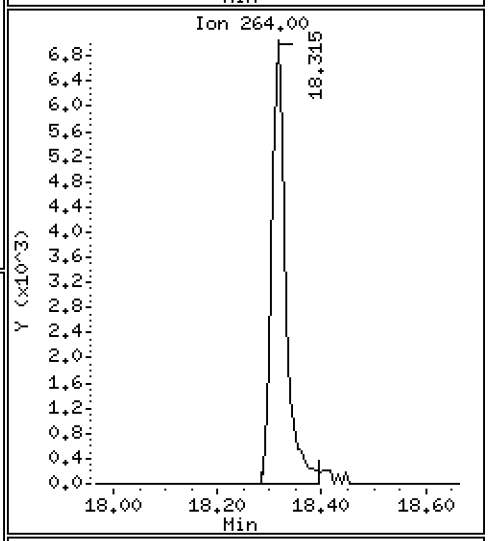


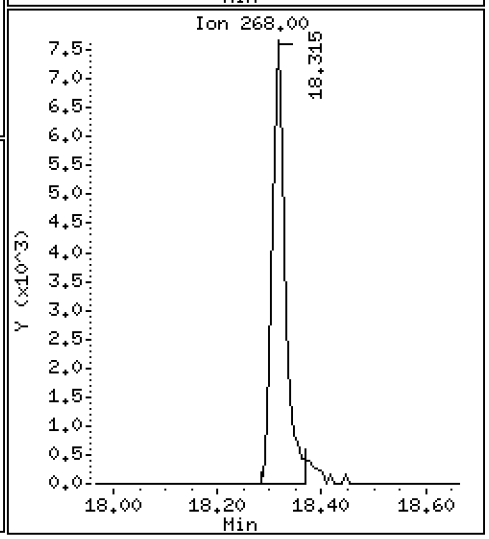












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

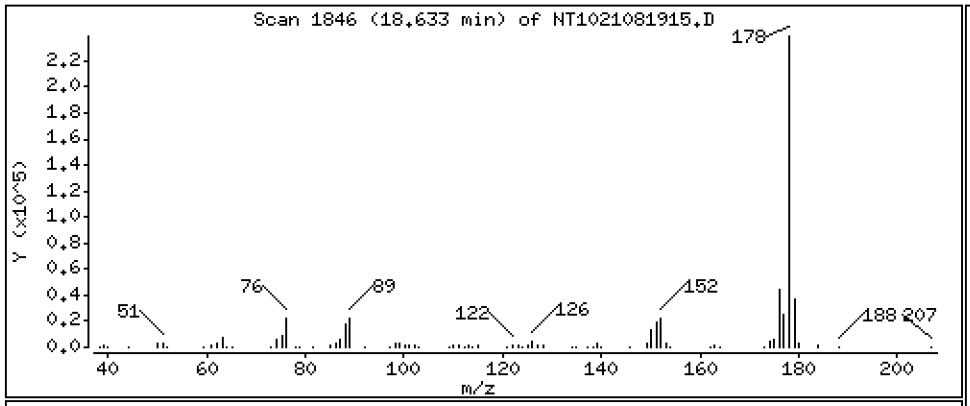
Operator: VTS

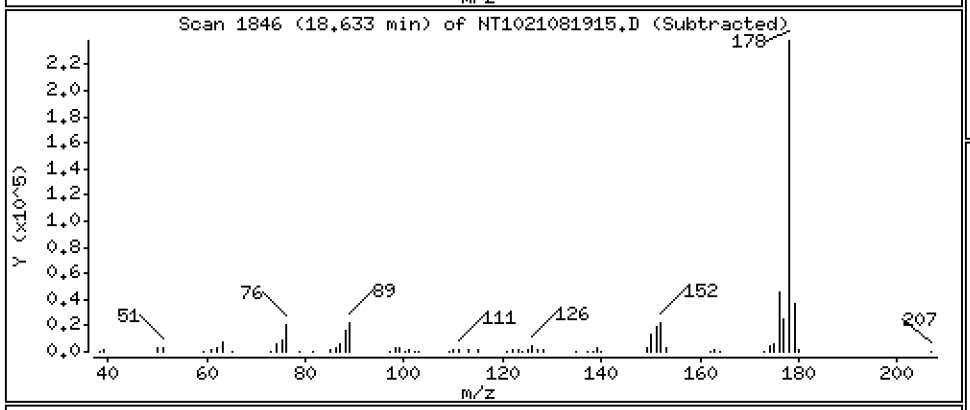
Column phase: ZB-5msi

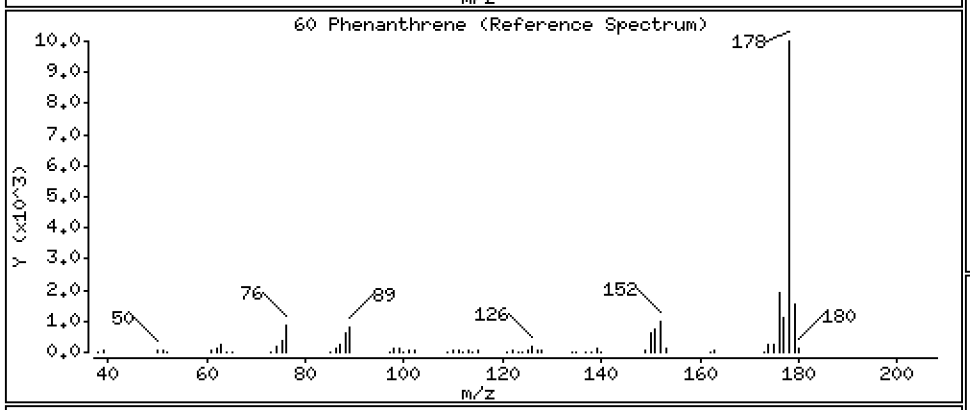
Column diameter: 0.25

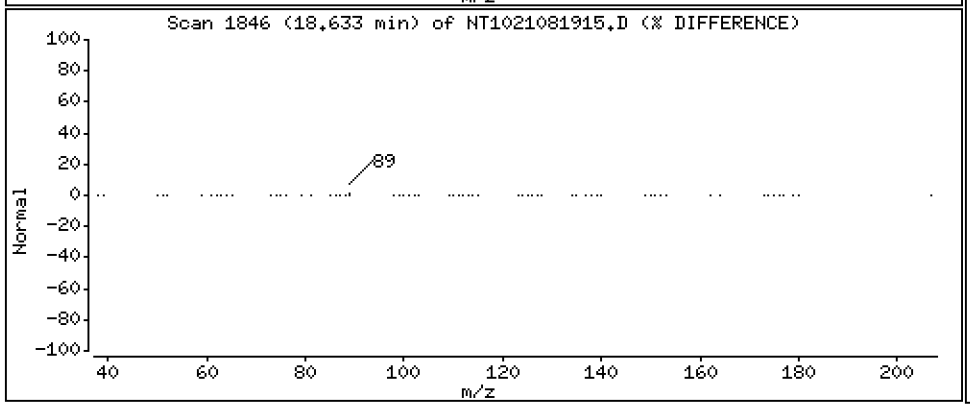
60 Phenanthrene

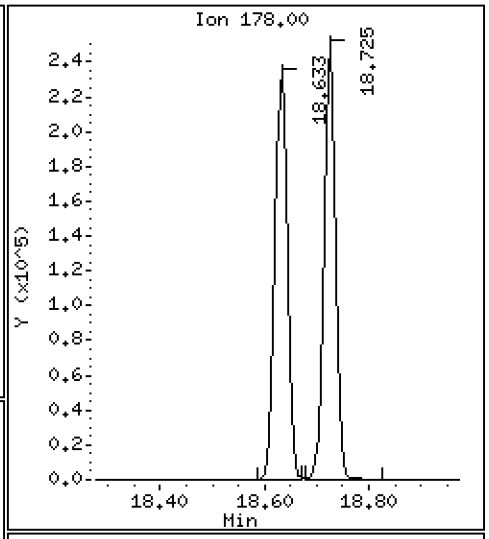
Concentration: 4.855 ug/mL

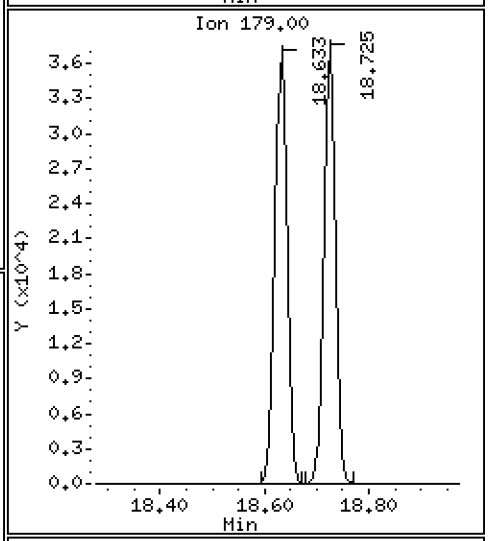


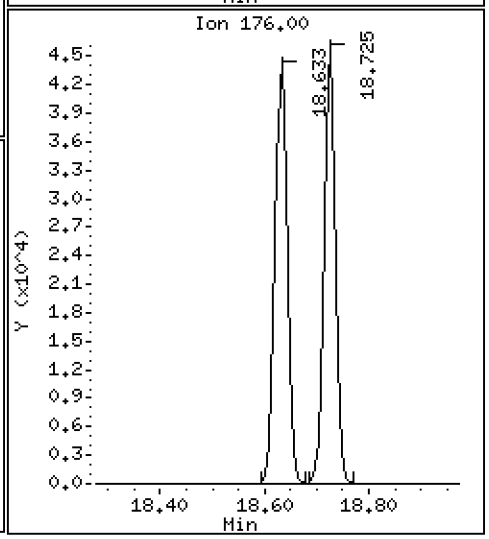












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

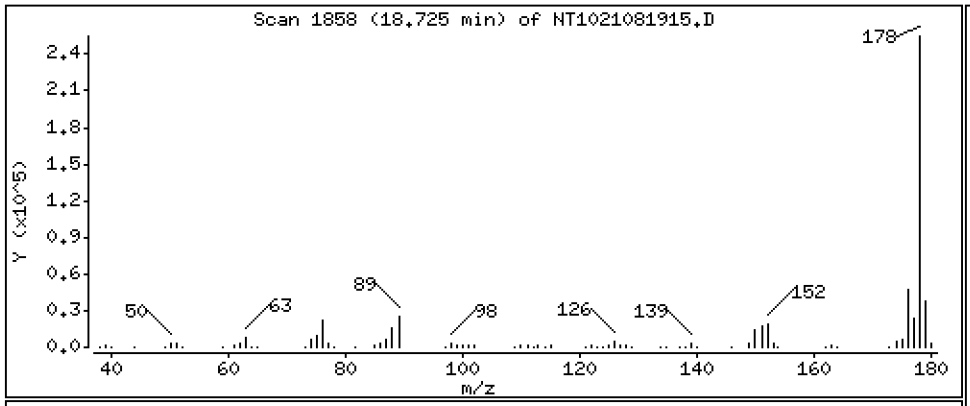
Operator: VTS

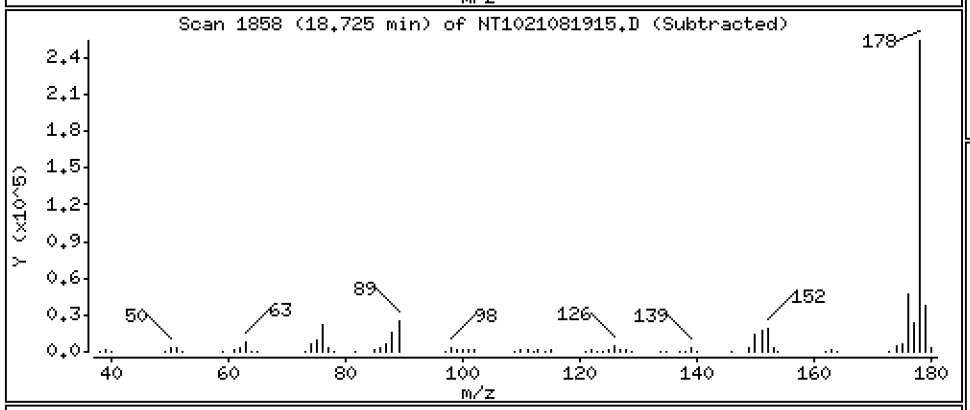
Column phase: ZB-5msi

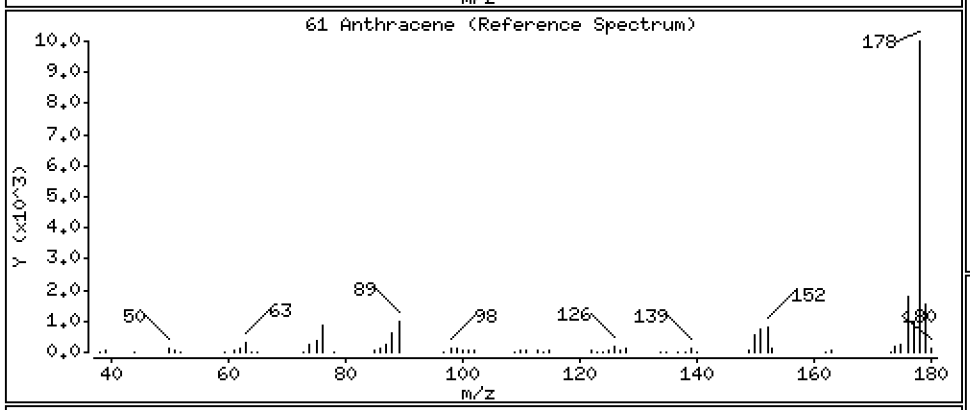
Column diameter: 0.25

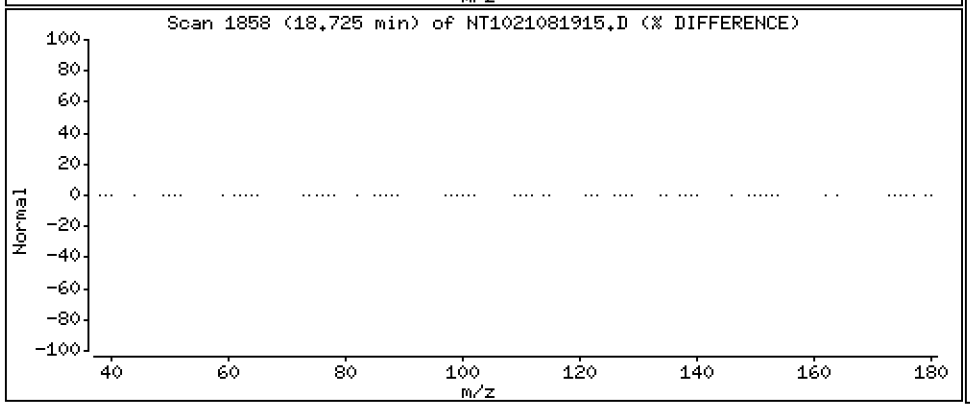
61 Anthracene

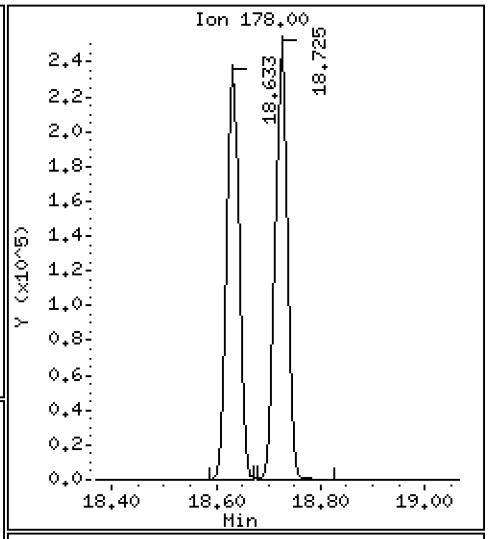
Concentration: 4.813 ug/mL

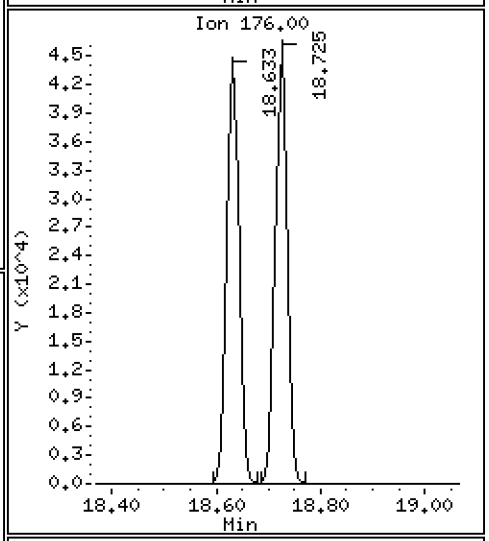


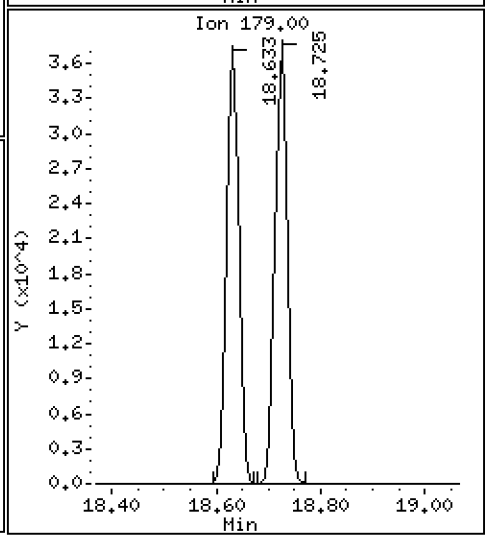












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

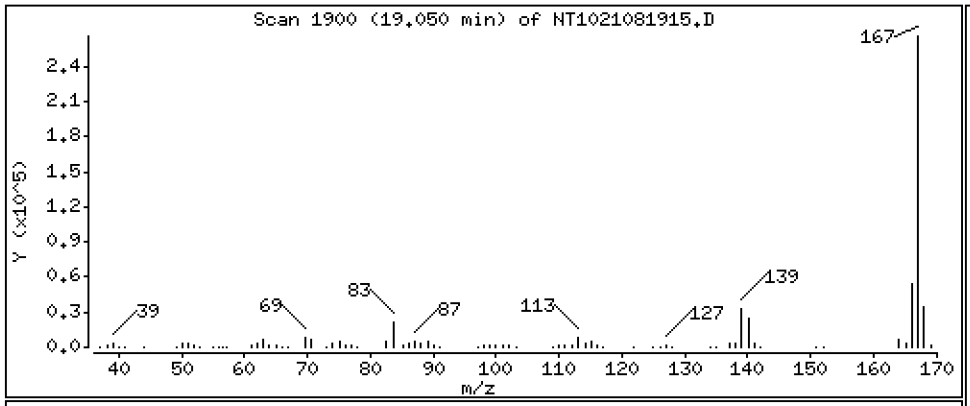
Operator: VTS

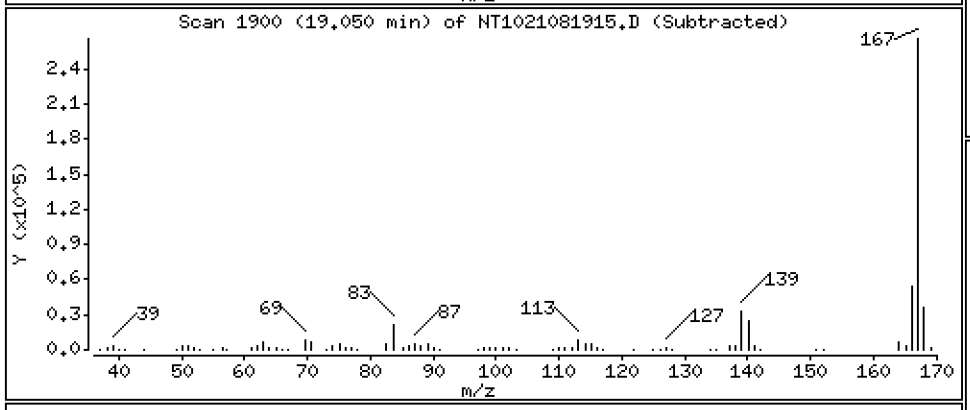
Column phase: ZB-5msi

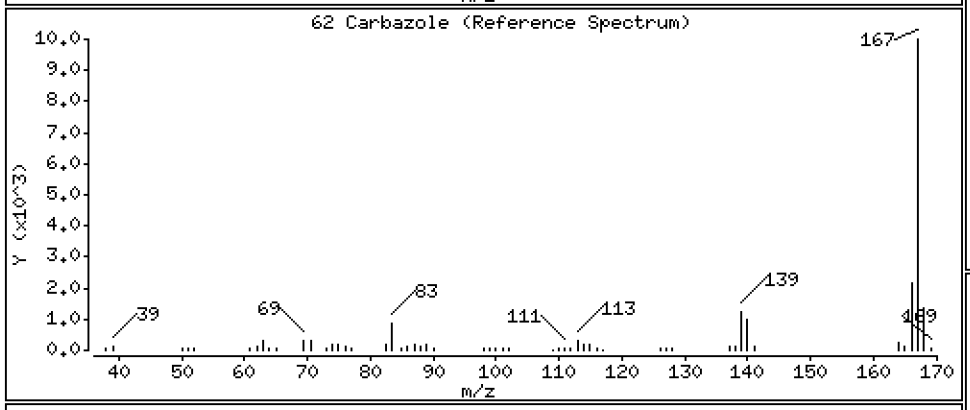
Column diameter: 0.25

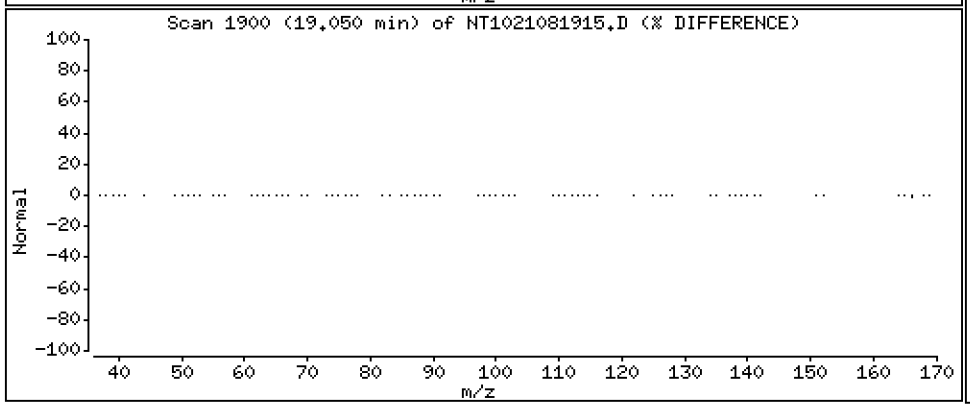
62 Carbazole

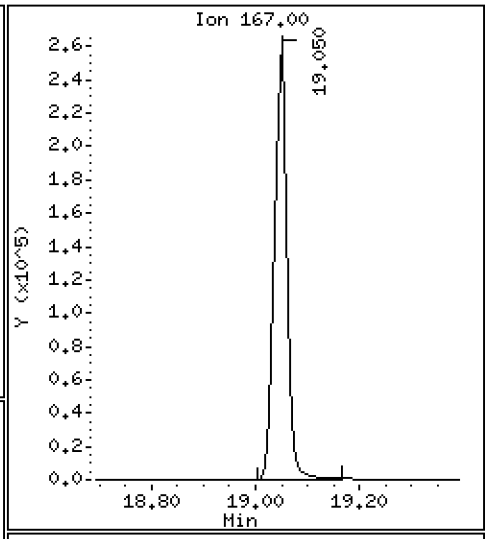
Concentration: 4.972 ug/mL

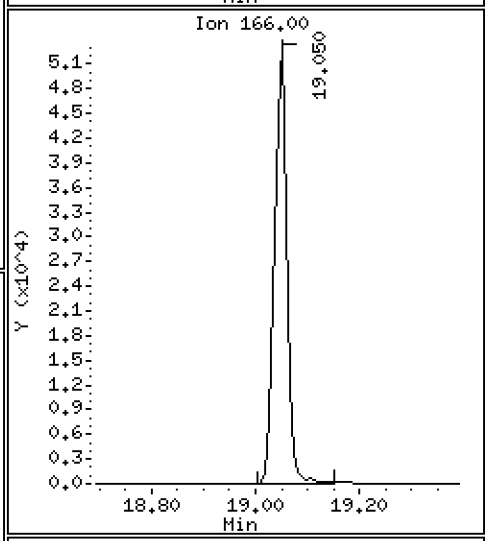


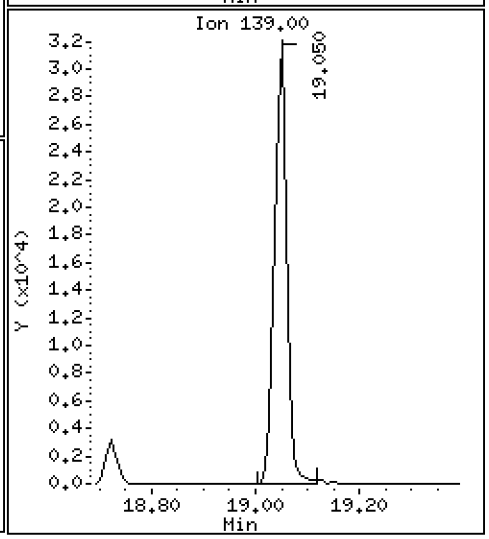












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

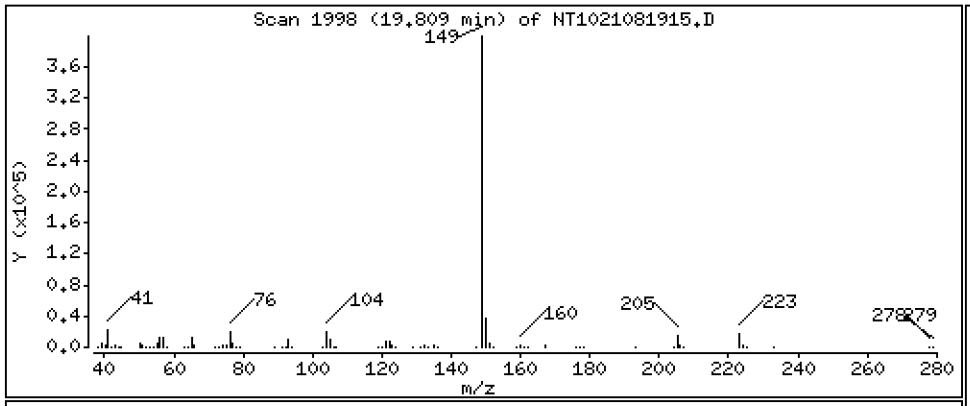
Operator: VTS

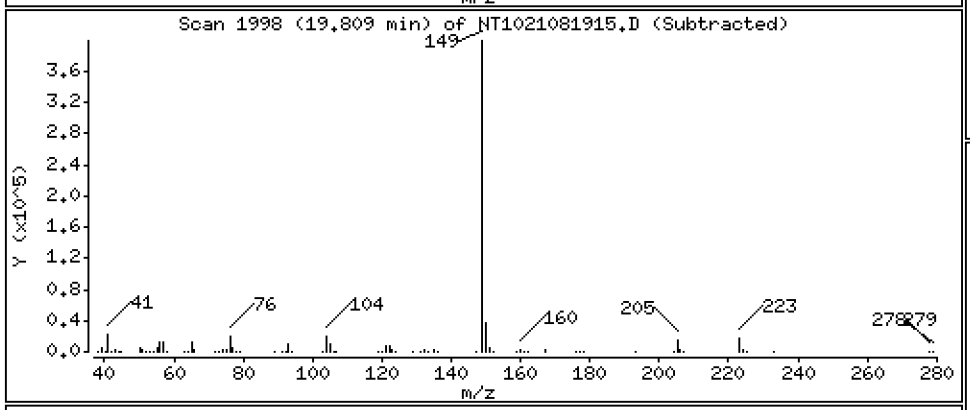
Column phase: ZB-5msi

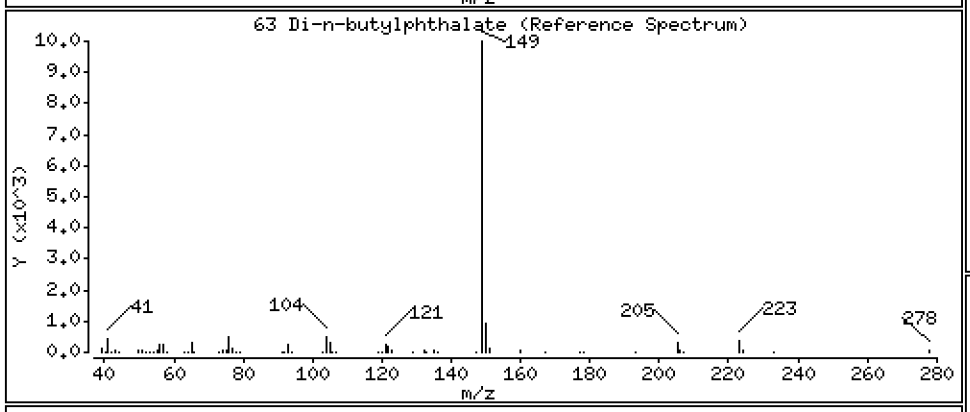
Column diameter: 0.25

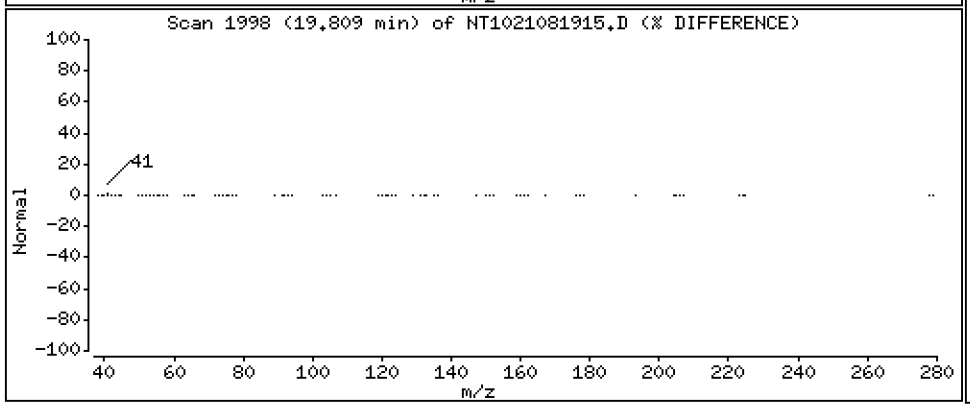
63 Di-n-butylphthalate

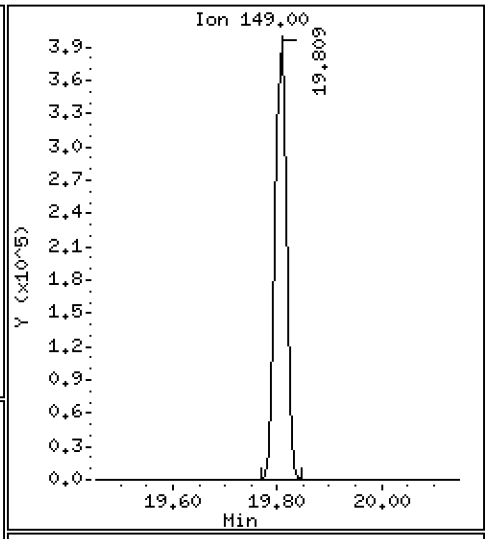
Concentration: 5.375 ug/mL

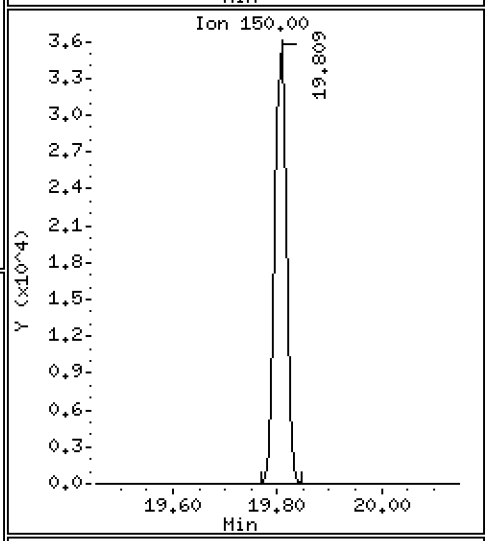


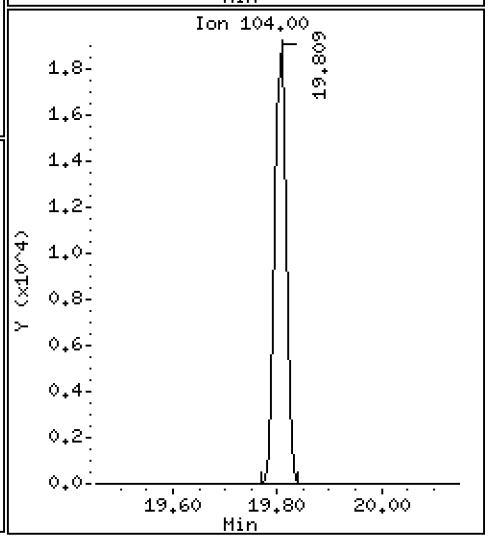












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

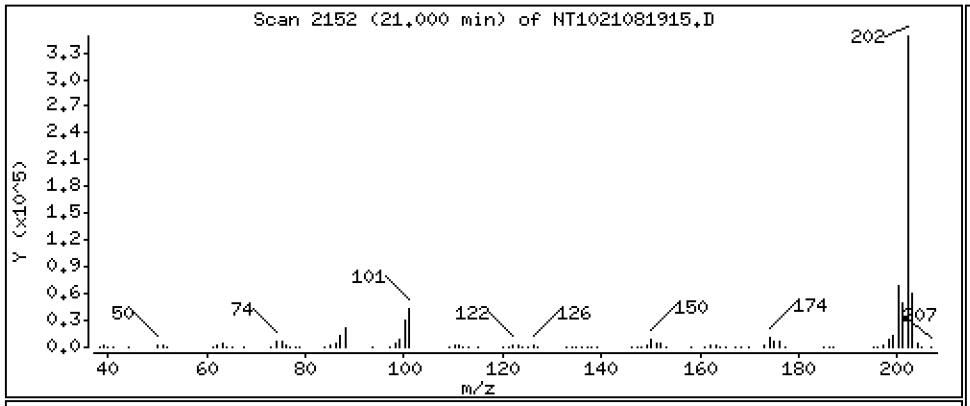
Operator: VTS

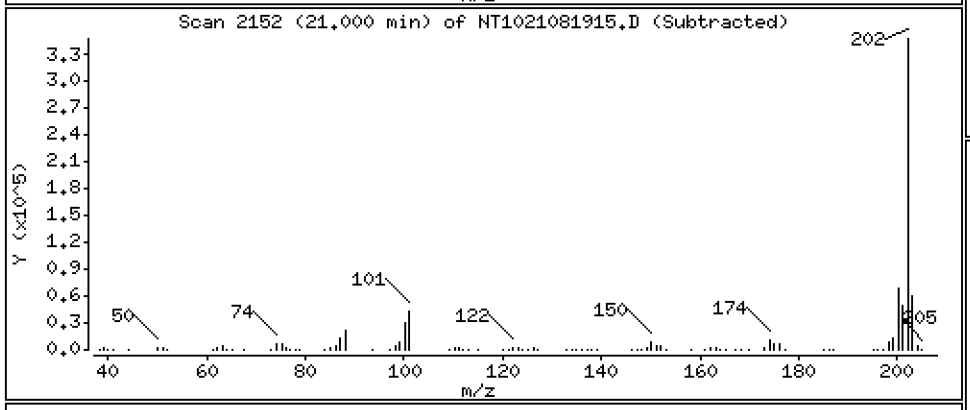
Column phase: ZB-5msi

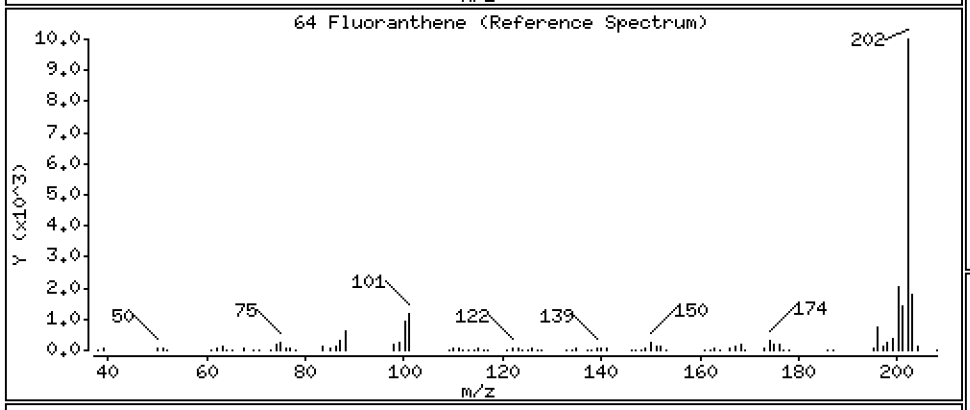
Column diameter: 0.25

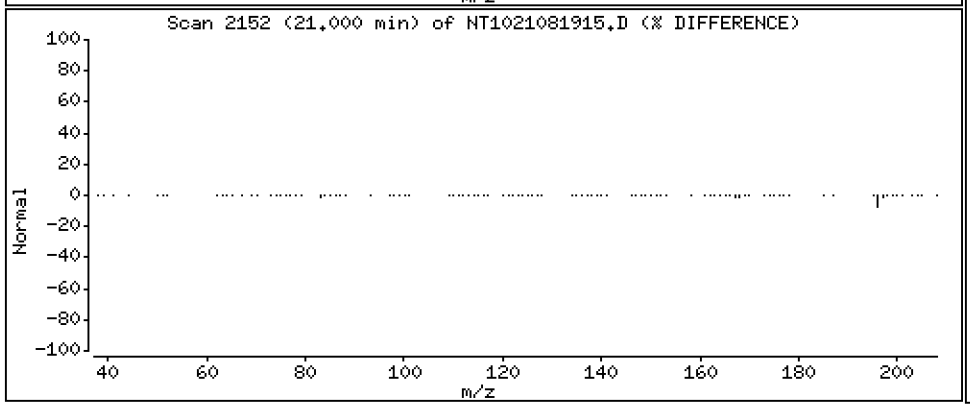
64 Fluoranthene

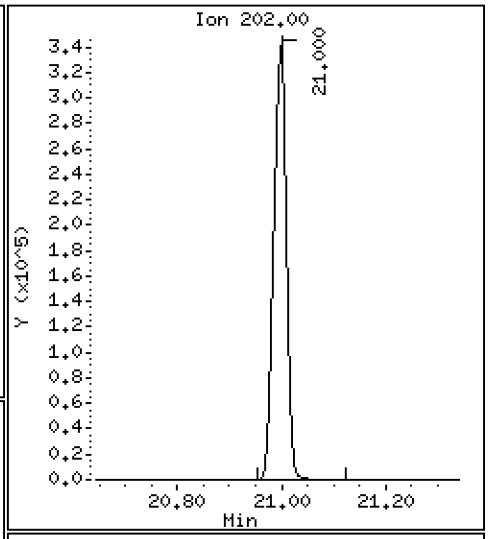
Concentration: 4.853 ug/mL

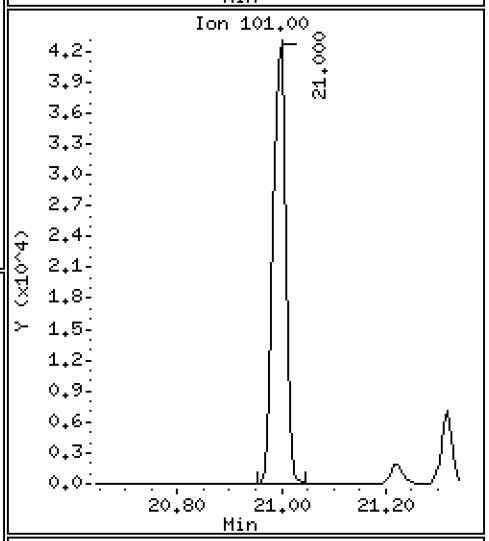


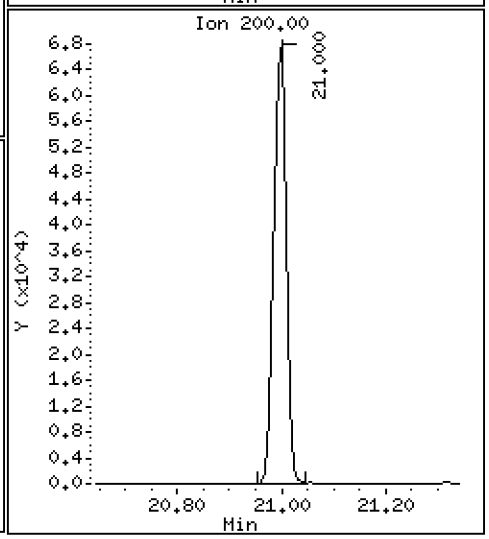












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

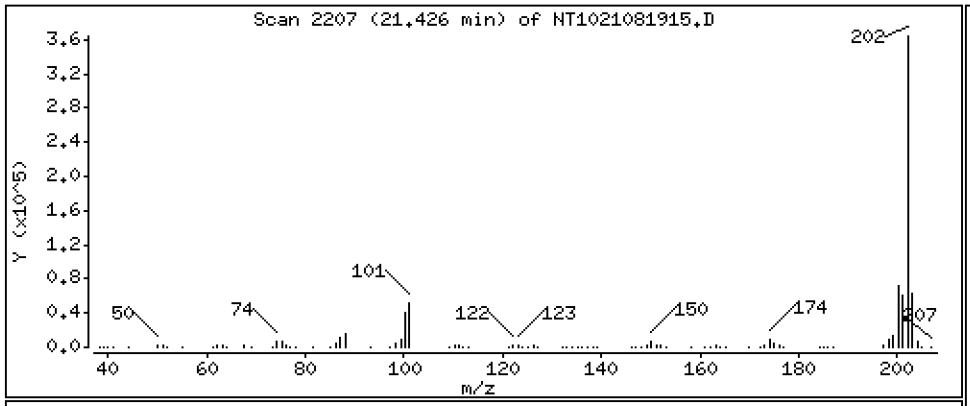
Operator: VTS

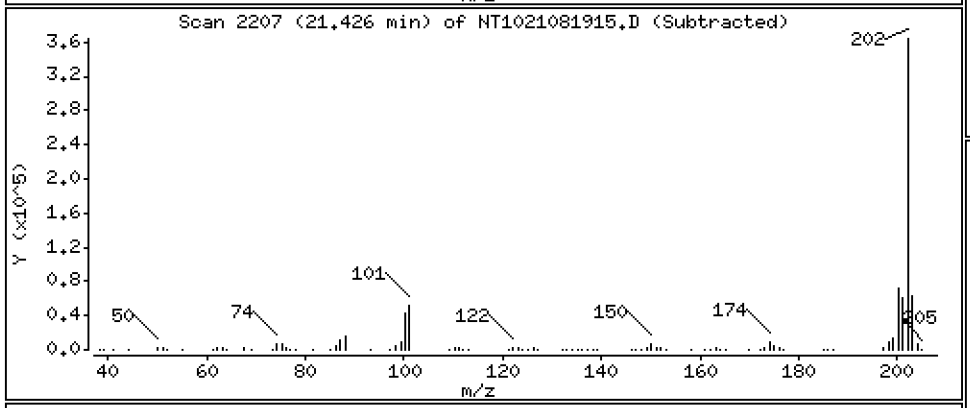
Column phase: ZB-5msi

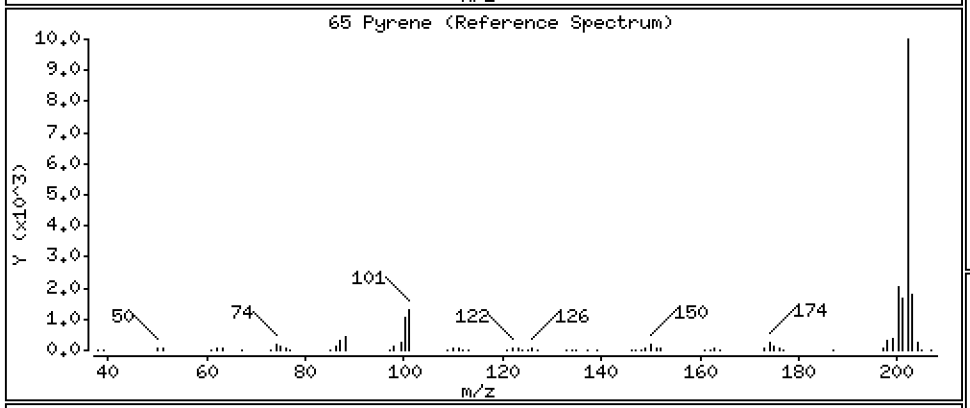
Column diameter: 0.25

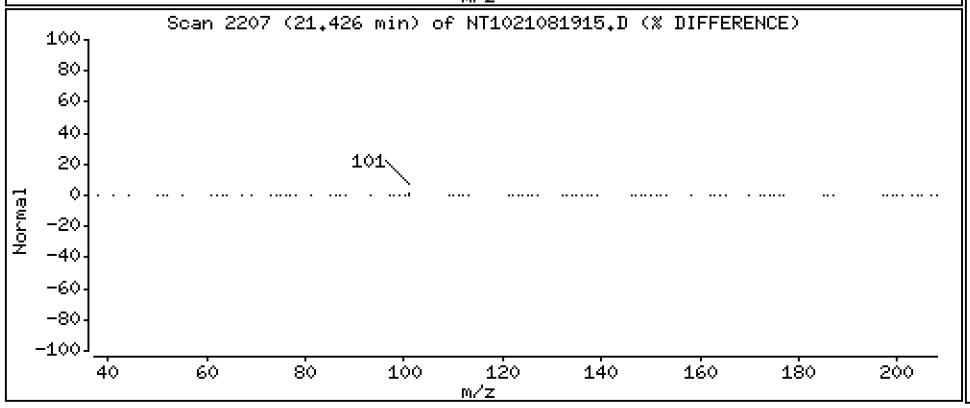
65 Pyrene

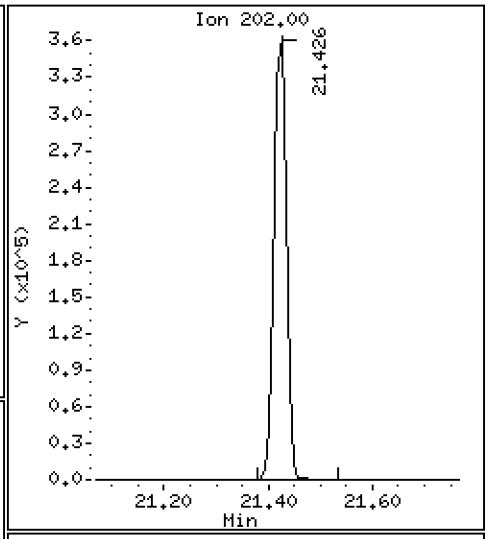
Concentration: 4.862 ug/mL

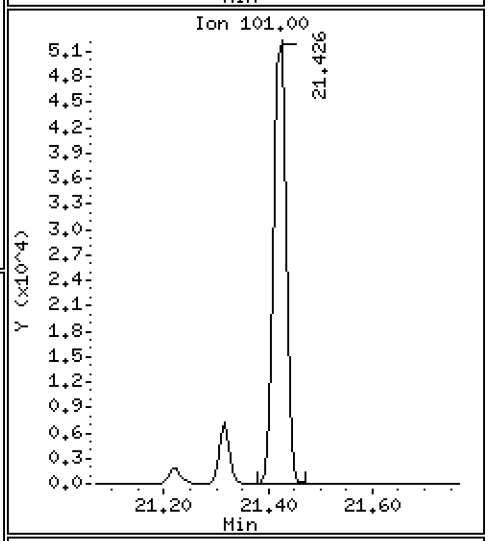


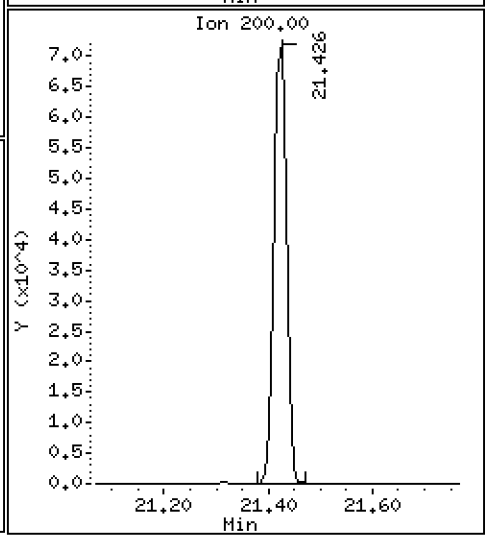












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

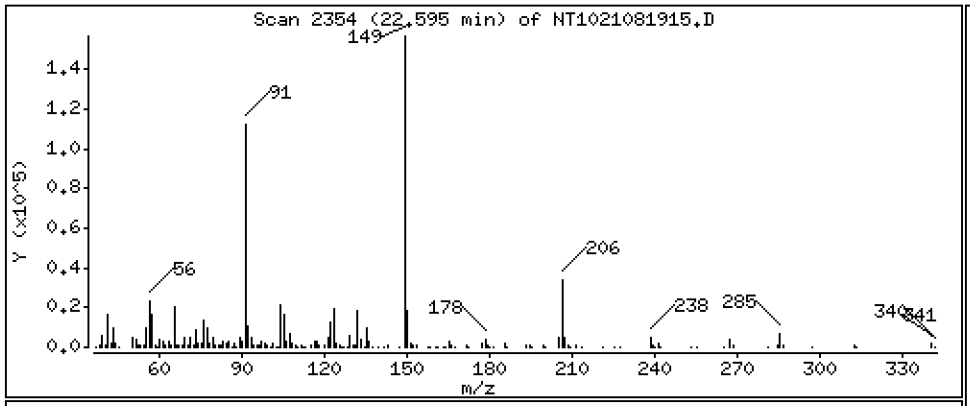
Operator: VTS

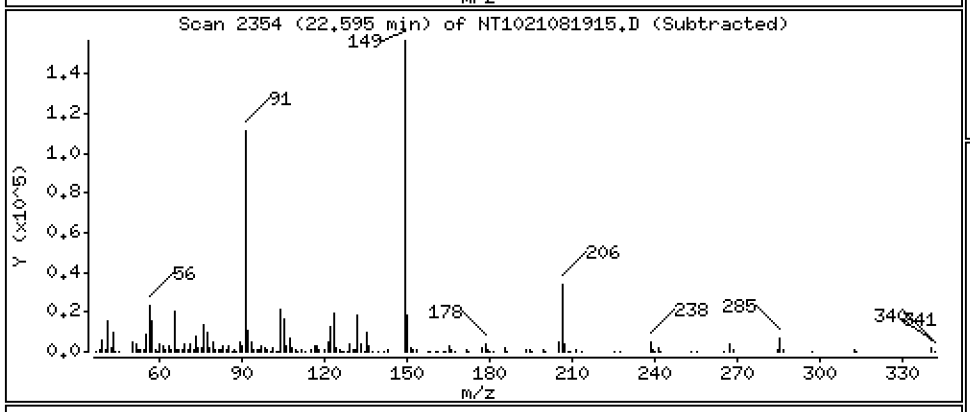
Column phase: ZB-5msi

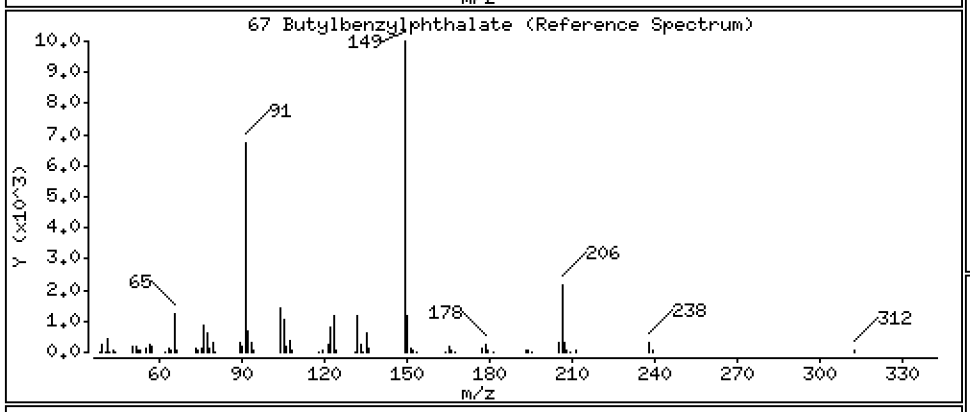
Column diameter: 0.25

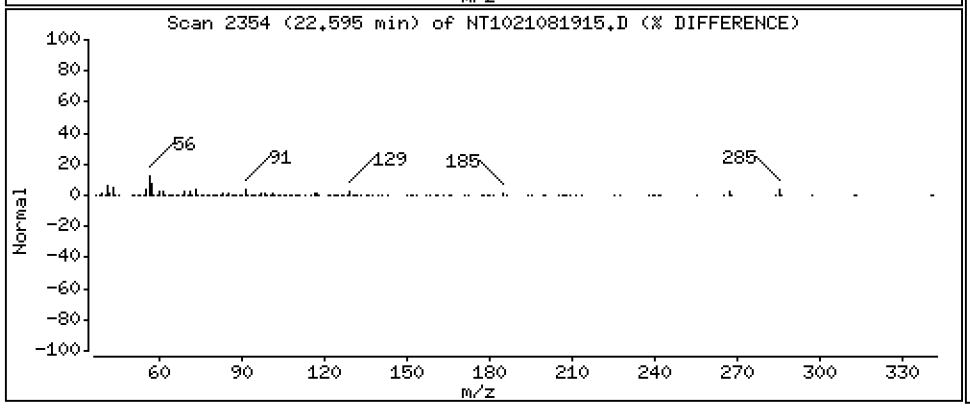
67 Butylbenzylphthalate

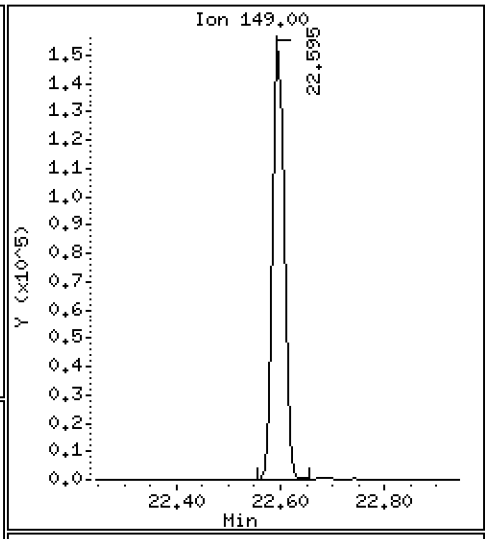
Concentration: 4.889 ug/mL

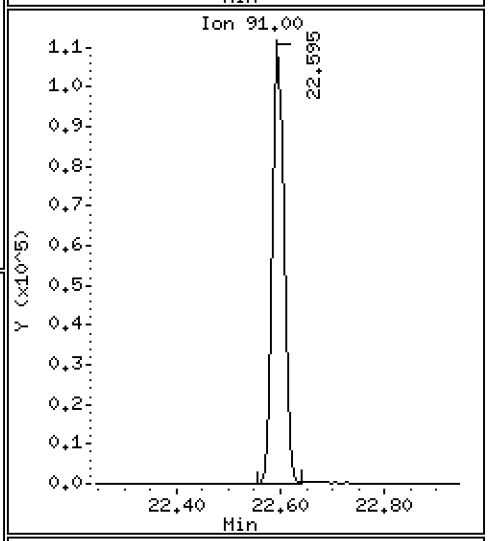


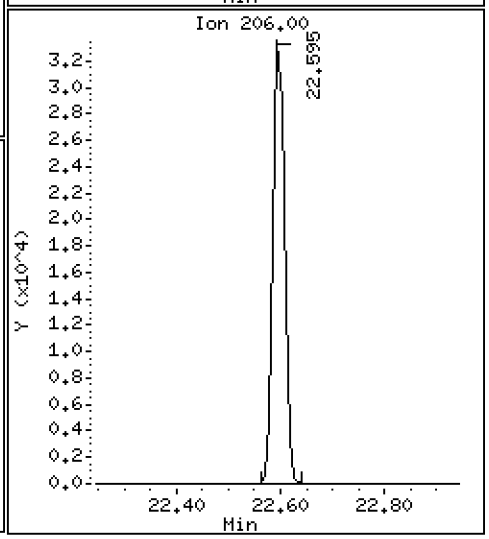












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

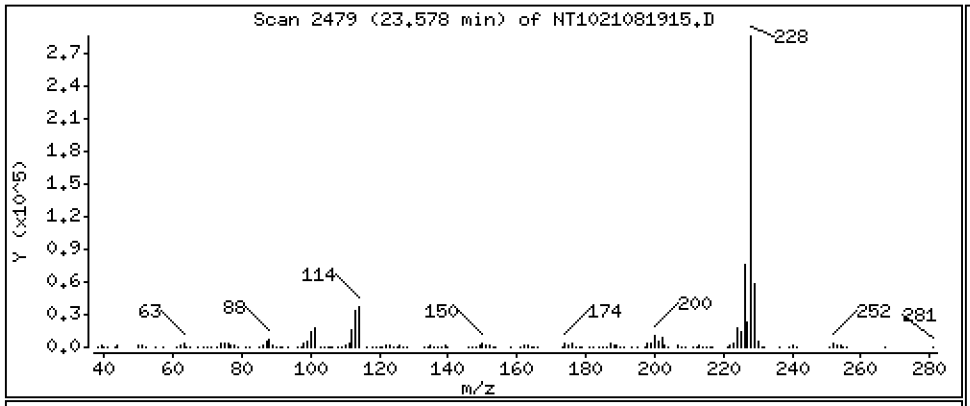
Operator: VTS

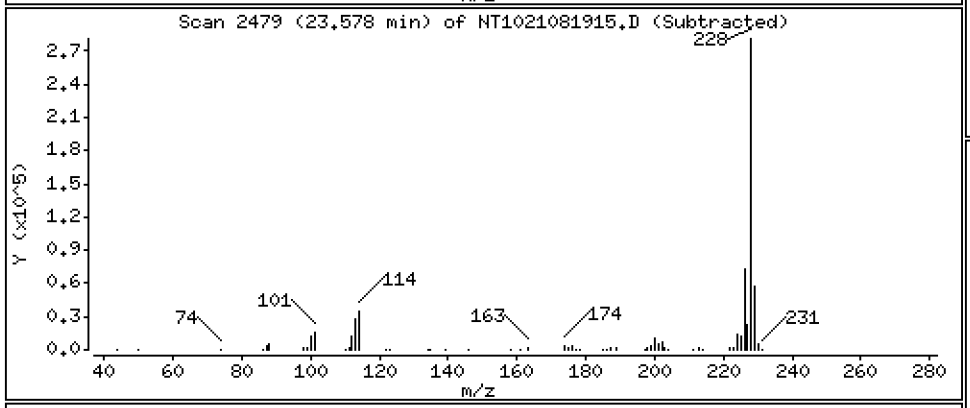
Column phase: ZB-5msi

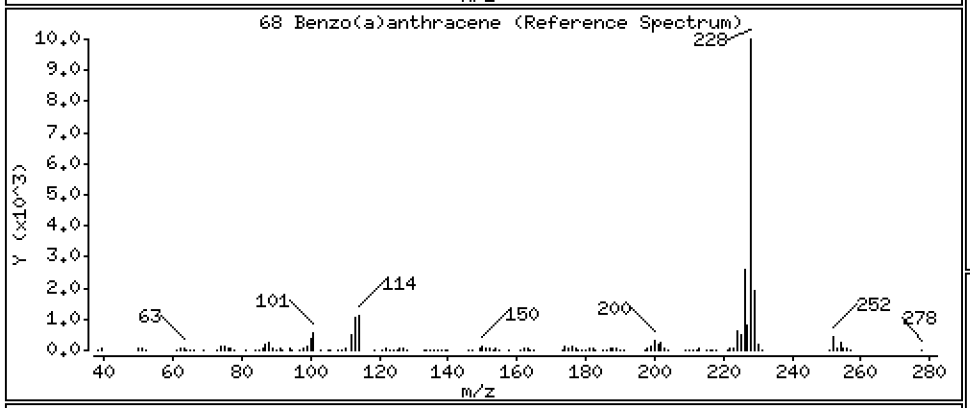
Column diameter: 0.25

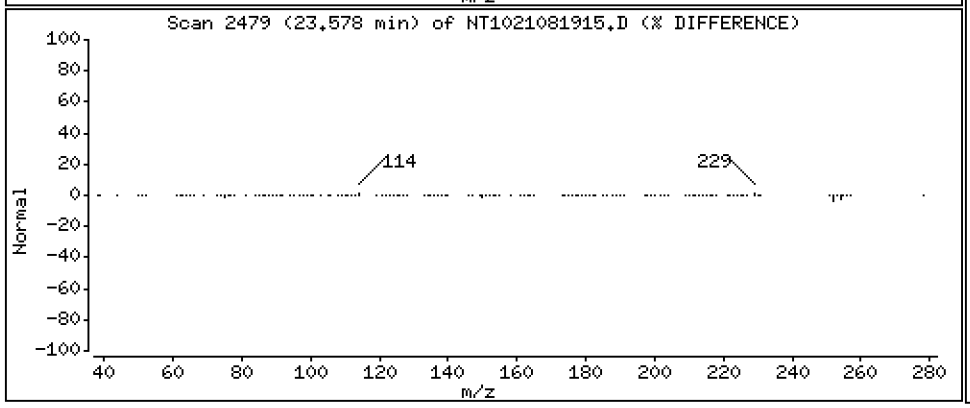
68 Benzo(a)anthracene

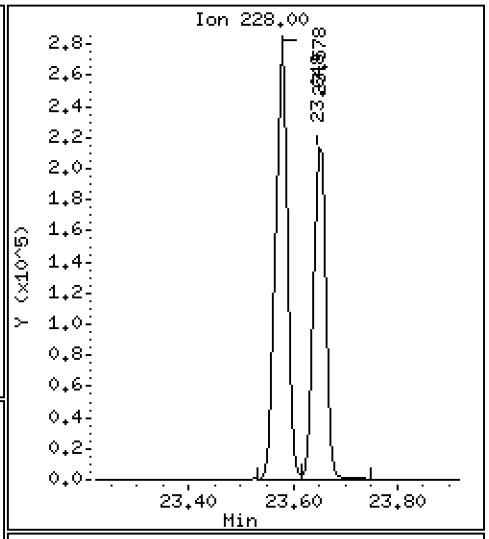
Concentration: 4.800 ug/mL

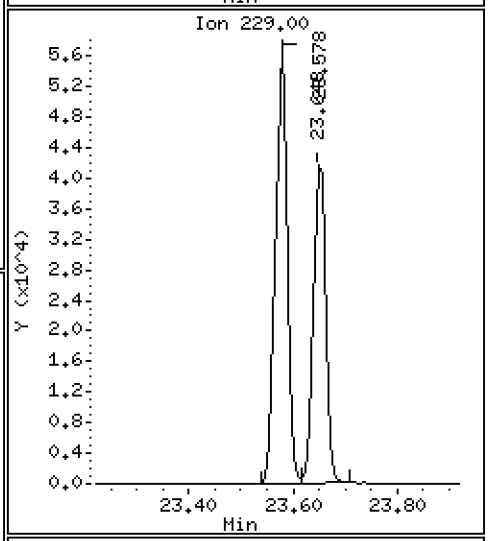


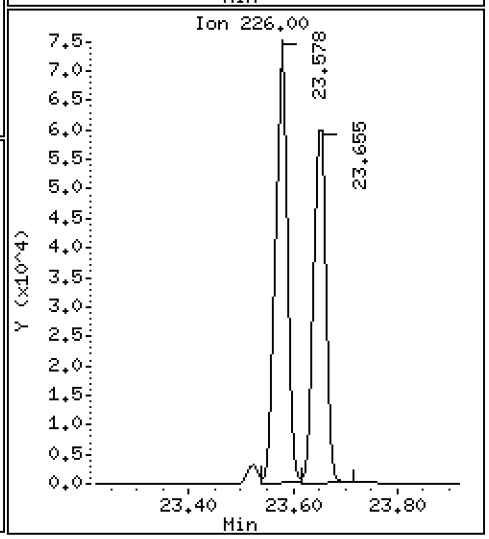












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

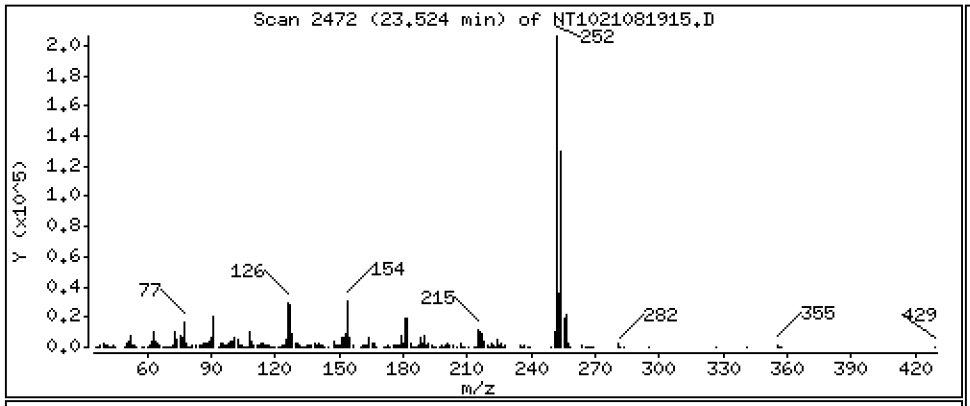
Operator: VTS

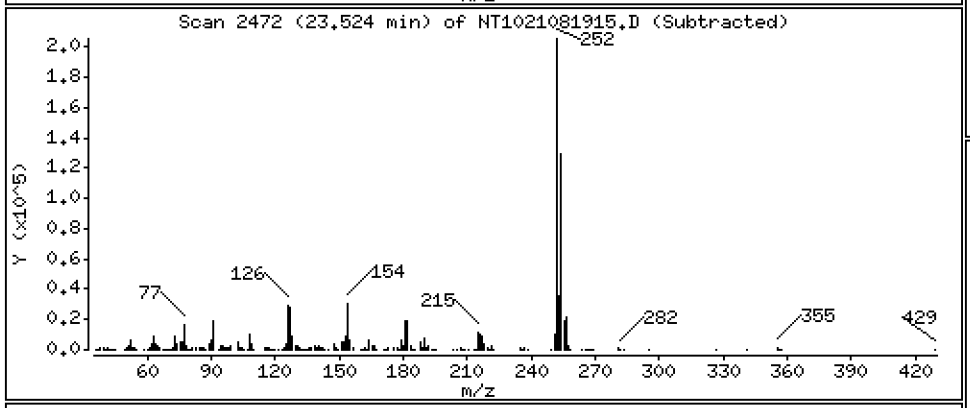
Column phase: ZB-5msi

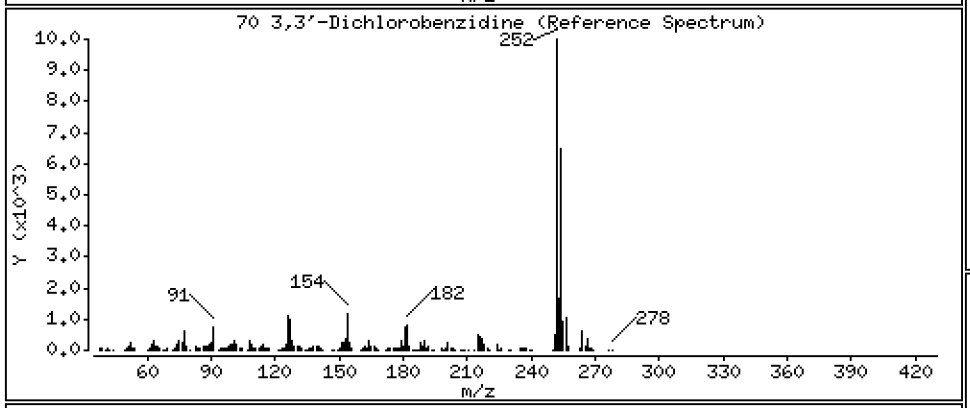
Column diameter: 0.25

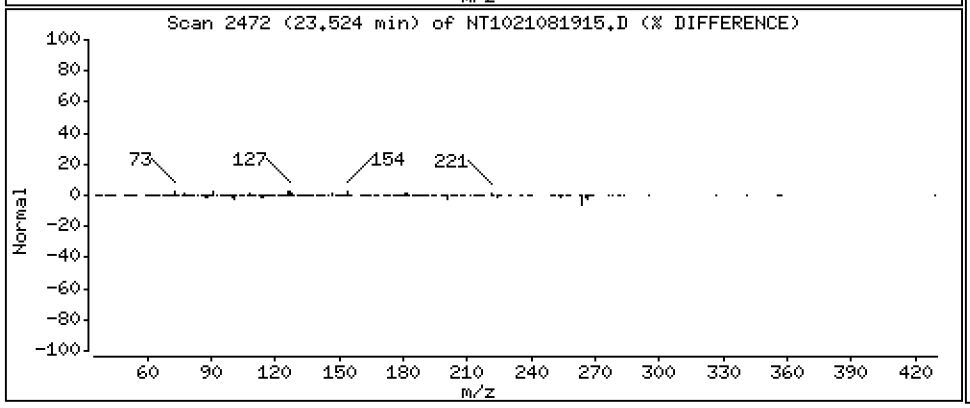
70 3,3'-Dichlorobenzidine

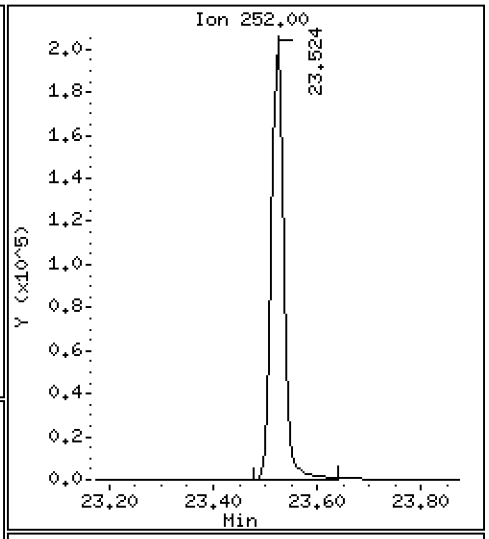
Concentration: 8.830 ug/mL

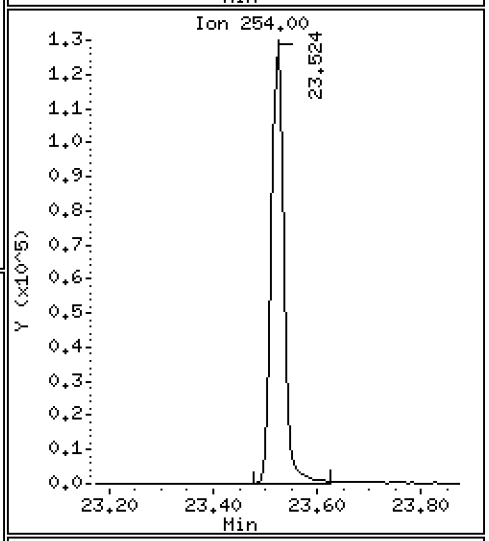


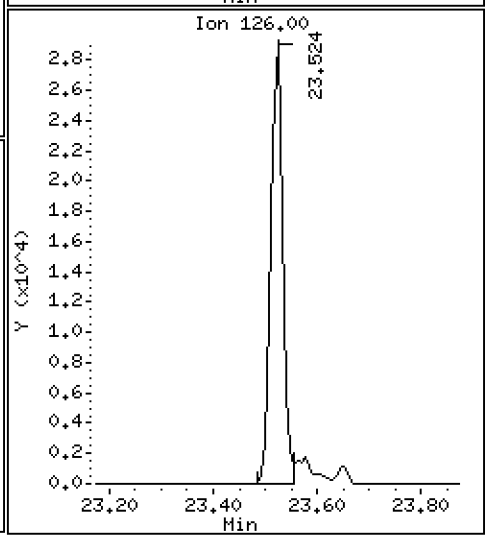












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

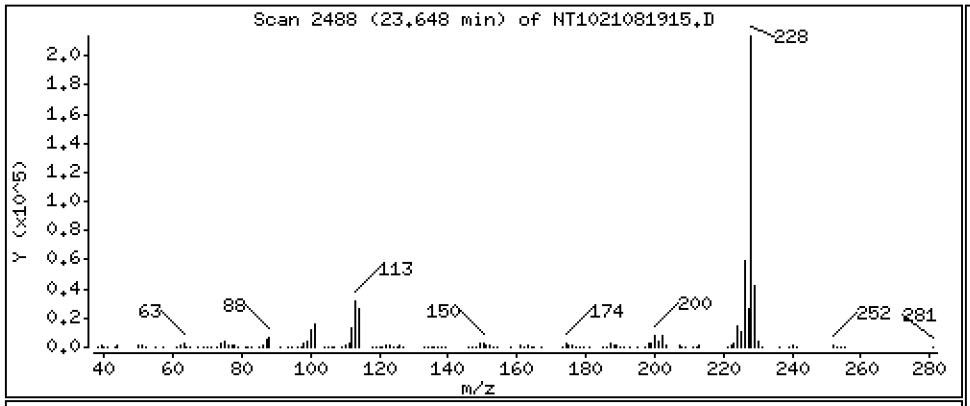
Operator: VTS

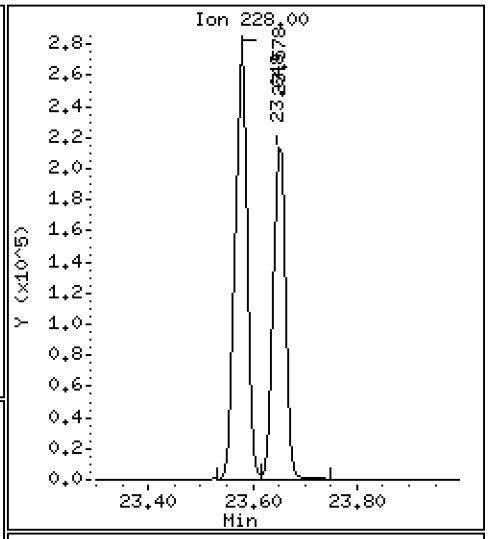
Column phase: ZB-5msi

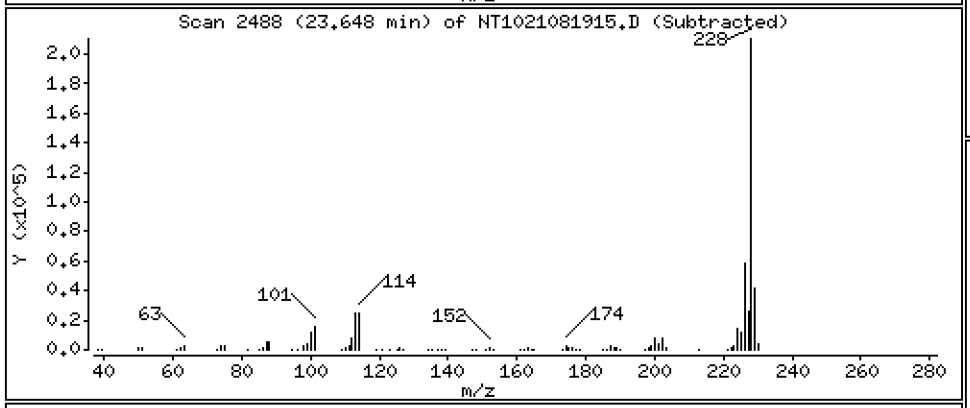
Column diameter: 0.25

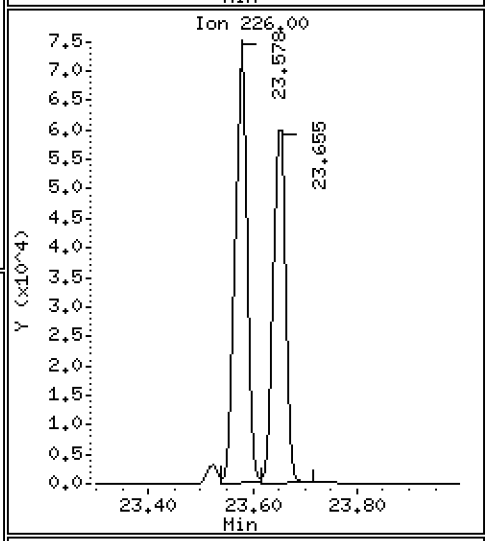
71 Chrysene

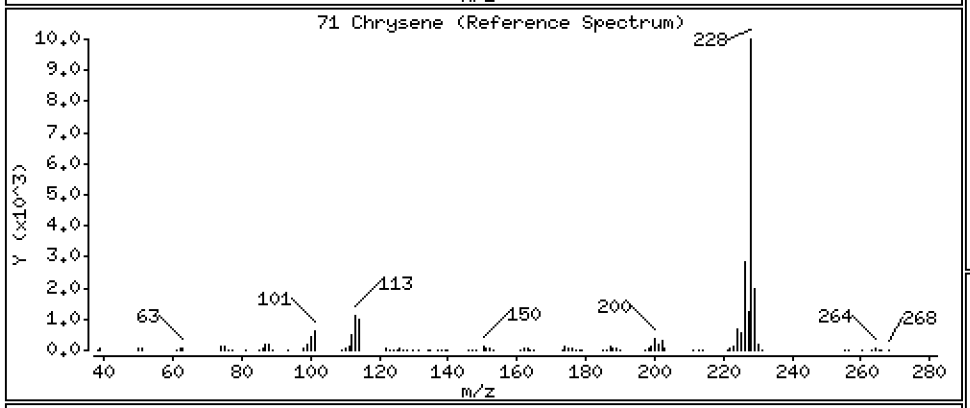
Concentration: 4.687 ug/mL

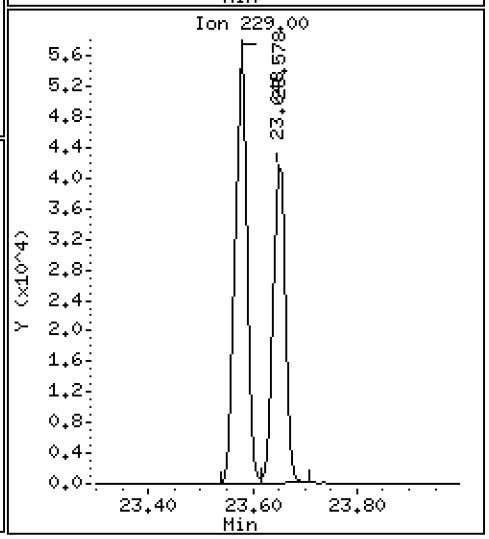


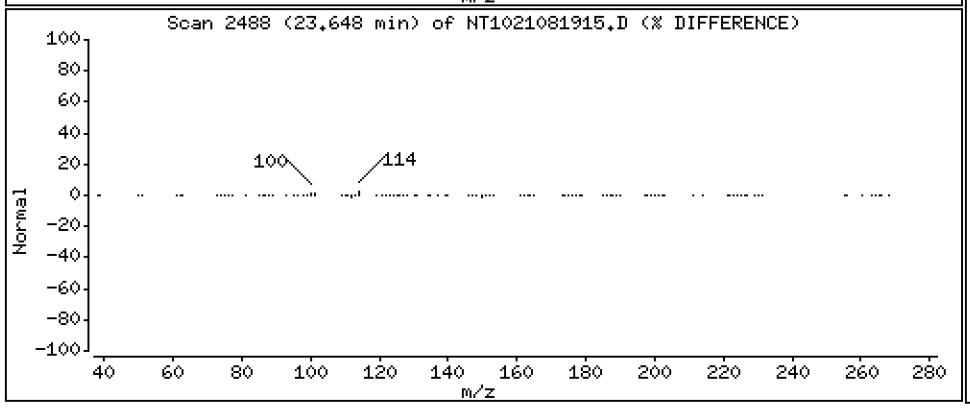












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

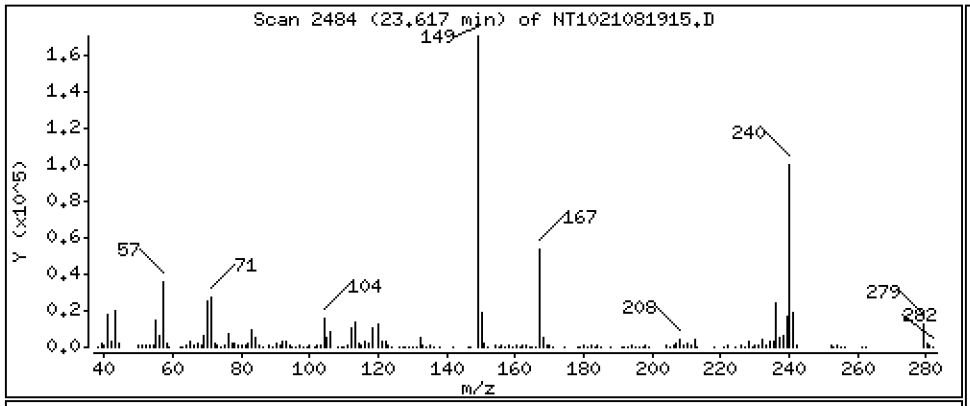
Operator: VTS

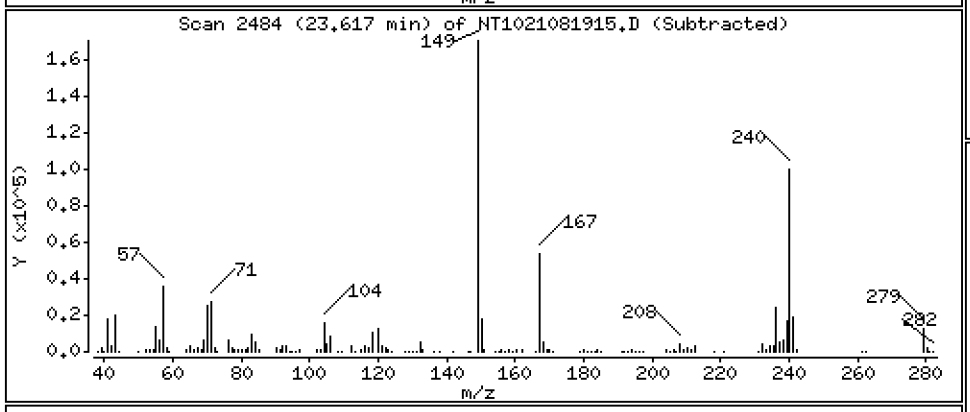
Column phase: ZB-5msi

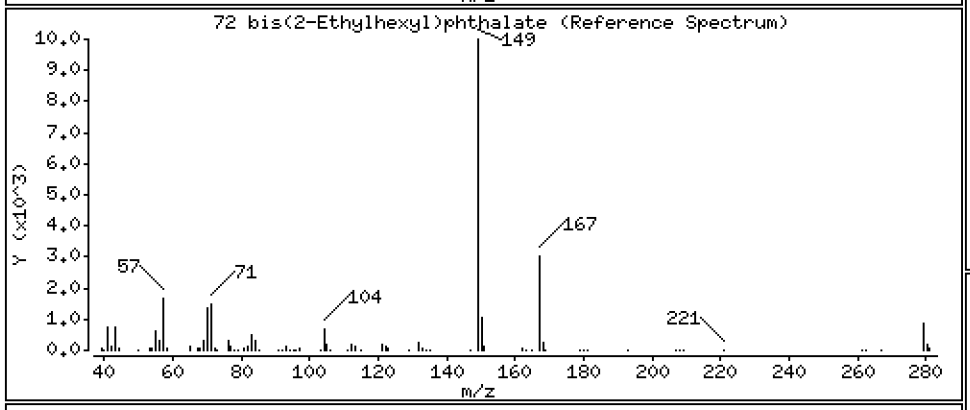
Column diameter: 0.25

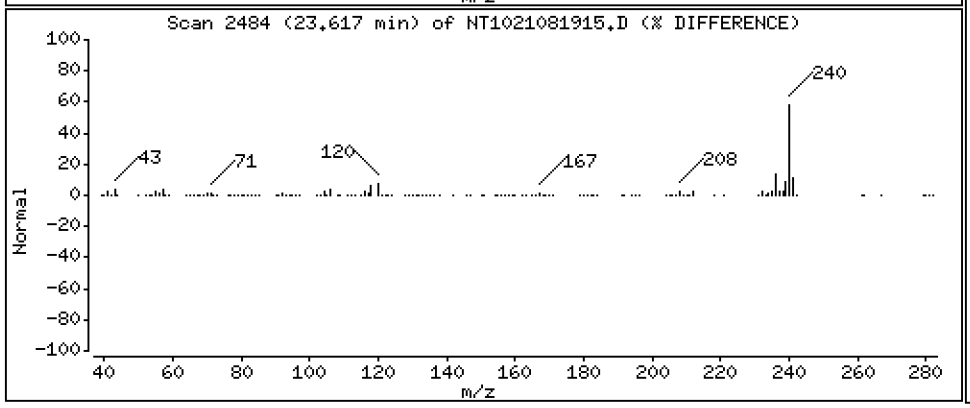
72 bis(2-Ethylhexyl)phthalate

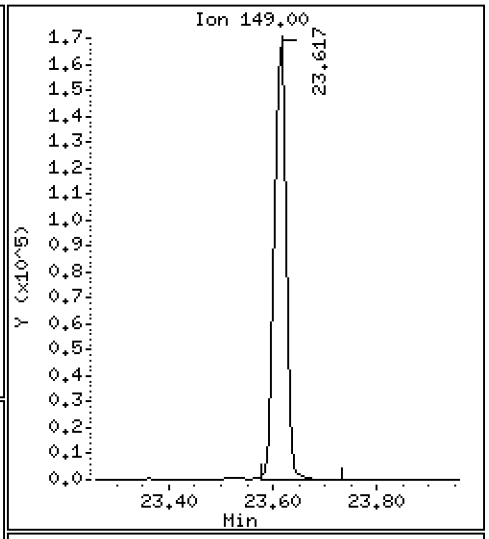
Concentration: 5.362 ug/mL

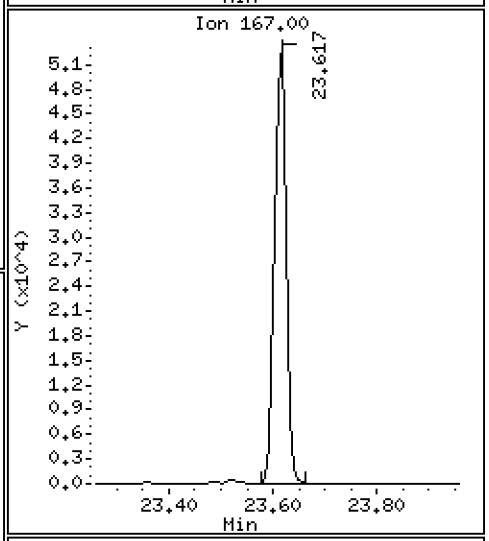


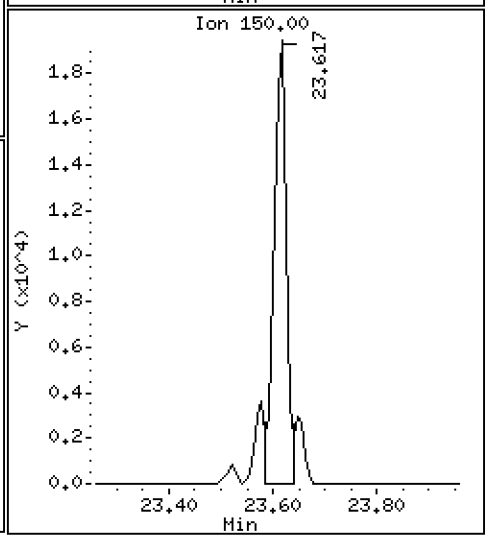












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

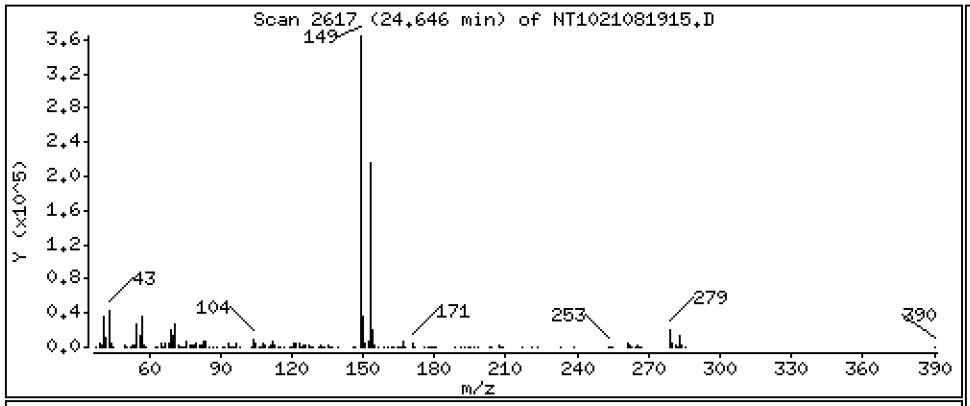
Operator: VTS

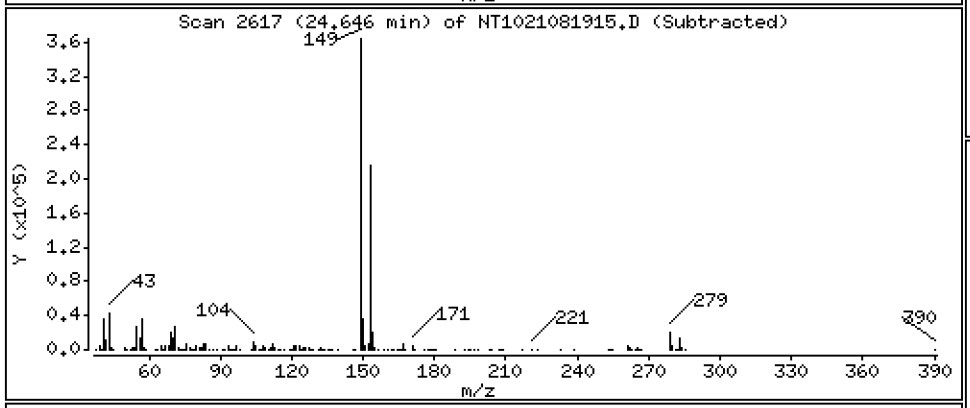
Column phase: ZB-5msi

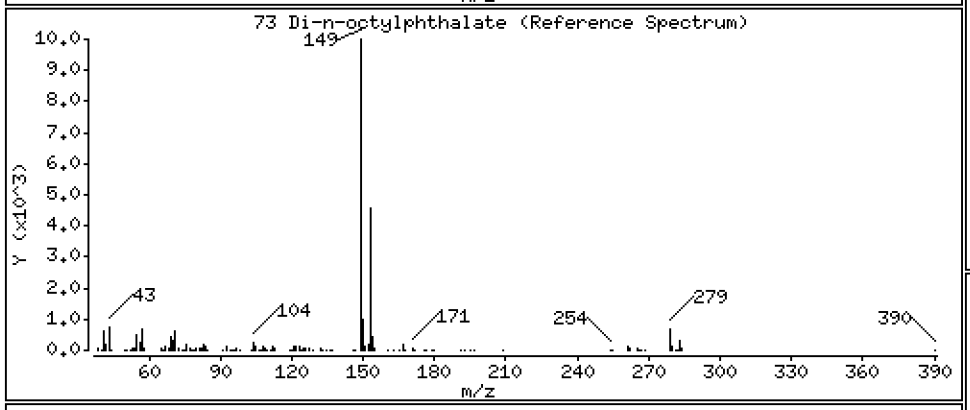
Column diameter: 0.25

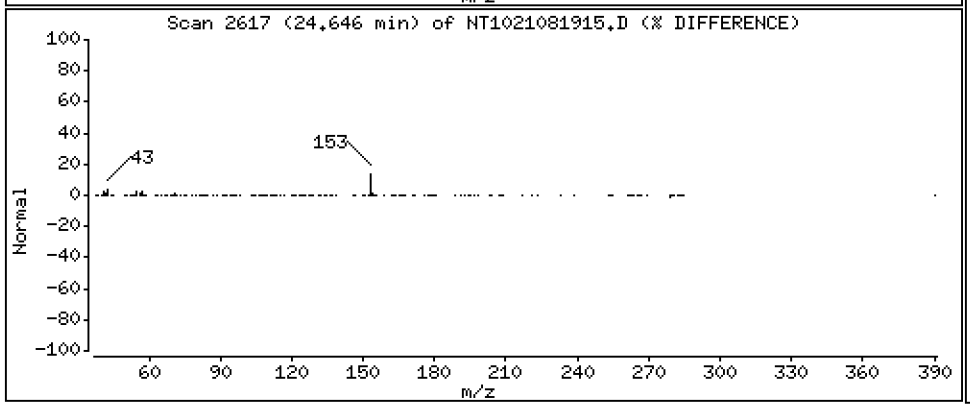
73 Di-n-octylphthalate

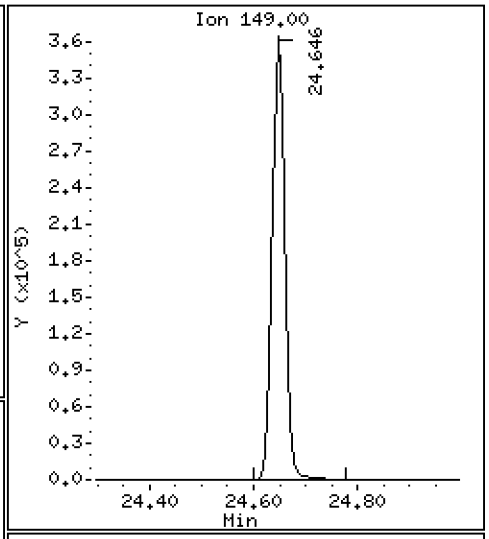
Concentration: 5.228 ug/mL

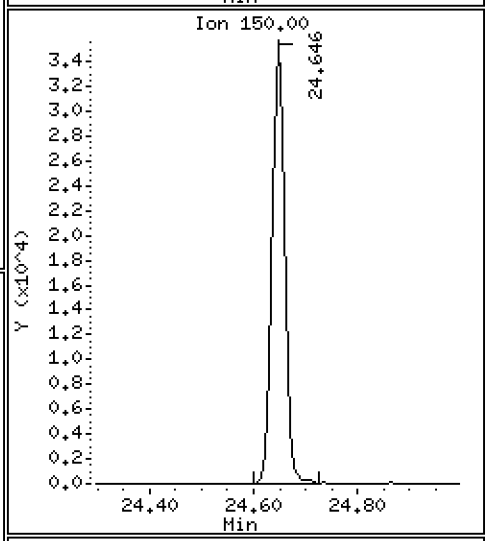


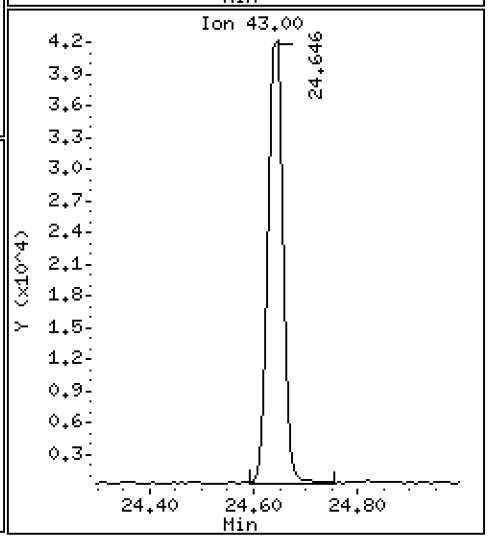












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

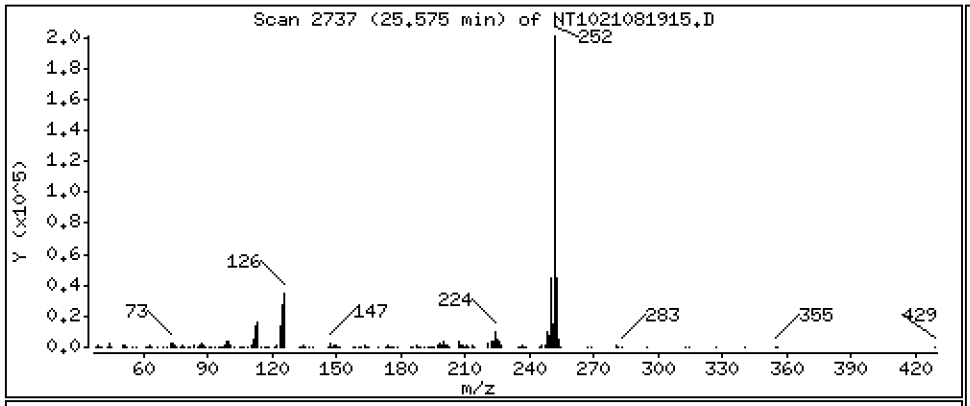
Operator: VTS

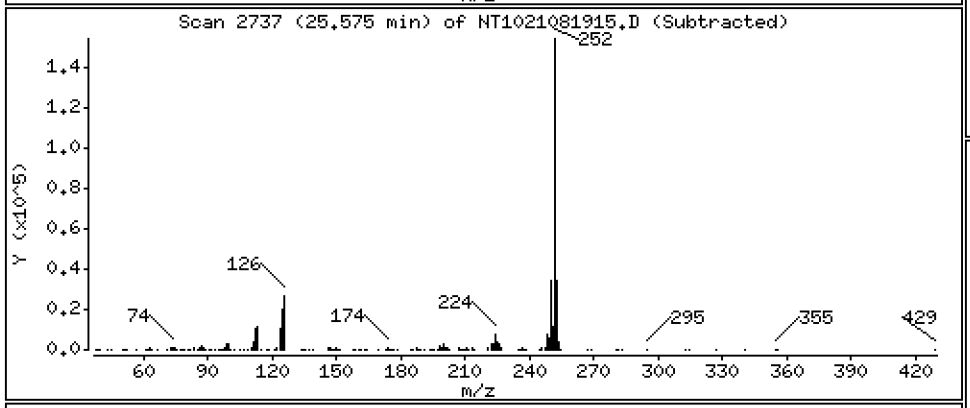
Column phase: ZB-5msi

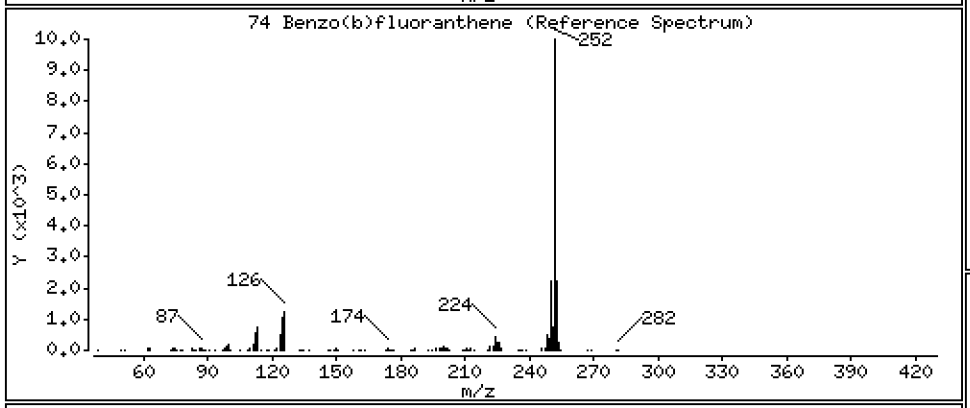
Column diameter: 0.25

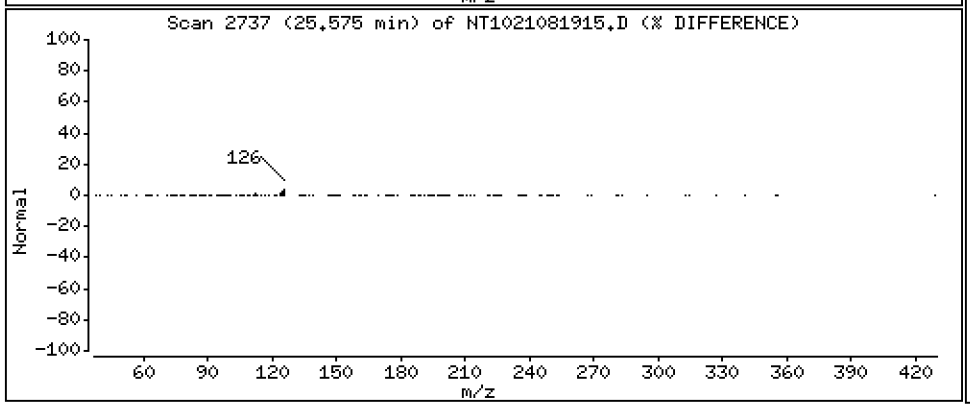
74 Benzo(b)fluoranthene

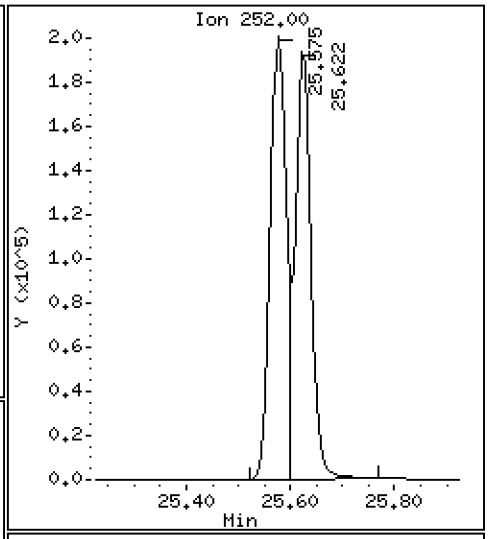
Concentration: 4.877 ug/mL

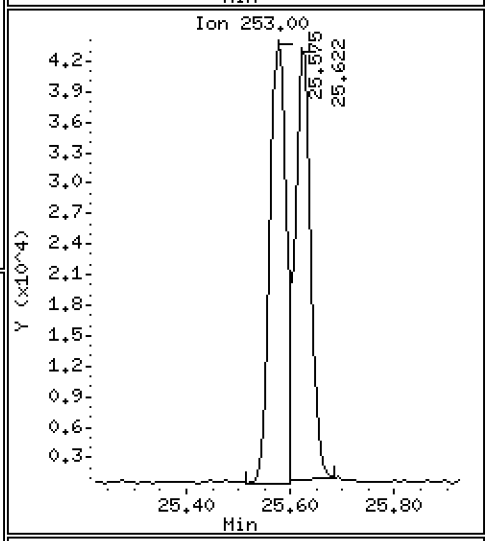


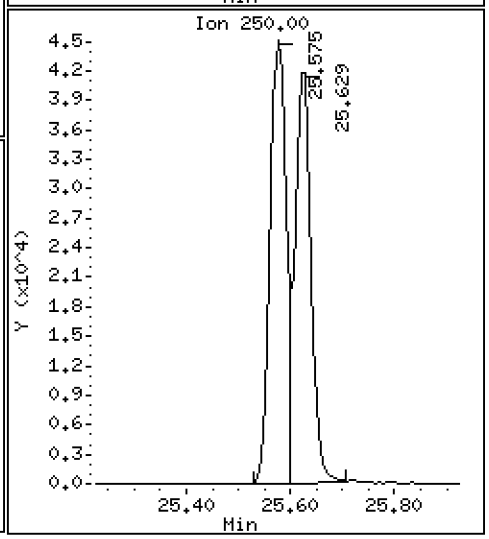












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

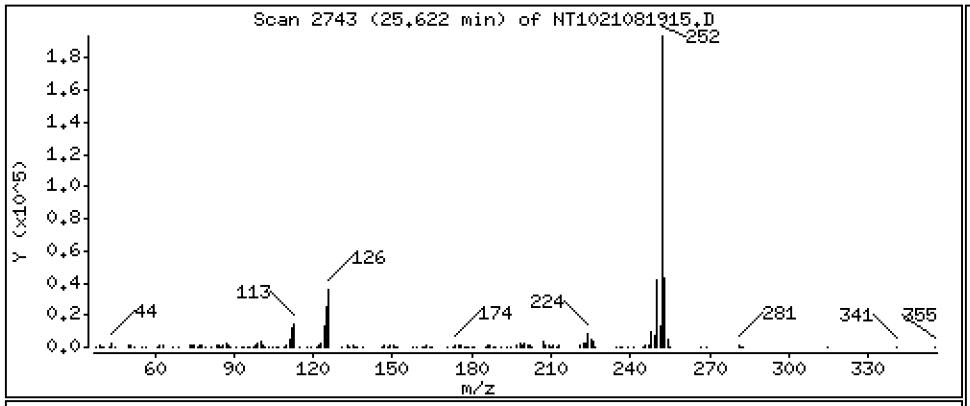
Operator: VTS

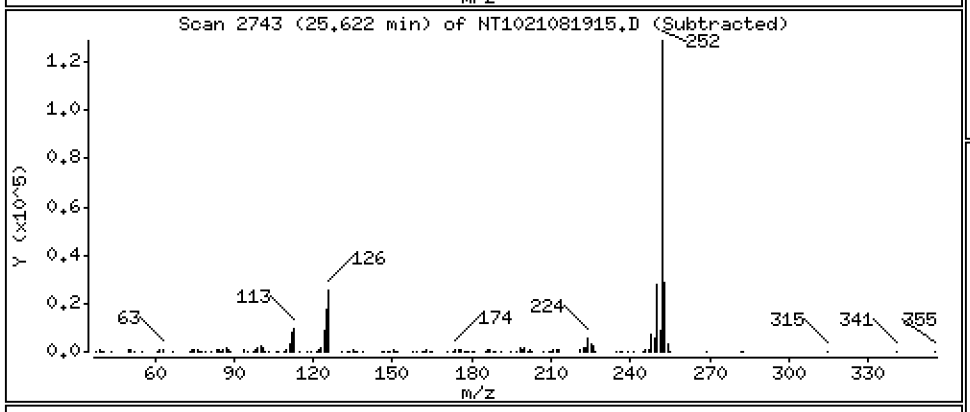
Column phase: ZB-5msi

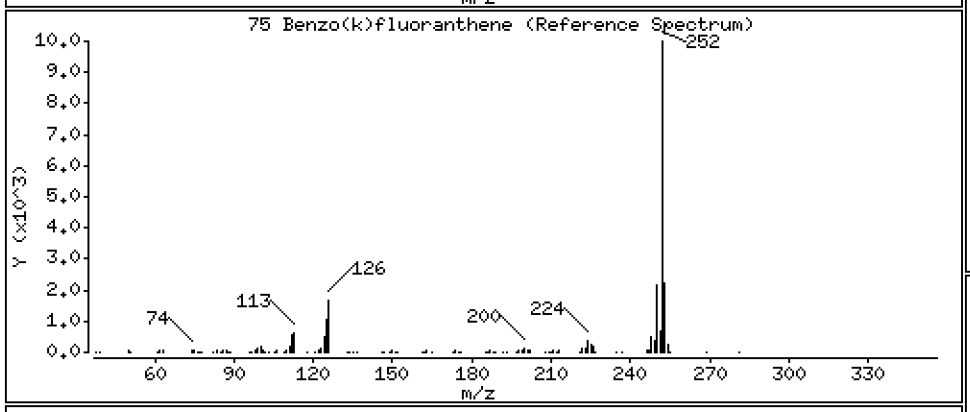
Column diameter: 0.25

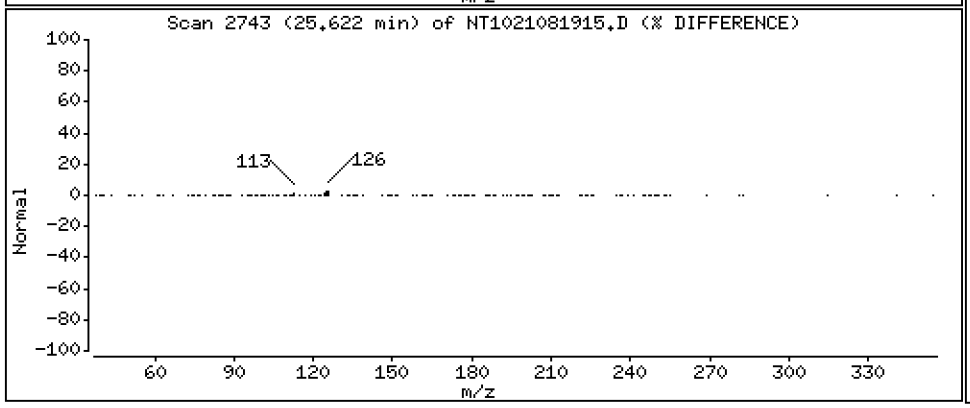
75 Benzo(k)fluoranthene

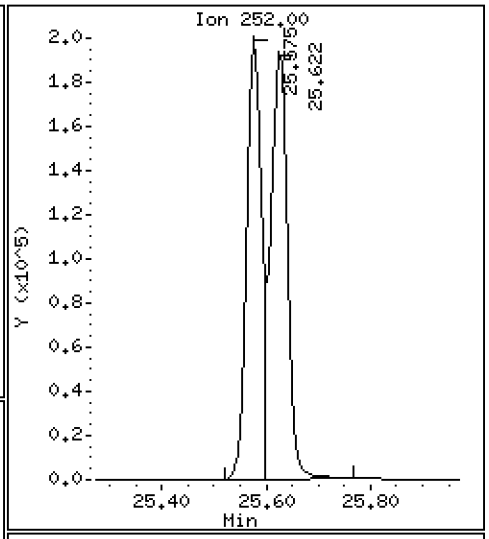
Concentration: 5.195 ug/mL

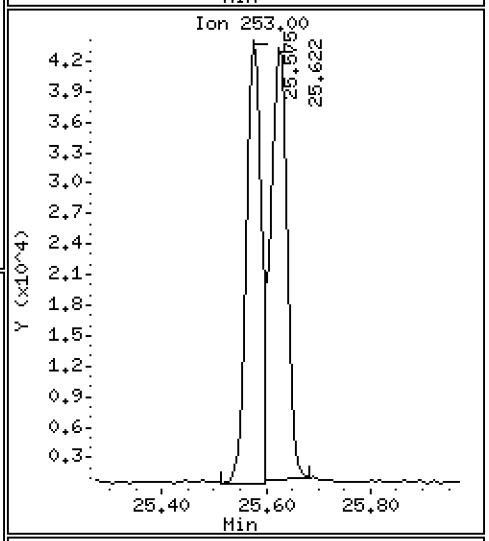


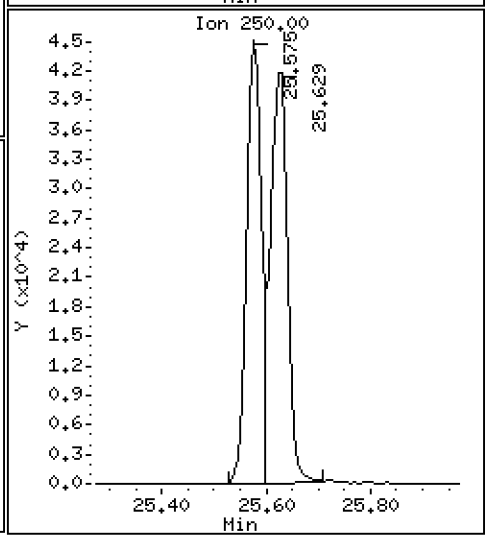












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

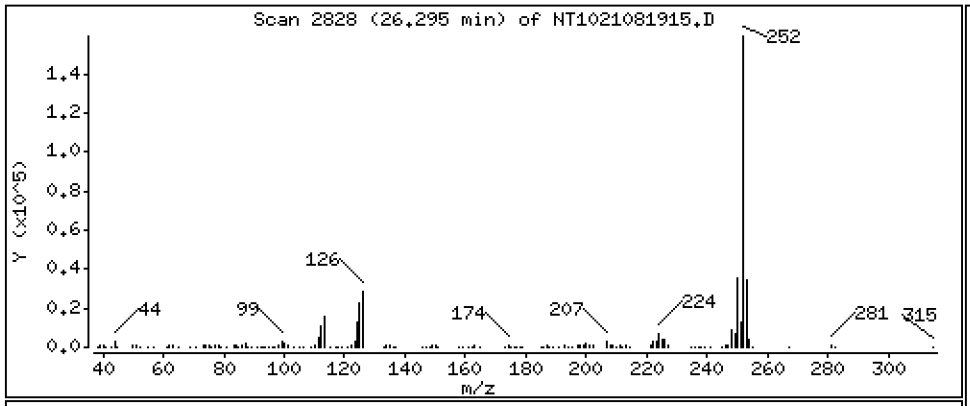
Operator: VTS

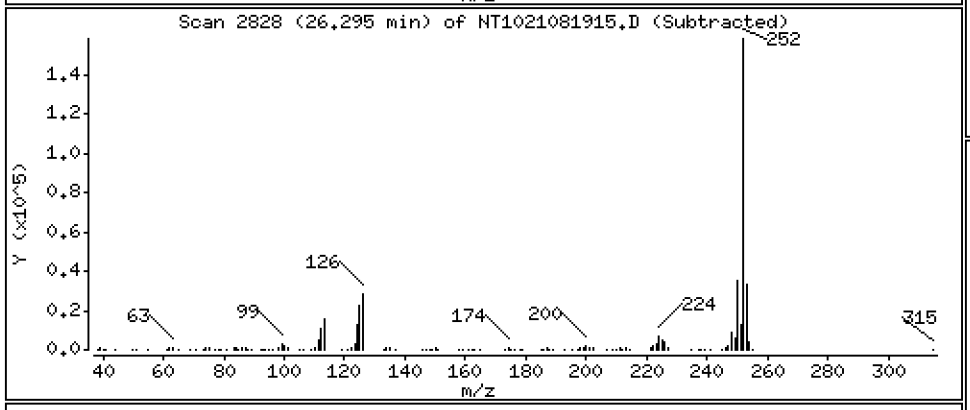
Column phase: ZB-5msi

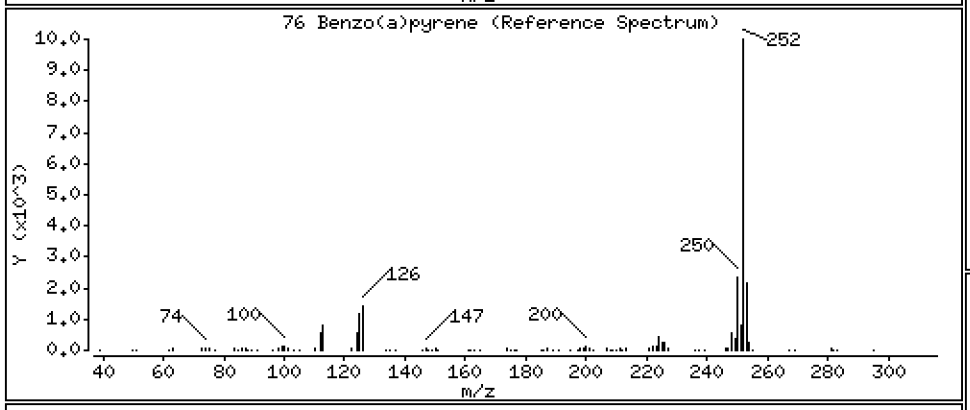
Column diameter: 0.25

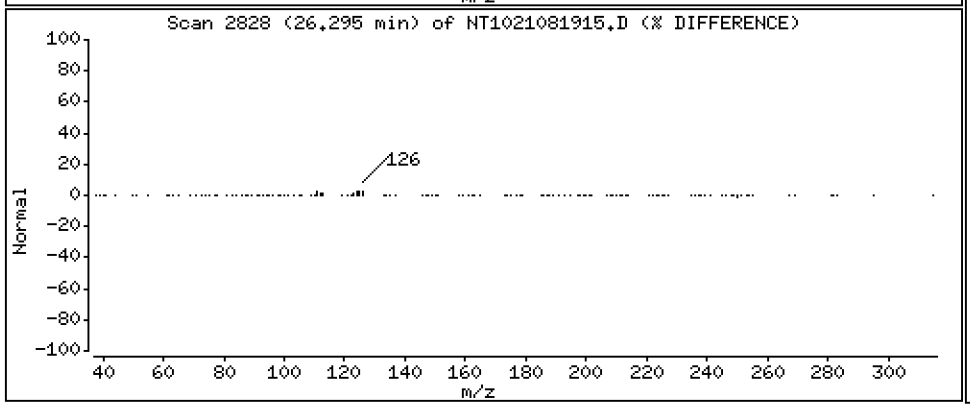
76 Benzo(a)pyrene

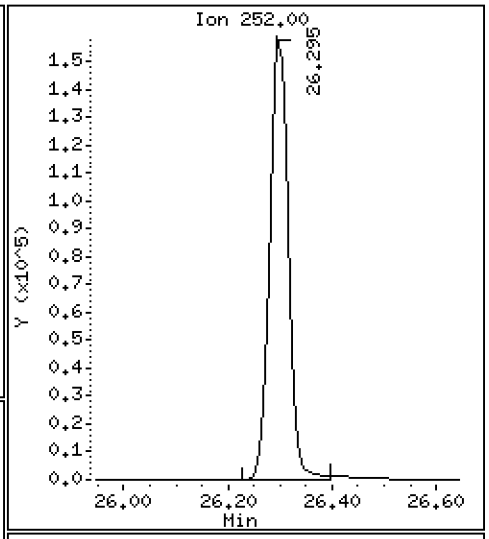
Concentration: 4.980 ug/mL

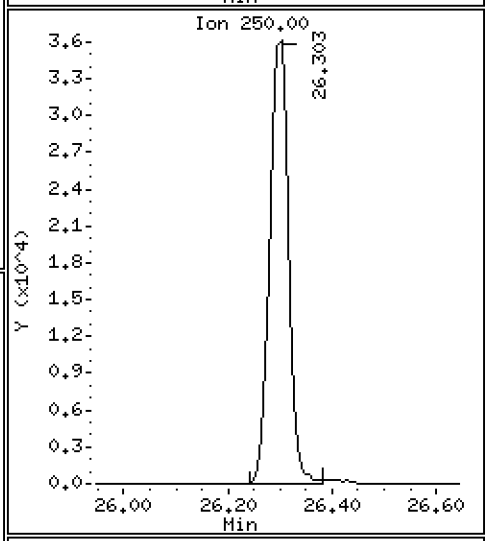


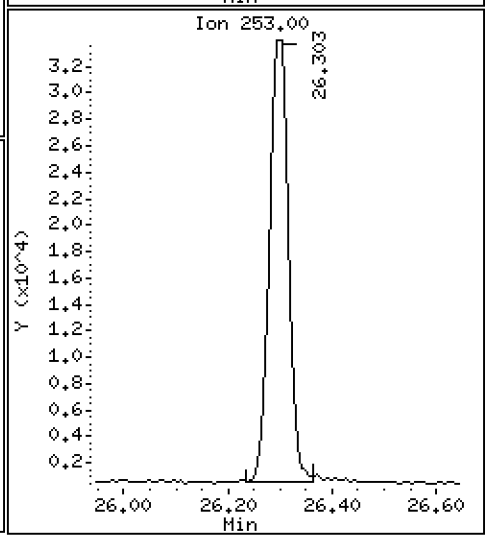












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

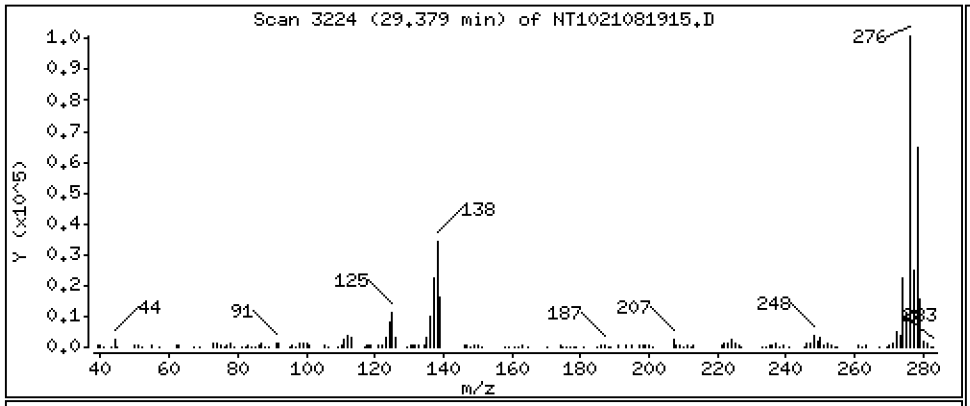
Operator: VTS

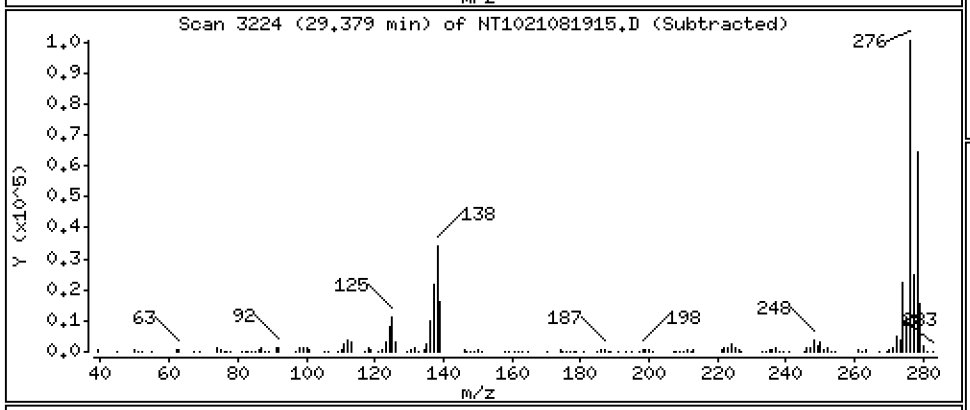
Column phase: ZB-5msi

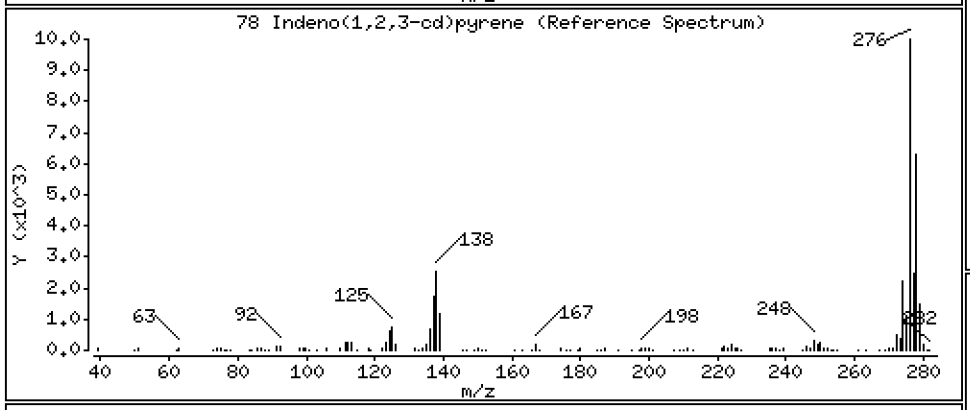
Column diameter: 0.25

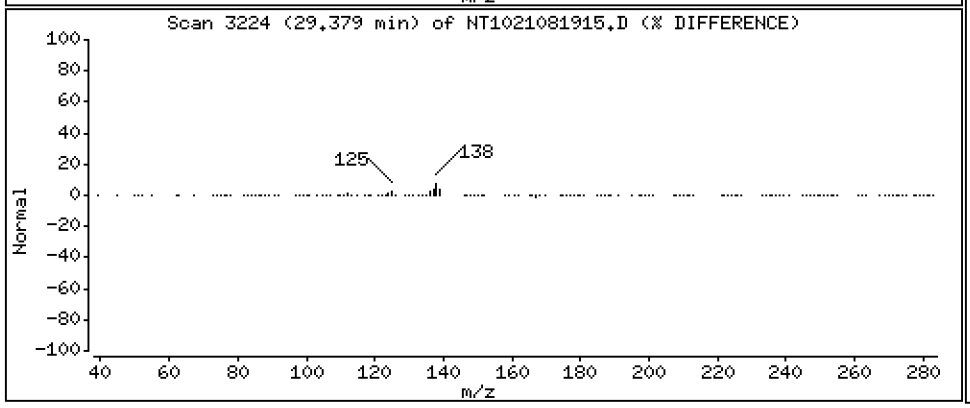
78 Indeno(1,2,3-cd)pyrene

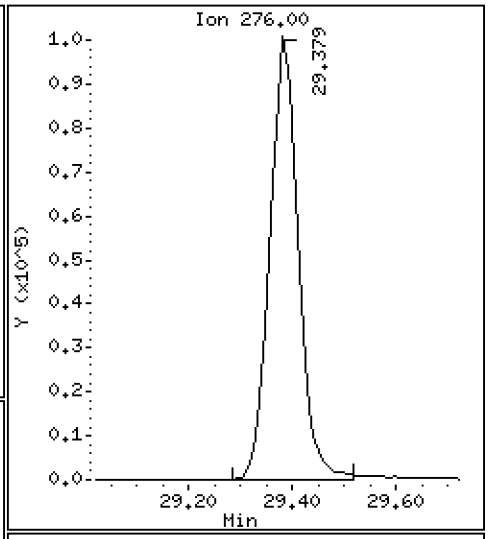
Concentration: 4.855 ug/mL

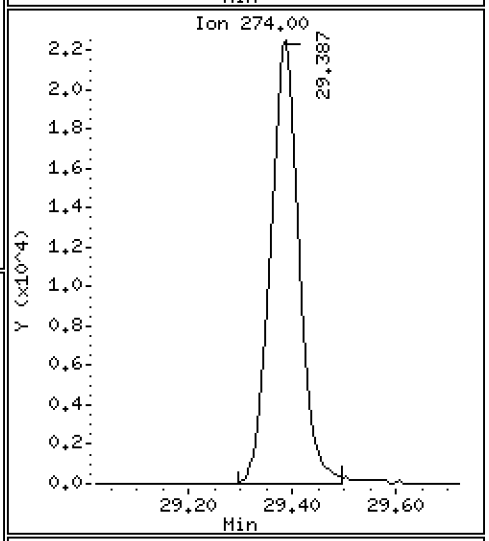


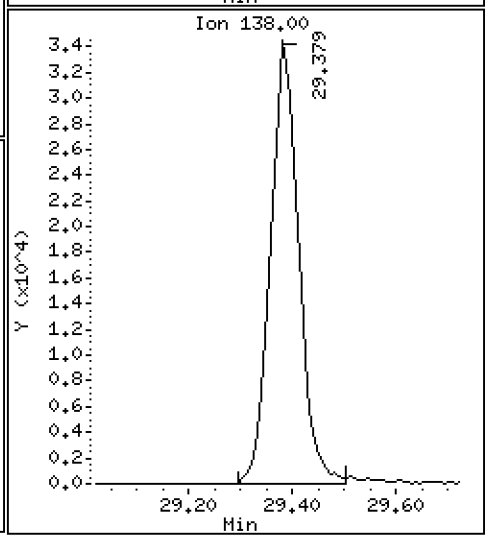












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

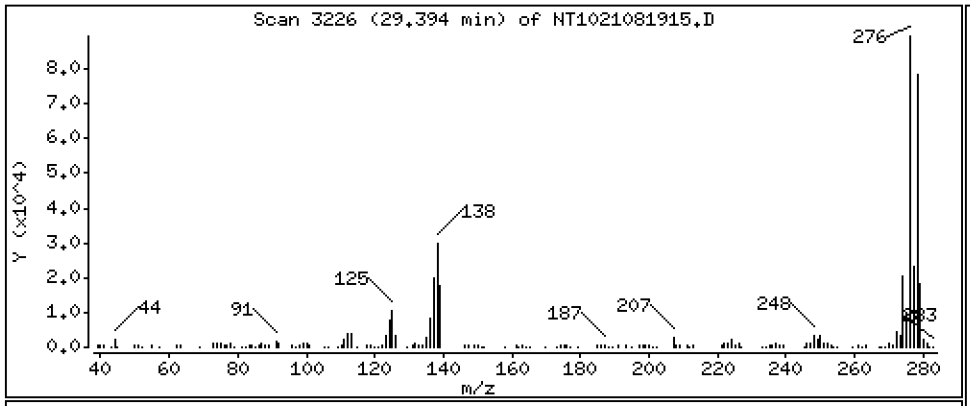
Operator: VTS

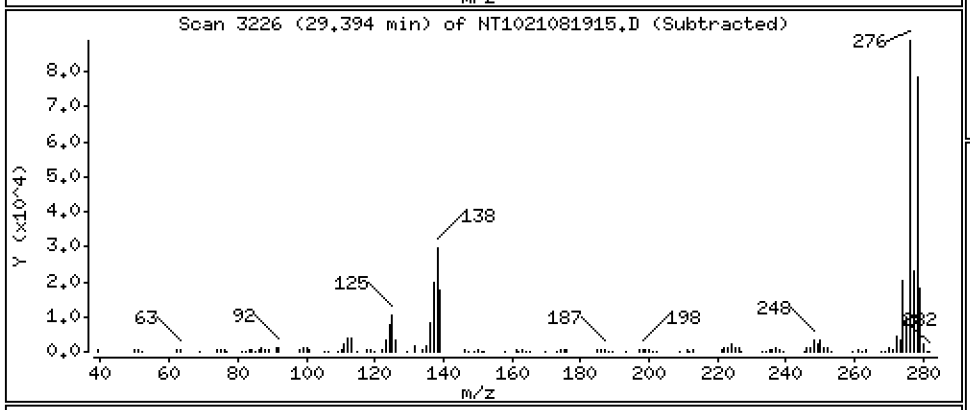
Column phase: ZB-5msi

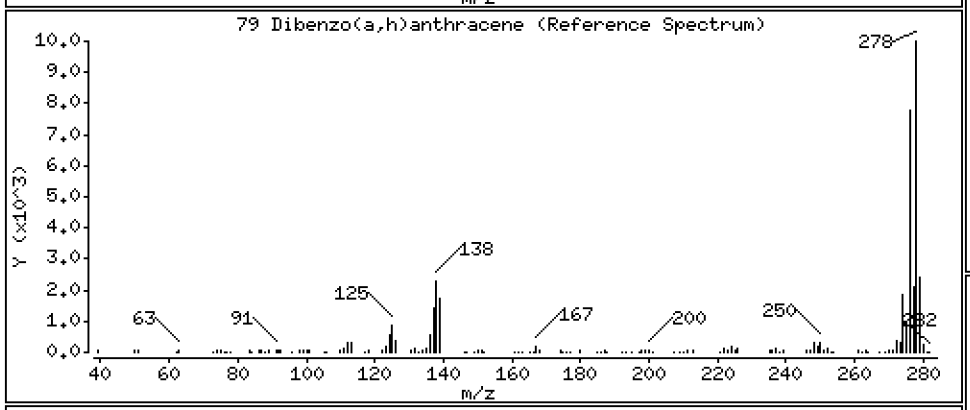
Column diameter: 0.25

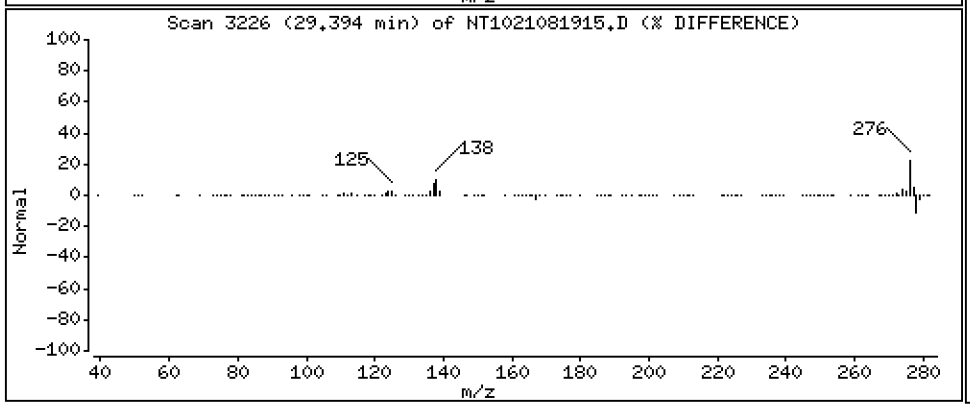
79 Dibenzo(a,h)anthracene

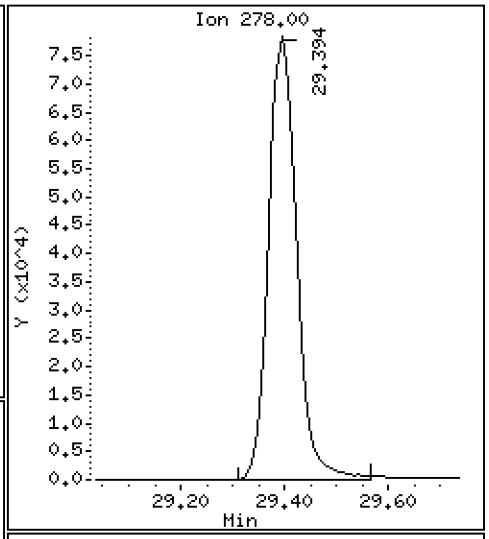
Concentration: 4.838 ug/mL

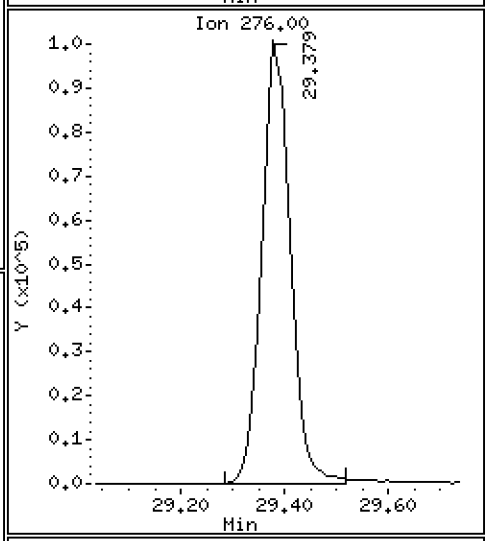


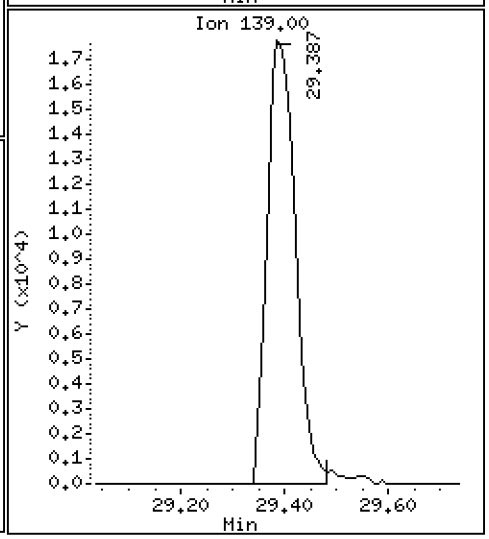












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

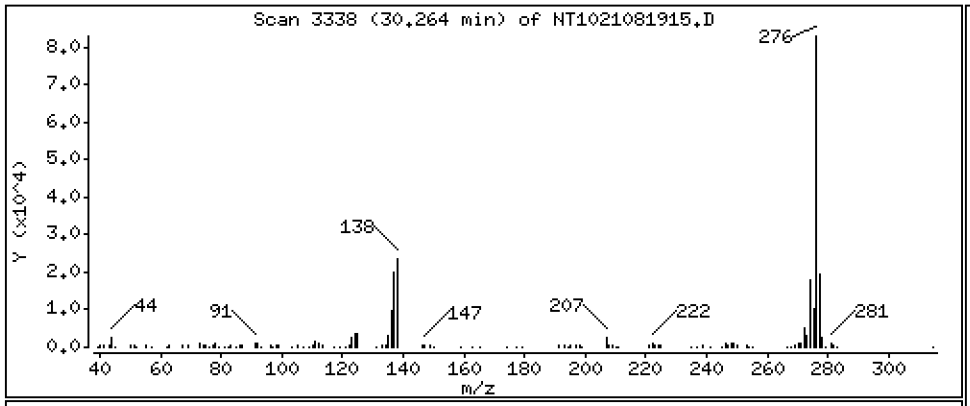
Operator: VTS

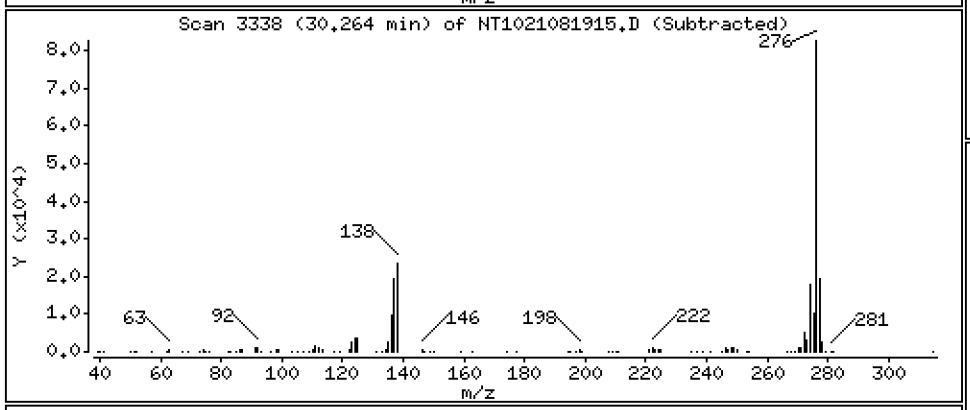
Column phase: ZB-5msi

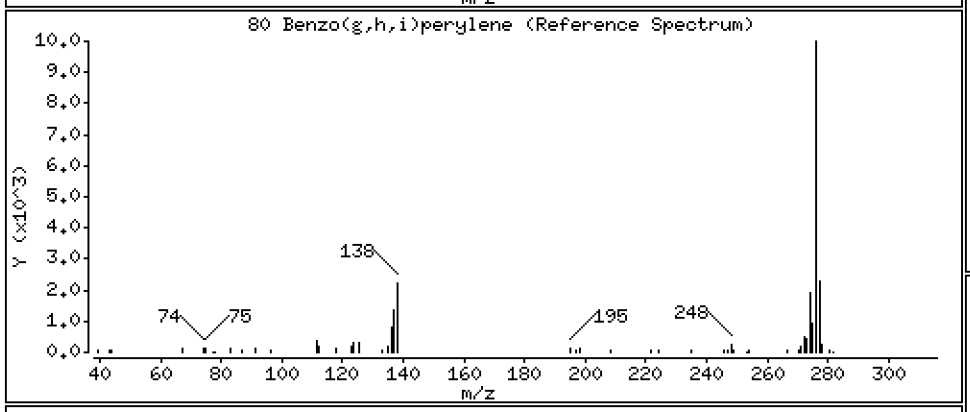
Column diameter: 0.25

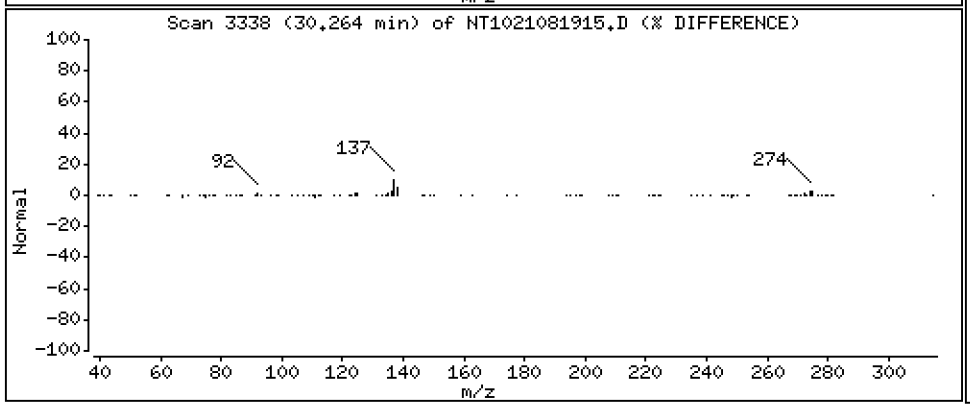
80 Benzo(g,h,i)perylene

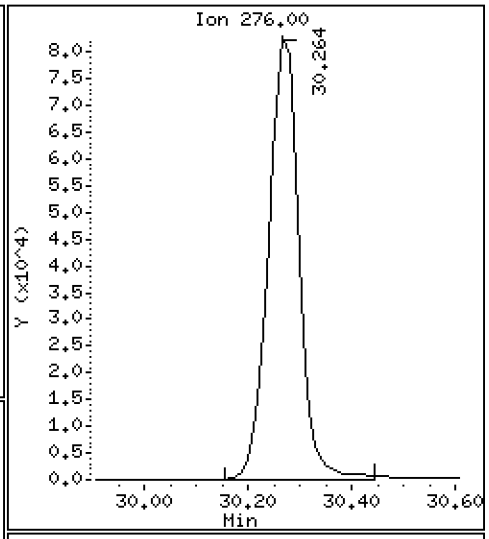
Concentration: 4.923 ug/mL

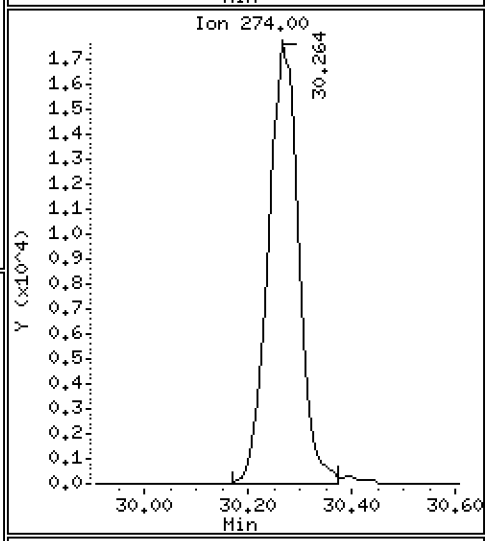


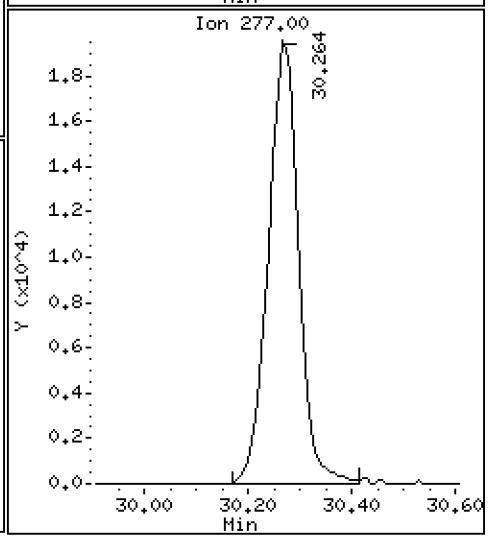












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

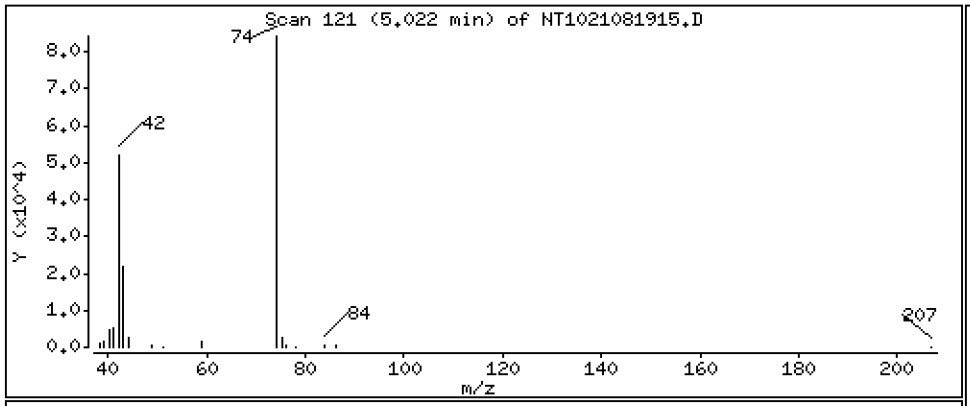
Operator: VTS

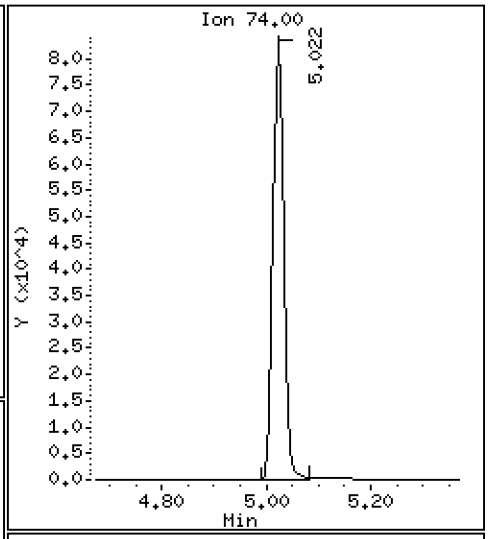
Column phase: ZB-5msi

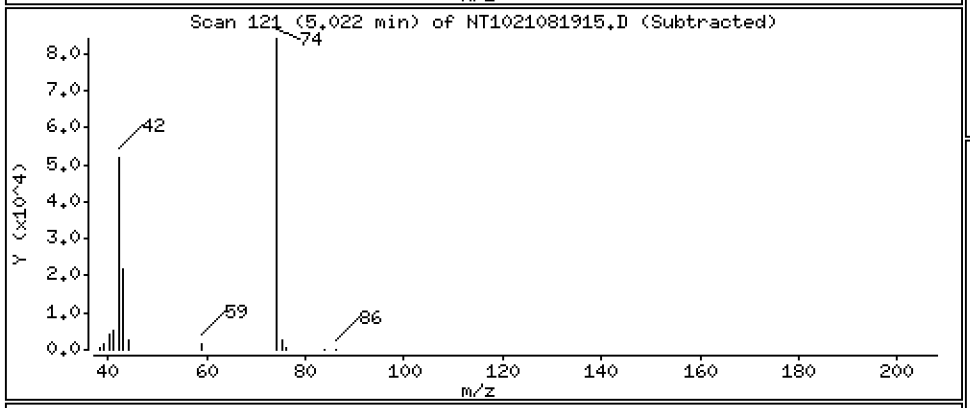
Column diameter: 0.25

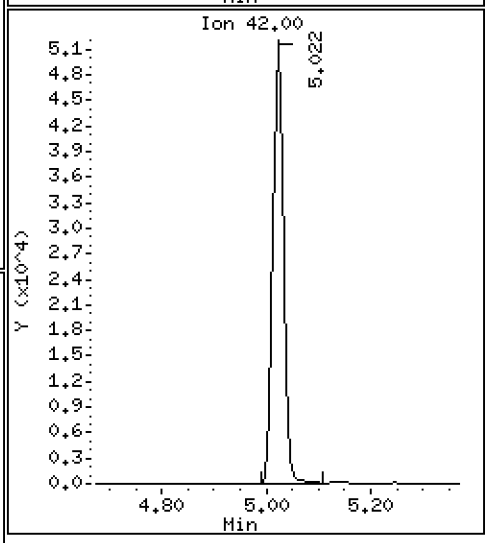
90 N-Nitrosodimethylamine

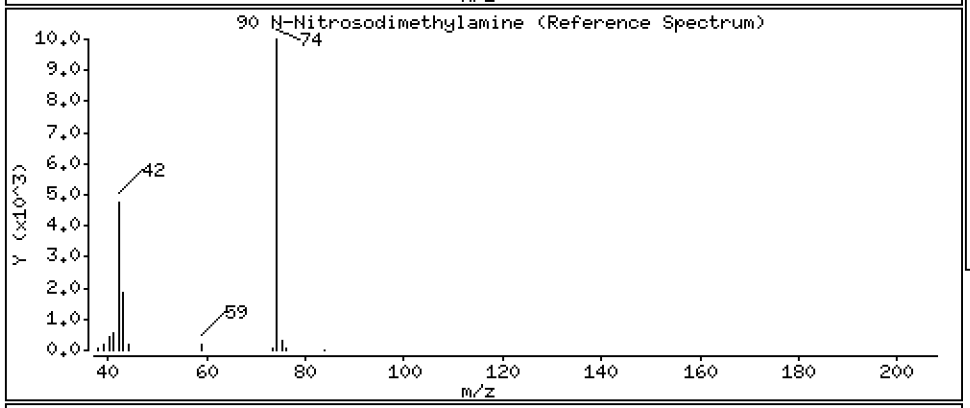
Concentration: 6.037 ug/mL

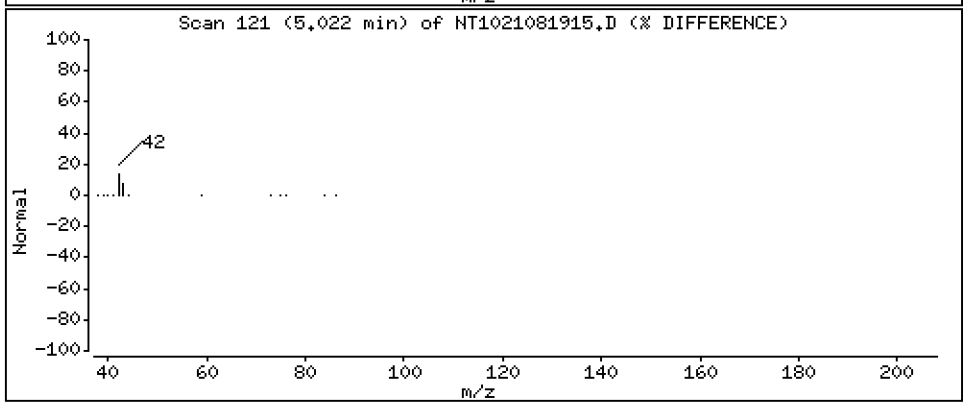












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

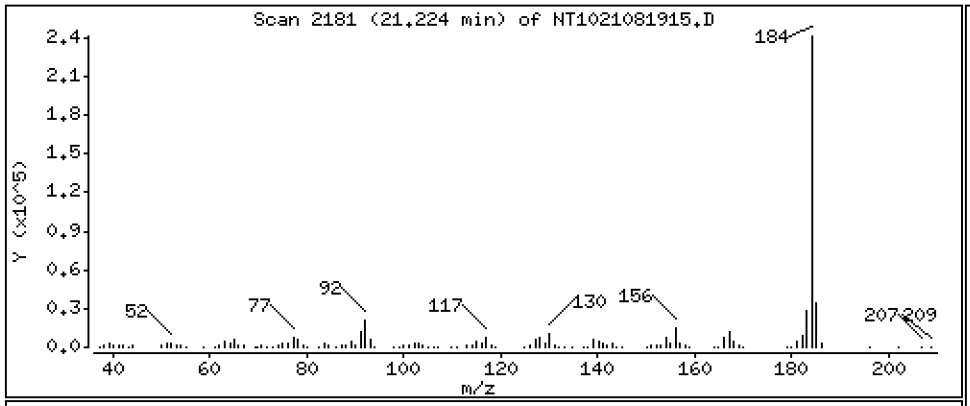
Operator: VTS

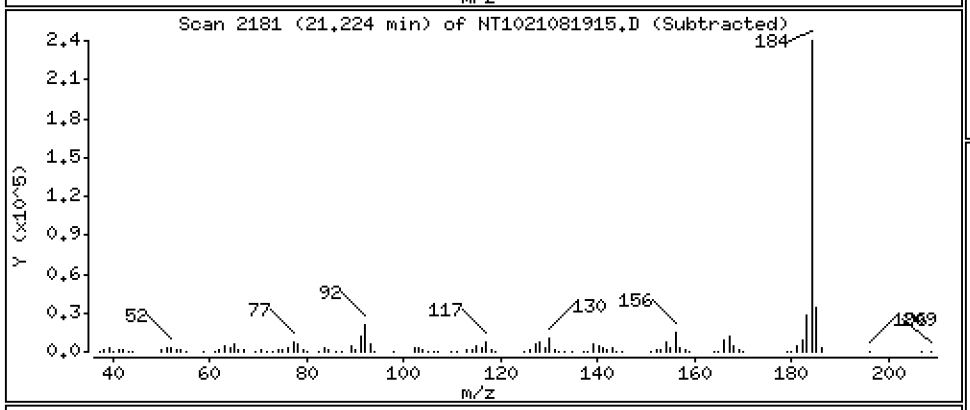
Column phase: ZB-5msi

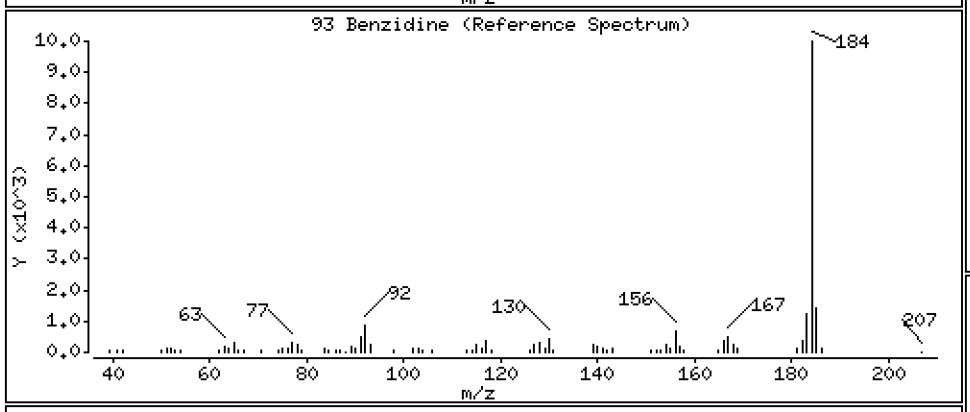
Column diameter: 0.25

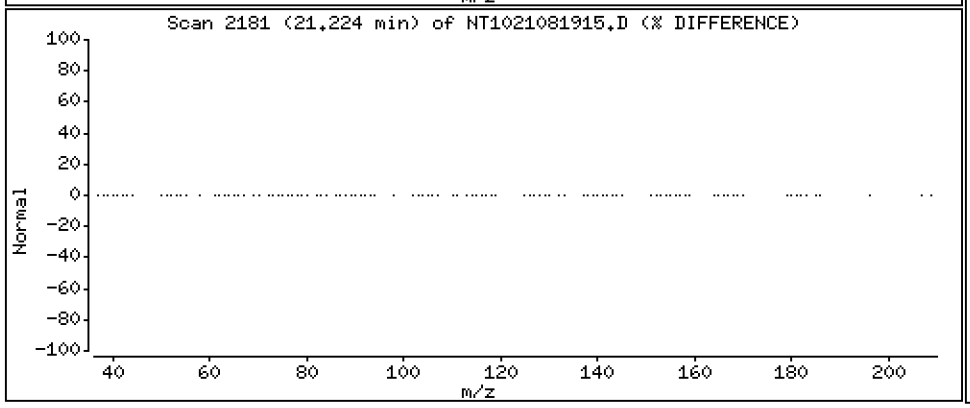
93 Benzidine

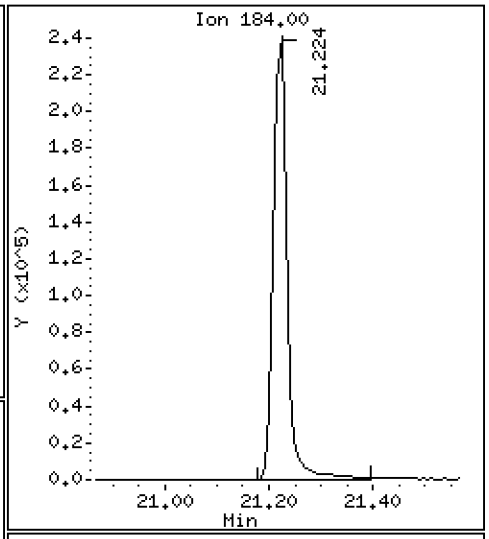
Concentration: 8.480 ug/mL

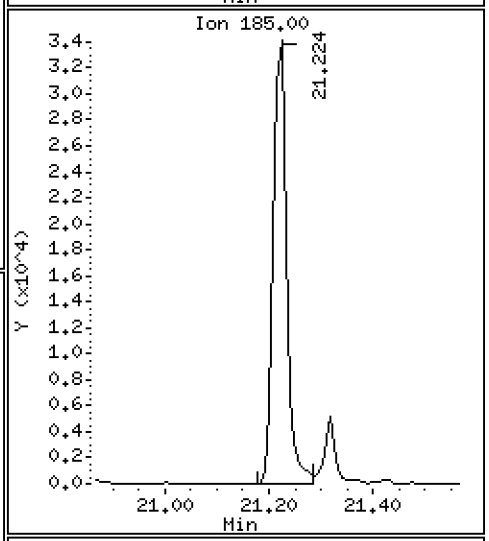


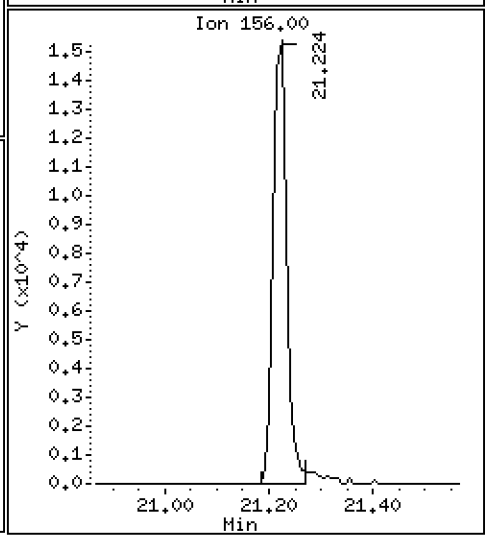












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

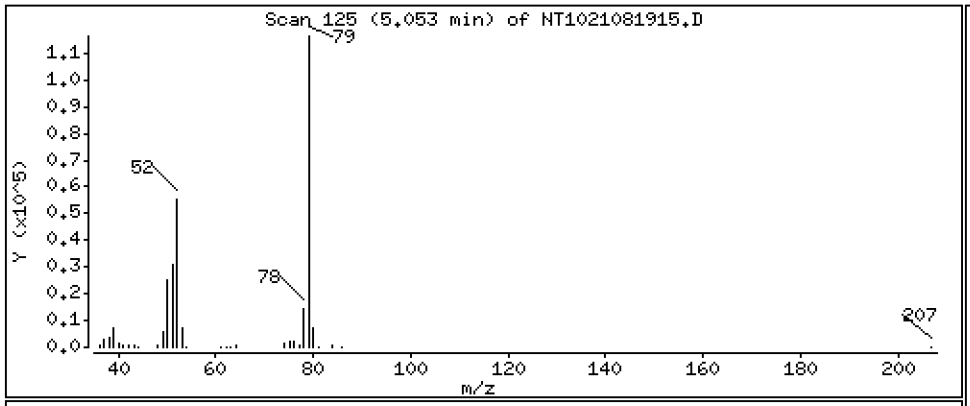
Operator: VTS

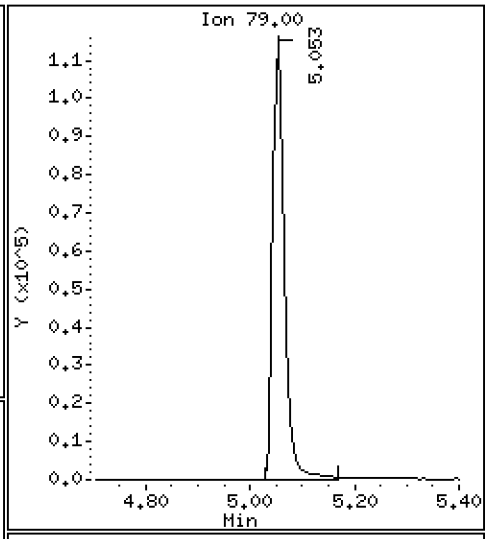
Column phase: ZB-5msi

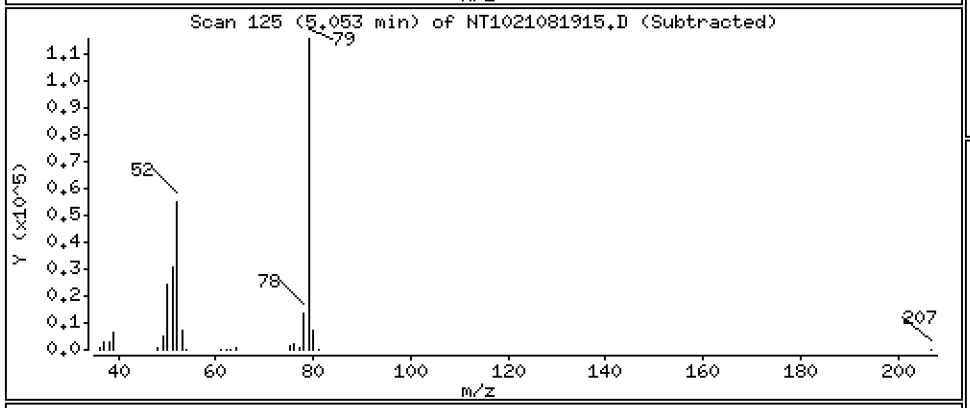
Column diameter: 0.25

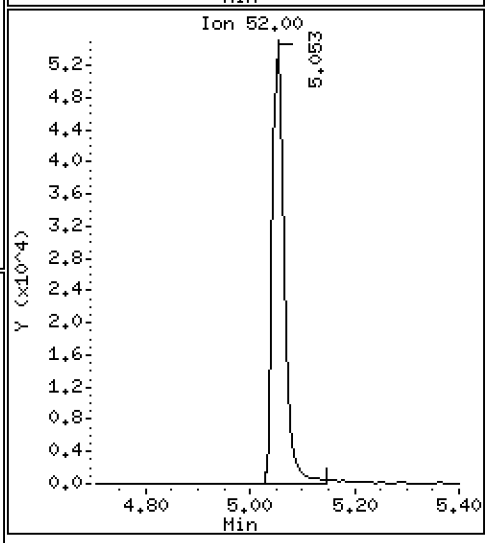
103 Pyridine

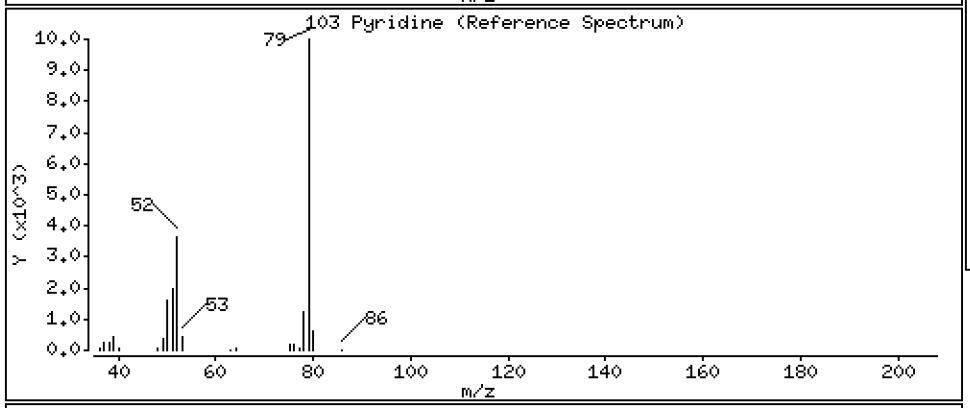
Concentration: 2.866 ug/mL

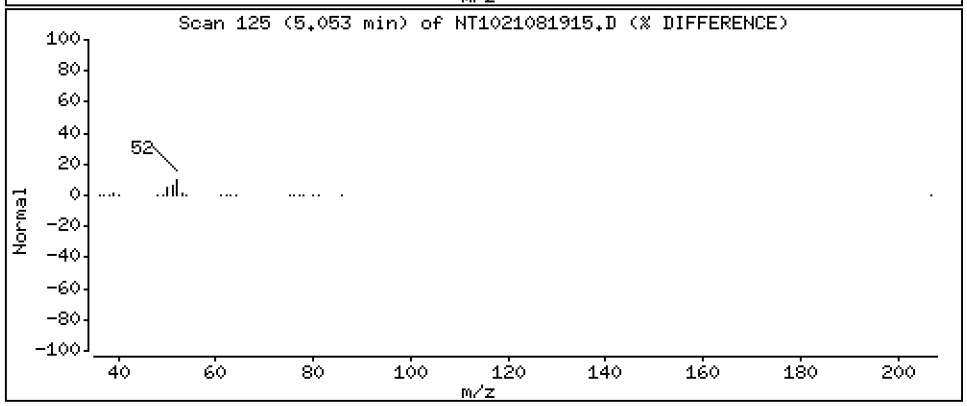












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

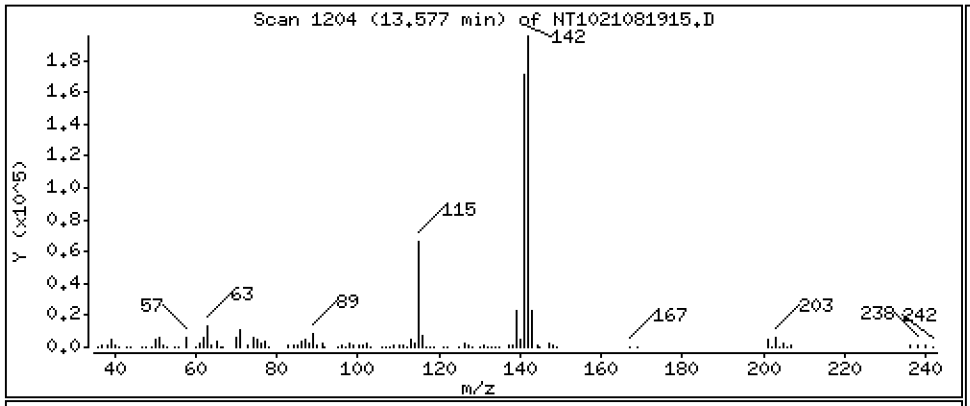
Operator: VTS

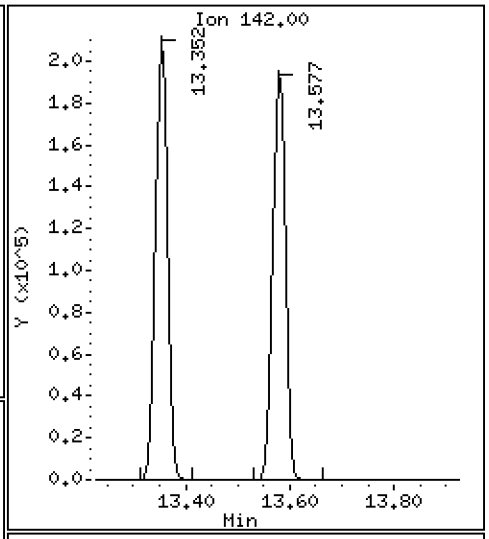
Column phase: ZB-5msi

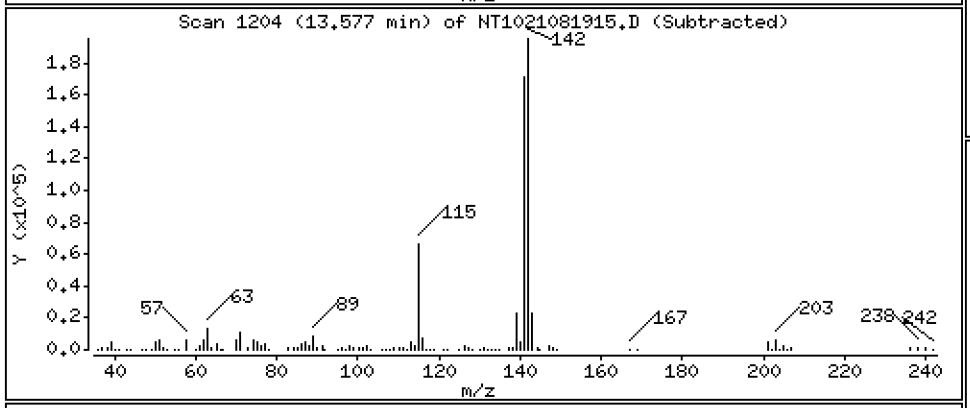
Column diameter: 0.25

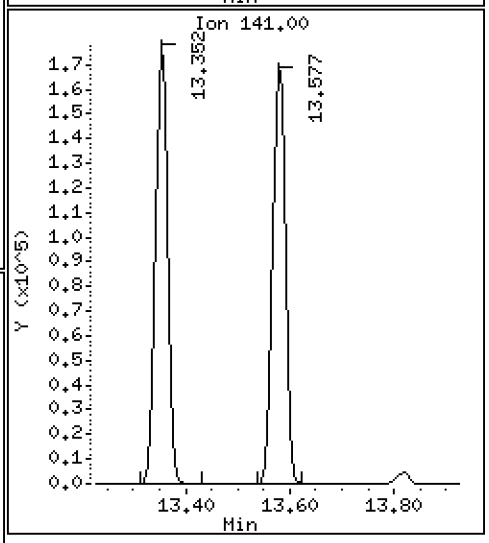
105 1-methylnaphthalene

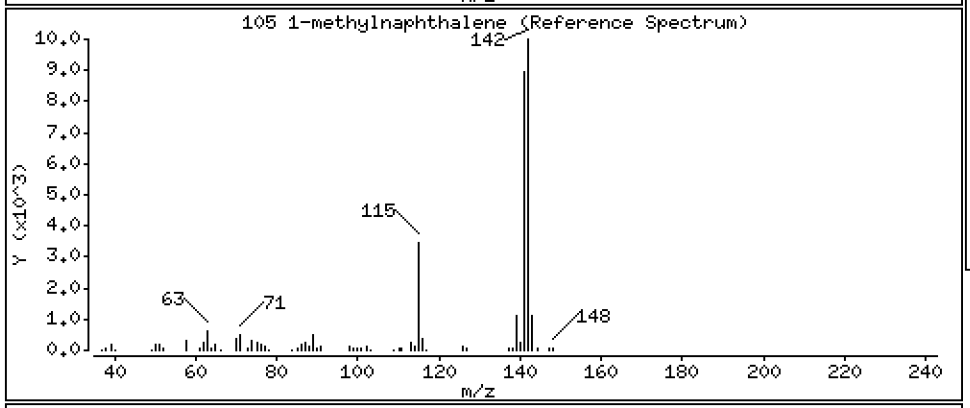
Concentration: 4.815 ug/mL

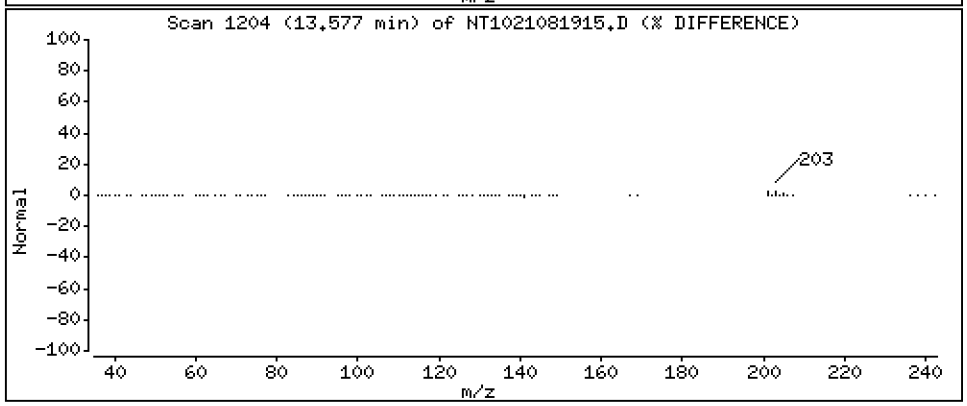












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

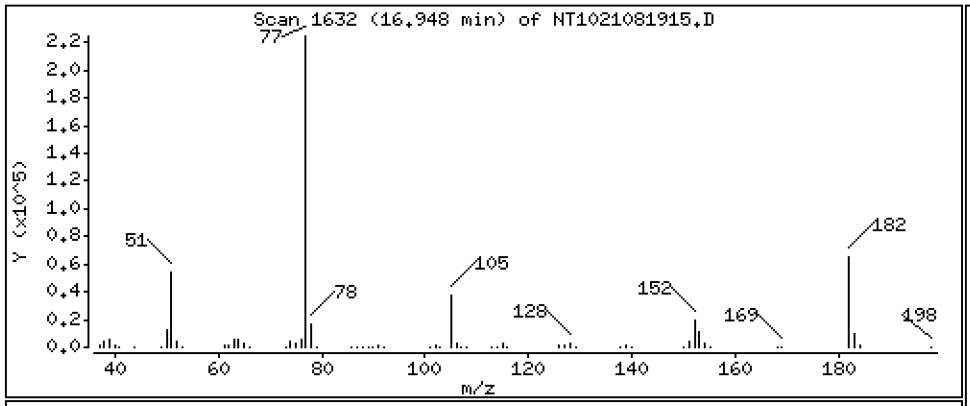
Operator: VTS

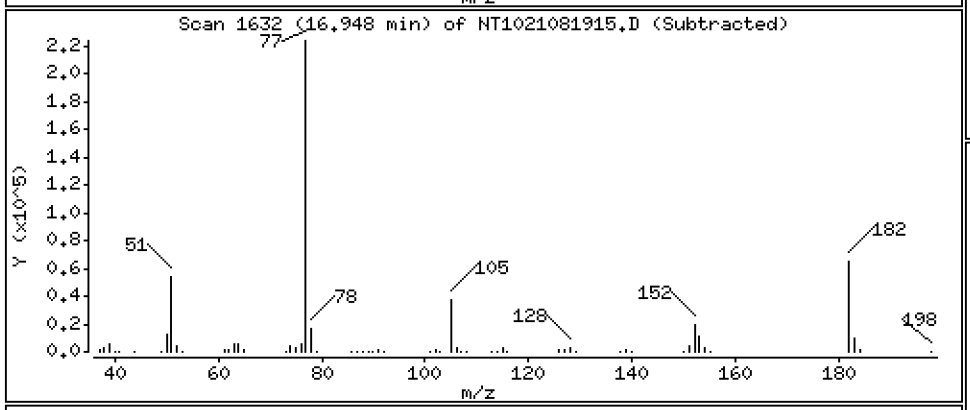
Column phase: ZB-5msi

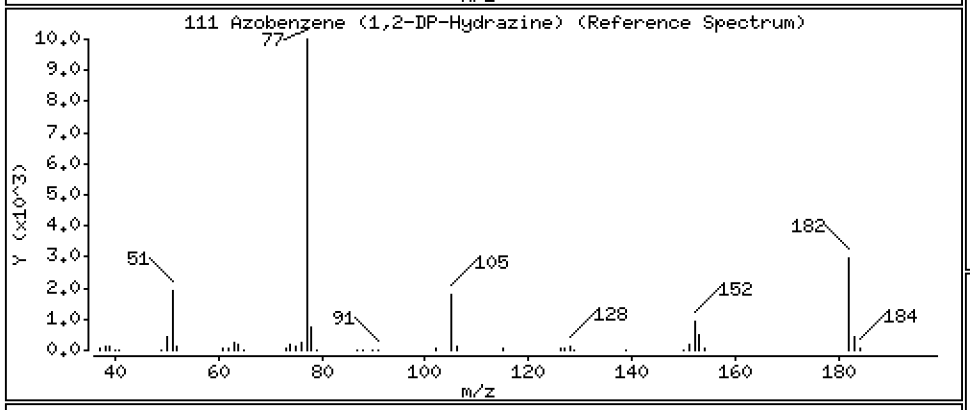
Column diameter: 0.25

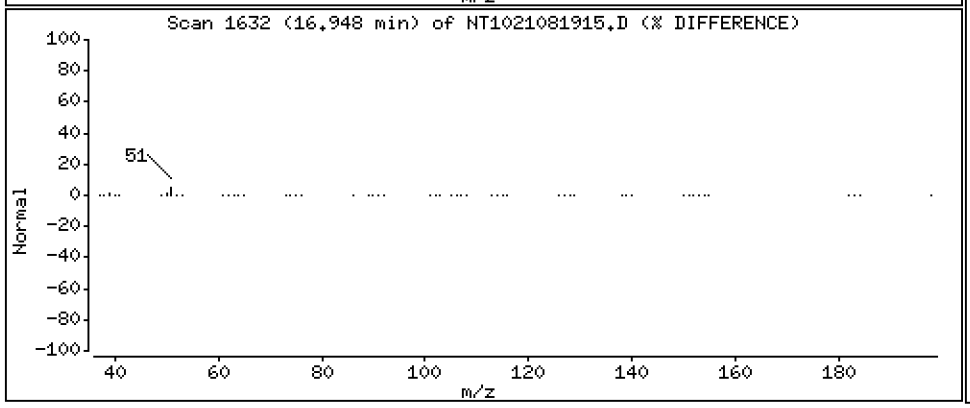
111 Azobenzene (1,2-DP-Hydrazine)

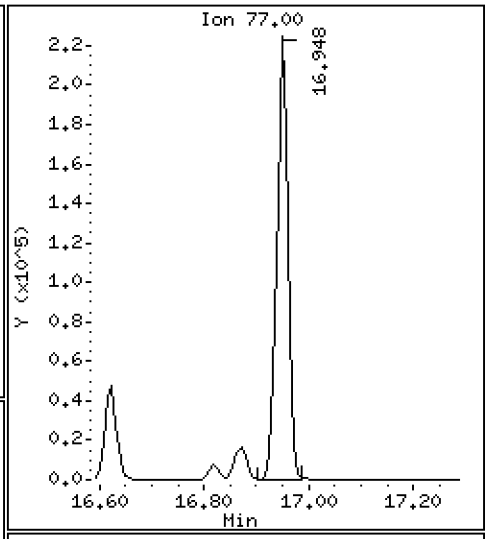
Concentration: 5.417 ug/mL

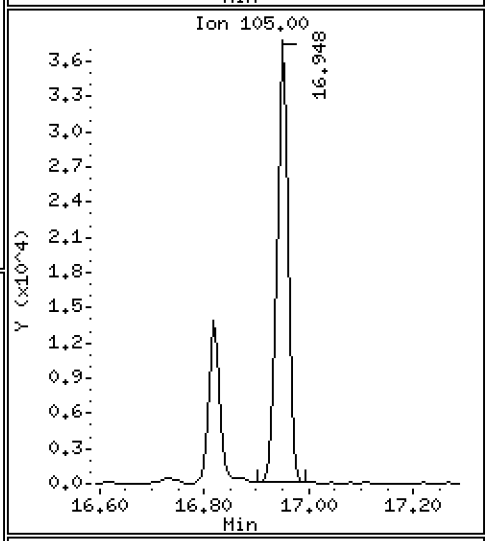


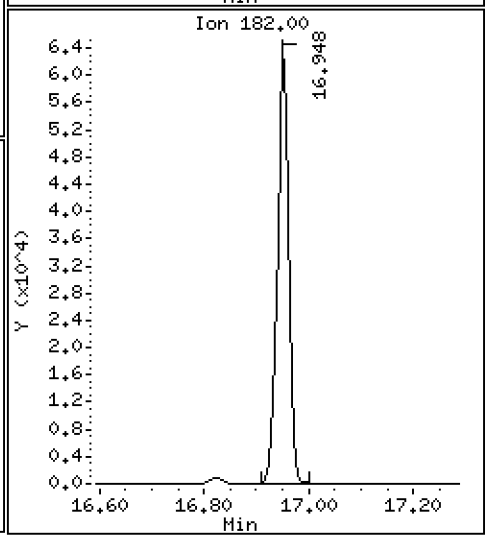












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

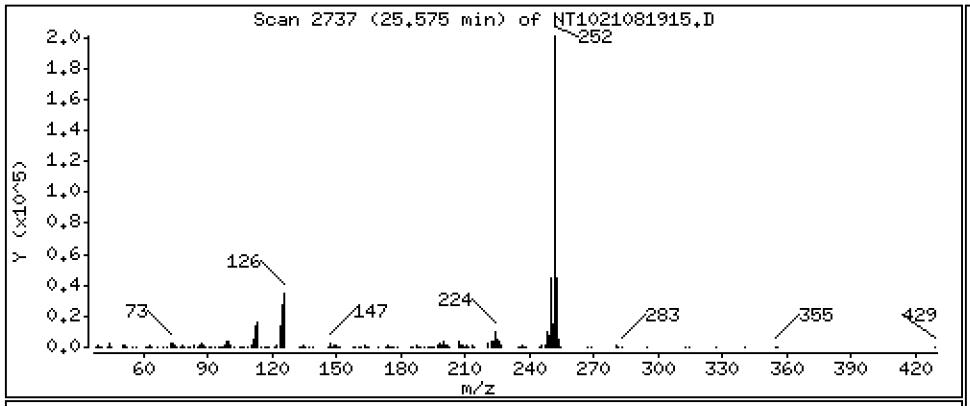
Operator: VTS

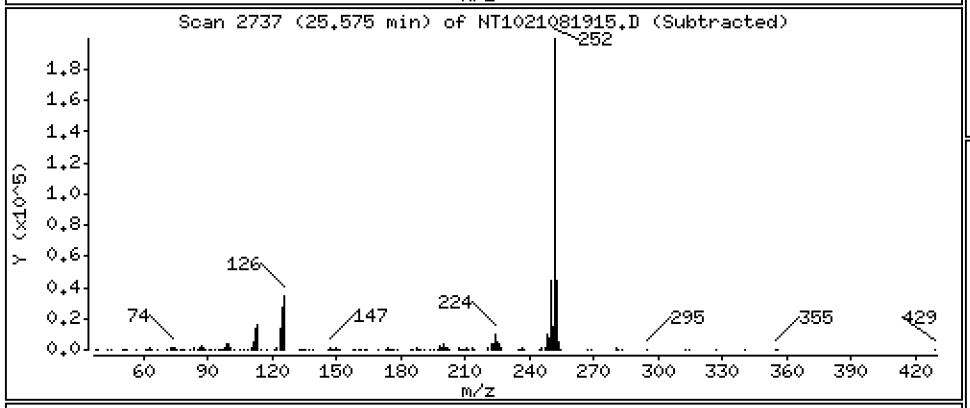
Column phase: ZB-5msi

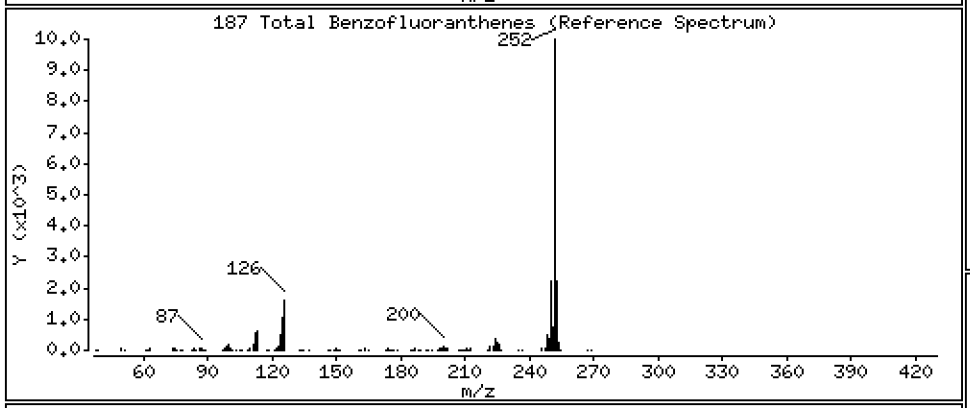
Column diameter: 0.25

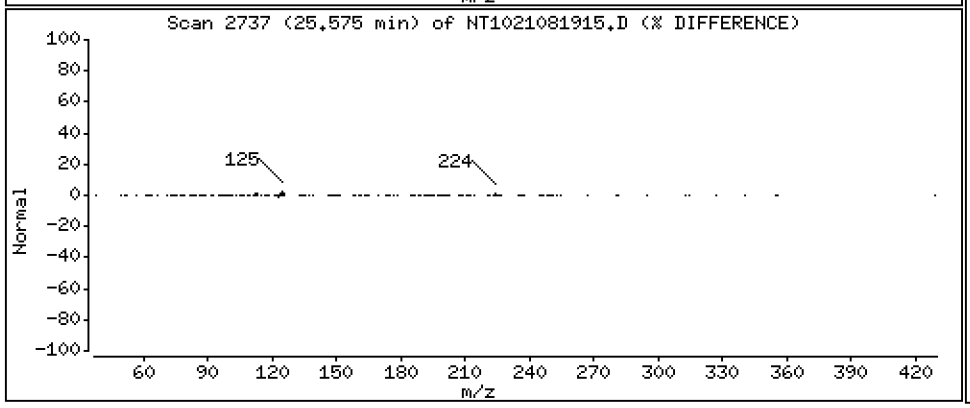
187 Total Benzofluoranthenes

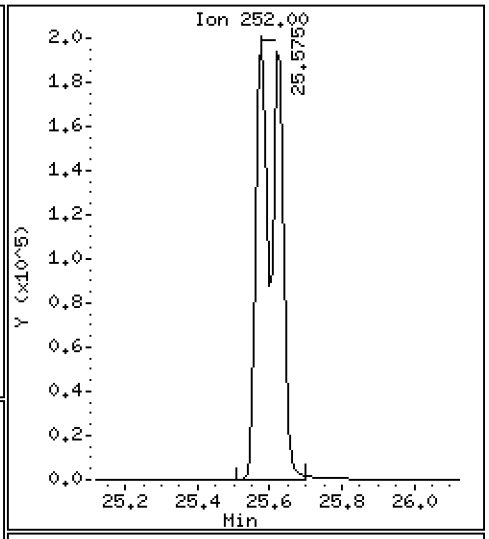
Concentration: 9.959 ug/mL

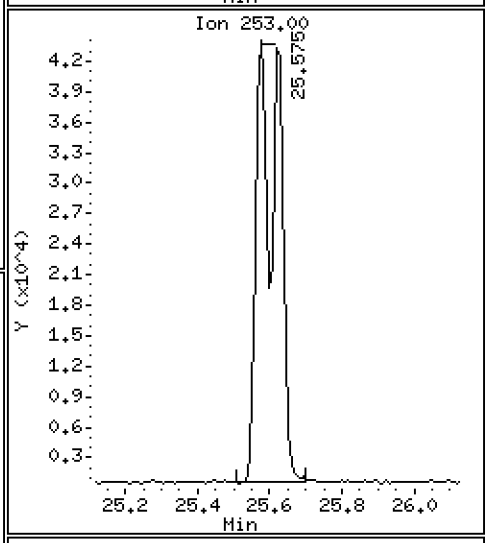


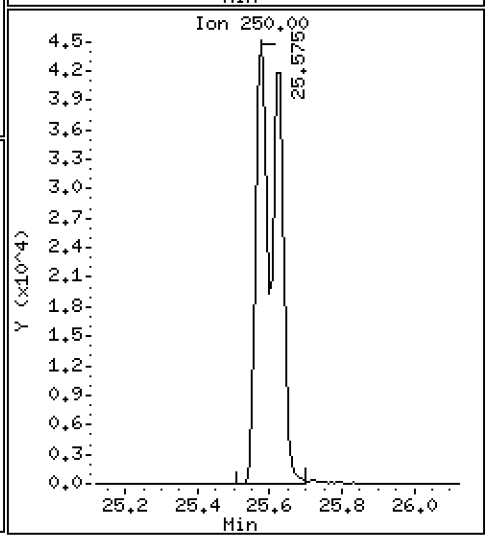












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

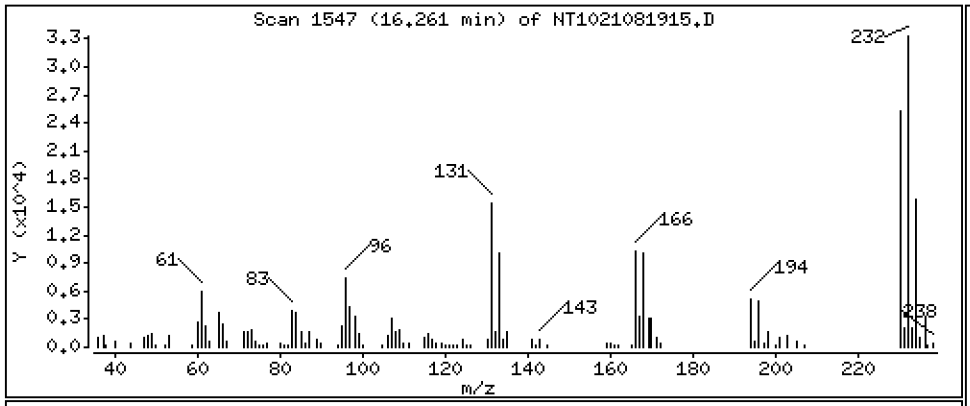
Operator: VTS

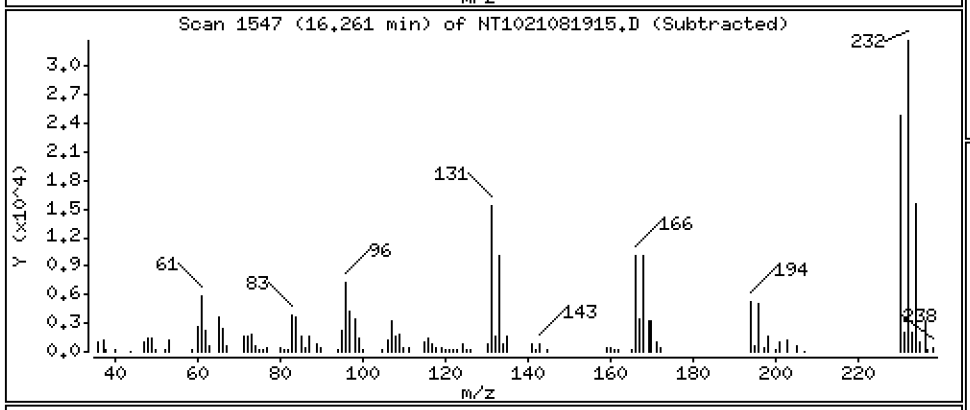
Column phase: ZB-5msi

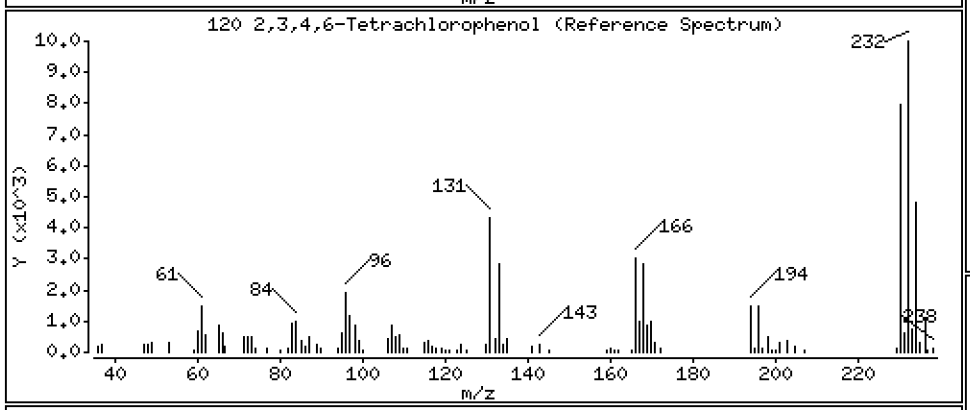
Column diameter: 0.25

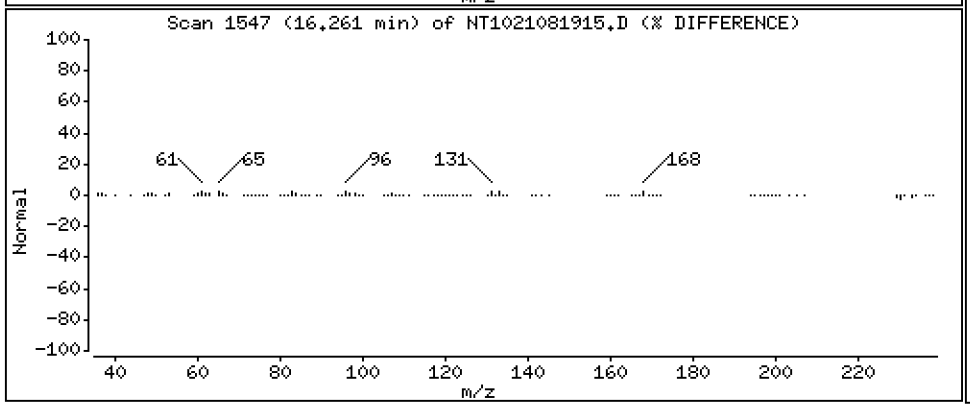
120 2,3,4,6-Tetrachlorophenol

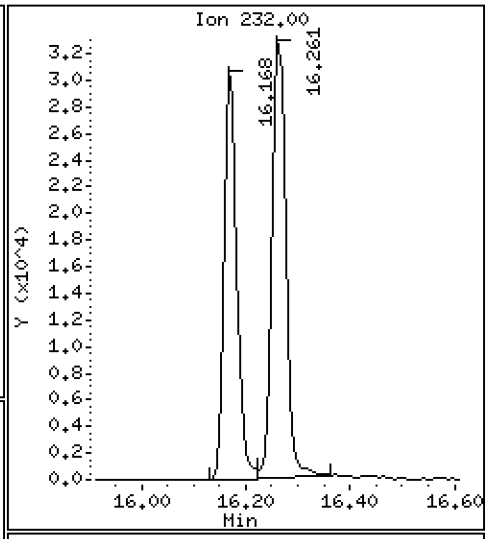
Concentration: 4.467 ug/mL

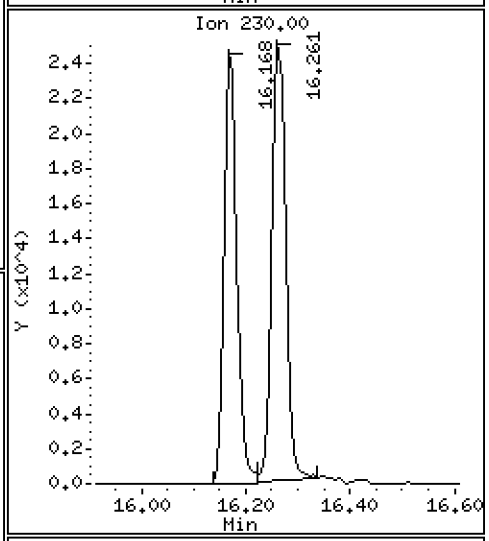


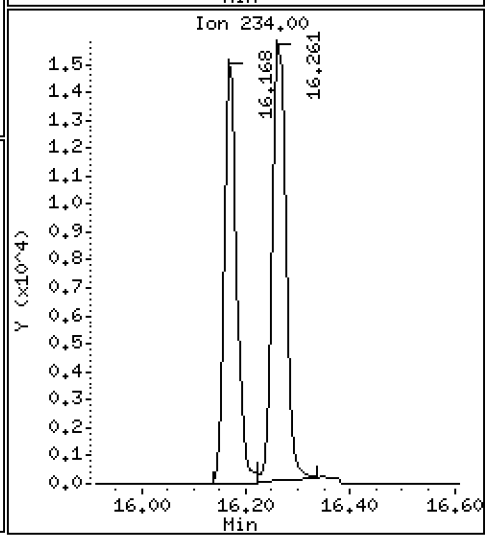












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Inj Date : 19-AUG-2021 20:42
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.784	8.784	(0.931)	199380	5.25899	5.259
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	160344	5.78066	5.781
6	2-Chlorophenol	128	9.093	9.093	(0.964)	158353	5.03366	5.034
7	1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	169628	5.18579	5.186
* 8	1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	86567	4.00000	
9	1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	145074	5.85827	5.858
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	146550	5.20005	5.200
11	Benzyl alcohol	108	9.689	9.689	(1.027)	86052	4.93439	4.934
14	2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	47815	5.72048	5.720
13	2-Methylphenol	108	9.907	9.907	(1.050)	111834	4.65720	4.657
17	Hexachloroethane	117	10.411	10.411	(1.104)	60775	5.67447	5.674
16	N-Nitroso-di-n-propylamine	70	10.248	10.241	(1.086)	89139	5.29189	5.292
15	4-Methylphenol	108	10.178	10.171	(1.079)	120235	4.68765	4.688
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					
19	Nitrobenzene	77	10.559	10.559	(0.886)	149166	5.40261	5.403
20	Isophorone	82	11.001	11.001	(0.923)	331869	7.77753	7.778
21	2-Nitrophenol	139	11.186	11.186	(0.938)	81411	5.17753	5.178
22	2,4-Dimethylphenol	107	11.220	11.220	(0.941)	119391	4.92042	4.920
23	Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	149566	5.93771	5.938
24	Benzoic acid	105	11.381	11.339	(0.955)	66350	5.37792	5.378
25	2,4-Dichlorophenol	162	11.644	11.636	(0.977)	127985	5.14677	5.147
26	1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	120347	5.00026	5.000
* 27	Naphthalene-d8	136	11.921	11.913	(1.000)	286011	4.00000	
28	Naphthalene	128	11.959	11.959	(1.003)	361857	5.09980	5.100
29	4-Chloroaniline	127	12.083	12.075	(1.014)	157895	4.59294	4.593
30	Hexachlorobutadiene	225	12.315	12.307	(1.033)	67621	5.10670	5.107
31	4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	123056	4.92458	4.925
32	2-Methylnaphthalene	142	13.352	13.352	(1.120)	319793	4.72280	4.723
33	Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	54933	4.31449	4.314

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	84924	4.77039	4.770
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	91907	4.91422	4.914
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	14.350	14.350	(0.923)	311867	5.58535	5.585
	38 2-Nitroaniline	65	14.605	14.598	(0.940)	82438	4.97238	4.972
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	286677	4.97899	4.979
	40 Acenaphthylene	152	15.225	15.225	(0.980)	417239	4.79575	4.796
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.976)	68264	5.36851	5.369
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	175555	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	78104	4.56188	4.562
	44 Acenaphthene	153	15.604	15.596	(1.004)	228953	4.97526	4.975
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.008)	11153	1.66462	1.665
	46 Dibenzofuran	168	15.928	15.928	(1.025)	383631	4.69138	4.691
	47 4-Nitrophenol	109	15.774	15.782	(1.015)	24955	4.01803	4.018
	48 2,4-Dinitrotoluene	165	15.982	15.975	(1.028)	90638	5.10639	5.106
	50 Diethylphthalate	149	16.477	16.470	(1.060)	264476	5.09602	5.096
	49 Fluorene	166	16.647	16.640	(1.071)	342768	4.72294	4.723
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	168489	5.18664	5.187
	52 4-Nitroaniline	138	16.732	16.724	(1.077)	85236	4.78806	4.788
	53 4,6-Dinitro-2-methylphenol	198	16.817	16.817	(0.905)	50611	3.88483	3.885
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	227997	4.83479	4.835
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.948)	102044	5.39862	5.399
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	90728	5.06340	5.063
	58 Pentachlorophenol	266	18.315	18.315	(0.985)	20638	3.12000	3.120
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	315282	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.002)	373708	4.85494	4.855
	61 Anthracene	178	18.725	18.717	(1.007)	398068	4.81320	4.813
	62 Carbazole	167	19.050	19.042	(1.025)	423459	4.97150	4.972
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	566417	5.37515	5.375
	64 Fluoranthene	202	21.000	20.992	(0.889)	552591	4.85305	4.853
	65 Pyrene	202	21.425	21.417	(0.908)	568141	4.86161	4.862
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	224852	4.88885	4.889
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	436185	4.79967	4.800
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	260128	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	319253	8.82970	8.830
	71 Chrysene	228	23.647	23.647	(1.002)	337651	4.68662	4.687
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	258287	5.36165	5.362
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	500551	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	576721	5.22766	5.228
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	423157	4.87661	4.877
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	441864	5.19450	5.195
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	381697	4.97952	4.980
*	77 Perylene-d12	264	26.427	26.419	(1.000)	235857	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	384449	4.85499	4.855
	79 Dibenzo(a,h)anthracene	278	29.394	29.386	(1.112)	293070	4.83753	4.838
	80 Benzo(g,h,i)perylene	276	30.264	30.256	(1.145)	340450	4.92315	4.923
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.532)	112508	6.03654	6.037
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	21.224	21.216	(0.899)	417920	8.48003	8.480
	103 Pyridine	79	5.052	5.052	(0.536)	168778	2.86646	2.866
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	314464	4.81470	4.815
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.090)	324373	5.41670	5.417

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.575	25.621	(0.968)	824481	9.95946	9.959
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.046)	57716	4.46735	4.467

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	86567	-11.23
27 Naphthalene-d8	336155	168078	672310	286011	-14.92
42 Acenaphthene-d10	204971	102486	409942	175555	-14.35
59 Phenanthrene-d10	357720	178860	715440	315282	-11.86
69 Chrysene-d12	291052	145526	582104	260128	-10.62
134 Di-n-octylphthala	588887	294444	1177774	500551	-15.00
77 Perylene-d12	273109	136555	546218	235857	-13.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.59	18.09	19.09	18.59	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081915.D

Lab ID: SJH0235-SCV1
nt10.i, ABN.m, 19-AUG-2021 20:42

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1021081912.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00053
Laboratory ID: SJH0235-SCV1
Sequence: SJH0235
Standard ID: J008837

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	5.0000	5.3	5.2	20.00
bis(2-chloroethyl) ether	5.0000	5.8	15.6	20.00
2-Chlorophenol	5.0000	5.0	0.7	20.00
1,3-Dichlorobenzene	5.0000	5.2	3.7	20.00
1,4-Dichlorobenzene	5.0000	5.9	17.2	20.00
1,2-Dichlorobenzene	5.0000	5.2	4.0	20.00
Benzyl Alcohol	5.0000	4.9	-1.3	20.00
2,2'-Oxybis(1-chloropropane)	5.0000	5.7	14.4	20.00
2-Methylphenol	5.0000	4.7	-6.9	20.00
Hexachloroethane	5.0000	5.7	13.5	20.00
N-Nitroso-di-n-Propylamine	5.0000	5.3	5.8	20.00
4-Methylphenol	5.0000	4.7	-6.2	20.00
Nitrobenzene	5.0000	5.4	8.1	20.00
Isophorone	5.0000	7.8	55.6 *	20.00
2-Nitrophenol	5.0000	5.2	3.6	20.00
2,4-Dimethylphenol	5.0000	4.9	-1.6	20.00
Bis(2-Chloroethoxy)methane	5.0000	5.9	18.8	20.00
2,4-Dichlorophenol	5.0000	5.1	2.9	20.00
1,2,4-Trichlorobenzene	5.0000	5.0	0.005	20.00
Naphthalene	5.0000	5.1	2.0	20.00
Benzoic acid	10.000	5.4	-46.2 *	20.00
4-Chloroaniline	5.0000	4.6	-8.1	20.00
Hexachlorobutadiene	5.0000	5.1	2.1	20.00
4-Chloro-3-Methylphenol	5.0000	4.9	-1.5	20.00
2-Methylnaphthalene	5.0000	4.7	-5.5	20.00
Hexachlorocyclopentadiene	5.0000	4.3	-13.7	20.00
2,4,6-Trichlorophenol	5.0000	4.8	-4.6	20.00
2,4,5-Trichlorophenol	5.0000	4.9	-1.7	20.00
2-Chloronaphthalene	5.0000	5.6	11.7	20.00
2-Nitroaniline	5.0000	5.0	-0.6	20.00
Acenaphthylene	5.0000	4.8	-4.1	20.00
Dimethylphthalate	5.0000	5.0	-0.4	20.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00053
Laboratory ID: SJH0235-SCV1
Sequence: SJH0235
Standard ID: J008837

2,6-Dinitrotoluene	5.0000	5.4	7.4		20.00
Acenaphthene	5.0000	5.0	-0.5		20.00
3-Nitroaniline	5.0000	4.6	-8.8		20.00
2,4-Dinitrophenol	5.0000	1.7	-66.7	*	20.00
Dibenzofuran	5.0000	4.7	-6.2		20.00
4-Nitrophenol	5.0000	4.0	-19.6		20.00
2,4-Dinitrotoluene	5.0000	5.1	2.1		20.00
Fluorene	5.0000	4.7	-5.5		20.00
4-Chlorophenylphenyl ether	5.0000	5.2	3.7		20.00
Diethyl phthalate	5.0000	5.1	1.9		20.00
4-Nitroaniline	5.0000	4.8	-4.2		20.00
4,6-Dinitro-2-methylphenol	5.0000	3.9	-22.3	*	20.00
N-Nitrosodiphenylamine	5.0000	4.8	-3.3		20.00
4-Bromophenyl phenyl ether	5.0000	5.4	8.0		20.00
Hexachlorobenzene	5.0000	5.1	1.3		20.00
Pentachlorophenol	5.0000	3.1	-37.6	*	20.00
Phenanthrene	5.0000	4.9	-2.9		20.00
Anthracene	5.0000	4.8	-3.7		20.00
Carbazole	5.0000	5.0	-0.6		20.00
Di-n-Butylphthalate	5.0000	5.4	7.5		20.00
Fluoranthene	5.0000	4.9	-2.9		20.00
Pyrene	5.0000	4.9	-2.8		20.00
Butylbenzylphthalate	5.0000	4.9	-2.2		20.00
Benzo(a)anthracene	5.0000	4.8	-4.0		20.00
3,3'-Dichlorobenzidine	10.000	8.8	-11.7		20.00
Chrysene	5.0000	4.7	-6.3		20.00
bis(2-Ethylhexyl)phthalate	5.0000	5.4	7.2		20.00
Di-n-Octylphthalate	5.0000	5.2	4.6		20.00
Benzofluoranthenes, Total	10.000	10.0	-0.4		20.00
Benzo(a)pyrene	5.0000	5.0	-0.4		20.00
Indeno(1,2,3-cd)pyrene	5.0000	4.9	-2.9		20.00
Dibenzo(a,h)anthracene	5.0000	4.8	-3.2		20.00
Benzo(g,h,i)perylene	5.0000	4.9	-1.5		20.00
1-Methylnaphthalene	5.0000	4.8	-3.7		20.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Page 1

Date : 19-AUG-2021 20:42

Client ID:

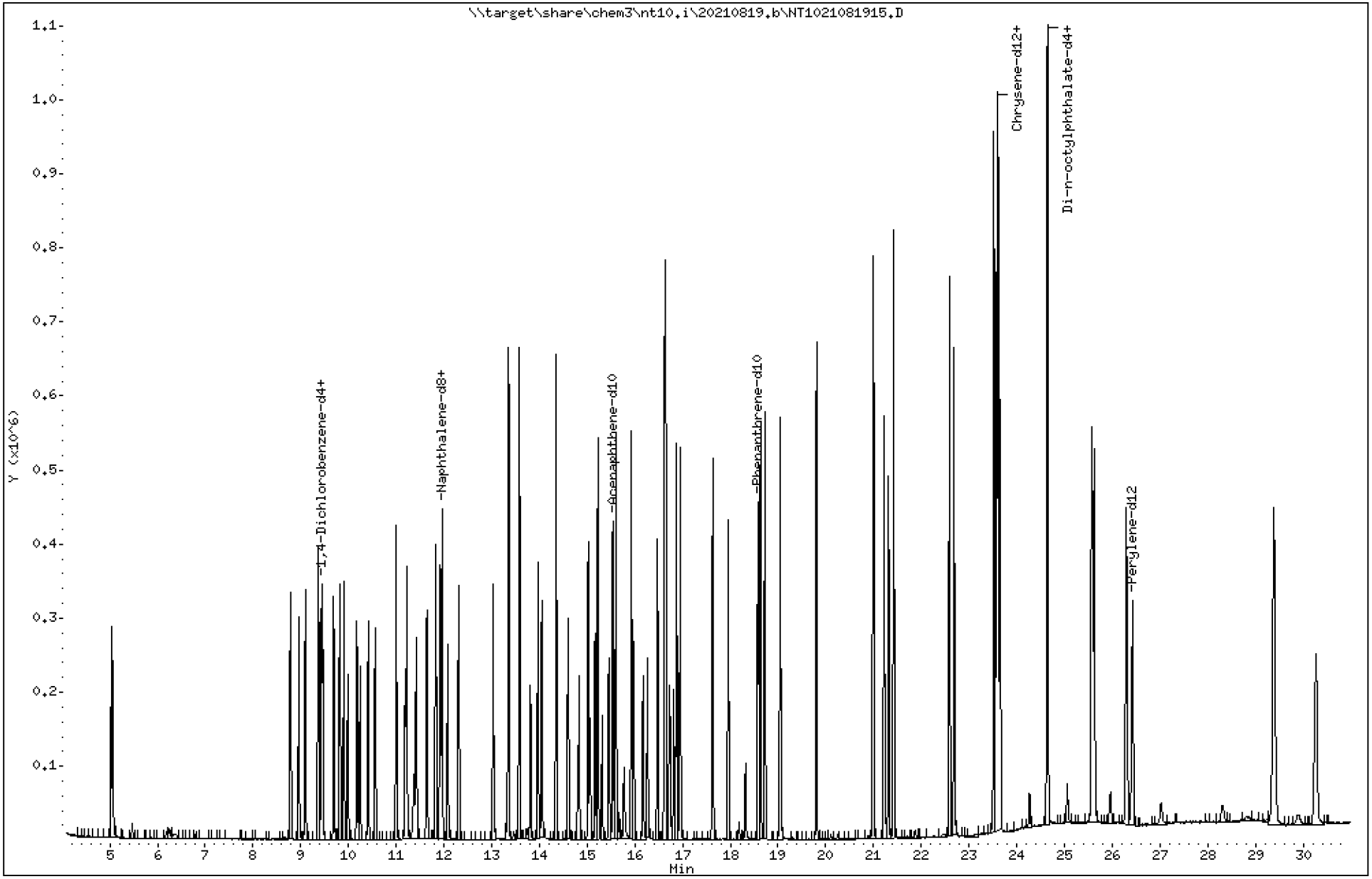
Instrument: nt10.i

Sample Info: SJH0235-SCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

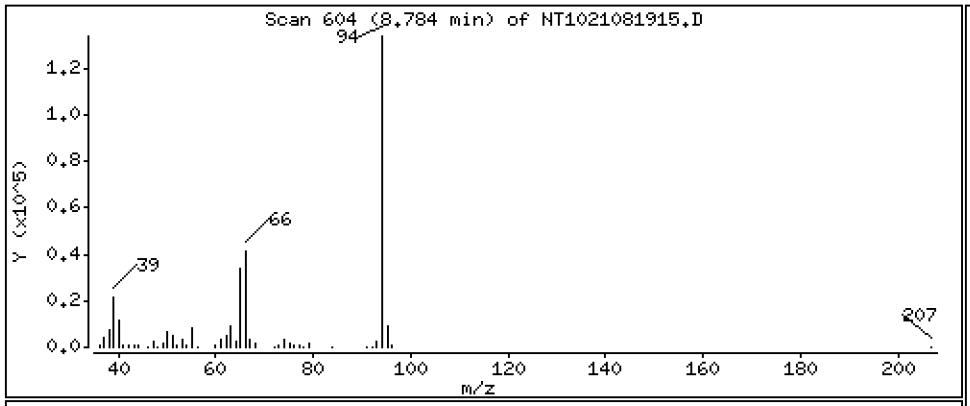
Operator: VTS

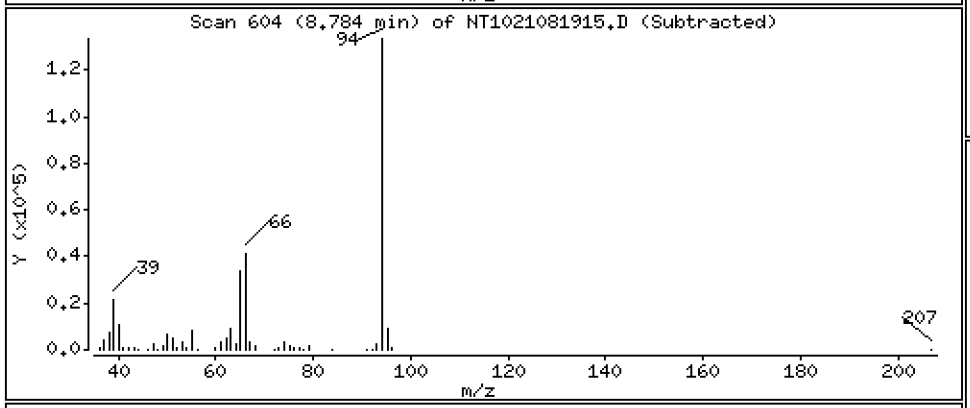
Column phase: ZB-5msi

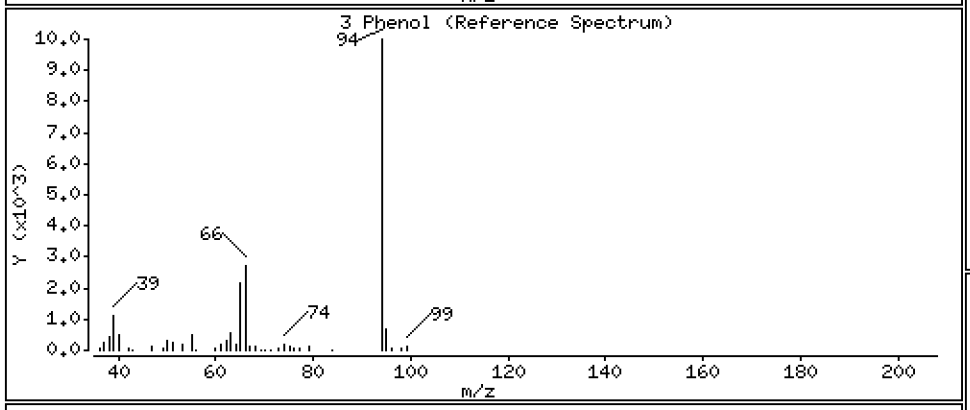
Column diameter: 0.25

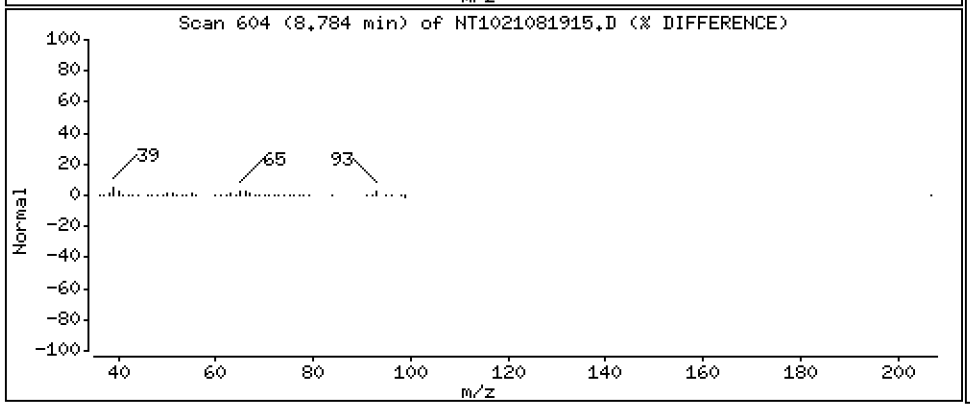
3 Phenol

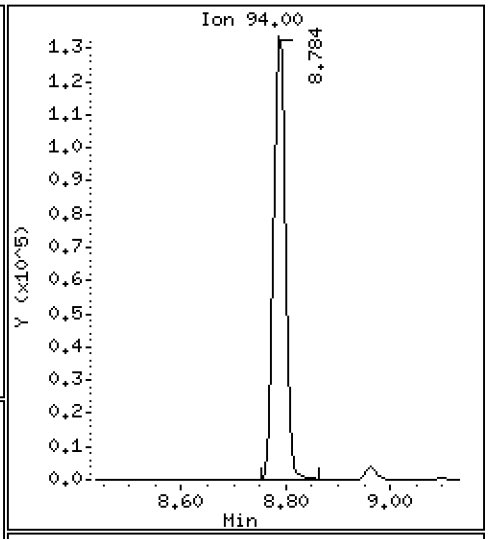
Concentration: 5.259 ug/mL

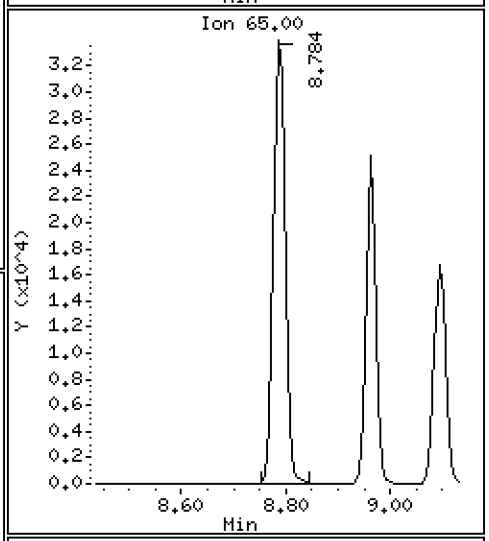


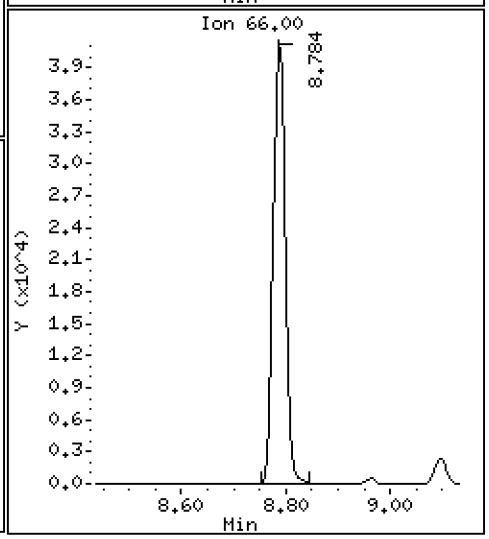












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

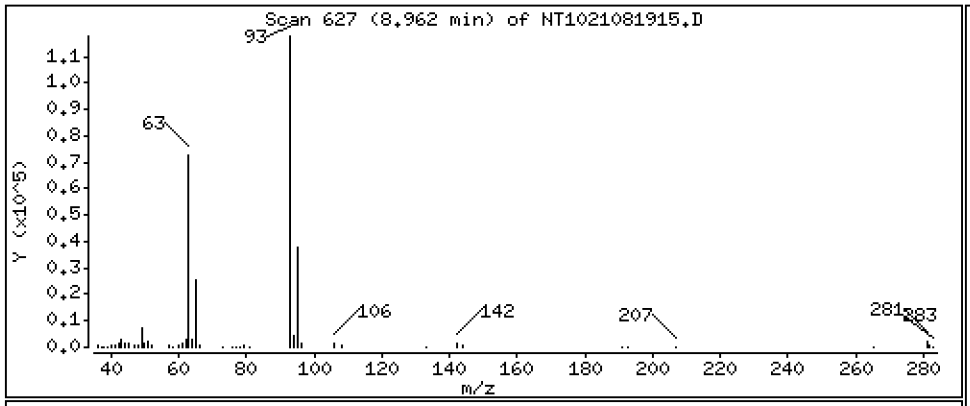
Operator: VTS

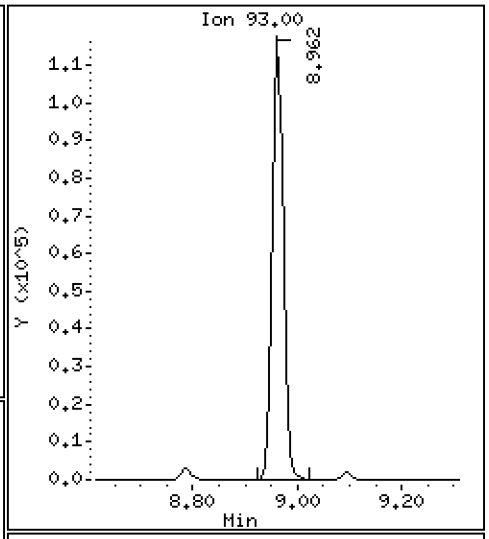
Column phase: ZB-5msi

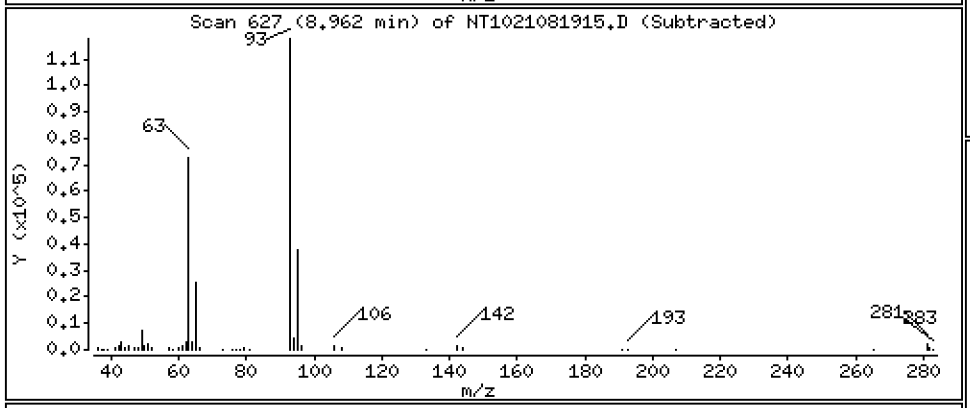
Column diameter: 0.25

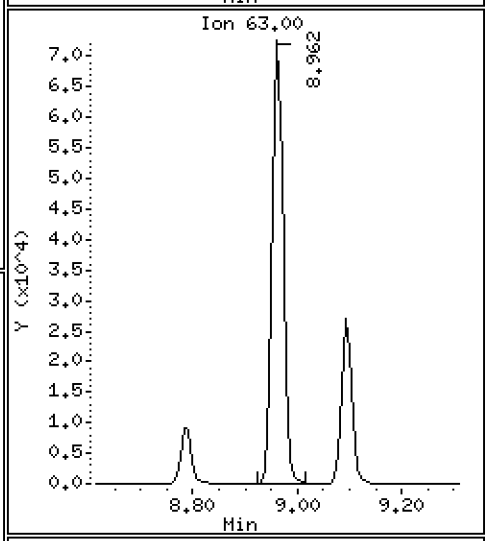
4 Bis(2-Chloroethyl)ether

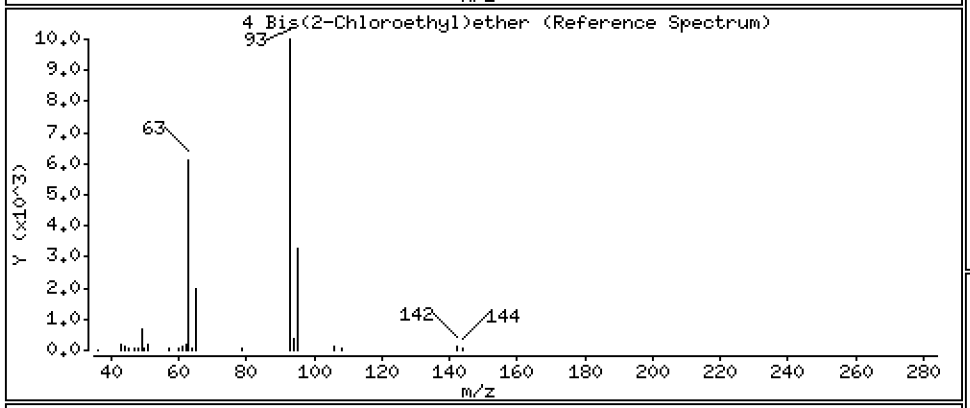
Concentration: 5.781 ug/mL

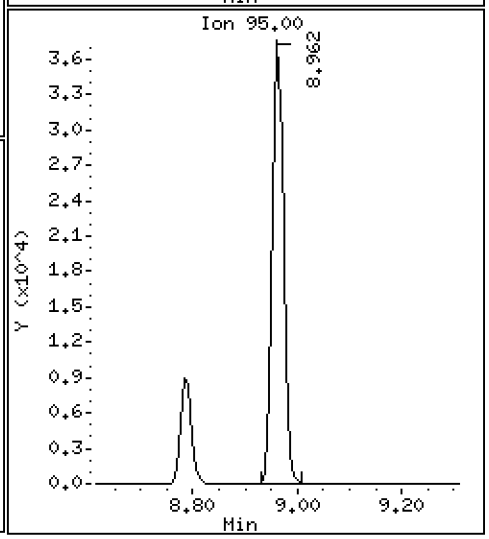


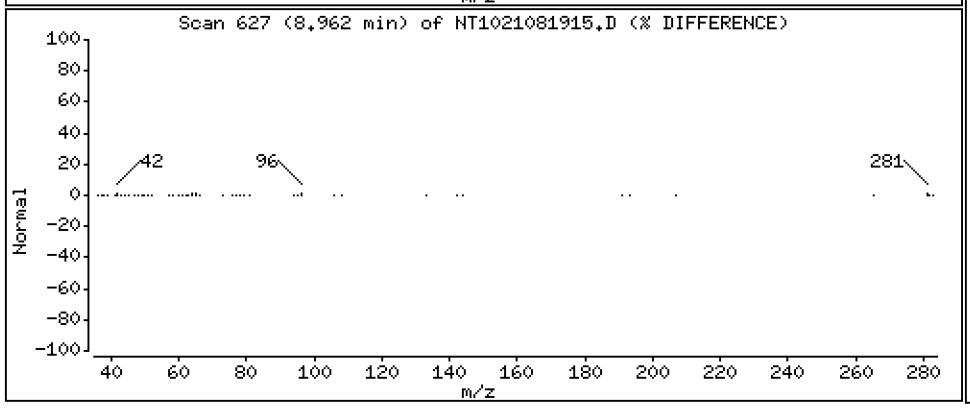












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

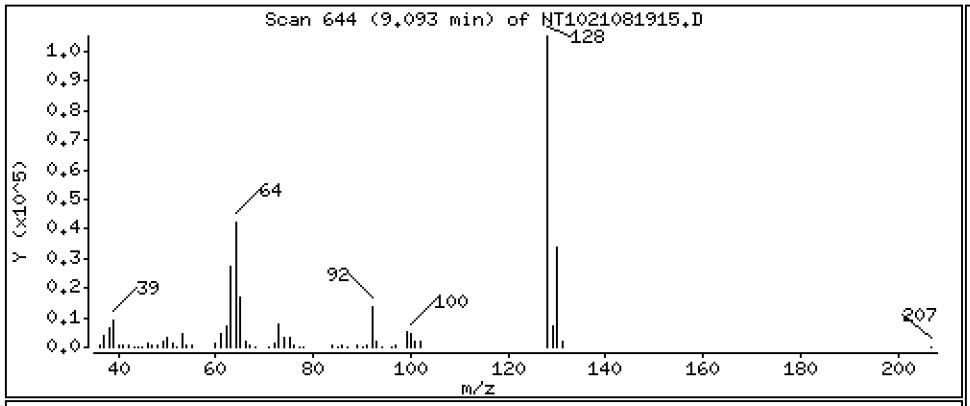
Operator: VTS

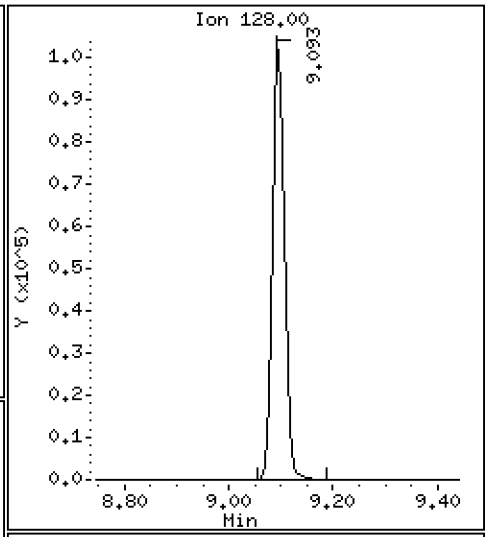
Column phase: ZB-5msi

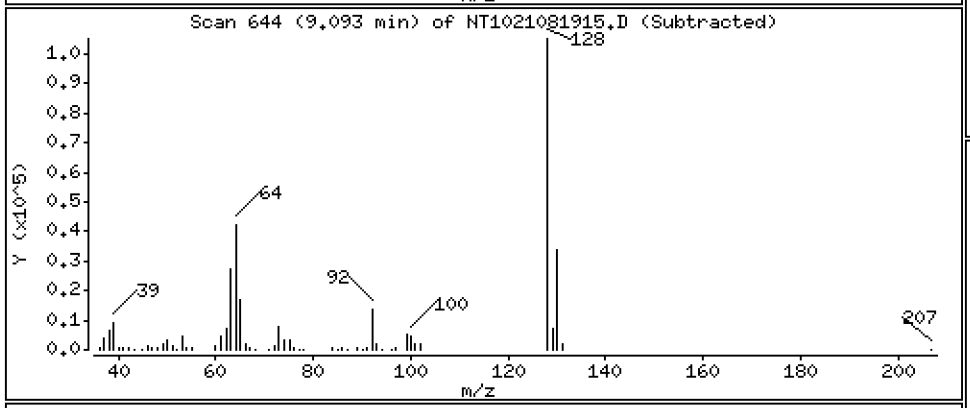
Column diameter: 0.25

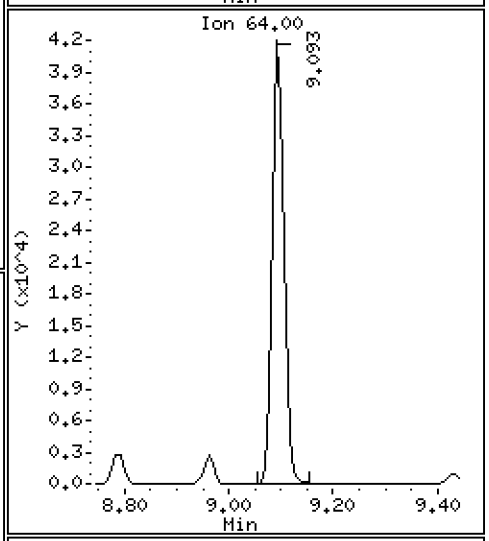
6 2-Chlorophenol

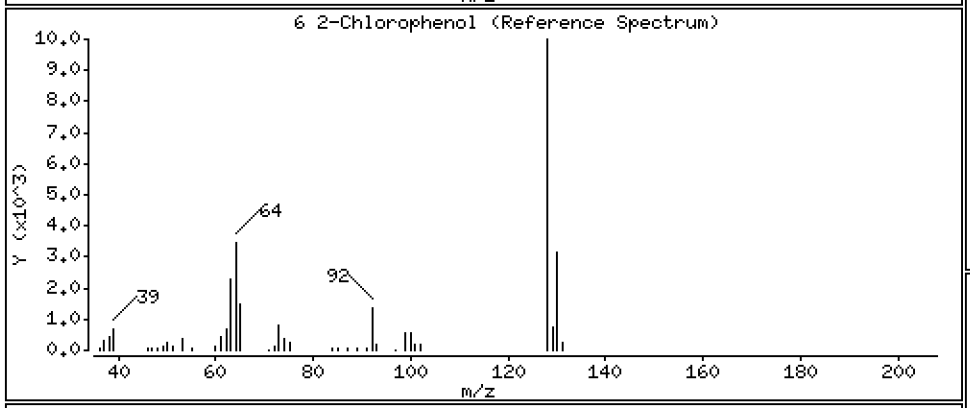
Concentration: 5.034 ug/mL

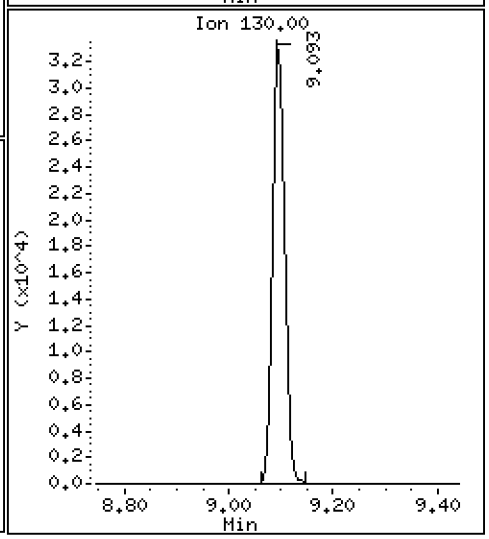


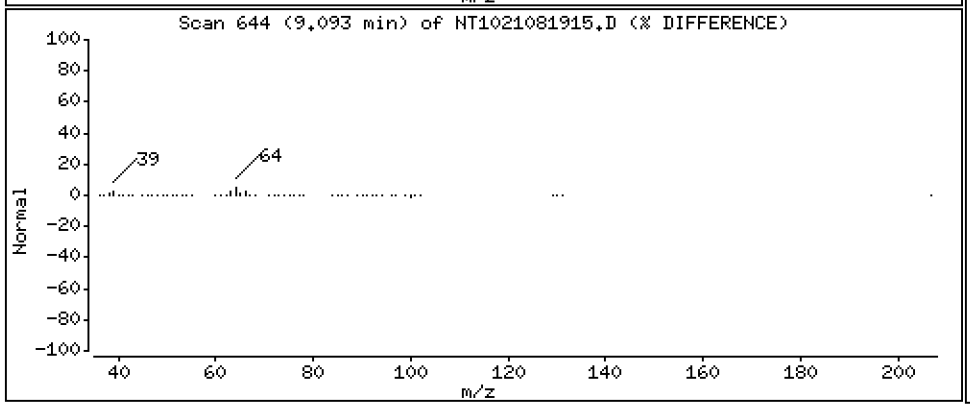












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

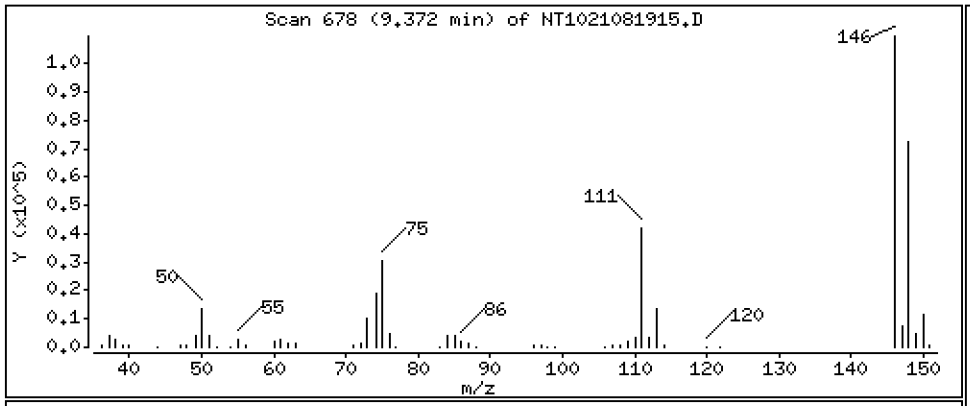
Operator: VTS

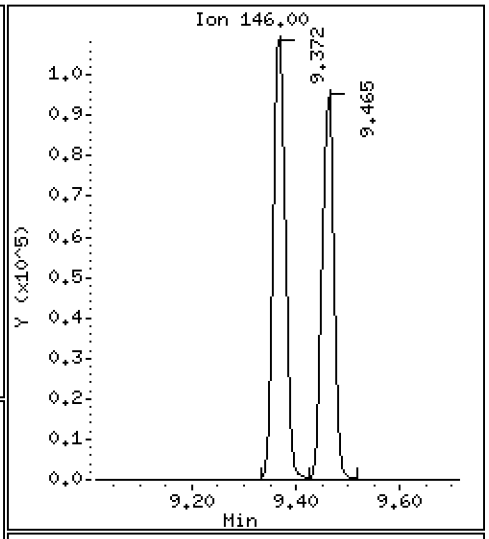
Column phase: ZB-5msi

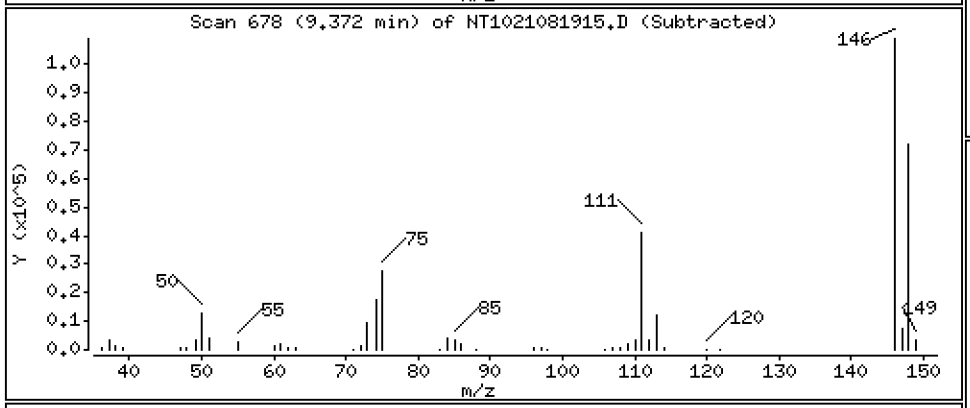
Column diameter: 0.25

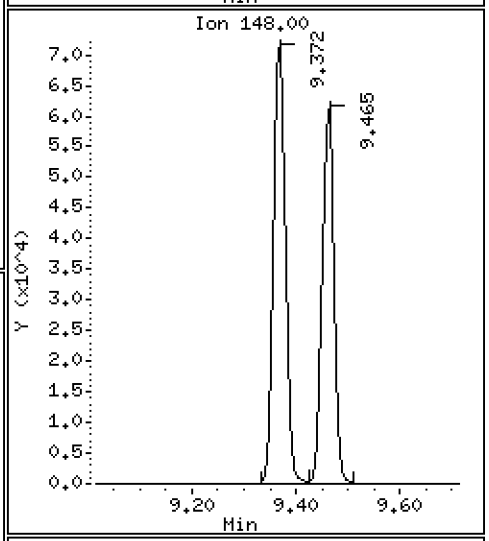
7 1,3-Dichlorobenzene

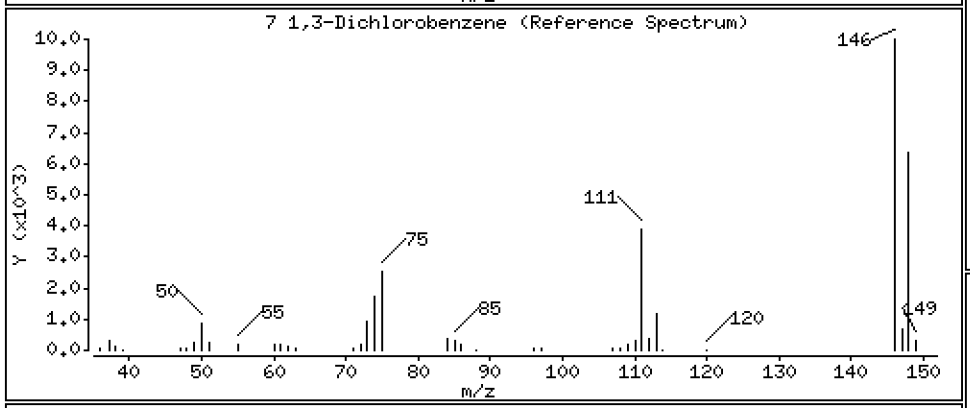
Concentration: 5.186 ug/mL

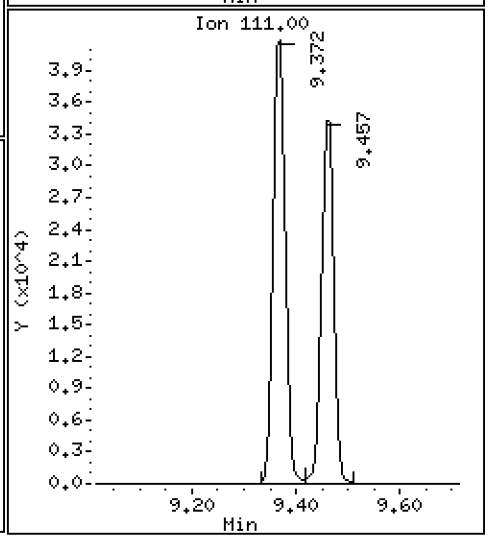


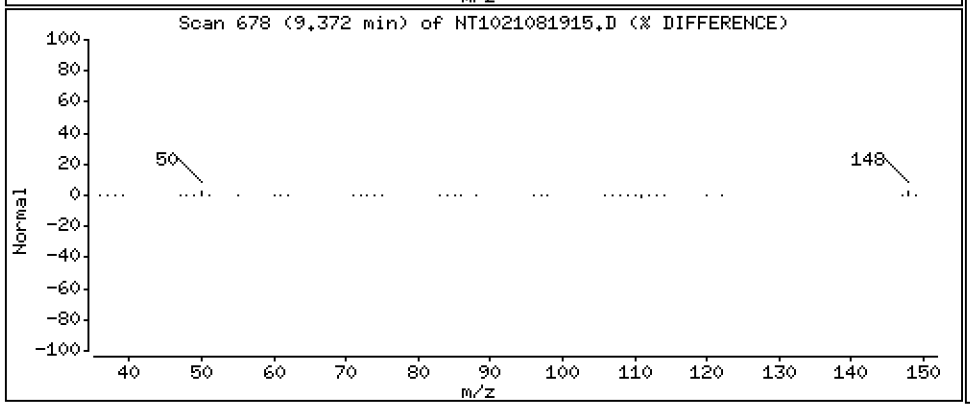












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

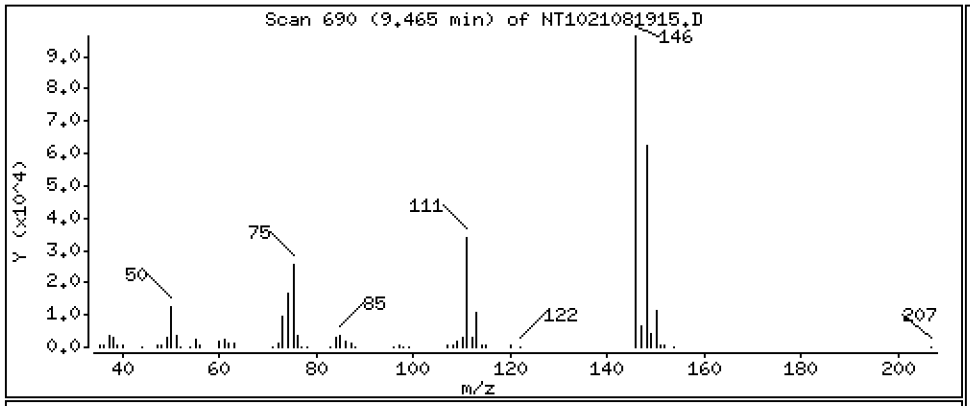
Operator: VTS

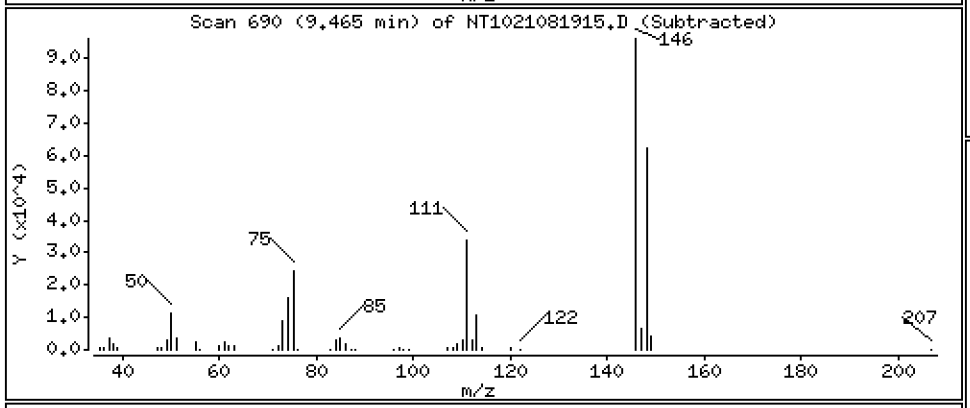
Column phase: ZB-5msi

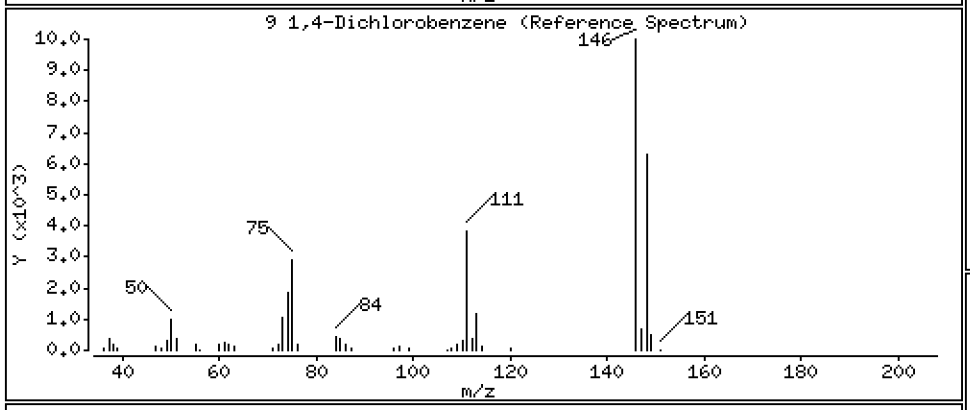
Column diameter: 0.25

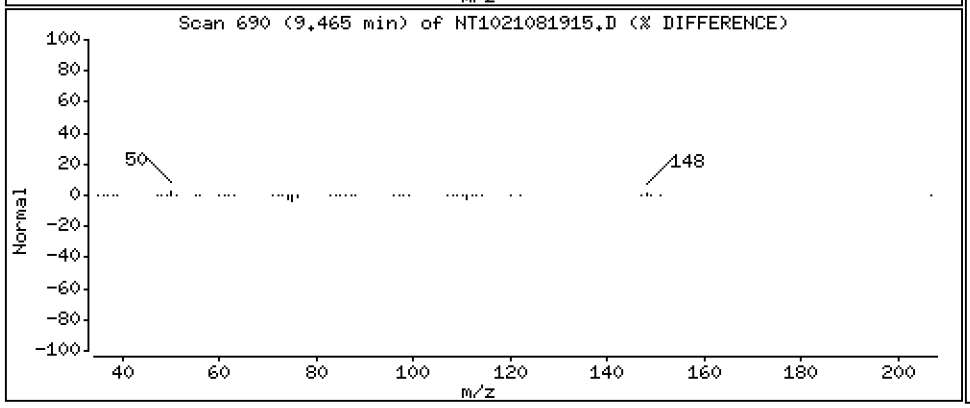
9 1,4-Dichlorobenzene

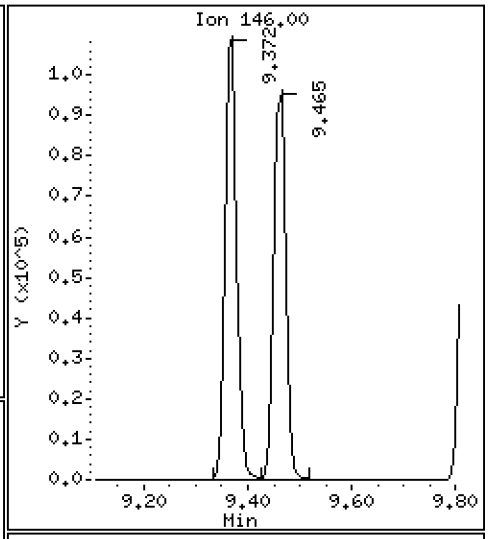
Concentration: 5.858 ug/mL

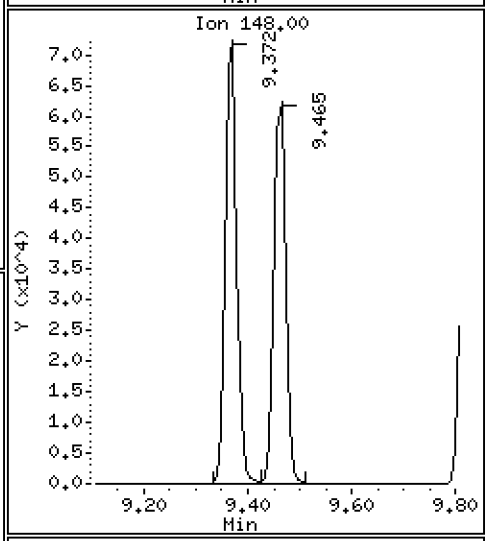


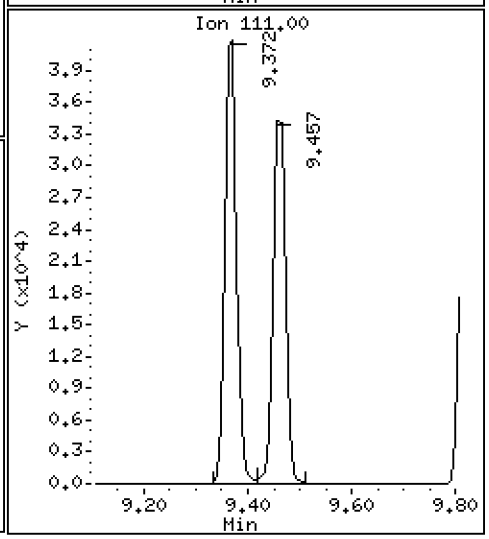












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

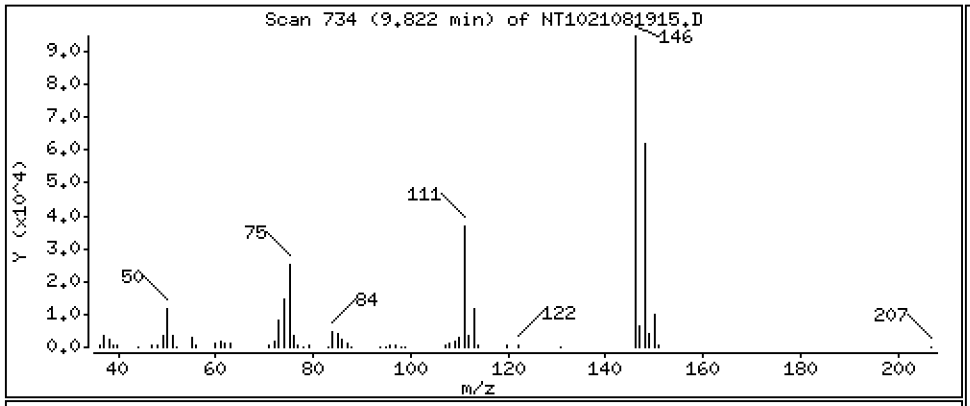
Operator: VTS

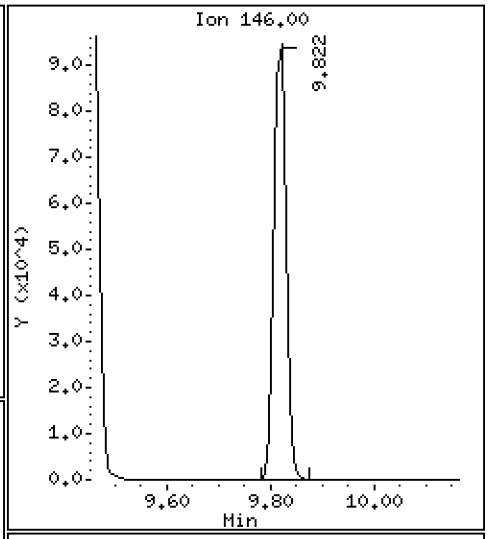
Column phase: ZB-5msi

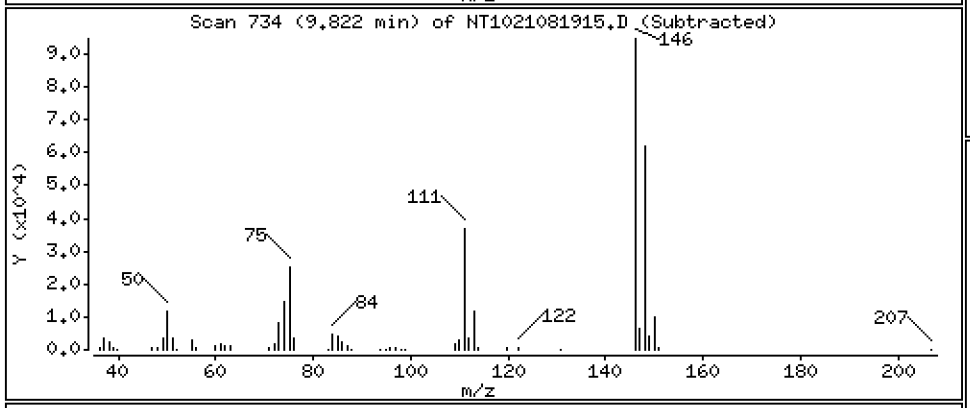
Column diameter: 0.25

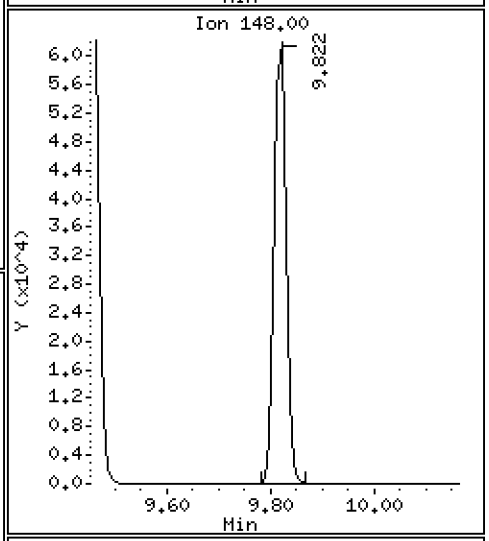
12 1,2-Dichlorobenzene

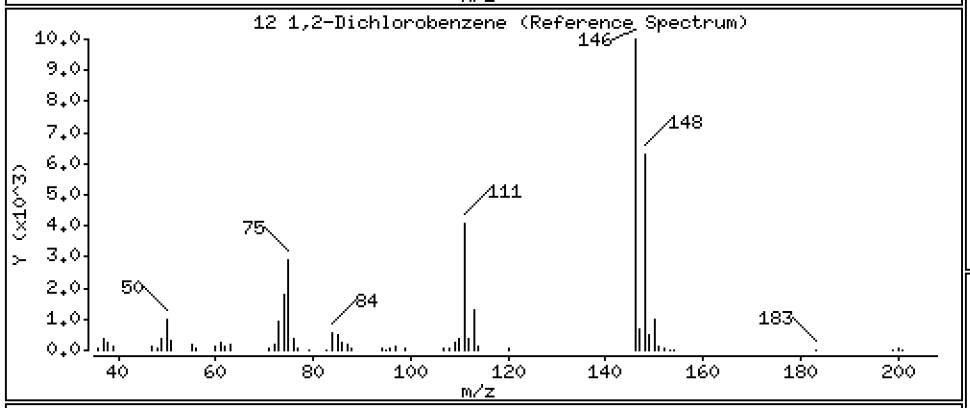
Concentration: 5.200 ug/mL

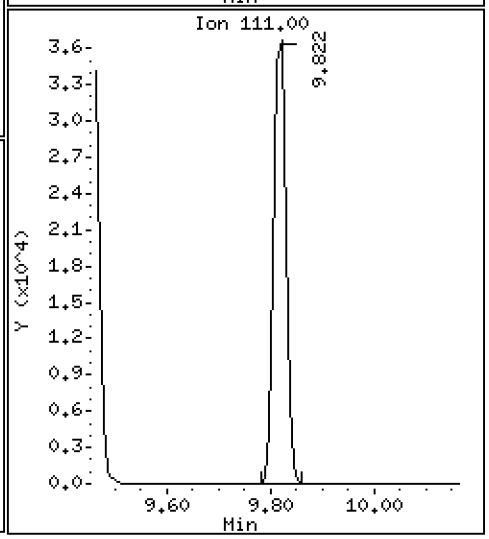


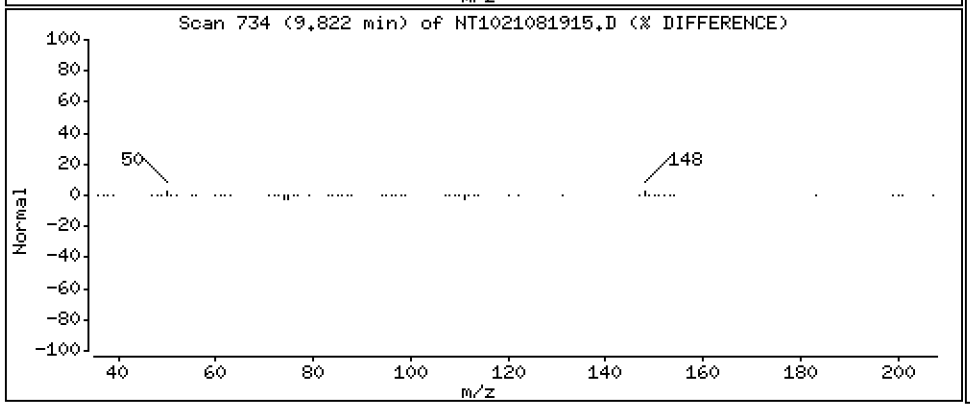












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

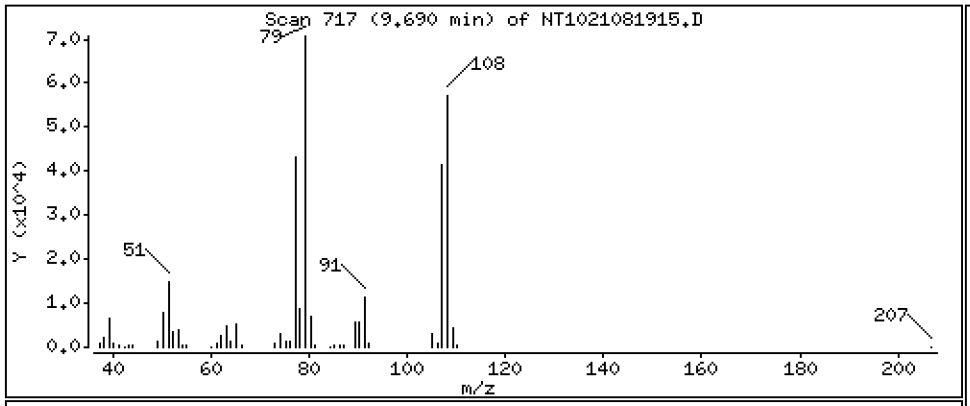
Operator: VTS

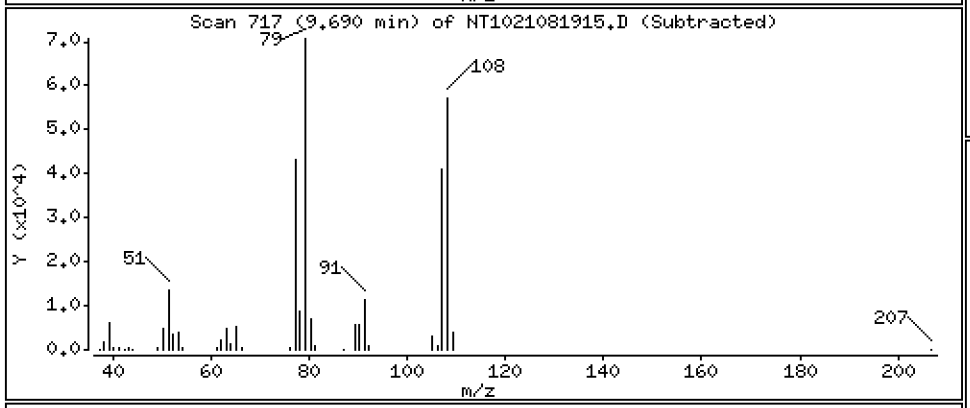
Column phase: ZB-5msi

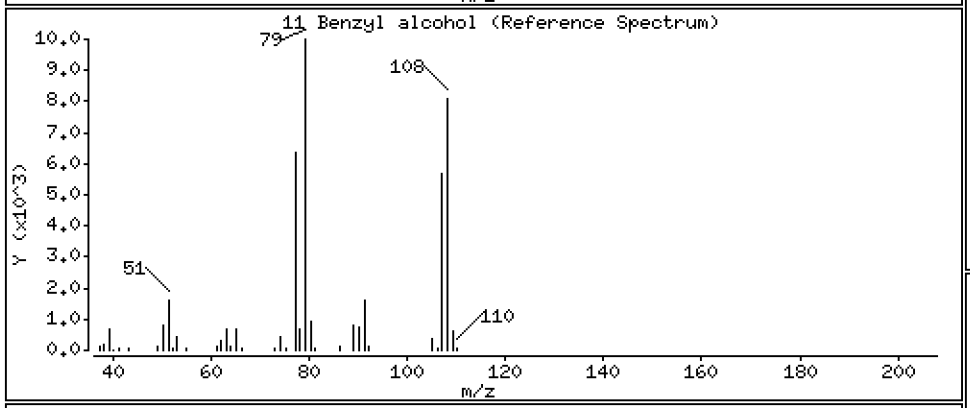
Column diameter: 0.25

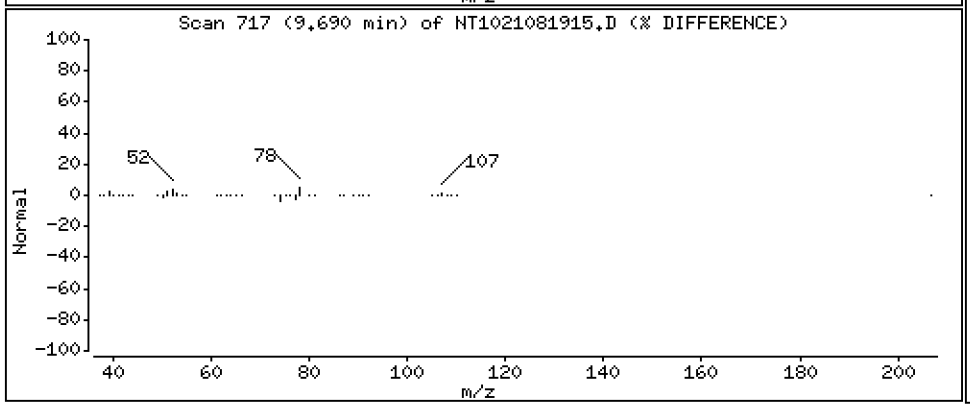
11 Benzyl alcohol

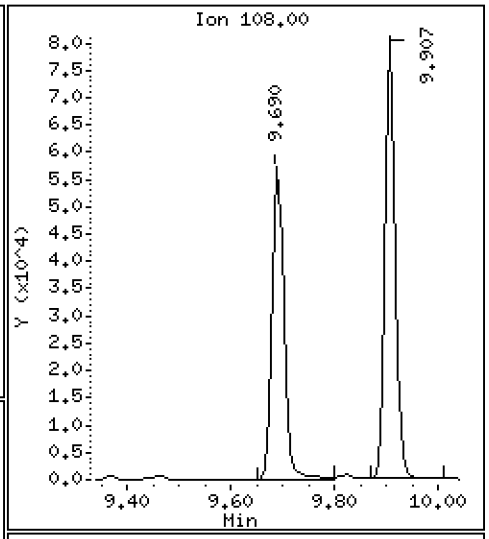
Concentration: 4.934 ug/mL

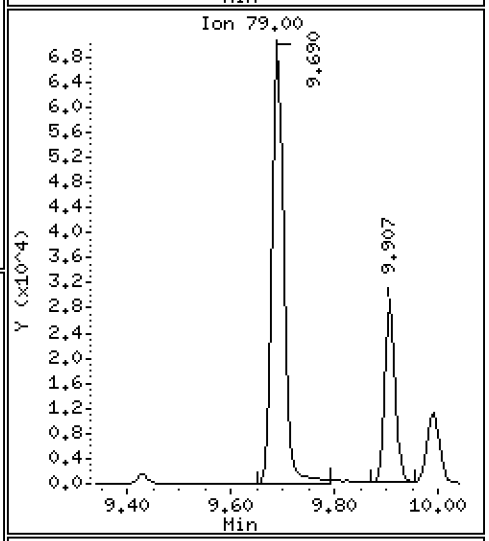


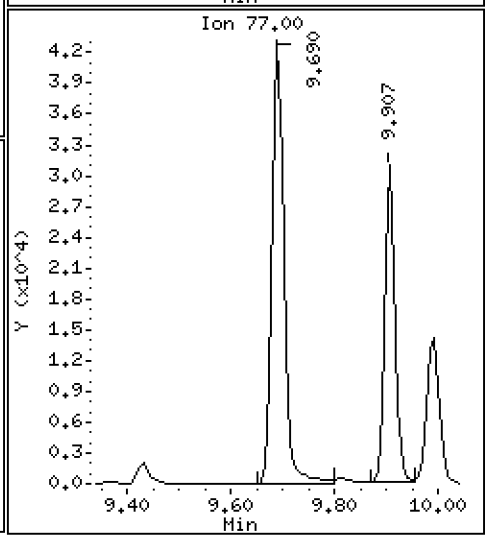












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

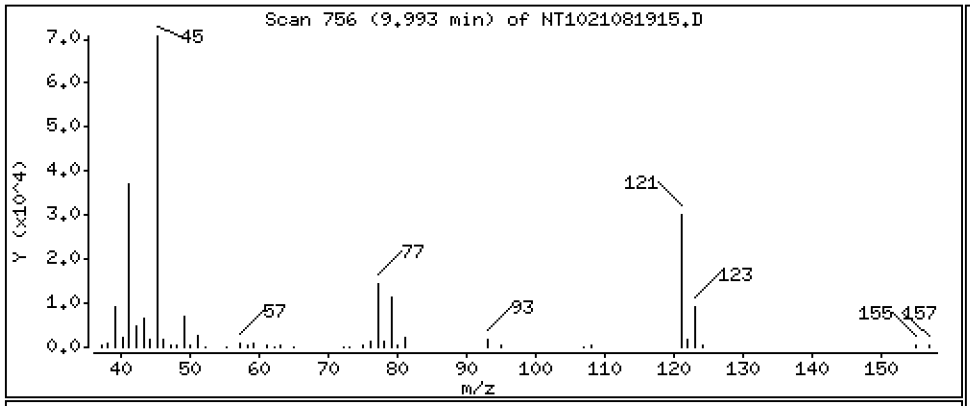
Operator: VTS

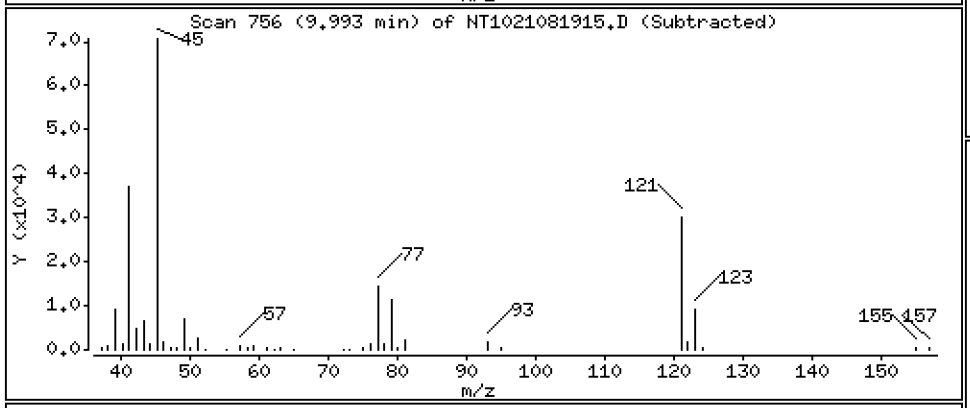
Column phase: ZB-5msi

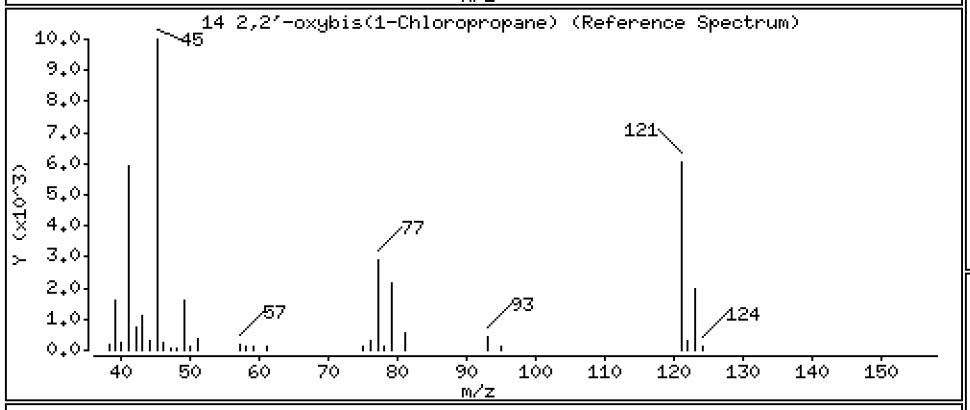
Column diameter: 0.25

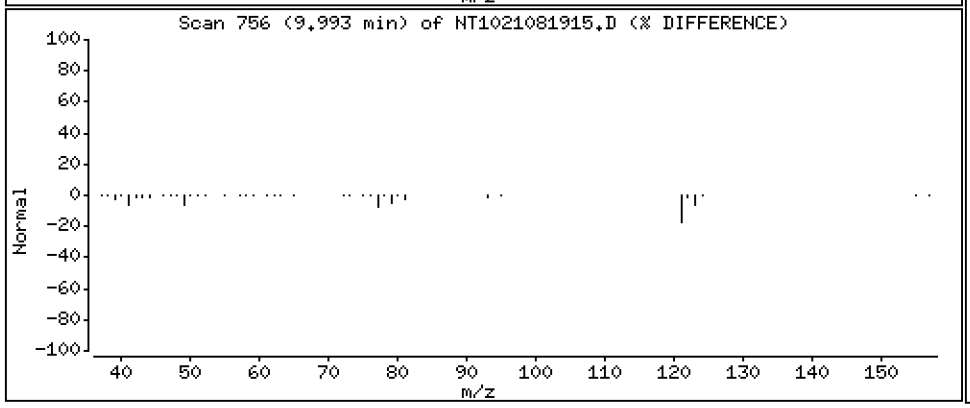
14 2,2'-oxybis(1-Chloropropane)

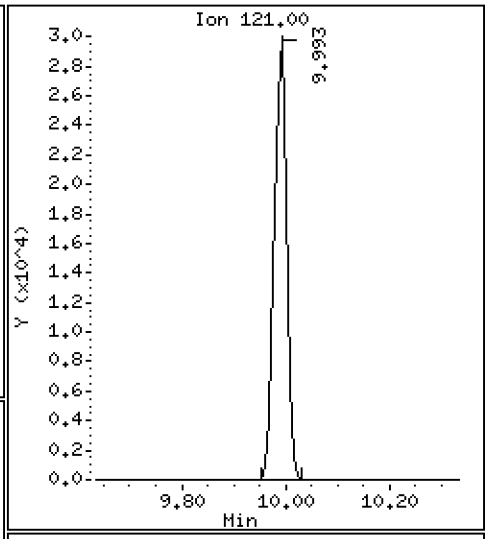
Concentration: 5.720 ug/mL

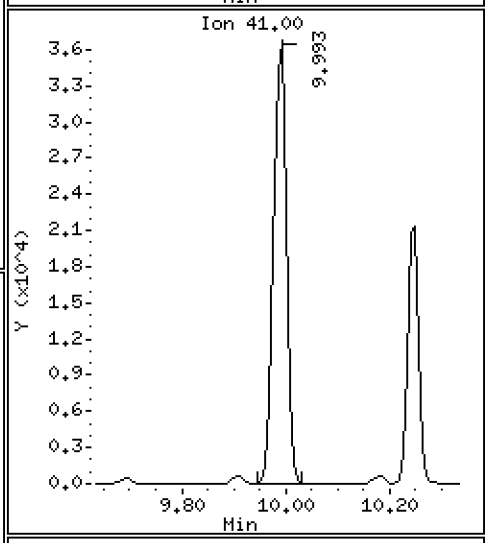


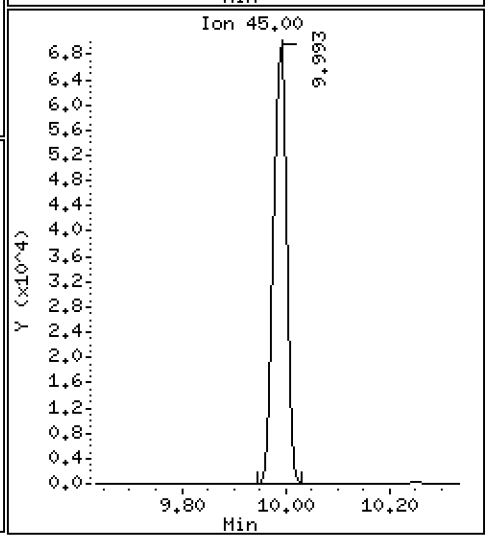












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

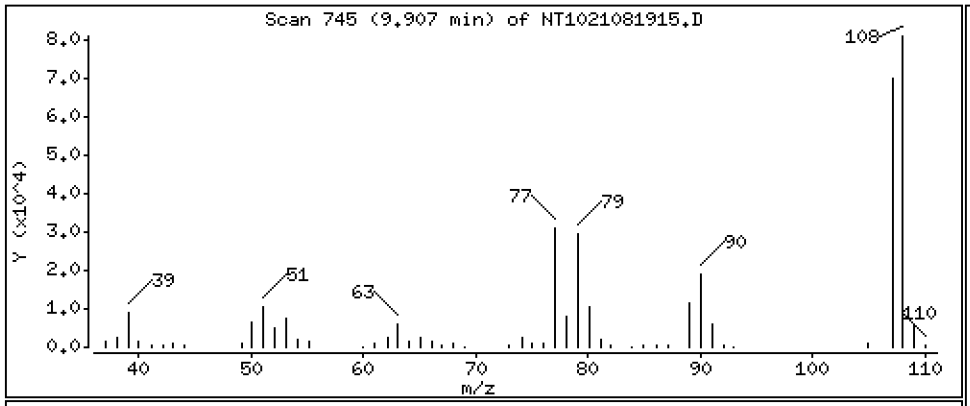
Operator: VTS

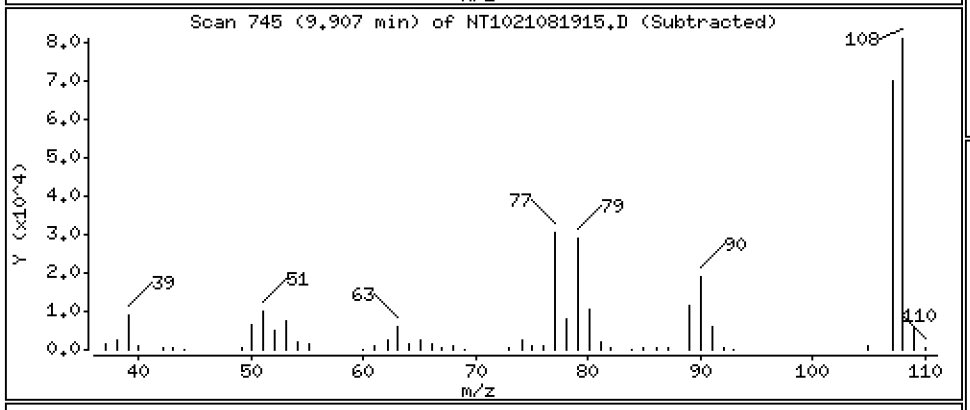
Column phase: ZB-5msi

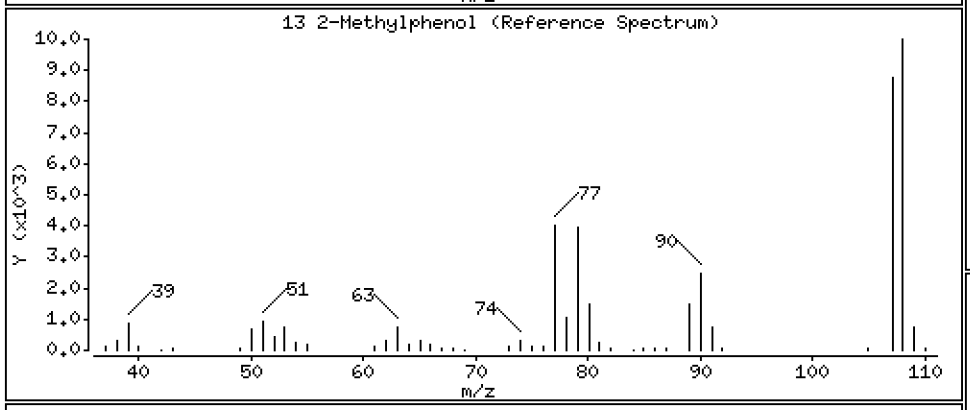
Column diameter: 0.25

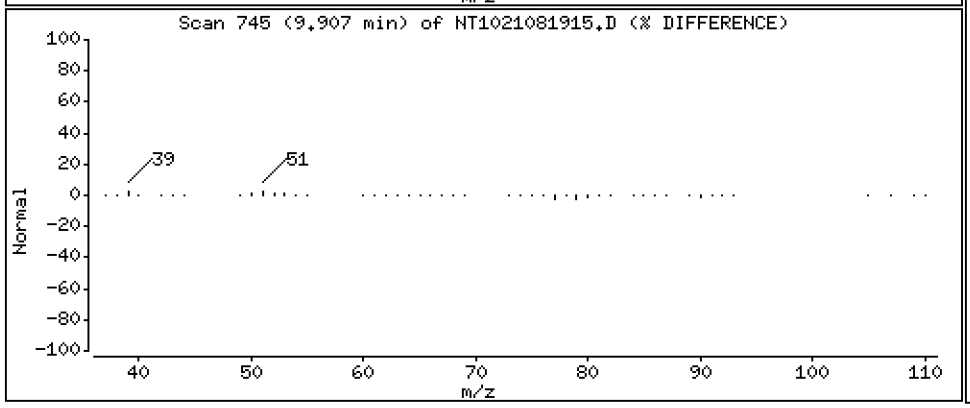
13 2-Methylphenol

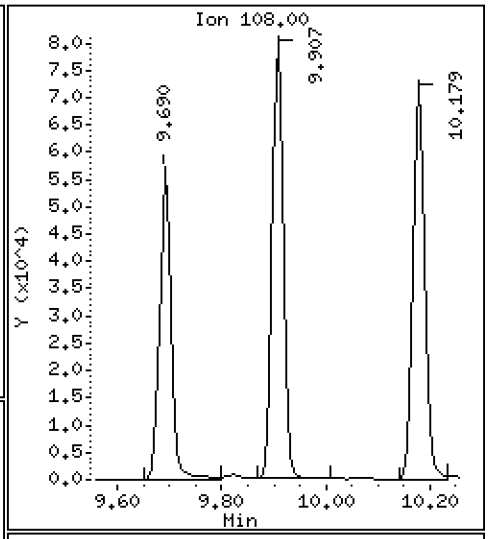
Concentration: 4.657 ug/mL

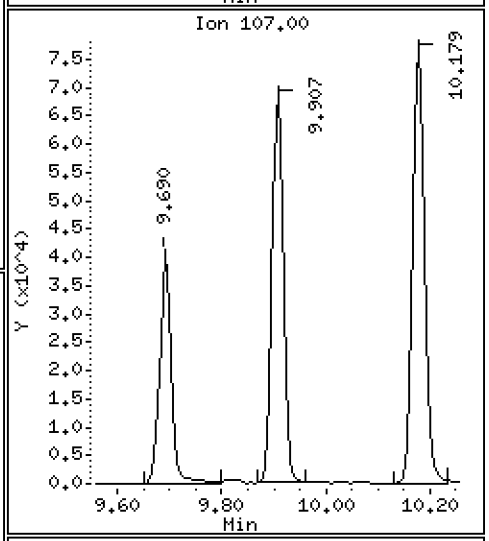


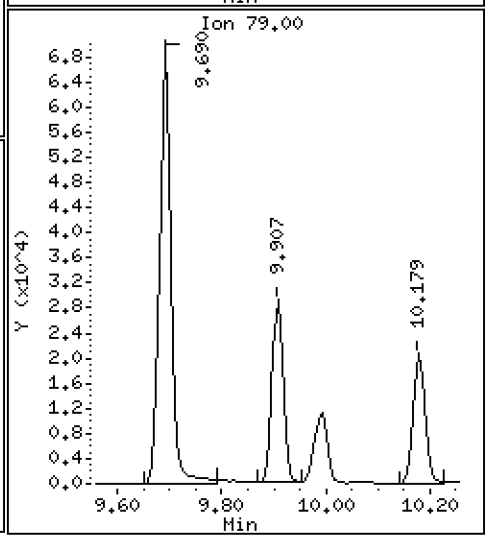












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

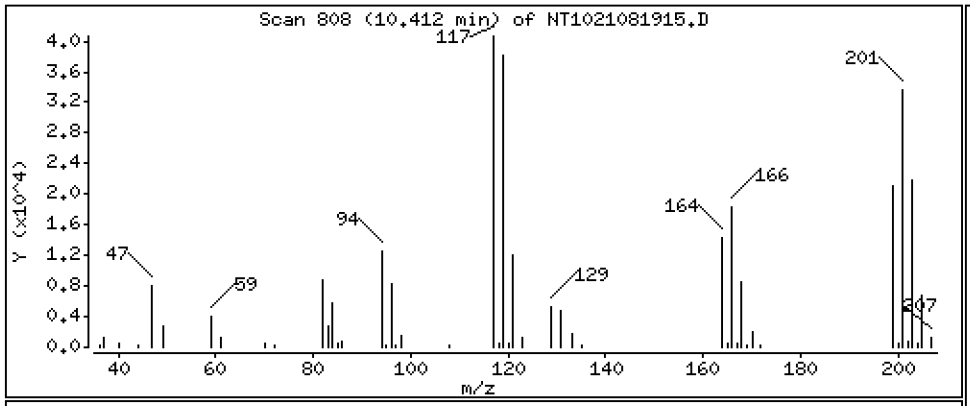
Operator: VTS

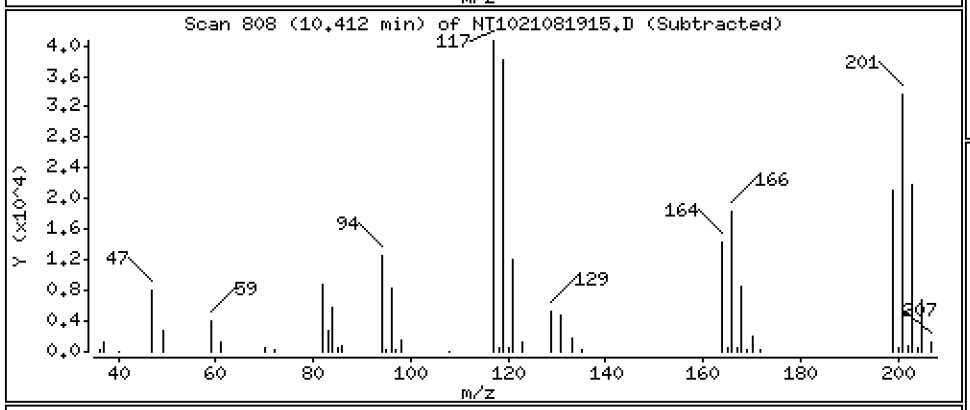
Column phase: ZB-5msi

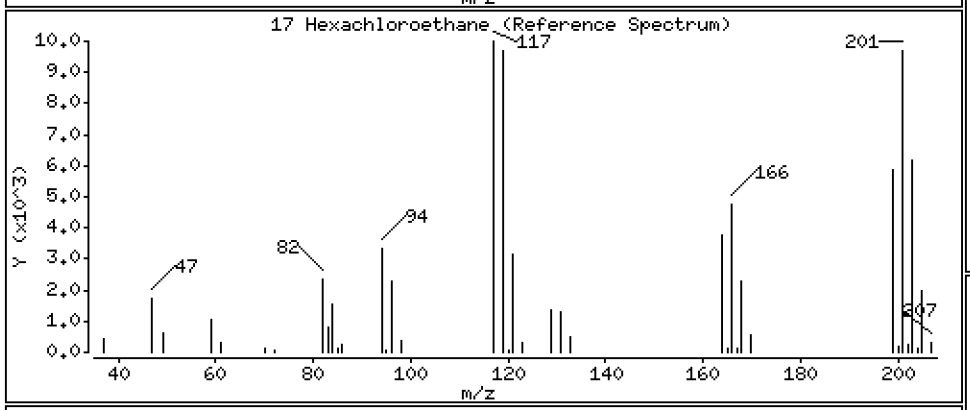
Column diameter: 0.25

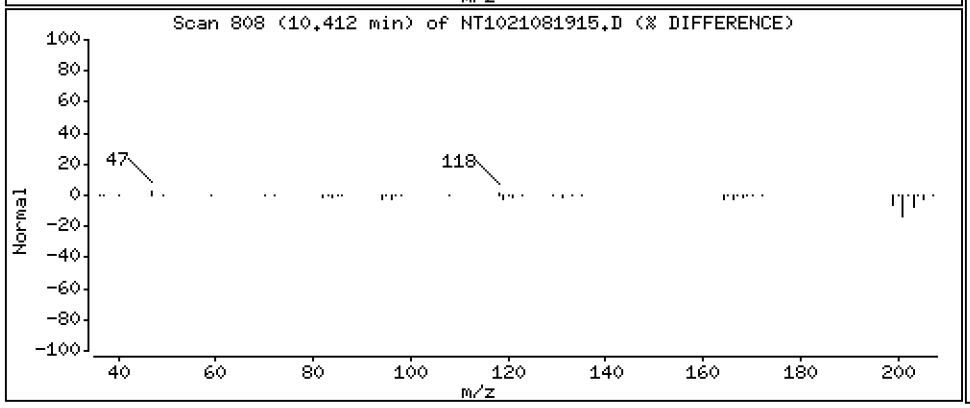
17 Hexachloroethane

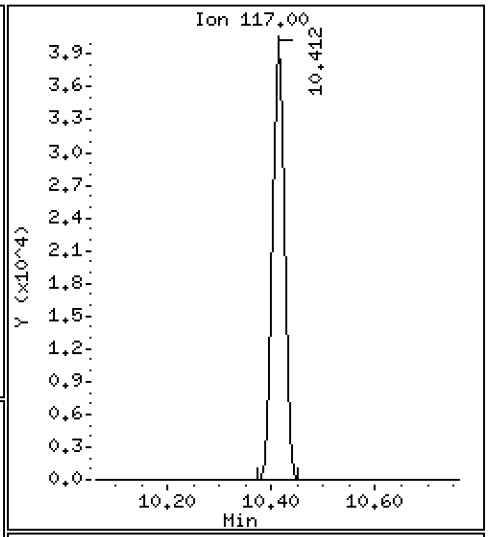
Concentration: 5.674 ug/mL

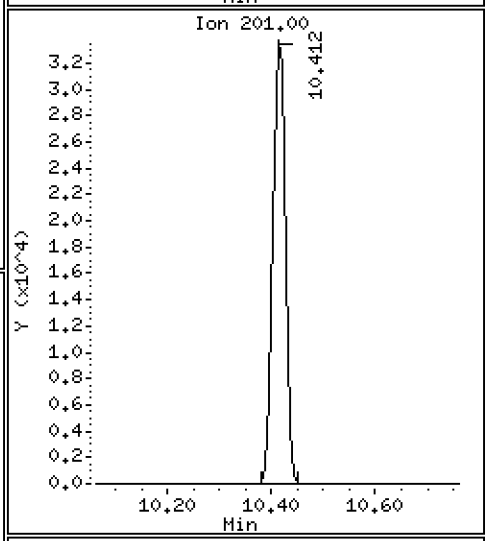


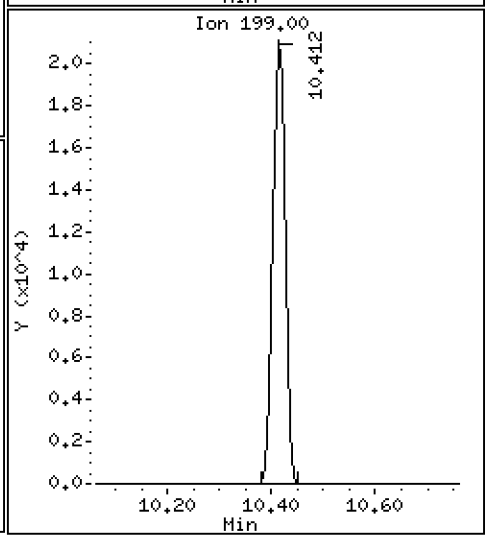












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

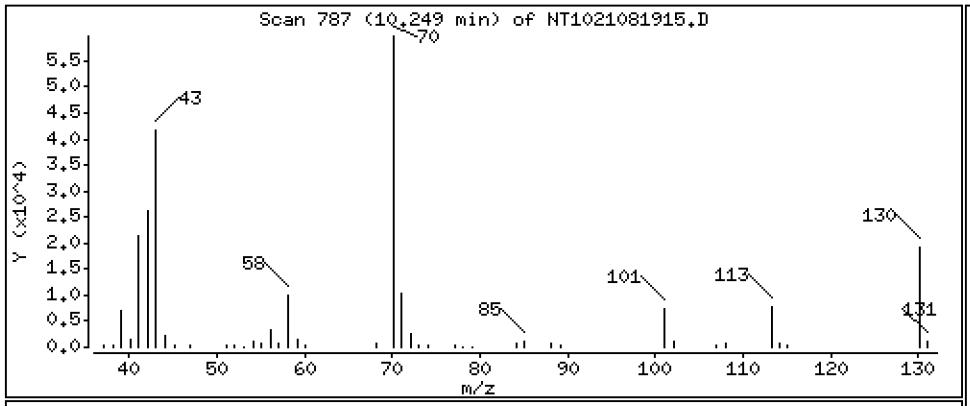
Operator: VTS

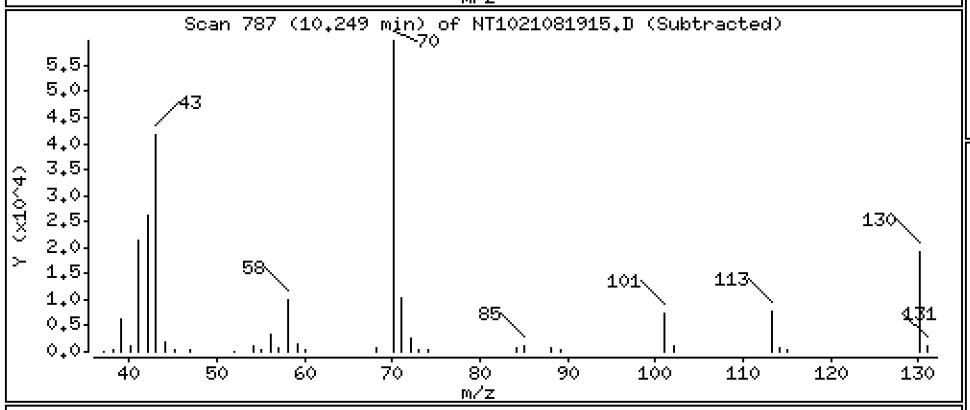
Column phase: ZB-5msi

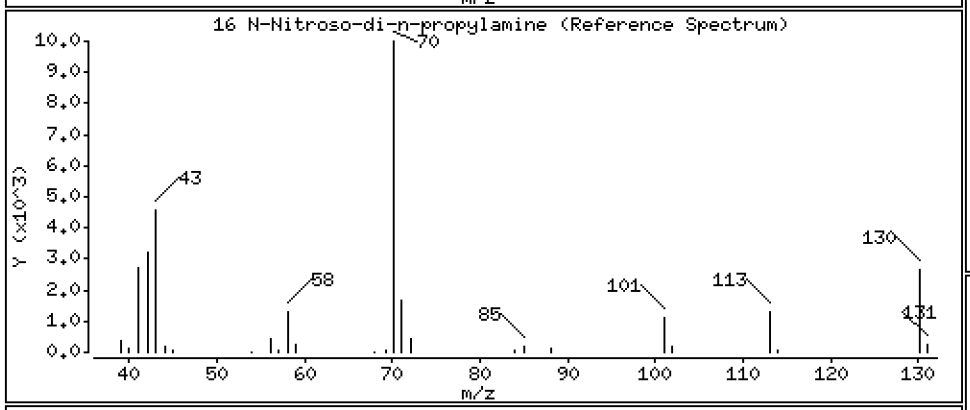
Column diameter: 0.25

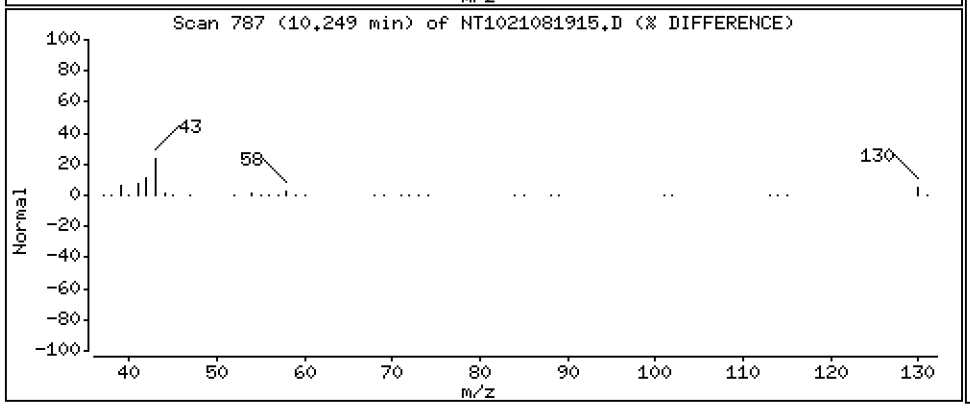
16 N-Nitroso-di-n-propylamine

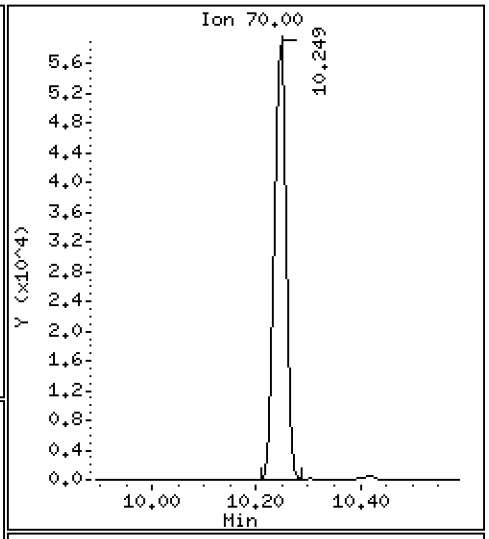
Concentration: 5.292 ug/mL

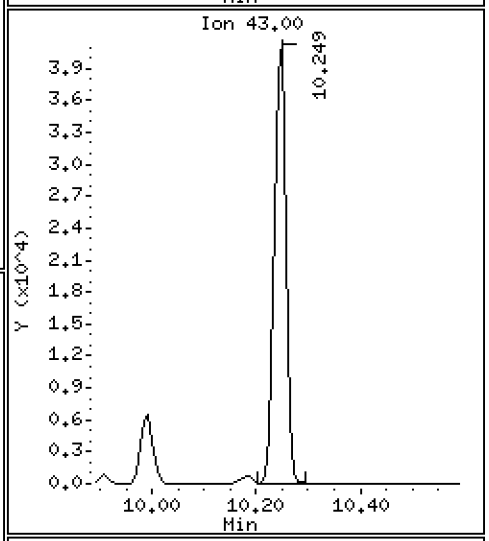


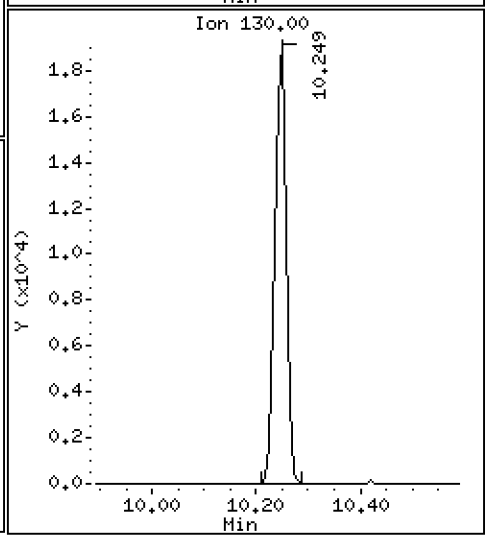












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

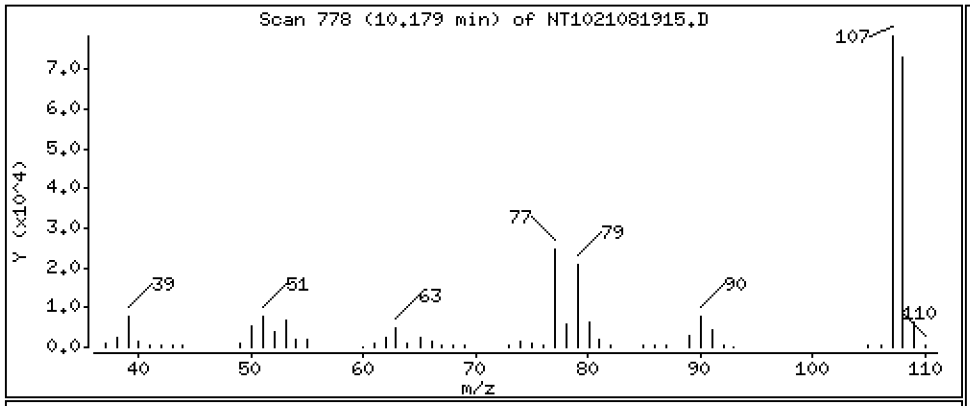
Operator: VTS

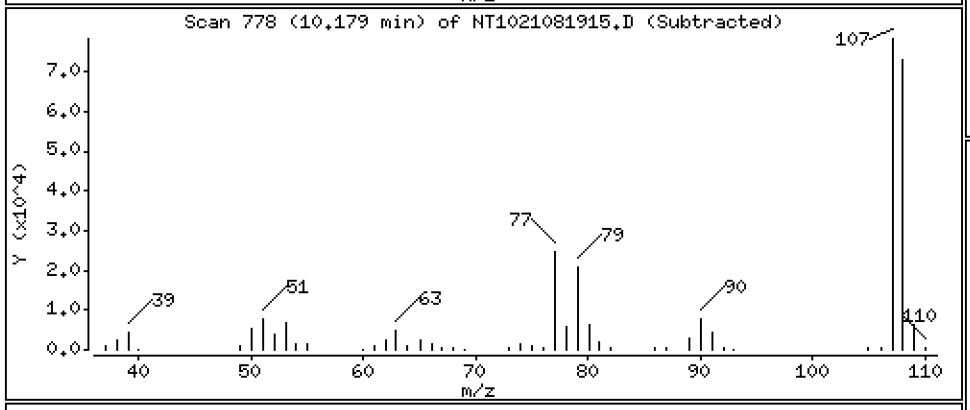
Column phase: ZB-5msi

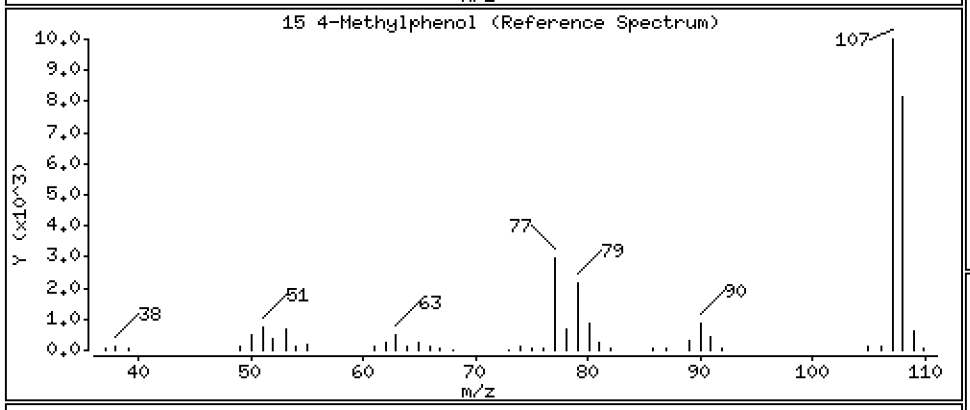
Column diameter: 0.25

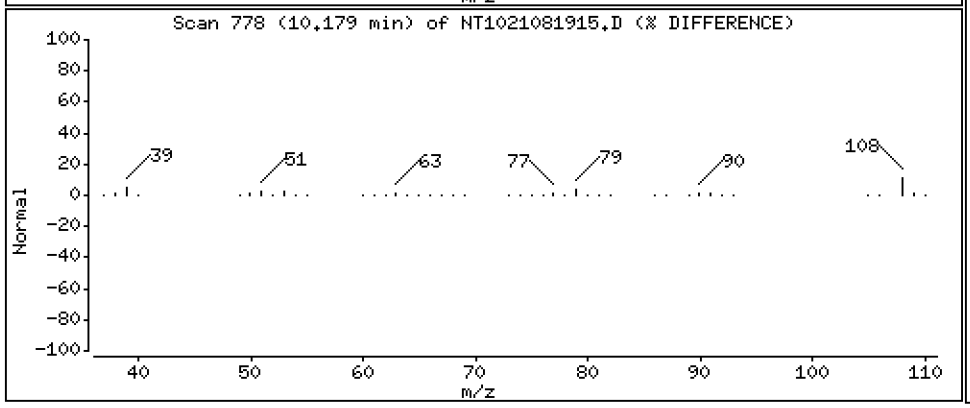
15 4-Methylphenol

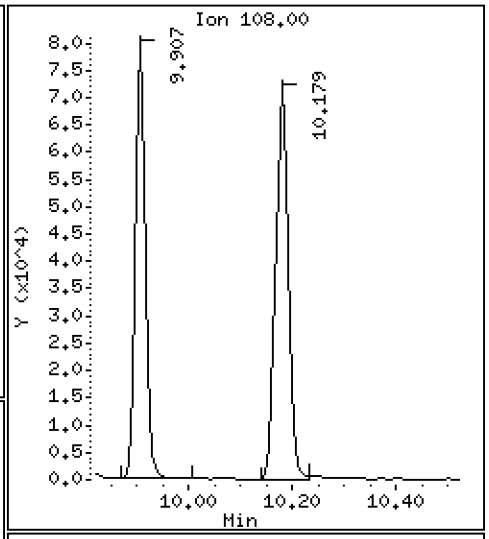
Concentration: 4.688 ug/mL

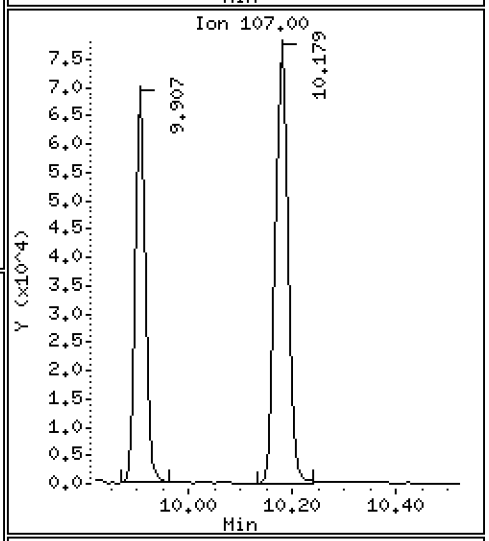


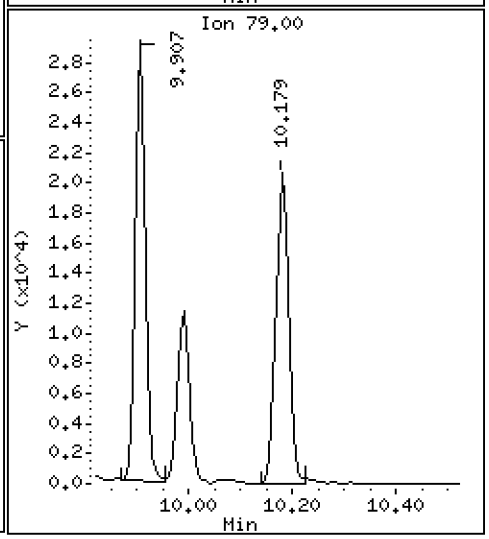












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

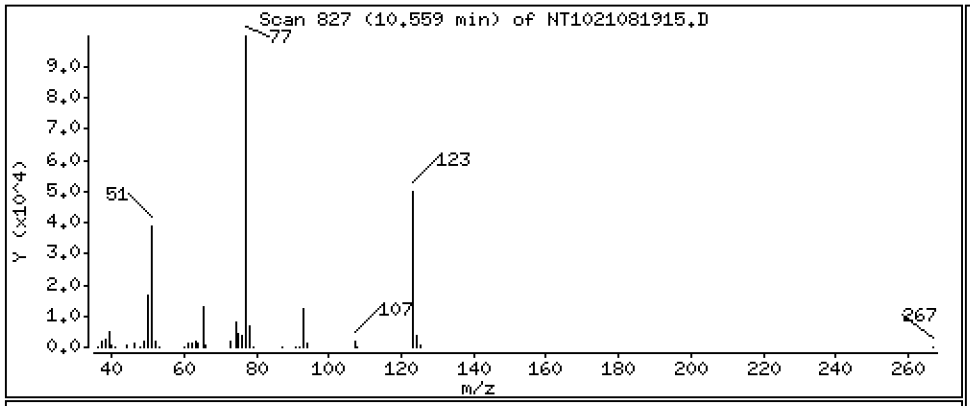
Operator: VTS

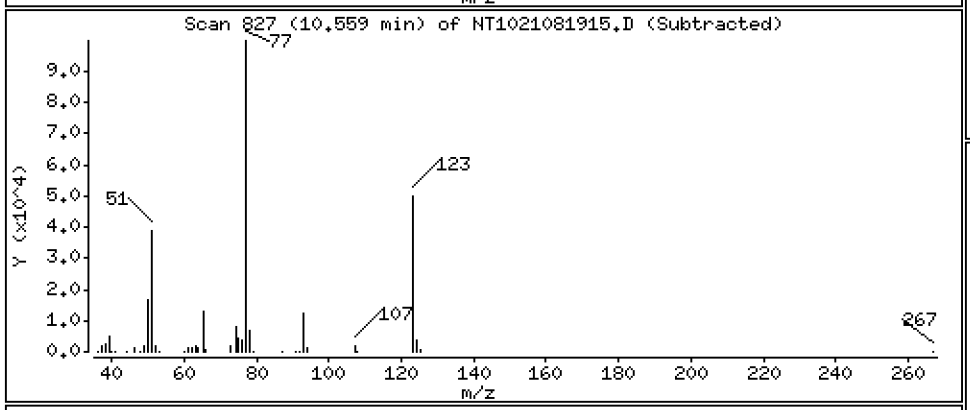
Column phase: ZB-5msi

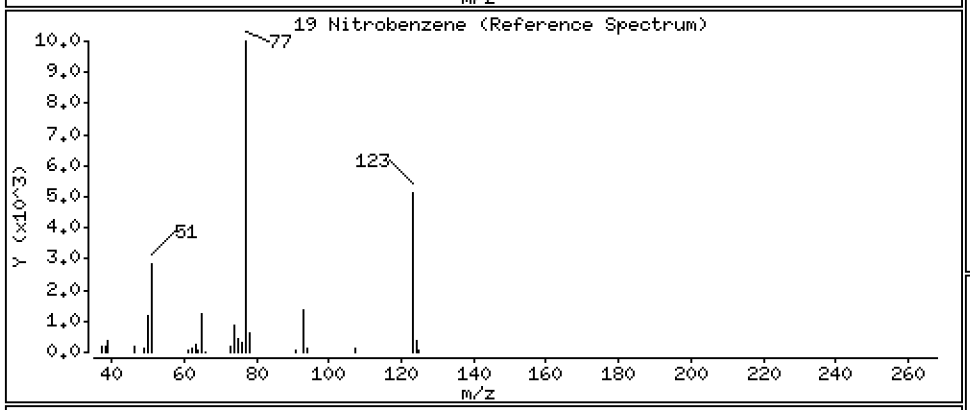
Column diameter: 0.25

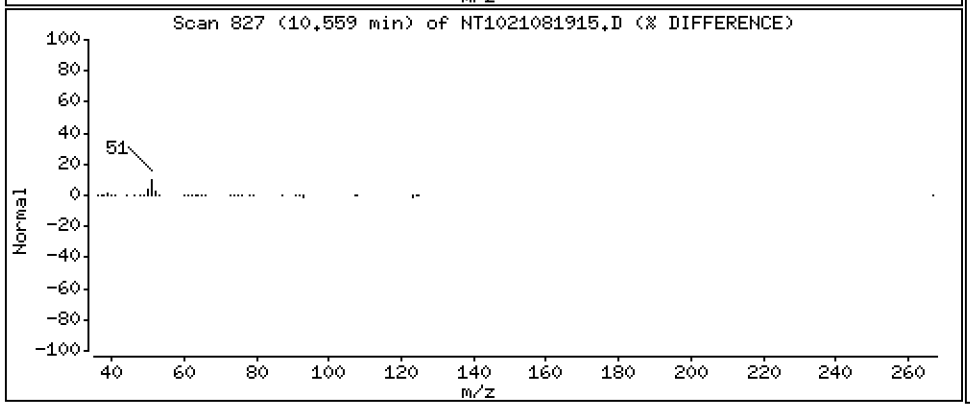
19 Nitrobenzene

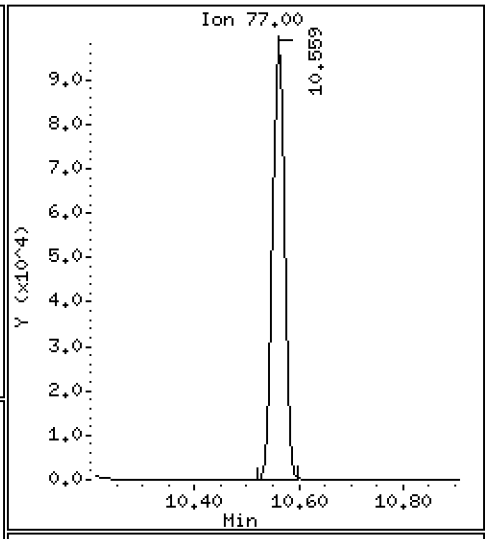
Concentration: 5.403 ug/mL

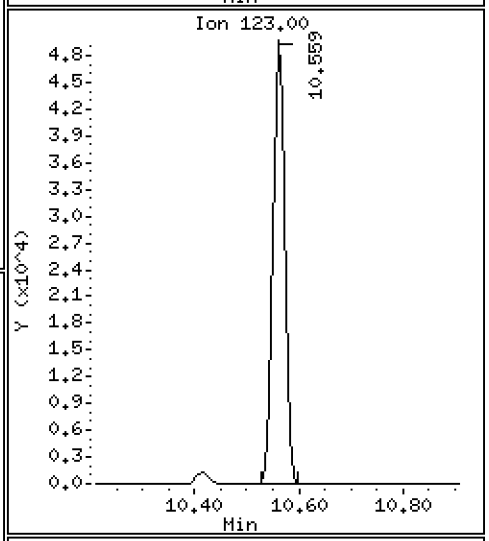


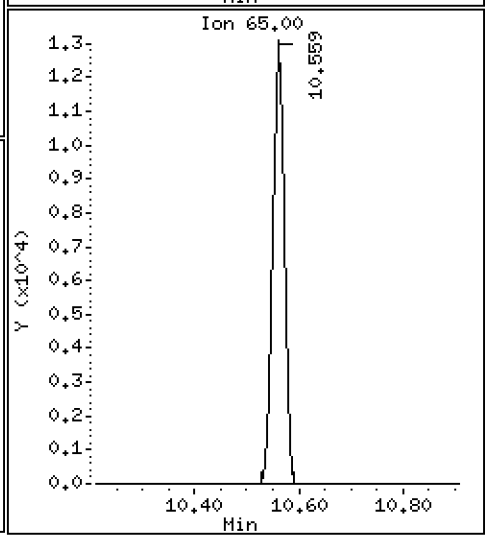












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

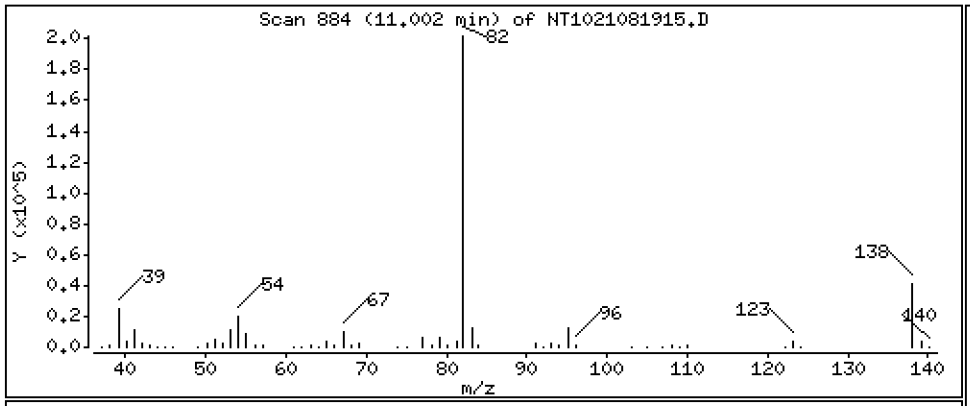
Operator: VTS

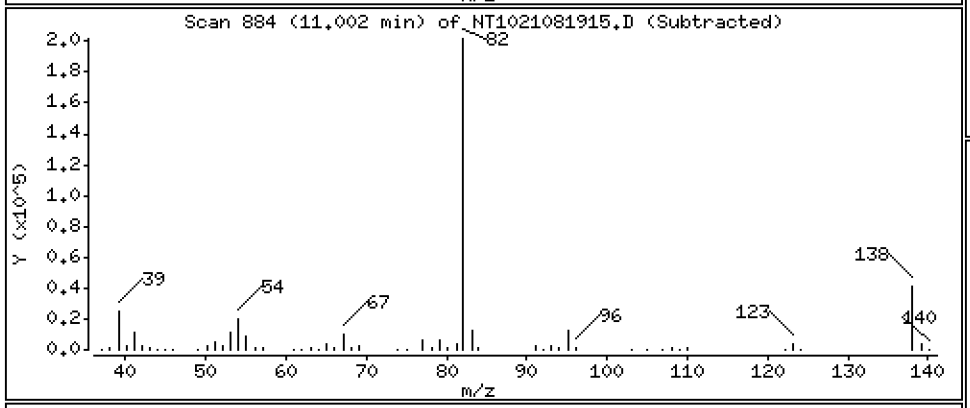
Column phase: ZB-5msi

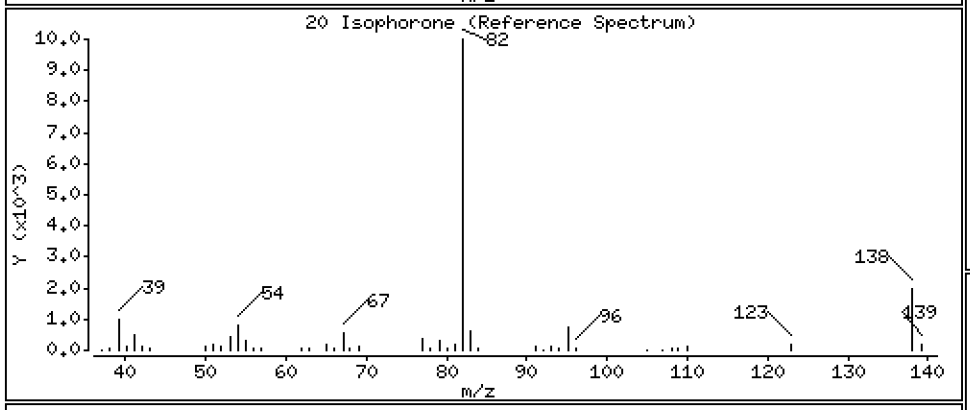
Column diameter: 0.25

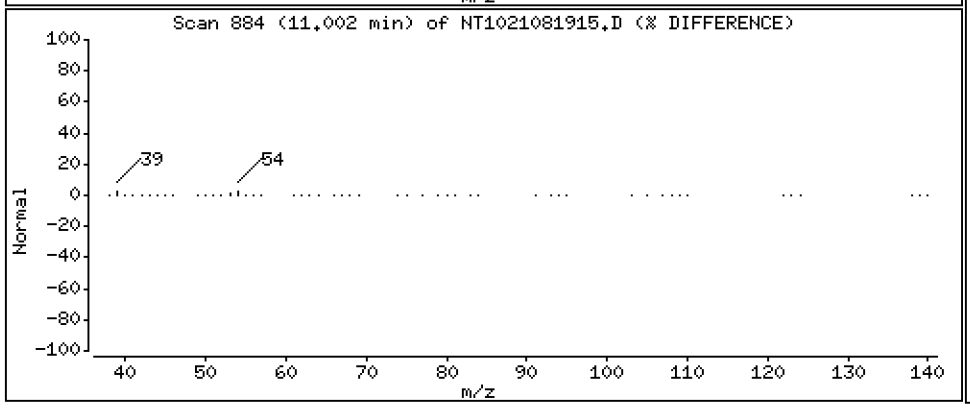
20 Isophorone

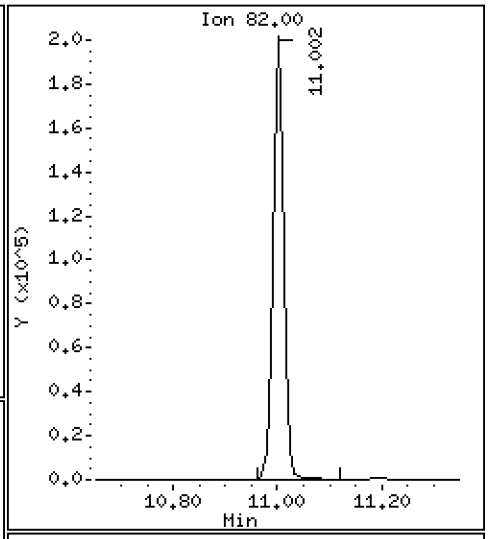
Concentration: 7.778 ug/mL

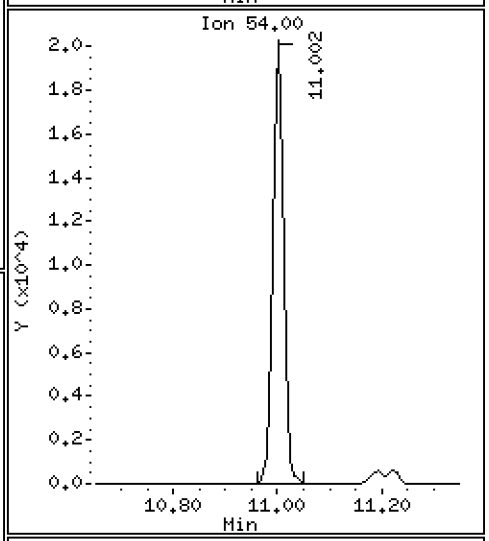


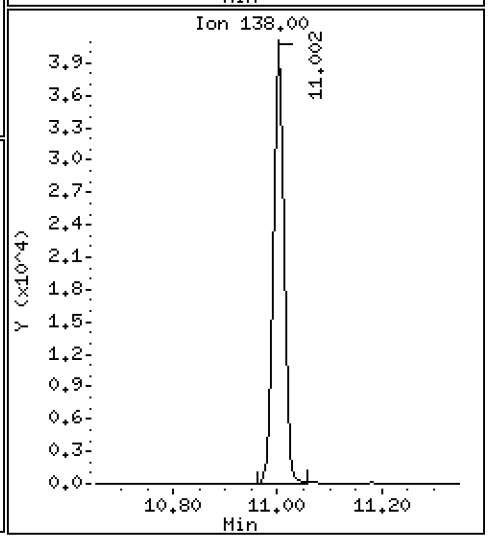












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

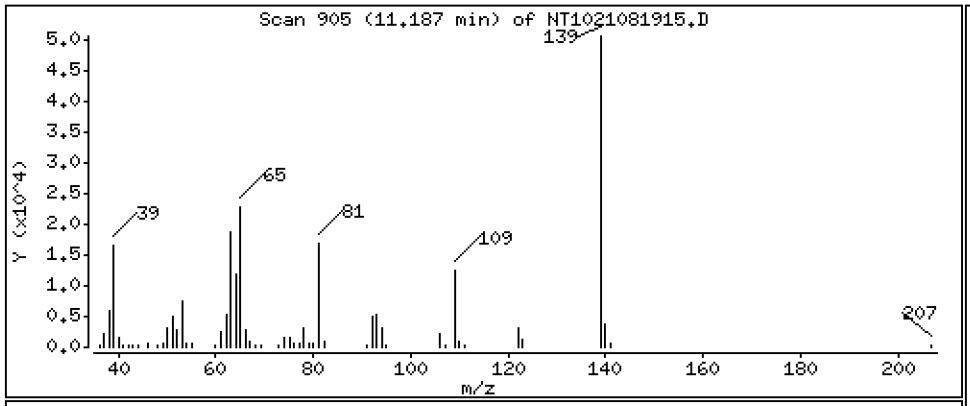
Operator: VTS

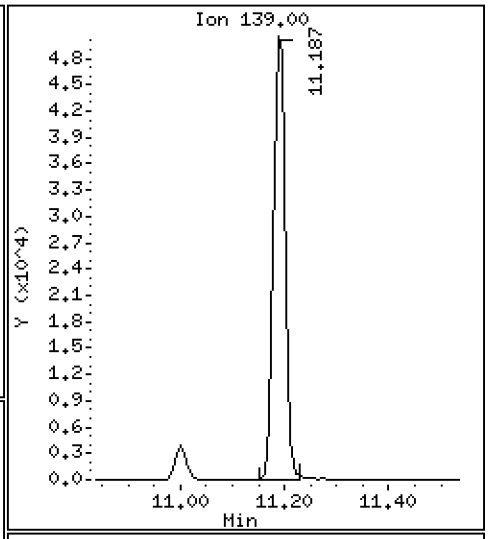
Column phase: ZB-5msi

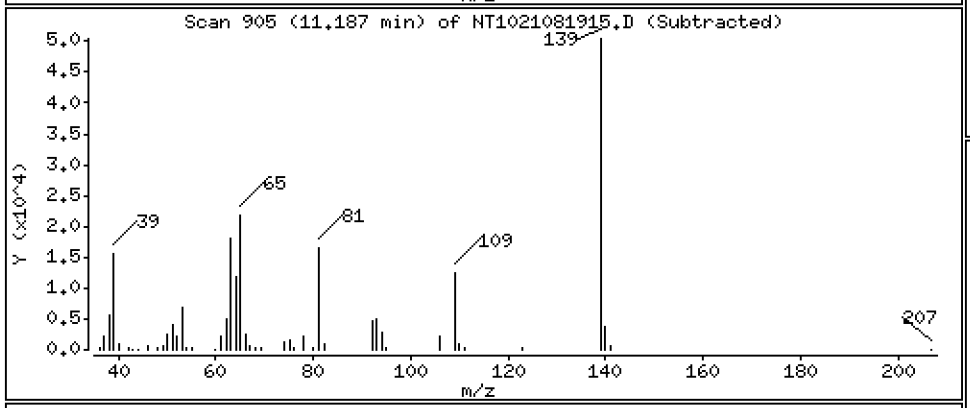
Column diameter: 0.25

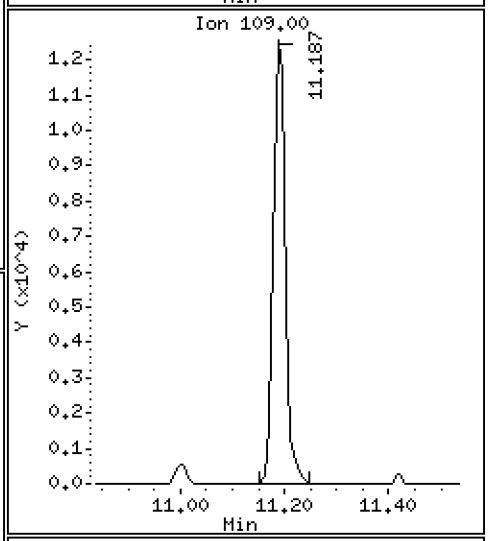
21 2-Nitrophenol

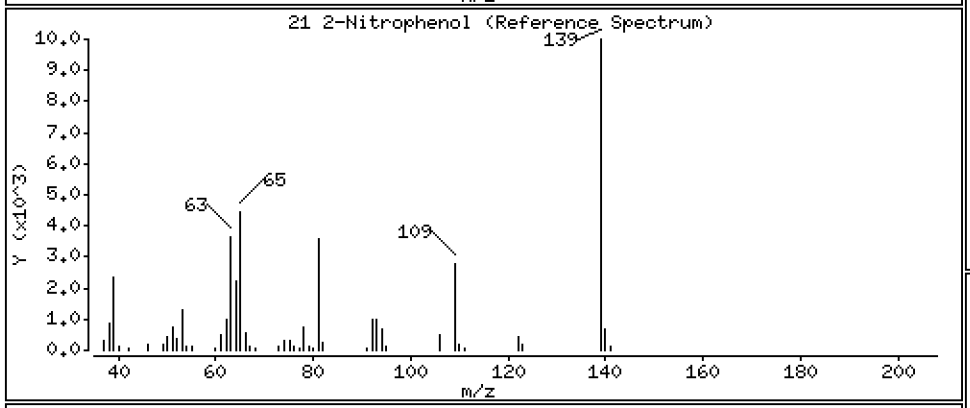
Concentration: 5.178 ug/mL

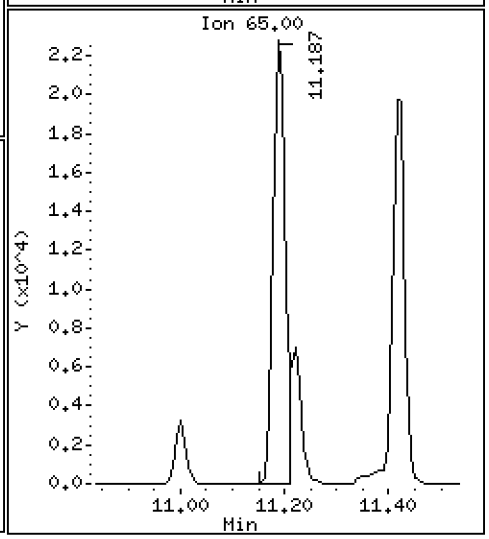


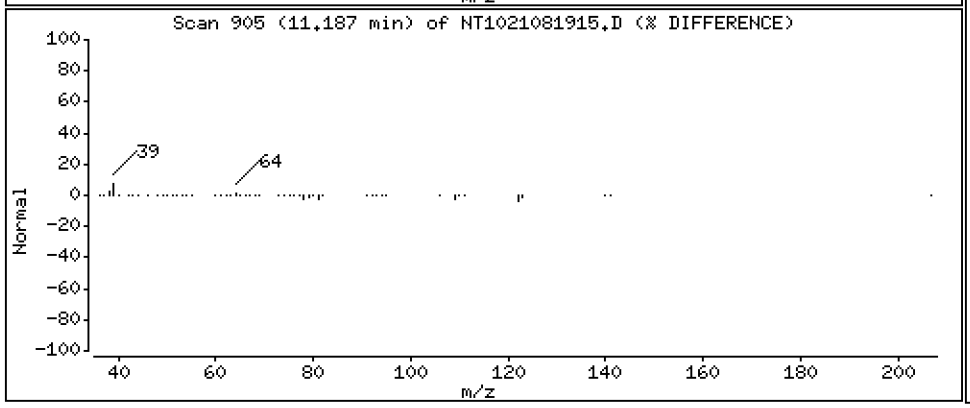












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

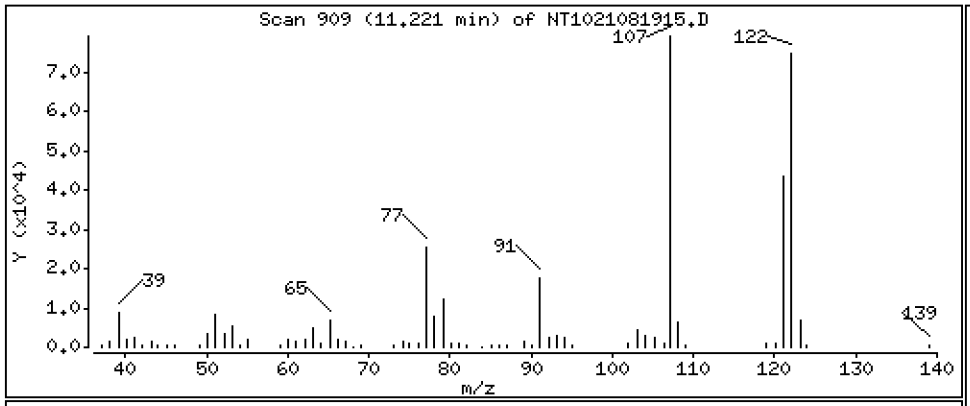
Operator: VTS

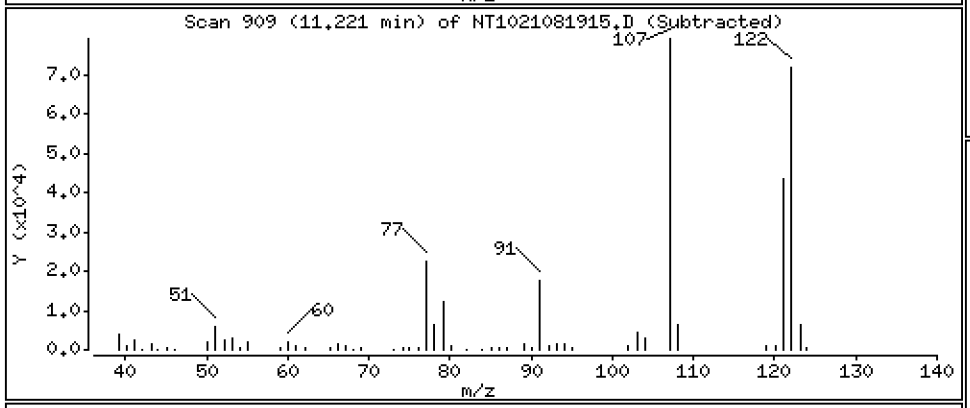
Column phase: ZB-5msi

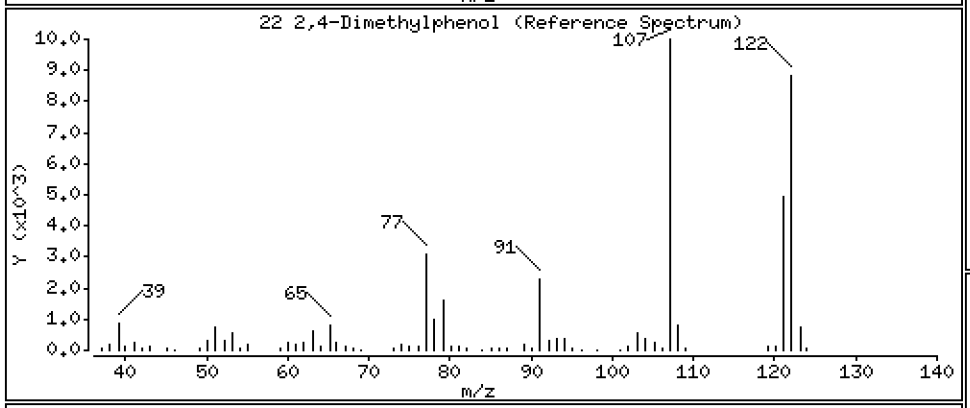
Column diameter: 0.25

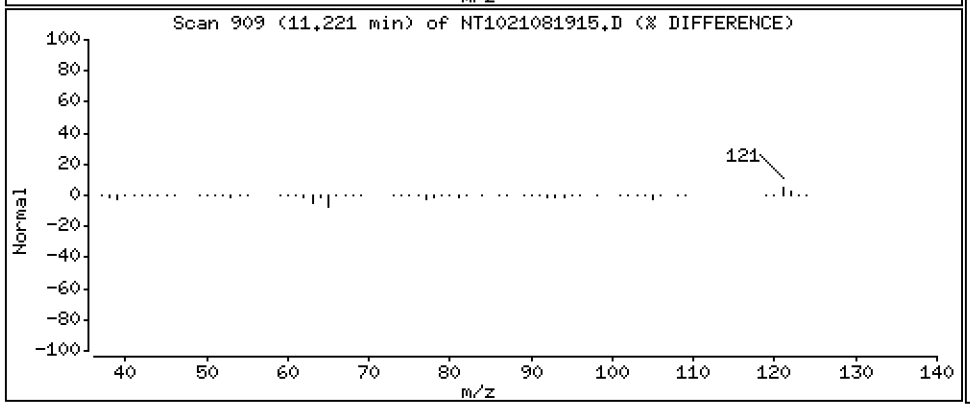
22 2,4-Dimethylphenol

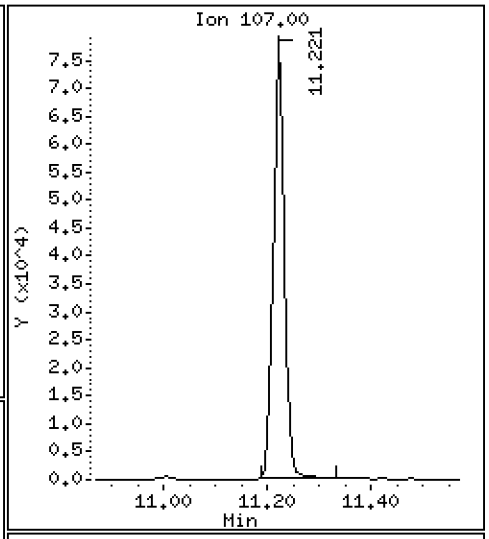
Concentration: 4.920 ug/mL

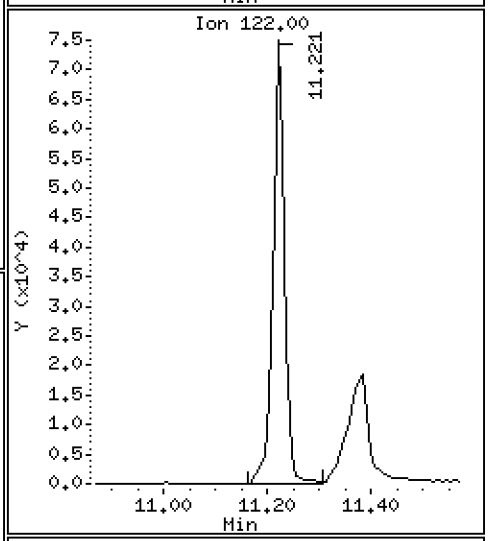


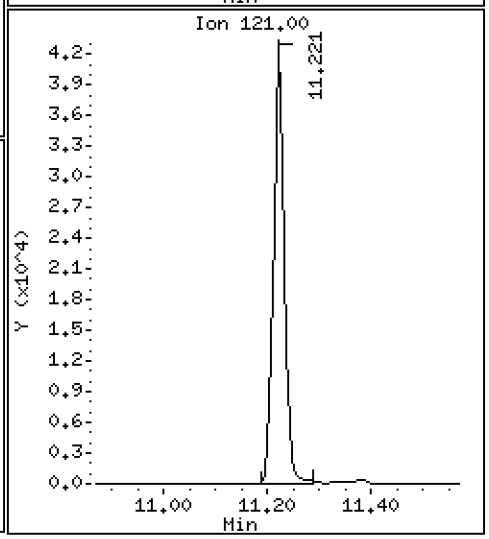












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

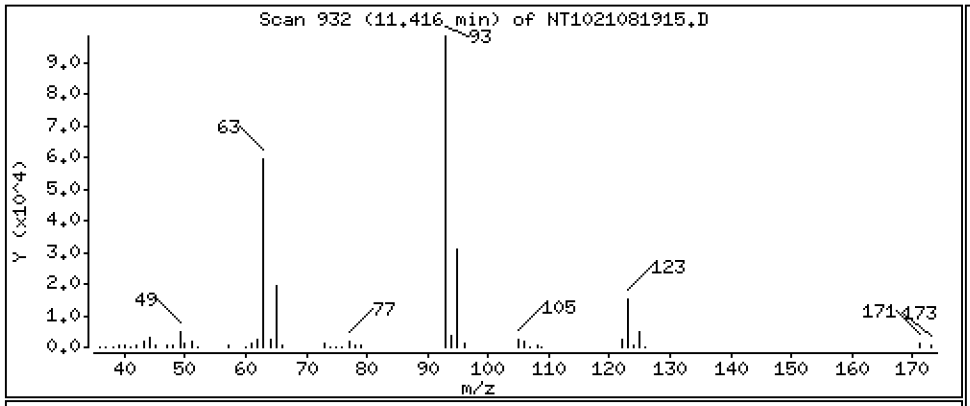
Operator: VTS

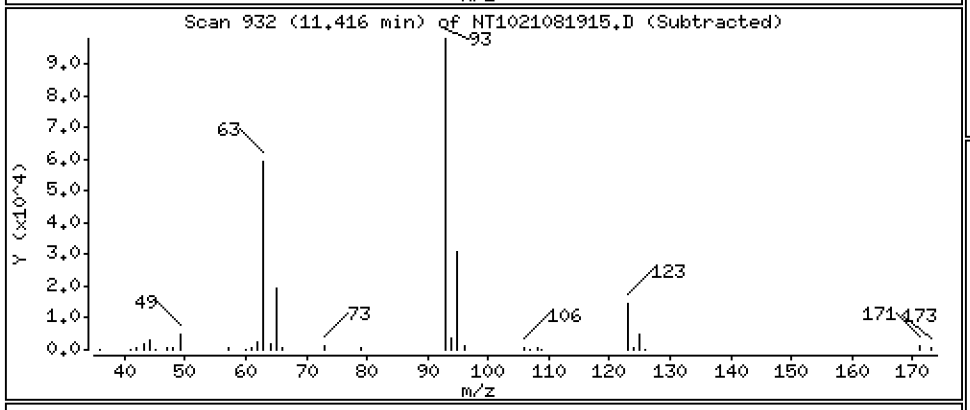
Column phase: ZB-5msi

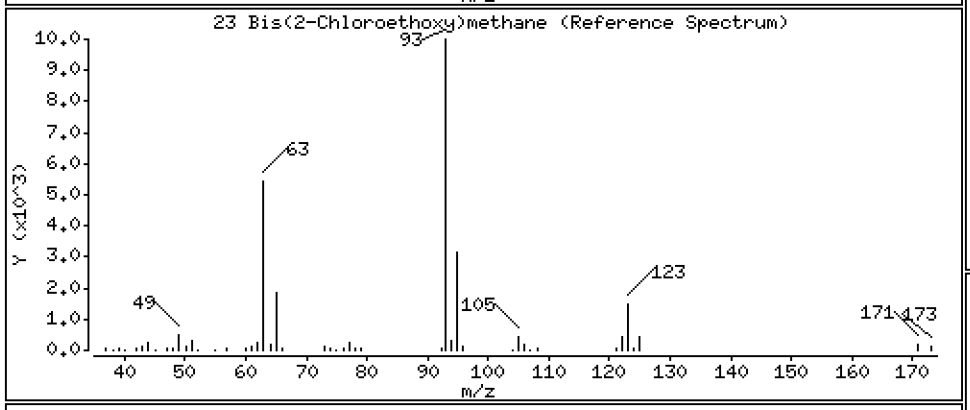
Column diameter: 0.25

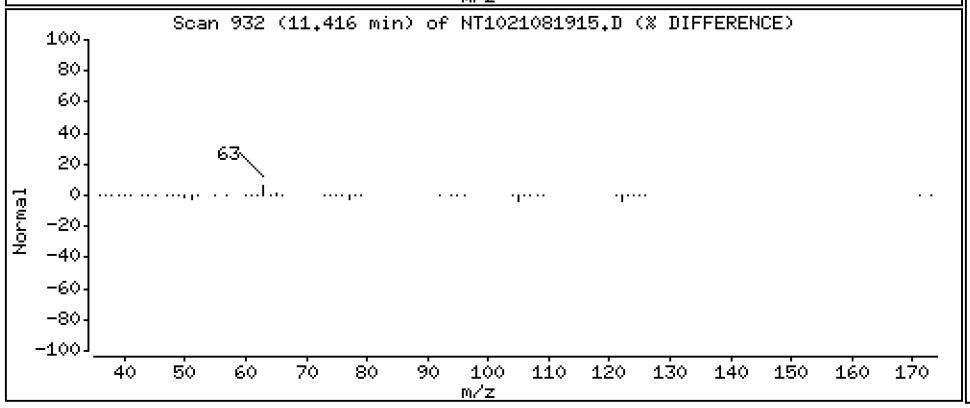
23 Bis(2-Chloroethoxy)methane

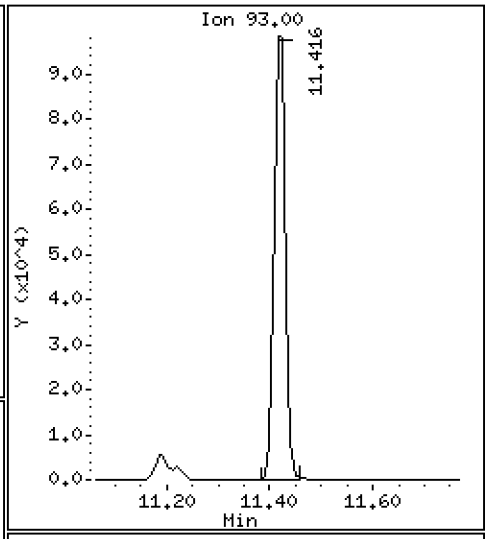
Concentration: 5.938 ug/mL

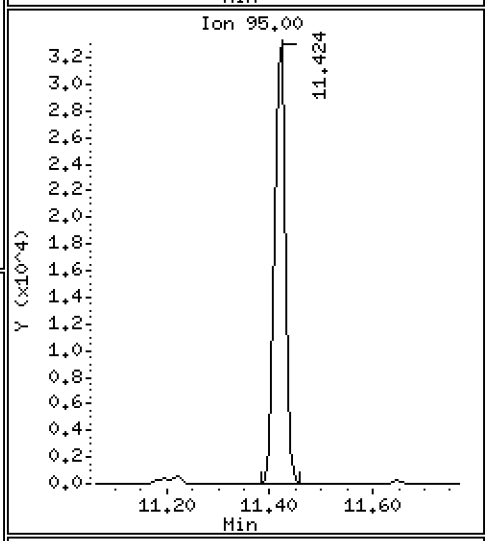


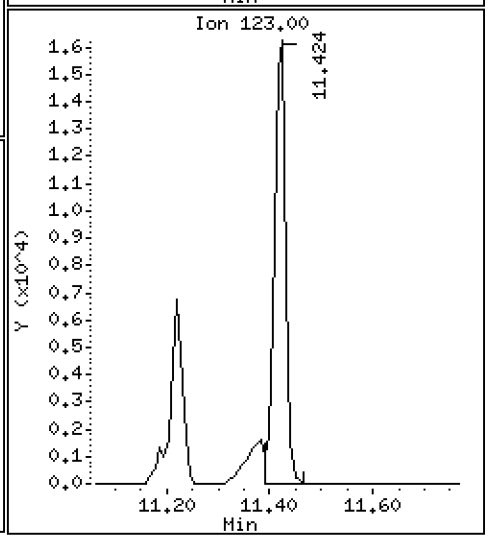












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

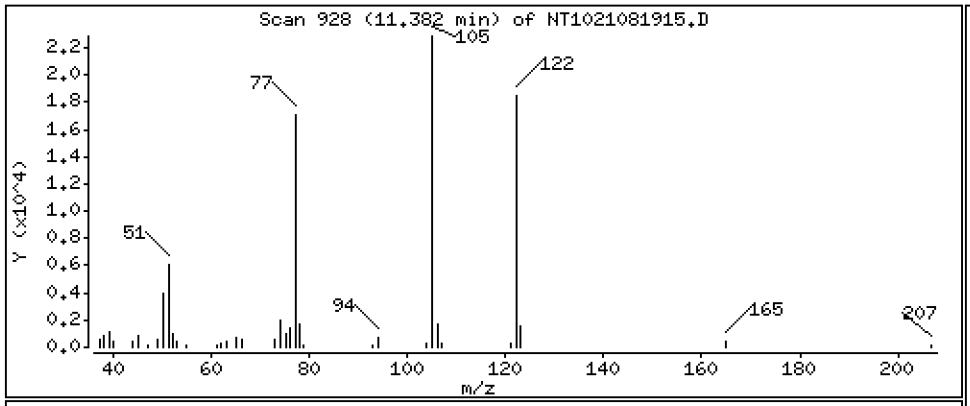
Operator: VTS

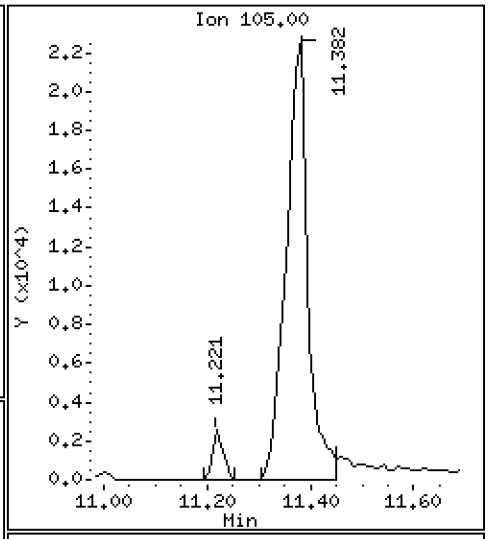
Column phase: ZB-5msi

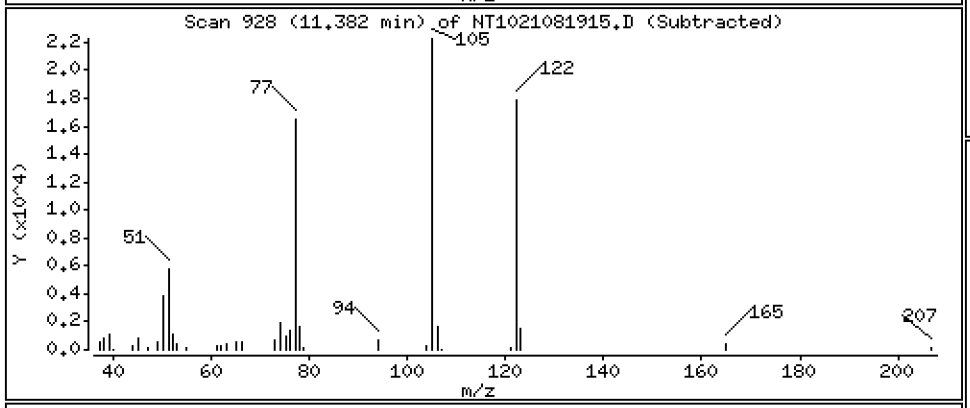
Column diameter: 0.25

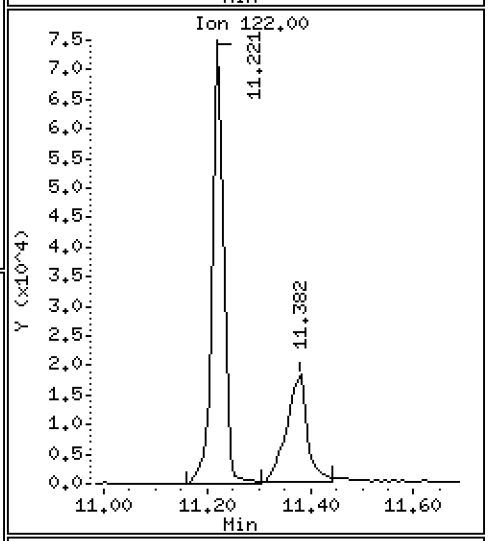
24 Benzoic acid

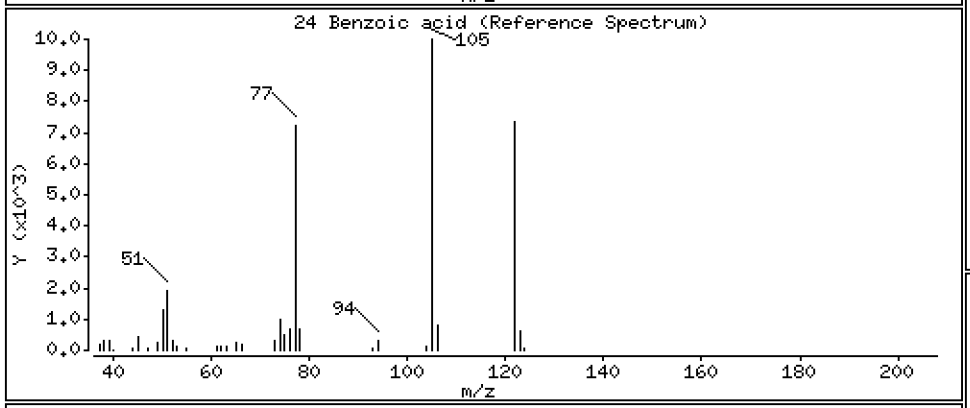
Concentration: 5.378 ug/mL

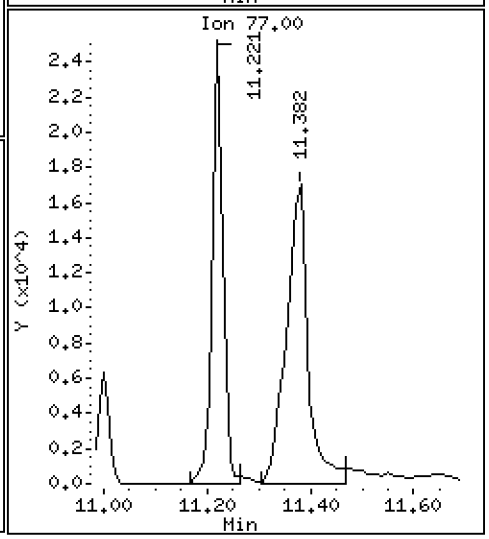


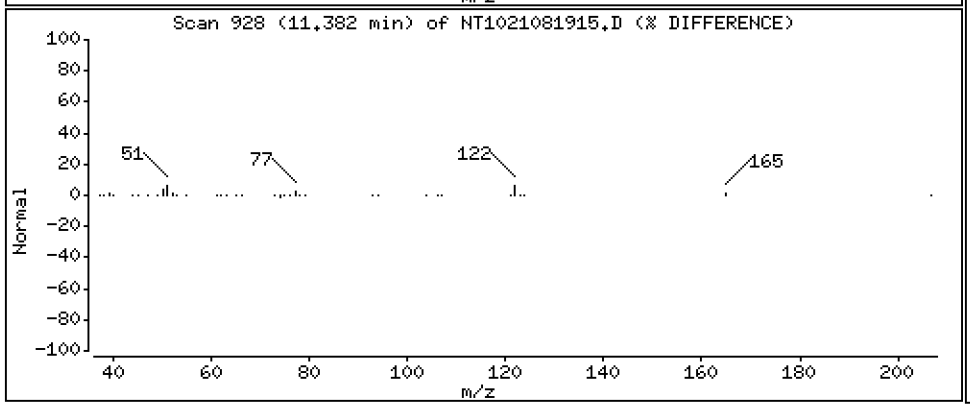












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

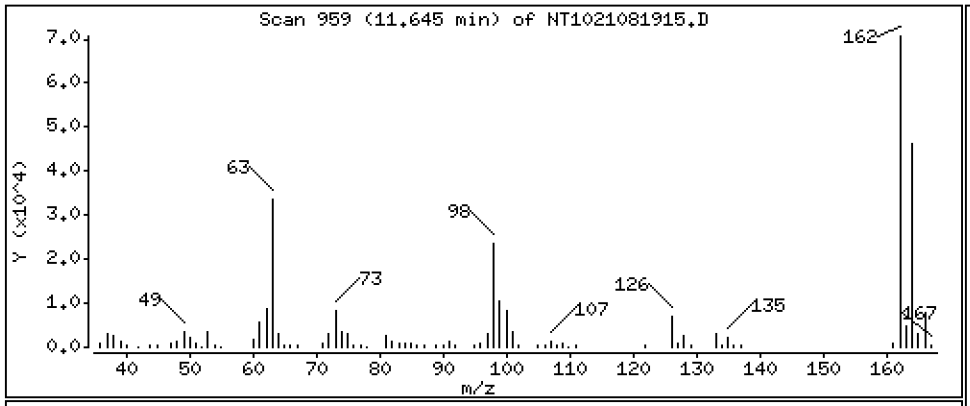
Operator: VTS

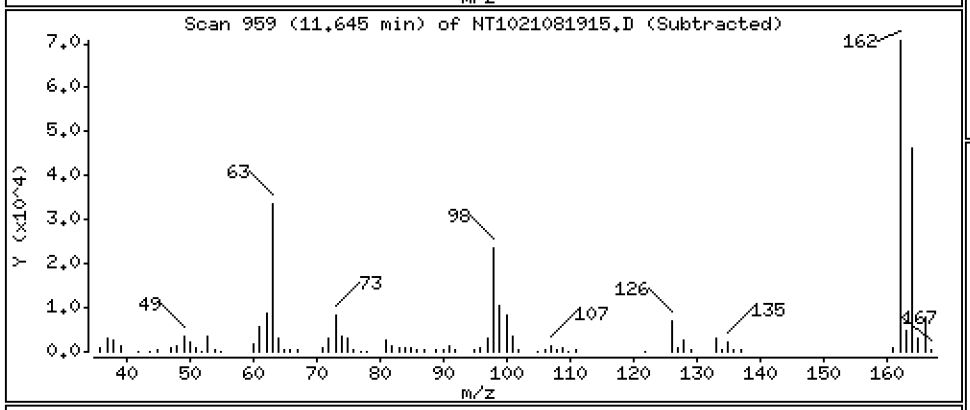
Column phase: ZB-5msi

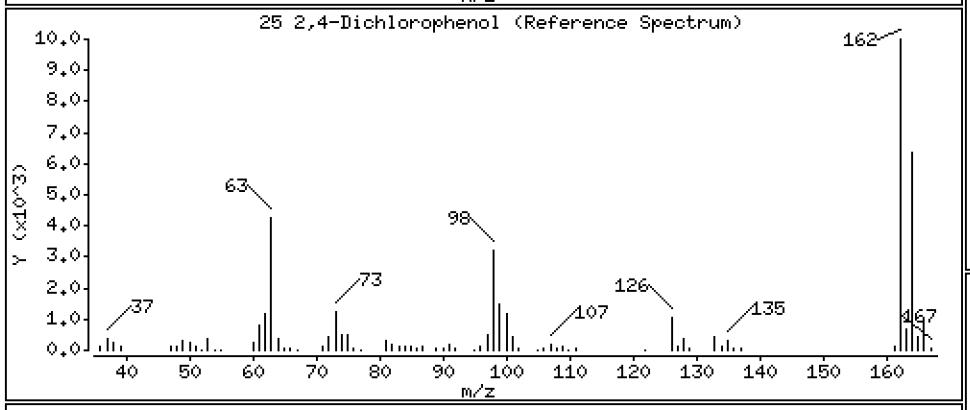
Column diameter: 0.25

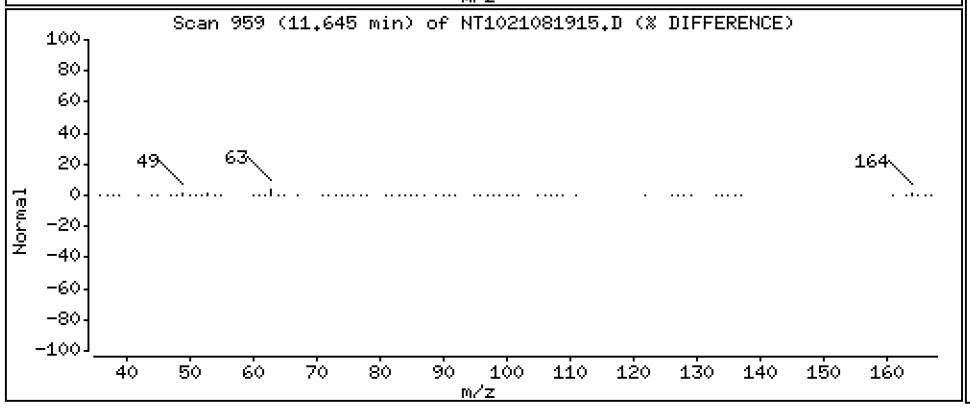
25 2,4-Dichlorophenol

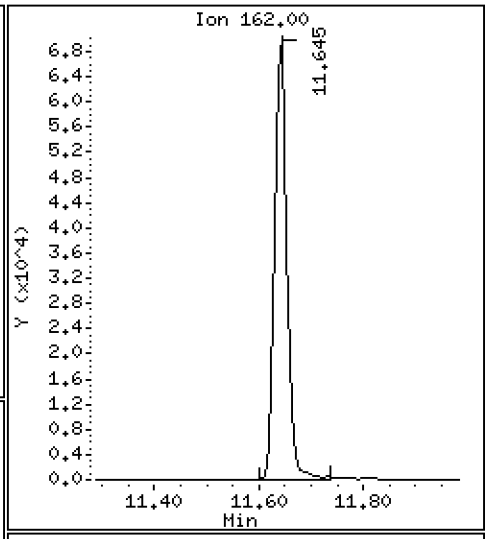
Concentration: 5.147 ug/mL

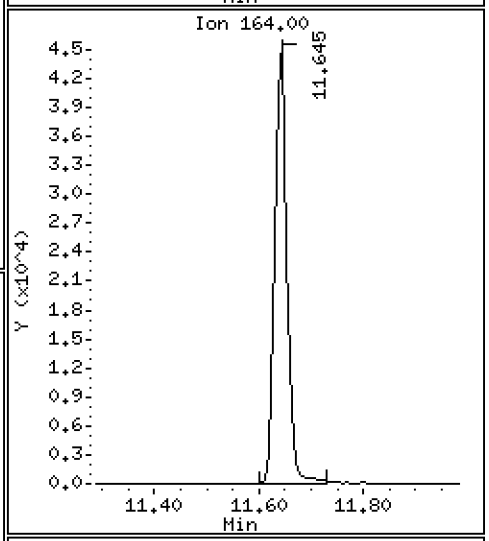


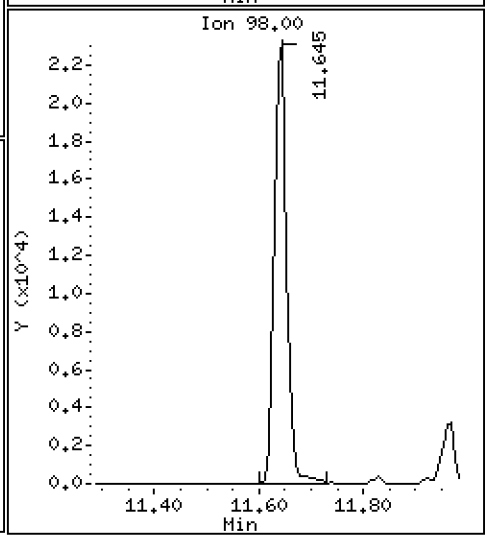












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

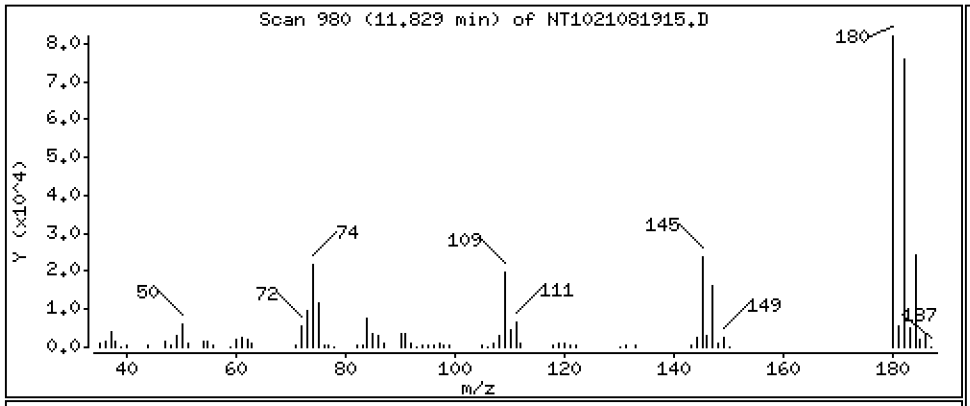
Operator: VTS

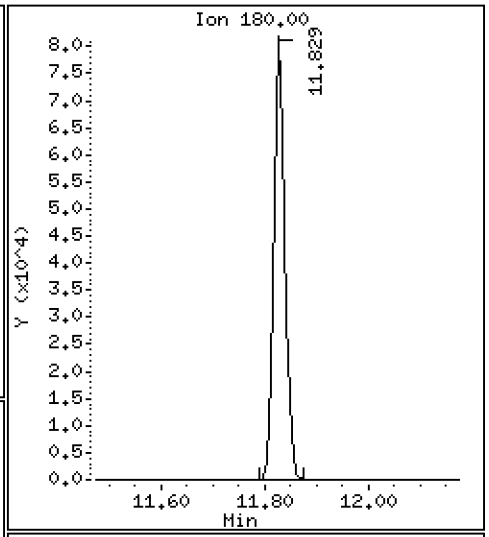
Column phase: ZB-5msi

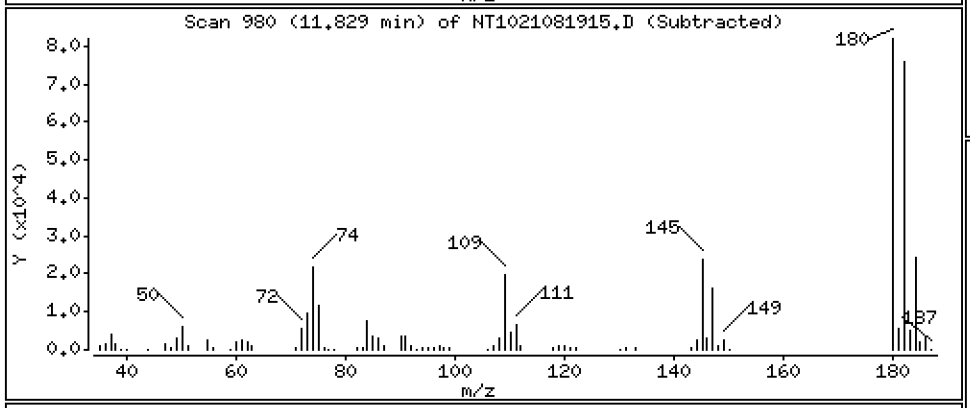
Column diameter: 0.25

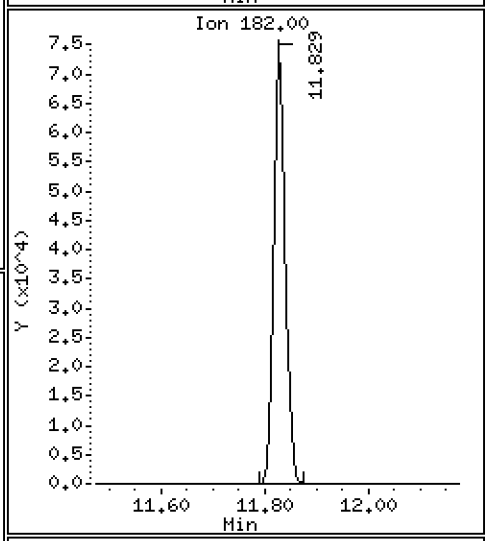
26 1,2,4-Trichlorobenzene

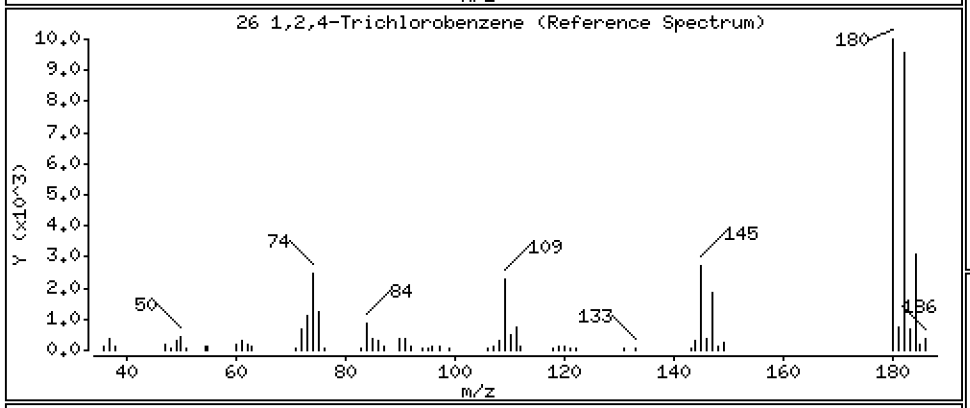
Concentration: 5.000 ug/mL

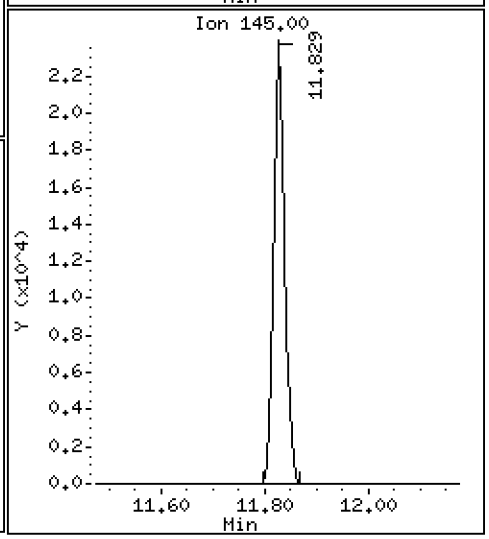


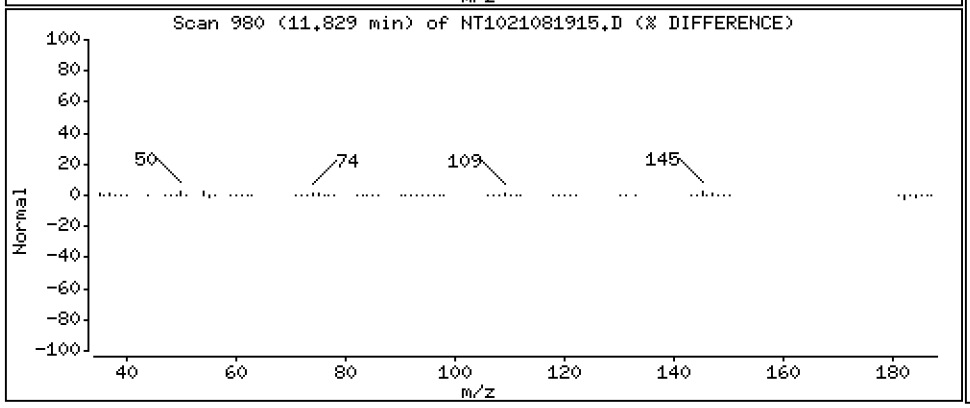












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

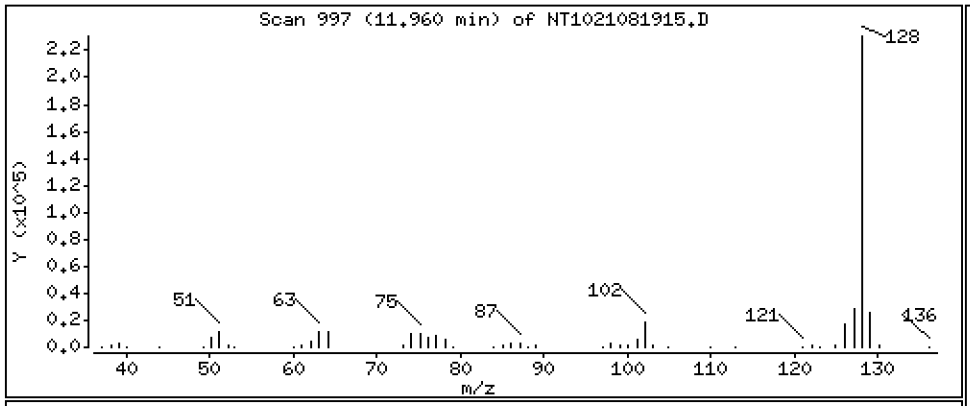
Operator: VTS

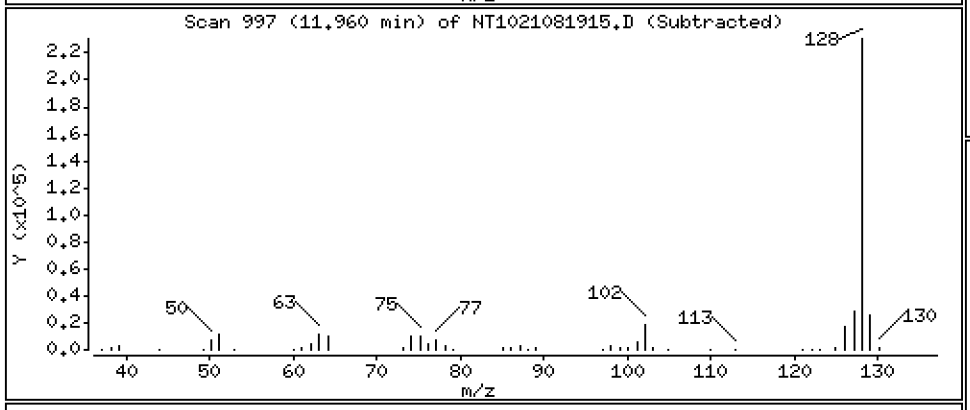
Column phase: ZB-5msi

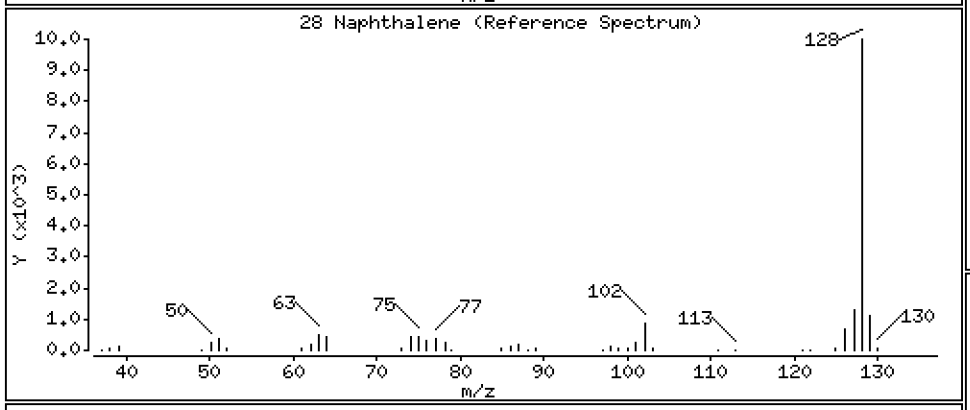
Column diameter: 0.25

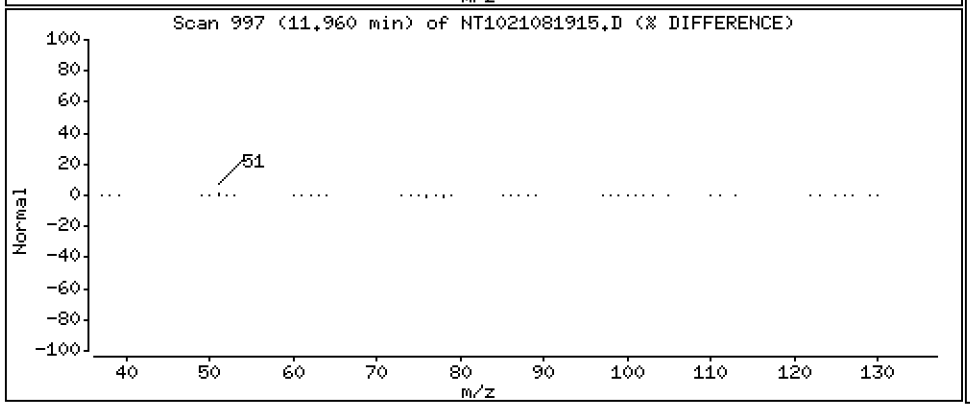
28 Naphthalene

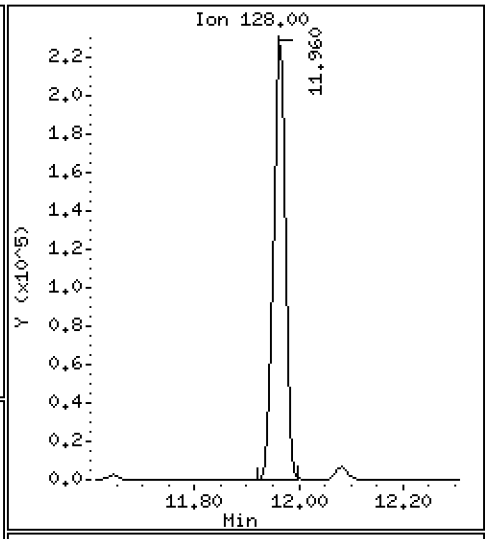
Concentration: 5.100 ug/mL

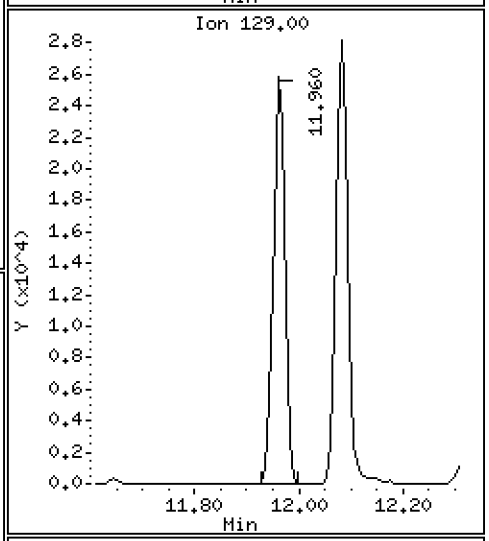


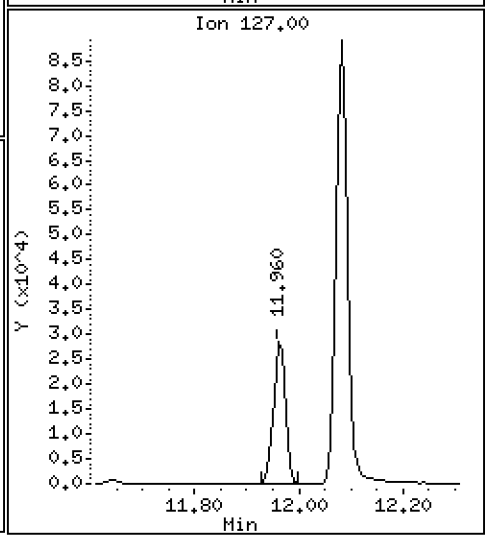












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

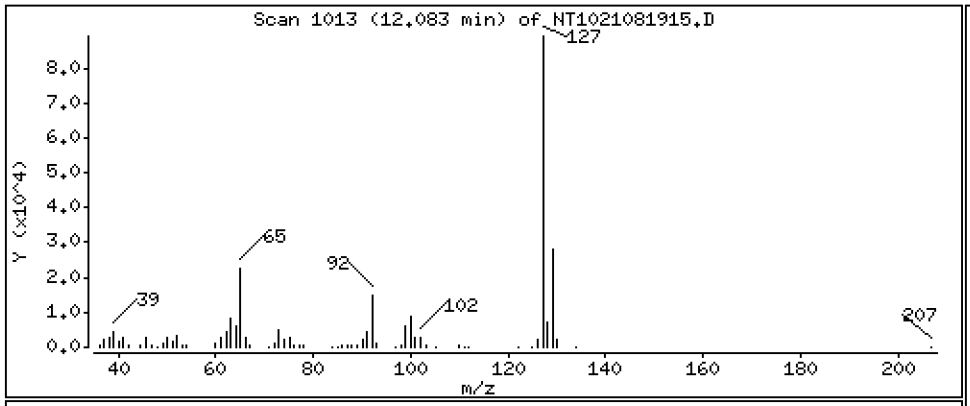
Operator: VTS

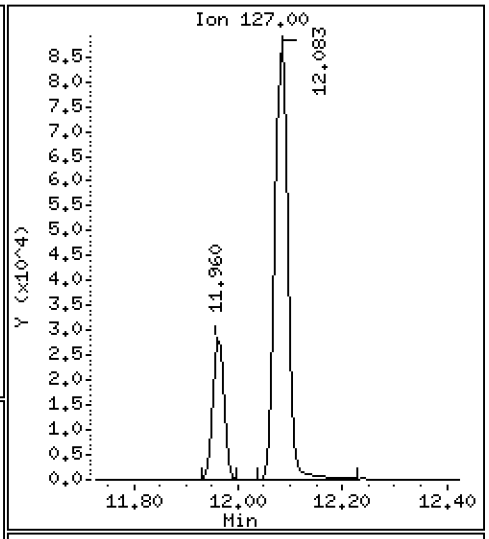
Column phase: ZB-5msi

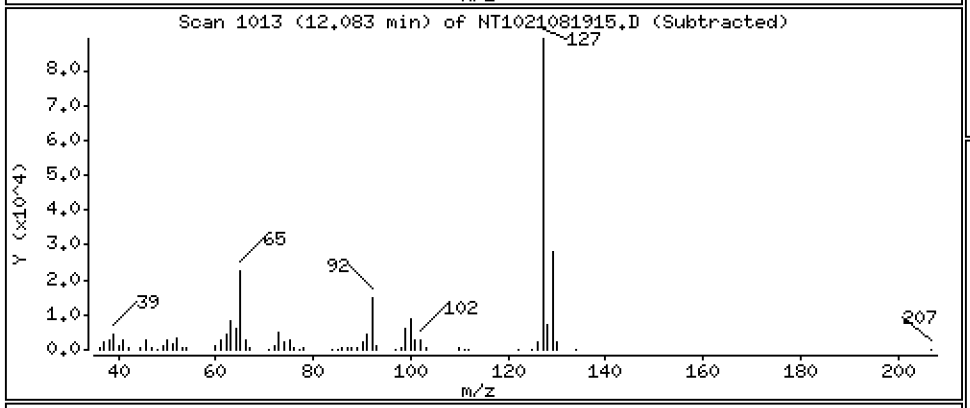
Column diameter: 0.25

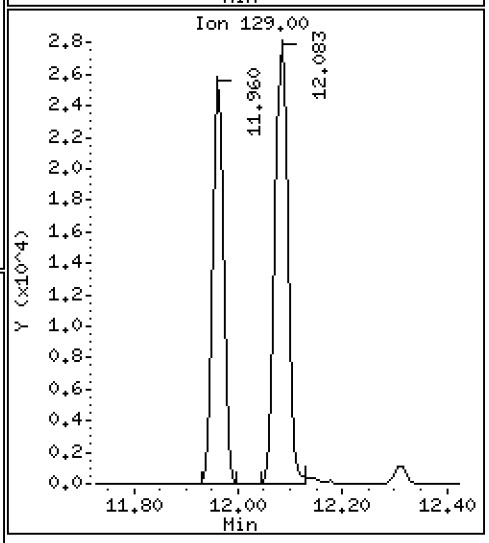
29 4-Chloroaniline

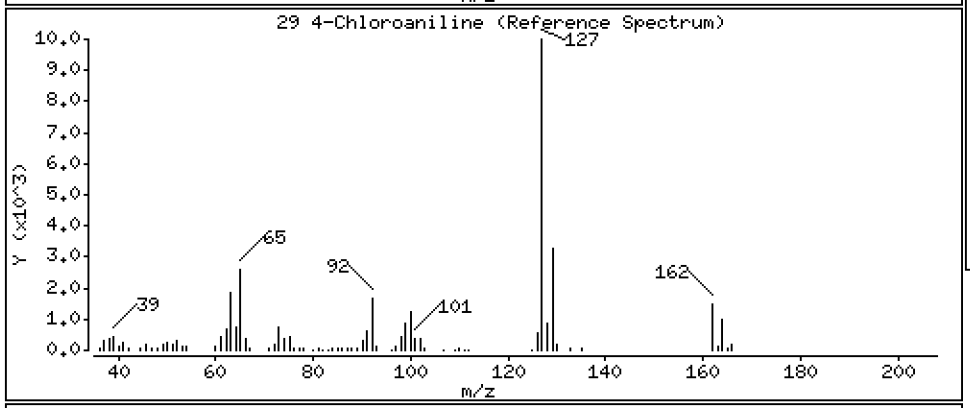
Concentration: 4.593 ug/mL

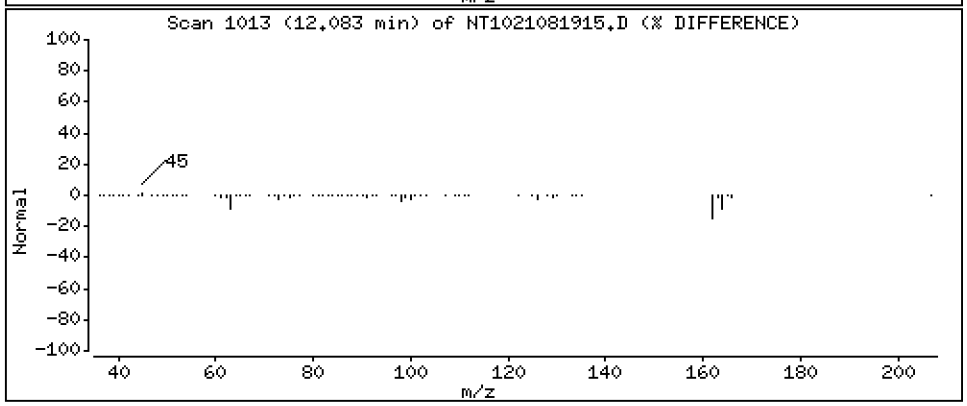












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

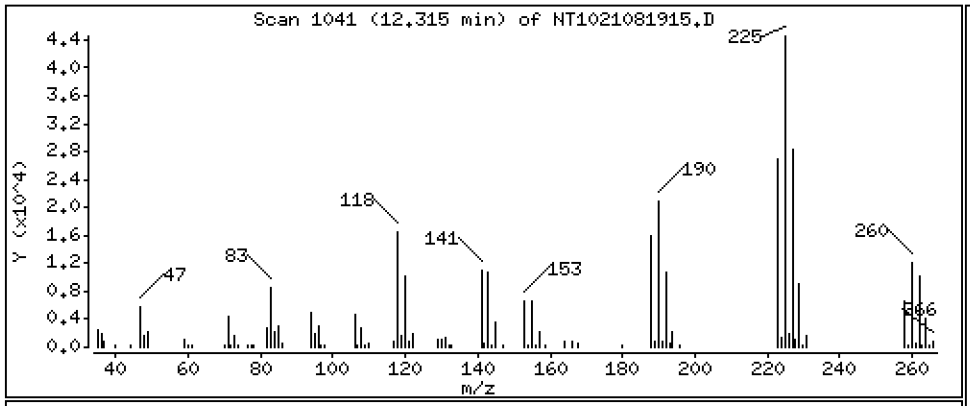
Operator: VTS

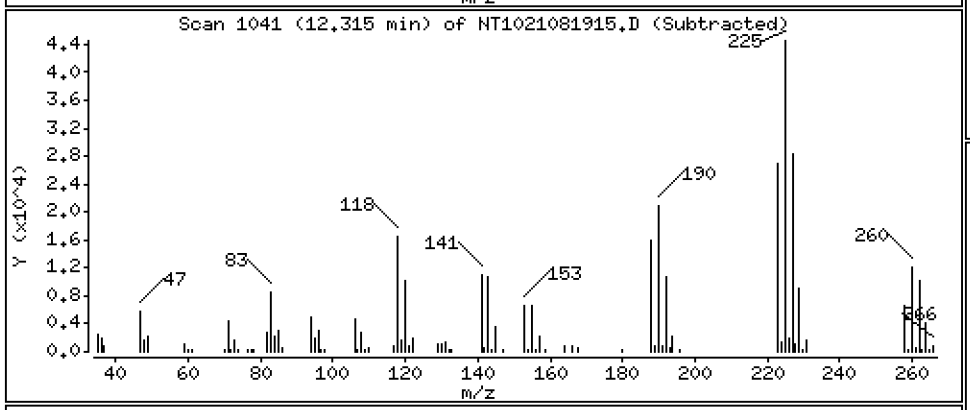
Column phase: ZB-5msi

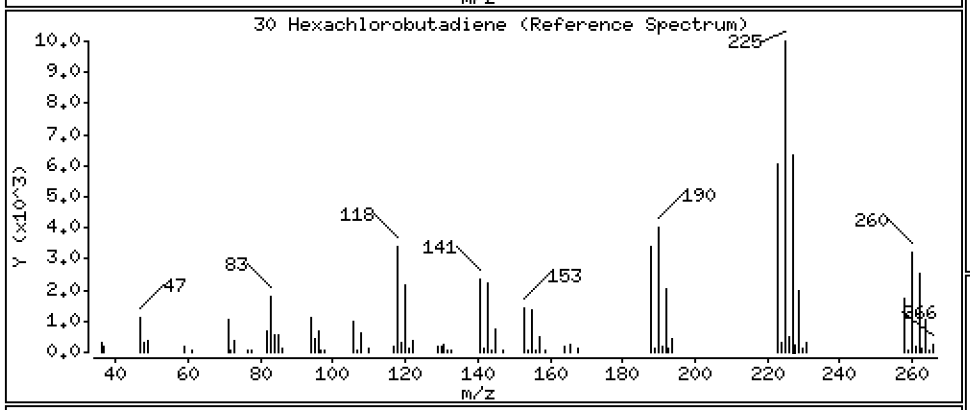
Column diameter: 0.25

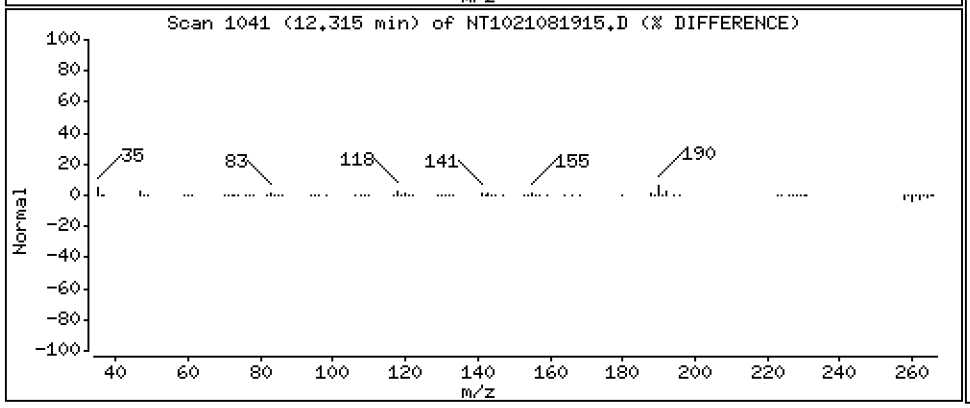
30 Hexachlorobutadiene

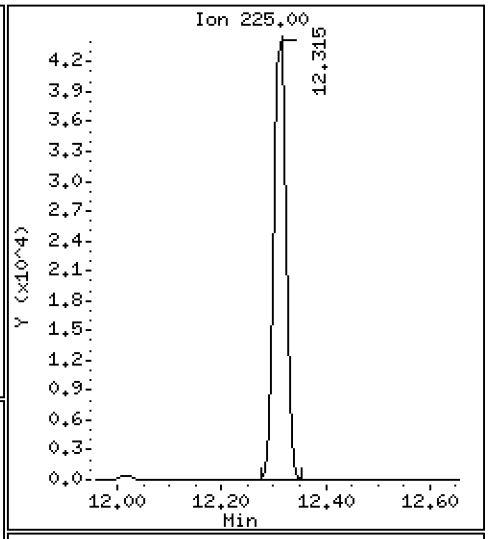
Concentration: 5.107 ug/mL

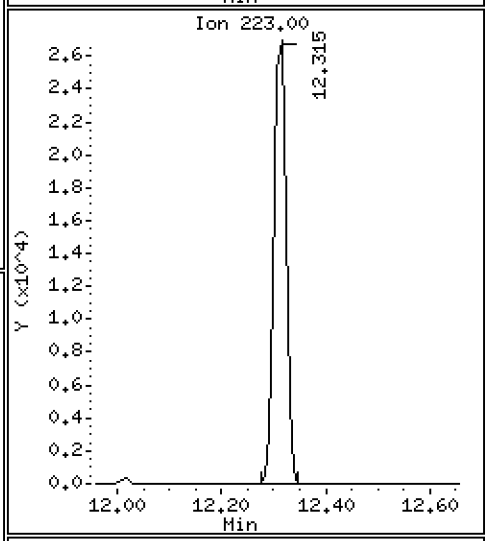


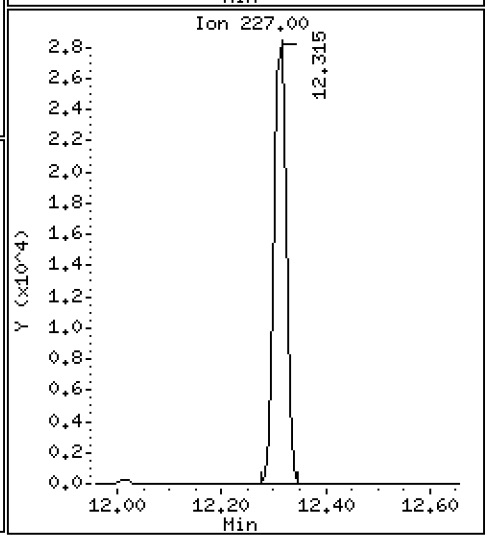












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

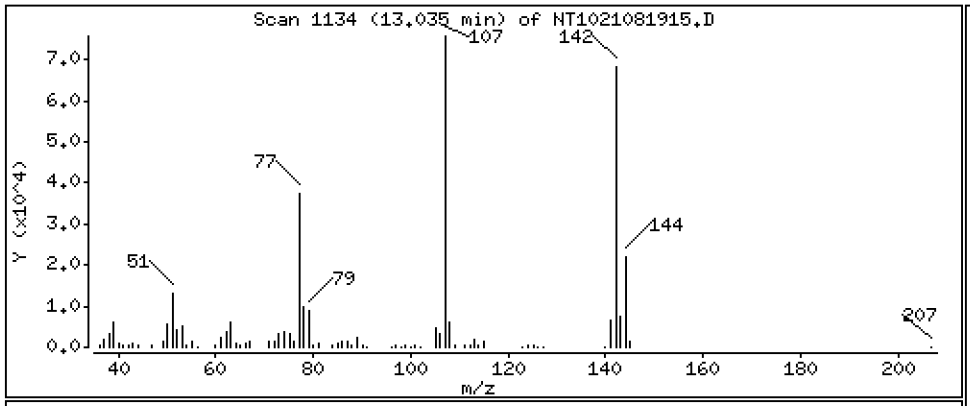
Operator: VTS

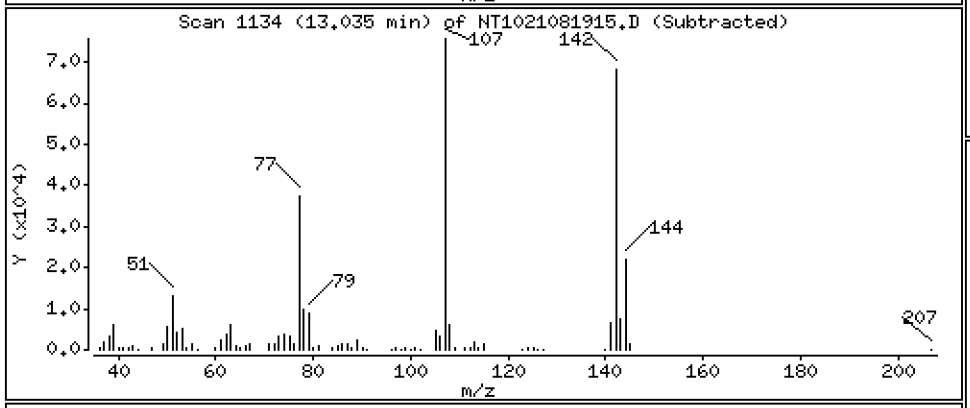
Column phase: ZB-5msi

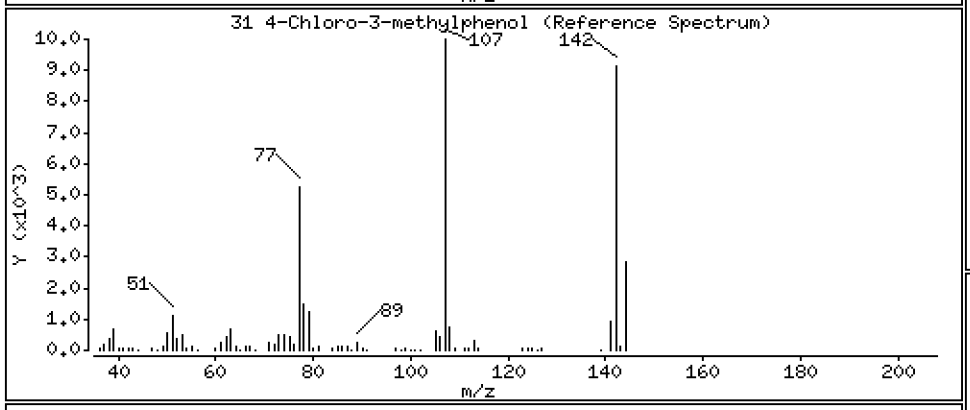
Column diameter: 0.25

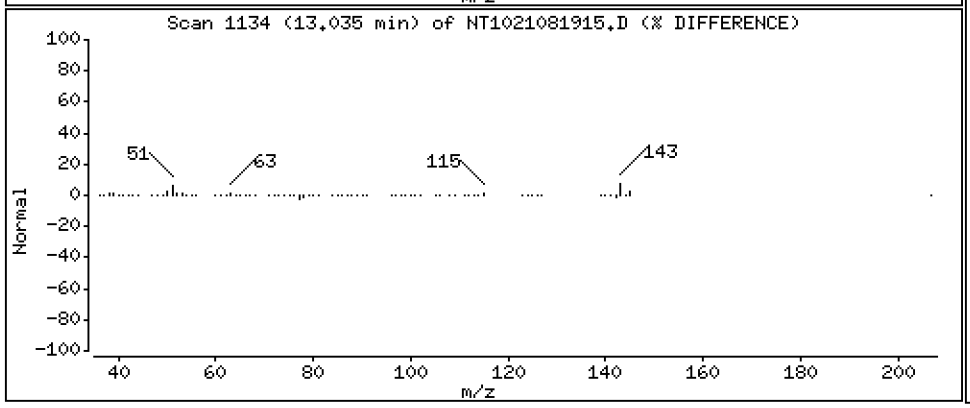
31 4-Chloro-3-methylphenol

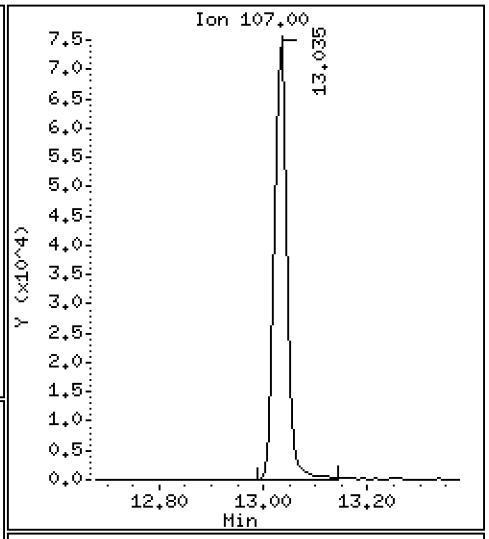
Concentration: 4.925 ug/mL

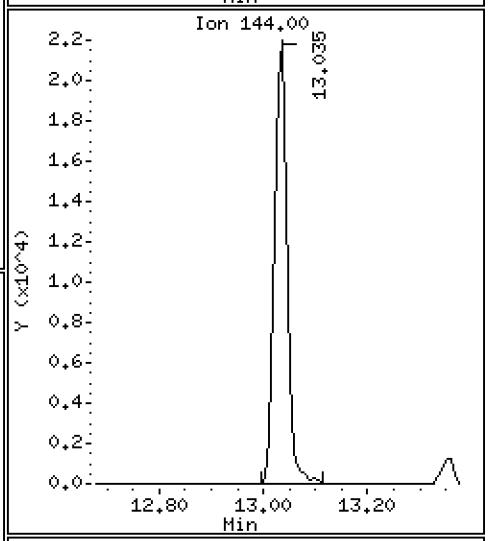


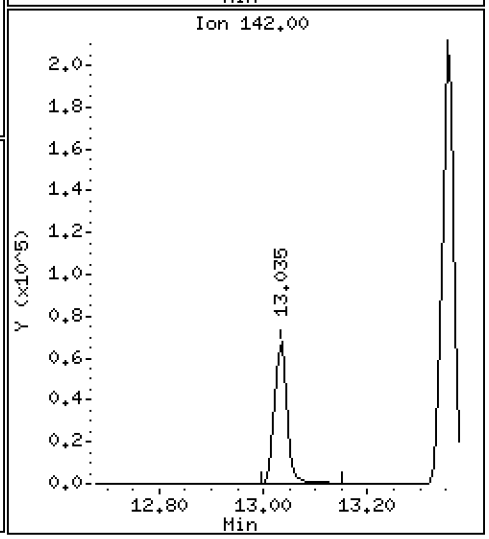












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

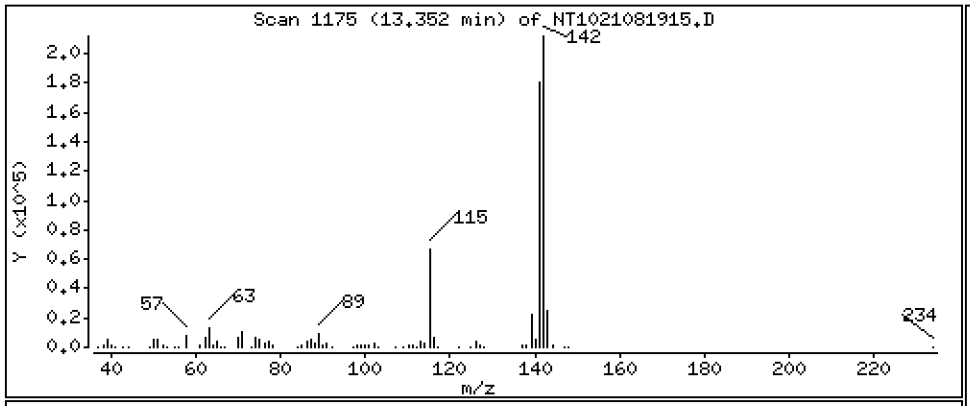
Operator: VTS

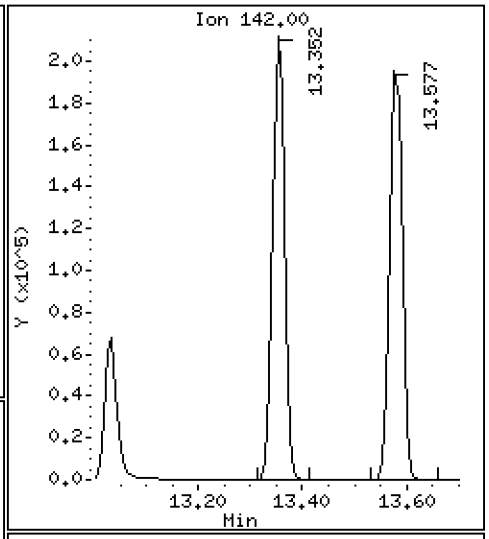
Column phase: ZB-5msi

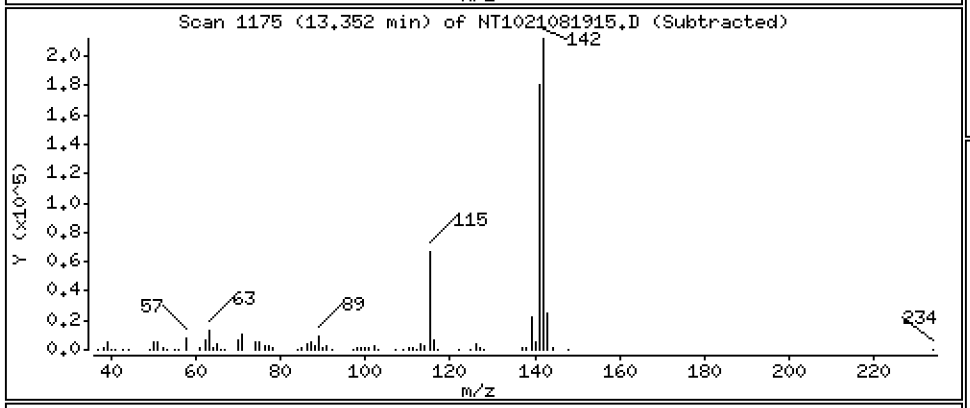
Column diameter: 0.25

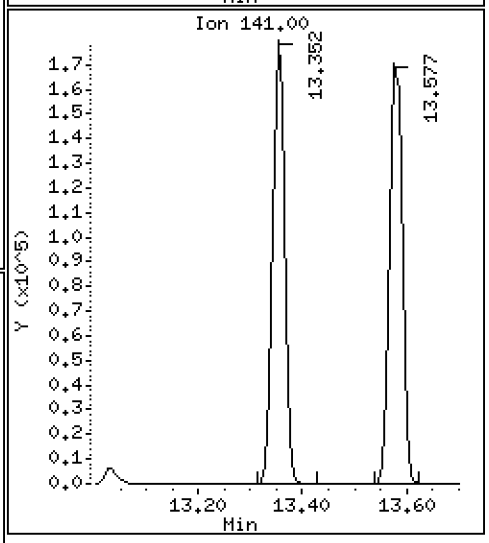
32 2-Methylnaphthalene

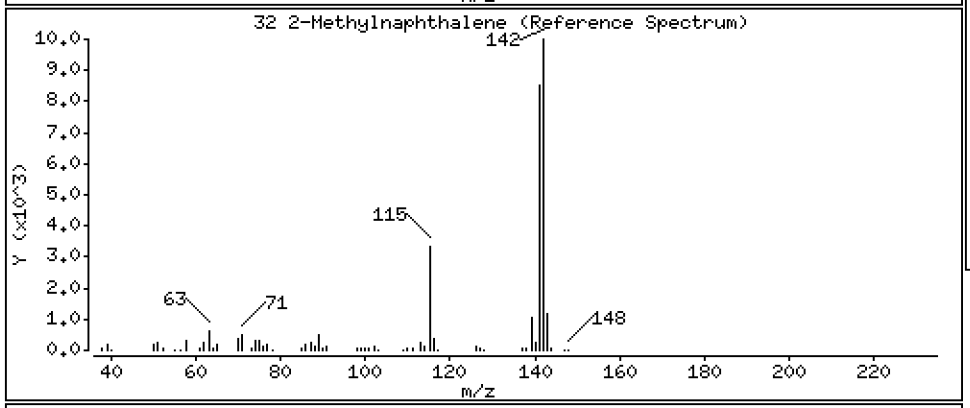
Concentration: 4.723 ug/mL

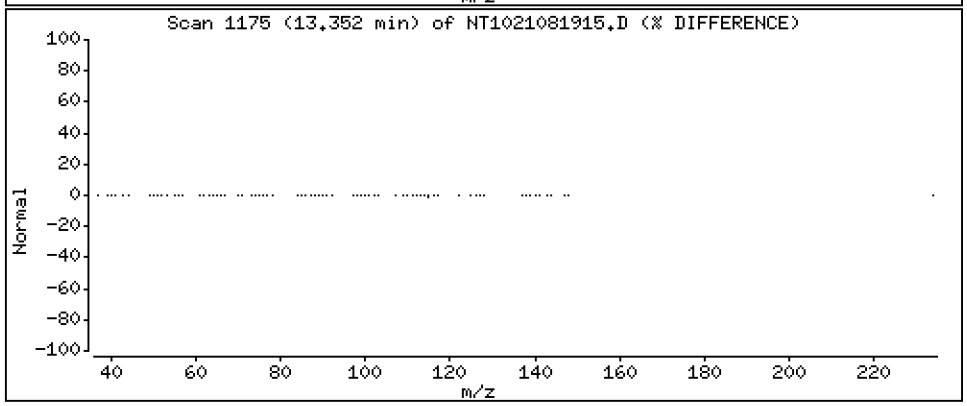












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

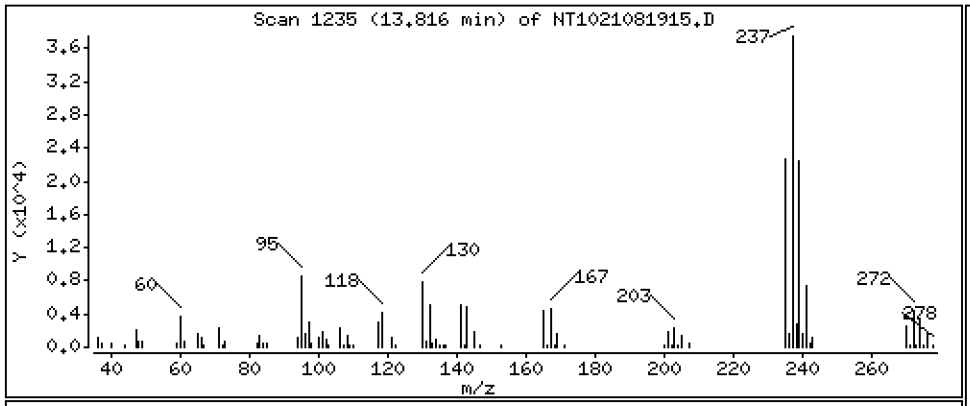
Operator: VTS

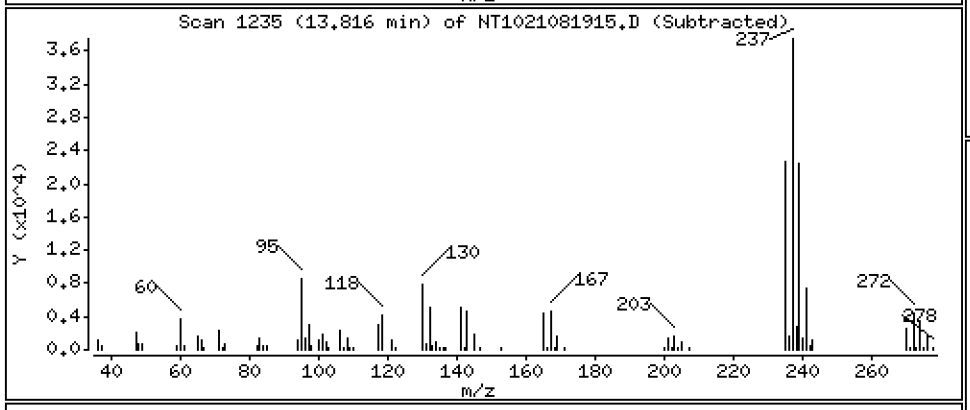
Column phase: ZB-5msi

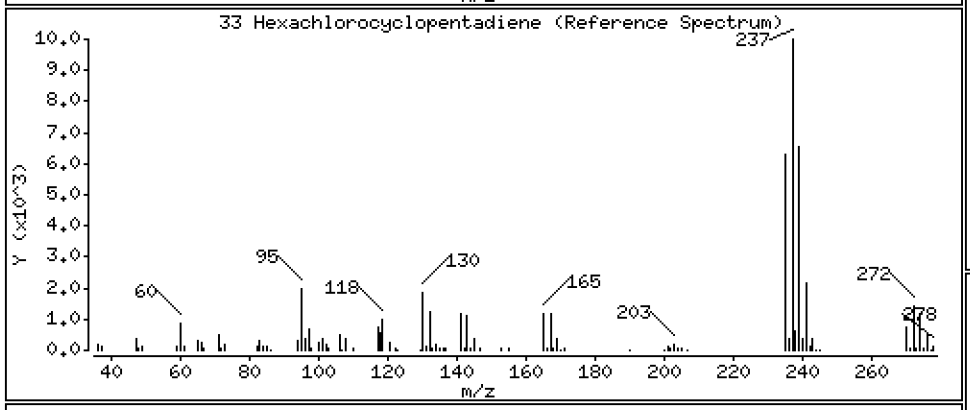
Column diameter: 0.25

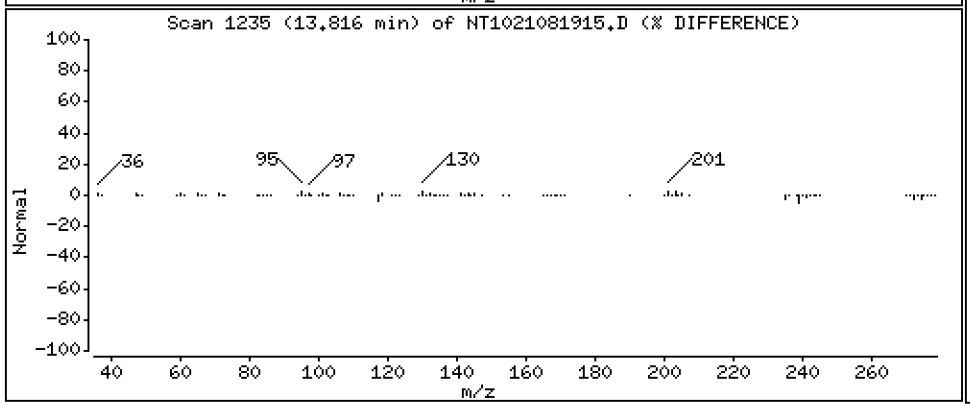
33 Hexachlorocyclopentadiene

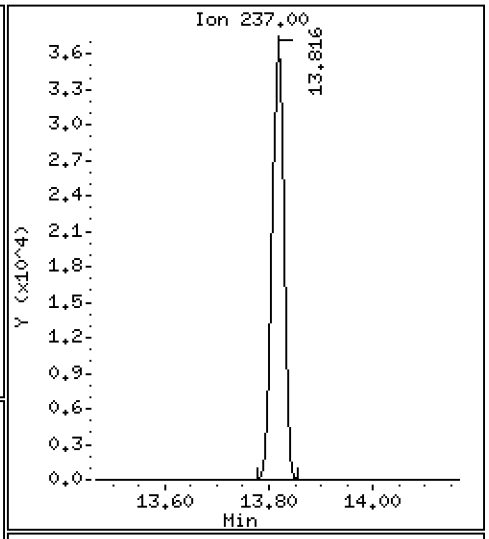
Concentration: 4.314 ug/mL

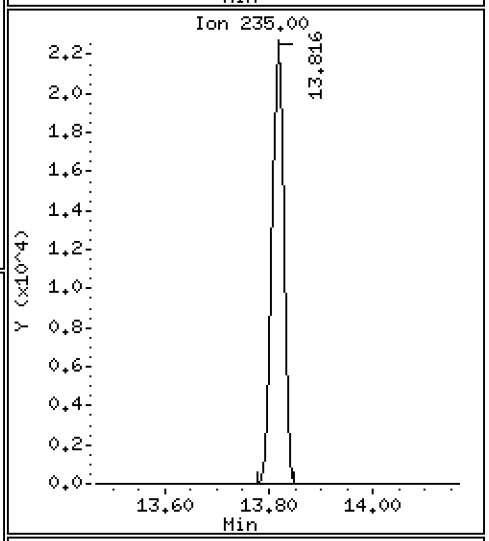


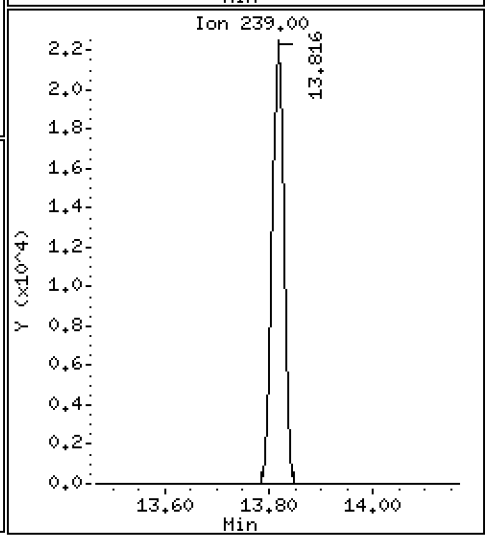












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

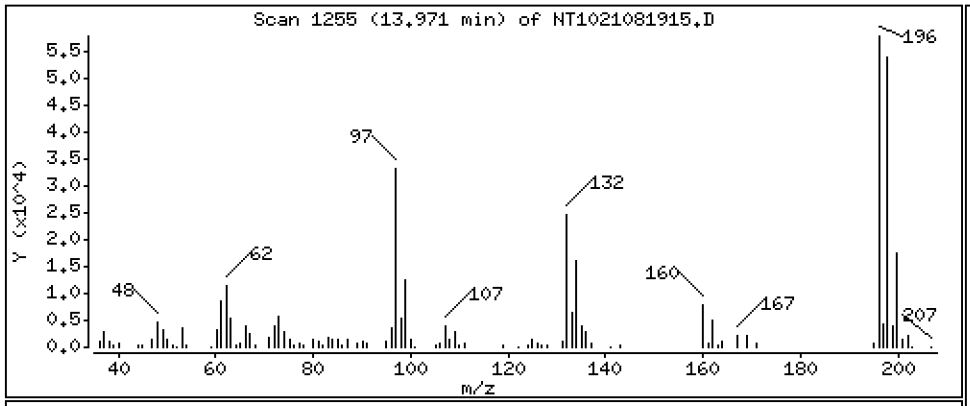
Operator: VTS

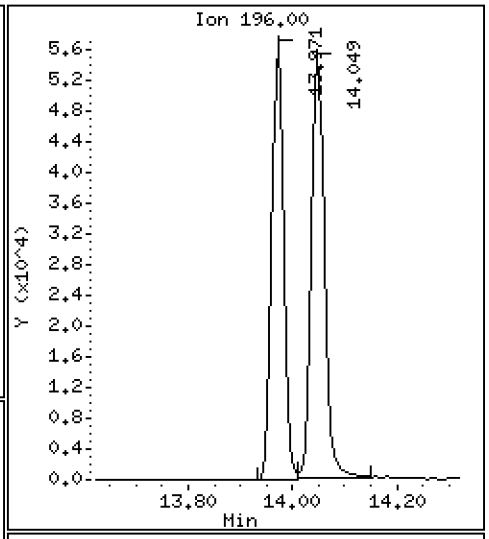
Column phase: ZB-5msi

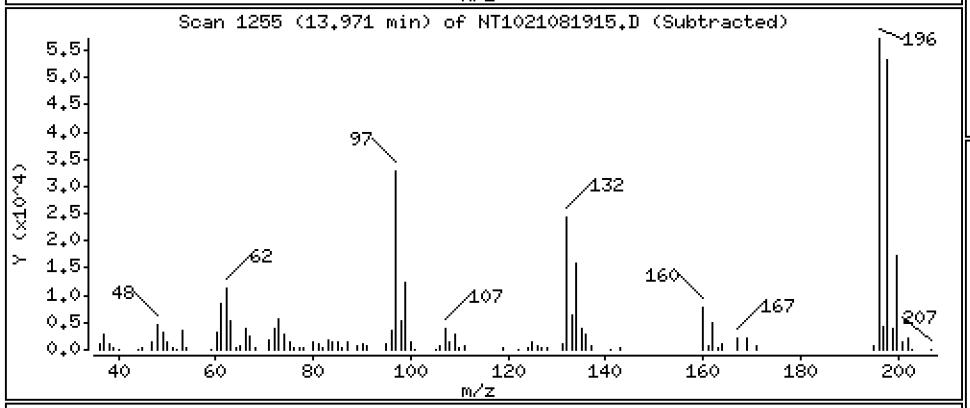
Column diameter: 0.25

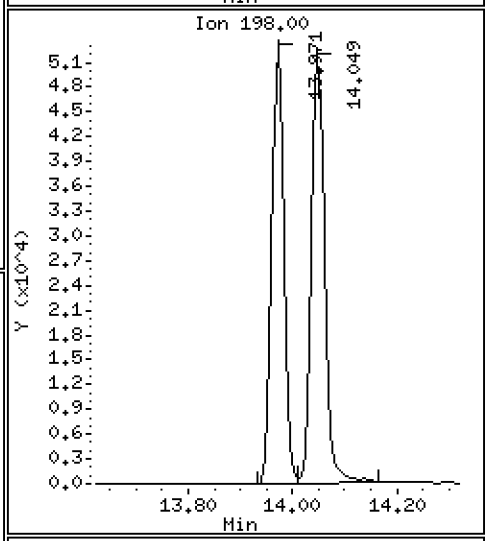
34 2,4,6-Trichlorophenol

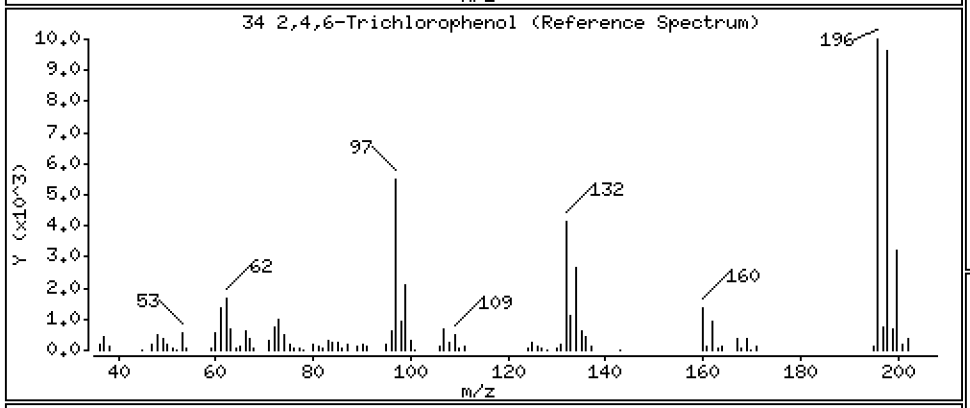
Concentration: 4.770 ug/mL

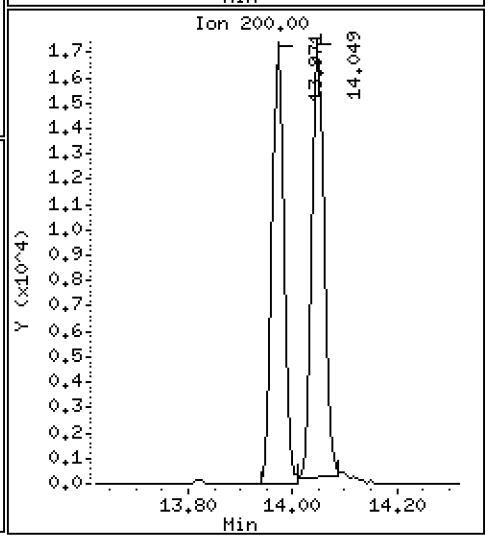


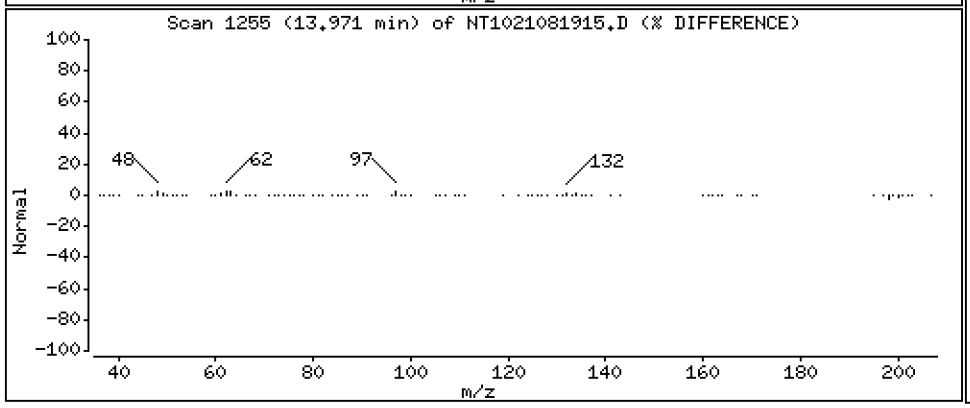












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

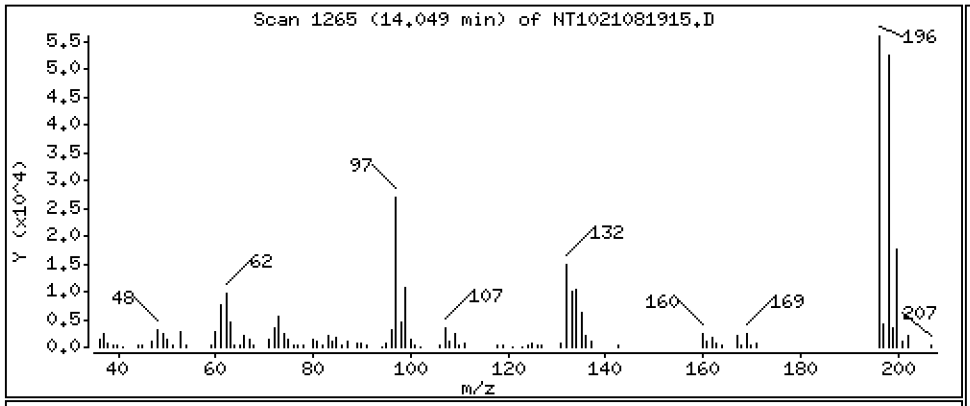
Operator: VTS

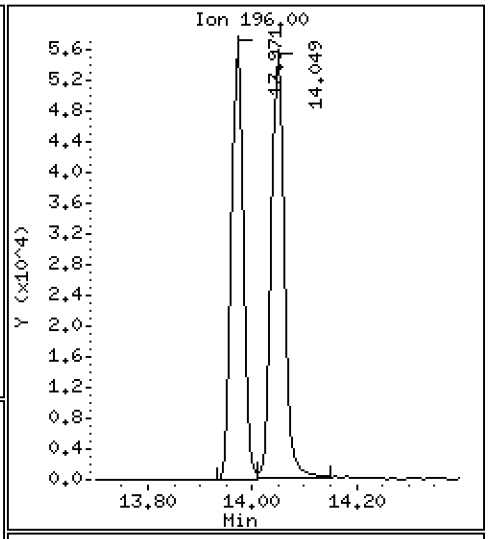
Column phase: ZB-5msi

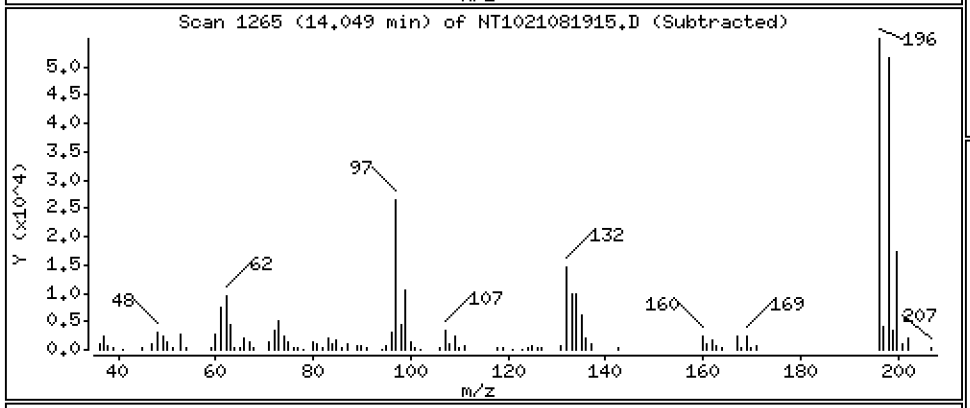
Column diameter: 0.25

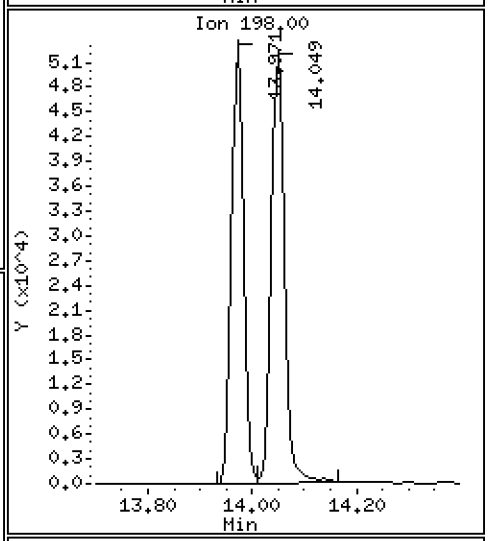
35 2,4,5-Trichlorophenol

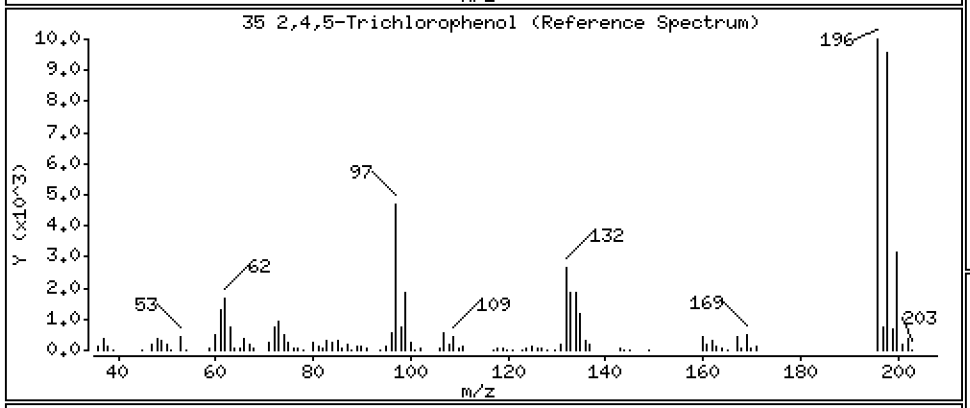
Concentration: 4.914 ug/mL

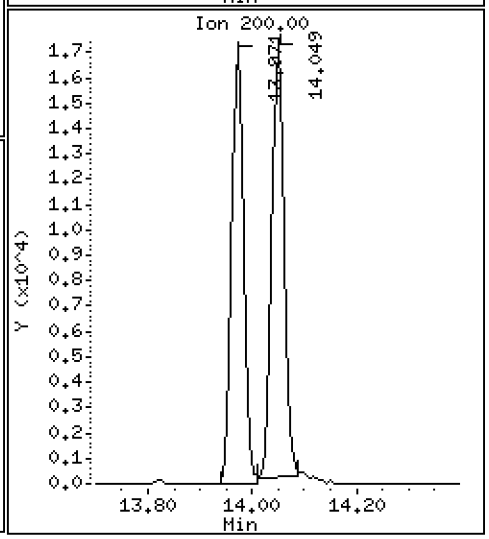


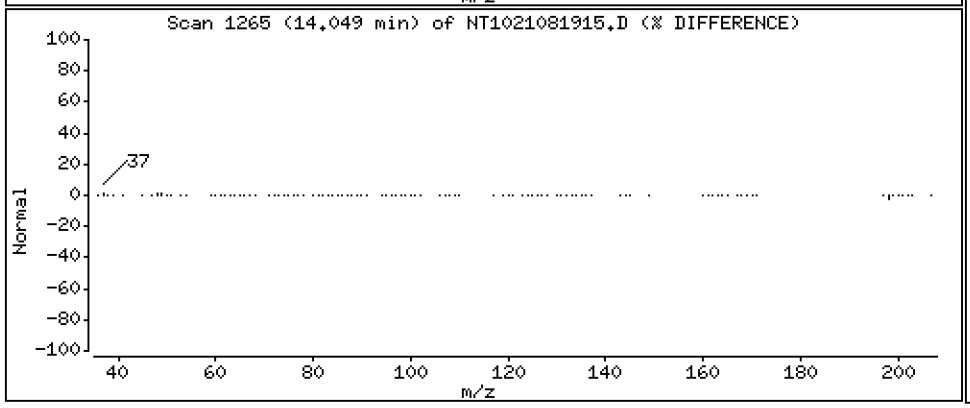












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

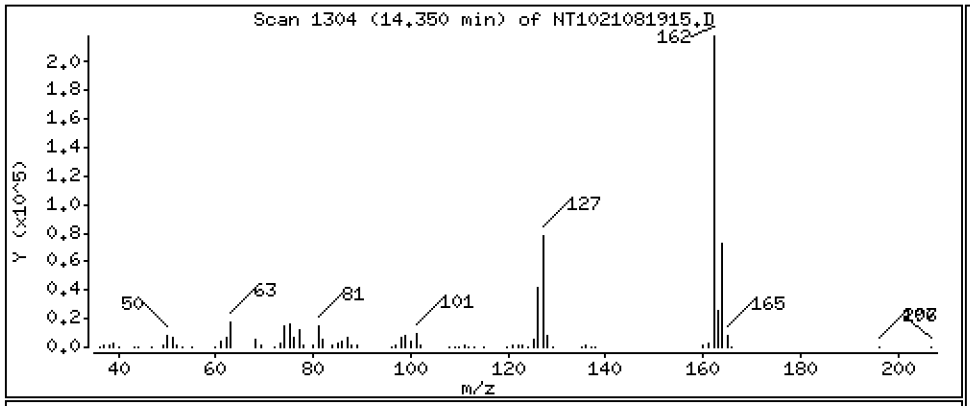
Operator: VTS

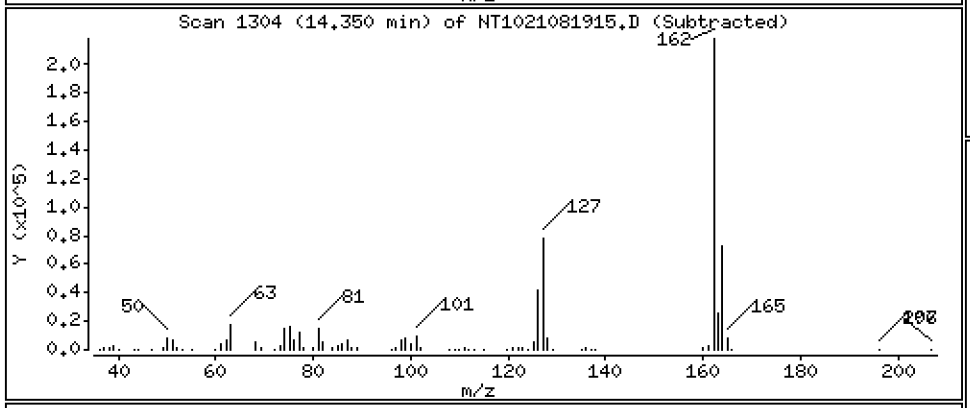
Column phase: ZB-5msi

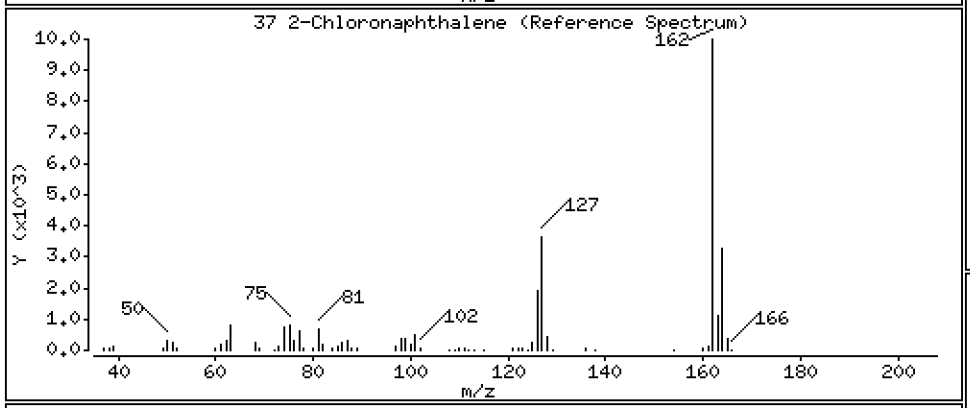
Column diameter: 0.25

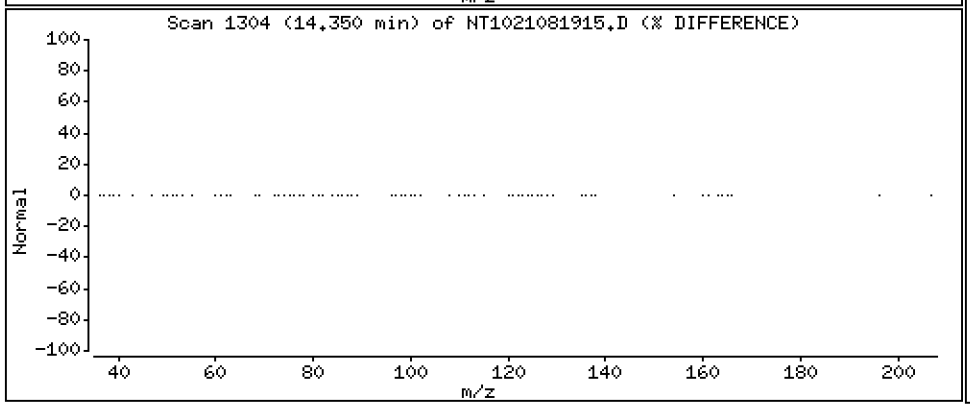
37 2-Chloronaphthalene

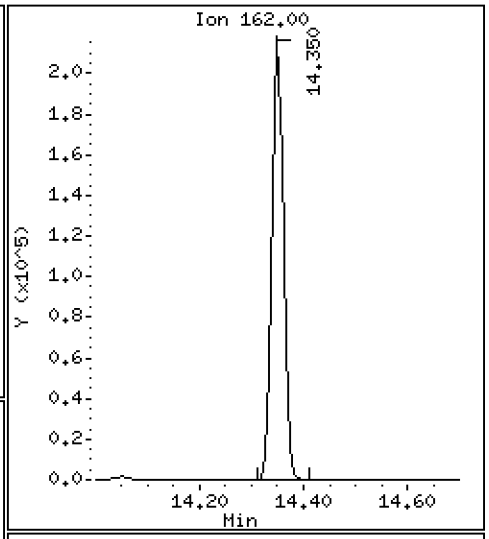
Concentration: 5.585 ug/mL

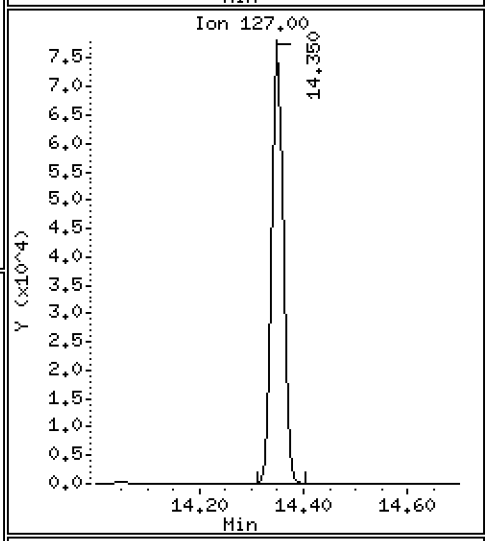


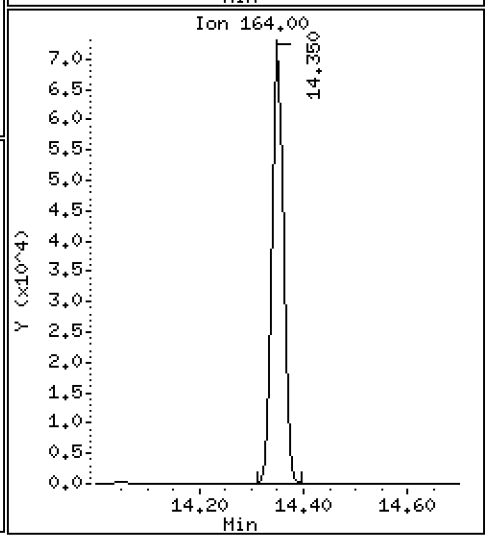












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

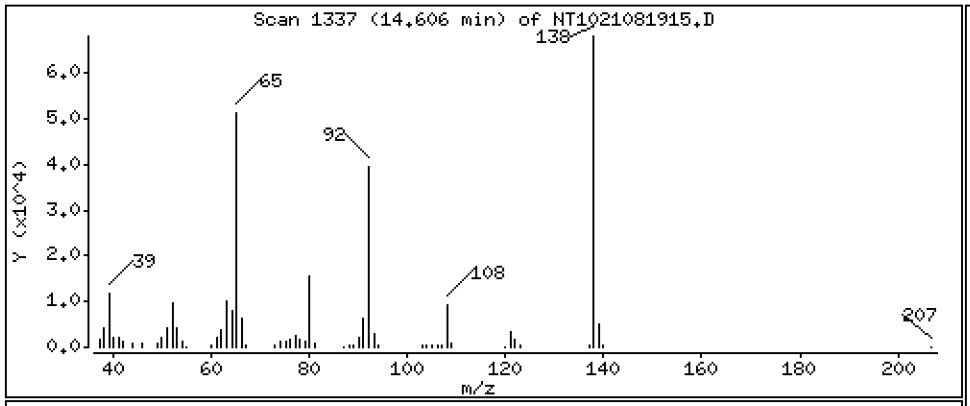
Operator: VTS

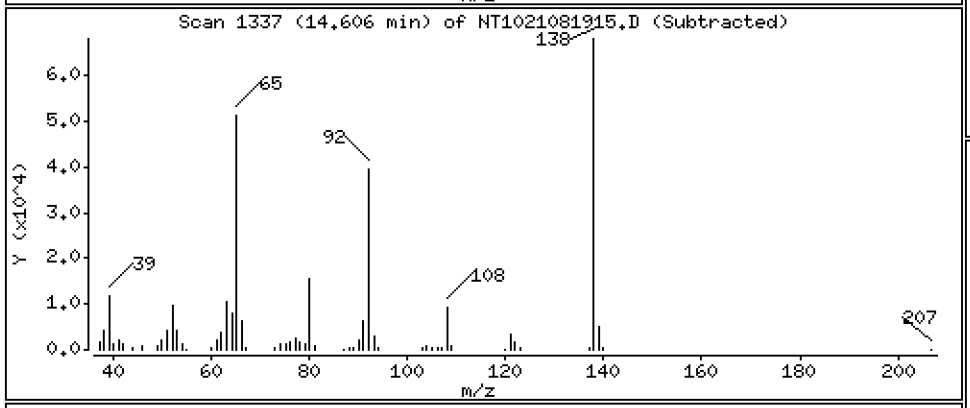
Column phase: ZB-5msi

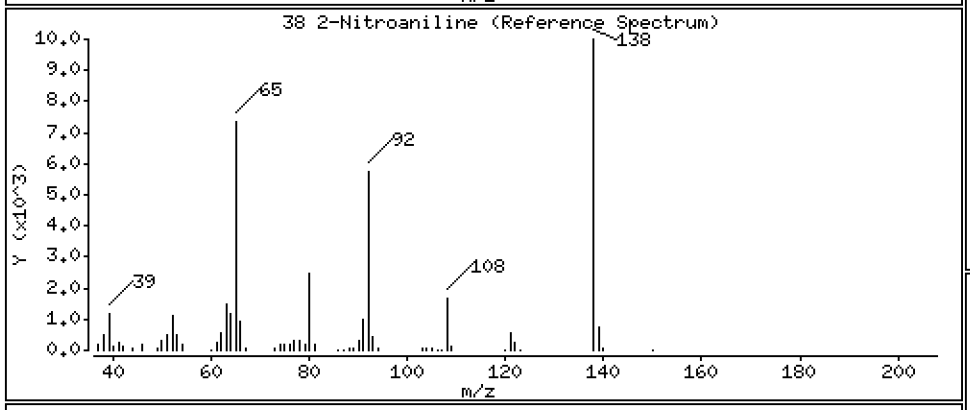
Column diameter: 0.25

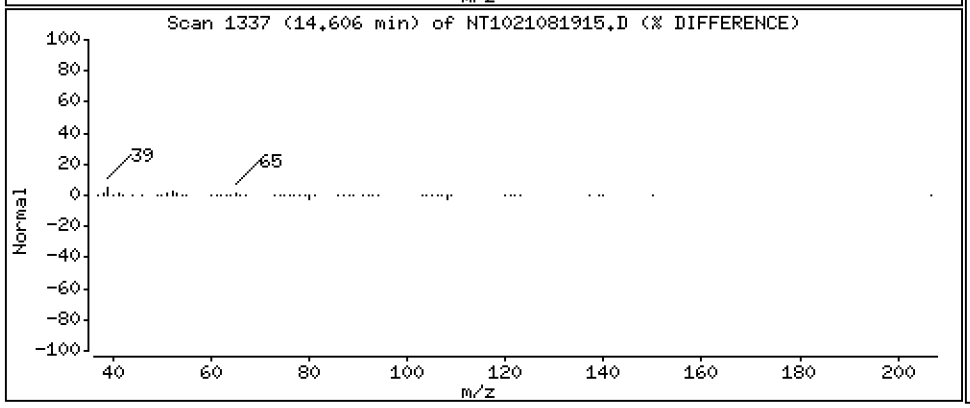
38 2-Nitroaniline

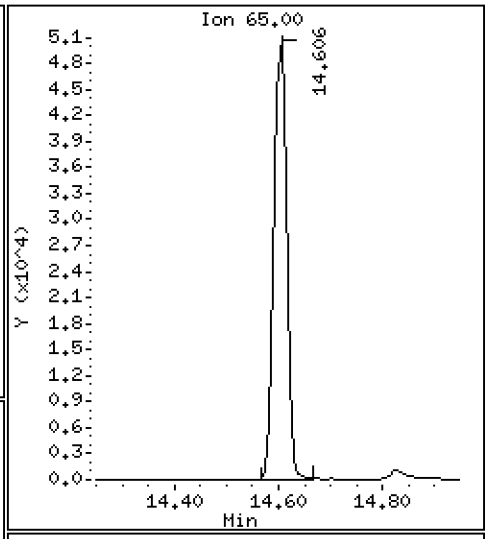
Concentration: 4.972 ug/mL

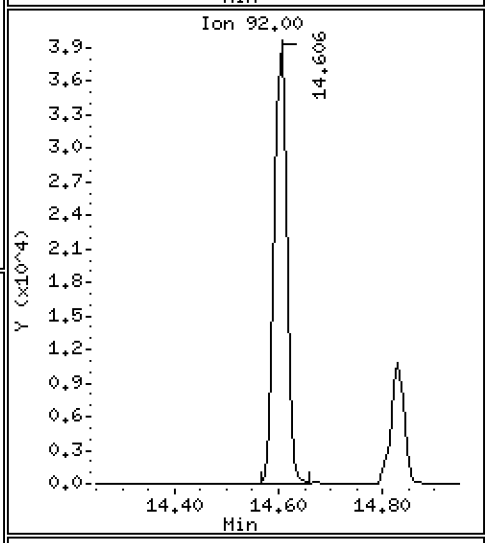


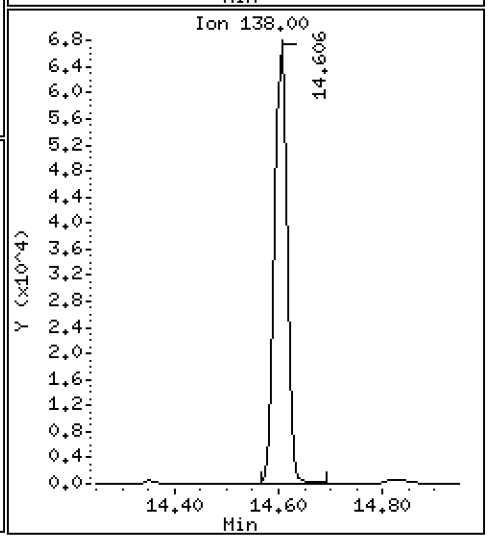












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

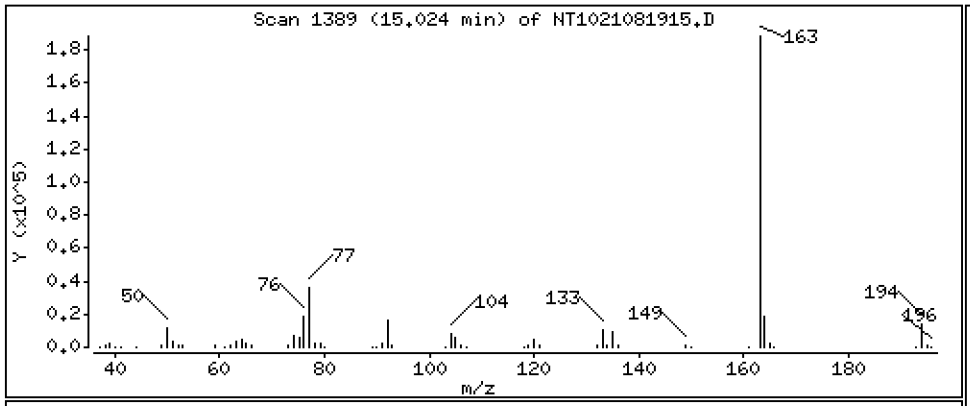
Operator: VTS

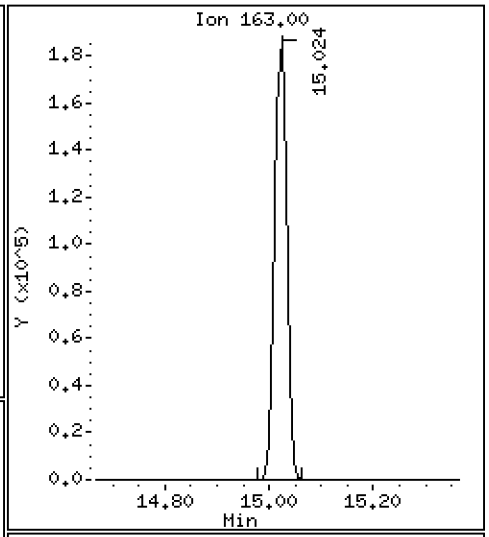
Column phase: ZB-5msi

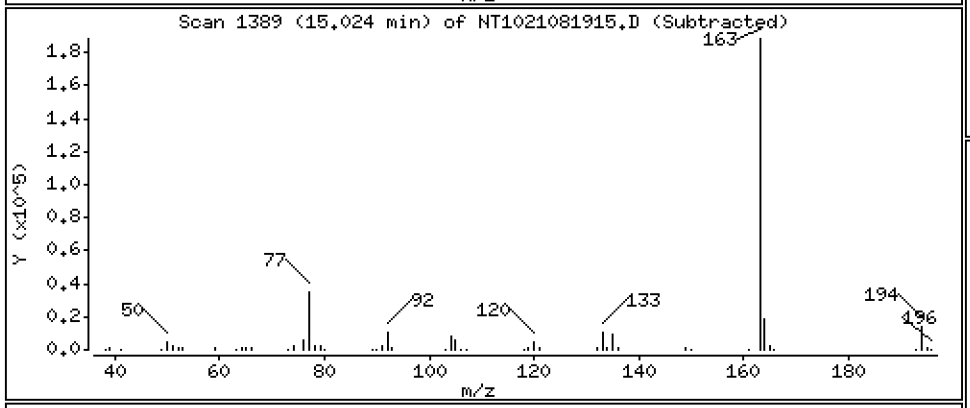
Column diameter: 0.25

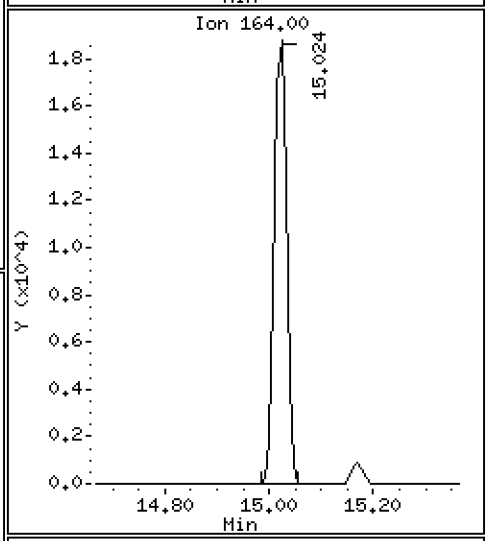
39 Dimethylphthalate

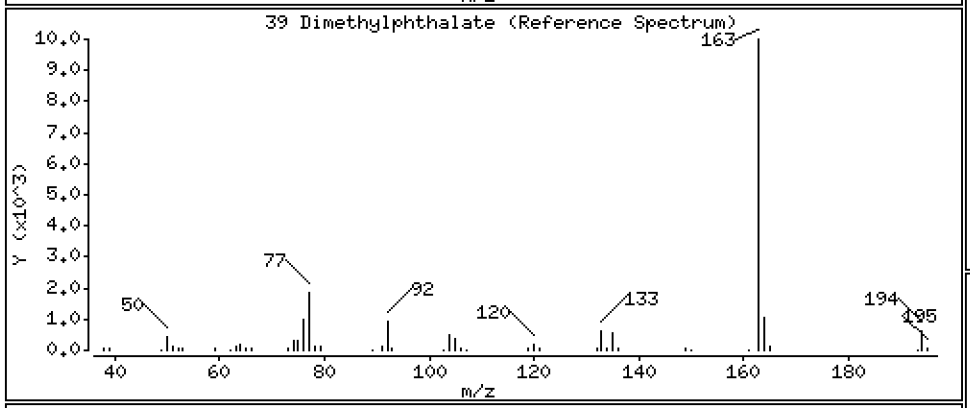
Concentration: 4.979 ug/mL

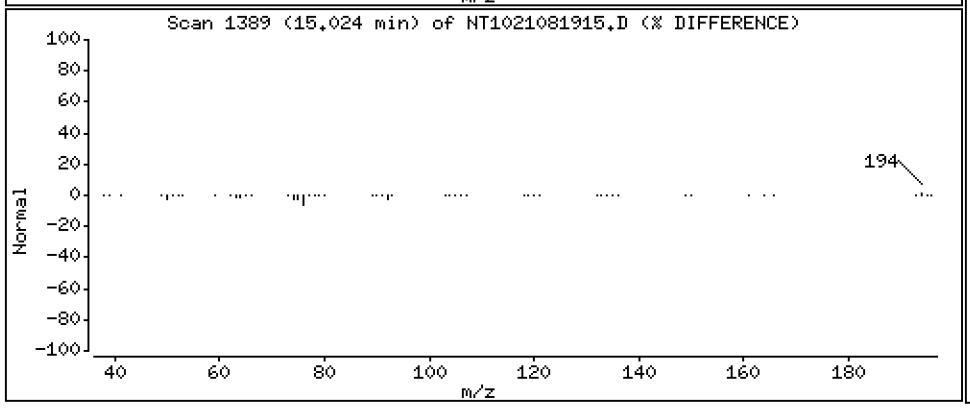


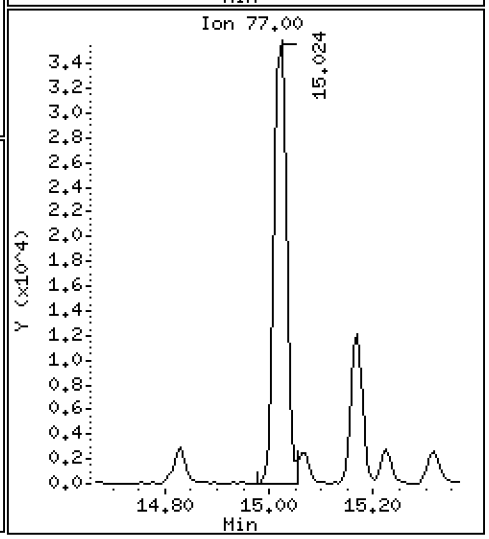












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

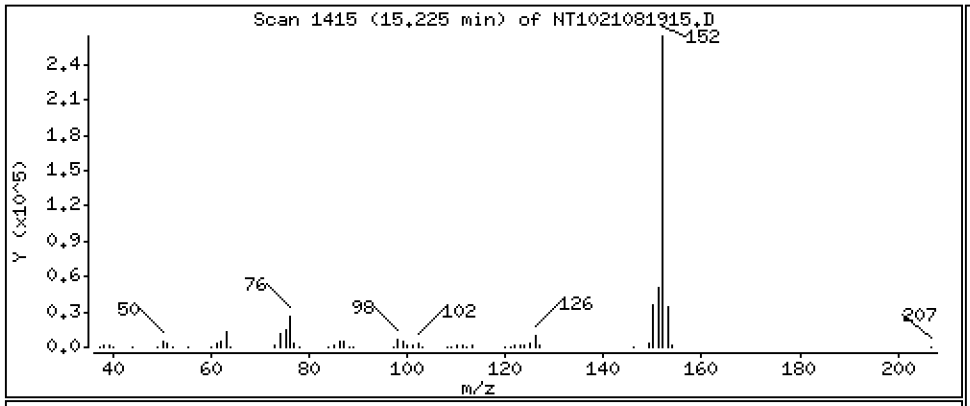
Operator: VTS

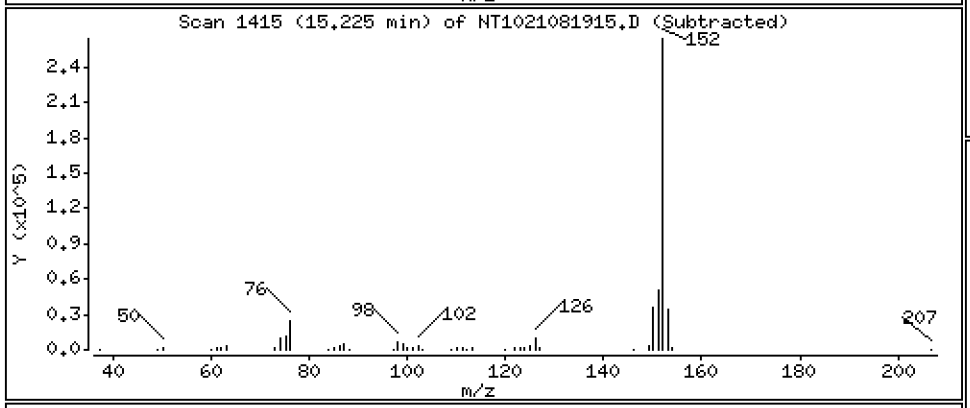
Column phase: ZB-5msi

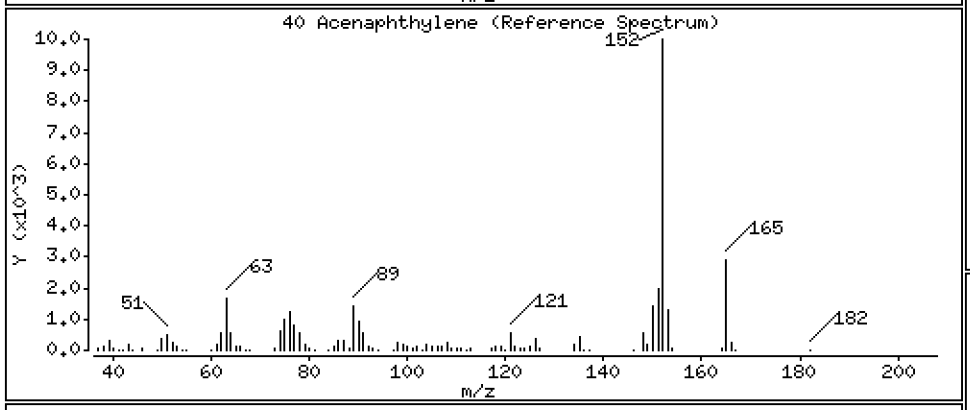
Column diameter: 0.25

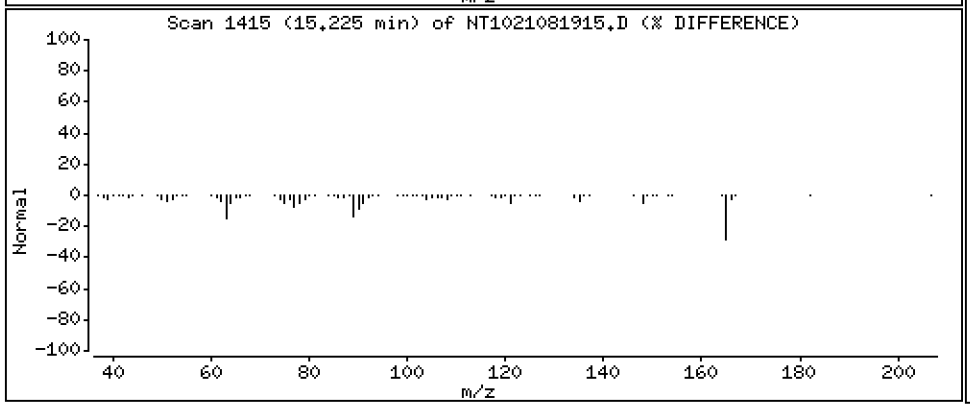
40 Acenaphthylene

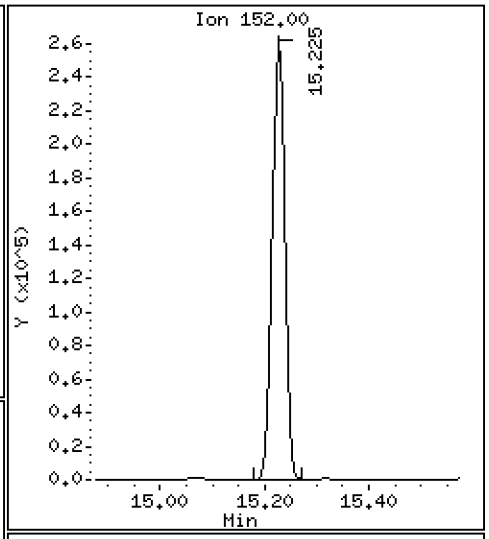
Concentration: 4.796 ug/mL

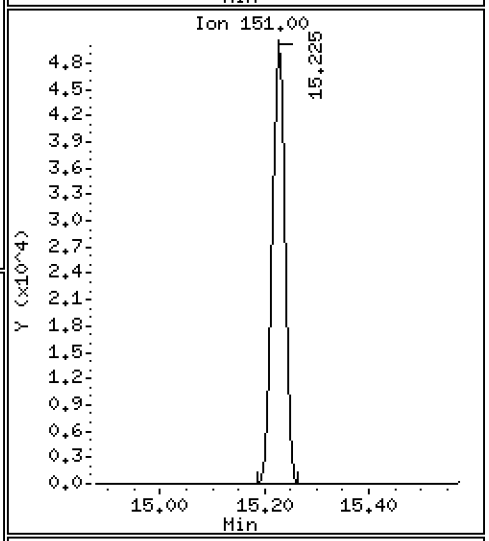


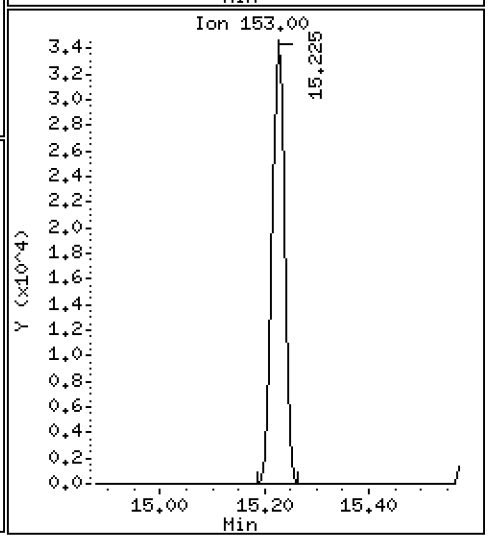












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

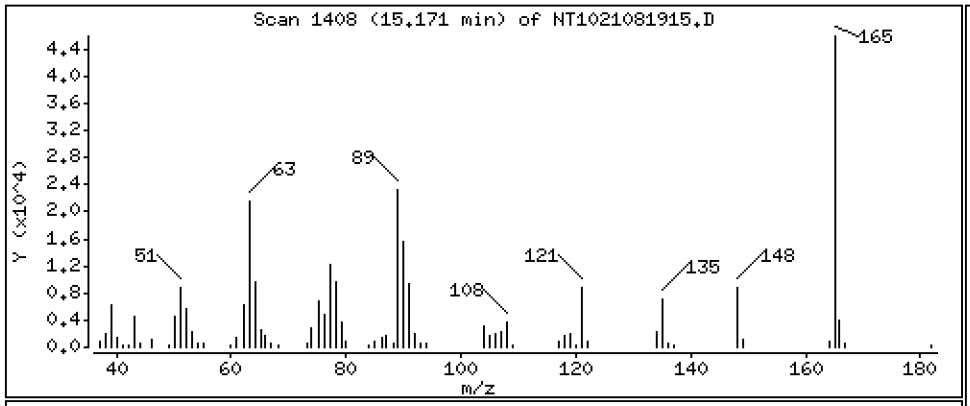
Operator: VTS

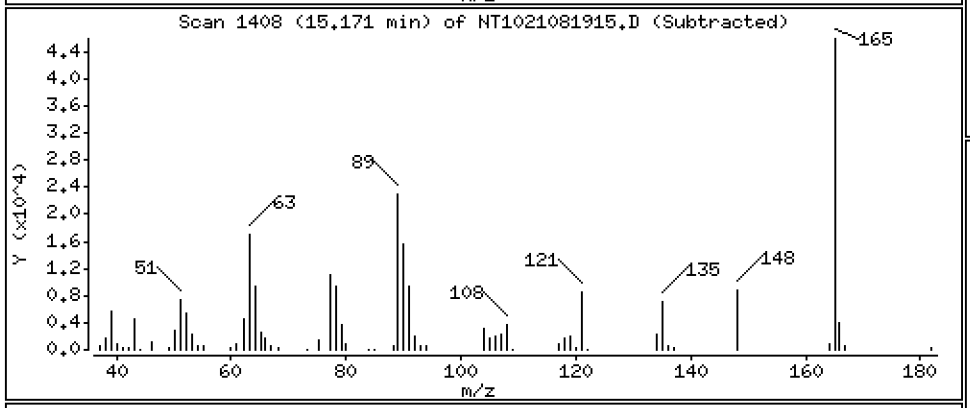
Column phase: ZB-5msi

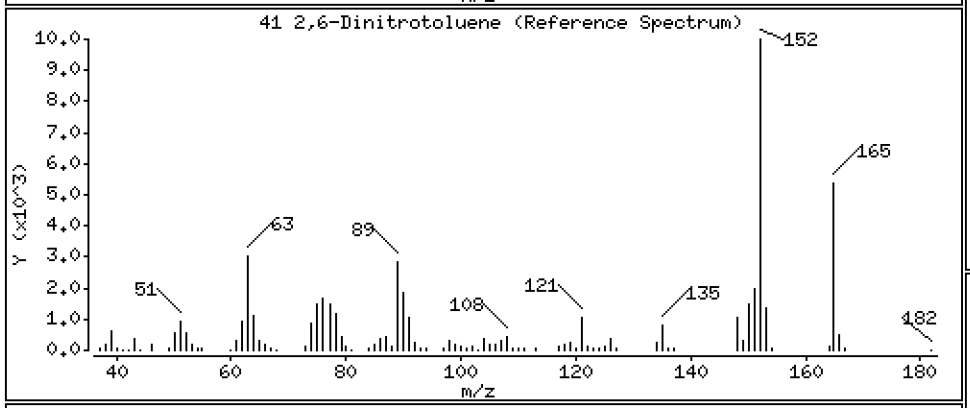
Column diameter: 0.25

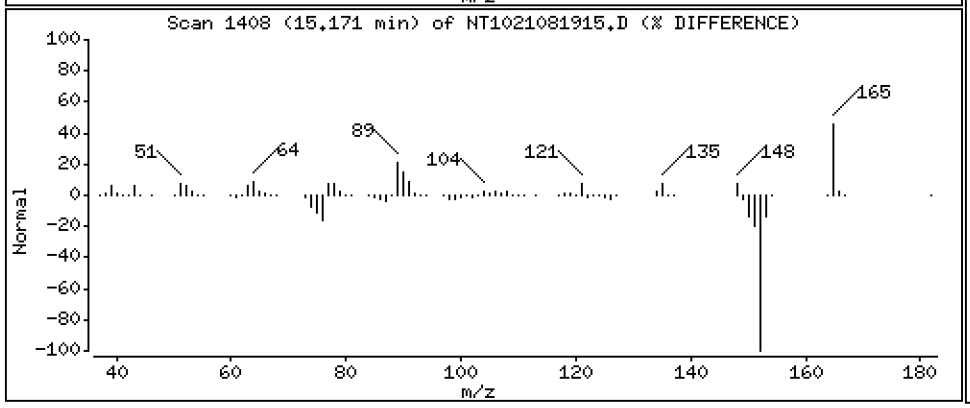
41 2,6-Dinitrotoluene

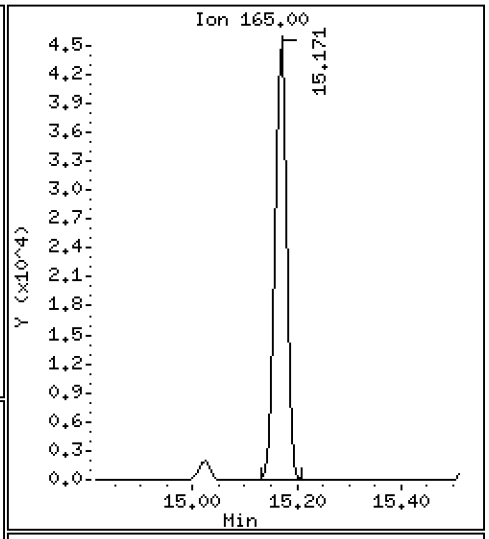
Concentration: 5.369 ug/mL

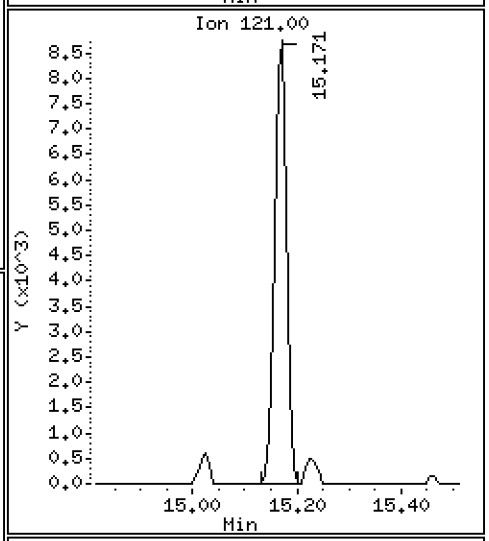


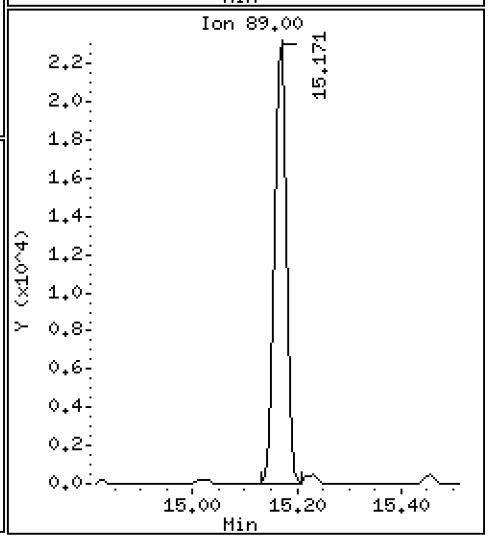












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

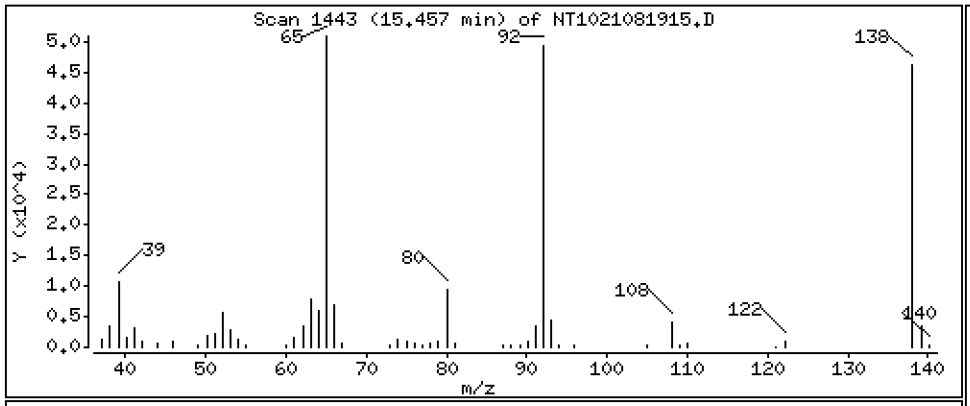
Operator: VTS

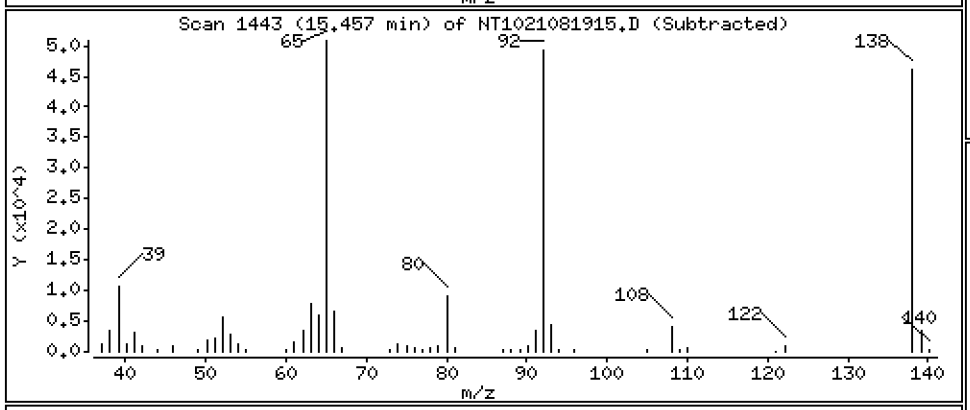
Column phase: ZB-5msi

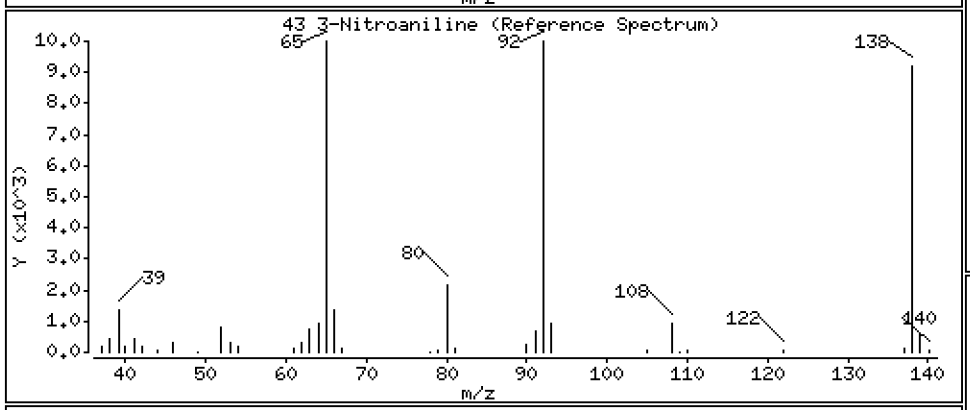
Column diameter: 0.25

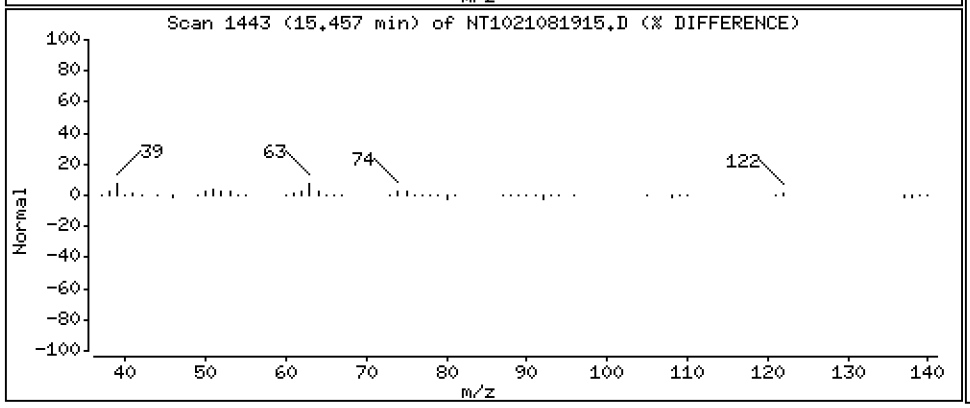
43 3-Nitroaniline

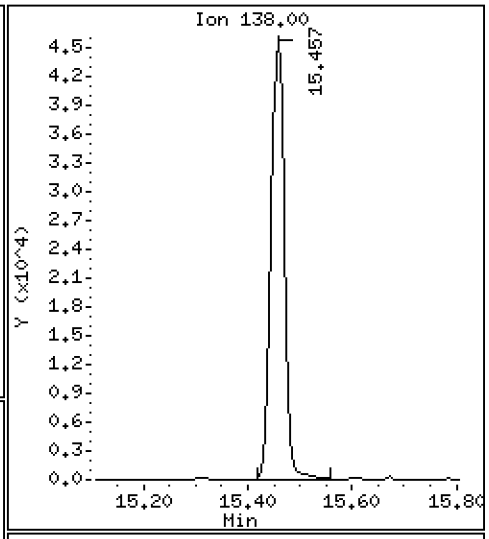
Concentration: 4.562 ug/mL

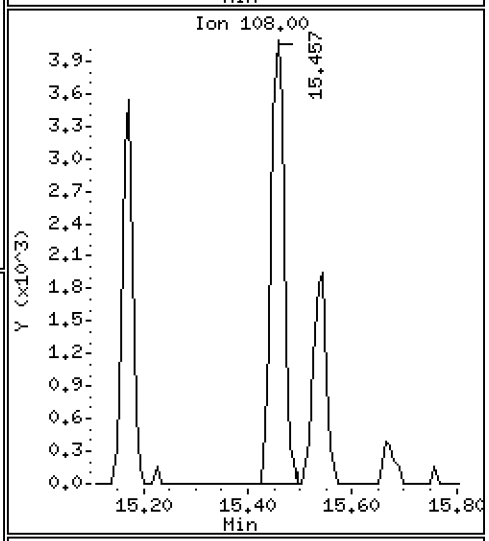


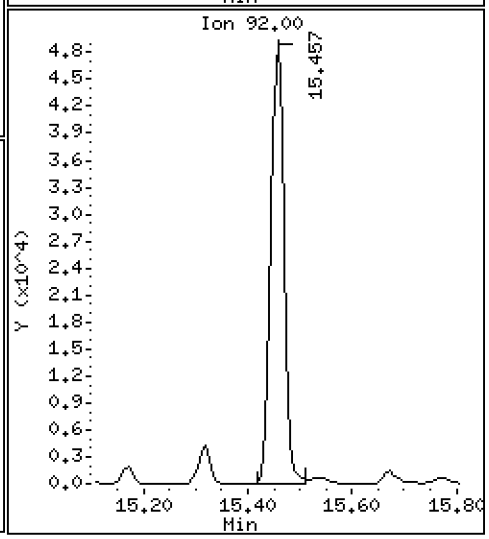












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

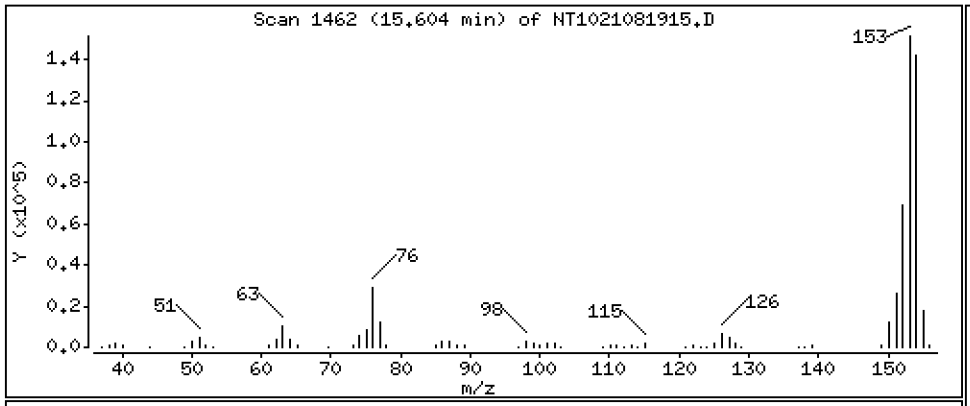
Operator: VTS

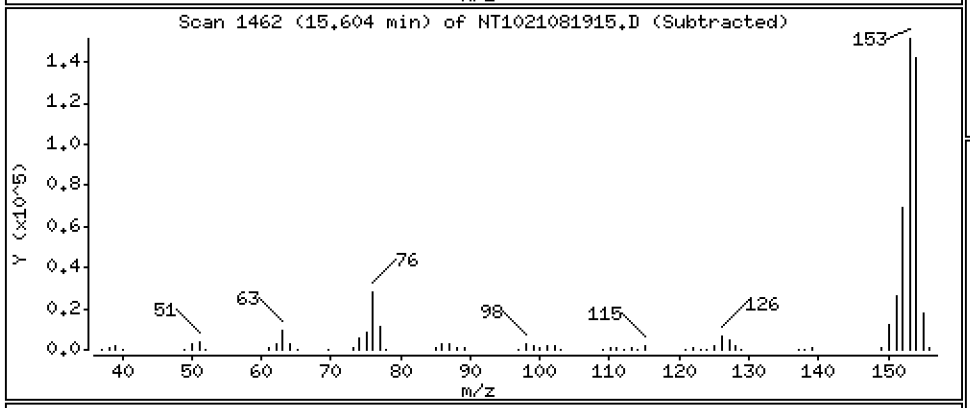
Column phase: ZB-5msi

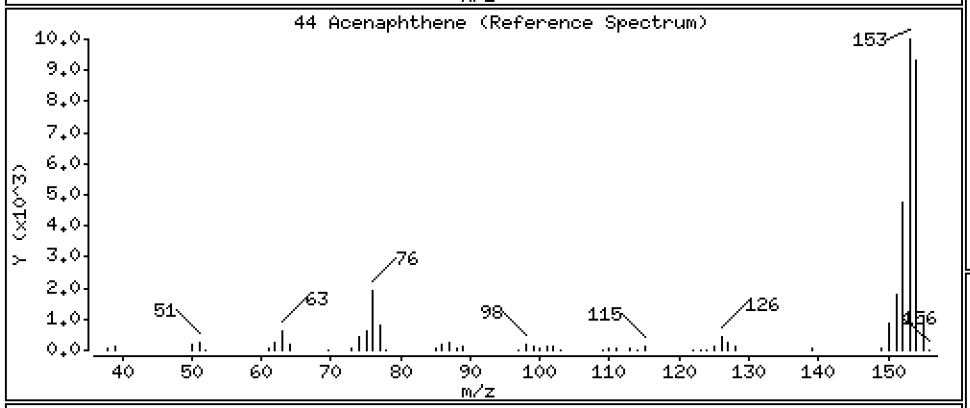
Column diameter: 0.25

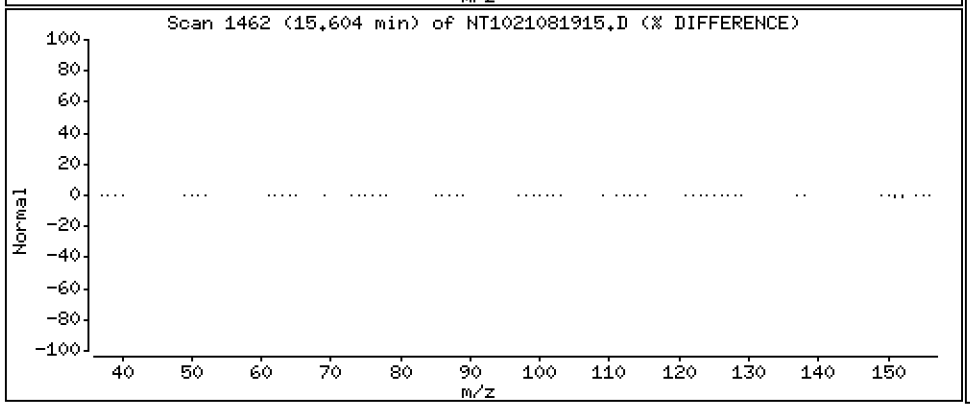
44 Acenaphthene

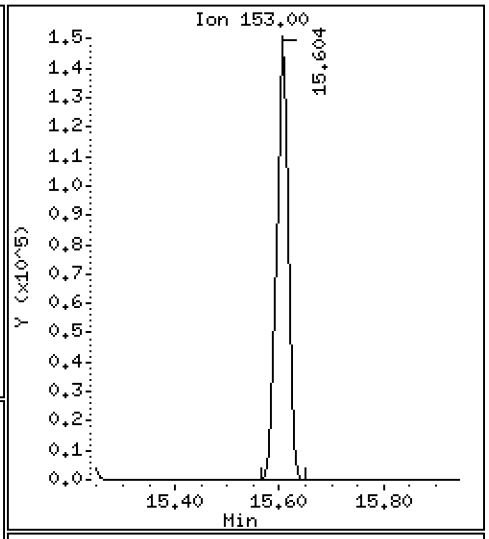
Concentration: 4.975 ug/mL

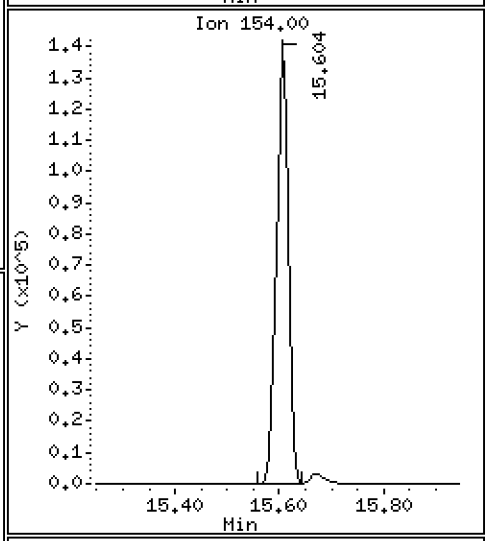


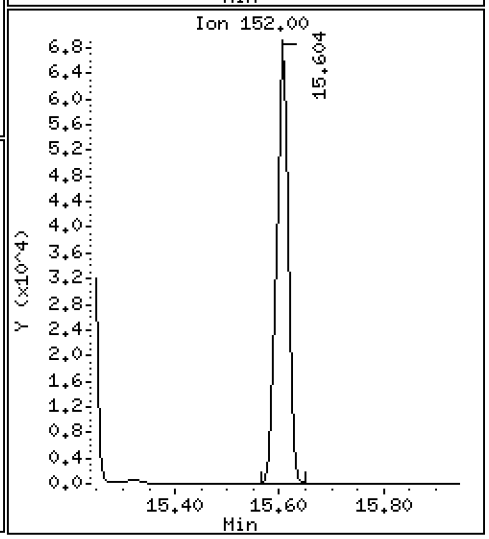












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

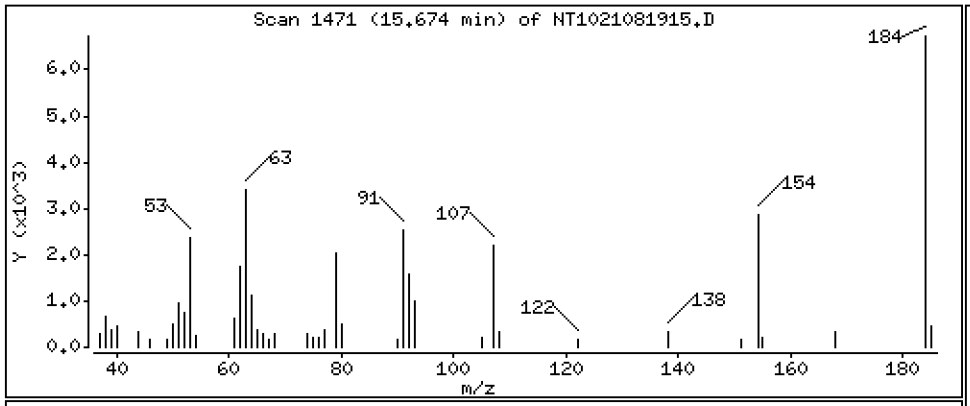
Operator: VTS

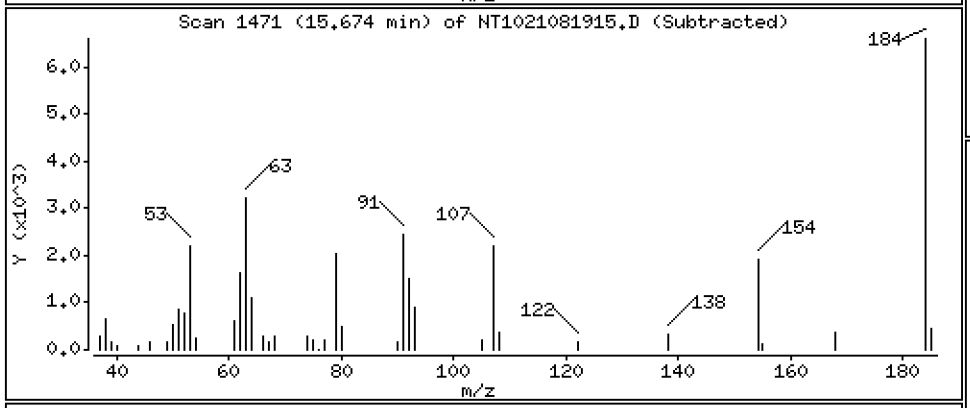
Column phase: ZB-5msi

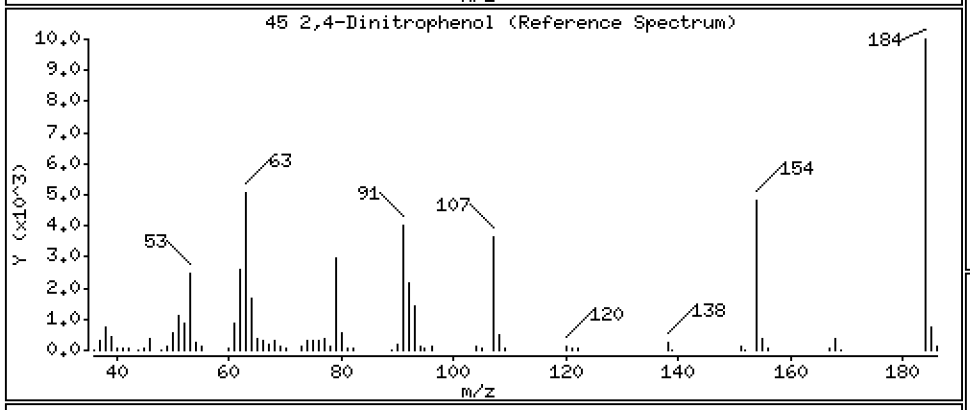
Column diameter: 0.25

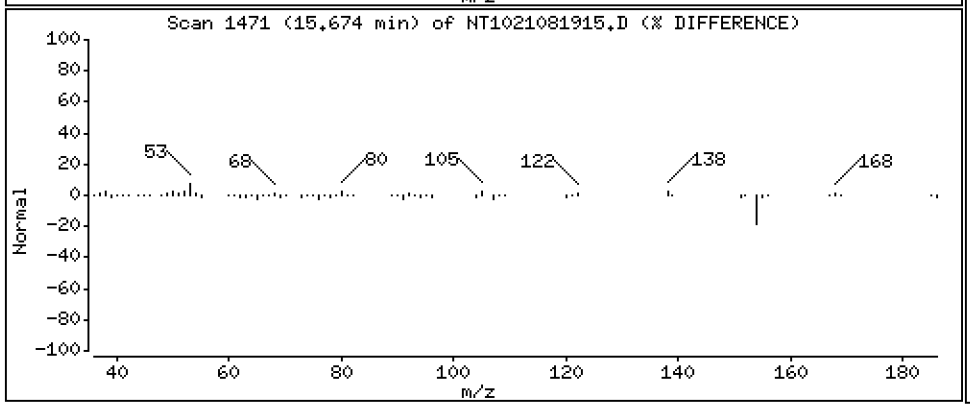
45 2,4-Dinitrophenol

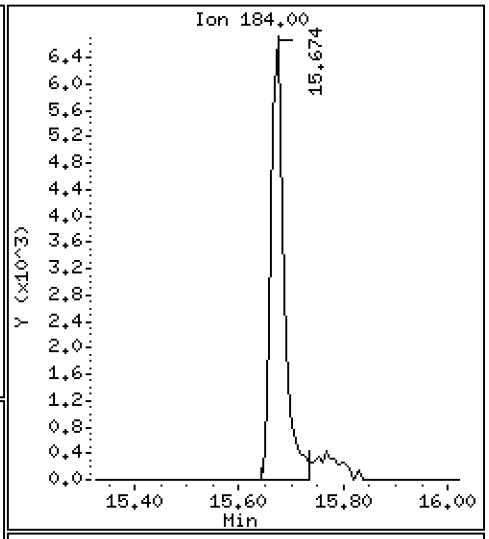
Concentration: 1.665 ug/mL

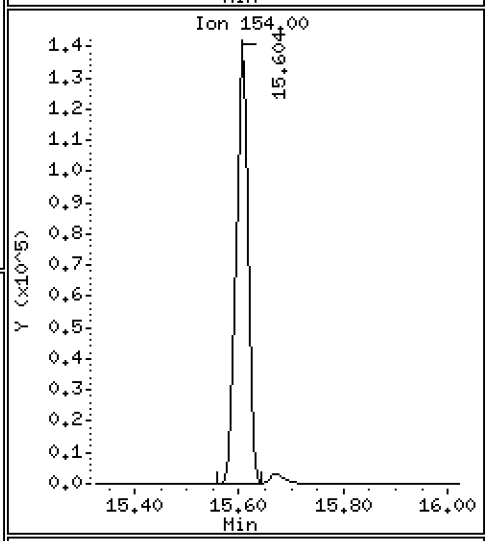


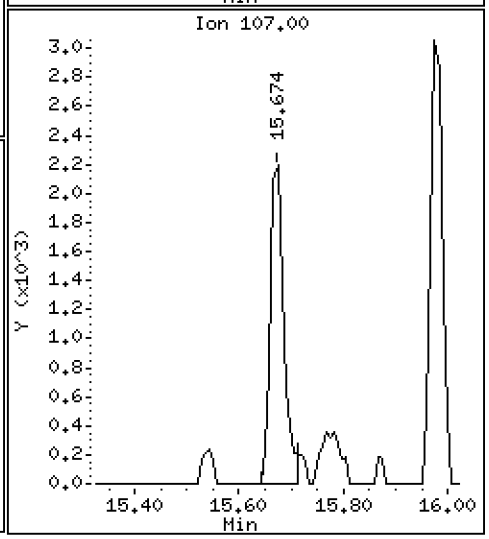












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

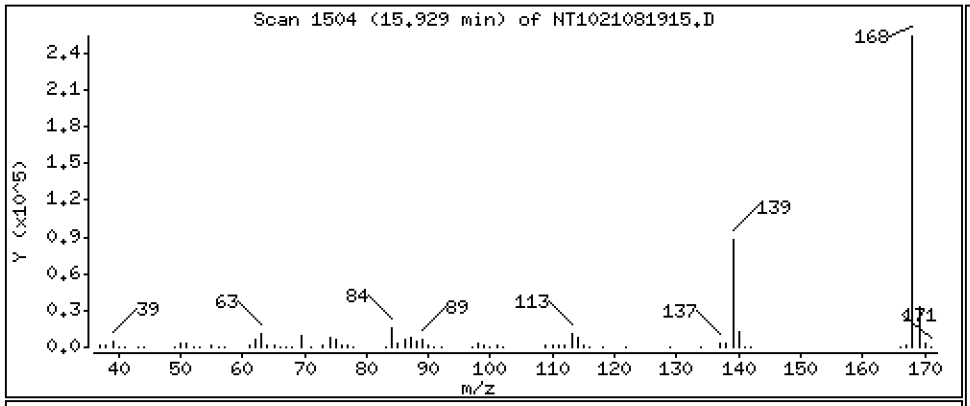
Operator: VTS

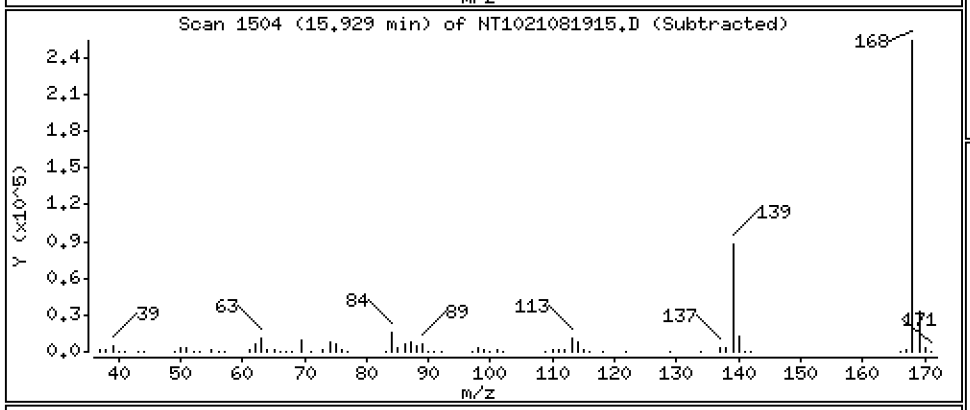
Column phase: ZB-5msi

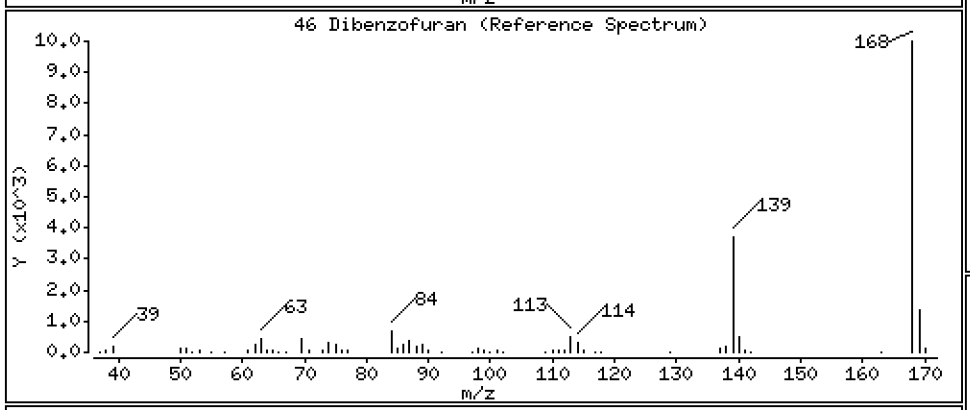
Column diameter: 0.25

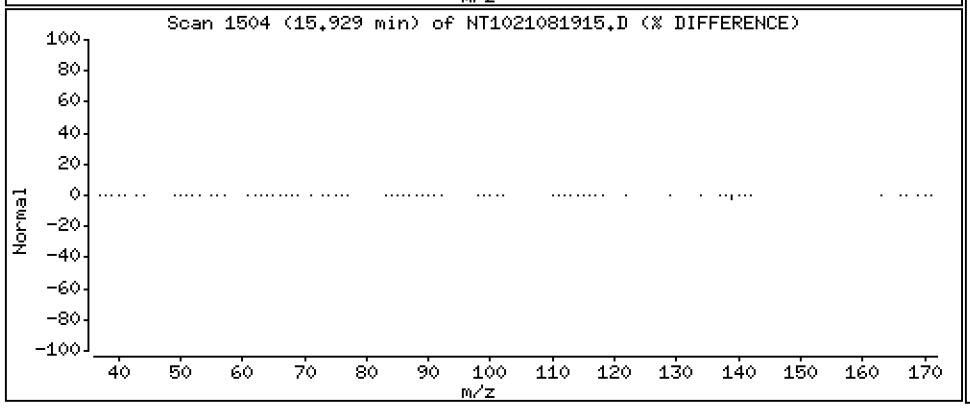
46 Dibenzofuran

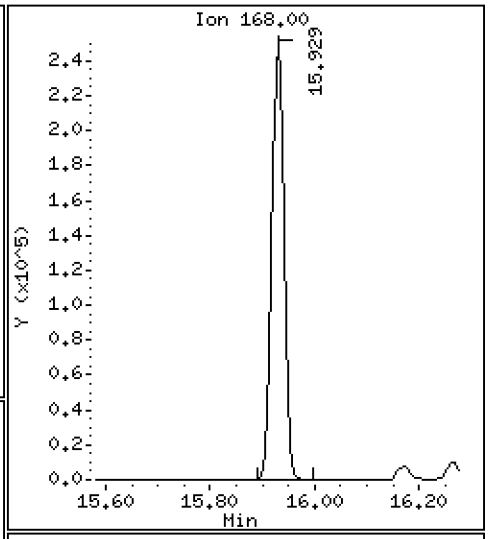
Concentration: 4.691 ug/mL

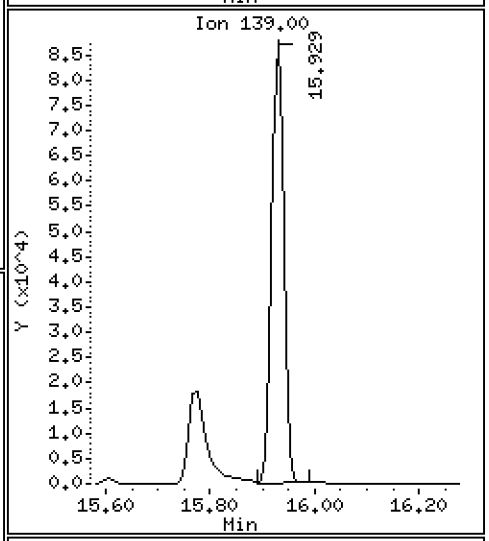


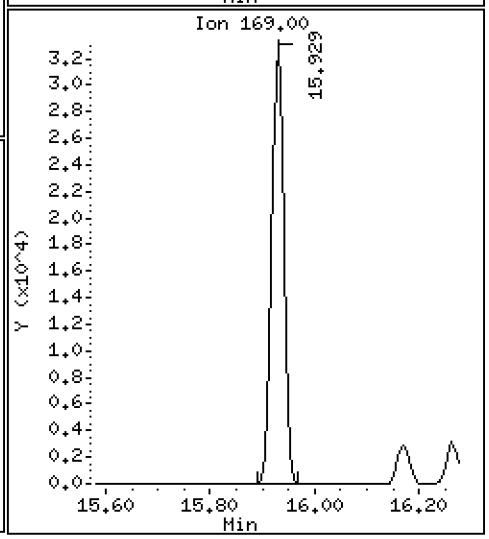












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

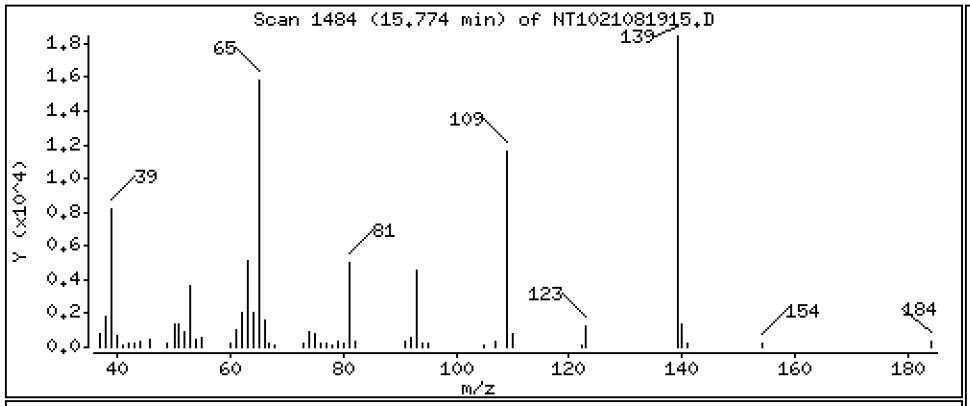
Operator: VTS

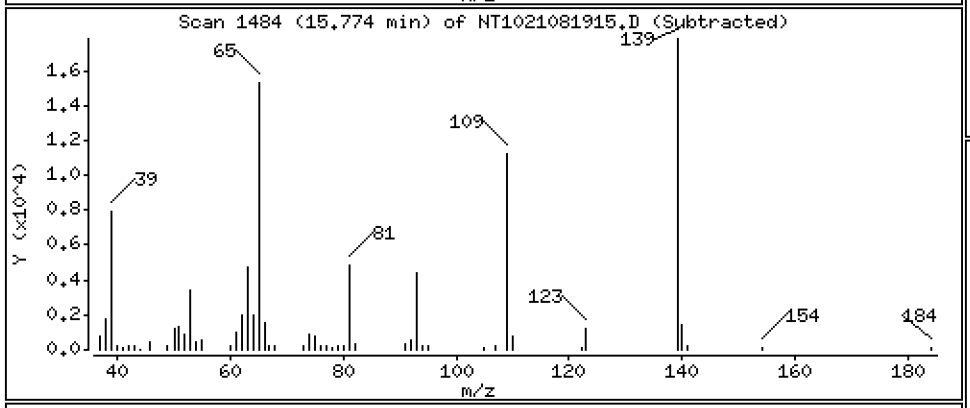
Column phase: ZB-5msi

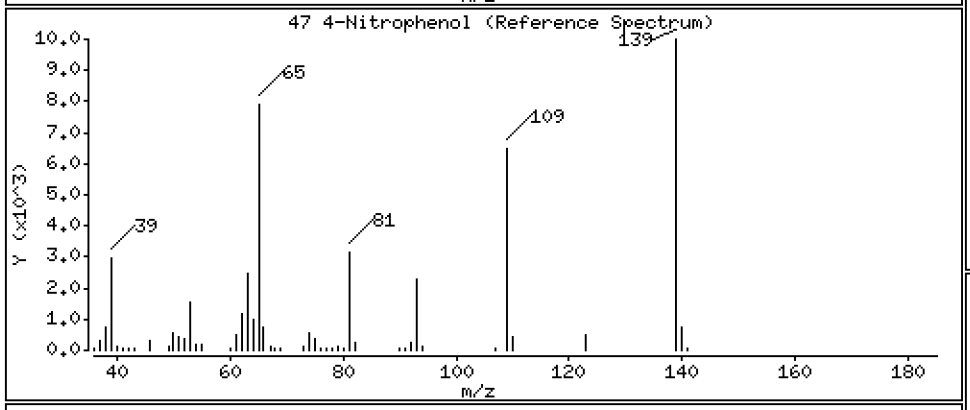
Column diameter: 0.25

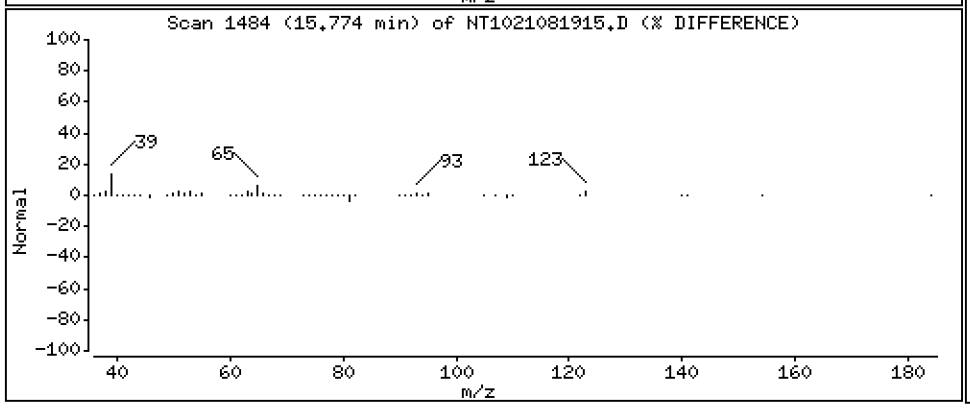
47 4-Nitrophenol

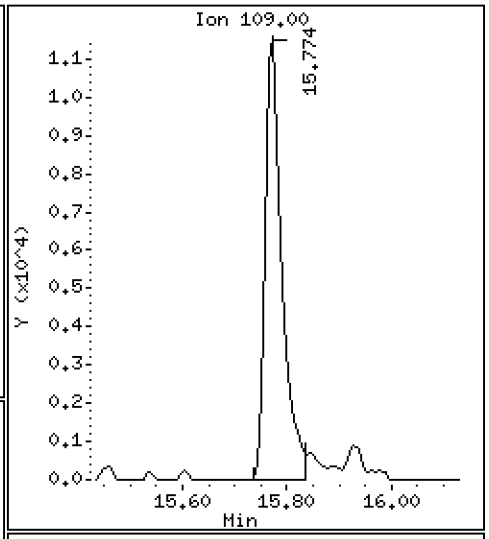
Concentration: 4.018 ug/mL

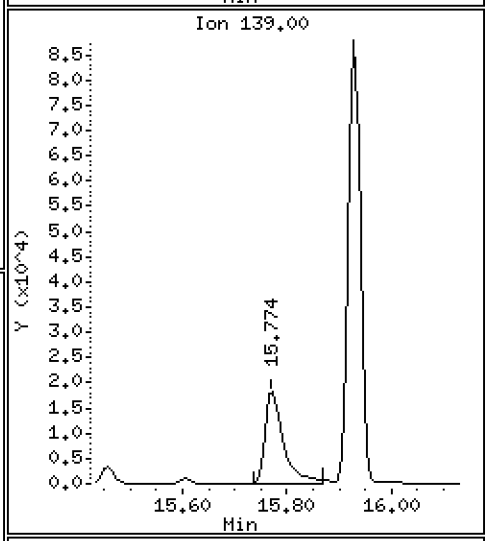


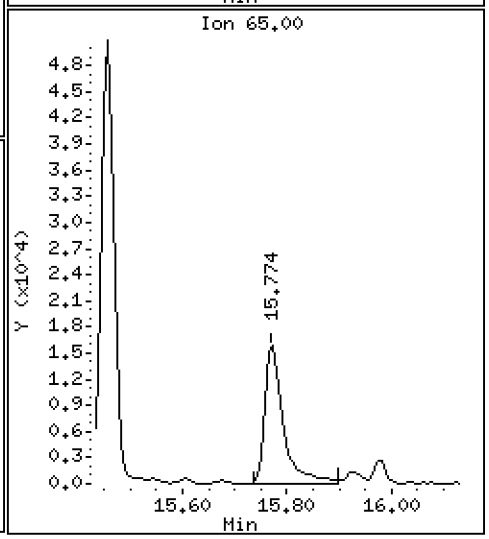












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

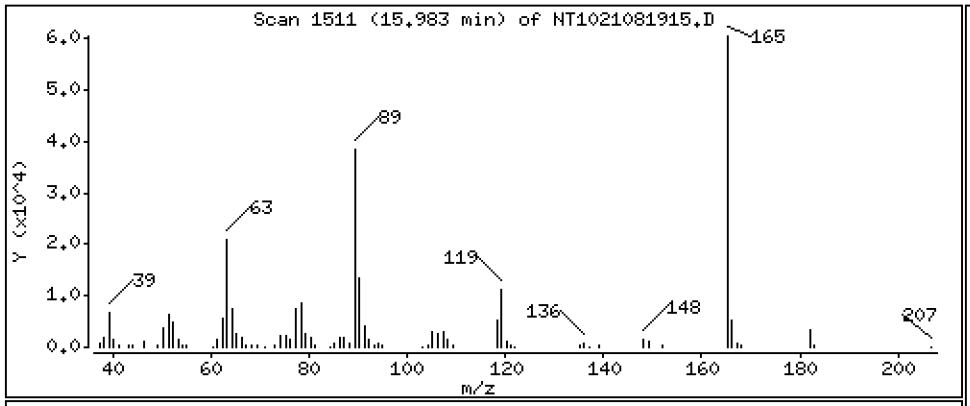
Operator: VTS

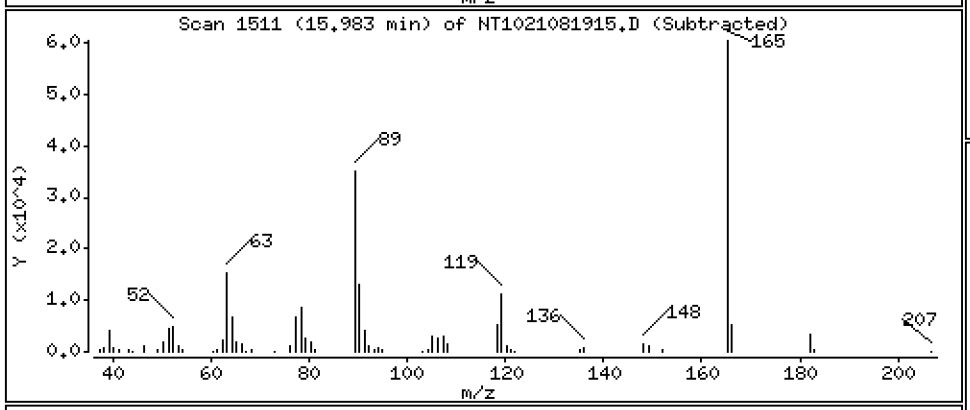
Column phase: ZB-5msi

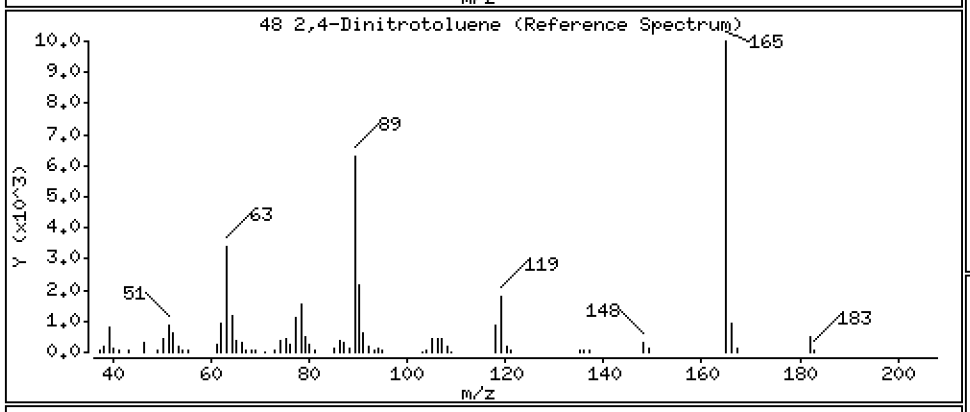
Column diameter: 0.25

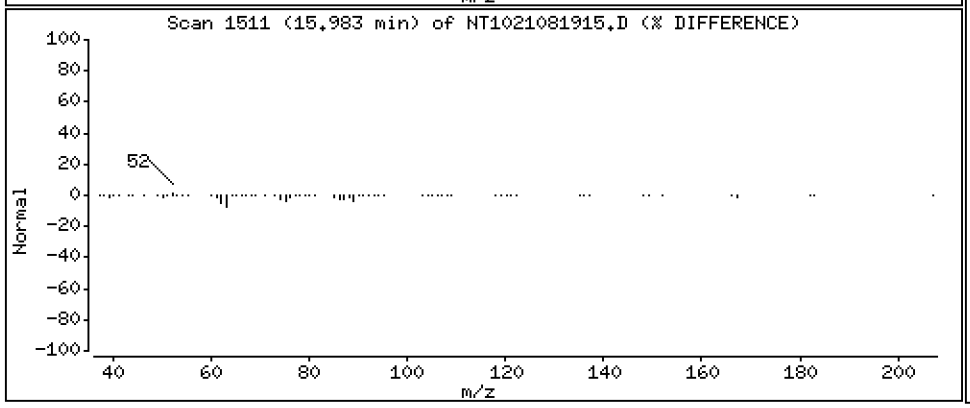
48 2,4-Dinitrotoluene

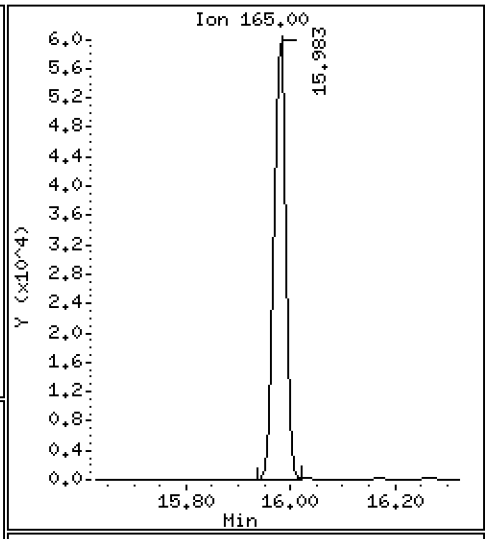
Concentration: 5.106 ug/mL

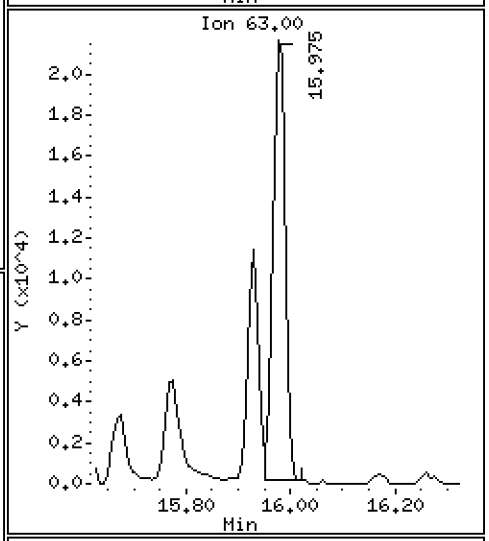


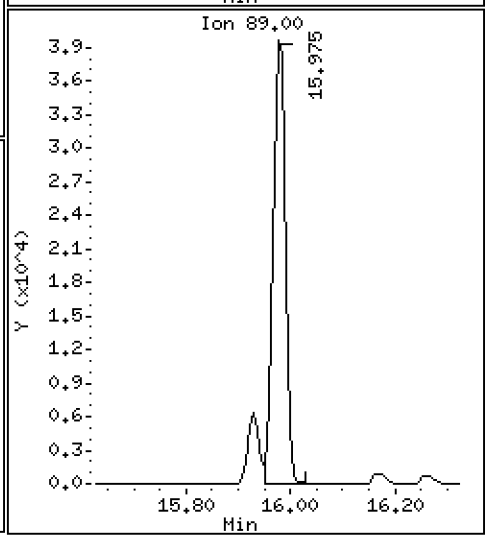












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

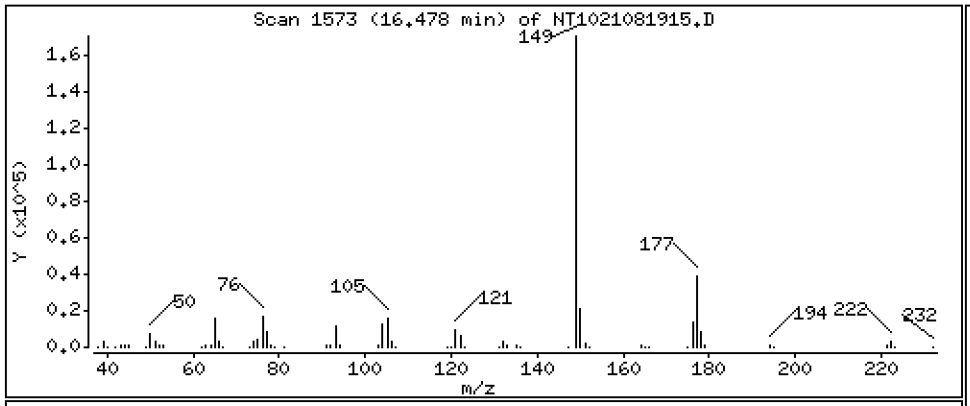
Operator: VTS

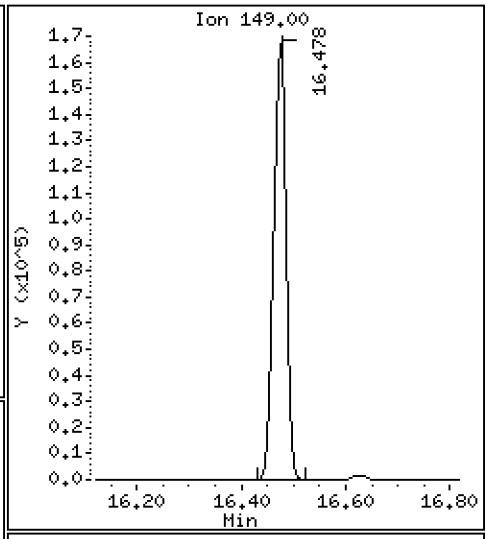
Column phase: ZB-5msi

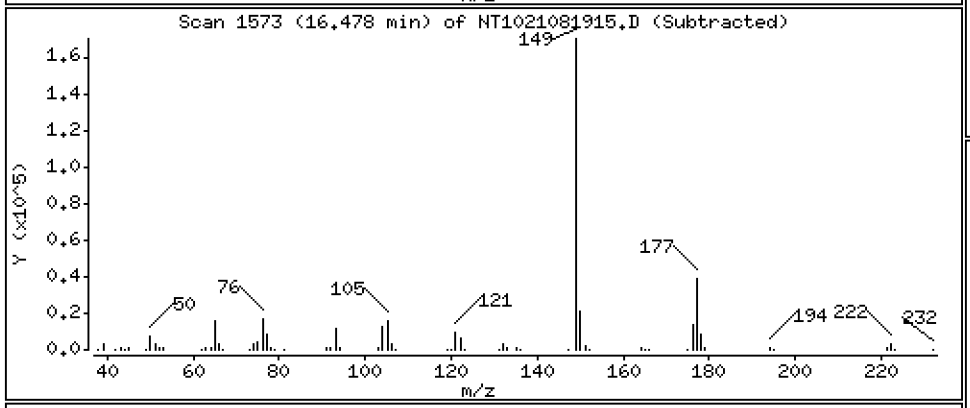
Column diameter: 0.25

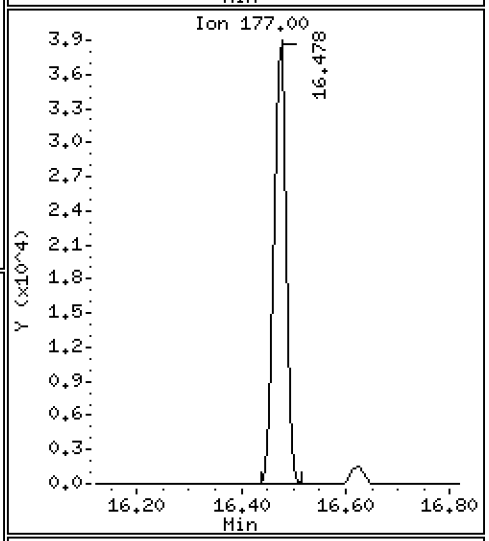
50 Diethylphthalate

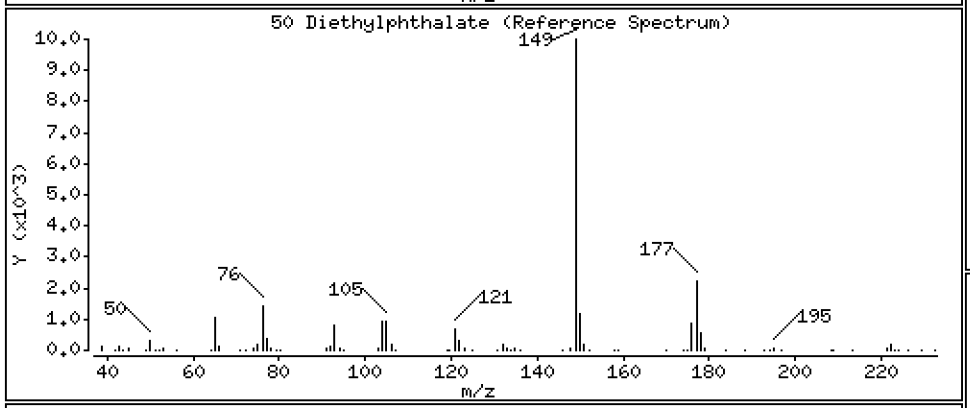
Concentration: 5.096 ug/mL

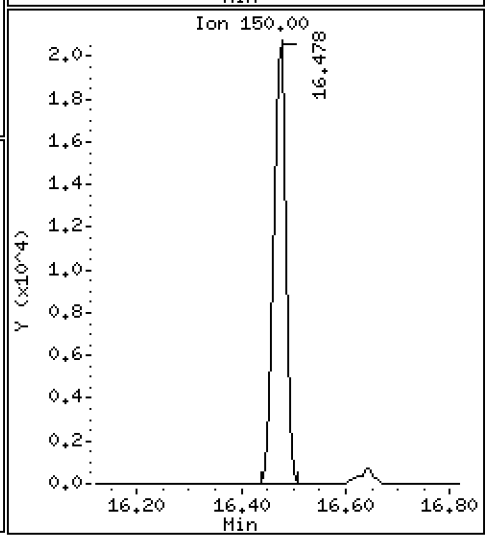


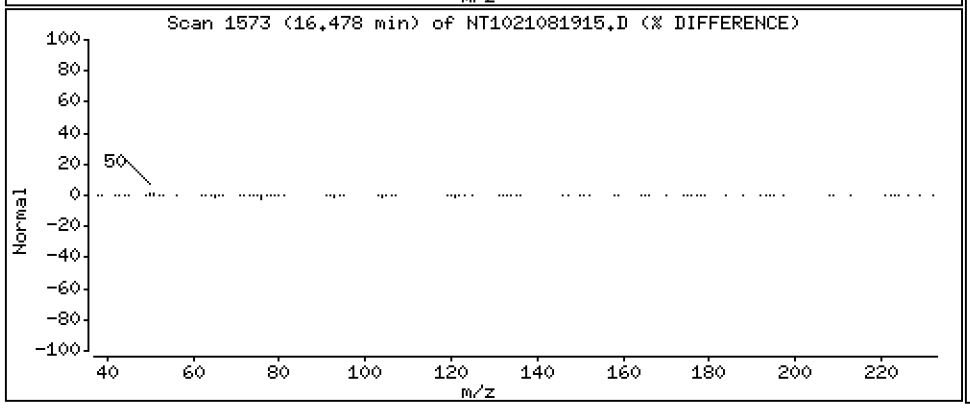












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

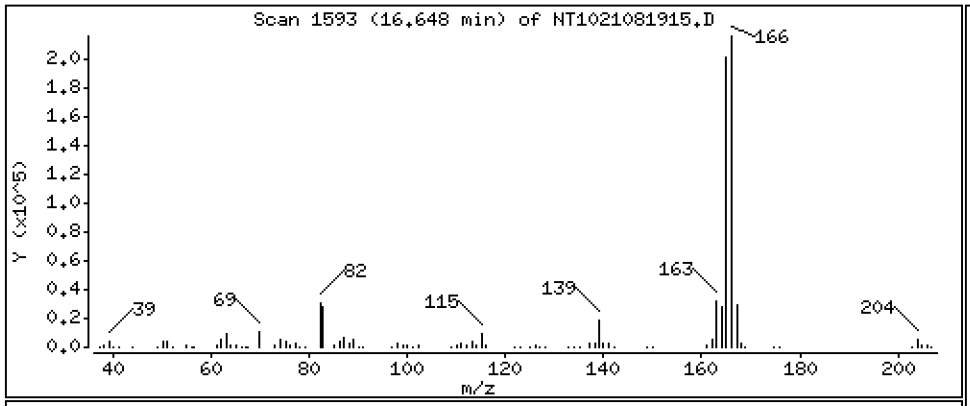
Operator: VTS

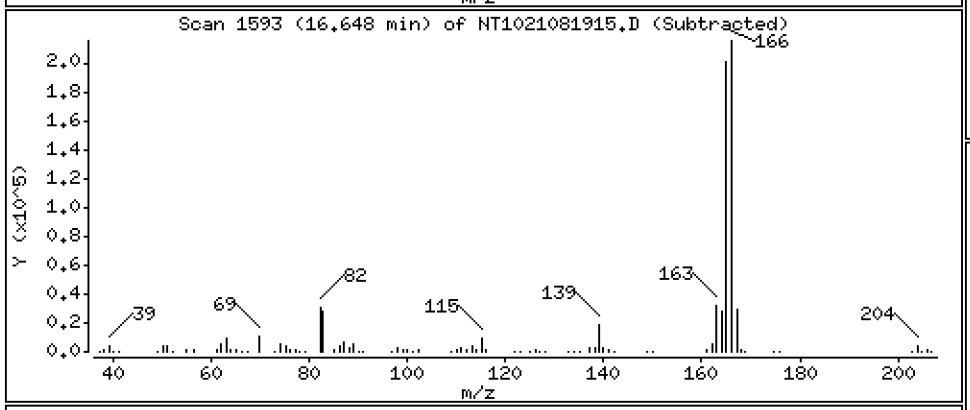
Column phase: ZB-5msi

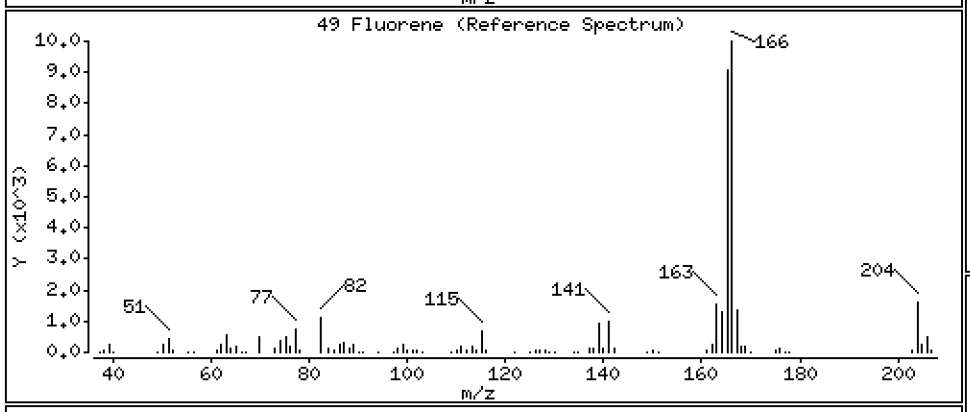
Column diameter: 0.25

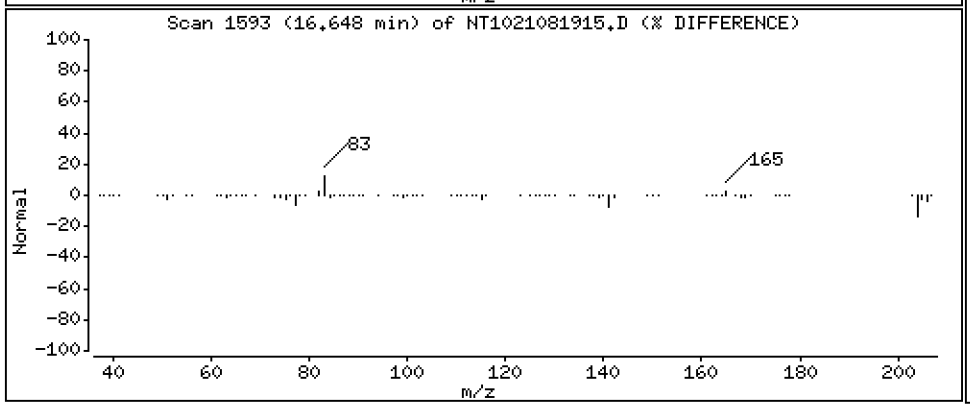
49 Fluorene

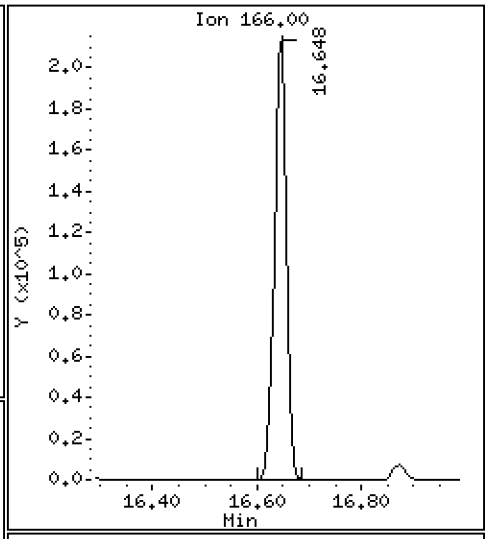
Concentration: 4.723 ug/mL

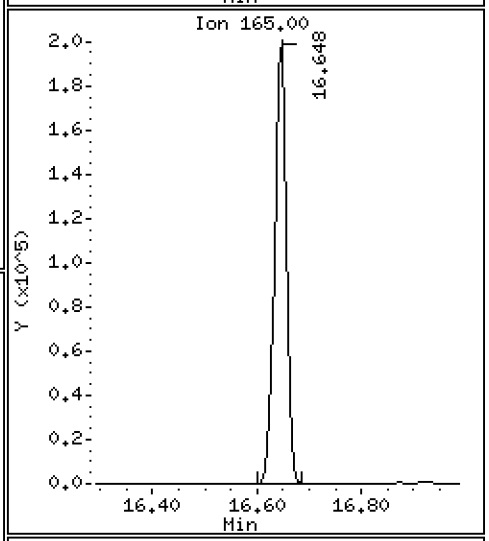


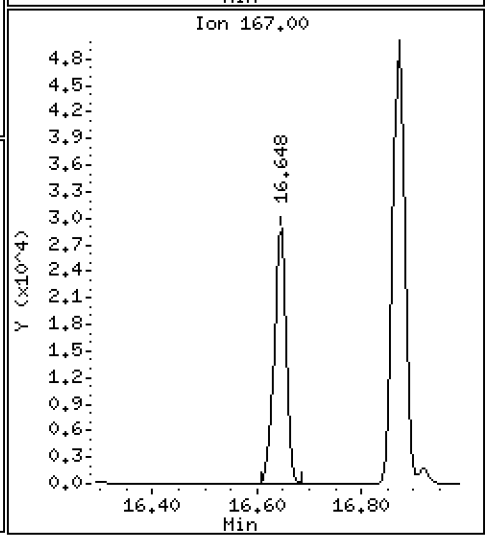












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

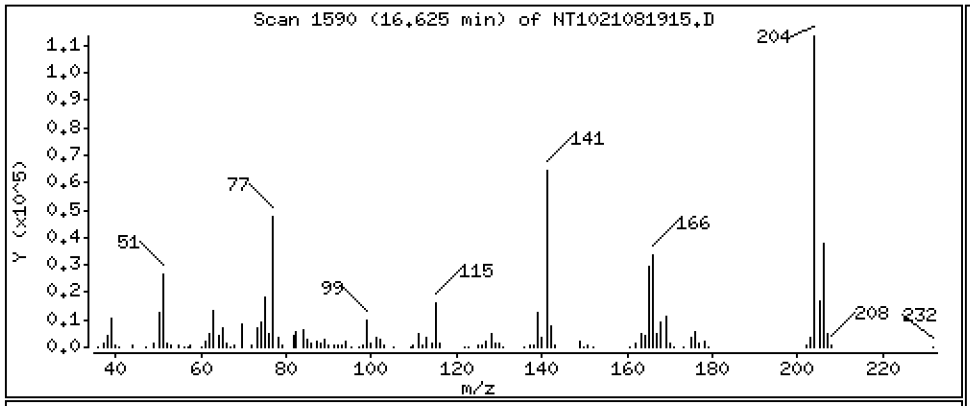
Operator: VTS

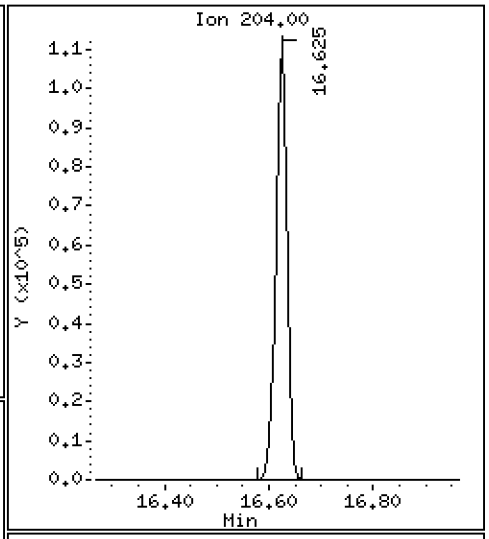
Column phase: ZB-5msi

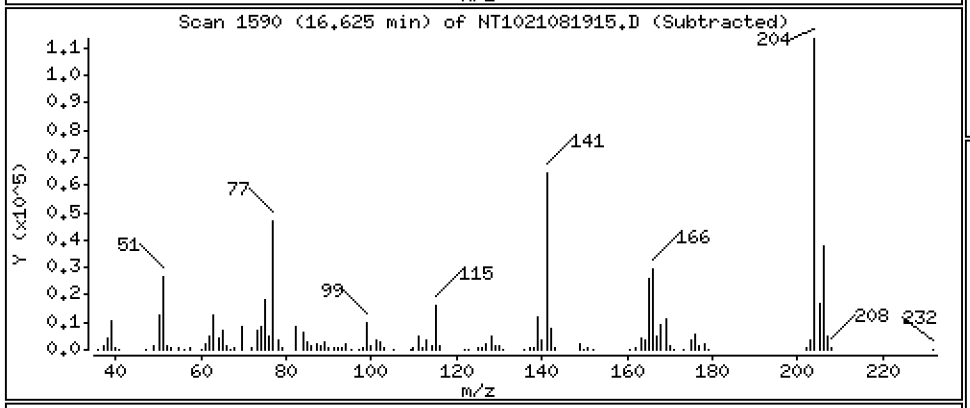
Column diameter: 0.25

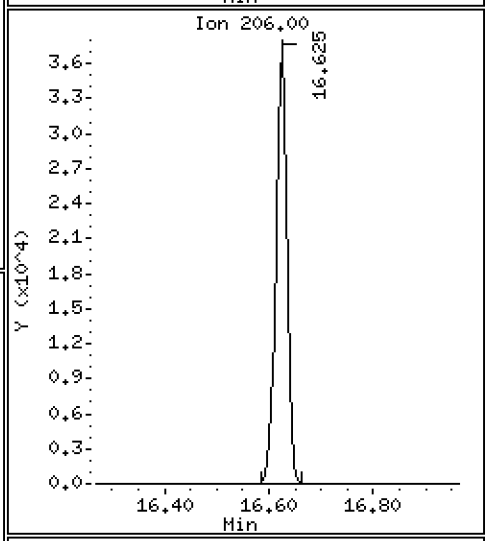
51 4-Chlorophenyl-phenylether

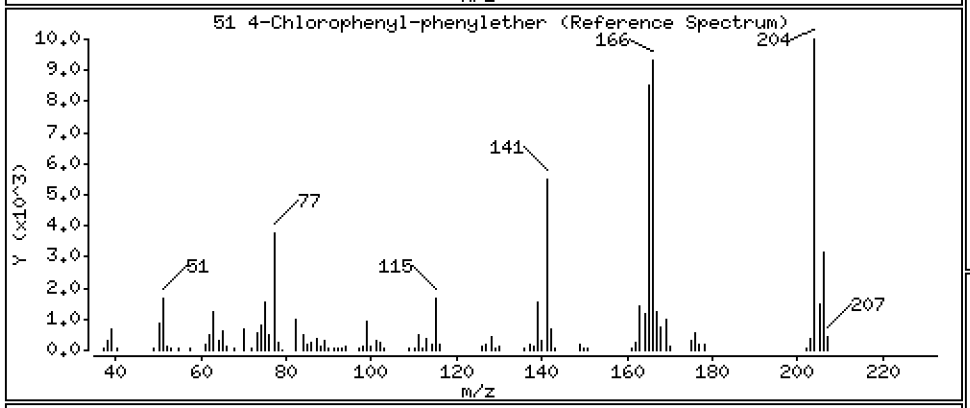
Concentration: 5.187 ug/mL

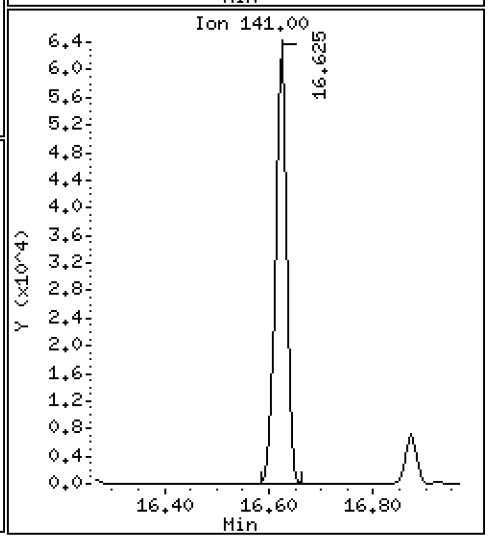


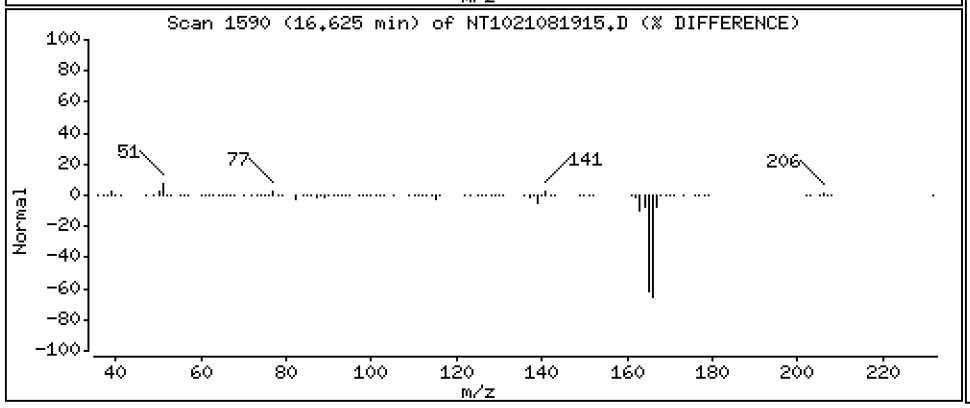












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

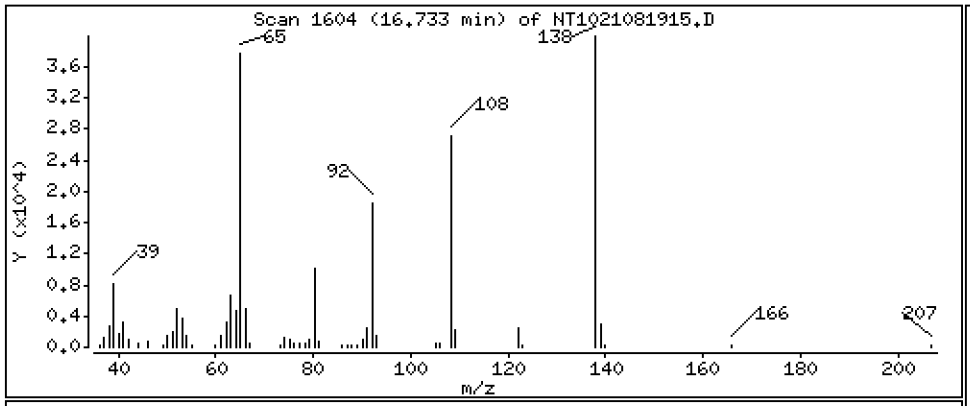
Operator: VTS

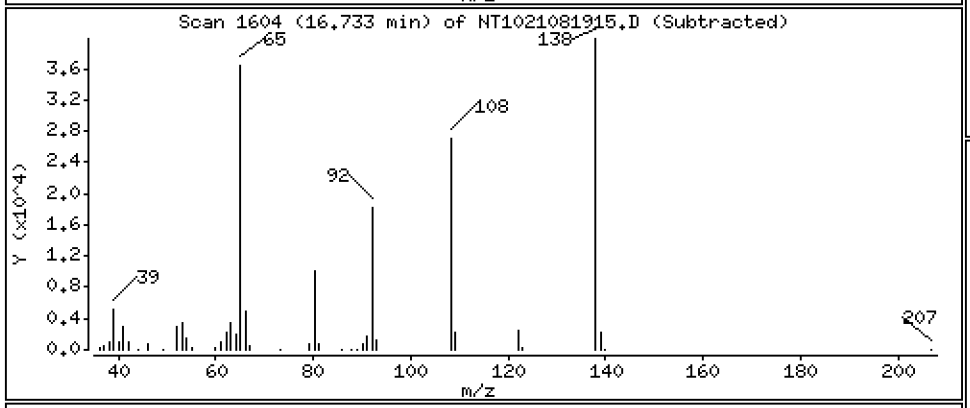
Column phase: ZB-5msi

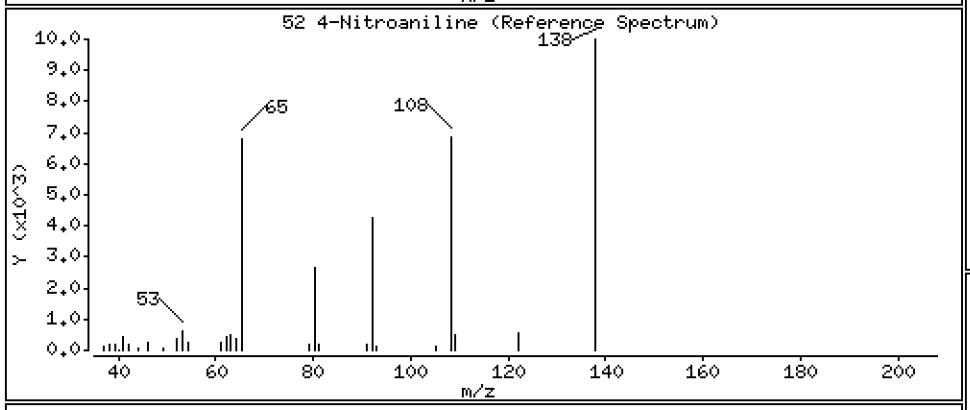
Column diameter: 0.25

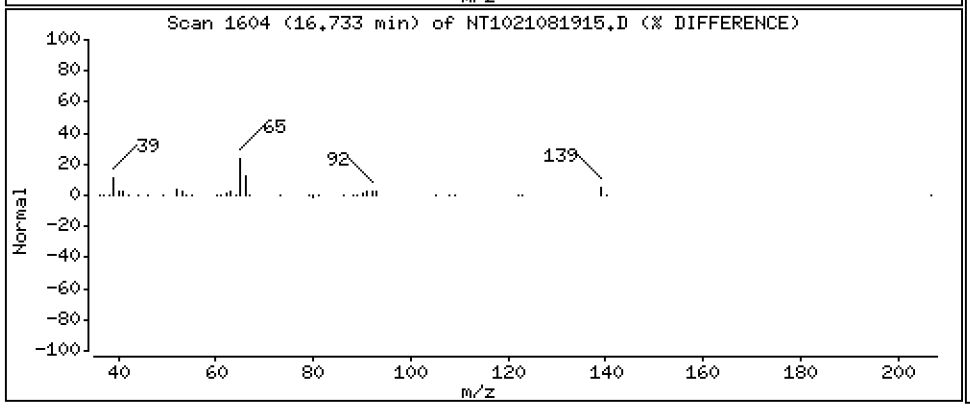
52 4-Nitroaniline

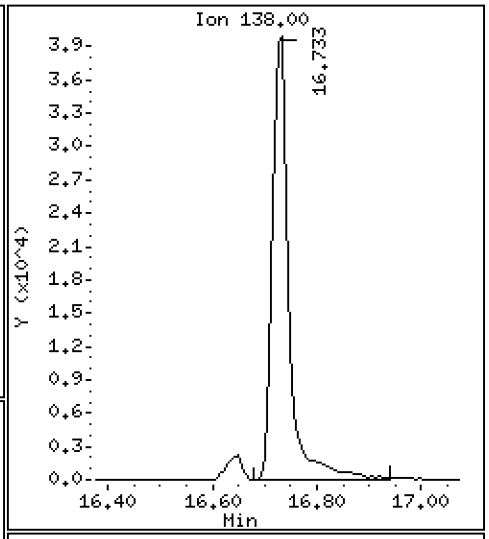
Concentration: 4.788 ug/mL

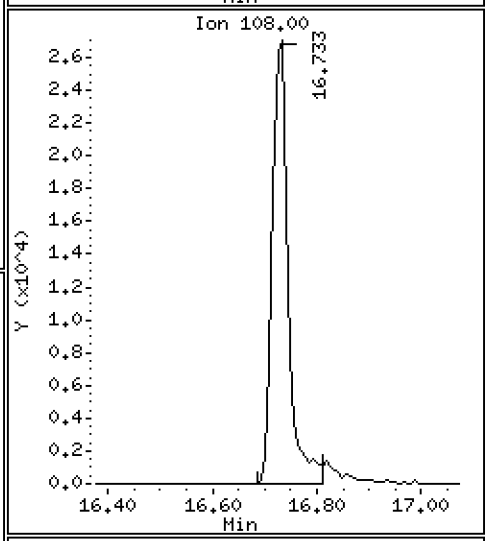


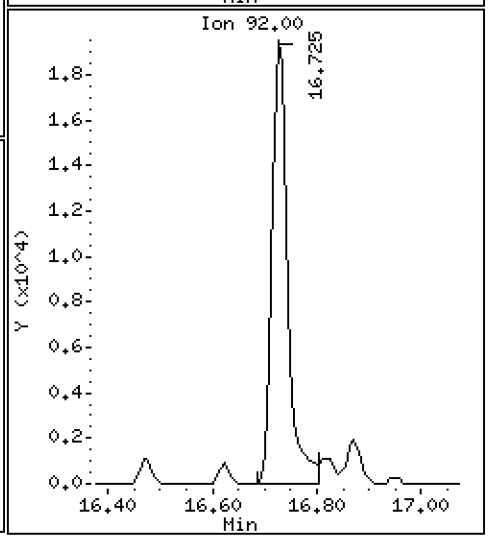












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

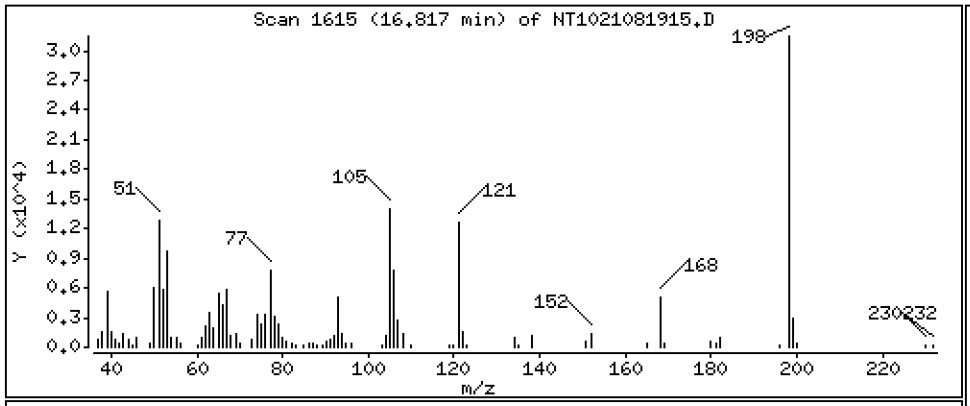
Operator: VTS

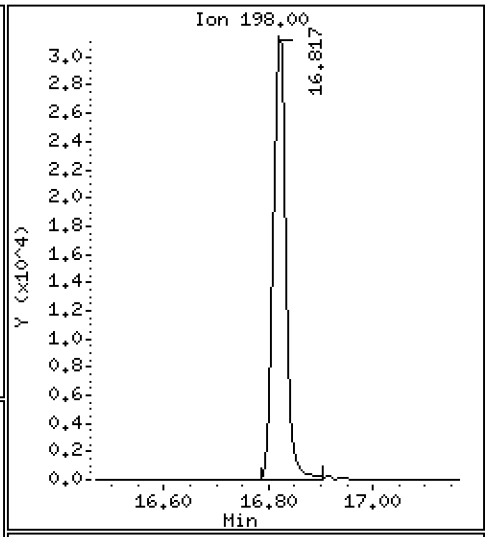
Column phase: ZB-5msi

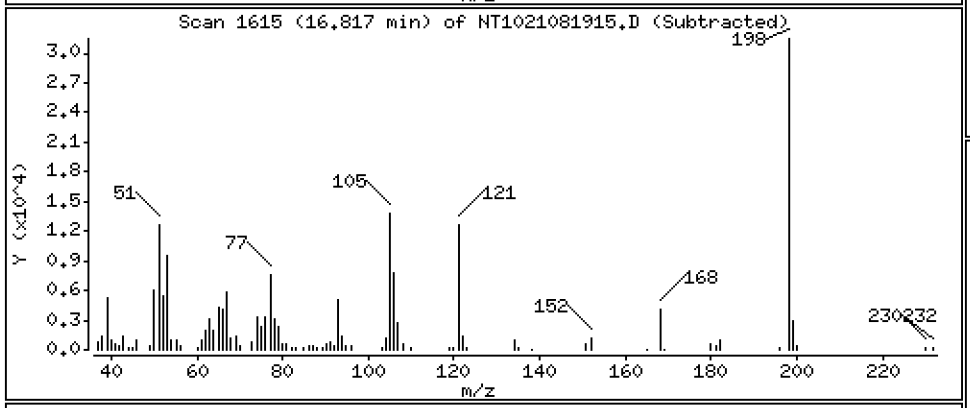
Column diameter: 0.25

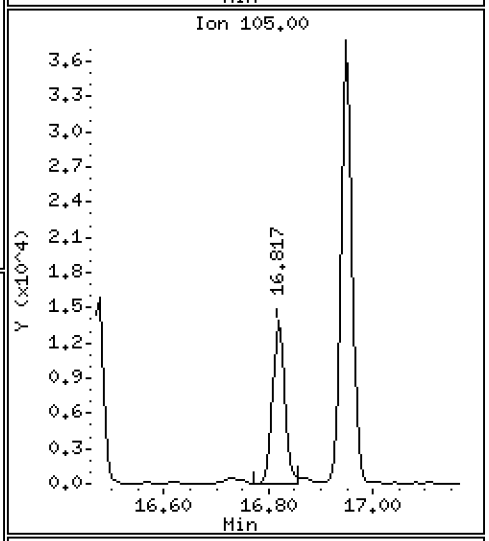
53 4,6-Dinitro-2-methylphenol

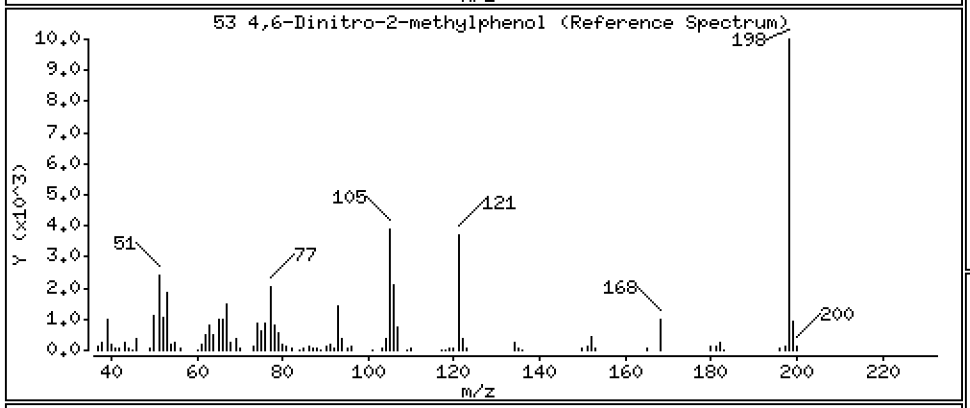
Concentration: 3.885 ug/mL

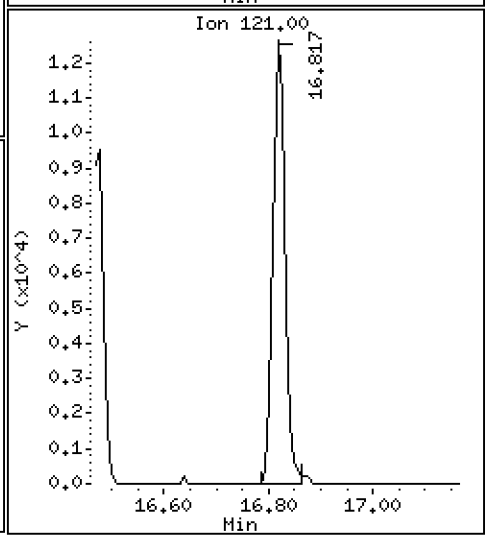


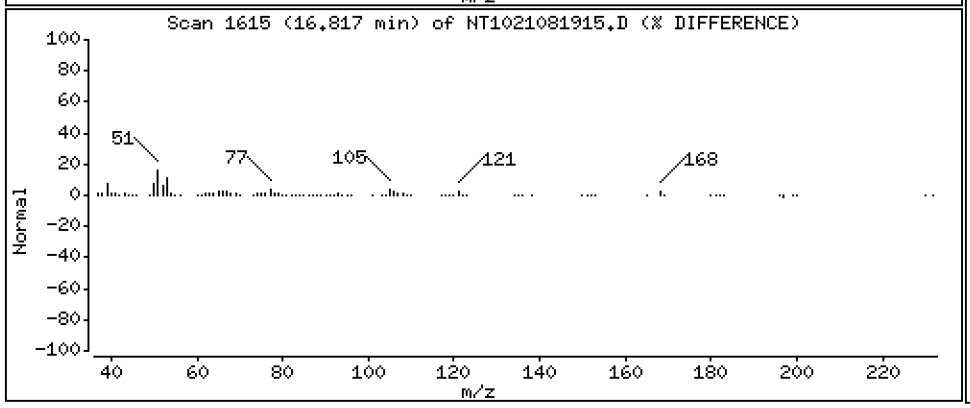












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

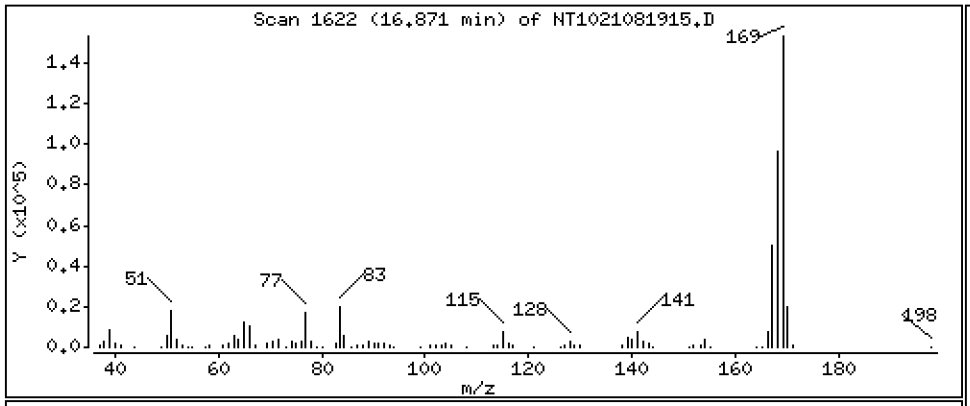
Operator: VTS

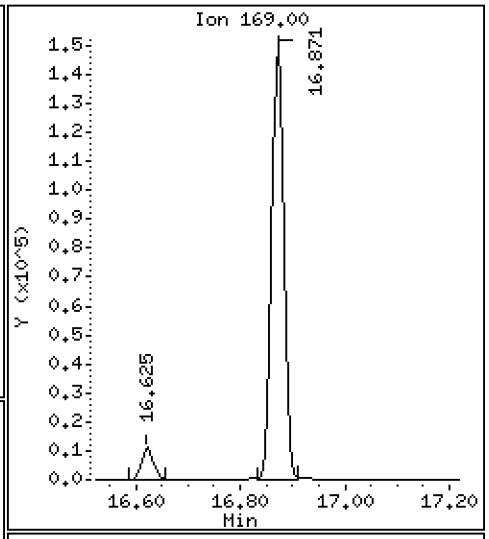
Column phase: ZB-5msi

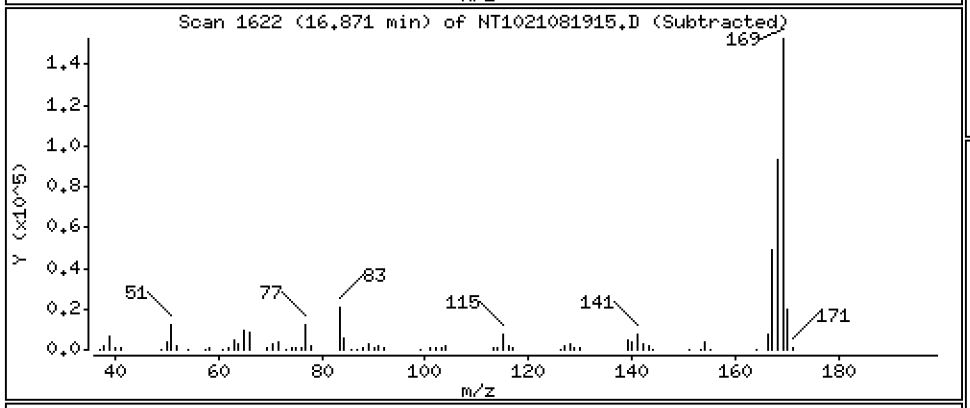
Column diameter: 0.25

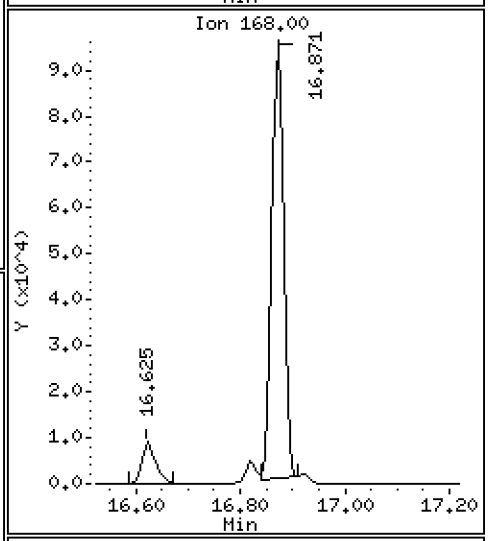
54 N-Nitrosodiphenylamine

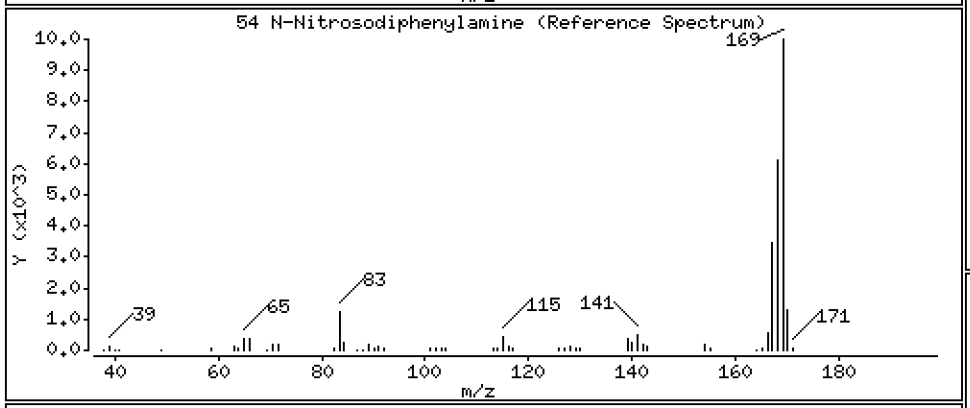
Concentration: 4.835 ug/mL

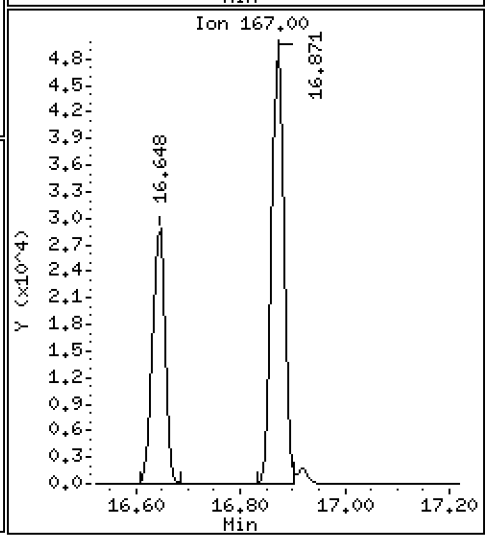


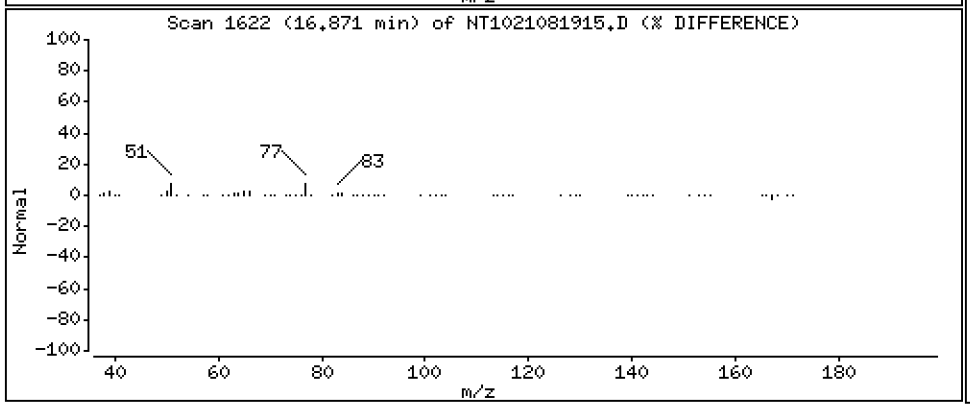












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

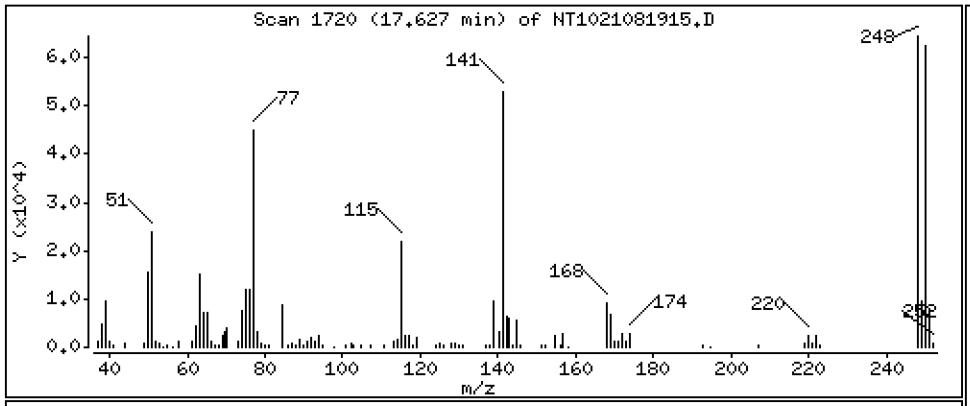
Operator: VTS

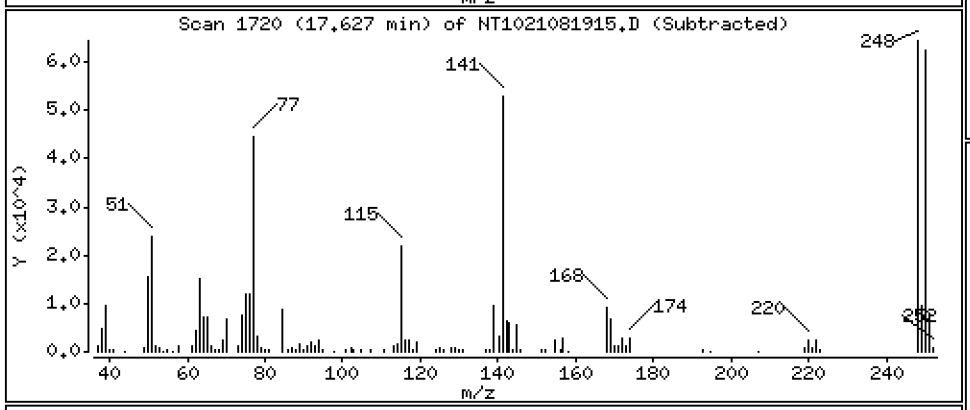
Column phase: ZB-5msi

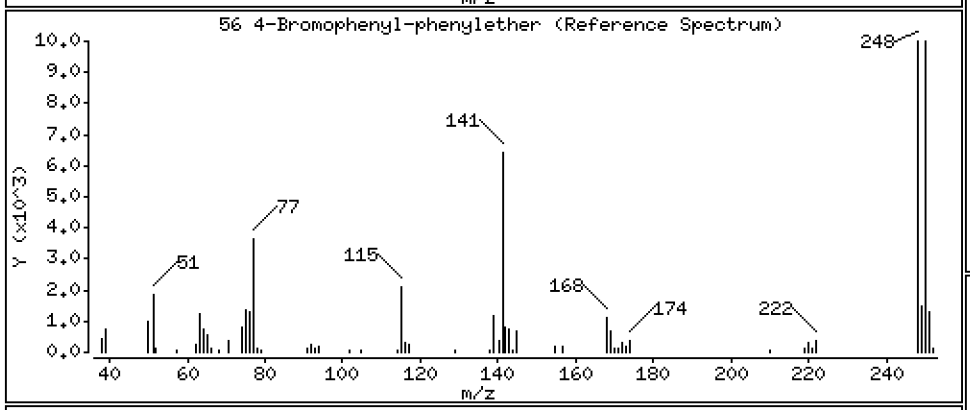
Column diameter: 0.25

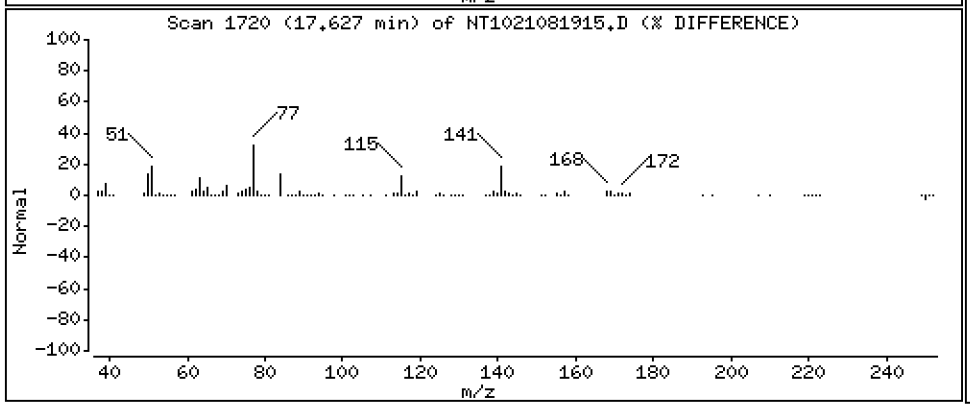
56 4-Bromophenyl-phenylether

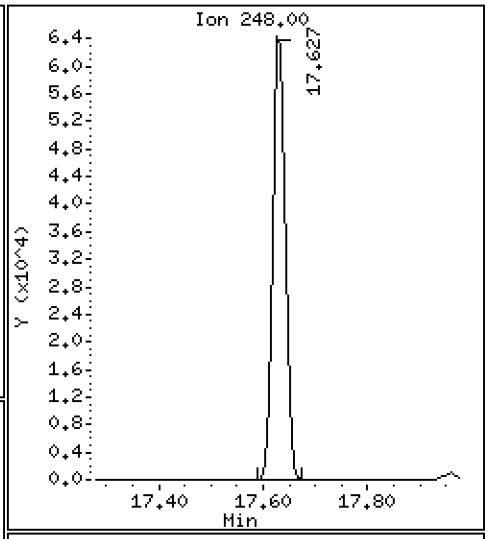
Concentration: 5.399 ug/mL

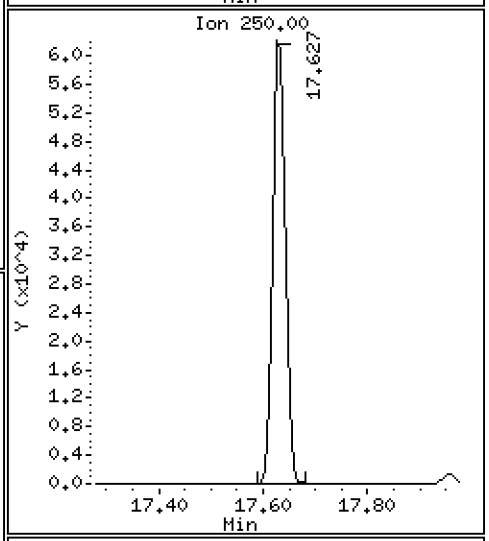


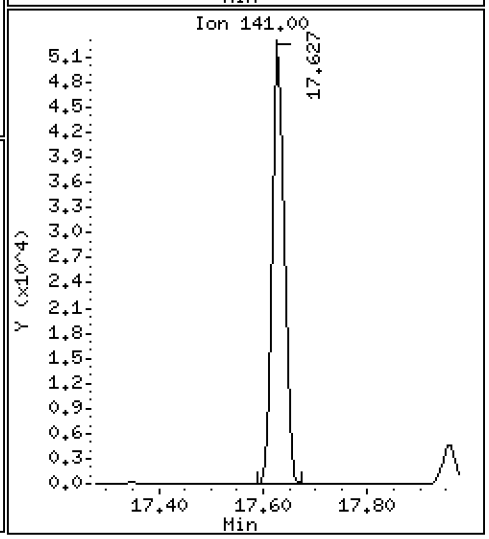












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

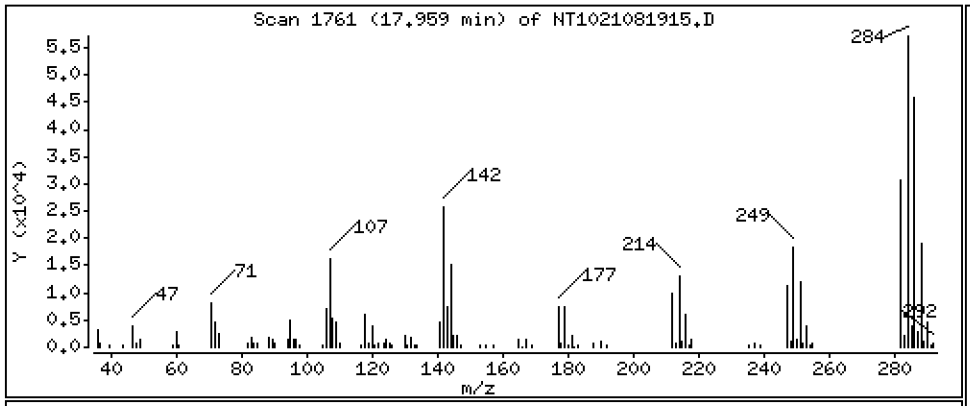
Operator: VTS

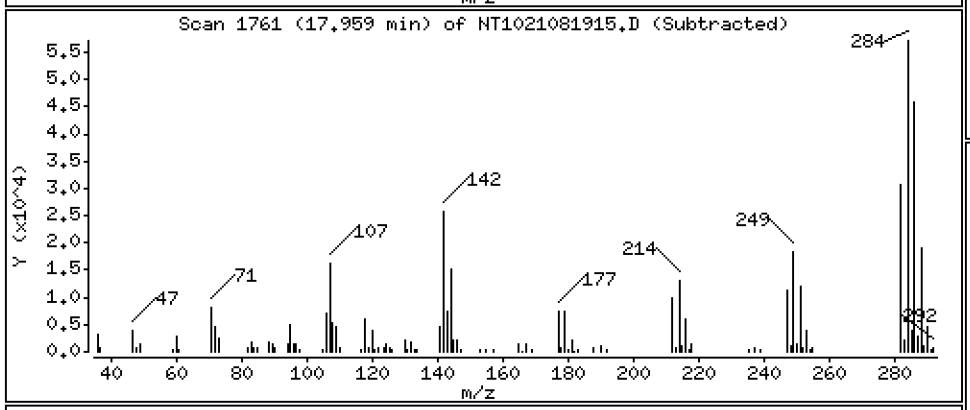
Column phase: ZB-5msi

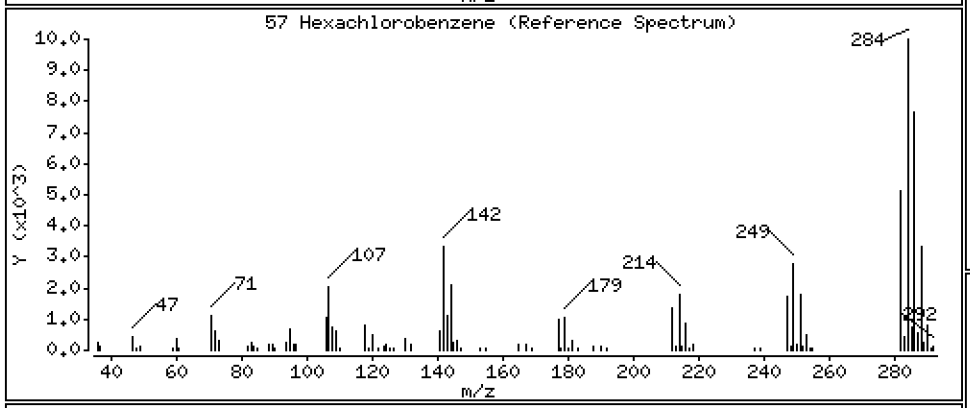
Column diameter: 0.25

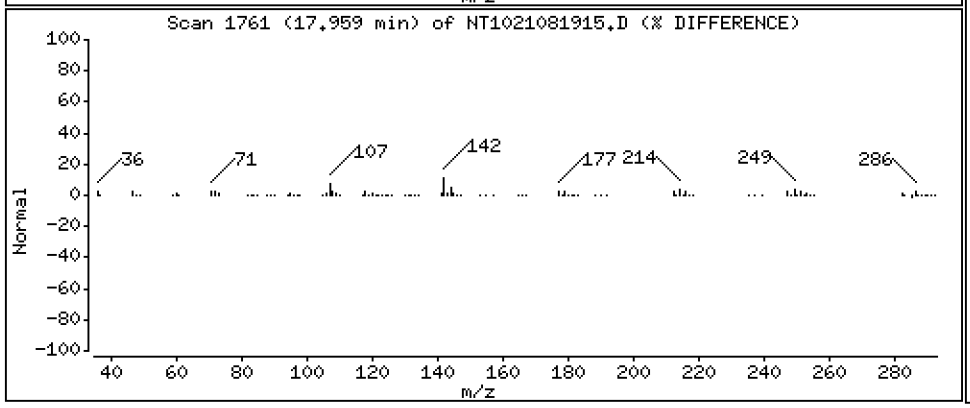
57 Hexachlorobenzene

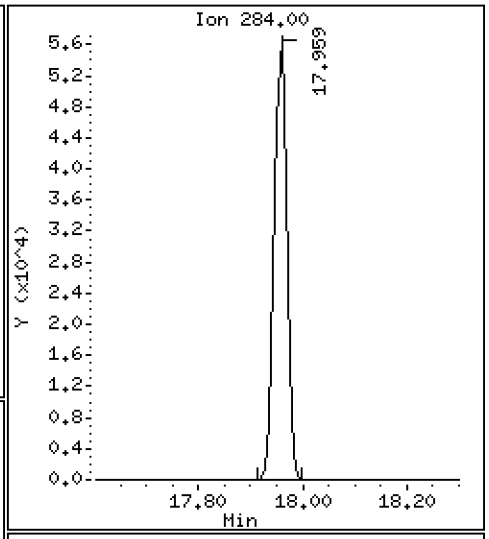
Concentration: 5.063 ug/mL

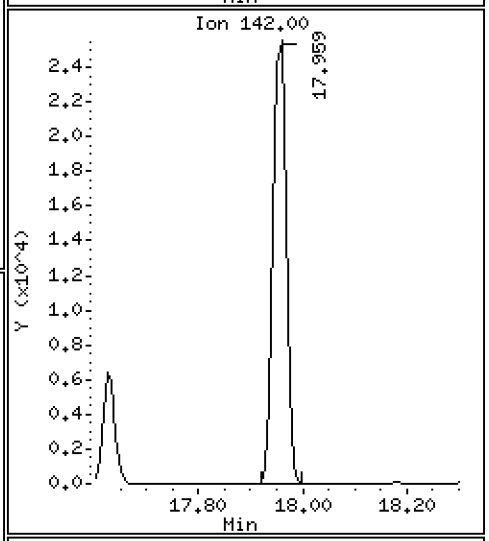


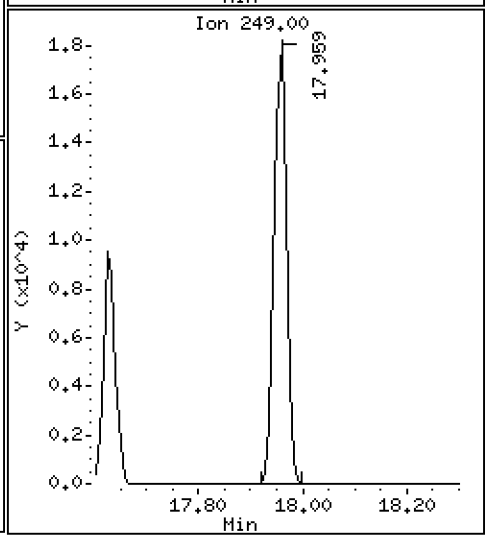












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

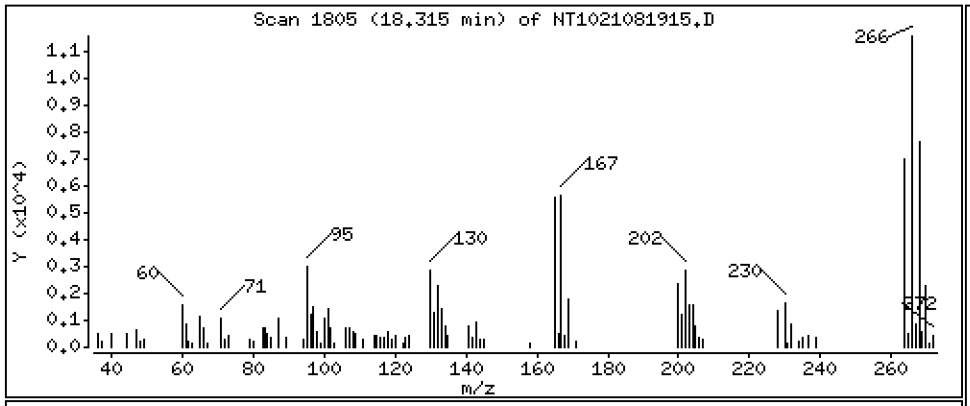
Operator: VTS

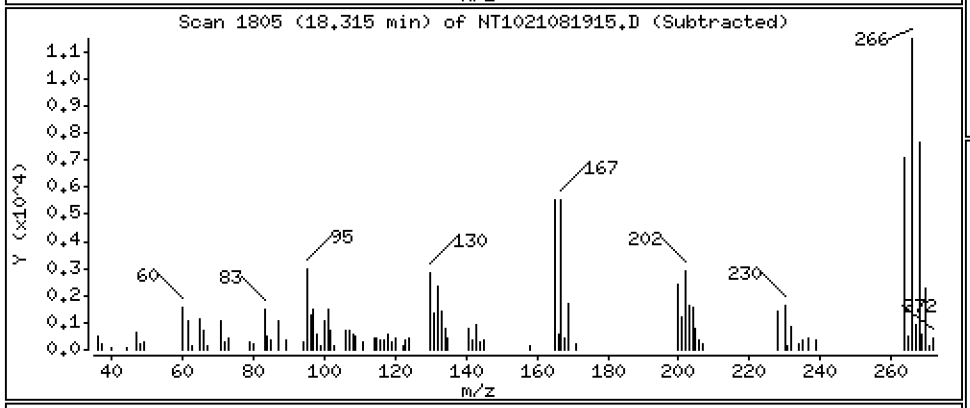
Column phase: ZB-5msi

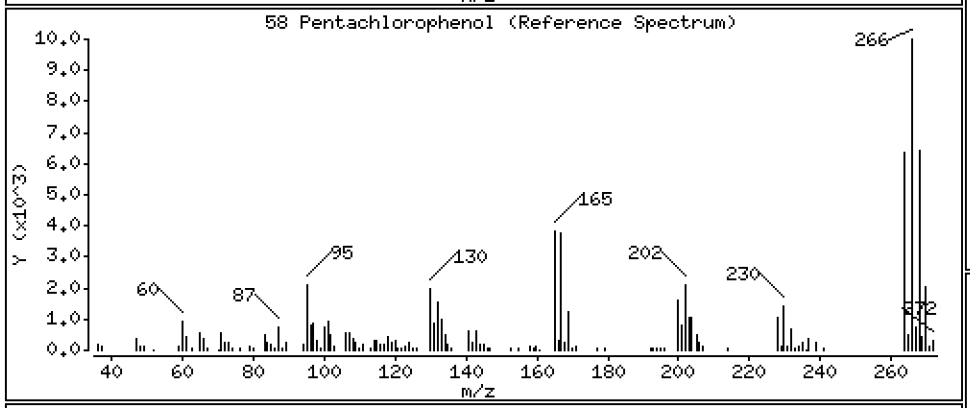
Column diameter: 0.25

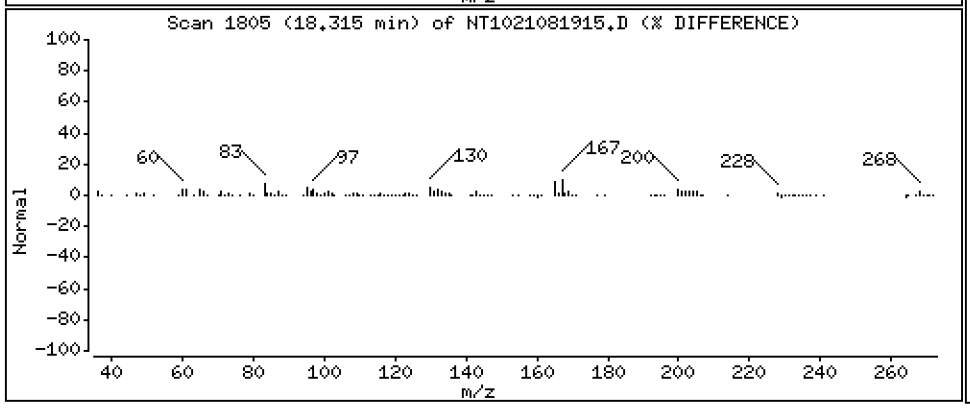
58 Pentachlorophenol

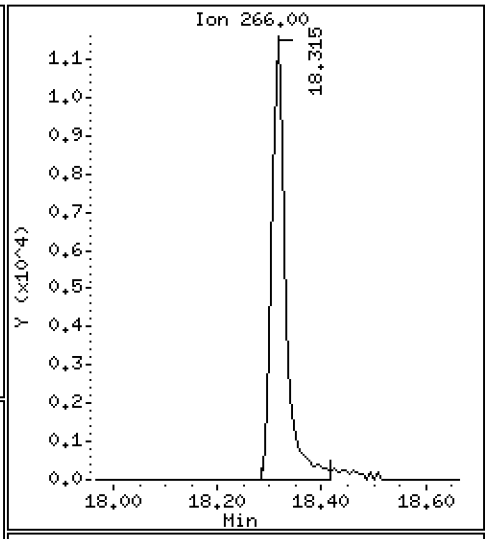
Concentration: 3.120 ug/mL

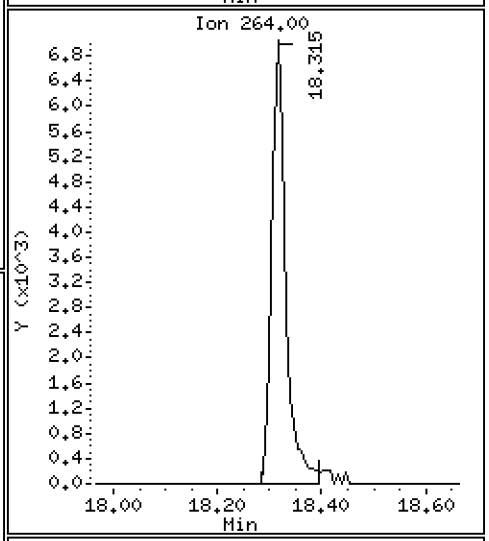


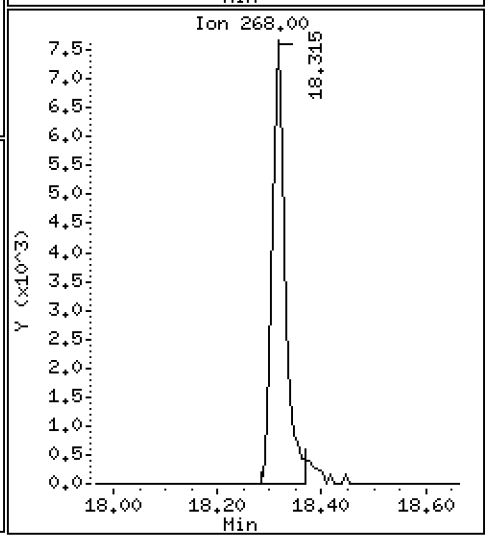












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

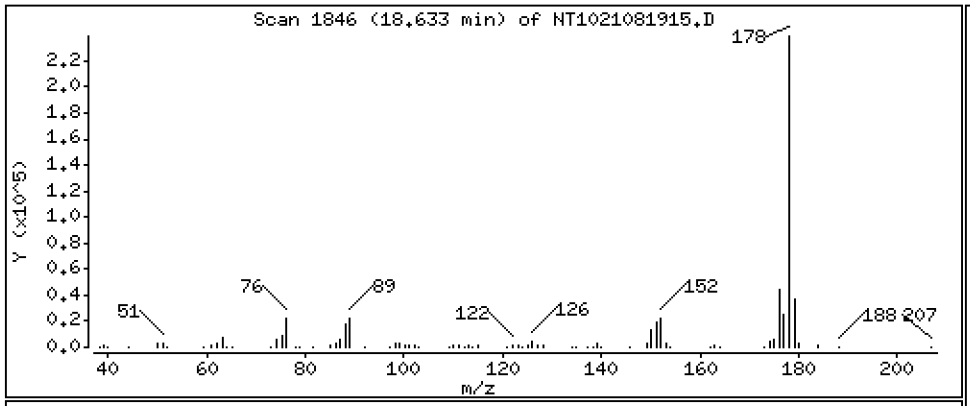
Operator: VTS

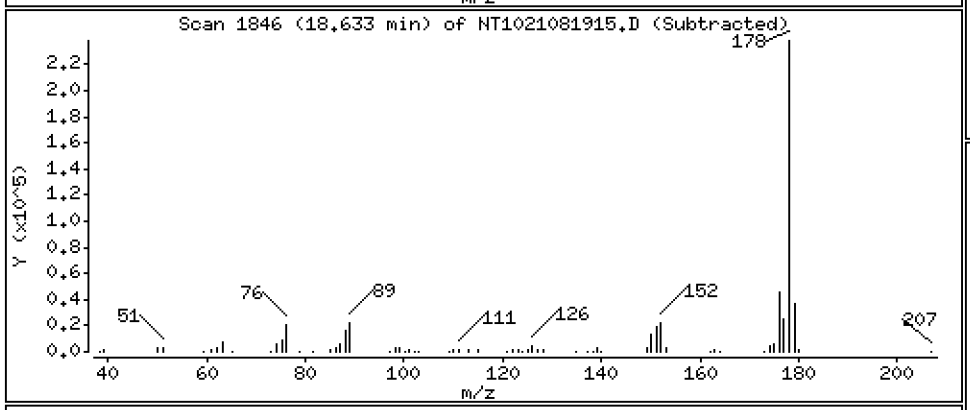
Column phase: ZB-5msi

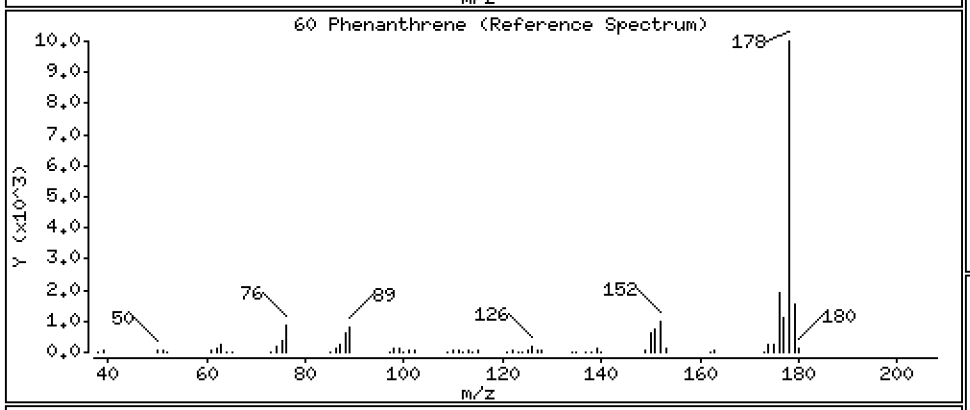
Column diameter: 0.25

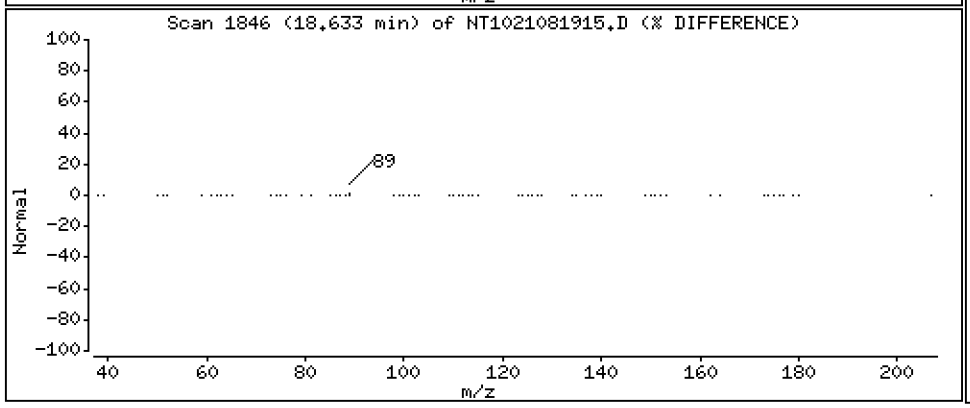
60 Phenanthrene

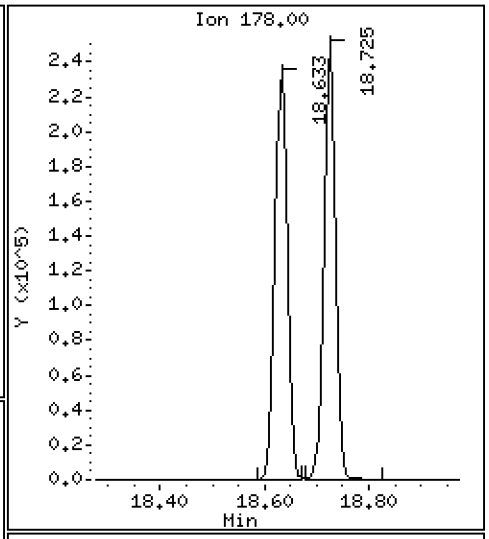
Concentration: 4.855 ug/mL

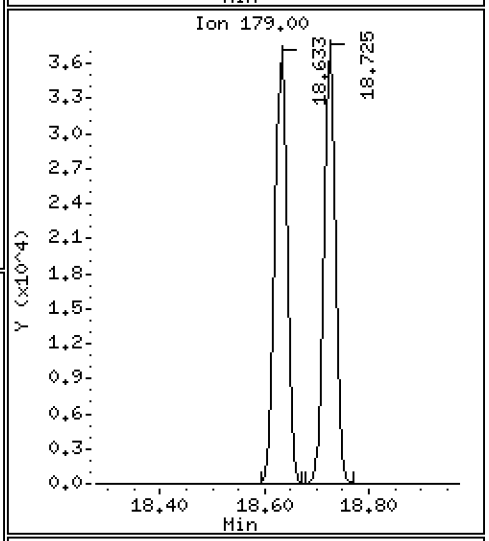


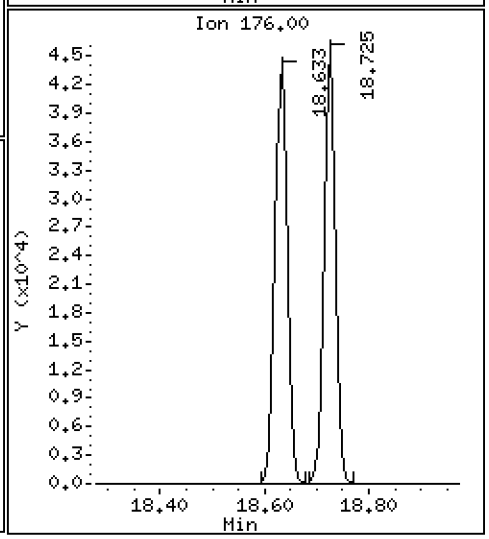












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

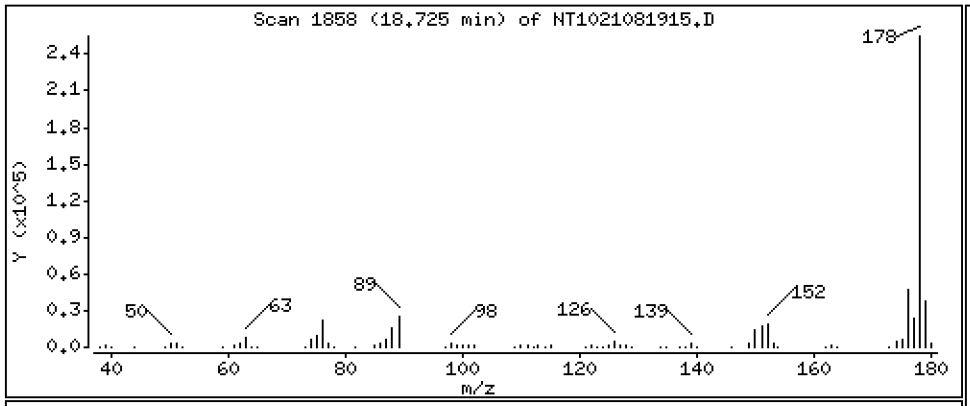
Operator: VTS

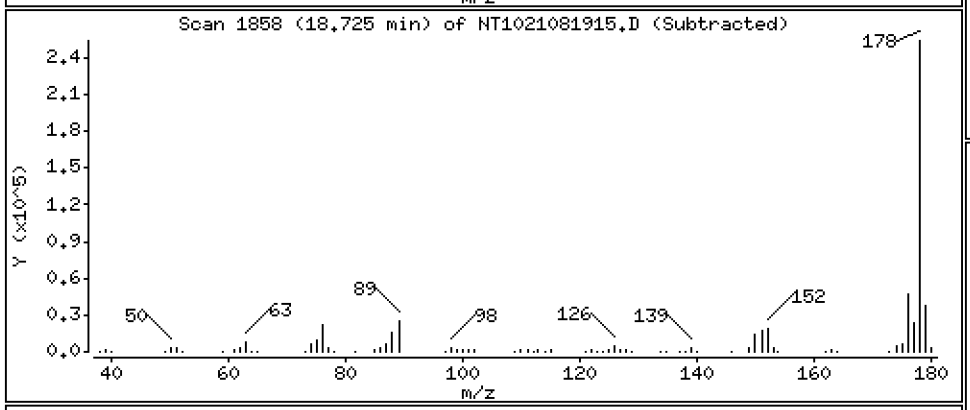
Column phase: ZB-5msi

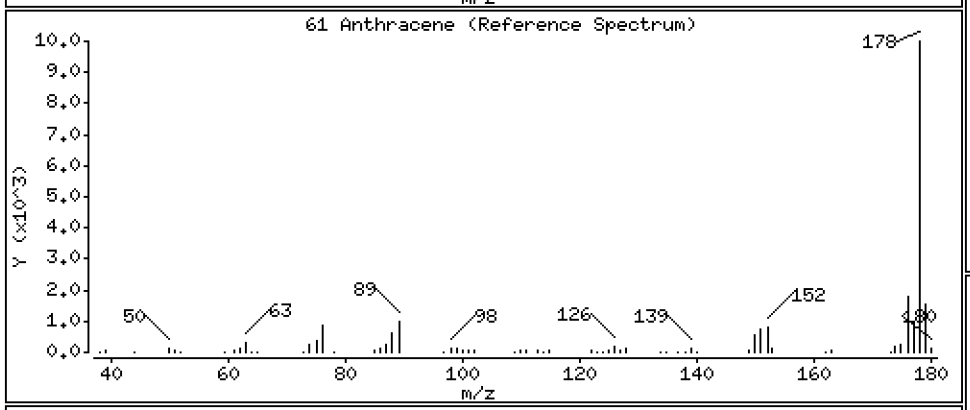
Column diameter: 0.25

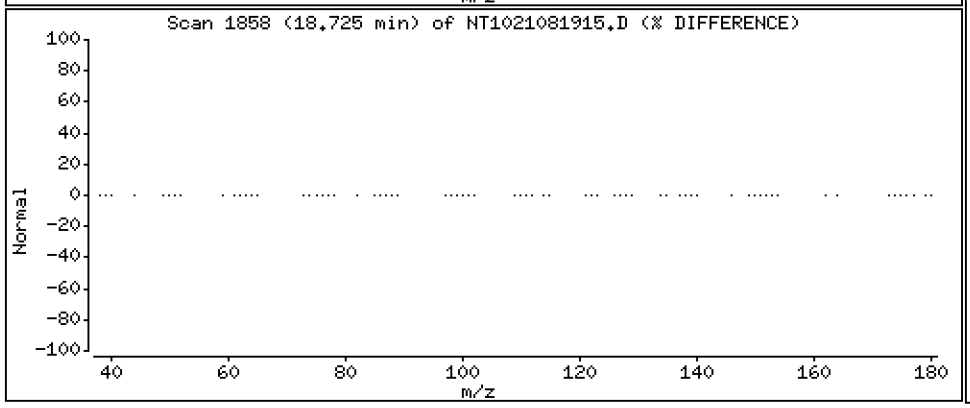
61 Anthracene

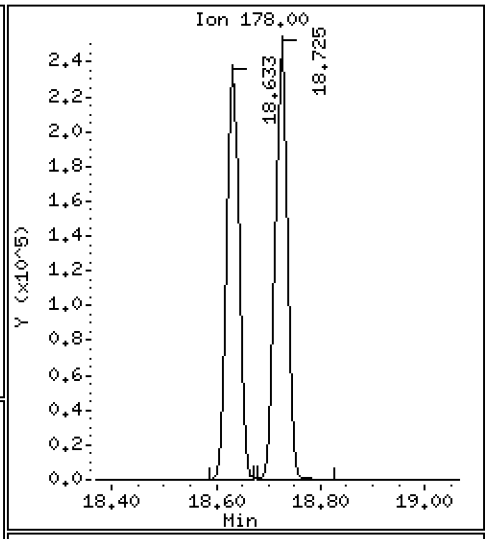
Concentration: 4.813 ug/mL

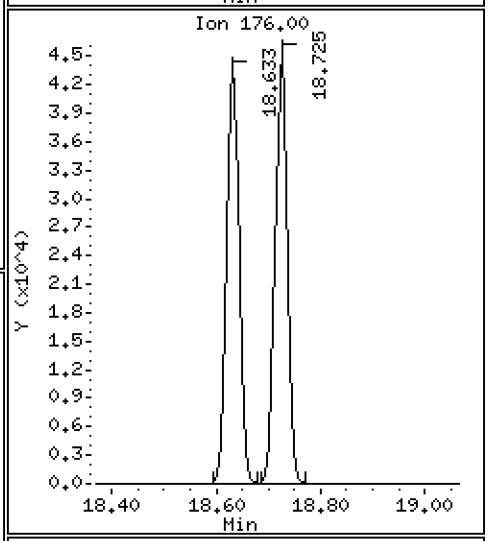


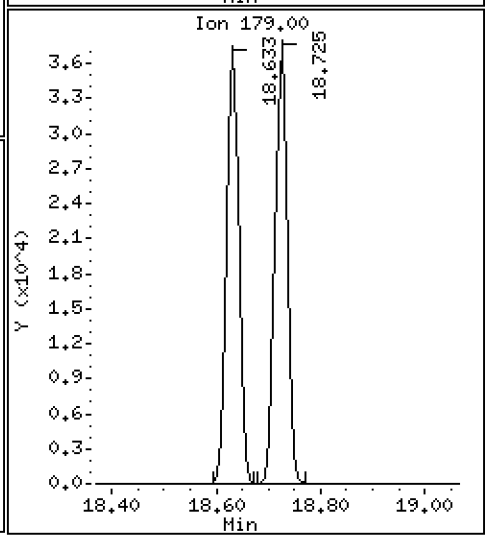












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

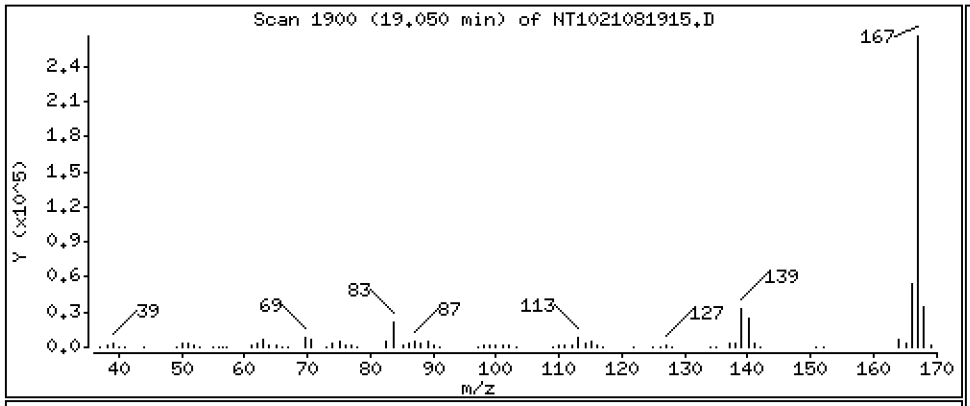
Operator: VTS

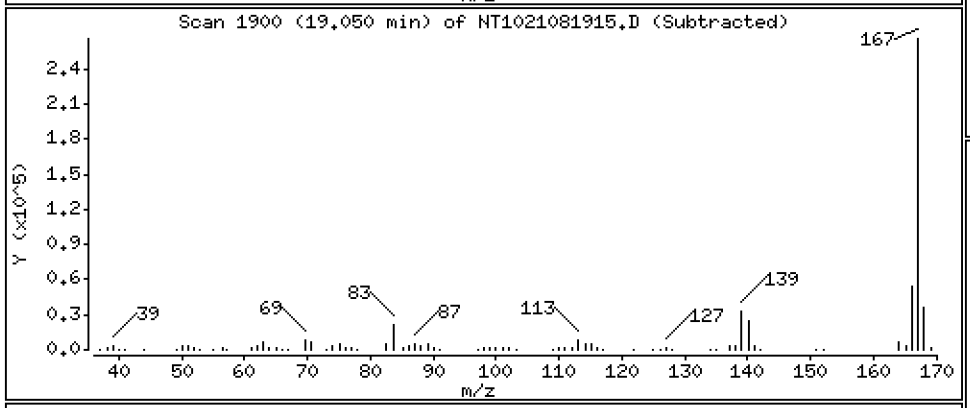
Column phase: ZB-5msi

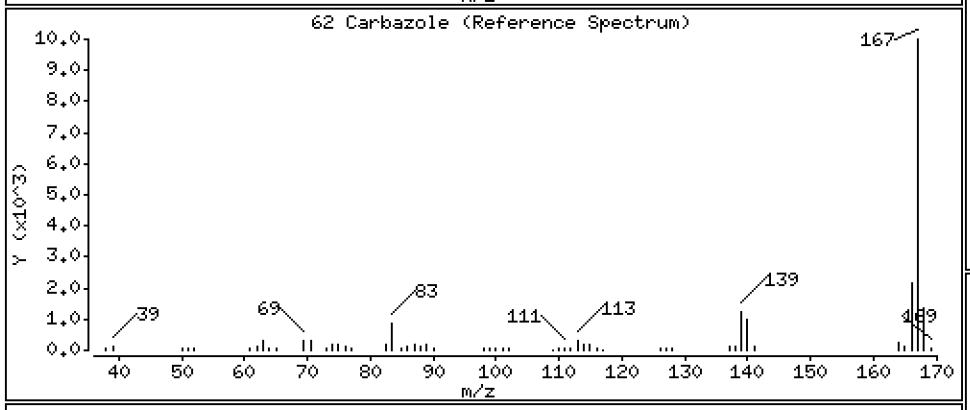
Column diameter: 0.25

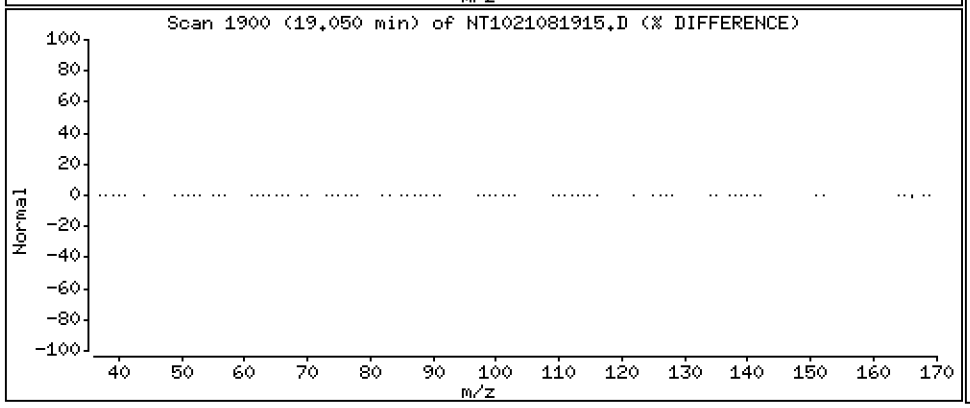
62 Carbazole

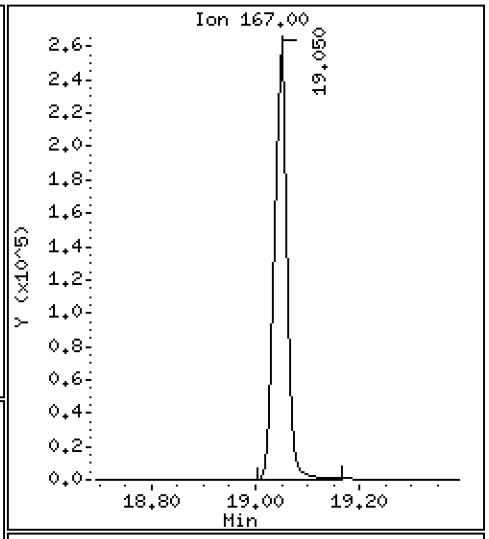
Concentration: 4.972 ug/mL

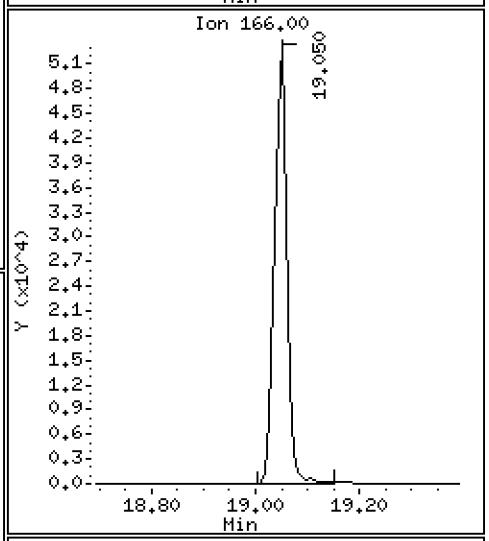


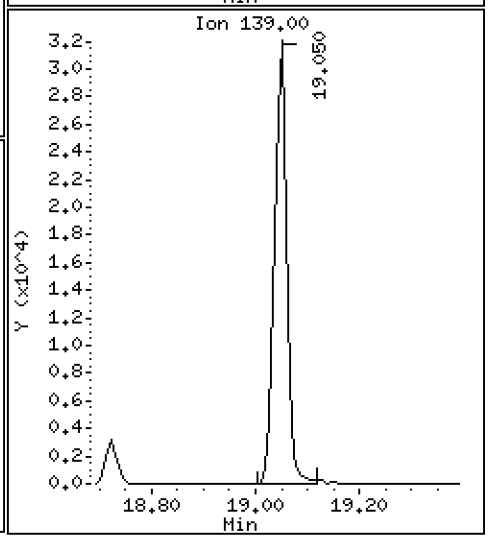












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

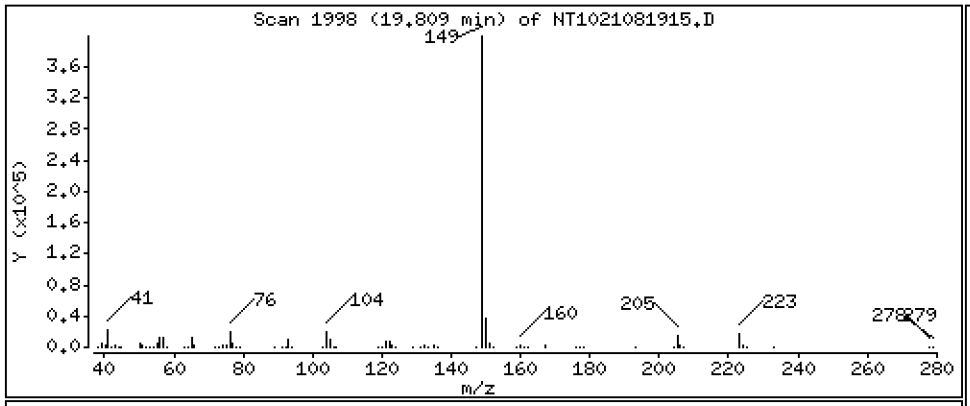
Operator: VTS

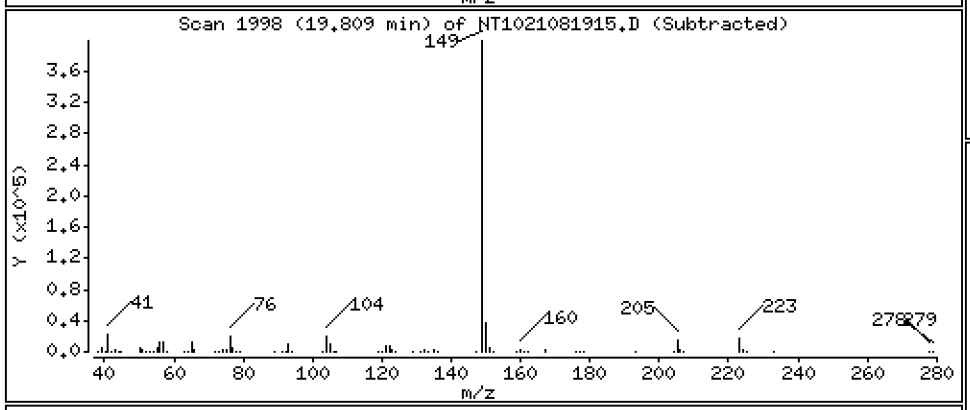
Column phase: ZB-5msi

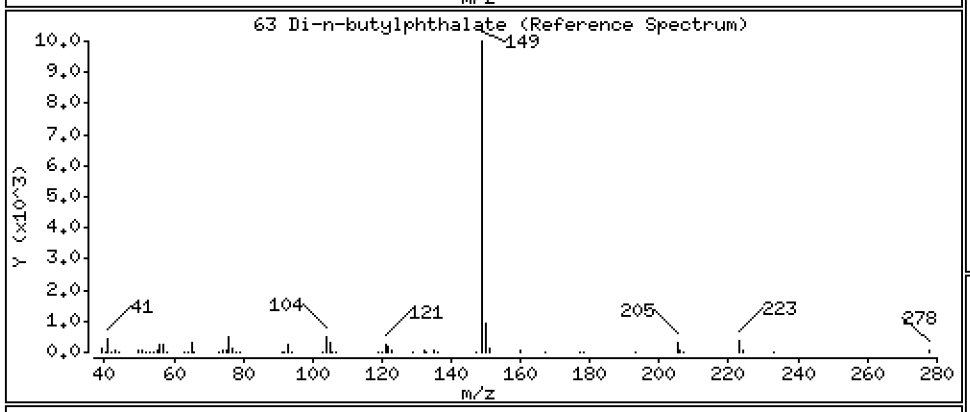
Column diameter: 0.25

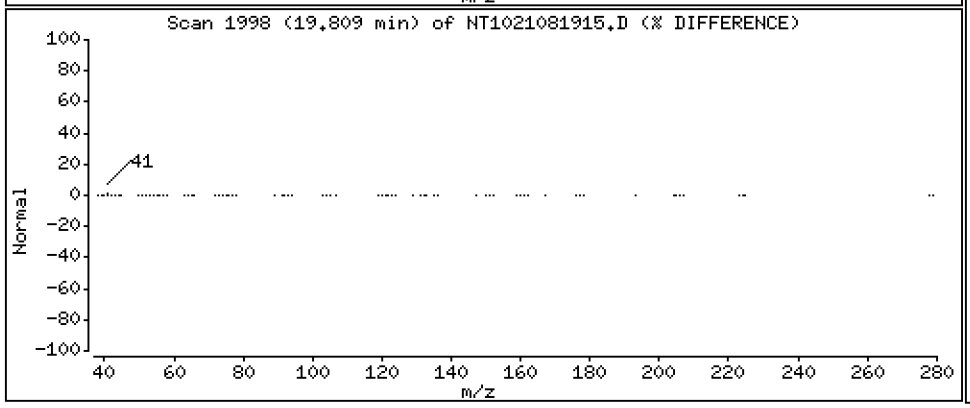
63 Di-n-butylphthalate

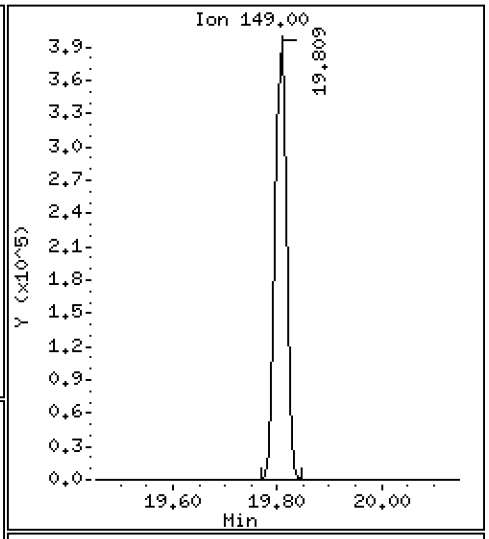
Concentration: 5.375 ug/mL

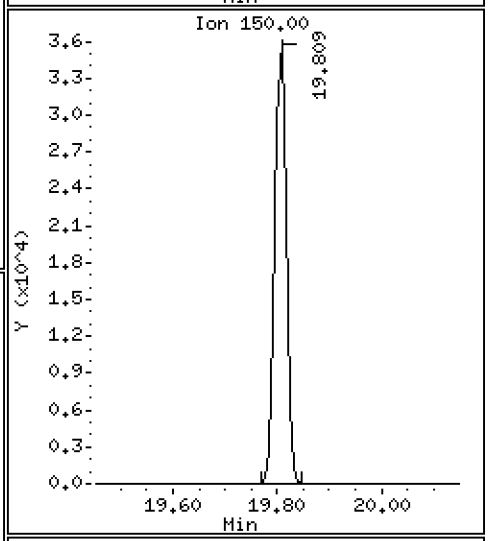


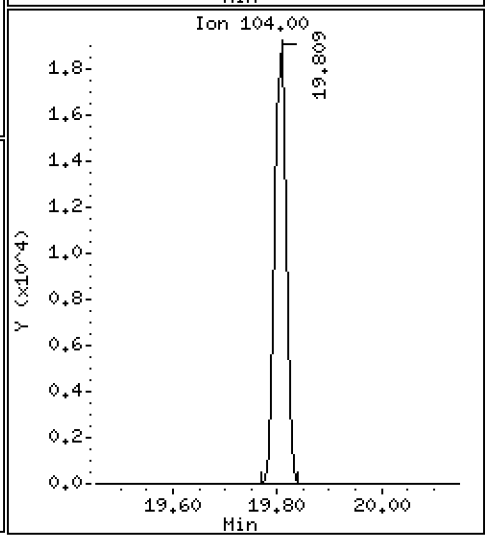












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

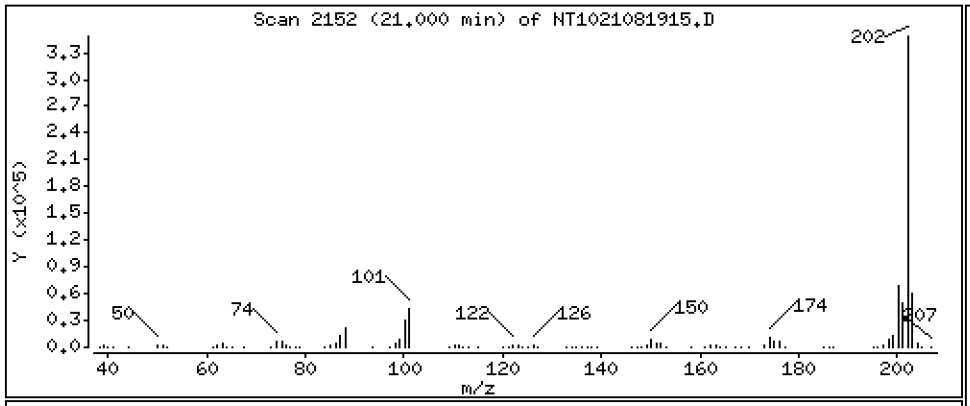
Operator: VTS

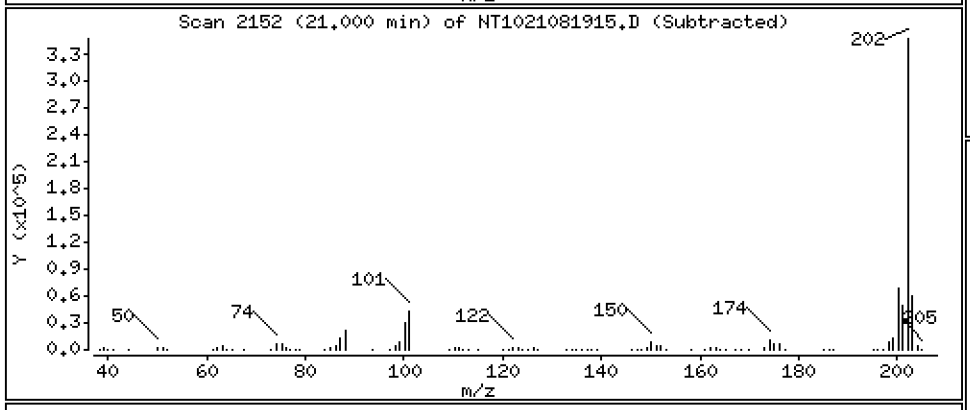
Column phase: ZB-5msi

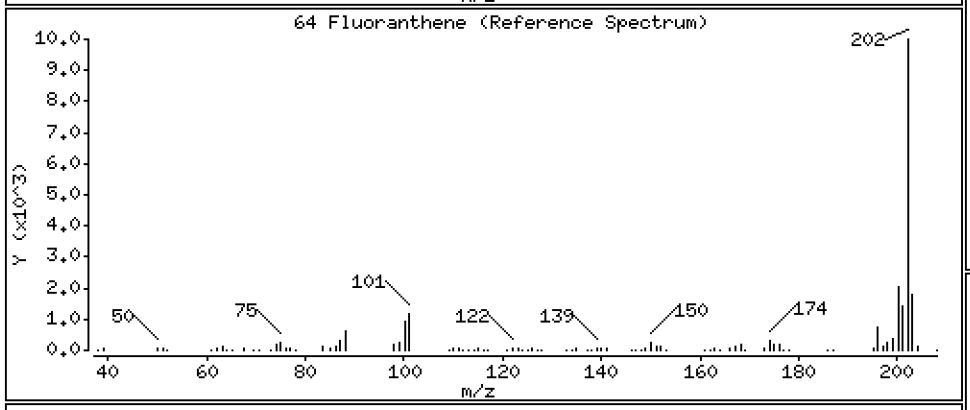
Column diameter: 0.25

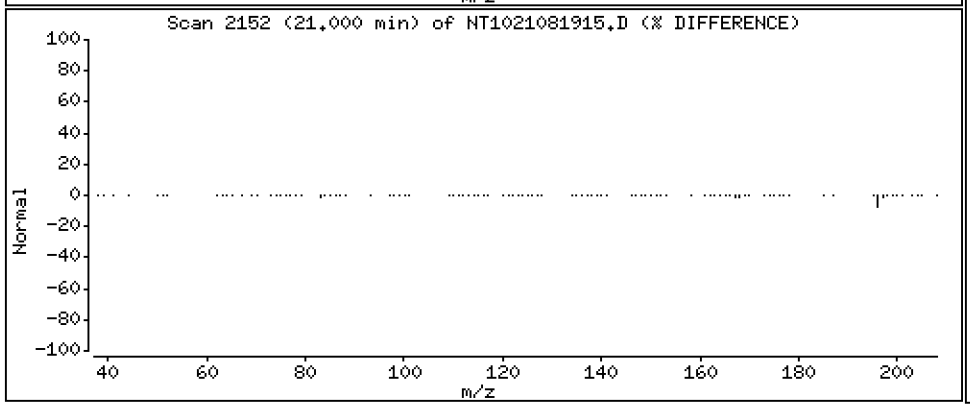
64 Fluoranthene

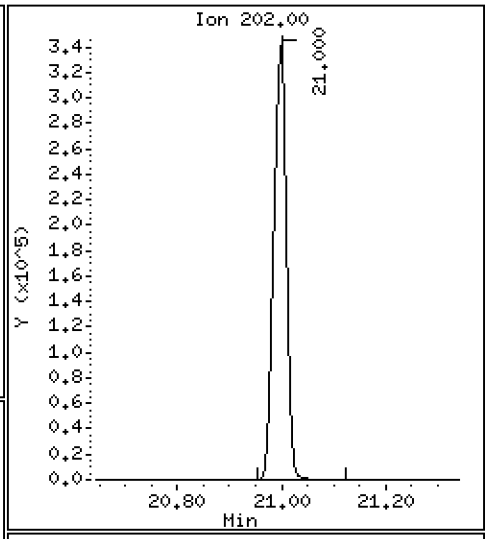
Concentration: 4.853 ug/mL

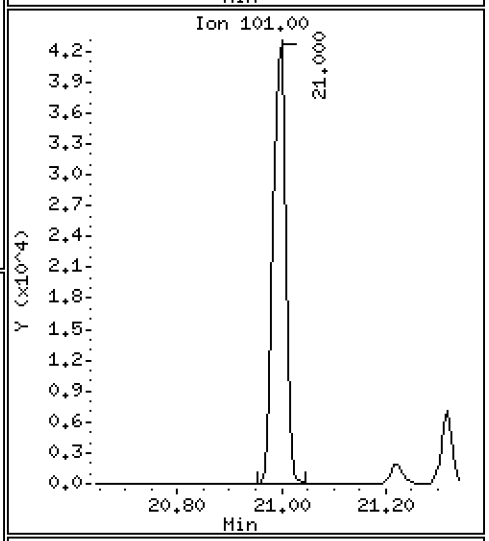


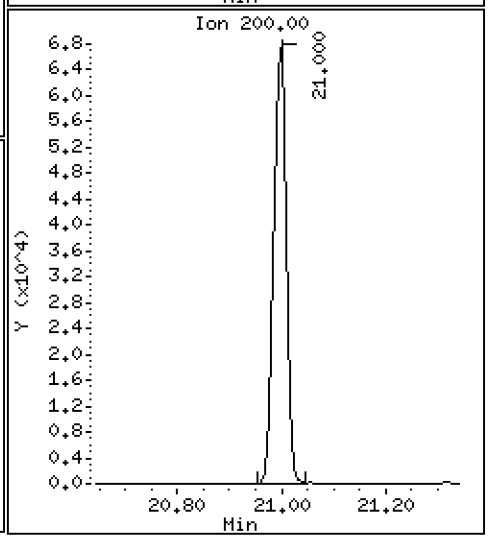












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

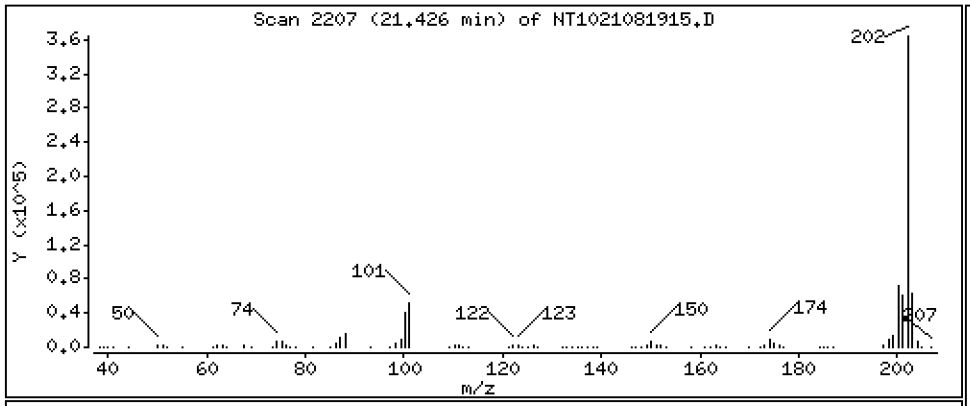
Operator: VTS

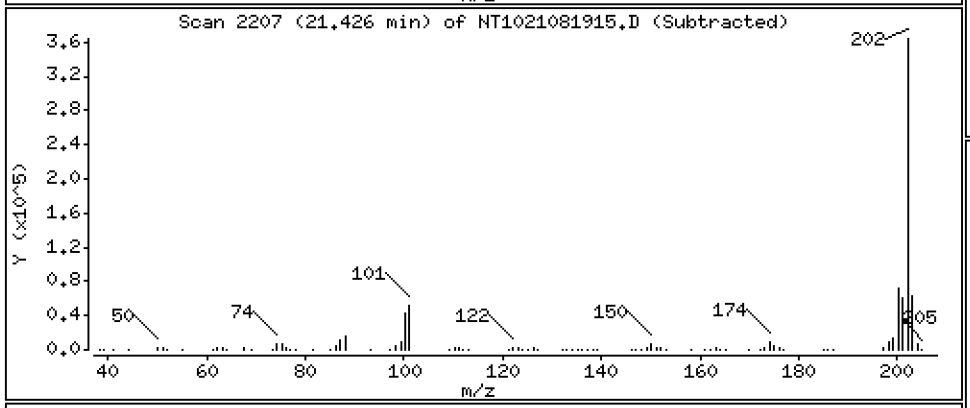
Column phase: ZB-5msi

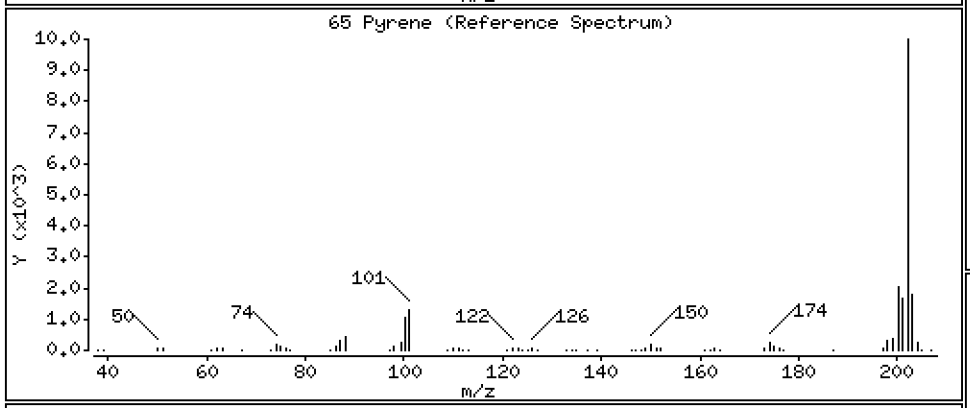
Column diameter: 0.25

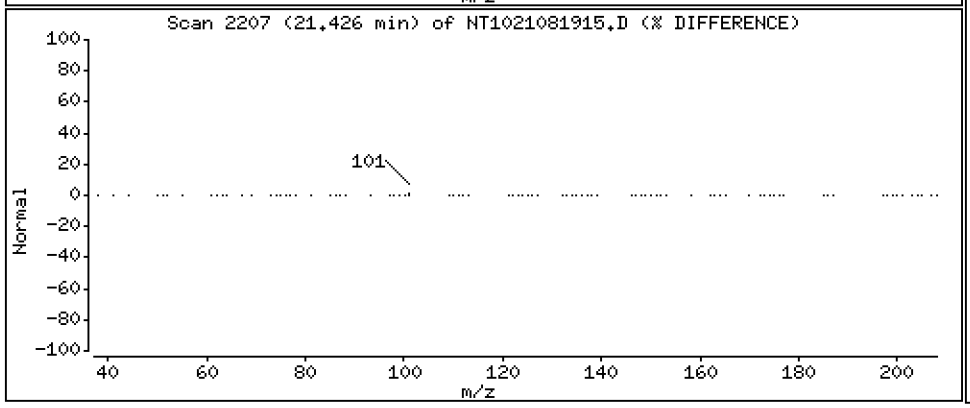
65 Pyrene

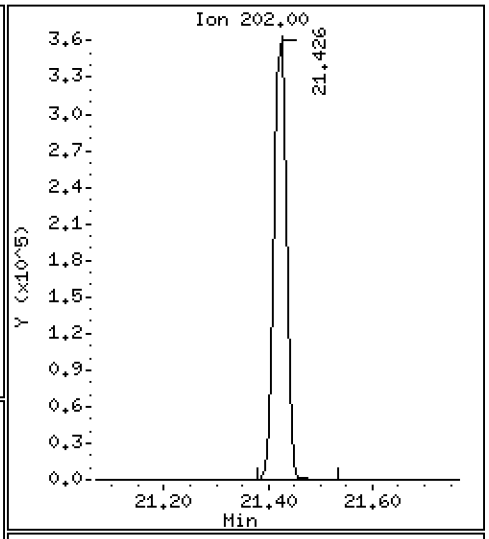
Concentration: 4.862 ug/mL

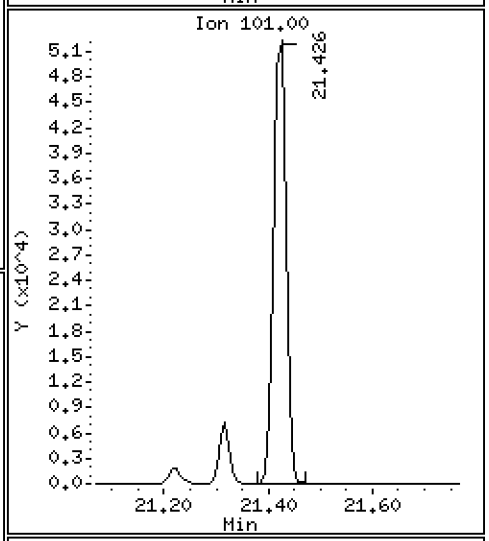


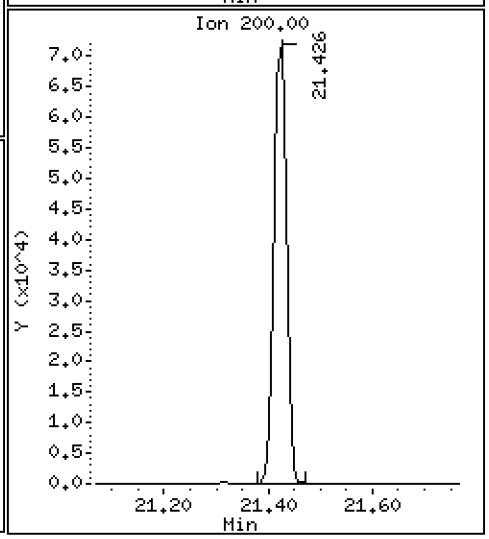












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

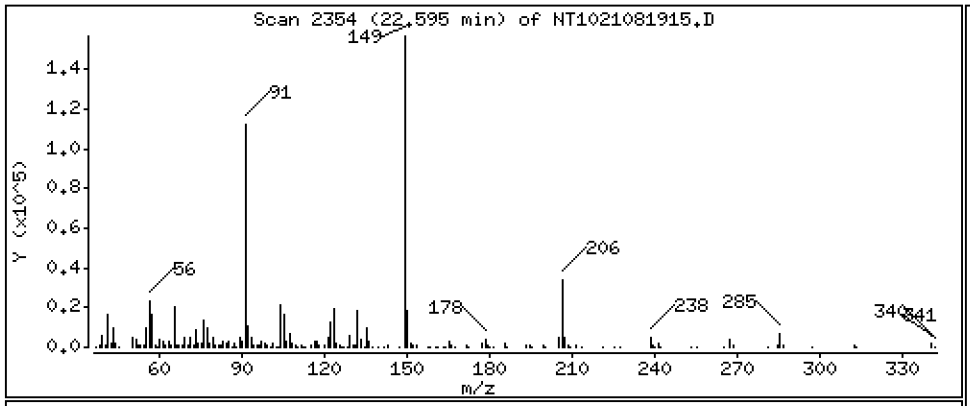
Operator: VTS

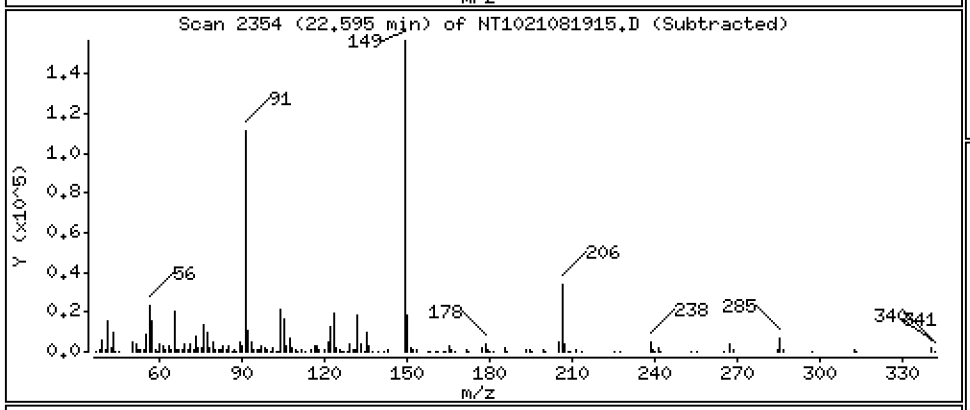
Column phase: ZB-5msi

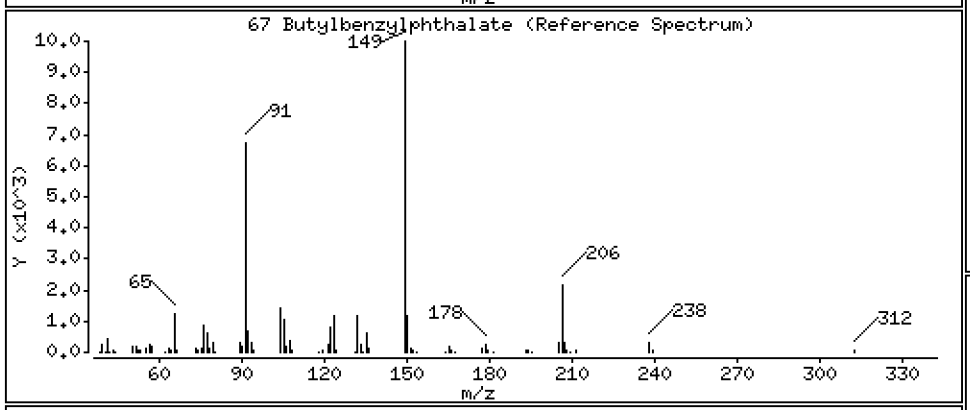
Column diameter: 0.25

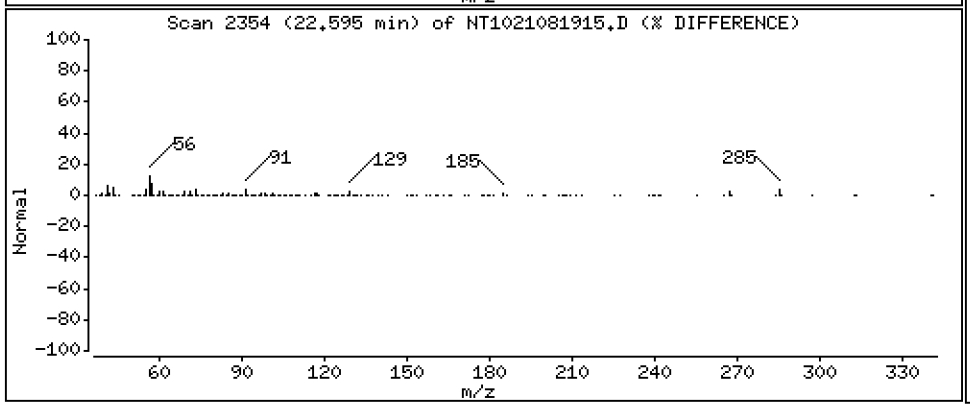
67 Butylbenzylphthalate

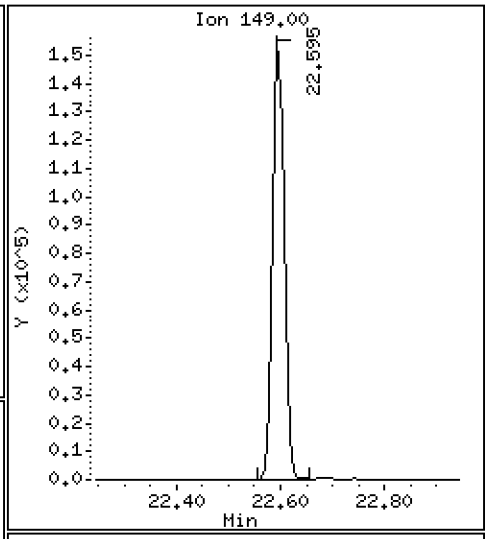
Concentration: 4.889 ug/mL

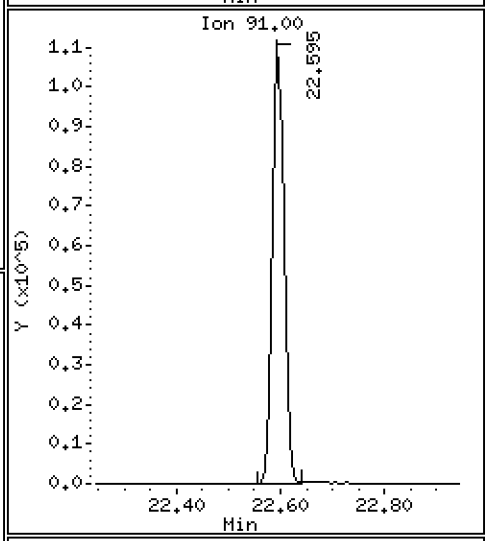


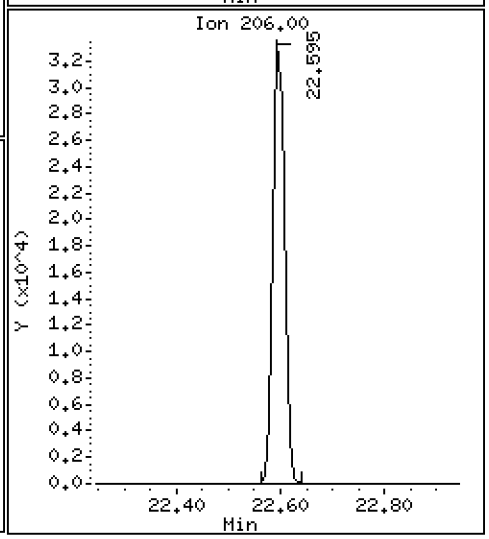












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

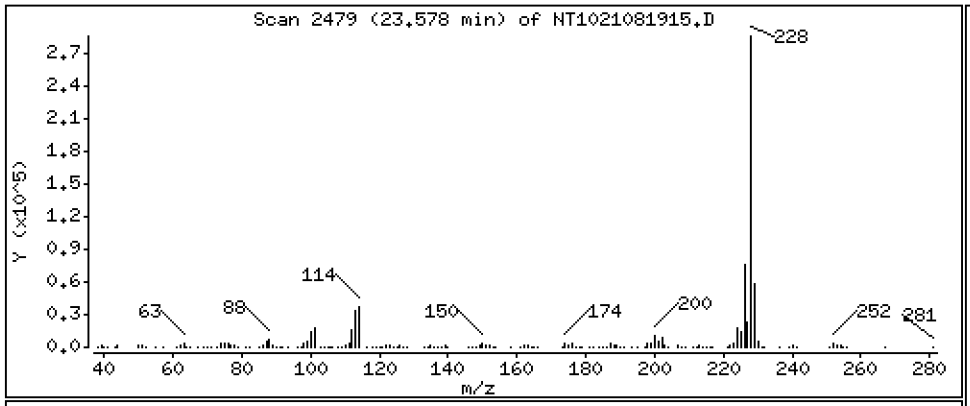
Operator: VTS

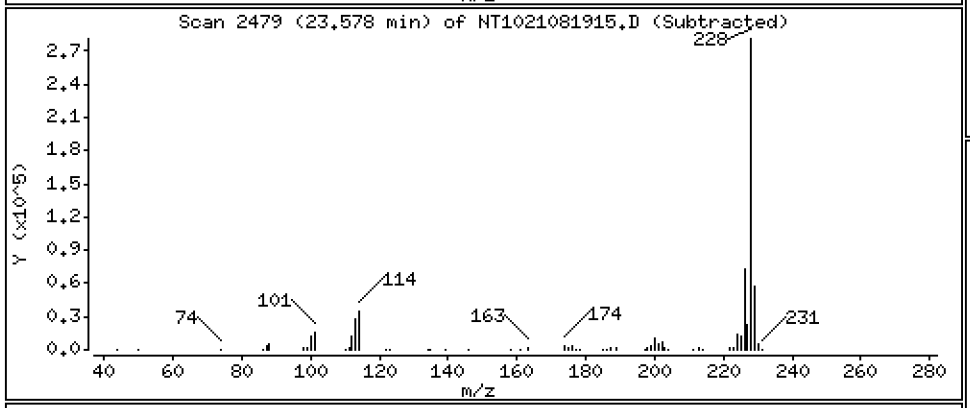
Column phase: ZB-5msi

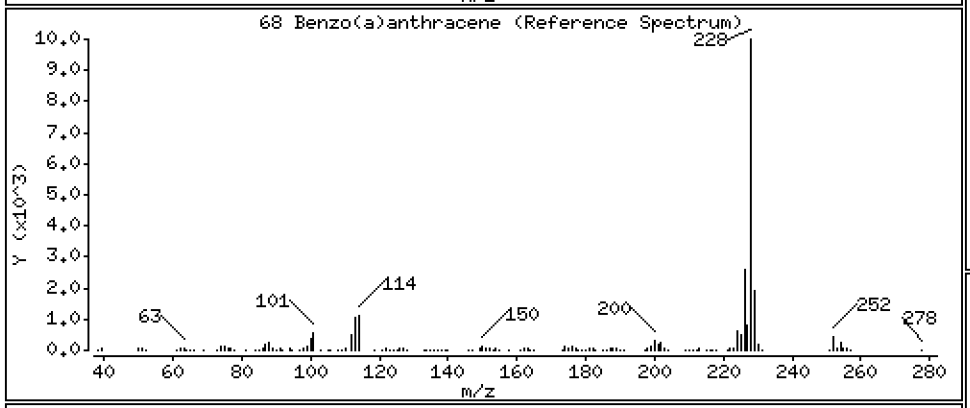
Column diameter: 0.25

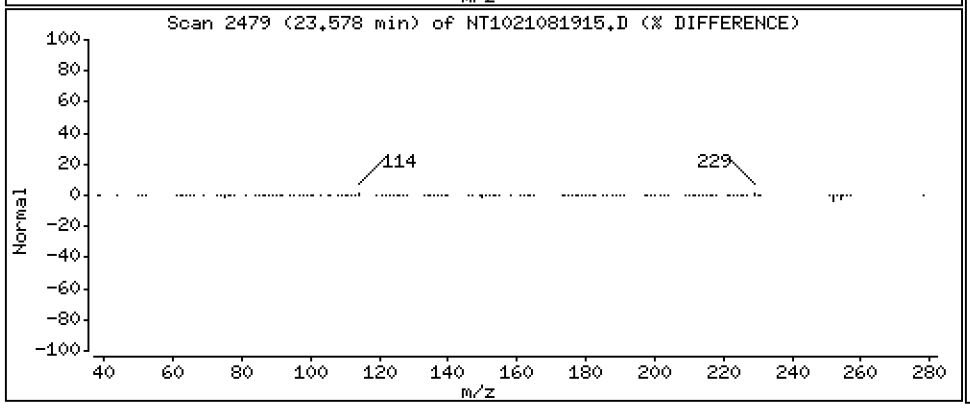
68 Benzo(a)anthracene

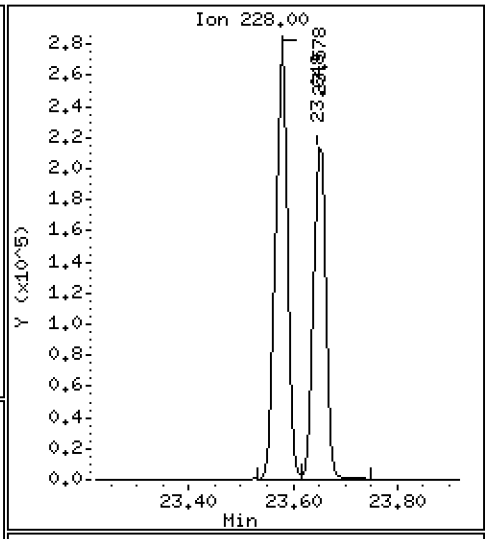
Concentration: 4.800 ug/mL

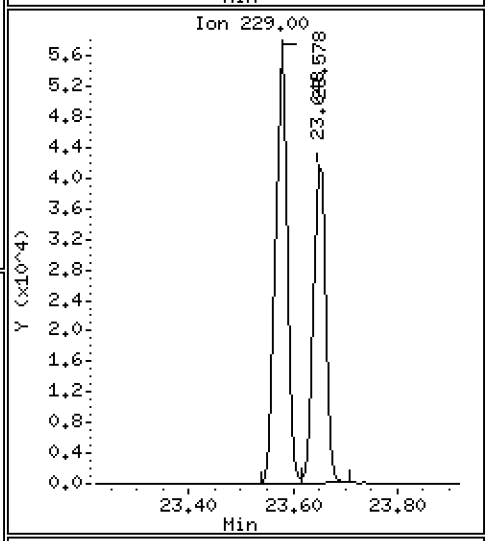


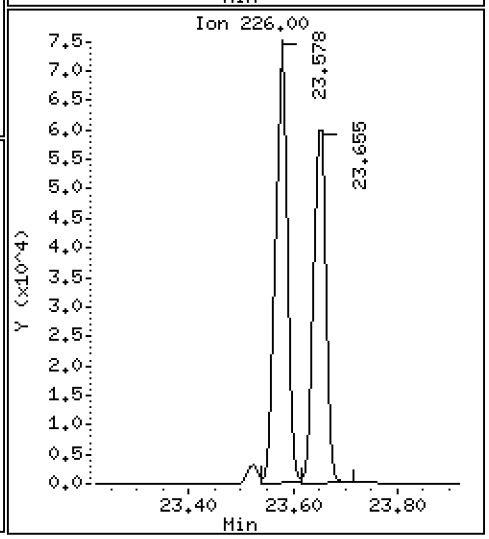












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

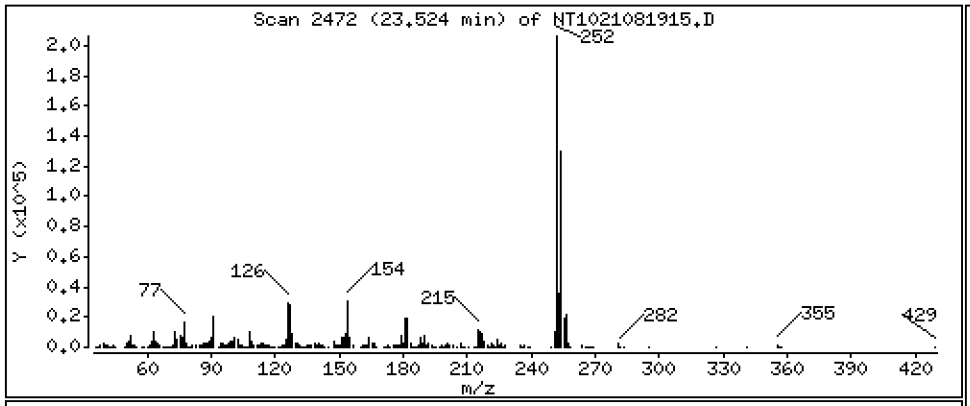
Operator: VTS

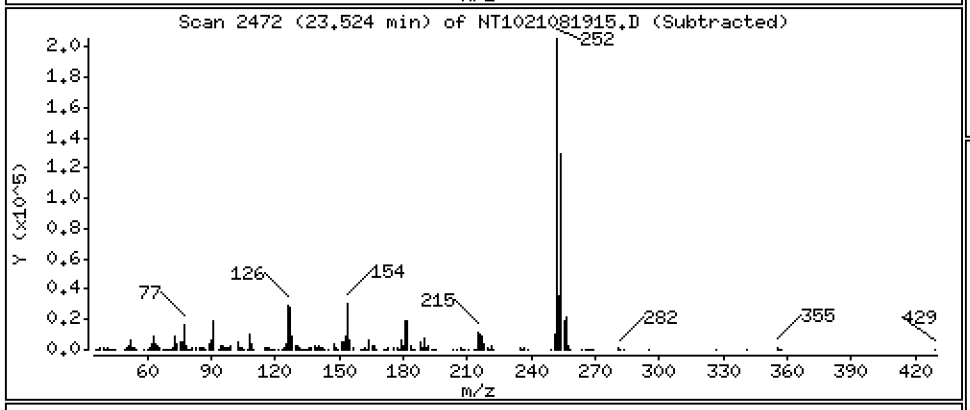
Column phase: ZB-5msi

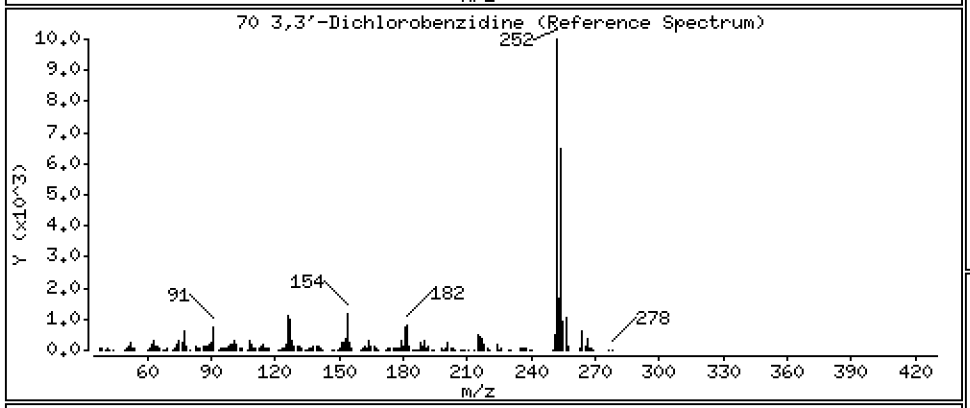
Column diameter: 0.25

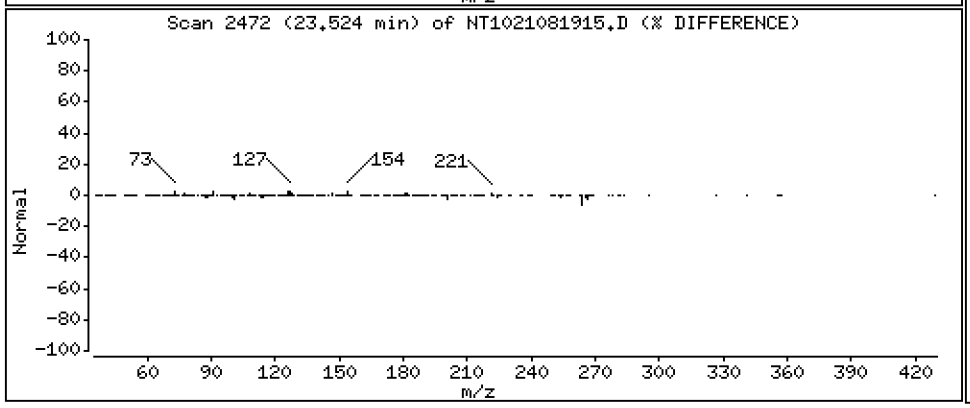
70 3,3'-Dichlorobenzidine

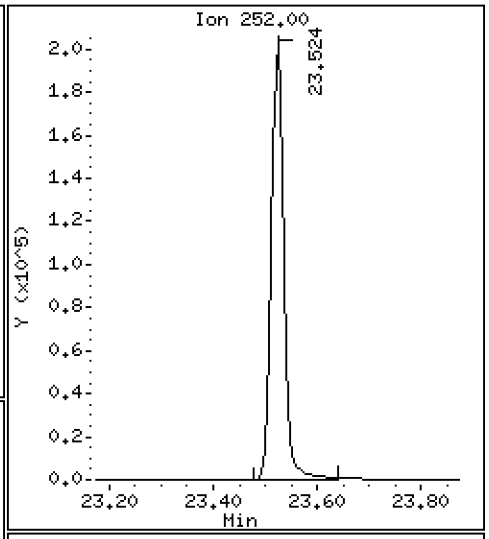
Concentration: 8.830 ug/mL

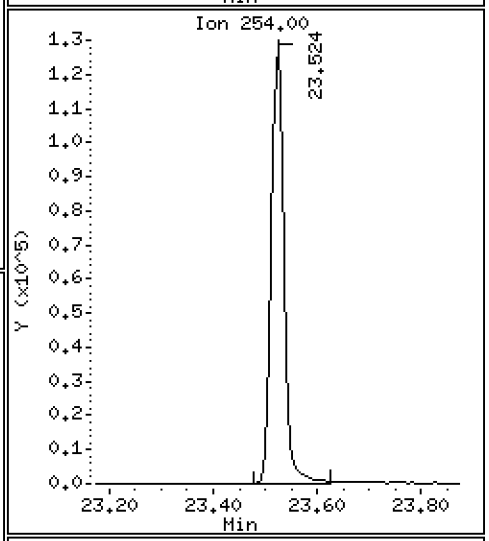


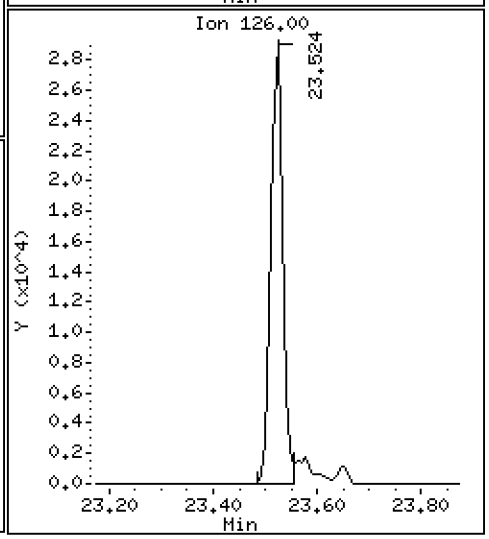












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

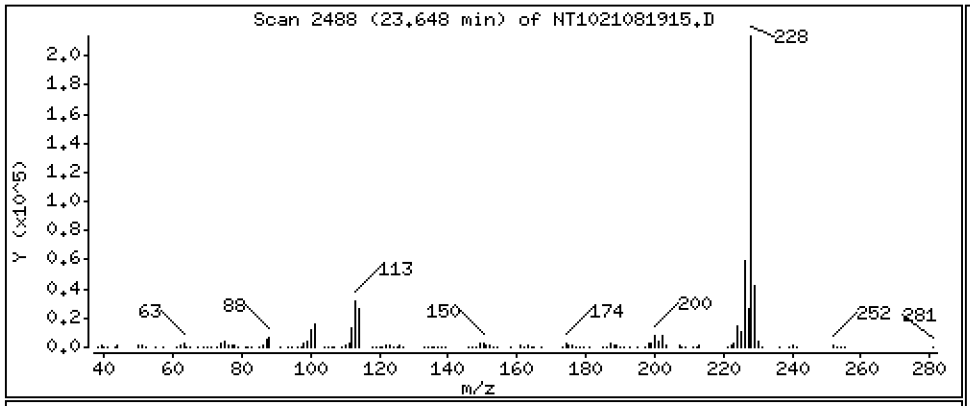
Operator: VTS

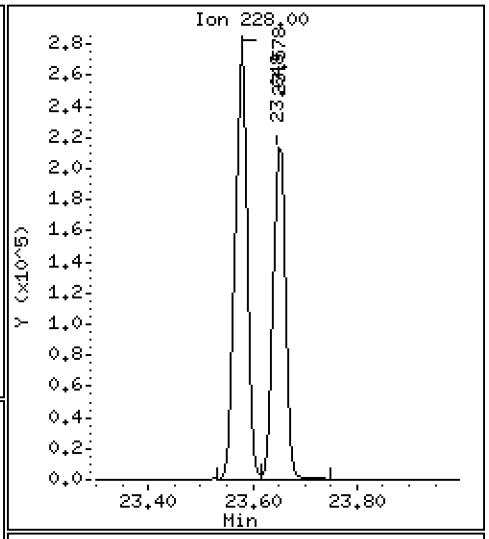
Column phase: ZB-5msi

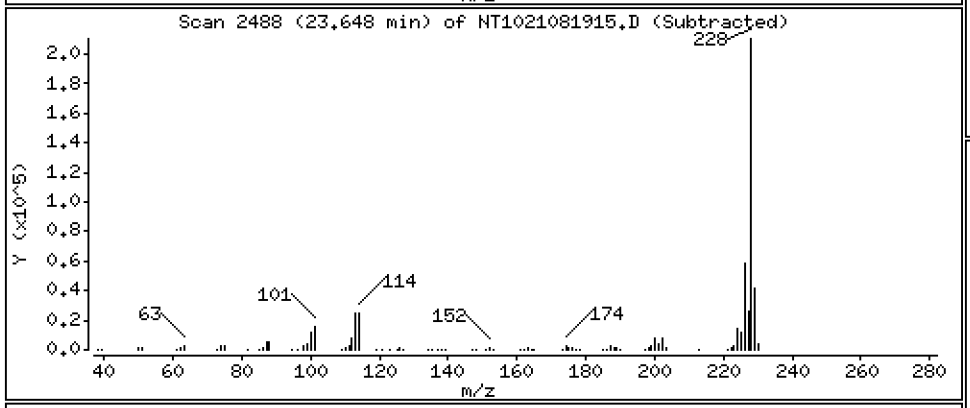
Column diameter: 0.25

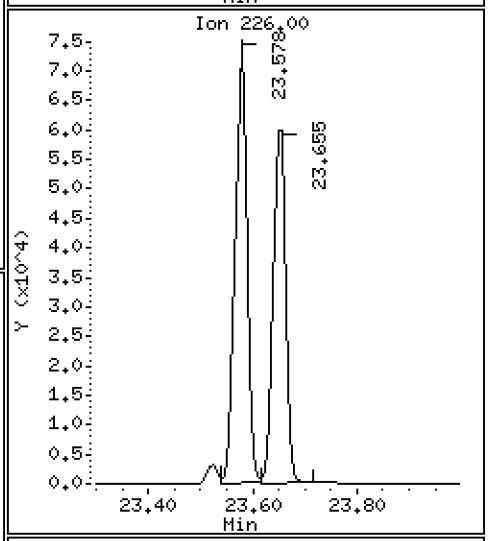
71 Chrysene

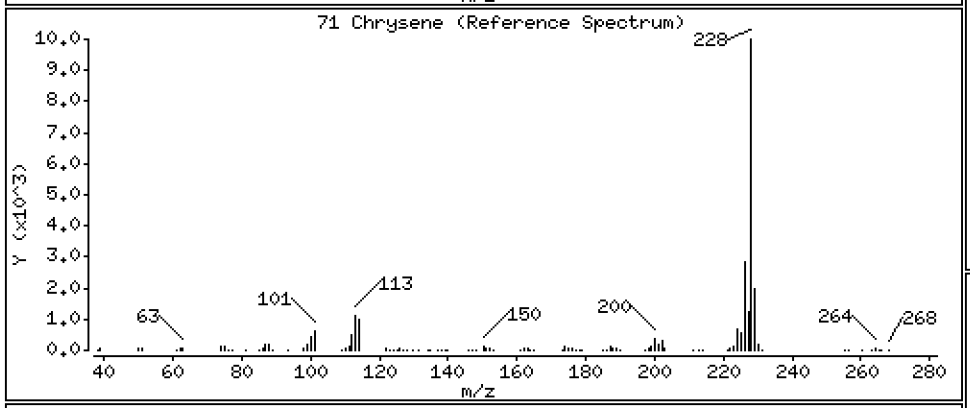
Concentration: 4.687 ug/mL

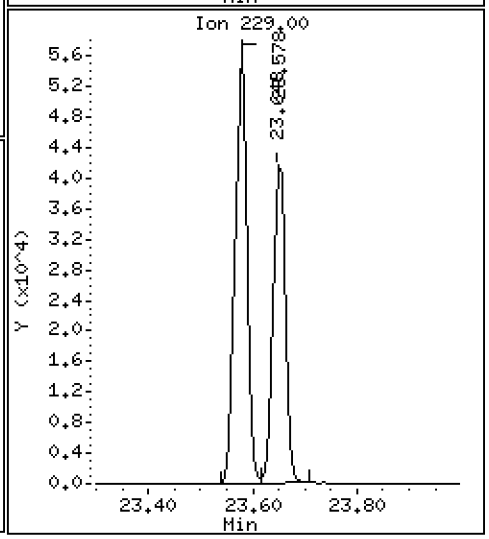


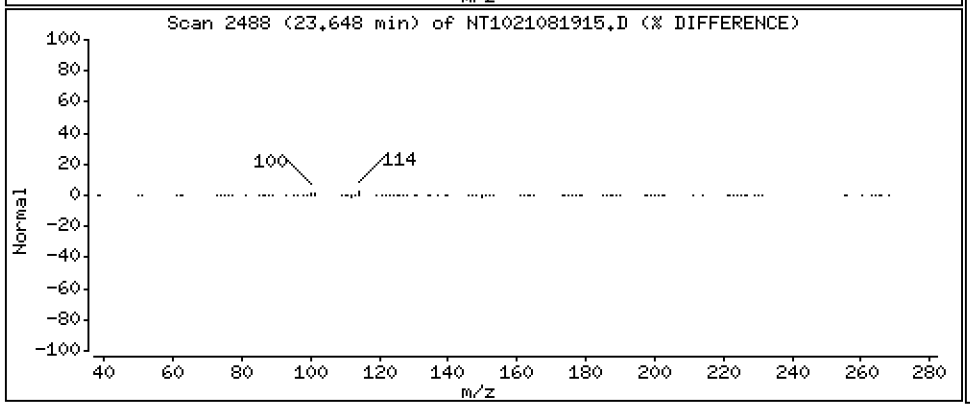












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

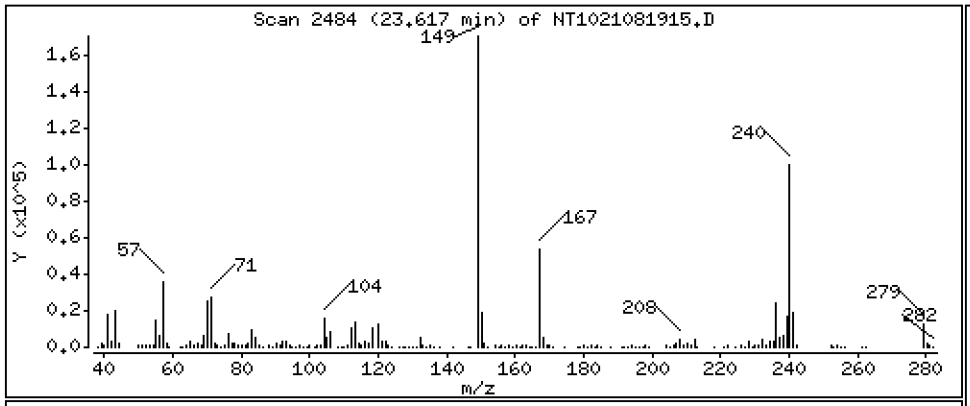
Operator: VTS

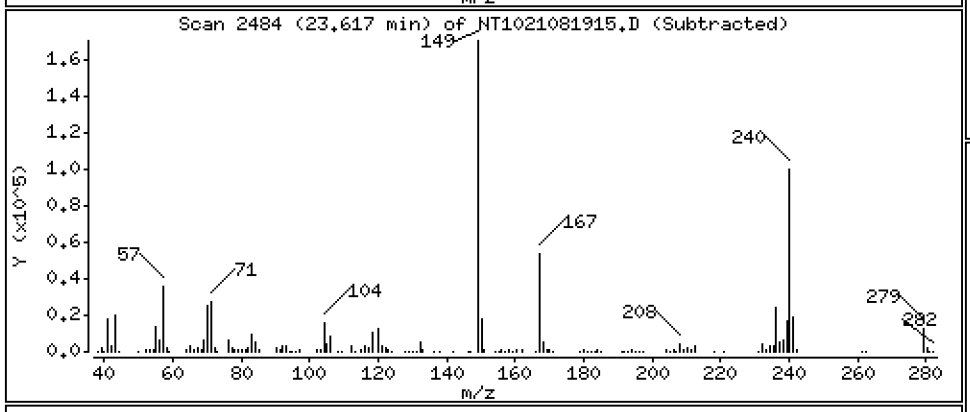
Column phase: ZB-5msi

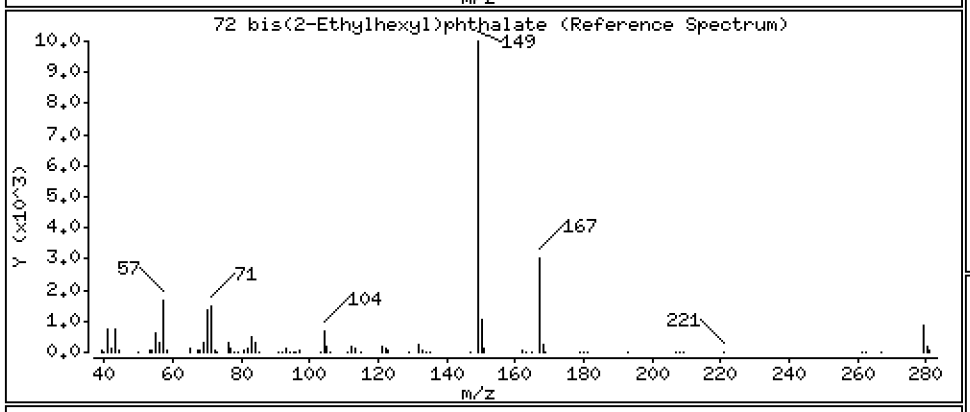
Column diameter: 0.25

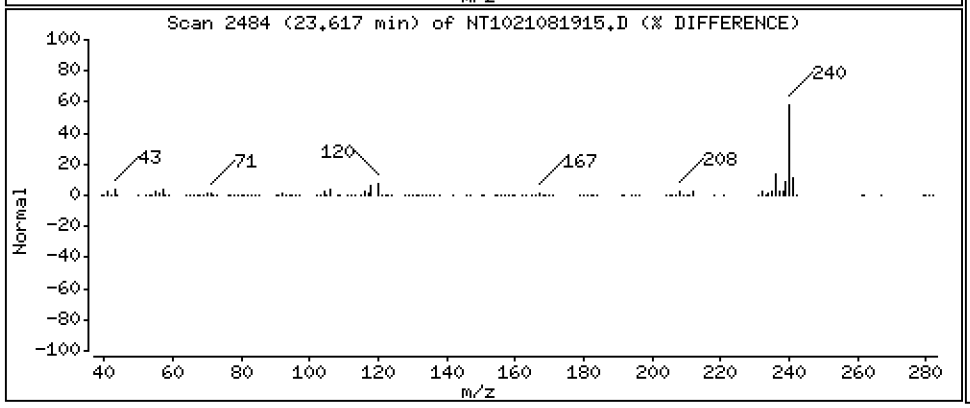
72 bis(2-Ethylhexyl)phthalate

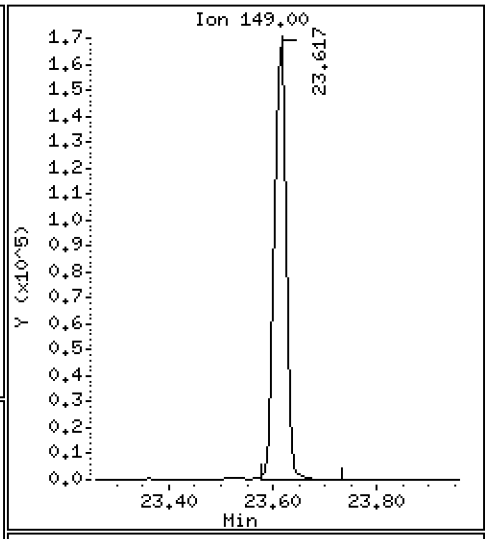
Concentration: 5.362 ug/mL

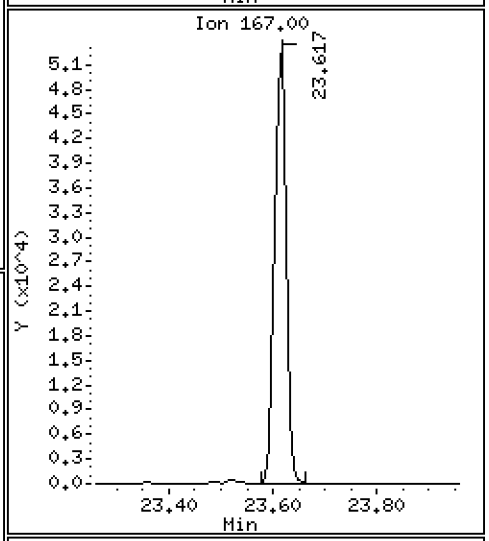


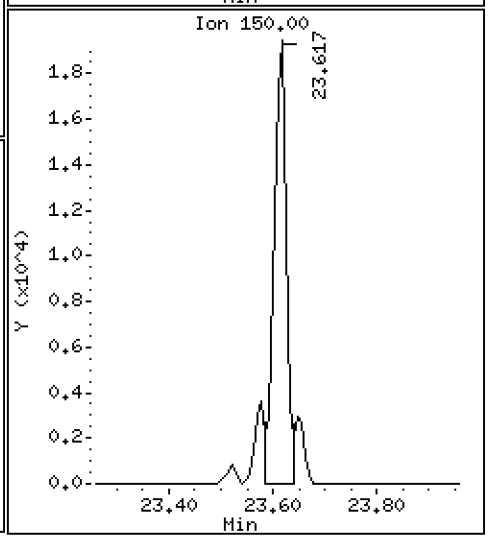












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

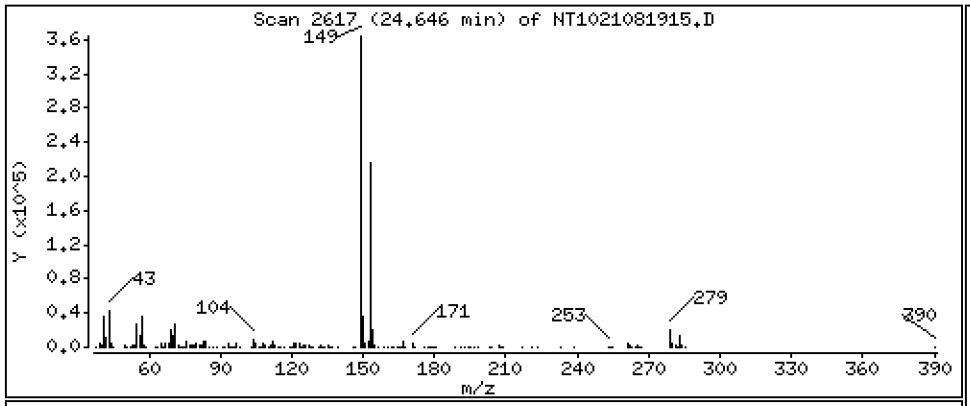
Operator: VTS

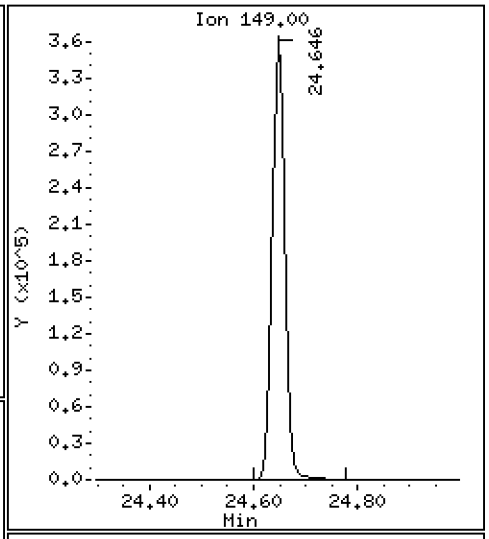
Column phase: ZB-5msi

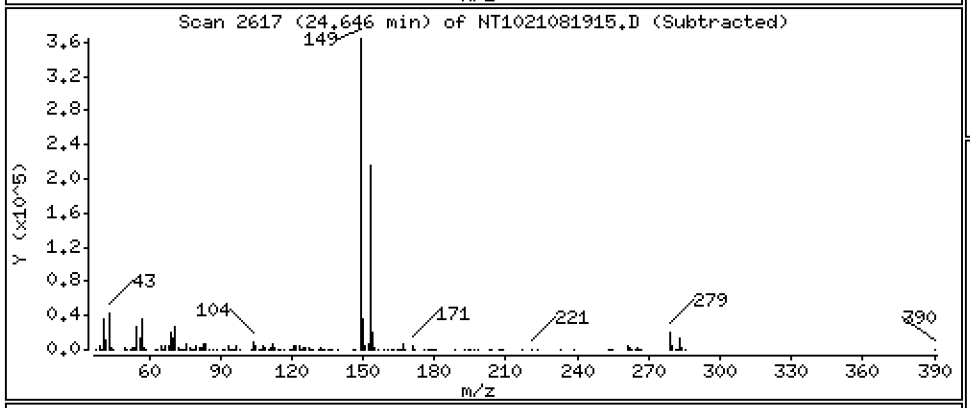
Column diameter: 0.25

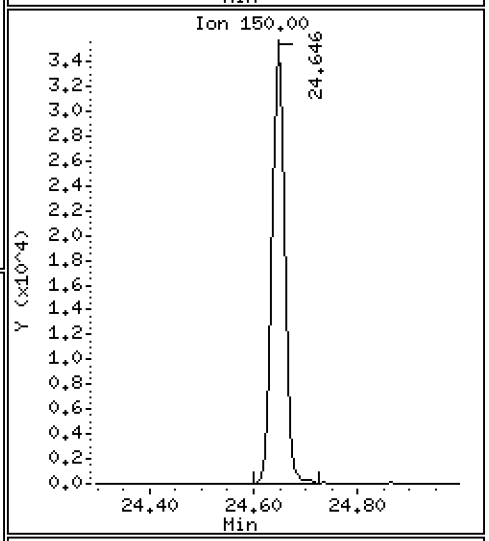
73 Di-n-octylphthalate

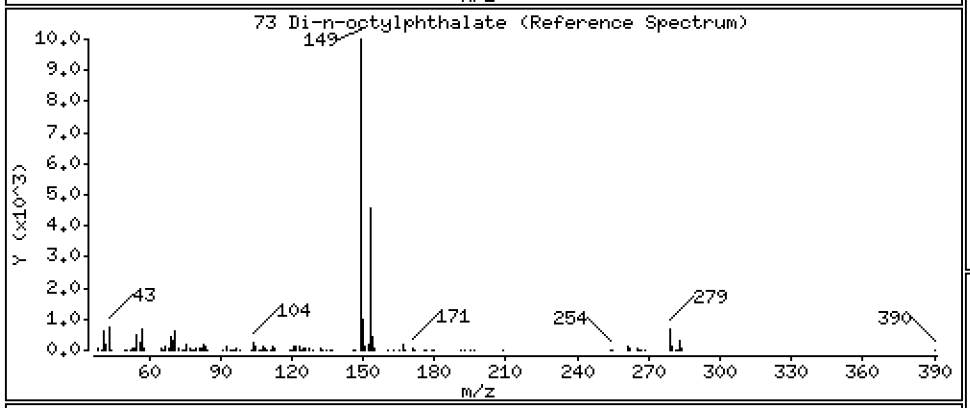
Concentration: 5.228 ug/mL

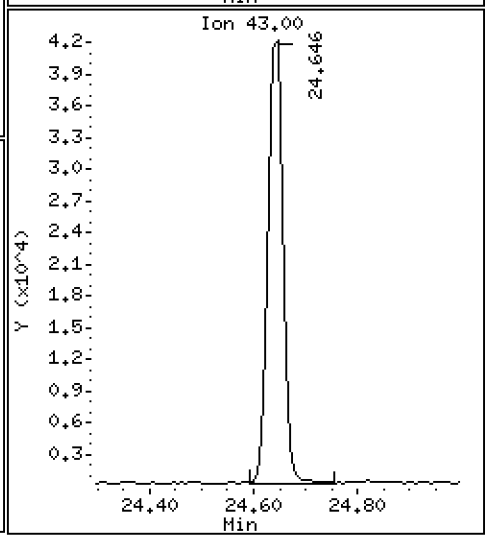


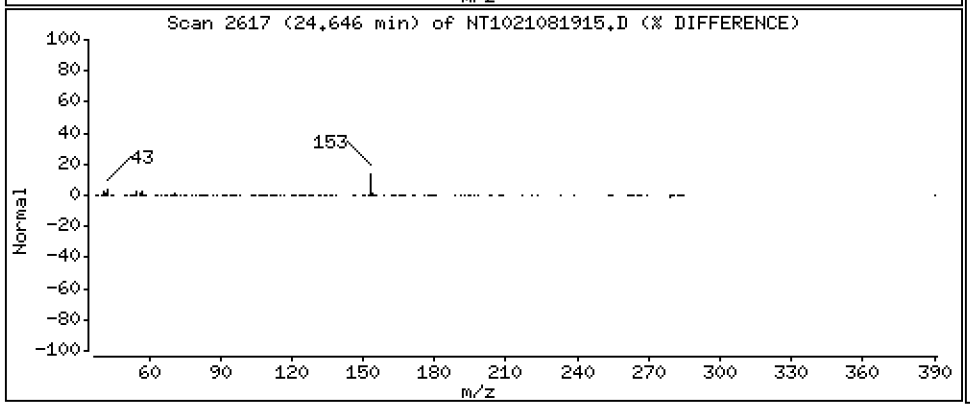












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

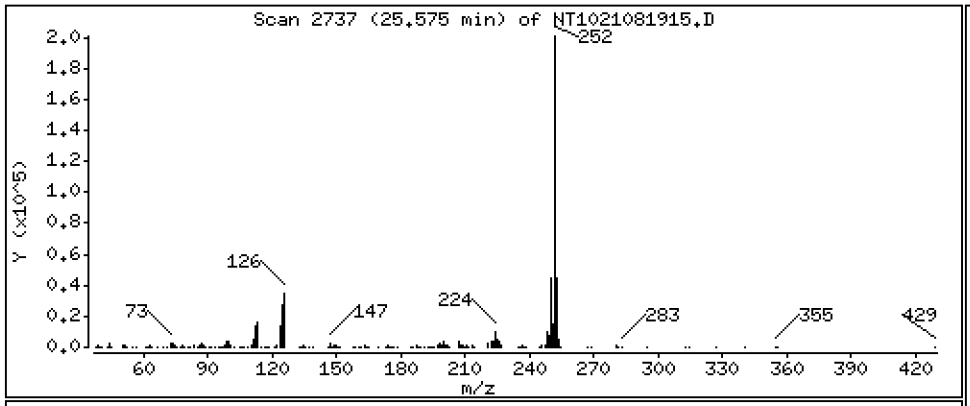
Operator: VTS

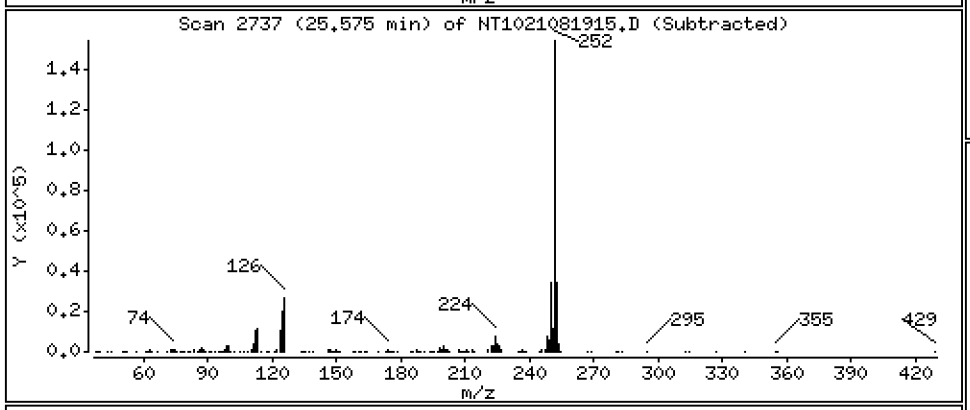
Column phase: ZB-5msi

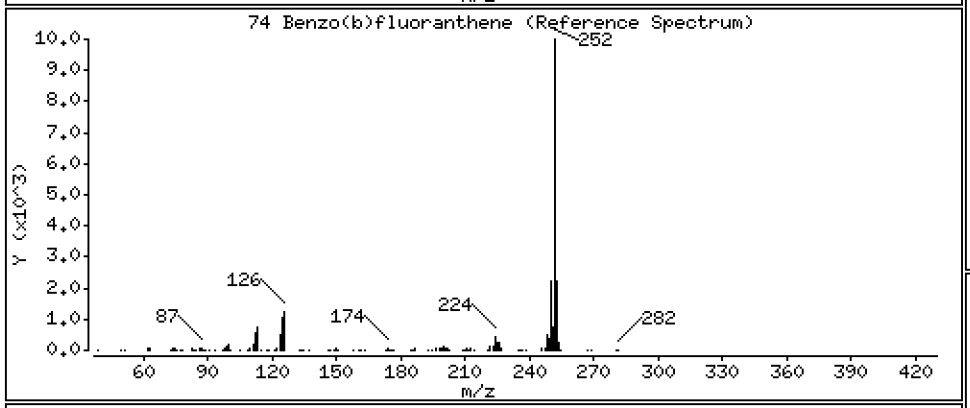
Column diameter: 0.25

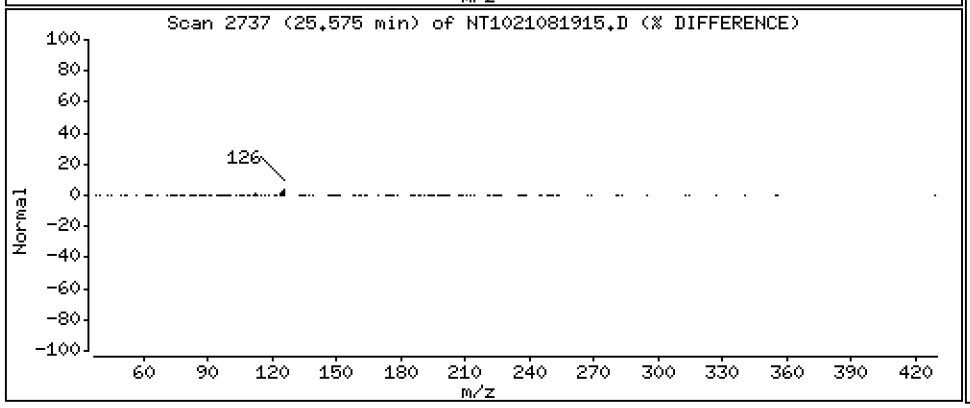
74 Benzo(b)fluoranthene

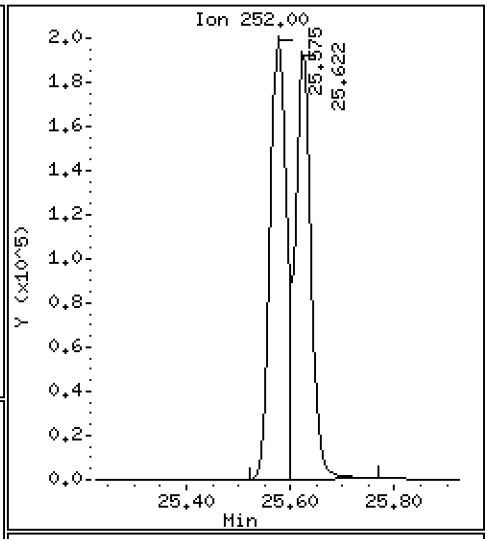
Concentration: 4.877 ug/mL

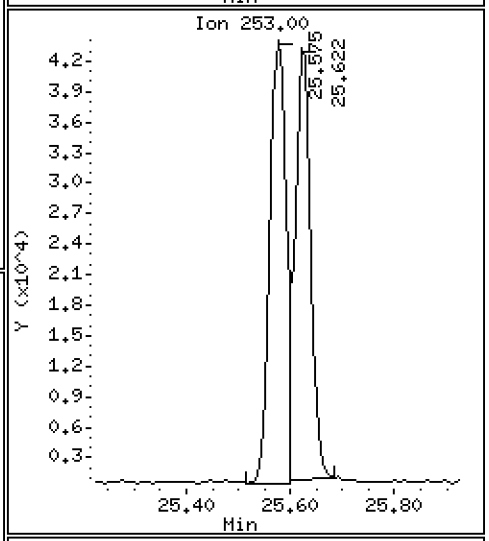


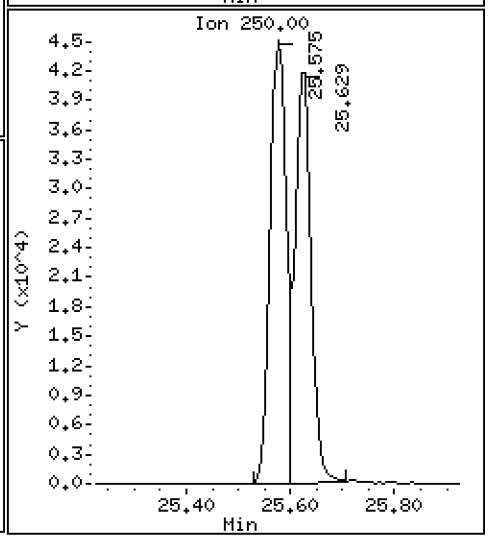












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

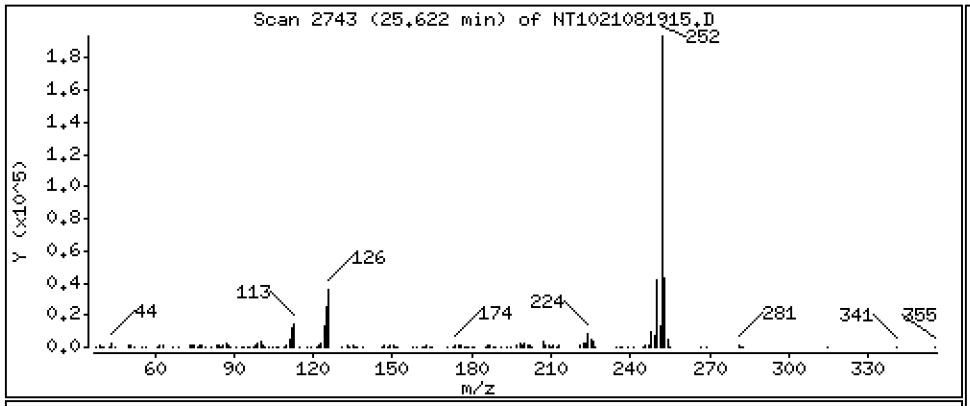
Operator: VTS

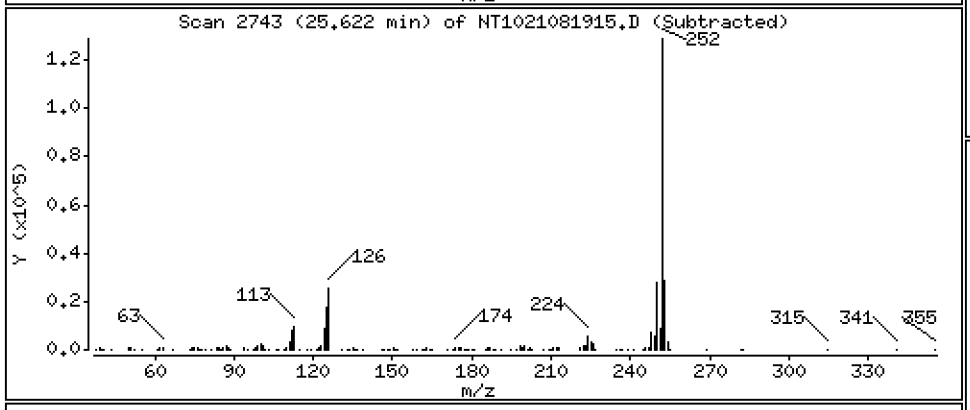
Column phase: ZB-5msi

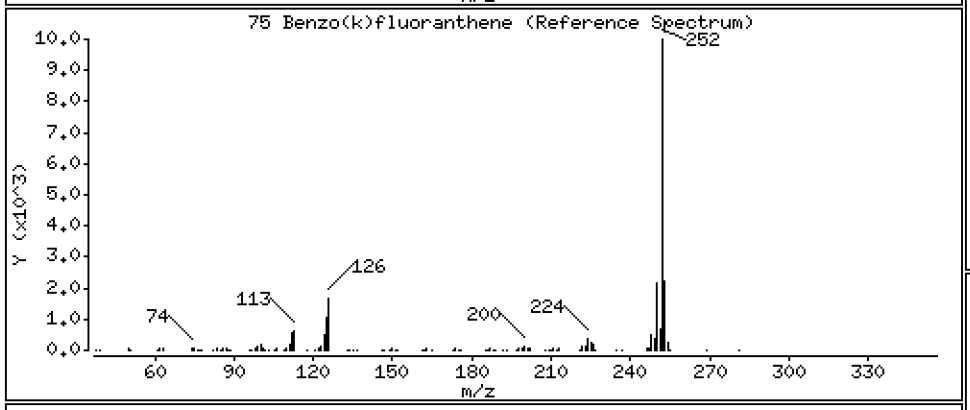
Column diameter: 0.25

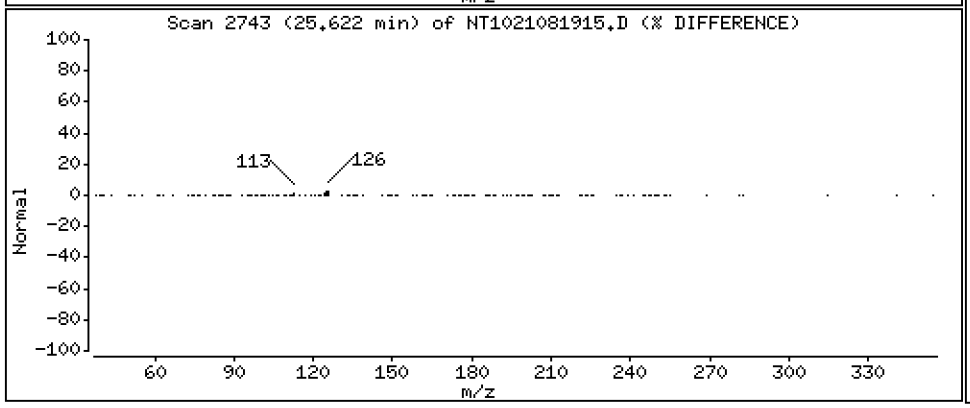
75 Benzo(k)fluoranthene

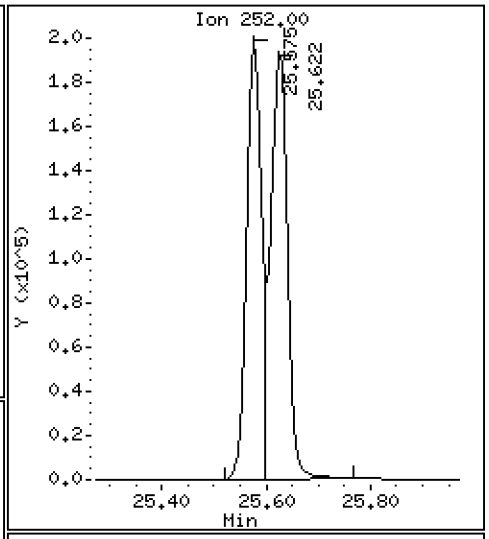
Concentration: 5.195 ug/mL

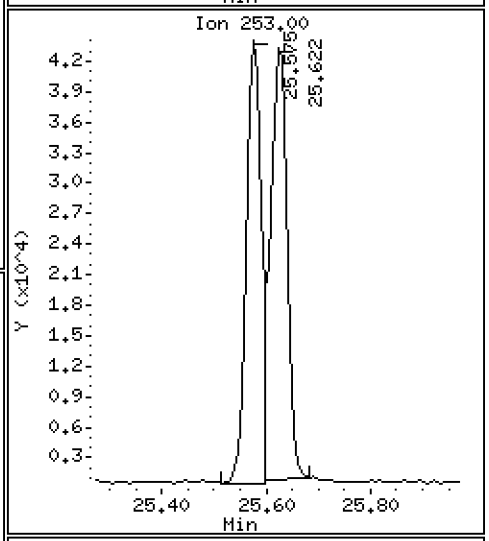


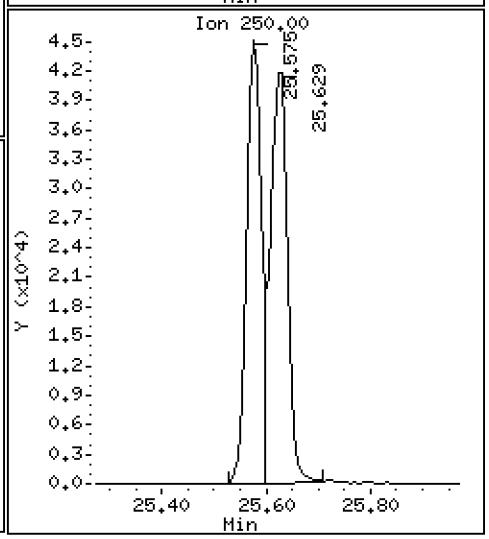












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

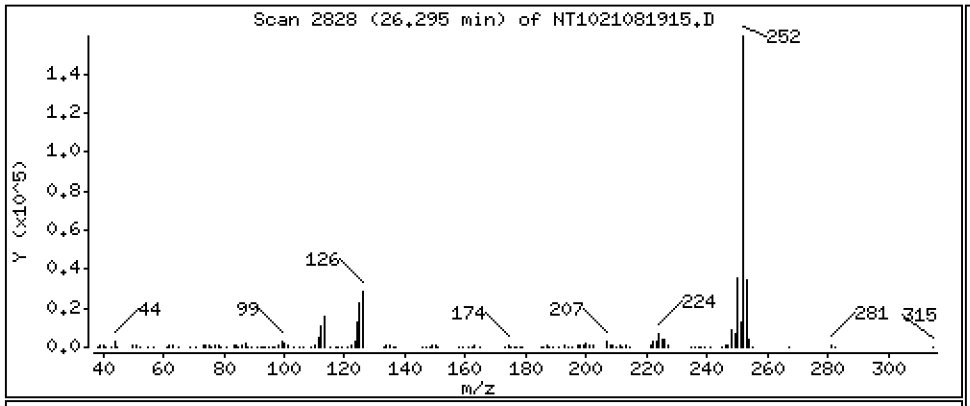
Operator: VTS

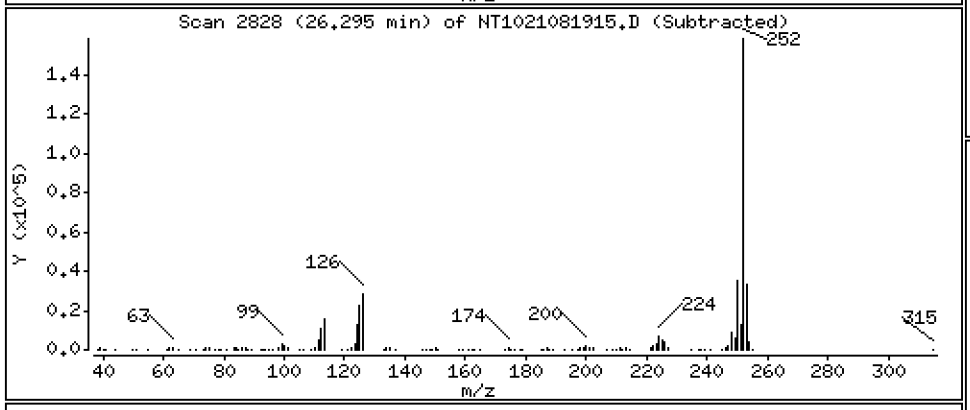
Column phase: ZB-5msi

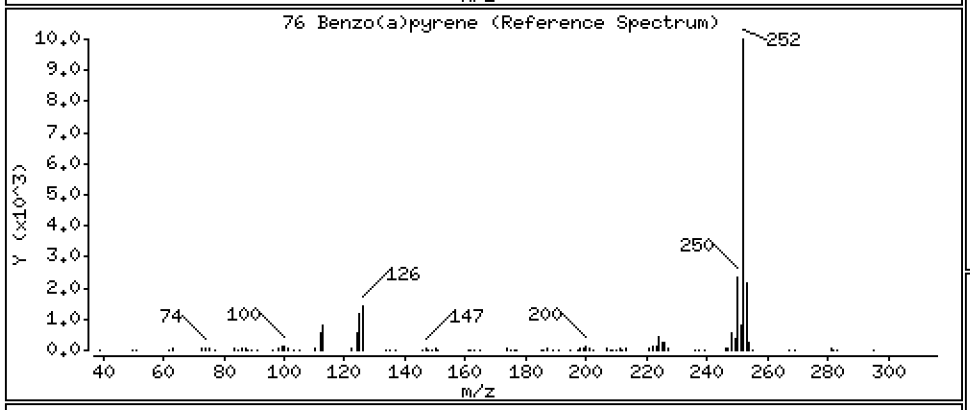
Column diameter: 0.25

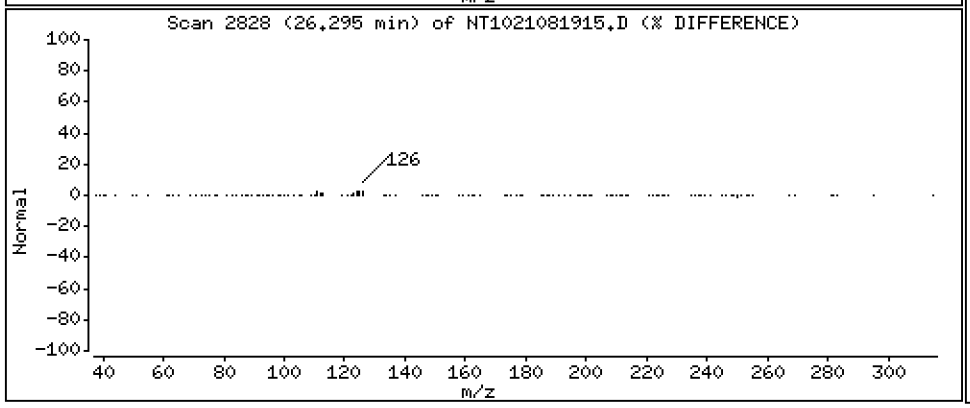
76 Benzo(a)pyrene

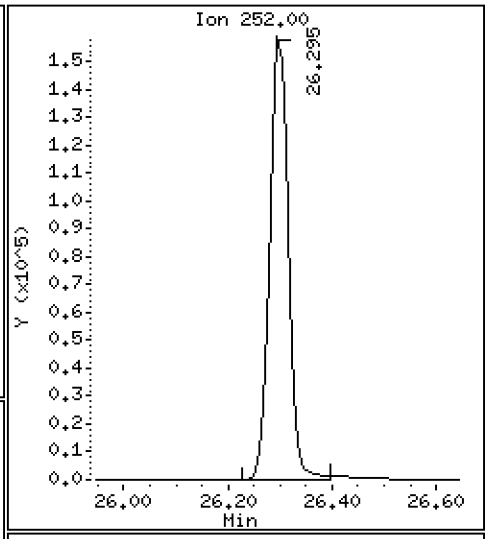
Concentration: 4.980 ug/mL

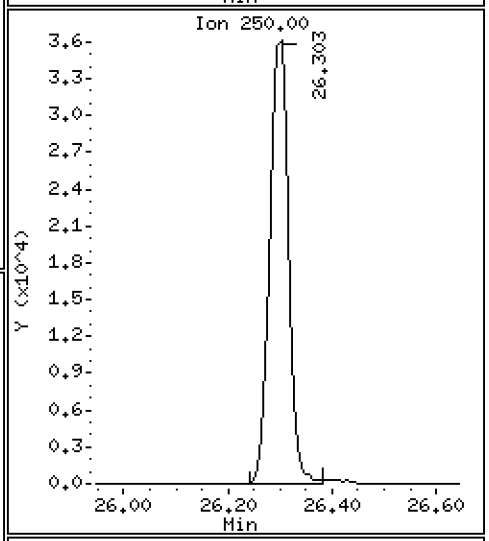


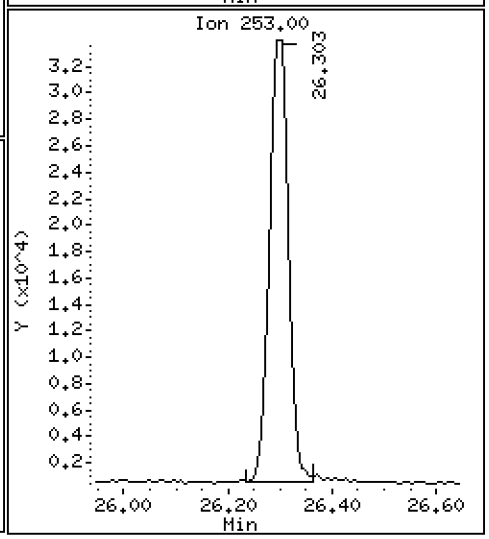












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

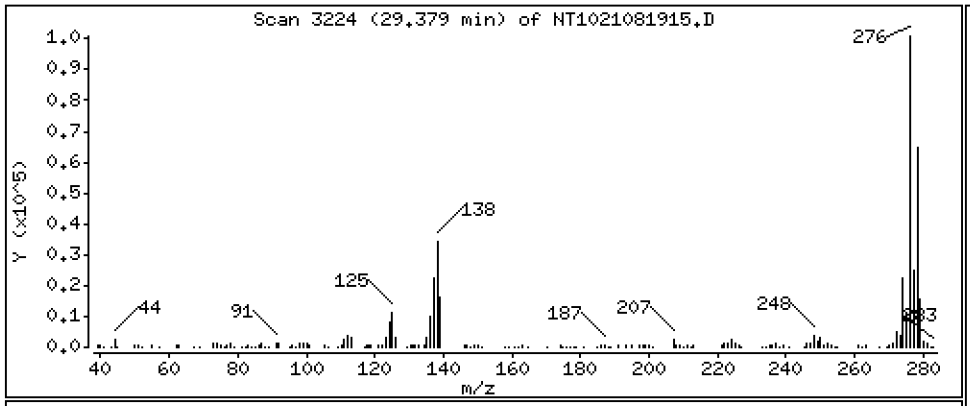
Operator: VTS

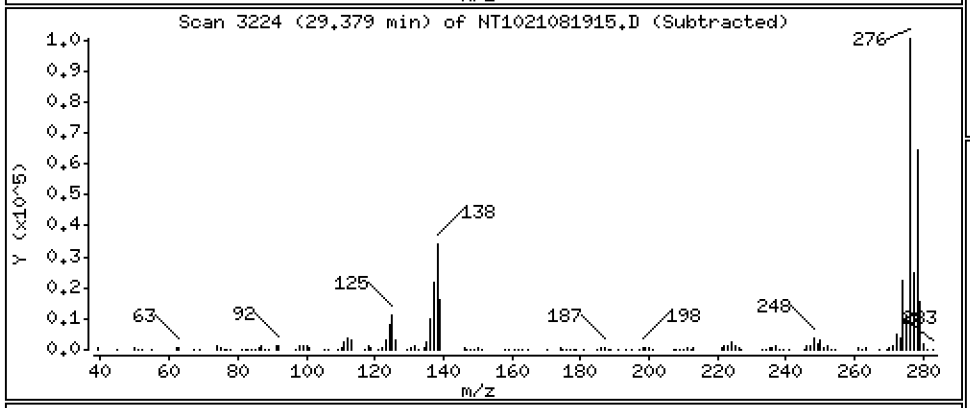
Column phase: ZB-5msi

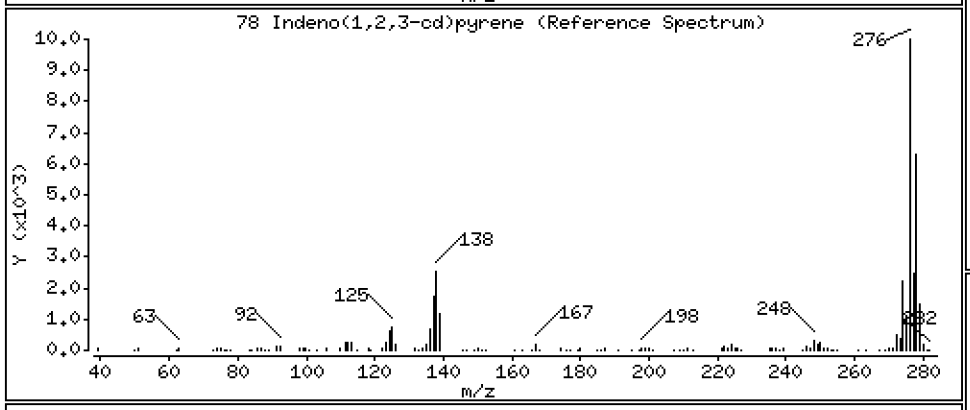
Column diameter: 0.25

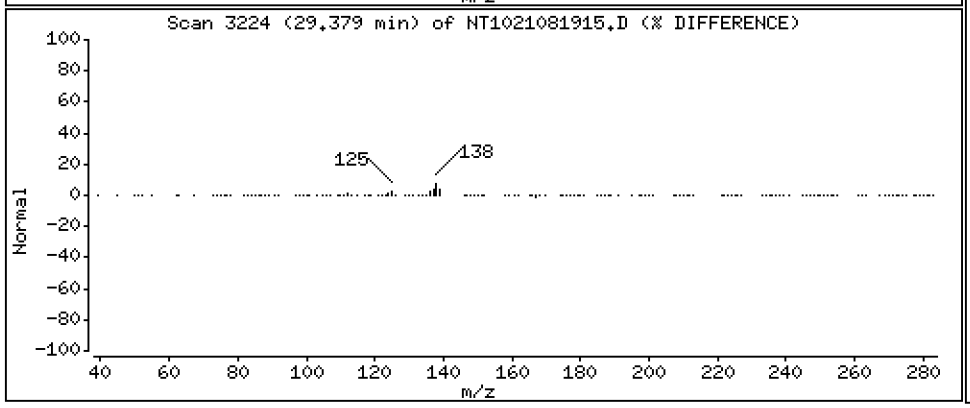
78 Indeno(1,2,3-cd)pyrene

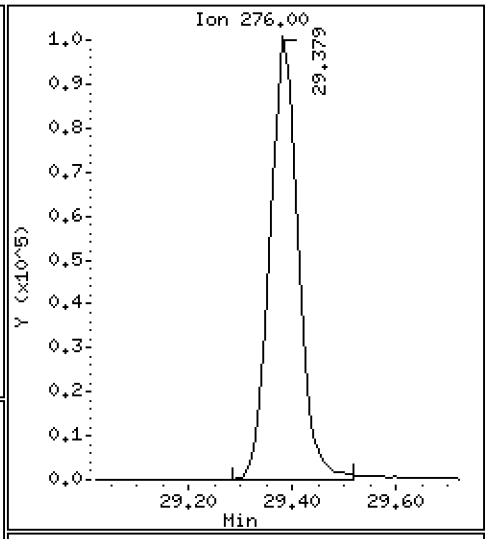
Concentration: 4.855 ug/mL

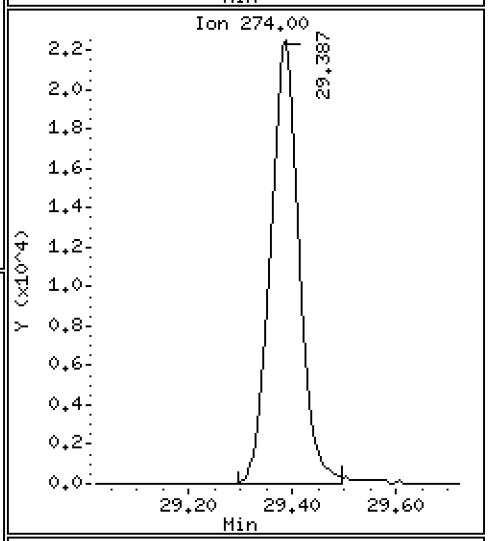


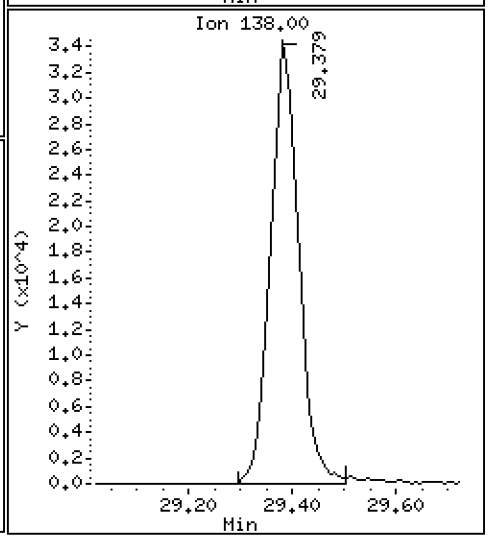












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

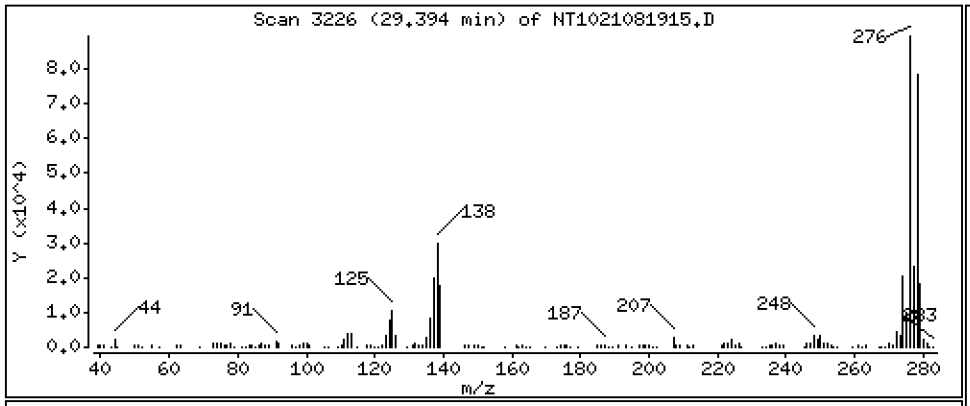
Operator: VTS

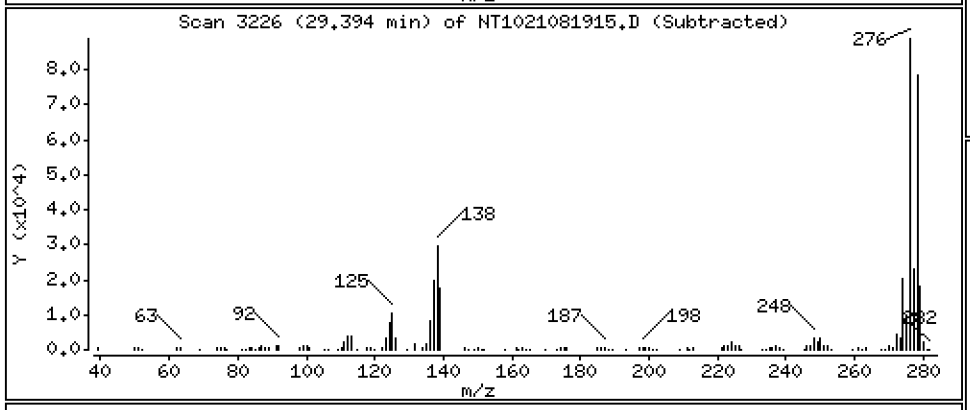
Column phase: ZB-5msi

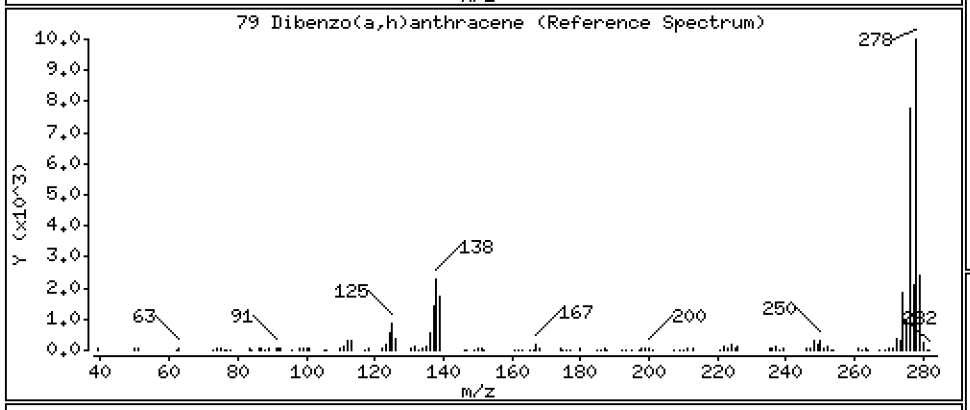
Column diameter: 0.25

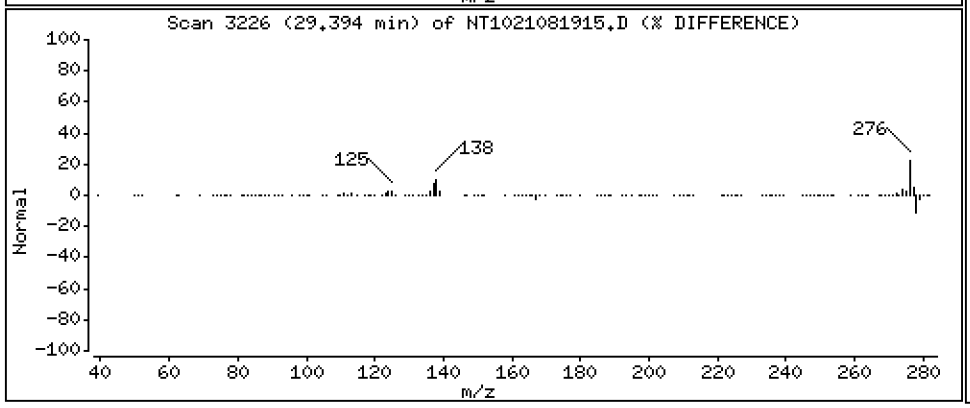
79 Dibenzo(a,h)anthracene

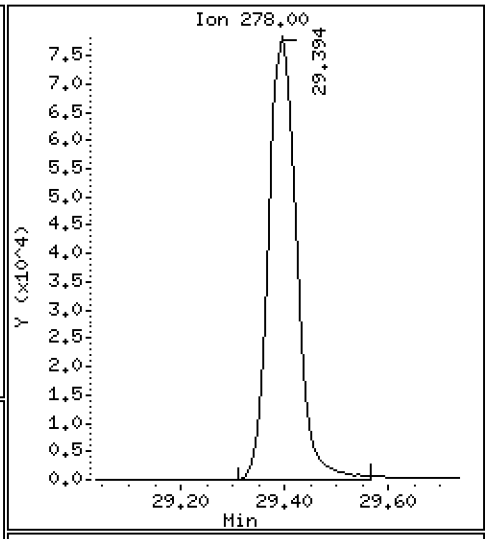
Concentration: 4.838 ug/mL

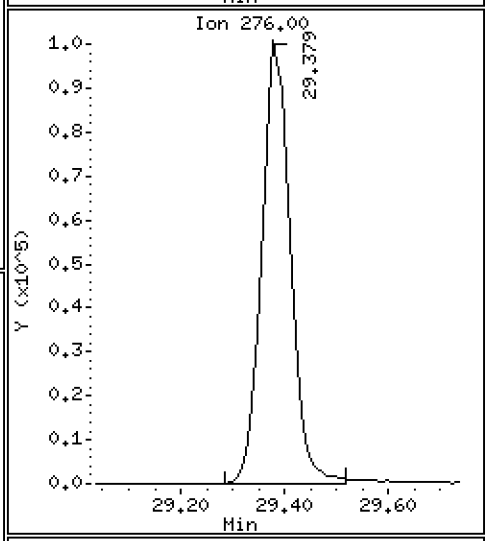


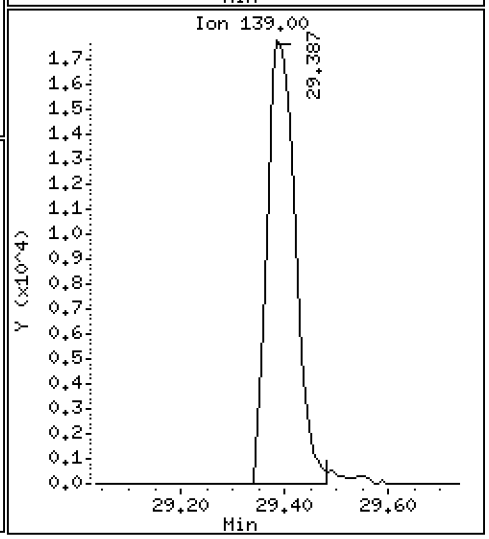












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

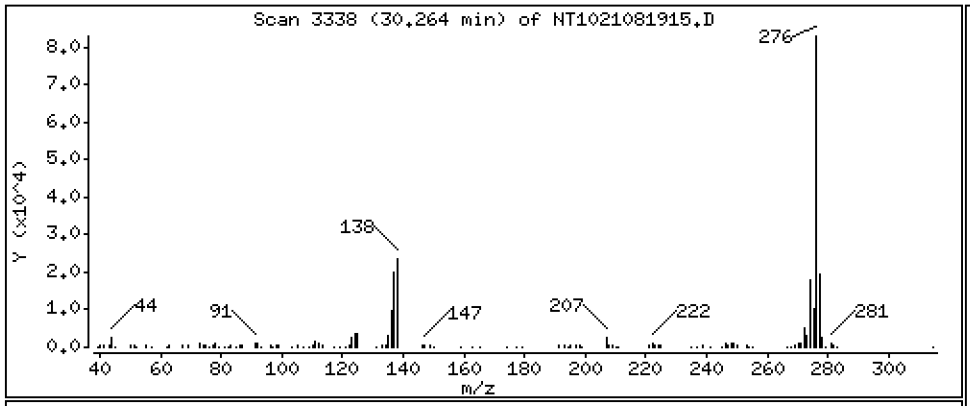
Operator: VTS

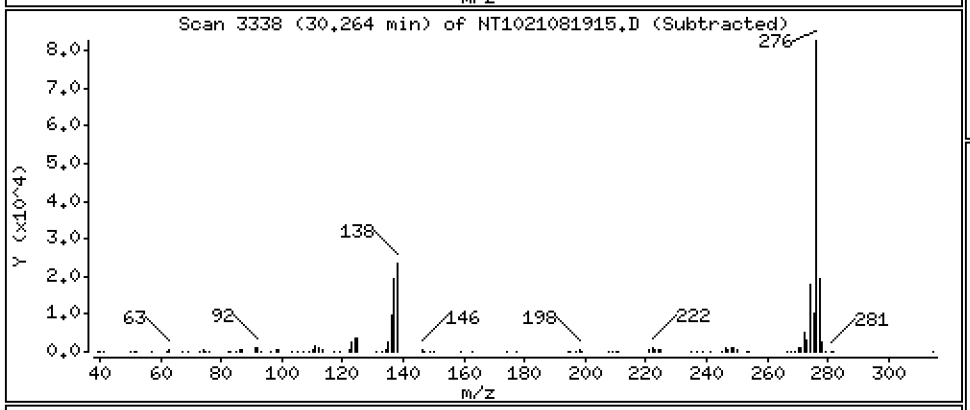
Column phase: ZB-5msi

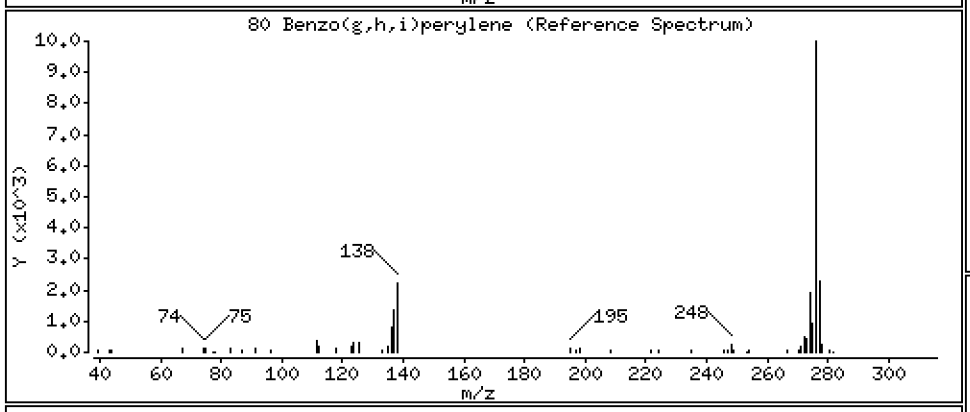
Column diameter: 0.25

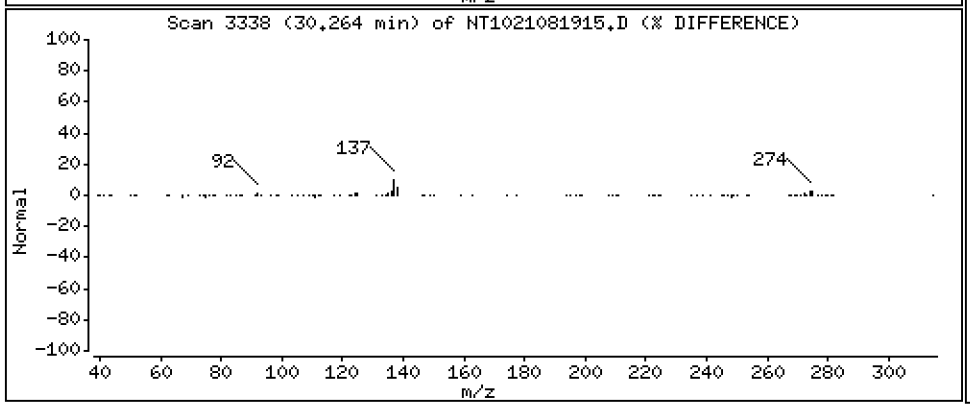
80 Benzo(g,h,i)perylene

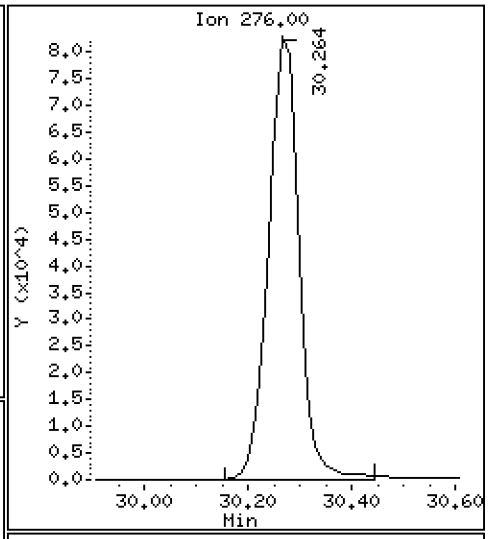
Concentration: 4.923 ug/mL

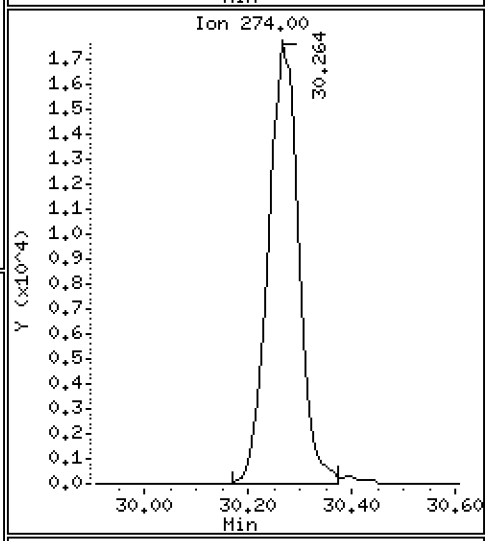


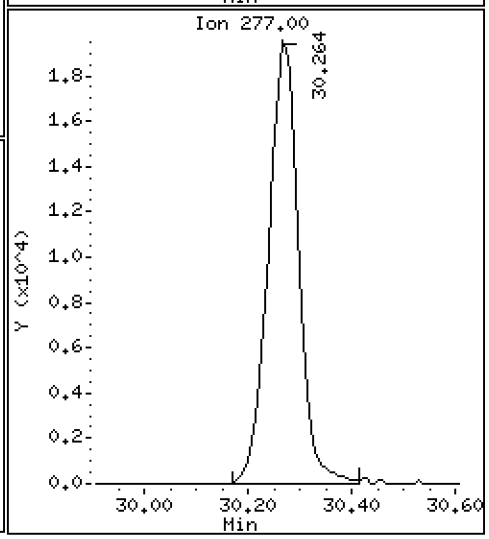












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

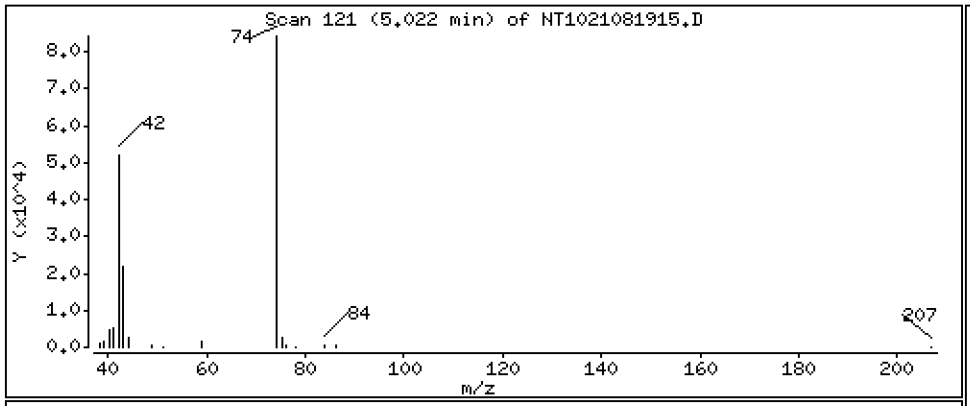
Operator: VTS

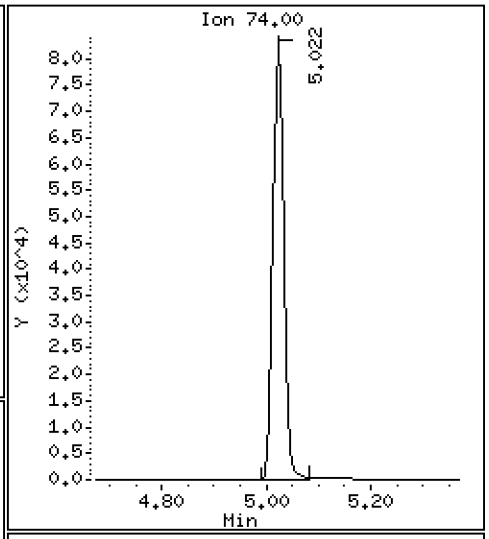
Column phase: ZB-5msi

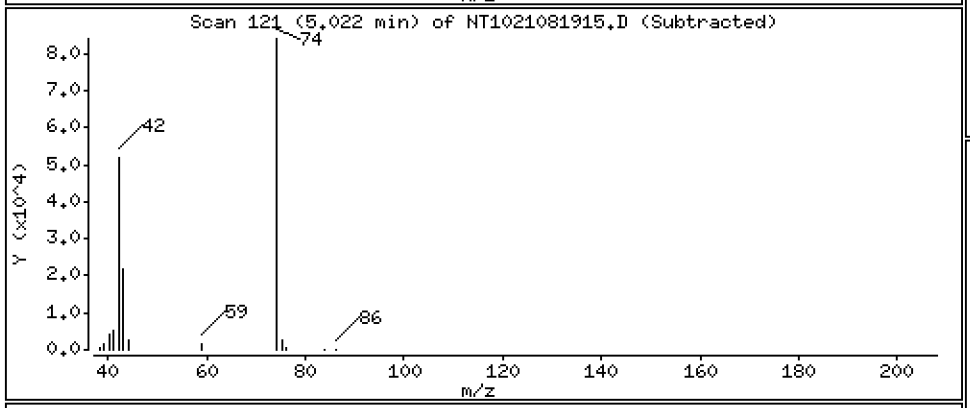
Column diameter: 0.25

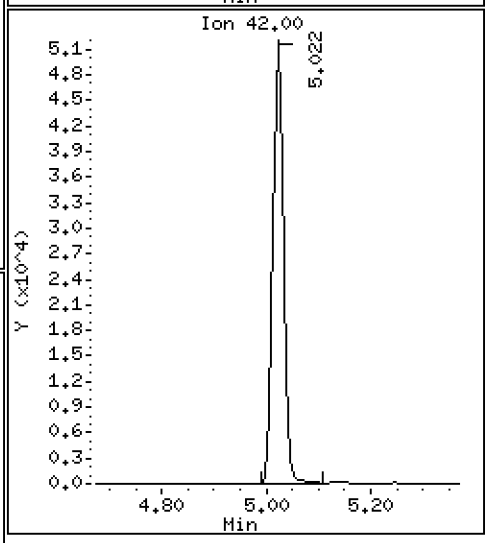
90 N-Nitrosodimethylamine

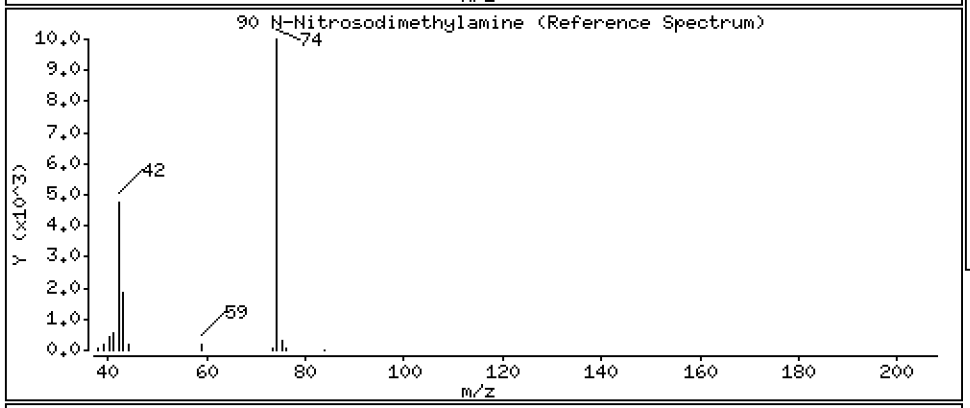
Concentration: 6.037 ug/mL

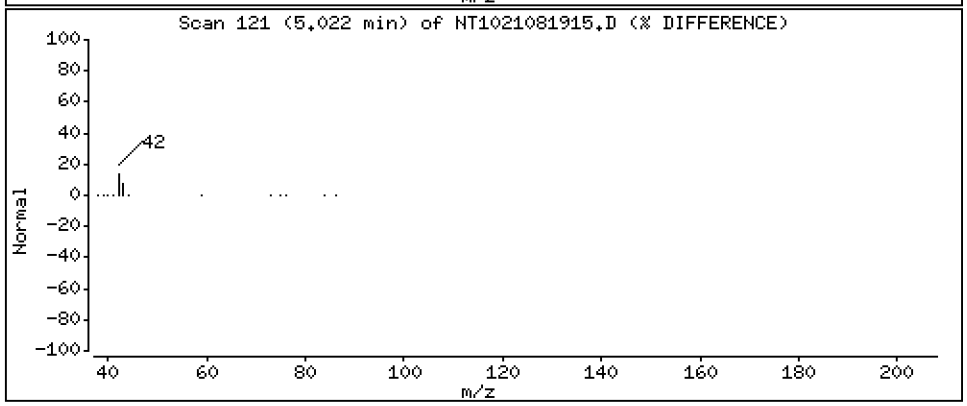












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

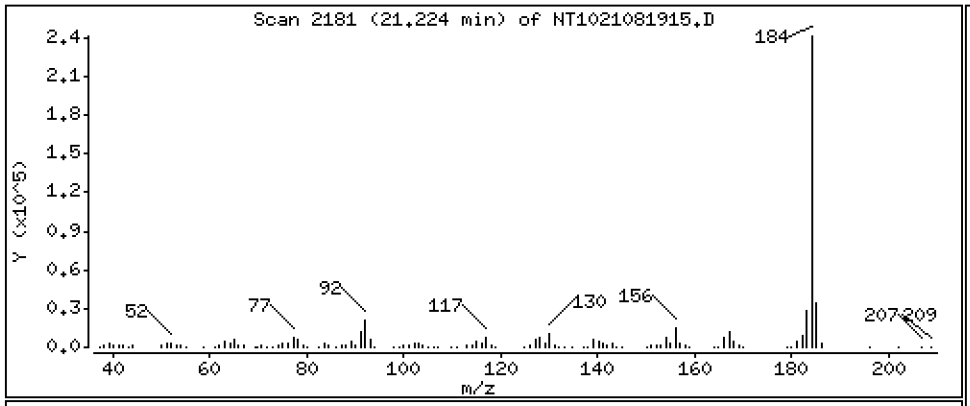
Operator: VTS

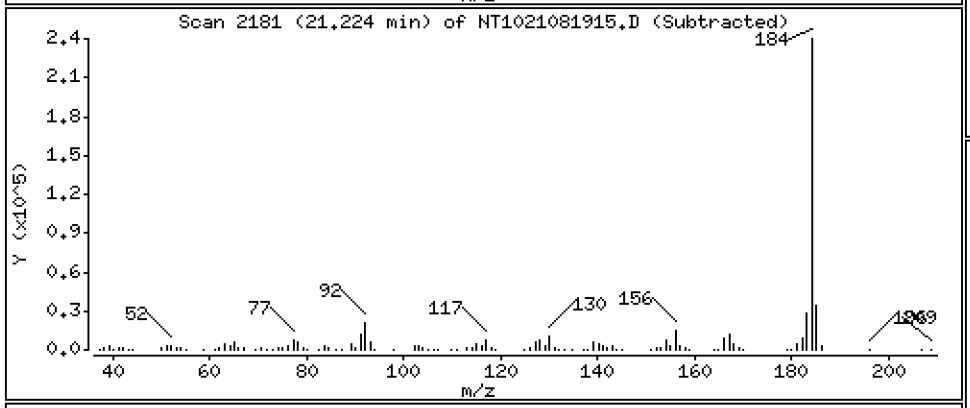
Column phase: ZB-5msi

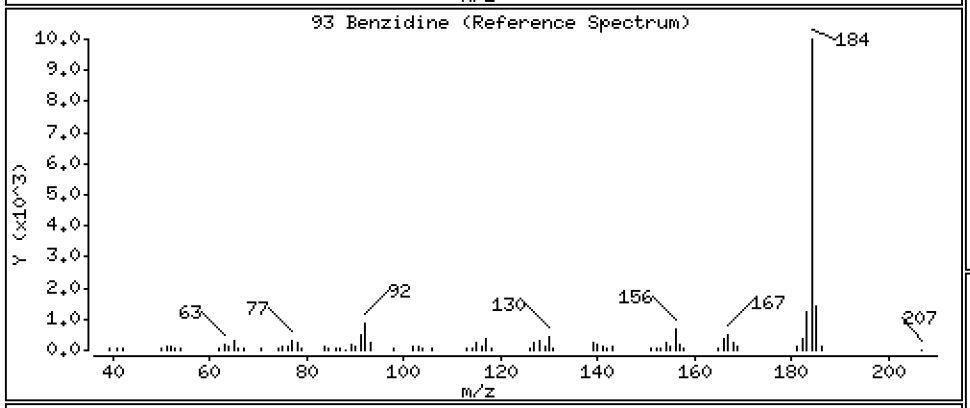
Column diameter: 0.25

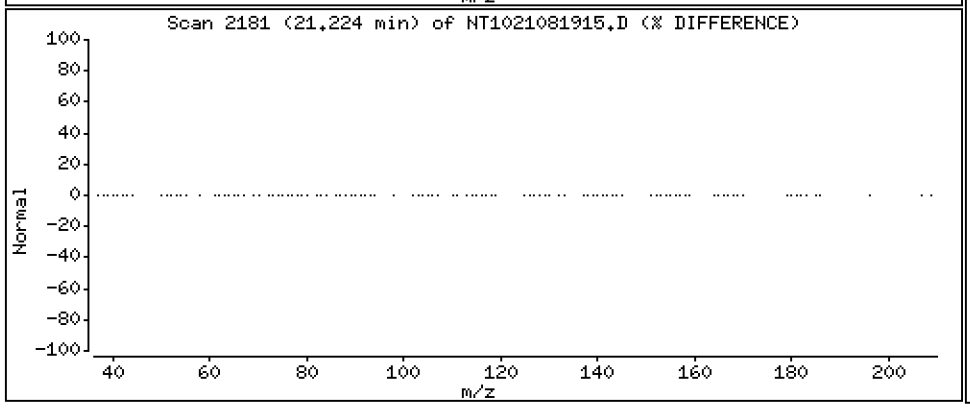
93 Benzidine

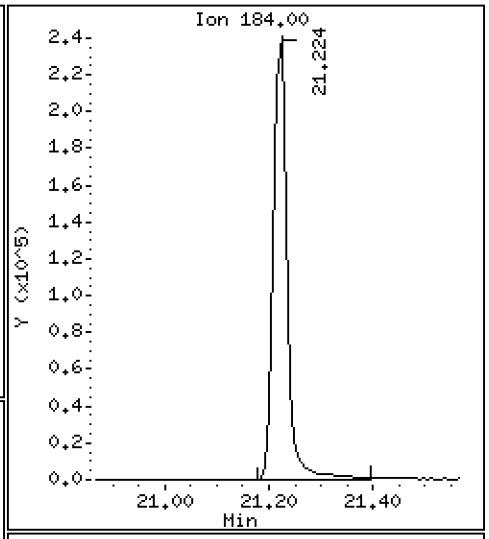
Concentration: 8.480 ug/mL

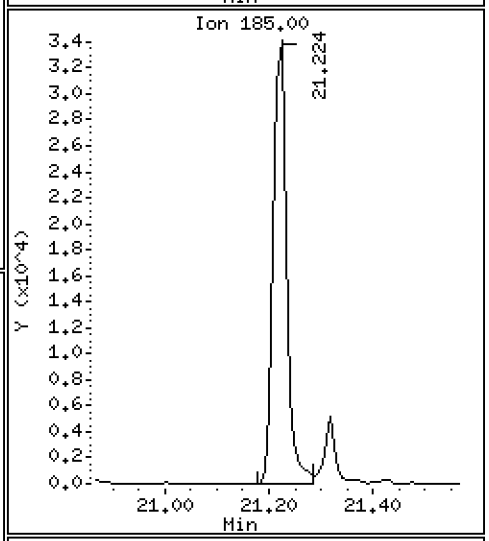


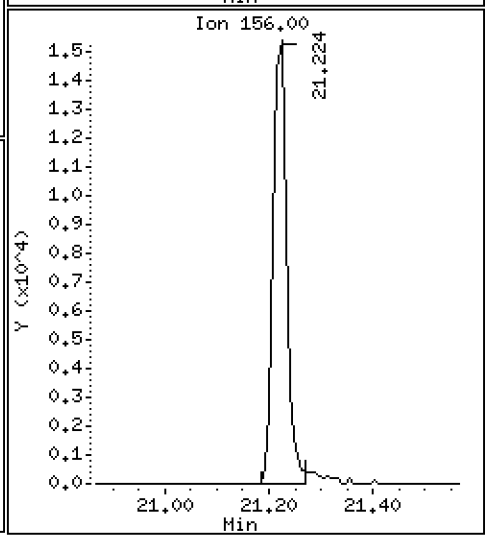












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

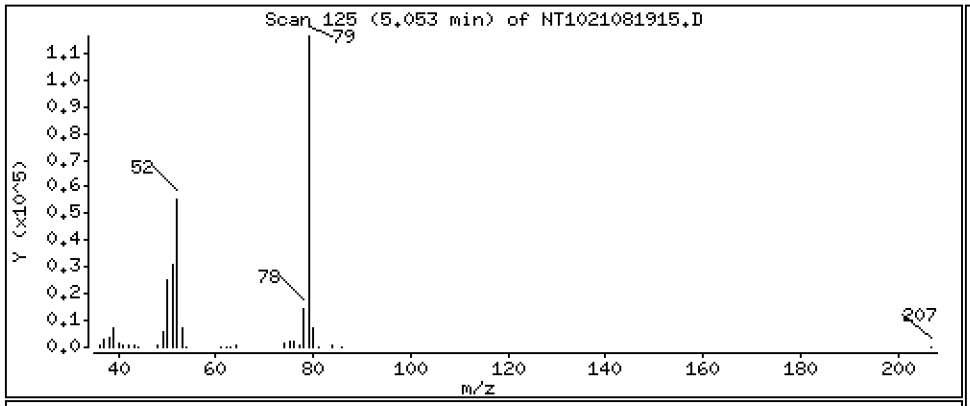
Operator: VTS

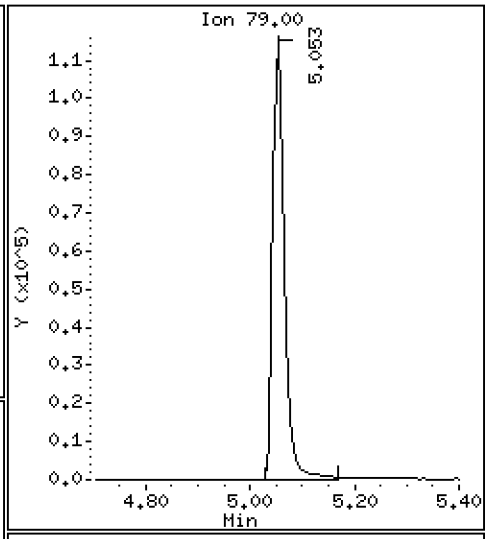
Column phase: ZB-5msi

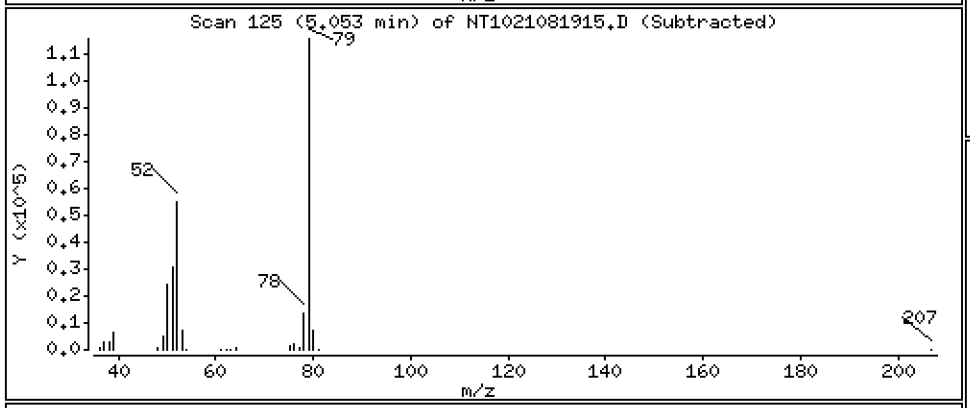
Column diameter: 0.25

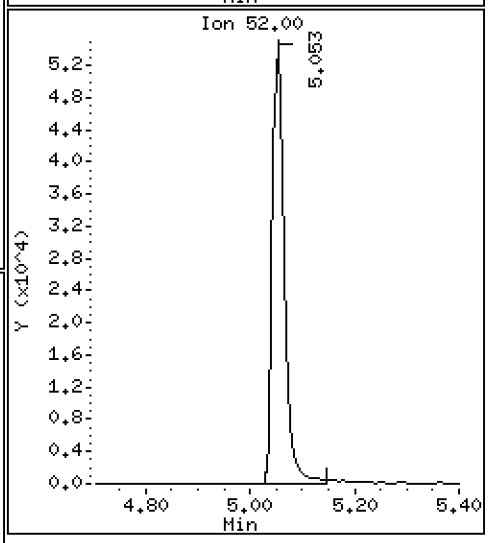
103 Pyridine

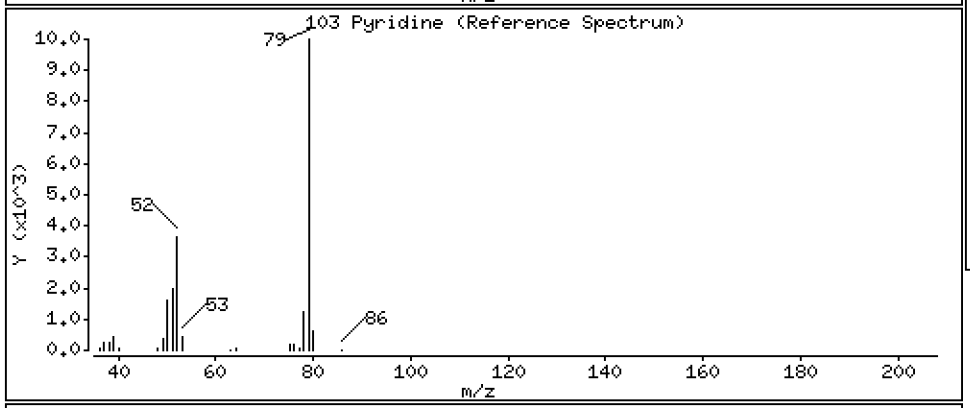
Concentration: 2.866 ug/mL

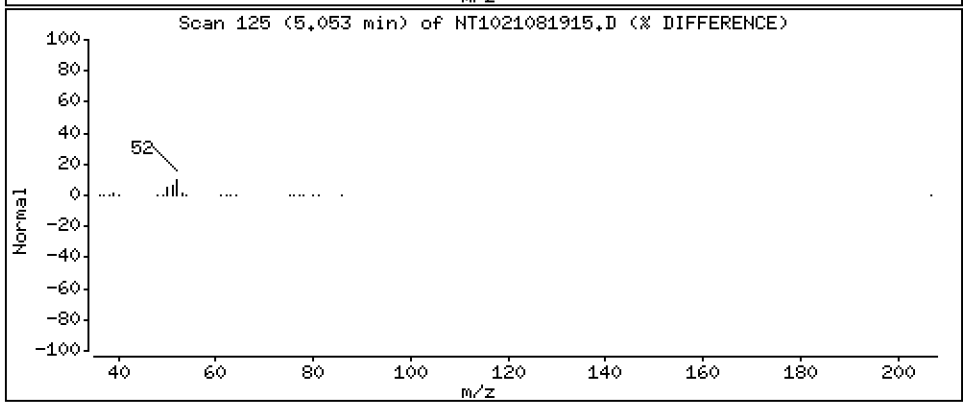












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

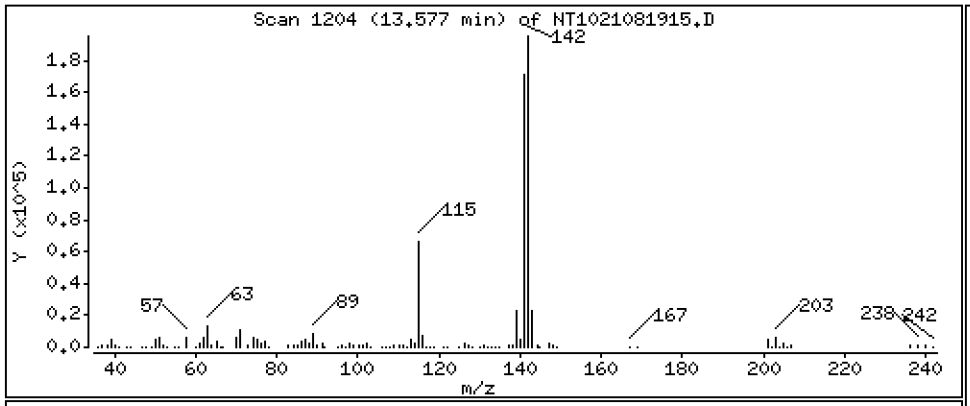
Operator: VTS

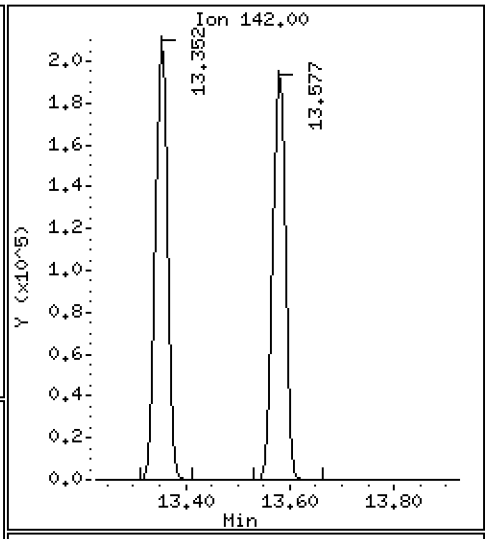
Column phase: ZB-5msi

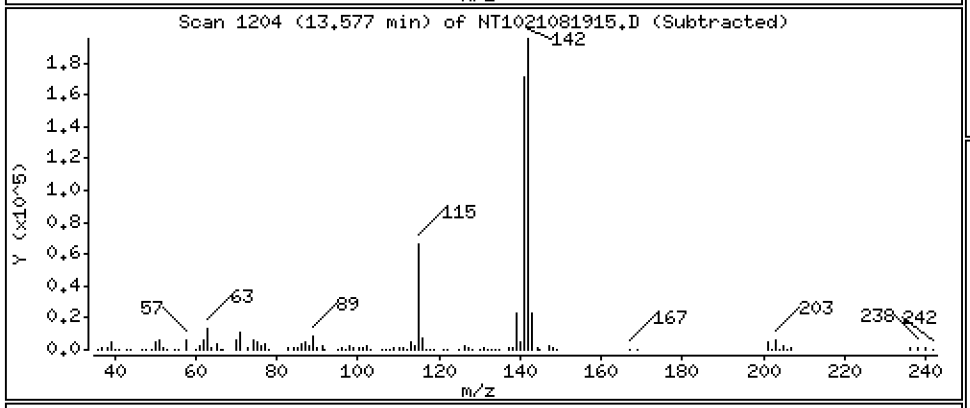
Column diameter: 0.25

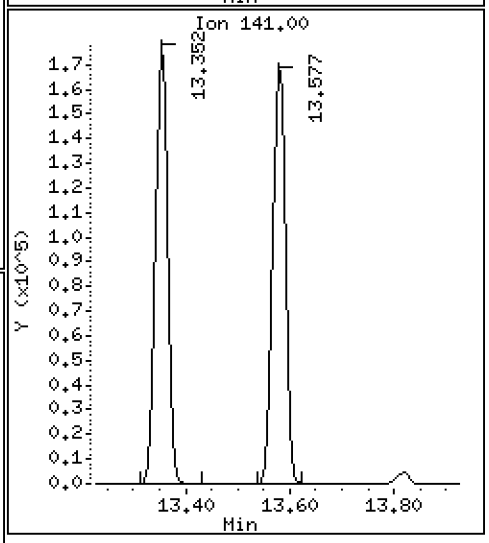
105 1-methylnaphthalene

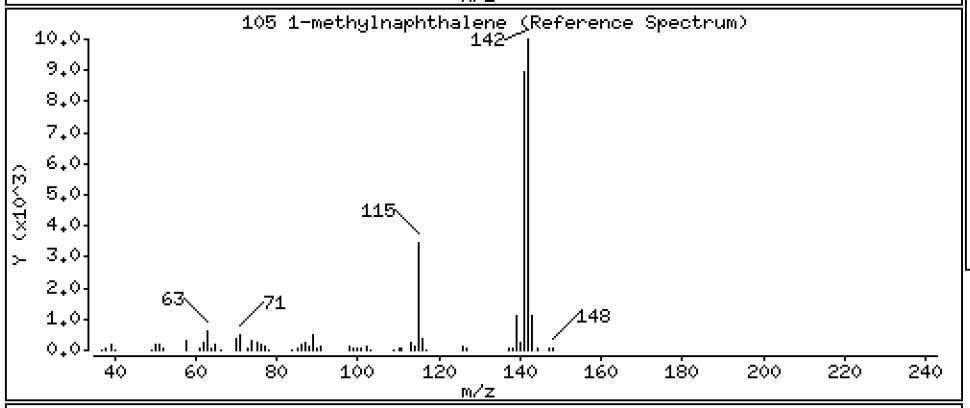
Concentration: 4.815 ug/mL

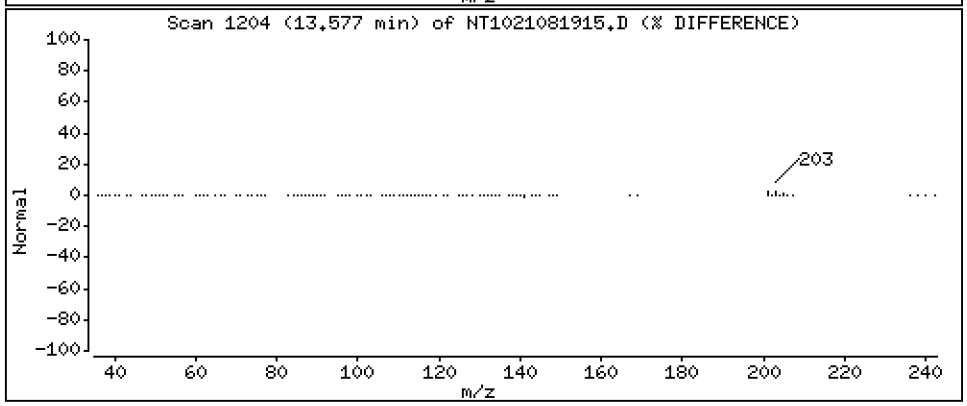












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

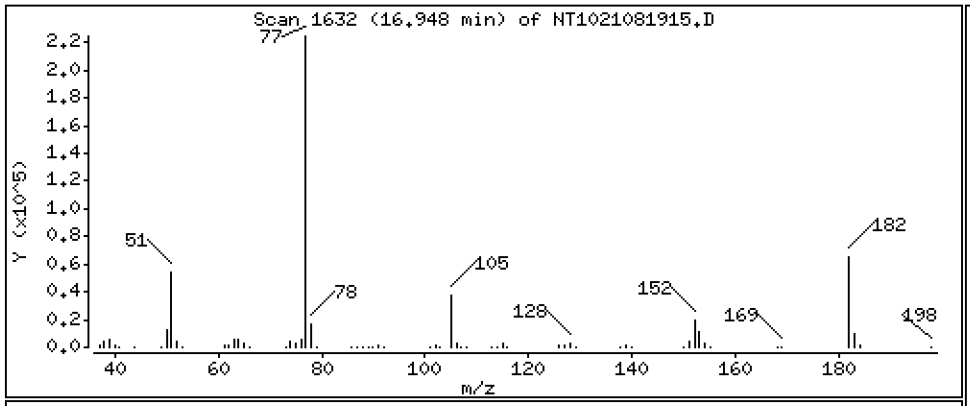
Operator: VTS

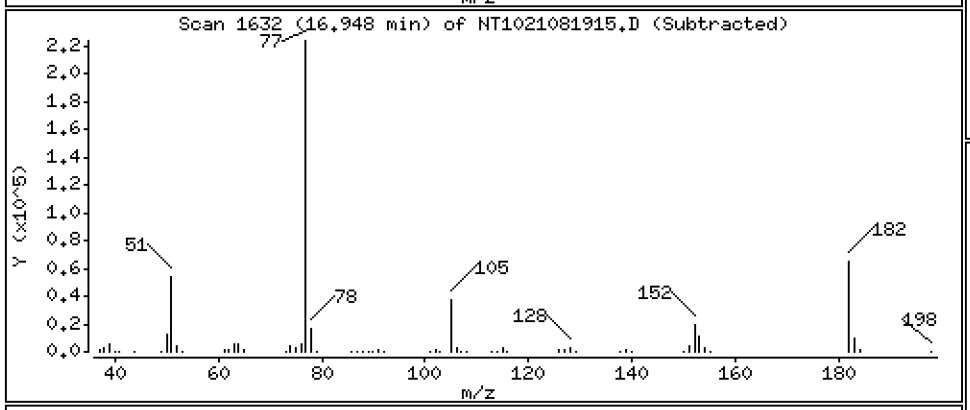
Column phase: ZB-5msi

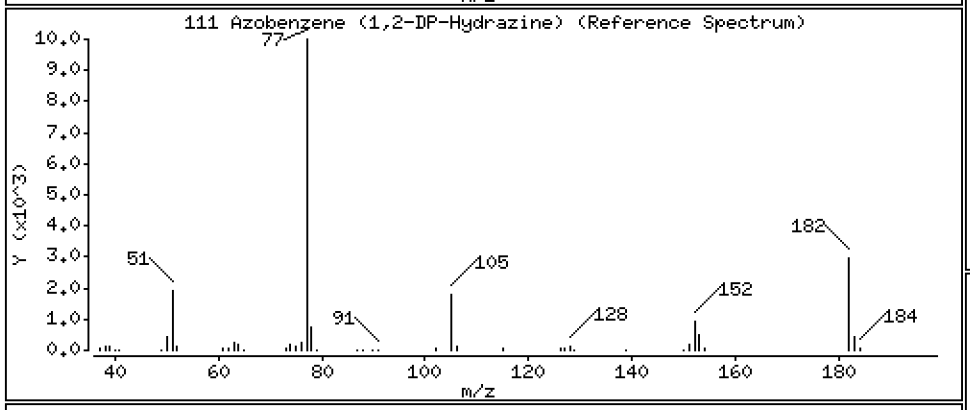
Column diameter: 0.25

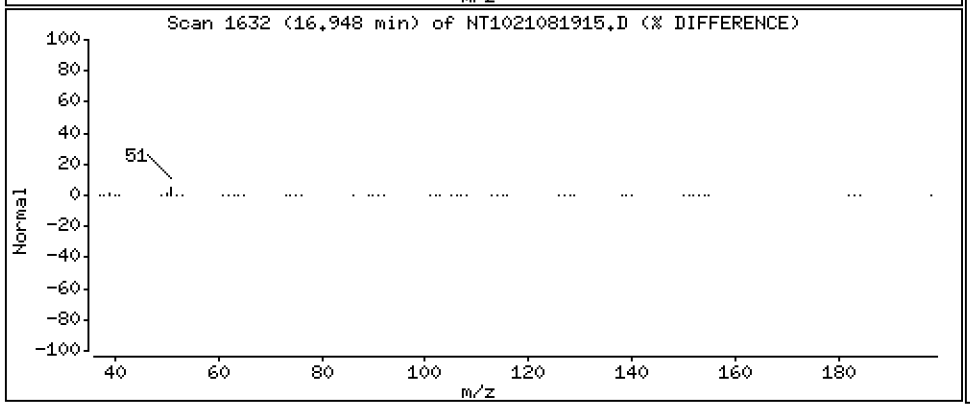
111 Azobenzene (1,2-DP-Hydrazine)

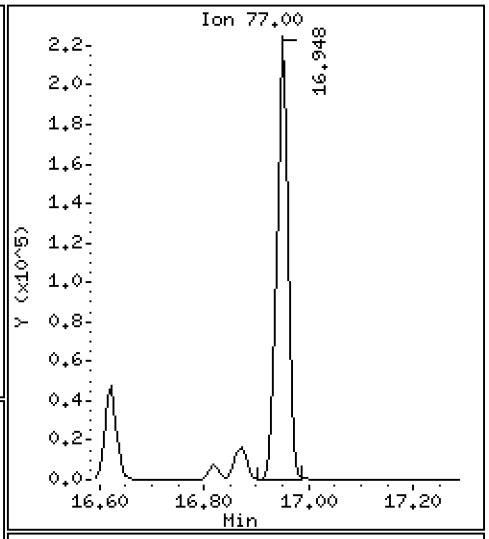
Concentration: 5.417 ug/mL

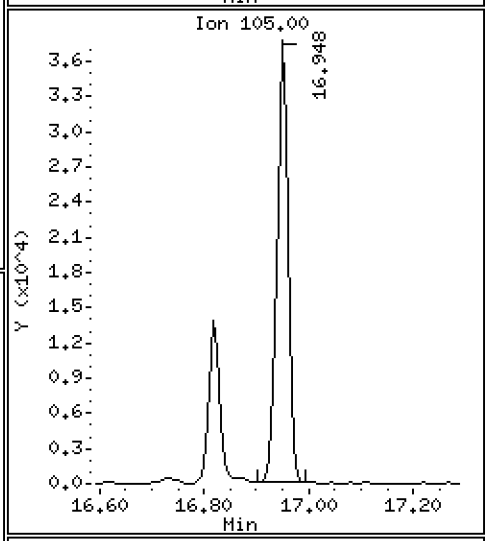


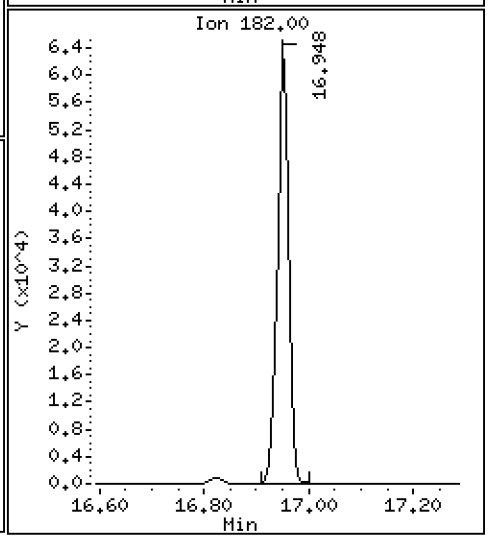












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

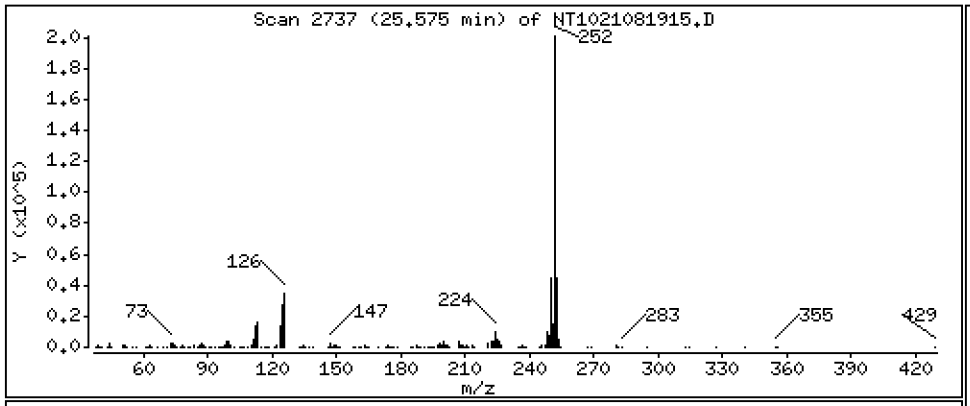
Operator: VTS

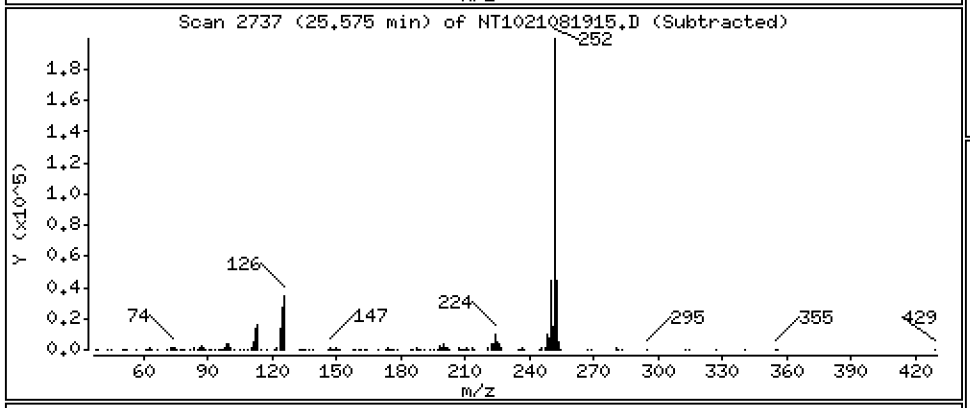
Column phase: ZB-5msi

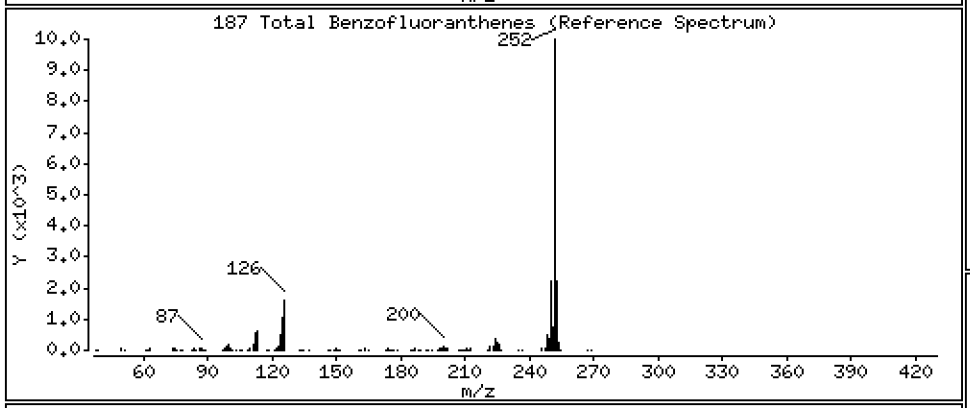
Column diameter: 0.25

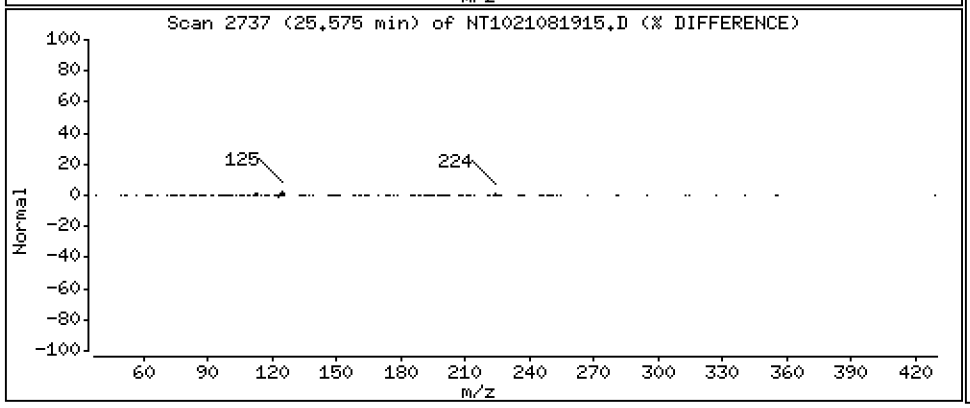
187 Total Benzofluoranthenes

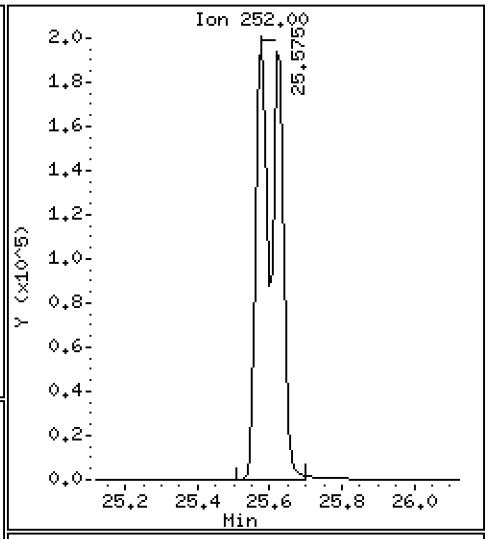
Concentration: 9.959 ug/mL

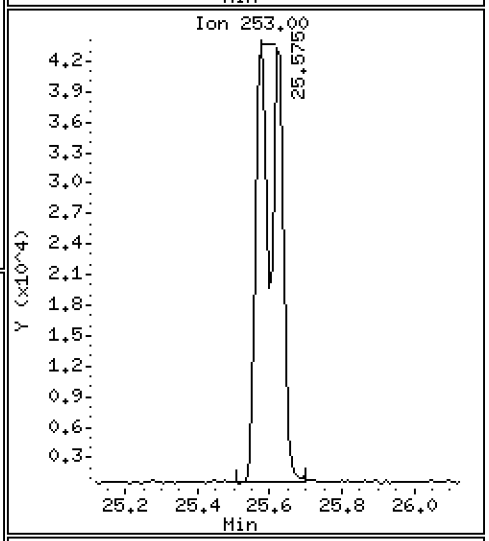


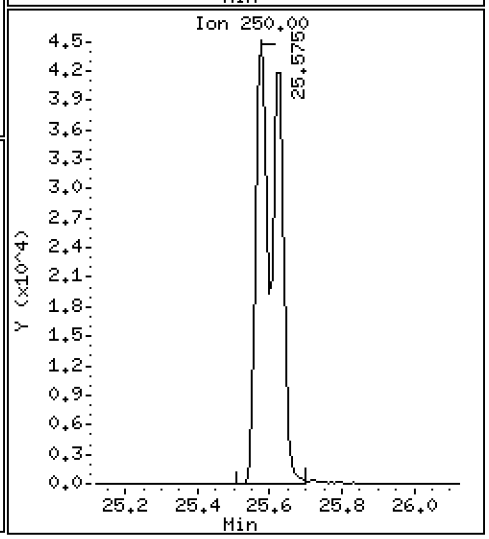












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

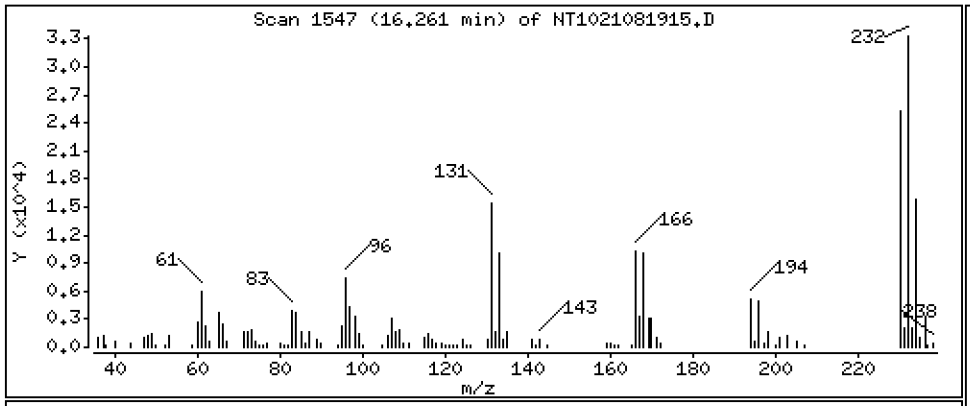
Operator: VTS

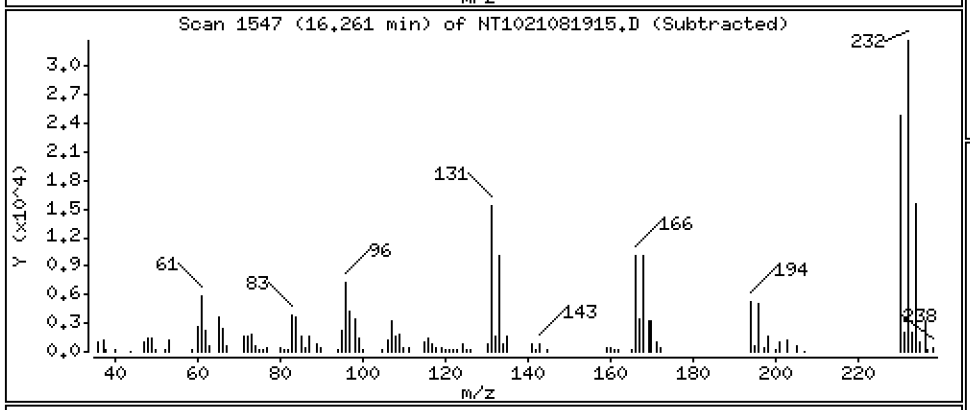
Column phase: ZB-5msi

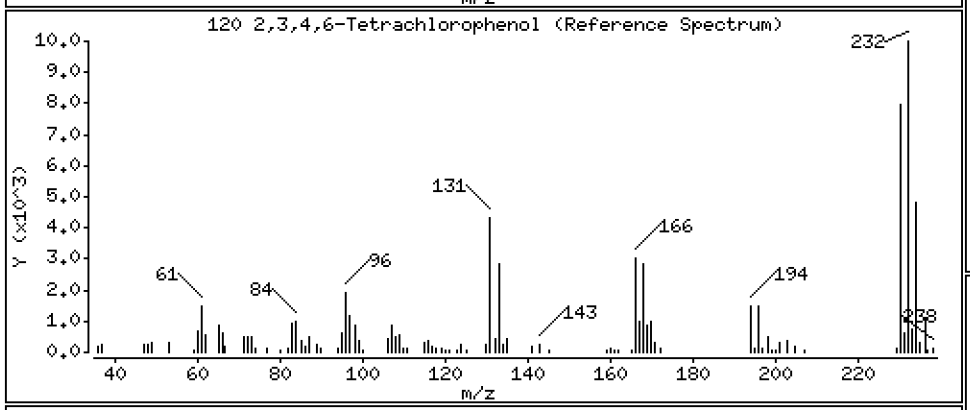
Column diameter: 0.25

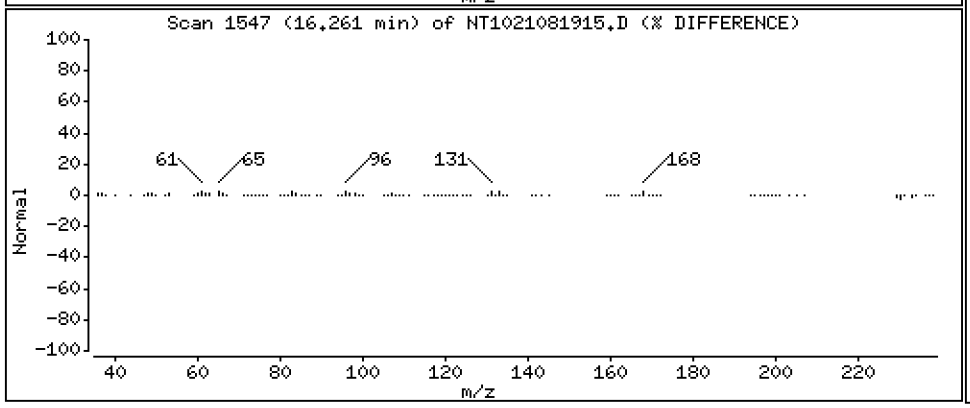
120 2,3,4,6-Tetrachlorophenol

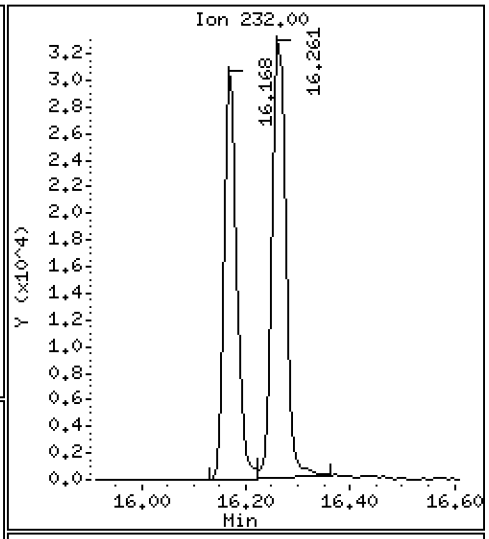
Concentration: 4.467 ug/mL

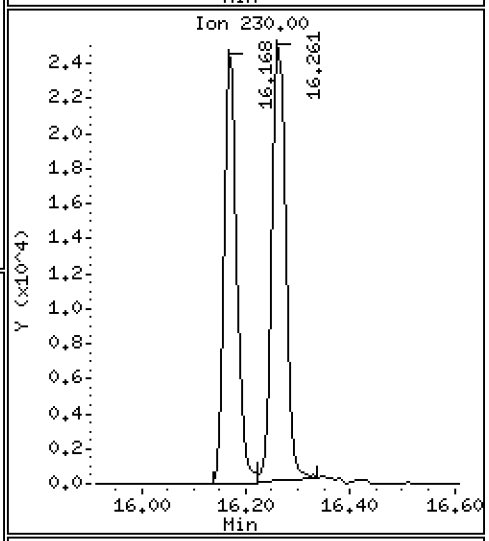


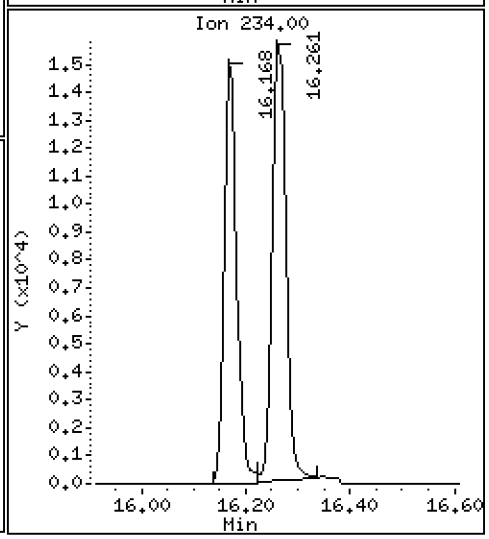












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Inj Date : 19-AUG-2021 20:42
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.784	8.784	(0.931)	199380	5.25899	5.259
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	160344	5.78066	5.781
6	2-Chlorophenol	128	9.093	9.093	(0.964)	158353	5.03366	5.034
7	1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	169628	5.18579	5.186
* 8	1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	86567	4.00000	
9	1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	145074	5.85827	5.858
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	146550	5.20005	5.200
11	Benzyl alcohol	108	9.689	9.689	(1.027)	86052	4.93439	4.934
14	2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	47815	5.72048	5.720
13	2-Methylphenol	108	9.907	9.907	(1.050)	111834	4.65720	4.657
17	Hexachloroethane	117	10.411	10.411	(1.104)	60775	5.67447	5.674
16	N-Nitroso-di-n-propylamine	70	10.248	10.241	(1.086)	89139	5.29189	5.292
15	4-Methylphenol	108	10.178	10.171	(1.079)	120235	4.68765	4.688
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					
19	Nitrobenzene	77	10.559	10.559	(0.886)	149166	5.40261	5.403
20	Isophorone	82	11.001	11.001	(0.923)	331869	7.77753	7.778
21	2-Nitrophenol	139	11.186	11.186	(0.938)	81411	5.17753	5.178
22	2,4-Dimethylphenol	107	11.220	11.220	(0.941)	119391	4.92042	4.920
23	Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	149566	5.93771	5.938
24	Benzoic acid	105	11.381	11.339	(0.955)	66350	5.37792	5.378
25	2,4-Dichlorophenol	162	11.644	11.636	(0.977)	127985	5.14677	5.147
26	1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	120347	5.00026	5.000
* 27	Naphthalene-d8	136	11.921	11.913	(1.000)	286011	4.00000	
28	Naphthalene	128	11.959	11.959	(1.003)	361857	5.09980	5.100
29	4-Chloroaniline	127	12.083	12.075	(1.014)	157895	4.59294	4.593
30	Hexachlorobutadiene	225	12.315	12.307	(1.033)	67621	5.10670	5.107
31	4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	123056	4.92458	4.925
32	2-Methylnaphthalene	142	13.352	13.352	(1.120)	319793	4.72280	4.723
33	Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	54933	4.31449	4.314

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	84924	4.77039	4.770
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	91907	4.91422	4.914
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	14.350	14.350	(0.923)	311867	5.58535	5.585
	38 2-Nitroaniline	65	14.605	14.598	(0.940)	82438	4.97238	4.972
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	286677	4.97899	4.979
	40 Acenaphthylene	152	15.225	15.225	(0.980)	417239	4.79575	4.796
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.976)	68264	5.36851	5.369
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	175555	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	78104	4.56188	4.562
	44 Acenaphthene	153	15.604	15.596	(1.004)	228953	4.97526	4.975
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.008)	11153	1.66462	1.665
	46 Dibenzofuran	168	15.928	15.928	(1.025)	383631	4.69138	4.691
	47 4-Nitrophenol	109	15.774	15.782	(1.015)	24955	4.01803	4.018
	48 2,4-Dinitrotoluene	165	15.982	15.975	(1.028)	90638	5.10639	5.106
	50 Diethylphthalate	149	16.477	16.470	(1.060)	264476	5.09602	5.096
	49 Fluorene	166	16.647	16.640	(1.071)	342768	4.72294	4.723
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	168489	5.18664	5.187
	52 4-Nitroaniline	138	16.732	16.724	(1.077)	85236	4.78806	4.788
	53 4,6-Dinitro-2-methylphenol	198	16.817	16.817	(0.905)	50611	3.88483	3.885
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	227997	4.83479	4.835
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.948)	102044	5.39862	5.399
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	90728	5.06340	5.063
	58 Pentachlorophenol	266	18.315	18.315	(0.985)	20638	3.12000	3.120
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	315282	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.002)	373708	4.85494	4.855
	61 Anthracene	178	18.725	18.717	(1.007)	398068	4.81320	4.813
	62 Carbazole	167	19.050	19.042	(1.025)	423459	4.97150	4.972
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	566417	5.37515	5.375
	64 Fluoranthene	202	21.000	20.992	(0.889)	552591	4.85305	4.853
	65 Pyrene	202	21.425	21.417	(0.908)	568141	4.86161	4.862
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	224852	4.88885	4.889
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	436185	4.79967	4.800
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	260128	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	319253	8.82970	8.830
	71 Chrysene	228	23.647	23.647	(1.002)	337651	4.68662	4.687
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	258287	5.36165	5.362
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	500551	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	576721	5.22766	5.228
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	423157	4.87661	4.877
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	441864	5.19450	5.195
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	381697	4.97952	4.980
*	77 Perylene-d12	264	26.427	26.419	(1.000)	235857	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	384449	4.85499	4.855
	79 Dibenzo(a,h)anthracene	278	29.394	29.386	(1.112)	293070	4.83753	4.838
	80 Benzo(g,h,i)perylene	276	30.264	30.256	(1.145)	340450	4.92315	4.923
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.532)	112508	6.03654	6.037
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	21.224	21.216	(0.899)	417920	8.48003	8.480
	103 Pyridine	79	5.052	5.052	(0.536)	168778	2.86646	2.866
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	314464	4.81470	4.815
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.090)	324373	5.41670	5.417

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	CONCENTRATIONS FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.575	25.621	(0.968)	824481	9.95946	9.959
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.046)	57716	4.46735	4.467

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	86567	-11.23
27 Naphthalene-d8	336155	168078	672310	286011	-14.92
42 Acenaphthene-d10	204971	102486	409942	175555	-14.35
59 Phenanthrene-d10	357720	178860	715440	315282	-11.86
69 Chrysene-d12	291052	145526	582104	260128	-10.62
134 Di-n-octylphthala	588887	294444	1177774	500551	-15.00
77 Perylene-d12	273109	136555	546218	235857	-13.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.59	18.09	19.09	18.59	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081915.D

Lab ID: SJH0235-SCV1
nt10.i, ABN.m, 19-AUG-2021 20:42

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1021081912.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00053
Laboratory ID: SJH0258-LCV1
Sequence: SJH0258
Standard ID: J008831

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Phenol	0.50000	0.5	3.2	50.00
bis(2-chloroethyl) ether	0.50000	0.5	7.6	50.00
2-Chlorophenol	0.50000	0.5	-2.0	50.00
1,3-Dichlorobenzene	0.50000	0.5	3.8	50.00
1,4-Dichlorobenzene	0.50000	0.5	1.9	50.00
1,2-Dichlorobenzene	0.50000	0.5	-0.6	50.00
Benzyl Alcohol	0.50000	0.4	-17.2	50.00
2,2'-Oxybis(1-chloropropane)	0.50000	0.5	-2.3	50.00
2-Methylphenol	0.50000	0.5	-6.1	50.00
Hexachloroethane	0.50000	0.5	-1.1	50.00
N-Nitroso-di-n-Propylamine	0.50000	0.5	-2.2	50.00
4-Methylphenol	0.50000	0.5	-9.3	50.00
Nitrobenzene	0.50000	0.5	0.9	50.00
Isophorone	0.50000	0.4	-16.9	50.00
2-Nitrophenol	0.50000	0.4	-17.7	50.00
2,4-Dimethylphenol	1.0000	1.0	2.6	50.00
Bis(2-Chloroethoxy)methane	0.50000	0.5	6.1	50.00
2,4-Dichlorophenol	1.0000	0.9	-8.1	50.00
1,2,4-Trichlorobenzene	0.50000	0.5	8.1	50.00
Naphthalene	0.50000	0.5	-4.6	50.00
Benzoic acid	2.0000	0.4	-81.0	50.00
4-Chloroaniline	1.0000	0.7	-26.1	50.00
Hexachlorobutadiene	0.50000	0.5	2.4	50.00
4-Chloro-3-Methylphenol	1.0000	0.8	-25.0	50.00
2-Methylnaphthalene	0.50000	0.4	-11.6	50.00
Hexachlorocyclopentadiene	1.0000	0.4	-55.7	50.00
2,4,6-Trichlorophenol	1.0000	0.8	-22.8	50.00
2,4,5-Trichlorophenol	1.0000	0.8	-18.7	50.00
2-Chloronaphthalene	0.50000	0.5	-0.6	50.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00053
Laboratory ID: SJH0258-LCV1
Sequence: SJH0258
Standard ID: J008831

2-Nitroaniline	1.0000	0.9	-14.2	50.00
Acenaphthylene	0.50000	0.5	4.2	50.00
Dimethylphthalate	0.50000	0.5	8.7	50.00
2,6-Dinitrotoluene	1.0000	1.0	-3.1	50.00
Acenaphthene	0.50000	0.5	-2.9	50.00
3-Nitroaniline	1.0000	0.8	-22.7	50.00
2,4-Dinitrophenol	2.0000	0.3	-86.7	50.00
Dibenzofuran	0.50000	0.5	-6.2	50.00
4-Nitrophenol	1.0000	0.6	-44.5	50.00
2,4-Dinitrotoluene	1.0000	0.8	-18.1	50.00
Fluorene	0.50000	0.5	5.5	50.00
4-Chlorophenylphenyl ether	0.50000	0.5	3.5	50.00
Diethyl phthalate	0.50000	0.5	0.4	50.00
4-Nitroaniline	1.0000	0.9	-11.5	50.00
4,6-Dinitro-2-methylphenol	2.0000	1.2	-41.1	50.00
N-Nitrosodiphenylamine	0.50000	0.6	10.9	50.00
4-Bromophenyl phenyl ether	0.50000	0.5	-5.6	50.00
Hexachlorobenzene	0.50000	0.5	9.3	50.00
Pentachlorophenol	1.0000	0.3	-67.0	50.00
Phenanthrene	0.50000	0.5	-2.3	50.00
Anthracene	0.50000	0.4	-11.4	50.00
Carbazole	0.50000	0.4	-10.5	50.00
Di-n-Butylphthalate	0.50000	0.4	-15.4	50.00
Fluoranthene	0.50000	0.5	-7.1	50.00
Pyrene	0.50000	0.5	-3.6	50.00
Butylbenzylphthalate	0.50000	0.5	8.8	50.00
Benzo(a)anthracene	0.50000	0.5	-0.9	50.00
3,3'-Dichlorobenzidine	1.5000	1.4	-7.3	50.00
Chrysene	0.50000	0.5	-3.9	50.00
bis(2-Ethylhexyl)phthalate	0.50000	0.5	-7.2	50.00
Di-n-Octylphthalate	0.50000	0.5	4.2	50.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOW-CONCENTRATION CALIBRATION VERIFICATION

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00053
Laboratory ID: SJH0258-LCV1
Sequence: SJH0258
Standard ID: J008831

Benzofluoranthenes, Total	1.0000	1.0	-2.6	50.00
Benzo(a)pyrene	0.50000	0.5	-8.5	50.00
Indeno(1,2,3-cd)pyrene	0.50000	0.5	0.4	50.00
Dibenzo(a,h)anthracene	0.50000	0.5	3.5	50.00
Benzo(g,h,i)perylene	0.50000	0.5	-1.5	50.00
1-Methylnaphthalene	0.50000	0.4	-12.0	50.00
2-Fluorophenol	0.75000	0.778	3.8	50.00
Phenol-d5	0.75000	0.690	-8.0	50.00
2-Chlorophenol-d4	0.75000	0.752	0.2	50.00
1,2-Dichlorobenzene-d4	0.50000	0.510	2.1	50.00
Nitrobenzene-d5	0.50000	0.486	-2.8	50.00
2-Fluorobiphenyl	0.50000	0.501	0.1	50.00
2,4,6-Tribromophenol	0.75000	0.574	-23.5	50.00
p-Terphenyl-d14	0.50000	0.532	6.5	50.00

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

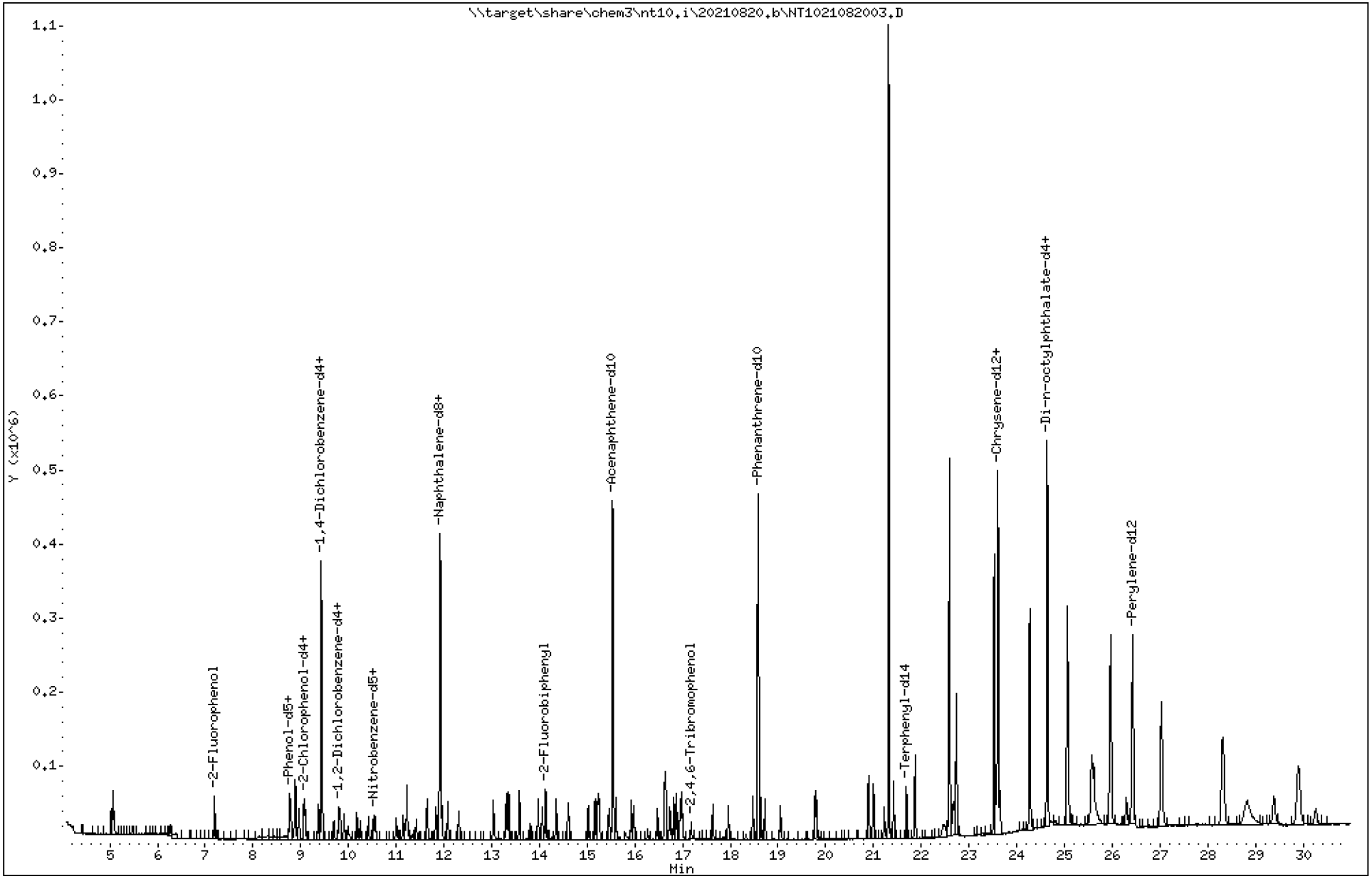
Instrument: nt10.i

Sample Info: SJH0258-LCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

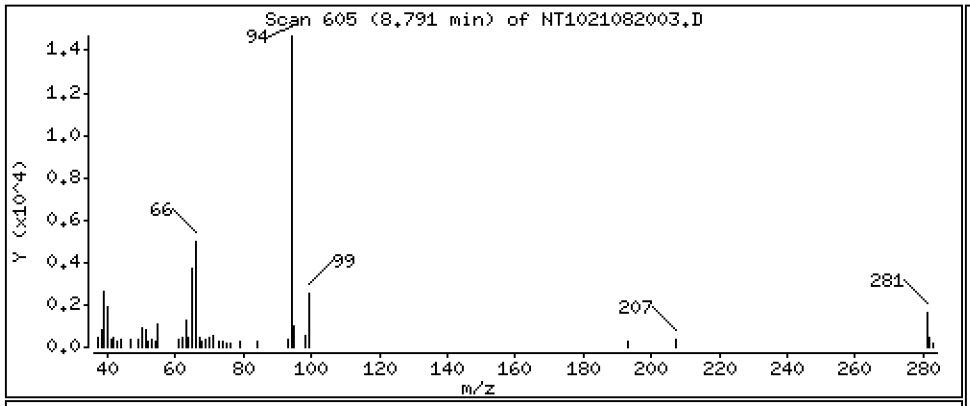
Operator: VTS

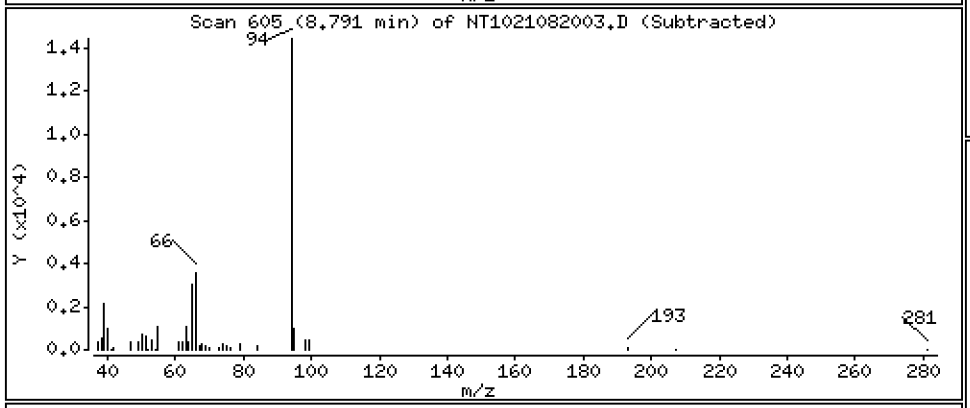
Column phase: ZB-5msi

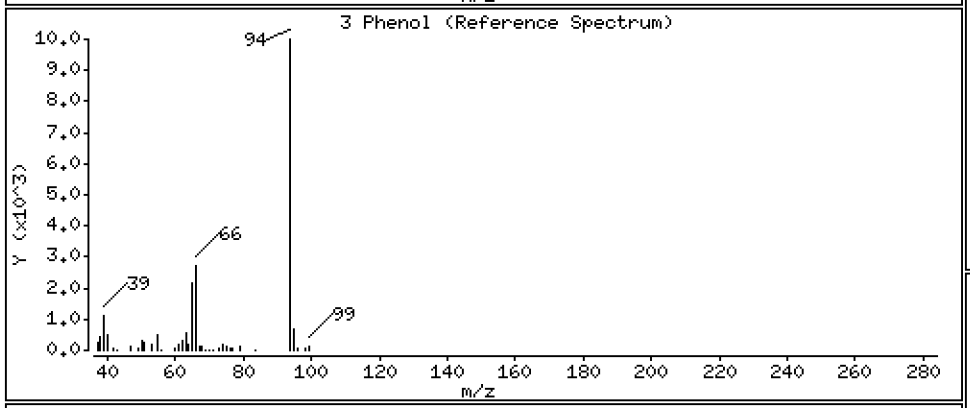
Column diameter: 0.25

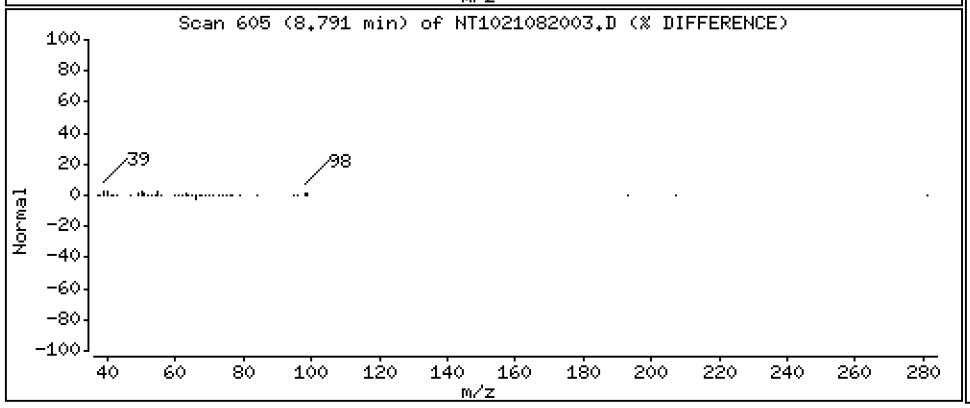
3 Phenol

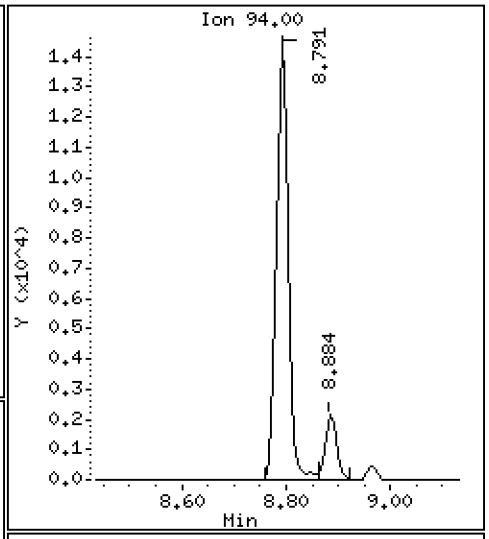
Concentration: 0.5161 ug/mL

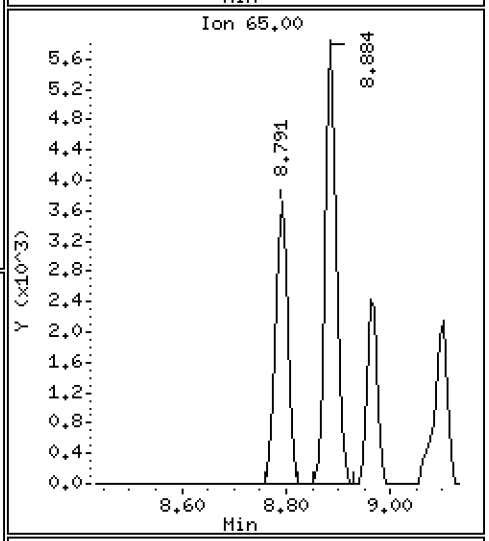


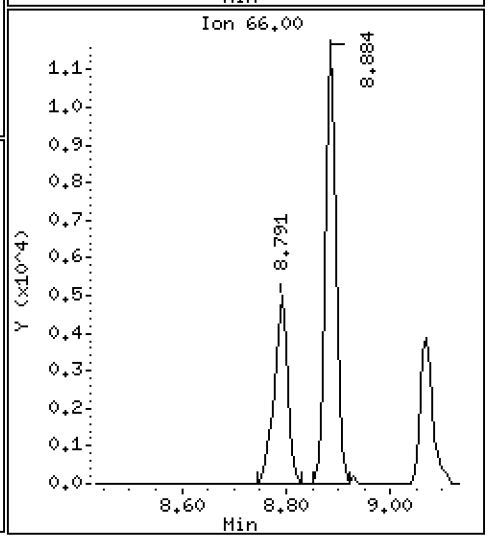












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

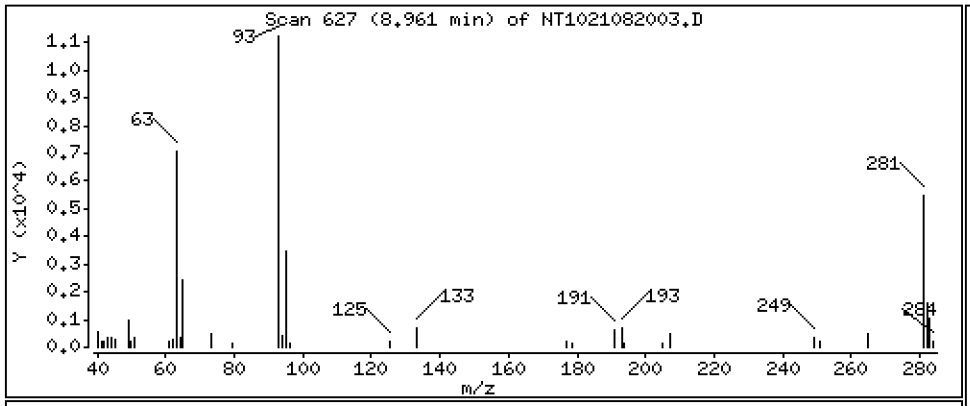
Operator: VTS

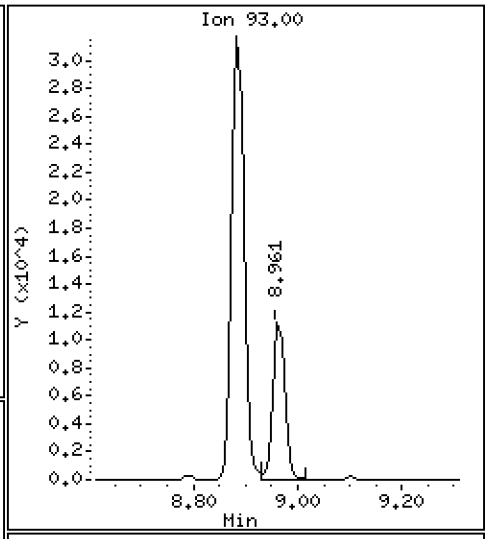
Column phase: ZB-5msi

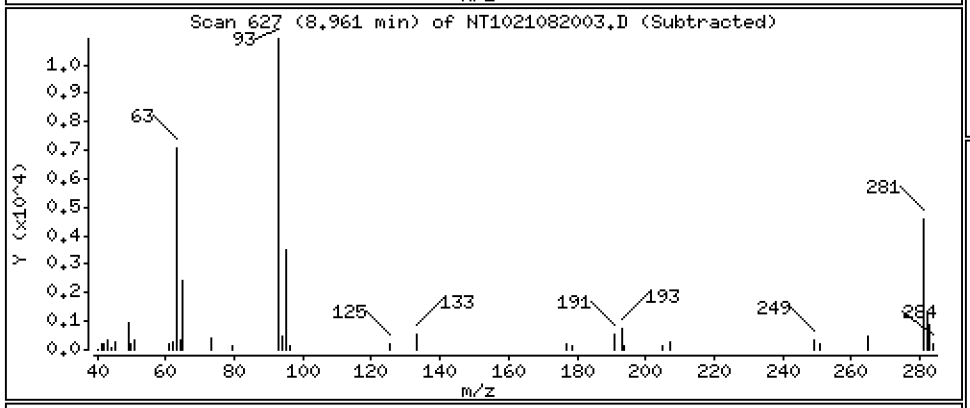
Column diameter: 0.25

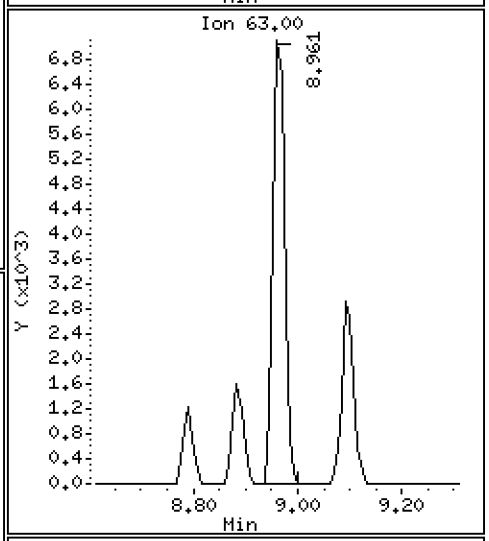
4 Bis(2-Chloroethyl)ether

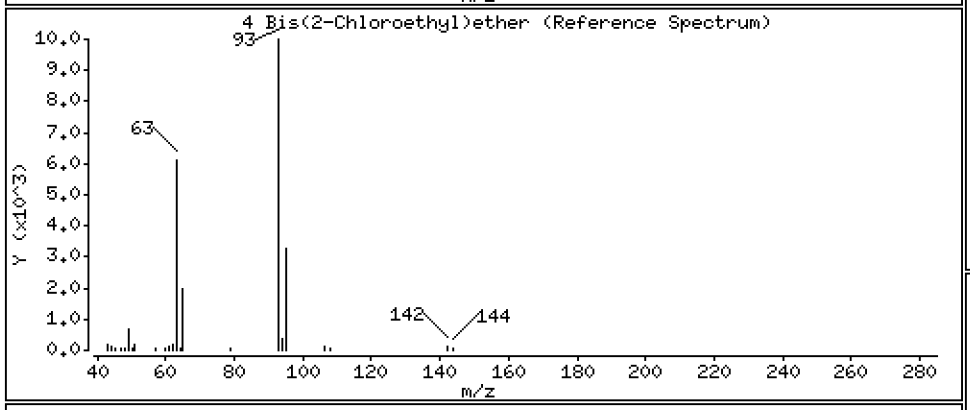
Concentration: 0.5378 ug/mL

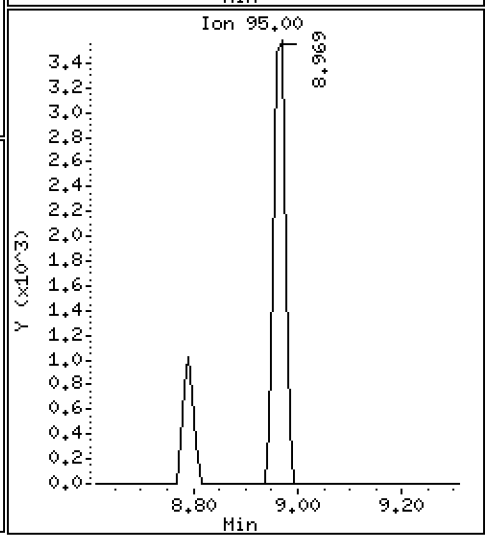


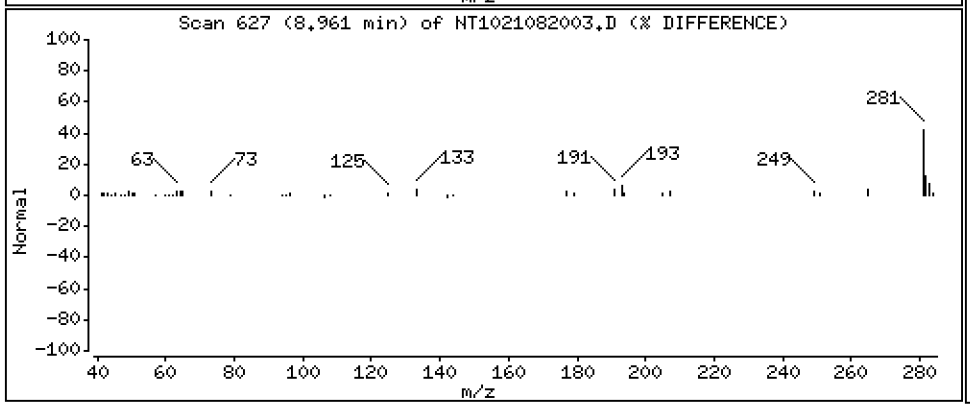












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

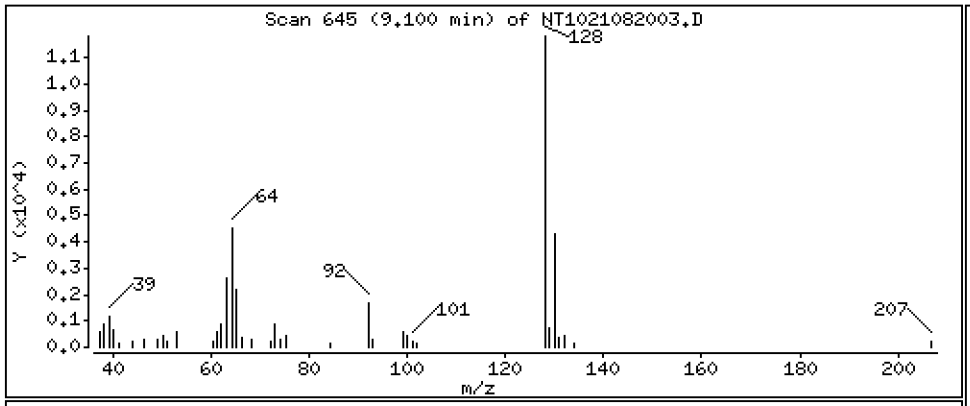
Operator: VTS

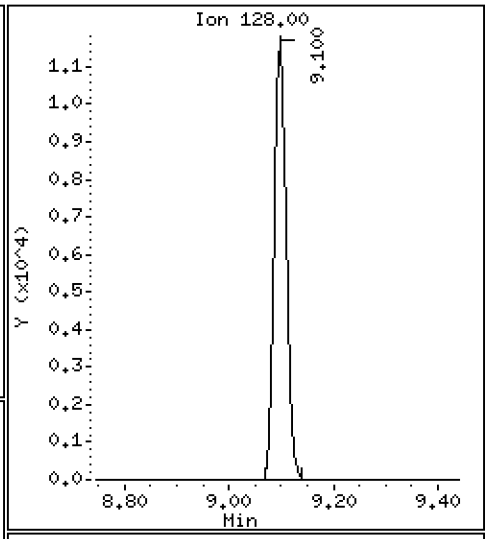
Column phase: ZB-5msi

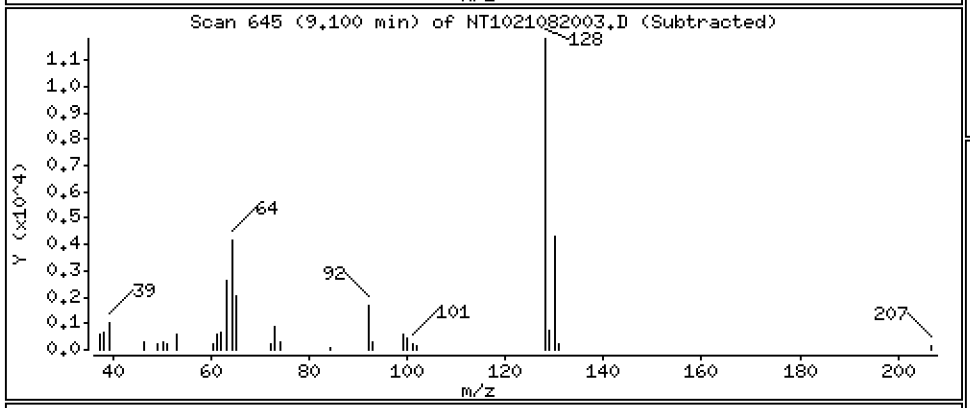
Column diameter: 0.25

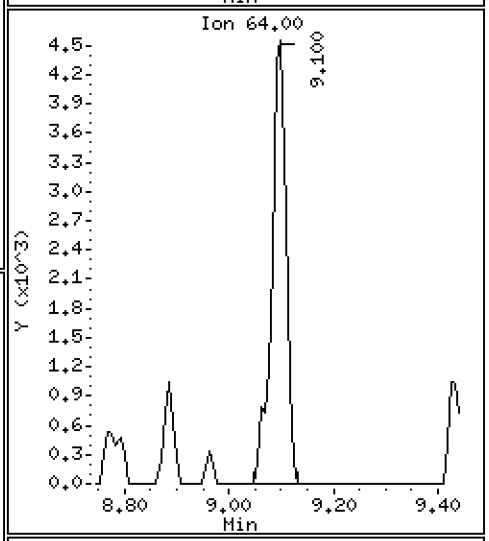
6 2-Chlorophenol

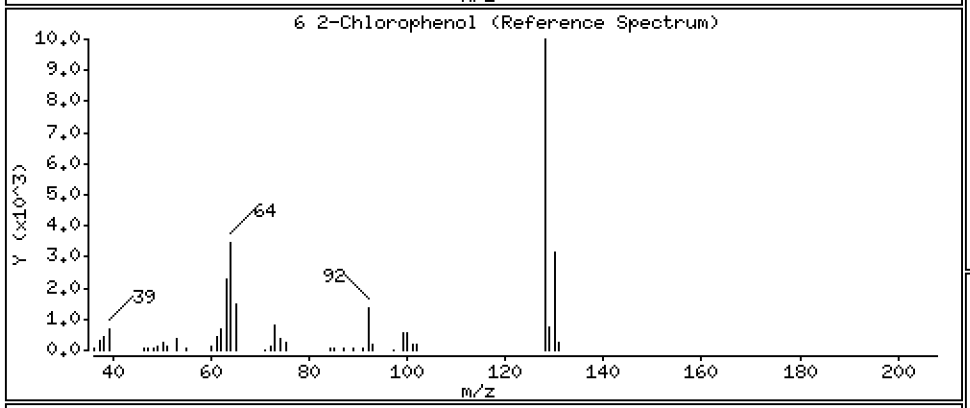
Concentration: 0.4898 ug/mL

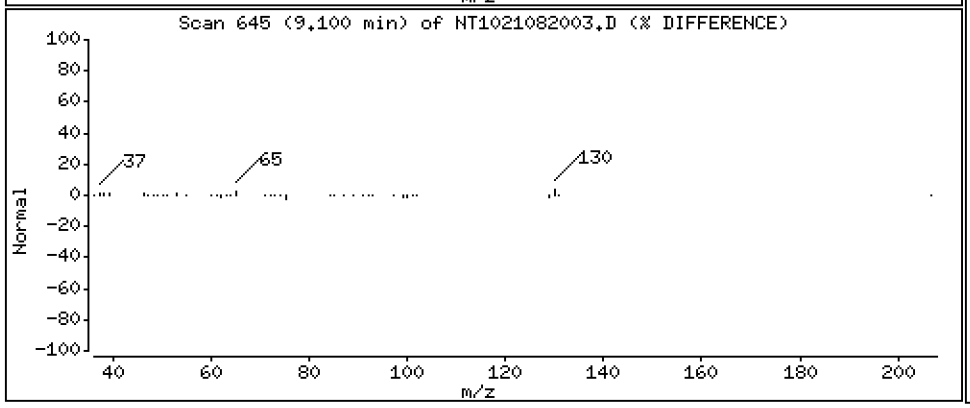


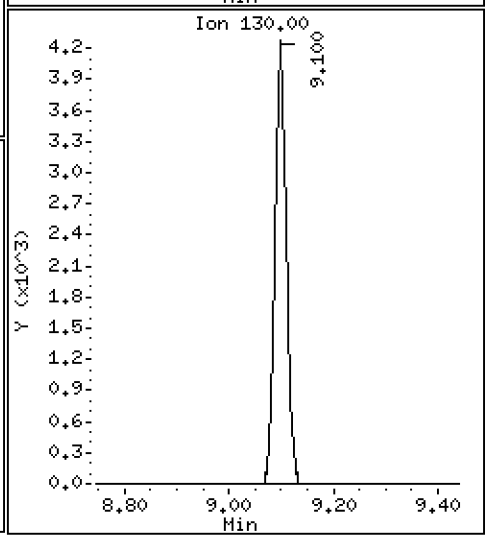












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

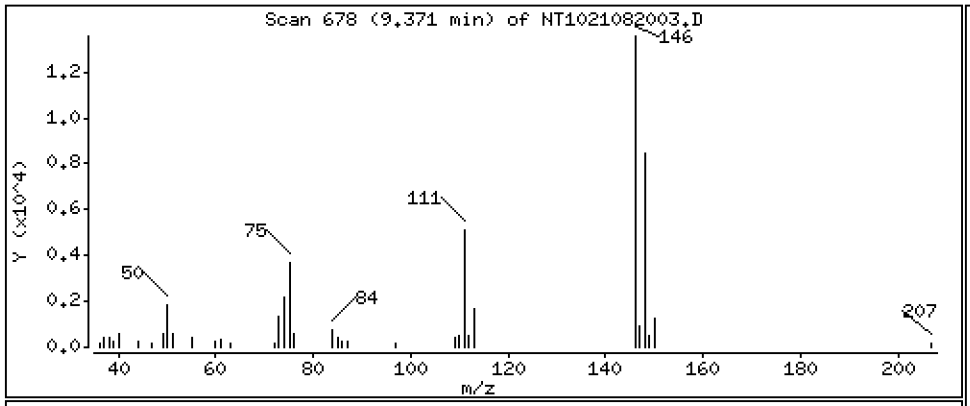
Operator: VTS

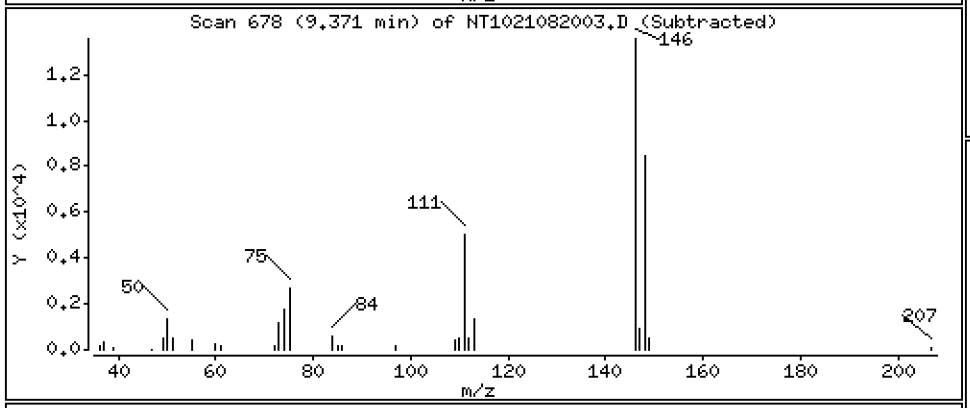
Column phase: ZB-5msi

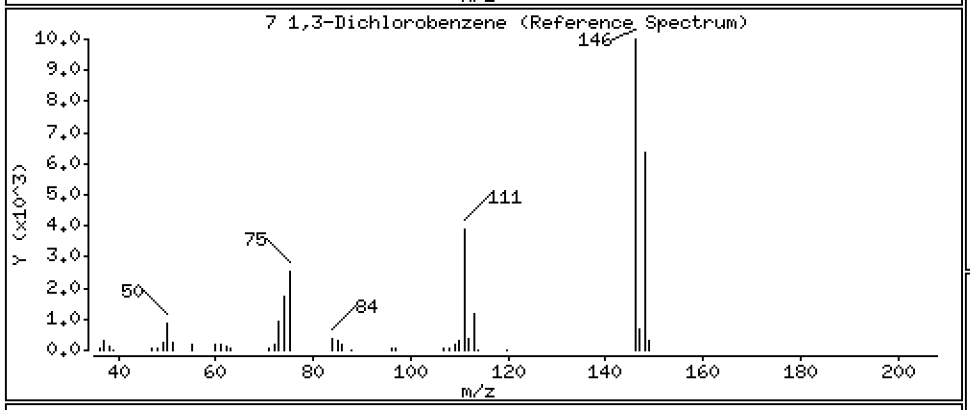
Column diameter: 0.25

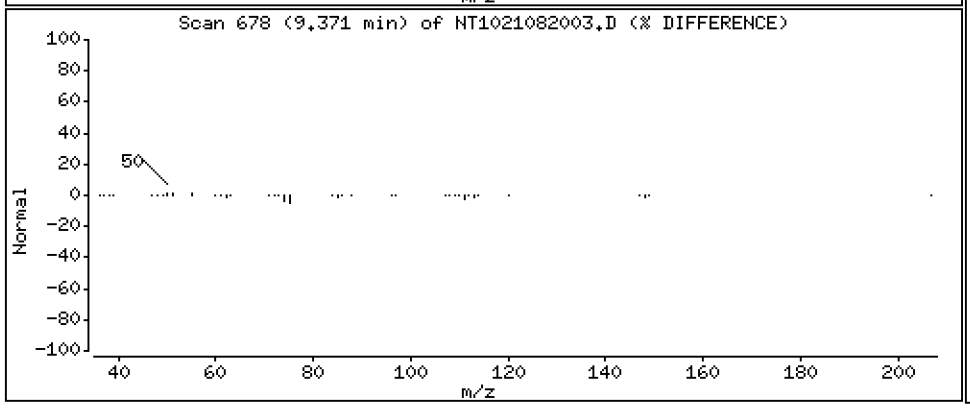
7 1,3-Dichlorobenzene

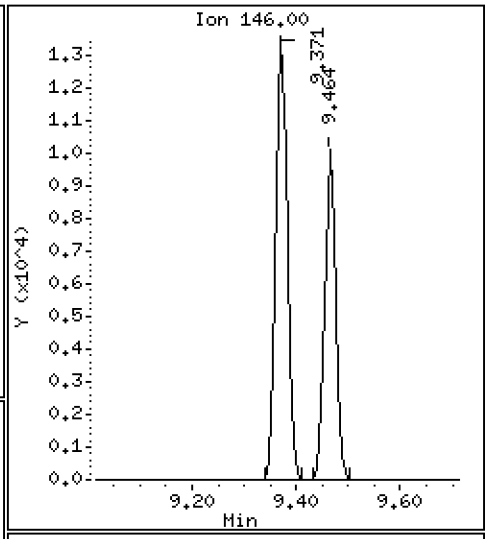
Concentration: 0.5188 ug/mL

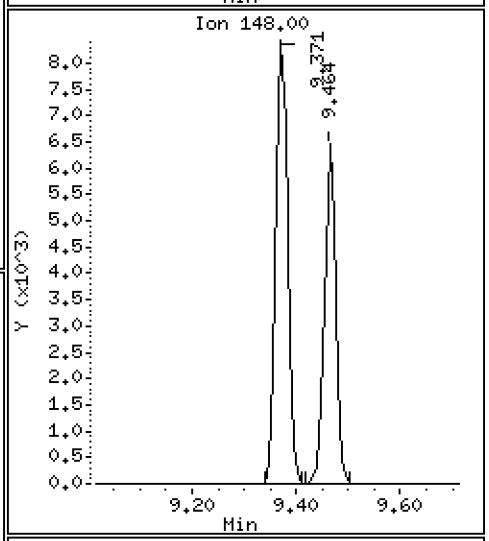


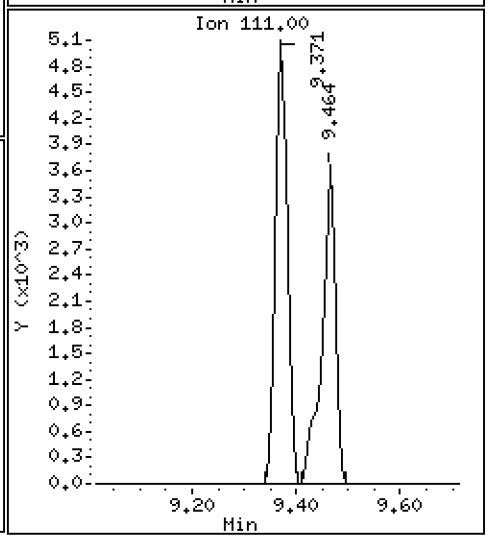












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

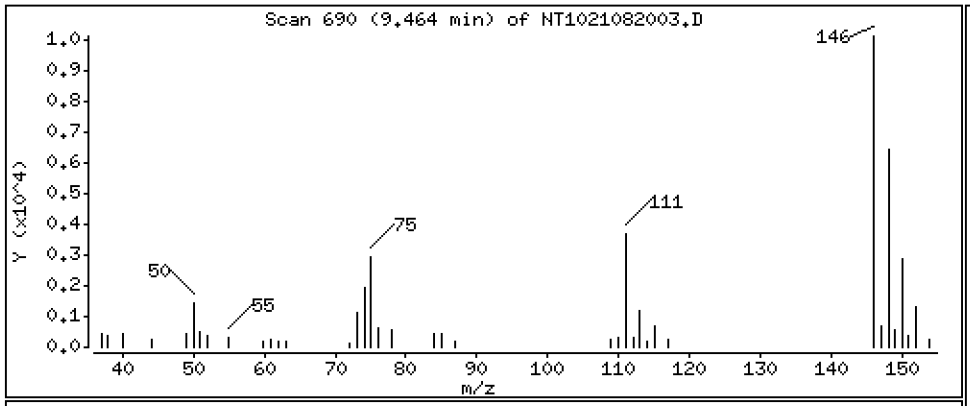
Operator: VTS

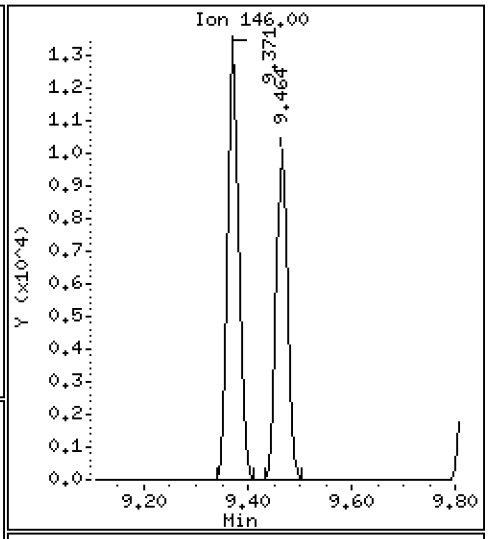
Column phase: ZB-5msi

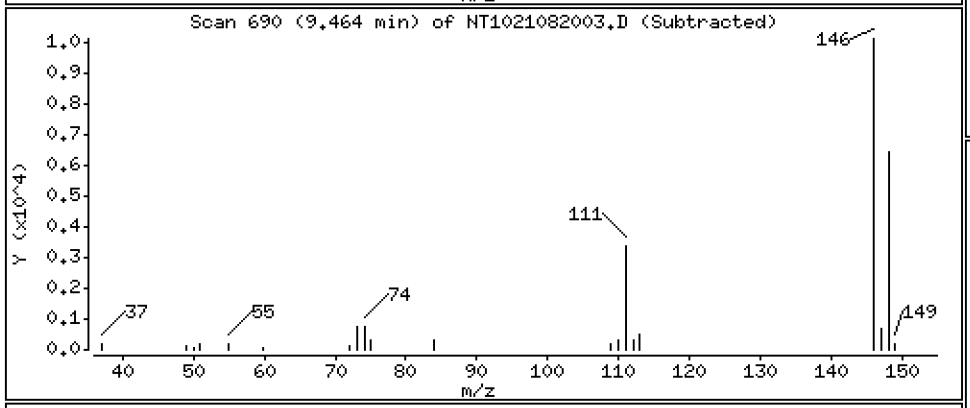
Column diameter: 0.25

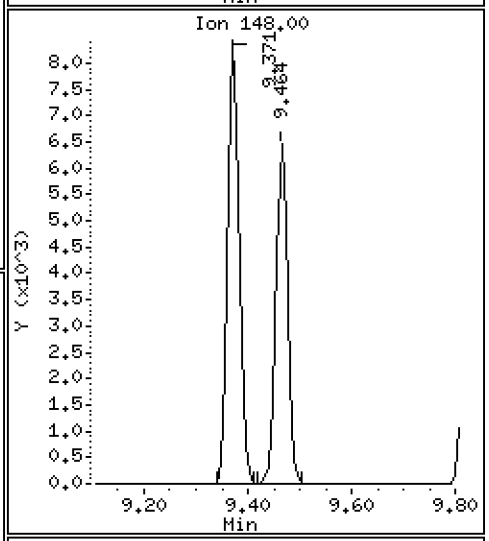
9 1,4-Dichlorobenzene

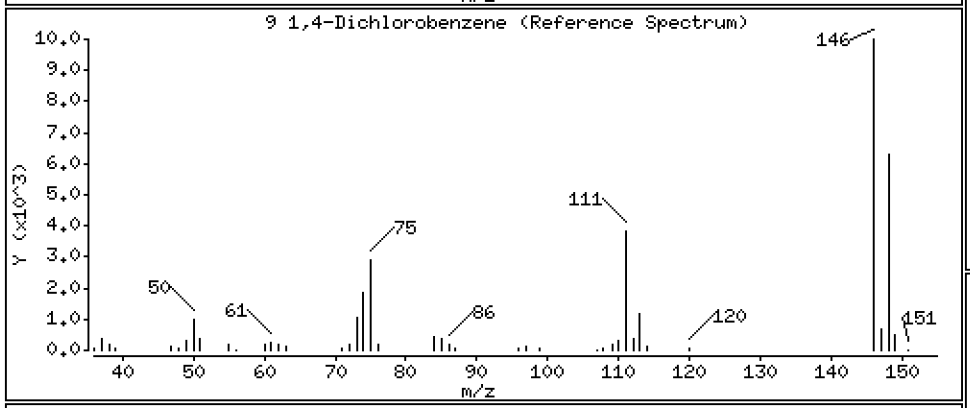
Concentration: 0.5097 ug/mL

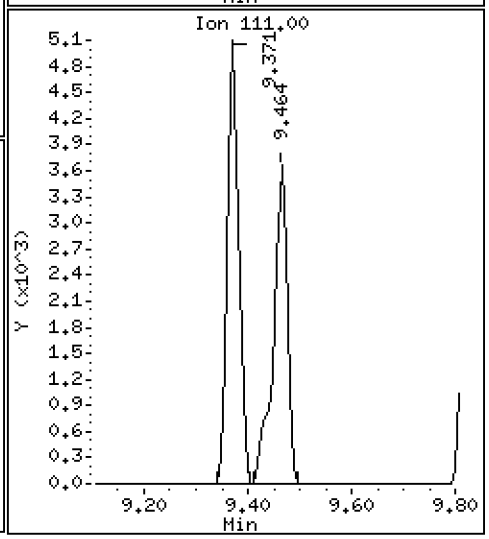


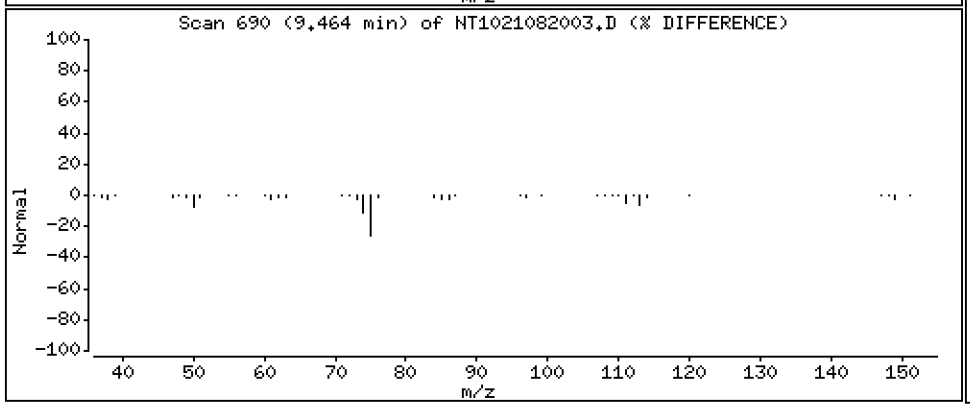












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

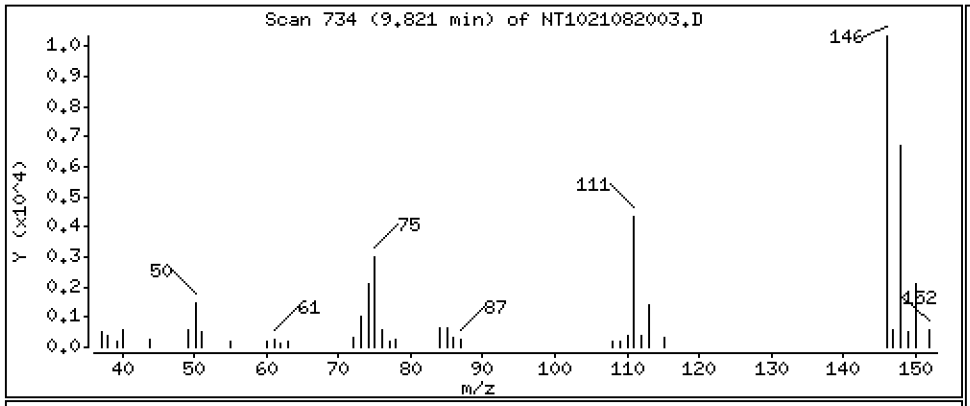
Operator: VTS

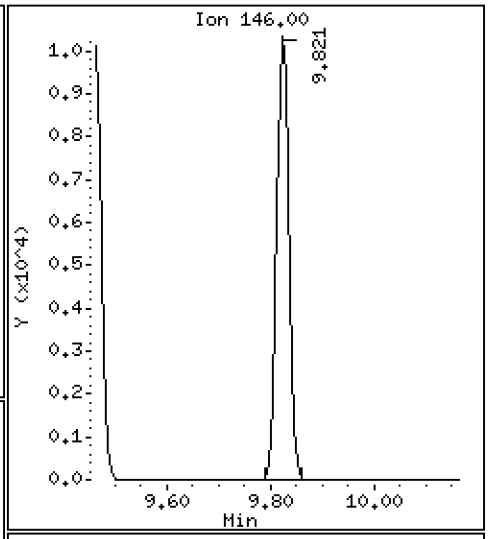
Column phase: ZB-5msi

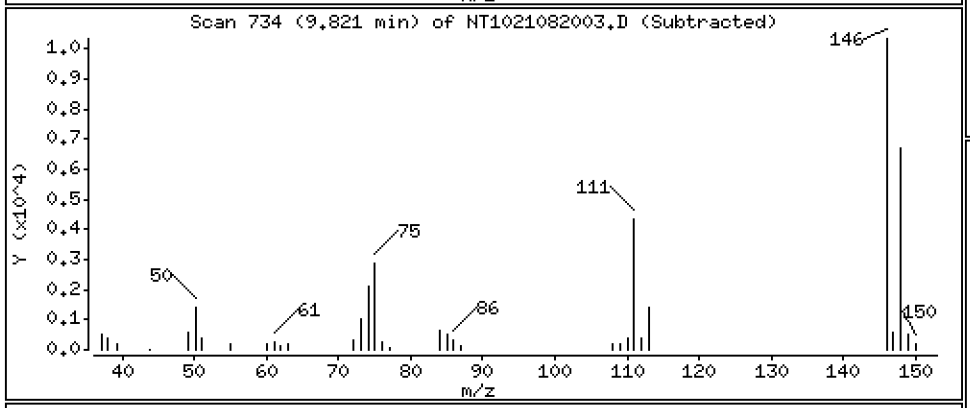
Column diameter: 0.25

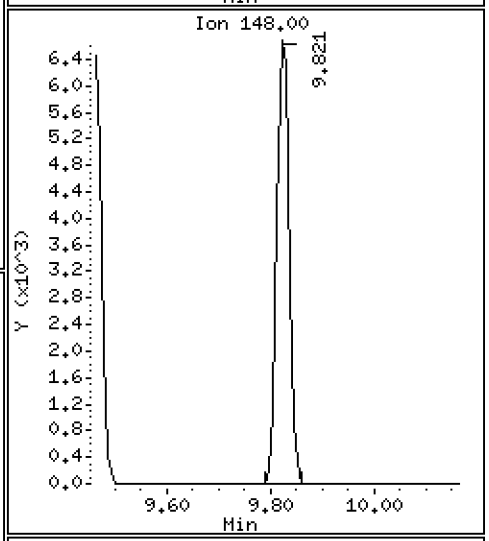
12 1,2-Dichlorobenzene

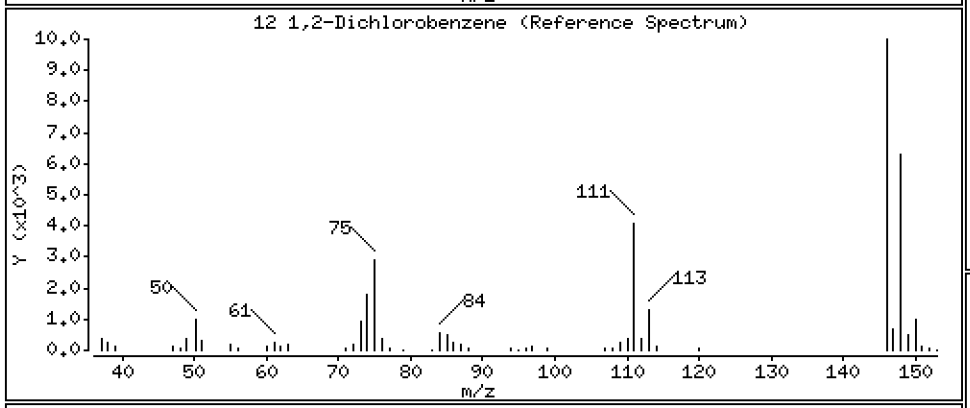
Concentration: 0.4969 ug/mL

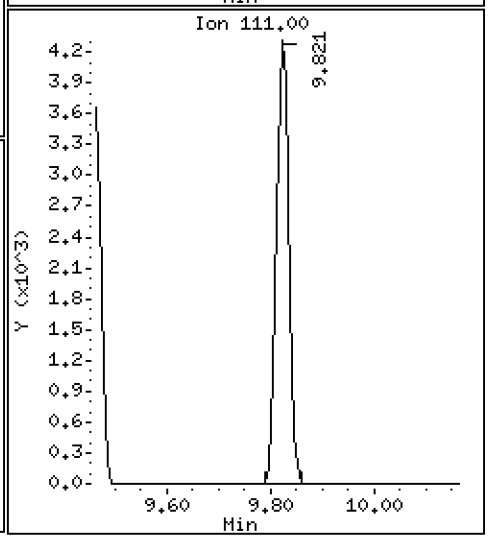


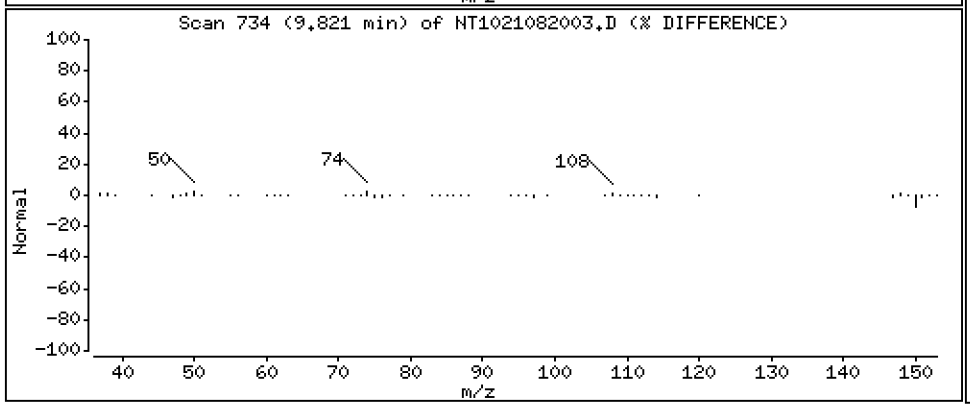












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

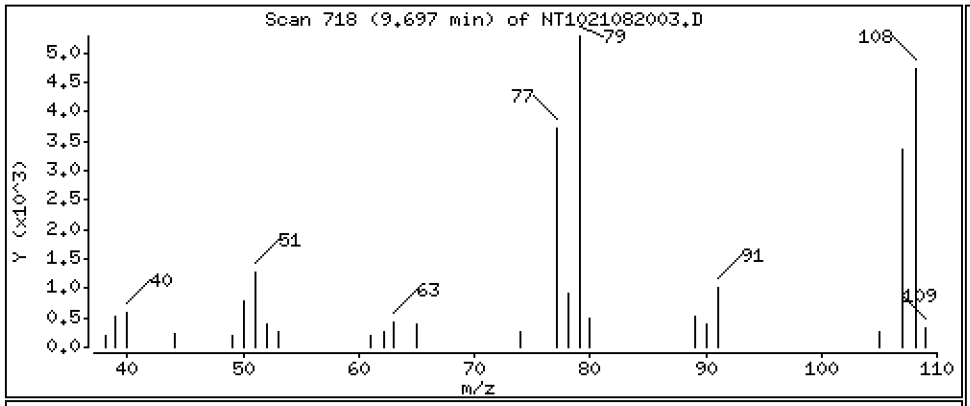
Operator: VTS

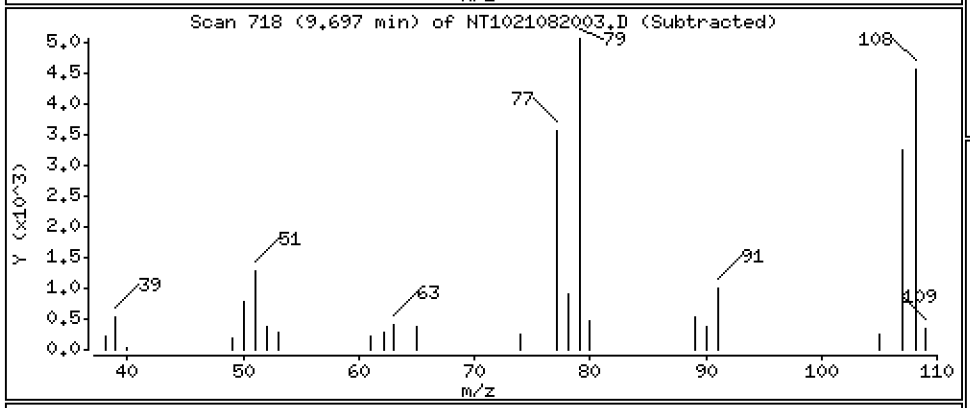
Column phase: ZB-5msi

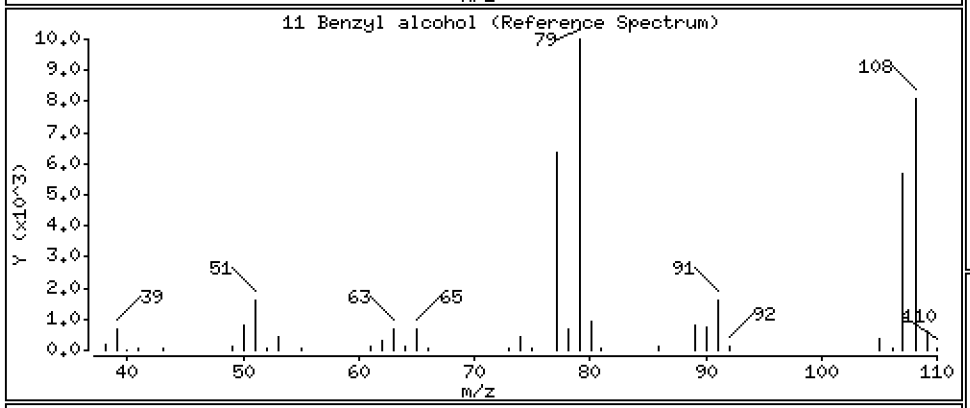
Column diameter: 0.25

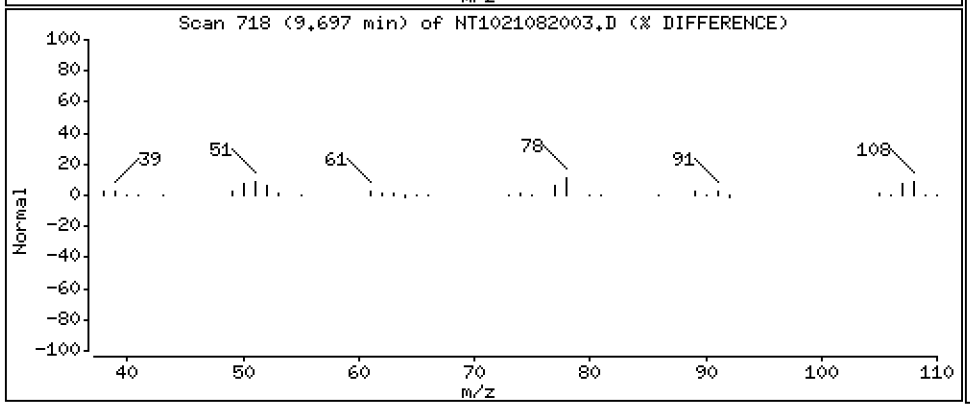
11 Benzyl alcohol

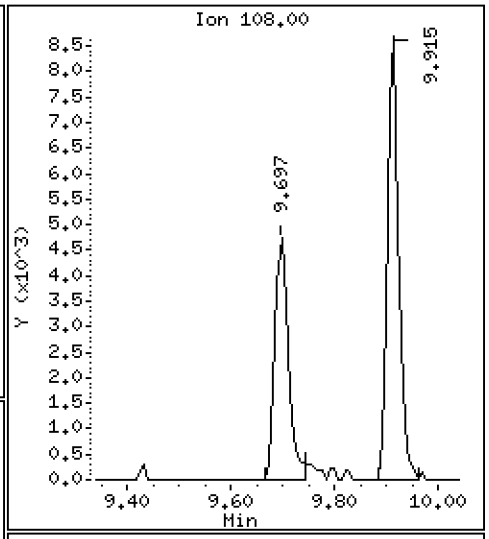
Concentration: 0.4141 ug/mL

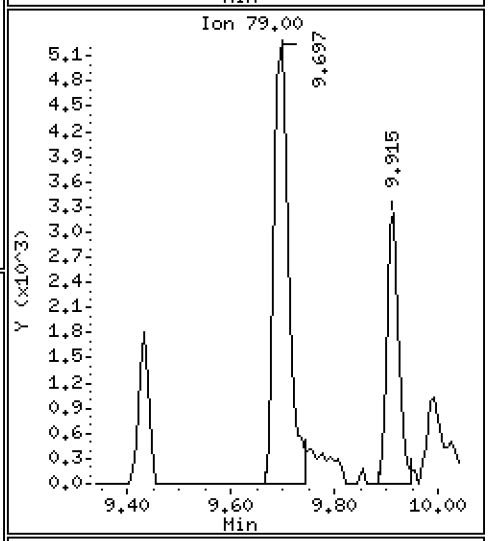


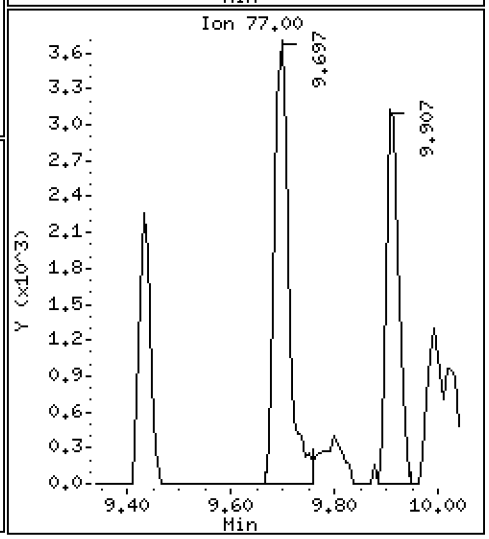












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

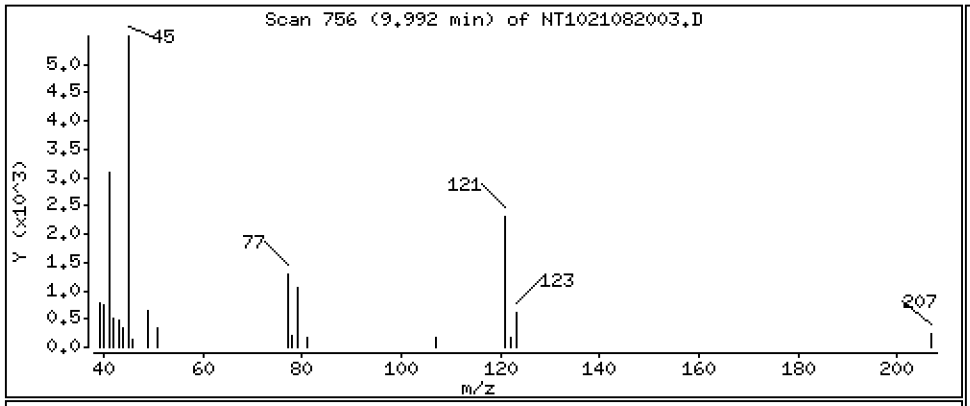
Operator: VTS

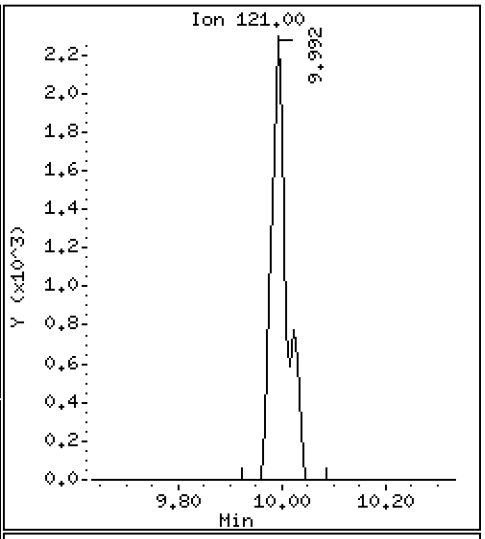
Column phase: ZB-5msi

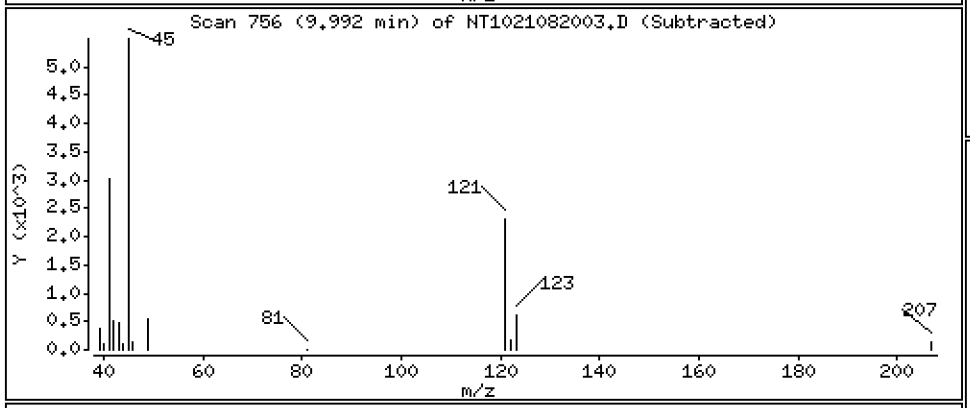
Column diameter: 0.25

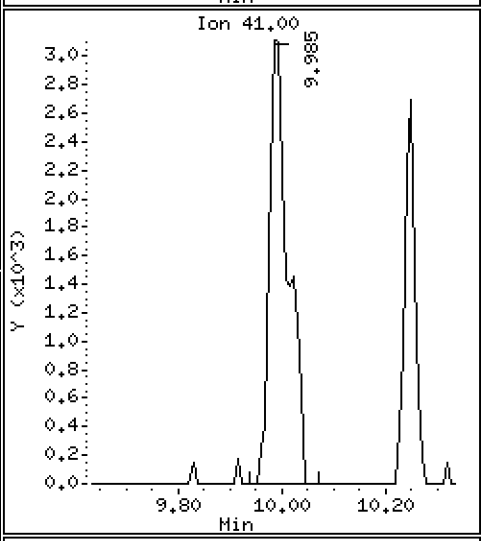
14 2,2'-oxybis(1-Chloropropane)

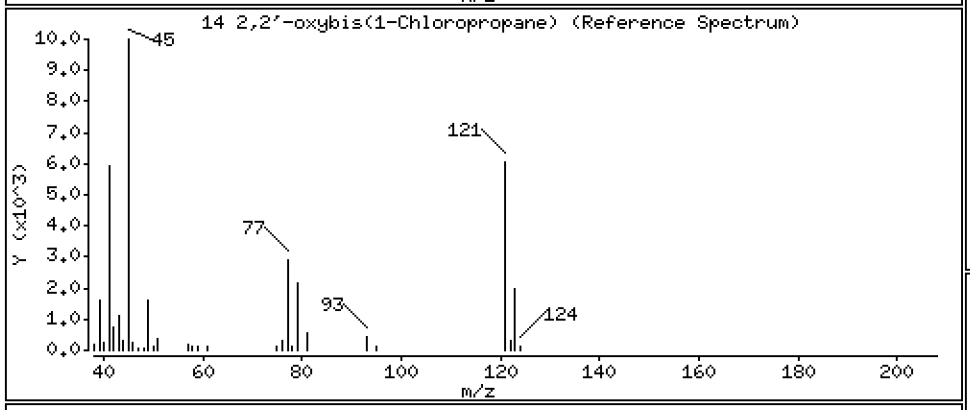
Concentration: 0.4884 ug/mL

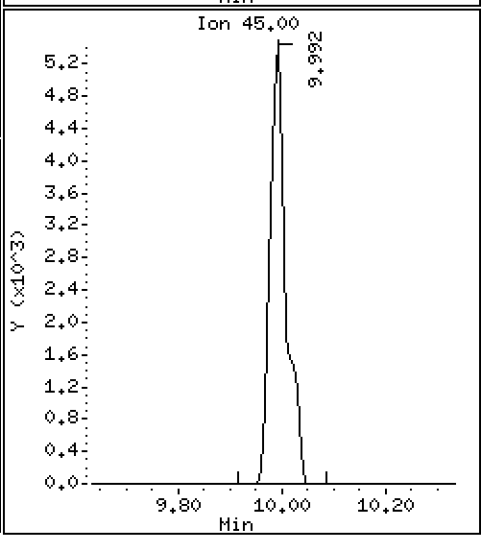


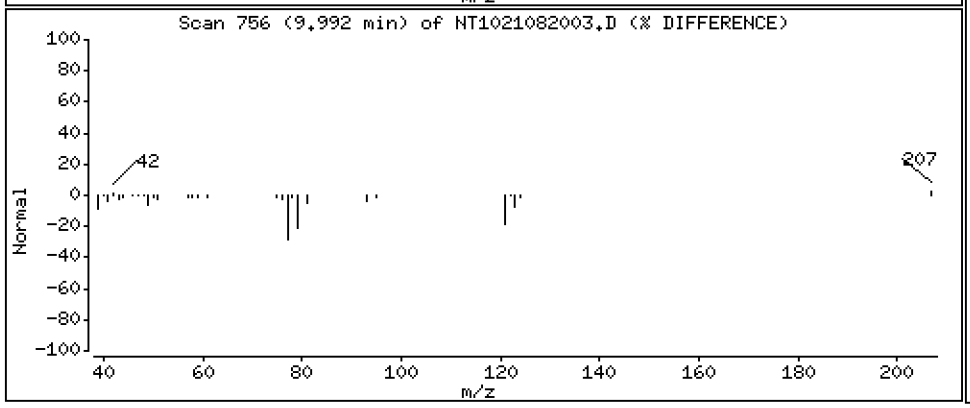












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

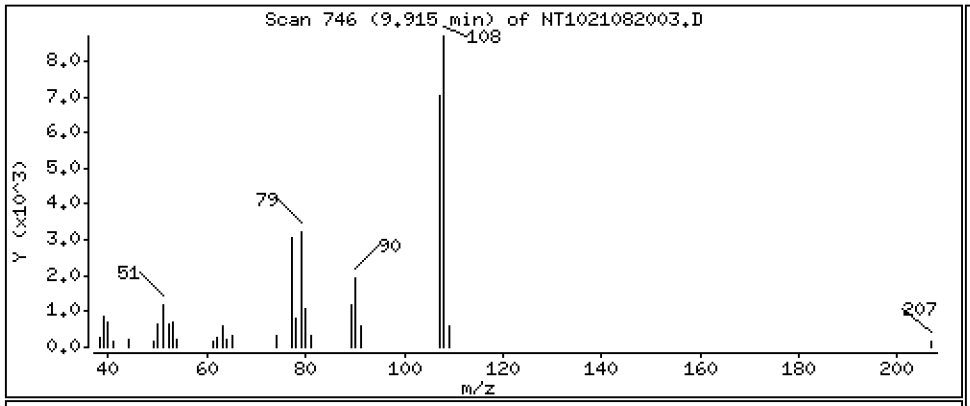
Operator: VTS

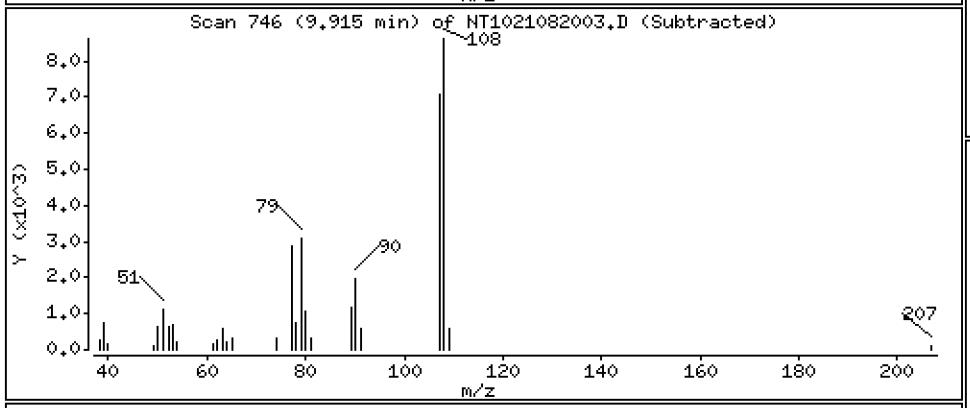
Column phase: ZB-5msi

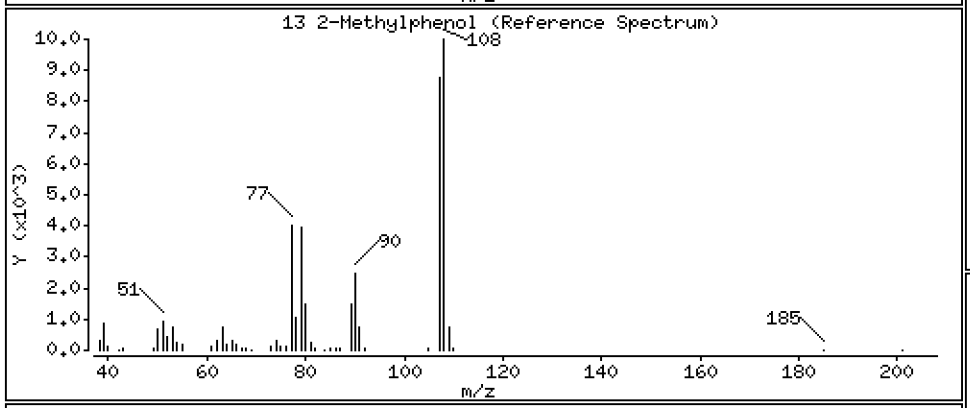
Column diameter: 0.25

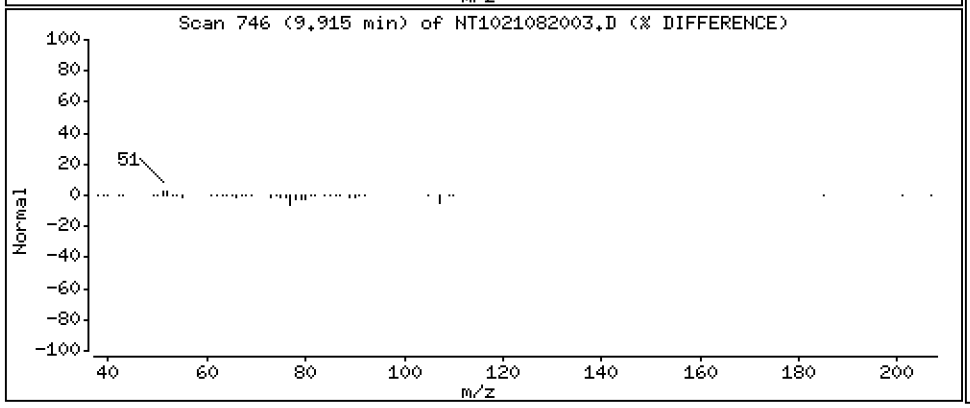
13 2-Methylphenol

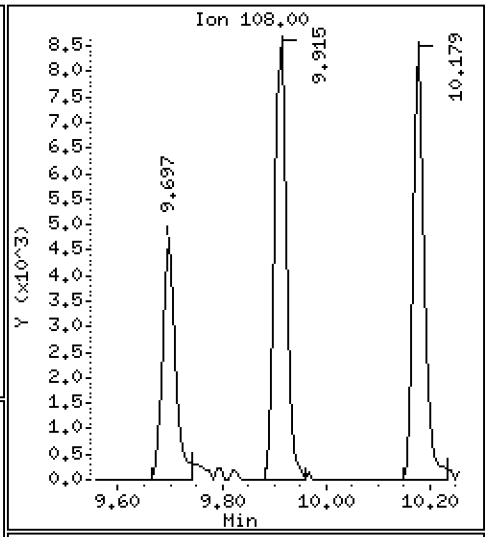
Concentration: 0.4697 ug/mL

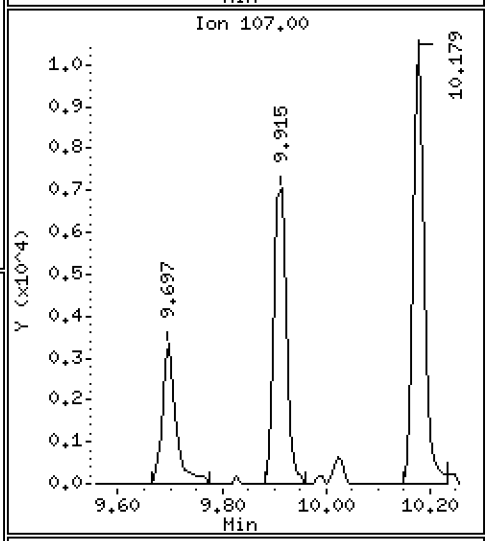


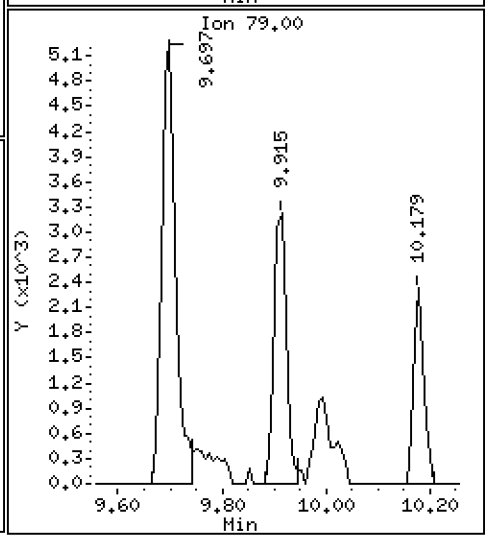












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

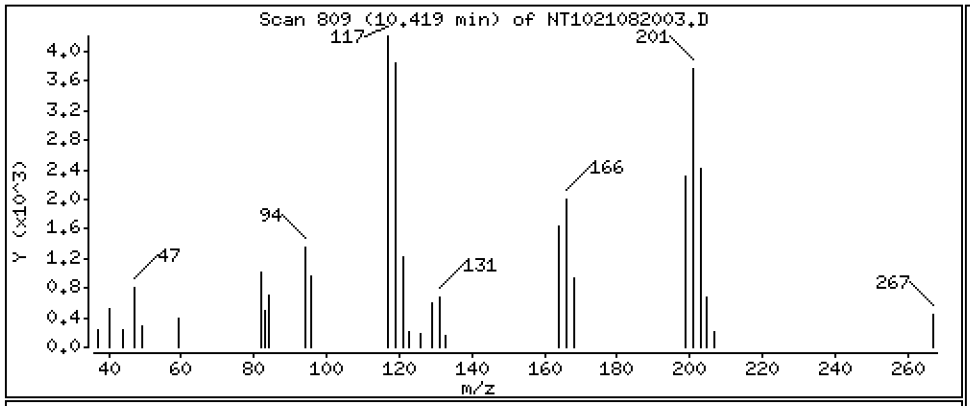
Operator: VTS

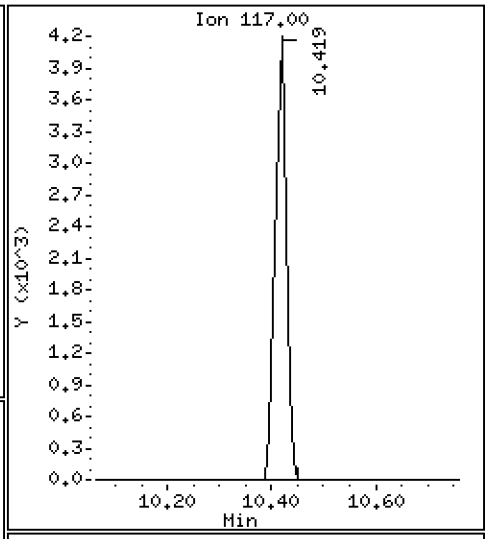
Column phase: ZB-5msi

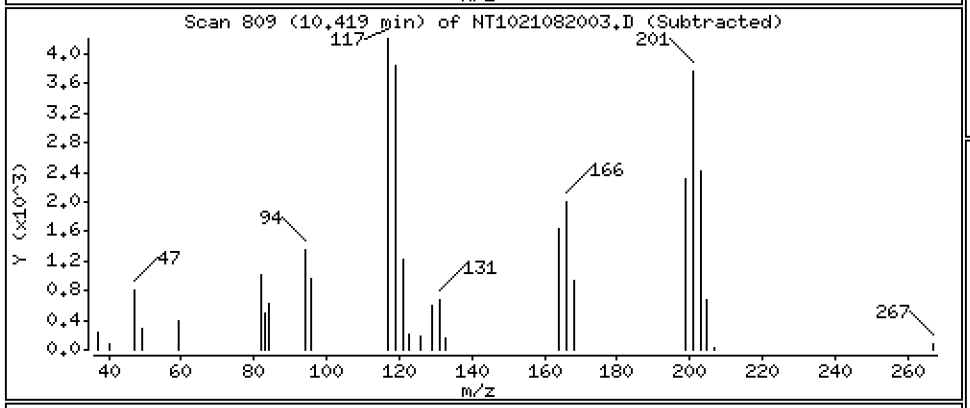
Column diameter: 0.25

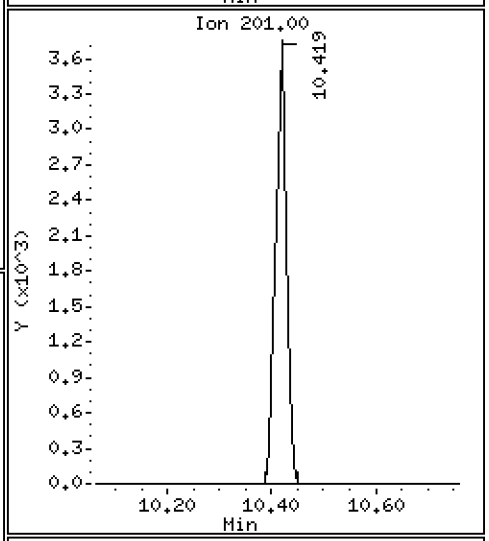
17 Hexachloroethane

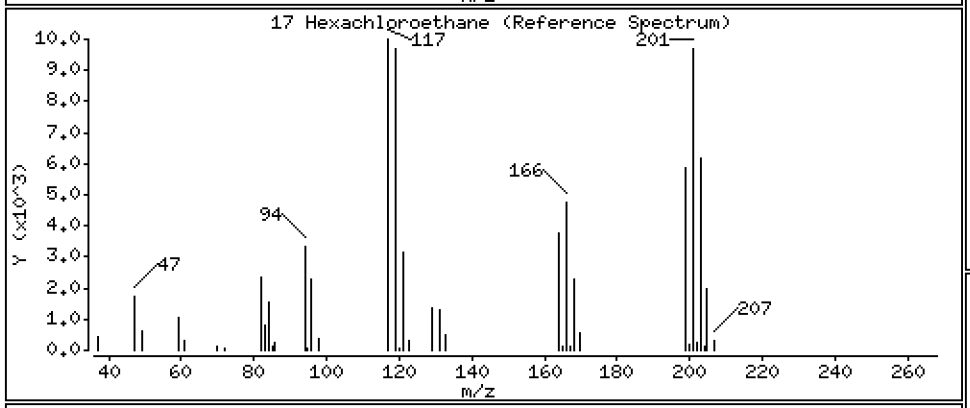
Concentration: 0.4944 ug/mL

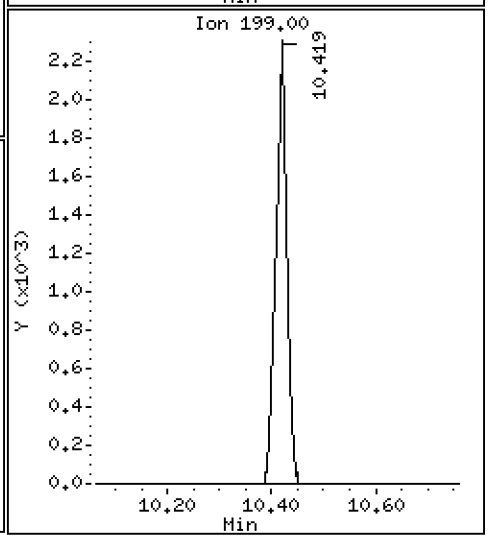


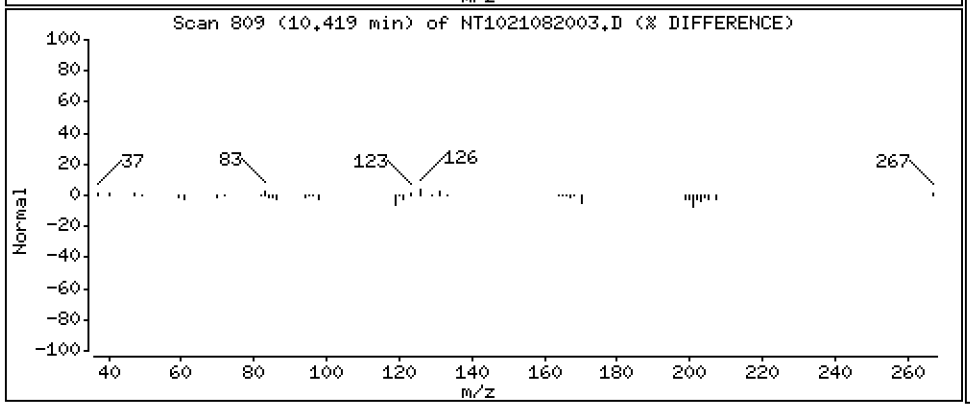












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

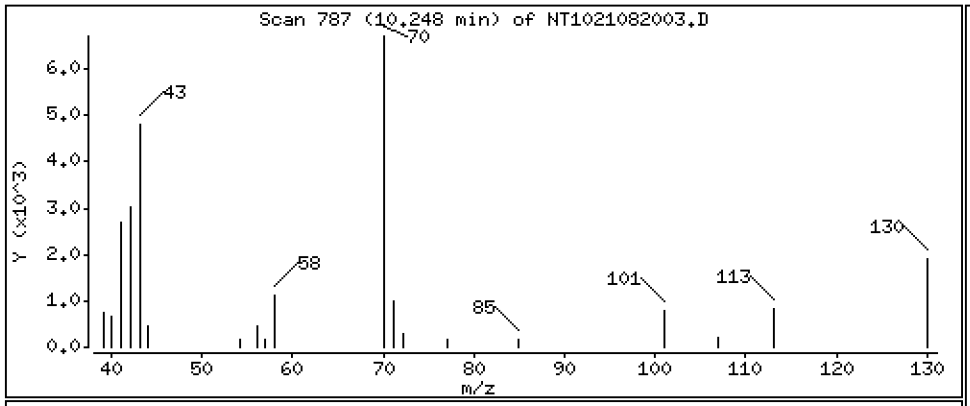
Operator: VTS

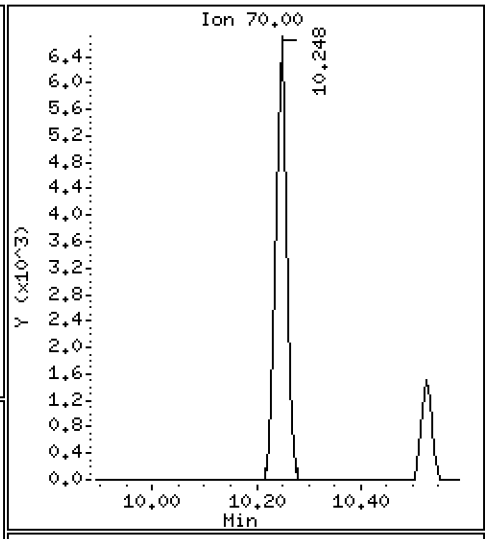
Column phase: ZB-5msi

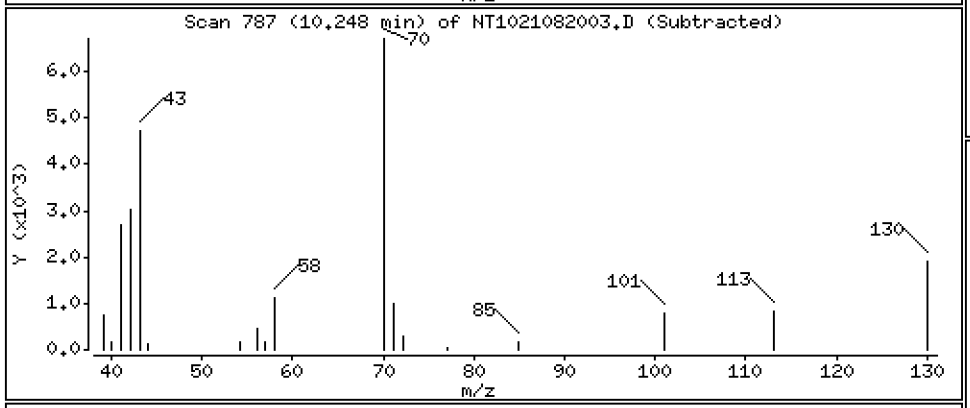
Column diameter: 0.25

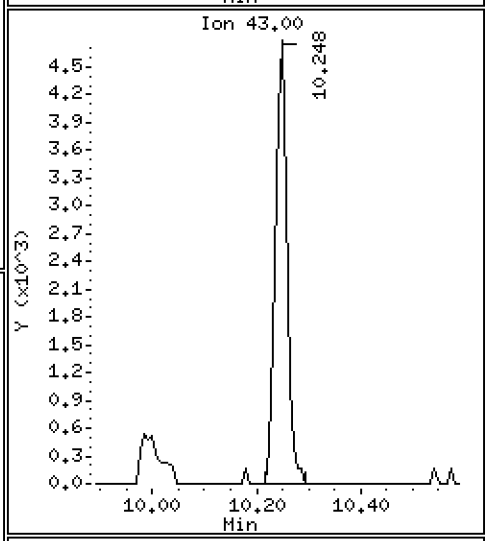
16 N-Nitroso-di-n-propylamine

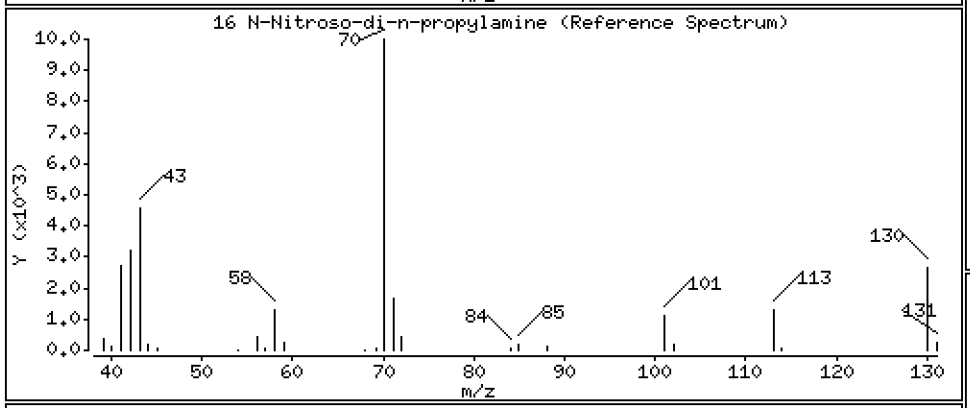
Concentration: 0.4888 ug/mL

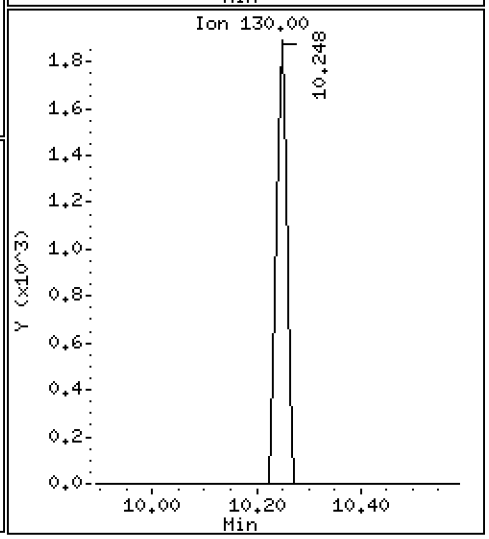


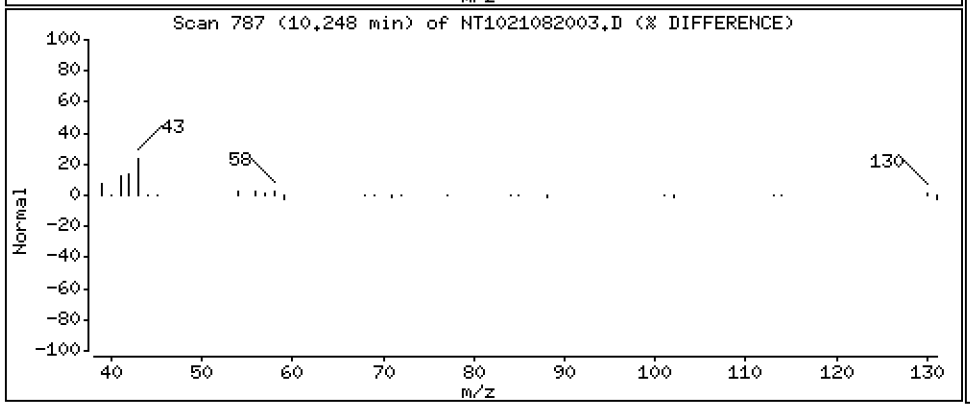












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

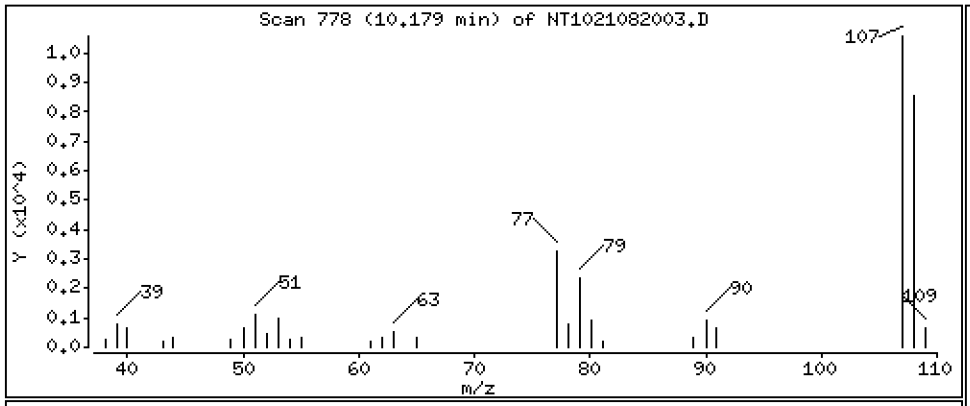
Operator: VTS

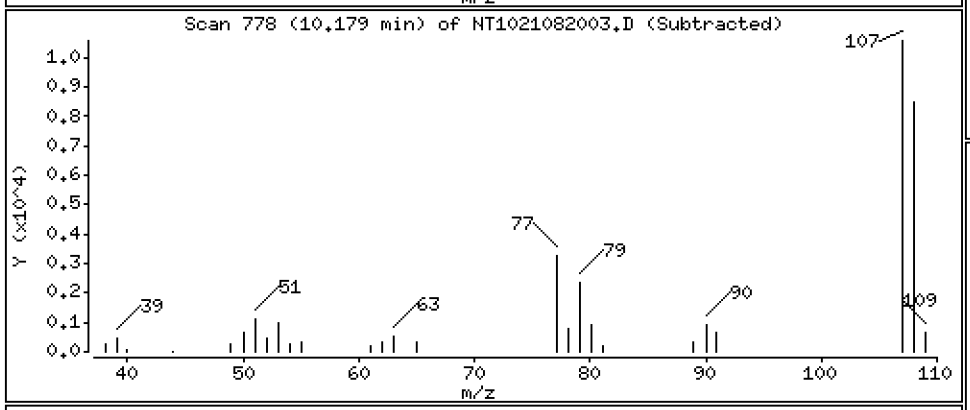
Column phase: ZB-5msi

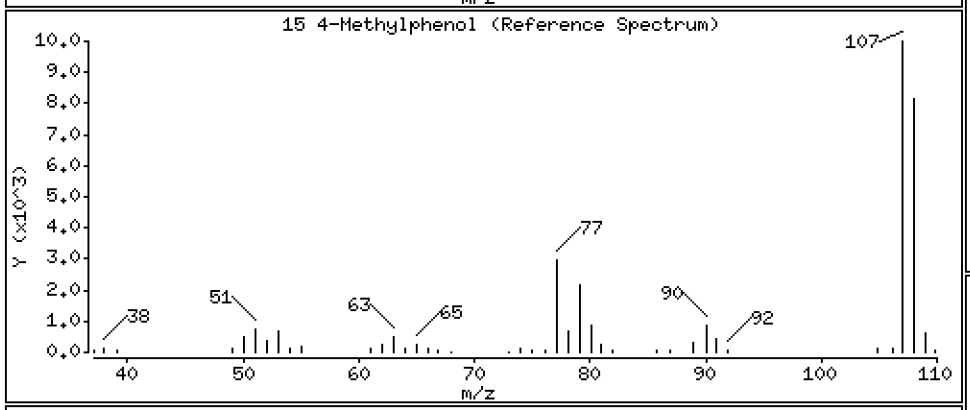
Column diameter: 0.25

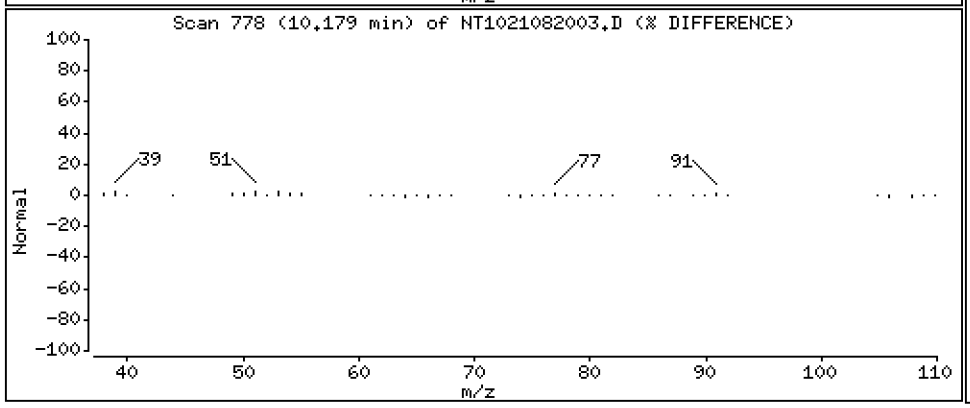
15 4-Methylphenol

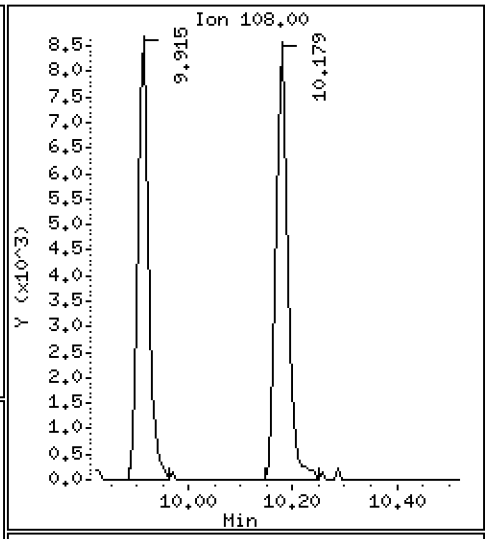
Concentration: 0.4537 ug/mL

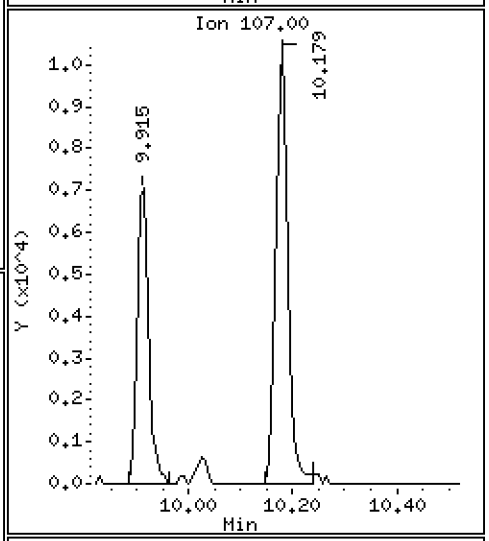


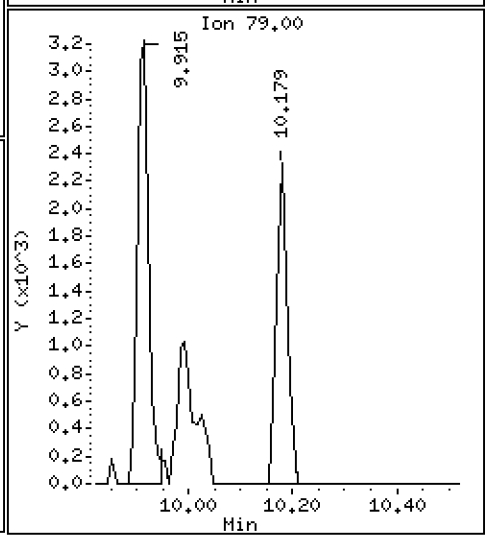












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

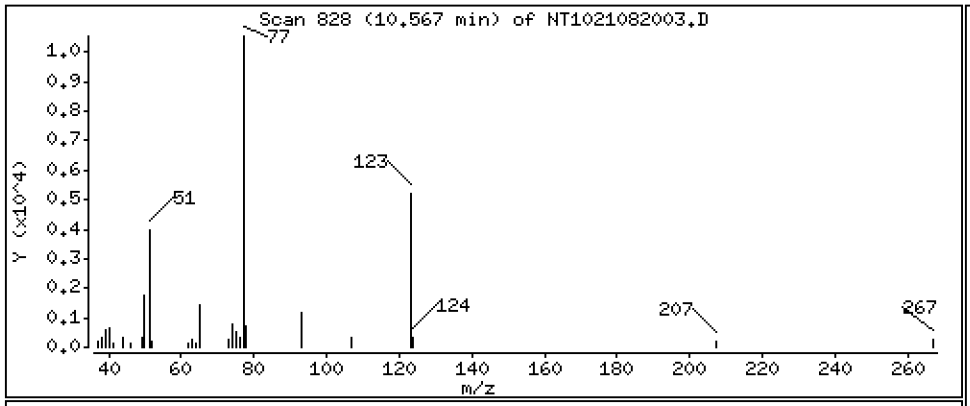
Operator: VTS

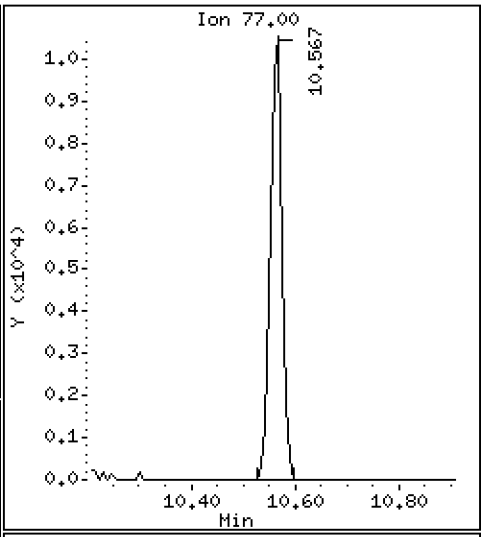
Column phase: ZB-5msi

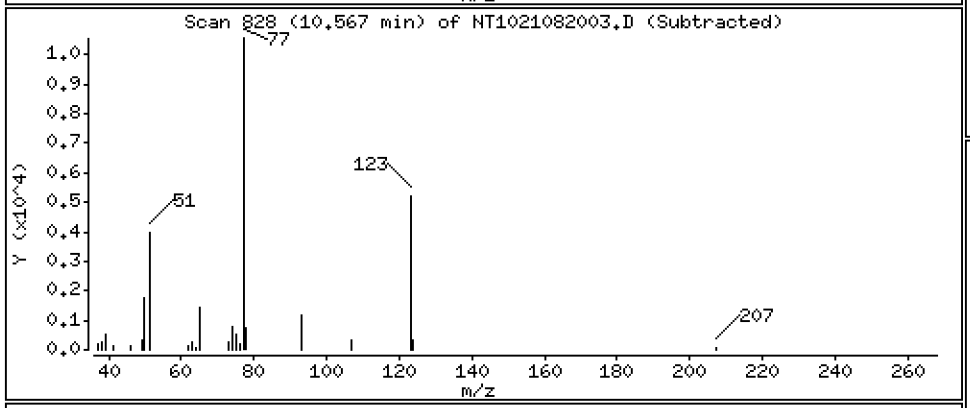
Column diameter: 0.25

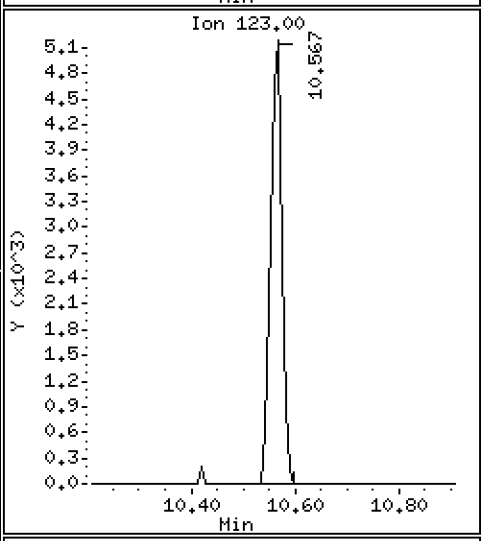
19 Nitrobenzene

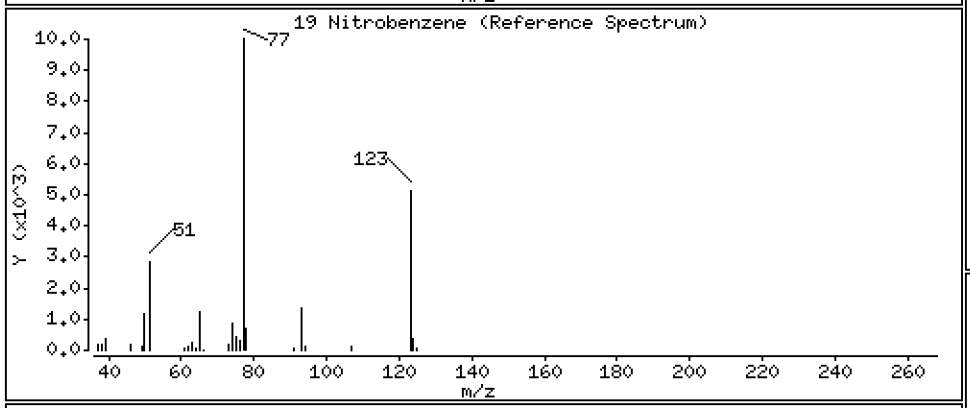
Concentration: 0.5044 ug/mL

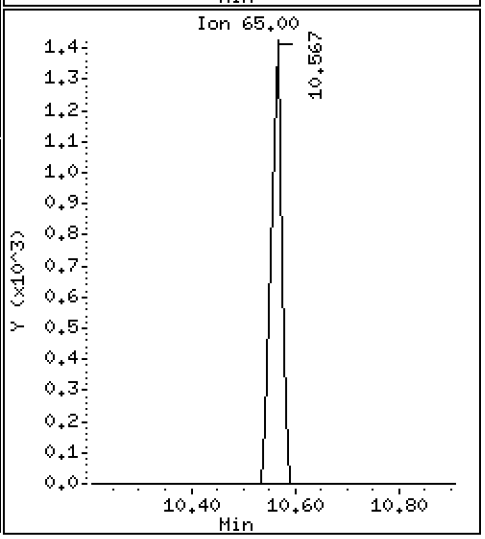


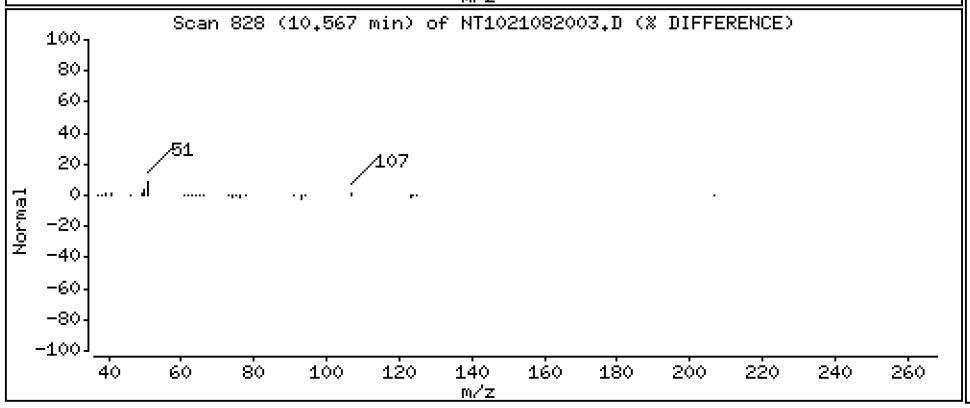












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

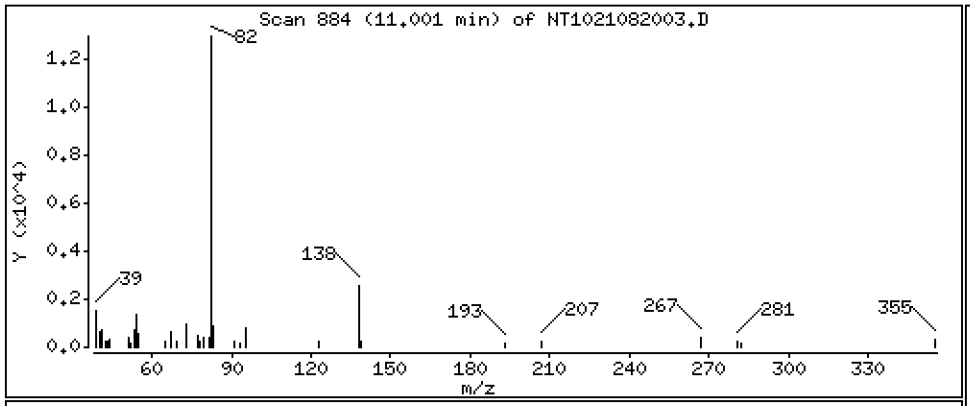
Operator: VTS

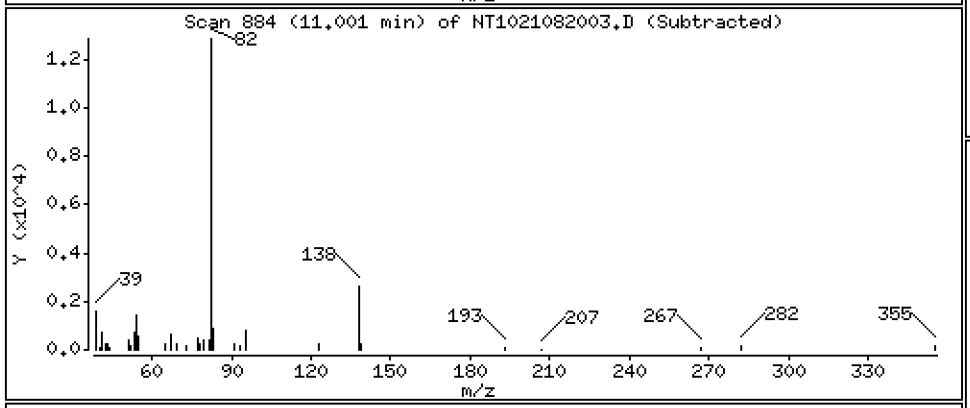
Column phase: ZB-5msi

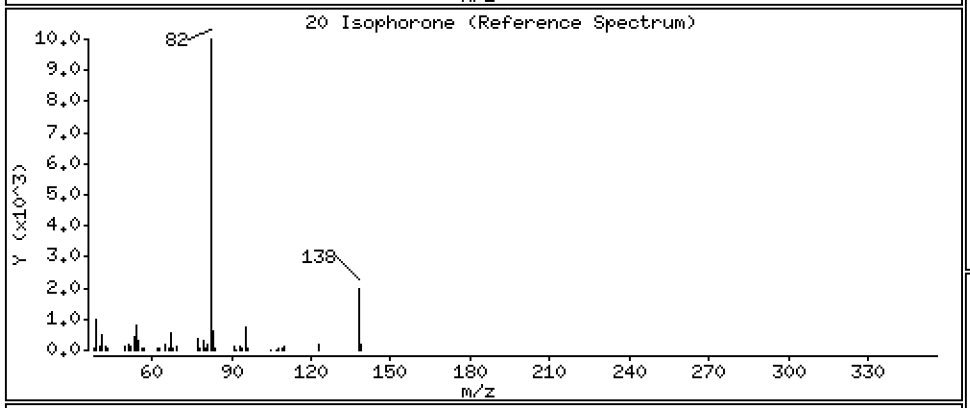
Column diameter: 0.25

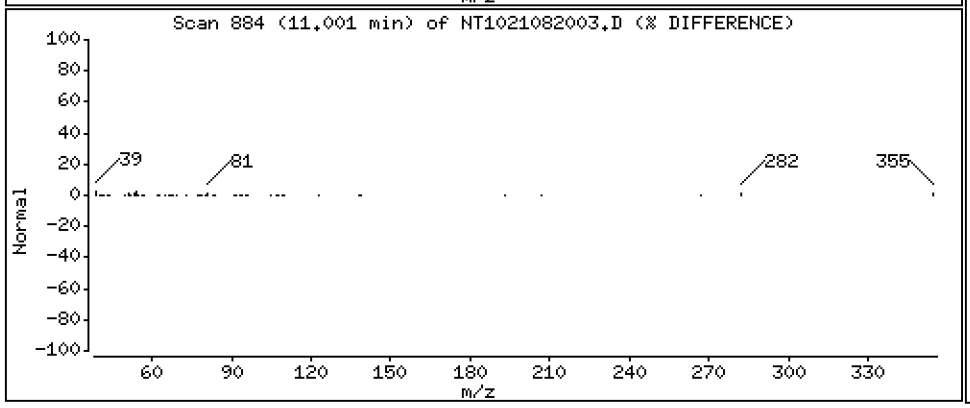
20 Isophorone

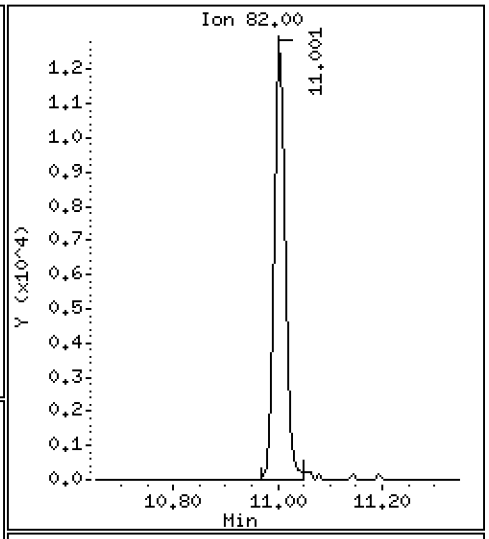
Concentration: 0.4154 ug/mL

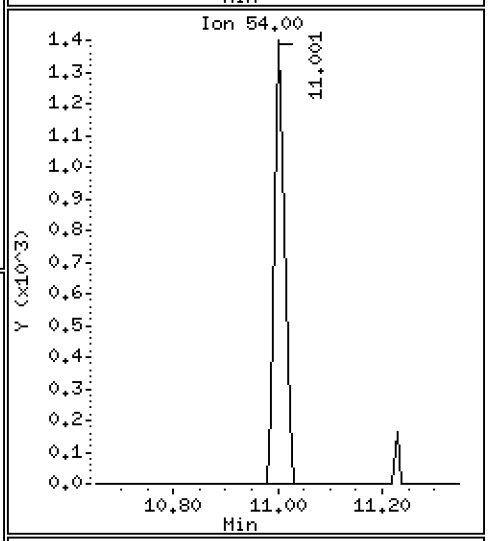


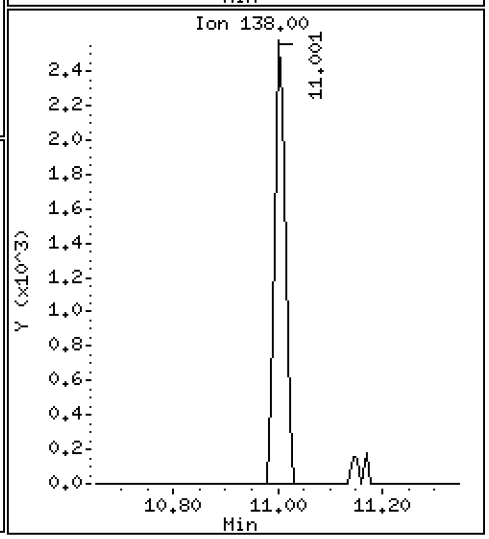












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

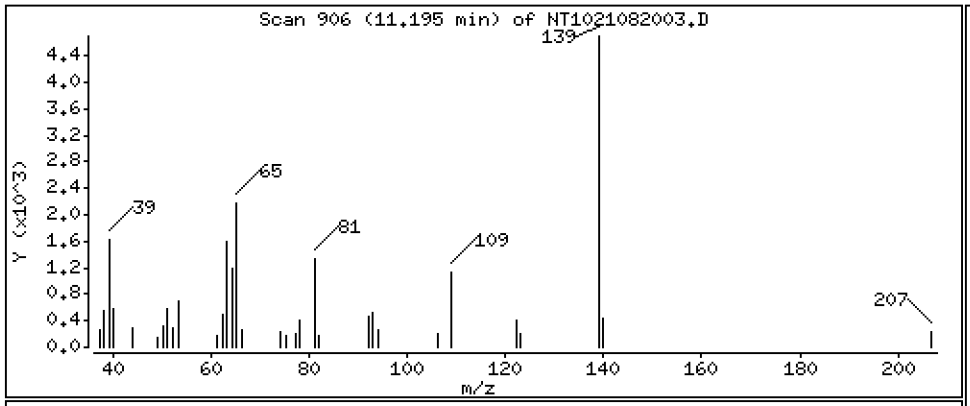
Operator: VTS

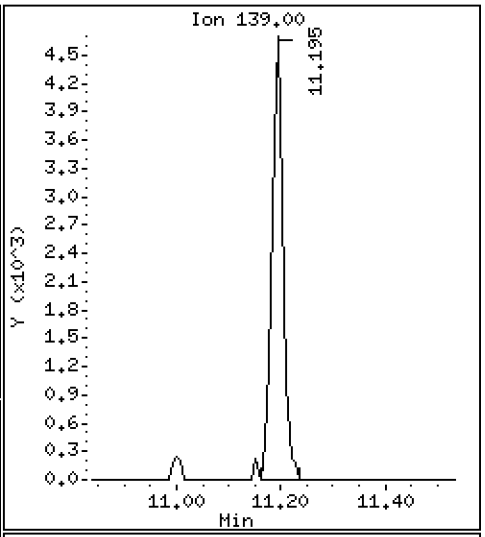
Column phase: ZB-5msi

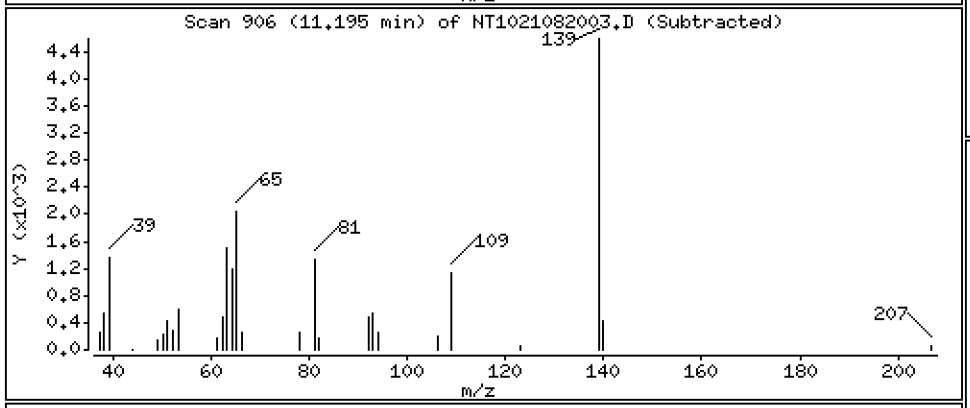
Column diameter: 0.25

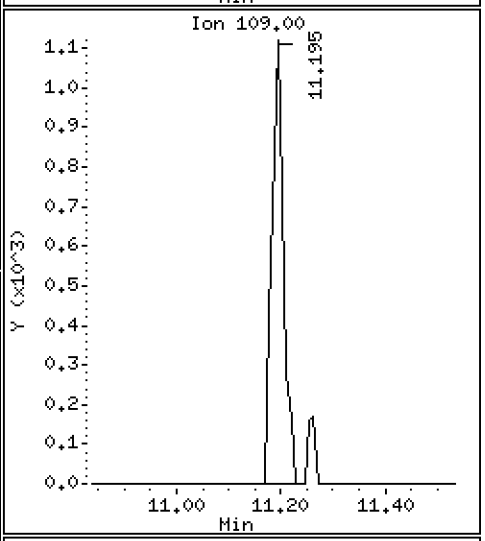
21 2-Nitrophenol

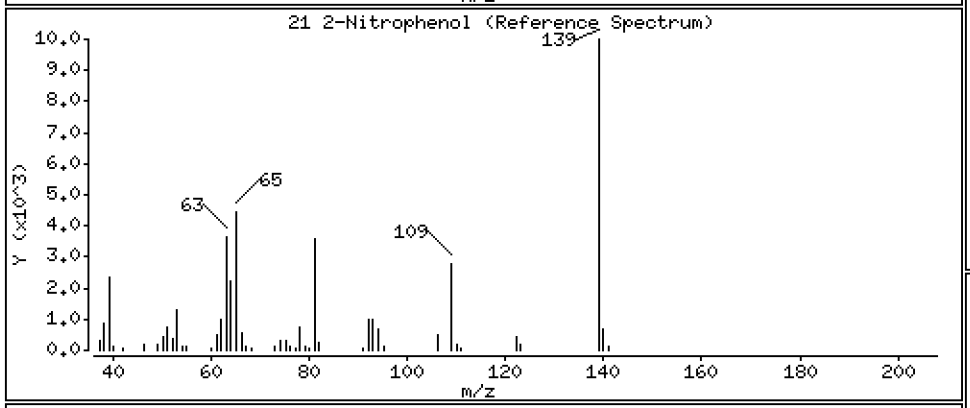
Concentration: 0.4116 ug/mL

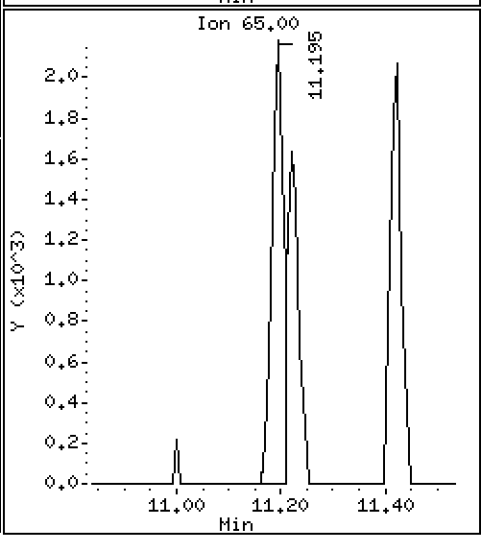


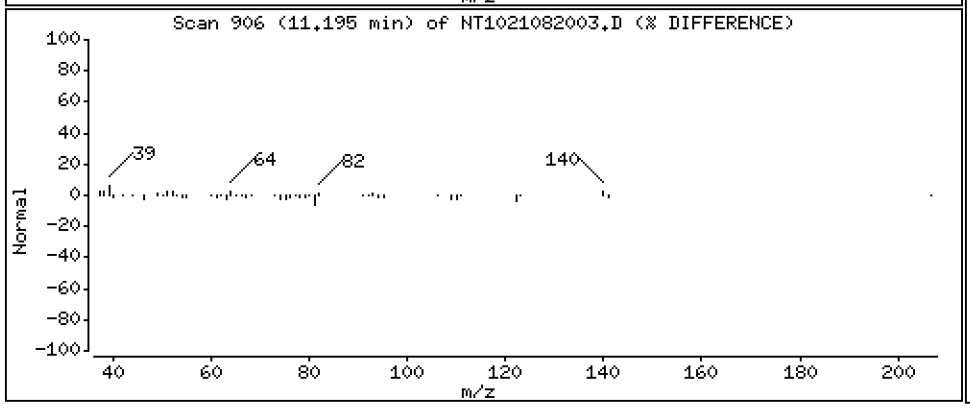












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

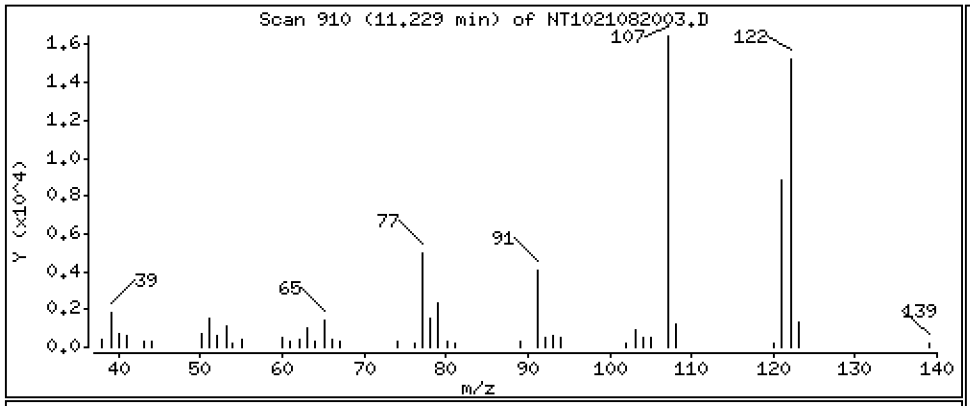
Operator: VTS

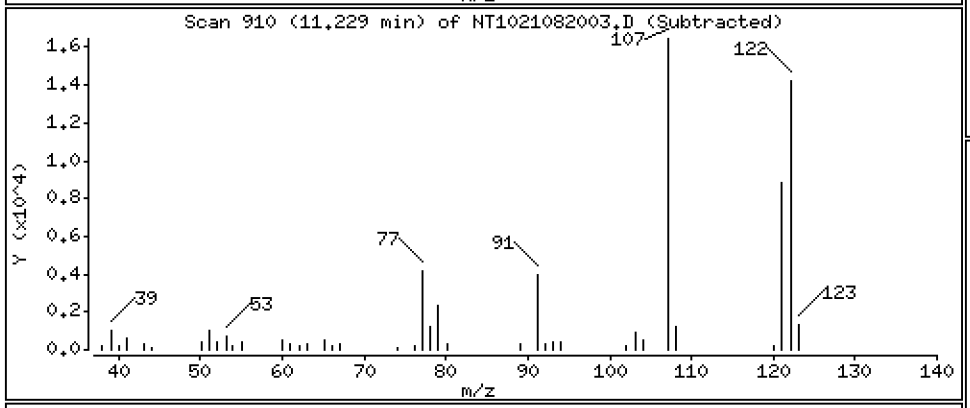
Column phase: ZB-5msi

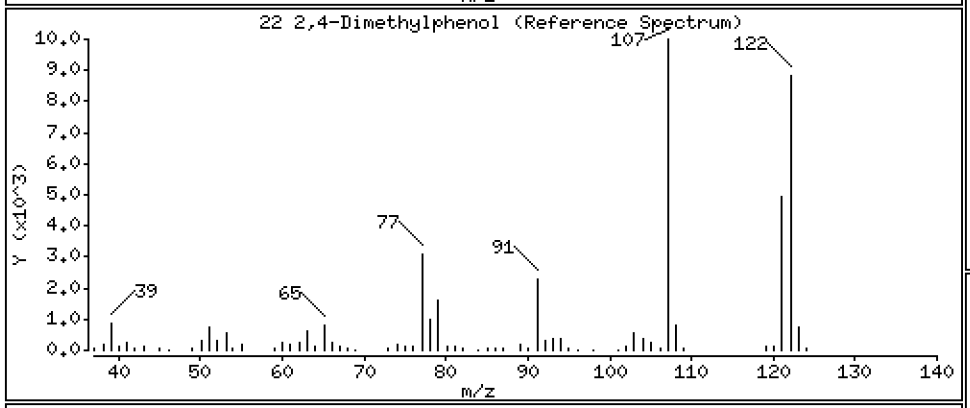
Column diameter: 0.25

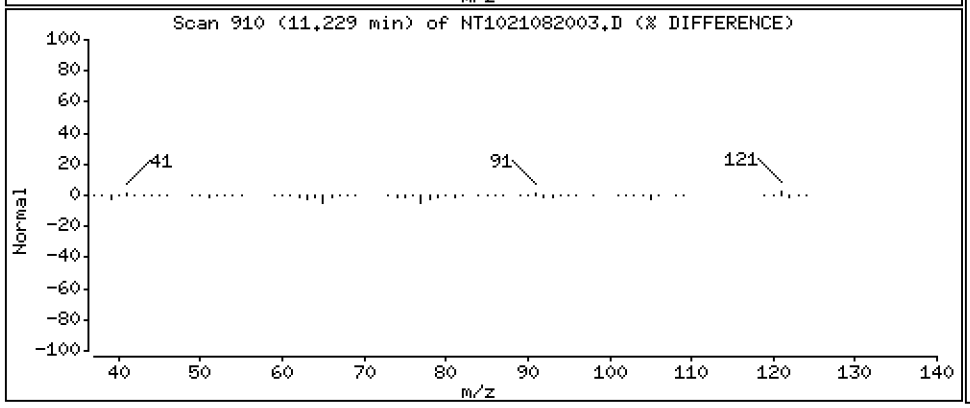
22 2,4-Dimethylphenol

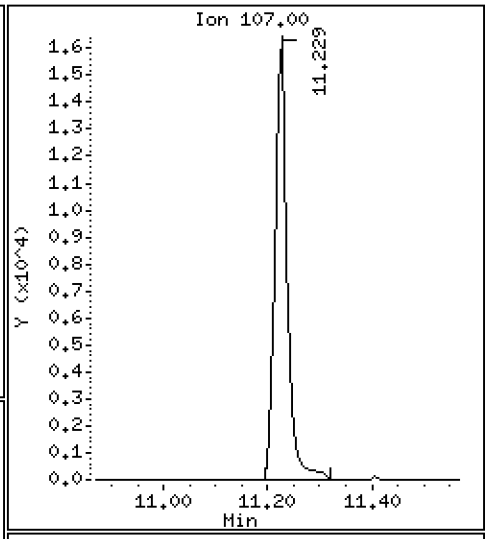
Concentration: 1.026 ug/mL

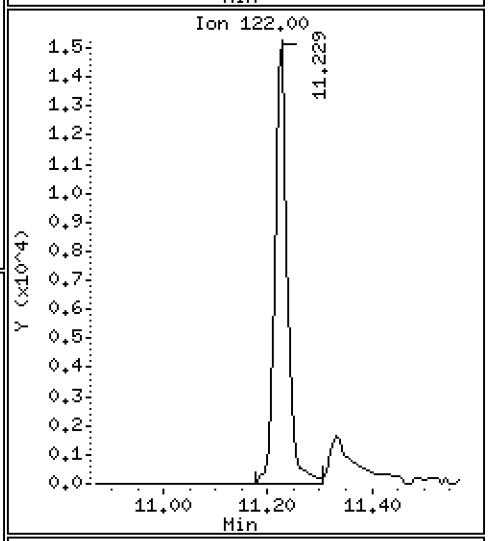


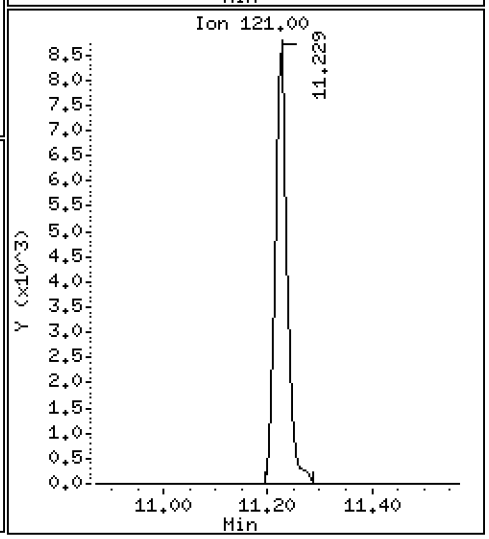












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

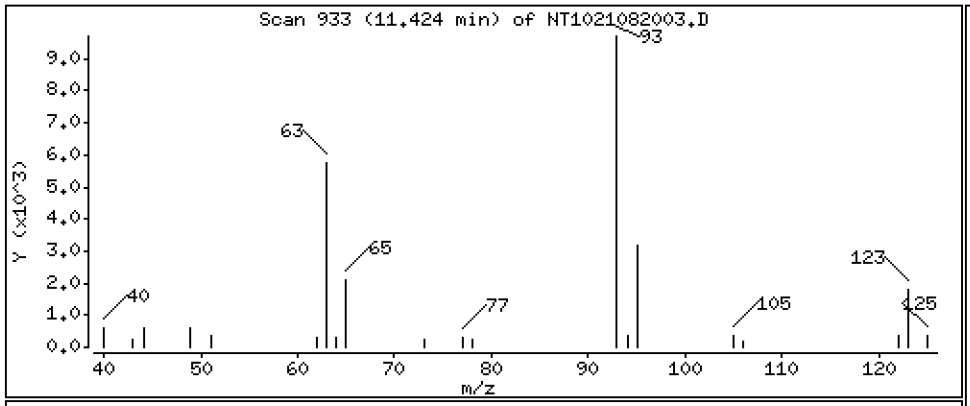
Operator: VTS

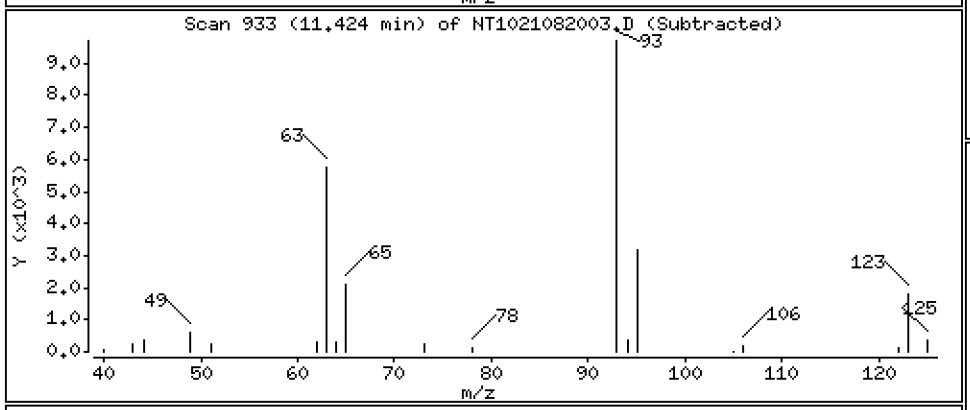
Column phase: ZB-5msi

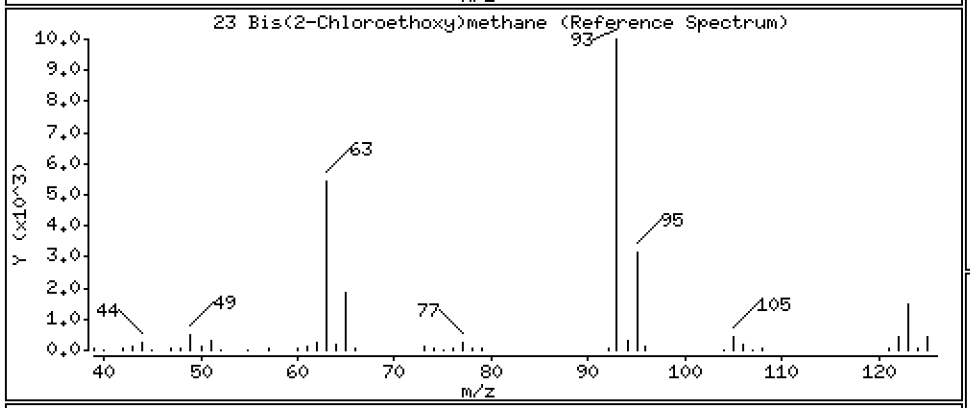
Column diameter: 0.25

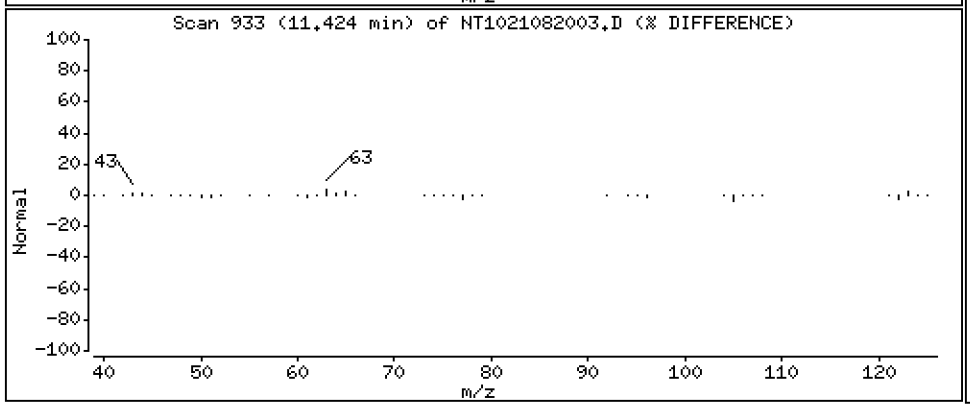
23 Bis(2-Chloroethoxy)methane

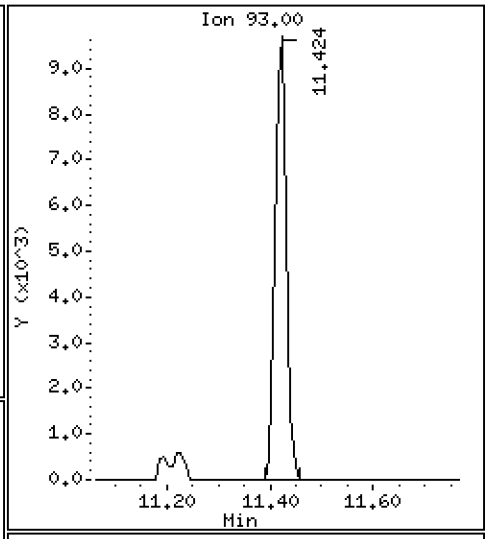
Concentration: 0.5307 ug/mL

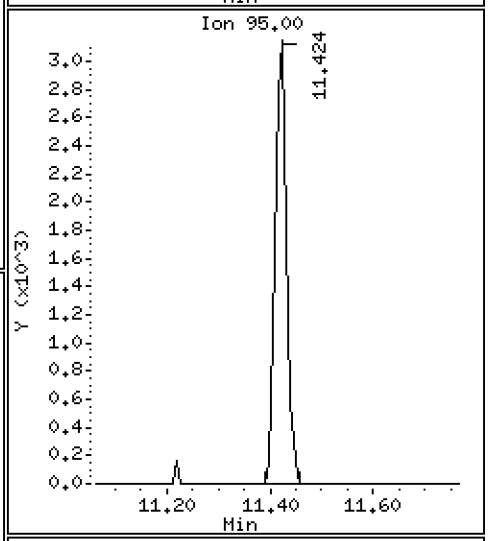


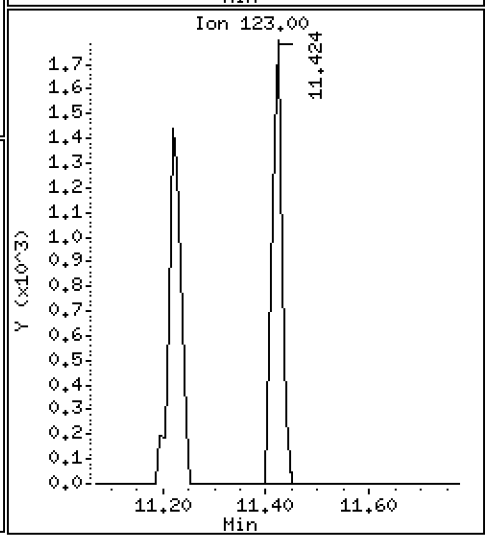












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

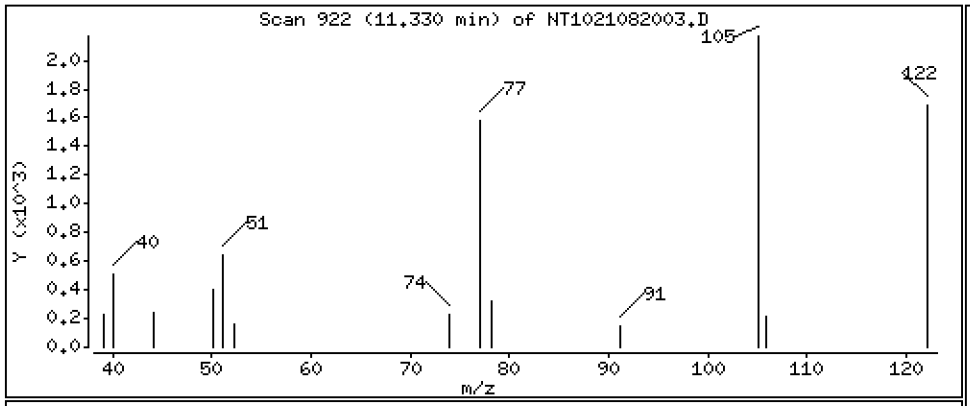
Operator: VTS

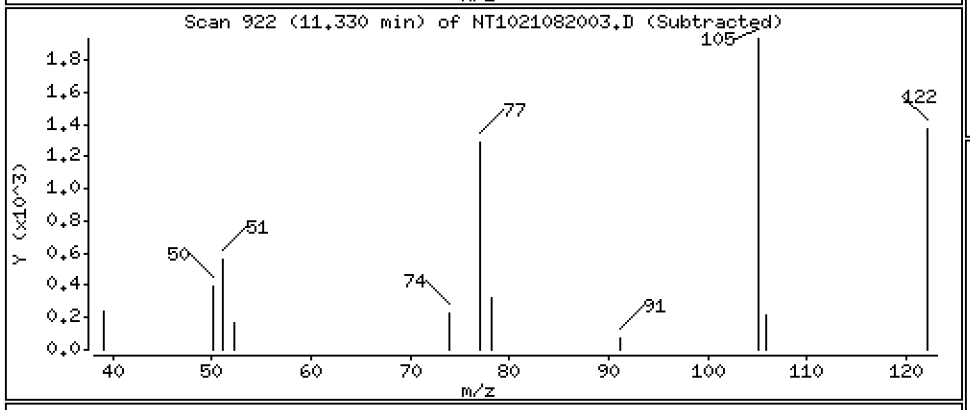
Column phase: ZB-5msi

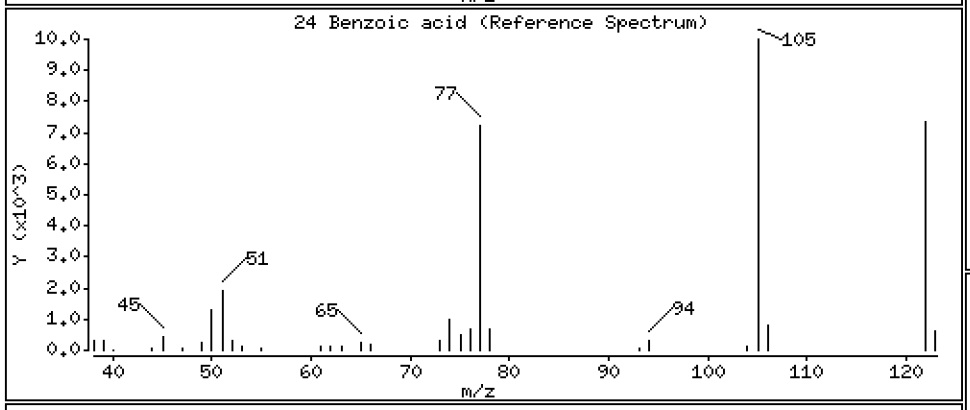
Column diameter: 0.25

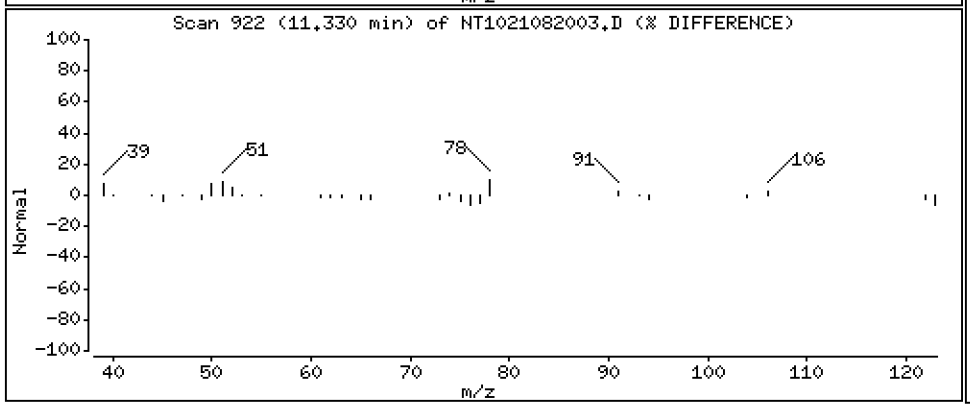
24 Benzoic acid

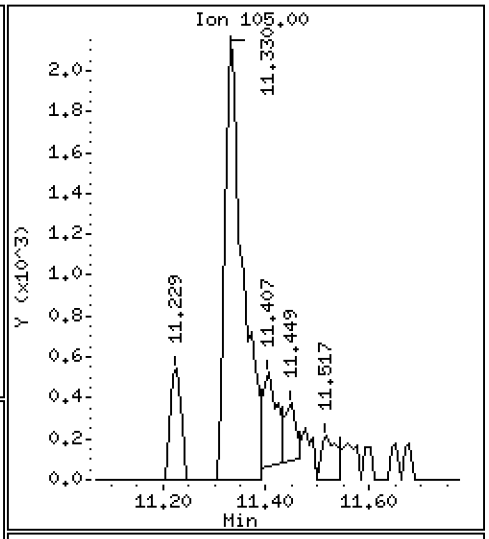
Concentration: 0.3800 ug/mL

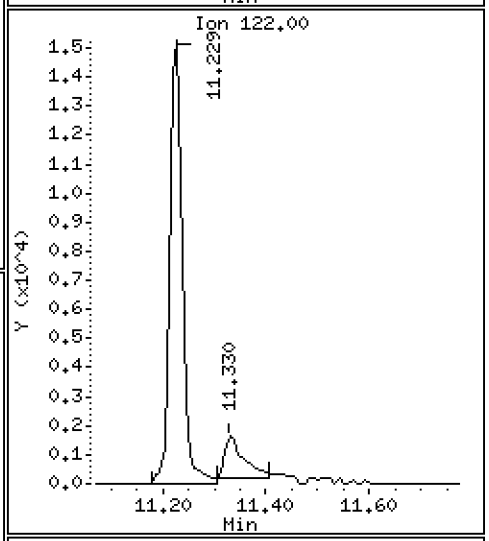


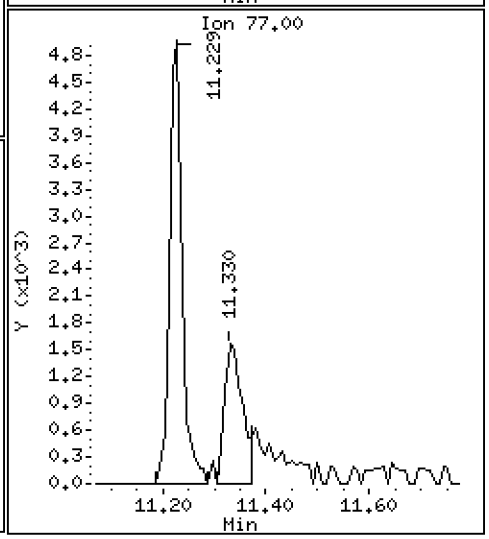












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

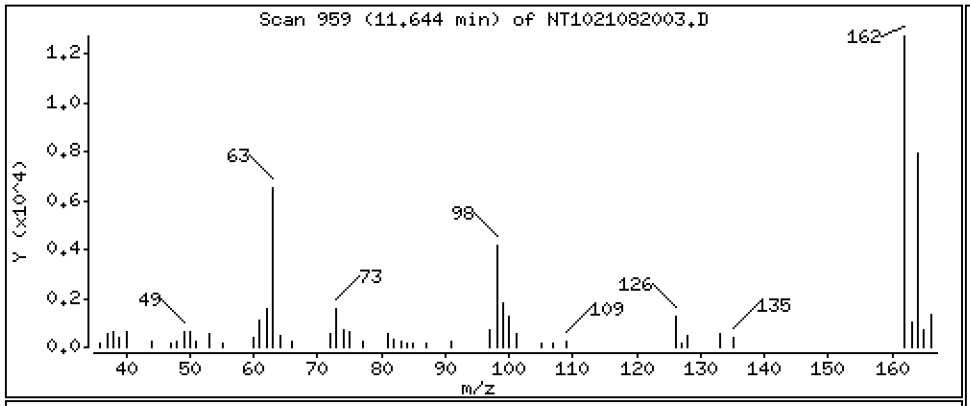
Operator: VTS

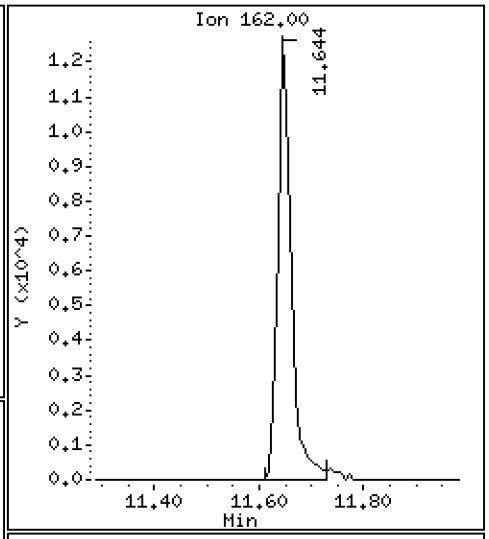
Column phase: ZB-5msi

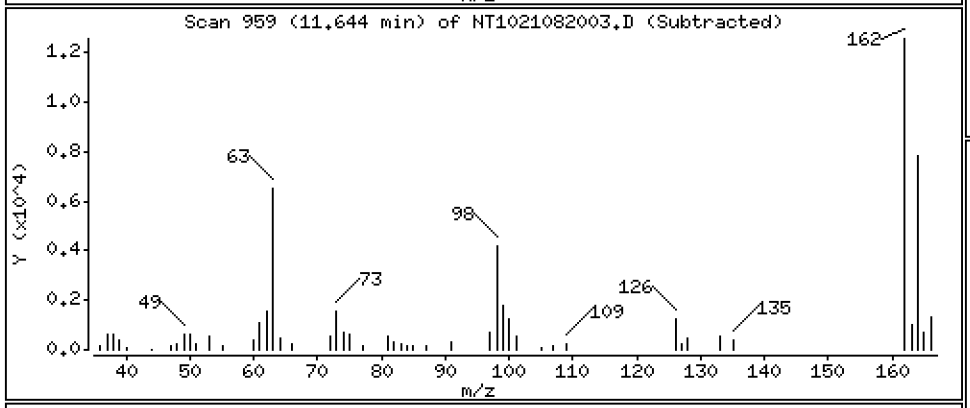
Column diameter: 0.25

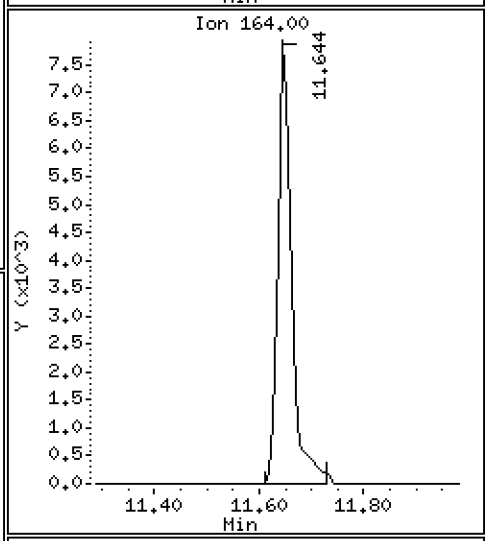
25 2,4-Dichlorophenol

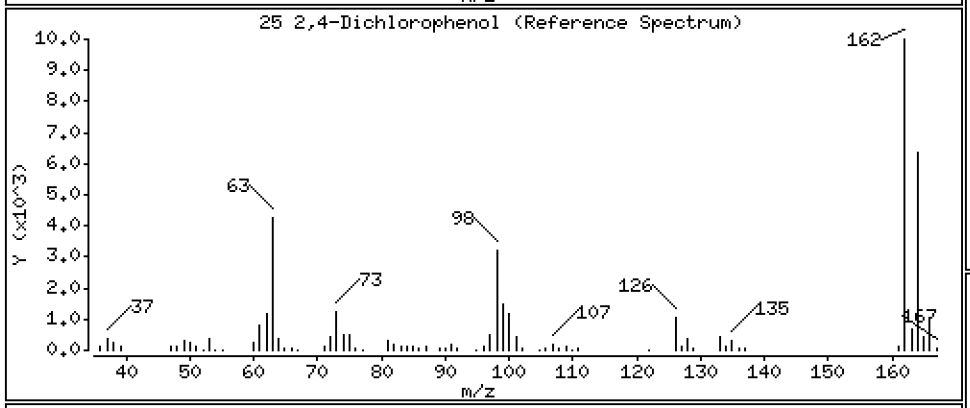
Concentration: 0.9189 ug/mL

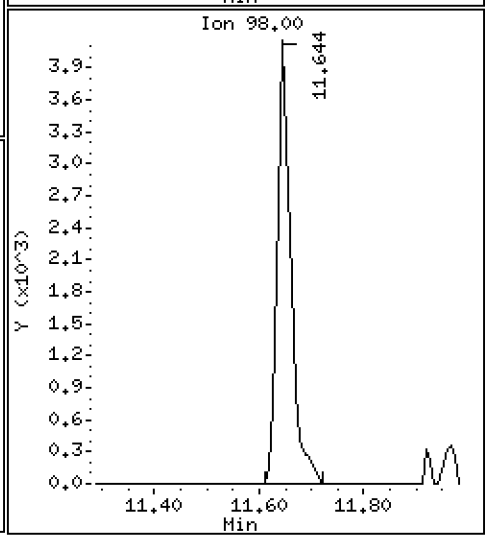


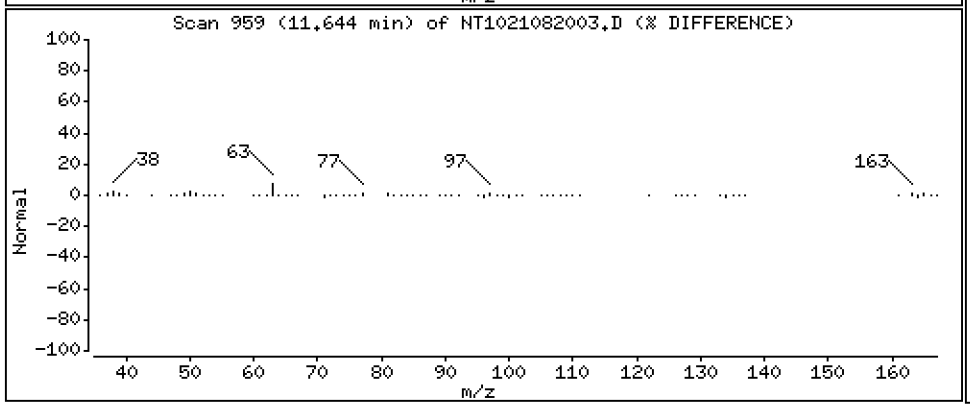












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

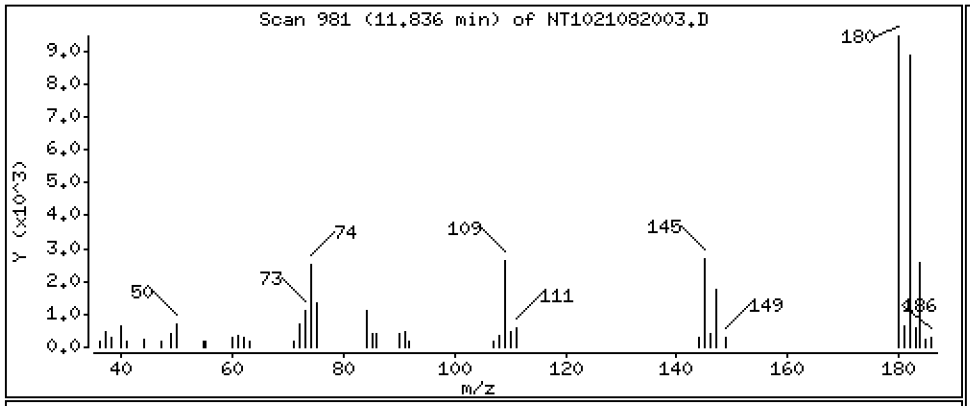
Operator: VTS

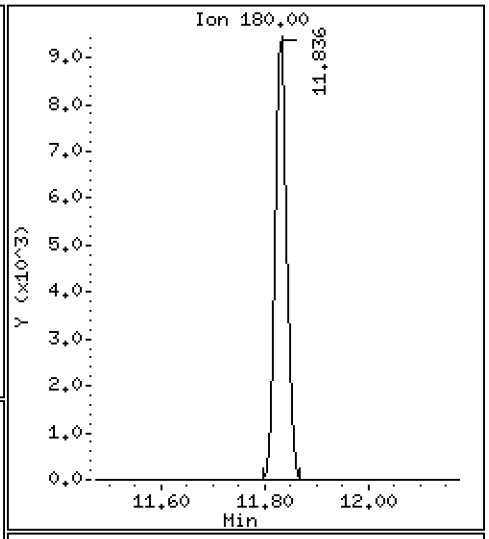
Column phase: ZB-5msi

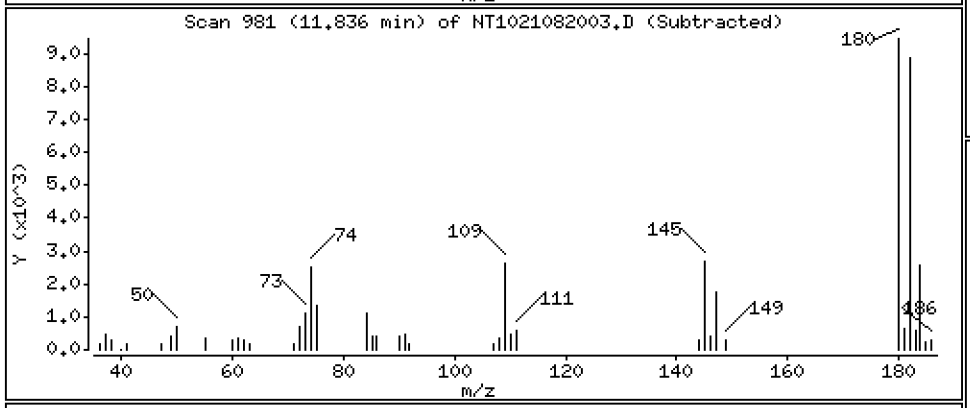
Column diameter: 0.25

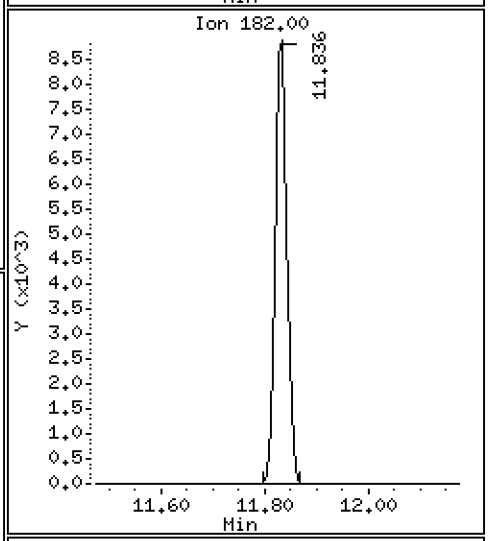
26 1,2,4-Trichlorobenzene

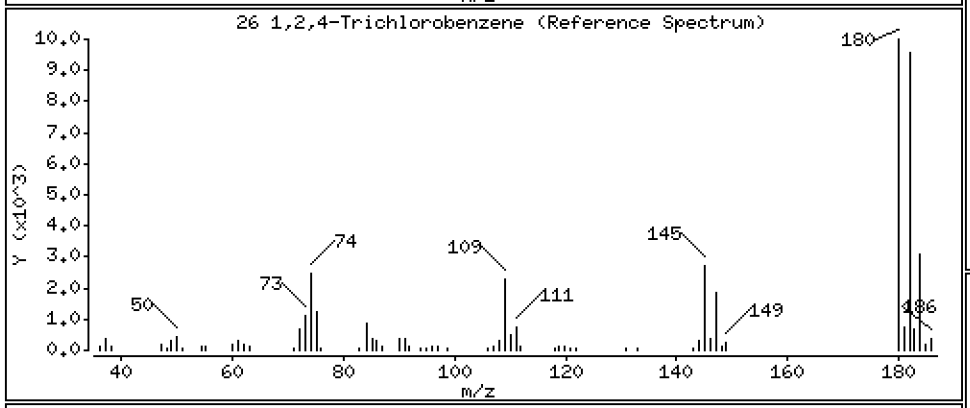
Concentration: 0.5405 ug/mL

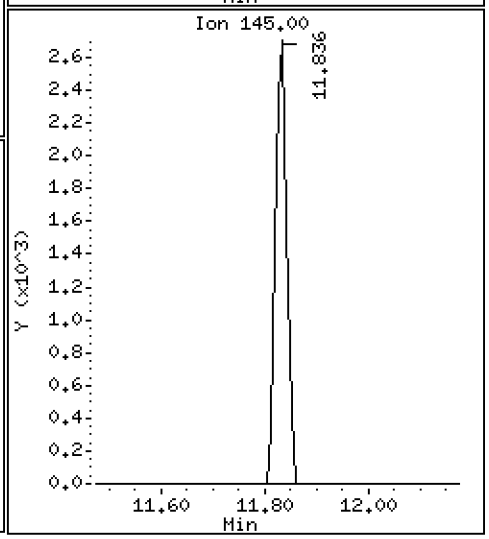


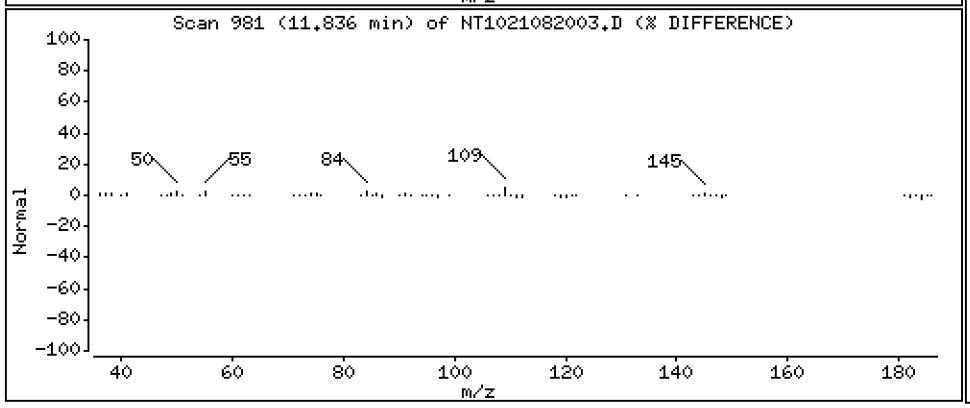












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

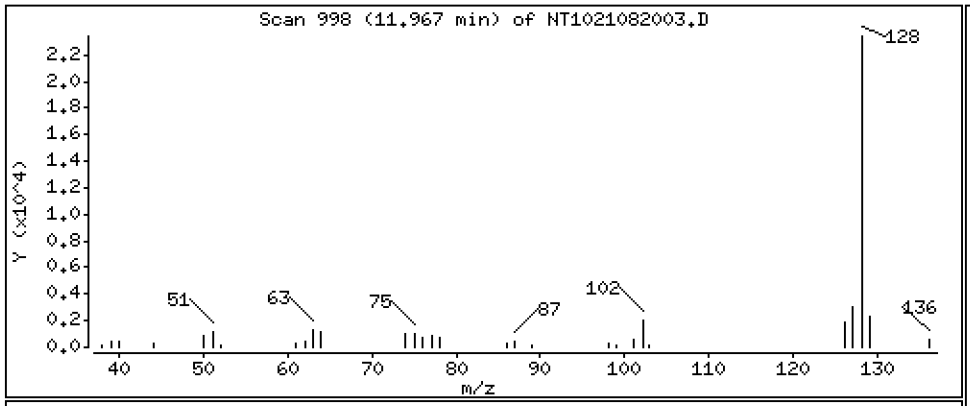
Operator: VTS

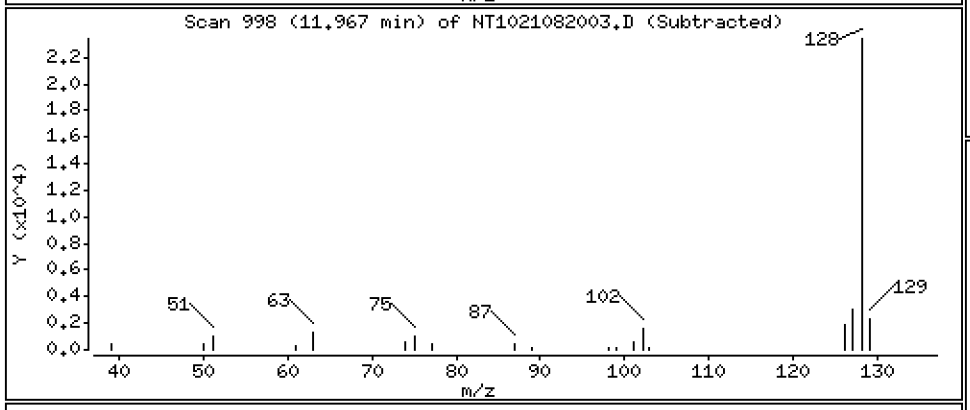
Column phase: ZB-5msi

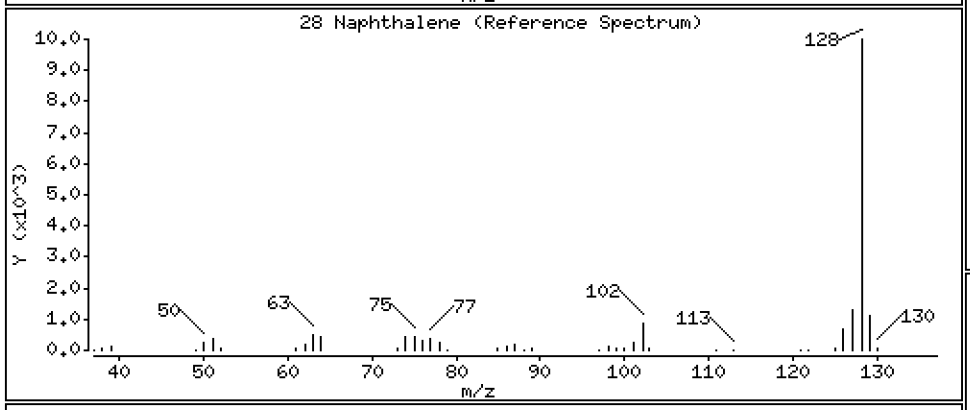
Column diameter: 0.25

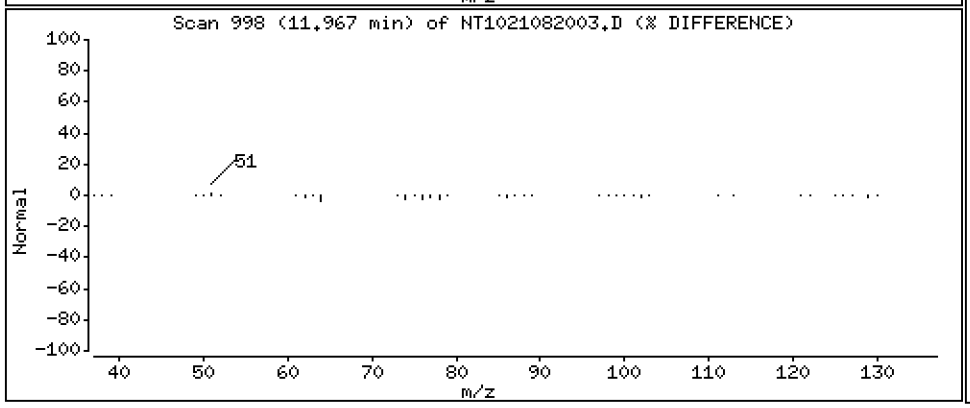
28 Naphthalene

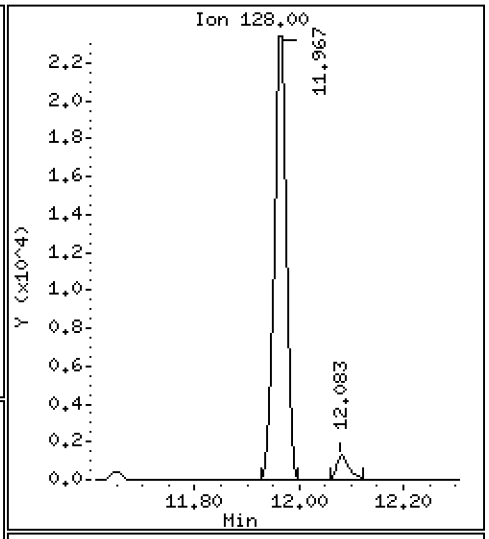
Concentration: 0.4768 ug/mL

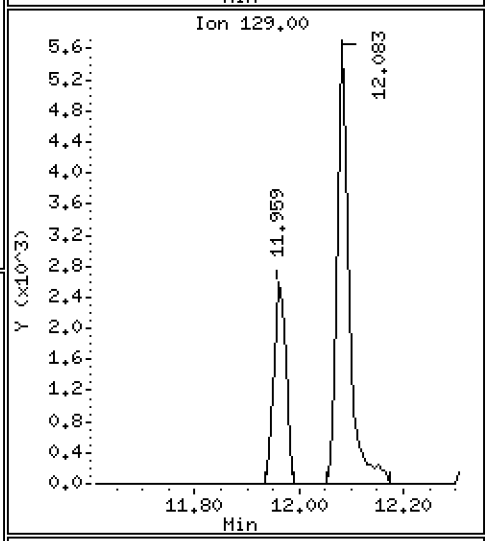


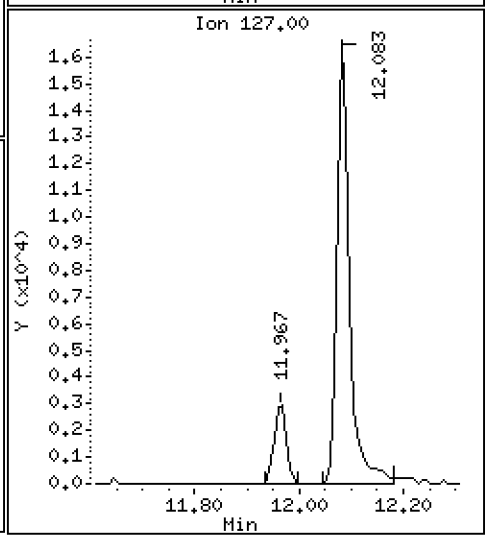












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

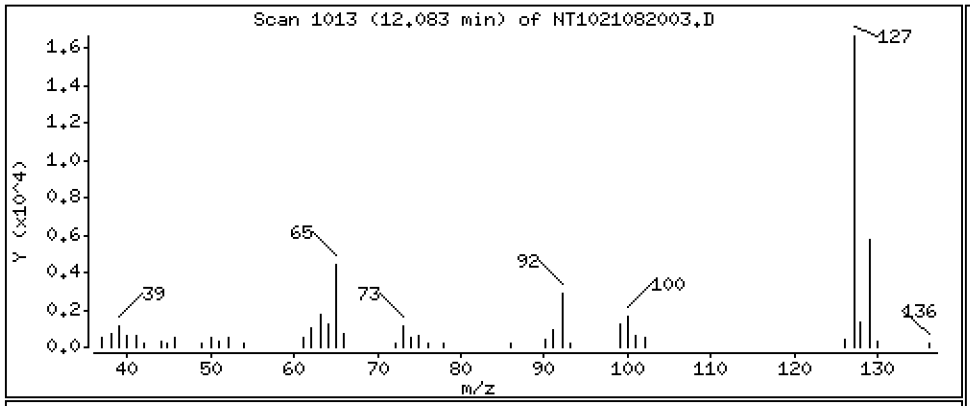
Operator: VTS

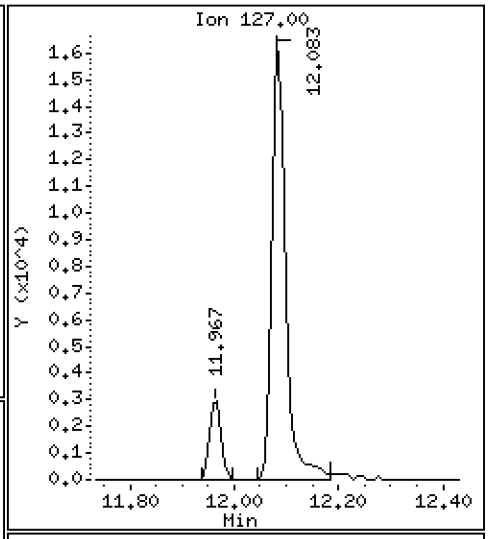
Column phase: ZB-5msi

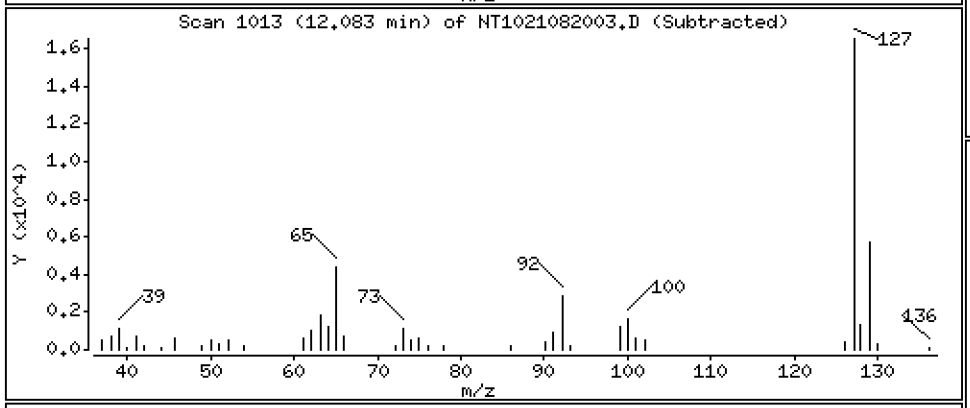
Column diameter: 0.25

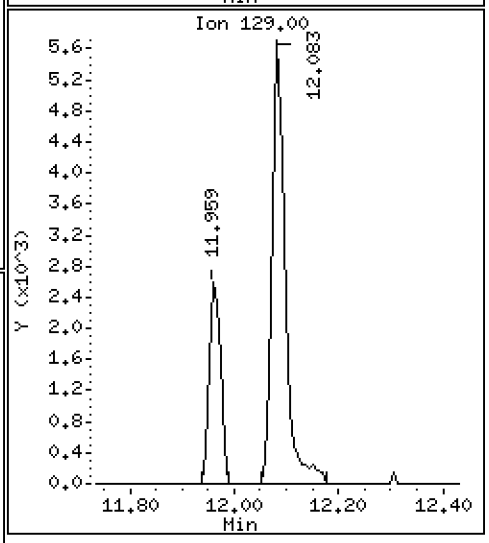
29 4-Chloroaniline

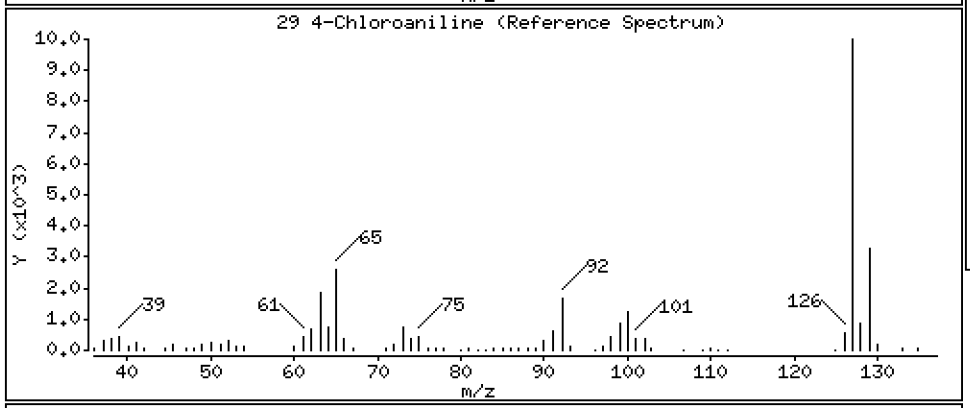
Concentration: 0.7385 ug/mL

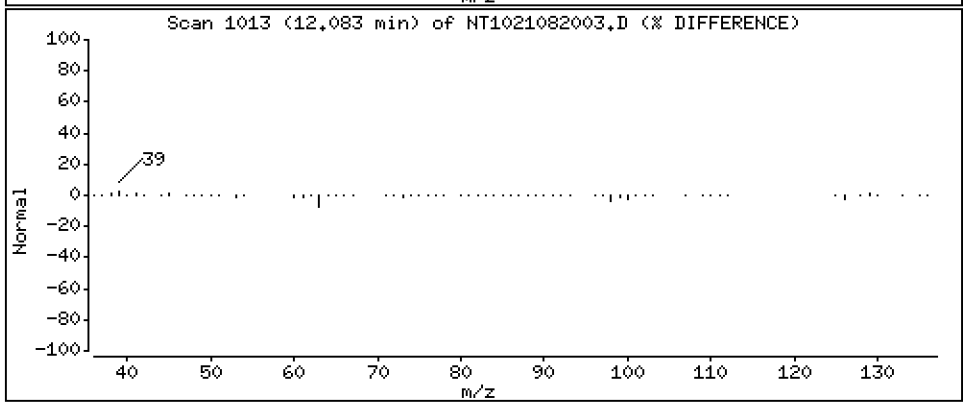












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

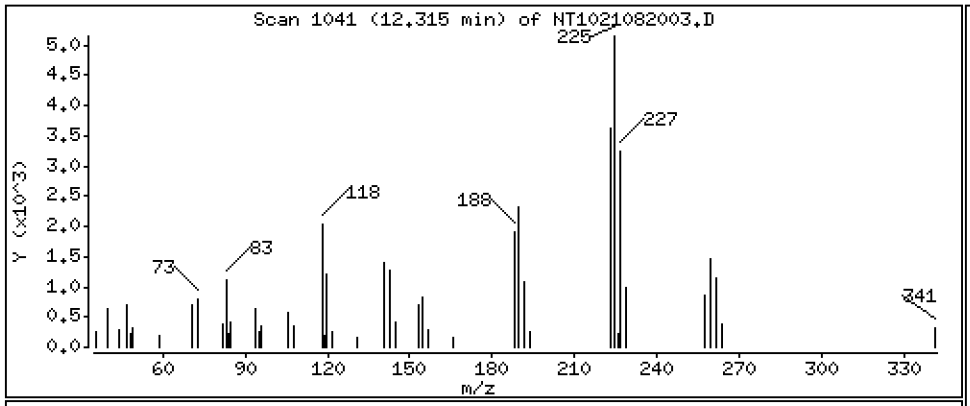
Operator: VTS

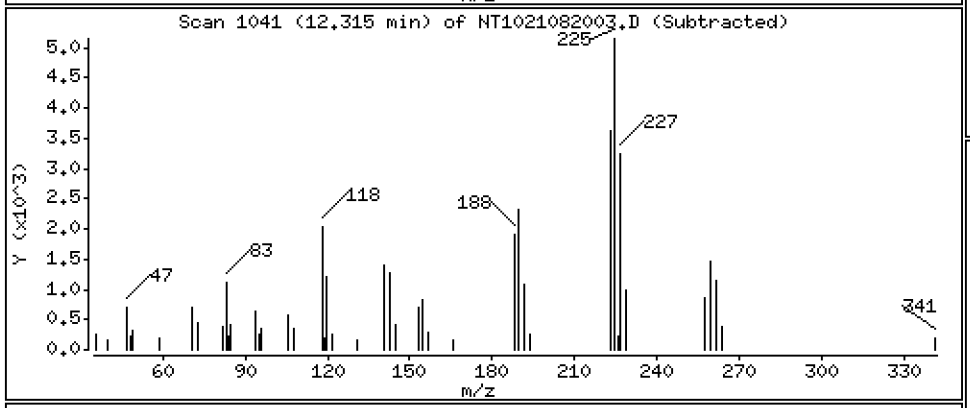
Column phase: ZB-5msi

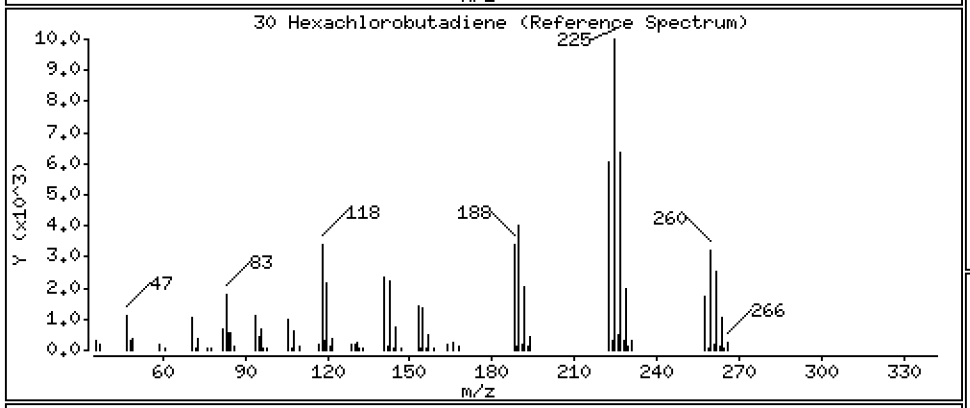
Column diameter: 0.25

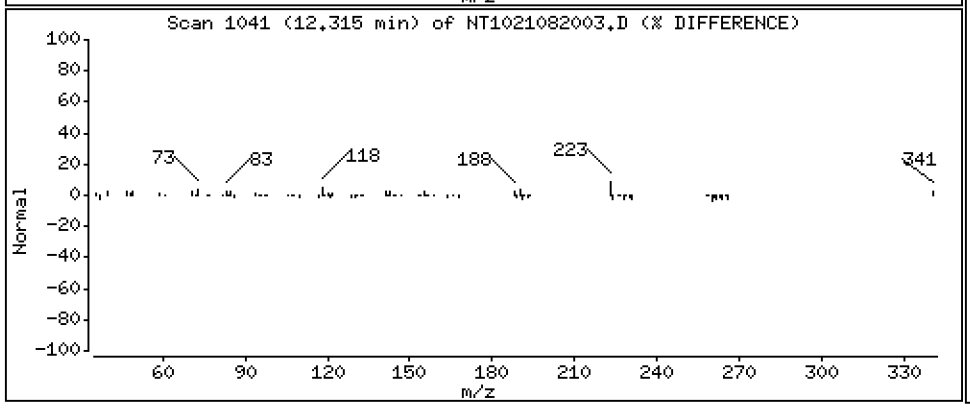
30 Hexachlorobutadiene

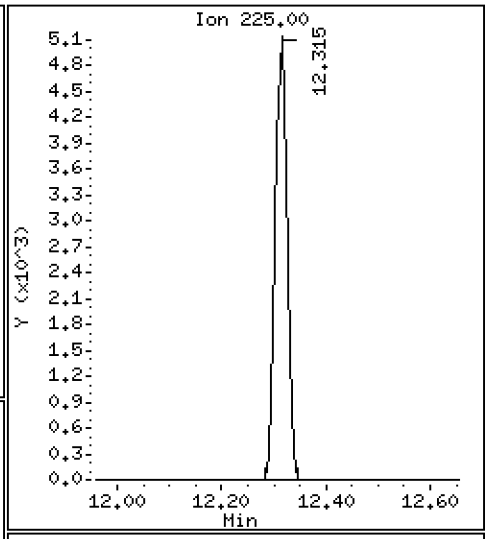
Concentration: 0.5120 ug/mL

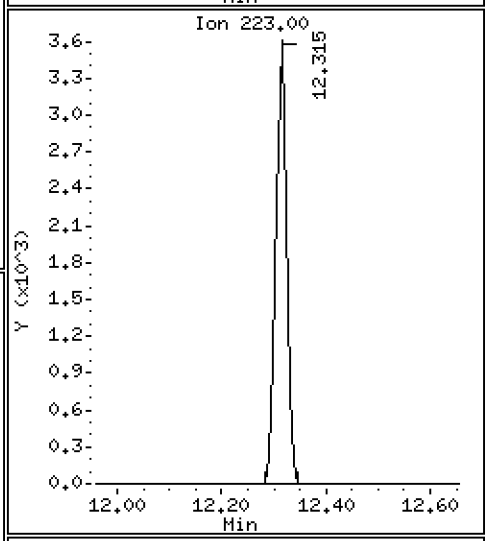


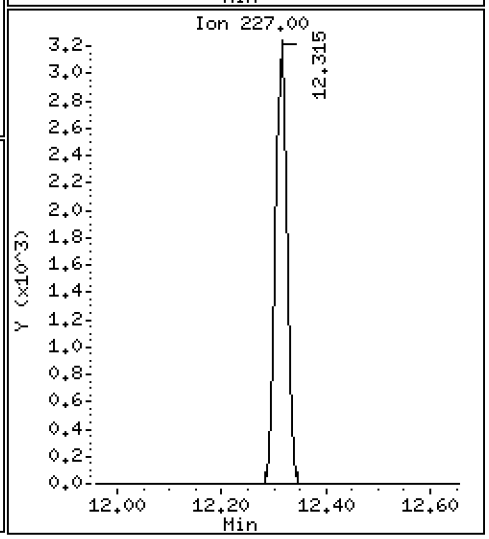












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

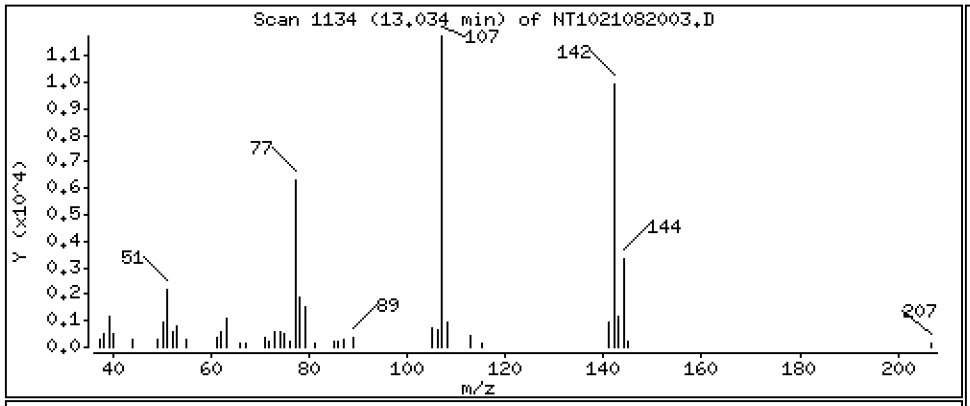
Operator: VTS

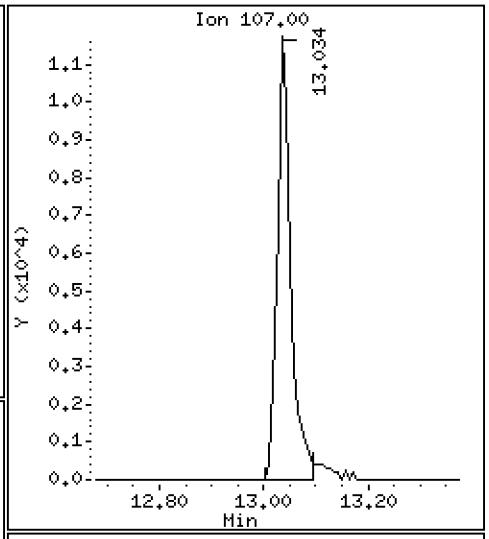
Column phase: ZB-5msi

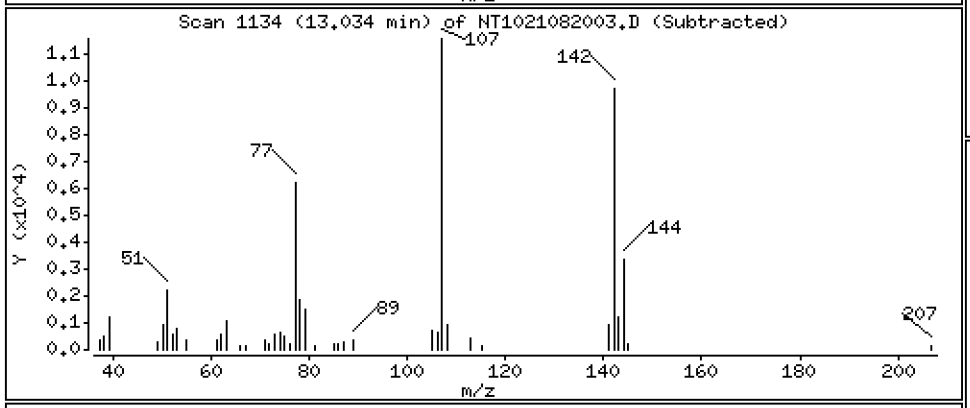
Column diameter: 0.25

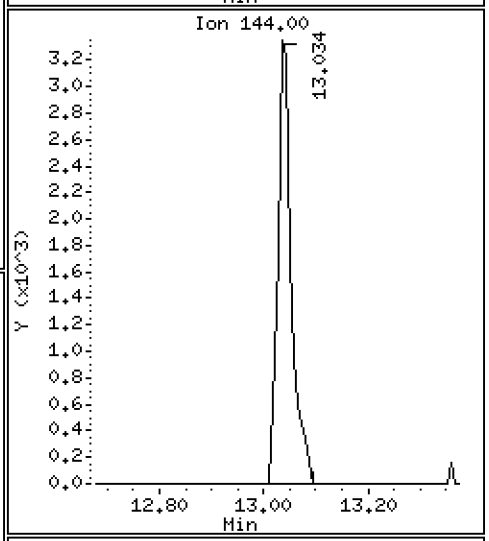
31 4-Chloro-3-methylphenol

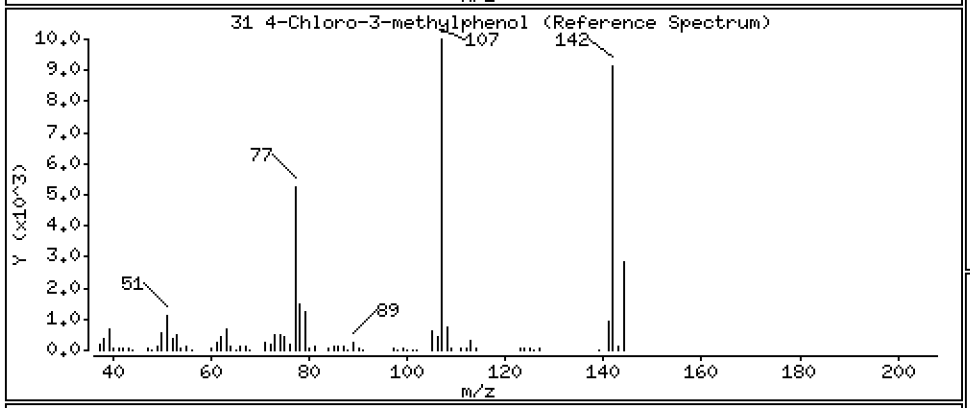
Concentration: 0.7503 ug/mL

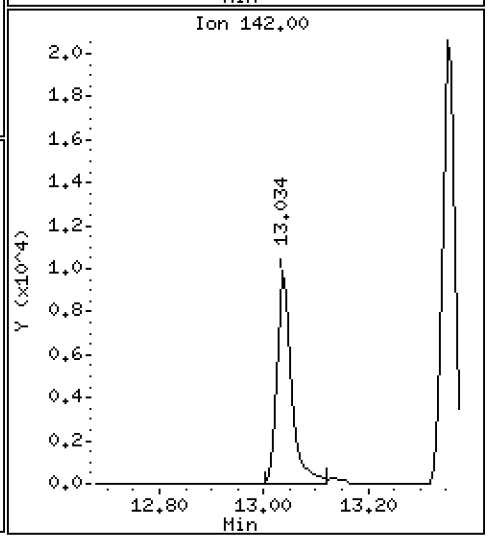


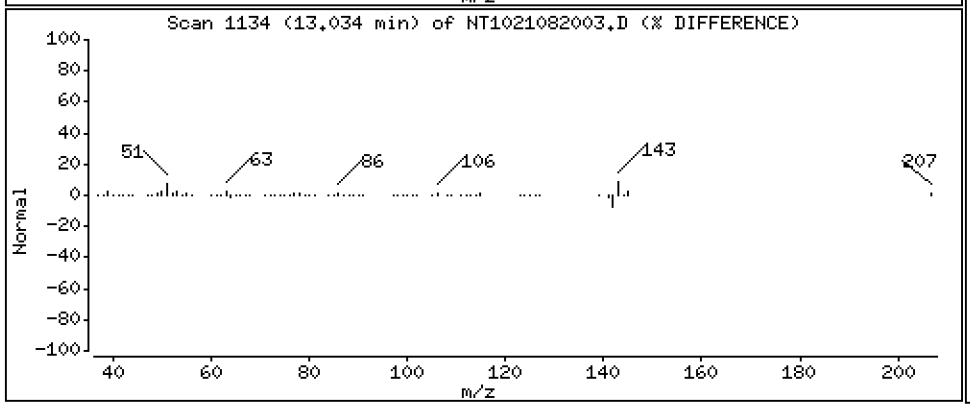












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

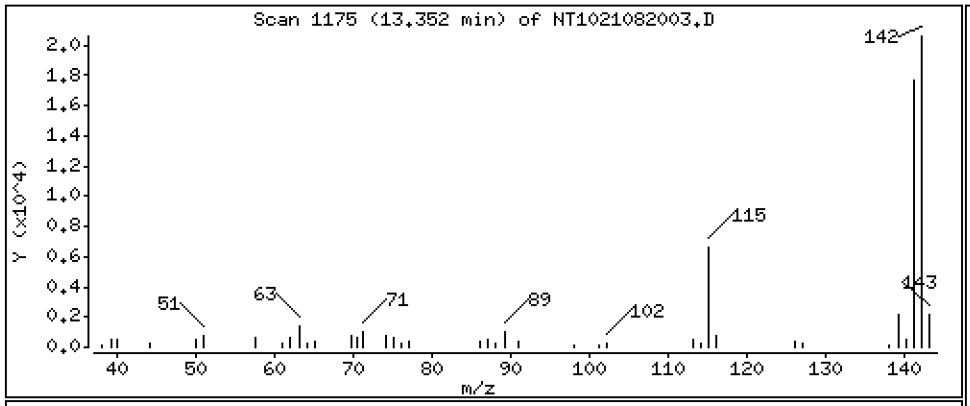
Operator: VTS

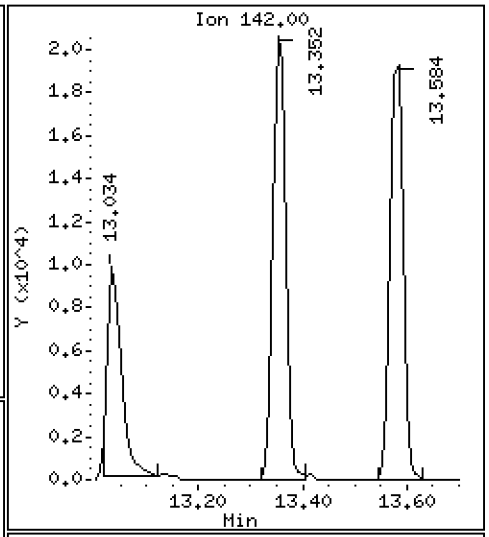
Column phase: ZB-5msi

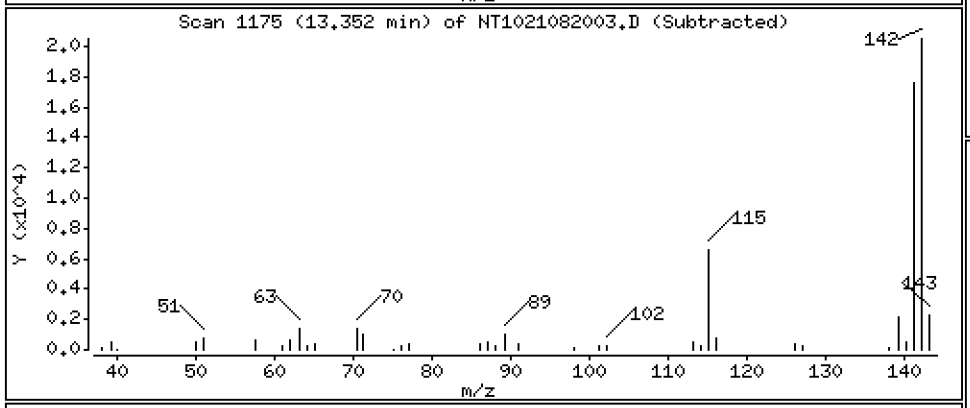
Column diameter: 0.25

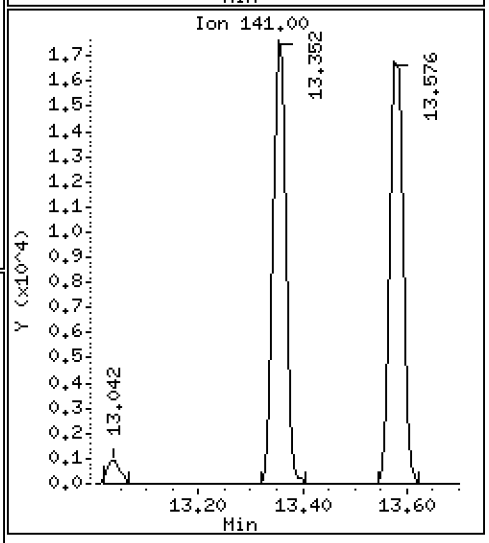
32 2-Methylnaphthalene

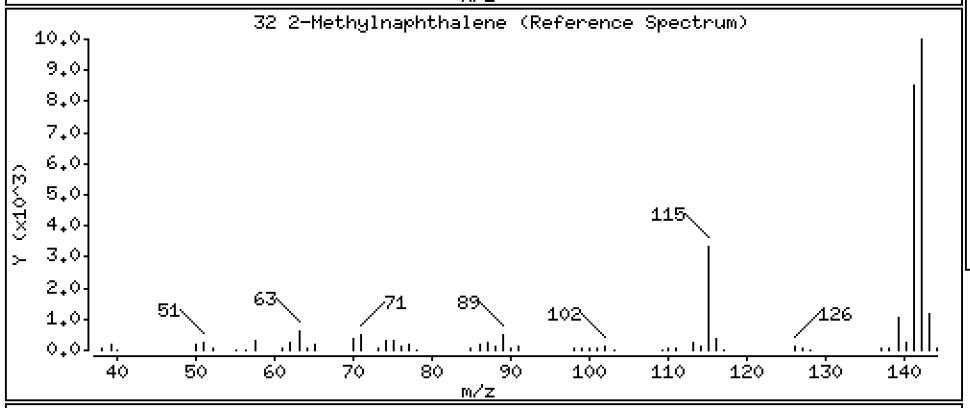
Concentration: 0.4421 ug/mL

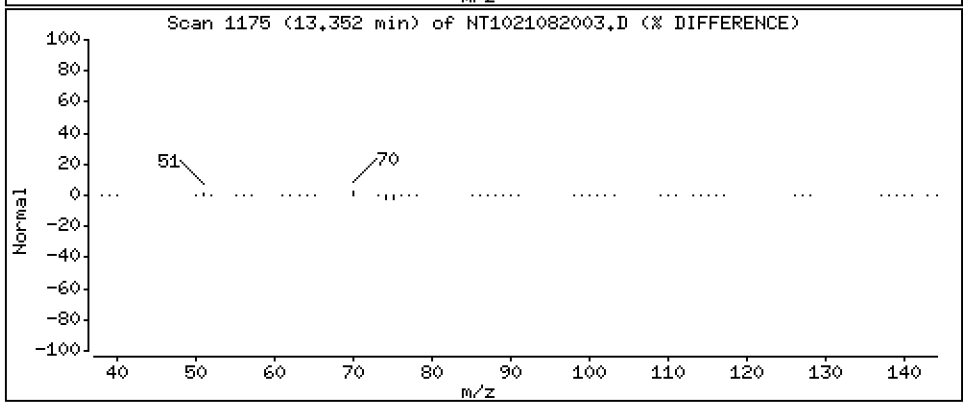












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

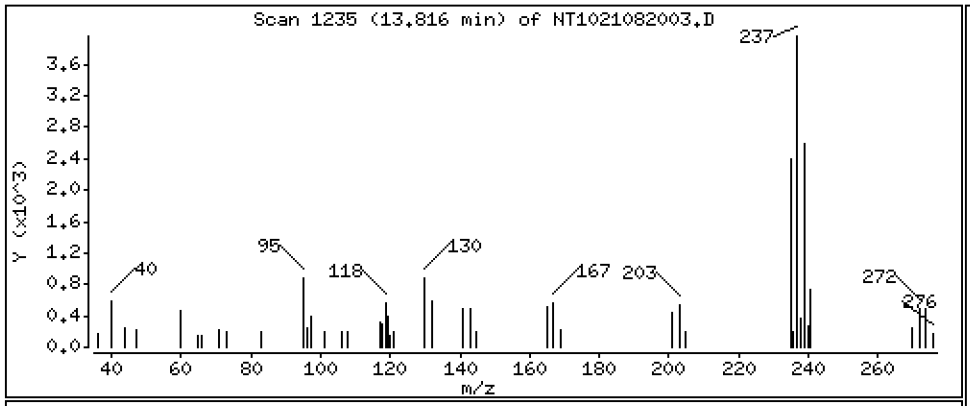
Operator: VTS

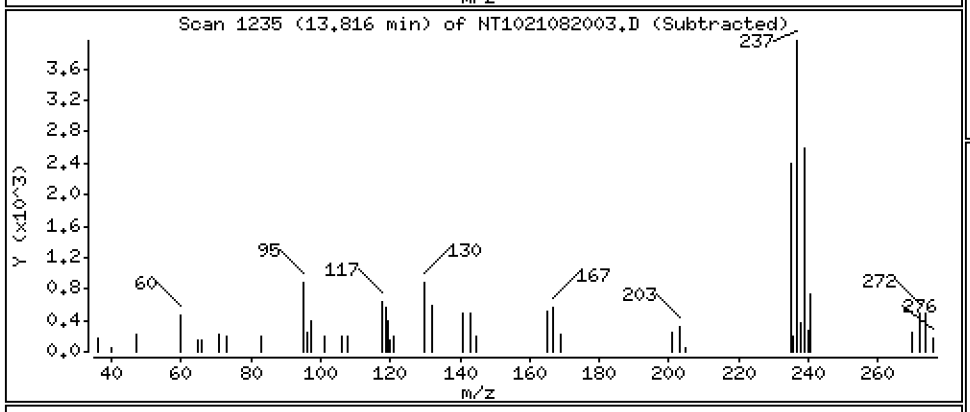
Column phase: ZB-5msi

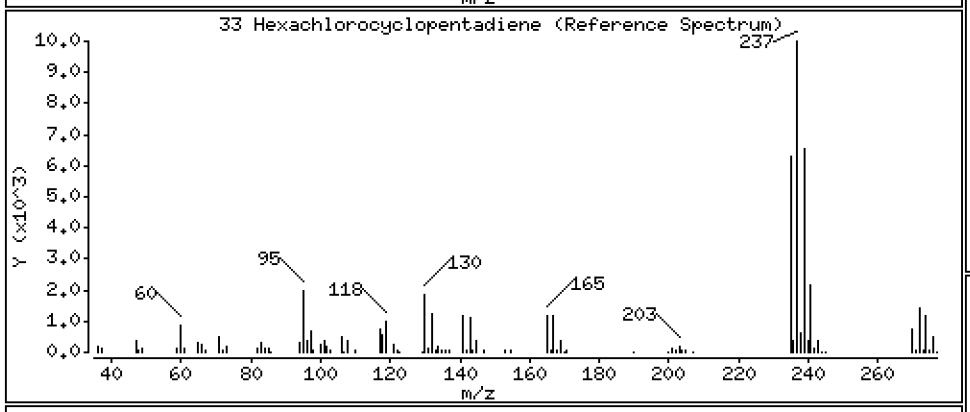
Column diameter: 0.25

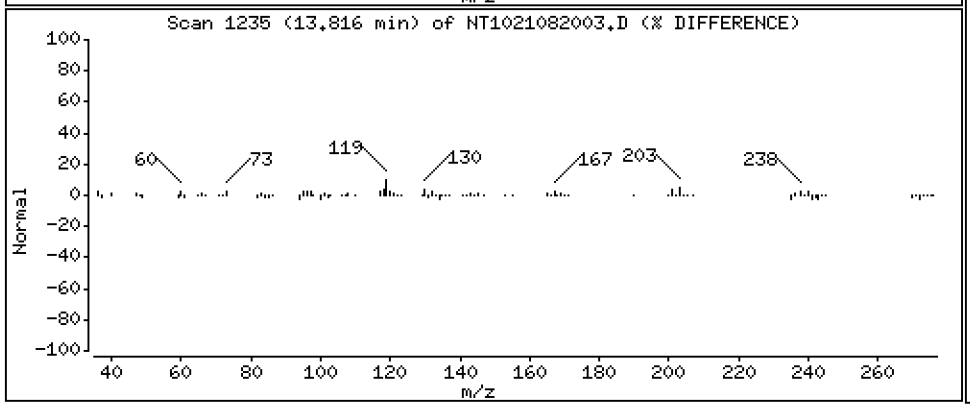
33 Hexachlorocyclopentadiene

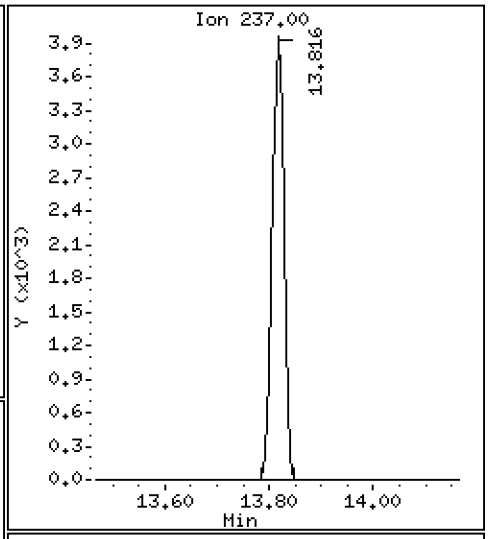
Concentration: 0.4427 ug/mL

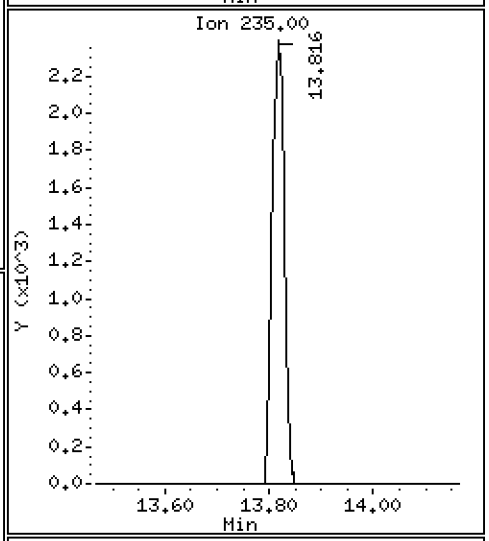


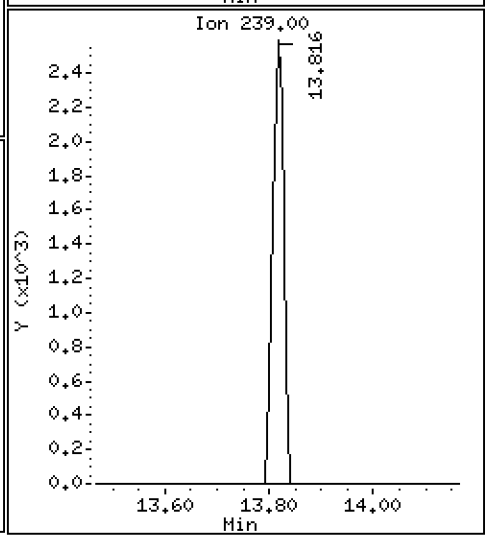












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

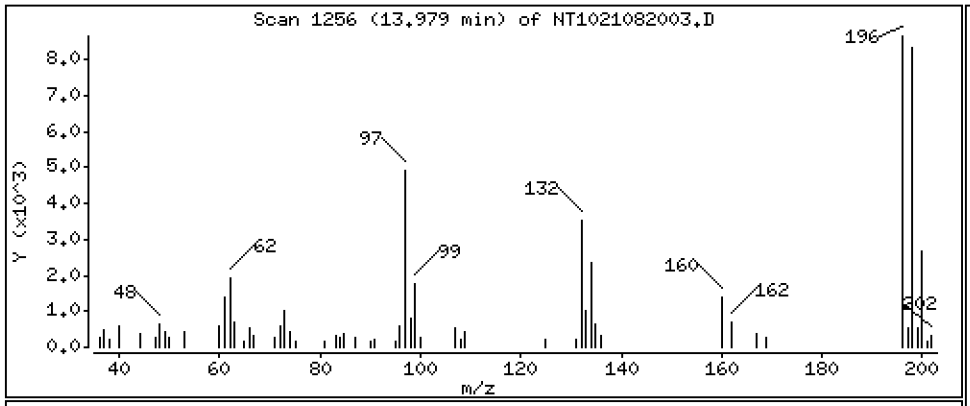
Operator: VTS

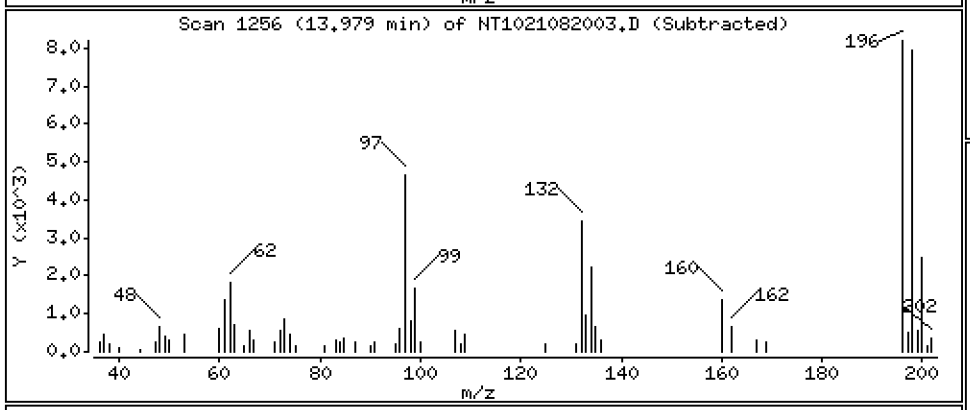
Column phase: ZB-5msi

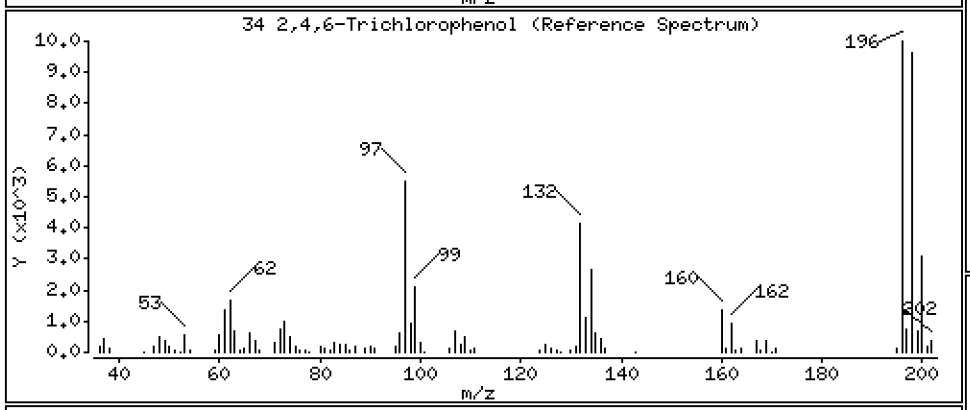
Column diameter: 0.25

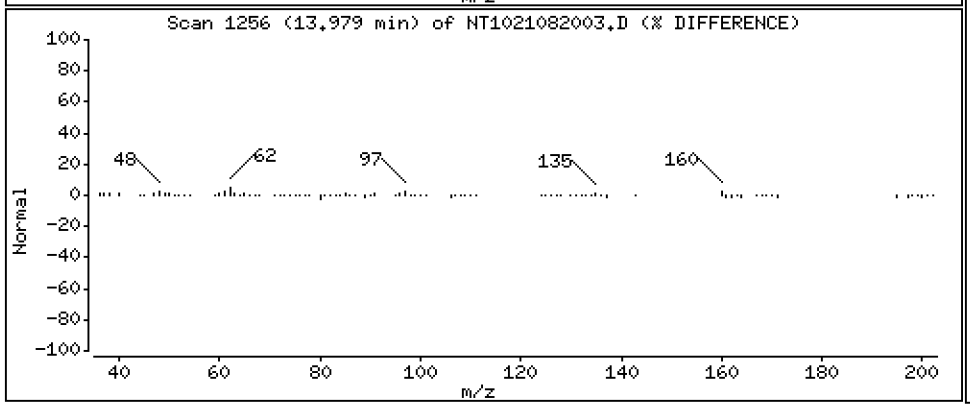
34 2,4,6-Trichlorophenol

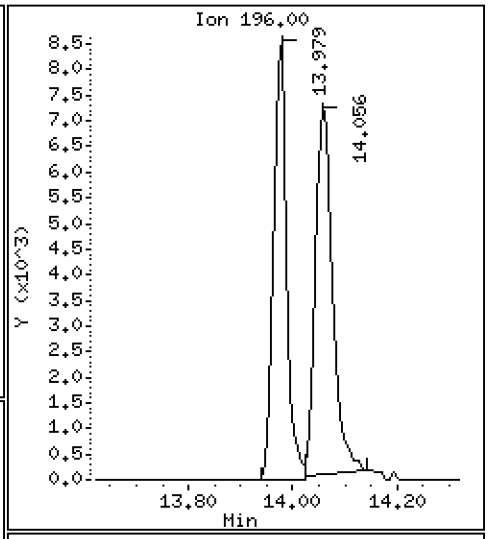
Concentration: 0.7719 ug/mL

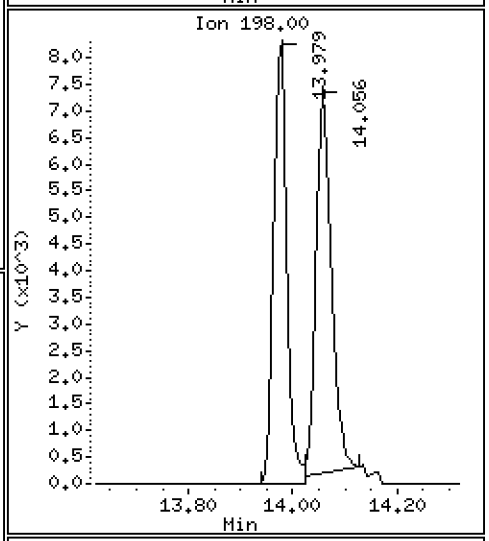


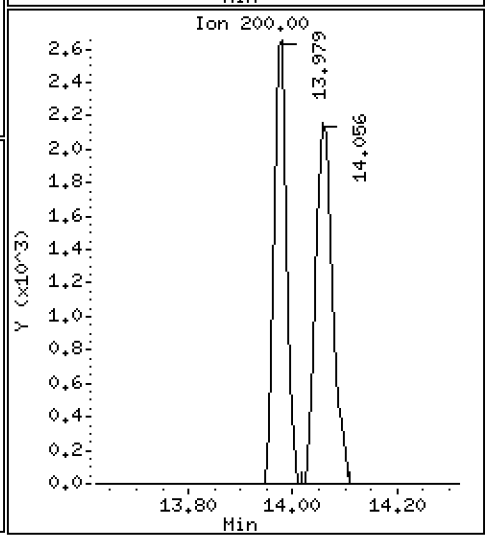












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

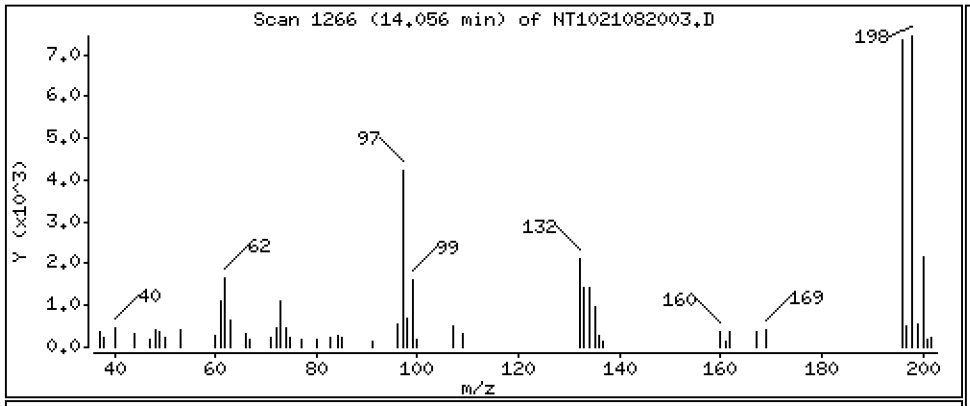
Operator: VTS

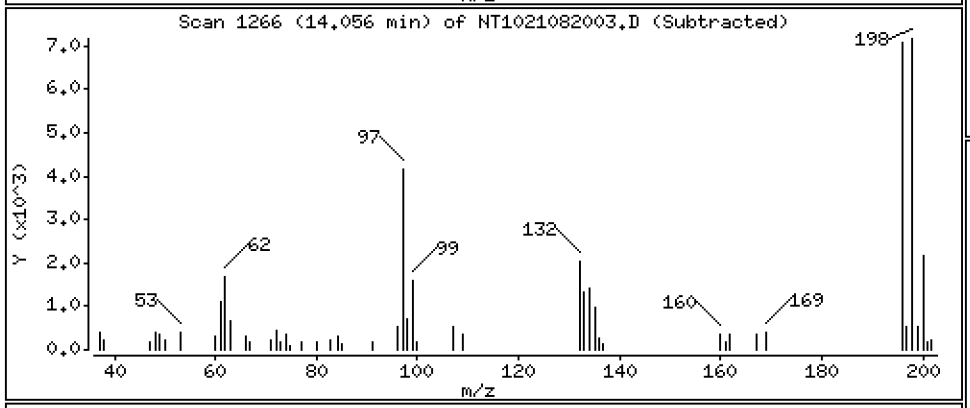
Column phase: ZB-5msi

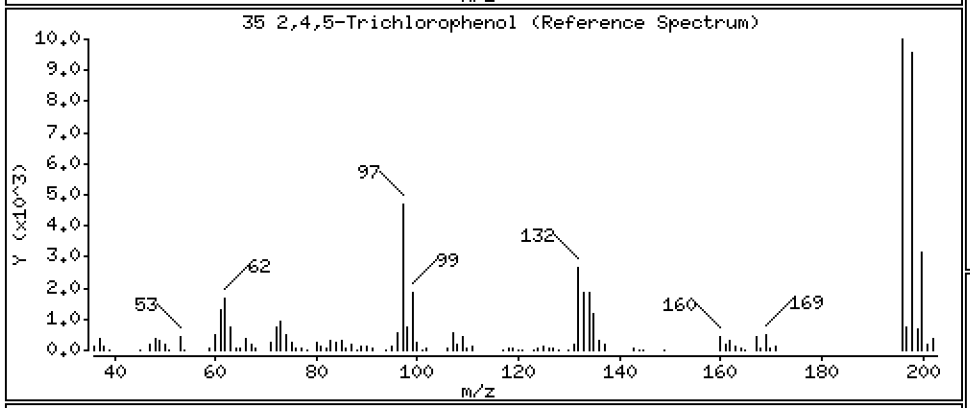
Column diameter: 0.25

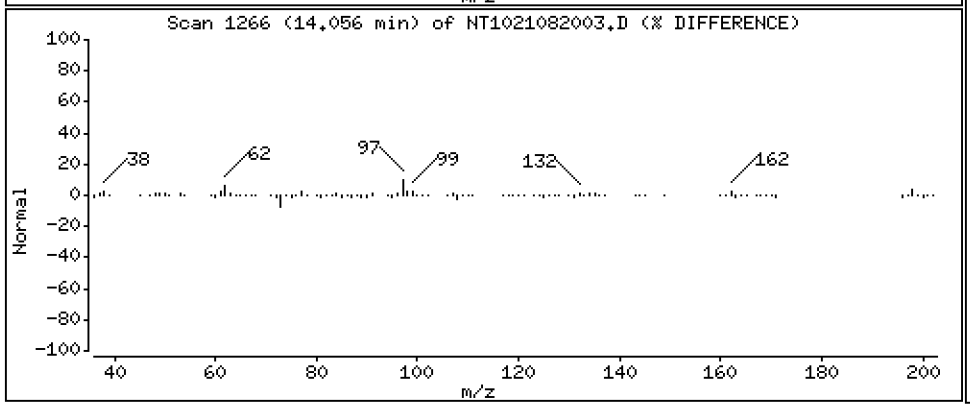
35 2,4,5-Trichlorophenol

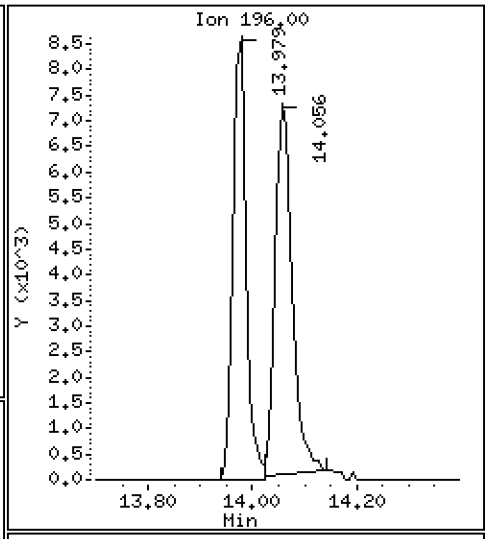
Concentration: 0.8133 ug/mL

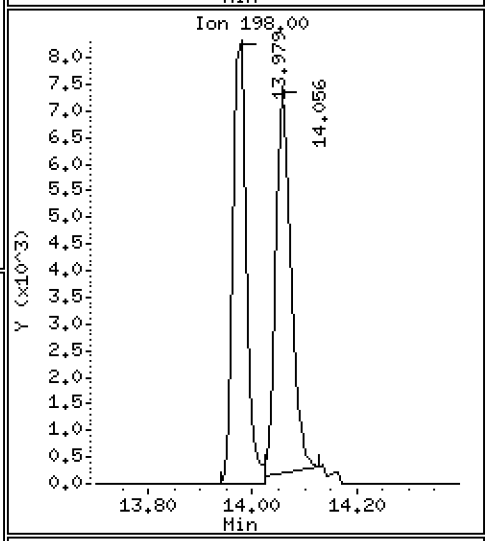


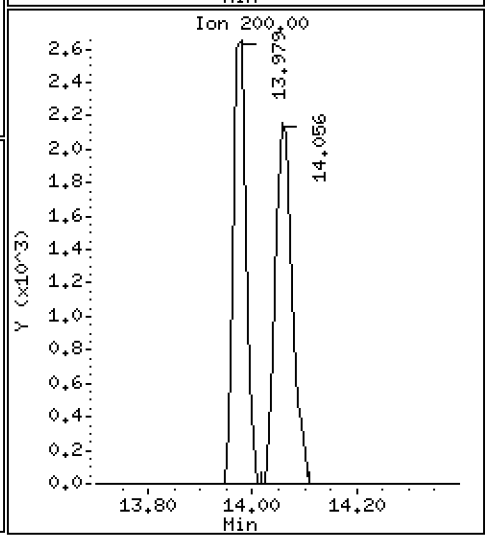












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

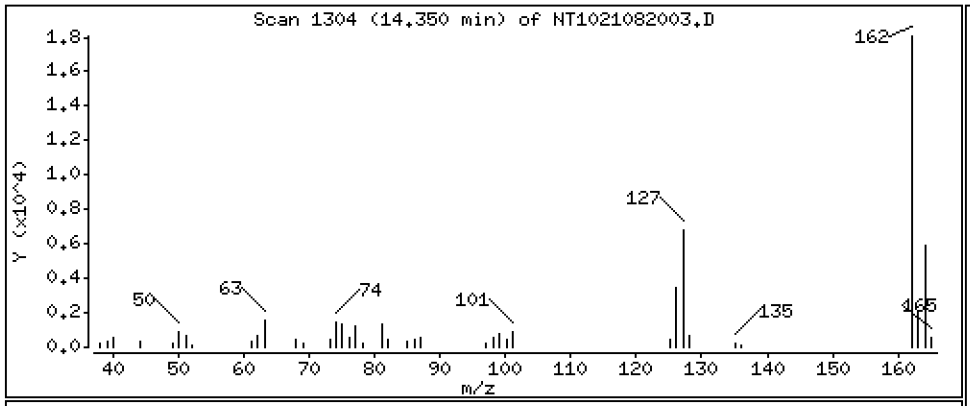
Operator: VTS

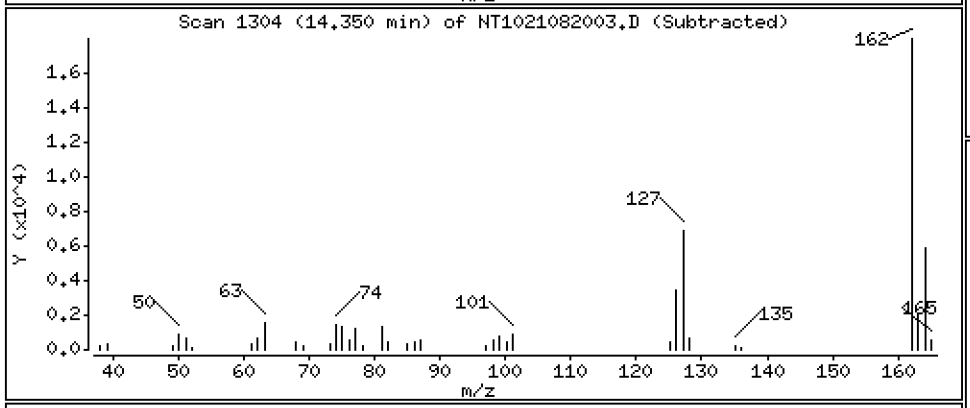
Column phase: ZB-5msi

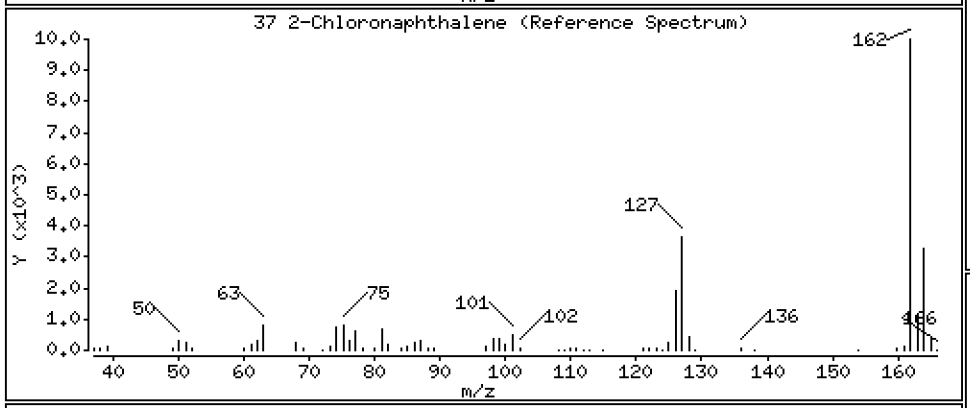
Column diameter: 0.25

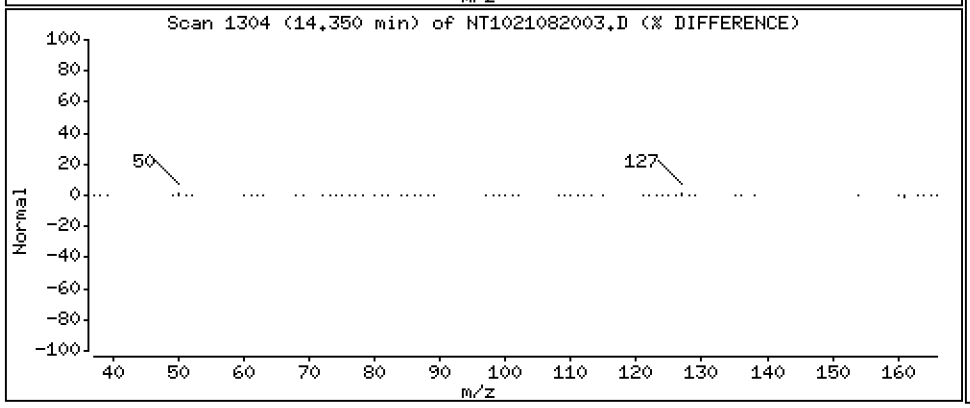
37 2-Chloronaphthalene

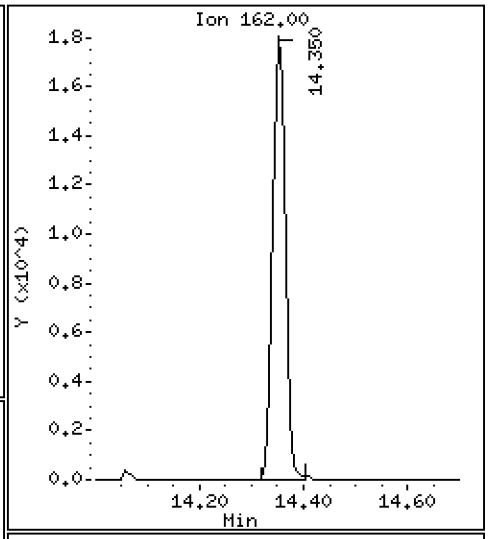
Concentration: 0.4971 ug/mL

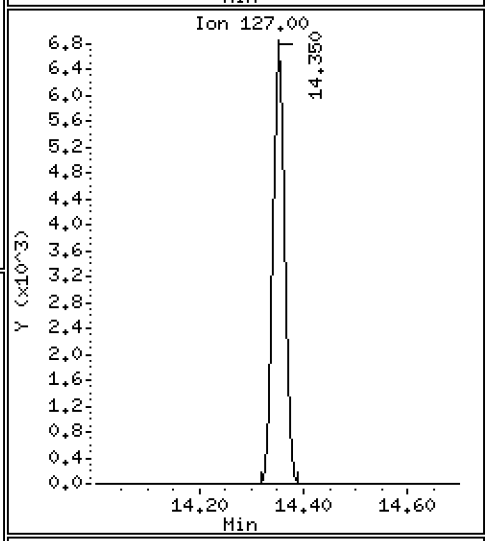


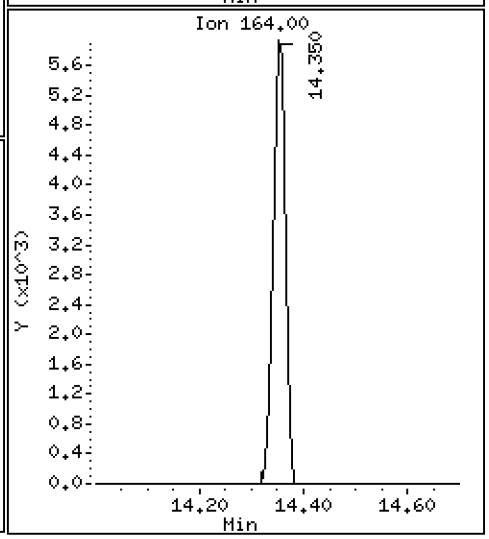












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

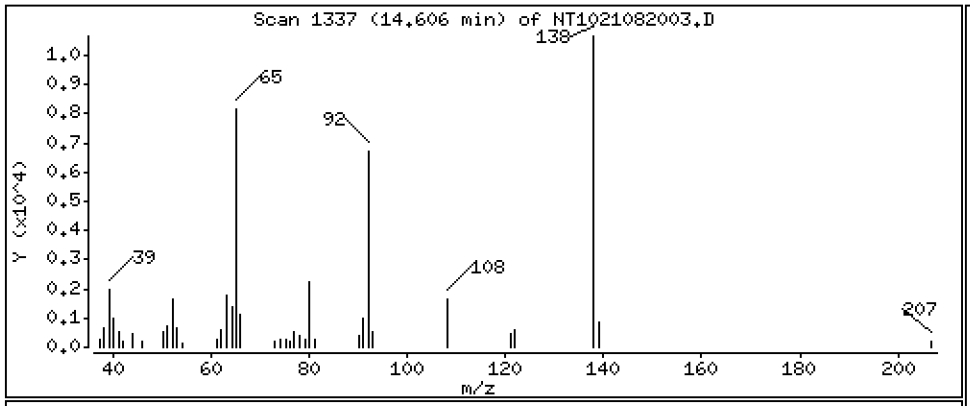
Operator: VTS

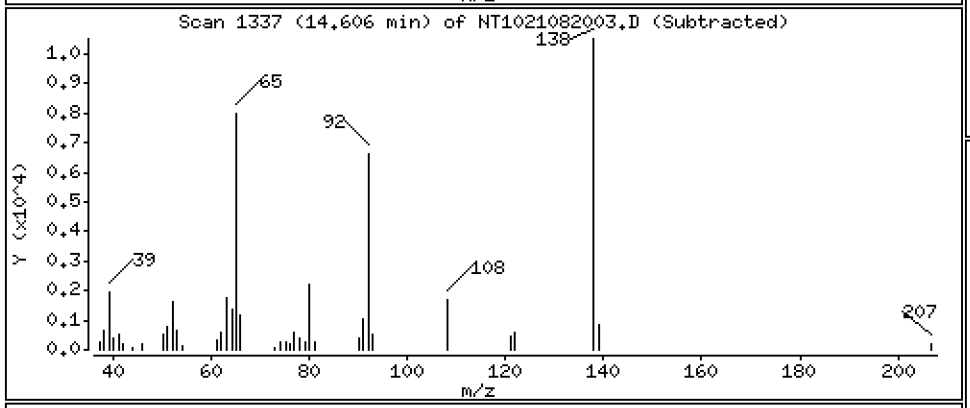
Column phase: ZB-5msi

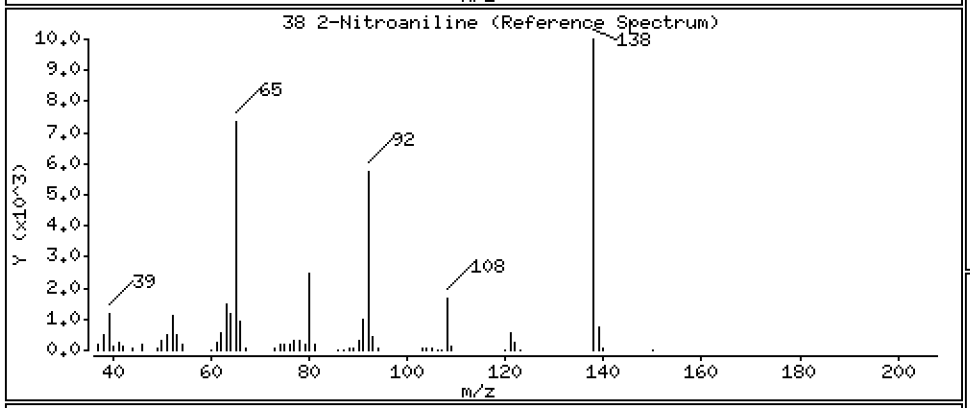
Column diameter: 0.25

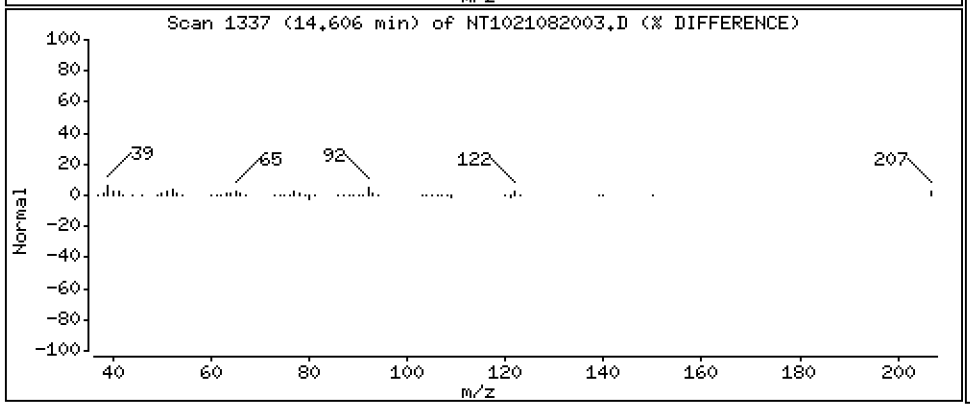
38 2-Nitroaniline

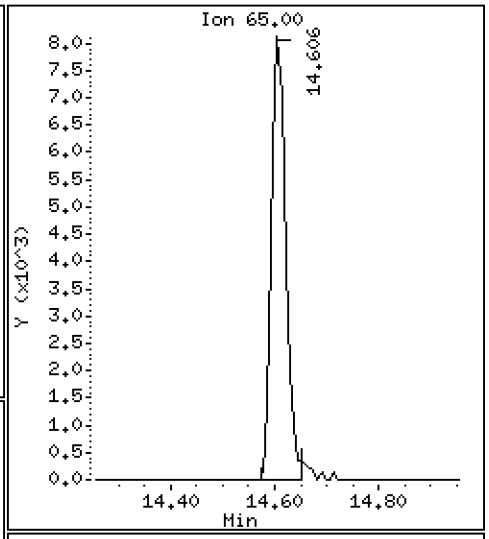
Concentration: 0.8578 ug/mL

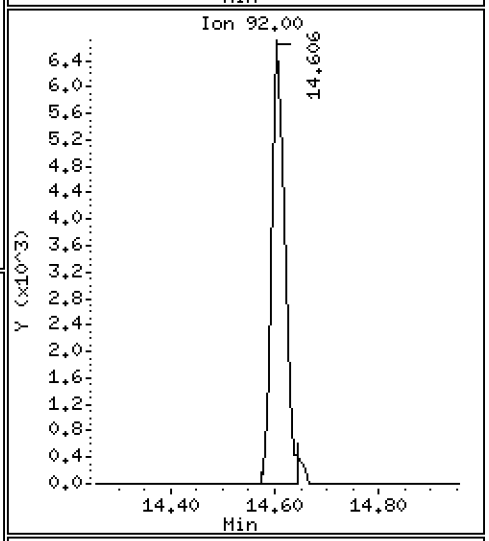


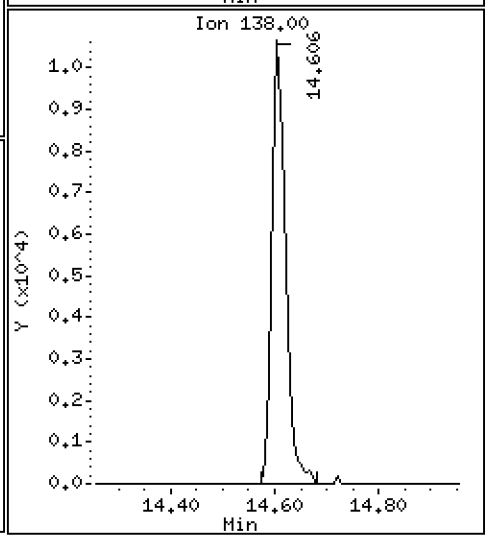












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

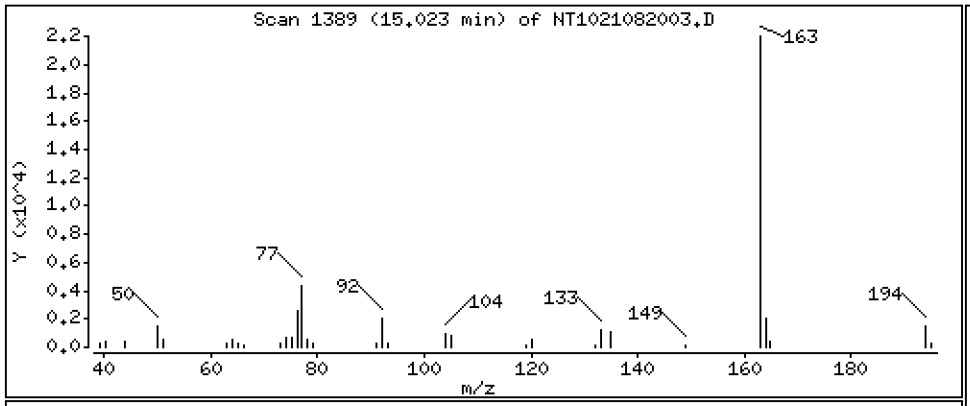
Operator: VTS

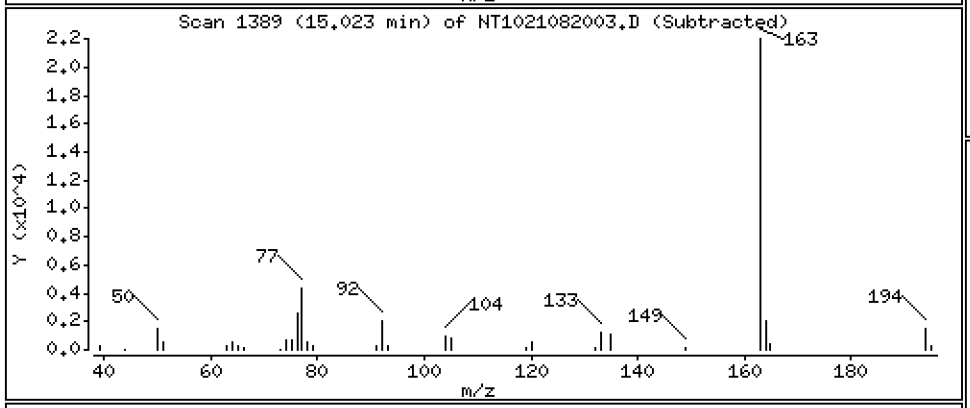
Column phase: ZB-5msi

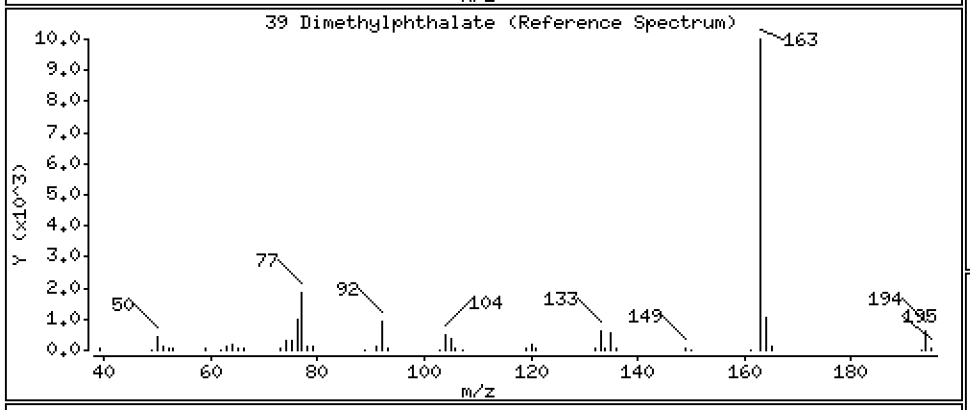
Column diameter: 0.25

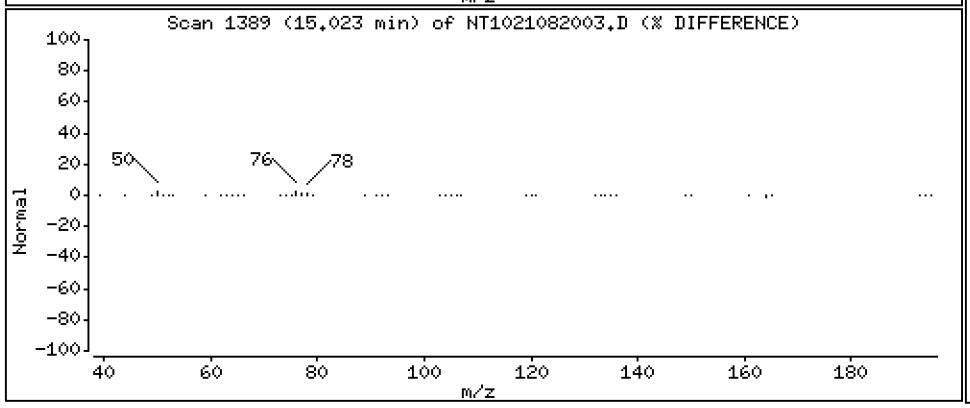
39 Dimethylphthalate

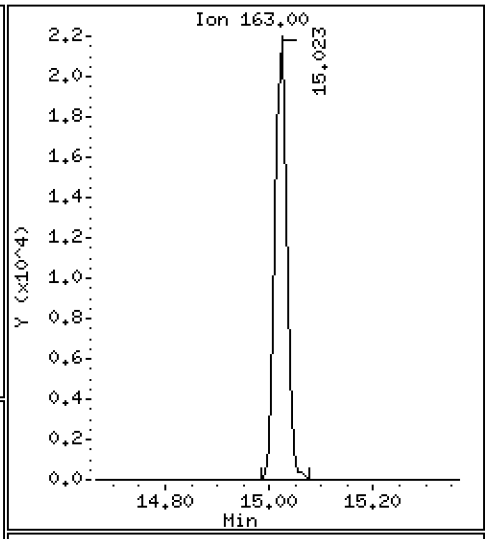
Concentration: 0.5437 ug/mL

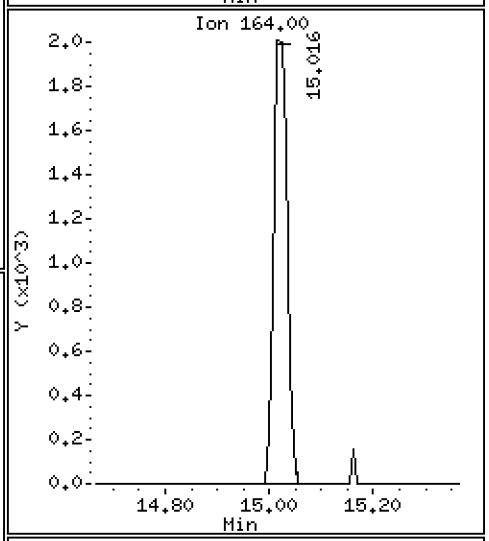


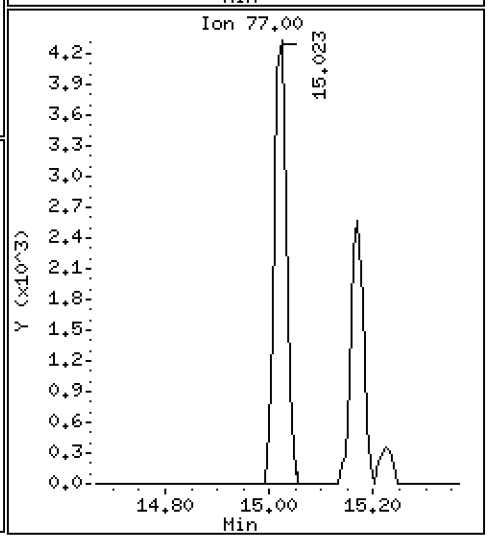












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

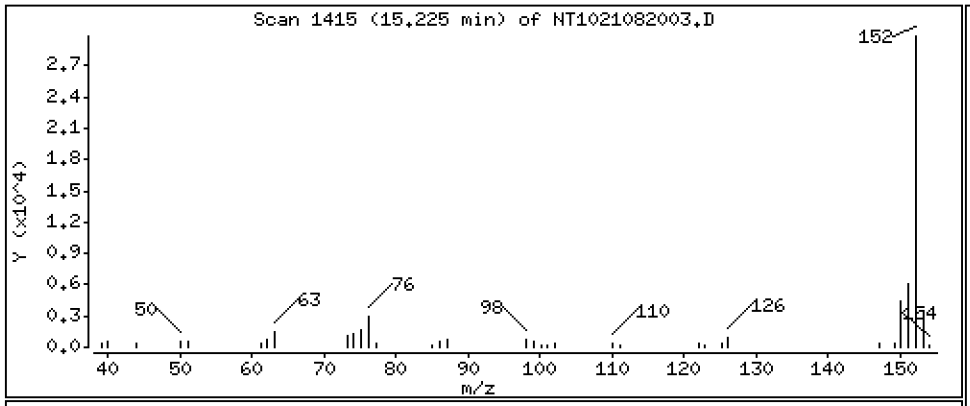
Operator: VTS

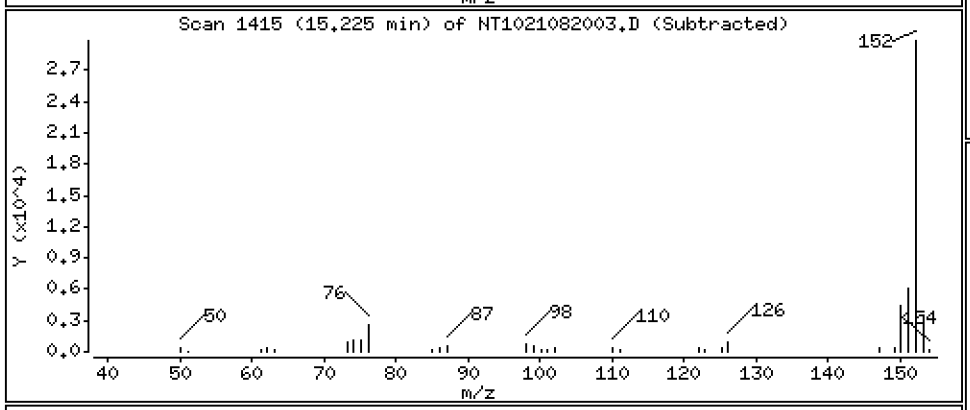
Column phase: ZB-5msi

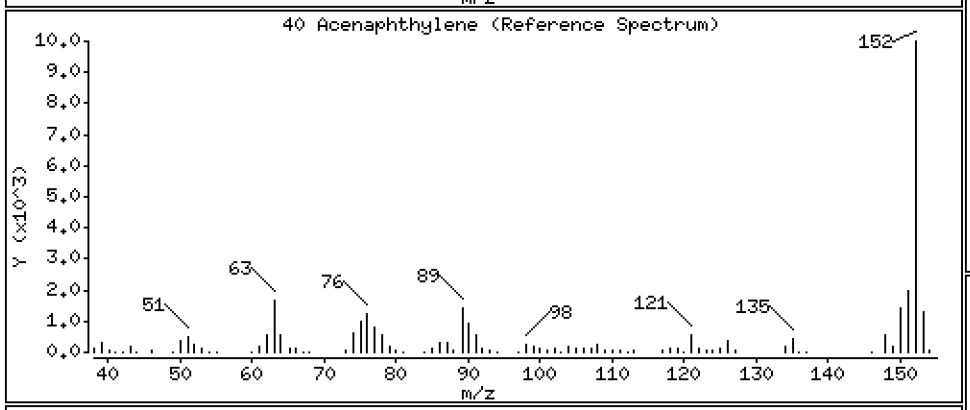
Column diameter: 0.25

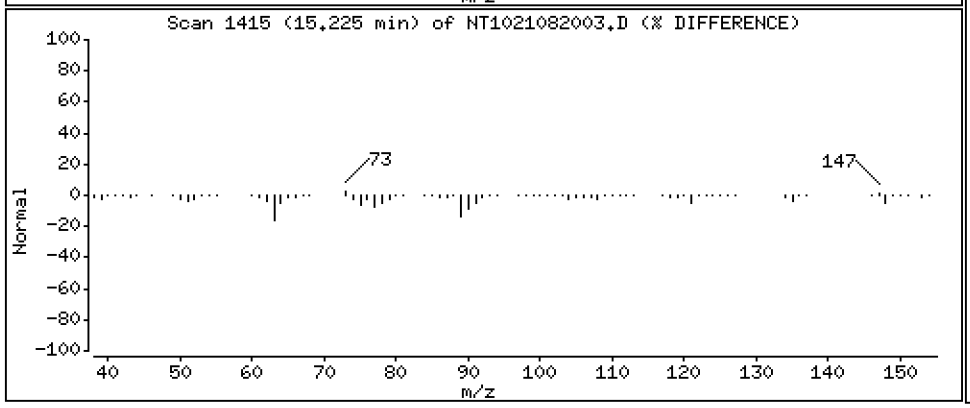
40 Acenaphthylene

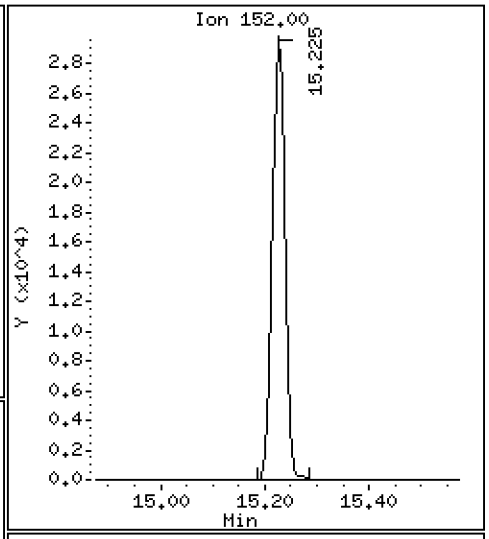
Concentration: 0.5211 ug/mL

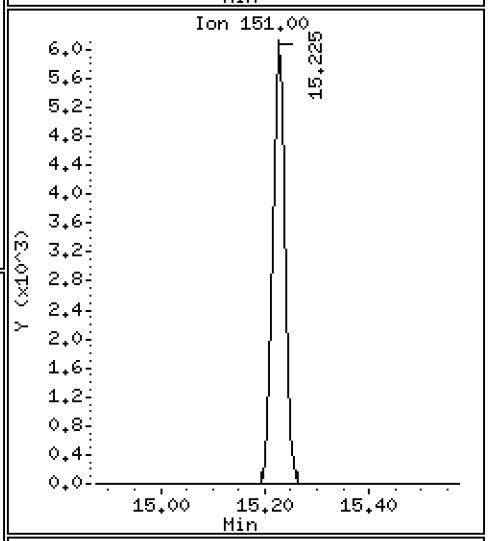


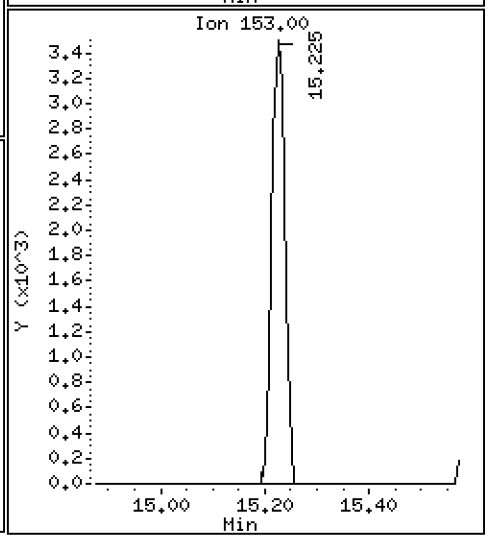












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

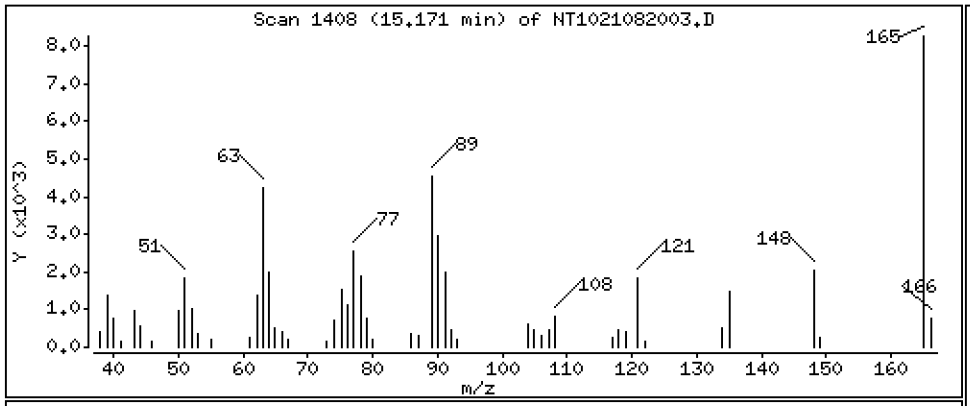
Operator: VTS

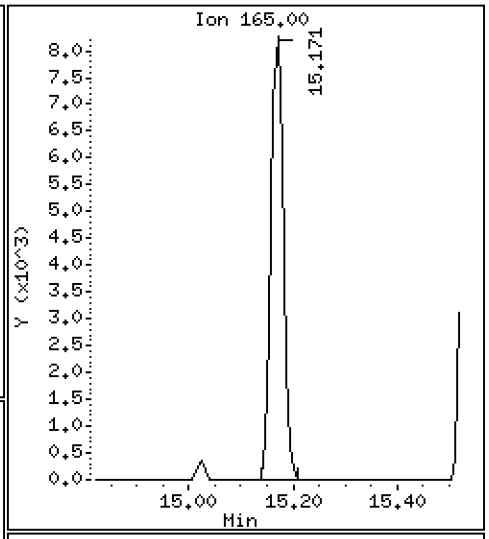
Column phase: ZB-5msi

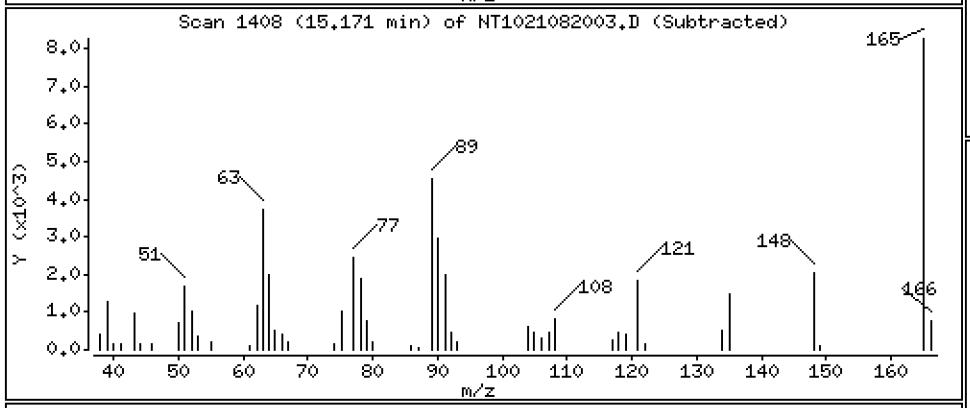
Column diameter: 0.25

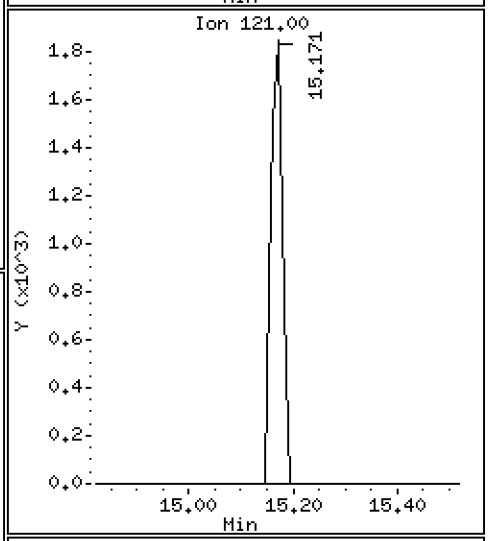
41 2,6-Dinitrotoluene

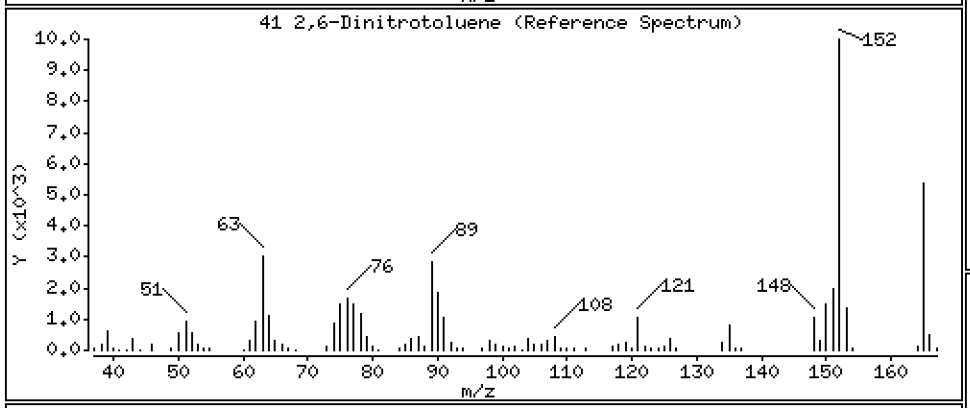
Concentration: 0.9690 ug/mL

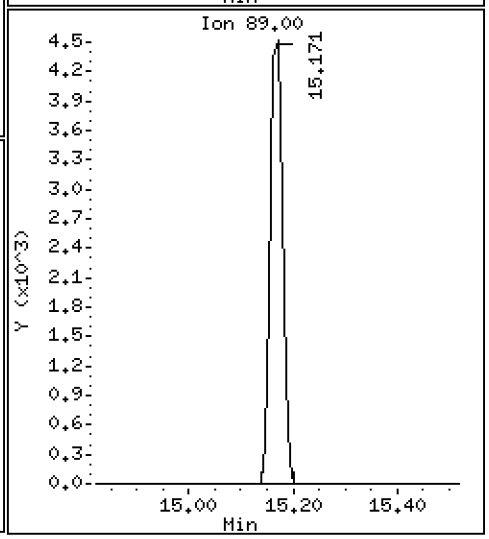


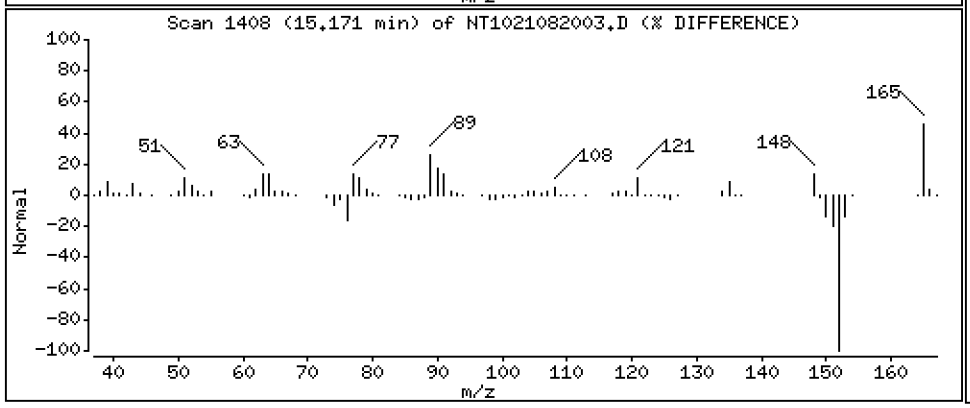












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

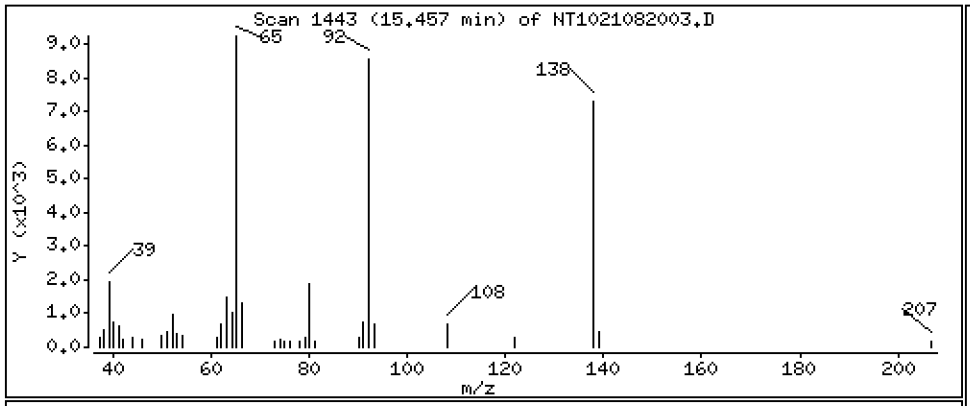
Operator: VTS

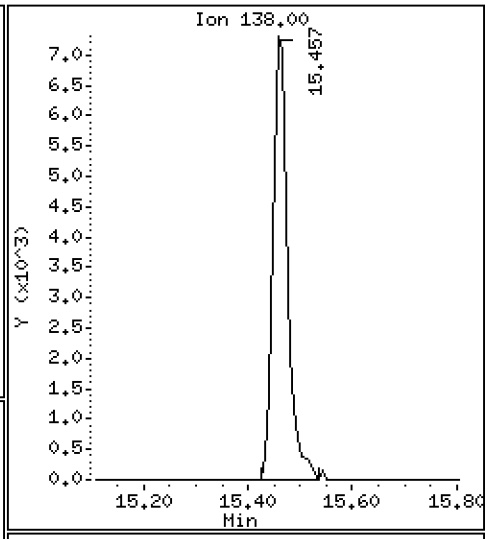
Column phase: ZB-5msi

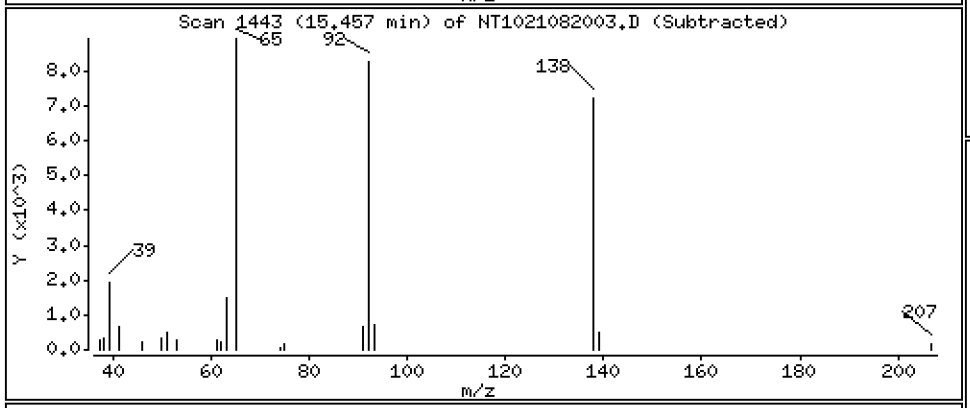
Column diameter: 0.25

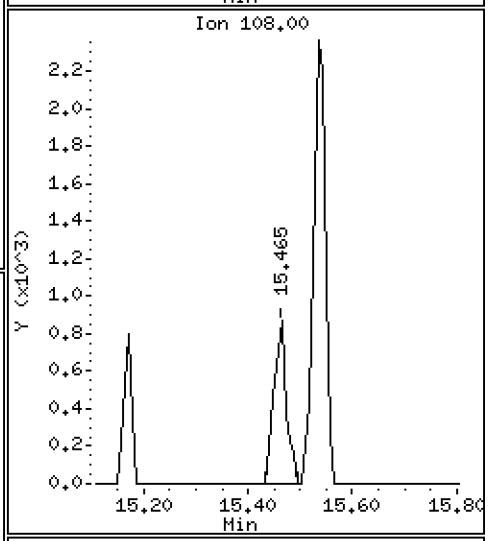
43 3-Nitroaniline

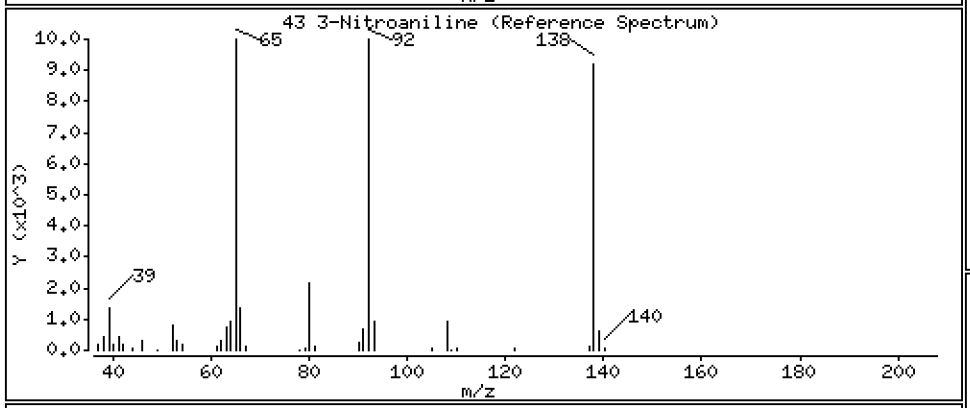
Concentration: 0.7730 ug/mL

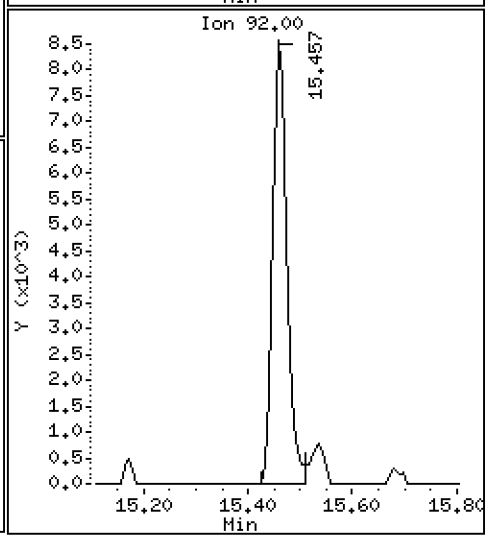


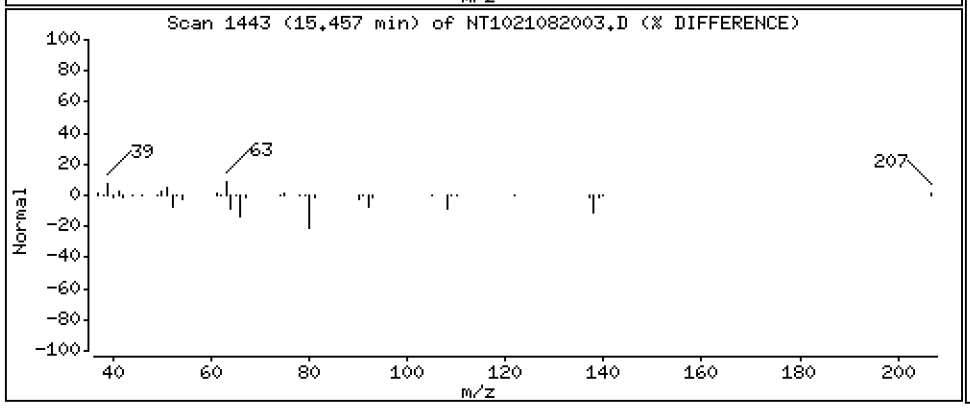












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

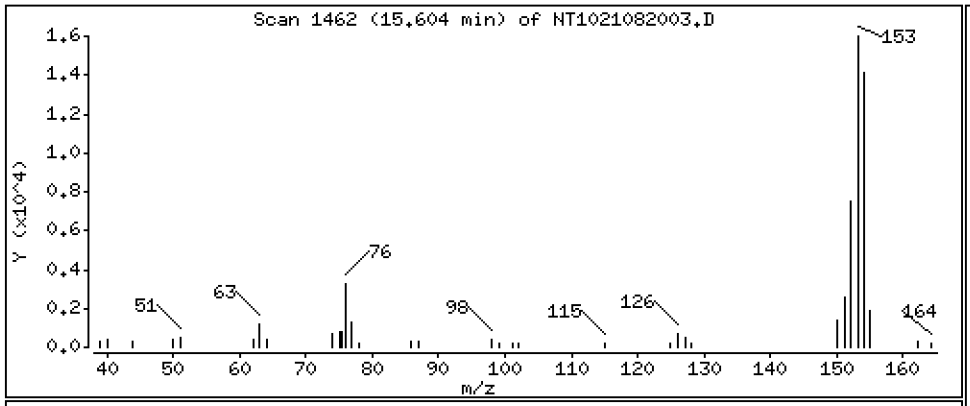
Operator: VTS

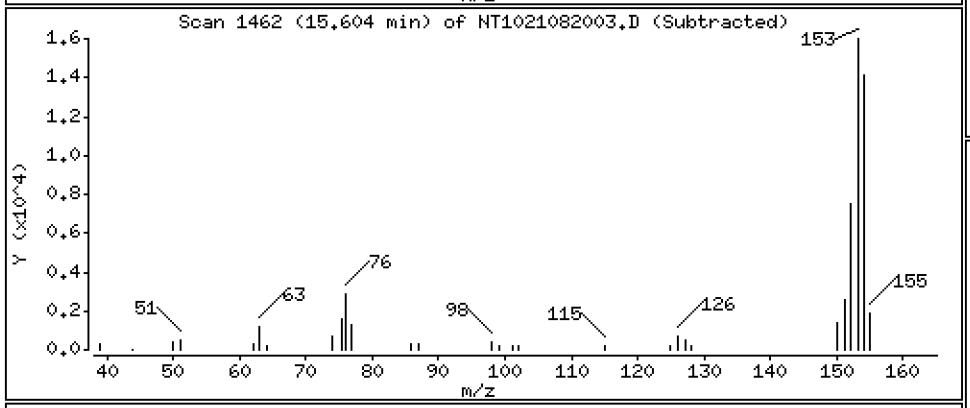
Column phase: ZB-5msi

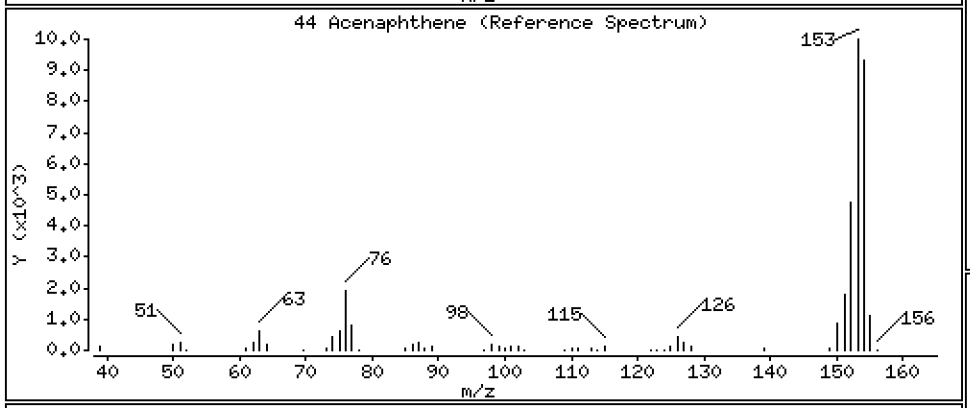
Column diameter: 0.25

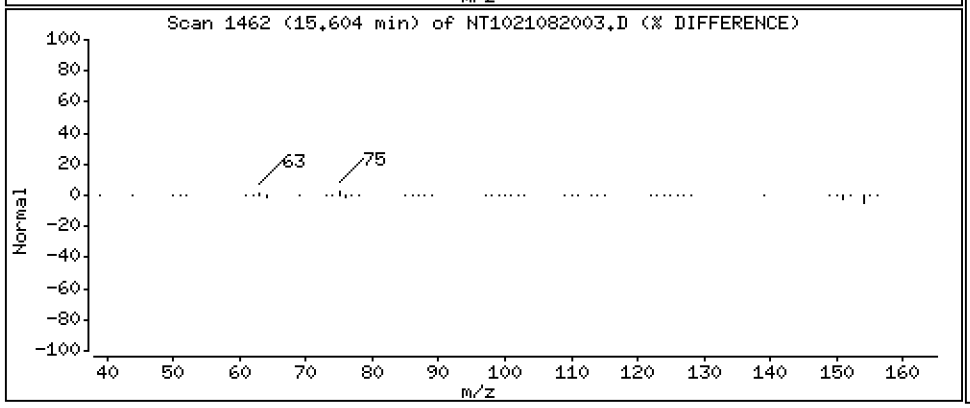
44 Acenaphthene

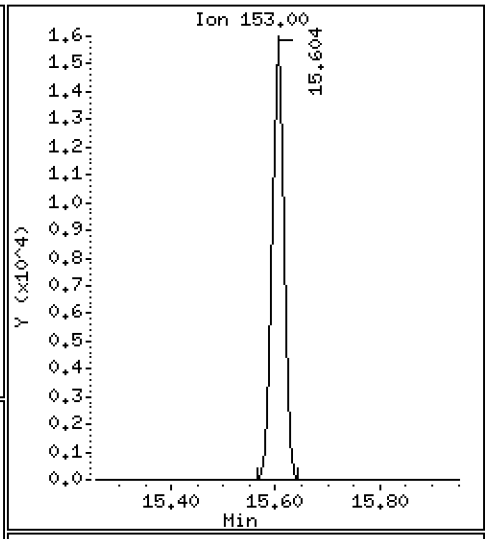
Concentration: 0.4854 ug/mL

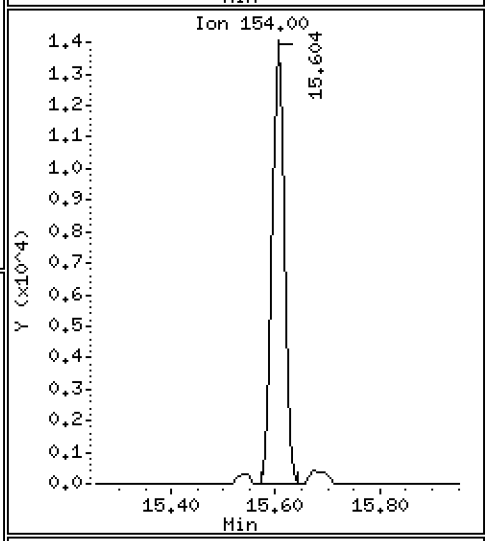


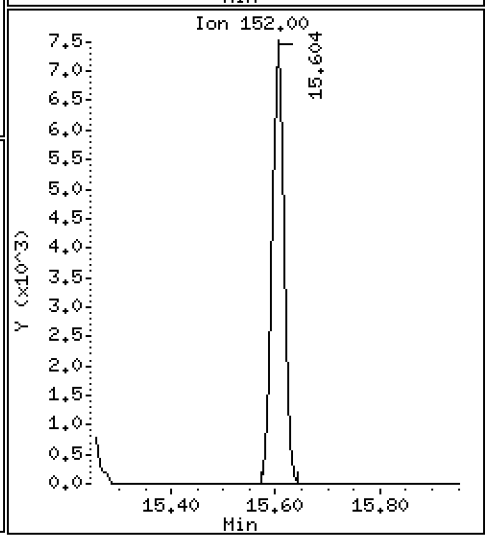












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

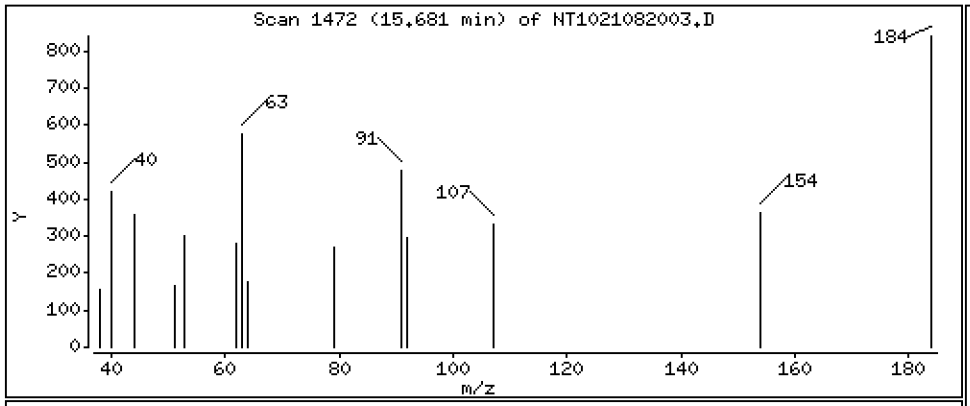
Operator: VTS

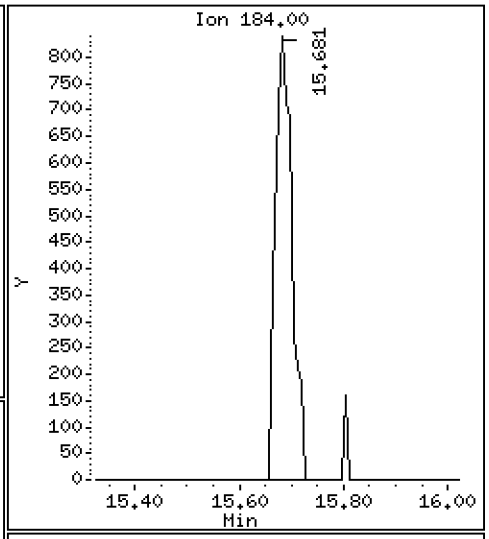
Column phase: ZB-5msi

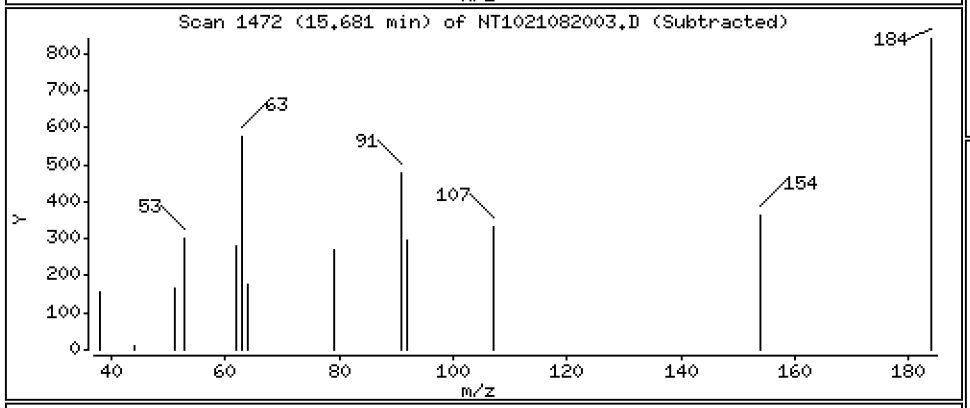
Column diameter: 0.25

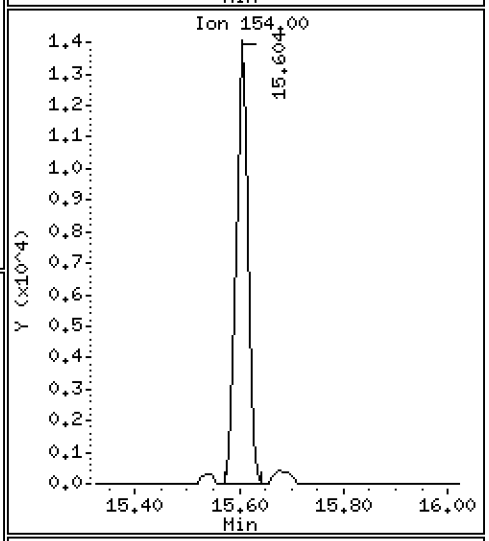
45 2,4-Dinitrophenol

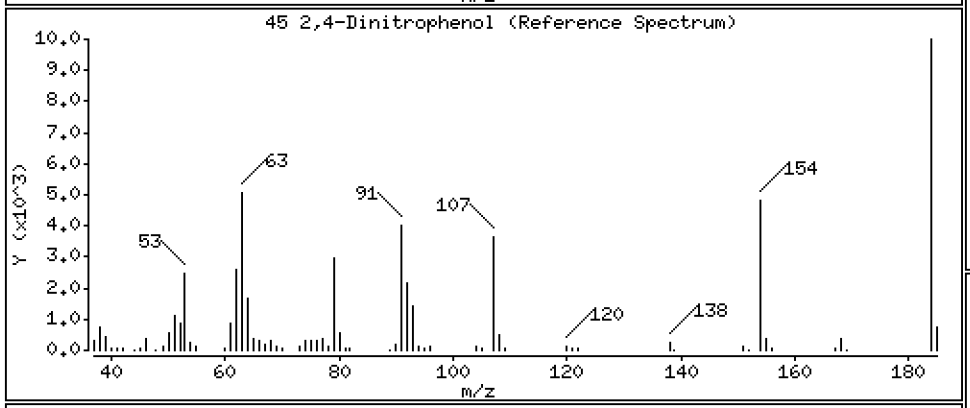
Concentration: 0.2653 ug/mL

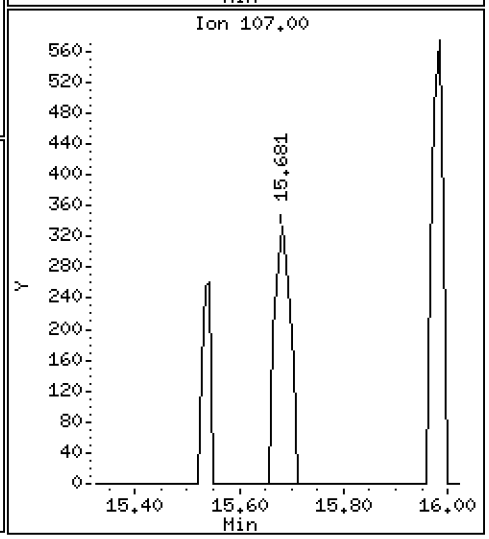


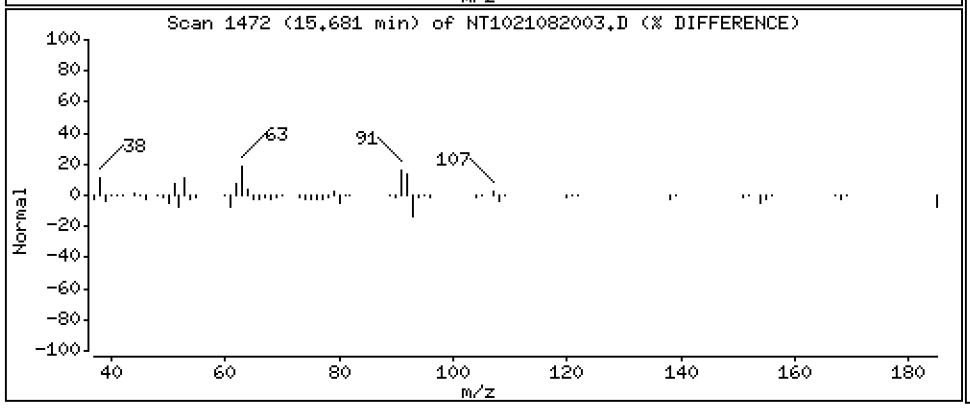












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

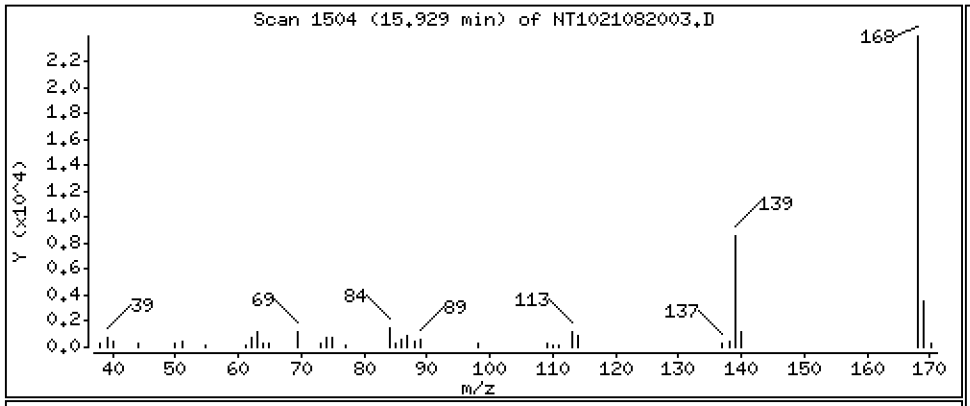
Operator: VTS

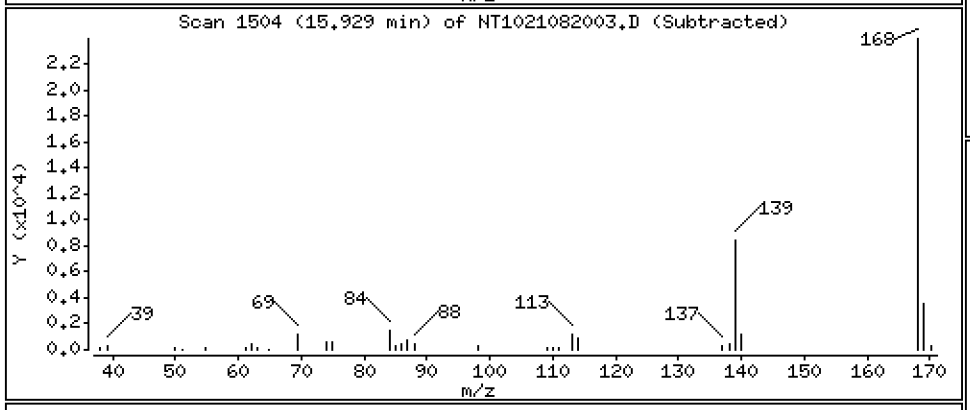
Column phase: ZB-5msi

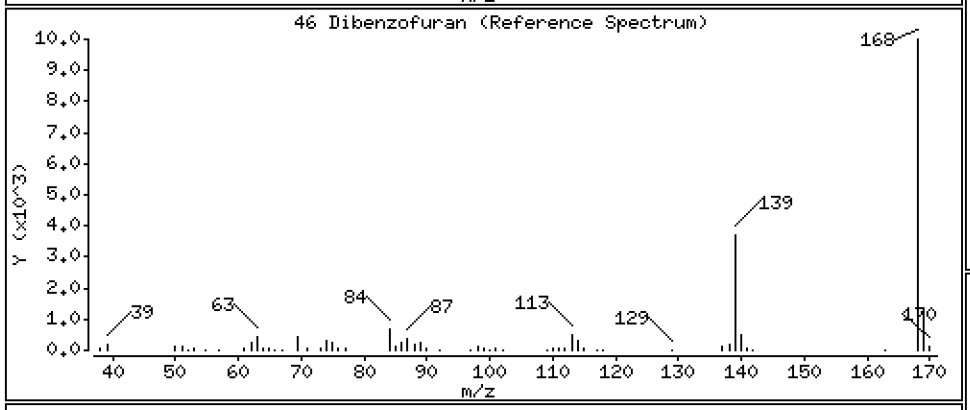
Column diameter: 0.25

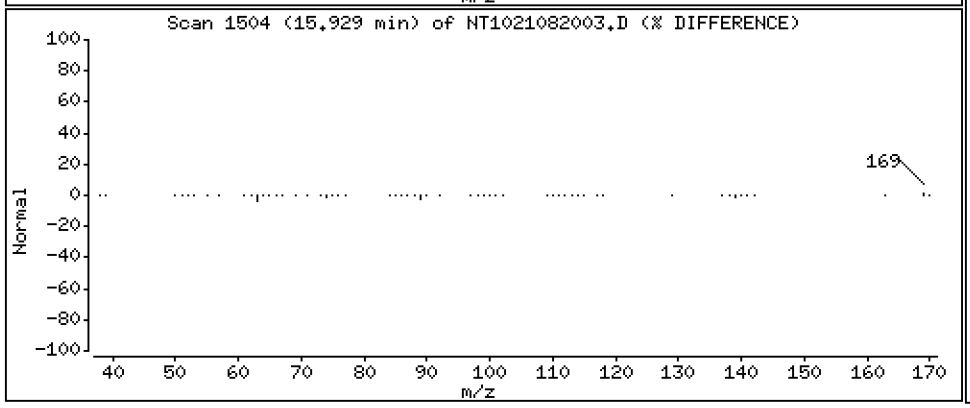
46 Dibenzofuran

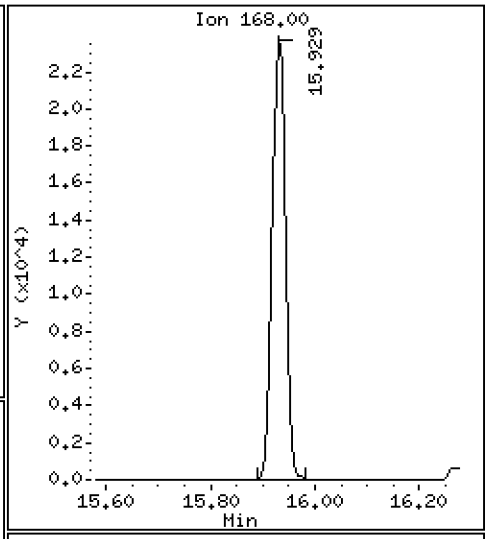
Concentration: 0.4691 ug/mL

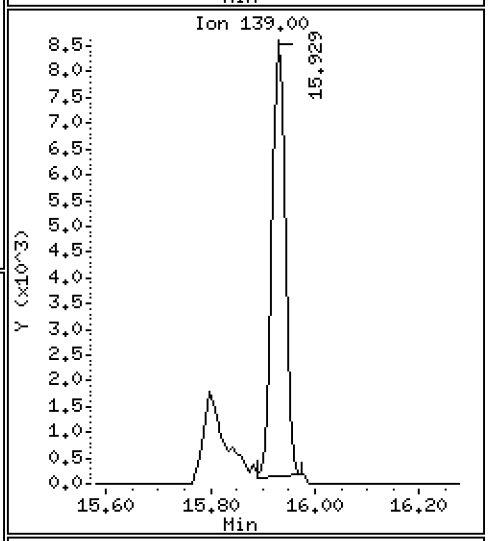


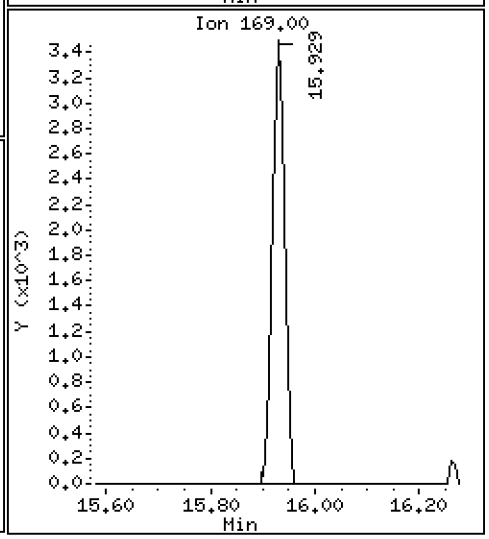












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

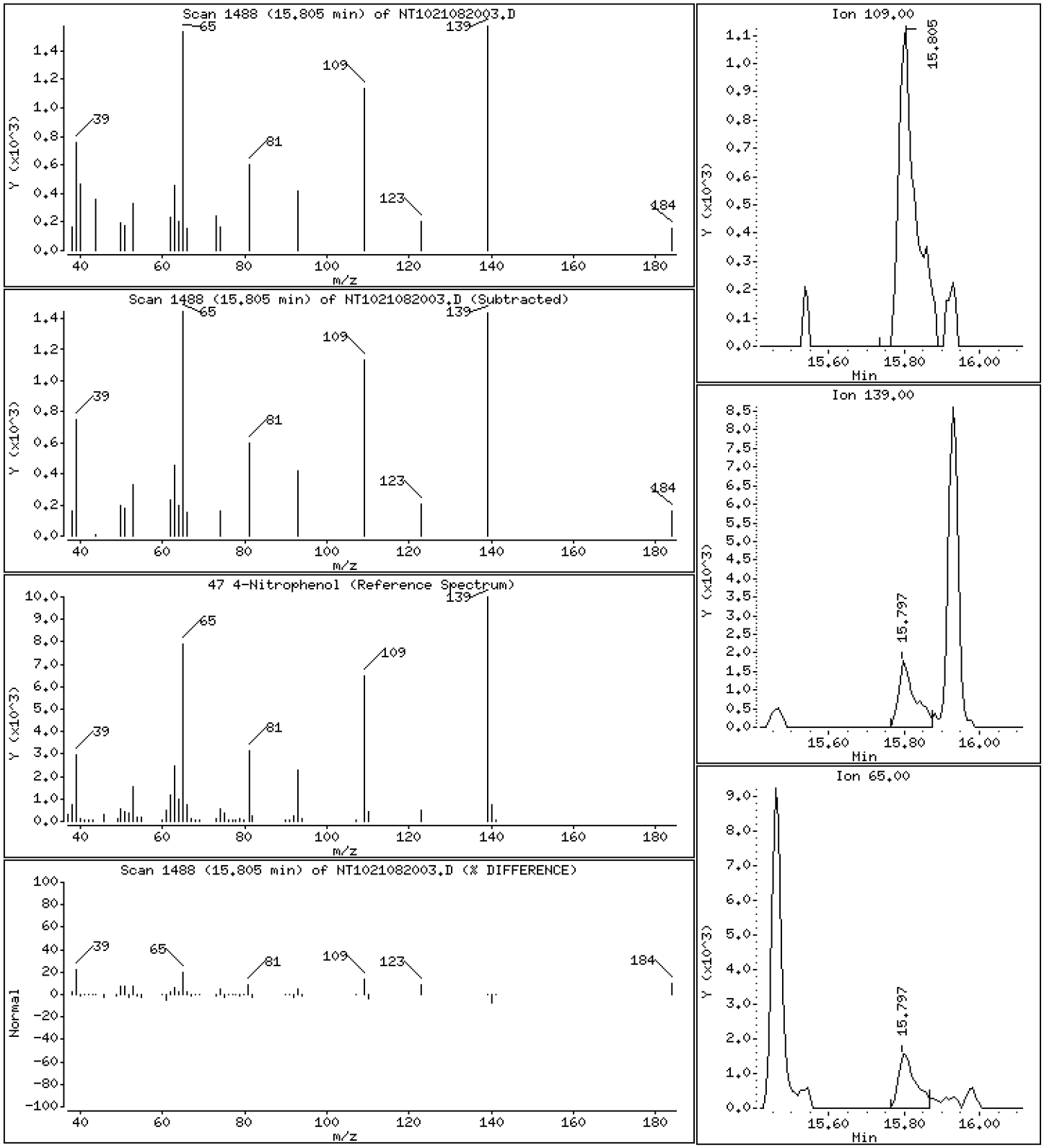
Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25

47 4-Nitrophenol

Concentration: 0.5554 ug/mL



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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

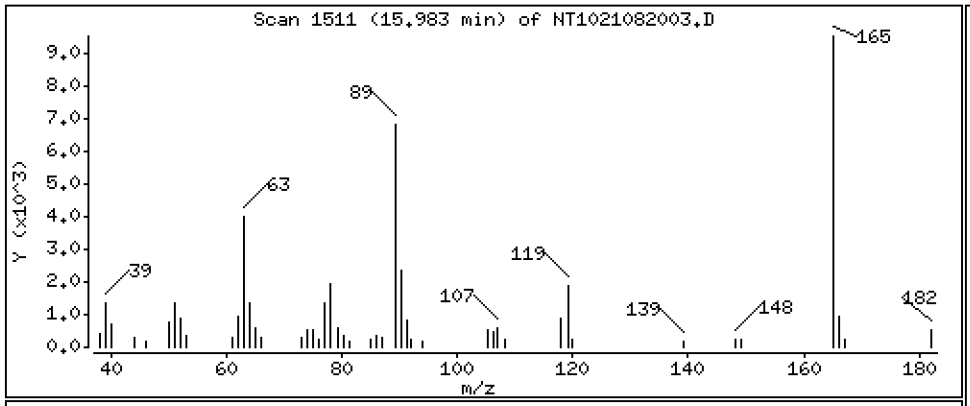
Operator: VTS

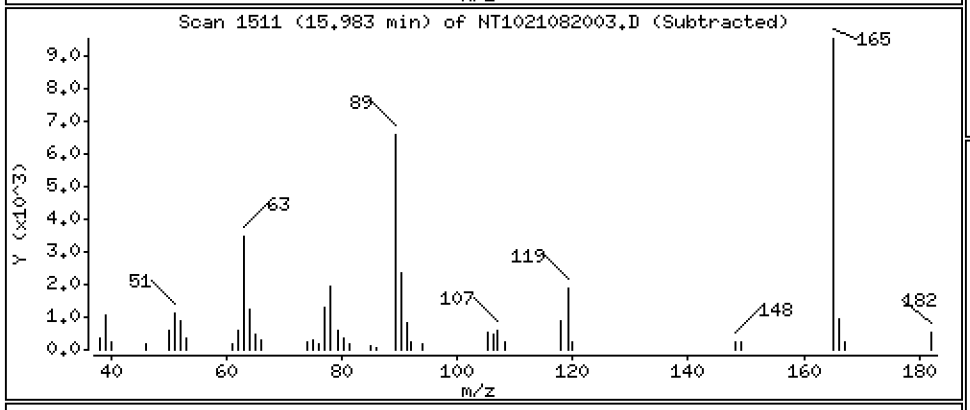
Column phase: ZB-5msi

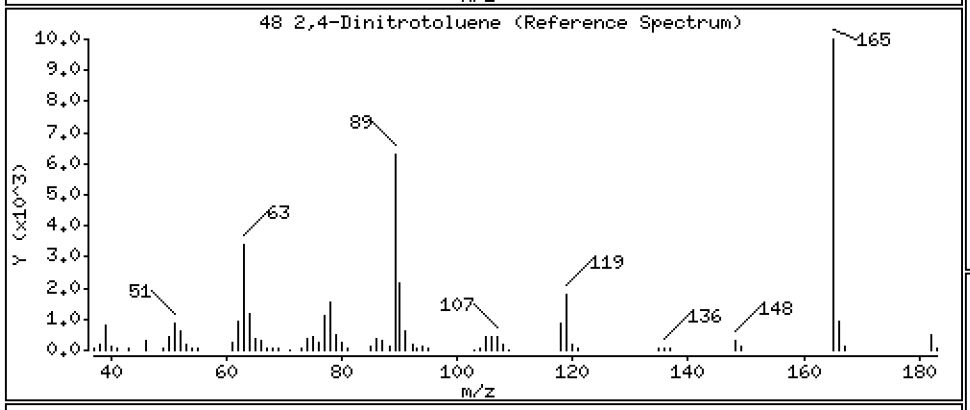
Column diameter: 0.25

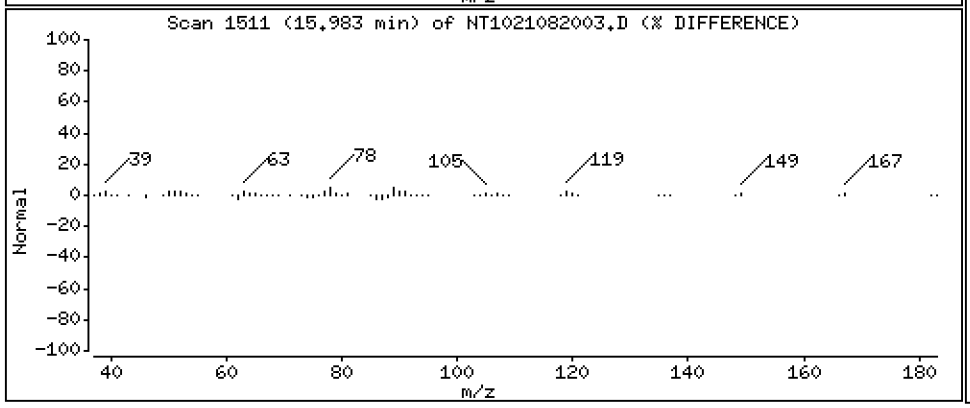
48 2,4-Dinitrotoluene

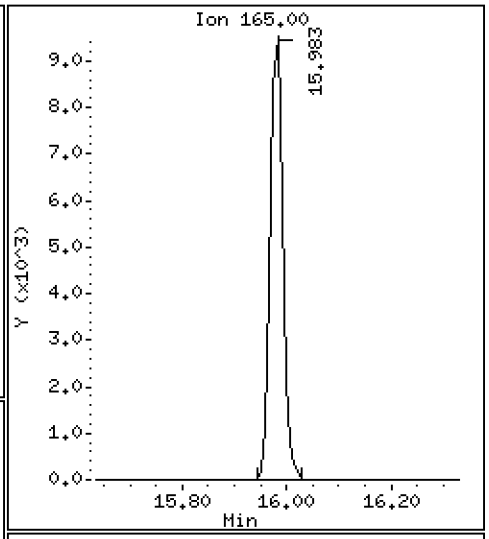
Concentration: 0.8194 ug/mL

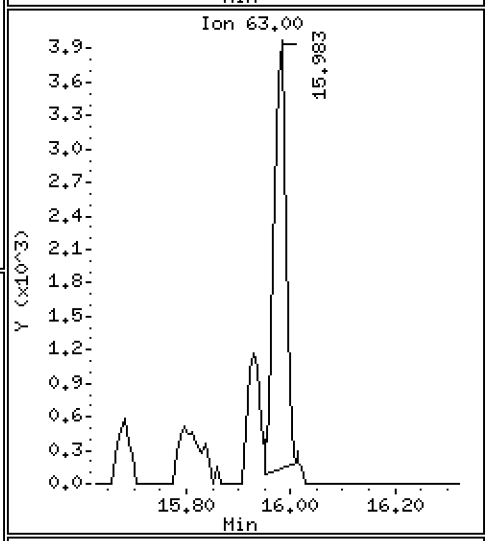


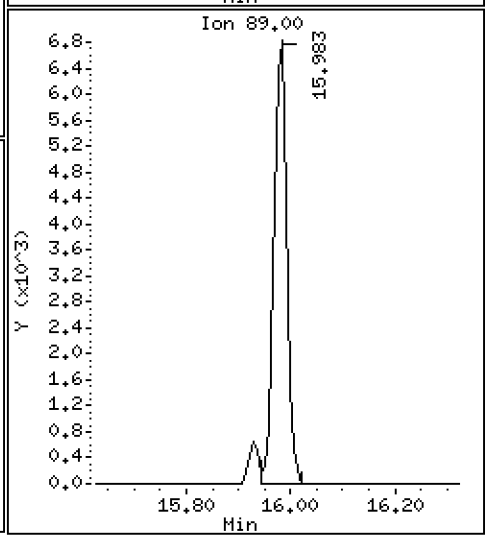












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

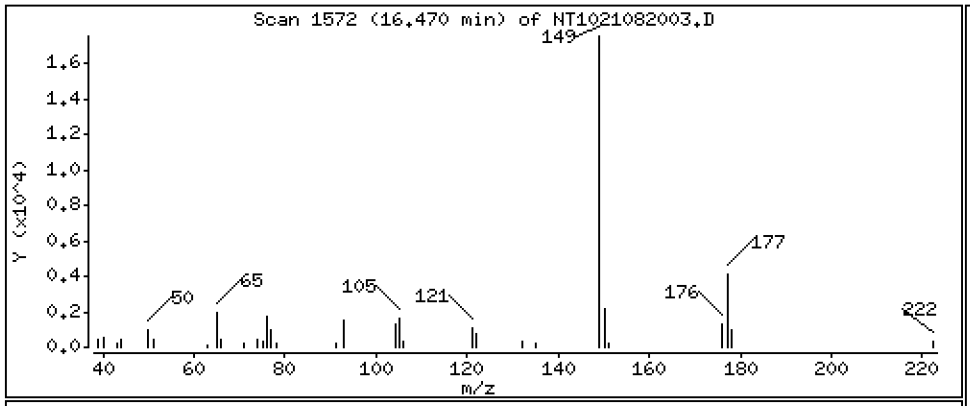
Operator: VTS

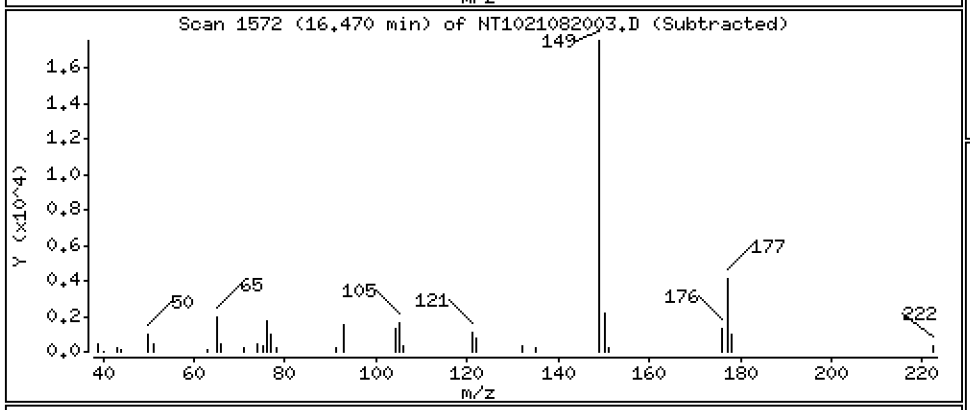
Column phase: ZB-5msi

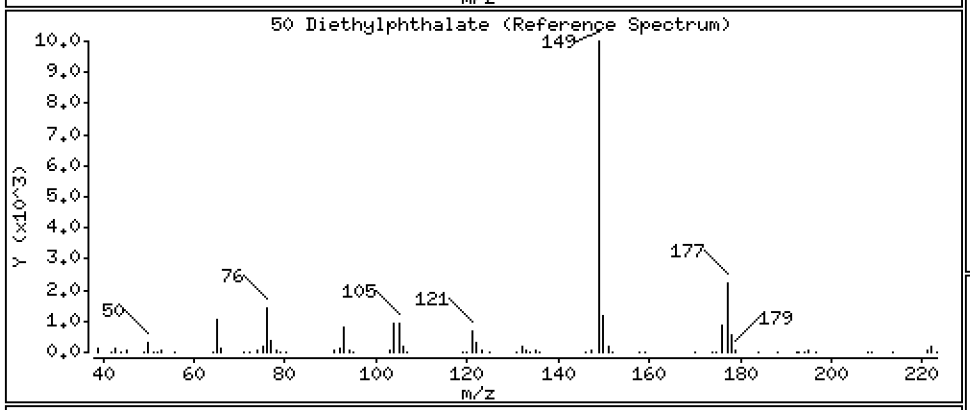
Column diameter: 0.25

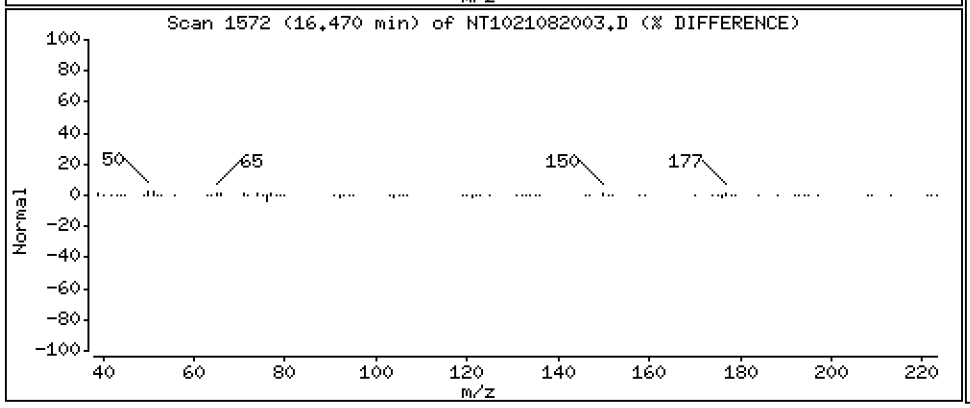
50 Diethylphthalate

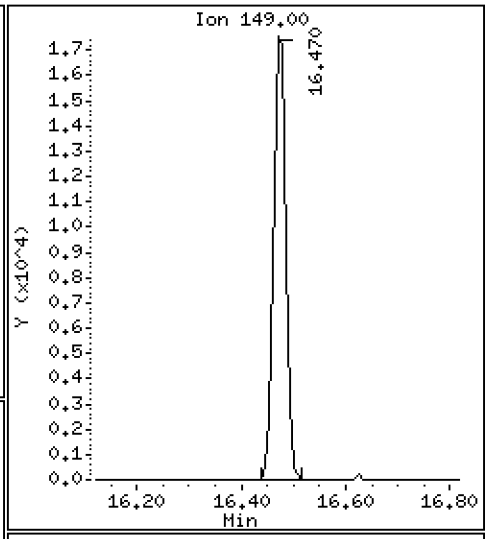
Concentration: 0.5021 ug/mL

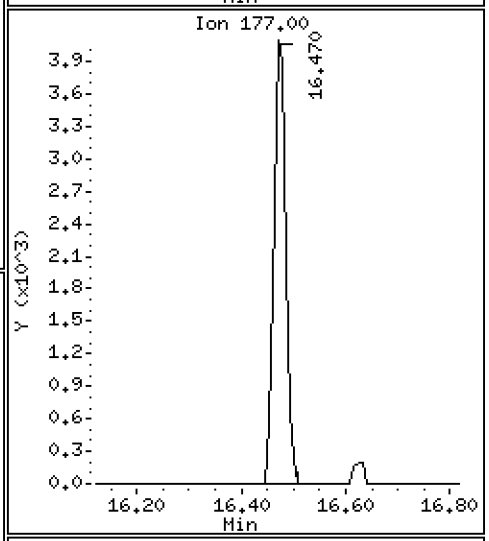


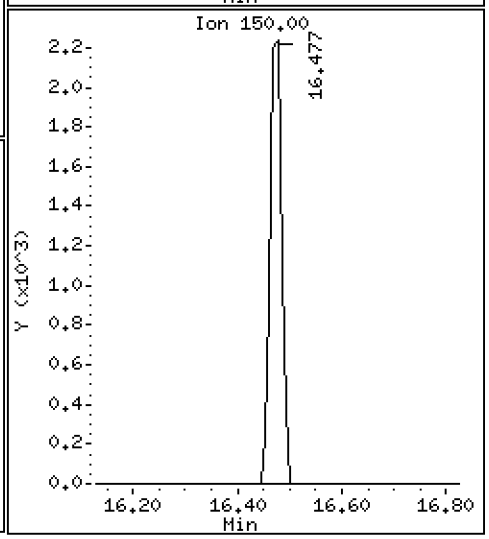












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

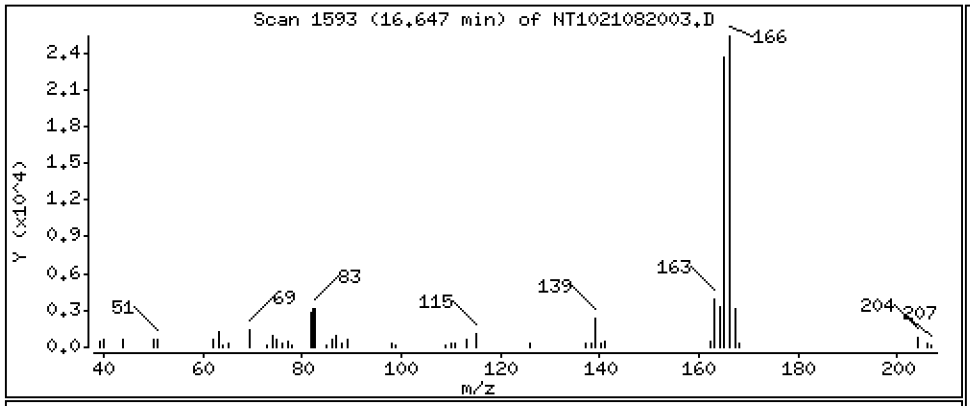
Operator: VTS

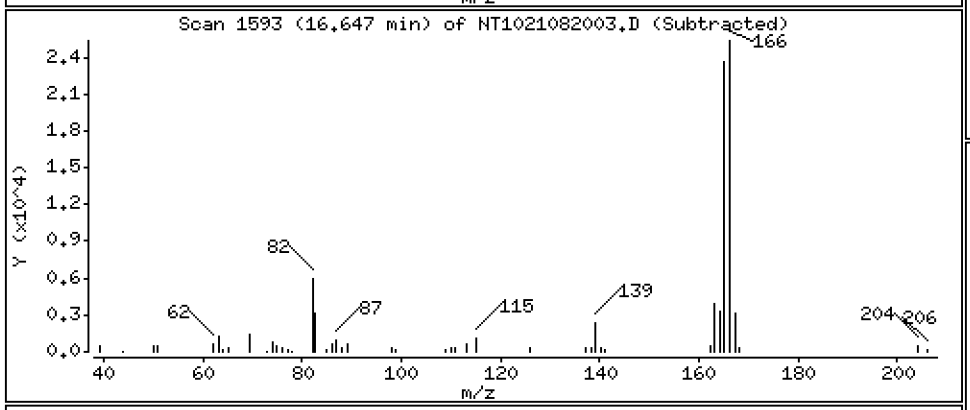
Column phase: ZB-5msi

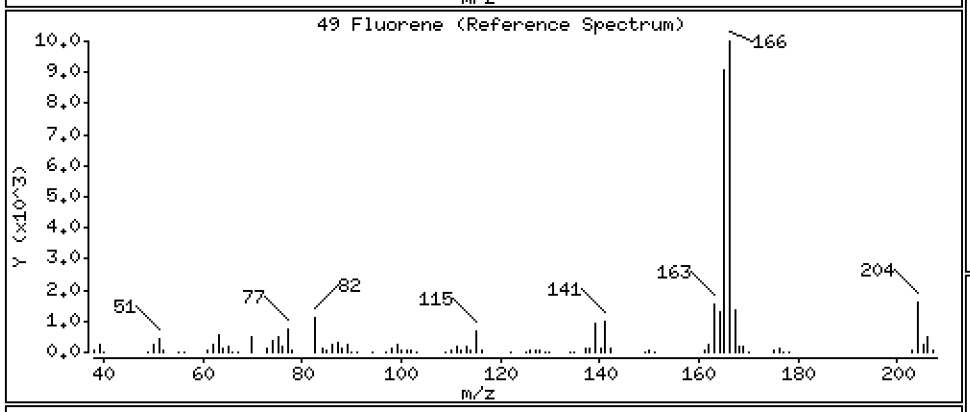
Column diameter: 0.25

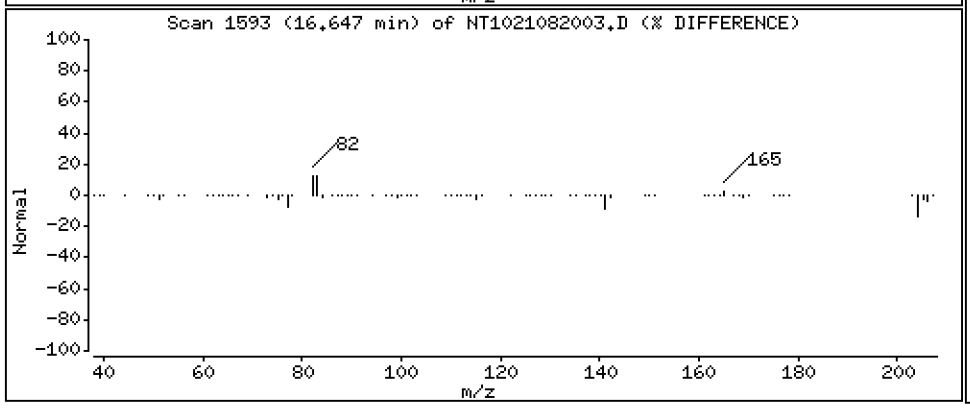
49 Fluorene

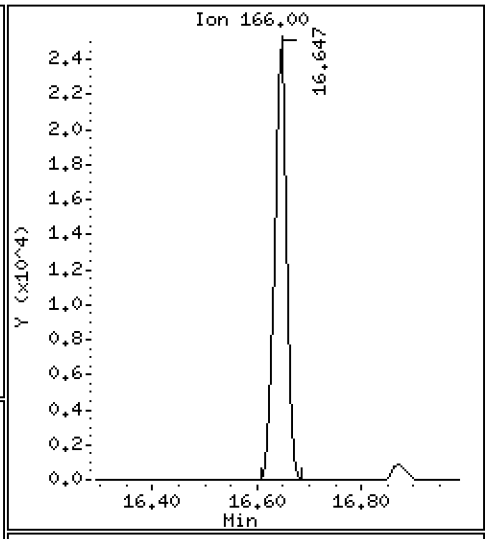
Concentration: 0.5277 ug/mL

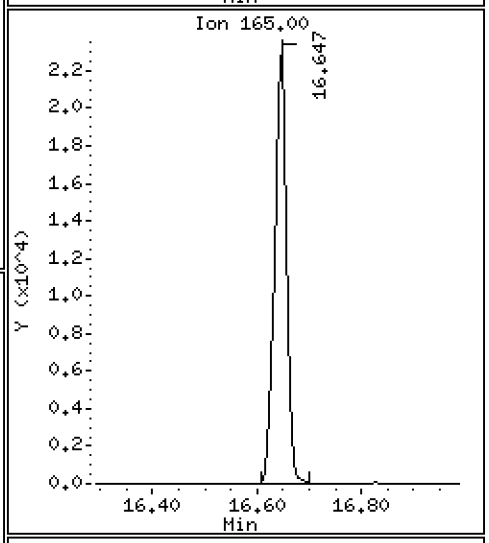


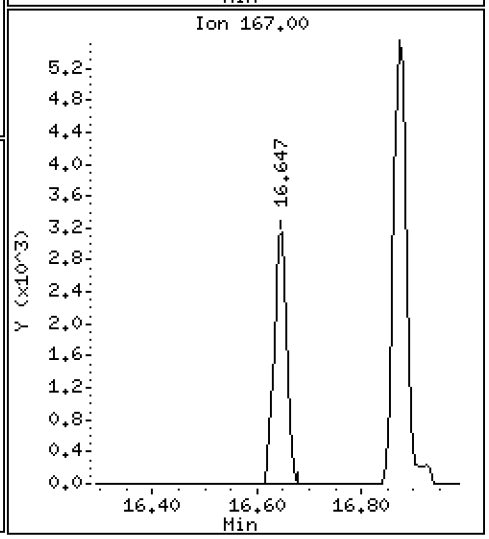












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

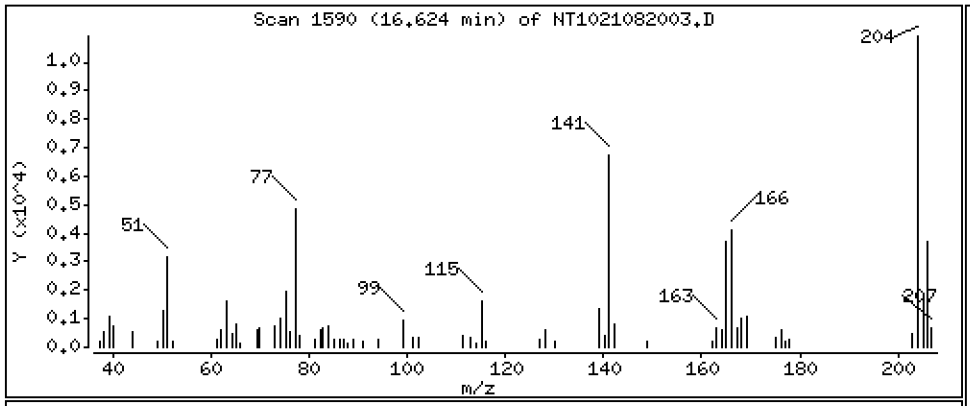
Operator: VTS

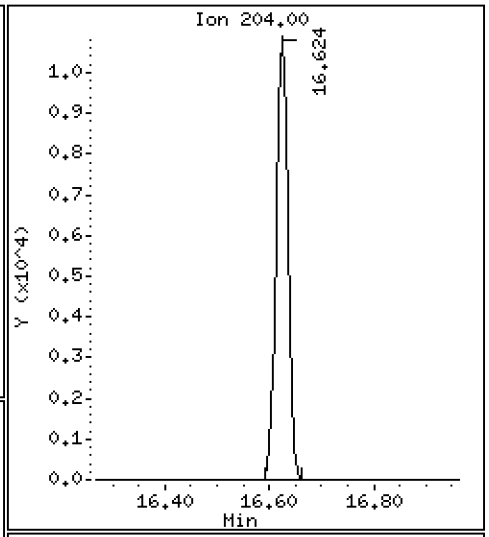
Column phase: ZB-5msi

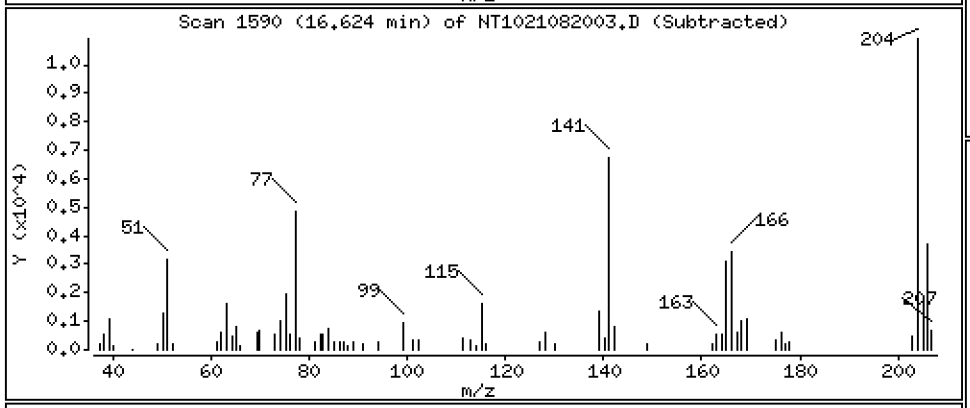
Column diameter: 0.25

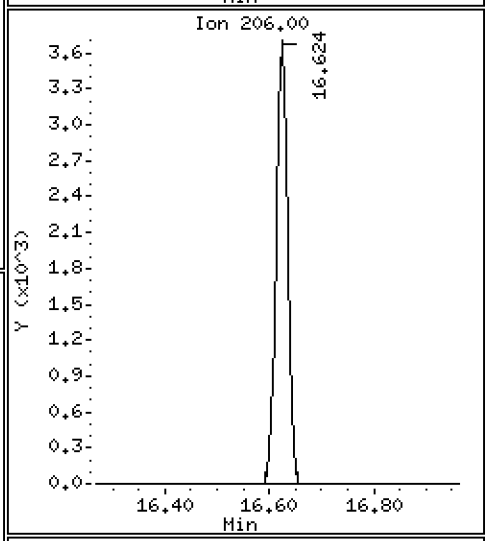
51 4-Chlorophenyl-phenylether

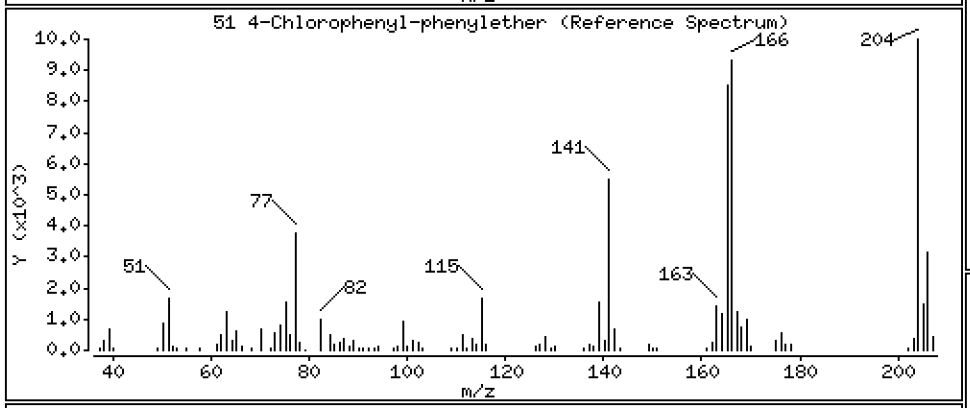
Concentration: 0.5177 ug/mL

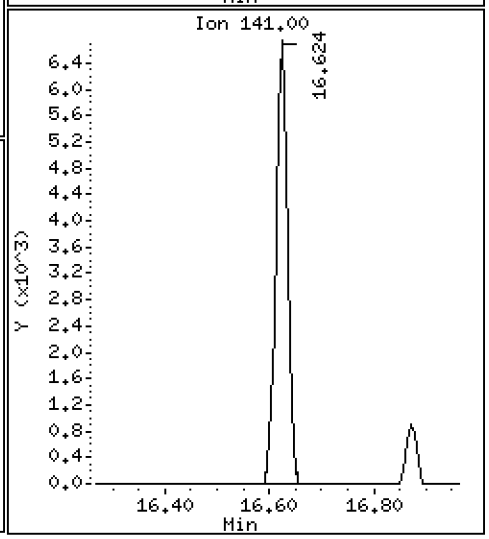


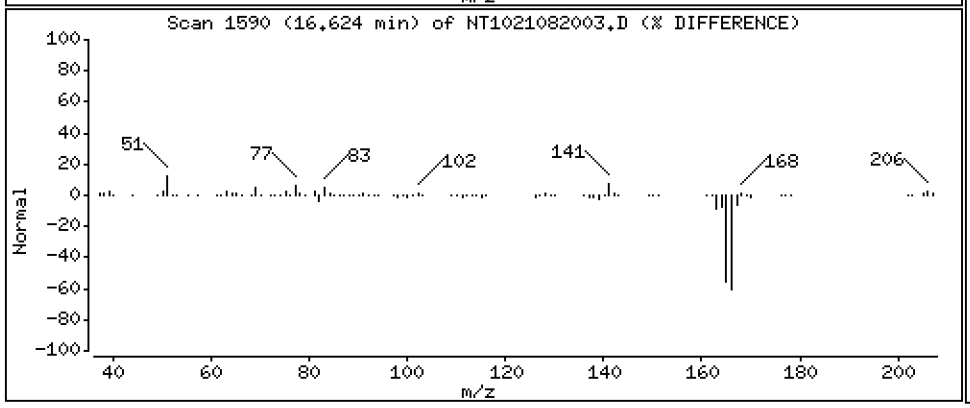












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

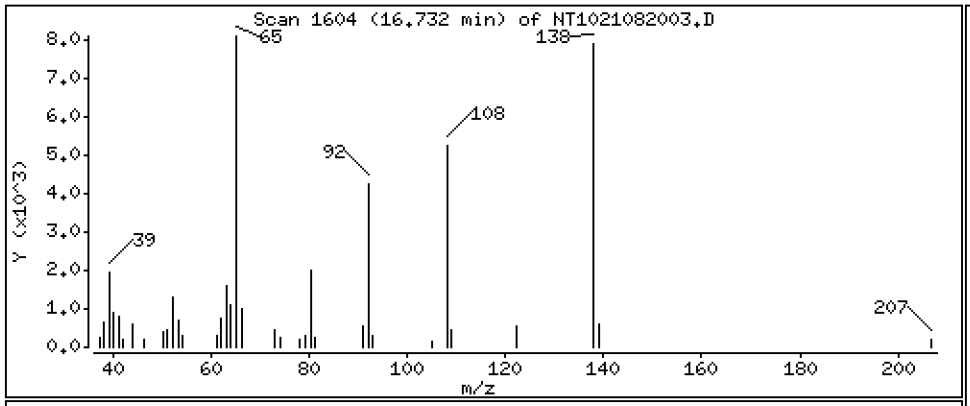
Operator: VTS

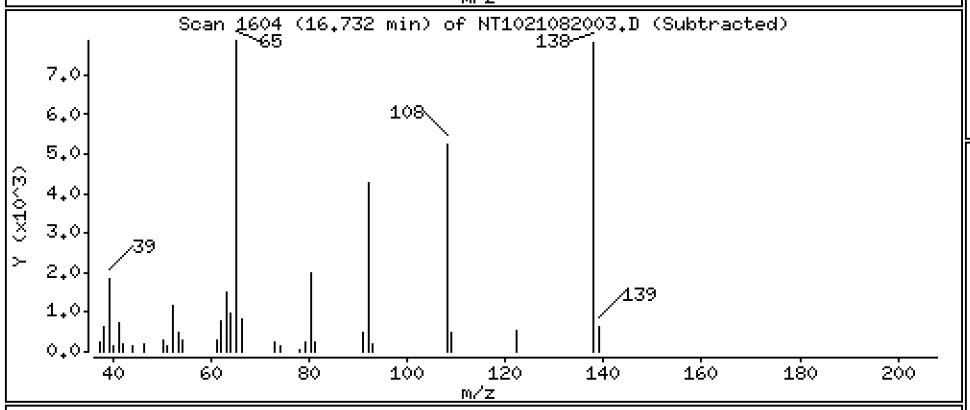
Column phase: ZB-5msi

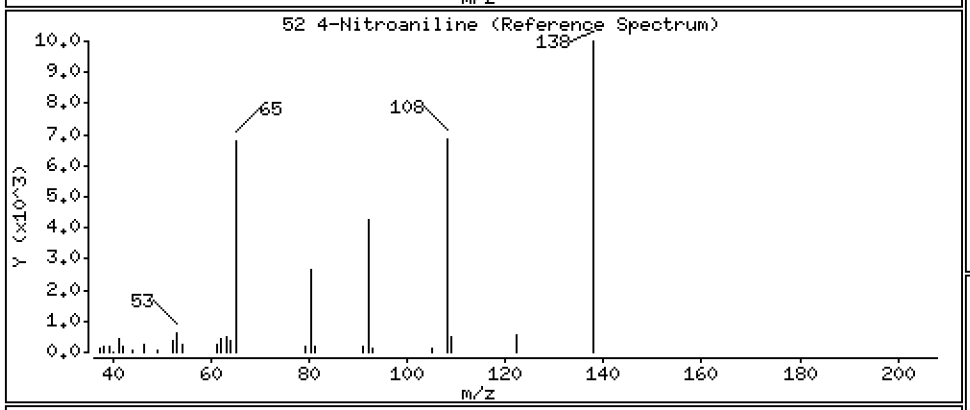
Column diameter: 0.25

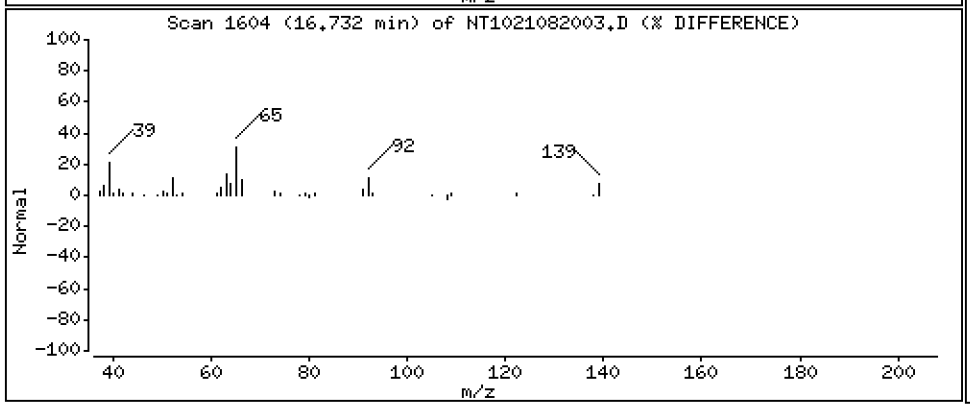
52 4-Nitroaniline

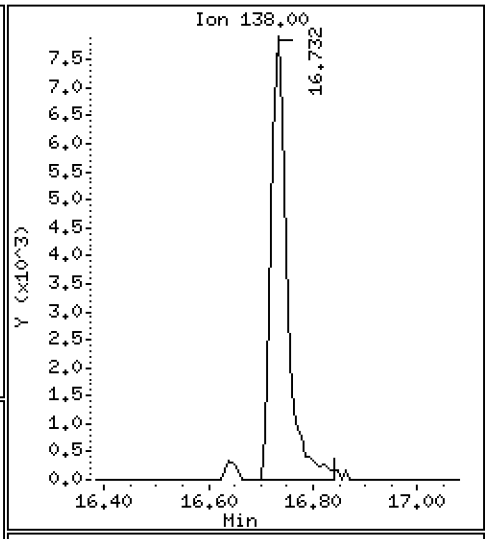
Concentration: 0.8847 ug/mL

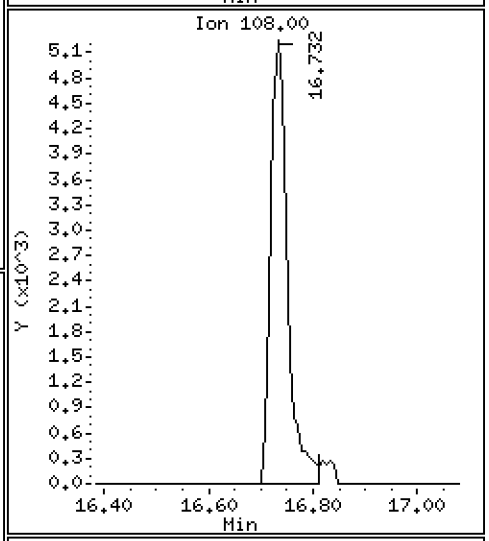


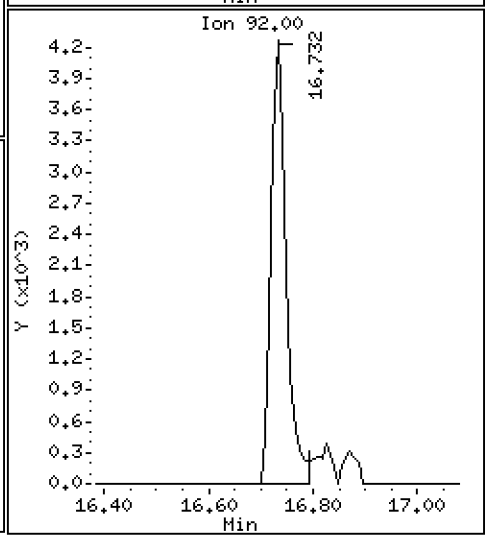












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

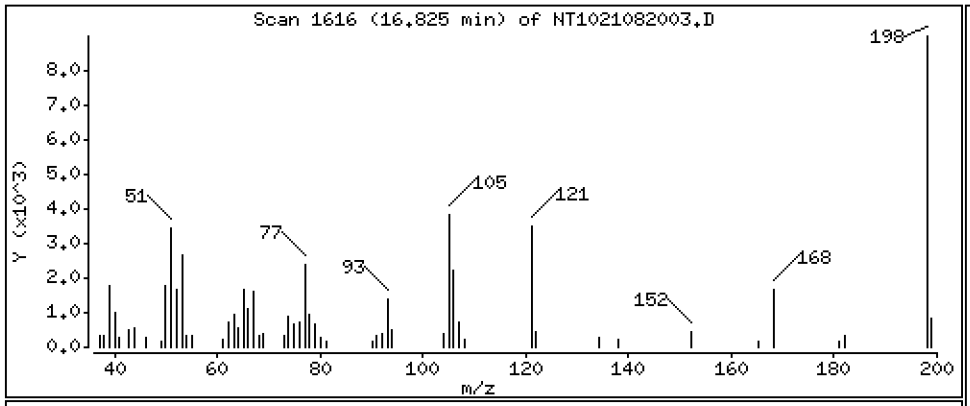
Operator: VTS

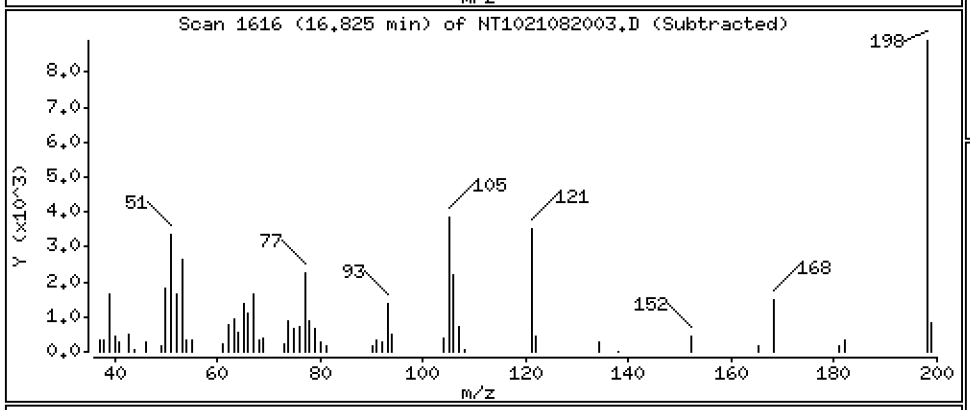
Column phase: ZB-5msi

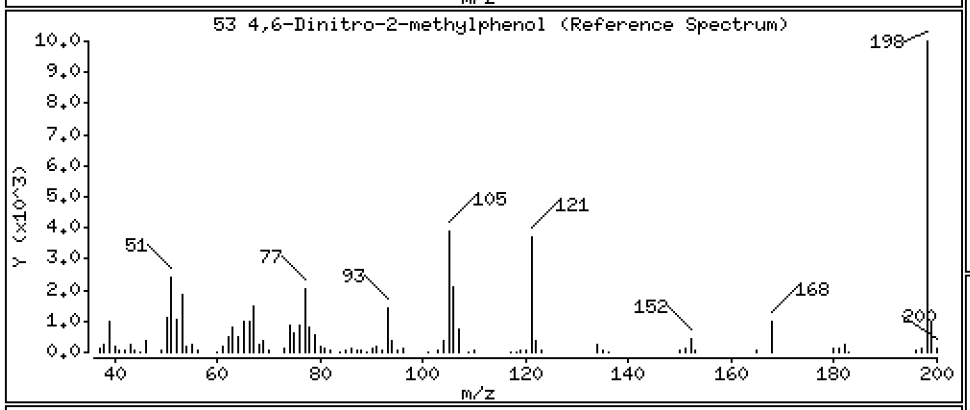
Column diameter: 0.25

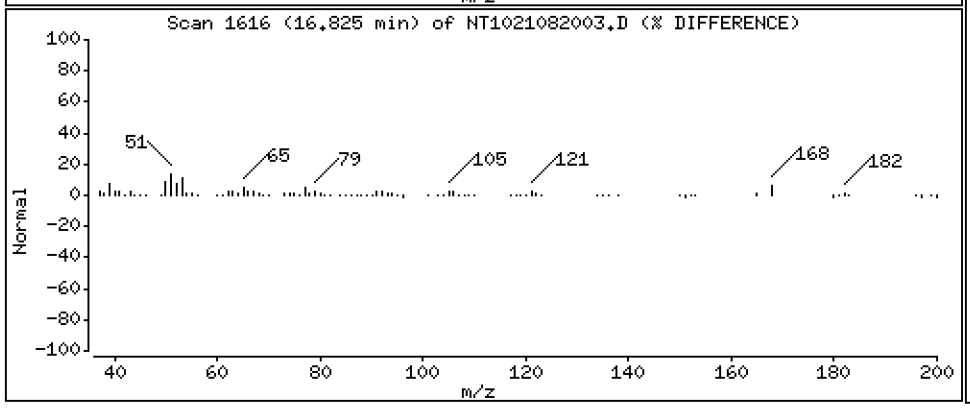
53 4,6-Dinitro-2-methylphenol

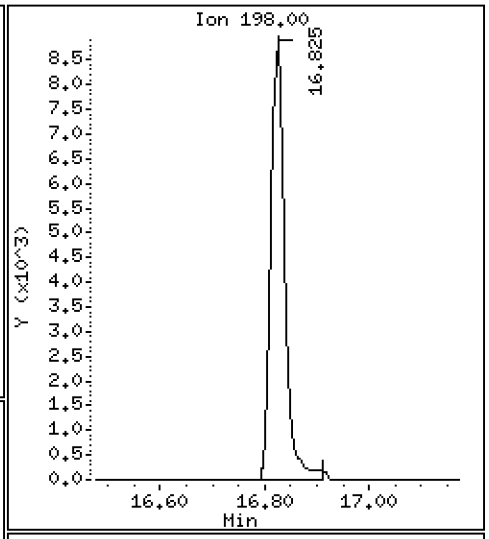
Concentration: 1.177 ug/mL

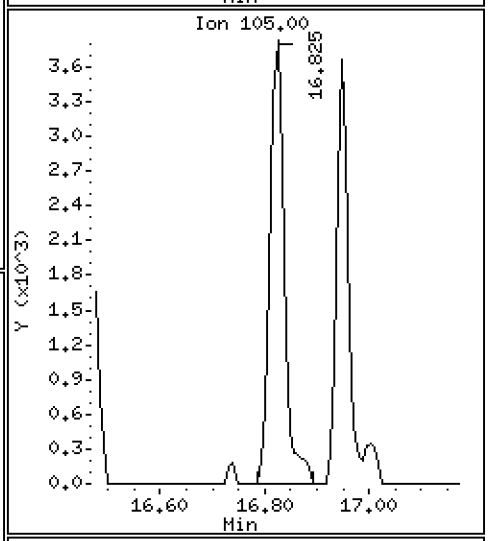


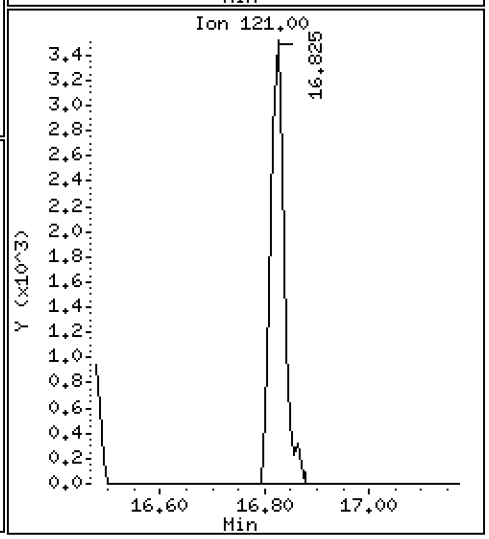












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

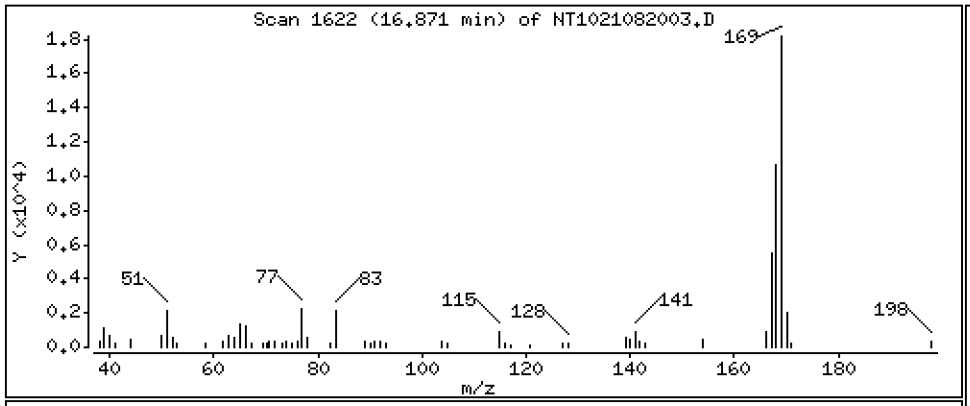
Operator: VTS

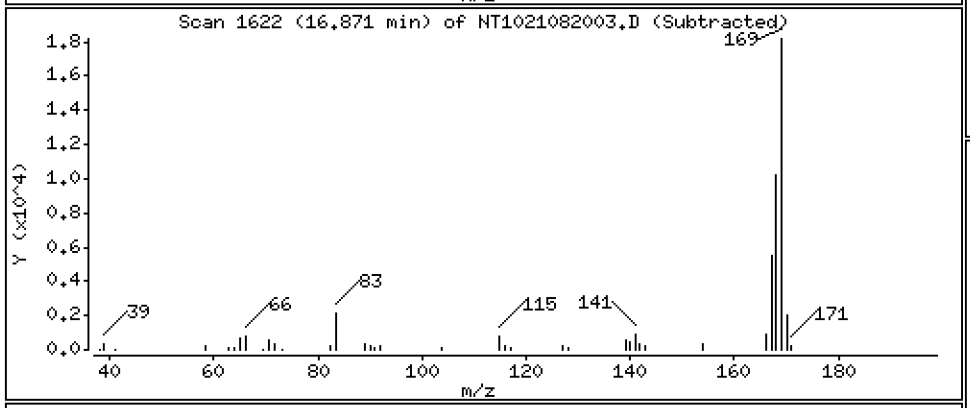
Column phase: ZB-5msi

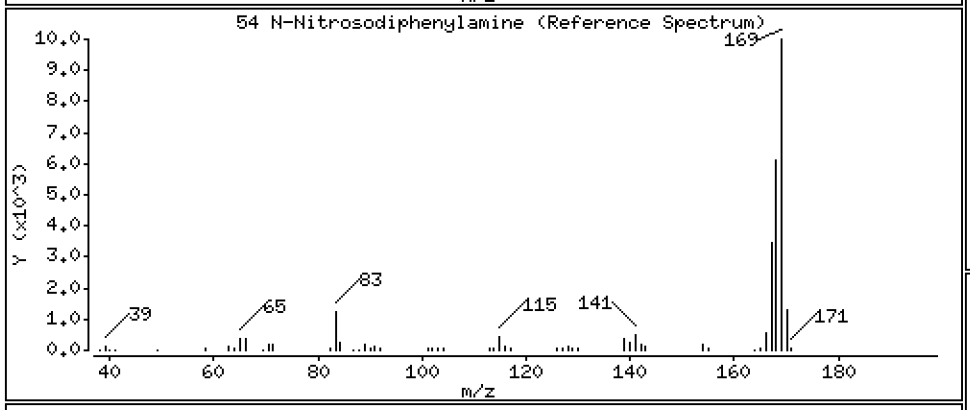
Column diameter: 0.25

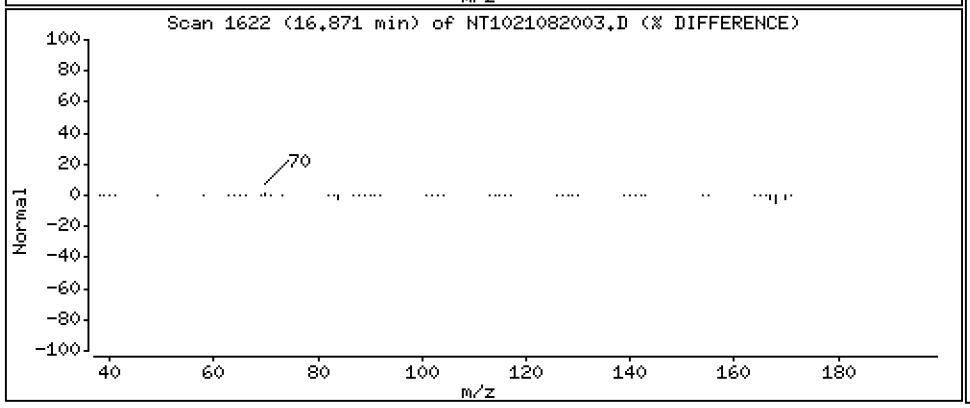
54 N-Nitrosodiphenylamine

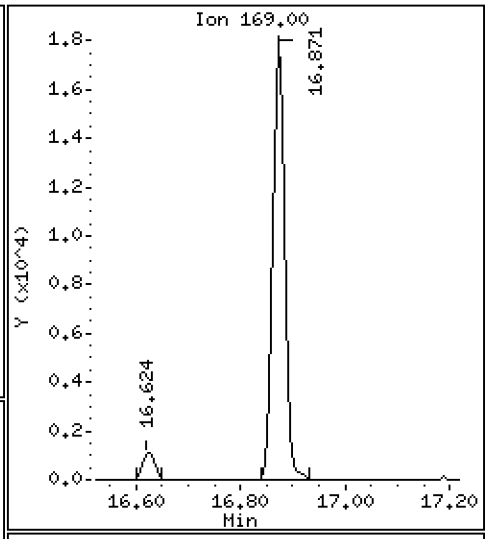
Concentration: 0.5546 ug/mL

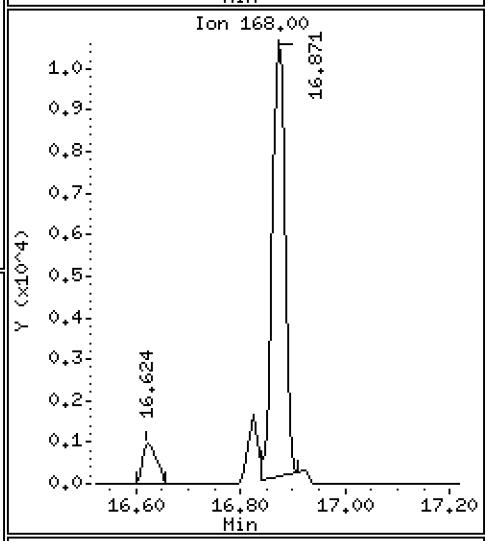


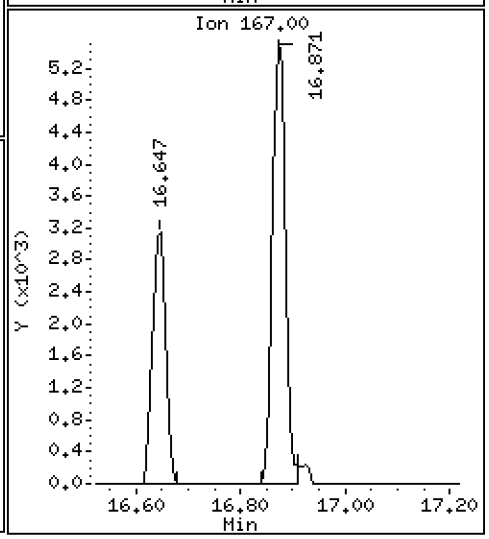












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

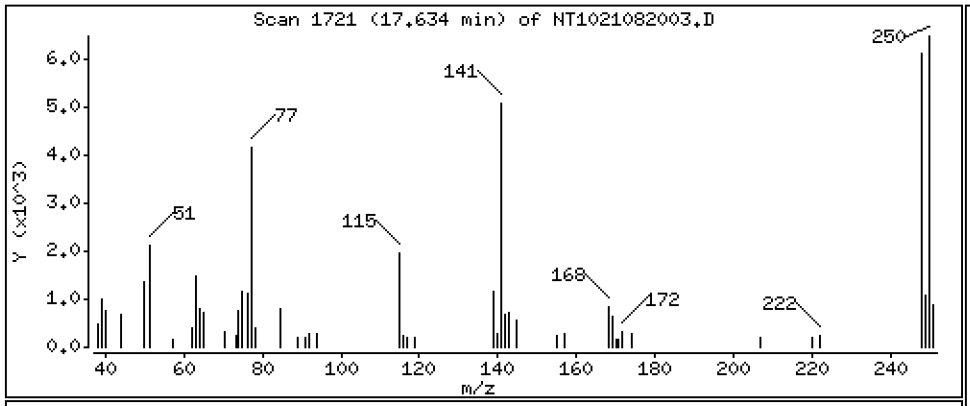
Operator: VTS

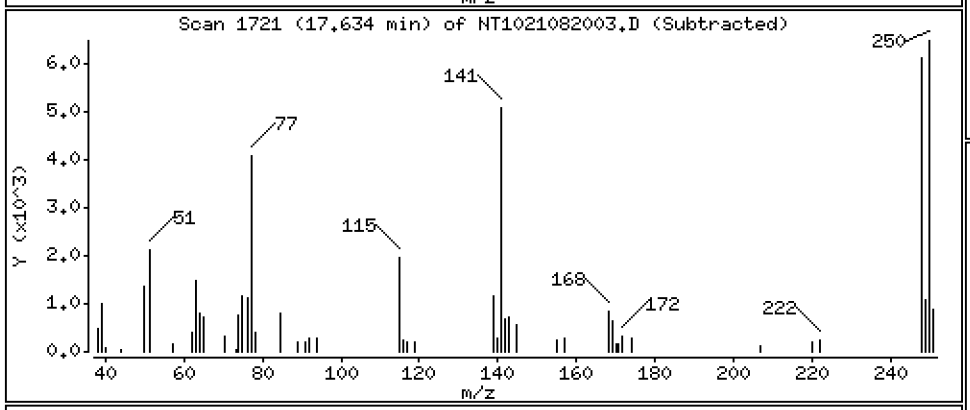
Column phase: ZB-5msi

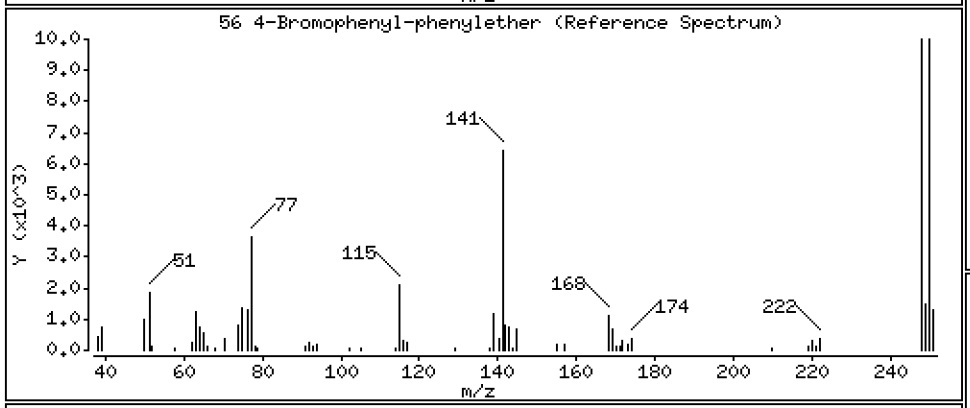
Column diameter: 0.25

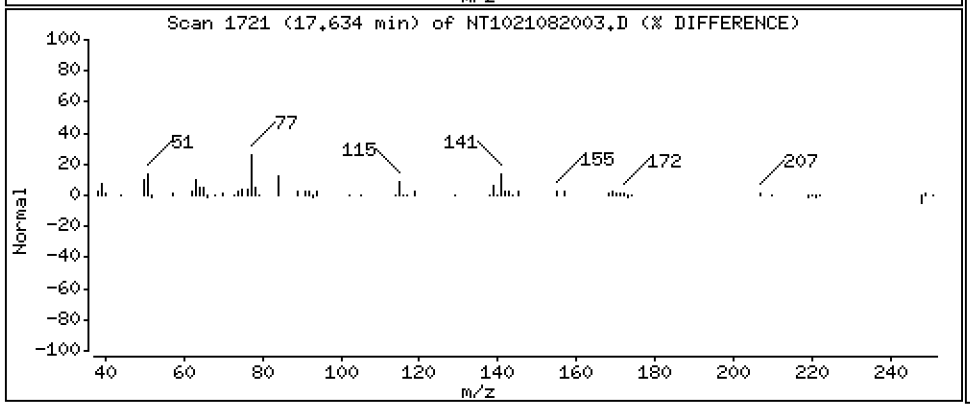
56 4-Bromophenyl-phenylether

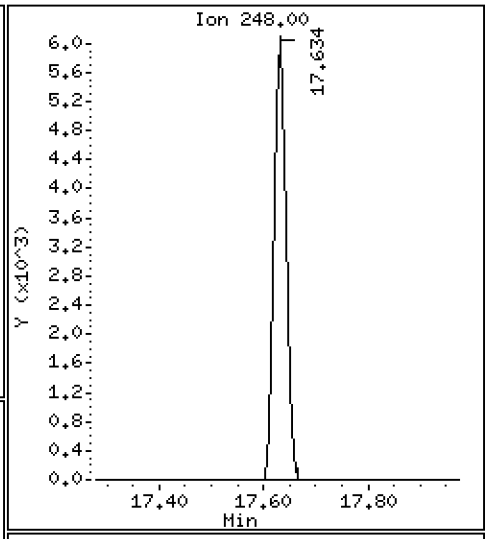
Concentration: 0.4718 ug/mL

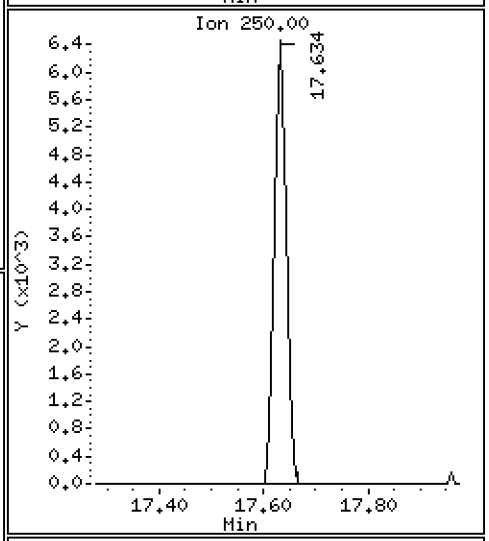


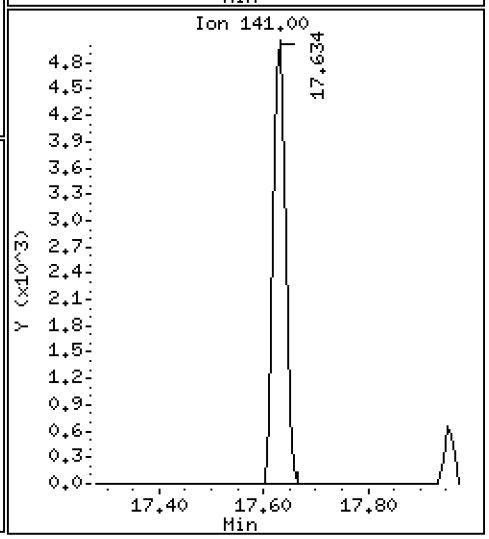












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

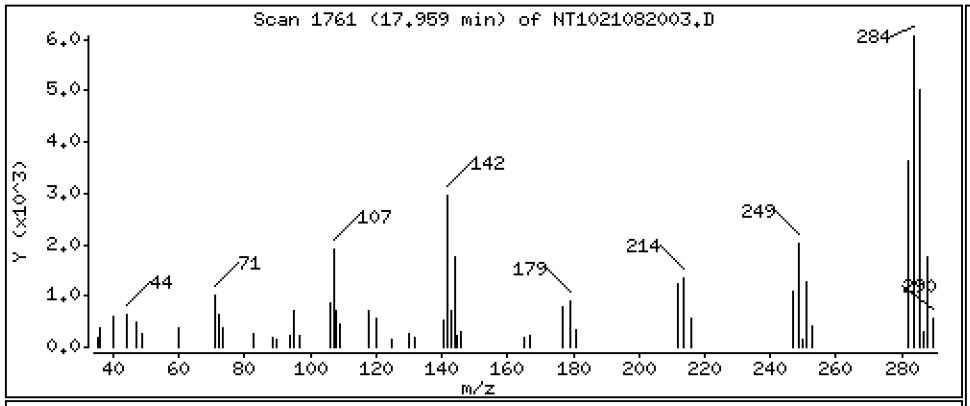
Operator: VTS

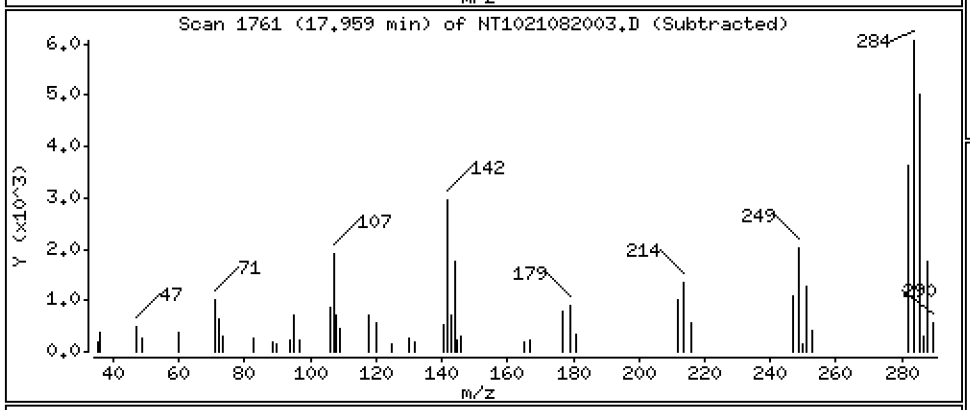
Column phase: ZB-5msi

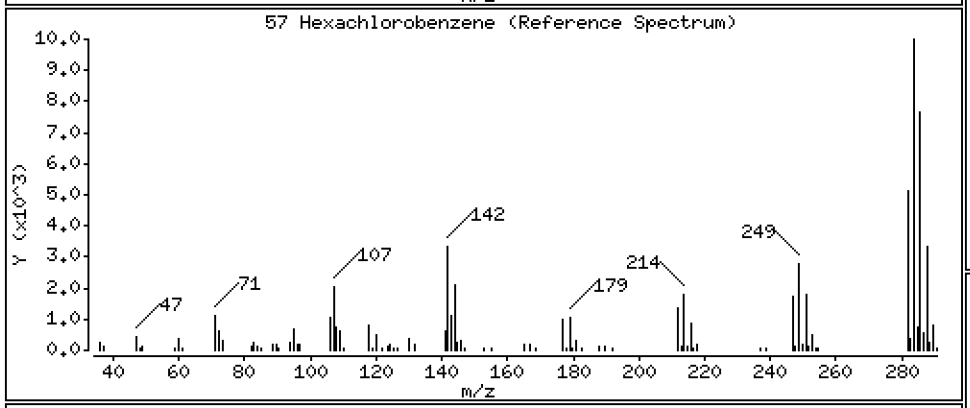
Column diameter: 0.25

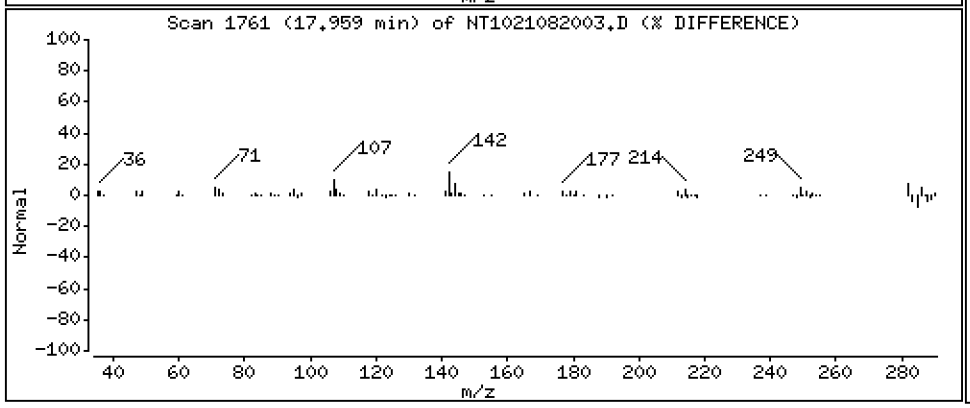
57 Hexachlorobenzene

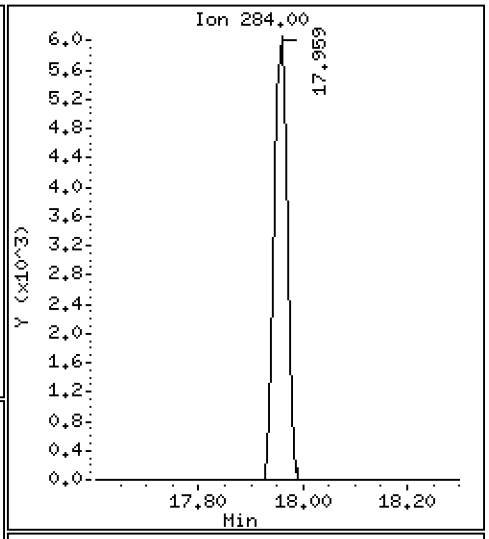
Concentration: 0.5465 ug/mL

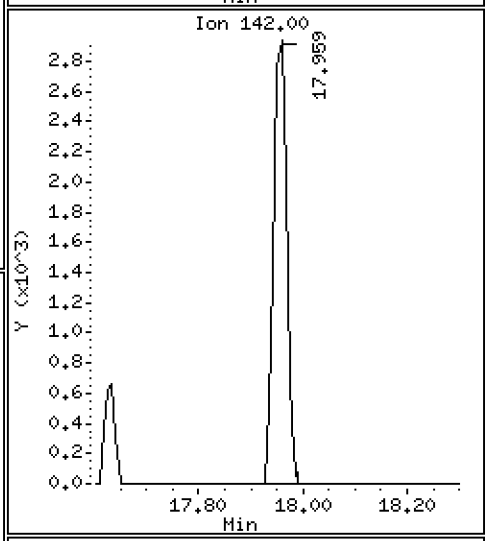


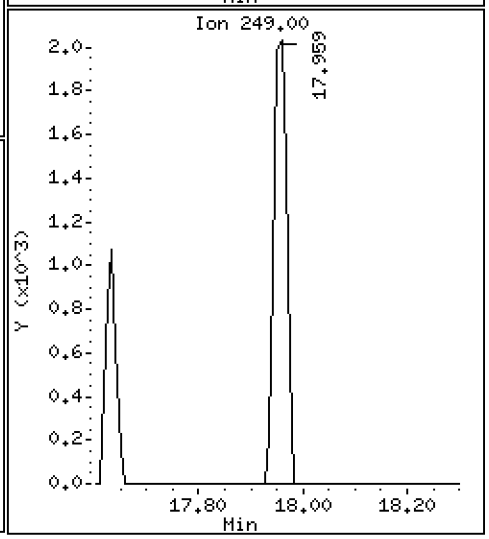












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

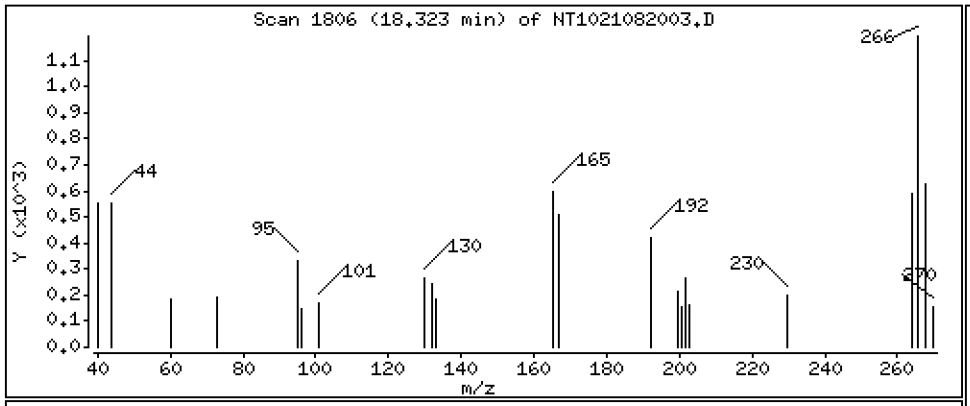
Operator: VTS

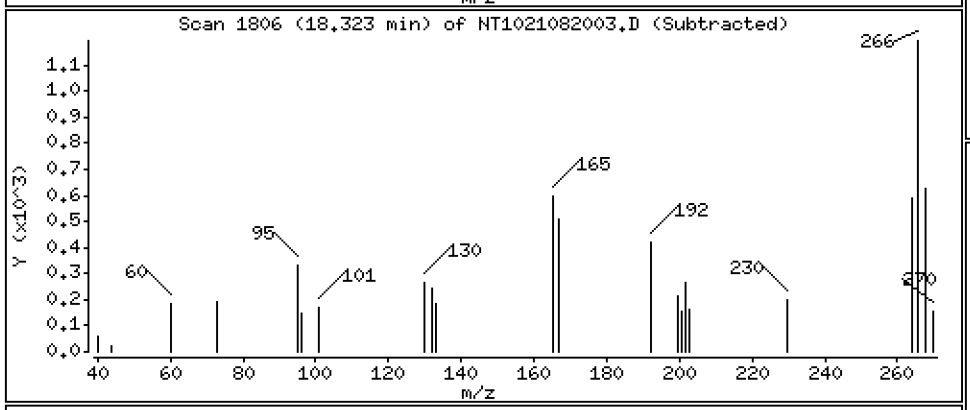
Column phase: ZB-5msi

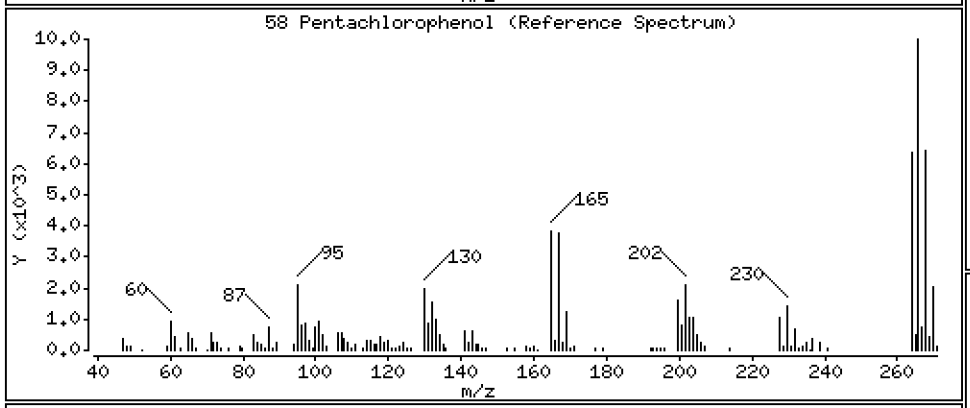
Column diameter: 0.25

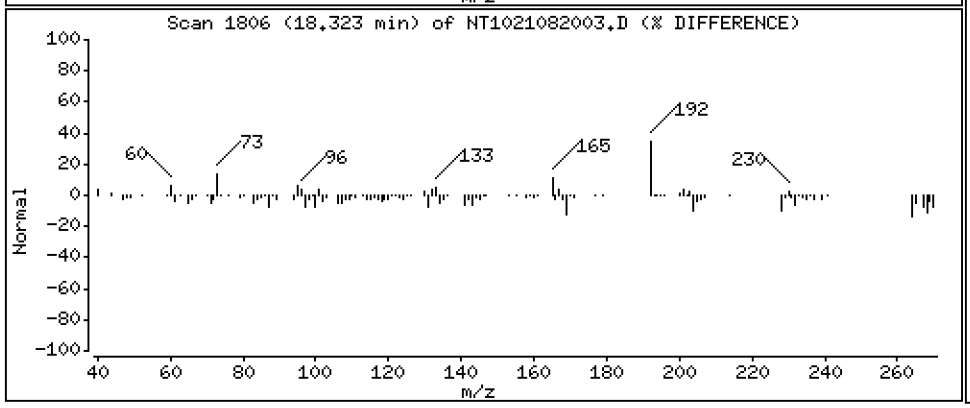
58 Pentachlorophenol

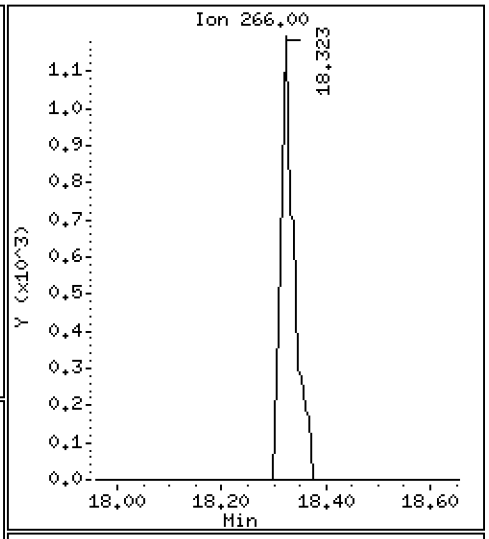
Concentration: 0.3301 ug/mL

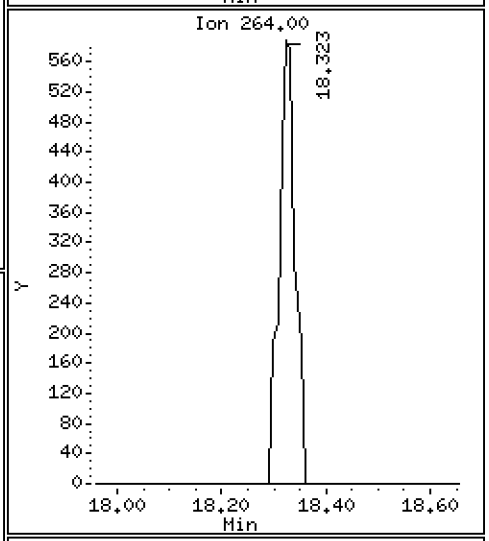


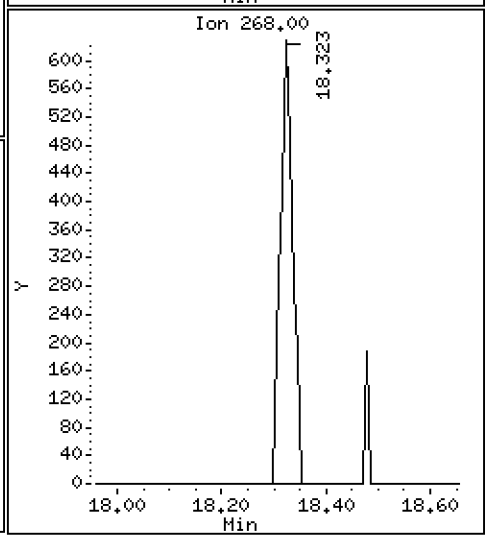












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

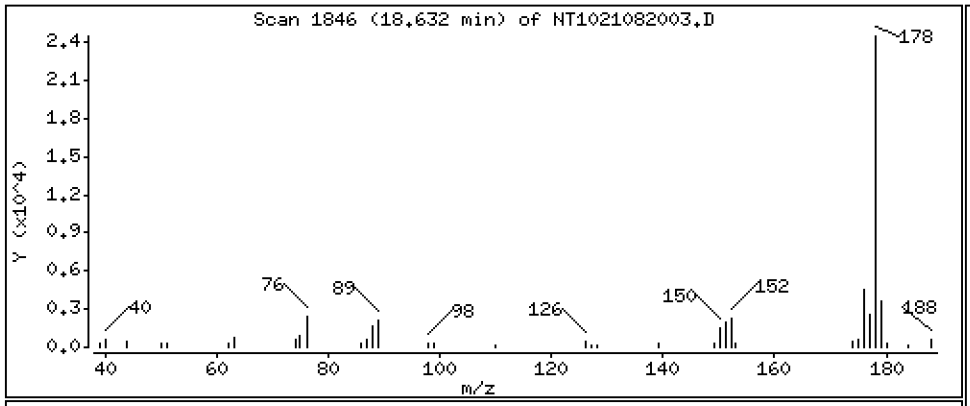
Operator: VTS

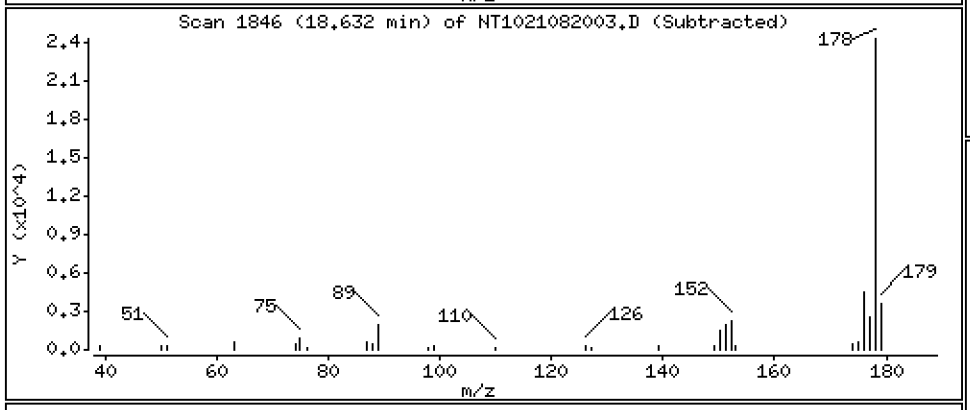
Column phase: ZB-5msi

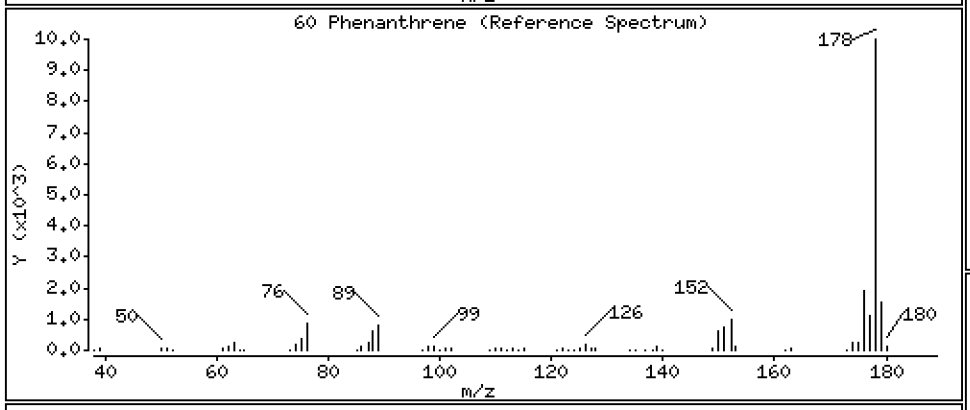
Column diameter: 0.25

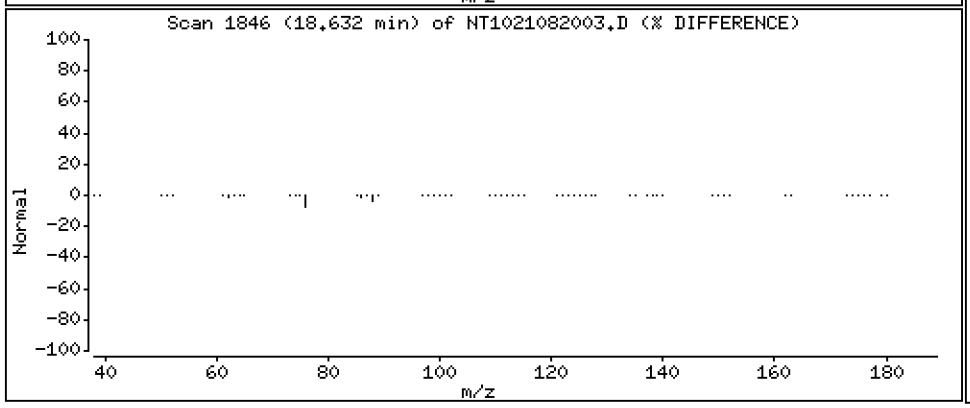
60 Phenanthrene

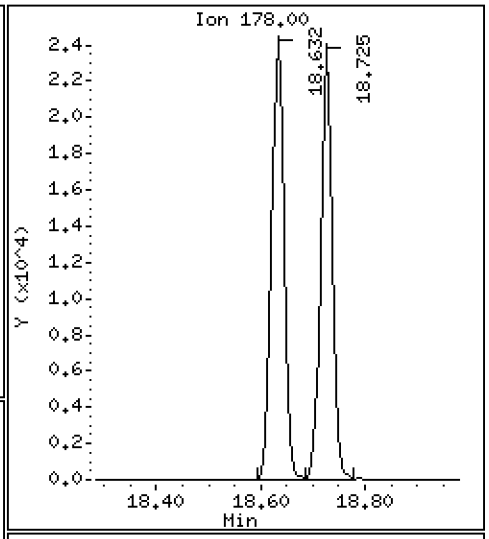
Concentration: 0.4883 ug/mL

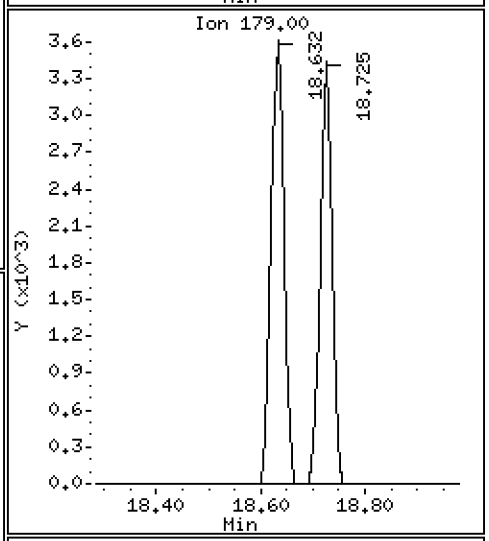


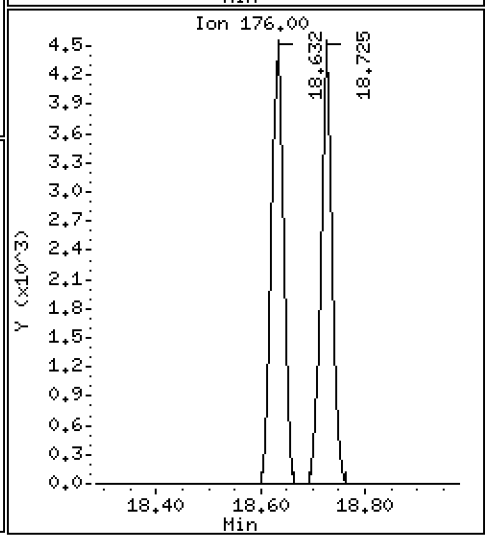












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

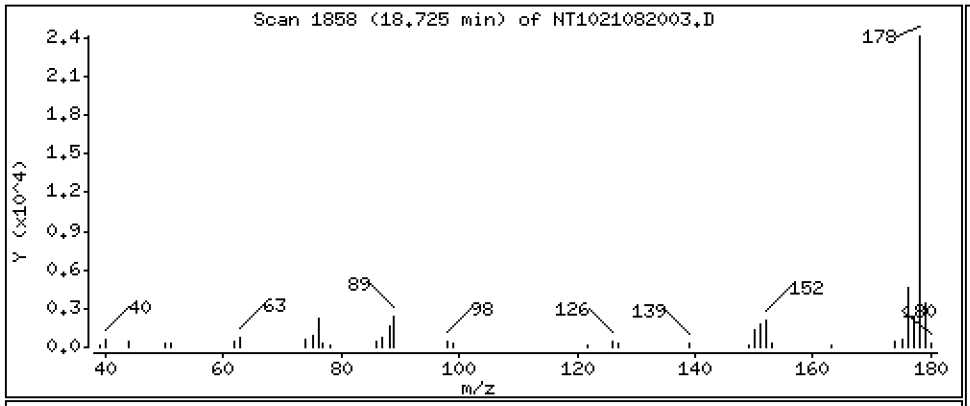
Operator: VTS

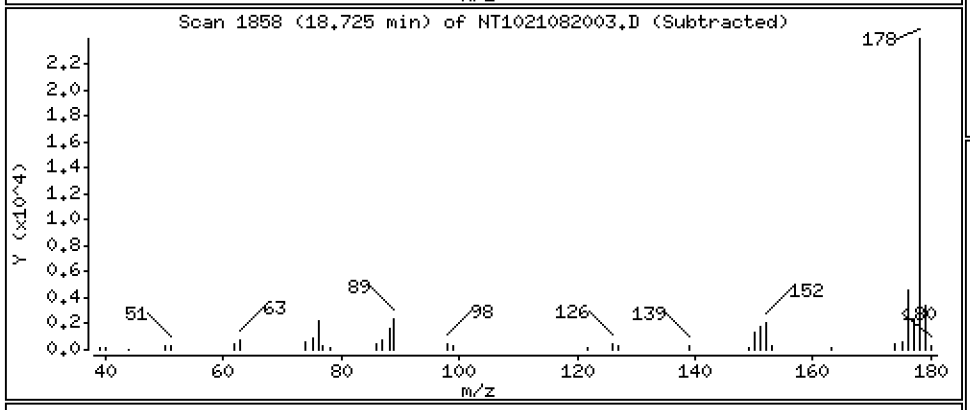
Column phase: ZB-5msi

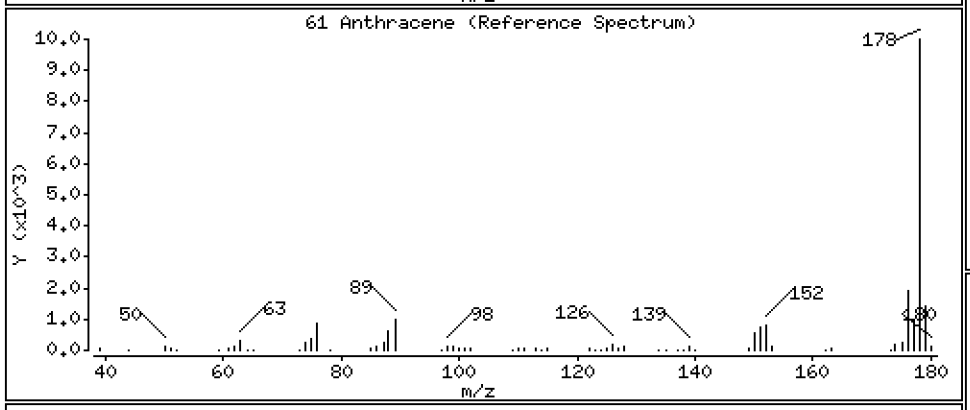
Column diameter: 0.25

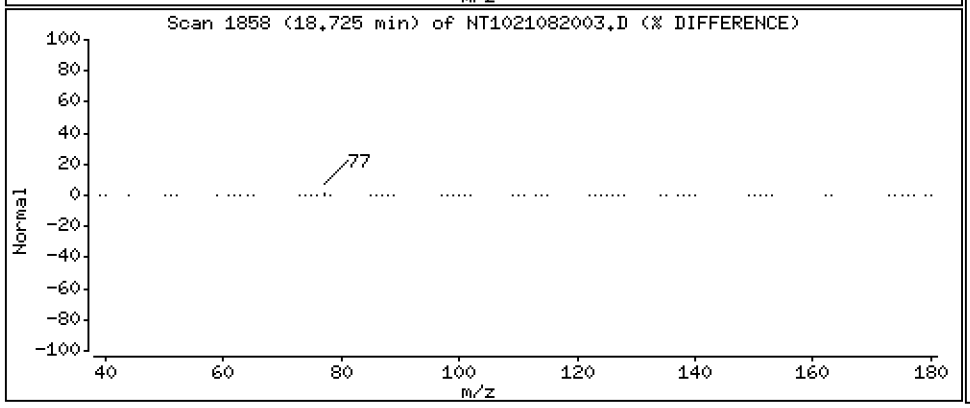
61 Anthracene

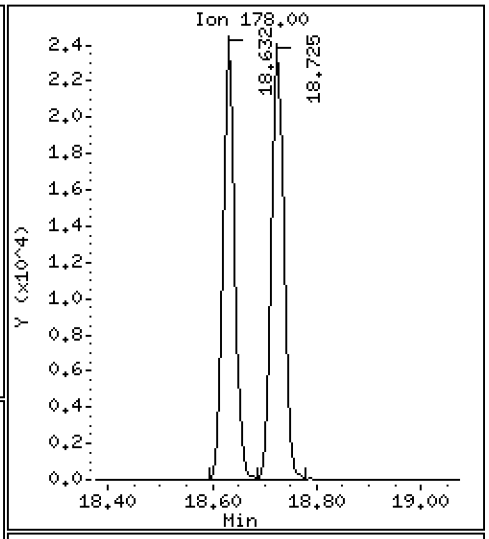
Concentration: 0.4432 ug/mL

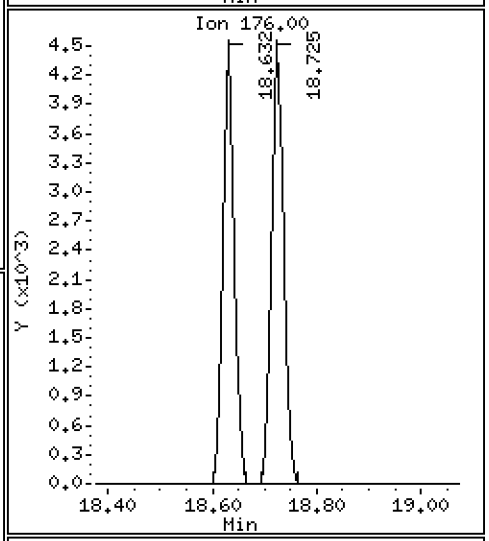


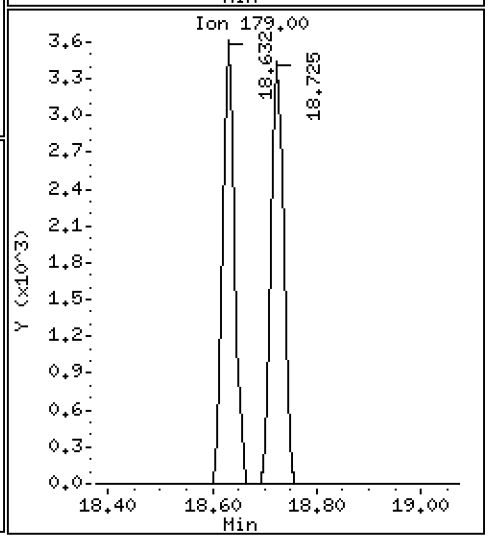












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

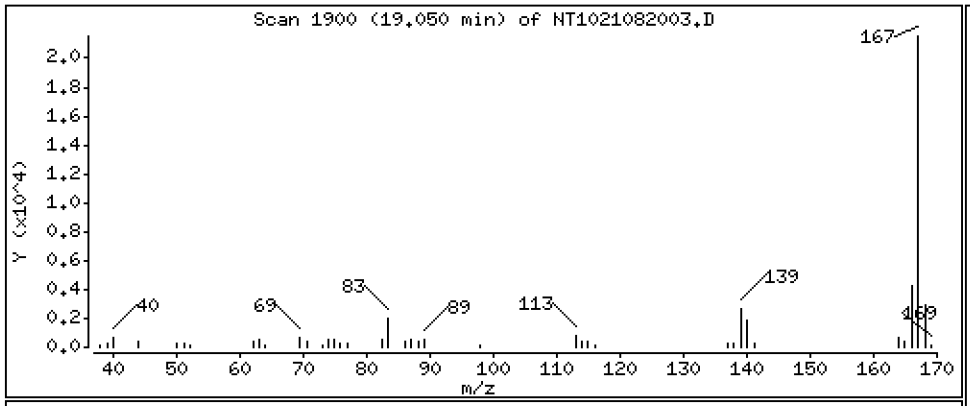
Operator: VTS

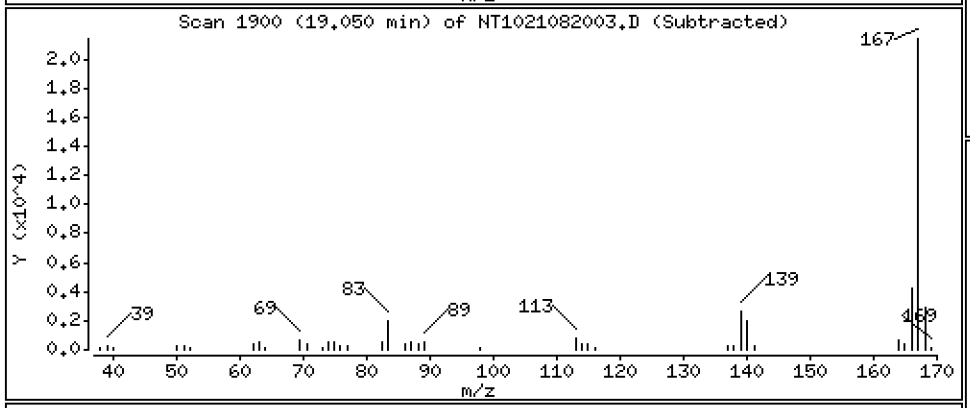
Column phase: ZB-5msi

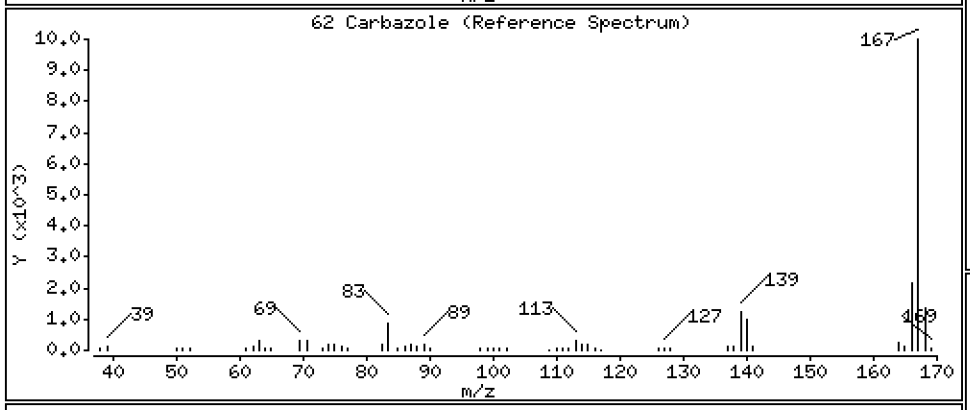
Column diameter: 0.25

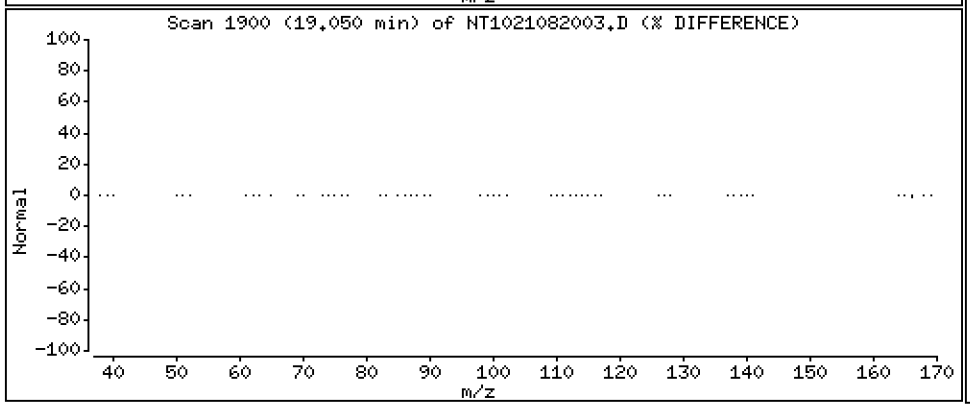
62 Carbazole

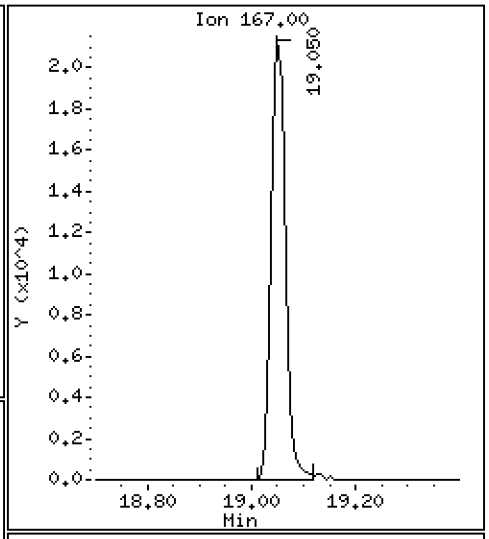
Concentration: 0.4476 ug/mL

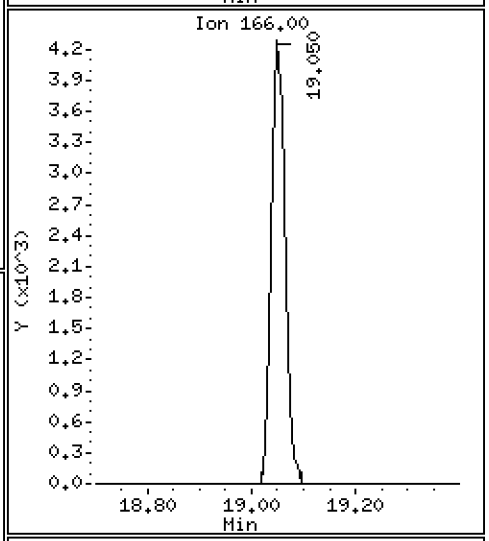


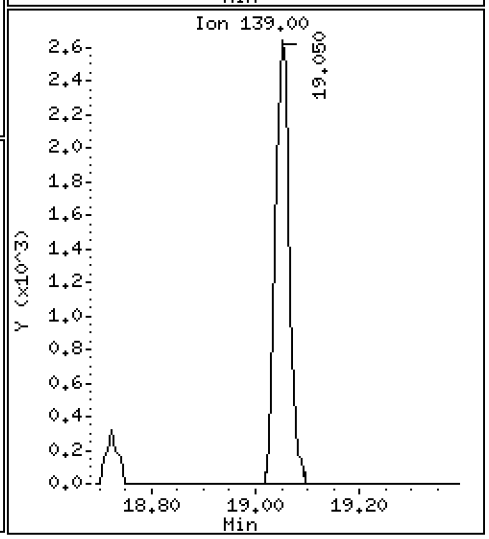












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

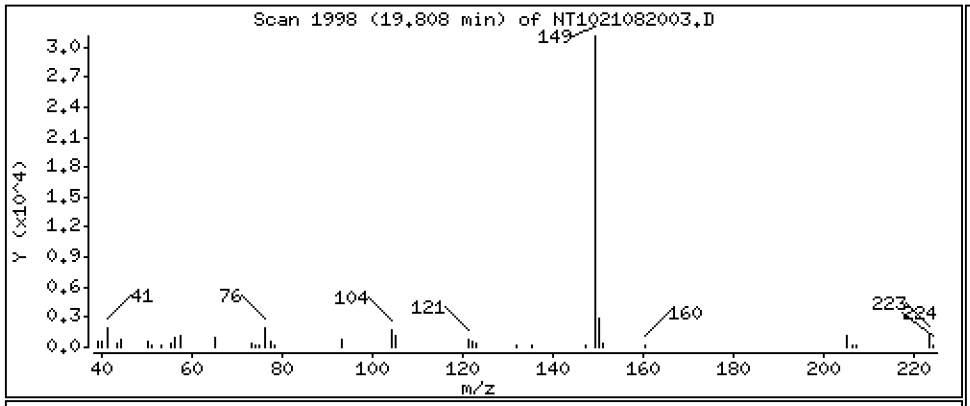
Operator: VTS

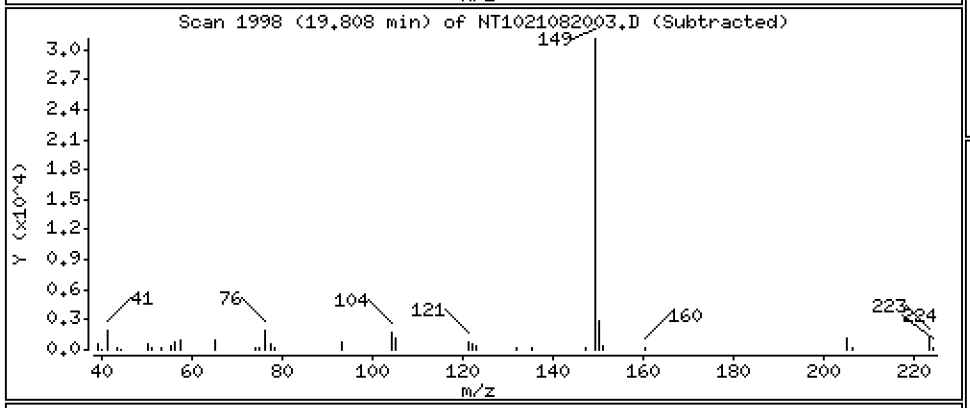
Column phase: ZB-5msi

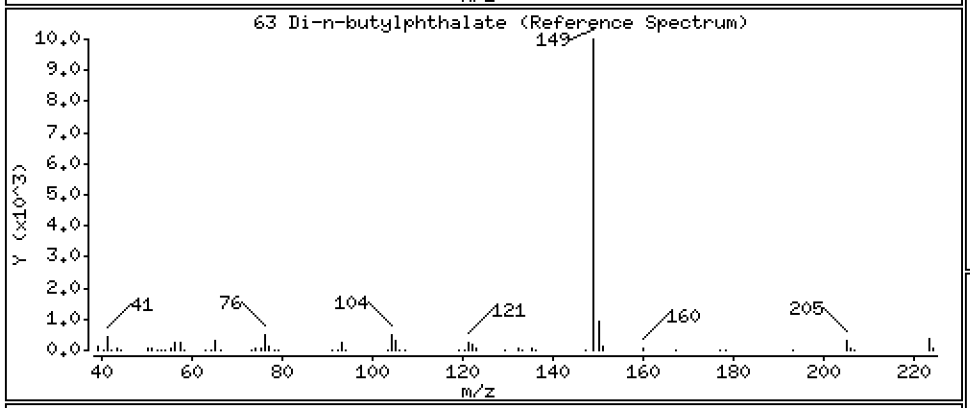
Column diameter: 0.25

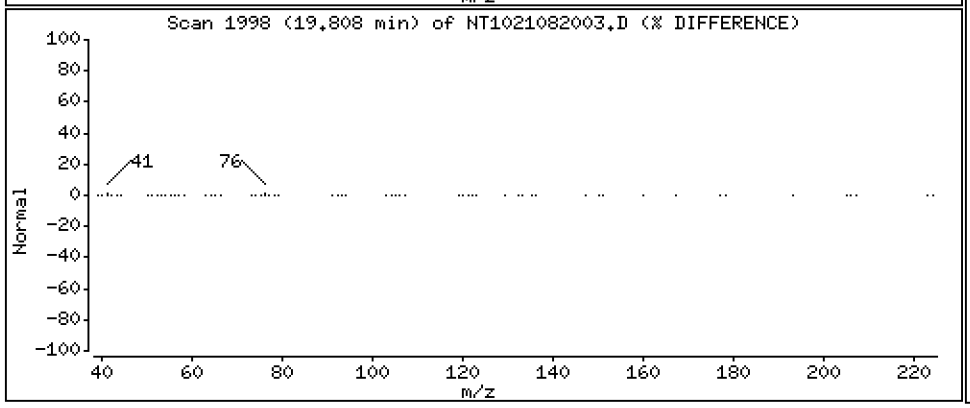
63 Di-n-butylphthalate

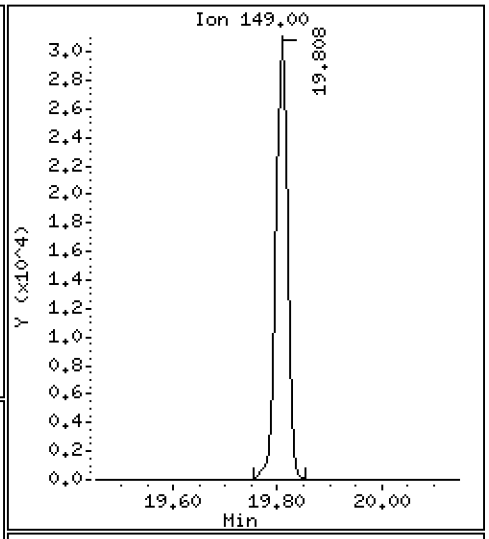
Concentration: 0.4230 ug/mL

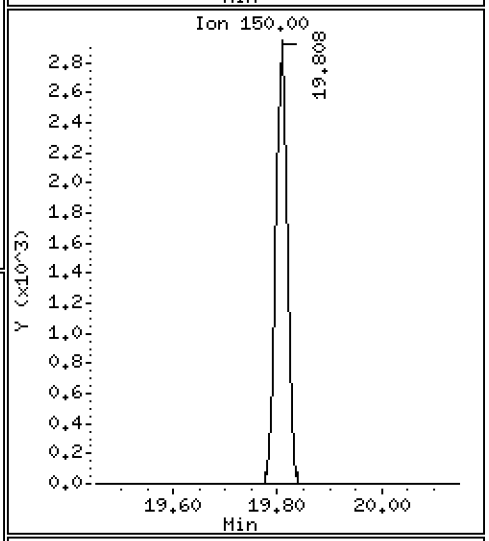


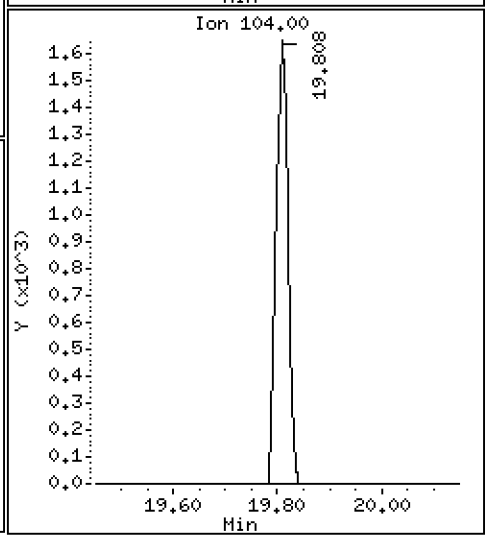












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

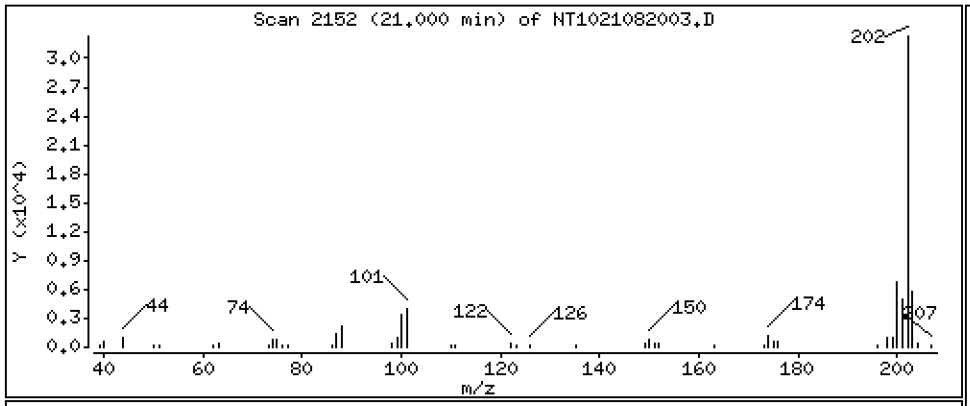
Operator: VTS

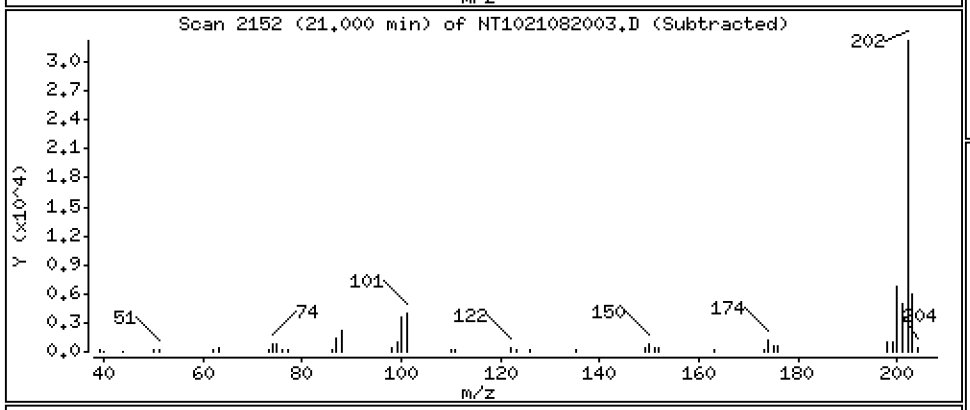
Column phase: ZB-5msi

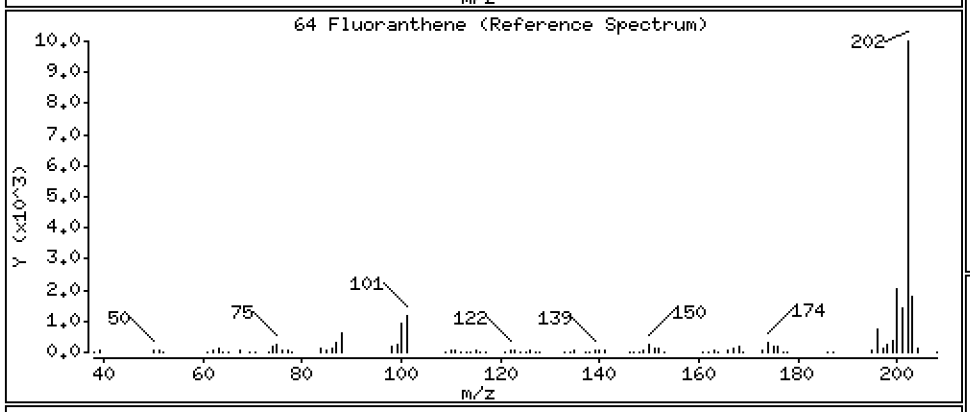
Column diameter: 0.25

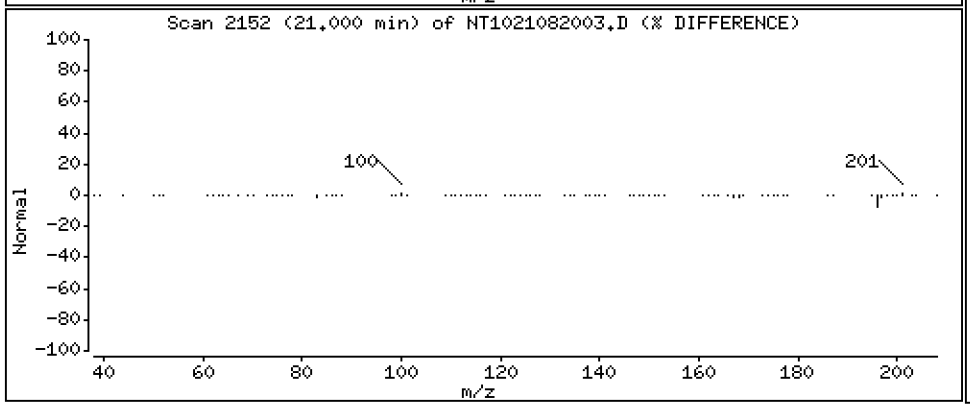
64 Fluoranthene

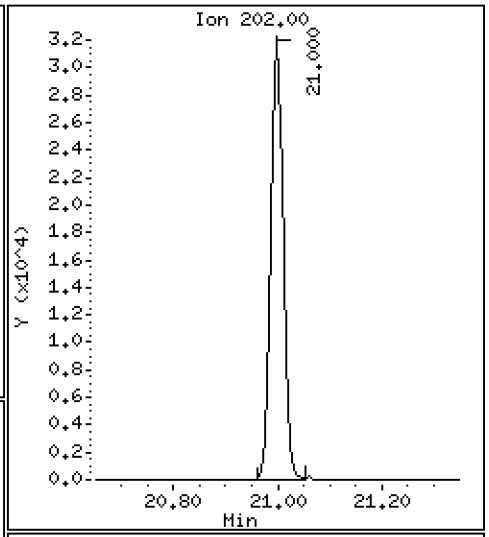
Concentration: 0.4645 ug/mL

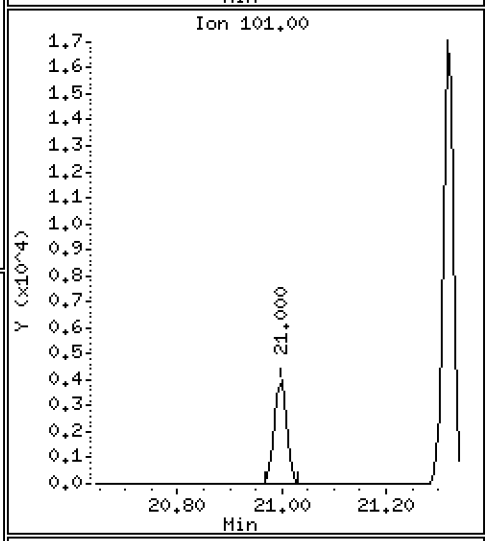


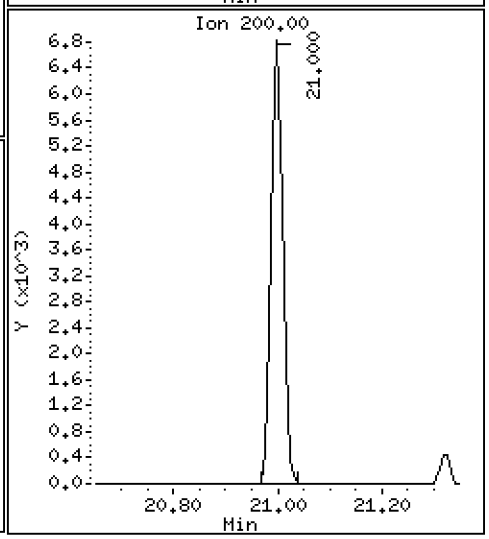












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

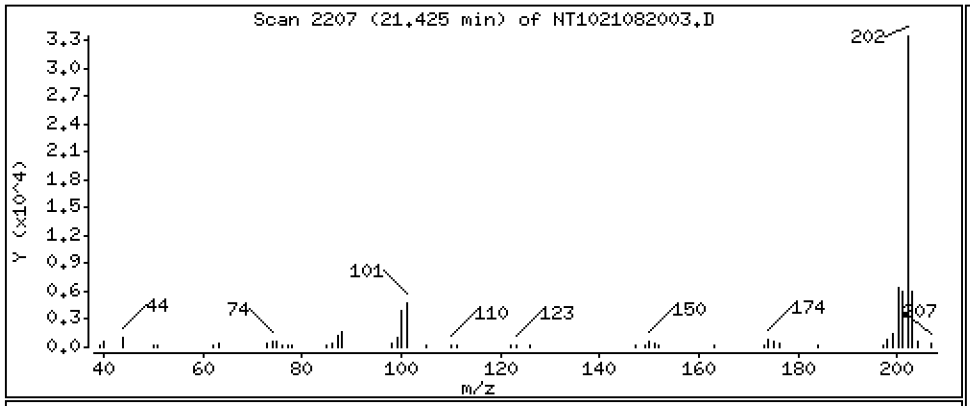
Operator: VTS

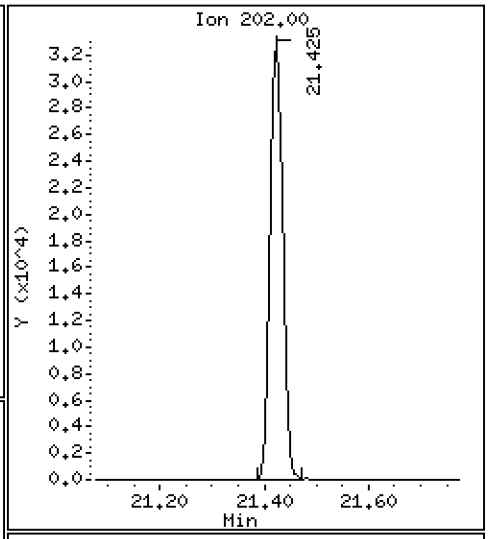
Column phase: ZB-5msi

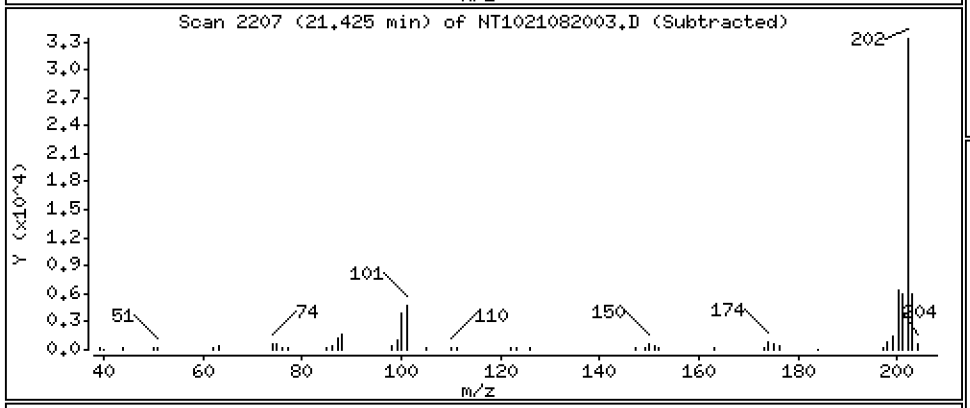
Column diameter: 0.25

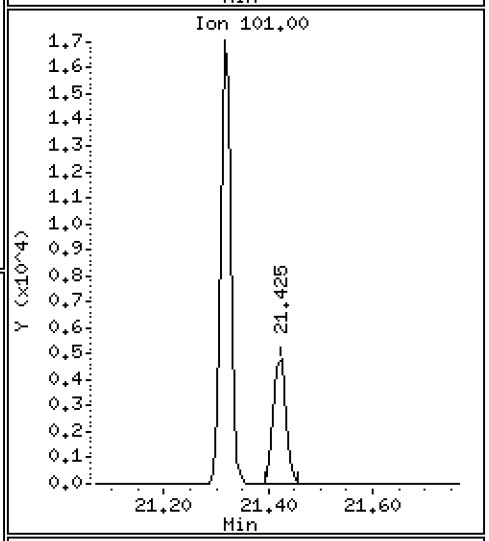
65 Pyrene

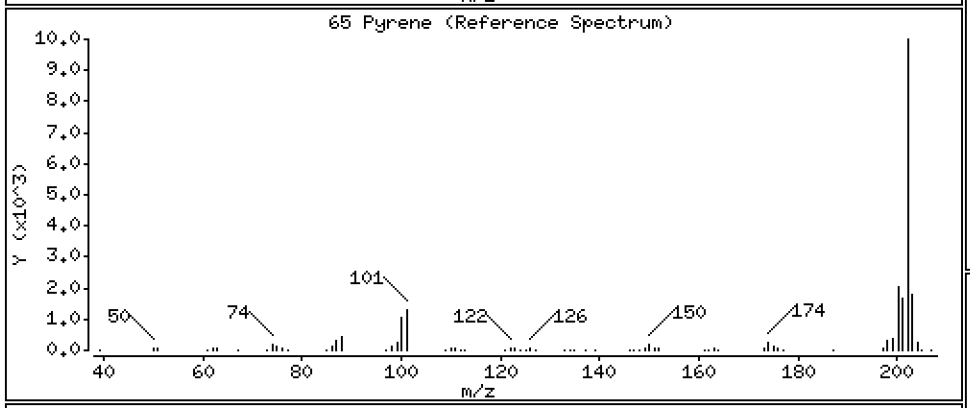
Concentration: 0.4818 ug/mL

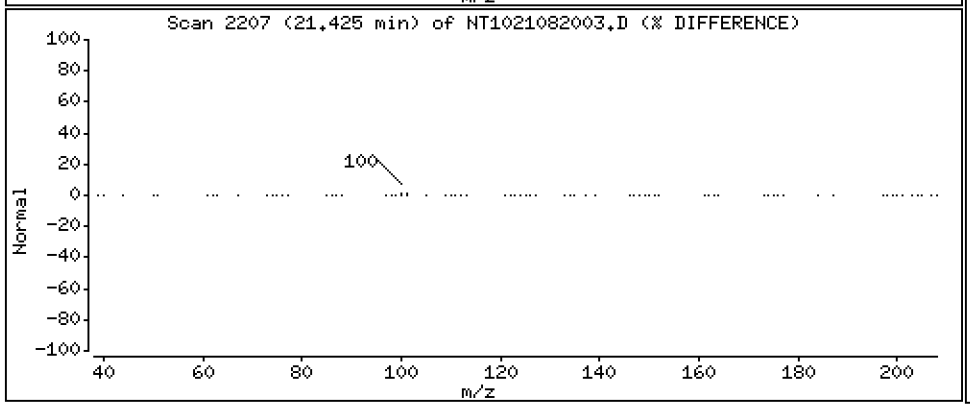


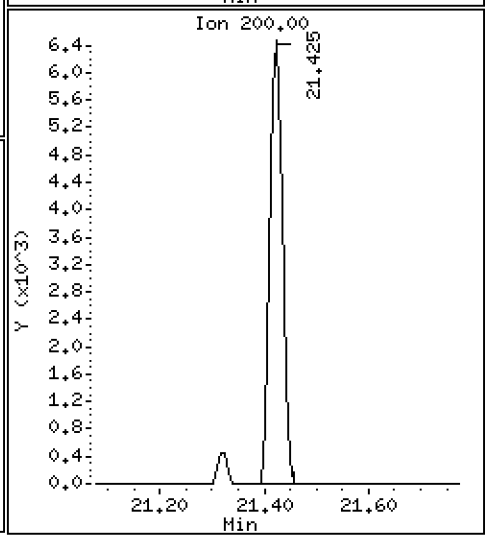












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

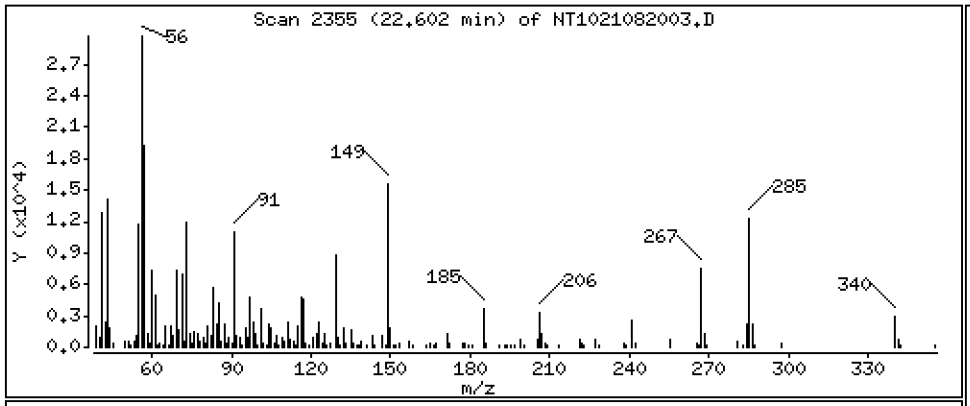
Operator: VTS

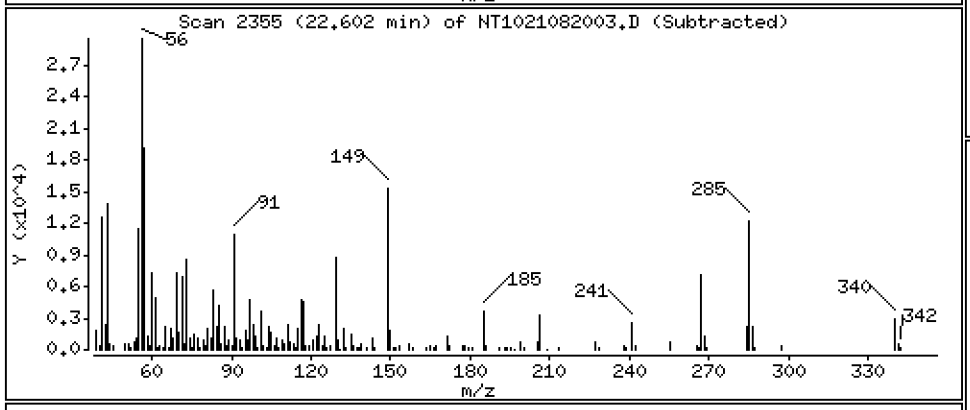
Column phase: ZB-5msi

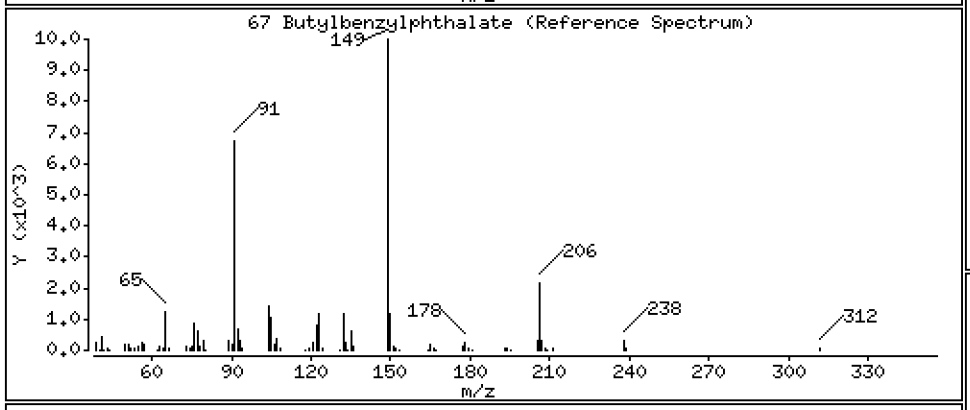
Column diameter: 0.25

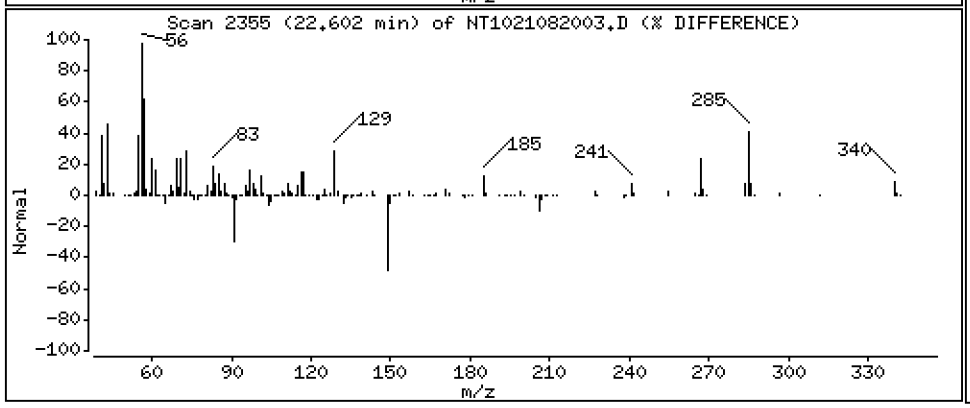
67 Butylbenzylphthalate

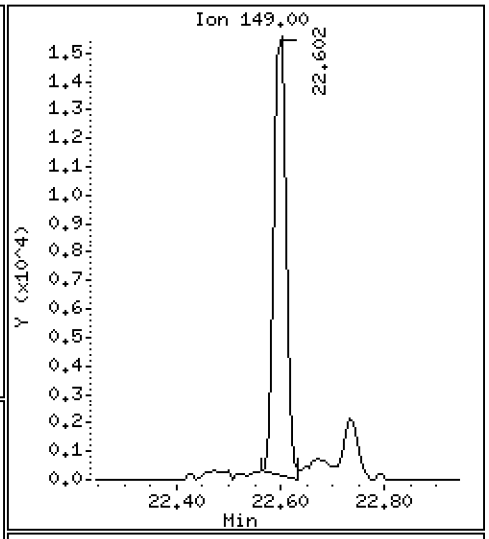
Concentration: 0.5442 ug/mL

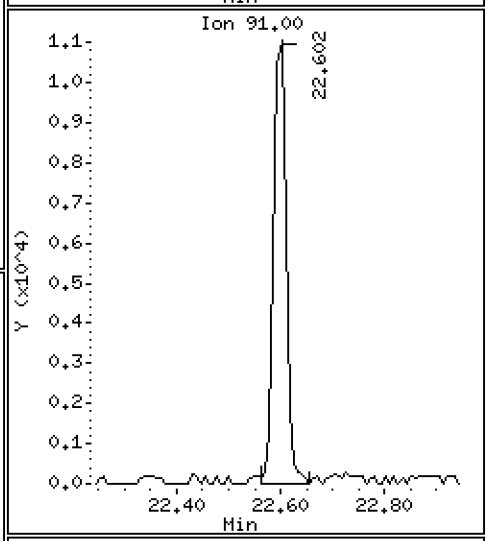


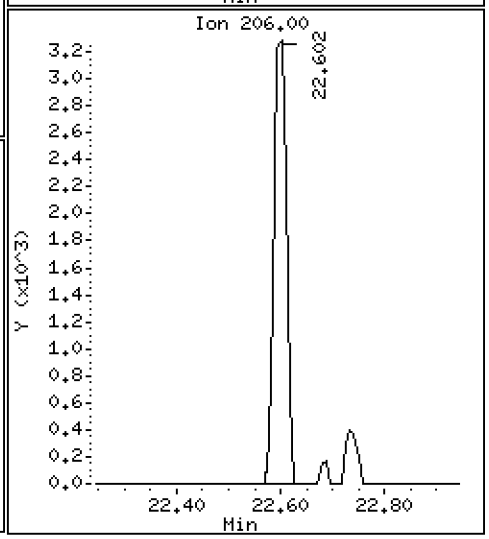












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

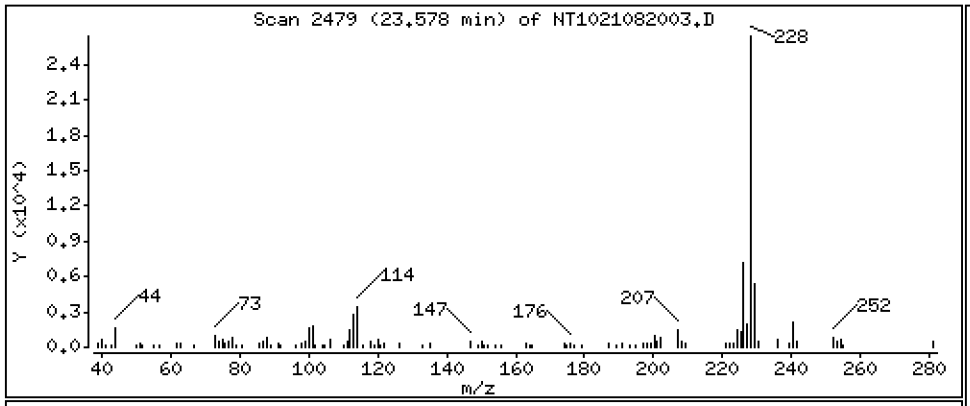
Operator: VTS

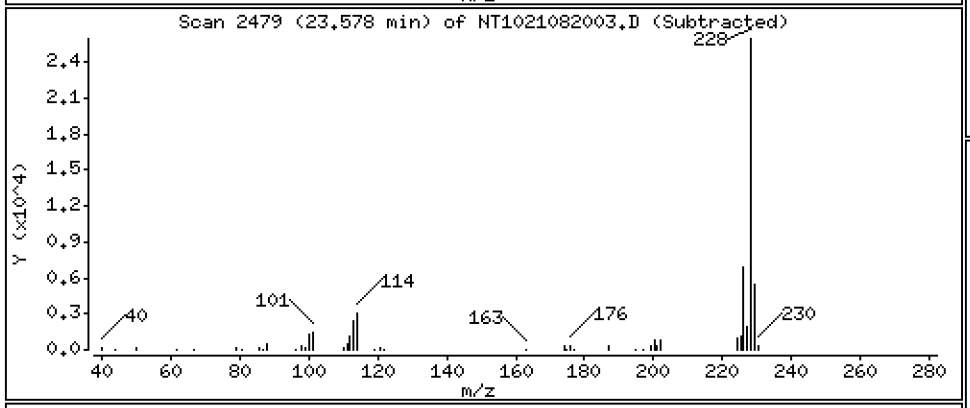
Column phase: ZB-5msi

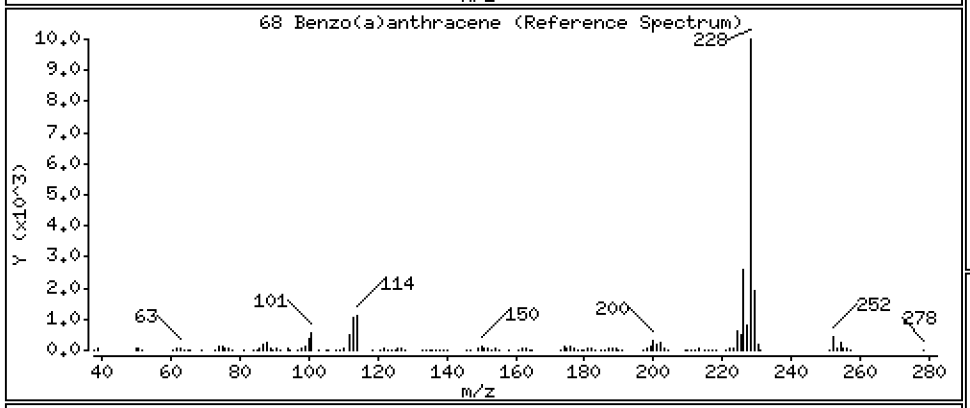
Column diameter: 0.25

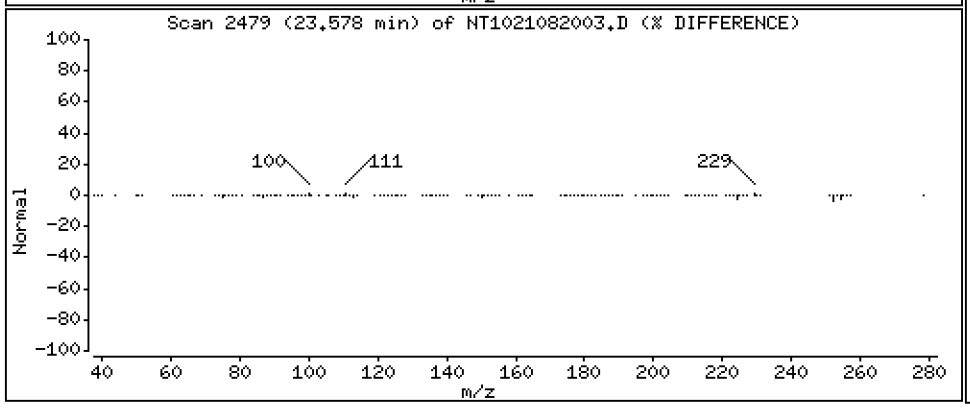
68 Benzo(a)anthracene

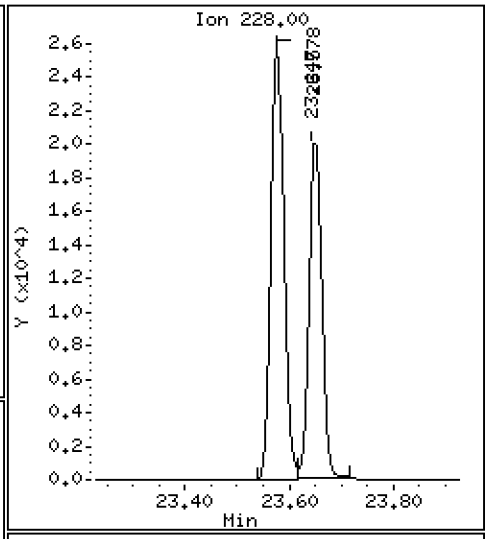
Concentration: 0.4954 ug/mL

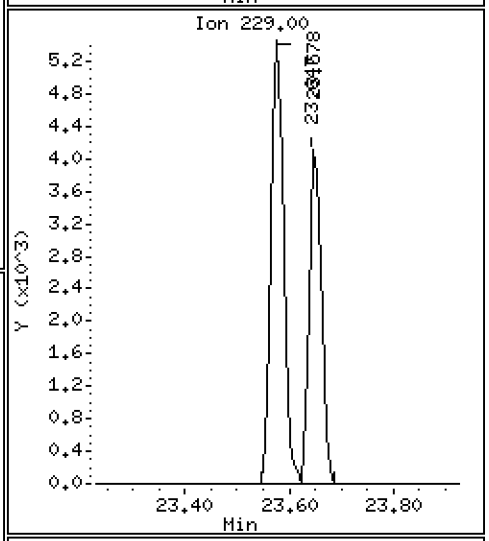


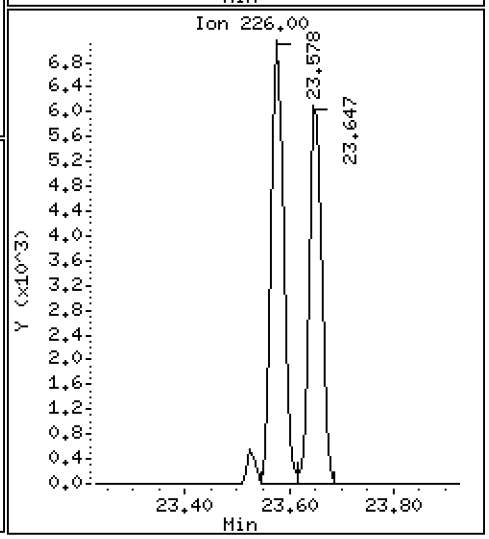












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

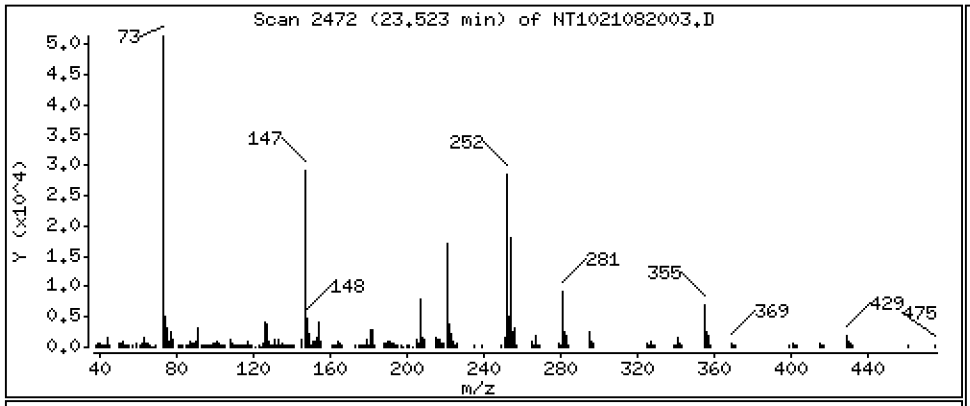
Operator: VTS

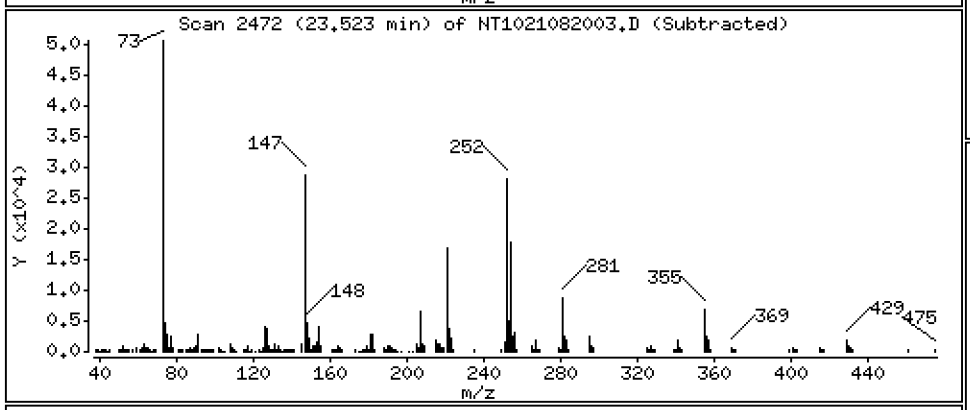
Column phase: ZB-5msi

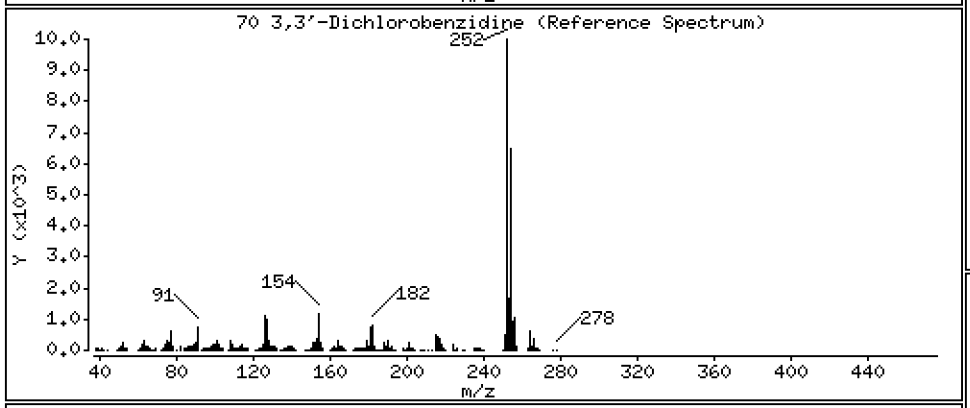
Column diameter: 0.25

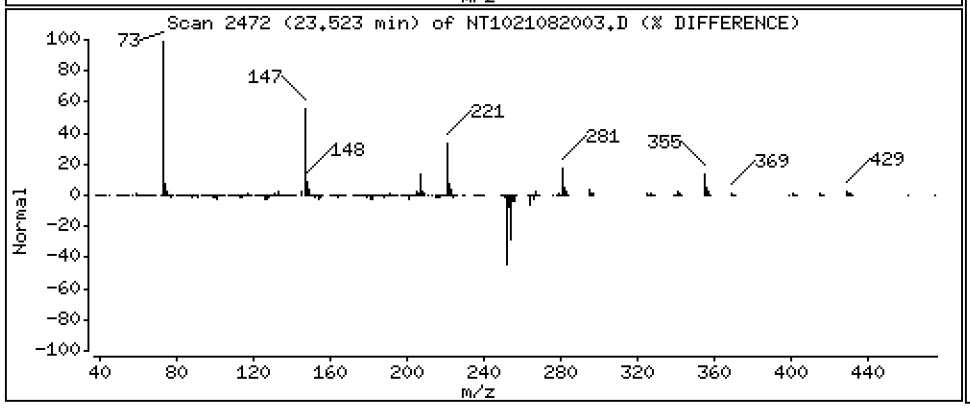
70 3,3'-Dichlorobenzidine

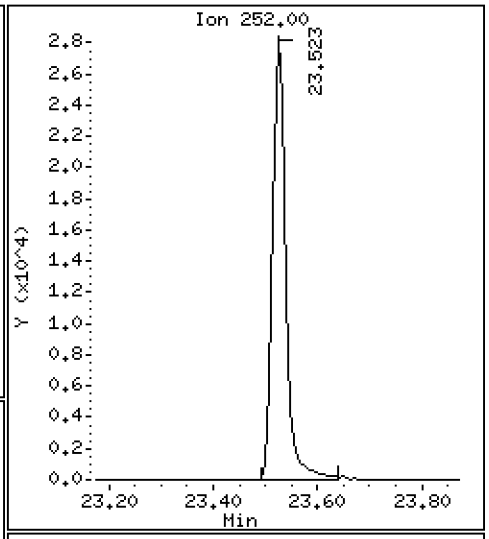
Concentration: 1.390 ug/mL

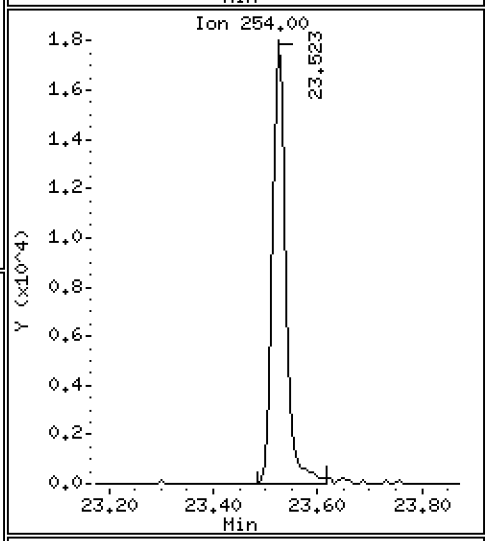


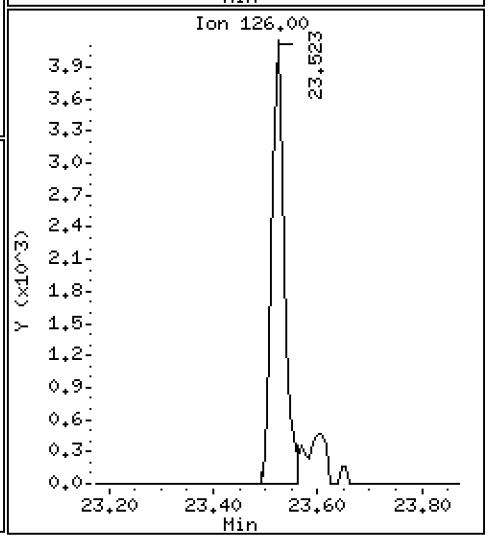












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

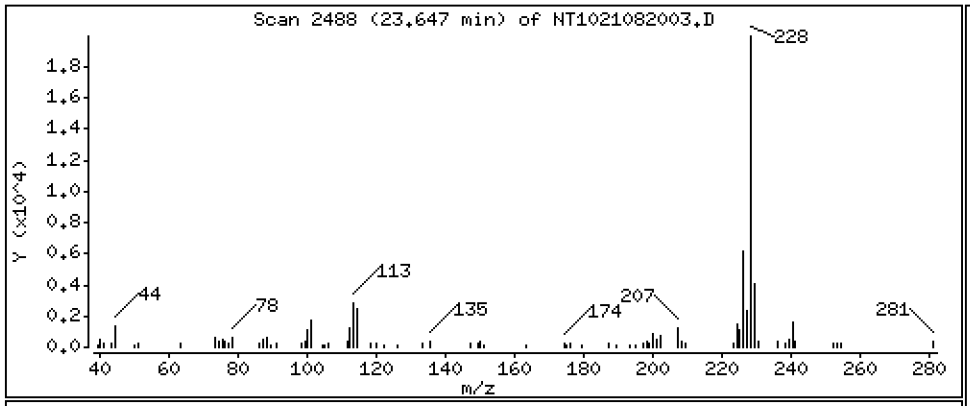
Operator: VTS

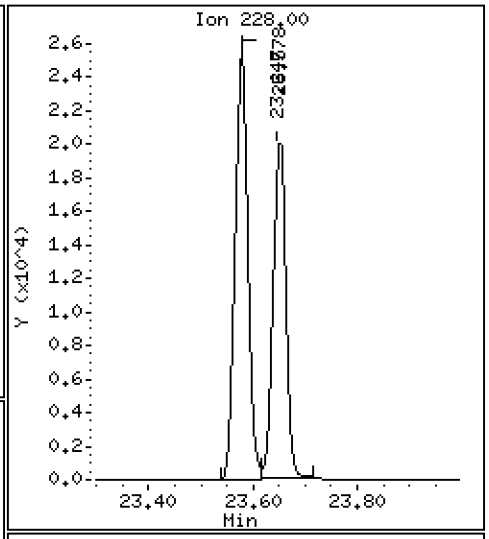
Column phase: ZB-5msi

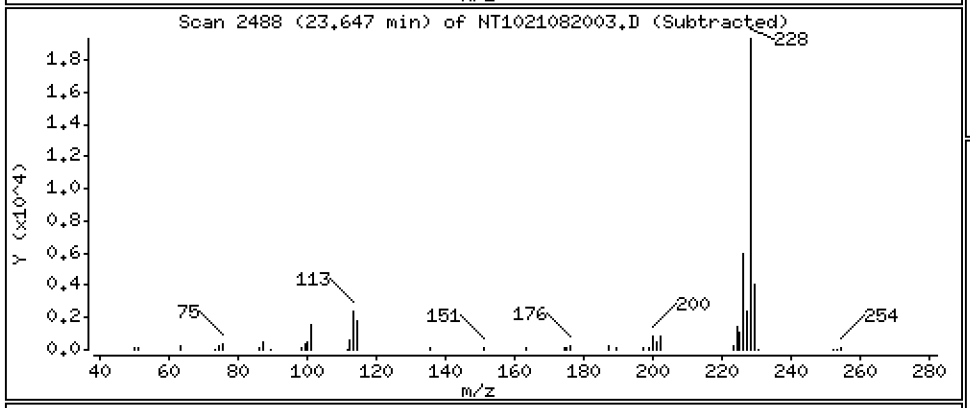
Column diameter: 0.25

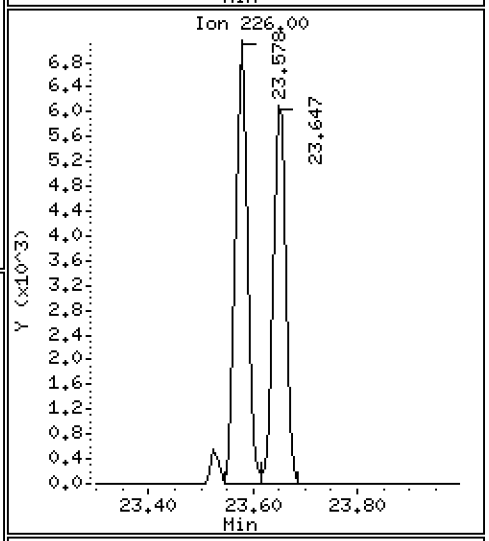
71 Chrysene

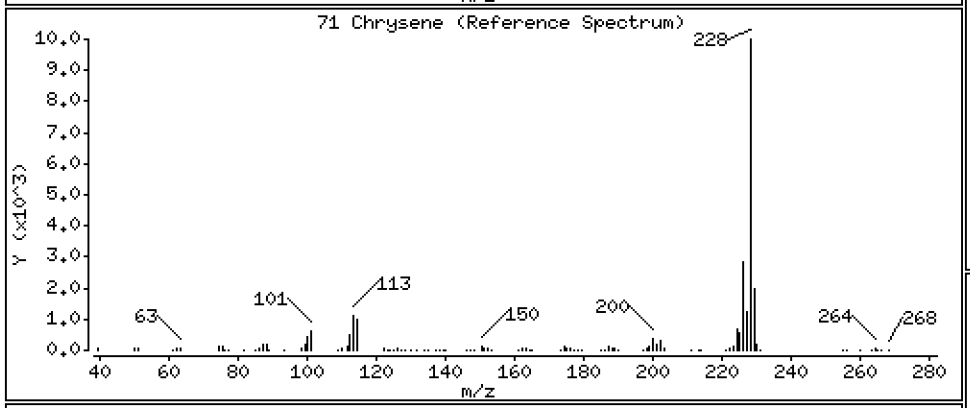
Concentration: 0.4805 ug/mL

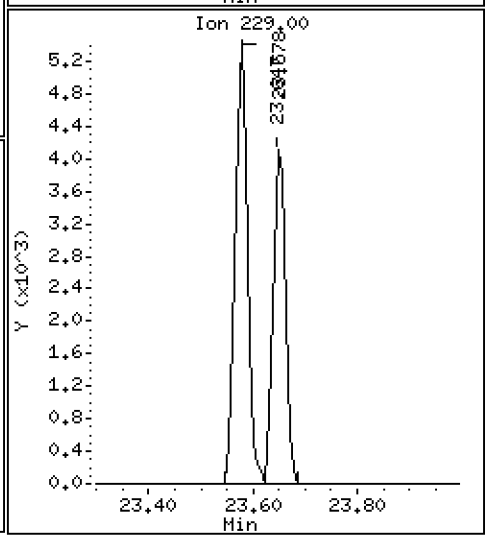


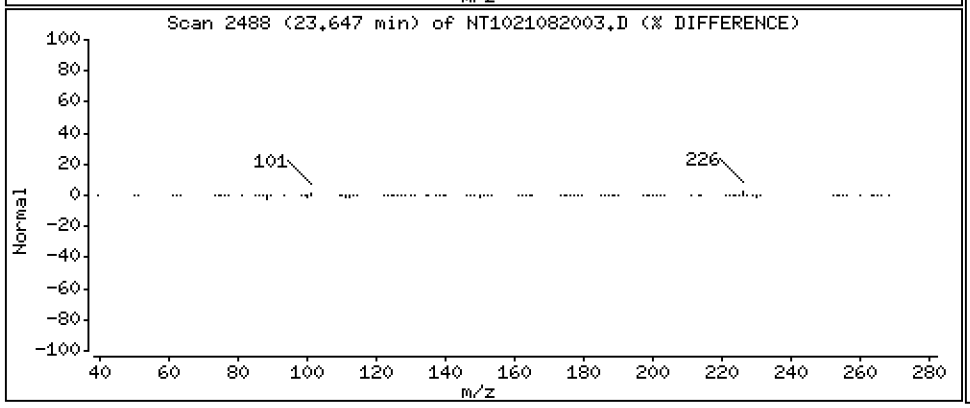












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

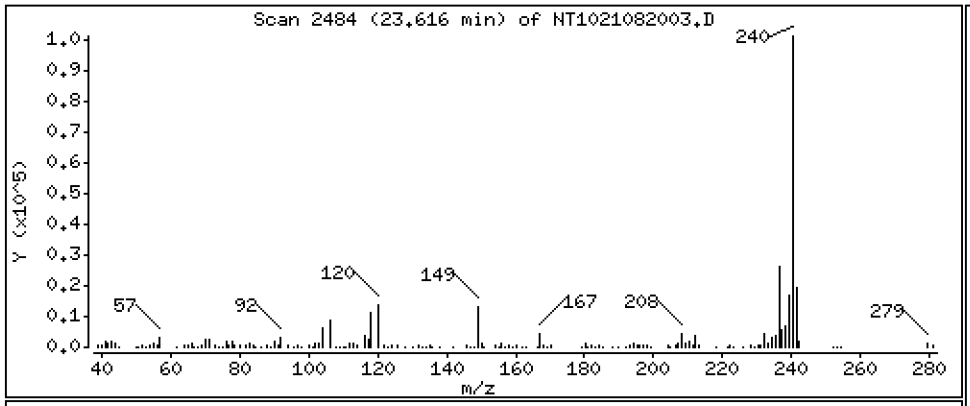
Operator: VTS

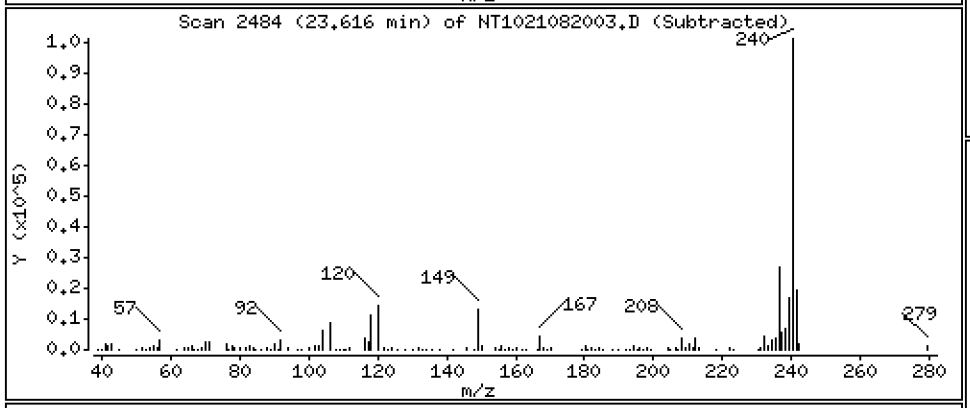
Column phase: ZB-5msi

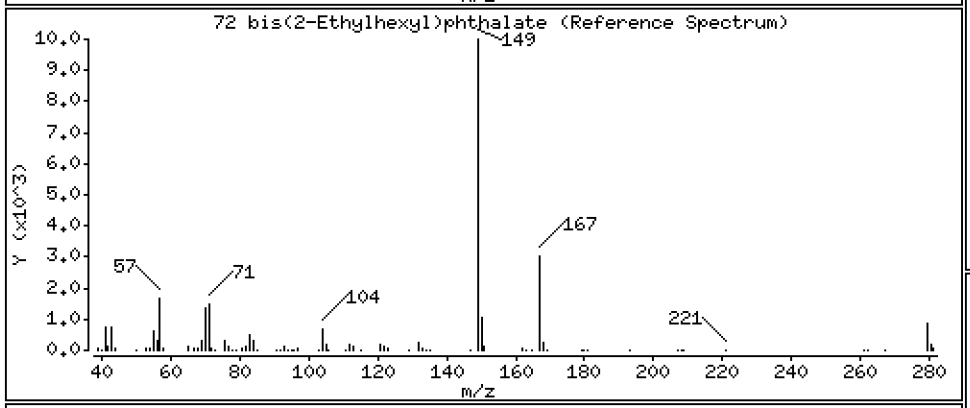
Column diameter: 0.25

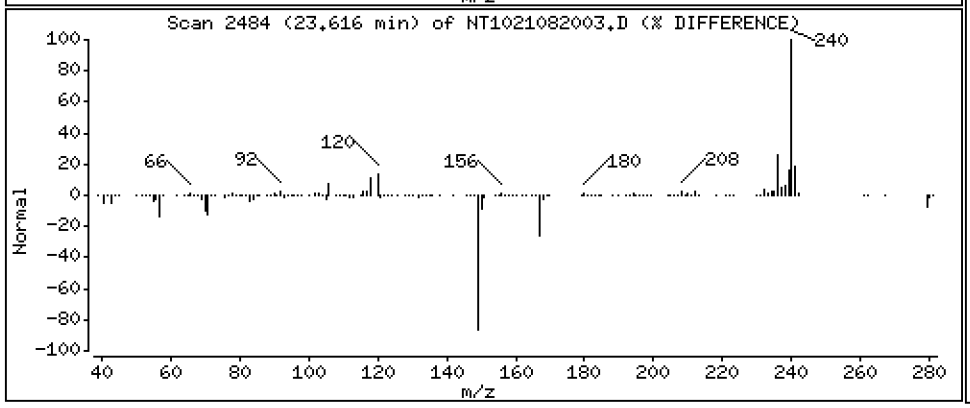
72 bis(2-Ethylhexyl)phthalate

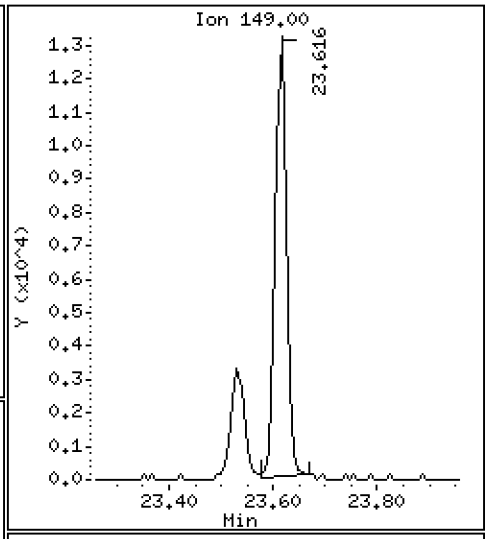
Concentration: 0.4640 ug/mL

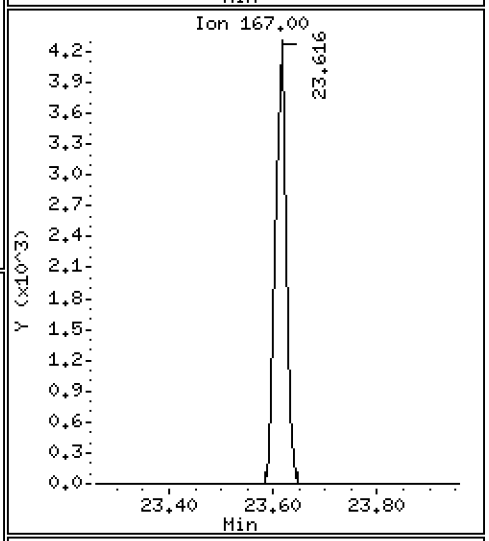


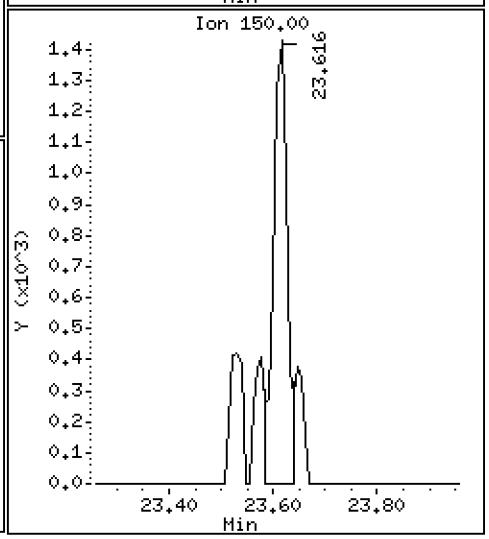












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

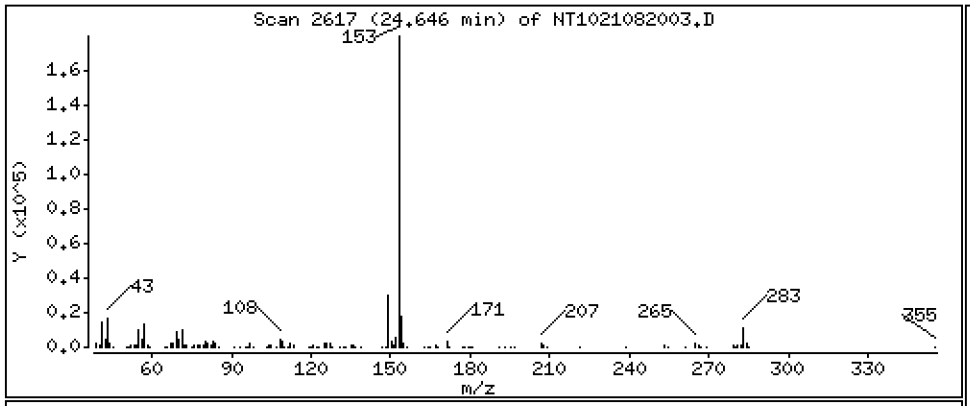
Operator: VTS

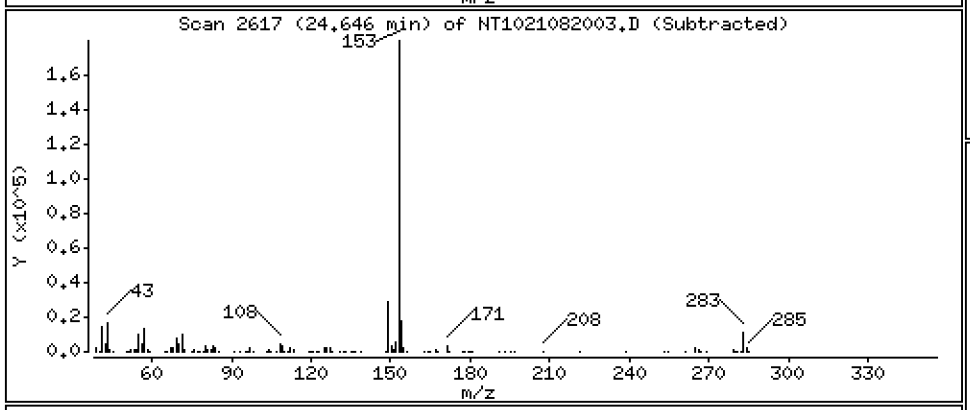
Column phase: ZB-5msi

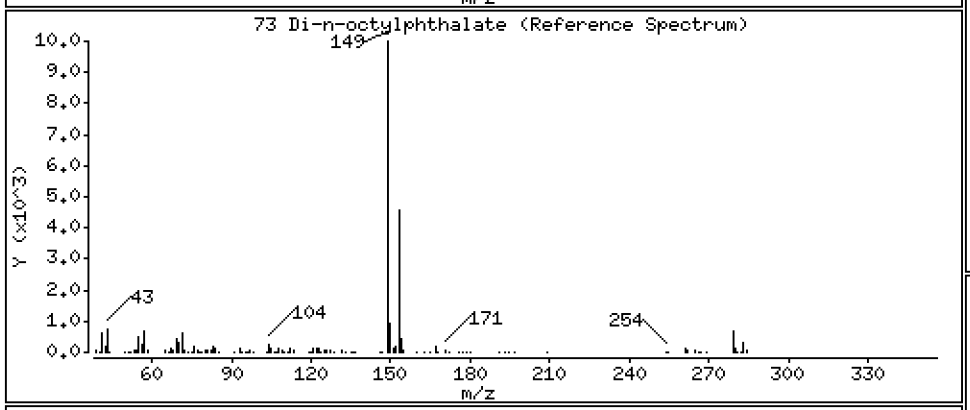
Column diameter: 0.25

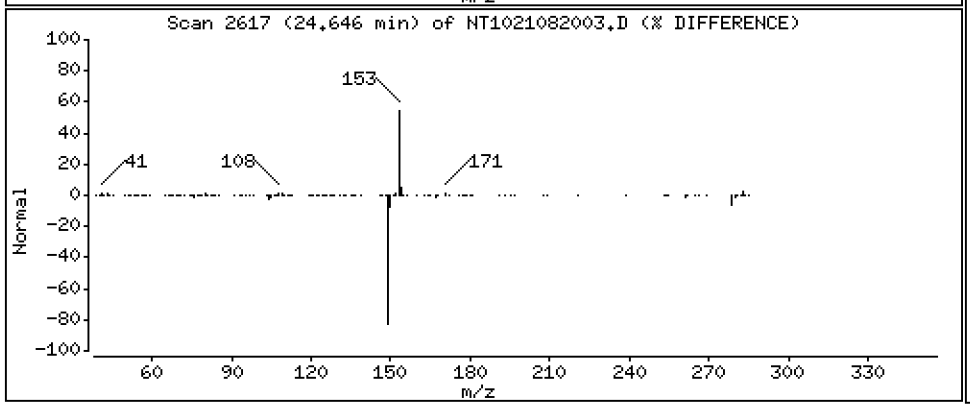
73 Di-n-octylphthalate

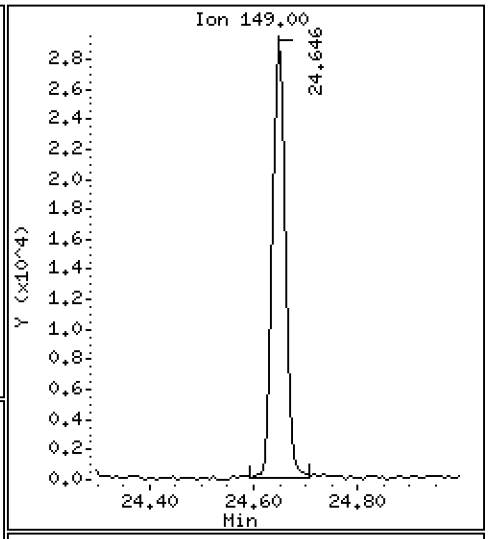
Concentration: 0.5211 ug/mL

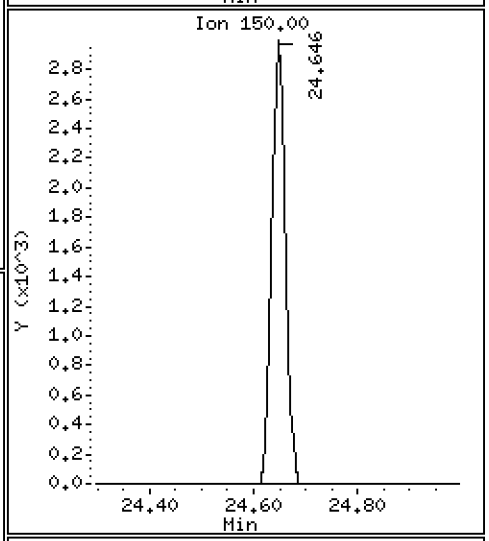


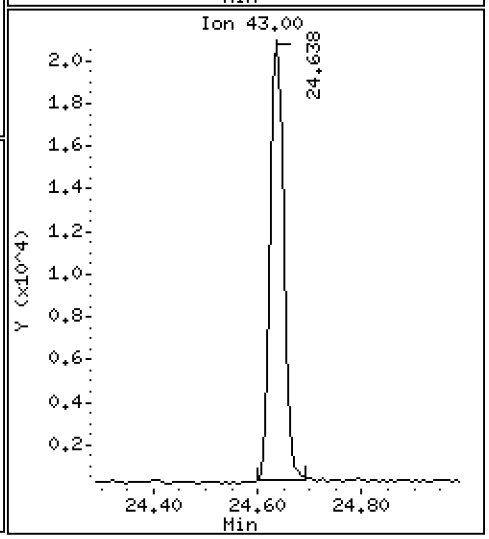












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

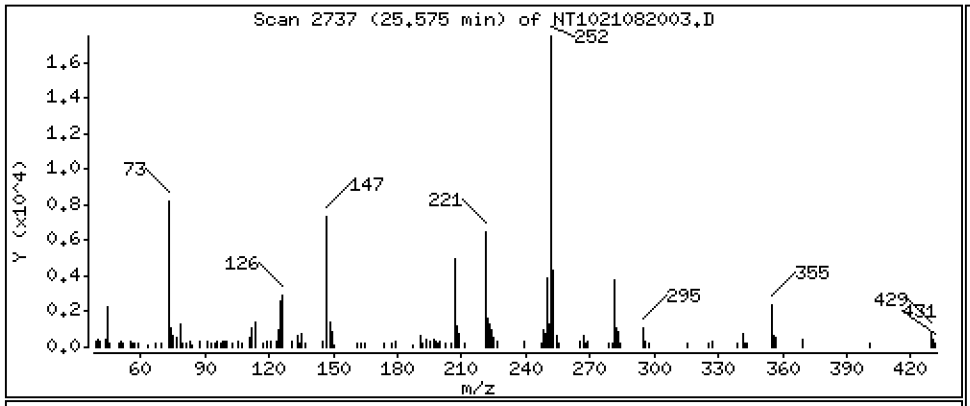
Operator: VTS

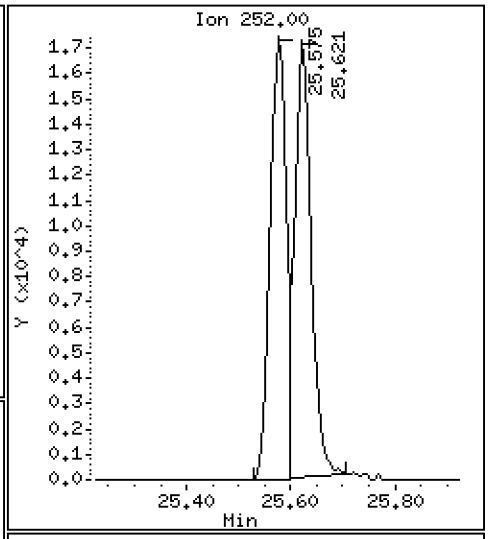
Column phase: ZB-5msi

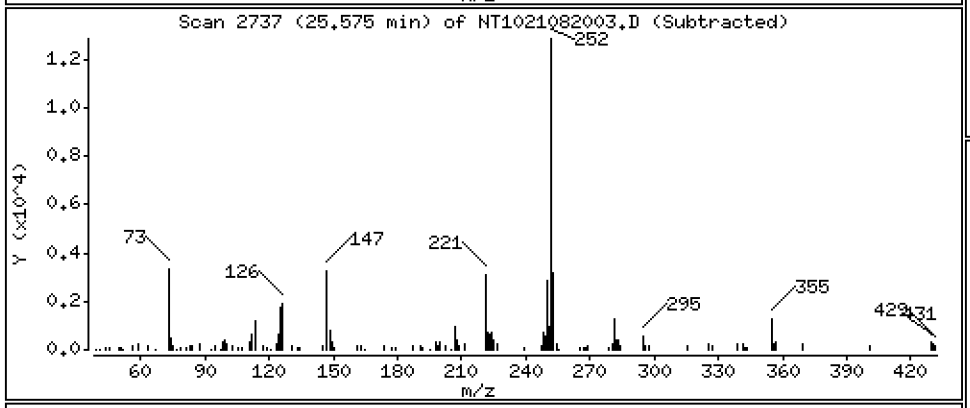
Column diameter: 0.25

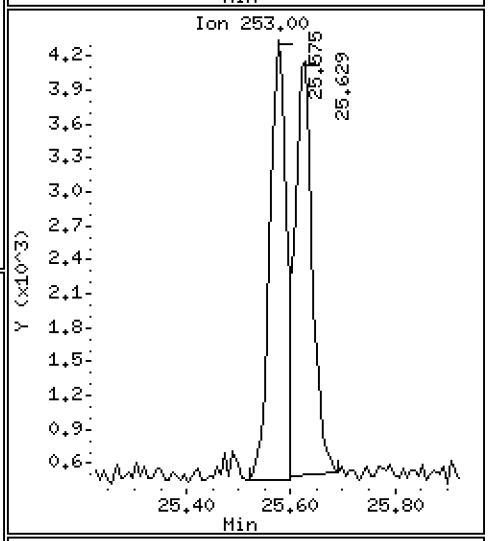
74 Benzo(b)fluoranthene

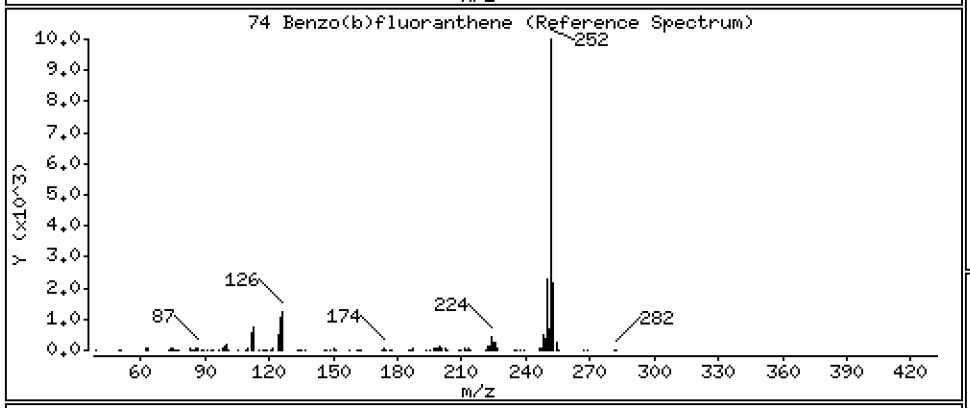
Concentration: 0.4590 ug/mL

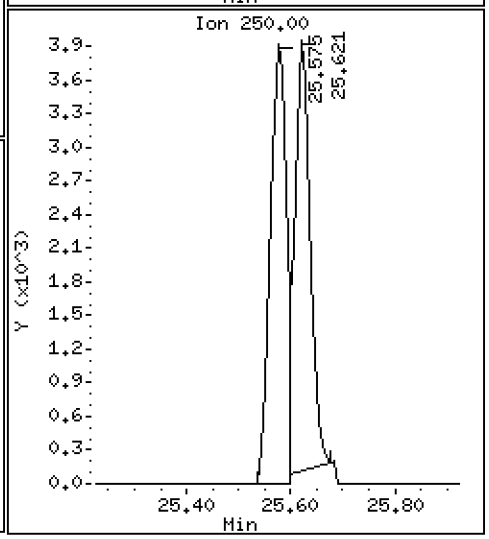


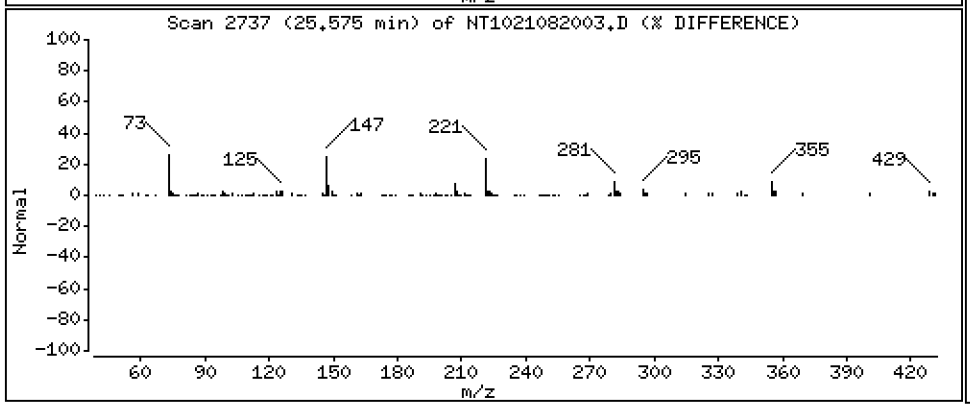












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

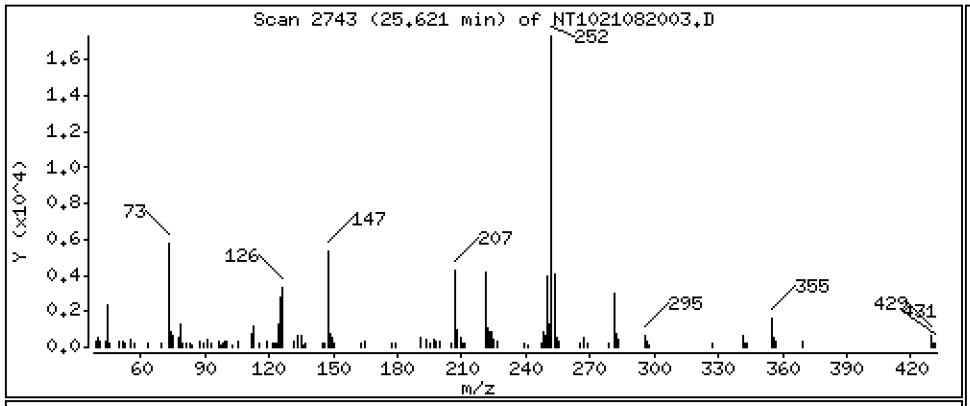
Operator: VTS

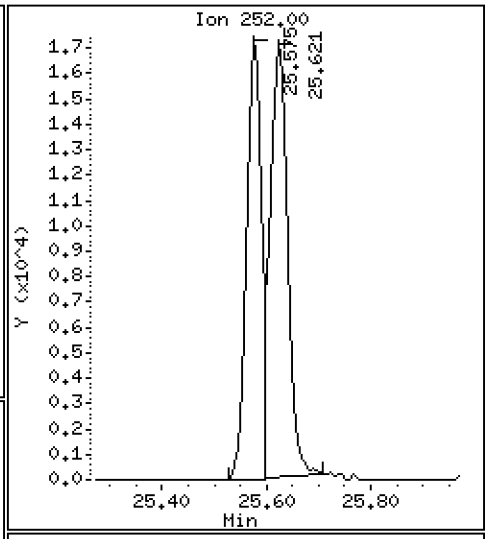
Column phase: ZB-5msi

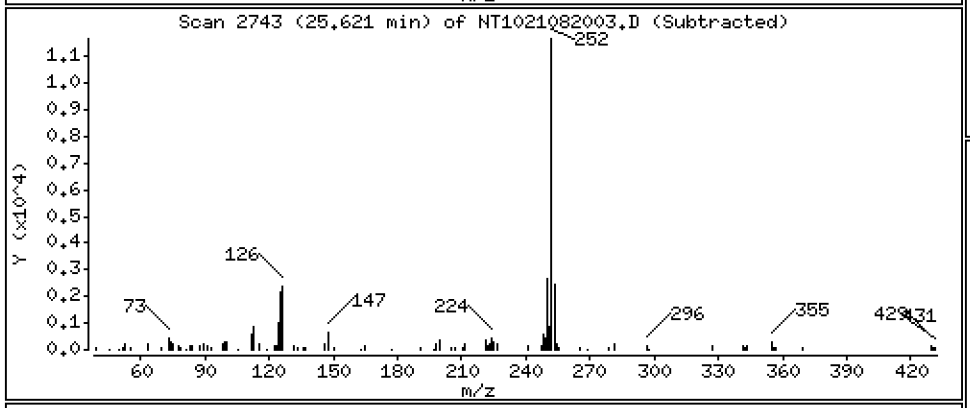
Column diameter: 0.25

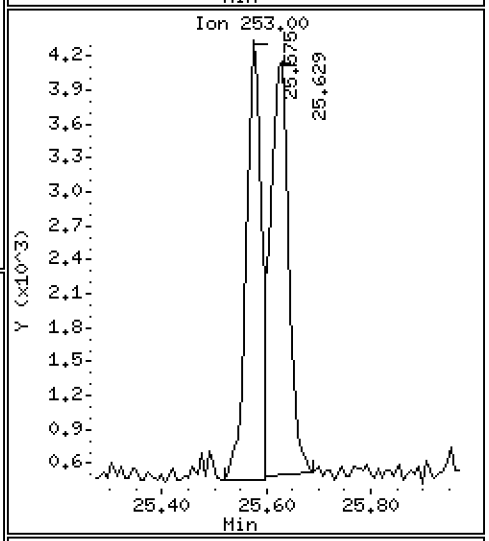
75 Benzo(k)fluoranthene

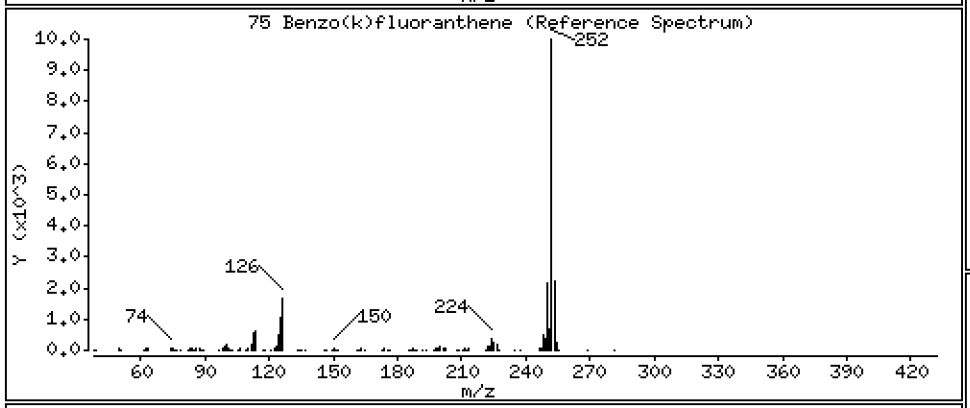
Concentration: 0.5064 ug/mL

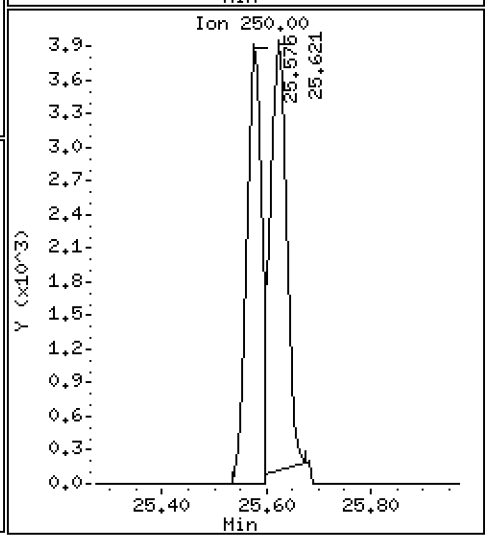


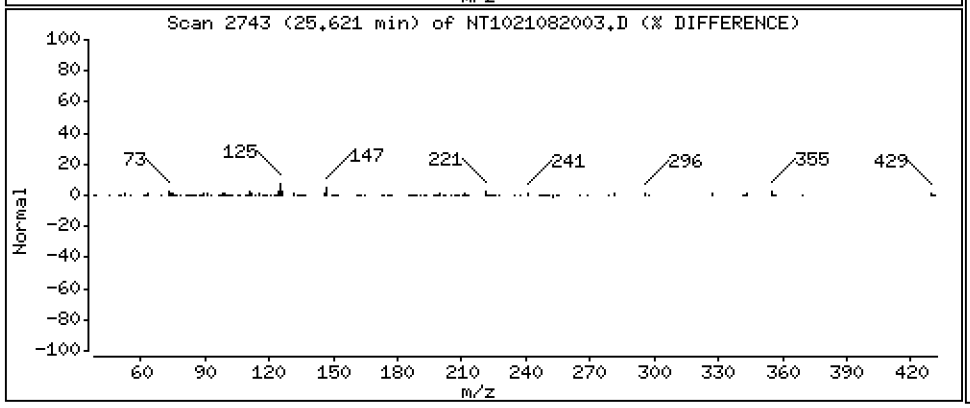












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

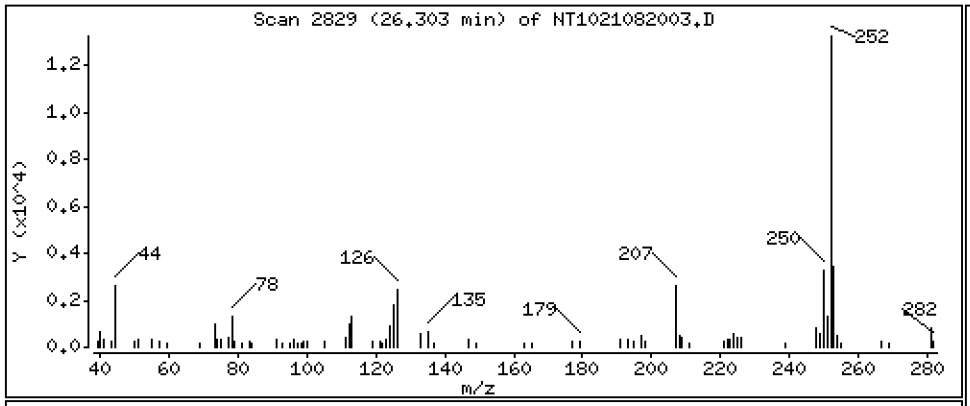
Operator: VTS

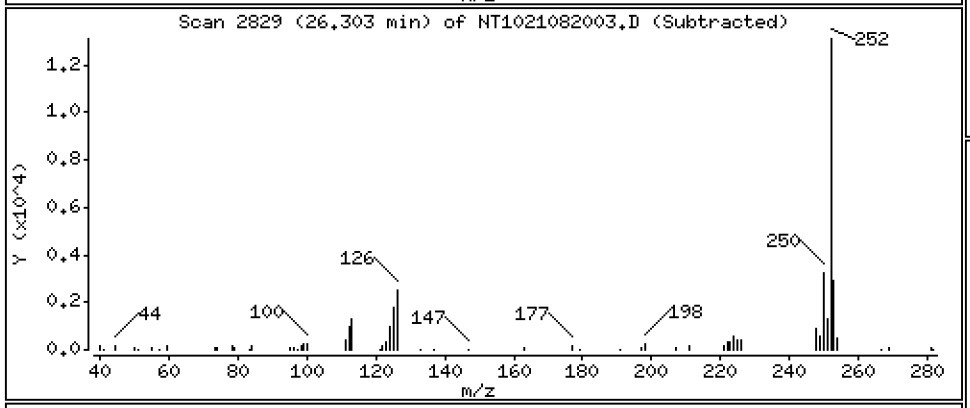
Column phase: ZB-5msi

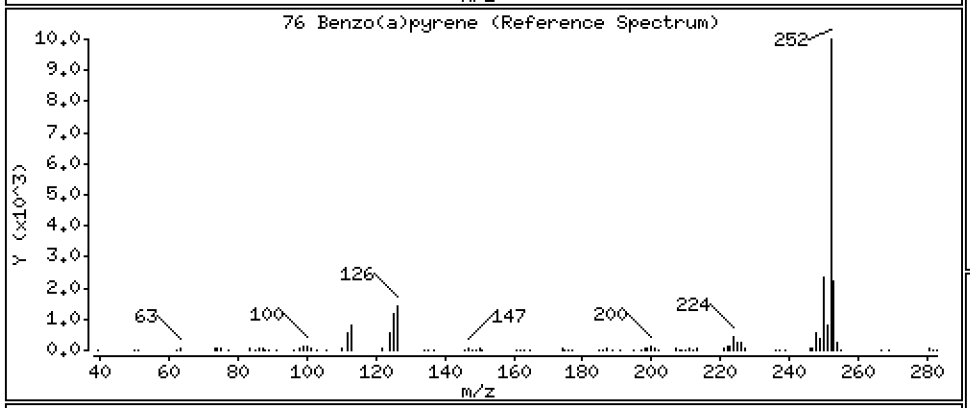
Column diameter: 0.25

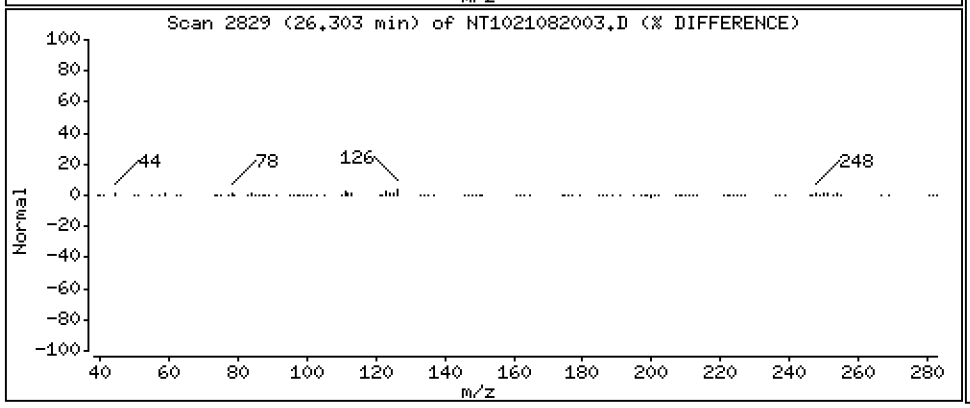
76 Benzo(a)pyrene

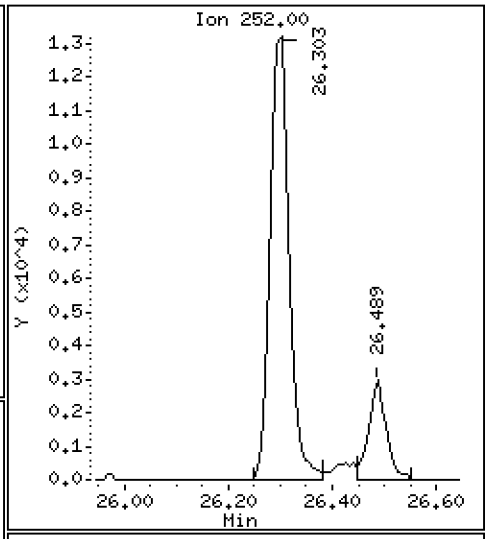
Concentration: 0.4574 ug/mL

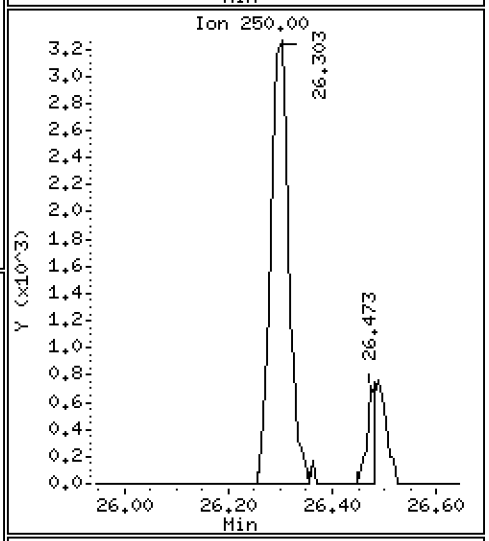


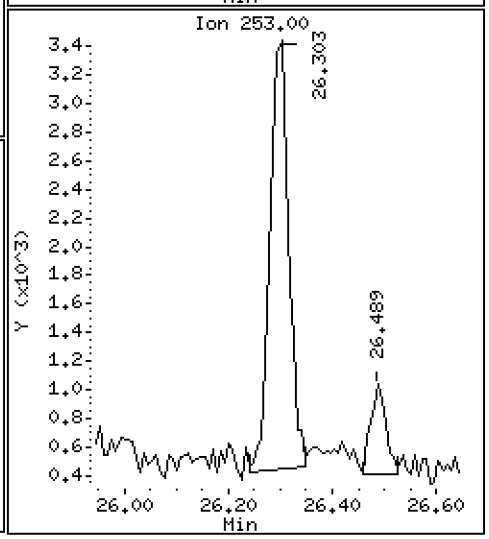












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

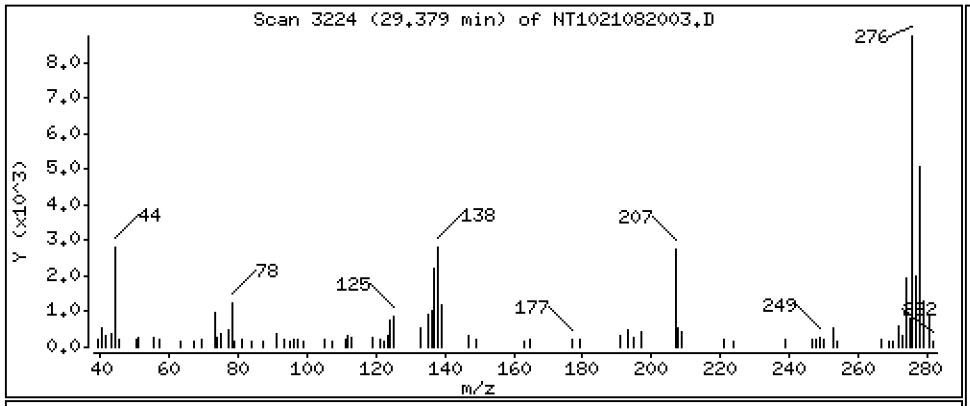
Operator: VTS

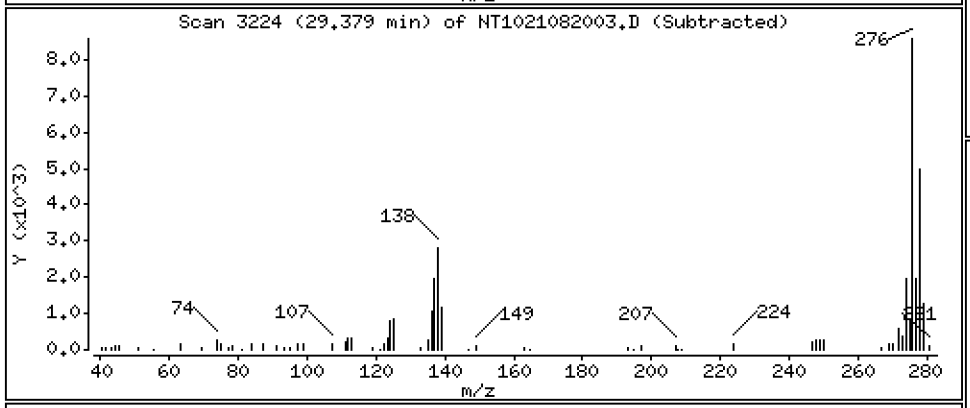
Column phase: ZB-5msi

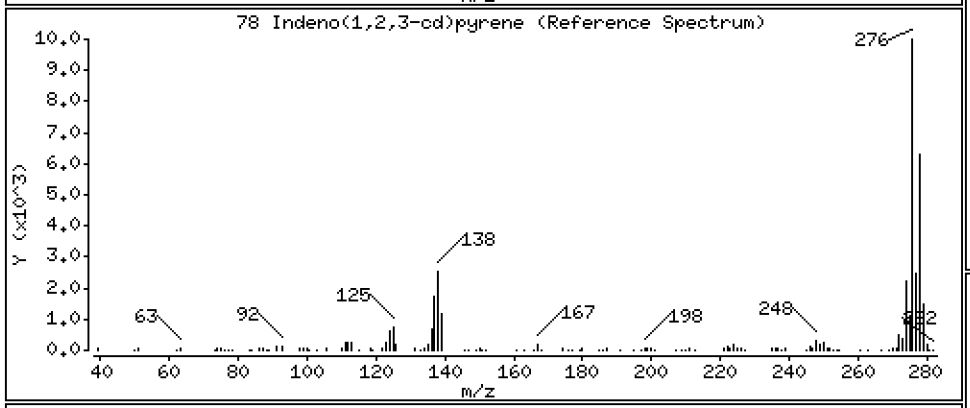
Column diameter: 0.25

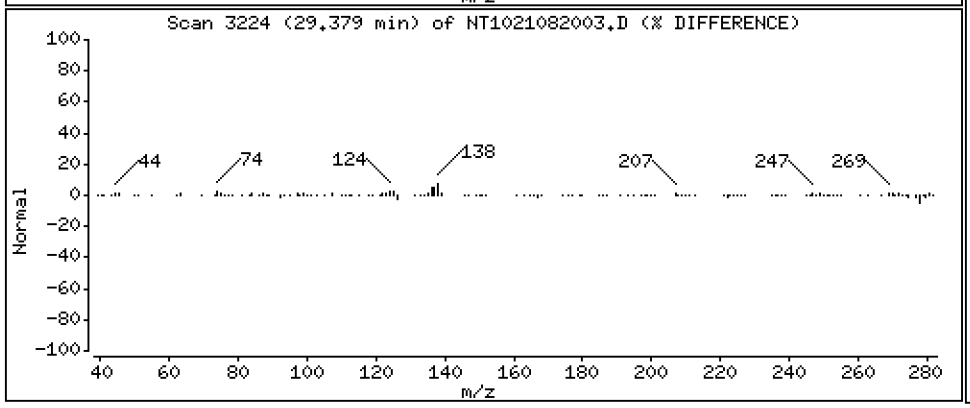
78 Indeno(1,2,3-cd)pyrene

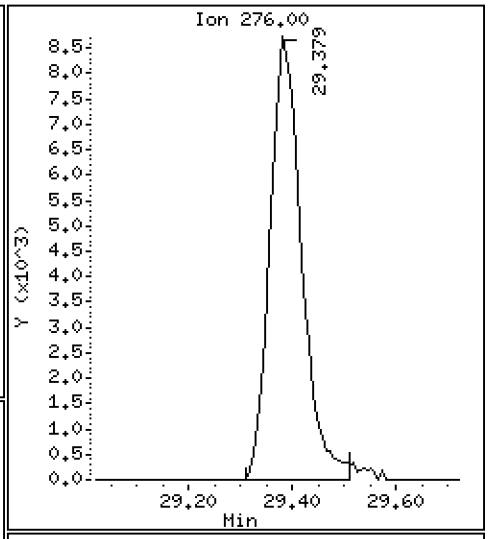
Concentration: 0.5018 ug/mL

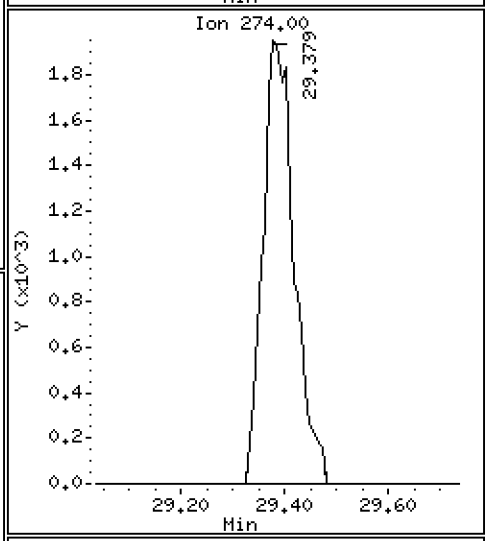


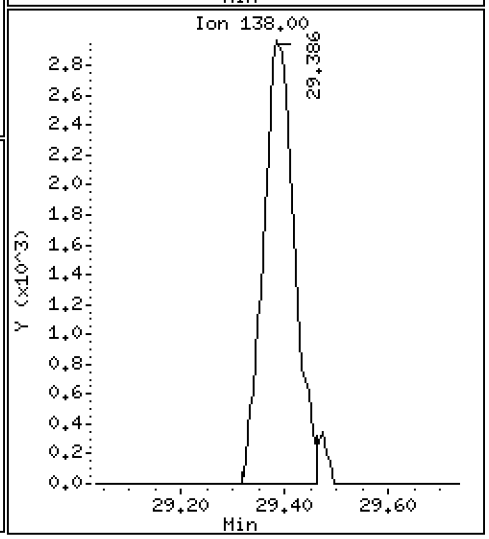












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

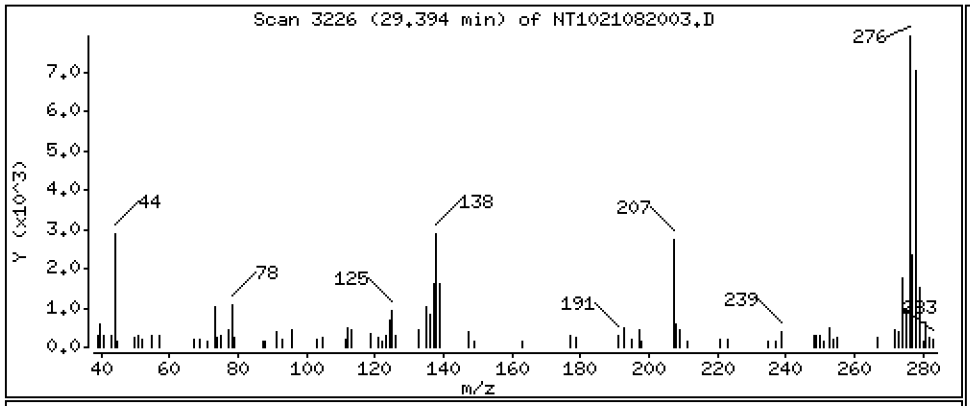
Operator: VTS

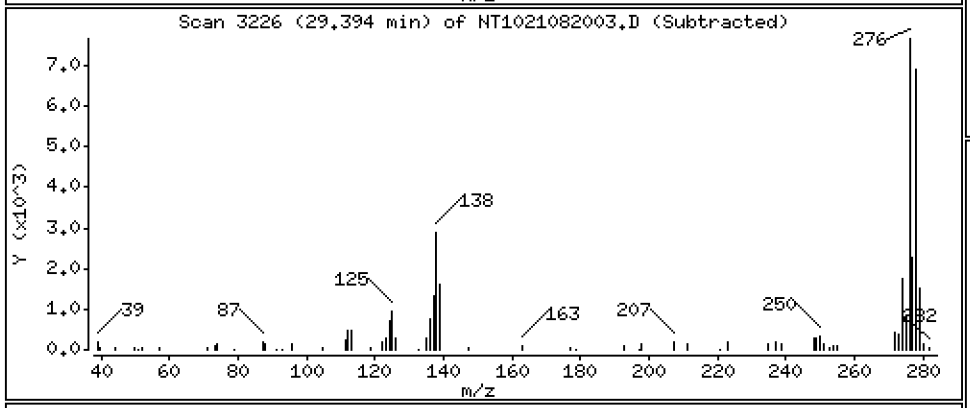
Column phase: ZB-5msi

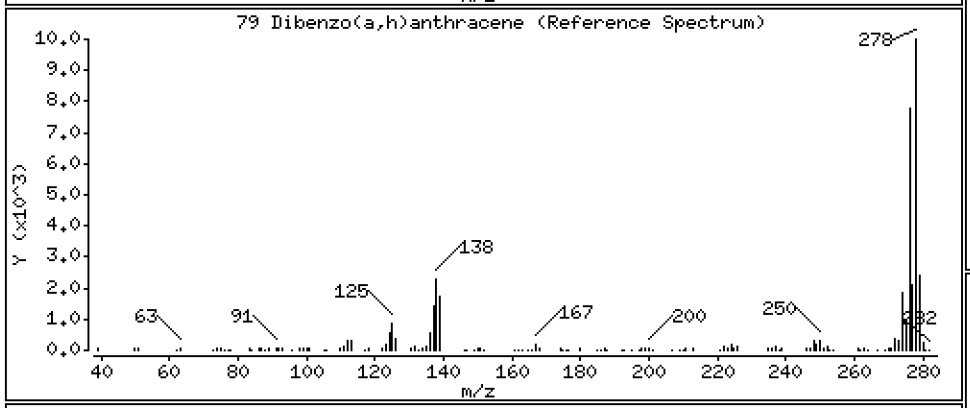
Column diameter: 0.25

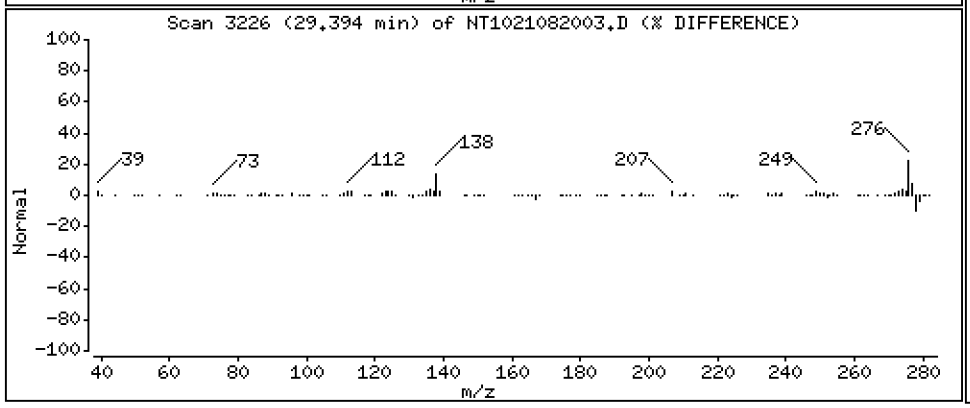
79 Dibenzo(a,h)anthracene

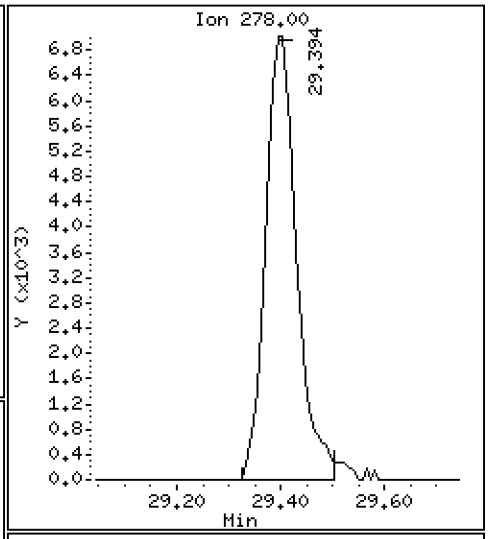
Concentration: 0.5174 ug/mL

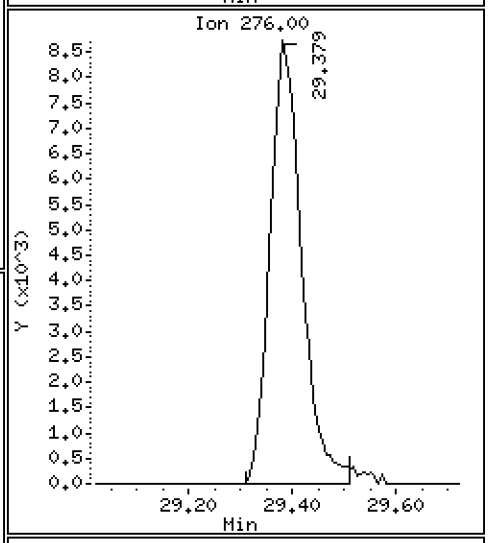


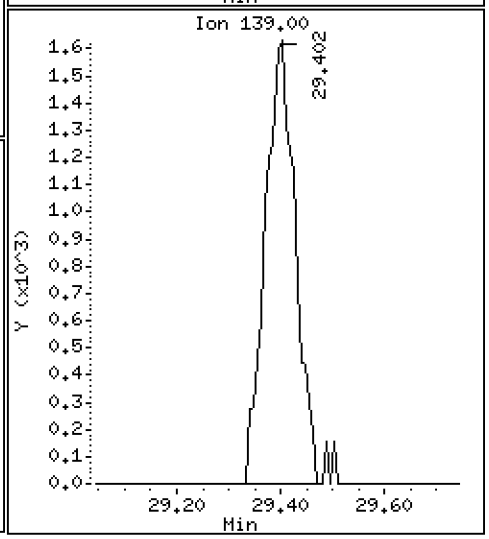












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

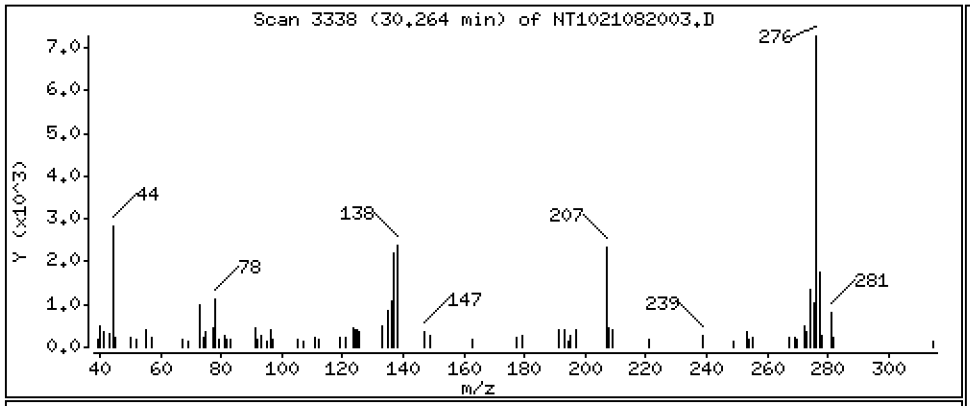
Operator: VTS

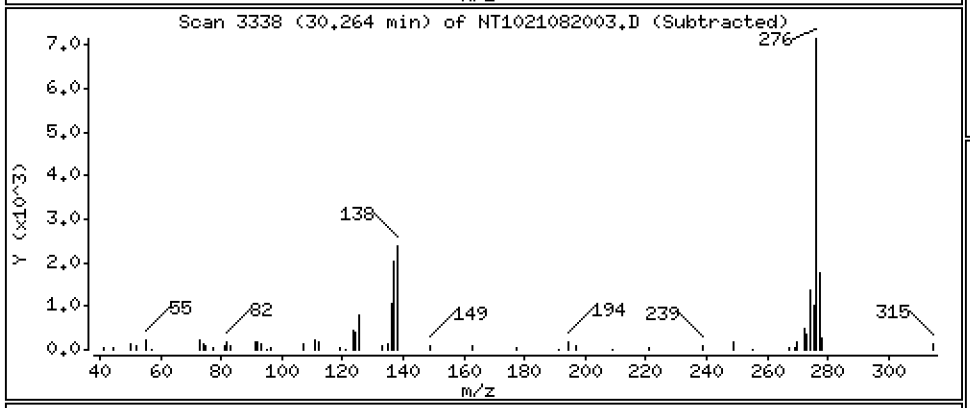
Column phase: ZB-5msi

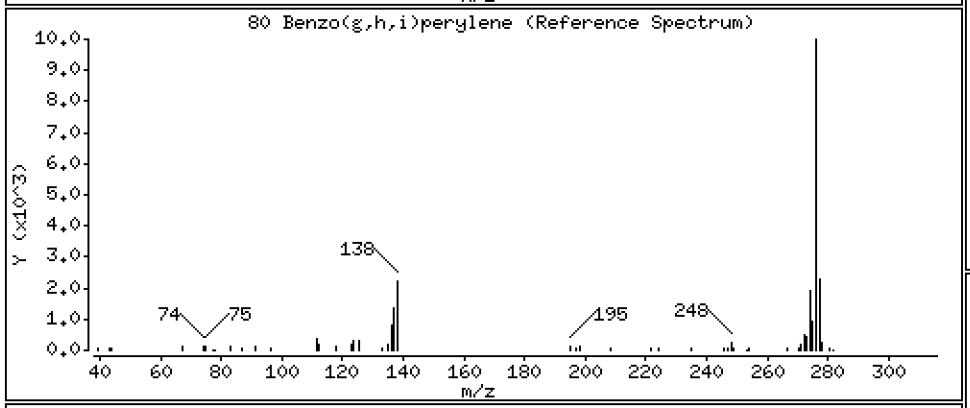
Column diameter: 0.25

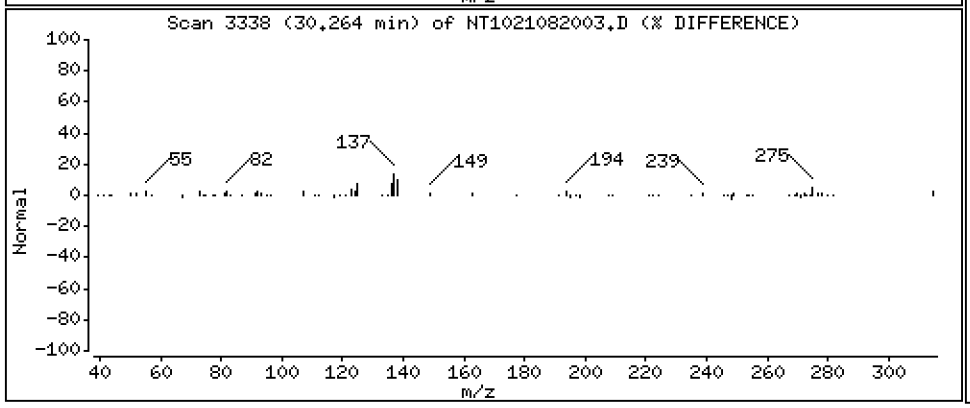
80 Benzo(g,h,i)perylene

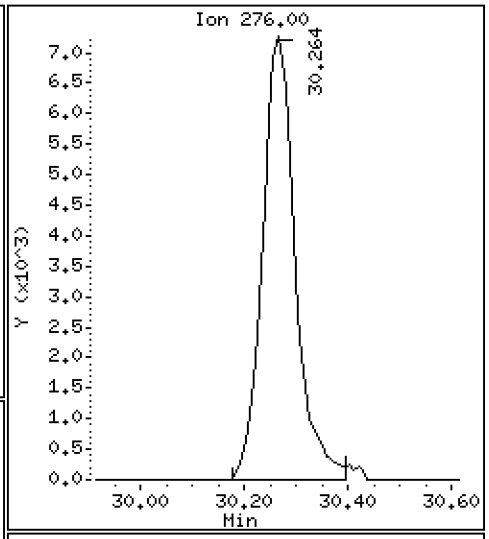
Concentration: 0.4927 ug/mL

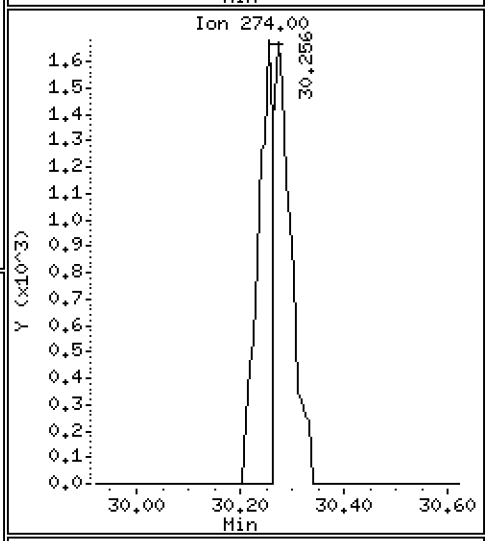


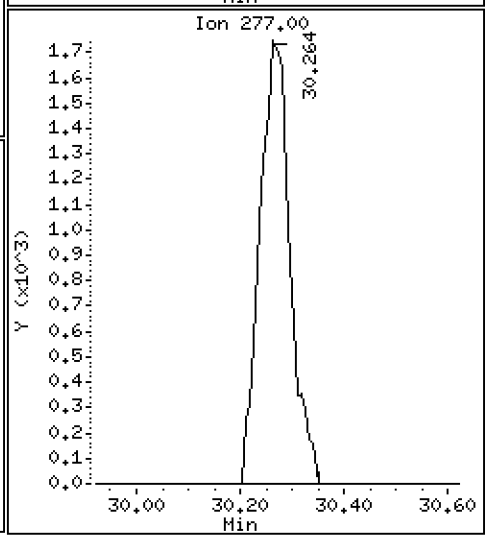












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

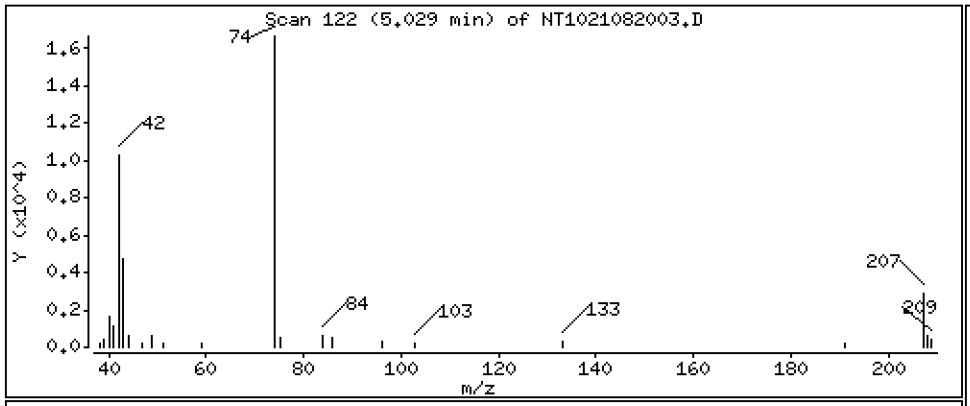
Operator: VTS

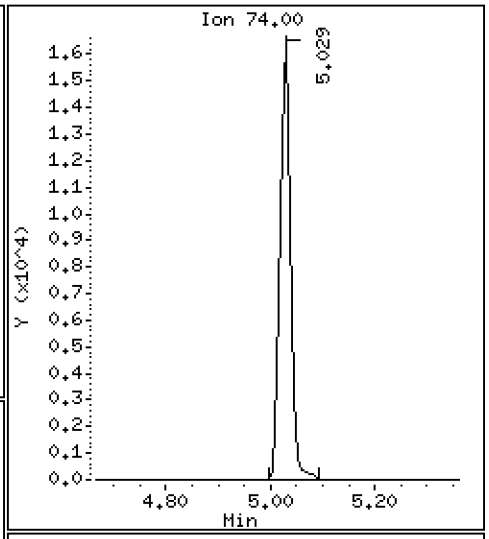
Column phase: ZB-5msi

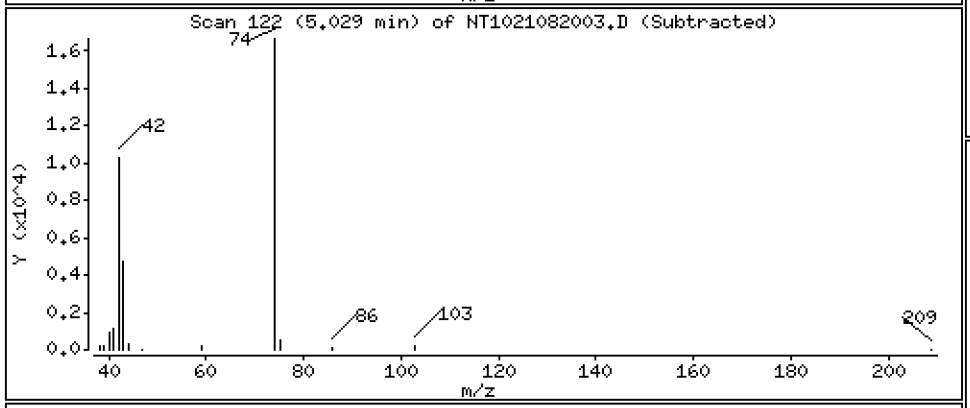
Column diameter: 0.25

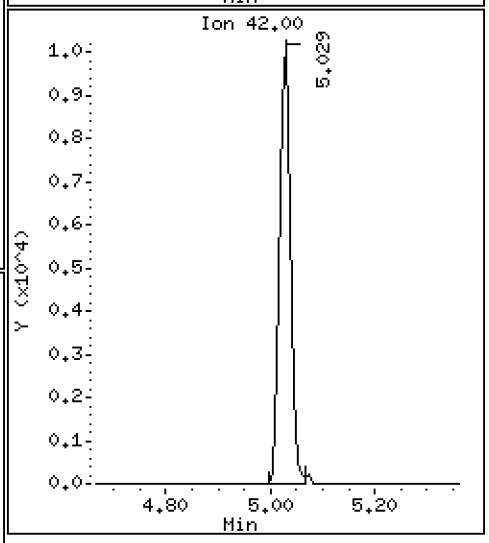
90 N-Nitrosodimethylamine

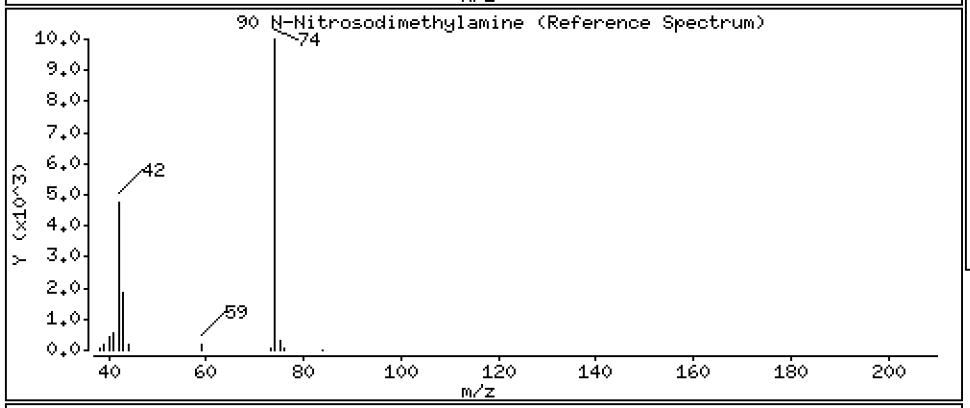
Concentration: 1.049 ug/mL

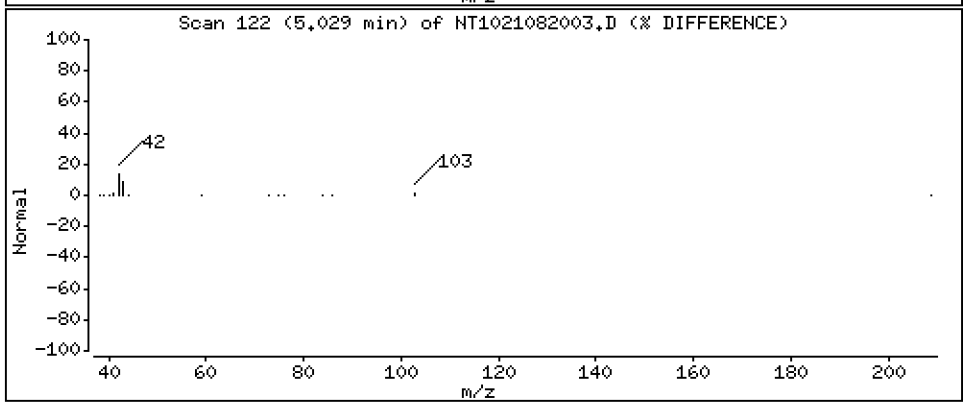












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

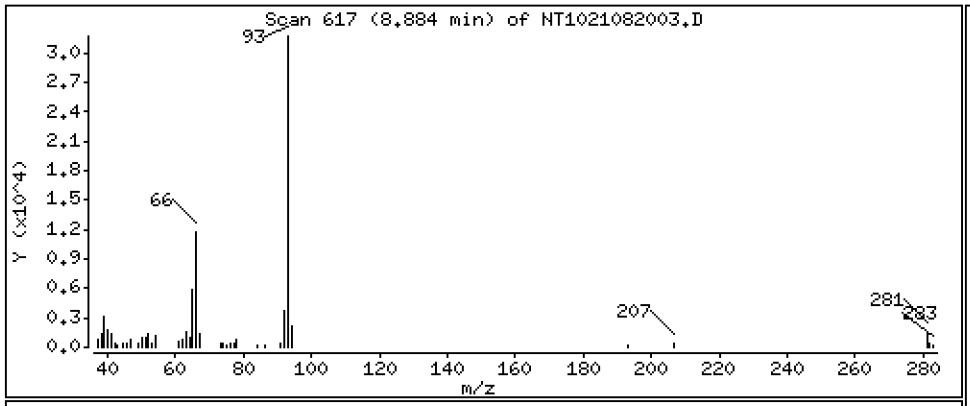
Operator: VTS

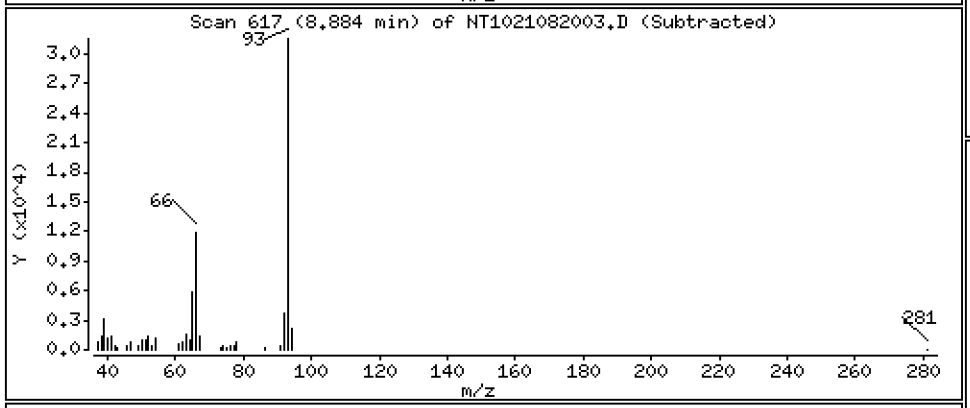
Column phase: ZB-5msi

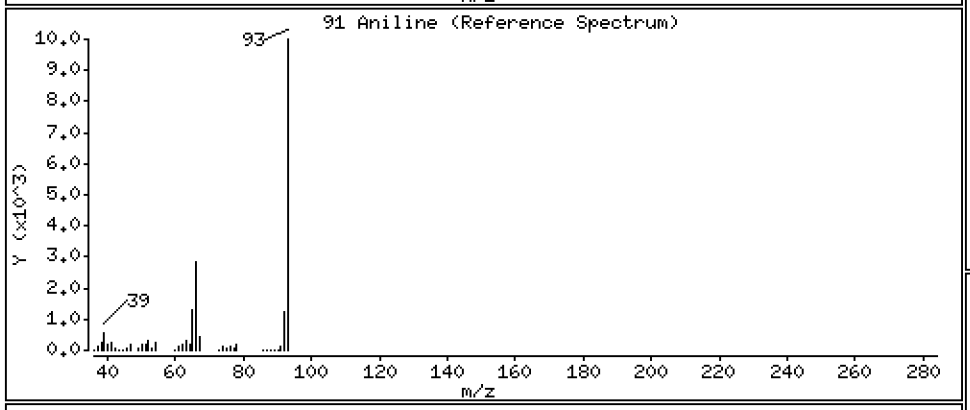
Column diameter: 0.25

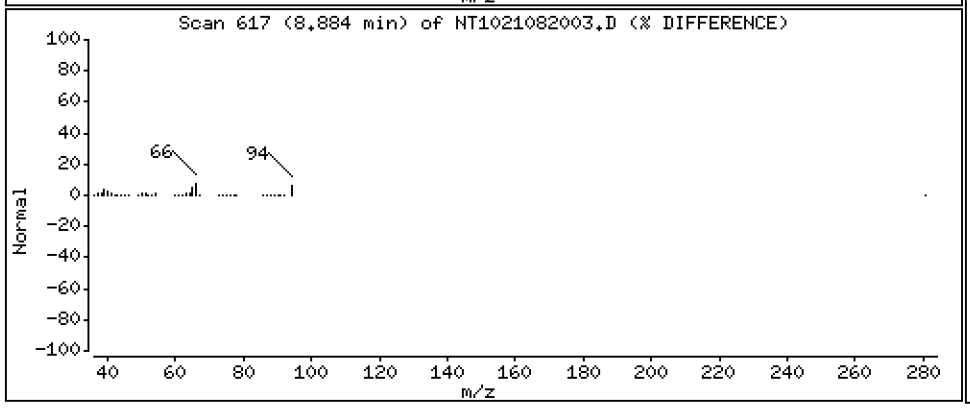
91 Aniline

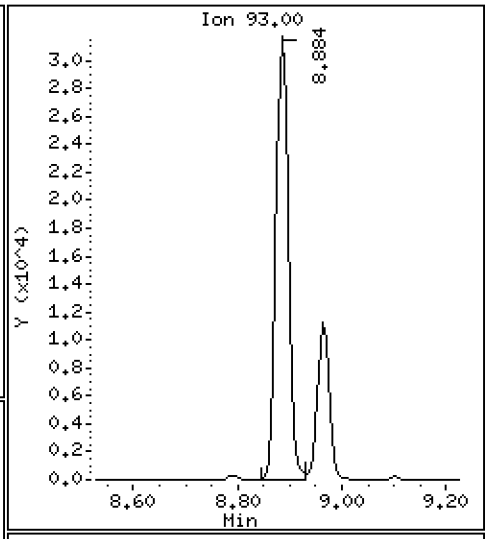
Concentration: 1.009 ug/mL

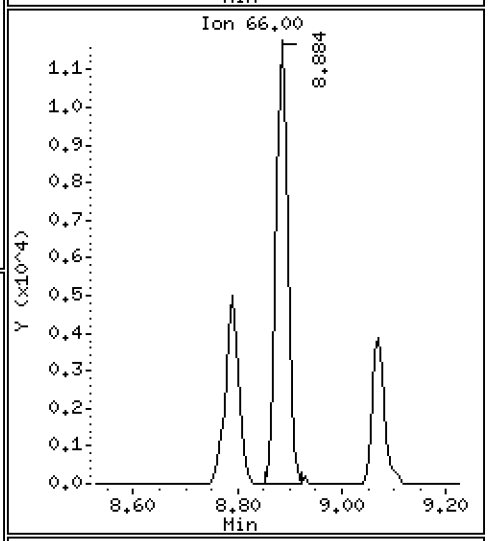


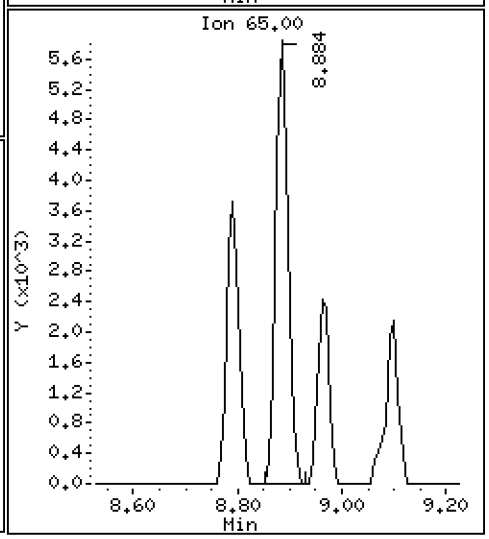












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

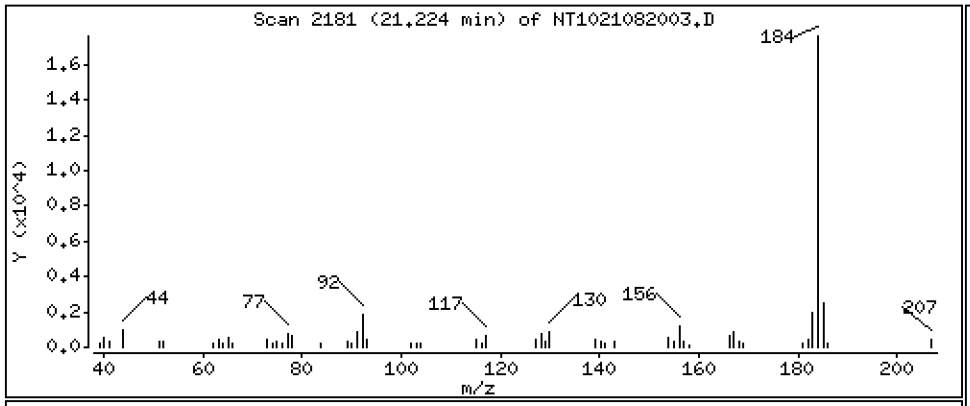
Operator: VTS

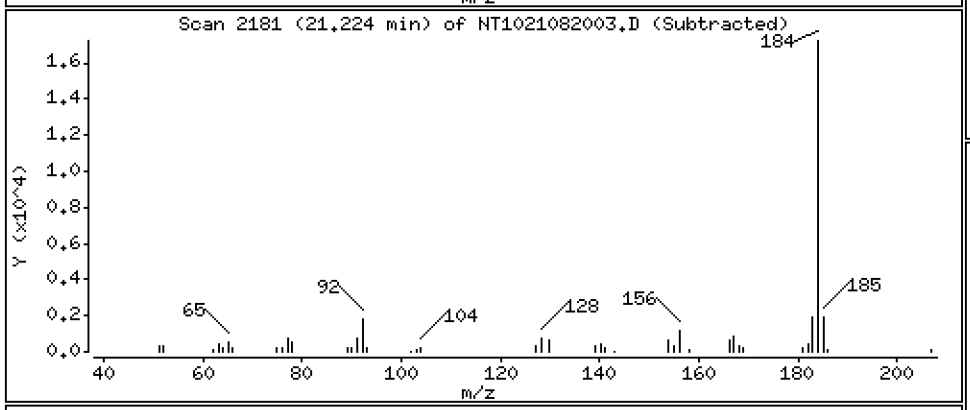
Column phase: ZB-5msi

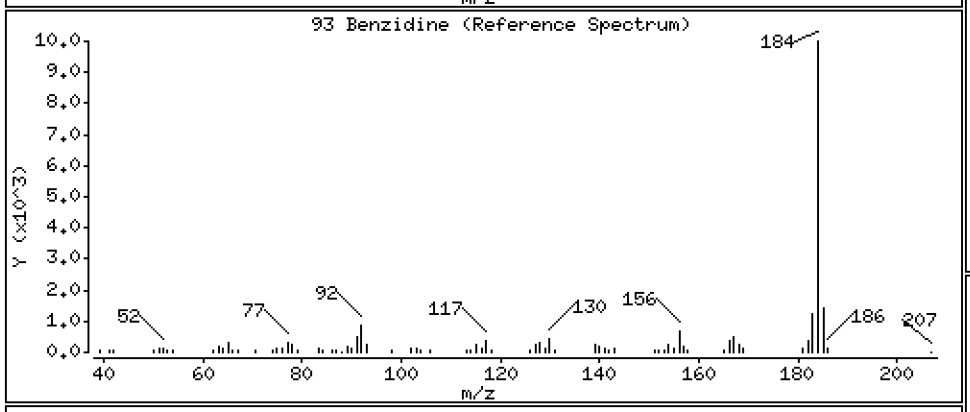
Column diameter: 0.25

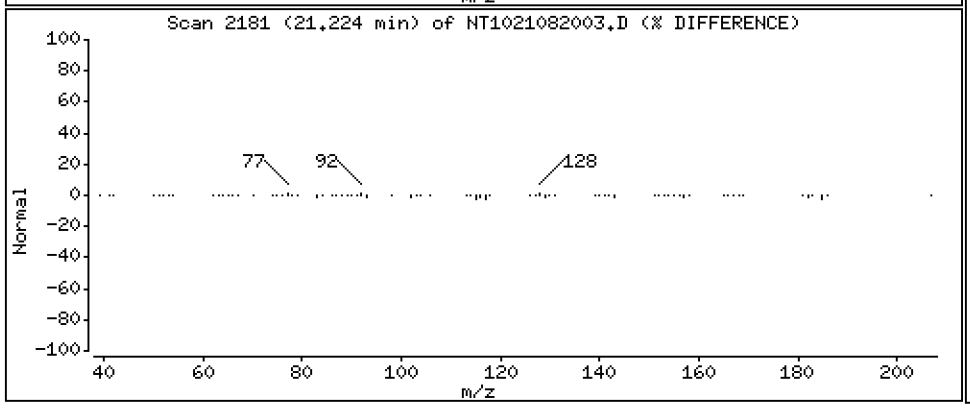
93 Benzidine

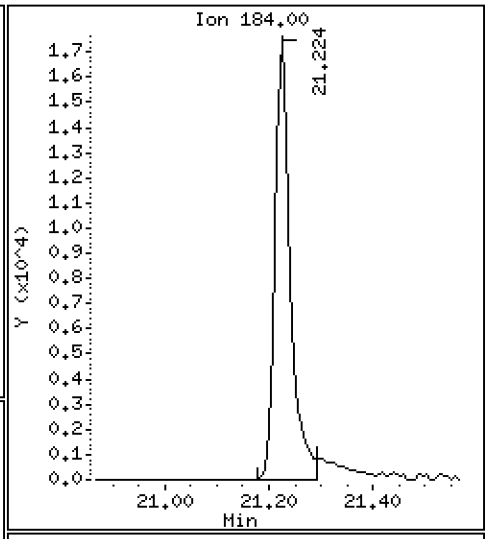
Concentration: 0.7419 ug/mL

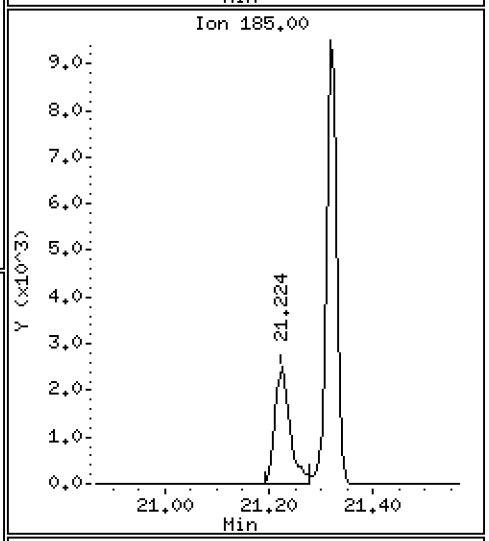


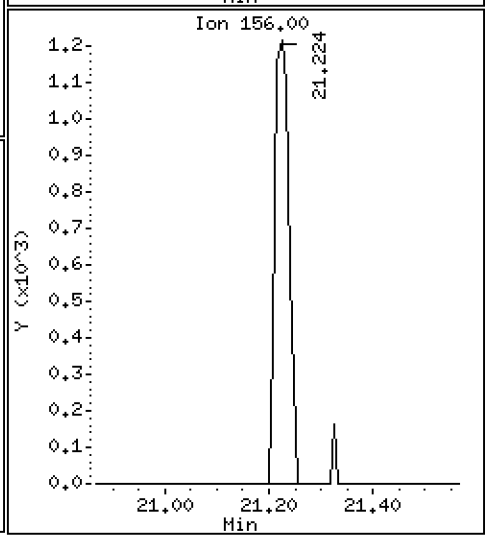












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

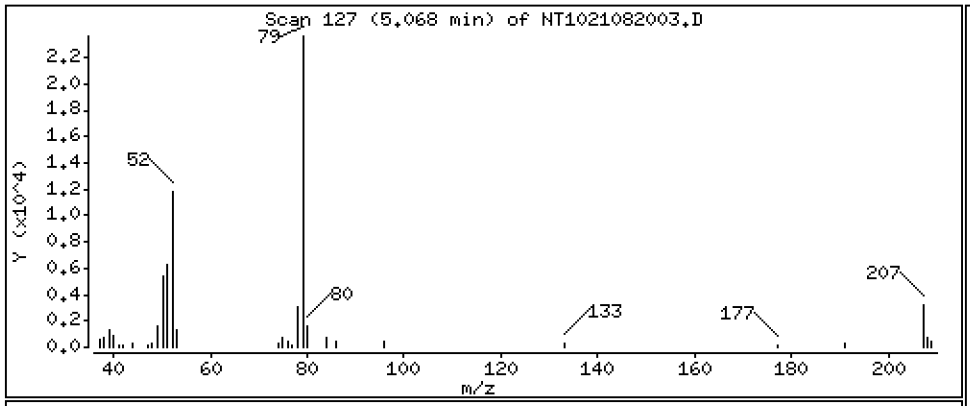
Operator: VTS

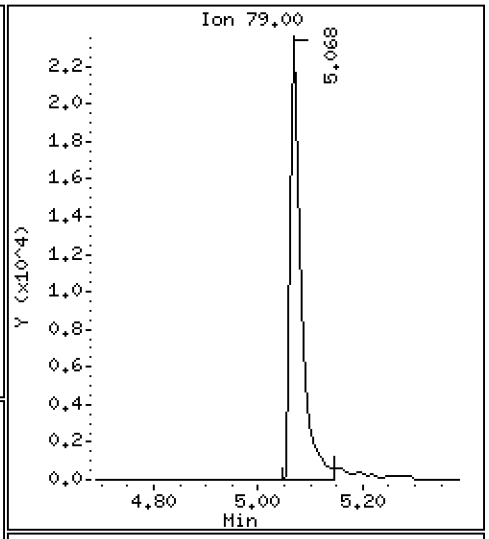
Column phase: ZB-5msi

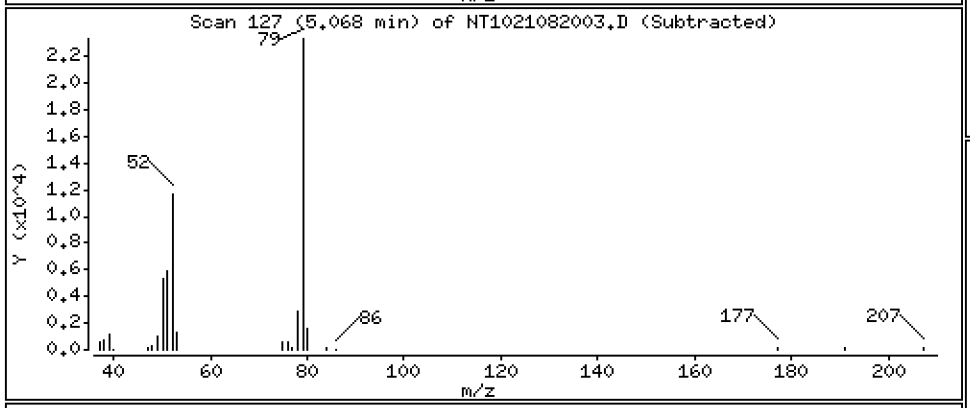
Column diameter: 0.25

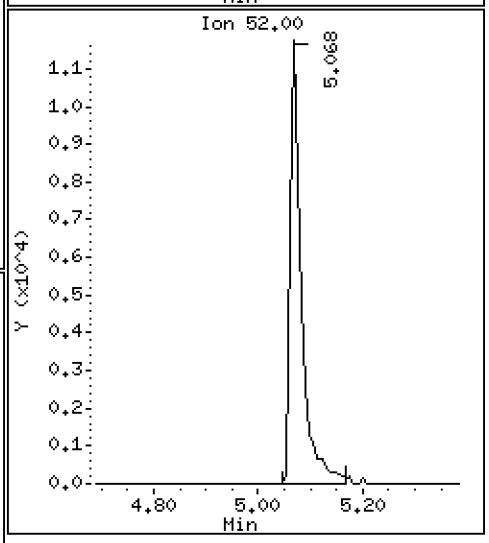
103 Pyridine

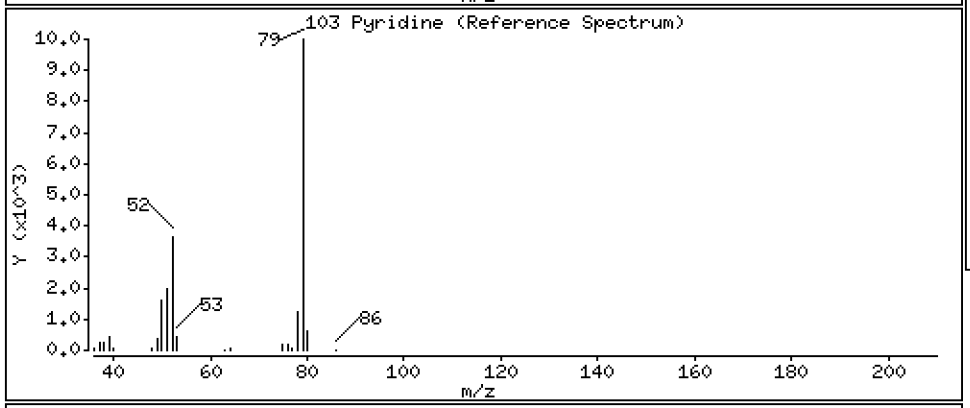
Concentration: 0.5348 ug/mL

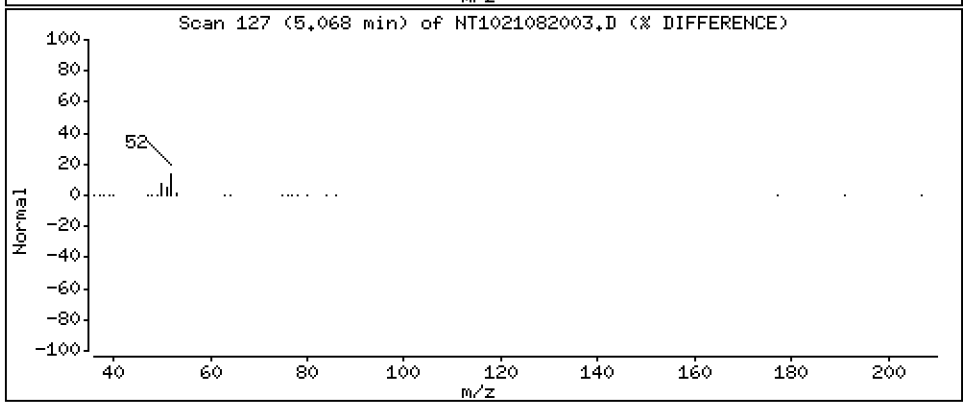












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

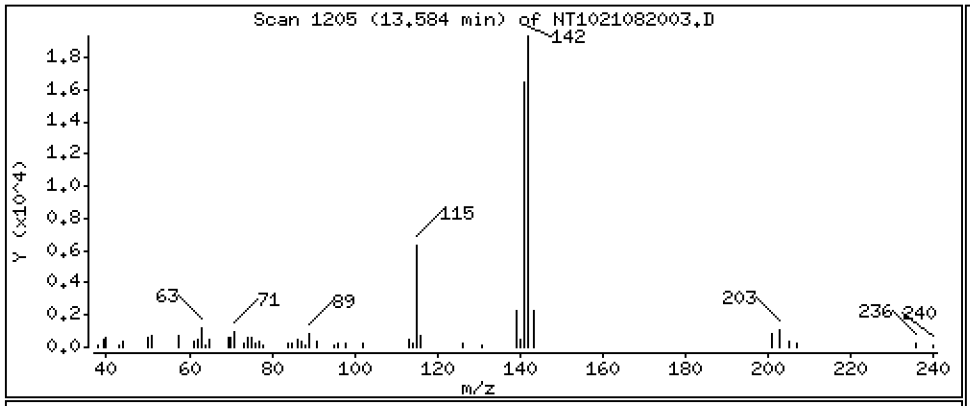
Operator: VTS

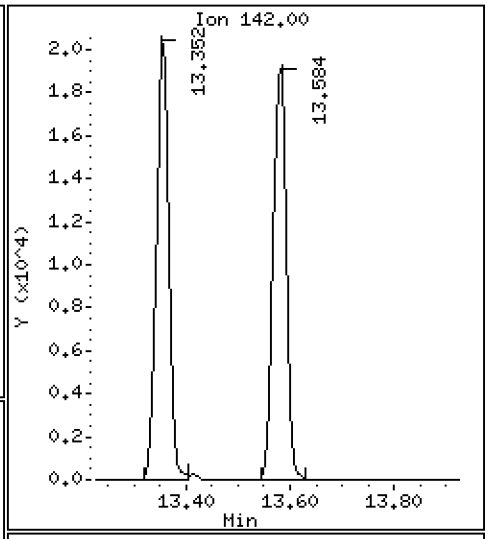
Column phase: ZB-5msi

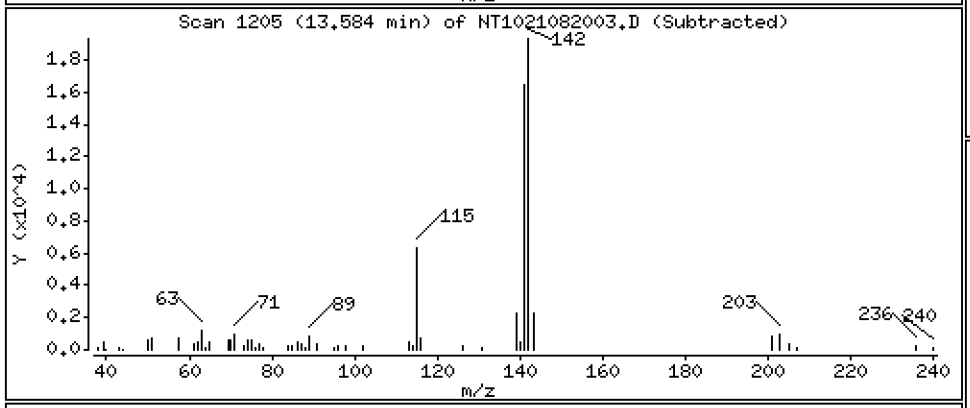
Column diameter: 0.25

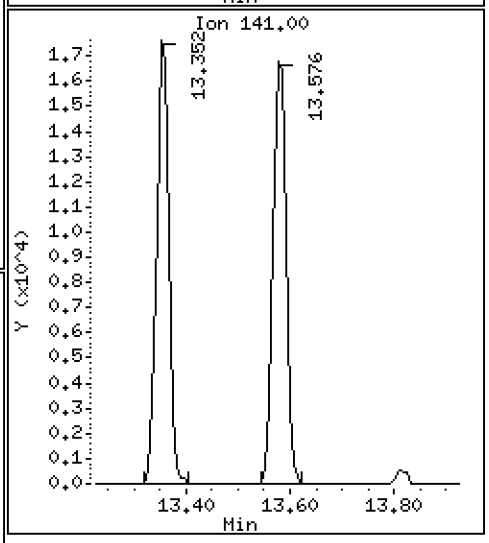
105 1-methylnaphthalene

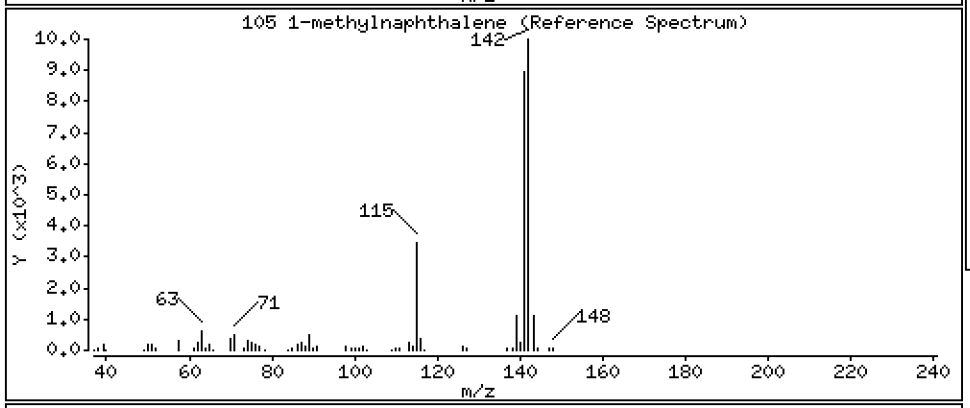
Concentration: 0.4399 ug/mL

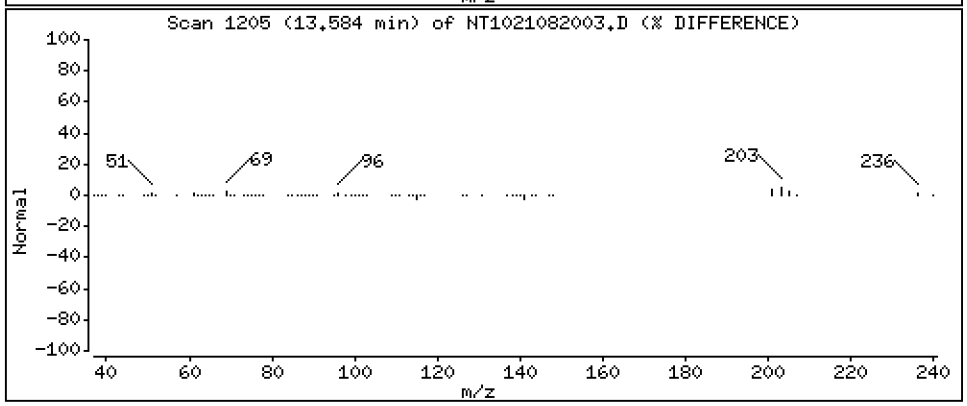












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

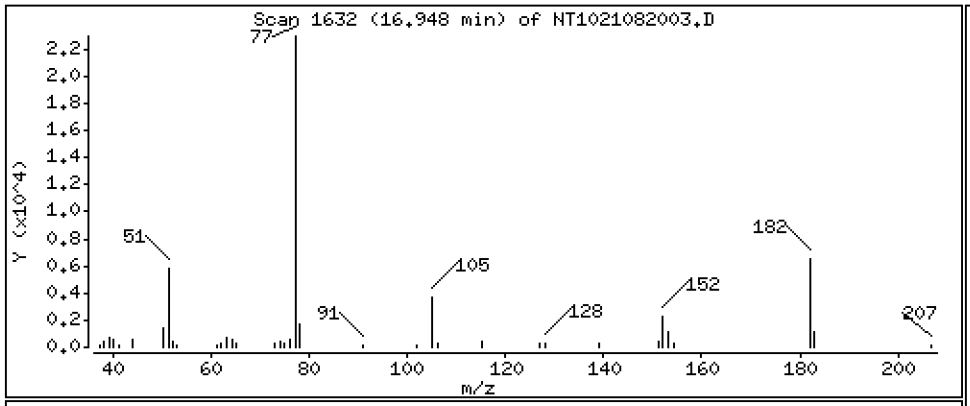
Operator: VTS

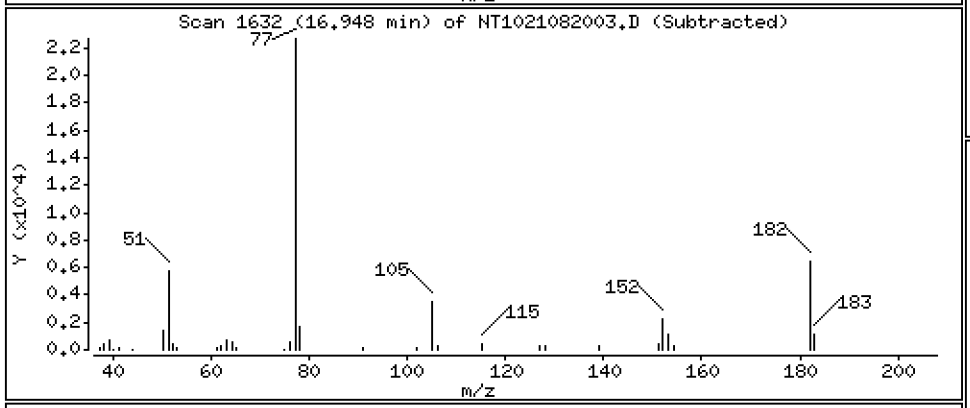
Column phase: ZB-5msi

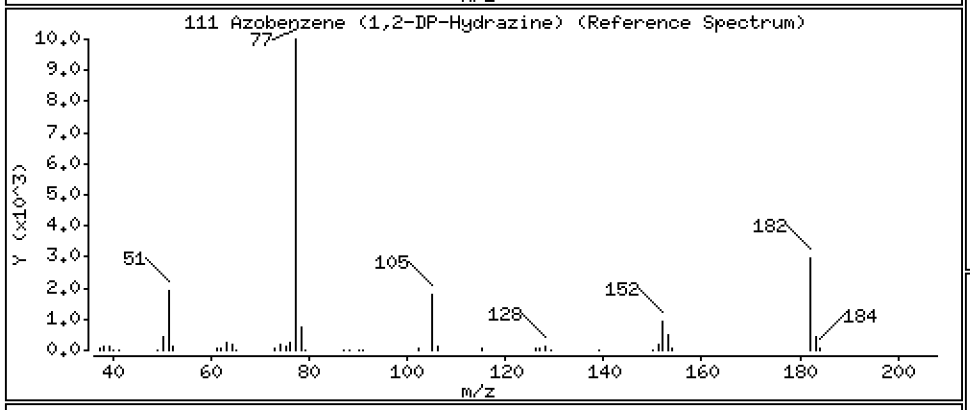
Column diameter: 0.25

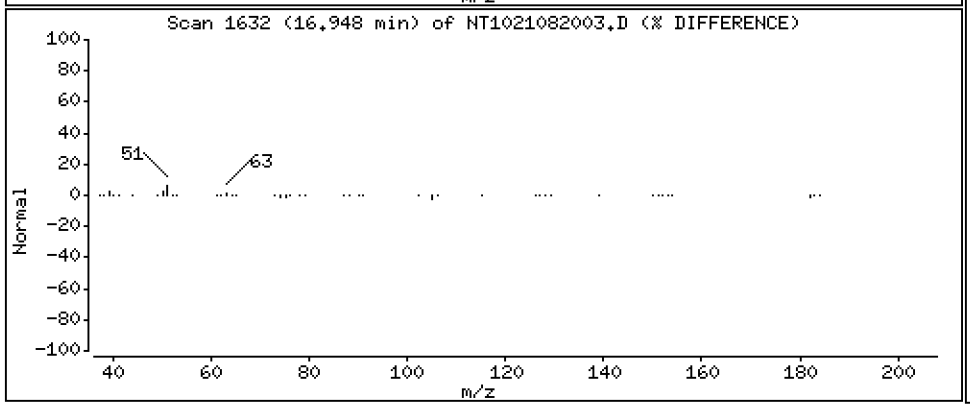
111 Azobenzene (1,2-DP-Hydrazine)

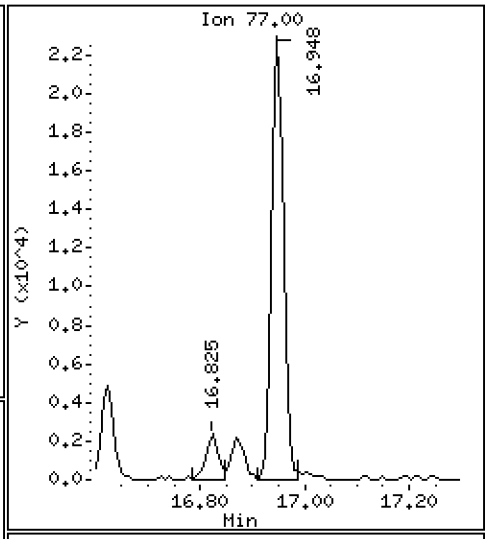
Concentration: 0.5477 ug/mL

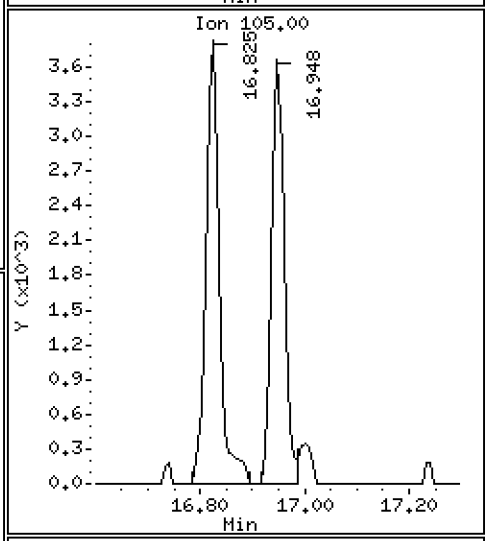


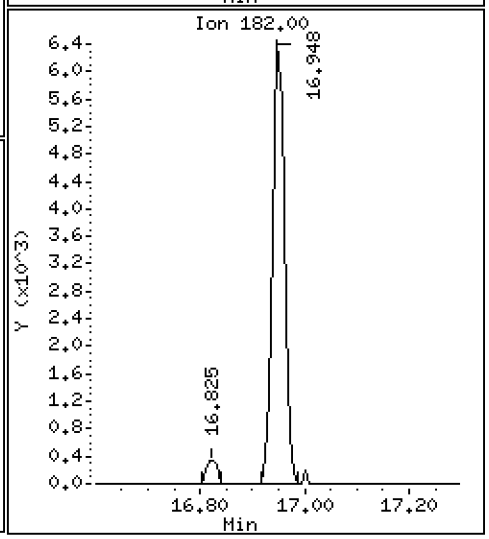












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

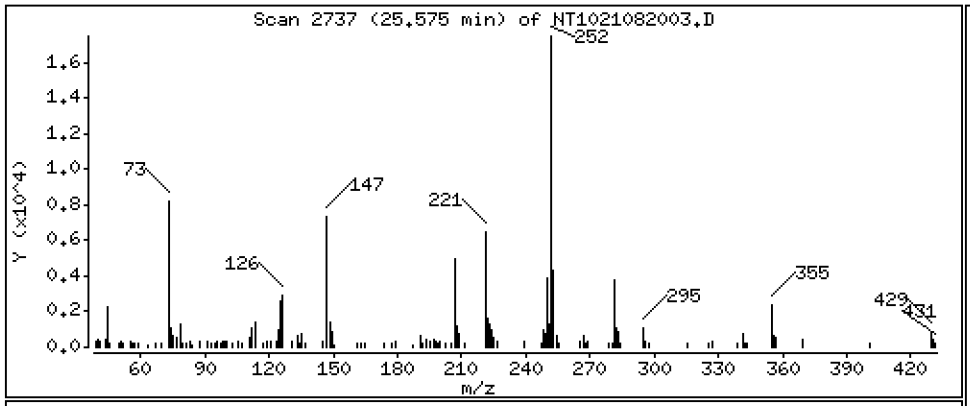
Operator: VTS

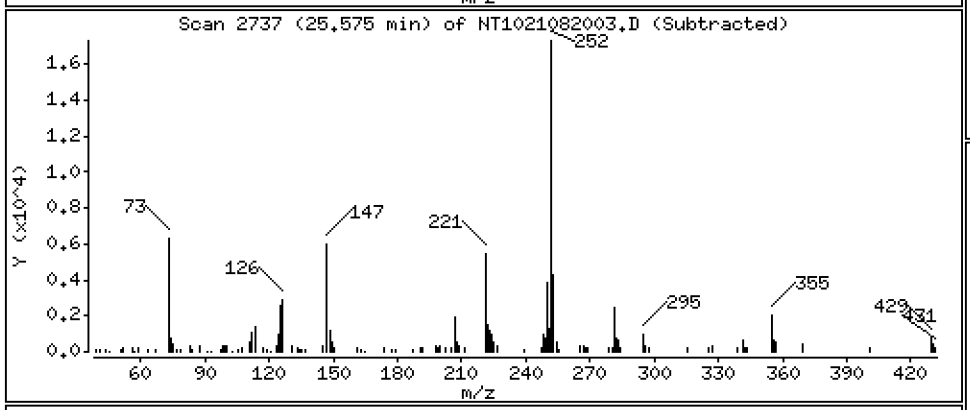
Column phase: ZB-5msi

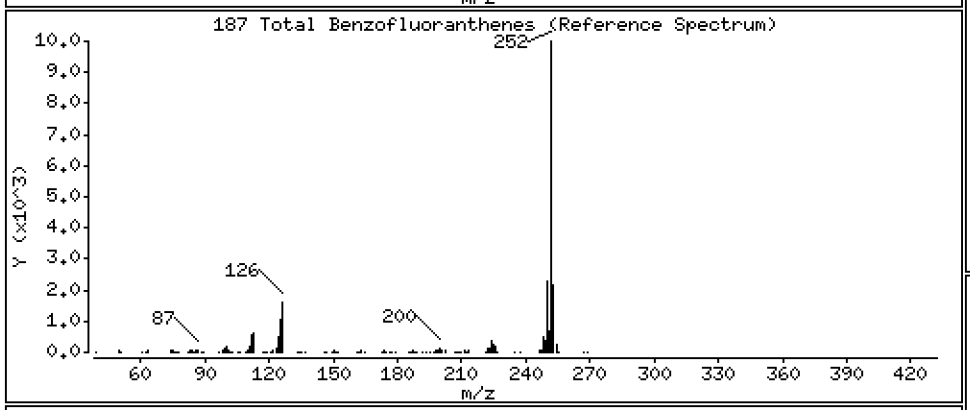
Column diameter: 0.25

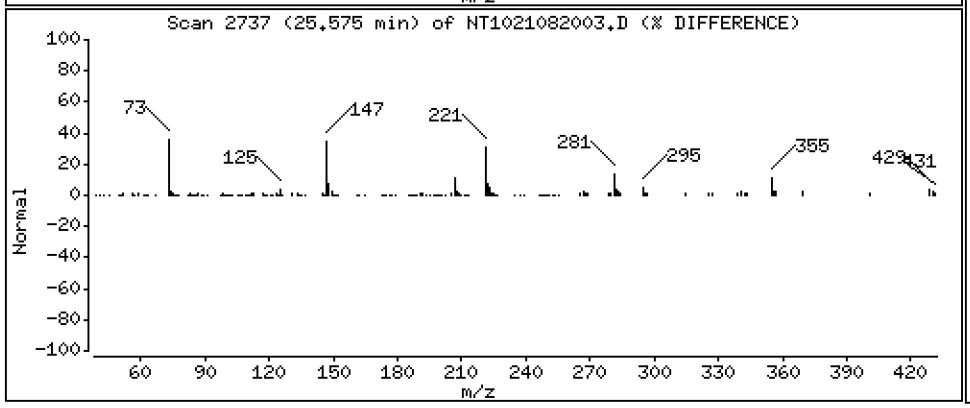
187 Total Benzofluoranthenes

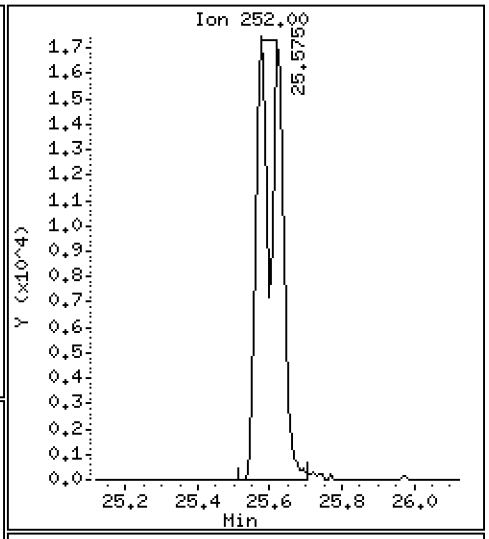
Concentration: 0.9736 ug/mL

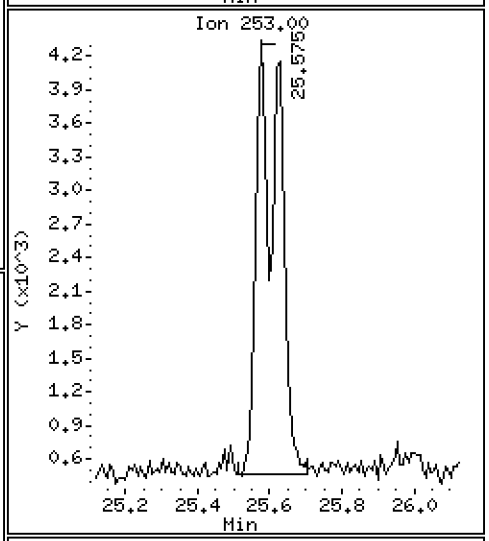


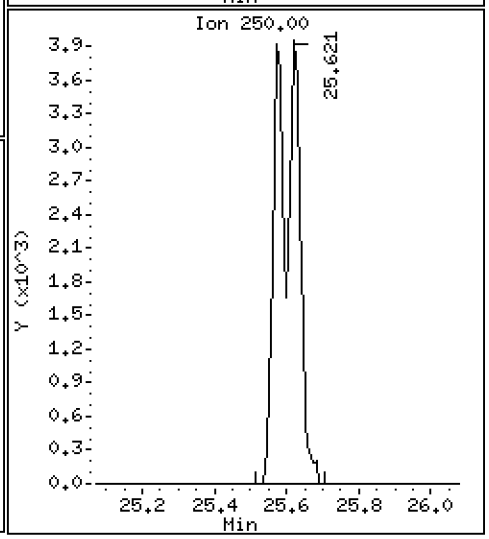












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

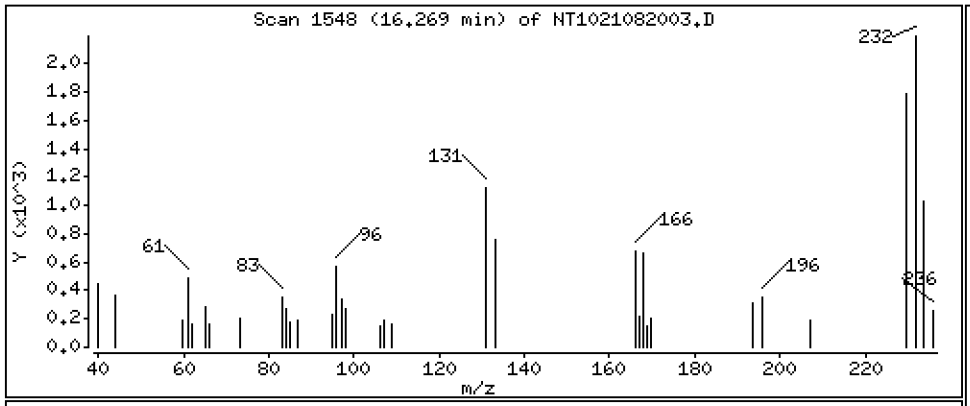
Operator: VTS

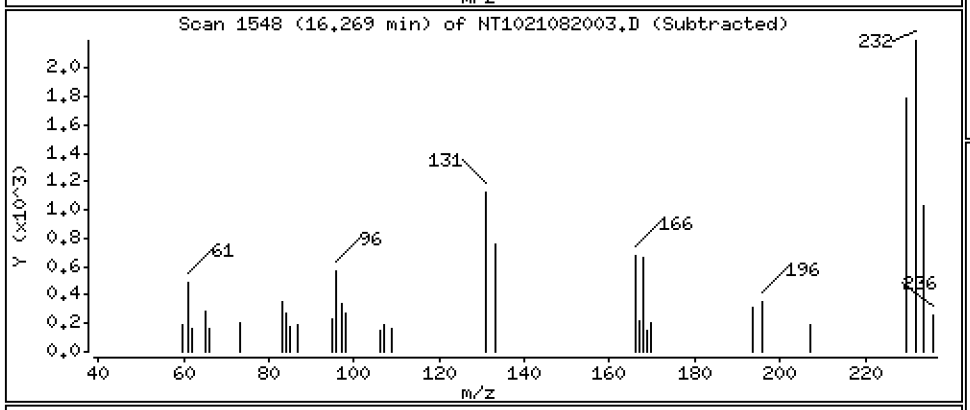
Column phase: ZB-5msi

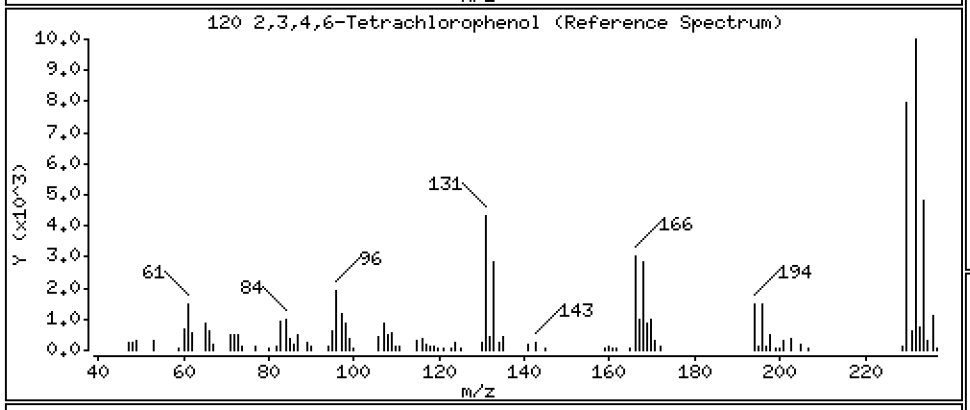
Column diameter: 0.25

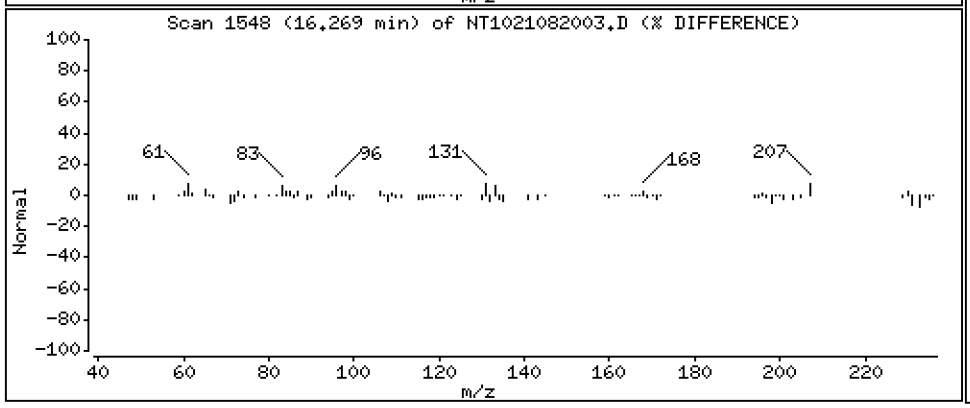
120 2,3,4,6-Tetrachlorophenol

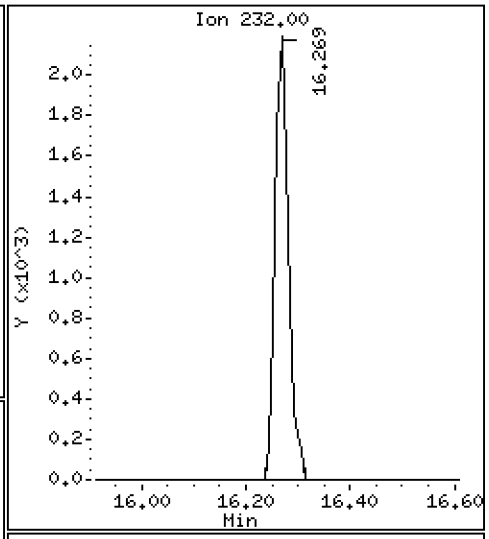
Concentration: 0.2784 ug/mL

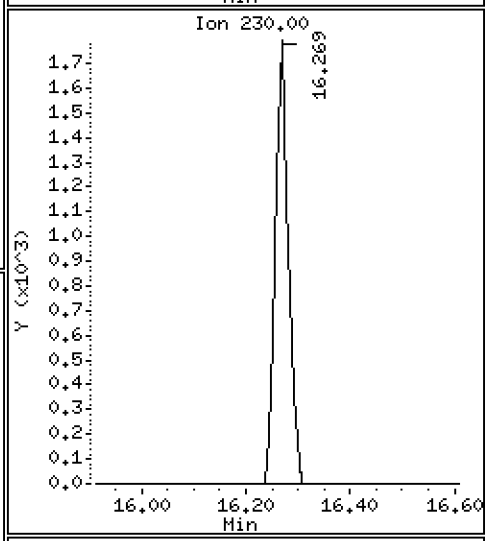


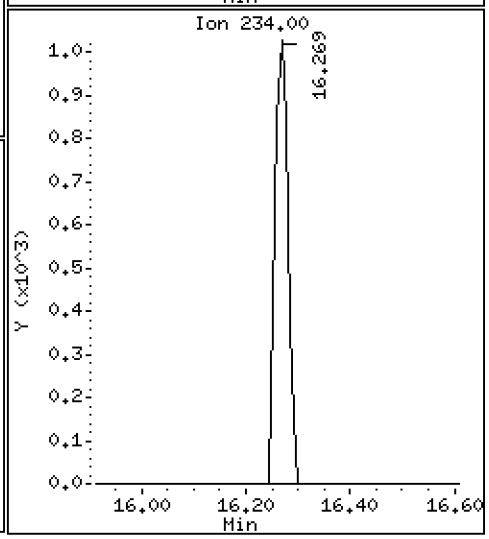












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D
Lab Smp Id: SJH0258-LCV1
Inj Date : 20-AUG-2021 09:39
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0258-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.762)	25797	0.77815	0.7781
$	2 Phenol-d5	99	8.768	8.760	(0.929)	32722	0.68964	0.6896
	3 Phenol	94	8.791	8.784	(0.932)	22414	0.51613	0.5161
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	25411	0.75181	0.7518
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	17086	0.53775	0.5378
	6 2-Chlorophenol	128	9.100	9.092	(0.965)	17649	0.48977	0.4898
	7 1,3-Dichlorobenzene	146	9.371	9.363	(0.993)	19440	0.51884	0.5188
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.425	(1.000)	99160	4.00000	
	9 1,4-Dichlorobenzene	146	9.464	9.456	(1.003)	14457	0.50965	0.5097
$	10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	11720	0.51047	0.5105
	12 1,2-Dichlorobenzene	146	9.821	9.813	(1.041)	16041	0.49690	0.4969
	11 Benzyl alcohol	108	9.697	9.689	(1.028)	8272	0.41409	0.4141
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	4676	0.48838	0.4884(M)
	13 2-Methylphenol	108	9.914	9.907	(1.051)	12921	0.46975	0.4697
	17 Hexachloroethane	117	10.419	10.411	(1.104)	6066	0.49445	0.4944
	16 N-Nitroso-di-n-propylamine	70	10.248	10.240	(1.086)	9431	0.48878	0.4888
	15 4-Methylphenol	108	10.178	10.171	(1.079)	13329	0.45367	0.4537
$	18 Nitrobenzene-d5	82	10.527	10.520	(0.883)	16350	0.48612	0.4861
	19 Nitrobenzene	77	10.566	10.559	(0.886)	15641	0.50439	0.5044
	20 Isophorone	82	11.001	11.001	(0.923)	19909	0.41543	0.4154
	21 2-Nitrophenol	139	11.194	11.186	(0.939)	7268	0.41155	0.4116
	22 2,4-Dimethylphenol	107	11.228	11.220	(0.942)	27953	1.02572	1.026
	23 Bis(2-Chloroethoxy)methane	93	11.423	11.415	(0.958)	15015	0.53074	0.5307
	24 Benzoic acid	105	11.330	11.424	(0.950)	5229	0.37996	0.3800(H)
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	25663	0.91887	0.9189
	26 1,2,4-Trichlorobenzene	180	11.835	11.828	(0.993)	14611	0.54051	0.5405
*	27 Naphthalene-d8	136	11.920	11.921	(1.000)	321228	4.00000	
	28 Naphthalene	128	11.967	11.959	(1.004)	37998	0.47681	0.4768
	29 4-Chloroaniline	127	12.082	12.083	(1.014)	28515	0.73852	0.7385
	30 Hexachlorobutadiene	225	12.314	12.307	(1.033)	7614	0.51197	0.5120
	31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	21058	0.75033	0.7503
	32 2-Methylnaphthalene	142	13.351	13.352	(1.120)	33624	0.44213	0.4421
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	5831	0.44266	0.4427

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.978	13.971	(0.900)	14381	0.77193	0.7719
	35 2,4,5-Trichlorophenol	196	14.056	14.048	(0.905)	15918	0.81332	0.8133
$	36 2-Fluorobiphenyl	172	14.125	14.125	(0.909)	36746	0.50063	0.5006
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	29049	0.49714	0.4971
	38 2-Nitroaniline	65	14.605	14.605	(0.940)	14882	0.85776	0.8578
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	32759	0.54368	0.5437
	40 Acenaphthylene	152	15.224	15.225	(0.980)	47447	0.52113	0.5211
	41 2,6-Dinitrotoluene	165	15.170	15.170	(0.977)	12894	0.96898	0.9690
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	183716	4.00000	
	43 3-Nitroaniline	138	15.456	15.457	(0.995)	13849	0.77296	0.7730
	44 Acenaphthene	153	15.603	15.604	(1.004)	23374	0.48537	0.4854
	45 2,4-Dinitrophenol	184	15.681	15.673	(1.009)	1856	0.26534	0.2653
	46 Dibenzofuran	168	15.928	15.928	(1.025)	40141	0.46907	0.4691
	47 4-Nitrophenol	109	15.804	15.766	(1.017)	3604	0.55542	0.5554(M)
	48 2,4-Dinitrotoluene	165	15.982	15.982	(1.029)	15221	0.81943	0.8194
	50 Diethylphthalate	149	16.469	16.469	(1.060)	27267	0.50205	0.5021
	49 Fluorene	166	16.647	16.639	(1.072)	40079	0.52771	0.5277
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	17600	0.51772	0.5177
	52 4-Nitroaniline	138	16.732	16.732	(1.077)	16482	0.88473	0.8847
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.824	(0.905)	15670	1.17740	1.177
	54 N-Nitrosodiphenylamine	169	16.870	16.871	(0.908)	26712	0.55455	0.5546
$	55 2,4,6-Tribromophenol	330	17.187	17.179	(1.106)	4009	0.57405	0.5741
	56 4-Bromophenyl-phenylether	248	17.634	17.626	(0.949)	9110	0.47185	0.4718
	57 Hexachlorobenzene	284	17.958	17.951	(0.966)	10003	0.54654	0.5465
	58 Pentachlorophenol	266	18.322	18.307	(0.986)	2211	0.33007	0.3301
*	59 Phenanthrene-d10	188	18.585	18.578	(1.000)	322041	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.002)	38395	0.48833	0.4883
	61 Anthracene	178	18.725	18.725	(1.007)	37443	0.44324	0.4432
	62 Carbazole	167	19.050	19.050	(1.025)	38945	0.44763	0.4476
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	45535	0.42305	0.4230
	64 Fluoranthene	202	20.999	20.999	(0.889)	49956	0.46445	0.4645
	65 Pyrene	202	21.425	21.425	(0.908)	53190	0.48183	0.4818
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	36925	0.53231	0.5323
	67 Butylbenzylphthalate	149	22.601	22.594	(0.957)	23642	0.54417	0.5442
	68 Benzo(a)anthracene	228	23.577	23.577	(0.999)	42527	0.49539	0.4954
*	69 Chrysene-d12	240	23.608	23.608	(1.000)	245723	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	47470	1.38986	1.390
	71 Chrysene	228	23.647	23.647	(1.002)	32702	0.48052	0.4805
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	18455	0.46404	0.4640
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	413245	4.00000	
	73 Di-n-octylphthalate	149	24.645	24.646	(1.000)	47461	0.52110	0.5211
	74 Benzo(b)fluoranthene	252	25.574	25.575	(0.968)	36985	0.45900	0.4590
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	40001	0.50640	0.5064
	76 Benzo(a)pyrene	252	26.302	26.295	(0.995)	32558	0.45740	0.4574
*	77 Perylene-d12	264	26.426	26.426	(1.000)	219019	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	36899	0.50180	0.5018
	79 Dibenzo(a,h)anthracene	278	29.394	29.394	(1.112)	29106	0.51737	0.5174
	80 Benzo(g,h,i)perylene	276	30.264	30.264	(1.145)	31639	0.49270	0.4927
	90 N-Nitrosodimethylamine	74	5.029	5.013	(0.533)	22402	1.04932	1.049
	91 Aniline	93	8.884	8.876	(0.942)	50018	1.00886	1.009
	93 Benzidine	184	21.224	21.216	(0.899)	34540	0.74194	0.7419
	103 Pyridine	79	5.067	5.037	(0.537)	36070	0.53480	0.5348
	105 1-methylnaphthalene	142	13.583	13.576	(1.140)	32270	0.43991	0.4399
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.948	(1.091)	34326	0.54775	0.5477

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.574	25.621	(0.968)	74843	0.97358	0.9736
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	3723	0.27836	0.2784

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D Page 1
Report Date: 24-Aug-2021 11:24

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082003.D
Lab Smp Id: SJH0258-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	99160	27.51
27 Naphthalene-d8	262289	131145	524578	321228	22.47
42 Acenaphthene-d10	161630	80815	323260	183716	13.66
59 Phenanthrene-d10	276890	138445	553780	322041	16.31
69 Chrysene-d12	212964	106482	425928	245723	15.38
134 Di-n-octylphthala	413838	206919	827676	413245	-0.14
77 Perylene-d12	196991	98496	393982	219019	11.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	-0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.61	-0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	-0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082003.D

Lab ID: SJH0258-LCV1
nt10.i, ABN.m, 20-AUG-2021 09:39

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.950	0.958	-0.0078	Benzoic acid

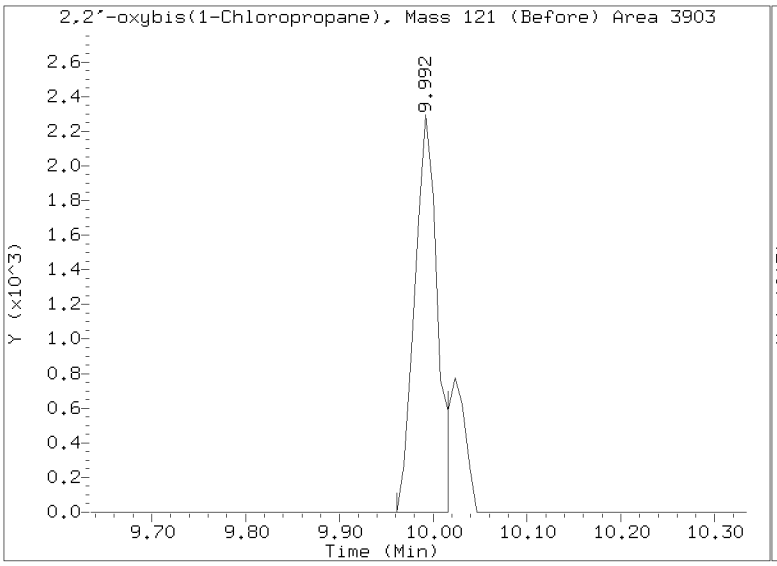
RRT check based on Ccal File: NT1021082002.D

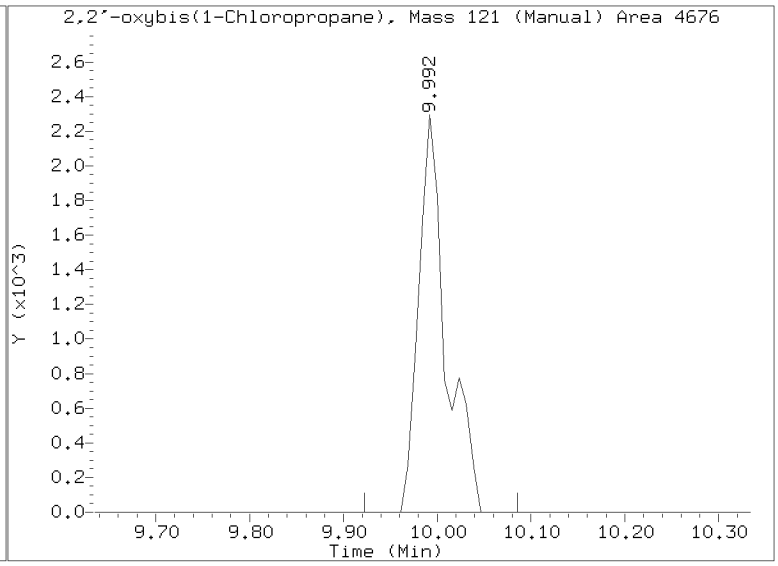
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

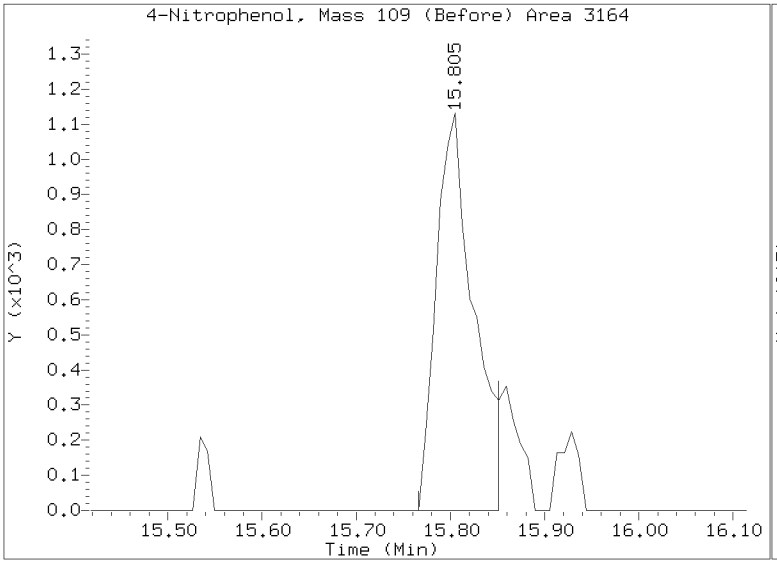
* Only compounds listed in the work order have been verified by the analyst *

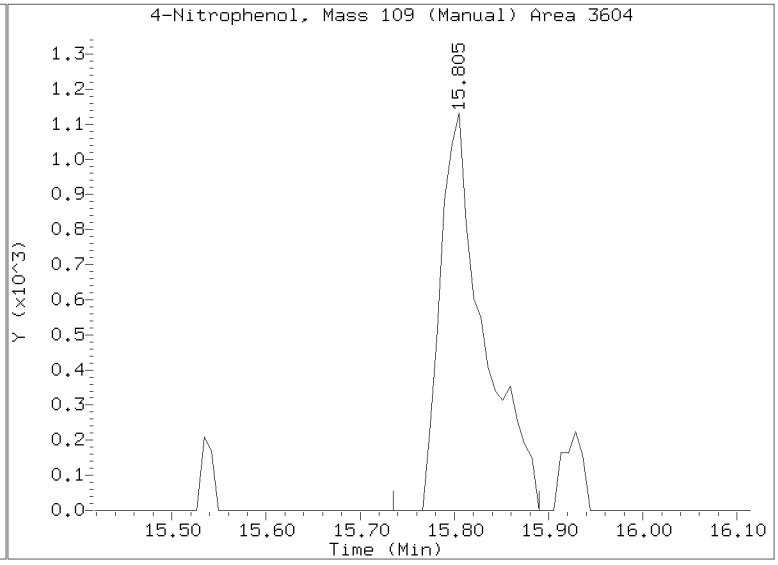
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082003.D
Injection Date: 20-AUG-2021 09:39
Lab ID:SJH0258-LCV1 Client ID:
Report Date: 08/24/2021 11:24









Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082002.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-ICV1	Injection Time:	08:41
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Phenol	A	5.0000	5.4	1.7518100	1.8913870		8.0	+/-20
bis(2-chloroethyl) ether	A	5.0000	4.9	1.2816900	1.2431450		-3.0	+/-20
2-Chlorophenol	A	5.0000	5.1	1.4536170	1.4710700		1.2	+/-20
1,3-Dichlorobenzene	A	5.0000	5.0	1.5114380	1.5214360		0.7	+/-20
1,4-Dichlorobenzene	A	5.0000	5.2	1.1442690	1.1876660		3.8	+/-20
1,2-Dichlorobenzene	A	5.0000	5.1	1.3022240	1.3284880		2.0	+/-20
Benzyl Alcohol	A	5.0000	5.5	0.8058147	0.8891392		10.3	+/-20
2,2'-Oxybis(1-chloropropane)	A	5.0000	5.0	0.3862240	0.3854435		-0.2	+/-20
2-Methylphenol	A	5.0000	5.3	1.1095740	1.1771730		6.1	+/-20
Hexachloroethane	A	5.0000	5.0	0.4948888	0.4971839		0.5	+/-20
N-Nitroso-di-n-Propylamine	A	5.0000	5.2	0.7783317	0.8084561		3.9	+/-20
4-Methylphenol	A	5.0000	5.2	1.1851760	1.2428880		4.9	+/-20
Nitrobenzene	A	5.0000	5.1	0.3861385	0.3943924		2.1	+/-20
Isophorone	A	5.0000	5.8	0.5967638	0.6927199		16.1	+/-20
2-Nitrophenol	A	5.0000	5.4	0.2199064	0.2378476		8.2	+/-20
2,4-Dimethylphenol	A	10.000	9.8	0.3393492	0.3326743		-2.0	+/-20
Bis(2-Chloroethoxy)methane	A	5.0000	4.6	0.3522827	0.3258421		-7.5	+/-20
2,4-Dichlorophenol	A	10.000	10.4	0.3477772	0.3614700		3.9	+/-20
1,2,4-Trichlorobenzene	A	5.0000	4.9	0.3366044	0.3272878		-2.8	+/-20
Naphthalene	A	5.0000	5.1	0.9923411	1.0094910		1.7	+/-20
Benzoic acid	A	20.000	18.8	0.1282034	0.1649402		-6.2	+/-20
4-Chloroaniline	A	10.000	10.9	0.4807898	0.5223078		8.6	+/-20
Hexachlorobutadiene	A	5.0000	5.2	0.1851905	0.1907728		3.0	+/-20
4-Chloro-3-Methylphenol	A	10.000	10.6	0.3494710	0.3702725		6.0	+/-20
2-Methylnaphthalene	A	5.0000	5.2	0.9469932	0.9868748		4.2	+/-20
Hexachlorocyclopentadiene	A	10.000	9.7	0.2380948	0.2859593		-3.1	+/-20
2,4,6-Trichlorophenol	A	10.000	10.7	0.4056237	0.4318530		6.5	+/-20
2,4,5-Trichlorophenol	A	10.000	10.9	0.4261287	0.4650003		9.1	+/-20
2-Chloronaphthalene	A	5.0000	5.1	1.2722300	1.3078810		2.8	+/-20
2-Nitroaniline	A	10.000	10.8	0.3777549	0.4059816		7.5	+/-20
Acenaphthylene	A	5.0000	4.8	1.9823260	1.9177180		-3.3	+/-20

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082002.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-ICV1	Injection Time:	08:41
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Dimethylphthalate	A	5.0000	4.9	1.3118930	1.2742440		-2.9	+/-20
2,6-Dinitrotoluene	A	10.000	10.0	0.2897240	0.2902877		0.2	+/-20
Acenaphthene	A	5.0000	5.0	1.0485220	1.0448850		-0.3	+/-20
3-Nitroaniline	A	10.000	10.5	0.3901002	0.4102506		5.2	+/-20
2,4-Dinitrophenol	A	20.000	18.5	0.1061965	0.1456982		-7.4	+/-20
Dibenzofuran	A	5.0000	5.1	1.8632010	1.9181590		2.9	+/-20
4-Nitrophenol	A	10.000	9.9	0.1112987	0.1406719		-0.9	+/-20
2,4-Dinitrotoluene	A	10.000	10.5	0.4044297	0.4262699		5.4	+/-20
Fluorene	A	5.0000	4.9	1.6536160	1.6233470		-1.8	+/-20
4-Chlorophenylphenyl ether	A	5.0000	4.9	0.7401715	0.7283945		-1.6	+/-20
Diethyl phthalate	A	5.0000	5.0	1.1825010	1.1711790		-1.0	+/-20
4-Nitroaniline	A	10.000	10.1	0.4056112	0.4112306		1.4	+/-20
4,6-Dinitro-2-methylphenol	A	20.000	20.8	0.1305331	0.1717606		4.0	+/-20
N-Nitrosodiphenylamine	A	5.0000	4.9	0.5982903	0.5869074		-1.9	+/-20
4-Bromophenyl phenyl ether	A	5.0000	5.2	0.2398092	0.2486157		3.7	+/-20
Hexachlorobenzene	A	5.0000	5.1	0.2273318	0.2303008		1.3	+/-20
Pentachlorophenol	A	10.000	9.5	0.0665517	0.0817769		-4.6	+/-20
Phenanthrene	A	5.0000	5.0	0.9765836	0.9682141		-0.9	+/-20
Anthracene	A	5.0000	5.0	1.0492630	1.0500980		0.08	+/-20
Carbazole	A	5.0000	5.0	1.0806490	1.0837030		0.3	+/-20
Di-n-Butylphthalate	A	5.0000	5.1	1.3369240	1.3751140		2.9	+/-20
Fluoranthene	A	5.0000	5.2	1.7509030	1.8283580		4.4	+/-20
Pyrene	A	5.0000	5.1	1.7970040	1.8171970		1.1	+/-20
Butylbenzylphthalate	A	5.0000	5.1	0.7072339	0.7204485		1.9	+/-20
Benzo(a)anthracene	A	5.0000	4.9	1.3974370	1.3658760		-2.3	+/-20
3,3'-Dichlorobenzidine	A	15.000	14.7	0.5559834	0.5433018		-2.3	+/-20
Chrysene	A	5.0000	5.1	1.1078500	1.1194270		1.0	+/-20
bis(2-Ethylhexyl)phthalate	A	5.0000	5.2	0.3849599	0.4038025		4.9	+/-20
Di-n-Octylphthalate	A	5.0000	5.1	0.8815966	0.8925058		1.2	+/-20
Benzofluoranthenes, Total	A	10.000	9.9	1.4039640	1.3870120		-1.2	+/-20
Benzo(a)pyrene	A	5.0000	4.9	1.2999960	1.2663120		-2.6	+/-20

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082002.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-ICV1	Injection Time:	08:41
Sequence Name:	Initial Cal Check		

		CONC. (ug/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Indeno(1,2,3-cd)pyrene	A	5.0000	5.0	1.3429560	1.3532920		0.8	+/-20
Dibenzo(a,h)anthracene	A	5.0000	5.0	1.0274450	1.0279050		0.04	+/-20
Benzo(g,h,i)perylene	A	5.0000	5.0	1.1727930	1.1695520		-0.3	+/-20
1-Methylnaphthalene	A	5.0000	5.1	0.9134377	0.9400318		2.9	+/-20
2-Fluorophenol	A	7.5000	7.93	1.3373020	1.4139380		5.7	+/-20
Phenol-d5	A	7.5000	7.92	1.9140080	2.0203720		5.6	+/-20
2-Chlorophenol-d4	A	7.5000	7.43	1.3634350	1.3505410		-0.9	+/-20
1,2-Dichlorobenzene-d4	A	5.0000	4.97	0.9261509	0.9210298		-0.6	+/-20
Nitrobenzene-d5	A	5.0000	4.97	0.4188149	0.4163103		-0.6	+/-20
2-Fluorobiphenyl	A	5.0000	5.05	1.5981010	1.6138190		1.0	+/-20
2,4,6-Tribromophenol	A	7.5000	7.32	0.1388940	0.1498798		-2.5	+/-20
p-Terphenyl-d14	A	5.0000	5.02	1.1291920	1.1329090		0.3	+/-20
Phenanthrene-d10	A	4.0000	4.0	78426.0700	1.0000		0.0	
Chrysene-d12	A	4.0000	4.0	62909.9600	1.0000		0.0	
Di-n-Octylphthalate-d4	A	4.0000	4.0	121584.1000	1.0000		0.0	
Perylene-d12	A	4.0000	4.0	57771.7900	1.0000		0.0	

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082002.D

Page 1

Date : 20-AUG-2021 08:41

Client ID:

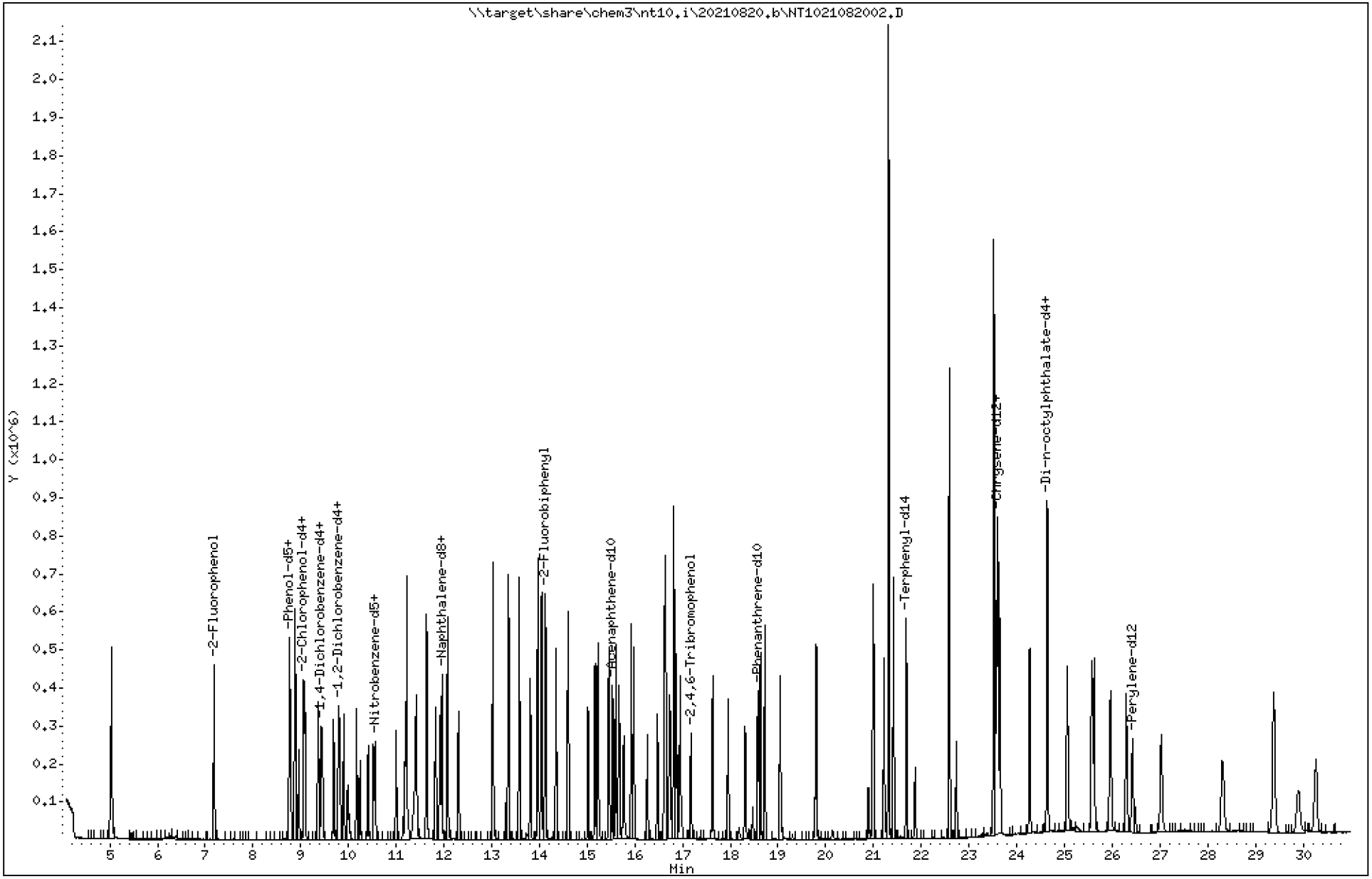
Instrument: nt10.i

Sample Info: SJH0258-ICV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082002.D
Lab Smp Id: SJH0258-ICV1
Inj Date : 20-AUG-2021 08:41
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0258-ICV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
$	1 2-Fluorophenol	112	7.184	7.184	(0.762)	206168	7.50000	7.930
$	2 Phenol-d5	99	8.760	8.760	(0.929)	294593	7.50000	7.917
	3 Phenol	94	8.784	8.784	(0.932)	183857	5.00000	5.398
$	5 2-Chlorophenol-d4	132	9.062	9.062	(0.961)	196924	7.50000	7.429
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.951)	120843	5.00000	4.850
	6 2-Chlorophenol	128	9.092	9.092	(0.965)	142999	5.00000	5.060
	7 1,3-Dichlorobenzene	146	9.363	9.363	(0.993)	147895	5.00000	5.033
*	8 1,4-Dichlorobenzene-d4	152	9.425	9.425	(1.000)	77766	4.00000	
	9 1,4-Dichlorobenzene	146	9.456	9.456	(1.003)	115450	5.00000	5.190
$	10 1,2-Dichlorobenzene-d4	152	9.790	9.790	(1.039)	89531	5.00000	4.972
	12 1,2-Dichlorobenzene	146	9.813	9.813	(1.041)	129139	5.00000	5.101
	11 Benzyl alcohol	108	9.689	9.689	(1.028)	86431	5.00000	5.517
	14 2,2'-oxybis(1-Chloropropane)	121	9.984	9.984	(1.059)	37468	5.00000	4.990(M)
	13 2-Methylphenol	108	9.907	9.907	(1.051)	114430	5.00000	5.305
	17 Hexachloroethane	117	10.411	10.411	(1.105)	48330	5.00000	5.023
	16 N-Nitroso-di-n-propylamine	70	10.240	10.240	(1.086)	78588	5.00000	5.194
	15 4-Methylphenol	108	10.171	10.171	(1.079)	120818	5.00000	5.243
$	18 Nitrobenzene-d5	82	10.520	10.520	(0.883)	136492	5.00000	4.970
	19 Nitrobenzene	77	10.559	10.559	(0.886)	129306	5.00000	5.107
	20 Isophorone	82	11.001	11.001	(0.923)	227116	5.00000	5.804
	21 2-Nitrophenol	139	11.186	11.186	(0.938)	77981	5.00000	5.408
	22 2,4-Dimethylphenol	107	11.220	11.220	(0.941)	218142	10.0000	9.803
	23 Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	106831	5.00000	4.625
	24 Benzoic acid	105	11.424	11.424	(0.958)	216310	20.0000	18.76
	25 2,4-Dichlorophenol	162	11.636	11.636	(0.976)	237024	10.0000	10.39
	26 1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	107305	5.00000	4.862
*	27 Naphthalene-d8	136	11.921	11.921	(1.000)	262289	4.00000	
	28 Naphthalene	128	11.959	11.959	(1.003)	330973	5.00000	5.086
	29 4-Chloroaniline	127	12.083	12.083	(1.014)	342489	10.0000	10.86
	30 Hexachlorobutadiene	225	12.307	12.307	(1.032)	62547	5.00000	5.151
	31 4-Chloro-3-methylphenol	107	13.027	13.027	(1.093)	242796	10.0000	10.60
	32 2-Methylnaphthalene	142	13.352	13.352	(1.120)	323558	5.00000	5.211
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	115549	10.0000	9.695

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	174501	10.0000	10.65
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	187895	10.0000	10.91
$	36 2-Fluorobiphenyl	172	14.125	14.125	(0.909)	326052	5.00000	5.049
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	264241	5.00000	5.140
	38 2-Nitroaniline	65	14.605	14.605	(0.940)	164047	10.0000	10.75
	39 Dimethylphthalate	163	15.016	15.016	(0.967)	257445	5.00000	4.857
	40 Acenaphthylene	152	15.225	15.225	(0.980)	387451	5.00000	4.837
	41 2,6-Dinitrotoluene	165	15.170	15.170	(0.977)	117298	10.0000	10.02
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	161630	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	165772	10.0000	10.52
	44 Acenaphthene	153	15.604	15.604	(1.004)	211106	5.00000	4.983
	45 2,4-Dinitrophenol	184	15.673	15.673	(1.009)	117746	20.0000	18.52
	46 Dibenzofuran	168	15.928	15.928	(1.025)	387540	5.00000	5.147
	47 4-Nitrophenol	109	15.766	15.766	(1.015)	56842	10.0000	9.913
	48 2,4-Dinitrotoluene	165	15.982	15.982	(1.029)	172245	10.0000	10.54
	50 Diethylphthalate	149	16.469	16.469	(1.060)	236622	5.00000	4.952
	49 Fluorene	166	16.639	16.639	(1.071)	327977	5.00000	4.908
	51 4-Chlorophenyl-phenylether	204	16.616	16.616	(1.070)	147163	5.00000	4.920
	52 4-Nitroaniline	138	16.732	16.732	(1.077)	166168	10.0000	10.14
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.824	(0.906)	237794	20.0000	20.80
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	203136	5.00000	4.905
$	55 2,4,6-Tribromophenol	330	17.179	17.179	(1.106)	45422	7.50000	7.315
	56 4-Bromophenyl-phenylether	248	17.626	17.626	(0.949)	86049	5.00000	5.184
	57 Hexachlorobenzene	284	17.951	17.951	(0.966)	79710	5.00000	5.065
	58 Pentachlorophenol	266	18.307	18.307	(0.985)	56608	10.0000	9.544
*	59 Phenanthrene-d10	188	18.578	18.578	(1.000)	276890	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.003)	335111	5.00000	4.957
	61 Anthracene	178	18.725	18.725	(1.008)	363452	5.00000	5.004
	62 Carbazole	167	19.050	19.050	(1.025)	375083	5.00000	5.014
	63 Di-n-butylphthalate	149	19.800	19.800	(1.066)	475944	5.00000	5.143
	64 Fluoranthene	202	20.999	20.999	(0.889)	486718	5.00000	5.221
	65 Pyrene	202	21.425	21.425	(0.908)	483747	5.00000	5.056
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	301586	5.00000	5.016
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	191787	5.00000	5.093
	68 Benzo(a)anthracene	228	23.577	23.577	(0.999)	363603	5.00000	4.887
*	69 Chrysene-d12	240	23.608	23.608	(1.000)	212964	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	433889	15.0000	14.66
	71 Chrysene	228	23.647	23.647	(1.002)	297997	5.00000	5.052
	72 bis(2-Ethylhexyl)phthalate	149	23.608	23.608	(0.958)	208886	5.00000	5.245
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	413838	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	461691	5.00000	5.062
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	348343	5.00000	4.806
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	365290	5.00000	5.142
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	311815	5.00000	4.870
*	77 Perylene-d12	264	26.426	26.426	(1.000)	196991	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.371	29.371	(1.111)	333233	5.00000	5.038
	79 Dibenzo(a,h)anthracene	278	29.394	29.394	(1.112)	253110	5.00000	5.002
	80 Benzo(g,h,i)perylene	276	30.264	30.264	(1.145)	287989	5.00000	4.986
	90 N-Nitrosodimethylamine	74	5.013	5.013	(0.532)	191675	10.0000	11.45
	91 Aniline	93	8.876	8.876	(0.942)	394213	10.0000	10.14
	93 Benzidine	184	21.216	21.216	(0.899)	318352	10.0000	7.890
	103 Pyridine	79	5.037	5.037	(0.534)	282576	5.00000	5.342
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	308200	5.00000	5.146
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.948	(1.091)	271939	5.00000	4.932

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/mL)	AMOUNTS ON-COL (ug/mL)
187 Total Benzofluoranthenes	252	25.621	25.621	(0.970)	683072	10.0000	9.879
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.047)	56743	5.00000	4.767

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082002.D Page 1
Report Date: 24-Aug-2021 11:24

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082002.D
Lab Smp Id: SJH0258-ICV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	77766	0.00
27 Naphthalene-d8	262289	131145	524578	262289	0.00
42 Acenaphthene-d10	161630	80815	323260	161630	0.00
59 Phenanthrene-d10	276890	138445	553780	276890	0.00
69 Chrysene-d12	212964	106482	425928	212964	0.00
134 Di-n-octylphthala	413838	206919	827676	413838	0.00
77 Perylene-d12	196991	98496	393982	196991	0.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	0.00
59 Phenanthrene-d10	18.58	18.08	19.08	18.58	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082002.D

Lab ID: SJH0258-ICV1
nt10.i, ABN.m, 20-AUG-2021 08:41

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

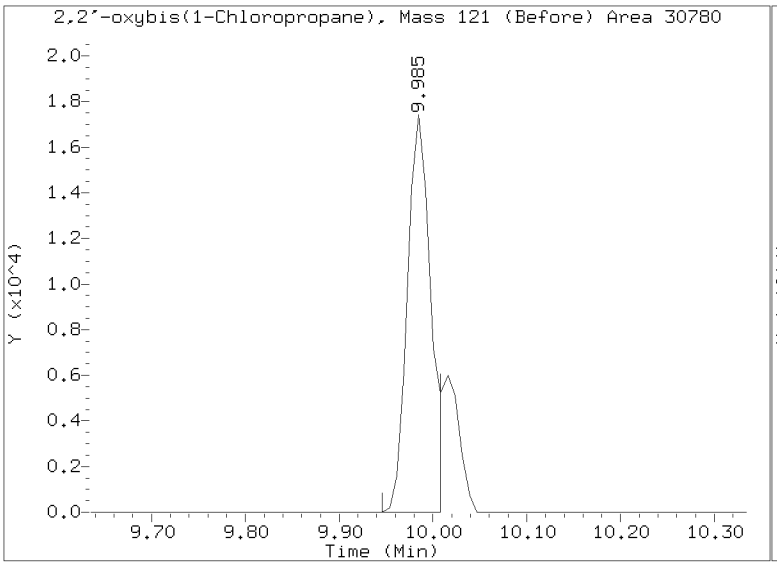
No RRT check. Ccal file.

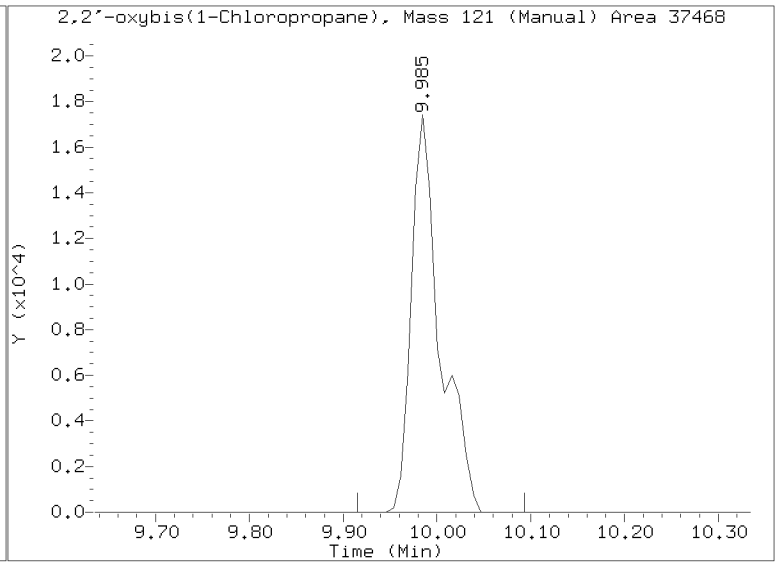
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082002.D
Injection Date: 20-AUG-2021 08:41
Lab ID:SJH0258-ICV1 Client ID:
Report Date: 08/24/2021 11:24





Q-FLAG SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210820.b

Instrument: nt10.i Date: 20-AUG-2021 Method: ABN.m

INITIAL CAL: 19-AUG-2021

Compound	%RSD or R^2
NO Q-FLAGS	

ICV CAL: NT1021082002.D 20-AUG-2021 08:41

Compound	%D
Benzidine	-21.10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021081915.D	Calibration Date:	08/19/2021
Sequence:	SJH0235	Injection Date:	08/19/21
Lab Sample ID:	SJH0235-SCV1	Injection Time:	20:42
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	5.3	1.7518100	1.8425500		5.2	+/-20	
bis(2-chloroethyl) ether	A	5.0000	5.8	1.2816900	1.4818030		15.6	+/-20	
2-Chlorophenol	A	5.0000	5.0	1.4536170	1.4634030		0.7	+/-20	
1,3-Dichlorobenzene	A	5.0000	5.2	1.5114380	1.5676000		3.7	+/-20	
1,4-Dichlorobenzene	A	5.0000	5.9	1.1442690	1.3406860		17.2	+/-20	
1,2-Dichlorobenzene	A	5.0000	5.2	1.3022240	1.3543270		4.0	+/-20	
Benzyl Alcohol	A	5.0000	4.9	0.8058147	0.7952407		-1.3	+/-20	
2,2'-Oxybis(1-chloropropane)	A	5.0000	5.7	0.3862240	0.4418774		14.4	+/-20	
2-Methylphenol	A	5.0000	4.7	1.1095740	1.0335020		-6.9	+/-20	
Hexachloroethane	A	5.0000	5.7	0.4948888	0.5616459		13.5	+/-20	
N-Nitroso-di-n-Propylamine	A	5.0000	5.3	0.7783317	0.8237689		5.8	+/-20	
4-Methylphenol	A	5.0000	4.7	1.1851760	1.1111390		-6.2	+/-20	
Nitrobenzene	A	5.0000	5.4	0.3861385	0.4172315		8.1	+/-20	
Isophorone	A	5.0000	7.8	0.5967638	0.9282692		55.6	+/-20	*
2-Nitrophenol	A	5.0000	5.2	0.2199064	0.2277143		3.6	+/-20	
2,4-Dimethylphenol	A	5.0000	4.9	0.3393492	0.3339480		-1.6	+/-20	
Bis(2-Chloroethoxy)methane	A	5.0000	5.9	0.3522827	0.4183503		18.8	+/-20	
2,4-Dichlorophenol	A	5.0000	5.1	0.3477772	0.3579862		2.9	+/-20	
1,2,4-Trichlorobenzene	A	5.0000	5.0	0.3366044	0.3366220		0.005	+/-20	
Naphthalene	A	5.0000	5.1	0.9923411	1.0121480		2.0	+/-20	
Benzoic acid	A	10.000	5.4	0.1282034	0.0927936		-46.2	+/-20	*
4-Chloroaniline	A	5.0000	4.6	0.4807898	0.4416473		-8.1	+/-20	
Hexachlorobutadiene	A	5.0000	5.1	0.1851905	0.1891424		2.1	+/-20	
4-Chloro-3-Methylphenol	A	5.0000	4.9	0.3494710	0.3441993		-1.5	+/-20	
2-Methylnaphthalene	A	5.0000	4.7	0.9469932	0.8944915		-5.5	+/-20	
Hexachlorocyclopentadiene	A	5.0000	4.3	0.2380948	0.2503284		-13.7	+/-20	
2,4,6-Trichlorophenol	A	5.0000	4.8	0.4056237	0.3869967		-4.6	+/-20	
2,4,5-Trichlorophenol	A	5.0000	4.9	0.4261287	0.4188180		-1.7	+/-20	
2-Chloronaphthalene	A	5.0000	5.6	1.2722300	1.4211710		11.7	+/-20	
2-Nitroaniline	A	5.0000	5.0	0.3777549	0.3756680		-0.6	+/-20	
Acenaphthylene	A	5.0000	4.8	1.9823260	1.9013480		-4.1	+/-20	
Dimethylphthalate	A	5.0000	5.0	1.3118930	1.3063800		-0.4	+/-20	
2,6-Dinitrotoluene	A	5.0000	5.4	0.2897240	0.3110774		7.4	+/-20	
Acenaphthene	A	5.0000	5.0	1.0485220	1.0433330		-0.5	+/-20	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021081915.D	Calibration Date:	08/19/2021
Sequence:	SJH0235	Injection Date:	08/19/21
Lab Sample ID:	SJH0235-SCV1	Injection Time:	20:42
Sequence Name:	SCV 5.0		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
3-Nitroaniline	A	5.0000	4.6	0.3901002	0.3559181		-8.8	+/-20	
2,4-Dinitrophenol	A	5.0000	1.7	0.1061965	0.0508240		-66.7	+/-20	*
Dibenzofuran	A	5.0000	4.7	1.8632010	1.7481970		-6.2	+/-20	
4-Nitrophenol	A	5.0000	4.0	0.1112987	0.1137193		-19.6	+/-20	
2,4-Dinitrotoluene	A	5.0000	5.1	0.4044297	0.4130352		2.1	+/-20	
Fluorene	A	5.0000	4.7	1.6536160	1.5619860		-5.5	+/-20	
4-Chlorophenylphenyl ether	A	5.0000	5.2	0.7401715	0.7678004		3.7	+/-20	
Diethyl phthalate	A	5.0000	5.1	1.1825010	1.2052110		1.9	+/-20	
4-Nitroaniline	A	5.0000	4.8	0.4056112	0.3884184		-4.2	+/-20	
4,6-Dinitro-2-methylphenol	A	5.0000	3.9	0.1305331	0.1284209		-22.3	+/-20	*
N-Nitrosodiphenylamine	A	5.0000	4.8	0.5982903	0.5785221		-3.3	+/-20	
4-Bromophenyl phenyl ether	A	5.0000	5.4	0.2398092	0.2589276		8.0	+/-20	
Hexachlorobenzene	A	5.0000	5.1	0.2273318	0.2302142		1.3	+/-20	
Pentachlorophenol	A	5.0000	3.1	0.0665517	0.0523671		-37.6	+/-20	*
Phenanthrene	A	5.0000	4.9	0.9765836	0.9482508		-2.9	+/-20	
Anthracene	A	5.0000	4.8	1.0492630	1.0100620		-3.7	+/-20	
Carbazole	A	5.0000	5.0	1.0806490	1.0744900		-0.6	+/-20	
Di-n-Butylphthalate	A	5.0000	5.4	1.3369240	1.4372330		7.5	+/-20	
Fluoranthene	A	5.0000	4.9	1.7509030	1.6994430		-2.9	+/-20	
Pyrene	A	5.0000	4.9	1.7970040	1.7472660		-2.8	+/-20	
Butylbenzylphthalate	A	5.0000	4.9	0.7072339	0.6915119		-2.2	+/-20	
Benzo(a)anthracene	A	5.0000	4.8	1.3974370	1.3414470		-4.0	+/-20	
3,3'-Dichlorobenzidine	A	10.000	8.8	0.5559834	0.4909168		-11.7	+/-20	
Chrysene	A	5.0000	4.7	1.1078500	1.0384150		-6.3	+/-20	
bis(2-Ethylhexyl)phthalate	A	5.0000	5.4	0.3849599	0.4128043		7.2	+/-20	
Di-n-Octylphthalate	A	5.0000	5.2	0.8815966	0.9217378		4.6	+/-20	
Benzofluoranthenes, Total	A	10.000	10.0	1.4039640	1.3982730		-0.4	+/-20	
Benzo(a)pyrene	A	5.0000	5.0	1.2999960	1.2946730		-0.4	+/-20	
Indeno(1,2,3-cd)pyrene	A	5.0000	4.9	1.3429560	1.3040070		-2.9	+/-20	
Dibenzo(a,h)anthracene	A	5.0000	4.8	1.0274450	0.9940600		-3.2	+/-20	
Benzo(g,h,i)perylene	A	5.0000	4.9	1.1727930	1.1547680		-1.5	+/-20	
1-Methylnaphthalene	A	5.0000	4.8	0.9134377	0.8795858		-3.7	+/-20	

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Page 1

Date : 19-AUG-2021 20:42

Client ID:

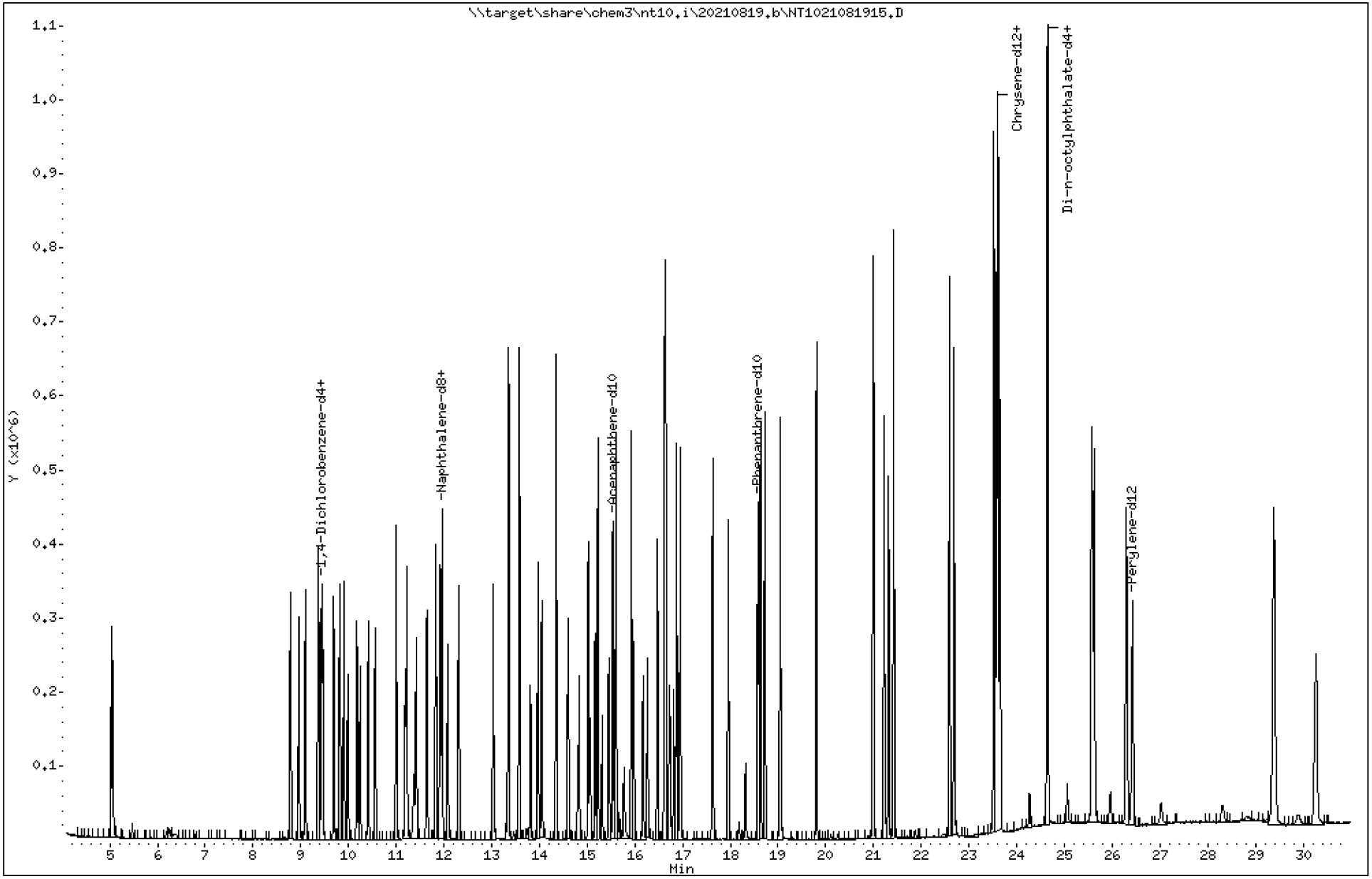
Instrument: nt10.i

Sample Info: SJH0235-SCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

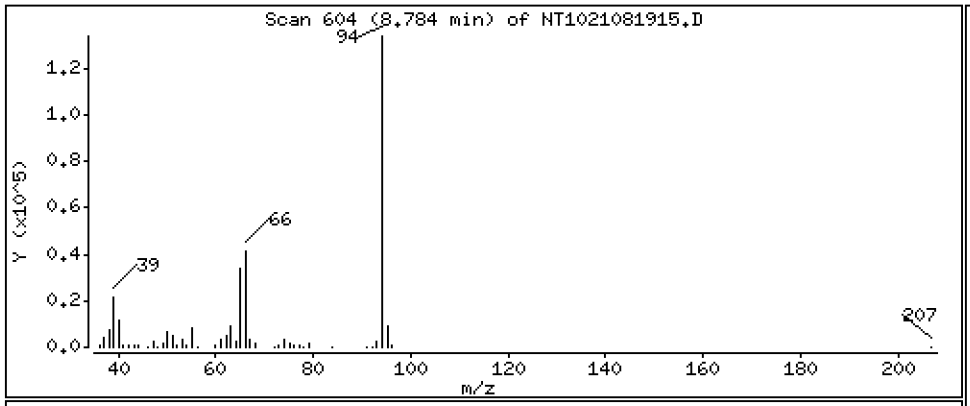
Operator: VTS

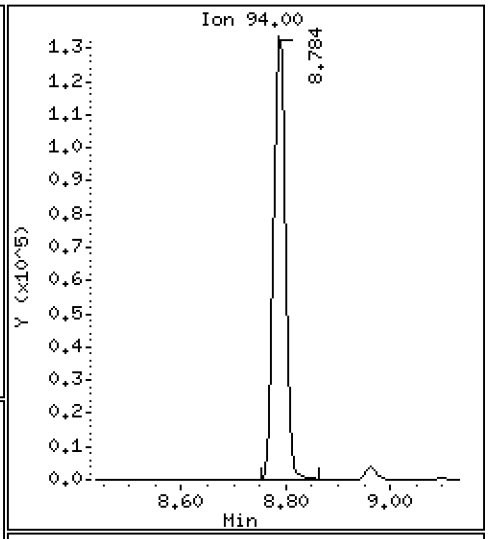
Column phase: ZB-5msi

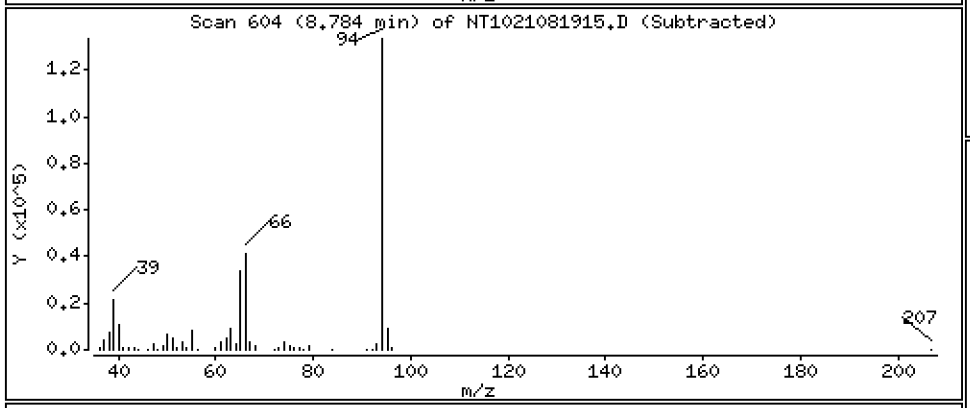
Column diameter: 0.25

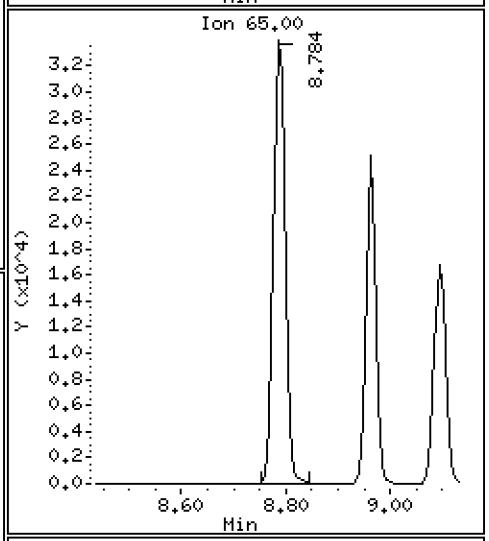
3 Phenol

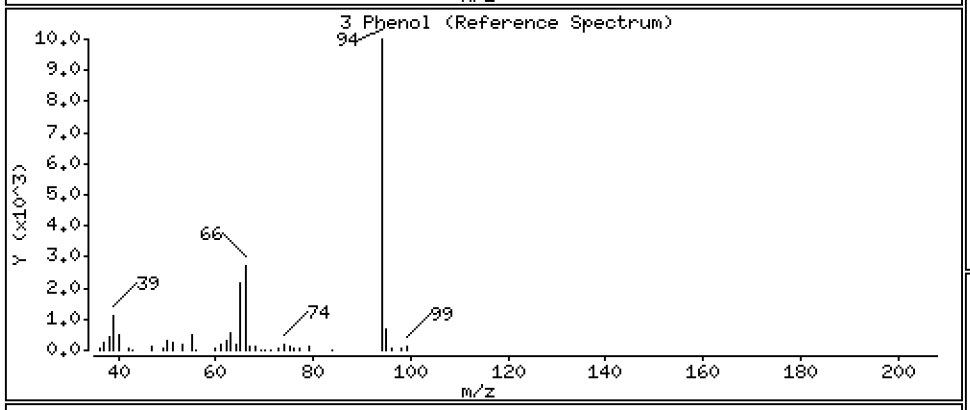
Concentration: 5.259 ug/mL

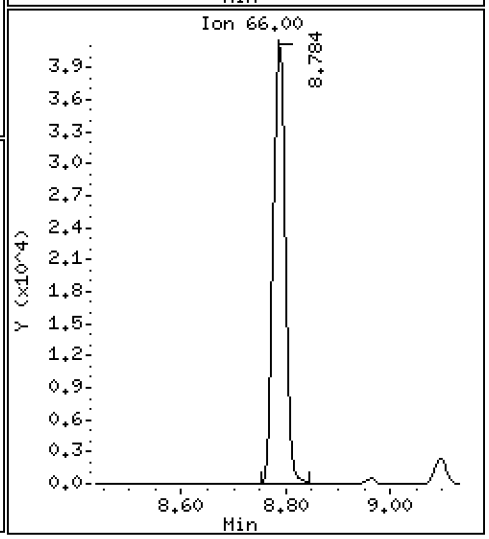


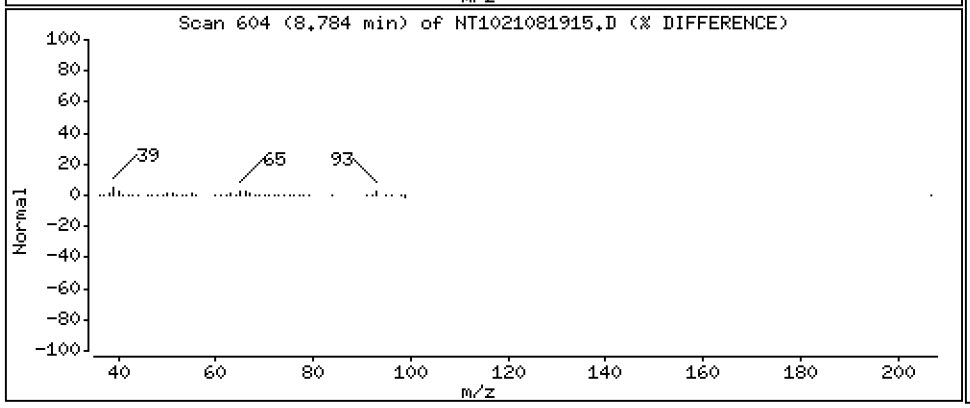












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

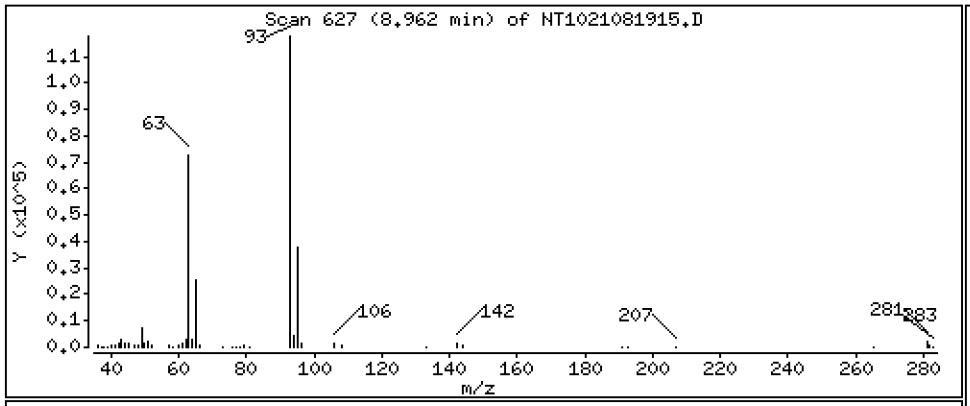
Operator: VTS

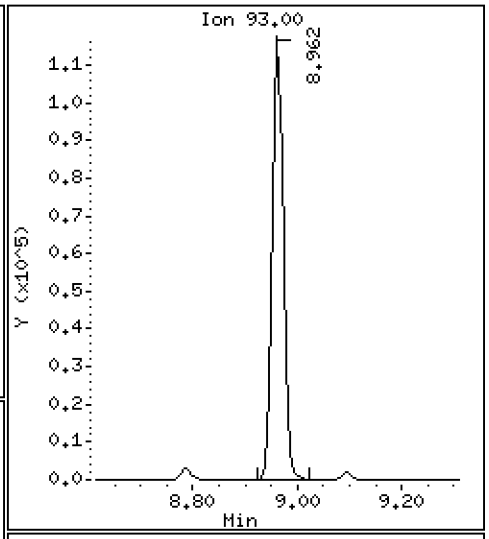
Column phase: ZB-5msi

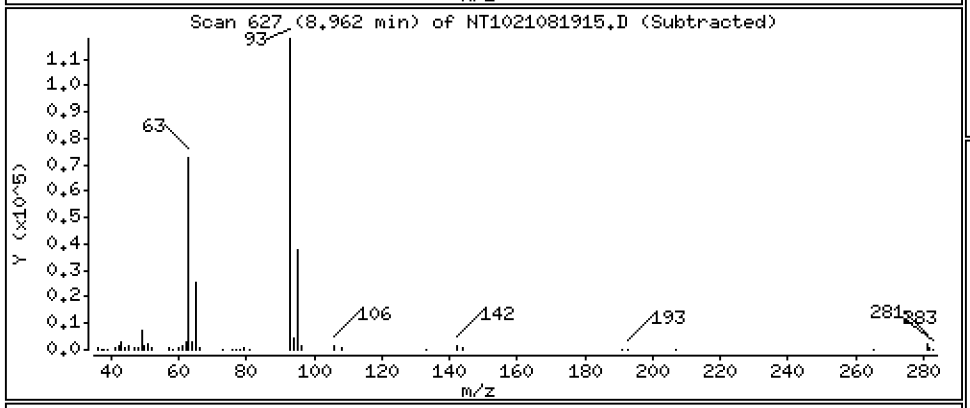
Column diameter: 0.25

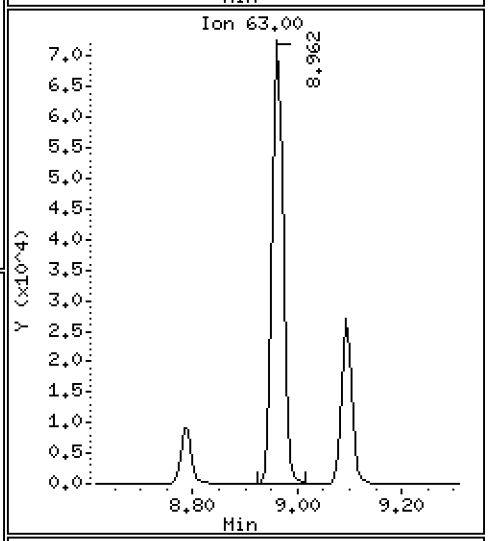
4 Bis(2-Chloroethyl)ether

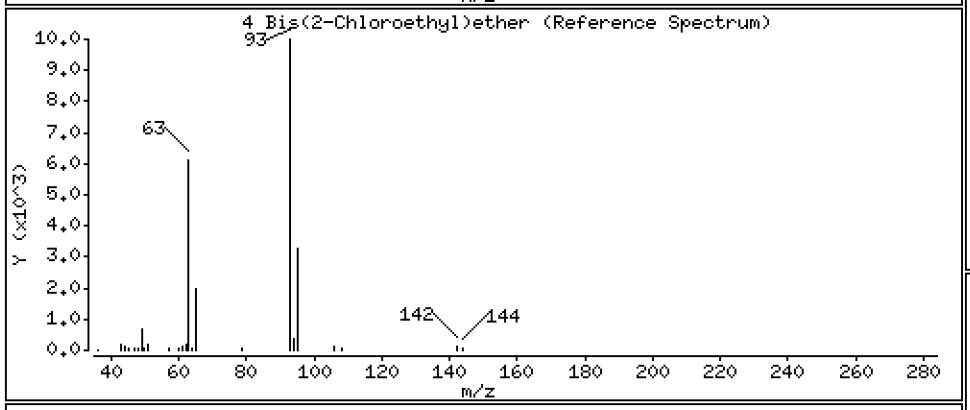
Concentration: 5.781 ug/mL

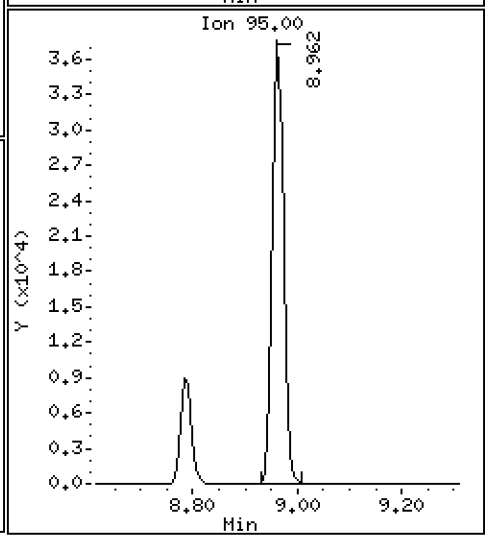


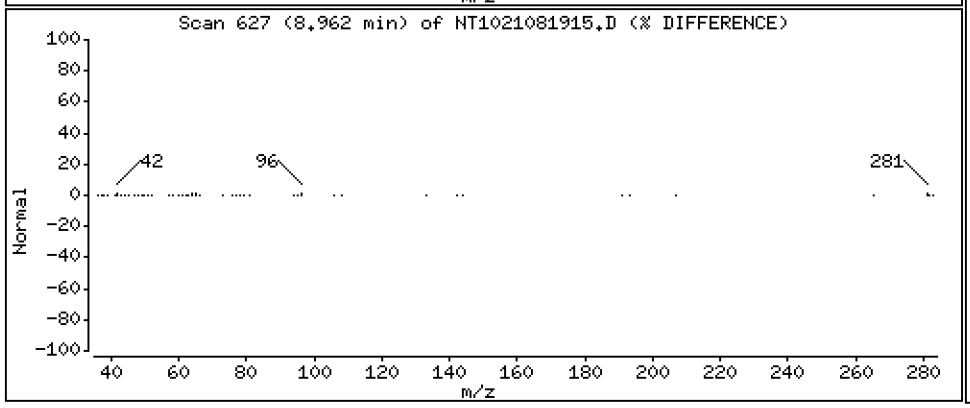












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

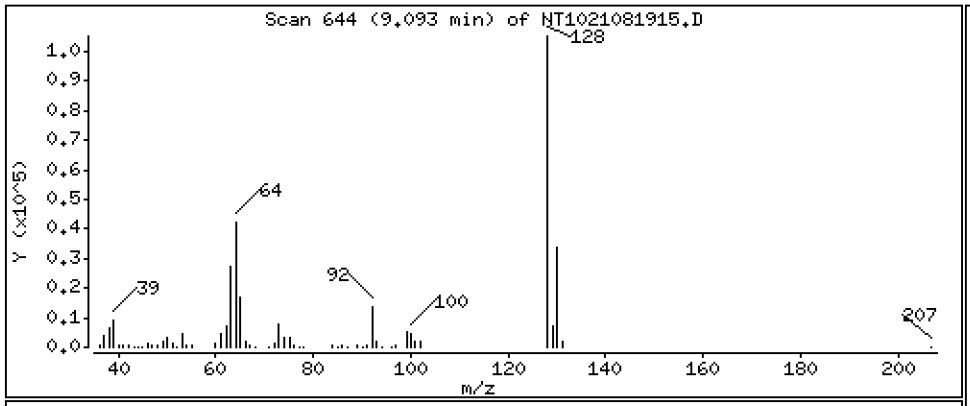
Operator: VTS

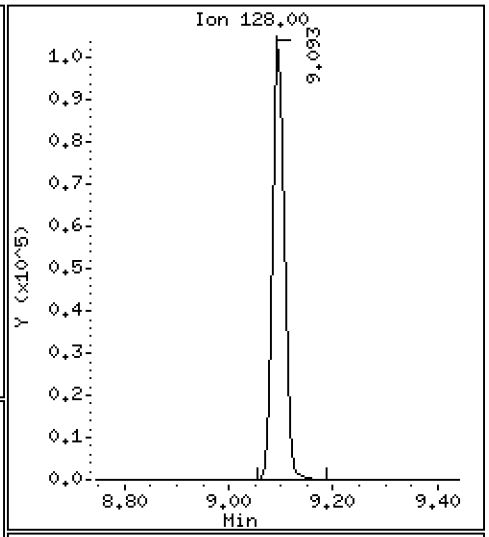
Column phase: ZB-5msi

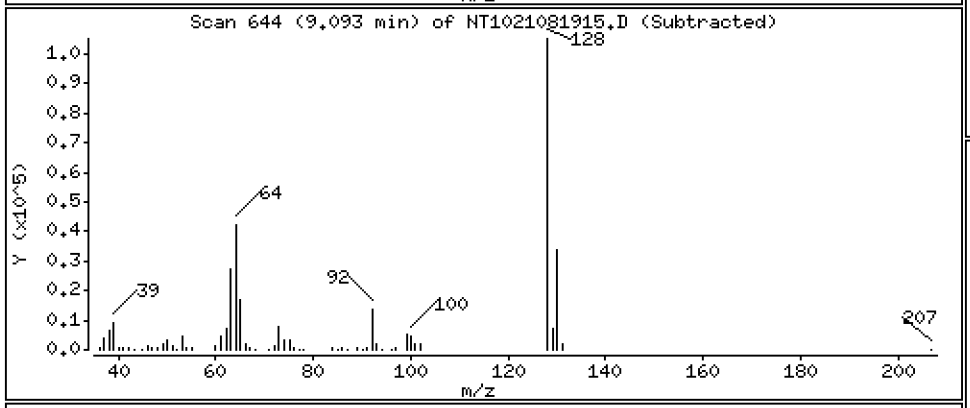
Column diameter: 0.25

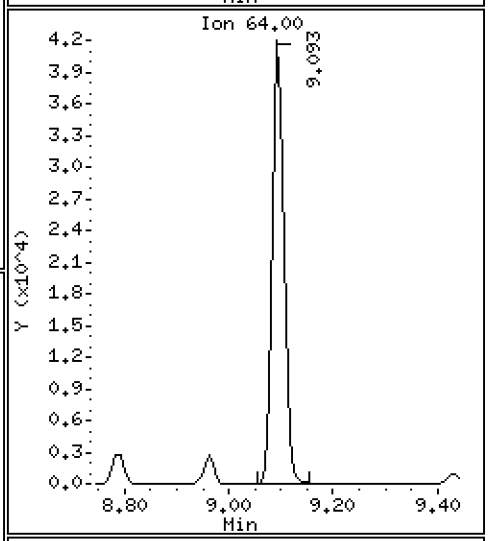
6 2-Chlorophenol

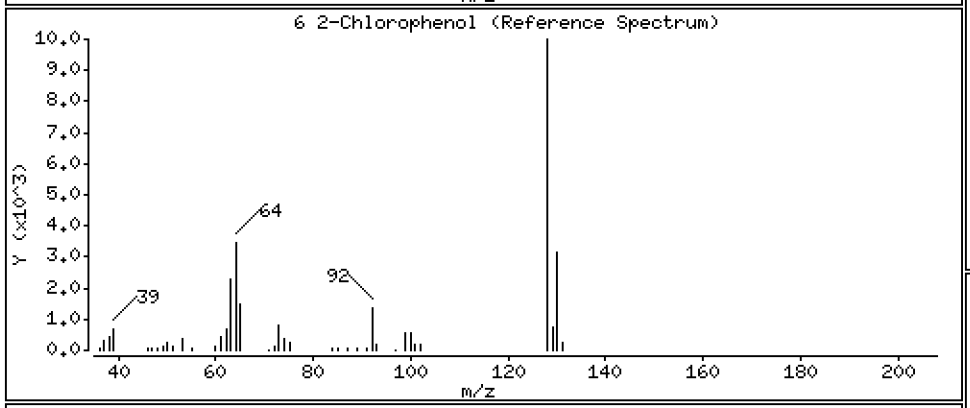
Concentration: 5.034 ug/mL

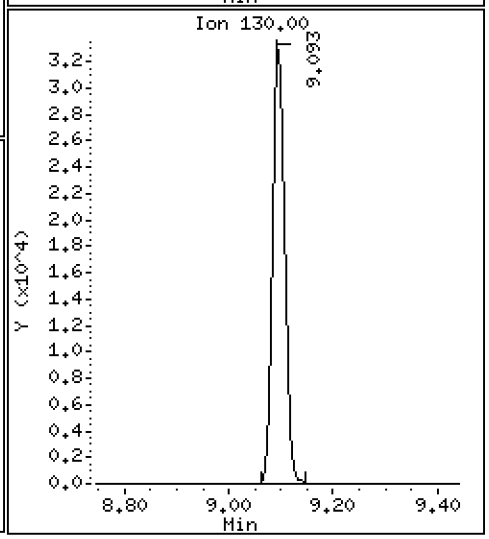


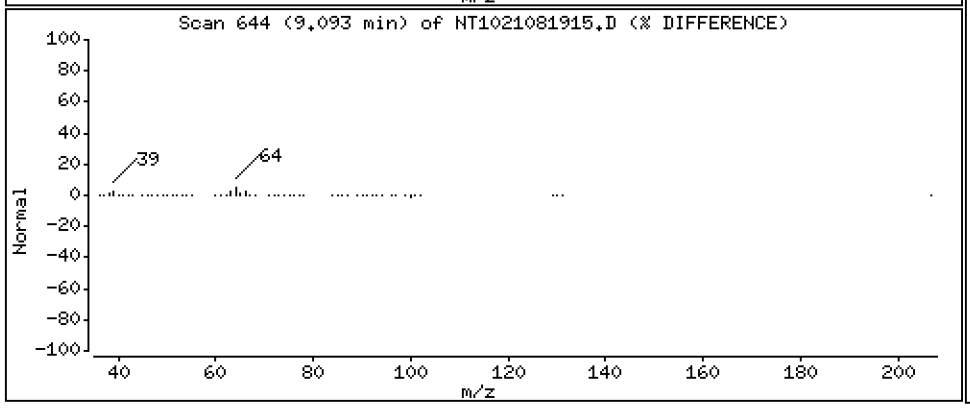












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

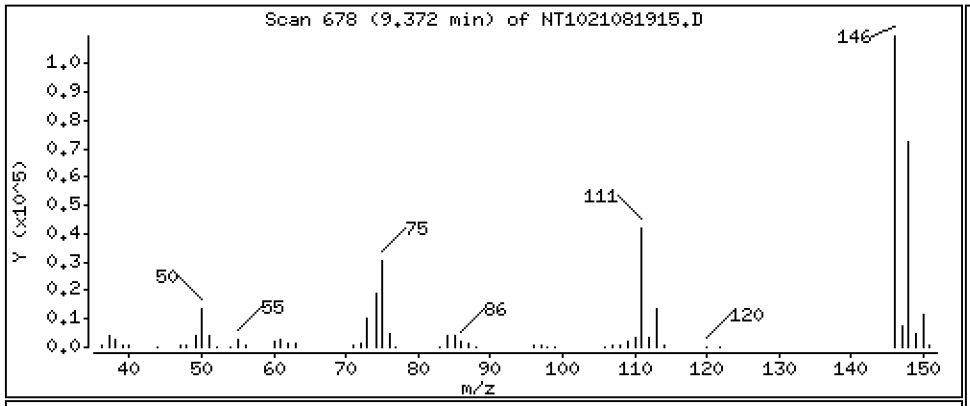
Operator: VTS

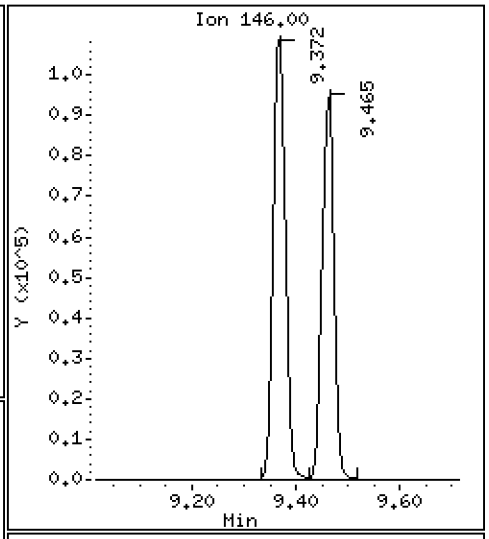
Column phase: ZB-5msi

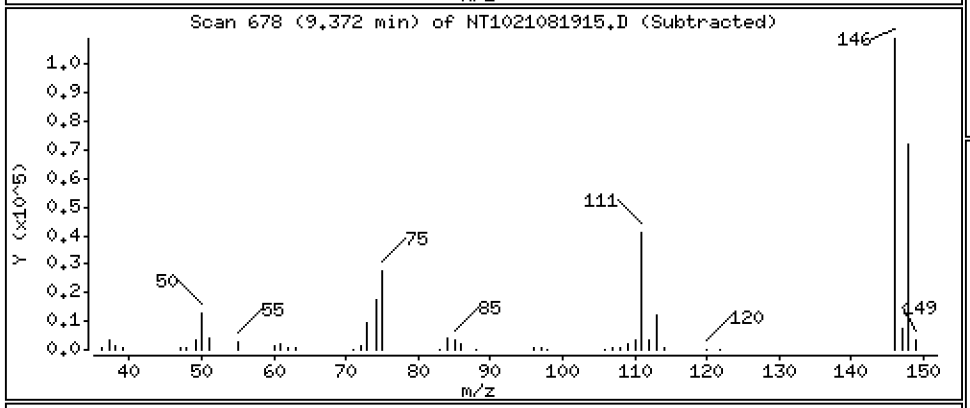
Column diameter: 0.25

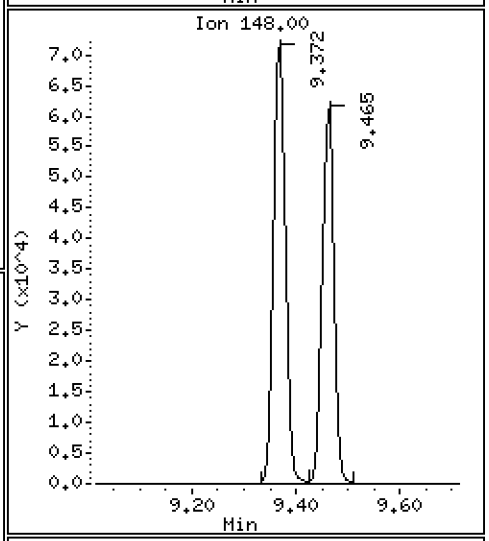
7 1,3-Dichlorobenzene

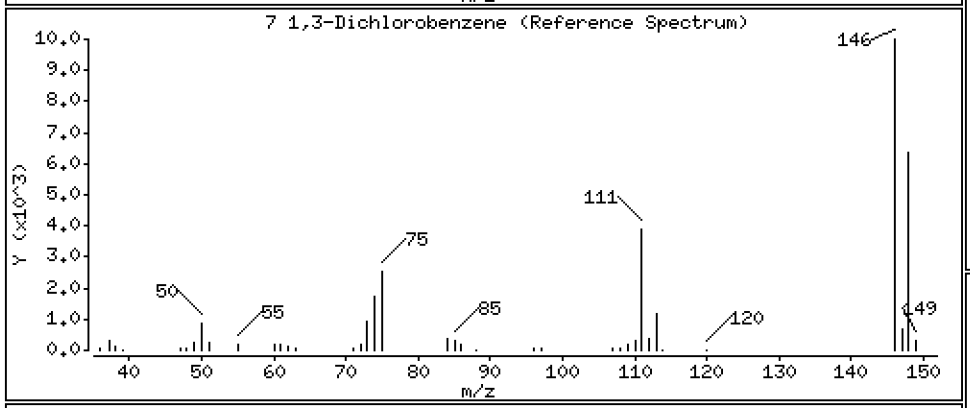
Concentration: 5.186 ug/mL

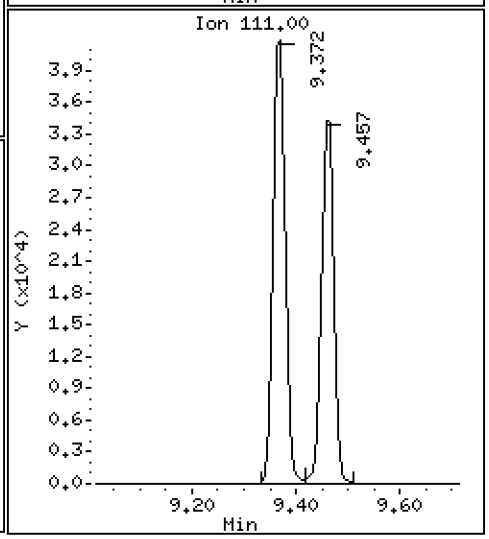


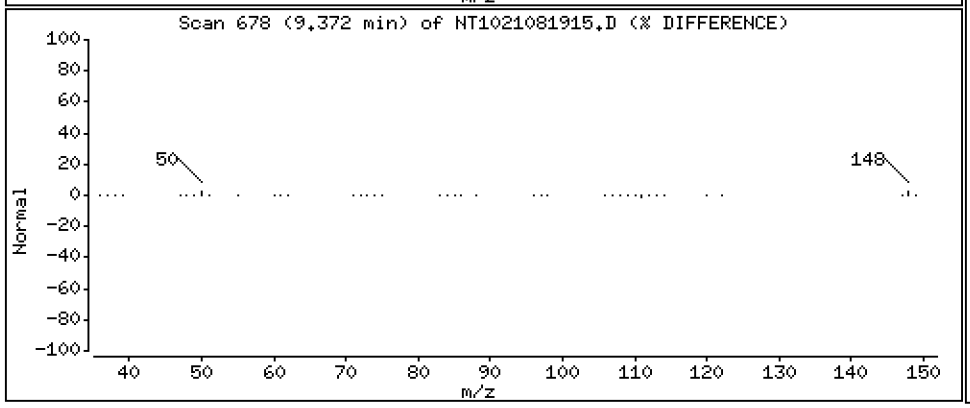












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

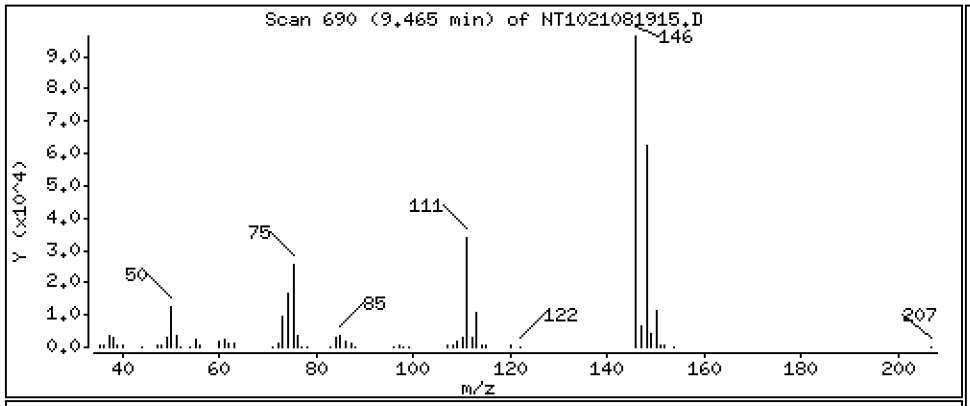
Operator: VTS

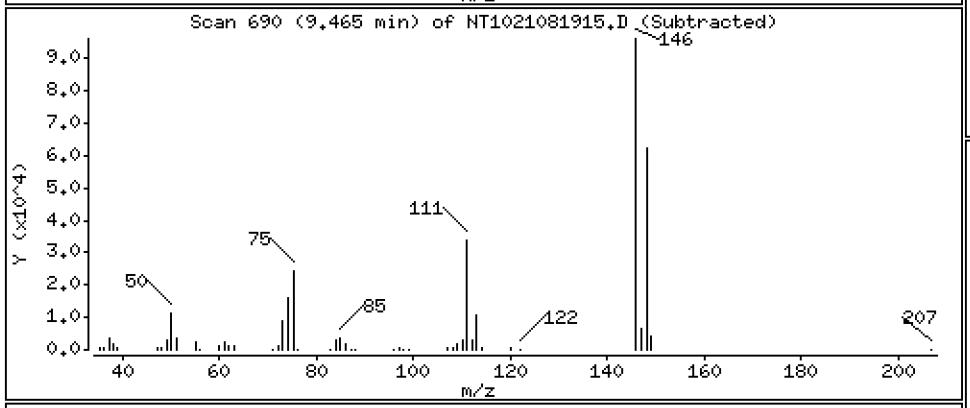
Column phase: ZB-5msi

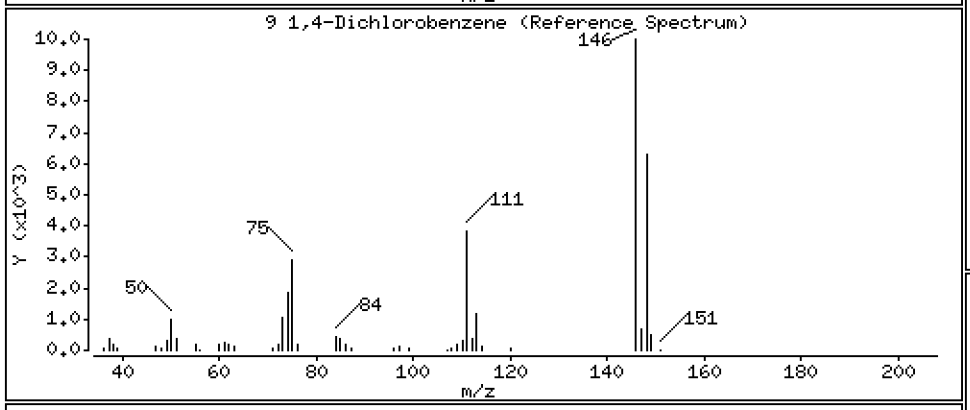
Column diameter: 0.25

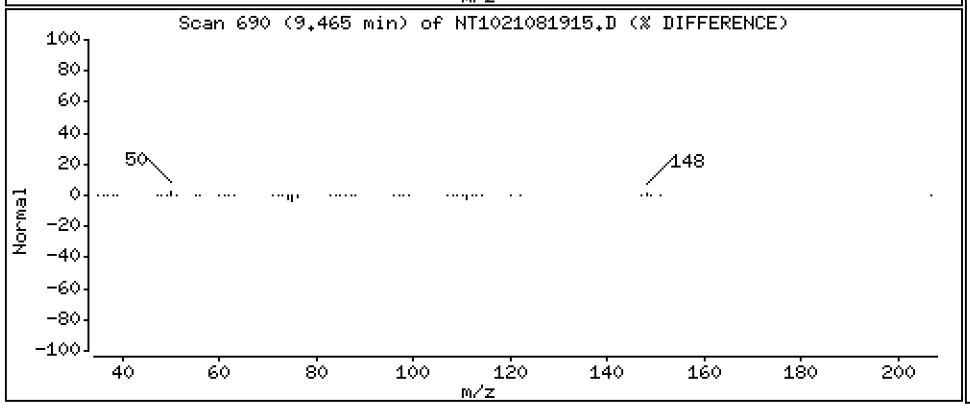
9 1,4-Dichlorobenzene

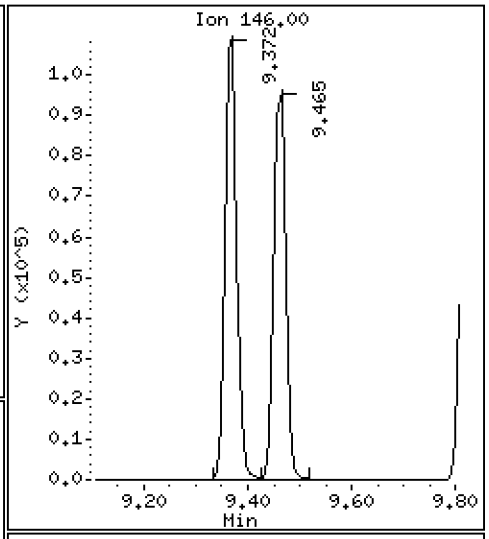
Concentration: 5.858 ug/mL

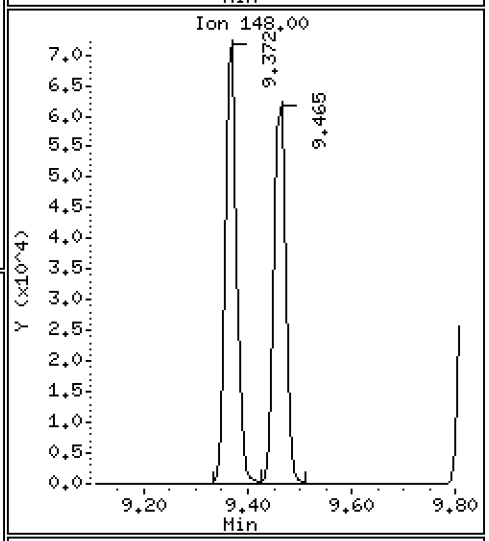


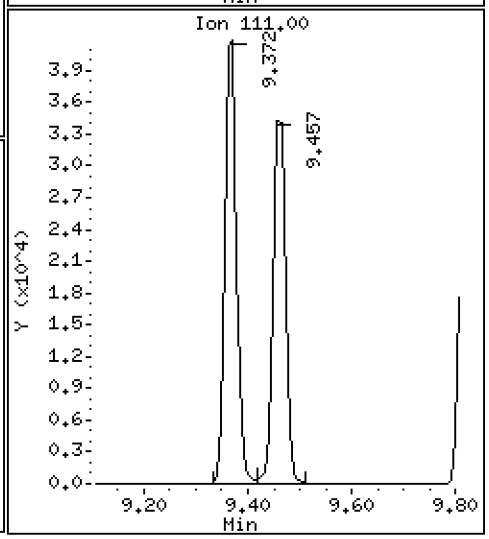












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

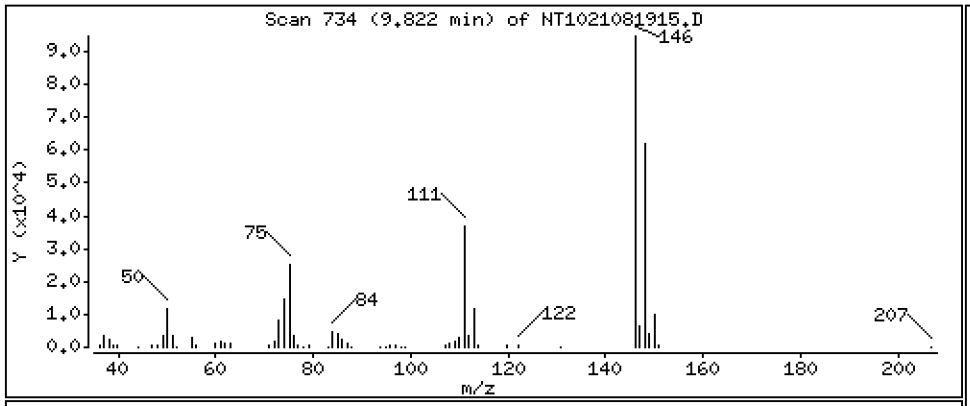
Operator: VTS

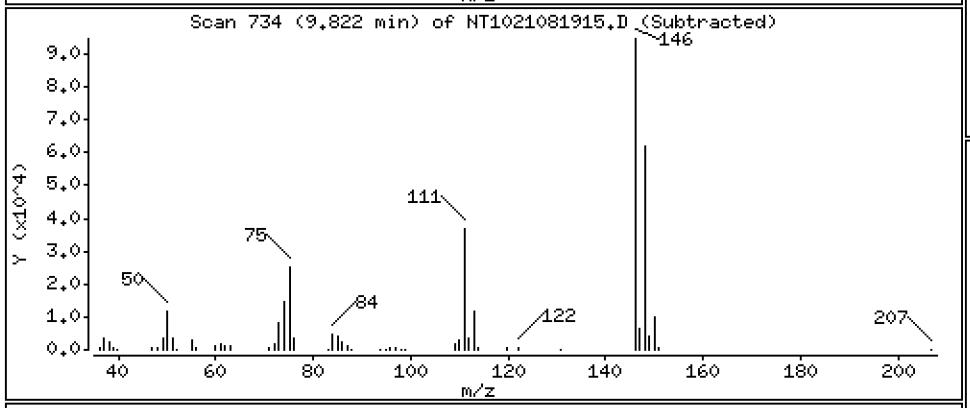
Column phase: ZB-5msi

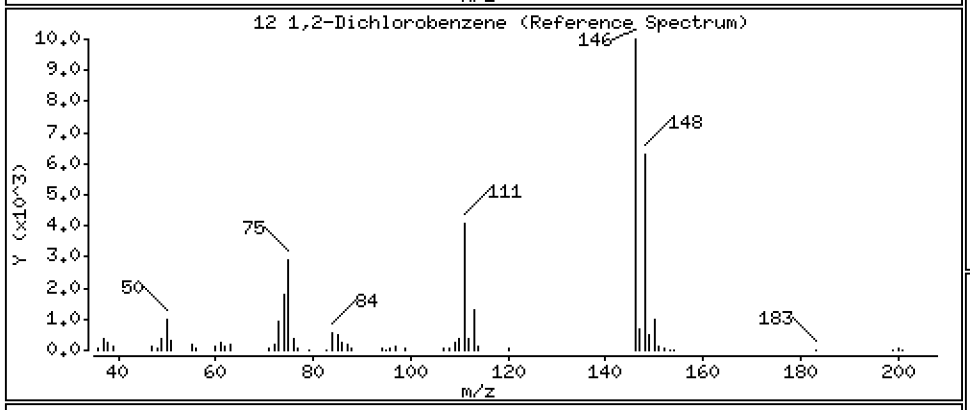
Column diameter: 0.25

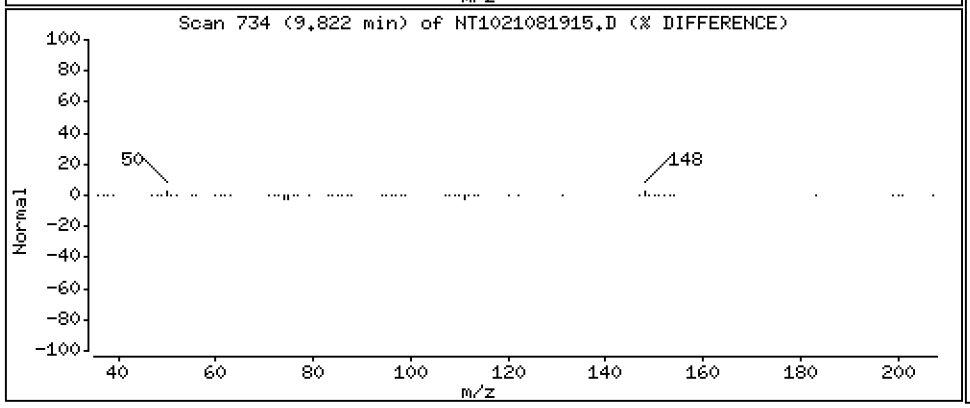
12 1,2-Dichlorobenzene

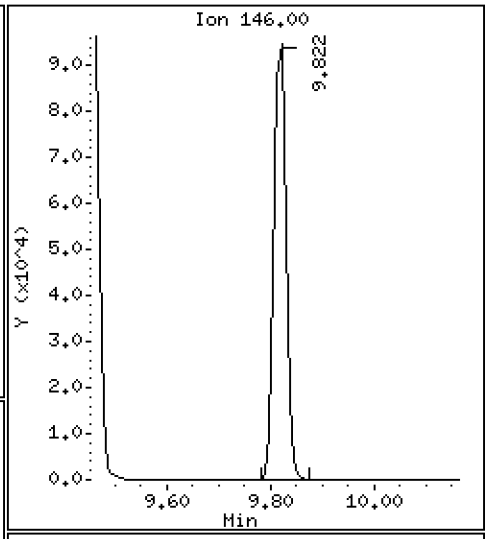
Concentration: 5.200 ug/mL

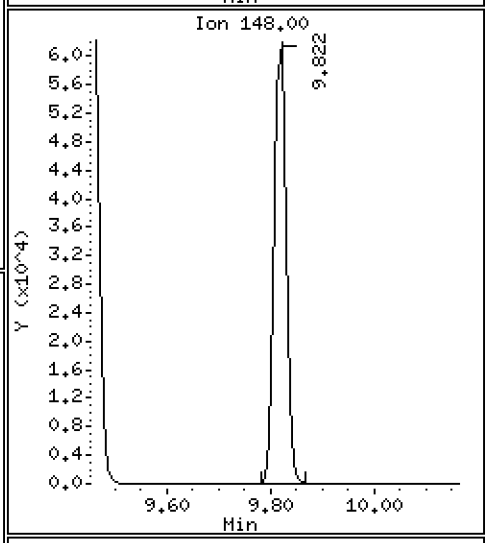


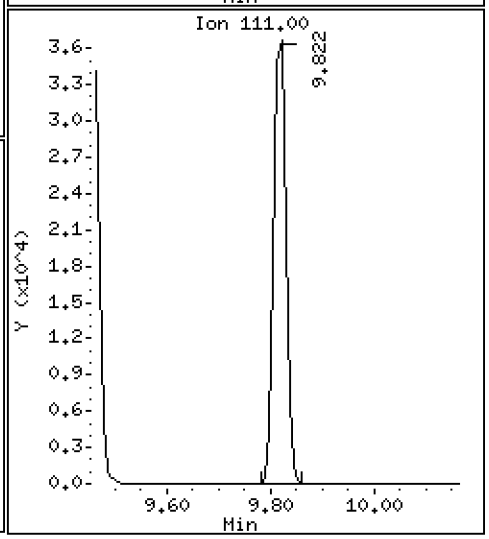












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

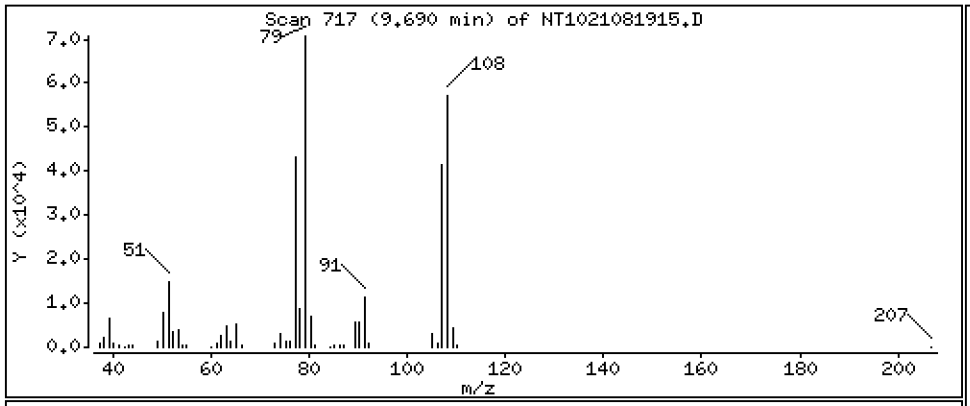
Operator: VTS

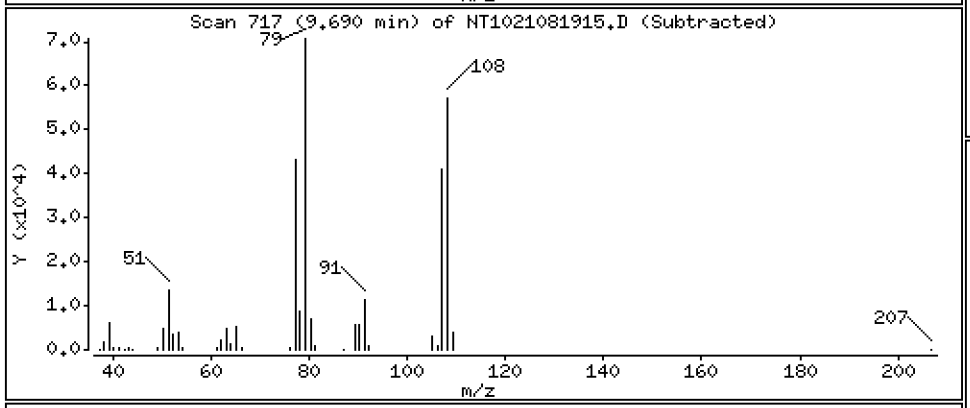
Column phase: ZB-5msi

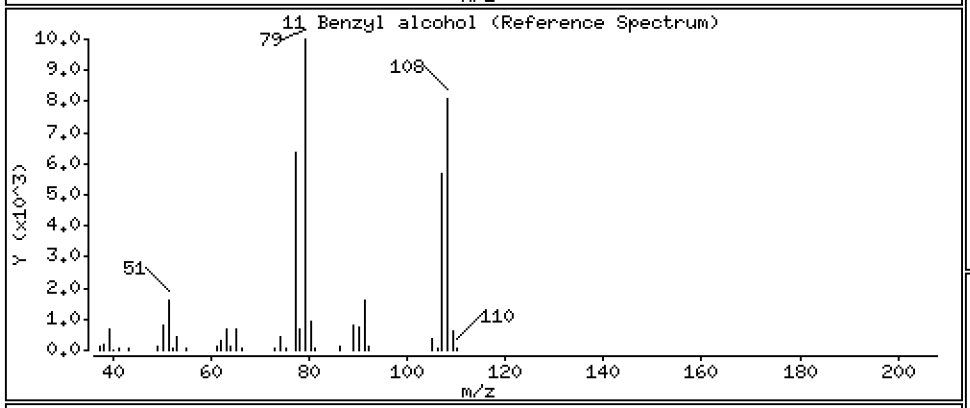
Column diameter: 0.25

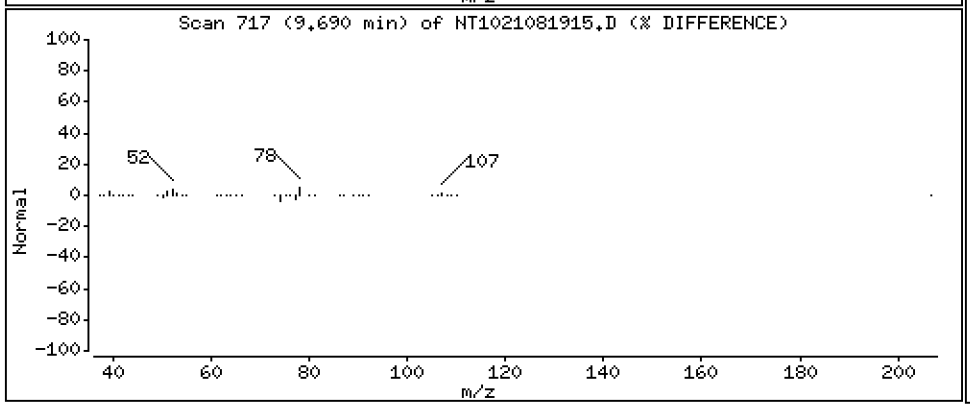
11 Benzyl alcohol

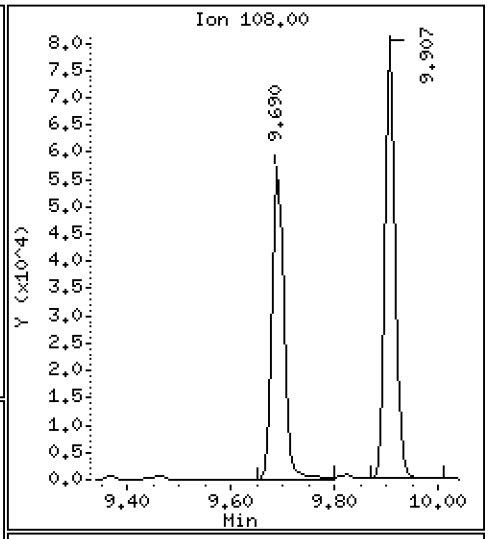
Concentration: 4.934 ug/mL

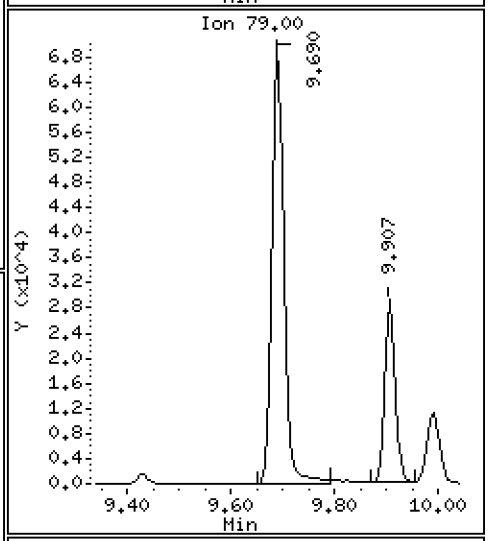


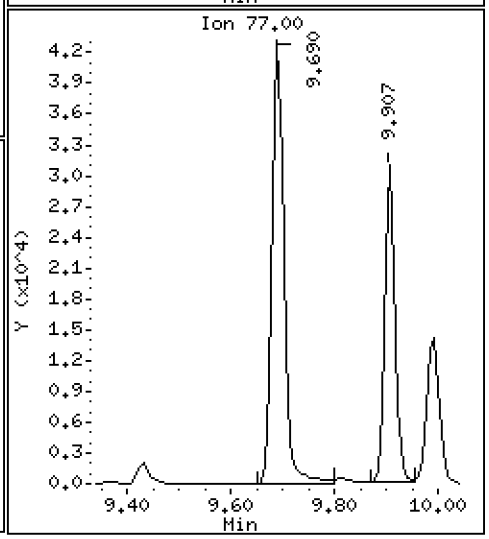












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

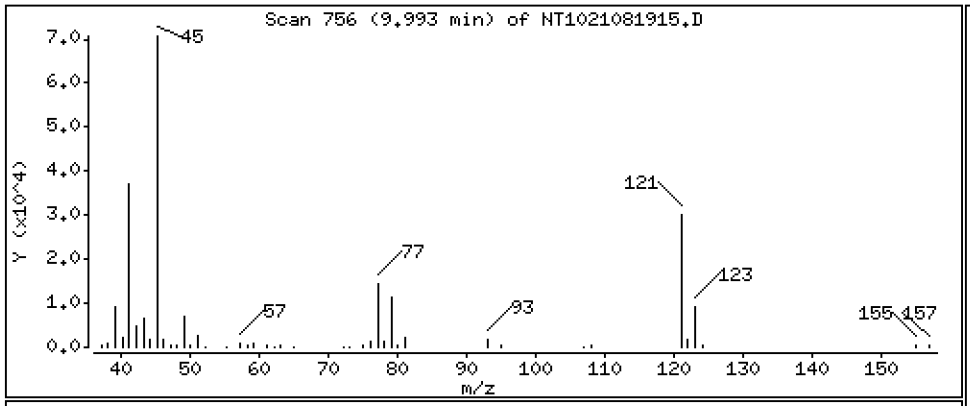
Operator: VTS

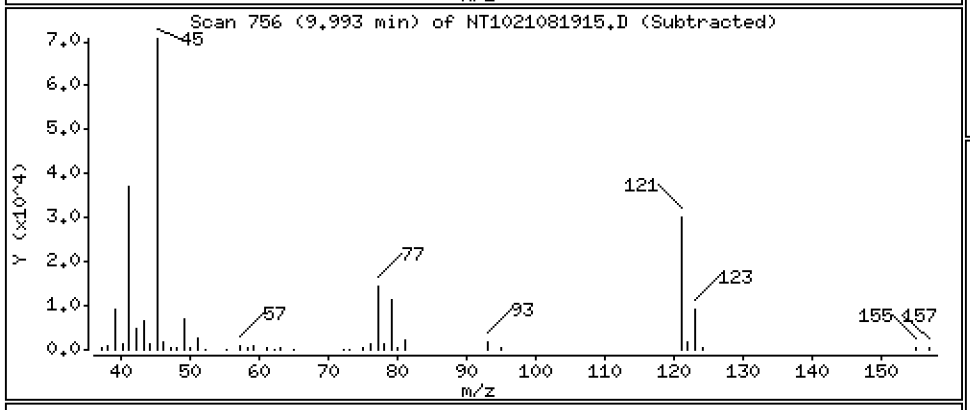
Column phase: ZB-5msi

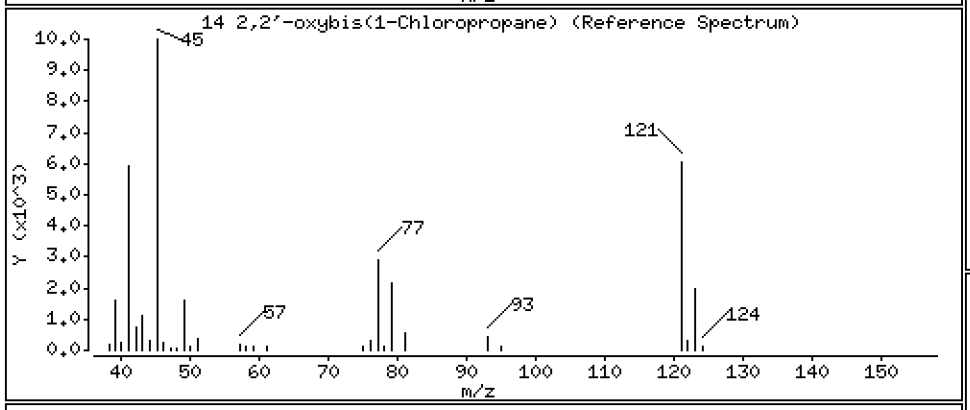
Column diameter: 0.25

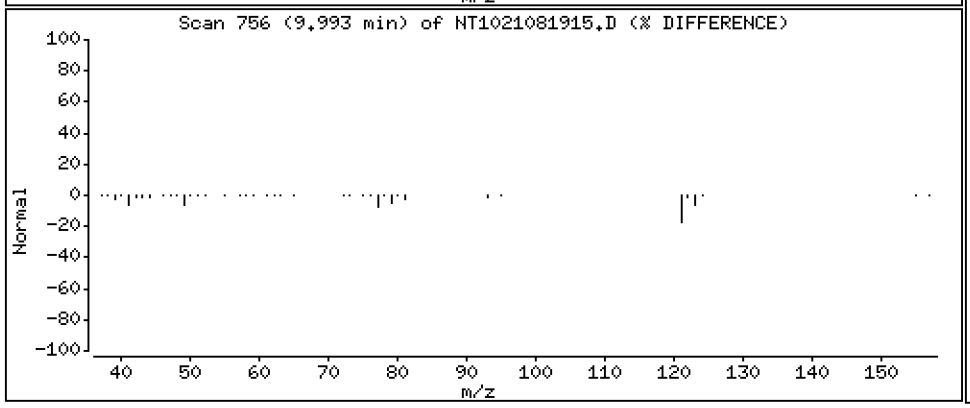
14 2,2'-oxybis(1-Chloropropane)

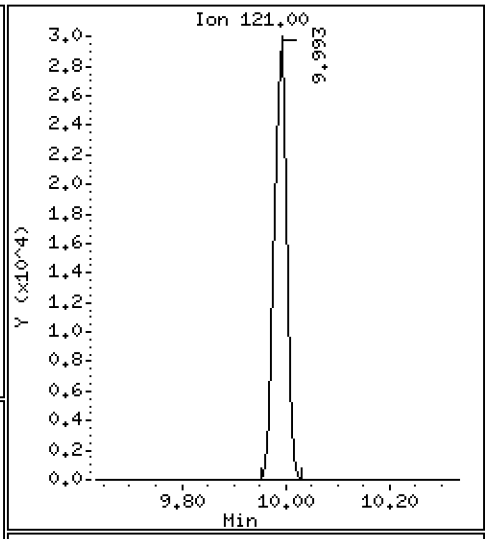
Concentration: 5.720 ug/mL

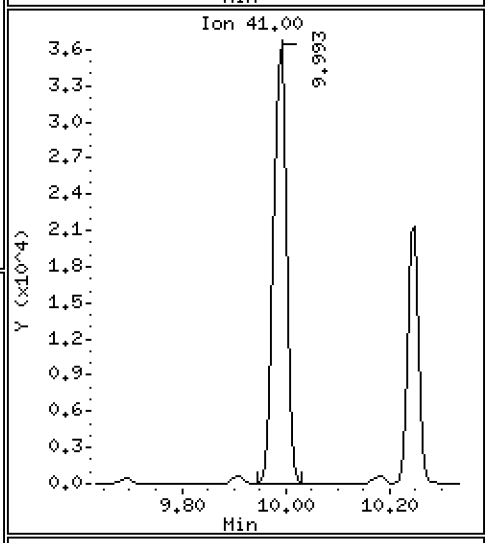


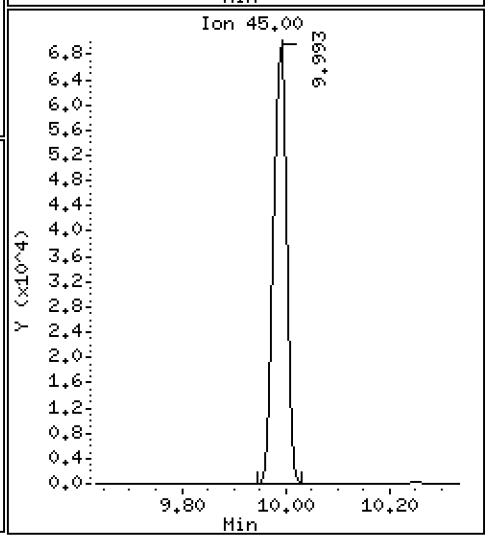












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

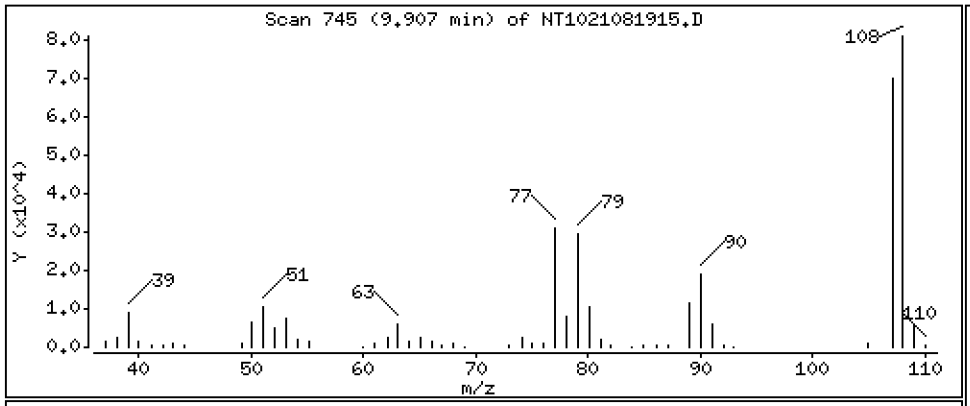
Operator: VTS

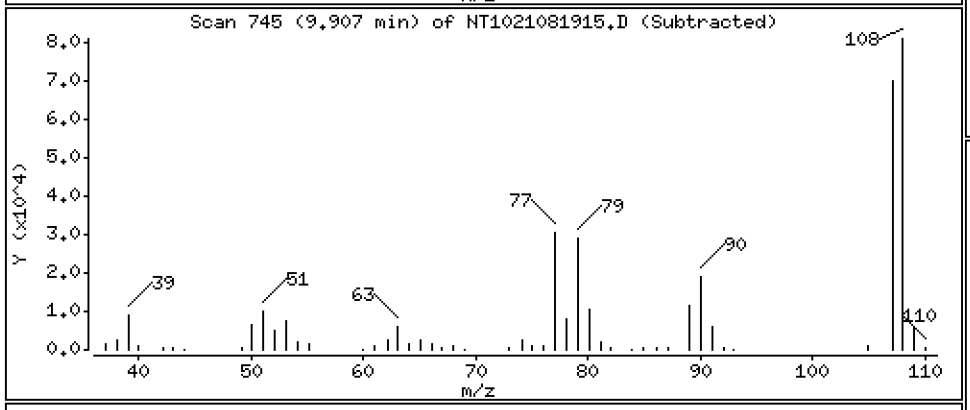
Column phase: ZB-5msi

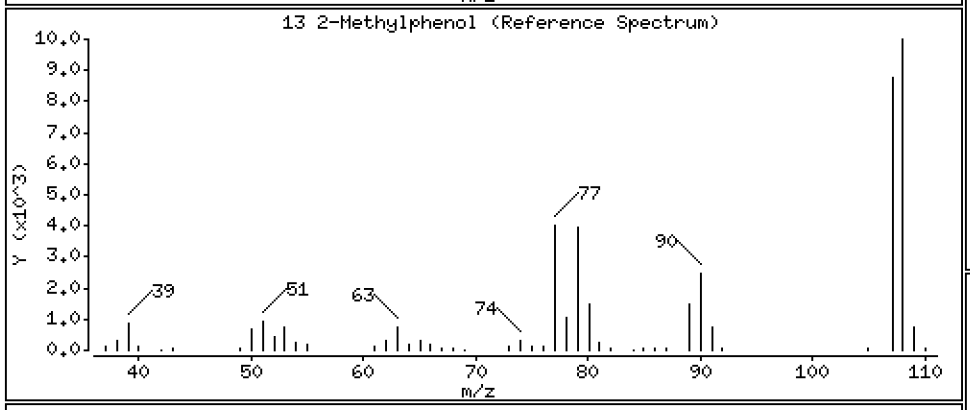
Column diameter: 0.25

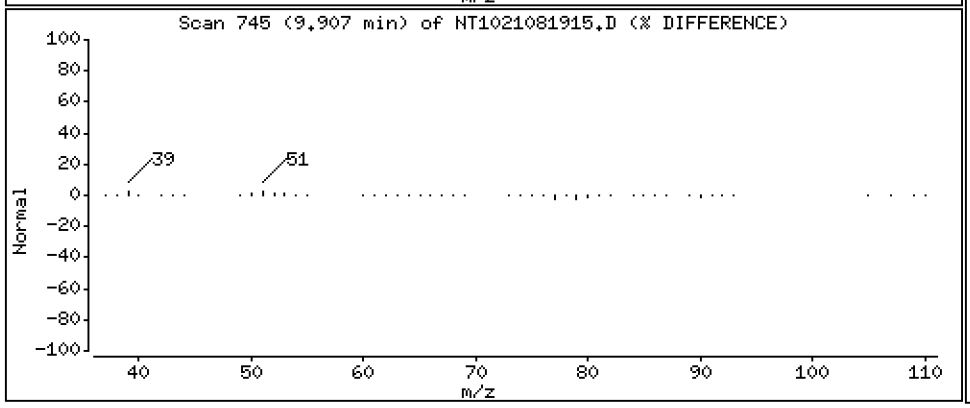
13 2-Methylphenol

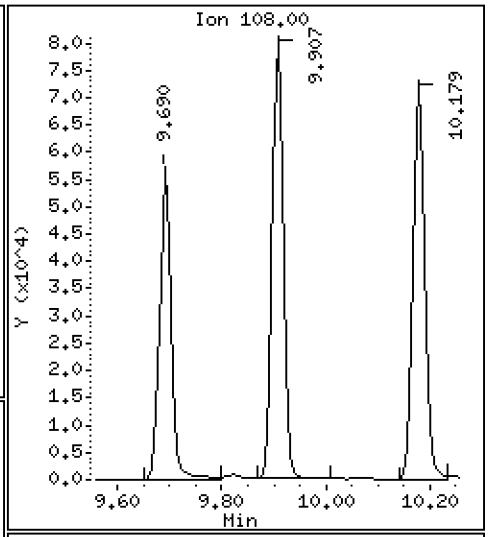
Concentration: 4.657 ug/mL

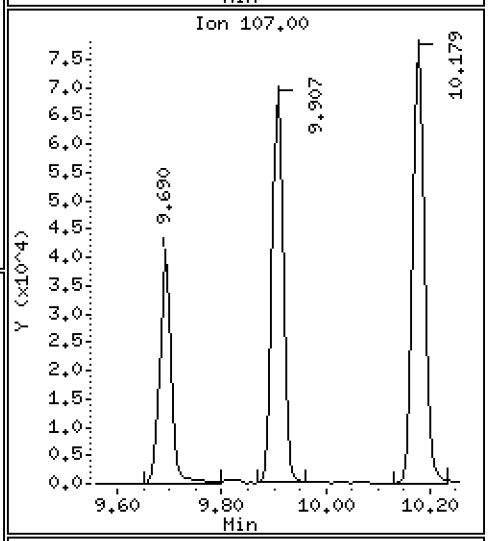


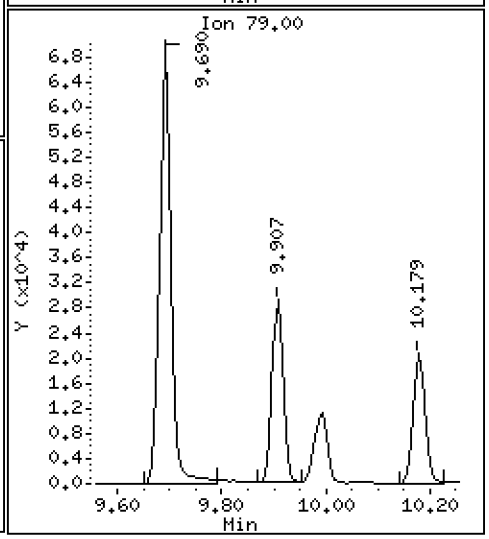












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

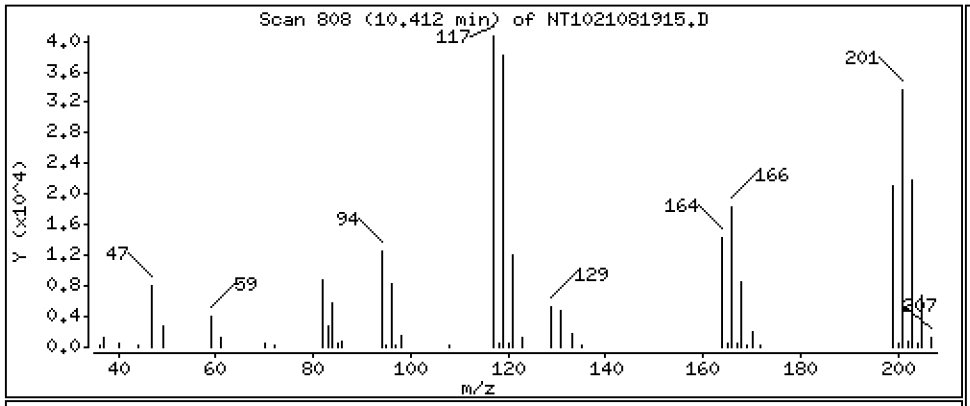
Operator: VTS

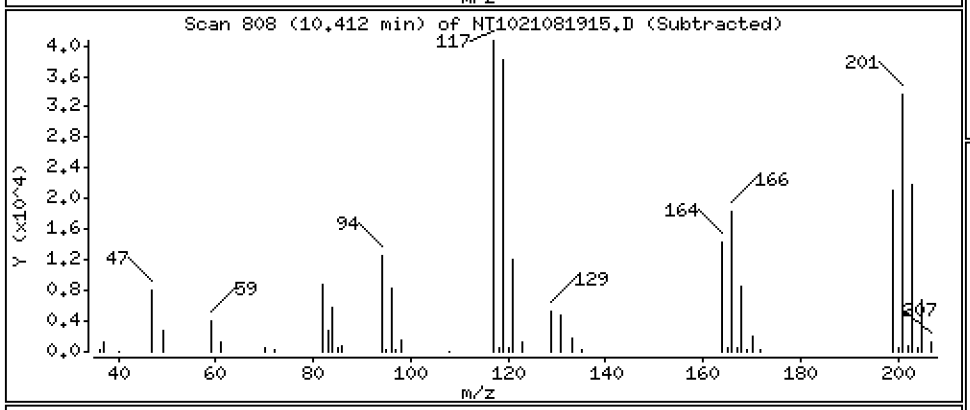
Column phase: ZB-5msi

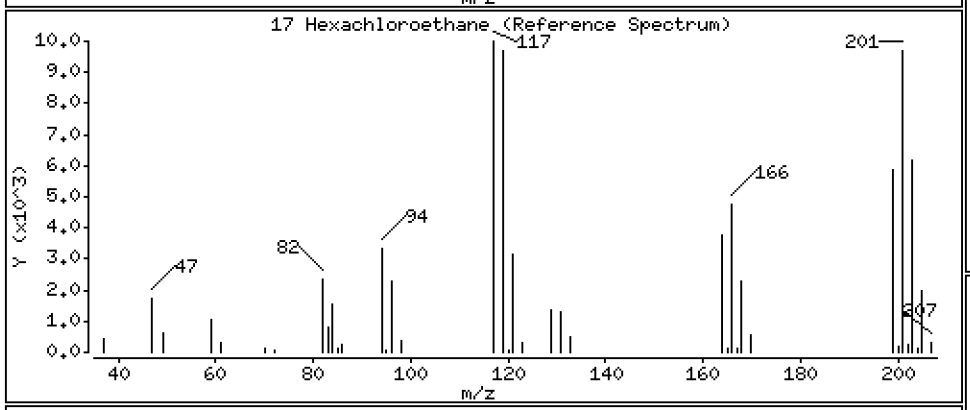
Column diameter: 0.25

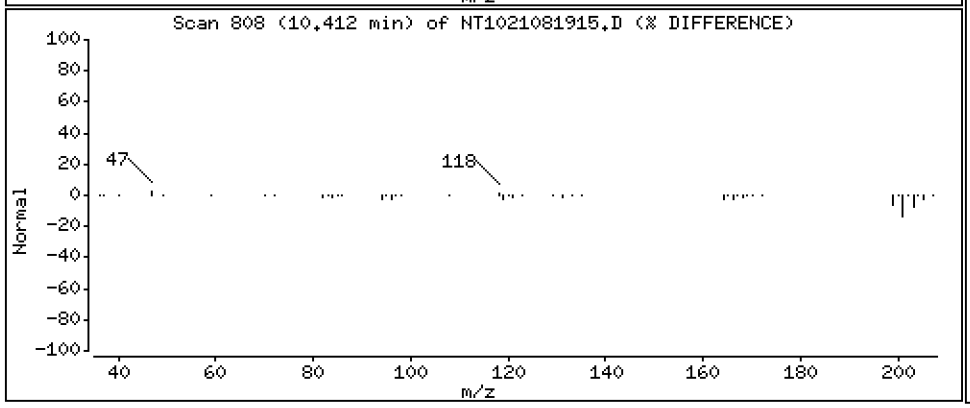
17 Hexachloroethane

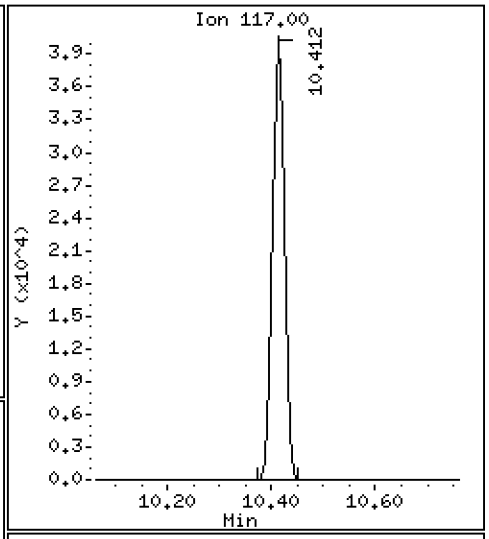
Concentration: 5.674 ug/mL

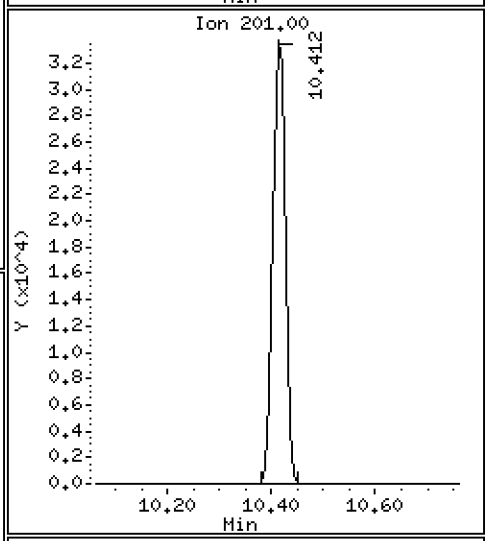


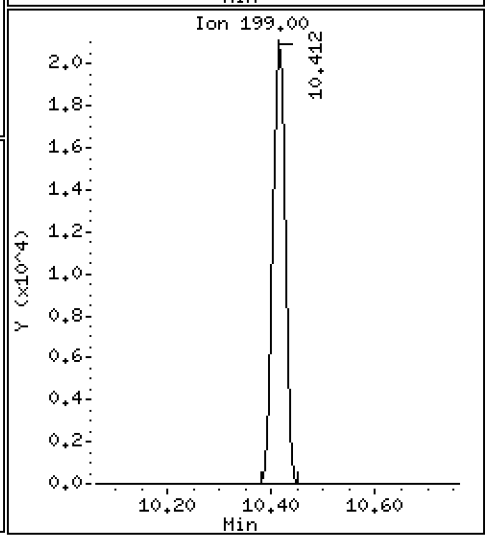












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

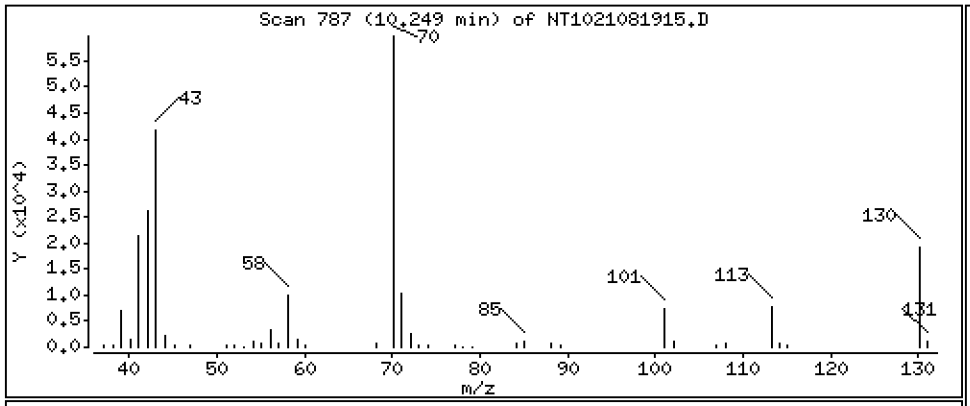
Operator: VTS

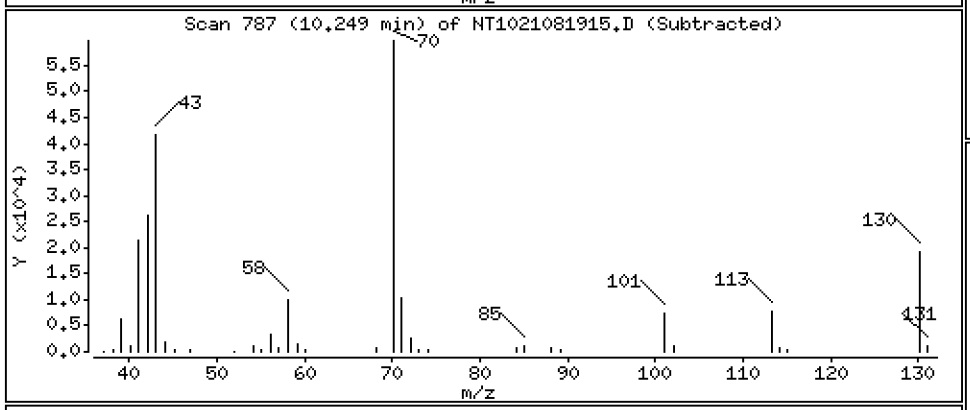
Column phase: ZB-5msi

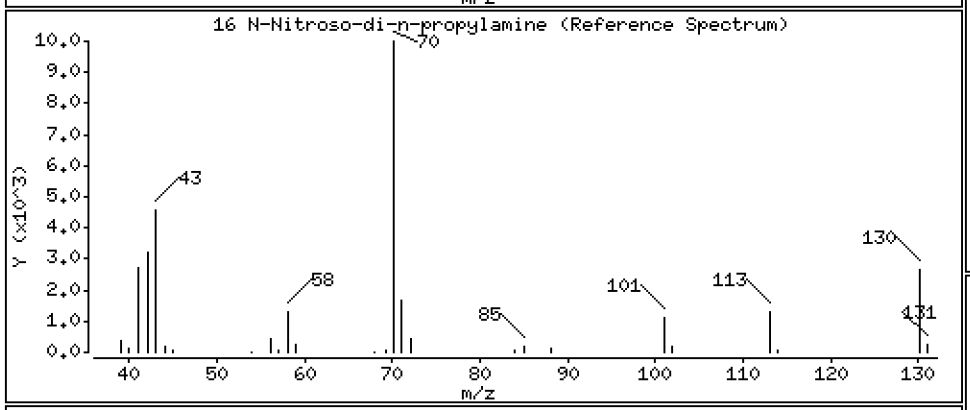
Column diameter: 0.25

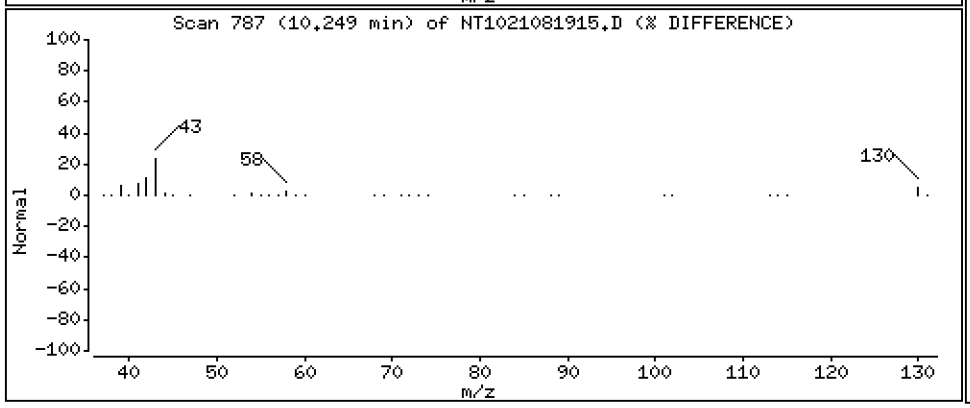
16 N-Nitroso-di-n-propylamine

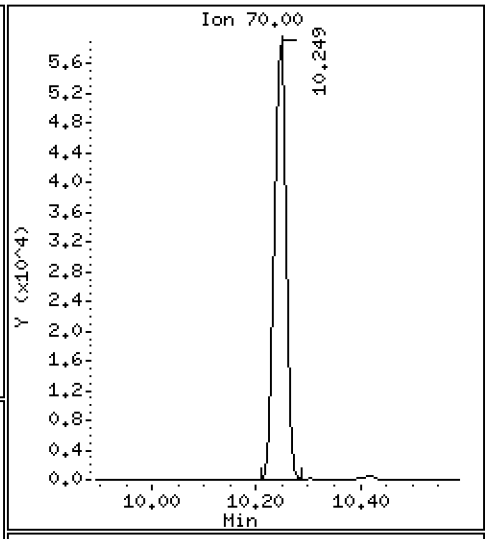
Concentration: 5.292 ug/mL

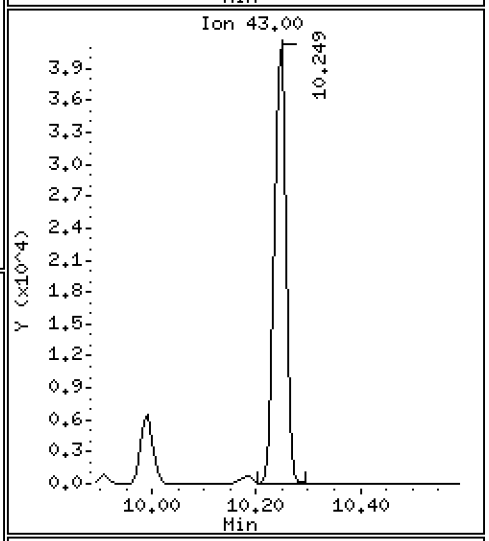


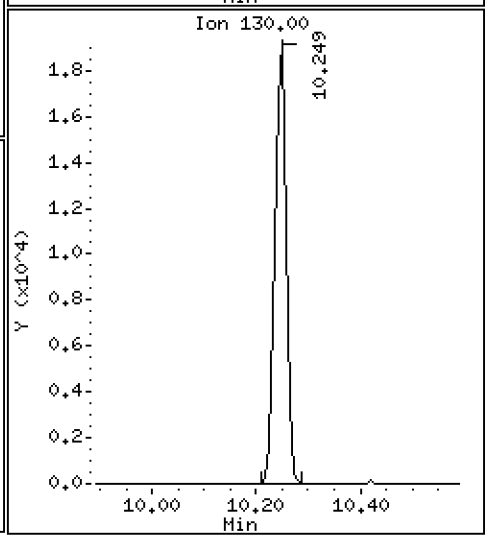












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

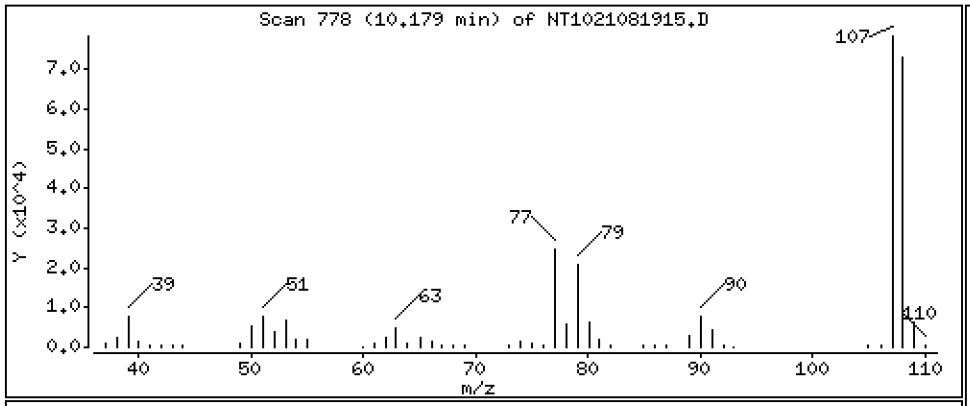
Operator: VTS

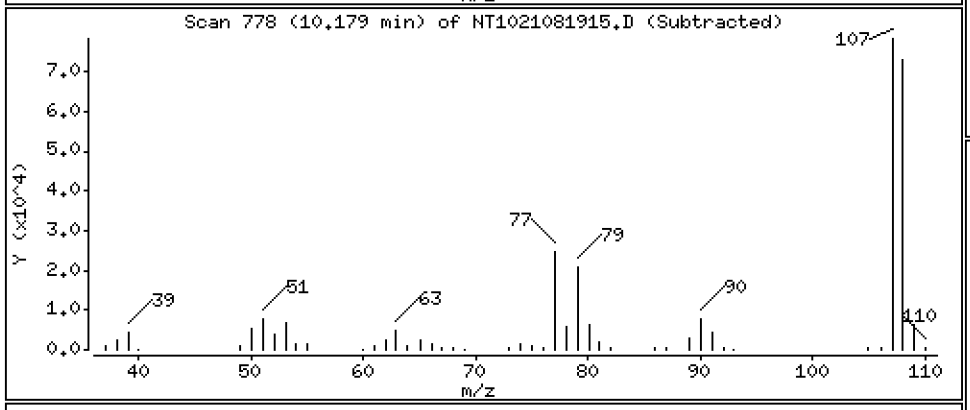
Column phase: ZB-5msi

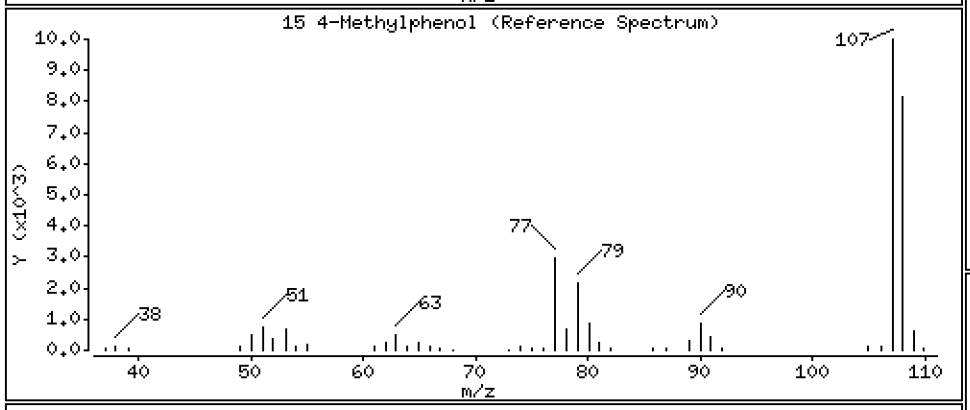
Column diameter: 0.25

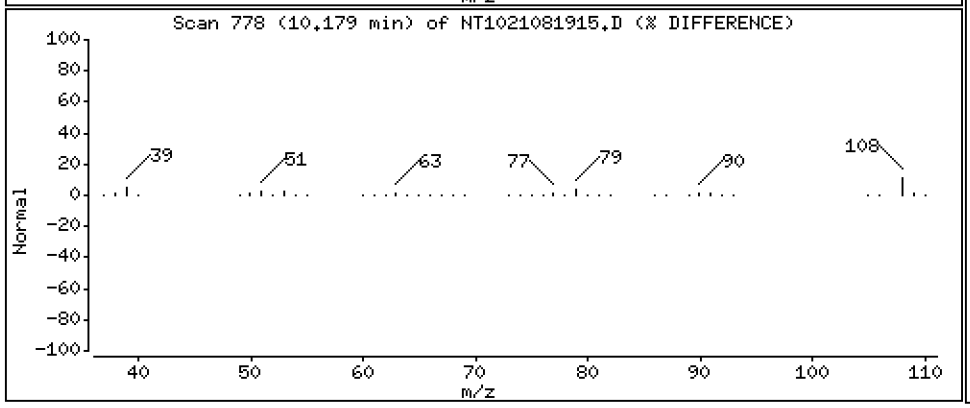
15 4-Methylphenol

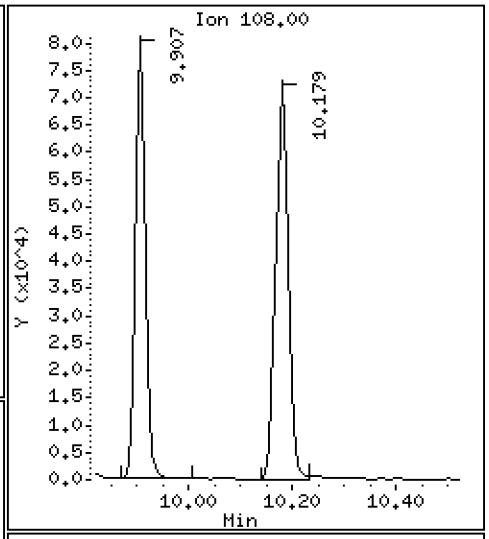
Concentration: 4.688 ug/mL

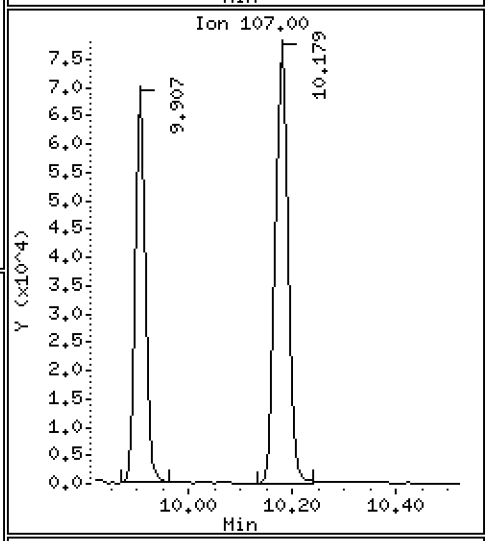


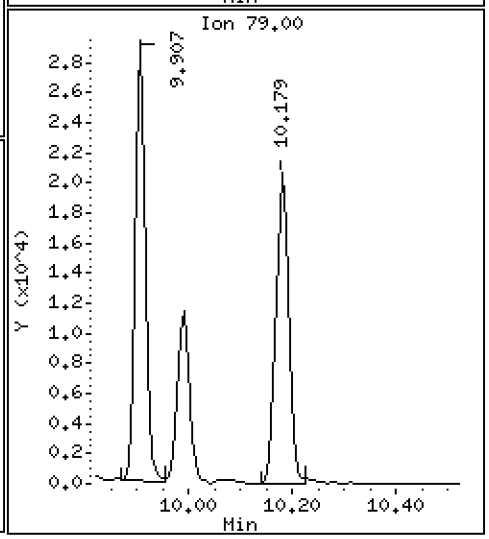












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

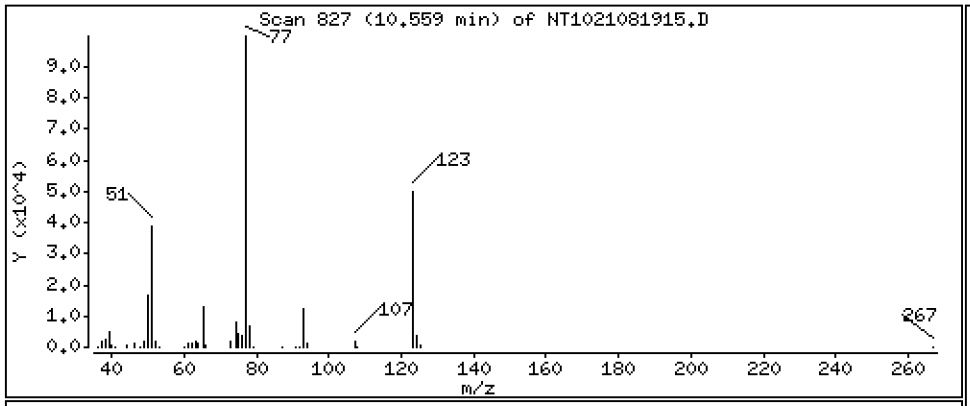
Operator: VTS

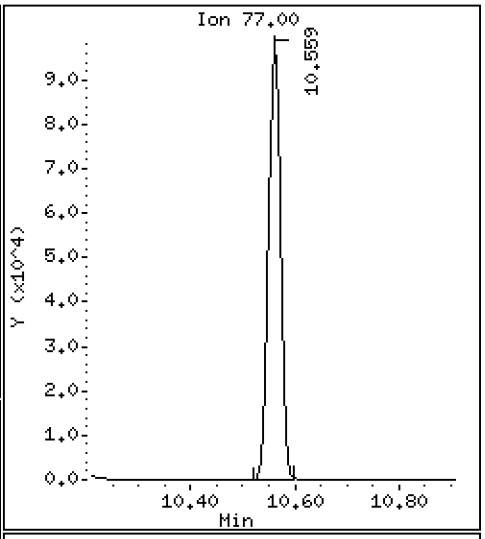
Column phase: ZB-5msi

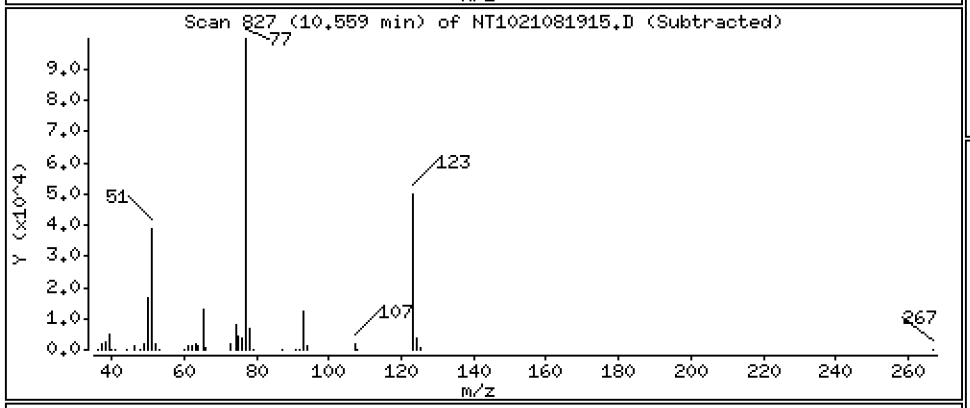
Column diameter: 0.25

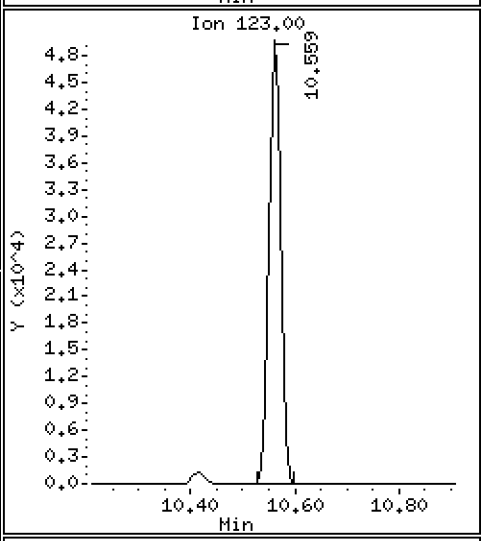
19 Nitrobenzene

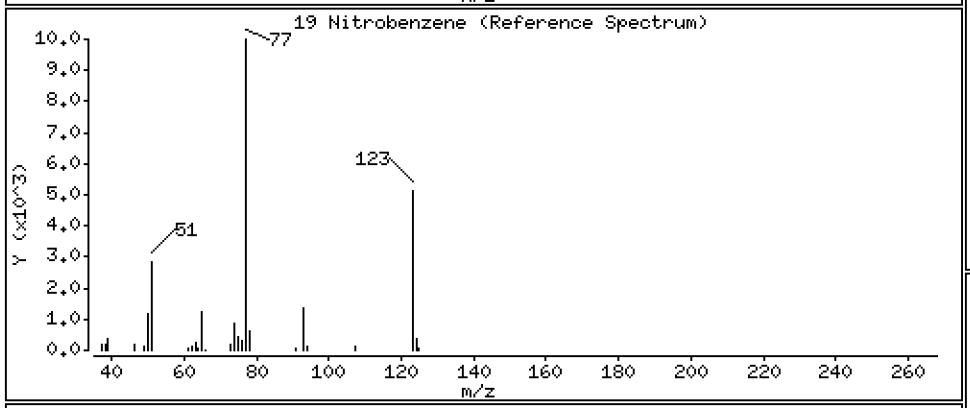
Concentration: 5.403 ug/mL

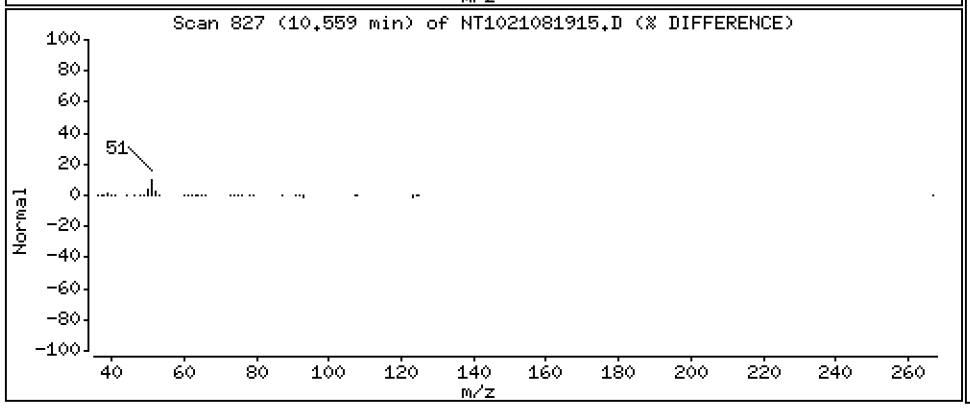


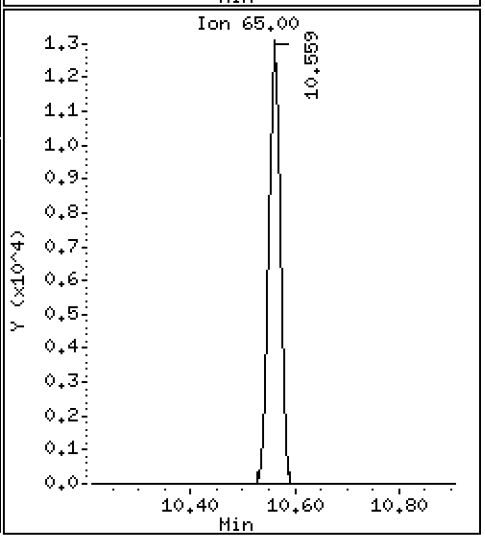












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

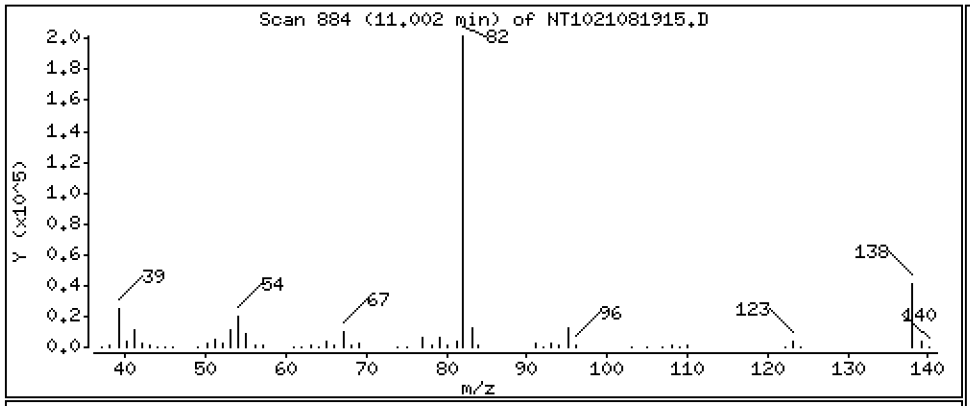
Operator: VTS

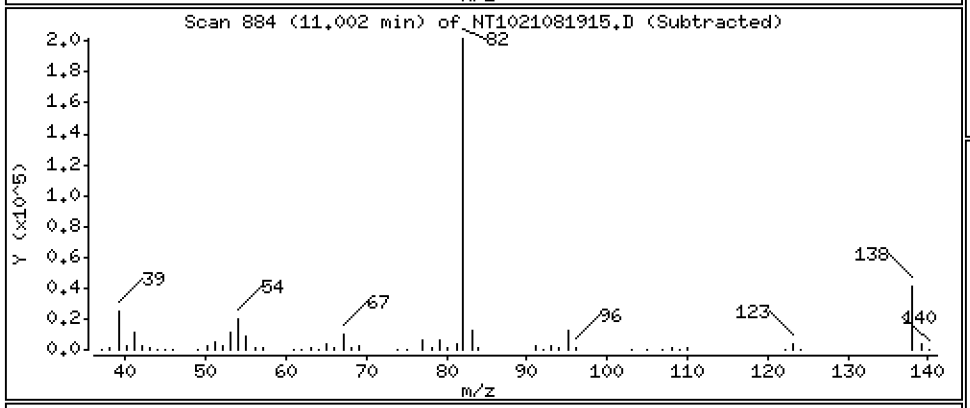
Column phase: ZB-5msi

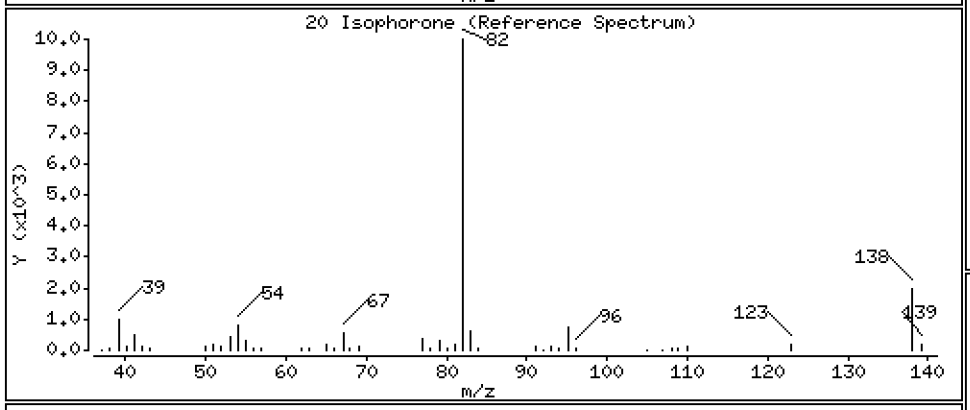
Column diameter: 0.25

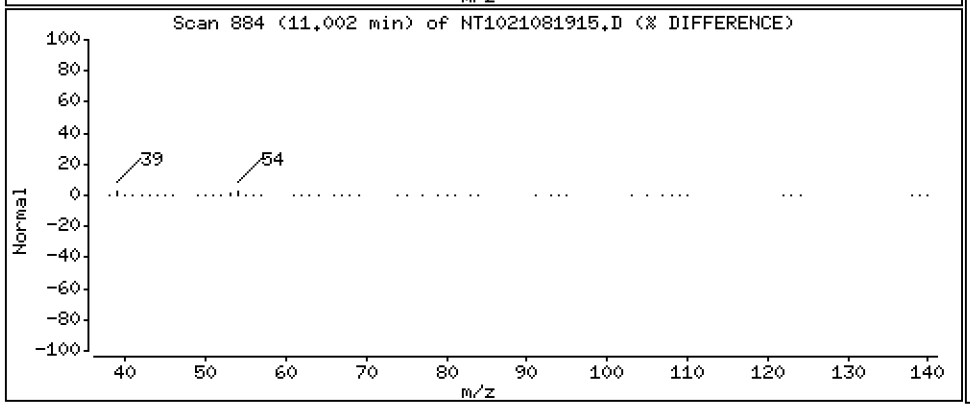
20 Isophorone

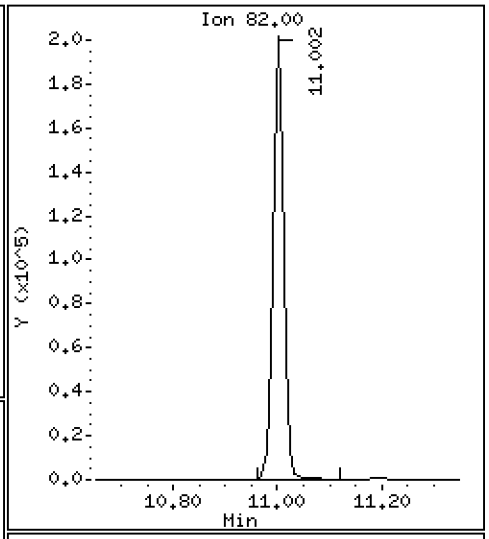
Concentration: 7.778 ug/mL

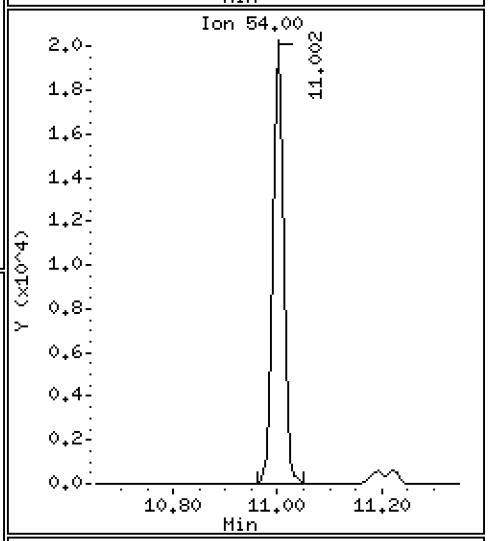


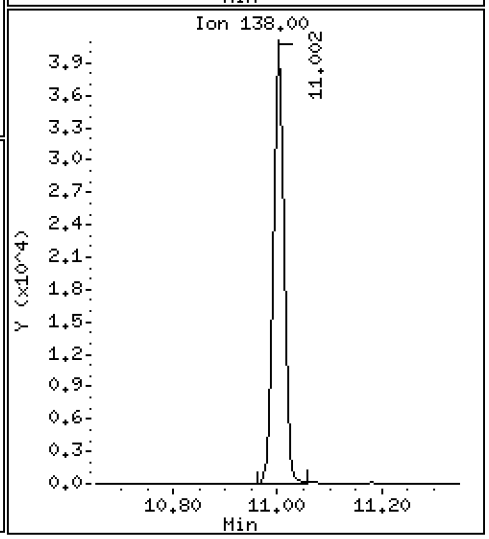












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

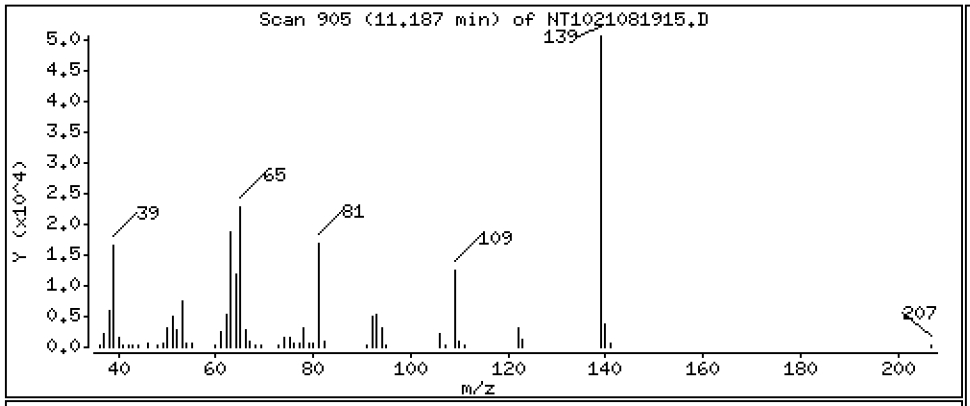
Operator: VTS

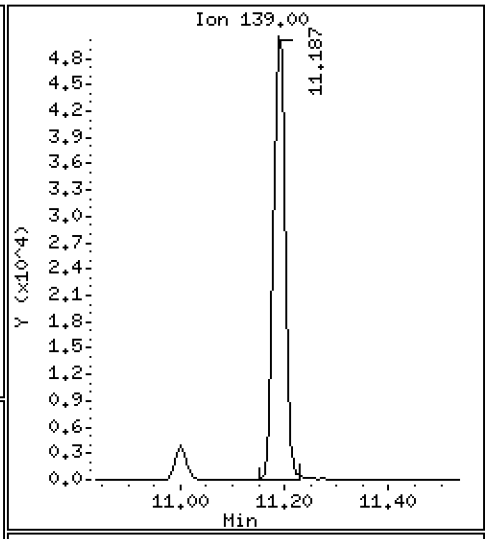
Column phase: ZB-5msi

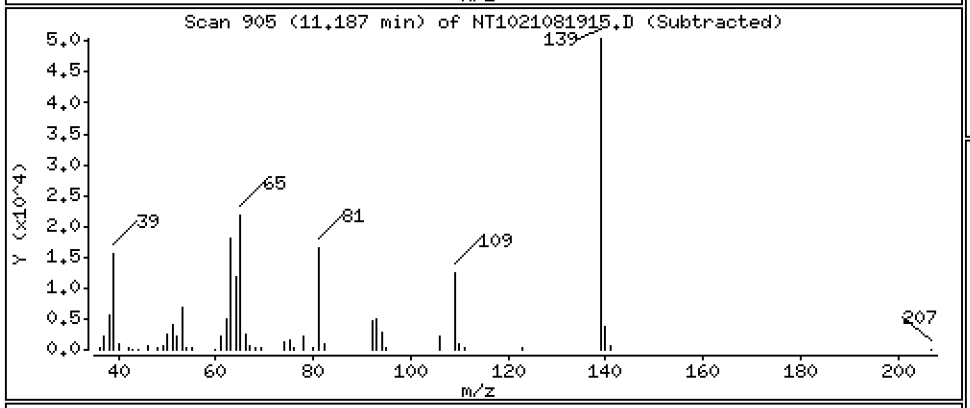
Column diameter: 0.25

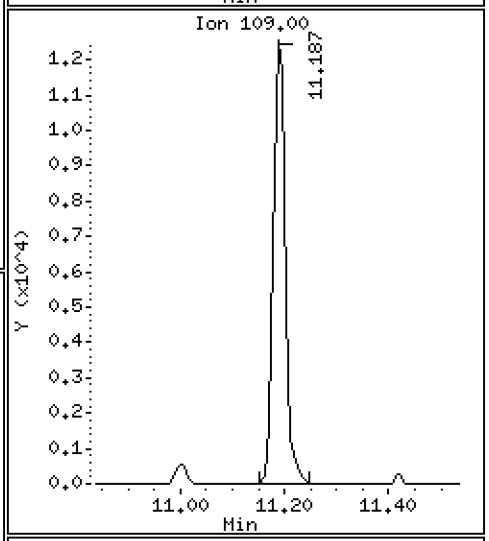
21 2-Nitrophenol

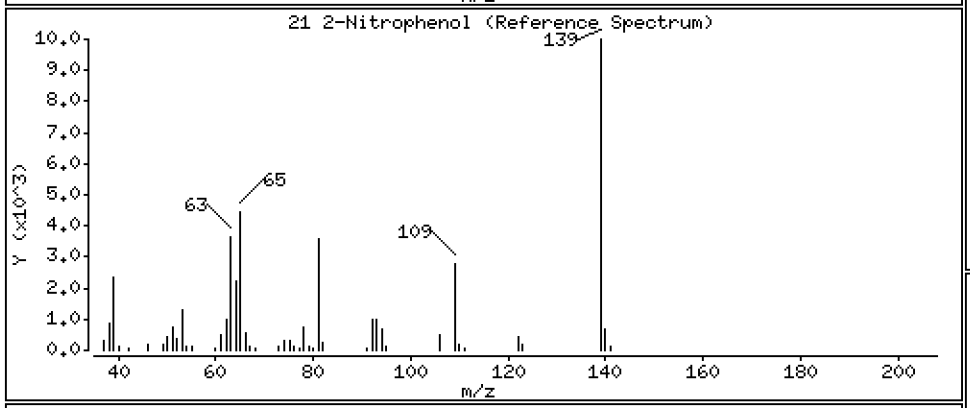
Concentration: 5.178 ug/mL

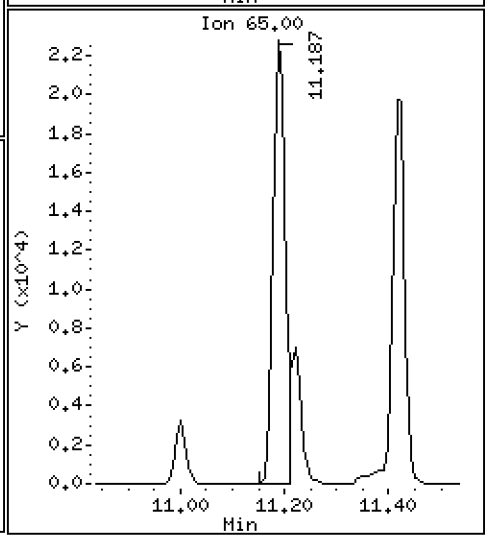


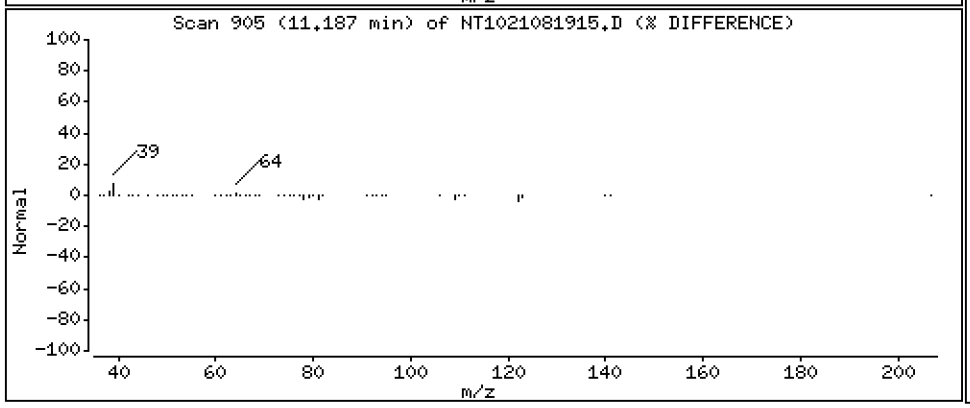












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

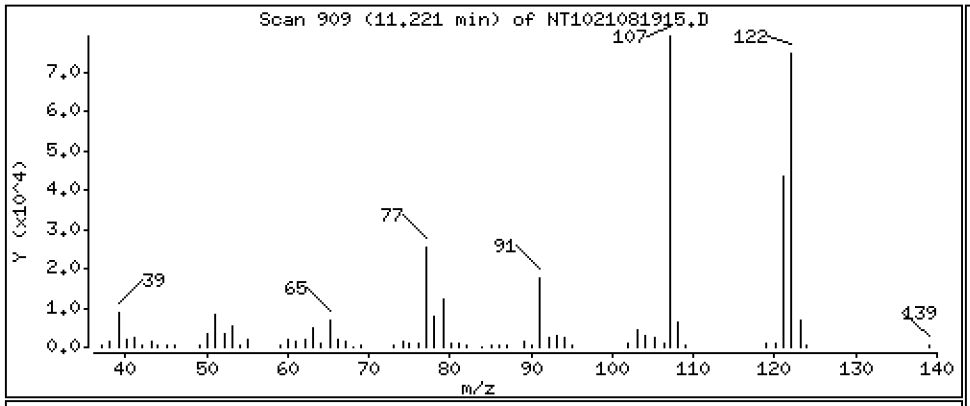
Operator: VTS

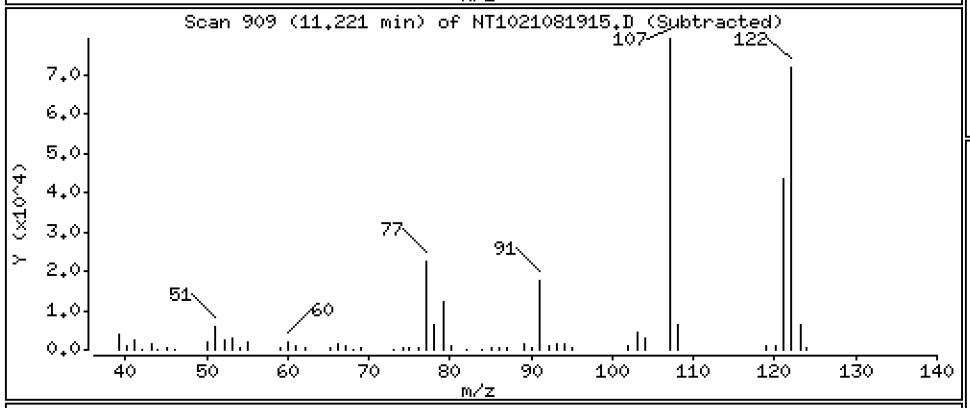
Column phase: ZB-5msi

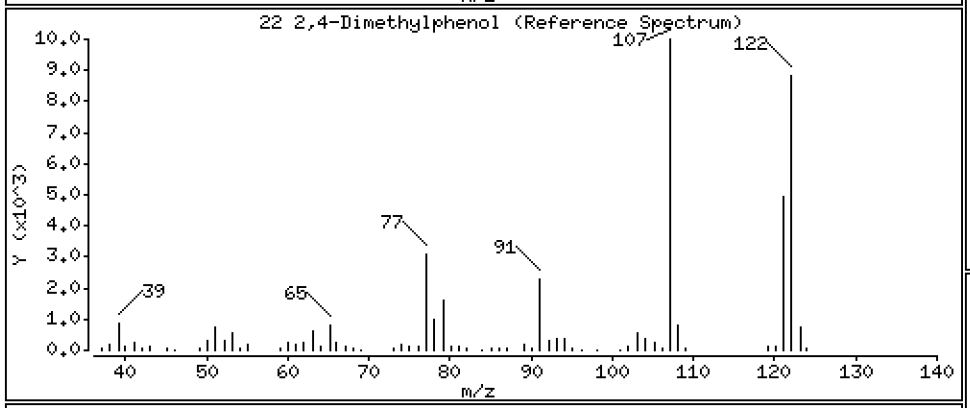
Column diameter: 0.25

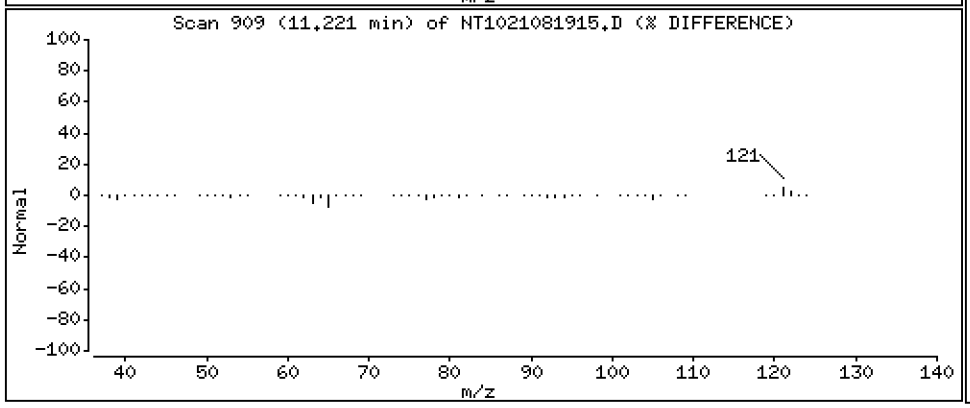
22 2,4-Dimethylphenol

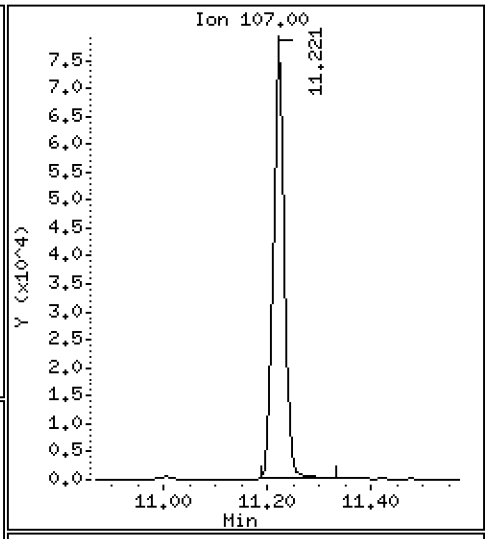
Concentration: 4.920 ug/mL

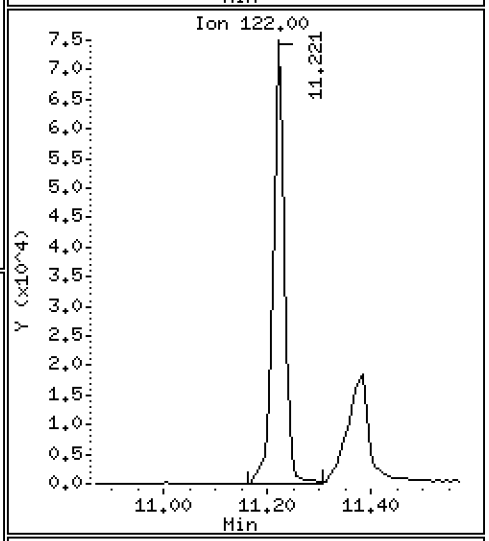


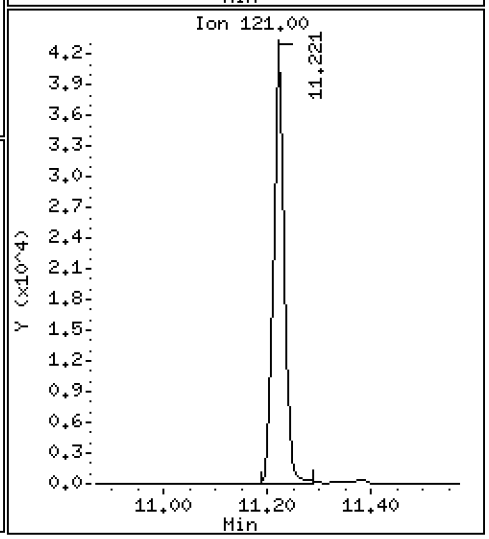












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

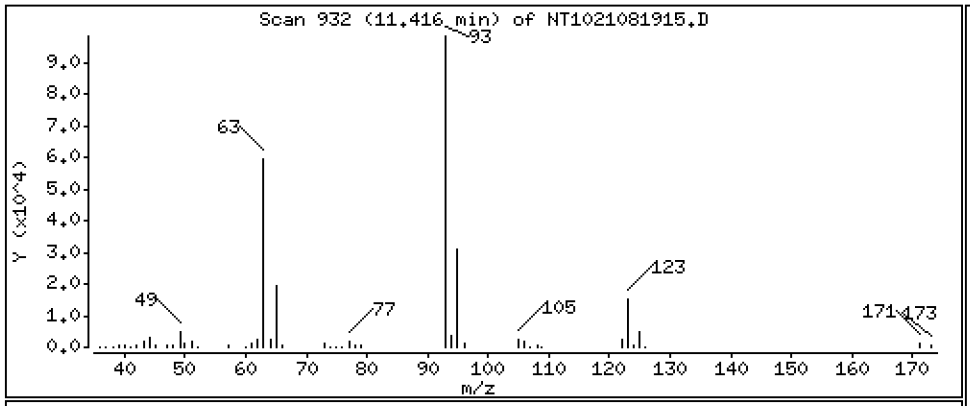
Operator: VTS

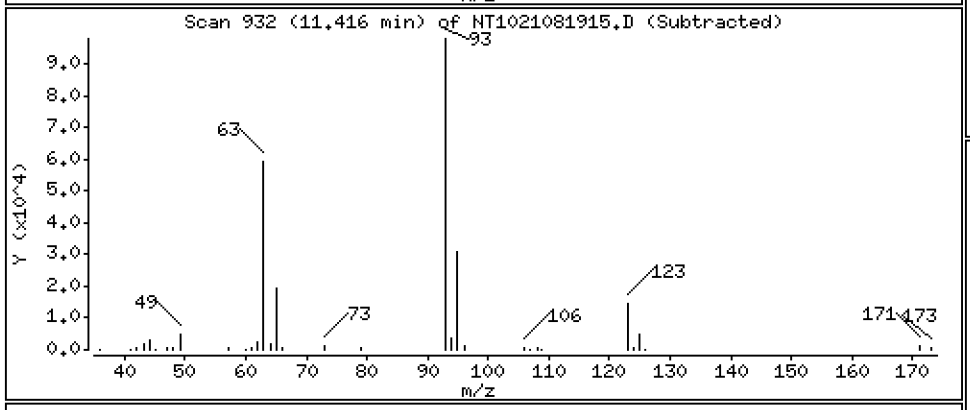
Column phase: ZB-5msi

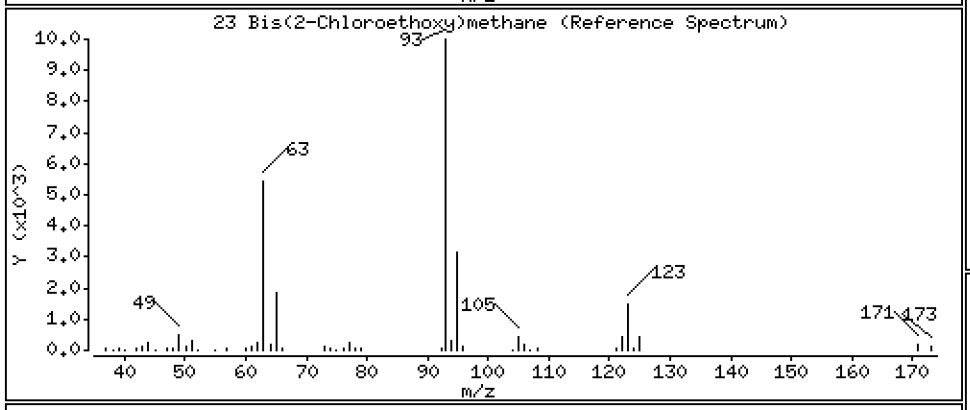
Column diameter: 0.25

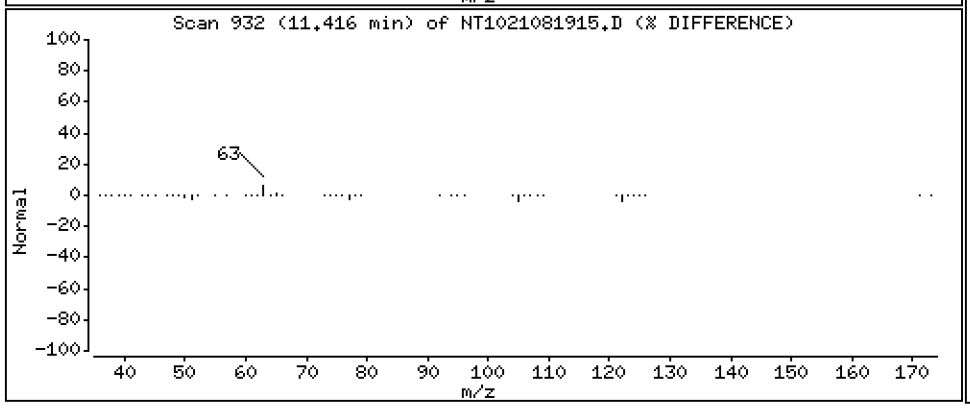
23 Bis(2-Chloroethoxy)methane

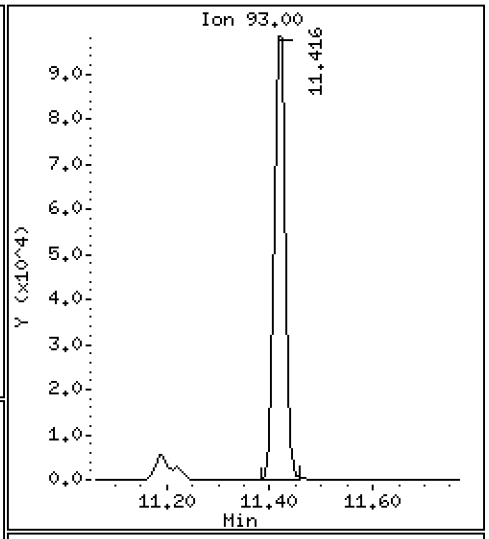
Concentration: 5.938 ug/mL

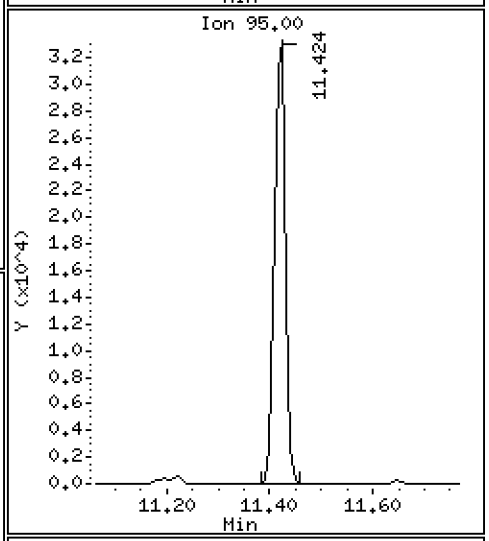


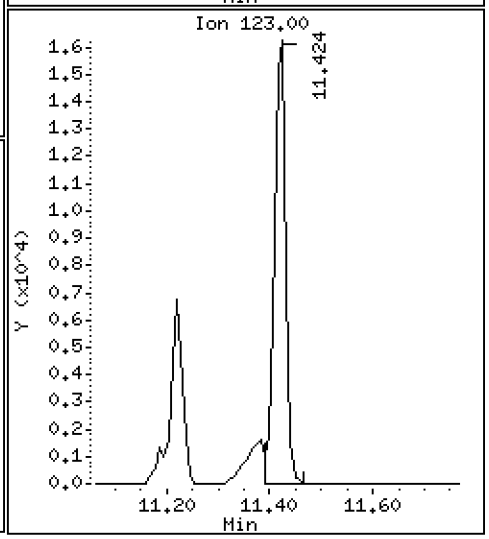












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

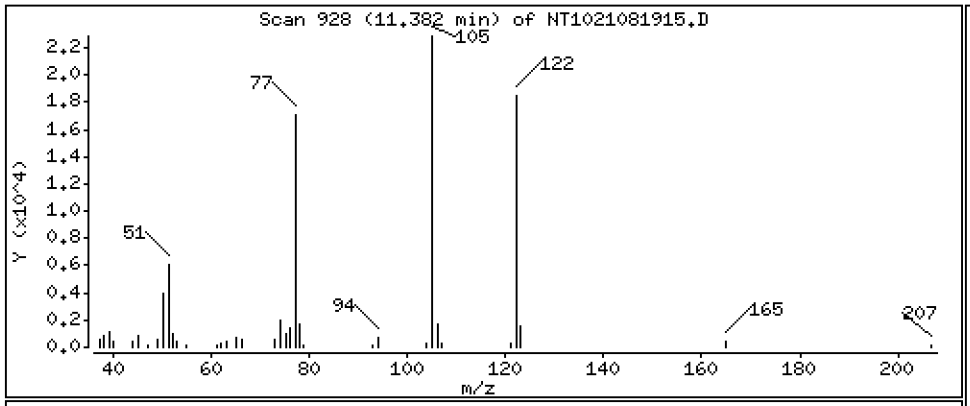
Operator: VTS

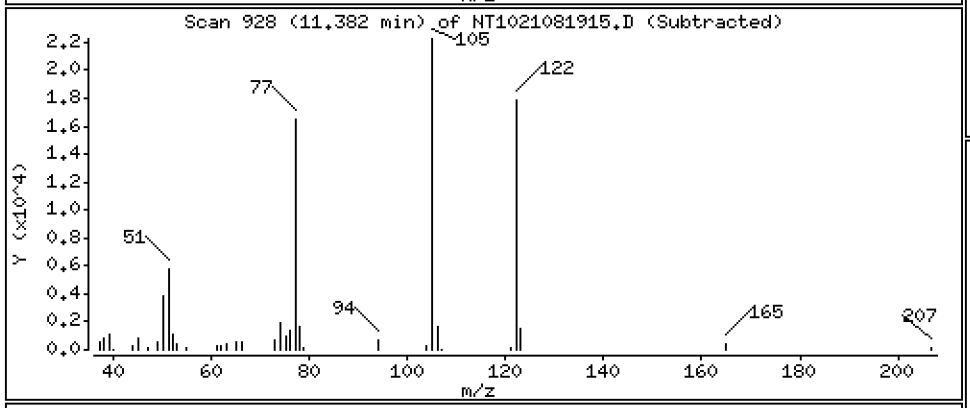
Column phase: ZB-5msi

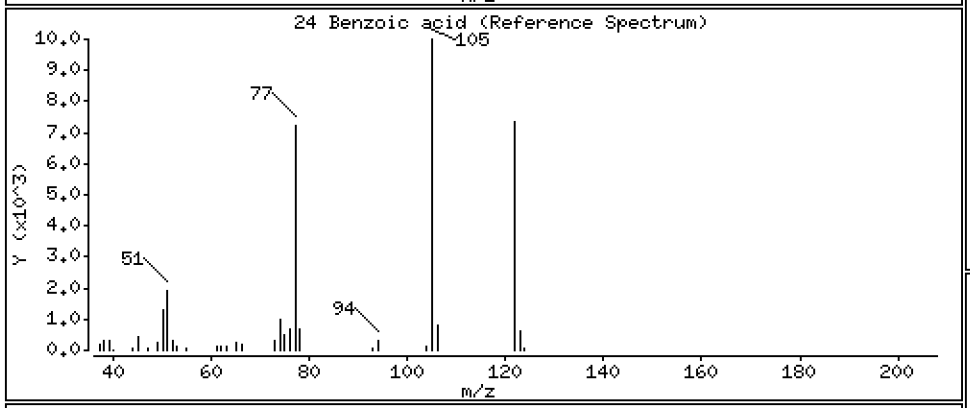
Column diameter: 0.25

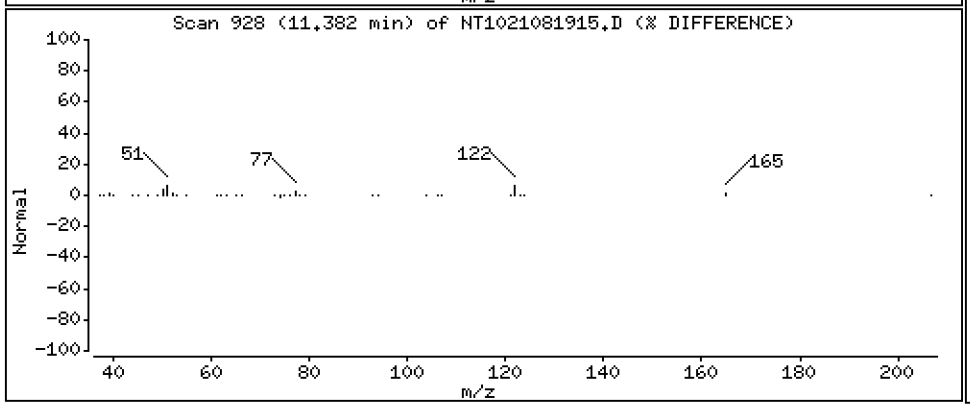
24 Benzoic acid

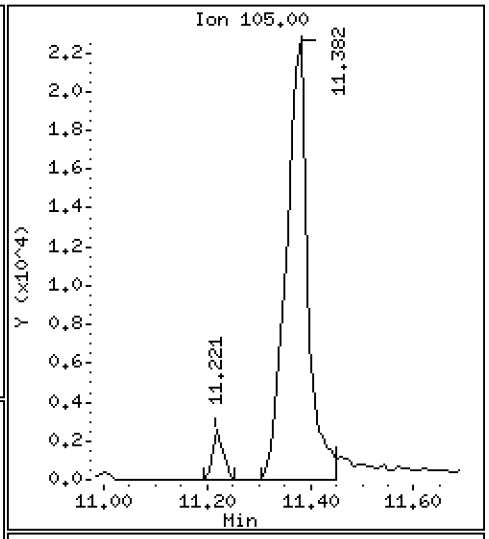
Concentration: 5.378 ug/mL

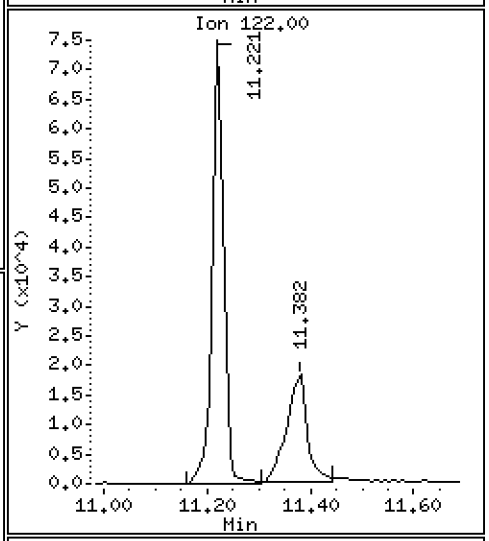


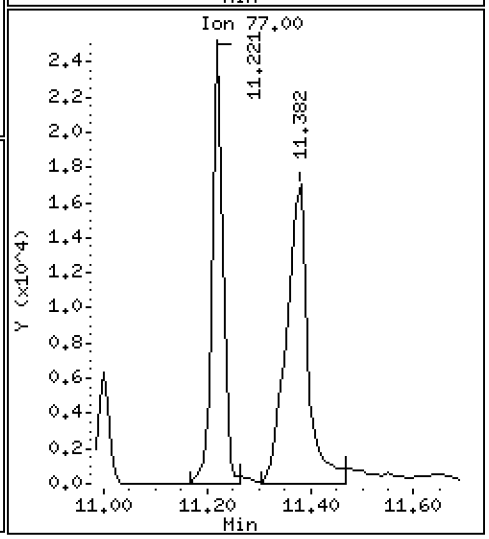












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

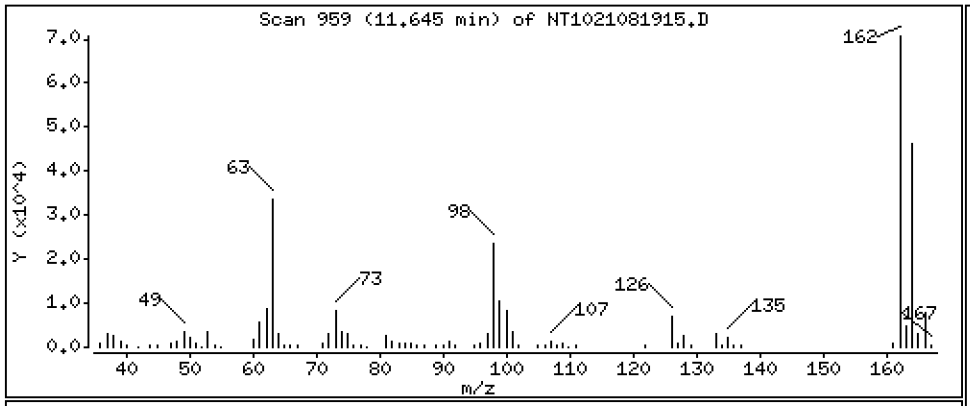
Operator: VTS

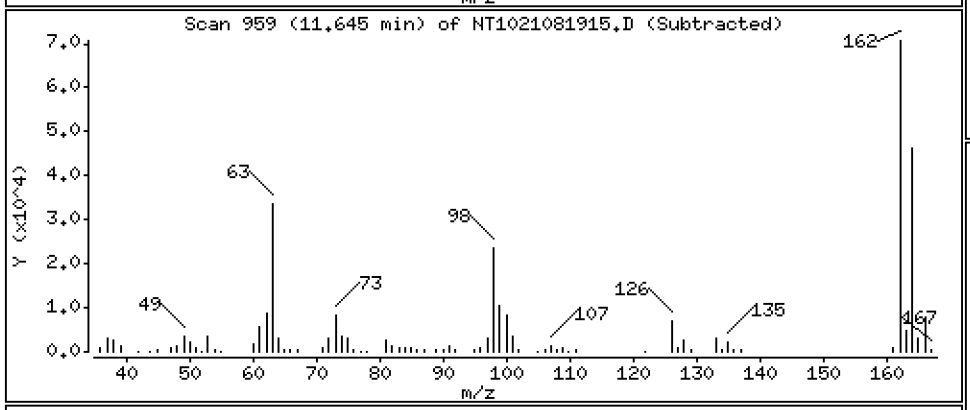
Column phase: ZB-5msi

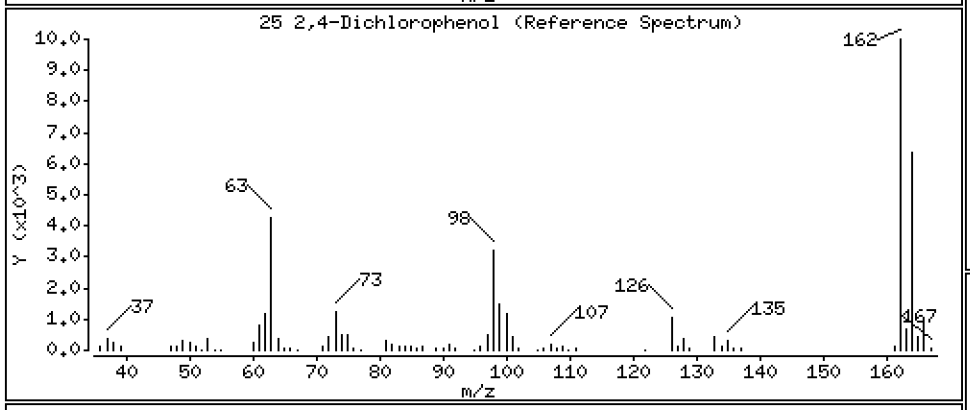
Column diameter: 0.25

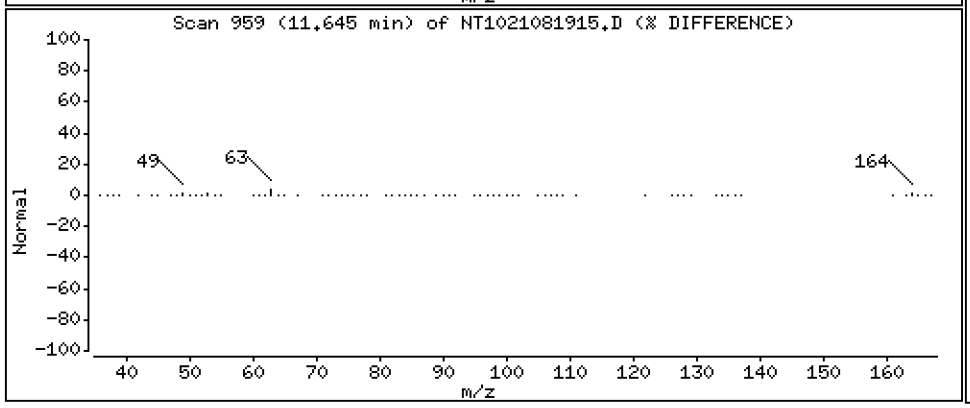
25 2,4-Dichlorophenol

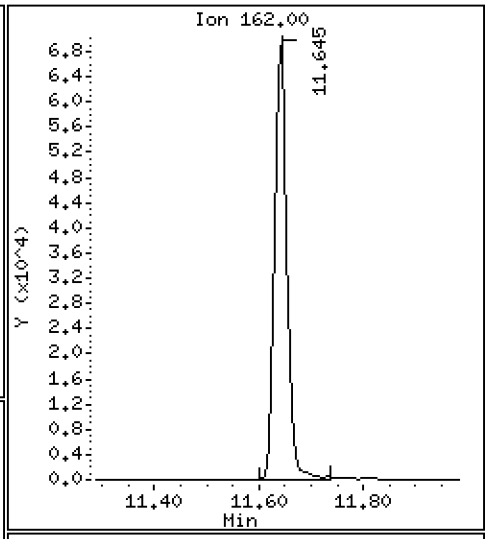
Concentration: 5.147 ug/mL

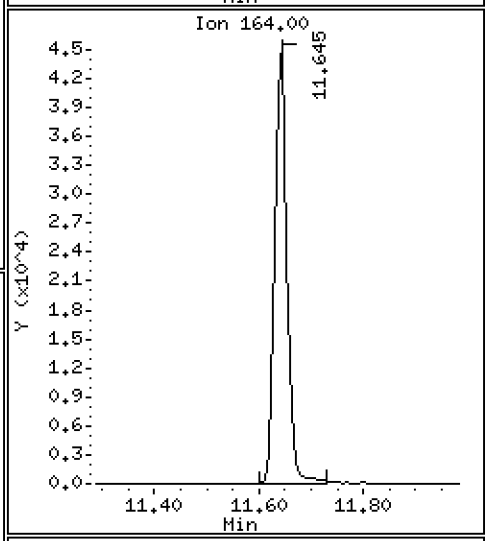


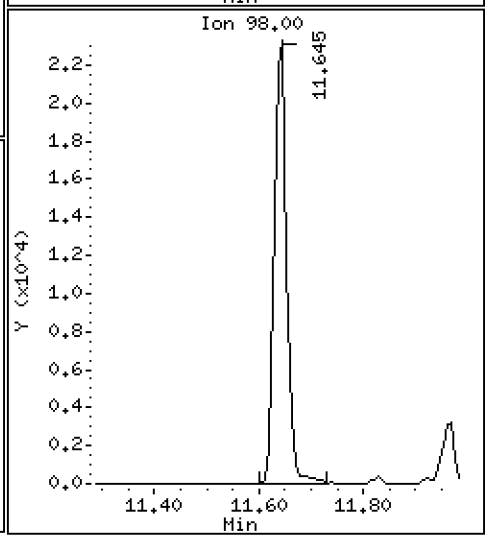












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

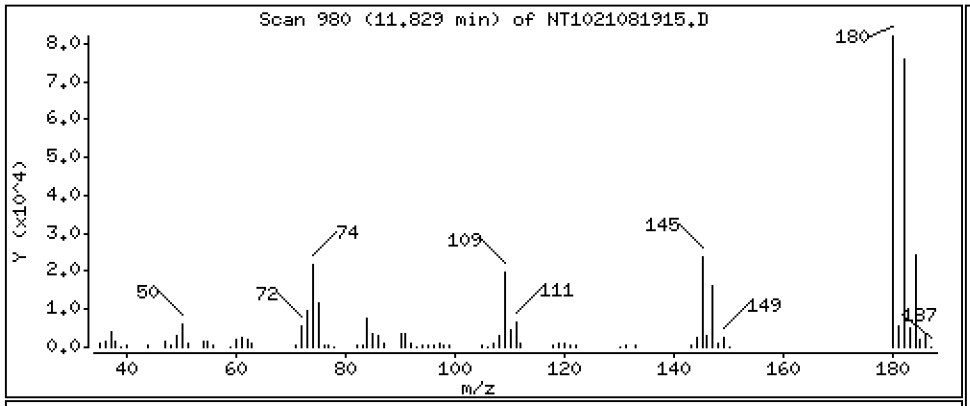
Operator: VTS

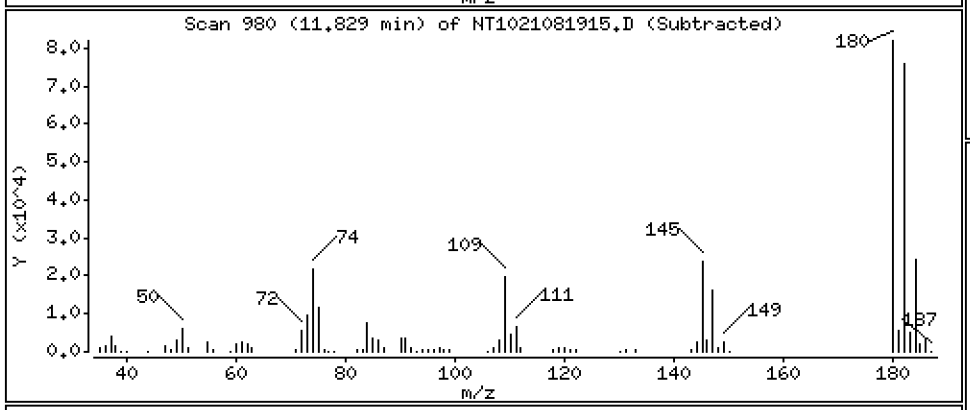
Column phase: ZB-5msi

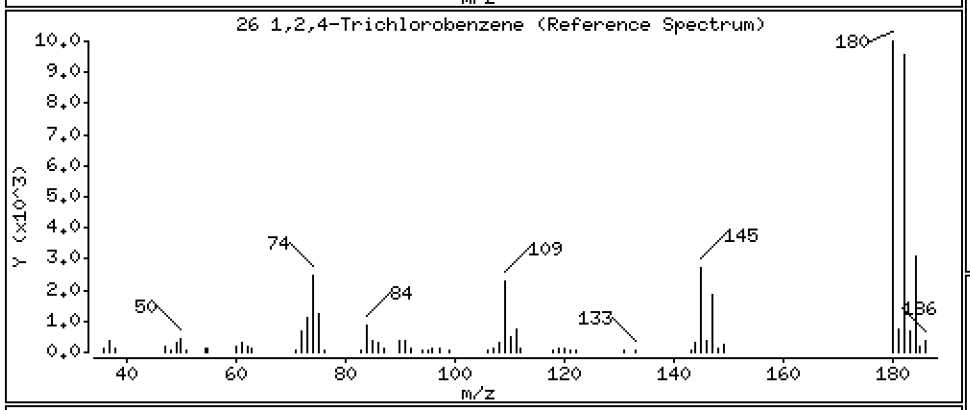
Column diameter: 0.25

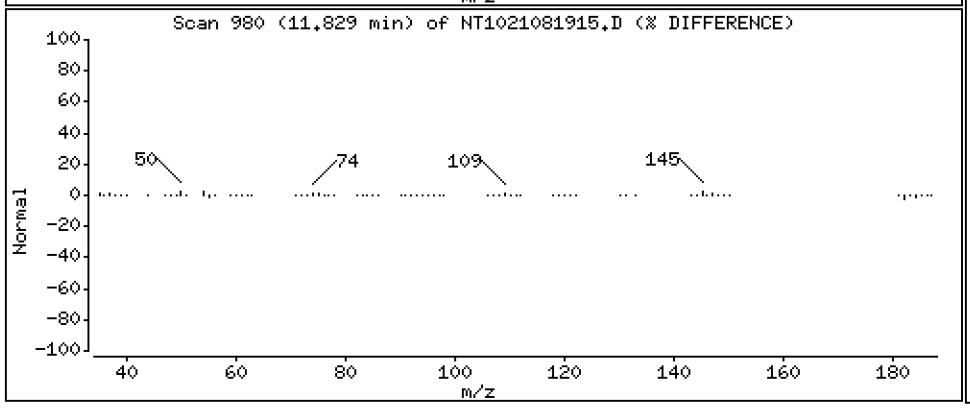
26 1,2,4-Trichlorobenzene

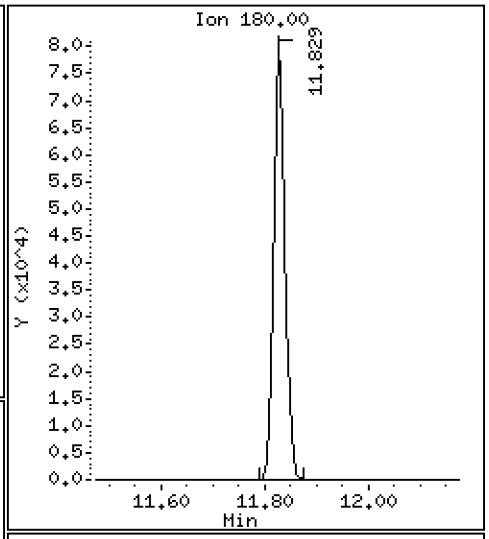
Concentration: 5.000 ug/mL

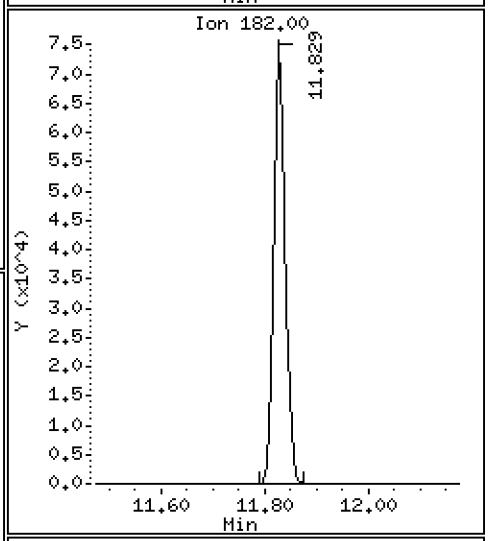


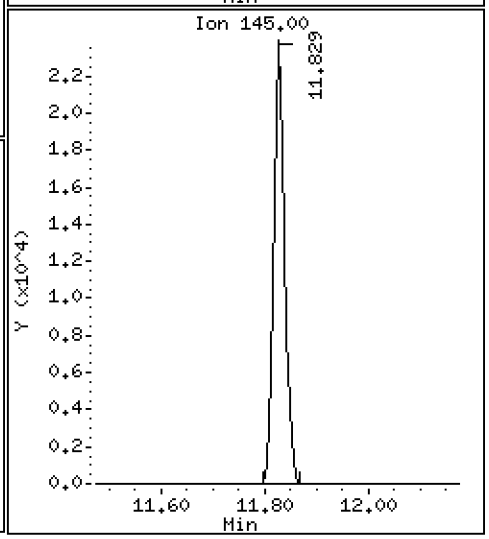












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

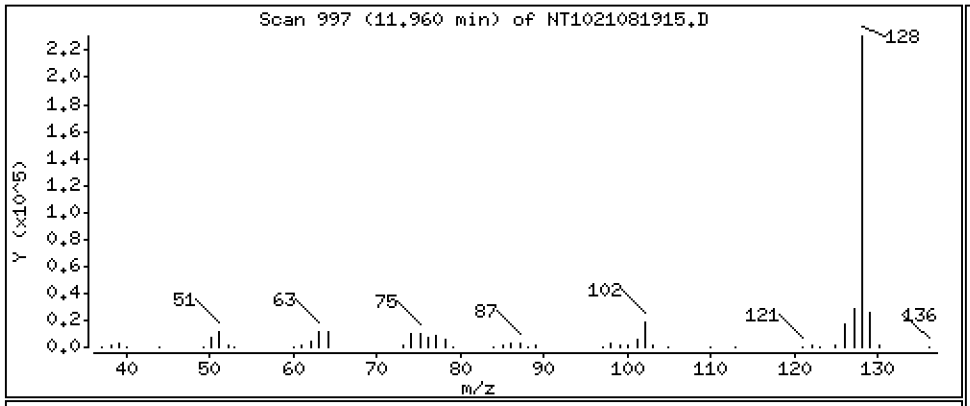
Operator: VTS

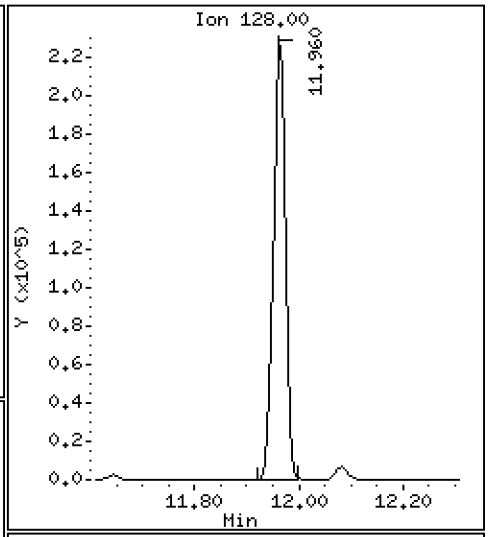
Column phase: ZB-5msi

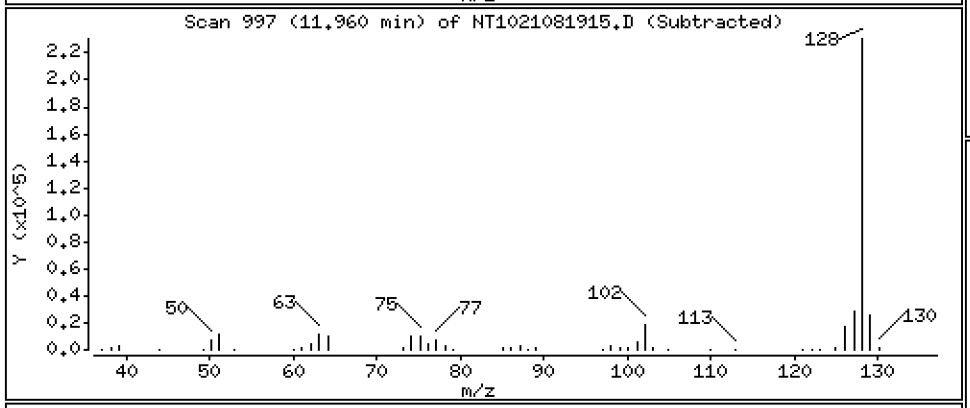
Column diameter: 0.25

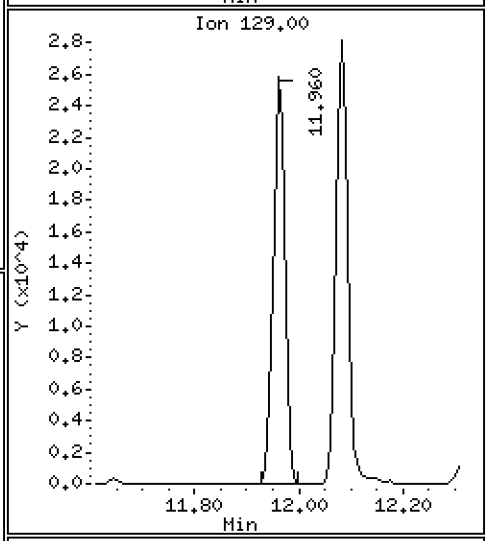
28 Naphthalene

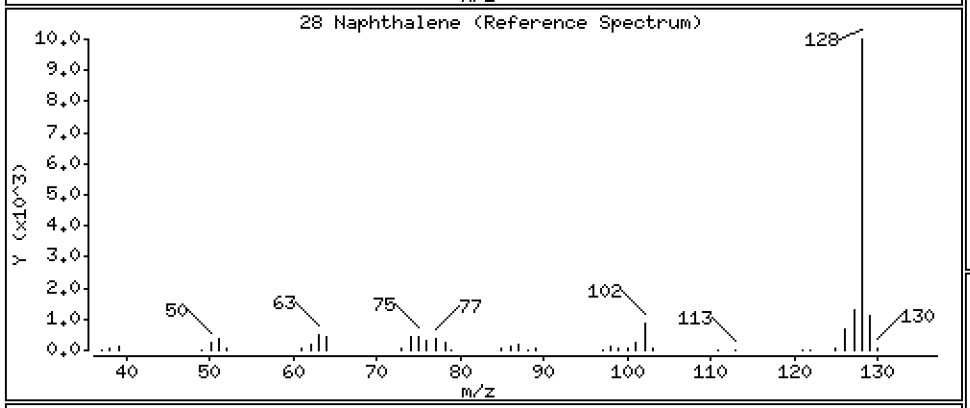
Concentration: 5.100 ug/mL

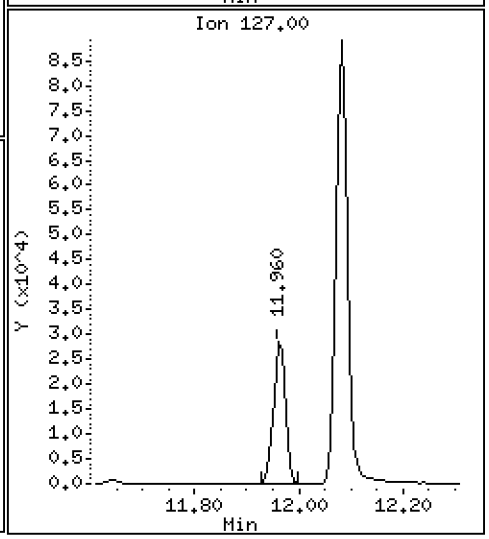


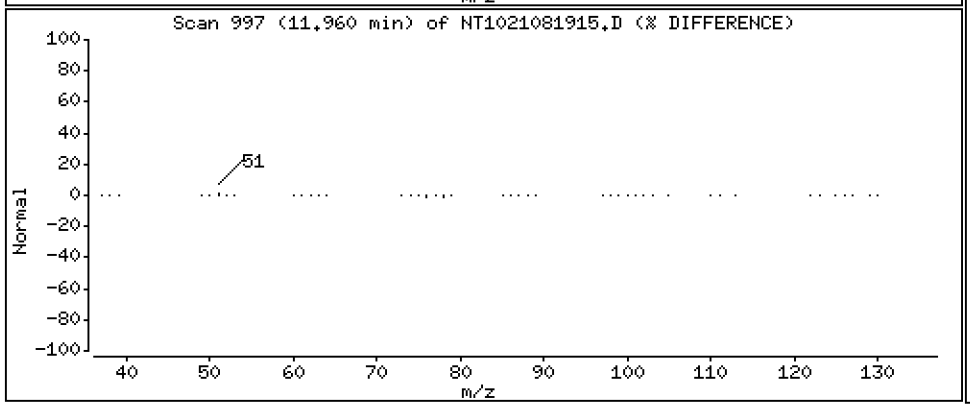












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

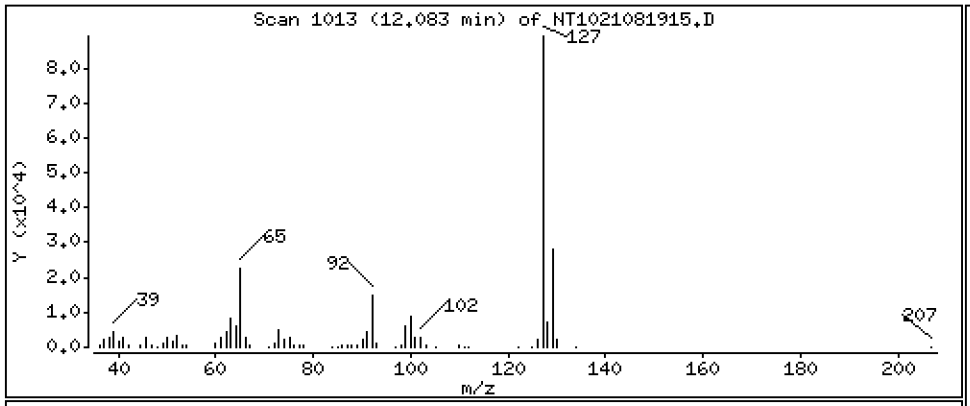
Operator: VTS

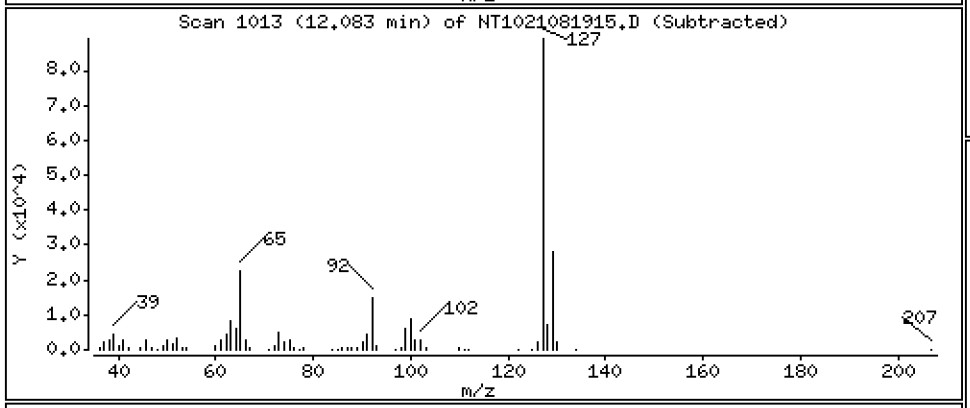
Column phase: ZB-5msi

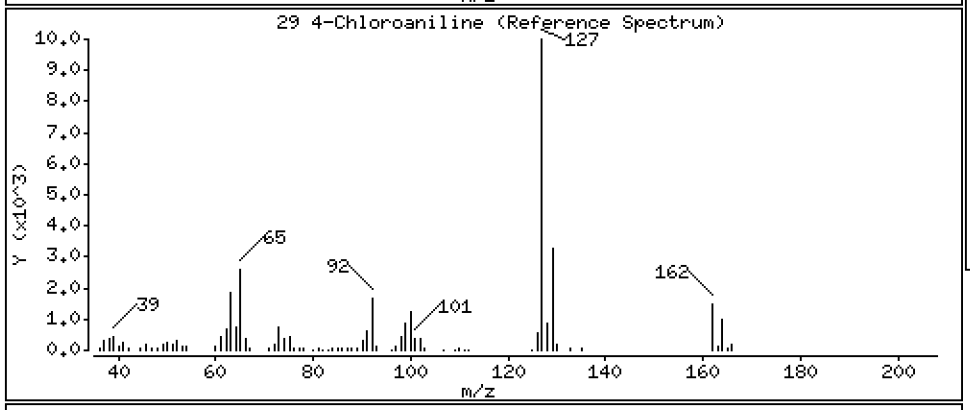
Column diameter: 0.25

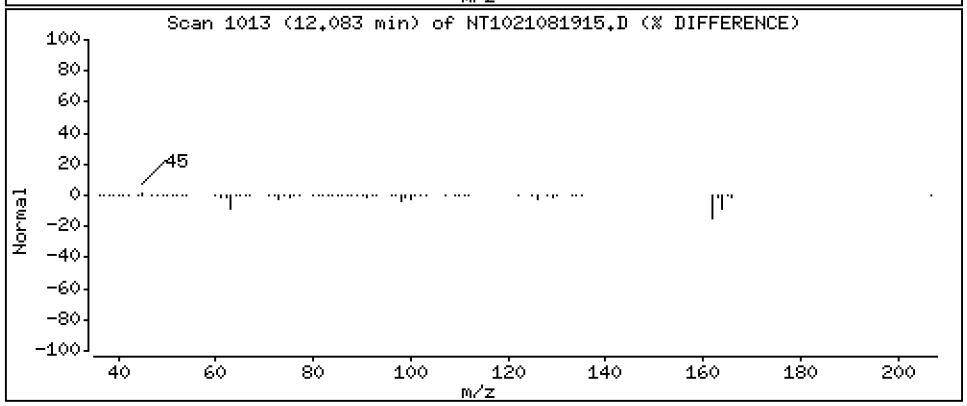
29 4-Chloroaniline

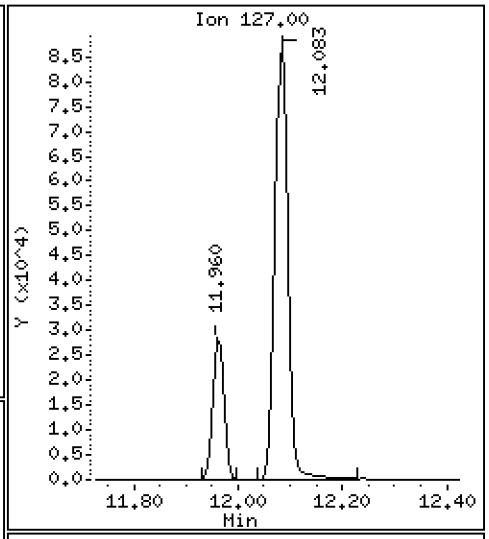
Concentration: 4.593 ug/mL

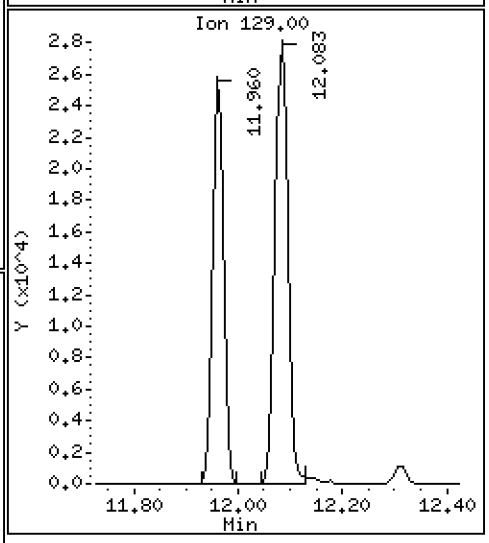












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

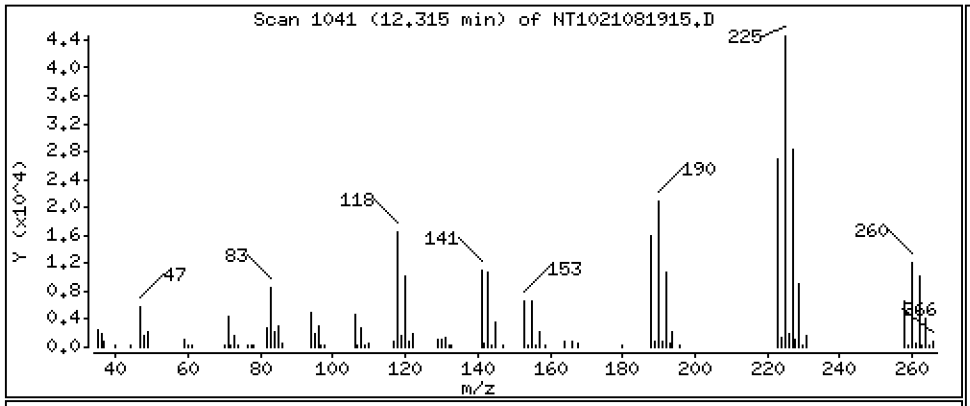
Operator: VTS

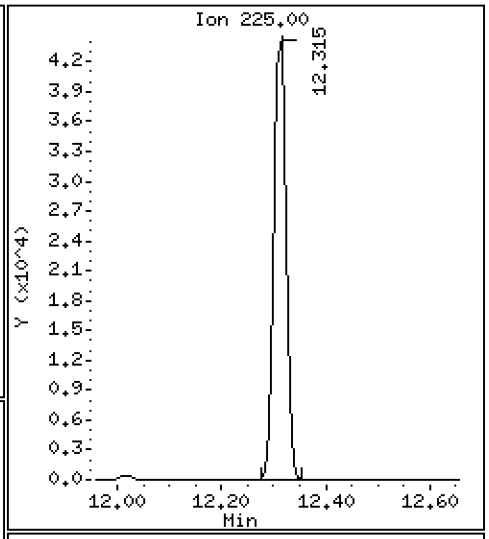
Column phase: ZB-5msi

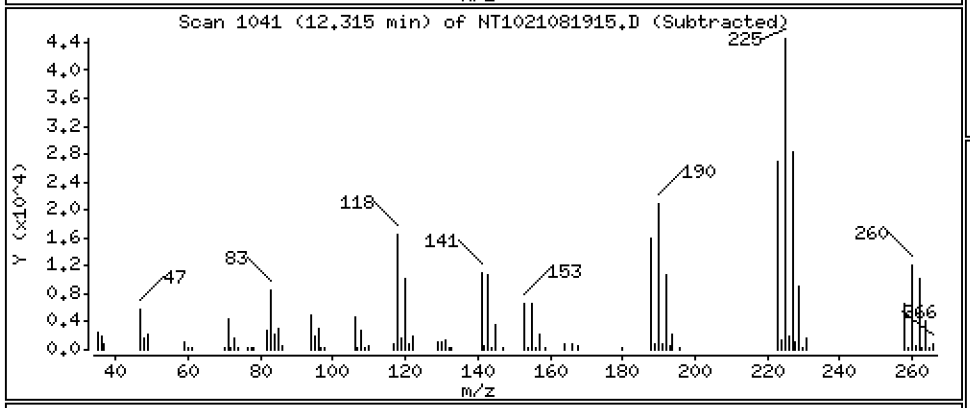
Column diameter: 0.25

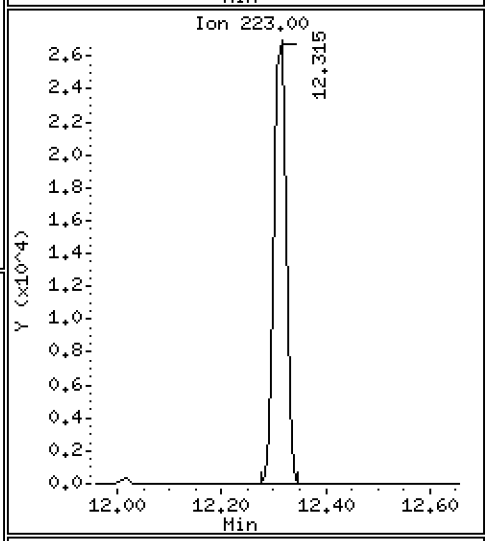
30 Hexachlorobutadiene

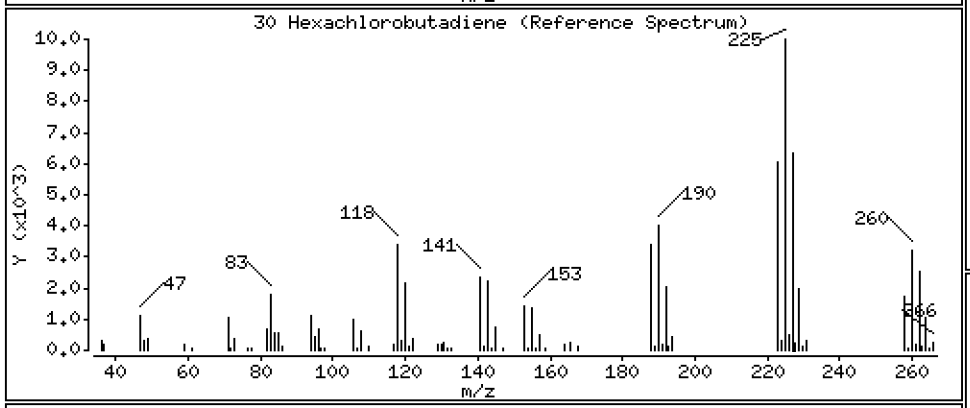
Concentration: 5.107 ug/mL

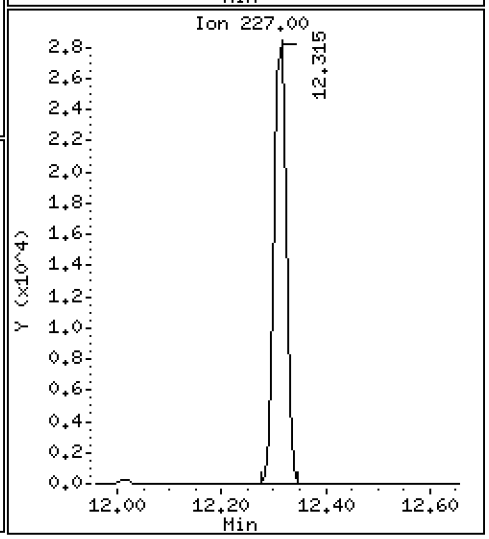


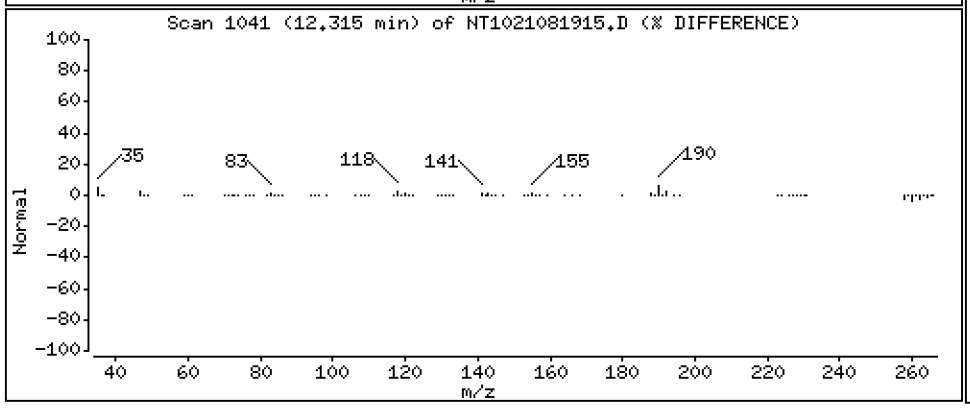












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

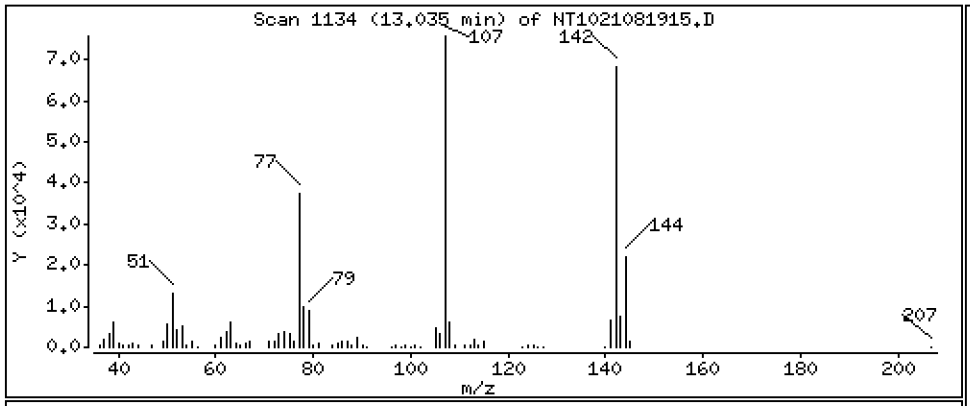
Operator: VTS

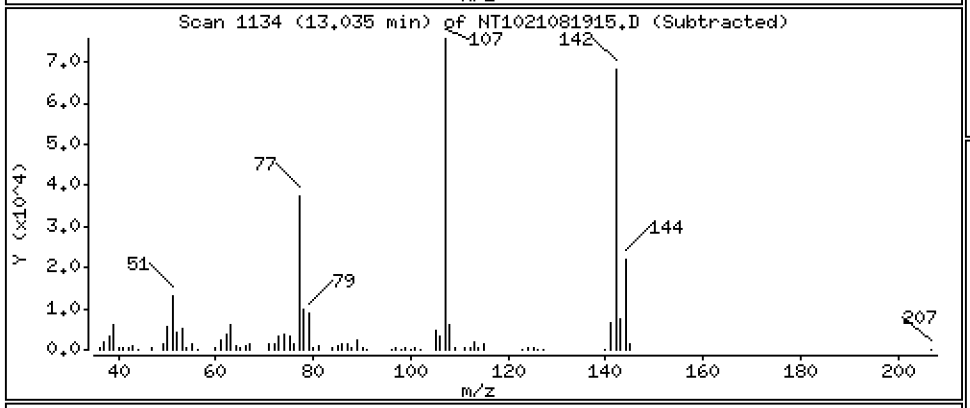
Column phase: ZB-5msi

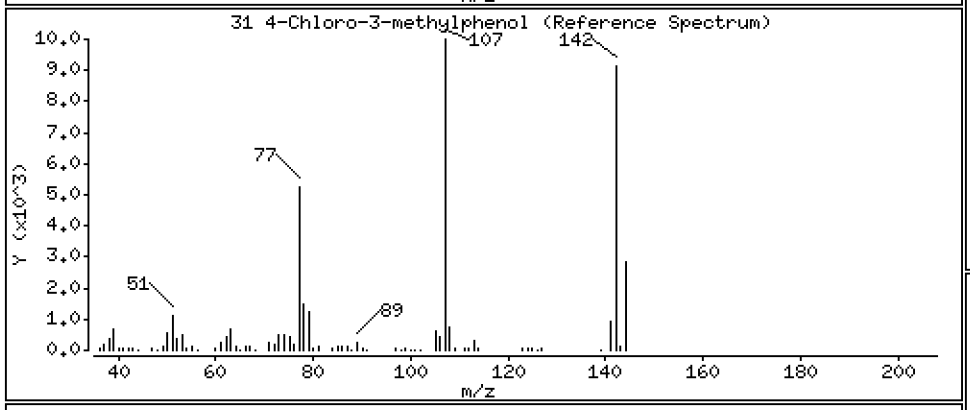
Column diameter: 0.25

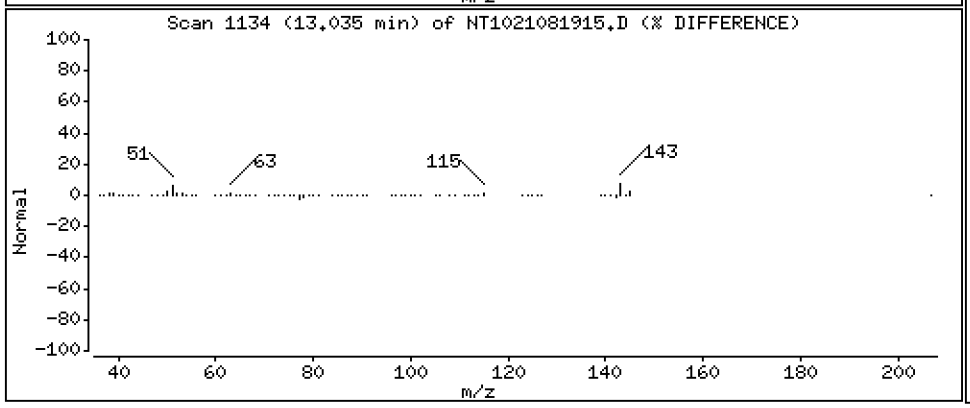
31 4-Chloro-3-methylphenol

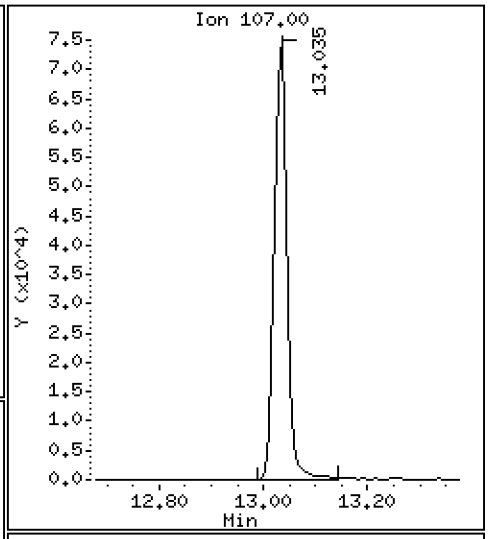
Concentration: 4.925 ug/mL

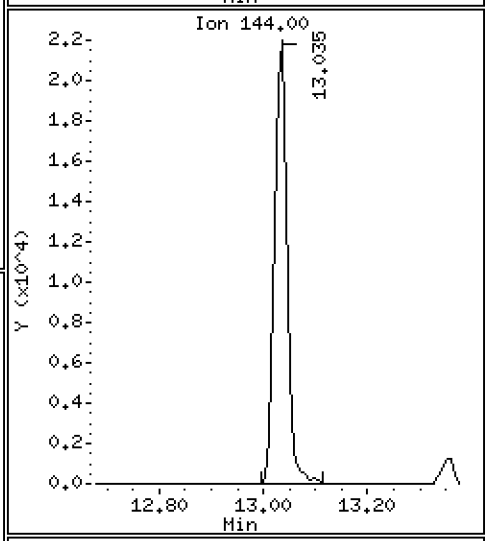


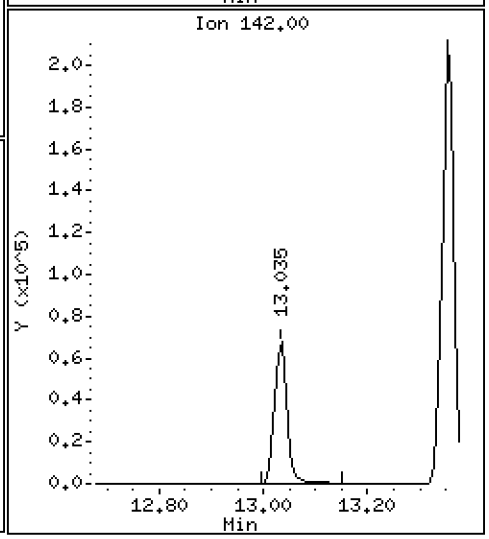












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

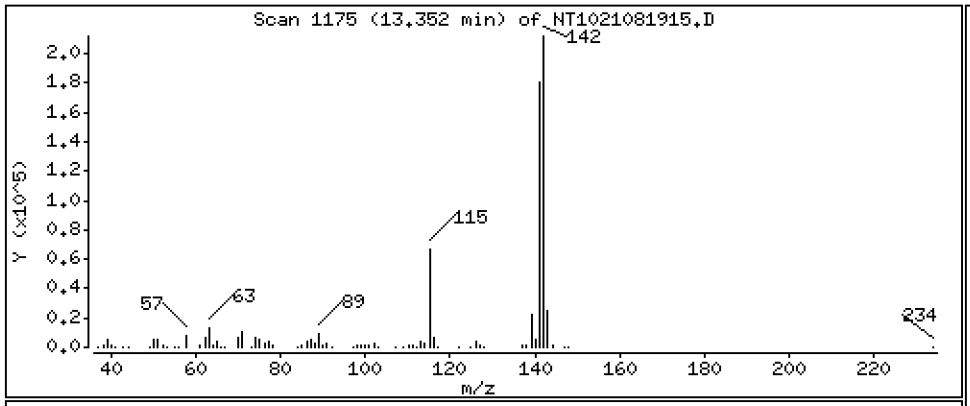
Operator: VTS

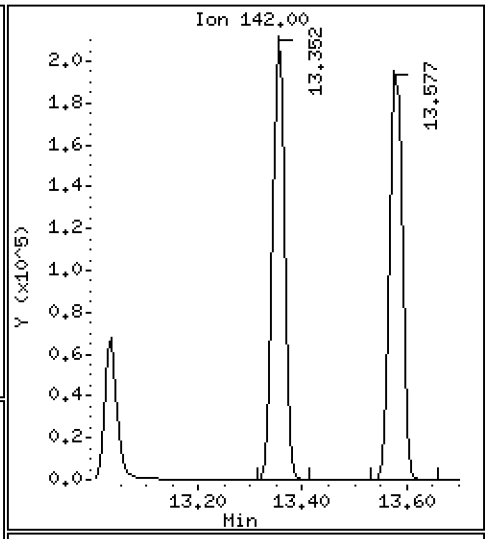
Column phase: ZB-5msi

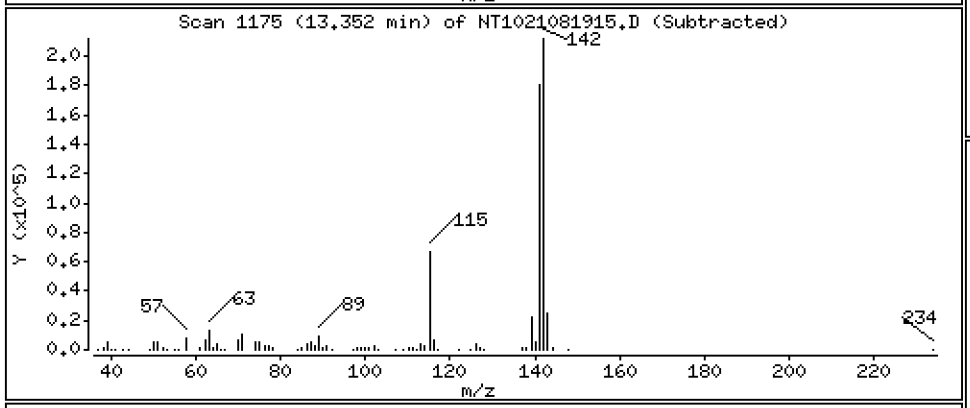
Column diameter: 0.25

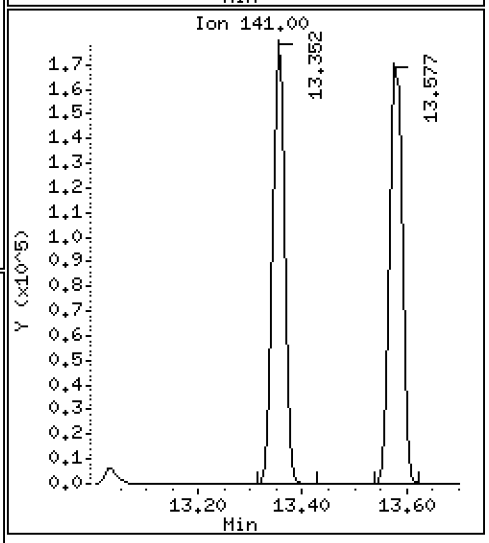
32 2-Methylnaphthalene

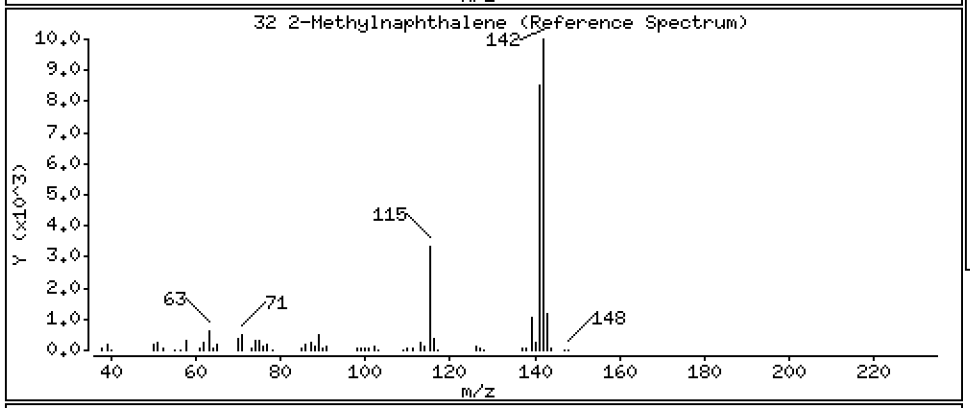
Concentration: 4.723 ug/mL

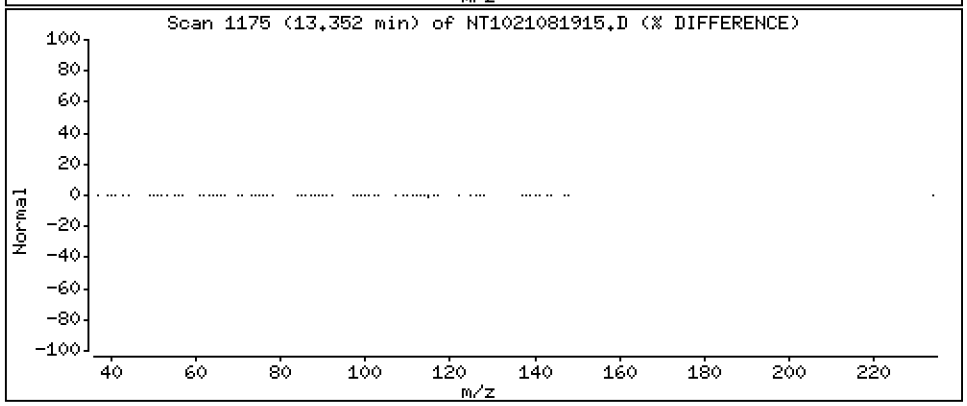












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

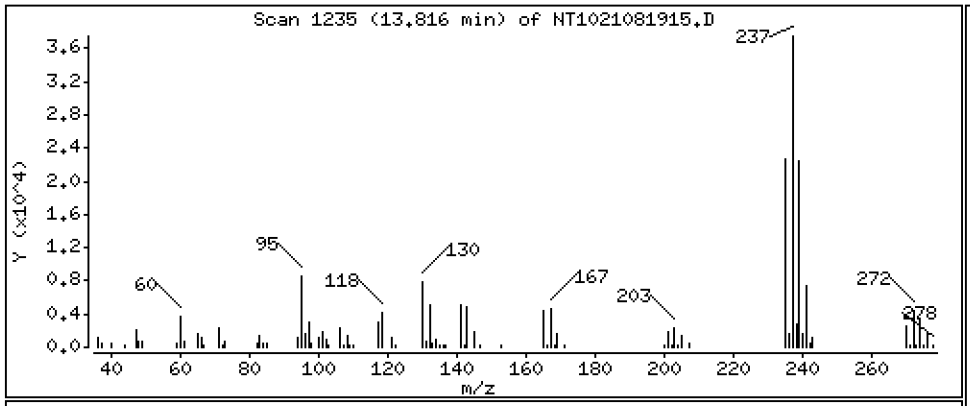
Operator: VTS

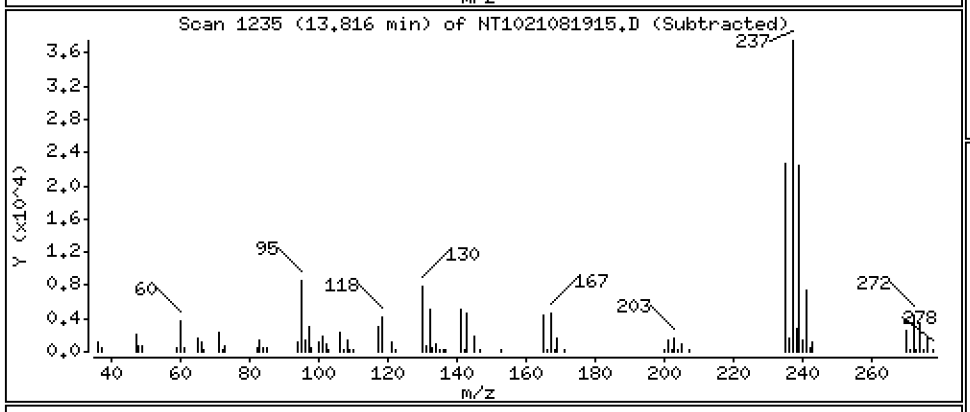
Column phase: ZB-5msi

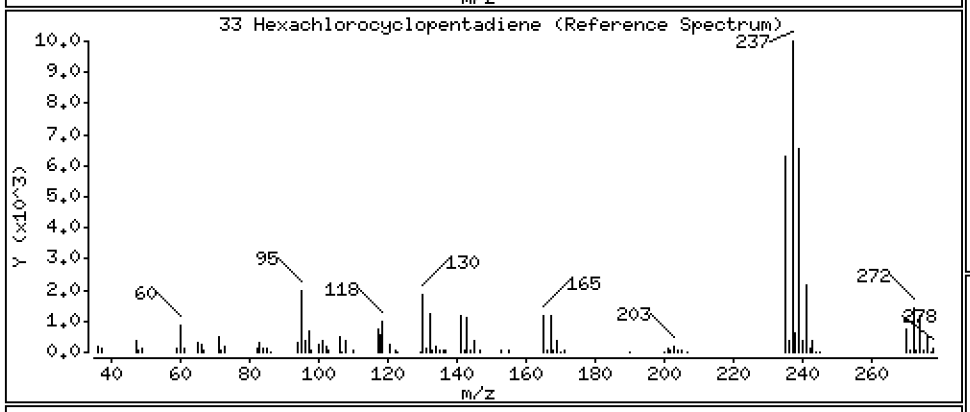
Column diameter: 0.25

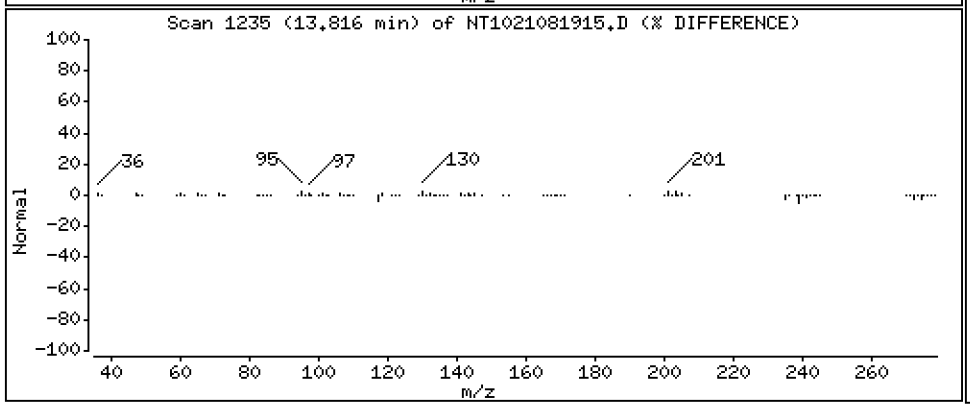
33 Hexachlorocyclopentadiene

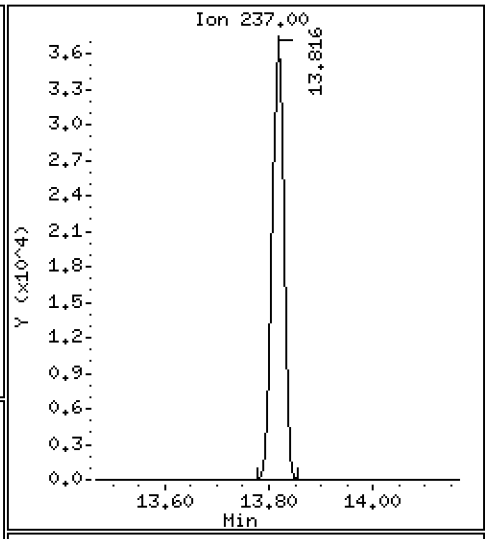
Concentration: 4.314 ug/mL

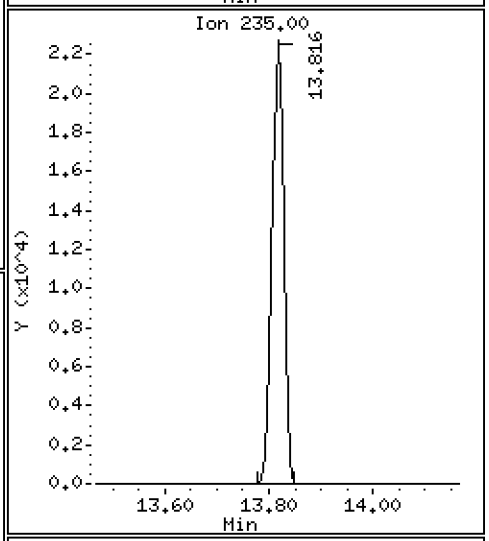


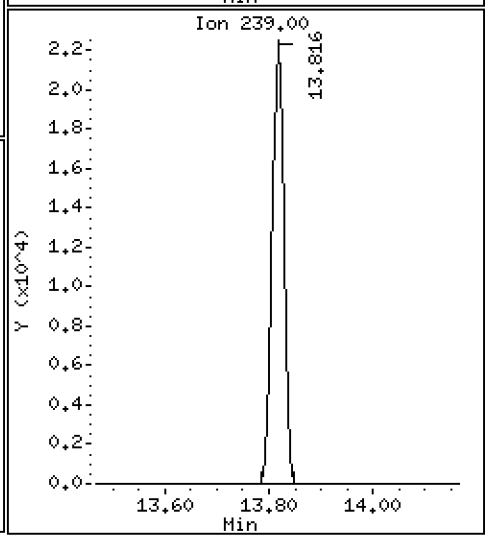












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

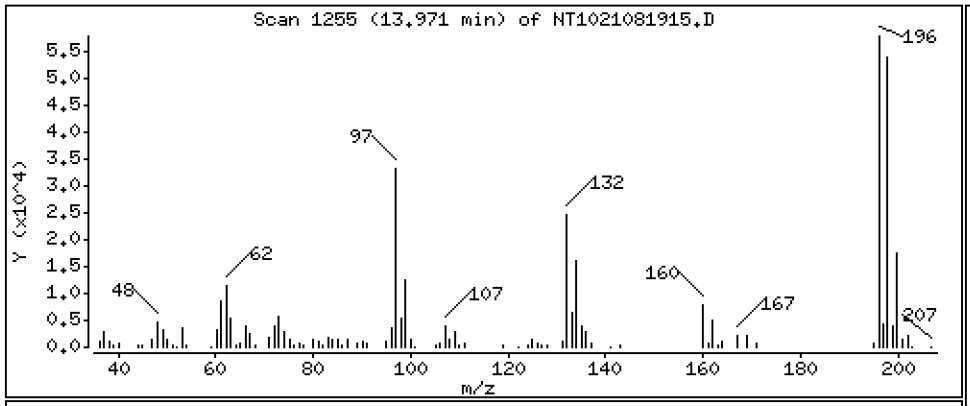
Operator: VTS

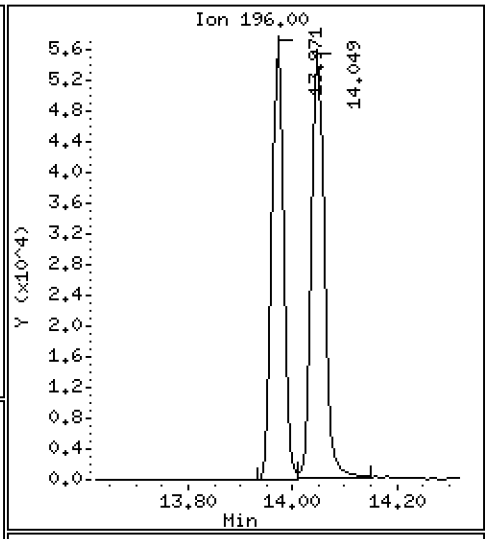
Column phase: ZB-5msi

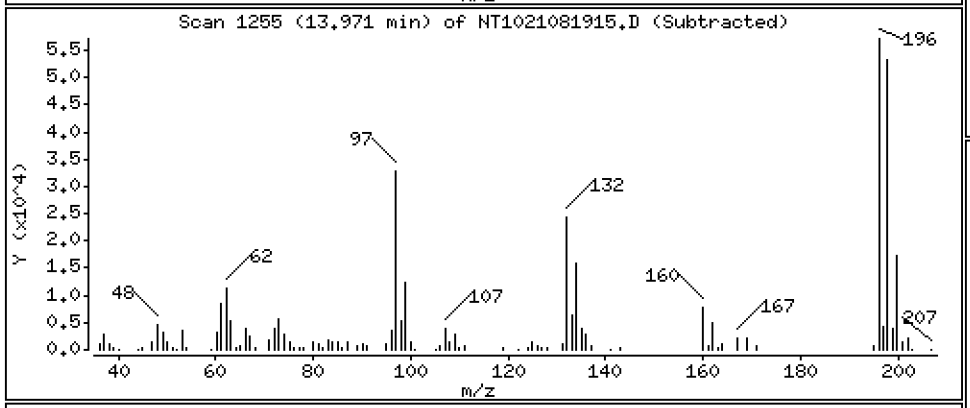
Column diameter: 0.25

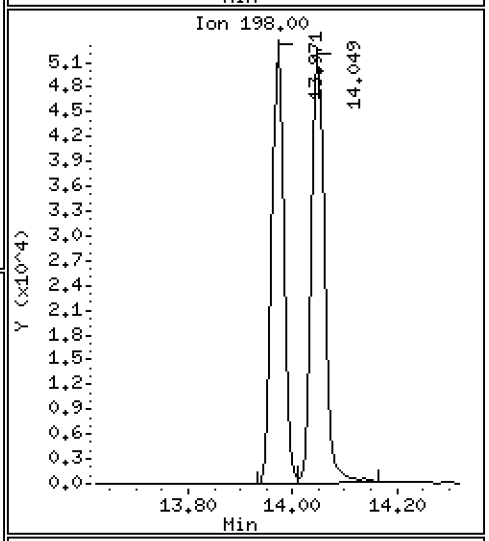
34 2,4,6-Trichlorophenol

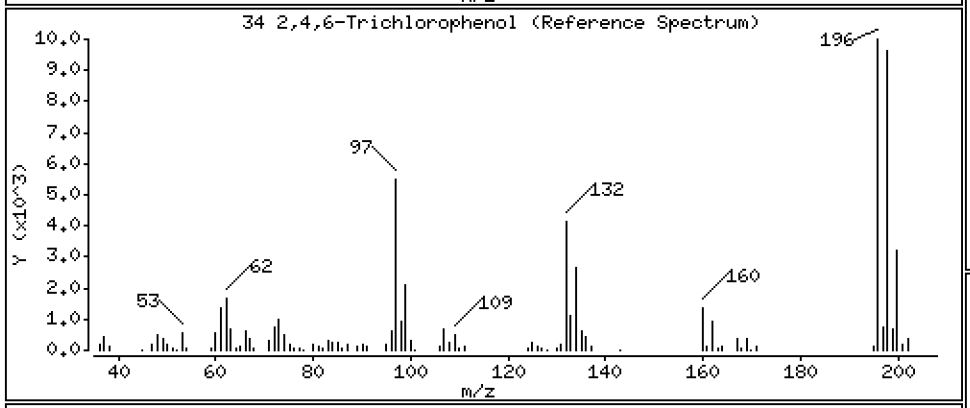
Concentration: 4.770 ug/mL

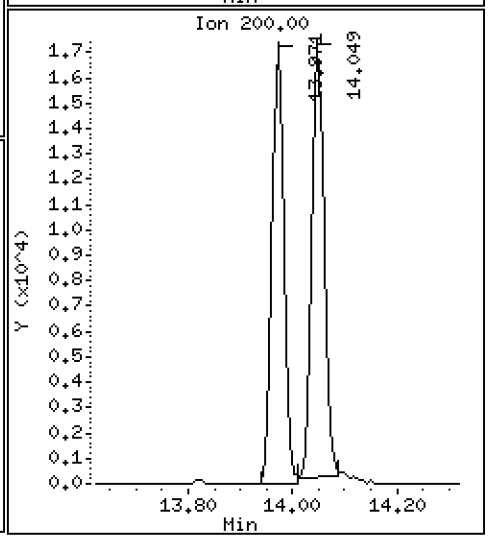


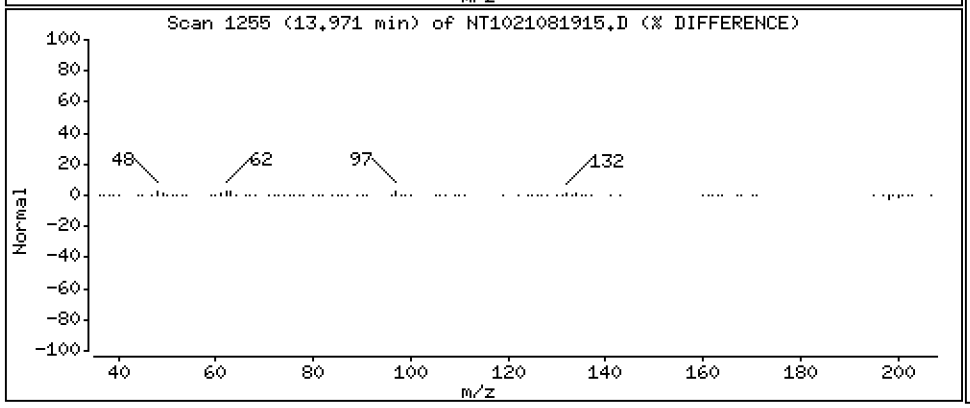












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

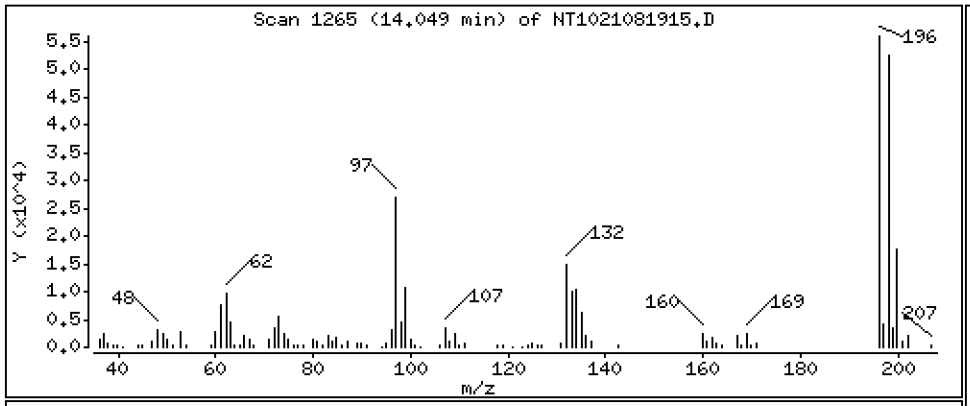
Operator: VTS

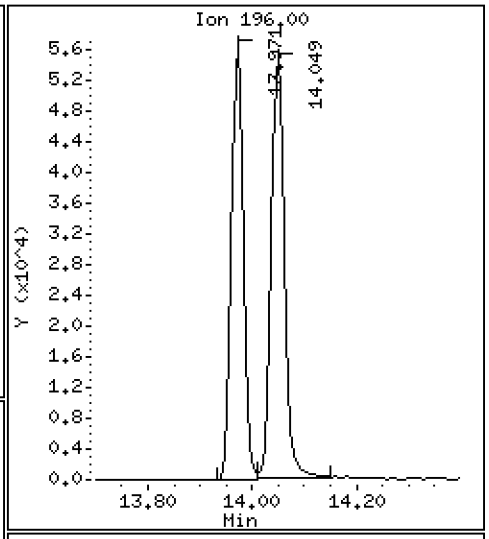
Column phase: ZB-5msi

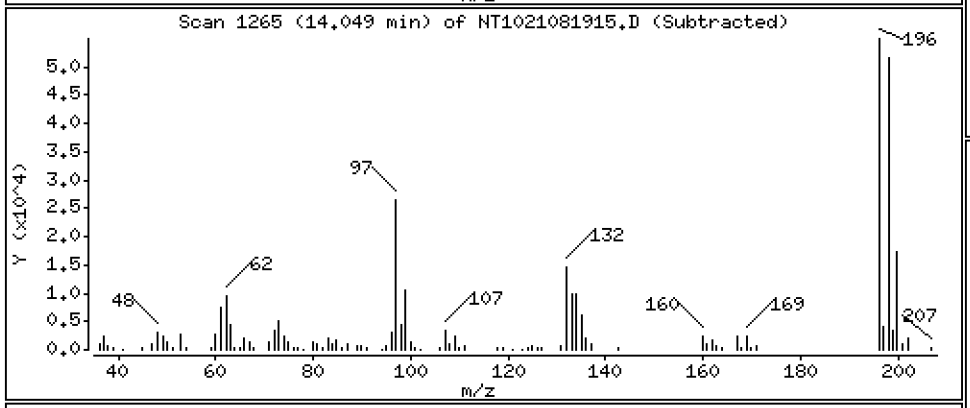
Column diameter: 0.25

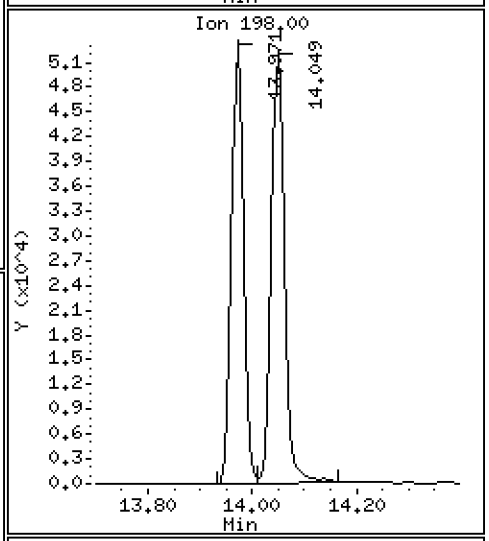
35 2,4,5-Trichlorophenol

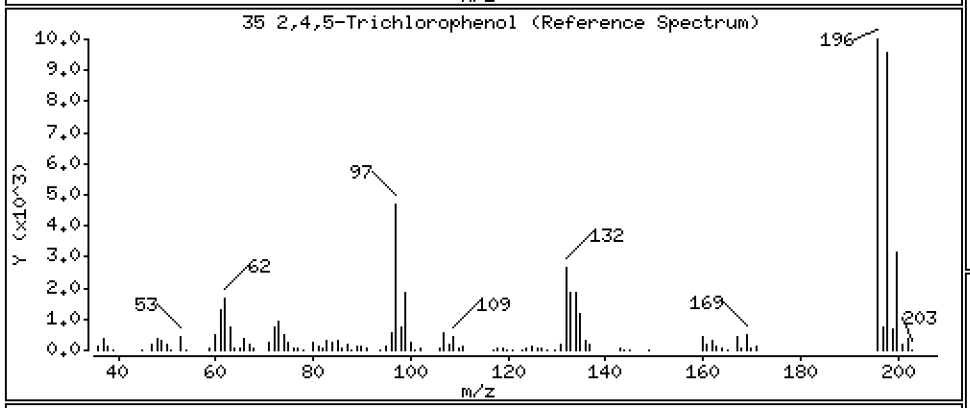
Concentration: 4.914 ug/mL

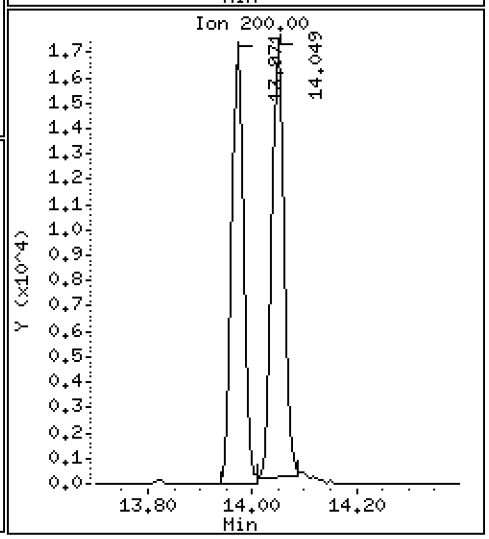


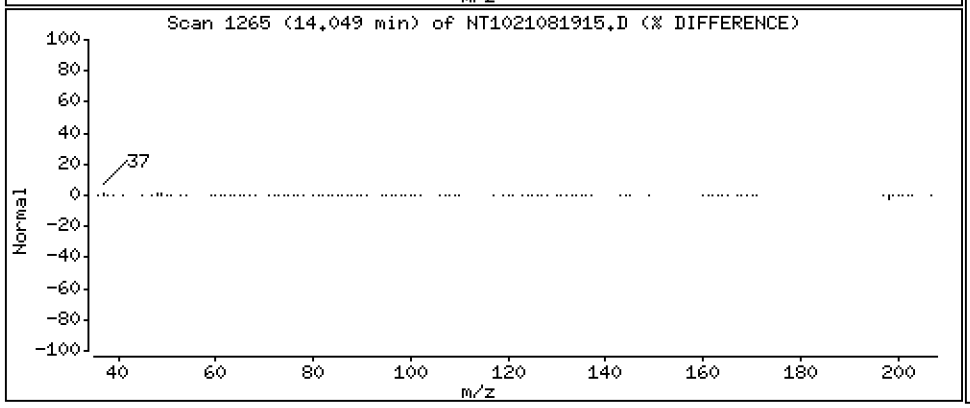












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

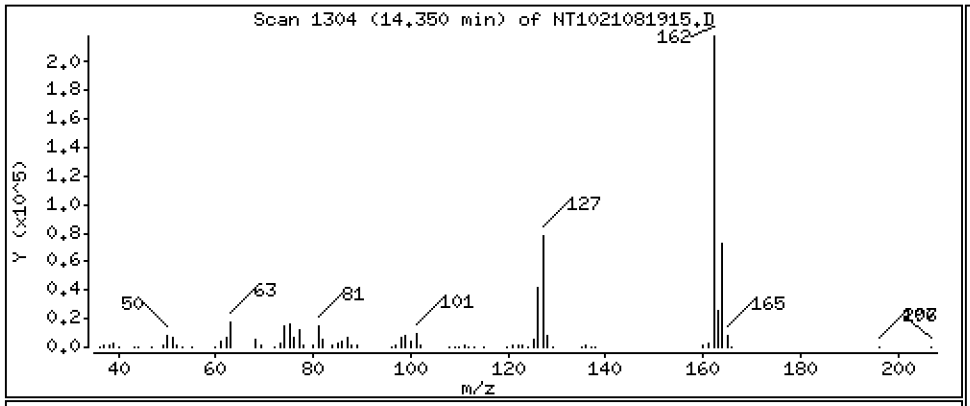
Operator: VTS

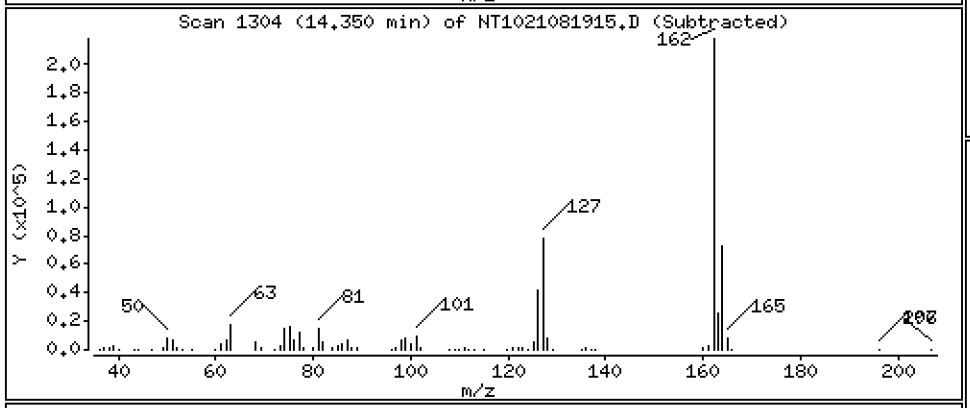
Column phase: ZB-5msi

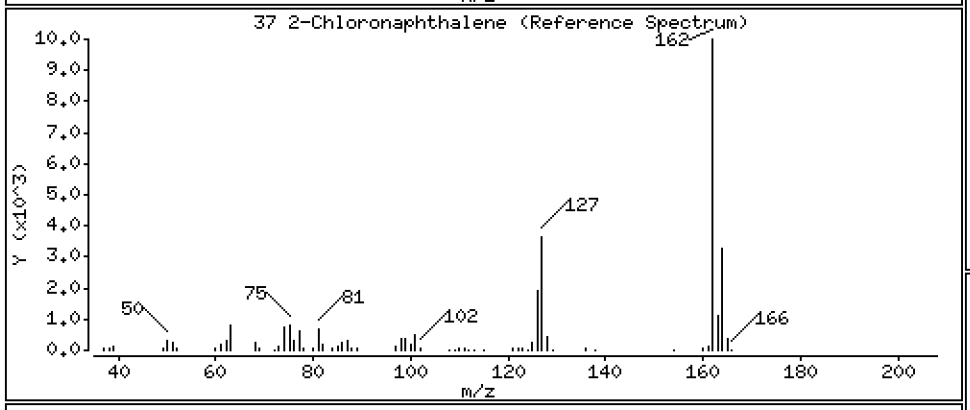
Column diameter: 0.25

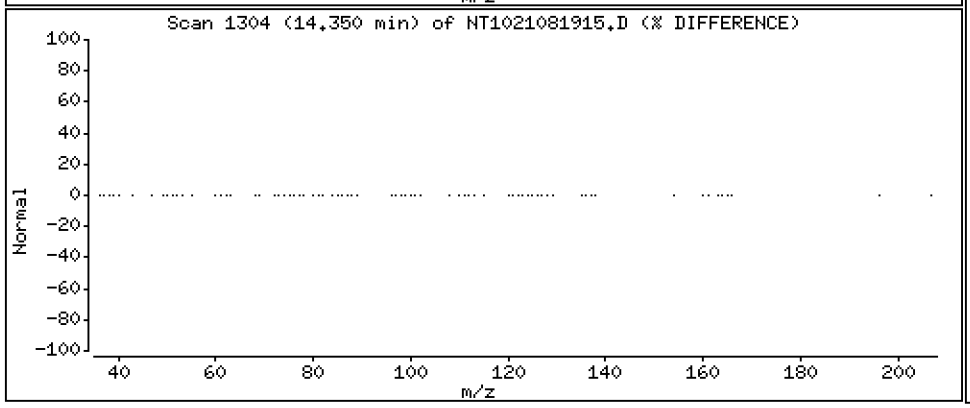
37 2-Chloronaphthalene

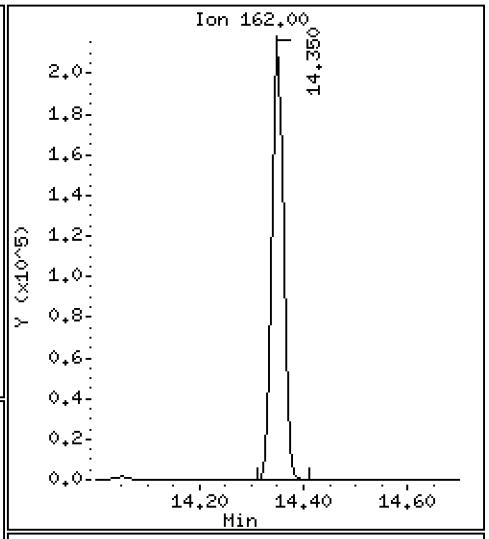
Concentration: 5.585 ug/mL

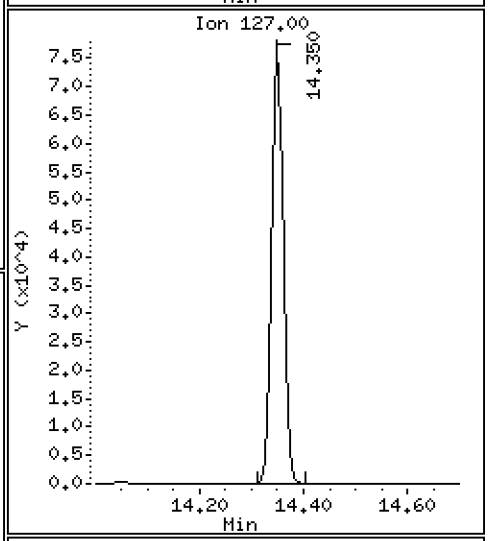


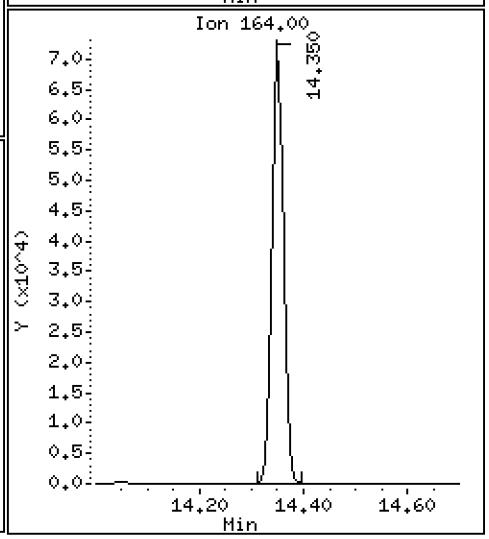












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

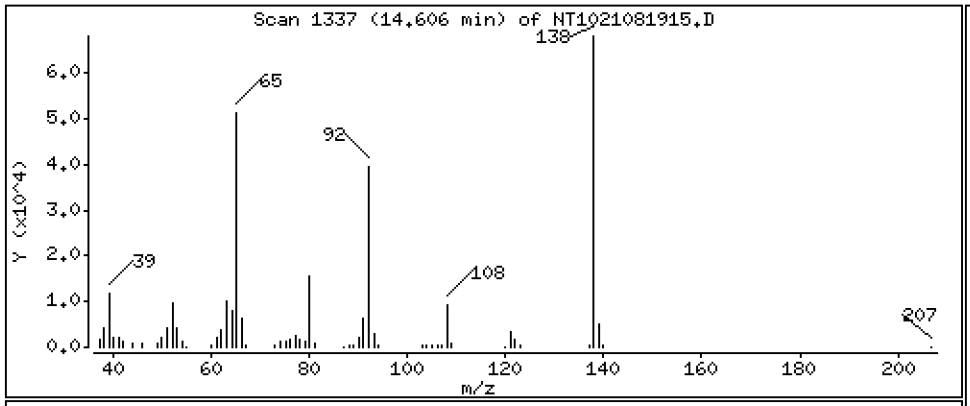
Operator: VTS

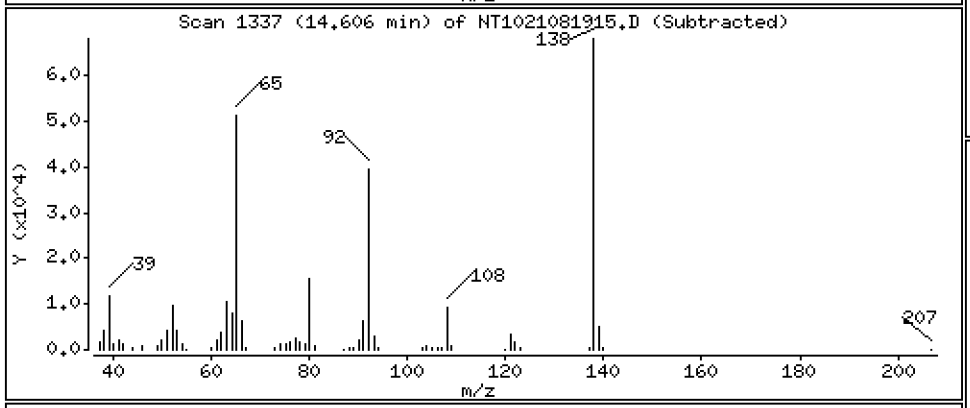
Column phase: ZB-5msi

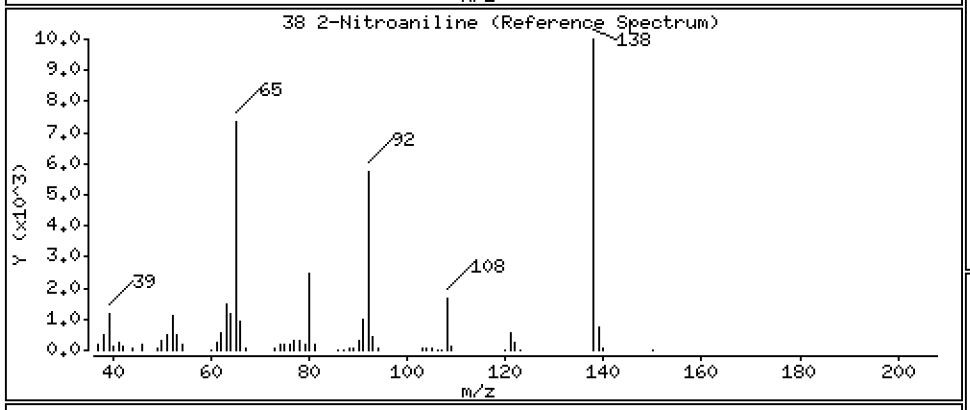
Column diameter: 0.25

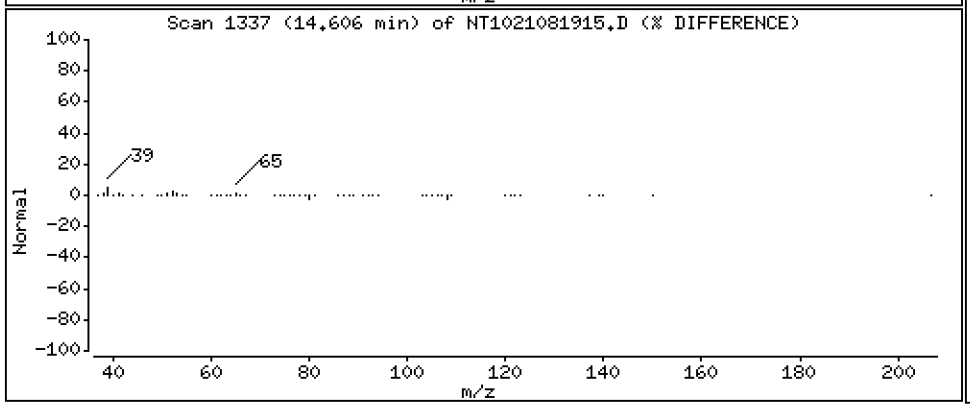
38 2-Nitroaniline

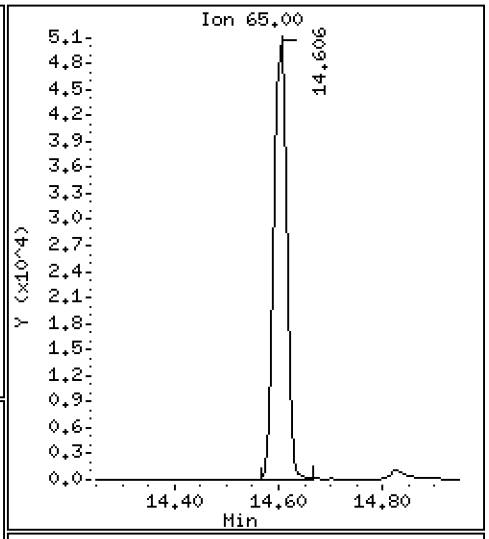
Concentration: 4.972 ug/mL

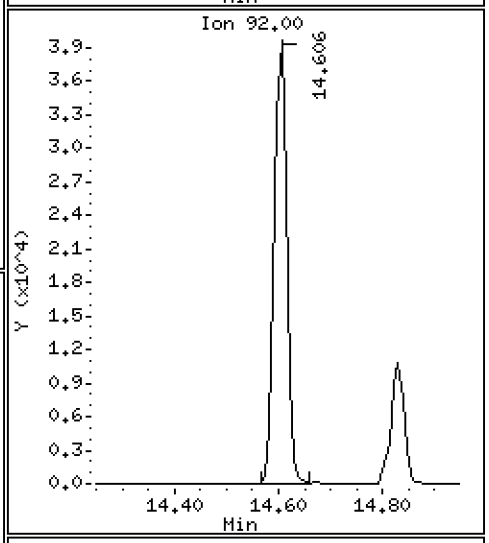


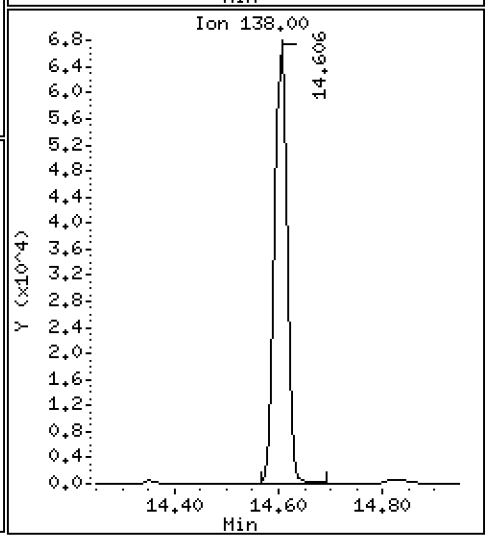












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

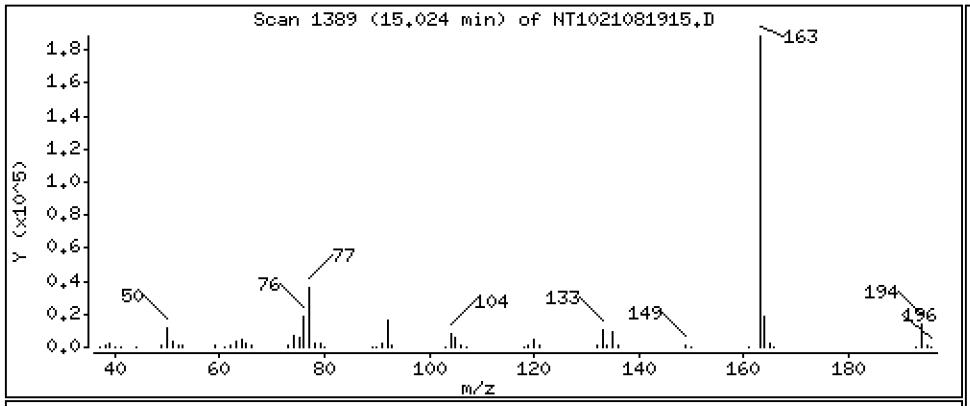
Operator: VTS

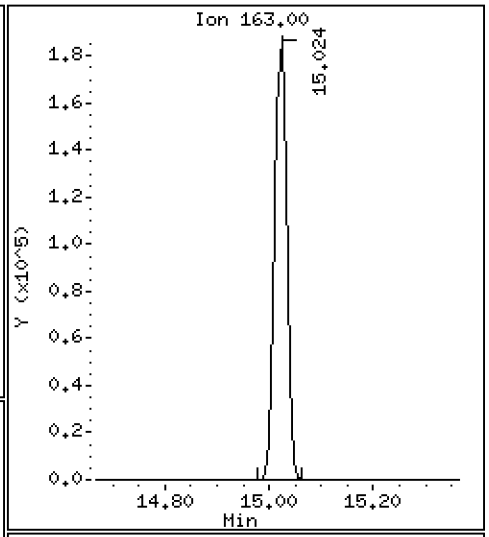
Column phase: ZB-5msi

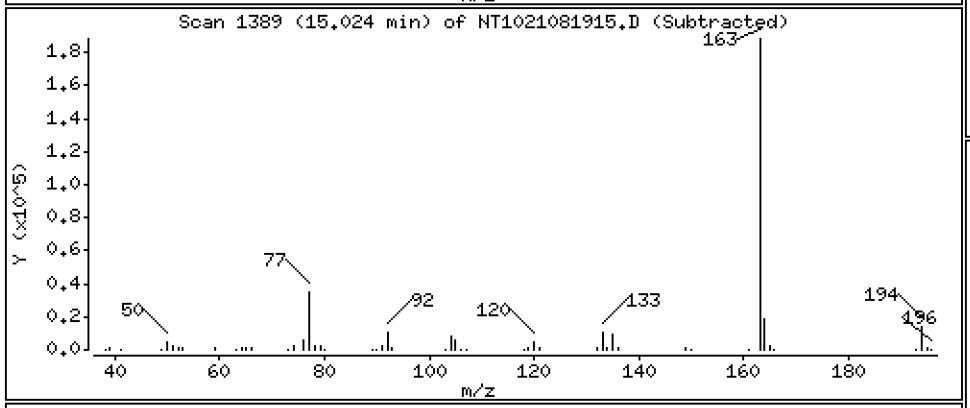
Column diameter: 0.25

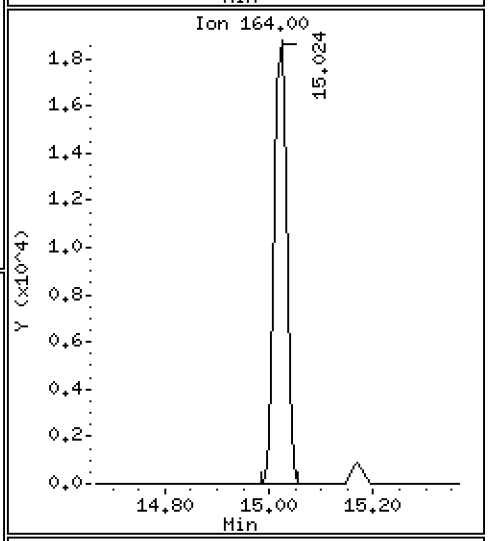
39 Dimethylphthalate

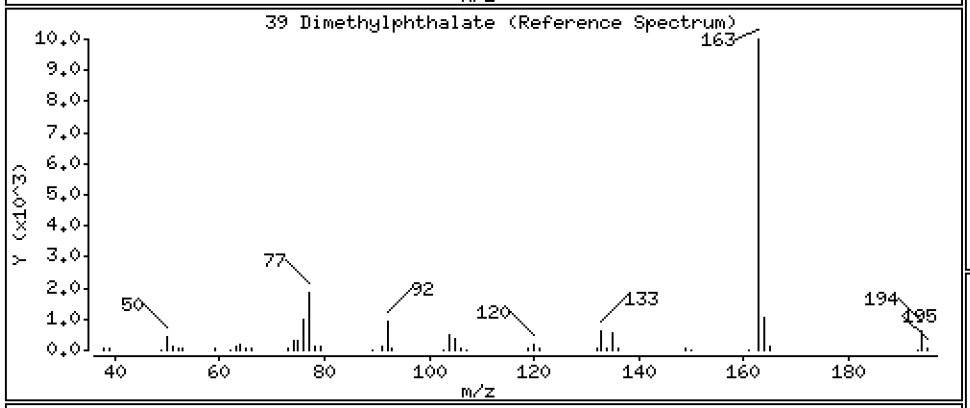
Concentration: 4.979 ug/mL

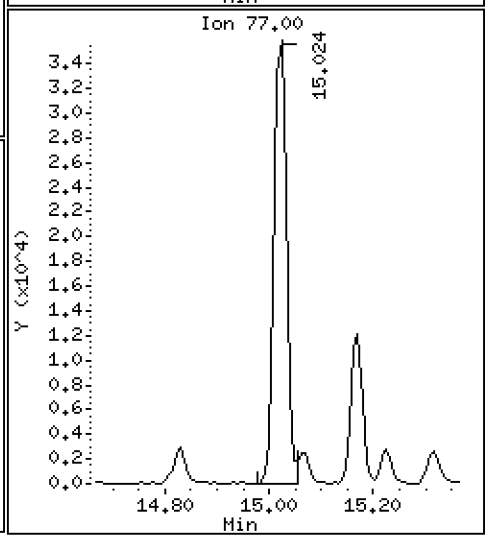


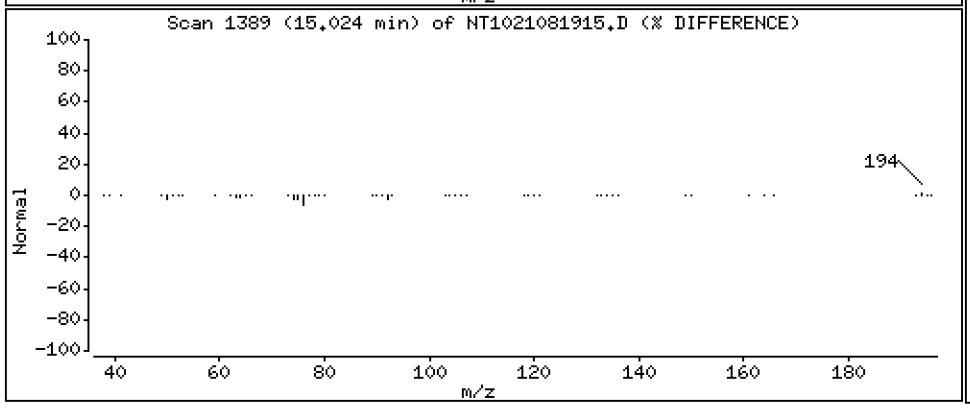












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

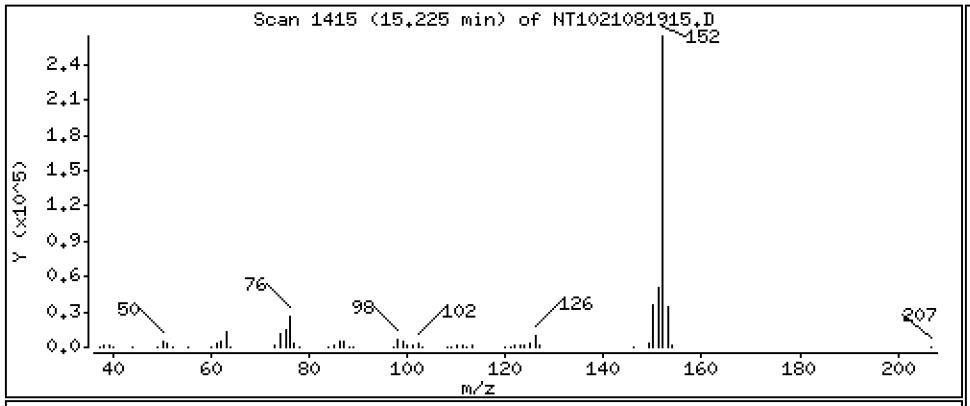
Operator: VTS

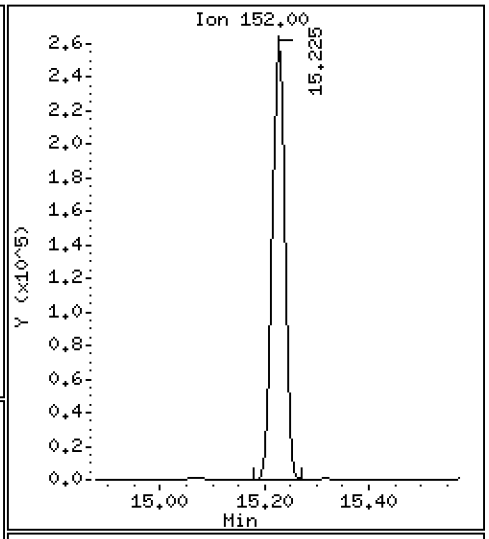
Column phase: ZB-5msi

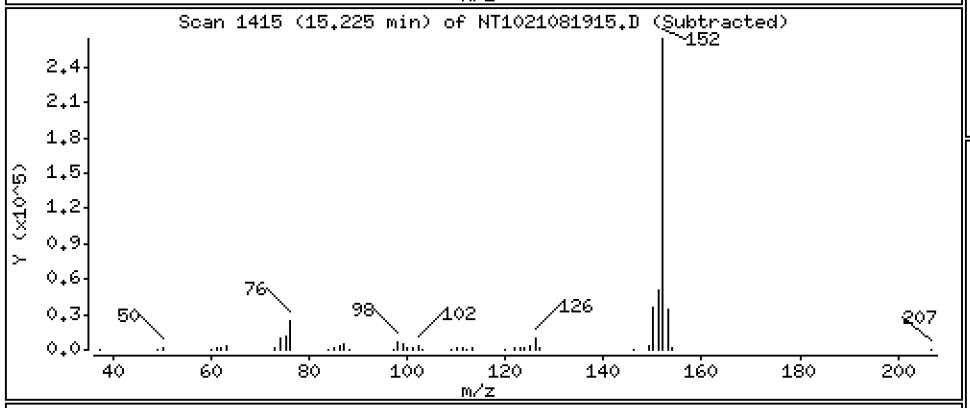
Column diameter: 0.25

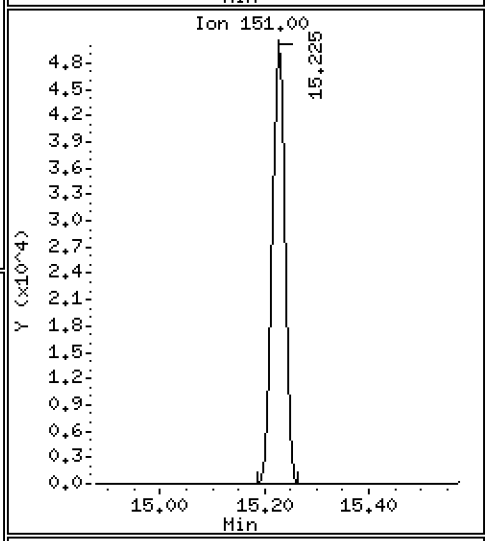
40 Acenaphthylene

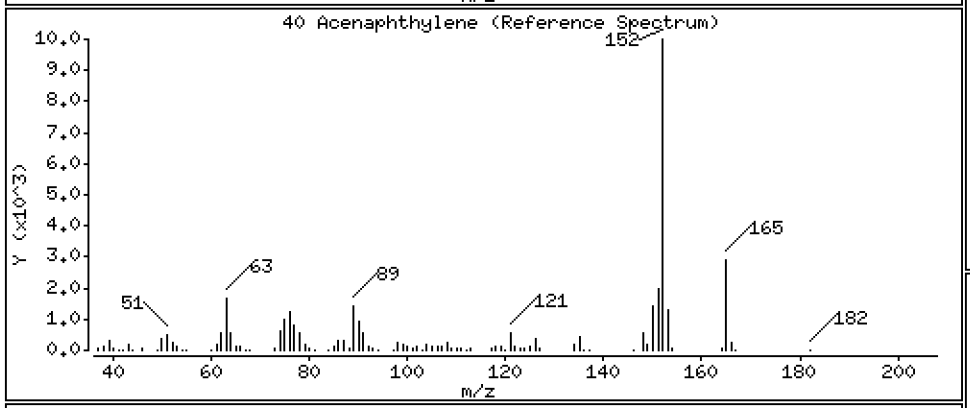
Concentration: 4.796 ug/mL

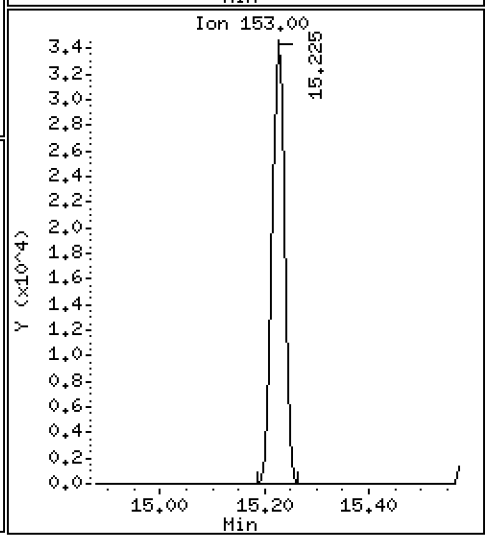


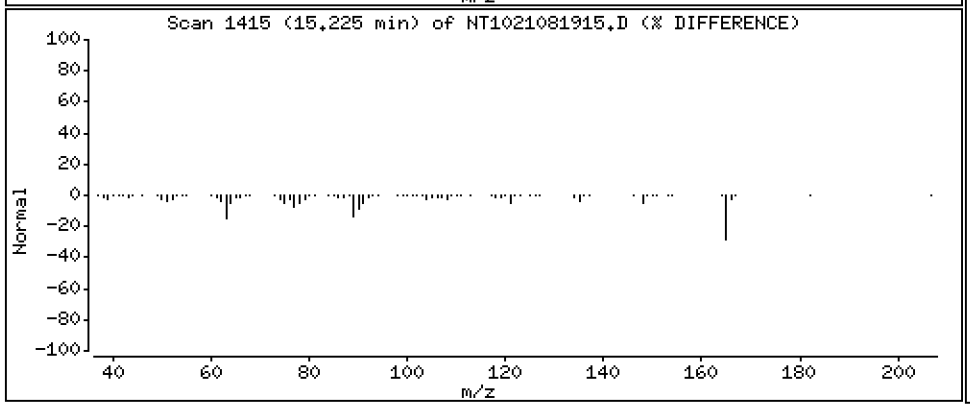












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

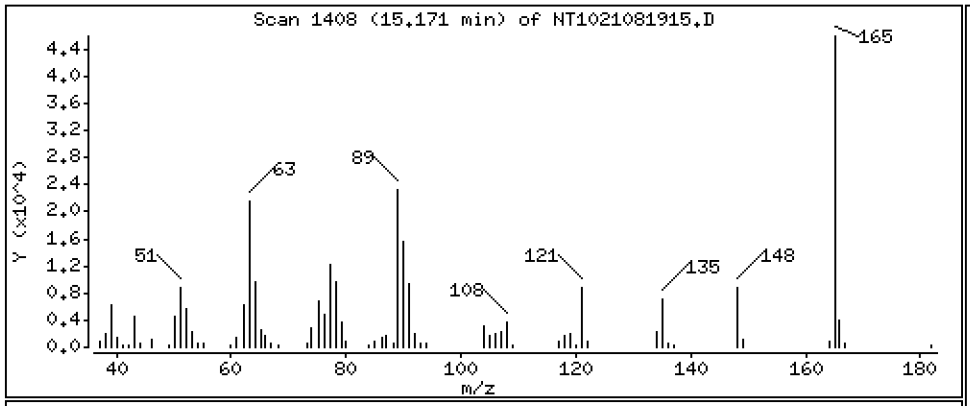
Operator: VTS

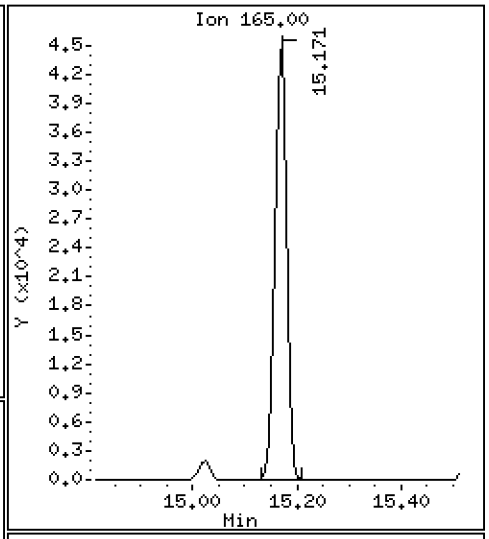
Column phase: ZB-5msi

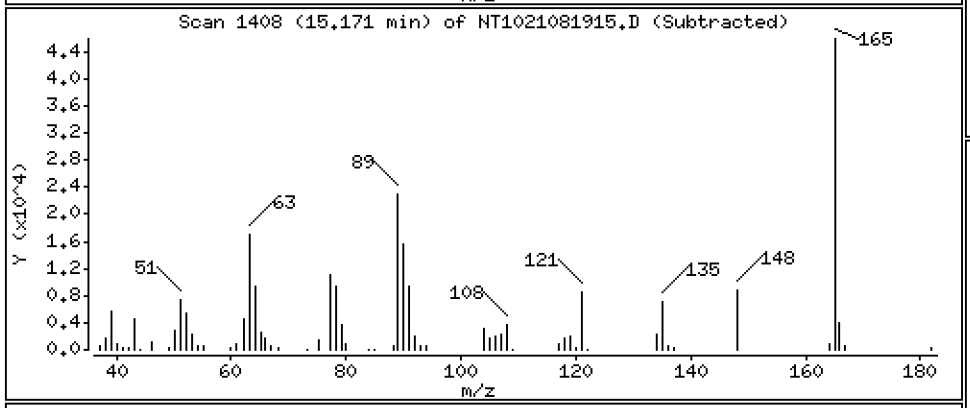
Column diameter: 0.25

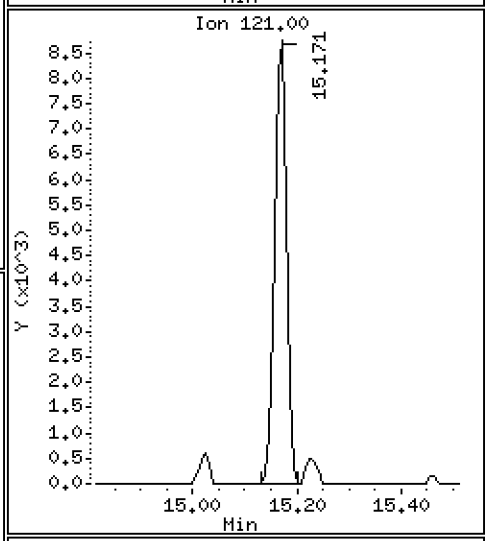
41 2,6-Dinitrotoluene

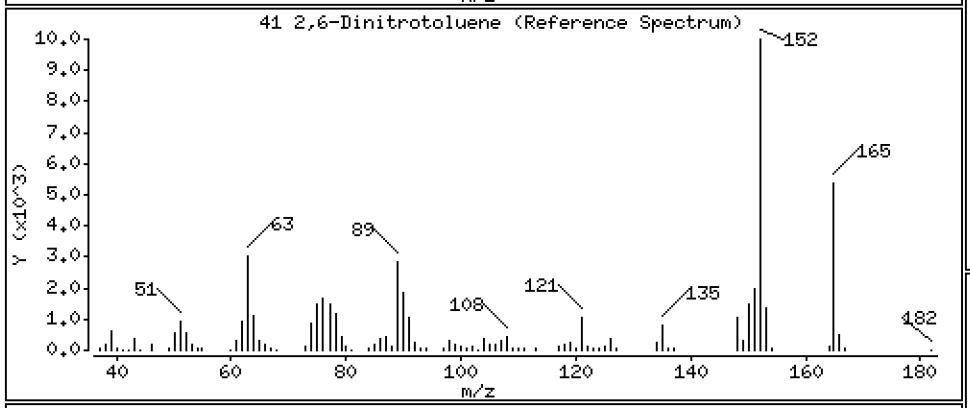
Concentration: 5.369 ug/mL

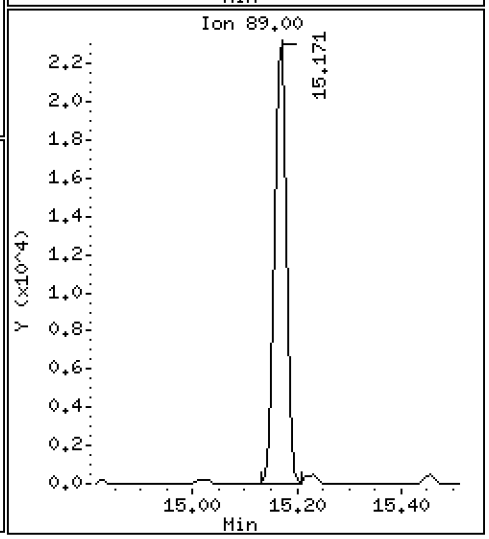


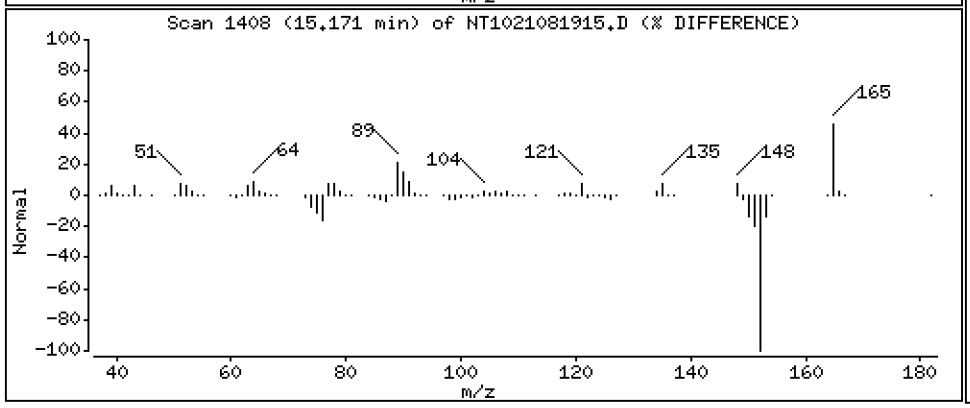












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

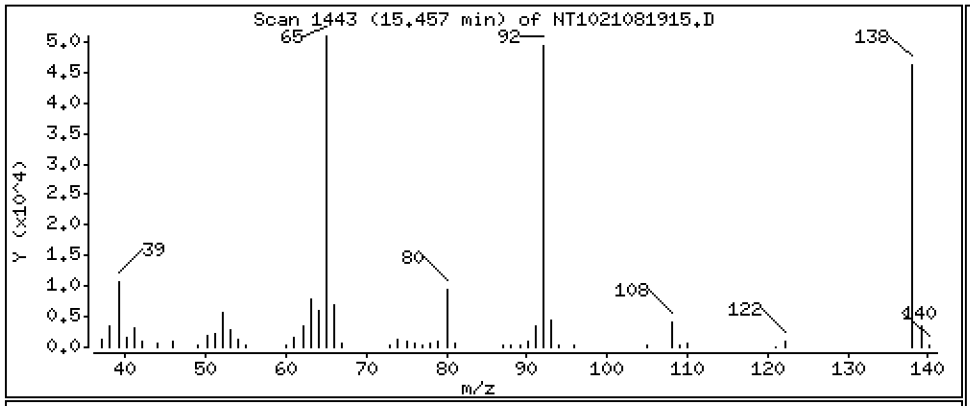
Operator: VTS

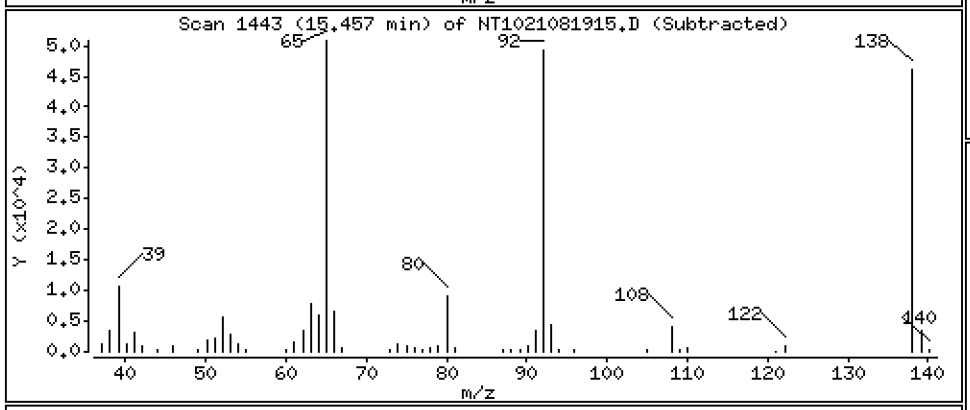
Column phase: ZB-5msi

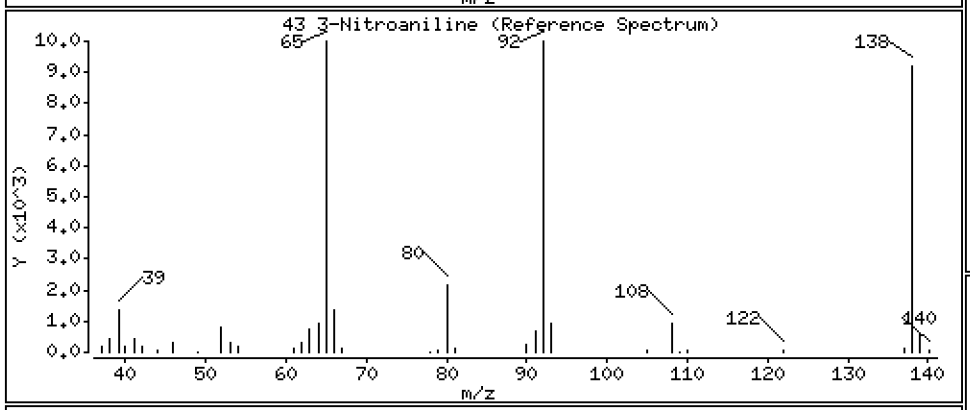
Column diameter: 0.25

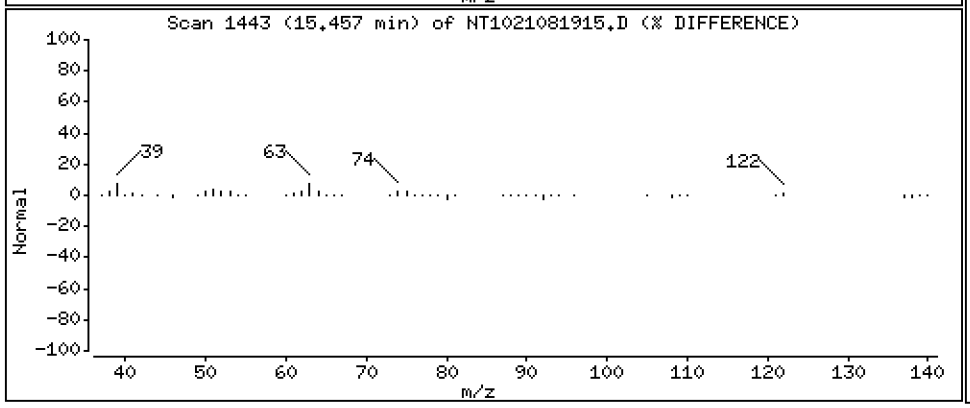
43 3-Nitroaniline

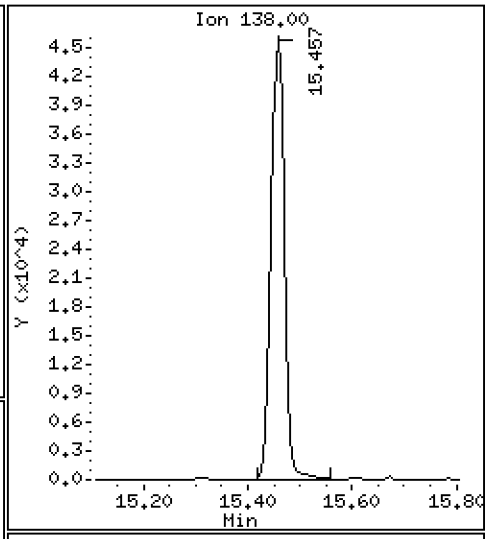
Concentration: 4.562 ug/mL

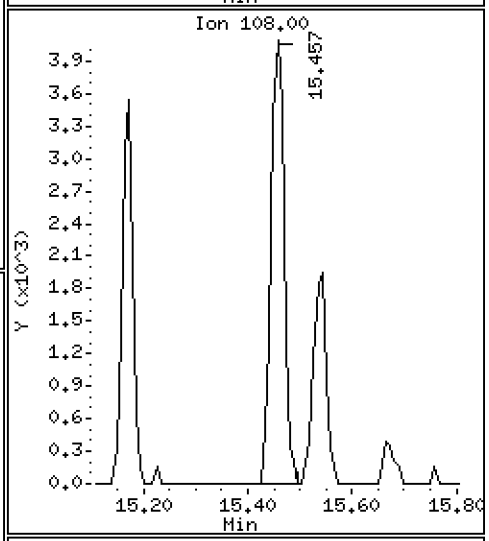


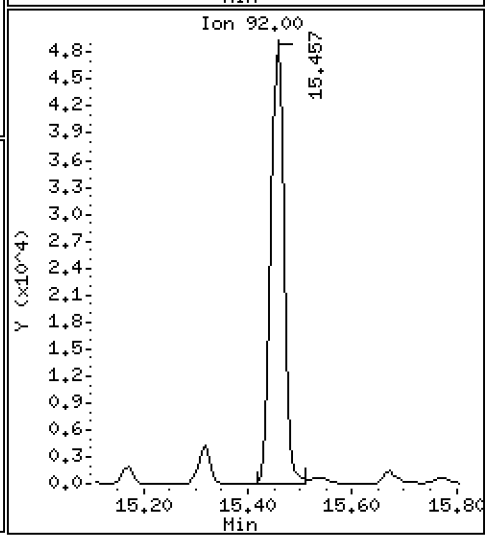












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

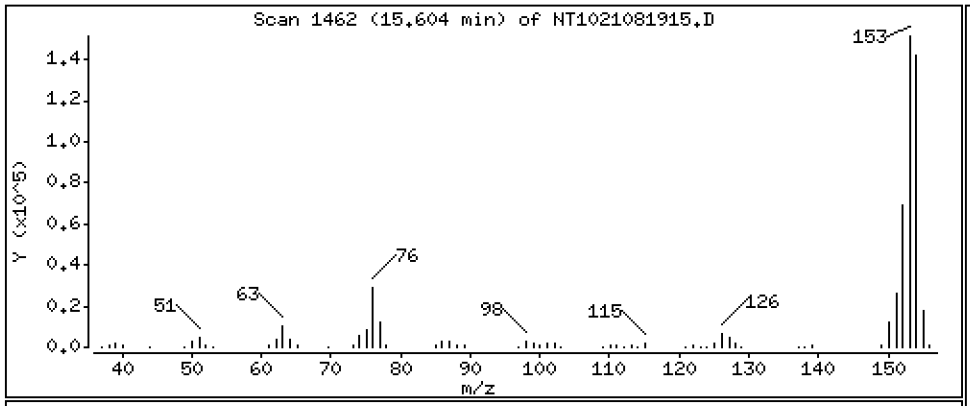
Operator: VTS

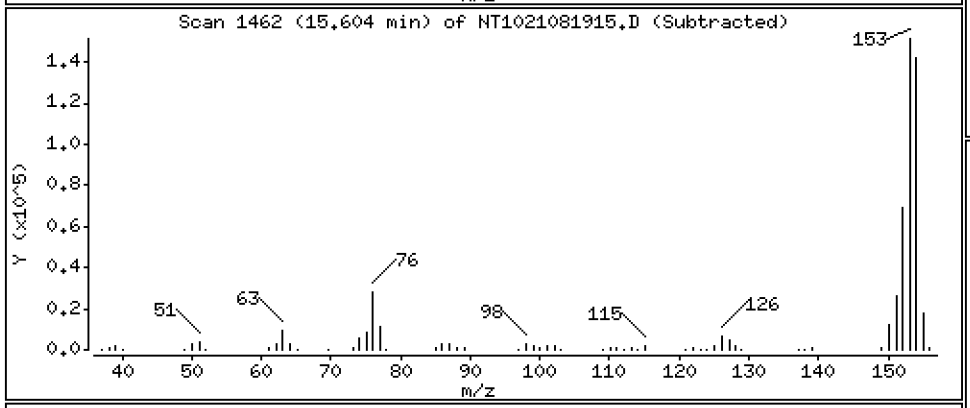
Column phase: ZB-5msi

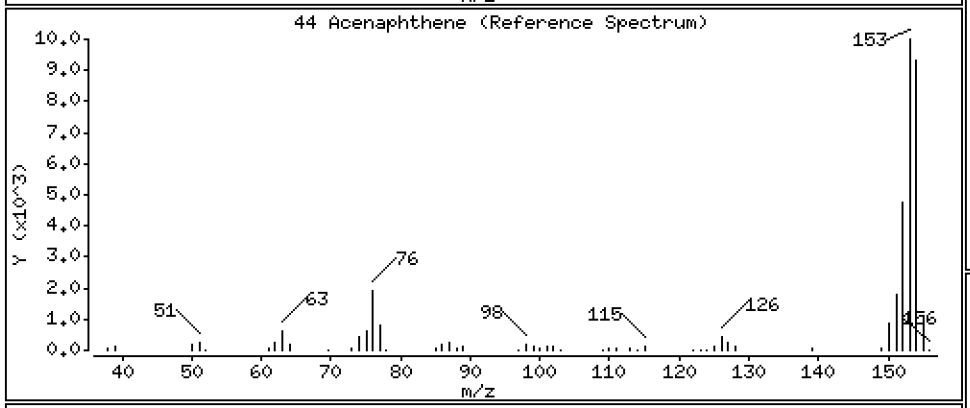
Column diameter: 0.25

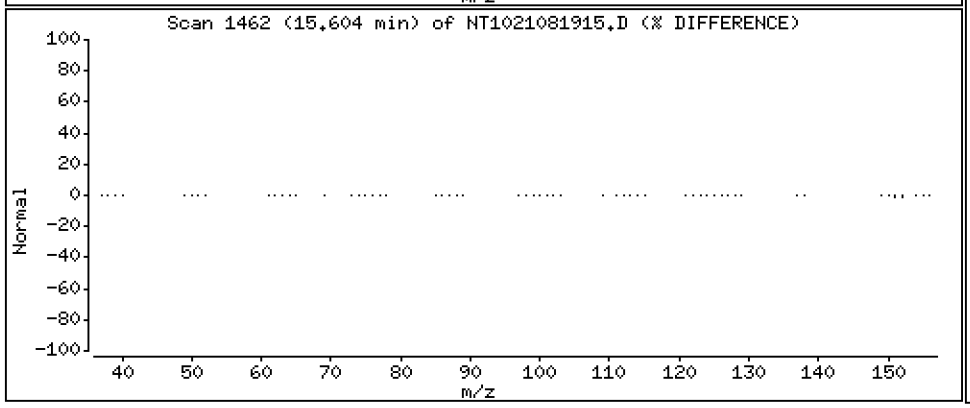
44 Acenaphthene

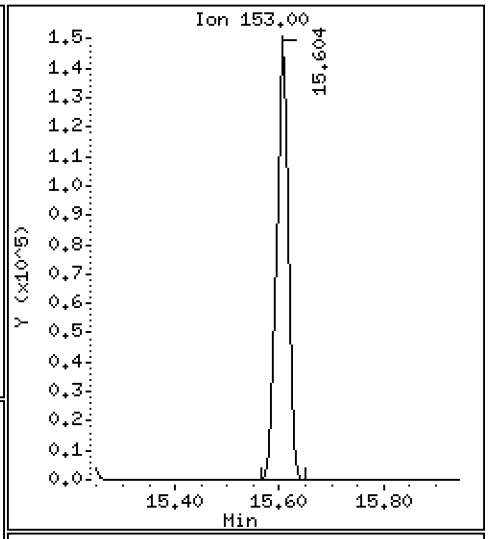
Concentration: 4.975 ug/mL

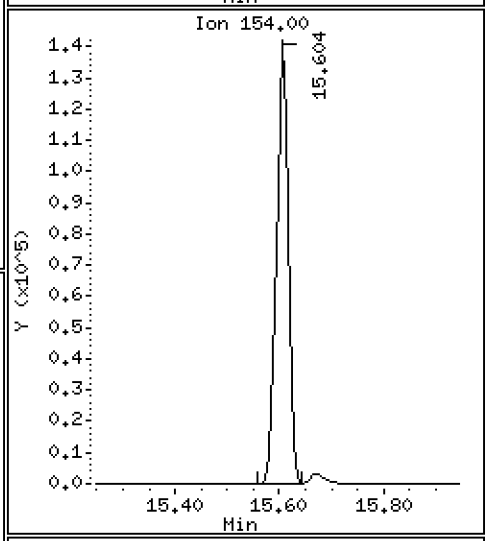


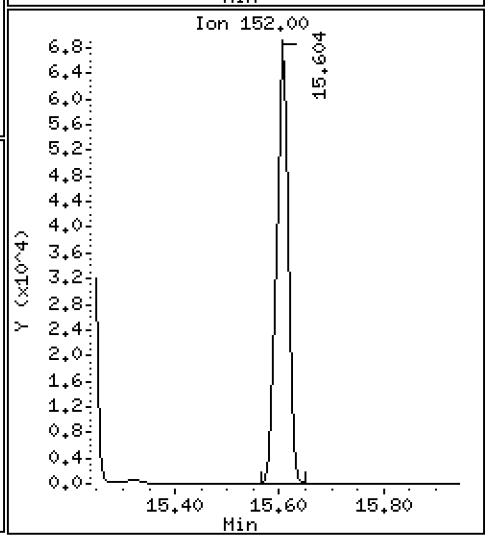












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

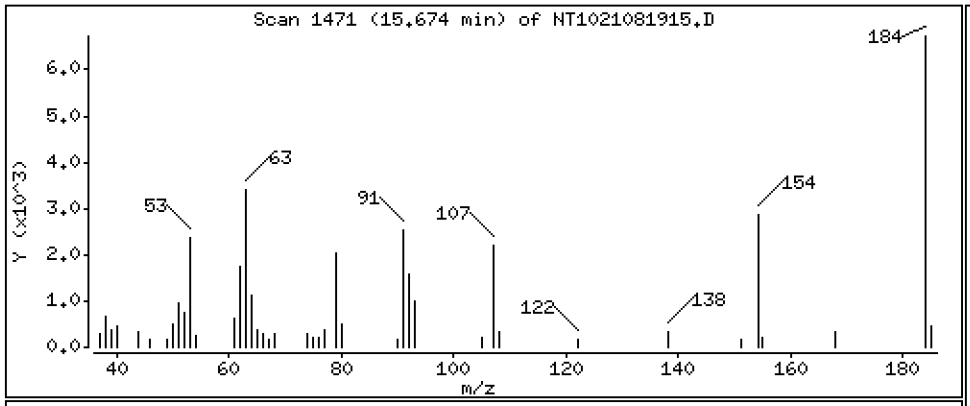
Operator: VTS

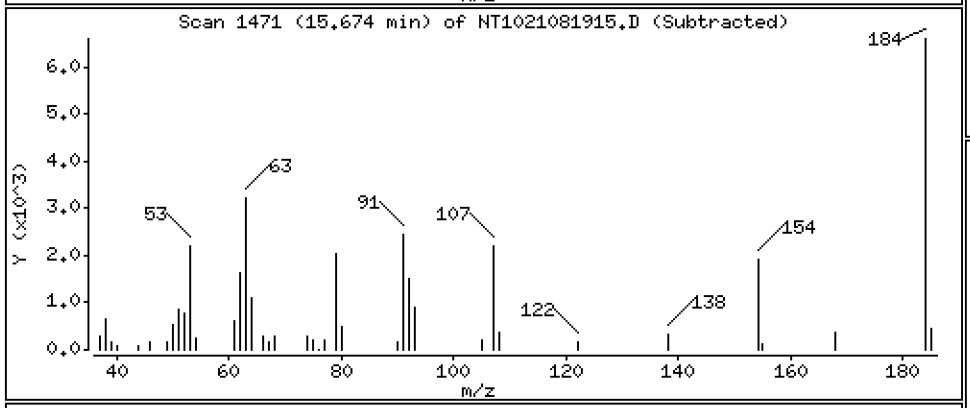
Column phase: ZB-5msi

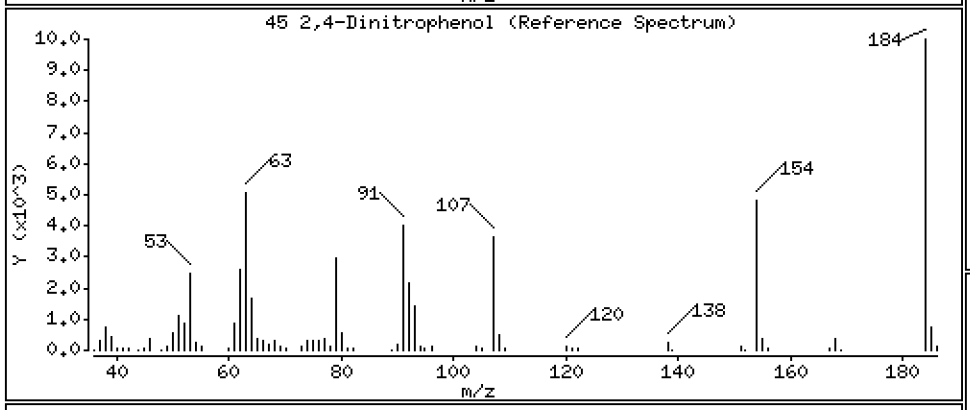
Column diameter: 0.25

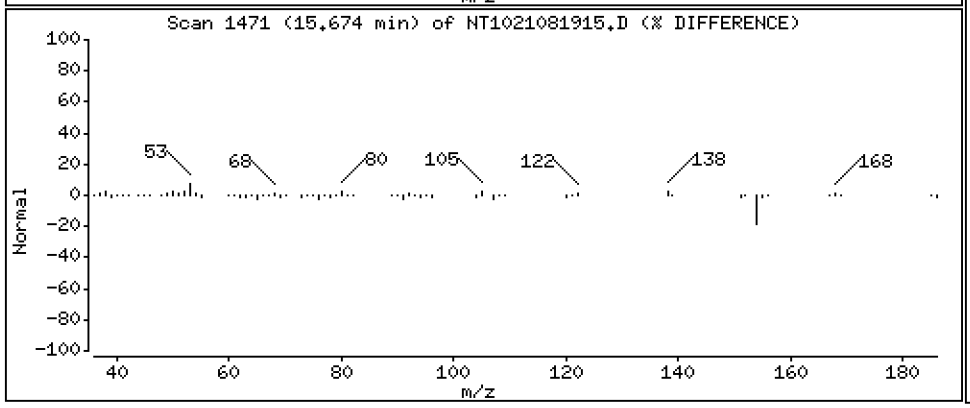
45 2,4-Dinitrophenol

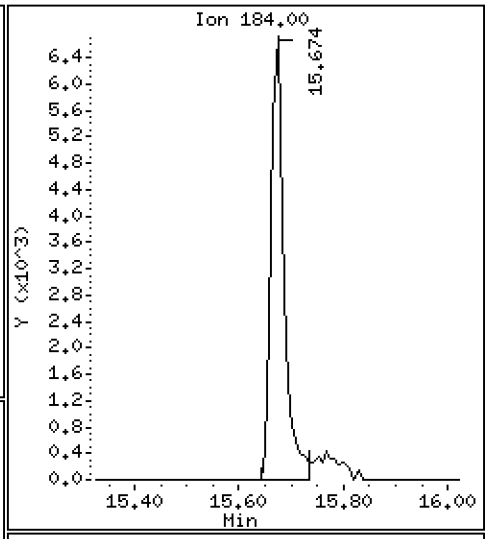
Concentration: 1.665 ug/mL

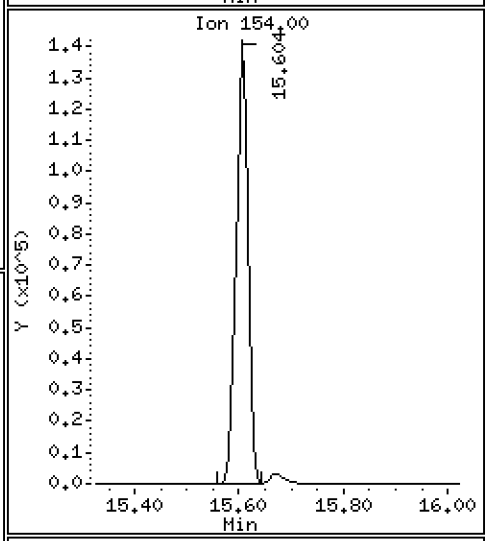


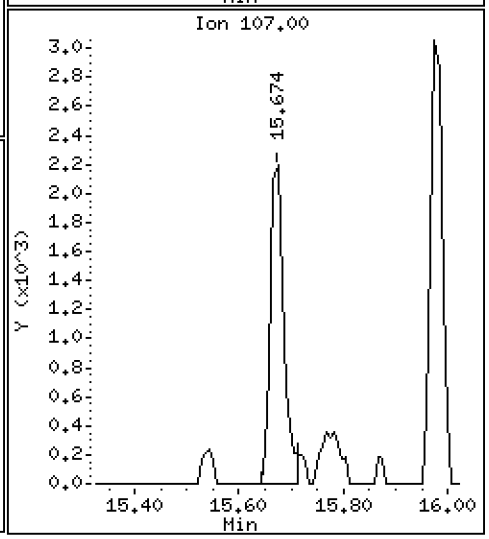












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

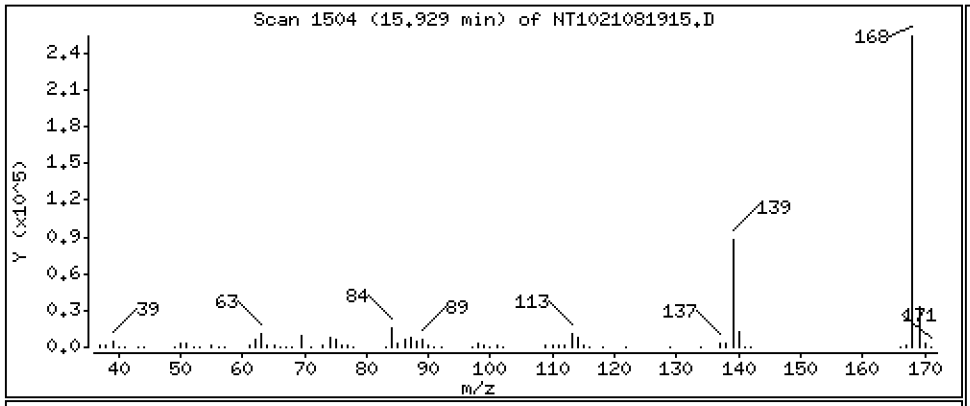
Operator: VTS

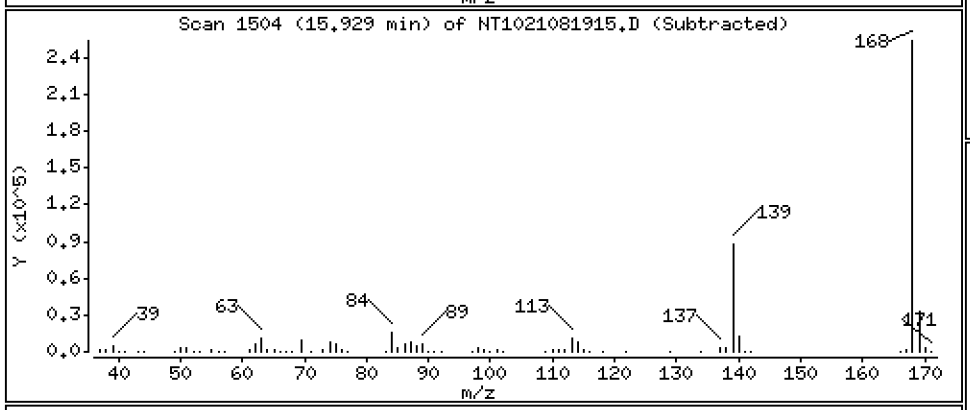
Column phase: ZB-5msi

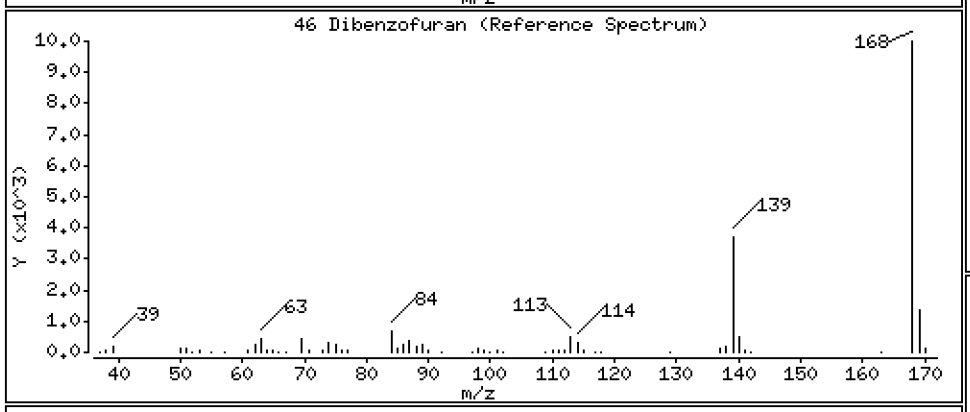
Column diameter: 0.25

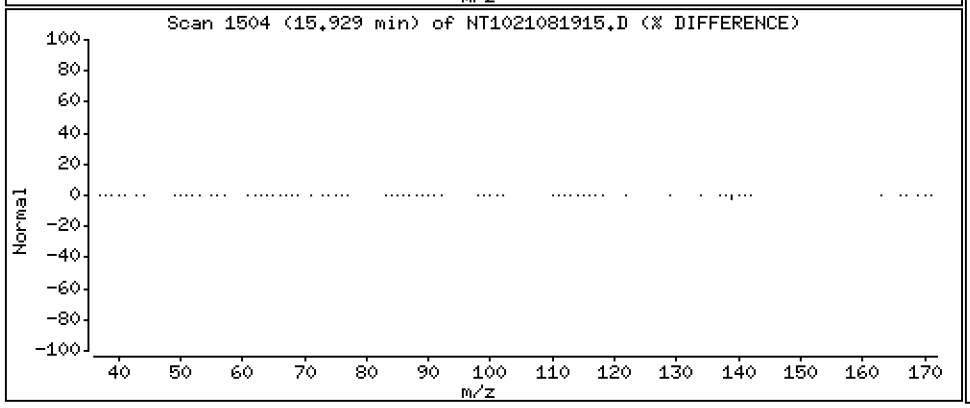
46 Dibenzofuran

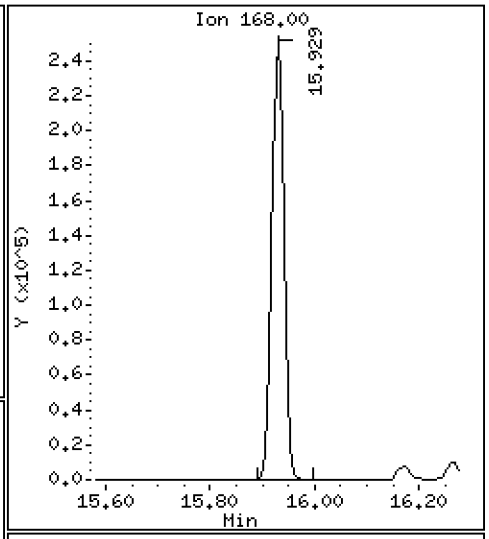
Concentration: 4.691 ug/mL

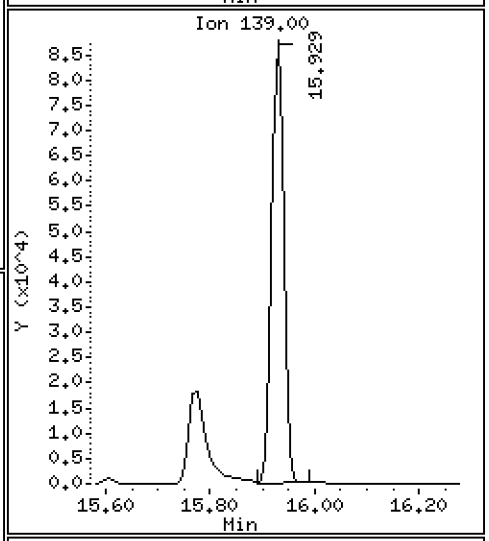


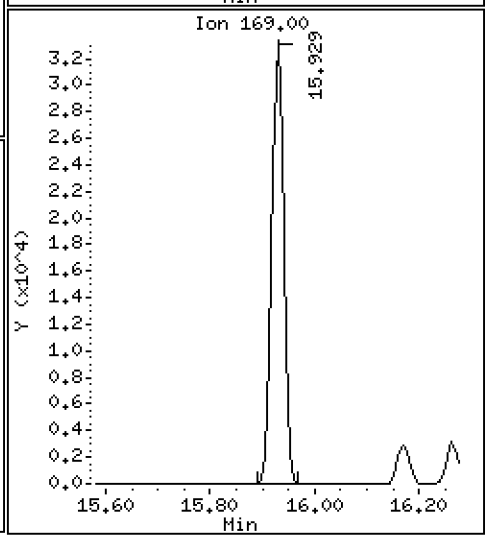












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

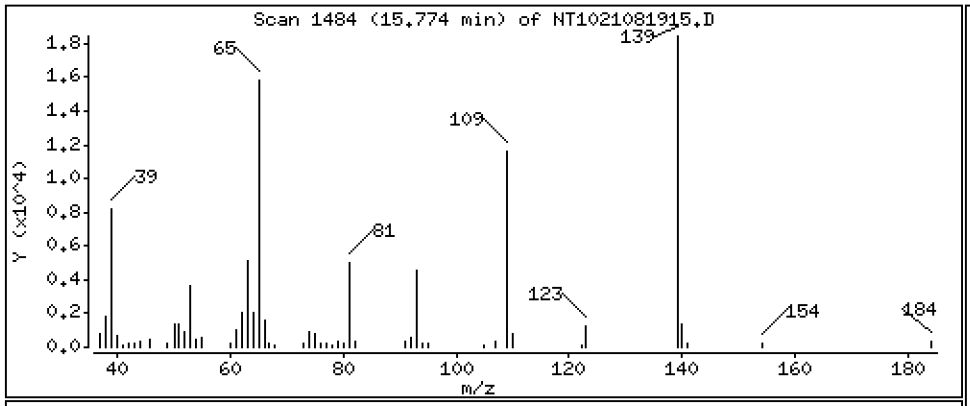
Operator: VTS

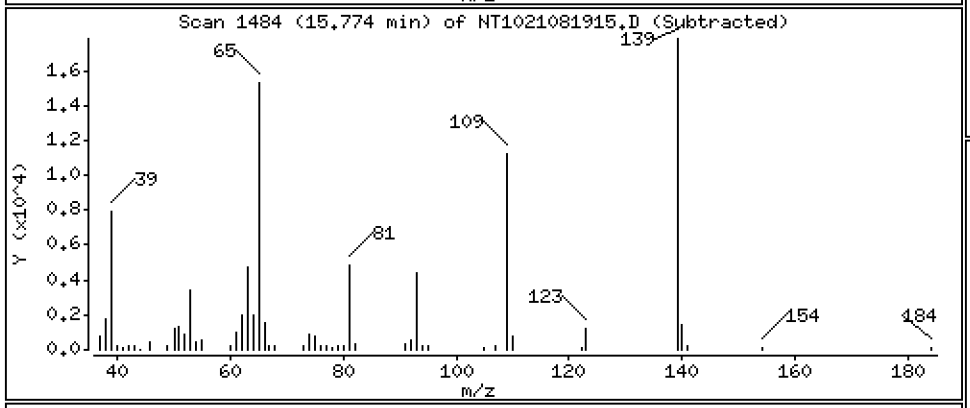
Column phase: ZB-5msi

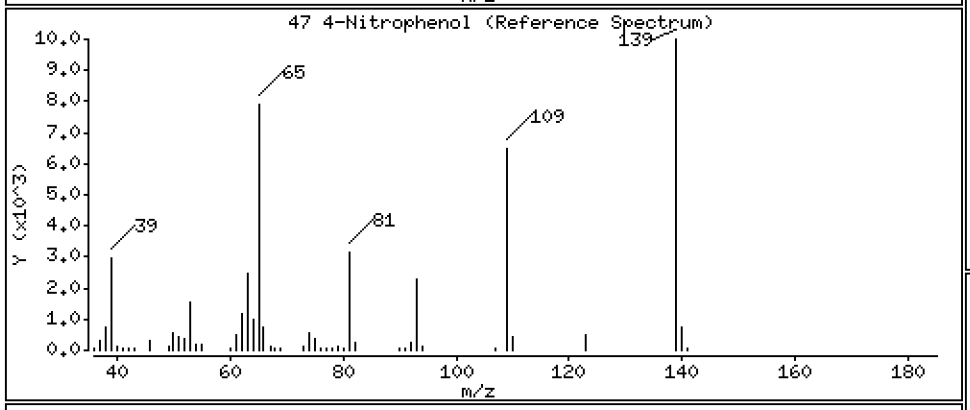
Column diameter: 0.25

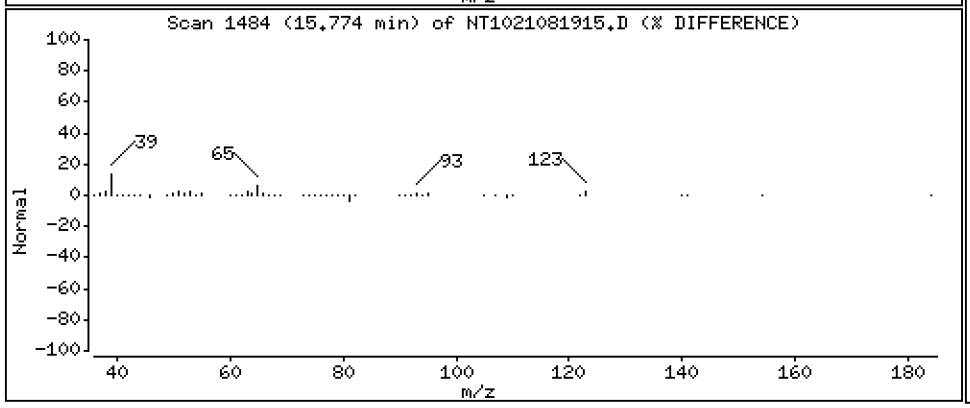
47 4-Nitrophenol

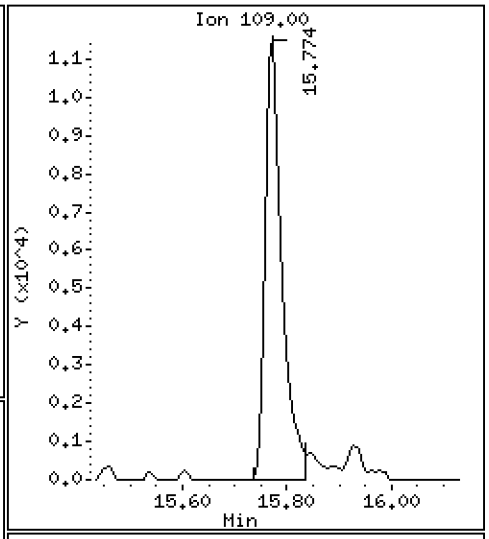
Concentration: 4.018 ug/mL

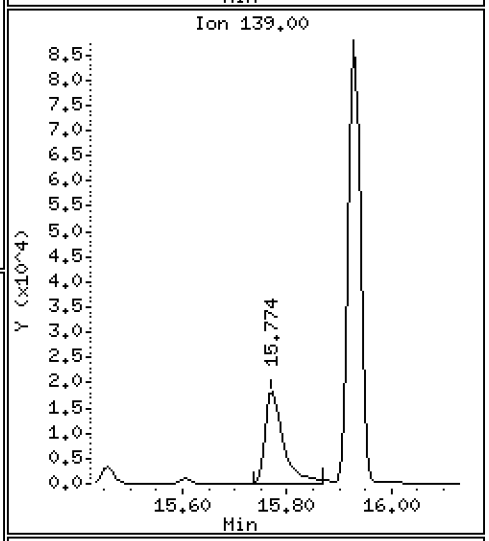


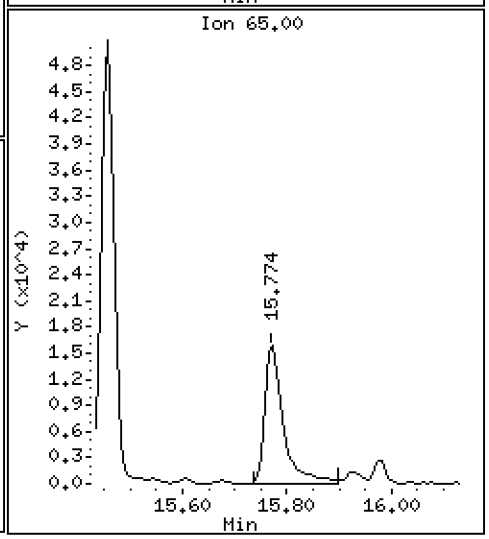












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

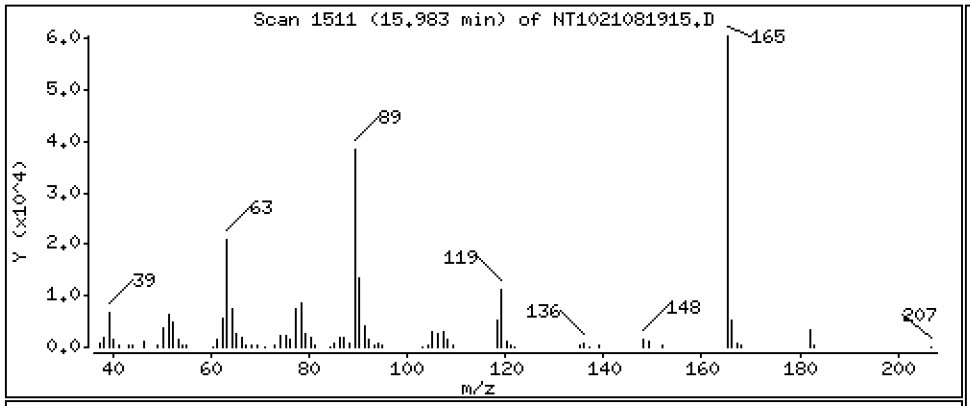
Operator: VTS

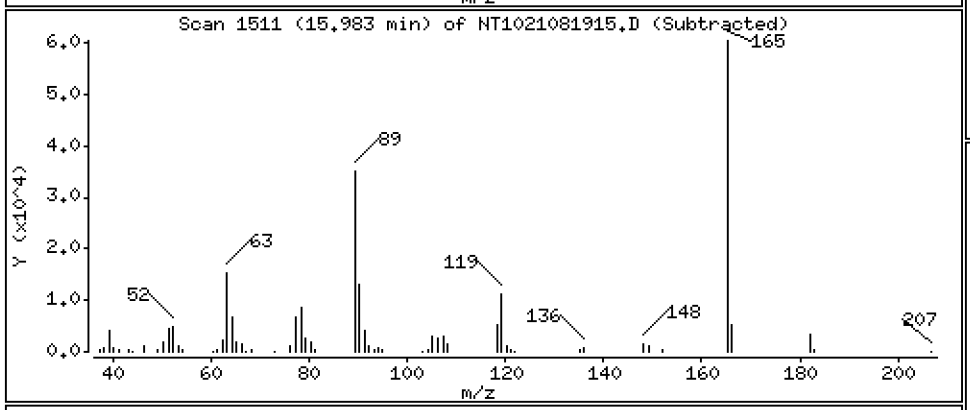
Column phase: ZB-5msi

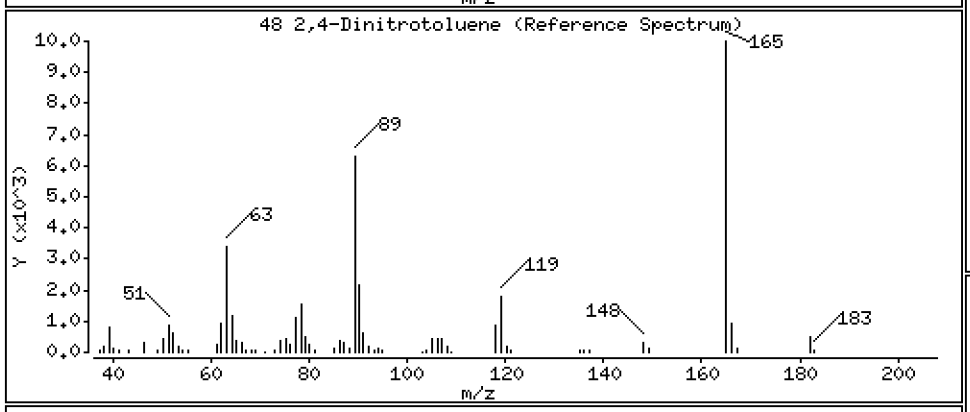
Column diameter: 0.25

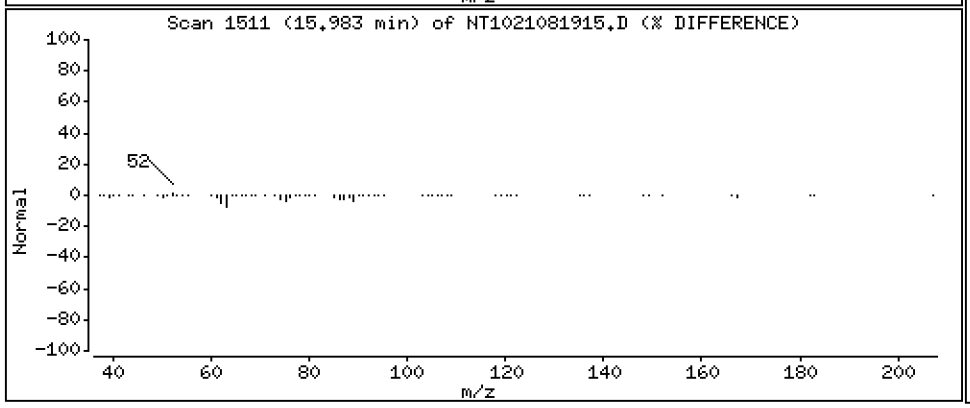
48 2,4-Dinitrotoluene

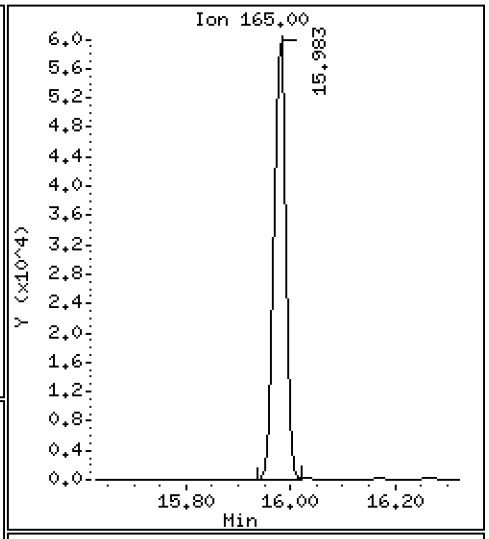
Concentration: 5.106 ug/mL

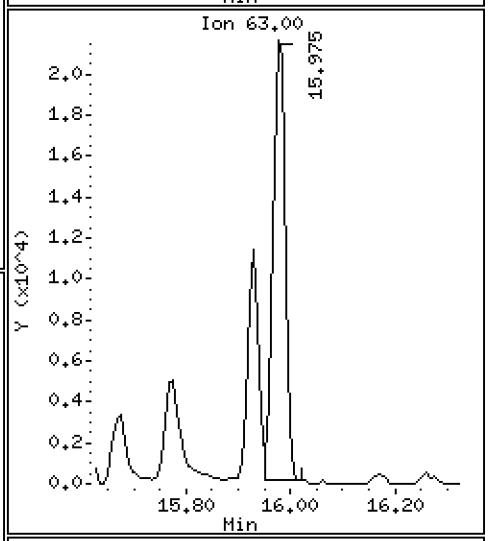


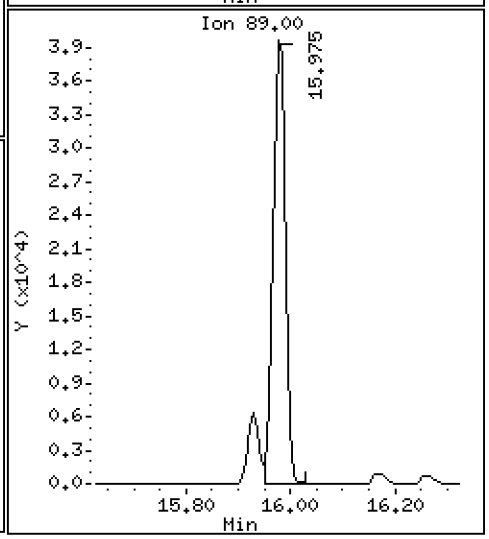












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

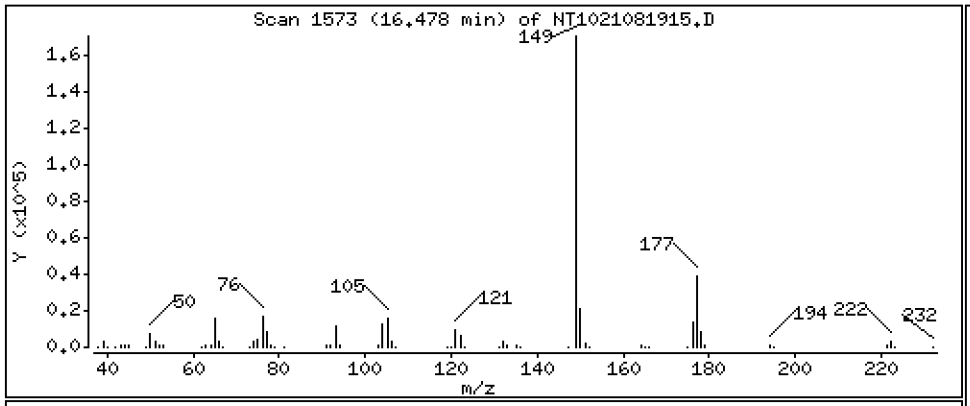
Operator: VTS

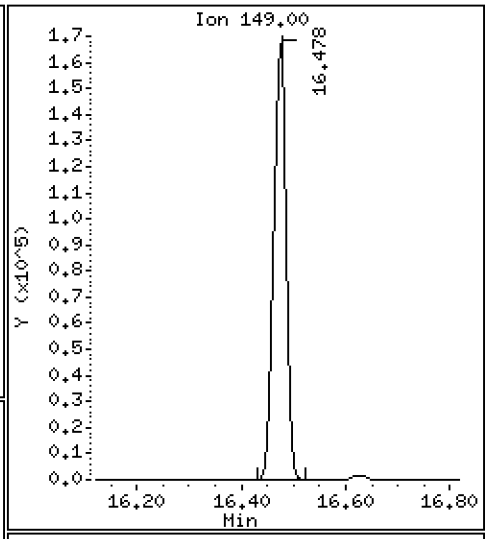
Column phase: ZB-5msi

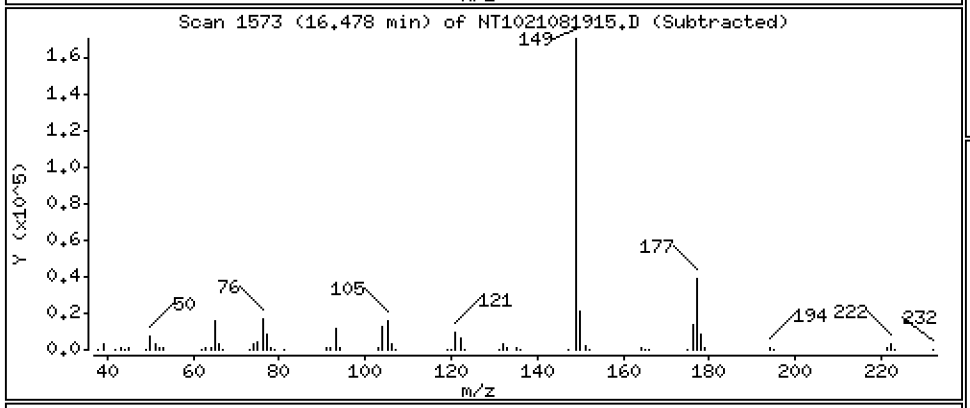
Column diameter: 0.25

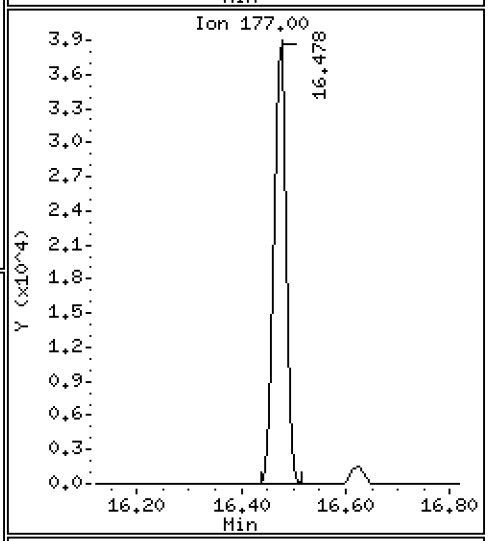
50 Diethylphthalate

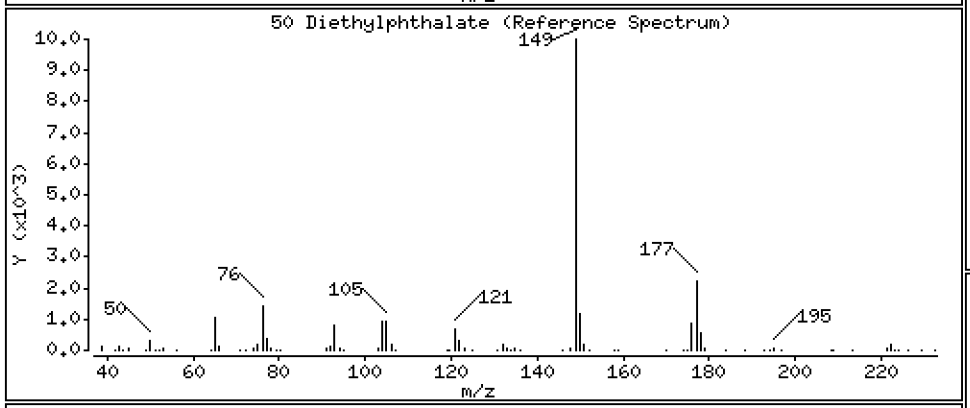
Concentration: 5.096 ug/mL

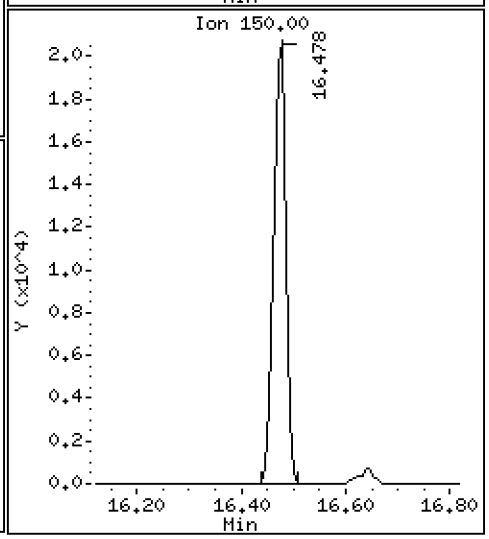


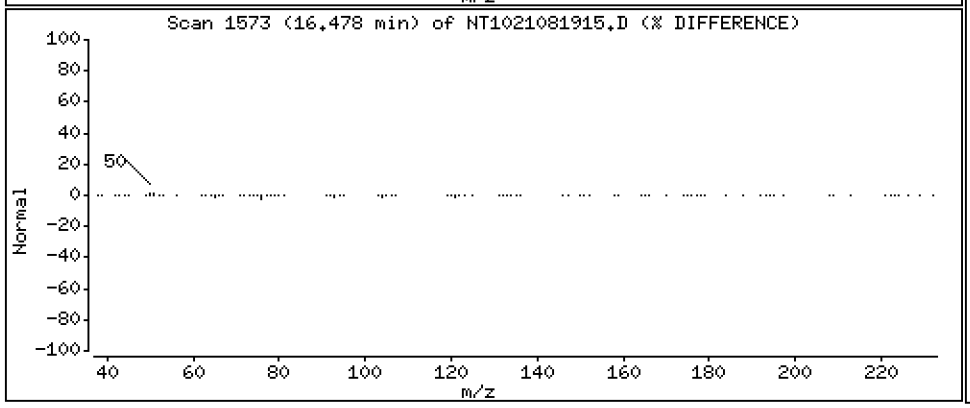












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

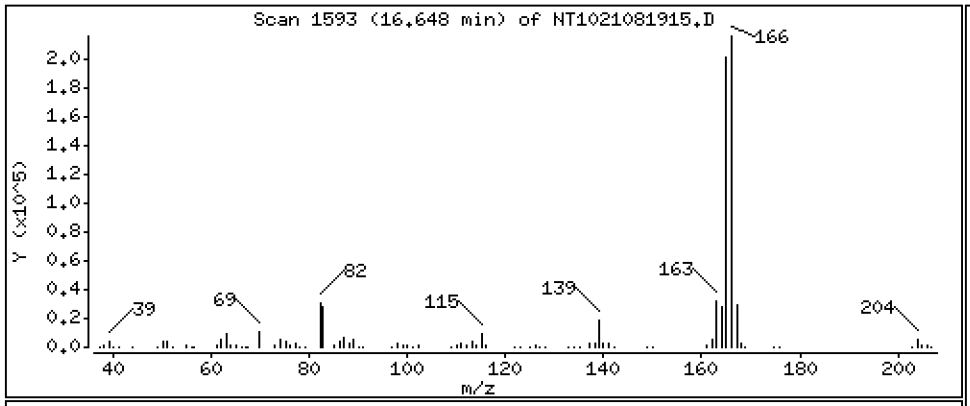
Operator: VTS

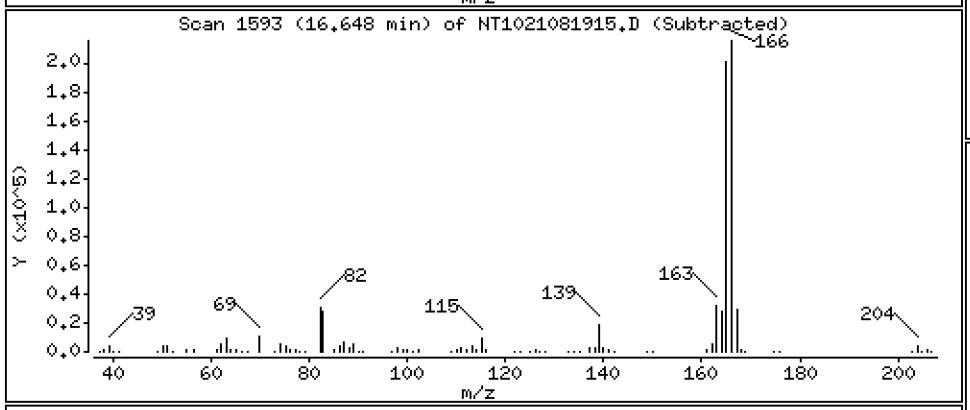
Column phase: ZB-5msi

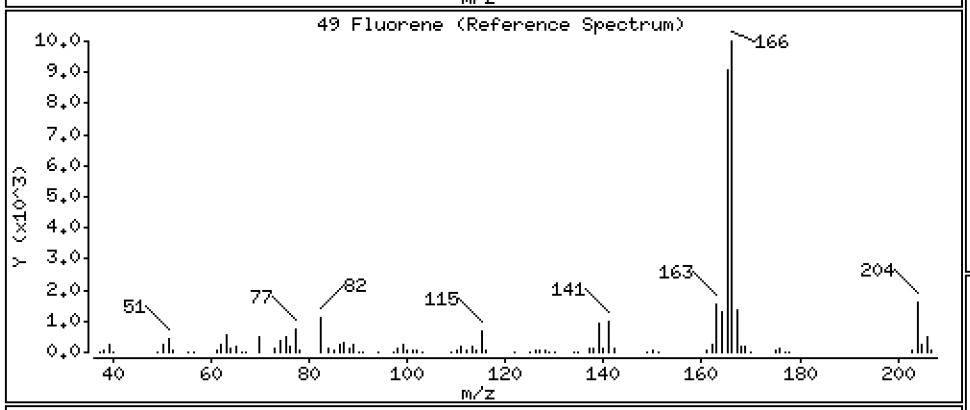
Column diameter: 0.25

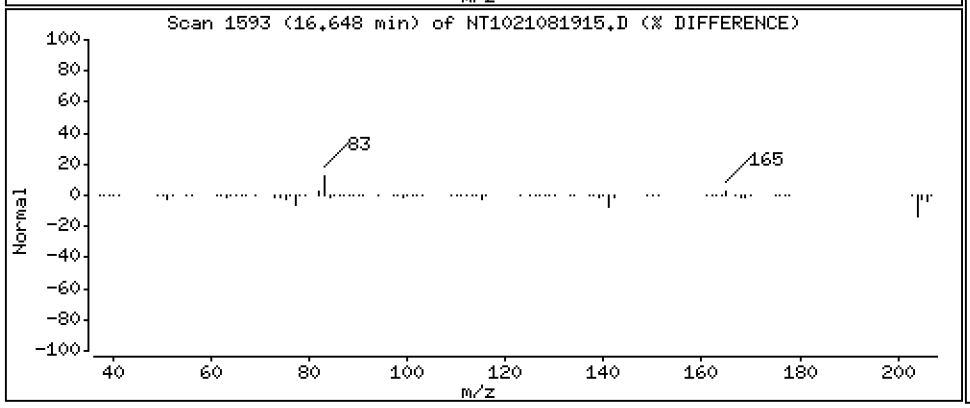
49 Fluorene

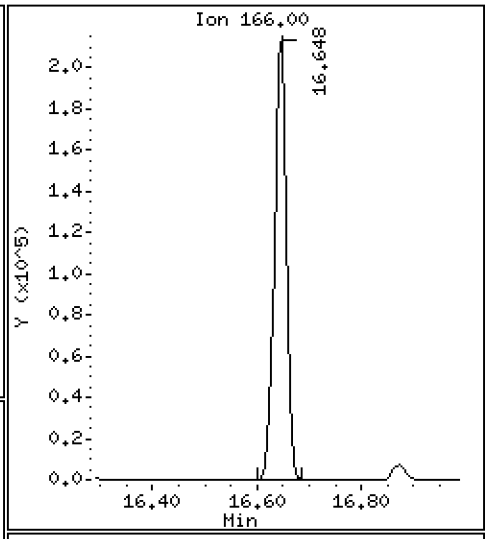
Concentration: 4.723 ug/mL

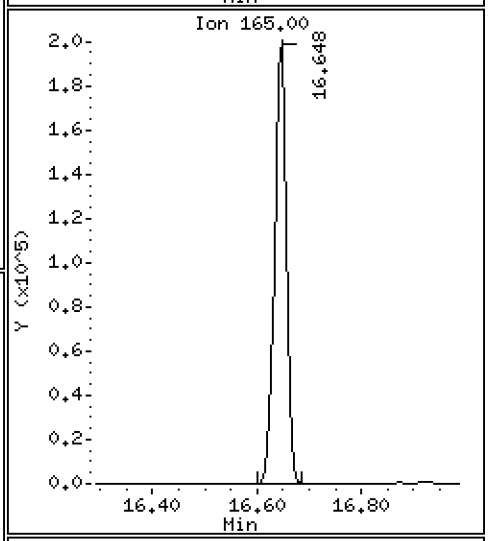


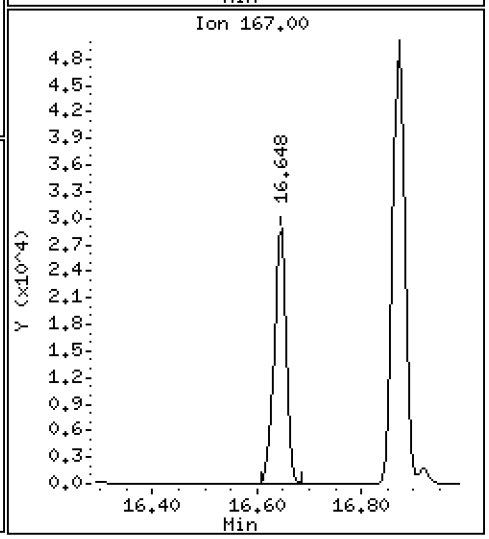












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

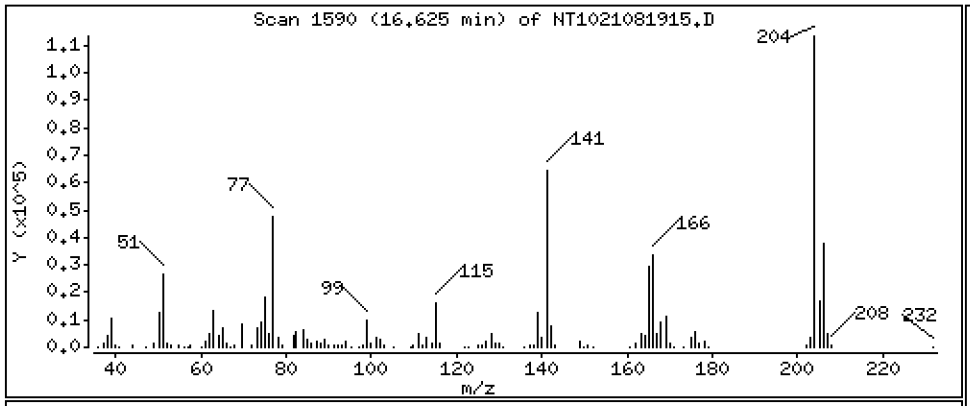
Operator: VTS

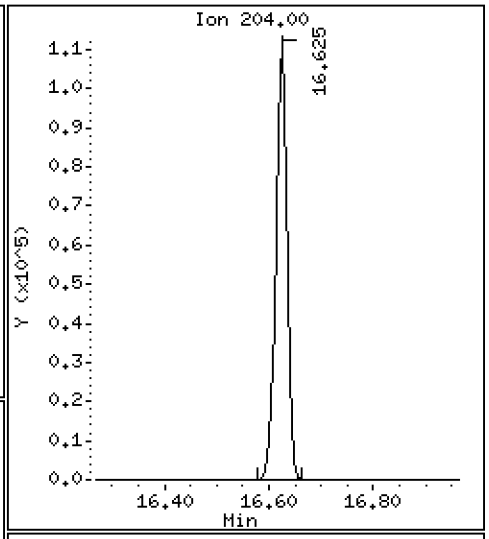
Column phase: ZB-5msi

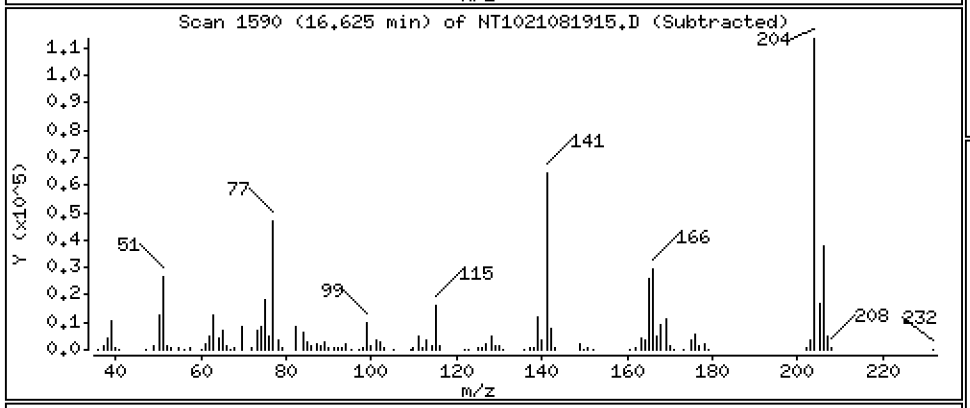
Column diameter: 0.25

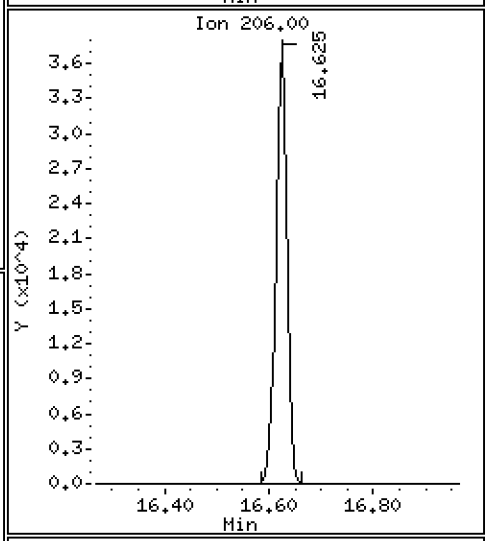
51 4-Chlorophenyl-phenylether

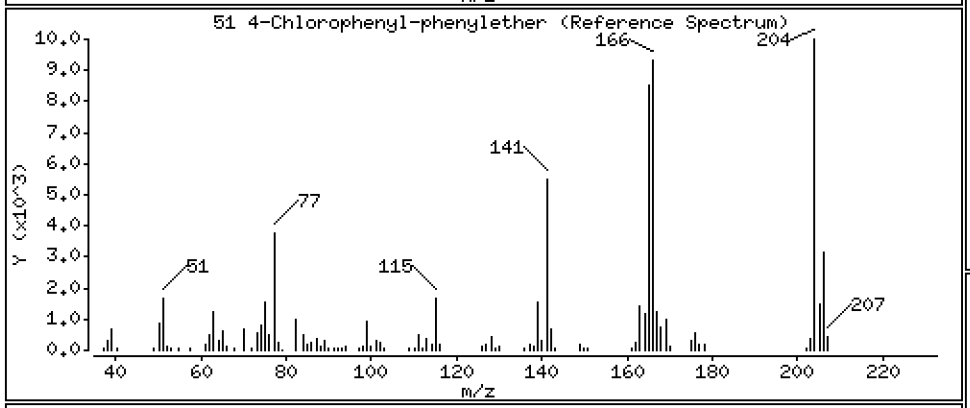
Concentration: 5.187 ug/mL

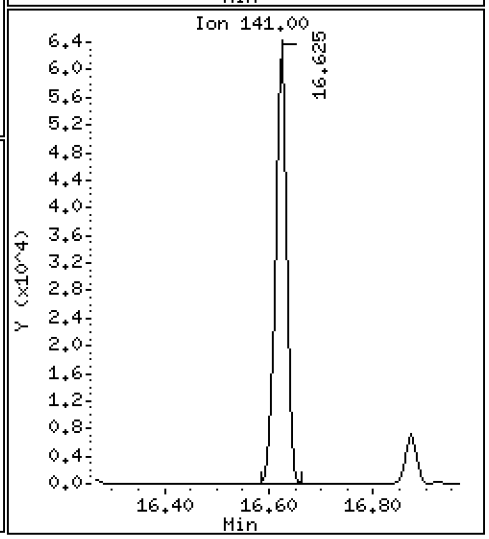


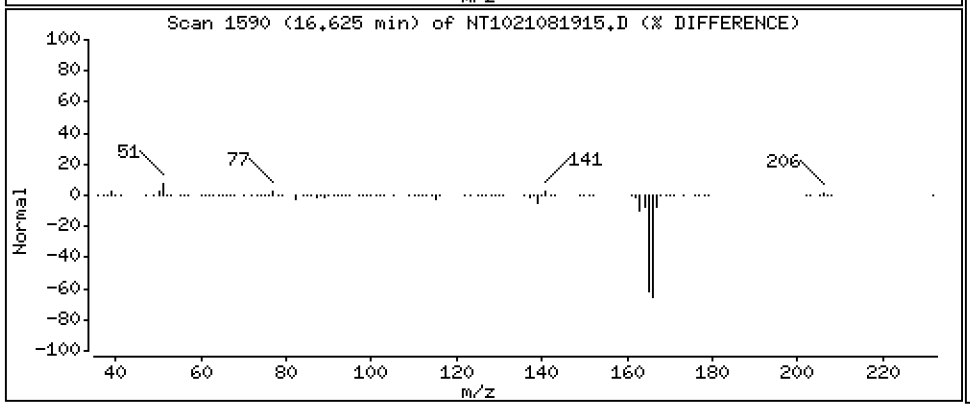












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

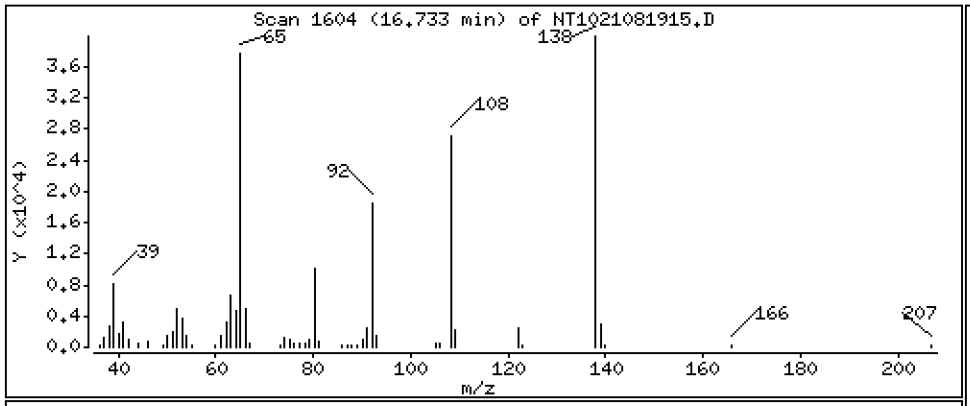
Operator: VTS

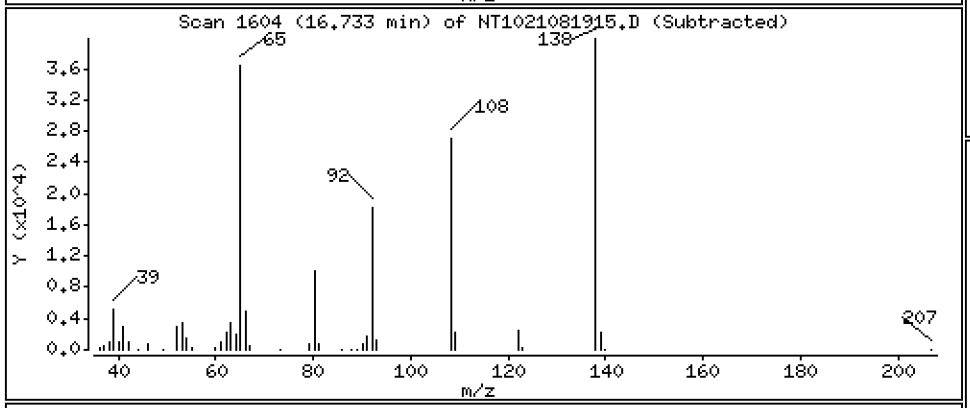
Column phase: ZB-5msi

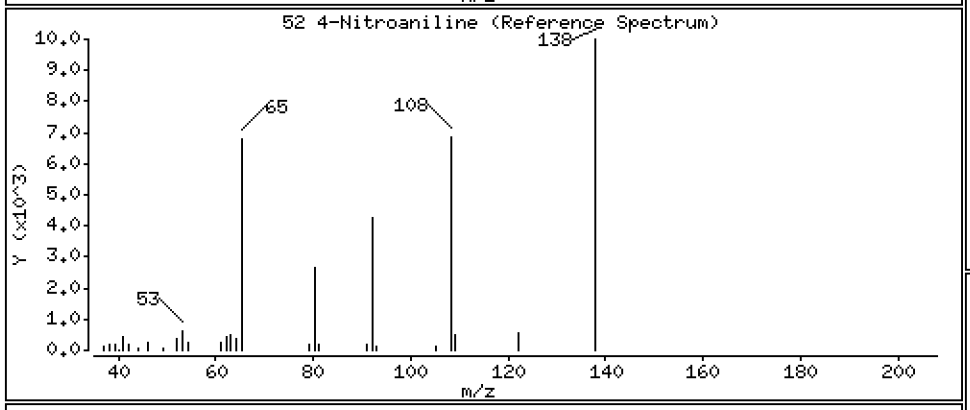
Column diameter: 0.25

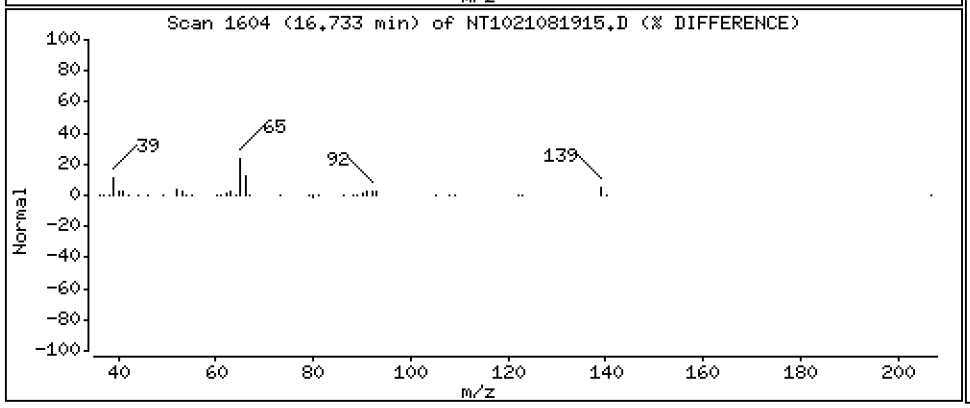
52 4-Nitroaniline

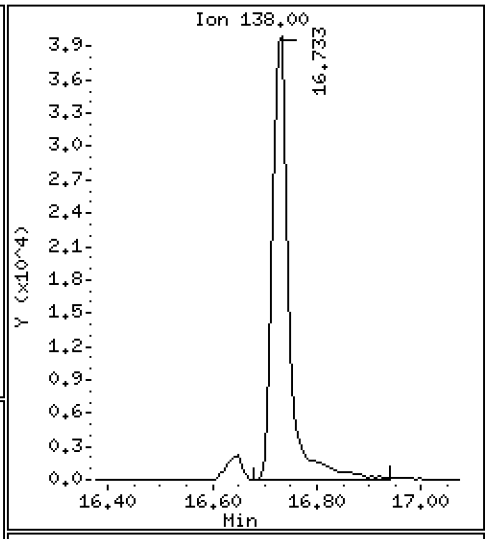
Concentration: 4.788 ug/mL

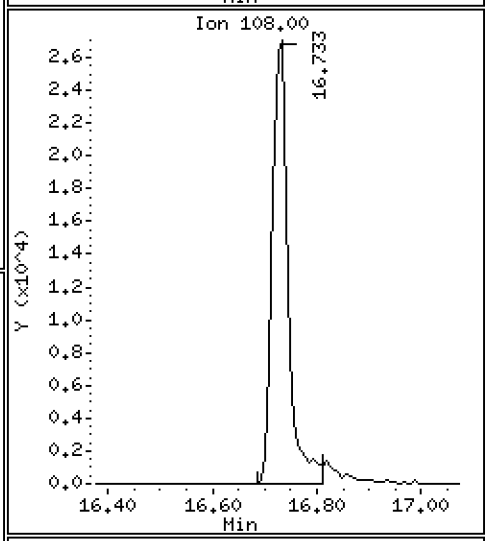


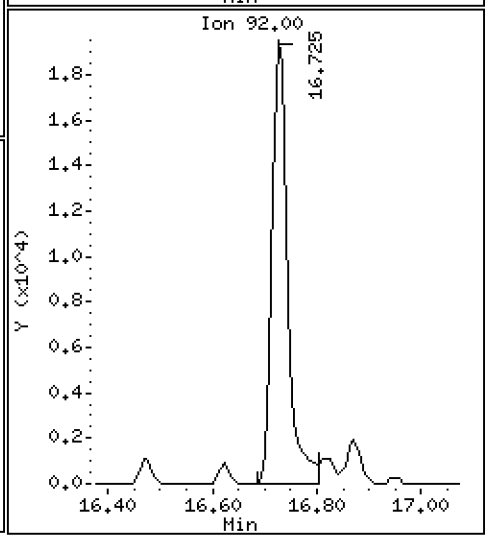












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

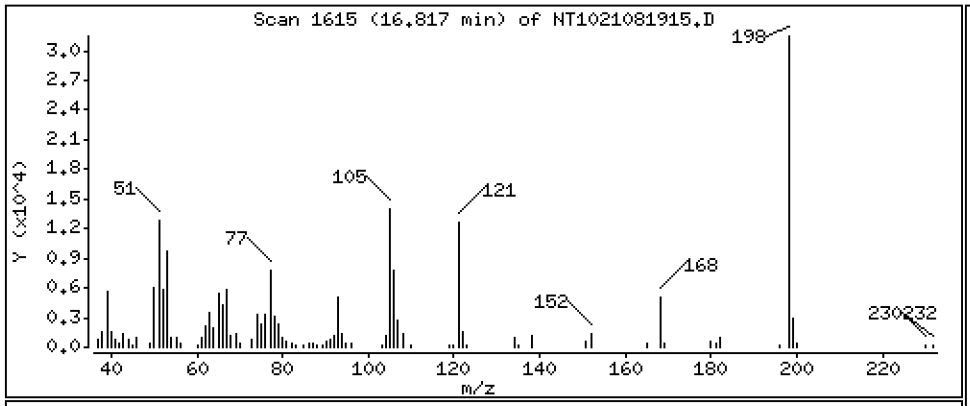
Operator: VTS

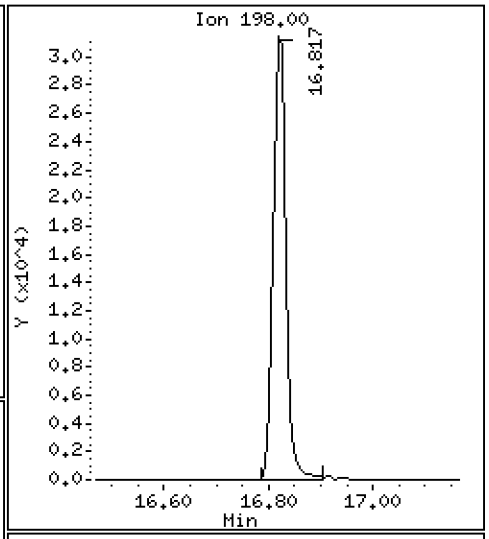
Column phase: ZB-5msi

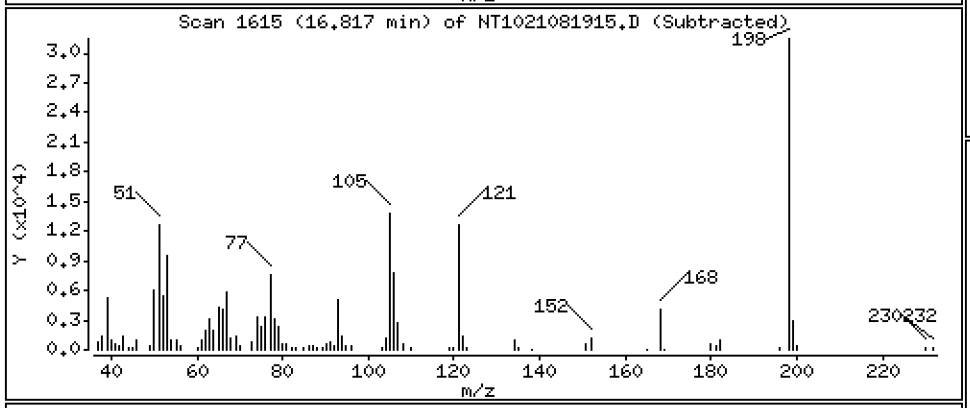
Column diameter: 0.25

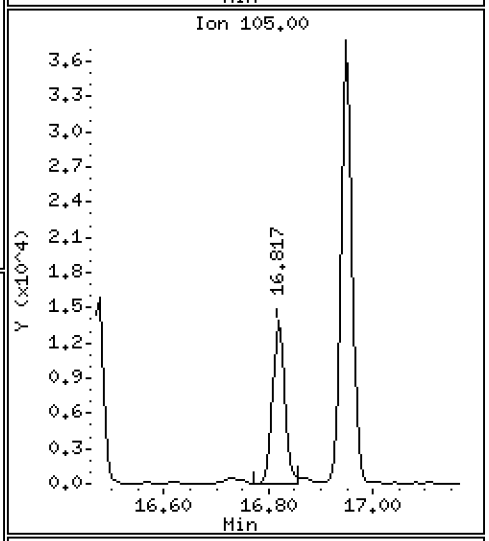
53 4,6-Dinitro-2-methylphenol

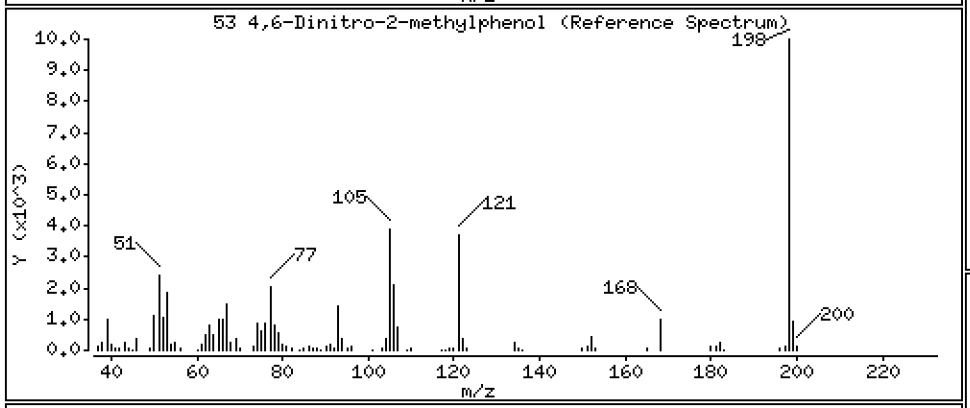
Concentration: 3.885 ug/mL

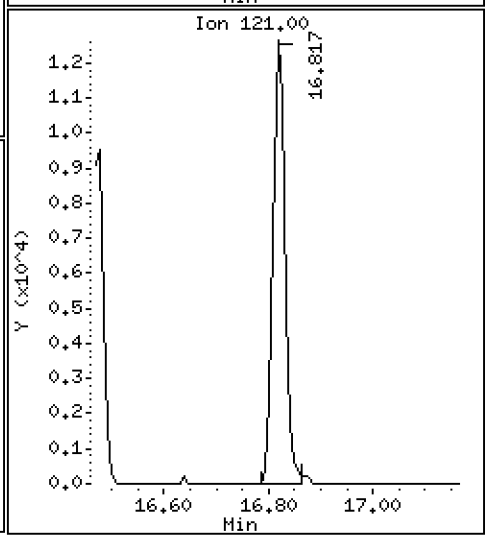


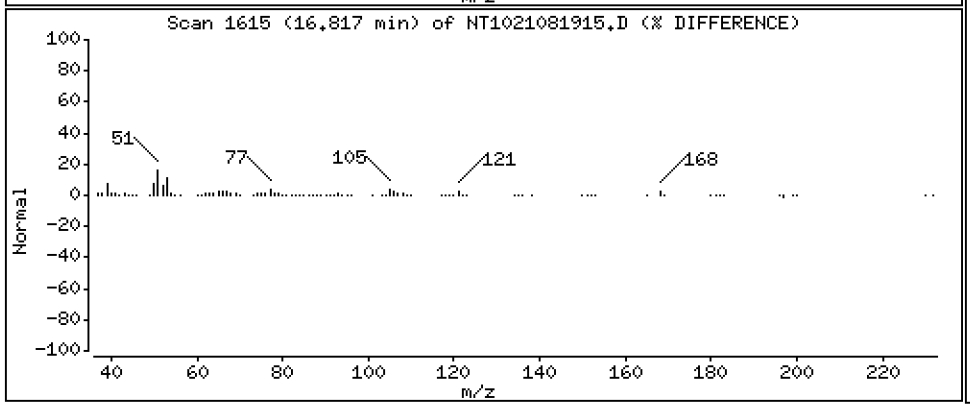












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

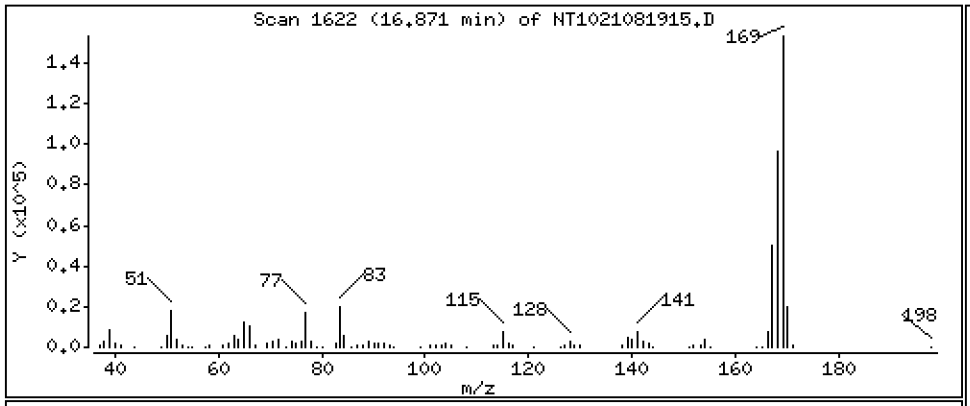
Operator: VTS

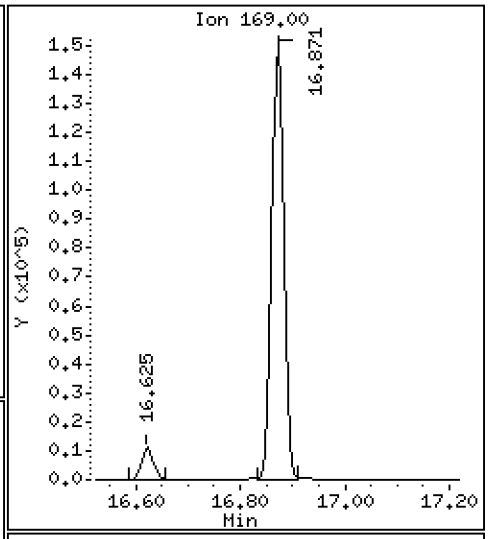
Column phase: ZB-5msi

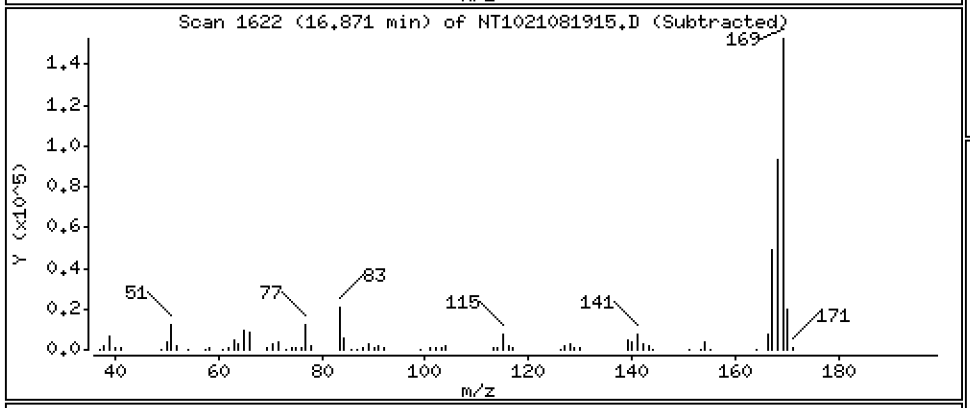
Column diameter: 0.25

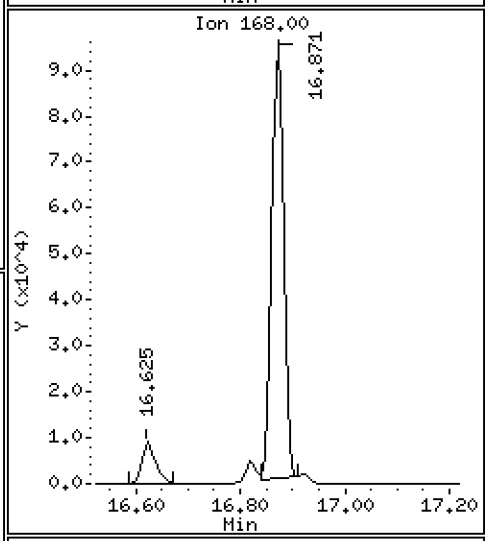
54 N-Nitrosodiphenylamine

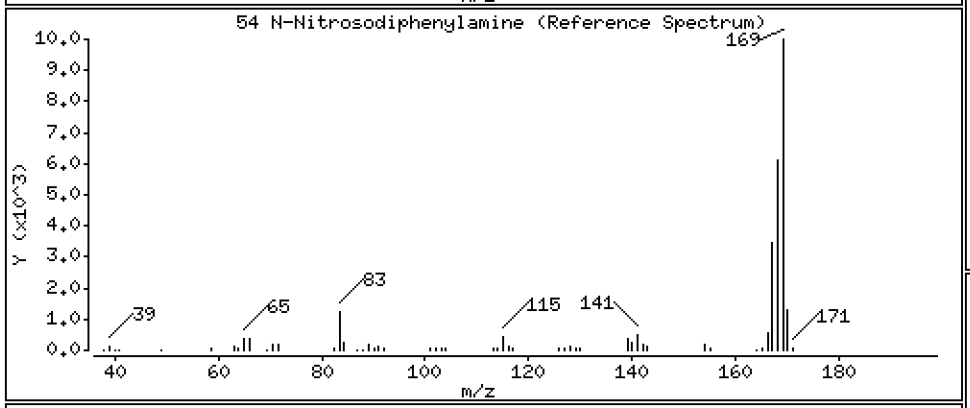
Concentration: 4.835 ug/mL

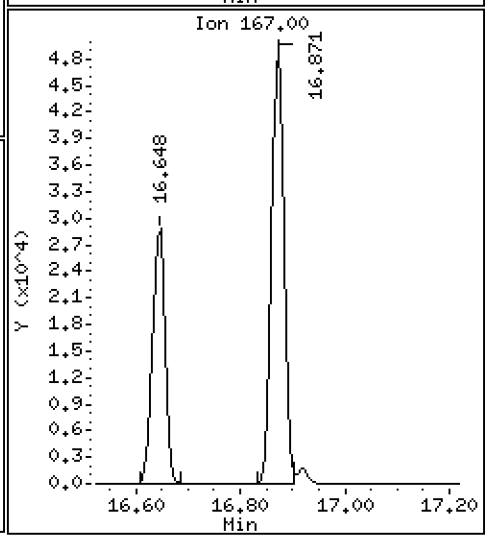


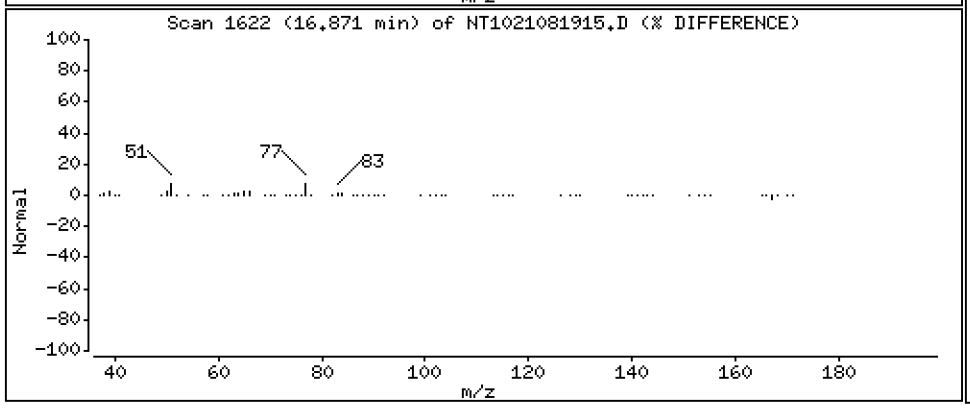












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

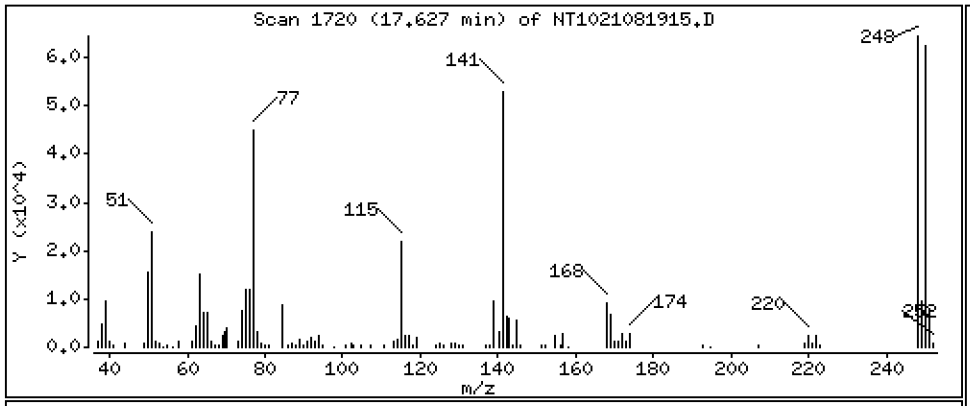
Operator: VTS

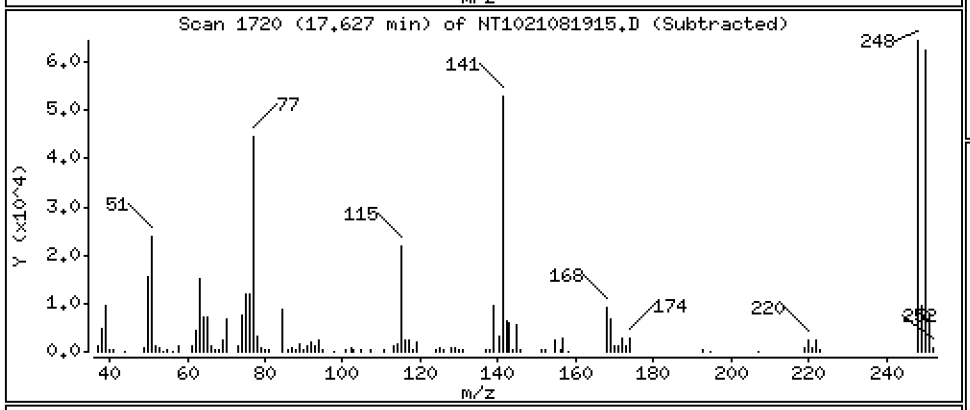
Column phase: ZB-5msi

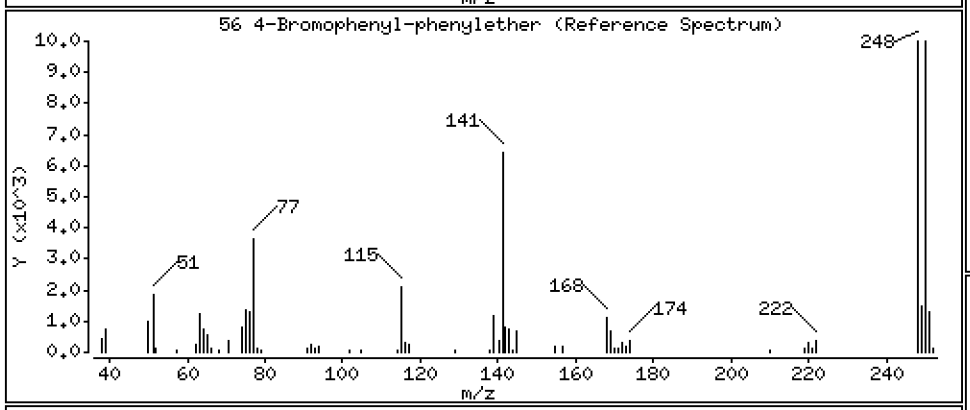
Column diameter: 0.25

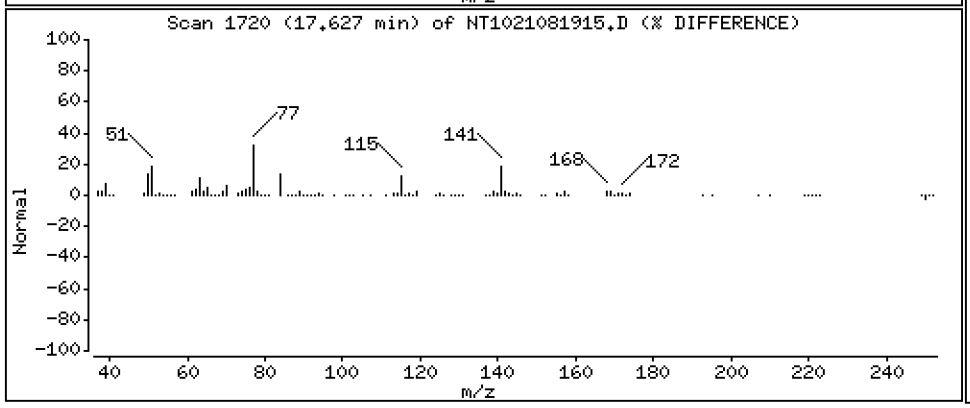
56 4-Bromophenyl-phenylether

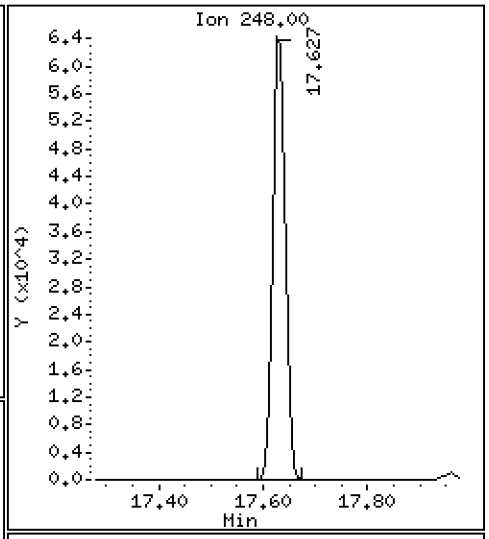
Concentration: 5.399 ug/mL

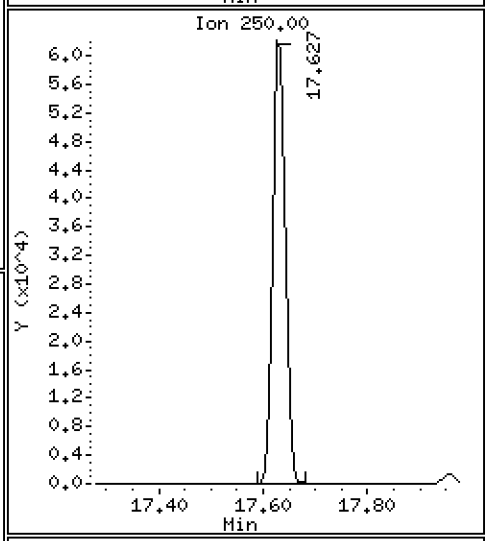


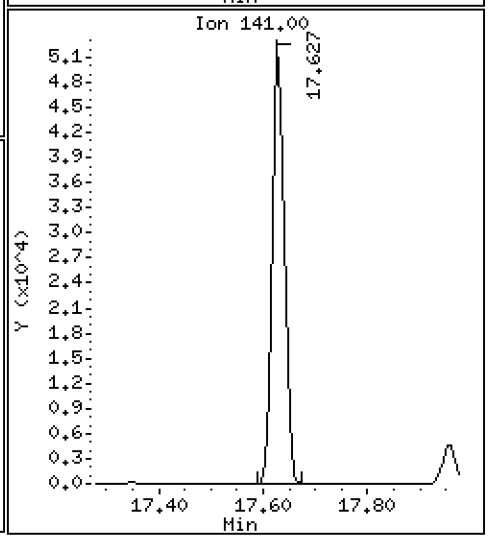












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

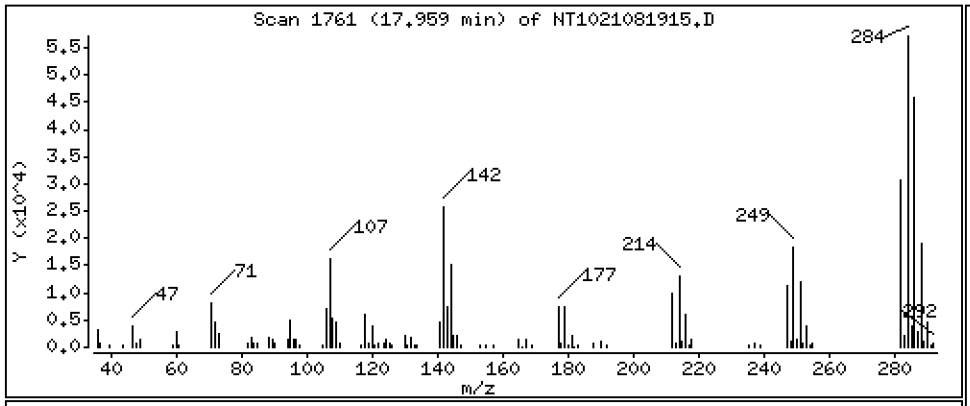
Operator: VTS

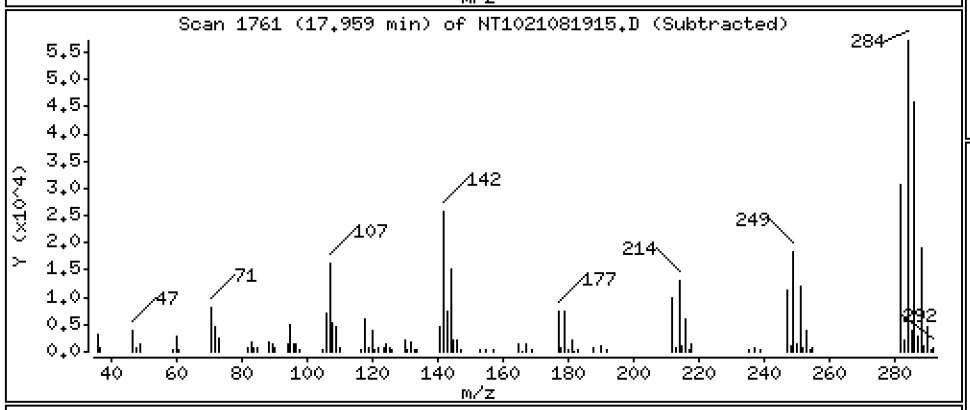
Column phase: ZB-5msi

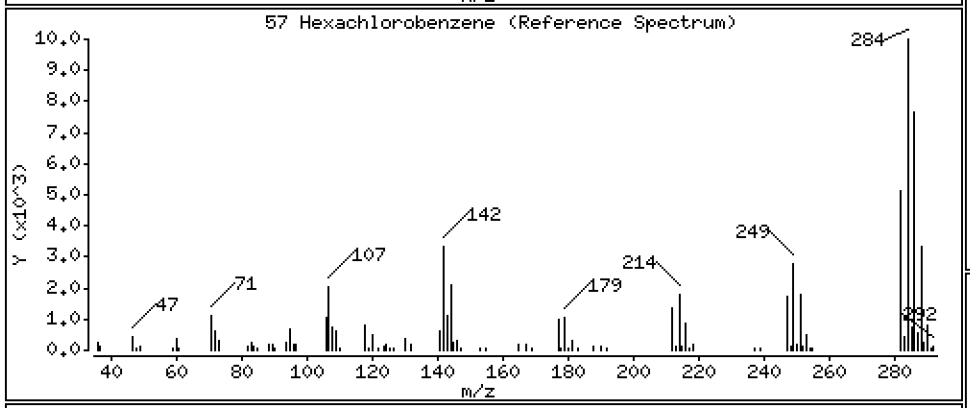
Column diameter: 0.25

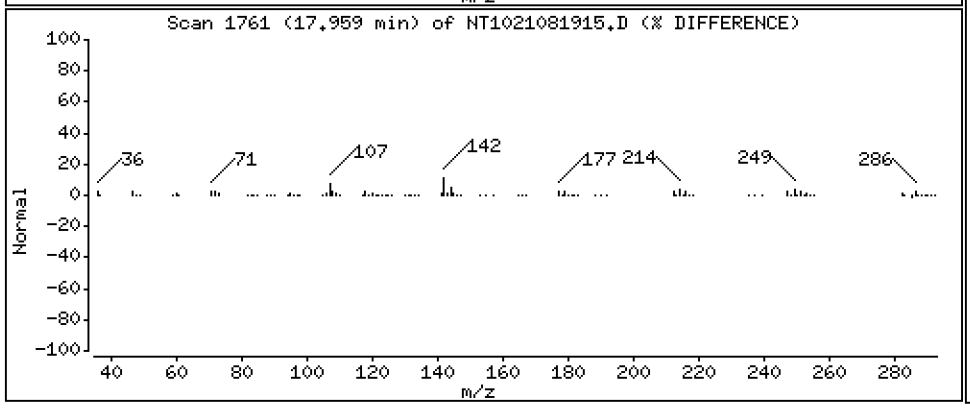
57 Hexachlorobenzene

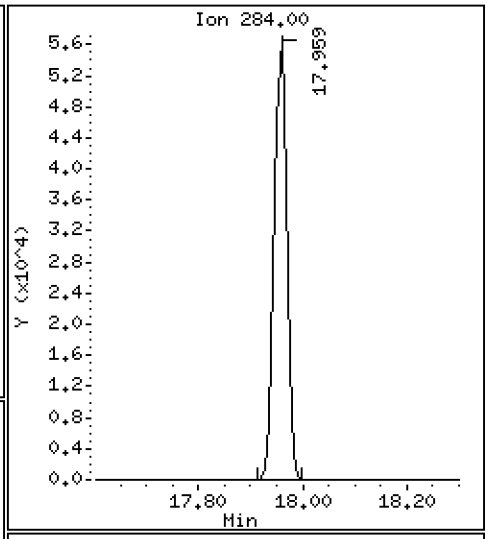
Concentration: 5.063 ug/mL

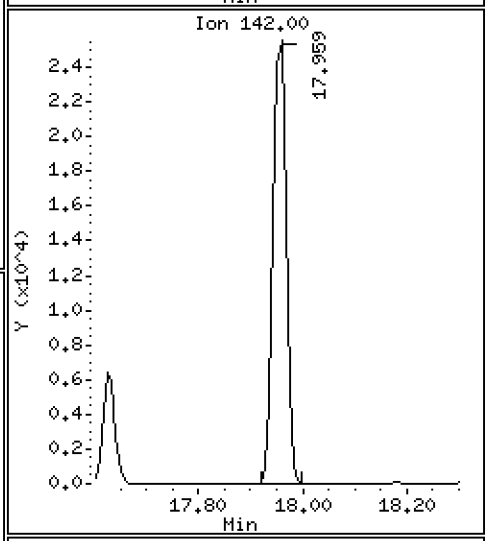


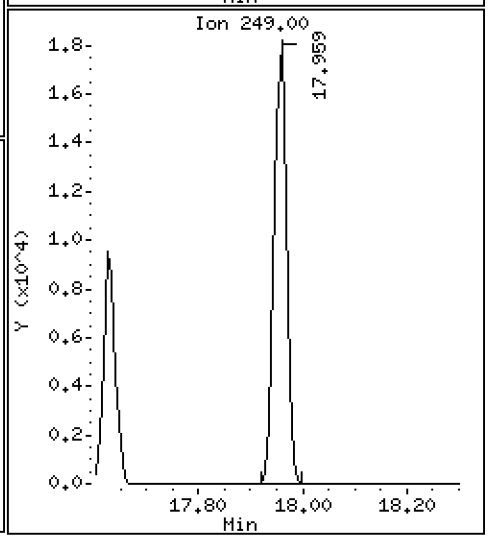












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

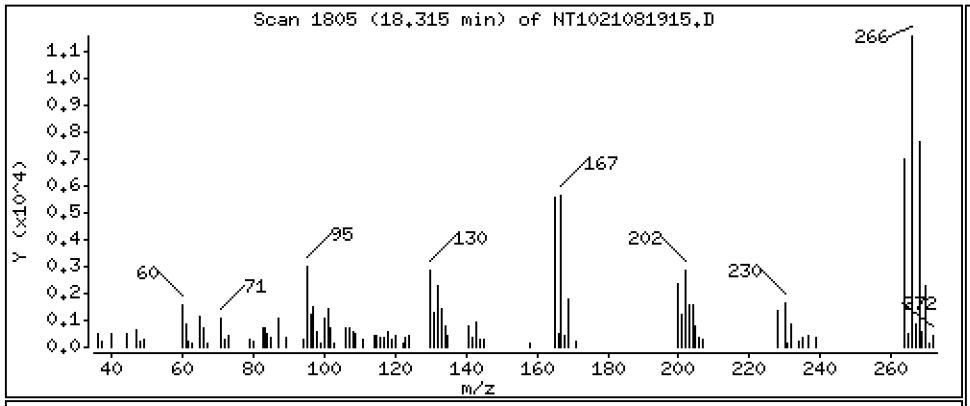
Operator: VTS

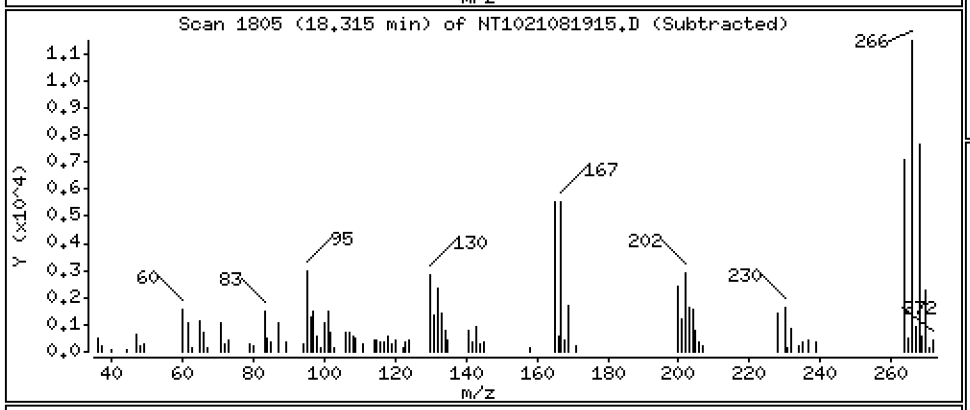
Column phase: ZB-5msi

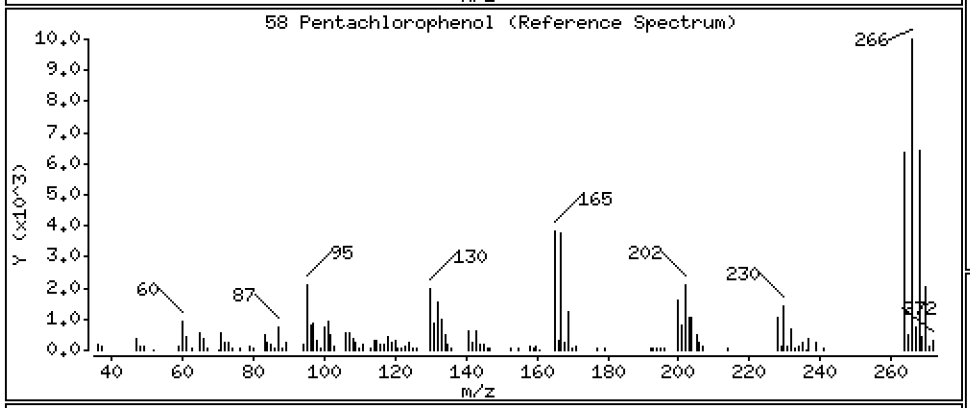
Column diameter: 0.25

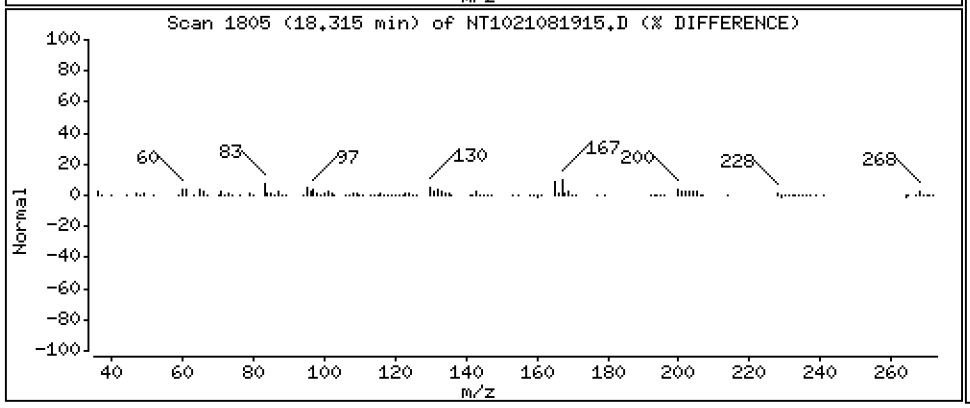
58 Pentachlorophenol

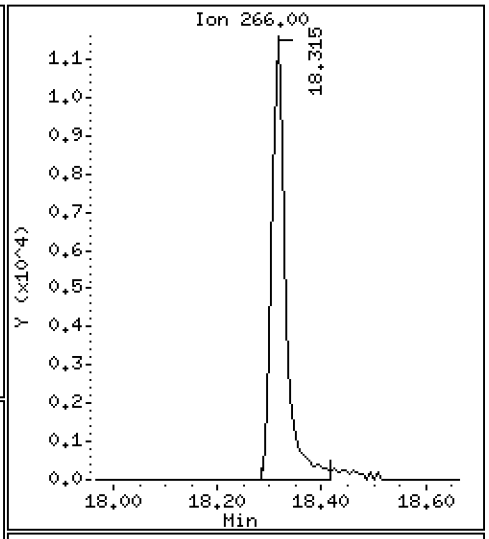
Concentration: 3.120 ug/mL

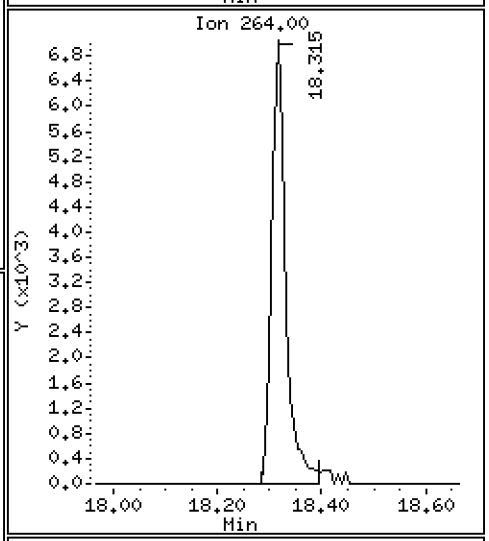


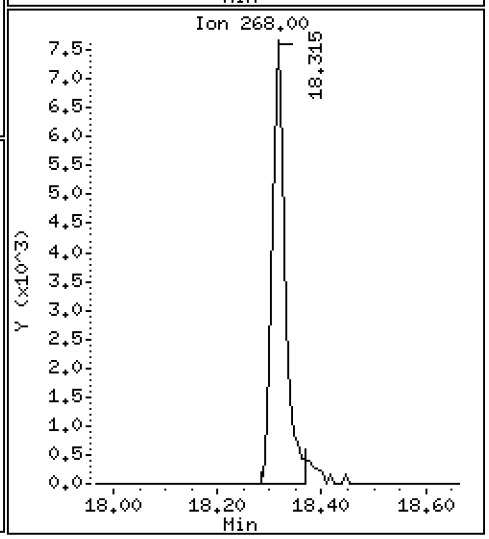












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

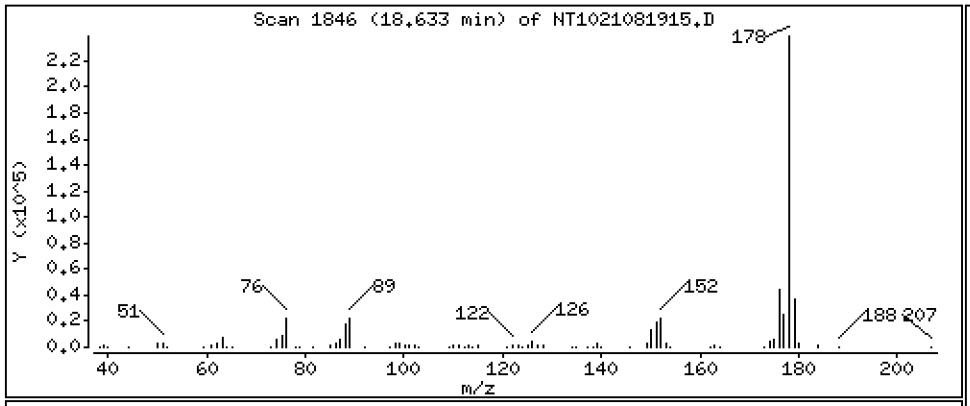
Operator: VTS

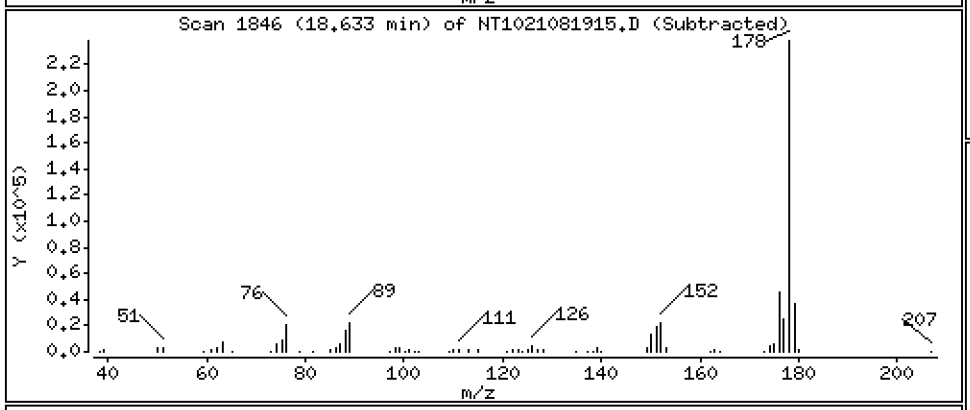
Column phase: ZB-5msi

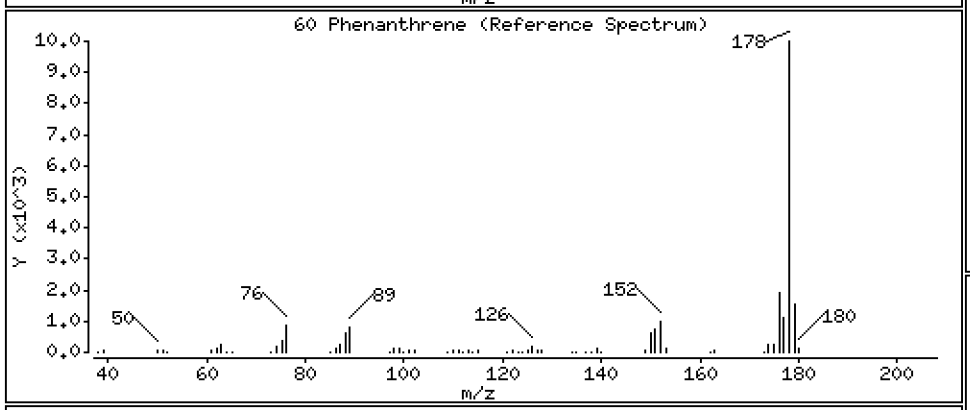
Column diameter: 0.25

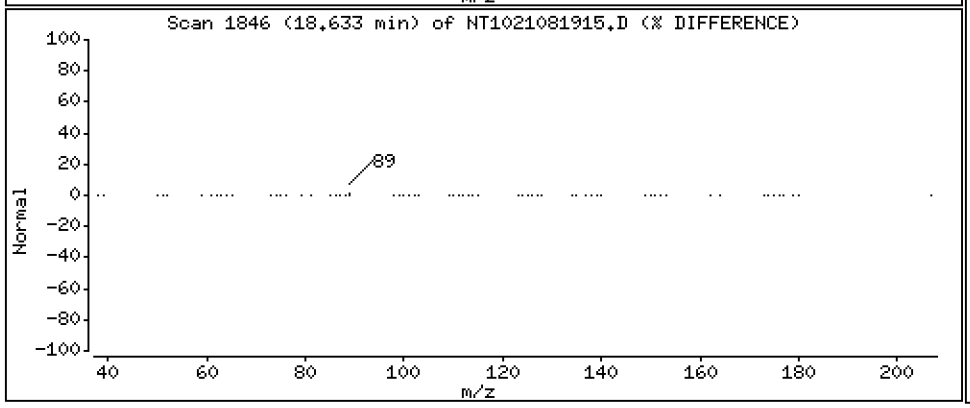
60 Phenanthrene

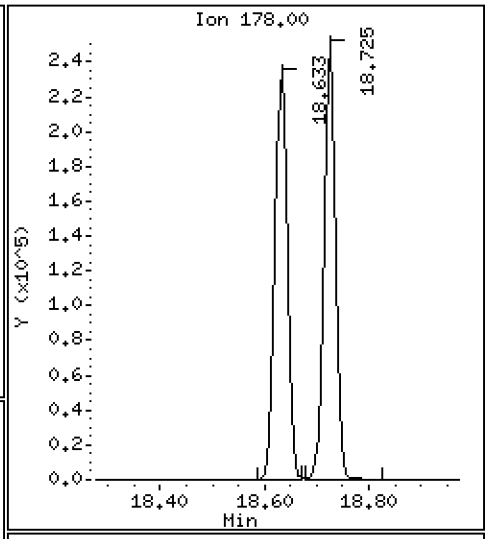
Concentration: 4.855 ug/mL

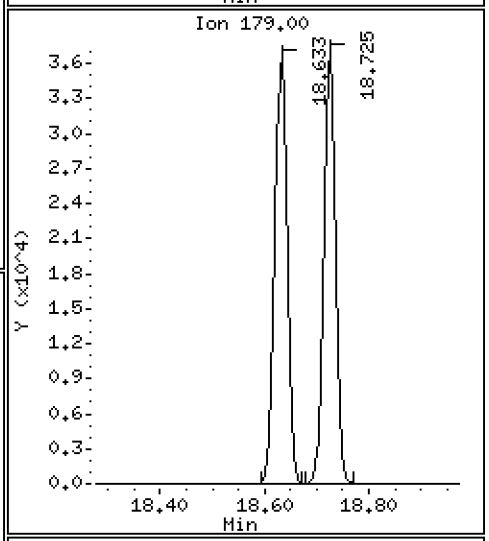


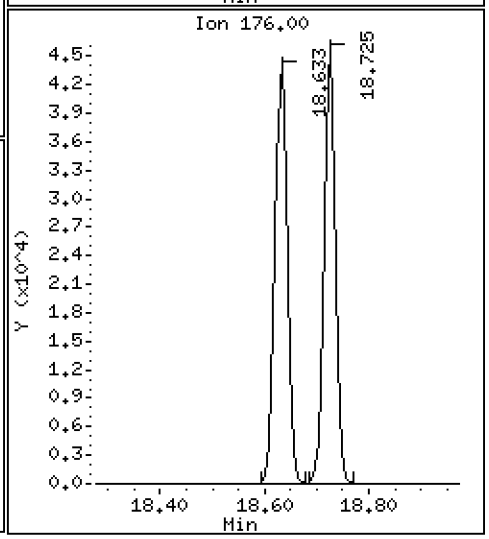












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

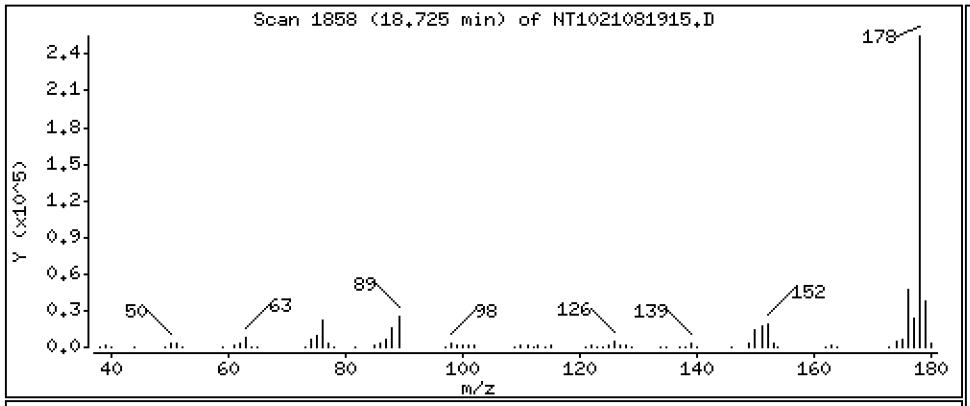
Operator: VTS

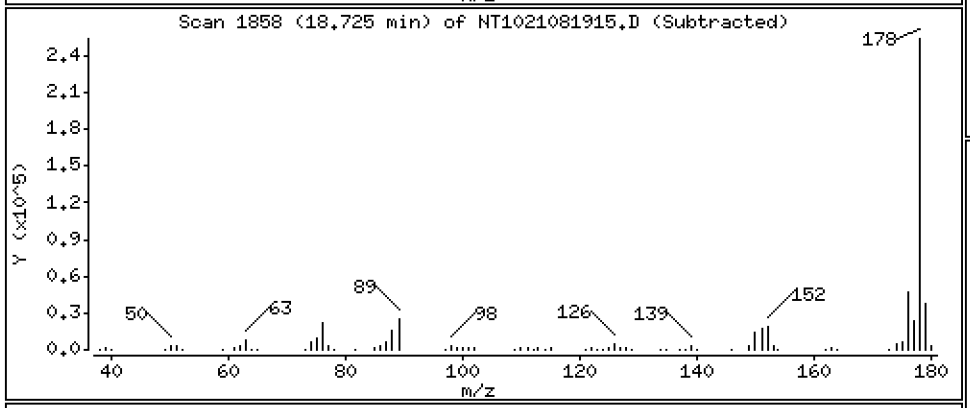
Column phase: ZB-5msi

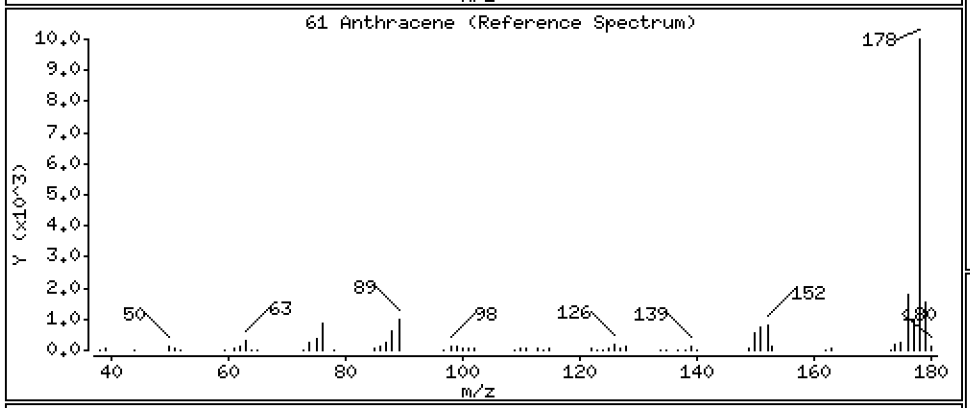
Column diameter: 0.25

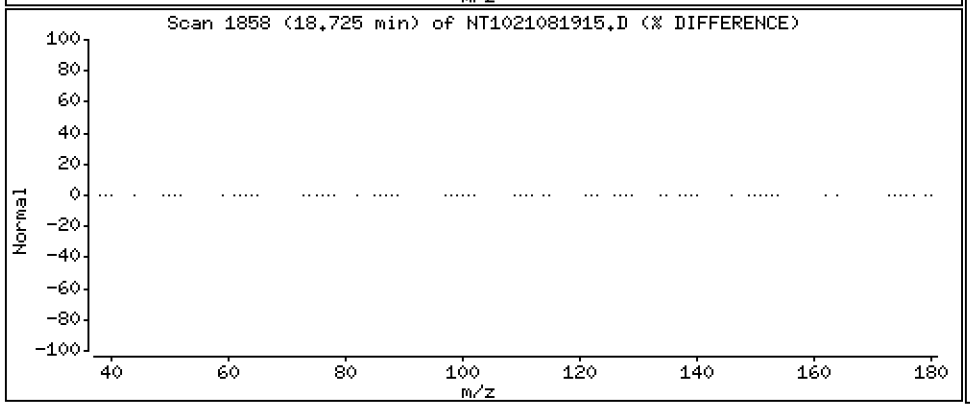
61 Anthracene

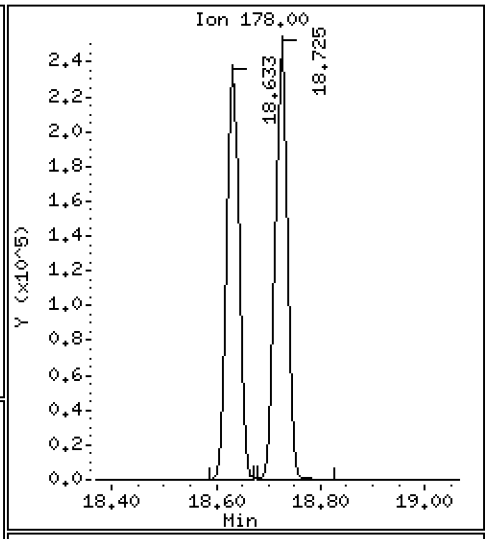
Concentration: 4.813 ug/mL

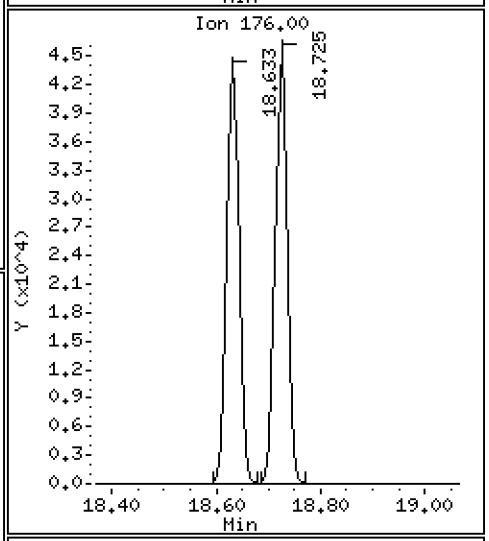


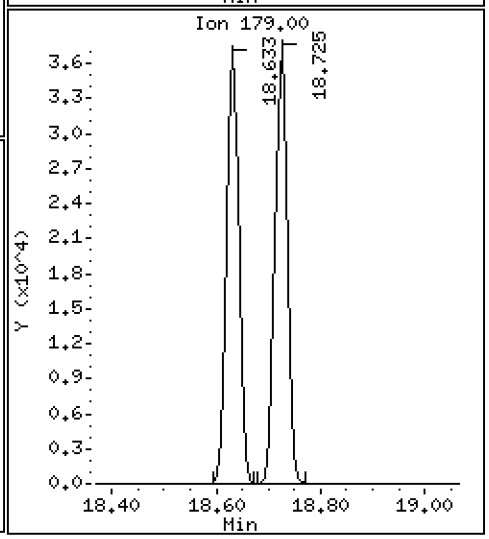












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

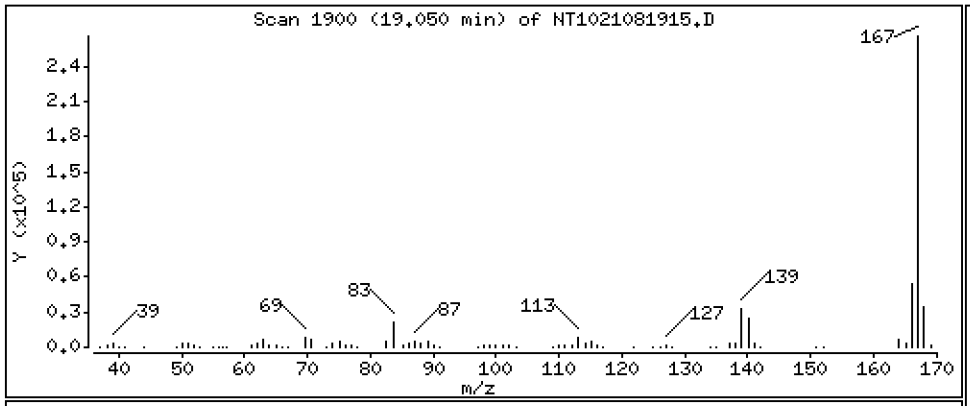
Operator: VTS

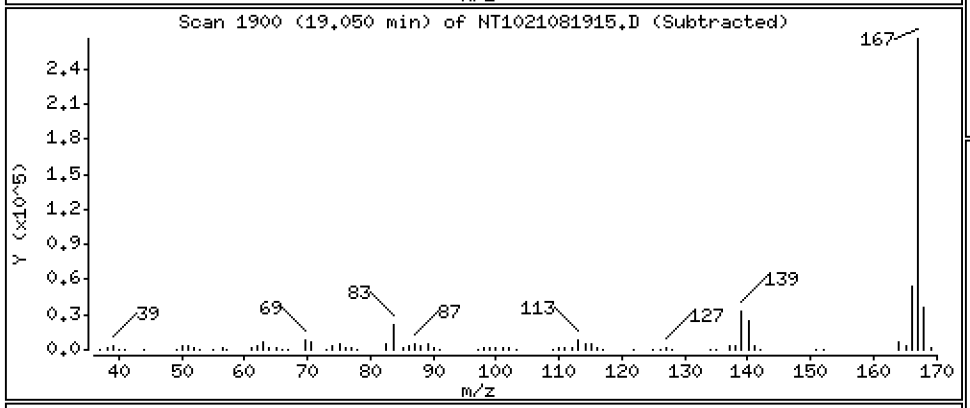
Column phase: ZB-5msi

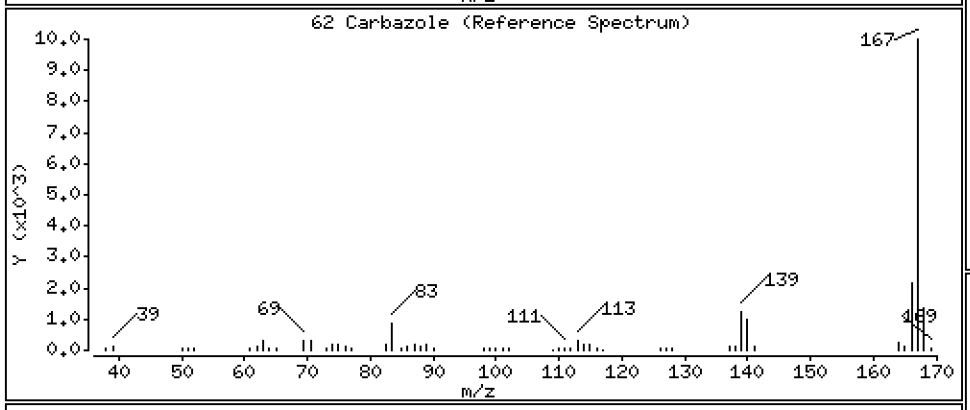
Column diameter: 0.25

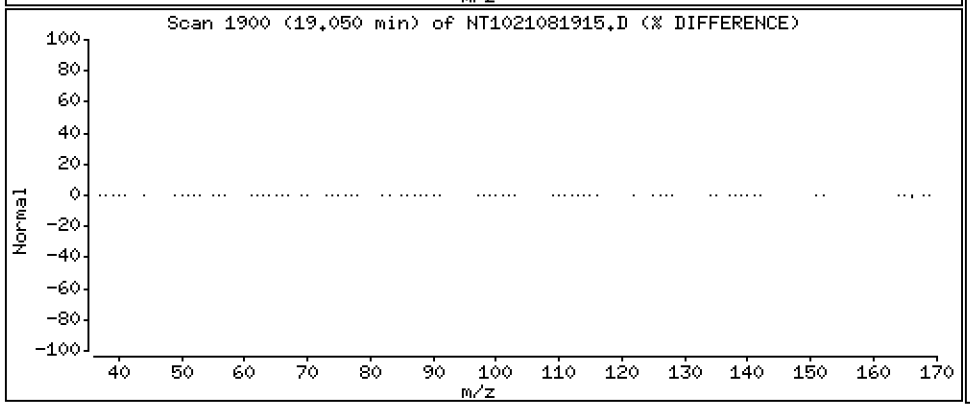
62 Carbazole

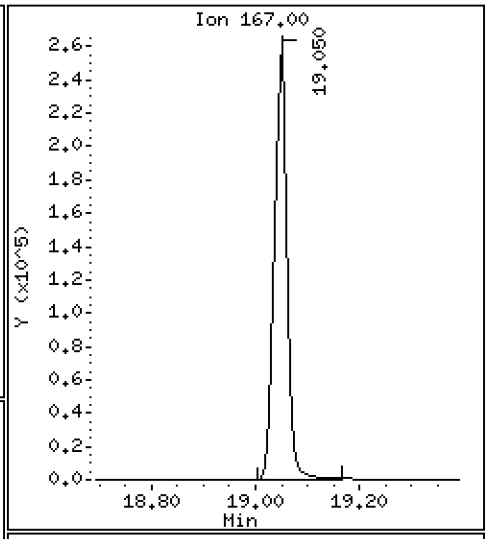
Concentration: 4.972 ug/mL

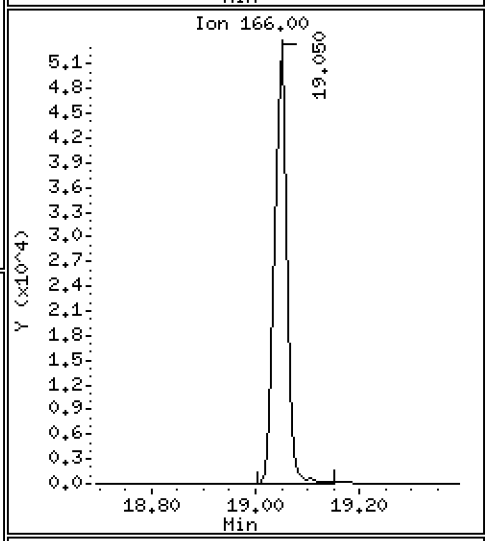


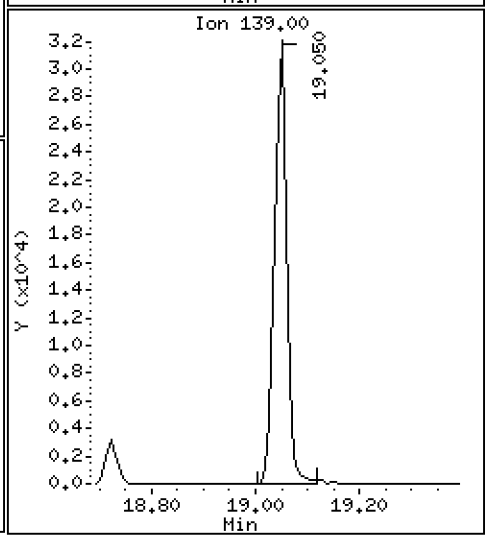












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

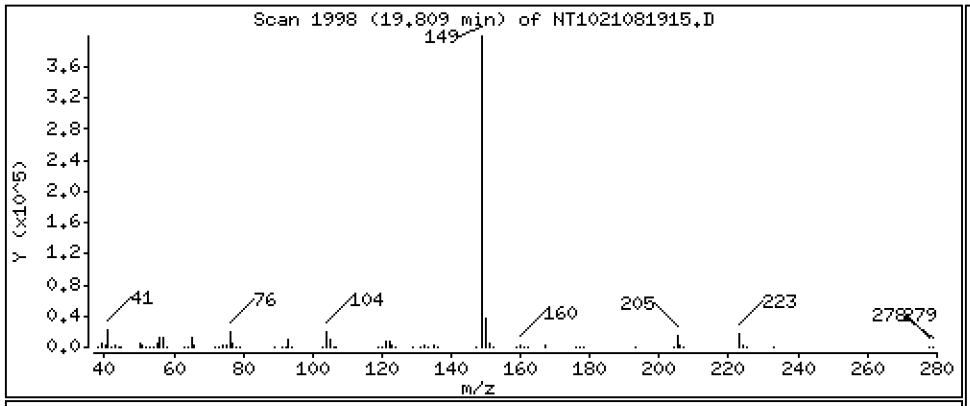
Operator: VTS

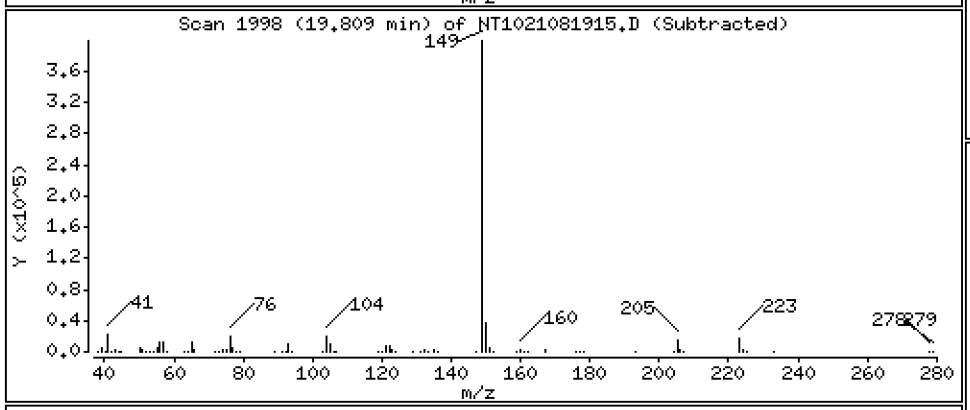
Column phase: ZB-5msi

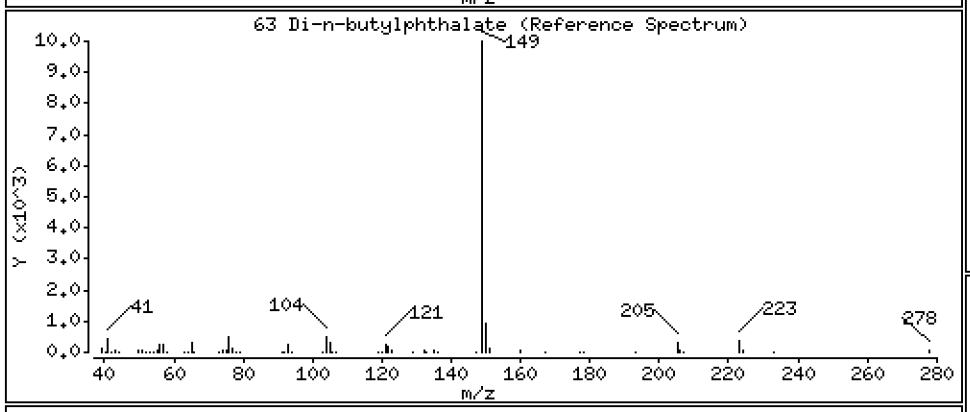
Column diameter: 0.25

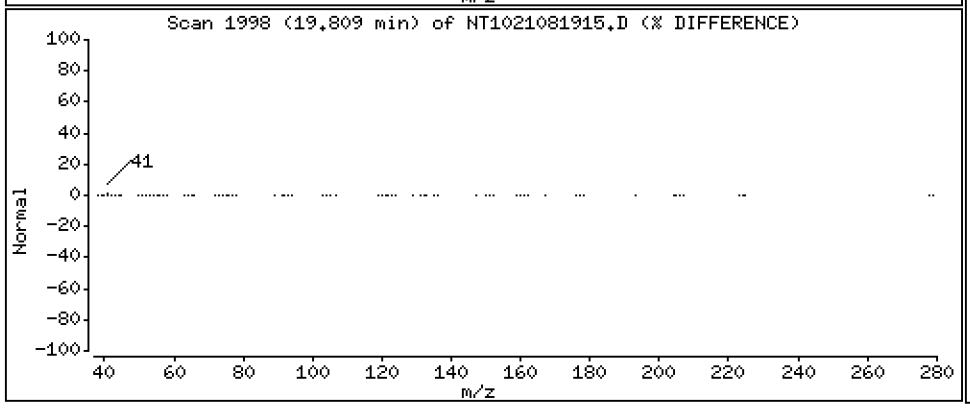
63 Di-n-butylphthalate

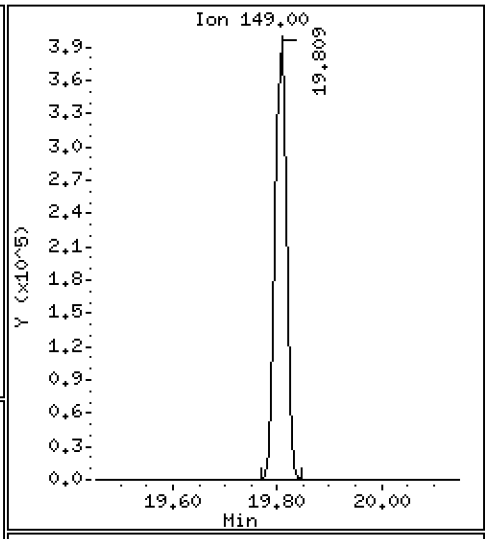
Concentration: 5.375 ug/mL

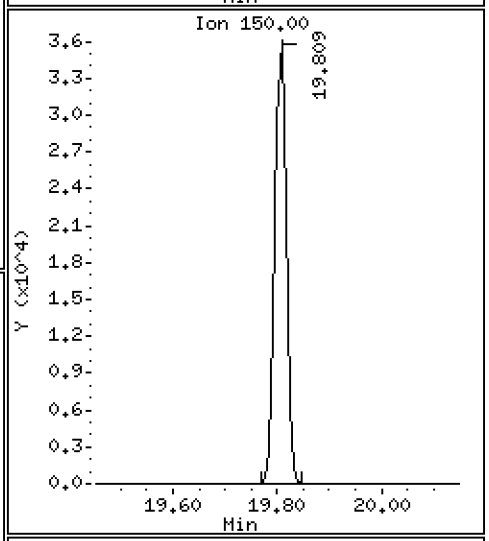


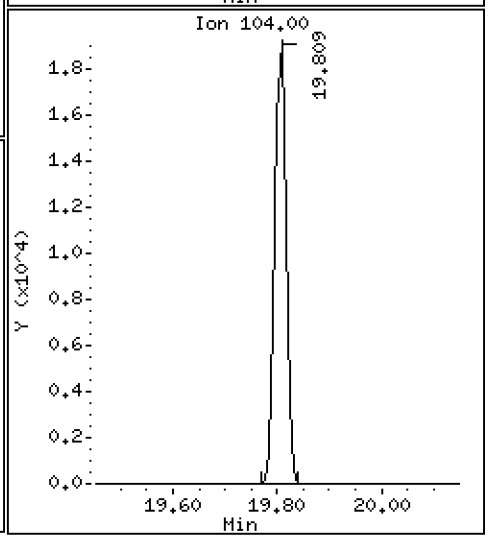












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

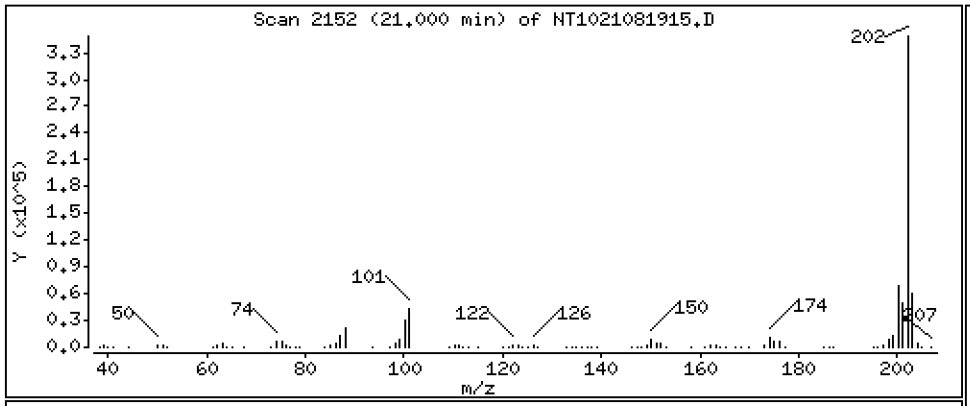
Operator: VTS

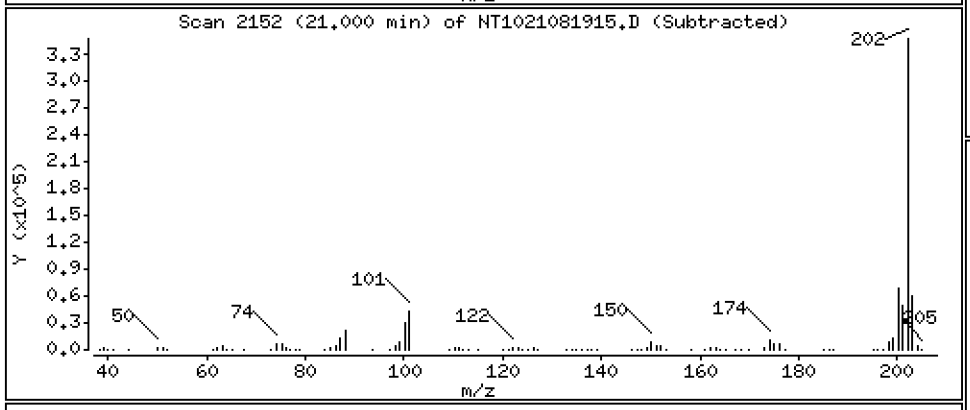
Column phase: ZB-5msi

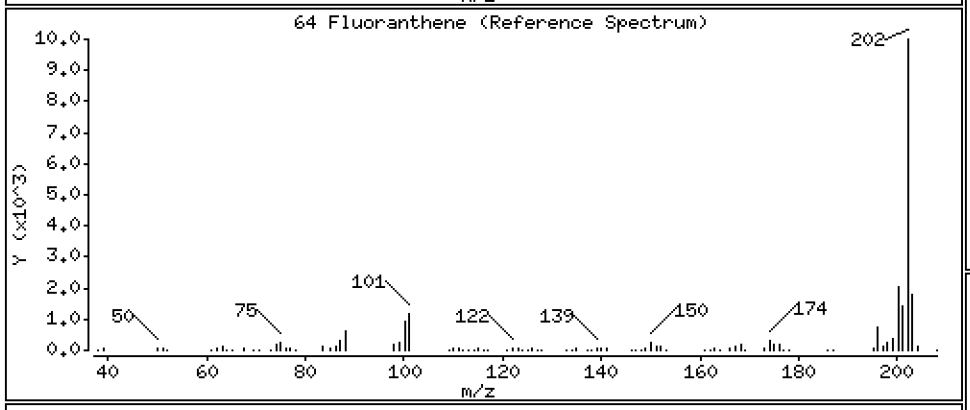
Column diameter: 0.25

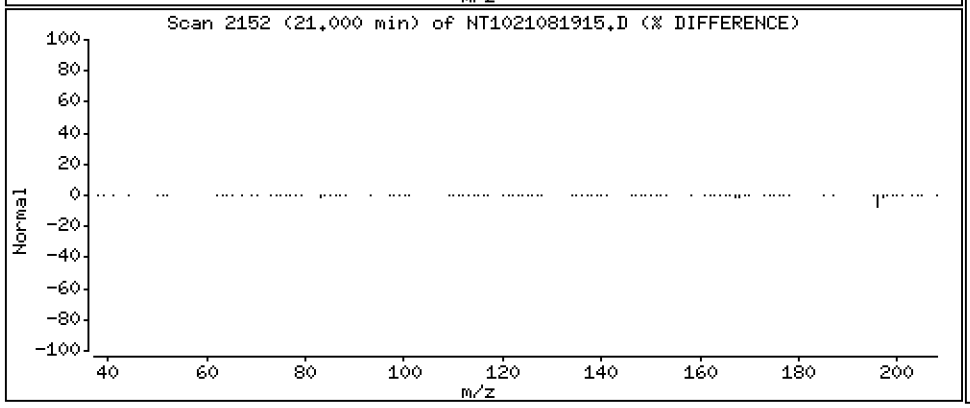
64 Fluoranthene

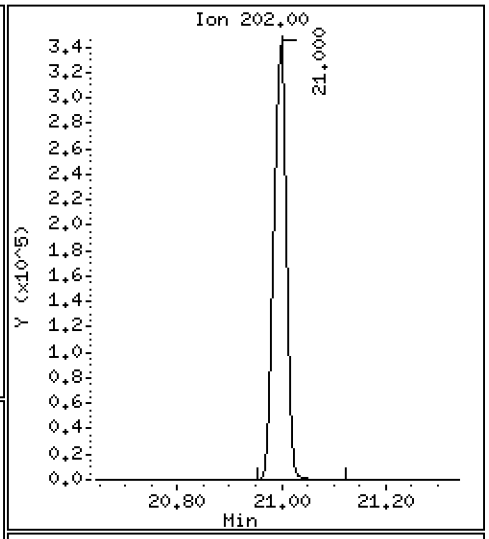
Concentration: 4.853 ug/mL

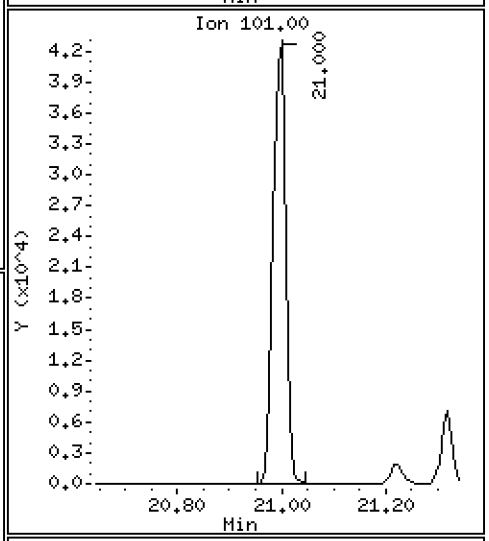


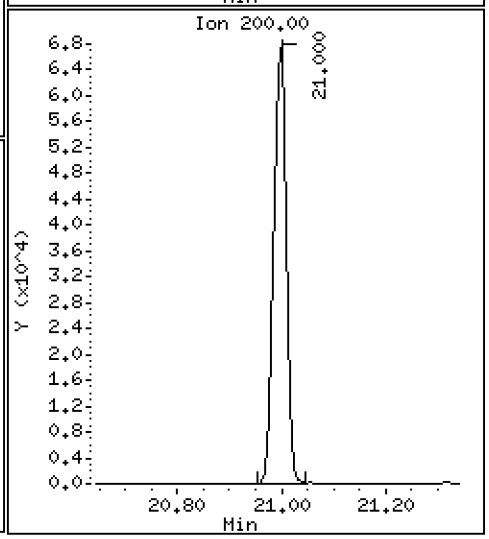












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

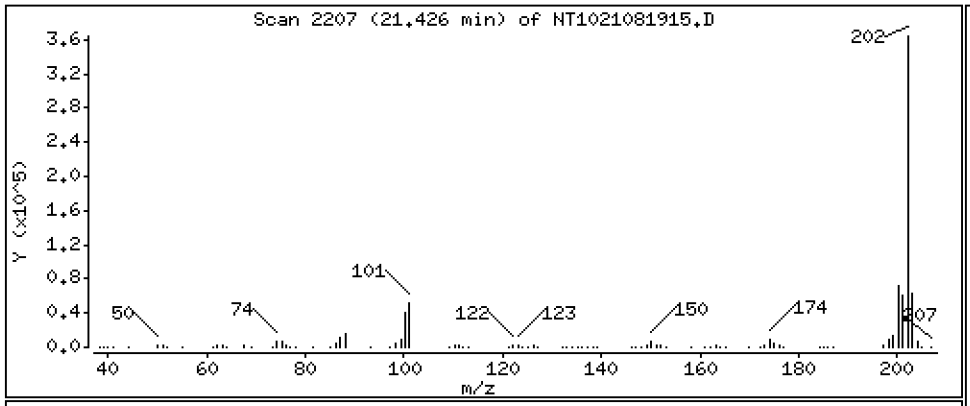
Operator: VTS

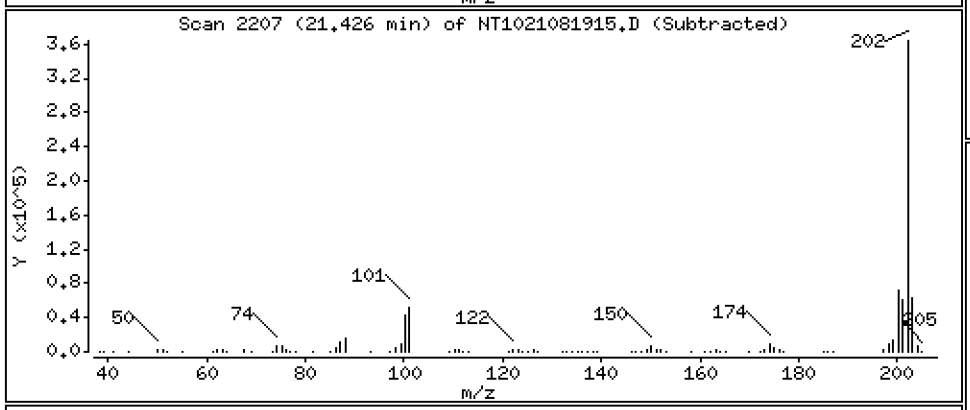
Column phase: ZB-5msi

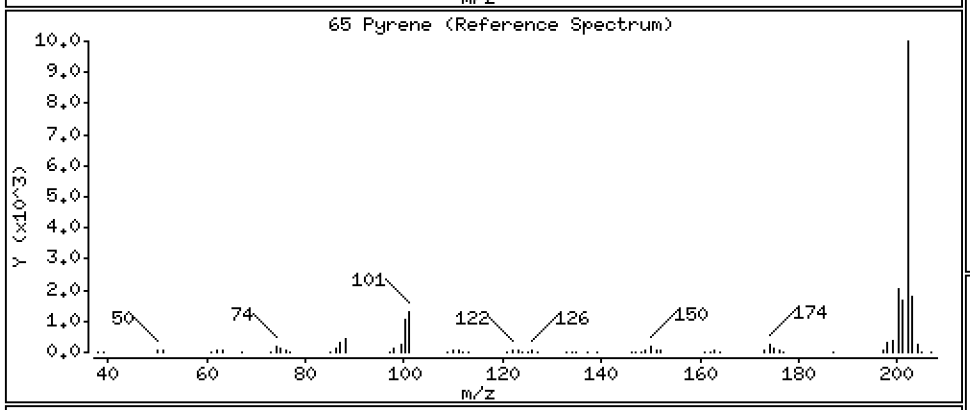
Column diameter: 0.25

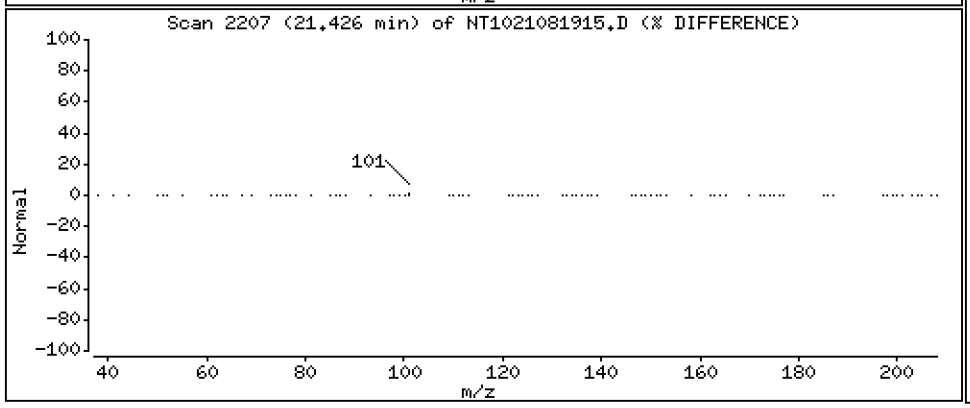
65 Pyrene

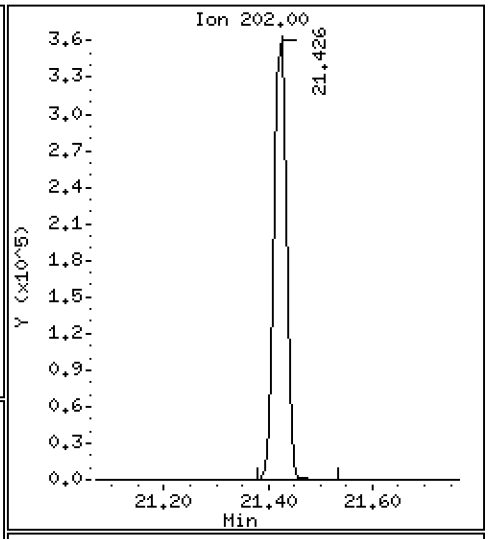
Concentration: 4.862 ug/mL

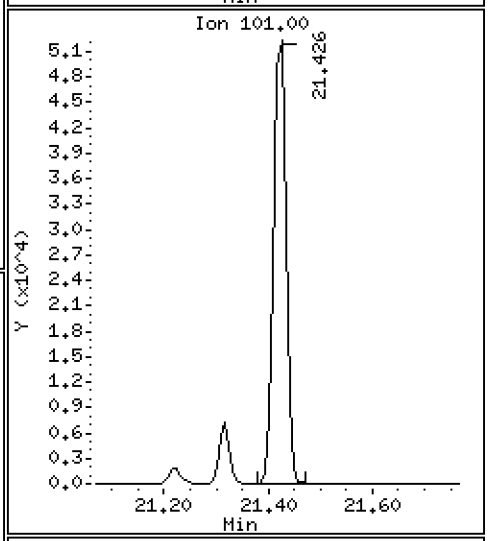


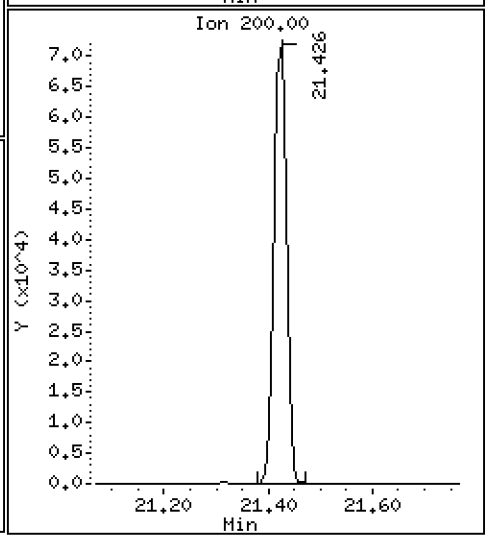












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

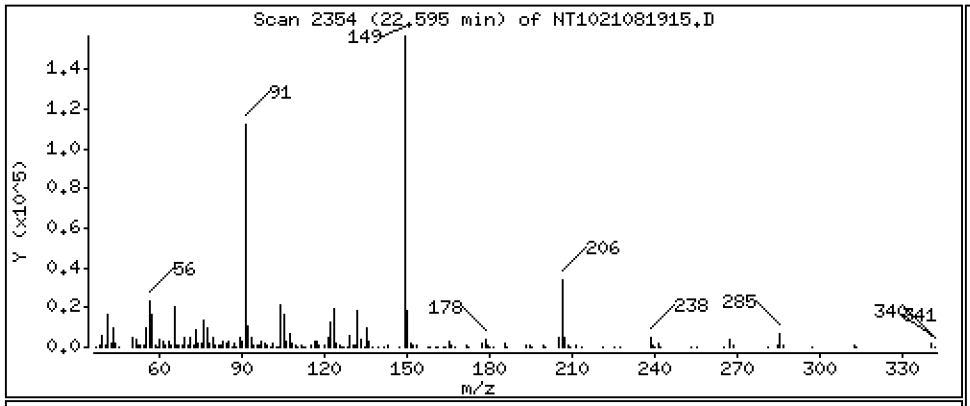
Operator: VTS

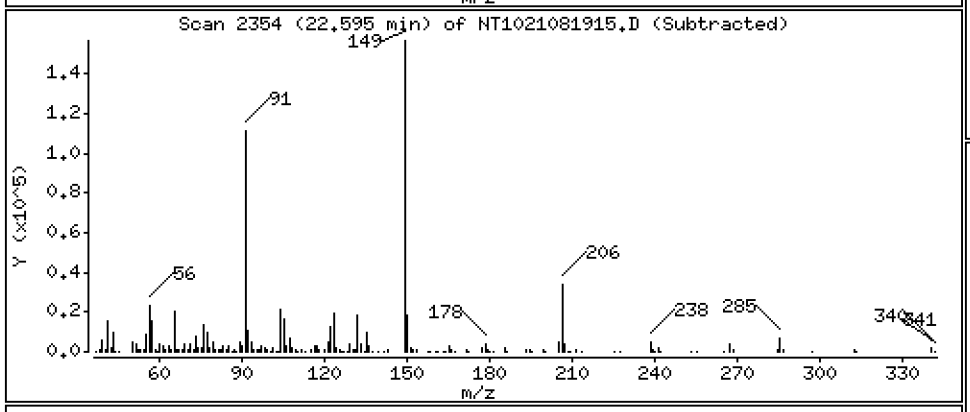
Column phase: ZB-5msi

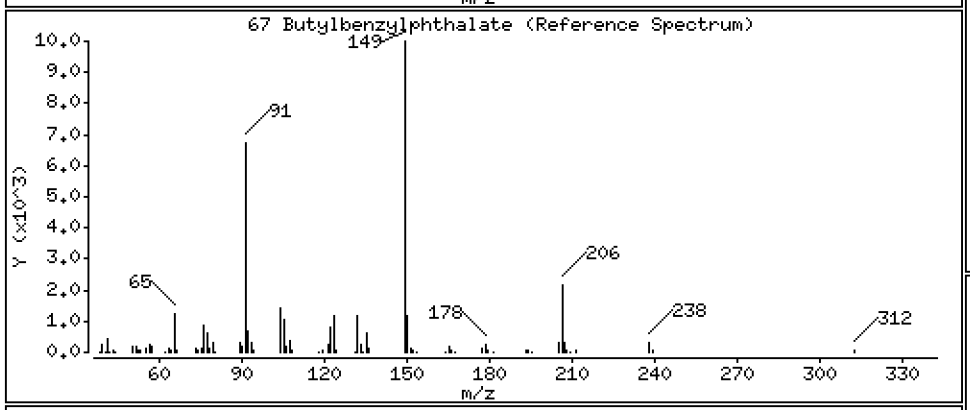
Column diameter: 0.25

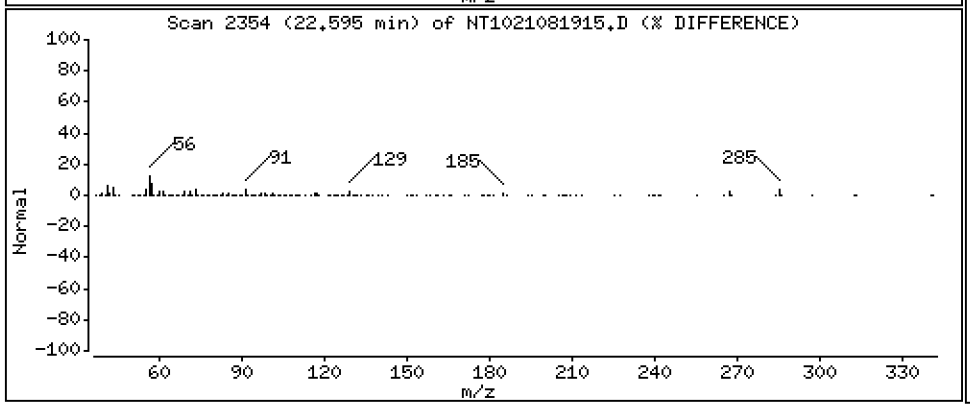
67 Butylbenzylphthalate

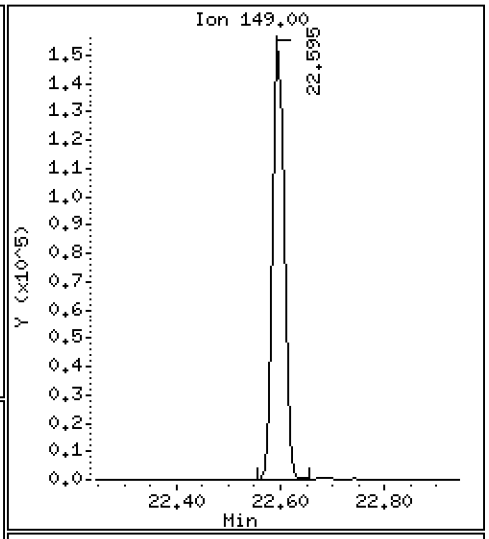
Concentration: 4.889 ug/mL

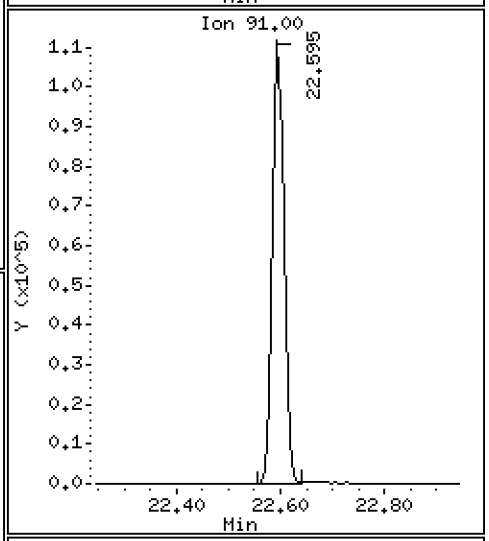


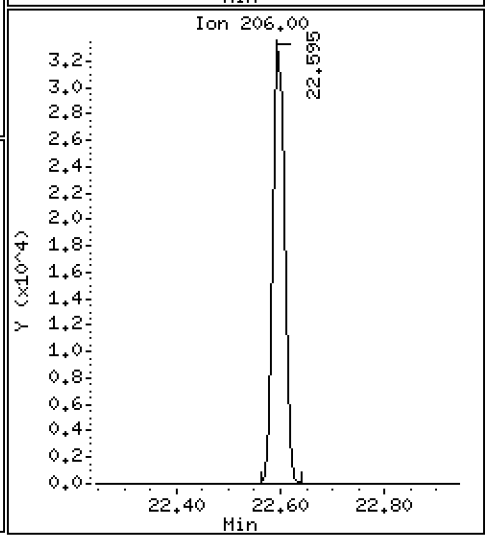












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

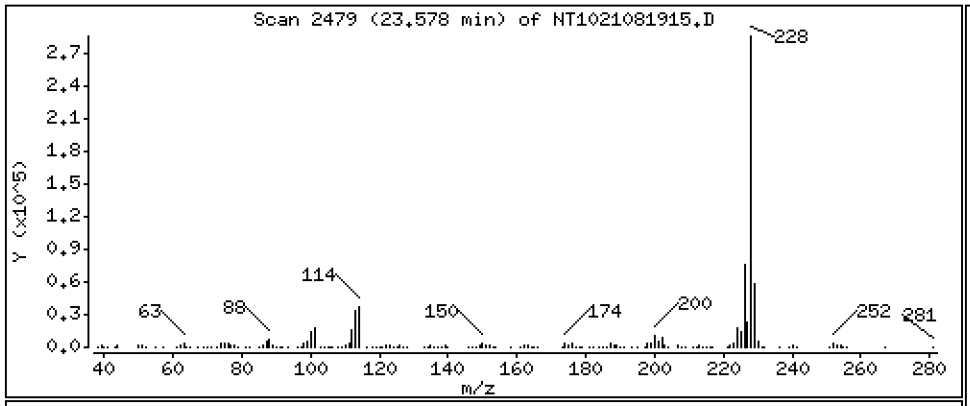
Operator: VTS

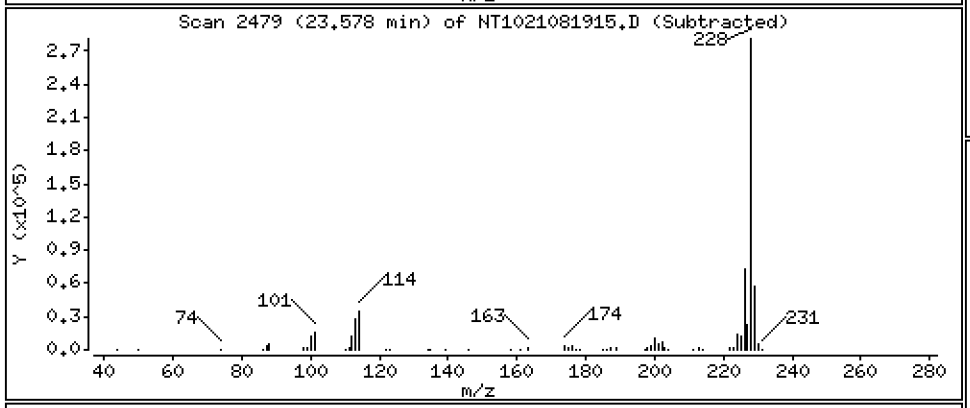
Column phase: ZB-5msi

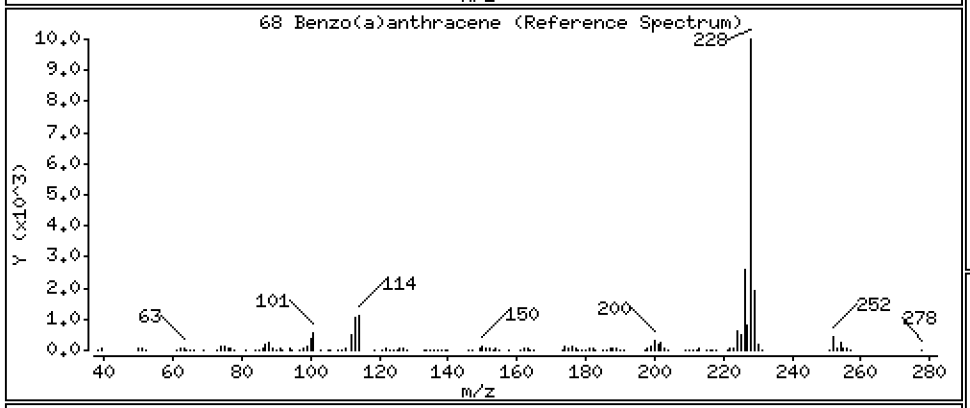
Column diameter: 0.25

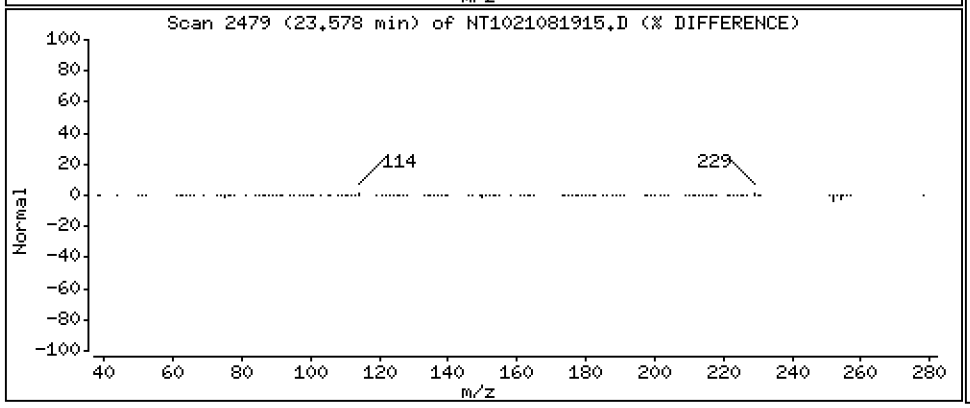
68 Benzo(a)anthracene

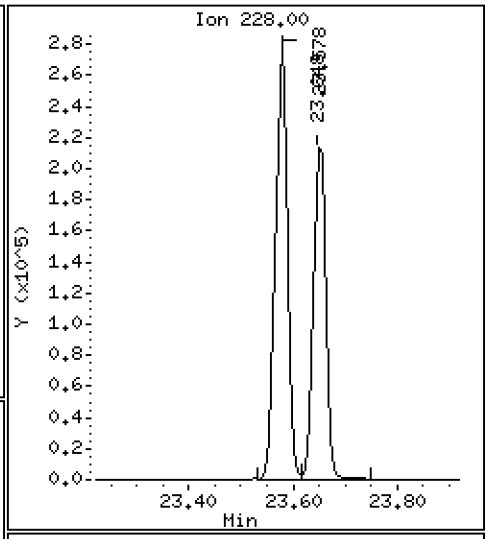
Concentration: 4.800 ug/mL

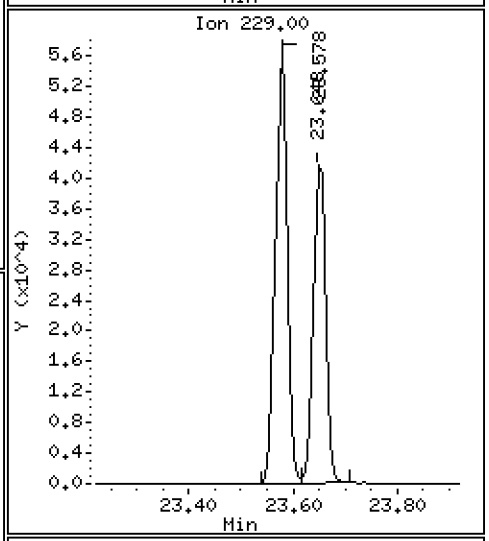


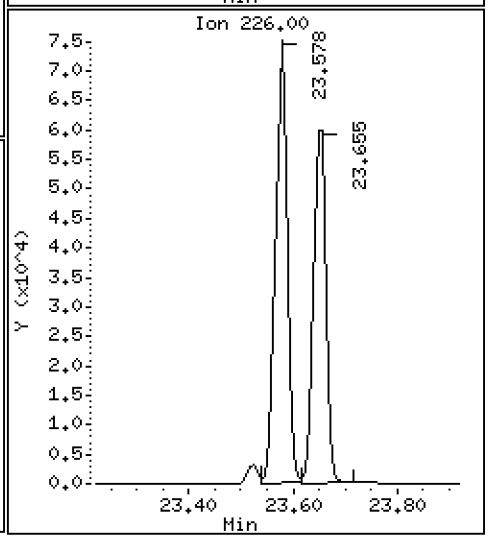












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

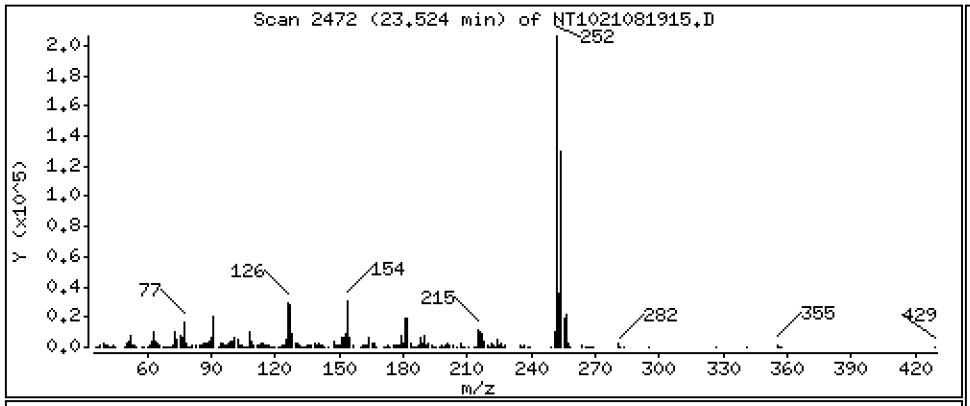
Operator: VTS

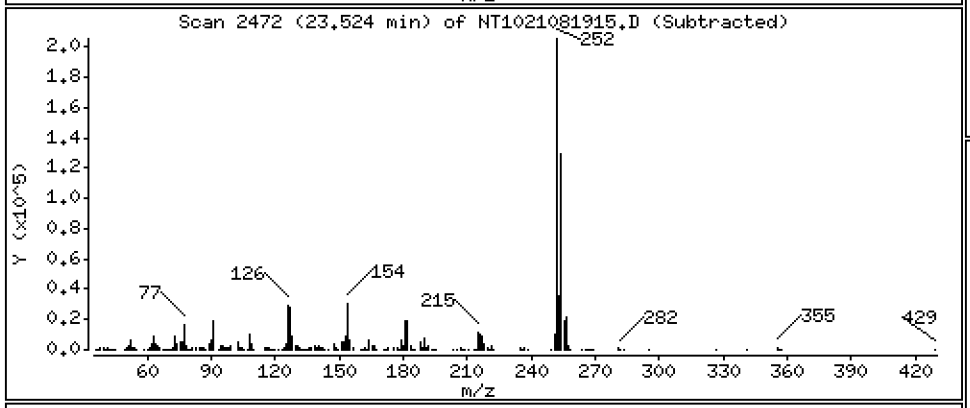
Column phase: ZB-5msi

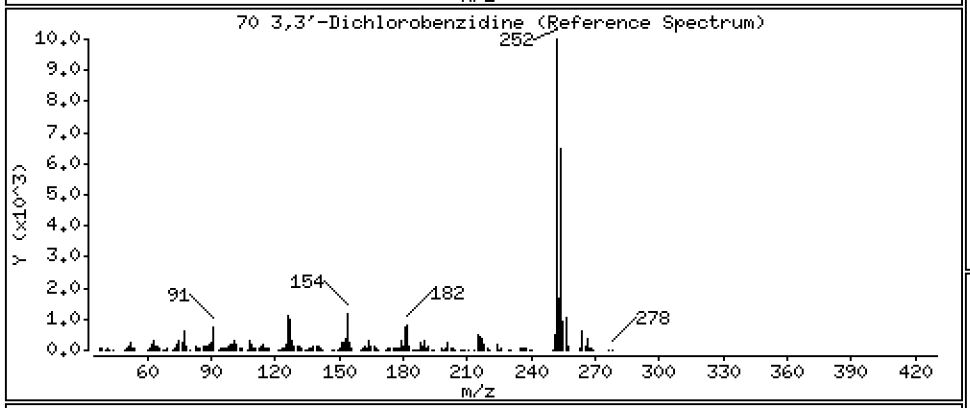
Column diameter: 0.25

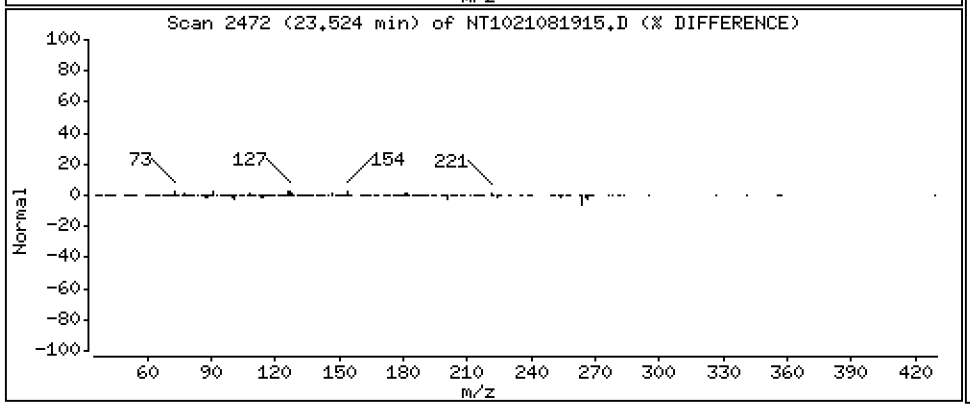
70 3,3'-Dichlorobenzidine

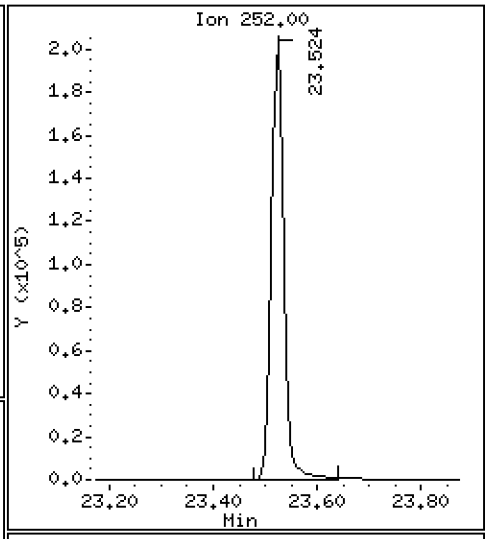
Concentration: 8.830 ug/mL

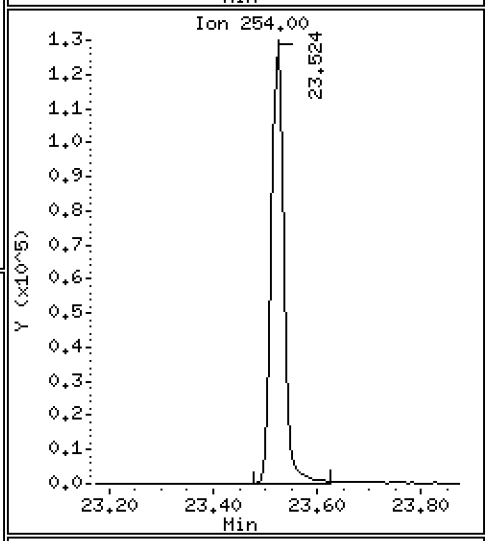


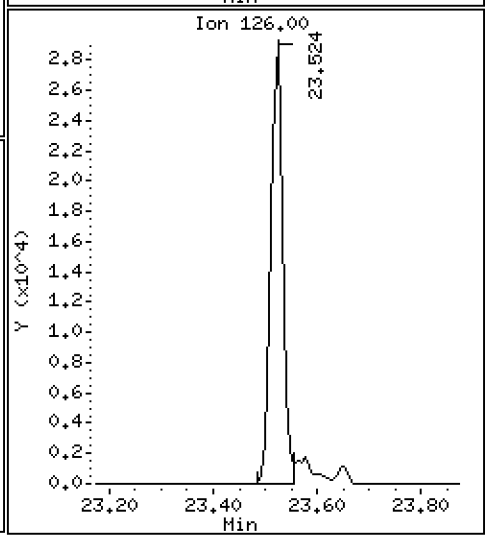












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

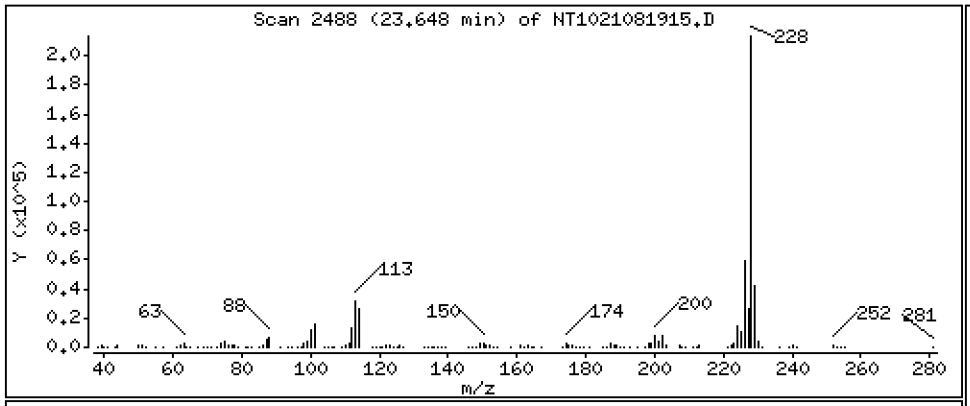
Operator: VTS

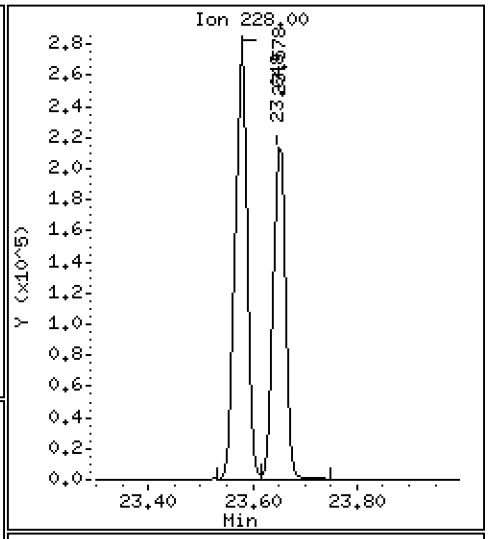
Column phase: ZB-5msi

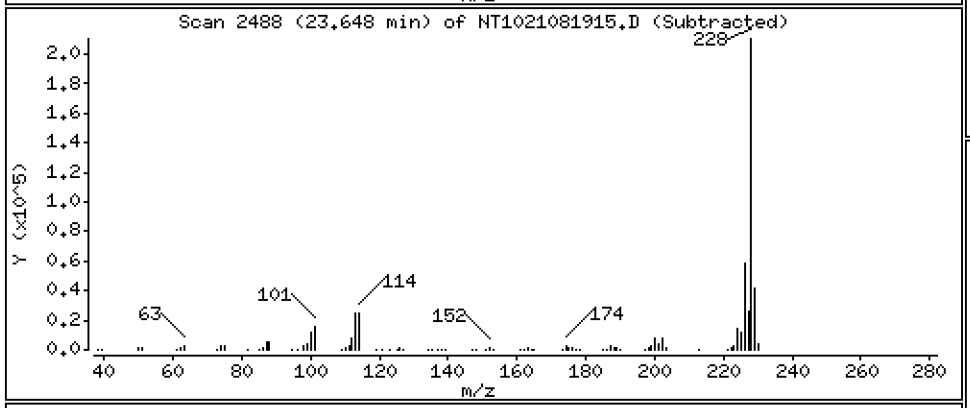
Column diameter: 0.25

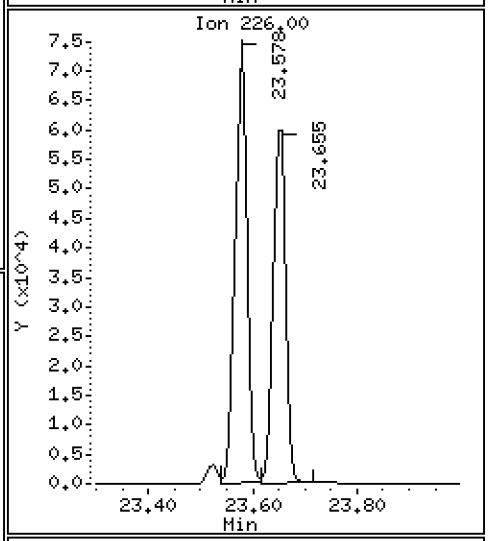
71 Chrysene

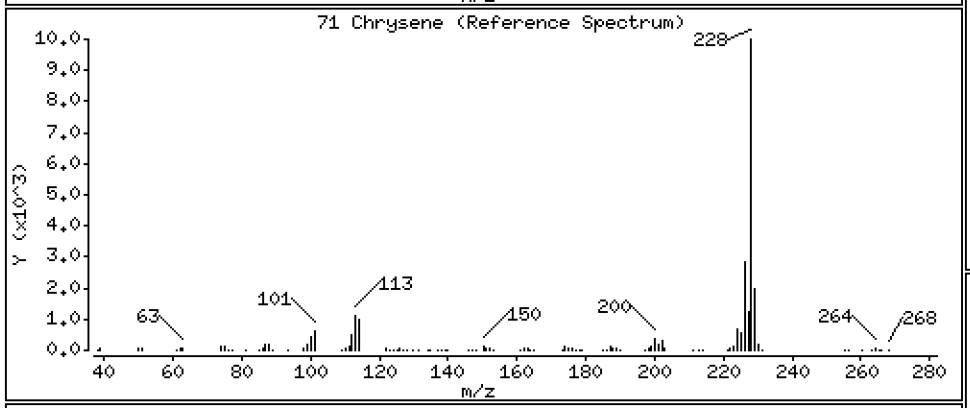
Concentration: 4.687 ug/mL

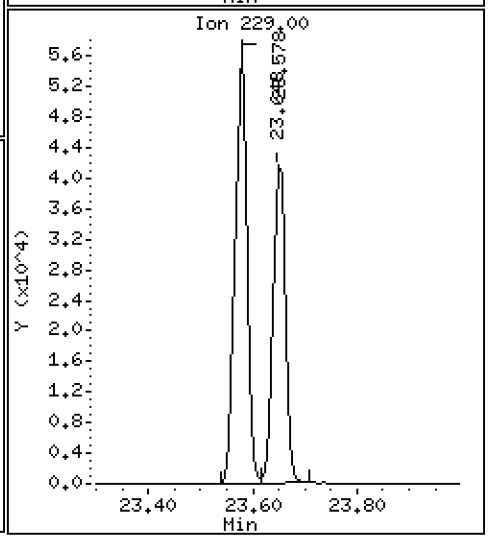


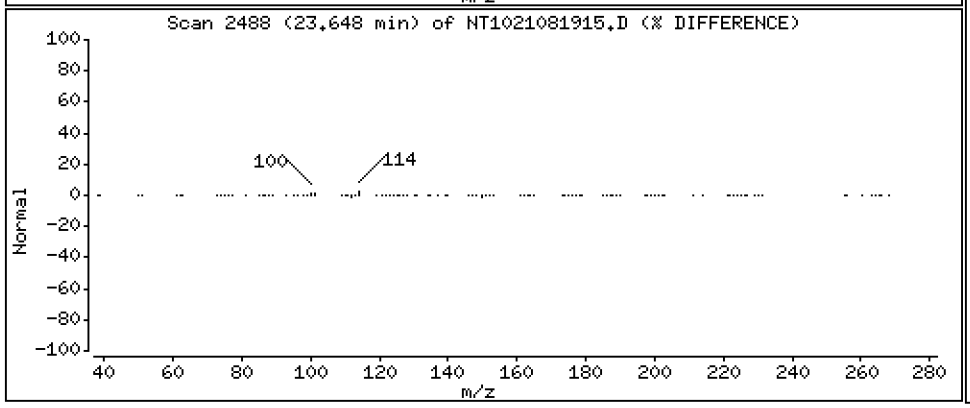












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

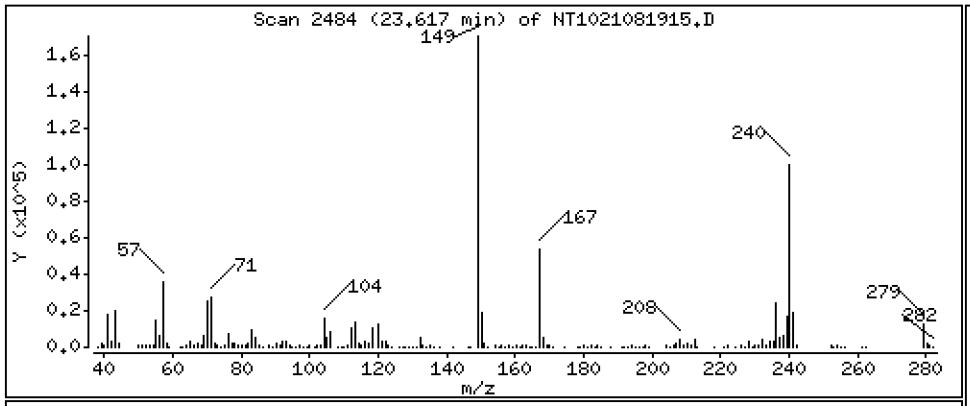
Operator: VTS

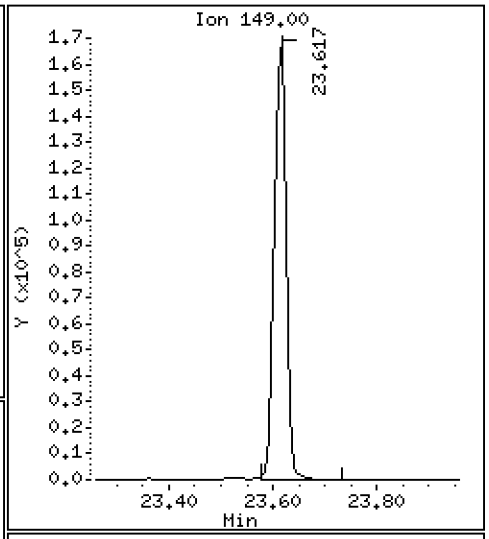
Column phase: ZB-5msi

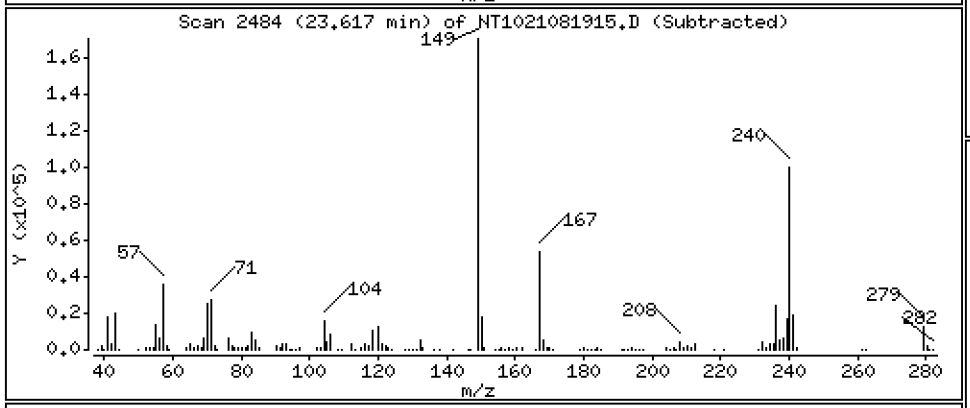
Column diameter: 0.25

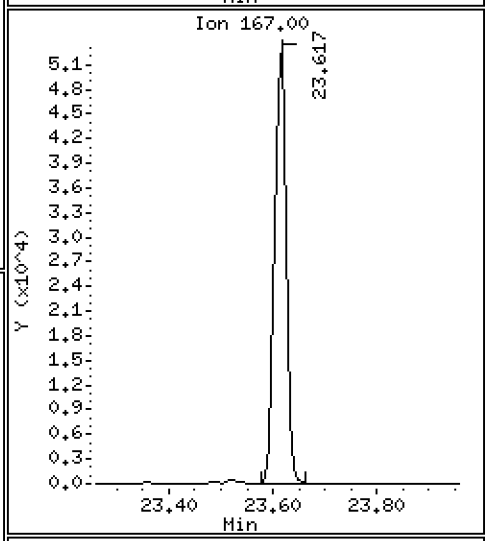
72 bis(2-Ethylhexyl)phthalate

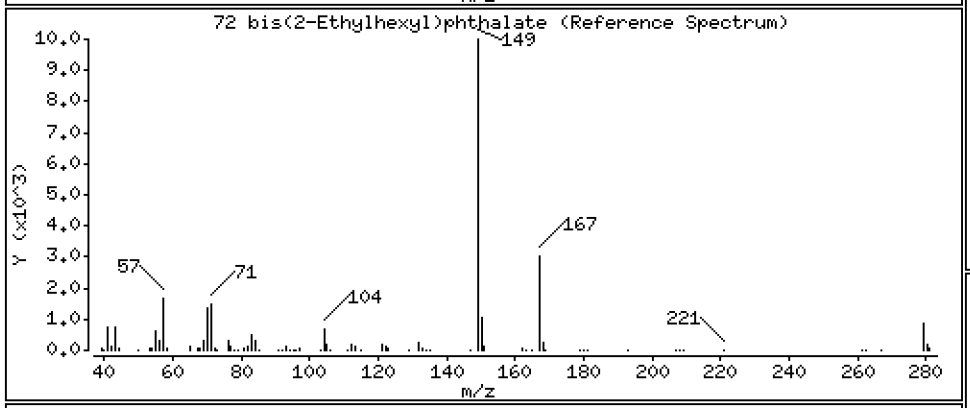
Concentration: 5.362 ug/mL

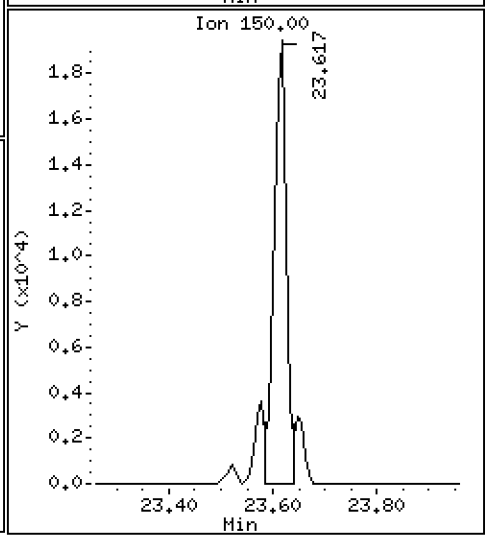


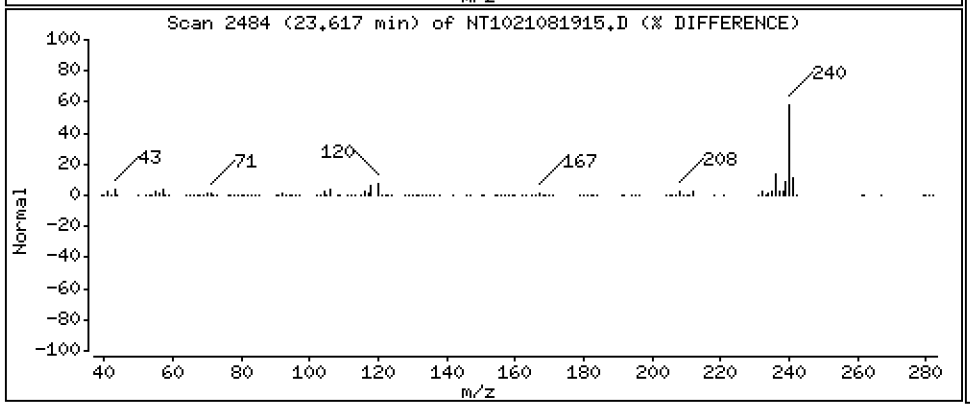












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

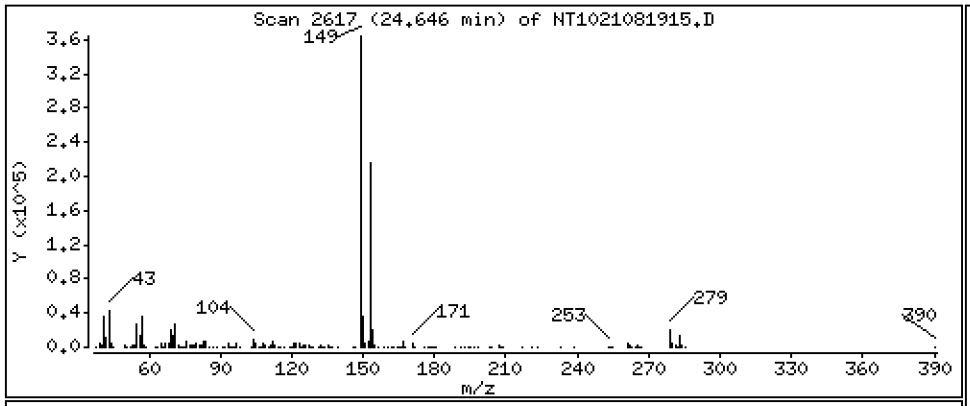
Operator: VTS

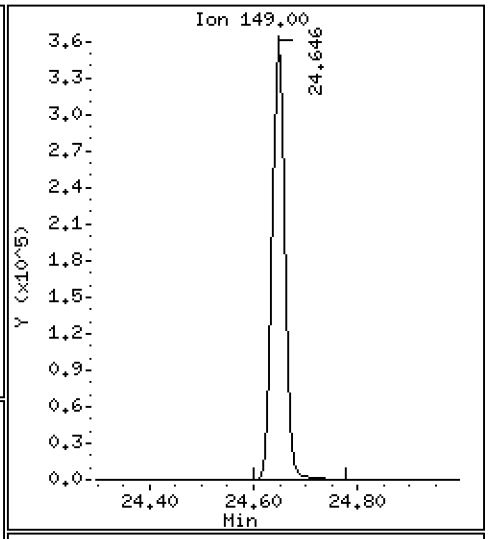
Column phase: ZB-5msi

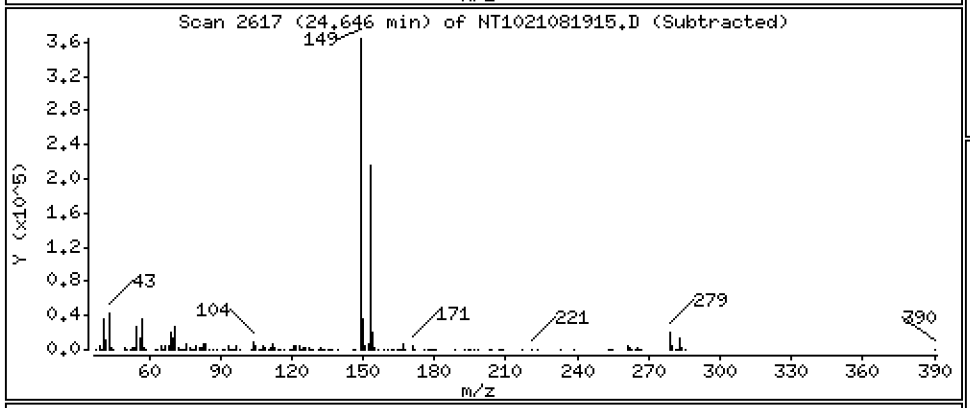
Column diameter: 0.25

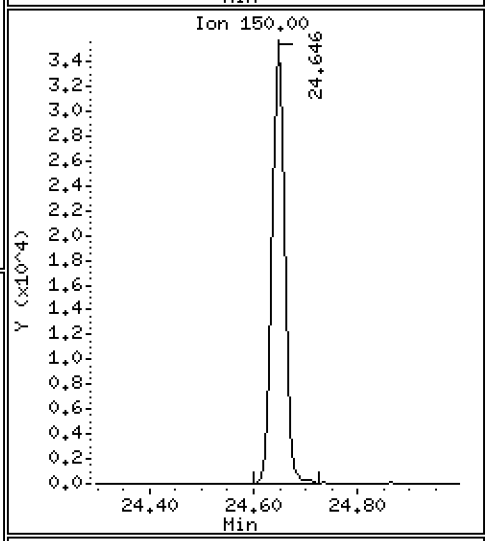
73 Di-n-octylphthalate

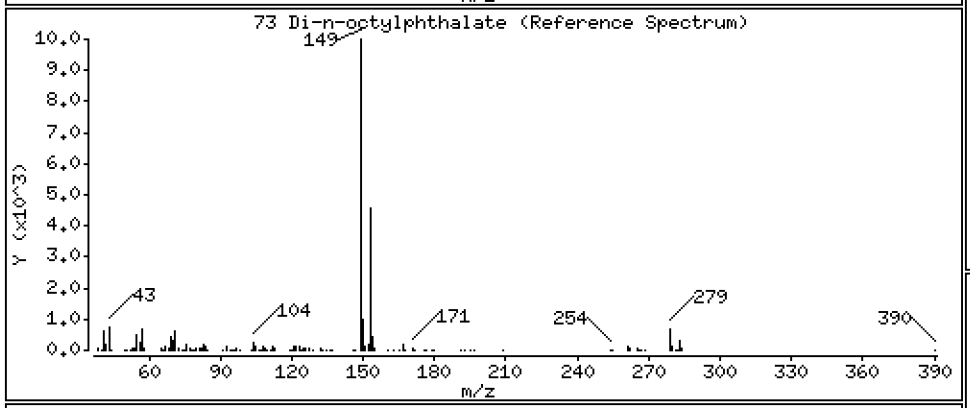
Concentration: 5.228 ug/mL

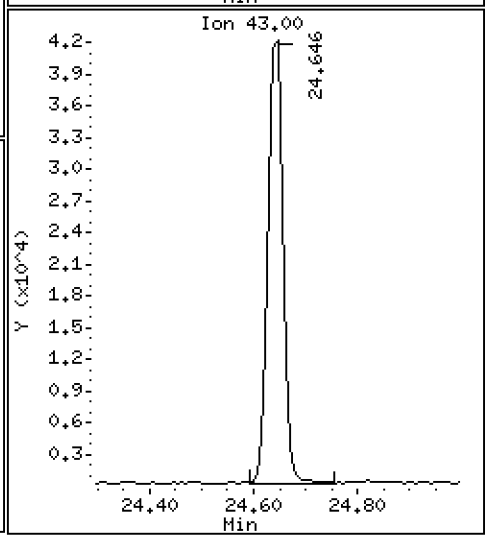


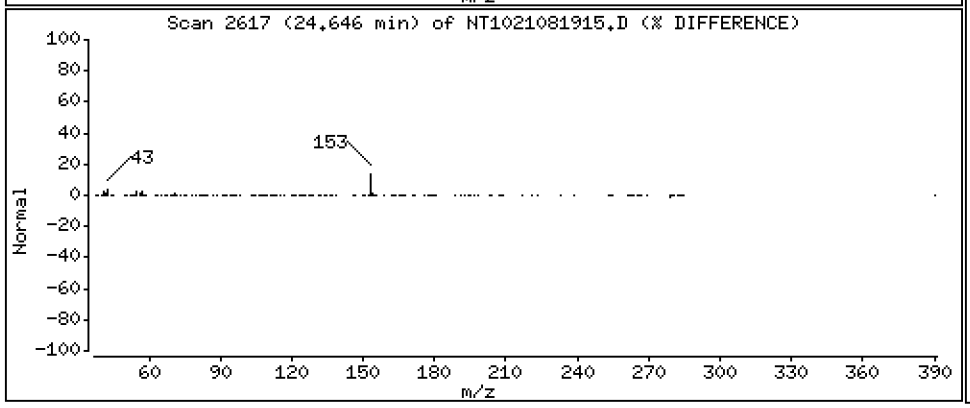












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

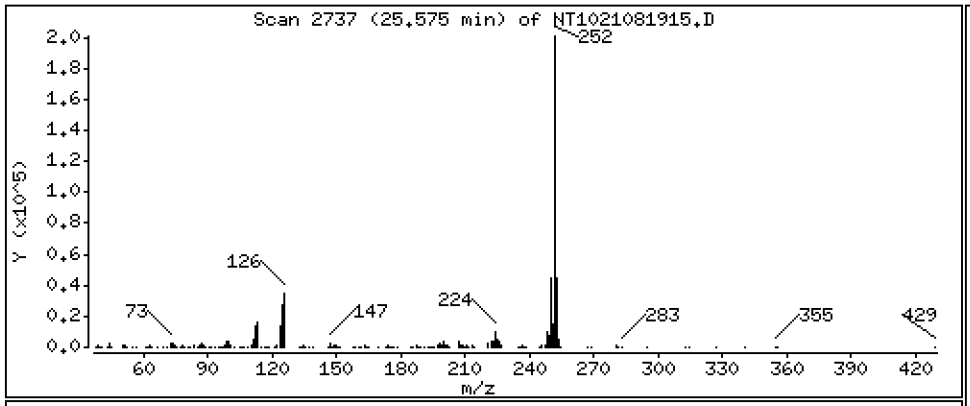
Operator: VTS

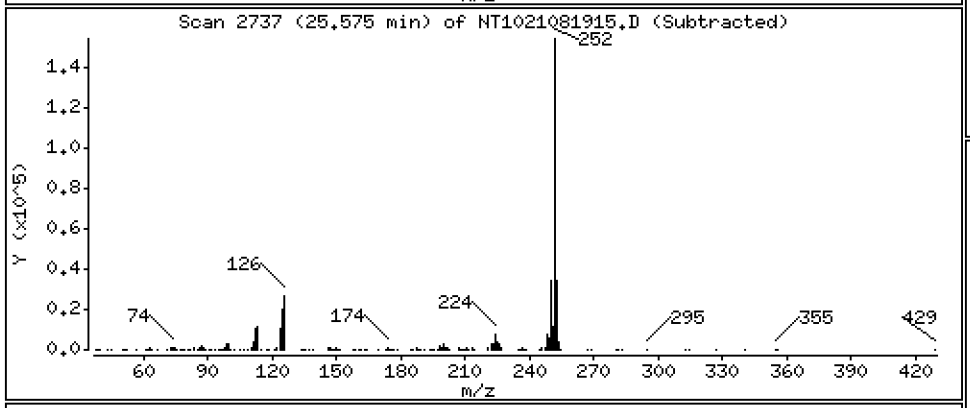
Column phase: ZB-5msi

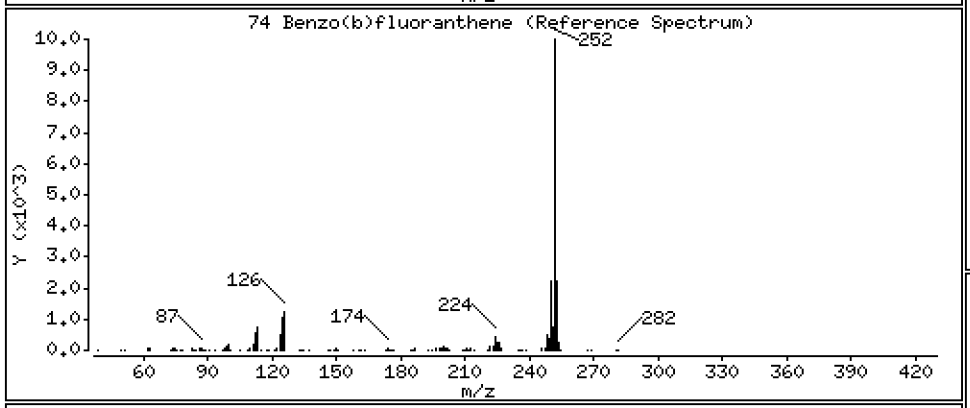
Column diameter: 0.25

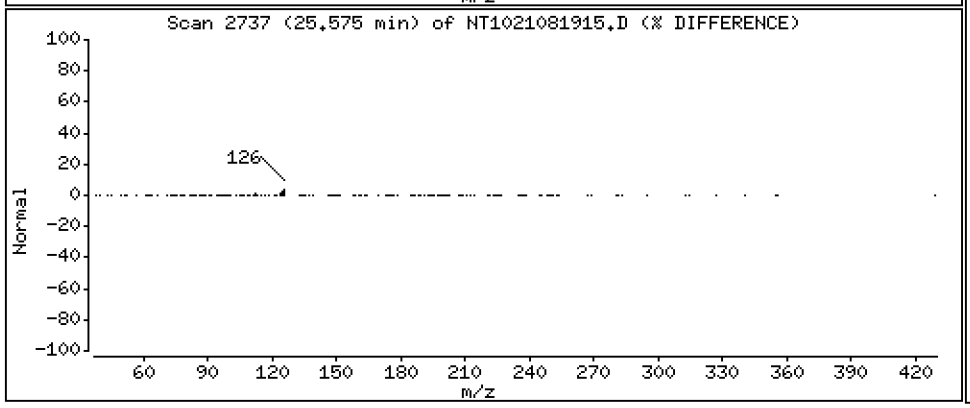
74 Benzo(b)fluoranthene

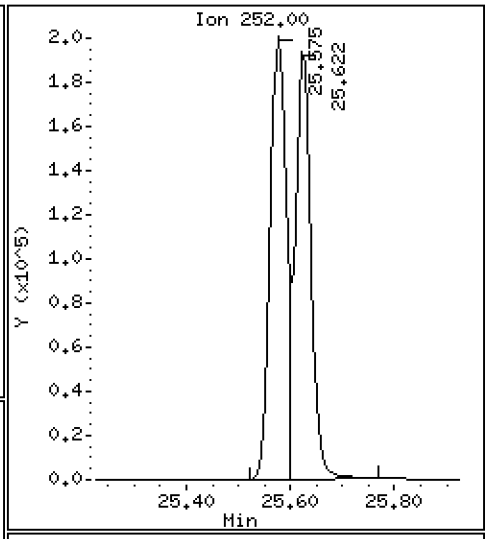
Concentration: 4.877 ug/mL

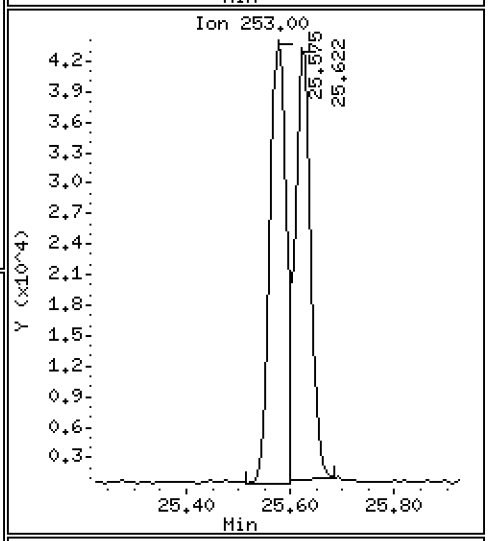


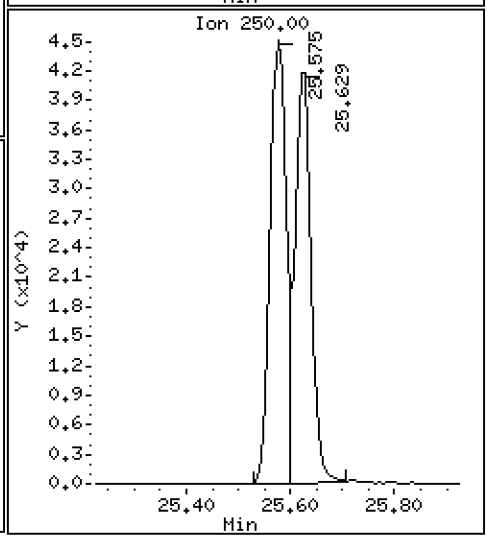












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

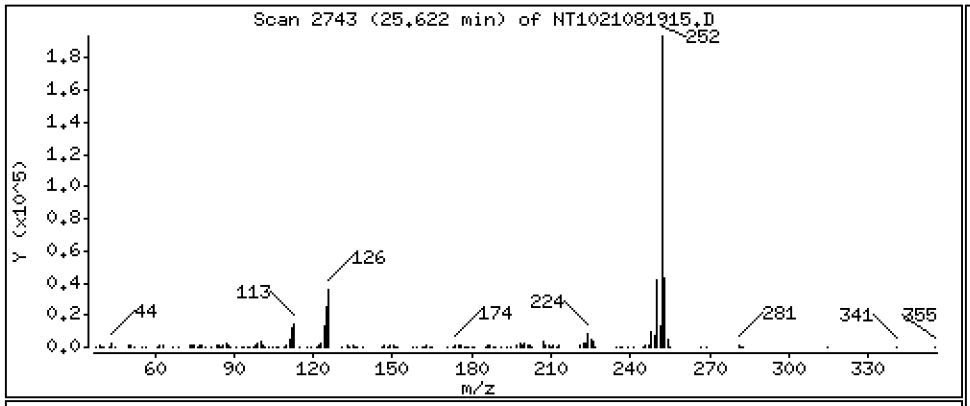
Operator: VTS

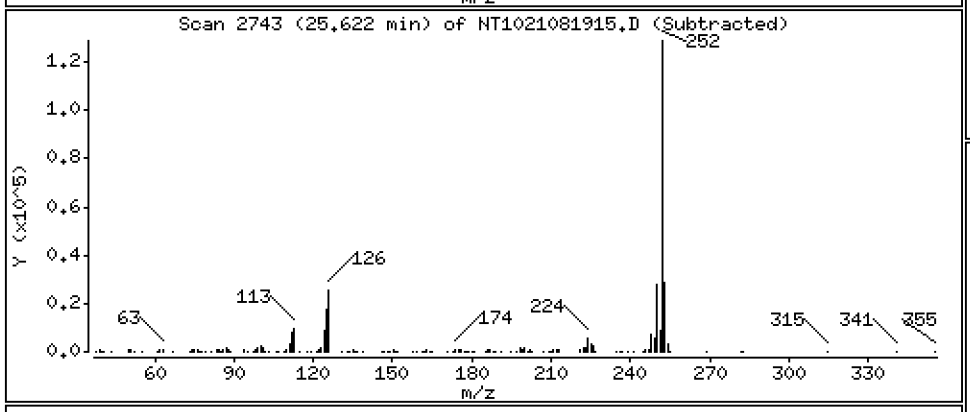
Column phase: ZB-5msi

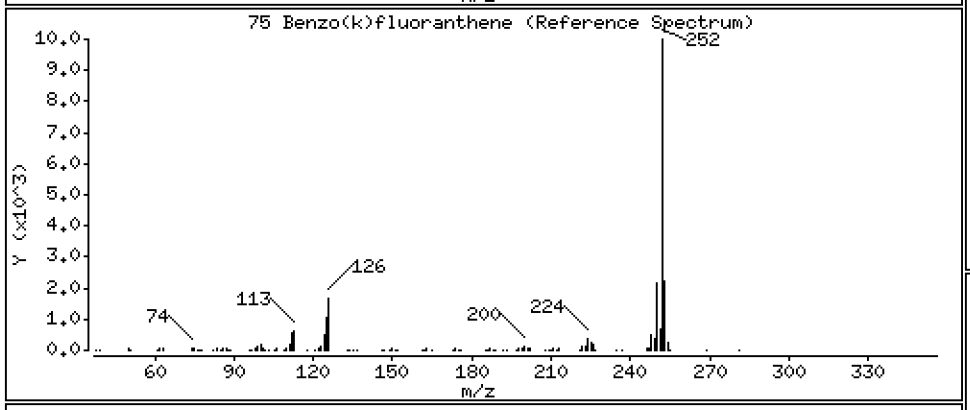
Column diameter: 0.25

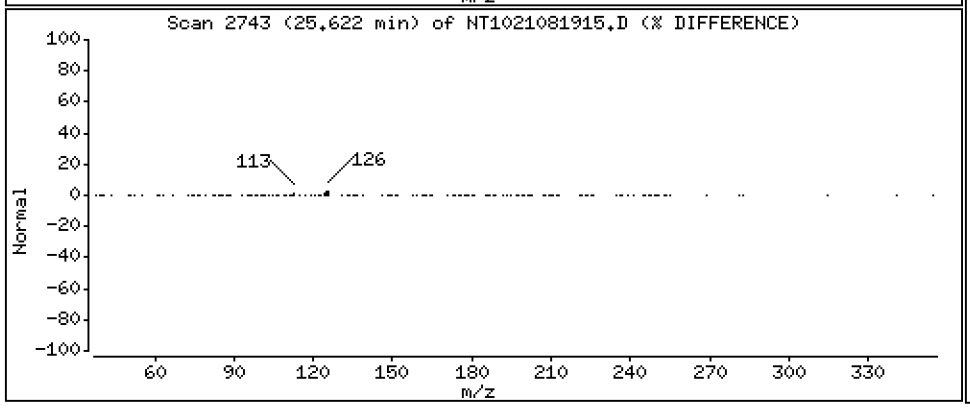
75 Benzo(k)fluoranthene

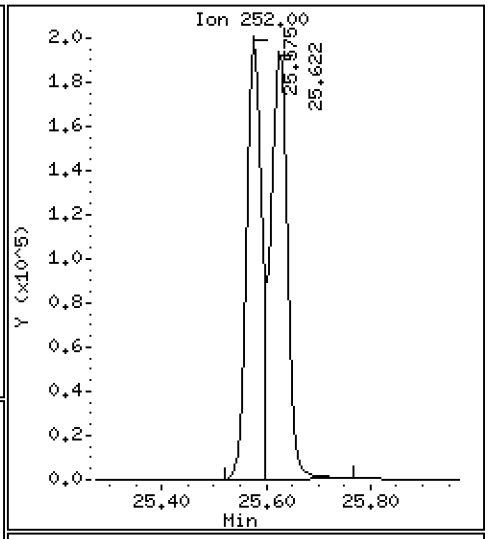
Concentration: 5.195 ug/mL

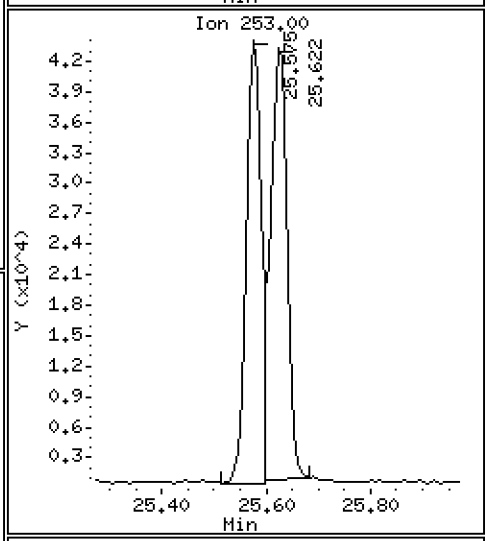


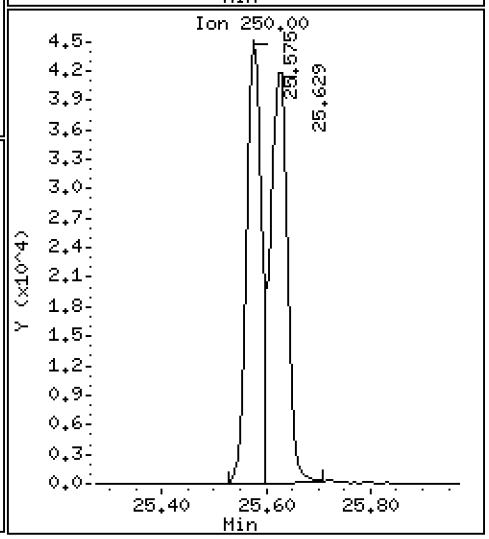












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

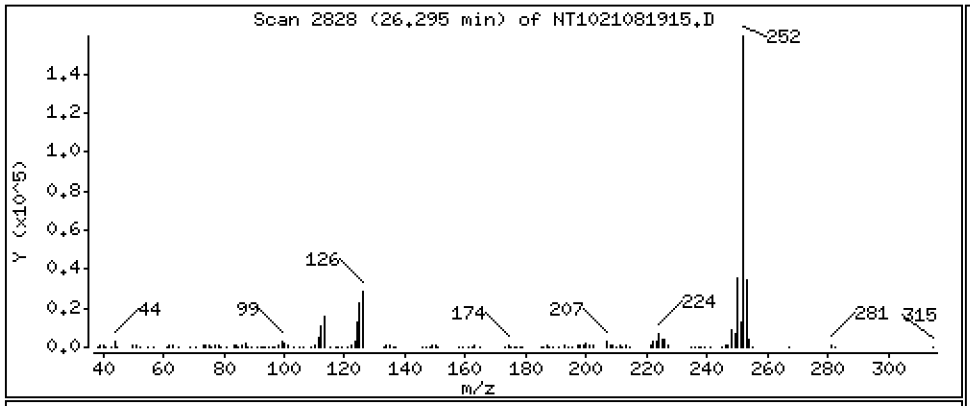
Operator: VTS

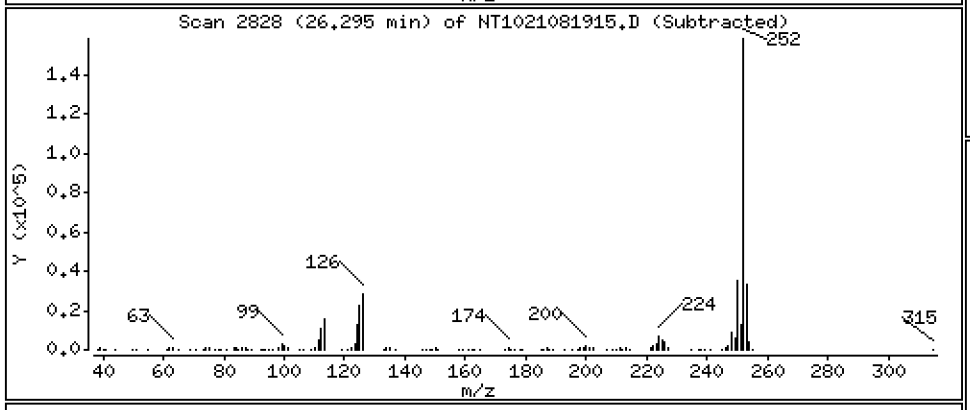
Column phase: ZB-5msi

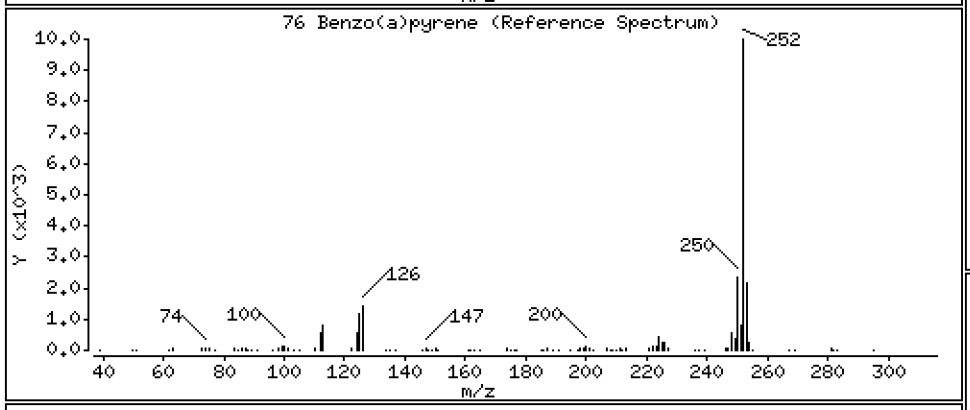
Column diameter: 0.25

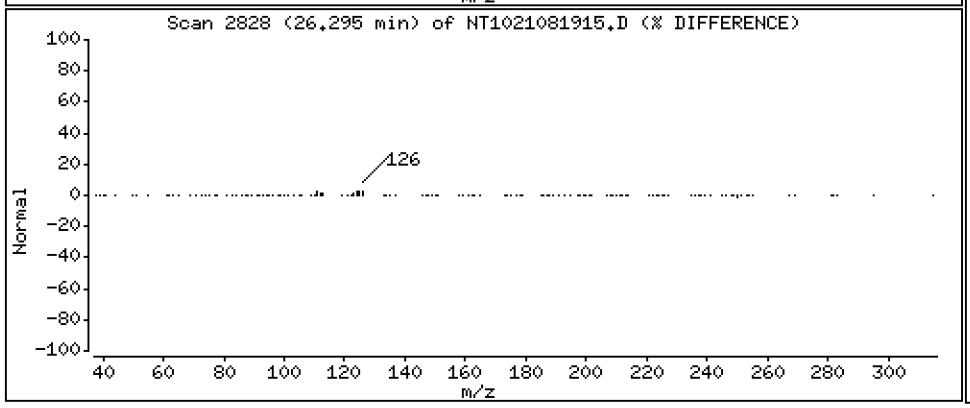
76 Benzo(a)pyrene

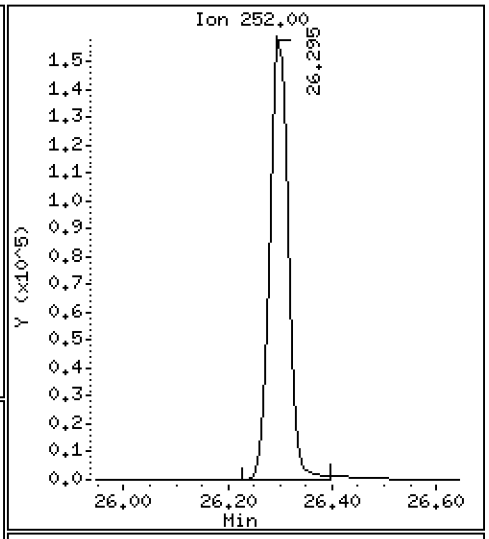
Concentration: 4.980 ug/mL

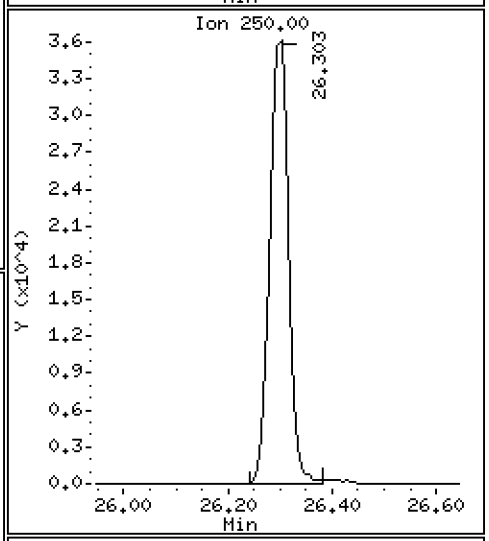


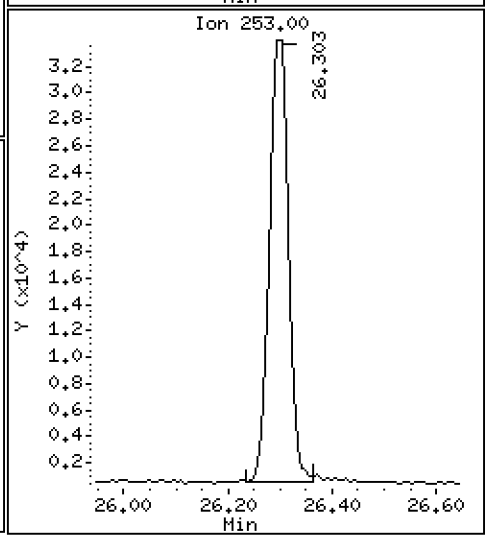












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

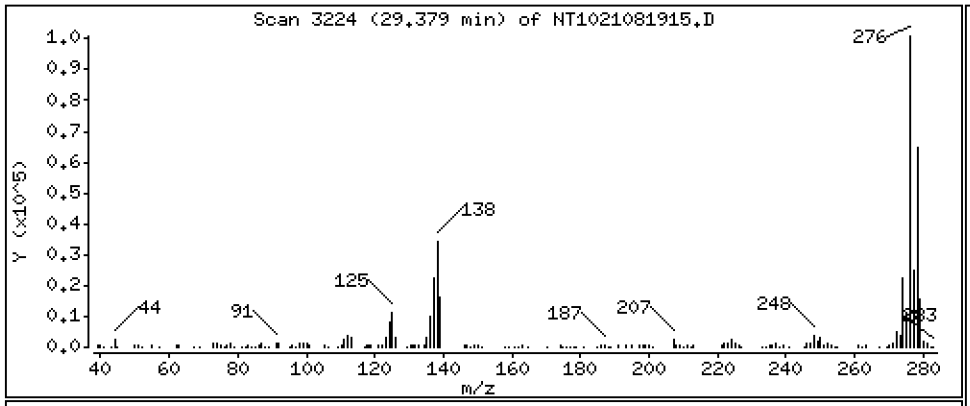
Operator: VTS

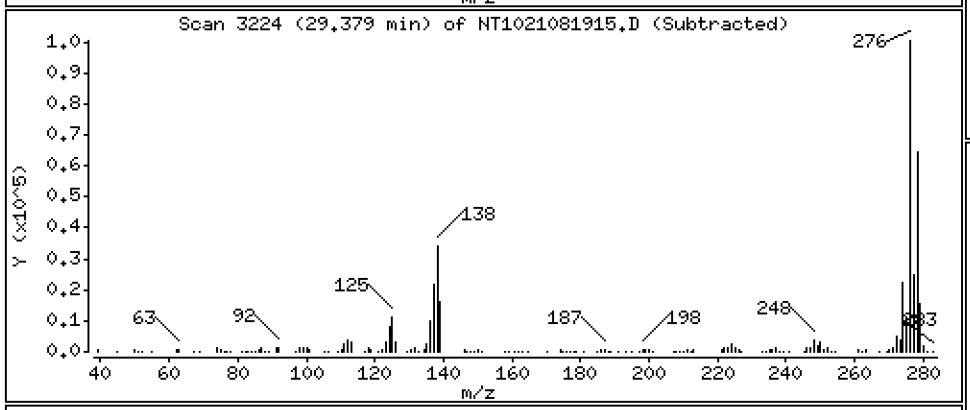
Column phase: ZB-5msi

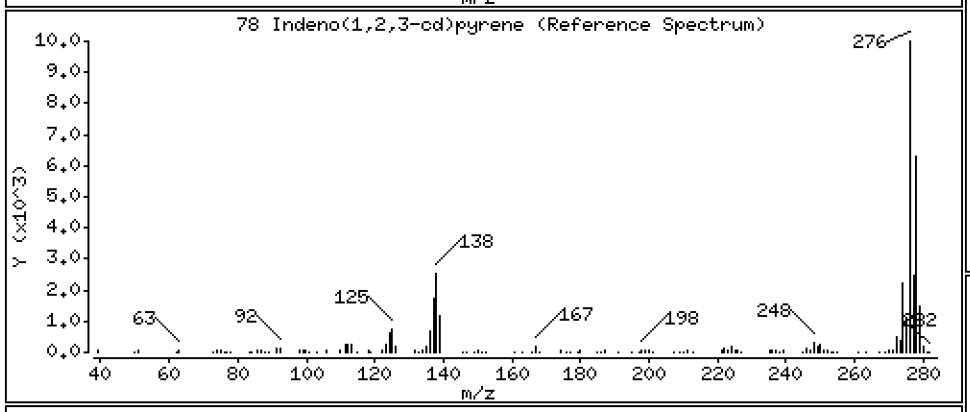
Column diameter: 0.25

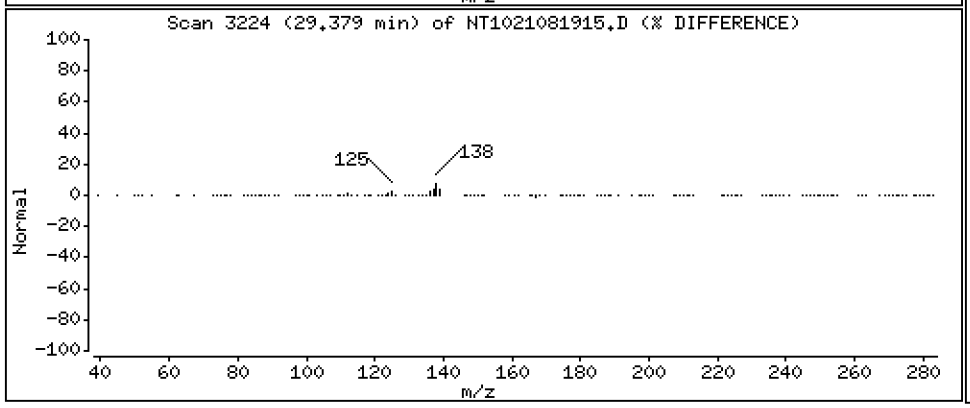
78 Indeno(1,2,3-cd)pyrene

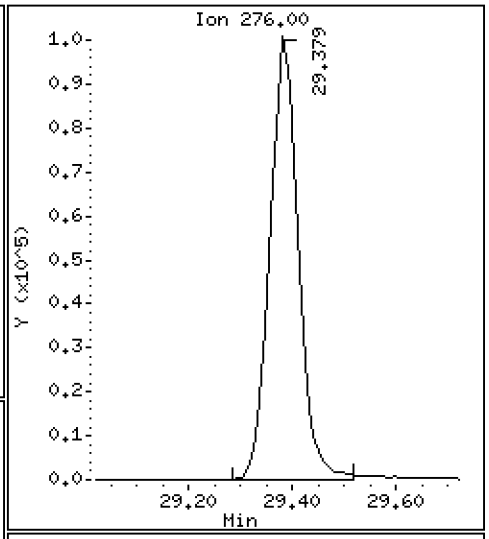
Concentration: 4.855 ug/mL

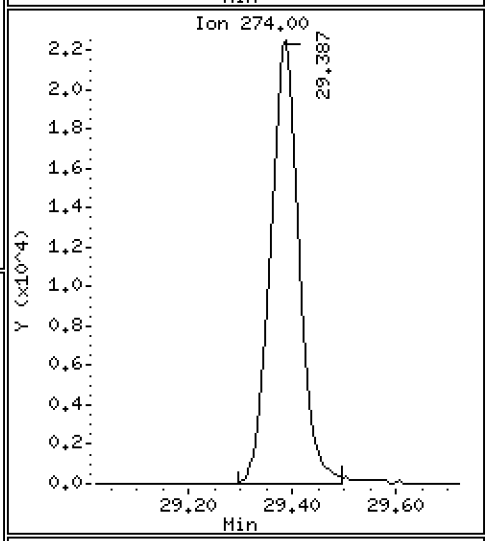


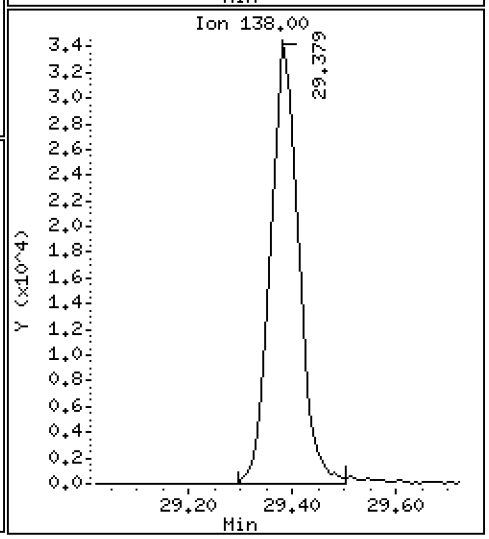












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

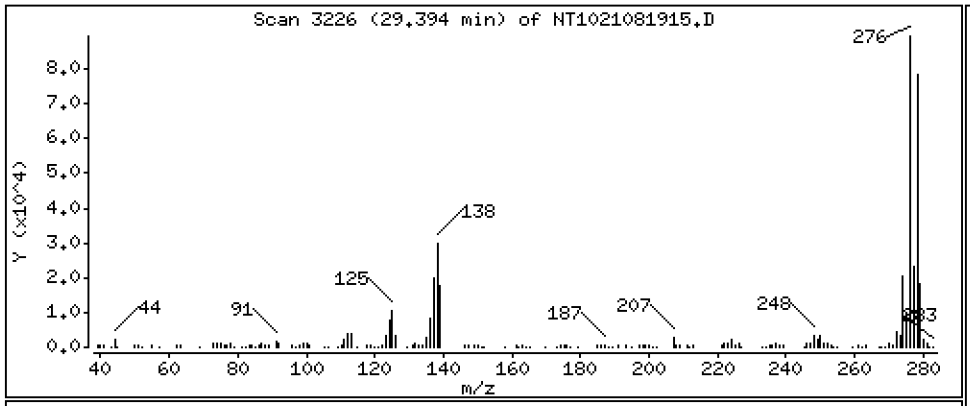
Operator: VTS

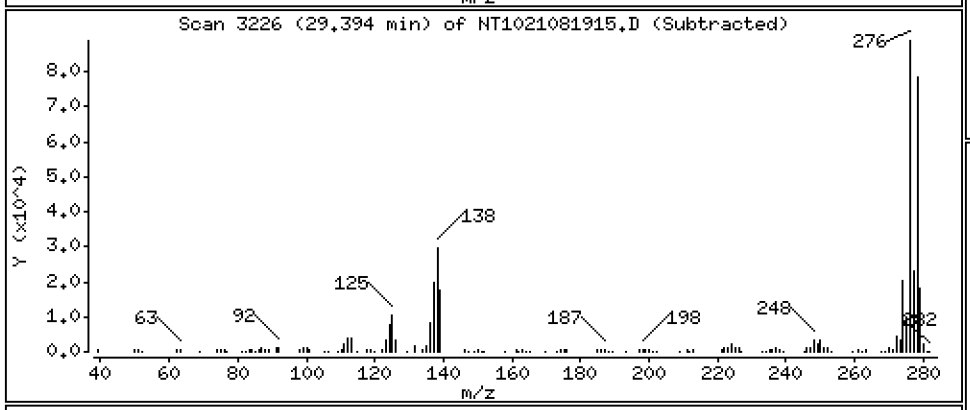
Column phase: ZB-5msi

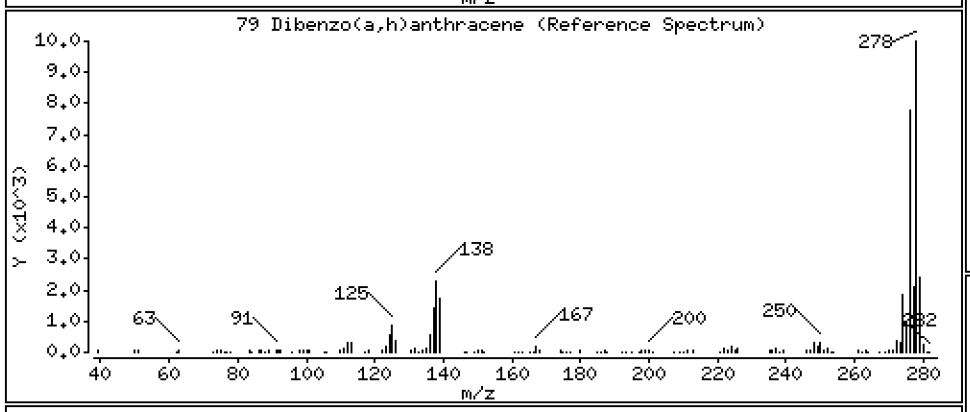
Column diameter: 0.25

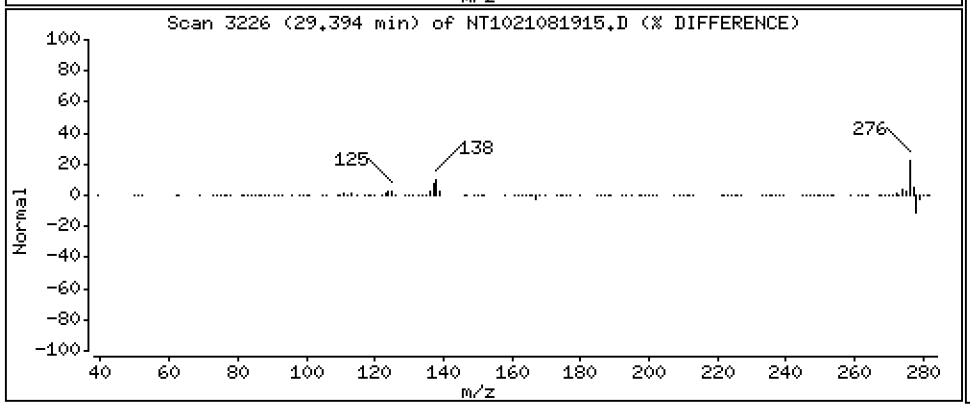
79 Dibenzo(a,h)anthracene

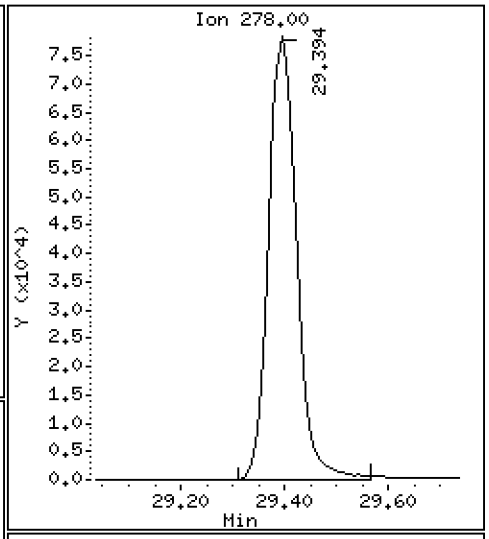
Concentration: 4.838 ug/mL

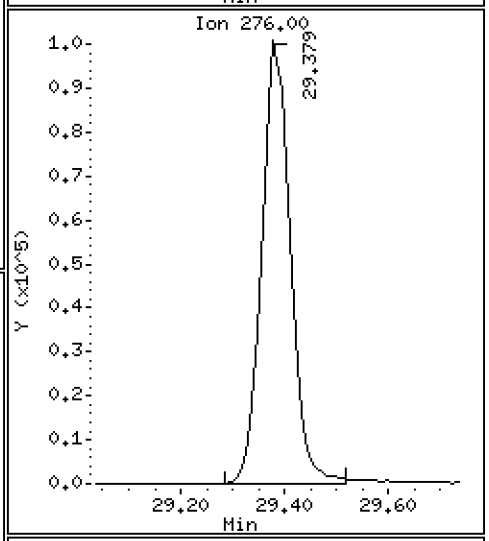


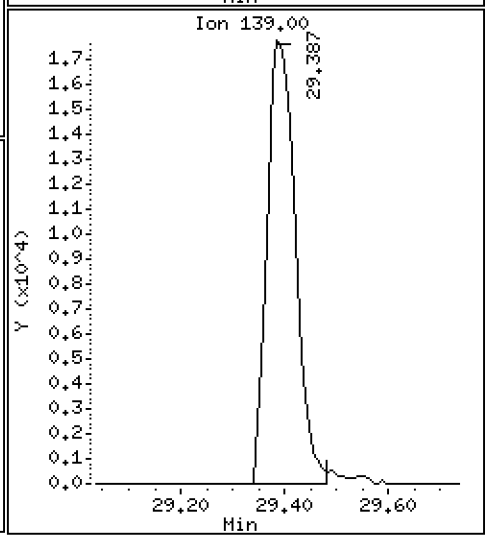












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

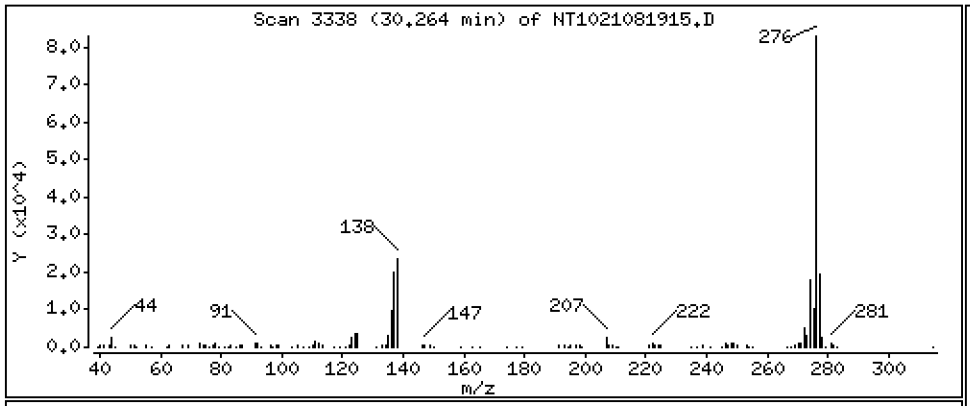
Operator: VTS

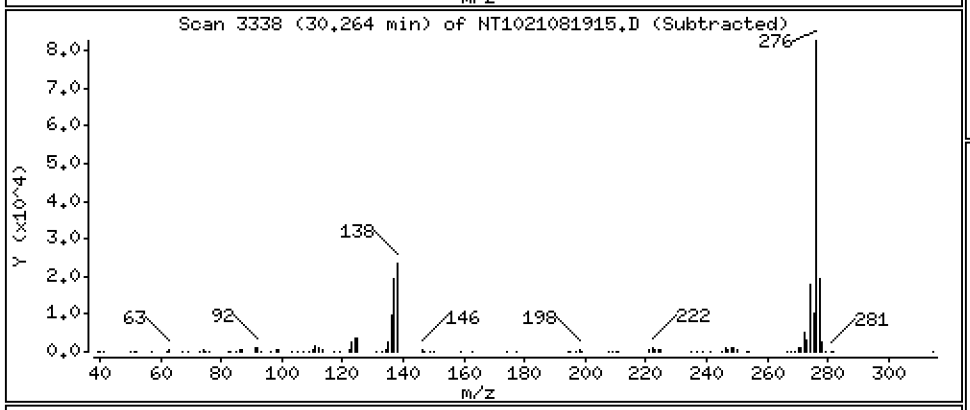
Column phase: ZB-5msi

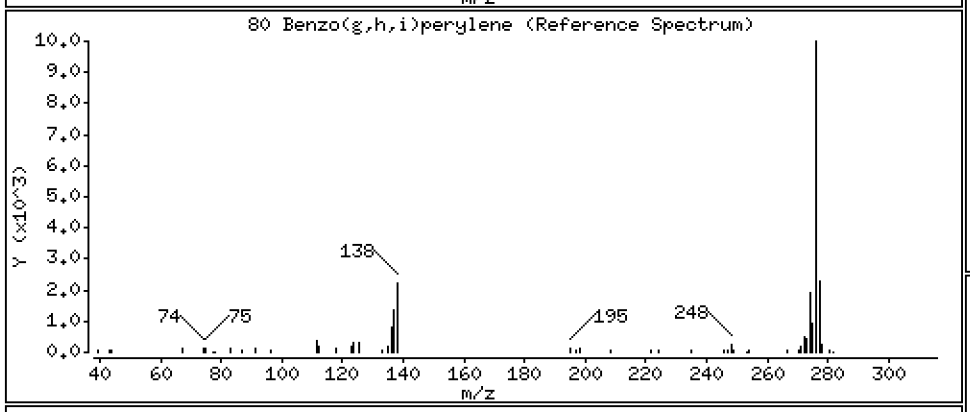
Column diameter: 0.25

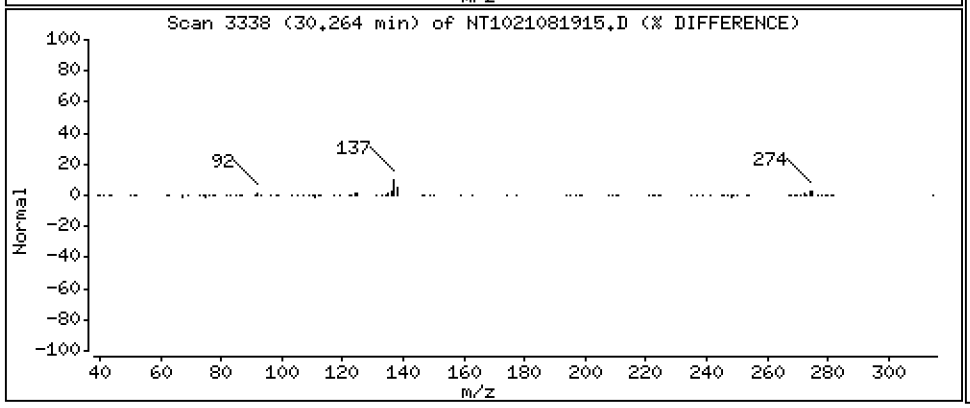
80 Benzo(g,h,i)perylene

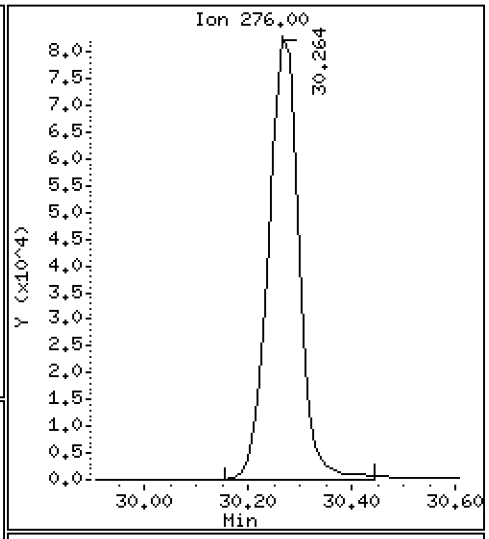
Concentration: 4.923 ug/mL

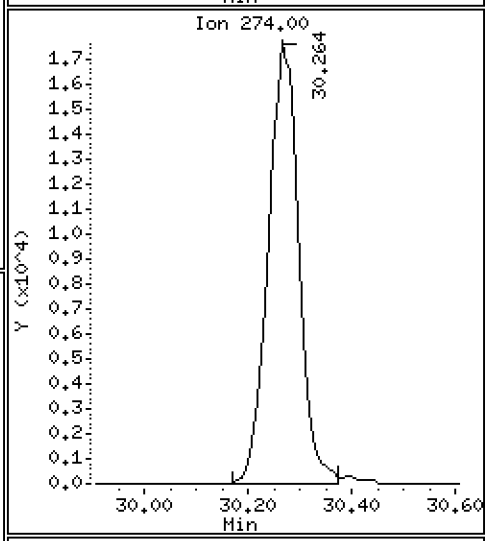


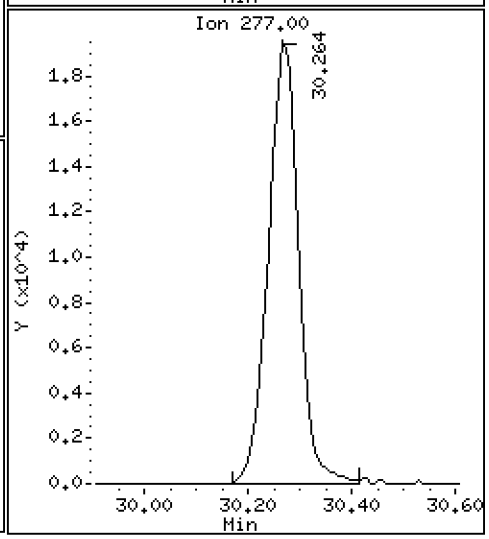












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

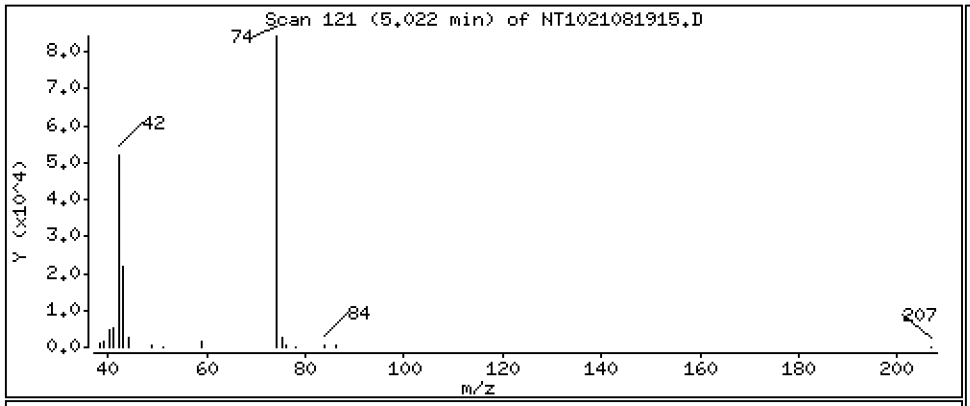
Operator: VTS

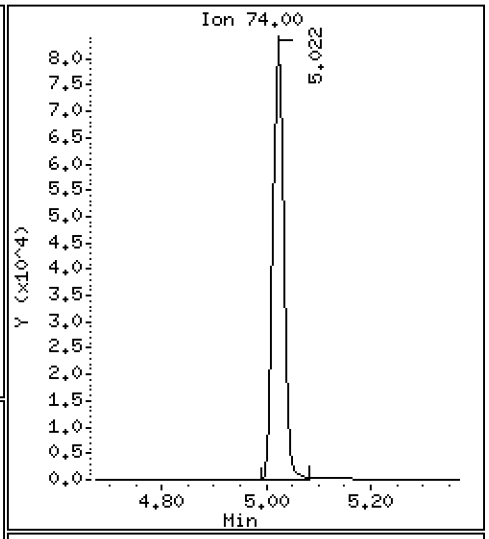
Column phase: ZB-5msi

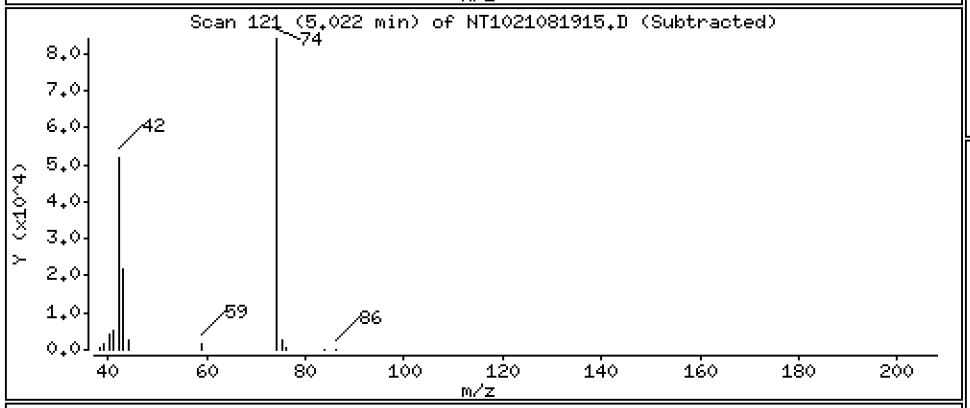
Column diameter: 0.25

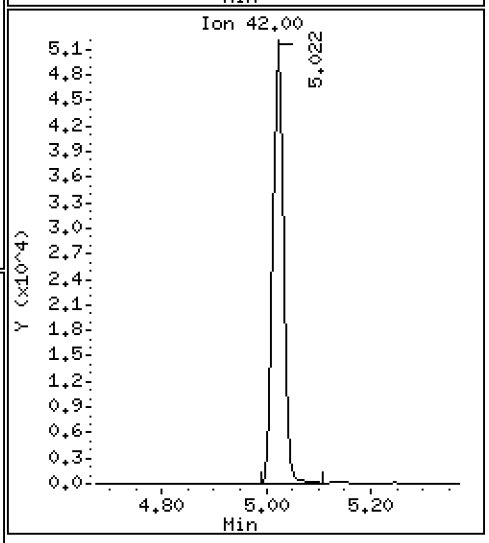
90 N-Nitrosodimethylamine

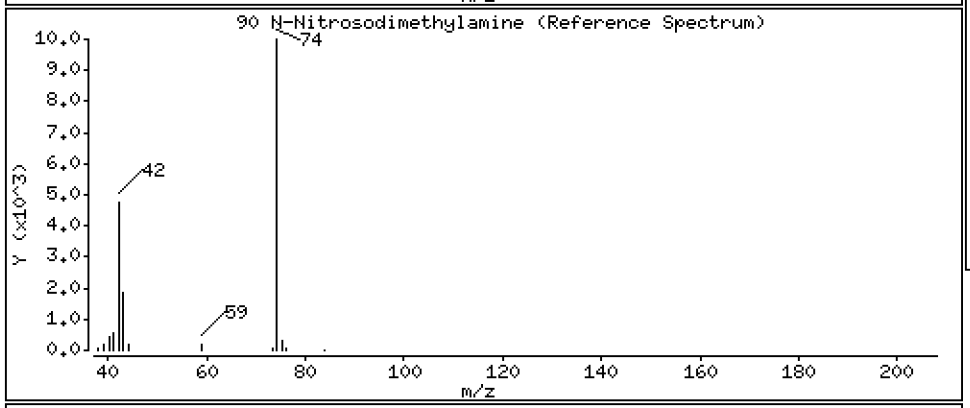
Concentration: 6.037 ug/mL

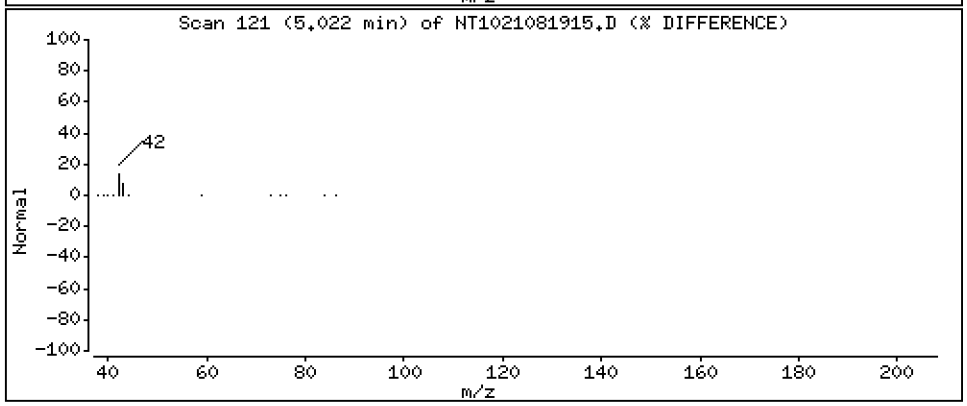












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

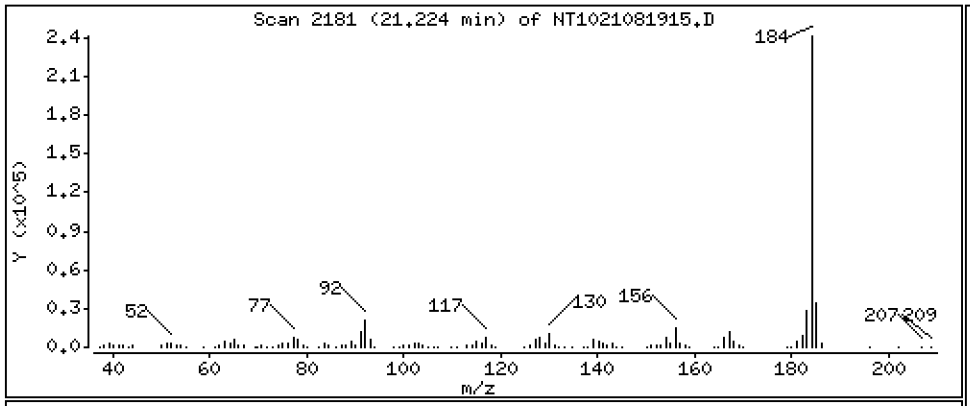
Operator: VTS

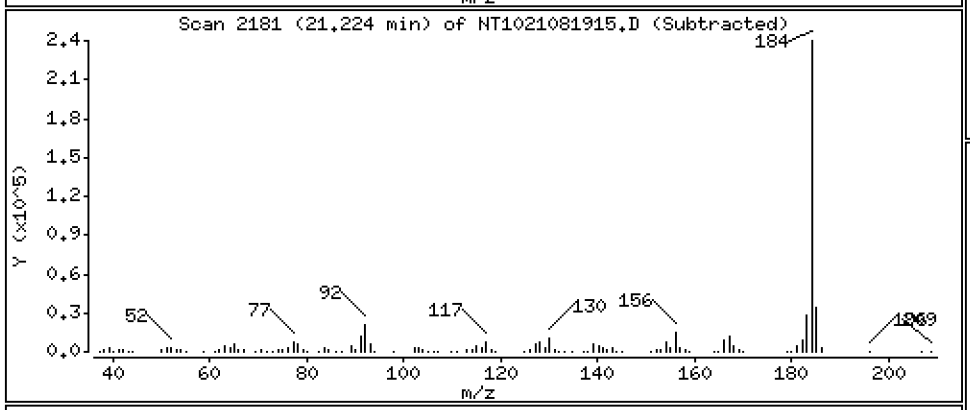
Column phase: ZB-5msi

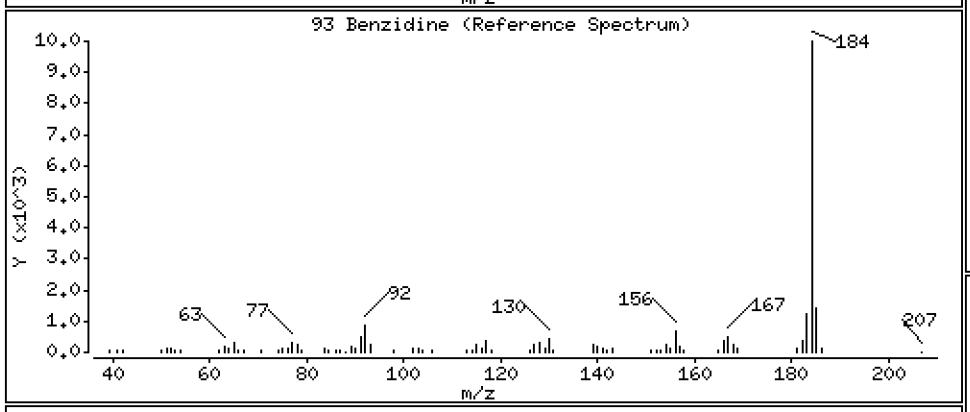
Column diameter: 0.25

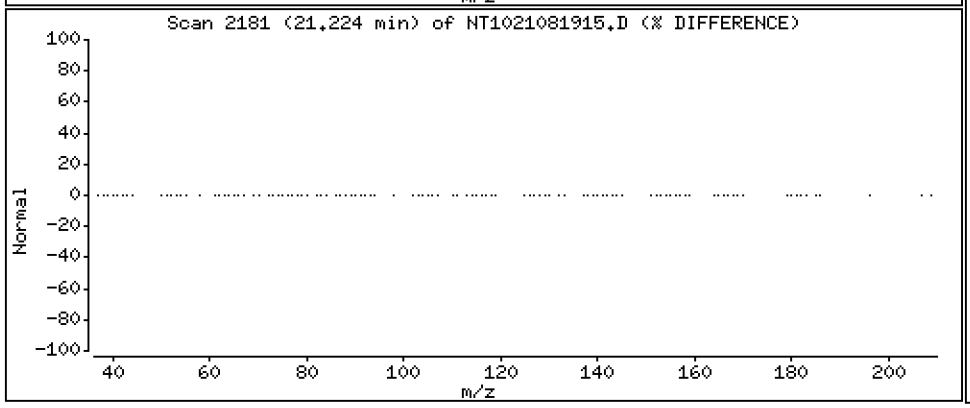
93 Benzidine

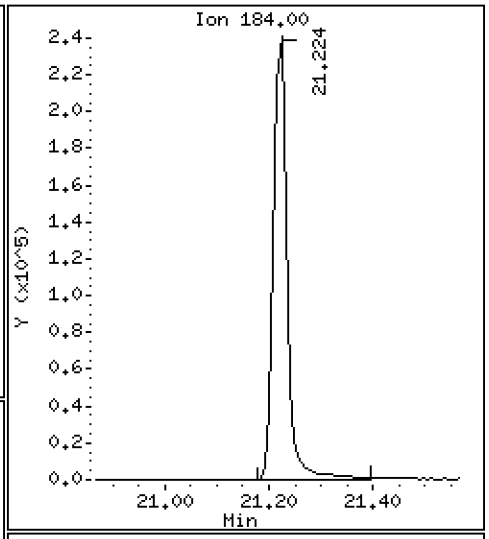
Concentration: 8.480 ug/mL

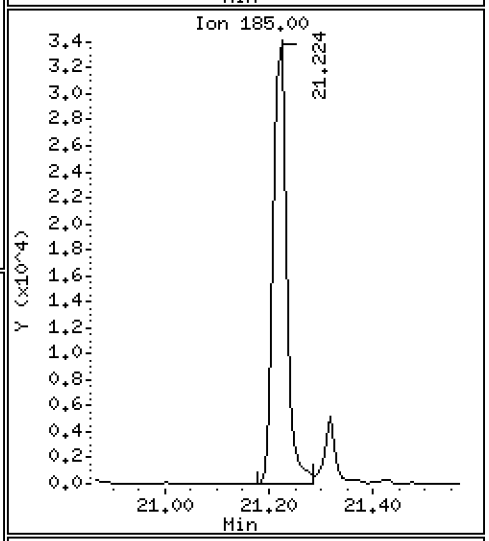


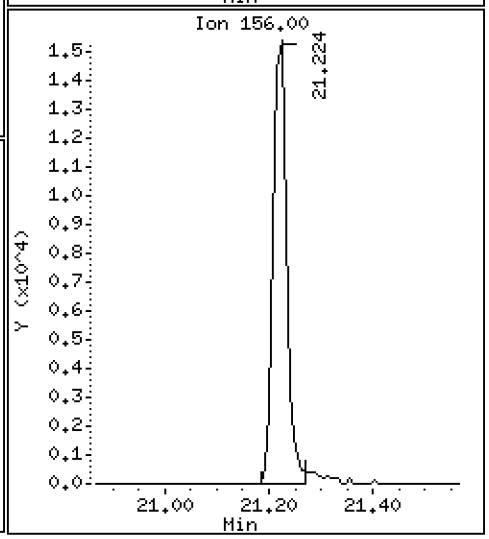












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

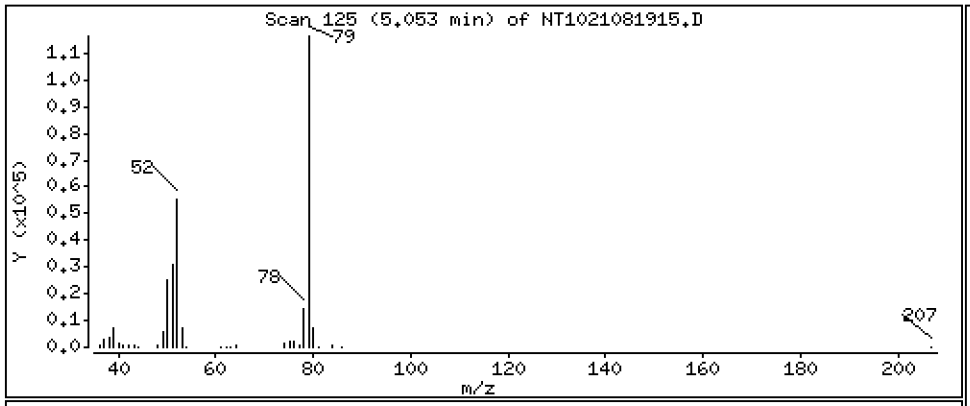
Operator: VTS

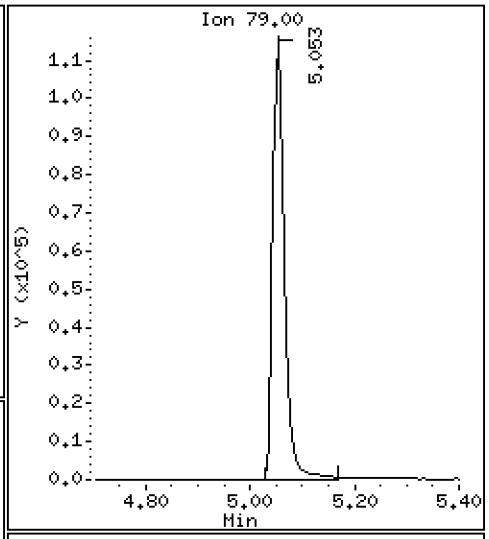
Column phase: ZB-5msi

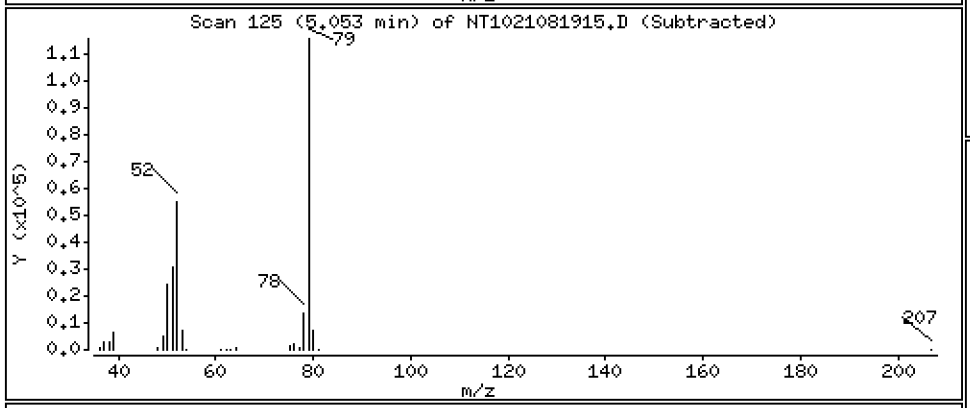
Column diameter: 0.25

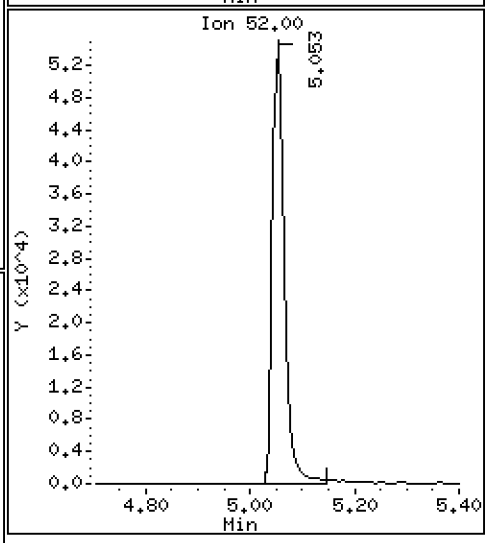
103 Pyridine

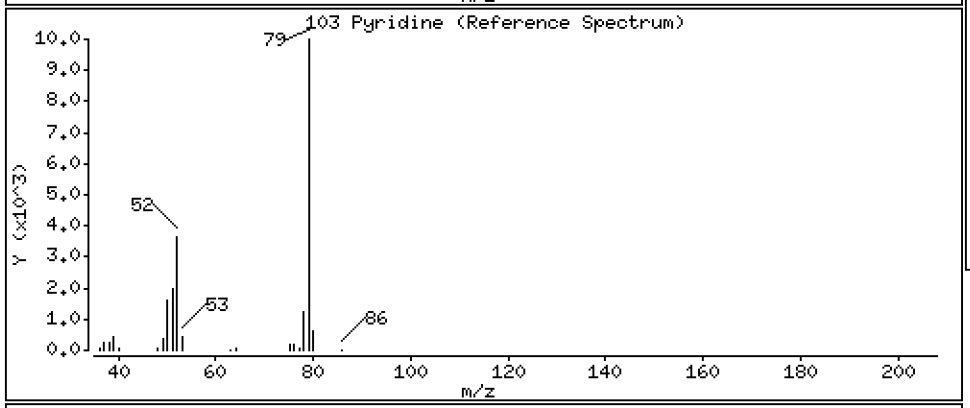
Concentration: 2.866 ug/mL

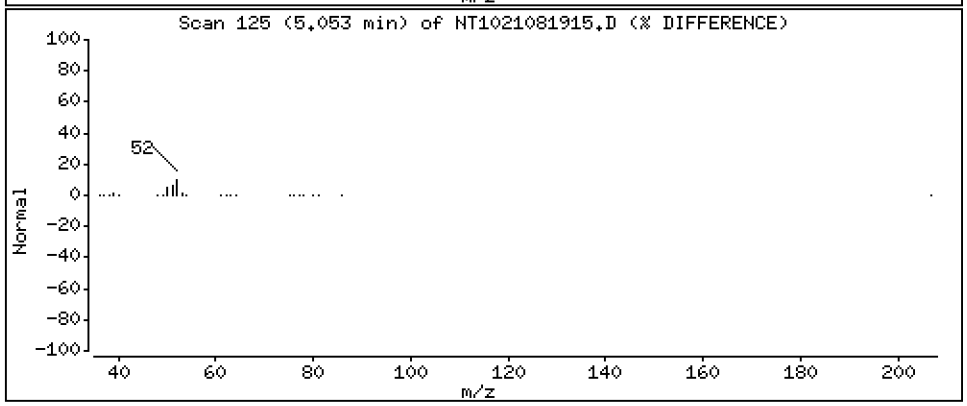












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

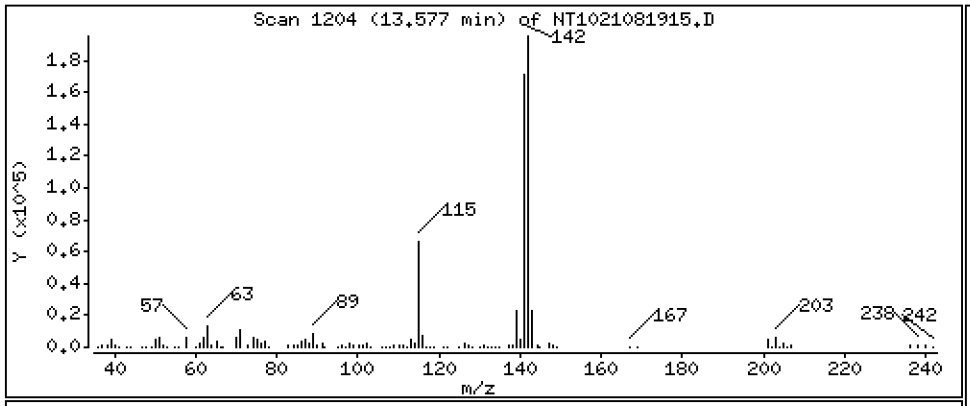
Operator: VTS

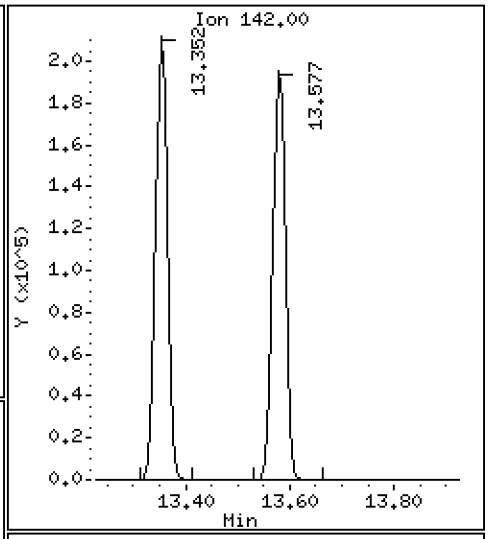
Column phase: ZB-5msi

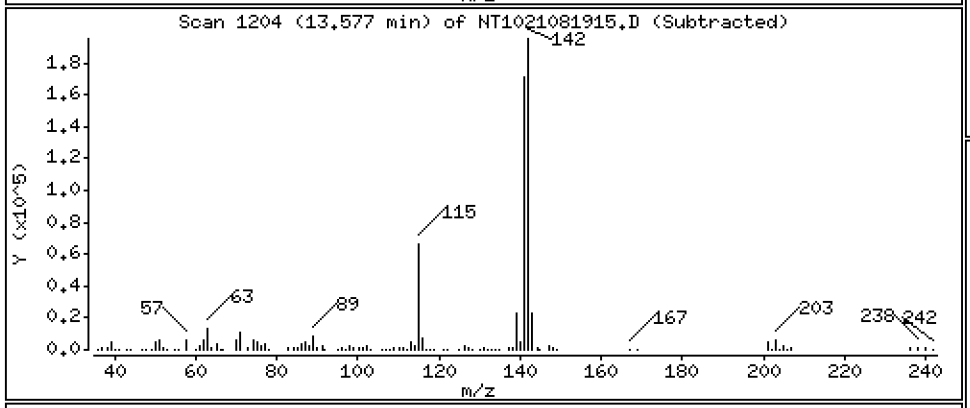
Column diameter: 0.25

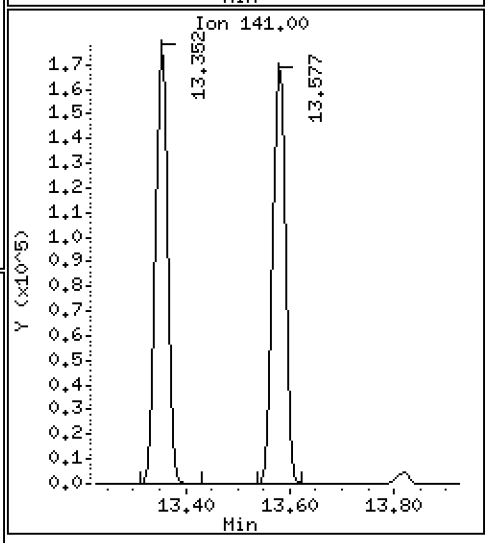
105 1-methylnaphthalene

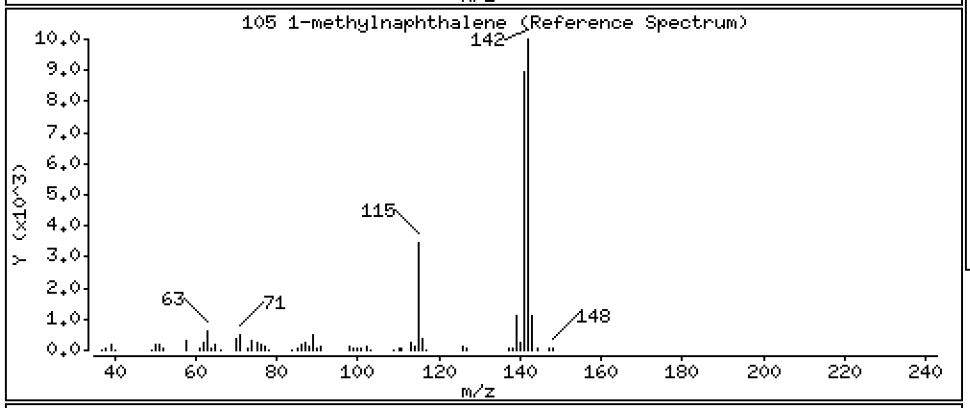
Concentration: 4.815 ug/mL

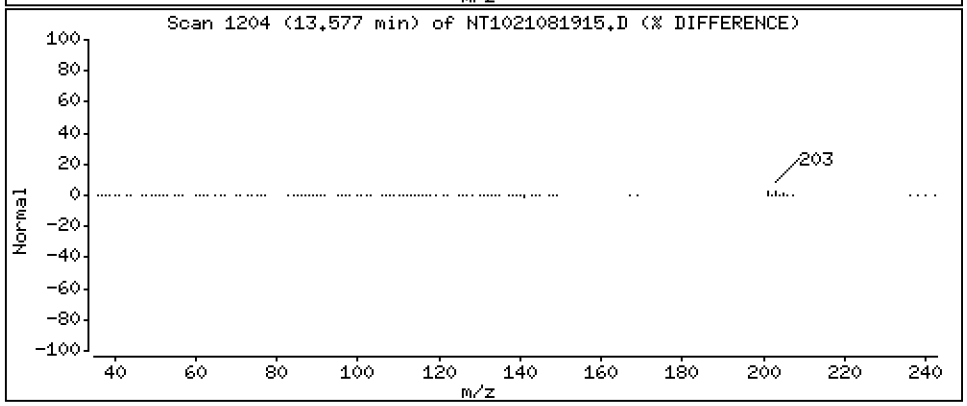












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

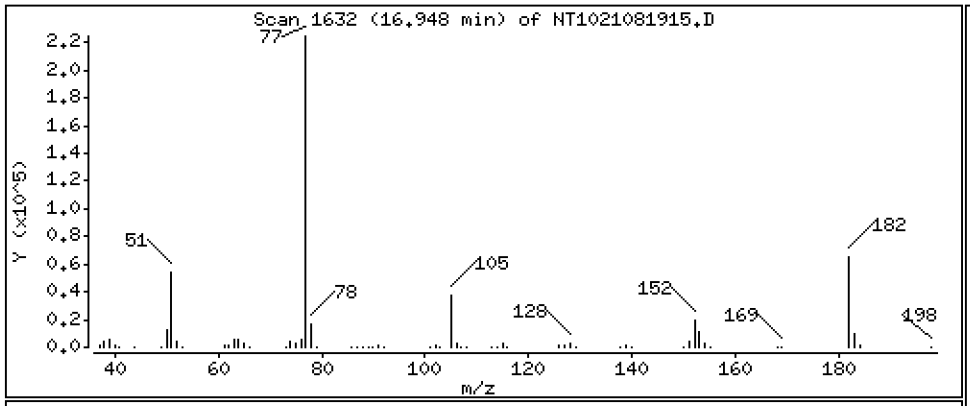
Operator: VTS

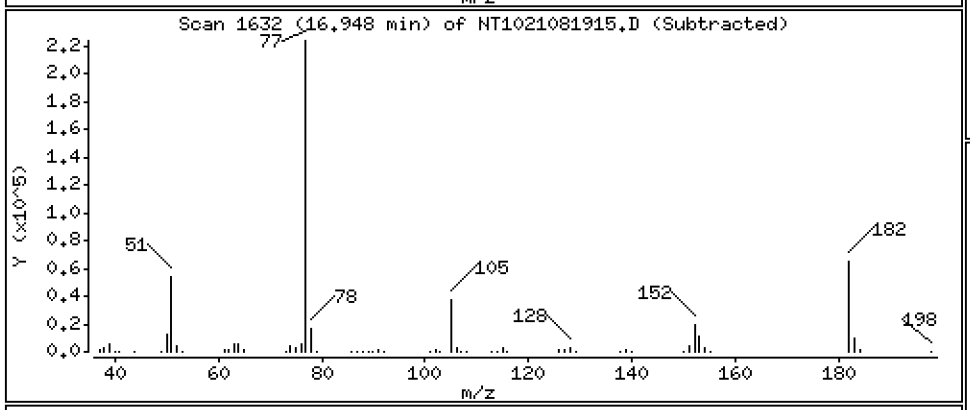
Column phase: ZB-5msi

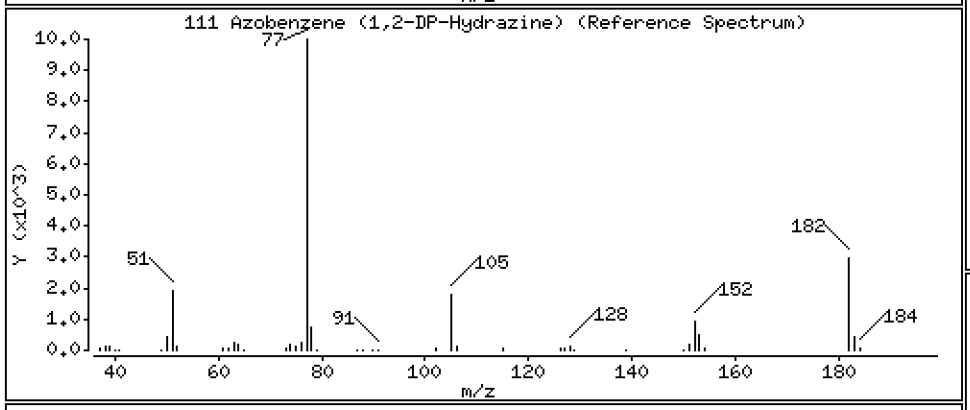
Column diameter: 0.25

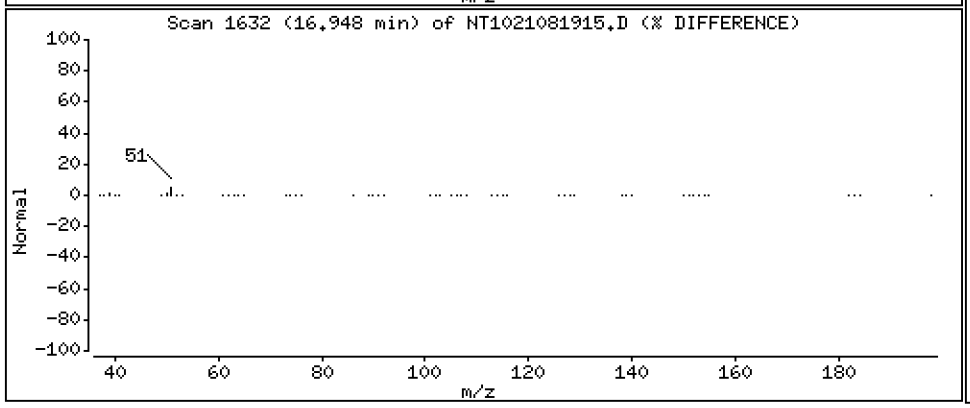
111 Azobenzene (1,2-DP-Hydrazine)

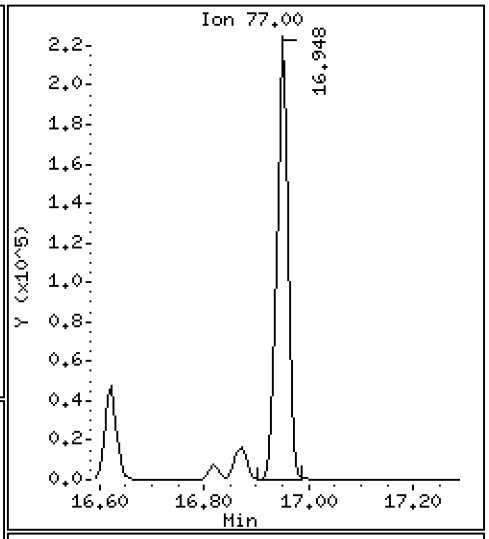
Concentration: 5.417 ug/mL

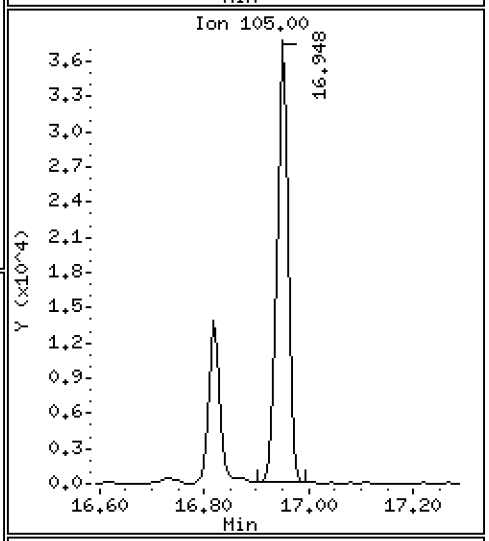


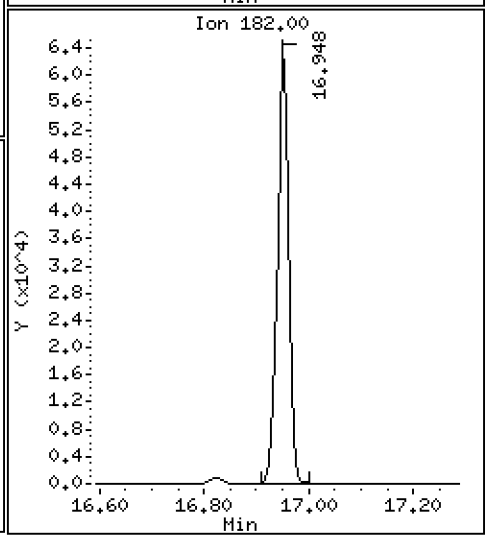












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Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

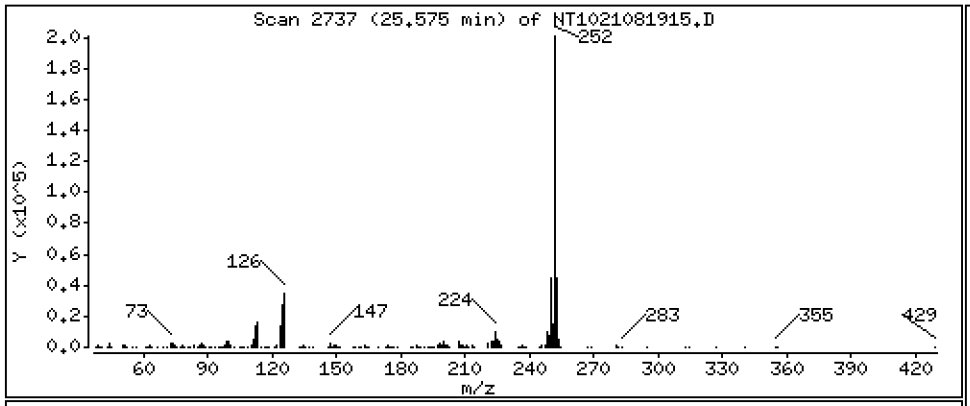
Operator: VTS

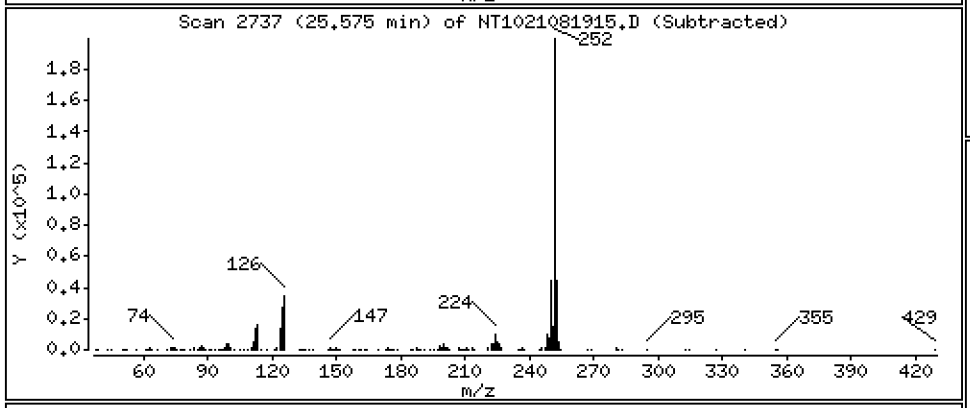
Column phase: ZB-5msi

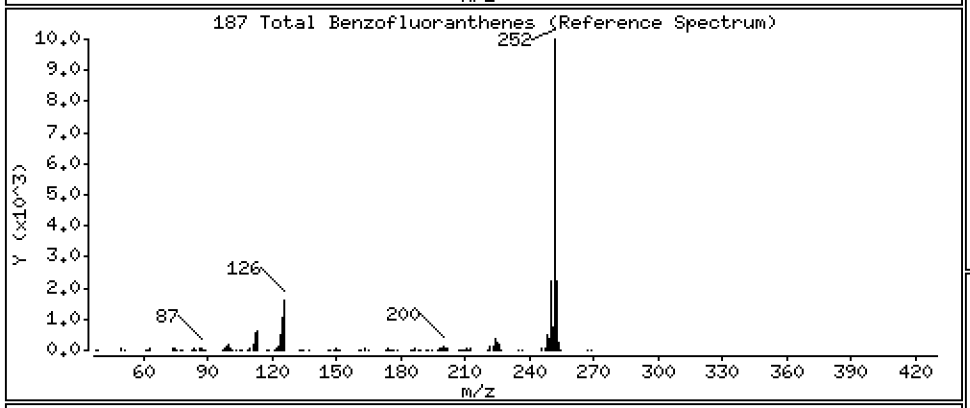
Column diameter: 0.25

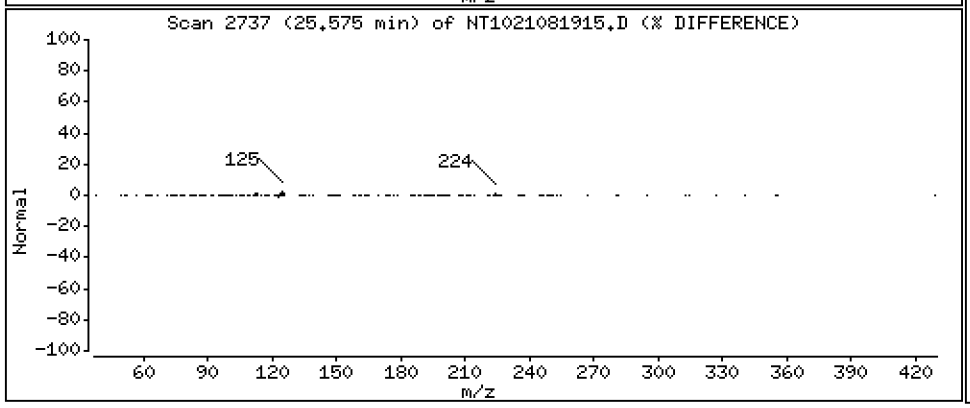
187 Total Benzofluoranthenes

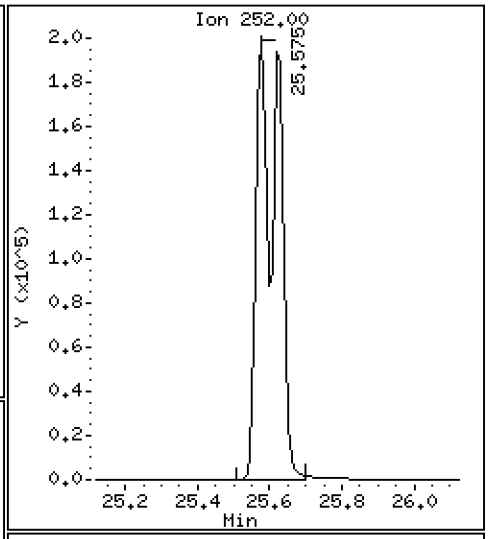
Concentration: 9.959 ug/mL

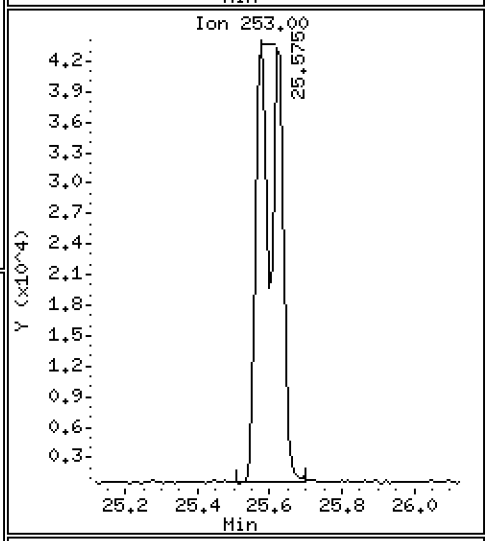


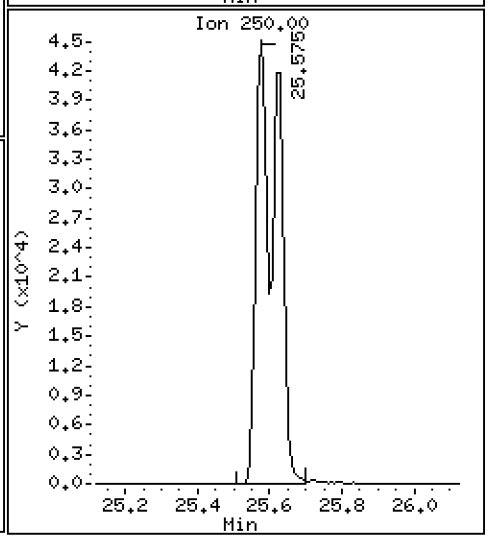












Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D

Date : 19-AUG-2021 20:42

Client ID:

Instrument: nt10.i

Sample Info: SJH0235-SCV1

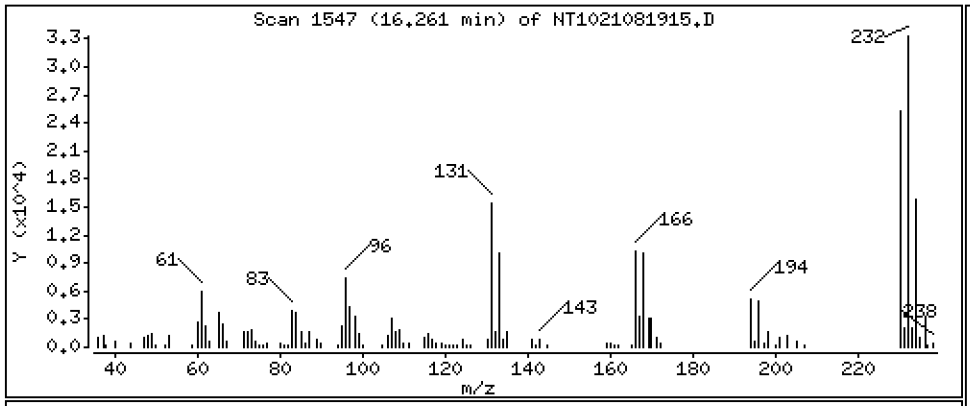
Operator: VTS

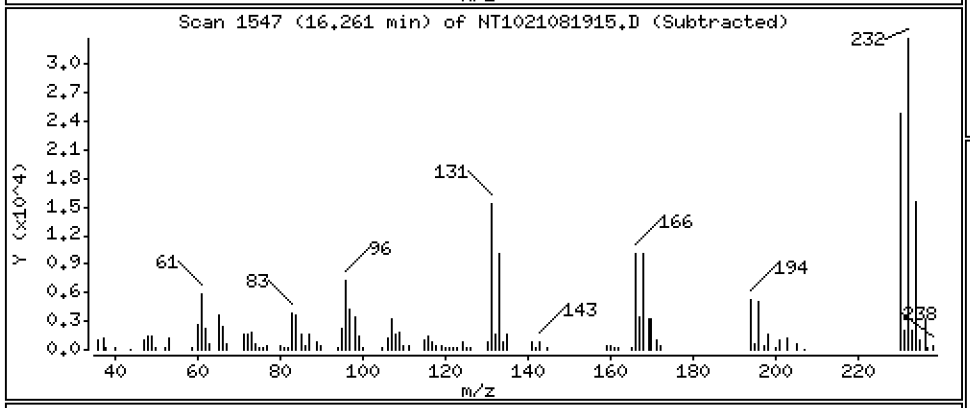
Column phase: ZB-5msi

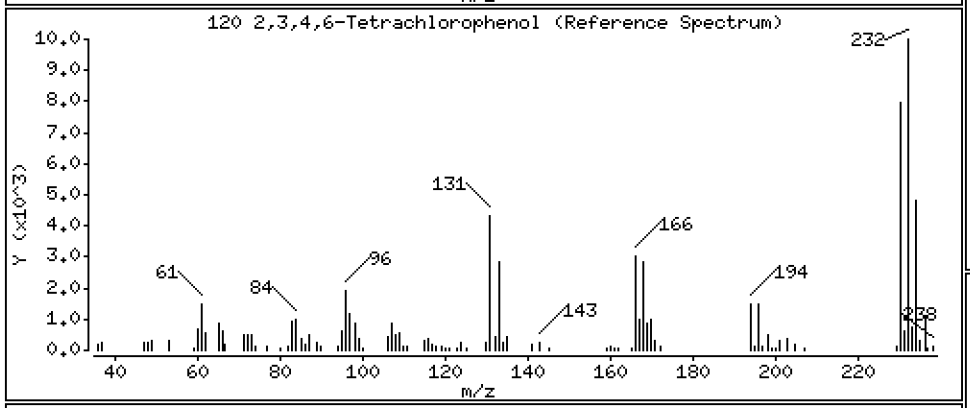
Column diameter: 0.25

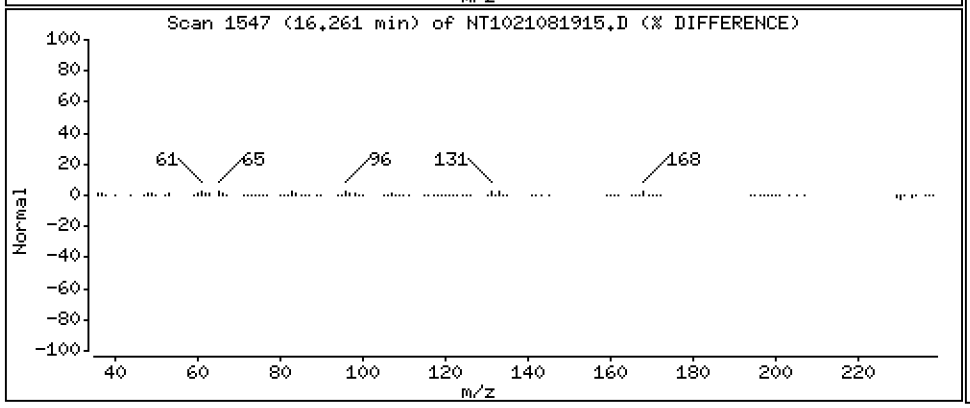
120 2,3,4,6-Tetrachlorophenol

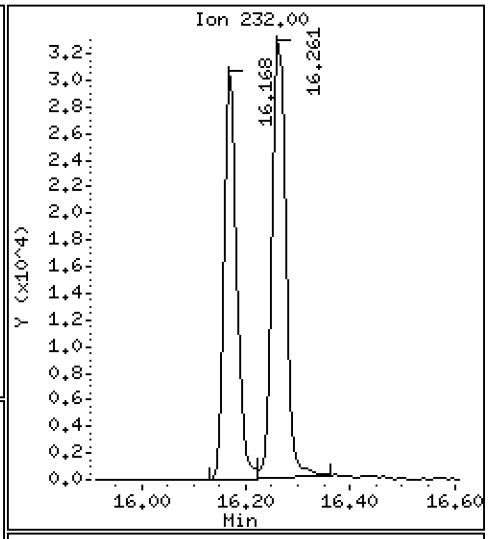
Concentration: 4.467 ug/mL

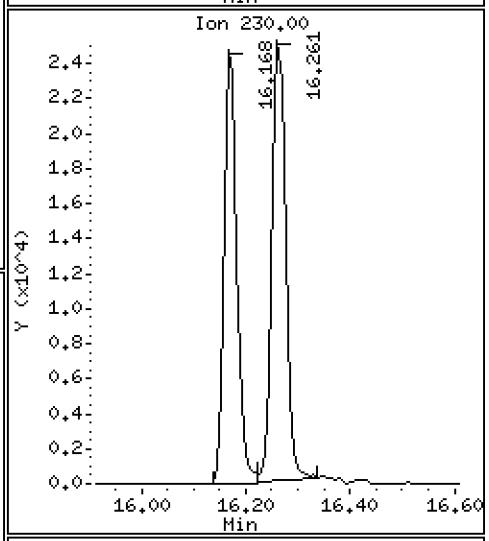


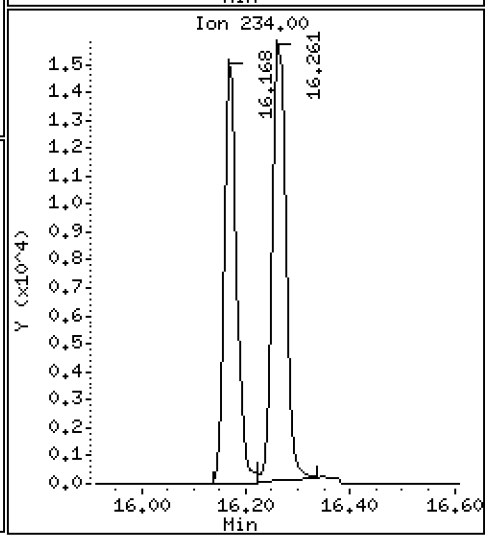












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Inj Date : 19-AUG-2021 20:42
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0235-SCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210819.b\ABN.m
Meth Date : 20-Aug-2021 10:14 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$ 1	2-Fluorophenol	112	Compound Not Detected.					
$ 2	Phenol-d5	99	Compound Not Detected.					
3	Phenol	94	8.784	8.784	(0.931)	199380	5.25899	5.259
$ 5	2-Chlorophenol-d4	132	Compound Not Detected.					
4	Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	160344	5.78066	5.781
6	2-Chlorophenol	128	9.093	9.093	(0.964)	158353	5.03366	5.034
7	1,3-Dichlorobenzene	146	9.371	9.364	(0.993)	169628	5.18579	5.186
* 8	1,4-Dichlorobenzene-d4	152	9.433	9.426	(1.000)	86567	4.00000	
9	1,4-Dichlorobenzene	146	9.464	9.457	(1.003)	145074	5.85827	5.858
$ 10	1,2-Dichlorobenzene-d4	152	Compound Not Detected.					
12	1,2-Dichlorobenzene	146	9.821	9.814	(1.041)	146550	5.20005	5.200
11	Benzyl alcohol	108	9.689	9.689	(1.027)	86052	4.93439	4.934
14	2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	47815	5.72048	5.720
13	2-Methylphenol	108	9.907	9.907	(1.050)	111834	4.65720	4.657
17	Hexachloroethane	117	10.411	10.411	(1.104)	60775	5.67447	5.674
16	N-Nitroso-di-n-propylamine	70	10.248	10.241	(1.086)	89139	5.29189	5.292
15	4-Methylphenol	108	10.178	10.171	(1.079)	120235	4.68765	4.688
$ 18	Nitrobenzene-d5	82	Compound Not Detected.					
19	Nitrobenzene	77	10.559	10.559	(0.886)	149166	5.40261	5.403
20	Isophorone	82	11.001	11.001	(0.923)	331869	7.77753	7.778
21	2-Nitrophenol	139	11.186	11.186	(0.938)	81411	5.17753	5.178
22	2,4-Dimethylphenol	107	11.220	11.220	(0.941)	119391	4.92042	4.920
23	Bis(2-Chloroethoxy)methane	93	11.415	11.415	(0.958)	149566	5.93771	5.938
24	Benzoic acid	105	11.381	11.339	(0.955)	66350	5.37792	5.378
25	2,4-Dichlorophenol	162	11.644	11.636	(0.977)	127985	5.14677	5.147
26	1,2,4-Trichlorobenzene	180	11.828	11.828	(0.992)	120347	5.00026	5.000
* 27	Naphthalene-d8	136	11.921	11.913	(1.000)	286011	4.00000	
28	Naphthalene	128	11.959	11.959	(1.003)	361857	5.09980	5.100
29	4-Chloroaniline	127	12.083	12.075	(1.014)	157895	4.59294	4.593
30	Hexachlorobutadiene	225	12.315	12.307	(1.033)	67621	5.10670	5.107
31	4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	123056	4.92458	4.925
32	2-Methylnaphthalene	142	13.352	13.352	(1.120)	319793	4.72280	4.723
33	Hexachlorocyclopentadiene	237	13.816	13.817	(0.889)	54933	4.31449	4.314

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.971	13.971	(0.899)	84924	4.77039	4.770
	35 2,4,5-Trichlorophenol	196	14.048	14.048	(0.904)	91907	4.91422	4.914
$	36 2-Fluorobiphenyl	172	Compound Not Detected.					
	37 2-Chloronaphthalene	162	14.350	14.350	(0.923)	311867	5.58535	5.585
	38 2-Nitroaniline	65	14.605	14.598	(0.940)	82438	4.97238	4.972
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	286677	4.97899	4.979
	40 Acenaphthylene	152	15.225	15.225	(0.980)	417239	4.79575	4.796
	41 2,6-Dinitrotoluene	165	15.170	15.163	(0.976)	68264	5.36851	5.369
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	175555	4.00000	
	43 3-Nitroaniline	138	15.457	15.457	(0.995)	78104	4.56188	4.562
	44 Acenaphthene	153	15.604	15.596	(1.004)	228953	4.97526	4.975
	45 2,4-Dinitrophenol	184	15.673	15.674	(1.008)	11153	1.66462	1.665
	46 Dibenzofuran	168	15.928	15.928	(1.025)	383631	4.69138	4.691
	47 4-Nitrophenol	109	15.774	15.782	(1.015)	24955	4.01803	4.018
	48 2,4-Dinitrotoluene	165	15.982	15.975	(1.028)	90638	5.10639	5.106
	50 Diethylphthalate	149	16.477	16.470	(1.060)	264476	5.09602	5.096
	49 Fluorene	166	16.647	16.640	(1.071)	342768	4.72294	4.723
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	168489	5.18664	5.187
	52 4-Nitroaniline	138	16.732	16.724	(1.077)	85236	4.78806	4.788
	53 4,6-Dinitro-2-methylphenol	198	16.817	16.817	(0.905)	50611	3.88483	3.885
	54 N-Nitrosodiphenylamine	169	16.871	16.871	(0.908)	227997	4.83479	4.835
$	55 2,4,6-Tribromophenol	330	Compound Not Detected.					
	56 4-Bromophenyl-phenylether	248	17.626	17.627	(0.948)	102044	5.39862	5.399
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	90728	5.06340	5.063
	58 Pentachlorophenol	266	18.315	18.315	(0.985)	20638	3.12000	3.120
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	315282	4.00000	
	60 Phenanthrene	178	18.632	18.624	(1.002)	373708	4.85494	4.855
	61 Anthracene	178	18.725	18.717	(1.007)	398068	4.81320	4.813
	62 Carbazole	167	19.050	19.042	(1.025)	423459	4.97150	4.972
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	566417	5.37515	5.375
	64 Fluoranthene	202	21.000	20.992	(0.889)	552591	4.85305	4.853
	65 Pyrene	202	21.425	21.417	(0.908)	568141	4.86161	4.862
$	66 Terphenyl-d14	244	Compound Not Detected.					
	67 Butylbenzylphthalate	149	22.594	22.594	(0.957)	224852	4.88885	4.889
	68 Benzo(a)anthracene	228	23.577	23.570	(0.999)	436185	4.79967	4.800
*	69 Chrysene-d12	240	23.608	23.601	(1.000)	260128	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	319253	8.82970	8.830
	71 Chrysene	228	23.647	23.647	(1.002)	337651	4.68662	4.687
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	258287	5.36165	5.362
*	134 Di-n-octylphthalate-d4	153	24.638	24.630	(1.000)	500551	4.00000	
	73 Di-n-octylphthalate	149	24.646	24.646	(1.000)	576721	5.22766	5.228
	74 Benzo(b)fluoranthene	252	25.575	25.575	(0.968)	423157	4.87661	4.877
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	441864	5.19450	5.195
	76 Benzo(a)pyrene	252	26.295	26.295	(0.995)	381697	4.97952	4.980
*	77 Perylene-d12	264	26.427	26.419	(1.000)	235857	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	384449	4.85499	4.855
	79 Dibenzo(a,h)anthracene	278	29.394	29.386	(1.112)	293070	4.83753	4.838
	80 Benzo(g,h,i)perylene	276	30.264	30.256	(1.145)	340450	4.92315	4.923
	90 N-Nitrosodimethylamine	74	5.021	5.021	(0.532)	112508	6.03654	6.037
	91 Aniline	93	Compound Not Detected.					
	93 Benzidine	184	21.224	21.216	(0.899)	417920	8.48003	8.480
	103 Pyridine	79	5.052	5.052	(0.536)	168778	2.86646	2.866
	105 1-methylnaphthalene	142	13.576	13.576	(1.139)	314464	4.81470	4.815
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.940	(1.090)	324373	5.41670	5.417

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.575	25.621	(0.968)	824481	9.95946	9.959
120 2,3,4,6-Tetrachlorophenol	232	16.261	16.261	(1.046)	57716	4.46735	4.467

Data File: \\target\share\chem3\nt10.i\20210819.b\NT1021081915.D Page 1
Report Date: 20-Aug-2021 12:55

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021081915.D
Lab Smp Id: SJH0235-SCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210819.b\ABN.m
Misc Info:

Calibration Date: 19-AUG-2021
Calibration Time: 14:58
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	97518	48759	195036	86567	-11.23
27 Naphthalene-d8	336155	168078	672310	286011	-14.92
42 Acenaphthene-d10	204971	102486	409942	175555	-14.35
59 Phenanthrene-d10	357720	178860	715440	315282	-11.86
69 Chrysene-d12	291052	145526	582104	260128	-10.62
134 Di-n-octylphthala	588887	294444	1177774	500551	-15.00
77 Perylene-d12	273109	136555	546218	235857	-13.64

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.00
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.59	18.09	19.09	18.59	0.00
69 Chrysene-d12	23.61	23.11	24.11	23.61	0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021081915.D

Lab ID: SJH0235-SCV1
nt10.i, ABN.m, 19-AUG-2021 20:42

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

** FIRST SURROGATE NOT FOUND. ICAL Check not performed **

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

RRT check based on Ccal File: NT1021081912.D

On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082019.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-CCV1	Injection Time:	19:51
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF		
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT	
Phenol	A	5.0000	5.6	1.7518100	1.9524990		11.5	+/-50	
bis(2-chloroethyl) ether	A	5.0000	5.0	1.2816900	1.2929410		0.9	+/-50	
2-Chlorophenol	A	5.0000	5.1	1.4536170	1.4759030		1.5	+/-50	
1,3-Dichlorobenzene	A	5.0000	4.9	1.5114380	1.4885970		-1.5	+/-50	
1,4-Dichlorobenzene	A	5.0000	5.1	1.1442690	1.1670830		2.0	+/-50	
1,2-Dichlorobenzene	A	5.0000	5.0	1.3022240	1.3120760		0.8	+/-50	
Benzyl Alcohol	A	5.0000	5.8	0.8058147	0.9309671		15.5	+/-50	
2,2'-Oxybis(1-chloropropane)	A	5.0000	5.4	0.3862240	0.4201939		8.8	+/-50	
2-Methylphenol	A	5.0000	5.2	1.1095740	1.1627320		4.8	+/-50	
Hexachloroethane	A	5.0000	3.0	0.4948888	0.3001181		-39.4	+/-50	
N-Nitroso-di-n-Propylamine	A	5.0000	5.7	0.7783317	0.8917958		14.6	+/-50	
4-Methylphenol	A	5.0000	5.4	1.1851760	1.2845830		8.4	+/-50	
Nitrobenzene	A	5.0000	5.5	0.3861385	0.4258856		10.3	+/-50	
Isophorone	A	5.0000	6.1	0.5967638	0.7259320		21.6	+/-50	
2-Nitrophenol	A	5.0000	5.3	0.2199064	0.2329972		6.0	+/-50	
2,4-Dimethylphenol	A	10.000	9.9	0.3393492	0.3375619		-0.5	+/-50	
Bis(2-Chloroethoxy)methane	A	5.0000	4.9	0.3522827	0.3452682		-2.0	+/-50	
2,4-Dichlorophenol	A	10.000	9.4	0.3477772	0.3258198		-6.3	+/-50	
1,2,4-Trichlorobenzene	A	5.0000	4.6	0.3366044	0.3093952		-8.1	+/-50	
Naphthalene	A	5.0000	5.0	0.9923411	0.9983769		0.6	+/-50	
Benzoic acid	A	20.000	21.8	0.1282034	0.1922192		8.8	+/-50	
4-Chloroaniline	A	10.000	10.4	0.4807898	0.5003045		4.1	+/-50	
Hexachlorobutadiene	A	5.0000	5.0	0.1851905	0.1847475		-0.2	+/-50	
4-Chloro-3-Methylphenol	A	10.000	10.9	0.3494710	0.3820206		9.3	+/-50	
2-Methylnaphthalene	A	5.0000	4.9	0.9469932	0.9191633		-2.9	+/-50	
Hexachlorocyclopentadiene	A	10.000	0.8	0.2380948	0.0235345		-91.8	+/-50	*
2,4,6-Trichlorophenol	A	10.000	10.6	0.4056237	0.4307578		6.2	+/-50	
2,4,5-Trichlorophenol	A	10.000	10.6	0.4261287	0.4504873		5.7	+/-50	
2-Chloronaphthalene	A	5.0000	4.9	1.2722300	1.2529770		-1.5	+/-50	
2-Nitroaniline	A	10.000	12.2	0.3777549	0.4612774		22.1	+/-50	
Acenaphthylene	A	5.0000	4.7	1.9823260	1.8781250		-5.3	+/-50	
Dimethylphthalate	A	5.0000	5.0	1.3118930	1.3032780		-0.7	+/-50	
2,6-Dinitrotoluene	A	10.000	9.9	0.2897240	0.2880765		-0.6	+/-50	
Acenaphthene	A	5.0000	5.1	1.0485220	1.0738580		2.4	+/-50	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082019.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-CCV1	Injection Time:	19:51
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
3-Nitroaniline	A	10.000	9.2	0.3901002	0.3603960		-7.6	+/-50
2,4-Dinitrophenol	A	20.000	12.9	0.1061965	0.1007191		-35.3	+/-50
Dibenzofuran	A	5.0000	5.0	1.8632010	1.8536310		-0.5	+/-50
4-Nitrophenol	A	10.000	12.3	0.1112987	0.1744439		22.8	+/-50
2,4-Dinitrotoluene	A	10.000	10.4	0.4044297	0.4186729		3.5	+/-50
Fluorene	A	5.0000	5.3	1.6536160	1.7445840		5.5	+/-50
4-Chlorophenylphenyl ether	A	5.0000	5.1	0.7401715	0.7556380		2.1	+/-50
Diethyl phthalate	A	5.0000	5.2	1.1825010	1.2345590		4.4	+/-50
4-Nitroaniline	A	10.000	10.8	0.4056112	0.4362271		7.5	+/-50
4,6-Dinitro-2-methylphenol	A	20.000	16.6	0.1305331	0.1368524		-17.1	+/-50
N-Nitrosodiphenylamine	A	5.0000	5.5	0.5982903	0.6636064		10.9	+/-50
4-Bromophenyl phenyl ether	A	5.0000	5.3	0.2398092	0.2527429		5.4	+/-50
Hexachlorobenzene	A	5.0000	5.2	0.2273318	0.2380138		4.7	+/-50
Pentachlorophenol	A	10.000	9.3	0.0665517	0.0792828		-7.4	+/-50
Phenanthrene	A	5.0000	5.0	0.9765836	0.9838404		0.7	+/-50
Anthracene	A	5.0000	5.0	1.0492630	1.0563200		0.7	+/-50
Carbazole	A	5.0000	4.9	1.0806490	1.0620930		-1.7	+/-50
Di-n-Butylphthalate	A	5.0000	5.3	1.3369240	1.4199700		6.2	+/-50
Fluoranthene	A	5.0000	5.1	1.7509030	1.8014620		2.9	+/-50
Pyrene	A	5.0000	5.0	1.7970040	1.7897480		-0.4	+/-50
Butylbenzylphthalate	A	5.0000	5.6	0.7072339	0.7962468		12.6	+/-50
Benzo(a)anthracene	A	5.0000	4.5	1.3974370	1.2586860		-9.9	+/-50
3,3'-Dichlorobenzidine	A	15.000	14.8	0.5559834	0.5472170		-1.6	+/-50
Chrysene	A	5.0000	5.1	1.1078500	1.1227310		1.3	+/-50
bis(2-Ethylhexyl)phthalate	A	5.0000	5.8	0.3849599	0.4501835		16.9	+/-50
Di-n-Octylphthalate	A	5.0000	5.0	0.8815966	0.8900033		1.0	+/-50
Benzofluoranthenes, Total	A	10.000	9.2	1.4039640	1.2868020		-8.3	+/-50
Benzo(a)pyrene	A	5.0000	4.5	1.2999960	1.1721320		-9.8	+/-50
Indeno(1,2,3-cd)pyrene	A	5.0000	3.9	1.3429560	1.0374160		-22.8	+/-50
Dibenzo(a,h)anthracene	A	5.0000	4.1	1.0274450	0.8375993		-18.5	+/-50
Benzo(g,h,i)perylene	A	5.0000	3.2	1.1727930	0.7516084		-35.9	+/-50
1-Methylnaphthalene	A	5.0000	4.8	0.9134377	0.8741536		-4.3	+/-50
2-Fluorophenol	A	7.5000	7.73	1.3373020	1.3774990		3.0	+/-50
Phenol-d5	A	7.5000	7.87	1.9140080	2.0086300		4.9	+/-50

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082019.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-CCV1	Injection Time:	19:51
Sequence Name:	Calibration Check		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2-Chlorophenol-d4	A	7.5000	7.46	1.3634350	1.3563470		-0.5	+/-50
1,2-Dichlorobenzene-d4	A	5.0000	4.76	0.9261509	0.8818634		-4.8	+/-50
Nitrobenzene-d5	A	5.0000	5.18	0.4188149	0.4339939		3.6	+/-50
2-Fluorobiphenyl	A	5.0000	4.70	1.5981010	1.5032450		-5.9	+/-50
2,4,6-Tribromophenol	A	7.5000	7.97	0.1388940	0.1635444		6.3	+/-50
p-Terphenyl-d14	A	5.0000	5.03	1.1291920	1.1357130		0.6	+/-50

* Values outside of QC limits

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

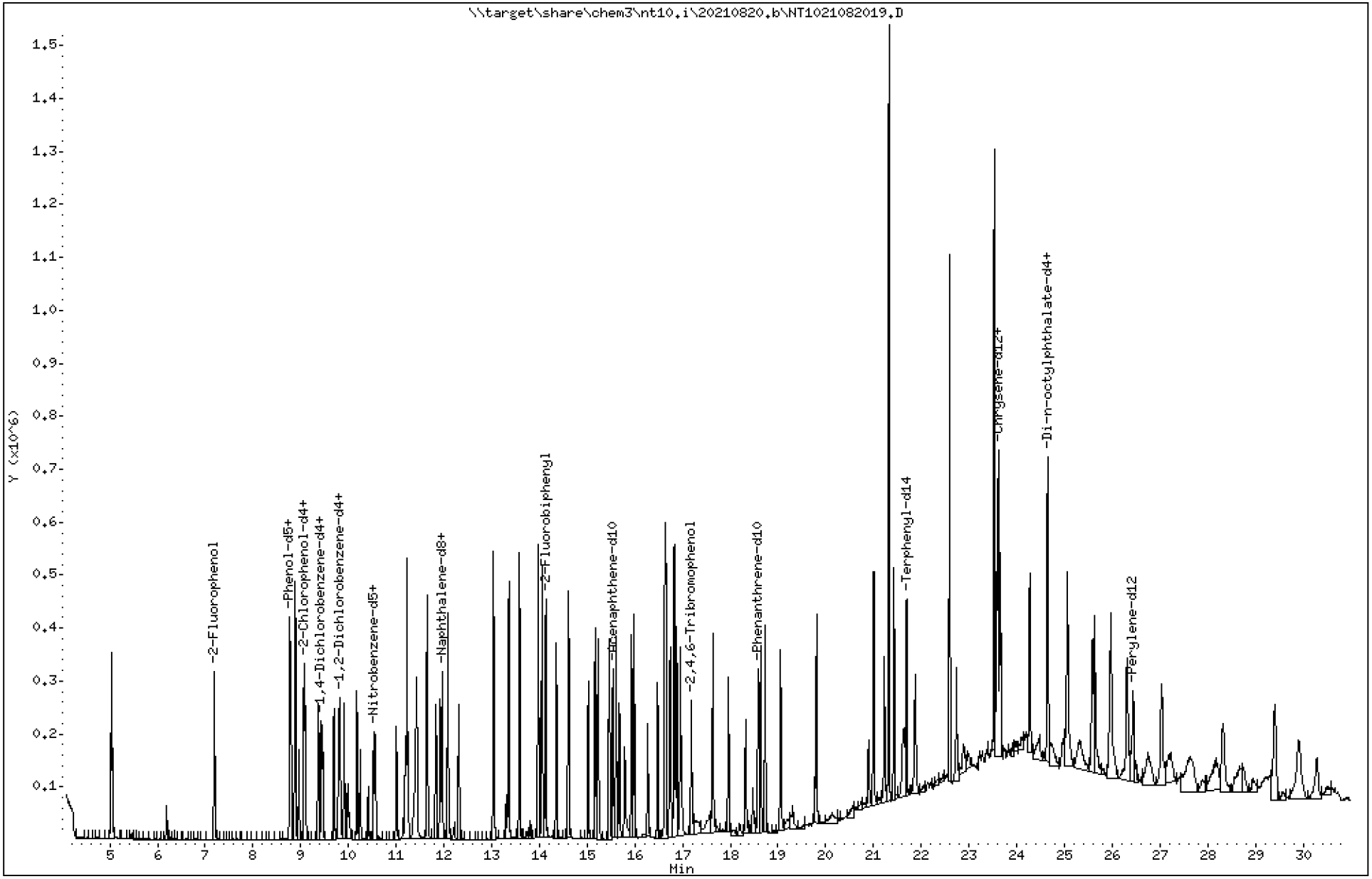
Instrument: nt10.i

Sample Info: SJH0258-CCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

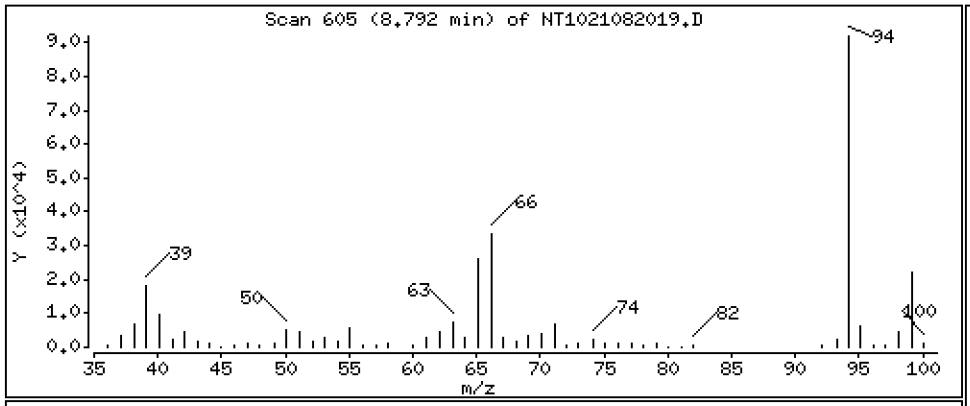
Operator: VTS

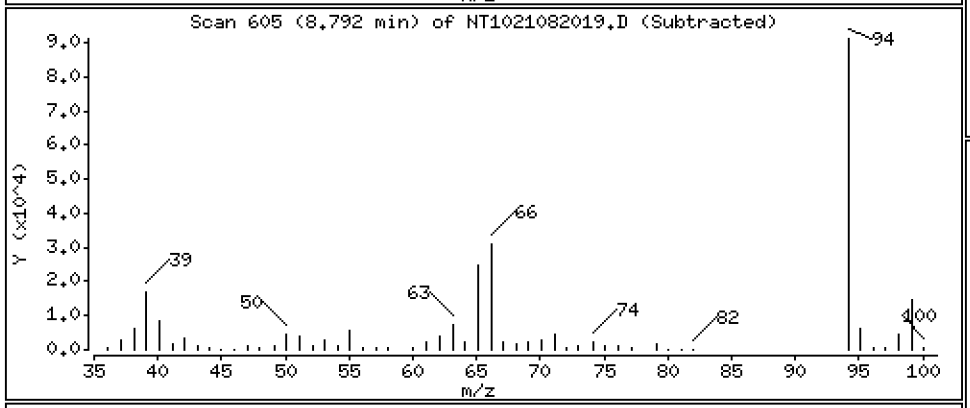
Column phase: ZB-5msi

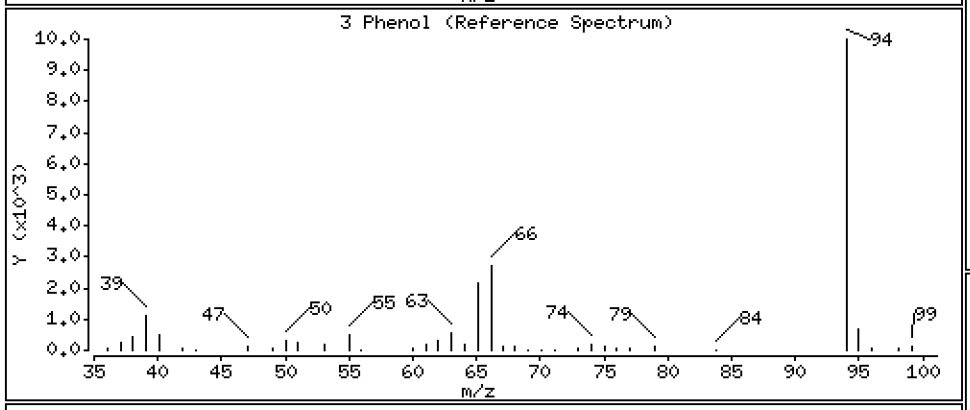
Column diameter: 0.25

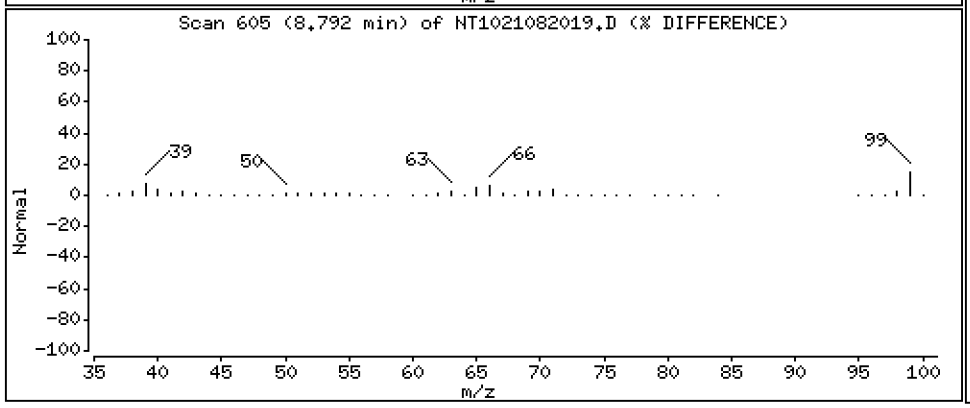
3 Phenol

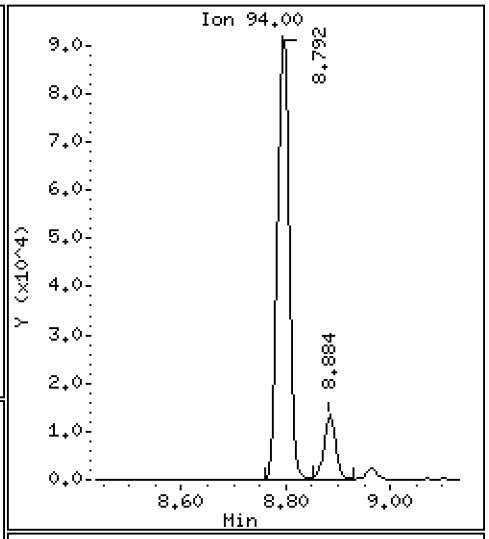
Concentration: 5.573 ug/mL

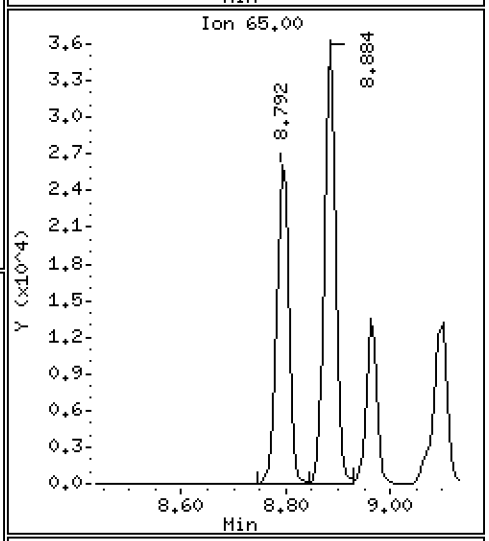


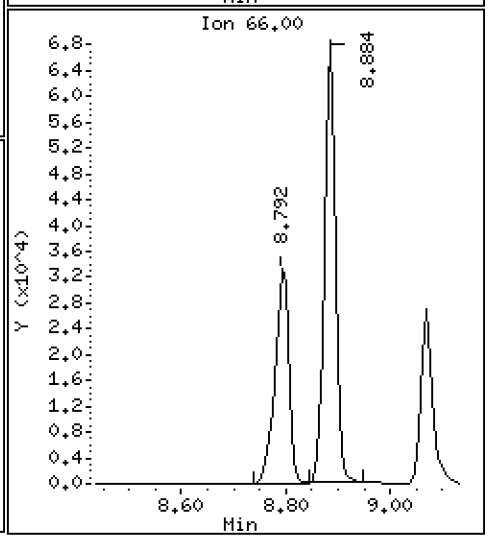












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

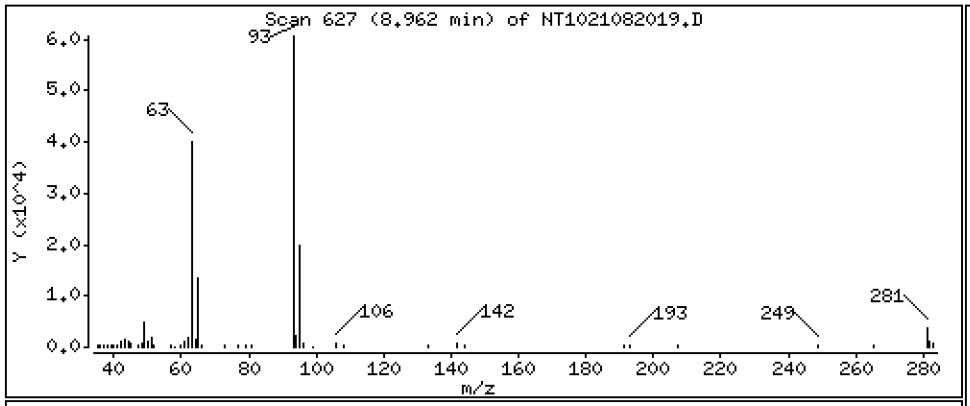
Operator: VTS

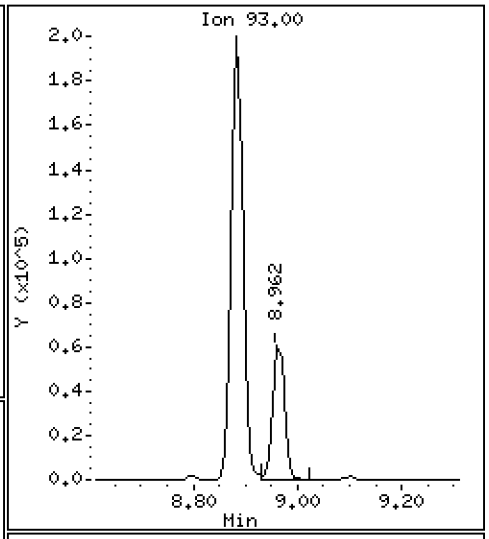
Column phase: ZB-5msi

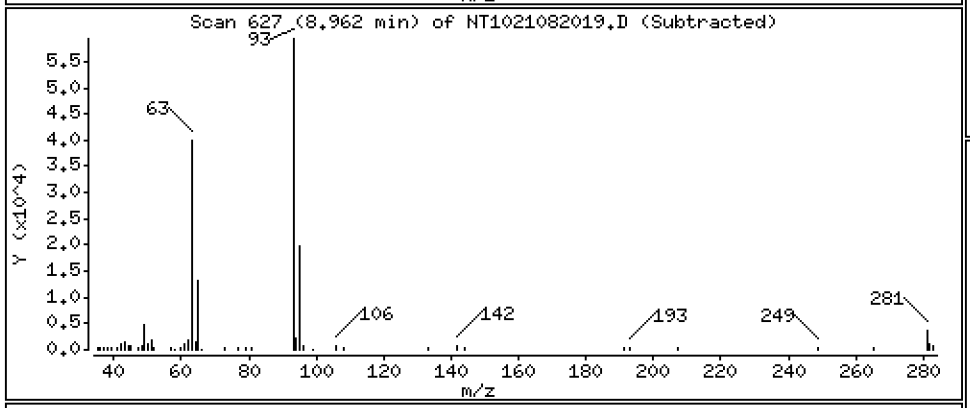
Column diameter: 0.25

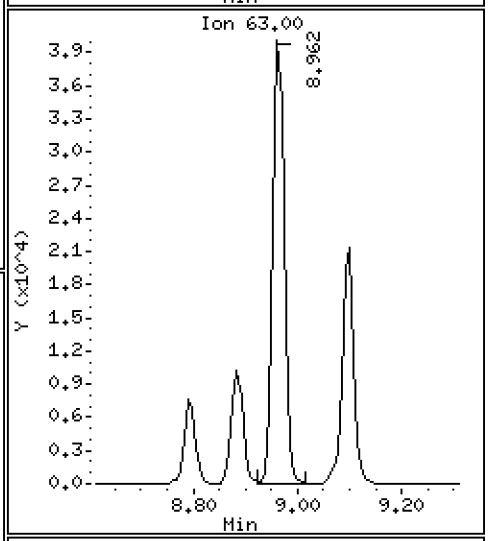
4 Bis(2-Chloroethyl)ether

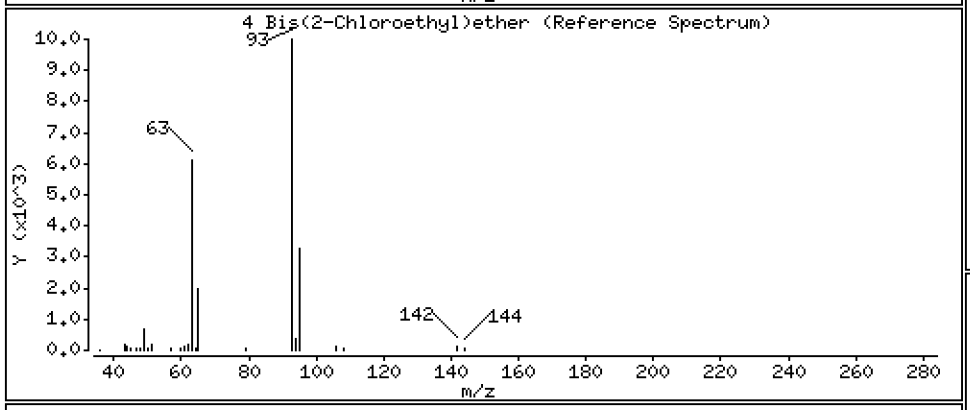
Concentration: 5.044 ug/mL

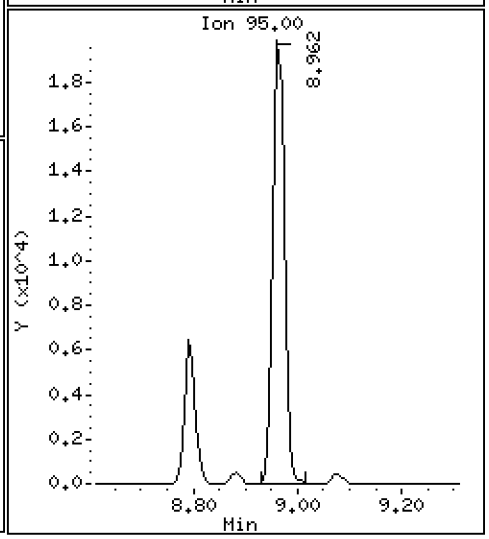


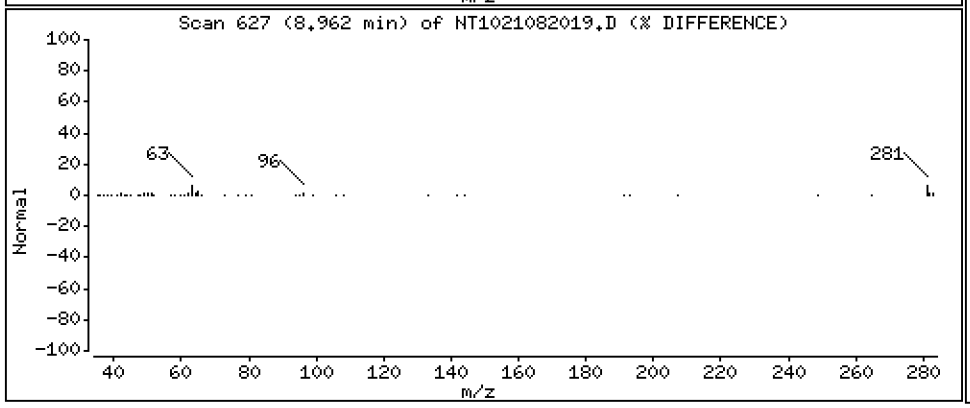












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

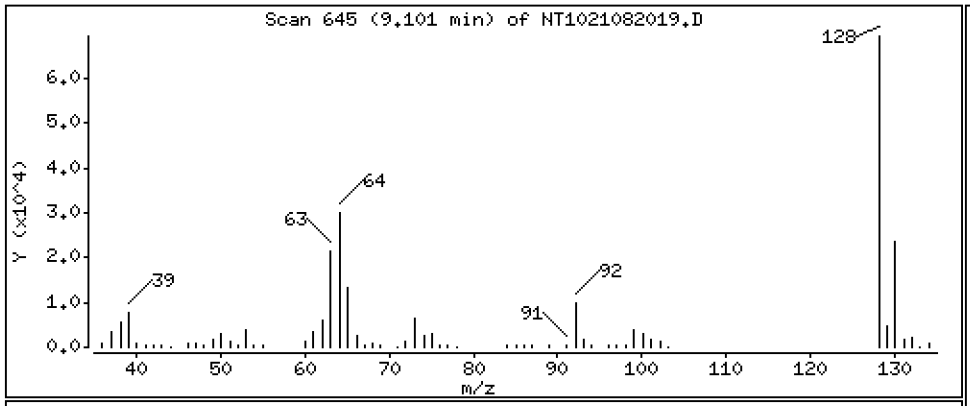
Operator: VTS

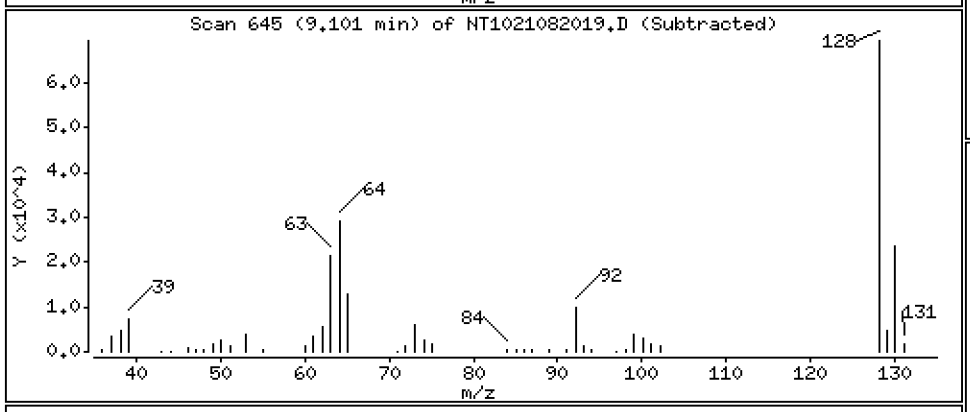
Column phase: ZB-5msi

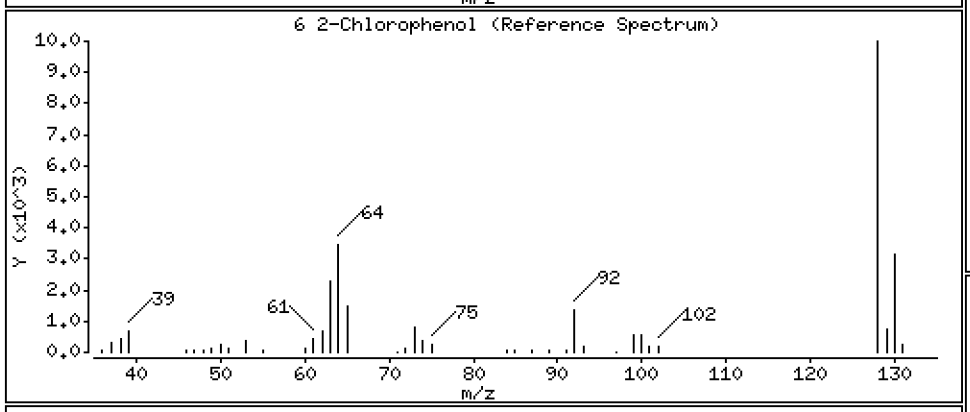
Column diameter: 0.25

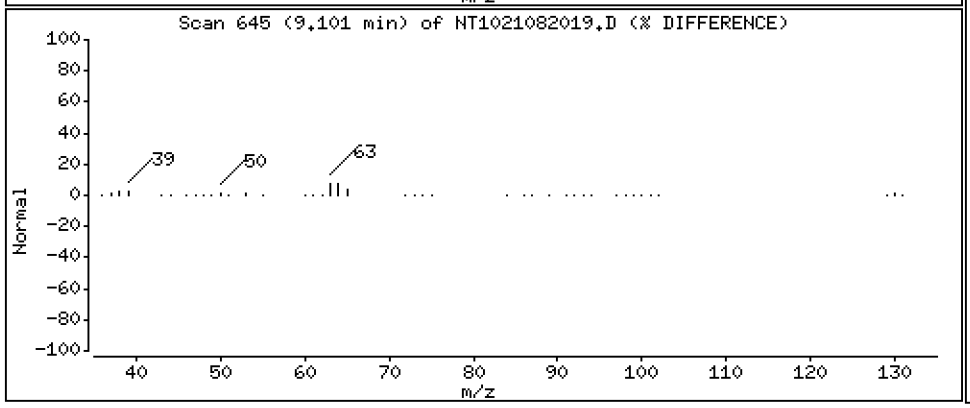
6 2-Chlorophenol

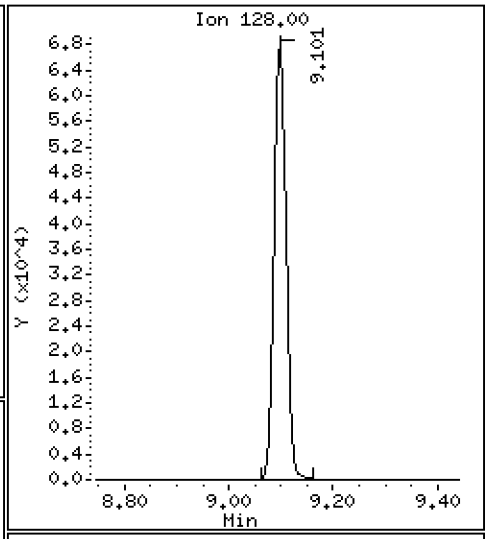
Concentration: 5.077 ug/mL

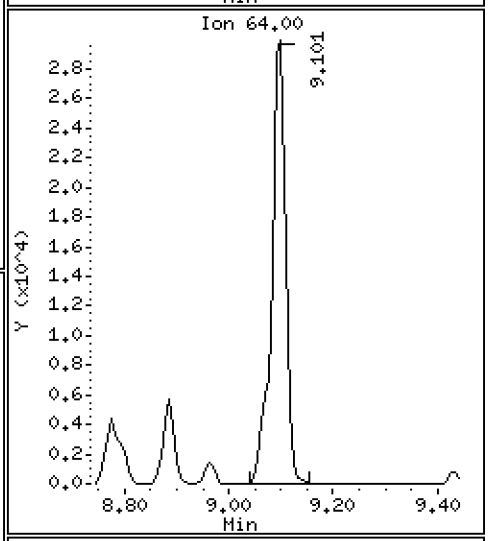


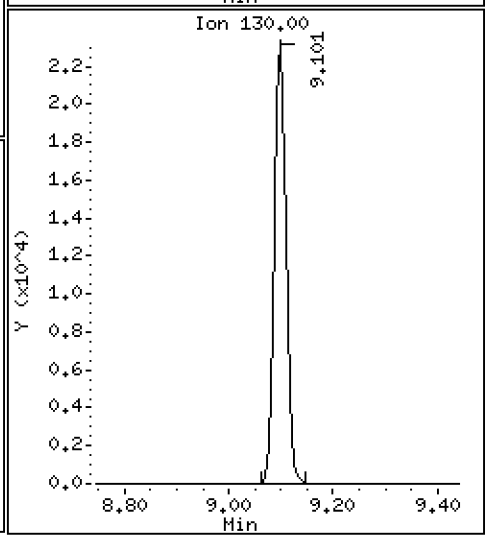












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

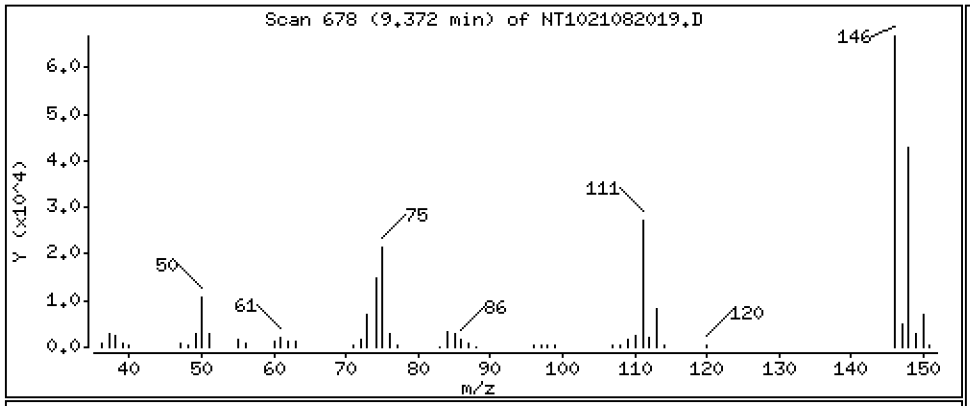
Operator: VTS

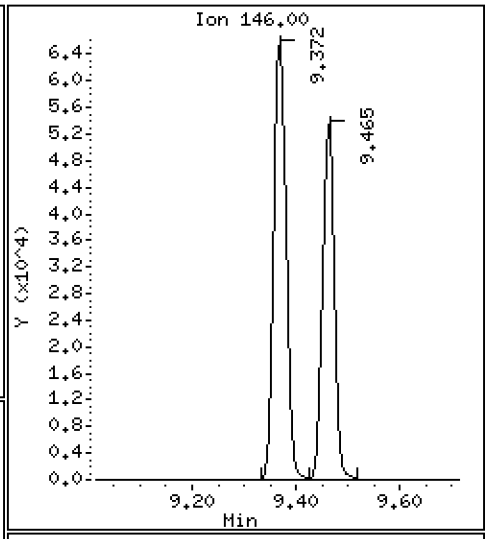
Column phase: ZB-5msi

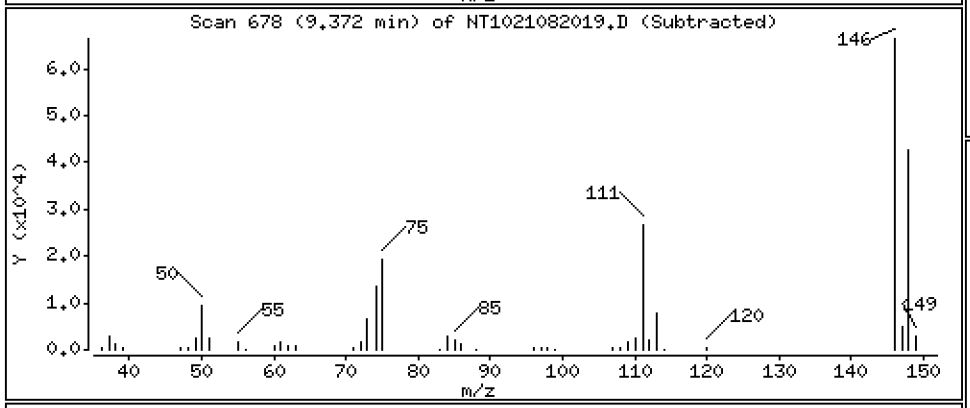
Column diameter: 0.25

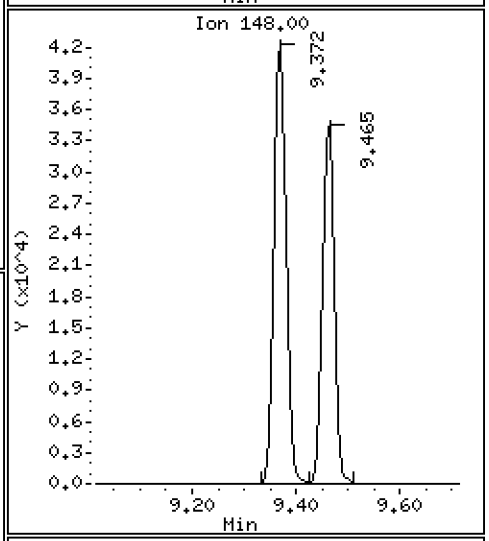
7 1,3-Dichlorobenzene

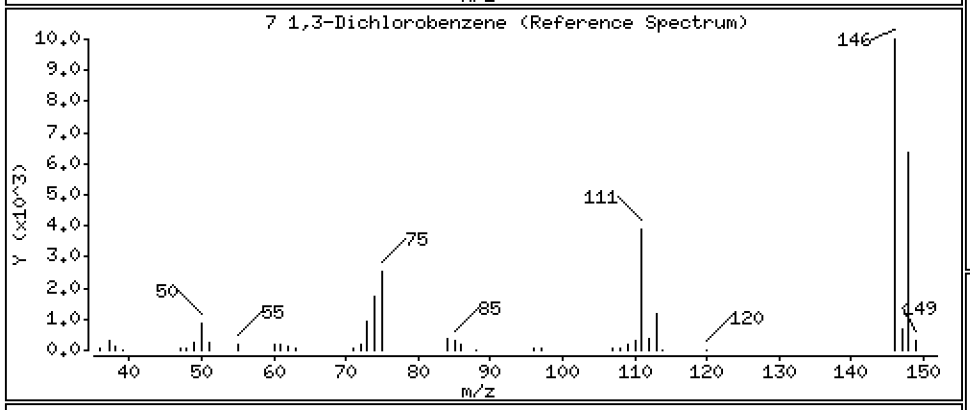
Concentration: 4.924 ug/mL

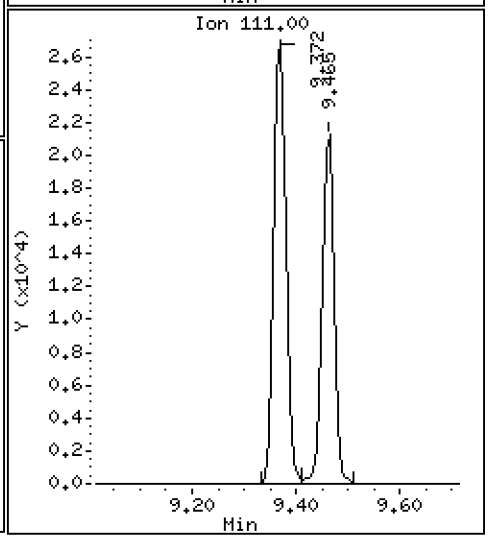


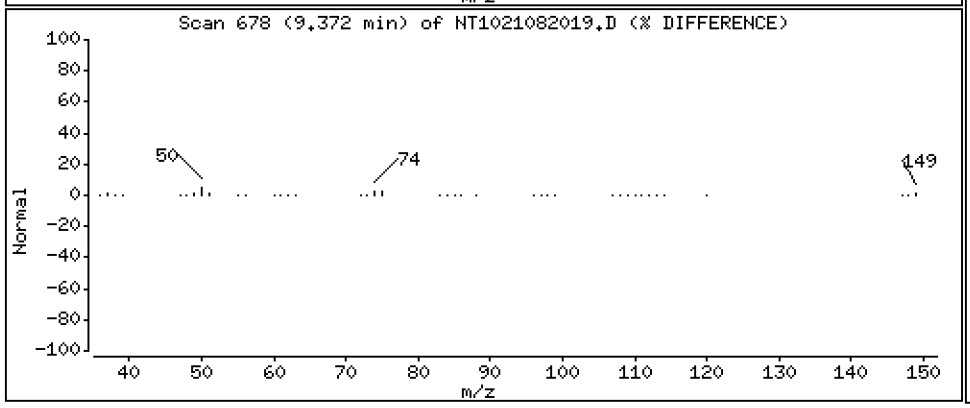












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

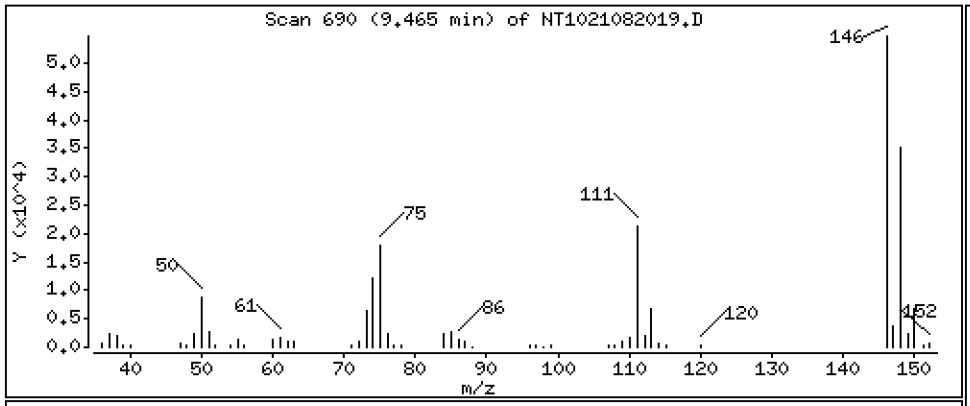
Operator: VTS

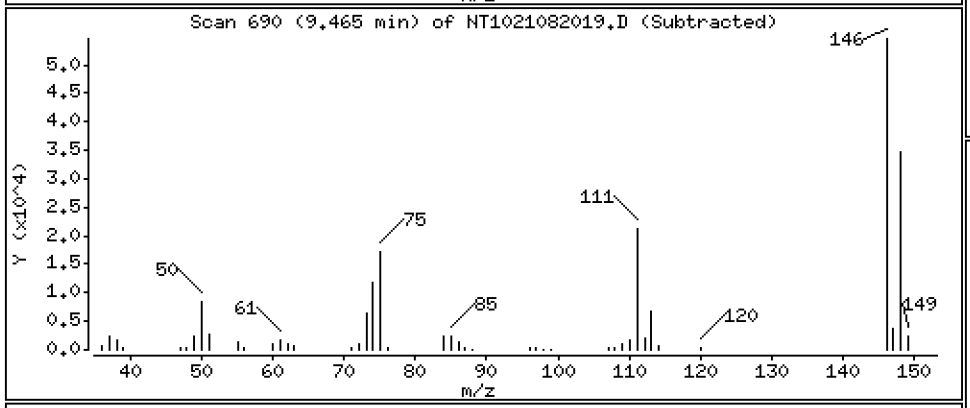
Column phase: ZB-5msi

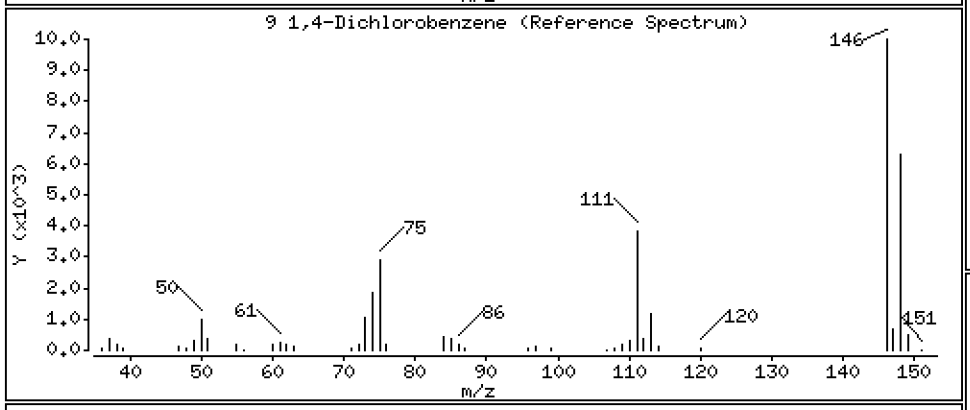
Column diameter: 0.25

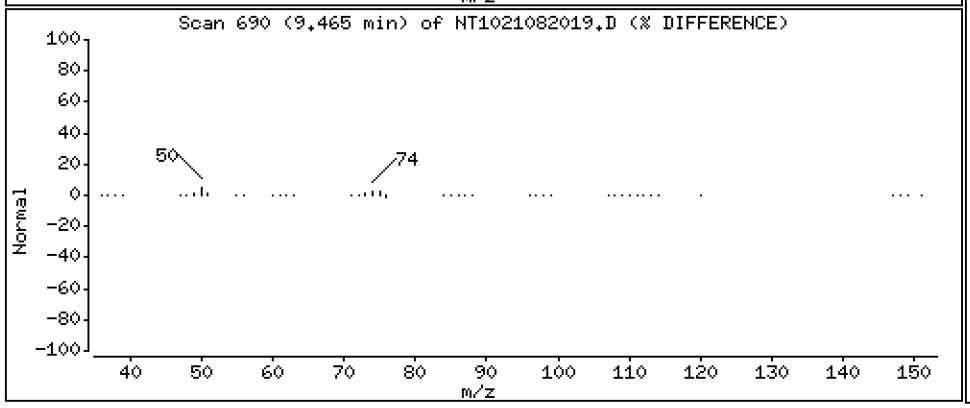
9 1,4-Dichlorobenzene

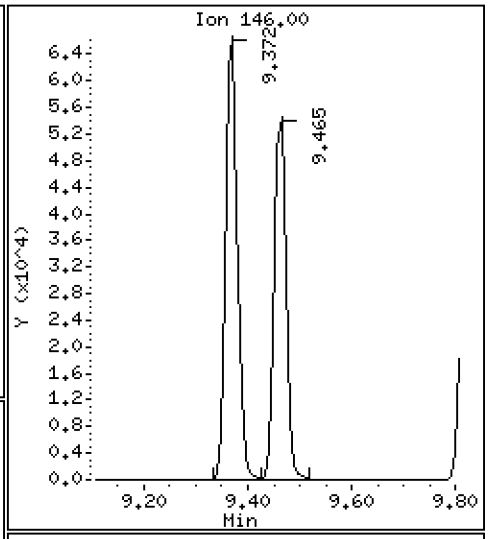
Concentration: 5.100 ug/mL

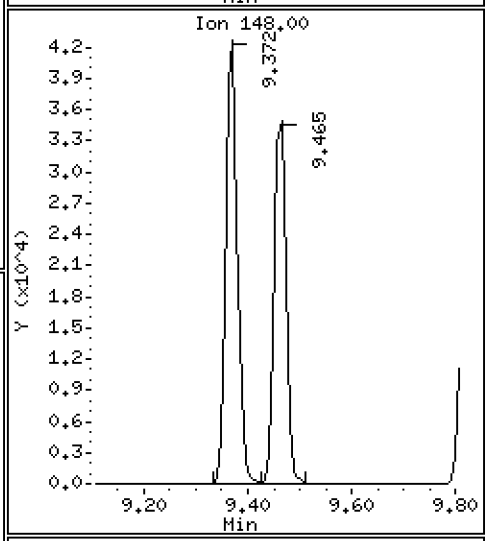


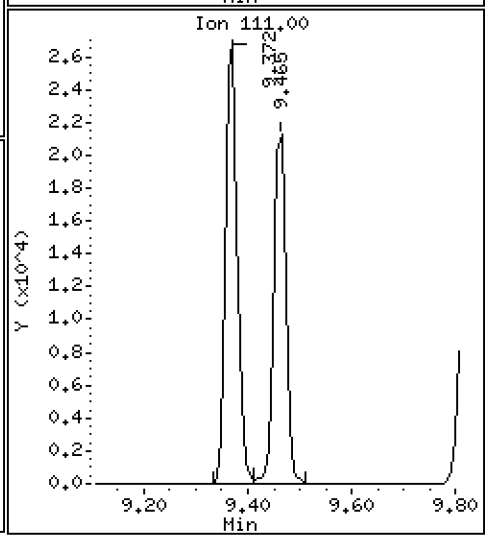












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

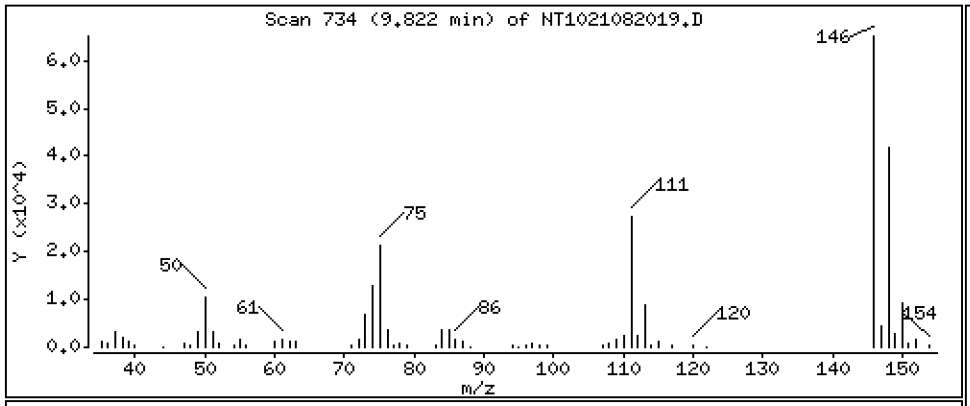
Operator: VTS

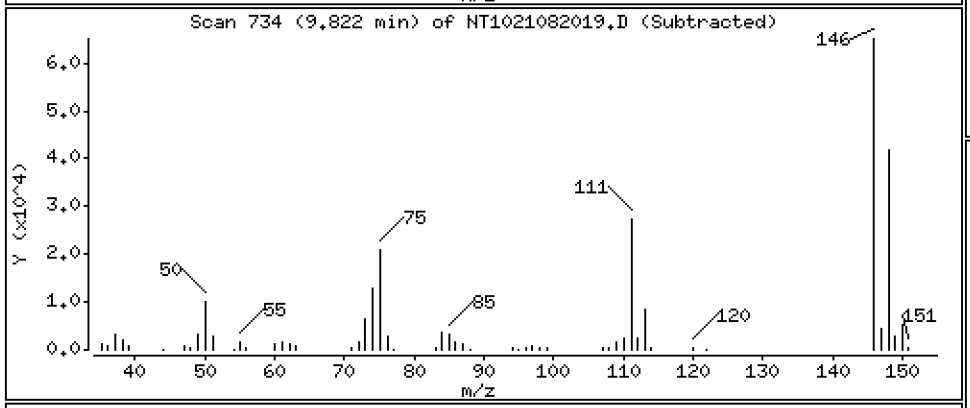
Column phase: ZB-5msi

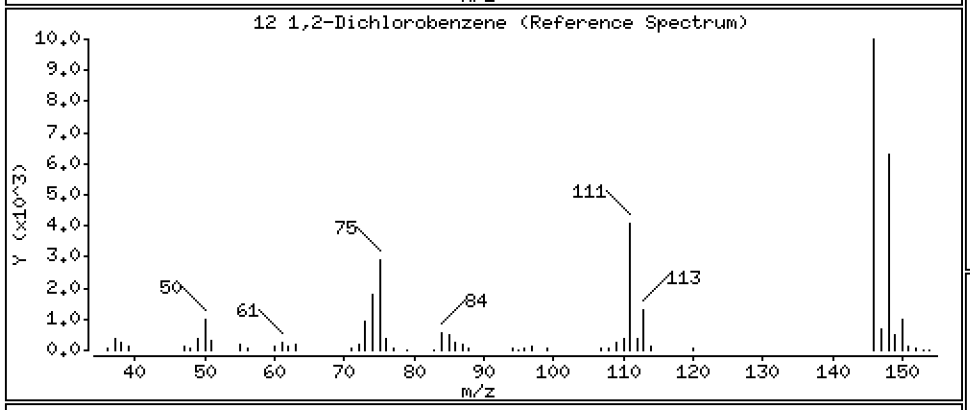
Column diameter: 0.25

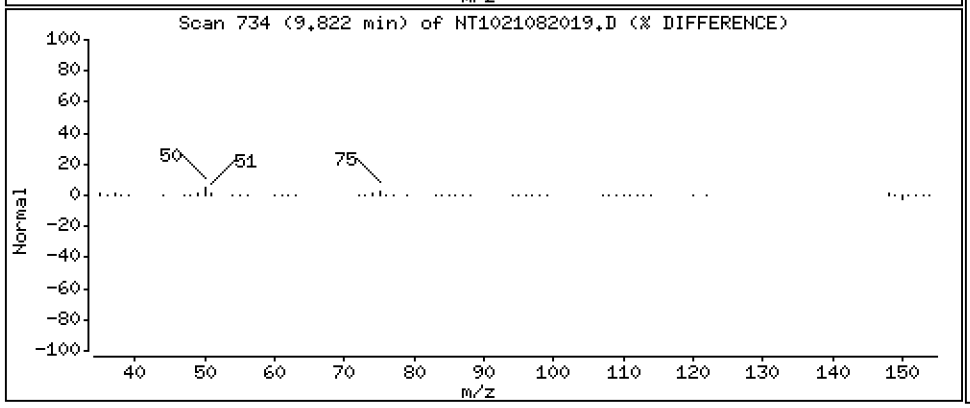
12 1,2-Dichlorobenzene

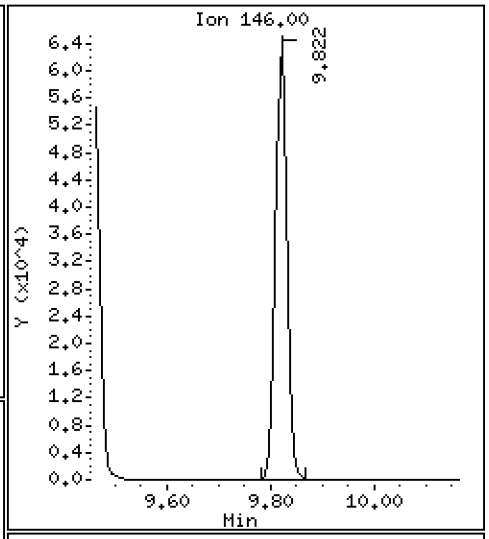
Concentration: 5.038 ug/mL

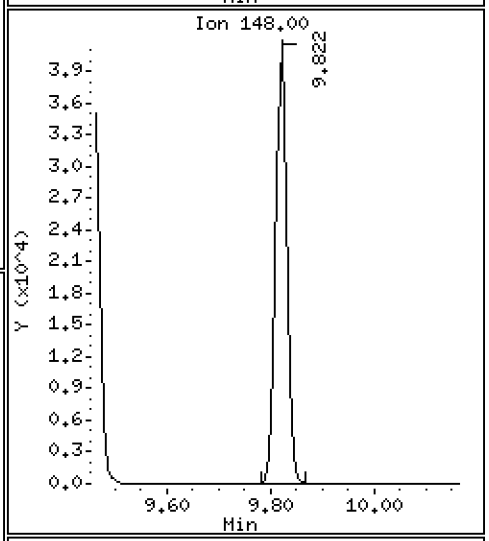


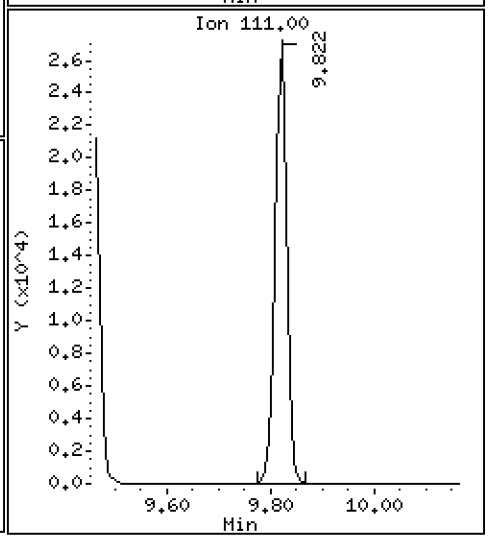












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

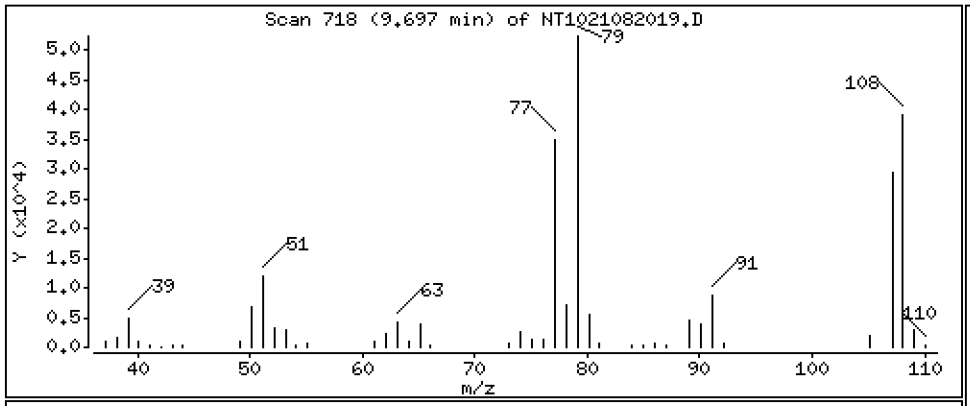
Operator: VTS

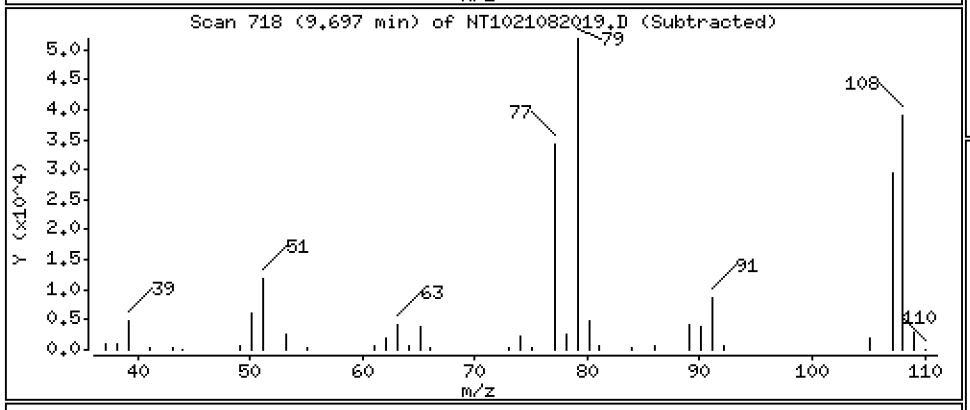
Column phase: ZB-5msi

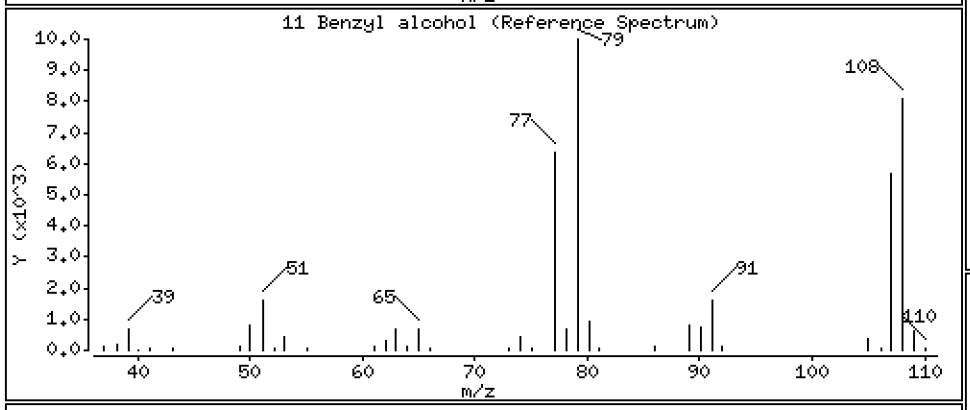
Column diameter: 0.25

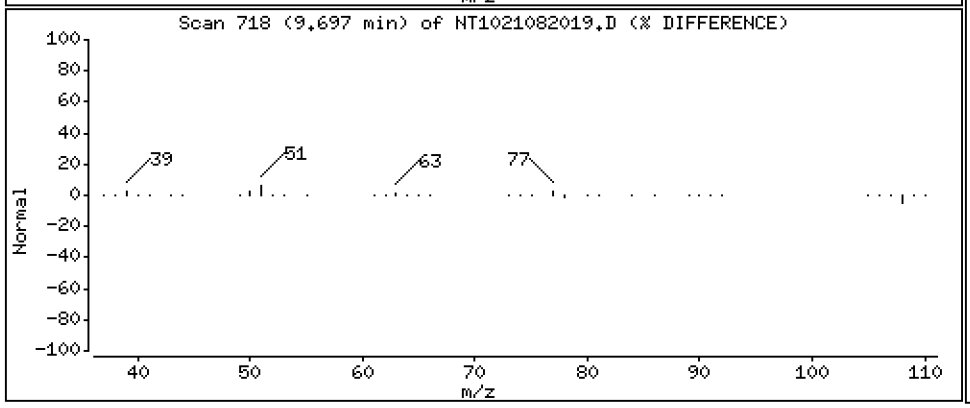
11 Benzyl alcohol

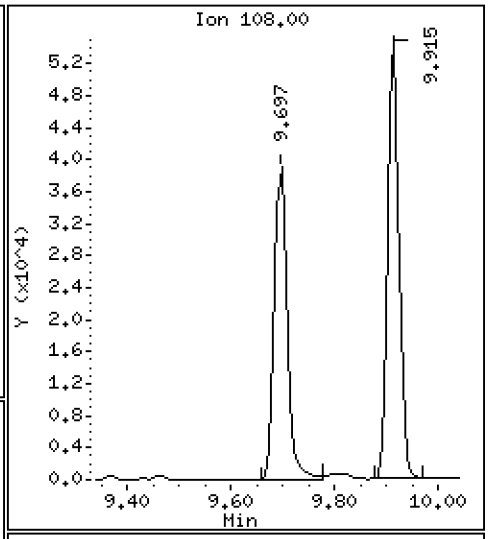
Concentration: 5.777 ug/mL

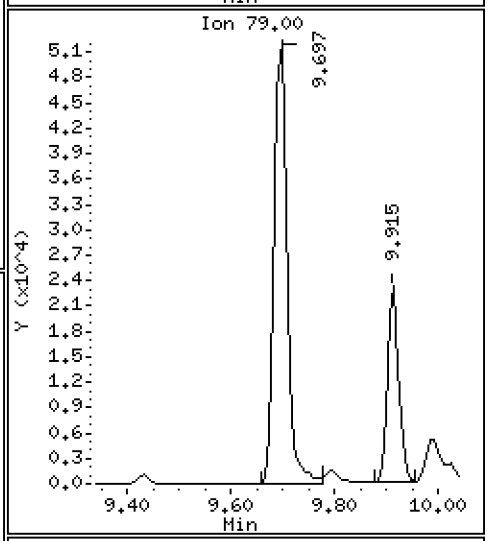


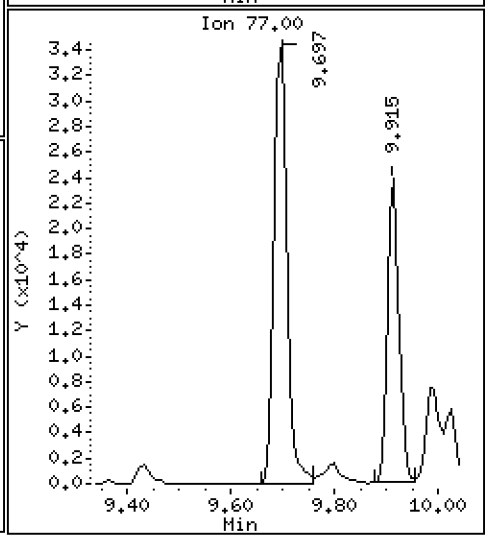












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

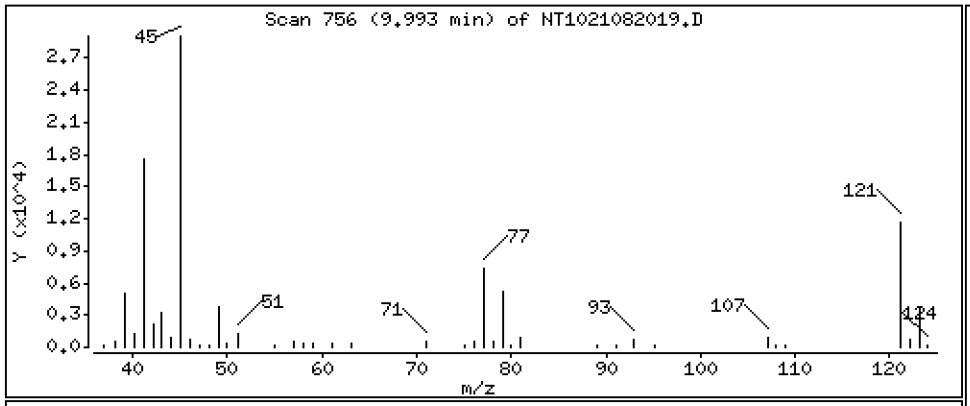
Operator: VTS

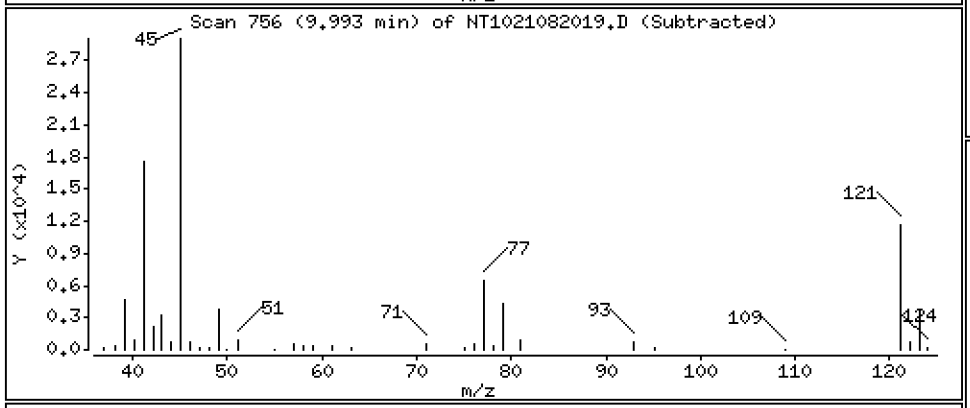
Column phase: ZB-5msi

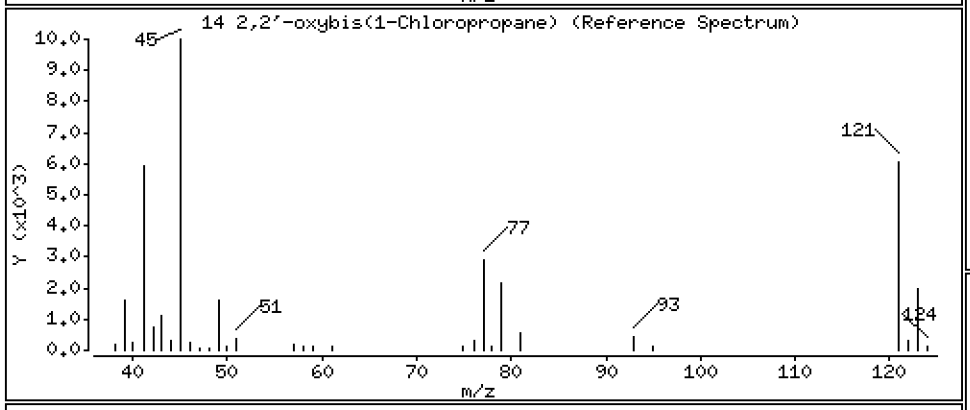
Column diameter: 0.25

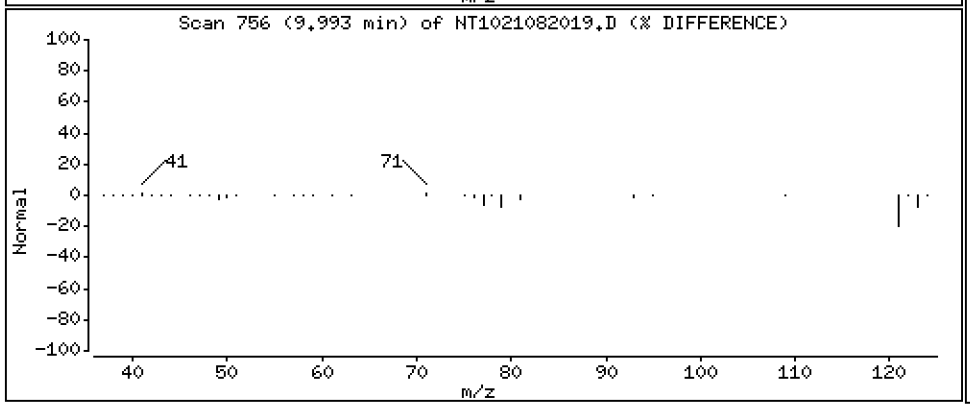
14 2,2'-oxybis(1-Chloropropane)

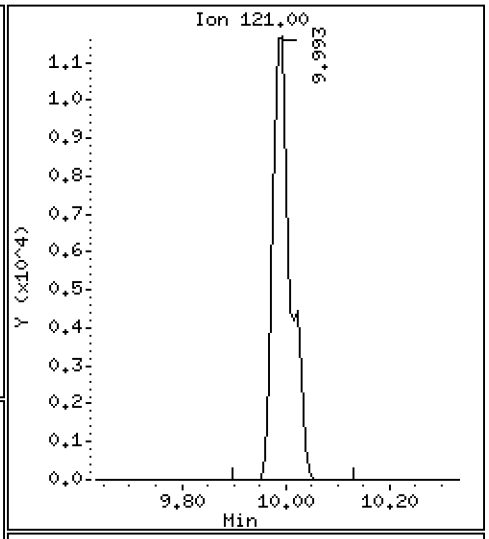
Concentration: 5.440 ug/mL

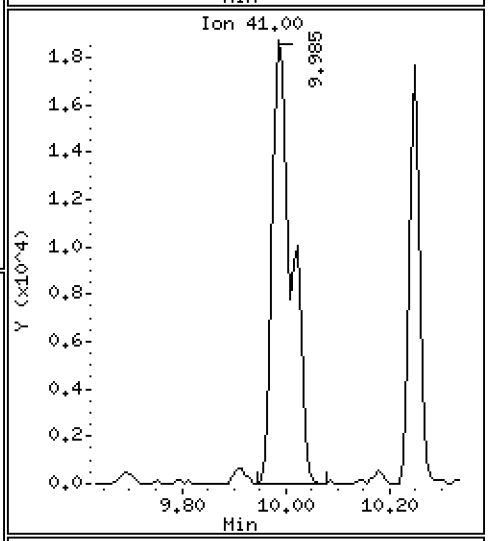


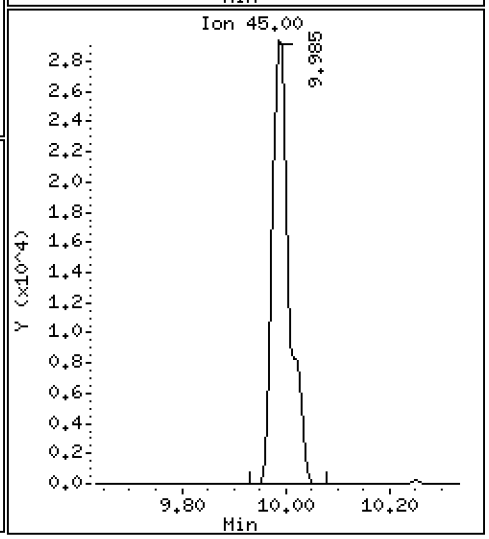












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

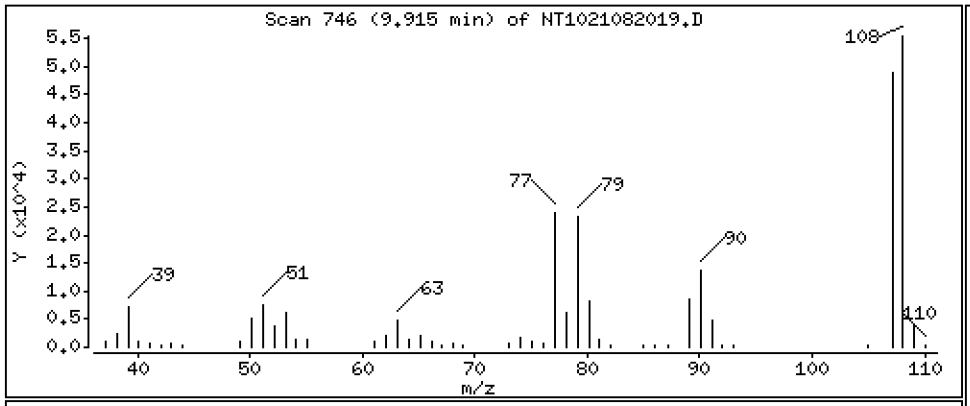
Operator: VTS

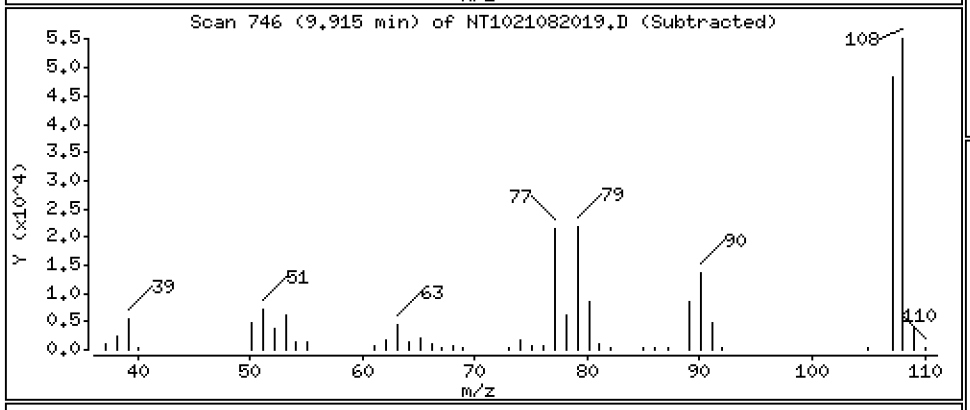
Column phase: ZB-5msi

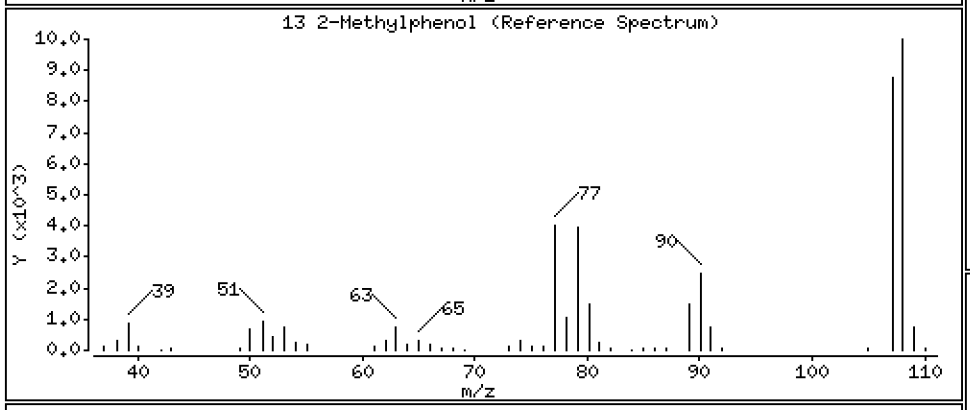
Column diameter: 0.25

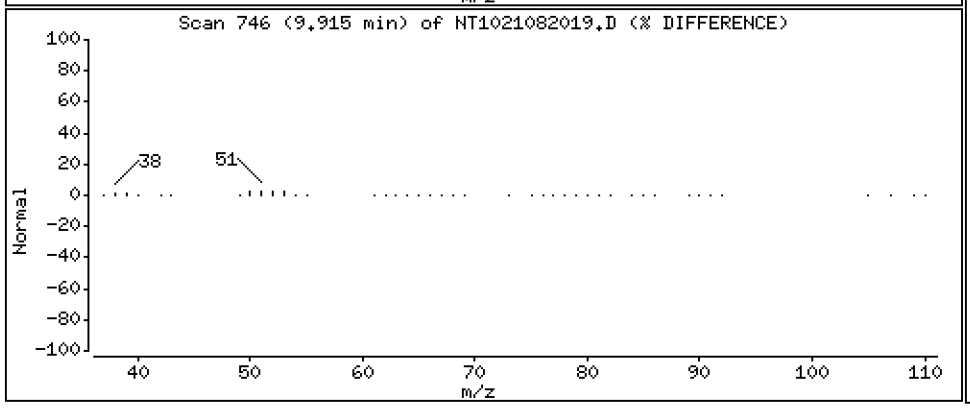
13 2-Methylphenol

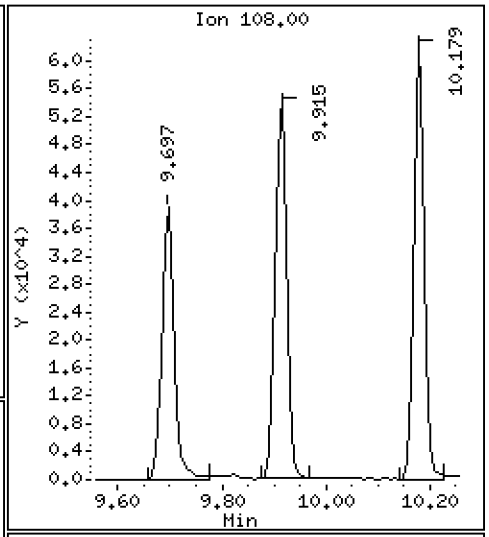
Concentration: 5.240 ug/mL

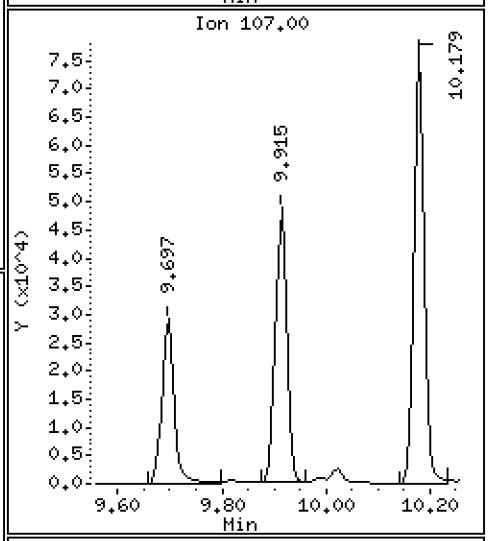


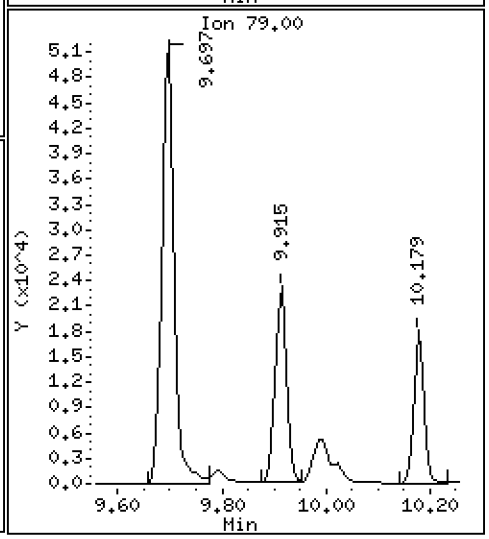












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

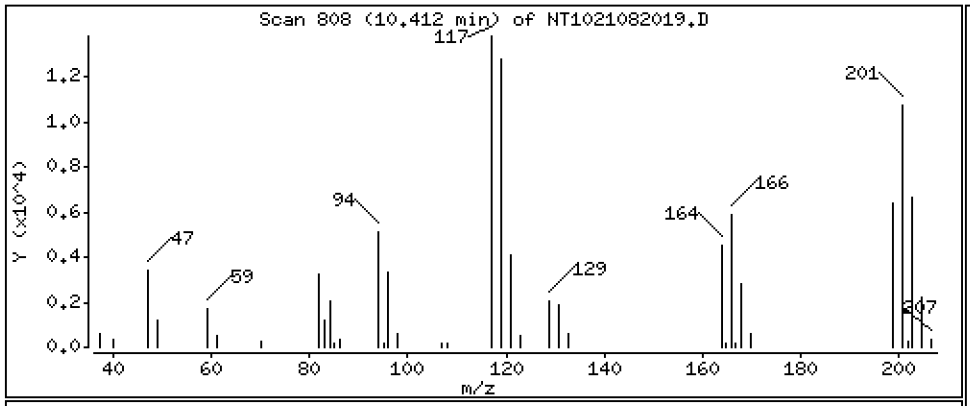
Operator: VTS

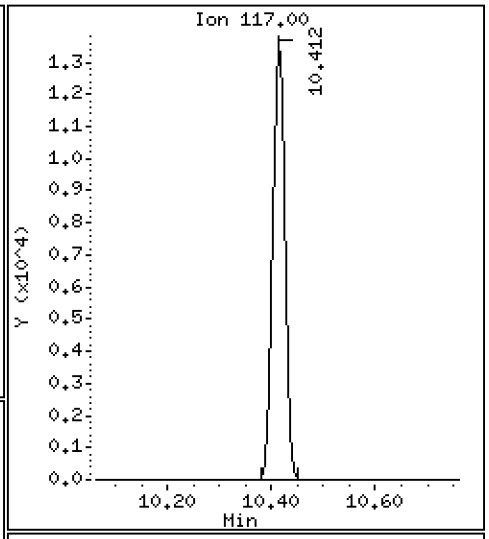
Column phase: ZB-5msi

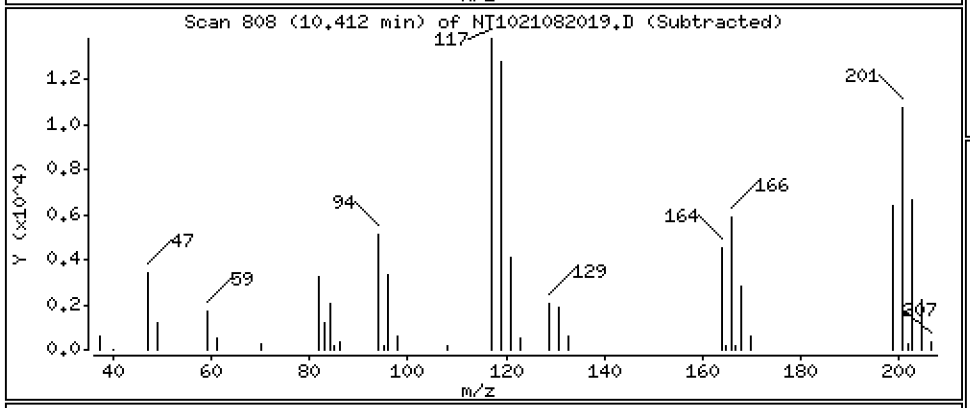
Column diameter: 0.25

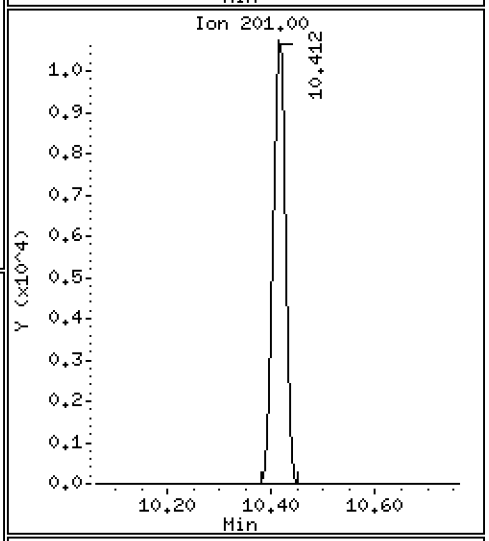
17 Hexachloroethane

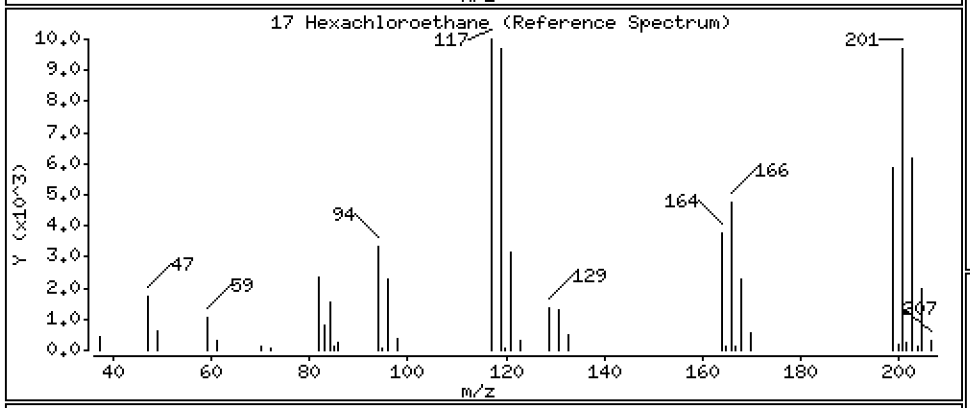
Concentration: 3.032 ug/mL

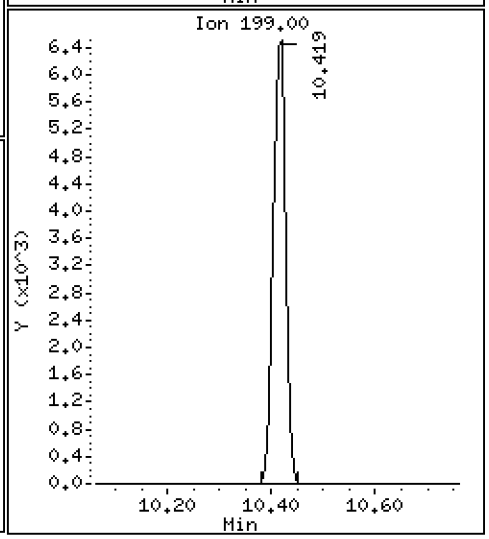


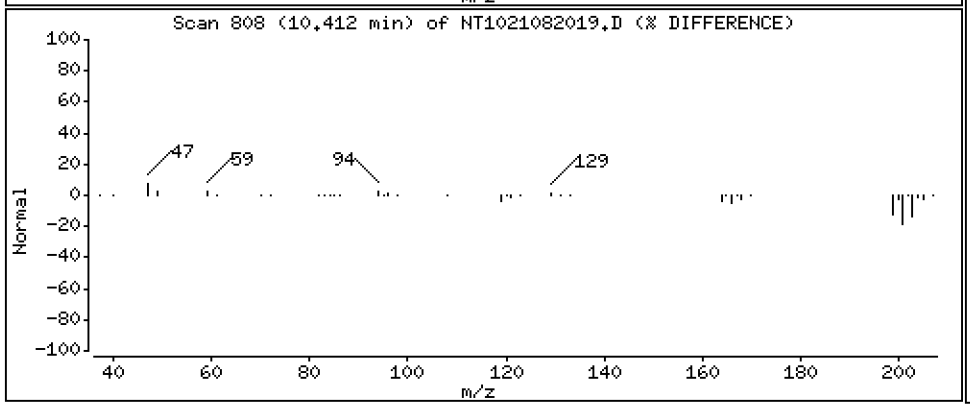












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

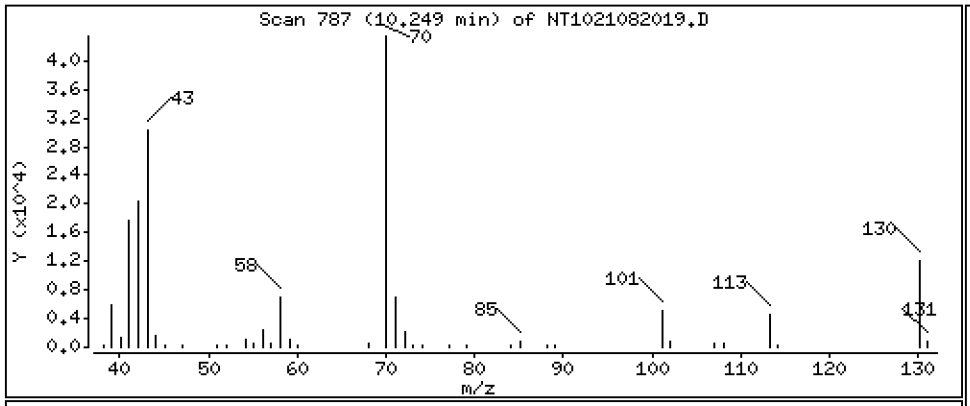
Operator: VTS

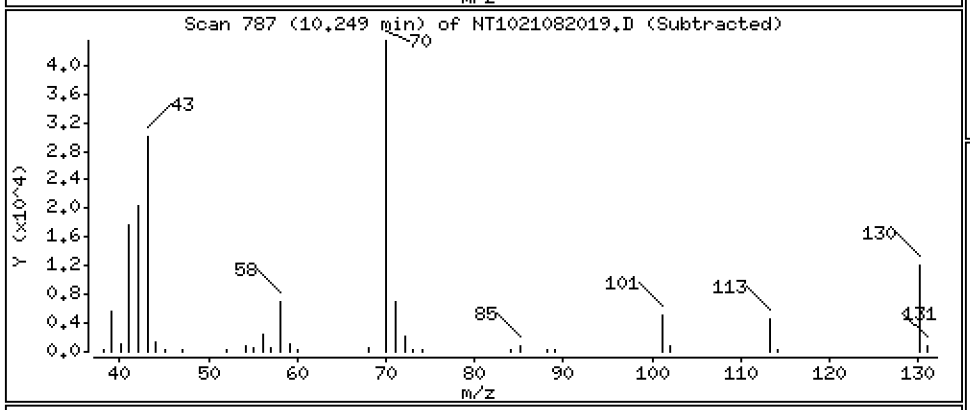
Column phase: ZB-5msi

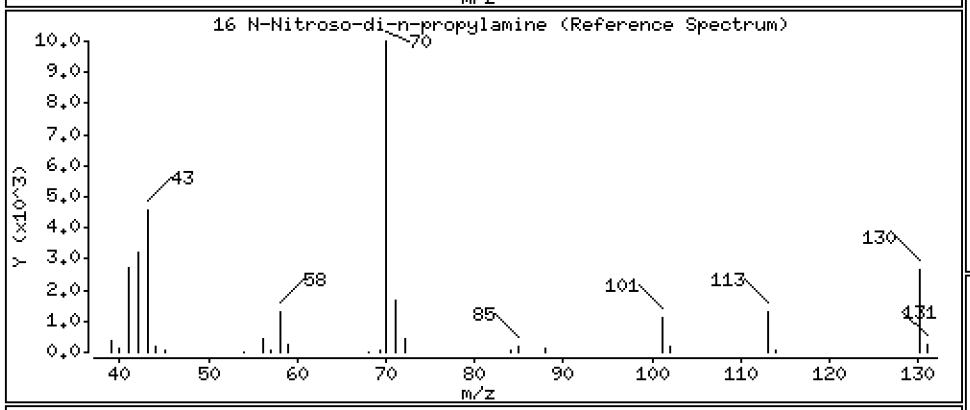
Column diameter: 0.25

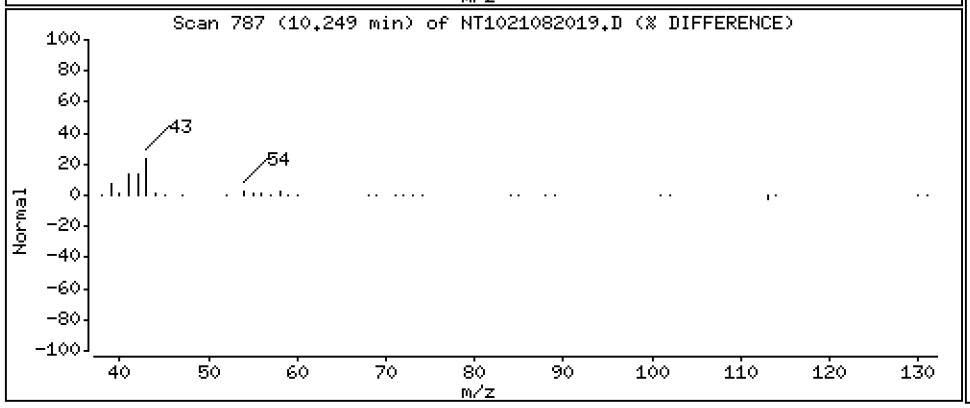
16 N-Nitroso-di-n-propylamine

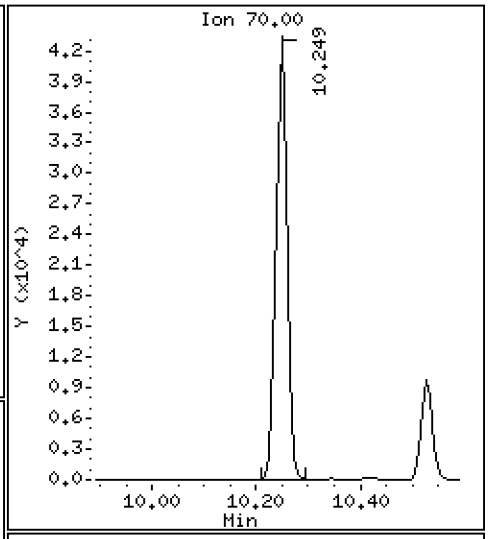
Concentration: 5.729 ug/mL

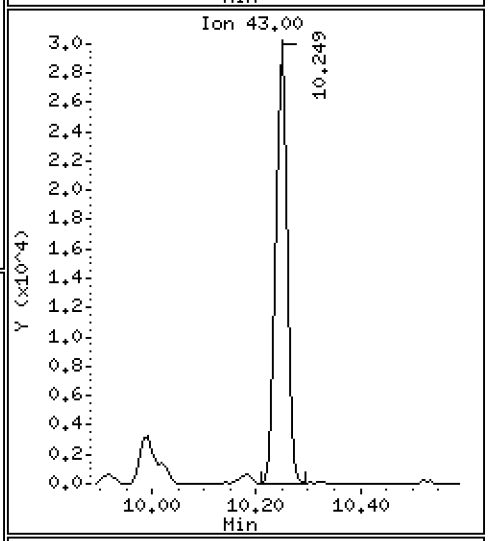


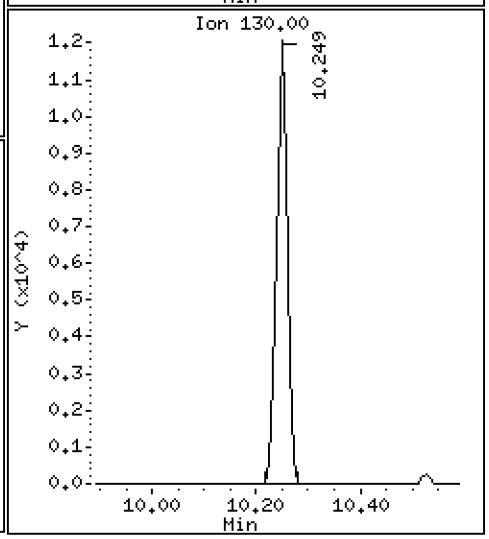












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

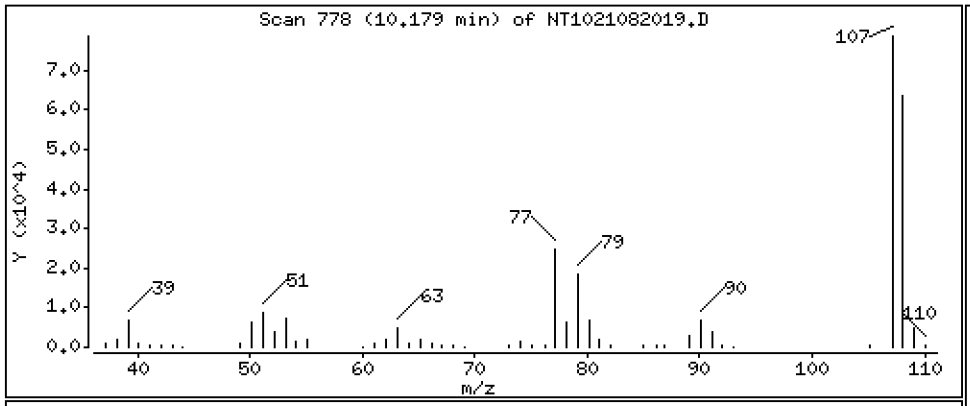
Operator: VTS

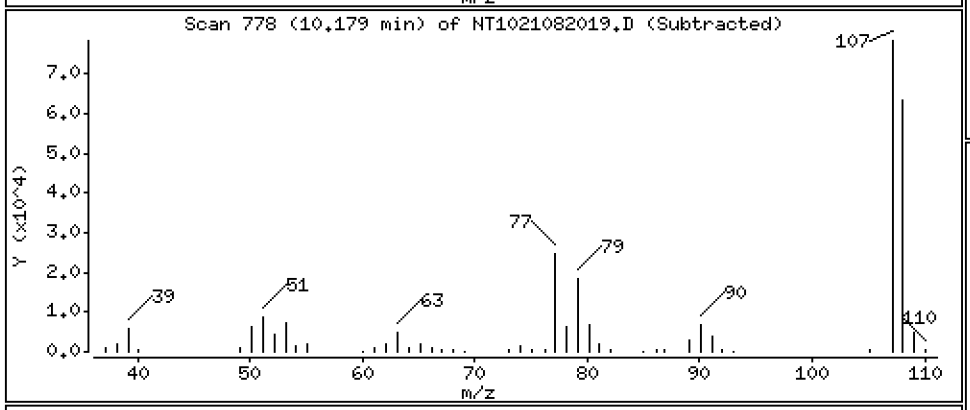
Column phase: ZB-5msi

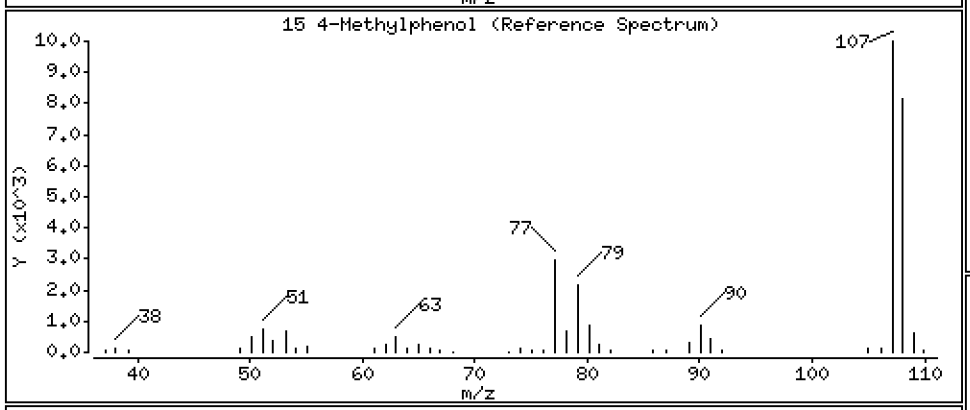
Column diameter: 0.25

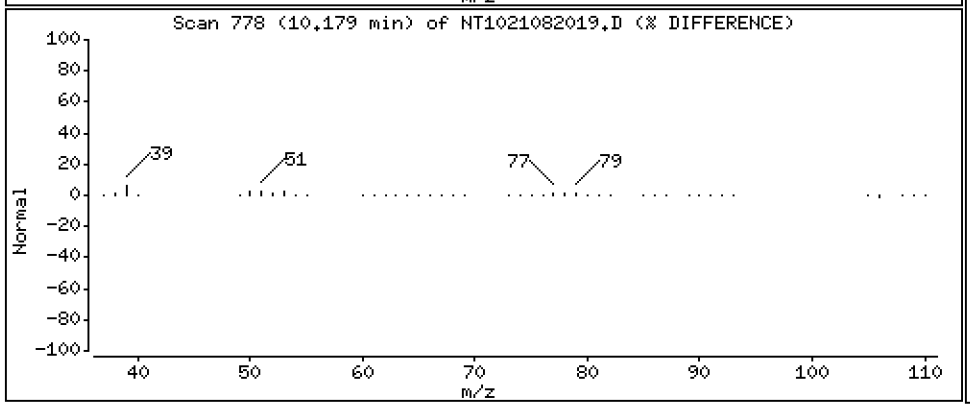
15 4-Methylphenol

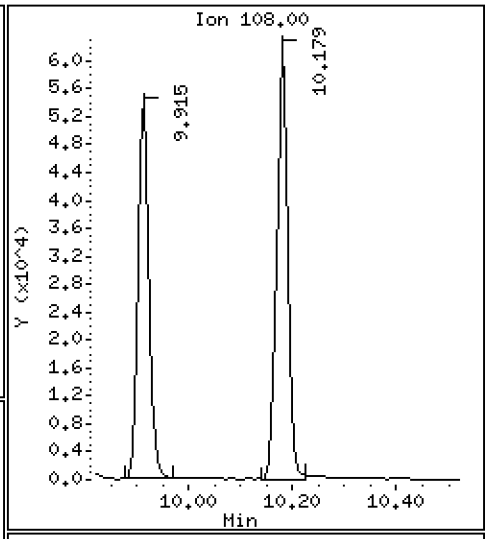
Concentration: 5.419 ug/mL

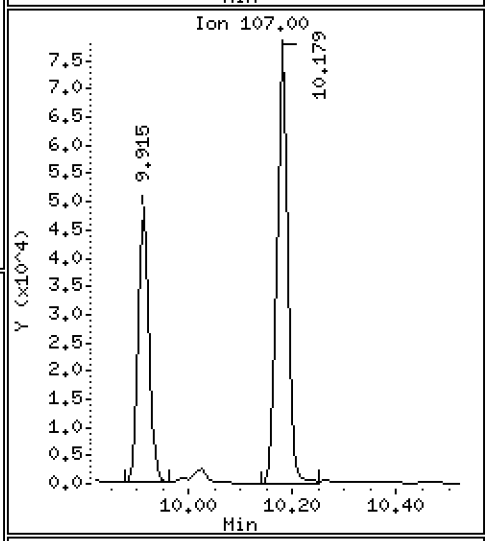


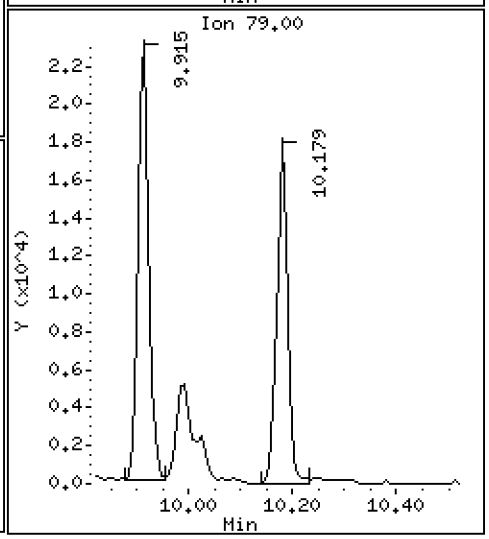












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

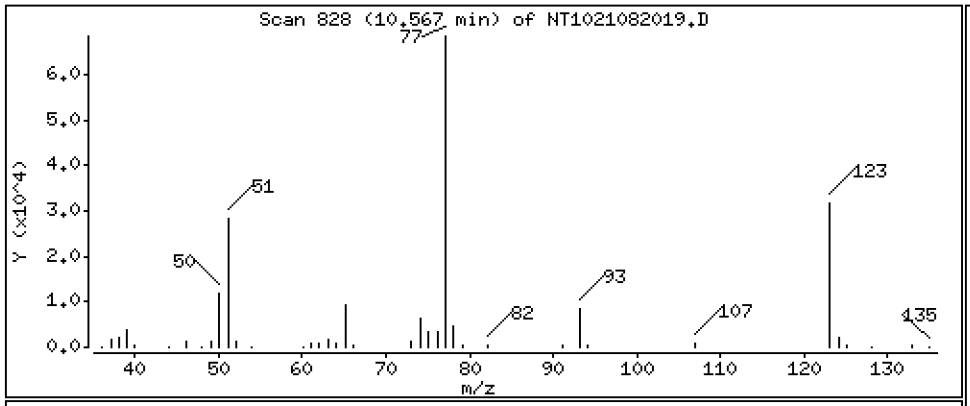
Operator: VTS

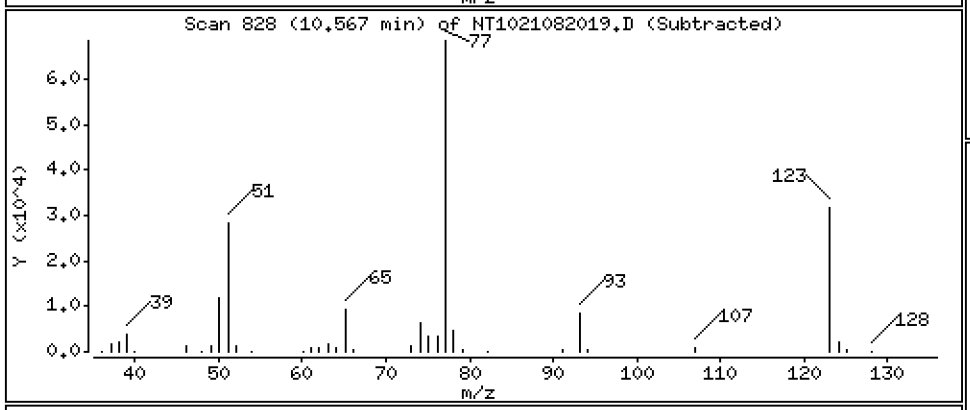
Column phase: ZB-5msi

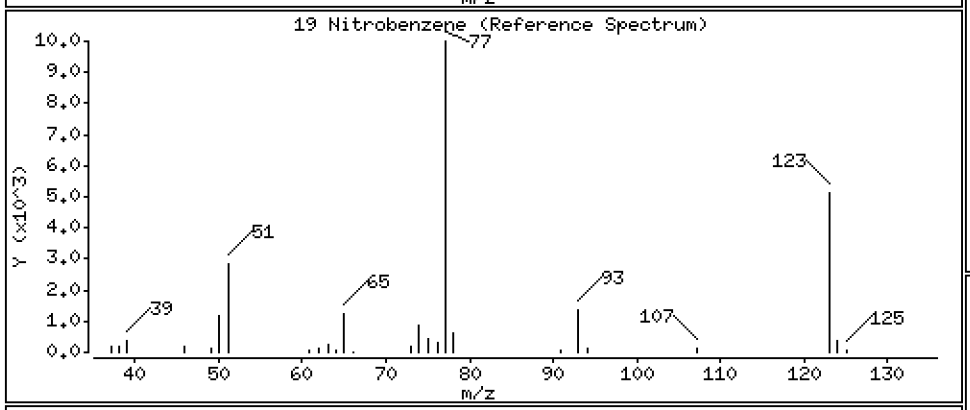
Column diameter: 0.25

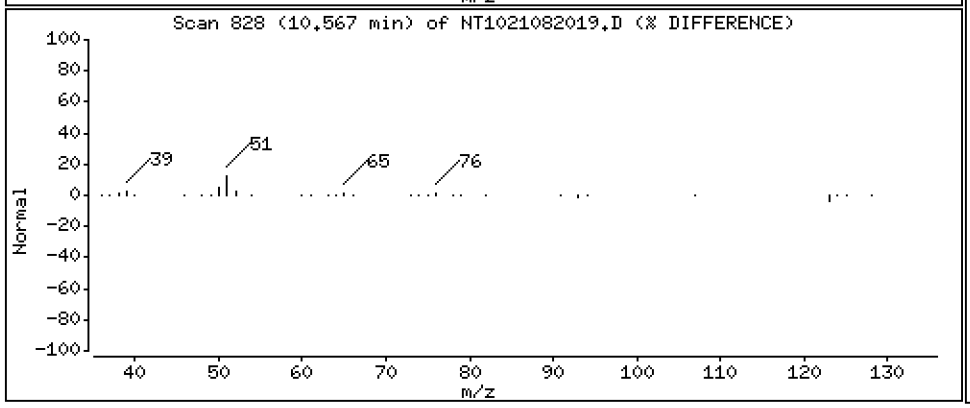
19 Nitrobenzene

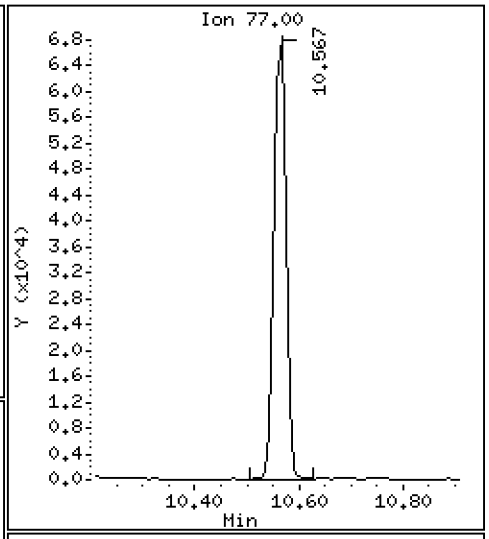
Concentration: 5.515 ug/mL

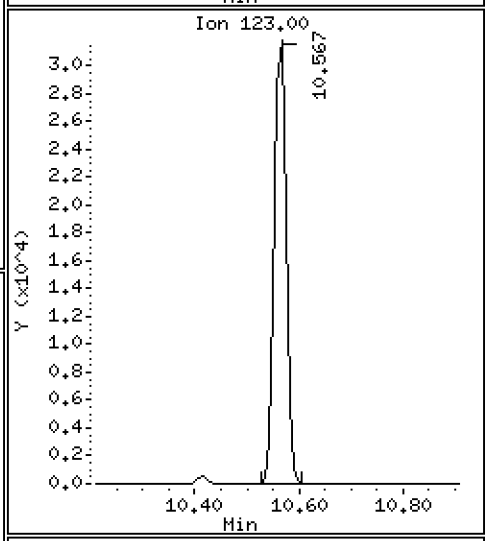


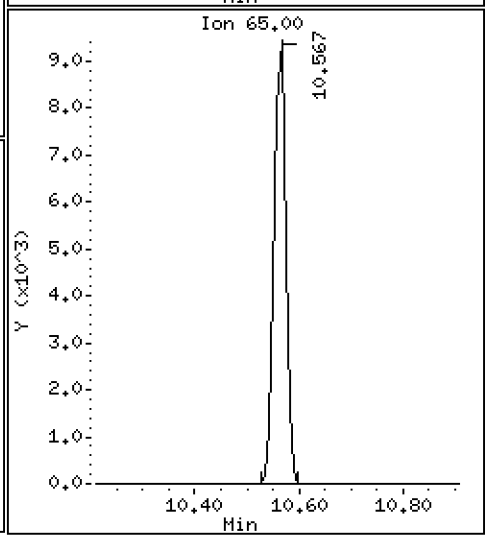












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

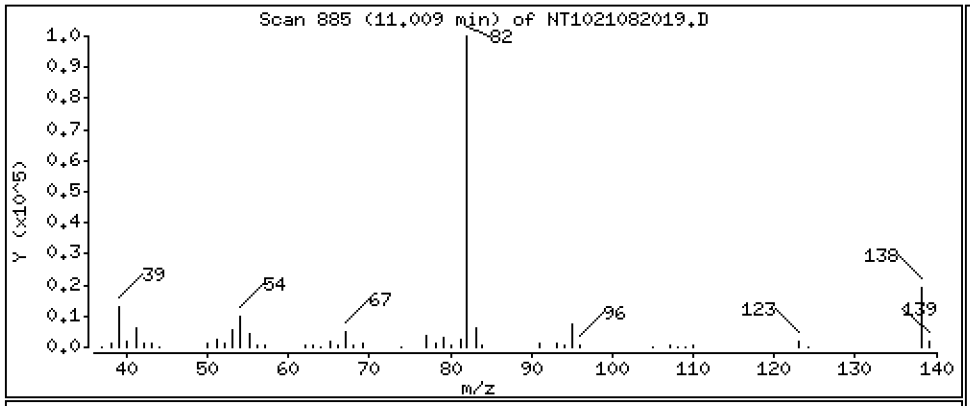
Operator: VTS

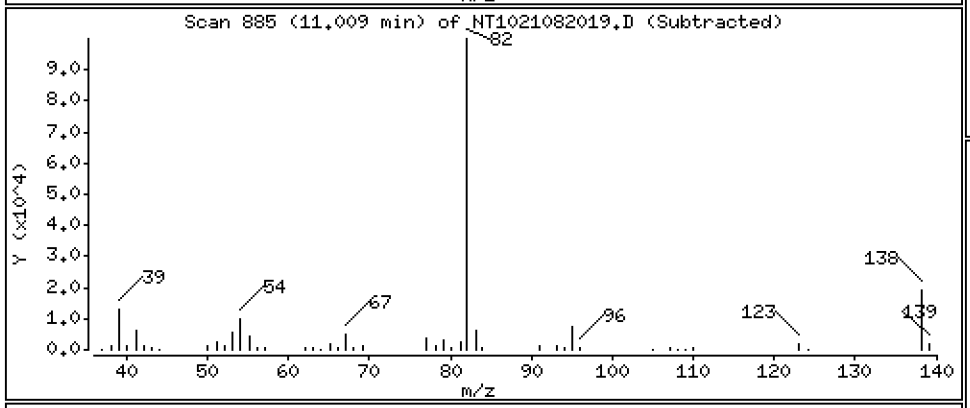
Column phase: ZB-5msi

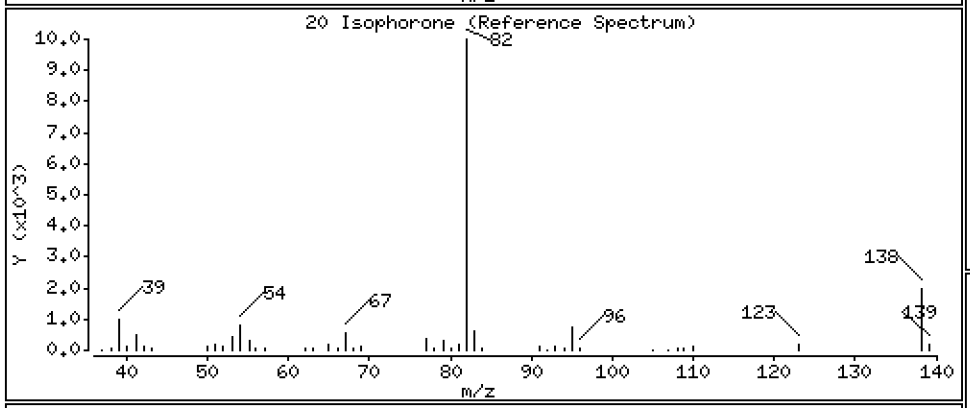
Column diameter: 0.25

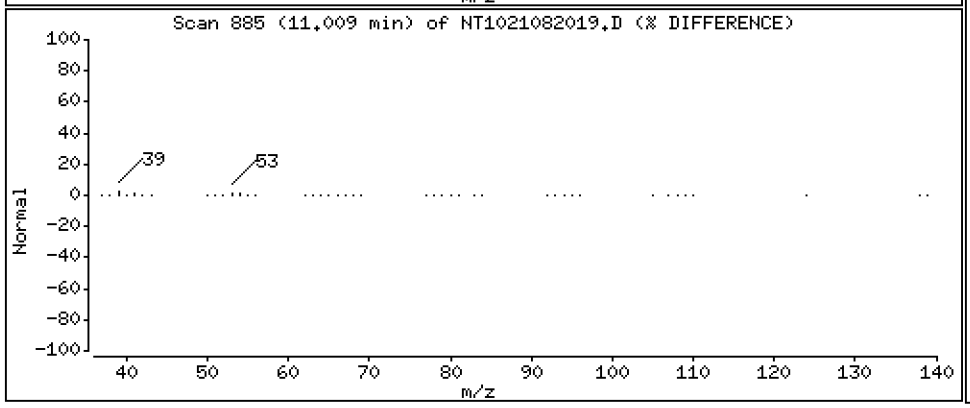
20 Isophorone

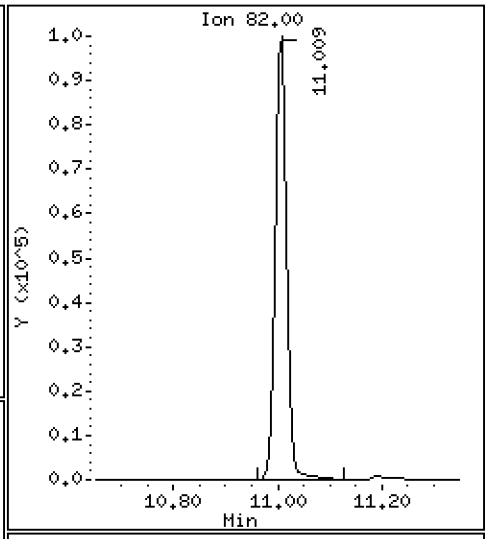
Concentration: 6.082 ug/mL

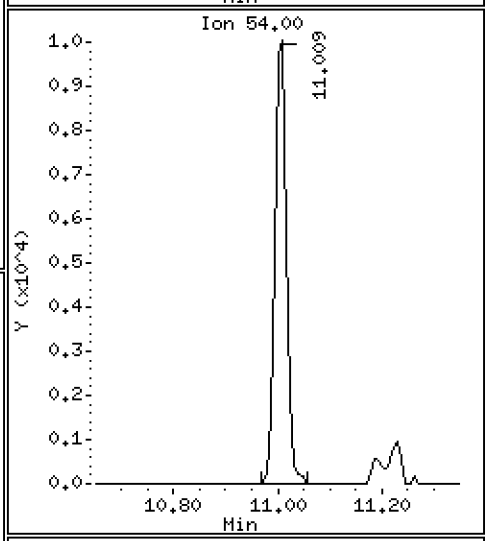


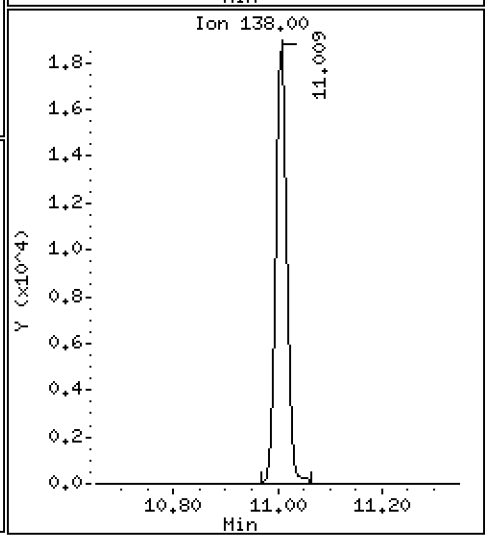












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

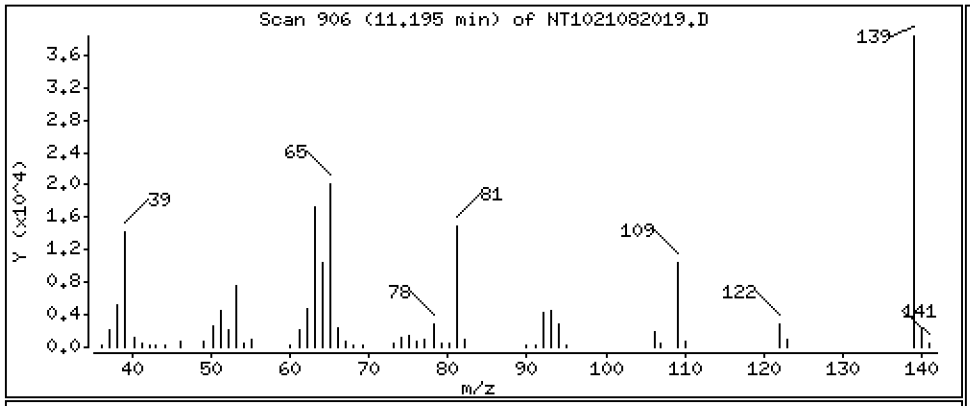
Operator: VTS

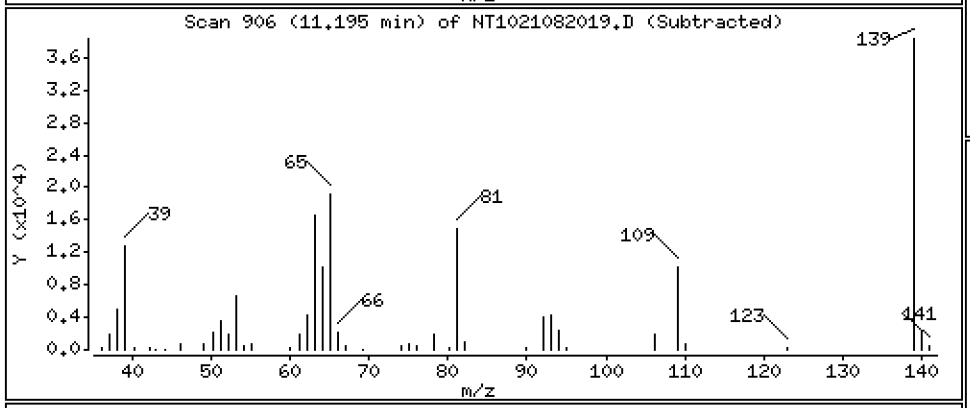
Column phase: ZB-5msi

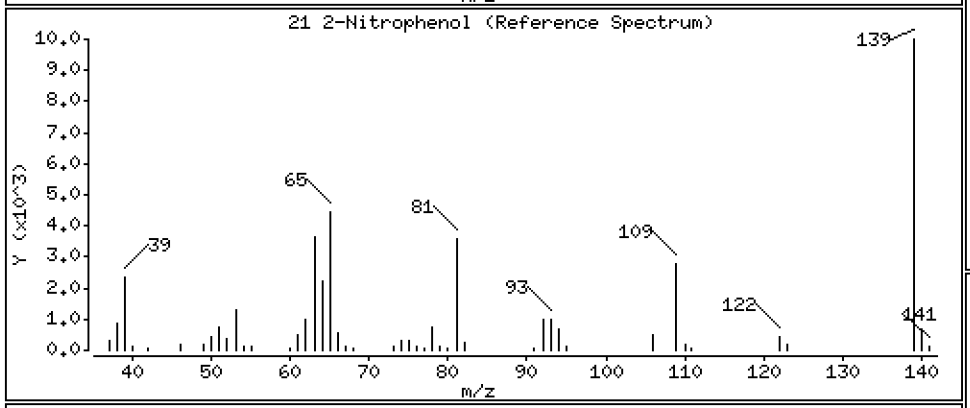
Column diameter: 0.25

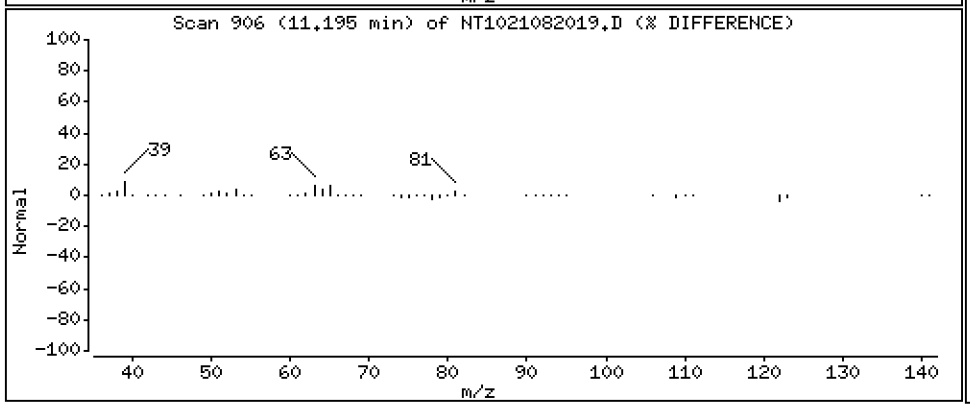
21 2-Nitrophenol

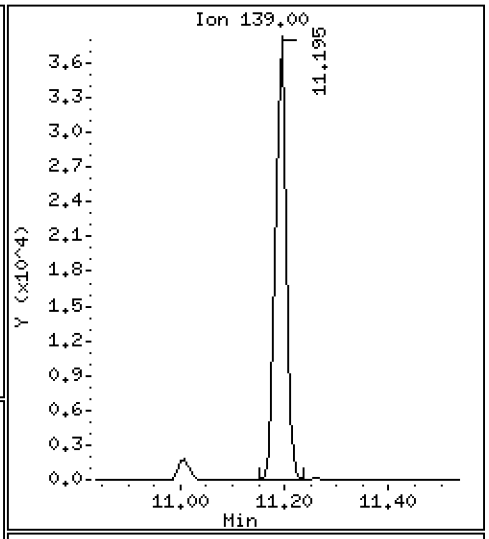
Concentration: 5.298 ug/mL

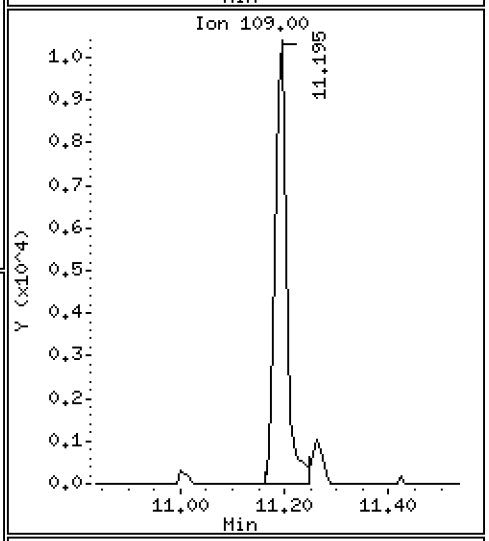


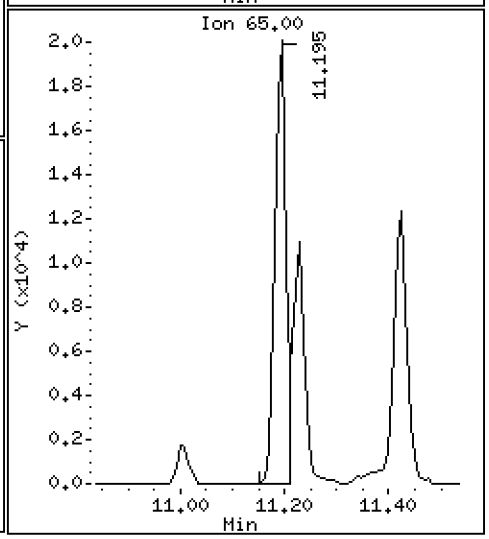












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

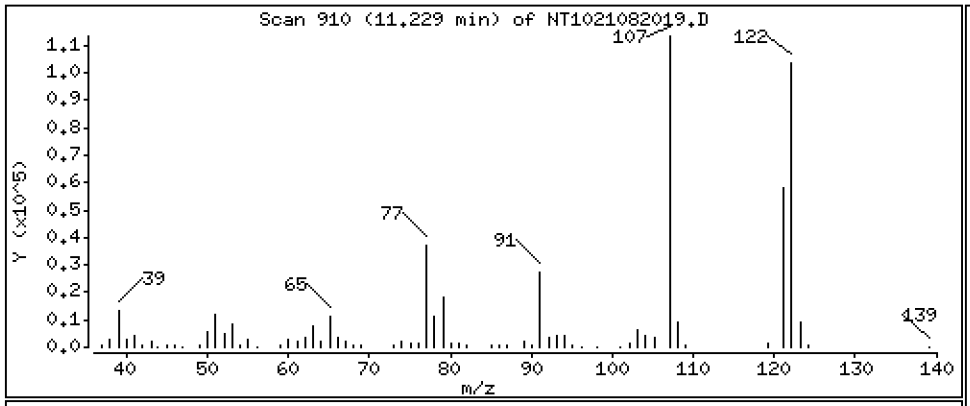
Operator: VTS

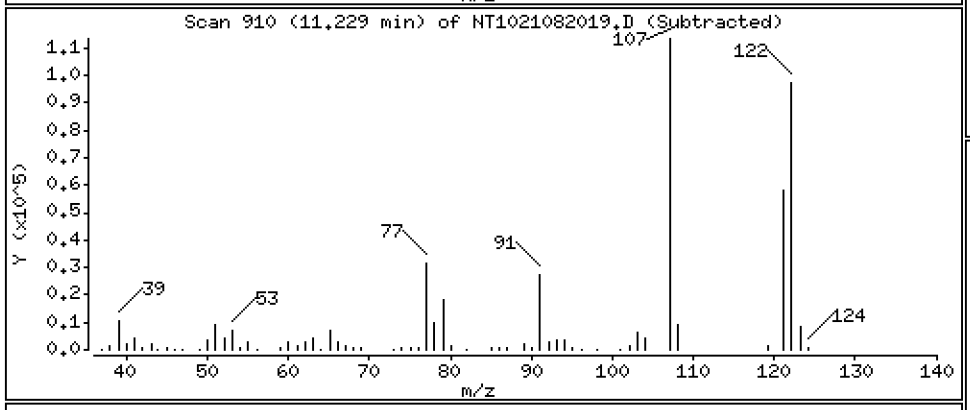
Column phase: ZB-5msi

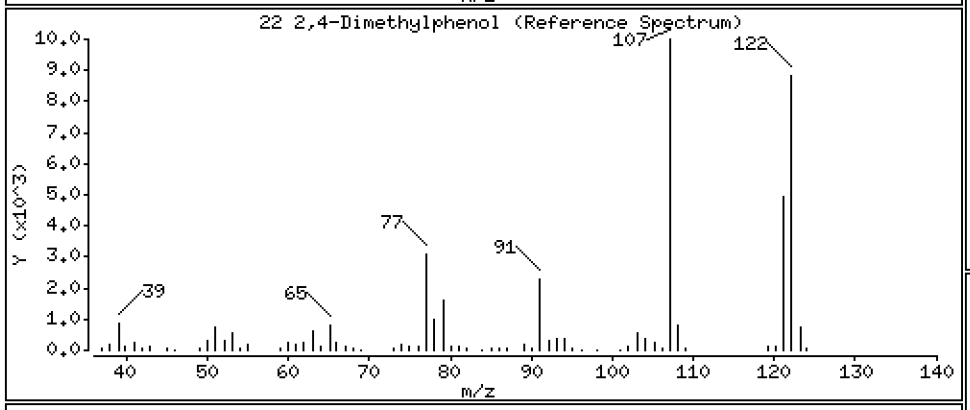
Column diameter: 0.25

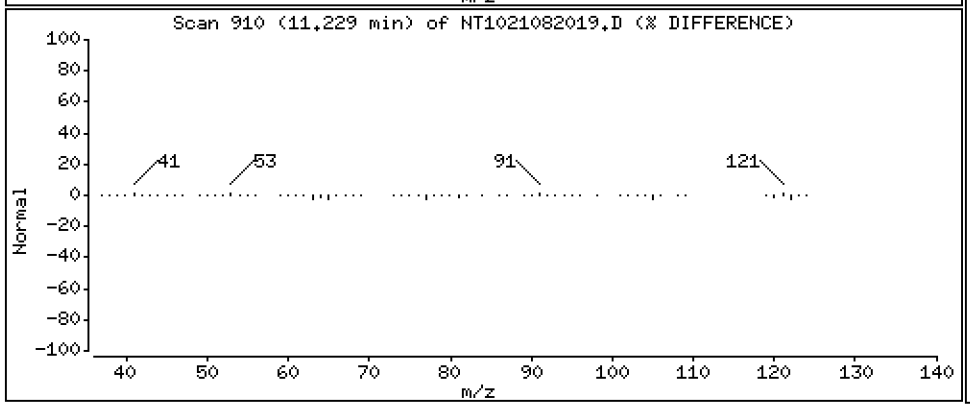
22 2,4-Dimethylphenol

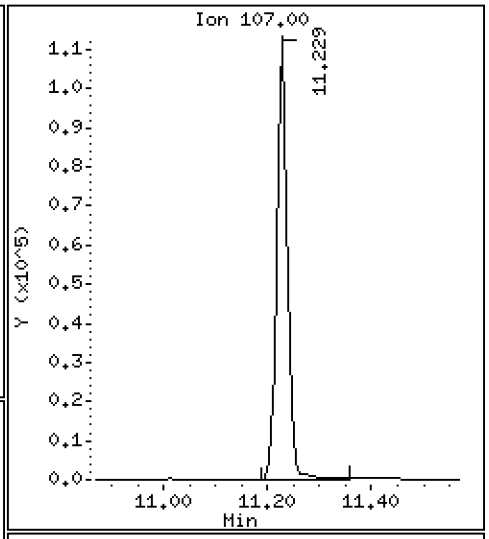
Concentration: 9.947 ug/mL

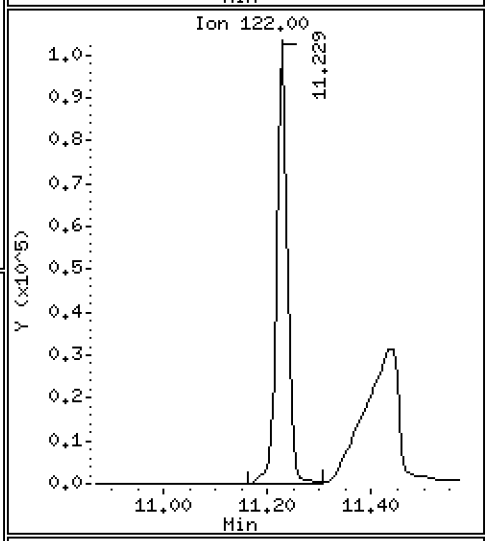


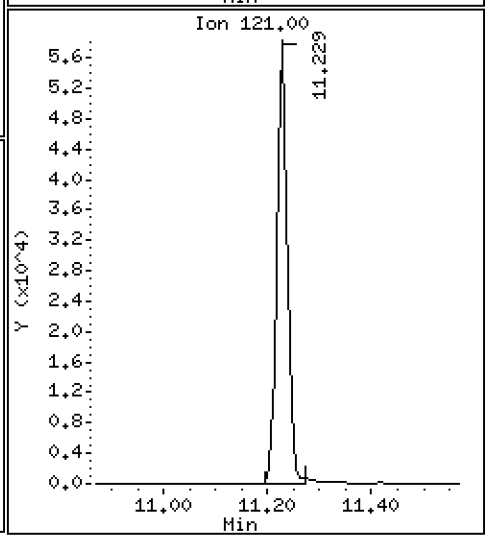












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

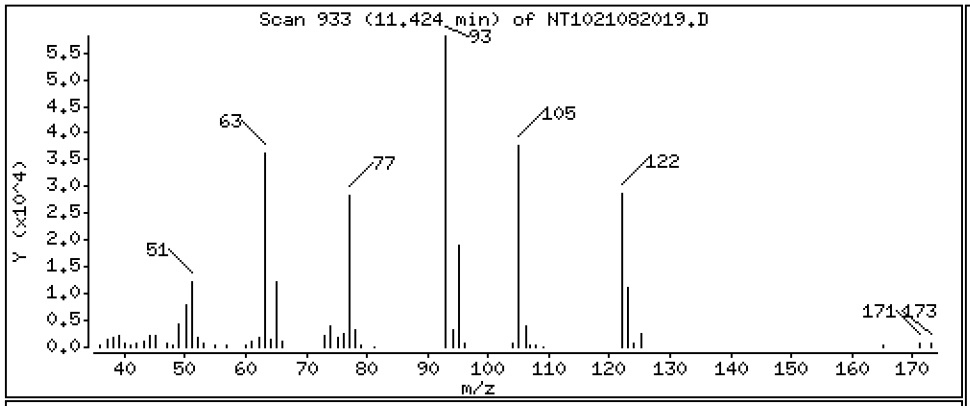
Operator: VTS

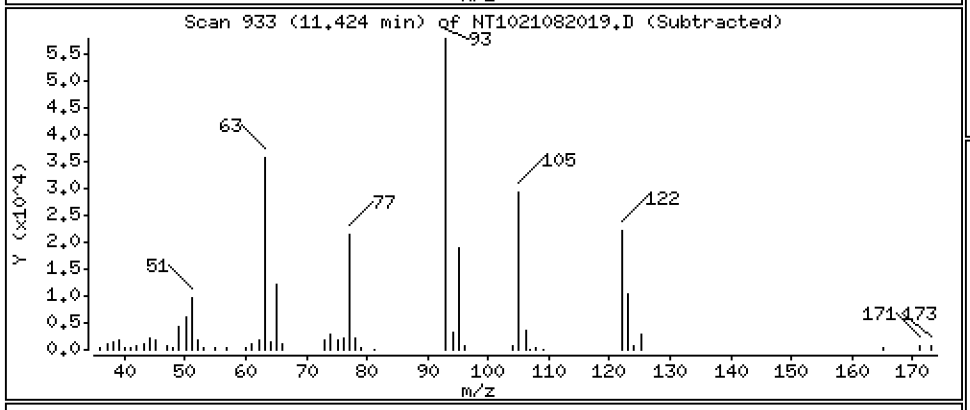
Column phase: ZB-5msi

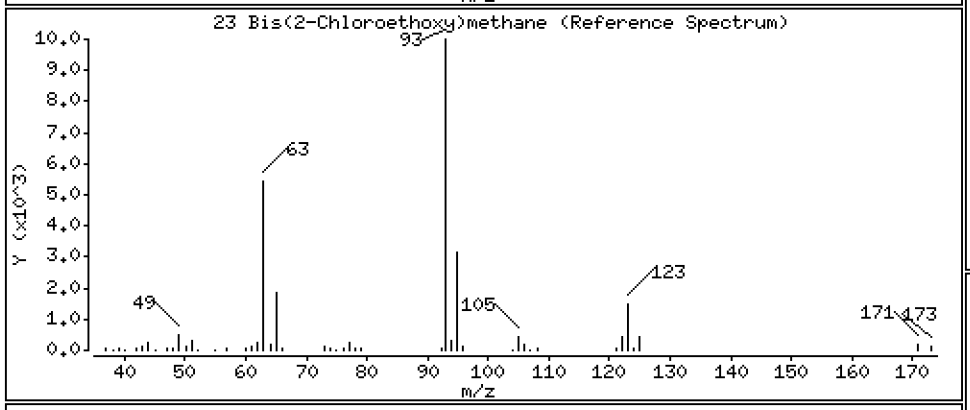
Column diameter: 0.25

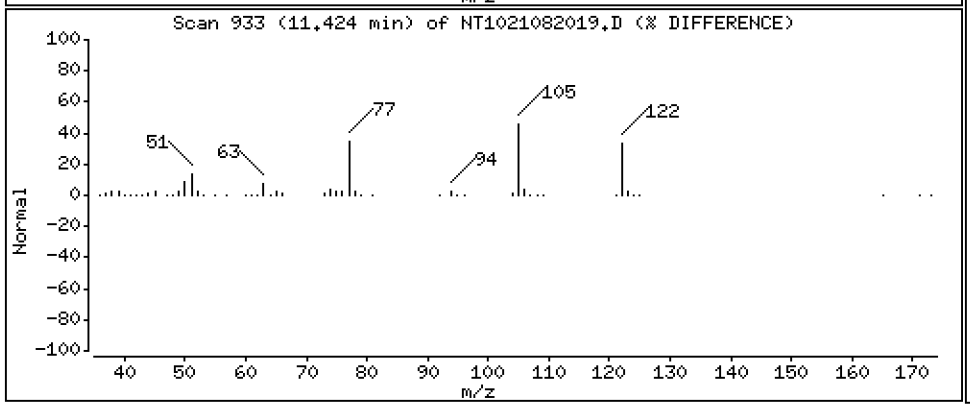
23 Bis(2-Chloroethoxy)methane

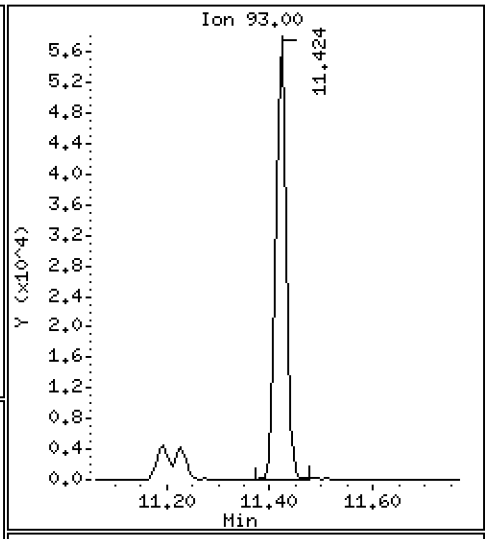
Concentration: 4.900 ug/mL

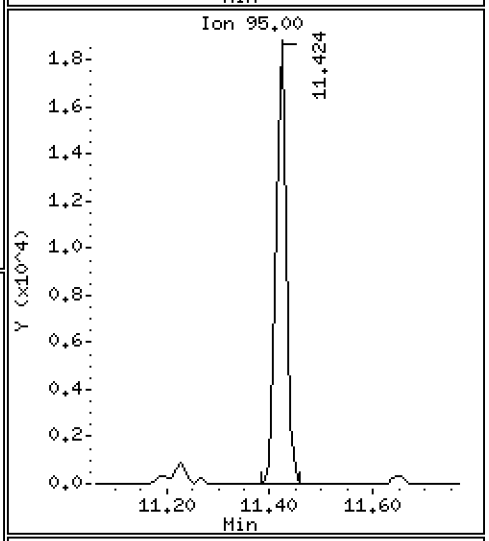


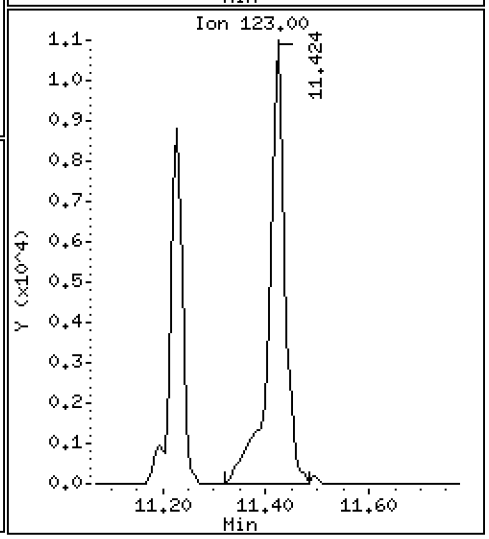












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

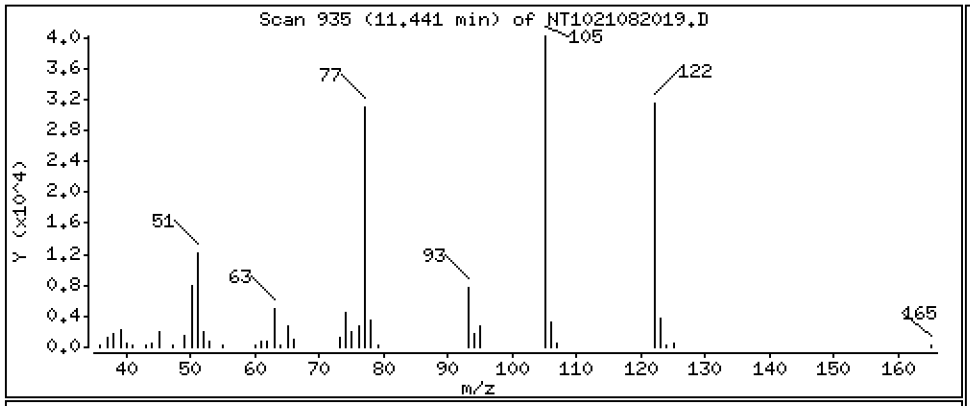
Operator: VTS

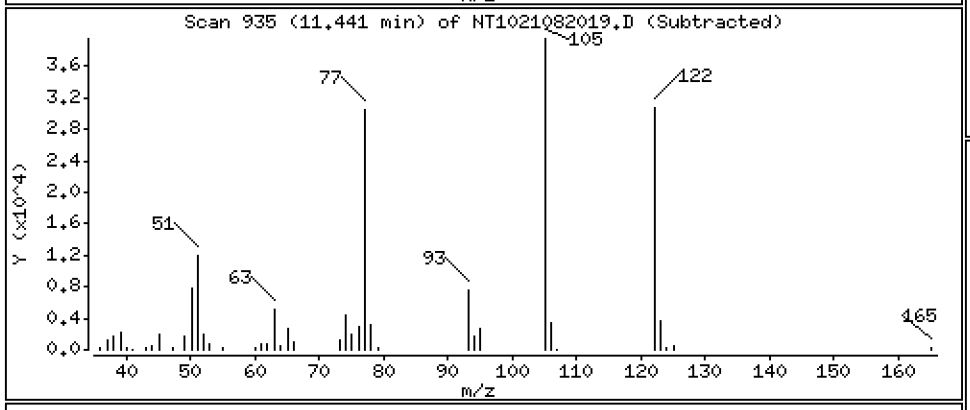
Column phase: ZB-5msi

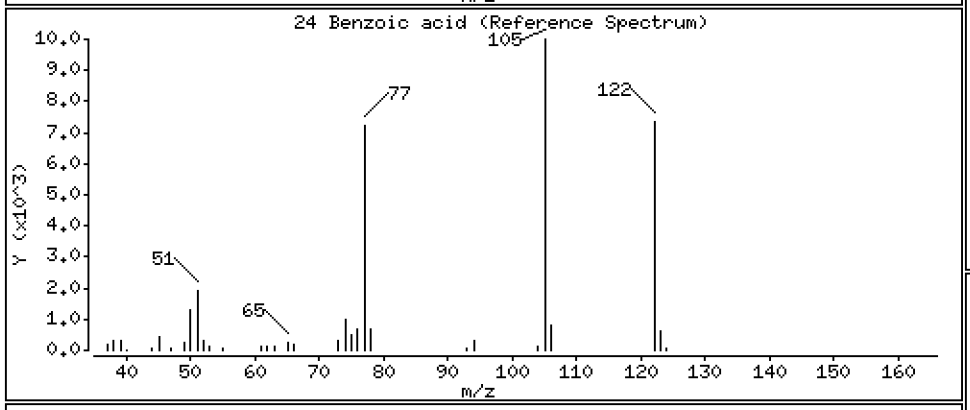
Column diameter: 0.25

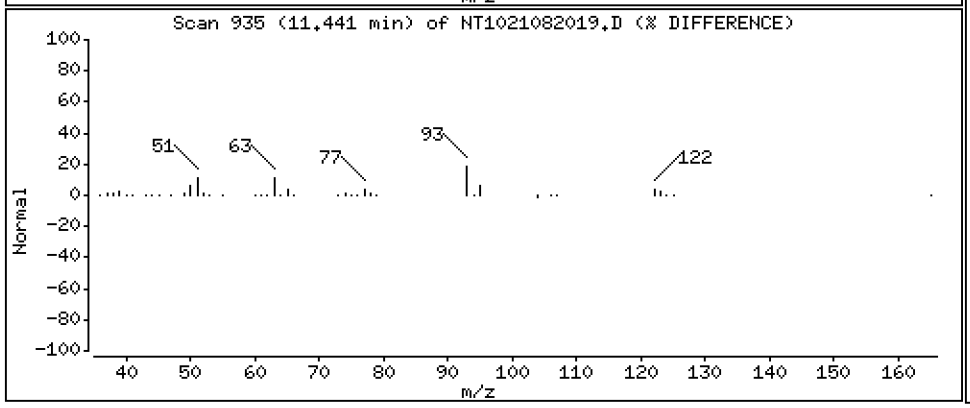
24 Benzoic acid

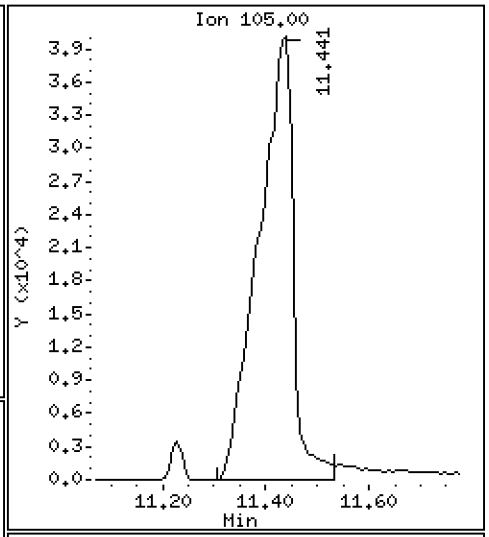
Concentration: 21.76 ug/mL

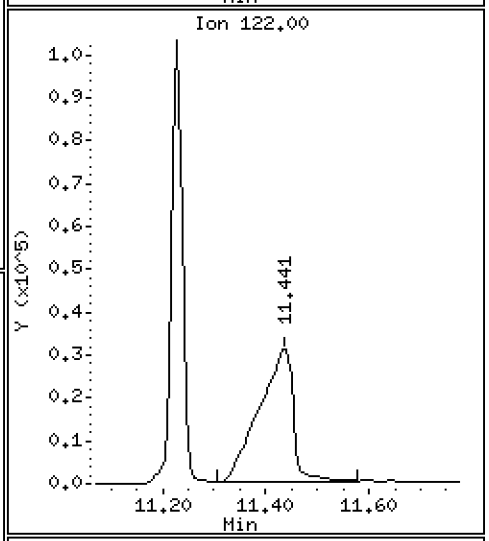


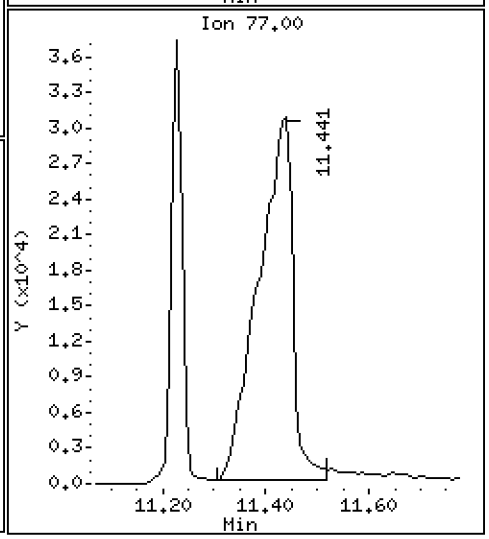












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

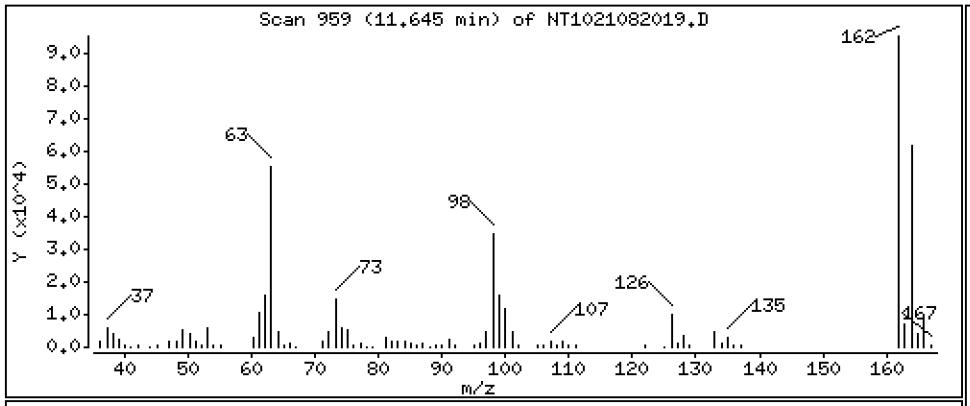
Operator: VTS

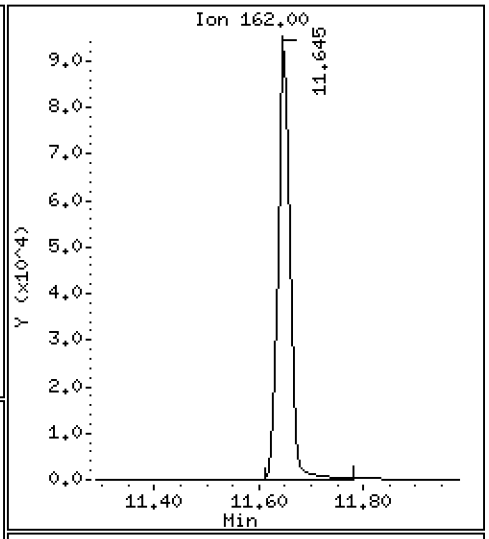
Column phase: ZB-5msi

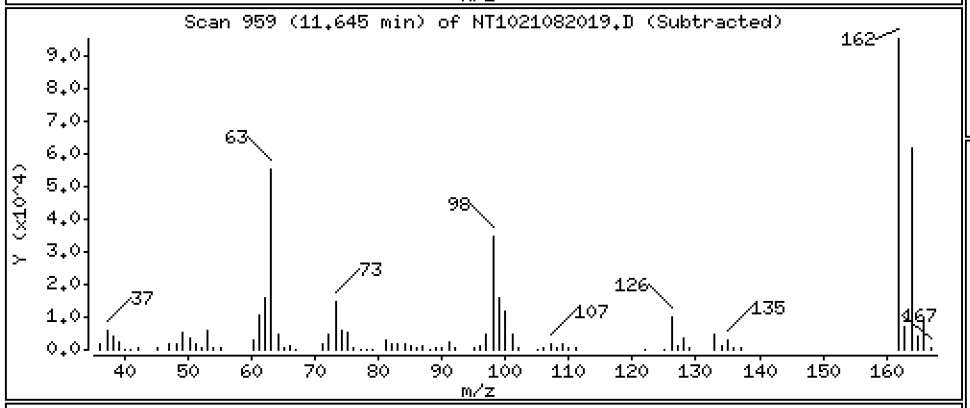
Column diameter: 0.25

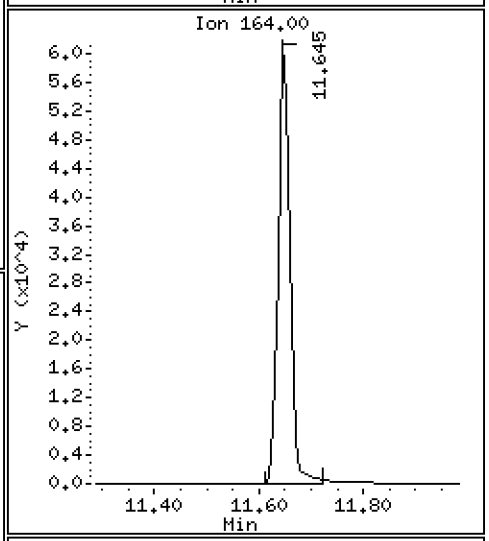
25 2,4-Dichlorophenol

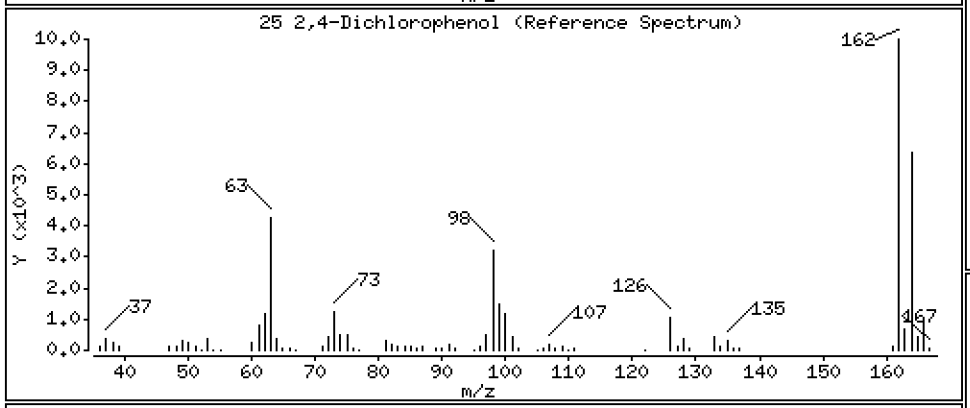
Concentration: 9.369 ug/mL

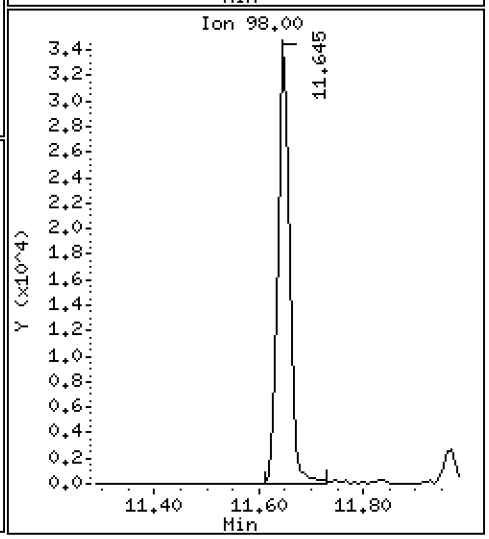


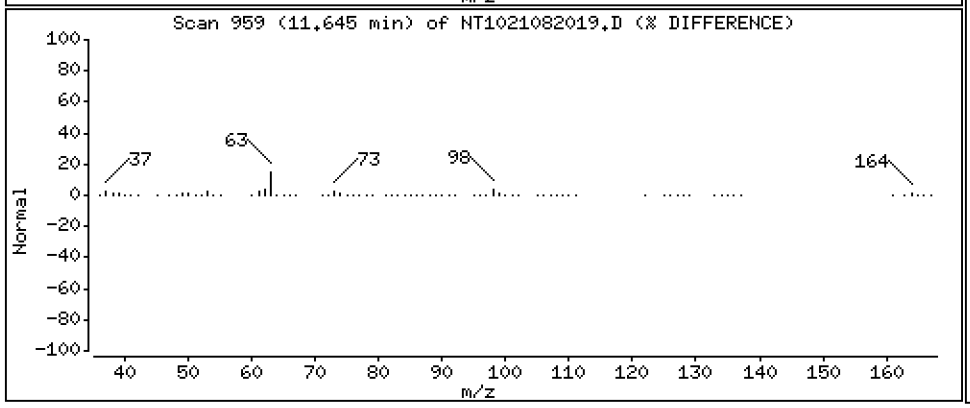












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

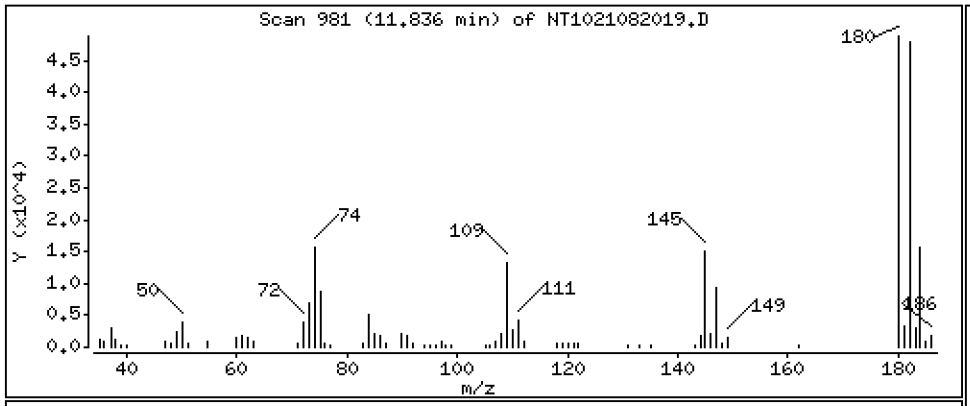
Operator: VTS

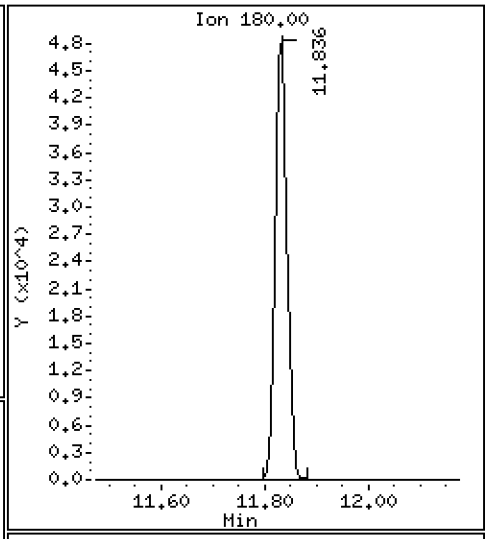
Column phase: ZB-5msi

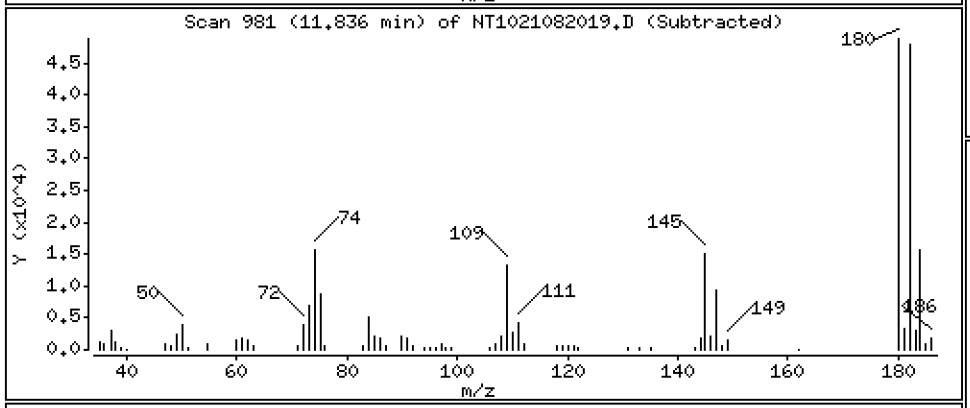
Column diameter: 0.25

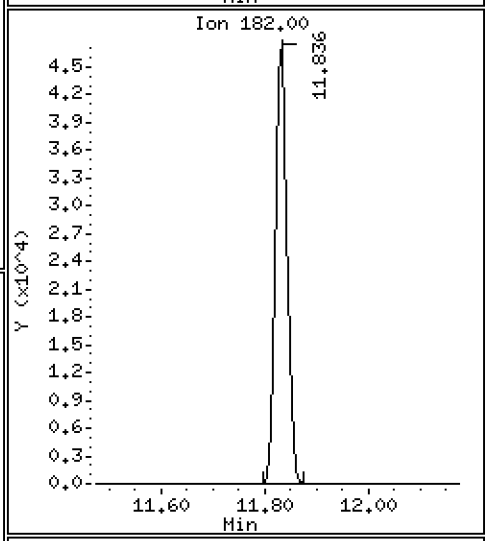
26 1,2,4-Trichlorobenzene

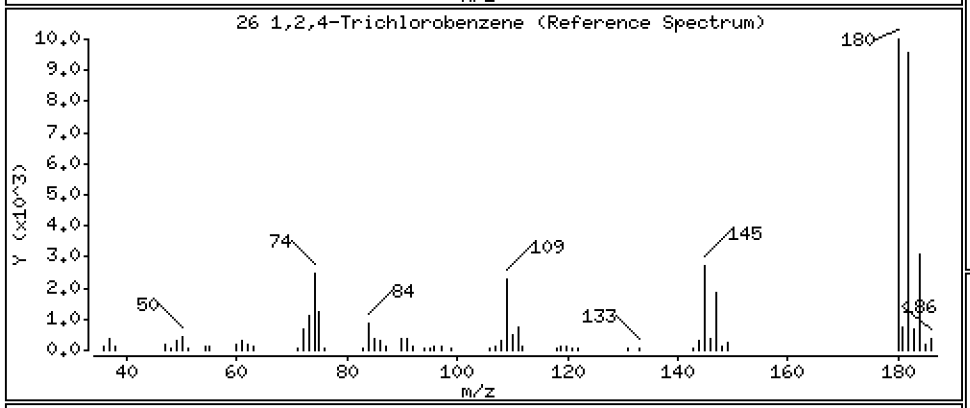
Concentration: 4.596 ug/mL

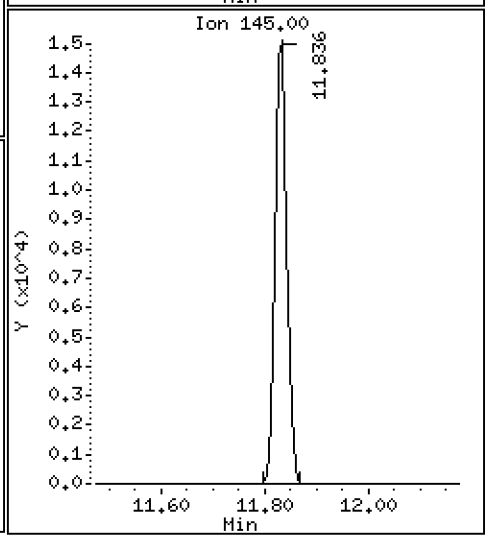


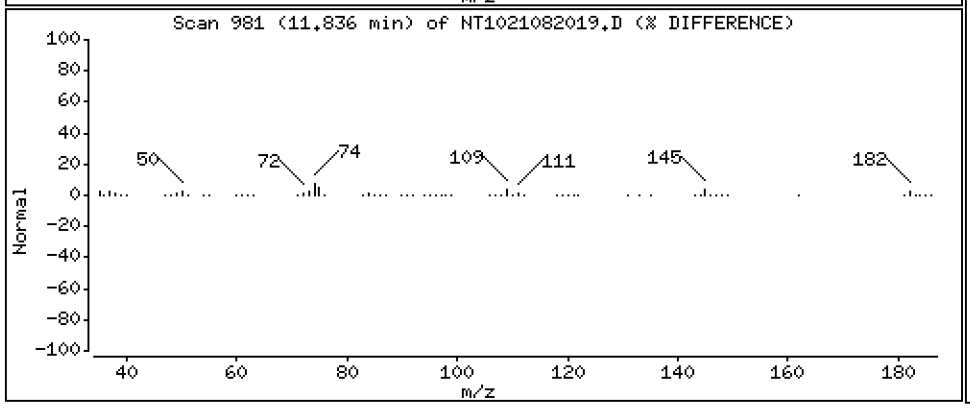












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

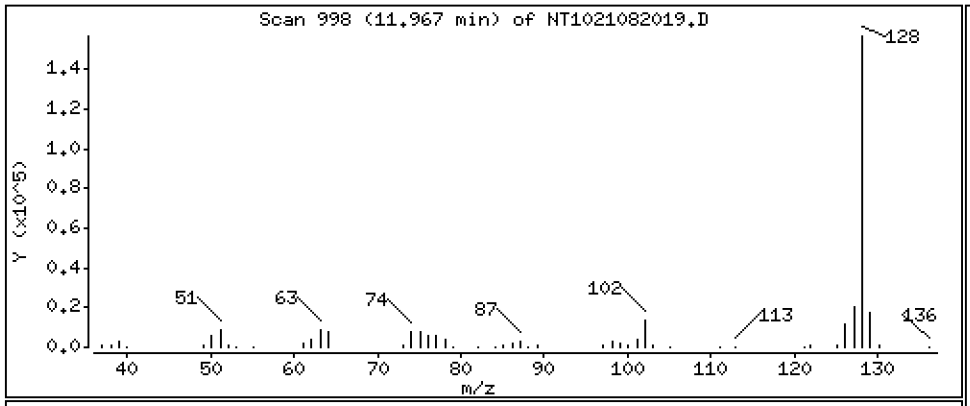
Operator: VTS

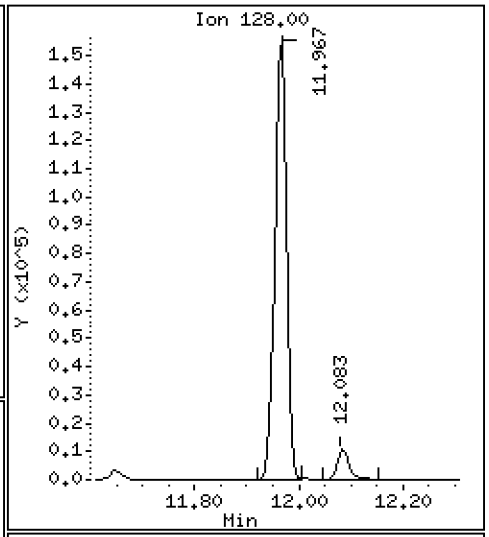
Column phase: ZB-5msi

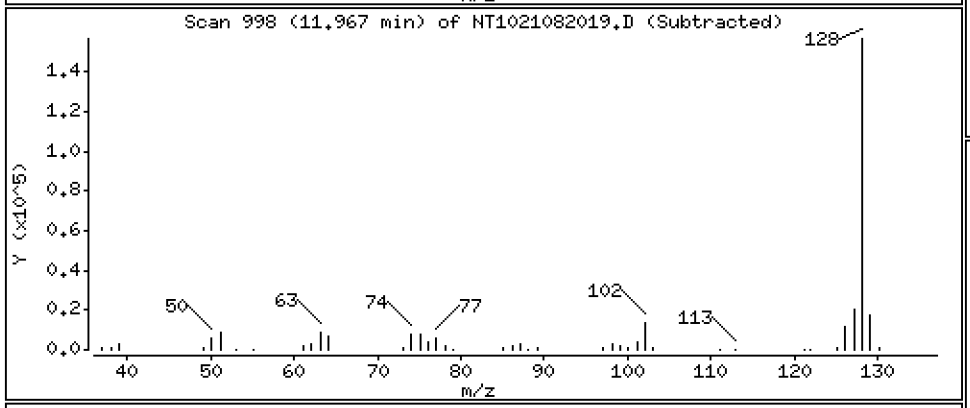
Column diameter: 0.25

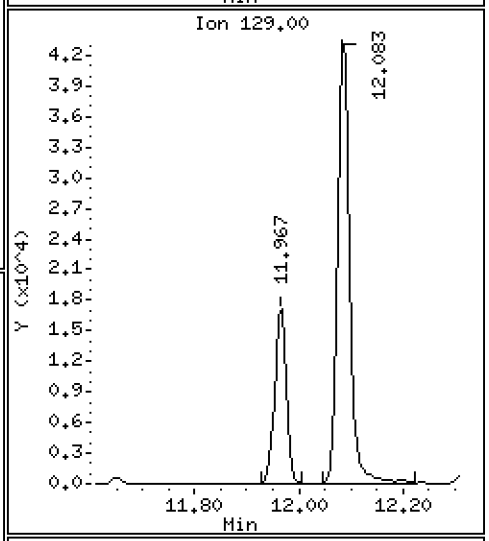
28 Naphthalene

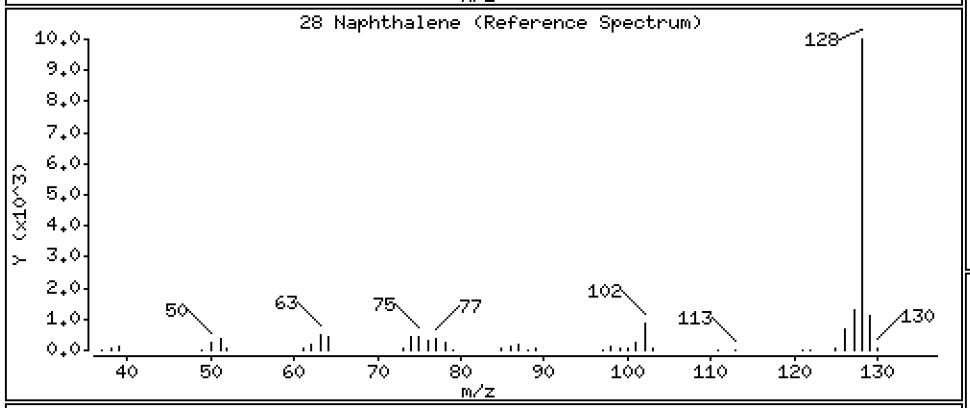
Concentration: 5.030 ug/mL

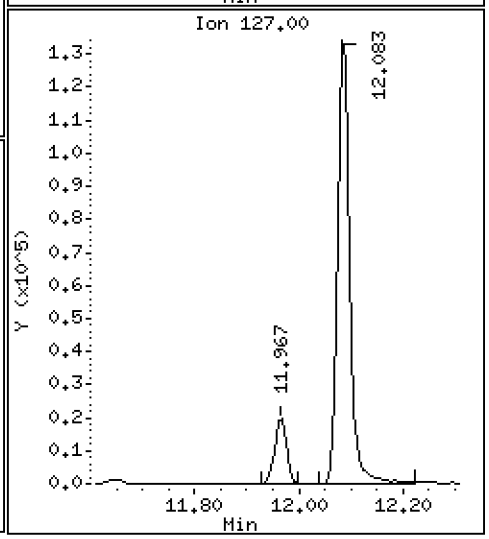


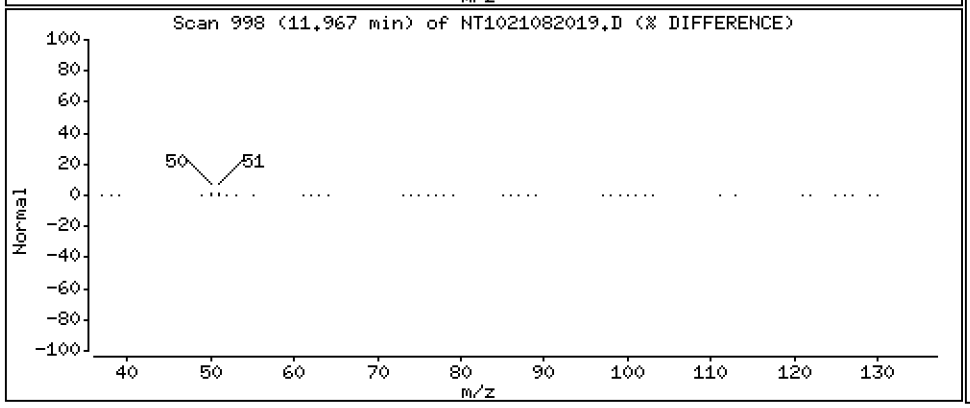












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

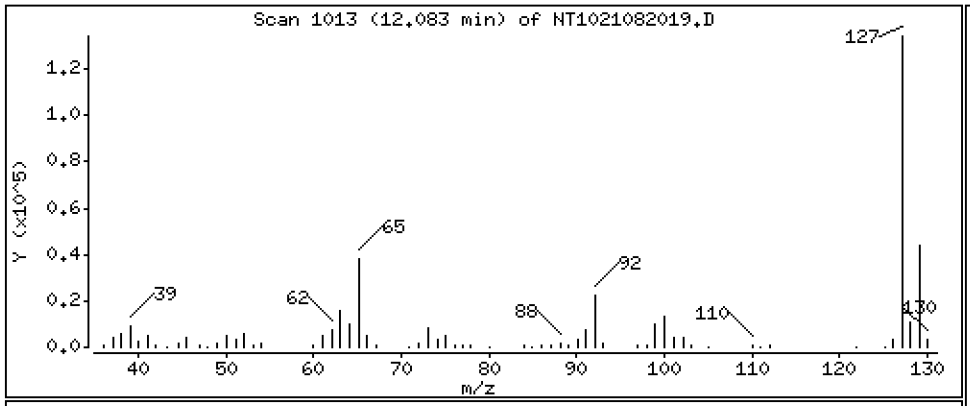
Operator: VTS

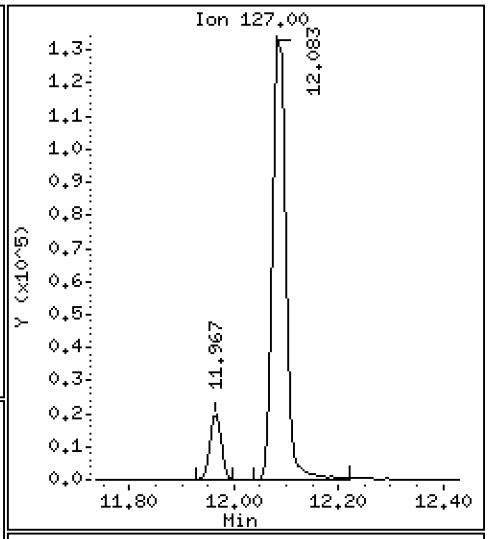
Column phase: ZB-5msi

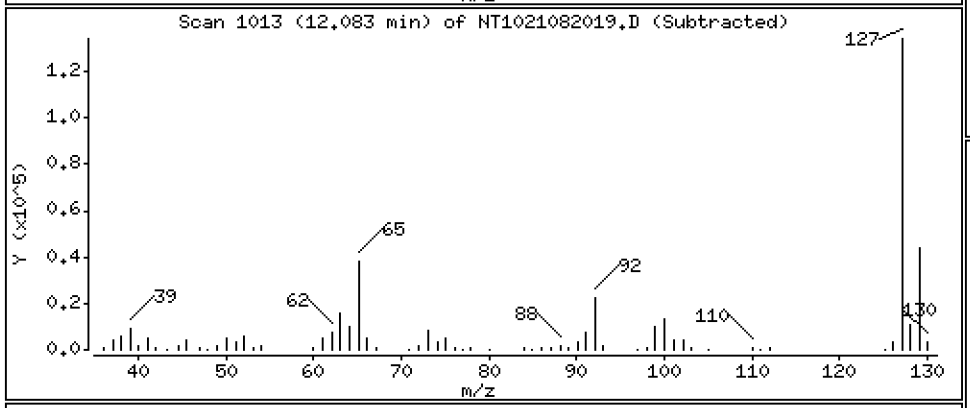
Column diameter: 0.25

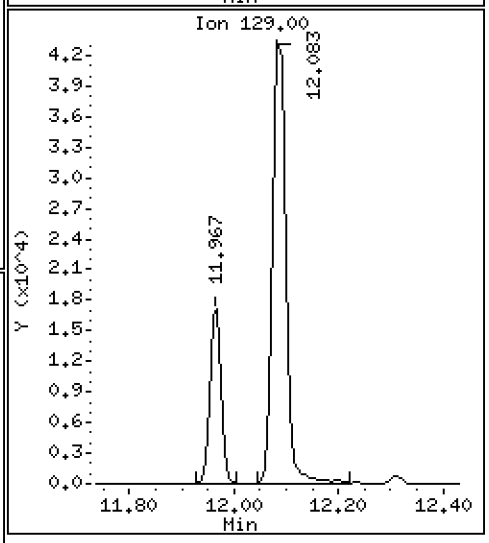
29 4-Chloroaniline

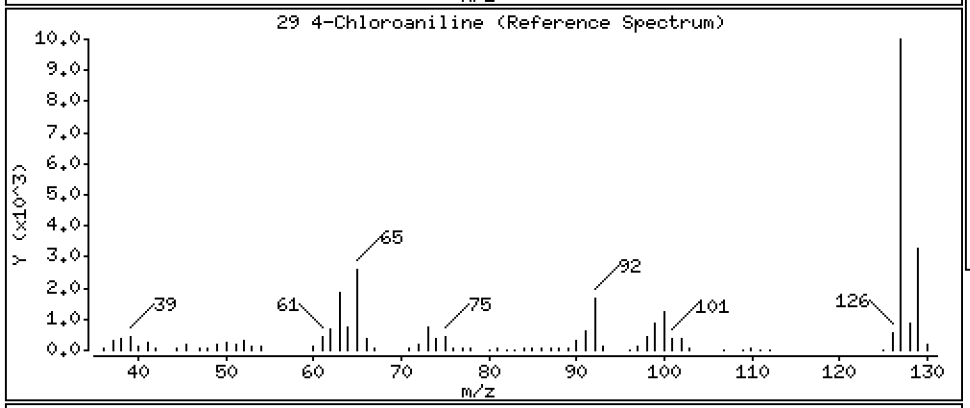
Concentration: 10.41 ug/mL

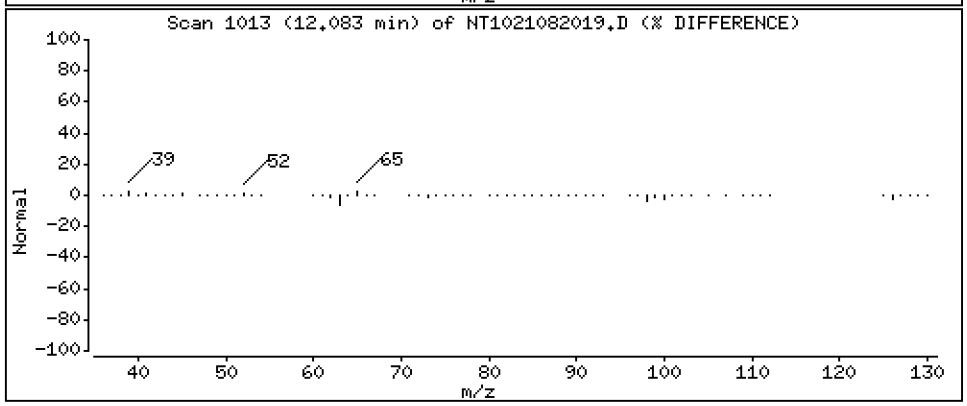












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

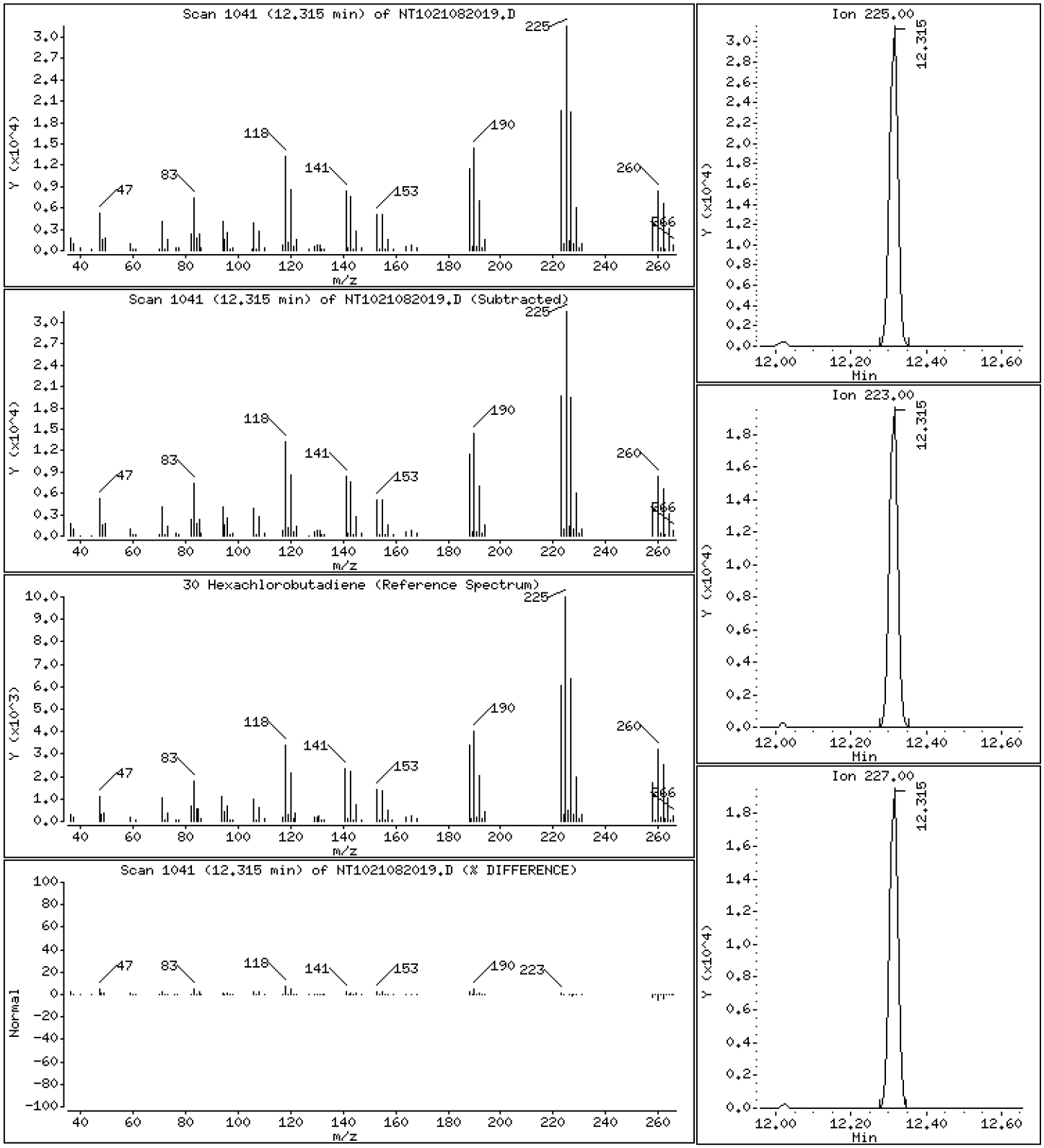
Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25

30 Hexachlorobutadiene

Concentration: 4.988 ug/mL



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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

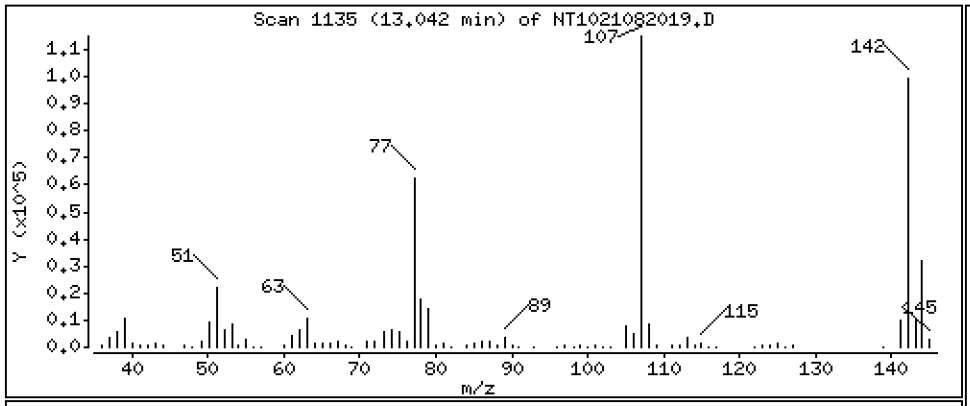
Operator: VTS

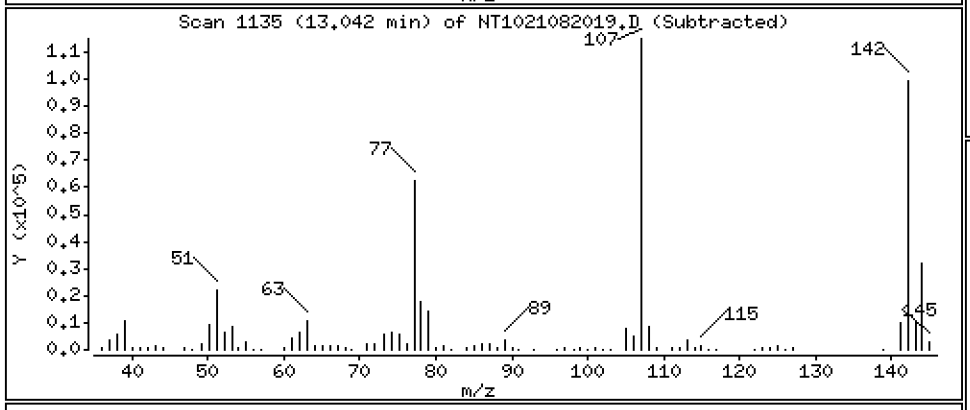
Column phase: ZB-5msi

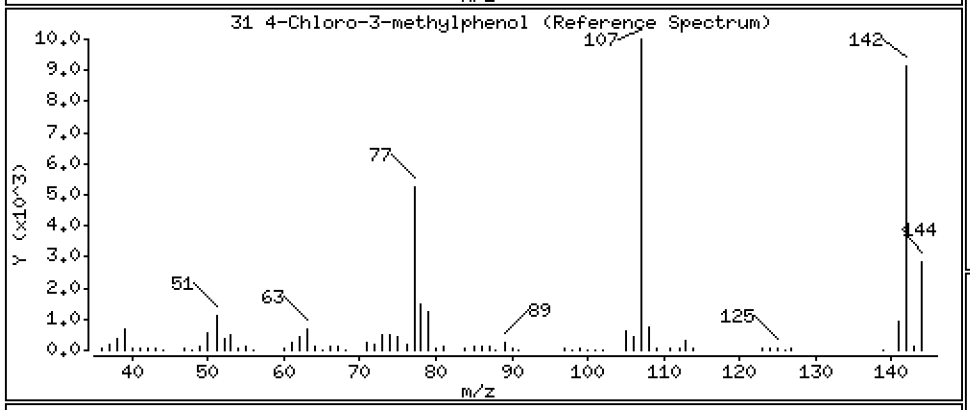
Column diameter: 0.25

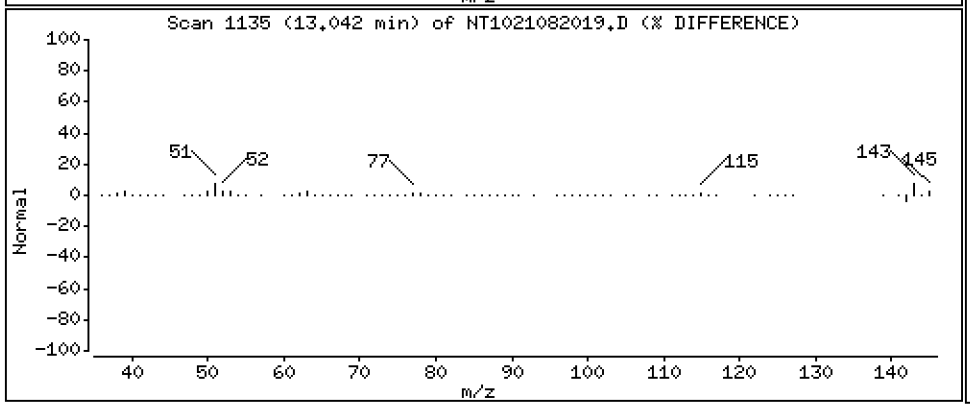
31 4-Chloro-3-methylphenol

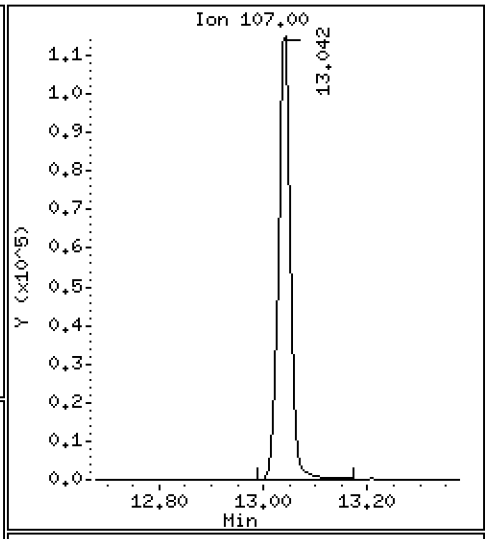
Concentration: 10.93 ug/mL

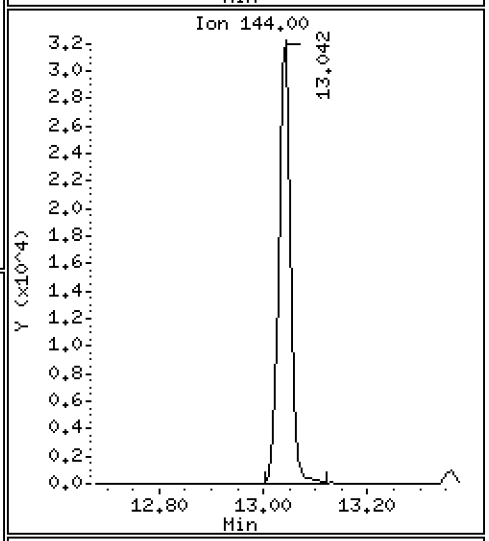


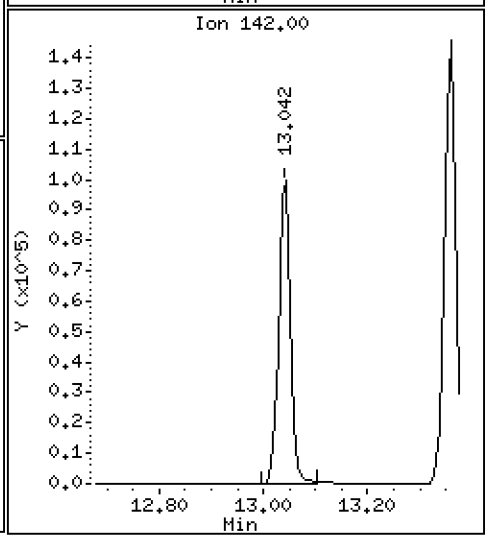












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

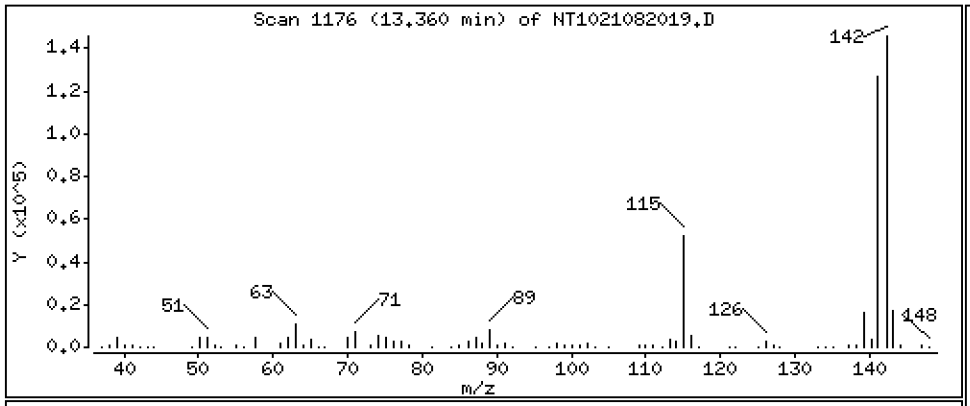
Operator: VTS

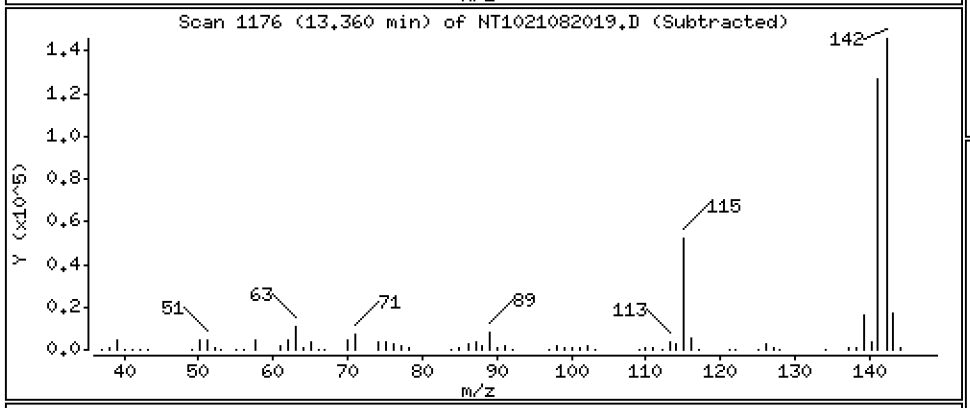
Column phase: ZB-5msi

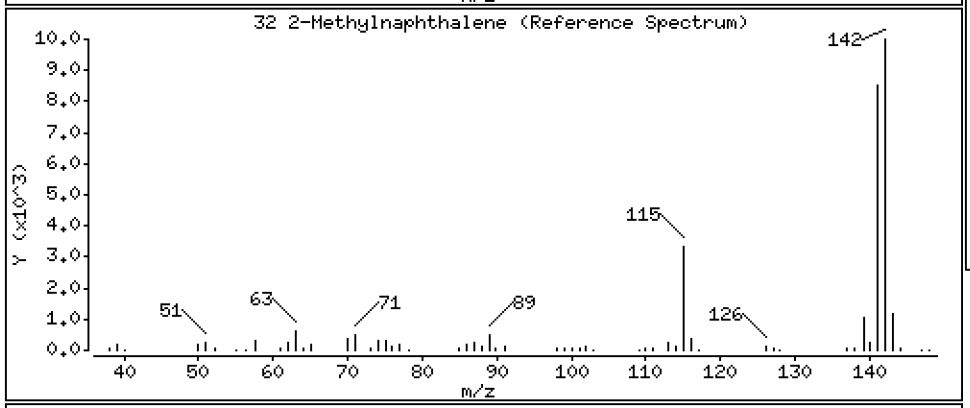
Column diameter: 0.25

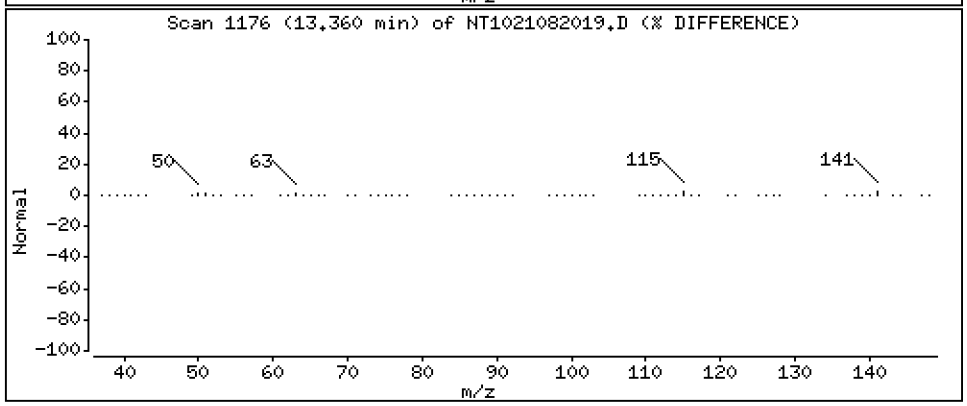
32 2-Methylnaphthalene

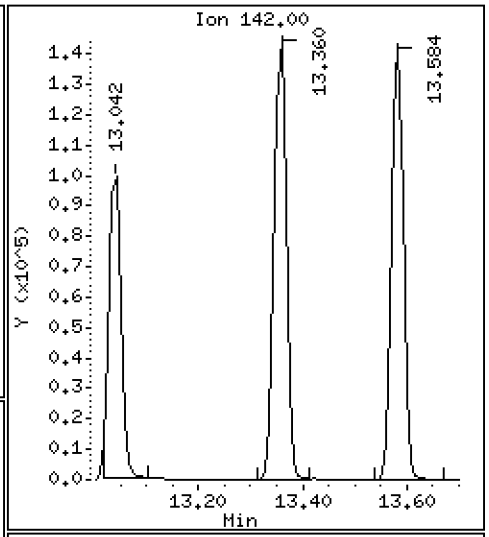
Concentration: 4.853 ug/mL

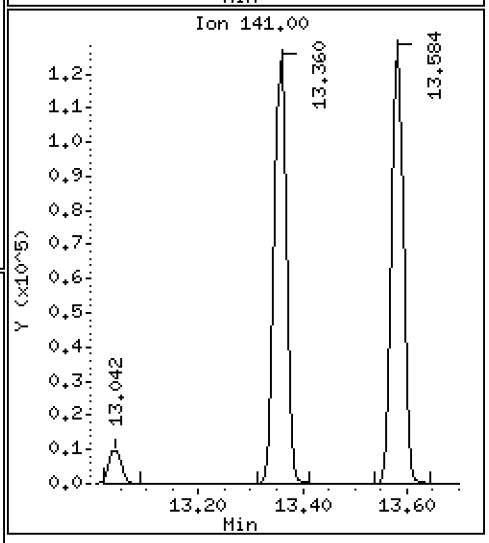












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

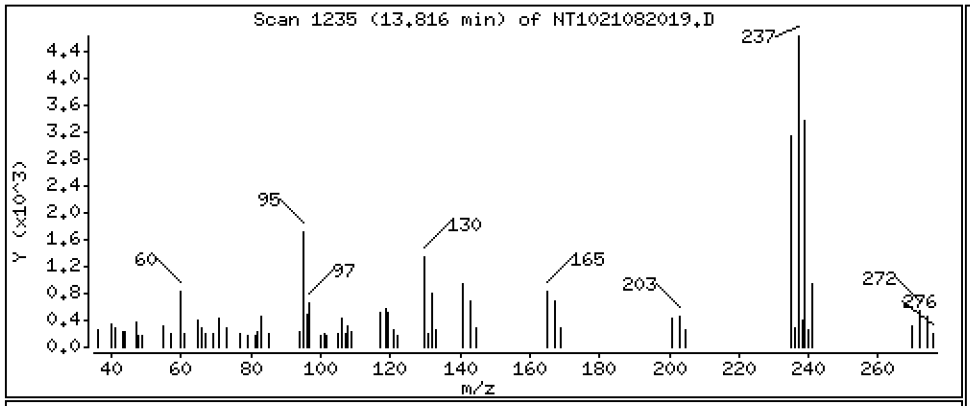
Operator: VTS

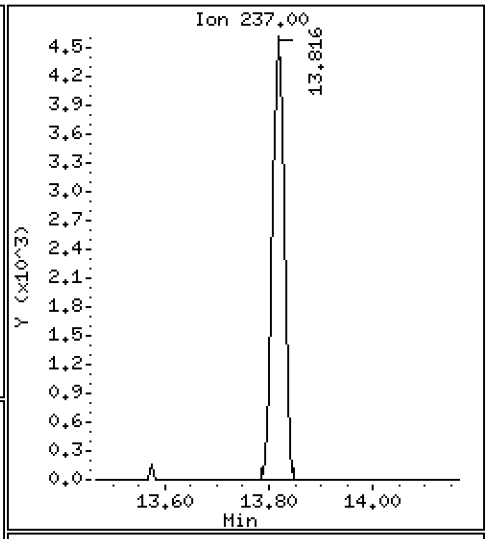
Column phase: ZB-5msi

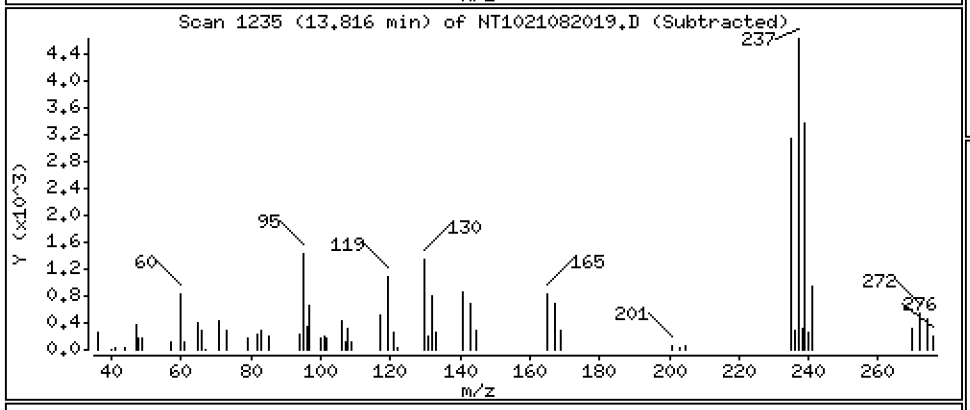
Column diameter: 0.25

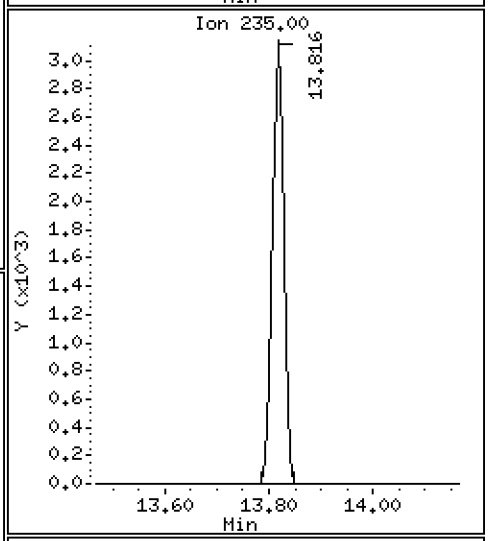
33 Hexachlorocyclopentadiene

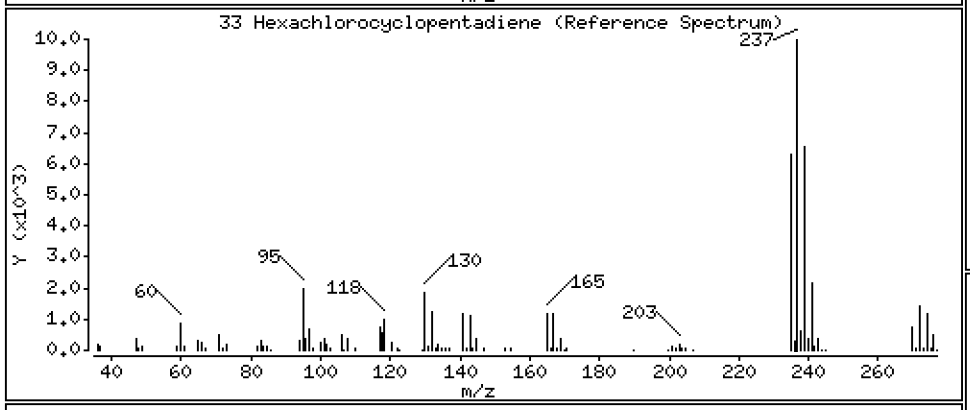
Concentration: 0.8197 ug/mL

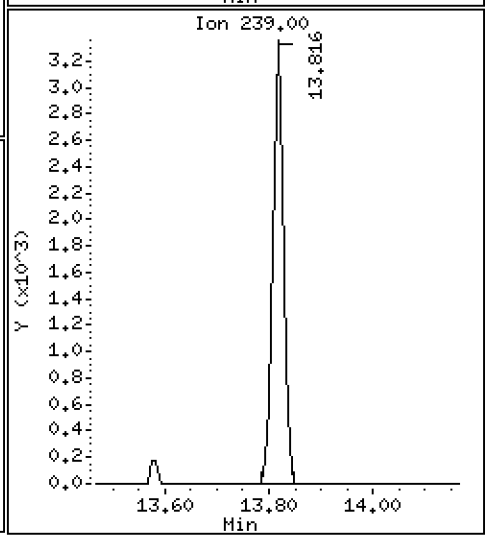


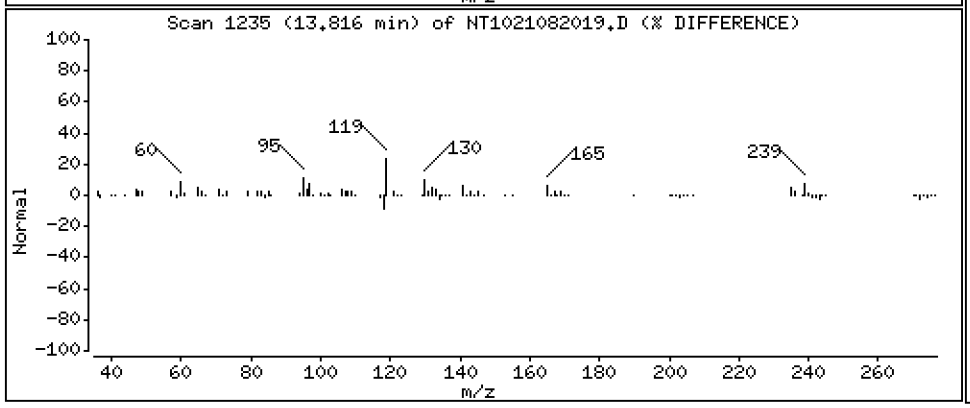












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

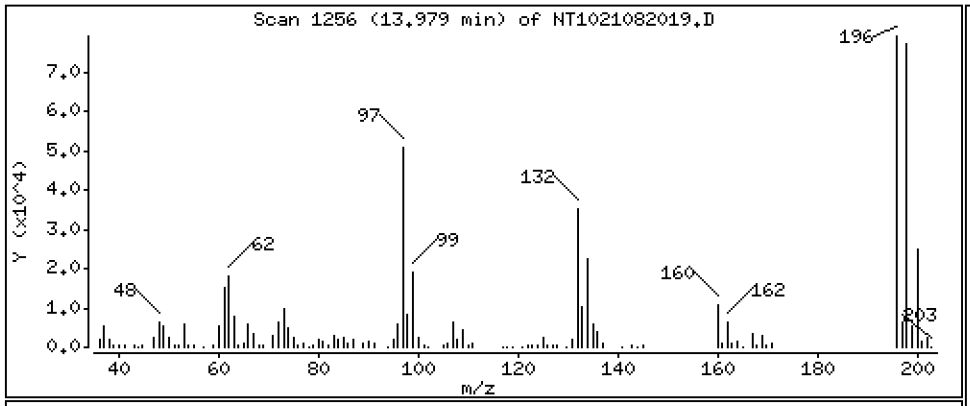
Operator: VTS

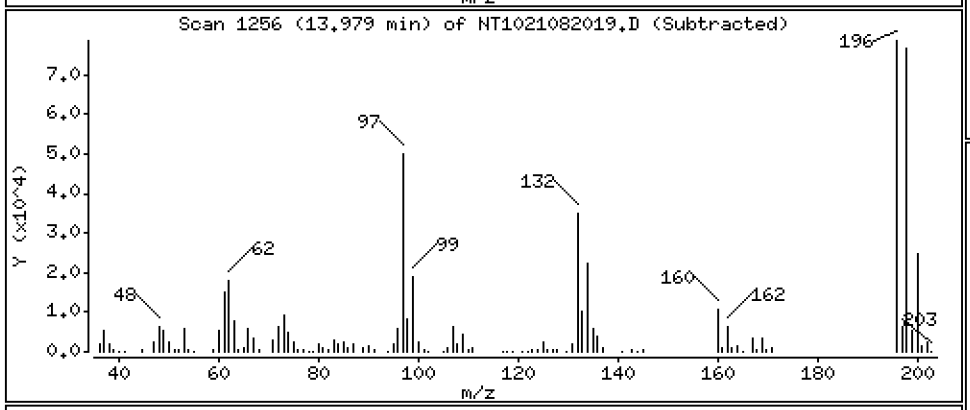
Column phase: ZB-5msi

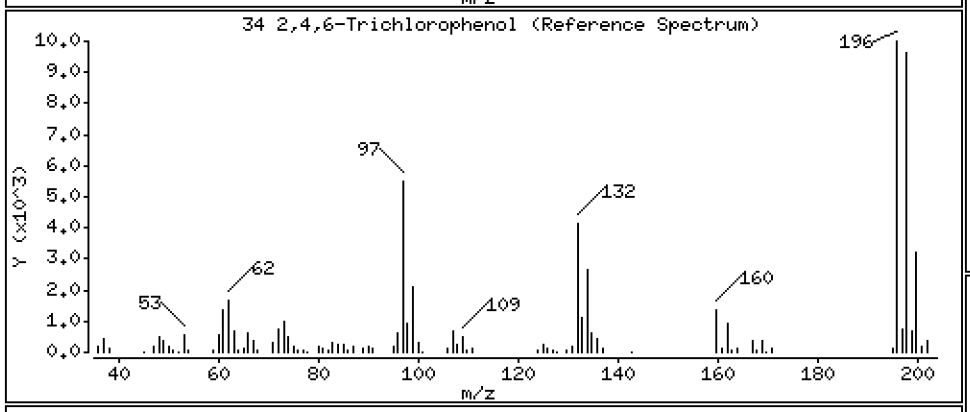
Column diameter: 0.25

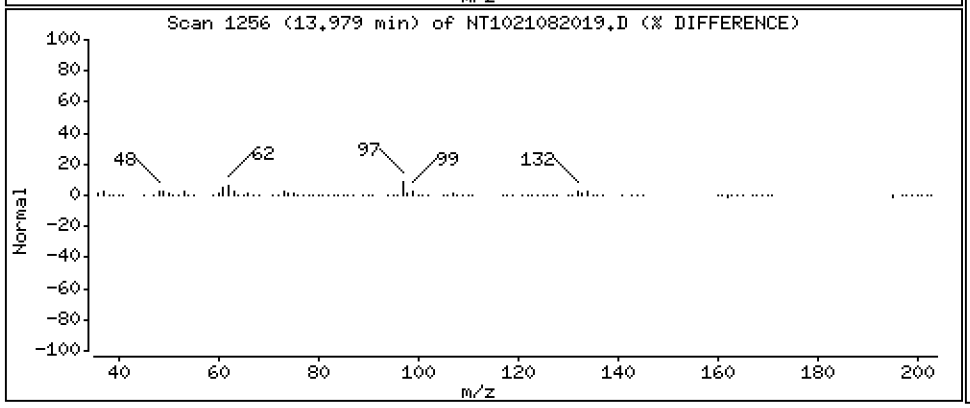
34 2,4,6-Trichlorophenol

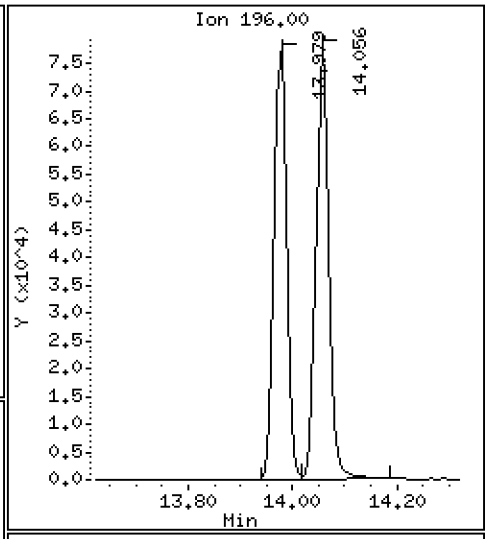
Concentration: 10.62 ug/mL

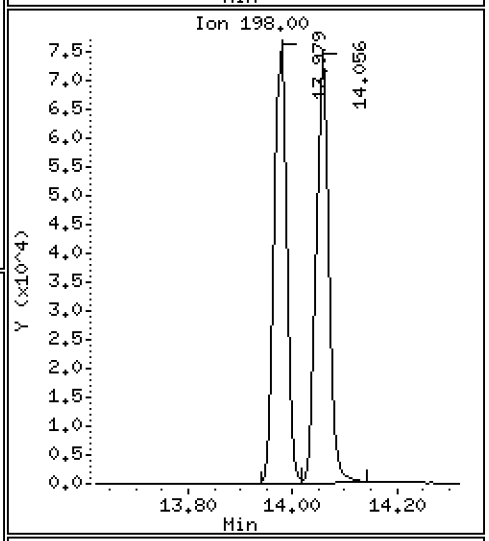


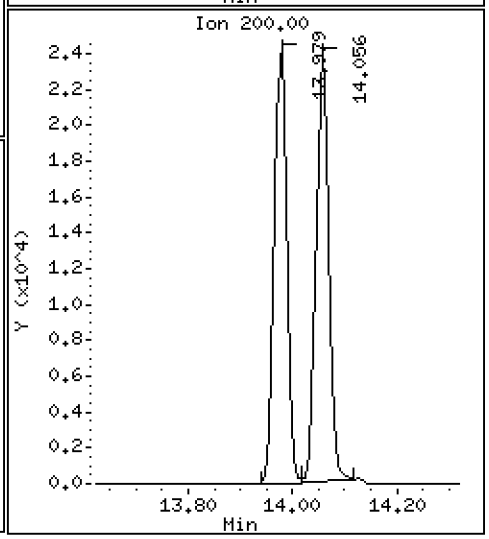












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

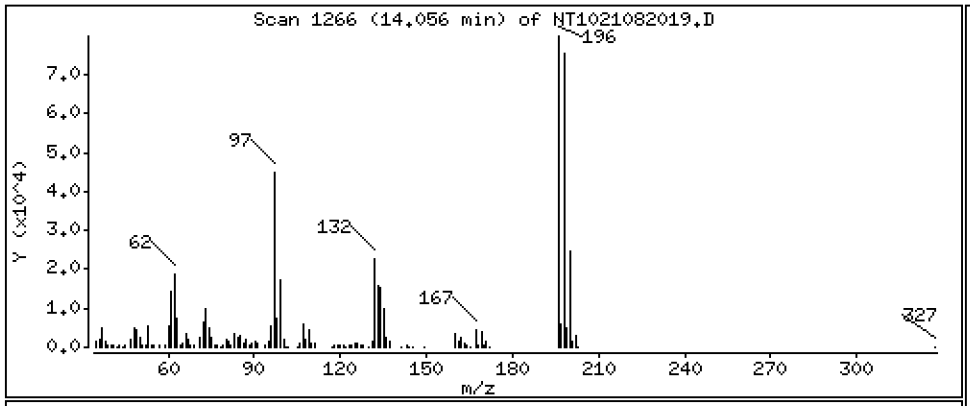
Operator: VTS

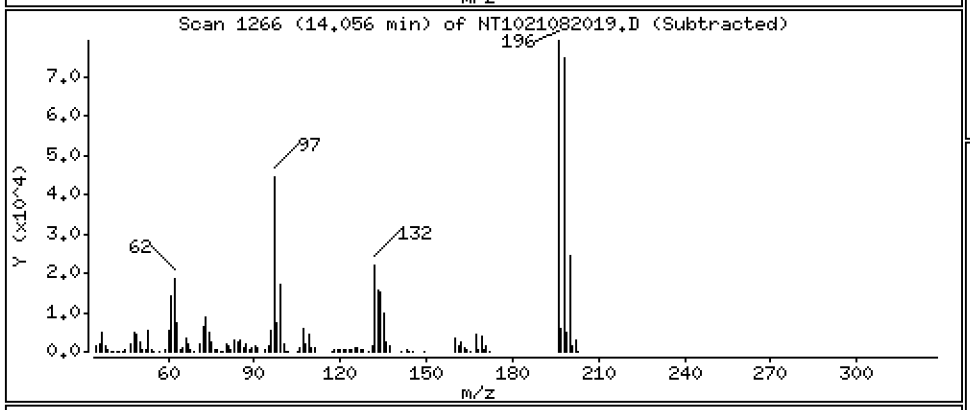
Column phase: ZB-5msi

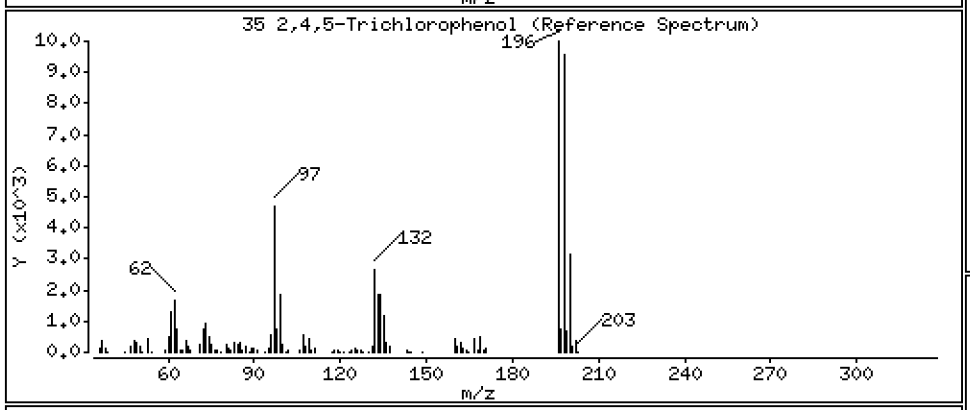
Column diameter: 0.25

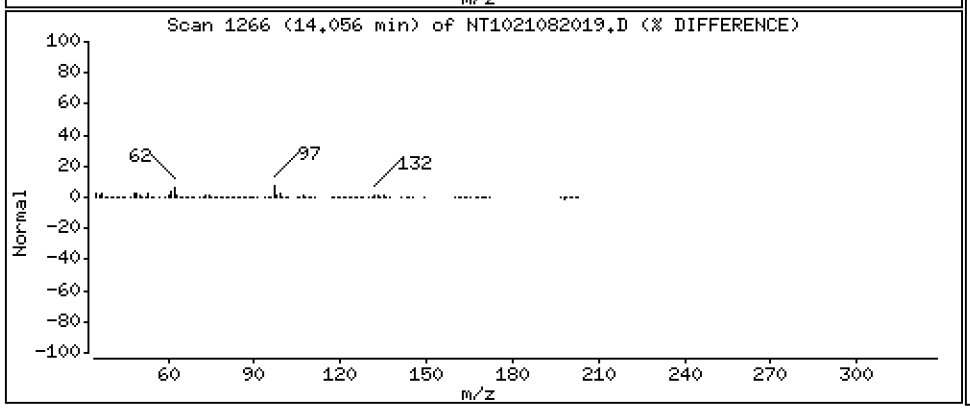
35 2,4,5-Trichlorophenol

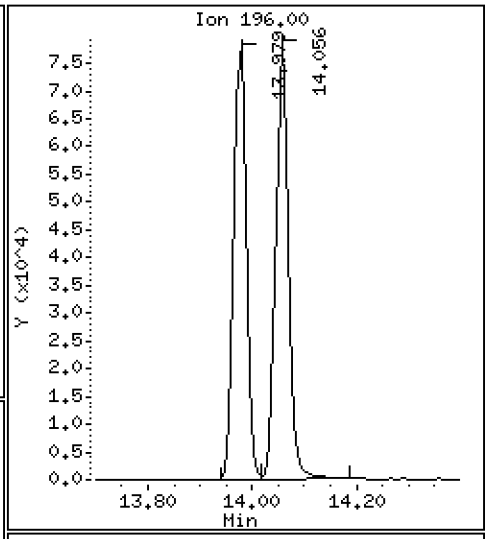
Concentration: 10.57 ug/mL

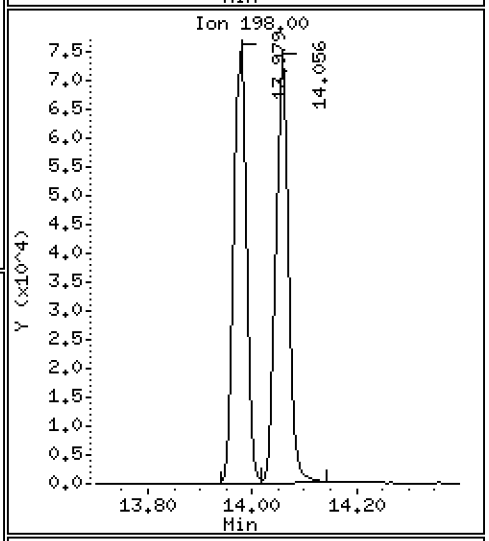


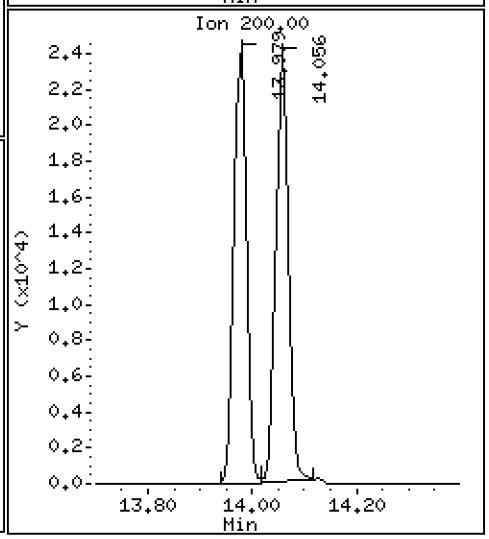












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

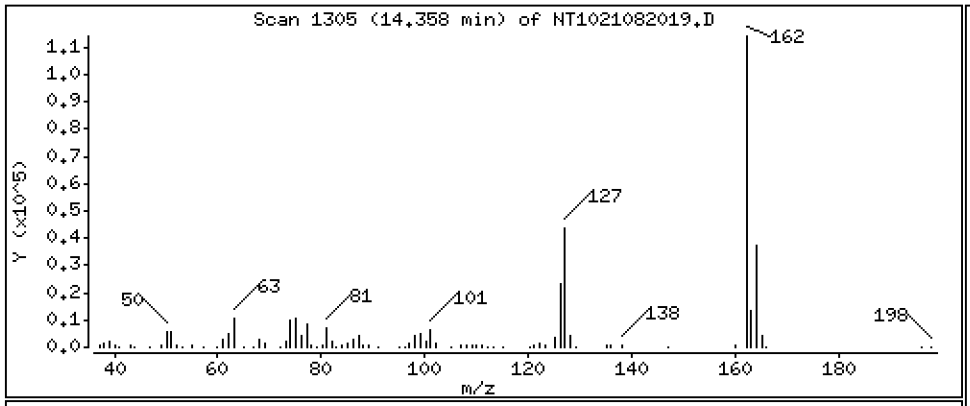
Operator: VTS

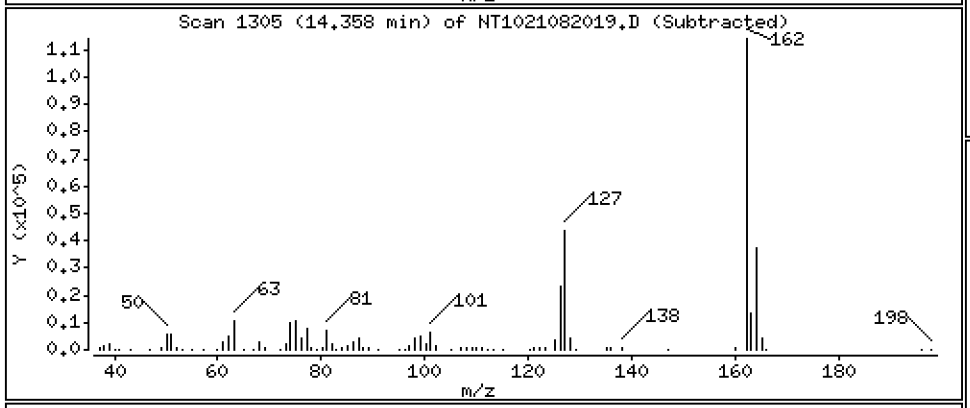
Column phase: ZB-5msi

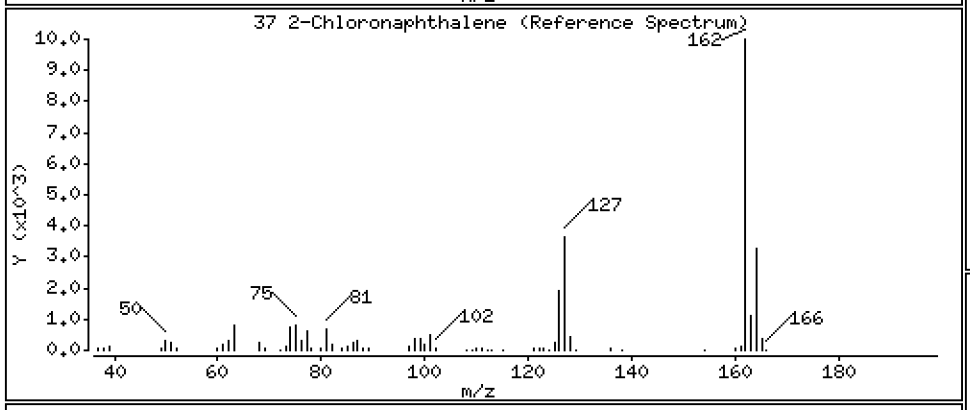
Column diameter: 0.25

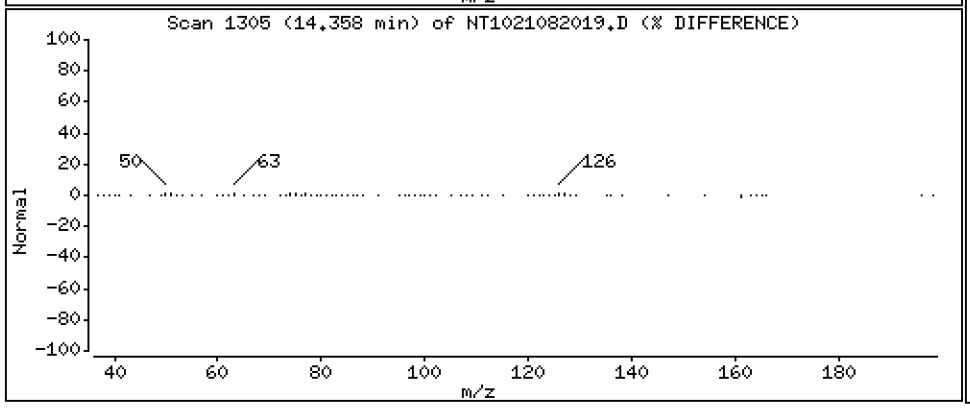
37 2-Chloronaphthalene

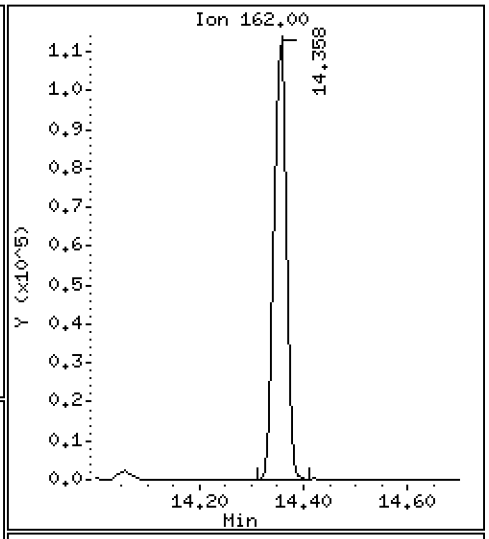
Concentration: 4.924 ug/mL

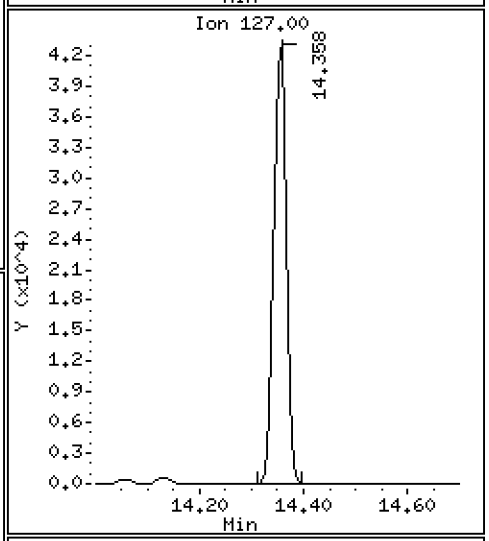


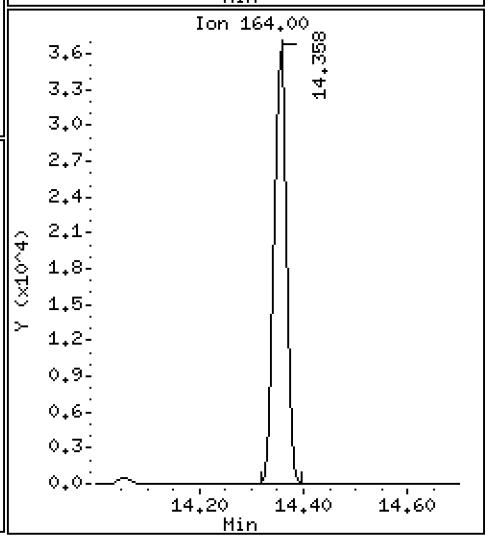












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

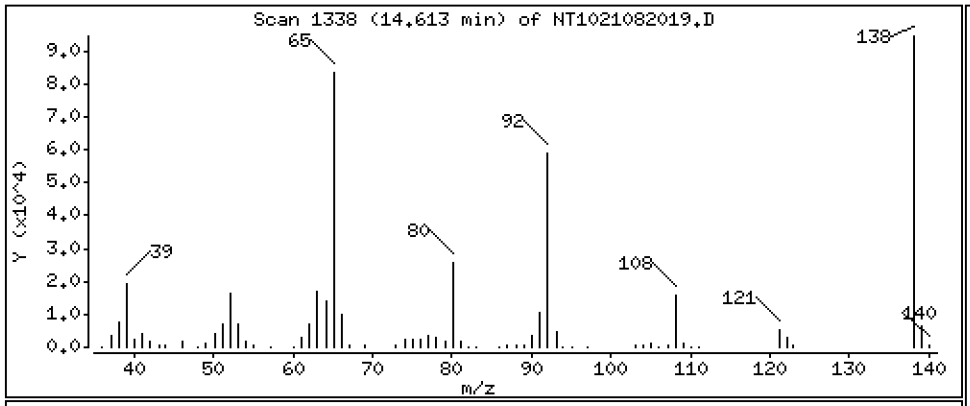
Operator: VTS

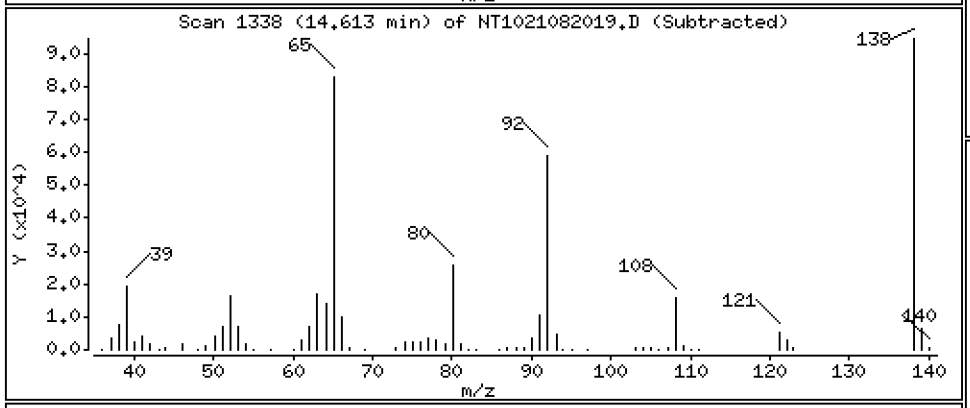
Column phase: ZB-5msi

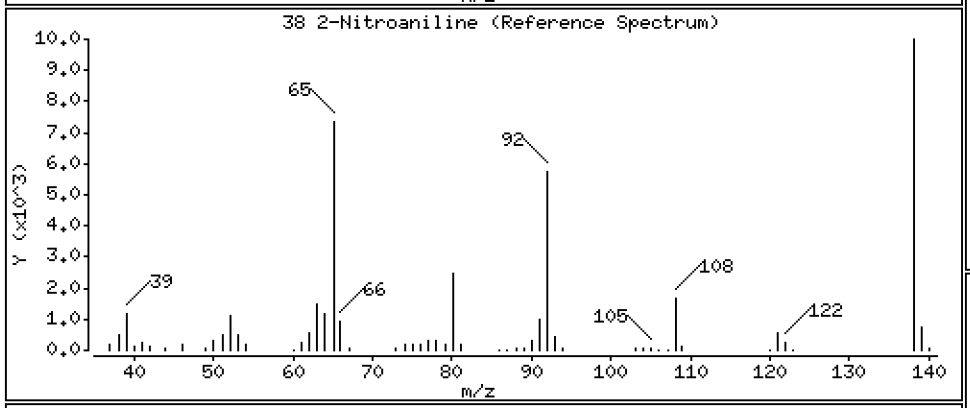
Column diameter: 0.25

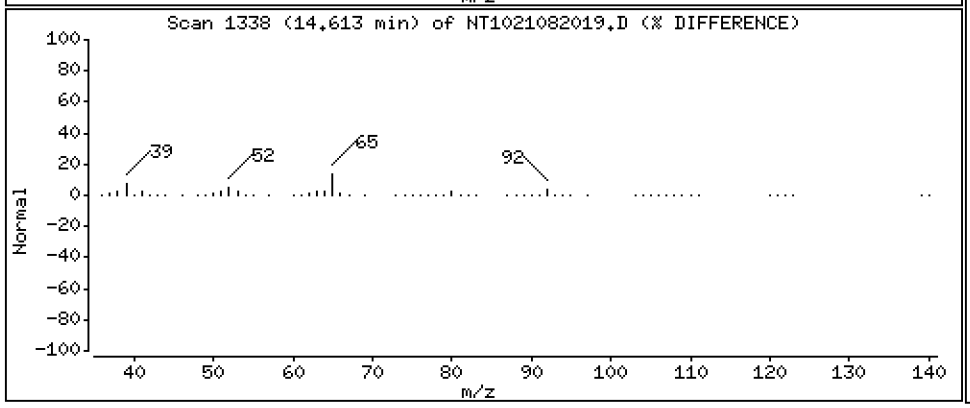
38 2-Nitroaniline

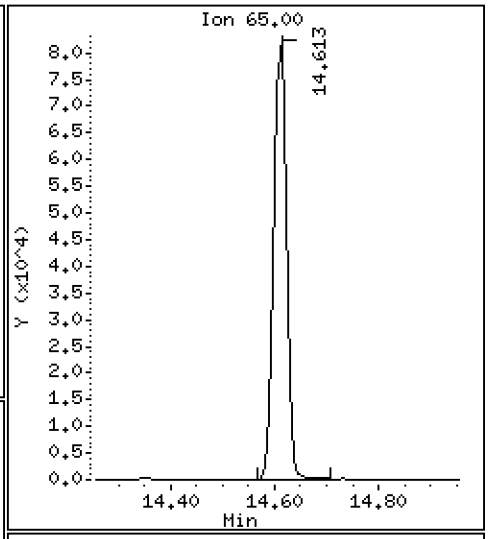
Concentration: 12.21 ug/mL

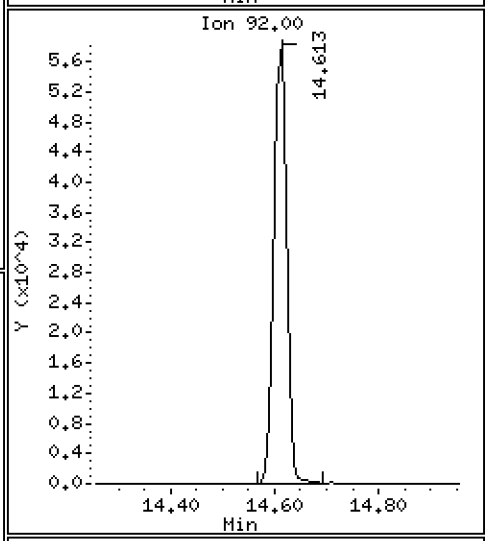


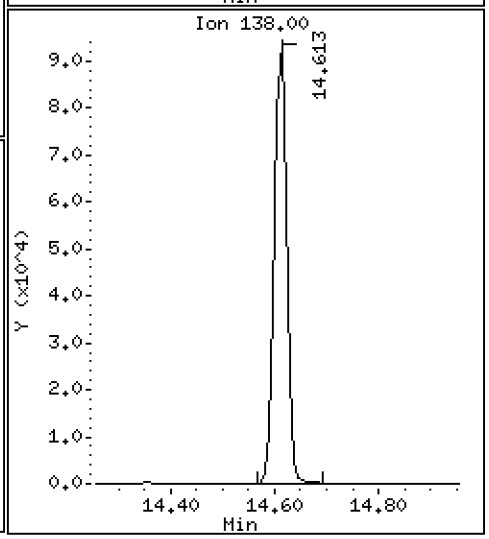












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

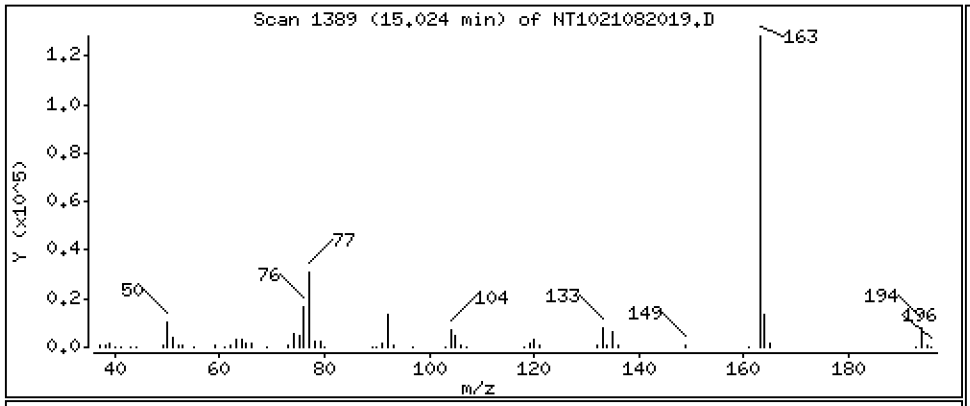
Operator: VTS

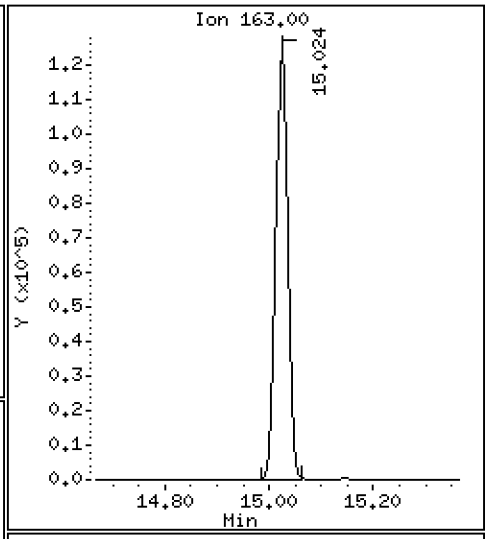
Column phase: ZB-5msi

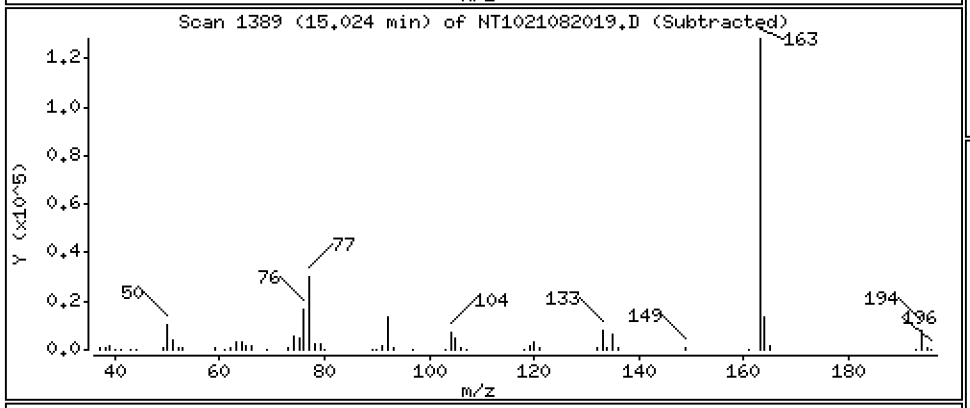
Column diameter: 0.25

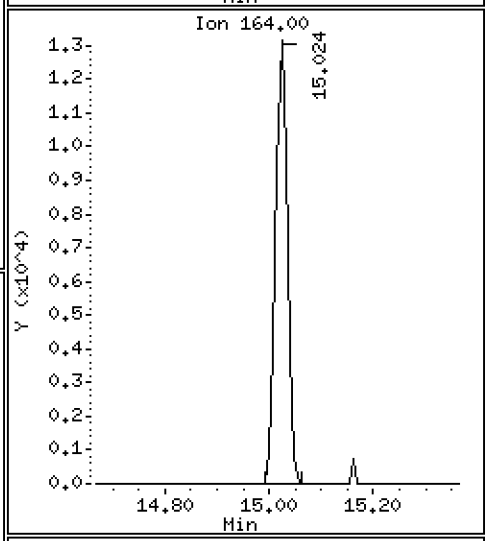
39 Dimethylphthalate

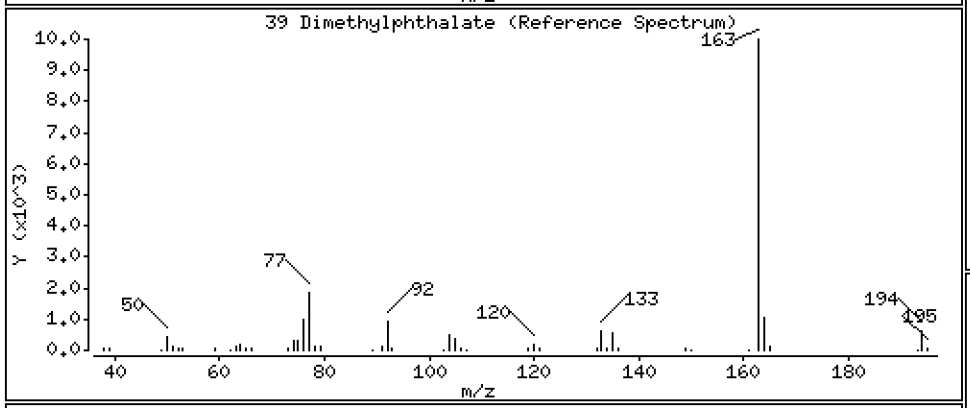
Concentration: 4.967 ug/mL

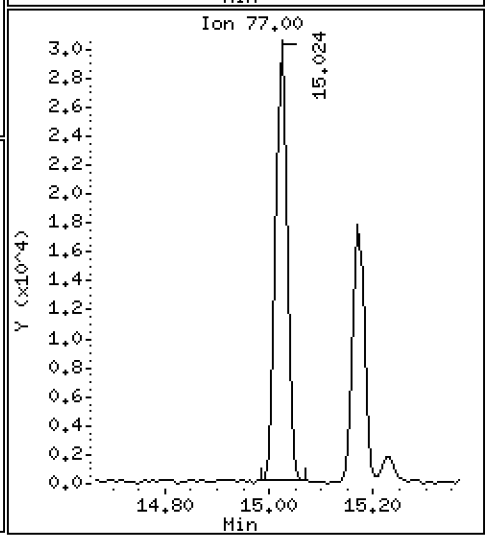


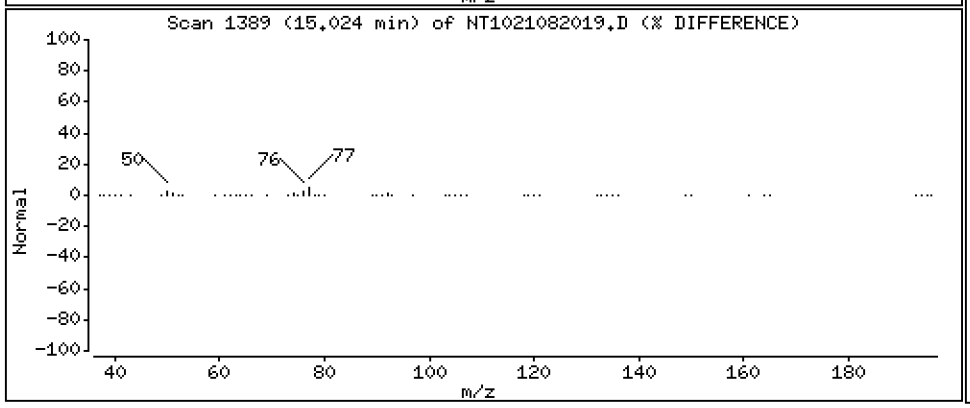












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

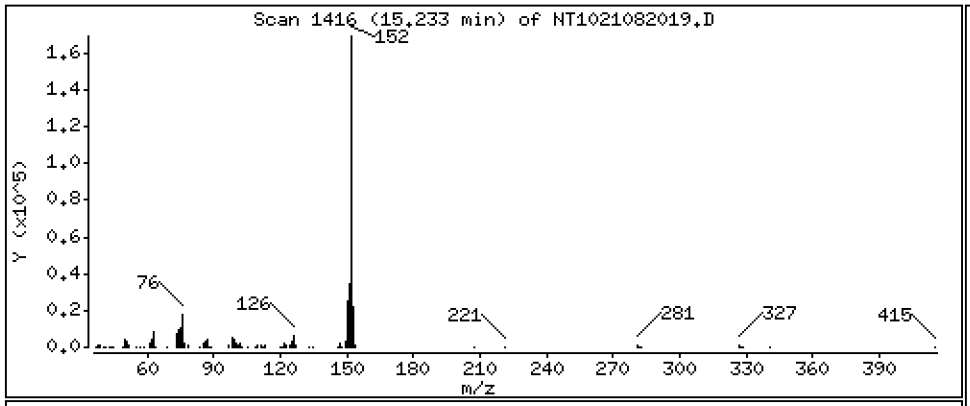
Operator: VTS

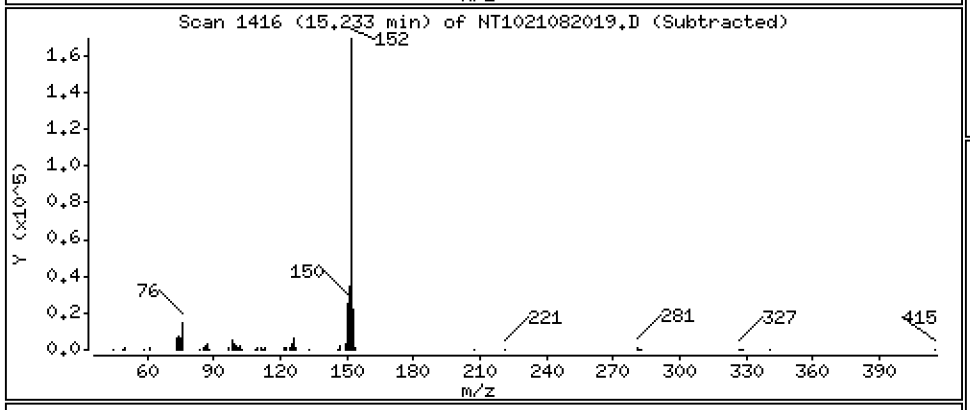
Column phase: ZB-5msi

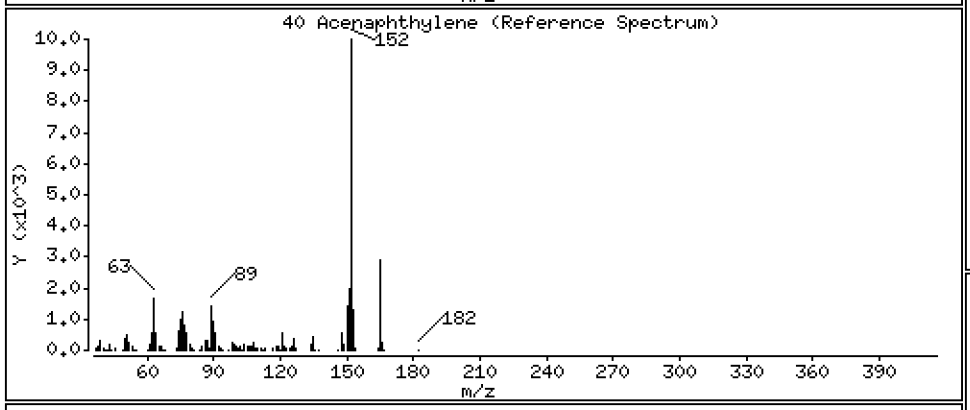
Column diameter: 0.25

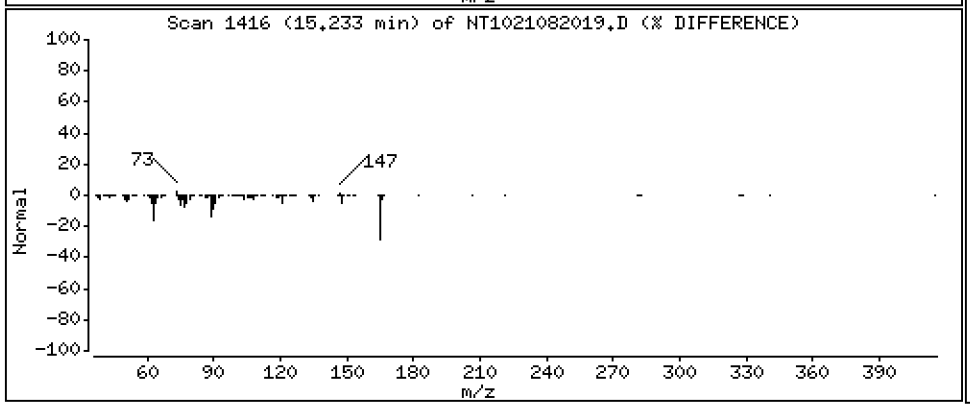
40 Acenaphthylene

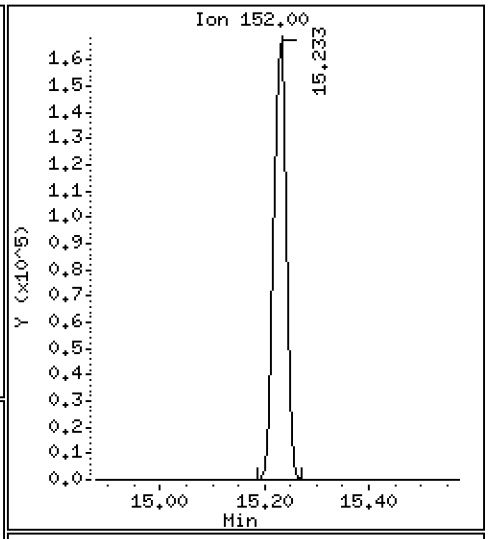
Concentration: 4.737 ug/mL

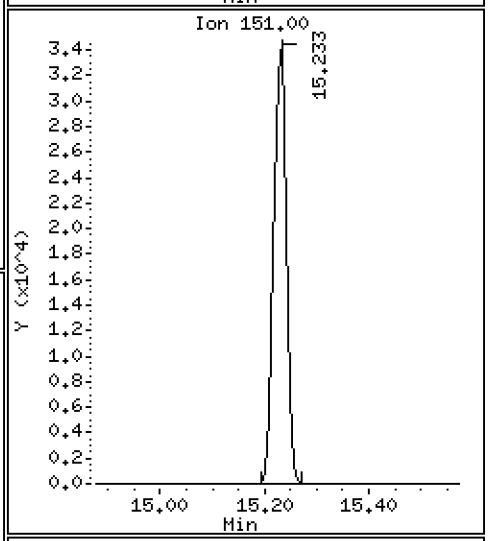


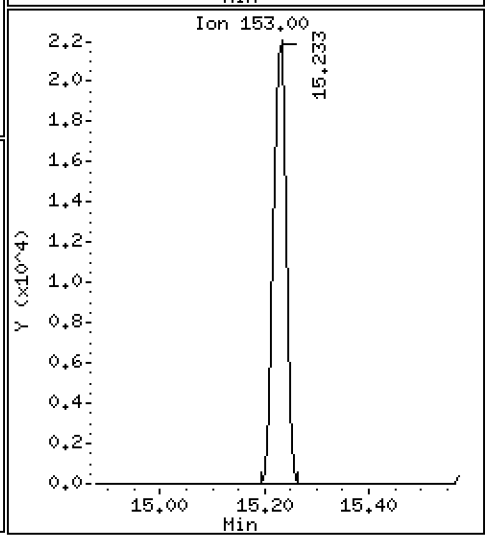












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

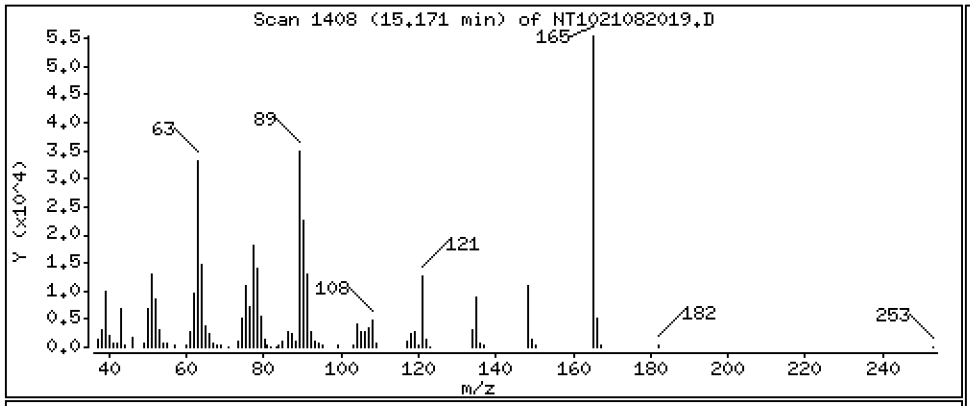
Operator: VTS

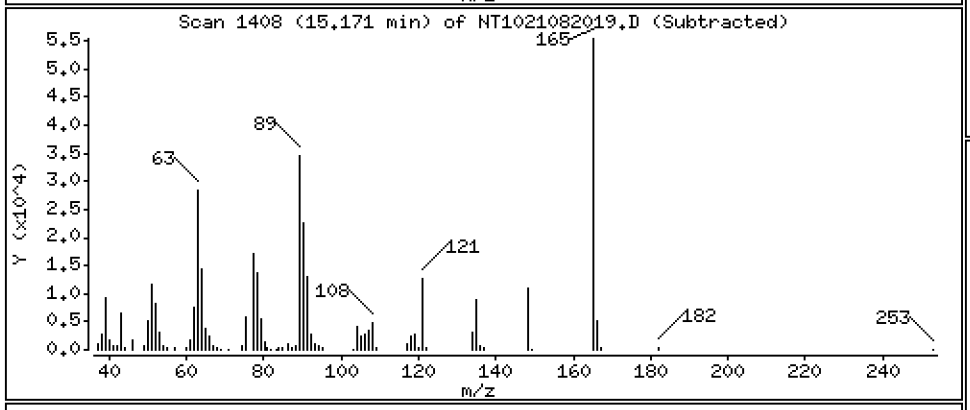
Column phase: ZB-5msi

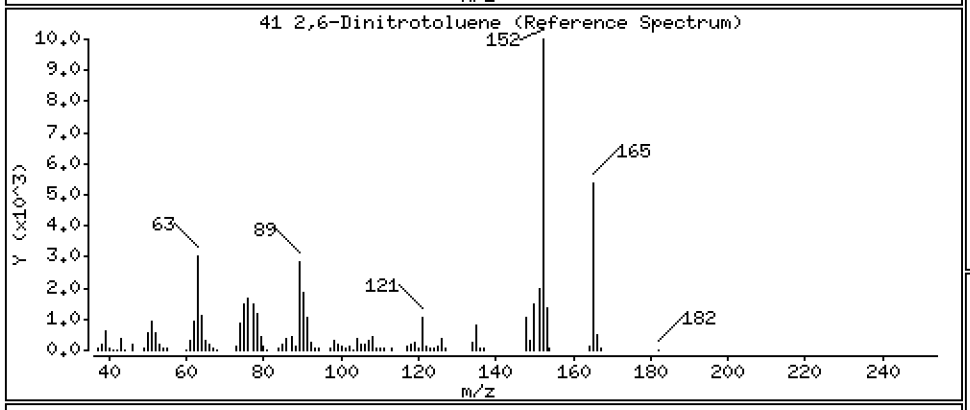
Column diameter: 0.25

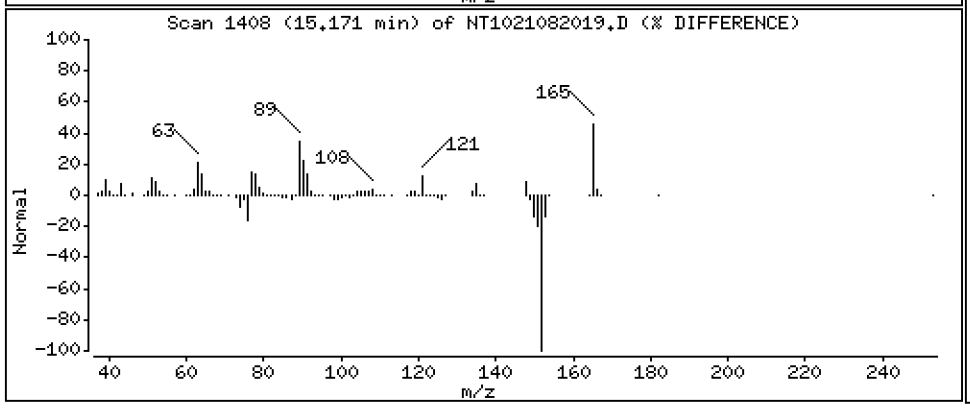
41 2,6-Dinitrotoluene

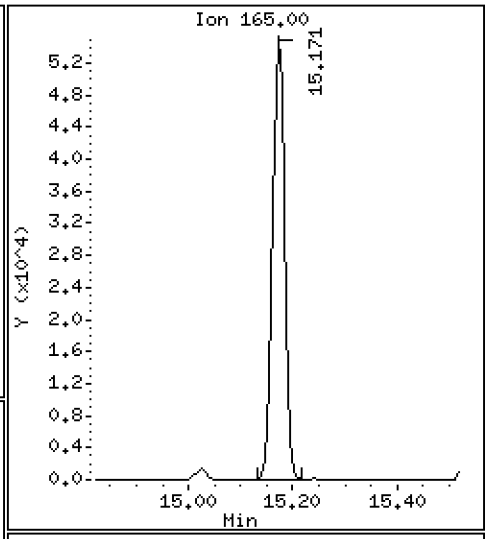
Concentration: 9.943 ug/mL

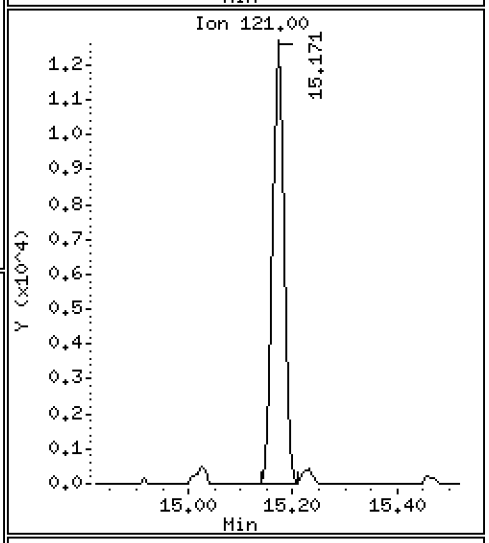


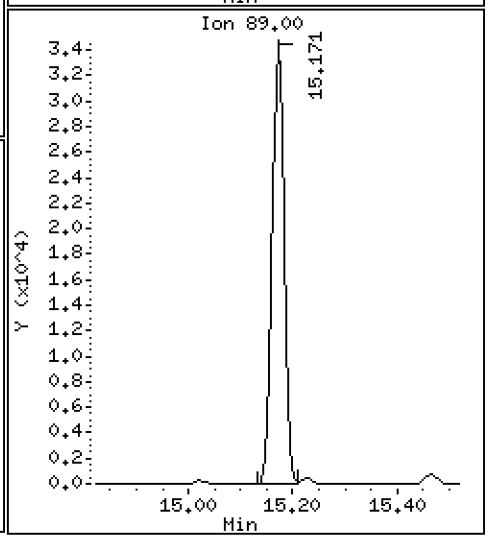












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

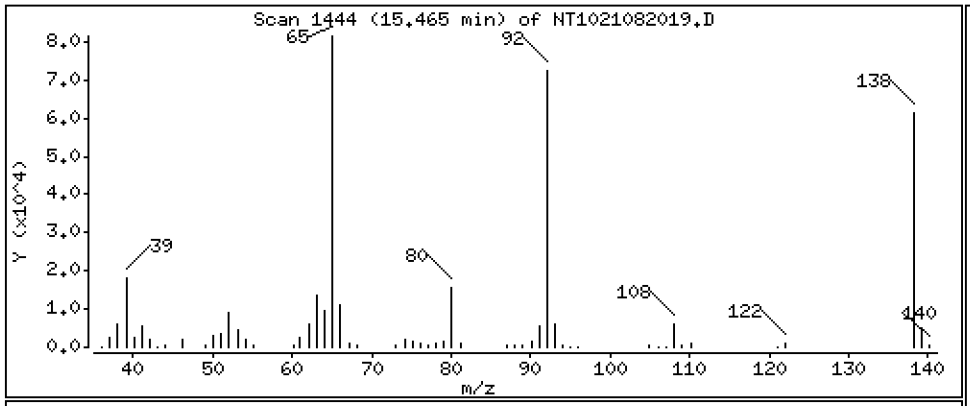
Operator: VTS

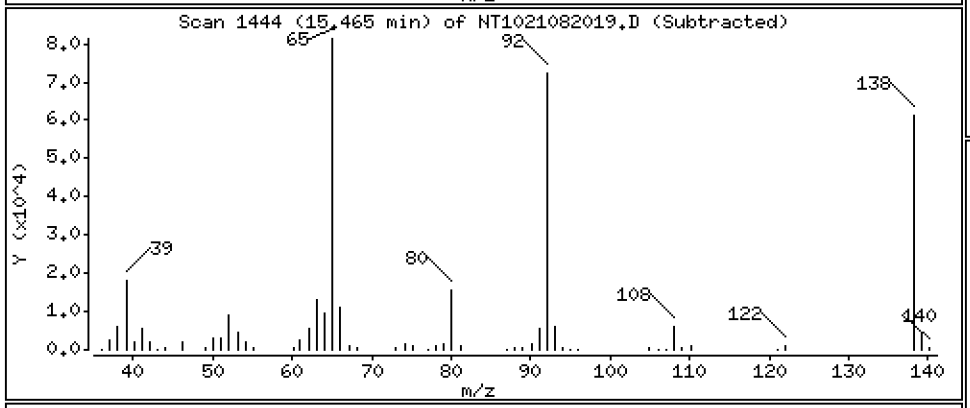
Column phase: ZB-5msi

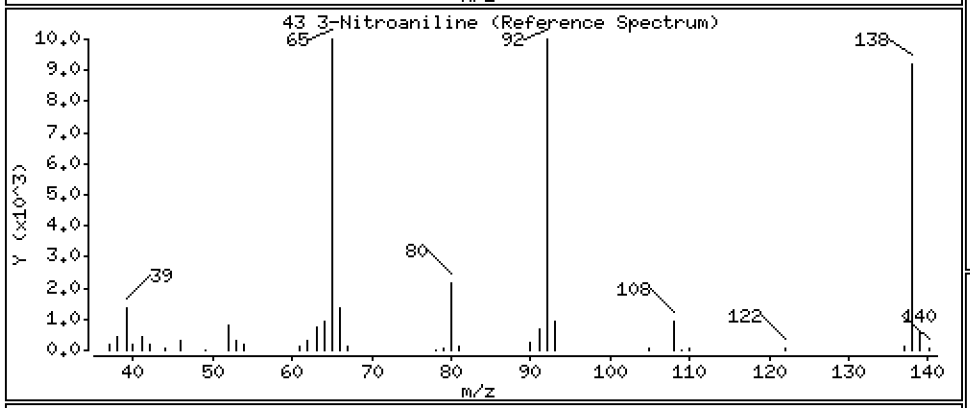
Column diameter: 0.25

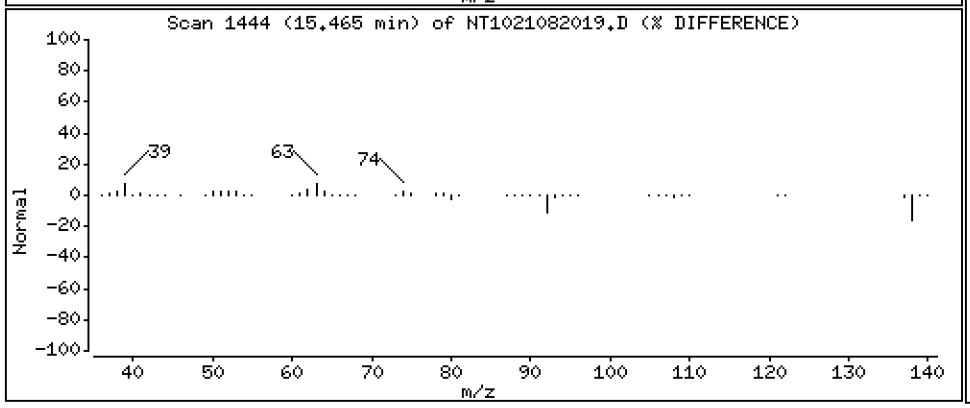
43 3-Nitroaniline

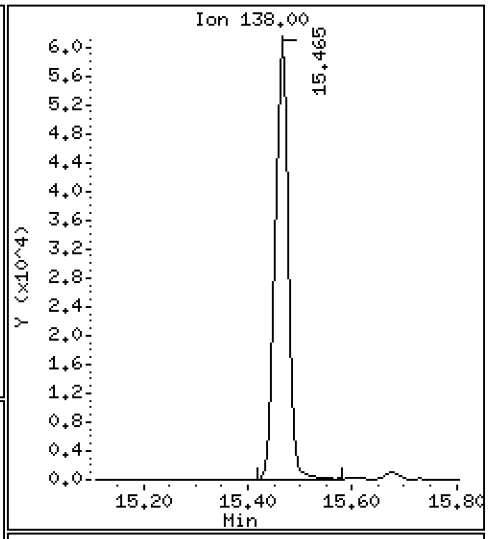
Concentration: 9.239 ug/mL

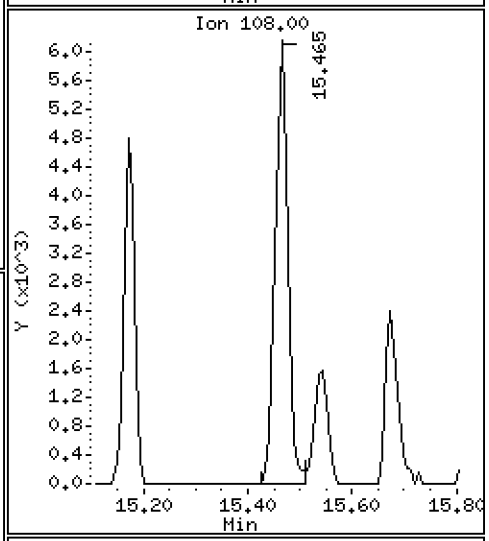


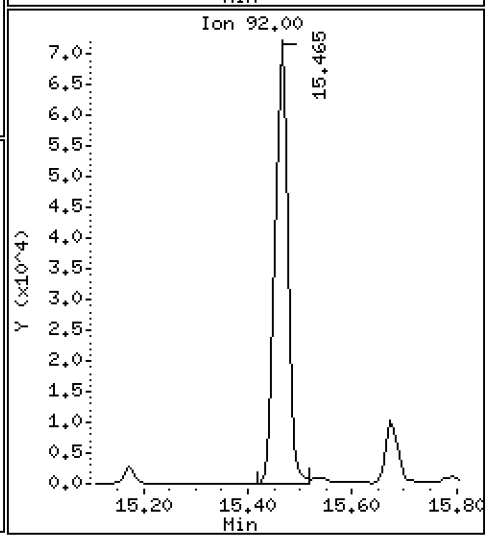












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

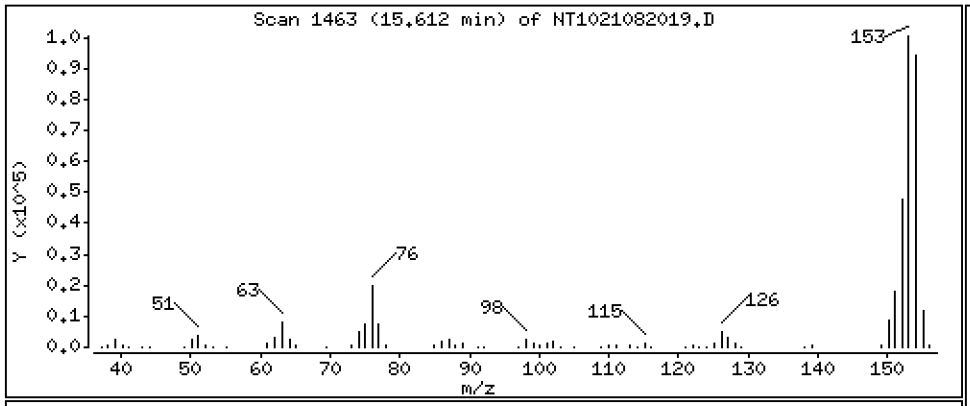
Operator: VTS

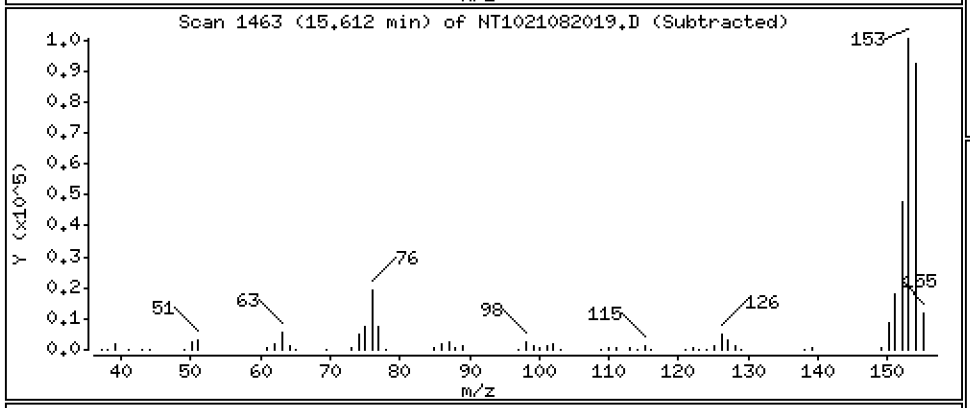
Column phase: ZB-5msi

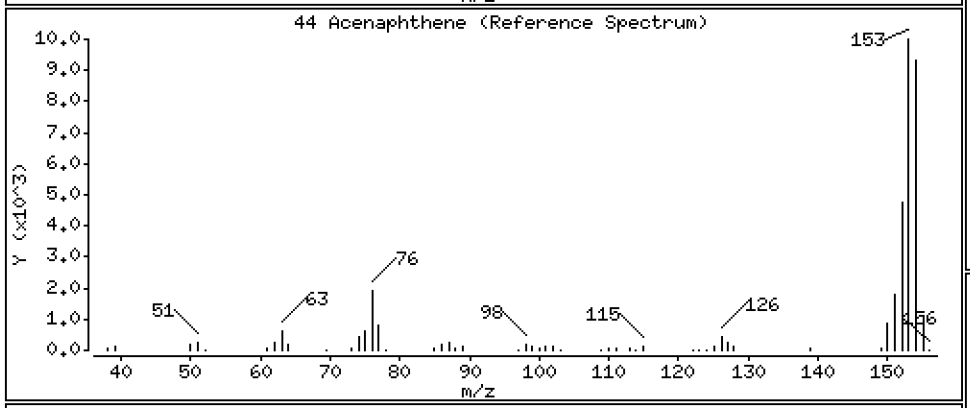
Column diameter: 0.25

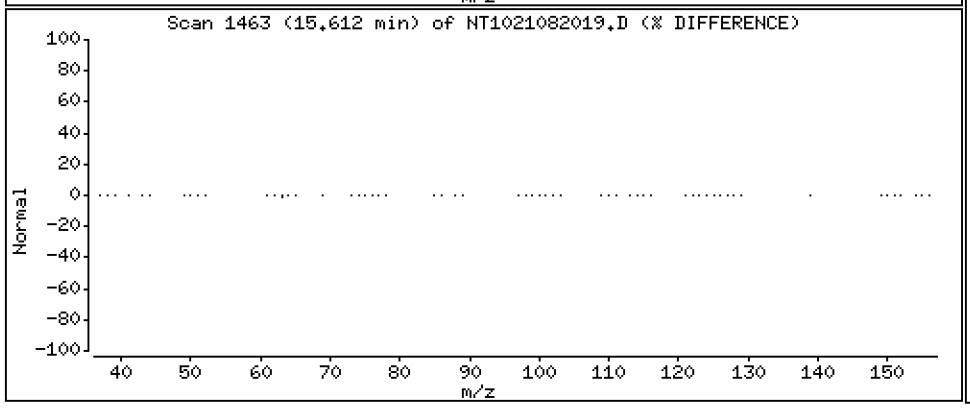
44 Acenaphthene

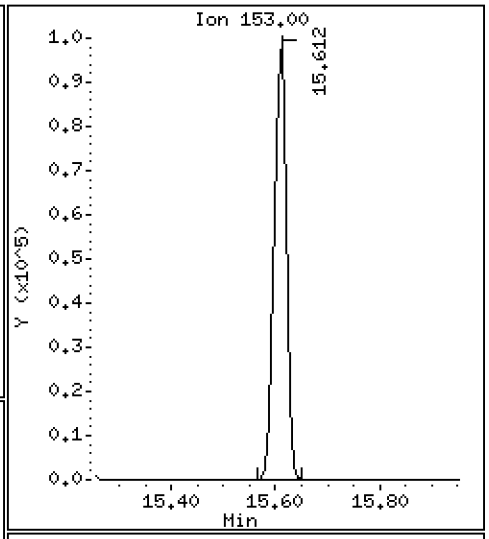
Concentration: 5.121 ug/mL

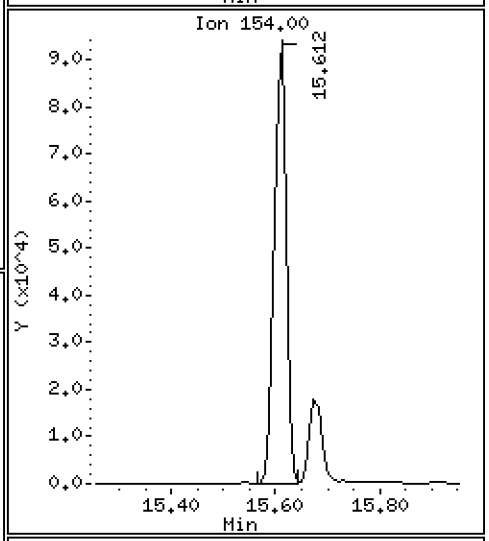


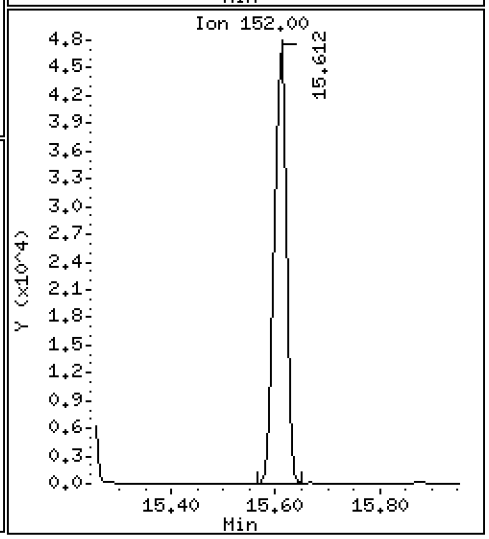












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

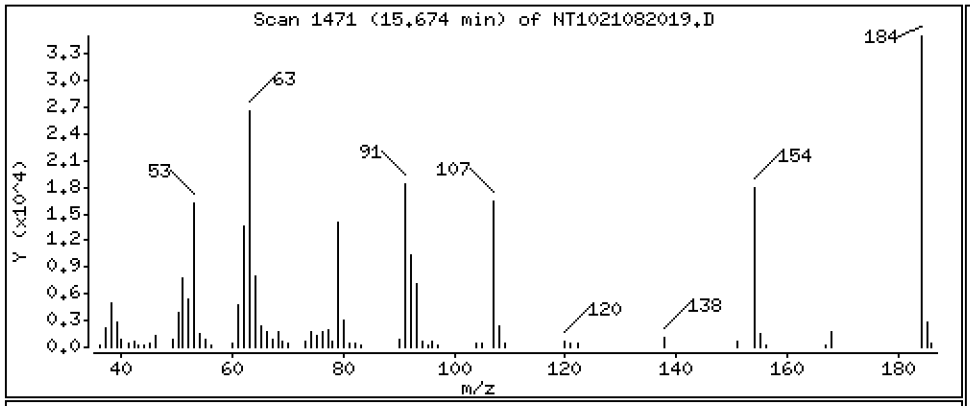
Operator: VTS

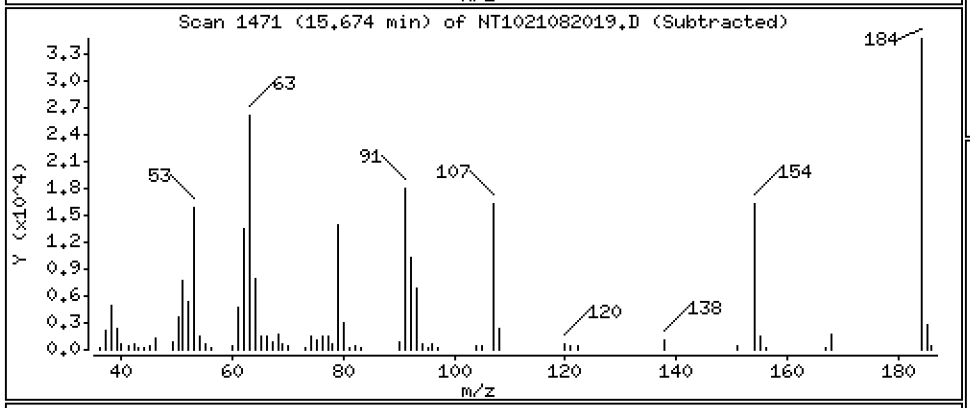
Column phase: ZB-5msi

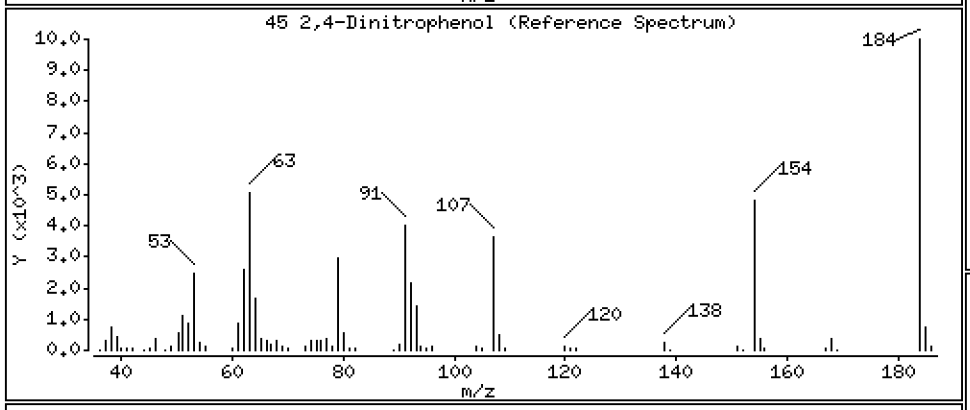
Column diameter: 0.25

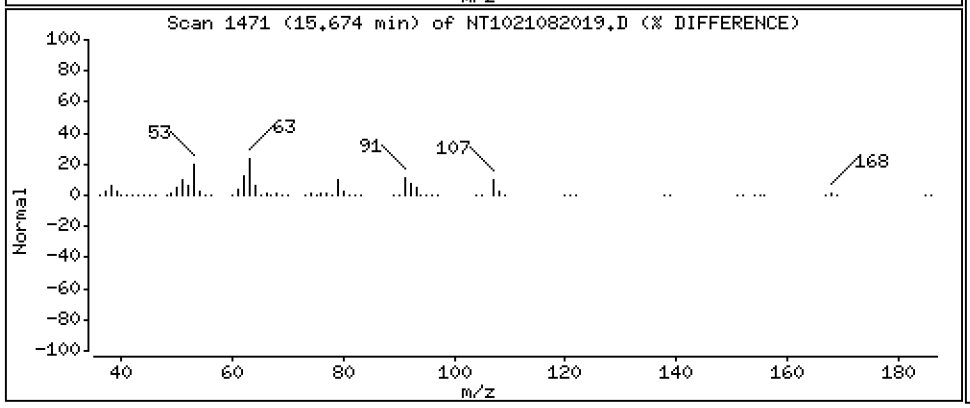
45 2,4-Dinitrophenol

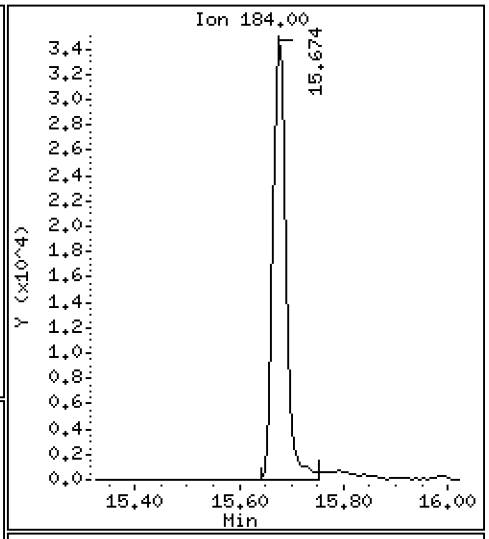
Concentration: 12.94 ug/mL

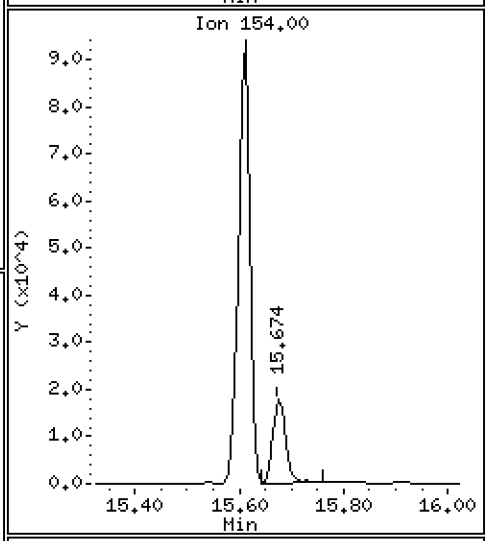


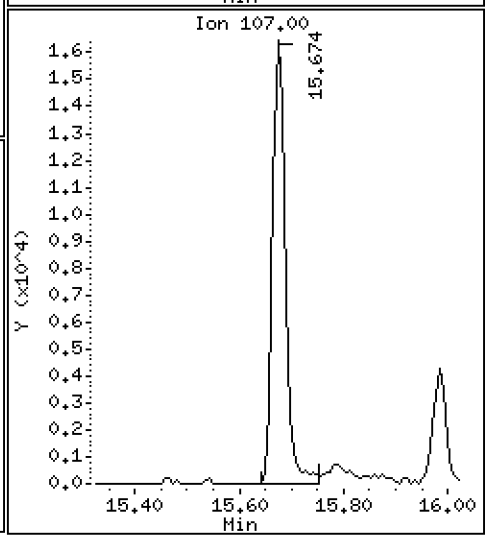












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

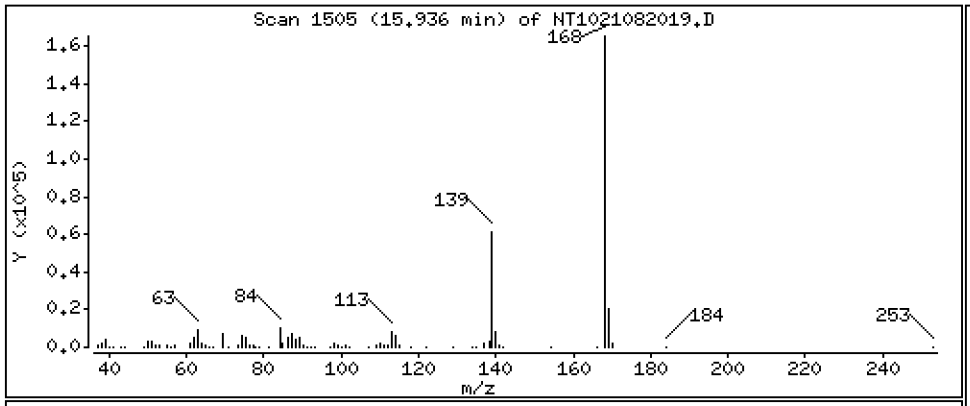
Operator: VTS

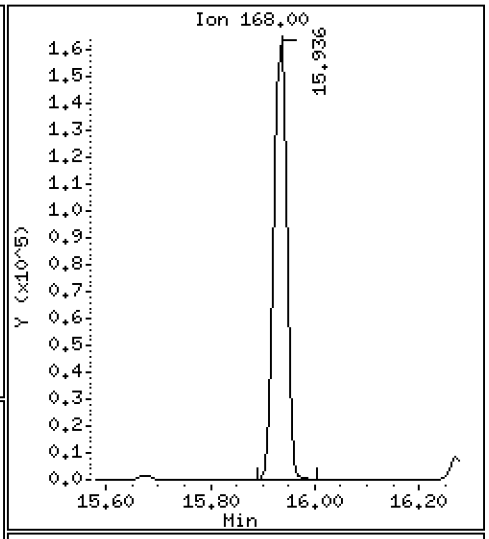
Column phase: ZB-5msi

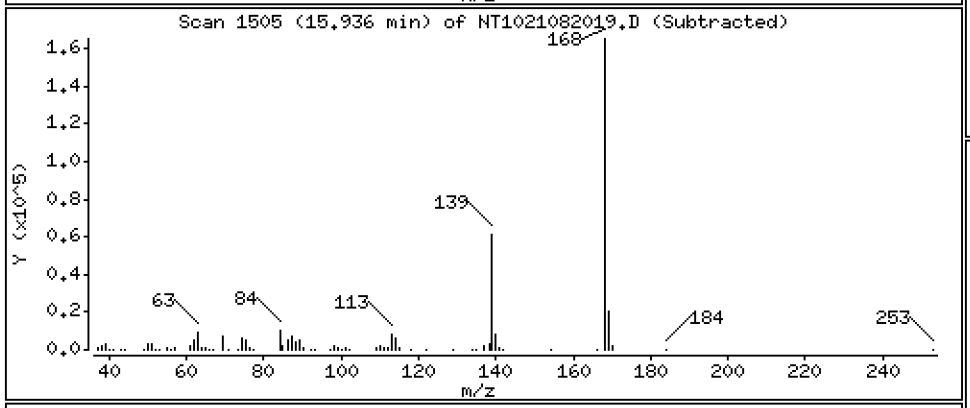
Column diameter: 0.25

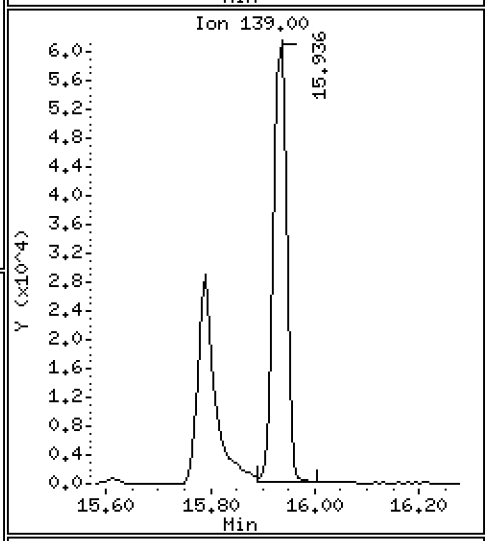
46 Dibenzofuran

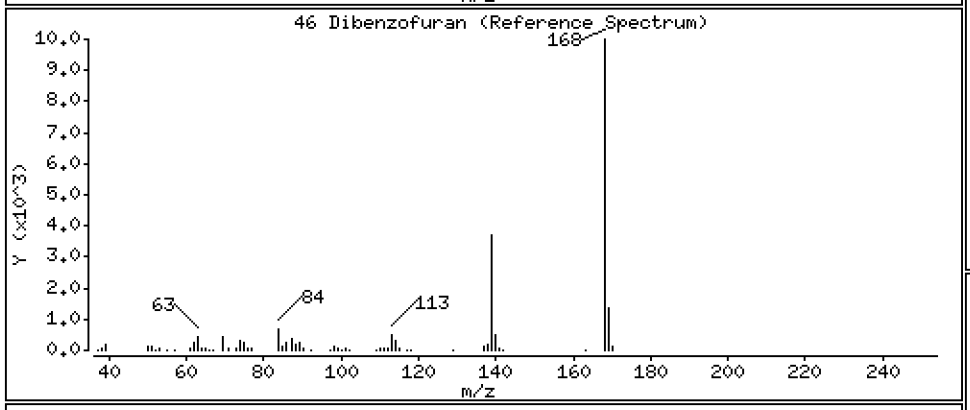
Concentration: 4.974 ug/mL

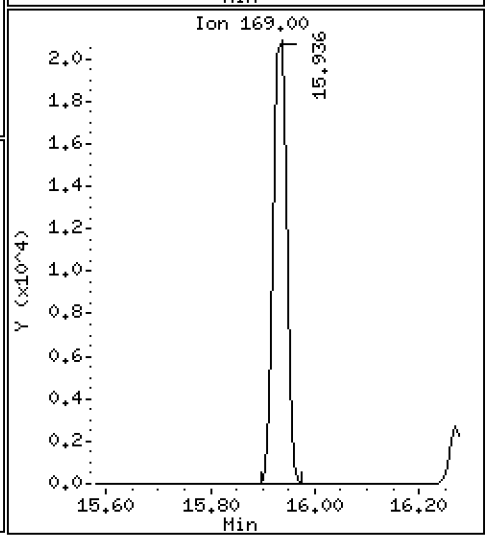


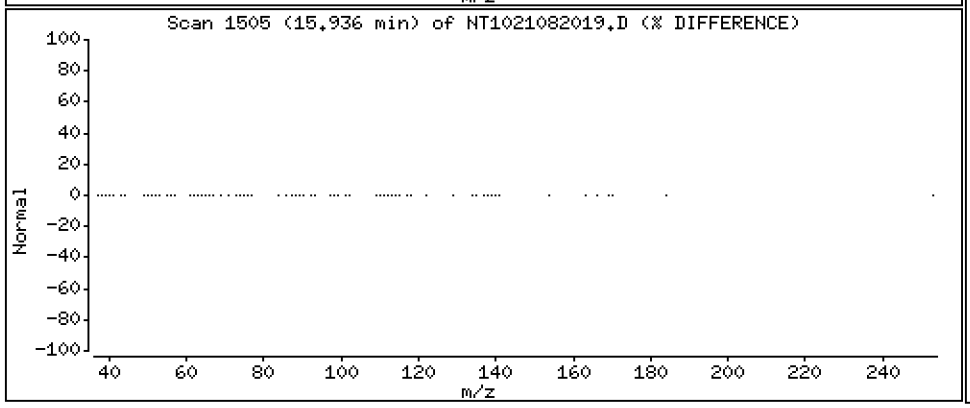












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

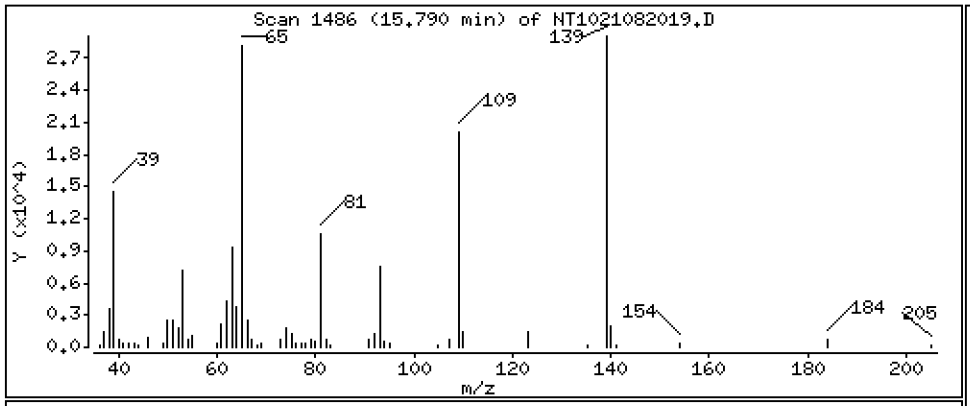
Operator: VTS

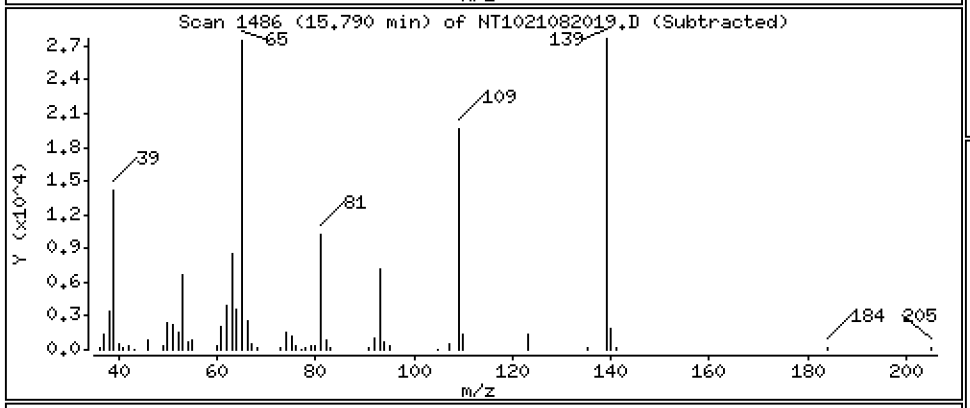
Column phase: ZB-5msi

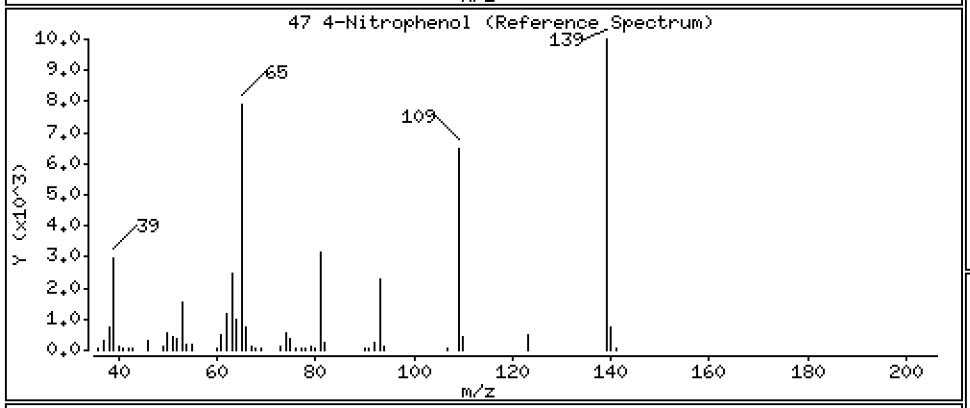
Column diameter: 0.25

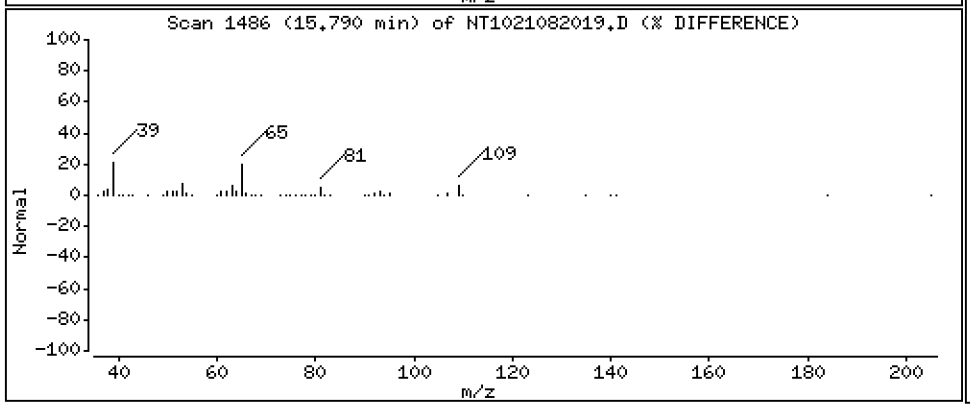
47 4-Nitrophenol

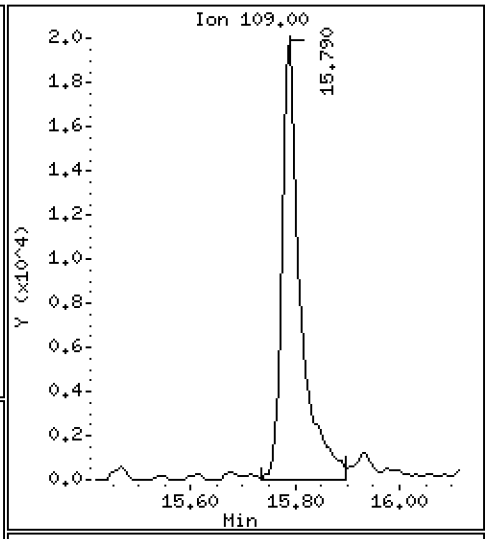
Concentration: 12.28 ug/mL

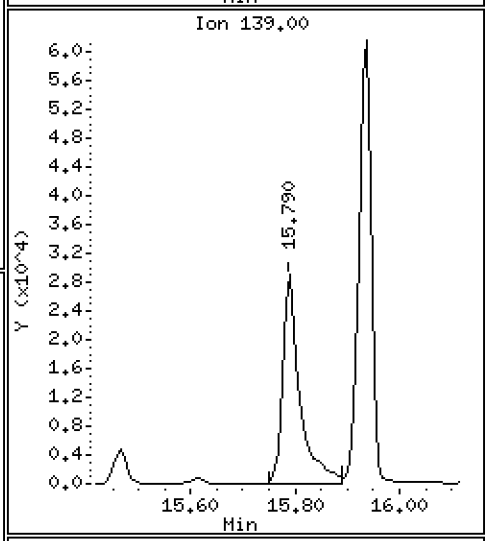


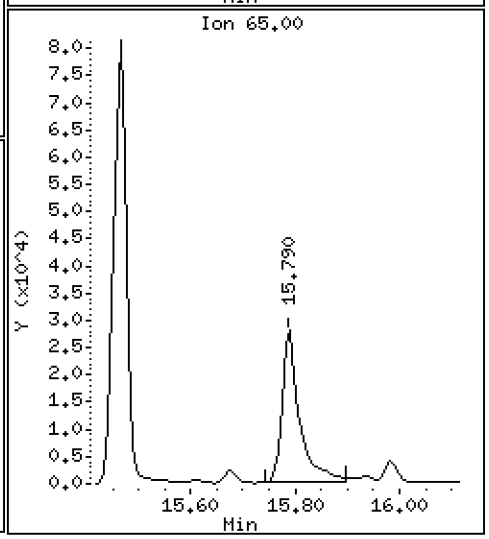












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

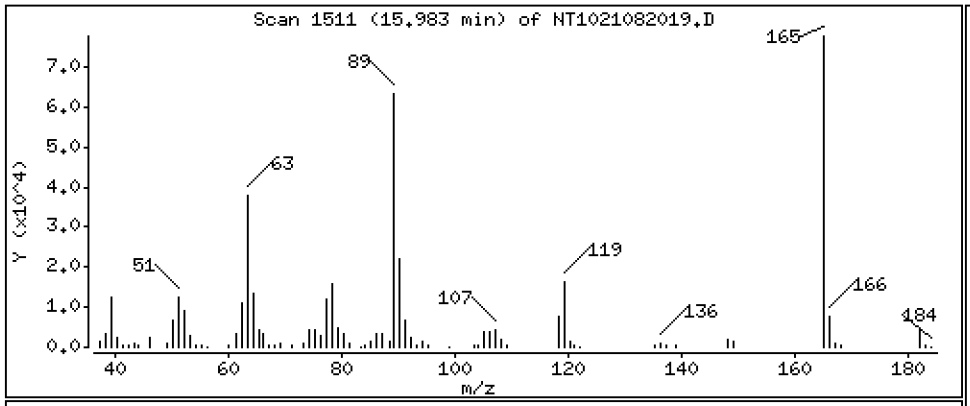
Operator: VTS

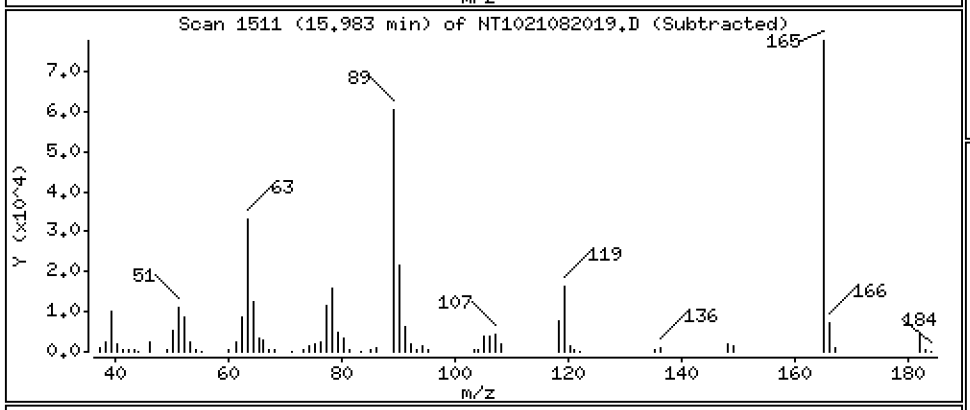
Column phase: ZB-5msi

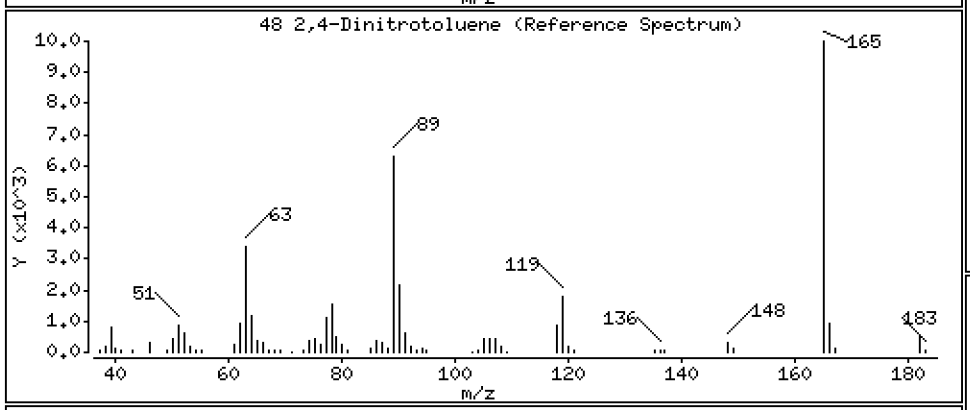
Column diameter: 0.25

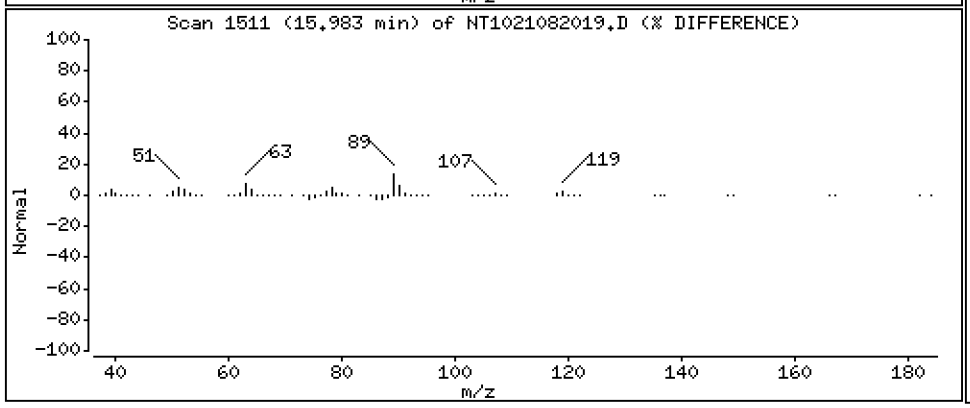
48 2,4-Dinitrotoluene

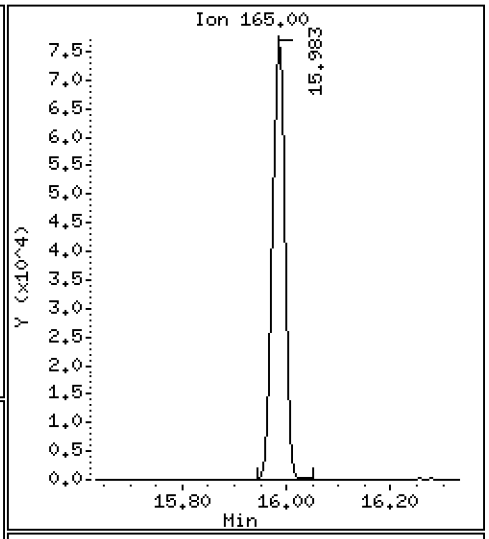
Concentration: 10.35 ug/mL

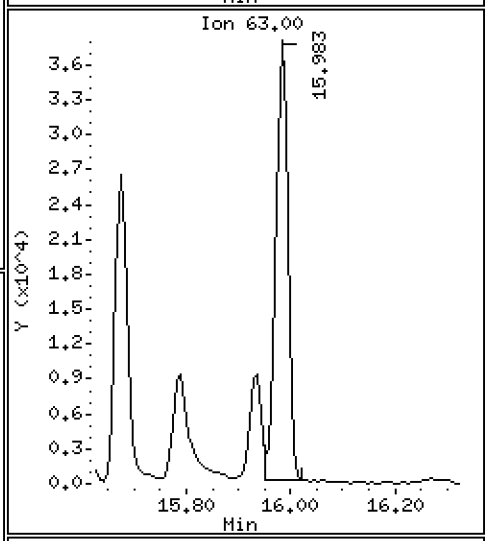


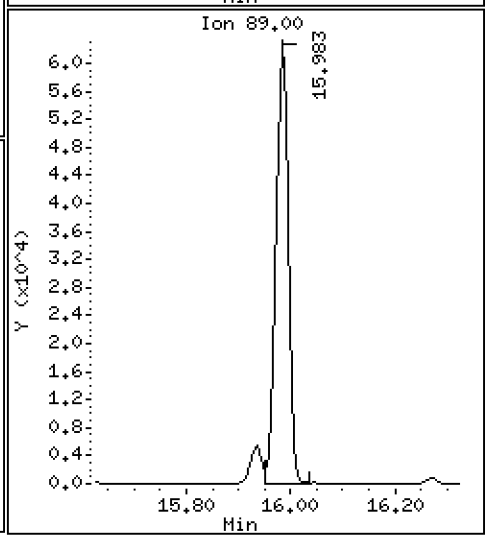












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

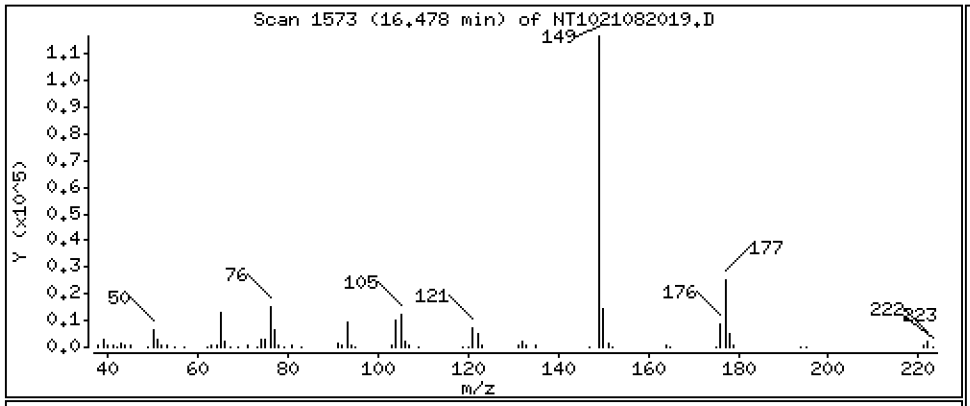
Operator: VTS

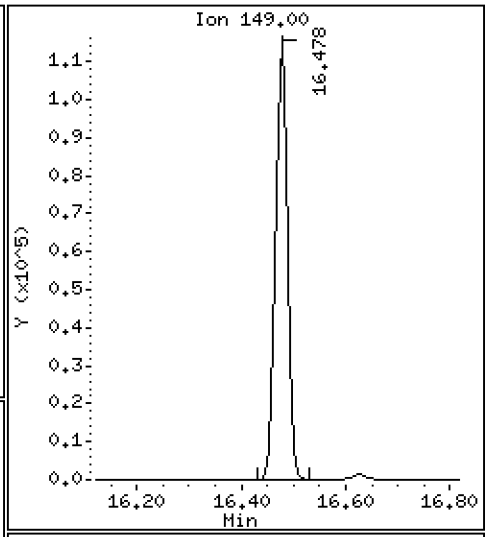
Column phase: ZB-5msi

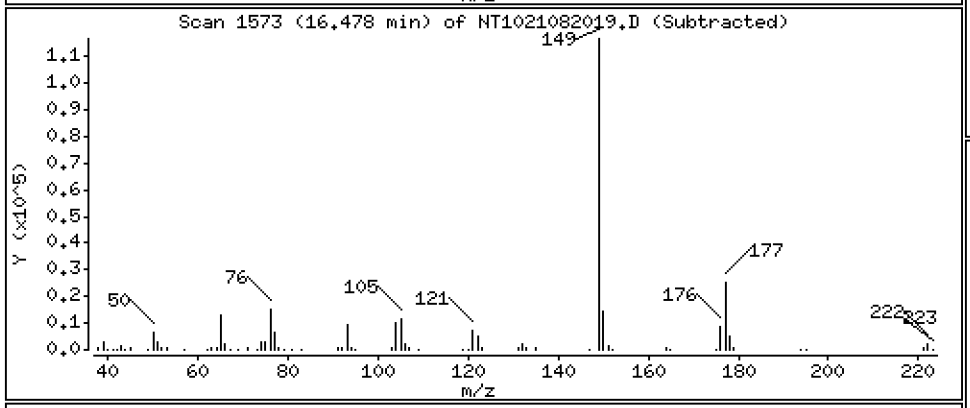
Column diameter: 0.25

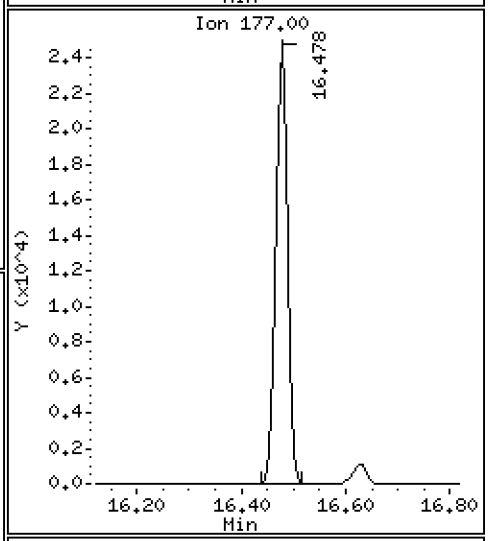
50 Diethylphthalate

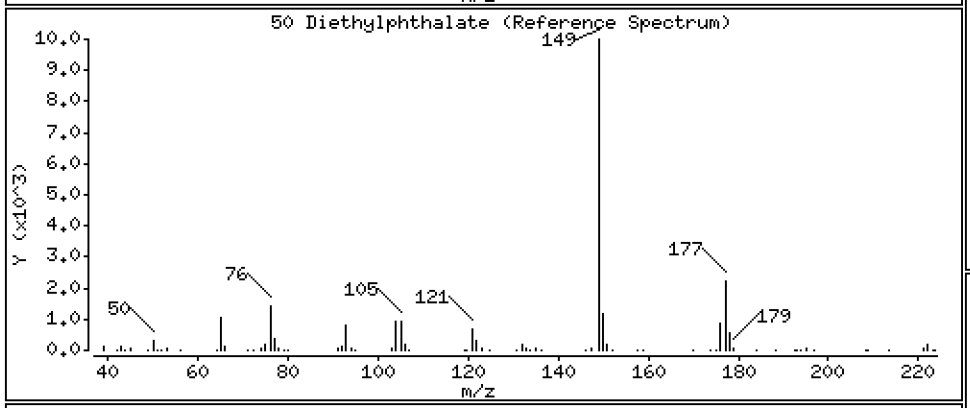
Concentration: 5.220 ug/mL

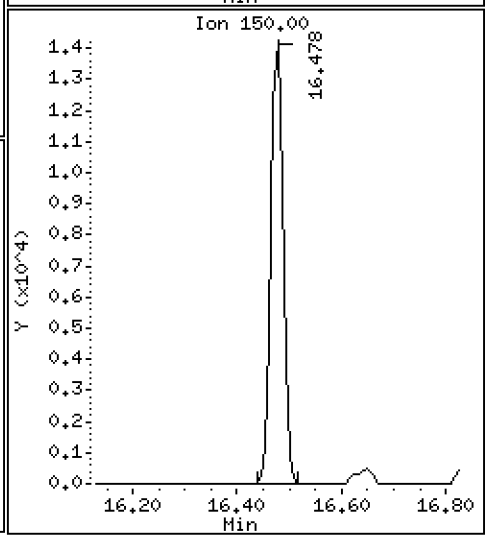


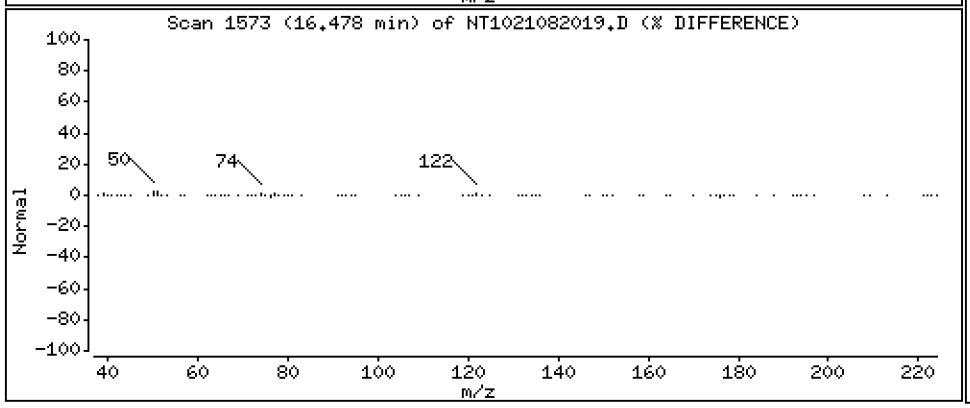












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

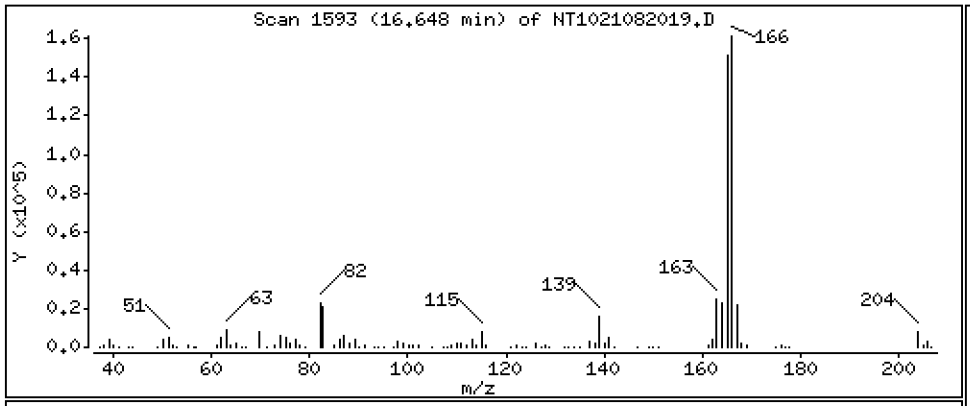
Operator: VTS

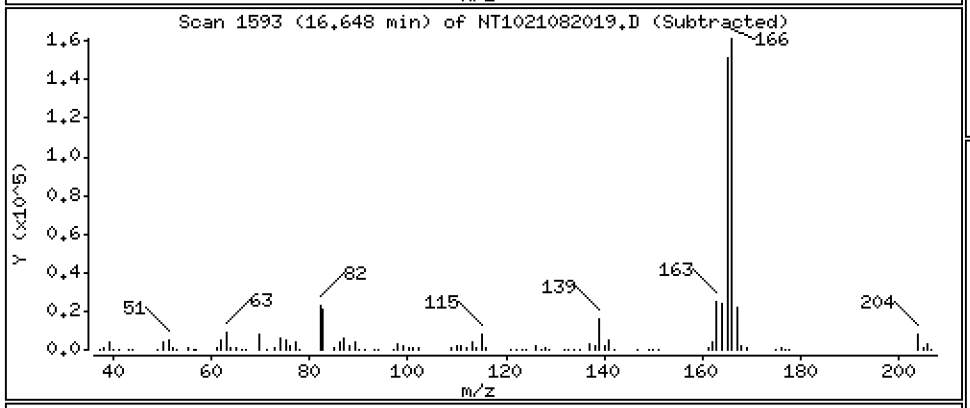
Column phase: ZB-5msi

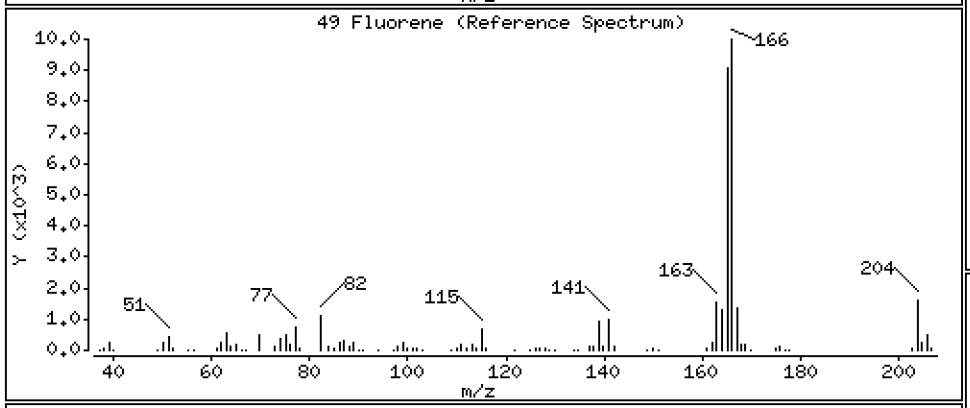
Column diameter: 0.25

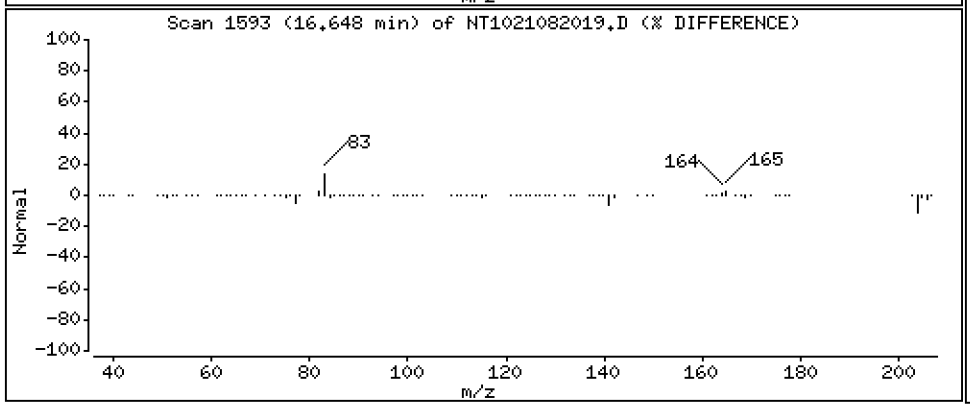
49 Fluorene

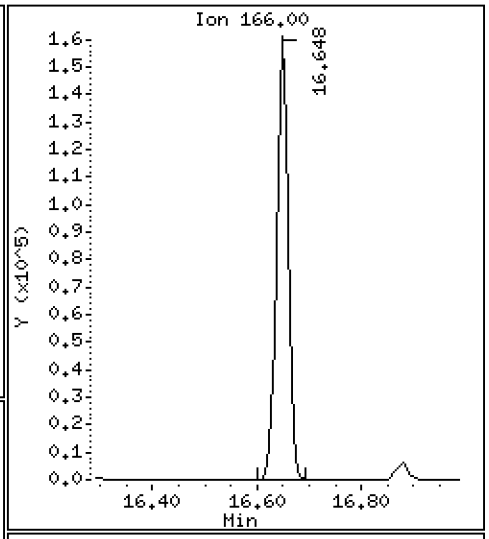
Concentration: 5.275 ug/mL

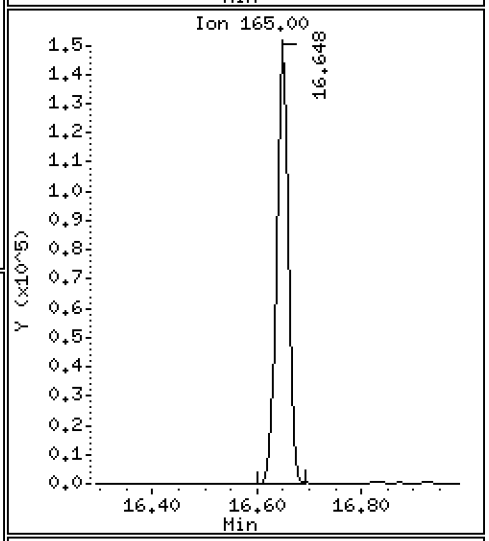


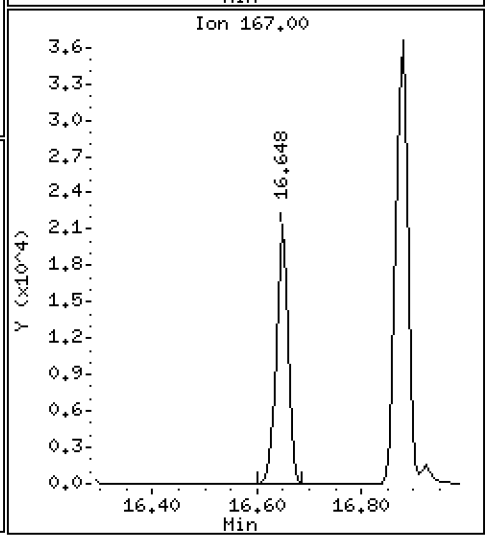












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

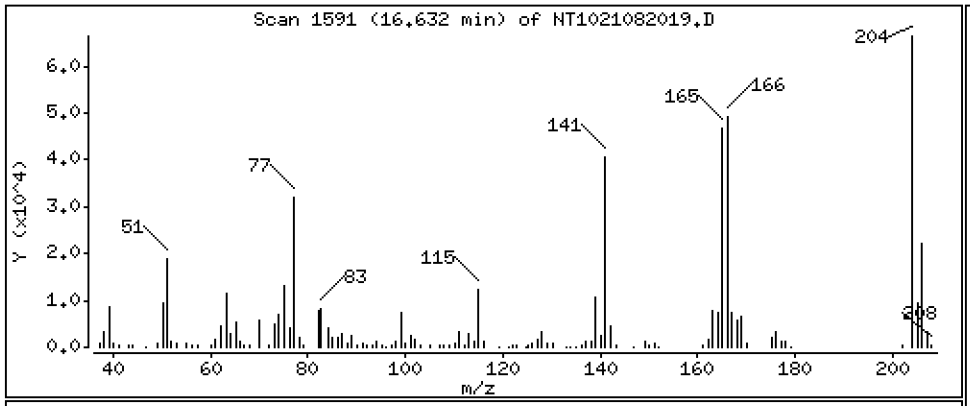
Operator: VTS

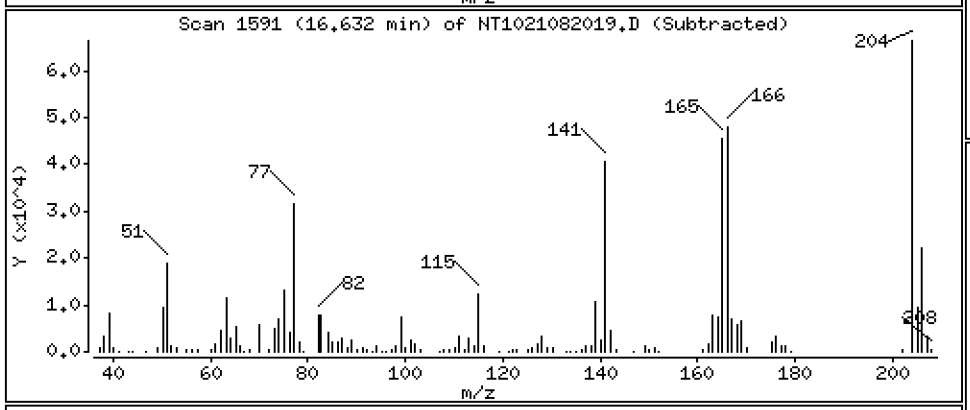
Column phase: ZB-5msi

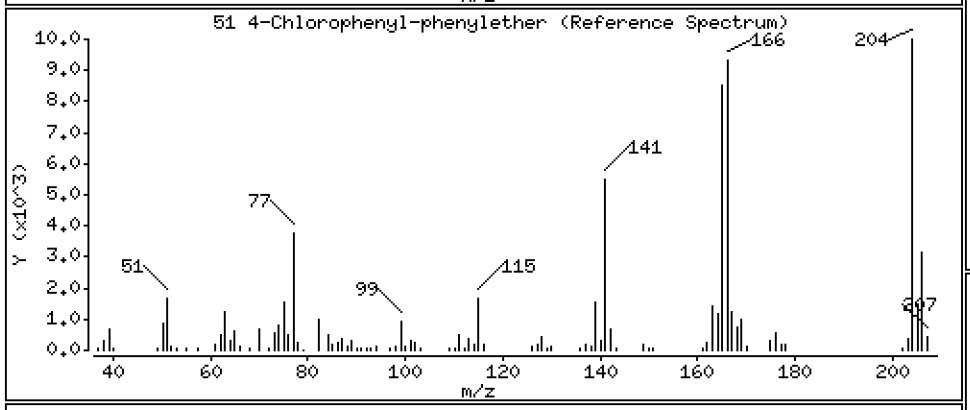
Column diameter: 0.25

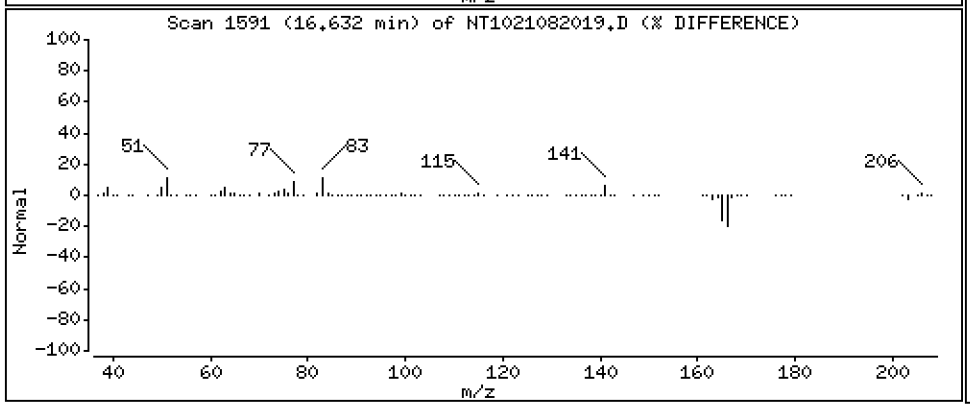
51 4-Chlorophenyl-phenylether

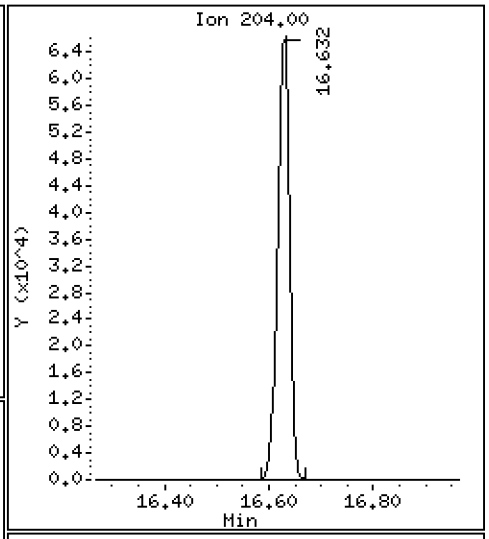
Concentration: 5.104 ug/mL

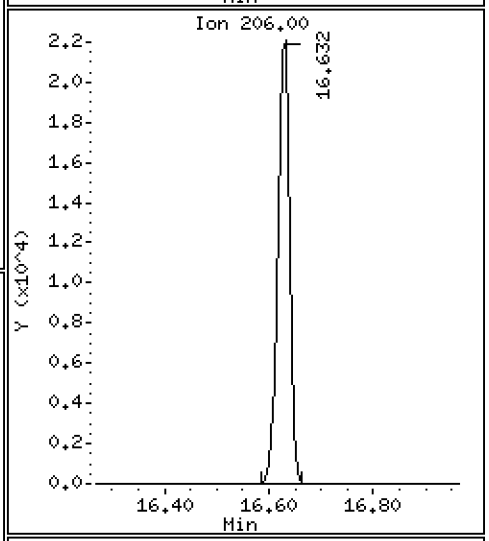


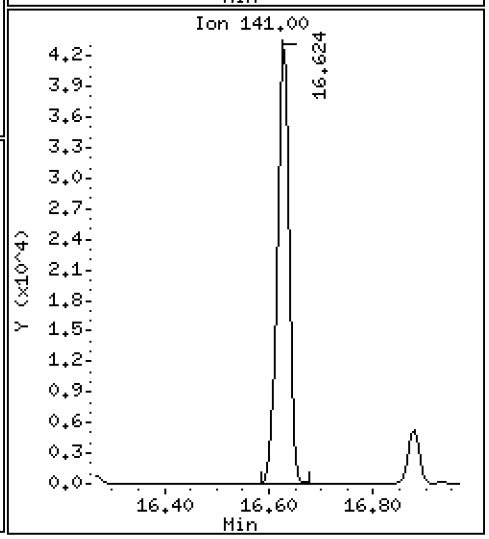












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

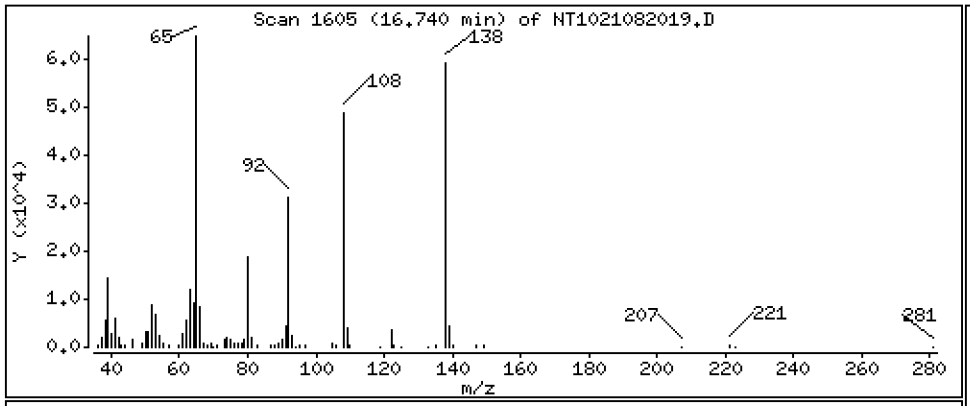
Operator: VTS

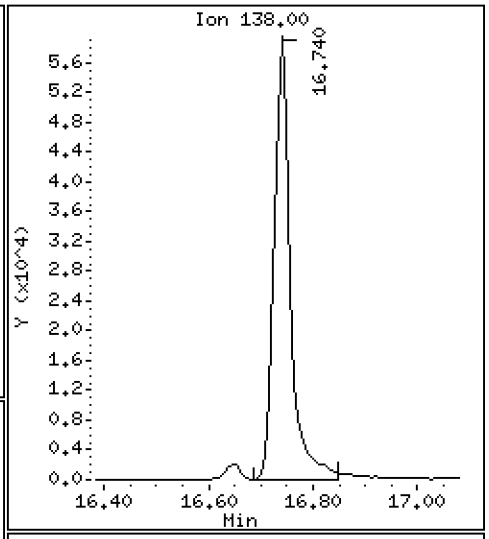
Column phase: ZB-5msi

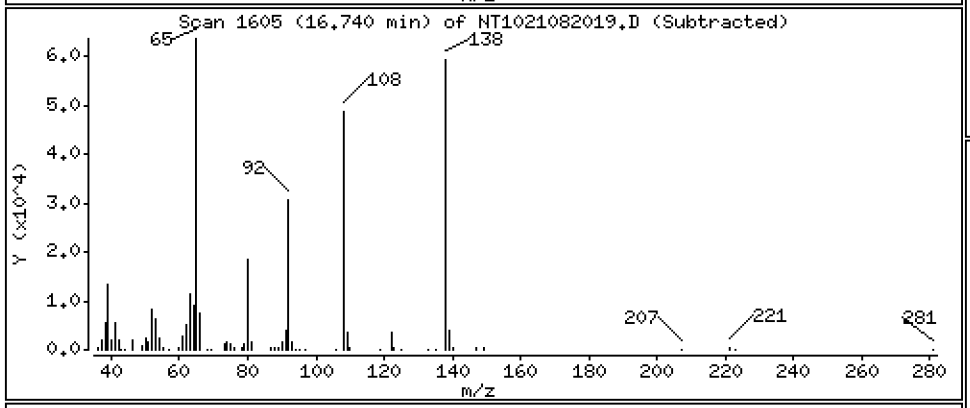
Column diameter: 0.25

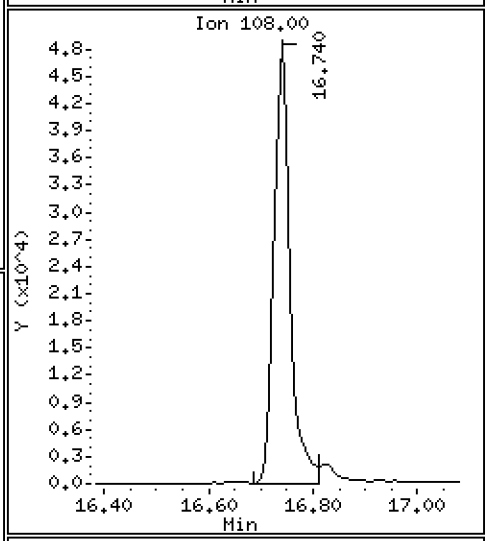
52 4-Nitroaniline

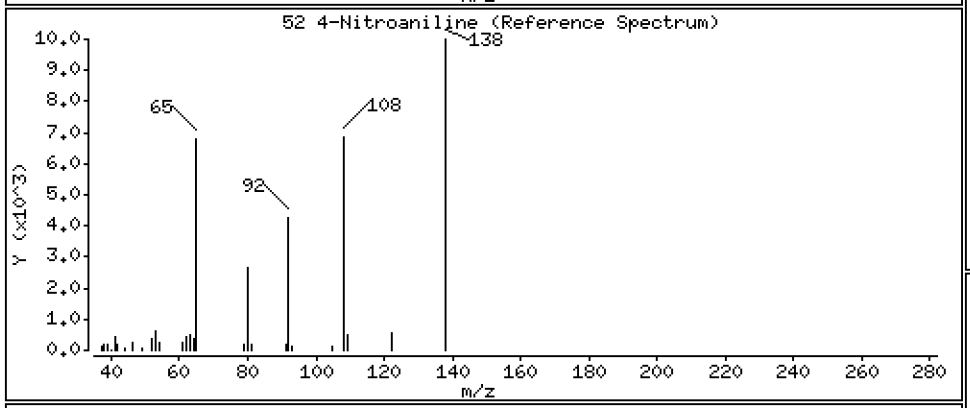
Concentration: 10.75 ug/mL

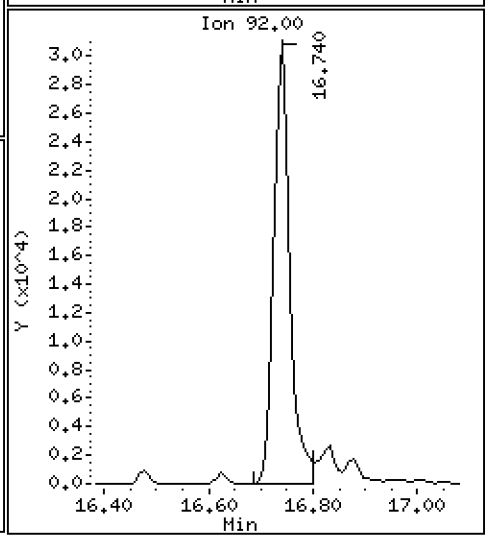


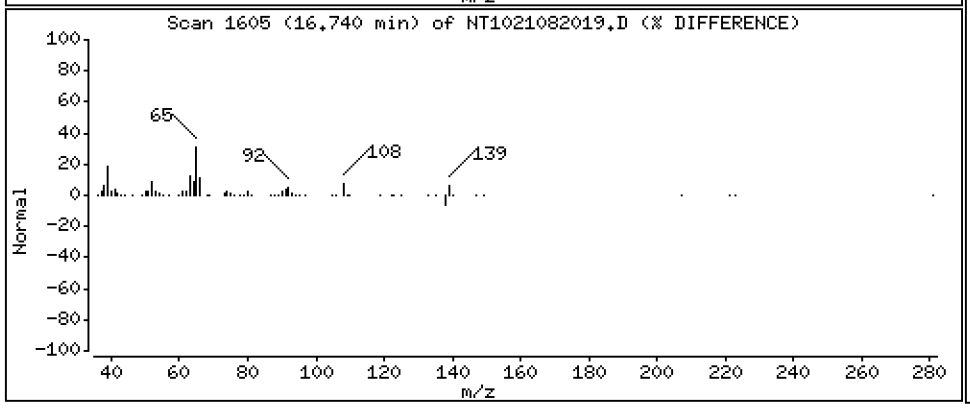












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

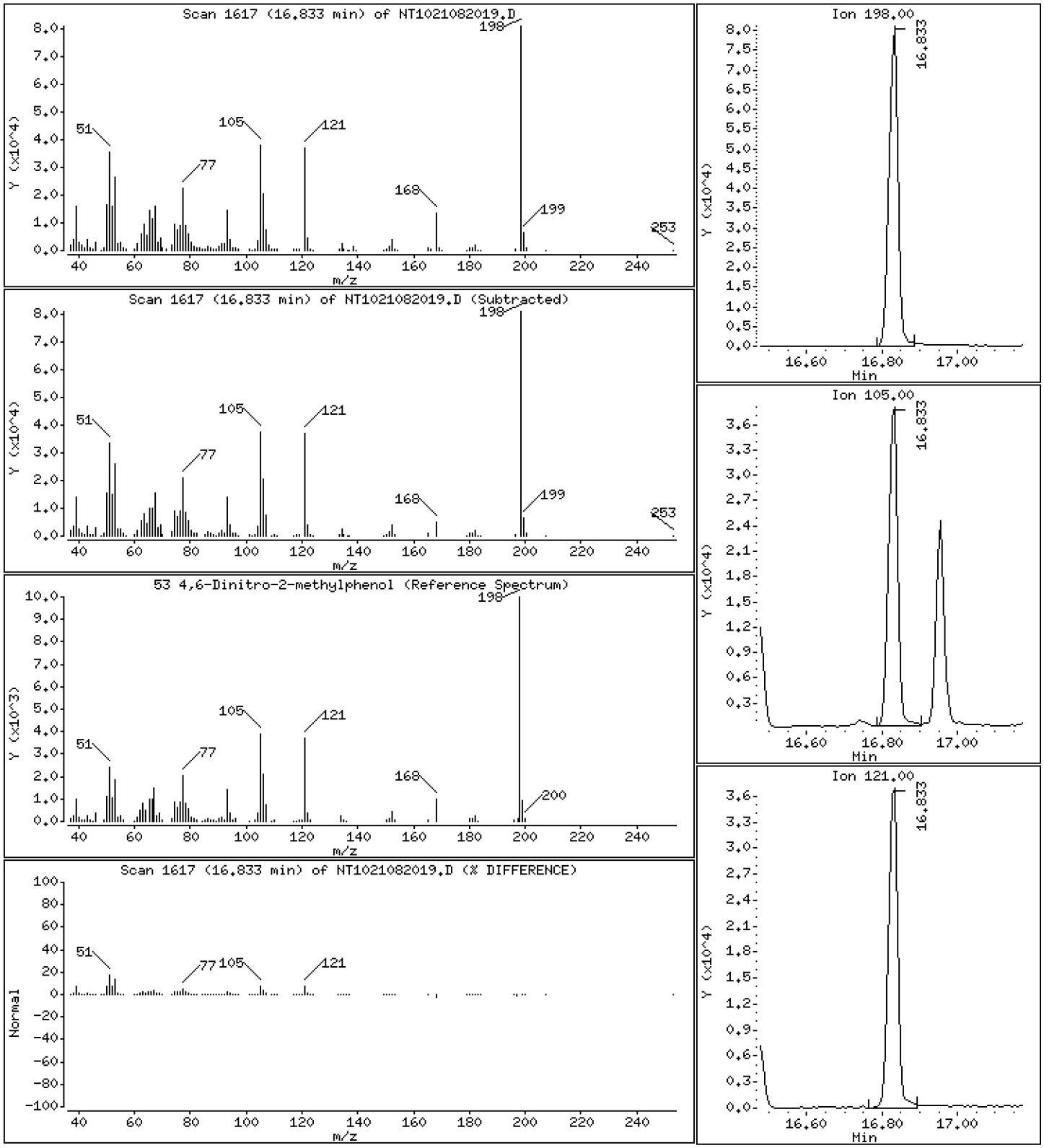
Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25

53 4,6-Dinitro-2-methylphenol

Concentration: 16.57 ug/mL



Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

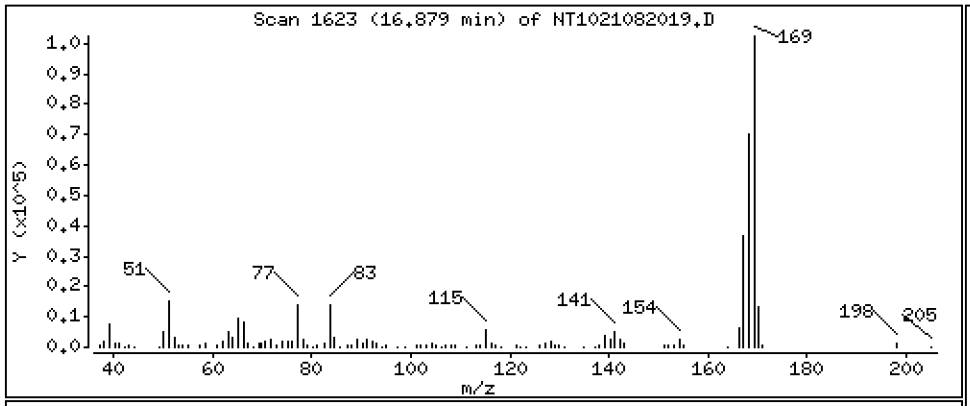
Operator: VTS

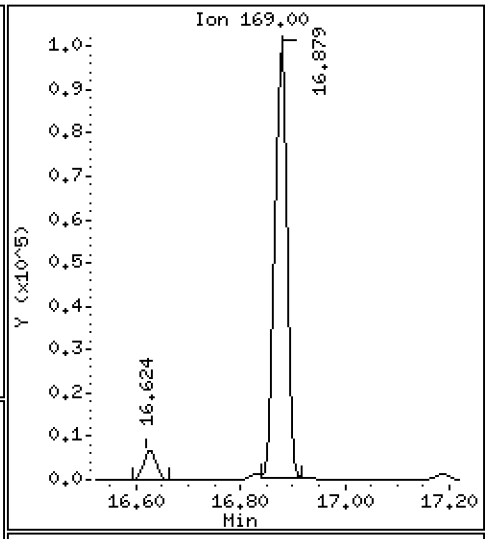
Column phase: ZB-5msi

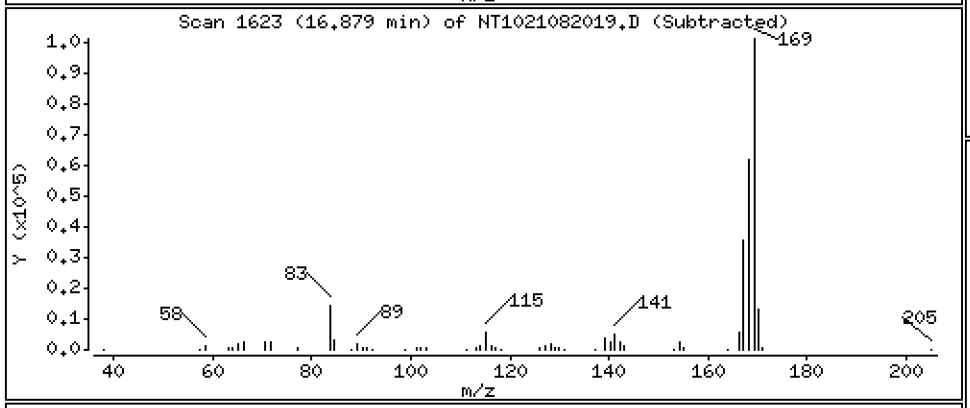
Column diameter: 0.25

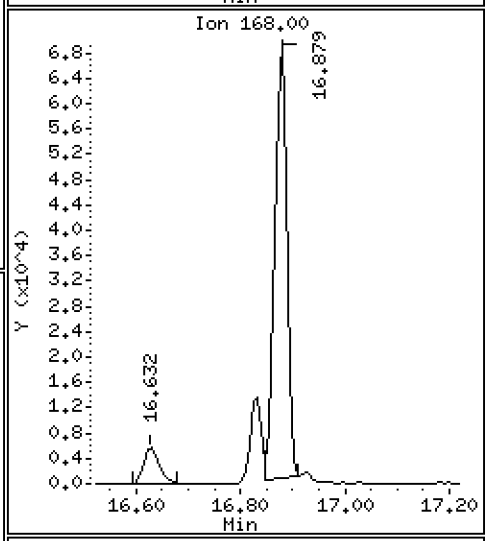
54 N-Nitrosodiphenylamine

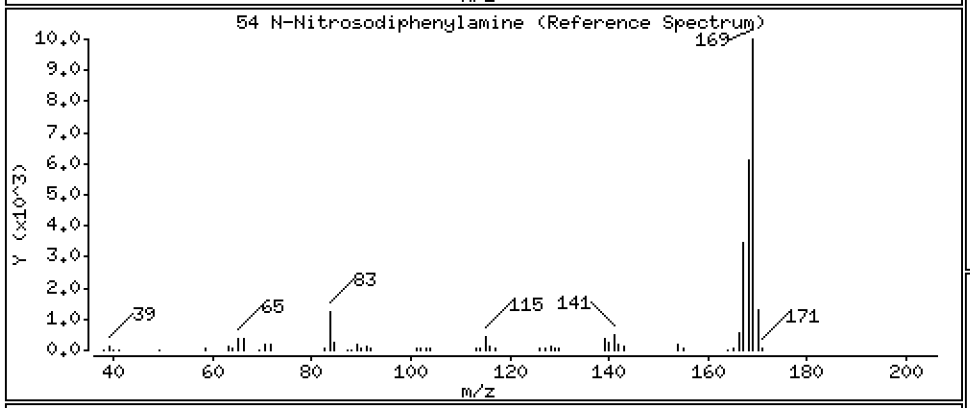
Concentration: 5.546 ug/mL

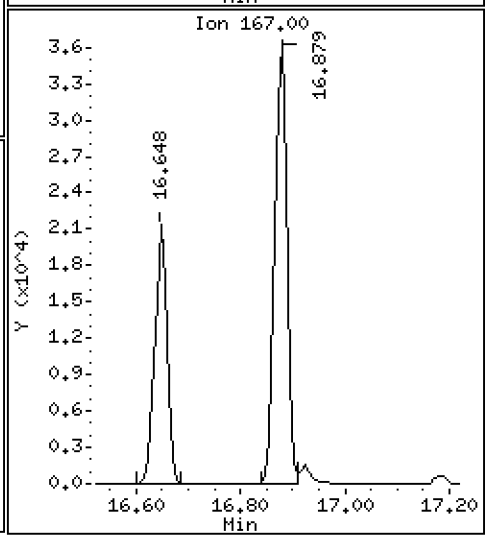


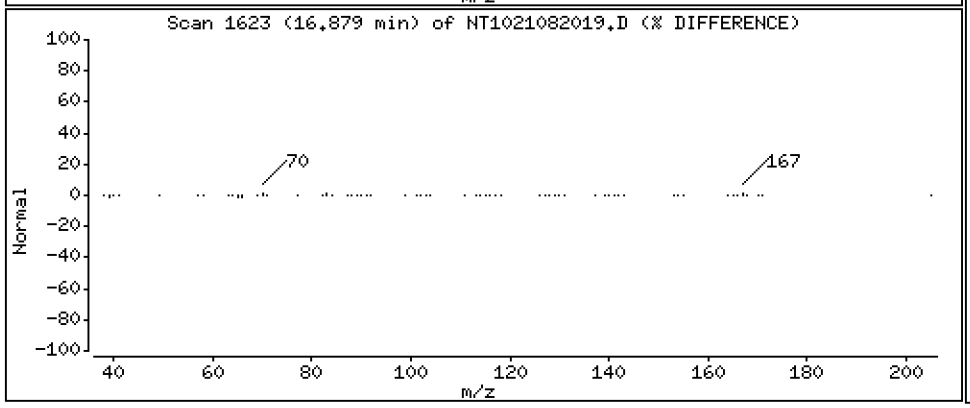












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

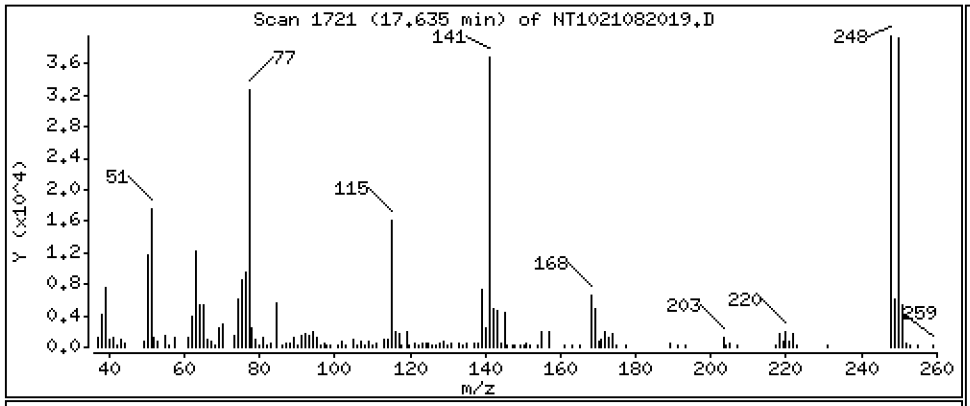
Operator: VTS

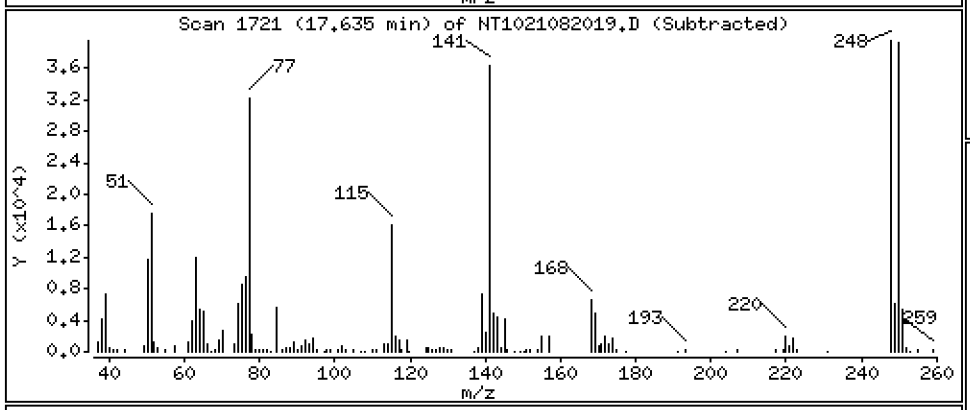
Column phase: ZB-5msi

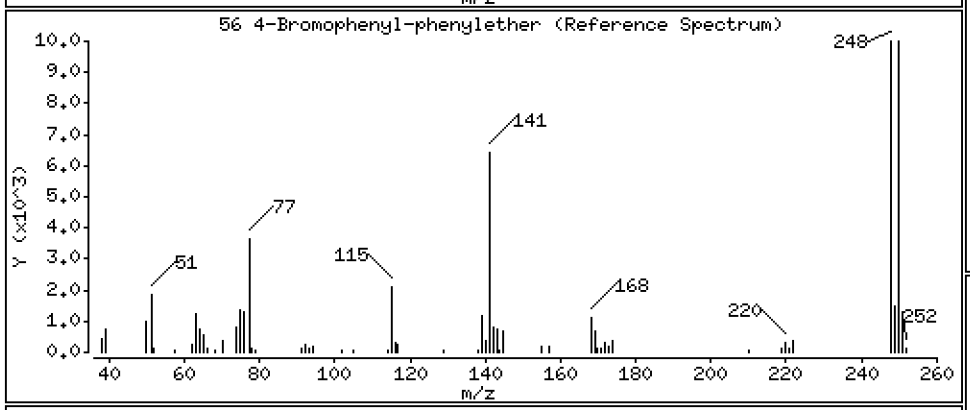
Column diameter: 0.25

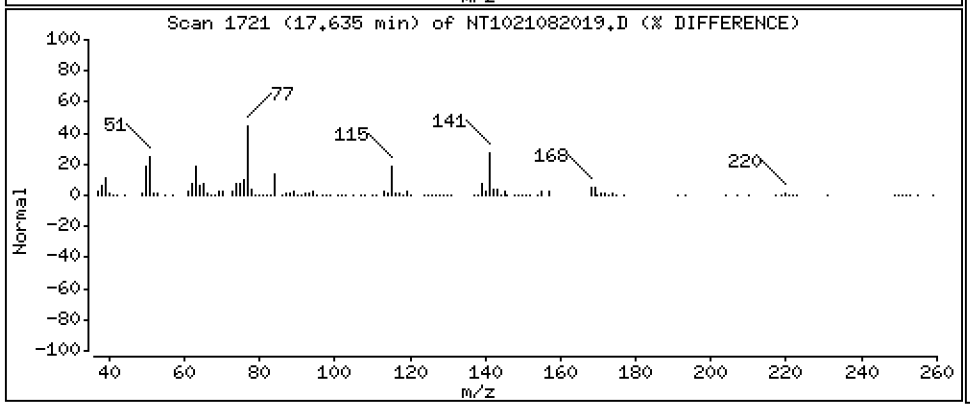
56 4-Bromophenyl-phenylether

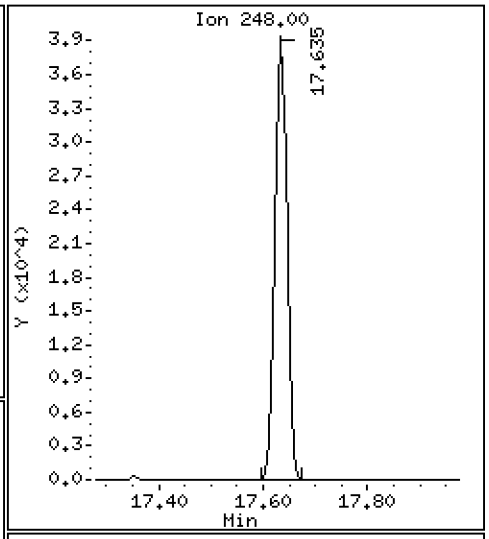
Concentration: 5.270 ug/mL

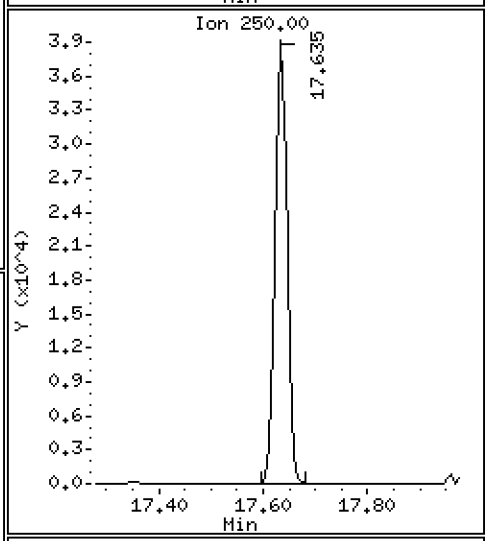


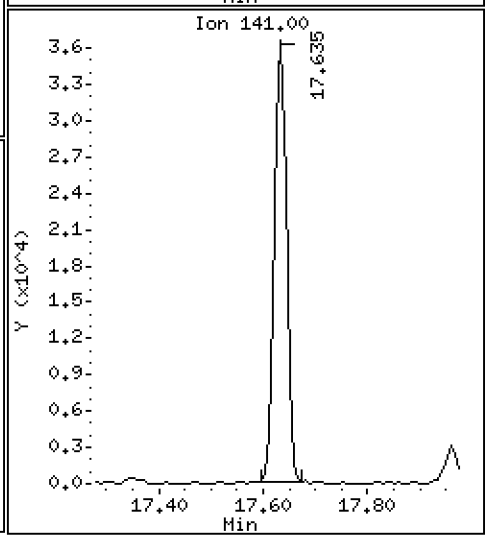












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

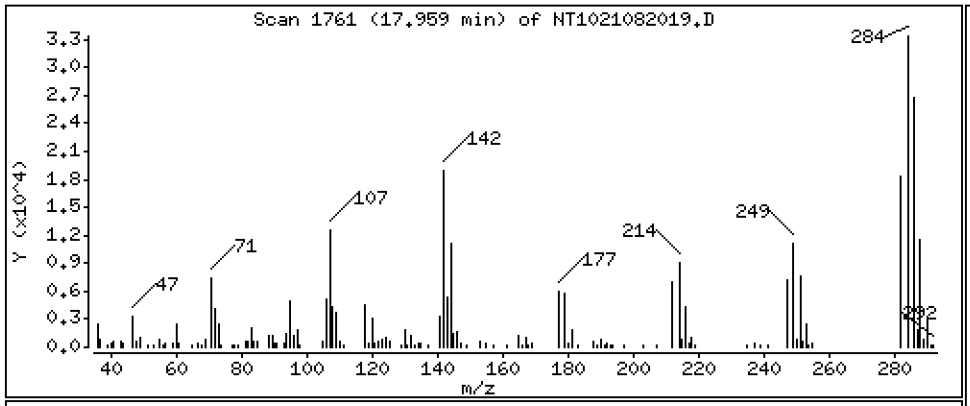
Operator: VTS

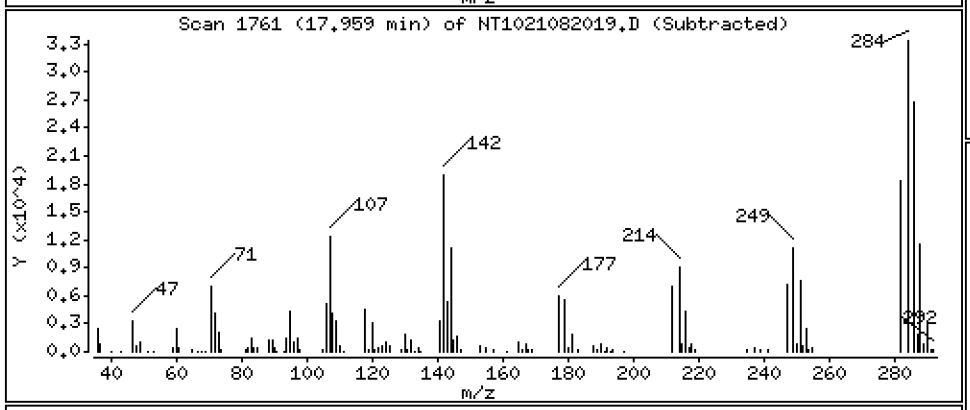
Column phase: ZB-5msi

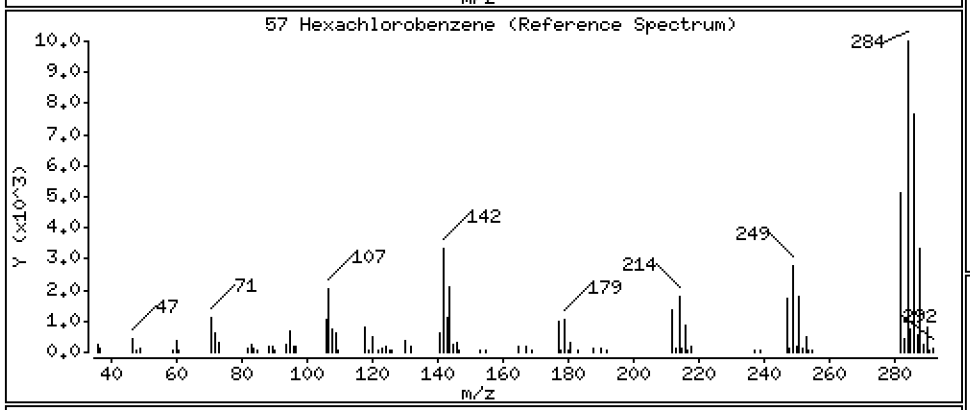
Column diameter: 0.25

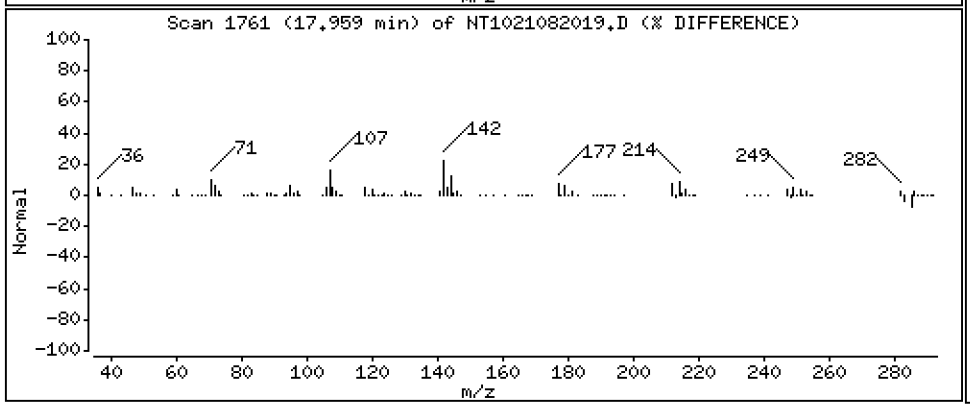
57 Hexachlorobenzene

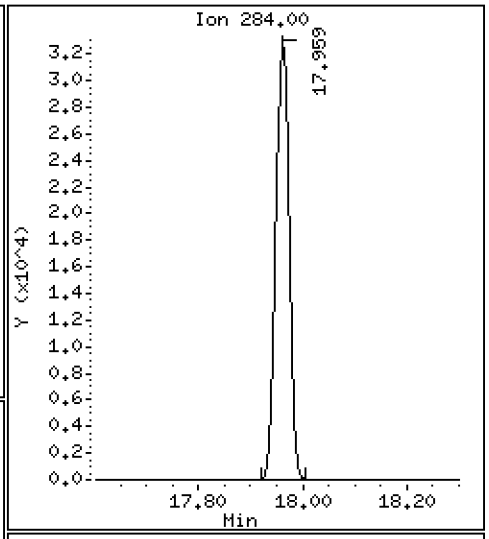
Concentration: 5.235 ug/mL

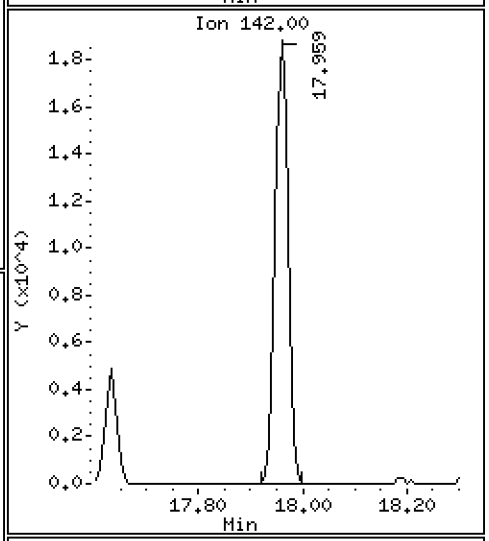


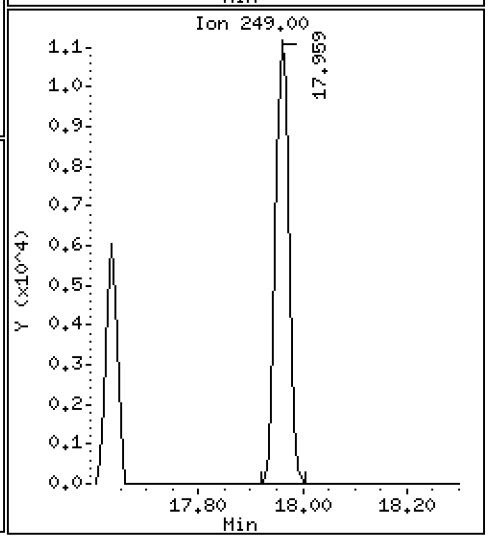












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

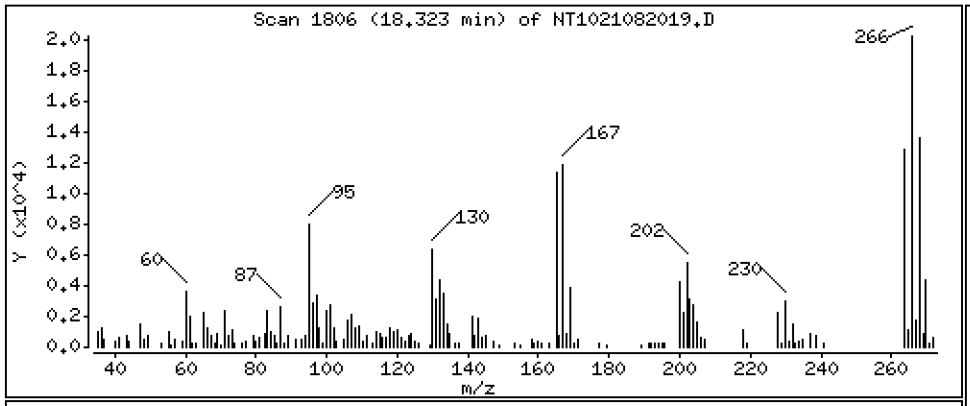
Operator: VTS

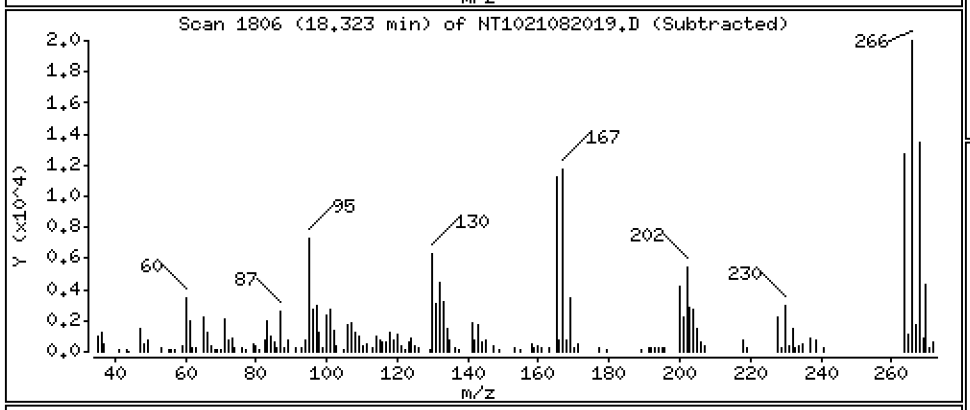
Column phase: ZB-5msi

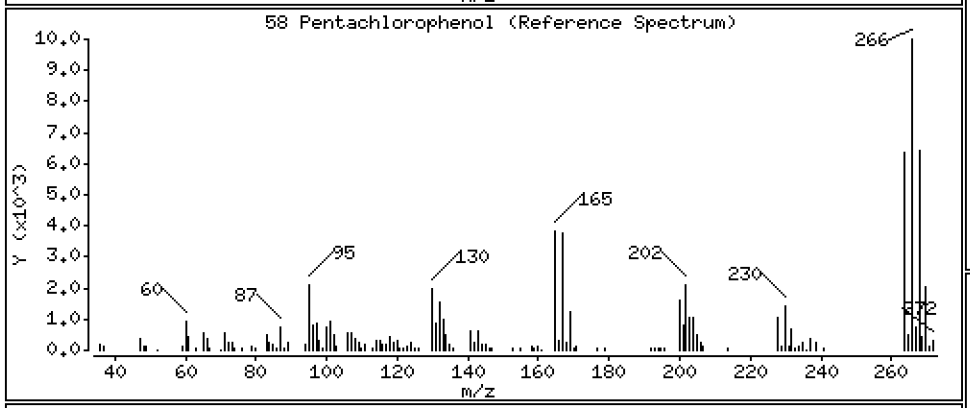
Column diameter: 0.25

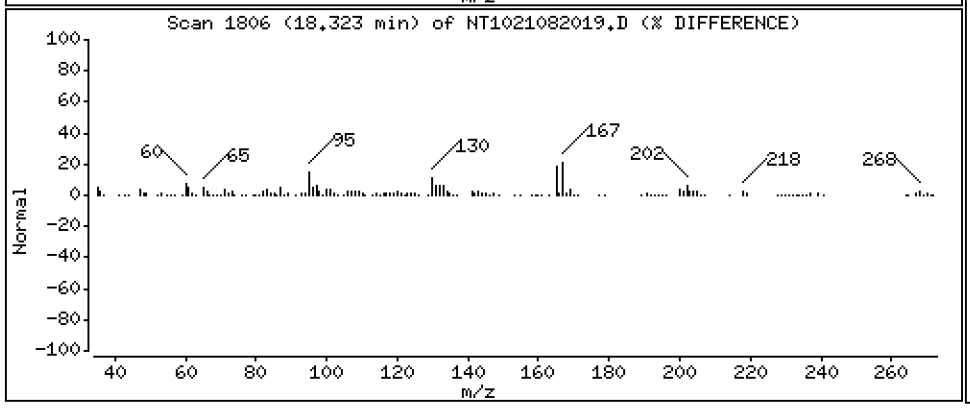
58 Pentachlorophenol

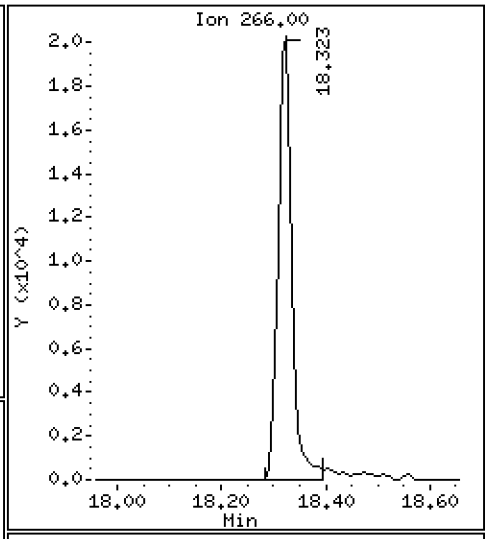
Concentration: 9.262 ug/mL

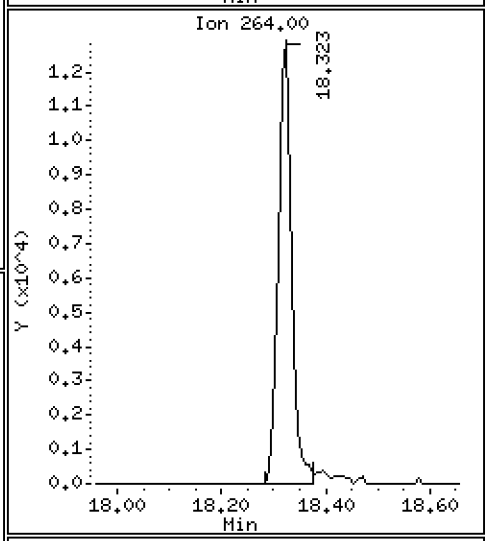


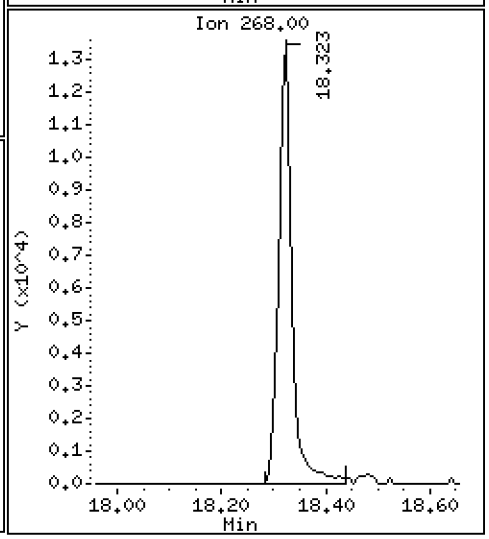












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

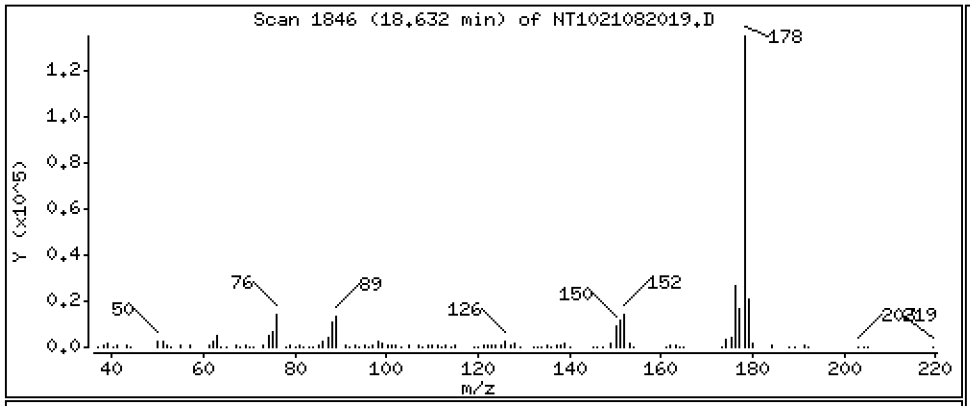
Operator: VTS

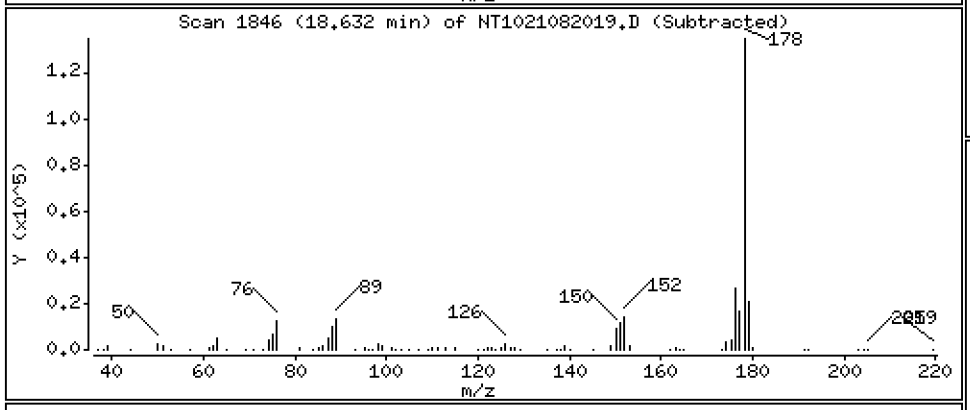
Column phase: ZB-5msi

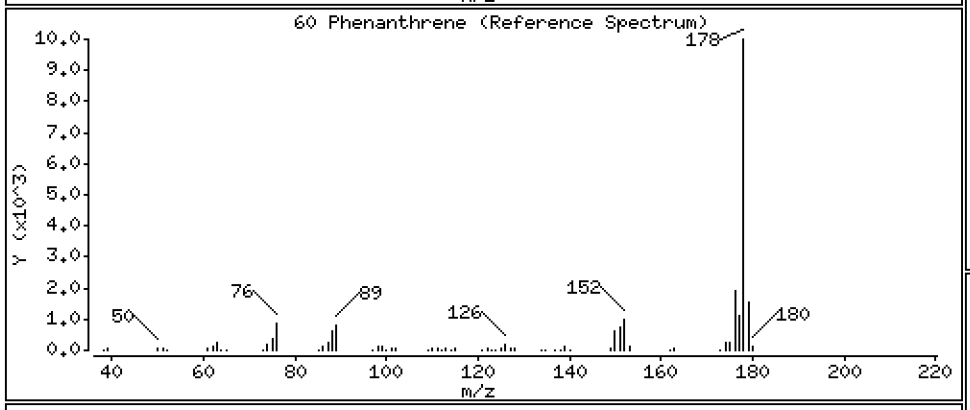
Column diameter: 0.25

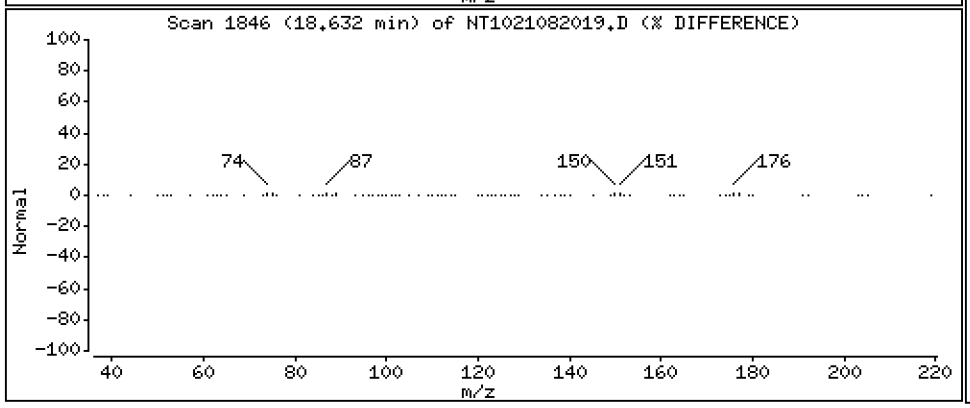
60 Phenanthrene

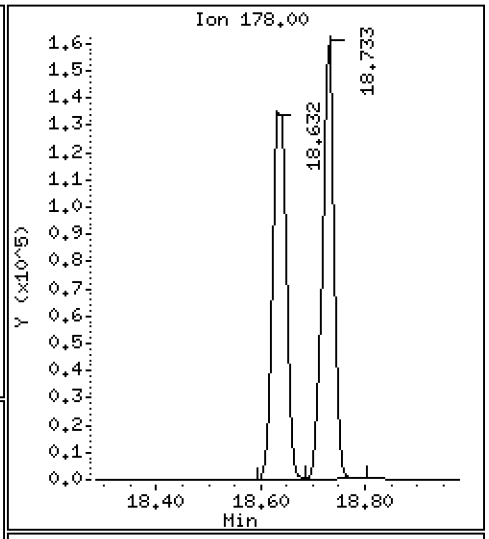
Concentration: 5.037 ug/mL

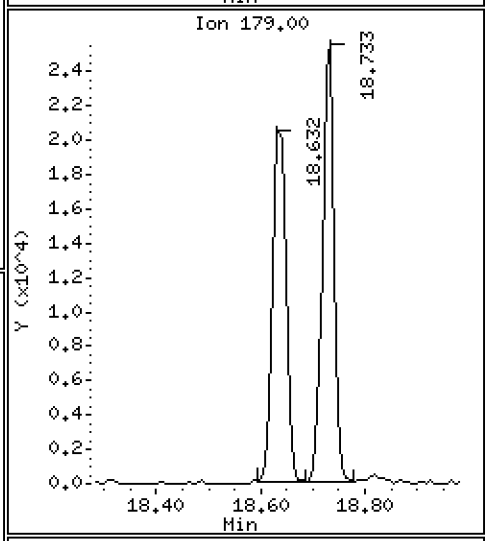


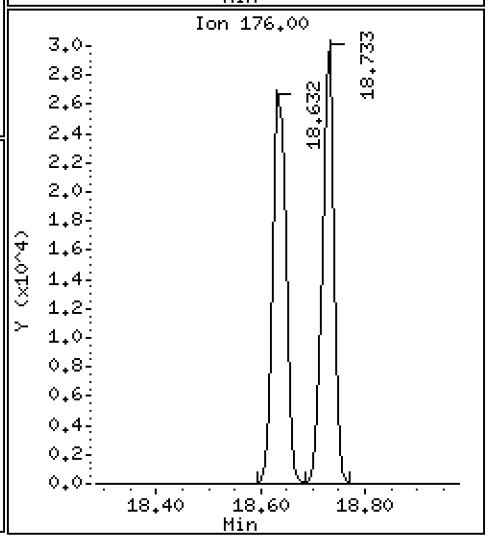












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

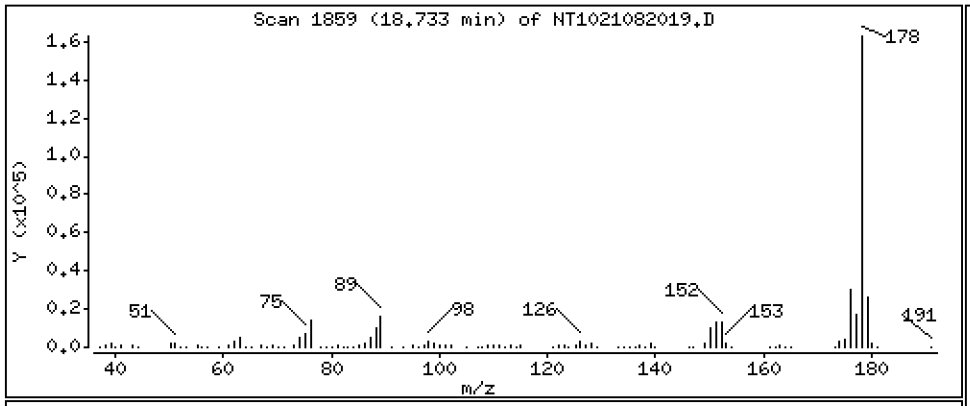
Operator: VTS

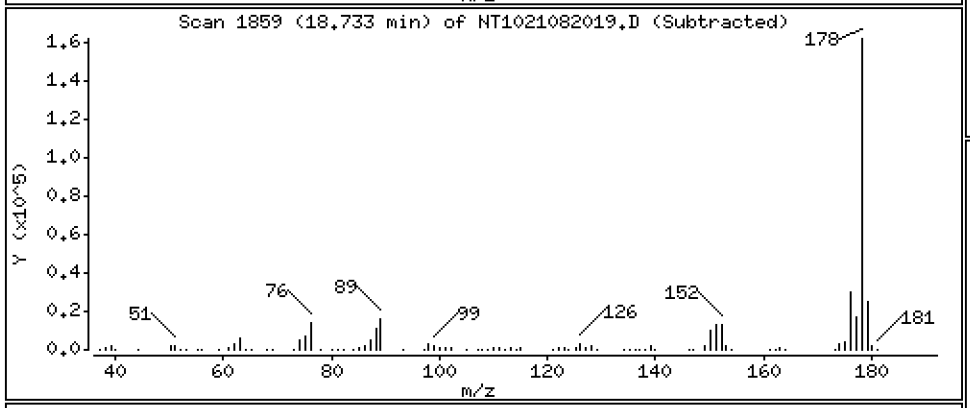
Column phase: ZB-5msi

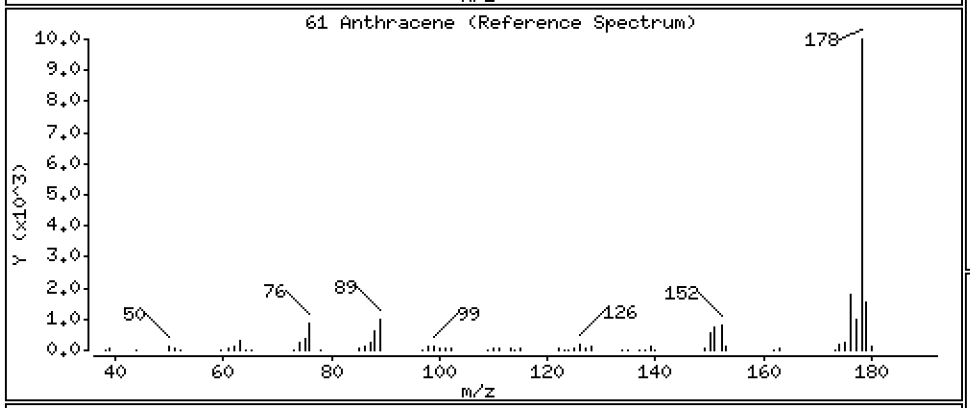
Column diameter: 0.25

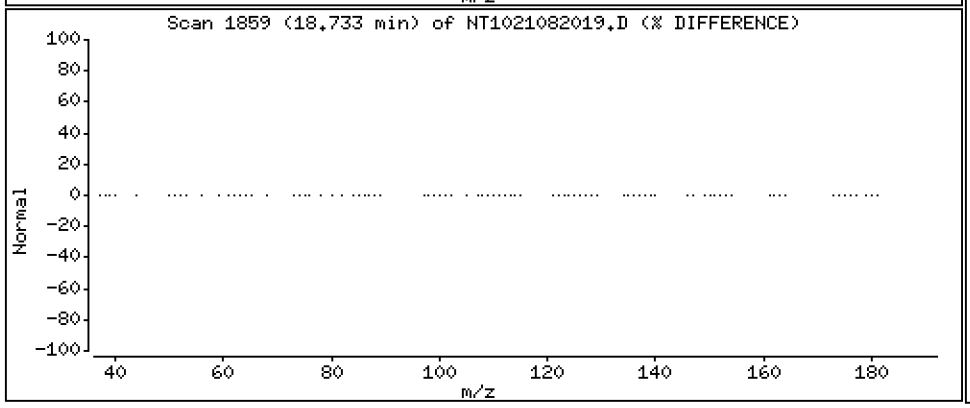
61 Anthracene

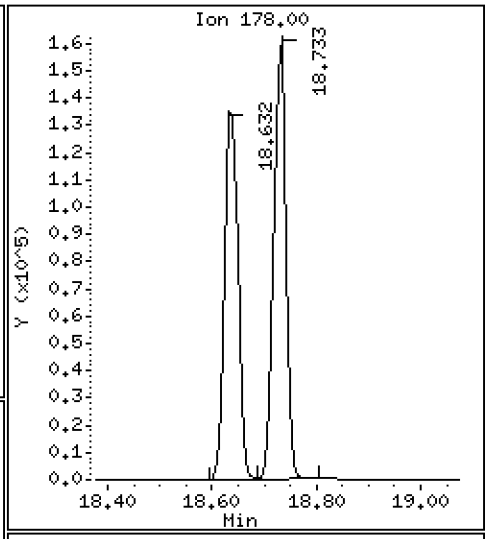
Concentration: 5.034 ug/mL

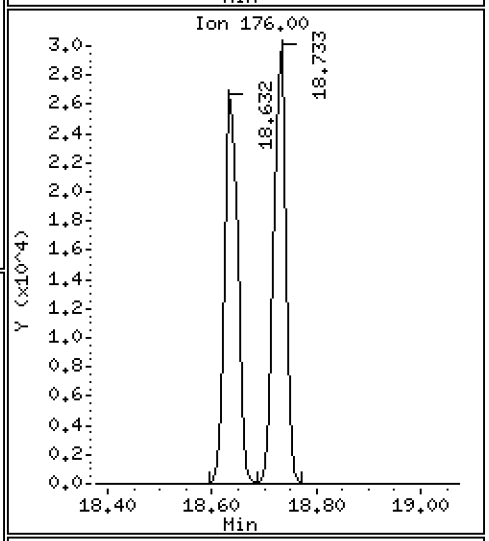


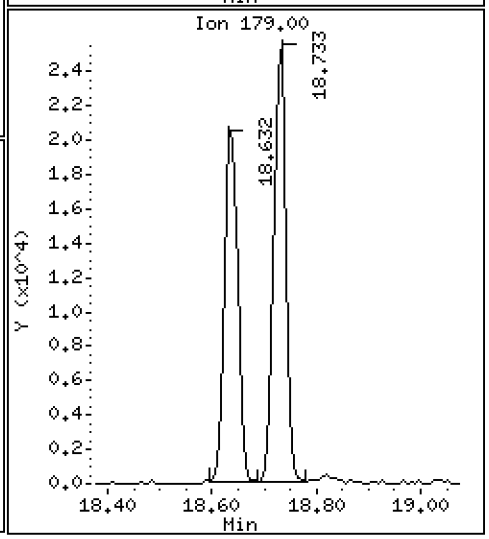












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

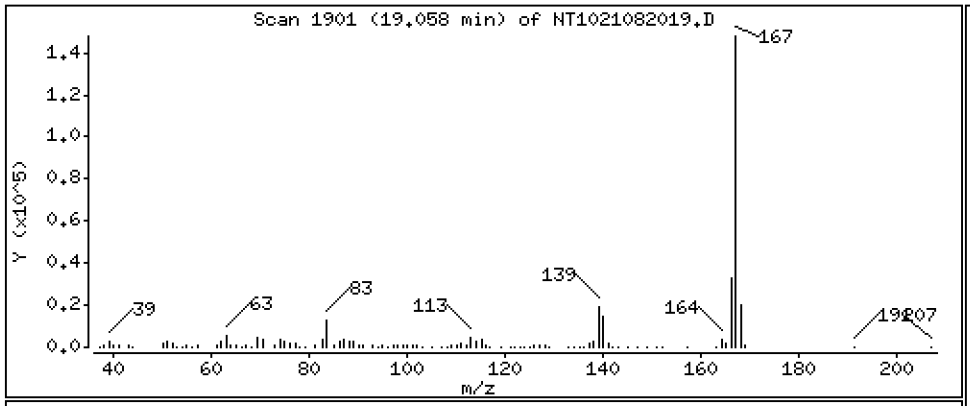
Operator: VTS

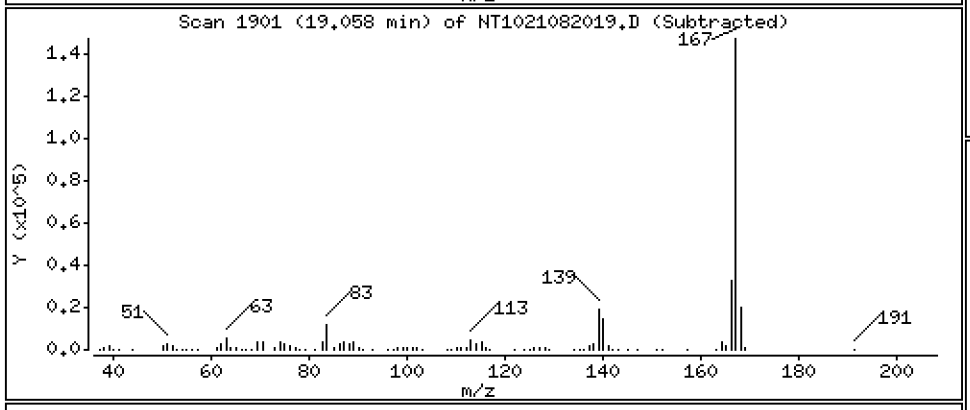
Column phase: ZB-5msi

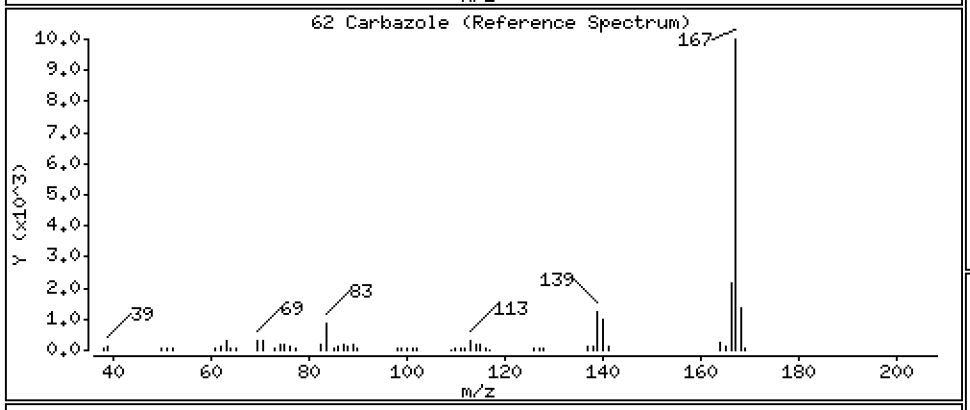
Column diameter: 0.25

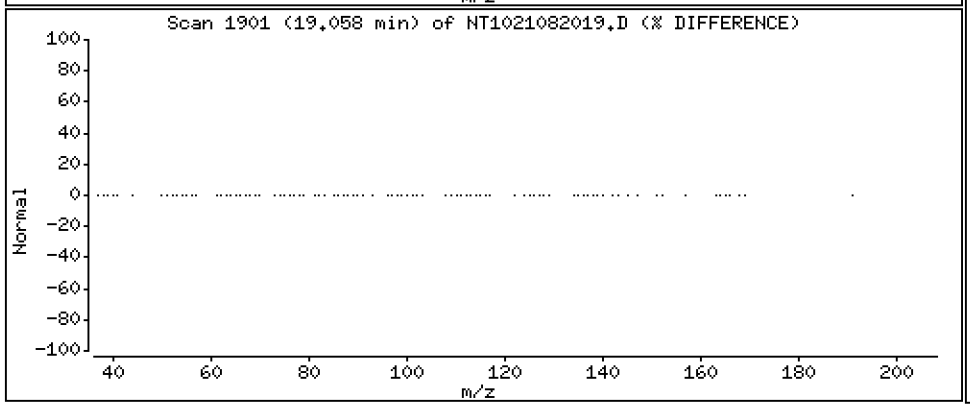
62 Carbazole

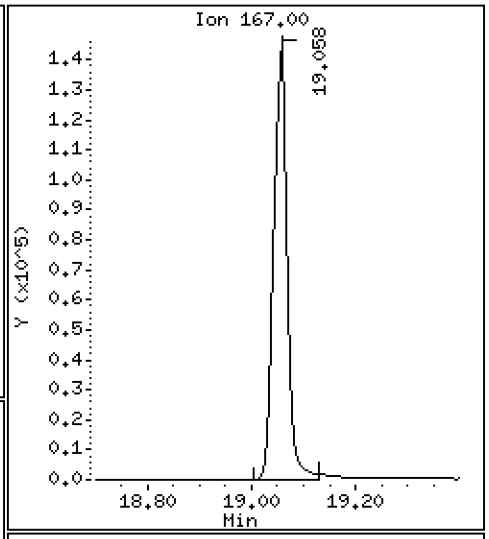
Concentration: 4.914 ug/mL

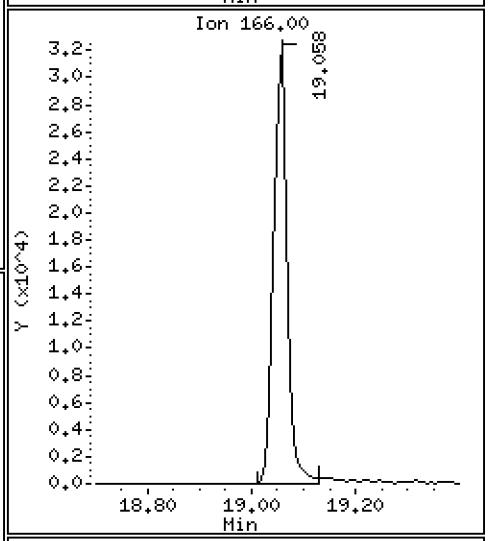


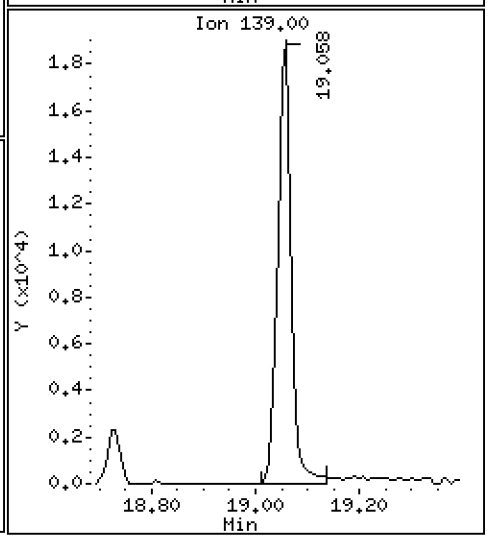












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

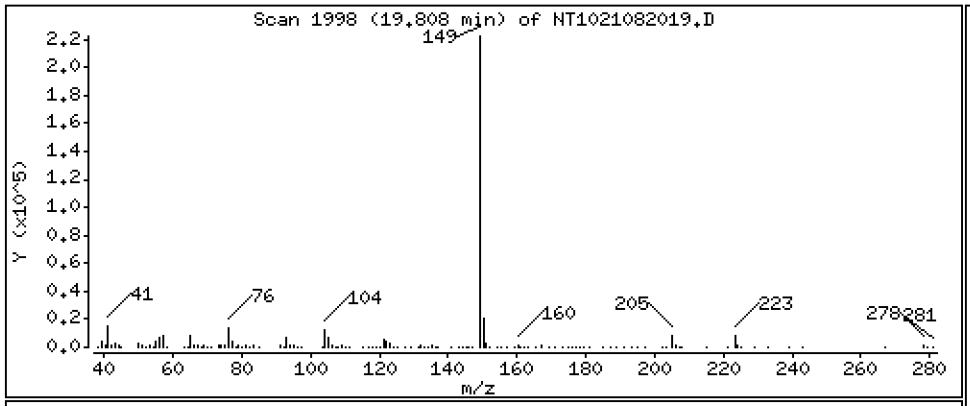
Operator: VTS

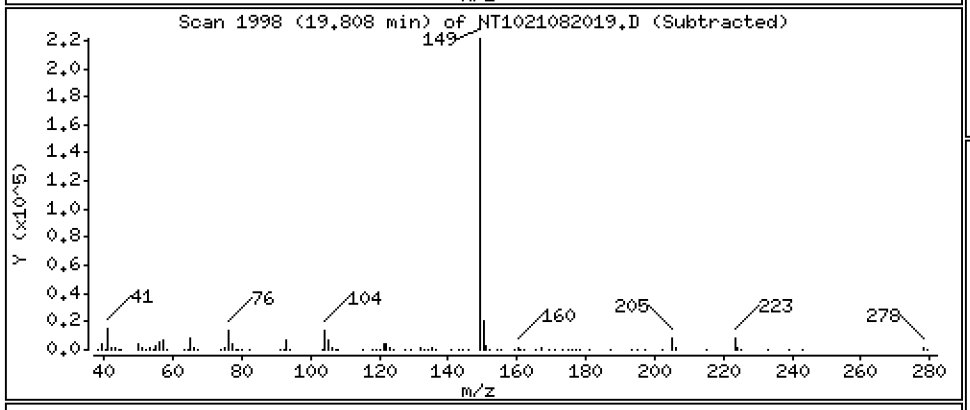
Column phase: ZB-5msi

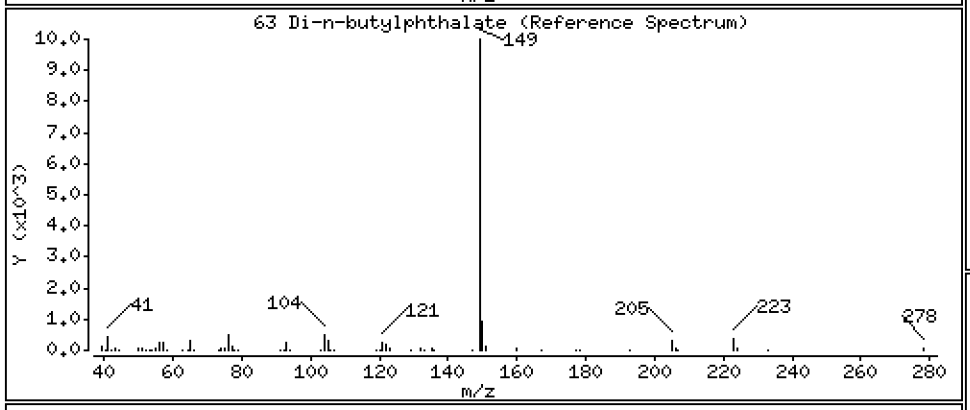
Column diameter: 0.25

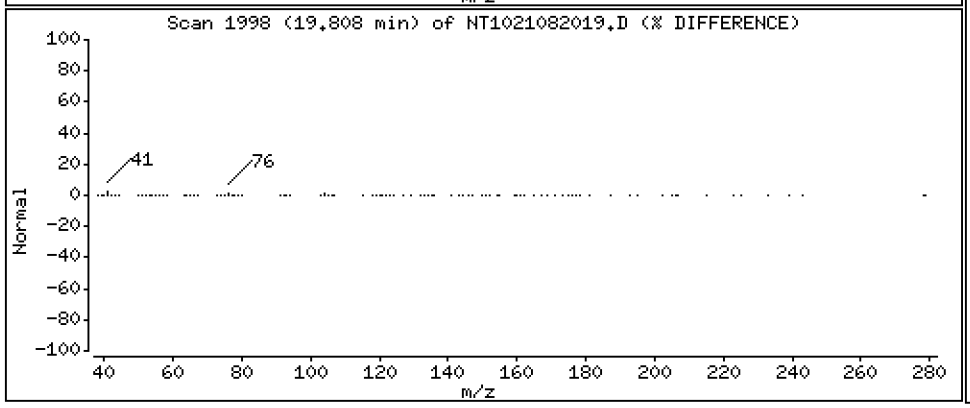
63 Di-n-butylphthalate

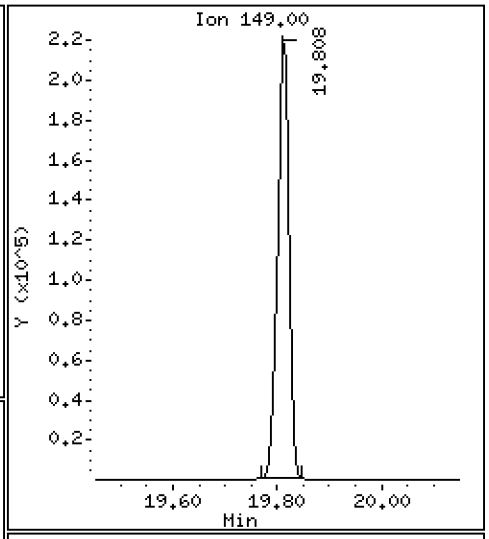
Concentration: 5.311 ug/mL

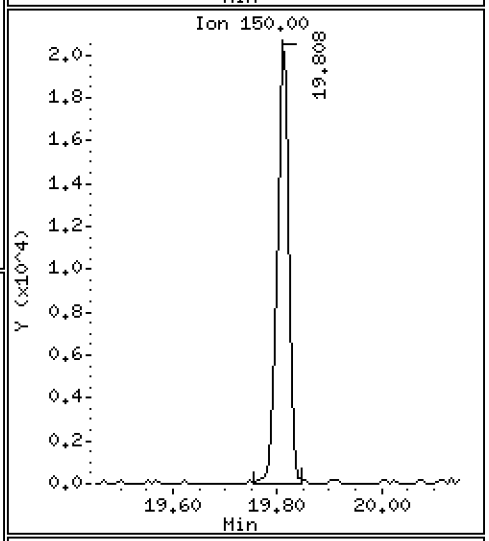


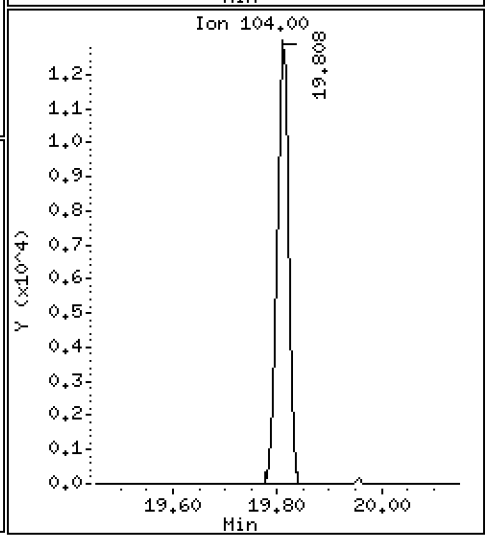












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

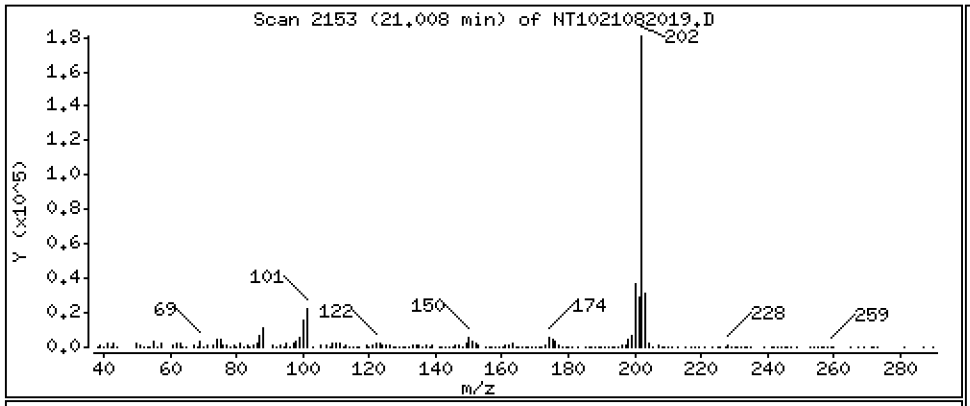
Operator: VTS

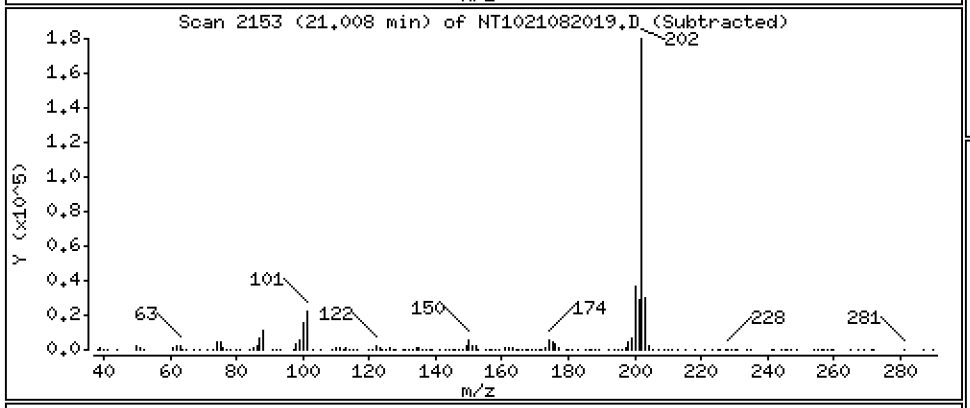
Column phase: ZB-5msi

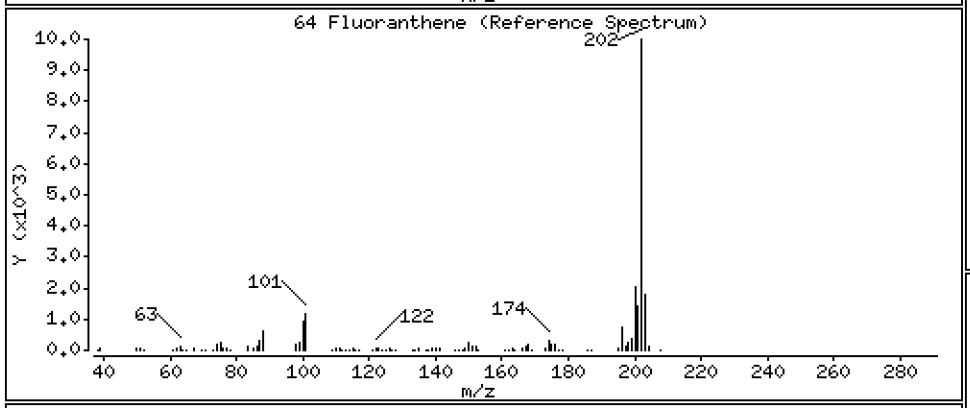
Column diameter: 0.25

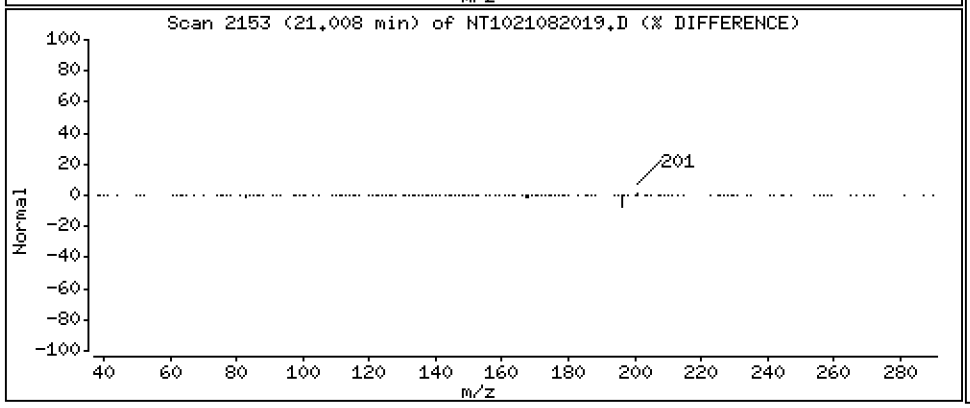
64 Fluoranthene

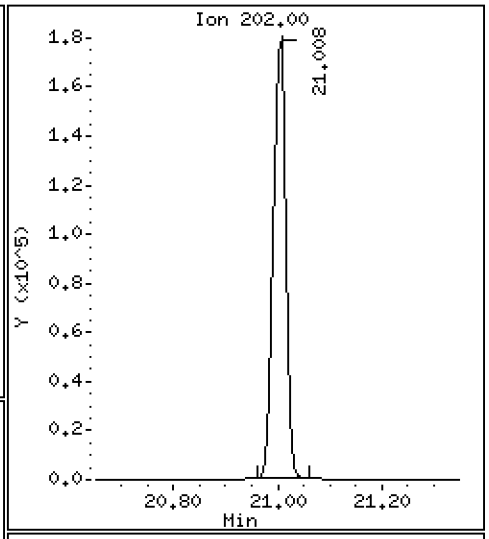
Concentration: 5.144 ug/mL

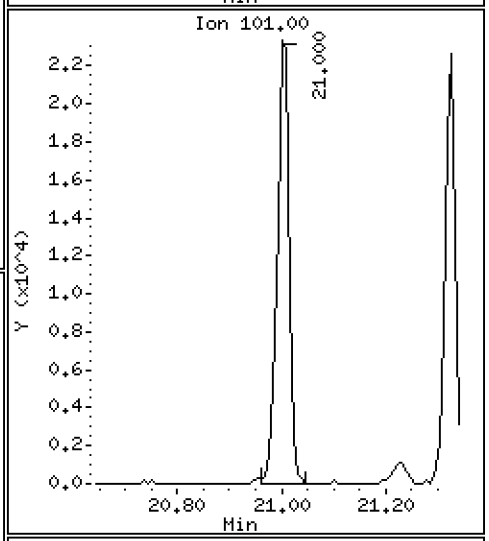


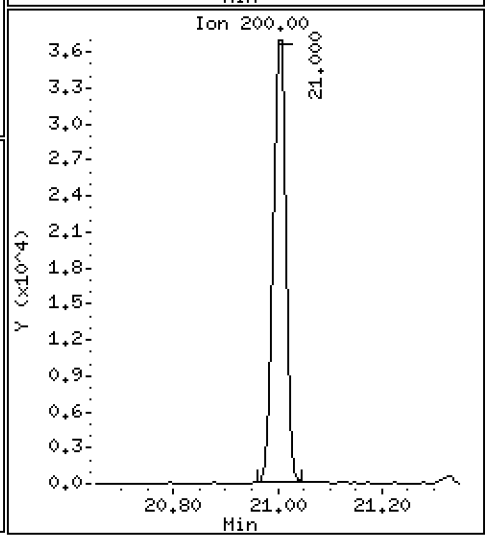












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

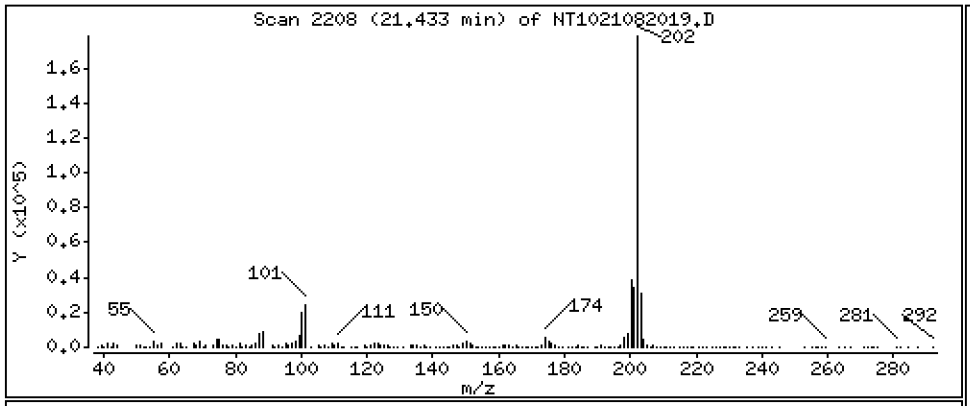
Operator: VTS

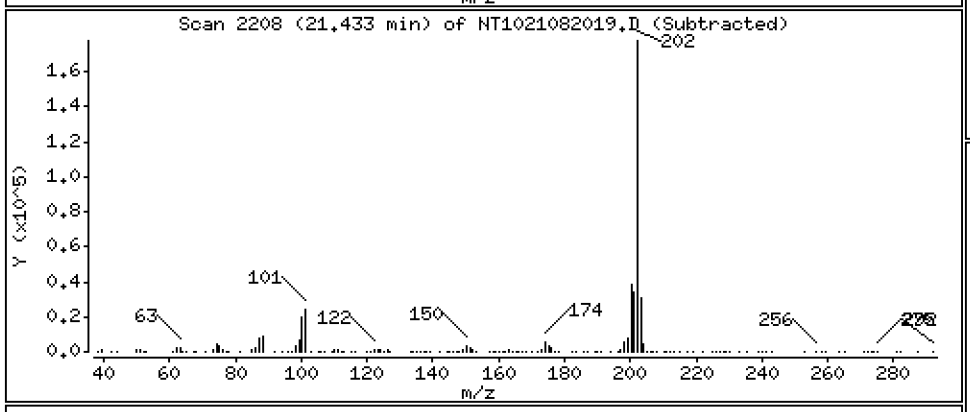
Column phase: ZB-5msi

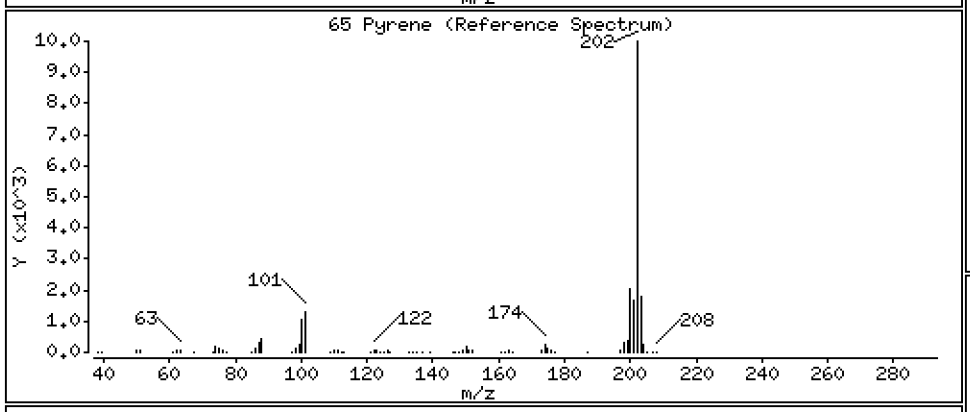
Column diameter: 0.25

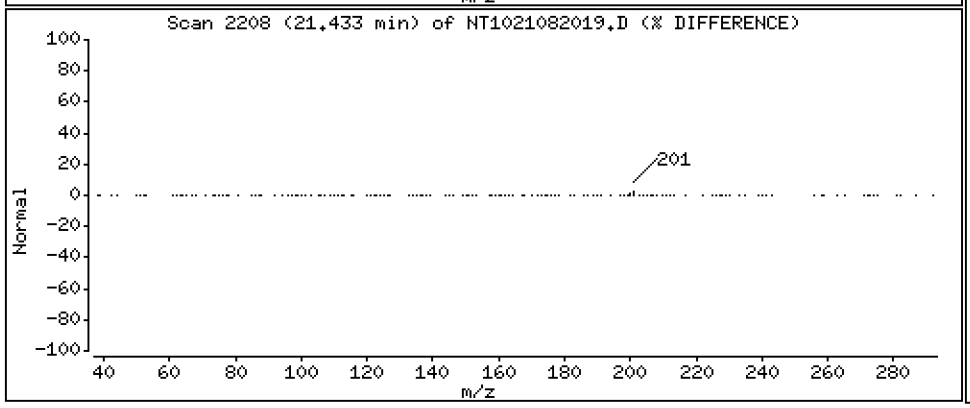
65 Pyrene

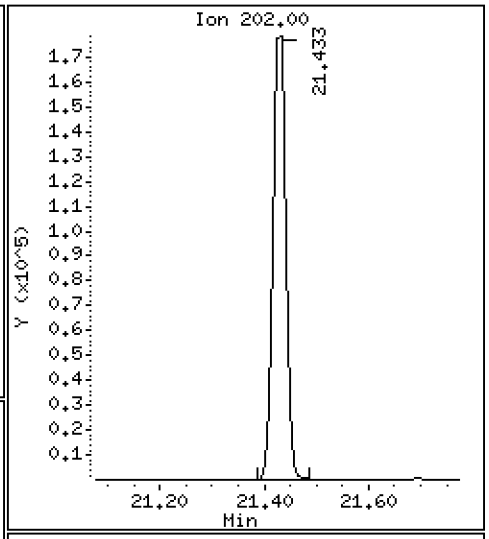
Concentration: 4.980 ug/mL

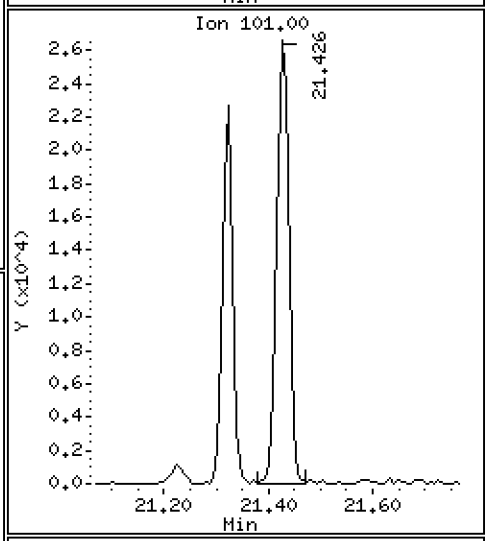


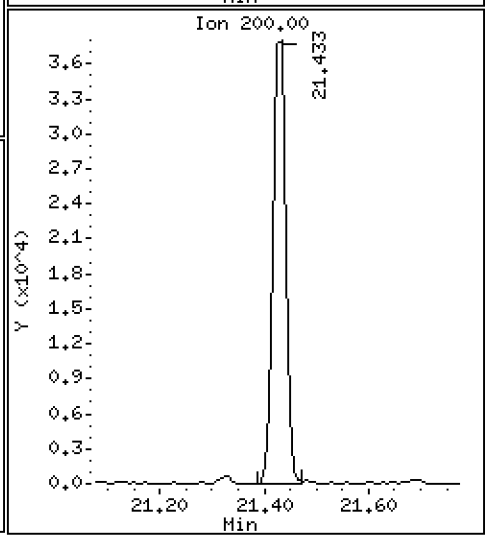












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

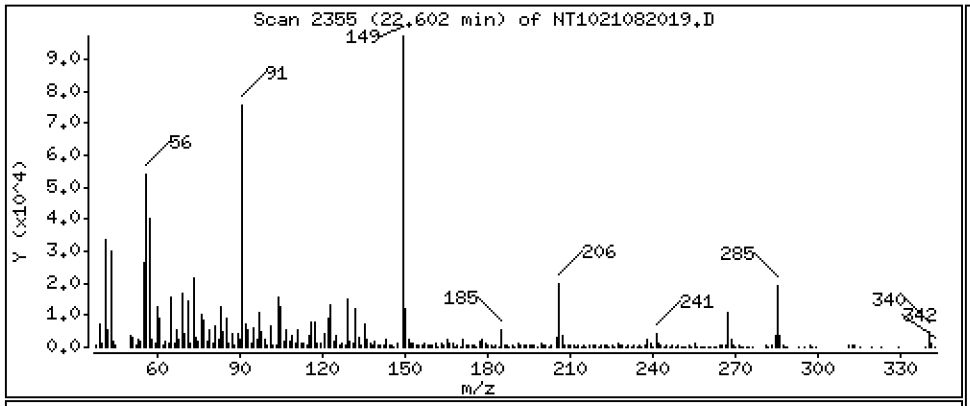
Operator: VTS

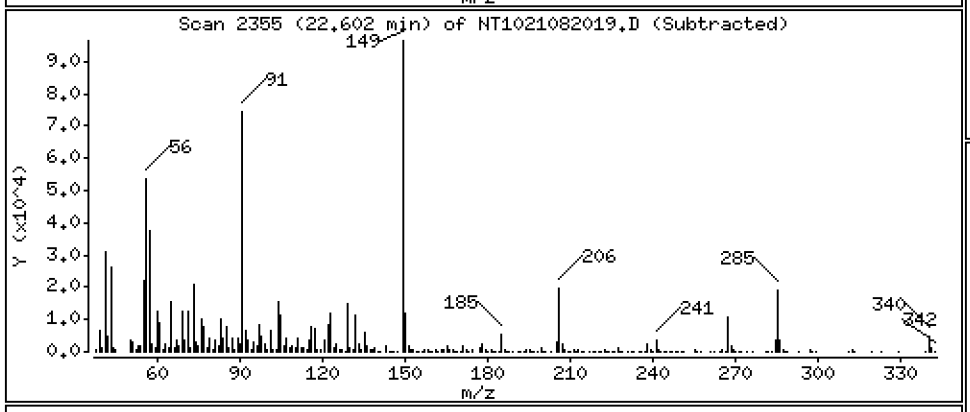
Column phase: ZB-5msi

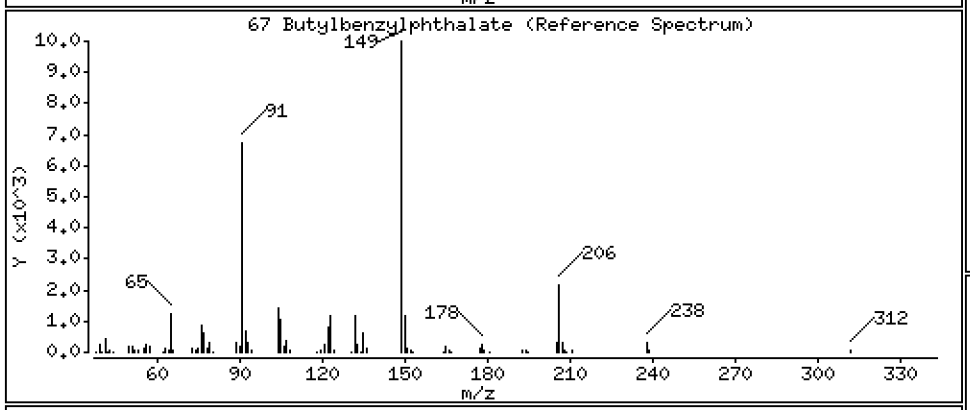
Column diameter: 0.25

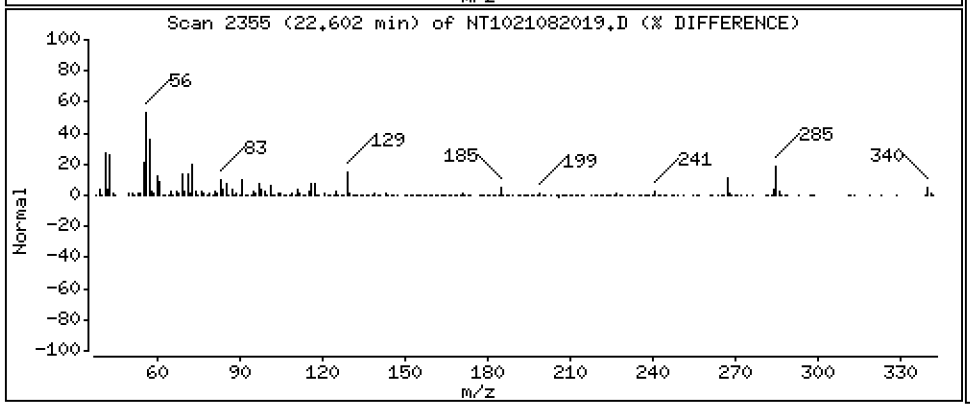
67 Butylbenzylphthalate

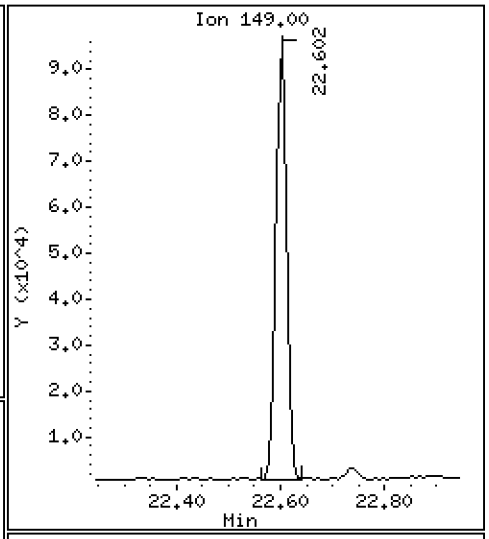
Concentration: 5.629 ug/mL

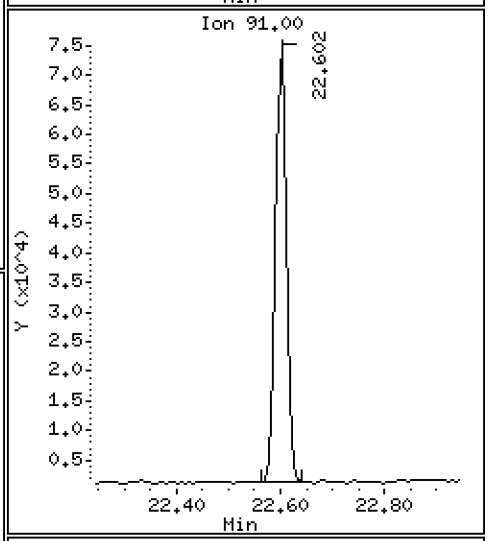


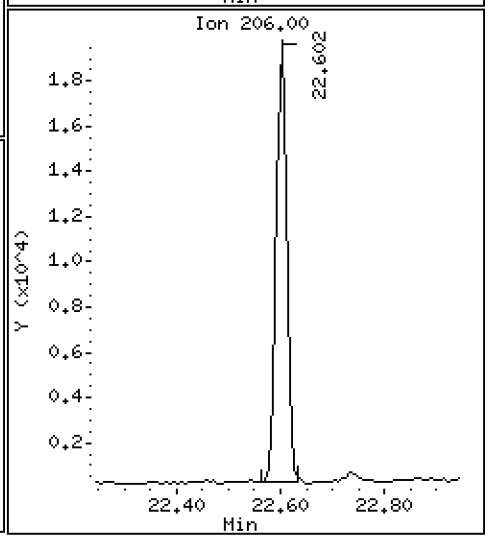












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

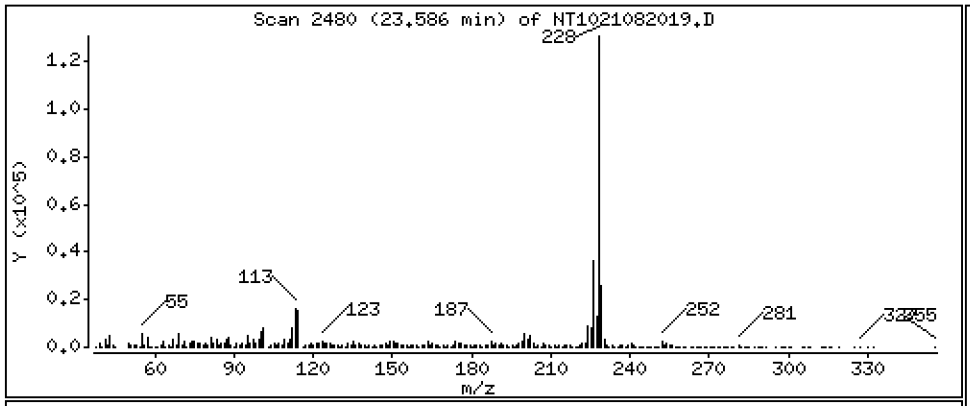
Operator: VTS

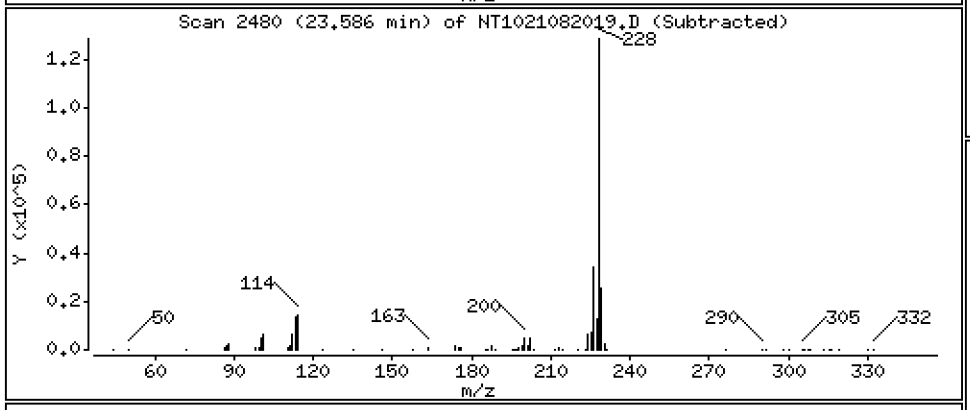
Column phase: ZB-5msi

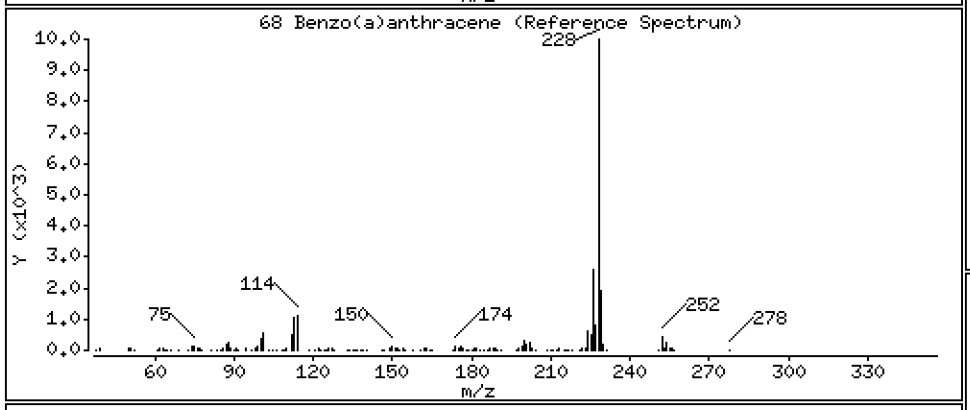
Column diameter: 0.25

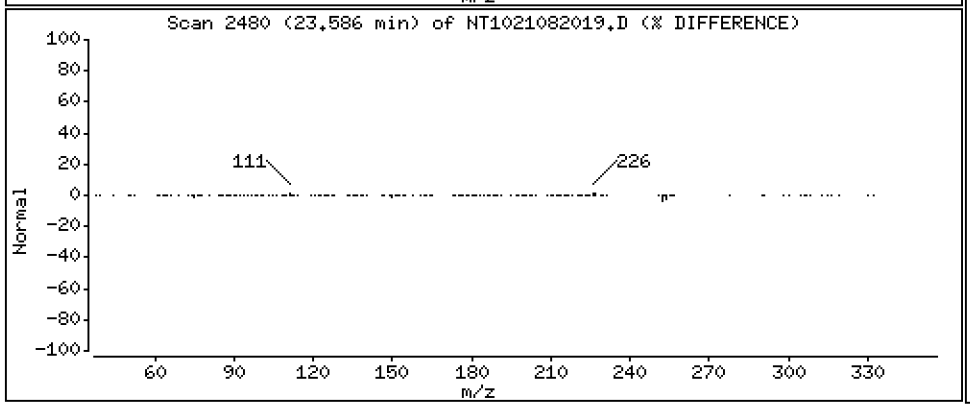
68 Benzo(a)anthracene

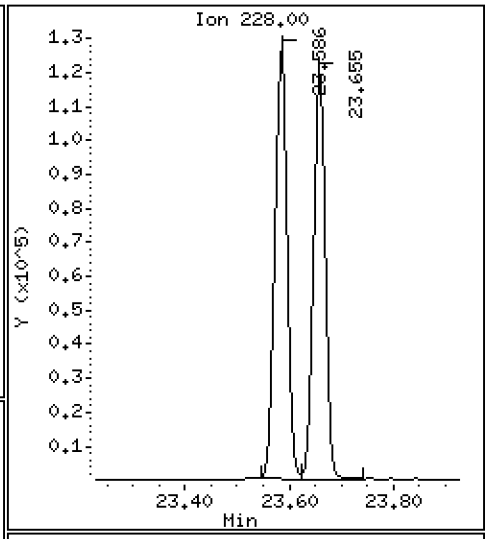
Concentration: 4.504 ug/mL

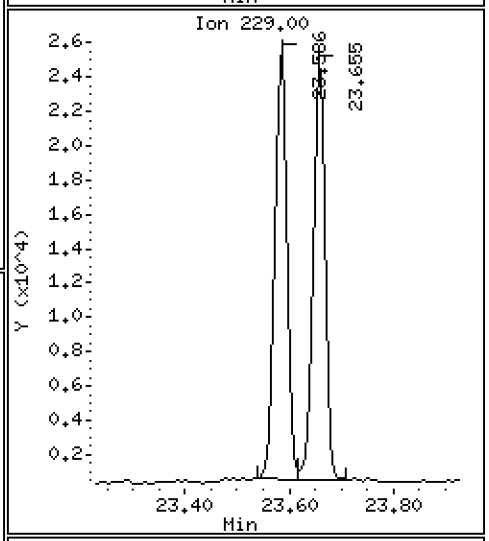


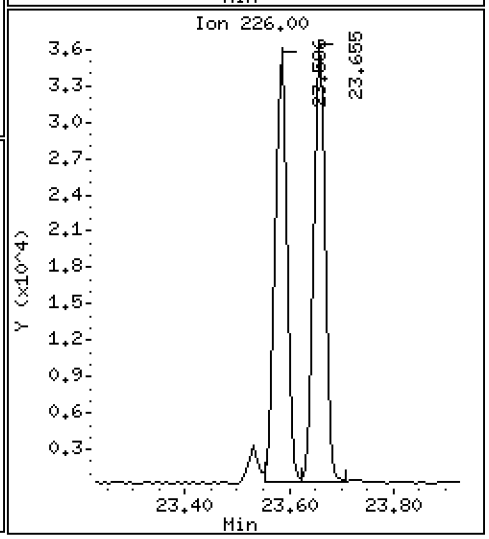












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

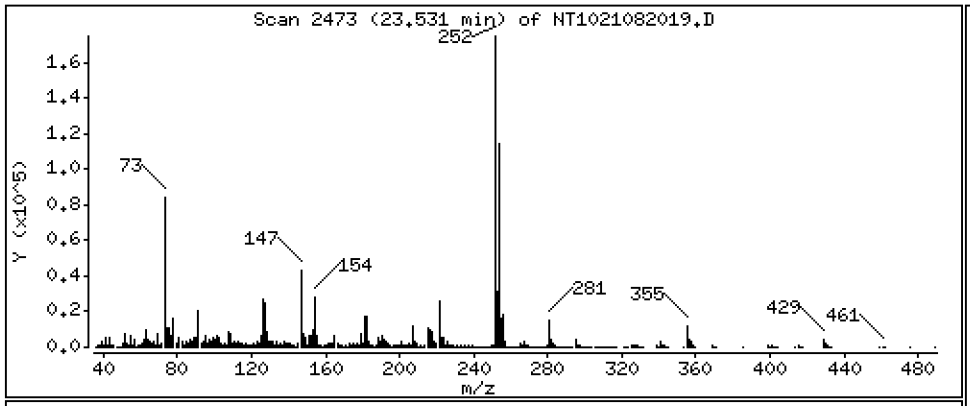
Operator: VTS

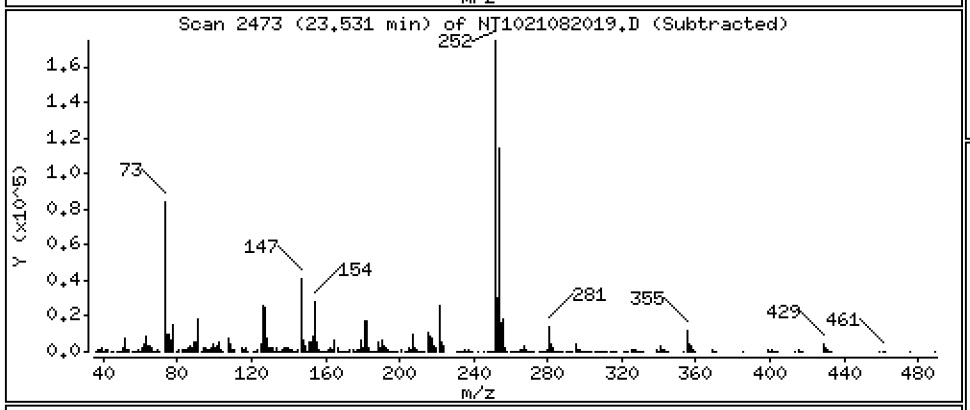
Column phase: ZB-5msi

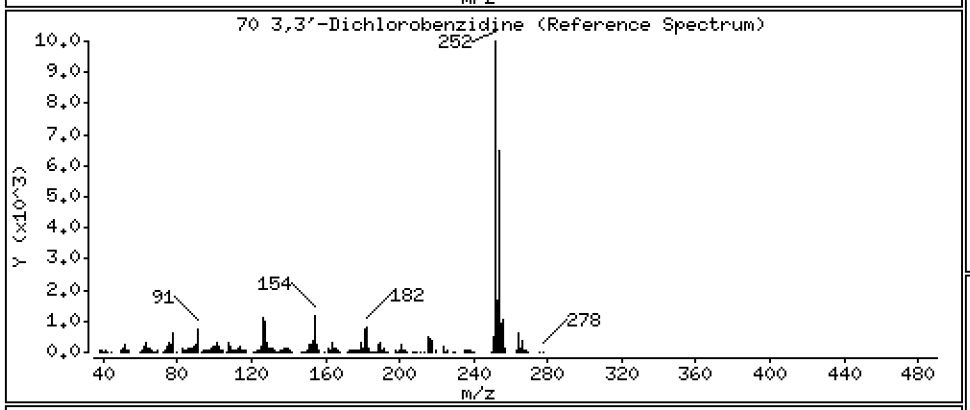
Column diameter: 0.25

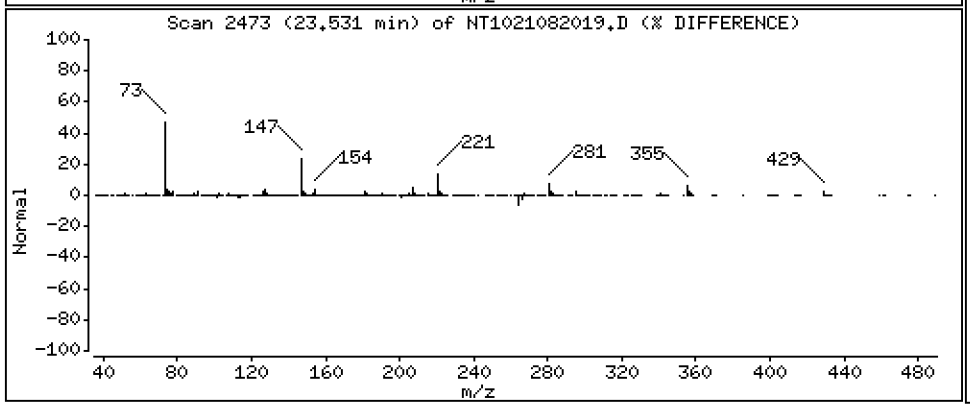
70 3,3'-Dichlorobenzidine

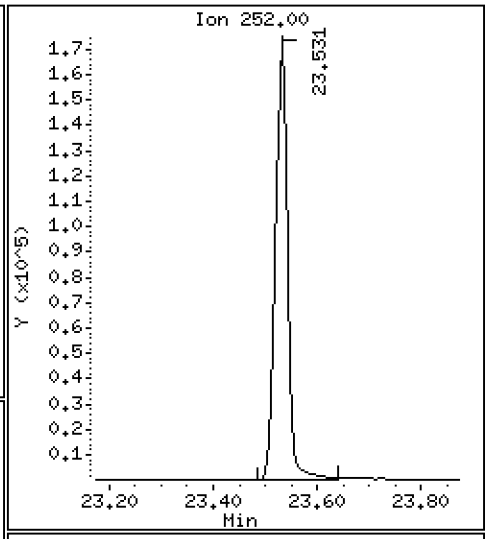
Concentration: 14.76 ug/mL

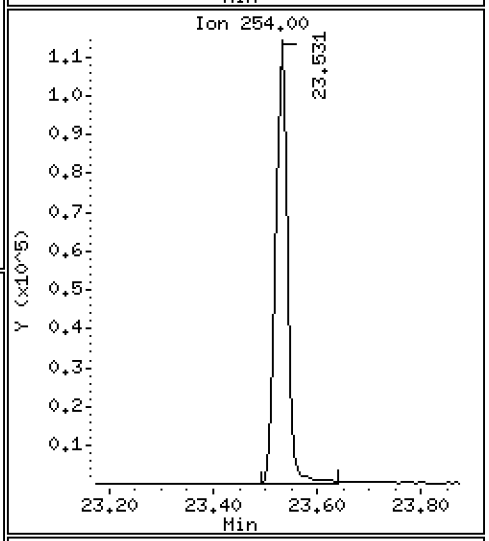


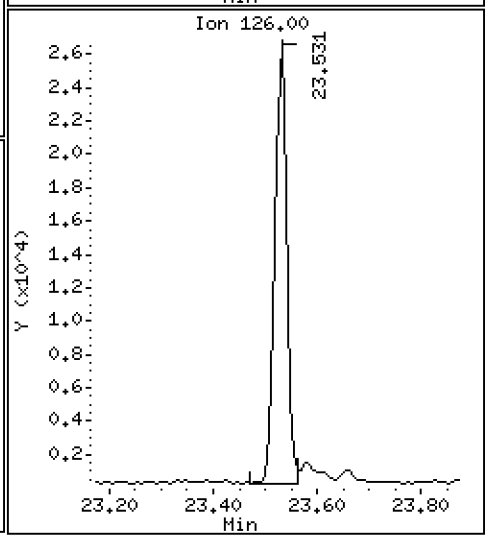












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

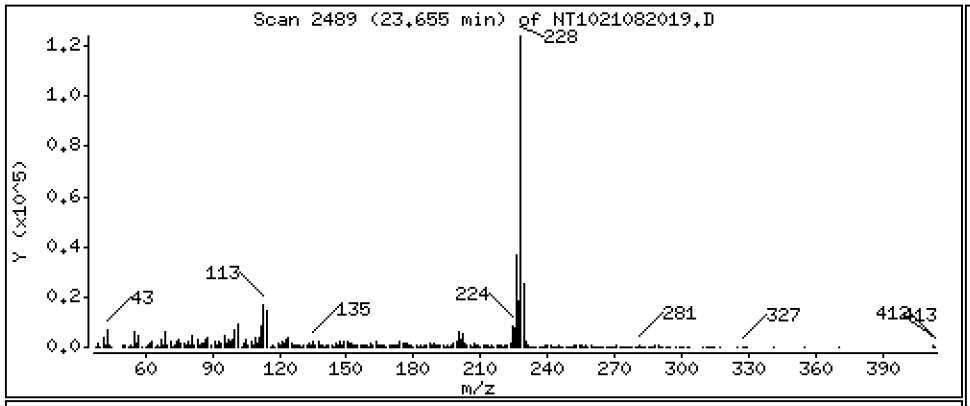
Operator: VTS

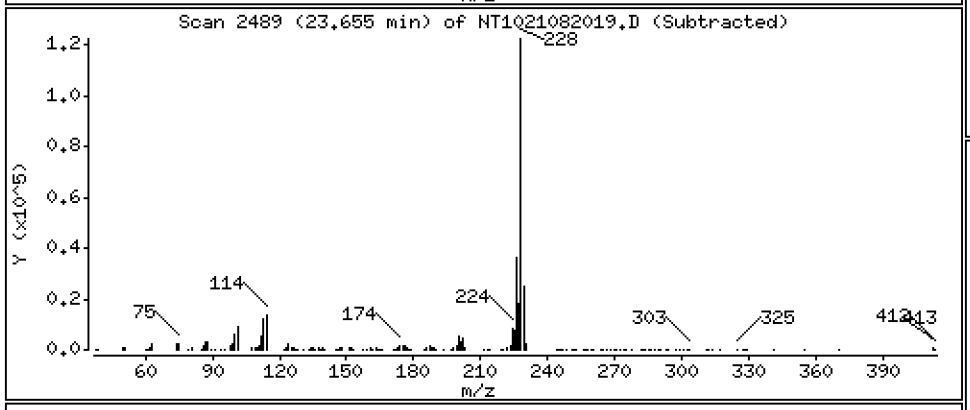
Column phase: ZB-5msi

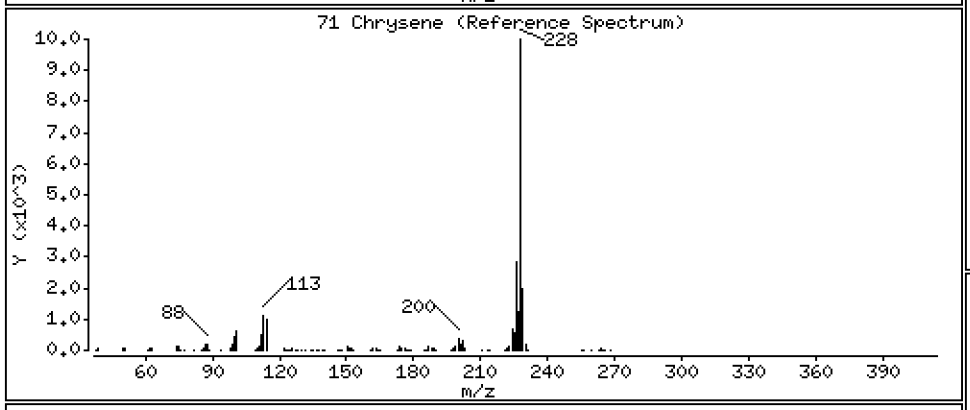
Column diameter: 0.25

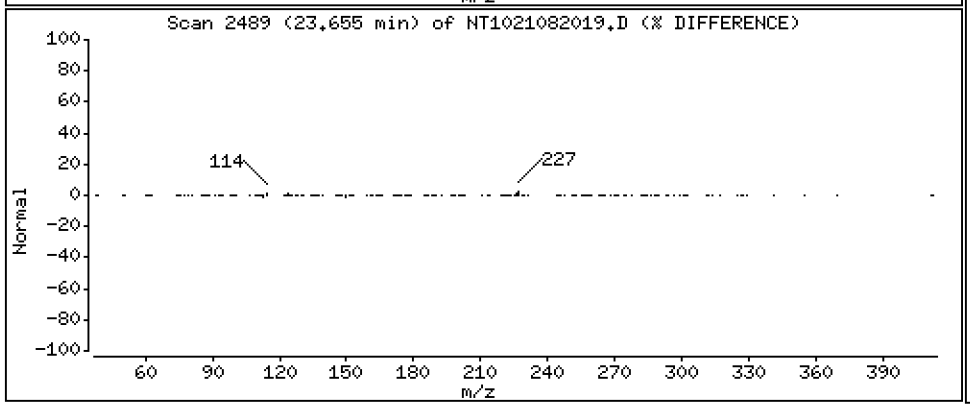
71 Chrysene

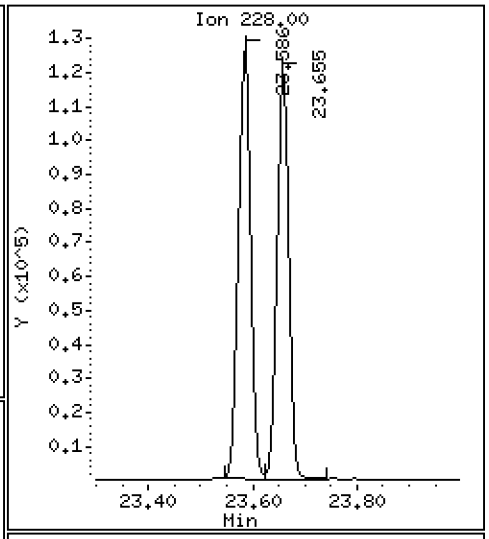
Concentration: 5.067 ug/mL

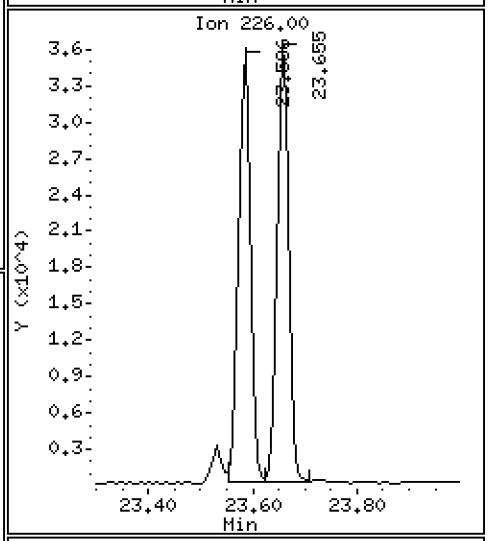


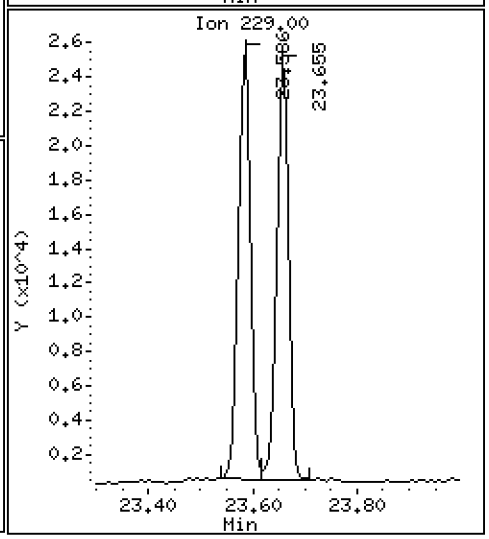












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

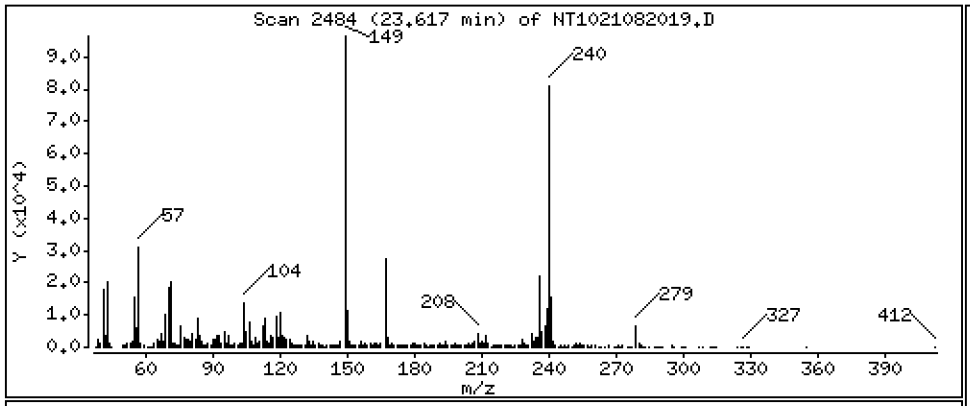
Operator: VTS

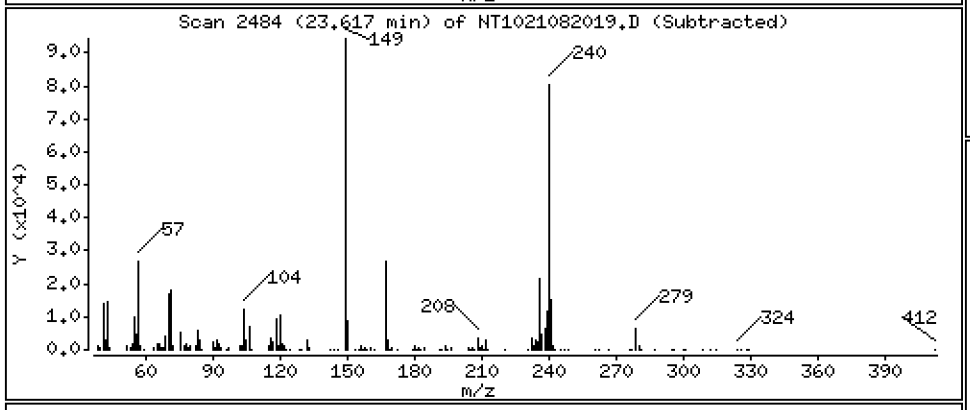
Column phase: ZB-5msi

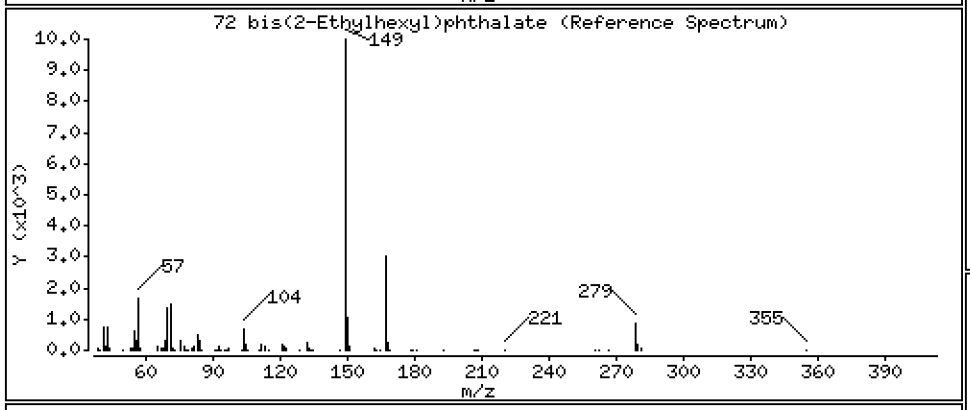
Column diameter: 0.25

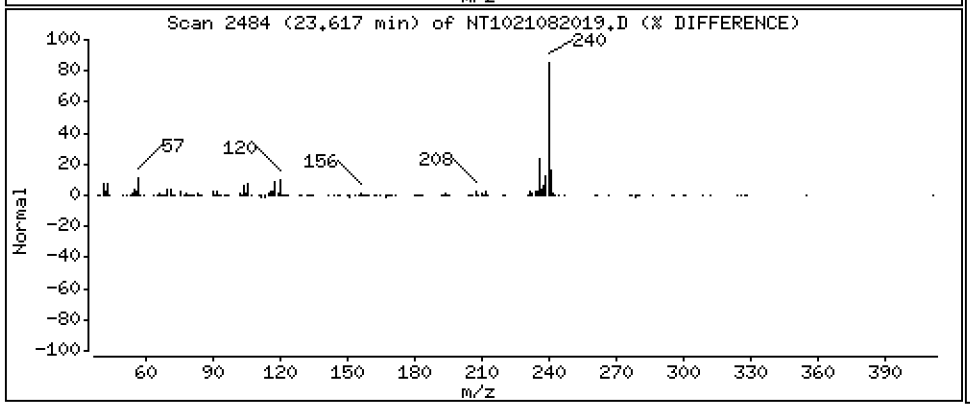
72 bis(2-Ethylhexyl)phthalate

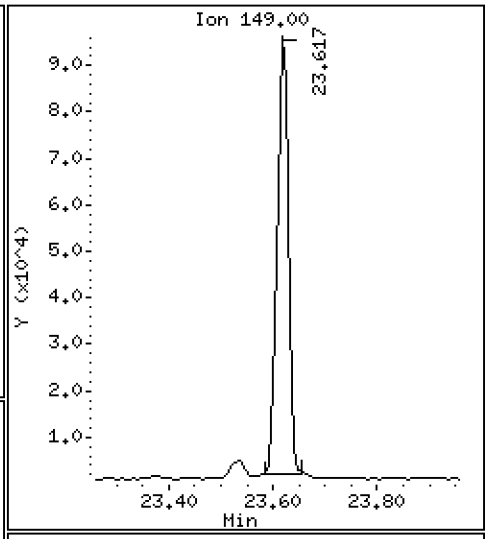
Concentration: 5.847 ug/mL

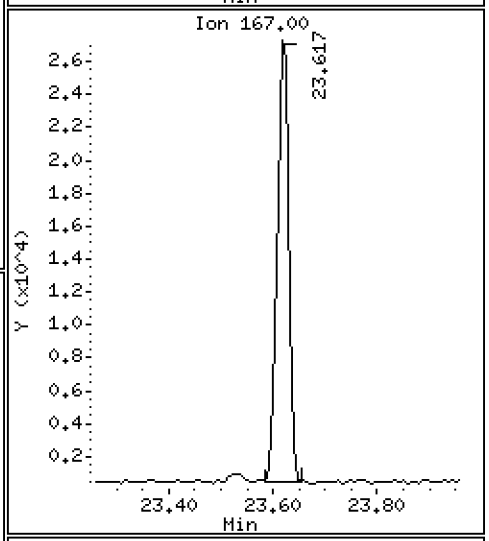


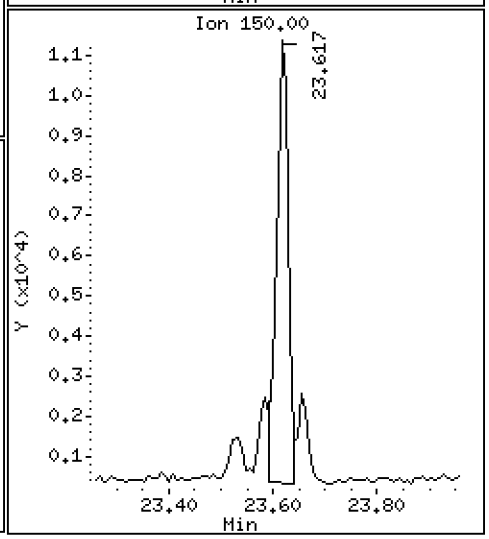












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

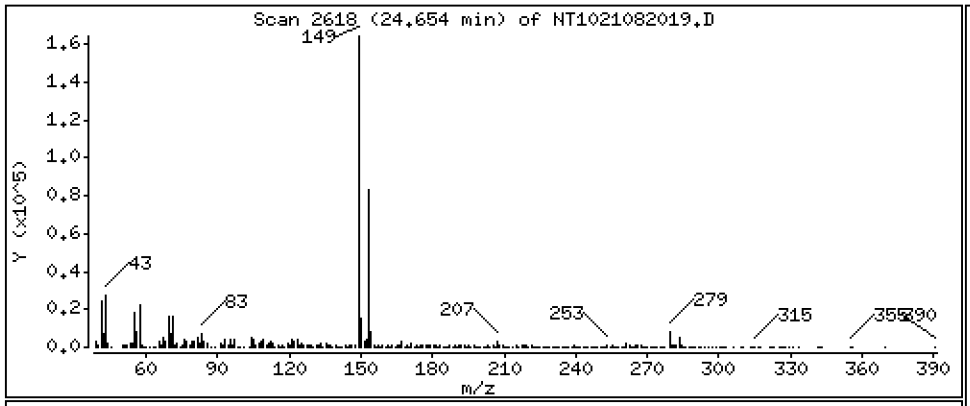
Operator: VTS

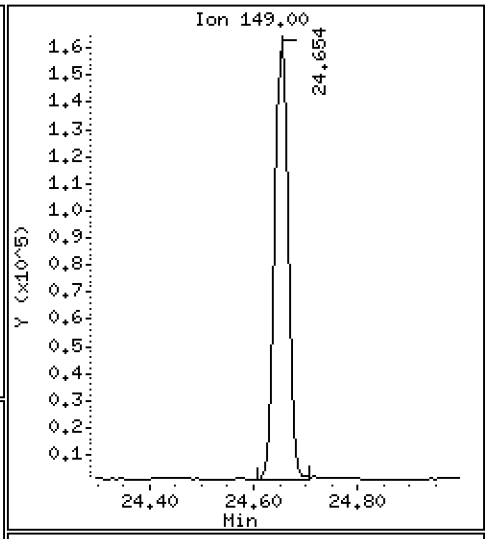
Column phase: ZB-5msi

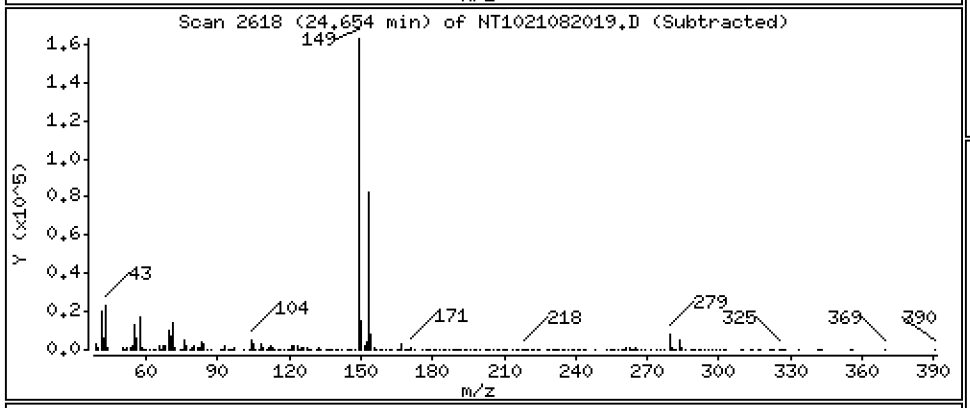
Column diameter: 0.25

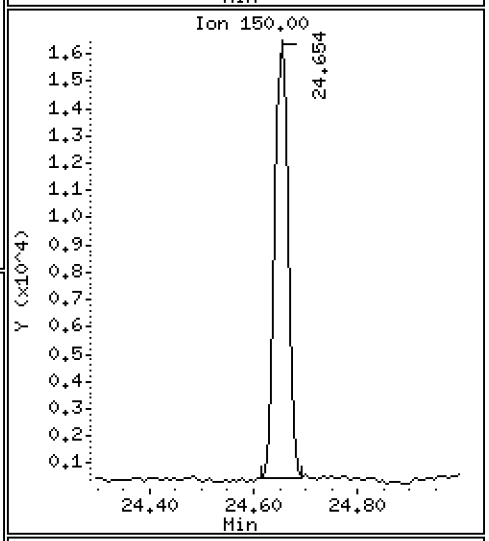
73 Di-n-octylphthalate

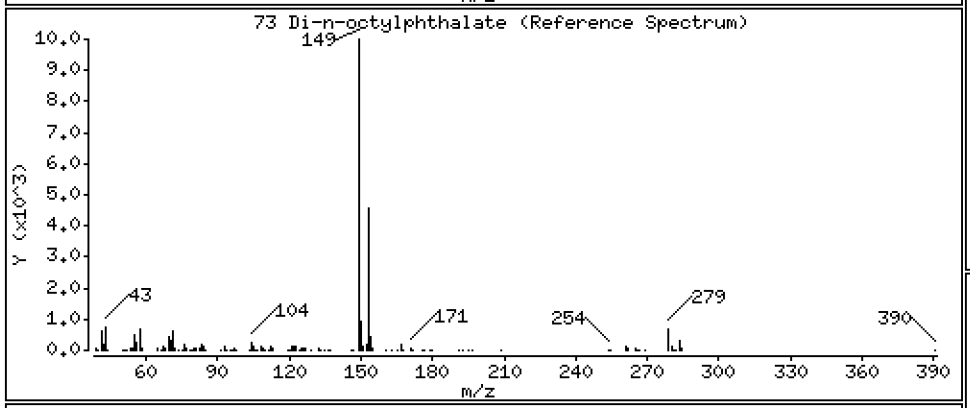
Concentration: 5.048 ug/mL

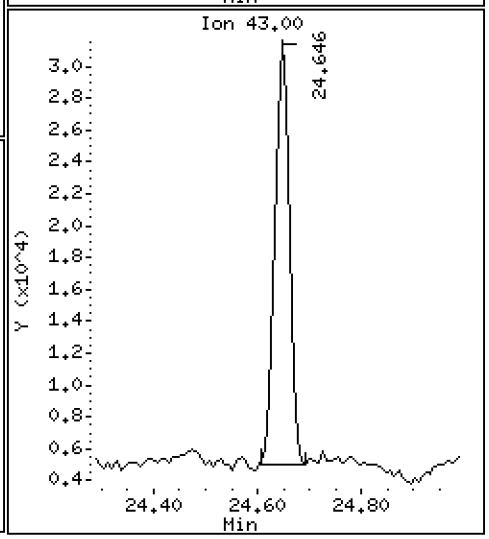


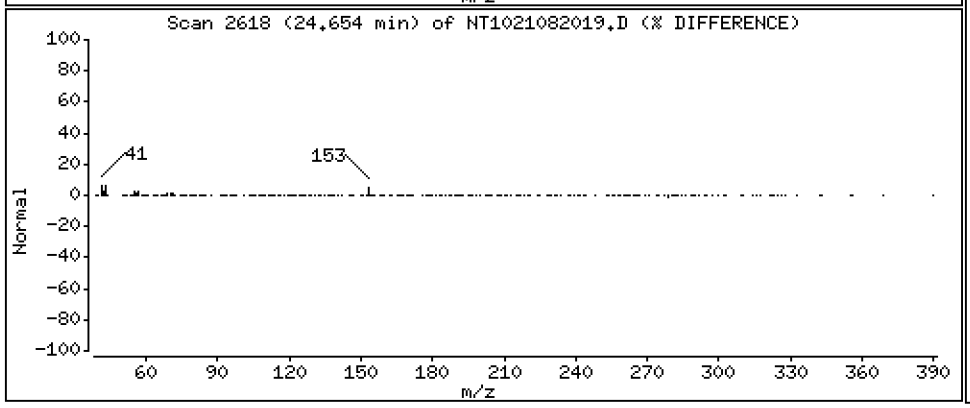












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

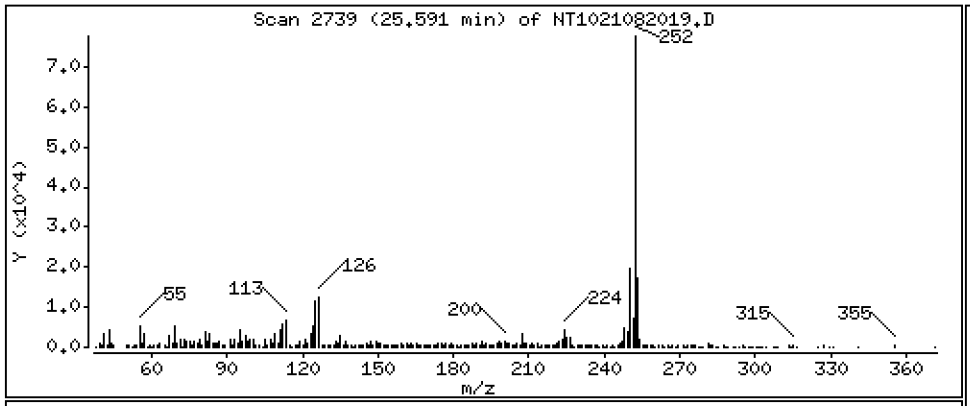
Operator: VTS

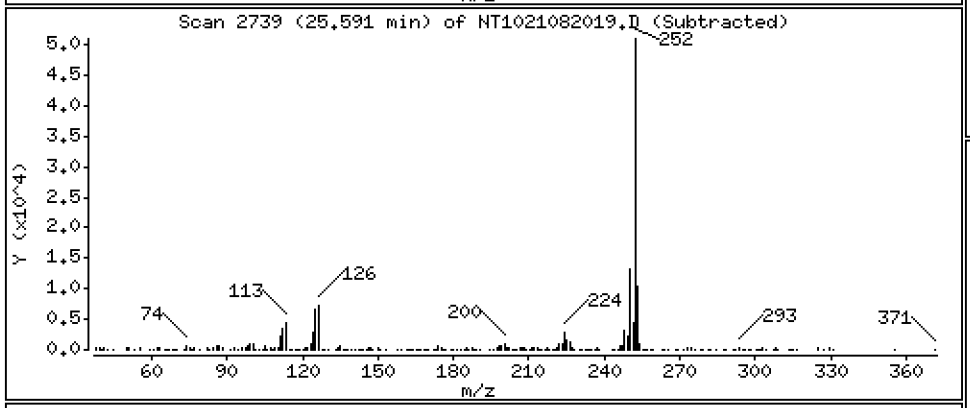
Column phase: ZB-5msi

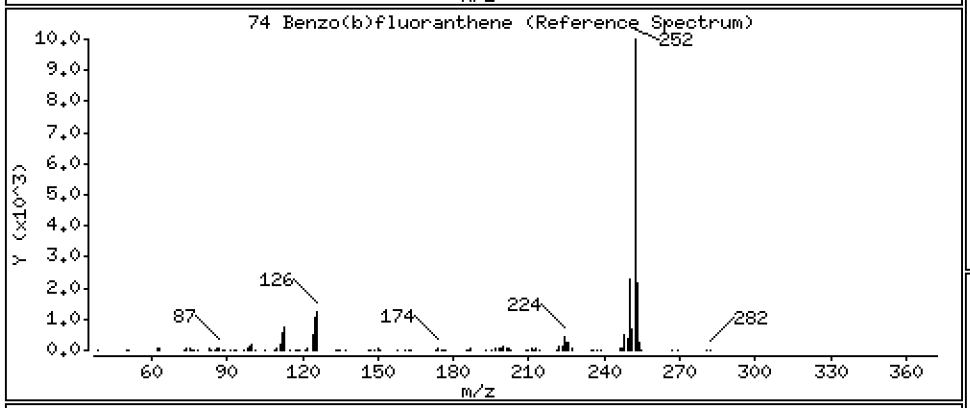
Column diameter: 0.25

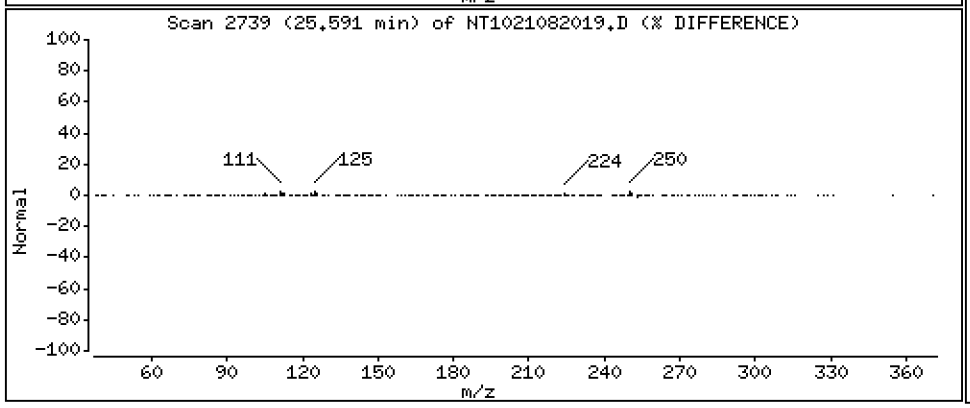
74 Benzo(b)fluoranthene

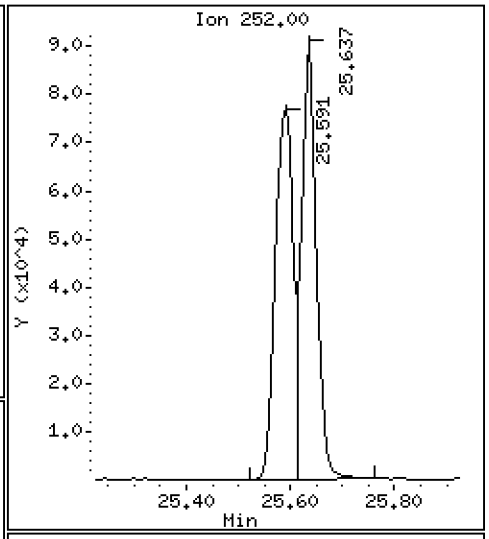
Concentration: 4.602 ug/mL

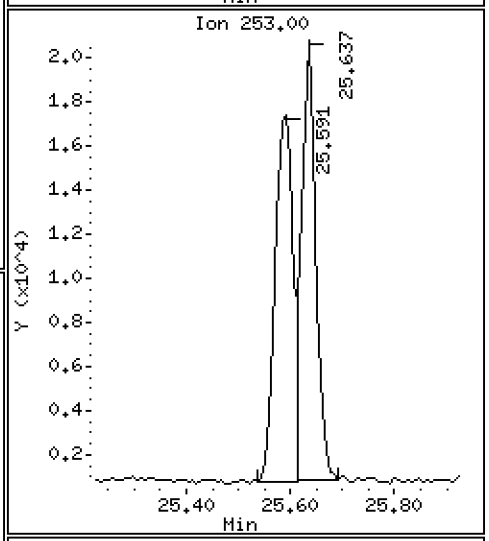


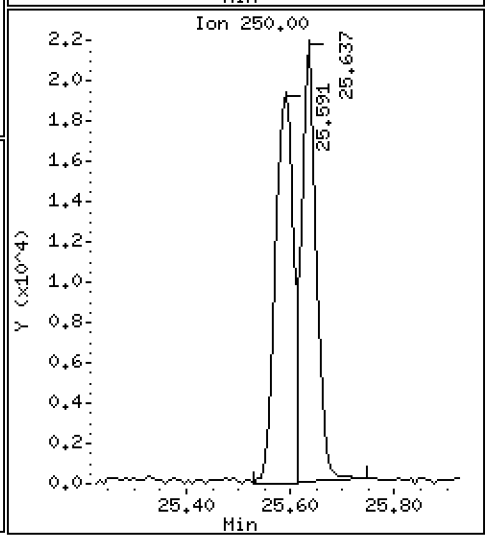












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

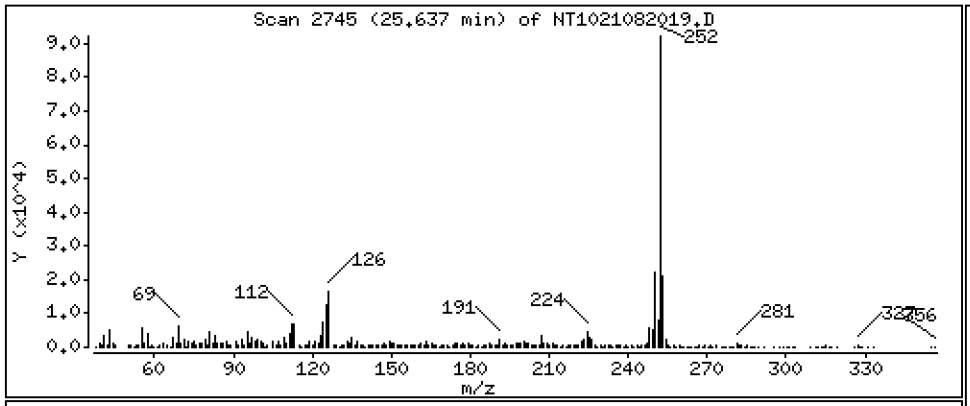
Operator: VTS

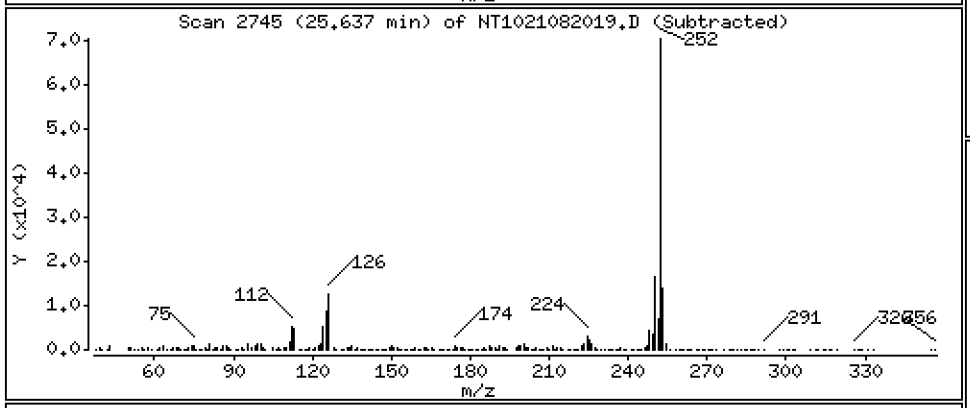
Column phase: ZB-5msi

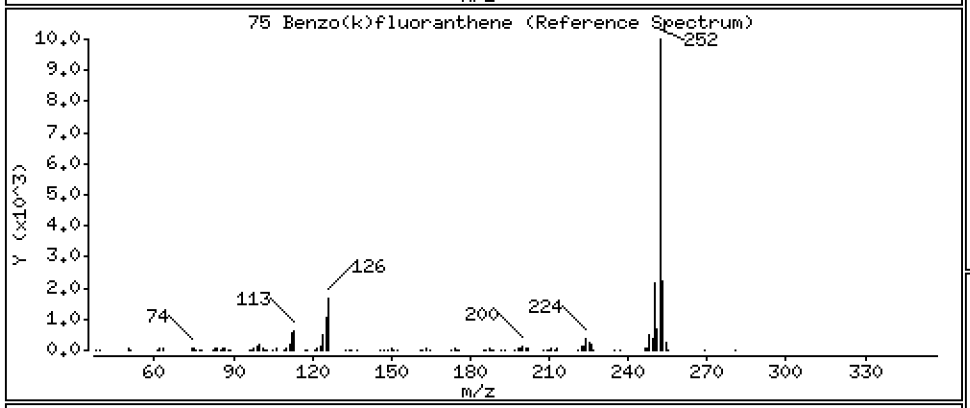
Column diameter: 0.25

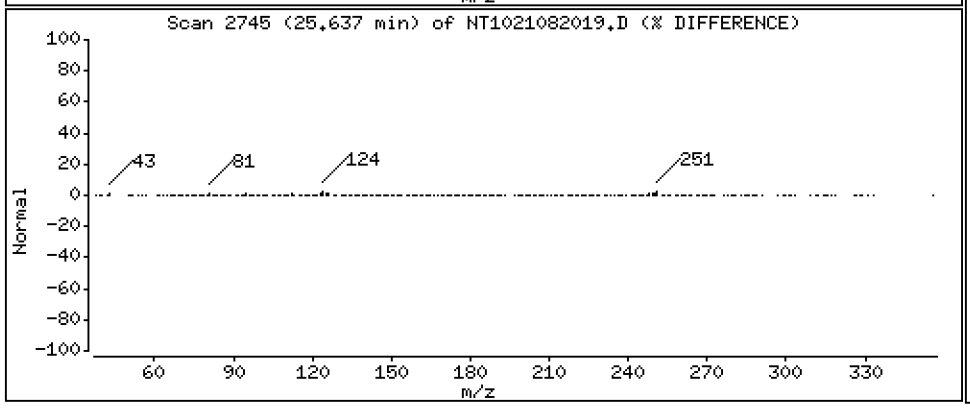
75 Benzo(k)fluoranthene

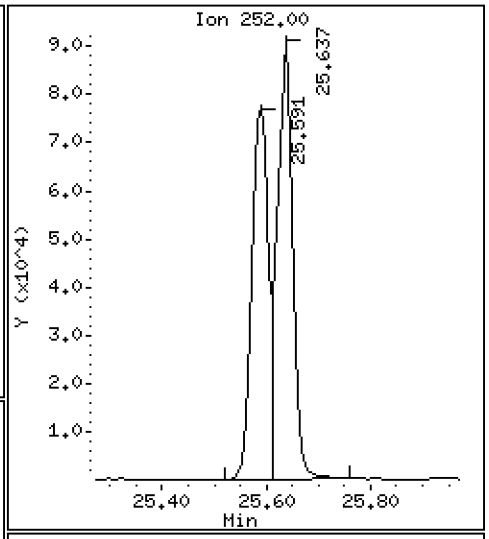
Concentration: 4.641 ug/mL

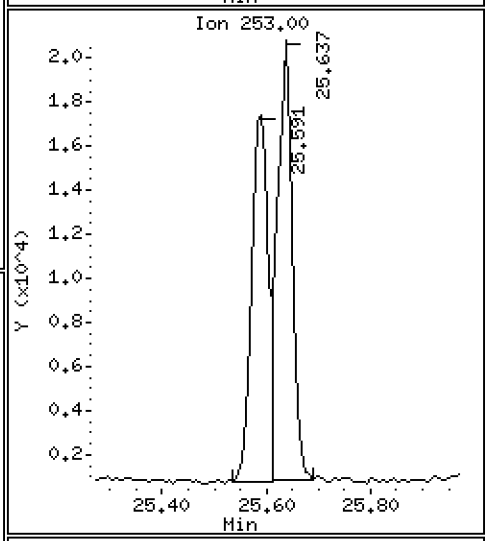


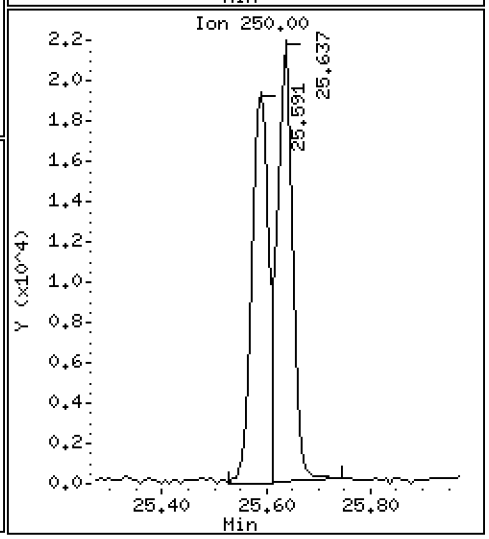












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

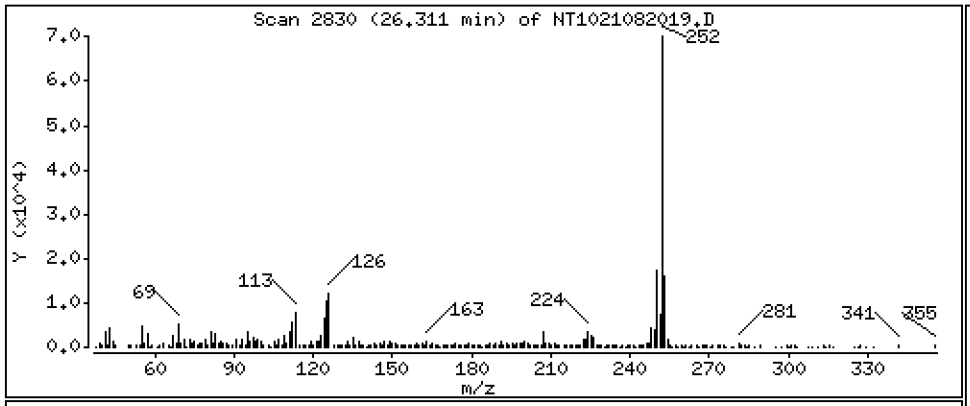
Operator: VTS

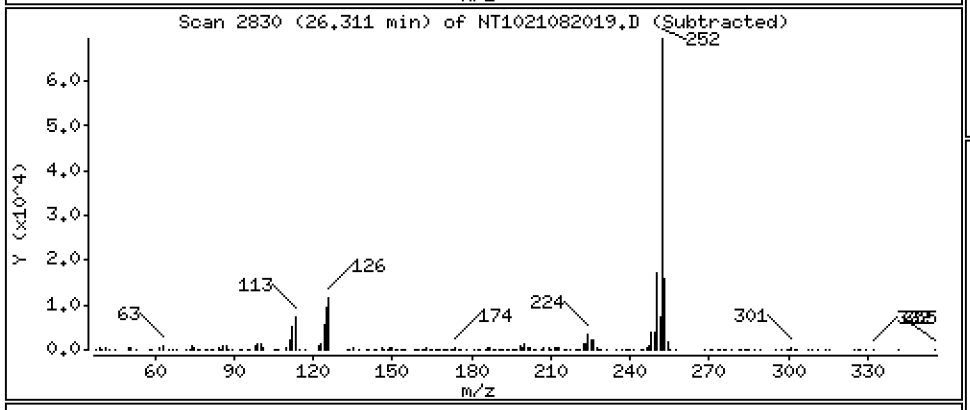
Column phase: ZB-5msi

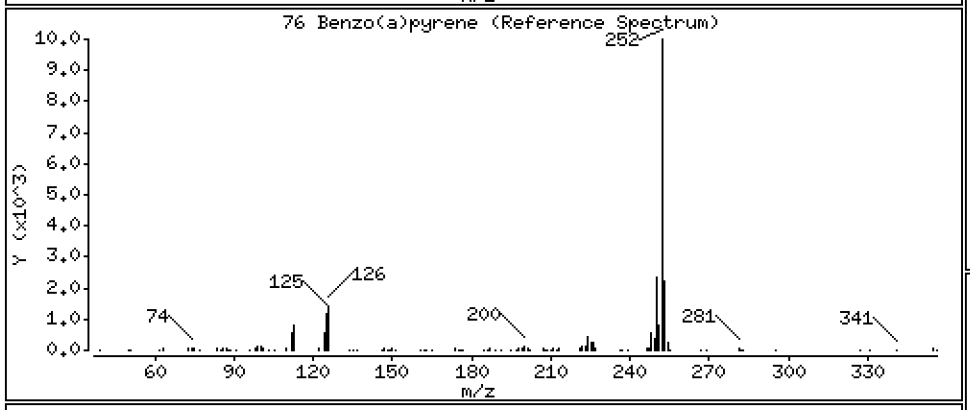
Column diameter: 0.25

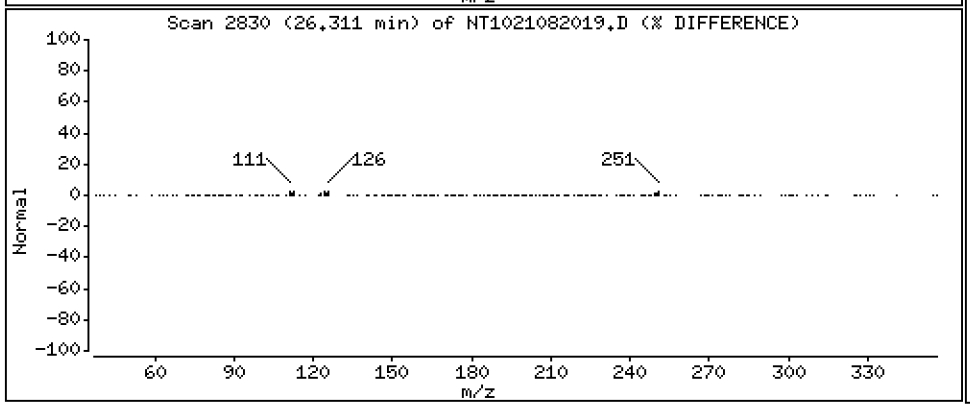
76 Benzo(a)pyrene

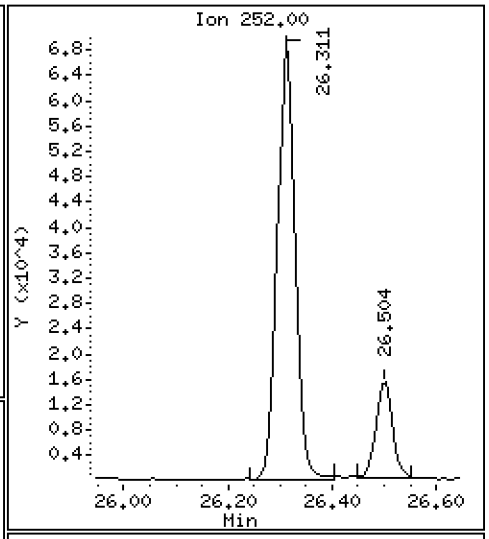
Concentration: 4.508 ug/mL

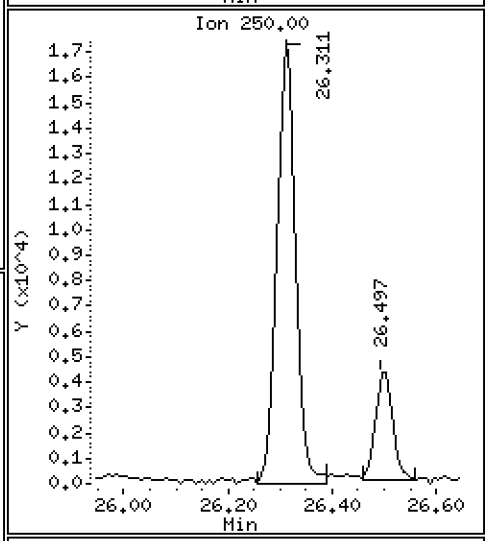


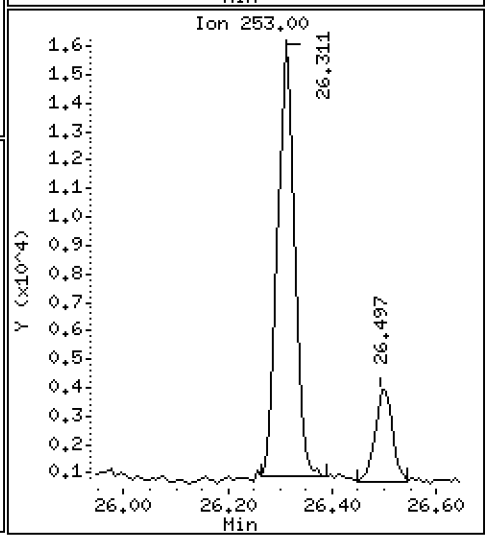












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

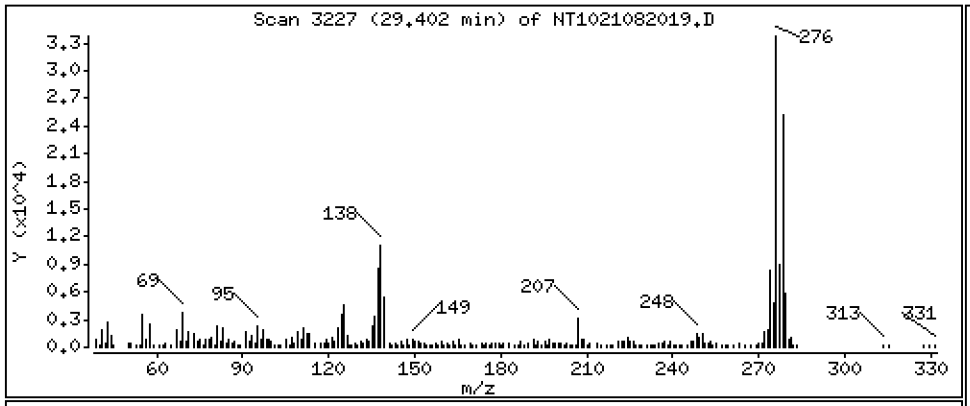
Operator: VTS

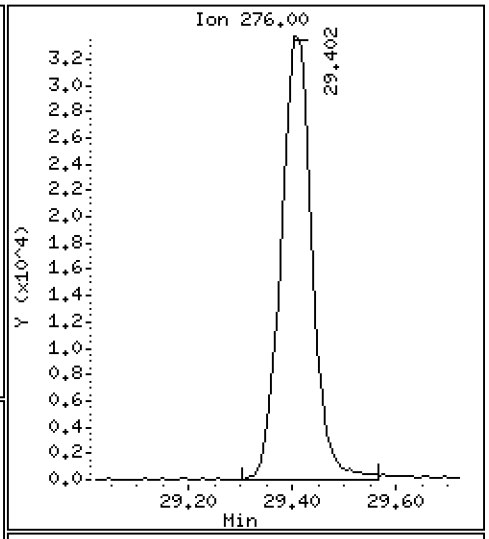
Column phase: ZB-5msi

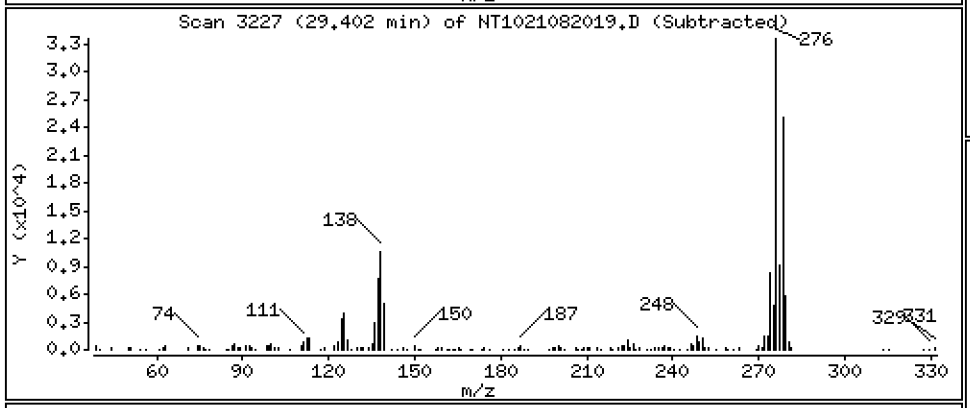
Column diameter: 0.25

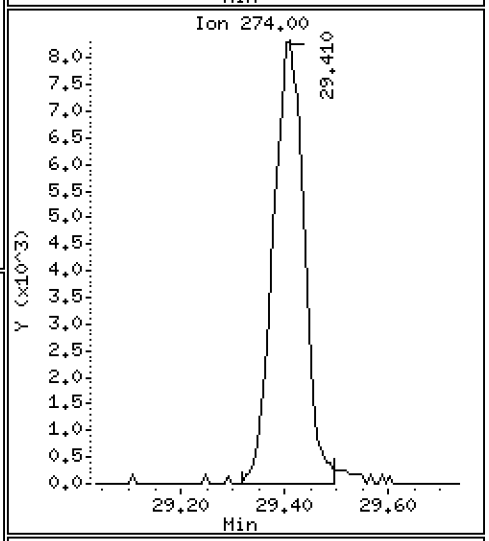
78 Indeno(1,2,3-cd)pyrene

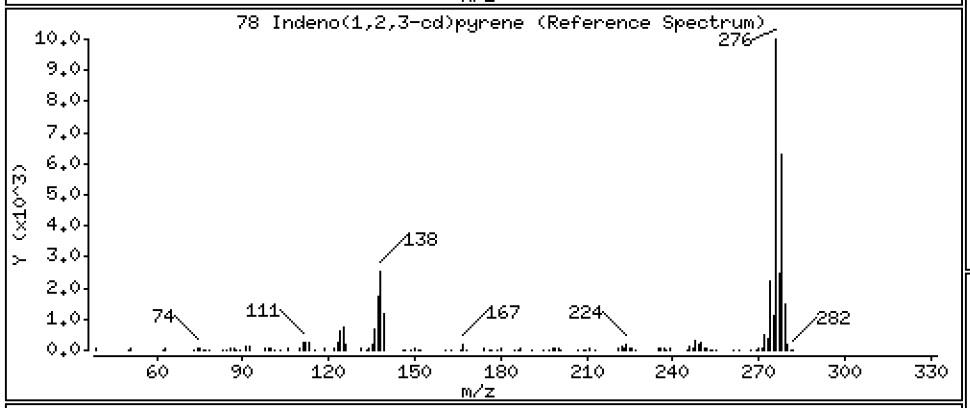
Concentration: 3.862 ug/mL

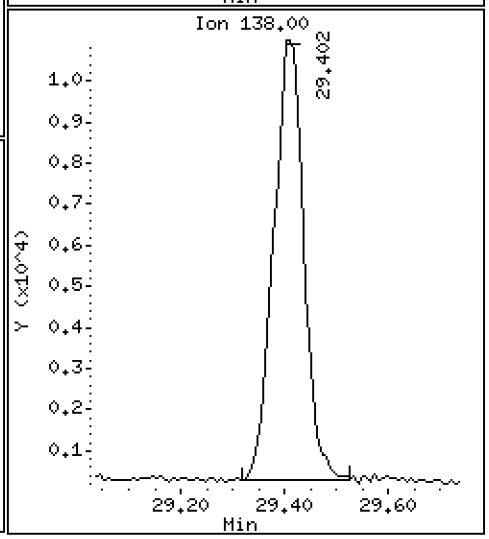


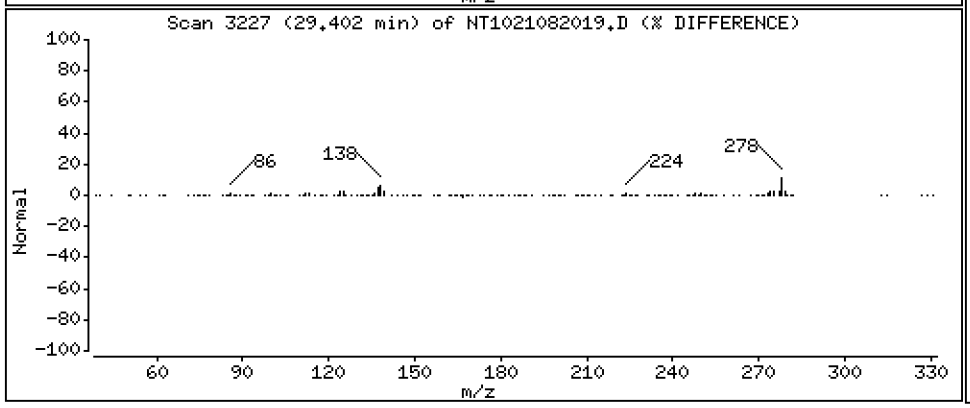












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

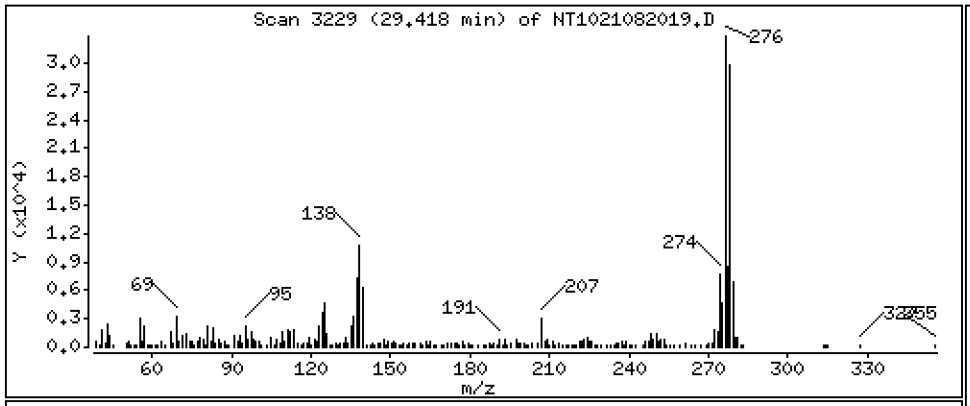
Operator: VTS

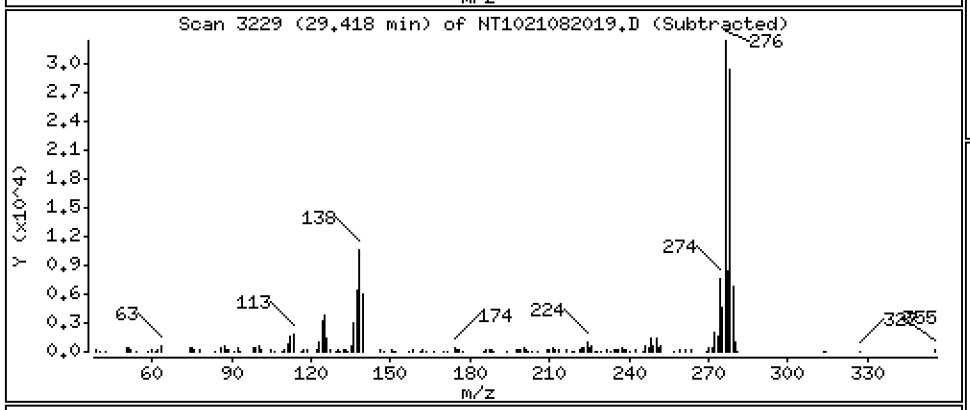
Column phase: ZB-5msi

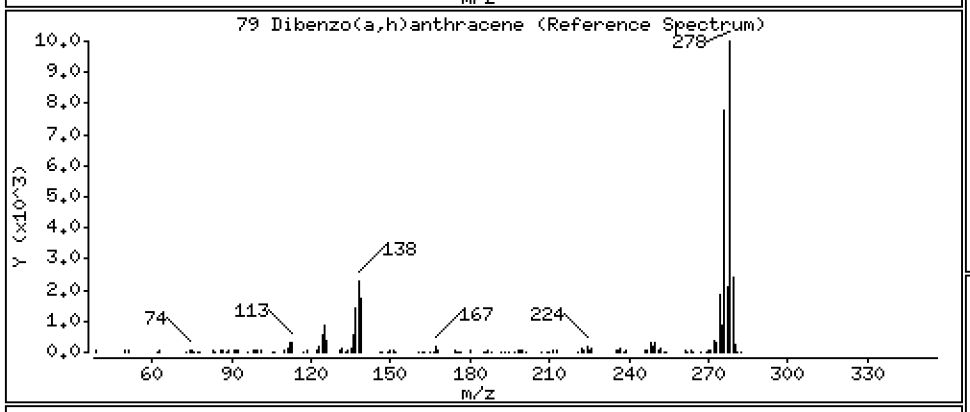
Column diameter: 0.25

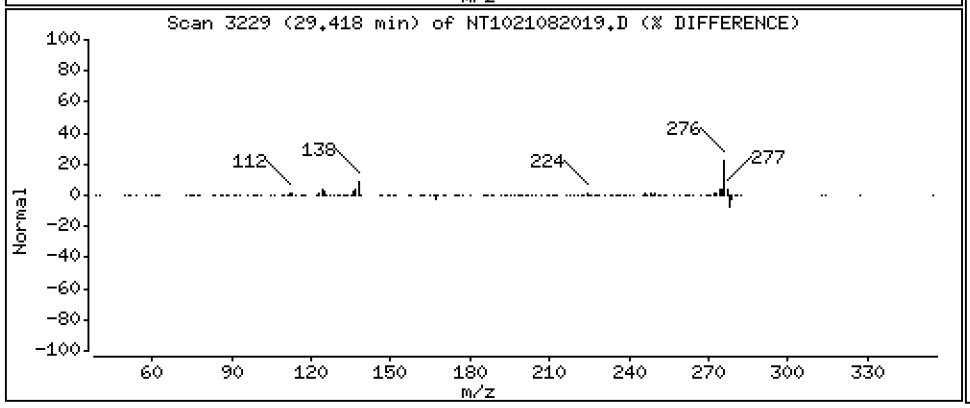
79 Dibenzo(a,h)anthracene

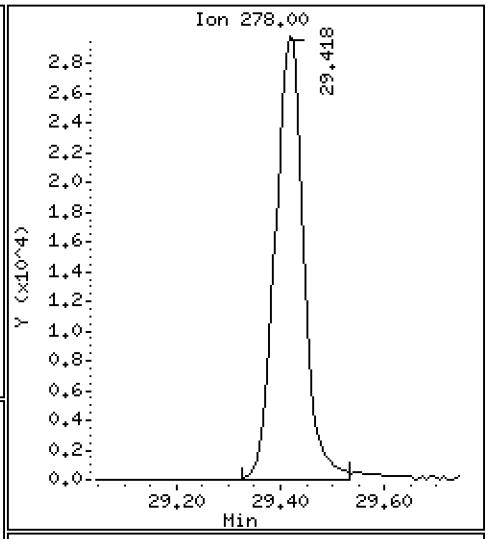
Concentration: 4.076 ug/mL

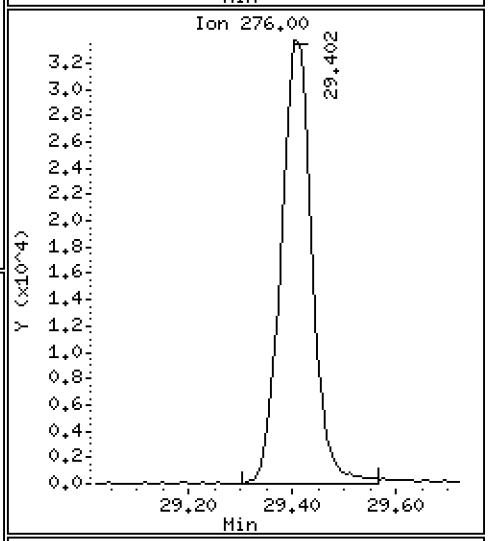


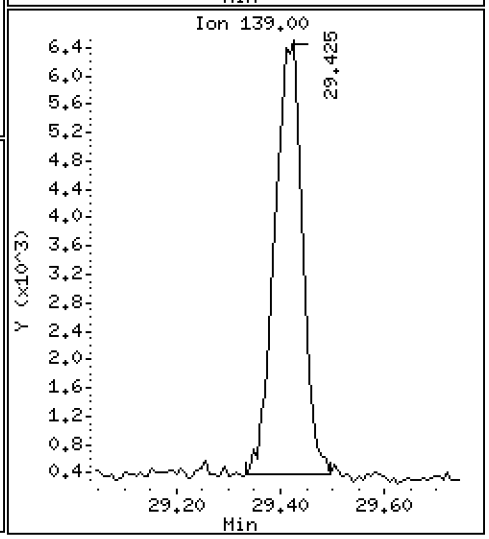












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

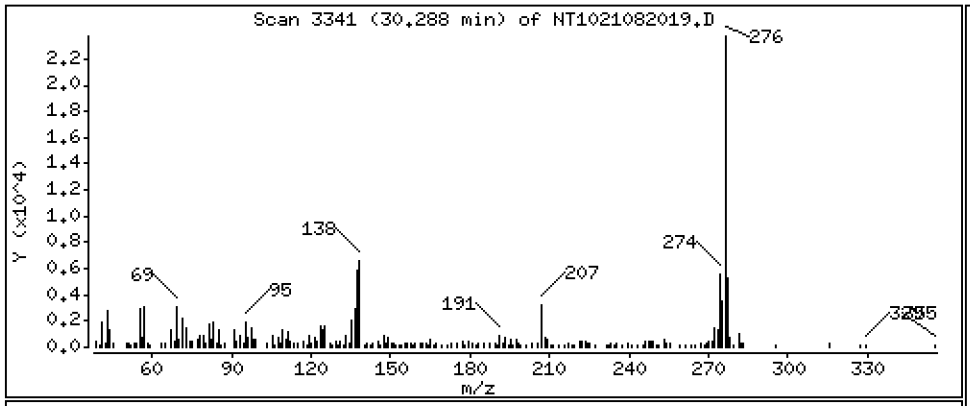
Operator: VTS

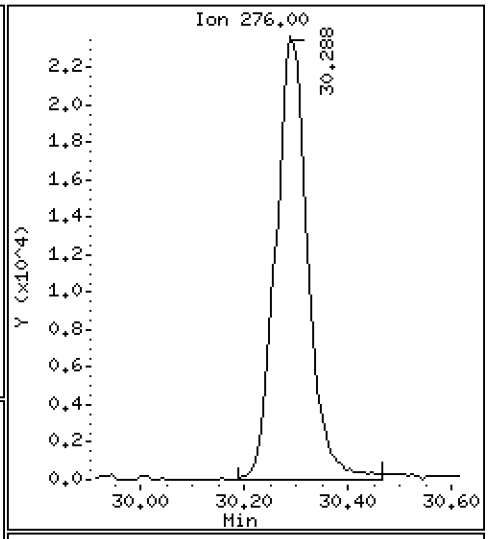
Column phase: ZB-5msi

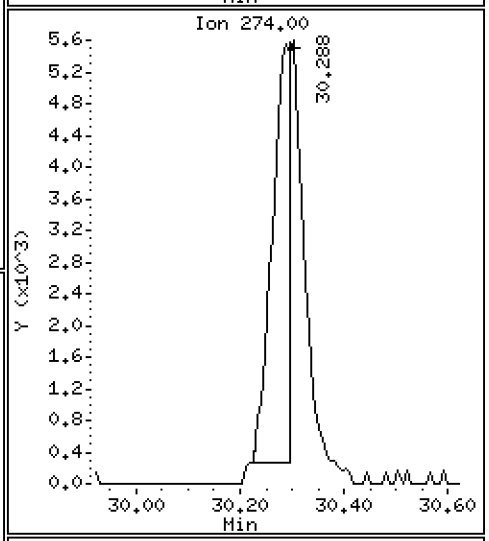
Column diameter: 0.25

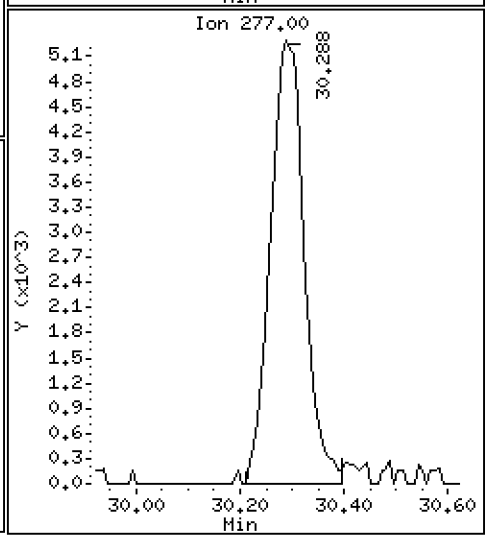
80 Benzo(g,h,i)perylene

Concentration: 3.204 ug/mL









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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

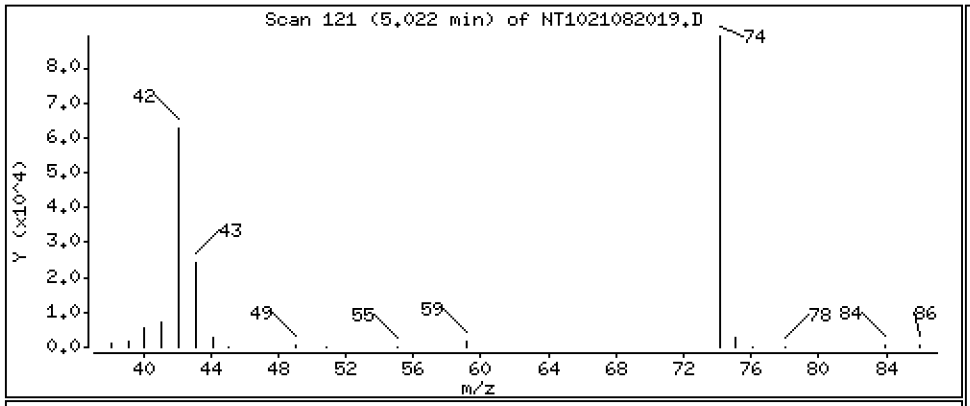
Operator: VTS

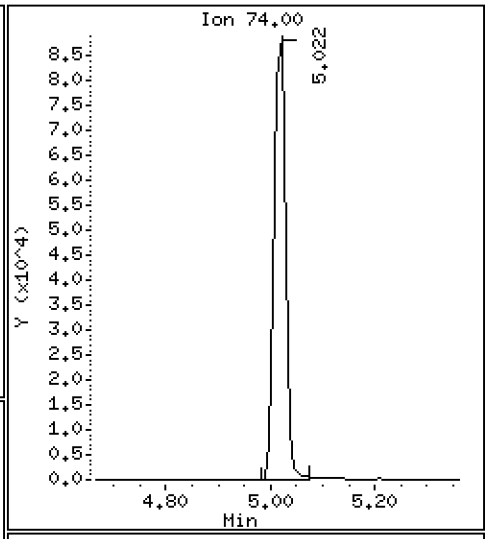
Column phase: ZB-5msi

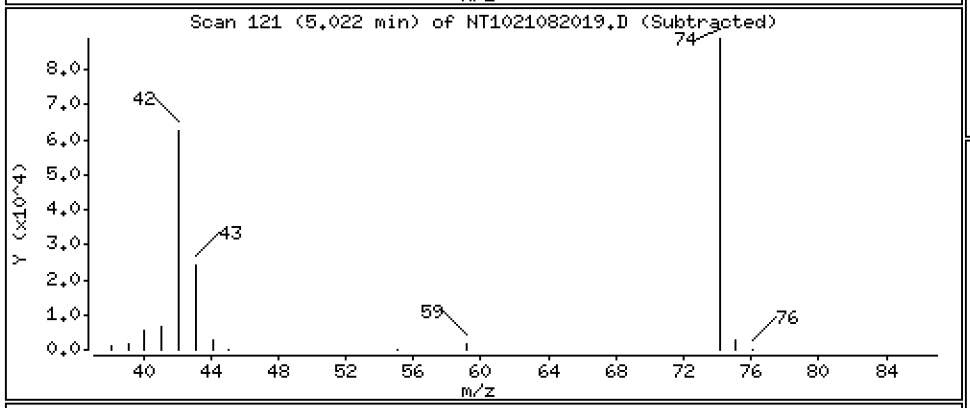
Column diameter: 0.25

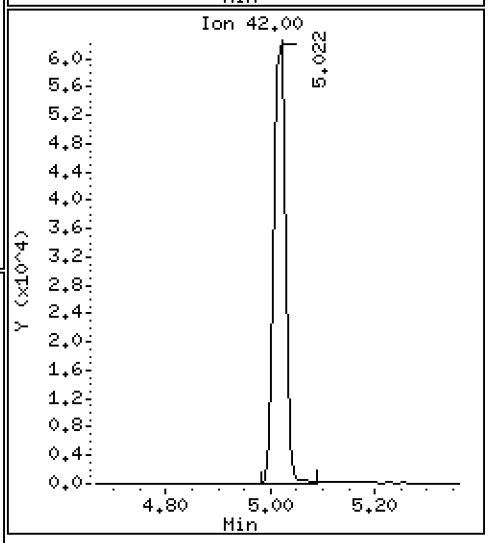
90 N-Nitrosodimethylamine

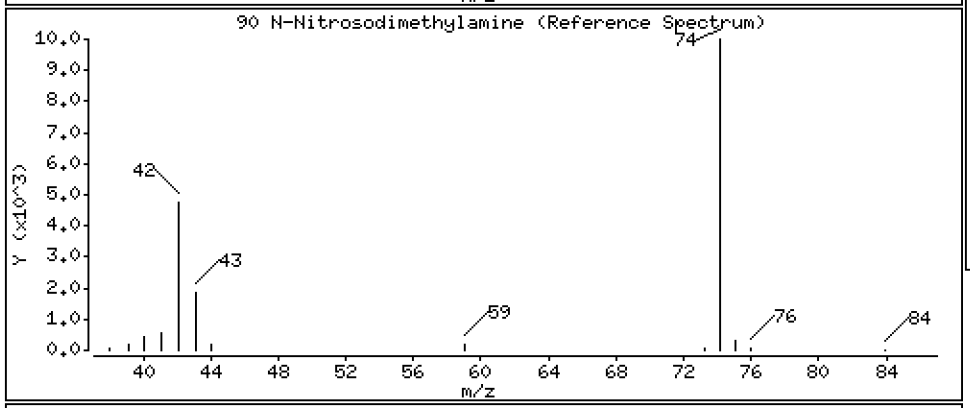
Concentration: 10.59 ug/mL

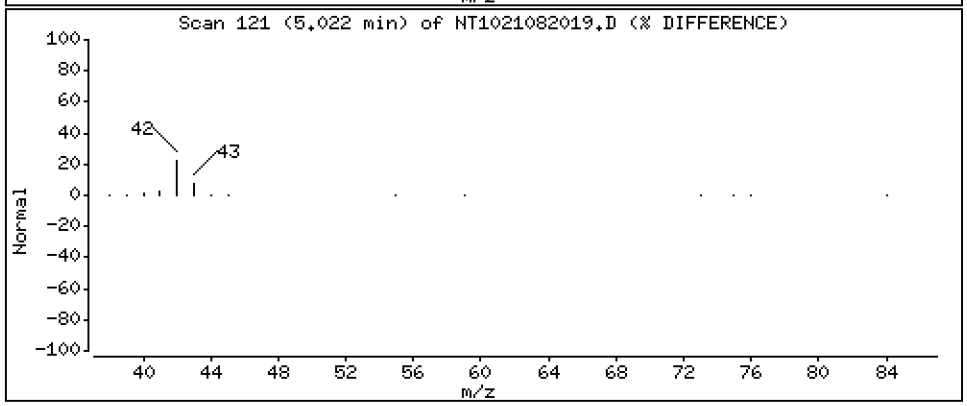












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

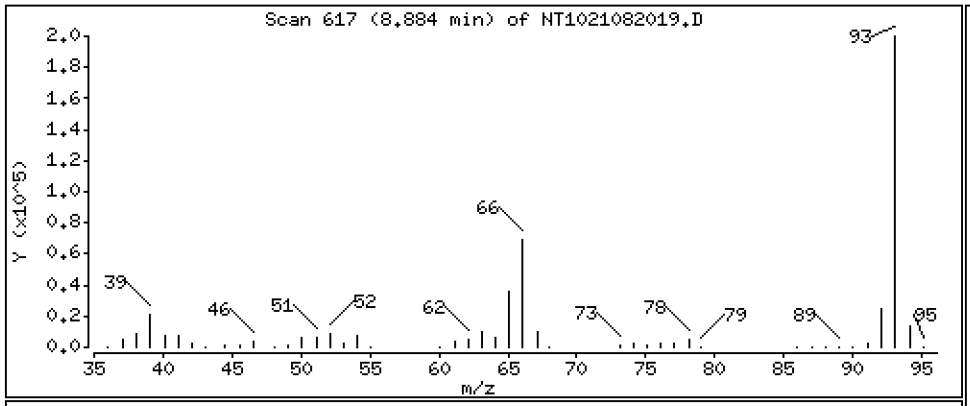
Operator: VTS

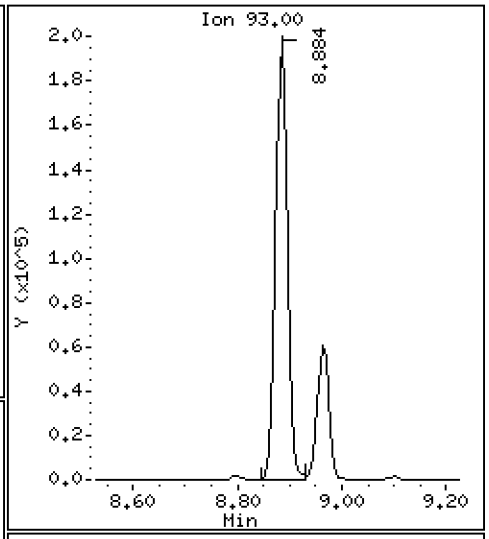
Column phase: ZB-5msi

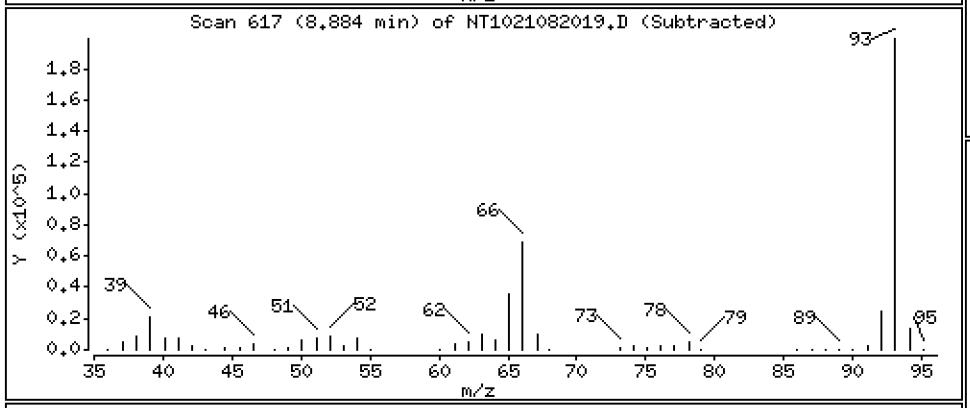
Column diameter: 0.25

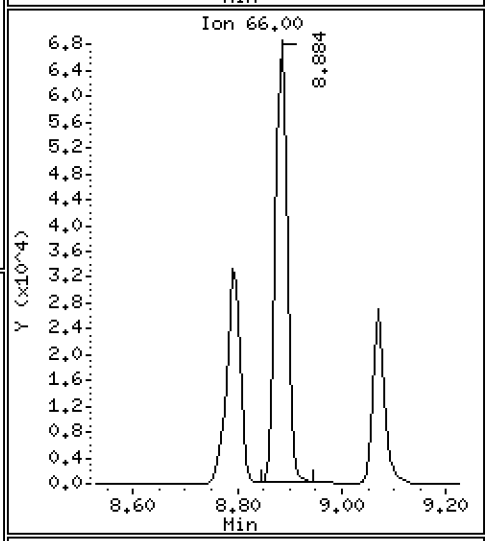
91 Aniline

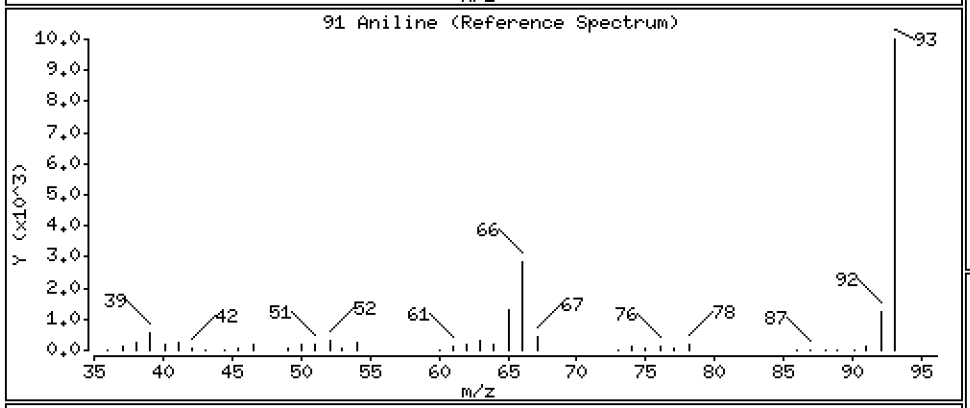
Concentration: 10.53 ug/mL

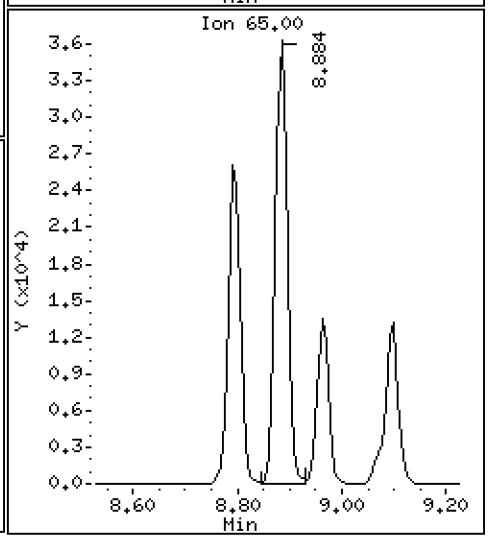


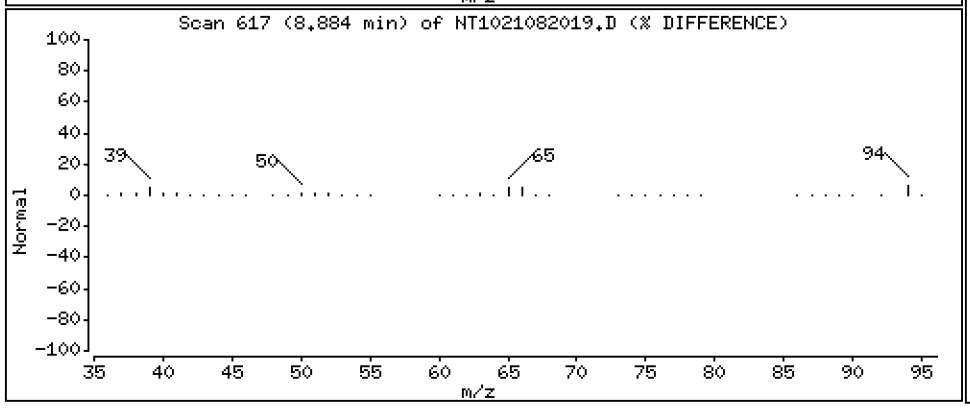












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

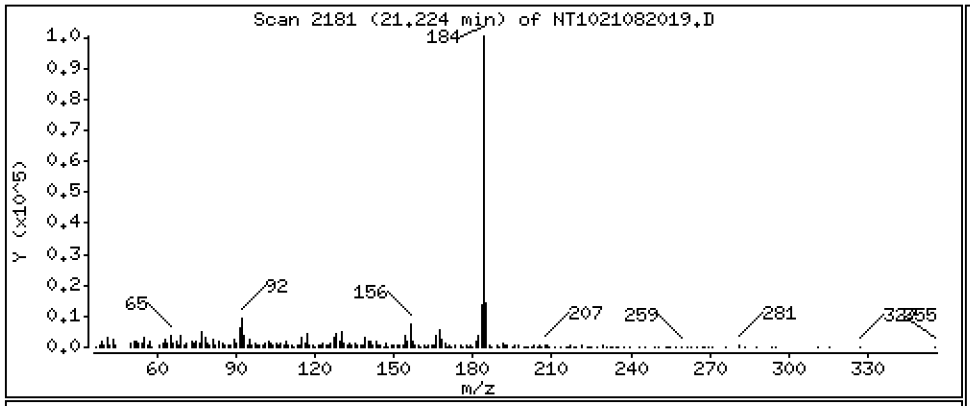
Operator: VTS

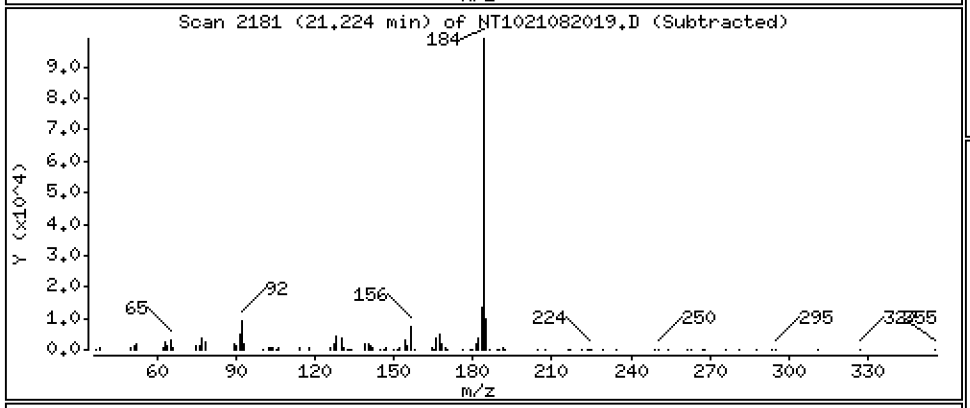
Column phase: ZB-5msi

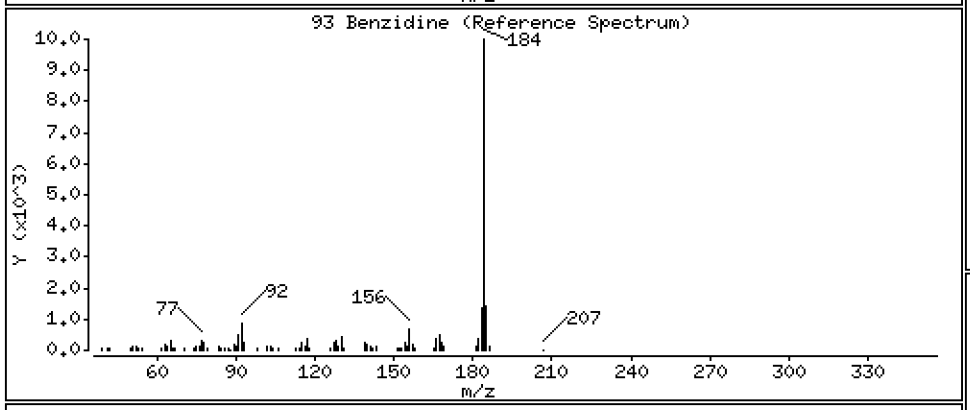
Column diameter: 0.25

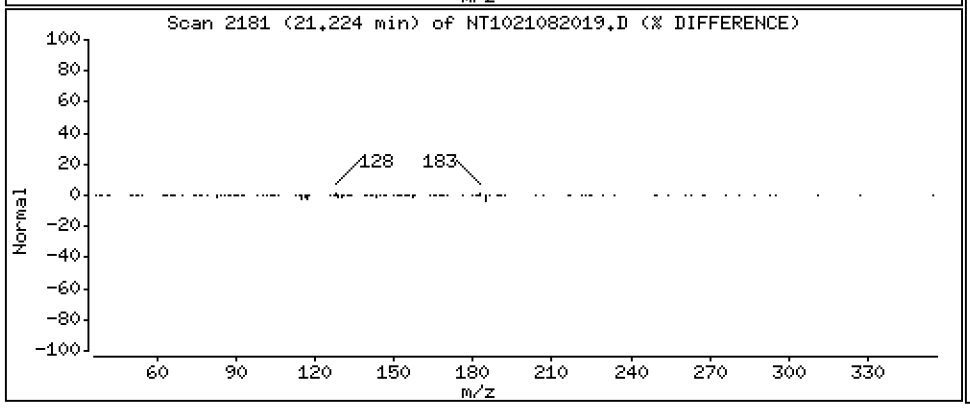
93 Benzidine

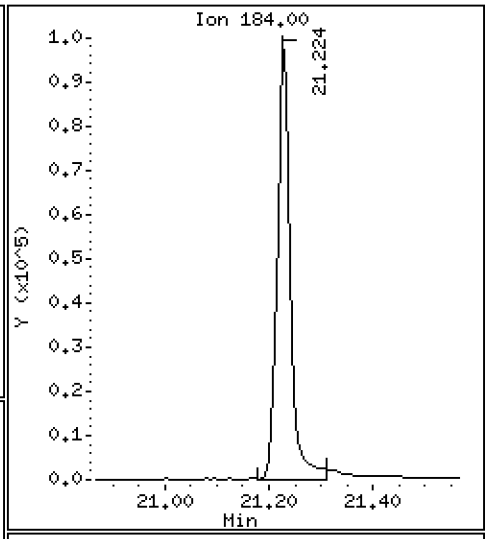
Concentration: 7.100 ug/mL

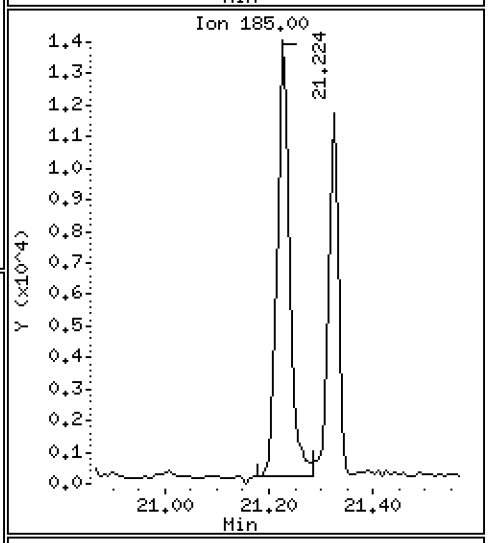


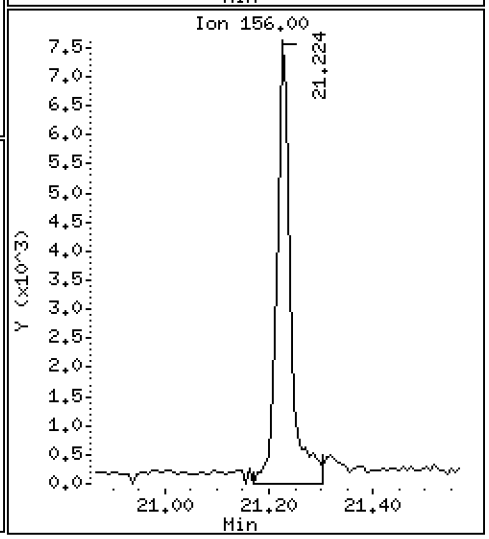












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

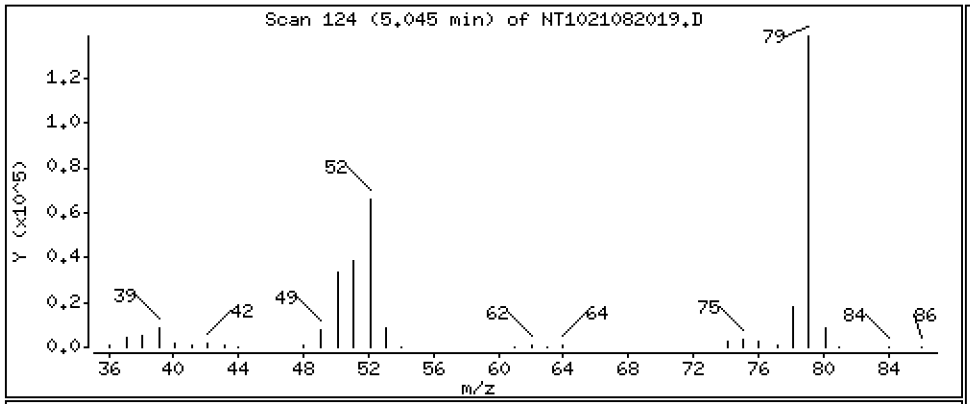
Operator: VTS

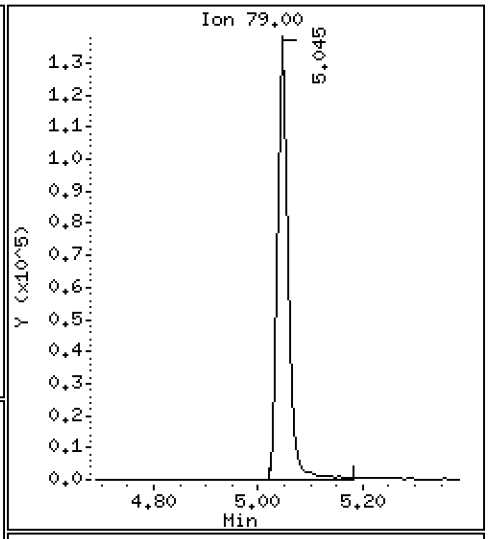
Column phase: ZB-5msi

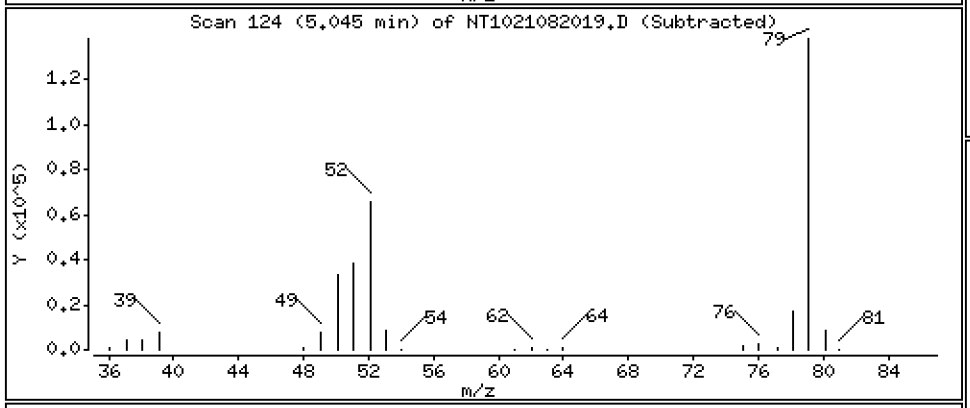
Column diameter: 0.25

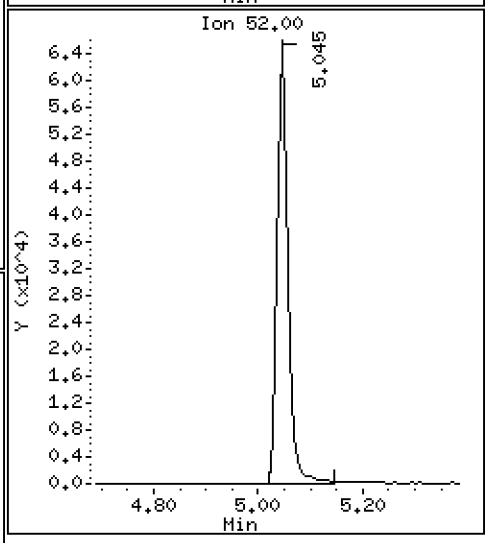
103 Pyridine

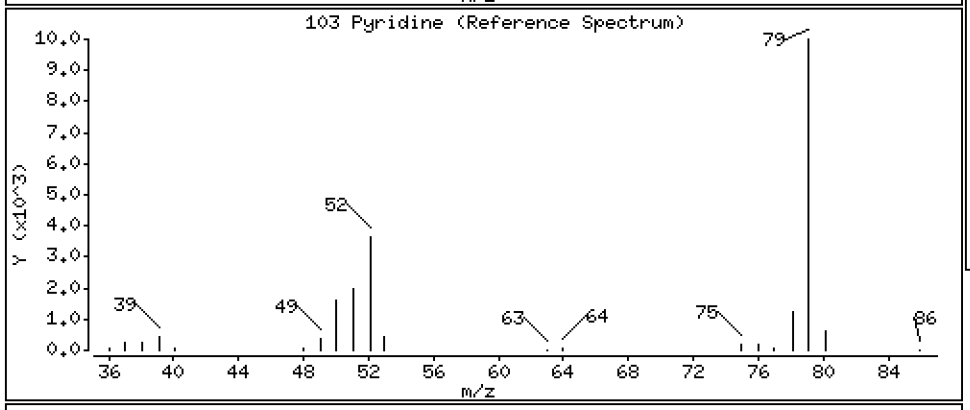
Concentration: 5.124 ug/mL

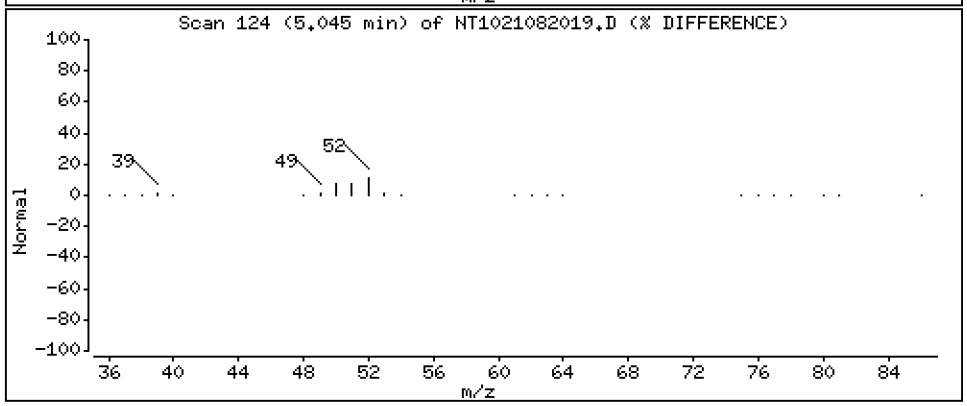












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

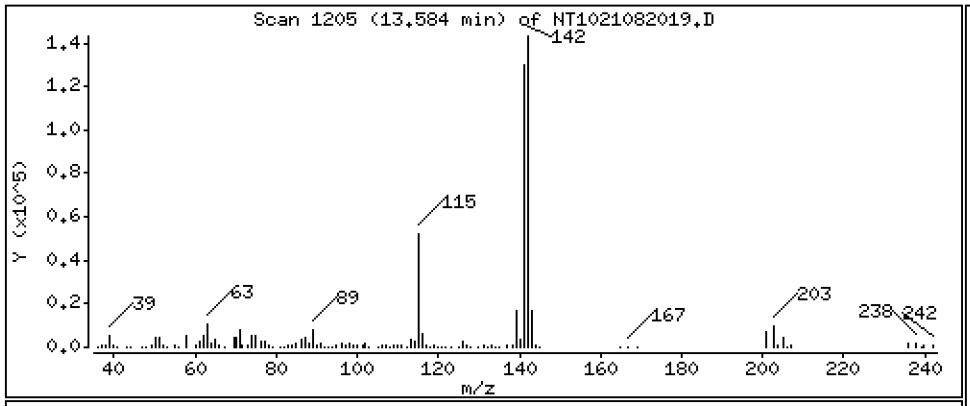
Operator: VTS

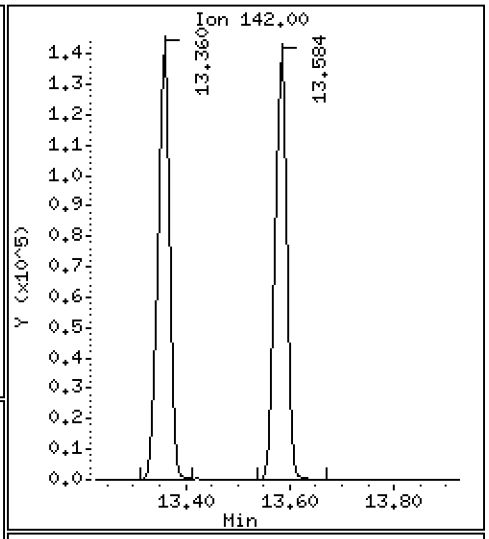
Column phase: ZB-5msi

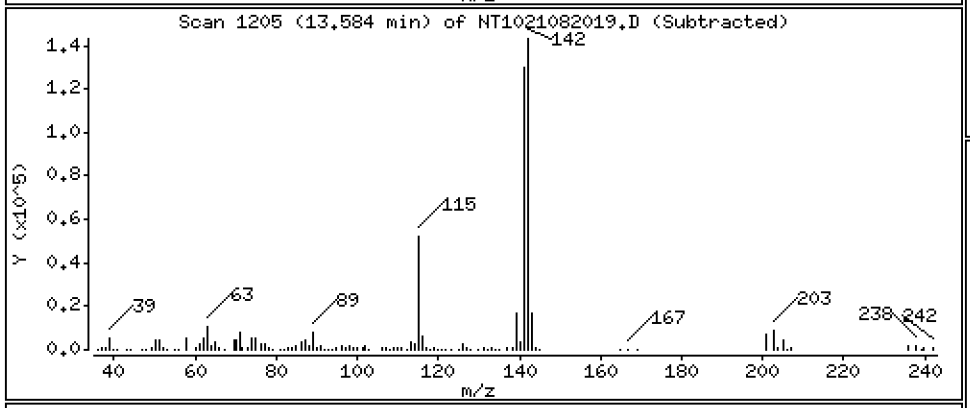
Column diameter: 0.25

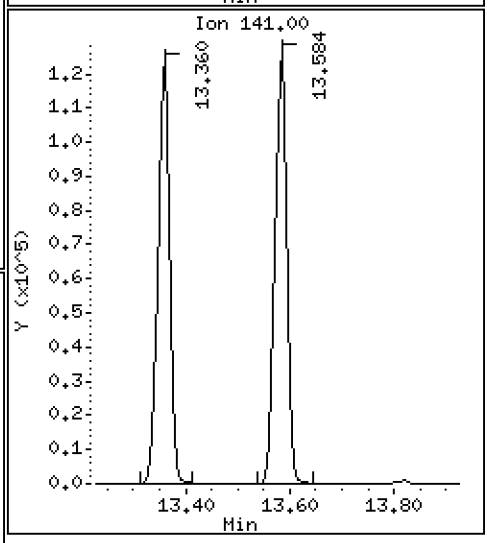
105 1-methylnaphthalene

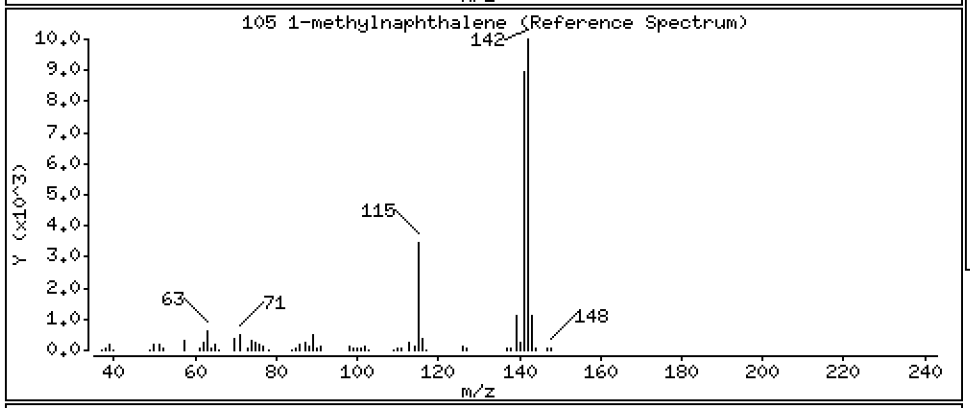
Concentration: 4.785 ug/mL

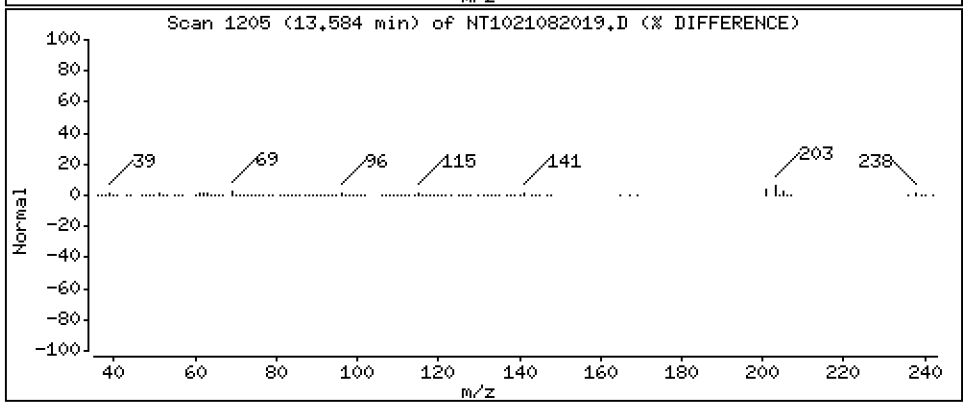












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

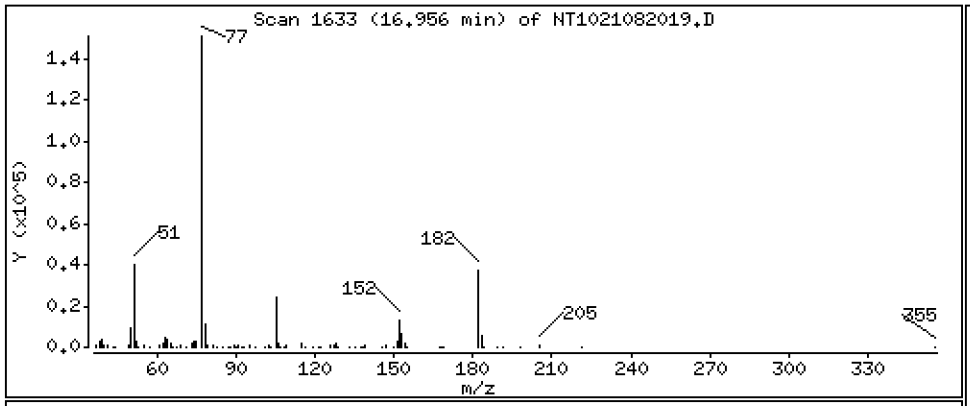
Operator: VTS

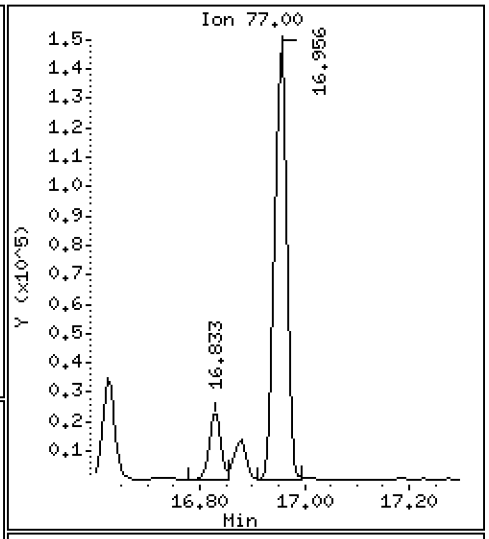
Column phase: ZB-5msi

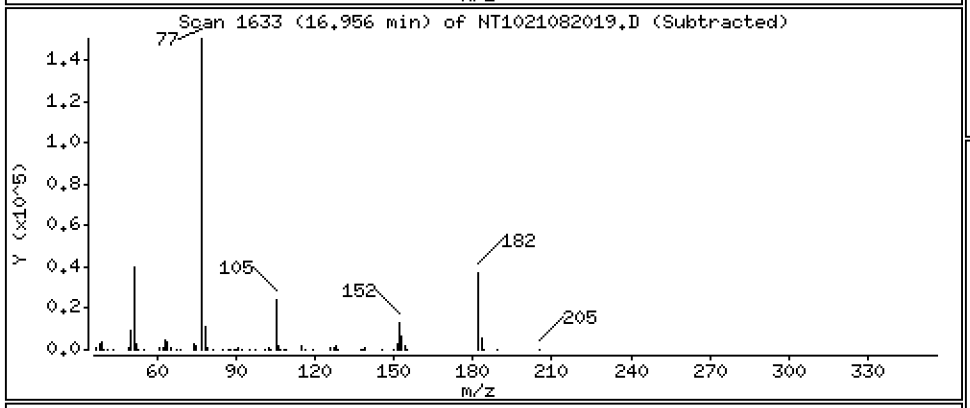
Column diameter: 0.25

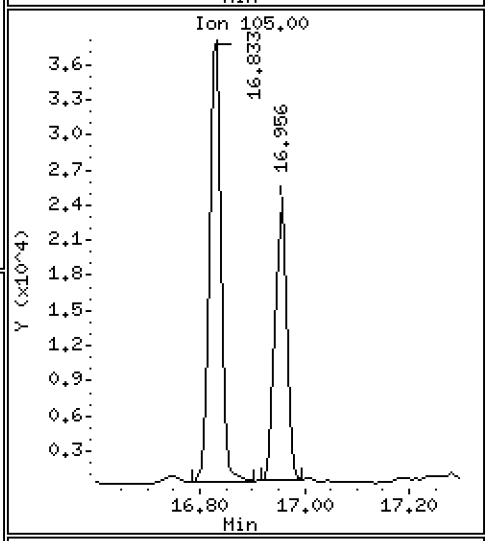
111 Azobenzene (1,2-DP-Hydrazine)

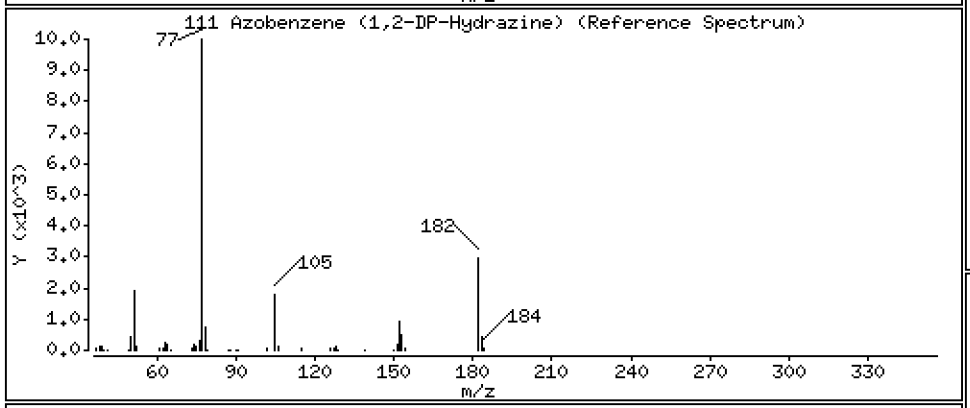
Concentration: 5.875 ug/mL

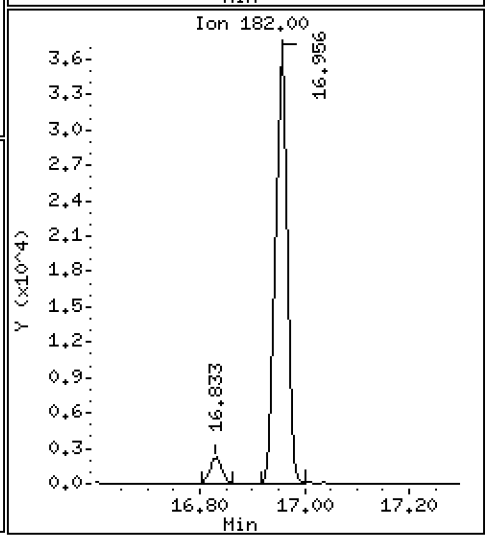


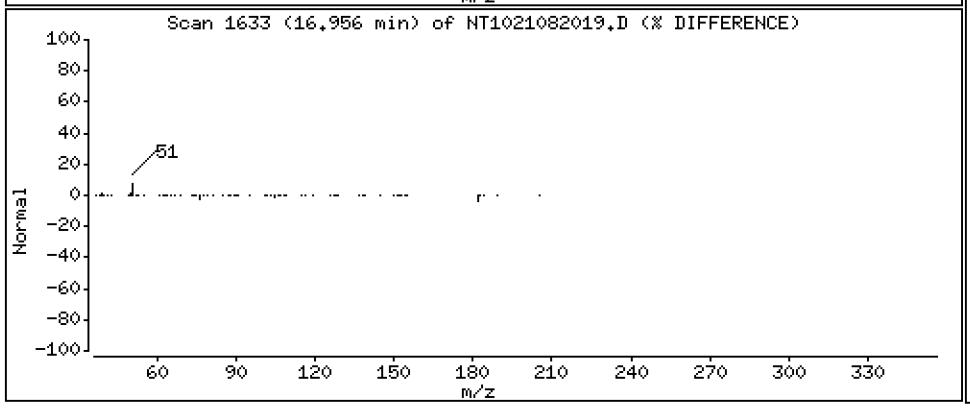












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Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

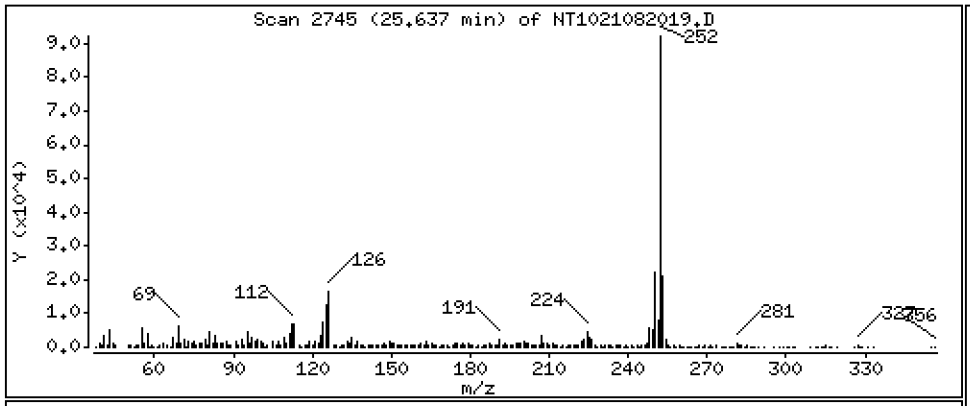
Operator: VTS

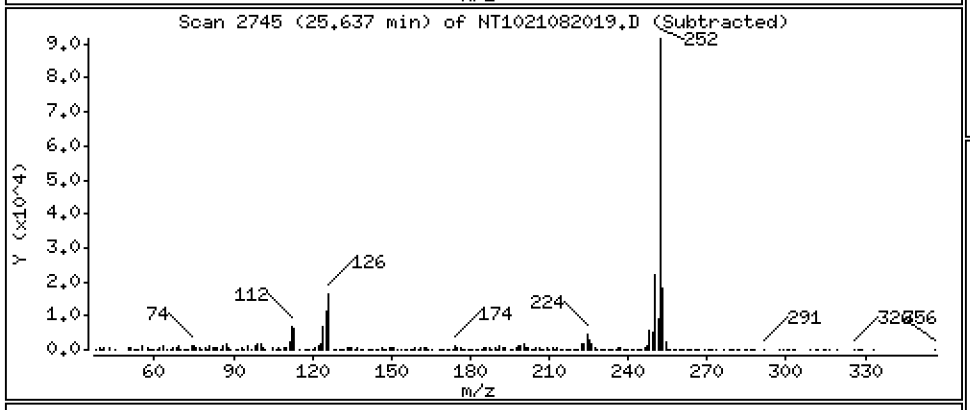
Column phase: ZB-5msi

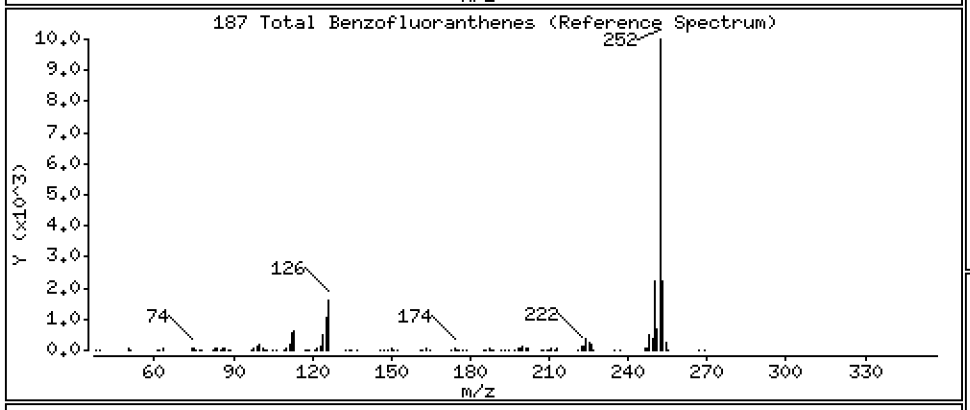
Column diameter: 0.25

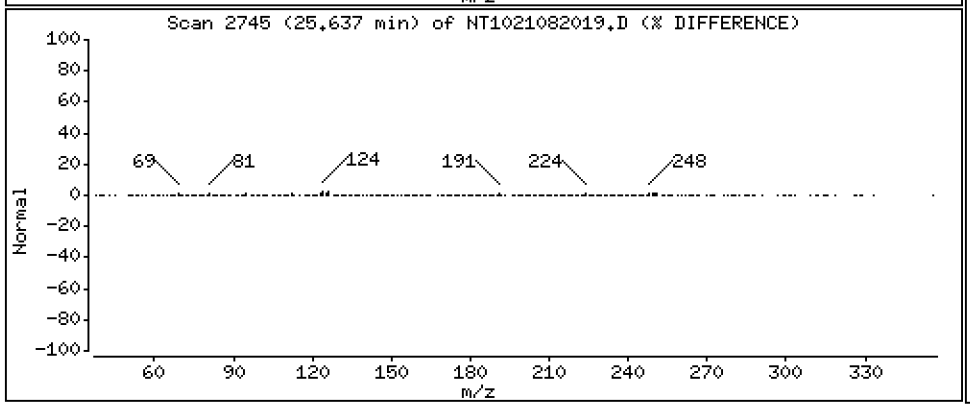
187 Total Benzofluoranthenes

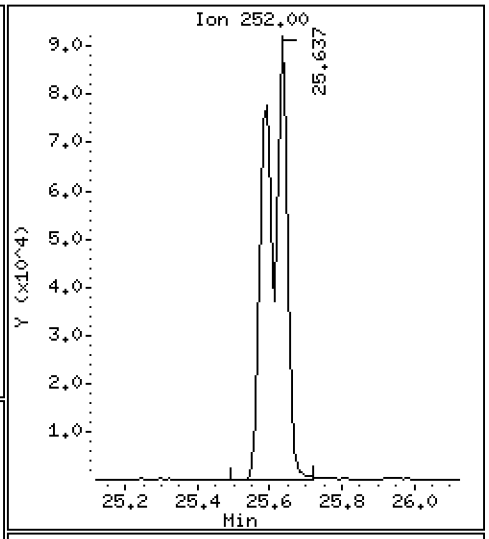
Concentration: 9.165 ug/mL

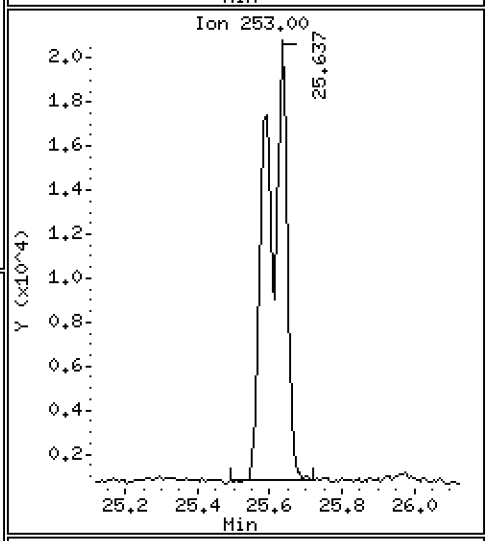


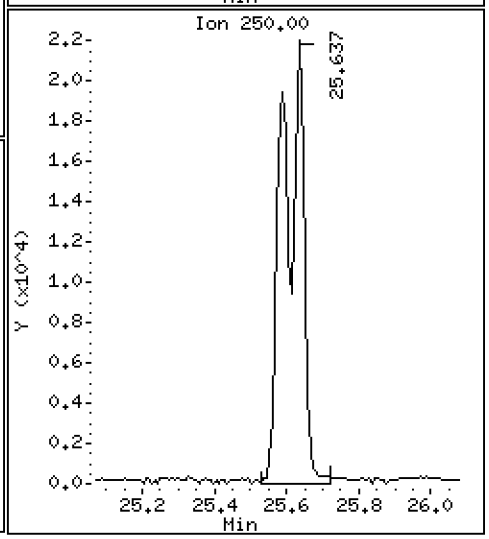












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D

Date : 20-AUG-2021 19:51

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-CCV1

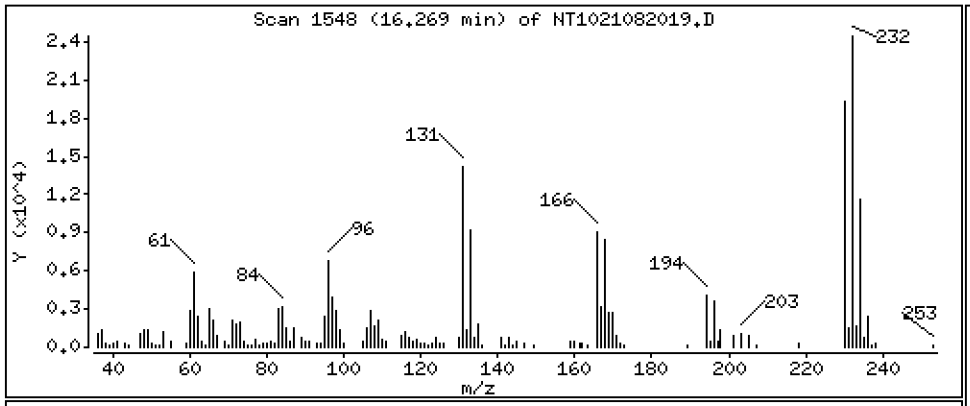
Operator: VTS

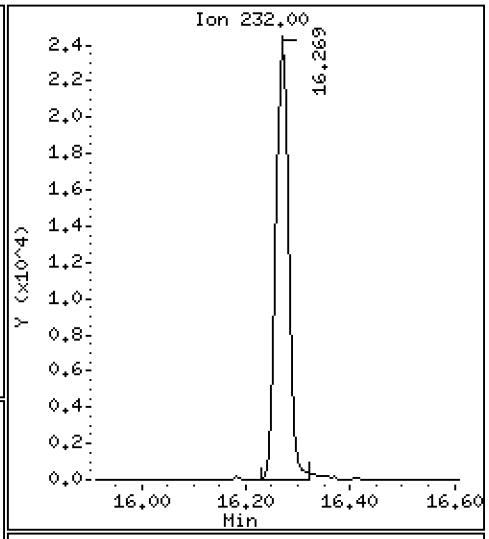
Column phase: ZB-5msi

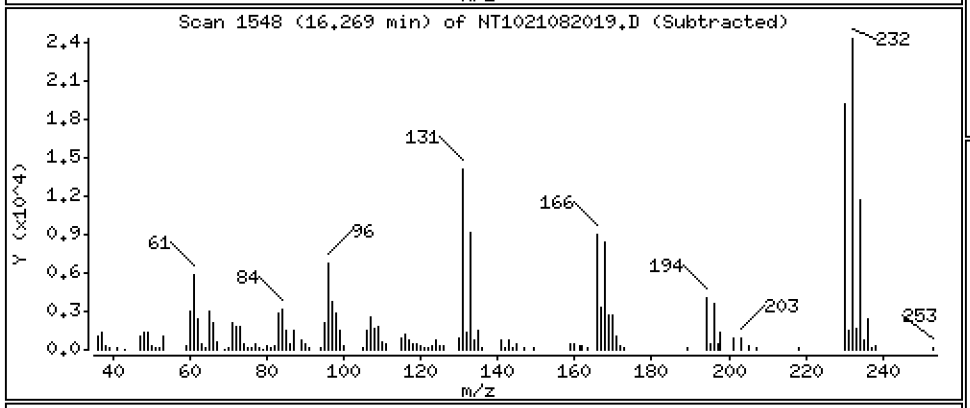
Column diameter: 0.25

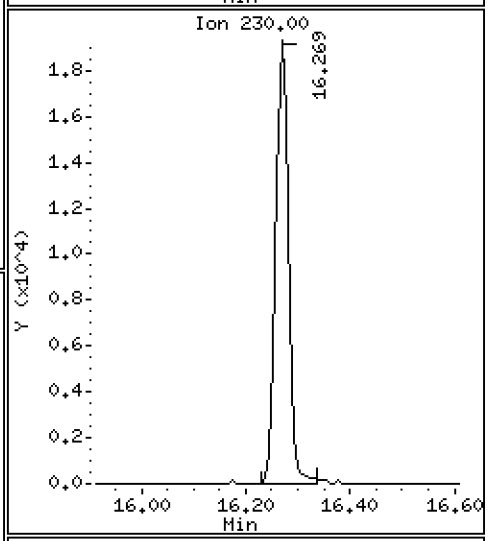
120 2,3,4,6-Tetrachlorophenol

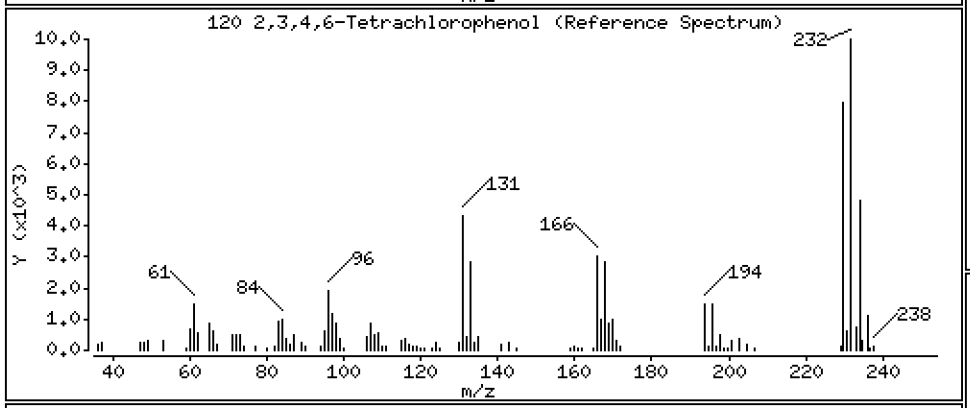
Concentration: 4.622 ug/mL

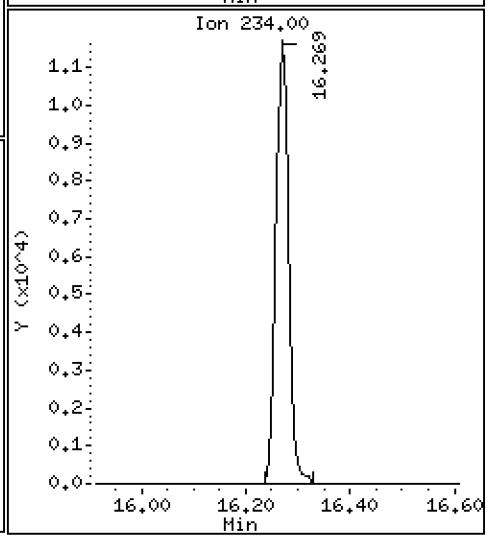


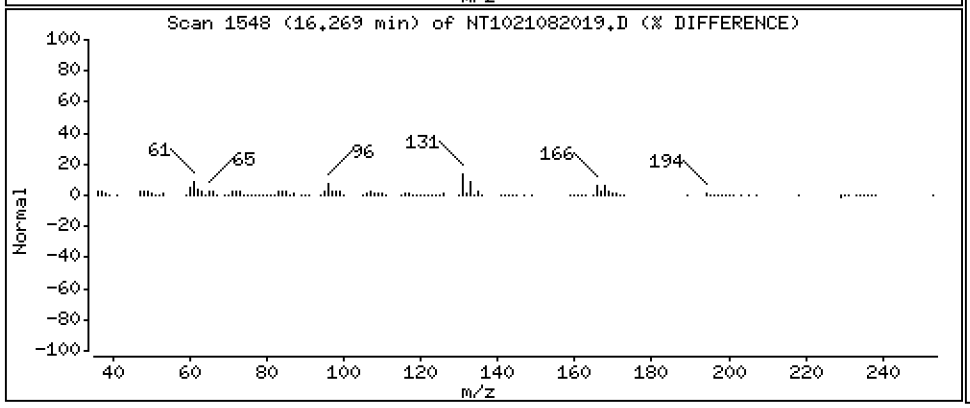












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

Data file : \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D
Lab Smp Id: SJH0258-CCV1
Inj Date : 20-AUG-2021 19:51
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0258-CCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.762)	144374	7.72544	7.725
$	2 Phenol-d5	99	8.776	8.760	(0.930)	210522	7.87078	7.871
	3 Phenol	94	8.791	8.784	(0.932)	136426	5.57280	5.573
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	142157	7.46101	7.461
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	90341	5.04389	5.044
	6 2-Chlorophenol	128	9.100	9.092	(0.965)	103125	5.07666	5.077
	7 1,3-Dichlorobenzene	146	9.371	9.363	(0.993)	104012	4.92444	4.924
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.425	(1.000)	55898	4.00000	
	9 1,4-Dichlorobenzene	146	9.464	9.456	(1.003)	81547	5.09969	5.100
$	10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	61618	4.76091	4.761
	12 1,2-Dichlorobenzene	146	9.821	9.813	(1.041)	91678	5.03783	5.038
	11 Benzyl alcohol	108	9.697	9.689	(1.028)	65049	5.77656	5.777
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	29360	5.43977	5.440(M)
	13 2-Methylphenol	108	9.914	9.907	(1.051)	81243	5.23954	5.240
	17 Hexachloroethane	117	10.411	10.411	(1.104)	20970	3.03218	3.032
	16 N-Nitroso-di-n-propylamine	70	10.248	10.240	(1.086)	62312	5.72889	5.729
	15 4-Methylphenol	108	10.178	10.171	(1.079)	89757	5.41937	5.419
$	18 Nitrobenzene-d5	82	10.528	10.520	(0.883)	106354	5.18121	5.181
	19 Nitrobenzene	77	10.566	10.559	(0.886)	104367	5.51467	5.515
	20 Isophorone	82	11.009	11.001	(0.924)	177896	6.08224	6.082
	21 2-Nitrophenol	139	11.194	11.186	(0.939)	57098	5.29764	5.298
	22 2,4-Dimethylphenol	107	11.228	11.220	(0.942)	165445	9.94733	9.947
	23 Bis(2-Chloroethoxy)methane	93	11.424	11.415	(0.958)	84611	4.90044	4.900
	24 Benzoic acid	105	11.441	11.424	(0.960)	188420	21.7626	21.76
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	159690	9.36864	9.369
	26 1,2,4-Trichlorobenzene	180	11.836	11.828	(0.993)	75820	4.59583	4.596
*	27 Naphthalene-d8	136	11.921	11.921	(1.000)	196047	4.00000	
	28 Naphthalene	128	11.967	11.959	(1.004)	244661	5.03041	5.030
	29 4-Chloroaniline	127	12.083	12.083	(1.014)	245208	10.4059	10.41
	30 Hexachlorobutadiene	225	12.315	12.307	(1.033)	45274	4.98804	4.988
	31 4-Chloro-3-methylphenol	107	13.042	13.027	(1.094)	187235	10.9314	10.93
	32 2-Methylnaphthalene	142	13.359	13.352	(1.121)	225249	4.85306	4.853
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	6816	0.81969	0.8197

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.978	13.971	(0.899)	124755	10.6196	10.62
	35 2,4,5-Trichlorophenol	196	14.056	14.048	(0.904)	130469	10.5716	10.57
$	36 2-Fluorobiphenyl	172	14.133	14.125	(0.909)	217683	4.70322	4.703
	37 2-Chloronaphthalene	162	14.358	14.350	(0.924)	181442	4.92433	4.924
	38 2-Nitroaniline	65	14.613	14.605	(0.940)	133594	12.2110	12.21
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	188726	4.96717	4.967
	40 Acenaphthylene	152	15.232	15.225	(0.980)	271969	4.73718	4.737
	41 2,6-Dinitrotoluene	165	15.170	15.170	(0.976)	83432	9.94314	9.943
*	42 Acenaphthene-d10	164	15.542	15.534	(1.000)	115847	4.00000	
	43 3-Nitroaniline	138	15.464	15.457	(0.995)	104377	9.23855	9.239
	44 Acenaphthene	153	15.611	15.604	(1.004)	155504	5.12082	5.121
	45 2,4-Dinitrophenol	184	15.673	15.673	(1.008)	58340	12.9365	12.94
	46 Dibenzofuran	168	15.936	15.928	(1.025)	268422	4.97432	4.974
	47 4-Nitrophenol	109	15.789	15.766	(1.016)	50522	12.2784	12.28
	48 2,4-Dinitrotoluene	165	15.982	15.982	(1.028)	121255	10.3522	10.35
	50 Diethylphthalate	149	16.477	16.469	(1.060)	178775	5.22012	5.220
	49 Fluorene	166	16.647	16.639	(1.071)	252631	5.27506	5.275
	51 4-Chlorophenyl-phenylether	204	16.632	16.616	(1.070)	109423	5.10448	5.104
	52 4-Nitroaniline	138	16.740	16.732	(1.077)	126339	10.7548	10.75
	53 4,6-Dinitro-2-methylphenol	198	16.832	16.824	(0.906)	129149	16.5704	16.57
	54 N-Nitrosodiphenylamine	169	16.878	16.871	(0.908)	156563	5.54586	5.546
$	55 2,4,6-Tribromophenol	330	17.187	17.179	(1.106)	35524	7.97304	7.973
	56 4-Bromophenyl-phenylether	248	17.634	17.626	(0.949)	59629	5.26967	5.270
	57 Hexachlorobenzene	284	17.959	17.951	(0.966)	56154	5.23494	5.235
	58 Pentachlorophenol	266	18.323	18.307	(0.986)	37410	9.26209	9.262
*	59 Phenanthrene-d10	188	18.586	18.578	(1.000)	188742	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.002)	232115	5.03715	5.037
	61 Anthracene	178	18.733	18.725	(1.008)	249215	5.03363	5.034
	62 Carbazole	167	19.058	19.050	(1.025)	250577	4.91415	4.914
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	335010	5.31059	5.311
	64 Fluoranthene	202	21.007	20.999	(0.890)	285588	5.14438	5.144
	65 Pyrene	202	21.433	21.425	(0.908)	283731	4.97981	4.980
$	66 Terphenyl-d14	244	21.696	21.688	(0.919)	180046	5.02887	5.029
	67 Butylbenzylphthalate	149	22.602	22.594	(0.957)	126230	5.62930	5.629
	68 Benzo(a)anthracene	228	23.585	23.577	(0.999)	199541	4.50355	4.504
*	69 Chrysene-d12	240	23.616	23.608	(1.000)	126825	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.531	23.523	(0.996)	260253	14.7635	14.76
	71 Chrysene	228	23.655	23.647	(1.002)	177988	5.06716	5.067
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	140177	5.84715	5.847
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	249102	4.00000	
	73 Di-n-octylphthalate	149	24.653	24.646	(1.001)	277127	5.04768	5.048
	74 Benzo(b)fluoranthene	252	25.590	25.575	(0.968)	187010	4.60223	4.602
	75 Benzo(k)fluoranthene	252	25.637	25.621	(0.970)	184866	4.64087	4.641
	76 Benzo(a)pyrene	252	26.310	26.295	(0.995)	161826	4.50821	4.508
*	77 Perylene-d12	264	26.442	26.426	(1.000)	110449	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.402	29.371	(1.112)	143227	3.86244	3.862
	79 Dibenzo(a,h)anthracene	278	29.417	29.394	(1.113)	115640	4.07613	4.076
	80 Benzo(g,h,i)perylene	276	30.287	30.264	(1.145)	103768	3.20435	3.204
	90 N-Nitrosodimethylamine	74	5.021	5.013	(0.532)	127439	10.5892	10.59
	91 Aniline	93	8.884	8.876	(0.942)	294212	10.5270	10.53
	93 Benzidine	184	21.224	21.216	(0.899)	170604	7.10028	7.100
	103 Pyridine	79	5.044	5.037	(0.535)	194828	5.12433	5.124
	105 1-methylnaphthalene	142	13.584	13.576	(1.140)	214219	4.78497	4.785
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.956	16.948	(1.091)	232148	5.87466	5.875

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.637	25.621	(0.970)	355315	9.16549	9.165
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	39425	4.62250	4.622

QC Flag Legend

M - Compound response manually integrated.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082019.D Page 1
Report Date: 24-Aug-2021 11:26

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082019.D
Lab Smp Id: SJH0258-CCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	55898	-28.12
27 Naphthalene-d8	262289	131145	524578	196047	-25.26
42 Acenaphthene-d10	161630	80815	323260	115847	-28.33
59 Phenanthrene-d10	276890	138445	553780	188742	-31.84
69 Chrysene-d12	212964	106482	425928	126825	-40.45
134 Di-n-octylphthala	413838	206919	827676	249102	-39.81
77 Perylene-d12	196991	98496	393982	110449	-43.93

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.54	0.05
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.62	0.03
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	0.00
77 Perylene-d12	26.43	25.93	26.93	26.44	0.06

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082019.D

Lab ID: SJH0258-CCV1
nt10.i, ABN.m, 20-AUG-2021 19:51

RT	CO-ELUTION COMPOUNDS

NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND

NONE

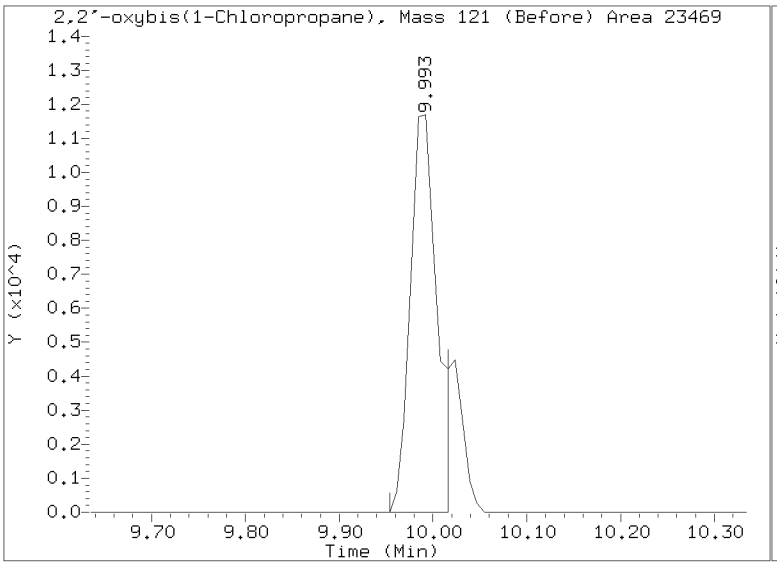
RRT check based on Ccal File: NT1021082002.D

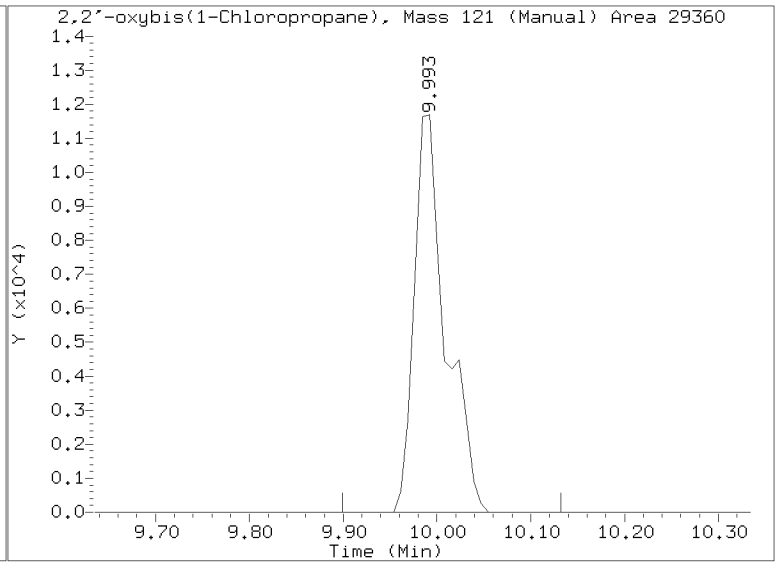
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

* Only compounds listed in the work order have been verified by the analyst *

Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082019.D
Injection Date: 20-AUG-2021 19:51
Lab ID:SJH0258-CCV1 Client ID:
Report Date: 08/24/2021 11:26





Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOW-CONCENTRATION CONTINUING CALIBRATION CHECK
EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082003.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-LCV1	Injection Time:	09:39
Sequence Name:	ABN 0.5		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Phenol	A	0.50000	0.5	1.7518100	1.8083100		3.2	+/-50
bis(2-chloroethyl) ether	A	0.50000	0.5	1.2816900	1.3784590		7.6	+/-50
2-Chlorophenol	A	0.50000	0.5	1.4536170	1.4238810		-2.0	+/-50
1,3-Dichlorobenzene	A	0.50000	0.5	1.5114380	1.5683740		3.8	+/-50
1,4-Dichlorobenzene	A	0.50000	0.5	1.1442690	1.1663570		1.9	+/-50
1,2-Dichlorobenzene	A	0.50000	0.5	1.3022240	1.2941510		-0.6	+/-50
Benzyl Alcohol	A	0.50000	0.4	0.8058147	0.6673659		-17.2	+/-50
2,2'-Oxybis(1-chloropropane)	A	0.50000	0.5	0.3862240	0.3772489		-2.3	+/-50
2-Methylphenol	A	0.50000	0.5	1.1095740	1.0424360		-6.1	+/-50
Hexachloroethane	A	0.50000	0.5	0.4948888	0.4893909		-1.1	+/-50
N-Nitroso-di-n-Propylamine	A	0.50000	0.5	0.7783317	0.7608713		-2.2	+/-50
4-Methylphenol	A	0.50000	0.5	1.1851760	1.0753530		-9.3	+/-50
Nitrobenzene	A	0.50000	0.5	0.3861385	0.3895302		0.9	+/-50
Isophorone	A	0.50000	0.4	0.5967638	0.4958223		-16.9	+/-50
2-Nitrophenol	A	0.50000	0.4	0.2199064	0.1810054		-17.7	+/-50
2,4-Dimethylphenol	A	1.0000	1.0	0.3393492	0.3480768		2.6	+/-50
Bis(2-Chloroethoxy)methane	A	0.50000	0.5	0.3522827	0.3739400		6.1	+/-50
2,4-Dichlorophenol	A	1.0000	0.9	0.3477772	0.3195612		-8.1	+/-50
1,2,4-Trichlorobenzene	A	0.50000	0.5	0.3366044	0.3638786		8.1	+/-50
Naphthalene	A	0.50000	0.5	0.9923411	0.9463185		-4.6	+/-50
Benzoic acid	A	2.0000	0.4	0.1282034	0.0325563		-81.0	+/-50
4-Chloroaniline	A	1.0000	0.7	0.4807898	0.3550749		-26.1	+/-50
Hexachlorobutadiene	A	0.50000	0.5	0.1851905	0.1896223		2.4	+/-50
4-Chloro-3-Methylphenol	A	1.0000	0.8	0.3494710	0.2622187		-25.0	+/-50
2-Methylnaphthalene	A	0.50000	0.4	0.9469932	0.8373865		-11.6	+/-50
Hexachlorocyclopentadiene	A	1.0000	0.4	0.2380948	0.1269568		-55.7	+/-50
2,4,6-Trichlorophenol	A	1.0000	0.8	0.4056237	0.3131137		-22.8	+/-50
2,4,5-Trichlorophenol	A	1.0000	0.8	0.4261287	0.3465784		-18.7	+/-50
2-Chloronaphthalene	A	0.50000	0.5	1.2722300	1.2649520		-0.6	+/-50
2-Nitroaniline	A	1.0000	0.9	0.3777549	0.3240219		-14.2	+/-50
Acenaphthylene	A	0.50000	0.5	1.9823260	2.0661020		4.2	+/-50
Dimethylphthalate	A	0.50000	0.5	1.3118930	1.4265060		8.7	+/-50
2,6-Dinitrotoluene	A	1.0000	1.0	0.2897240	0.2807377		-3.1	+/-50
Acenaphthene	A	0.50000	0.5	1.0485220	1.0178320		-2.9	+/-50

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOW-CONCENTRATION CONTINUING CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082003.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-LCV1	Injection Time:	09:39
Sequence Name:	ABN 0.5		

		CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
3-Nitroaniline	A	1.0000	0.8	0.3901002	0.3015306		-22.7	+/-50
2,4-Dinitrophenol	A	2.0000	0.3	0.1061965	0.0202051		-86.7	+/-50
Dibenzofuran	A	0.50000	0.5	1.8632010	1.7479590		-6.2	+/-50
4-Nitrophenol	A	1.0000	0.6	0.1112987	0.0784689		-44.5	+/-50
2,4-Dinitrotoluene	A	1.0000	0.8	0.4044297	0.3314028		-18.1	+/-50
Fluorene	A	0.50000	0.5	1.6536160	1.7452590		5.5	+/-50
4-Chlorophenylphenyl ether	A	0.50000	0.5	0.7401715	0.7664003		3.5	+/-50
Diethyl phthalate	A	0.50000	0.5	1.1825010	1.1873540		0.4	+/-50
4-Nitroaniline	A	1.0000	0.9	0.4056112	0.3588582		-11.5	+/-50
4,6-Dinitro-2-methylphenol	A	2.0000	1.2	0.1305331	0.0973168		-41.1	+/-50
N-Nitrosodiphenylamine	A	0.50000	0.6	0.5982903	0.6635677		10.9	+/-50
4-Bromophenyl phenyl ether	A	0.50000	0.5	0.2398092	0.2263066		-5.6	+/-50
Hexachlorobenzene	A	0.50000	0.5	0.2273318	0.2484901		9.3	+/-50
Pentachlorophenol	A	1.0000	0.3	0.0665517	0.0274623		-67.0	+/-50
Phenanthrene	A	0.50000	0.5	0.9765836	0.9537916		-2.3	+/-50
Anthracene	A	0.50000	0.4	1.0492630	0.9301424		-11.4	+/-50
Carbazole	A	0.50000	0.4	1.0806490	0.9674545		-10.5	+/-50
Di-n-Butylphthalate	A	0.50000	0.4	1.3369240	1.1311600		-15.4	+/-50
Fluoranthene	A	0.50000	0.5	1.7509030	1.6264170		-7.1	+/-50
Pyrene	A	0.50000	0.5	1.7970040	1.7317060		-3.6	+/-50
Butylbenzylphthalate	A	0.50000	0.5	0.7072339	0.7697122		8.8	+/-50
Benzo(a)anthracene	A	0.50000	0.5	1.3974370	1.3845510		-0.9	+/-50
3,3'-Dichlorobenzidine	A	1.5000	1.4	0.5559834	0.5151600		-7.3	+/-50
Chrysene	A	0.50000	0.5	1.1078500	1.0646790		-3.9	+/-50
bis(2-Ethylhexyl)phthalate	A	0.50000	0.5	0.3849599	0.3572699		-7.2	+/-50
Di-n-Octylphthalate	A	0.50000	0.5	0.8815966	0.9187964		4.2	+/-50
Benzofluoranthenes, Total	A	1.0000	1.0	1.4039640	1.3668770		-2.6	+/-50
Benzo(a)pyrene	A	0.50000	0.5	1.2999960	1.1892300		-8.5	+/-50
Indeno(1,2,3-cd)pyrene	A	0.50000	0.5	1.3429560	1.3477920		0.4	+/-50
Dibenzo(a,h)anthracene	A	0.50000	0.5	1.0274450	1.0631410		3.5	+/-50
Benzo(g,h,i)perylene	A	0.50000	0.5	1.1727930	1.1556620		-1.5	+/-50
1-Methylnaphthalene	A	0.50000	0.4	0.9134377	0.8036659		-12.0	+/-50
2-Fluorophenol	A	0.75000	0.778	1.3373020	1.3874950		3.8	+/-50
Phenol-d5	A	0.75000	0.690	1.9140080	1.7599570		-8.0	+/-50

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LOW-CONCENTRATION CONTINUING CALIBRATION CHECK

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	NT10	Calibration:	EH00053
Lab File ID:	NT1021082003.D	Calibration Date:	08/19/2021
Sequence:	SJH0258	Injection Date:	08/20/21
Lab Sample ID:	SJH0258-LCV1	Injection Time:	09:39
Sequence Name:	ABN 0.5		

COMPOUND	TYPE	CONC. (ug/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2-Chlorophenol-d4	A	0.75000	0.752	1.3634350	1.3667340		0.2	+/-50
1,2-Dichlorobenzene-d4	A	0.50000	0.510	0.9261509	0.9455426		2.1	+/-50
Nitrobenzene-d5	A	0.50000	0.486	0.4188149	0.4071874		-2.8	+/-50
2-Fluorobiphenyl	A	0.50000	0.501	1.5981010	1.6001220		0.1	+/-50
2,4,6-Tribromophenol	A	0.75000	0.574	0.1388940	0.1163825		-23.5	+/-50
p-Terphenyl-d14	A	0.50000	0.532	1.1291920	1.2021670		6.5	+/-50

* Values outside of QC limits

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

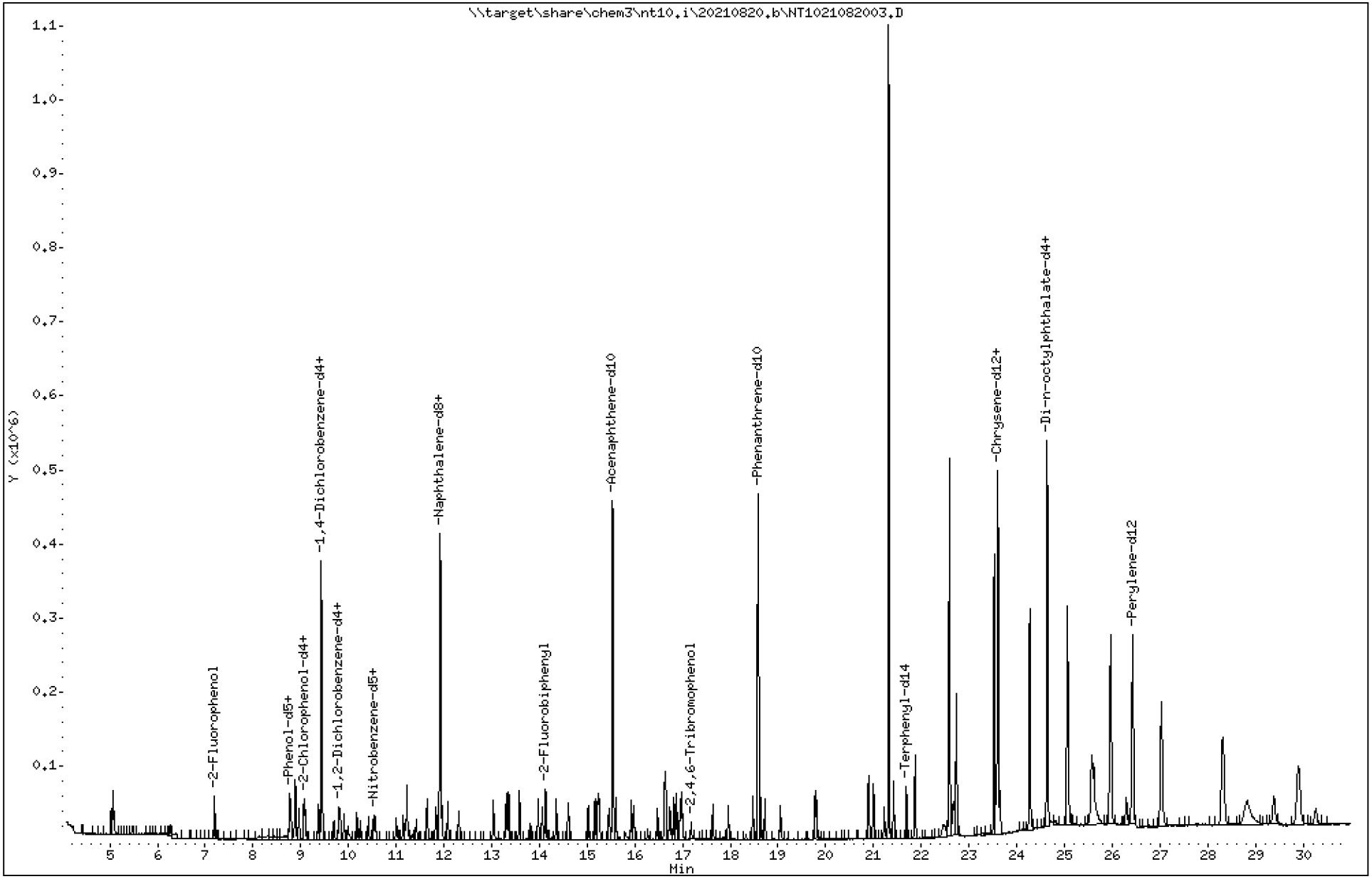
Instrument: nt10.i

Sample Info: SJH0258-LCV1

Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25



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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

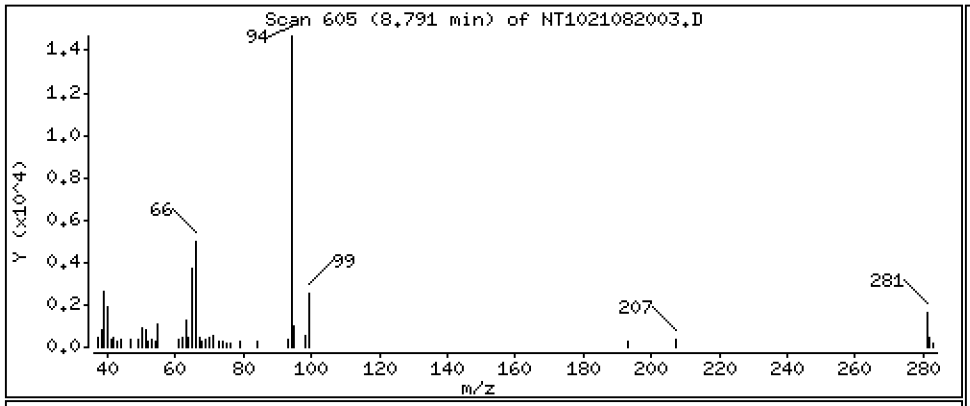
Operator: VTS

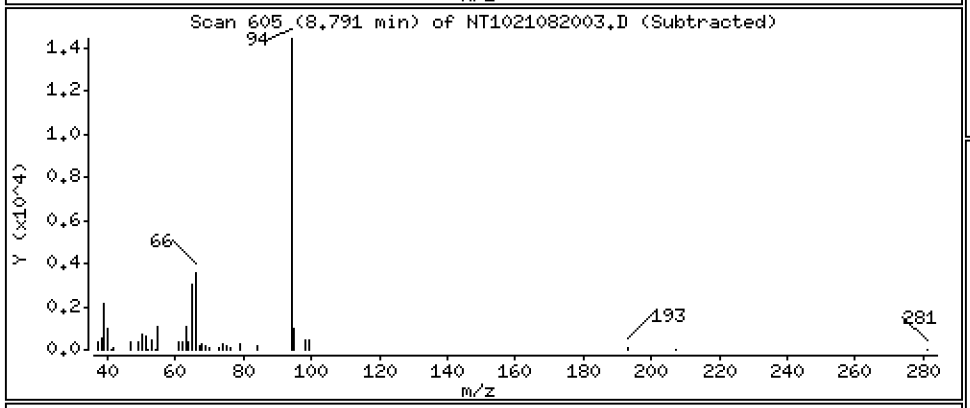
Column phase: ZB-5msi

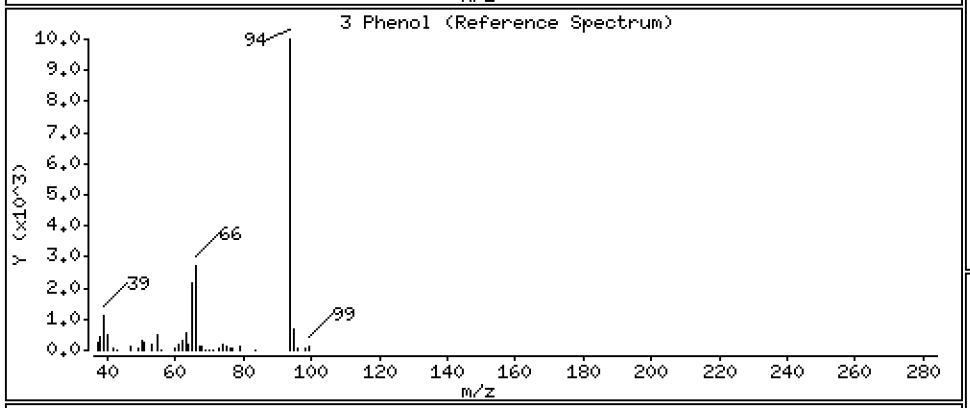
Column diameter: 0.25

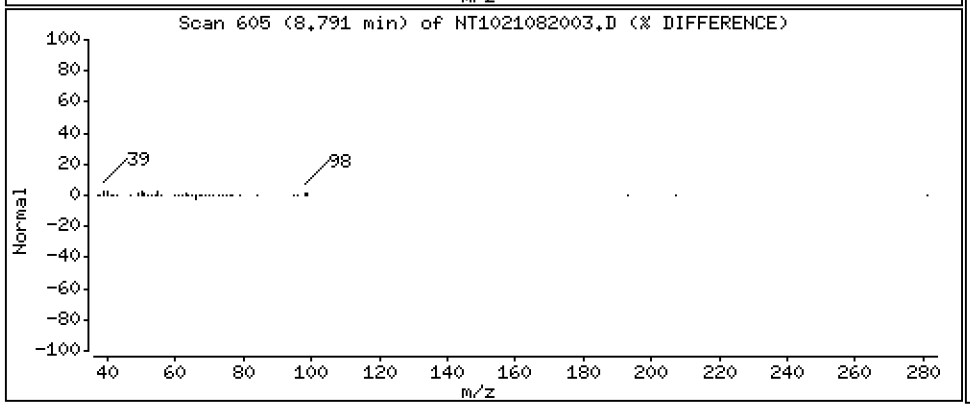
3 Phenol

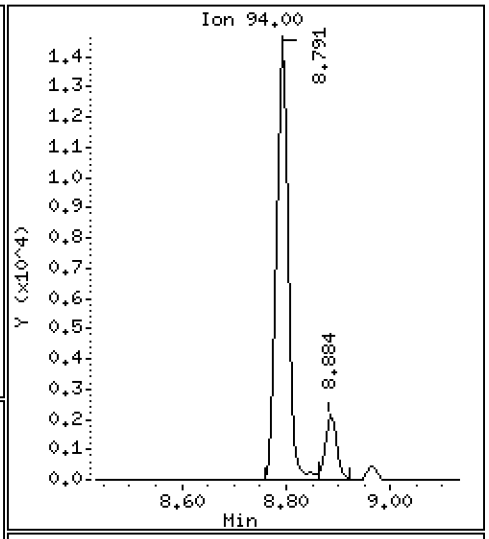
Concentration: 0.5161 ug/mL

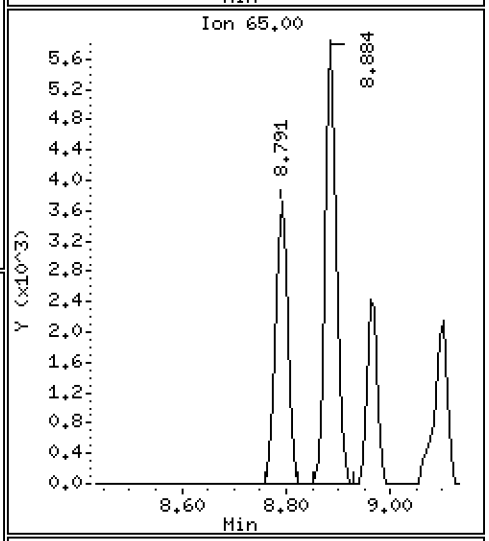


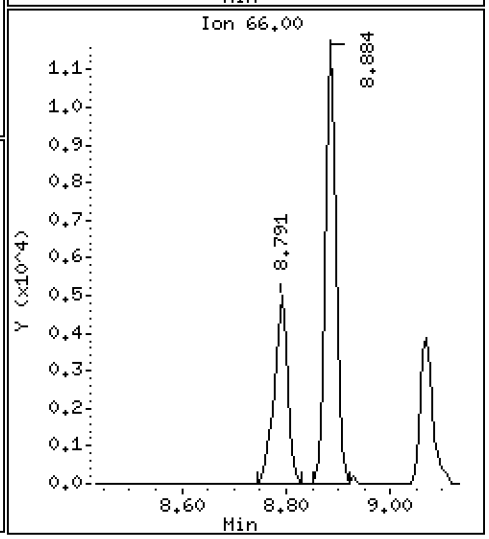












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

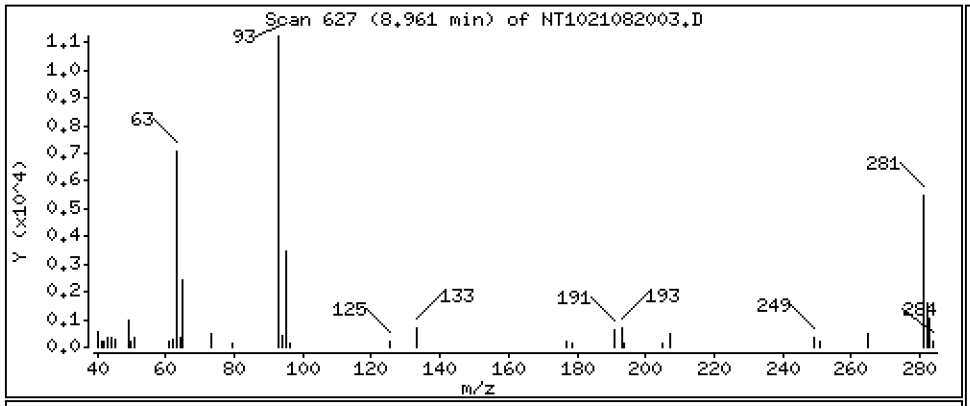
Operator: VTS

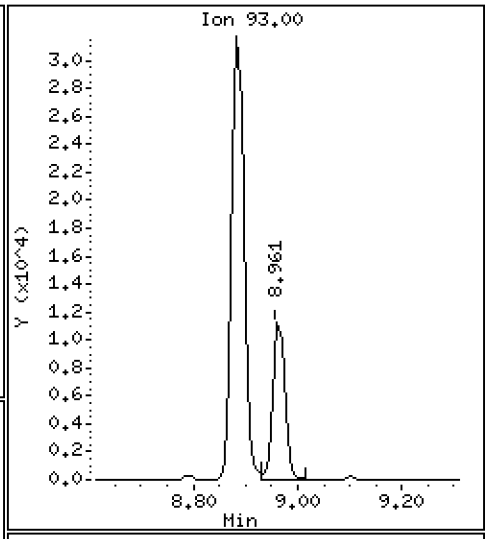
Column phase: ZB-5msi

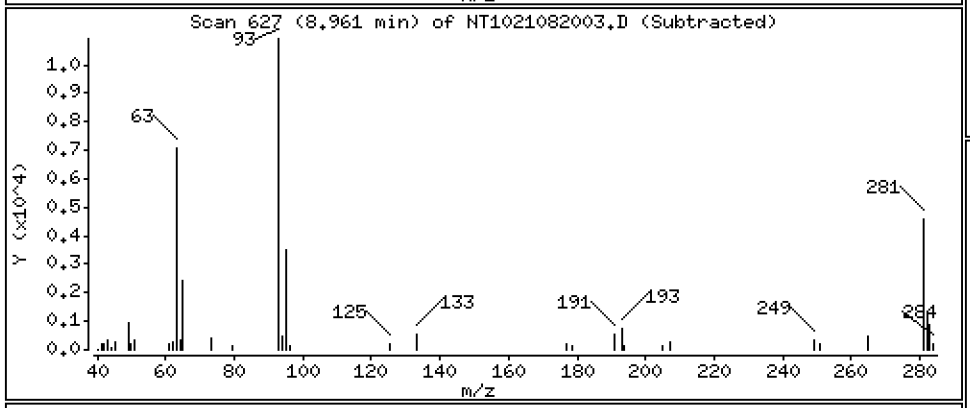
Column diameter: 0.25

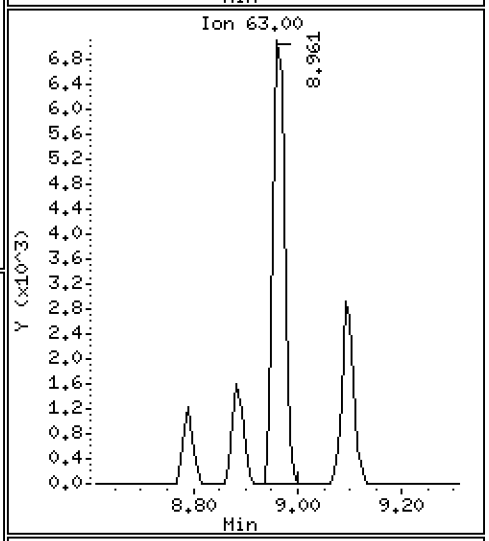
4 Bis(2-Chloroethyl)ether

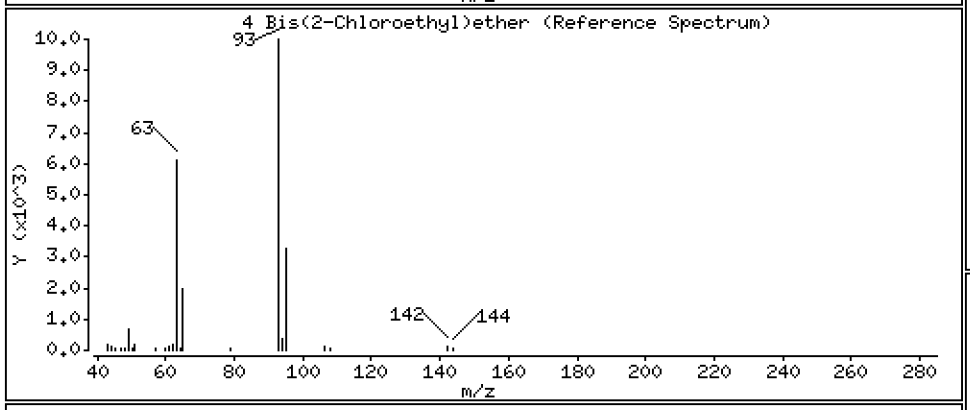
Concentration: 0.5378 ug/mL

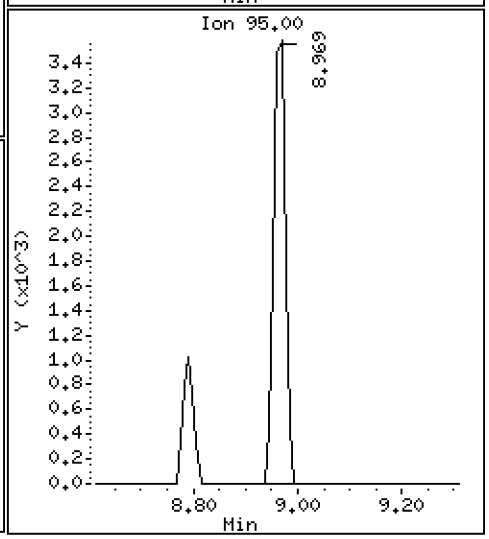


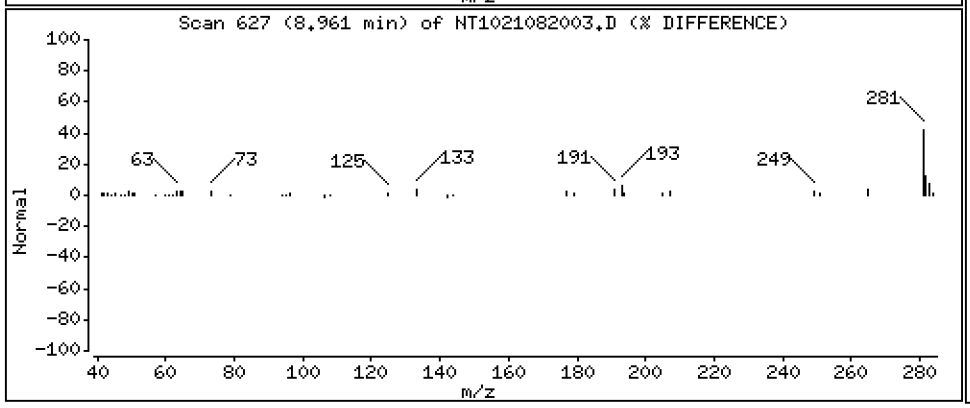












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

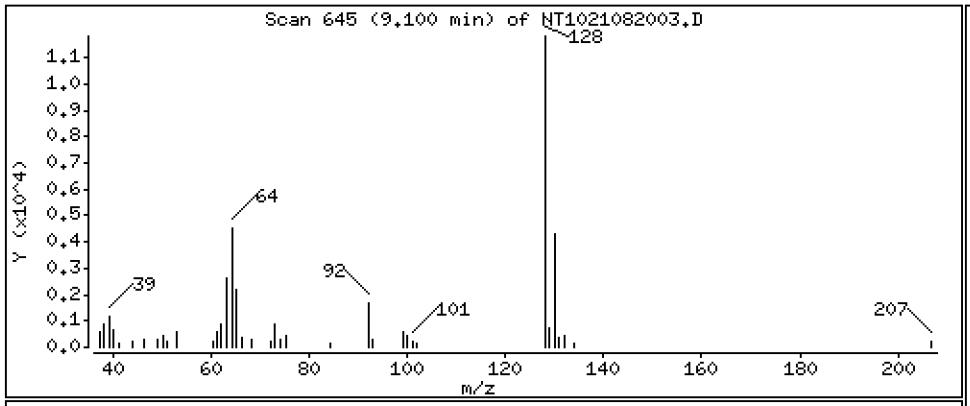
Operator: VTS

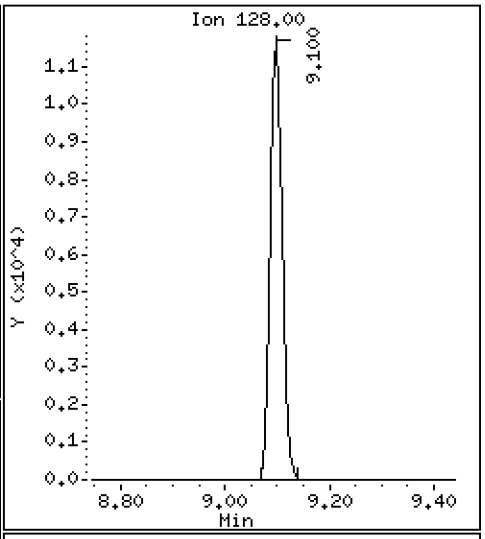
Column phase: ZB-5msi

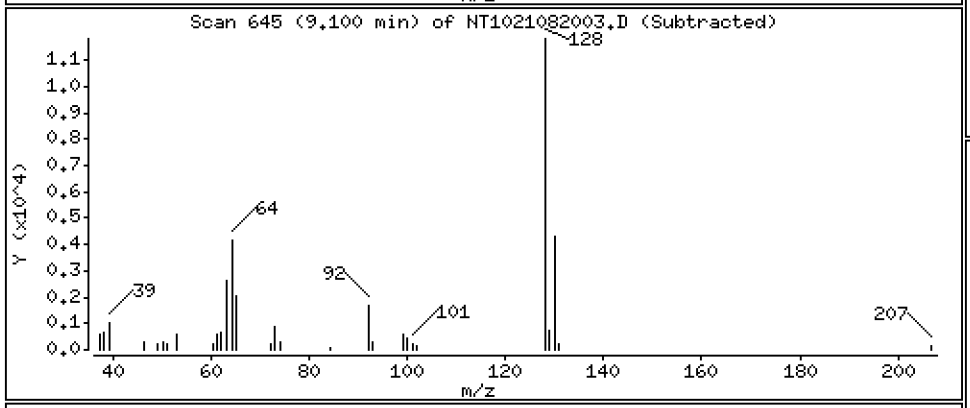
Column diameter: 0.25

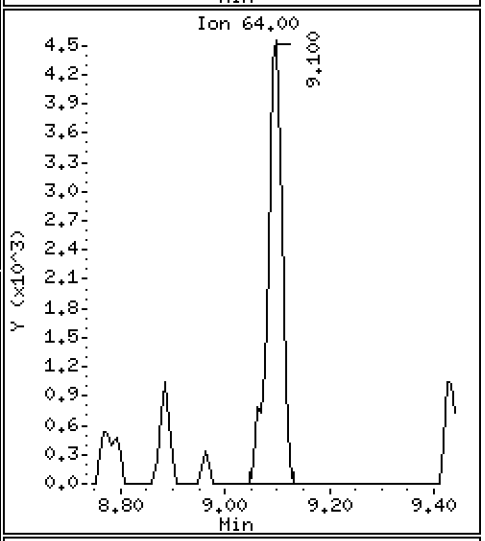
6 2-Chlorophenol

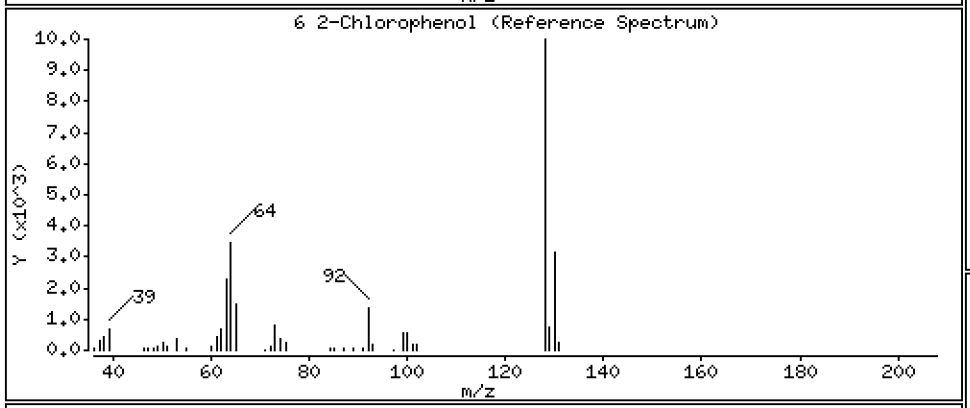
Concentration: 0.4898 ug/mL

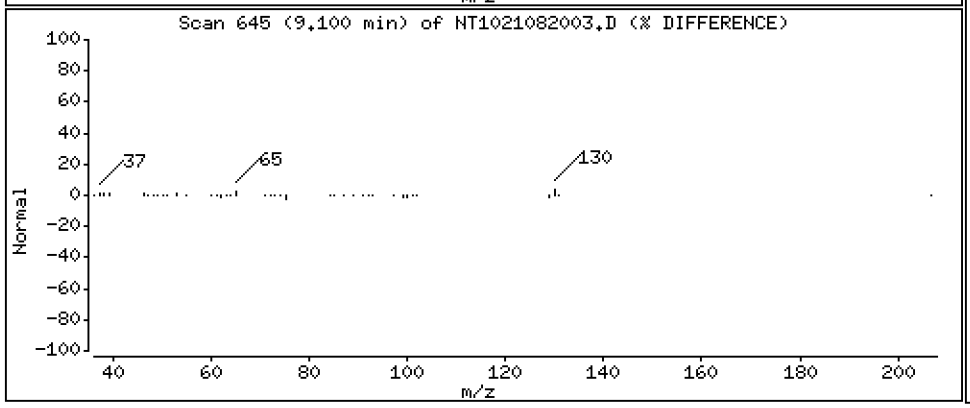


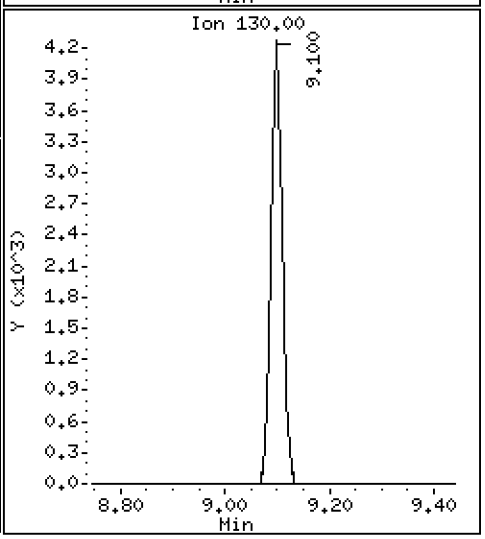












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

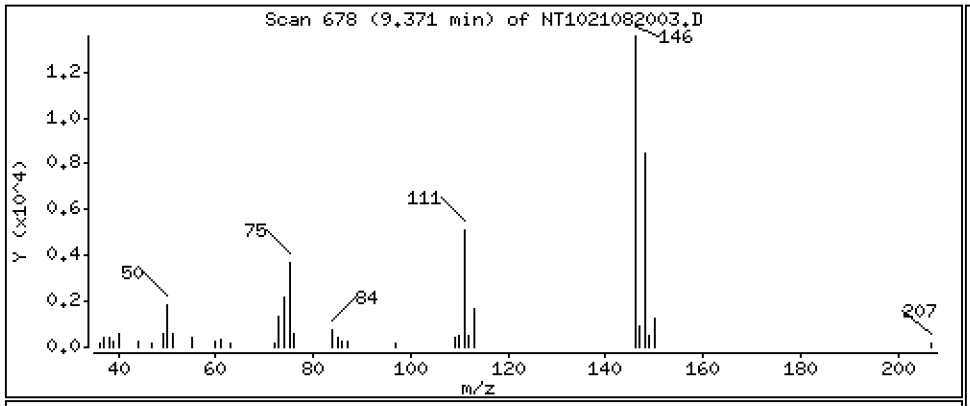
Operator: VTS

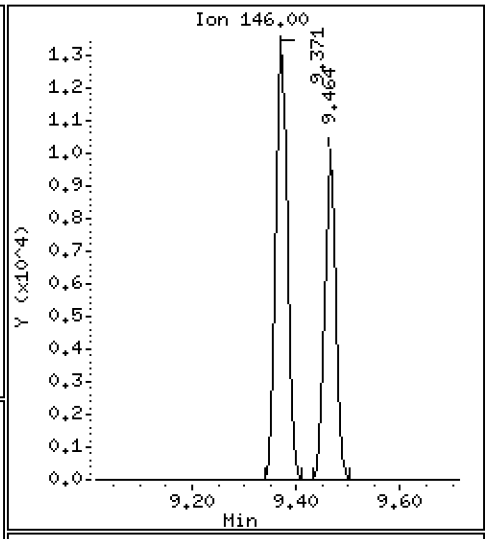
Column phase: ZB-5msi

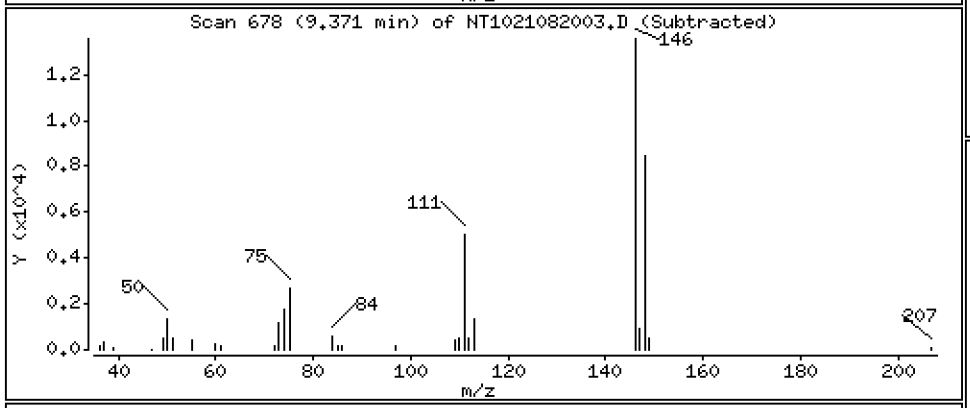
Column diameter: 0.25

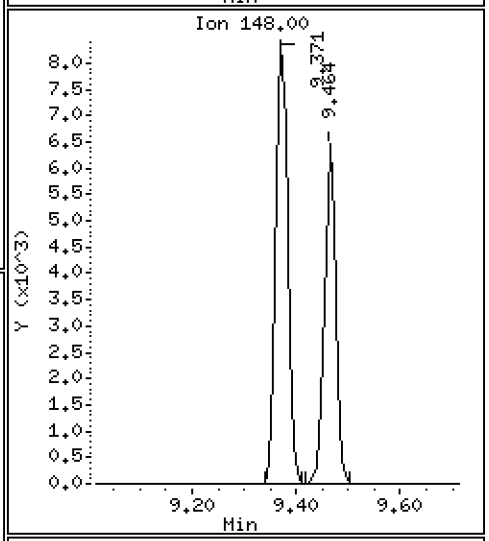
7 1,3-Dichlorobenzene

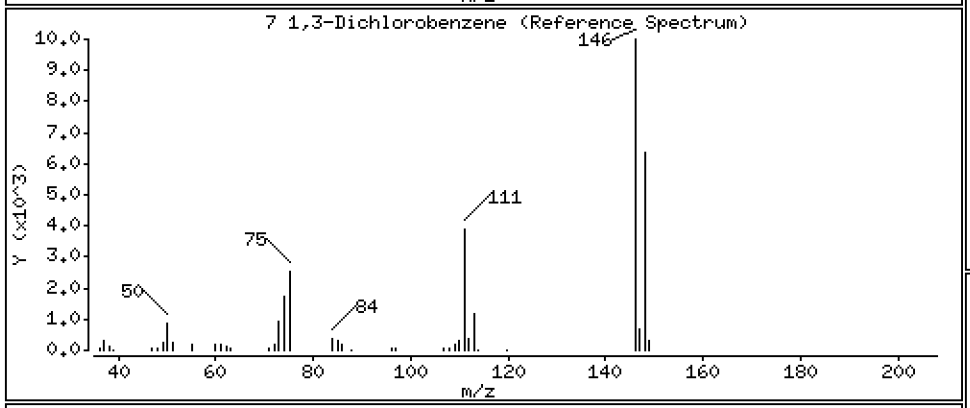
Concentration: 0.5188 ug/mL

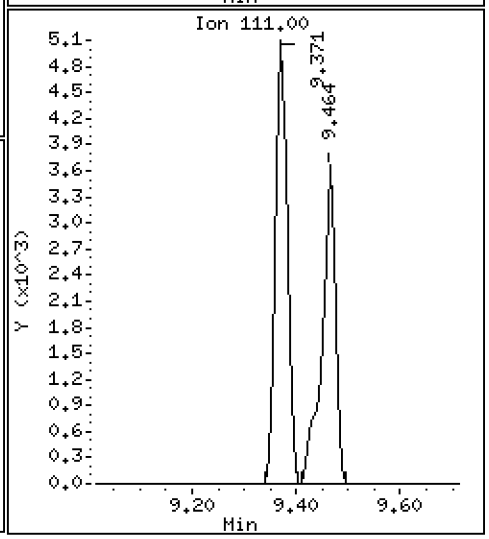


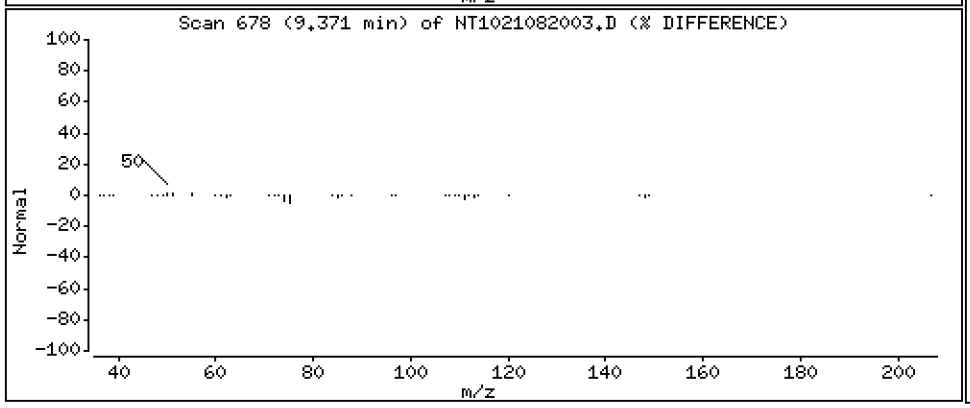












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

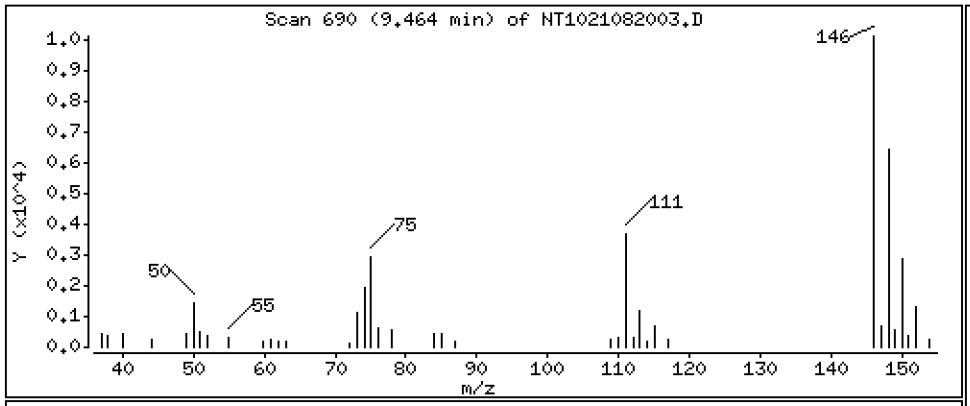
Operator: VTS

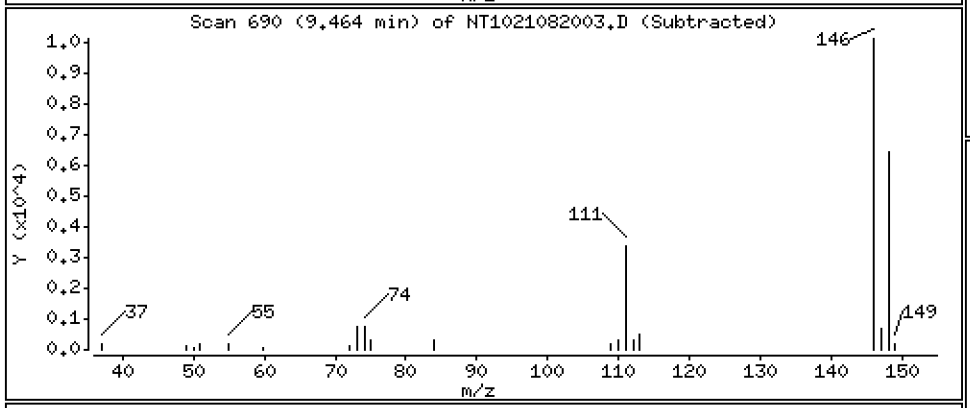
Column phase: ZB-5msi

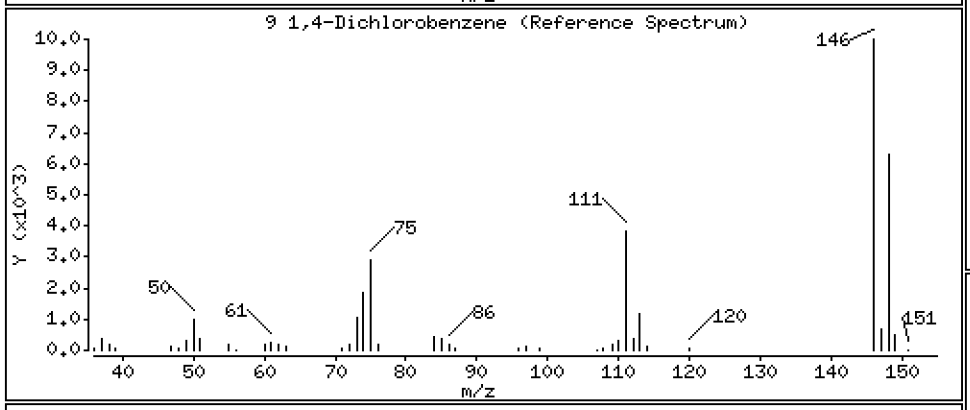
Column diameter: 0.25

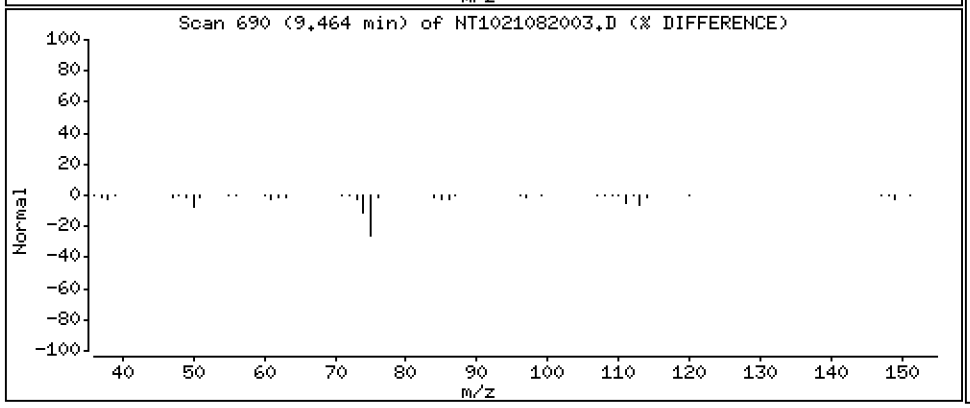
9 1,4-Dichlorobenzene

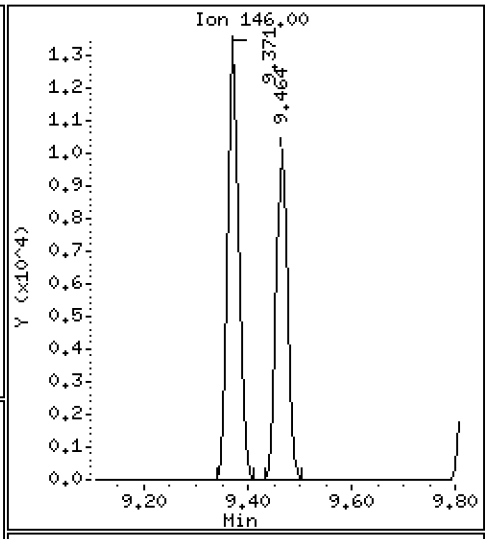
Concentration: 0.5097 ug/mL

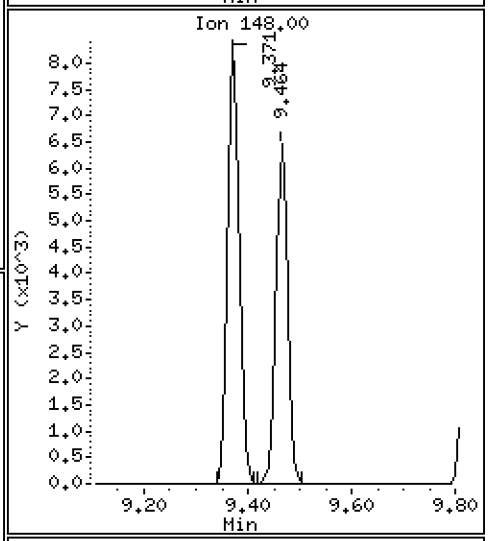


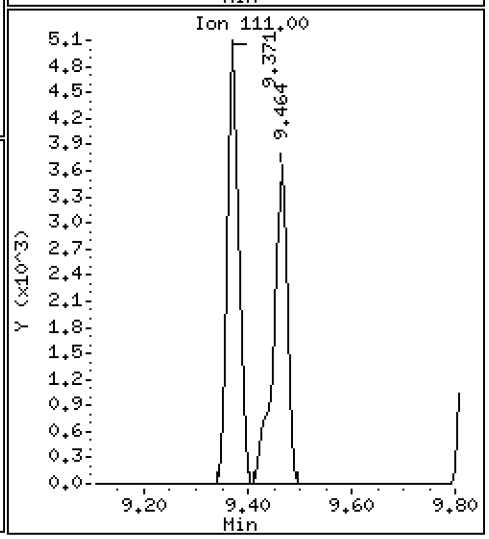












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

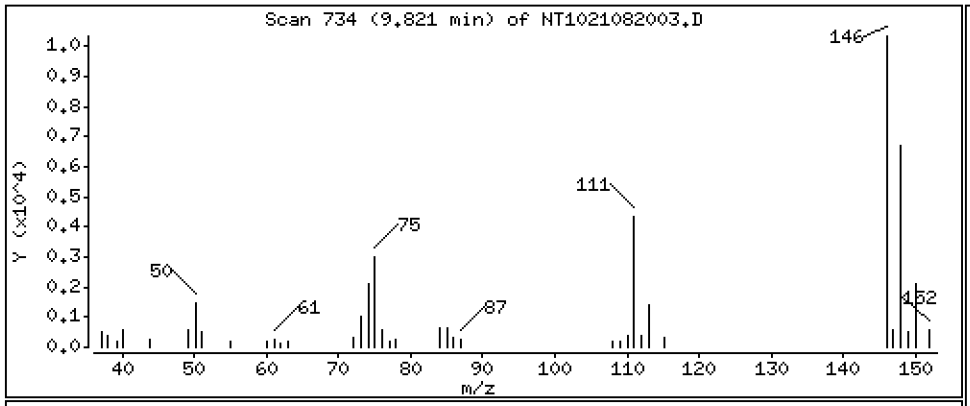
Operator: VTS

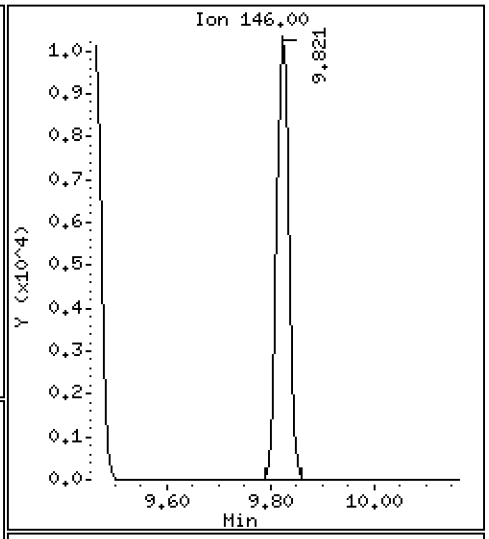
Column phase: ZB-5msi

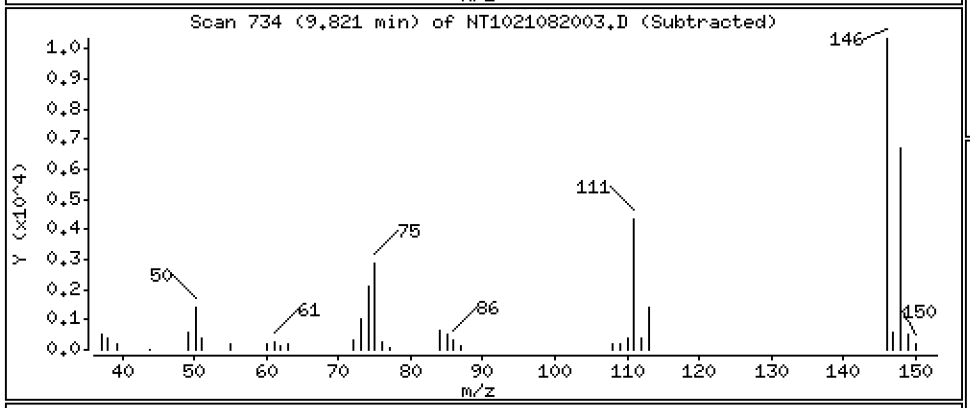
Column diameter: 0.25

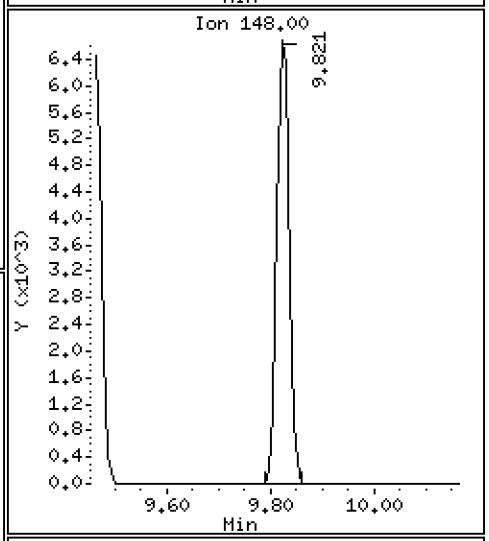
12 1,2-Dichlorobenzene

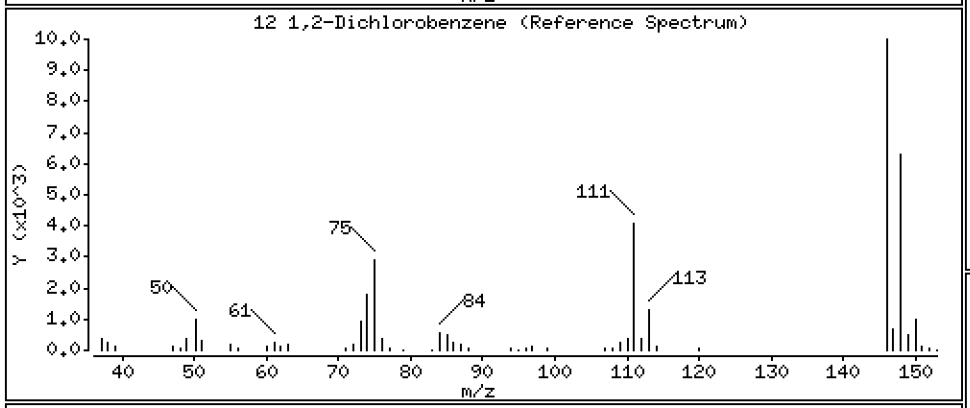
Concentration: 0.4969 ug/mL

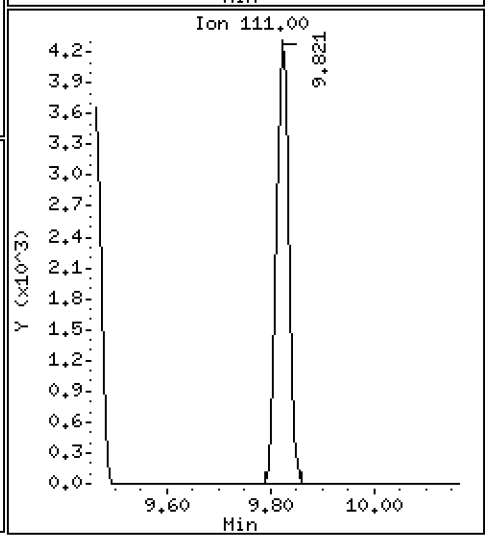


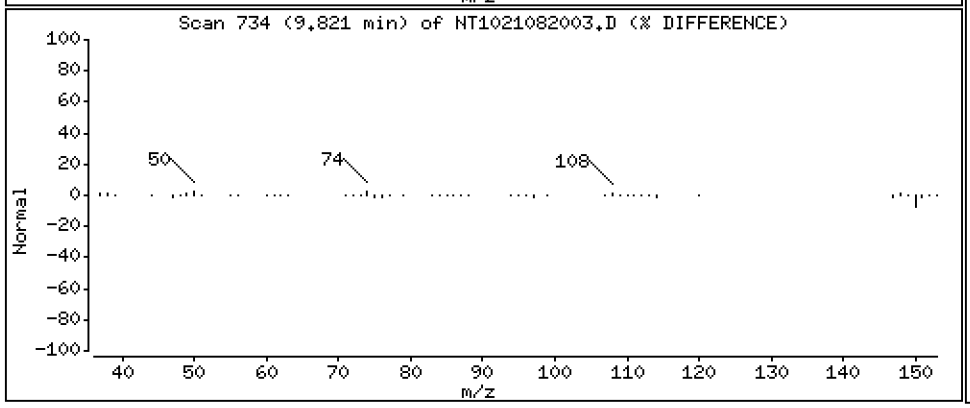












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

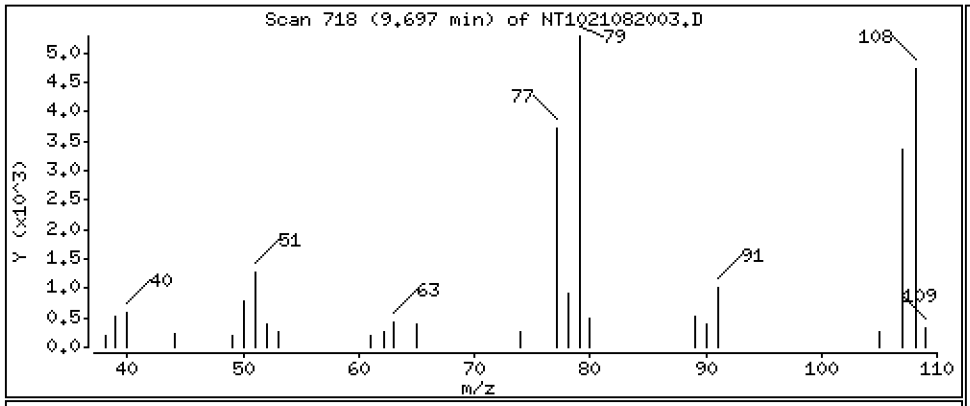
Operator: VTS

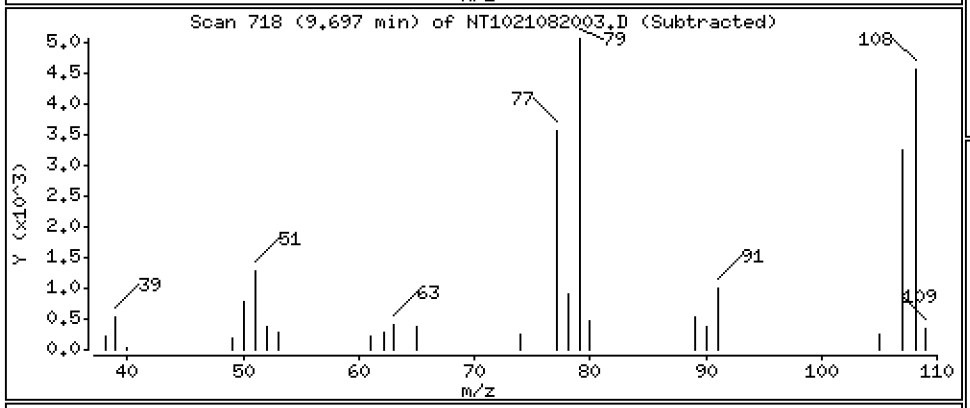
Column phase: ZB-5msi

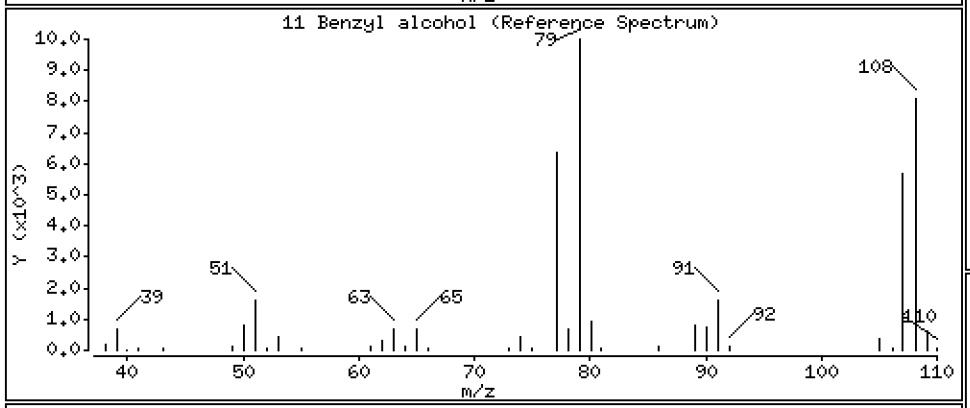
Column diameter: 0.25

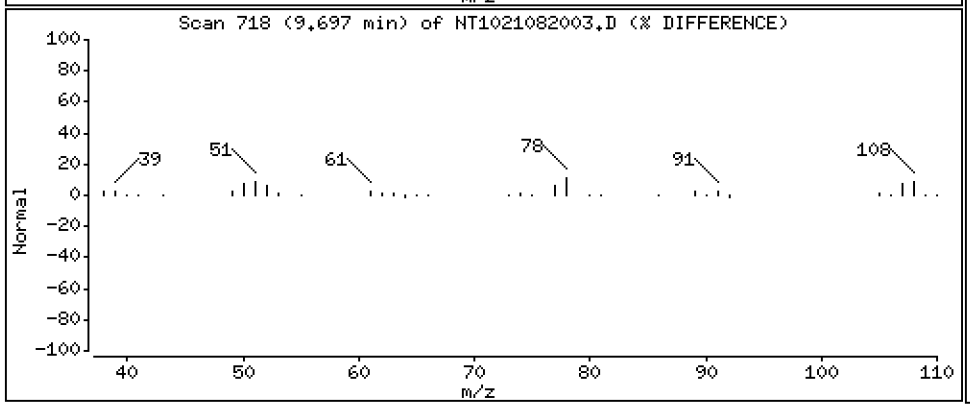
11 Benzyl alcohol

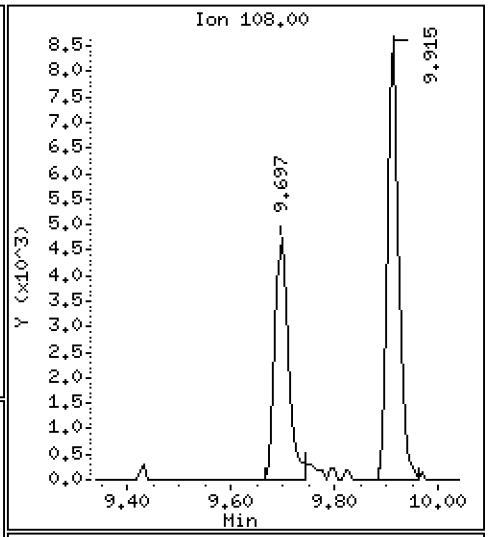
Concentration: 0.4141 ug/mL

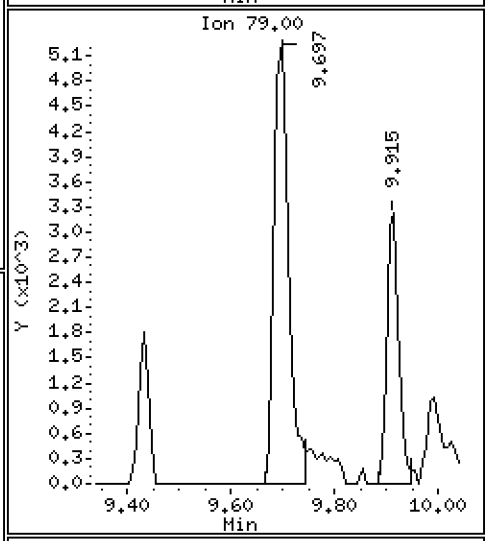


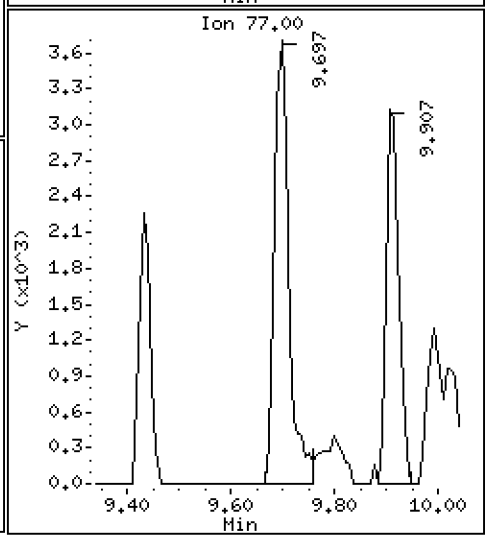












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

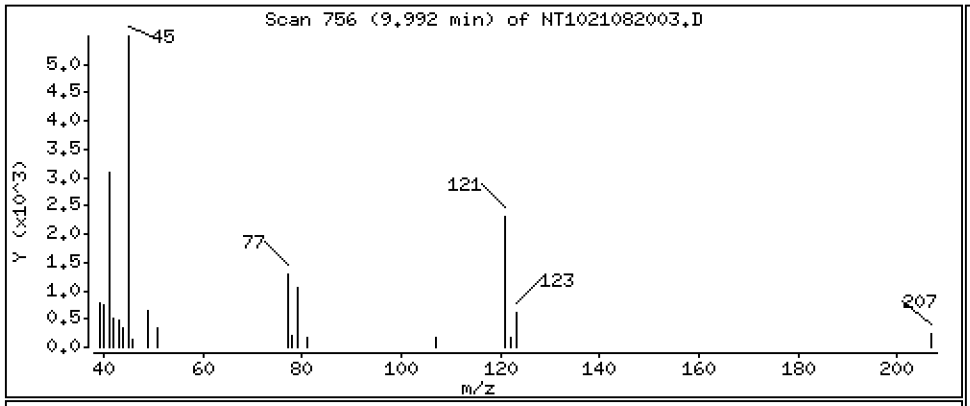
Operator: VTS

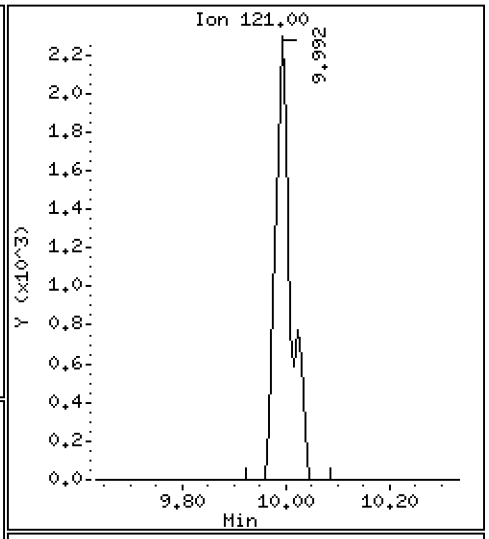
Column phase: ZB-5msi

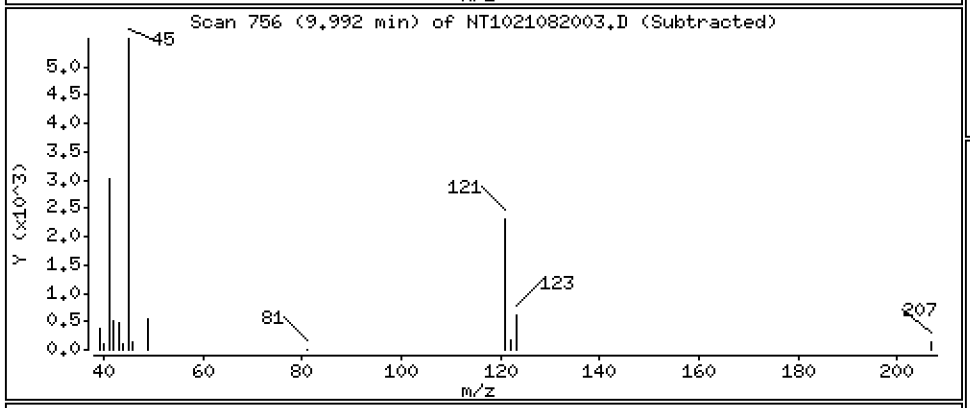
Column diameter: 0.25

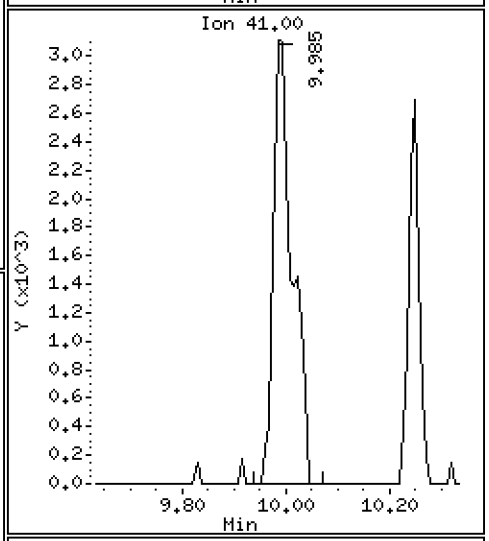
14 2,2'-oxybis(1-Chloropropane)

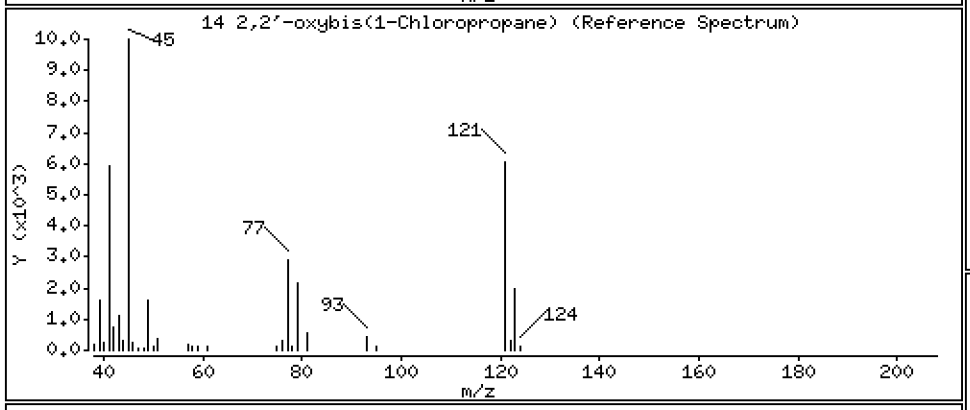
Concentration: 0.4884 ug/mL

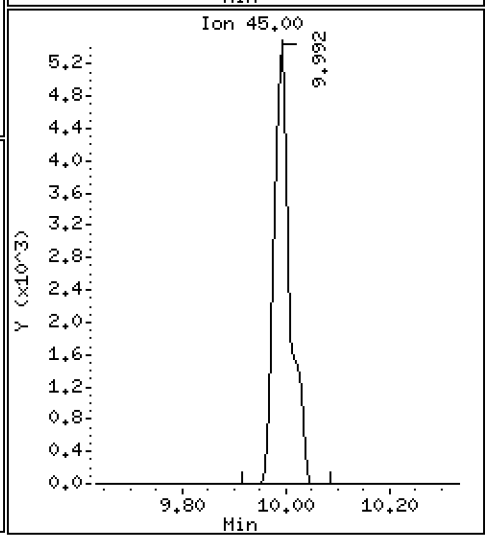


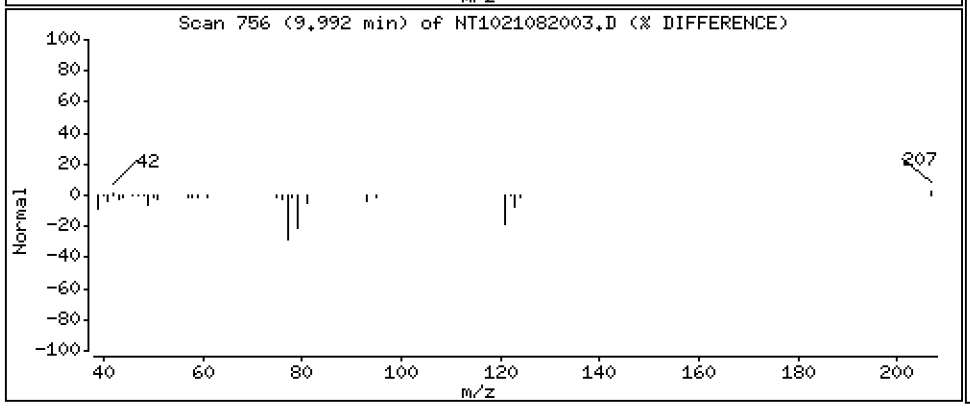












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

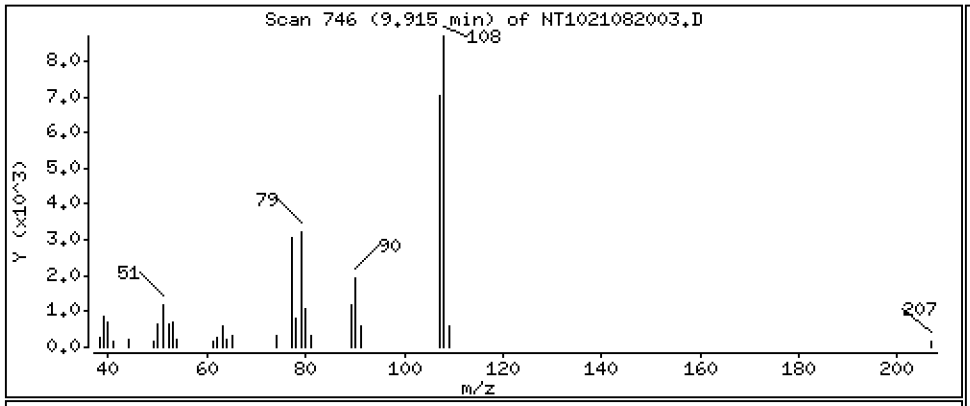
Operator: VTS

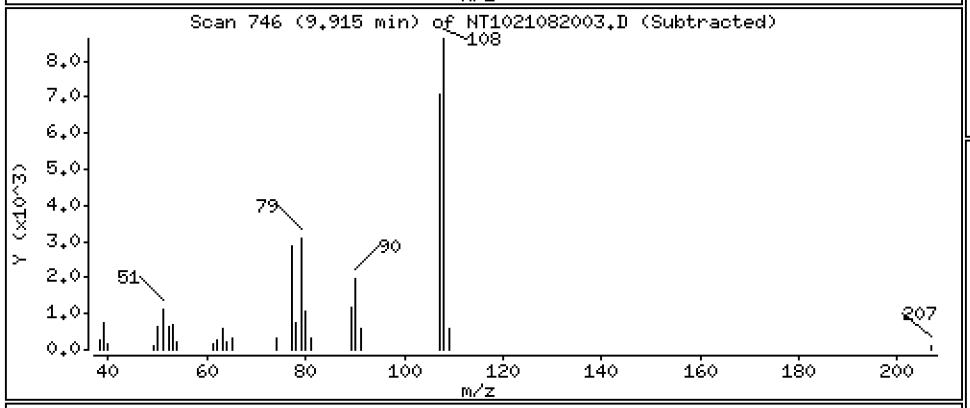
Column phase: ZB-5msi

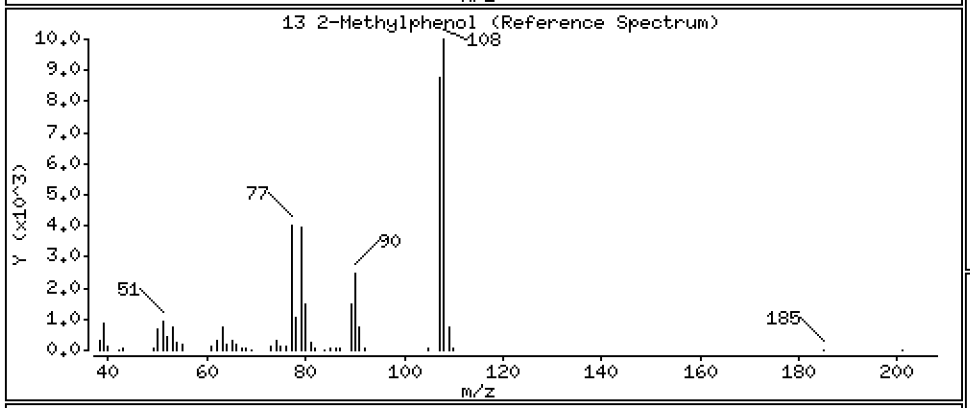
Column diameter: 0.25

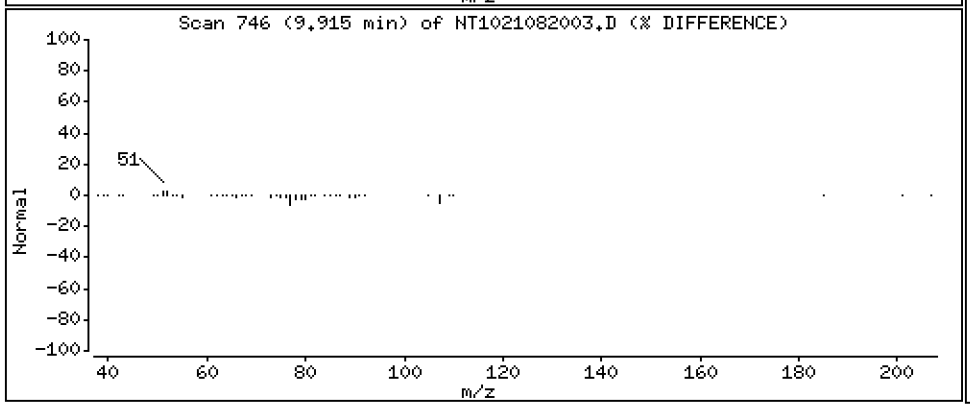
13 2-Methylphenol

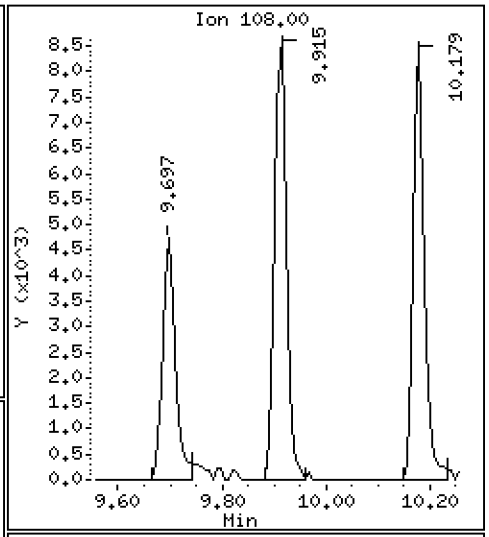
Concentration: 0.4697 ug/mL

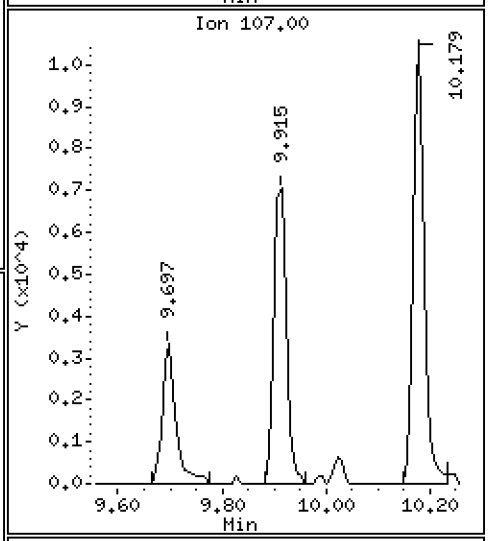


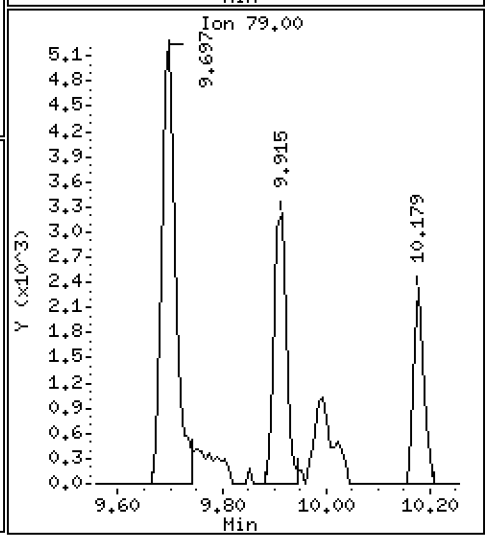












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

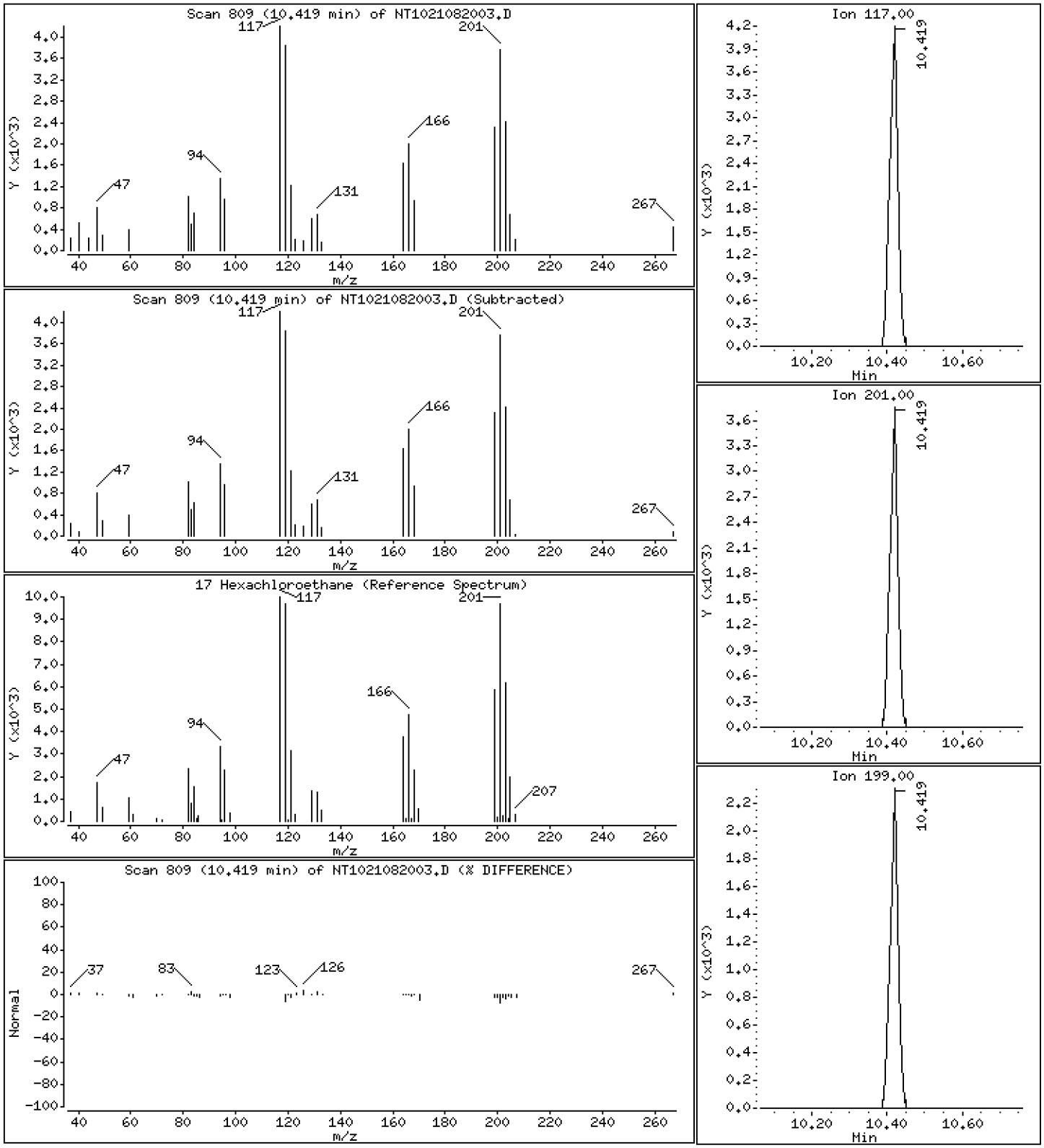
Operator: VTS

Column phase: ZB-5msi

Column diameter: 0.25

17 Hexachloroethane

Concentration: 0.4944 ug/mL



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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

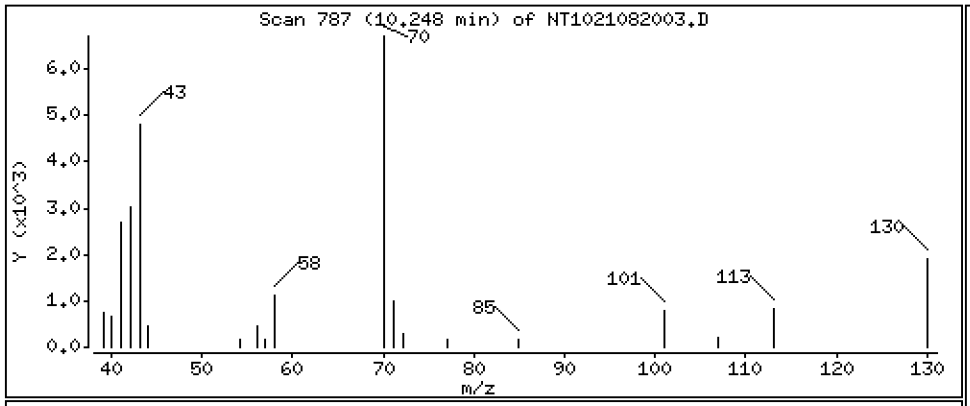
Operator: VTS

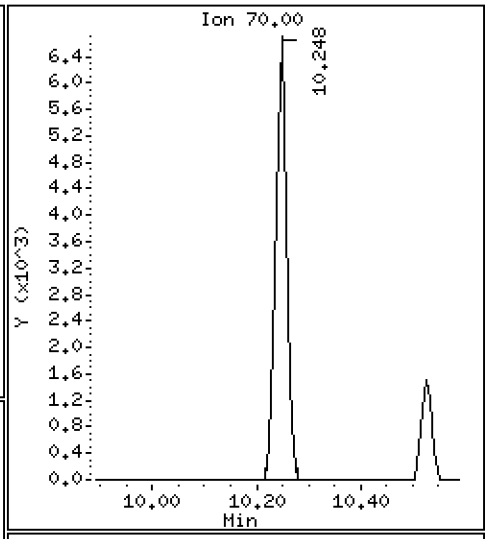
Column phase: ZB-5msi

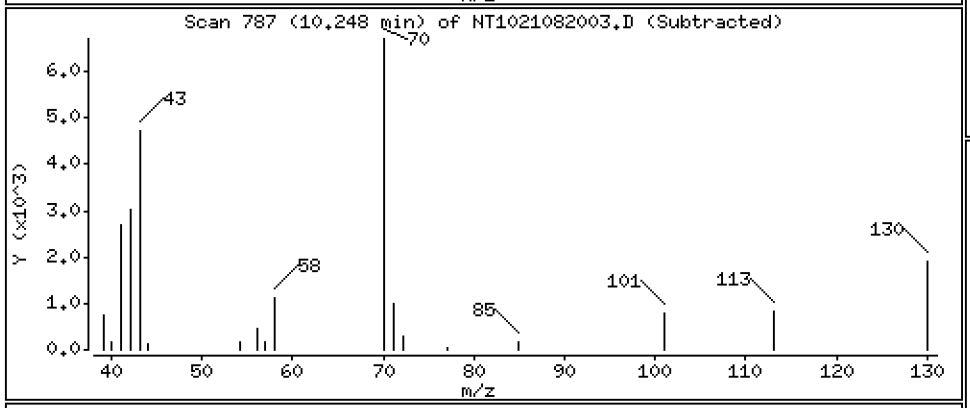
Column diameter: 0.25

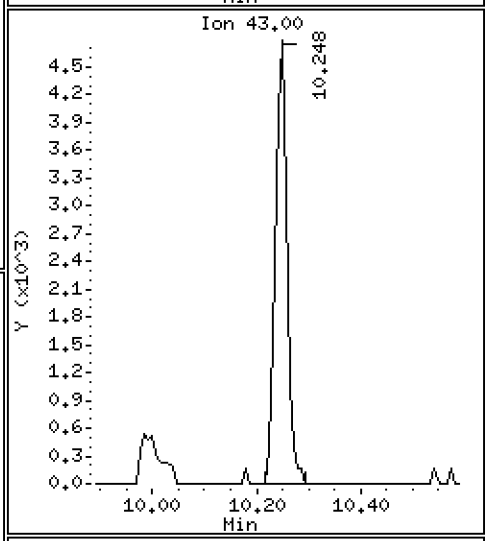
16 N-Nitroso-di-n-propylamine

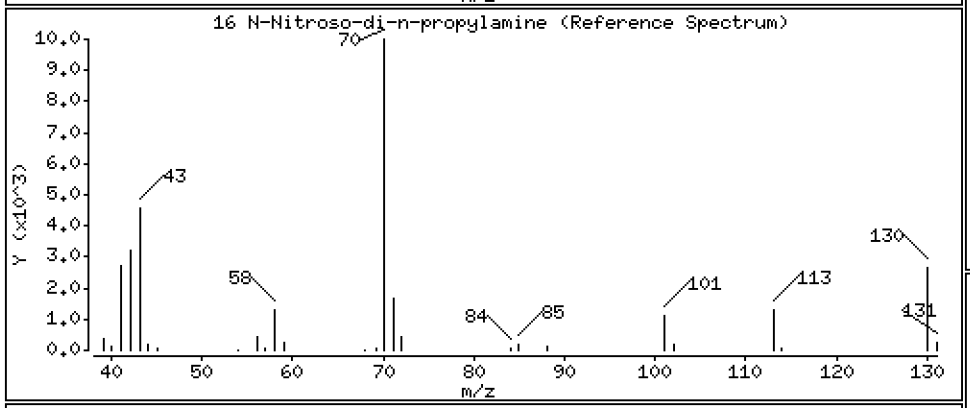
Concentration: 0.4888 ug/mL

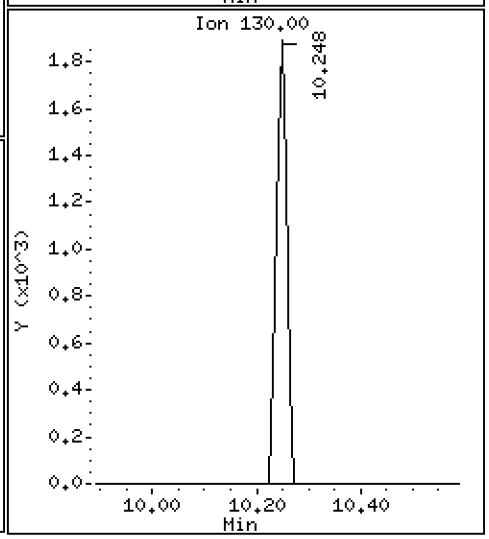


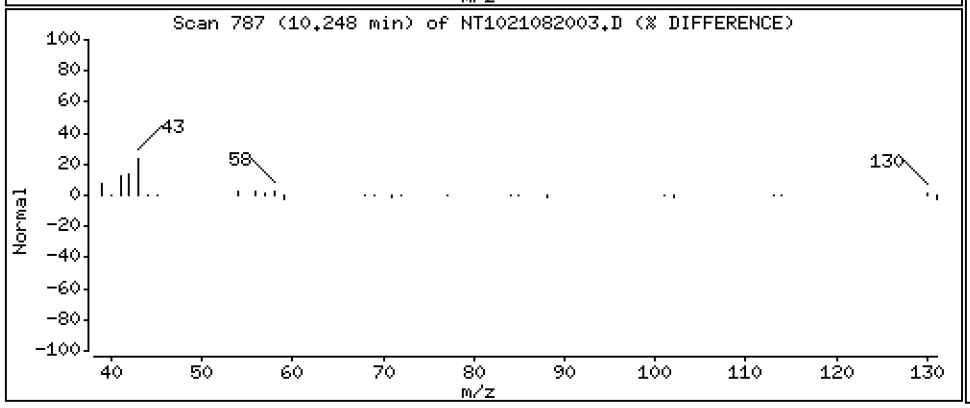












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

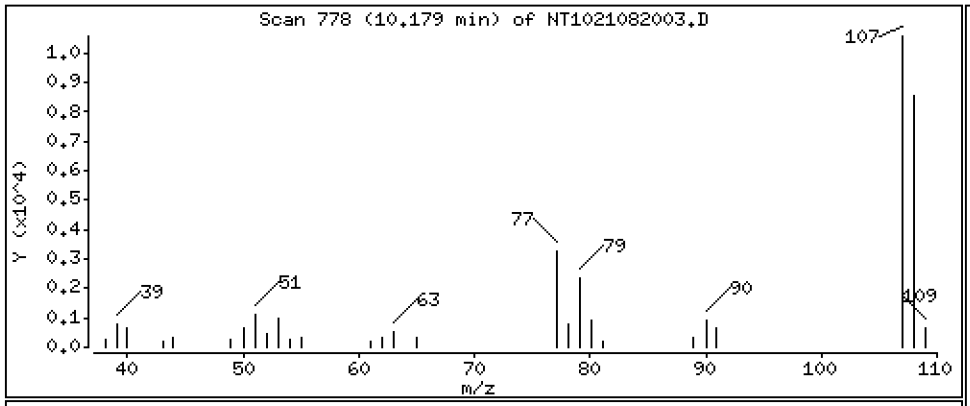
Operator: VTS

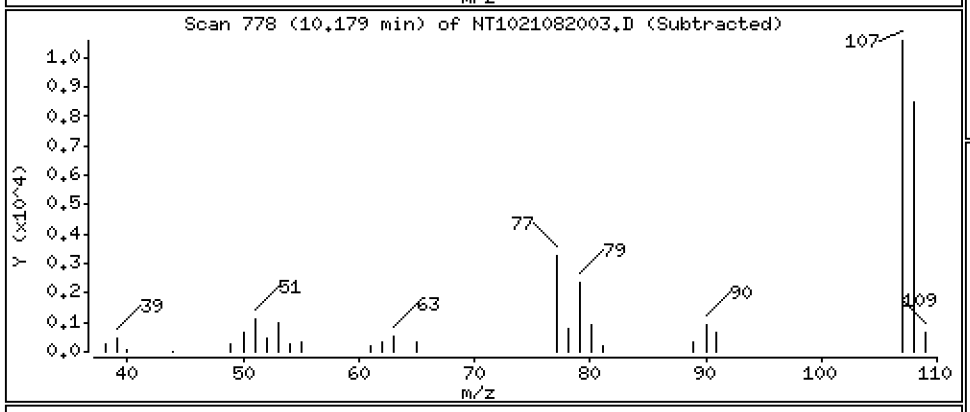
Column phase: ZB-5msi

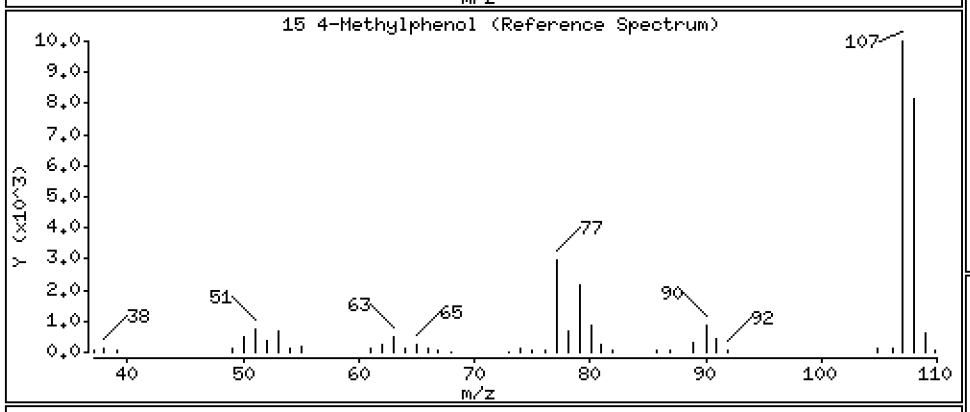
Column diameter: 0.25

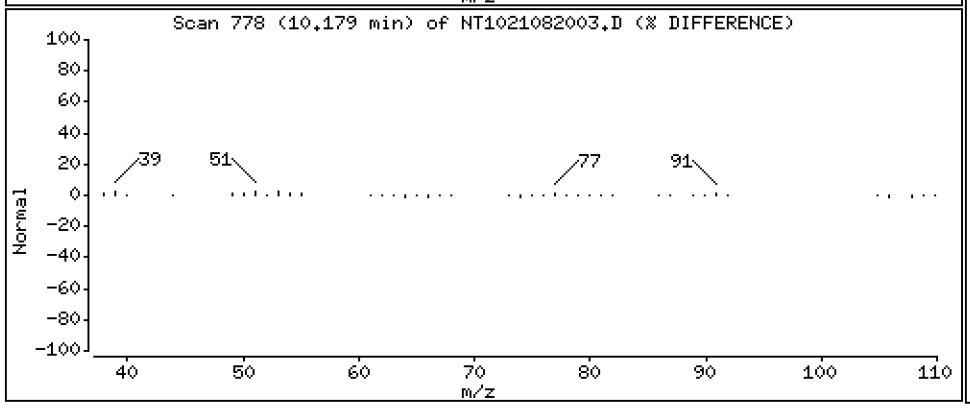
15 4-Methylphenol

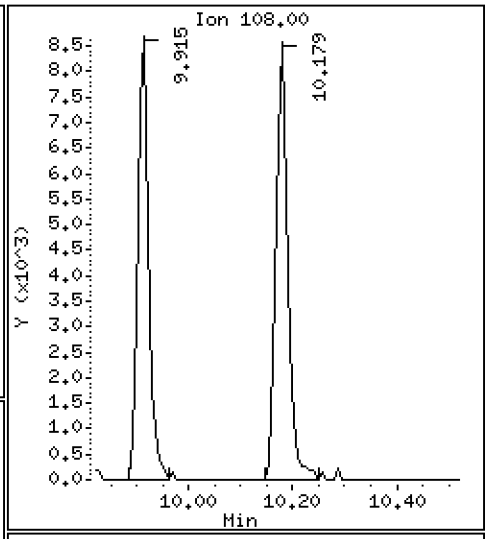
Concentration: 0.4537 ug/mL

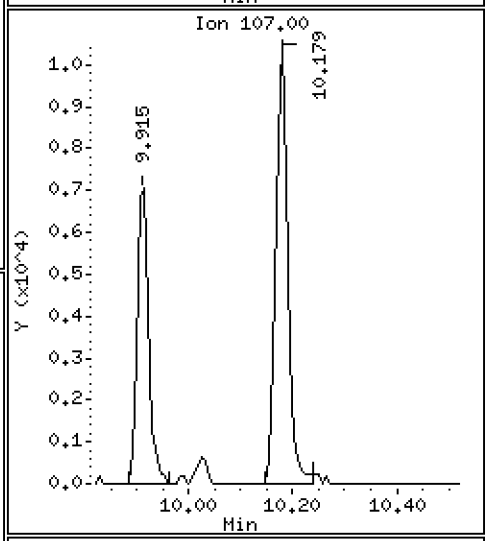


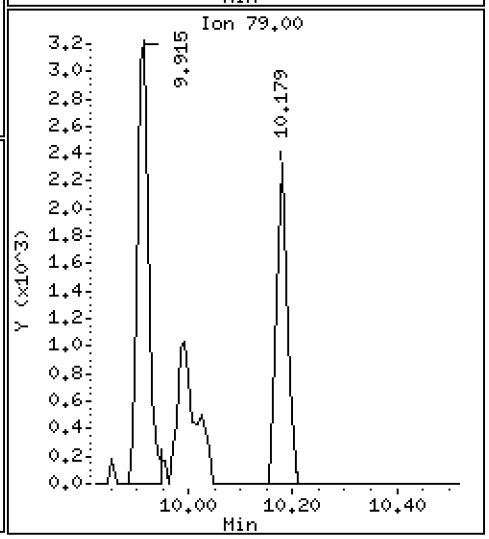












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

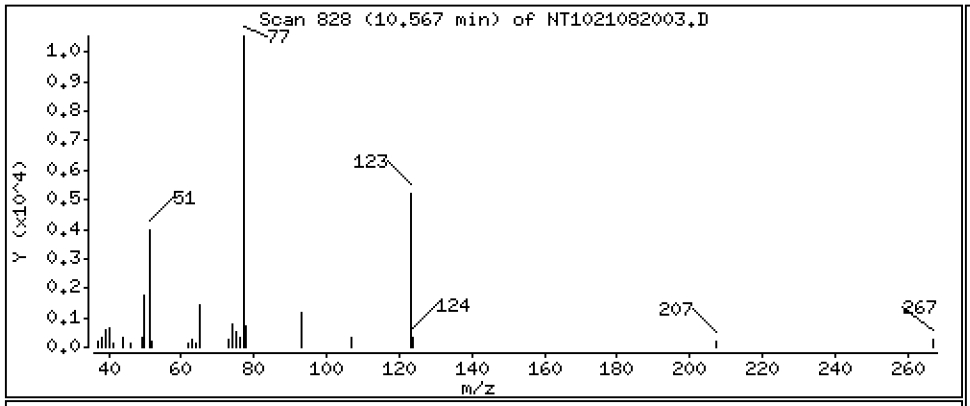
Operator: VTS

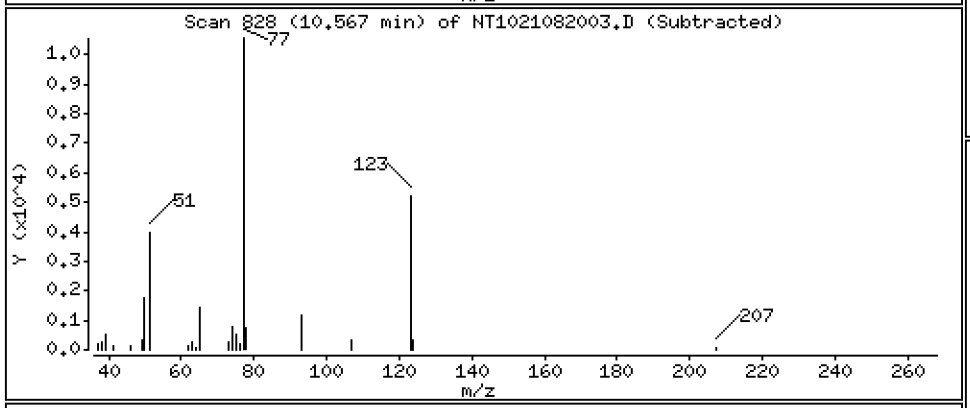
Column phase: ZB-5msi

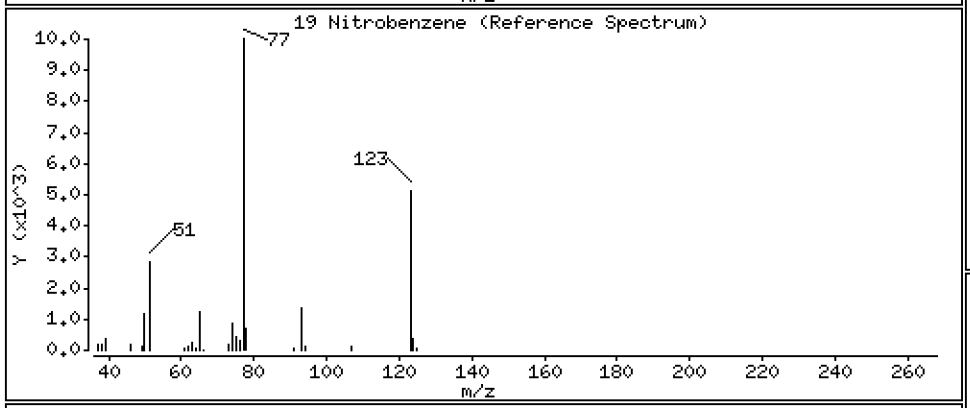
Column diameter: 0.25

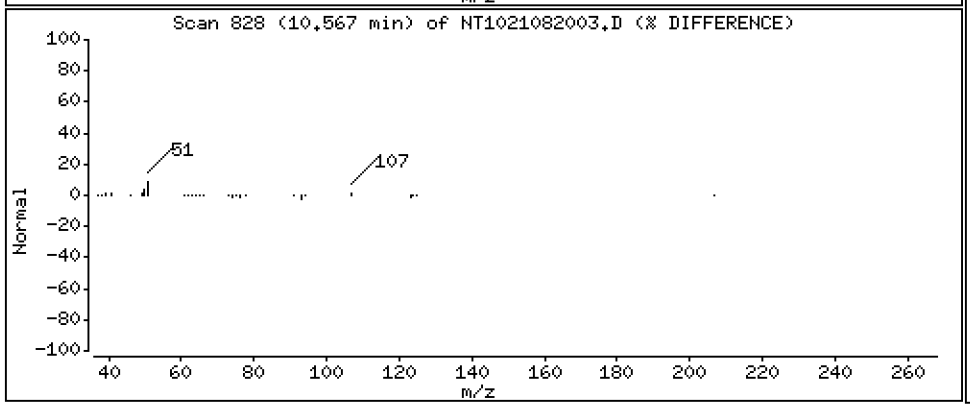
19 Nitrobenzene

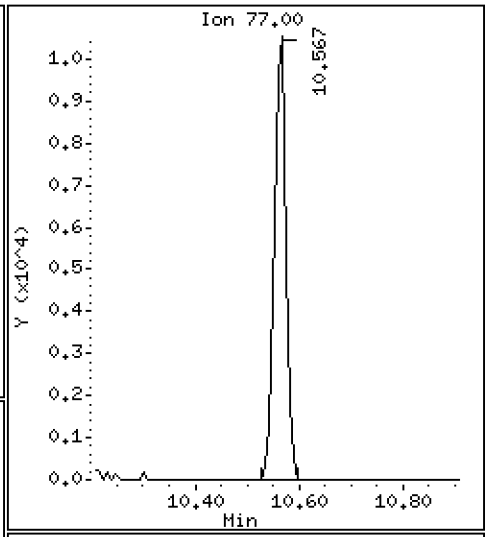
Concentration: 0.5044 ug/mL

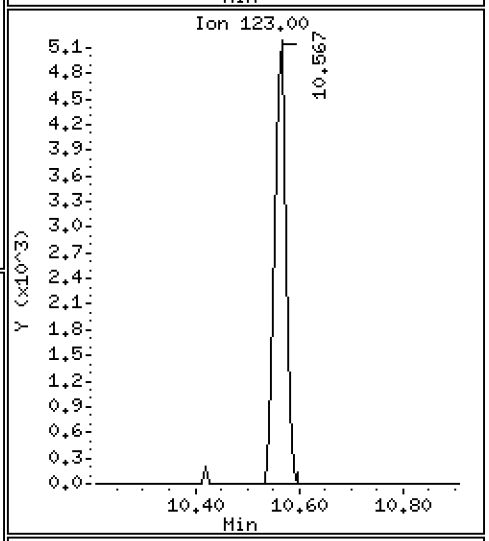


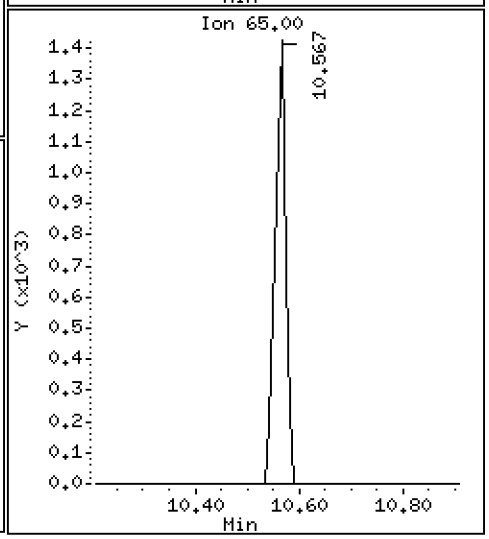












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

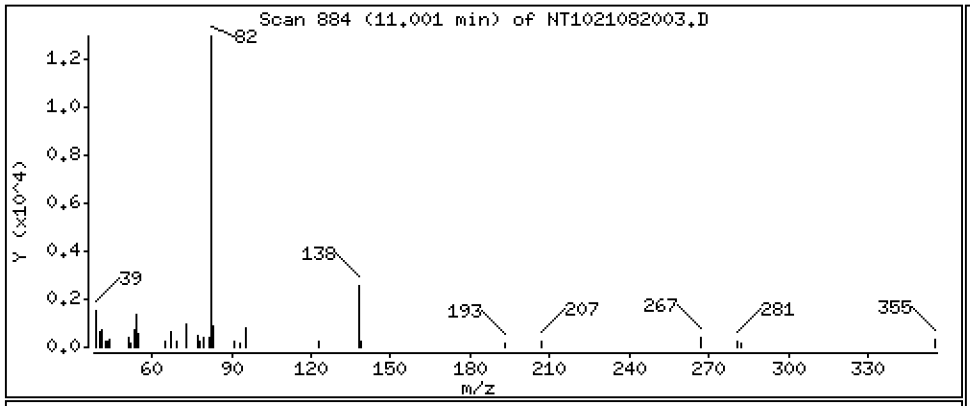
Operator: VTS

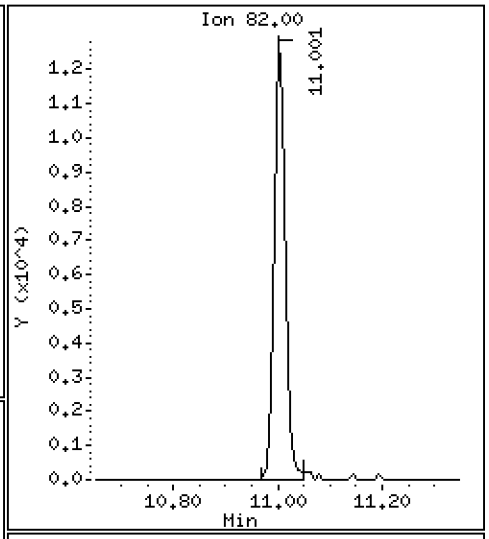
Column phase: ZB-5msi

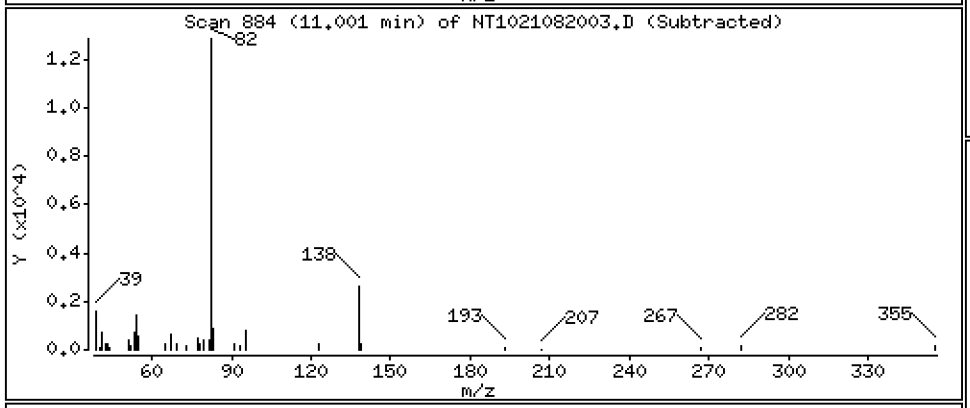
Column diameter: 0.25

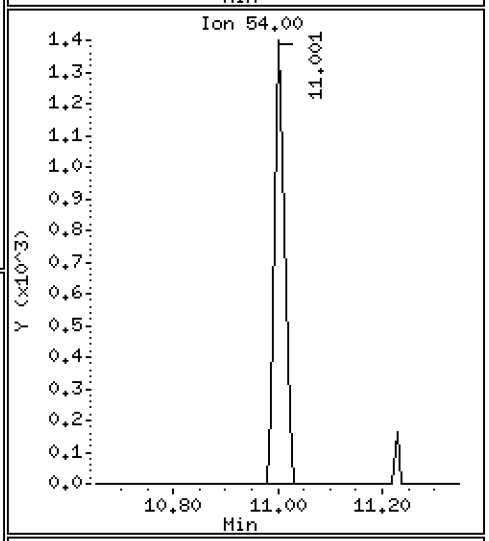
20 Isophorone

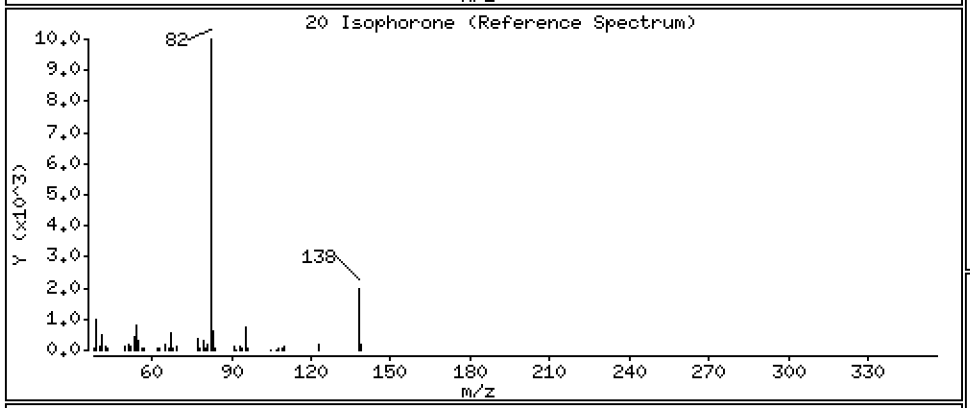
Concentration: 0.4154 ug/mL

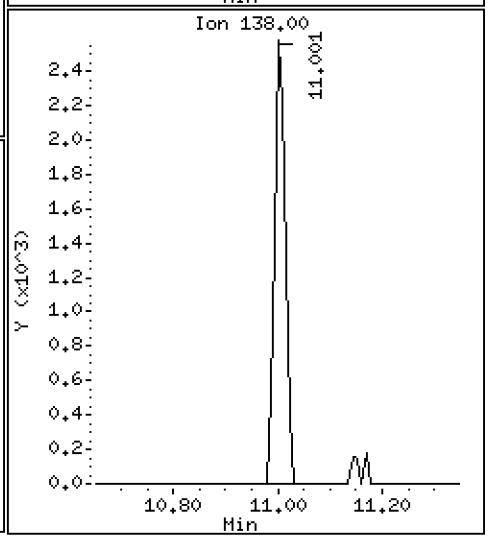


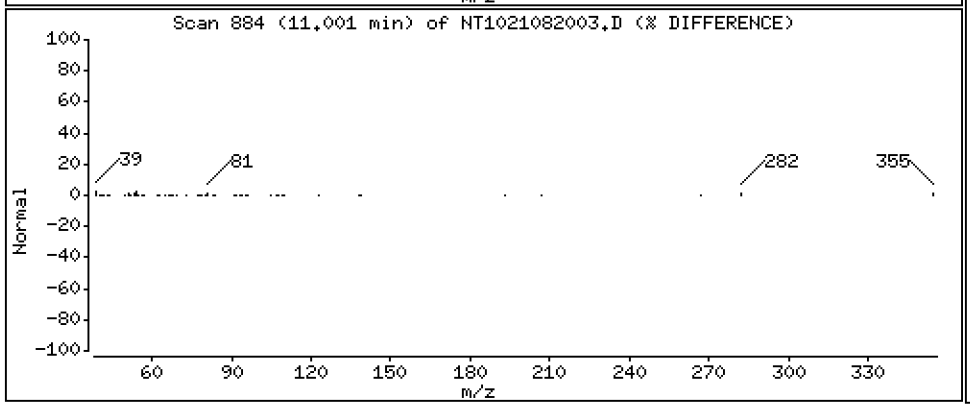












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

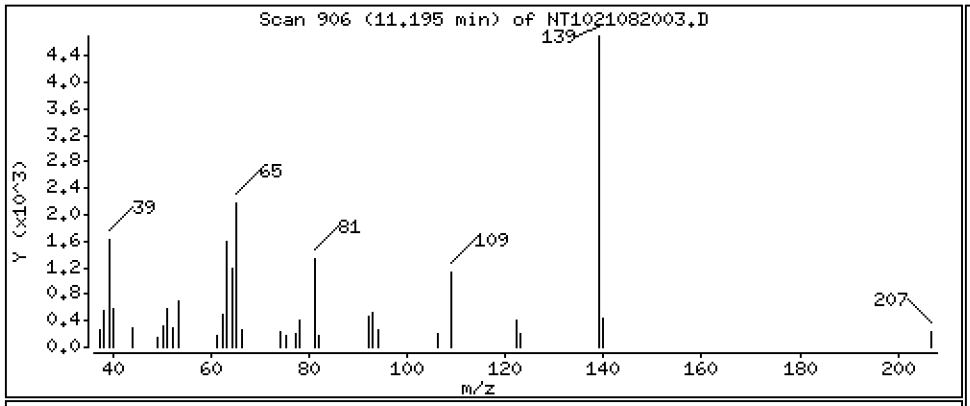
Operator: VTS

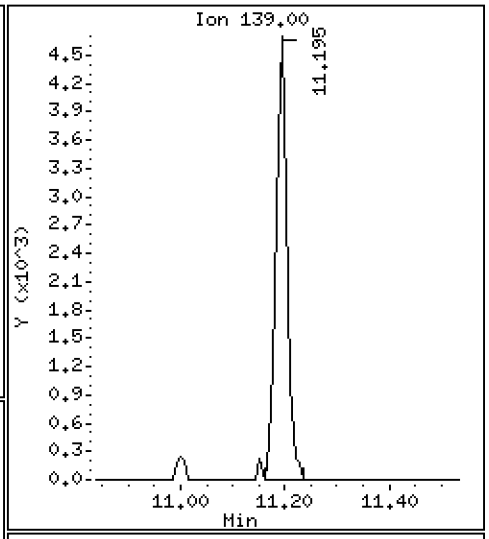
Column phase: ZB-5msi

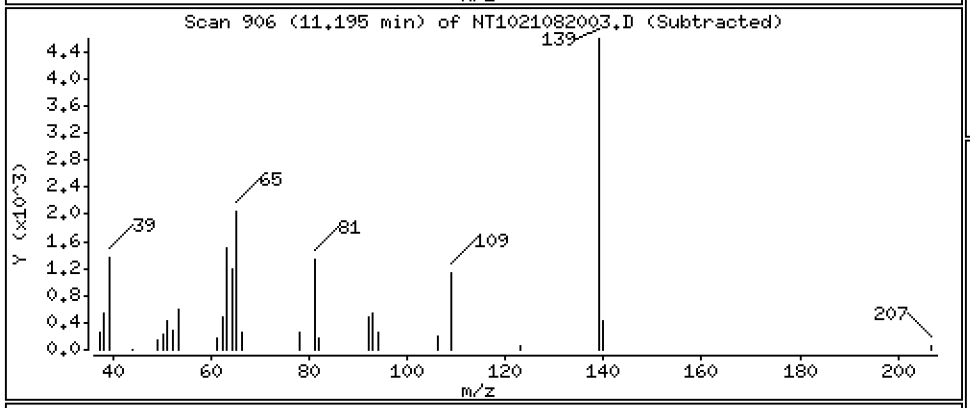
Column diameter: 0.25

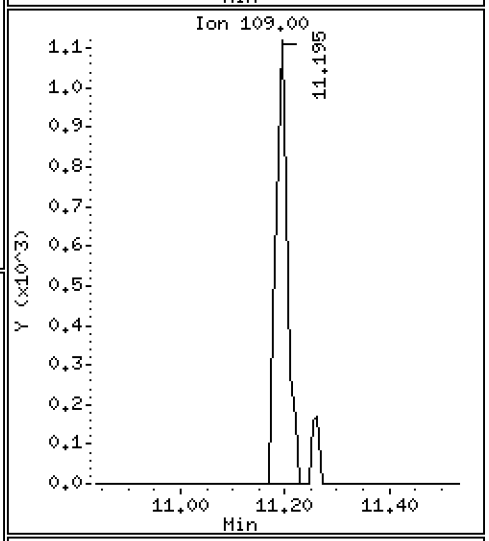
21 2-Nitrophenol

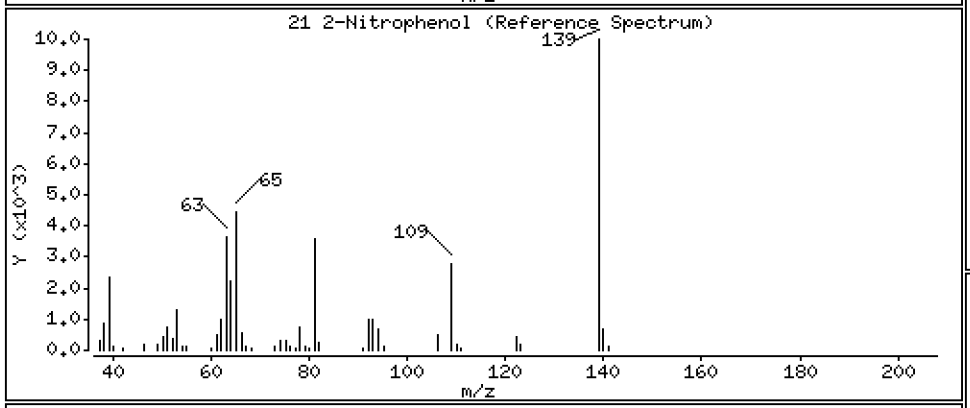
Concentration: 0.4116 ug/mL

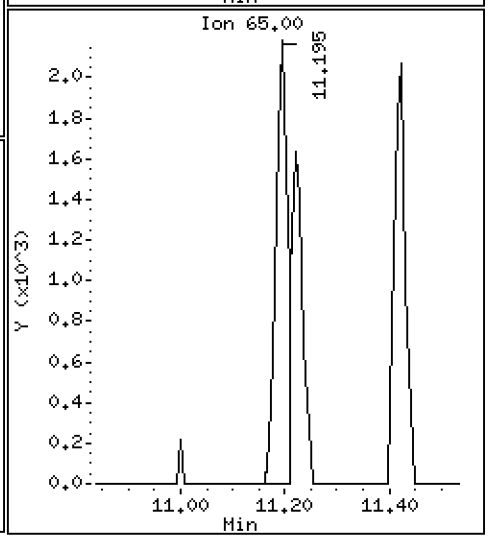


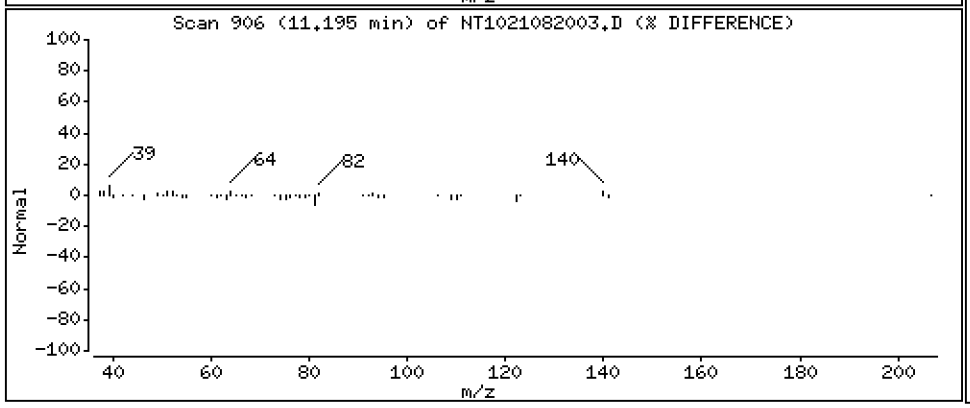












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

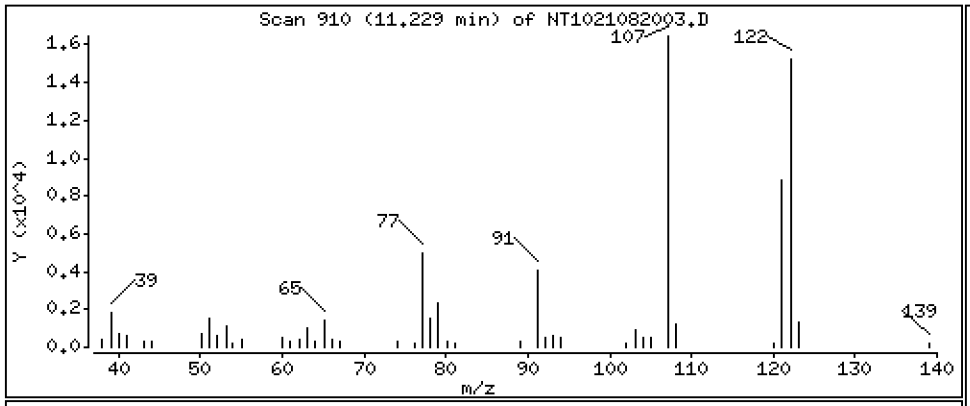
Operator: VTS

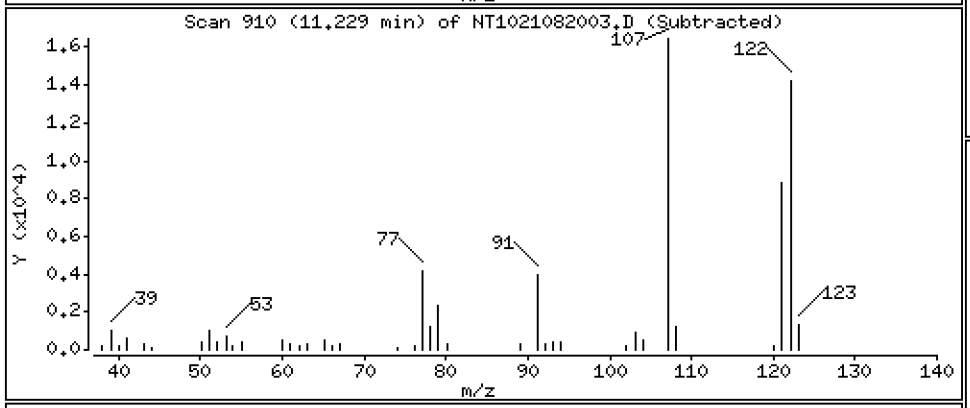
Column phase: ZB-5msi

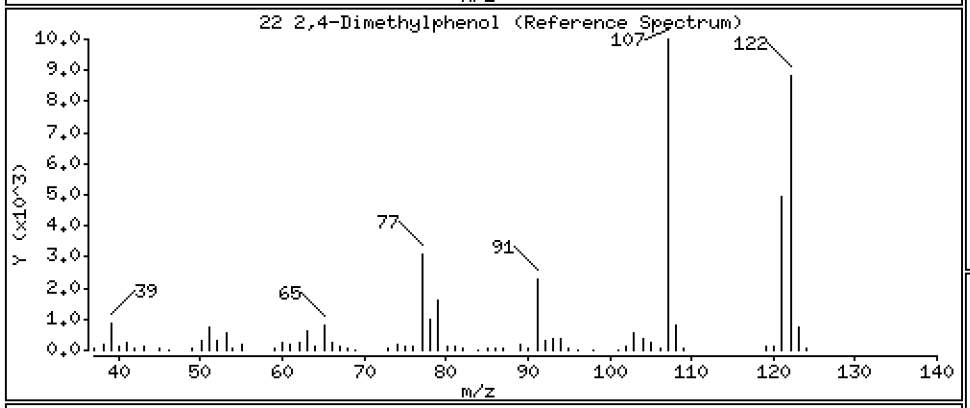
Column diameter: 0.25

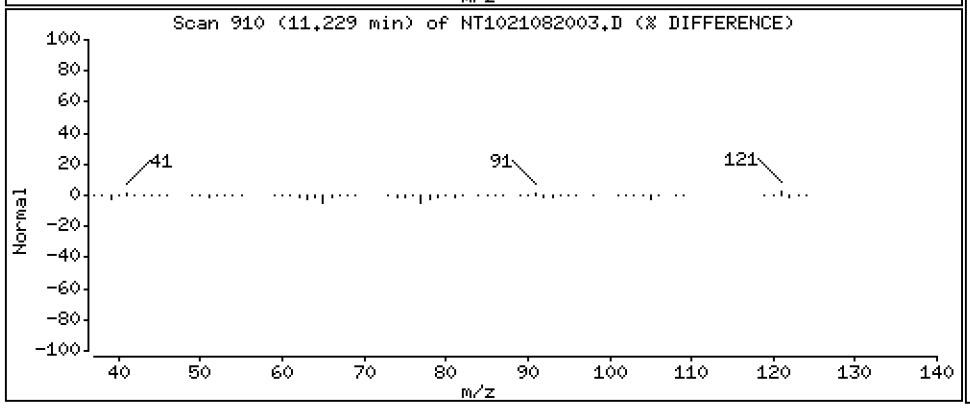
22 2,4-Dimethylphenol

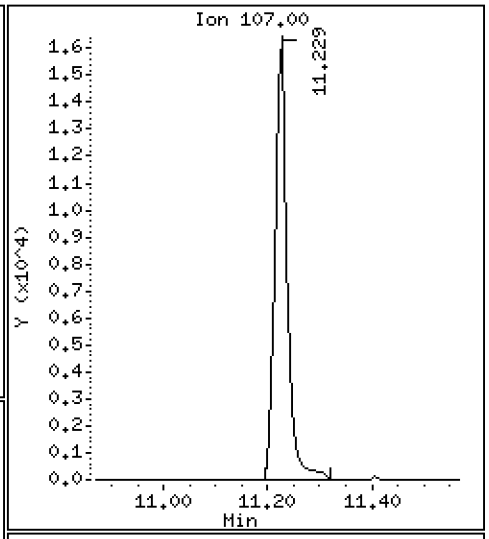
Concentration: 1.026 ug/mL

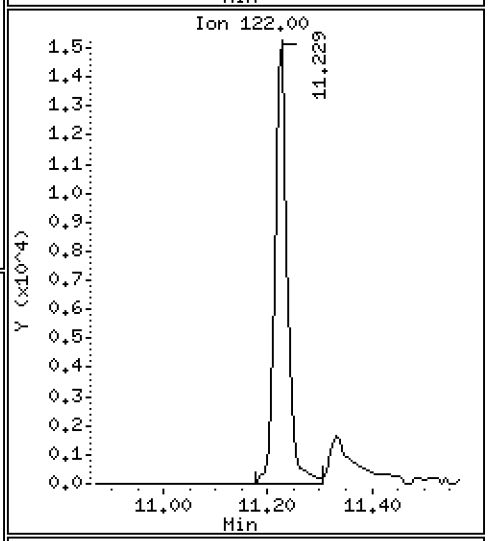


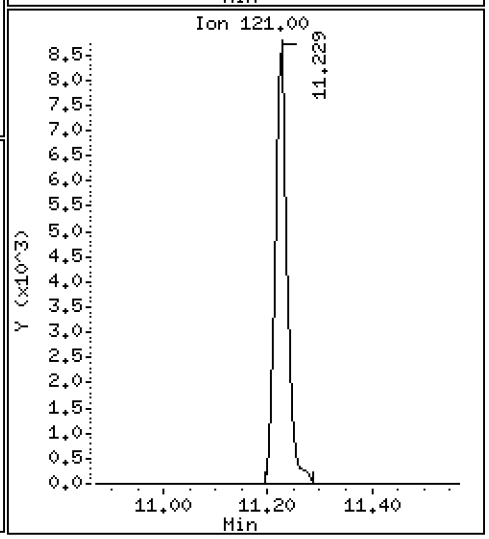












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

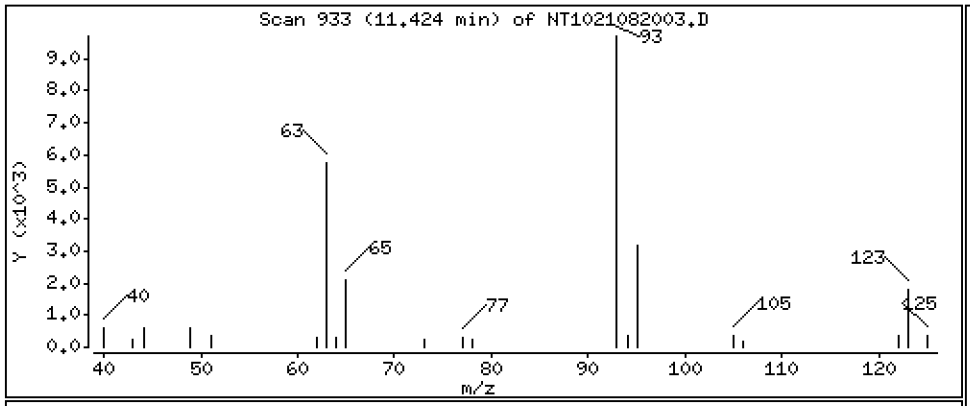
Operator: VTS

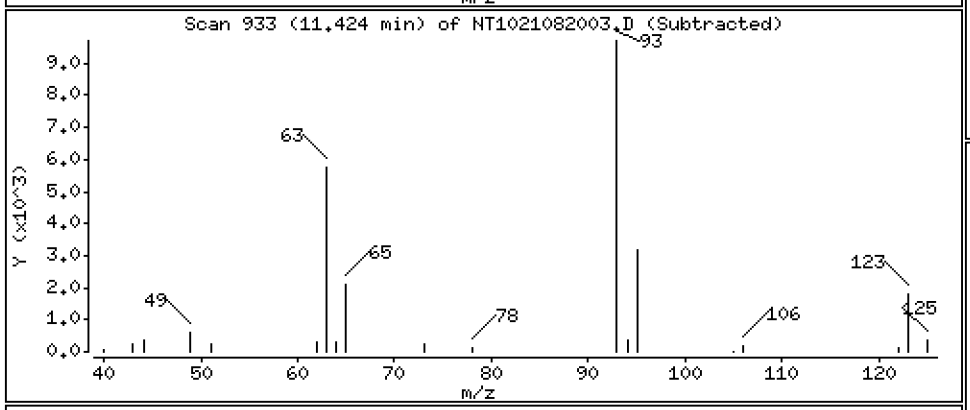
Column phase: ZB-5msi

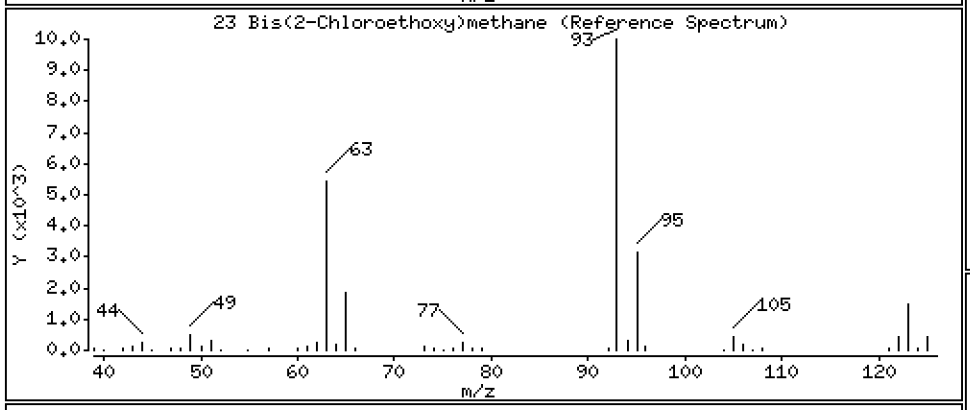
Column diameter: 0.25

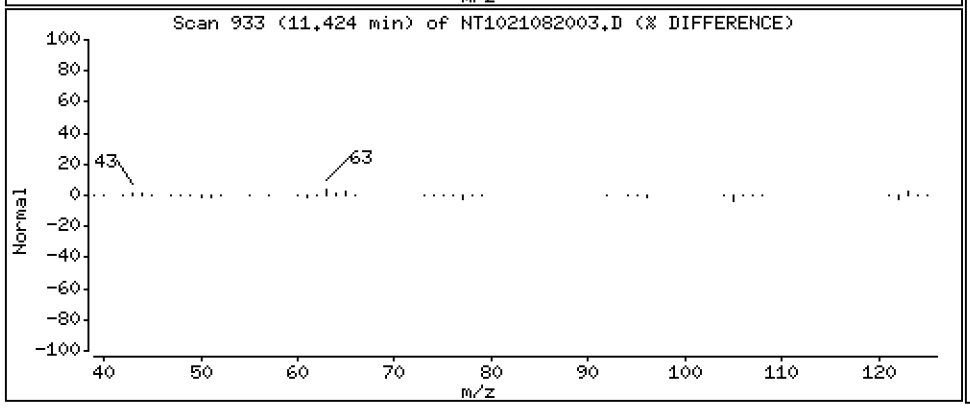
23 Bis(2-Chloroethoxy)methane

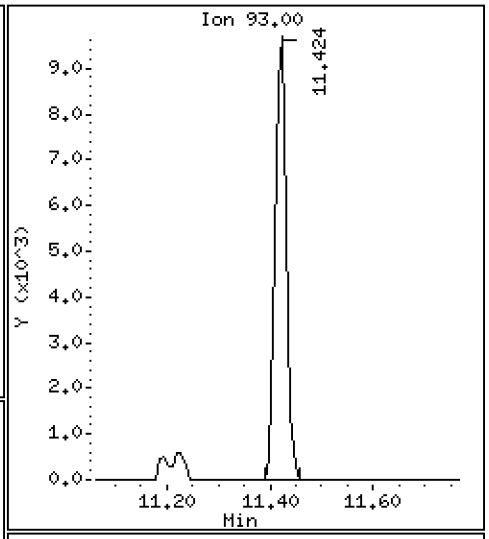
Concentration: 0.5307 ug/mL

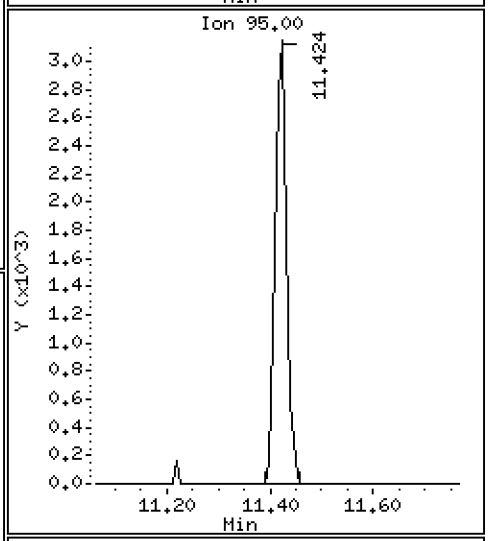


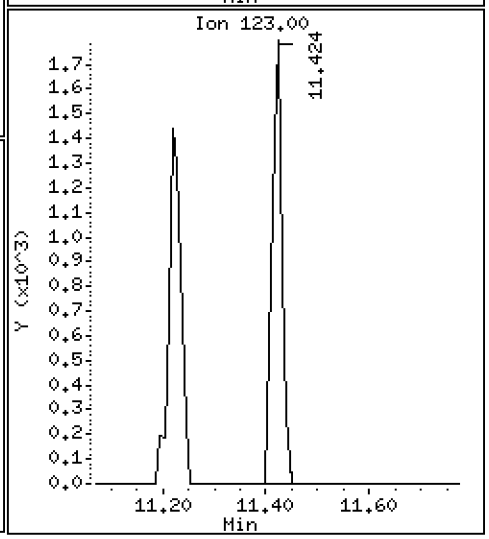












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

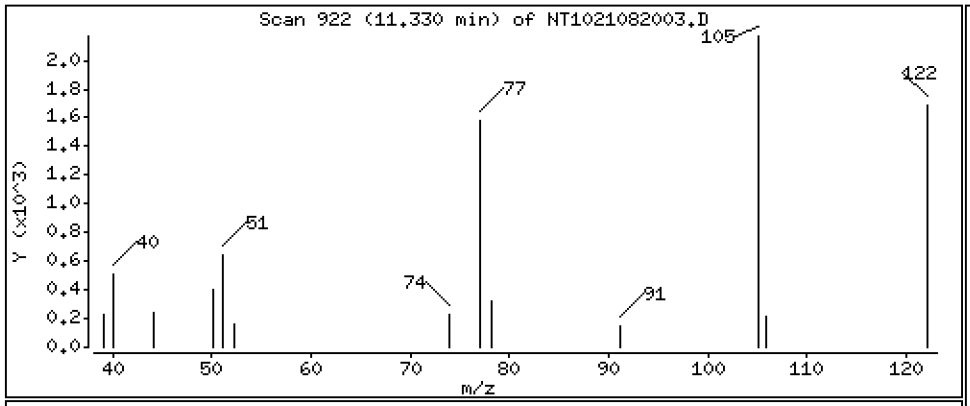
Operator: VTS

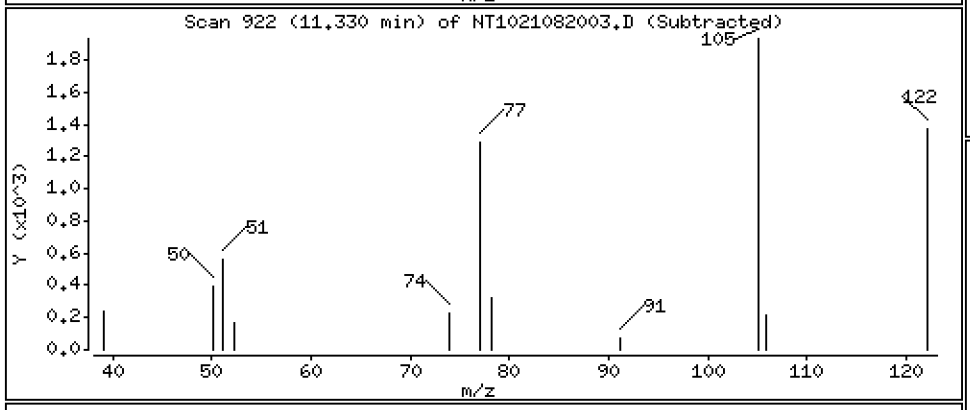
Column phase: ZB-5msi

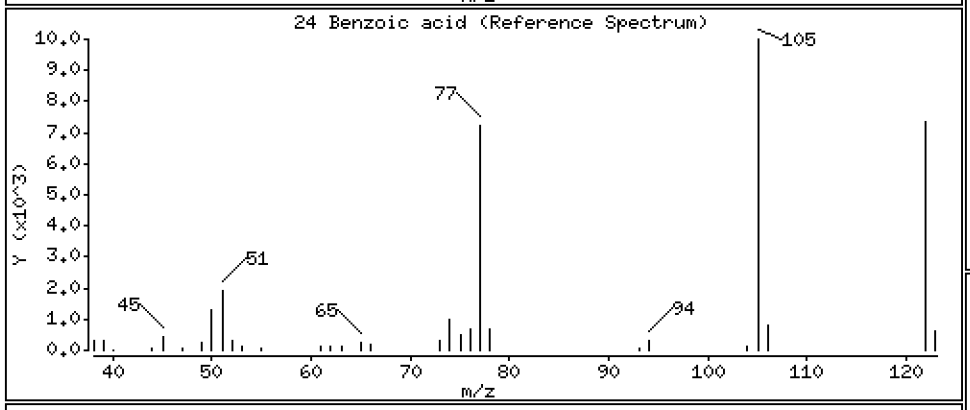
Column diameter: 0.25

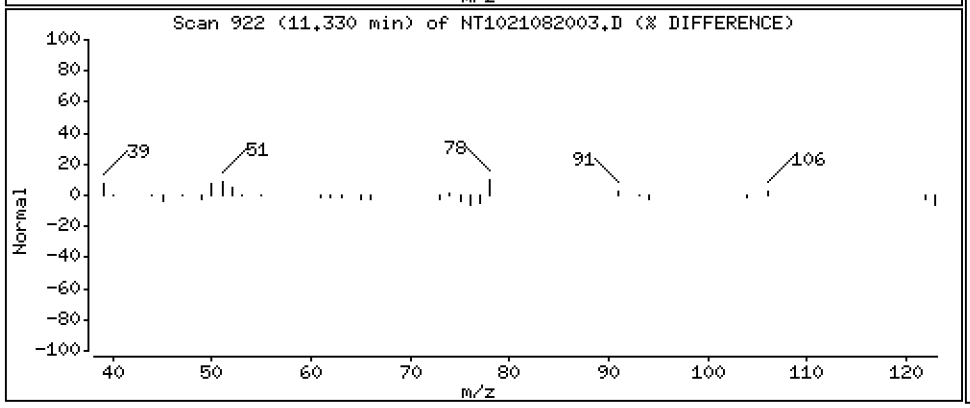
24 Benzoic acid

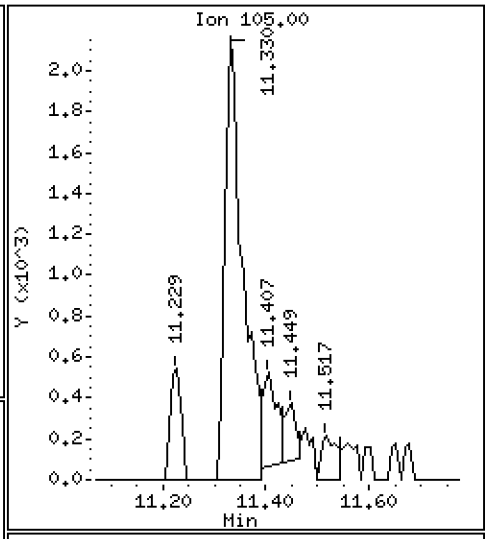
Concentration: 0.3800 ug/mL

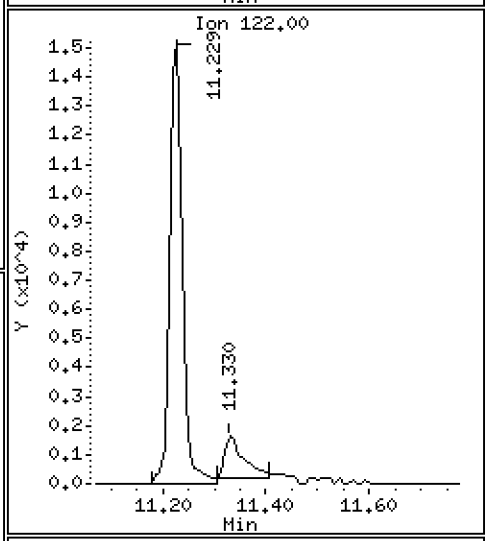


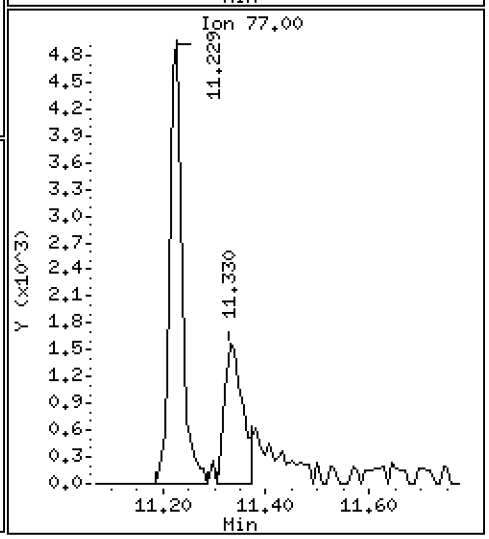












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

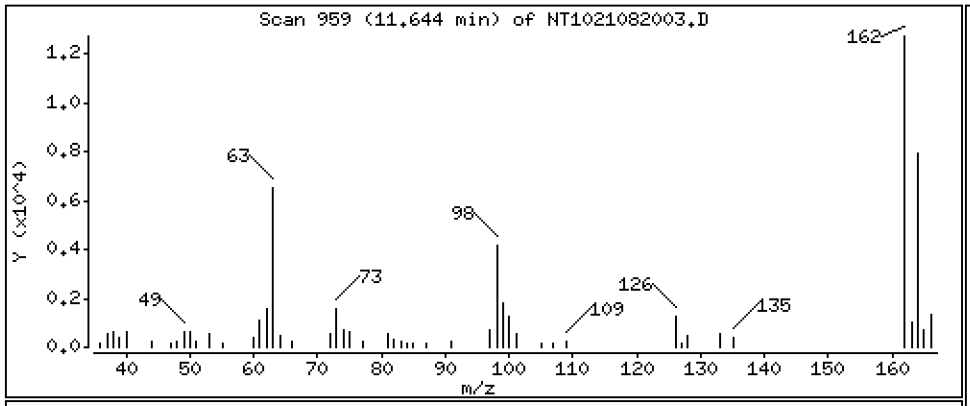
Operator: VTS

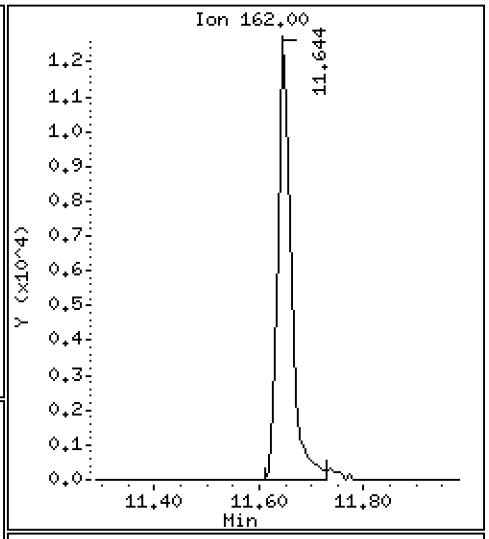
Column phase: ZB-5msi

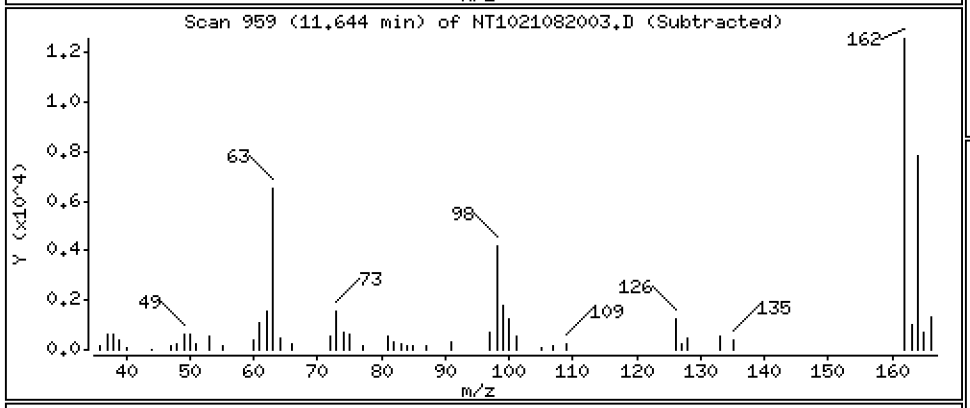
Column diameter: 0.25

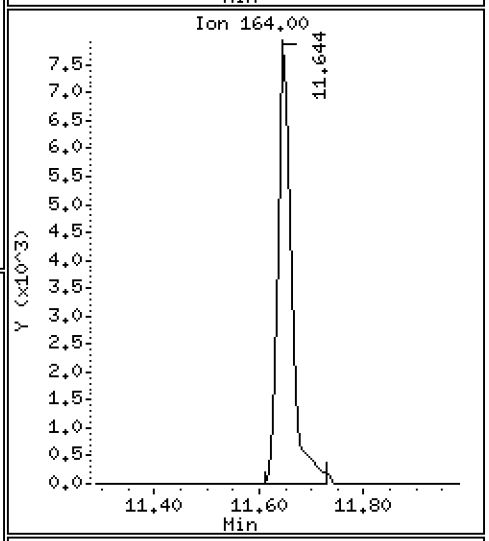
25 2,4-Dichlorophenol

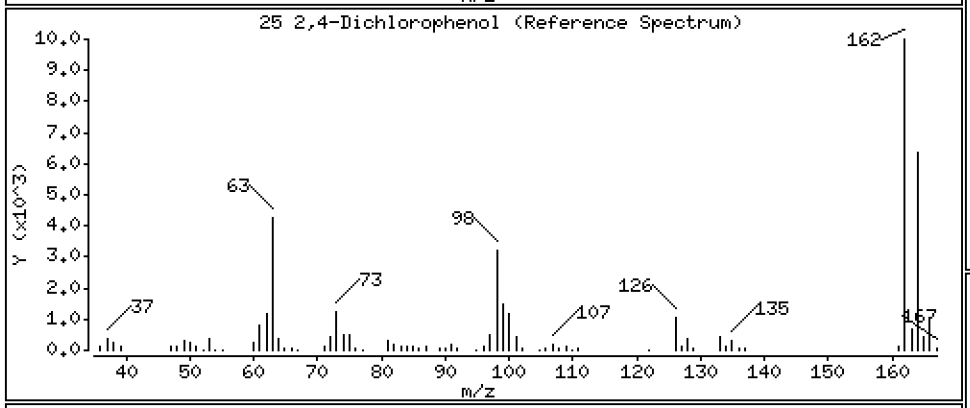
Concentration: 0.9189 ug/mL

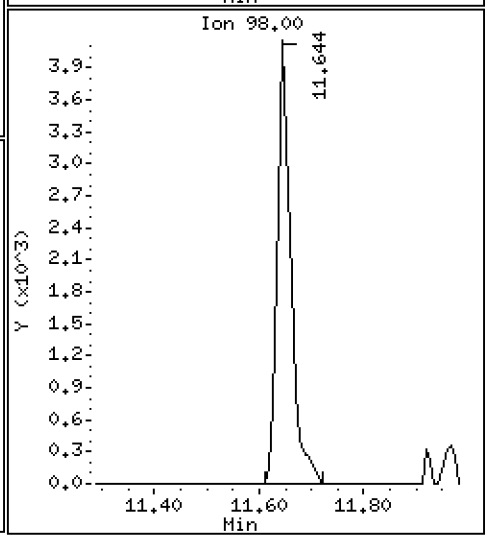


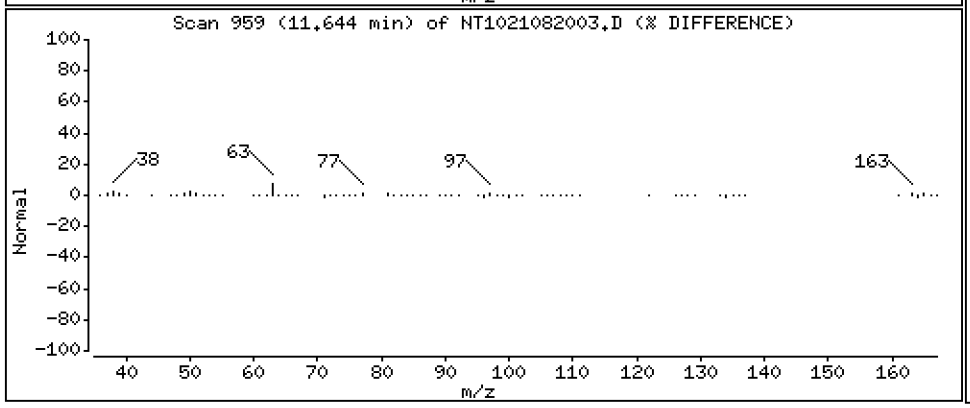












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

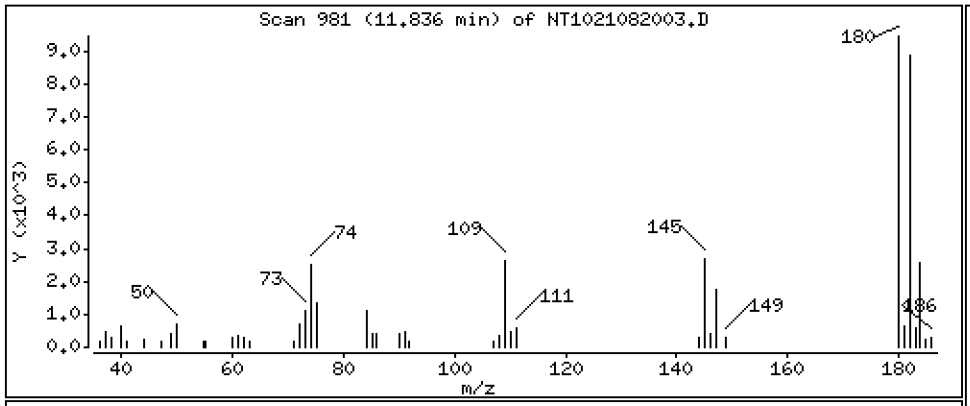
Operator: VTS

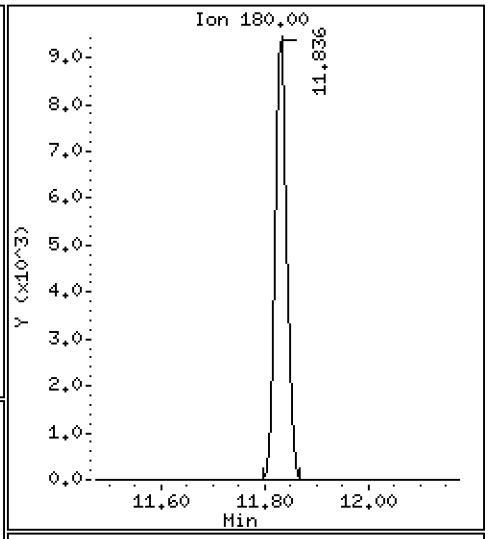
Column phase: ZB-5msi

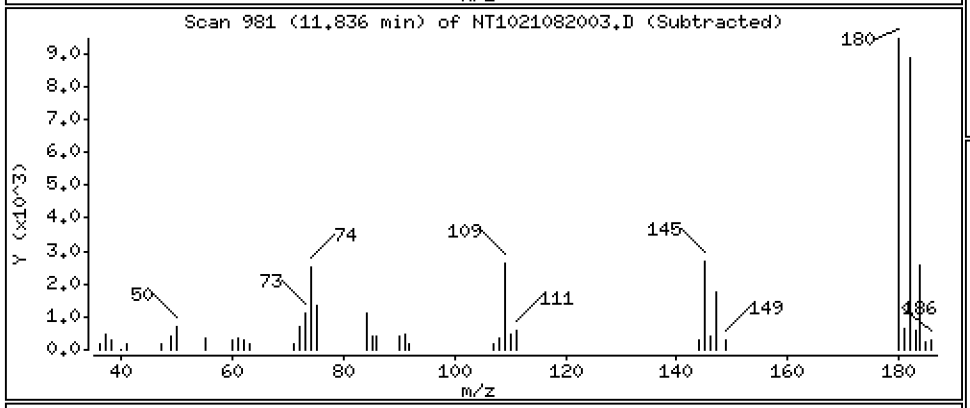
Column diameter: 0.25

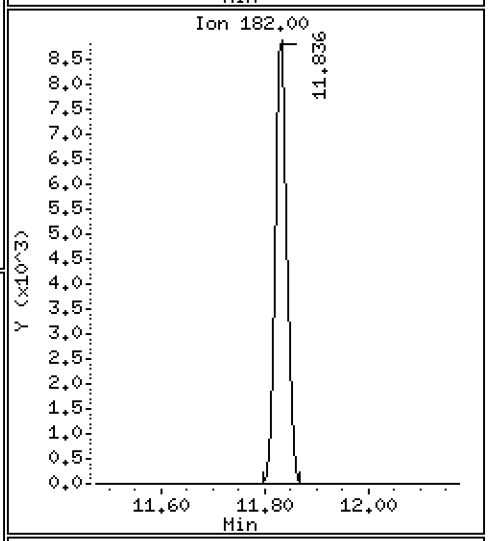
26 1,2,4-Trichlorobenzene

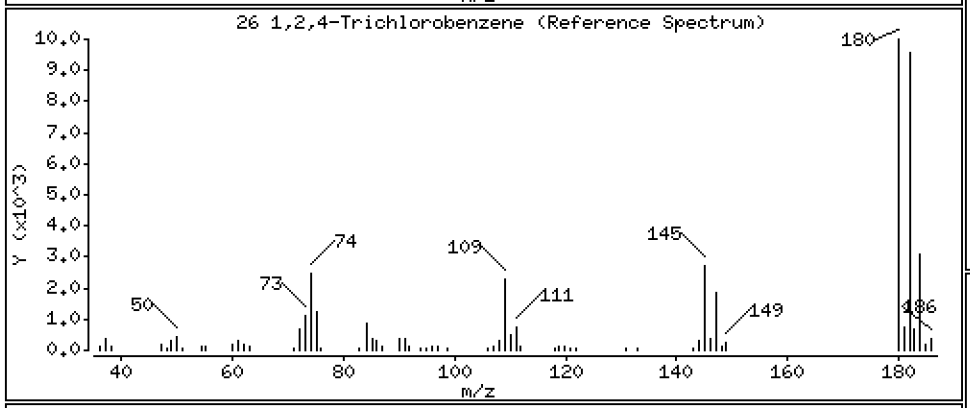
Concentration: 0.5405 ug/mL

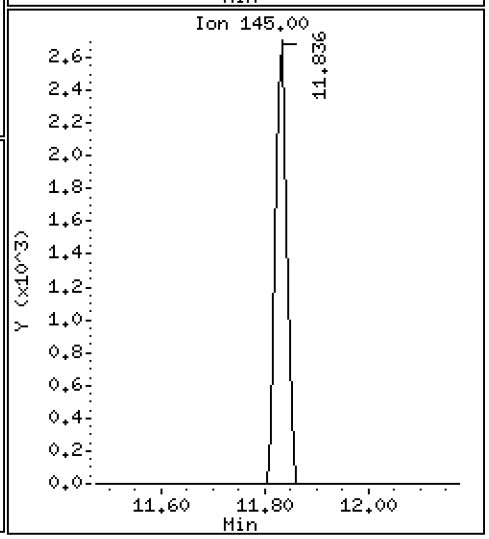


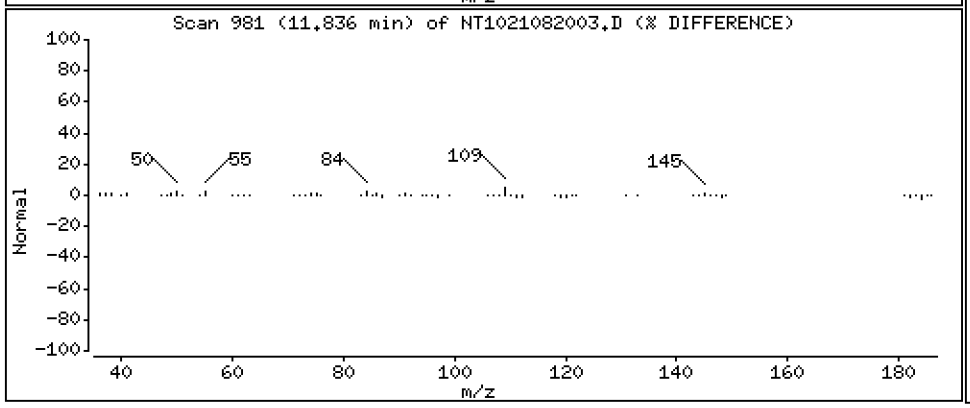












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

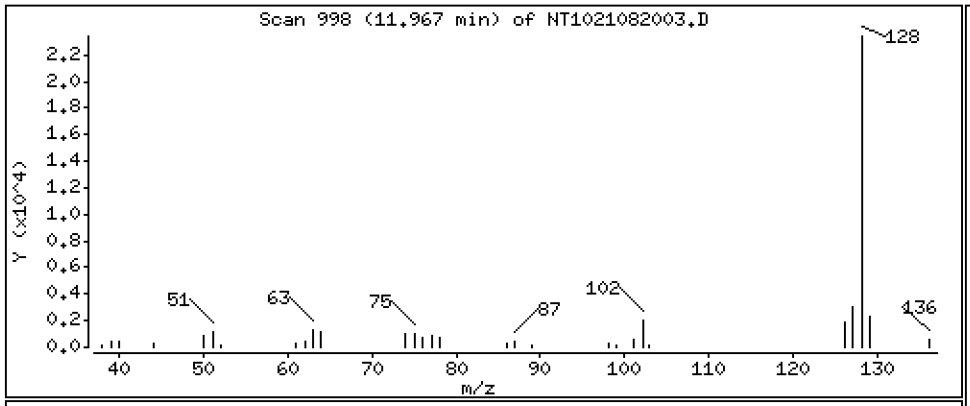
Operator: VTS

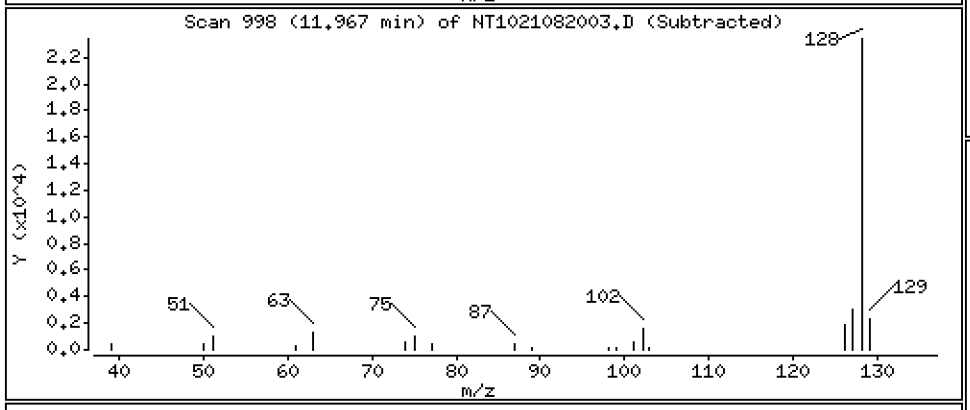
Column phase: ZB-5msi

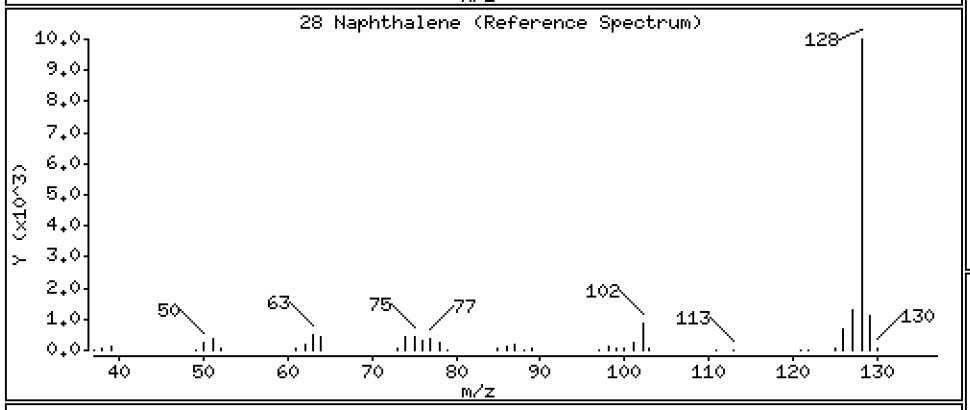
Column diameter: 0.25

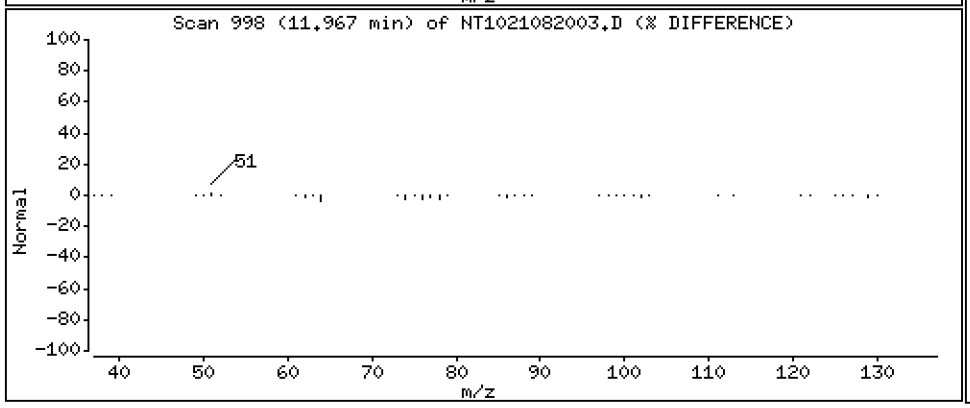
28 Naphthalene

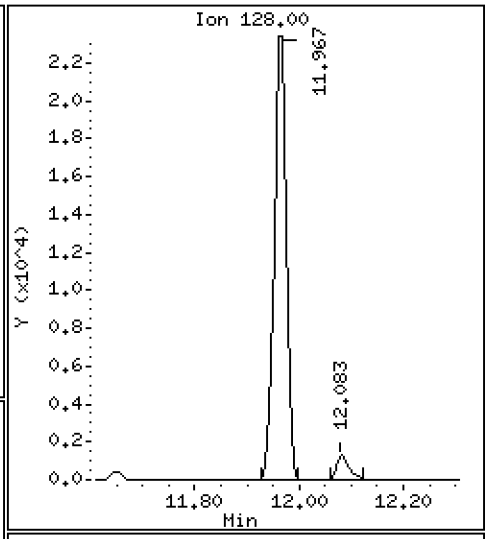
Concentration: 0.4768 ug/mL

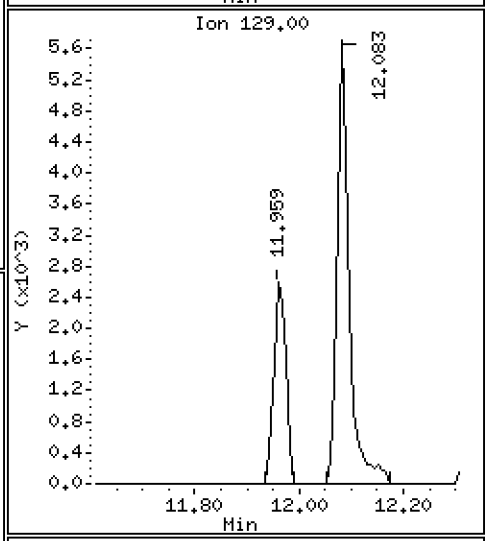


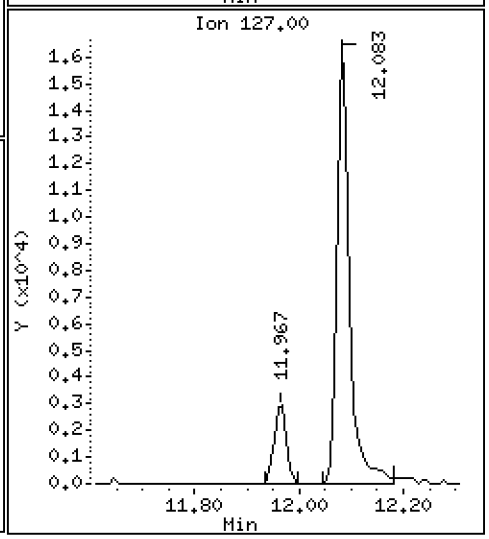












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

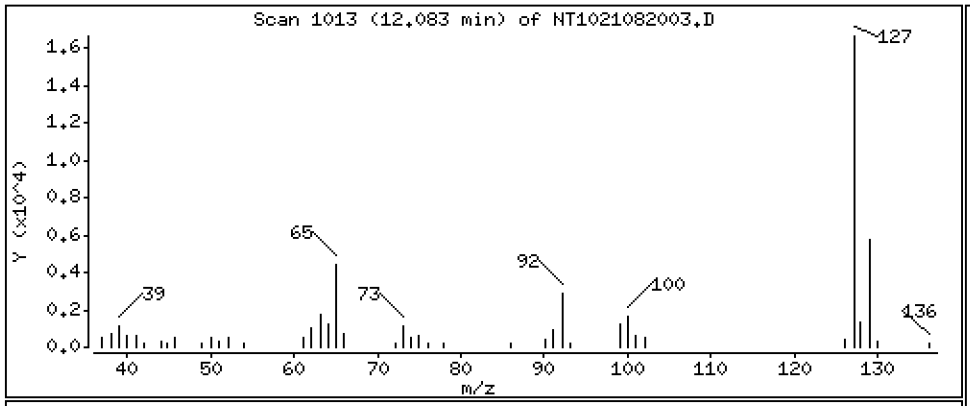
Operator: VTS

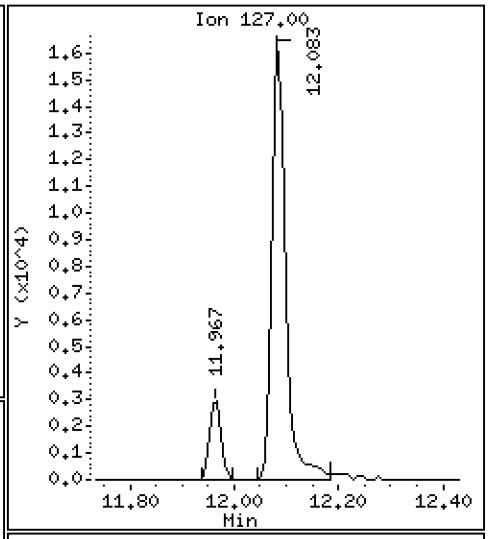
Column phase: ZB-5msi

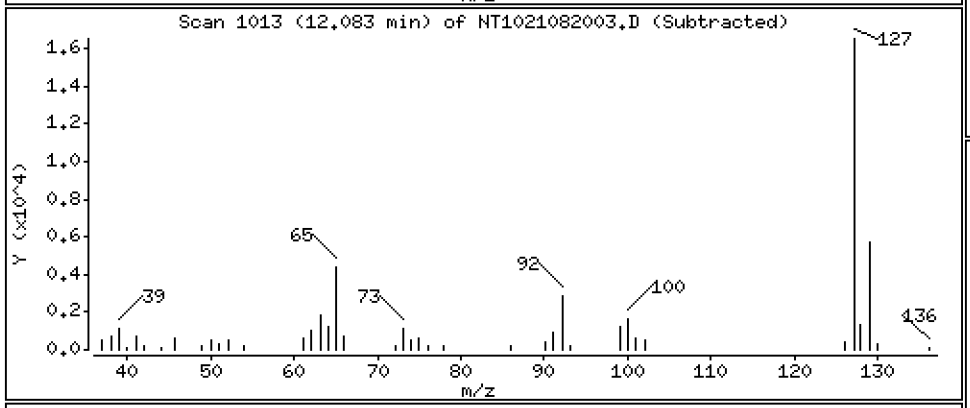
Column diameter: 0.25

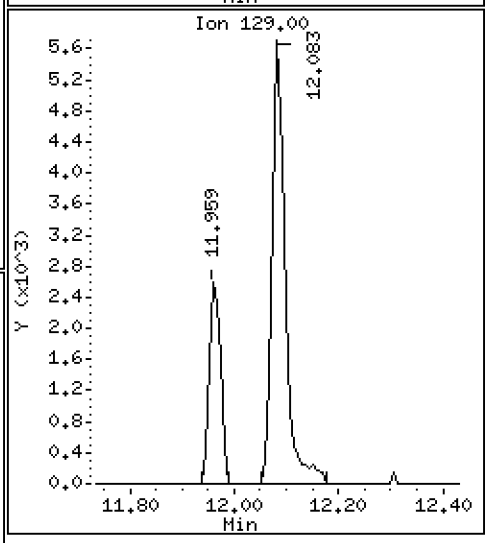
29 4-Chloroaniline

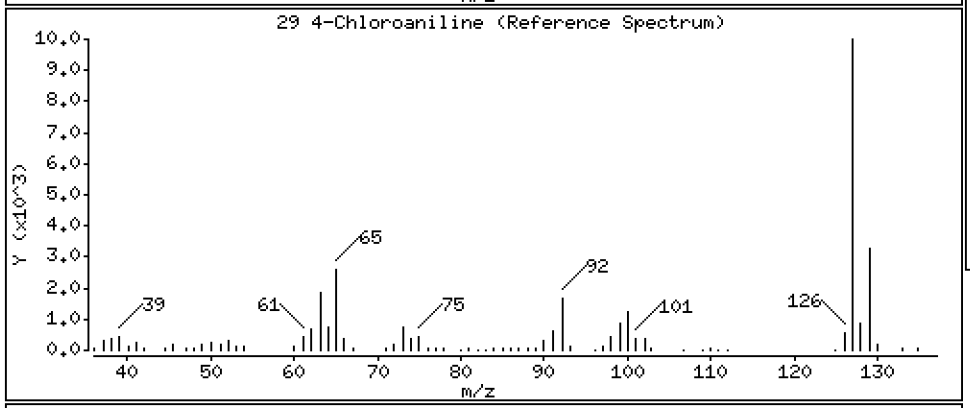
Concentration: 0.7385 ug/mL

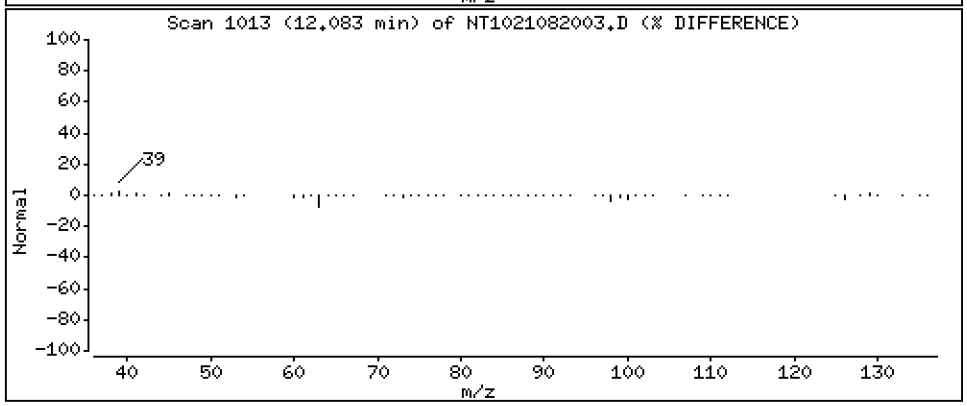












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

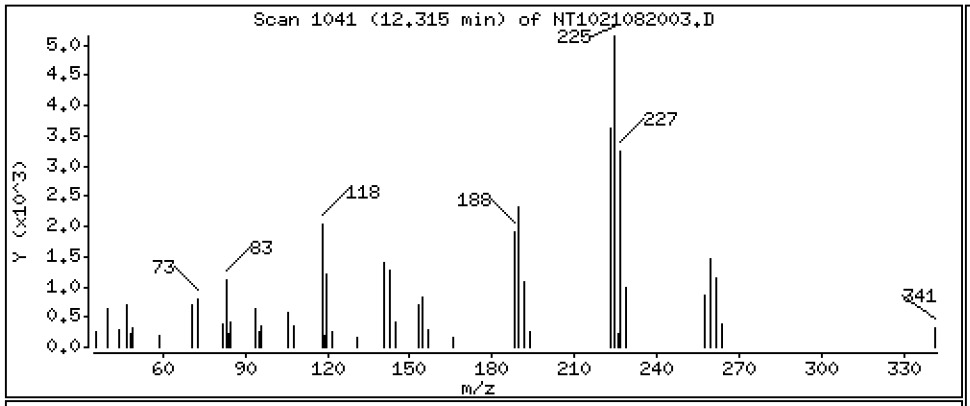
Operator: VTS

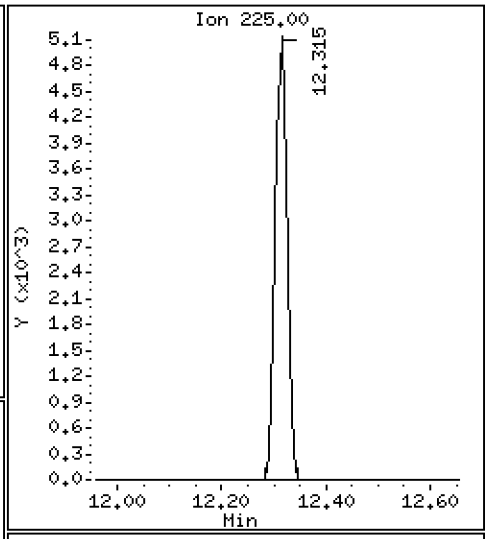
Column phase: ZB-5msi

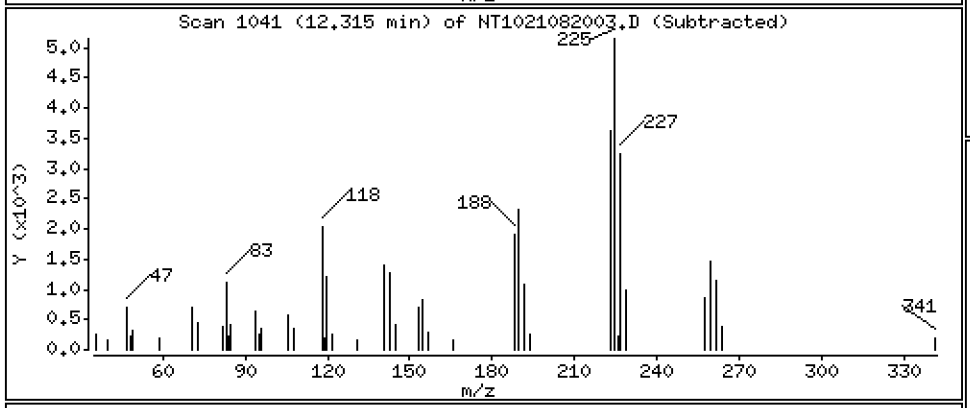
Column diameter: 0.25

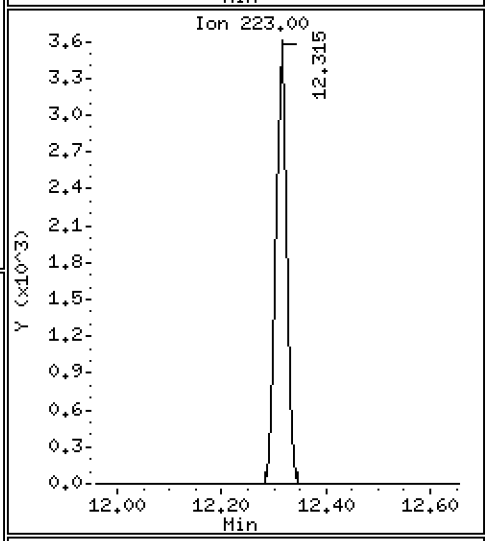
30 Hexachlorobutadiene

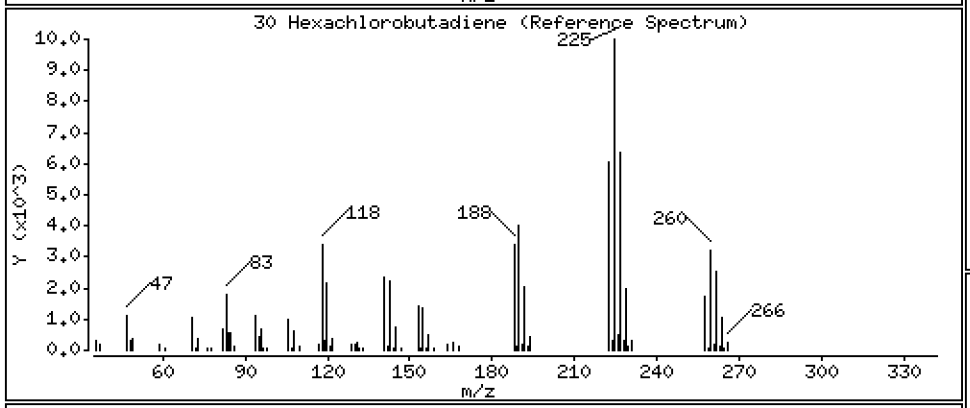
Concentration: 0.5120 ug/mL

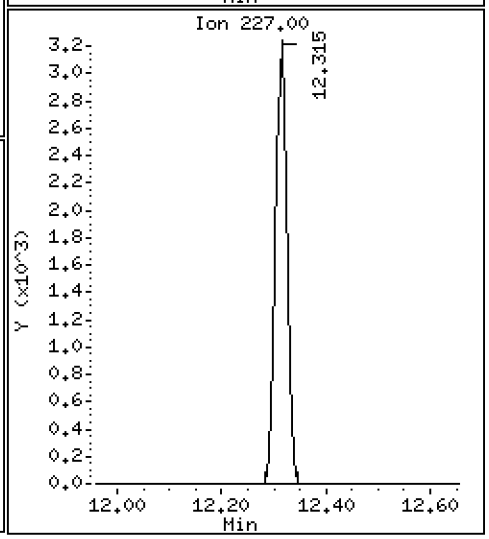


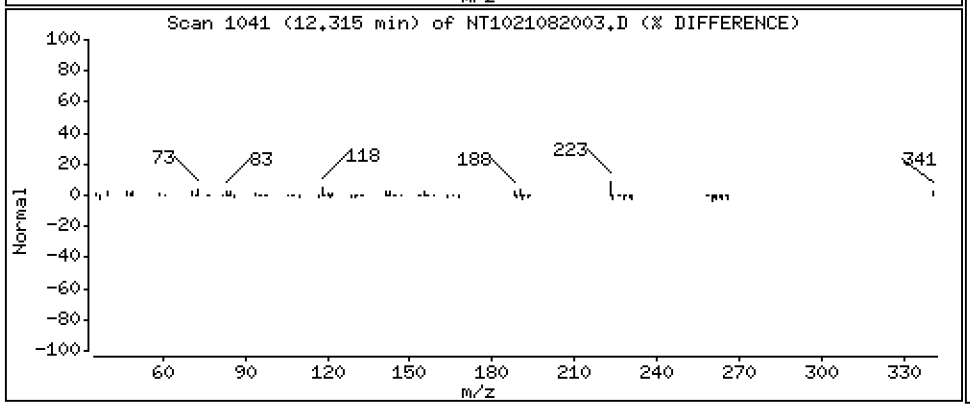












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

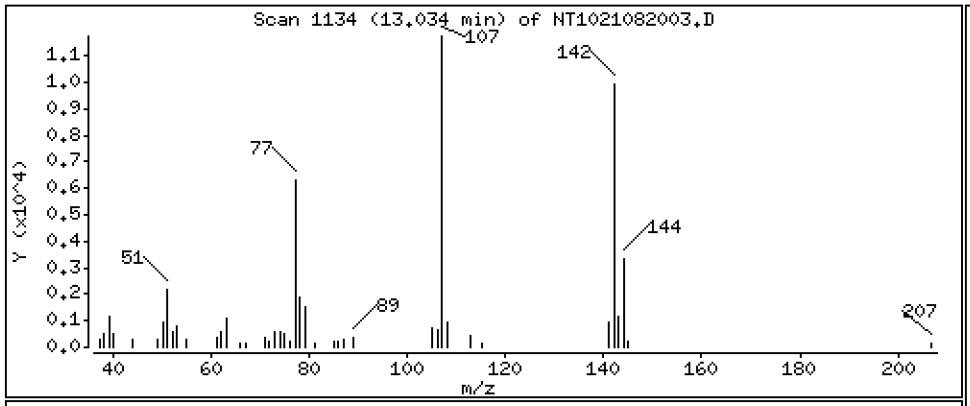
Operator: VTS

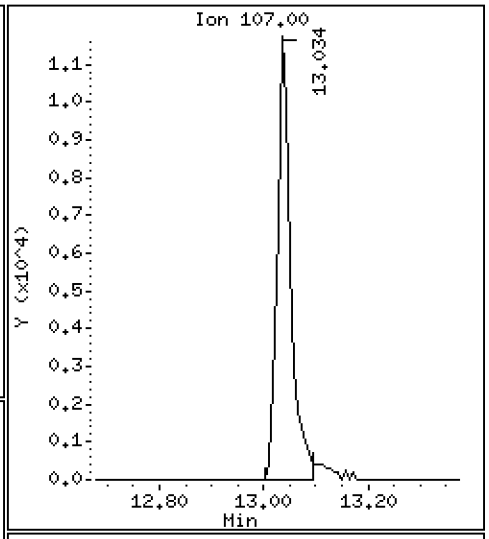
Column phase: ZB-5msi

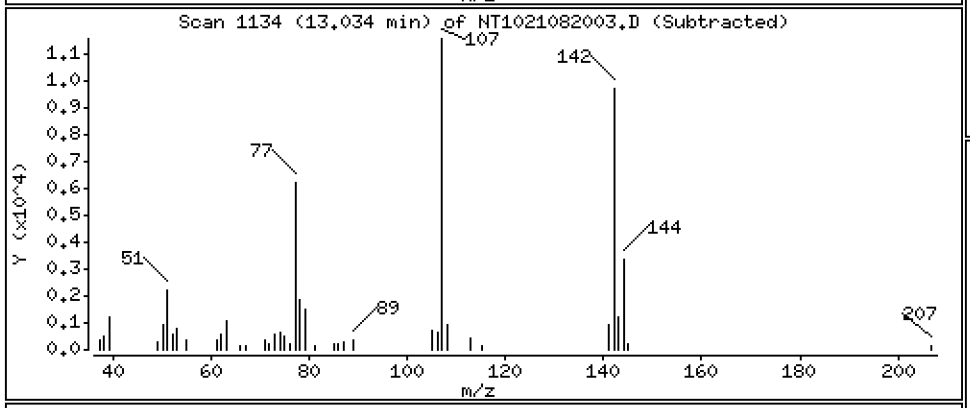
Column diameter: 0.25

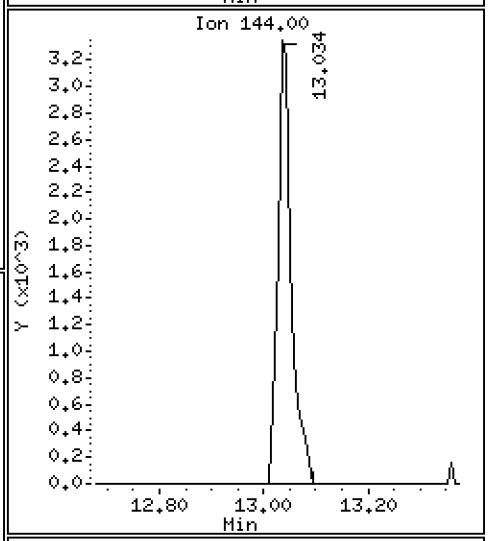
31 4-Chloro-3-methylphenol

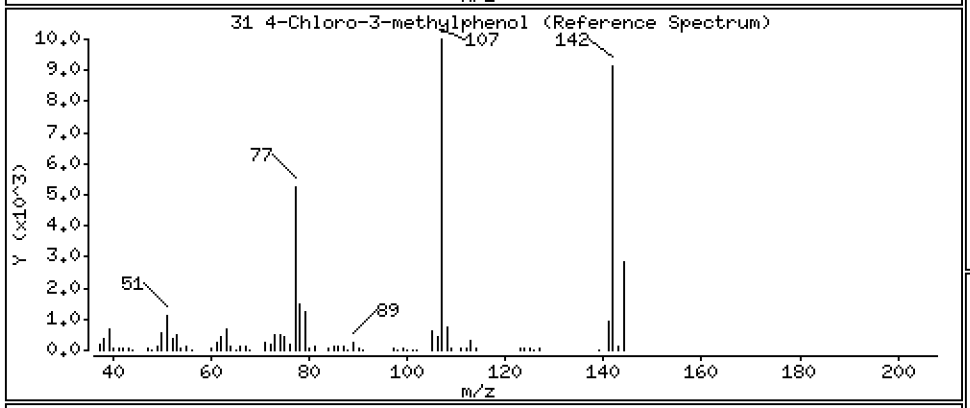
Concentration: 0.7503 ug/mL

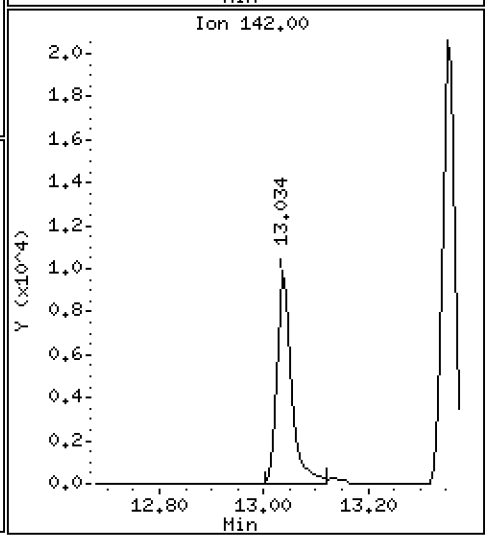


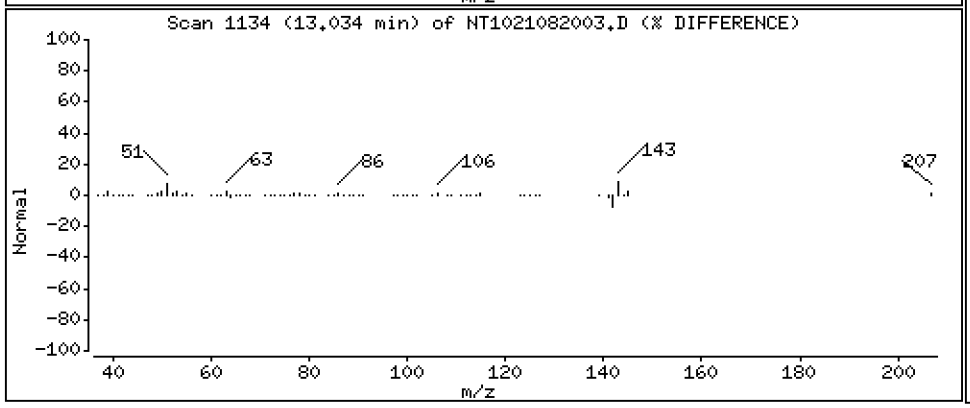












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

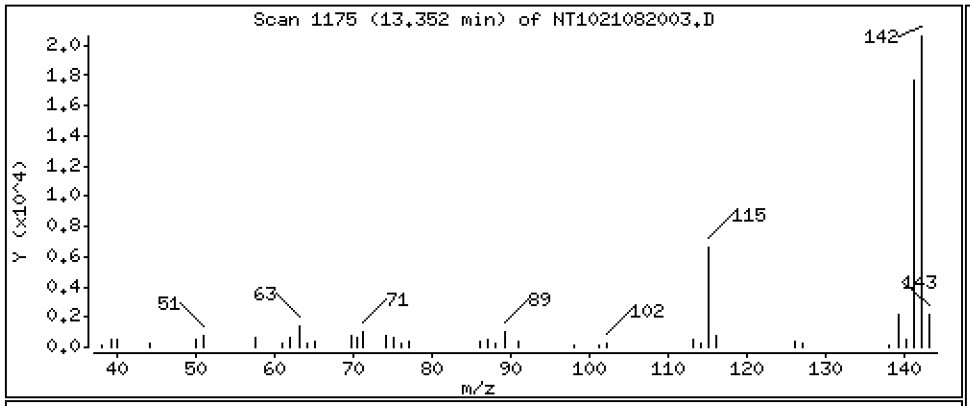
Operator: VTS

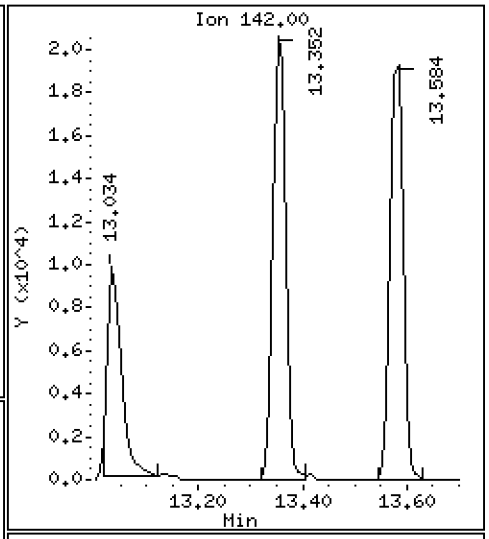
Column phase: ZB-5msi

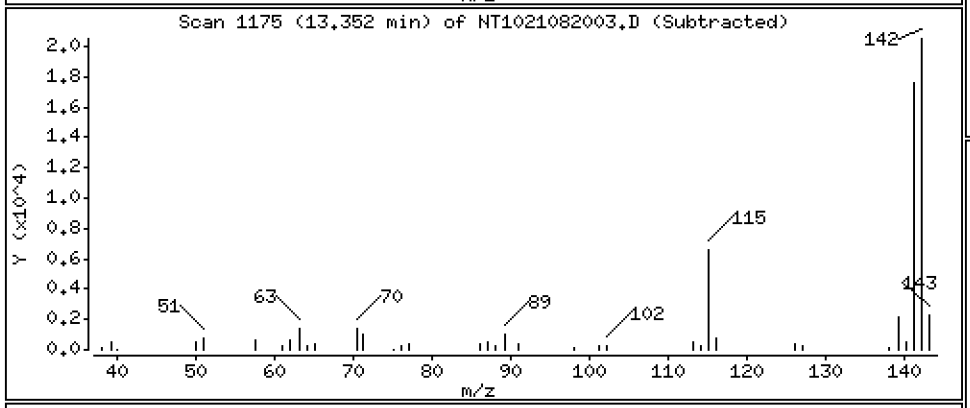
Column diameter: 0.25

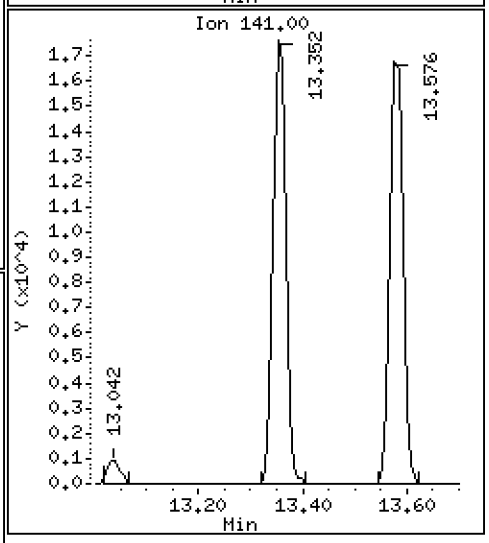
32 2-Methylnaphthalene

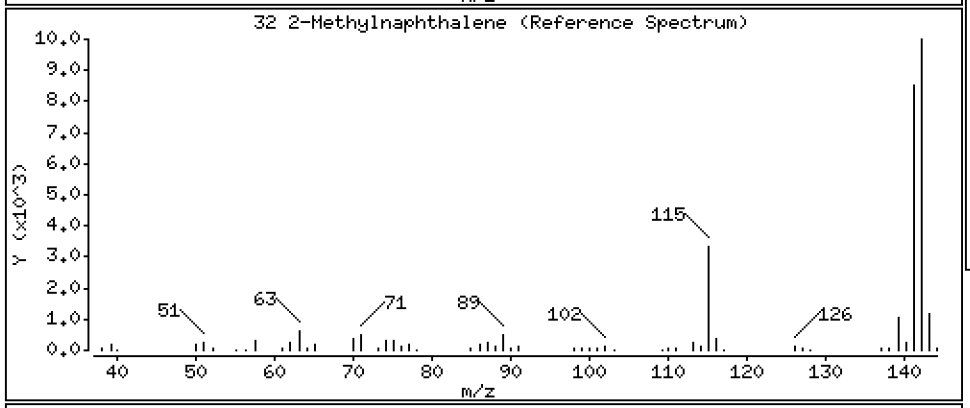
Concentration: 0.4421 ug/mL

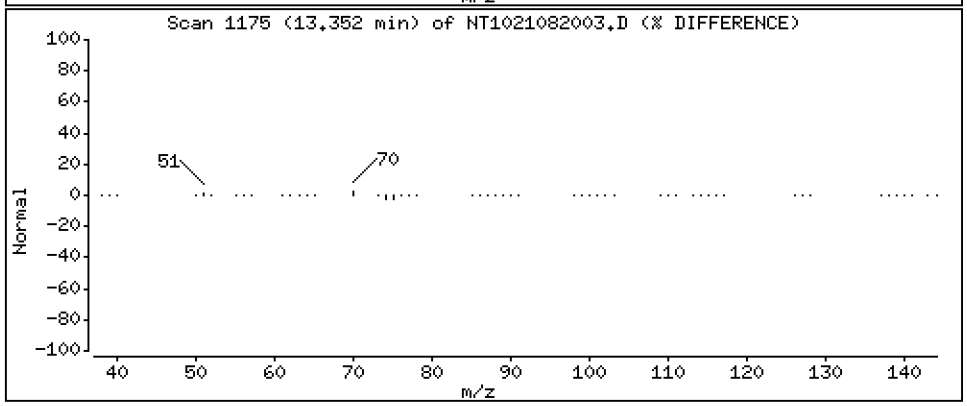












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

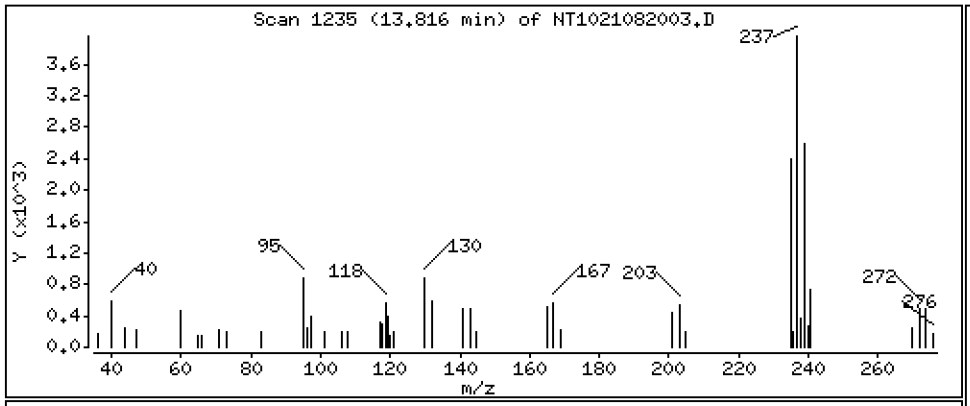
Operator: VTS

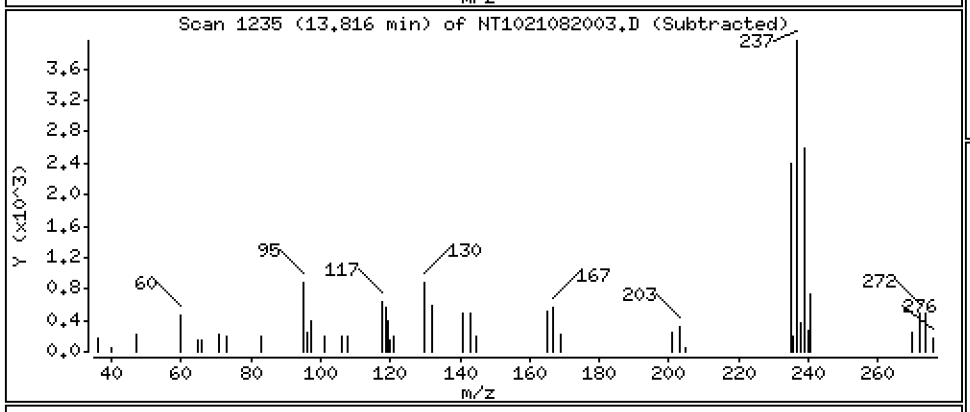
Column phase: ZB-5msi

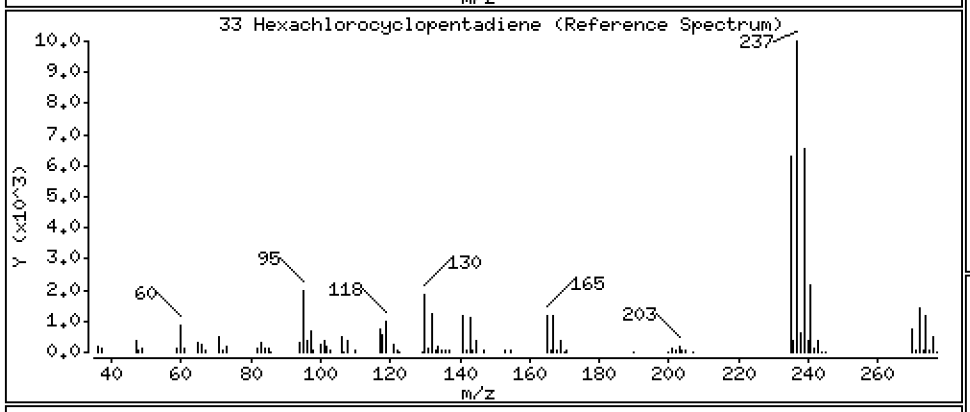
Column diameter: 0.25

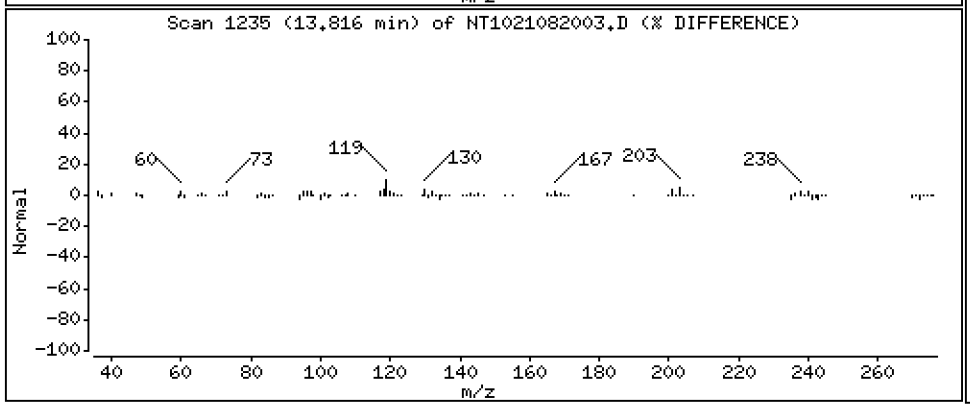
33 Hexachlorocyclopentadiene

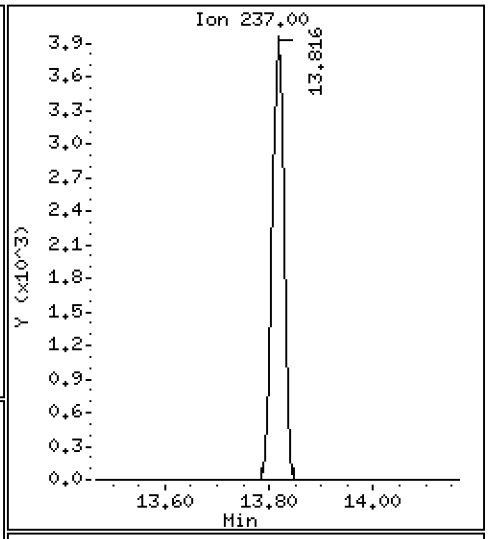
Concentration: 0.4427 ug/mL

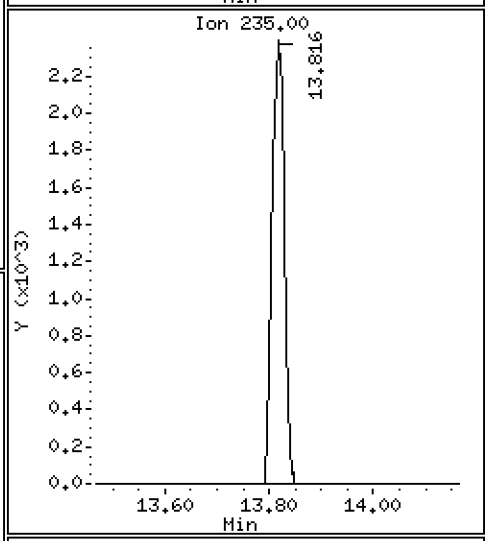


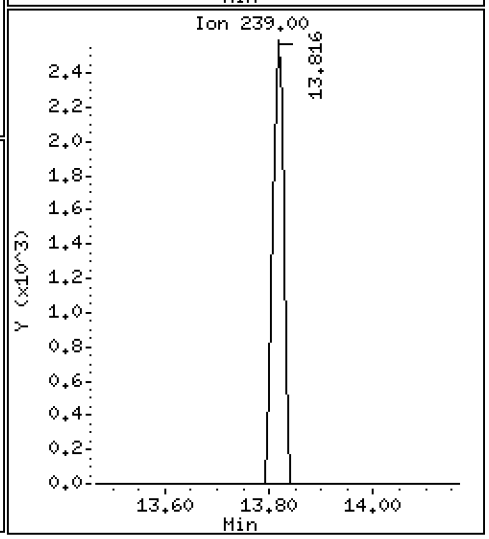












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

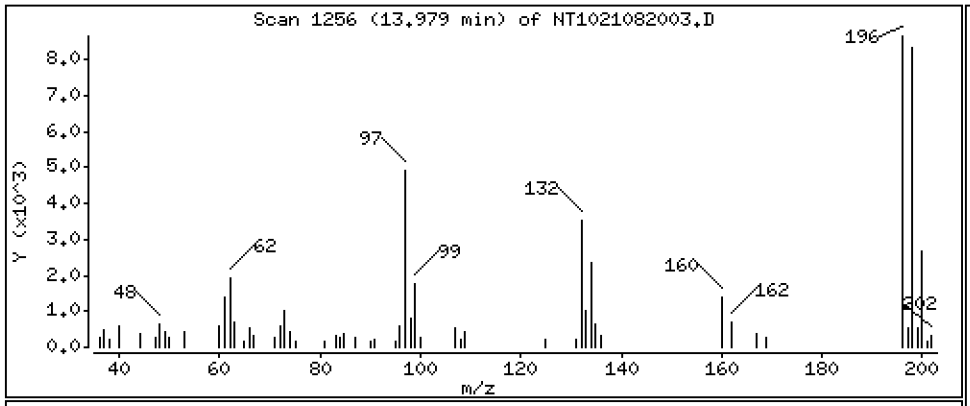
Operator: VTS

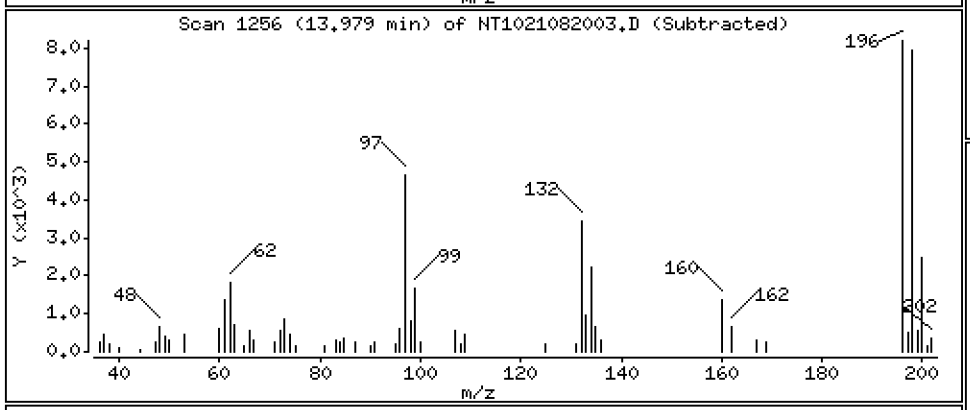
Column phase: ZB-5msi

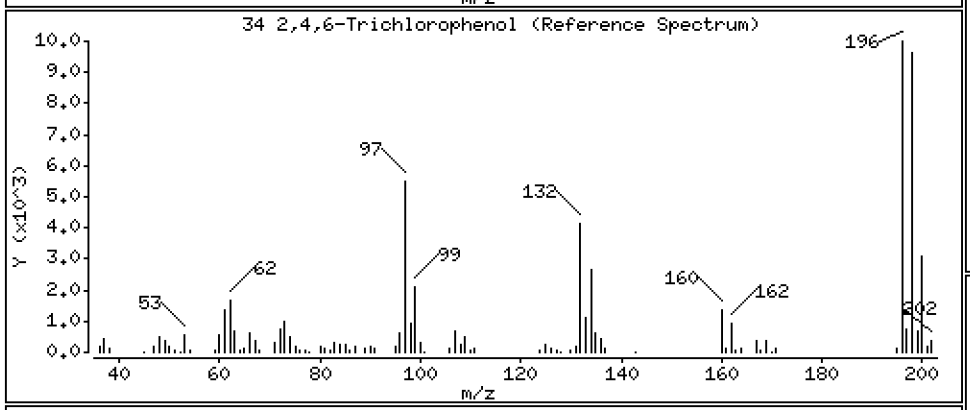
Column diameter: 0.25

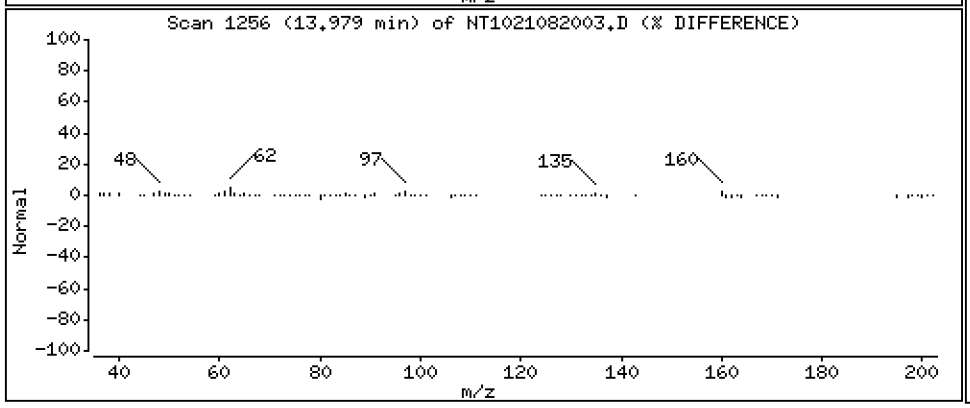
34 2,4,6-Trichlorophenol

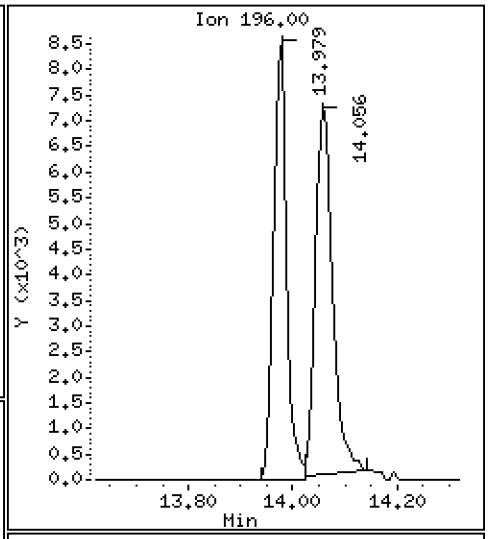
Concentration: 0.7719 ug/mL

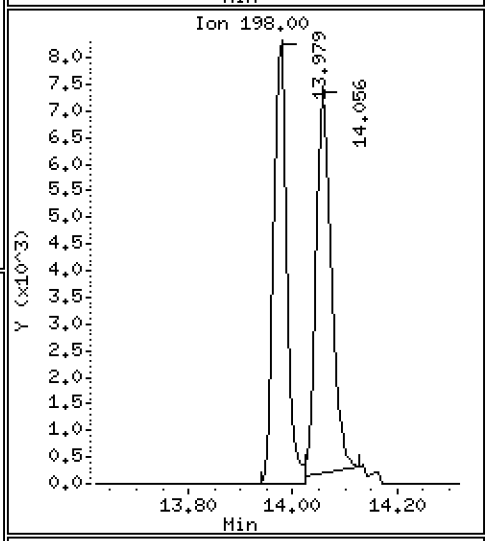


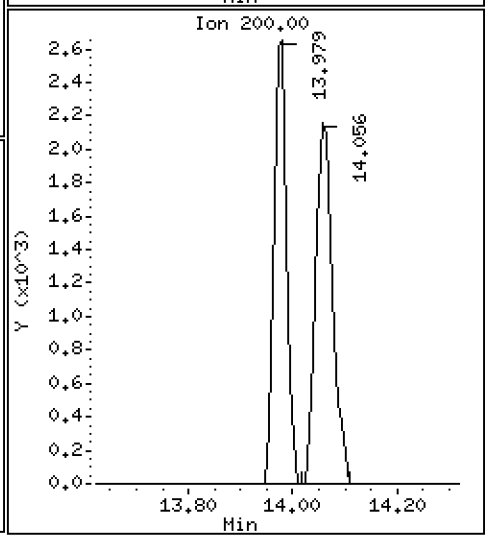












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

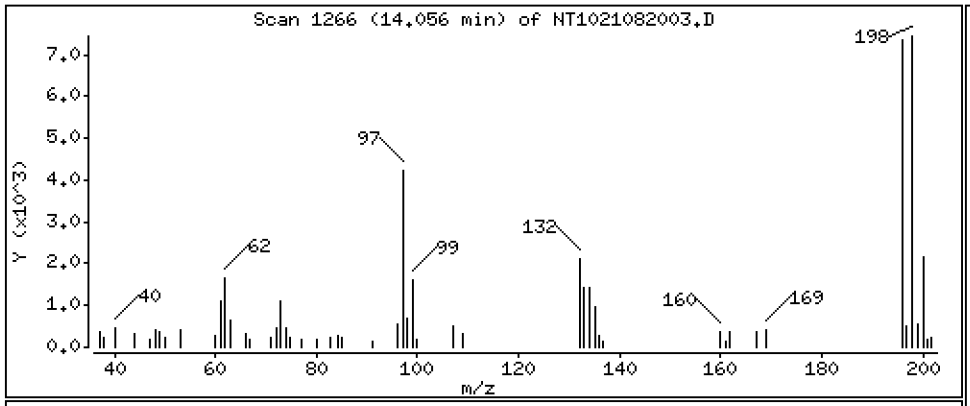
Operator: VTS

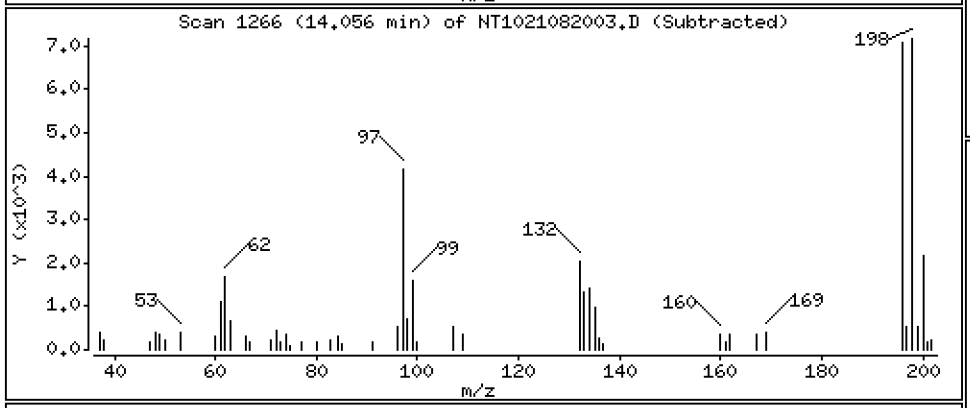
Column phase: ZB-5msi

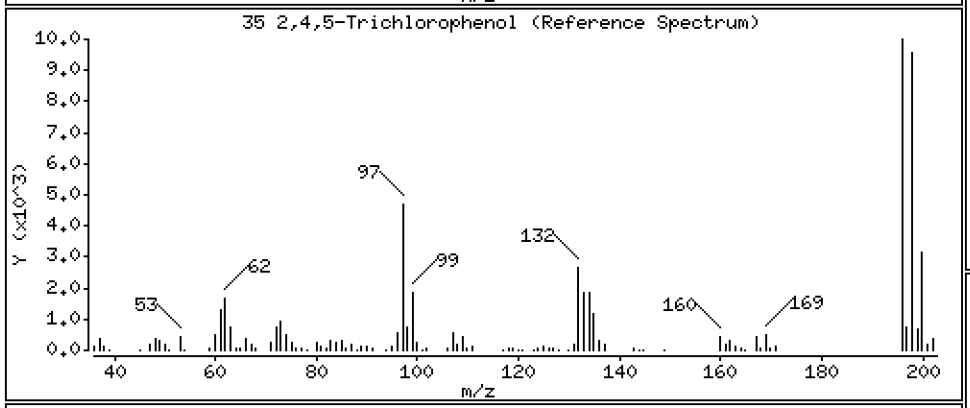
Column diameter: 0.25

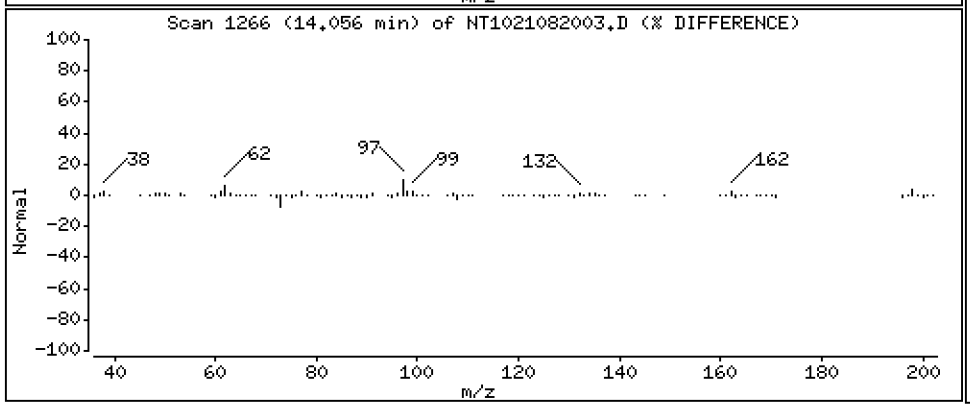
35 2,4,5-Trichlorophenol

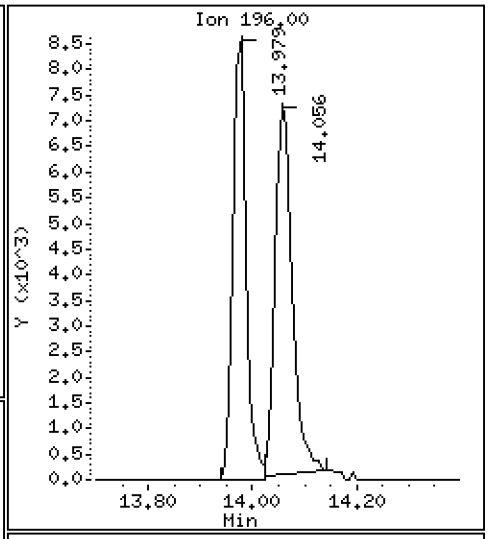
Concentration: 0.8133 ug/mL

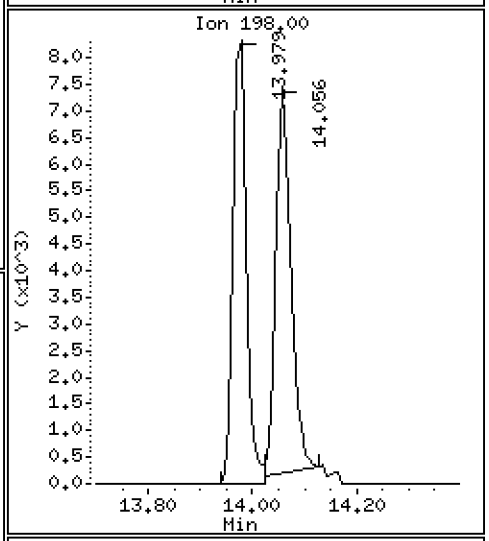


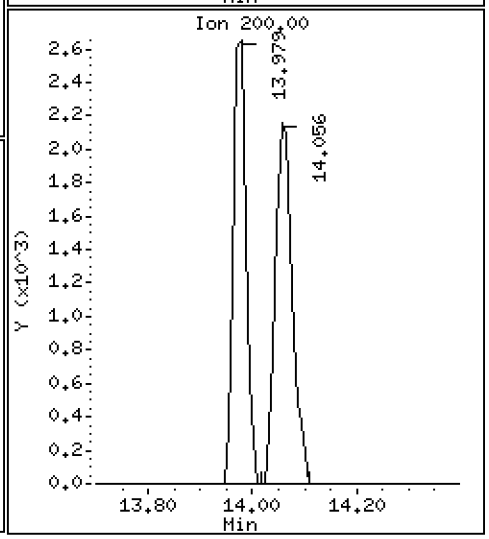












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

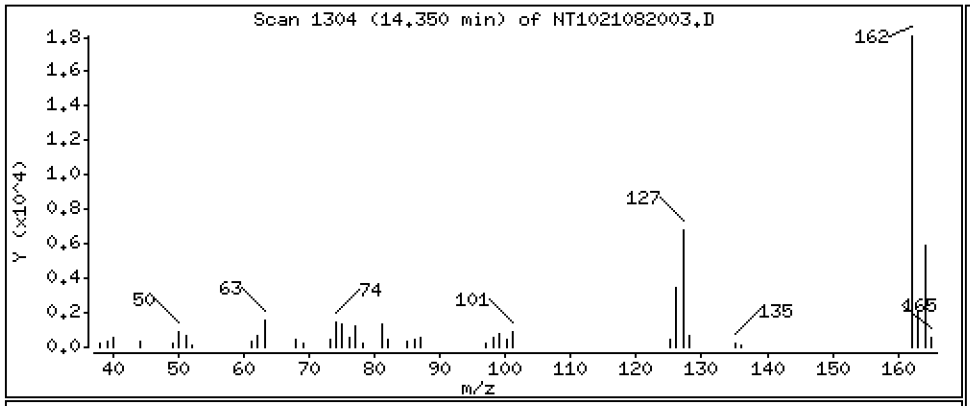
Operator: VTS

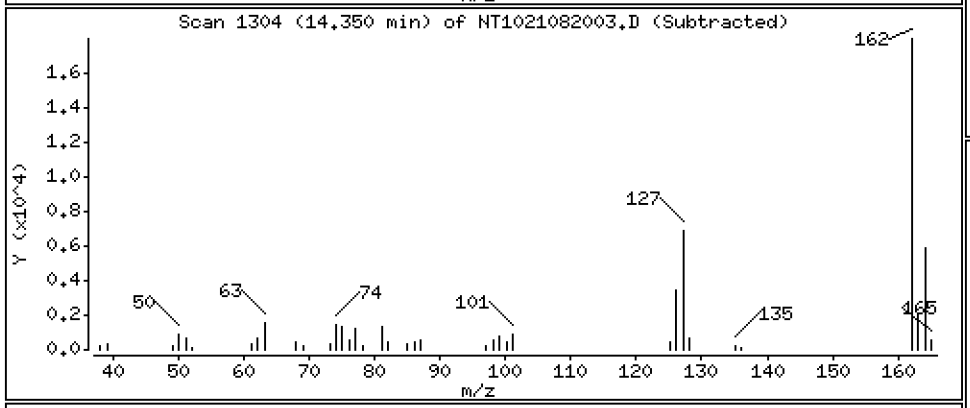
Column phase: ZB-5msi

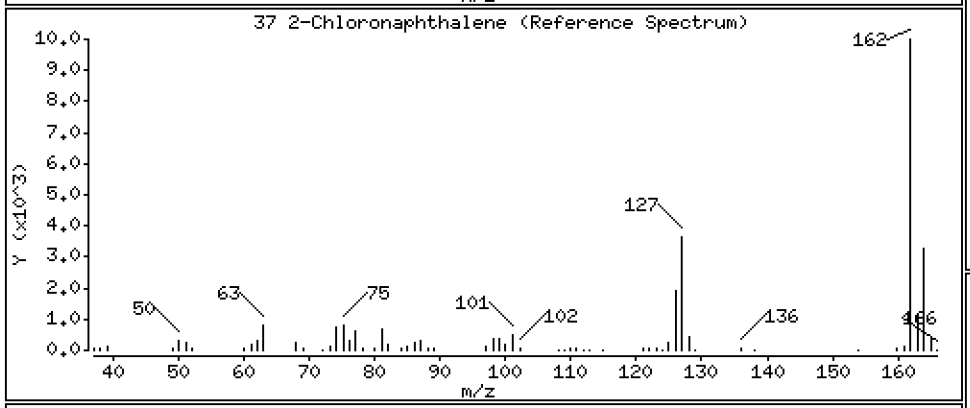
Column diameter: 0.25

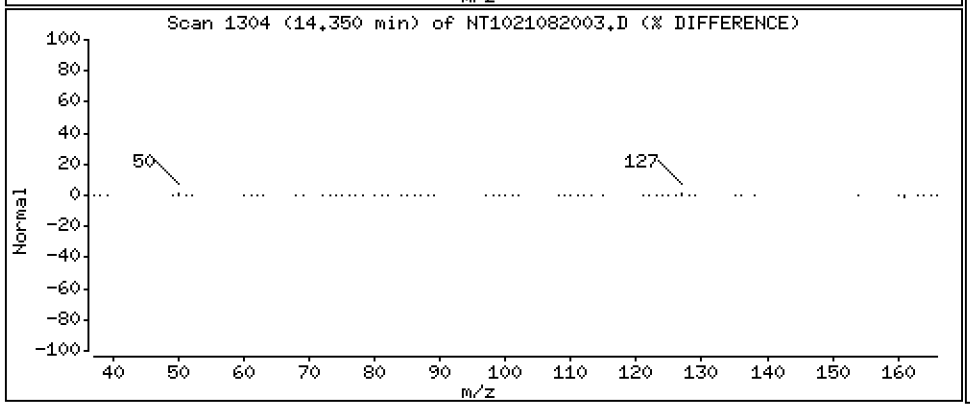
37 2-Chloronaphthalene

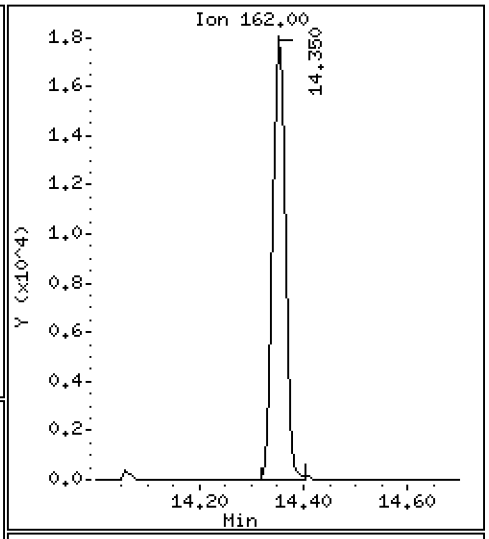
Concentration: 0.4971 ug/mL

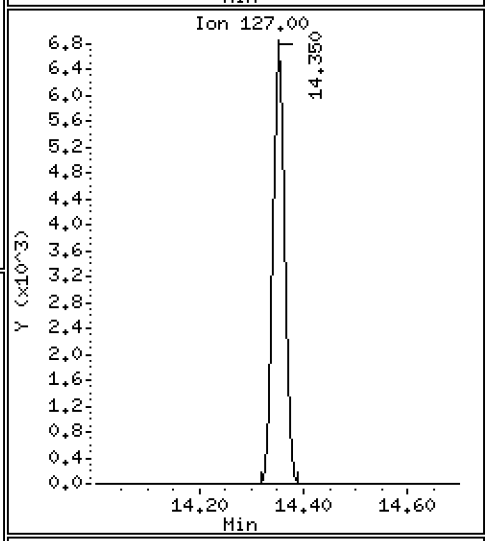


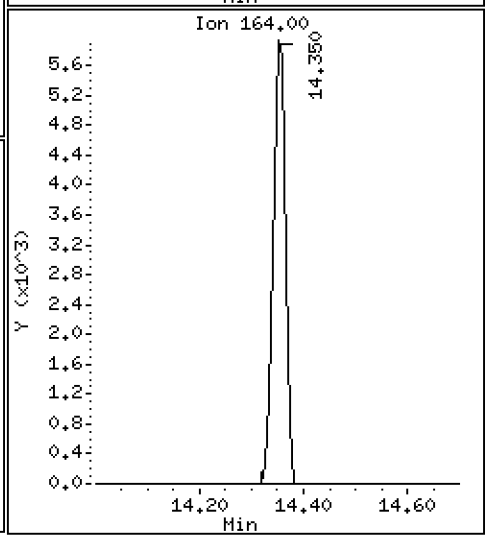












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

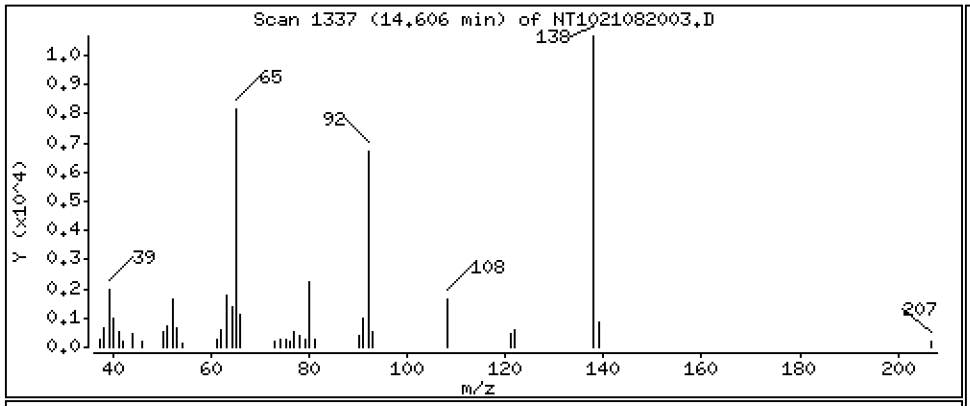
Operator: VTS

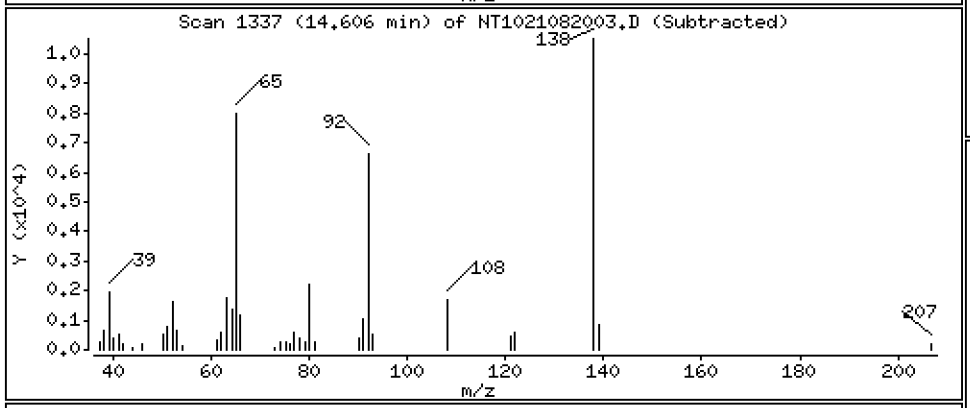
Column phase: ZB-5msi

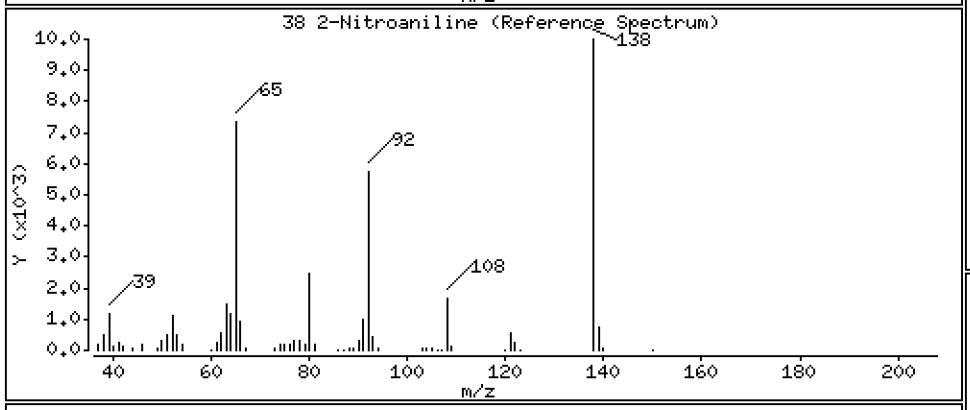
Column diameter: 0.25

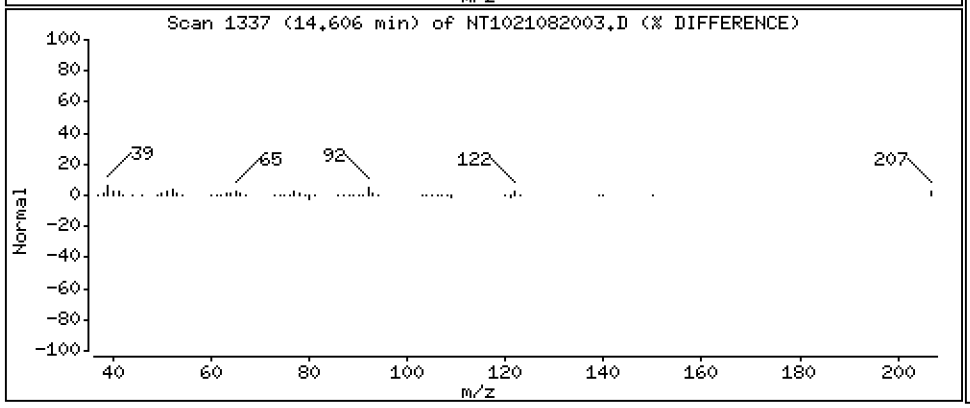
38 2-Nitroaniline

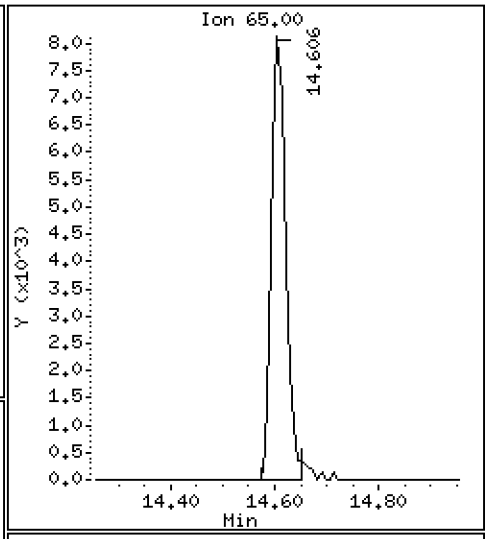
Concentration: 0.8578 ug/mL

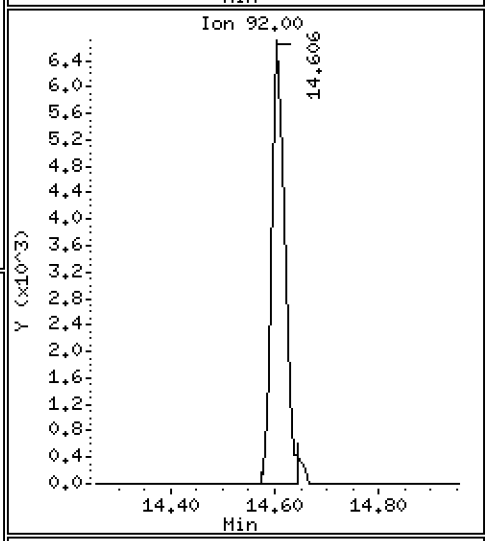


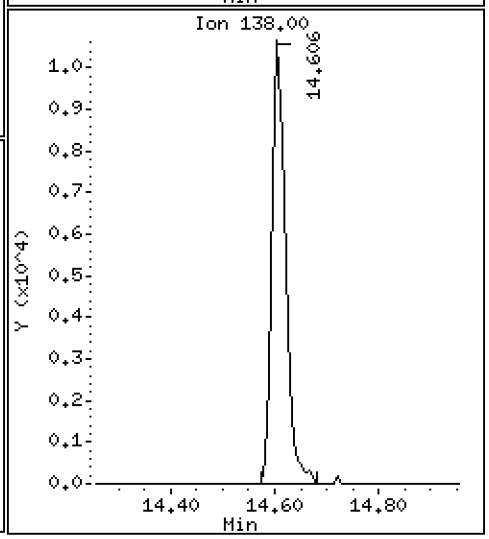












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

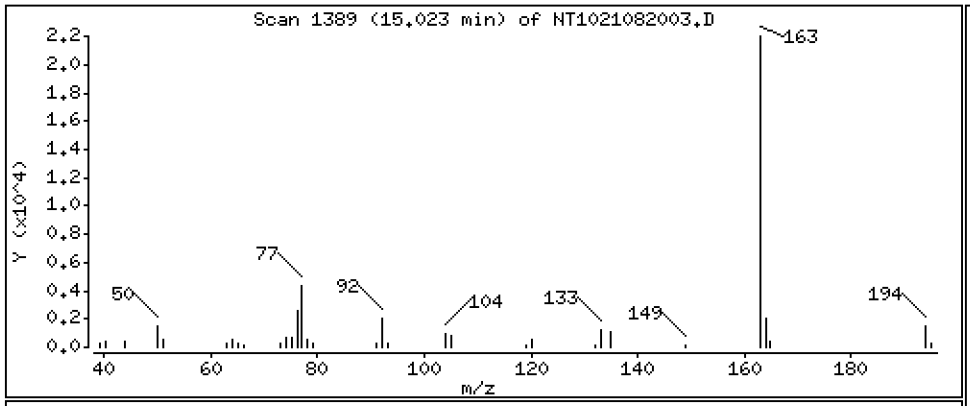
Operator: VTS

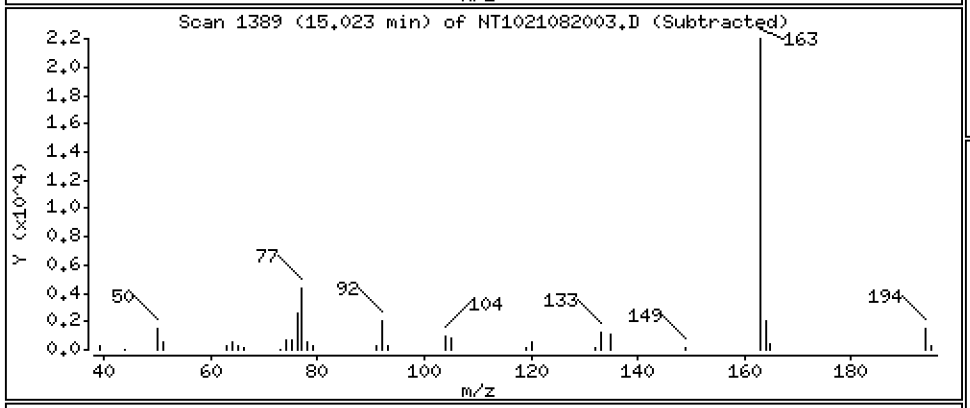
Column phase: ZB-5msi

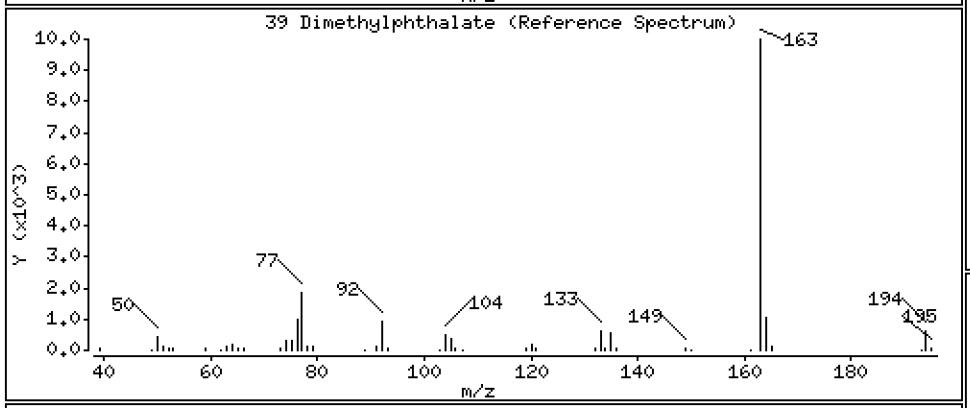
Column diameter: 0.25

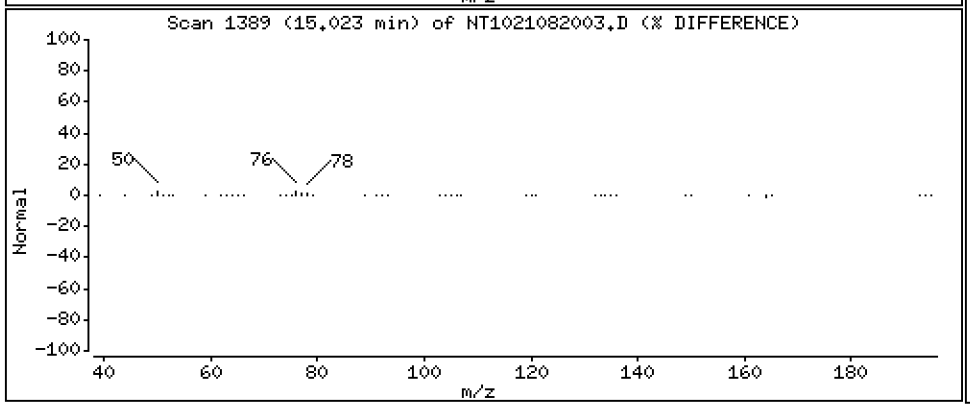
39 Dimethylphthalate

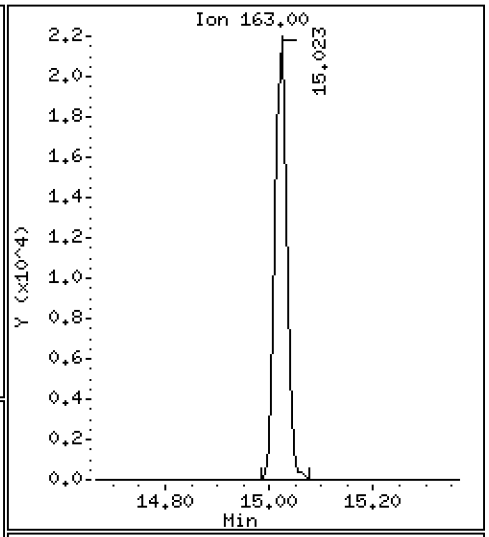
Concentration: 0.5437 ug/mL

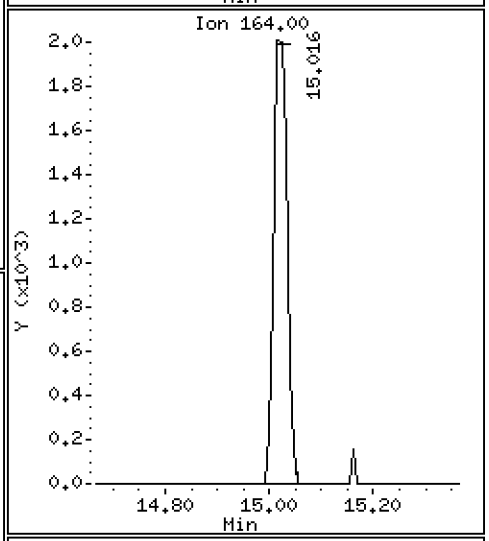


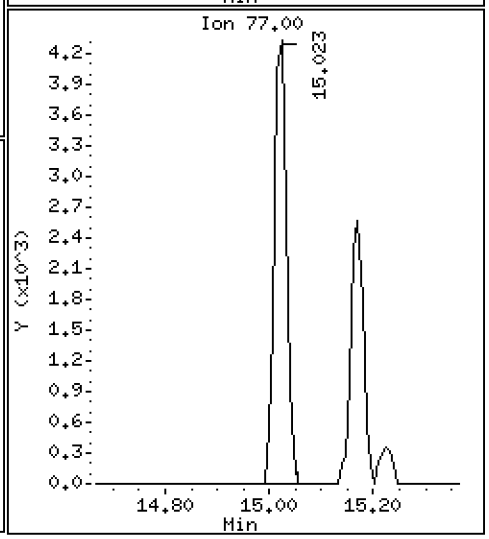












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

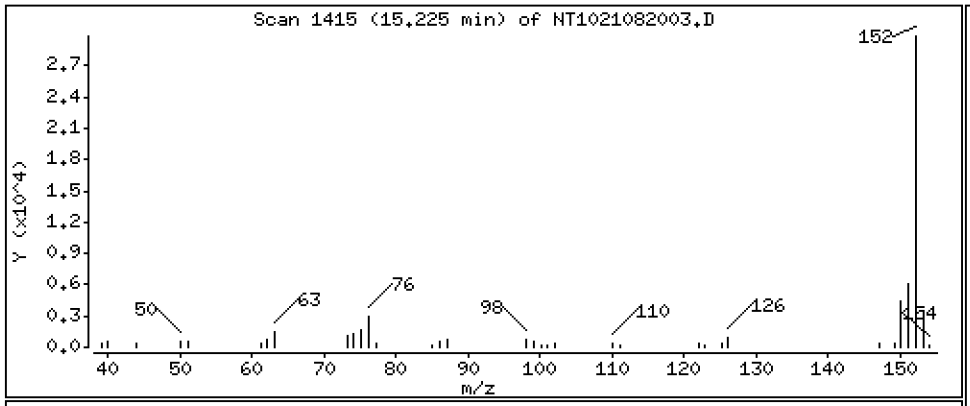
Operator: VTS

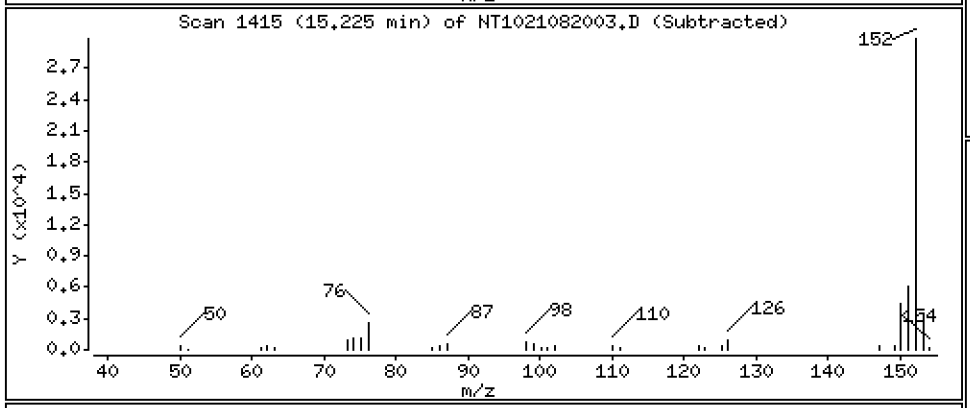
Column phase: ZB-5msi

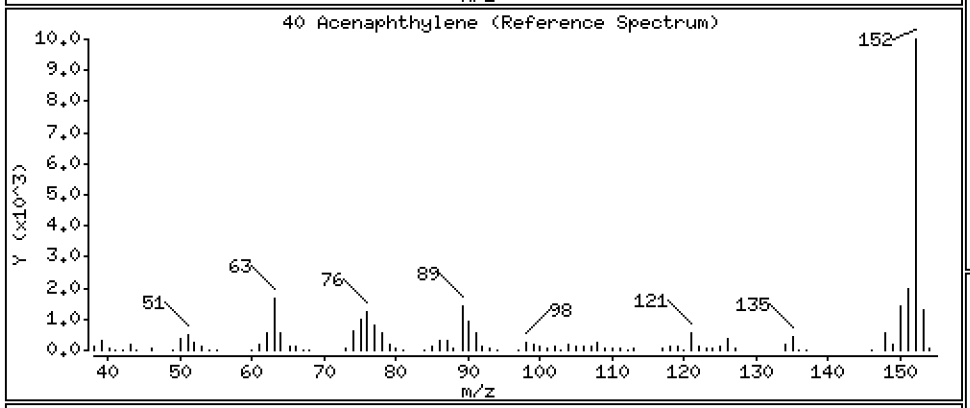
Column diameter: 0.25

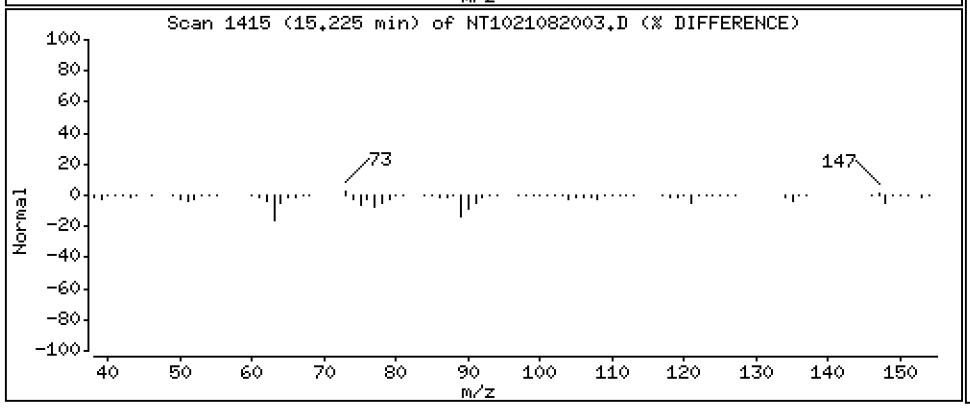
40 Acenaphthylene

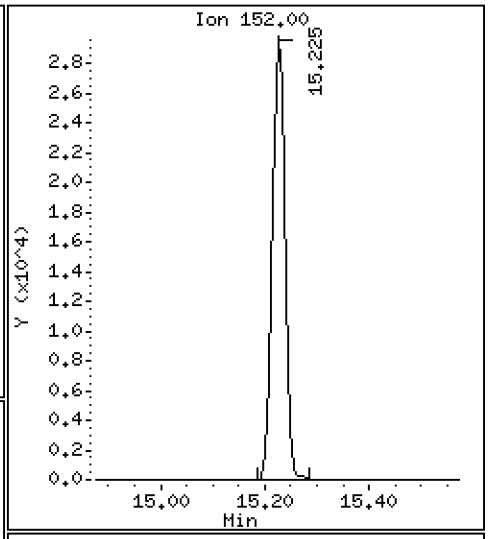
Concentration: 0.5211 ug/mL

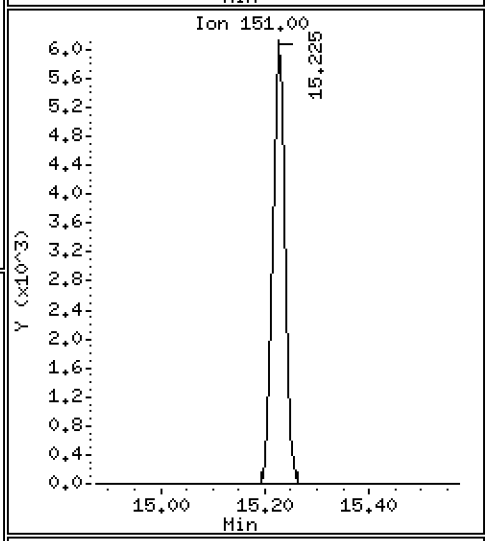


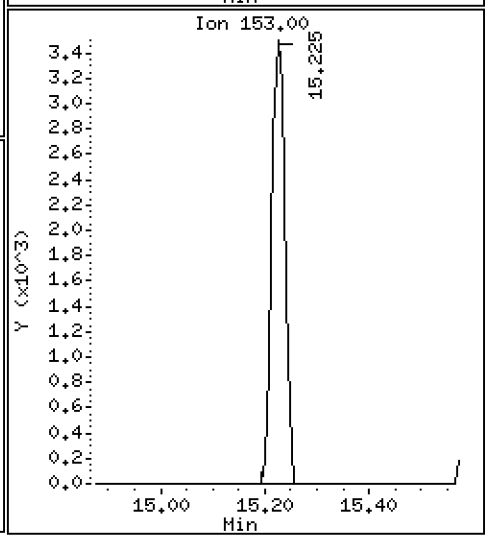












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

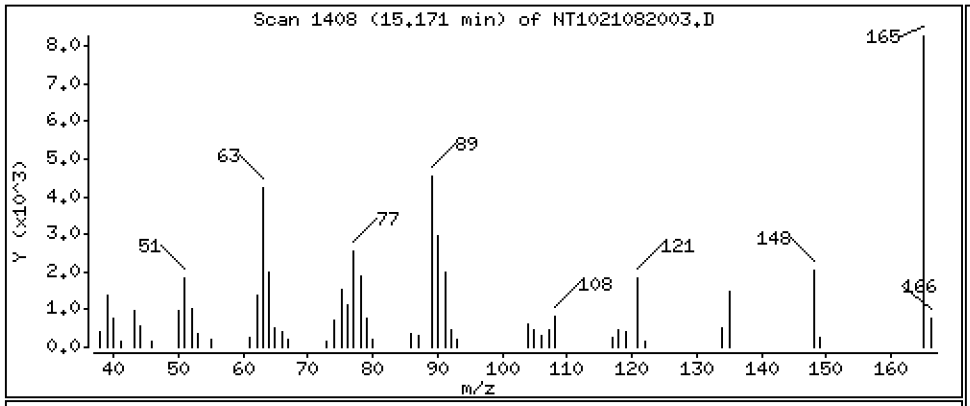
Operator: VTS

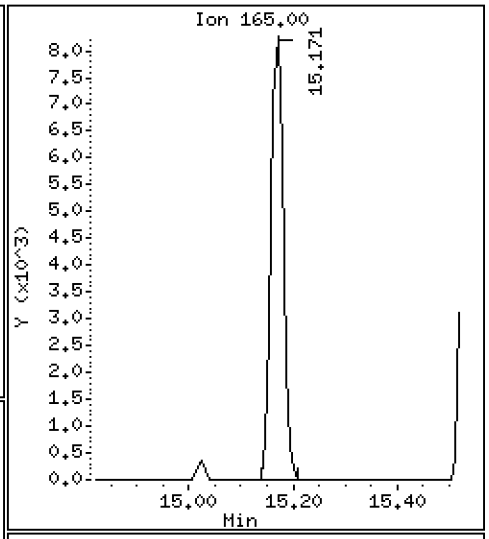
Column phase: ZB-5msi

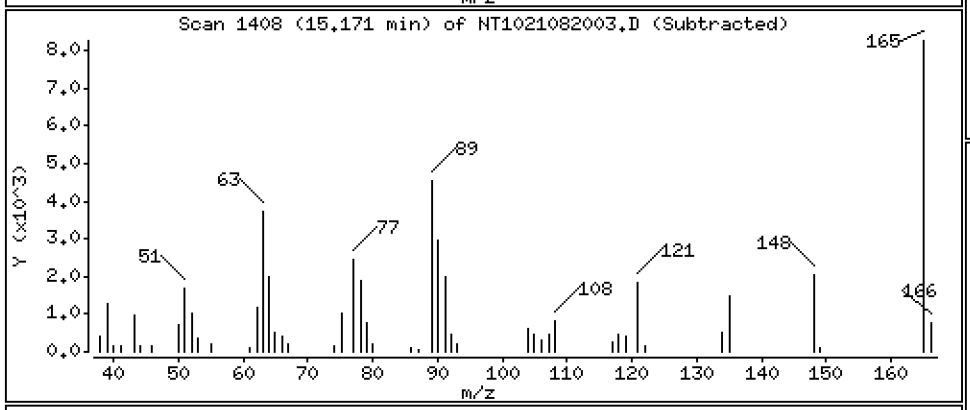
Column diameter: 0.25

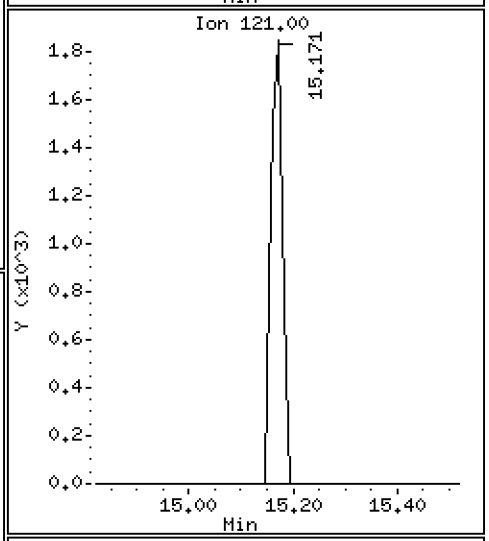
41 2,6-Dinitrotoluene

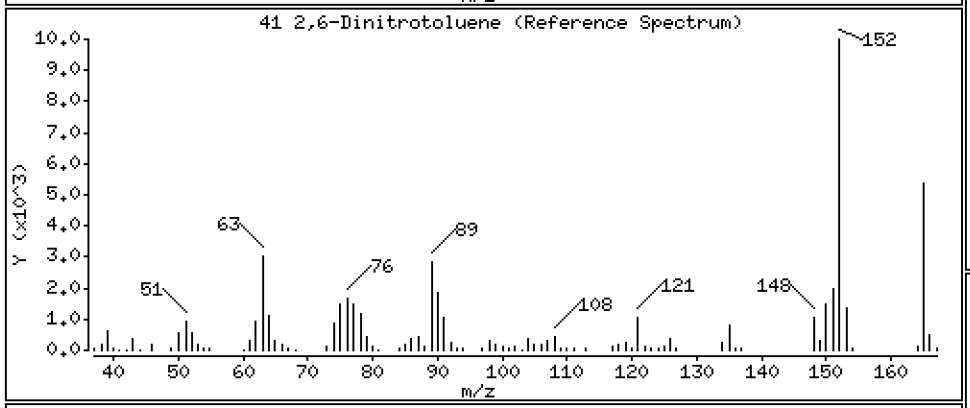
Concentration: 0.9690 ug/mL

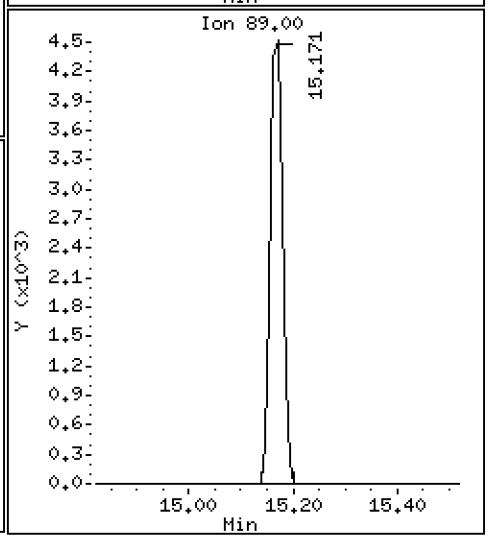


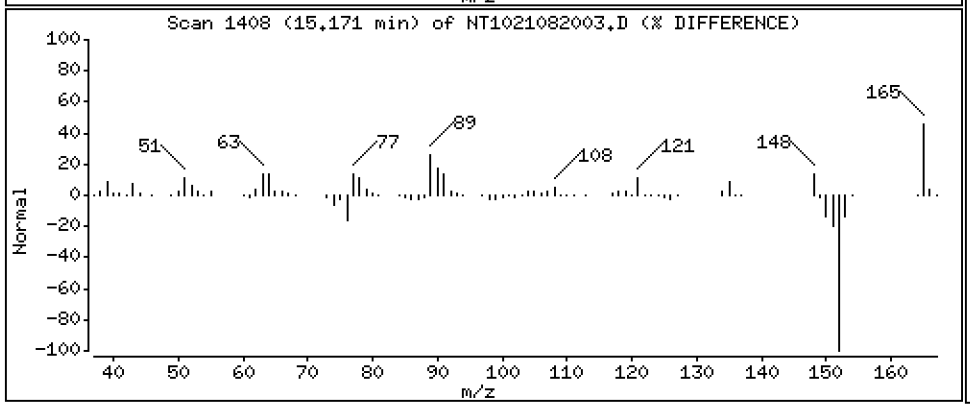












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

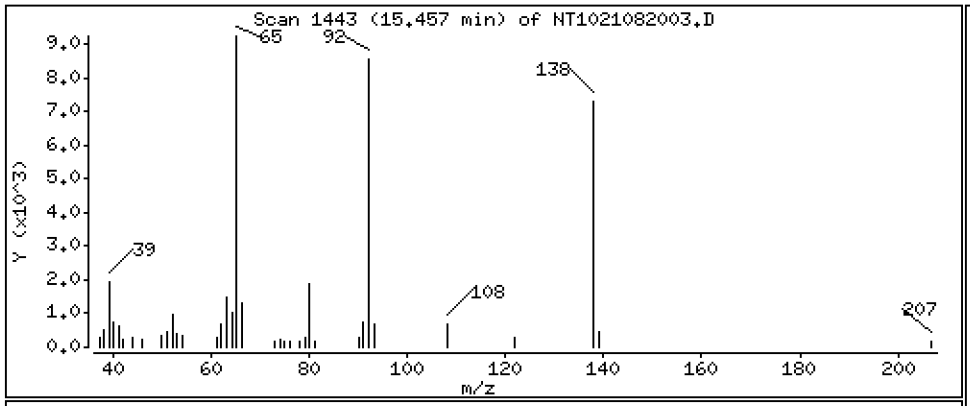
Operator: VTS

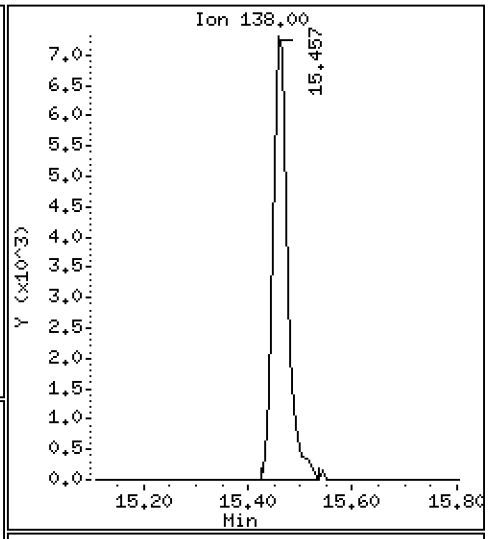
Column phase: ZB-5msi

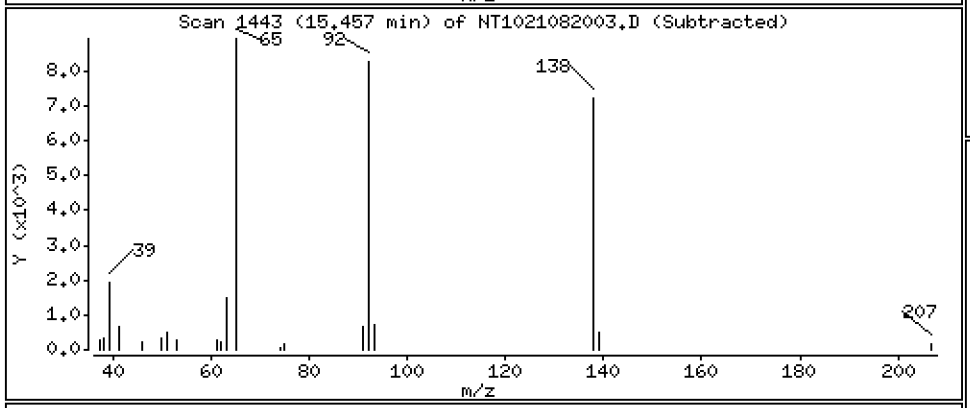
Column diameter: 0.25

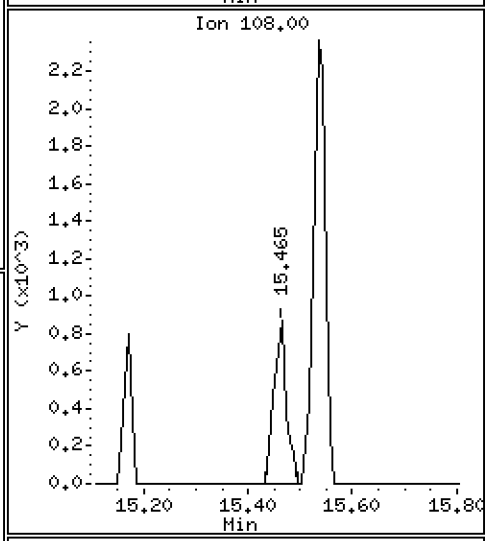
43 3-Nitroaniline

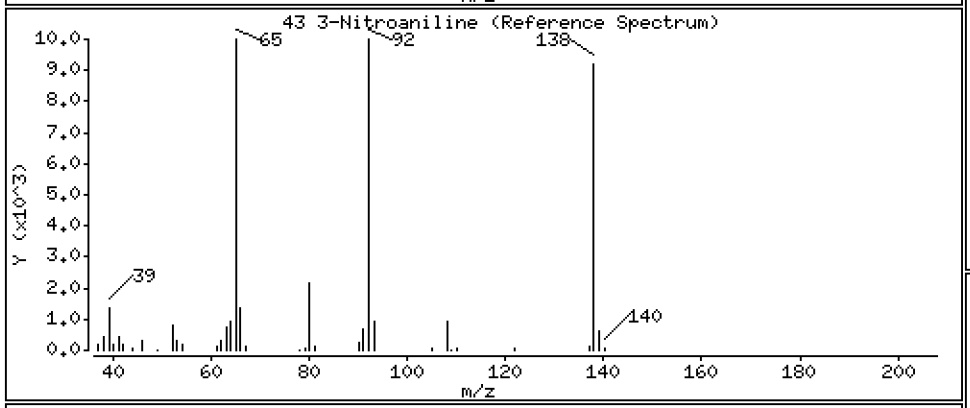
Concentration: 0.7730 ug/mL

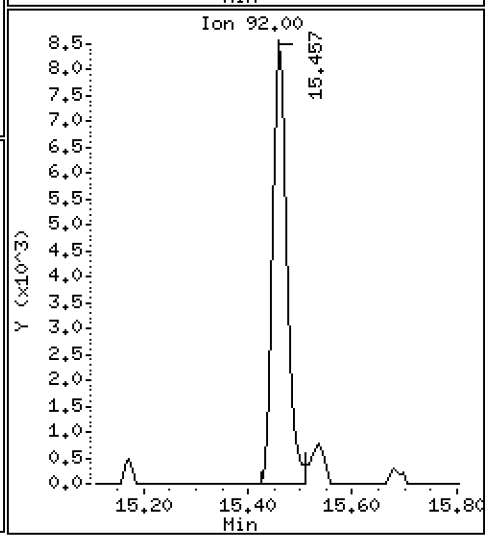


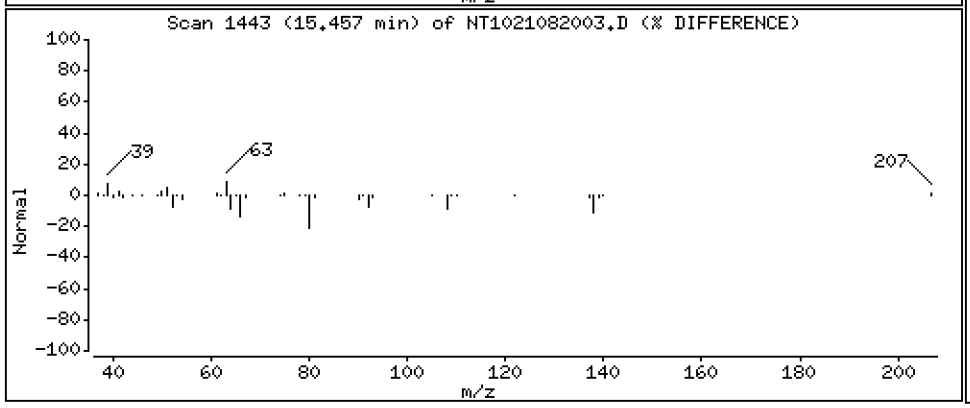












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

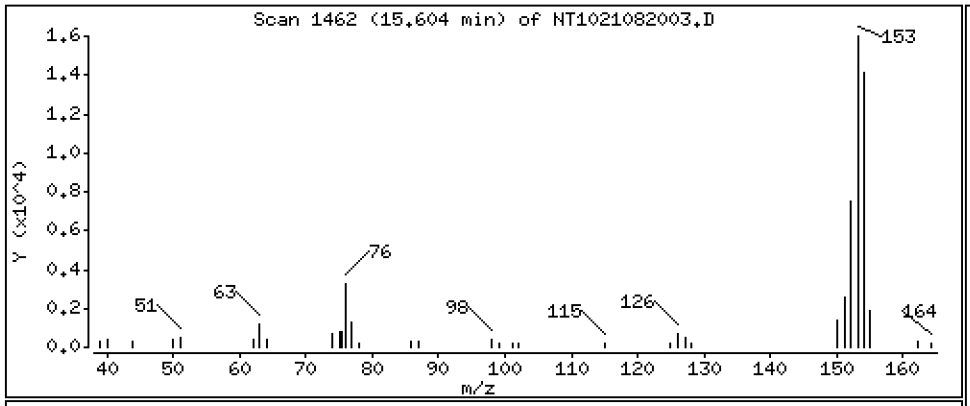
Operator: VTS

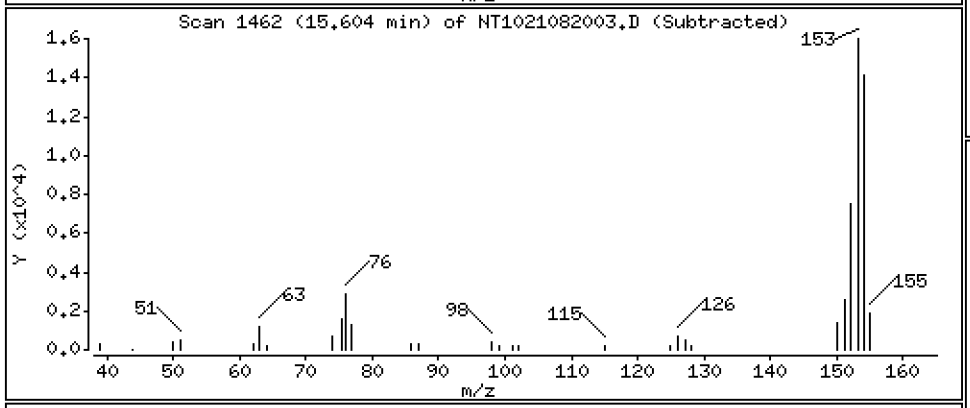
Column phase: ZB-5msi

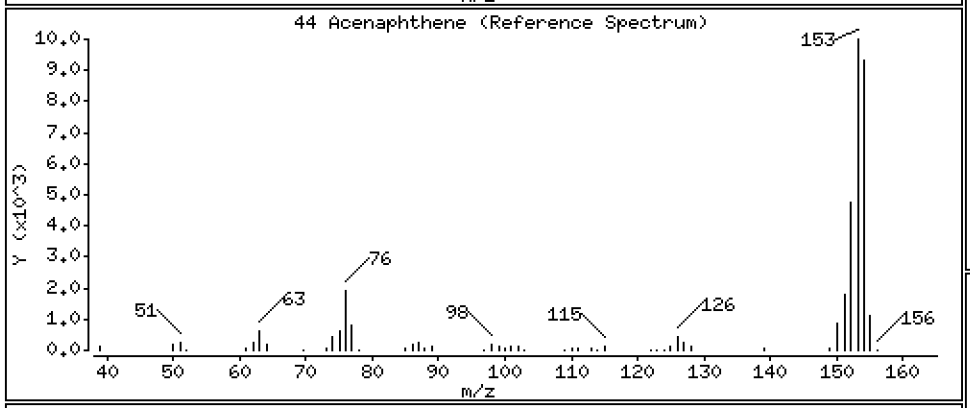
Column diameter: 0.25

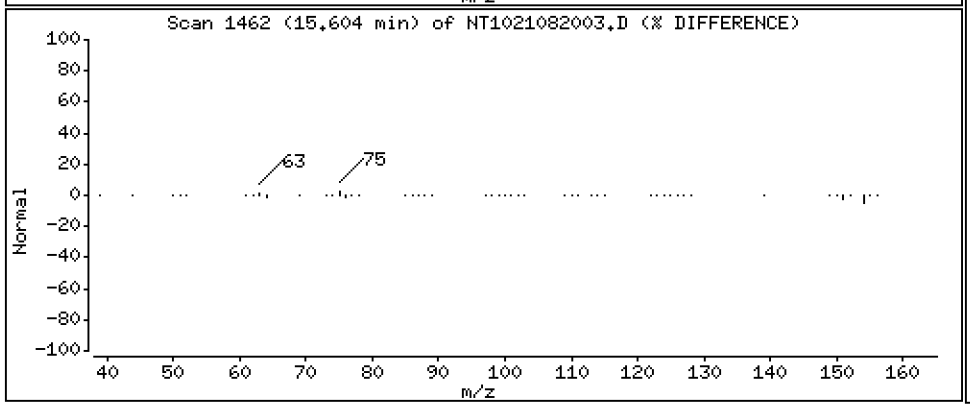
44 Acenaphthene

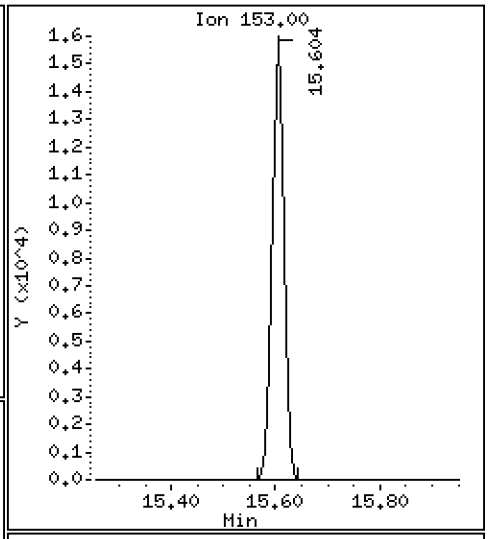
Concentration: 0.4854 ug/mL

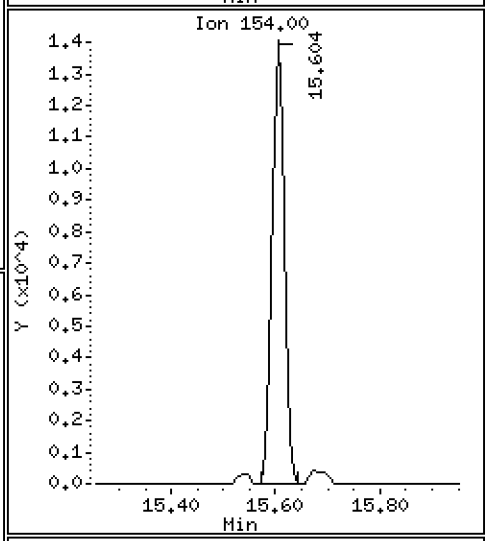


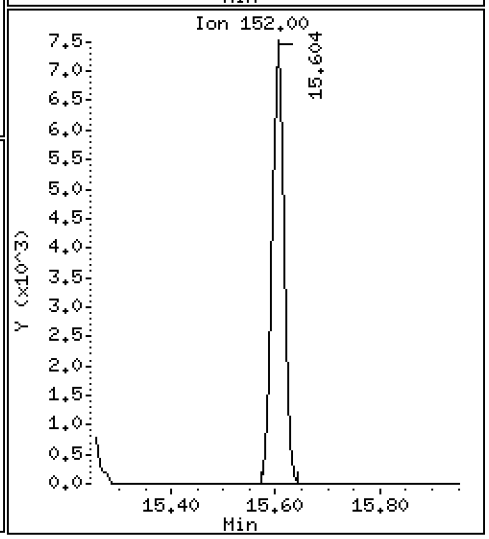












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

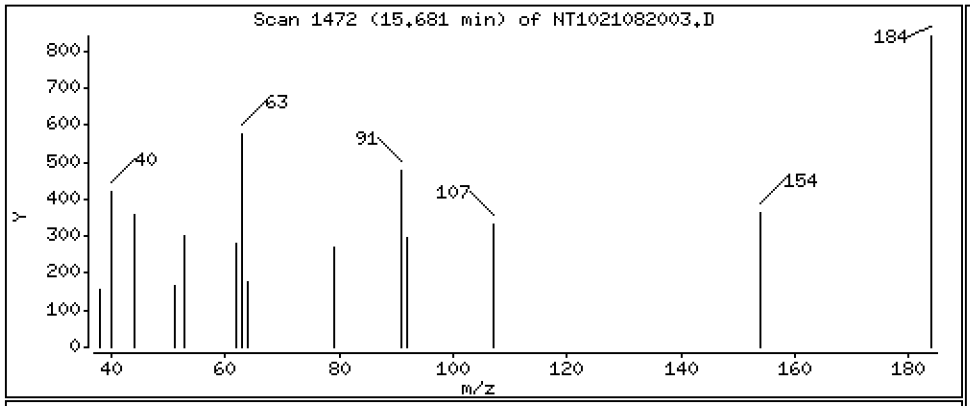
Operator: VTS

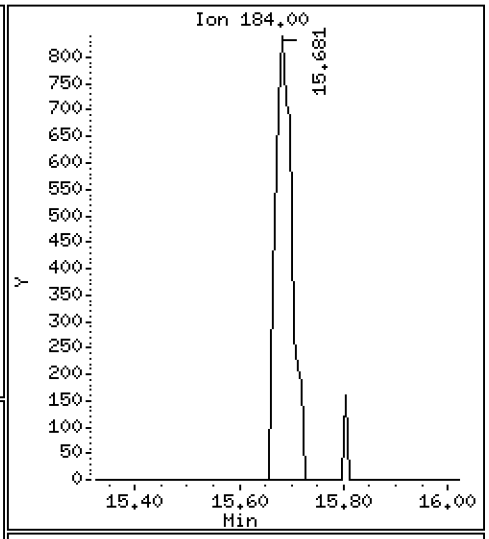
Column phase: ZB-5msi

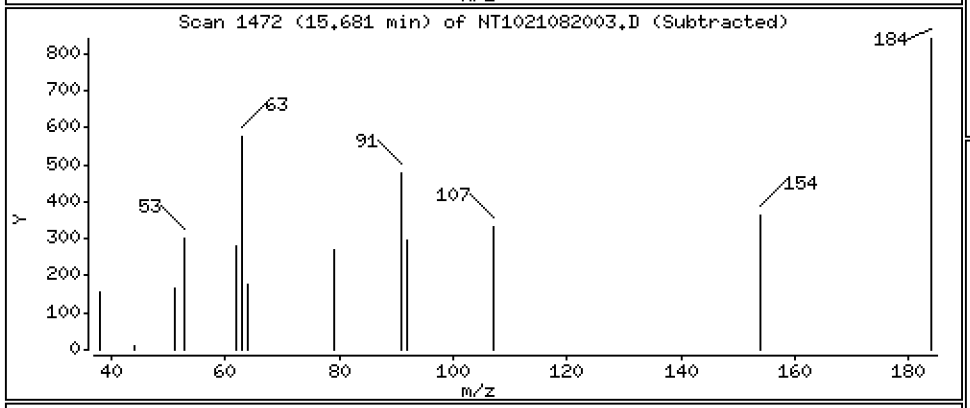
Column diameter: 0.25

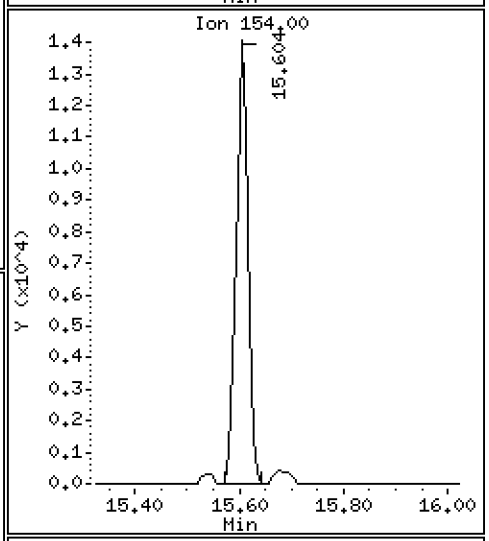
45 2,4-Dinitrophenol

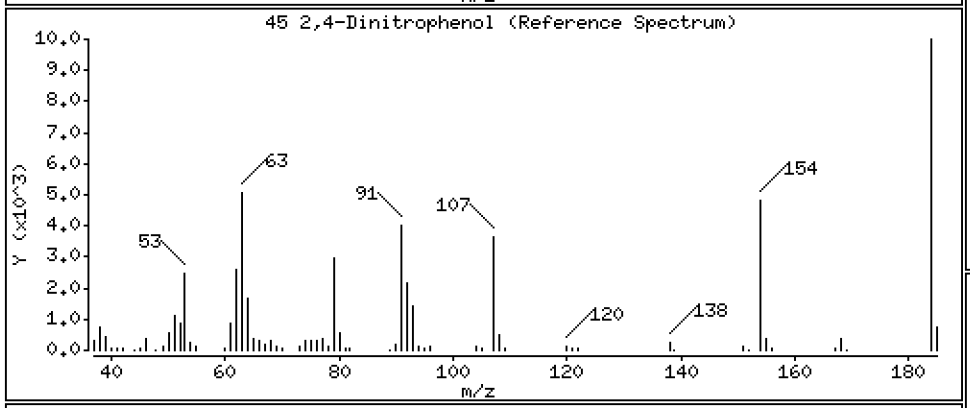
Concentration: 0.2653 ug/mL

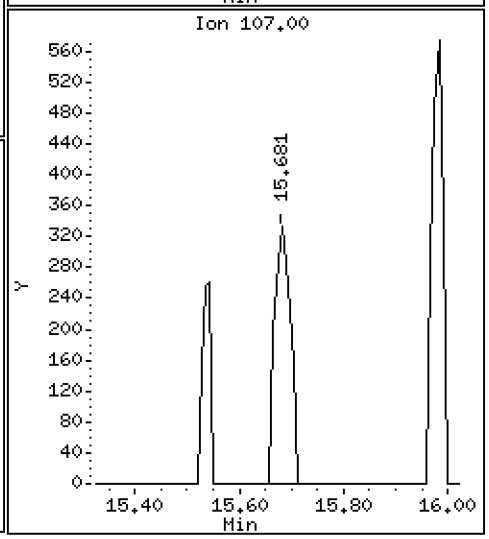


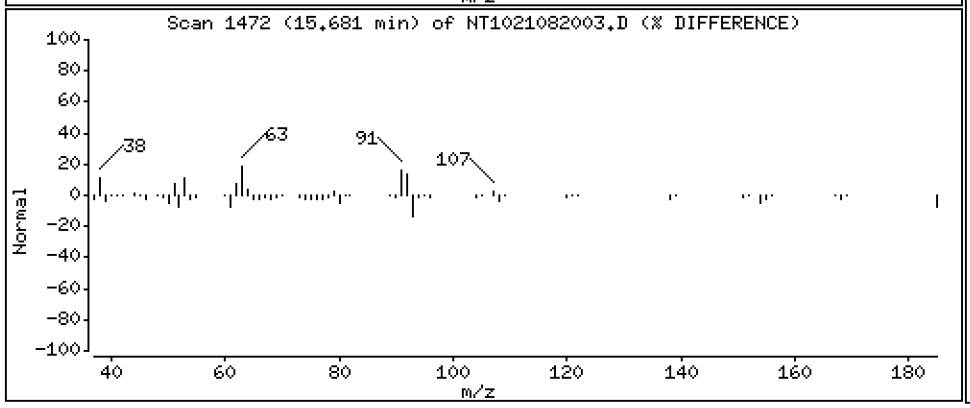












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

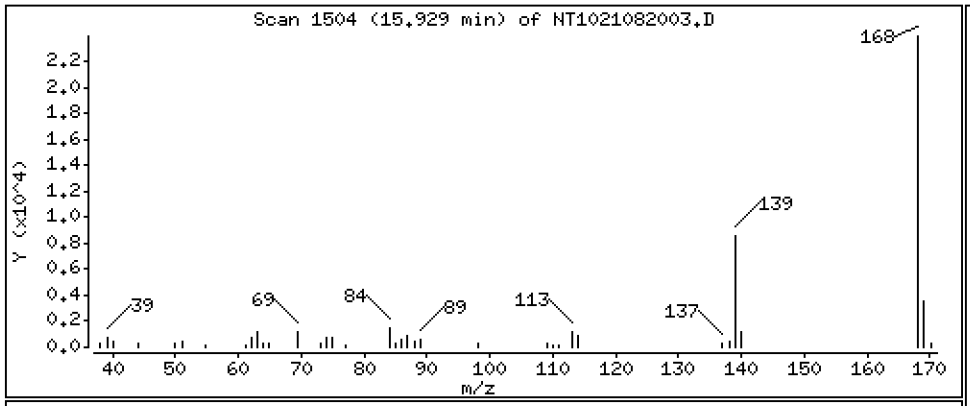
Operator: VTS

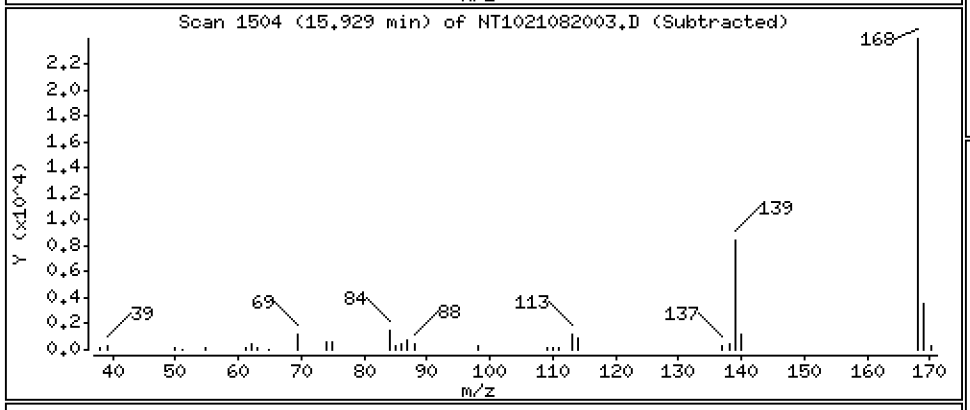
Column phase: ZB-5msi

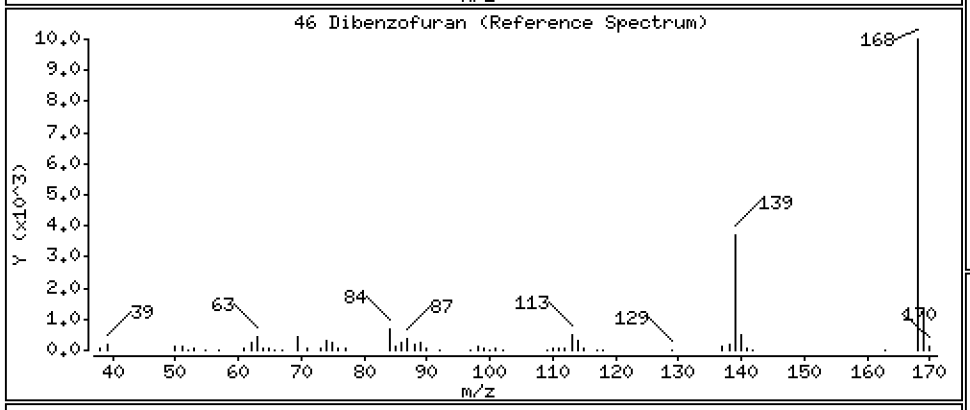
Column diameter: 0.25

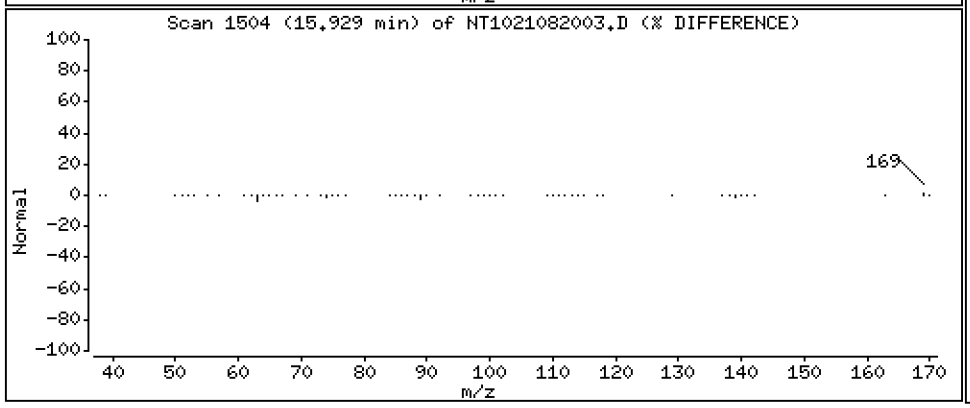
46 Dibenzofuran

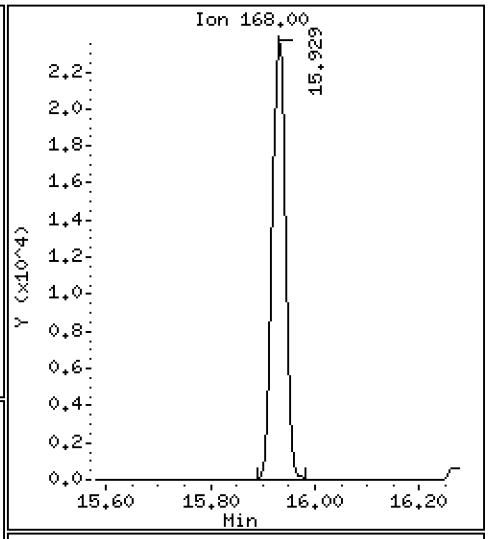
Concentration: 0.4691 ug/mL

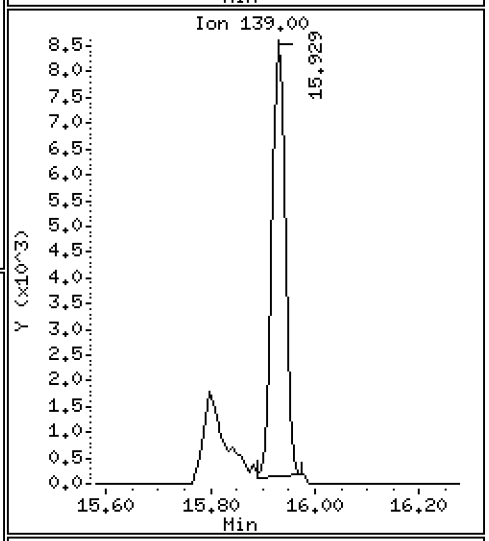


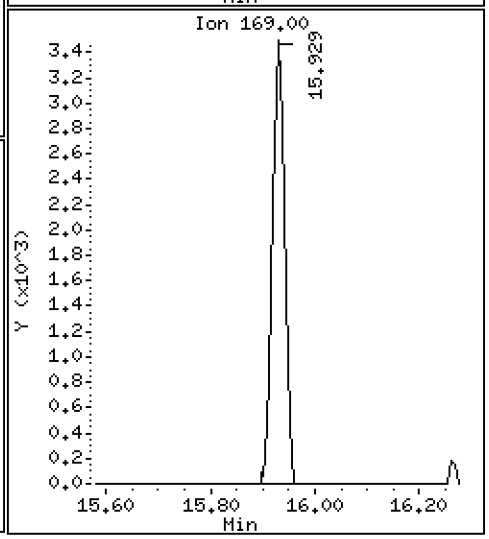












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

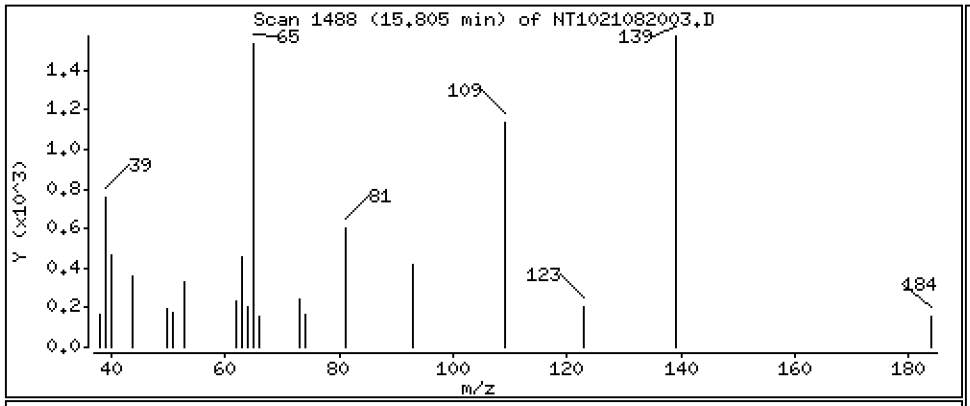
Operator: VTS

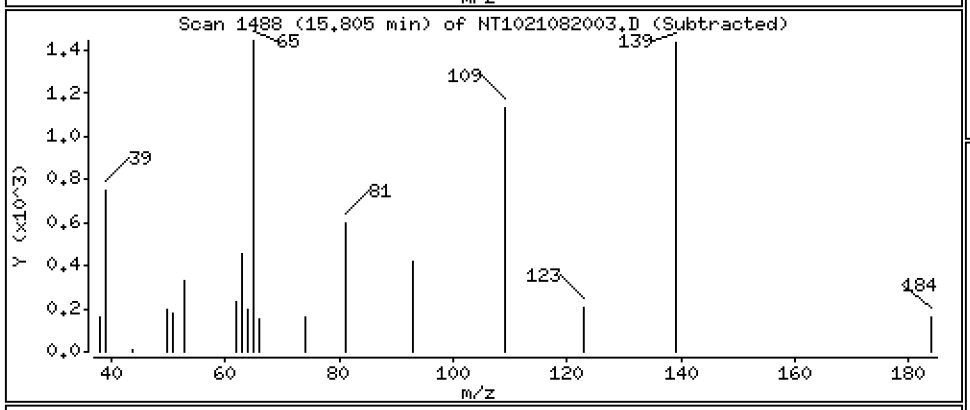
Column phase: ZB-5msi

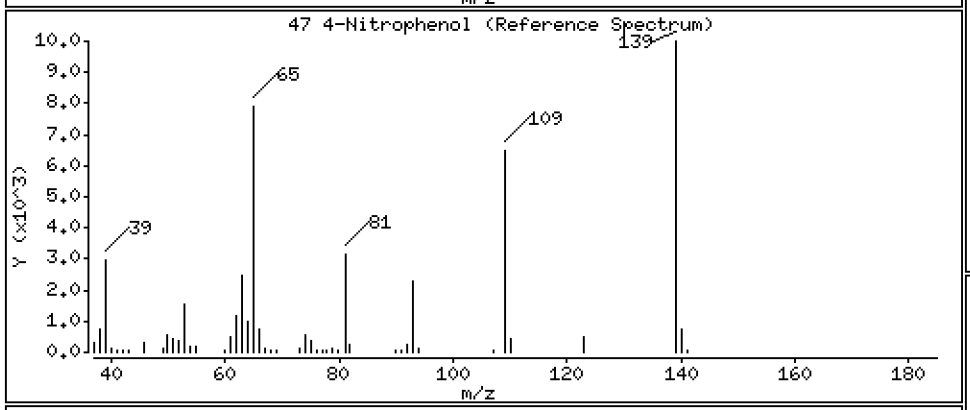
Column diameter: 0.25

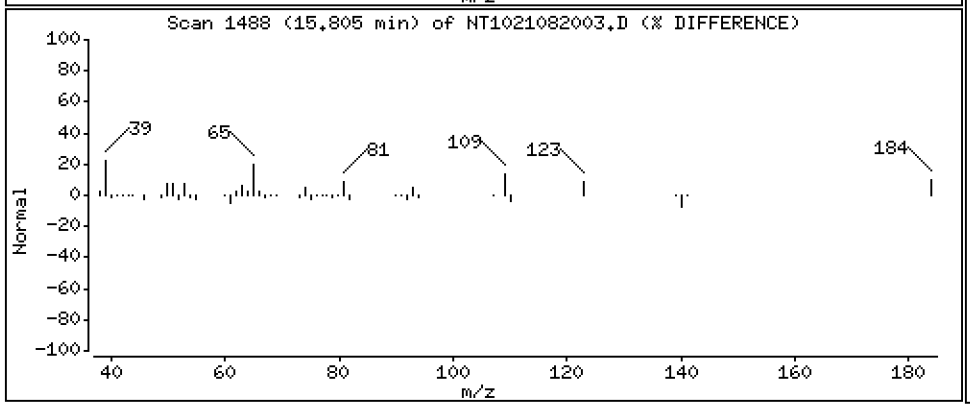
47 4-Nitrophenol

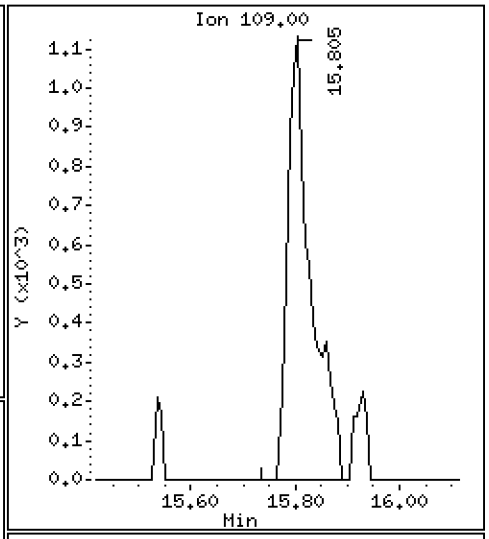
Concentration: 0.5554 ug/mL

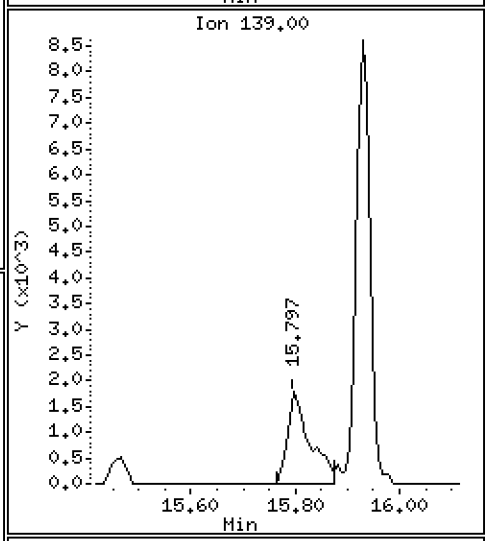


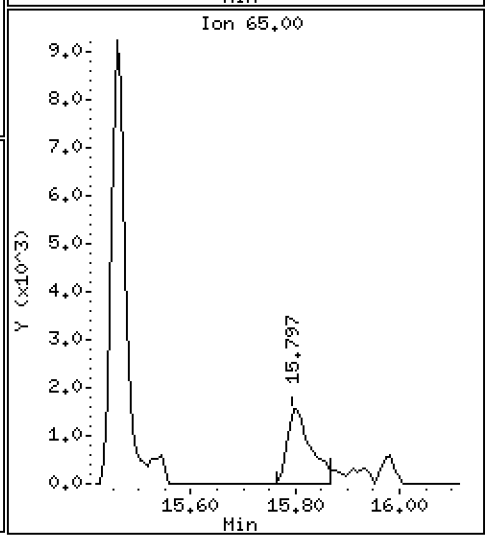












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

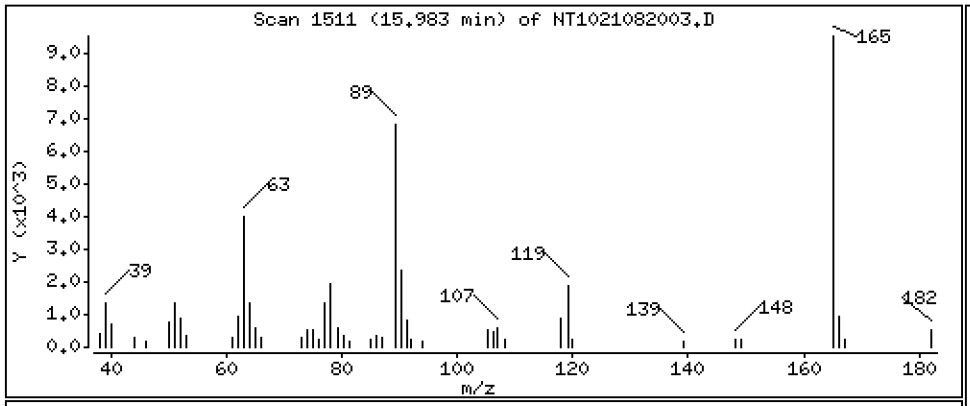
Operator: VTS

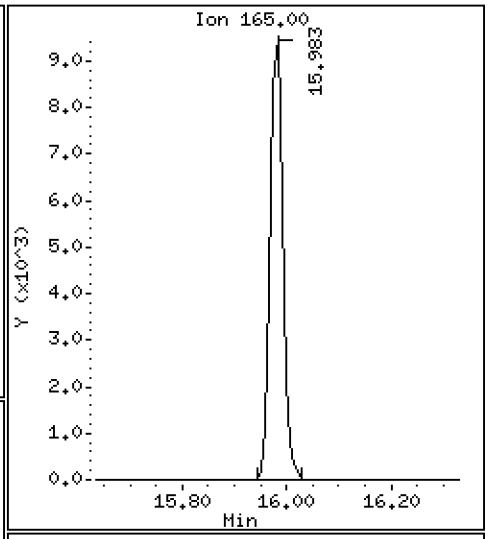
Column phase: ZB-5msi

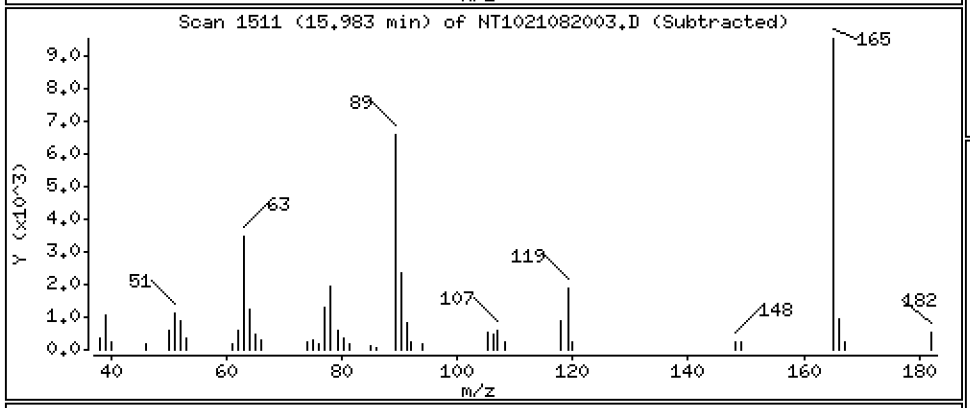
Column diameter: 0.25

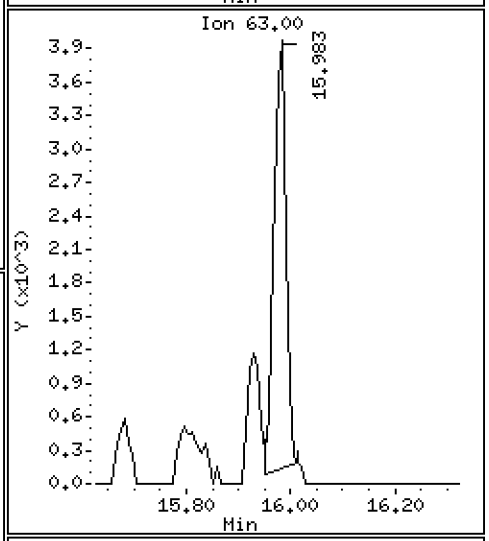
48 2,4-Dinitrotoluene

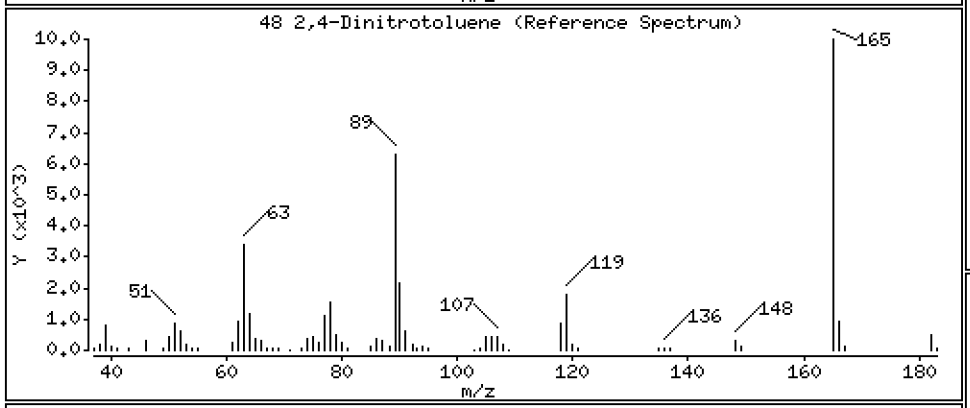
Concentration: 0.8194 ug/mL

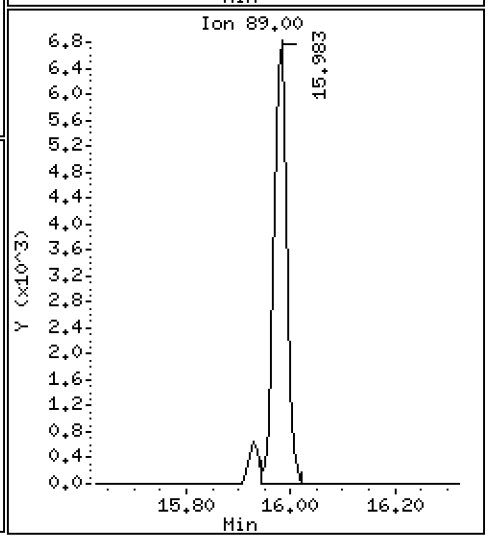


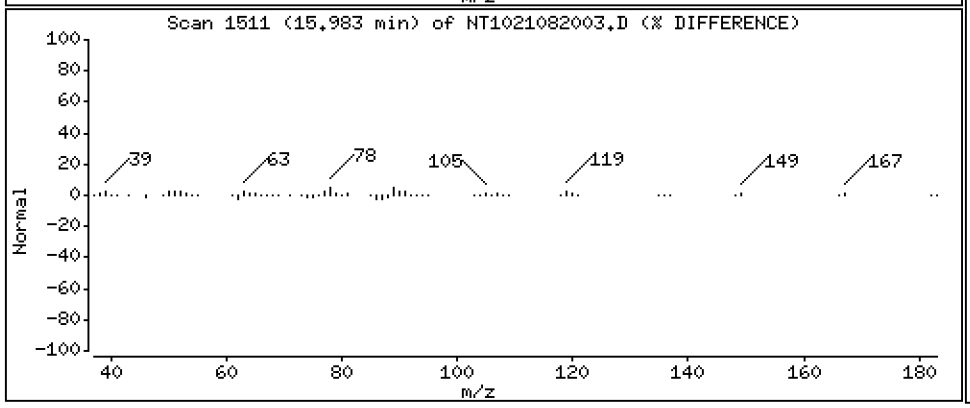












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

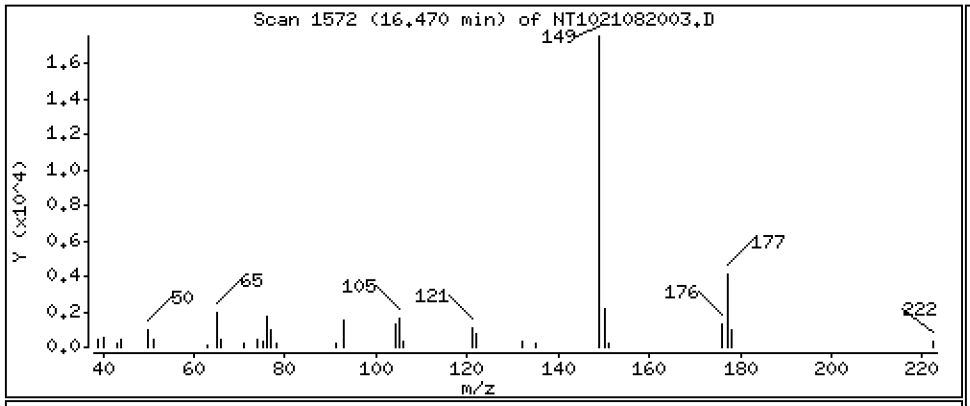
Operator: VTS

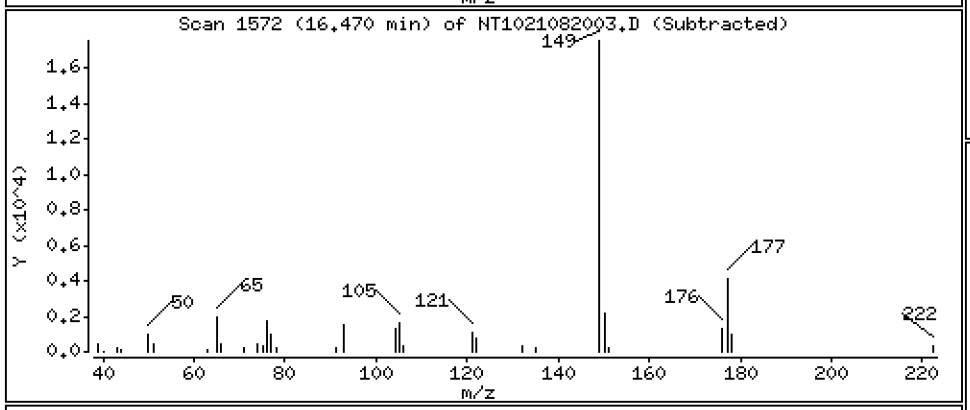
Column phase: ZB-5msi

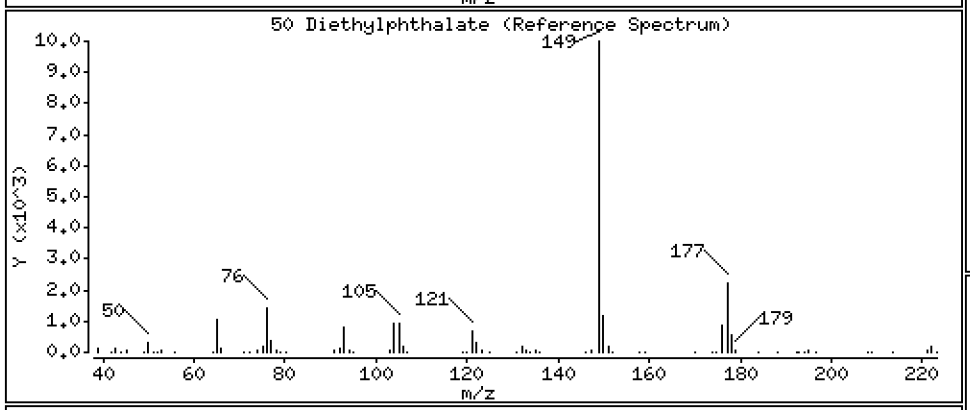
Column diameter: 0.25

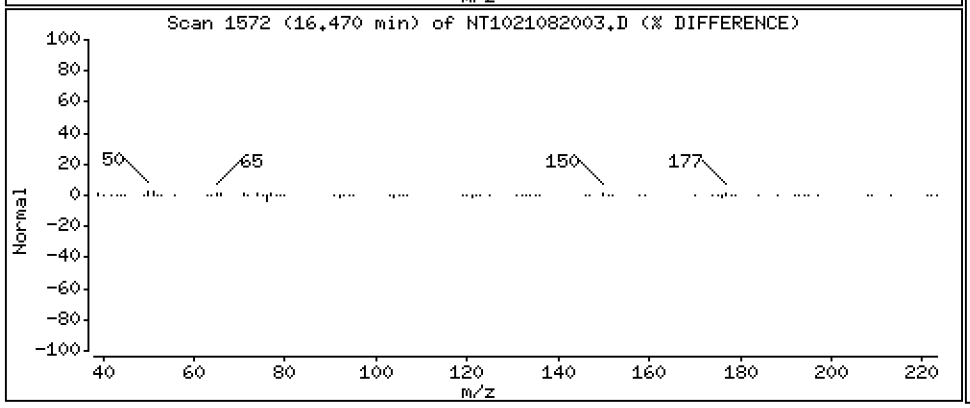
50 Diethylphthalate

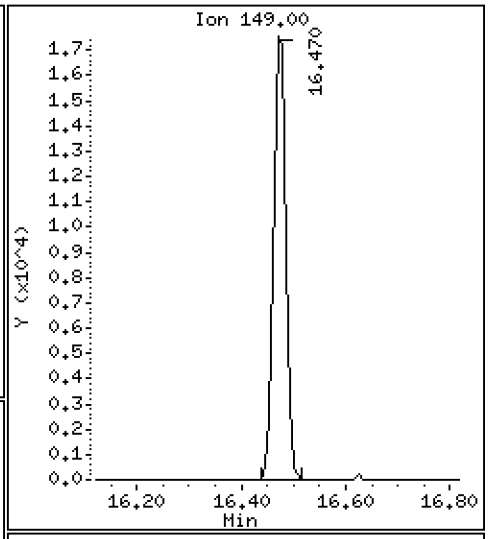
Concentration: 0.5021 ug/mL

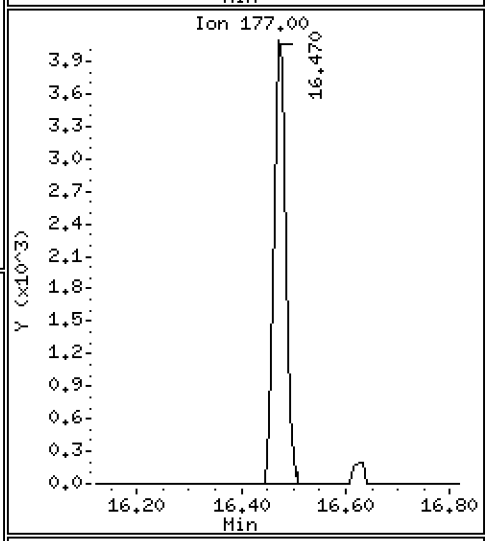


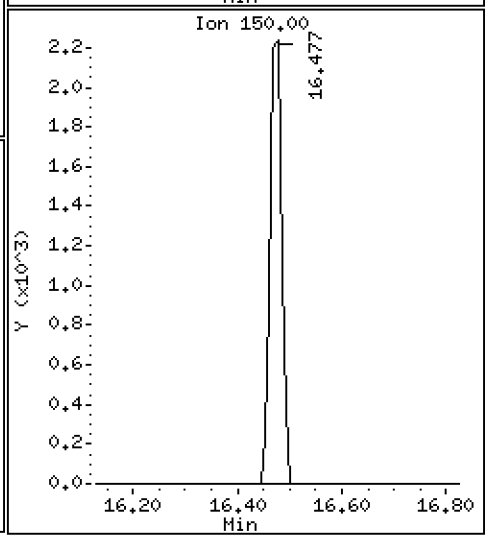












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

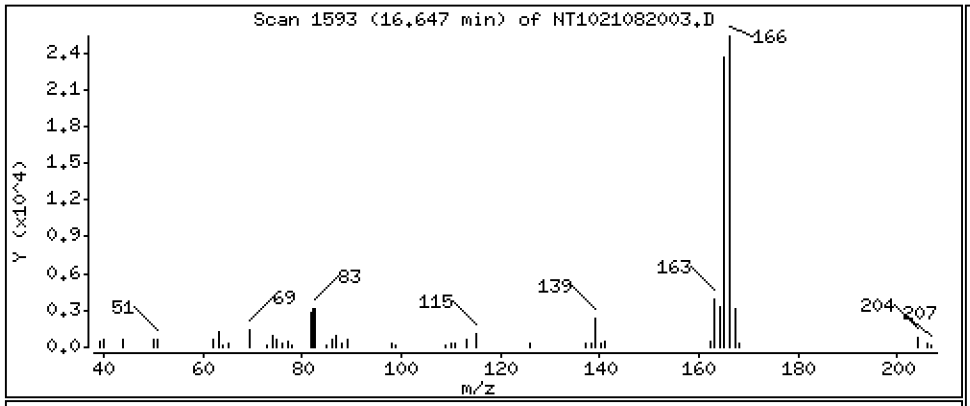
Operator: VTS

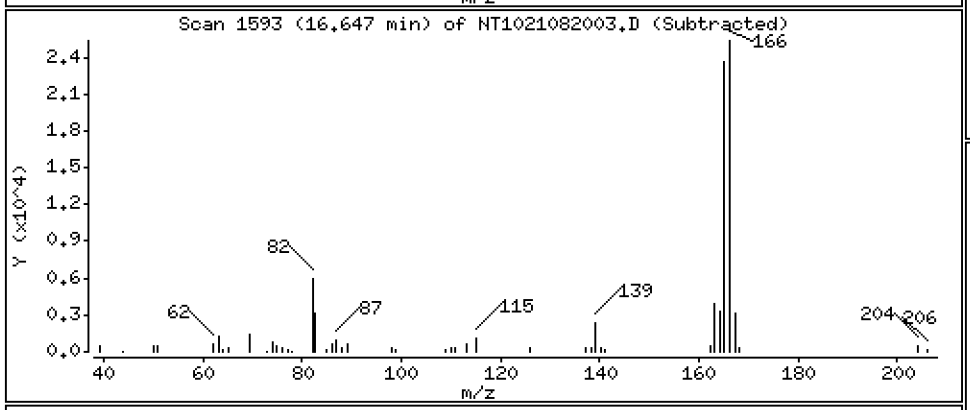
Column phase: ZB-5msi

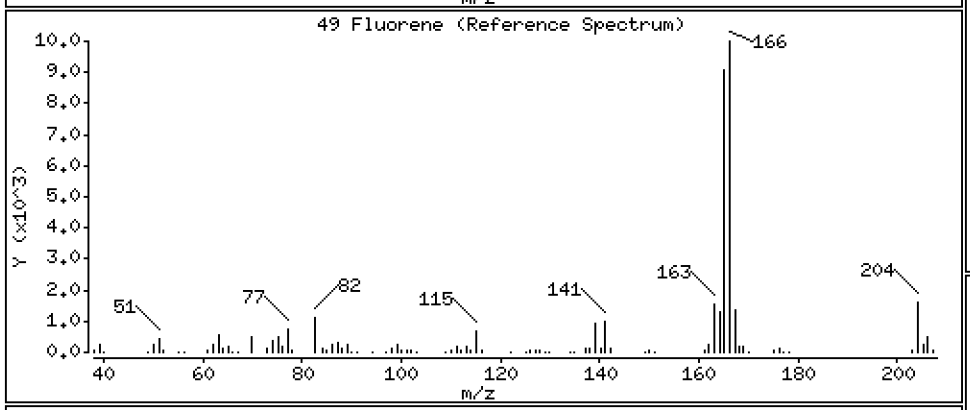
Column diameter: 0.25

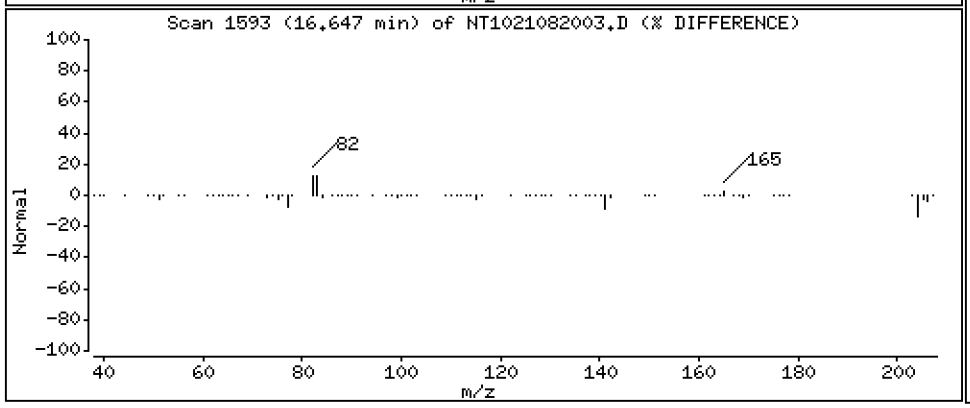
49 Fluorene

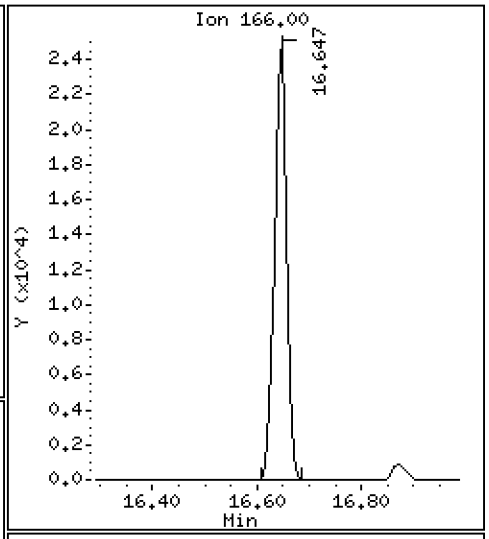
Concentration: 0.5277 ug/mL

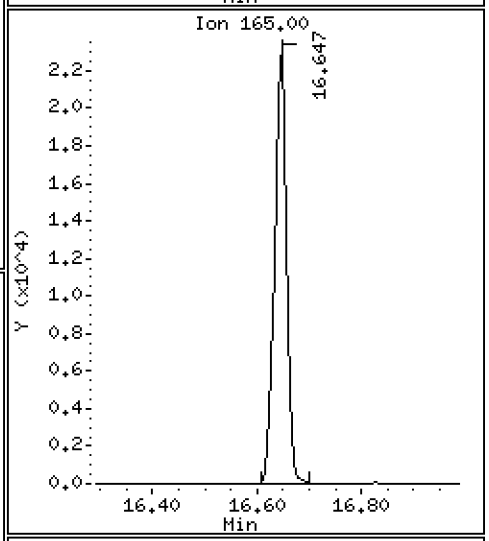


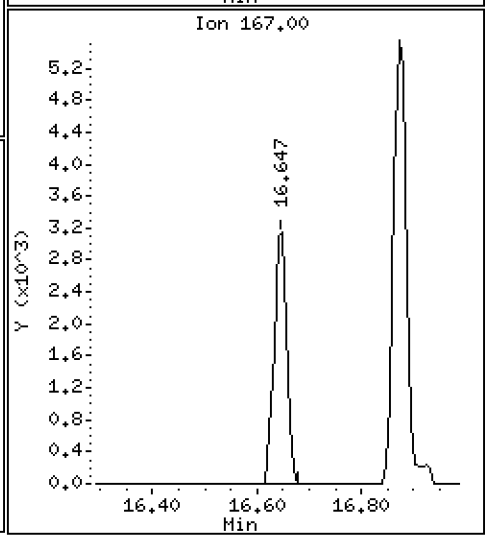












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

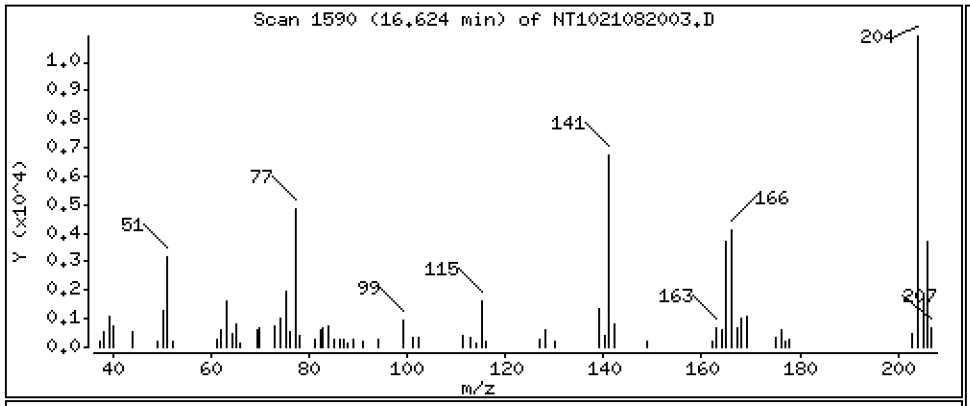
Operator: VTS

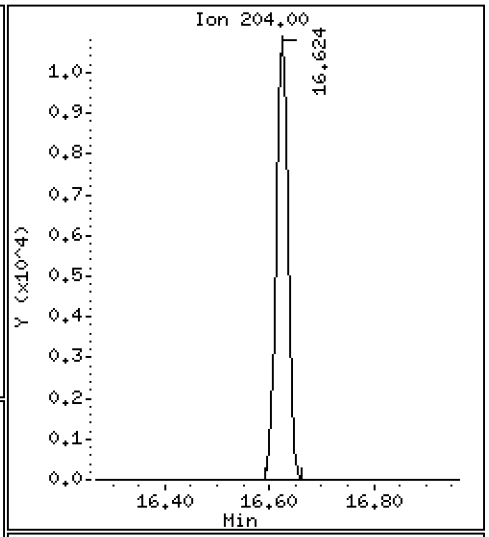
Column phase: ZB-5msi

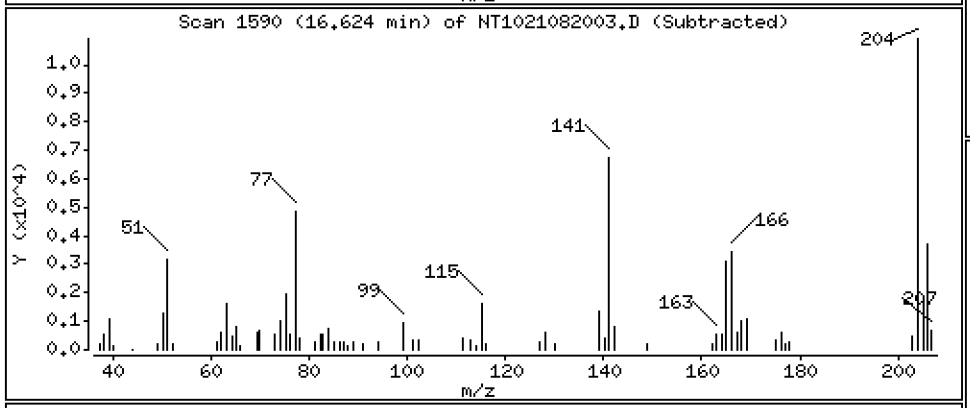
Column diameter: 0.25

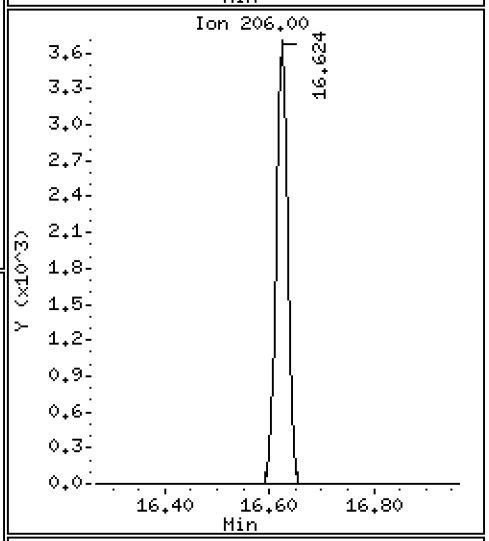
51 4-Chlorophenyl-phenylether

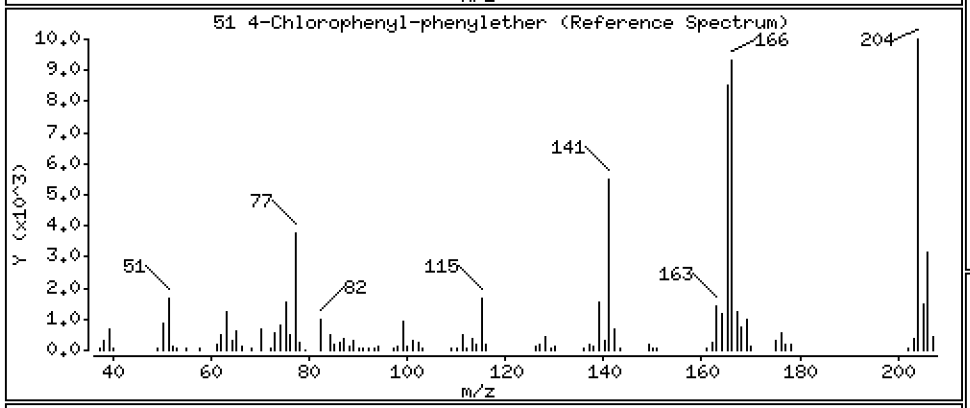
Concentration: 0.5177 ug/mL

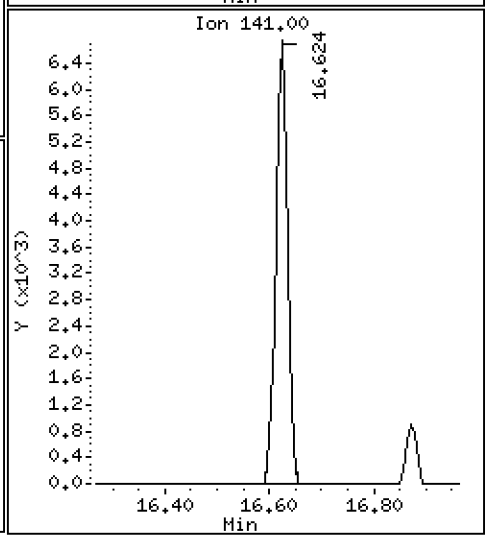


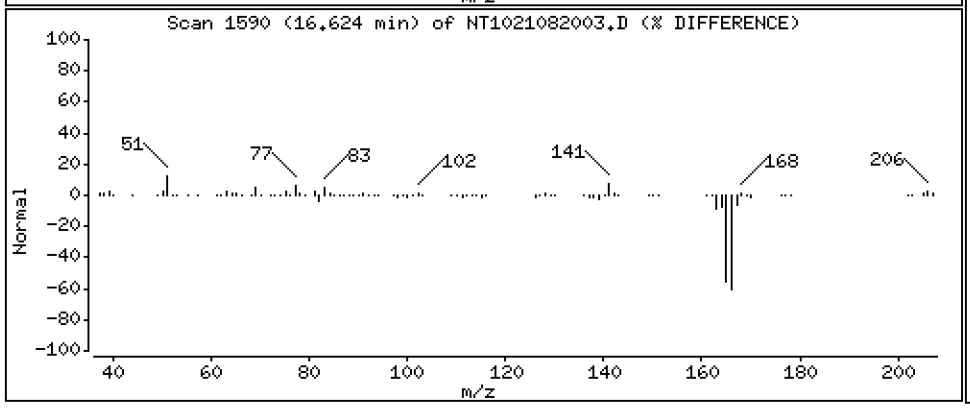












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

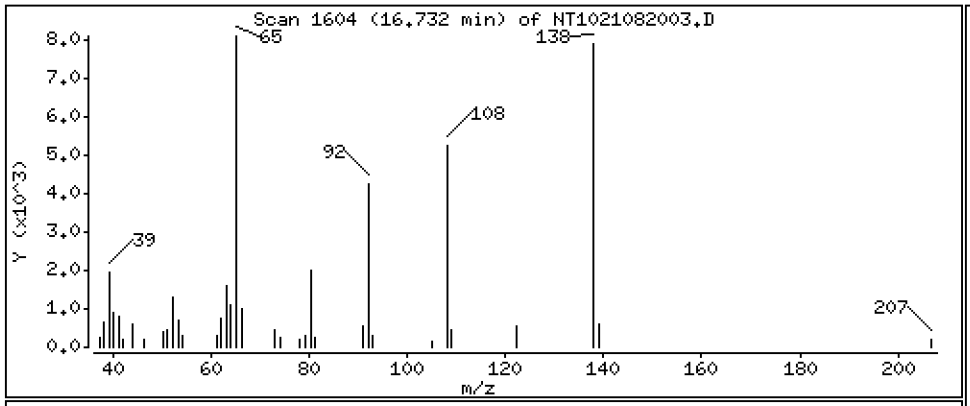
Operator: VTS

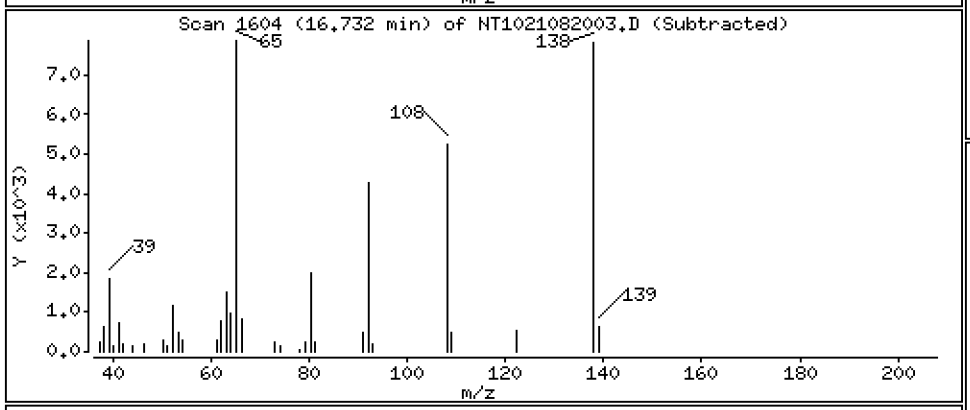
Column phase: ZB-5msi

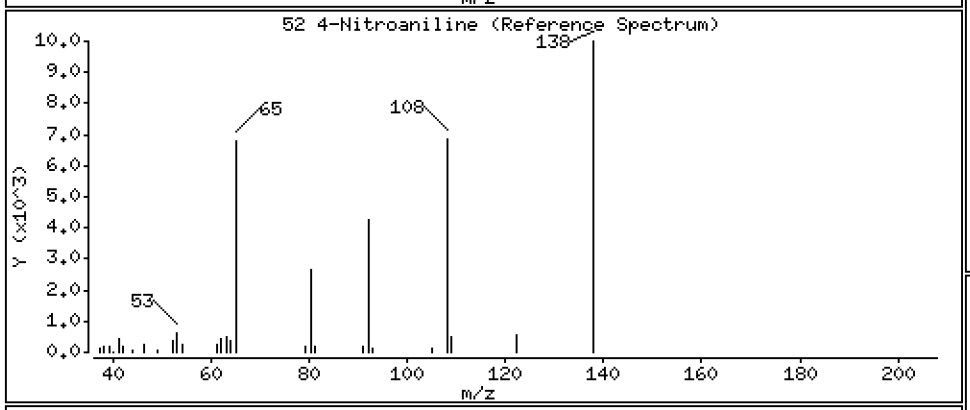
Column diameter: 0.25

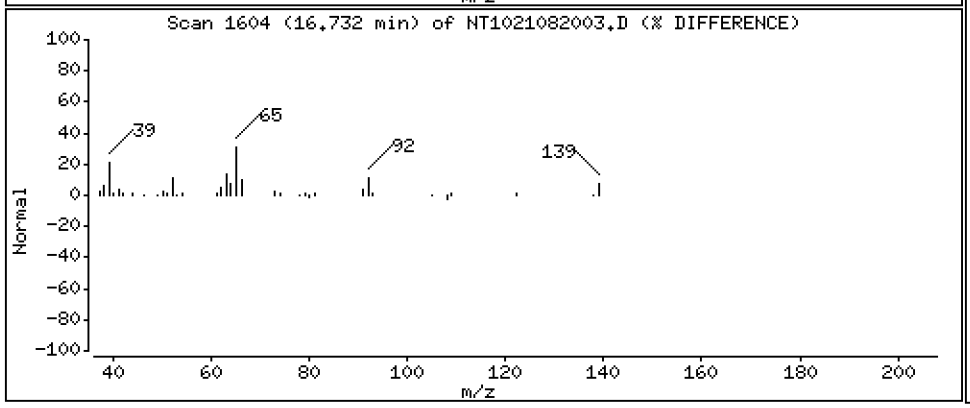
52 4-Nitroaniline

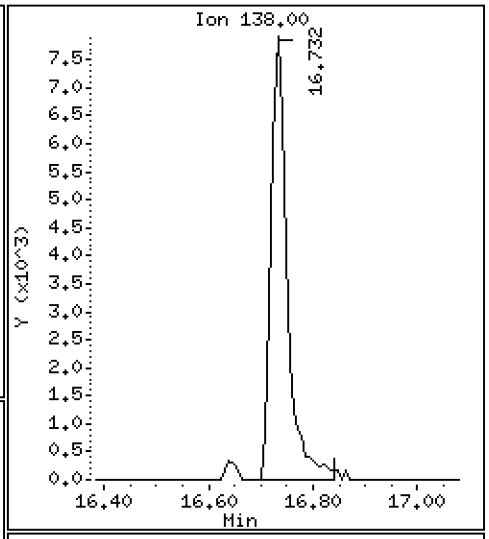
Concentration: 0.8847 ug/mL

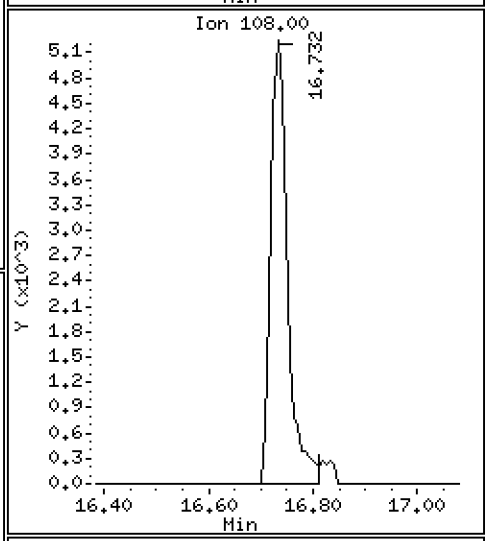


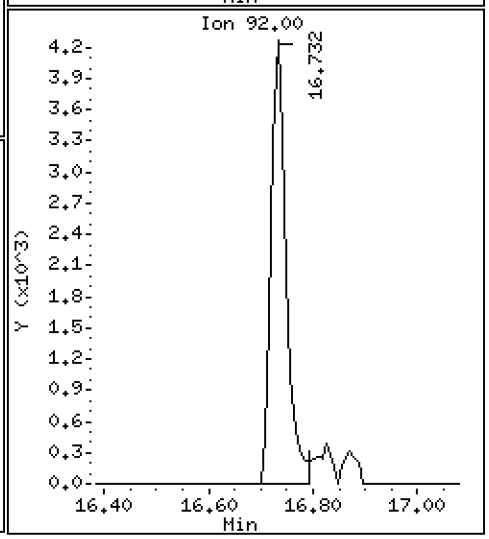












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

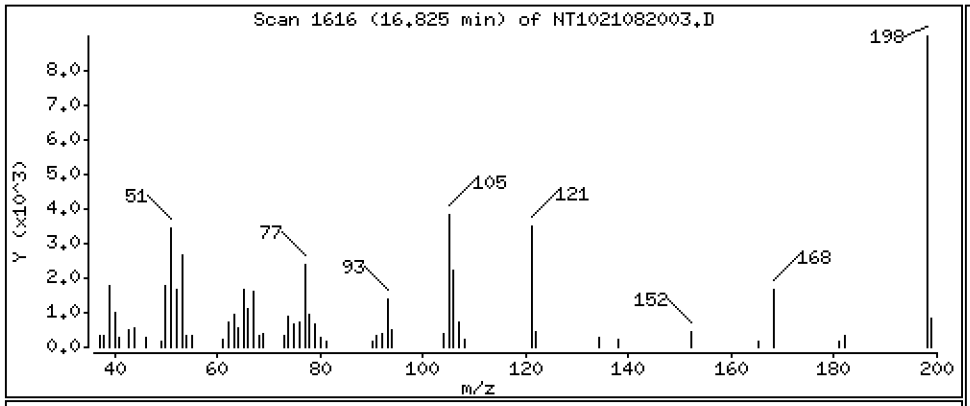
Operator: VTS

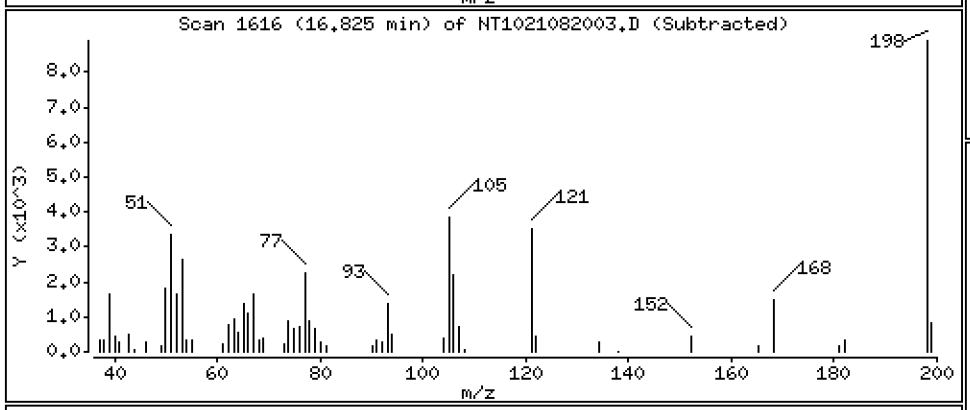
Column phase: ZB-5msi

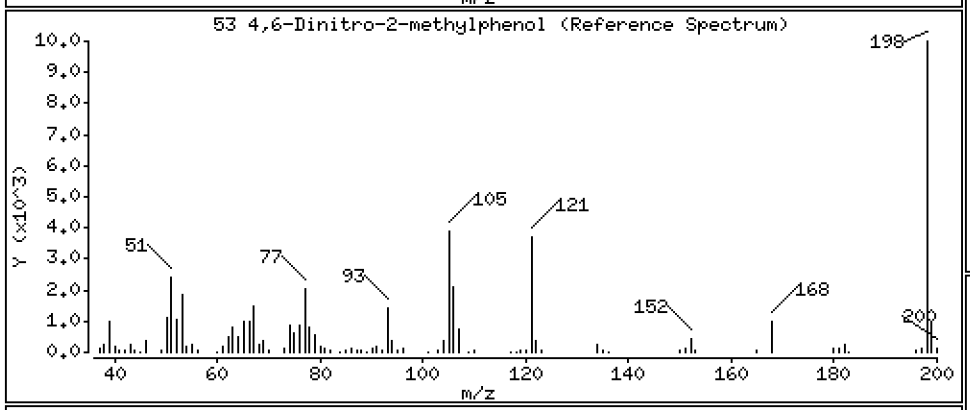
Column diameter: 0.25

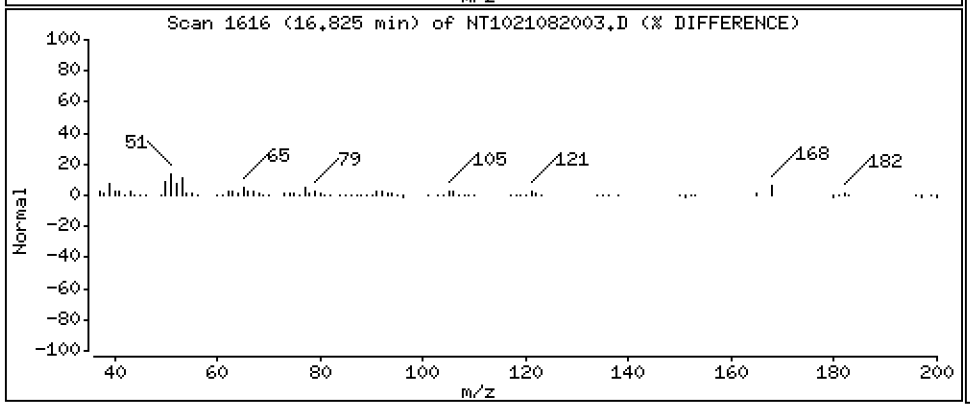
53 4,6-Dinitro-2-methylphenol

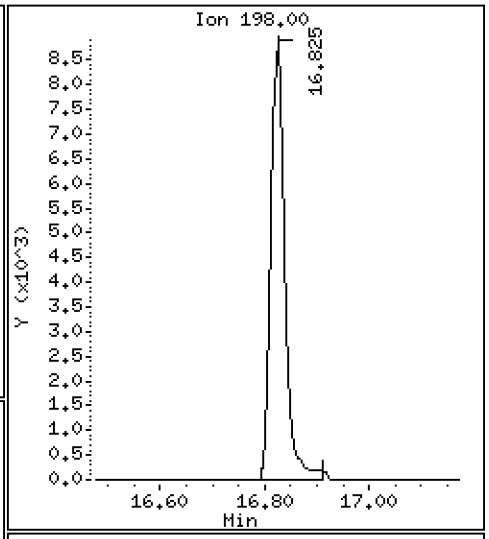
Concentration: 1.177 ug/mL

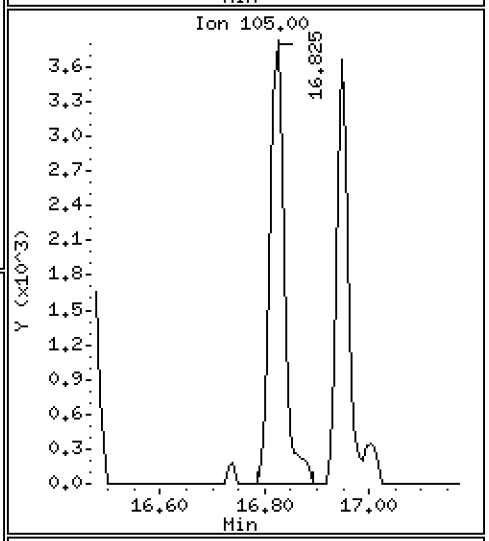


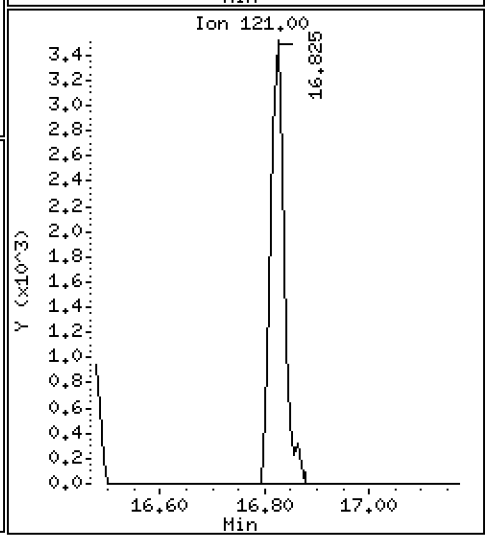












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

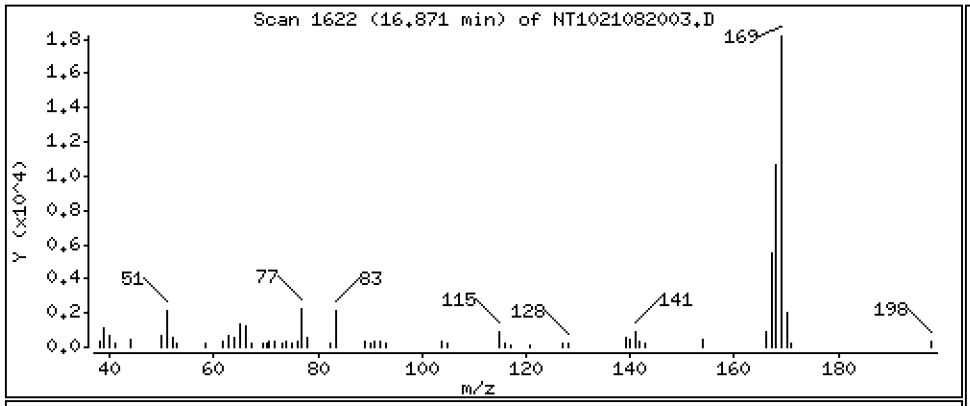
Operator: VTS

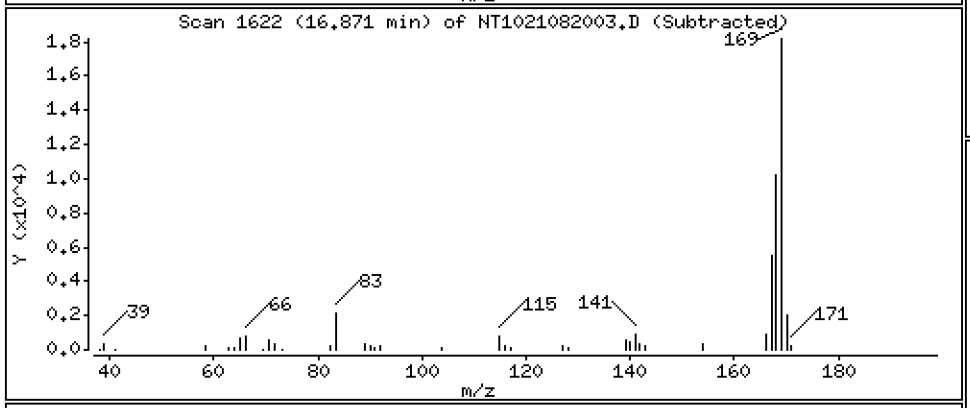
Column phase: ZB-5msi

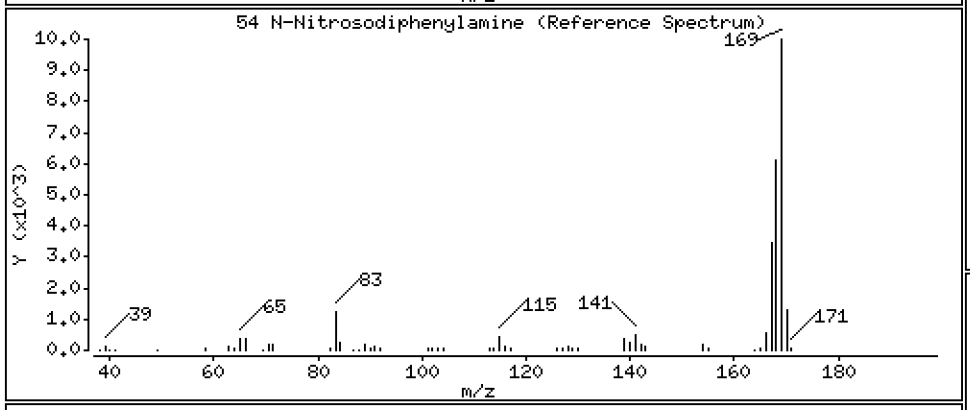
Column diameter: 0.25

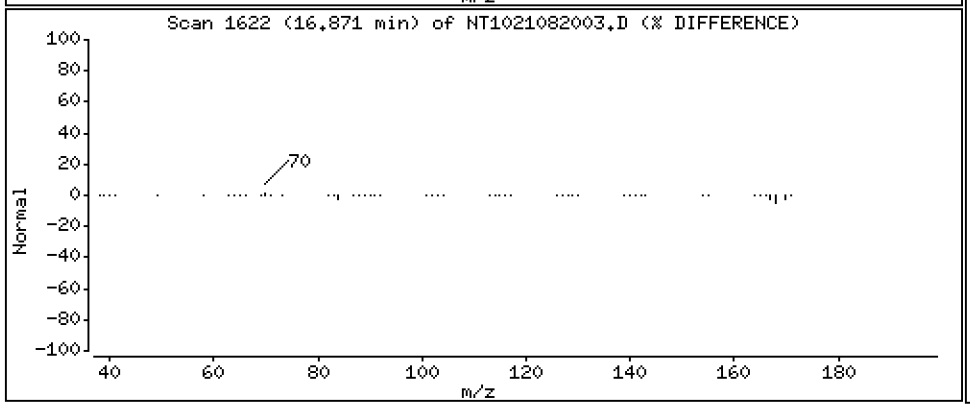
54 N-Nitrosodiphenylamine

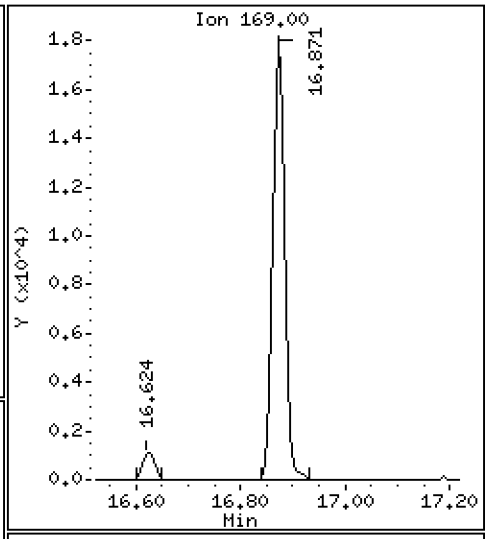
Concentration: 0.5546 ug/mL

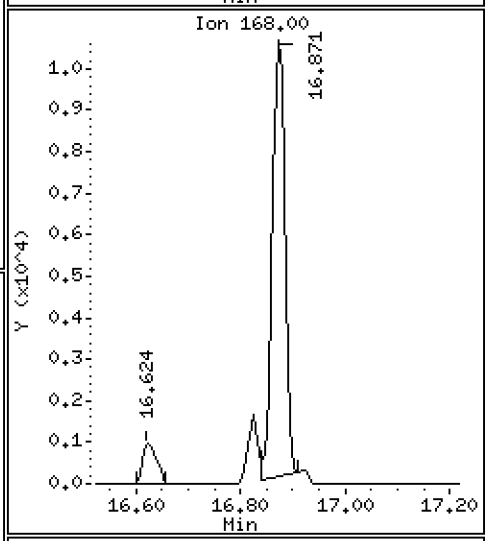


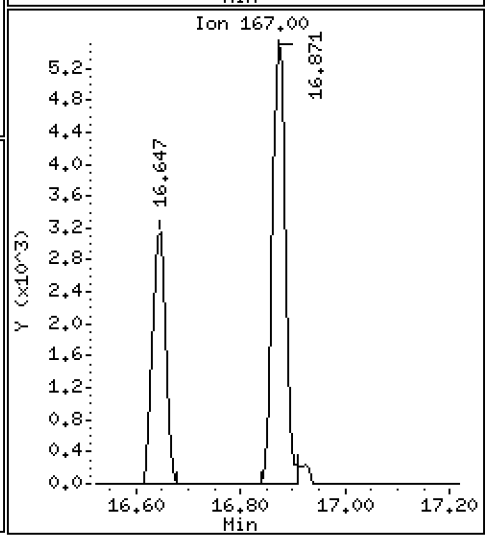












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

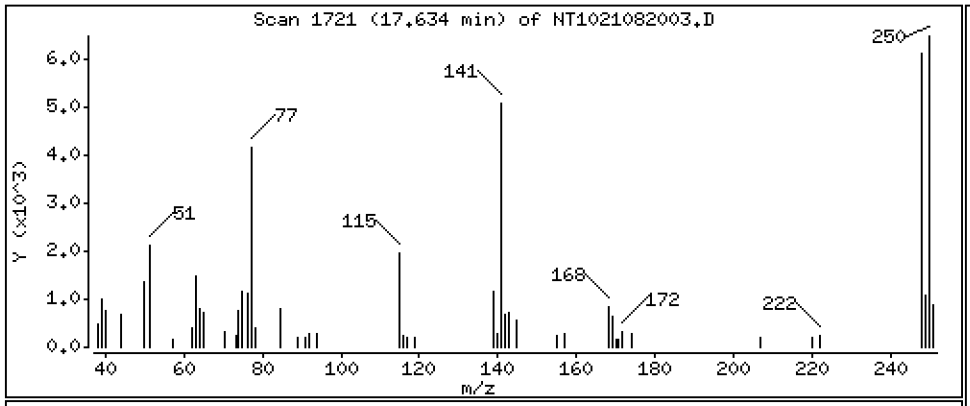
Operator: VTS

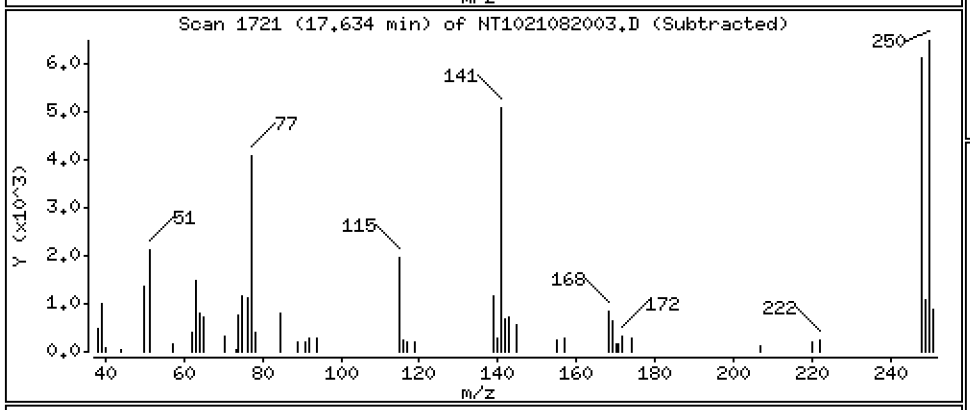
Column phase: ZB-5msi

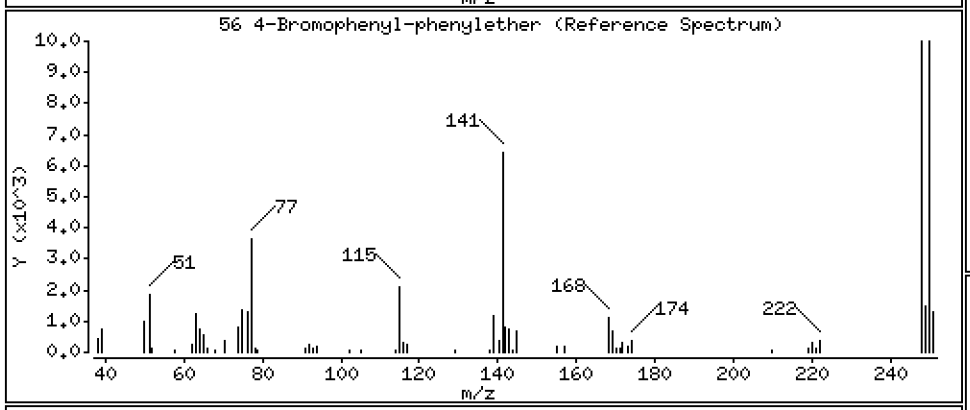
Column diameter: 0.25

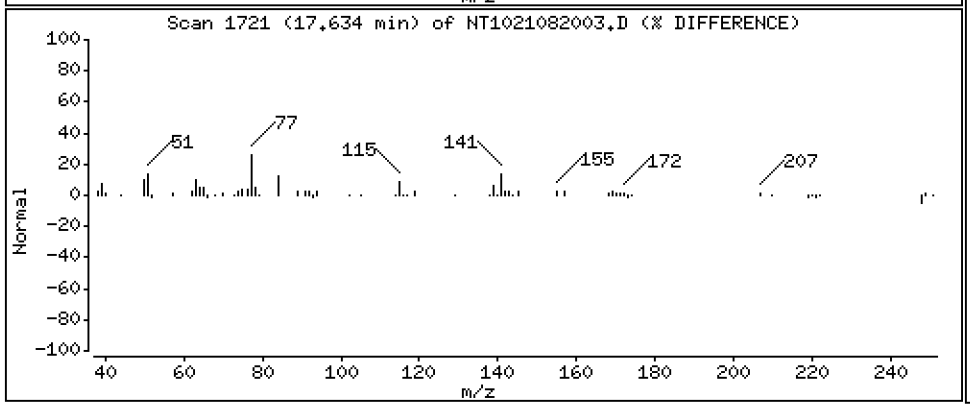
56 4-Bromophenyl-phenylether

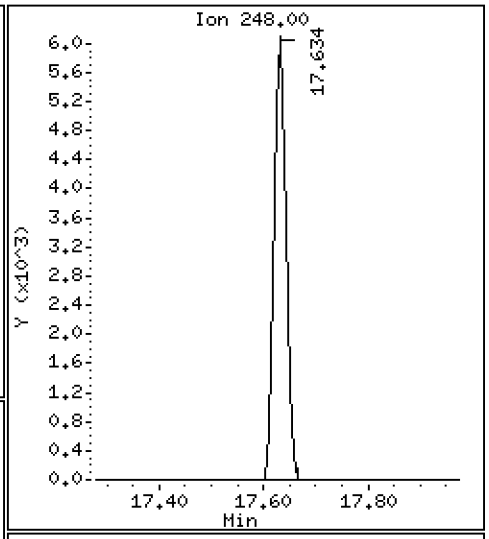
Concentration: 0.4718 ug/mL

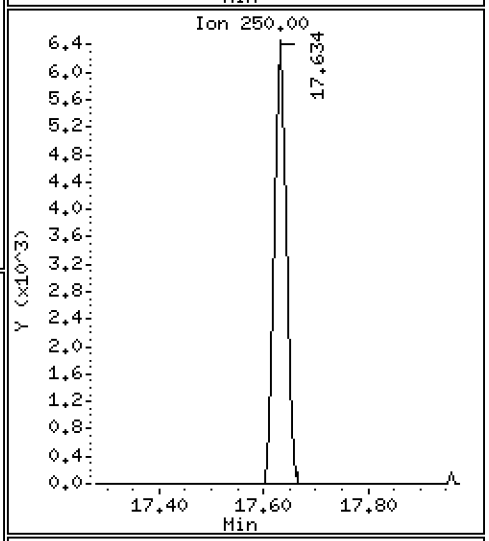


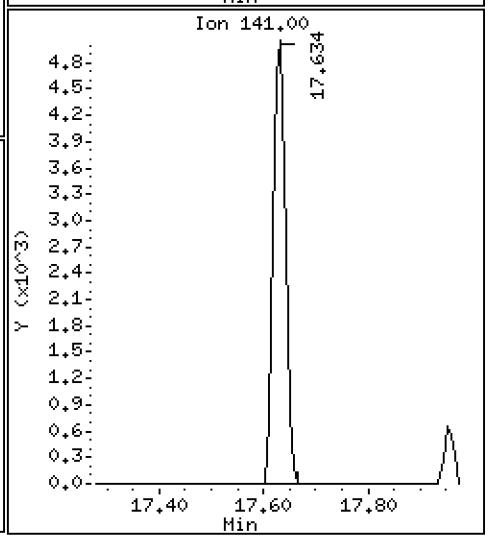












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

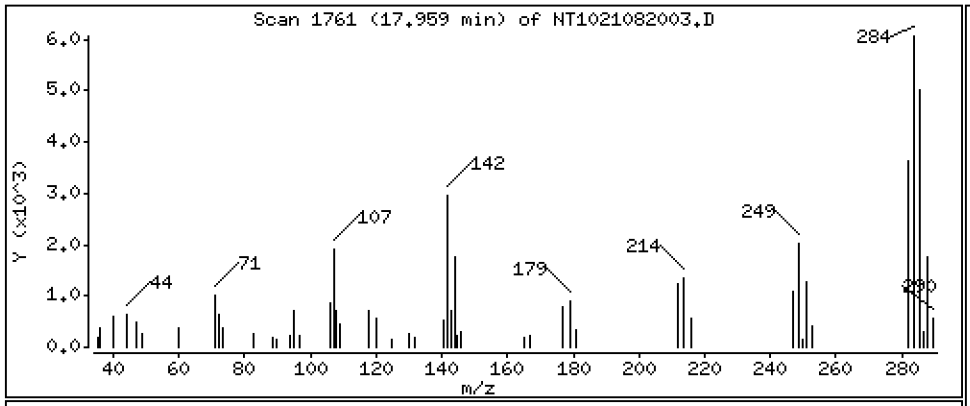
Operator: VTS

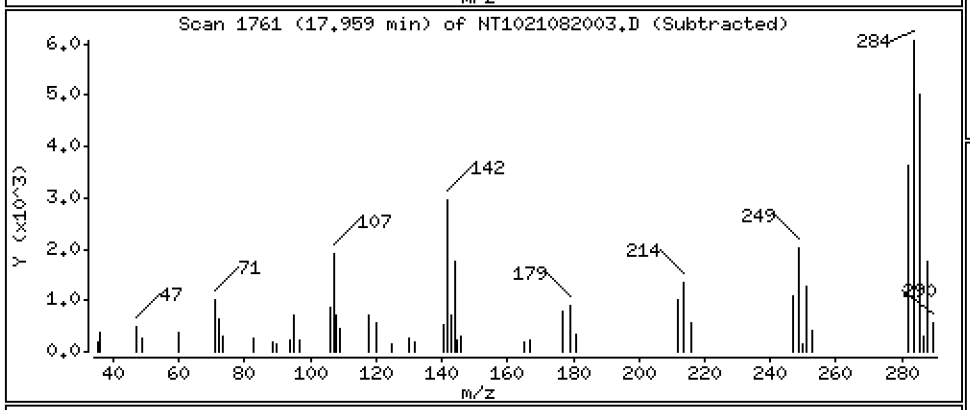
Column phase: ZB-5msi

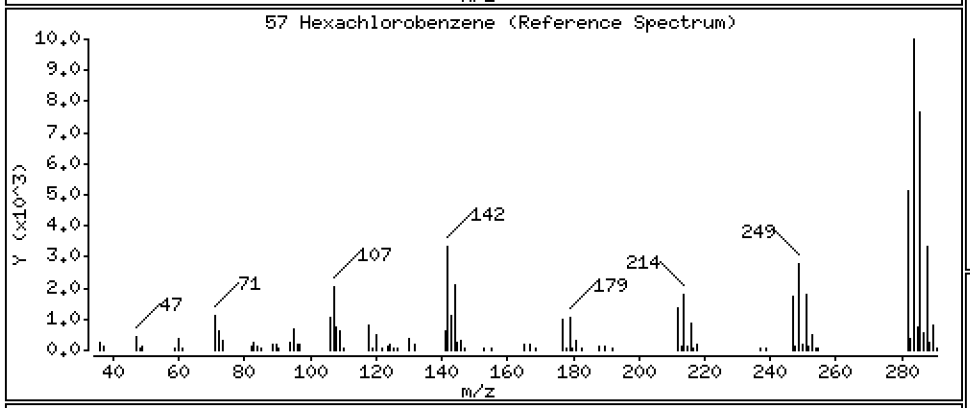
Column diameter: 0.25

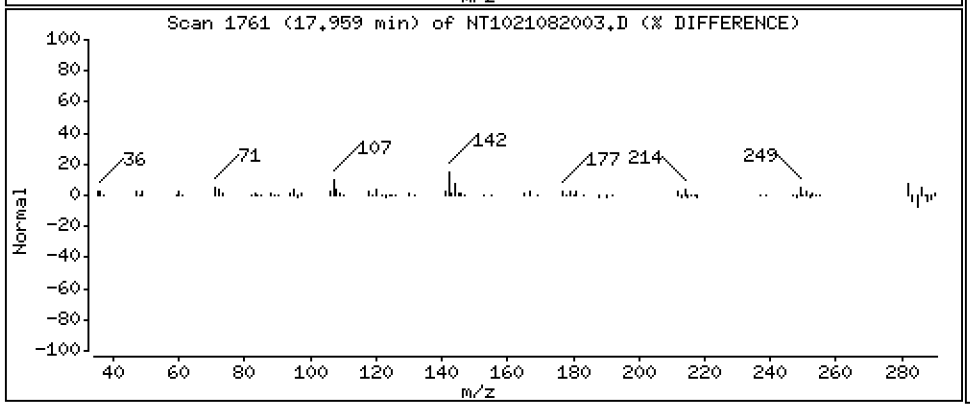
57 Hexachlorobenzene

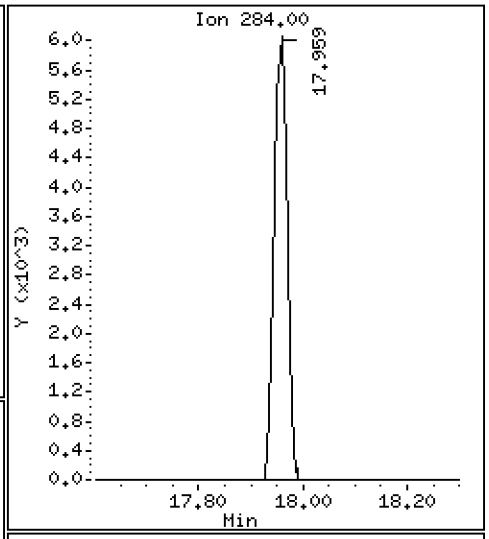
Concentration: 0.5465 ug/mL

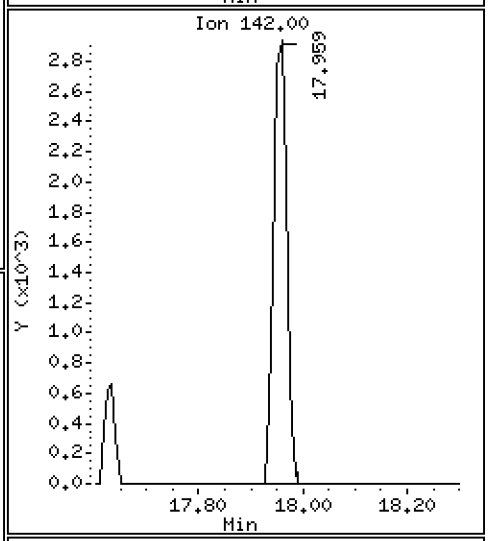


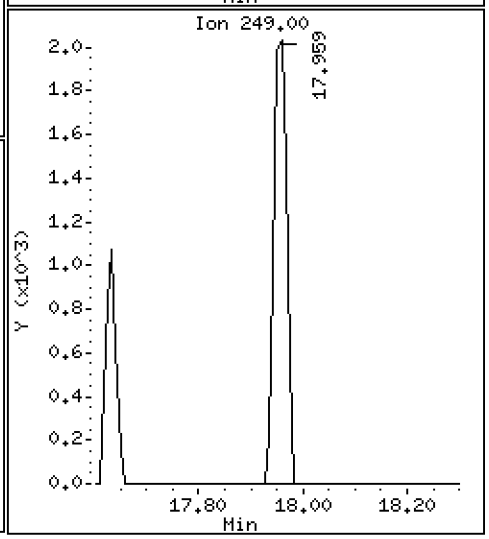












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

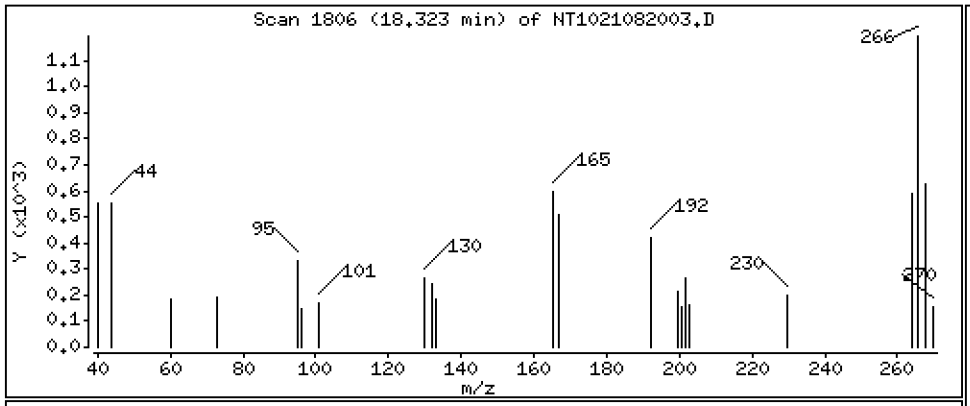
Operator: VTS

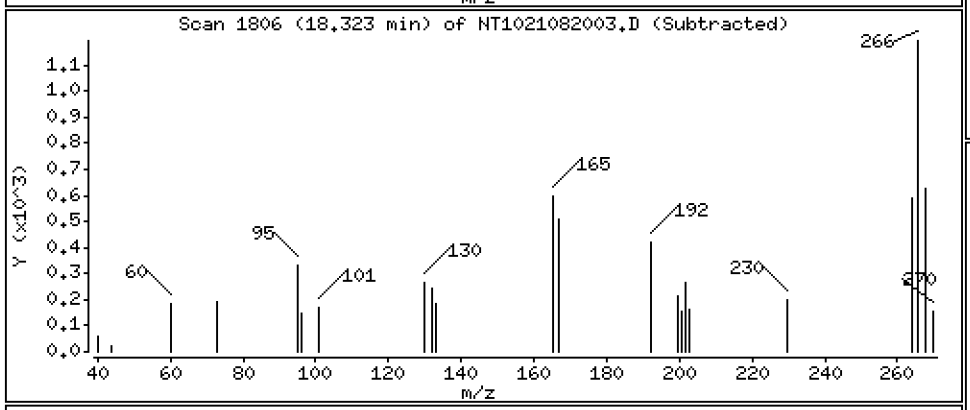
Column phase: ZB-5msi

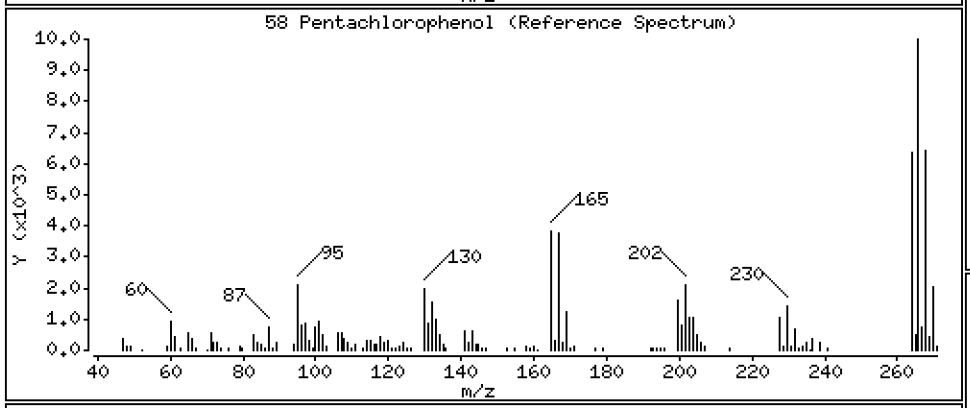
Column diameter: 0.25

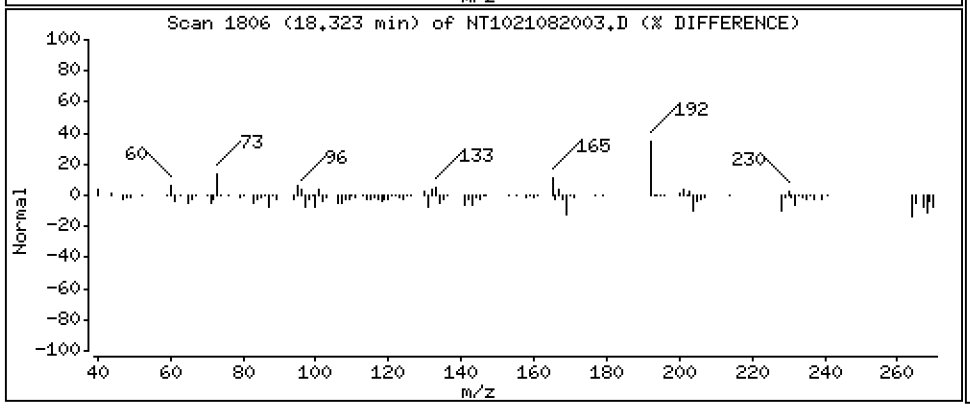
58 Pentachlorophenol

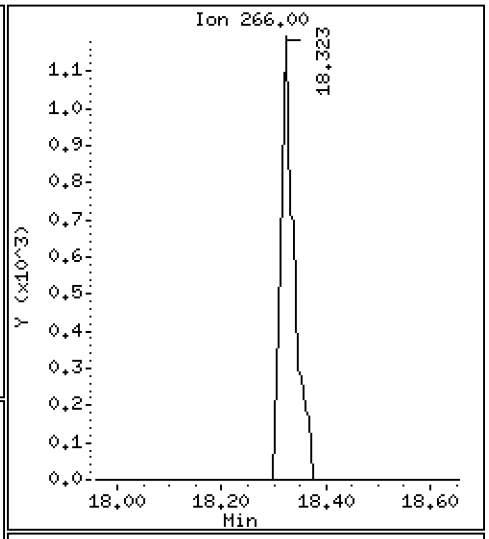
Concentration: 0.3301 ug/mL

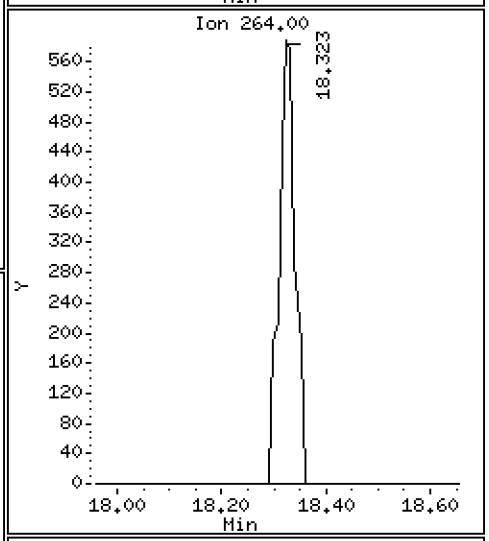


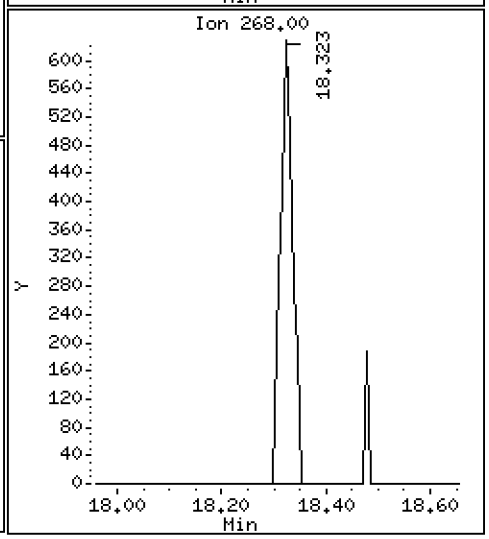












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

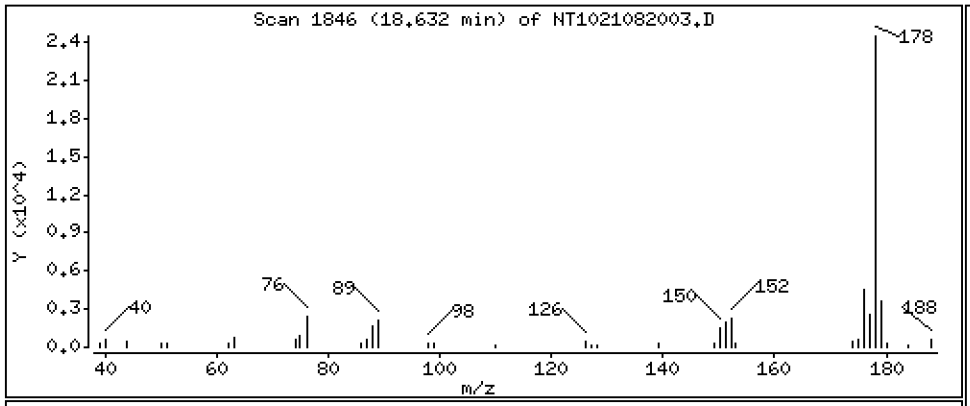
Operator: VTS

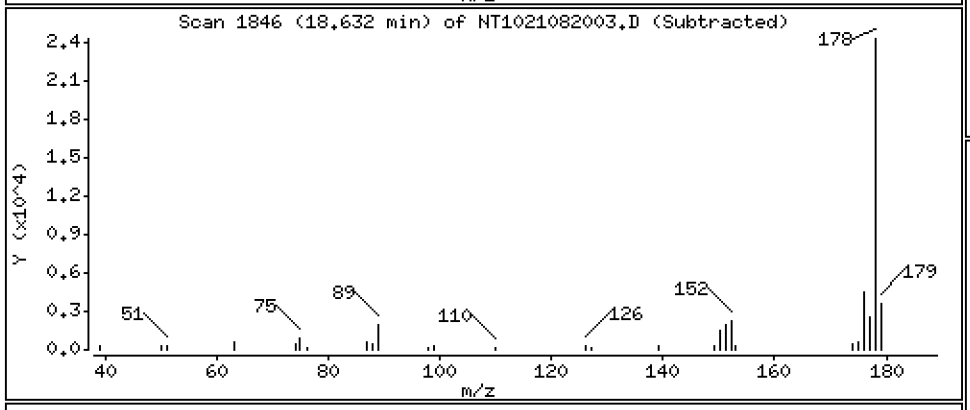
Column phase: ZB-5msi

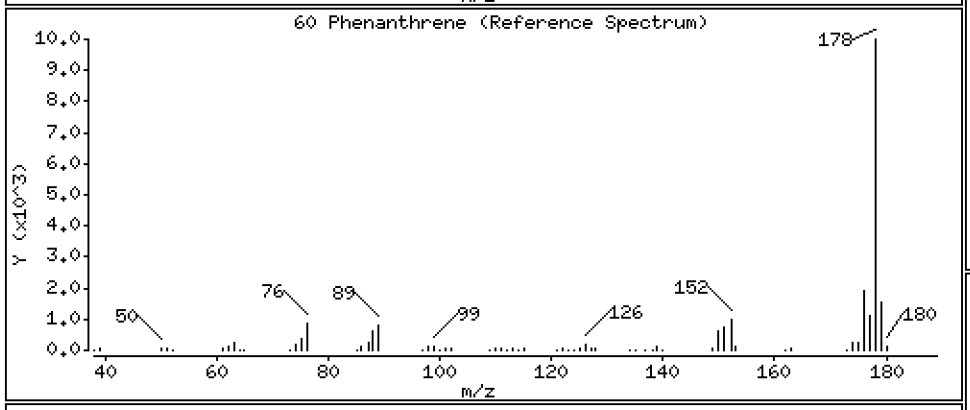
Column diameter: 0.25

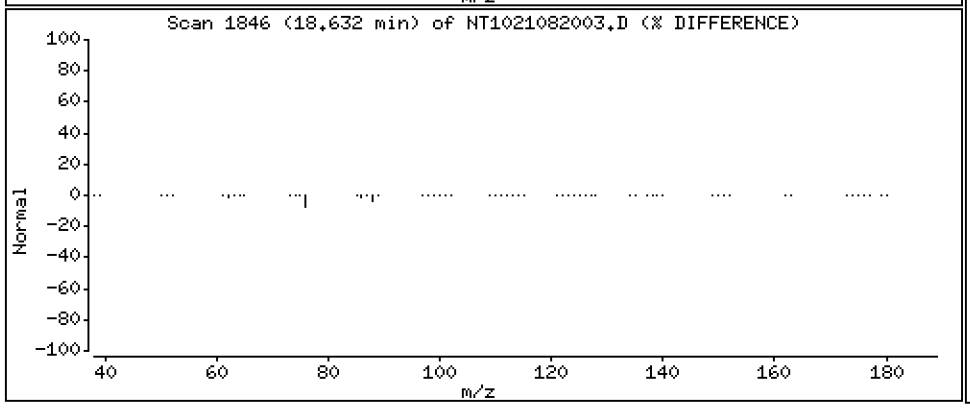
60 Phenanthrene

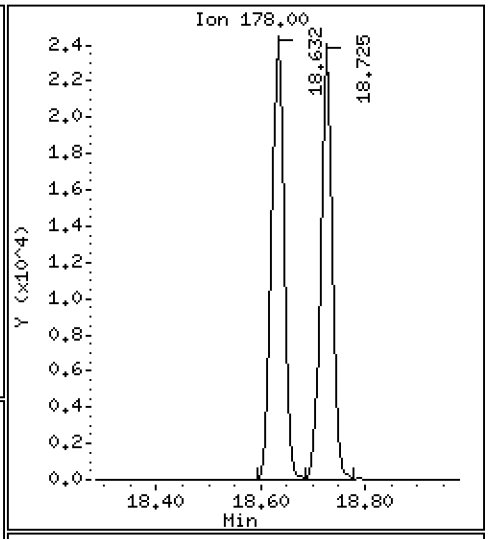
Concentration: 0.4883 ug/mL

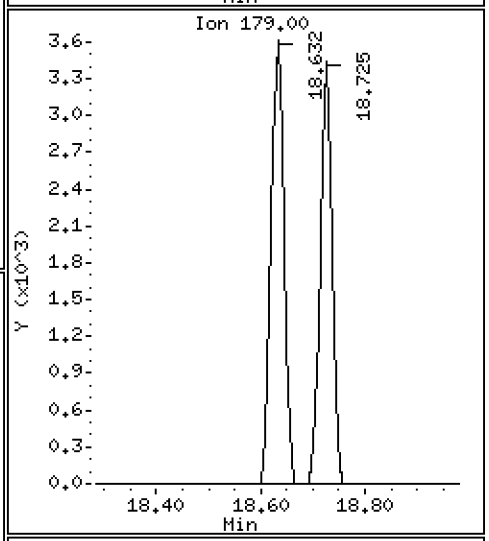


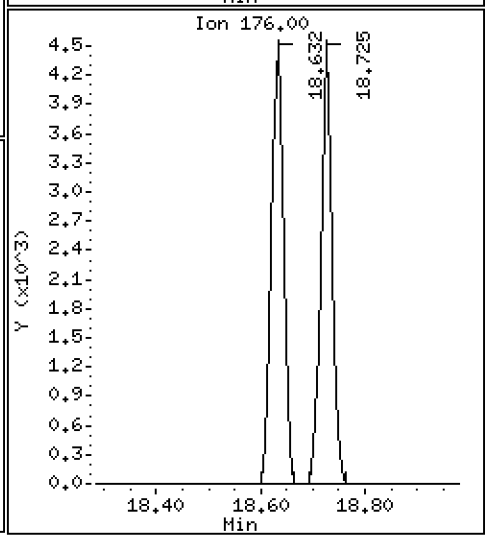












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

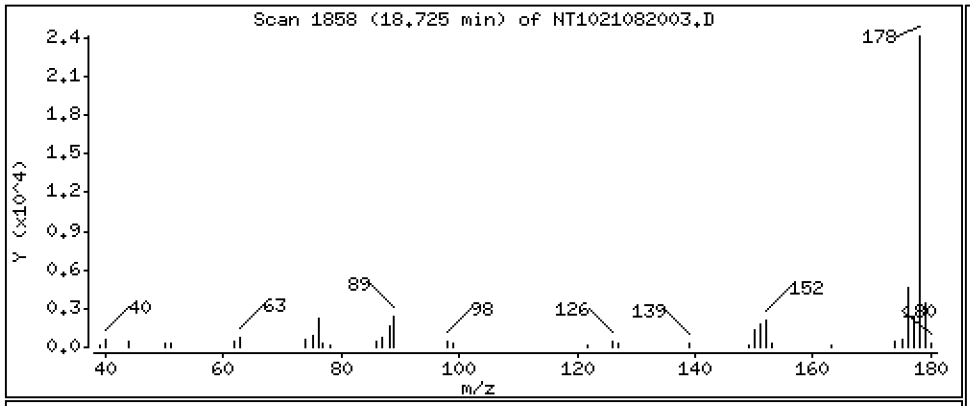
Operator: VTS

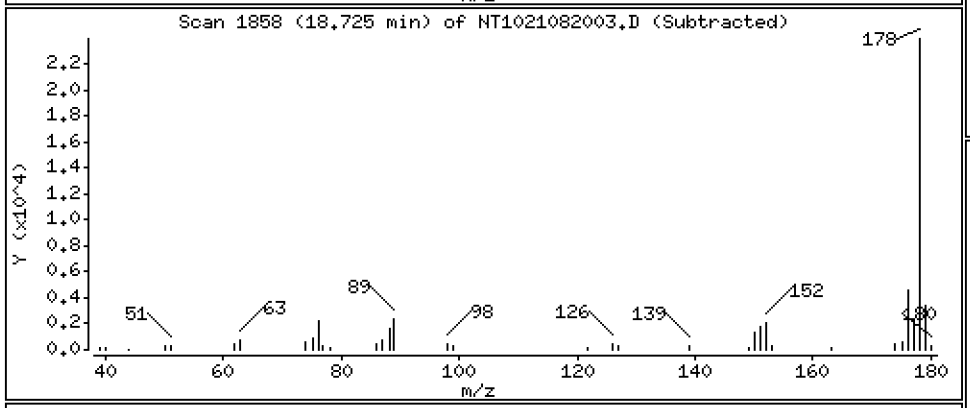
Column phase: ZB-5msi

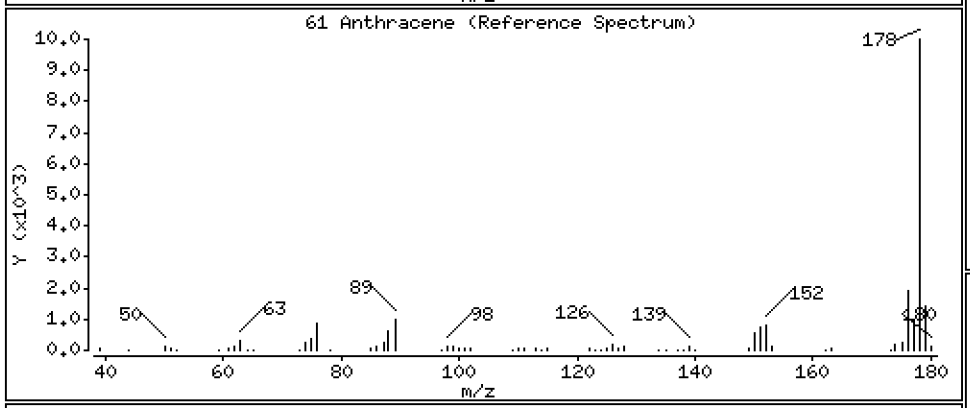
Column diameter: 0.25

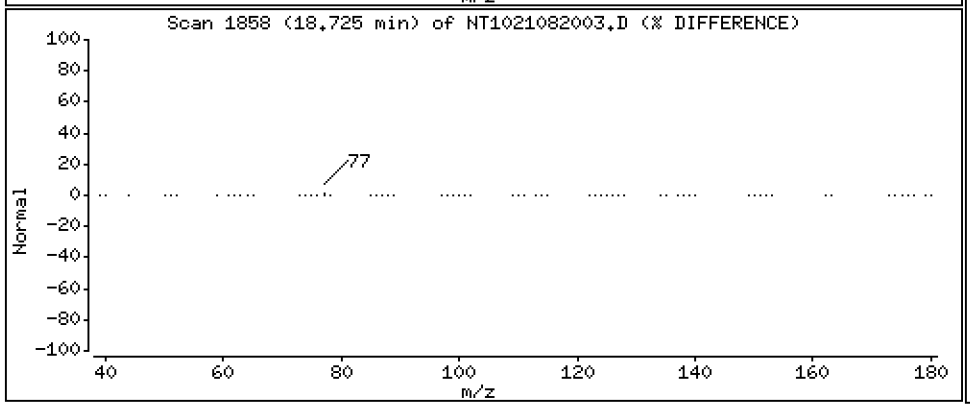
61 Anthracene

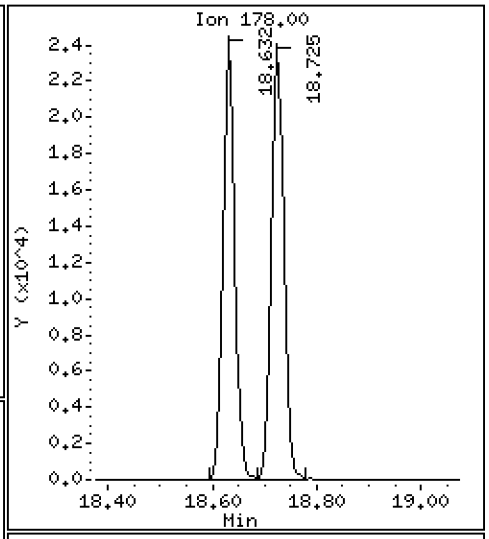
Concentration: 0.4432 ug/mL

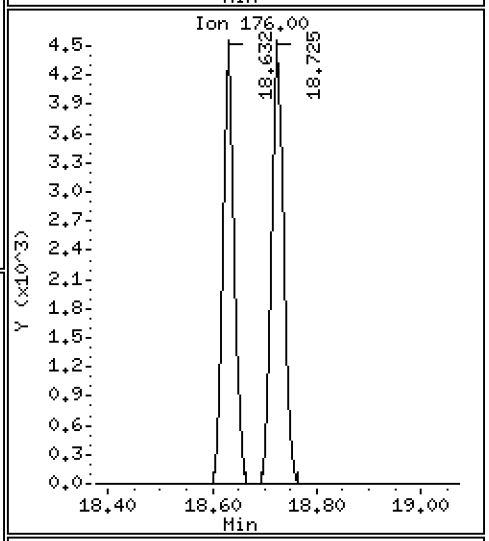


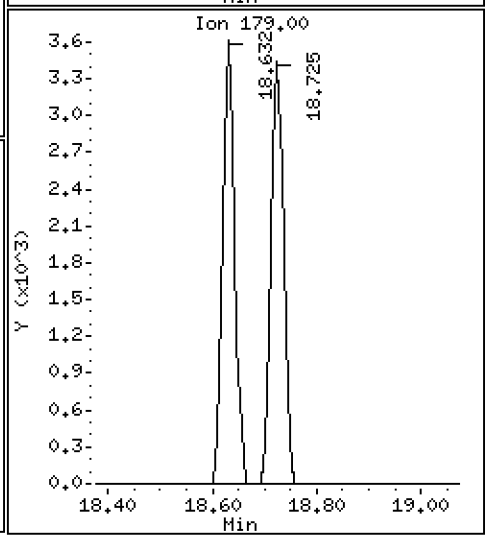












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

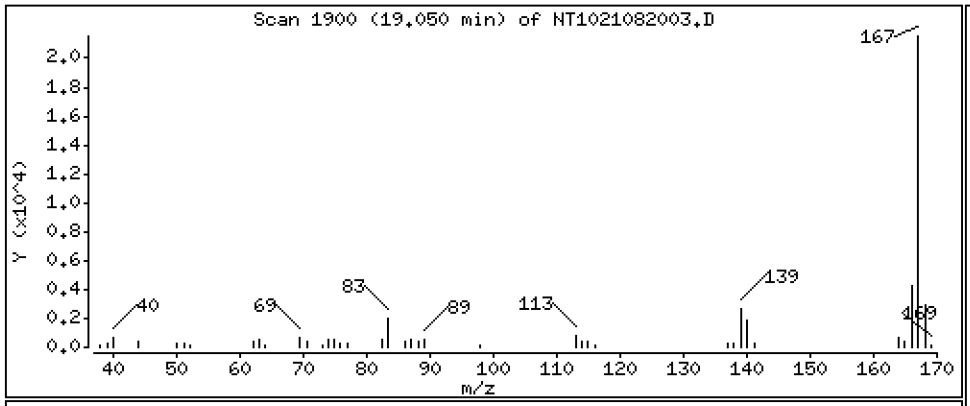
Operator: VTS

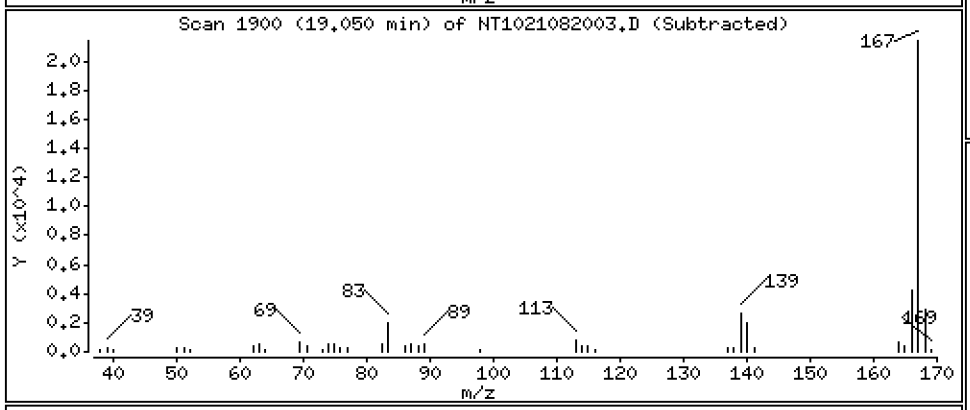
Column phase: ZB-5msi

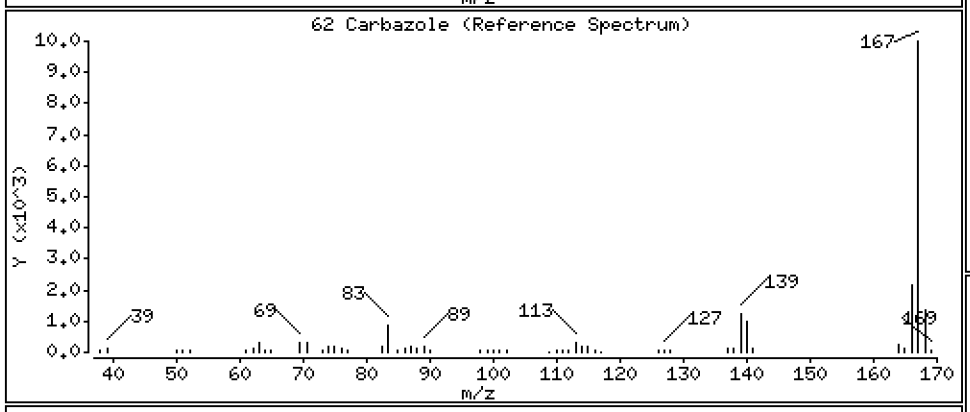
Column diameter: 0.25

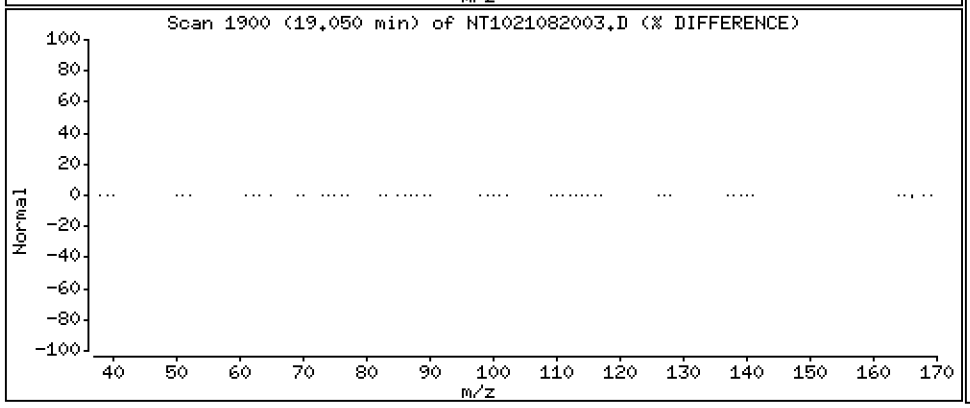
62 Carbazole

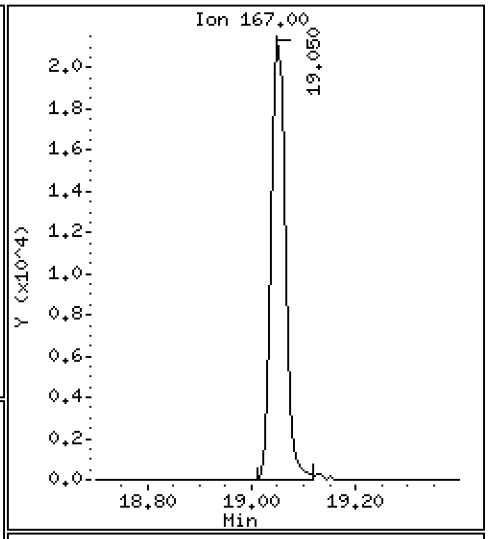
Concentration: 0.4476 ug/mL

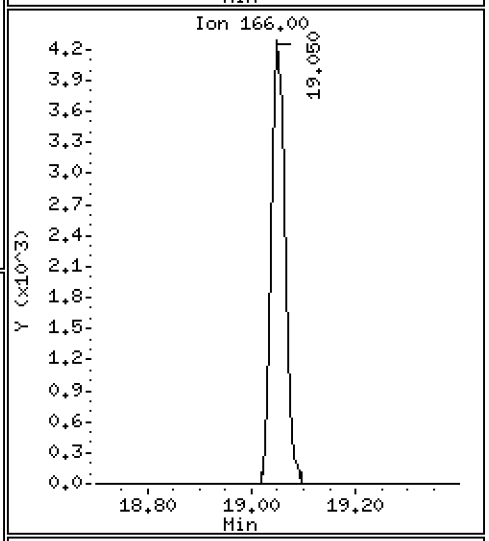


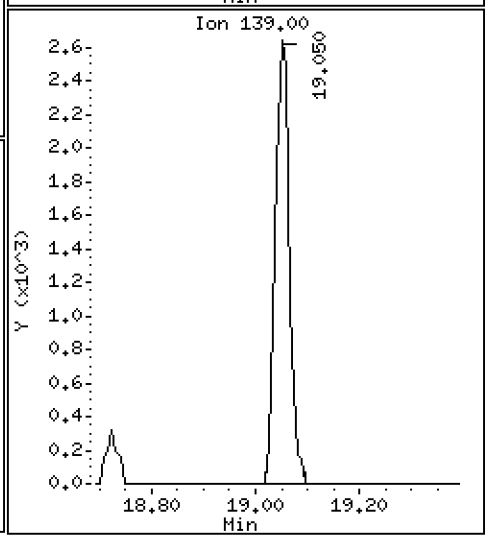












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

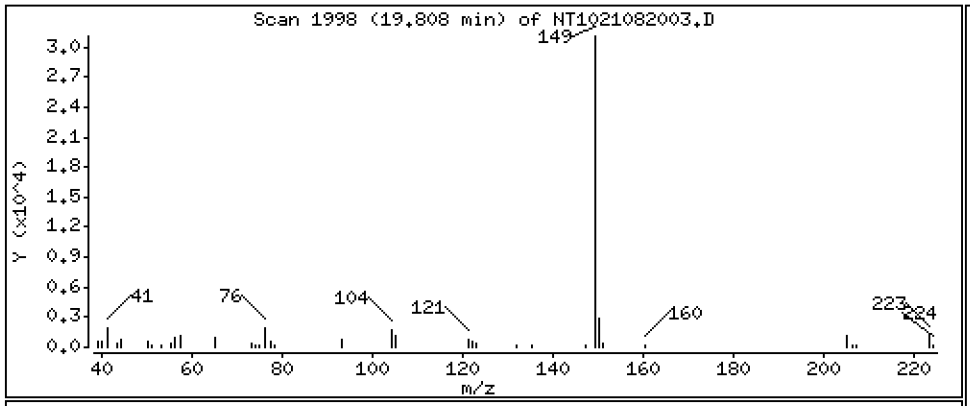
Operator: VTS

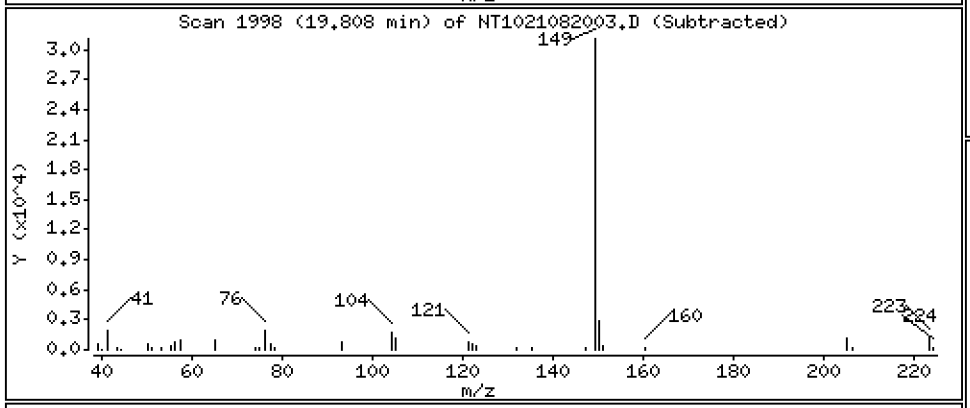
Column phase: ZB-5msi

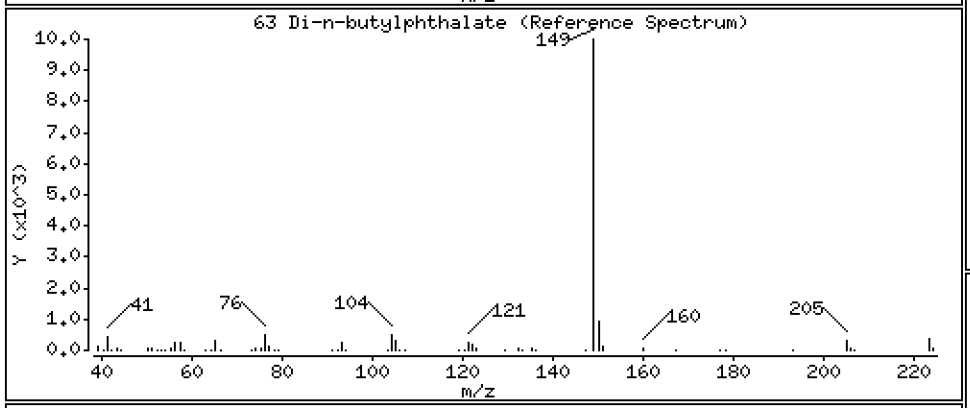
Column diameter: 0.25

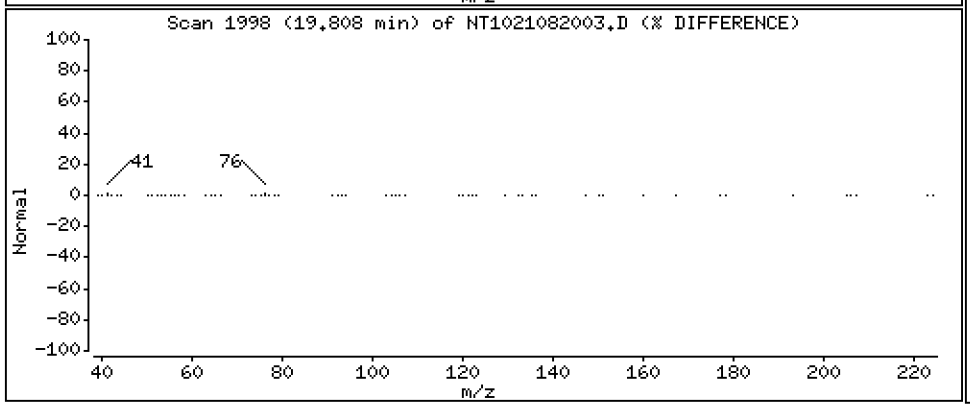
63 Di-n-butylphthalate

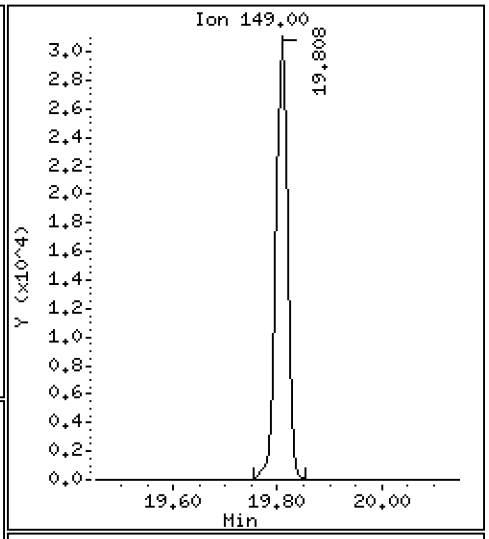
Concentration: 0.4230 ug/mL

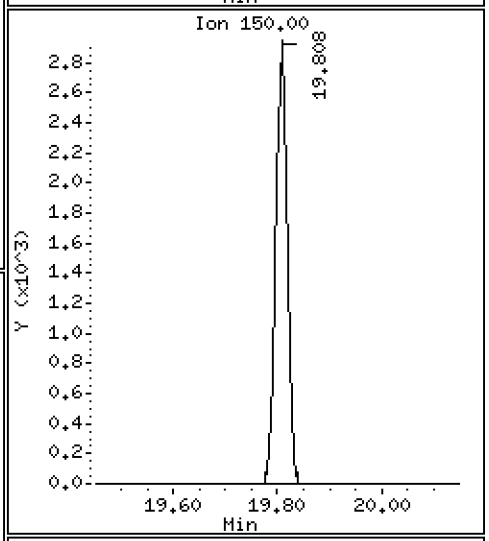


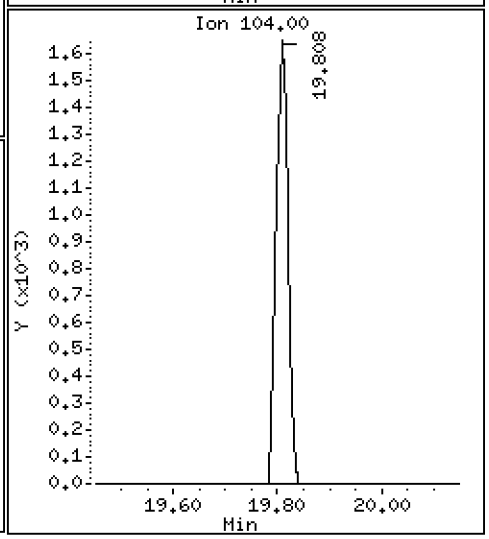












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

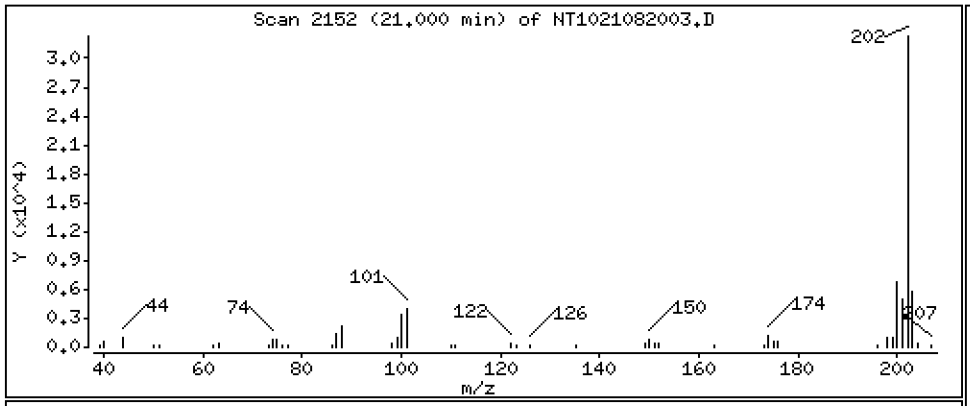
Operator: VTS

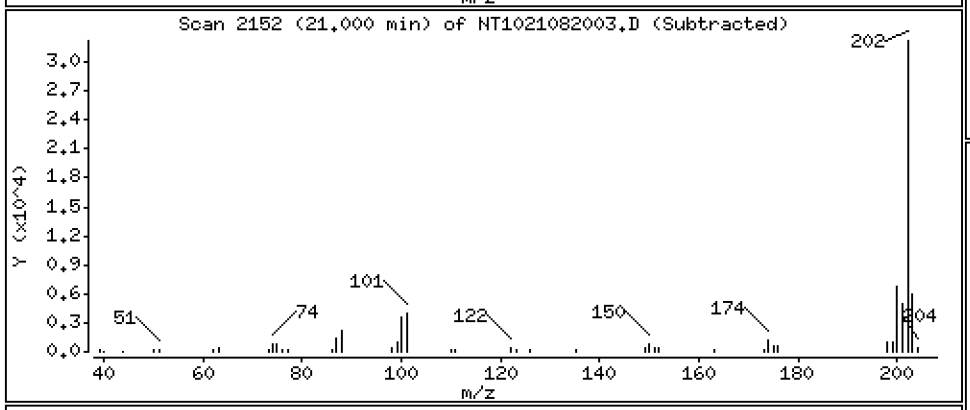
Column phase: ZB-5msi

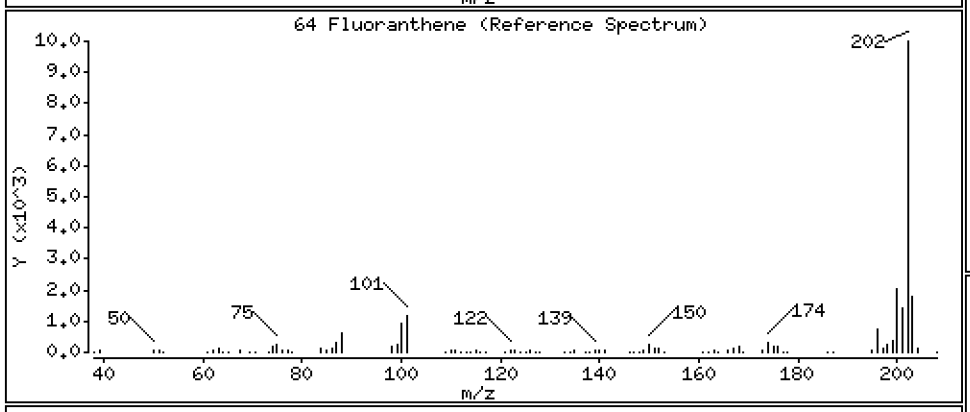
Column diameter: 0.25

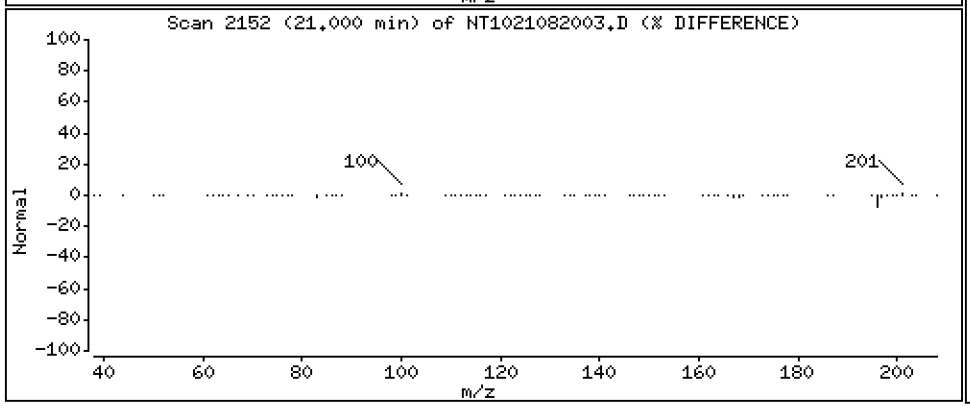
64 Fluoranthene

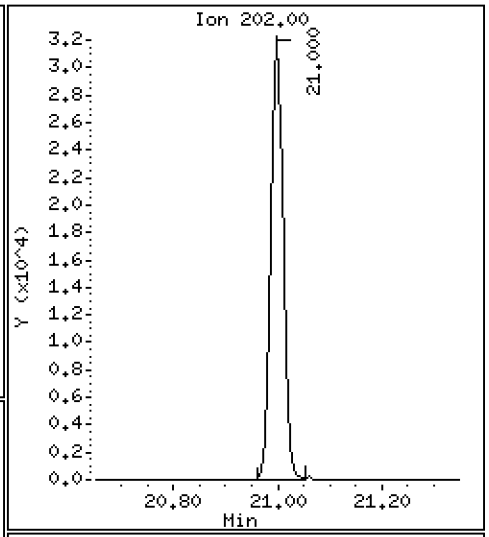
Concentration: 0.4645 ug/mL

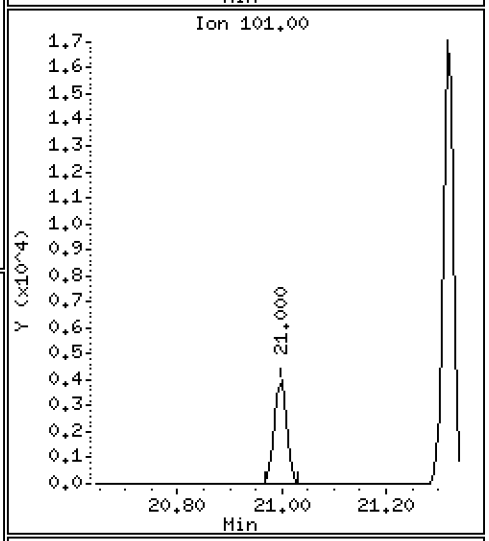


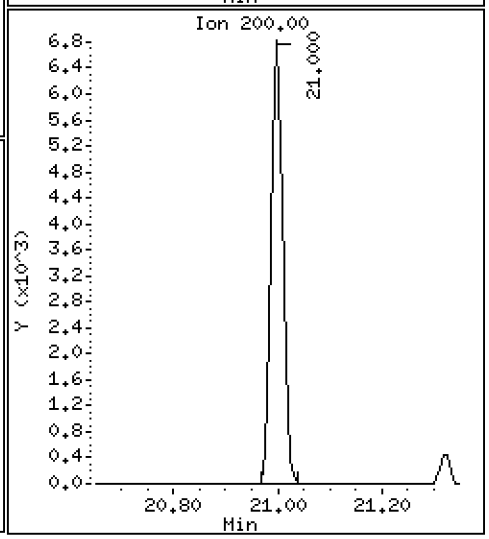












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

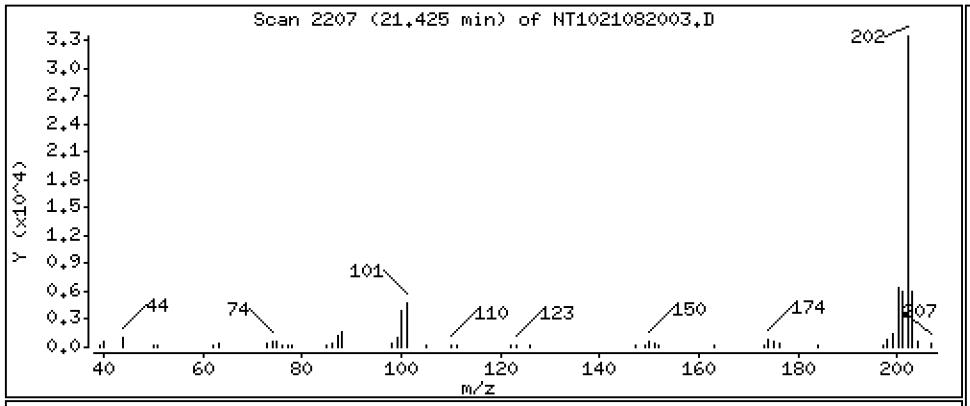
Operator: VTS

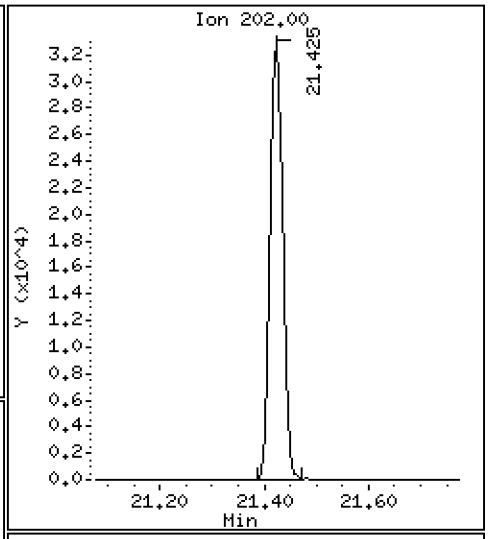
Column phase: ZB-5msi

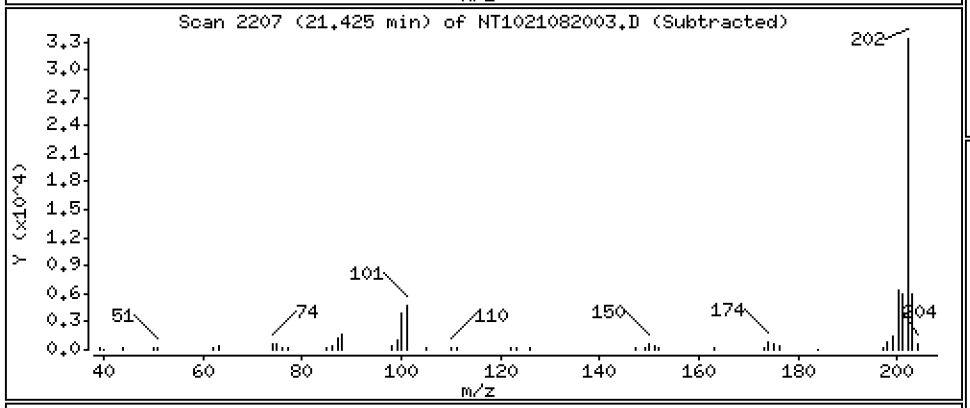
Column diameter: 0.25

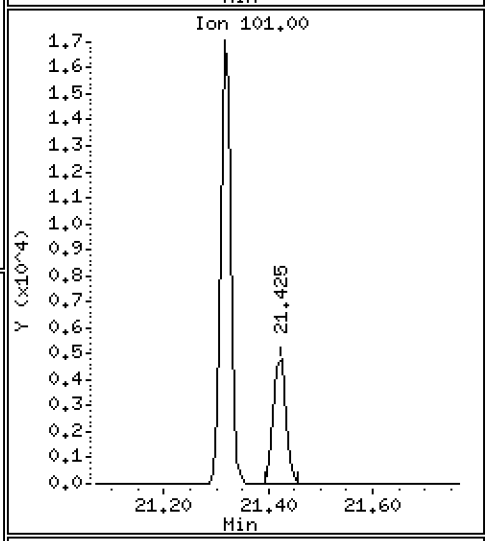
65 Pyrene

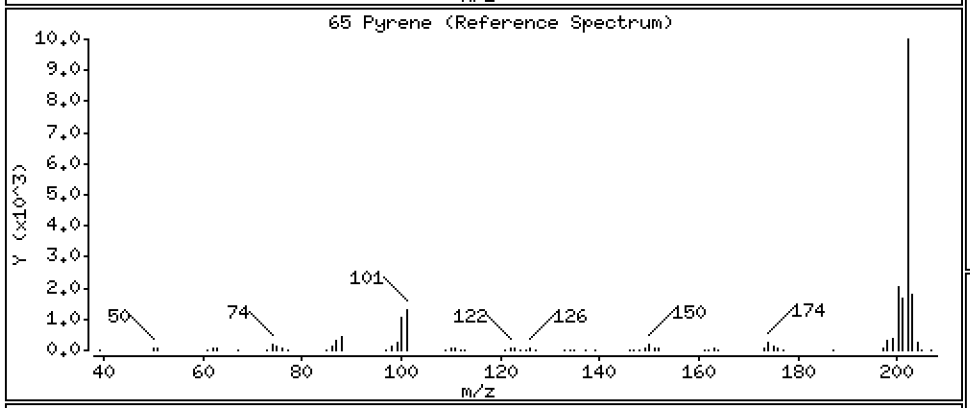
Concentration: 0.4818 ug/mL

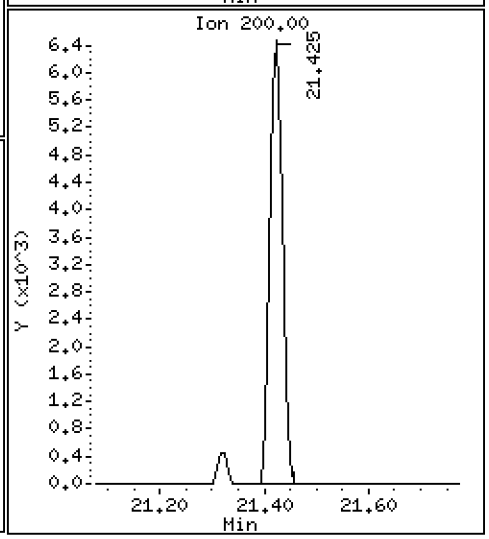


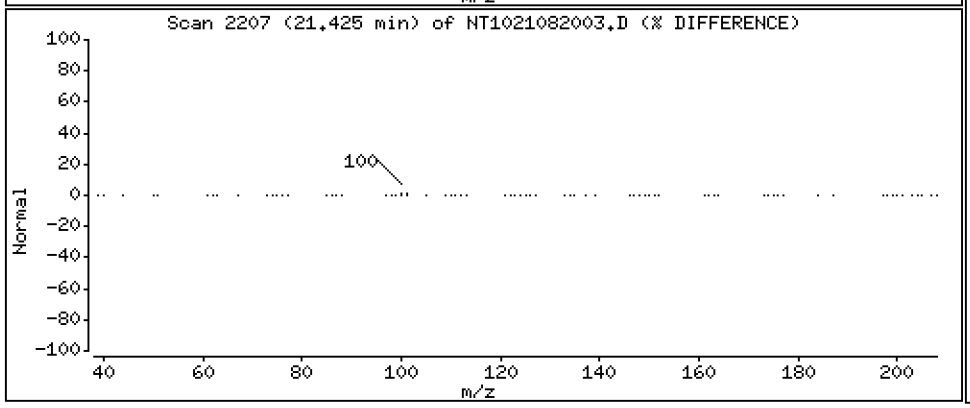












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

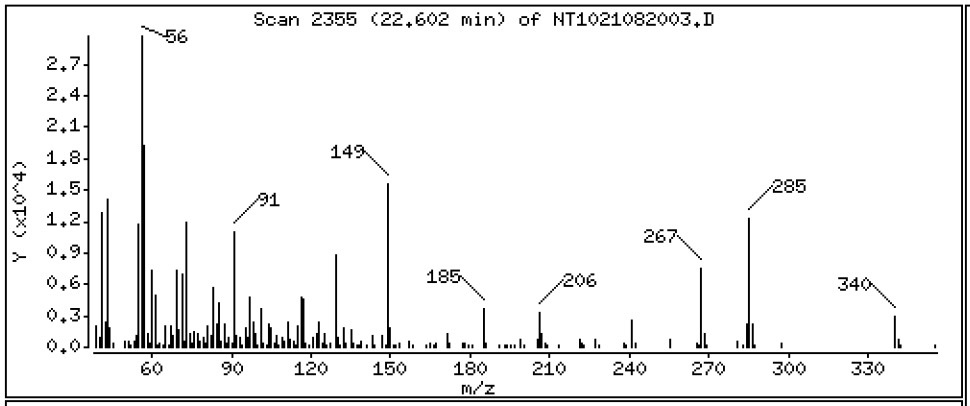
Operator: VTS

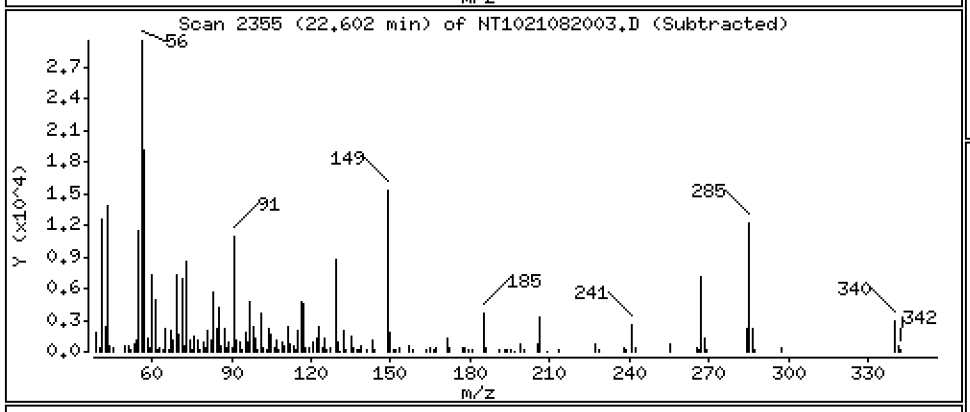
Column phase: ZB-5msi

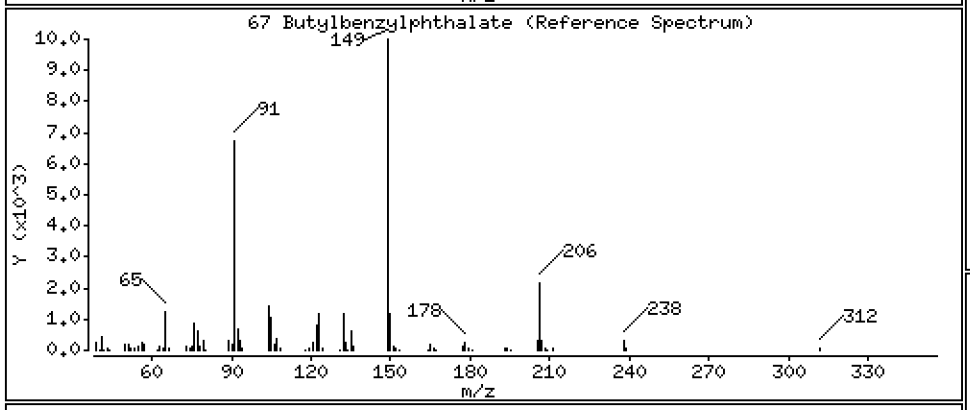
Column diameter: 0.25

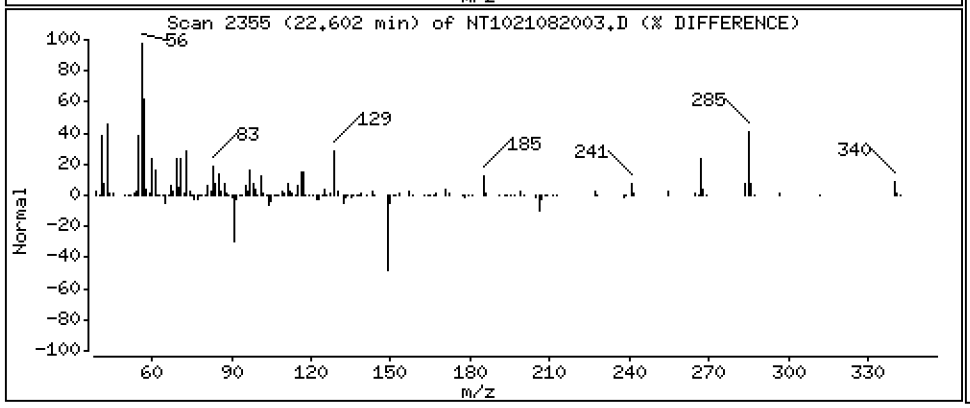
67 Butylbenzylphthalate

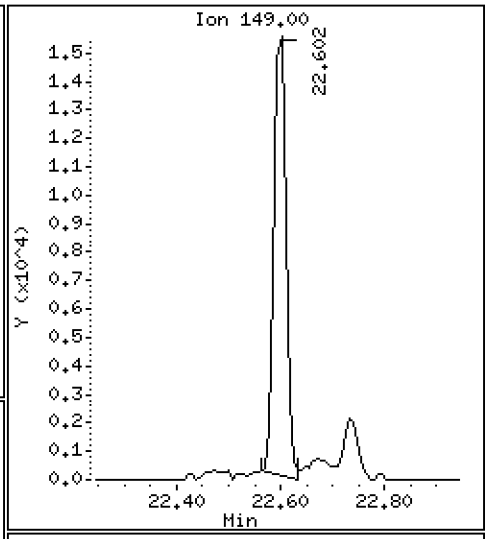
Concentration: 0.5442 ug/mL

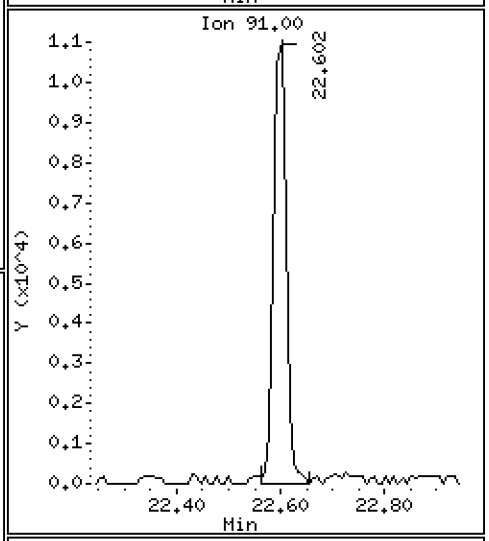


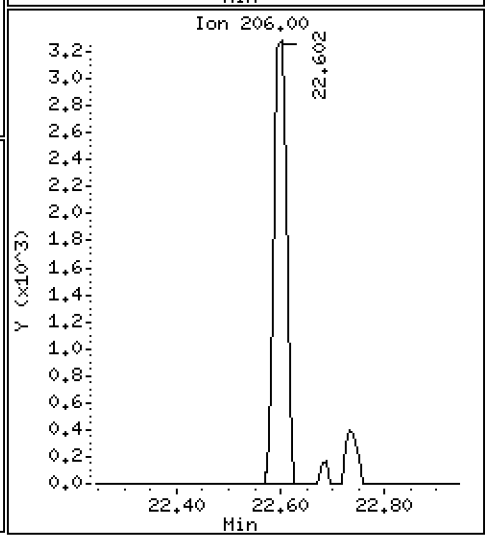












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

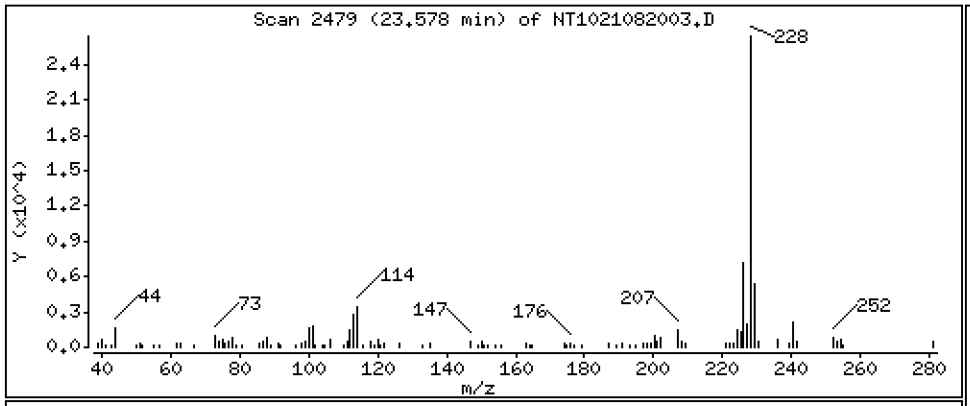
Operator: VTS

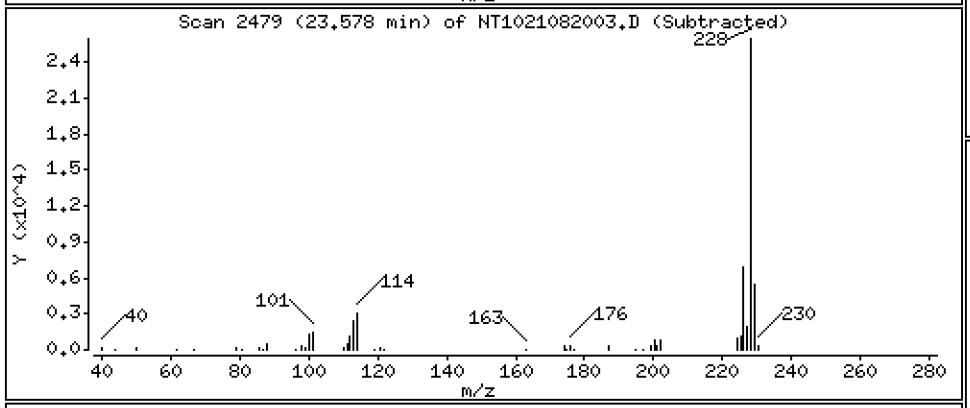
Column phase: ZB-5msi

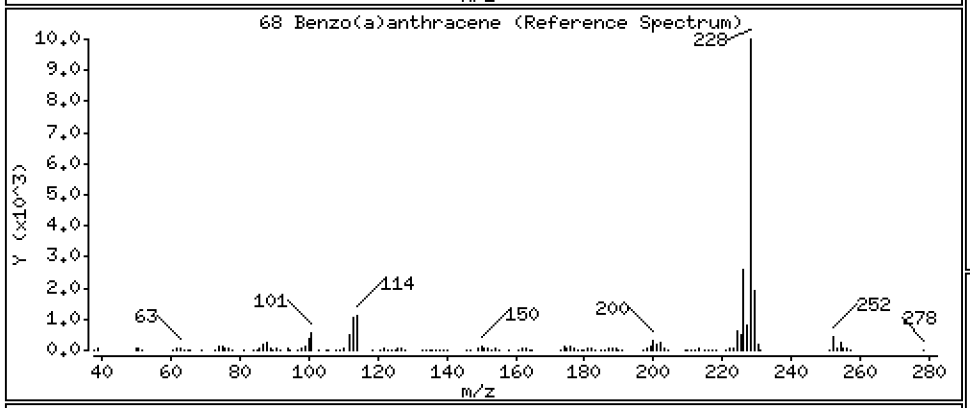
Column diameter: 0.25

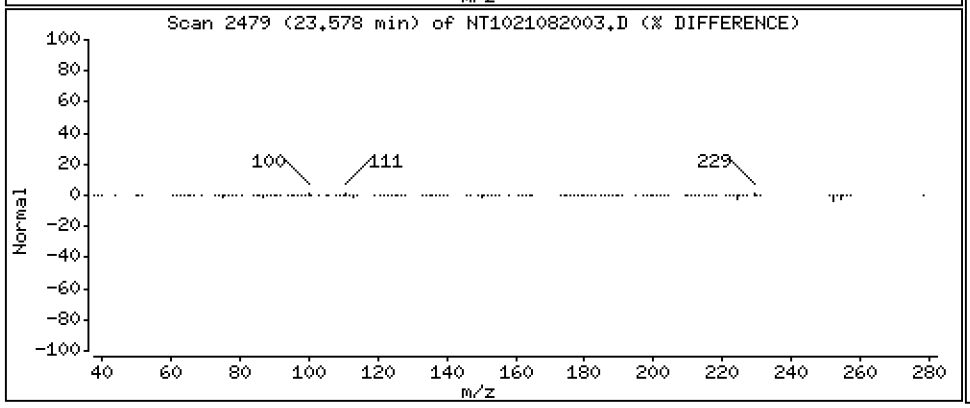
68 Benzo(a)anthracene

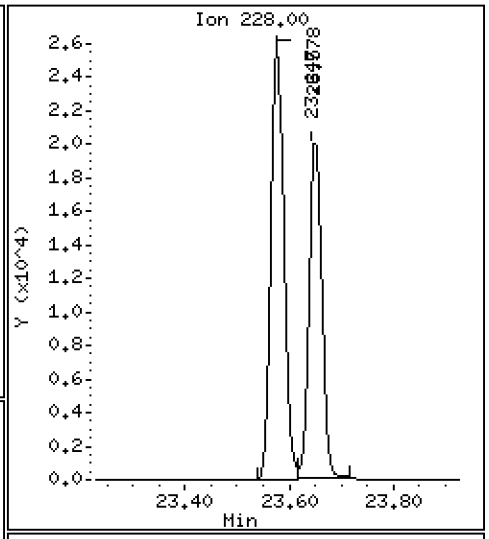
Concentration: 0.4954 ug/mL

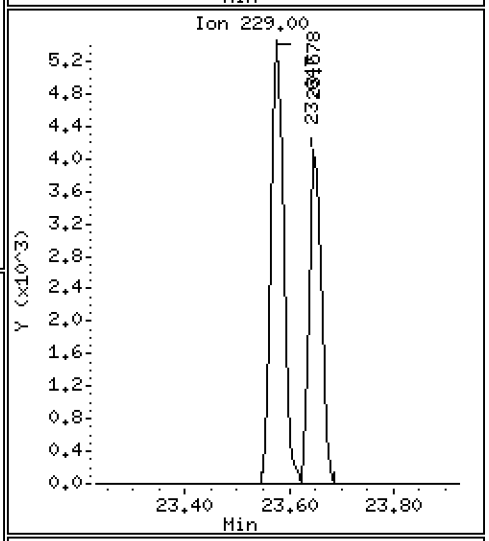


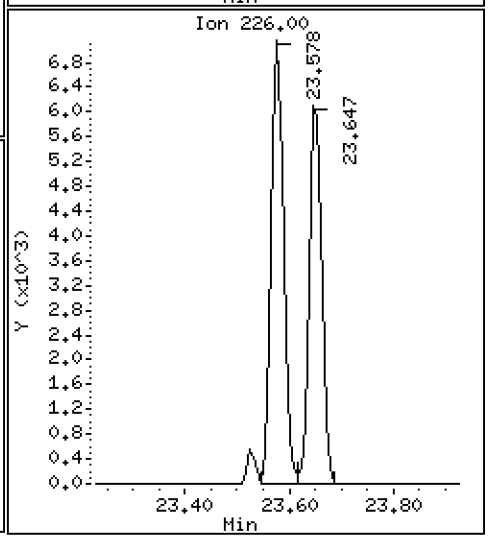












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

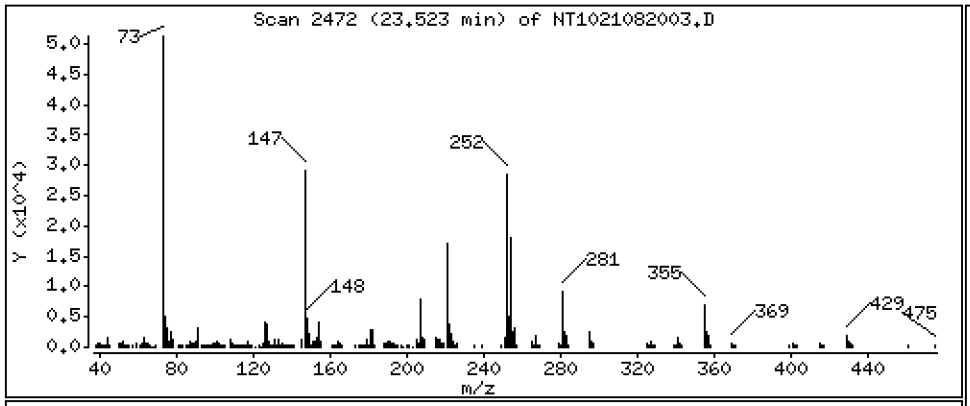
Operator: VTS

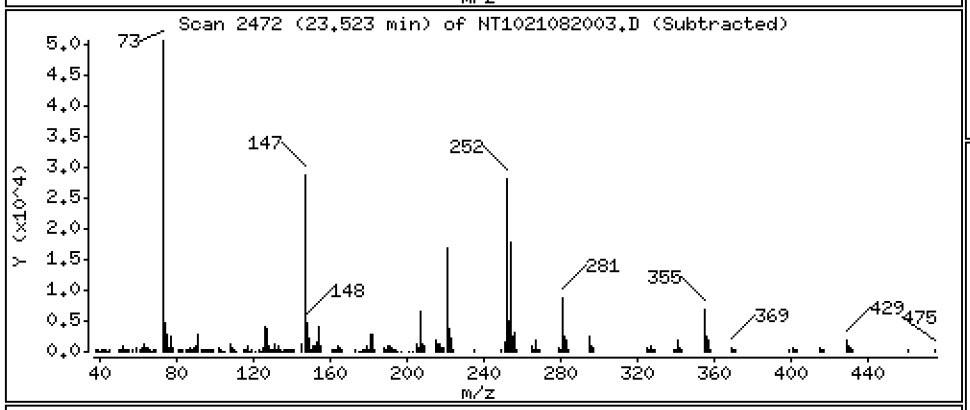
Column phase: ZB-5msi

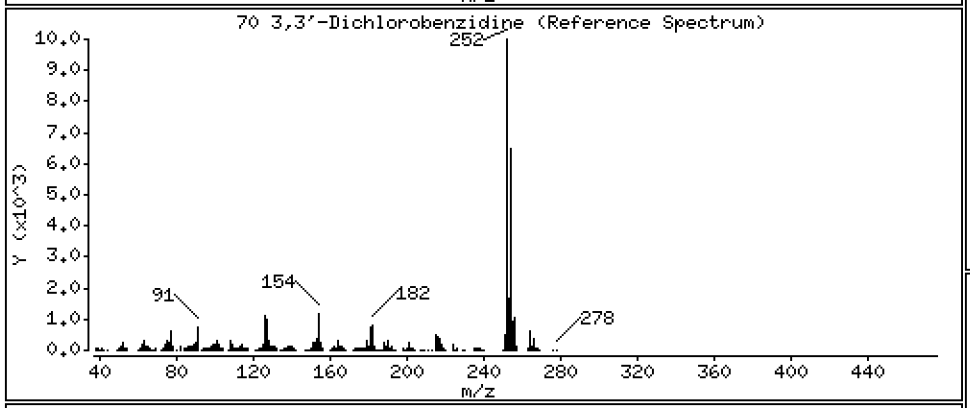
Column diameter: 0.25

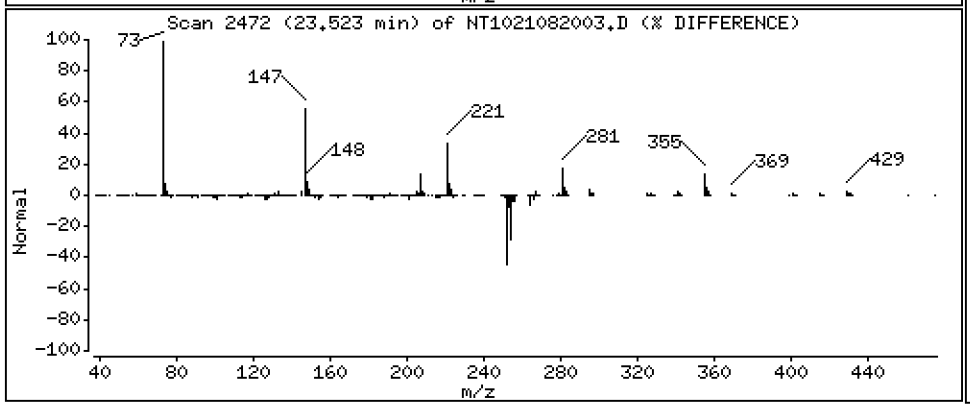
70 3,3'-Dichlorobenzidine

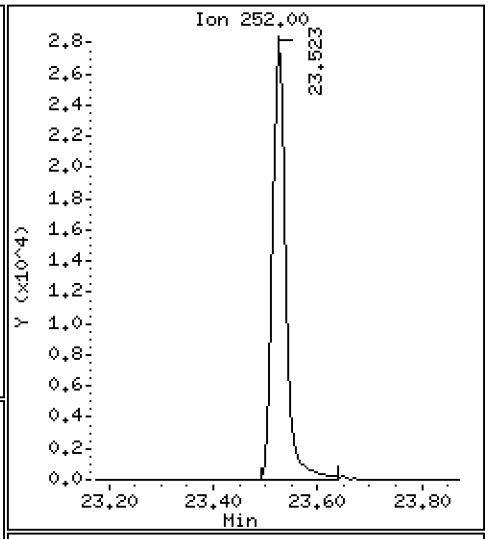
Concentration: 1.390 ug/mL

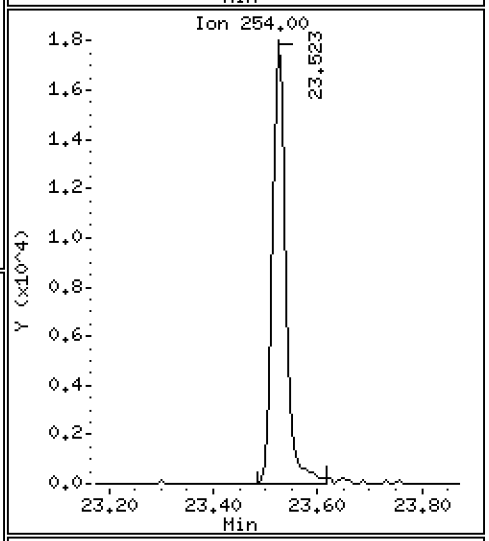


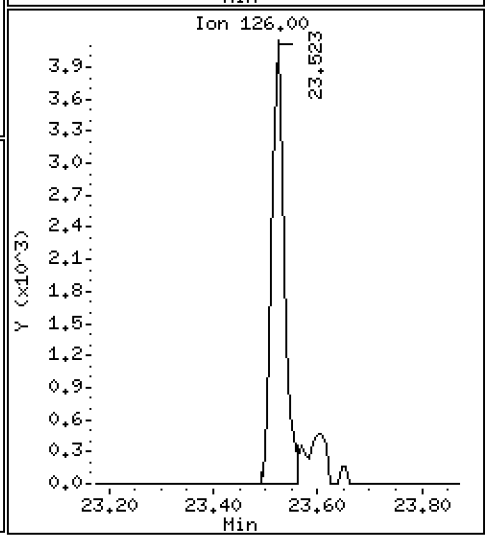












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

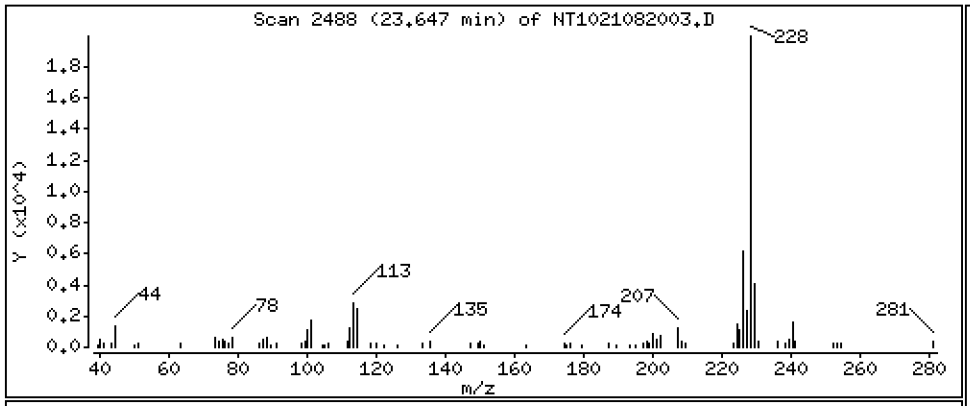
Operator: VTS

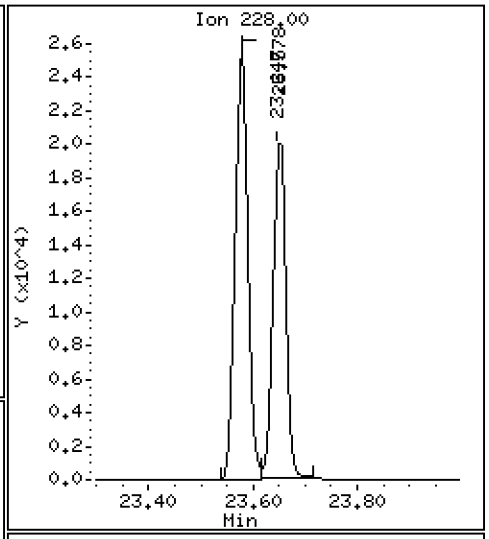
Column phase: ZB-5msi

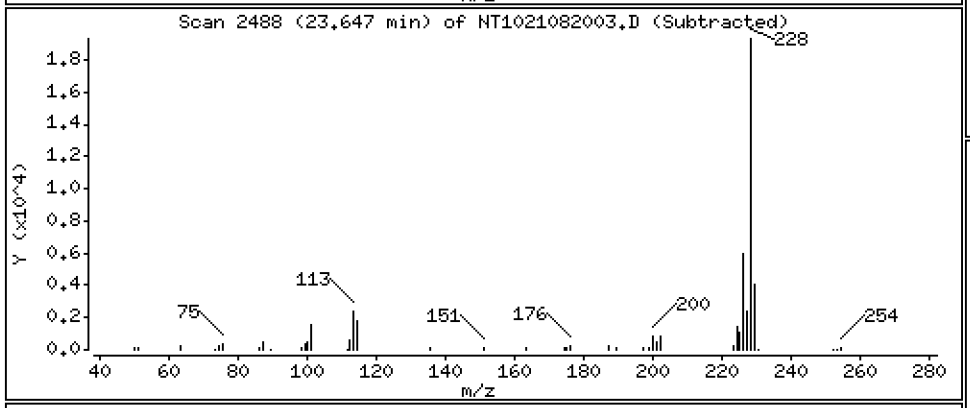
Column diameter: 0.25

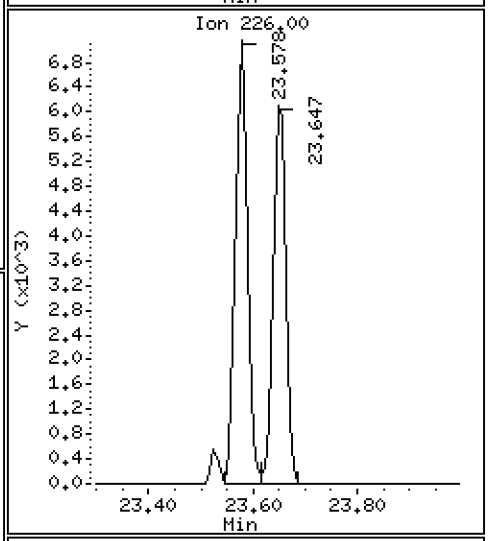
71 Chrysene

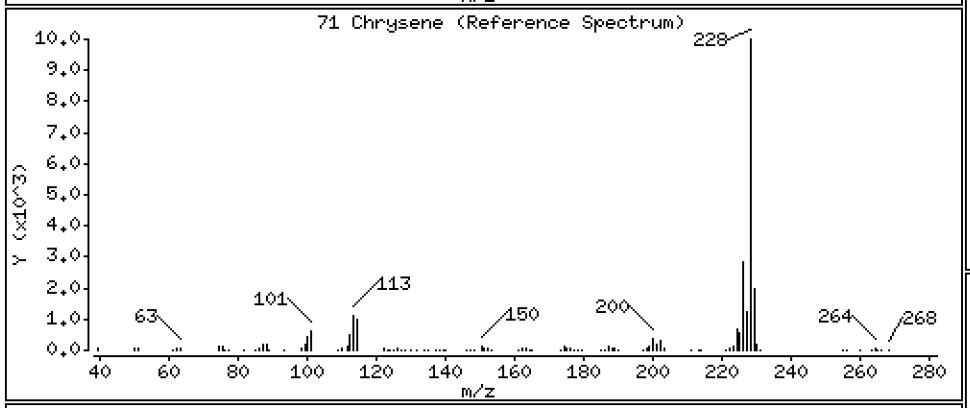
Concentration: 0.4805 ug/mL

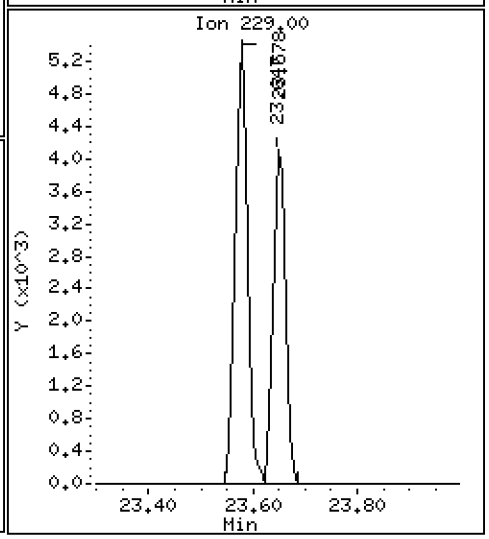


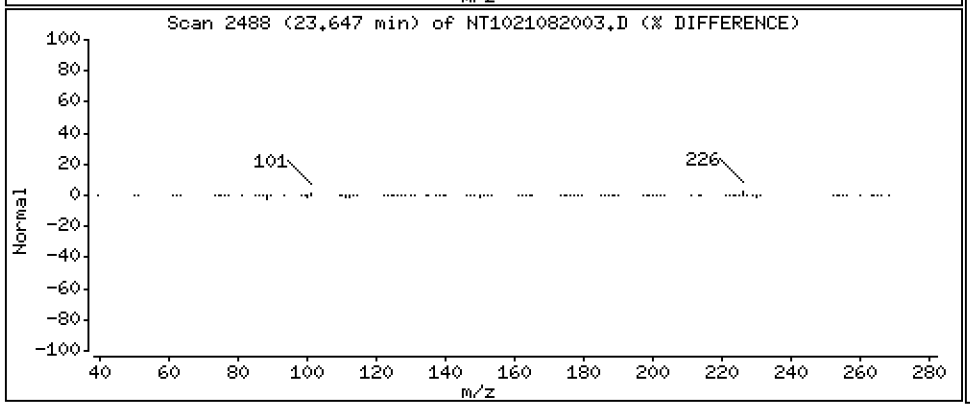












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

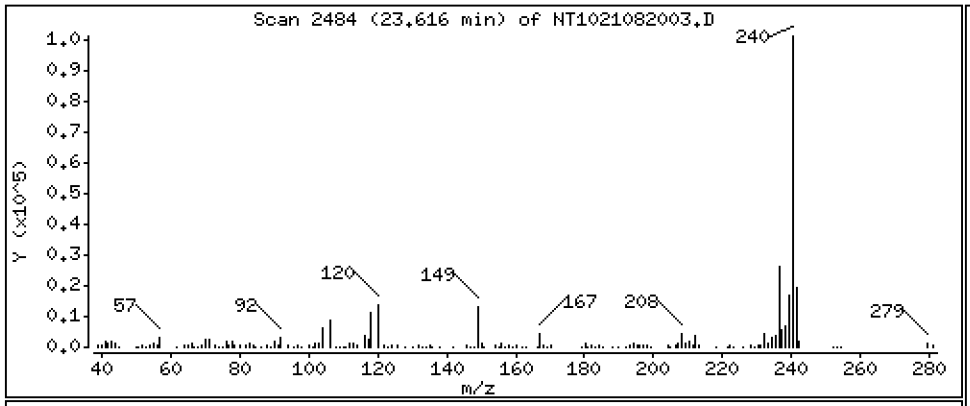
Operator: VTS

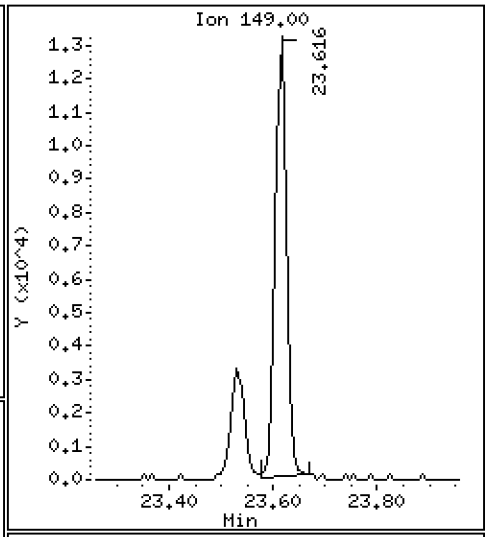
Column phase: ZB-5msi

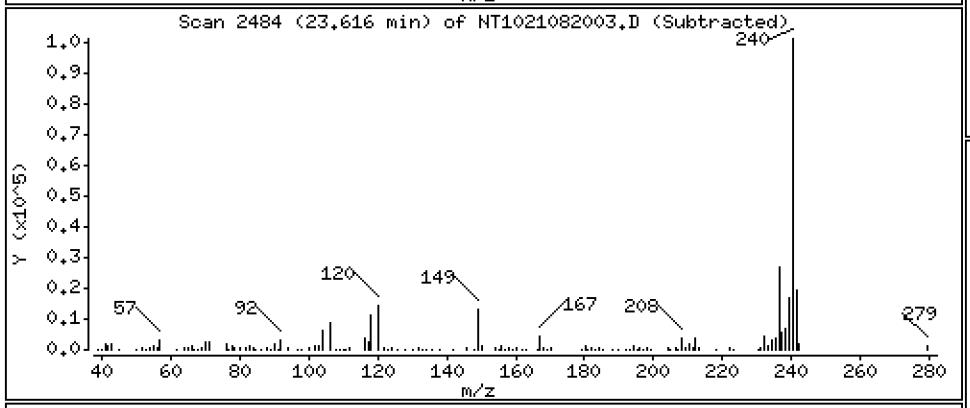
Column diameter: 0.25

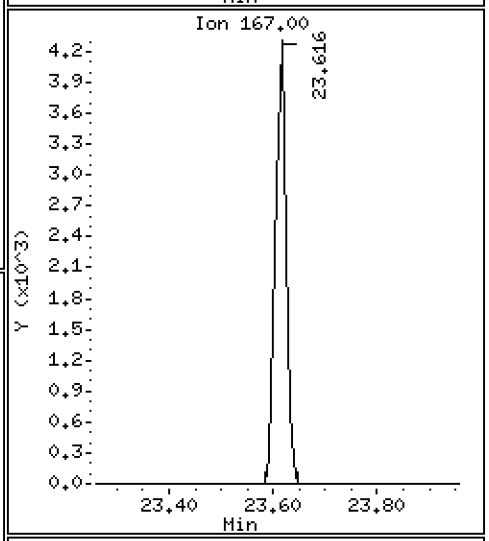
72 bis(2-Ethylhexyl)phthalate

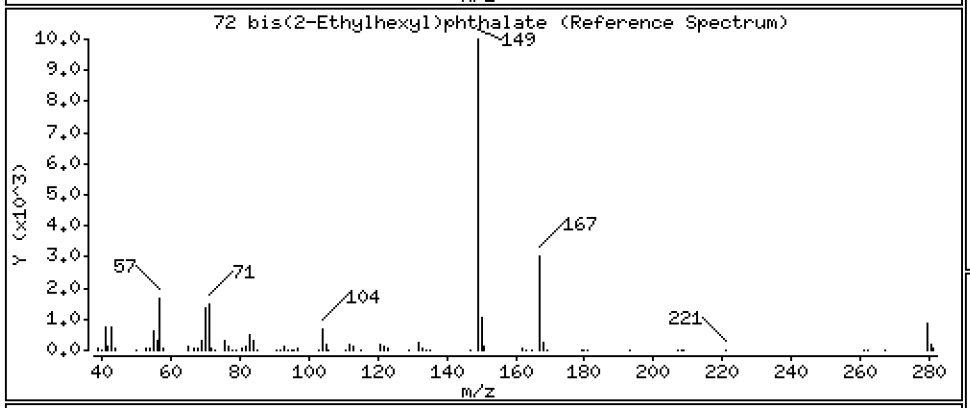
Concentration: 0.4640 ug/mL

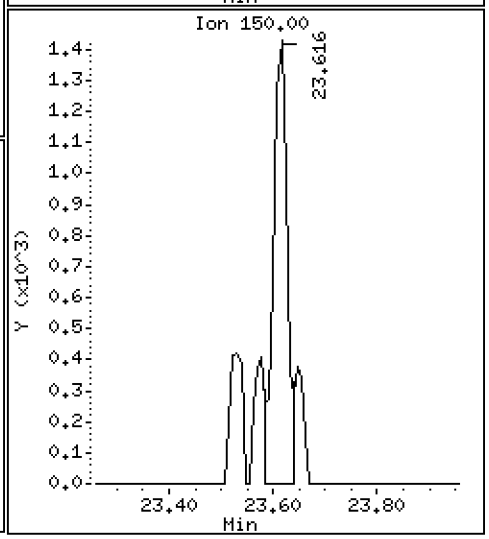


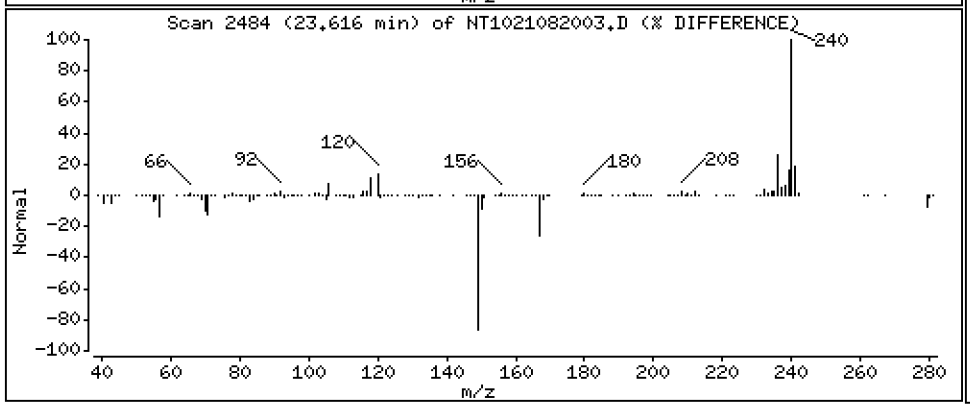












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

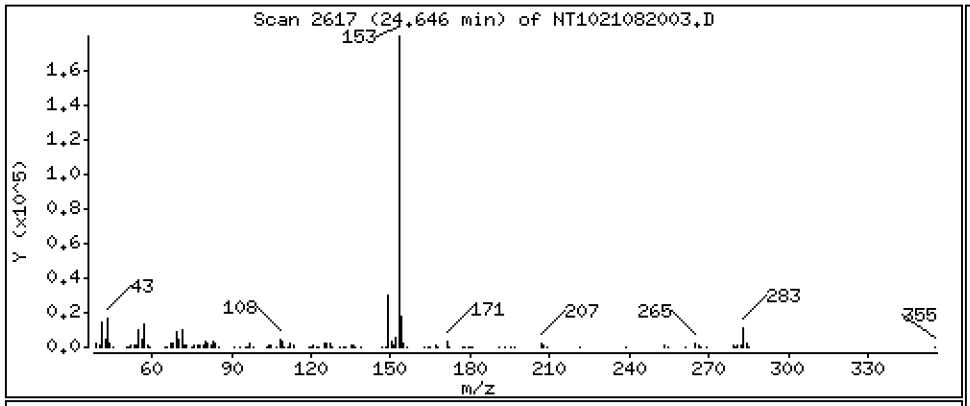
Operator: VTS

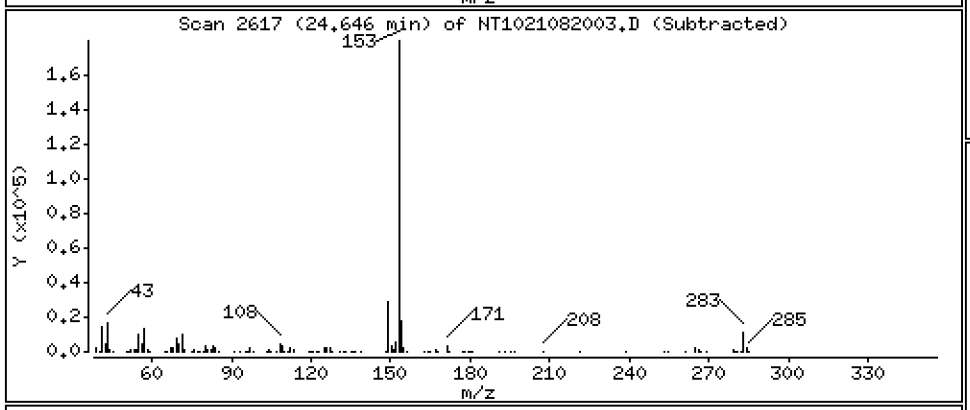
Column phase: ZB-5msi

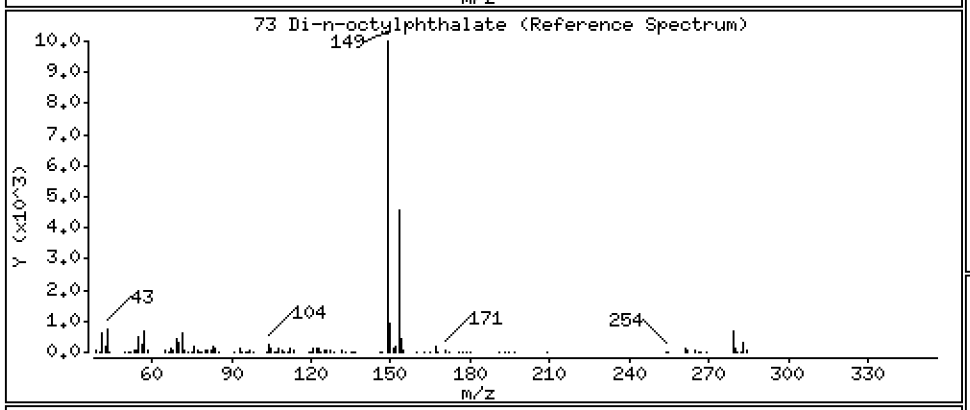
Column diameter: 0.25

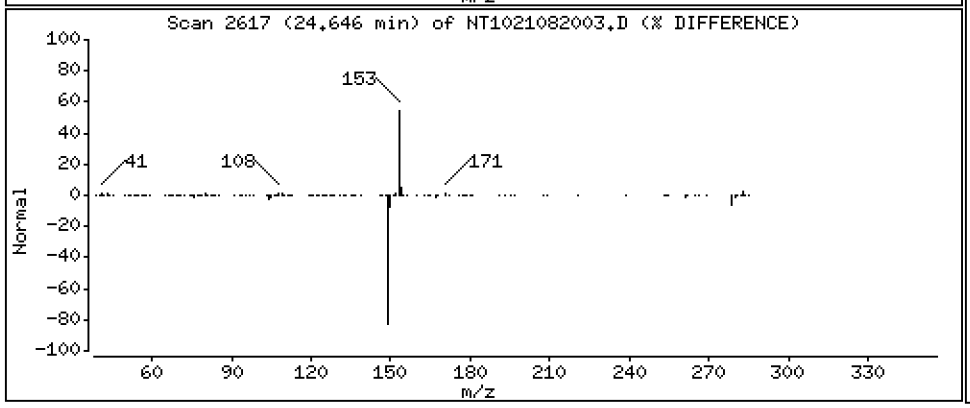
73 Di-n-octylphthalate

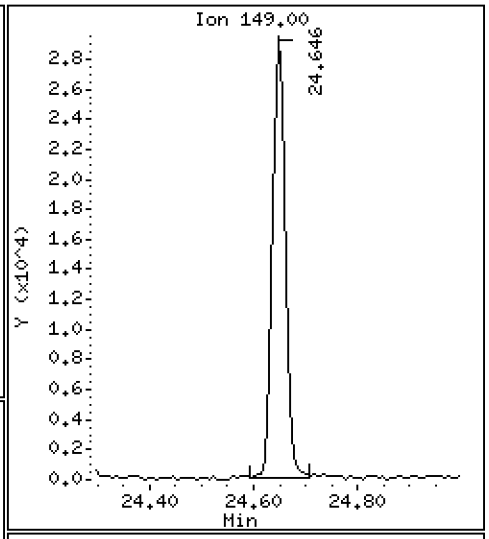
Concentration: 0.5211 ug/mL

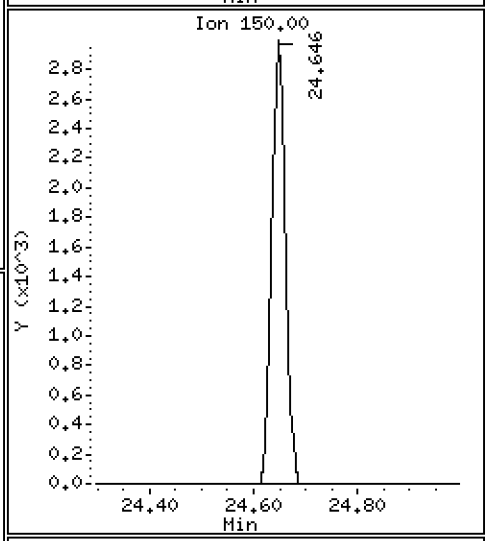


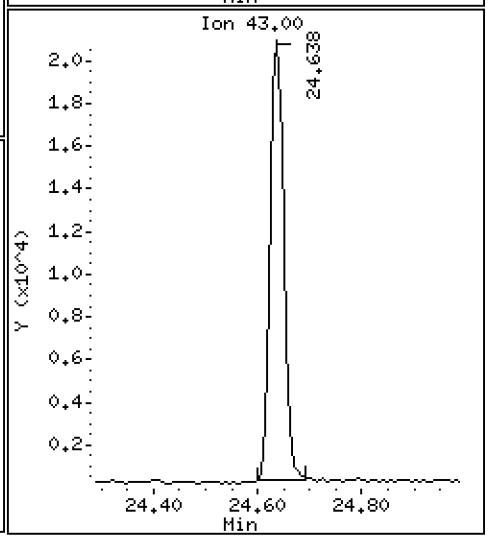












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

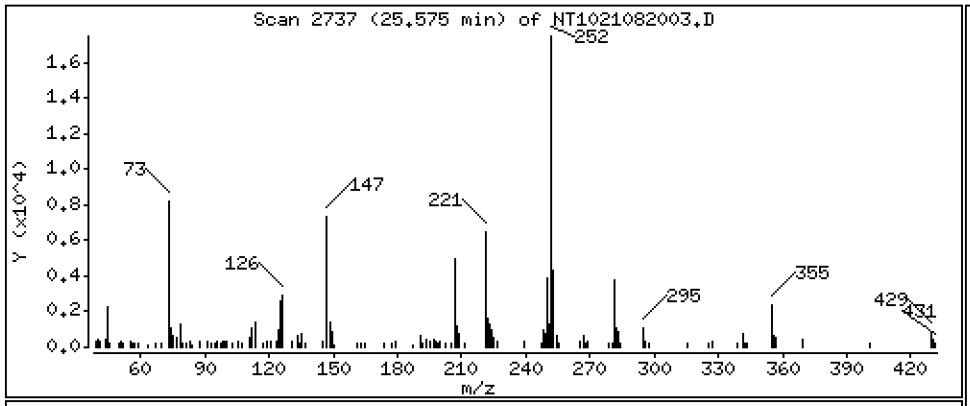
Operator: VTS

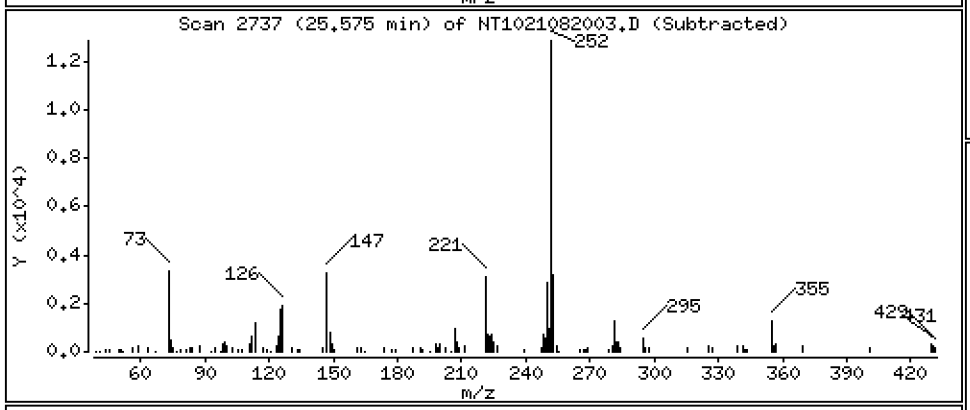
Column phase: ZB-5msi

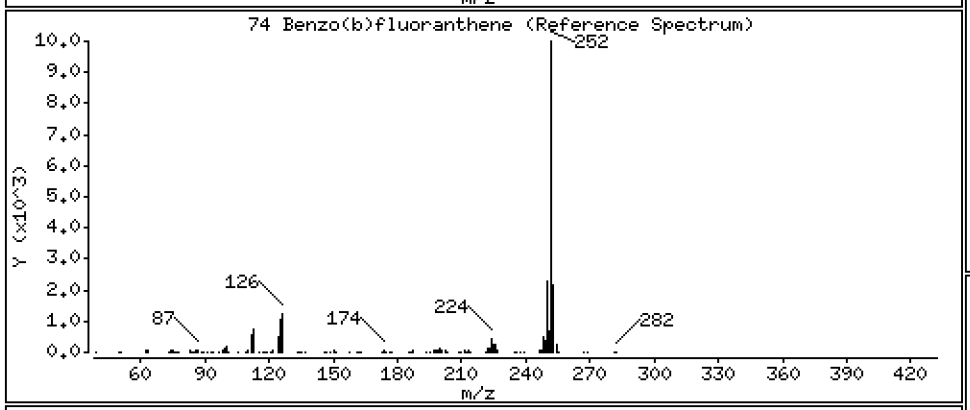
Column diameter: 0.25

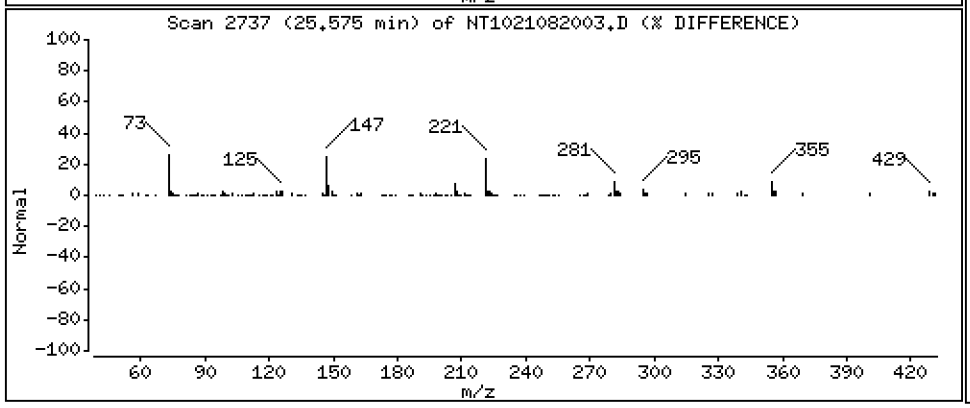
74 Benzo(b)fluoranthene

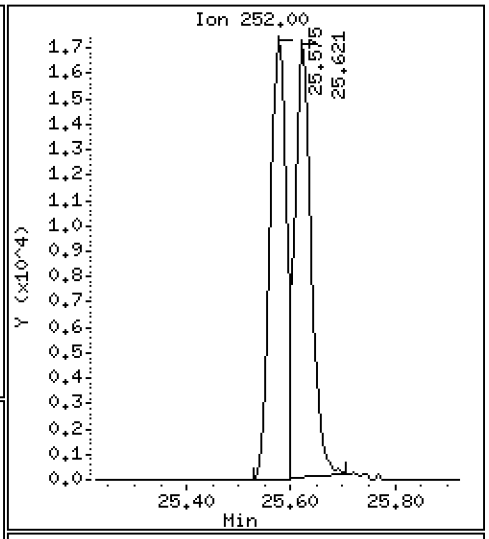
Concentration: 0.4590 ug/mL

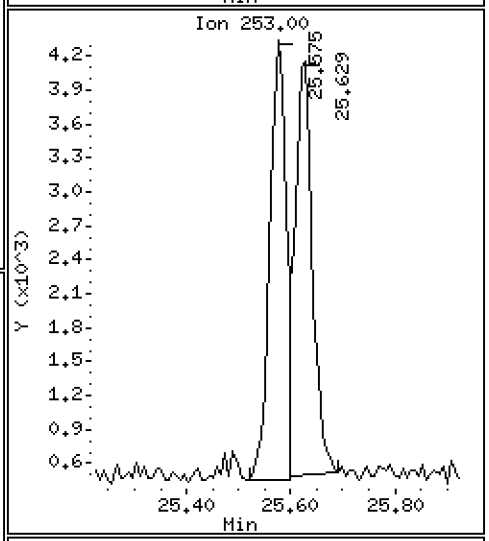


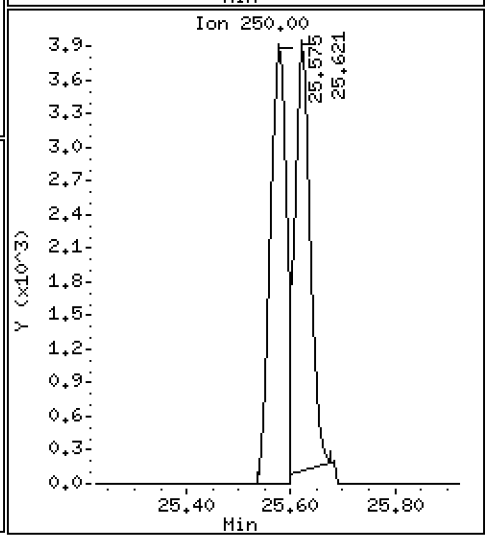












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

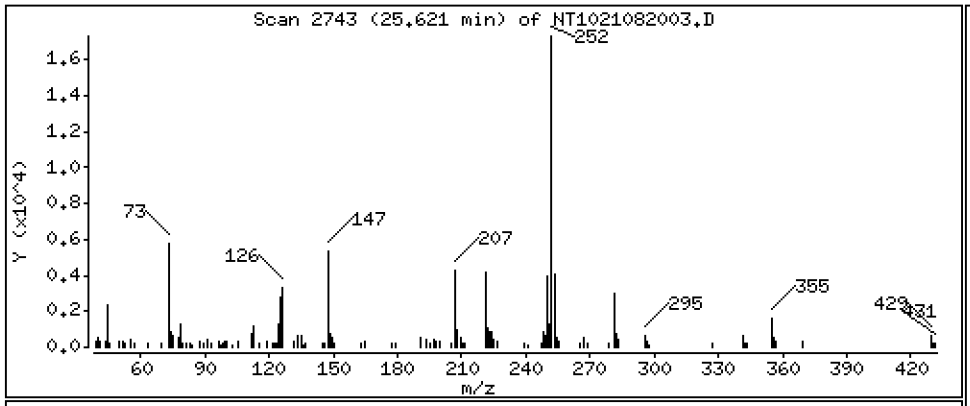
Operator: VTS

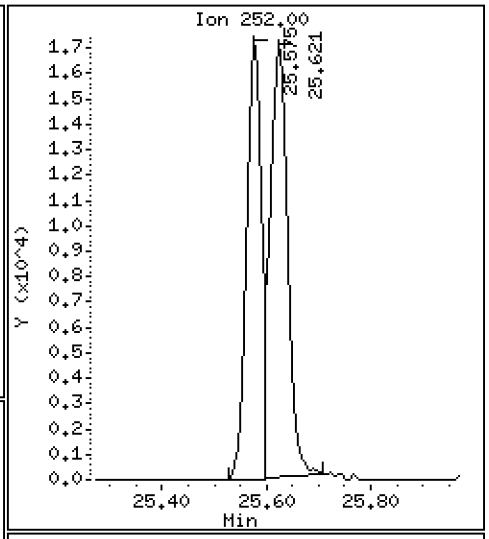
Column phase: ZB-5msi

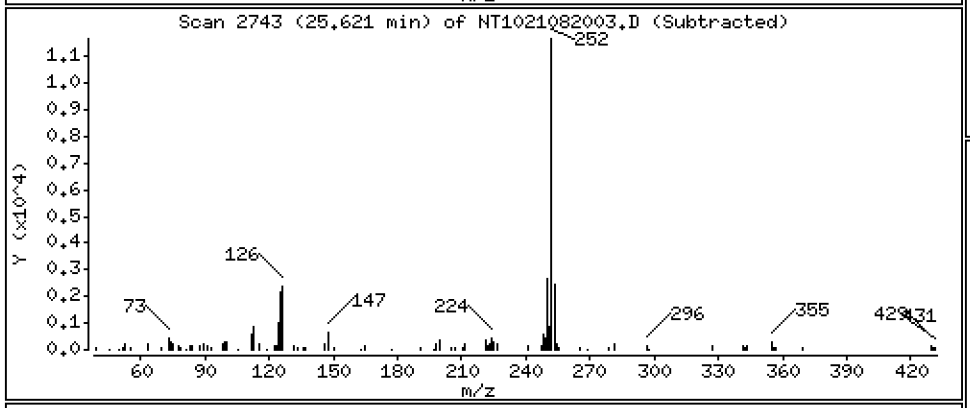
Column diameter: 0.25

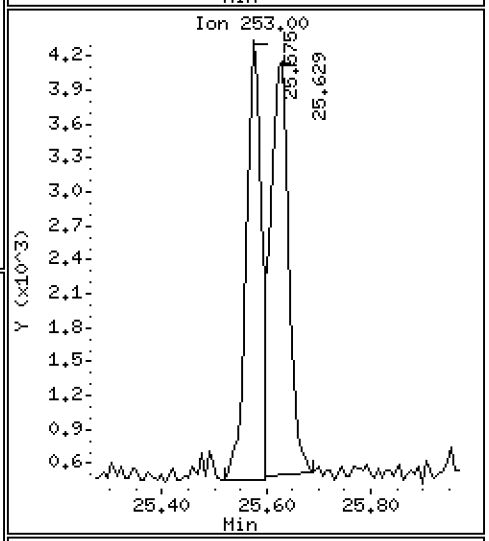
75 Benzo(k)fluoranthene

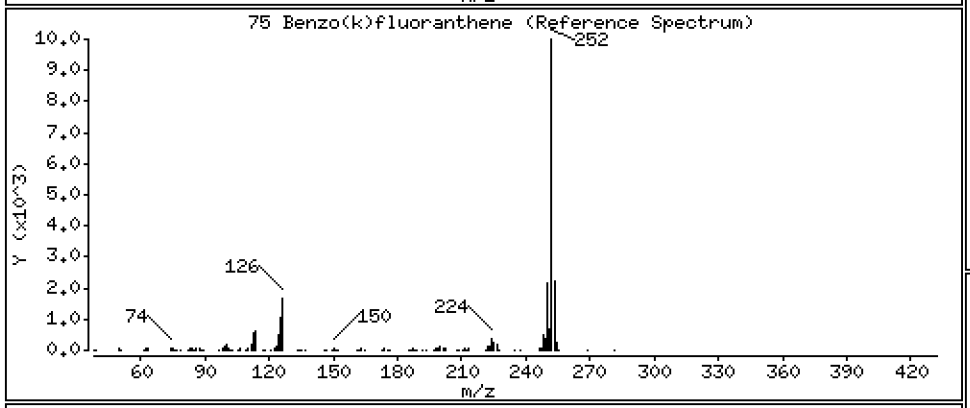
Concentration: 0.5064 ug/mL

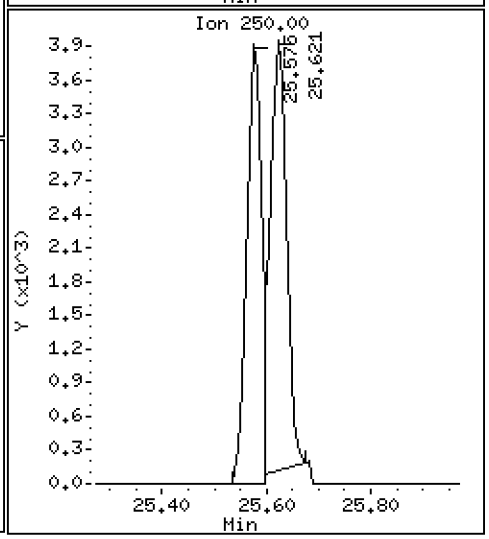


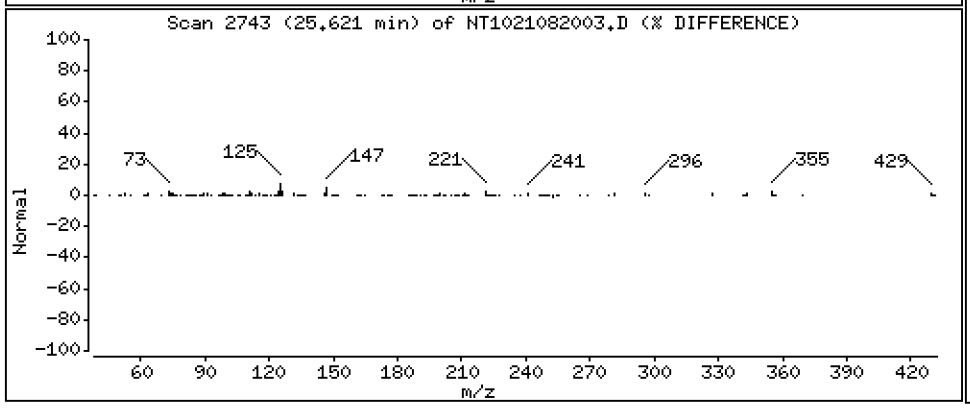












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

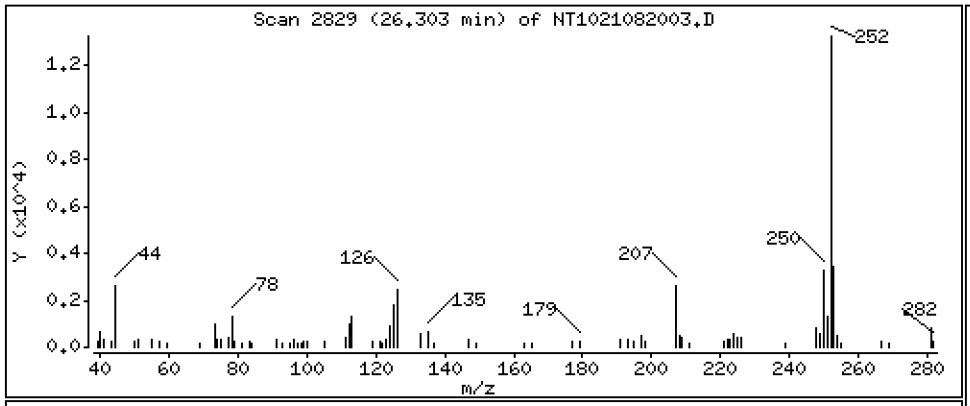
Operator: VTS

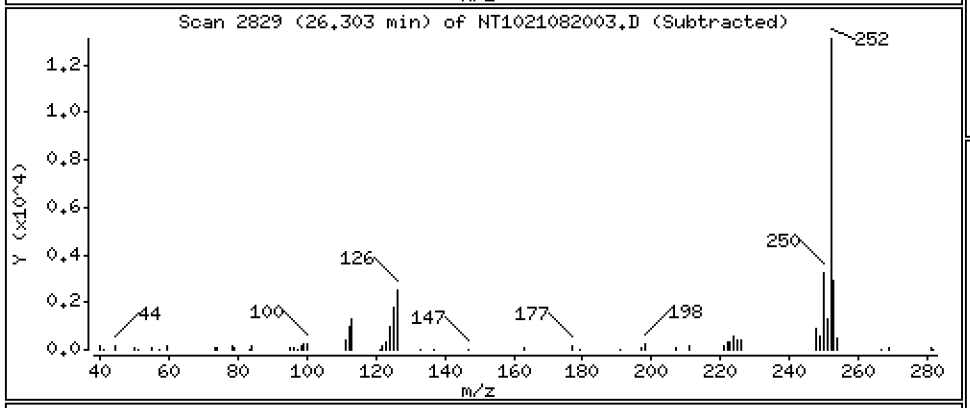
Column phase: ZB-5msi

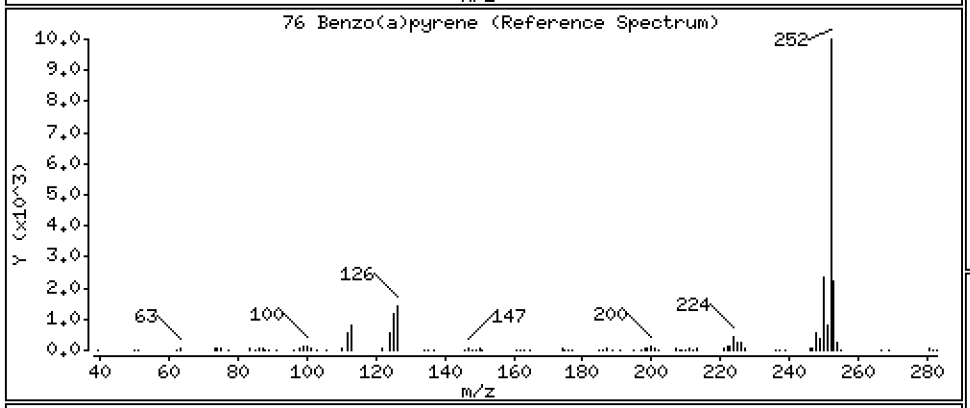
Column diameter: 0.25

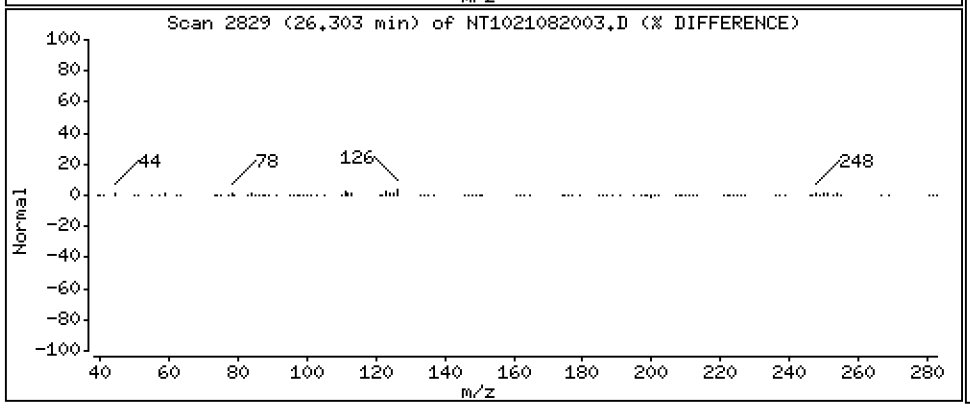
76 Benzo(a)pyrene

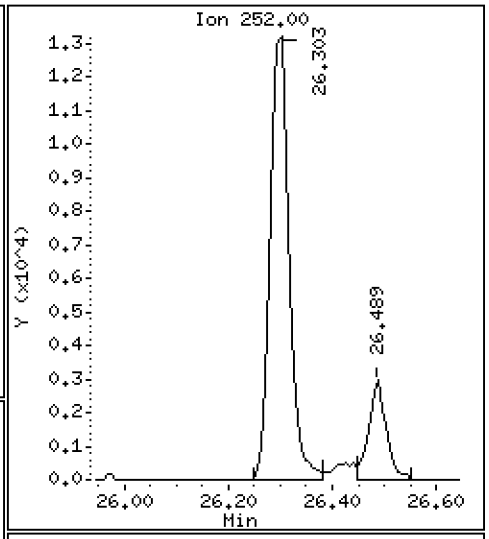
Concentration: 0.4574 ug/mL

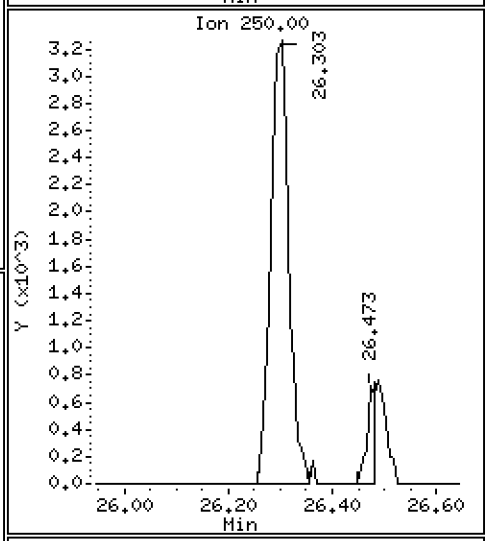


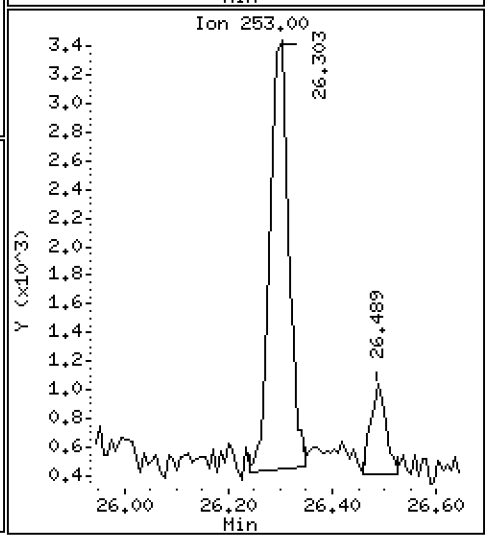












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

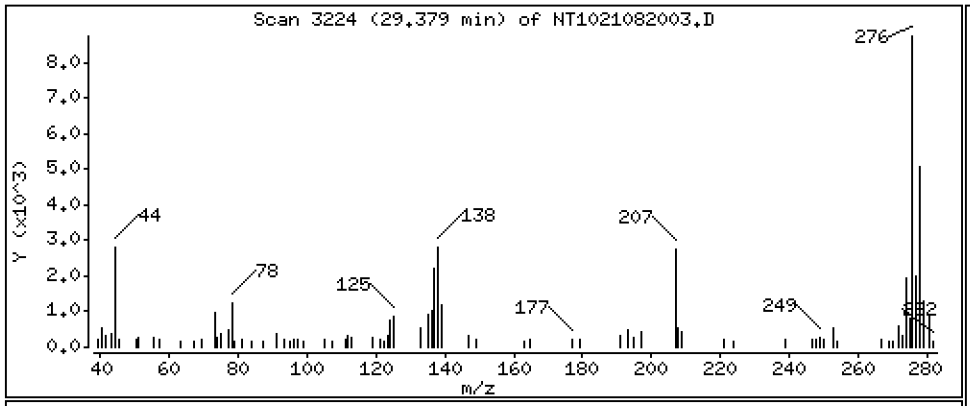
Operator: VTS

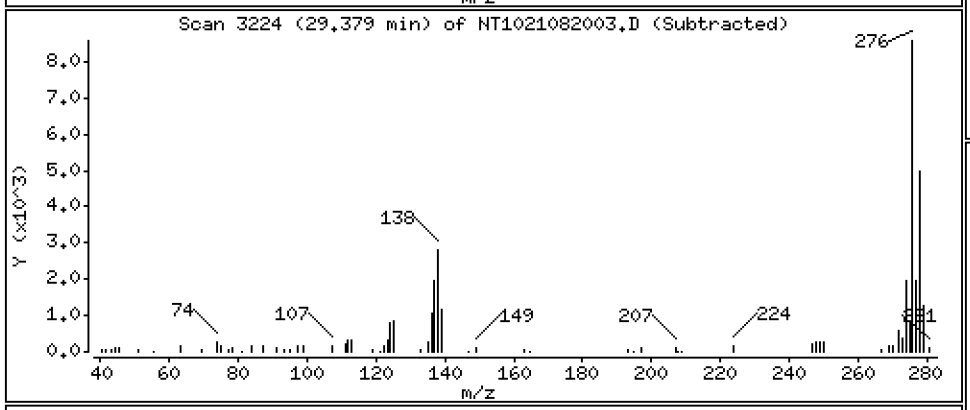
Column phase: ZB-5msi

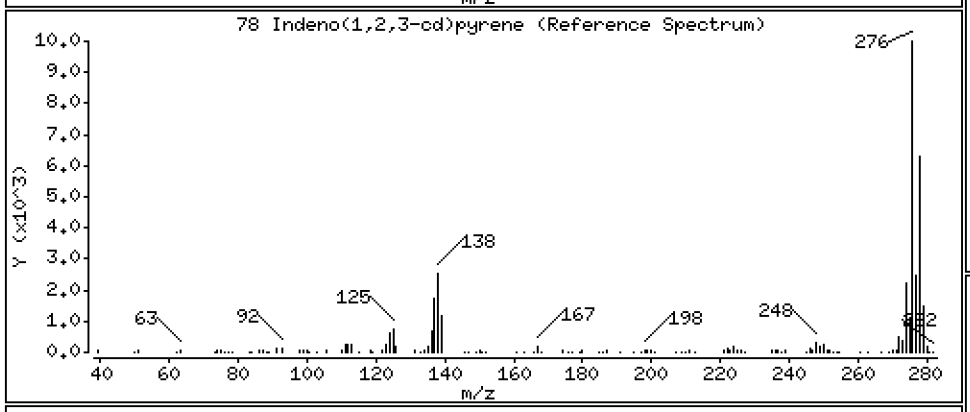
Column diameter: 0.25

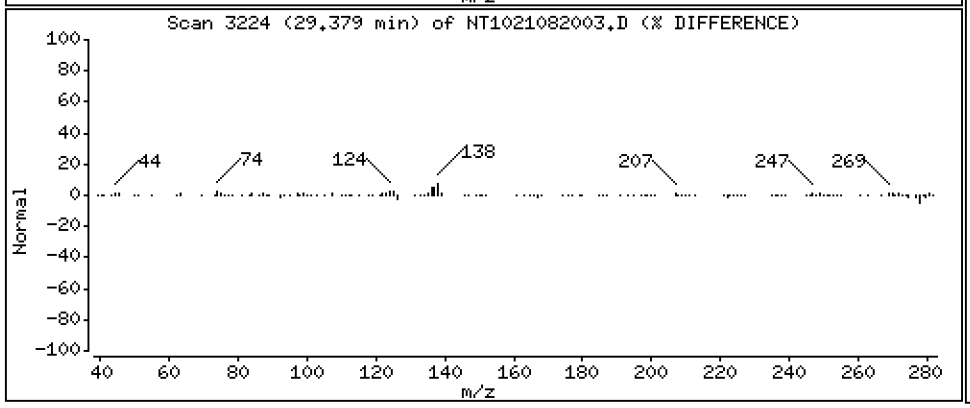
78 Indeno(1,2,3-cd)pyrene

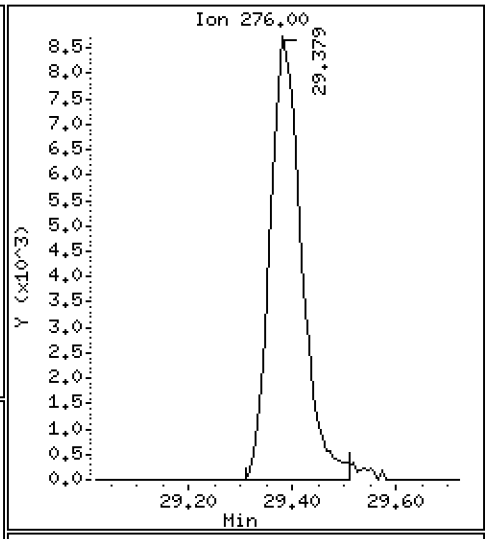
Concentration: 0.5018 ug/mL

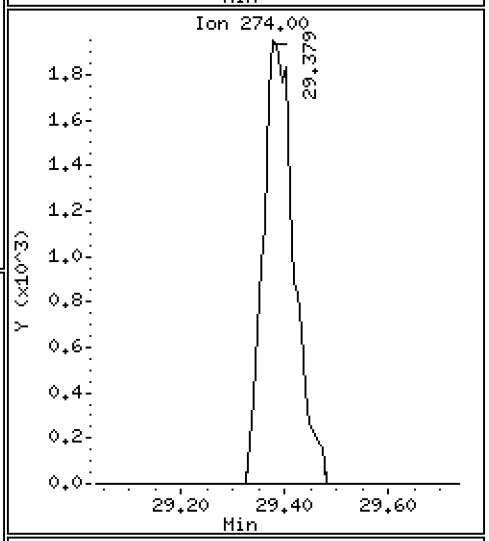


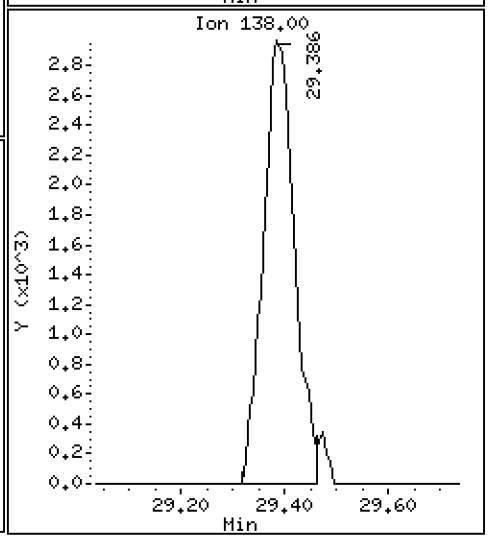












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

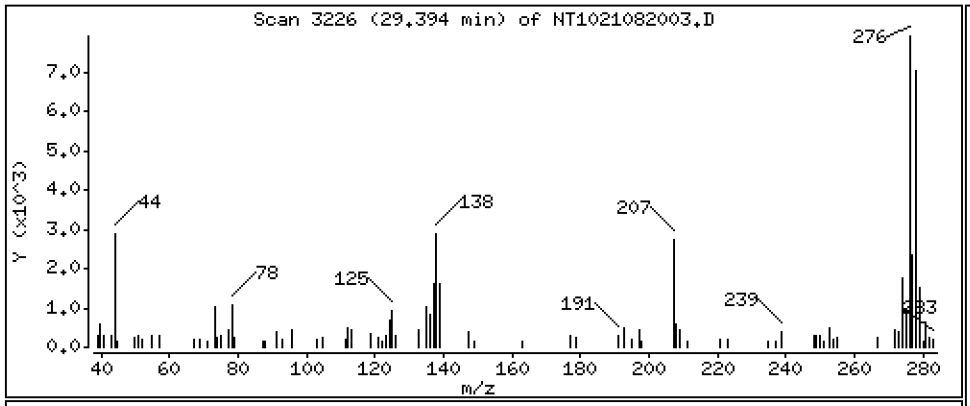
Operator: VTS

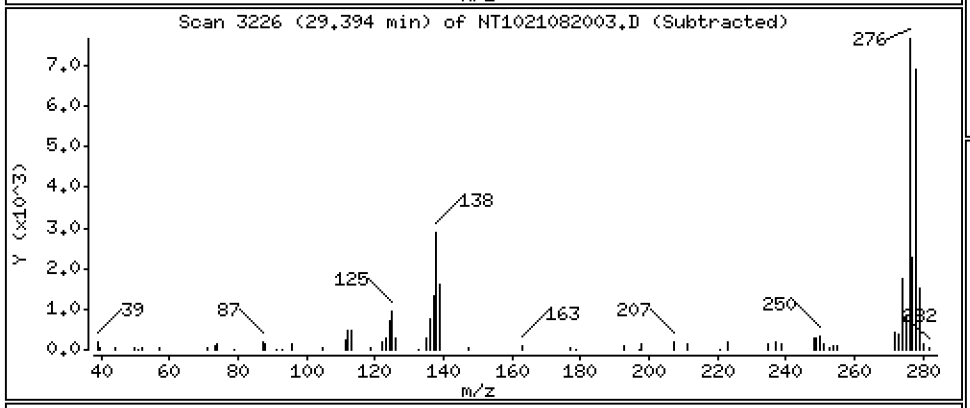
Column phase: ZB-5msi

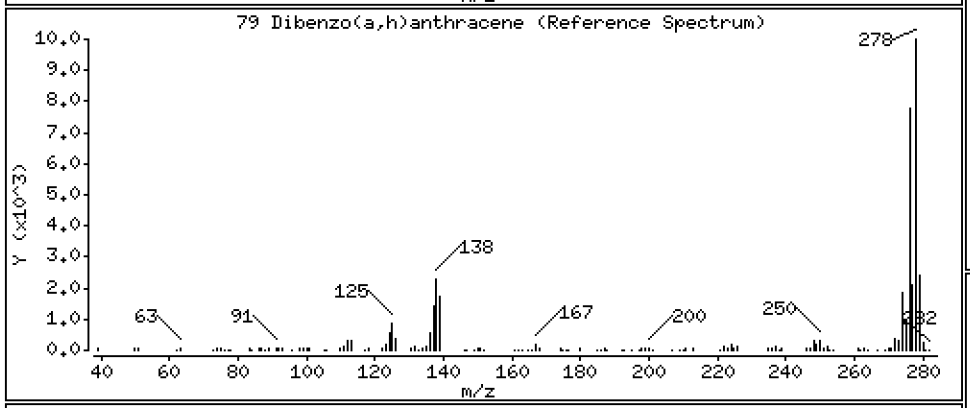
Column diameter: 0.25

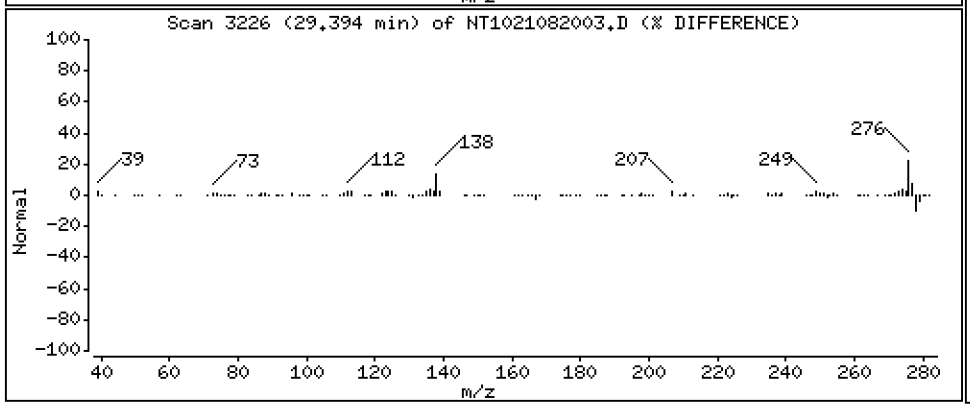
79 Dibenzo(a,h)anthracene

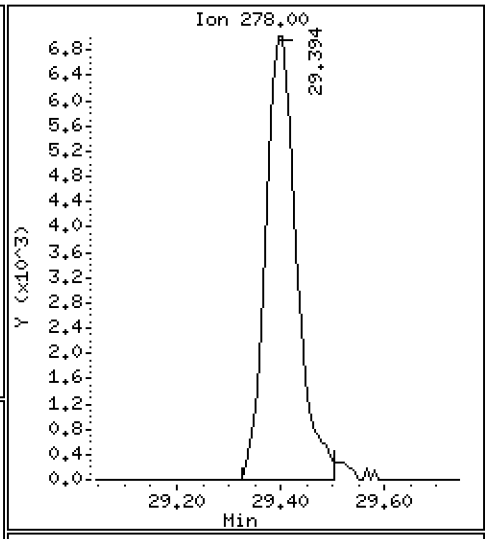
Concentration: 0.5174 ug/mL

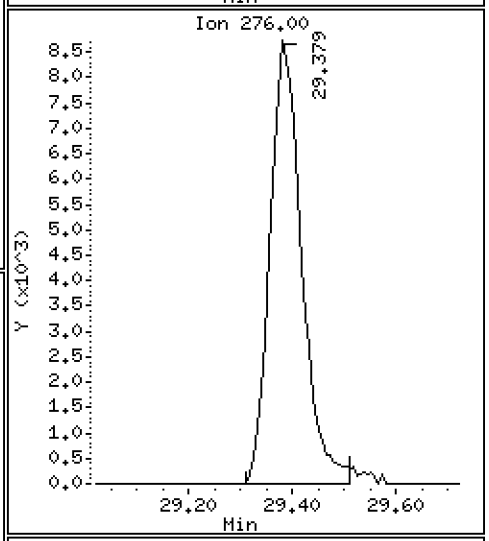


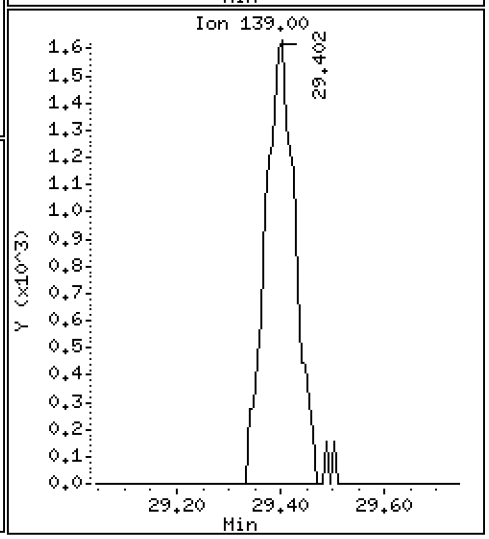












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

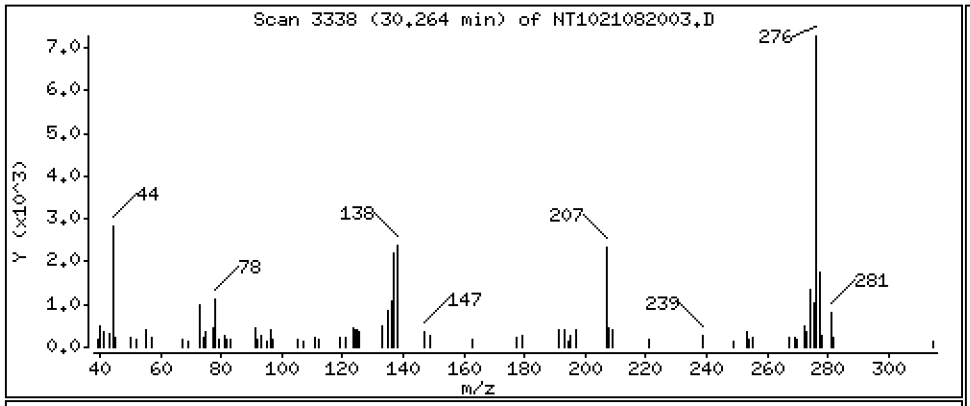
Operator: VTS

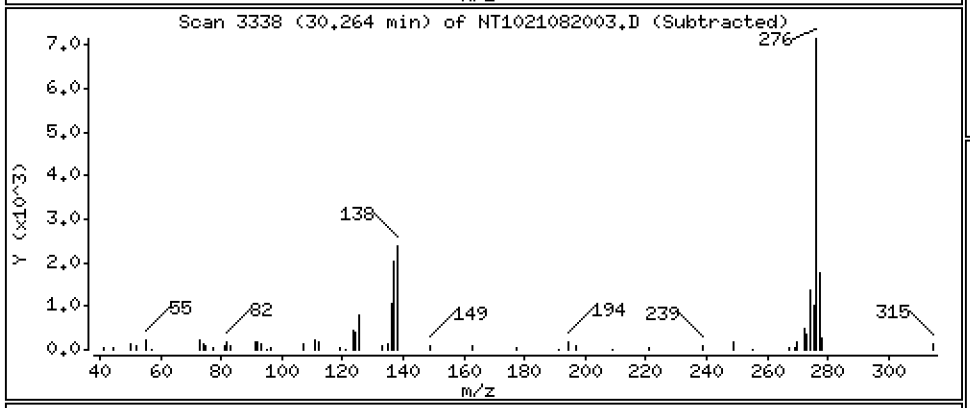
Column phase: ZB-5msi

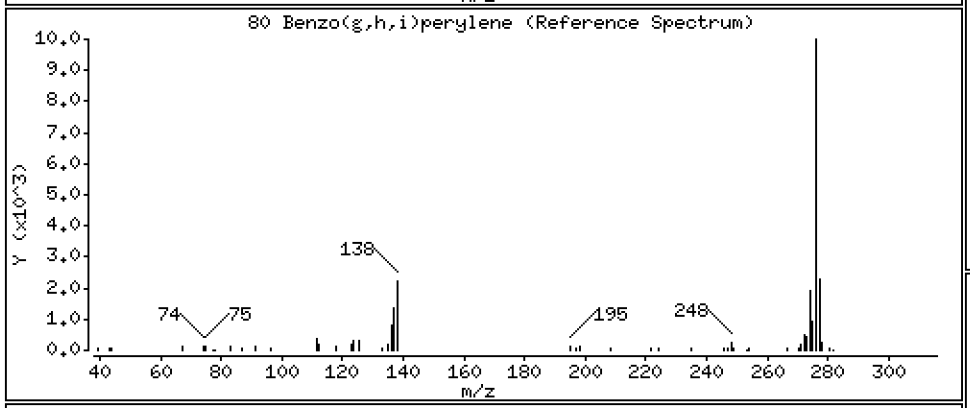
Column diameter: 0.25

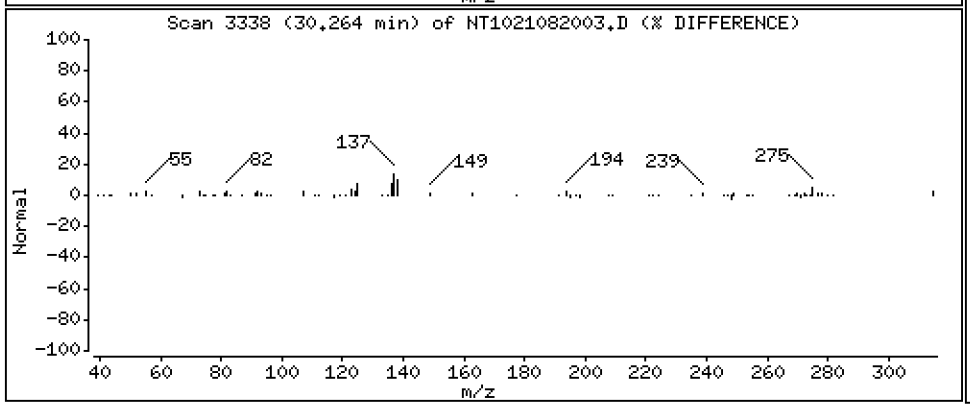
80 Benzo(g,h,i)perylene

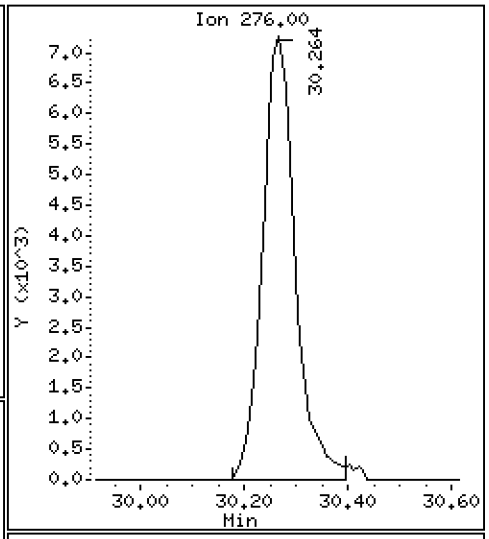
Concentration: 0.4927 ug/mL

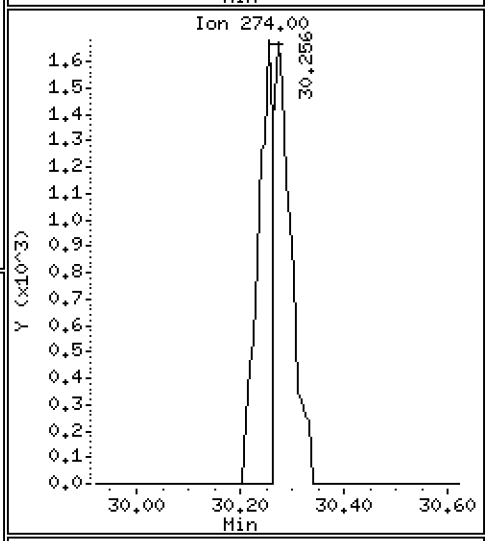


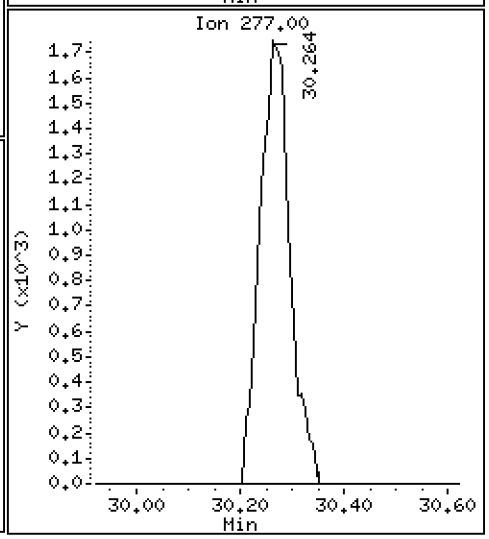












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

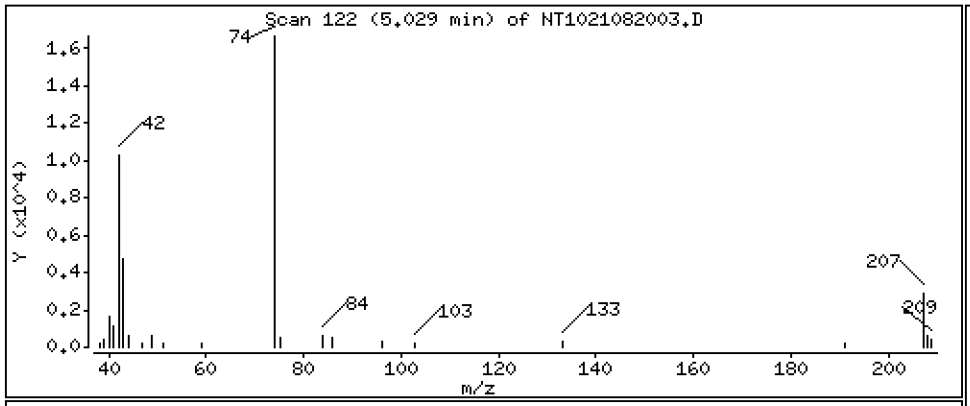
Operator: VTS

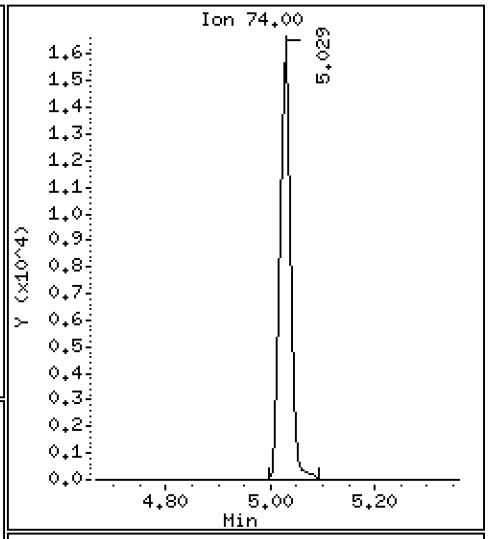
Column phase: ZB-5msi

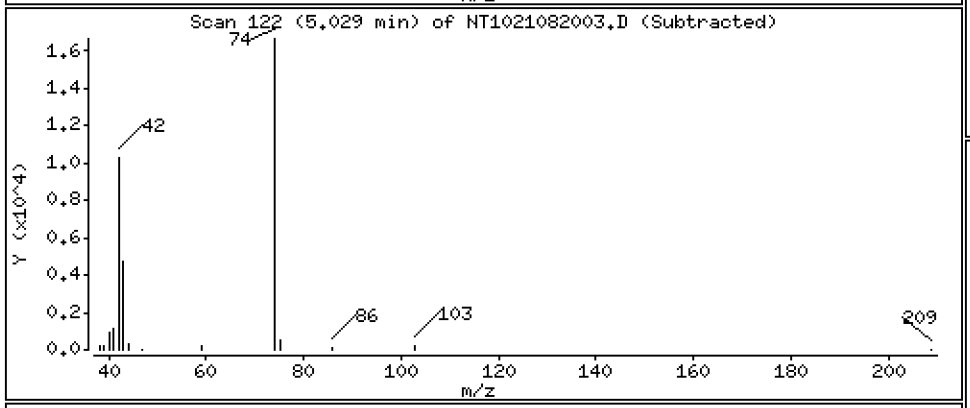
Column diameter: 0.25

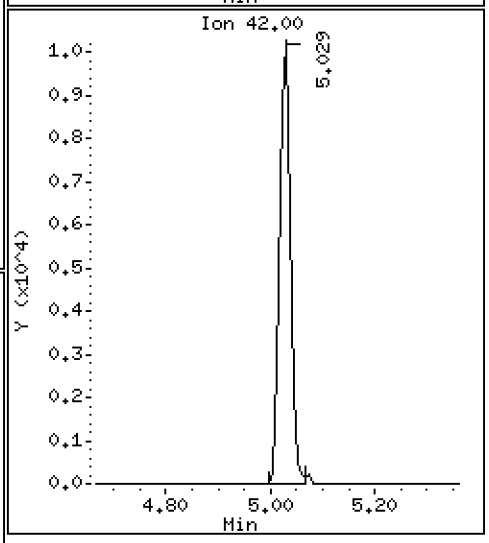
90 N-Nitrosodimethylamine

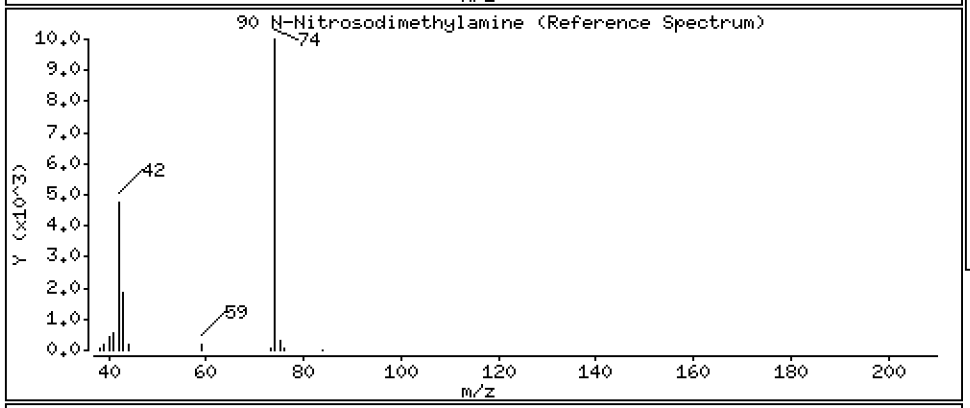
Concentration: 1.049 ug/mL

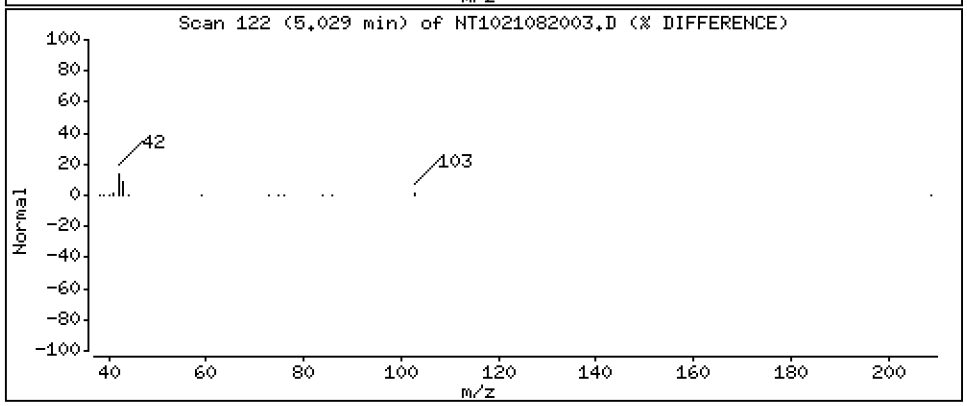












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

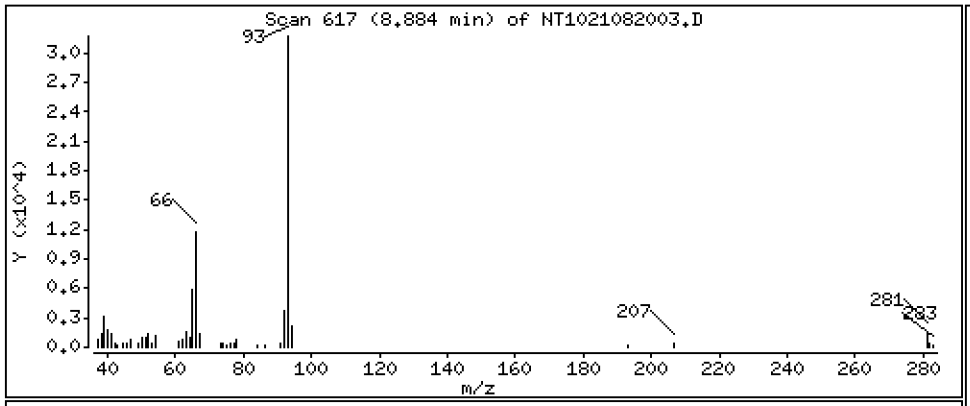
Operator: VTS

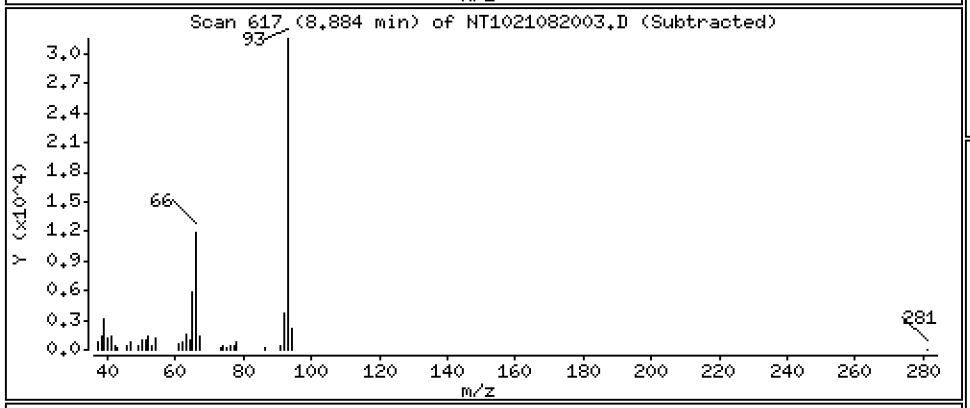
Column phase: ZB-5msi

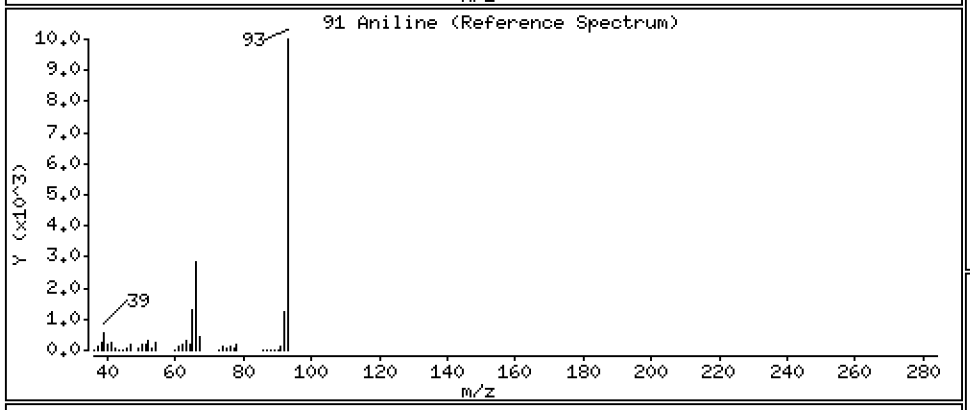
Column diameter: 0.25

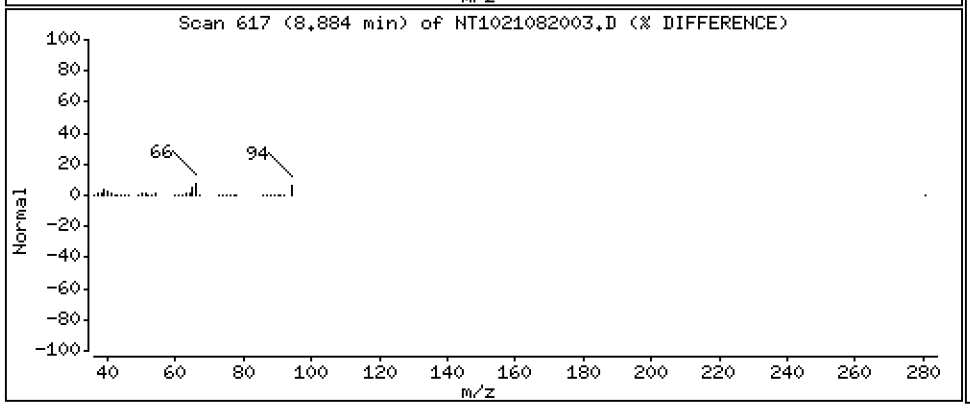
91 Aniline

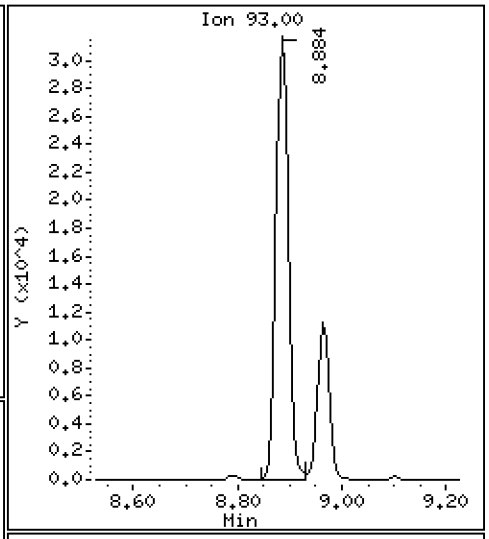
Concentration: 1.009 ug/mL

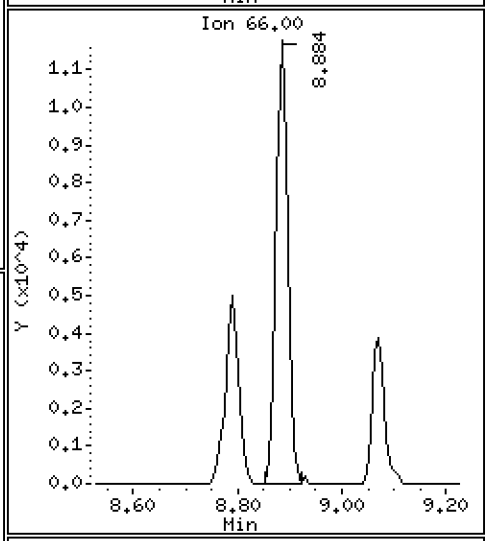


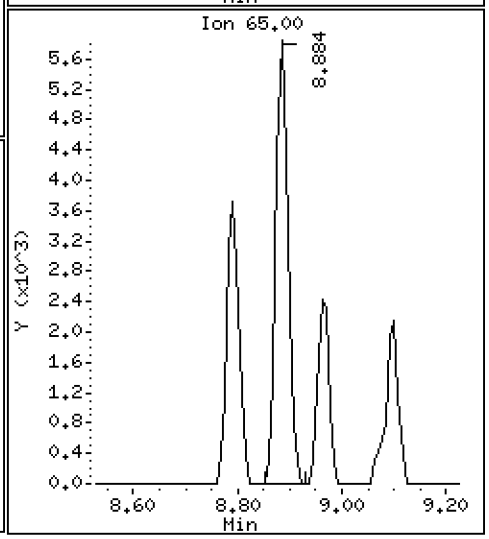












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

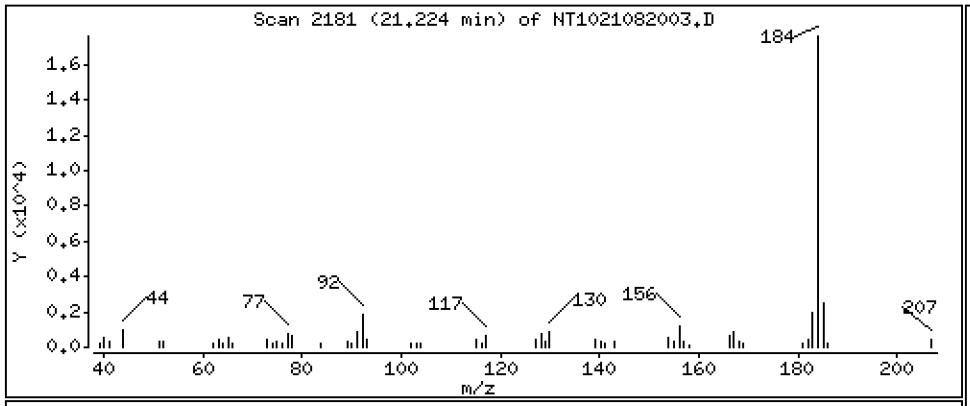
Operator: VTS

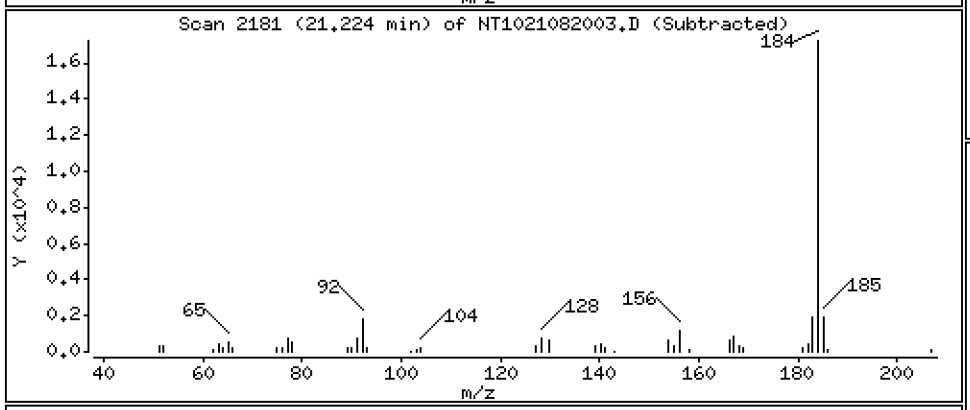
Column phase: ZB-5msi

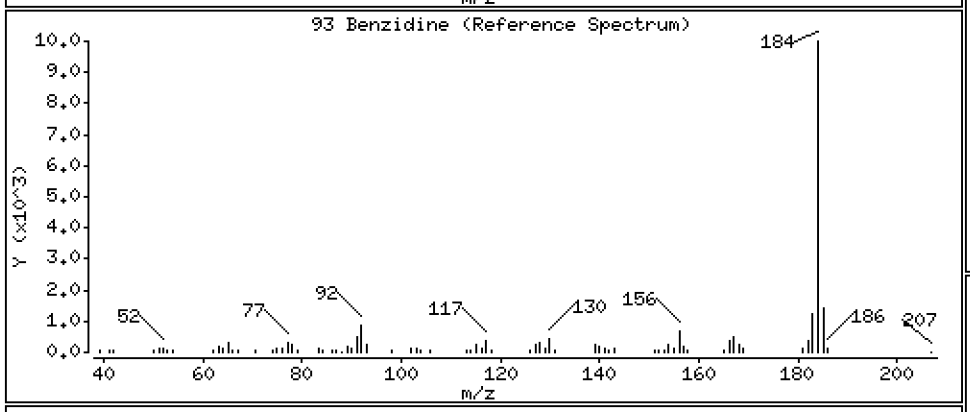
Column diameter: 0.25

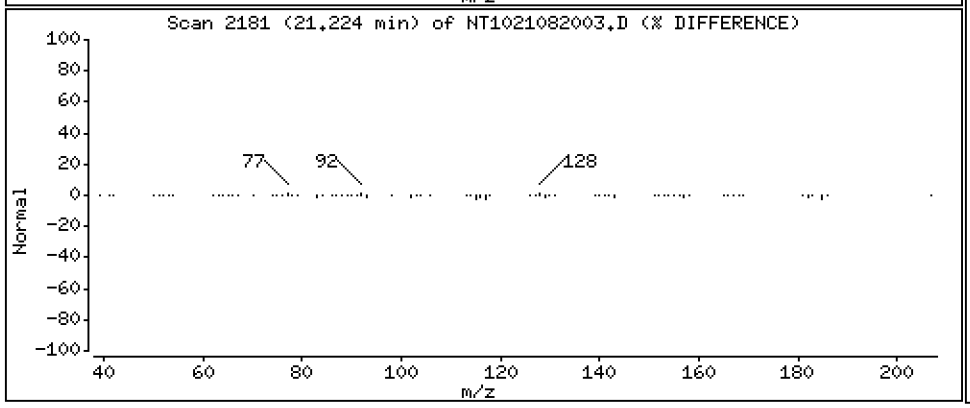
93 Benzidine

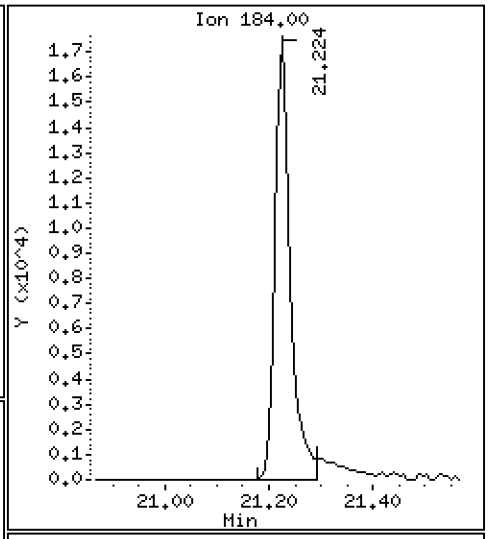
Concentration: 0.7419 ug/mL

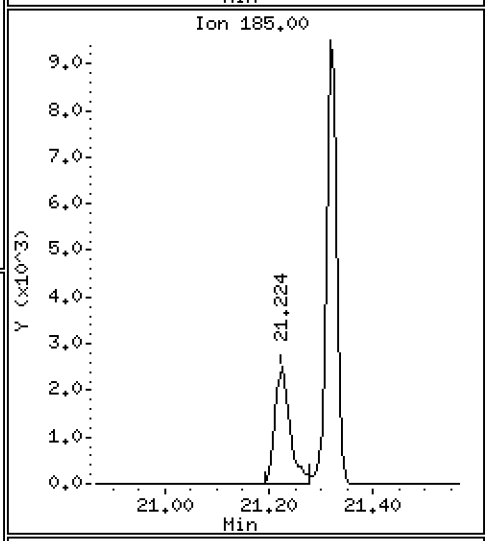


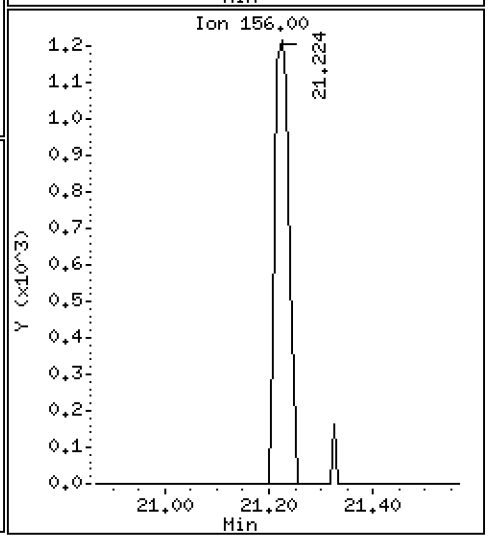












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

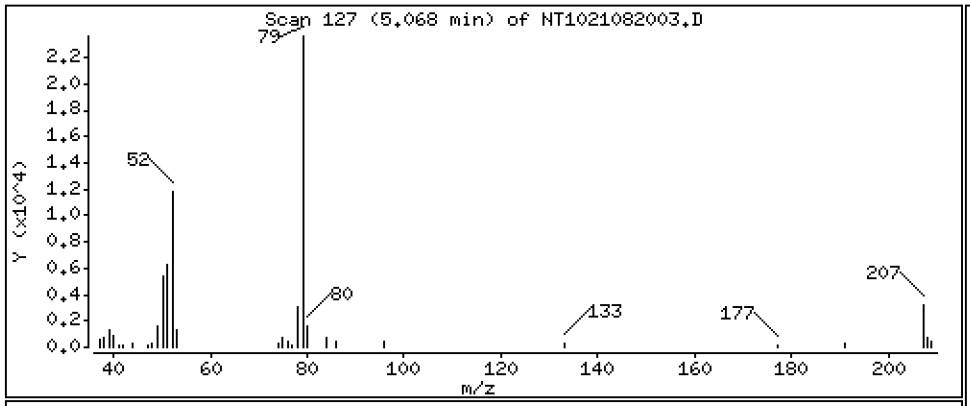
Operator: VTS

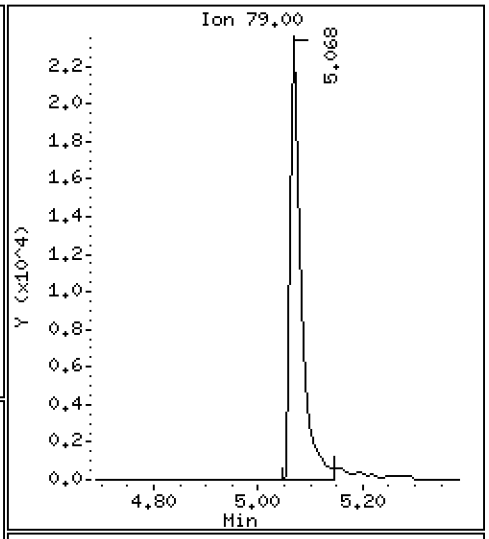
Column phase: ZB-5msi

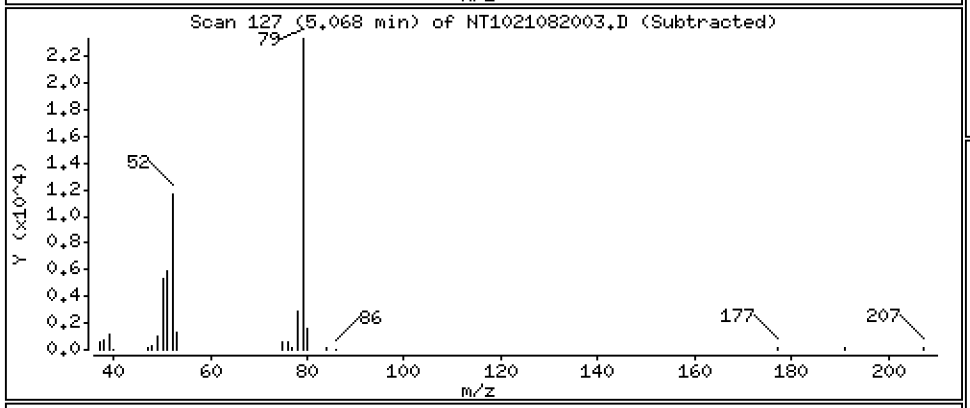
Column diameter: 0.25

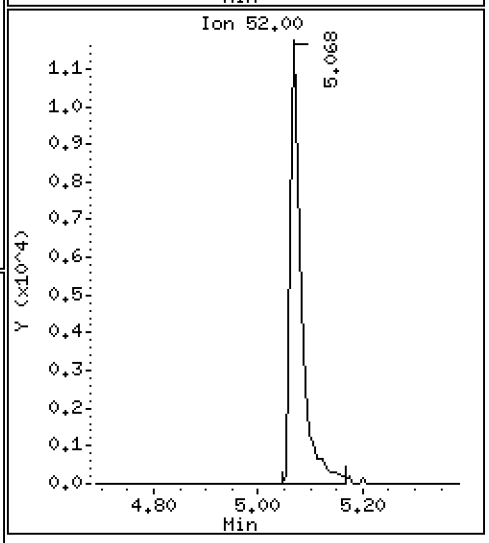
103 Pyridine

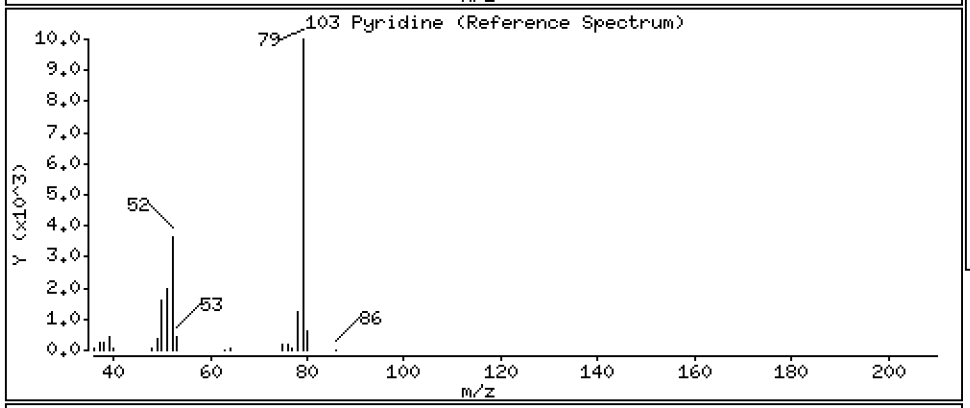
Concentration: 0.5348 ug/mL

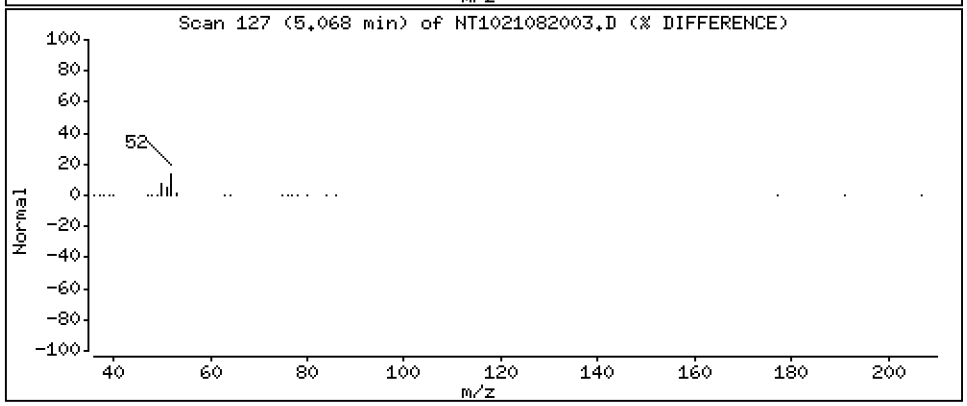












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

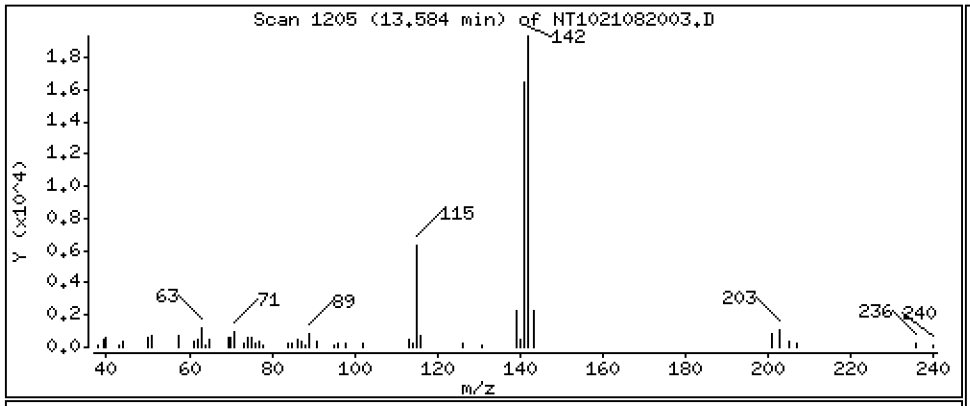
Operator: VTS

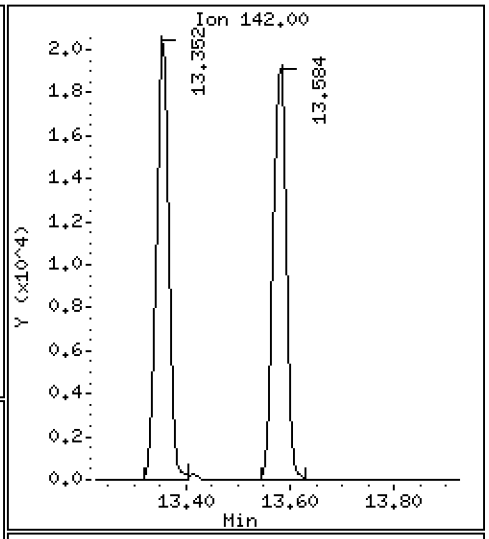
Column phase: ZB-5msi

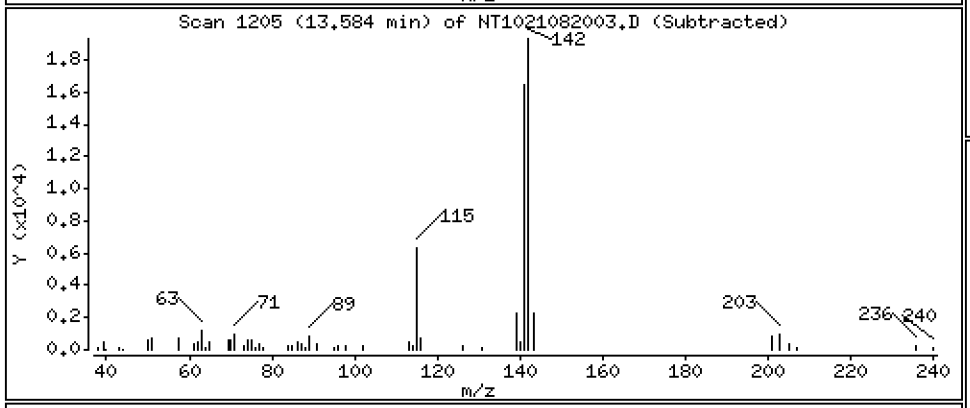
Column diameter: 0.25

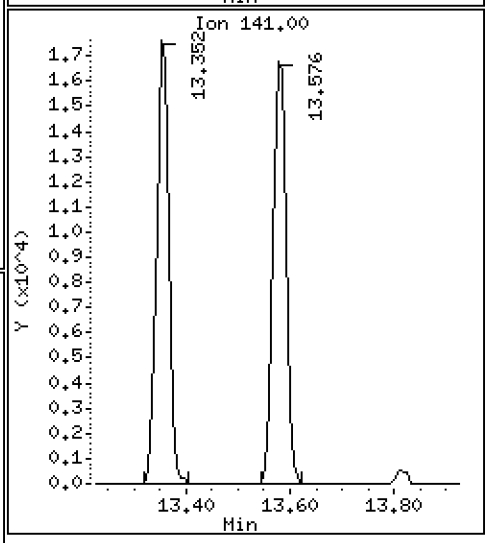
105 1-methylnaphthalene

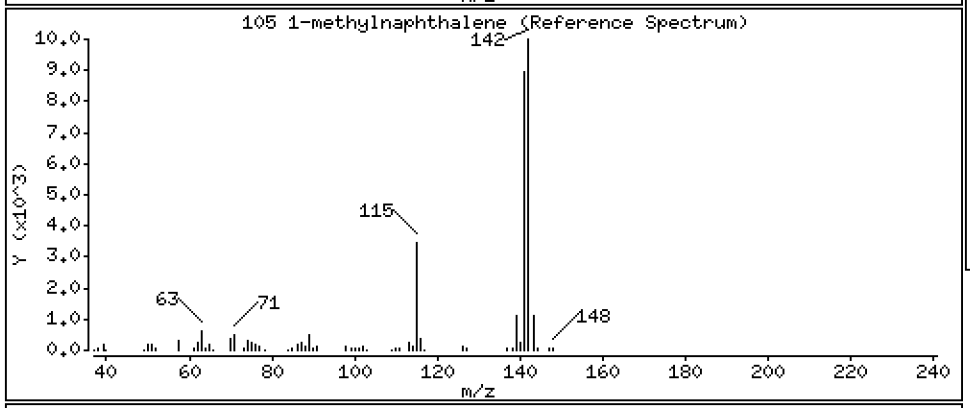
Concentration: 0.4399 ug/mL

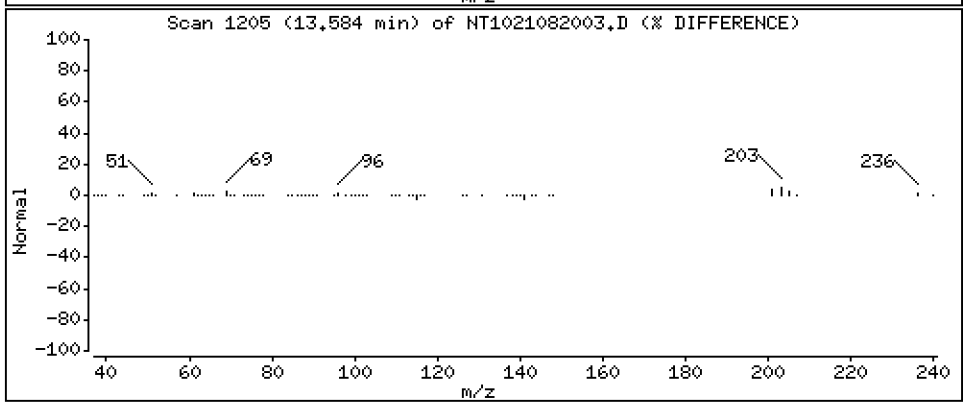












Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D

Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

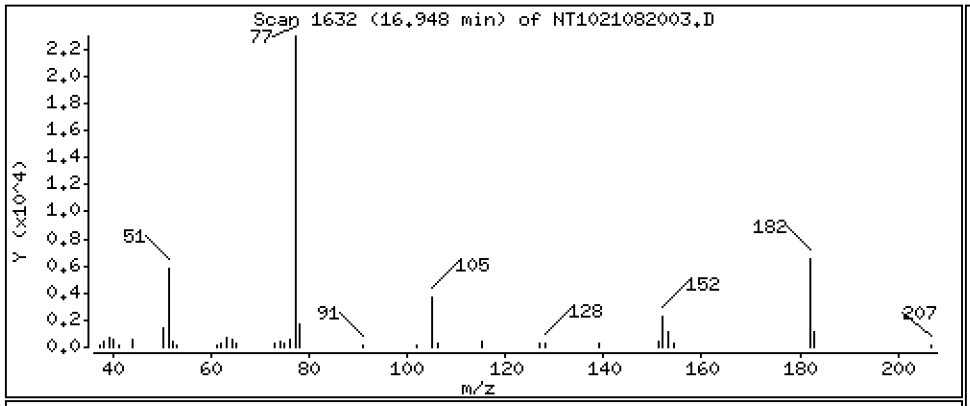
Operator: VTS

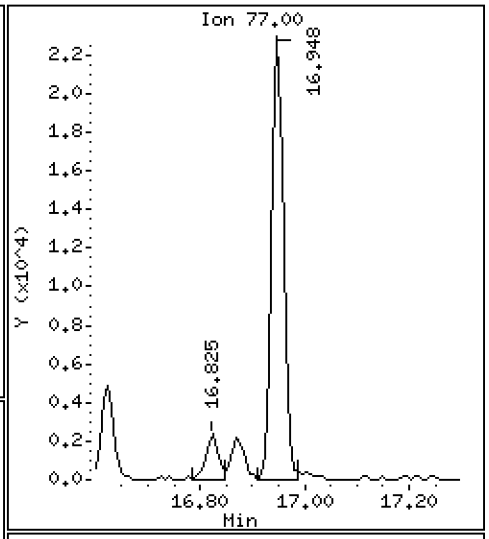
Column phase: ZB-5msi

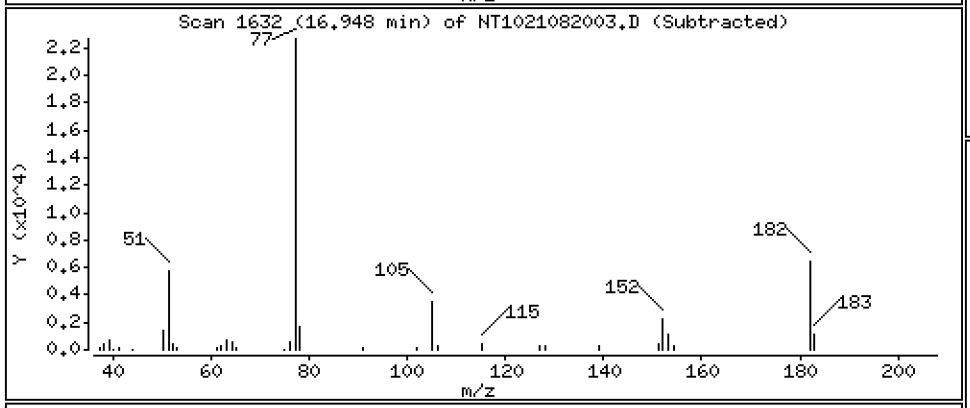
Column diameter: 0.25

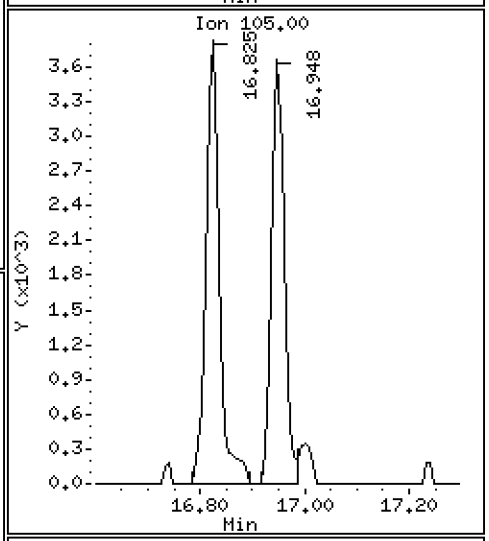
111 Azobenzene (1,2-DP-Hydrazine)

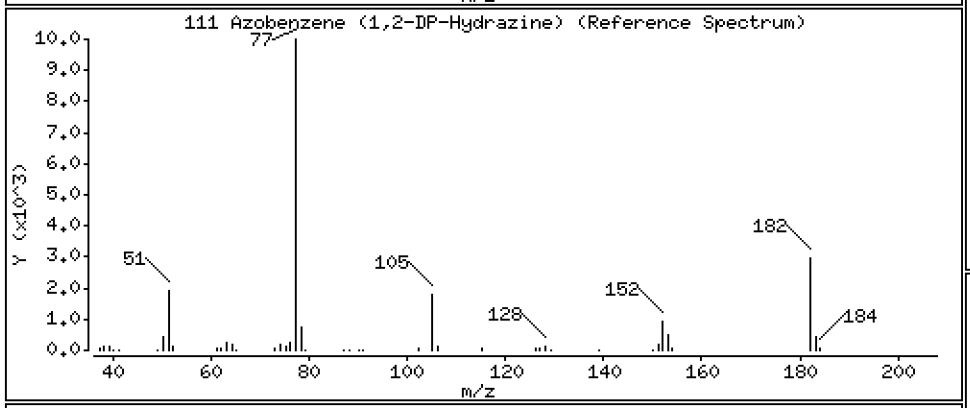
Concentration: 0.5477 ug/mL

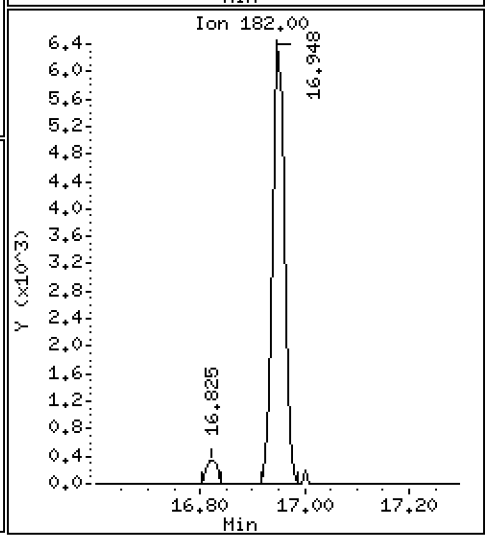


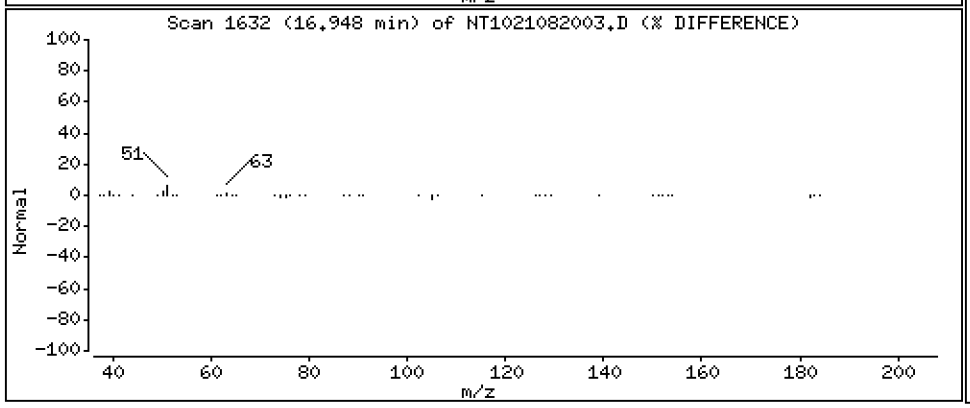












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

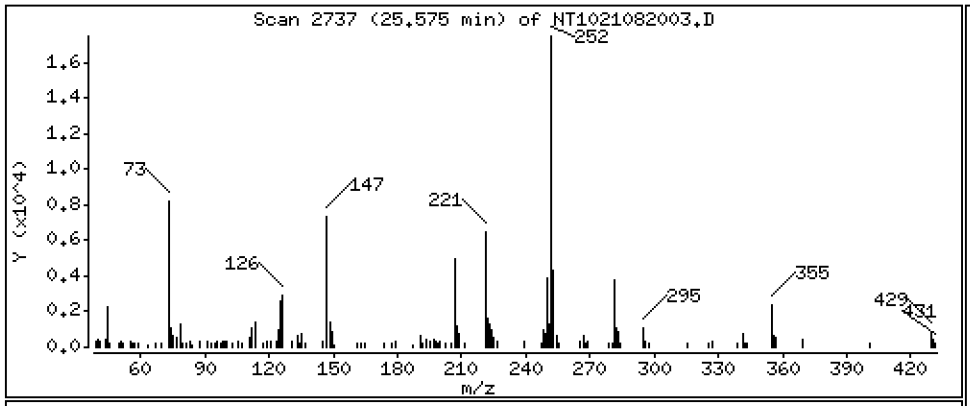
Operator: VTS

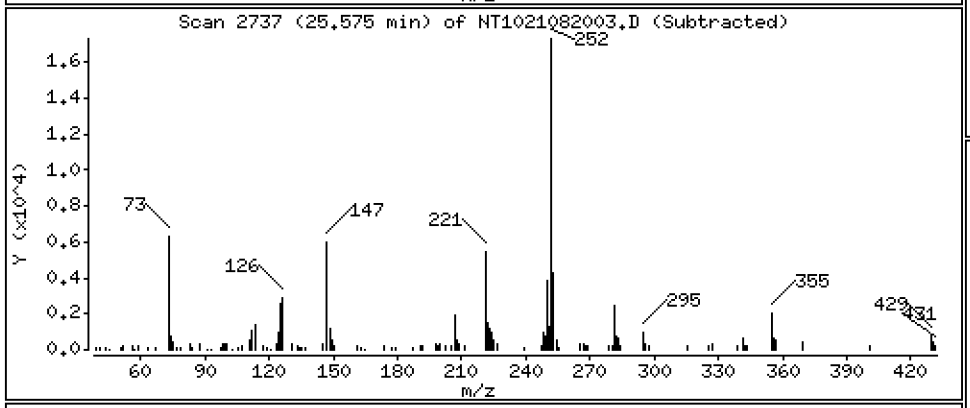
Column phase: ZB-5msi

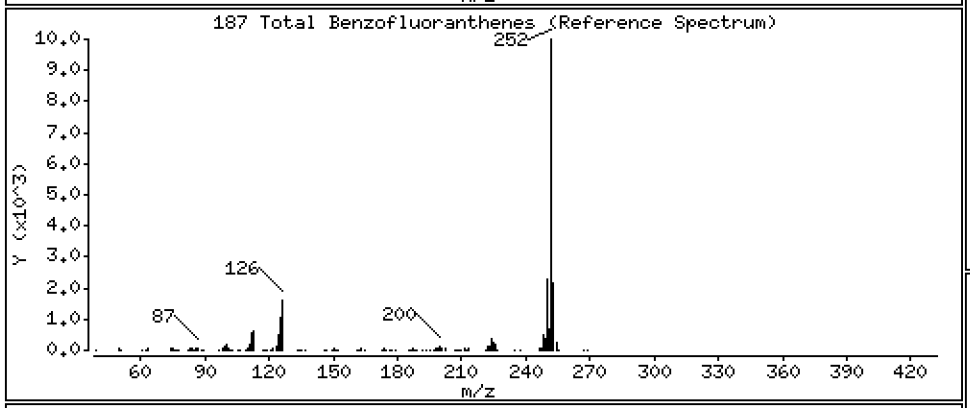
Column diameter: 0.25

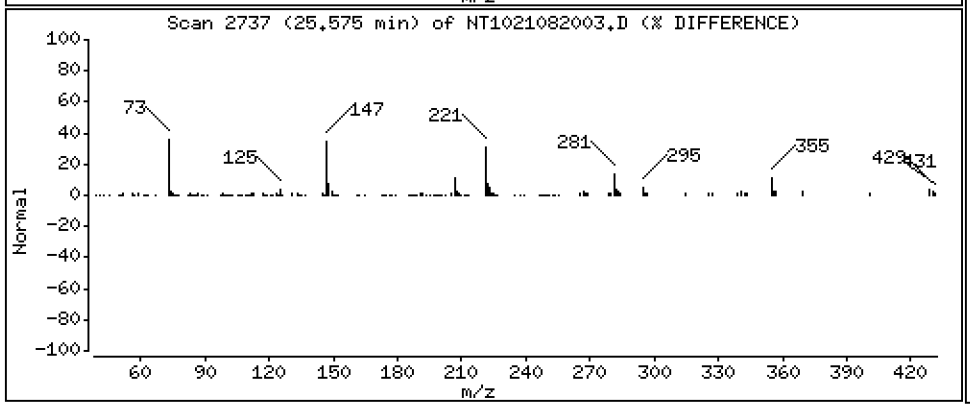
187 Total Benzofluoranthenes

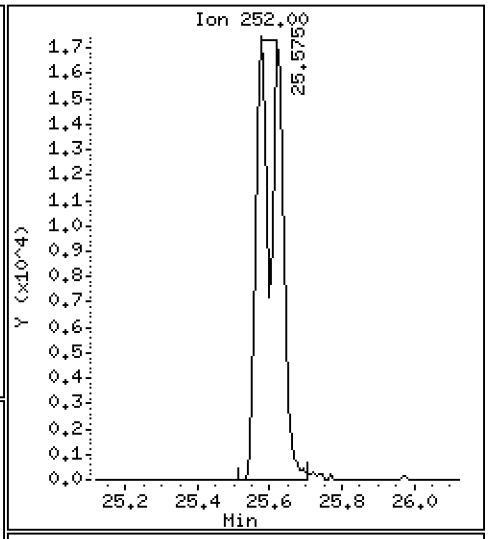
Concentration: 0.9736 ug/mL

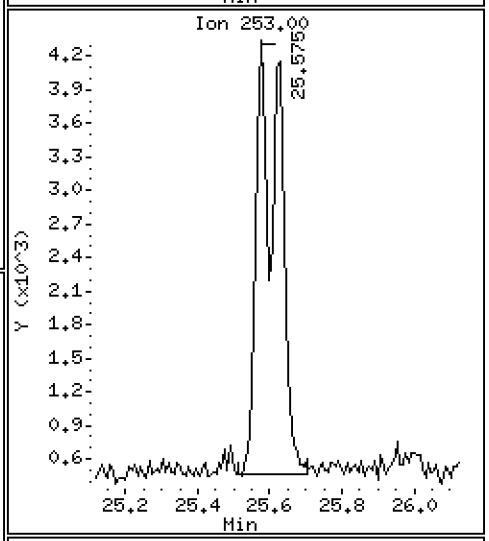


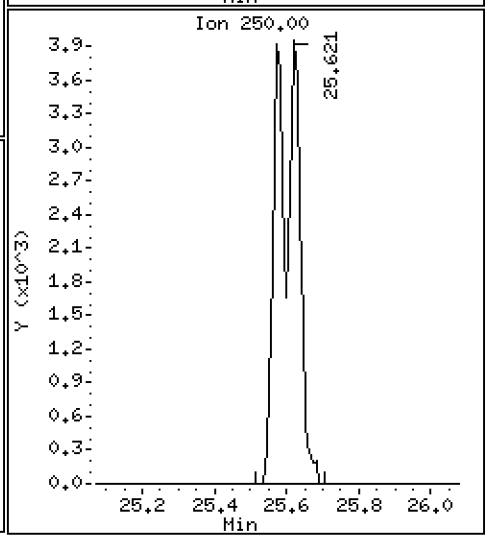












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Date : 20-AUG-2021 09:39

Client ID:

Instrument: nt10.i

Sample Info: SJH0258-LCV1

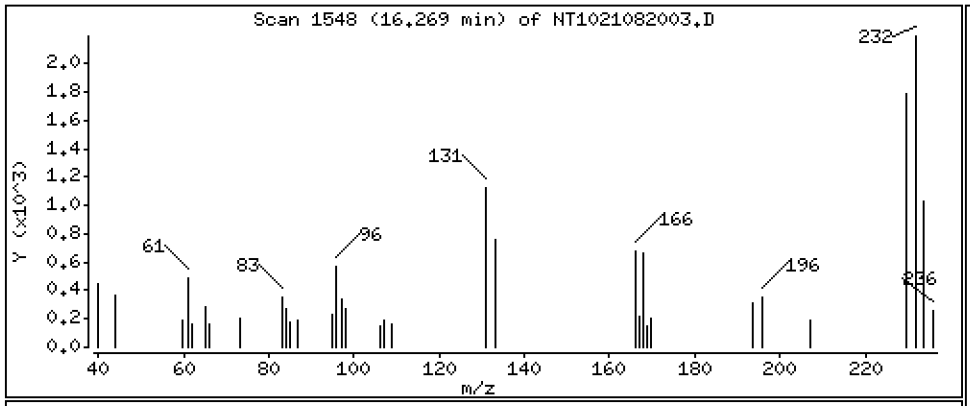
Operator: VTS

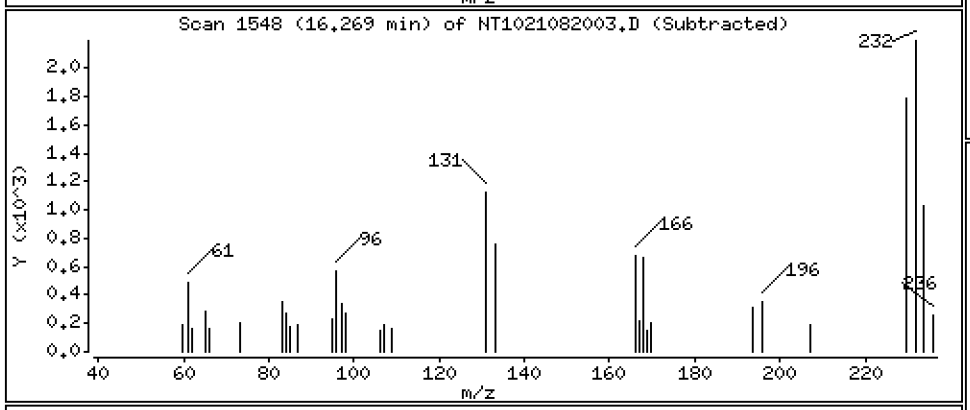
Column phase: ZB-5msi

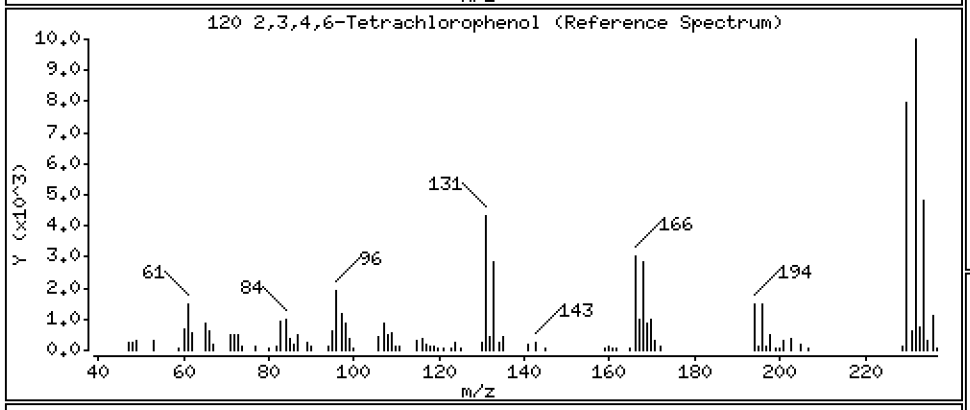
Column diameter: 0.25

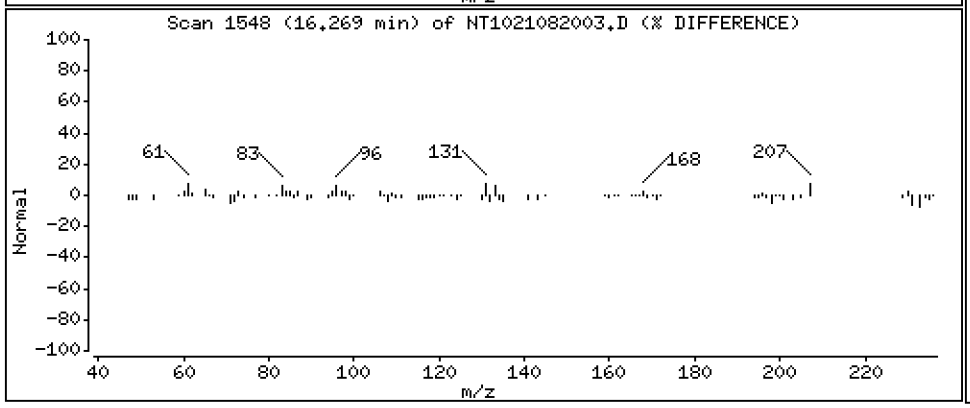
120 2,3,4,6-Tetrachlorophenol

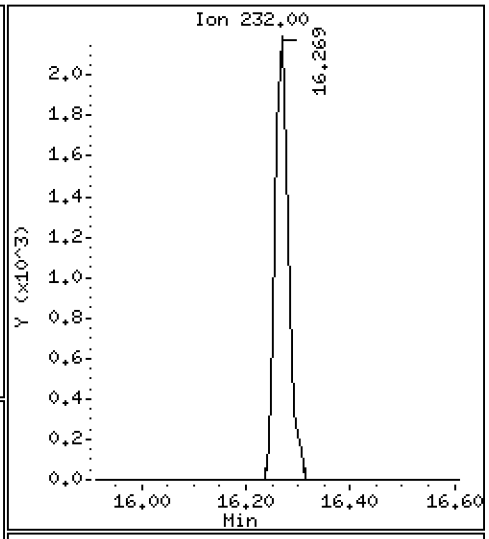
Concentration: 0.2784 ug/mL

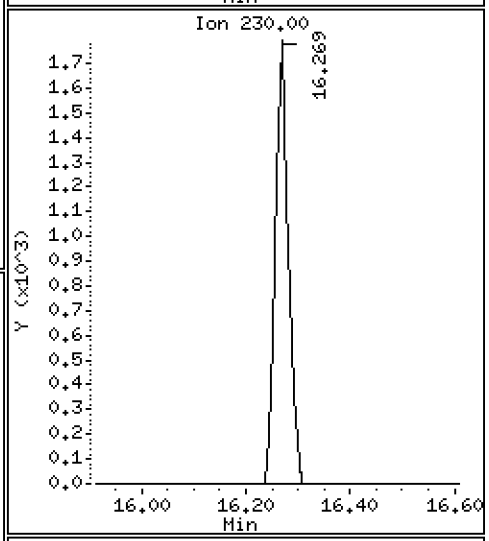


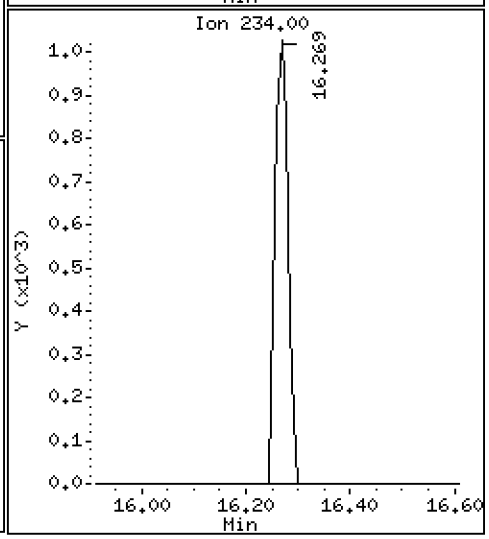












ARI Labs, Inc.

Semivolatile Report SW846 Method 8270D

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Inj Date : 20-AUG-2021 09:39
Operator : VTS Inst ID: nt10.i
Smp Info : SJH0258-LCV1
Misc Info :
Comment : 1ul Injection
Method : \\target\share\chem3\nt10.i\20210820.b\ABN.m
Meth Date : 20-Aug-2021 10:11 van Quant Type: ISTD
Cal Date : 19-AUG-2021 18:48 Cal File: NT1021081912.D
Als bottle: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICAL.sub
Target Version: 4.14
Processing Host: VANS-202011

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
$	1 2-Fluorophenol	112	7.192	7.184	(0.762)	25797	0.77815	0.7781
$	2 Phenol-d5	99	8.768	8.760	(0.929)	32722	0.68964	0.6896
	3 Phenol	94	8.791	8.784	(0.932)	22414	0.51613	0.5161
$	5 2-Chlorophenol-d4	132	9.069	9.062	(0.961)	25411	0.75181	0.7518
	4 Bis(2-Chloroethyl)ether	93	8.961	8.961	(0.950)	17086	0.53775	0.5378
	6 2-Chlorophenol	128	9.100	9.092	(0.965)	17649	0.48977	0.4898
	7 1,3-Dichlorobenzene	146	9.371	9.363	(0.993)	19440	0.51884	0.5188
*	8 1,4-Dichlorobenzene-d4	152	9.433	9.425	(1.000)	99160	4.00000	
	9 1,4-Dichlorobenzene	146	9.464	9.456	(1.003)	14457	0.50965	0.5097
$	10 1,2-Dichlorobenzene-d4	152	9.798	9.790	(1.039)	11720	0.51047	0.5105
	12 1,2-Dichlorobenzene	146	9.821	9.813	(1.041)	16041	0.49690	0.4969
	11 Benzyl alcohol	108	9.697	9.689	(1.028)	8272	0.41409	0.4141
	14 2,2'-oxybis(1-Chloropropane)	121	9.992	9.984	(1.059)	4676	0.48838	0.4884(M)
	13 2-Methylphenol	108	9.914	9.907	(1.051)	12921	0.46975	0.4697
	17 Hexachloroethane	117	10.419	10.411	(1.104)	6066	0.49445	0.4944
	16 N-Nitroso-di-n-propylamine	70	10.248	10.240	(1.086)	9431	0.48878	0.4888
	15 4-Methylphenol	108	10.178	10.171	(1.079)	13329	0.45367	0.4537
$	18 Nitrobenzene-d5	82	10.527	10.520	(0.883)	16350	0.48612	0.4861
	19 Nitrobenzene	77	10.566	10.559	(0.886)	15641	0.50439	0.5044
	20 Isophorone	82	11.001	11.001	(0.923)	19909	0.41543	0.4154
	21 2-Nitrophenol	139	11.194	11.186	(0.939)	7268	0.41155	0.4116
	22 2,4-Dimethylphenol	107	11.228	11.220	(0.942)	27953	1.02572	1.026
	23 Bis(2-Chloroethoxy)methane	93	11.423	11.415	(0.958)	15015	0.53074	0.5307
	24 Benzoic acid	105	11.330	11.424	(0.950)	5229	0.37996	0.3800(H)
	25 2,4-Dichlorophenol	162	11.644	11.636	(0.977)	25663	0.91887	0.9189
	26 1,2,4-Trichlorobenzene	180	11.835	11.828	(0.993)	14611	0.54051	0.5405
*	27 Naphthalene-d8	136	11.920	11.921	(1.000)	321228	4.00000	
	28 Naphthalene	128	11.967	11.959	(1.004)	37998	0.47681	0.4768
	29 4-Chloroaniline	127	12.082	12.083	(1.014)	28515	0.73852	0.7385
	30 Hexachlorobutadiene	225	12.314	12.307	(1.033)	7614	0.51197	0.5120
	31 4-Chloro-3-methylphenol	107	13.034	13.027	(1.093)	21058	0.75033	0.7503
	32 2-Methylnaphthalene	142	13.351	13.352	(1.120)	33624	0.44213	0.4421
	33 Hexachlorocyclopentadiene	237	13.816	13.816	(0.889)	5831	0.44266	0.4427

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
	34 2,4,6-Trichlorophenol	196	13.978	13.971	(0.900)	14381	0.77193	0.7719
	35 2,4,5-Trichlorophenol	196	14.056	14.048	(0.905)	15918	0.81332	0.8133
$	36 2-Fluorobiphenyl	172	14.125	14.125	(0.909)	36746	0.50063	0.5006
	37 2-Chloronaphthalene	162	14.350	14.350	(0.924)	29049	0.49714	0.4971
	38 2-Nitroaniline	65	14.605	14.605	(0.940)	14882	0.85776	0.8578
	39 Dimethylphthalate	163	15.023	15.016	(0.967)	32759	0.54368	0.5437
	40 Acenaphthylene	152	15.224	15.225	(0.980)	47447	0.52113	0.5211
	41 2,6-Dinitrotoluene	165	15.170	15.170	(0.977)	12894	0.96898	0.9690
*	42 Acenaphthene-d10	164	15.534	15.534	(1.000)	183716	4.00000	
	43 3-Nitroaniline	138	15.456	15.457	(0.995)	13849	0.77296	0.7730
	44 Acenaphthene	153	15.603	15.604	(1.004)	23374	0.48537	0.4854
	45 2,4-Dinitrophenol	184	15.681	15.673	(1.009)	1856	0.26534	0.2653
	46 Dibenzofuran	168	15.928	15.928	(1.025)	40141	0.46907	0.4691
	47 4-Nitrophenol	109	15.804	15.766	(1.017)	3604	0.55542	0.5554(M)
	48 2,4-Dinitrotoluene	165	15.982	15.982	(1.029)	15221	0.81943	0.8194
	50 Diethylphthalate	149	16.469	16.469	(1.060)	27267	0.50205	0.5021
	49 Fluorene	166	16.647	16.639	(1.072)	40079	0.52771	0.5277
	51 4-Chlorophenyl-phenylether	204	16.624	16.616	(1.070)	17600	0.51772	0.5177
	52 4-Nitroaniline	138	16.732	16.732	(1.077)	16482	0.88473	0.8847
	53 4,6-Dinitro-2-methylphenol	198	16.824	16.824	(0.905)	15670	1.17740	1.177
	54 N-Nitrosodiphenylamine	169	16.870	16.871	(0.908)	26712	0.55455	0.5546
$	55 2,4,6-Tribromophenol	330	17.187	17.179	(1.106)	4009	0.57405	0.5741
	56 4-Bromophenyl-phenylether	248	17.634	17.626	(0.949)	9110	0.47185	0.4718
	57 Hexachlorobenzene	284	17.958	17.951	(0.966)	10003	0.54654	0.5465
	58 Pentachlorophenol	266	18.322	18.307	(0.986)	2211	0.33007	0.3301
*	59 Phenanthrene-d10	188	18.585	18.578	(1.000)	322041	4.00000	
	60 Phenanthrene	178	18.632	18.632	(1.002)	38395	0.48833	0.4883
	61 Anthracene	178	18.725	18.725	(1.007)	37443	0.44324	0.4432
	62 Carbazole	167	19.050	19.050	(1.025)	38945	0.44763	0.4476
	63 Di-n-butylphthalate	149	19.808	19.800	(1.066)	45535	0.42305	0.4230
	64 Fluoranthene	202	20.999	20.999	(0.889)	49956	0.46445	0.4645
	65 Pyrene	202	21.425	21.425	(0.908)	53190	0.48183	0.4818
$	66 Terphenyl-d14	244	21.688	21.688	(0.919)	36925	0.53231	0.5323
	67 Butylbenzylphthalate	149	22.601	22.594	(0.957)	23642	0.54417	0.5442
	68 Benzo(a)anthracene	228	23.577	23.577	(0.999)	42527	0.49539	0.4954
*	69 Chrysene-d12	240	23.608	23.608	(1.000)	245723	4.00000	
	70 3,3'-Dichlorobenzidine	252	23.523	23.523	(0.996)	47470	1.38986	1.390
	71 Chrysene	228	23.647	23.647	(1.002)	32702	0.48052	0.4805
	72 bis(2-Ethylhexyl)phthalate	149	23.616	23.608	(0.959)	18455	0.46404	0.4640
*	134 Di-n-octylphthalate-d4	153	24.638	24.638	(1.000)	413245	4.00000	
	73 Di-n-octylphthalate	149	24.645	24.646	(1.000)	47461	0.52110	0.5211
	74 Benzo(b)fluoranthene	252	25.574	25.575	(0.968)	36985	0.45900	0.4590
	75 Benzo(k)fluoranthene	252	25.621	25.621	(0.970)	40001	0.50640	0.5064
	76 Benzo(a)pyrene	252	26.302	26.295	(0.995)	32558	0.45740	0.4574
*	77 Perylene-d12	264	26.426	26.426	(1.000)	219019	4.00000	
	78 Indeno(1,2,3-cd)pyrene	276	29.378	29.371	(1.112)	36899	0.50180	0.5018
	79 Dibenzo(a,h)anthracene	278	29.394	29.394	(1.112)	29106	0.51737	0.5174
	80 Benzo(g,h,i)perylene	276	30.264	30.264	(1.145)	31639	0.49270	0.4927
	90 N-Nitrosodimethylamine	74	5.029	5.013	(0.533)	22402	1.04932	1.049
	91 Aniline	93	8.884	8.876	(0.942)	50018	1.00886	1.009
	93 Benzidine	184	21.224	21.216	(0.899)	34540	0.74194	0.7419
	103 Pyridine	79	5.067	5.037	(0.537)	36070	0.53480	0.5348
	105 1-methylnaphthalene	142	13.583	13.576	(1.140)	32270	0.43991	0.4399
	111 Azobenzene (1,2-DP-Hydrazine)	77	16.948	16.948	(1.091)	34326	0.54775	0.5477

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/mL)	FINAL (ug/mL)
187 Total Benzofluoranthenes	252	25.574	25.621	(0.968)	74843	0.97358	0.9736
120 2,3,4,6-Tetrachlorophenol	232	16.268	16.261	(1.047)	3723	0.27836	0.2784

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Data File: \\target\share\chem3\nt10.i\20210820.b\NT1021082003.D Page 1
Report Date: 24-Aug-2021 11:24

ARI Labs, Inc.

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: nt10.i
Lab File ID: NT1021082003.D
Lab Smp Id: SJH0258-LCV1
Analysis Type: SV
Quant Type: ISTD
Operator: VTS
Method File: \\target\share\chem3\nt10.i\20210820.b\ABN.m
Misc Info:

Calibration Date: 20-AUG-2021
Calibration Time: 08:41
Level:
Sample Type:

Test Mode:
Use Last Continuing Calibrator.

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	77766	38883	155532	99160	27.51
27 Naphthalene-d8	262289	131145	524578	321228	22.47
42 Acenaphthene-d10	161630	80815	323260	183716	13.66
59 Phenanthrene-d10	276890	138445	553780	322041	16.31
69 Chrysene-d12	212964	106482	425928	245723	15.38
134 Di-n-octylphthala	413838	206919	827676	413245	-0.14
77 Perylene-d12	196991	98496	393982	219019	11.18

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
8 1,4-Dichlorobenze	9.43	8.93	9.93	9.43	0.08
27 Naphthalene-d8	11.92	11.42	12.42	11.92	-0.00
42 Acenaphthene-d10	15.53	15.03	16.03	15.53	-0.00
59 Phenanthrene-d10	18.58	18.08	19.08	18.59	0.04
69 Chrysene-d12	23.61	23.11	24.11	23.61	-0.00
134 Di-n-octylphthala	24.64	24.14	25.14	24.64	-0.00
77 Perylene-d12	26.43	25.93	26.93	26.43	-0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

REVIEW SUMMARY FOR FILE - NT1021082003.D

Lab ID: SJH0258-LCV1
nt10.i, ABN.m, 20-AUG-2021 09:39

RT	CO-ELUTION COMPOUNDS
	NO CO-ELUTIONS

Quant Method: ICAL

RRT CHECK

RRT	CCV RRT	DELTA	COMPOUND
0.950	0.958	-0.0078	Benzoic acid

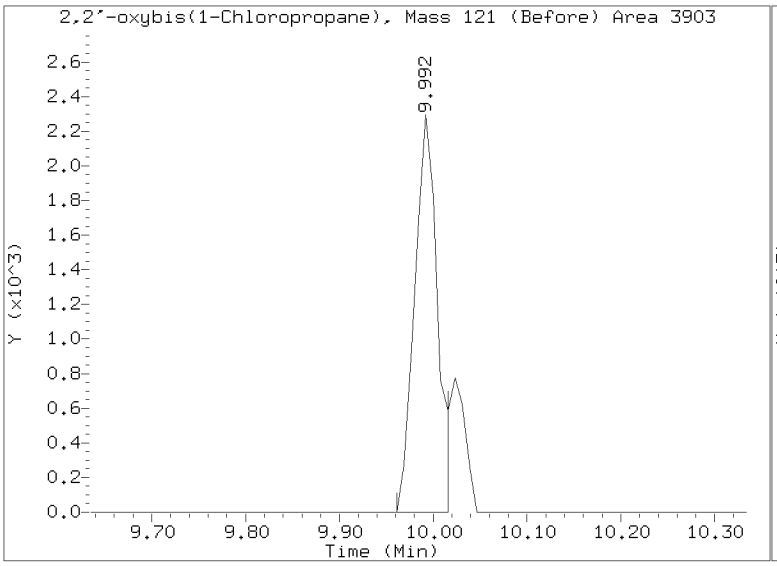
RRT check based on Ccal File: NT1021082002.D

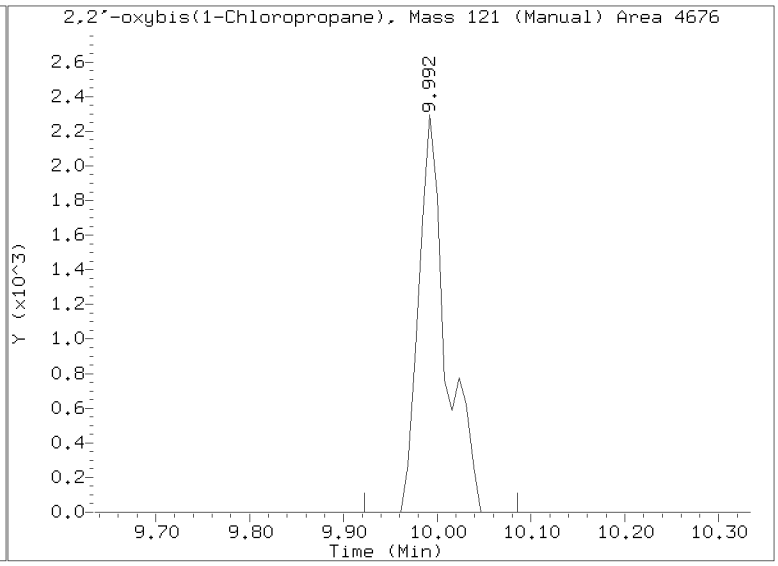
On Column LOD for nt10.i, ABN.m, ICAL.sub = 0.0000

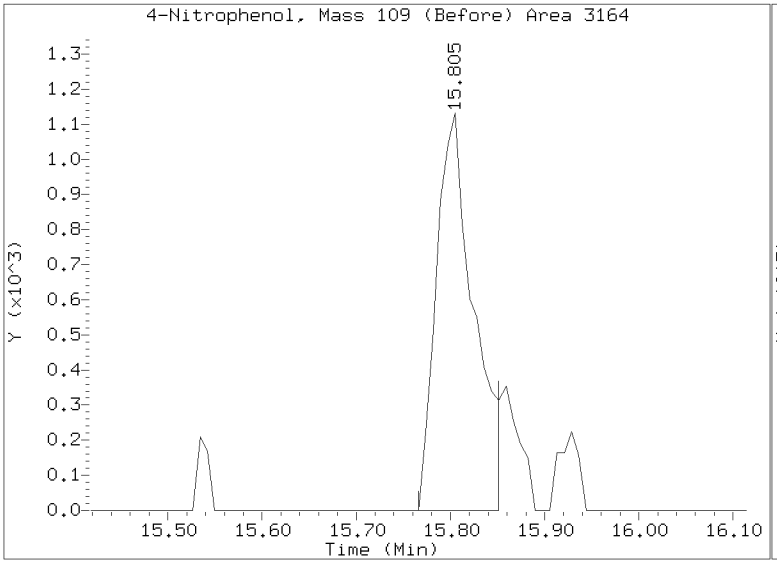
* Only compounds listed in the work order have been verified by the analyst *

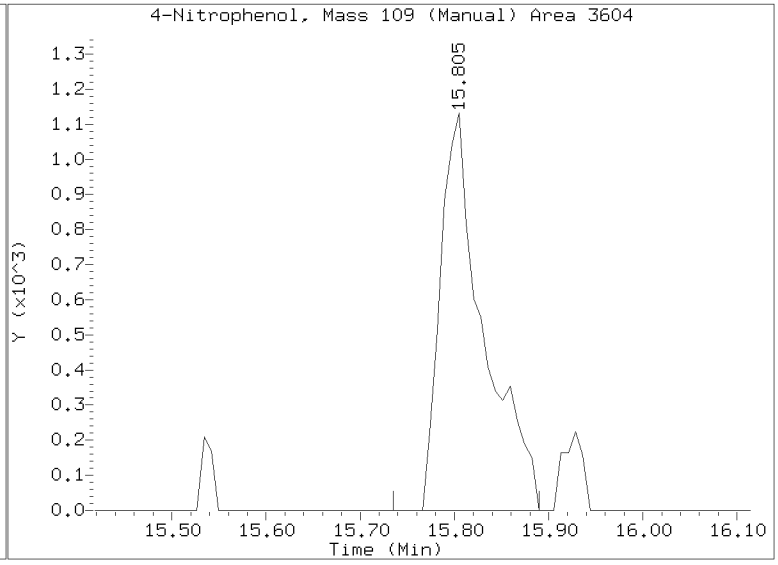
Quant Ion Manual Peak Adjustment Report

Datafile: //target/share/chem3/nt10.i/20210820.b/NT1021082003.D
Injection Date: 20-AUG-2021 09:39
Lab ID:SJH0258-LCV1 Client ID:
Report Date: 08/24/2021 11:24









Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0235	Instrument:	NT10
		Calibration:	EH00053

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SJH0235-TUN1	NT1021081905.D	NA	08/19/21 14:35
CAL 5	SJH0235-CAL5	NT1021081906.D	NA	08/19/21 14:58
CAL 20	SJH0235-CAL7	NT1021081907.D	NA	08/19/21 15:36
CAL 0.2	SJH0235-CAL1	NT1021081908.D	NA	08/19/21 16:15
CAL 10	SJH0235-CAL6	NT1021081909.D	NA	08/19/21 16:53
CAL 0.5	SJH0235-CAL2	NT1021081910.D	NA	08/19/21 17:31
CAL 2.5	SJH0235-CAL4	NT1021081911.D	NA	08/19/21 18:09
CAL 1.0	SJH0235-CAL3	NT1021081912.D	NA	08/19/21 18:48
SCV 5.0	SJH0235-SCV1	NT1021081915.D	NA	08/19/21 20:42
Initial Cal Blank	SJH0235-ICB1	NT1021081916.D	NA	08/19/21 21:20

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/21/2021 1:53:28PM

ANALYSIS SEQUENCE

SJH0235

Instrument: NT10 Element Column ID: J008063
Calibration ID: EH00053 Tune File: 210819.U
EM Voltage: 1900

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0235-TUN1	MS Tune	QC		1	J006358	J002469	
SJH0235-CAL5	CAL 5	QC		2	J008834	J002469	
SJH0235-CAL7	CAL 20	QC		3	J008836	J002469	
SJH0235-CAL1	CAL 0.2	QC		4	J008828	J002469	
SJH0235-CAL6	CAL 10	QC		5	J008835	J002469	
SJH0235-CAL2	CAL 0.5	QC		6	J008831	J002469	
SJH0235-CAL4	CAL 2.5	QC		7	J008833	J002469	
SJH0235-CAL3	CAL 1.0	QC		8	J008832	J002469	
SJH0235-SCV1	SCV 5.0	QC		9	J008837	J002469	
SJH0235-ICB1	Initial Cal Blank	QC		10	J008838	J002469	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210819.b

	Time	Filename	LabID	ClientId	DF													
1	1435	NT1021081905.D	SJH0235-TUN1		1	|NO ISTDS FOUND||												
2	1458	NT1021081906.D	SJH0235-CAL5		1	| 9.43	97518	||11.92	336155	||15.53	204971	||18.59	357720	||23.61	291052	||26.43	273109	||24.64	588887|
3	1536	NT1021081907.D	SJH0235-CAL7		1	| 9.43	63872	||11.92	216866	||15.54	139621	||18.59	235813	||23.61	196773	||26.43	184324	||24.64	422665|
4	1615	NT1021081908.D	SJH0235-CAL1		1	| 9.43	111186	||11.91	362380	||15.53	201986	||18.58	347157	||23.60	271742	||26.42	244625	||24.63	492317|
5	1653	NT1021081909.D	SJH0235-CAL6		1	| 9.43	76425	||11.92	258836	||15.53	161817	||18.58	285323	||23.61	226646	||26.43	209239	||24.64	476779|
6	1731	NT1021081910.D	SJH0235-CAL2		1	| 9.43	104470	||11.91	340466	||15.53	197027	||18.58	340715	||23.60	268590	||26.42	241218	||24.63	484857|
7	1809	NT1021081911.D	SJH0235-CAL4		1	| 9.43	83542	||11.92	276508	||15.53	168481	||18.58	296582	||23.60	238624	||26.43	221651	||24.64	448647|
8	1848	NT1021081912.D	SJH0235-CAL3		1	| 9.43	98537	||11.91	324274	||15.53	195945	||18.58	332620	||23.60	268052	||26.42	243444	||24.63	490203|
9	1926	NT1021081913.D	SIM-CAL2		1	| 9.43	107402	||11.91	343652	||15.53	193479	||18.58	331995	||23.60	258848	||26.42	232116	||24.63	437388|
10	2004	NT1021081914.D	SIM-CAL1		1	| 9.43	109982	||11.91	354966	||15.53	194314	||18.58	339087	||23.60	264409	||26.42	237449	||24.64	452795|
11	2042	NT1021081915.D	SJH0235-SCV1		1	| 9.43	86567	||11.92	286011	||15.54	175555	||18.59	315282	||23.61	260128	||26.43	235857	||24.64	500551|
12	2120	NT1021081916.D	SJH0235-ICB1		1	| 9.43	96156	||11.92	334081	||15.53	189445	||18.58	329398	||23.60	256298	||26.42	233002	||24.63	434712|

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210819.b

Instrument: nt10.i Date: 19-AUG-2021

Time	Filename	LabID	DF	Manually Integrated Compounds
1435	NT1021081905.D	SJH0235-TUN1	1	NO MANUAL INTEGRATION
1458	NT1021081906.D	SJH0235-CAL5	1	2,2'-oxybis(1-Chloropropane),
1536	NT1021081907.D	SJH0235-CAL7	1	2,2'-oxybis(1-Chloropropane),
1615	NT1021081908.D	SJH0235-CAL1	1	Benzoic acid, 4-Nitrophenol, Pentachlorophenol, Benzo(g,h,i)perylene,
1653	NT1021081909.D	SJH0235-CAL6	1	2,2'-oxybis(1-Chloropropane),
1731	NT1021081910.D	SJH0235-CAL2	1	2,4-Dinitrophenol, 4-Nitrophenol,
1809	NT1021081911.D	SJH0235-CAL4	1	2,2'-oxybis(1-Chloropropane),
1848	NT1021081912.D	SJH0235-CAL3	1	2,2'-oxybis(1-Chloropropane), 4-Nitrophenol,
1926	NT1021081913.D	SIM-CAL2	1	NO MANUAL INTEGRATION
2004	NT1021081914.D	SIM-CAL1	1	NO MANUAL INTEGRATION
2042	NT1021081915.D	SJH0235-SCV1	1	NO MANUAL INTEGRATION
2120	NT1021081916.D	SJH0235-ICB1	1	NO MANUAL INTEGRATION

Security Status Report

Date: 21-Aug-2021 13:54

NT1021081905.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081906.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081907.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081908.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081909.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081910.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081911.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081912.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081913.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081914.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081915.D	Data Locked	van, 21-Aug-2021 13:54
NT1021081916.D	Data Locked	van, 21-Aug-2021 13:54

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0258	Instrument:	NT10
		Calibration:	EH00053

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
MS Tune	SJH0258-TUN1	NT1021082001.D	NA	08/20/21 08:26
Initial Cal Check	SJH0258-ICV1	NT1021082002.D	NA	08/20/21 08:41
ABN 0.5	SJH0258-LCV1	NT1021082003.D	NA	08/20/21 09:39
Blank	BJH0139-BLK1	NT1021082004.D	Solid	08/20/21 10:22
LCS	BJH0139-BS1	NT1021082005.D	Solid	08/20/21 11:00
LDW21-SC530	21G0305-07	NT1021082007.D	Solid	08/20/21 12:16
LDW21-SC530	BJH0139-MS1	NT1021082008.D	Solid	08/20/21 12:54
LDW21-SC530	BJH0139-MSD1	NT1021082009.D	Solid	08/20/21 13:32
ZZZZZ	BJH0178-BLK1	NT1021082010.D	Solid	08/20/21 14:10
ZZZZZ	BJH0178-BS1	NT1021082011.D	Solid	08/20/21 14:48
ZZZZZ	21G0322-05	NT1021082012.D	Solid	08/20/21 15:26
ZZZZZ	21G0322-06	NT1021082015.D	Solid	08/20/21 17:20
ZZZZZ	21G0322-07	NT1021082016.D	Solid	08/20/21 17:58
ZZZZZ	21G0322-08	NT1021082017.D	Solid	08/20/21 18:36
ZZZZZ	21G0322-09	NT1021082018.D	Solid	08/20/21 19:14
Calibration Check	SJH0258-CCV1	NT1021082019.D	NA	08/20/21 19:51

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/24/2021 12:27:47PM

ANALYSIS SEQUENCE

SJH0258

Instrument: NT10 Element Column ID: J008063
Calibration ID: EH00053 Tune File: 210819.U
EM Voltage: 1900

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0258-TUN1	MS Tune	QC		1	J006358	J002469	
SJH0258-ICV1	Initial Cal Check	QC		2	J008834	J002469	
SJH0258-LCV1	ABN 0.5	QC		3	J008831	J002469	
BJH0139-BLK1	Blank	QC		4		J002469	
BJH0139-BS1	LCS	QC		5		J002469	
BJH0139-SRM1	Reference	QC		6		J002469	
21G0305-07	LDW21-SC530	SVOC (20ug/kg solid or 0.2ug/L low H2C	B 02	7		J002469	
BJH0139-MS1	Matrix Spike	QC		8		J002469	
BJH0139-MSD1	Matrix Spike Dup	QC		9		J002469	
BJH0178-BLK1	Blank	QC		10		J002469	
BJH0178-BS1	LCS	QC		11		J002469	
21G0322-05	WW-P1CM-03-SS-210726	SVOC (20ug/kg solid or 0.2ug/L low H2C	C 01	12		J002469	Version
BJH0178-MS1	Matrix Spike	QC		13		J002469	
BJH0178-MSD1	Matrix Spike Dup	QC		14		J002469	
21G0322-06	WW-P1CM-103-SS-210726	SVOC (20ug/kg solid or 0.2ug/L low H2C	B 01	15		J002469	Version
21G0322-07	WW-P1CM-04-SS-210726	SVOC (20ug/kg solid or 0.2ug/L low H2C	B 01	16		J002469	Version
21G0322-08	WC-14-SS-0-12-210723	SVOC (20ug/kg solid or 0.2ug/L low H2C	C 01	17		J002469	Version
21G0322-09	WC-11-SS-0-12-210723	SVOC (20ug/kg solid or 0.2ug/L low H2C	C 01	18		J002469	Version
SJH0258-CCV1	Calibration Check	QC		19	J008834	J002469	

INTERNAL STANDARD SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210820.b

	Time	Filename	LabID	ClientId	DF																	
1	0826	NT1021082001.D	SJH0258-TUN1		1	|NO ISTDS FOUND||																
2	0841	NT1021082002.D	SJH0258-ICV1		1	| 9.43	77766	||11.92	262289	||15.53	161630	||18.58	276890	||23.61	212964	||26.43	196991	||24.64	413838|		
3	0939	NT1021082003.D	SJH0258-LCV1		1	| 9.43	99160	||11.92	321228	||15.53	183716	||18.59	322041	||23.61	245723	||26.43	219019	||24.64	413245|		
4	1022	NT1021082004.D	BJH0139-BLK1		1	| 9.43	92234	||11.92	324906	||15.54	184453	||18.59	321224	||23.61	250822	||26.43	222225	||24.64	419717|		
5	1100	NT1021082005.D	BJH0139-BS1		1	| 9.43	77200	||11.92	259961	||15.53	158491	||18.59	278239	||23.60	228056	||26.43	208971	||24.64	447711|		
6	1138	NT1021082006.D	BJH0139-SRM1		1	| 9.43	77302	||11.92	266427	||15.53	171300	||18.58	280094	||23.60	238095	||26.42	200964	||24.64	465105|		
7	1216	NT1021082007.D	21G0305-07		1	| 9.43	87295	||11.92	306365	||15.53	167528	||18.59	272105	||23.61	160357	||26.43	142103	||24.64	289189|		
8	1254	NT1021082008.D	BJH0139-MS1		1	| 9.43	64910	||11.92	229611	||15.53	135806	||18.59	214627	||23.61	137124	||26.44	122271	||24.64	257697|		
9	1332	NT1021082009.D	BJH0139-MSD1		1	| 9.43	61950	||11.92	218536	||15.54	128900	||18.59	198636	||23.62	129059	||26.44	113184	||24.65	240211|		
10	1410	NT1021082010.D	BJH0178-BLK1		1	| 9.43	66955	||11.92	258303	||15.53	141915	||18.59	247722	||23.60	153491	||26.43	136183	||24.64	294772|		
11	1448	NT1021082011.D	BJH0178-BS1		1	| 9.43	58531	||11.92	205986	||15.54	128196	||18.59	218454	||23.61	161553	||26.43	146292	||24.64	325628|		
12	1526	NT1021082012.D	21G0322-05		1	| 9.43	71086	||11.92	256074	||15.53	139442	||18.59	210370	||23.61	129997	||26.43	118236	||24.64	245072|		
13	1604	NT1021082013.D	BJH0178-MS1		1	| 9.43	55315	||11.92	198905	||15.54	116415	||18.59	181657	||23.62	120735	||26.44	109144	||24.65	233567|		
14	1642	NT1021082014.D	BJH0178-MSD1		1	| 9.43	57648	||11.92	205304	||15.54	120339	||18.59	189824	||23.62	129736	||26.45	113785	||24.65	248342|		
15	1720	NT1021082015.D	21G0322-06		1	| 9.43	67087	||11.92	250516	||15.54	132221	||18.59	206406	||23.61	120329	||26.44	112567	||24.65	238460|		
16	1758	NT1021082016.D	21G0322-07		1	| 9.43	63430	||11.92	239244	||15.54	135616	||18.59	217137	||23.61	127613	||26.44	114933	||24.64	245750|		
17	1836	NT1021082017.D	21G0322-08		1	| 9.43	65409	||11.92	243670	||15.54	141620	||18.59	234979	||23.61	135452	||26.44	109148	||24.65	242095|		
18	1914	NT1021082018.D	21G0322-09		1	| 9.43	67328	||11.92	252569	||15.54	142837	||18.59	237156	||23.62	129507	||26.46	91146	||24.65	224238|		
19	1951	NT1021082019.D	SJH0258-CCV1		1	| 9.43	55898	||11.92	196047	||15.54	115847	||18.59	188742	||23.62	126825	||26.44	110449	||24.64	249102|		

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem3\nt10.i\20210820.b

Instrument: nt10.i Date: 20-AUG-2021

Time	Filename	LabID	DF	Manually Integrated Compounds
0826	NT1021082001.D	SJH0258-TUN1	1	NO MANUAL INTEGRATION
0841	NT1021082002.D	SJH0258-ICV1	1	2,2'-oxybis(1-Chloropropane),
0939	NT1021082003.D	SJH0258-LCV1	1	2,2'-oxybis(1-Chloropropane), 4-Nitrophenol,
1022	NT1021082004.D	BJH0139-BLK1	1	NO MANUAL INTEGRATION
1100	NT1021082005.D	BJH0139-BS1	1	Dibenzo(a,h)anthracene,
1138	NT1021082006.D	BJH0139-SRM1	1	NO MANUAL INTEGRATION
1216	NT1021082007.D	21G0305-07	1	Benzyl alcohol, Benzoic acid, Dibenzo(a,h)anthracene,
1254	NT1021082008.D	BJH0139-MS1	1	NO MANUAL INTEGRATION
1332	NT1021082009.D	BJH0139-MSD1	1	4-Chloroaniline,
1410	NT1021082010.D	BJH0178-BLK1	1	NO MANUAL INTEGRATION
1448	NT1021082011.D	BJH0178-BS1	1	NO MANUAL INTEGRATION
1526	NT1021082012.D	21G0322-05	1	Benzo(k)fluoranthene,
1604	NT1021082013.D	BJH0178-MS1	1	NO MANUAL INTEGRATION
1642	NT1021082014.D	BJH0178-MSD1	1	NO MANUAL INTEGRATION
1720	NT1021082015.D	21G0322-06	1	Dibenzo(a,h)anthracene,
1758	NT1021082016.D	21G0322-07	1	Dibenzo(a,h)anthracene,
1836	NT1021082017.D	21G0322-08	1	Benzo(k)fluoranthene, Dibenzo(a,h)anthracene,

Instrument: nt10.i Date: 20-AUG-2021

Time	Filename	LabID	DF	Manually Integrated Compounds
1914	NT1021082018.D	21G0322-09	1	Benzoic acid, Benzo(k)fluoranthene, Indeno(1,2,3-cd)pyrene,
1951	NT1021082019.D	SJH0258-CCV1	1	2,2'-oxybis(1-Chloropropane),

Security Status Report

Date: 24-Aug-2021 12:30

NT1021082001.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082002.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082003.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082004.D	Data Locked	van, 24-Aug-2021 12:30
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NT1021082006.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082007.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082008.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082009.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082010.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082011.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082012.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082013.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082014.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082015.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082016.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082017.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082018.D	Data Locked	van, 24-Aug-2021 12:30
NT1021082019.D	Data Locked	van, 24-Aug-2021 12:30

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0235	Instrument:	NT10
Calibration:	EH00053	Calibration Date:	08/19/2021

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0235-ICB1 (Water)			Lab File ID: NT1021081916.D				Analyzed: 08/19/21 21:20	
2-Fluorophenol	7.5000	84.5	30 - 160	7.184	7.189714	-0.0057	N/A	
Phenol-d5	7.5000	80.4	30 - 160	8.76	8.768143	-0.0081	N/A	
2-Chlorophenol-d4	7.5000	95.4	30 - 160	9.061	9.065857	-0.0049	N/A	
1,2-Dichlorobenzene-d4	5.0000	95.8	30 - 160	9.79	9.792286	-0.0023	N/A	
Nitrobenzene-d5	5.0000	89.2	30 - 160	10.52	10.52343	-0.0034	N/A	
2-Fluorobiphenyl	5.0000	91.4	30 - 160	14.125	14.12643	-0.0014	N/A	
2,4,6-Tribromophenol	7.5000	85.1	30 - 160	17.179	17.18129	-0.0023	N/A	
p-Terphenyl-d14	5.0000	93.8	30 - 160	21.688	21.688	0.0000	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0258	Instrument:	NT10
Calibration:	EH00053	Calibration Date:	08/19/2021

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0258-ICV1 (Water)			Lab File ID: NT1021082002.D				Analyzed: 08/20/21 08:41	
2-Fluorophenol	7.5000	106	80 - 120	7.184	7.189714	-0.0057	N/A	
Phenol-d5	7.5000	106	80 - 120	8.76	8.768143	-0.0081	N/A	
2-Chlorophenol-d4	7.5000	99.1	80 - 120	9.062	9.065857	-0.0039	N/A	
1,2-Dichlorobenzene-d4	5.0000	99.4	80 - 120	9.79	9.792286	-0.0023	N/A	
Nitrobenzene-d5	5.0000	99.4	80 - 120	10.52	10.52343	-0.0034	N/A	
2-Fluorobiphenyl	5.0000	101	80 - 120	14.125	14.12643	-0.0014	N/A	
2,4,6-Tribromophenol	7.5000	97.5	80 - 120	17.179	17.18129	-0.0023	N/A	
p-Terphenyl-d14	5.0000	100	80 - 120	21.688	21.688	0.0000	N/A	
SJH0258-LCV1 (Water)			Lab File ID: NT1021082003.D				Analyzed: 08/20/21 09:39	
2-Fluorophenol	0.75000	104	50 - 150	7.192	7.189714	0.0023	N/A	
Phenol-d5	0.75000	92.0	50 - 150	8.768	8.768143	-0.0001	N/A	
2-Chlorophenol-d4	0.75000	100	50 - 150	9.069	9.065857	0.0031	N/A	
1,2-Dichlorobenzene-d4	0.50000	102	50 - 150	9.798	9.792286	0.0057	N/A	
Nitrobenzene-d5	0.50000	97.2	50 - 150	10.527	10.52343	0.0036	N/A	
2-Fluorobiphenyl	0.50000	100	50 - 150	14.125	14.12643	-0.0014	N/A	
2,4,6-Tribromophenol	0.75000	76.5	50 - 150	17.187	17.18129	0.0057	N/A	
p-Terphenyl-d14	0.50000	106	50 - 150	21.688	21.688	0.0000	N/A	
BJH0139-BLK1 (Solid)			Lab File ID: NT1021082004.D				Analyzed: 08/20/21 10:22	
p-Terphenyl-d14	500.00	89.8	37 - 120	21.688	21.688	0.0000	N/A	
BJH0139-BS1 (Solid)			Lab File ID: NT1021082005.D				Analyzed: 08/20/21 11:00	
p-Terphenyl-d14	500.00	95.1	37 - 120	21.688	21.688	0.0000	N/A	
21G0305-07 (Solid)			Lab File ID: NT1021082007.D				Analyzed: 08/20/21 12:16	
p-Terphenyl-d14	499.95	91.7	37 - 120	21.688	21.688	0.0000	N/A	
BJH0139-MS1 (Solid)			Lab File ID: NT1021082008.D				Analyzed: 08/20/21 12:54	
p-Terphenyl-d14	499.95	93.3	37 - 120	21.688	21.688	0.0000	N/A	
BJH0139-MSD1 (Solid)			Lab File ID: NT1021082009.D				Analyzed: 08/20/21 13:32	
p-Terphenyl-d14	499.95	92.3	37 - 120	21.696	21.688	0.0080	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0258	Instrument:	NT10
Calibration:	EH00053	Calibration Date:	08/19/2021

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0258-CCV1 (Water)			Lab File ID: NT1021082019.D				Analyzed: 08/20/21 19:51	
2-Fluorophenol	7.5000	103	50 - 150	7.192	7.189714	0.0023	N/A	
Phenol-d5	7.5000	105	50 - 150	8.776	8.768143	0.0079	N/A	
2-Chlorophenol-d4	7.5000	99.5	50 - 150	9.069	9.065857	0.0031	N/A	
1,2-Dichlorobenzene-d4	5.0000	95.2	50 - 150	9.798	9.792286	0.0057	N/A	
Nitrobenzene-d5	5.0000	104	50 - 150	10.528	10.52343	0.0046	N/A	
2-Fluorobiphenyl	5.0000	94.1	50 - 150	14.133	14.12643	0.0066	N/A	
2,4,6-Tribromophenol	7.5000	106	50 - 150	17.187	17.18129	0.0057	N/A	
p-Terphenyl-d14	5.0000	101	50 - 150	21.696	21.688	0.0080	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0235	Instrument:	NT10
		Calibration:	EH00053

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SJH0235-SCV1)		(Water)		Lab File ID: NT1021081915.D				Analyzed: 08/19/21 20:42	
1,4-Dichlorobenzene-d4	86567	9.433	97518	9.433	89	50 - 200	0.000	+/-0.50	
Naphthalene-d8	286011	11.921	336155	11.921	85	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	175555	15.542	204971	15.534	86	50 - 200	0.008	+/-0.50	
Phenanthrene-d10	315282	18.586	357720	18.586	88	50 - 200	0.000	+/-0.50	
Chrysene-d12	260128	23.608	291052	23.608	89	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	500551	24.638	588887	24.638	85	50 - 200	0.000	+/-0.50	
Perylene-d12	235857	26.427	273109	26.426	86	50 - 200	0.001	+/-0.50	
Initial Cal Blank (SJH0235-ICB1)		(Water)		Lab File ID: NT1021081916.D				Analyzed: 08/19/21 21:20	
1,4-Dichlorobenzene-d4	96156	9.425	97518	9.433	99	50 - 200	-0.008	+/-0.50	
Naphthalene-d8	334081	11.92	336155	11.921	99	50 - 200	-0.001	+/-0.50	
Acenaphthene-d10	189445	15.534	204971	15.534	92	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	329398	18.578	357720	18.586	92	50 - 200	-0.008	+/-0.50	
Chrysene-d12	256298	23.6	291052	23.608	88	50 - 200	-0.008	+/-0.50	
Di-n-Octylphthalate-d4	434712	24.63	588887	24.638	74	50 - 200	-0.008	+/-0.50	
Perylene-d12	233002	26.418	273109	26.426	85	50 - 200	-0.008	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8270E

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0258	Instrument:	NT10
		Calibration:	EH00053

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJH0258-ICV1)		(Water)		Lab File ID: NT1021082002.D				Analyzed: 08/20/21 08:41	
1,4-Dichlorobenzene-d4	77766	9.425	77766	9.425	100	50 - 200	0.000	+/-0.50	
Naphthalene-d8	262289	11.921	262289	11.921	100	50 - 200	0.000	+/-0.50	
Acenaphthene-d10	161630	15.534	161630	15.534	100	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	276890	18.578	276890	18.578	100	50 - 200	0.000	+/-0.50	
Chrysene-d12	212964	23.608	212964	23.608	100	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	413838	24.638	413838	24.638	100	50 - 200	0.000	+/-0.50	
Perylene-d12	196991	26.426	196991	26.426	100	50 - 200	0.000	+/-0.50	
Low Cal Check (SJH0258-LCV1)		(Water)		Lab File ID: NT1021082003.D				Analyzed: 08/20/21 09:39	
1,4-Dichlorobenzene-d4	99160	9.433	77766	9.425	128	50 - 200	0.008	+/-0.50	
Naphthalene-d8	321228	11.92	262289	11.921	122	50 - 200	-0.001	+/-0.50	
Acenaphthene-d10	183716	15.534	161630	15.534	114	50 - 200	0.000	+/-0.50	
Phenanthrene-d10	322041	18.585	276890	18.578	116	50 - 200	0.007	+/-0.50	
Chrysene-d12	245723	23.608	212964	23.608	115	50 - 200	0.000	+/-0.50	
Di-n-Octylphthalate-d4	413245	24.638	413838	24.638	100	50 - 200	0.000	+/-0.50	
Perylene-d12	219019	26.426	196991	26.426	111	50 - 200	0.000	+/-0.50	
Blank (BJH0139-BLK1)		(Solid)		Lab File ID: NT1021082004.D				Analyzed: 08/20/21 10:22	
Chrysene-d12	250822	23.608	212964	23.608	118	50 - 200	0.000	+/-0.50	
LCS (BJH0139-BS1)		(Solid)		Lab File ID: NT1021082005.D				Analyzed: 08/20/21 11:00	
Chrysene-d12	228056	23.6	212964	23.608	107	50 - 200	-0.008	+/-0.50	
LDW21-SC530 (21G0305-07)		(Solid)		Lab File ID: NT1021082007.D				Analyzed: 08/20/21 12:16	
Chrysene-d12	160357	23.608	212964	23.608	75	50 - 200	0.000	+/-0.50	
Matrix Spike (BJH0139-MS1)		(Solid)		Lab File ID: NT1021082008.D				Analyzed: 08/20/21 12:54	
Chrysene-d12	137124	23.608	212964	23.608	64	50 - 200	0.000	+/-0.50	
Matrix Spike Dup (BJH0139-MSD1)		(Solid)		Lab File ID: NT1021082009.D				Analyzed: 08/20/21 13:32	
Chrysene-d12	129059	23.616	212964	23.608	61	50 - 200	0.008	+/-0.50	
Calibration Check (SJH0258-CCV1)		(Water)		Lab File ID: NT1021082019.D				Analyzed: 08/20/21 19:51	
Phenanthrene-d10	188742	18.586	276890	18.578	68	50 - 200	0.008	+/-0.50	
Chrysene-d12	126825	23.616	212964	23.608	60	50 - 200	0.008	+/-0.50	
Di-n-Octylphthalate-d4	249102	24.638	413838	24.638	60	50 - 200	0.000	+/-0.50	
Perylene-d12	110449	26.442	196991	26.426	56	50 - 200	0.016	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HOLDING TIME SUMMARY

Analysis: EPA 8270E

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW21-SC530 21G0305-07	07/22/21 10:44	07/22/21 17:30	08/05/21 10:25	13	14	08/20/21 12:16	15	40	
Matrix Spike BJH0139-MS1	07/22/21 10:44	07/22/21 17:30	08/05/21 10:25	13	14	08/20/21 12:54	15	40	
Matrix Spike Dup BJH0139-MSD1	07/22/21 10:44	07/22/21 17:30	08/05/21 10:25	13	14	08/20/21 13:32	15	40	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument: NT10

Analyte	MDL	RL	Units
Butylbenzylphthalate	9.4	20.0	ug/kg

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8270E

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Matrix: Water Instrument: NT10

Analyte	MDL	RL	Units
Phenol	0.01	0.2	ug/L
bis(2-chloroethyl) ether	0.03	0.2	ug/L
2-Chlorophenol	0.03	0.2	ug/L
1,3-Dichlorobenzene	0.03	0.2	ug/L
1,4-Dichlorobenzene	0.03	0.2	ug/L
1,2-Dichlorobenzene	0.03	0.2	ug/L
Benzyl Alcohol	0.02	0.2	ug/L
2,2'-Oxybis(1-chloropropane)	0.03	0.2	ug/L
2-Methylphenol	0.03	0.2	ug/L
Hexachloroethane	0.04	0.2	ug/L
N-Nitroso-di-n-Propylamine	0.04	0.2	ug/L
4-Methylphenol	0.03	0.2	ug/L
Nitrobenzene	0.03	0.2	ug/L
Isophorone	0.03	0.2	ug/L
2-Nitrophenol	0.04	1.0	ug/L
2,4-Dimethylphenol	0.3	1.0	ug/L
Bis(2-Chloroethoxy)methane	0.03	0.2	ug/L
2,4-Dichlorophenol	0.1	1.0	ug/L
1,2,4-Trichlorobenzene	0.03	0.2	ug/L
Naphthalene	0.03	0.2	ug/L
Benzoic acid	0.1	2.0	ug/L
4-Chloroaniline	0.04	1.0	ug/L
Hexachlorobutadiene	0.04	0.2	ug/L
4-Chloro-3-Methylphenol	0.1	1.0	ug/L
2-Methylnaphthalene	0.03	0.2	ug/L
Hexachlorocyclopentadiene	0.1	1.0	ug/L
2,4,6-Trichlorophenol	0.2	1.0	ug/L
2,4,5-Trichlorophenol	0.1	1.0	ug/L
2-Chloronaphthalene	0.03	0.2	ug/L
2-Nitroaniline	0.2	1.0	ug/L
Acenaphthylene	0.02	0.2	ug/L
Dimethylphthalate	0.04	0.2	ug/L
2,6-Dinitrotoluene	0.2	1.0	ug/L
Acenaphthene	0.03	0.2	ug/L
3-Nitroaniline	0.2	1.0	ug/L
2,4-Dinitrophenol	0.2	2.0	ug/L

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8270E

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Water
Instrument: NT10

Analyte	MDL	RL	Units
Dibenzofuran	0.02	0.2	ug/L
4-Nitrophenol	0.06	1.0	ug/L
2,4-Dinitrotoluene	0.1	1.0	ug/L
Fluorene	0.02	0.2	ug/L
4-Chlorophenylphenyl ether	0.02	0.2	ug/L
Diethyl phthalate	0.06	0.2	ug/L
4-Nitroaniline	0.2	1.0	ug/L
4,6-Dinitro-2-methylphenol	0.4	2.0	ug/L
N-Nitrosodiphenylamine	0.03	0.2	ug/L
4-Bromophenyl phenyl ether	0.02	0.2	ug/L
Hexachlorobenzene	0.04	0.2	ug/L
Pentachlorophenol	0.1	1.0	ug/L
Phenanthrene	0.02	0.2	ug/L
Anthracene	0.03	0.2	ug/L
Carbazole	0.04	0.2	ug/L
Di-n-Butylphthalate	0.05	0.2	ug/L
Fluoranthene	0.03	0.2	ug/L
Pyrene	0.03	0.2	ug/L
Butylbenzylphthalate	0.07	0.2	ug/L
Benzo(a)anthracene	0.04	0.2	ug/L
3,3'-Dichlorobenzidine	0.3	1.0	ug/L
Chrysene	0.04	0.2	ug/L
bis(2-Ethylhexyl)phthalate	0.2	0.2	ug/L
Di-n-Octylphthalate	0.05	0.2	ug/L
Benzofluoranthenes, Total	0.08	0.4	ug/L
Benzo(a)pyrene	0.05	0.2	ug/L
Indeno(1,2,3-cd)pyrene	0.06	0.2	ug/L
Dibenzo(a,h)anthracene	0.07	0.2	ug/L
Benzo(g,h,i)perylene	0.04	0.2	ug/L
1-Methylnaphthalene	0.03	0.2	ug/L

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001941

Printed: 9/25/2013 1:45:31PM

Description:	SVOC 2,4-Dinitrophenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 13:45 by JZ
Vendor:	SIGMA	Lot #:	65H5021
Vendor Catalog #:			

Comments

Neat, Purity @ 90-95%. (ARI#: 0466)

Analyte	CAS Number	Concentration	Units
2,4-Dinitrophenol	51-28-5	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 2,4-Dinitrophenol

Manufacturer: Sigma

Product #: _____

Lot #: bFH 5021

Purity: 90 ~ 94%

Analyst: [illegible]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001945

Printed: 9/25/2013 3:23:22PM

Description:	SVOC Benzoic Acid	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	31-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:23 by JZ
Vendor:	ACROS Organics	Lot #:	A0224339
Vendor Catalog #:			

Comments

Neat, Purity @ 98%.

Analyte	CAS Number	Concentration	Units
Benzoic acid	65-85-0	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: Benzoic Acid

Manufacturer: ACROS Organics

Product #: _____

Lot #: A0224339

Purity: 98%

Analyst: [illegible]

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B001948

Printed: 9/25/2013 3:37:51PM

Description:	SVOC 4,6-Dinitro-2-Methylphenol	Expires:	31-Dec-29
Standard Type:	Calibration Stan	Prepared:	25-Sep-13
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	25-Sep-13 15:37 by JZ
Vendor:	Chem Service	Lot #:	179-31A
Vendor Catalog #:			

Comments

Neat, Purity @ 99%. (ARI#: 009A)

Analyte	CAS Number	Concentration	Units
4,6-Dinitro-2-methylphenol	534-52-1	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 4,6-Dinitro-2-Methylphenol

Manufacturer: Chem Service

Product #: _____

Lot #: 179-31A

Purity: 99%

Analyst: KB.

Analytical Resources, Incorporated

Analytical Standard Record
Analytical Resources, Inc.
Standard ID: B002054

Printed: 10/4/2013 6:32:21PM

Description:	SVOA 1-Methylnaphthalene	Expires:	02-Apr-14
Standard Type:	Analyte Spike	Prepared:	13-Dec-12
Solvent:	NA	Prepared By:	Jianqing Zhou
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	04-Oct-13 18:32 by JZ
Vendor:	Chem Service	Lot #:	62-5B
Vendor Catalog #:			

Comments

Neat, Purity @ 99%

Analyte	CAS Number	Concentration	Units
1-Methylnaphthalene	90-12-0	1000000	ug/mL

Reviewed By Date

Appendix 20.1

ALTERNATE CERTIFICATE OF ANALYSIS

The manufacturer of the below chemical was unable to provide a Certificate of Analysis at the time of request by ARI.

Date Requested from Manufacturer:_____

Chemical: 1-Methyl naphthalene

Manufacturer: Chem Service

Product #: 0787

Lot #: 67-53

Purity: 99%

Analyst: AB.

Certificate of Analysis

SIGMA-ALDRICH

Product Name	1,2,4,5-Tetrachlorobenzene, 98%
Product Number	131857
Product Brand	ALDRICH
CAS Number	95-94-3
Molecular Formula	$C_6H_2Cl_4$
Molecular Weight	215.89

F 209172
Re logged
10/06/17
pc

TEST	SPECIFICATION	LOT 19309jr RESULTS
APPEARANCE	WHITE POWDER, CHIPS OR CRYSTALS	WHITE CHIPS
INFRARED SPECTRUM	CONFORMS TO STRUCTURE.	CONFORMS TO STRUCTURE AND STANDARD AS ILLUSTRATED ON PAGE 1011C OF EDITION I, VOLUME 1 OF "THE ALDRICH LIBRARY OF FT-IR SPECTRA".
GAS LIQUID	97.5% (MINIMUM)	99.9 %
QUALITY CONTROL		JULY 1997

Barbara Rajzer

Barbara Rajzer, Supervisor
Quality Control
Milwaukee, Wisconsin USA

See also I 1107A
pc 10/06/17

Certificate of Analysis

phenova Certified Reference Materials | A Phenomenex Company

Produced by Phenova
6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101244
Description: Benzidines Standard
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Methylene Chloride

Lot Number: CL15236
Certification Date: April 28, 2020
Expiration Date: April 30, 2030

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 0.231%
3,3'-Dichlorobenzidine	91-94-1	2000	± 0.116%

I007617
Benzidines std @2000ug/ml
Solvent / Lot: Mecl2
Prep: 8/27/2020 by JZ
Exp: 4/30/2030
Location: GC

08/27/20.

ACCREDITED
Reference Material Producer
Certicate No. 2427.02

phenova Certified Reference Materials | A Phenomenex Company

Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ACCREDITED
Chemical Testing Laboratory
Certicate No. 2427.03

IL64691018_us

Certificate of Analysis

TCL HAZARDOUS SUBSTANCES MIX 2,1X1ML,2000UG/ML,DICHLOROMETHA

Certified Reference Material

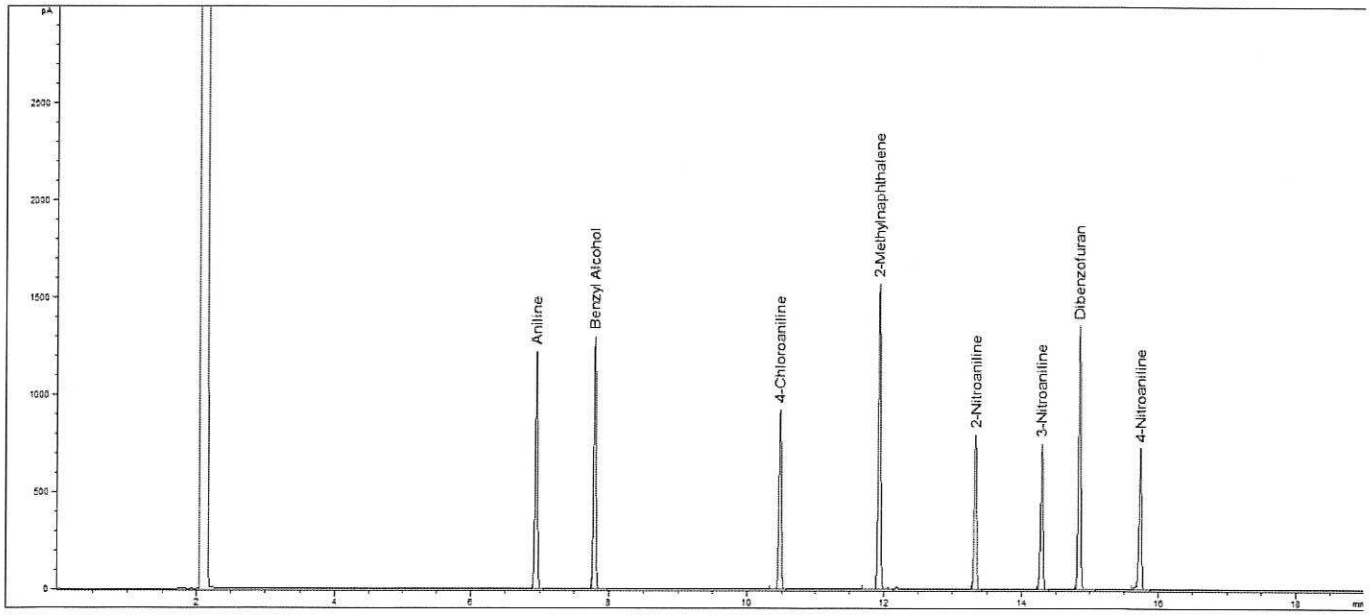
Description

Product ID 48908
Lot **LRAC2138**
Expiration Date February 2022
Manufacturing Date March 2019
Storage Conditions Refrigerate
Solvent/Matrix Dichloromethane/Benzene 80:20

I009199
toxic sub mix#2
Solvent / Lot: LRAC2138
Prep: 10/6/2020 by VS
Exp: 2/28/2022
Location:

Certified Values

Analyte	*Units*	*Certified Value* [1,4]	*Raw Material Purity,%*	*Analytical Value*	*Elution order*	*Raw Material Lot*	*CAS*
ANILINE	µg/mL	2008 ± 89	99.9%	1990	1	LA41596	62-53-3
BENZYL ALCOHOL	µg/mL	2008 ± 87	98.2%	2020	2	LC07608	100-51-6
4-CHLOROANILINE	µg/mL	2008 ± 84	99.5%	1990	3	P500200	106-47-8
2-METHYLNAPHTHALENE	µg/mL	2008 ± 87	98.2%	2005	4	LB97828	91-57-6
2-NITROANILINE	µg/mL	2008 ± 82	99.9%	2021	5	07411KN	88-74-4
3-NITROANILINE	µg/mL	2008 ± 86	100%	2009	6	MKBX1283V	99-09-2
DIBENZOFURAN	µg/mL	2008 ± 80	98.8%	1988	7	LB78814	132-64-9
4-NITROANILINE	µg/mL	2008 ± 91	99.9%	2025	8	LC11400	100-01-6



Additional Information:

Analytical Method Parameters:

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rtctechgroup@sial.com www.sigma-aldrich.com

Description

Lot	**LRAC2138**
Expiration Date	February 2022
Manufacturing Date	March 2019
Storage Conditions	Refrigerate
Solvent/Matrix	Dichloromethane/Benzene 80:20

Column: SPB-5, 30 m x 0.53 mm x 1.5 µm df
80°C (2 min) to 250°C at 10°C/min
Detector: FID, 300°C
Injection Volume: 1 µL

1 **Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{homogeneity}^2 + u_{stability}^2}$$

k: Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. Assume 2.0 for a **Confidence interval = 95%**

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO 17034:2016. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

Expiration is at end of month given on certificate and label.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH **ISO/IEC 17025:2017 (ANAB Cert AT-1467)** and **ISO 17034:2016 (ANAB Cert AR-1470).**

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Certification Date	March 25, 2019
Version	0-3252019

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

Certificate of Composition

ANALYTICAL STANDARD

12 Comp. at Varied Concentrations in Dichloromethane

Product ID 22523051
Lot **LRAC8251**
Expiration Date October 2022
Storage Conditions Refrigerate
Solvent/Matrix Dichloromethane

I010140

Analyte	*Assigned Value* [1]	*Units*	*Raw Material Purity,%*	*Raw Material Lot*	*CAS*
3,3'-DICHLOROBENZIDINE	800 ± 24.0	µg/mL	99.9	LC27068	91-94-1
2,4-DINITROTOLUENE	798 ± 23.9	µg/mL	98.9	12316HF	121-14-2
2,6-DINITROTOLUENE	800 ± 24.0	µg/mL	99.9	LB79891	606-20-2
HEXACHLOROCYCLOPENTADIENE	804 ± 24.1	µg/mL	96.0	LB95525	77-47-4
N-NITROSODIMETHYLAMINE	804 ± 24.1	µg/mL	99.5	9815100	62-75-9
PERYLENE	201 ± 6.04	µg/mL	99.6	04101PG	198-55-0
ANILINE	804 ± 24.1	µg/mL	100.0	10126MG	62-53-3
4-CHLOROANILINE	800 ± 24.0	µg/mL	100.0	MKBZ6909V	106-47-8
2-NITROANILINE	801 ± 24.0	µg/mL	99.9	LC05068	88-74-4
3-NITROANILINE	799 ± 24.0	µg/mL	99.9	LC09264	99-09-2
4-NITROANILINE	800 ± 24.0	µg/mL	99.9	LC11400	100-01-6
PYRIDINE (LOW WATER)	816 ± 24.5	µg/mL	100.0	SHBJ4964	110-86-1

Additional Information

1 Assigned value - the gravimetrically prepared value. Uncertainty is based on gravimetric preparation.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

Robert O'Brien - Program Manager

Mark Pooler - QA Supervisor

Certification Date October 12, 2020
Version -10122020

MilliporeSigma
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
800-325-3010
www.sigma-aldrich.com

Certificate of Composition

ACID STOCK

ANALYTICAL STANDARD

Product ID 22523046
Lot **LRAC8250**
Expiration Date October 2022
Storage Conditions Refrigerate
Solvent/Matrix Dichloromethane

I 010141

Analyte	*Assigned Value* [1]	*Units*	*Raw Material Purity,%*	*Raw Material Lot*	*CAS*
2,4-DIMETHYLPHENOL	800 ± 24.0	µg/mL	99.2	05421CO	105-67-9
2,4-DICHLOROPHENOL	804 ± 24.1	µg/mL	99.5	03221TN	120-83-2
2,4,5-TRICHLOROPHENOL	800 ± 24.0	µg/mL	99.9	JS00008	95-95-4
2,4-DINITROPHENOL	1,800 ± 54.0	µg/mL	75.9	MKBP5833V	51-28-5
2,4,6-TRICHLOROPHENOL	801 ± 24.0	µg/mL	99.5	04212PS	88-06-2
4-CHLORO-3-METHYLPHENOL	800 ± 24.0	µg/mL	100.0	BCCB3243	59-50-7
4-NITROPHENOL	799 ± 24.0	µg/mL	99.3	P500150	100-02-7
2-METHYL-4,6-DINITROPHENOL	1,800 ± 54.0	µg/mL	99.9	LB99844	534-52-1
PENTACHLOROPHENOL	801 ± 24.0	µg/mL	97.9	MKCD2150	87-86-5
BENZOIC ACID	1,800 ± 54.0	µg/mL	98.8	442-137B	65-85-0

Additional Information

1 Assigned value - the gravimetrically prepared value. Uncertainty is based on gravimetric preparation.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

Robert O'Brien - Program Manager

Mark Pooler - QA Supervisor

Certification Date October 12, 2020
Version -10122020

MilliporeSigma
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
800-325-3010
www.sigma-aldrich.com

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

Certificate of Analysis

11/19/2020.

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0160[illegible]

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Ch 1mL/ampul

I010722
CLP 04.1 BNA SURR MIX
Solvent / Lot: methylene chloride
Prep: 11/19/2020 by JZ
Exp: 2/29/2024
Location:

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 29, 2024 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	1,511.0 µg/mL	+/- 8.9749 µg/mL +/- 44.1342 µg/mL +/- 53.5403 µg/mL		Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31658)	1,512.0 µg/mL	+/- 8.9808 µg/mL +/- 44.1635 µg/mL +/- 53.5758 µg/mL		Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 **Purity** 97%	(Lot PR-29567)	1,501.6 µg/mL	+/- 8.9188 µg/mL +/- 43.8585 µg/mL +/- 53.2058 µg/mL		Gravimetric Unstressed Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 **Purity** 99%	(Lot M-2097)	1,003.0 µg/mL	+/- 5.9575 µg/mL +/- 29.2963 µg/mL +/- 35.5400 µg/mL		Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-29940B)	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 29.3255 µg/mL +/- 35.5754 µg/mL		Gravimetric Unstressed Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot Q165-67)	1,003.0 µg/mL	+/- 5.9575 µg/mL +/- 29.2963 µg/mL +/- 35.5400 µg/mL		Gravimetric Unstressed Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot MKCJ7664)	1,513.0 µg/mL	+/- 8.9868 µg/mL +/- 44.1927 µg/mL +/- 53.6112 µg/mL		Gravimetric Unstressed Stressed

8	p-Terphenyl-d14		1,006.0	µg/mL	+/-	5.9753	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-27278)			+/-	29.3839	µg/mL	Unstressed
	Purity 99%				+/-	35.6463	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

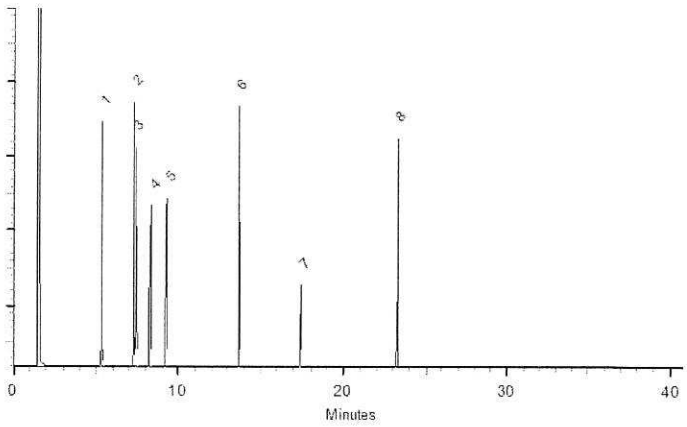
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dalton Stover - Operations Technician I

Date Mixed: 19-May-2020 **Balance:** 1128353505

Fang-Yun Lo - QC Analyst

Date Passed: 21-May-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reference Materials Producer
Cert #2495.01

ECS

Certificate of Analysis

Chemical Testing
Cert #2495.02

Catalog Number: ECS-A-030 **Lot No.** GS200603005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 6-3-2020
Expiration Date: 6-3-2023

This **SPEXOrganics®** Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for organic chromatography instrumentation such as GC, GC-MS, LC, and LC-MS. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

5/18/21

Certified Compounds:

Compound	CAS #	Labeled	Purity	Certified†	Uncertainty
Azobenzene	103-33-3	2000 µg/mL	98%	1977 µg/mL	± 49 µg/mL
4-Bromodiphenyl ether	101-55-3	2000 µg/mL	99%	1979 µg/mL	± 49 µg/mL
Butylbenzyl phthalate	85-68-7	2000 µg/mL	98%	2017 µg/mL	± 50 µg/mL
Carbazole	86-74-8	2000 µg/mL	95%	1977 µg/mL	± 49 µg/mL
bis(2-Chloroethoxy)methane	111-91-1	2000 µg/mL	97%	2011 µg/mL	± 50 µg/mL
bis(2-Chloroethyl)ether	111-44-4	2000 µg/mL	99%	2020 µg/mL	± 50 µg/mL
Bis(2-chloro-1-methylethyl) ether	108-60-1	2000 µg/mL	98.9%	2004 µg/mL	± 50 µg/mL
2-Chloronaphthalene	91-58-7	2000 µg/mL	98%	1979 µg/mL	± 49 µg/mL
4-Chlorophenyl-phenyl ether	7005-72-3	2000 µg/mL	98%	2012 µg/mL	± 50 µg/mL
1,2-Dichlorobenzene	95-50-1	2000 µg/mL	99%	2003 µg/mL	± 50 µg/mL
1,3-Dichlorobenzene	541-73-1	2000 µg/mL	98%	2001 µg/mL	± 50 µg/mL
1,4-Dichlorobenzene	106-46-7	2000 µg/mL	99%	1994 µg/mL	± 50 µg/mL
Diethyl phthalate	84-66-2	2000 µg/mL	99.5%	1980 µg/mL	± 50 µg/mL
Dimethyl phthalate	131-11-3	2000 µg/mL	99%	2019 µg/mL	± 50 µg/mL
Di-n-butyl phthalate	84-74-2	2000 µg/mL	99%	1972 µg/mL	± 49 µg/mL
Di-n-octyl phthalate	117-84-0	2000 µg/mL	98%	2014 µg/mL	± 50 µg/mL
2,4-Dinitrotoluene	121-14-2	2000 µg/mL	97%	2012 µg/mL	± 50 µg/mL
2,6-Dinitrotoluene	606-20-2	2000 µg/mL	99.6%	1984 µg/mL	± 50 µg/mL
Bis(2-Ethylhexyl)phthalate	117-81-7	2000 µg/mL	99%	1990 µg/mL	± 50 µg/mL
Hexachlorobenzene	118-74-1	2000 µg/mL	99%	2035 µg/mL	± 51 µg/mL
Hexachlorobutadiene	87-68-3	2000 µg/mL	97%	2040 µg/mL	± 51 µg/mL
Hexachlorocyclopentadiene	77-47-4	2000 µg/mL	99.2%	2040 µg/mL	± 51 µg/mL
Hexachloroethane	67-72-1	2000 µg/mL	99%	2038 µg/mL	± 51 µg/mL
Isophorone	78-59-1	2000 µg/mL	97%	1999 µg/mL	± 50 µg/mL
Nitrobenzene	98-95-3	2000 µg/mL	99%	1987 µg/mL	± 50 µg/mL
N-Nitrosodimethylamine	62-75-9	2000 µg/mL	99.5%	1975 µg/mL	± 49 µg/mL
N-Nitrosodiphenylamine	86-30-6	2000 µg/mL	97%	2040 µg/mL	± 51 µg/mL
N-Nitrosodi-n-propylamine	621-64-7	2000 µg/mL	98%	1985 µg/mL	± 50 µg/mL
Pyridine	110-86-1	2000 µg/mL	99%	1984 µg/mL	± 50 µg/mL
1,2,4-Trichlorobenzene	120-82-1	2000 µg/mL	99%	2012 µg/mL	± 50 µg/mL

J005222
EPA 625 B/N MIX 1
Solvent / Lot: METHYLENE CHLORIDE
Prep: 5/18/2021 by JZ
Exp: 6/3/2023
Location:

© 2020 SPEX CertiPrep, LLC

Report of Certification

Catalog Number: ECS-A-030 **Lot No.** GS200603005

Description: Base/Neutrals Mix 1

Matrix: Methylene Chloride

Manufactured Date: 6-3-2020
Expiration Date: 6-3-2023

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 Quality System consistent with the following standards:

- ISO 9001:2008: Quality management systems - Requirements - Certified by UL-DQS
- ISO 17025:2005: General Requirements for the Competence of Testing and Calibration Laboratories - Accredited by A2LA
- ISO Guide 34:2009: General Requirements for the Competence of Reference Material Producers - Accredited by A2LA
- ISO Guide 31:2000: Reference Materials - Contents of Certificates and Labels
- ISO Guide 35:2006: Reference Materials - General and statistical principals for certification
- Guide to the Expression of Uncertainty in Measurement 1997
- EURACHEM/CITAC Guide: Qualifying Uncertainty in Analytical Measurements - Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference material producers
- ISO/REMCO N280

Storage Requirements:

To ensure the stability of the product once it arrives in your laboratory, please store this product in a refrigerator (2°C to 8°C). Note: Shipping conditions may differ from storage conditions. The EXPIRATION DATE is calculated from the MANUFACTURED DATE using our stability data and is applicable only if the product is unopened and stored under the prescribed conditions.

Instructions for Use:

Let material come to room temperature before use. Check for precipitate and if necessary sonicate for one minute. If compounds do not dissolve after one minute then sonicate further until the product is dissolved. A clear appearance is acceptable. The minimum recommended amount that should be removed from this vial is 5µL with a 25µL gas tight syringe. All solutions should be thoroughly mixed, by shaking, prior to use. All surfaces that come in contact with the solution must be thoroughly cleaned prior to use. Dilutions should be performed only with Class A volumetric glassware.

Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For assistance, please contact sales support at crmsales@spexcsp.com.

Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, and analytical instrumentation have been qualified prior to use. The highest purity solvents and Class A / calibrated volumetrics have been been used in all preparations.

Homogeneity:

The homogeneity of this CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4300-HOMOGEN-1A. This is consistent with the intended use of this CRM. The Degree of Homogeneity, as expressed as maximum between-bottle variation, is 1.2%

Statistical Estimator and Confidence Limits:

The Certified value 'X' as listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$ where X=certified value, U=expanded uncertainty, x=property value
- $U = ku_c$ where k=2 is the coverage factor at the 95% confidence level
- u_c = combined standard uncertainty obtained by combining the individual compound standard uncertainty components u_i, where $u_c=\sqrt{\sum u^2}$

Legal Notice:

SPEX CertiPrep Certified Reference Materials are not for any cosmetic, drug, or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep of any kind whatsoever, whether based on breech of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep be liable for any loss of profits or any incidental, special, or consequential damages.

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RESTEK® CERTIFIED REFERENCE MATERIAL

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Bellefonte, PA 16823-8812
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Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31493 **Lot No.:** A0167617

Description : CLP 04.1 BNA Surrogate Mix

CLP 04.1 BNA Surrogate Mix 1000-1500 µg/mL, Methylene Chloride, 1mL/ampul

J005610
CLP 04.1 BNA SURR MIX
Solvent / Lot: methylene chloride
Prep: 5/26/2021 by JZ
Exp: 9/30/2024
Location:

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2024 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

5/26/21

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBF3761V)	1,506.0 µg/mL	+/- 8.9452 µg/mL +/- 43.9882 µg/mL +/- 53.3632 µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d6 **CAS #** 13127-88-3 **Purity** 99%	(Lot PR-31658)	1,512.0 µg/mL	+/- 8.9808 µg/mL +/- 44.1635 µg/mL +/- 53.5758 µg/mL	Gravimetric Unstressed Stressed
3	2-Chlorophenol-d4 **CAS #** 93951-73-6 **Purity** 99%	(Lot PR-30568)	1,502.0 µg/mL	+/- 8.9214 µg/mL +/- 43.8714 µg/mL +/- 53.2214 µg/mL	Gravimetric Unstressed Stressed
4	1,2-Dichlorobenzene-d4 **CAS #** 2199-69-1 **Purity** 99%	(Lot M-2097)	1,006.0 µg/mL	+/- 5.9753 µg/mL +/- 29.3839 µg/mL +/- 35.6463 µg/mL	Gravimetric Unstressed Stressed
5	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-29940B)	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 29.2671 µg/mL +/- 35.5046 µg/mL	Gravimetric Unstressed Stressed
6	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot 00019169)	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 29.2671 µg/mL +/- 35.5046 µg/mL	Gravimetric Unstressed Stressed
7	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot S55013V)	1,502.0 µg/mL	+/- 8.9214 µg/mL +/- 43.8714 µg/mL +/- 53.2214 µg/mL	Gravimetric Unstressed Stressed

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

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Certificate of Analysis

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Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.:	AL0-101291	**Lot Number:**	CL10999
Description:	GC/MS Tuning Mix	**Certification Date:**	May 9, 2014
Storage:	4 °C	**Expiration Date:**	December 31, 2023
Provided As:	1 mL in 2 mL Ampoule in Methylene chloride	**Revision Date:**	June 19, 2015

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty (%)
Benzidine	92-87-5	1000	± 4.575%
Decafluorotriphenylphosphine (DFTPP)	5074-71-5	1000	± 2.420%
4,4'-DDT	50-29-3	1000	± 2.772%
Pentachlorophenol	87-86-5	1000	± 2.616%

J006111
GC/MS Tune solution-1000ug/ml
Solvent / Lot: CL10999
Prep: 6/9/2021 by VS
Exp: 12/31/2023
Location:

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

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Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO Guide 34[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in the calibration and calibration verification of chromatographic instrumentation performed in routine laboratory analysis.

4. Instruction: Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all certified analytes in the mixture.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Material Safety Data Sheet (MSDS) is available at www.phenomenex.com/mysupport.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC Guide 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

   $$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO Guide 34. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC Guide 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC Guide 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO Guide 34.

12. Period of Validity: The Certified Values and their uncertainties are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31:2000(E) – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35:2006(E) – Reference Material – General and Statistical Principles for Certification.
[3] ISO Guide 34:2009(E) – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC Guide 17025:2005(E) – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

IL111106/13_us

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

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Certified Reference Materials

Manufactured by Phenova, Inc.

Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

ilac-MRA
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Certificate No. 2427.03

Certificate of Analysis

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Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.:	AL0-101244	**Lot Number:**	CL16062
Description:	Benzidines Standard	**Certification Date:**	November 19, 2020
Storage:	4 °C	**Expiration Date:**	November 30, 2030
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 2.740%
3,3'-Dichlorobenzidine	91-94-1	2000	± 3.229%

J006115
Benzidines std @2000ug/ml
Solvent / Lot: CL16062
Prep: 6/9/2021 by VS
Exp: 11/30/2030
Location: GC

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Reference Material Producer
Certicate No. 2427.02

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Phenova is an accredited ISO/IEC 17034 Reference Material Producer and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Chemical Testing Laboratory
Certicate No. 2427.03

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

Agilent

Certificate of Analysis

Product Name: PAH Standard

Product Number: US-106N-1 **Lot Issue Date:** 11-Jun-2020

Lot Number: 0006540449 **Expiration Date:** 30-Jun-2023

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
acenaphthene	000083-32-9	RM10879	2008 ± 10 µg/mL
acenaphthylene	000208-96-8	RM10891	2003 ± 10 µg/mL
anthracene	000120-12-7	RM14212	2006 ± 10 µg/mL
benz[a]anthracene	000056-55-3	RM16072	2006 ± 10 µg/mL
benzo[b]fluoranthene	000205-99-2	RM14571	2005 ± 10 µg/mL
benzo[k]fluoranthene	000207-08-9	RM14321	2009 ± 10 µg/mL
benzo[ghi]perylene	000191-24-2	RM15761	2008 ± 10 µg/mL
benzo[a]pyrene	000050-32-8	RM12669	2009 ± 10 µg/mL
chrysene	000218-01-9	RM12260	2009 ± 10 µg/mL
dibenz[a,h]anthracene	000053-70-3	RM06786	2009 ± 10 µg/mL
fluoranthene	000206-44-0	RM12277	2004 ± 10 µg/mL
fluorene	000086-73-7	RM09441	2009 ± 10 µg/mL
indeno[1,2,3-cd]pyrene	000193-39-5	RM14192	2009 ± 10 µg/mL
naphthalene	000091-20-3	NT00970	2008 ± 10 µg/mL
phenanthrene	000085-01-8	RM10495	2009 ± 10 µg/mL
pyrene	000129-00-0	RM03479	2008 ± 10 µg/mL

Matrix: methylene chloride/benzene (1:1)

J006136
SVOA PAH STD 2000ug/ml
Solvent / Lot: 0006540449
Prep: 6/9/2021 by VS
Exp: 6/30/2023
Location: Fridge 19

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

www.agilent.com/quality/

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 17025 Cert No. AT-1937

Certificate of Composition

ACID STOCK

ANALYTICAL STANDARD

Product ID 22523046
Lot LRAC8250
Expiration Date October 2022
Storage Conditions Refrigerate
Solvent/Matrix Dichloromethane

J006718
SVOA-ACID STOCK 800/1800ug/ml
Solvent / Lot: DCM
Prep: 6/26/2021 by VS
Exp: 12/23/2021
Location:

Analyte	*Assigned Value* [1]	*Units*	*Raw Material Purity,%*	*Raw Material Lot*	*CAS*
2,4-DIMETHYLPHENOL	800 ± 24.0	µg/mL	99.2	05421CO	105-67-9
2,4-DICHLOROPHENOL	804 ± 24.1	µg/mL	99.5	03221TN	120-83-2
2,4,5-TRICHLOROPHENOL	800 ± 24.0	µg/mL	99.9	JS00008	95-95-4
2,4-DINITROPHENOL	1,800 ± 54.0	µg/mL	75.9	MKBP5833V	51-28-5
2,4,6-TRICHLOROPHENOL	801 ± 24.0	µg/mL	99.5	04212PS	88-06-2
4-CHLORO-3-METHYLPHENOL	800 ± 24.0	µg/mL	100.0	BCCB3243	59-50-7
4-NITROPHENOL	799 ± 24.0	µg/mL	99.3	P500150	100-02-7
2-METHYL-4,6-DINITROPHENOL	1,800 ± 54.0	µg/mL	99.9	LB99844	534-52-1
PENTACHLOROPHENOL	801 ± 24.0	µg/mL	97.9	MKCD2150	87-86-5
BENZOIC ACID	1,800 ± 54.0	µg/mL	98.8	442-137B	65-85-0

Additional Information

1 Assigned value - the gravimetrically prepared value. Uncertainty is based on gravimetric preparation.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

Robert O'Brien - Program Manager

Mark Pooler - QA Supervisor

Certification Date October 12, 2020
Version -10122020

MilliporeSigma
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
800-325-3010
www.sigma-aldrich.com

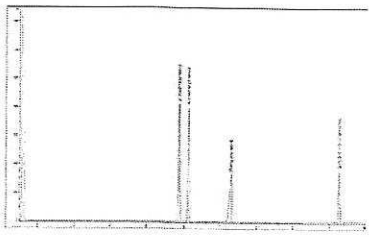
Supelco

www.sigmaaldrich.com

Certificate of Analysis - Certified Reference Material

EPA TCL Hazardous Substances Mix 1

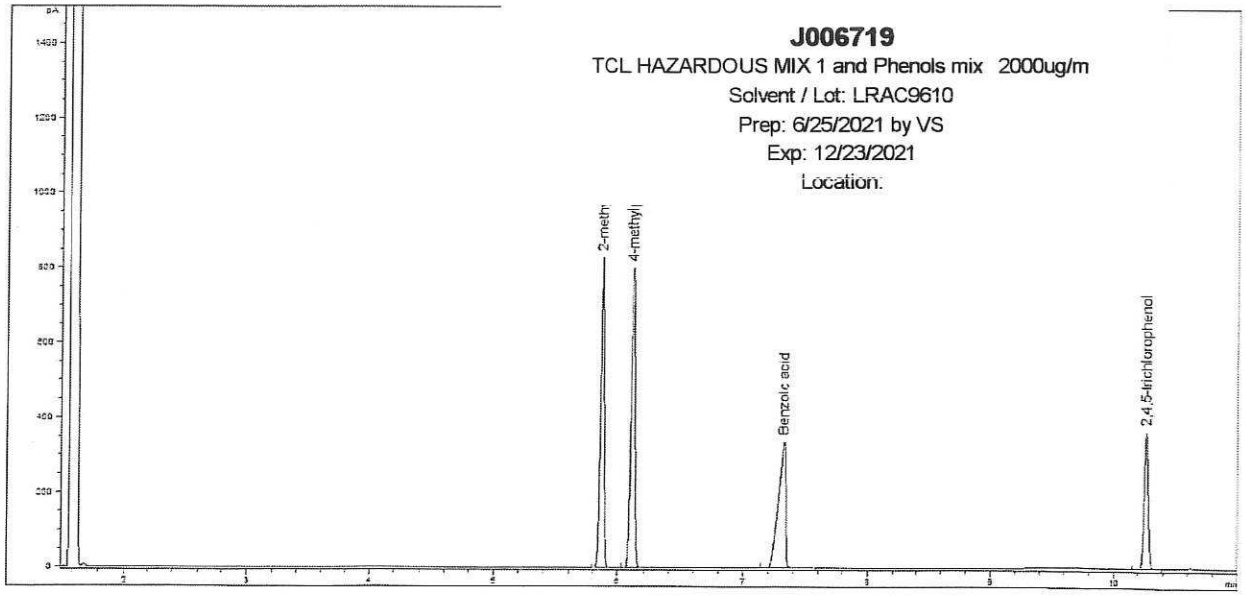
Product no.: 48907
Lot no.: LRAC9610
Expiry Date: May 2024
Manufacturing Date: May 2021
Storage: Refrigerate
Solvent/Matrix: DICHLOROMETHANE
Certificate version: LRAC9610.01 *(Note: Certificates may be updated due to the availability of new data. Check our website at: www.sigma-aldrich.com for the most current version.)*



Certified Values:

Analyte	Certified Value	Units	Raw Material Purity,%	Elution order	Raw Material Lot
2-METHYLPHENOL CAS# 95-48-7	2004 ± 9	µg/mL	99.0	1	G1735A
4-METHYLPHENOL CAS# 106-44-5	2004 ± 13	µg/mL	98.9	2	06921MG
BENZOIC ACID CAS# 65-85-0	2012 ± 6	µg/mL	99.9	3	LC16514
2,4,5-TRICHLOROPHENOL CAS# 95-95-4	2003 ± 6	µg/mL	99.9	4	JS00008

Informational Values:



Additional Information:

Analytical Method Parameters:
Column: Equity-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness (Column #98)
Carrier Gas: H2, Flow: 4.5 mL/min
Inlet Temperature: 170 °C, Injection Volume: 1 µL
Injection Mode: Split, Split Ratio: 20:1

Sigma-Aldrich RTC, 2931 Soldier Springs Rd. Laramie, WY 82070, USA;
Tel. 1 307-742-5452; Fax 1 855-831-9211; www.sigmaaldrich.com
Sigma-Aldrich RTC is a subsidiary of Merck KGaA, Darmstadt, Germany.

Temperature Program: 80 °C @ 10 °C/min to 190 °C (Hold 5 min)
Detector: FID
Detector Temperature: 310 °C

Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Measurement method: Where applicable, the assigned value is based on a purity determination by mass balance and gravimetrically prepared value.

Intended use: Intended for R&D and Analytical Use only. Not for drug, household or other uses.

Packaging: 1 mL in amber ampule

Instructions for handling and correct use: Use on the as is basis. The internal pressure of the container may be slightly different from the atmospheric pressure at the user`s location. Open slowly and carefully to avoid dispersion of the material.

Health and safety information: All chemical reference materials should be considered potentially hazardous and should be used only by qualified laboratory personnel. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Accreditation: Sigma-Aldrich RTC is accredited by the US accreditation authority ANAB as a registered reference material producer AR-1470 in accordance with ISO 17034.

Certificate issue date: 20-May-2021

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Details on metrological traceability: This standard has been gravimetrically prepared using balances that have been fully qualified and calibrated to ISO 17025 requirements. All calibrations utilize NIST traceable weights which are calibrated externally by a qualified ISO 17025 accredited calibration laboratory to NIST standards. Qualification of each balance includes the assignment of a minimum weighing by a qualified and ISO 17025 accredited calibration vendor taking into consideration the balance and installed environmental conditions to ensure compliance with USP tolerances of NMT 0.10% relative error. Fill volume to predetermined specifications is gravimetrically verified throughout the dispensing process using qualified and calibrated balances. Further traceability to a corresponding Primary Standard may be achieved through a direct comparison assay. Where a Primary Standard is available, the assay value will be included in the specified section of the COA.

Associated uncertainty: Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{homogeneity}^2 + u_{stability}^2}$$

Homogeneity assessment: Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.

Stability assessment: Significance of the stability assessment will be demonstrated if the analytical result of the study and the range of values represented by the Expanded Uncertainty do not overlap the result of the original assay and the range of its values represented by the Expanded Uncertainty. The method employed will usually be the same method used to characterize the assay value in the initial

Certificate of analysis revision history:

Certificate version	Date	Reason for version
LRAC9610.01	20-May-2021	Original Release Date

Disclaimer: The purchaser is required to determine the suitability of this product for any particular application. Sigma-Aldrich RTC makes no warranty of any kind, express or implied, other than its products meet all quality control standards set by Sigma-Aldrich RTC. We do not guarantee that the product can be used for any particular application.

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The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

Certificate of Analysis

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Certified Reference Material

This product is certified in accordance with Phenova's ISO 17034 accreditation and supported by Phenova's ISO/IEC 17025 chemical testing accreditation

Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL16916
Certification Date: June 25, 2021
Expiration Date: September 30, 2022

J007896
SVOA-8270 LCS MIX 1000ug/ml
Solvent / Lot: CL16916
Prep: 7/31/2021 by VS
Exp: 9/30/2022
Location: FREEZER 44

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Acenaphthene	83-32-9	1000	± 0.300%
Acenaphthylene	208-96-8	1000	± 0.225%
Anthracene	120-12-7	1000	± 0.224%
Azobenzene	103-33-3	1000	± 0.224%
Benzo(a)anthracene	56-55-3	1000	± 0.247%
Benzo(a)pyrene	50-32-8	1000	± 0.258%
Benzo(b)fluoranthene	205-99-2	1000	± 0.144%
Benzo(k)fluoranthene	207-08-9	1000	± 0.146%
Benzo(g,h,i)perylene	191-24-2	1000	± 0.146%
Benzyl alcohol	100-51-6	1000	± 0.231%
Benzyl butyl phthalate	85-68-7	1000	± 0.480%
bis(2-Chloroethoxy)methane	111-91-1	1000	± 0.527%
bis(2-Chloroethyl) ether	111-44-4	1000	± 0.486%
bis(2-Chloroisopropyl) ether	108-60-1	1000	± 0.148%
bis(2-Ethylhexyl) adipate	103-23-1	1000	± 0.479%
bis(2-Ethylhexyl) phthalate	117-81-7	1000	± 0.479%
4-Bromophenyl phenyl ether	101-55-3	1000	± 0.479%
Carbazole	86-74-8	1000	± 0.147%

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Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL16916
Certification Date: June 25, 2021
Expiration Date: September 30, 2022

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
4-Chloroaniline	106-47-8	1000	± 0.300%
4-Chloro-3-methylphenol	59-50-7	1000	± 0.545%
2-Chloronaphthalene	91-58-7	1000	± 0.224%
2-Chlorophenol	95-57-8	1000	± 0.507%
4-Chlorophenyl phenyl ether	7005-72-3	1000	± 0.479%
Chrysene	218-01-9	1000	± 0.145%
Dibenz(a,h)anthracene	53-70-3	1000	± 0.280%
Dibenzofuran	132-64-9	1000	± 0.302%
Di-n-butyl phthalate	84-74-2	1000	± 0.519%
1,2-Dichlorobenzene	95-50-1	1000	± 0.247%
1,3-Dichlorobenzene	541-73-1	1000	± 0.225%
1,4-Dichlorobenzene	106-46-7	1000	± 0.224%
2,4-Dichlorophenol	120-83-2	1000	± 0.545%
Diethyl phthalate	84-66-2	1000	± 0.479%
2,4-Dimethylphenol	105-67-9	1000	± 0.507%
Dimethyl phthalate	131-11-3	1000	± 0.519%
1,2-Dinitrobenzene	528-29-0	1000	± 0.361%
1,3-Dinitrobenzene	99-65-0	1000	± 0.300%
1,4-Dinitrobenzene	100-25-4	1000	± 0.242%
2,4-Dinitrophenol	51-28-5	1000	± 0.545%
2,4-Dinitrotoluene	121-14-2	1000	± 0.226%

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Certified Reference Material

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Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL16916
Certification Date: June 25, 2021
Expiration Date: September 30, 2022

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2,6-Dinitrotoluene	606-20-2	1000	± 0.224%
Di-n-octyl phthalate	117-84-0	1000	± 0.486%
Fluoranthene	206-44-0	1000	± 0.224%
Fluorene	86-73-7	1000	± 0.224%
Hexachlorobenzene	118-74-1	1000	± 0.152%
Hexachlorobutadiene	87-68-3	1000	± 0.479%
Hexachlorocyclopentadiene	77-47-4	1000	± 0.146%
Hexachloroethane	67-72-1	1000	± 0.300%
Indeno(1,2,3-cd)pyrene	193-39-5	1000	± 0.149%
Isophorone	78-59-1	1000	± 0.145%
2-Methyl-4,6-dinitrophenol	534-52-1	1000	± 0.508%
1-Methylnaphthalene	90-12-0	1000	± 0.479%
2-Methylnaphthalene	91-57-6	1000	± 0.487%
2-Methylphenol	95-48-7	1000	± 0.545%
3-Methylphenol	108-39-4	500	± 0.279%
4-Methylphenol	106-44-5	500	± 0.279%
Naphthalene	91-20-3	1000	± 0.226%
2-Nitroaniline	88-74-4	1000	± 0.224%
3-Nitroaniline	99-09-2	1000	± 0.235%
4-Nitroaniline	100-01-6	1000	± 0.300%
Nitrobenzene	98-95-3	1000	± 0.300%

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Catalog No.: AL0-101444
Description: 8270 Calibration Standard
Storage: -18 °C
Provided As: 1 mL in 2 mL Ampoule in MeCl2/Methanol (97:3)

Lot Number: CL16916
Certification Date: June 25, 2021
Expiration Date: September 30, 2022

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
2-Nitrophenol	88-75-5	1000	± 0.514%
4-Nitrophenol	100-02-7	1000	± 0.519%
N-Nitrosodimethylamine	62-75-9	1000	± 0.503%
N-Nitrosodiphenylamine	86-30-6	1000	± 0.476%
N-Nitrosodi-n-propylamine	621-64-7	1000	± 0.461%
Pentachlorophenol	87-86-5	1000	± 0.152%
Phenanthrene	85-01-8	1000	± 0.145%
Phenol	108-95-2	1000	± 0.545%
Pyrene	129-00-0	1000	± 0.147%
Pyridine	110-86-1	1000	± 0.503%
2,3,4,6-Tetrachlorophenol	58-90-2	1000	± 0.247%
2,3,5,6-Tetrachlorophenol	935-95-5	1000	± 0.247%
1,2,4-Trichlorobenzene	120-82-1	1000	± 0.224%
2,4,5-Trichlorophenol	95-95-4	1000	± 0.507%
2,4,6-Trichlorophenol	88-06-2	1000	± 0.509%

Notes: The proper chemical name for Bis(2-Chloroiospropyl) ether is 2,2'-oxybis(1-chloropropane). The analytical uncertainty contribution to the expanded uncertainty for 3 and 4-Methylphenol is measured as the total of the two analytes. N-Nitrosodiphenylamine presents as Diphenylamine at 854 µg/mL.

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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Catalog No.:	AL0-101443	**Lot Number:**	CL16571
Description:	Aniline	**Certification Date:**	March 23, 2021
Storage:	4 °C	**Expiration Date:**	March 31, 2029
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aniline	62-53-3	1000	± 0.561%

J007897
Anline-1000ug/mL
Solvent / Lot: CL16571
Prep: 7/31/2021 by VS
Exp: 3/31/2029
Location: GC

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4

Catalog No.:	AL0-101244	**Lot Number:**	CL16062
Description:	Benzidines Standard	**Certification Date:**	November 19, 2020
Storage:	4 °C	**Expiration Date:**	November 30, 2030
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzidine	92-87-5	2000	± 2.740%
3,3'-Dichlorobenzidine	91-94-1	2000	± 3.229%

J008310
Benzidines std @2000ug/ml
Solvent / Lot: CL16062
Prep: 8/12/2021 by VS
Exp: 11/30/2030
Location: GC

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Catalog No.:	AL0-101246	**Lot Number:**	CL16692
Description:	Benzoic Acid	**Certification Date:**	April 23, 2021
Storage:	4 °C	**Expiration Date:**	April 30, 2031
Provided As:	1 mL in 2 mL Ampoule in Methylene Chloride		

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Benzoic acid	65-85-0	2000	± 3.403%

J008311
Benzoic Acid @2000ug/ml
Solvent / Lot: CL16692
Prep: 8/12/2021 by VS
Exp: 4/30/2031
Location: GC

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC569

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-01 B	File ID:	08142140ECD7.D
Sampled:	07/22/21 09:10	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 07:31
% Solids:	53.80	Preparation:	EPA 3546 (Microwave)	Initial/Final:	23.29 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	53.6	1.6	4.0	
11097-69-1	Aroclor 1254	1	1	88.5	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	67.9	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9808*	*7.11*	*89.1*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9808*	*6.16*	*77.2*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142140ECD7.D
Data file 2: /210814.b/210814.b/08142140ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-01
Client ID:
Injection Date: 15-AUG-2021 07:31
Report Date: 08/17/2021 11:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.062	-0.006	101823	5.406	-0.007	245733	30.9	27.4	11.8	Tetrachloro-m-xylene
13.148	-0.016	89449	13.834	-0.013	437086	35.6	26.5	29.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	272972	5.4
Hexabromobiphenyl	425681	276557	-35.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	697387	-3.3
Hexabromobiphenyl	863111	741363	-14.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.644	-0.016	8117	83.8	1	7.047	-0.008	33301	83.7
Aroclor-1016	2	7.015	-0.018	45984	155.3	2	7.635	-0.016	111506	125.4
Aroclor-1016	3	7.161	-0.018	12618	95.0	3	7.839	-0.018	25089	71.9
Aroclor-1016	4	7.266	-0.023	10683	128.3	4	8.092	-0.014	86767	410.7
Total Col1Ave (4 peaks):				115.6		Total Col2Ave (4 peaks):			172.9	RPD = 40
Corrected Ave (3 peaks):				102.4		Corrected Ave (3 peaks):			93.7	RPD = 9
Aroclor-1221	1	4.096	0.081	1038	48.2	1	4.634	-0.043	11304	216.0
Aroclor-1221	2	5.442	-0.010	743	22.0	2	6.081	0.008	11864	99.0
Aroclor-1221	3	5.715	-0.009	4403	48.2	3	6.402	-0.007	17856	85.5
Total Col1Ave (3 peaks):				39.5		Total Col2Ave (3 peaks):			133.5	RPD = 109*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.096	0.078	1038	78.4	1	4.634	-0.045	11304	362.7
Aroclor-1232	2	5.715	-0.012	4403	61.2	2	7.047	-0.011	33301	182.8
Aroclor-1232	3	7.015	-0.018	45984	418.7	3	7.635	-0.016	111506	305.9
Aroclor-1232	4	7.944	-0.028	25664	568.1	4	8.504	-0.018	78621	828.0
Total Col1Ave (4 peaks):				281.6		Total Col2Ave (4 peaks):			419.8	RPD = 39
Corrected Ave (3 peaks):				186.1		Corrected Ave (3 peaks):			283.8	RPD = 42*
Aroclor-1242	1	6.644	-0.016	8117	107.9	1	7.047	-0.010	33301	103.9
Aroclor-1242	2	7.015	-0.019	45984	205.1	2	7.635	-0.018	111506	160.1
Aroclor-1242	3	8.358	-0.024	86248	679.1	3	8.925	-0.031	111940	344.0
Aroclor-1242	4	8.652	-0.024	93536	1802.1	4	9.069	0.032	142003	384.6
Total Col1Ave (4 peaks):				698.5		Total Col2Ave (4 peaks):			248.1	RPD = 95*
Corrected Ave (3 peaks):				330.7		Corrected Ave (3 peaks):			202.7	RPD = 48*
Aroclor-1248	1	7.779	-0.021	27324	238.9	1	8.092	-0.014	86767	300.2
Aroclor-1248	2	7.944	-0.026	25664	171.9	2	8.504	-0.016	78621	223.5
Aroclor-1248	3	8.358	-0.022	86248	394.5	3	8.925	-0.027	111940	199.8
Aroclor-1248	4	8.652	-0.023	93536	749.4	4	9.350	-0.030	74905	157.4
Total Col1Ave (4 peaks):				388.6		Total Col2Ave (4 peaks):			220.2	RPD = 55*
Corrected Ave (3 peaks):				268.4		Corrected Ave (3 peaks):			193.6	RPD = 32
Aroclor-1254	1	8.652	-0.025	93536	397.2	1	9.220	-0.020	209751	353.5
Aroclor-1254	2	8.722	-0.026	50312	461.5	2	9.310	-0.023	112442	322.9
Aroclor-1254	3	9.019	-0.025	65632	427.6	3	9.741	-0.022	97643	215.9
Aroclor-1254	4	9.148	-0.031	141497	482.5	4	9.890	-0.024	369041	368.2
Aroclor-1254	5	9.834	-0.036	82582	448.4	5	10.119	-0.033	508351	500.1
Total Col1Ave (5 peaks):				443.4		Total Col2Ave (5 peaks):			352.1	RPD = 23
Corrected Ave (4 peaks):				433.7		Corrected Ave (4 peaks):			315.1	RPD = 32
Aroclor-1260	1	10.357	-0.027	44099	354.4	1	11.411	-0.015	184897	300.0
Aroclor-1260	2	10.676	-0.027	36438	298.4	2	11.659	-0.020	385425	215.2
Aroclor-1260	3	11.027	-0.027	105925	320.9	3	12.242	-0.018	259814	225.6
Aroclor-1260	4	11.427	-0.028	58749	399.5	4	12.955	-0.016	140887	255.8
Aroclor-1260	5	11.533	-0.022	24205	328.8	NS	---			----
Total Col1Ave (5 peaks):				340.4		Total Col2Ave (4 peaks):			249.2	RPD = 31
Corrected Ave (4 peaks):				325.6		Corrected Ave (3 peaks):			232.2	RPD = 33
Aroclor-1262	1	10.357	-0.027	44099	261.3	1	10.949	-0.022	160473	177.0
Aroclor-1262	2	11.427	-0.027	58749	537.6	2	11.659	-0.027	385425	201.5
Aroclor-1262	3	11.604	-0.023	29712	188.6	3	12.171	-0.017	131222	154.5
Aroclor-1262	4	12.254	0.020	28655	221.6	4	12.955	0.010	140887	178.0
Total Col1Ave (4 peaks):				302.3		Total Col2Ave (4 peaks):			177.8	RPD = 52*
Corrected Ave (3 peaks):				223.8		Corrected Ave (3 peaks):			169.9	RPD = 27
Aroclor-1268	1	11.533	-0.024	24205	65.2	1	12.171	-0.029	131222	61.6
Aroclor-1268	2	11.604	-0.022	29712	76.3	2	12.242	-0.025	259814	111.8
Aroclor-1268	3	12.006	0.005	18090	59.1	3	12.621	-0.023	12438	6.2
Aroclor-1268	4	12.747	-0.024	15602	15.8	4	12.768	-0.015	9693	19.5
Total Col1Ave (4 peaks):				54.1		Total Col2Ave (4 peaks):			49.8	RPD = 8

Corrected Ave (3 peaks): 46.7 Corrected Ave (3 peaks): 29.1 RPD = 46*

Total PCB Area Col1 (5.168 - 13.064) = 2270444 Col1 Total PCB = 0.8 ppm*

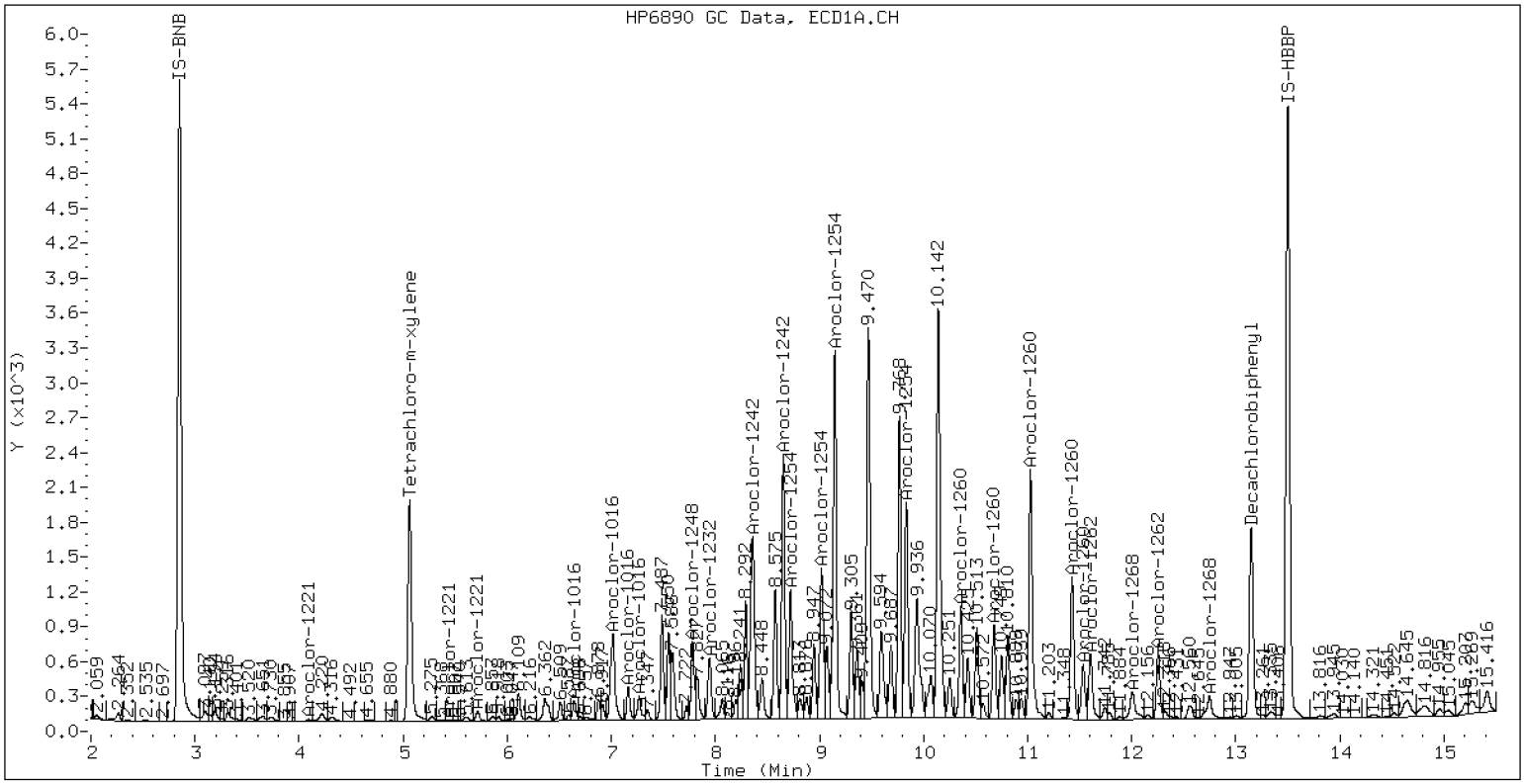
Total PCB Area Col2 (5.168 - 13.064) = 6663007 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

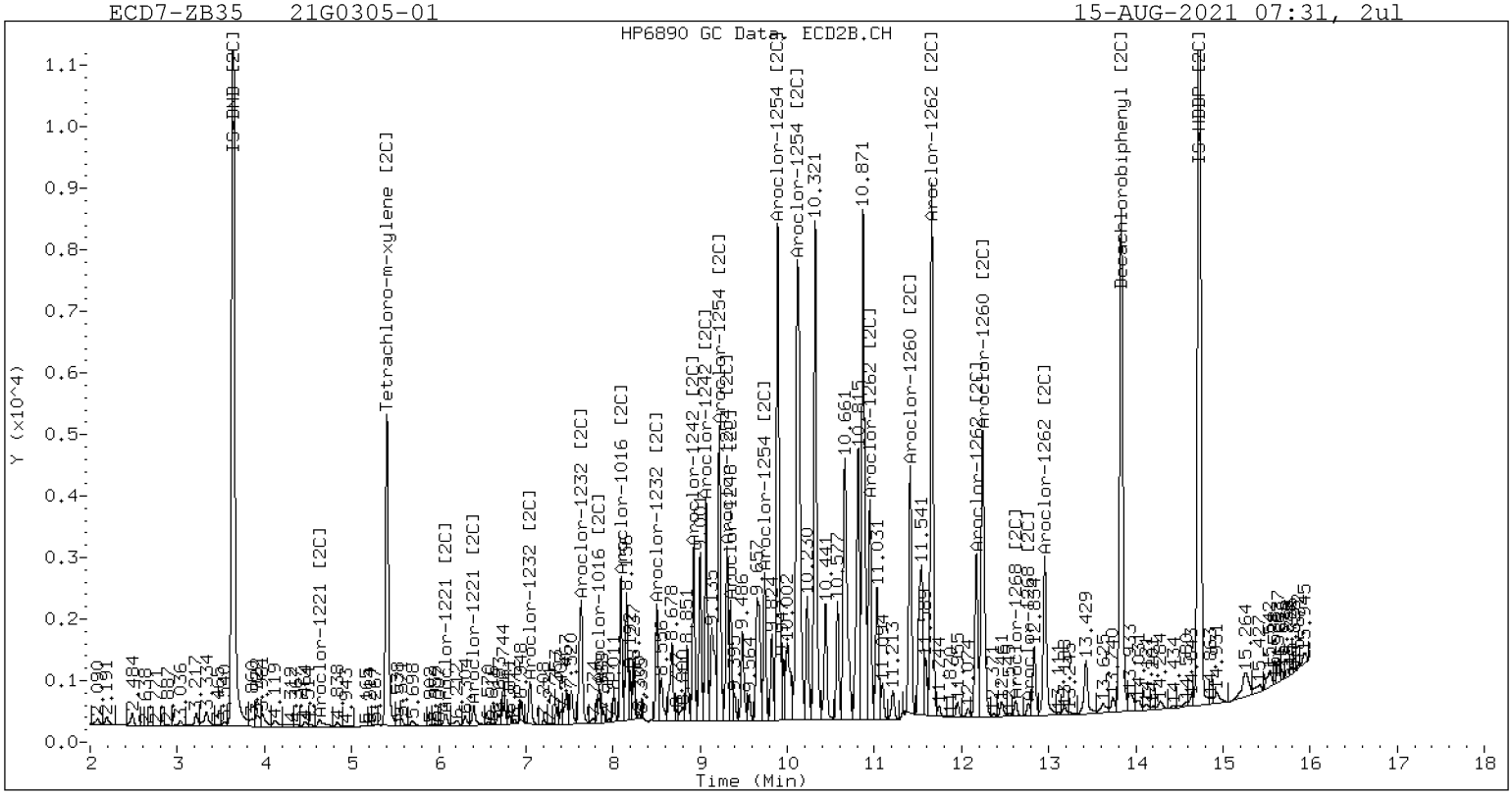
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-01 15-AUG-2021 07:31, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0305-01 15-AUG-2021 07:31, 2ul

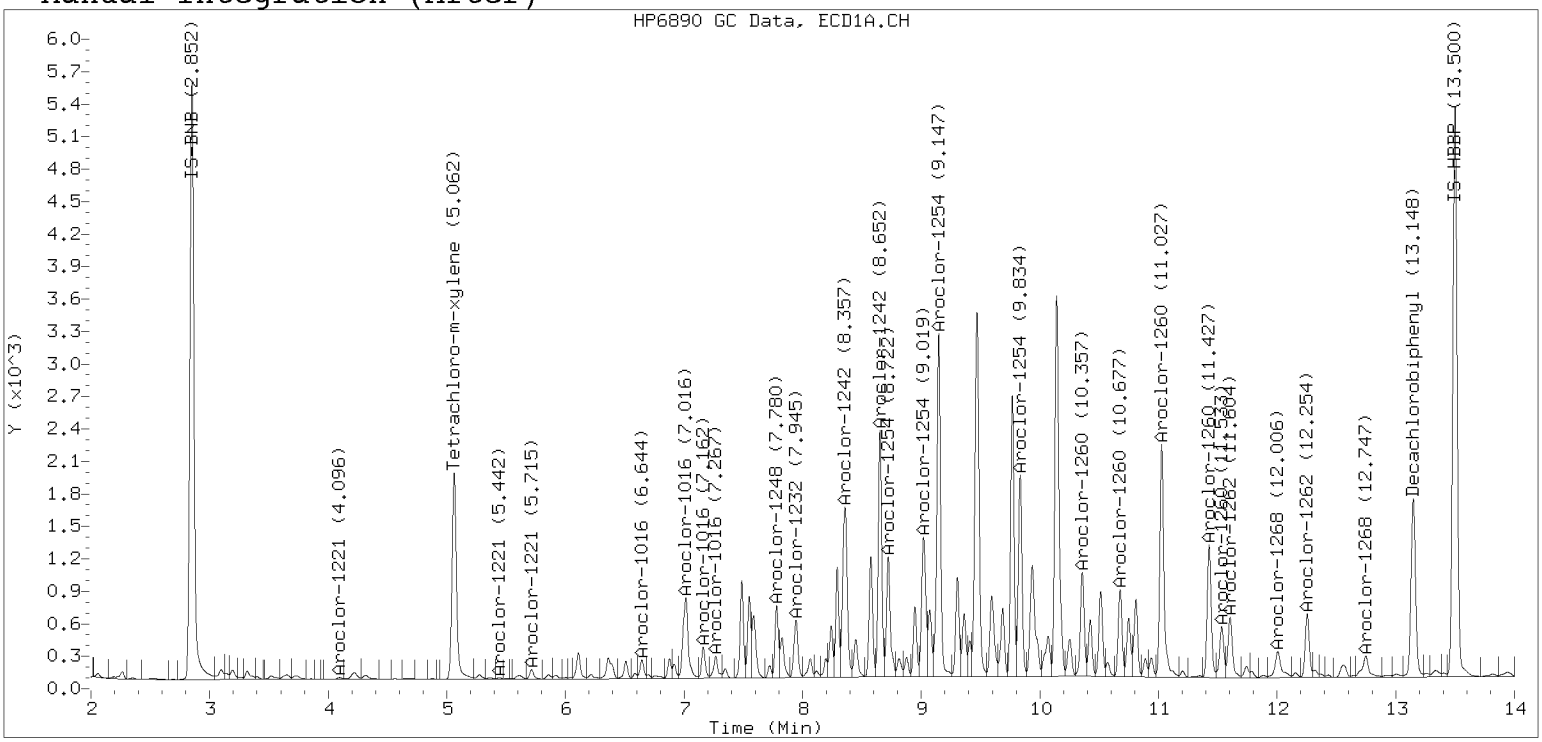


ZB-35 Manual Integration: YES

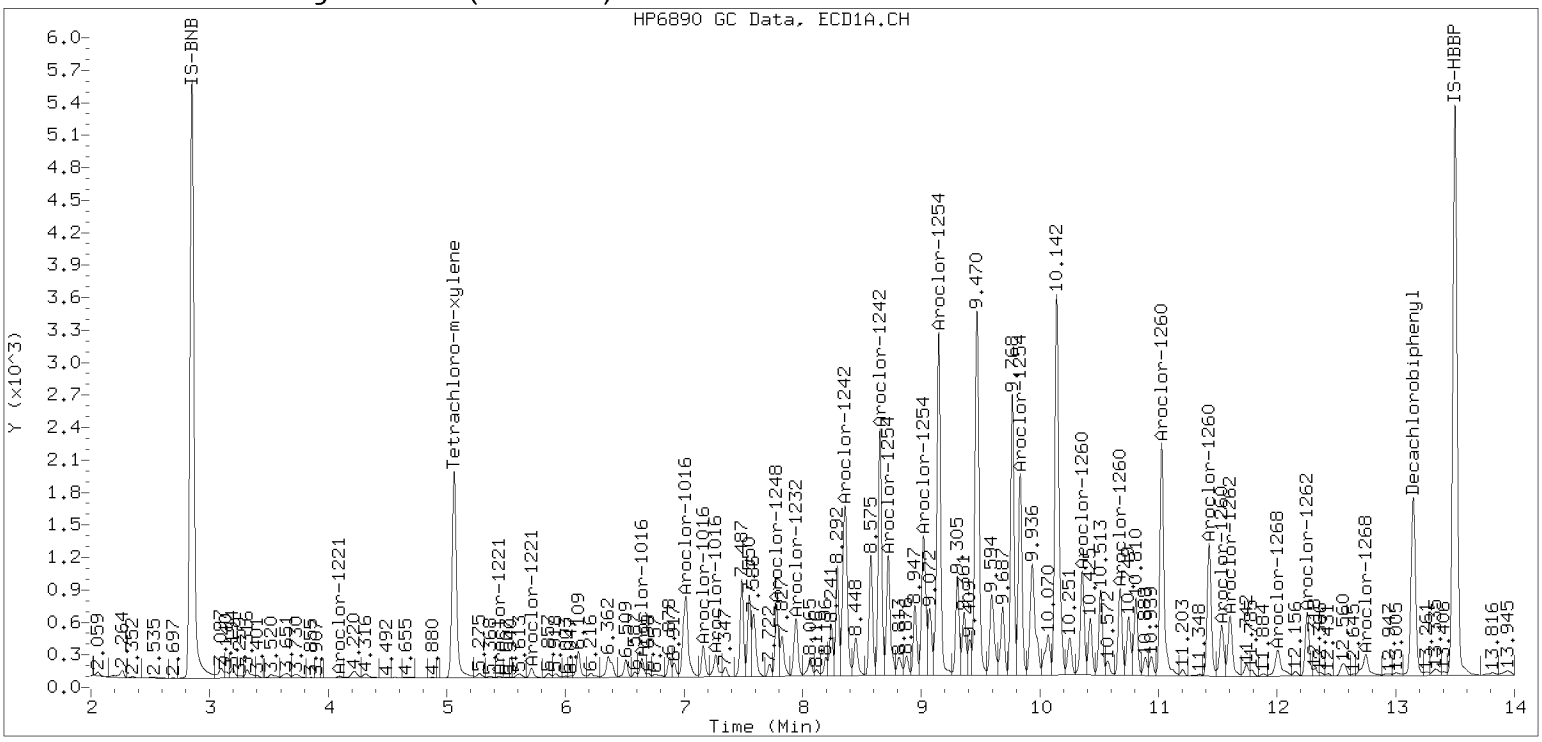
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210814.b/08142140ECD7.D Injection Date: 15-AUG-2021 07:31

Manual Integration (After)



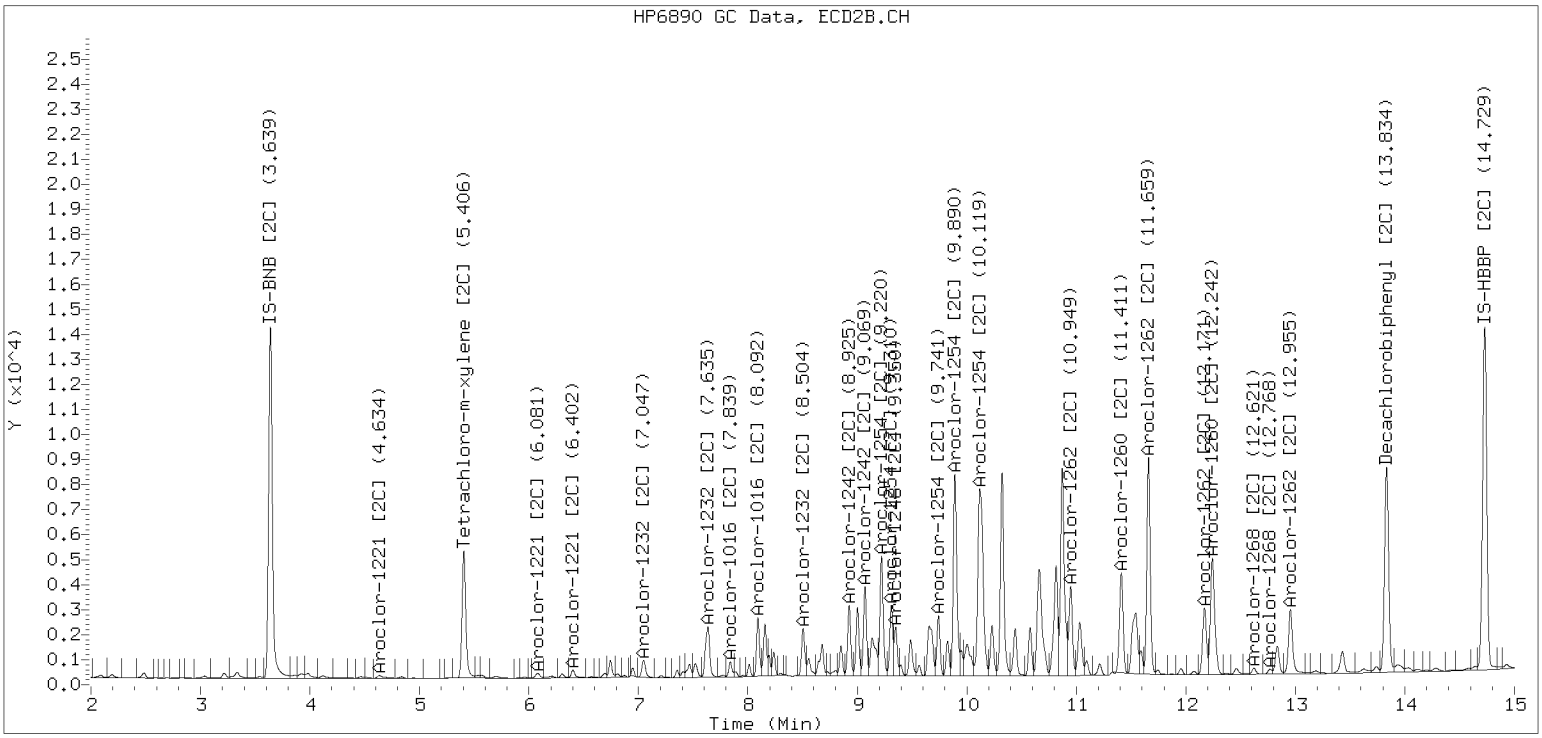
Processed Integration (Before)



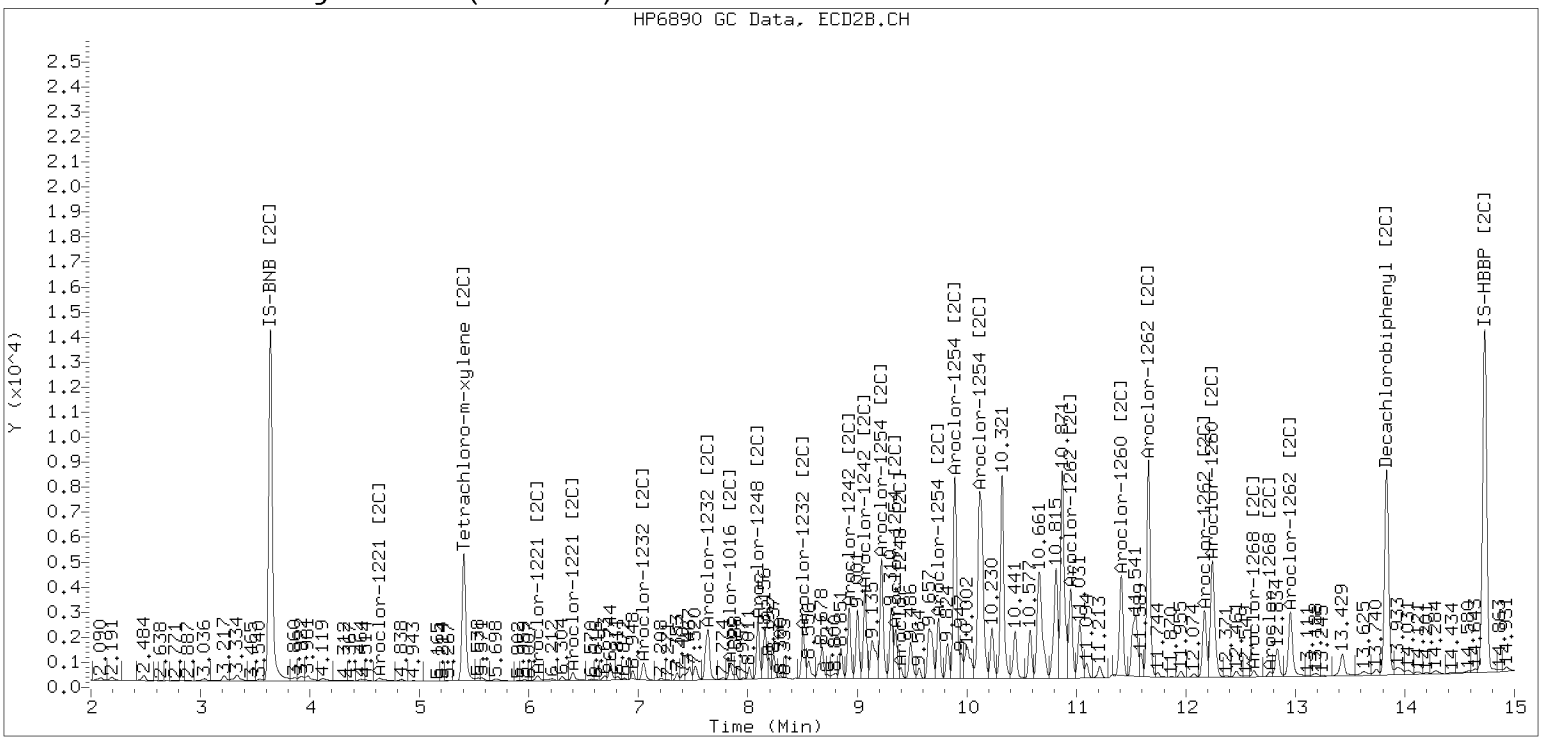
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142140ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC567

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-02 B	File ID:	08142141ECD7.D
Sampled:	07/22/21 09:34	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 07:51
% Solids:	64.80	Preparation:	EPA 3546 (Microwave)	Initial/Final:	19.32 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	200	1.6	4.0	E
11097-69-1	Aroclor 1254	1	1	115	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	32.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9876*	*7.44*	*93.2*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9876*	*6.29*	*78.8*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142141ECD7.D
Data file 2: /210814.b/210814.b/08142141ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-02
Client ID:
Injection Date: 15-AUG-2021 07:51
Report Date: 08/18/2021 08:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.061	-0.007	95353	5.406	-0.007	223177	31.5	27.0	15.4	Tetrachloro-m-xylene
13.150	-0.014	91477	13.836	-0.011	454684	37.3	28.0	28.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250407	-3.3
Hexabromobiphenyl	425681	270393	-36.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	642945	-10.8
Hexabromobiphenyl	863111	730101	-15.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.784	-0.016	105296	1003.4	1	8.095	-0.011	263124	987.6
Aroclor-1248	2	7.950	-0.020	117764	859.7	2	8.508	-0.012	316341	975.5
Aroclor-1248	3	8.355	-0.024	204862	1021.4	3	8.929	-0.023	386061	747.4
Aroclor-1248	4	8.656	-0.019	128335	1120.9	4	9.354	-0.026	296728	676.4
	Total Col1Ave (4 peaks):				1001.3	Total Col2Ave (4 peaks):			846.7	RPD = 17
	Corrected Ave (3 peaks):				961.5	Corrected Ave (3 peaks):			799.7	RPD = 18
Aroclor-1254	1	8.656	-0.021	128335	594.1	1	9.223	-0.017	261352	477.8
Aroclor-1254	2	8.726	-0.022	55760	557.6	2	9.354	0.021	296728	924.3
Aroclor-1254	3	9.021	-0.024	75700	537.6	3	9.744	-0.019	144046	345.4
Aroclor-1254	4	9.152	-0.027	173062	643.3	4	9.891	-0.023	414403	448.4
Aroclor-1254	5	9.839	-0.031	94028	556.6	5	10.117	-0.035	528719	564.2
	Total Col1Ave (5 peaks):				577.8	Total Col2Ave (5 peaks):			552.0	RPD = 5
	Corrected Ave (4 peaks):				561.4	Corrected Ave (4 peaks):			458.9	RPD = 20
Aroclor-1260	1	10.363	-0.021	19712	162.0	1	11.416	-0.010	121116	199.6
Aroclor-1260	2	10.680	-0.023	17029	142.6	2	11.661	-0.017	184439	104.6
Aroclor-1260	3	11.030	-0.023	48266	149.6	3	12.244	-0.017	120331	106.1
Aroclor-1260	4	11.431	-0.024	27606	192.0	4	12.957	-0.015	63503	117.1
Aroclor-1260	5	11.536	-0.019	11259	156.4	NS	---			----
	Total Col1Ave (5 peaks):				160.5	Total Col2Ave (4 peaks):			131.8	RPD = 20
	Corrected Ave (4 peaks):				152.7	Corrected Ave (3 peaks):			109.2	RPD = 33
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.168 - 13.064) = 3145882 Col1 Total PCB = 1.2 ppm*

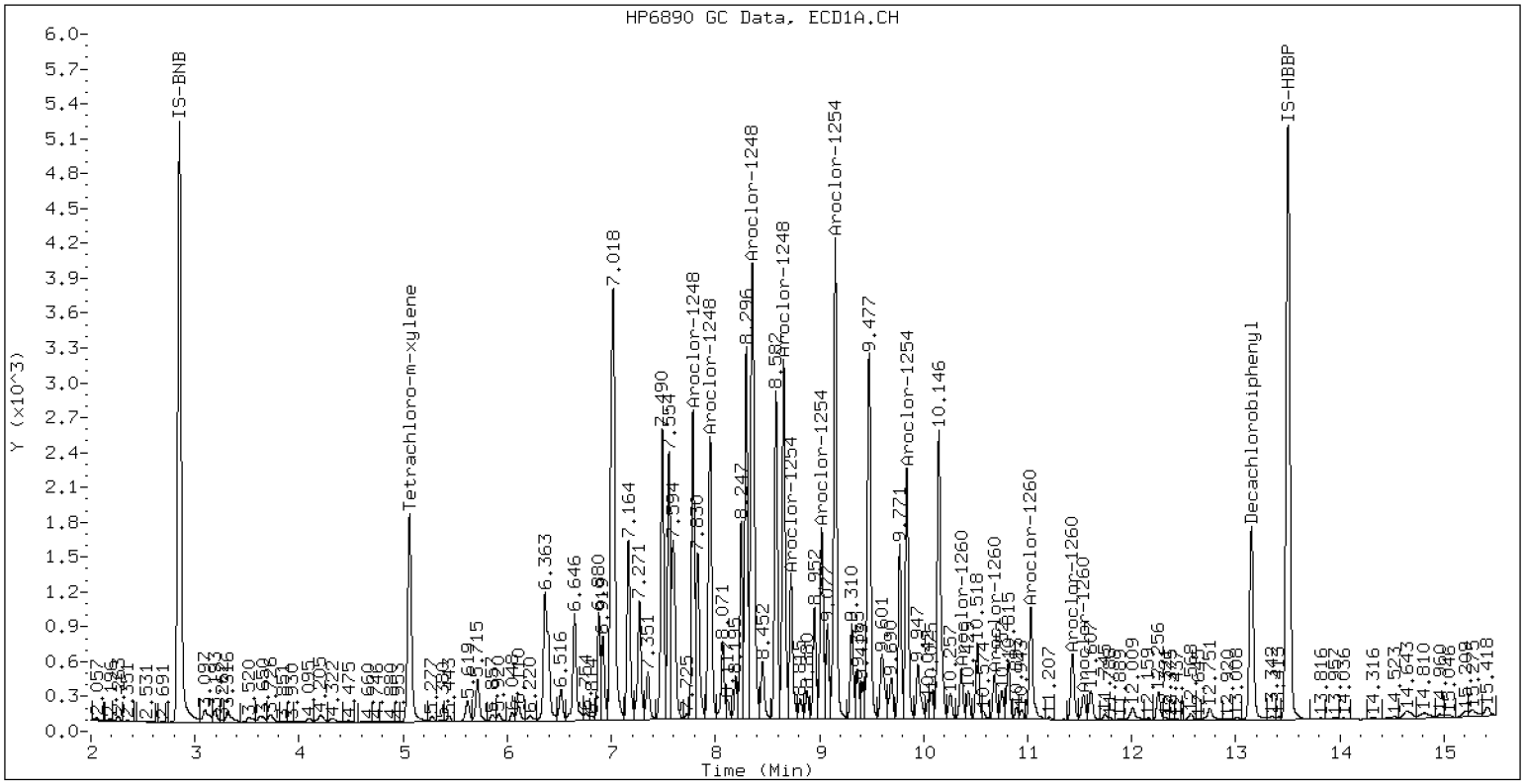
Total PCB Area Col2 (5.168 - 13.064) = 8770994 Col2 Total PCB = 1.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

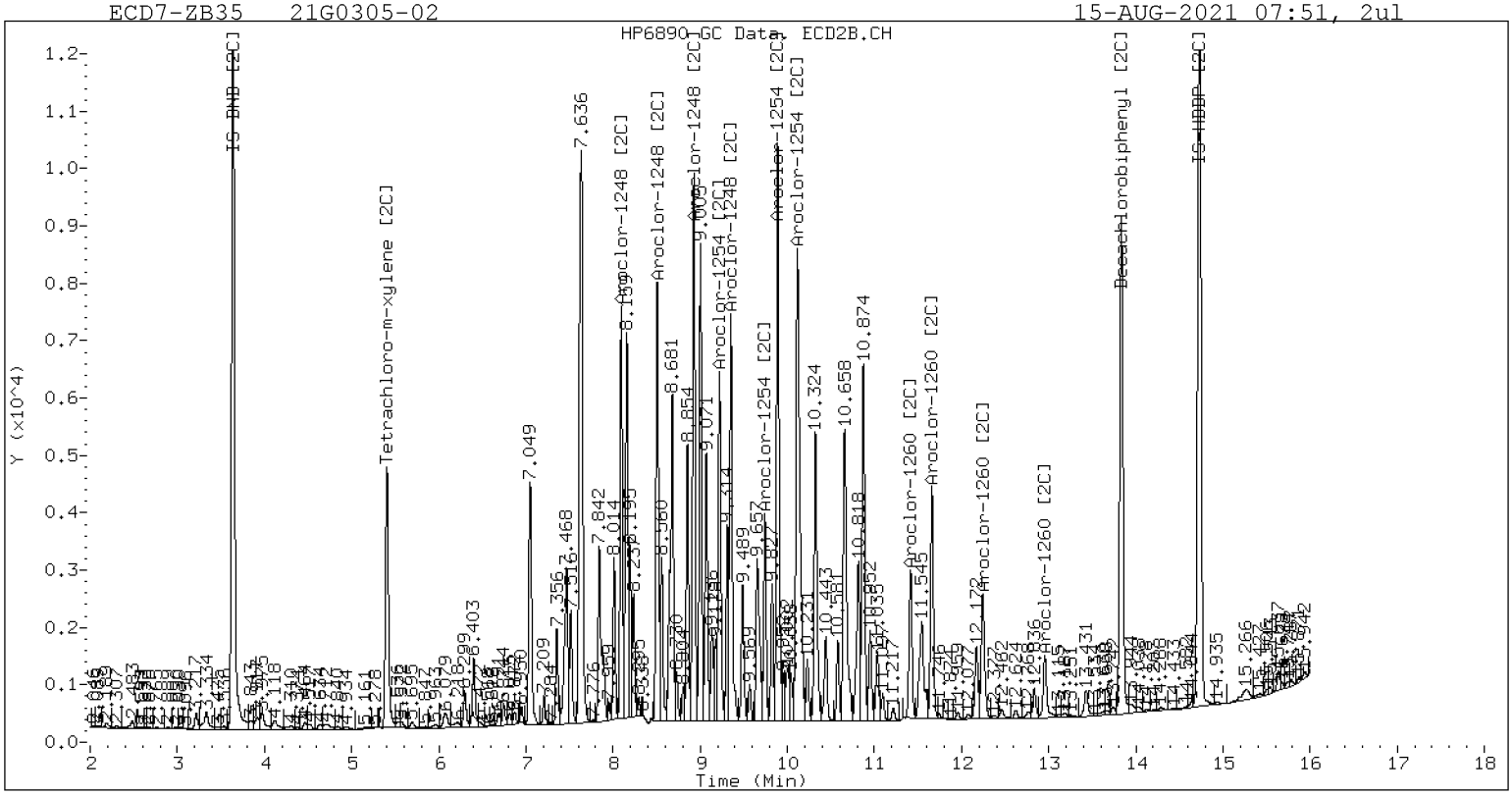
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-02 15-AUG-2021 07:51, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0305-02 15-AUG-2021 07:51, 2ul

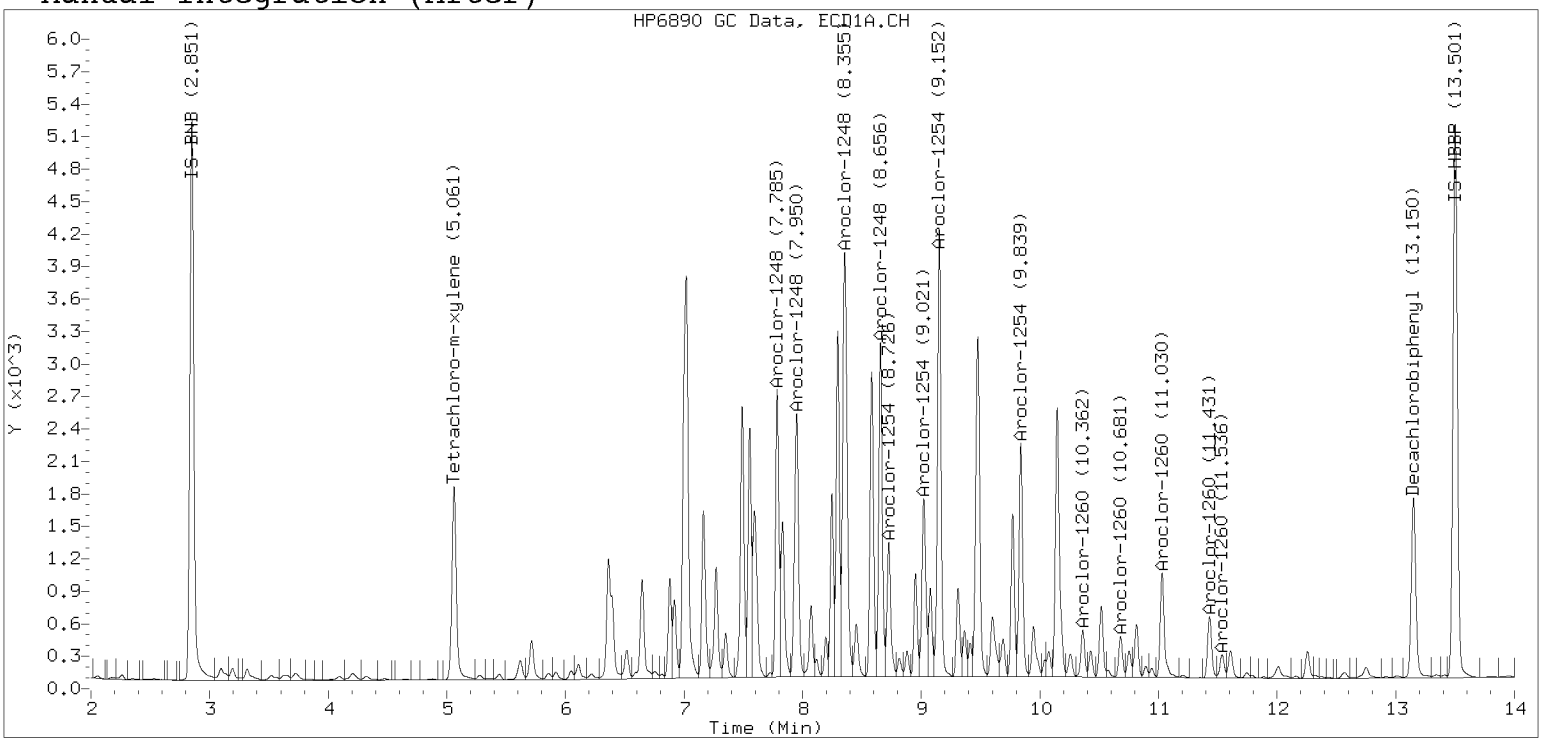


ZB-35 Manual Integration: NO

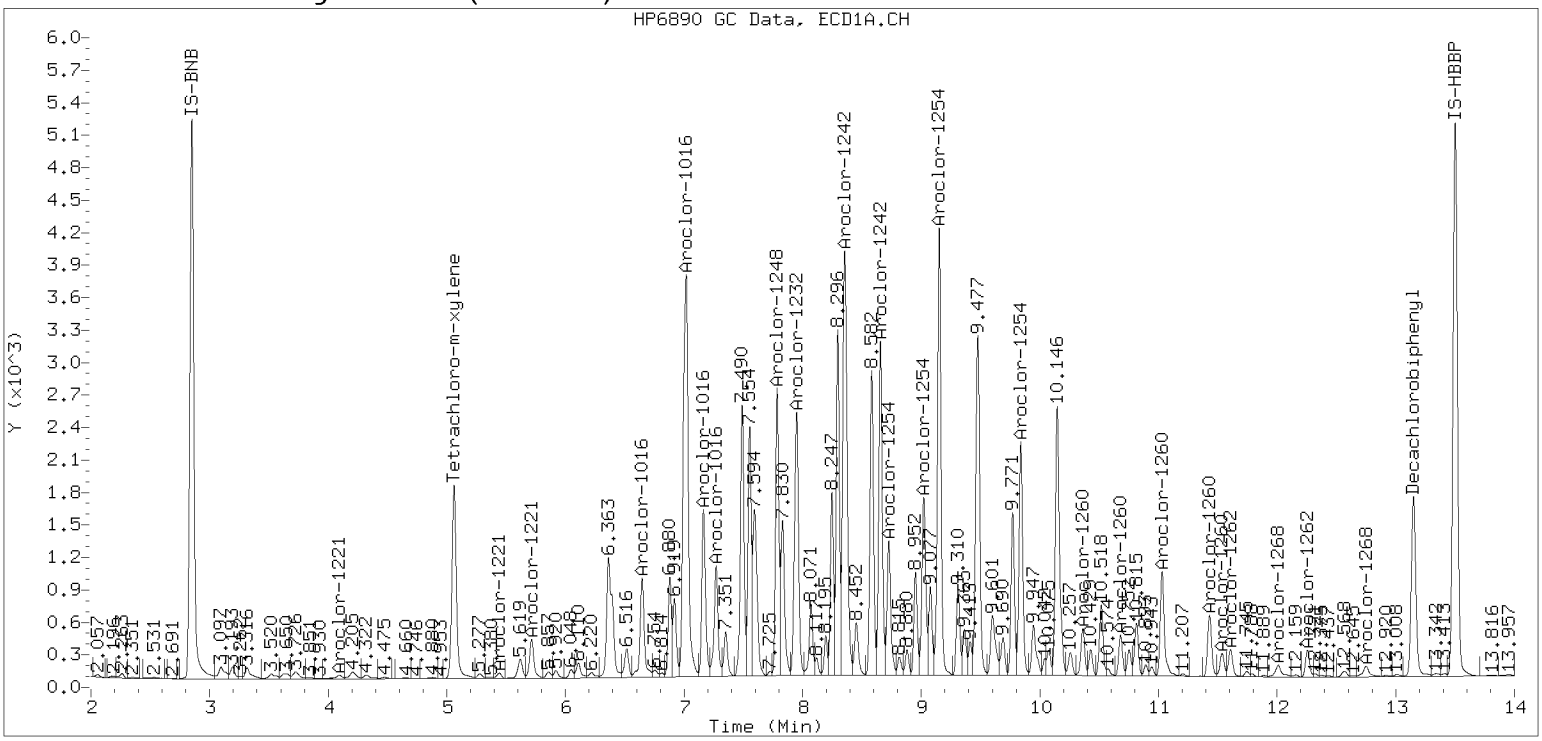
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210814.b/08142141ECD7.D Injection Date: 15-AUG-2021 07:51

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC567

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-02RE1 B	File ID:	08162124S.D
Sampled:	07/22/21 09:34	Prepared:	08/03/21 11:35	Analyzed:	08/16/21 20:00
% Solids:	64.80	Preparation:	EPA 3546 (Microwave)	Initial/Final:	19.32 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0214	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	20.0	7.8	20.0	U
11104-28-2	Aroclor 1221	1	5	20.0	7.8	20.0	U
11141-16-5	Aroclor 1232	1	5	20.0	7.8	20.0	U
53469-21-9	Aroclor 1242	1	5	20.0	7.8	20.0	U
12672-29-6	Aroclor 1248	1	5	280	7.8	20.0	D
11097-69-1	Aroclor 1254	1	5	163	7.8	20.0	D
11096-82-5	Aroclor 1260	1	5	39.6	2.9	20.0	D

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9876*	*8.75*	*110*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9876*	*7.49*	*93.7*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162124S.D
Data file 2: /210816.b/210816.b/08162124S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-02RE1
Client ID:
Injection Date: 16-AUG-2021 20:00
Report Date: 08/17/2021 15:34
Matrix: NONE
Dilution Factor: 5.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.066	-0.003	22243	5.408	-0.009	59454	7.5	6.8	9.9	Tetrachloro-m-xylene
13.158	-0.008	25434	13.839	-0.041	127526	8.8	7.0	22.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	245439	-5.2
Hexabromobiphenyl	425681	319588	-24.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	681429	-5.5
Hexabromobiphenyl	863111	822422	-4.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.794	-0.004	28037	272.6	1	8.099	-0.007	78961	279.6
Aroclor-1248	2	7.959	-0.009	32809	244.4	2	8.513	-0.008	88408	257.2
Aroclor-1248	3	8.368	-0.007	55405	281.8	3	8.936	-0.011	114990	210.0
Aroclor-1248	4	8.666	-0.007	36351	323.9	4	9.362	-0.015	91018	195.8
Total Col1Ave (4 peaks): 280.7						Total Col2Ave (4 peaks): 235.7 RPD = 17				
Corrected Ave (3 peaks): 266.3						Corrected Ave (3 peaks): 221.0 RPD = 19				
Aroclor-1254	1	8.666	-0.009	36351	171.7	1	9.229	-0.010	81703	140.9
Aroclor-1254	2	8.737	-0.009	16962	173.0	2	9.320	-0.011	36750	108.0
Aroclor-1254	3	9.033	-0.008	18731	135.7	3	9.751	-0.011	44429	100.5
Aroclor-1254	4	9.166	-0.010	47671	180.8	4	9.900	-0.014	115663	118.1
Aroclor-1254	5	9.855	-0.012	25990	157.0	5	10.126	-0.021	161416	162.5
Total Col1Ave (5 peaks): 163.6						Total Col2Ave (5 peaks): 126.0 RPD = 26				
Corrected Ave (4 peaks): 159.3						Corrected Ave (4 peaks): 116.9 RPD = 31				
Aroclor-1260	1	10.375	-0.008	5847	40.7	1	11.423	-0.002	38800	56.8
Aroclor-1260	2	10.693	-0.007	5036	35.7	2	11.668	-0.013	57969	29.2
Aroclor-1260	3	11.043	-0.008	14703	38.5	3	12.250	-0.010	36989	28.9
Aroclor-1260	4	11.442	-0.010	7756	45.6	4	12.962	-0.010	19378	31.7
Aroclor-1260	5	11.548	-0.006	3204	37.7	NS	---			----
Total Col1Ave (5 peaks): 39.6						Total Col2Ave (4 peaks): 36.6 RPD = 8				
Corrected Ave (4 peaks): 38.1						Corrected Ave (3 peaks): 29.9 RPD = 24				
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 862378 Col1 Total PCB = 0.3 ppm*

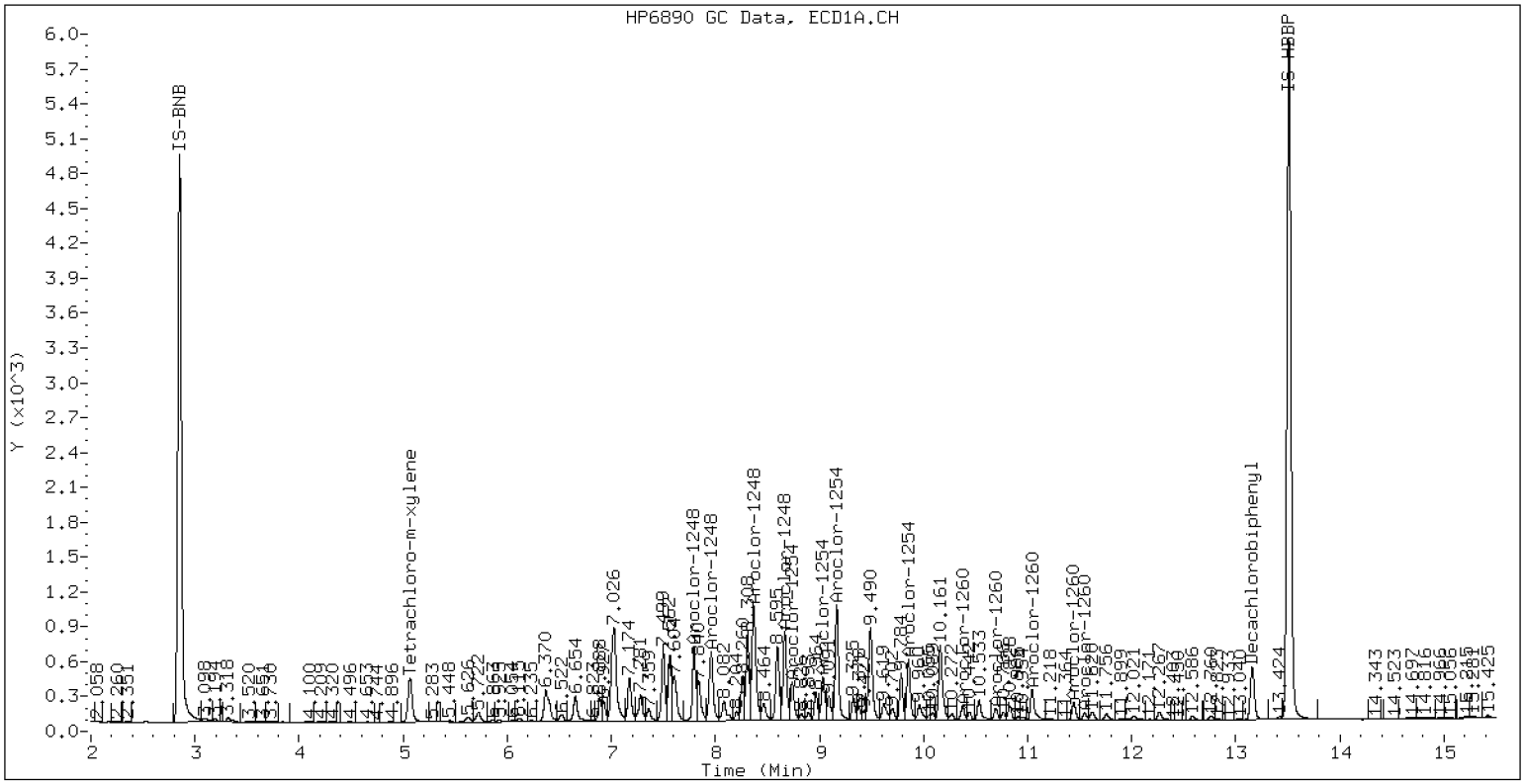
Total PCB Area Col2 (5.169 - 13.066) = 2711268 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

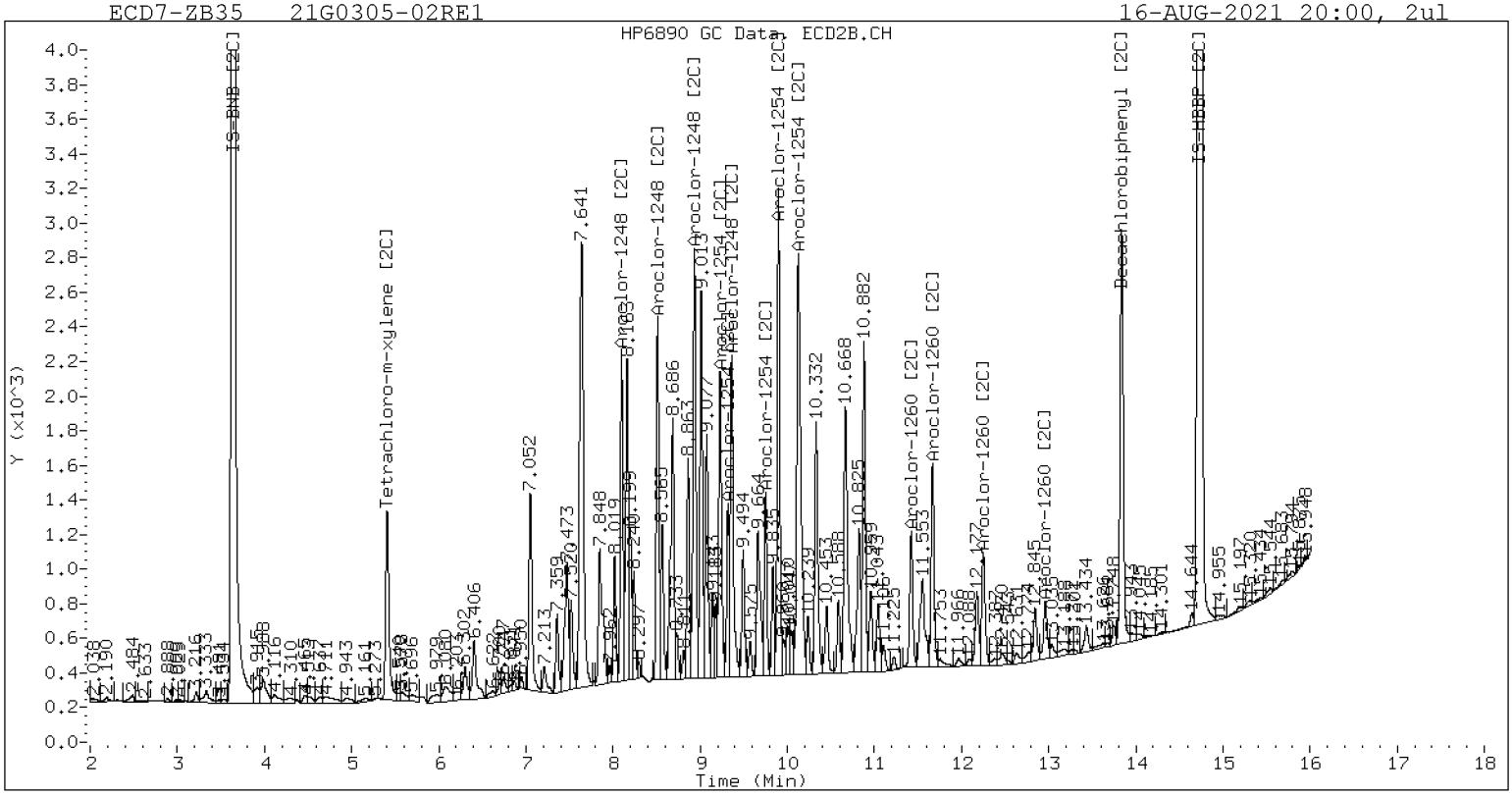
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-02RE1 16-AUG-2021 20:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-02RE1 16-AUG-2021 20:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC566

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-03 B	File ID:	08142142ECD7.D
Sampled:	07/22/21 09:48	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 08:12
% Solids:	54.82	Preparation:	EPA 3546 (Microwave)	Initial/Final:	22.8 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	306	1.6	4.0	E
11097-69-1	Aroclor 1254	1	1	310	1.6	4.0	E
11096-82-5	Aroclor 1260	1	1	141	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0007*	*8.10*	*101*	*40 - 126*	
Tetrachlorometaxylene	*1*	*8.0007*	*5.96*	*74.5*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142142ECD7.D
Data file 2: /210814.b/210814.b/08142142ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-03
Client ID:
Injection Date: 15-AUG-2021 08:12
Report Date: 08/18/2021 09:02
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.062	-0.006	95618	5.406	-0.007	227608	29.8	26.0	13.7	Tetrachloro-m-xylene
13.149	-0.016	98231	13.835	-0.012	484547	40.5	29.8	30.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265629	2.6
Hexabromobiphenyl	425681	267207	-37.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	682431	-5.3
Hexabromobiphenyl	863111	730812	-15.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.780	-0.020	162111	1456.3	1	8.093	-0.012	582665	2060.4
Aroclor-1248	2	7.944	-0.026	157075	1081.0	2	8.505	-0.015	475907	1382.6
Aroclor-1248	3	8.356	-0.023	437887	2058.0	3	8.926	-0.026	564548	1029.7
Aroclor-1248	4	8.652	-0.023	375969	3095.5	4	9.351	-0.029	300179	644.6
	Total Col1Ave (4 peaks): 1922.7					Total Col2Ave (4 peaks): 1279.3				RPD = 40*
	Corrected Ave (3 peaks): 1531.8					Corrected Ave (3 peaks): 1019.0				RPD = 40*
Aroclor-1254	1	8.652	-0.025	375969	1640.6	1	9.222	-0.018	811944	1398.4
Aroclor-1254	2	8.722	-0.026	162097	1528.0	2	9.311	-0.022	385276	1130.7
Aroclor-1254	3	9.016	-0.029	198499	1328.9	3	9.742	-0.021	364733	824.0
Aroclor-1254	4	9.149	-0.030	515195	1805.4	4	9.893	-0.022	1547448	1577.7
Aroclor-1254	5	9.834	-0.036	258500	1442.4	5	10.119	-0.032	1636111	1644.8
	Total Col1Ave (5 peaks): 1549.1					Total Col2Ave (5 peaks): 1315.1				RPD = 16
	Corrected Ave (4 peaks): 1485.0					Corrected Ave (4 peaks): 1232.7				RPD = 19
Aroclor-1260	1	10.358	-0.026	82430	685.7	1	11.413	-0.013	465768	766.7
Aroclor-1260	2	10.677	-0.026	72530	614.7	2	11.662	-0.016	812150	459.9
Aroclor-1260	3	11.026	-0.027	199283	624.9	3	12.244	-0.016	536316	472.3
Aroclor-1260	4	11.427	-0.028	124177	874.0	4	12.956	-0.015	277276	510.8
Aroclor-1260	5	11.533	-0.022	50752	713.4	NS	---			----
	Total Col1Ave (5 peaks): 702.6					Total Col2Ave (4 peaks): 552.4				RPD = 24
	Corrected Ave (4 peaks): 659.7					Corrected Ave (3 peaks): 481.0				RPD = 31
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.168 - 13.064) = 7456647 Col1 Total PCB = 2.8 ppm*

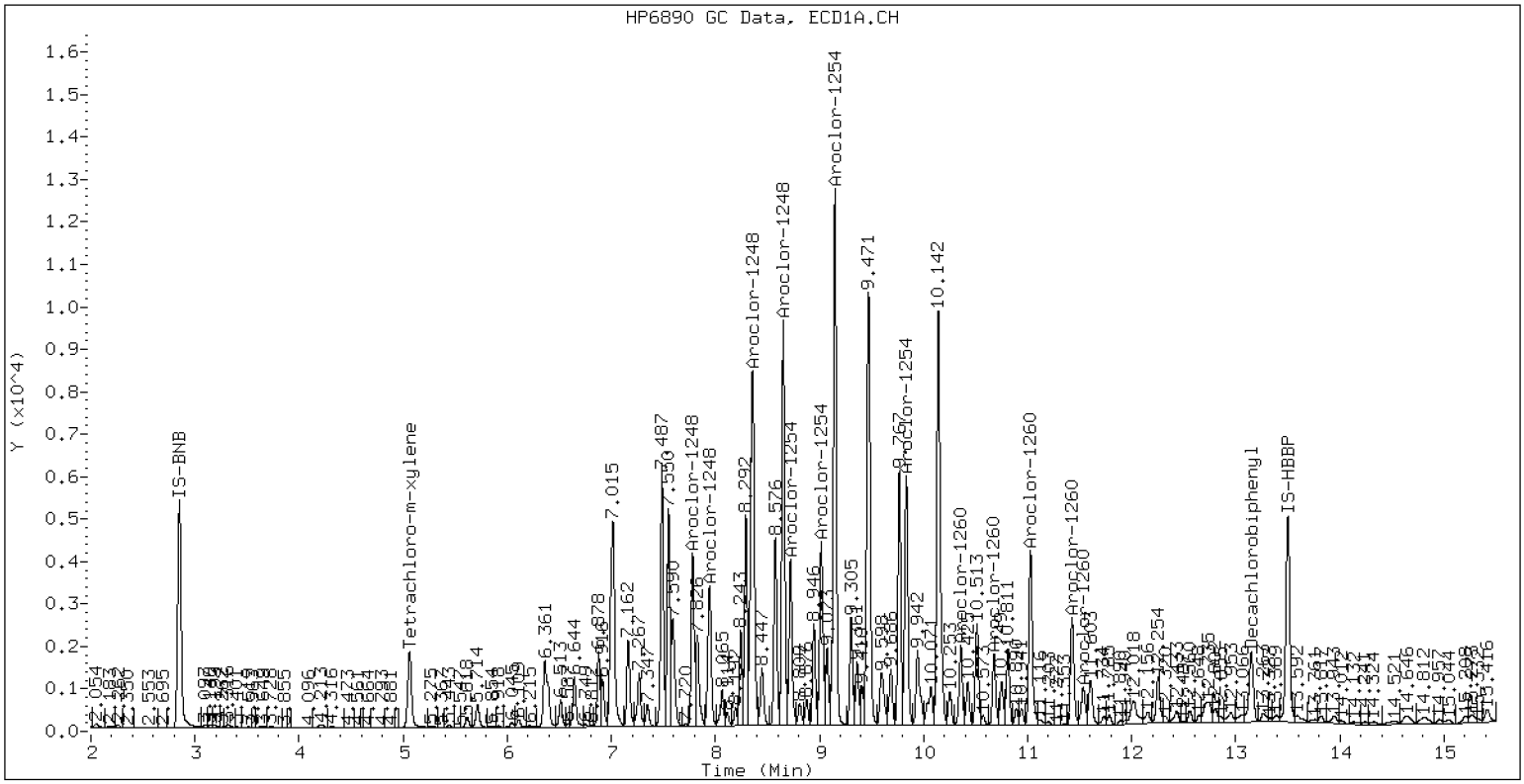
Total PCB Area Col2 (5.168 - 13.064) = 20887080 Col2 Total PCB = 2.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

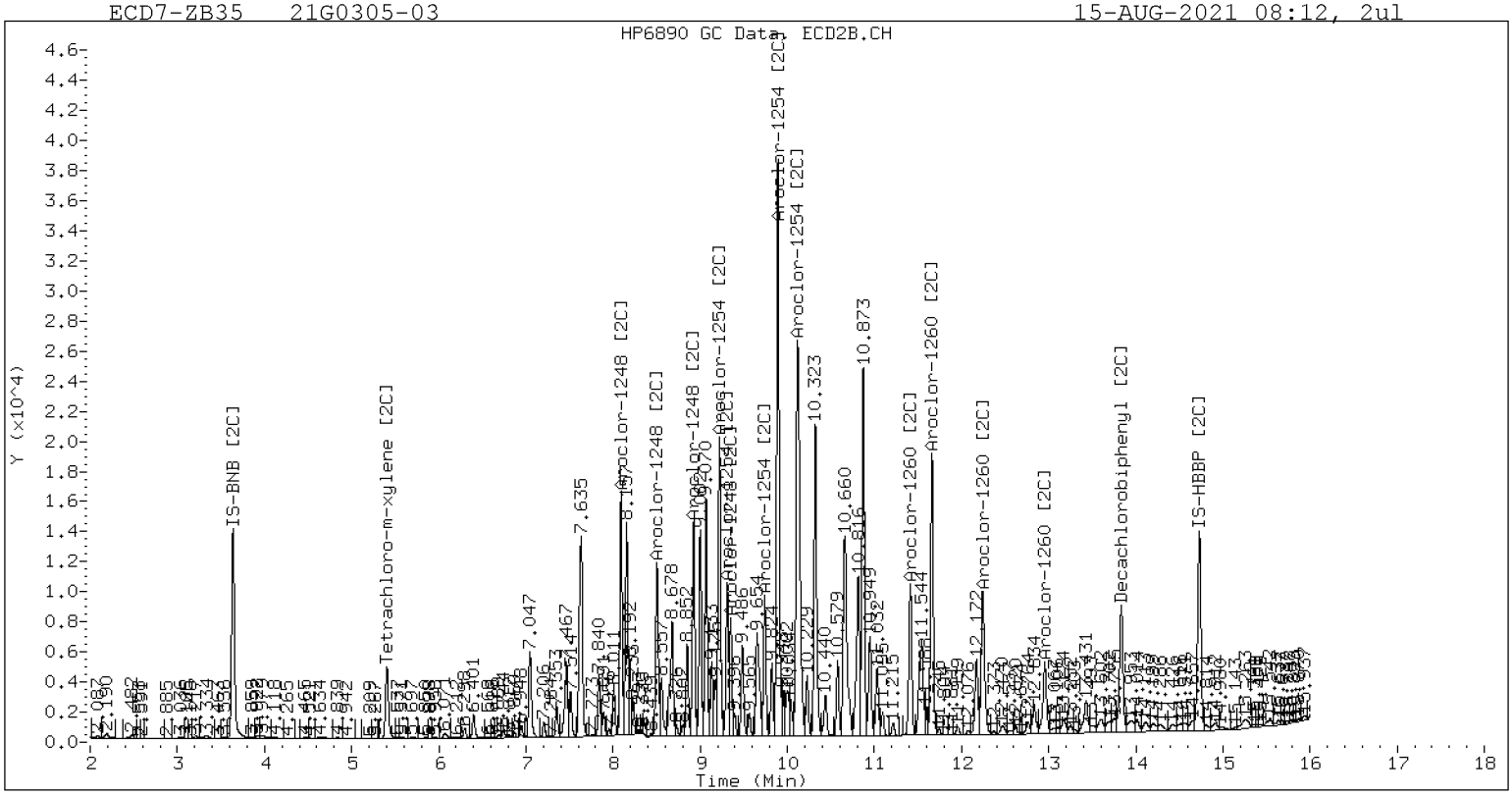
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-03 15-AUG-2021 08:12, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0305-03 15-AUG-2021 08:12, 2ul

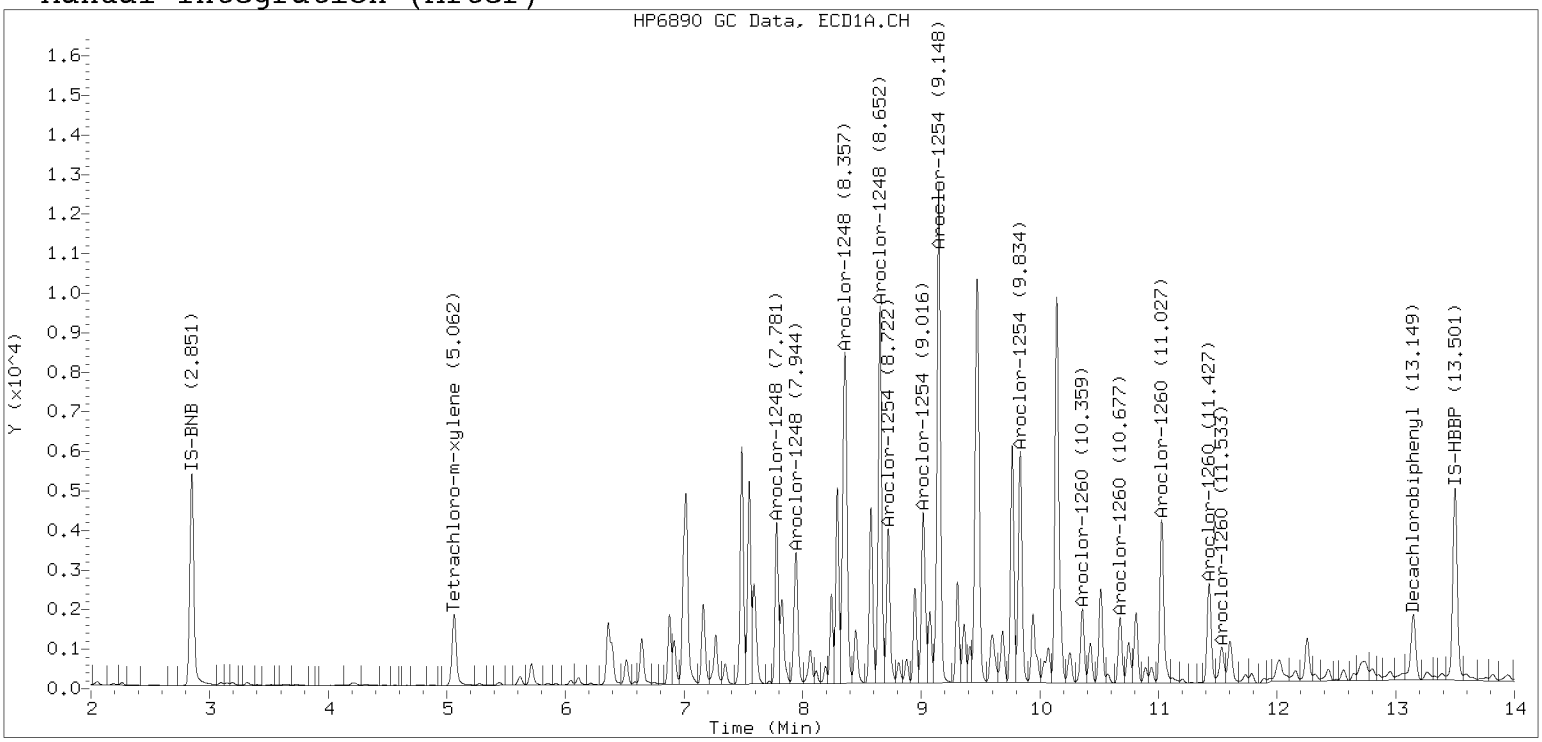


ZB-35 Manual Integration: YES

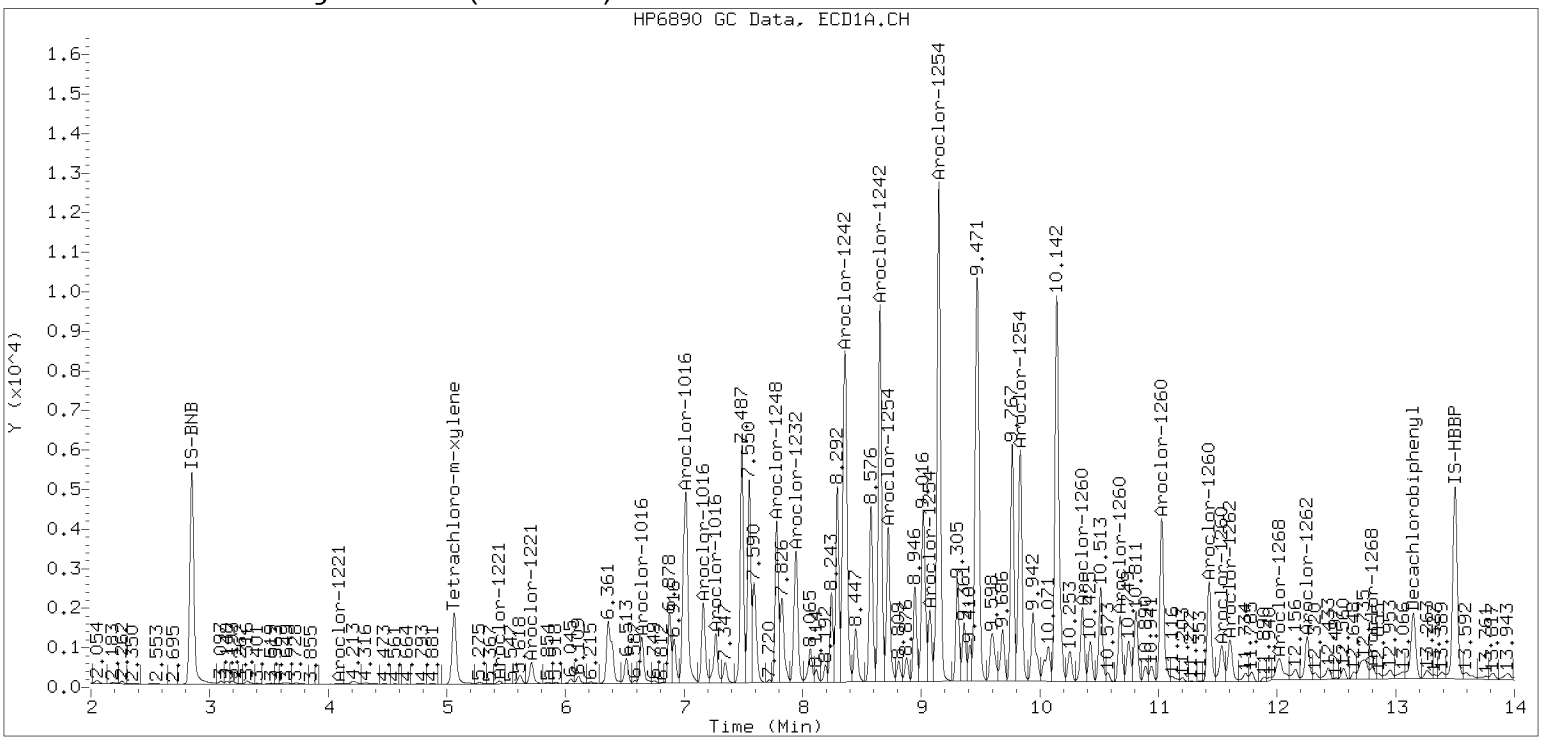
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210814.b/08142142ECD7.D Injection Date: 15-AUG-2021 08:12

Manual Integration (After)



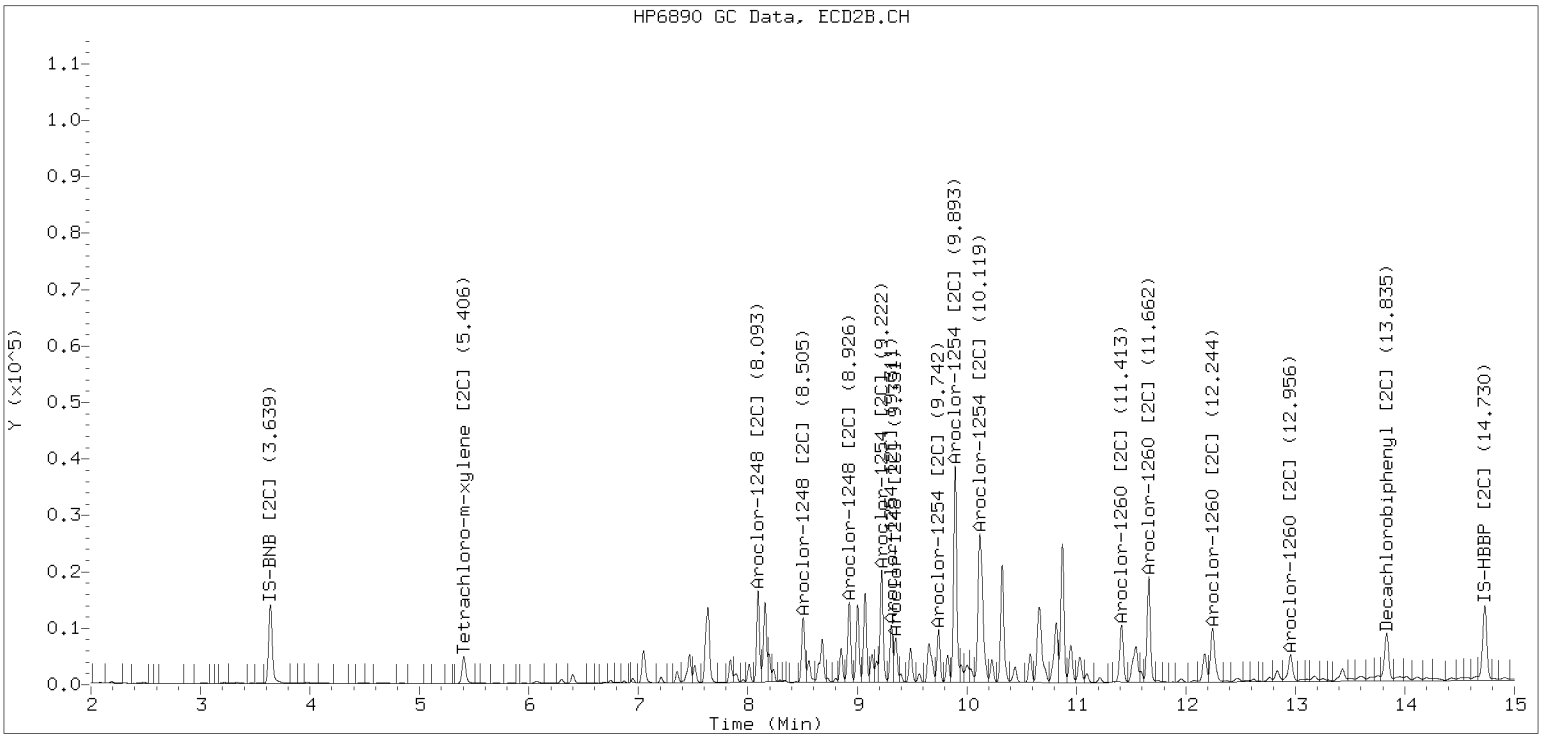
Processed Integration (Before)



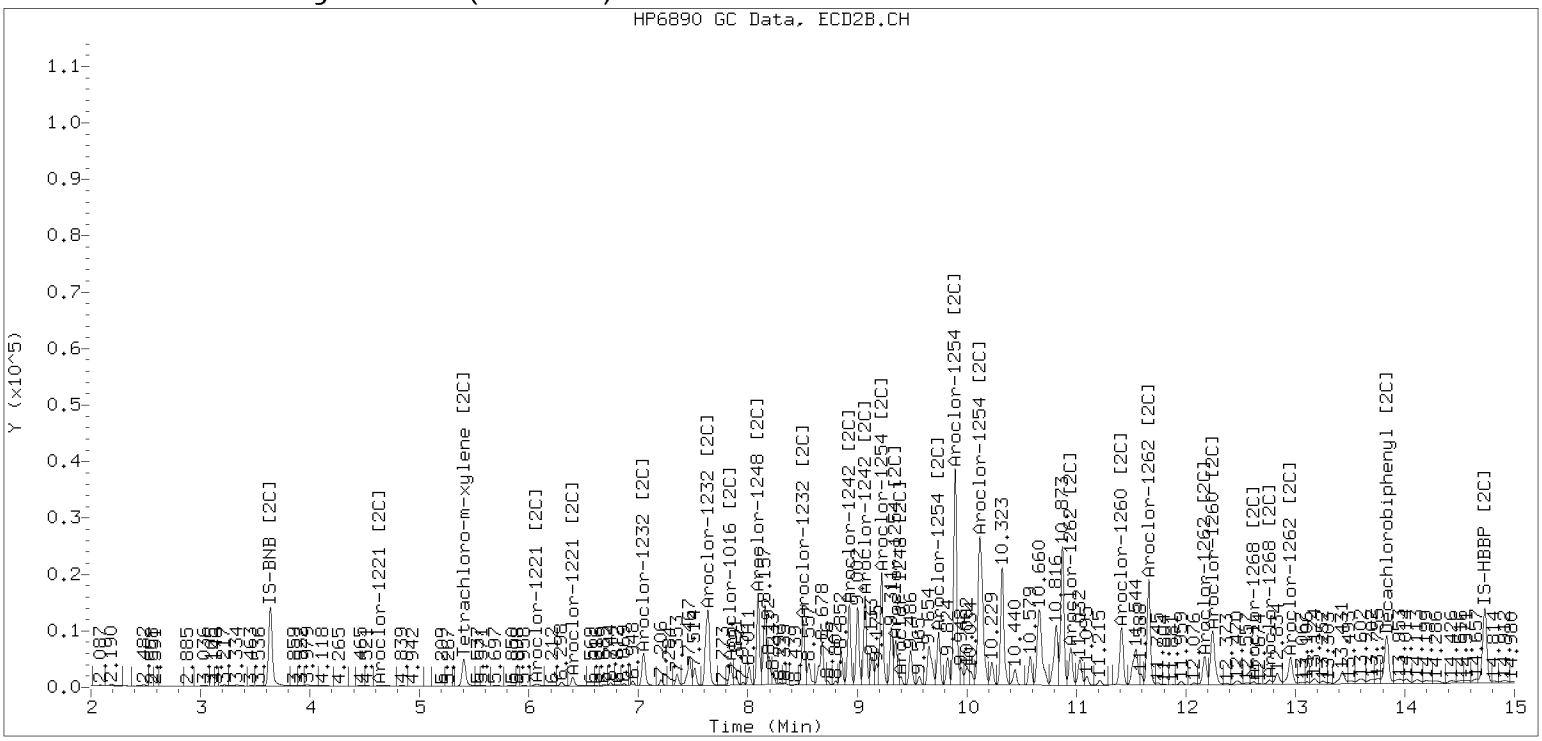
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142142ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC566

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-03RE1 B	File ID:	08162125S.D
Sampled:	07/22/21 09:48	Prepared:	08/03/21 11:35	Analyzed:	08/16/21 20:21
% Solids:	54.82	Preparation:	EPA 3546 (Microwave)	Initial/Final:	22.8 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0214	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	20.0	7.8	20.0	U
11104-28-2	Aroclor 1221	1	5	20.0	7.8	20.0	U
11141-16-5	Aroclor 1232	1	5	20.0	7.8	20.0	U
53469-21-9	Aroclor 1242	1	5	20.0	7.8	20.0	U
12672-29-6	Aroclor 1248	1	5	408	7.8	20.0	D
11097-69-1	Aroclor 1254	1	5	411	7.8	20.0	D
11096-82-5	Aroclor 1260	1	5	155	2.9	20.0	D

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0007*	*11.7*	*146*	*40 - 126*	*
Tetrachlorometaxylene	*1*	*8.0007*	*7.04*	*87.9*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162125S.D
Data file 2: /210816.b/210816.b/08162125S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-03RE1
Client ID:
Injection Date: 16-AUG-2021 20:21
Report Date: 08/17/2021 15:27
Matrix: NONE
Dilution Factor: 5.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.065	-0.004	21789	5.409	-0.008	59156	7.0	6.4	9.1	Tetrachloro-m-xylene
13.156	-0.010	35016	13.836	-0.044	130974	11.7	6.9	50.9*	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	256207	-1.0
Hexabromobiphenyl	425681	330417	-22.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	716344	-0.6
Hexabromobiphenyl	863111	849413	-1.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.792	-0.006	42436	395.2	1	8.099	-0.007	159388	536.9
Aroclor-1248	2	7.956	-0.012	41799	298.2	2	8.511	-0.009	122721	339.6
Aroclor-1248	3	8.369	-0.006	108905	530.7	3	8.935	-0.011	152488	265.0
Aroclor-1248	4	8.664	-0.009	95599	816.1	4	9.360	-0.017	99420	203.4
	Total Col1Ave (4 peaks):				510.0	Total Col2Ave (4 peaks):			336.2	RPD = 41*
	Corrected Ave (3 peaks):				408.0	Corrected Ave (3 peaks):			269.3	RPD = 41*
Aroclor-1254	1	8.664	-0.011	95599	432.5	1	9.228	-0.011	219777	360.6
Aroclor-1254	2	8.735	-0.011	44521	435.1	2	9.319	-0.012	105023	293.6
Aroclor-1254	3	9.031	-0.010	47766	331.5	3	9.751	-0.012	101786	219.1
Aroclor-1254	4	9.162	-0.014	129436	470.3	4	9.900	-0.014	393325	382.0
Aroclor-1254	5	9.850	-0.018	67012	387.7	5	10.131	-0.017	424827	406.9
	Total Col1Ave (5 peaks):				411.4	Total Col2Ave (5 peaks):			332.4	RPD = 21
	Corrected Ave (4 peaks):				396.7	Corrected Ave (4 peaks):			313.8	RPD = 23
Aroclor-1260	1	10.372	-0.011	22724	152.9	1	11.421	-0.004	135629	192.1
Aroclor-1260	2	10.690	-0.010	20035	137.3	2	11.667	-0.015	221731	108.0
Aroclor-1260	3	11.039	-0.011	55247	140.1	3	12.249	-0.012	150679	114.2
Aroclor-1260	4	11.439	-0.013	33429	190.3	4	12.961	-0.012	77581	123.0
Aroclor-1260	5	11.544	-0.010	13531	153.8	NS	---			----
	Total Col1Ave (5 peaks):				154.9	Total Col2Ave (4 peaks):			134.3	RPD = 14
	Corrected Ave (4 peaks):				146.0	Corrected Ave (3 peaks):			115.1	RPD = 24
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 1960768 Col1 Total PCB = 0.8 ppm*

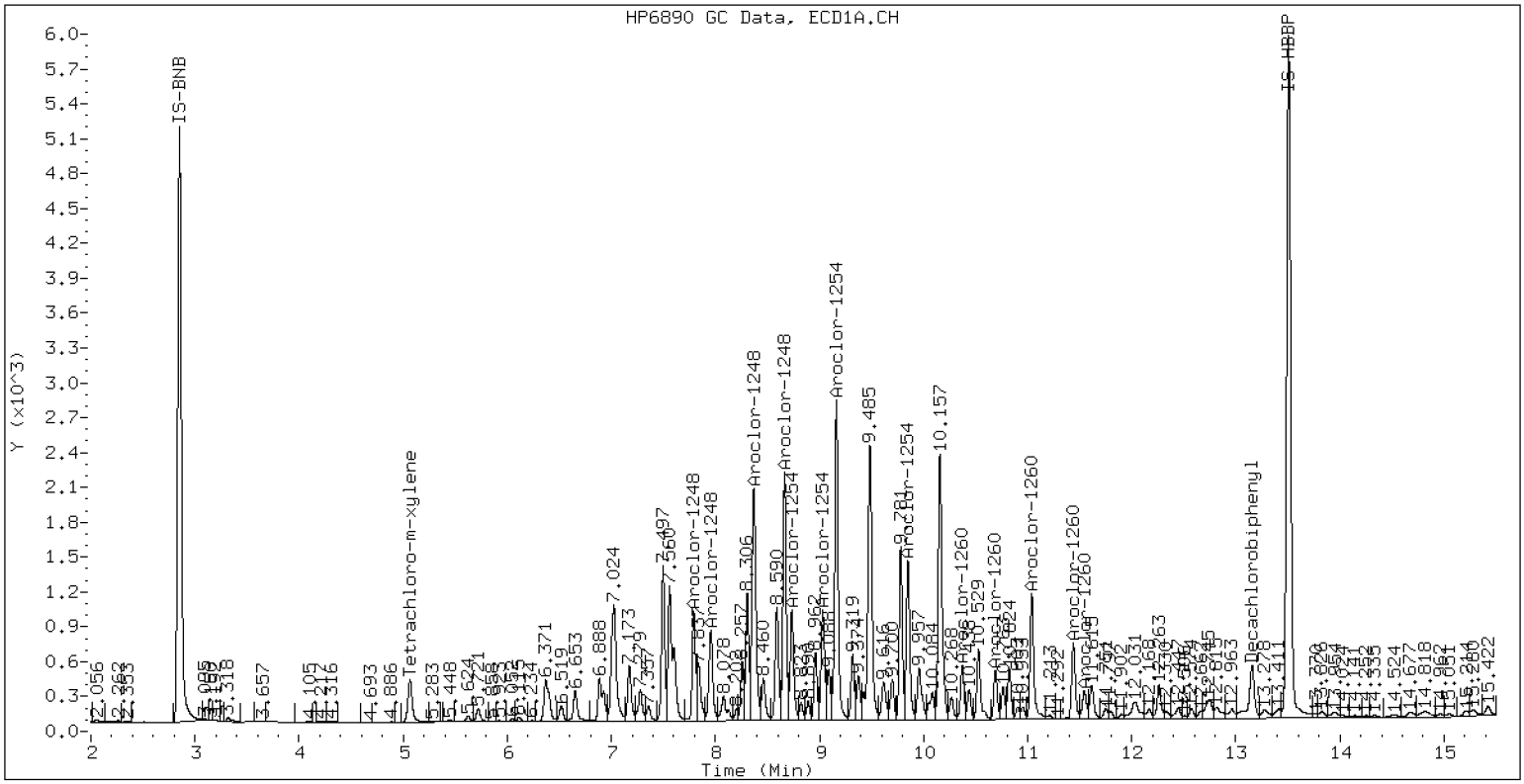
Total PCB Area Col2 (5.169 - 13.066) = 5681336 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

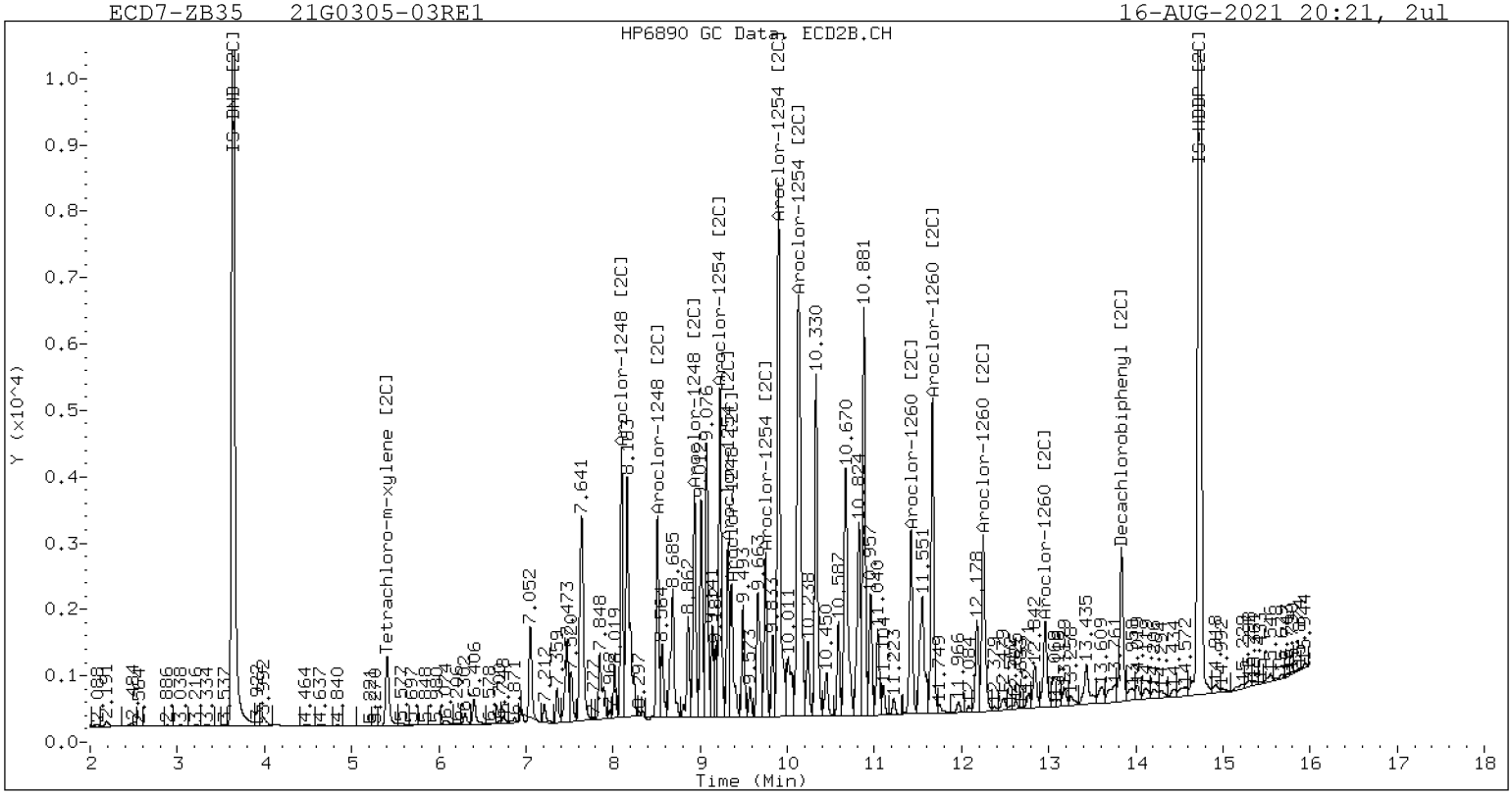
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-03RE1 16-AUG-2021 20:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-03RE1 16-AUG-2021 20:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC561

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-04 B	File ID:	08142143ECD7.D
Sampled:	07/22/21 10:09	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 08:32
% Solids:	63.38	Preparation:	EPA 3546 (Microwave)	Initial/Final:	19.73 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	32.2	1.6	4.0	
11097-69-1	Aroclor 1254	1	1	46.4	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	40.4	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9969*	*7.49*	*93.6*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9969*	*6.73*	*84.2*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142143ECD7.D
Data file 2: /210814.b/210814.b/08142143ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-04
Client ID:
Injection Date: 15-AUG-2021 08:32
Report Date: 08/17/2021 15:56
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.065	-0.003	104107	5.409	-0.004	264512	33.7	29.9	11.9	Tetrachloro-m-xylene
13.150	-0.015	91305	13.834	-0.013	444576	37.4	28.1	28.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	255739	-1.2
Hexabromobiphenyl	425681	268619	-36.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	688538	-4.5
Hexabromobiphenyl	863111	711557	-17.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.784	-0.016	14860	138.7	1	8.095	-0.011	46574	163.2
Aroclor-1248	2	7.949	-0.021	15371	109.9	2	8.507	-0.013	43134	124.2
Aroclor-1248	3	8.361	-0.018	48123	234.9	3	8.929	-0.024	62419	112.8
Aroclor-1248	4	8.655	-0.020	47631	407.3	4	9.353	-0.027	48395	103.0
	Total Col1Ave (4 peaks): 222.7					Total Col2Ave (4 peaks): 125.8				RPD = 56*
	Corrected Ave (3 peaks): 161.1					Corrected Ave (3 peaks): 113.3				RPD = 35
Aroclor-1254	1	8.655	-0.022	47631	215.9	1	9.222	-0.018	112079	191.3
Aroclor-1254	2	8.726	-0.022	23684	231.9	2	9.313	-0.020	49965	145.3
Aroclor-1254	3	9.023	-0.022	32347	224.9	3	9.744	-0.019	49576	111.0
Aroclor-1254	4	9.151	-0.027	68905	250.8	4	9.894	-0.021	201035	203.1
Aroclor-1254	5	9.838	-0.032	41073	238.1	5	10.126	-0.025	247643	246.8
	Total Col1Ave (5 peaks): 232.3					Total Col2Ave (5 peaks): 179.5				RPD = 26
	Corrected Ave (4 peaks): 227.7					Corrected Ave (4 peaks): 162.7				RPD = 33
Aroclor-1260	1	10.362	-0.022	25353	209.8	1	11.413	-0.013	102825	173.8
Aroclor-1260	2	10.680	-0.023	21219	178.9	2	11.661	-0.018	219984	128.0
Aroclor-1260	3	11.031	-0.023	61453	191.7	3	12.243	-0.017	148964	134.7
Aroclor-1260	4	11.431	-0.025	32821	229.8	4	12.956	-0.015	85576	161.9
Aroclor-1260	5	11.536	-0.019	14291	199.8	NS	---			----
	Total Col1Ave (5 peaks): 202.0					Total Col2Ave (4 peaks): 149.6				RPD = 30
	Corrected Ave (4 peaks): 195.1					Corrected Ave (3 peaks): 141.5				RPD = 32
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3	---			0.0	3	---			0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.168 - 13.064) = 1203737 Col1 Total PCB = 0.5 ppm*

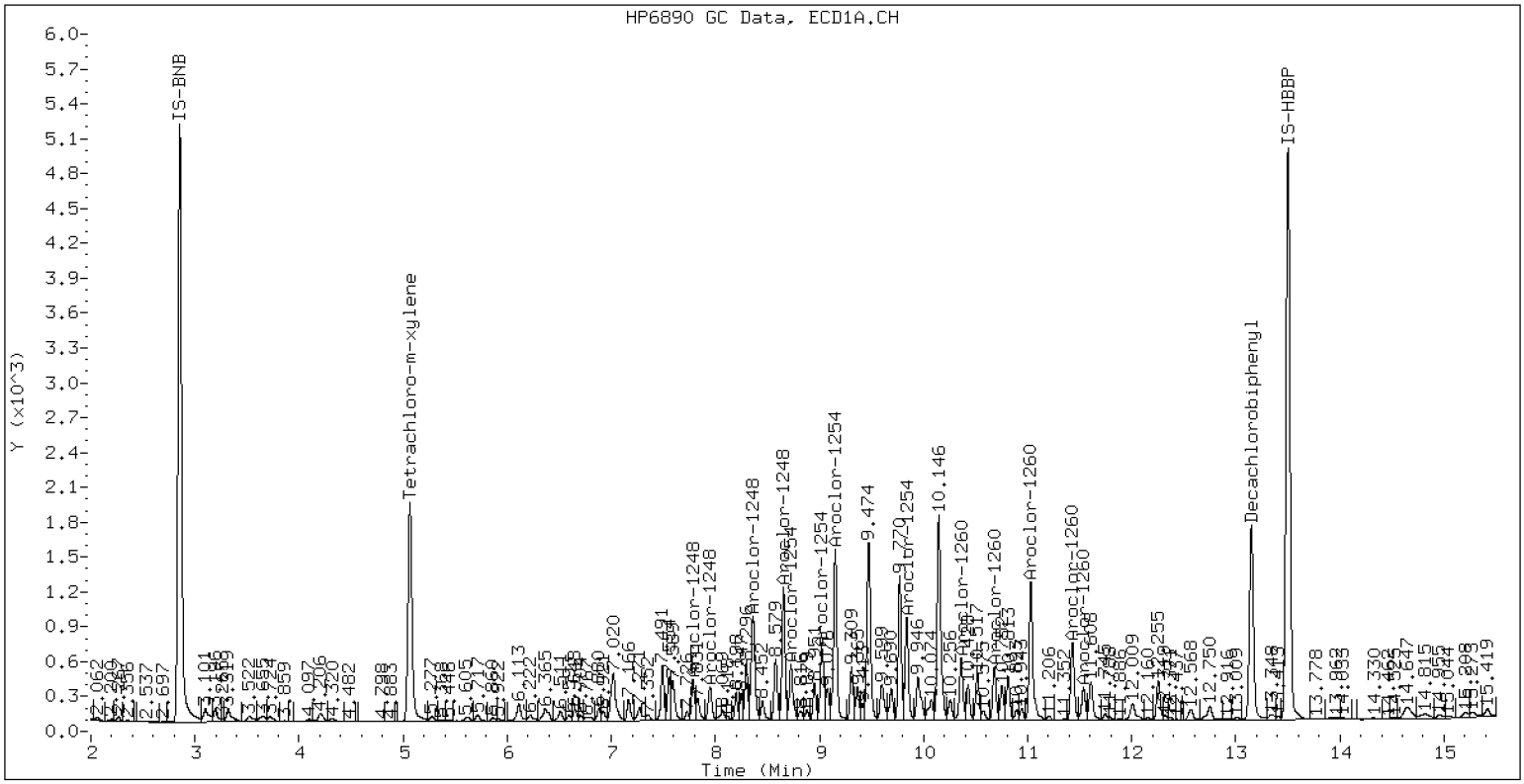
Total PCB Area Col2 (5.168 - 13.064) = 3709508 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

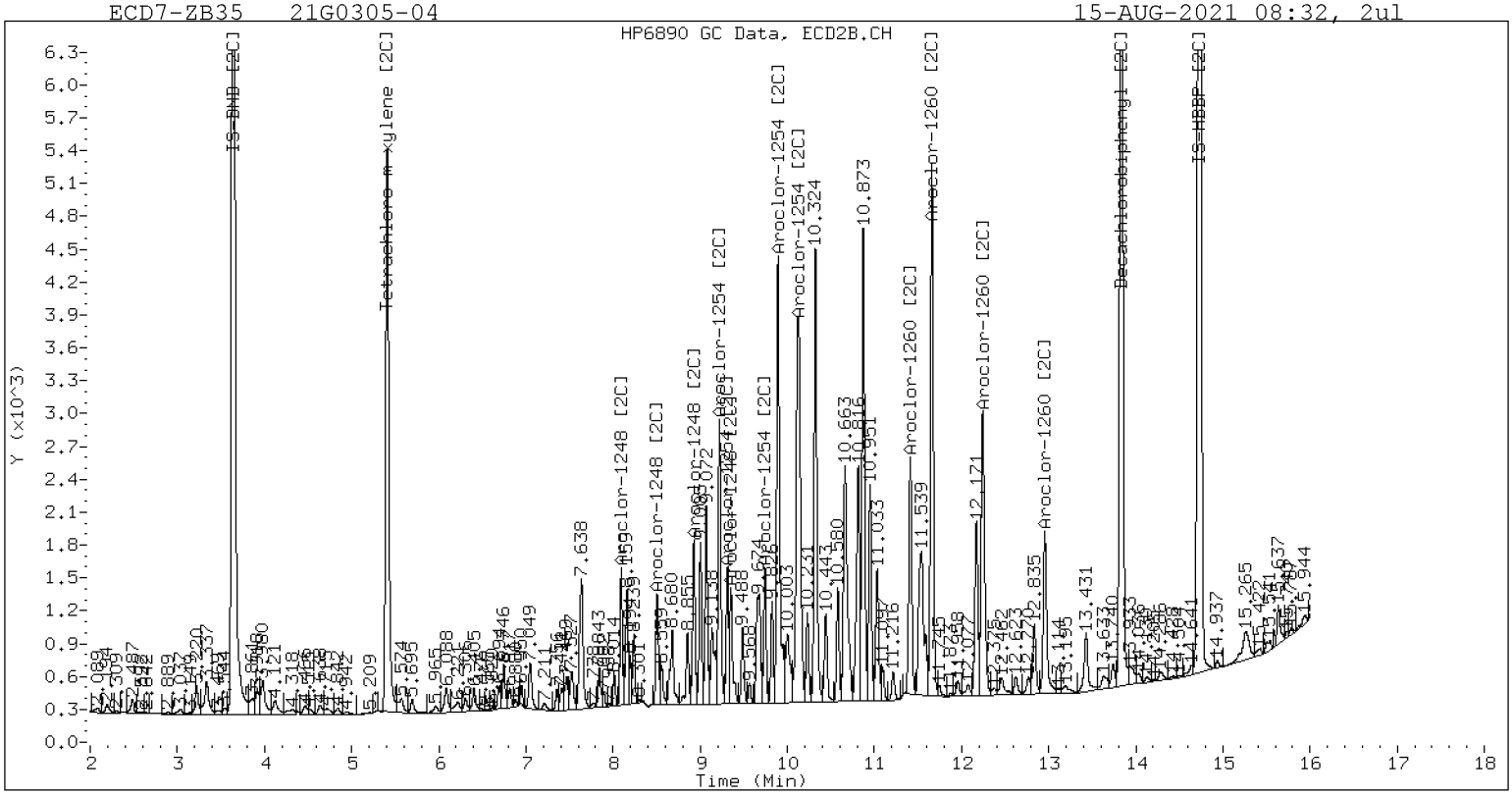
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-04 15-AUG-2021 08:32, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-04 15-AUG-2021 08:32, 2ul

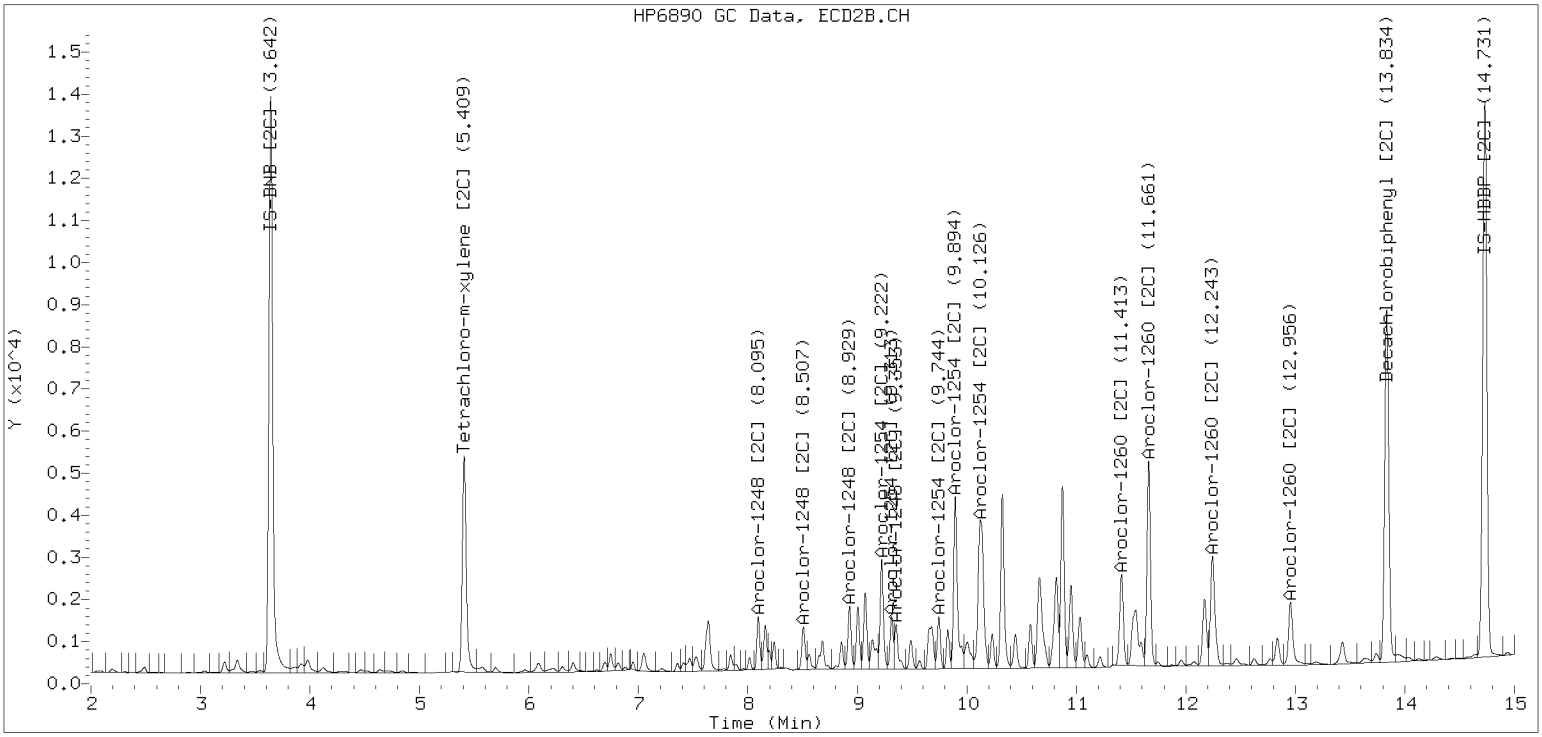


ZB-35 Manual Integration: YES

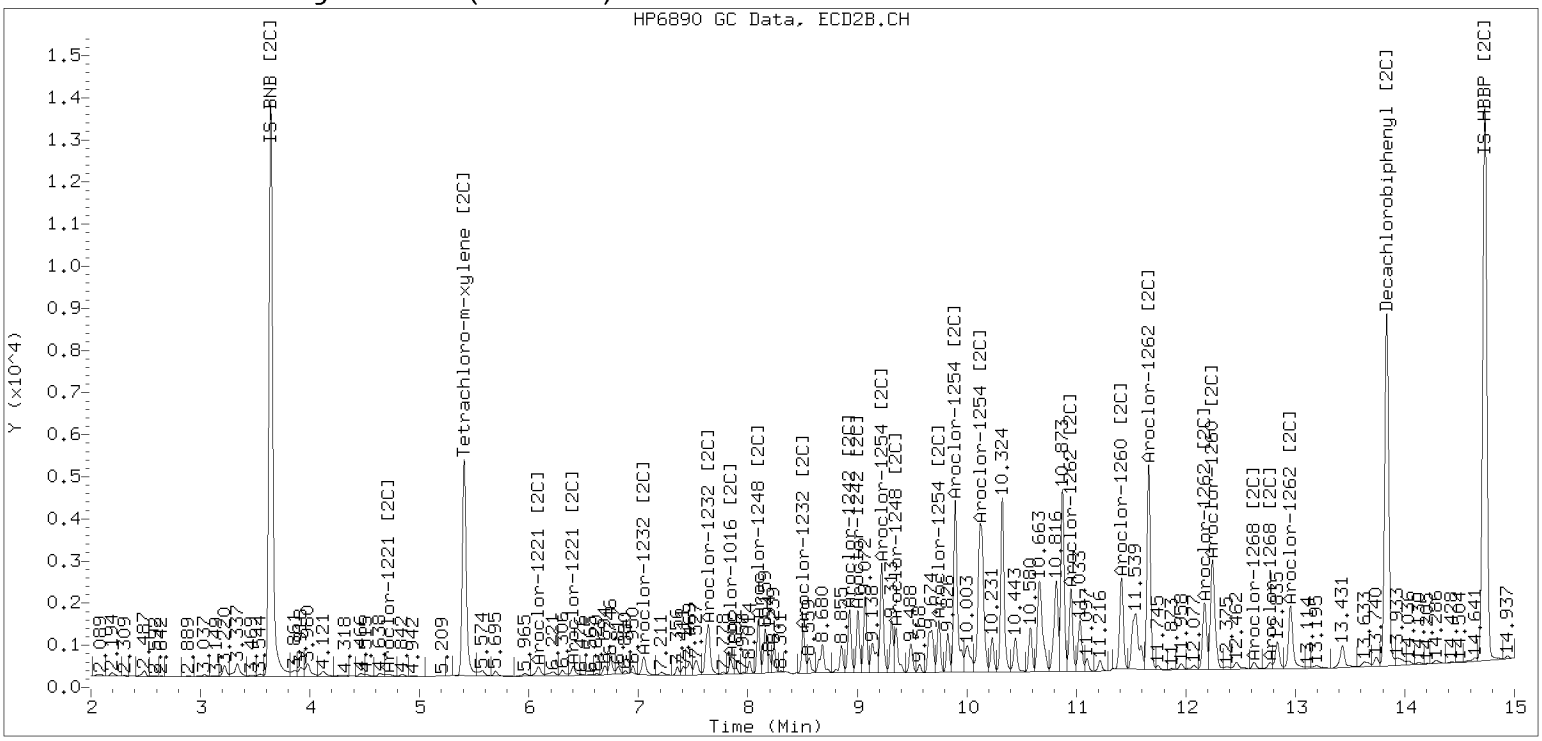
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142143ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC526

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-05 B	File ID:	08142146ECD7.D
Sampled:	07/22/21 10:26	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 09:34
% Solids:	60.10	Preparation:	EPA 3546 (Microwave)	Initial/Final:	20.87 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	52.5	1.6	4.0	
11097-69-1	Aroclor 1254	1	1	77.6	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	61.1	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9727*	*7.56*	*94.8*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9727*	*6.81*	*85.5*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142146ECD7.D
Data file 2: /210814.b/210814.b/08142146ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-05
Client ID:
Injection Date: 15-AUG-2021 09:34
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.064	-0.003	104121	5.407	-0.005	259457	34.2	30.1	12.7	Tetrachloro-m-xylene
13.150	-0.016	94168	13.835	-0.012	463196	37.9	28.3	29.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	251985	-2.7
Hexabromobiphenyl	425681	273637	-35.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	670751	-7.0
Hexabromobiphenyl	863111	736954	-14.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.648	-0.012	7327	82.0	1	7.049	-0.006	30488	79.7
Aroclor-1016	2	7.020	-0.013	39146	143.2	2	7.638	-0.013	97872	114.4
Aroclor-1016	3	7.166	-0.014	12141	99.0	3	7.843	-0.015	21380	63.7
Aroclor-1016	4	7.271	-0.018	9722	126.4	4	8.095	-0.011	81116	399.2
Total Col1Ave (4 peaks):				112.7		Total Col2Ave (4 peaks):			164.2	RPD = 37
Corrected Ave (3 peaks):				102.5		Corrected Ave (3 peaks):			85.9	RPD = 18
Aroclor-1221	1	4.097	0.082	771	38.7	1	4.710	0.034	3985	79.2
Aroclor-1221	2	5.444	-0.007	802	25.7	2	6.086	0.014	12686	110.1
Aroclor-1221	3	5.717	-0.007	4386	52.0	3	6.404	-0.005	15811	78.7
Total Col1Ave (3 peaks):				38.8		Total Col2Ave (3 peaks):			89.3	RPD = 79*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.097	0.079	771	63.1	1	4.710	0.031	3985	132.9
Aroclor-1232	2	5.717	-0.009	4386	66.0	2	7.049	-0.009	30488	174.0
Aroclor-1232	3	7.020	-0.014	39146	386.1	3	7.638	-0.013	97872	279.2
Aroclor-1232	4	7.949	-0.023	23227	556.9	4	8.507	-0.015	68869	754.1
Total Col1Ave (4 peaks):				268.0		Total Col2Ave (4 peaks):			335.1	RPD = 22
Corrected Ave (3 peaks):				171.7		Corrected Ave (3 peaks):			195.4	RPD = 13
Aroclor-1242	1	6.648	-0.012	7327	105.5	1	7.049	-0.008	30488	98.9
Aroclor-1242	2	7.020	-0.015	39146	189.1	2	7.638	-0.015	97872	146.1
Aroclor-1242	3	8.362	-0.020	79581	678.8	3	8.929	-0.027	97957	313.0
Aroclor-1242	4	8.655	-0.021	82595	1723.9	4	9.005	-0.032	89214	251.2
Total Col1Ave (4 peaks):				674.3		Total Col2Ave (4 peaks):			202.3	RPD = 108*
Corrected Ave (3 peaks):				324.5		Corrected Ave (3 peaks):			165.4	RPD = 65*
Aroclor-1248	1	7.785	-0.015	23977	227.1	1	8.095	-0.011	81116	291.8
Aroclor-1248	2	7.949	-0.021	23227	168.5	2	8.507	-0.013	68869	203.6
Aroclor-1248	3	8.362	-0.018	79581	394.3	3	8.929	-0.023	97957	181.8
Aroclor-1248	4	8.655	-0.020	82595	716.9	4	9.354	-0.026	72270	157.9
Total Col1Ave (4 peaks):				376.7		Total Col2Ave (4 peaks):			208.8	RPD = 57*
Corrected Ave (3 peaks):				263.3		Corrected Ave (3 peaks):			181.1	RPD = 37
Aroclor-1254	1	8.655	-0.022	82595	379.9	1	9.223	-0.017	188694	330.6
Aroclor-1254	2	8.726	-0.022	38664	384.2	2	9.313	-0.020	85650	255.7
Aroclor-1254	3	9.023	-0.022	50205	354.3	3	9.744	-0.019	86861	199.7
Aroclor-1254	4	9.152	-0.026	115695	427.4	4	9.893	-0.021	304396	315.7
Aroclor-1254	5	9.839	-0.031	68064	400.4	5	10.125	-0.026	414111	423.6
Total Col1Ave (5 peaks):				389.2		Total Col2Ave (5 peaks):			305.1	RPD = 24
Corrected Ave (4 peaks):				379.7		Corrected Ave (4 peaks):			275.4	RPD = 32
Aroclor-1260	1	10.362	-0.022	38856	315.6	1	11.414	-0.012	163744	267.3
Aroclor-1260	2	10.680	-0.023	32858	271.9	2	11.662	-0.017	348146	195.5
Aroclor-1260	3	11.030	-0.023	98585	301.9	3	12.244	-0.016	230474	201.3
Aroclor-1260	4	11.431	-0.024	50360	346.1	4	12.957	-0.014	125437	229.2
Aroclor-1260	5	11.537	-0.018	21589	296.4	NS	---			----
Total Col1Ave (5 peaks):				306.4		Total Col2Ave (4 peaks):			223.3	RPD = 31
Corrected Ave (4 peaks):				296.4		Corrected Ave (3 peaks):			208.7	RPD = 35
Aroclor-1262	1	10.362	-0.022	38856	232.7	1	10.952	-0.019	136435	151.4
Aroclor-1262	2	11.431	-0.023	50360	465.7	2	11.662	-0.024	348146	183.1
Aroclor-1262	3	11.609	-0.018	26291	168.7	3	12.172	-0.016	132085	156.5
Aroclor-1262	4	12.257	-0.018	26239	205.0	4	12.957	-0.016	125437	159.5
Total Col1Ave (4 peaks):				268.0		Total Col2Ave (4 peaks):			162.6	RPD = 49*
Corrected Ave (3 peaks):				202.1		Corrected Ave (3 peaks):			155.8	RPD = 26
Aroclor-1268	1	11.537	-0.020	21589	58.8	1	12.172	-0.028	132085	62.4
Aroclor-1268	2	11.609	-0.017	26291	68.3	2	12.244	-0.023	230474	99.7
Aroclor-1268	3	12.009	0.009	15436	51.0	3	12.624	-0.020	10857	5.4
Aroclor-1268	4	12.750	-0.021	12218	12.5	4	12.769	-0.014	8336	16.9
Total Col1Ave (4 peaks):				47.6		Total Col2Ave (4 peaks):			46.1	RPD = 3

Corrected Ave (3 peaks): 40.8 Corrected Ave (3 peaks): 28.2 RPD = 36

Total PCB Area Col1 (5.167 - 13.066) = 1887564 Col1 Total PCB = 0.7 ppm*

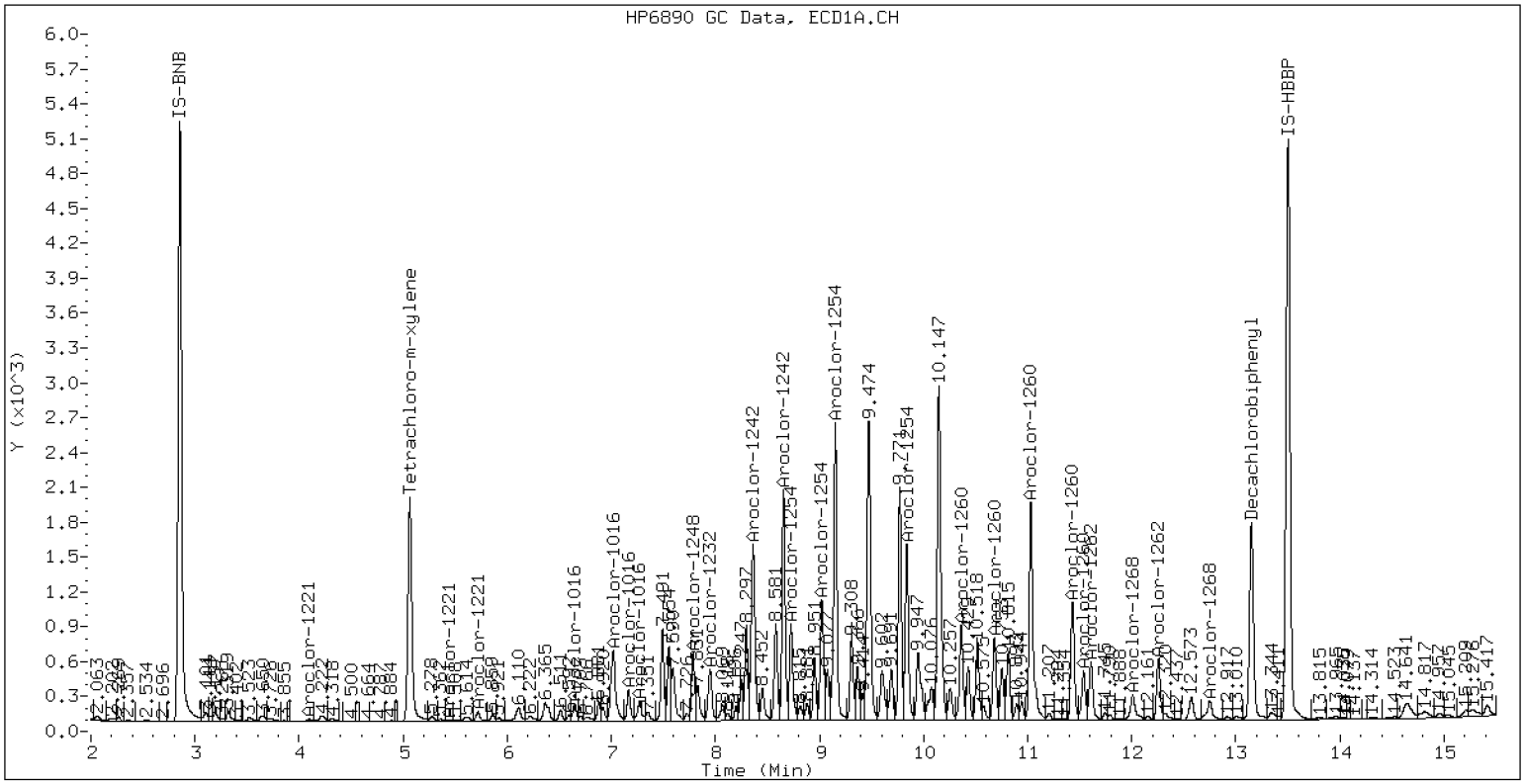
Total PCB Area Col2 (5.167 - 13.066) = 5615889 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

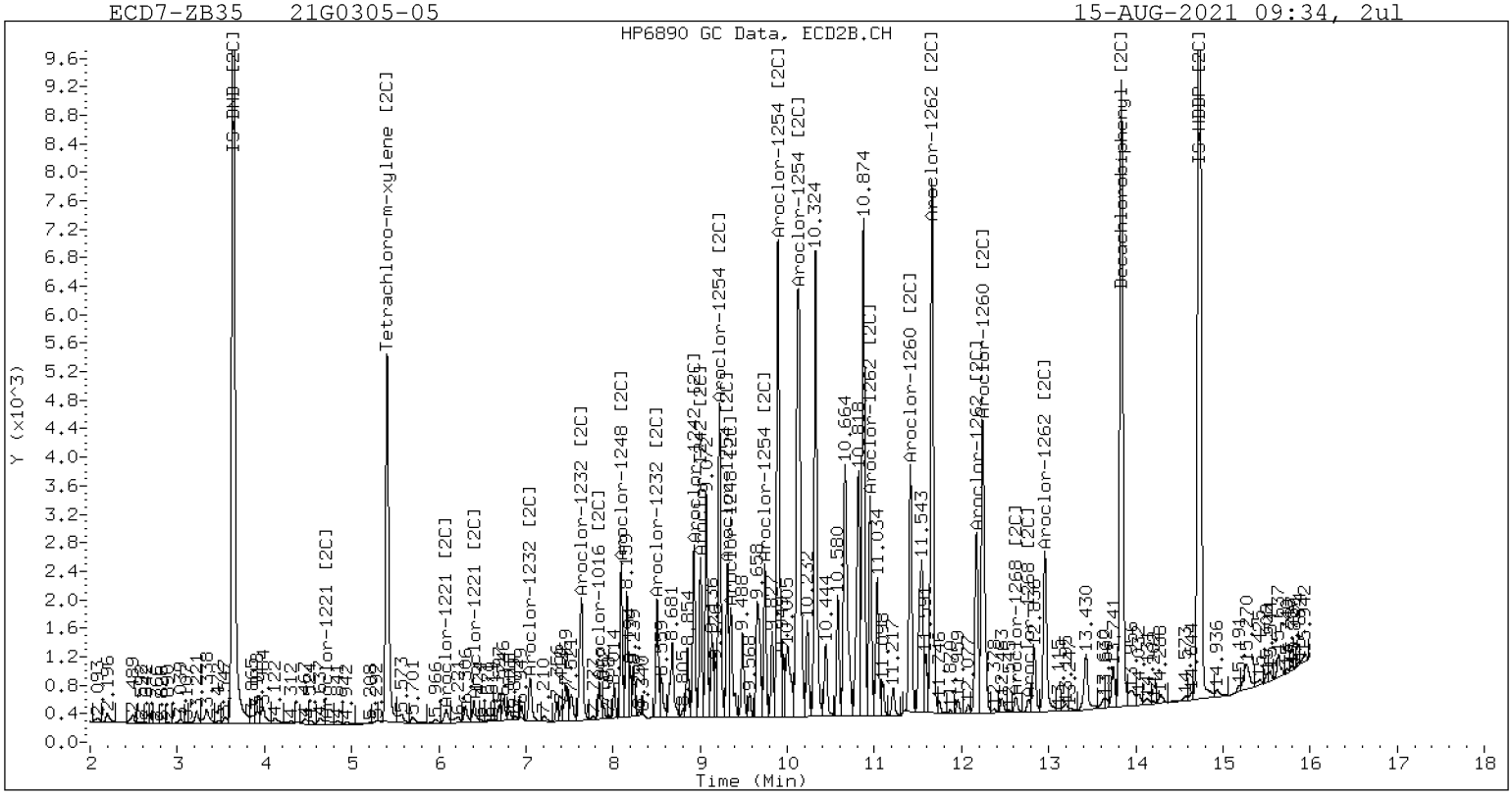
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-05 15-AUG-2021 09:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-05 15-AUG-2021 09:34, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC526FD

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-06 B	File ID:	08142147ECD7.D
Sampled:	07/22/21 10:26	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 09:54
% Solids:	60.51	Preparation:	EPA 3546 (Microwave)	Initial/Final:	20.7 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	51.4	1.6	4.0	
11097-69-1	Aroclor 1254	1	1	76.9	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	59.2	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9837*	*7.07*	*88.6*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9837*	*6.29*	*78.7*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142147ECD7.D
Data file 2: /210814.b/210814.b/08142147ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-06
Client ID:
Injection Date: 15-AUG-2021 09:54
Report Date: 08/17/2021 11:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.063	-0.005	97452	5.407	-0.006	245885	31.5	27.7	12.8	Tetrachloro-m-xylene
13.150	-0.014	88391	13.835	-0.012	432475	35.4	26.2	29.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	255992	-1.1
Hexabromobiphenyl	425681	274711	-35.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	690460	-4.2
Hexabromobiphenyl	863111	741844	-14.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.646	-0.013	7111	78.3	1	7.048	-0.007	30258	76.9
Aroclor-1016	2	7.019	-0.015	37559	135.3	2	7.637	-0.013	98641	112.0
Aroclor-1016	3	7.164	-0.016	11451	91.9	3	7.842	-0.015	20969	60.7
Aroclor-1016	4	7.268	-0.022	10947	140.1	4	8.094	-0.012	85192	407.3
Total Col1Ave (4 peaks): 111.4						Total Col2Ave (4 peaks): 164.2				RPD = 38
Corrected Ave (3 peaks): 101.8						Corrected Ave (3 peaks): 83.2				RPD = 20
Aroclor-1221	1	4.034	0.019	103	5.1	1	4.708	0.031	5366	103.5
Aroclor-1221	2	5.445	-0.006	388	12.2	2	6.086	0.013	16751	141.2
Aroclor-1221	3	5.715	-0.009	4296	50.2	3	6.402	-0.007	15551	75.2
Total Col1Ave (3 peaks): 22.5						Total Col2Ave (3 peaks): 106.6				RPD = 130*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.034	0.016	103	8.3	1	4.708	0.029	5366	173.9
Aroclor-1232	2	5.715	-0.011	4296	63.7	2	7.048	-0.010	30258	167.8
Aroclor-1232	3	7.019	-0.015	37559	364.7	3	7.637	-0.014	98641	273.3
Aroclor-1232	4	7.949	-0.024	21829	515.2	4	8.507	-0.015	71580	761.4
Total Col1Ave (4 peaks): 238.0						Total Col2Ave (4 peaks): 344.1				RPD = 36
Corrected Ave (3 peaks): 145.5						Corrected Ave (3 peaks): 205.0				RPD = 34
Aroclor-1242	1	6.646	-0.014	7111	100.8	1	7.048	-0.009	30258	95.3
Aroclor-1242	2	7.019	-0.016	37559	178.6	2	7.637	-0.015	98641	143.0
Aroclor-1242	3	8.361	-0.020	80484	675.7	3	8.928	-0.028	99586	309.1
Aroclor-1242	4	8.654	-0.021	84833	1742.8	4	9.004	-0.033	90876	248.6
Total Col1Ave (4 peaks): 674.5						Total Col2Ave (4 peaks): 199.0				RPD = 109*
Corrected Ave (3 peaks): 318.4						Corrected Ave (3 peaks): 162.3				RPD = 65*
Aroclor-1248	1	7.784	-0.016	24111	224.7	1	8.094	-0.012	85192	297.7
Aroclor-1248	2	7.949	-0.022	21829	155.9	2	8.507	-0.013	71580	205.5
Aroclor-1248	3	8.361	-0.018	80484	392.5	3	8.928	-0.024	99586	179.5
Aroclor-1248	4	8.654	-0.021	84833	724.8	4	9.353	-0.027	74532	158.2
Total Col1Ave (4 peaks): 374.5						Total Col2Ave (4 peaks): 210.2				RPD = 56*
Corrected Ave (3 peaks): 257.7						Corrected Ave (3 peaks): 181.1				RPD = 35
Aroclor-1254	1	8.654	-0.022	84833	384.1	1	9.223	-0.017	196647	334.7
Aroclor-1254	2	8.726	-0.022	38060	372.3	2	9.313	-0.020	86252	250.2
Aroclor-1254	3	9.023	-0.022	50864	353.3	3	9.744	-0.019	90181	201.4
Aroclor-1254	4	9.152	-0.027	116635	424.1	4	9.893	-0.021	346852	349.5
Aroclor-1254	5	9.839	-0.032	67947	393.4	5	10.126	-0.025	424527	421.8
Total Col1Ave (5 peaks): 385.5						Total Col2Ave (5 peaks): 311.5				RPD = 21
Corrected Ave (4 peaks): 375.8						Corrected Ave (4 peaks): 284.0				RPD = 28
Aroclor-1260	1	10.361	-0.023	37685	304.9	1	11.413	-0.013	164147	266.2
Aroclor-1260	2	10.680	-0.022	31578	260.3	2	11.661	-0.017	342954	191.3
Aroclor-1260	3	11.029	-0.024	92031	280.7	3	12.243	-0.017	228616	198.4
Aroclor-1260	4	11.429	-0.026	49850	341.3	4	12.956	-0.015	129435	234.9
Aroclor-1260	5	11.536	-0.019	21656	296.1	NS	---			----
Total Col1Ave (5 peaks): 296.7						Total Col2Ave (4 peaks): 222.7				RPD = 28
Corrected Ave (4 peaks): 285.5						Corrected Ave (3 peaks): 208.2				RPD = 31
Aroclor-1262	1	10.361	-0.023	37685	224.8	1	10.952	-0.019	138067	152.2
Aroclor-1262	2	11.429	-0.025	49850	459.2	2	11.661	-0.024	342954	179.2
Aroclor-1262	3	11.607	-0.020	26403	168.7	3	12.171	-0.017	118134	139.0
Aroclor-1262	4	12.256	-0.018	25439	198.0	4	12.956	-0.016	129435	163.5
Total Col1Ave (4 peaks): 262.7						Total Col2Ave (4 peaks): 158.5				RPD = 49*
Corrected Ave (3 peaks): 197.2						Corrected Ave (3 peaks): 151.6				RPD = 26
Aroclor-1268	1	11.536	-0.021	21656	58.8	1	12.171	-0.029	118134	55.4
Aroclor-1268	2	11.607	-0.019	26403	68.3	2	12.243	-0.024	228616	98.3
Aroclor-1268	3	12.009	0.009	17059	56.1	3	12.623	-0.021	10647	5.3
Aroclor-1268	4	12.748	-0.024	16537	16.9	4	12.768	-0.015	9494	19.1
Total Col1Ave (4 peaks): 50.0						Total Col2Ave (4 peaks): 44.5				RPD = 12

Corrected Ave (3 peaks): 43.9 Corrected Ave (3 peaks): 26.6 RPD = 49*

Total PCB Area Col1 (5.168 - 13.064) = 1911776 Col1 Total PCB = 0.7 ppm*

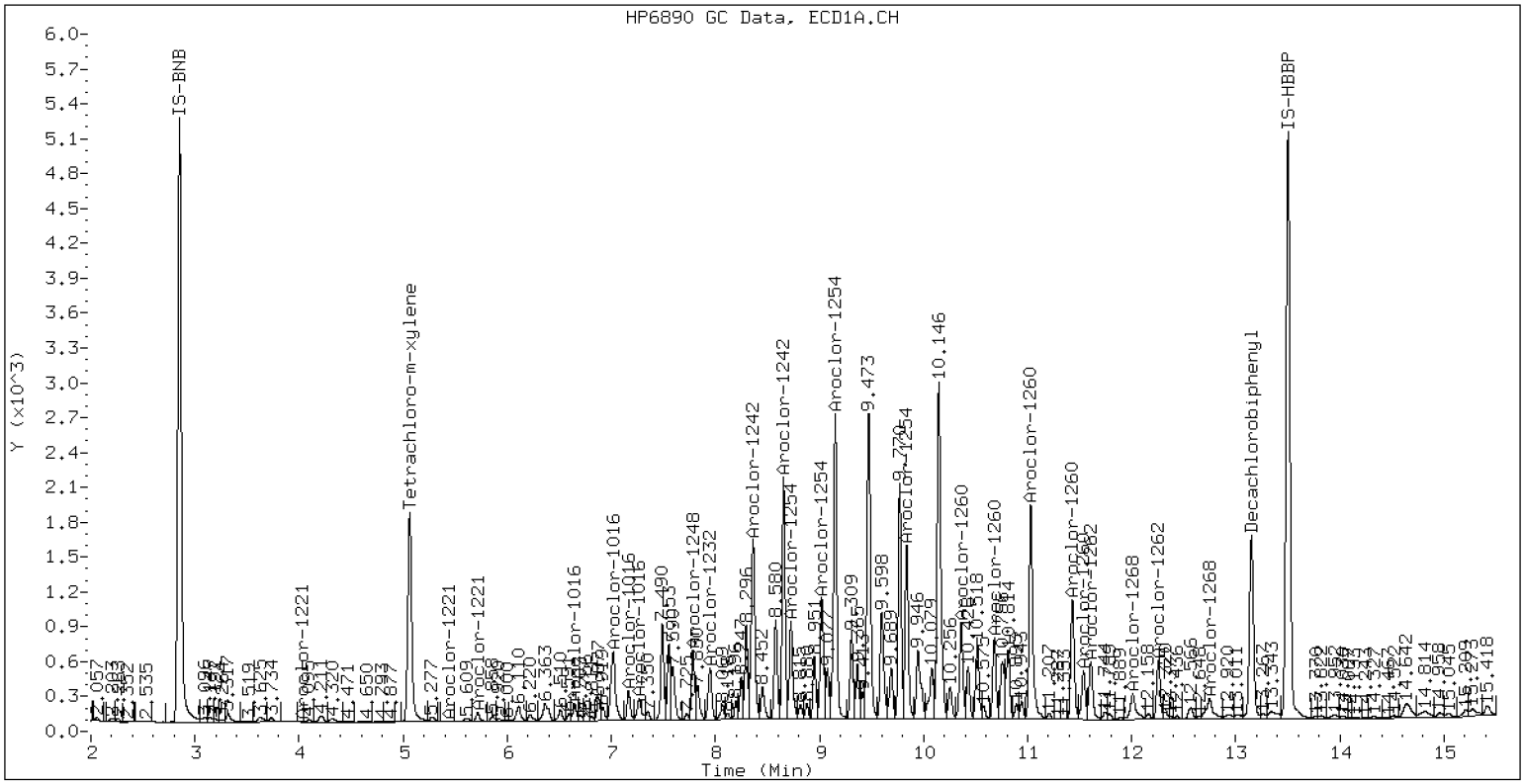
Total PCB Area Col2 (5.168 - 13.064) = 5838952 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

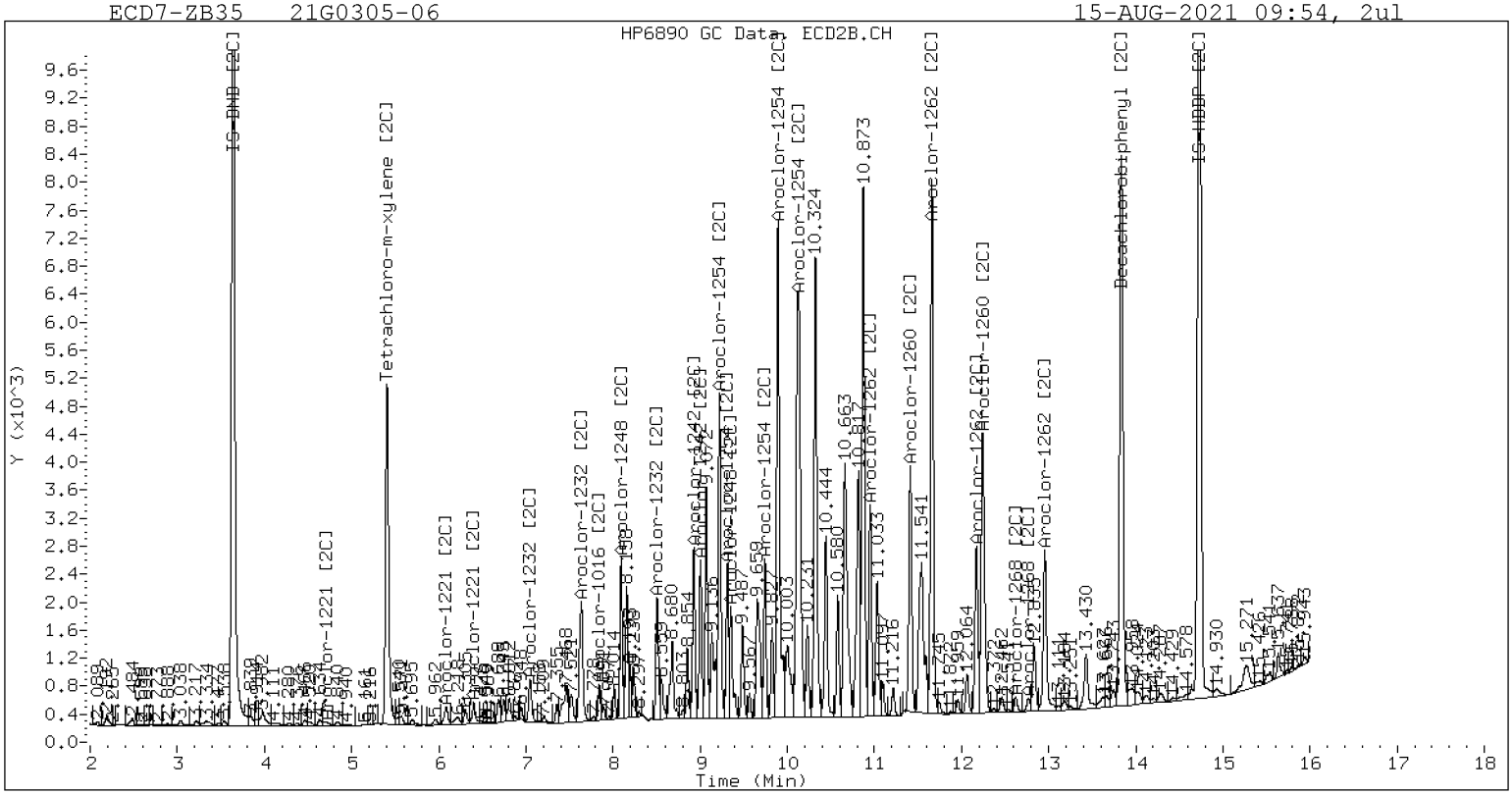
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-06 15-AUG-2021 09:54, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0305-06 15-AUG-2021 09:54, 2ul

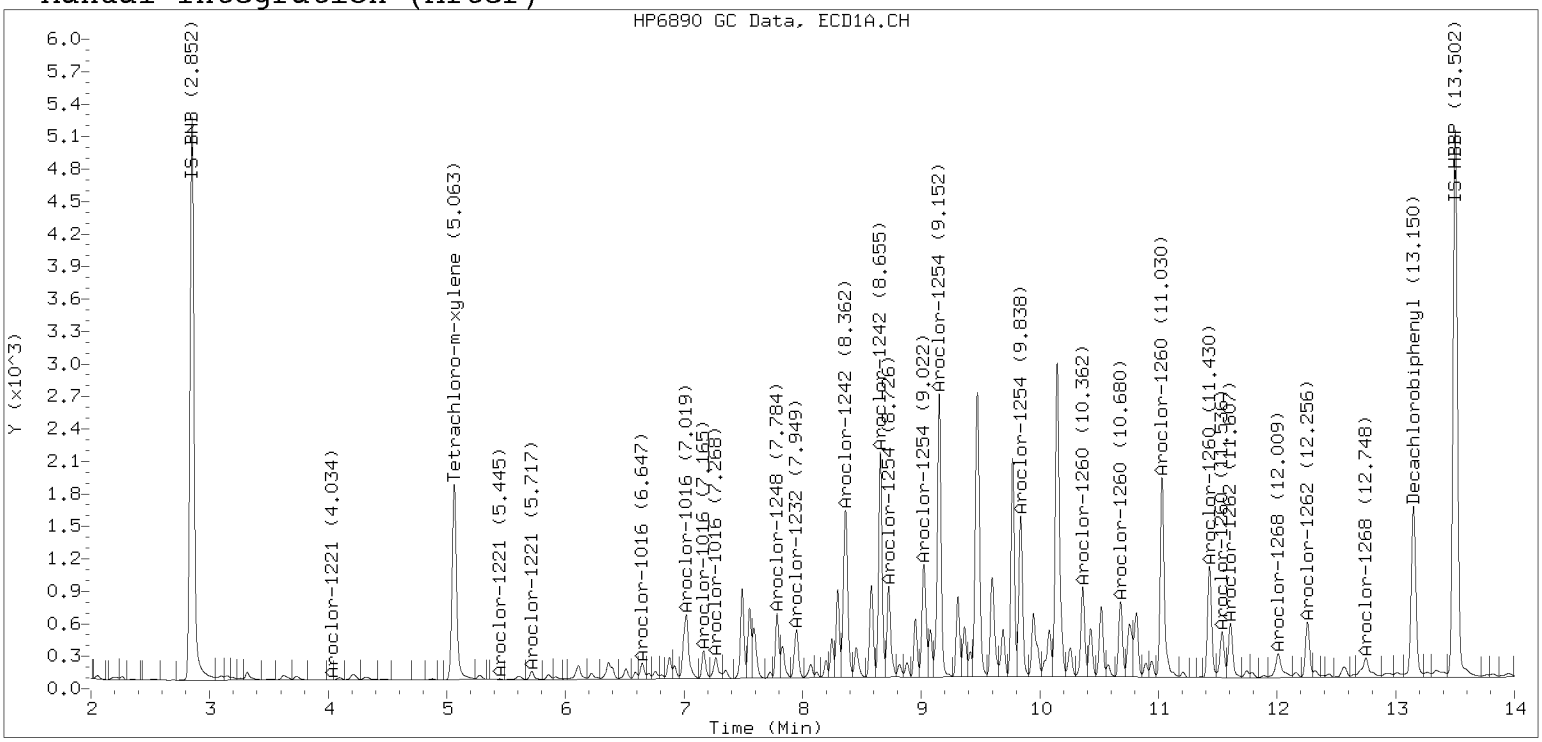


ZB-35 Manual Integration: YES

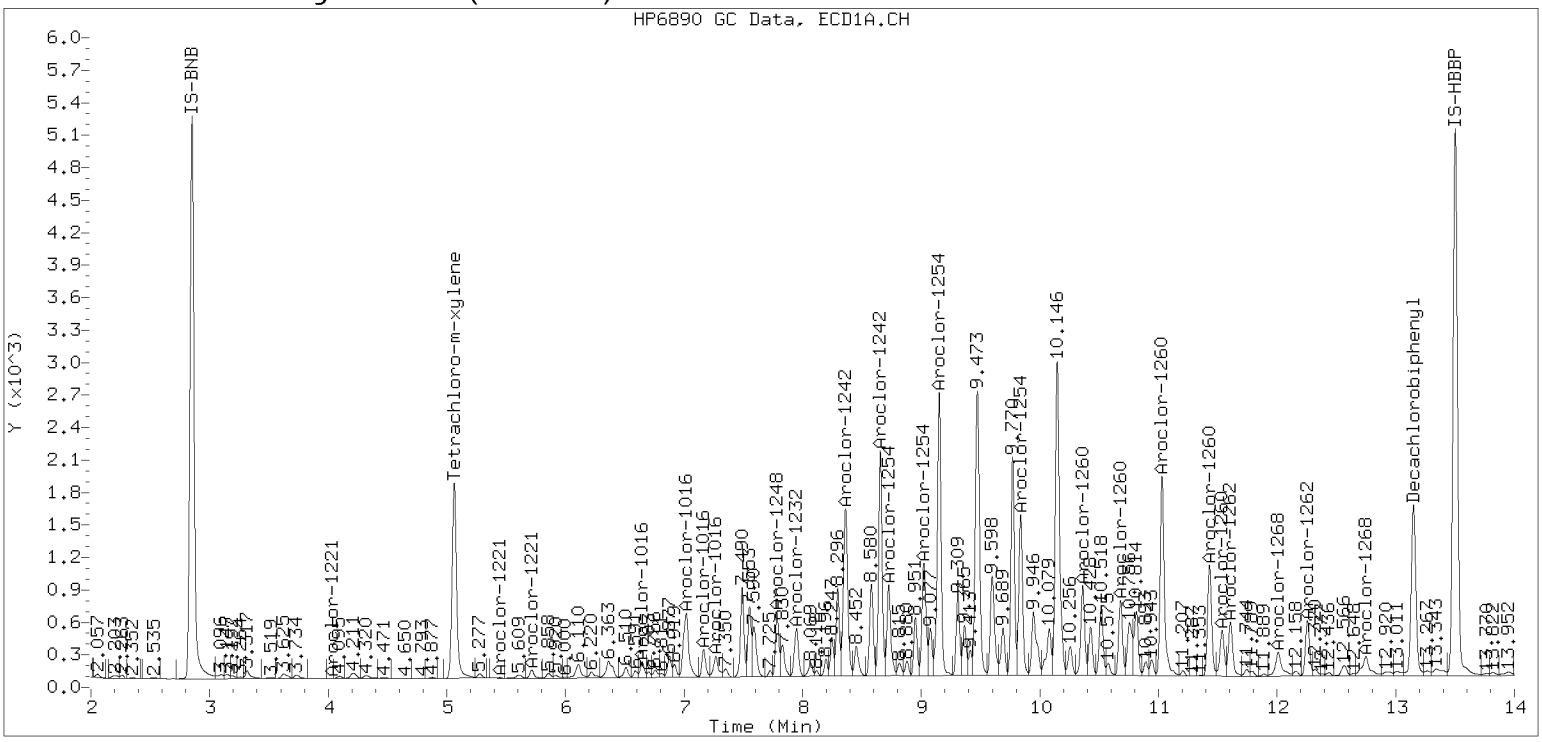
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210814.b/08142147ECD7.D Injection Date: 15-AUG-2021 09:54

Manual Integration (After)



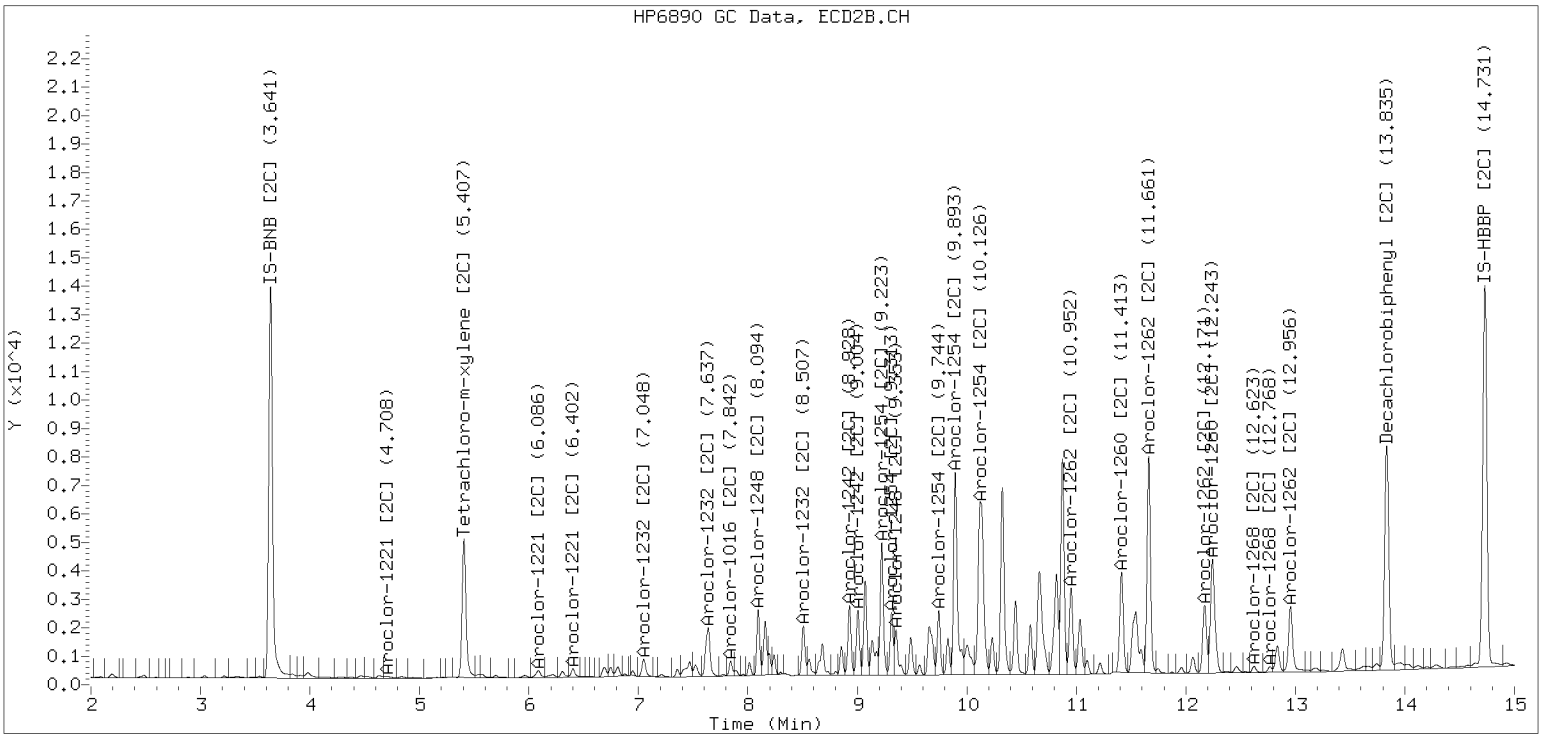
Processed Integration (Before)



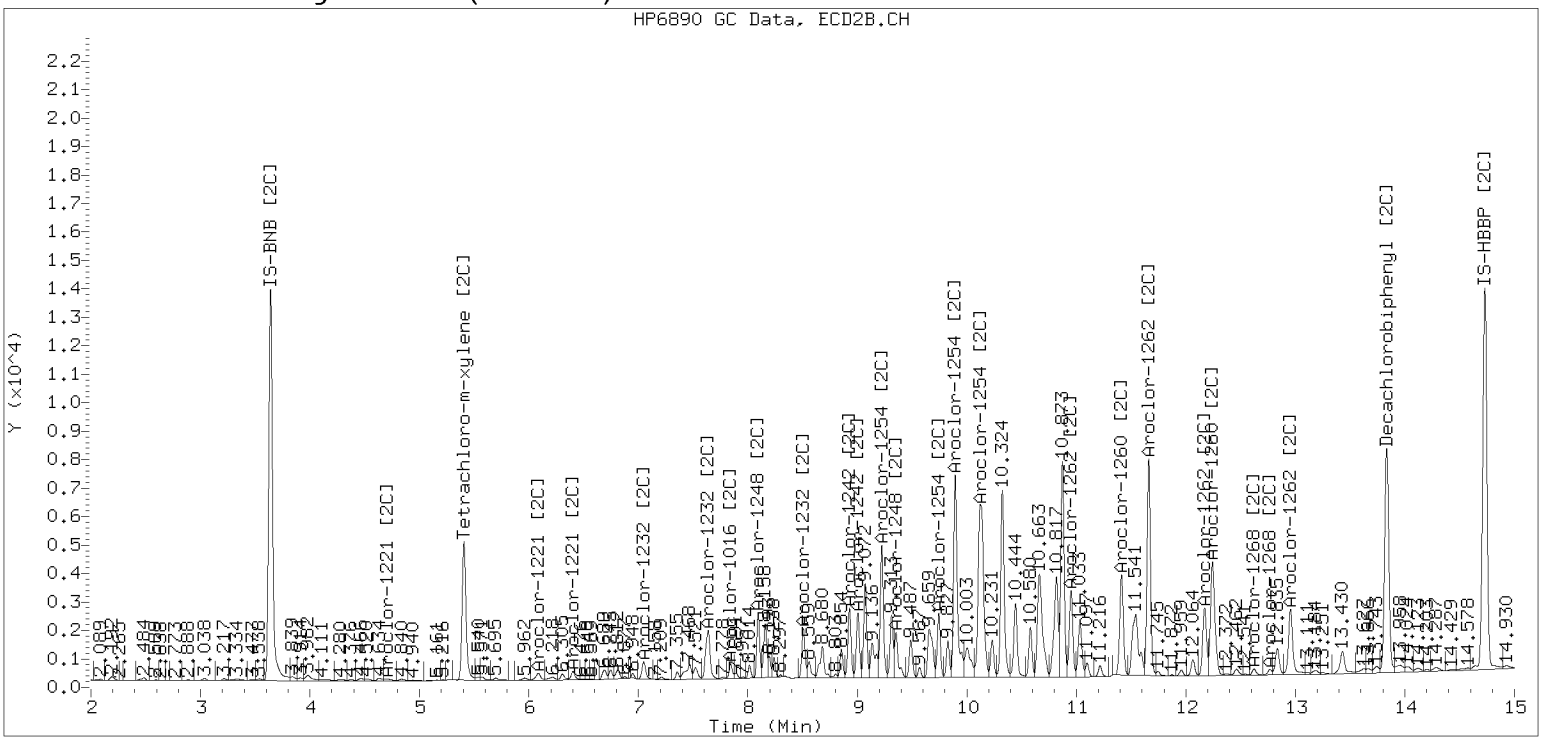
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142147ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC530

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-07 B	File ID:	08172107ECD7.D
Sampled:	07/22/21 10:44	Prepared:	08/03/21 11:35	Analyzed:	08/17/21 13:26
% Solids:	64.90	Preparation:	EPA 3546 (Microwave)	Initial/Final:	19.26 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0216	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	20.0	7.8	20.0	U
11104-28-2	Aroclor 1221	1	5	20.0	7.8	20.0	U
11141-16-5	Aroclor 1232	1	5	20.0	7.8	20.0	U
53469-21-9	Aroclor 1242	1	5	20.0	7.8	20.0	U
12672-29-6	Aroclor 1248	1	5	192	7.8	20.0	D
11097-69-1	Aroclor 1254	1	5	264	7.8	20.0	D
11096-82-5	Aroclor 1260	1	5	129	2.9	20.0	D

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0002*	*7.84*	*97.9*	*40 - 126*	
Tetrachlorometaxylene	*1*	*8.0002*	*7.14*	*89.2*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210817.b/08172107ECD7.D
Data file 2: /210817.b/210817.b/08172107ECD7.D
Method: \\target\share\chem4\ecd7.i\210817.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-07RE1
Client ID:
Injection Date: 17-AUG-2021 13:26
Report Date: 08/17/2021 18:07
Matrix: NONE
Dilution Factor: 5.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.066	-0.003	22667	5.409	-0.002	65036	7.1	6.8	5.3	Tetrachloro-m-xylene
13.156	-0.007	22920	13.838	-0.008	112846	7.8	6.1	24.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262708	1.5
Hexabromobiphenyl	425681	322240	-24.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	747543	3.7
Hexabromobiphenyl	863111	829669	-3.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.793	-0.006	20168	183.2	1	8.099	-0.006	90607	292.5
Aroclor-1248	2	7.957	-0.013	15872	110.4	2	8.512	-0.007	60013	159.2
Aroclor-1248	3	8.373	-0.006	59274	281.7	3	8.937	-0.014	64718	107.8
Aroclor-1248	4	8.666	-0.010	62416	519.6	4	9.359	-0.021	32539	63.8
	Total Col1Ave (4 peaks):				273.7	Total Col2Ave (4 peaks):			155.8	RPD = 55*
	Corrected Ave (3 peaks):				191.8	Corrected Ave (3 peaks):			110.2	RPD = 54*
Aroclor-1254	1	8.666	-0.012	62416	275.4	1	9.229	-0.009	151749	238.6
Aroclor-1254	2	8.736	-0.013	29498	281.1	2	9.320	-0.011	73210	196.1
Aroclor-1254	3	9.033	-0.010	31220	211.3	3	9.751	-0.011	68988	142.3
Aroclor-1254	4	9.164	-0.016	85767	303.9	4	9.901	-0.011	256286	238.5
Aroclor-1254	5	9.851	-0.020	43772	247.0	5	10.135	-0.015	286805	263.2
	Total Col1Ave (5 peaks):				263.7	Total Col2Ave (5 peaks):			215.8	RPD = 20
	Corrected Ave (4 peaks):				253.7	Corrected Ave (4 peaks):			203.9	RPD = 22
Aroclor-1260	1	10.373	-0.012	19933	137.5	1	11.420	-0.004	101090	146.6
Aroclor-1260	2	10.691	-0.011	15833	111.3	2	11.666	-0.012	183651	91.6
Aroclor-1260	3	11.039	-0.013	46952	122.1	3	12.249	-0.012	127169	98.7
Aroclor-1260	4	11.439	-0.014	25344	147.9	4	12.961	-0.010	68537	111.2
Aroclor-1260	5	11.545	-0.009	10987	128.1	NS	---			----
	Total Col1Ave (5 peaks):				129.4	Total Col2Ave (4 peaks):			112.0	RPD = 14
	Corrected Ave (4 peaks):				124.7	Corrected Ave (3 peaks):			100.5	RPD = 22
Aroclor-1262	1	---			0.0	1	---			0.0
Aroclor-1262	2	---			0.0	2	---			0.0
Aroclor-1262	3				0.0	3				0.0
Aroclor-1262	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	---			0.0	1	---			0.0
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	---			0.0	3	---			0.0
Aroclor-1268	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.168 - 13.063) = 1171434 Col1 Total PCB = 0.4 ppm*

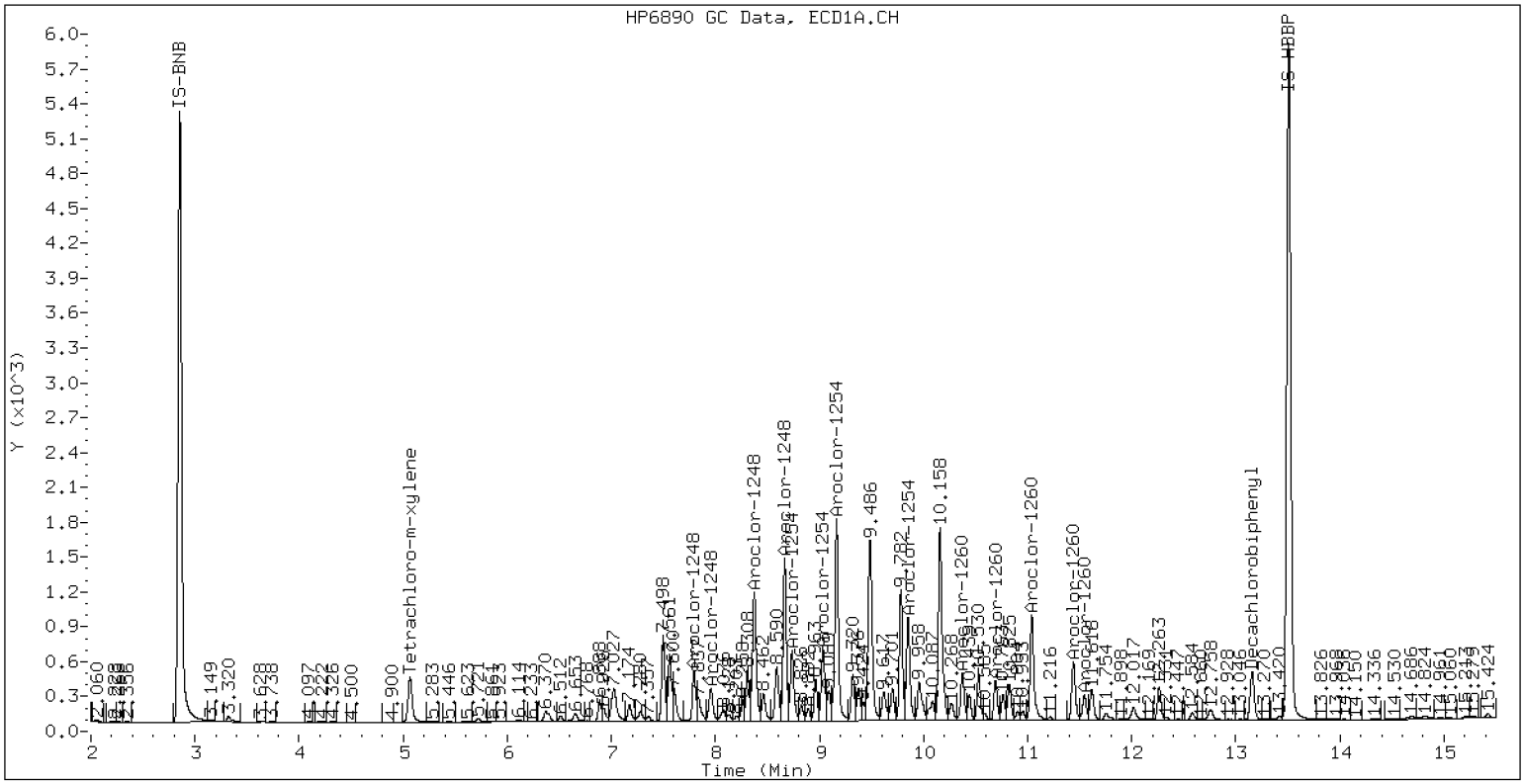
Total PCB Area Col2 (5.168 - 13.063) = 3644713 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

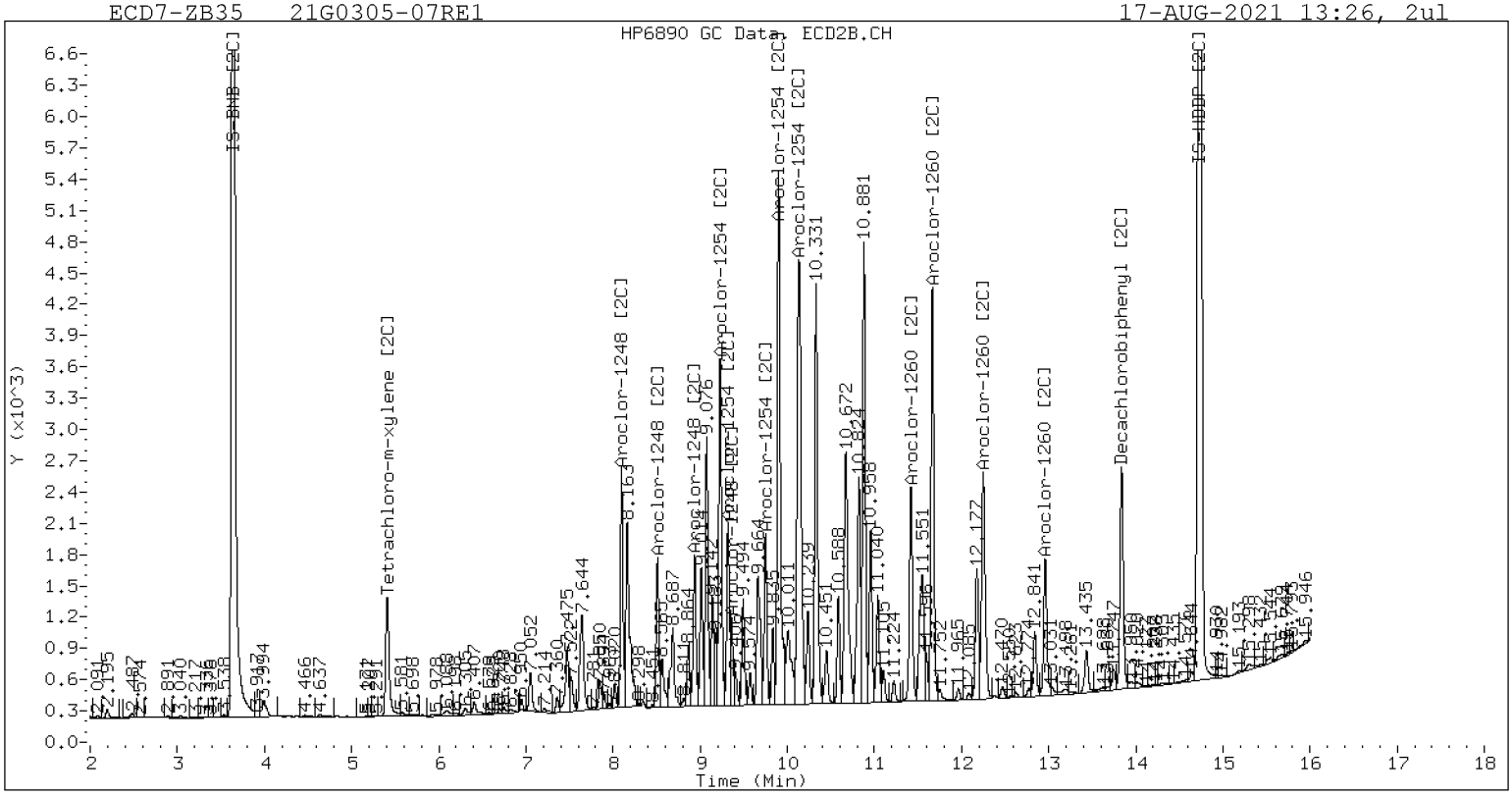
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-07RE1 17-AUG-2021 13:26, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-07RE1 17-AUG-2021 13:26, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC540

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-08 B	File ID:	08142149ECD7.D
Sampled:	07/22/21 10:58	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 10:35
% Solids:	70.62	Preparation:	EPA 3546 (Microwave)	Initial/Final:	17.77 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	50.4	1.6	4.0	P1
11097-69-1	Aroclor 1254	1	1	69.6	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	45.6	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9687*	*7.03*	*88.3*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9687*	*6.50*	*81.6*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142149ECD7.D
Data file 2: /210814.b/210814.b/08142149ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-08
Client ID:
Injection Date: 15-AUG-2021 10:35
Report Date: 08/17/2021 11:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.065	-0.003	102477	5.409	-0.003	262013	32.6	28.9	12.1	Tetrachloro-m-xylene
13.152	-0.012	96561	13.837	-0.010	531156	35.3	28.9	20.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	259719	0.3
Hexabromobiphenyl	425681	301309	-29.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705120	-2.2
Hexabromobiphenyl	863111	828056	-4.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.651	-0.008	7258	78.8	1	7.051	-0.005	33427	83.1
Aroclor-1016	2	7.023	-0.010	34257	121.6	2	7.640	-0.011	88559	98.5
Aroclor-1016	3	7.169	-0.011	11504	91.0	3	7.845	-0.012	20933	59.3
Aroclor-1016	4	7.274	-0.015	8070	101.8	4	8.098	-0.008	107767	504.5
Total Col1Ave (4 peaks):				98.3		Total Col2Ave (4 peaks):			186.4	RPD = 62*
Corrected Ave (3 peaks):				90.5		Corrected Ave (3 peaks):			80.3	RPD = 12
Aroclor-1221	1	4.098	0.083	857	41.8	1	4.636	-0.041	8373	158.2
Aroclor-1221	2	5.445	-0.006	562	17.5	2	6.090	0.018	12174	100.5
Aroclor-1221	3	5.718	-0.007	4212	48.5	3	6.406	-0.003	18939	89.7
Total Col1Ave (3 peaks):				35.9		Total Col2Ave (3 peaks):			116.1	RPD = 106*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.098	0.080	857	68.0	1	4.636	-0.043	8373	265.7
Aroclor-1232	2	5.718	-0.009	4212	61.5	2	7.051	-0.007	33427	181.5
Aroclor-1232	3	7.023	-0.011	34257	327.8	3	7.640	-0.011	88559	240.3
Aroclor-1232	4	7.953	-0.019	20408	474.8	4	8.510	-0.012	76857	800.5
Total Col1Ave (4 peaks):				233.0		Total Col2Ave (4 peaks):			373.0	RPD = 46*
Corrected Ave (3 peaks):				152.5		Corrected Ave (3 peaks):			229.2	RPD = 40*
Aroclor-1242	1	6.651	-0.009	7258	101.4	1	7.051	-0.007	33427	103.1
Aroclor-1242	2	7.023	-0.012	34257	160.6	2	7.640	-0.012	88559	125.8
Aroclor-1242	3	8.368	-0.014	78457	649.2	3	8.933	-0.023	88243	268.2
Aroclor-1242	4	8.659	-0.016	81443	1649.2	4	9.009	-0.028	74757	200.3
Total Col1Ave (4 peaks):				640.1		Total Col2Ave (4 peaks):			174.9	RPD = 114*
Corrected Ave (3 peaks):				303.8		Corrected Ave (3 peaks):			143.0	RPD = 72*
Aroclor-1248	1	7.789	-0.011	25965	238.6	1	8.098	-0.008	107767	368.8
Aroclor-1248	2	7.953	-0.018	20408	143.6	2	8.510	-0.010	76857	216.1
Aroclor-1248	3	8.368	-0.012	78457	377.1	3	8.933	-0.019	88243	155.8
Aroclor-1248	4	8.659	-0.016	81443	685.8	4	9.357	-0.023	51161	106.3
Total Col1Ave (4 peaks):				361.3		Total Col2Ave (4 peaks):			211.8	RPD = 52*
Corrected Ave (3 peaks):				253.1		Corrected Ave (3 peaks):			159.4	RPD = 45*
Aroclor-1254	1	8.659	-0.017	81443	363.5	1	9.227	-0.013	191988	320.0
Aroclor-1254	2	8.731	-0.017	38145	367.7	2	9.317	-0.016	91155	258.9
Aroclor-1254	3	9.027	-0.018	43985	301.2	3	9.749	-0.014	76711	167.7
Aroclor-1254	4	9.157	-0.022	109316	391.8	4	9.898	-0.016	313650	309.5
Aroclor-1254	5	9.844	-0.026	56680	323.5	5	10.134	-0.017	383012	372.7
Total Col1Ave (5 peaks):				349.5		Total Col2Ave (5 peaks):			285.8	RPD = 20
Corrected Ave (4 peaks):				339.0		Corrected Ave (4 peaks):			264.0	RPD = 25
Aroclor-1260	1	10.367	-0.017	32672	241.0	1	11.417	-0.009	147707	214.6
Aroclor-1260	2	10.686	-0.017	27485	206.6	2	11.665	-0.014	296979	148.4
Aroclor-1260	3	11.034	-0.019	74697	207.7	3	12.248	-0.013	185640	144.3
Aroclor-1260	4	11.434	-0.021	41496	259.0	4	12.960	-0.011	104709	170.2
Aroclor-1260	5	11.541	-0.014	18501	230.6	NS	---			----
Total Col1Ave (5 peaks):				229.0		Total Col2Ave (4 peaks):			169.4	RPD = 30
Corrected Ave (4 peaks):				221.5		Corrected Ave (3 peaks):			154.3	RPD = 36
Aroclor-1262	1	10.367	-0.017	32672	177.7	1	10.955	-0.015	128615	127.0
Aroclor-1262	2	11.434	-0.020	41496	348.5	2	11.665	-0.021	296979	139.0
Aroclor-1262	3	11.612	-0.014	21111	123.0	3	12.176	-0.012	94095	99.2
Aroclor-1262	4	12.261	-0.013	20767	147.4	4	12.960	-0.012	104709	118.5
Total Col1Ave (4 peaks):				199.1		Total Col2Ave (4 peaks):			120.9	RPD = 49*
Corrected Ave (3 peaks):				149.4		Corrected Ave (3 peaks):			114.9	RPD = 26
Aroclor-1268	1	11.541	-0.016	18501	45.8	1	12.176	-0.024	94095	39.5
Aroclor-1268	2	11.612	-0.013	21111	49.8	2	12.248	-0.019	185640	71.5
Aroclor-1268	3	12.019	0.018	18636	55.9	3	12.626	-0.018	10579	4.7
Aroclor-1268	4	12.744	-0.028	12295	11.4	4	12.769	-0.014	13563	24.4
Total Col1Ave (4 peaks):				40.7		Total Col2Ave (4 peaks):			35.1	RPD = 15

Corrected Ave (3 peaks): 35.7 Corrected Ave (3 peaks): 22.9 RPD = 44*

Total PCB Area Col1 (5.168 - 13.064) = 1697696 Col1 Total PCB = 0.6 ppm*

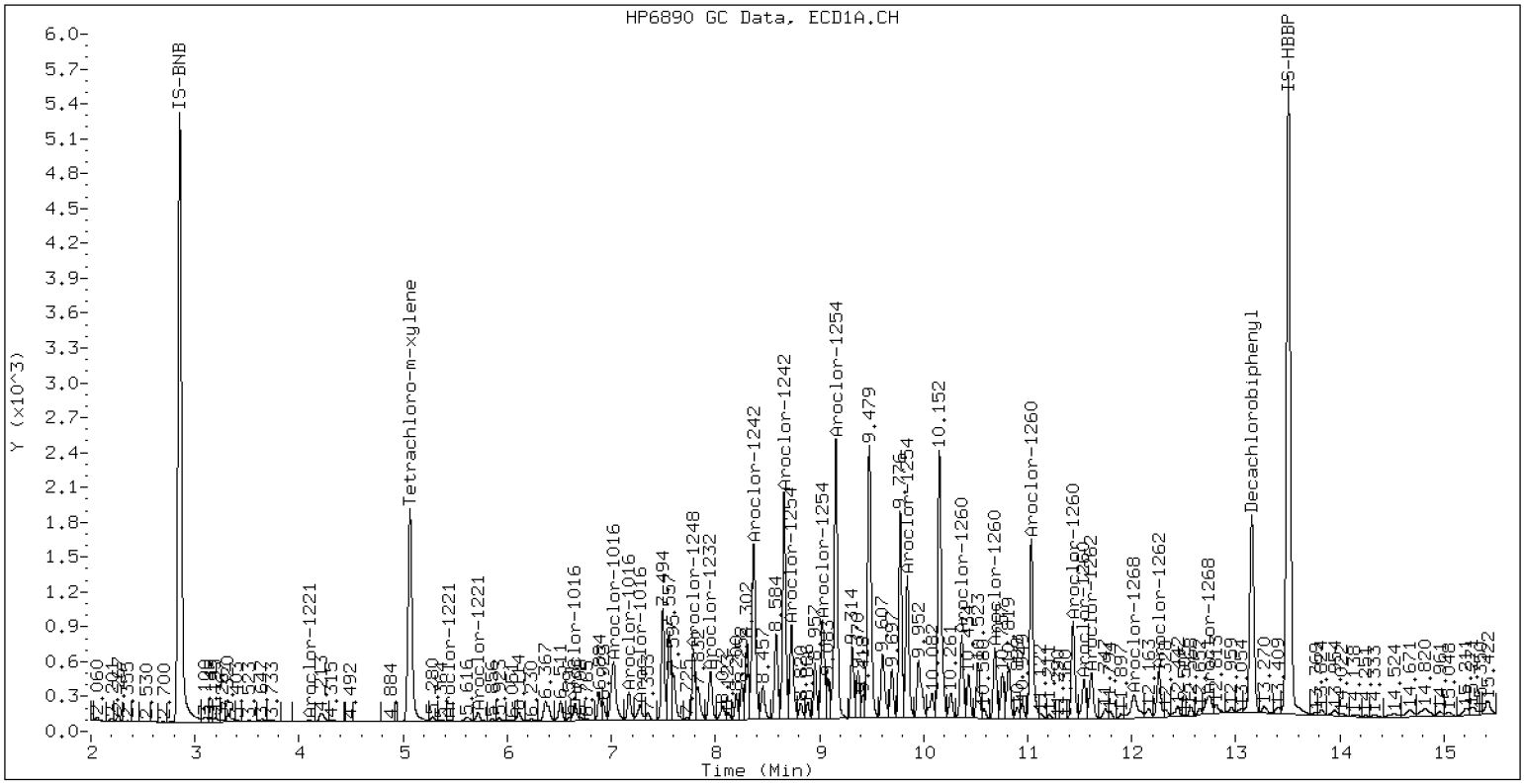
Total PCB Area Col2 (5.168 - 13.064) = 5314448 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

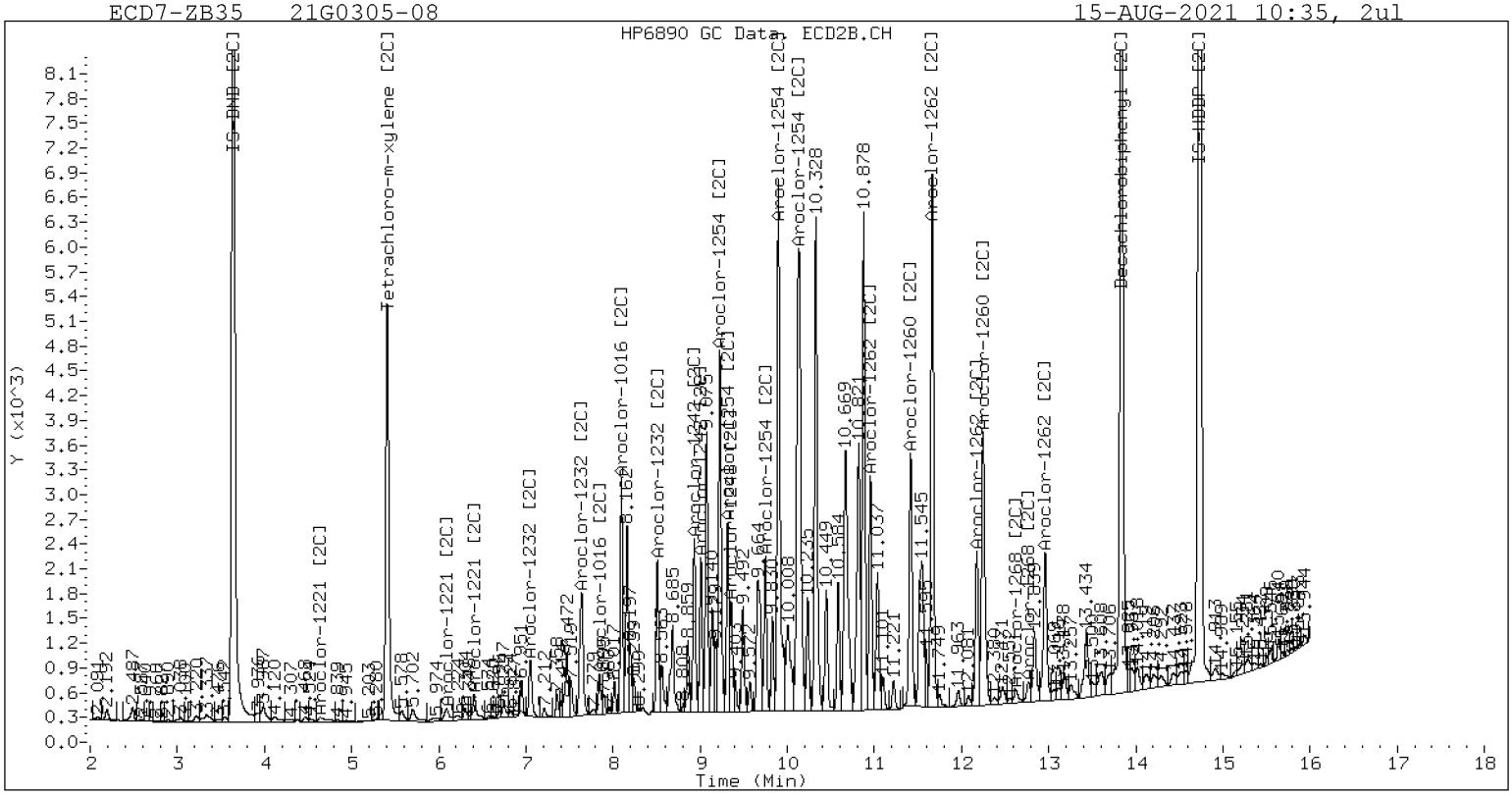
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-08 15-AUG-2021 10:35, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 21G0305-08 15-AUG-2021 10:35, 2ul

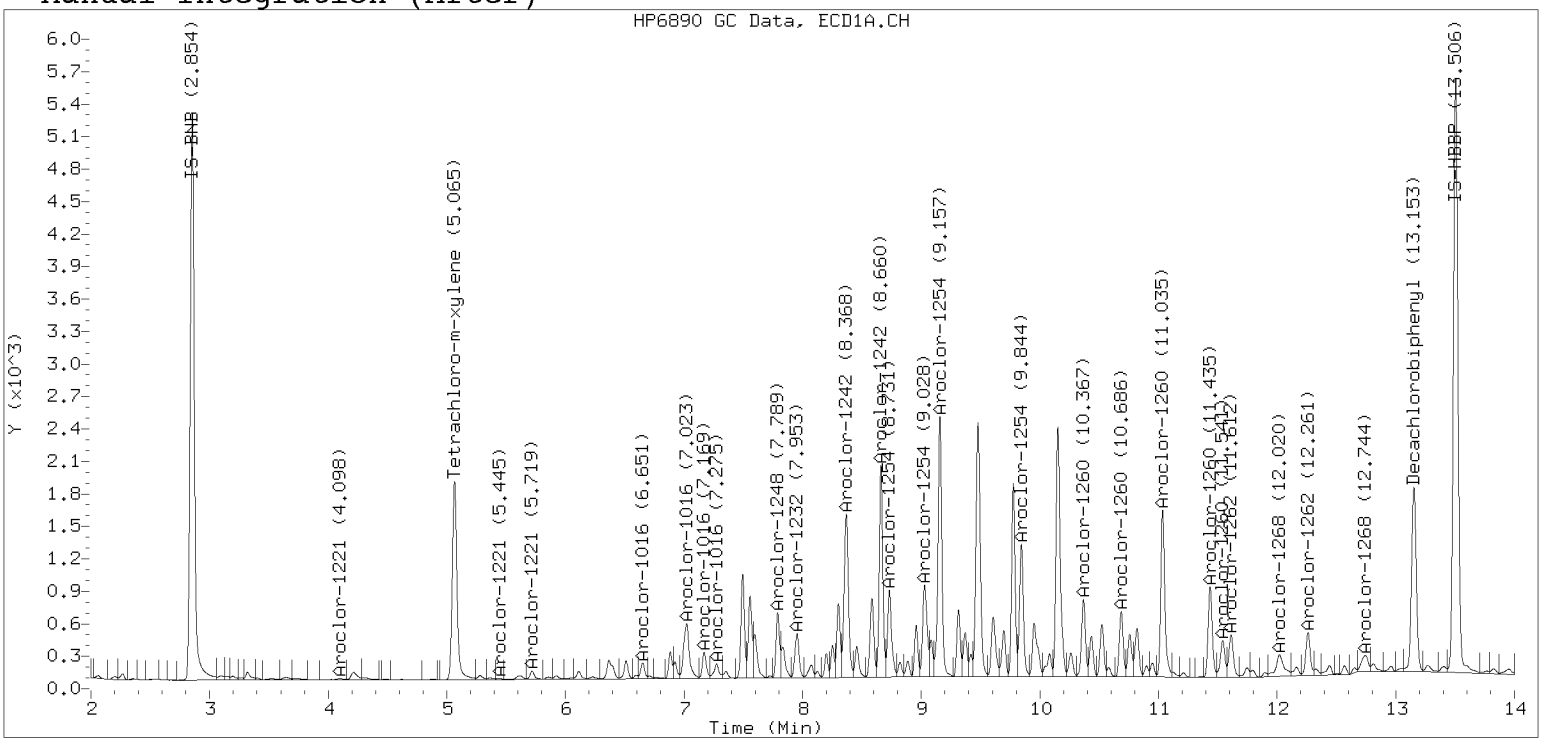


ZB-35 Manual Integration: YES

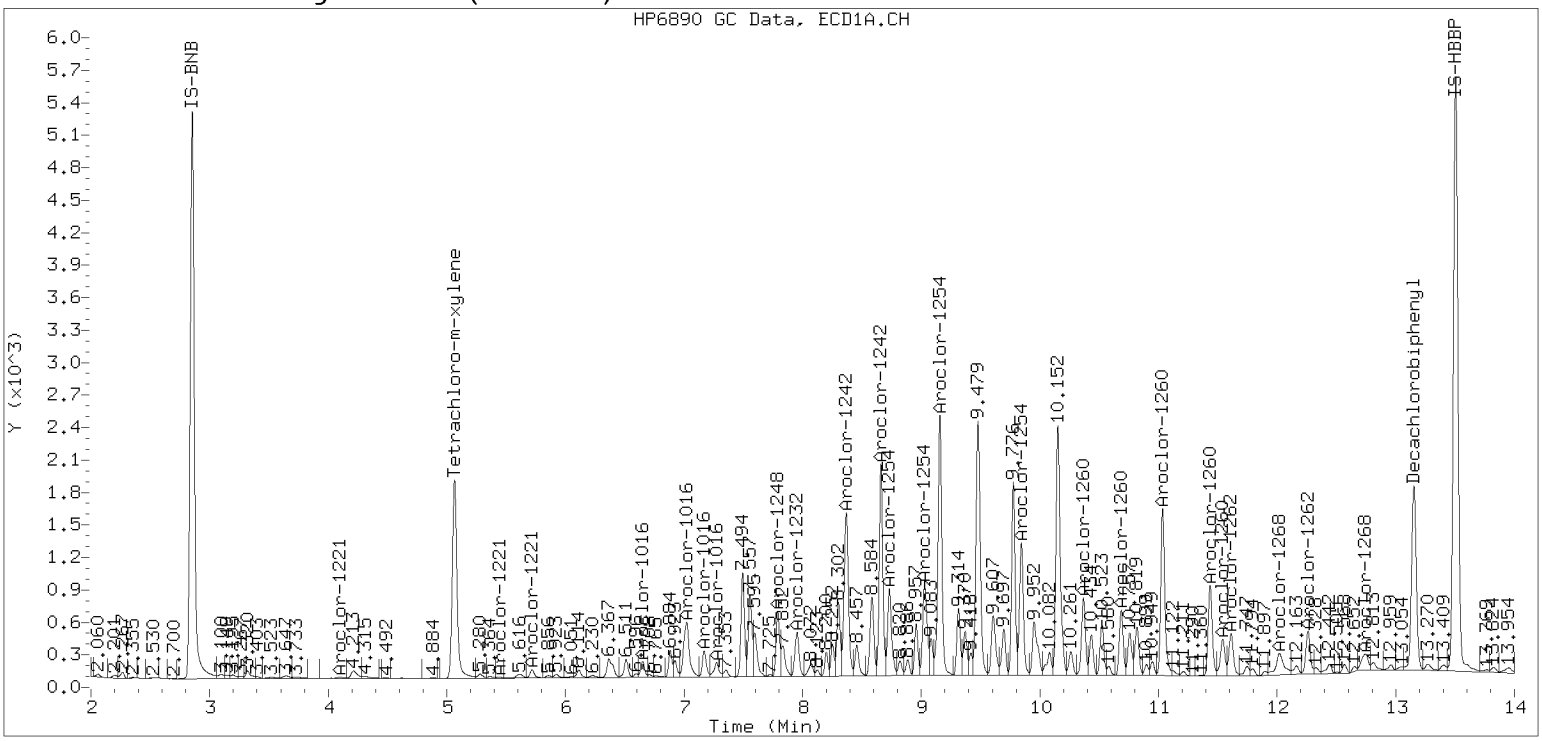
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210814.b/08142149ECD7.D Injection Date: 15-AUG-2021 10:35

Manual Integration (After)



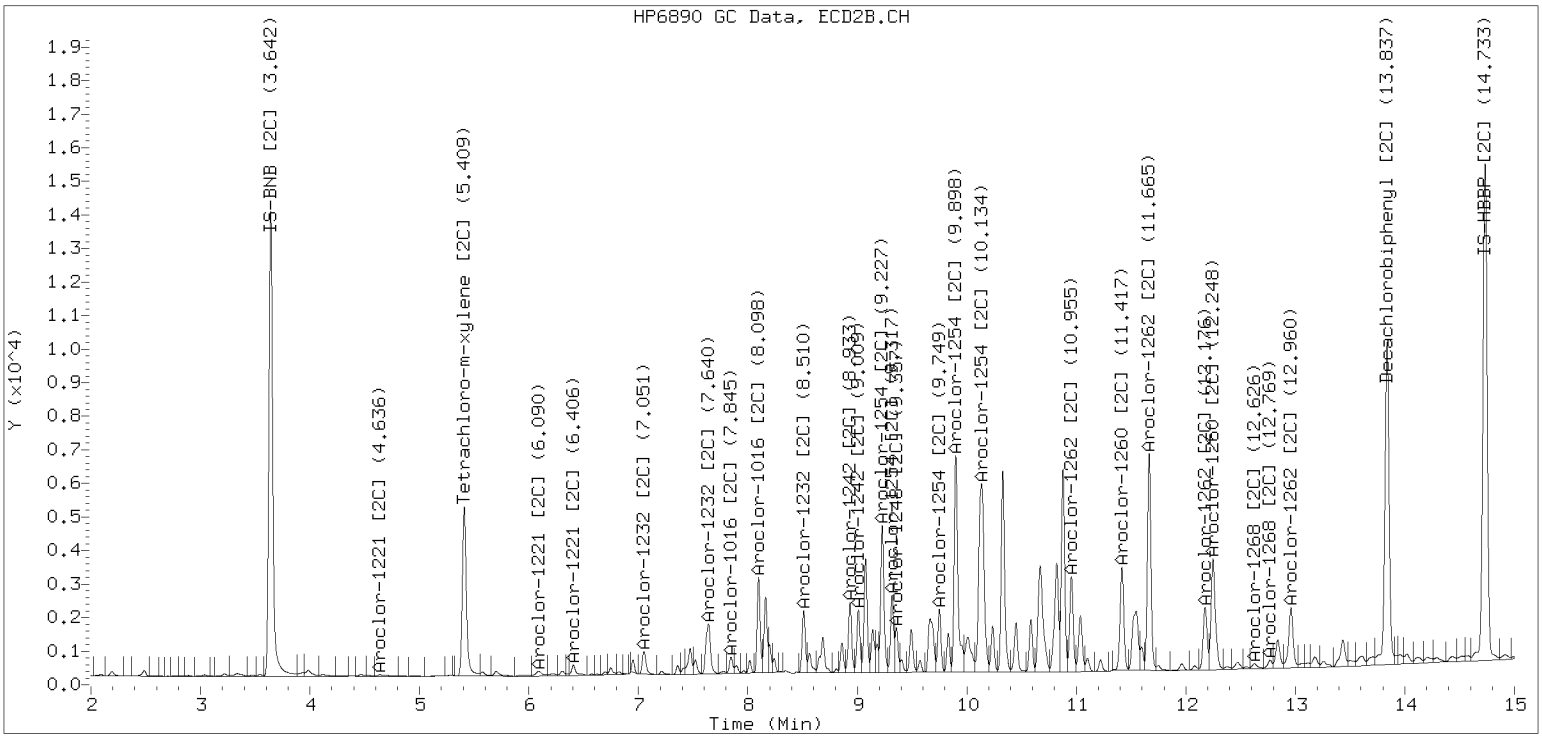
Processed Integration (Before)



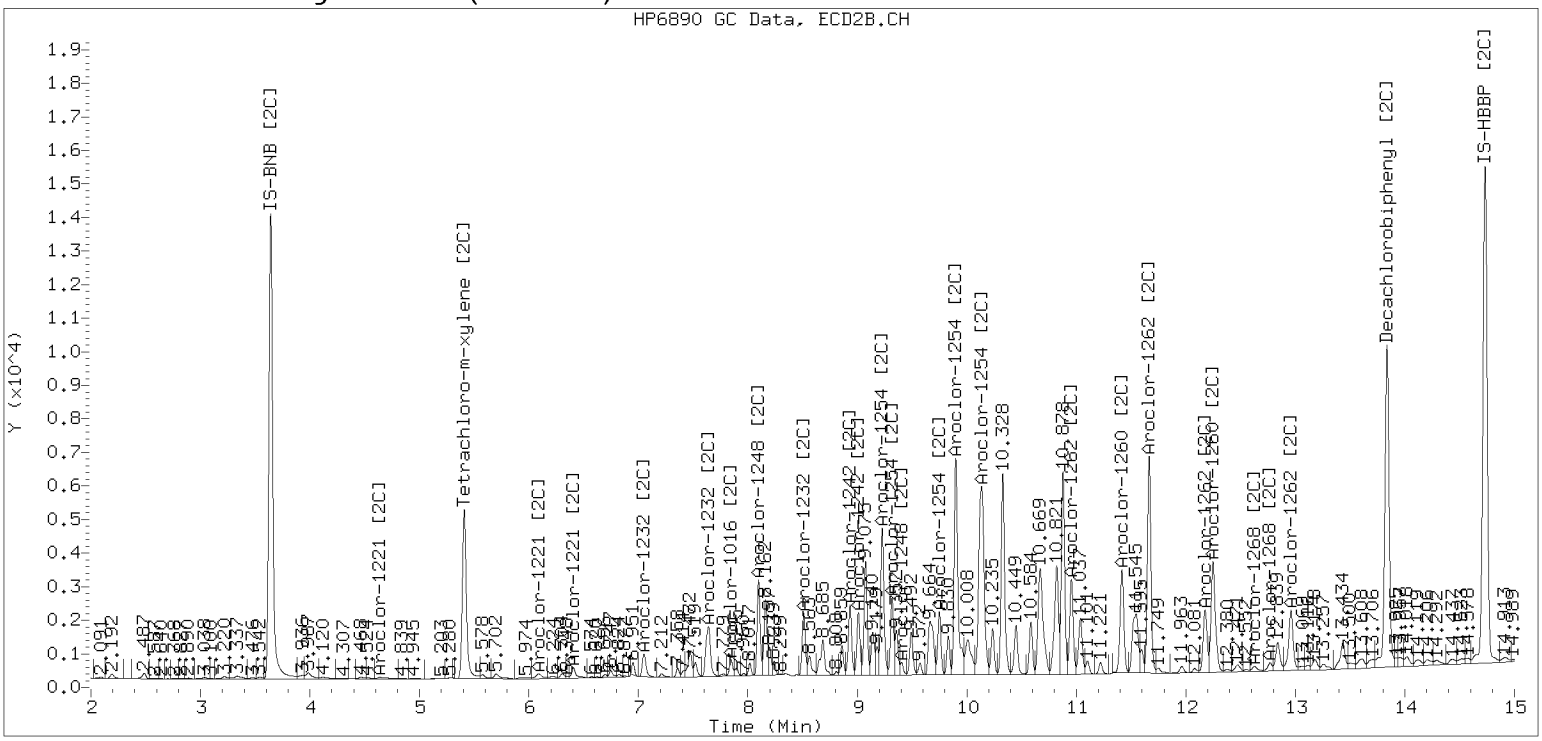
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142149ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC574

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-09 B	File ID:	08142150ECD7.D
Sampled:	07/22/21 11:20	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 10:56
% Solids:	57.41	Preparation:	EPA 3546 (Microwave)	Initial/Final:	21.8 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	36.3	1.6	4.0	
11097-69-1	Aroclor 1254	1	1	57.1	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	44.4	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*7.9902*	*7.19*	*89.9*	*40 - 126*	
Tetrachlorometaxylene	*1*	*7.9902*	*6.78*	*84.8*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142150ECD7.D
Data file 2: /210814.b/210814.b/08142150ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-09
Client ID:
Injection Date: 15-AUG-2021 10:56
Report Date: 08/17/2021 11:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.064	-0.004	101185	5.407	-0.005	253000	33.9	29.8	13.0	Tetrachloro-m-xylene
13.150	-0.014	87882	13.834	-0.013	433792	36.0	26.8	29.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	246653	-4.7
Hexabromobiphenyl	425681	269110	-36.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	660465	-8.4
Hexabromobiphenyl	863111	727712	-15.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.647	-0.012	5285	60.4	1	7.049	-0.007	23121	61.4
Aroclor-1016	2	7.019	-0.015	29357	109.7	2	7.637	-0.013	73395	87.1
Aroclor-1016	3	7.165	-0.015	8839	73.6	3	7.842	-0.015	18195	55.0
Aroclor-1016	4	7.269	-0.020	6402	85.1	4	8.094	-0.012	45924	229.5
Total Col1Ave (4 peaks):				82.2		Total Col2Ave (4 peaks):			108.3	RPD = 27
Corrected Ave (3 peaks):				73.0		Corrected Ave (3 peaks):			67.9	RPD = 7
Aroclor-1221	1	4.097	0.081	1139	58.5	1	4.712	0.036	6641	134.0
Aroclor-1221	2	5.444	-0.007	600	19.7	2	6.086	0.013	16866	148.6
Aroclor-1221	3	5.717	-0.008	3407	41.3	3	6.406	-0.003	18994	96.0
Total Col1Ave (3 peaks):				39.8		Total Col2Ave (3 peaks):			126.2	RPD = 104*
Corrected Ave. < 3 Peaks						Corrected Ave. < 3 Peaks				
Aroclor-1232	1	4.097	0.079	1139	95.2	1	4.712	0.033	6641	225.0
Aroclor-1232	2	5.717	-0.010	3407	52.4	2	7.049	-0.009	23121	134.0
Aroclor-1232	3	7.019	-0.015	29357	295.8	3	7.637	-0.014	73395	212.6
Aroclor-1232	4	7.949	-0.023	17167	420.5	4	8.507	-0.015	44309	492.7
Total Col1Ave (4 peaks):				216.0		Total Col2Ave (4 peaks):			266.1	RPD = 21
Corrected Ave (3 peaks):				147.8		Corrected Ave (3 peaks):			190.5	RPD = 25
Aroclor-1242	1	6.647	-0.013	5285	77.8	1	7.049	-0.009	23121	76.1
Aroclor-1242	2	7.019	-0.016	29357	144.9	2	7.637	-0.015	73395	111.3
Aroclor-1242	3	8.361	-0.020	52711	459.3	3	8.928	-0.029	69016	224.0
Aroclor-1242	4	8.654	-0.022	55736	1188.4	4	9.004	-0.033	64413	184.2
Total Col1Ave (4 peaks):				467.6		Total Col2Ave (4 peaks):			148.9	RPD = 103*
Corrected Ave (3 peaks):				227.3		Corrected Ave (3 peaks):			123.9	RPD = 59*
Aroclor-1248	1	7.784	-0.016	15614	151.1	1	8.094	-0.011	45924	167.8
Aroclor-1248	2	7.949	-0.022	17167	127.2	2	8.507	-0.013	44309	133.0
Aroclor-1248	3	8.361	-0.018	52711	266.8	3	8.928	-0.025	69016	130.1
Aroclor-1248	4	8.654	-0.021	55736	494.2	4	9.353	-0.027	56680	125.8
Total Col1Ave (4 peaks):				259.8		Total Col2Ave (4 peaks):			139.2	RPD = 60*
Corrected Ave (3 peaks):				181.7		Corrected Ave (3 peaks):			129.6	RPD = 33
Aroclor-1254	1	8.654	-0.023	55736	261.9	1	9.222	-0.017	130061	231.5
Aroclor-1254	2	8.726	-0.022	28710	291.4	2	9.312	-0.021	58266	176.7
Aroclor-1254	3	9.024	-0.021	39015	281.3	3	9.743	-0.020	59663	139.3
Aroclor-1254	4	9.151	-0.028	80731	304.7	4	9.893	-0.022	211411	222.7
Aroclor-1254	5	9.837	-0.033	48430	291.0	5	10.122	-0.029	288156	299.3
Total Col1Ave (5 peaks):				286.1		Total Col2Ave (5 peaks):			213.9	RPD = 29
Corrected Ave (4 peaks):				281.4		Corrected Ave (4 peaks):			192.5	RPD = 38
Aroclor-1260	1	10.360	-0.024	27565	227.7	1	11.412	-0.014	116828	193.1
Aroclor-1260	2	10.679	-0.024	23605	198.6	2	11.661	-0.018	242251	137.8
Aroclor-1260	3	11.030	-0.024	69631	216.8	3	12.243	-0.017	159607	141.2
Aroclor-1260	4	11.429	-0.026	36294	253.6	4	12.956	-0.016	87913	162.6
Aroclor-1260	5	11.535	-0.020	15288	213.4	NS	---			----
Total Col1Ave (5 peaks):				222.0		Total Col2Ave (4 peaks):			158.7	RPD = 33
Corrected Ave (4 peaks):				214.1		Corrected Ave (3 peaks):			147.2	RPD = 37
Aroclor-1262	1	10.360	-0.023	27565	167.9	1	10.951	-0.020	97861	110.0
Aroclor-1262	2	11.429	-0.025	36294	341.3	2	11.661	-0.025	242251	129.0
Aroclor-1262	3	11.606	-0.021	18282	119.3	3	12.171	-0.017	88830	106.6
Aroclor-1262	4	12.255	-0.019	17987	142.9	4	12.956	-0.017	87913	113.2
Total Col1Ave (4 peaks):				192.8		Total Col2Ave (4 peaks):			114.7	RPD = 51*
Corrected Ave (3 peaks):				143.3		Corrected Ave (3 peaks):			109.9	RPD = 26
Aroclor-1268	1	11.535	-0.022	15288	42.3	1	12.171	-0.029	88830	42.5
Aroclor-1268	2	11.606	-0.019	18282	48.3	2	12.243	-0.024	159607	70.0
Aroclor-1268	3	12.007	0.006	11282	37.9	3	12.623	-0.021	8633	4.4
Aroclor-1268	4	12.749	-0.023	8969	9.3	4	12.769	-0.014	6553	13.4
Total Col1Ave (4 peaks):				34.5		Total Col2Ave (4 peaks):			32.6	RPD = 6

Corrected Ave (3 peaks): 29.9 Corrected Ave (3 peaks): 20.1 RPD = 39

Total PCB Area Col1 (5.168 - 13.064) = 1384110 Col1 Total PCB = 0.6 ppm*

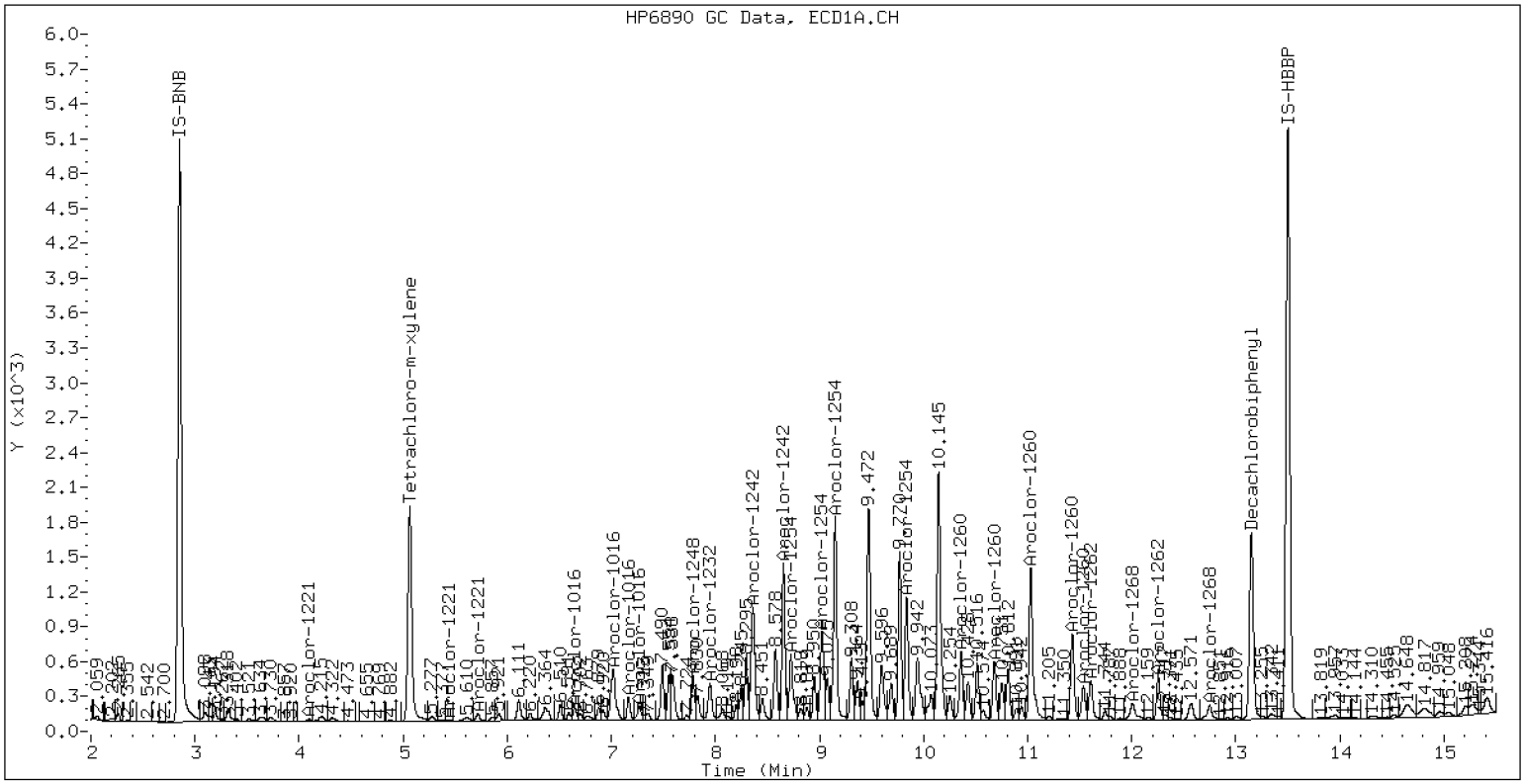
Total PCB Area Col2 (5.168 - 13.064) = 4165210 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

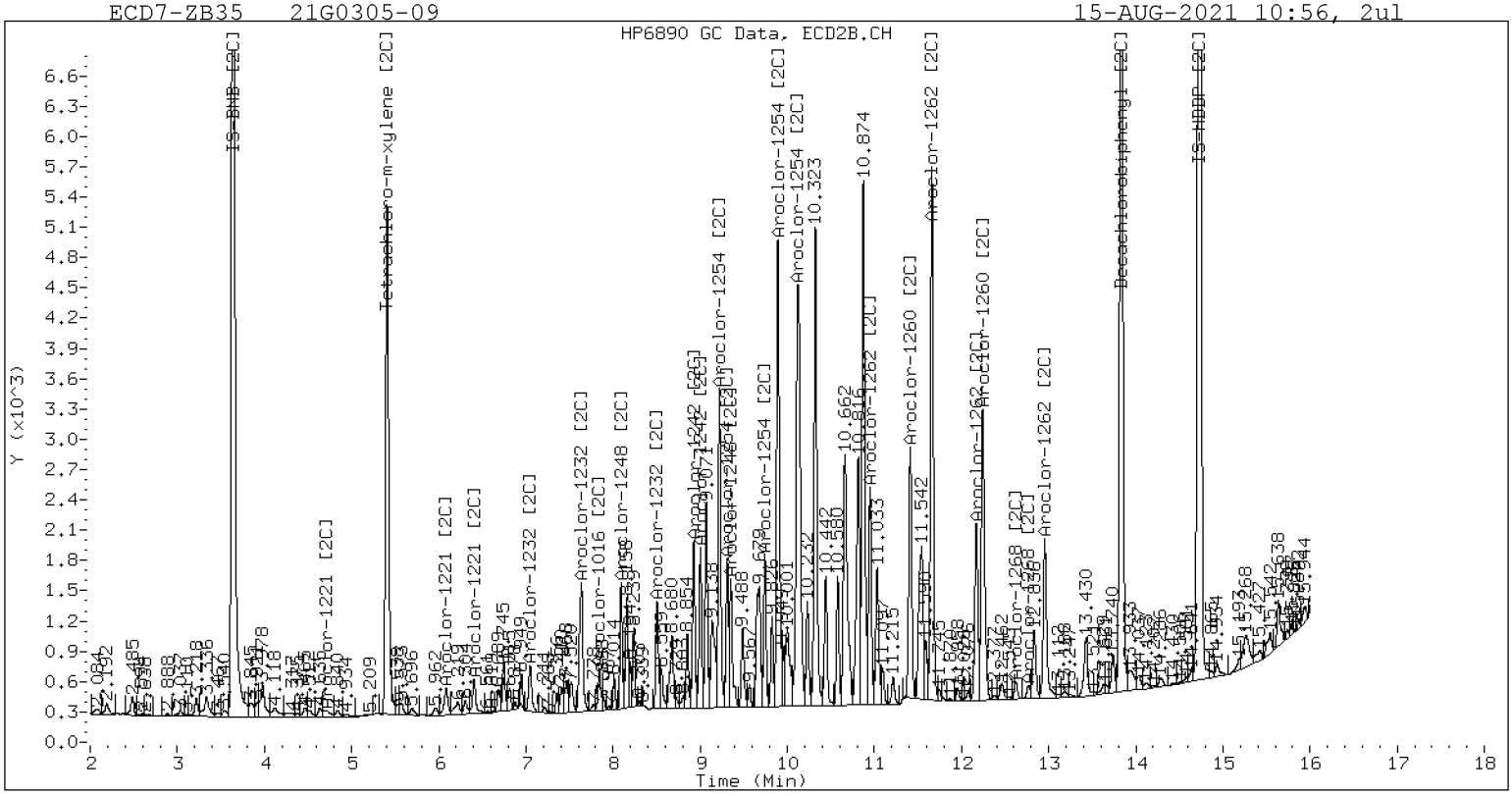
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-09 15-AUG-2021 10:56, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-09 15-AUG-2021 10:56, 2ul

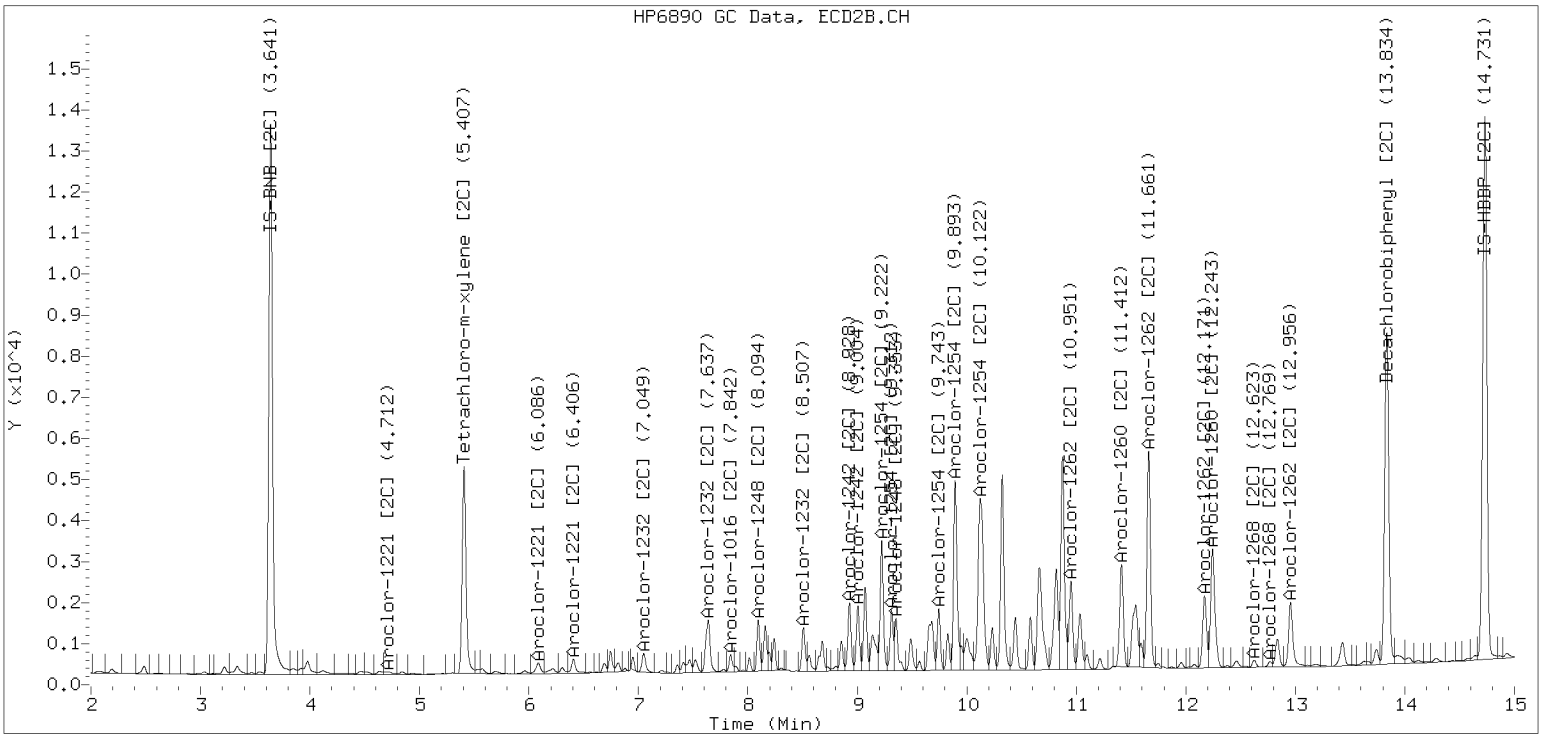


ZB-35 Manual Integration: YES

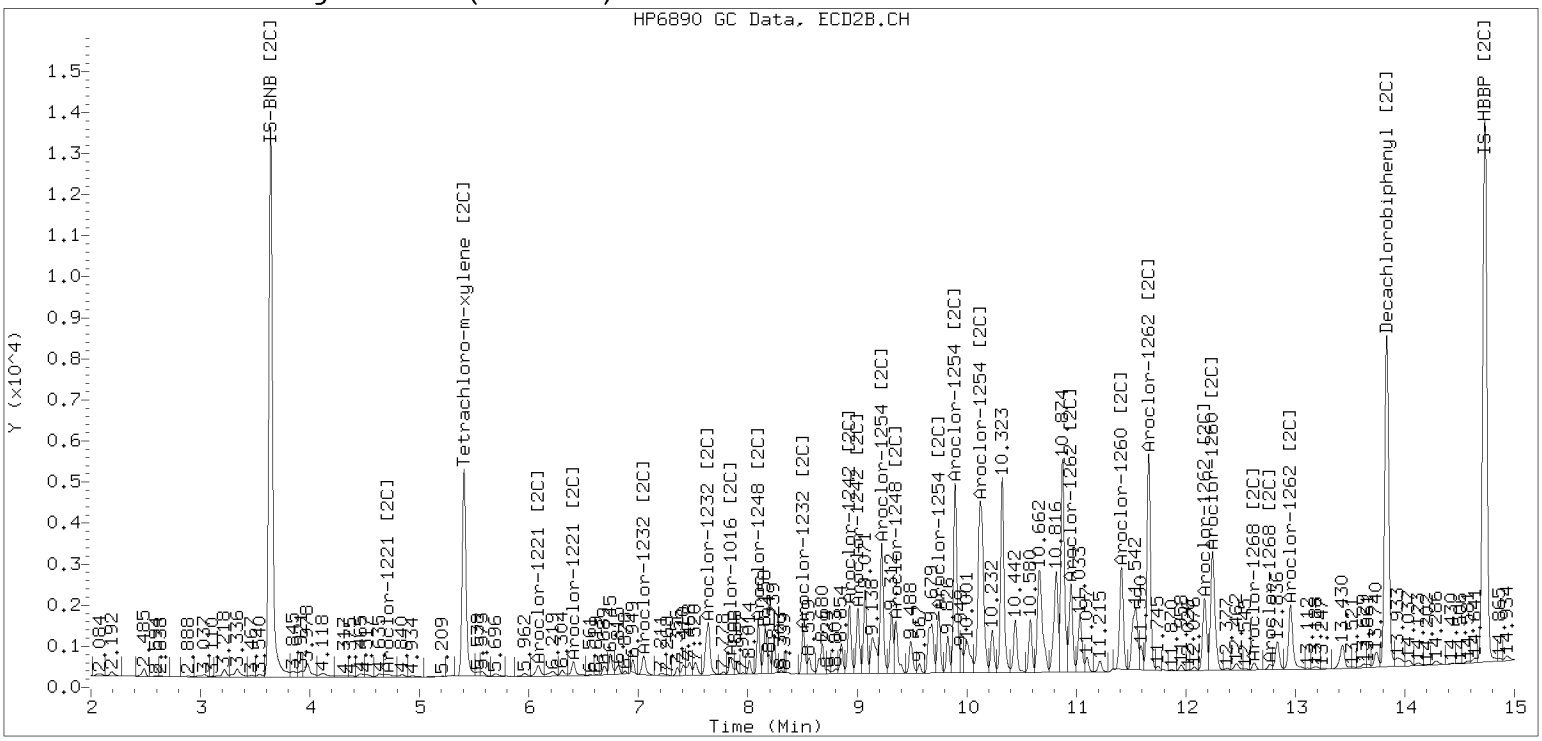
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142150ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC551

Dual Column

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-10 B	File ID:	08142151ECD7.D
Sampled:	07/22/21 15:32	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 11:16
% Solids:	58.52	Preparation:	EPA 3546 (Microwave)	Initial/Final:	21.36 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	1	4.0	1.6	4.0	U
11104-28-2	Aroclor 1221	1	1	4.0	1.6	4.0	U
11141-16-5	Aroclor 1232	1	1	4.0	1.6	4.0	U
53469-21-9	Aroclor 1242	1	1	4.0	1.6	4.0	U
12672-29-6	Aroclor 1248	1	1	62.1	1.6	4.0	P1
11097-69-1	Aroclor 1254	1	1	120	1.6	4.0	
11096-82-5	Aroclor 1260	1	1	200	0.6	4.0	

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0001*	*7.63*	*95.4*	*40 - 126*	
Tetrachlorometaxylene	*1*	*8.0001*	*6.96*	*87.0*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142151ECD7.D
Data file 2: /210814.b/210814.b/08142151ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-10
Client ID:
Injection Date: 15-AUG-2021 11:16
Report Date: 08/17/2021 11:49
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.064	-0.004	109821	5.408	-0.004	278854	34.8	30.3	13.8	Tetrachloro-m-xylene
13.151	-0.014	95730	13.836	-0.011	479914	38.2	29.0	27.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261008	0.8
Hexabromobiphenyl	425681	276372	-35.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	715989	-0.7
Hexabromobiphenyl	863111	743531	-13.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.649	-0.011	6392	69.0	1	7.049	-0.006	25036	61.3
Aroclor-1016	2	7.020	-0.013	30509	107.8	2	7.639	-0.011	73726	80.7
Aroclor-1016	3	7.168	-0.012	9419	74.1	3	7.844	-0.014	13208	36.9
Aroclor-1016	4	7.270	-0.020	7700	96.7	4	8.096	-0.010	117699	542.6
Total Col1Ave (4 peaks):				86.9		Total Col2Ave (4 peaks):			180.4	RPD = 70*
Corrected Ave (3 peaks):				80.0		Corrected Ave (3 peaks):			59.6	RPD = 29
Aroclor-1221	1	4.098	0.082	1481	71.9	1	4.647	-0.030	6588	122.6
Aroclor-1221	2	5.443	-0.008	1215	37.6	2	6.089	0.016	22717	184.7
Aroclor-1221	3	5.718	-0.007	3337	38.2	3	6.404	-0.005	13076	61.0
Total Col1Ave (3 peaks):				49.2		Total Col2Ave (3 peaks):			122.7	RPD = 85*
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.098	0.080	1481	117.0	1	4.647	-0.032	6588	205.9
Aroclor-1232	2	5.718	-0.009	3337	48.5	2	7.049	-0.009	25036	133.9
Aroclor-1232	3	7.020	-0.014	30509	290.5	3	7.639	-0.012	73726	197.0
Aroclor-1232	4	7.950	-0.022	19025	440.4	4	8.508	-0.014	62896	645.1
Total Col1Ave (4 peaks):				224.1		Total Col2Ave (4 peaks):			295.5	RPD = 27
Corrected Ave (3 peaks):				152.0		Corrected Ave (3 peaks):			178.9	RPD = 16
Aroclor-1242	1	6.649	-0.011	6392	88.9	1	7.049	-0.008	25036	76.1
Aroclor-1242	2	7.020	-0.015	30509	142.3	2	7.639	-0.013	73726	103.1
Aroclor-1242	3	8.366	-0.015	118643	976.9	3	8.929	-0.027	97050	290.5
Aroclor-1242	4	8.656	-0.020	143103	2883.5	4	9.005	-0.032	71777	189.4
Total Col1Ave (4 peaks):				1022.9		Total Col2Ave (4 peaks):			164.8	RPD = 145*
Corrected Ave (3 peaks):				402.7		Corrected Ave (3 peaks):			122.8	RPD = 107*
Aroclor-1248	1	7.786	-0.014	25189	230.3	1	8.096	-0.010	117699	396.7
Aroclor-1248	2	7.950	-0.021	19025	133.2	2	8.508	-0.012	62896	174.2
Aroclor-1248	3	8.366	-0.013	118643	567.5	3	8.929	-0.023	97050	168.7
Aroclor-1248	4	8.656	-0.019	143103	1199.1	4	9.354	-0.026	41476	84.9
Total Col1Ave (4 peaks):				532.5		Total Col2Ave (4 peaks):			206.1	RPD = 88*
Corrected Ave (3 peaks):				310.3		Corrected Ave (3 peaks):			142.6	RPD = 74*
Aroclor-1254	1	8.656	-0.021	143103	635.5	1	9.224	-0.016	344186	565.0
Aroclor-1254	2	8.727	-0.021	53886	516.9	2	9.314	-0.019	126800	354.7
Aroclor-1254	3	9.022	-0.023	70941	483.3	3	9.745	-0.018	131151	282.4
Aroclor-1254	4	9.152	-0.027	184122	656.6	4	9.897	-0.017	638929	620.9
Aroclor-1254	5	9.838	-0.032	123836	703.2	5	10.138	-0.013	845585	810.2
Total Col1Ave (5 peaks):				599.1		Total Col2Ave (5 peaks):			526.6	RPD = 13
Corrected Ave (4 peaks):				573.1		Corrected Ave (4 peaks):			455.7	RPD = 23
Aroclor-1260	1	10.363	-0.021	122628	986.2	1	11.413	-0.013	463118	749.3
Aroclor-1260	2	10.681	-0.021	110361	904.3	2	11.665	-0.013	1474061	820.5
Aroclor-1260	3	11.031	-0.022	352969	1070.2	3	12.246	-0.015	800835	693.3
Aroclor-1260	4	11.431	-0.024	178579	1215.2	4	12.959	-0.013	379730	687.6
Aroclor-1260	5	11.537	-0.018	60363	820.4	NS	---			----
Total Col1Ave (5 peaks):				999.3		Total Col2Ave (4 peaks):			737.7	RPD = 30
Corrected Ave (4 peaks):				945.3		Corrected Ave (3 peaks):			710.0	RPD = 28
Aroclor-1262	1	10.363	-0.021	122628	727.1	1	10.953	-0.017	425520	468.0
Aroclor-1262	2	11.431	-0.023	178579	1635.2	2	11.665	-0.020	1474061	768.4
Aroclor-1262	3	11.609	-0.018	80654	512.3	3	12.174	-0.014	396492	465.6
Aroclor-1262	4	12.257	-0.017	79220	612.9	4	12.959	-0.014	379730	478.5
Total Col1Ave (4 peaks):				871.9		Total Col2Ave (4 peaks):			545.1	RPD = 46*
Corrected Ave (3 peaks):				617.4		Corrected Ave (3 peaks):			470.7	RPD = 27
Aroclor-1268	1	11.537	-0.020	60363	162.8	1	12.174	-0.026	396492	185.6
Aroclor-1268	2	11.609	-0.017	80654	207.4	2	12.246	-0.021	800835	343.5
Aroclor-1268	3	12.010	0.009	36898	120.6	3	12.622	-0.022	15729	7.8
Aroclor-1268	4	12.751	-0.020	20423	20.7	4	12.770	-0.013	12305	24.7
Total Col1Ave (4 peaks):				127.9		Total Col2Ave (4 peaks):			140.4	RPD = 9

Corrected Ave (3 peaks): 101.4 Corrected Ave (3 peaks): 72.7 RPD = 33

Total PCB Area Col1 (5.168 - 13.064) = 3884221 Col1 Total PCB = 1.5 ppm*

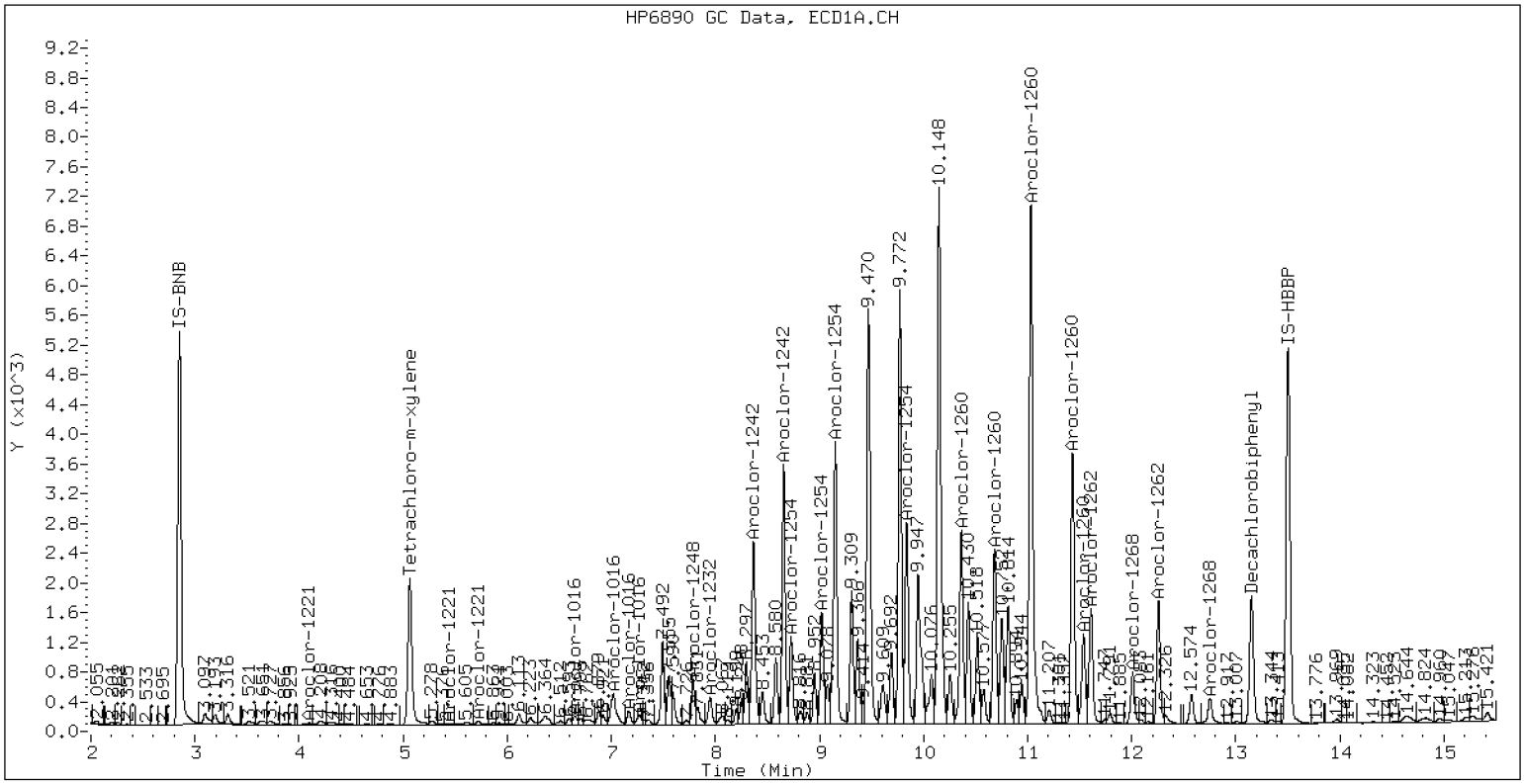
Total PCB Area Col2 (5.168 - 13.064) = 12297518 Col2 Total PCB = 1.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

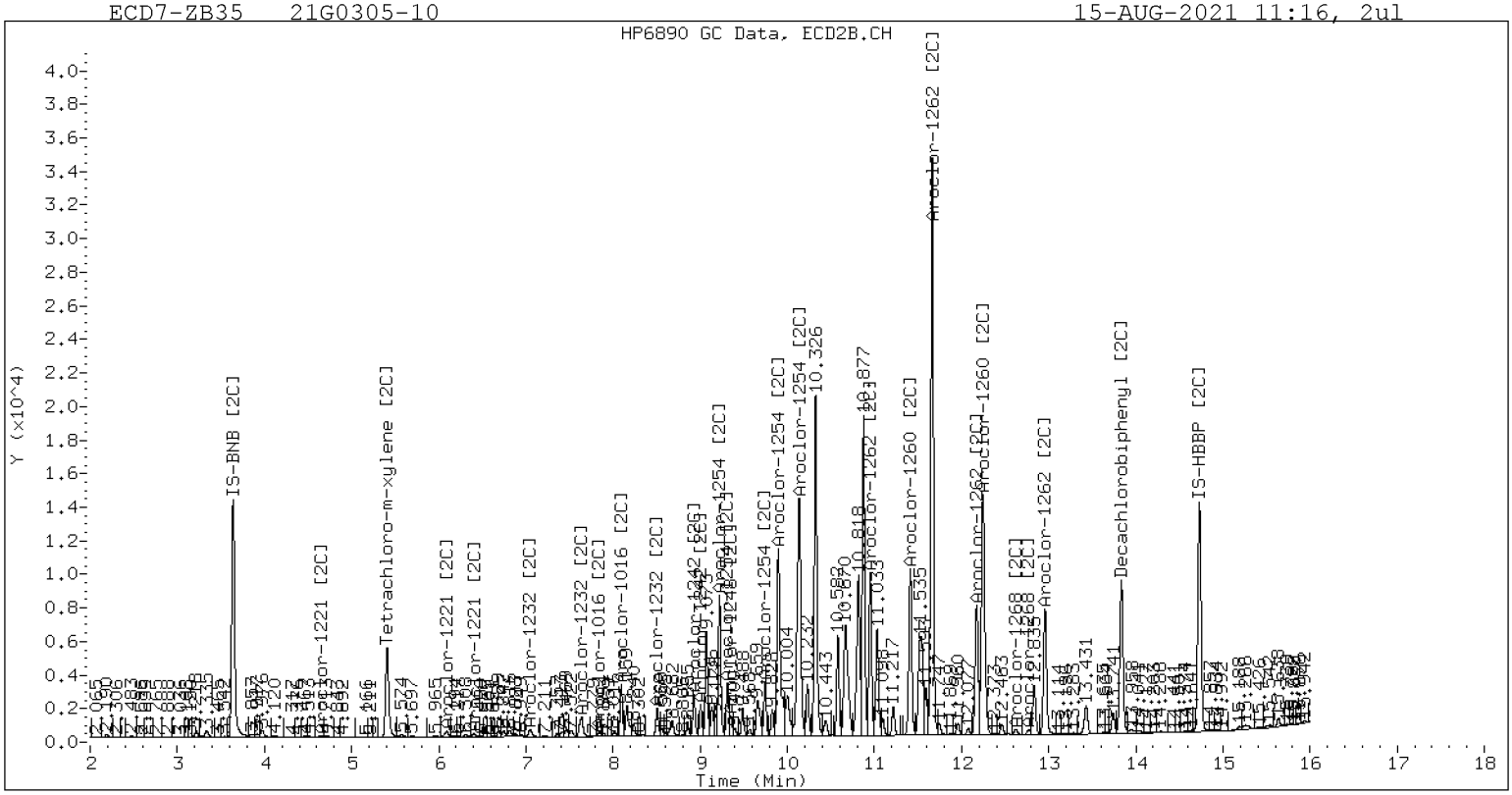
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-10 15-AUG-2021 11:16, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-10 15-AUG-2021 11:16, 2ul

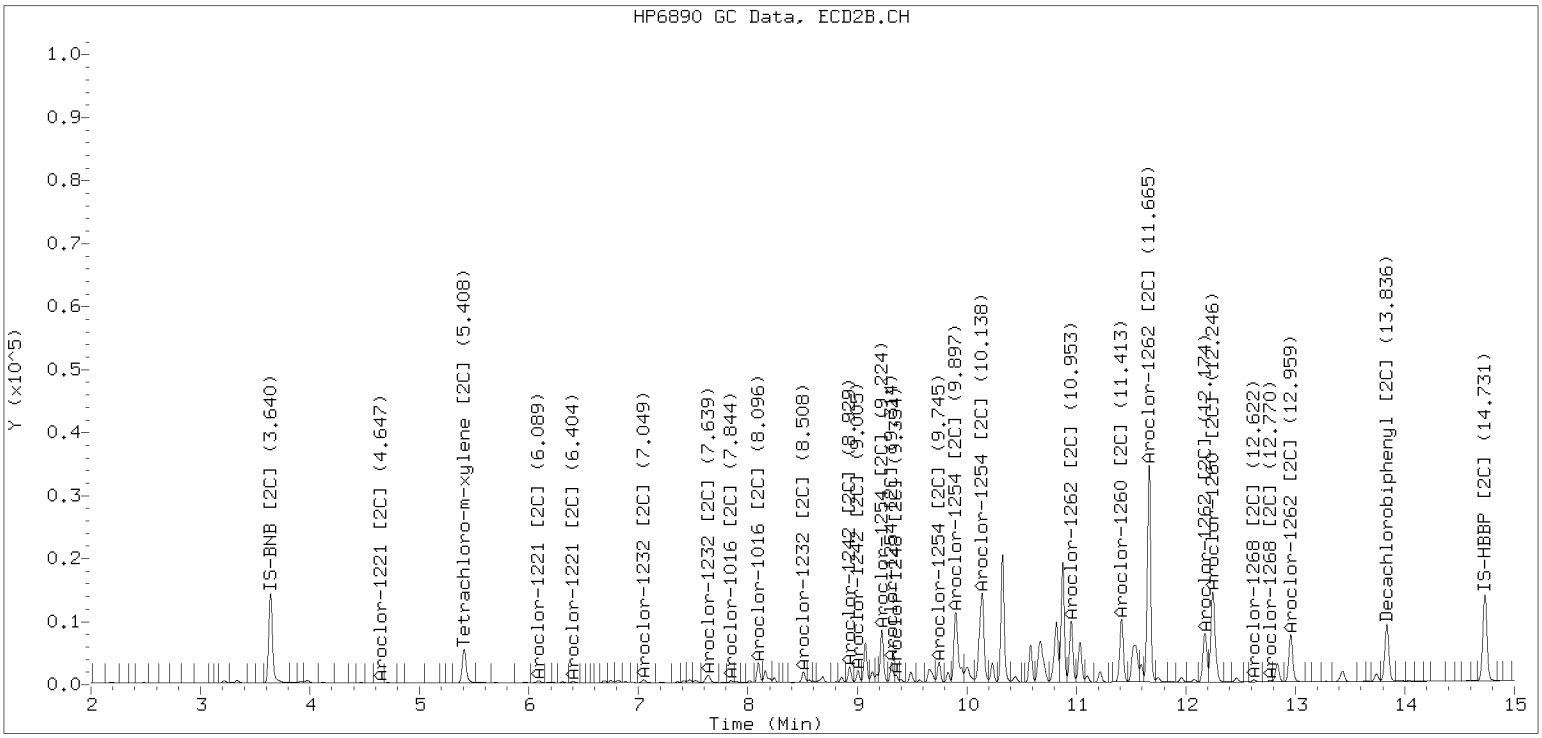


ZB-35 Manual Integration: YES

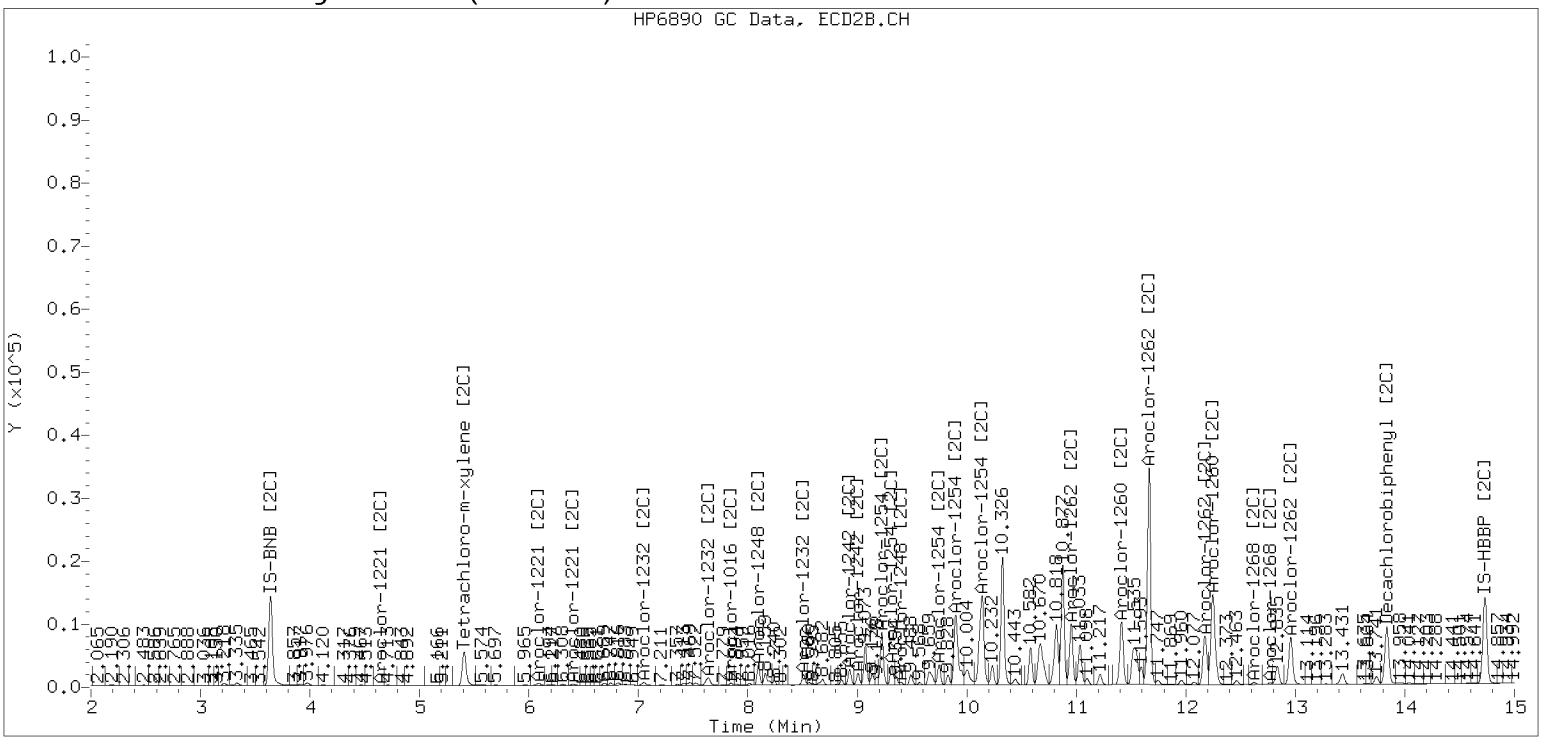
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210814.b/210814.b/08142151ECD7.D Injection Date: 15-AUG-2021

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

LDW21-SC551

ORGANIC ANALYSIS DATA SHEET
EPA 8082A

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Solid	Laboratory ID:	21G0305-10RE1 B	File ID:	08162126S.D
Sampled:	07/22/21 15:32	Prepared:	08/03/21 11:35	Analyzed:	08/16/21 20:41
% Solids:	58.52	Preparation:	EPA 3546 (Microwave)	Initial/Final:	21.36 g Wet / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0214	Calibration:	EH00034
Instrument:	ECD7	Column 1:	ZB5	Column 2:	ZB35

CAS NO.	COMPOUND	Col #	DILUTION	CONC. (ug/kg dry)	MDL	MRL	Q
12674-11-2	Aroclor 1016	1	5	20.0	7.8	20.0	U
11104-28-2	Aroclor 1221	1	5	20.0	7.8	20.0	U
11141-16-5	Aroclor 1232	1	5	20.0	7.8	20.0	U
53469-21-9	Aroclor 1242	1	5	20.0	7.8	20.0	U
12672-29-6	Aroclor 1248	1	5	79.0	7.8	20.0	D
11097-69-1	Aroclor 1254	1	5	152	7.8	20.0	D
11096-82-5	Aroclor 1260	1	5	212	2.9	20.0	D

SURROGATES	Col #	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
Decachlorobiphenyl	*1*	*8.0001*	*8.25*	*103*	*40 - 126*	
Tetrachlorometaxylene	*1*	*8.0001*	*7.21*	*90.2*	*44 - 120*	

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162126S.D
Data file 2: /210816.b/210816.b/08162126S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: 21G0305-10RE1
Client ID:
Injection Date: 16-AUG-2021 20:41
Report Date: 08/17/2021 15:38
Matrix: NONE
Dilution Factor: 5.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.065	-0.003	23134	5.410	-0.007	68539	7.2	7.1	1.8	Tetrachloro-m-xylene
13.157	-0.008	25840	13.838	-0.042	126573	8.2	6.4	24.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265317	2.5
Hexabromobiphenyl	425681	345174	-18.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	752417	4.4
Hexabromobiphenyl	863111	884003	2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	---			0.0
Aroclor-1221	3	---			0.0	3	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	7.794	-0.004	6763	60.8	1	8.100	-0.005	33648	107.9
Aroclor-1248	2	7.959	-0.009	5032	34.7	2	8.513	-0.007	17125	45.1
Aroclor-1248	3	8.375	0.001	30065	141.5	3	8.939	-0.007	28359	46.9
Aroclor-1248	4	8.666	-0.008	36826	303.6	4	9.361	-0.016	11793	23.0
	Total Col1Ave (4 peaks):				135.1	Total Col2Ave (4 peaks):				55.7 RPD = 83*
	Corrected Ave (3 peaks):				79.0	Corrected Ave (3 peaks):				38.3 RPD = 69*
Aroclor-1254	1	8.666	-0.010	36826	160.9	1	9.230	-0.010	101565	158.7
Aroclor-1254	2	8.738	-0.008	14909	140.7	2	9.321	-0.011	37358	99.4
Aroclor-1254	3	9.034	-0.007	15622	104.7	3	9.752	-0.011	37678	77.2
Aroclor-1254	4	9.166	-0.010	47666	167.2	4	9.905	-0.008	180064	166.5
Aroclor-1254	5	9.851	-0.016	33073	184.8	5	10.145	-0.002	239040	218.0
	Total Col1Ave (5 peaks):				151.7	Total Col2Ave (5 peaks):				144.0 RPD = 5
	Corrected Ave (4 peaks):				143.4	Corrected Ave (4 peaks):				125.4 RPD = 13
Aroclor-1260	1	10.375	-0.008	32537	209.5	1	11.419	-0.006	133628	181.8
Aroclor-1260	2	10.692	-0.008	29350	192.6	2	11.668	-0.013	361869	169.4
Aroclor-1260	3	11.042	-0.009	94187	228.6	3	12.251	-0.010	226192	164.7
Aroclor-1260	4	11.441	-0.011	46414	252.9	4	12.962	-0.010	108850	165.8
Aroclor-1260	5	11.546	-0.008	16413	178.6	NS	---			----
	Total Col1Ave (5 peaks):				212.4	Total Col2Ave (4 peaks):				170.4 RPD = 22
	Corrected Ave (4 peaks):				202.3	Corrected Ave (3 peaks):				166.6 RPD = 19
Aroclor-1262	1	10.375	-0.009	32537	154.5	1	---			0.0
Aroclor-1262	2	11.441	-0.013	46414	340.3	2	---			0.0
Aroclor-1262	3	11.618	-0.009	21974	111.7	3	---			0.0
Aroclor-1262	4	12.265	-0.009	21113	130.8	4	---			0.0
	Total Col1Ave (4 peaks):				184.3	Col2Ave: <3 Quant Peaks				
Aroclor-1268	1	11.546	-0.011	16413	35.4	1	---			0.0
Aroclor-1268	2	11.618	-0.008	21974	45.2	2	---			0.0
Aroclor-1268	3	12.019	0.019	10909	28.6	3	---			0.0
Aroclor-1268	4	12.758	-0.014	5495	4.5	4	---			0.0
	Total Col1Ave (4 peaks):				28.4	Col2Ave: <3 Quant Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 1010847 Col1 Total PCB = 0.4 ppm*

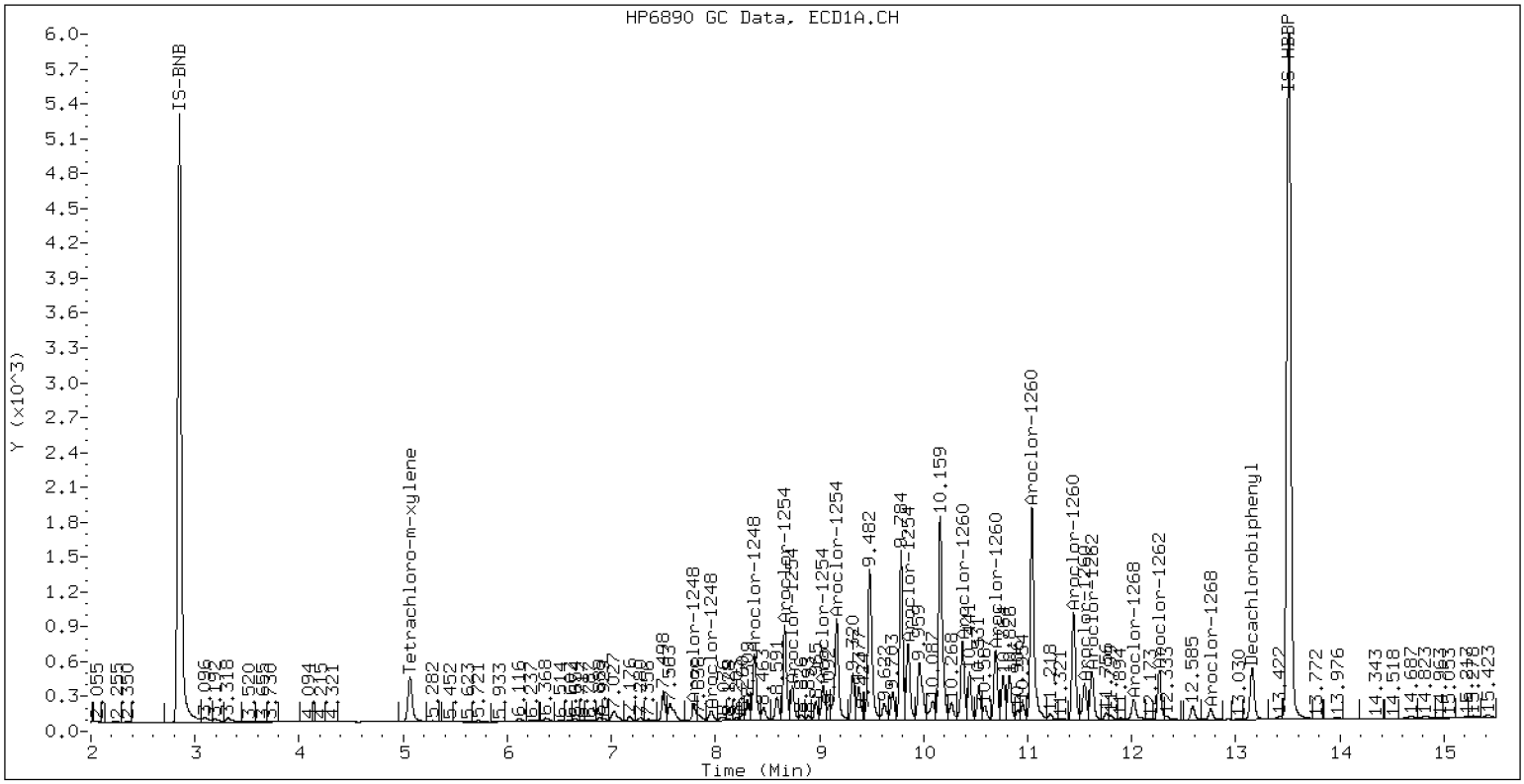
Total PCB Area Col2 (5.169 - 13.066) = 3466230 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

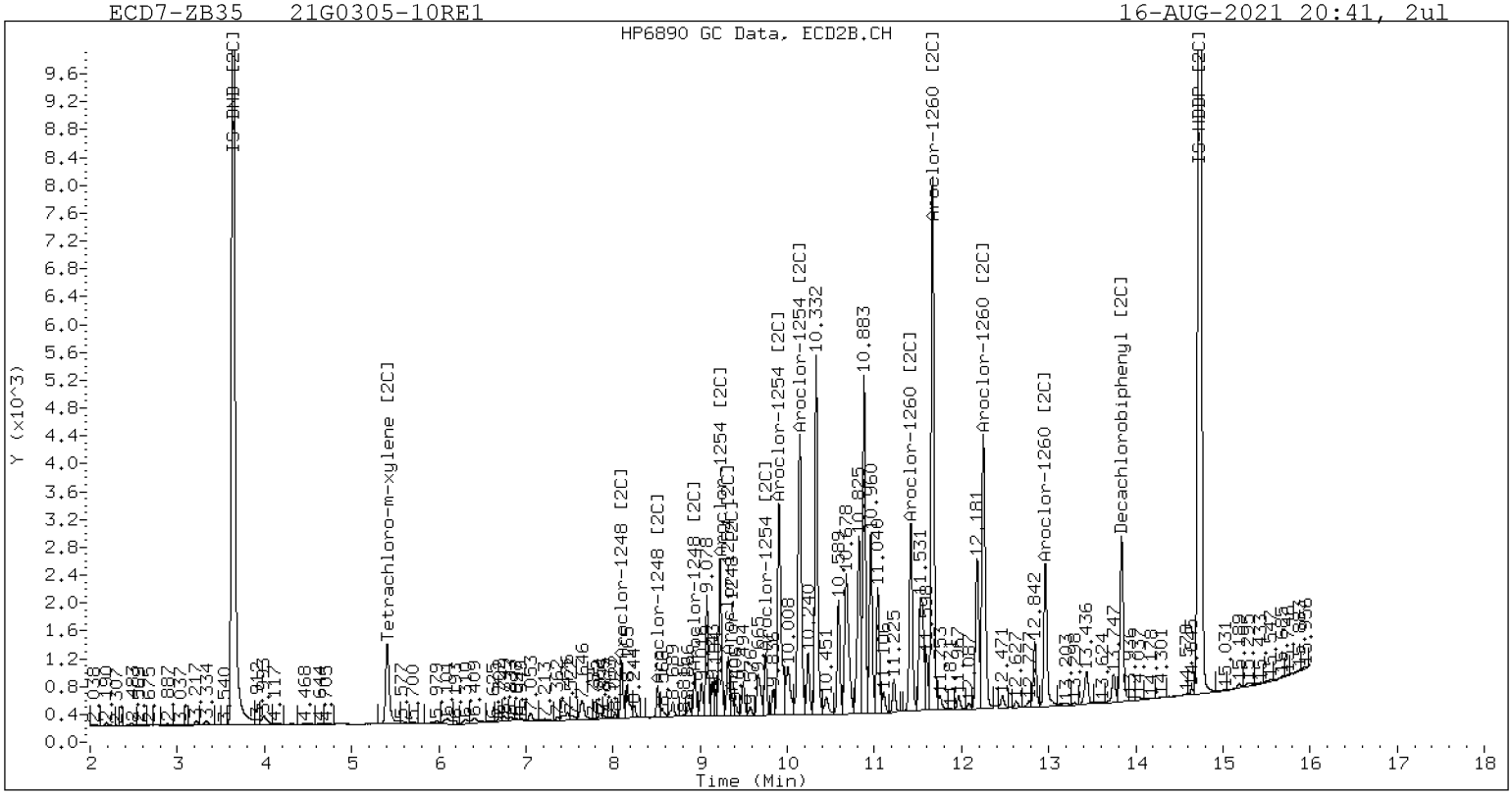
PCB Dual Column Chromatograms

ECD7-ZB5 21G0305-10RE1 16-AUG-2021 20:41, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 21G0305-10RE1 16-AUG-2021 20:41, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Batch: BJH0034 Batch Matrix: Solid Preparation: EPA 3546 (Microwave)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC569	21G0305-01	08142140ECD7.D	08/03/21 11:35	
LDW21-SC567	21G0305-02	08142141ECD7.D	08/03/21 11:35	
LDW21-SC567	21G0305-02RE1	08162124S.D	08/03/21 11:35	Added 8/17/2021 by YZ
LDW21-SC566	21G0305-03	08142142ECD7.D	08/03/21 11:35	
LDW21-SC566	21G0305-03RE1	08162125S.D	08/03/21 11:35	Added 8/17/2021 by YZ
LDW21-SC561	21G0305-04	08142143ECD7.D	08/03/21 11:35	
LDW21-SC526	21G0305-05	08142146ECD7.D	08/03/21 11:35	
LDW21-SC526FD	21G0305-06	08142147ECD7.D	08/03/21 11:35	
LDW21-SC530	21G0305-07	08172107ECD7.D	08/03/21 11:35	
LDW21-SC540	21G0305-08	08142149ECD7.D	08/03/21 11:35	
LDW21-SC574	21G0305-09	08142150ECD7.D	08/03/21 11:35	
LDW21-SC551	21G0305-10	08142151ECD7.D	08/03/21 11:35	
LDW21-SC551	21G0305-10RE1	08162126S.D	08/03/21 11:35	Added 8/17/2021 by YZ
Blank	BJH0034-BLK1	08142131ECD7.D	08/03/21 11:35	
LCS	BJH0034-BS1	08142132ECD7.D	08/03/21 11:35	
Reference	BJH0034-SRM1	08142133ECD7.D	08/03/21 11:35	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0034

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

Matrix: Solid **Date Prepared:** 08/03/21 **Balance ID:** B14646214 **Set Up By:** CTD 8/3/21

WO Comments

21G0303: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0305: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0306: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H> J006840-43, Dup </H>

The following standards may be missing from this batch!

Designator	Description
QLS 5	QLS Spike

Analysis: 8082A PCB Solid 4

Lab Number & Container	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
21G0303-01 B	74.6	(16.75)	16.80	5mL	5mL	2mL	2.5	1.0	
21G0303-02 B	69.3	(18.04)	18.08	5mL	5mL	2mL	2.5	1.0	
21G0303-03 B	72.5	(17.25)	17.27	5mL	5mL	2mL	2.5	1.0	
21G0303-04 B	80.6	(15.50)	15.50	5mL	5mL	2mL	2.5	1.0	
21G0305-01 B	53.8	(23.23)	23.29	5mL	5mL	2mL	2.5	1.0	
21G0305-02 B	64.8	(19.29)	19.32	5mL	5mL	2mL	2.5	1.0	
21G0305-03 B	54.8	(22.80)	22.80	5mL	5mL	2mL	2.5	1.0	
21G0305-04 B	63.4	(19.72)	19.73	5mL	5mL	2mL	2.5	1.0	
21G0305-05 B	60.1	(20.80)	20.87	5mL	5mL	2mL	2.5	1.0	
21G0305-06 B	60.5	(20.66)	20.70	5mL	5mL	2mL	2.5	1.0	
21G0305-07 B	64.9	(19.26)	19.26	5mL	5mL	2mL	2.5	1.0	
21G0305-08 B	70.6	(17.70)	17.77	5mL	5mL	2mL	2.5	1.0	
21G0305-09 B	57.4	(21.77)	21.80	5mL	5mL	2mL	2.5	1.0	
21G0305-10 B	58.5	(21.36)	21.36	5mL	5mL	2mL	2.5	1.0	
21G0306-01 B	73.9	(16.93)	16.94	5mL	5mL	2mL	2.5	1.0	
21G0306-02 B	73.5	(17.01)	17.01	5mL	5mL	2mL	2.5	1.0	

Batch QC

Lab Number	% Solids	Initial (g) Target Dry: 12.5 (Wet)	Actual	(REQ) Acid C/U (5mL)	(REQ) Sulfur C/U (5mL) 1 2 3	(REQ) Silica Gel C/U (2:5)	Final Effective Vol (mL)	Vol (mL) to Lab	Extraction Comments
BJH0034-BLK1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BJH0034-BS1	100.0	(12.50)	12.50	5mL	5mL	2mL	2.5	1.0	(10g Actual Wt.)
BJH0034-MS1	80.6	(15.50)	15.50	5mL	5mL	2mL	2.5	1.0	Use 21G0303-04
BJH0034-MSD1	80.6	(15.50)	15.50	5mL	5mL	2mL	2.5	1.0	Use 21G0303-04
BJH0034-SRM1	100.0	~~(12.50)~~ (2.50) +1g DI H2O	2.50	5mL	5mL	2mL	2.5	1.0	Use J006842

08/03/21 — Client ID verified By — Date

CTD 8/12/21 — Preparation Reviewed By — Date

08/03/21 11:35 — Extraction Date and Time

Printed: 8/3/2021 8:46:40AM

3099F
Page 1 of 2

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0034

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

21G0303: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0305: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0306: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H> J006840-43, Dup </H>

Prep Steps

Microwave

1 2 3

08/03/21 CT
Analyst/Date

KD
100°C
Hexane Exchange
(2 X 20 mL)

1 2 3 4 5 6

AA/RM 080921
Analyst/Date

TurboVap
Pre Cleanups

1 2 3 4 5

CJT 8/12/21
Analyst/Date

TurboVap
Post Cleanups

1 2 3 4 5

CJT 8/12/21
Analyst/Date

Vialing

CJT 8/12/21
Analyst/Date

Reagents Used

Station/Reagent	Standard ID
Microwave Analyst: CT Date: 08/03/21	
Anhydrous Sodium Sulfate	J007778
Neutral Glass Wool	J006768
1:1 Hexane/Acetone	J007652
Hexane	J006933
KD Analyst: AA/RM Date: 080921	
Hexane	J005194
Anhydrous Sodium Sulfate	J008034
Vialing Analyst: CJT Date: 8/12/21	
Hexane	J005194
Concentrated Sulfuric Acid	J006313
Tetrabutylammonium hydrogensulfate (TBAS)	J007842
Sodium Sulfite	J007354
Silica Gel (SPE) Darts	J007869

Surrogates & Spike Standards Used

Type	Vial ID / Standard ID	Vol uL	Analyst	Witness
Surrogate 2µg/mL	N J006926 Exp: 08/08/2021	50µL	CT	
Spike 20µg/mL	1 J004905 Exp: 11/07/2021	63µL	CT	

(V) indicates a virtual standard combining two or more physical standards. In these cases the Standard ID refers to the virtual standard, not the parent standards.

If a Standard ID is missing, but should be present, check the standard definition in Element LIMS to be sure Standard Info 6 has the correct letter or number designator matching the vial designator inthe Standard ID column. If it is correct, check the batch and bench sheet in Element LIMS to be sure the correct standards are selected for surrogate(s) and spike(s).

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ORGANICS PREPARATION BENCH SHEET

Batch: BJH0034

Prepared using: EPA 3546 (Microwave)

8082A PCB Solid 4 in Solid (Version:7 Aroclors)

WO Comments

21G0303: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0305: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H>BPR J006840-43, Dup </H>
21G0306: <G> BPR Project batch as mcuh as possible </G> <C>BPR SRM, MS, DUP </C> <M>BPR PS, MS/MSD </M> <E>BPR 8270E RM H002055, SIM RM H010158, PCB RM J006840-43, MS/MSD </E>
<H> J006840-43, Dup </H>

Prep Instructions	
SPECIAL INSTRUCTIONS: 1. Weigh soil/sed into beakers-lightly dry with sodium sulfate. 2. Transfer to microwave vessel(s). Note: (do not fill vessels more than 2/3rd full. Some samples may require two vessels). 3. Add 1:1 Hexane/Acetone until the solvent layer is 3 inches above the soil layer after homogenization. 4. Add surr/spike. 5. Microwave on appropriate power setting determined by # of samples. 6. After microwave-Re-homogenize while hot then cool vessels in R-05 15 minutes. Re-homogenize while cool. 7. Decant 1:1 Hex/Ace into Erlenmeyer flask with sodium sulfate in bottom and funnel with neutral glasswool plug. 8. Re-homogenize and rinse with 1:1 Hexane/Acetone. 9. Let cool and decant solvent then empty the soil into the funnel and rinse with Hexane. 10. KD on 100° bath. 11. Exchange (2 X with 20mL) Hexane. 12. TurboVap. 13. Clean-ups. 14. TurboVap. 15. Vial with Hexane. A. Need Total Solids Y / N B. Archive/Freeze Y / N	

Printed: 8/3/2021 8:46:40AM

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Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch BJH0034

Total Solids Batch: BJ60688 Work Order(s): 2160303

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01-03	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

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Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PUB Extraction Batch BJ1+0054

Total Solids Batch: BJ60689 Work Order(s): 21G0305

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01, 02, 04-09	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☐ Organics (Leaves/sticks/grass)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

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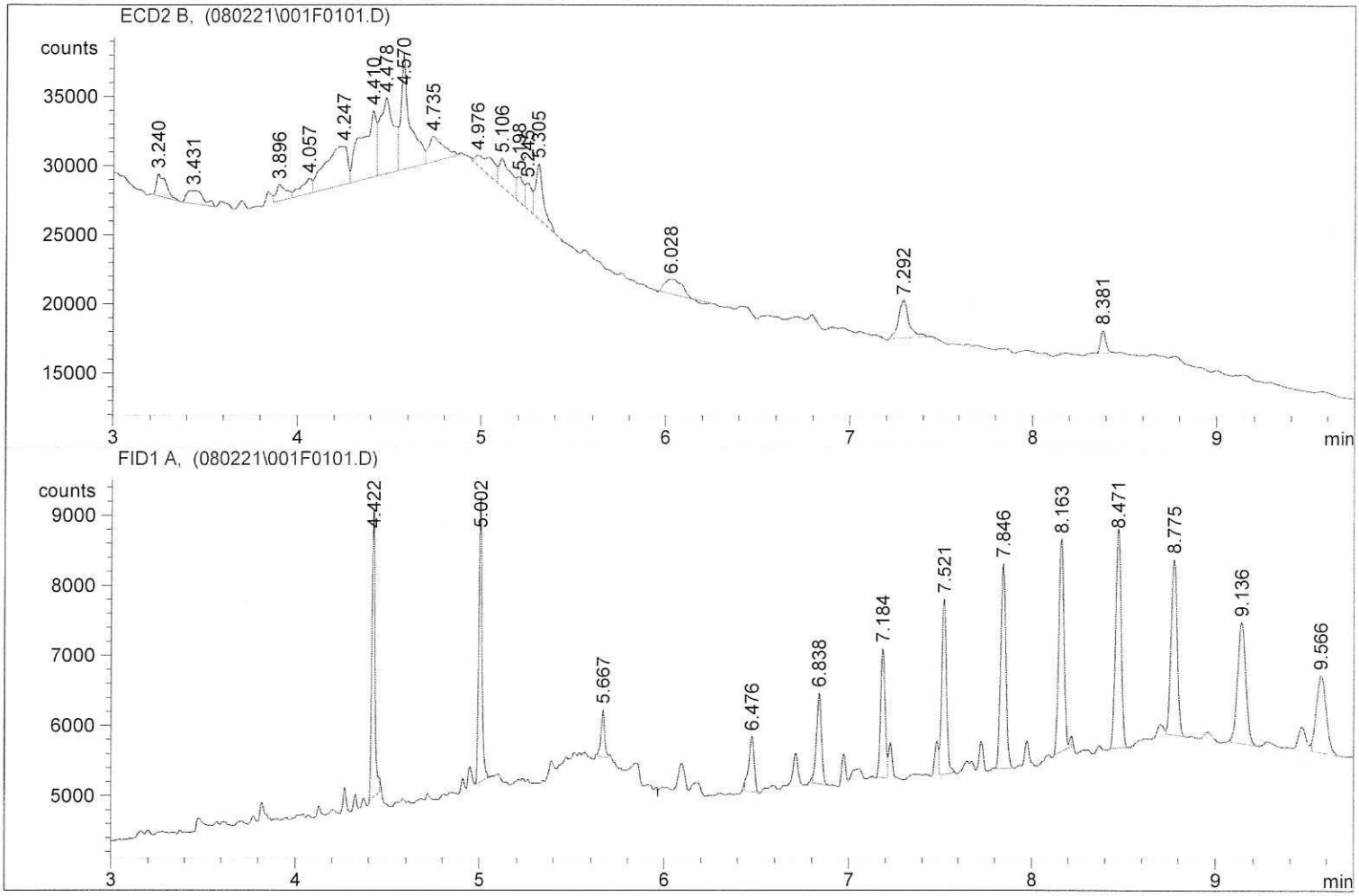
Organic Extractions Laboratory Analyst Notes

Extraction Parameter: PCB Extraction Batch BJH0034

Total Solids Batch: BJ00690 Work Order(s): 2160306

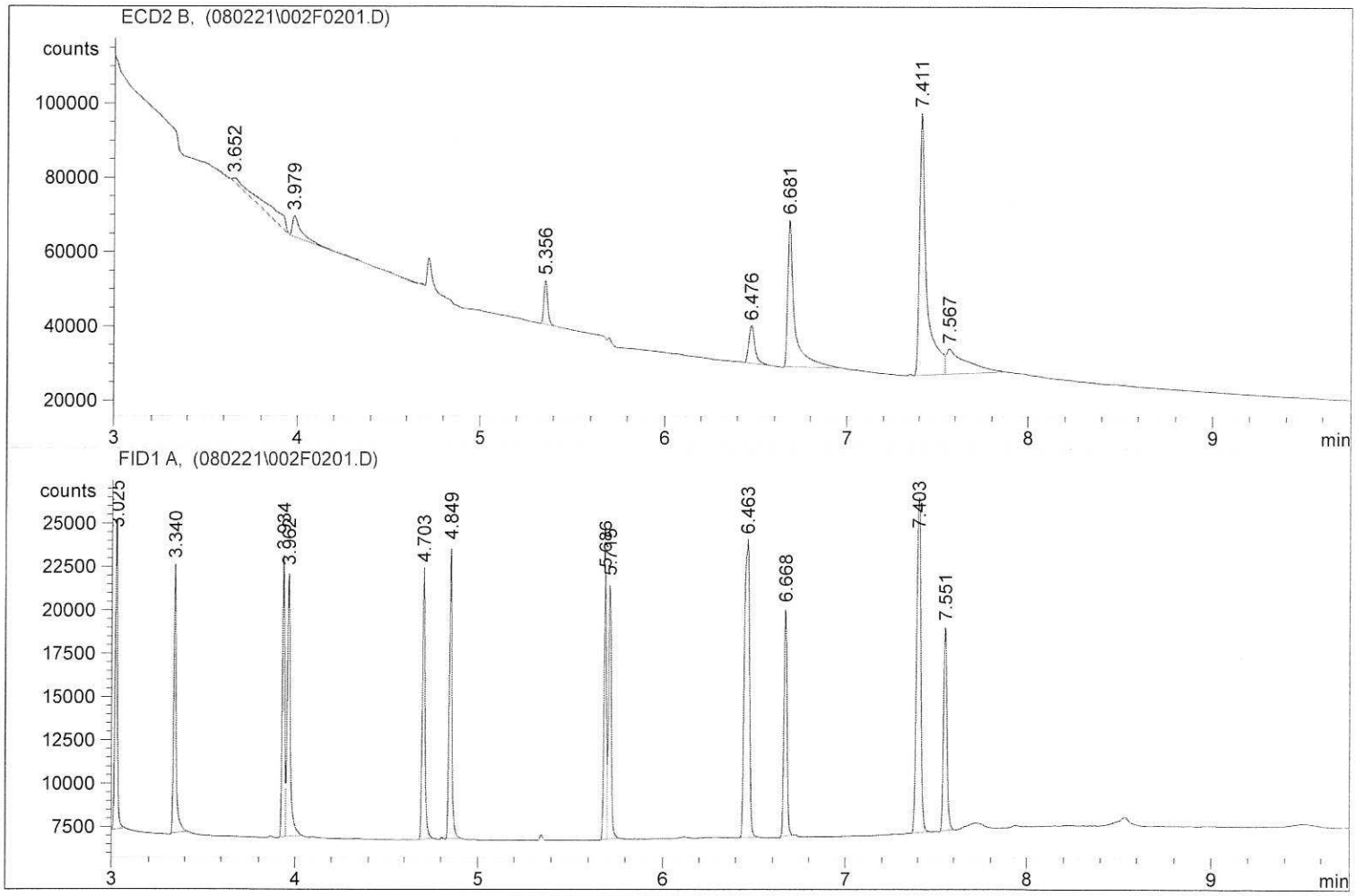
Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 01, 02	08/02/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☑ Organics (Leaves/sticks/grass)= 01,02	08/02/21
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☐ Other (Details)=	
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☑ Share Samples Y / N	08/02/21
☑ Multiple Jars Y / N	08/02/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Injection Date	: 8/2/2021 11:41:48 AM	Seq. Line :	1
Sample Name	: DCM RINSE	Location :	Vial 1
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



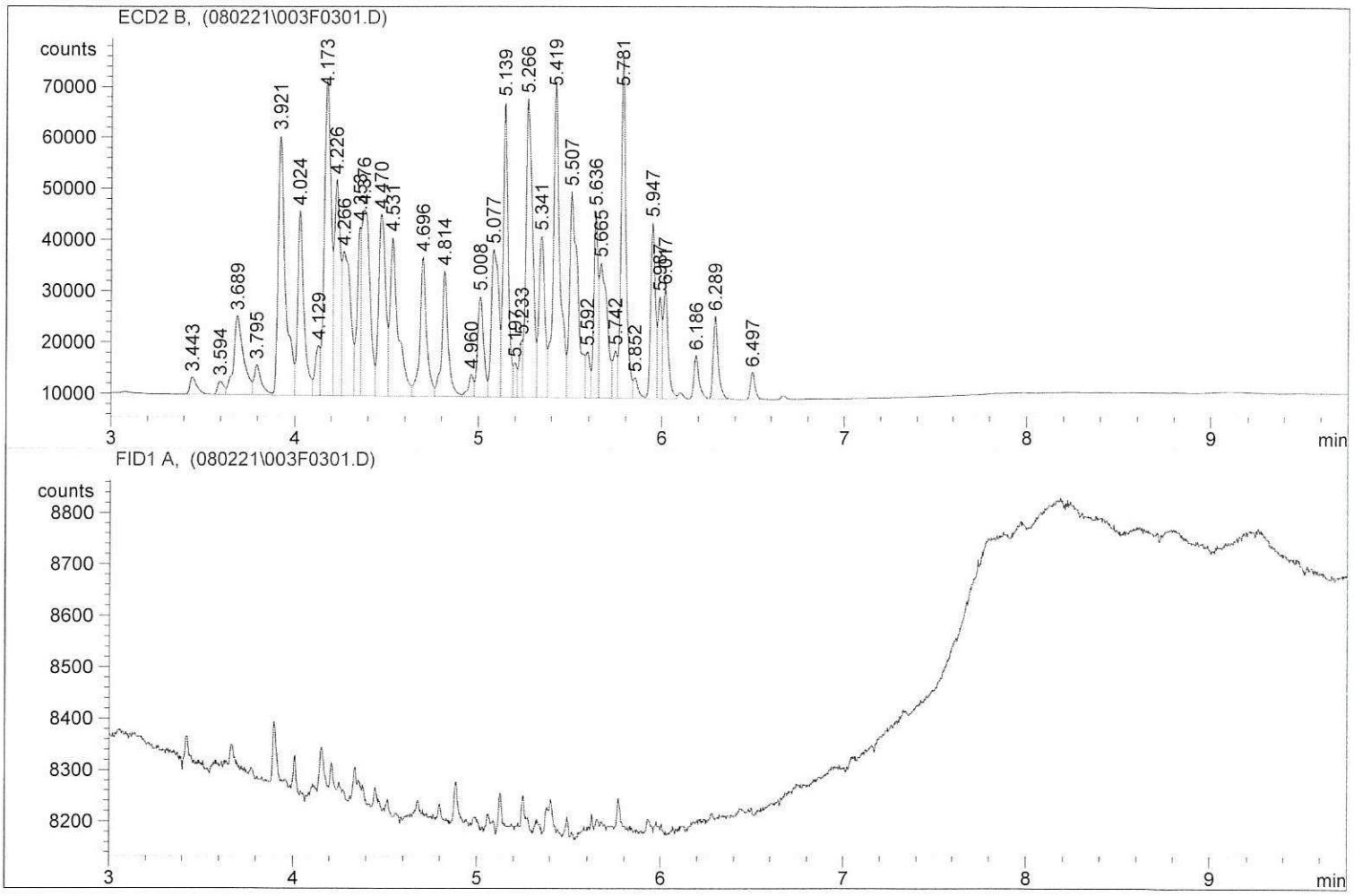
*** End of Report ***

Injection Date	: 8/2/2021 11:56:10 AM	Seq. Line :	2
Sample Name	: PNA STD 10PPM	Location :	Vial 2
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



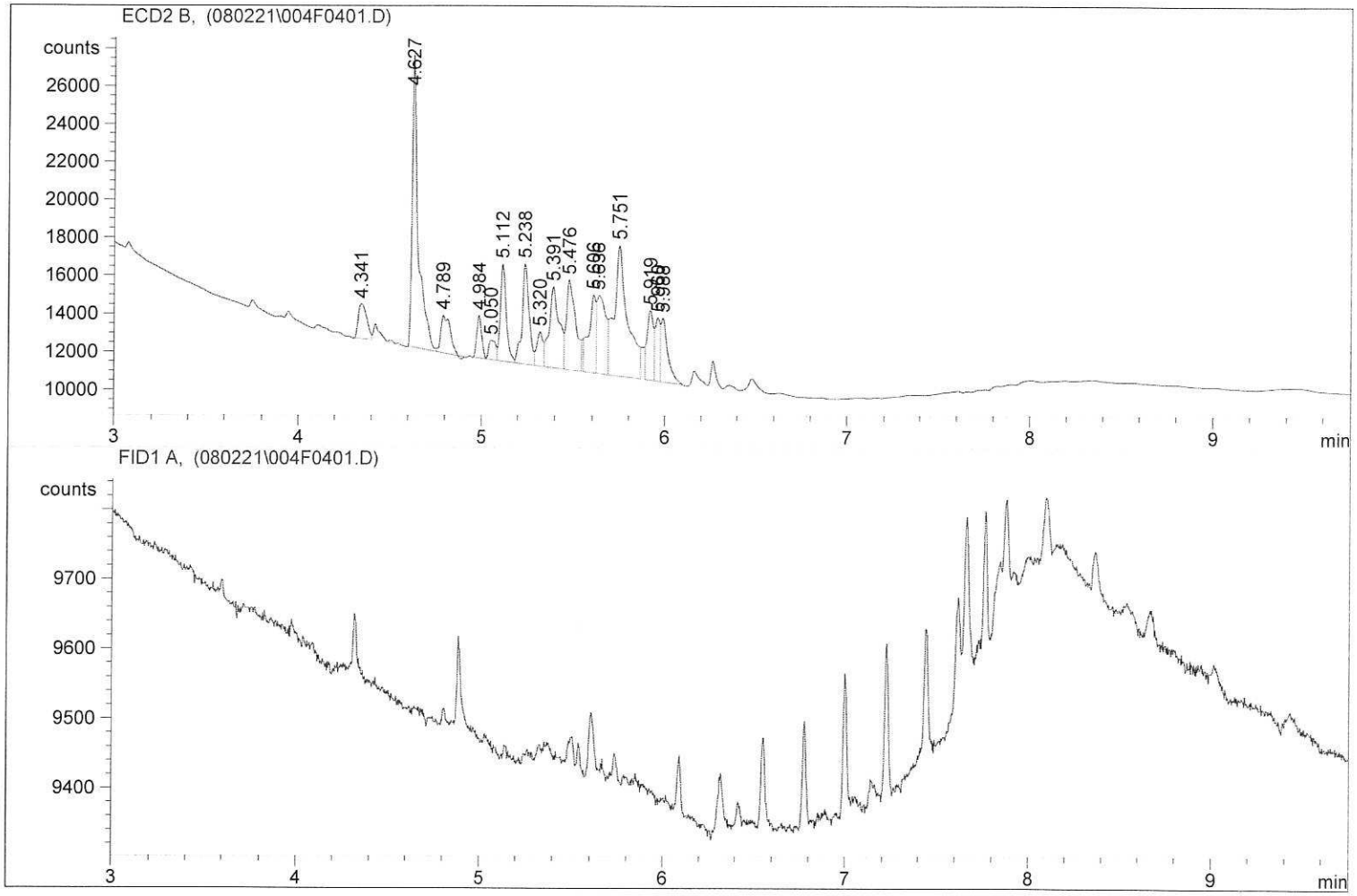
*** End of Report ***

Injection Date	: 8/2/2021 12:10:35 PM	Seq. Line :	3
Sample Name	: AR 1660 1PPM	Location :	Vial 3
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



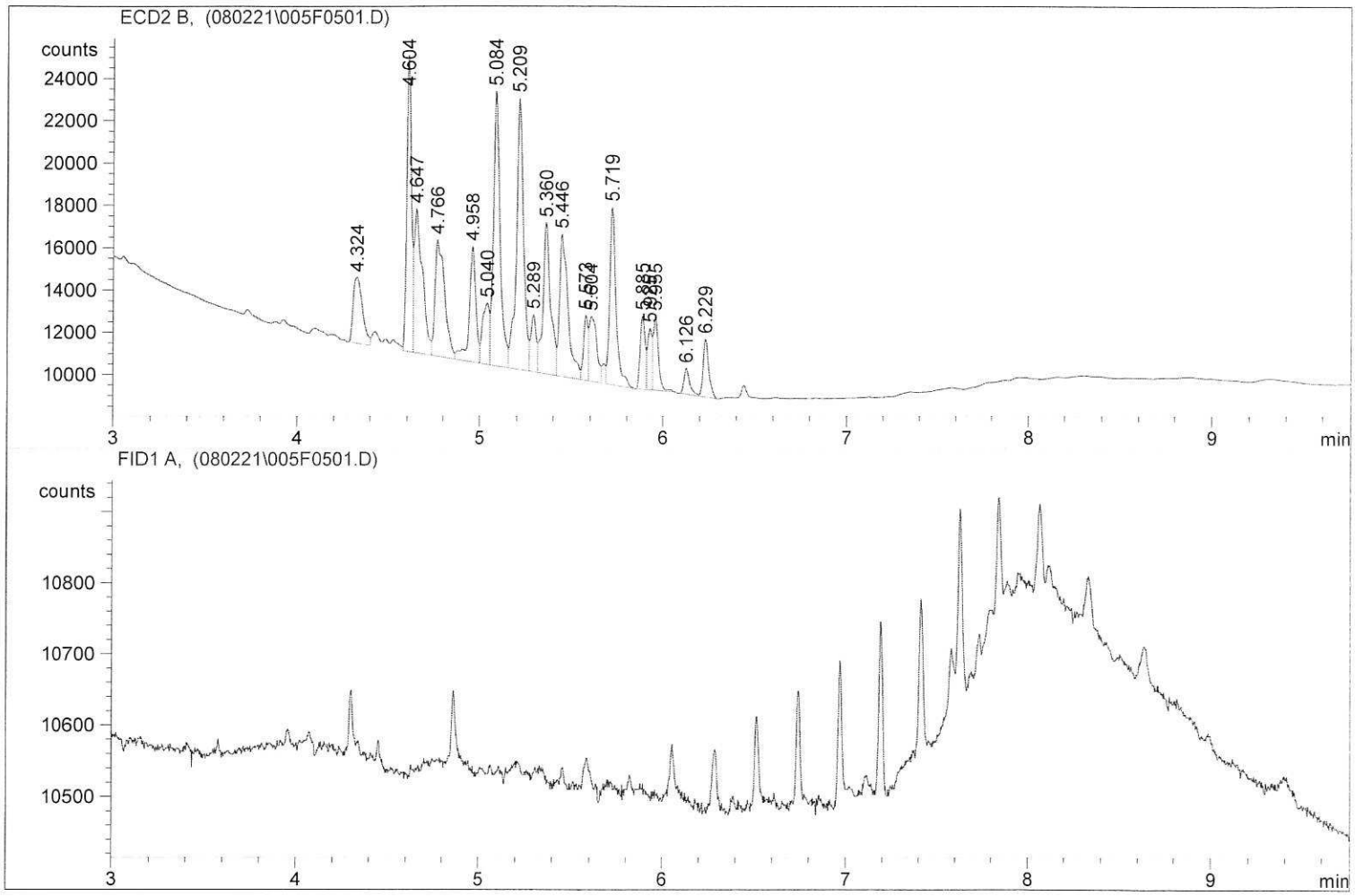
*** End of Report ***

Injection Date	: 8/2/2021 12:24:28 PM	Seq. Line :	4
Sample Name	: 21G0306 1	Location :	Vial 4
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



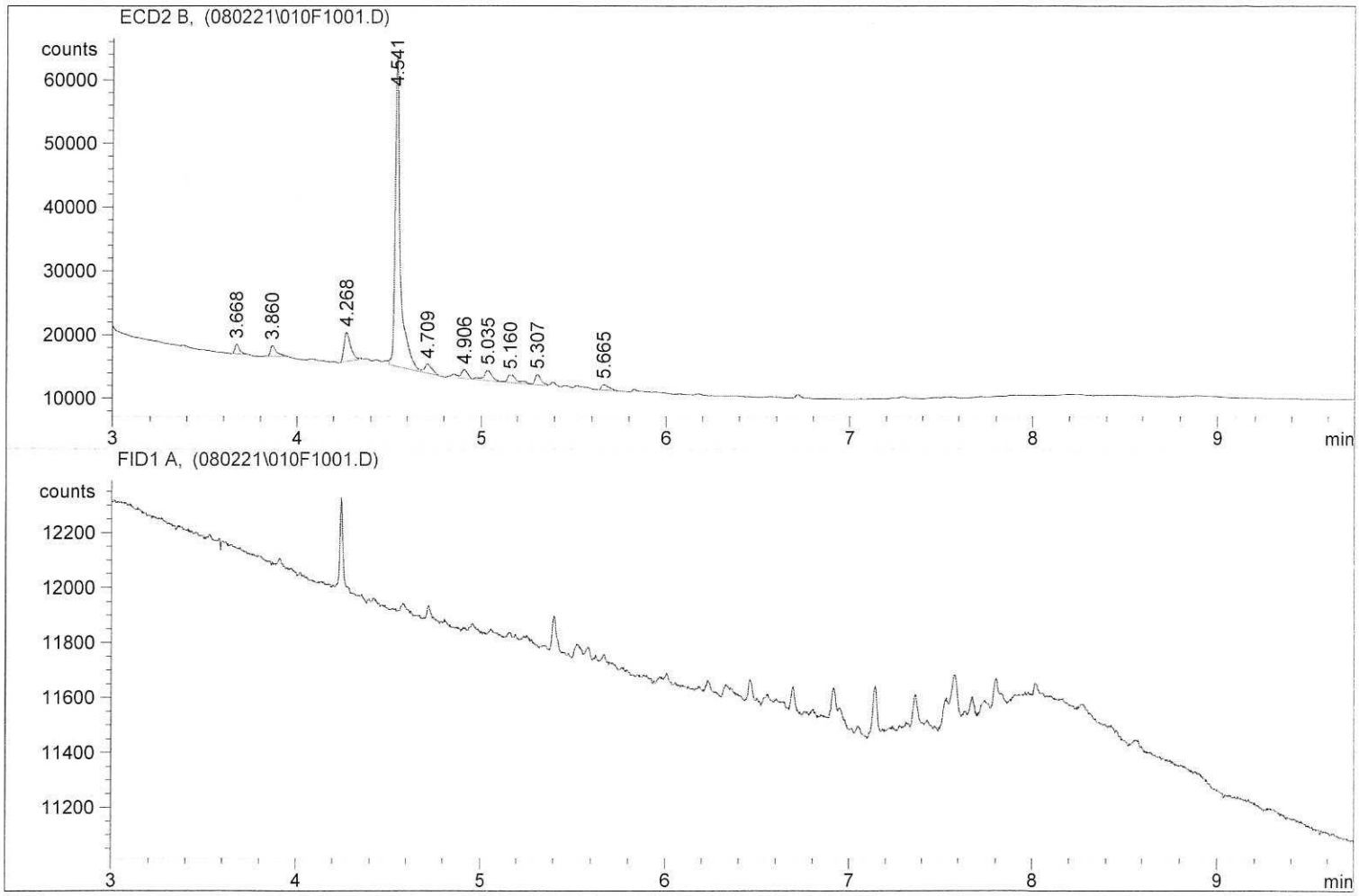
*** End of Report ***

Injection Date	: 8/2/2021 12:38:03 PM	Seq. Line :	5
Sample Name	: 21G0306 2	Location :	Vial 5
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



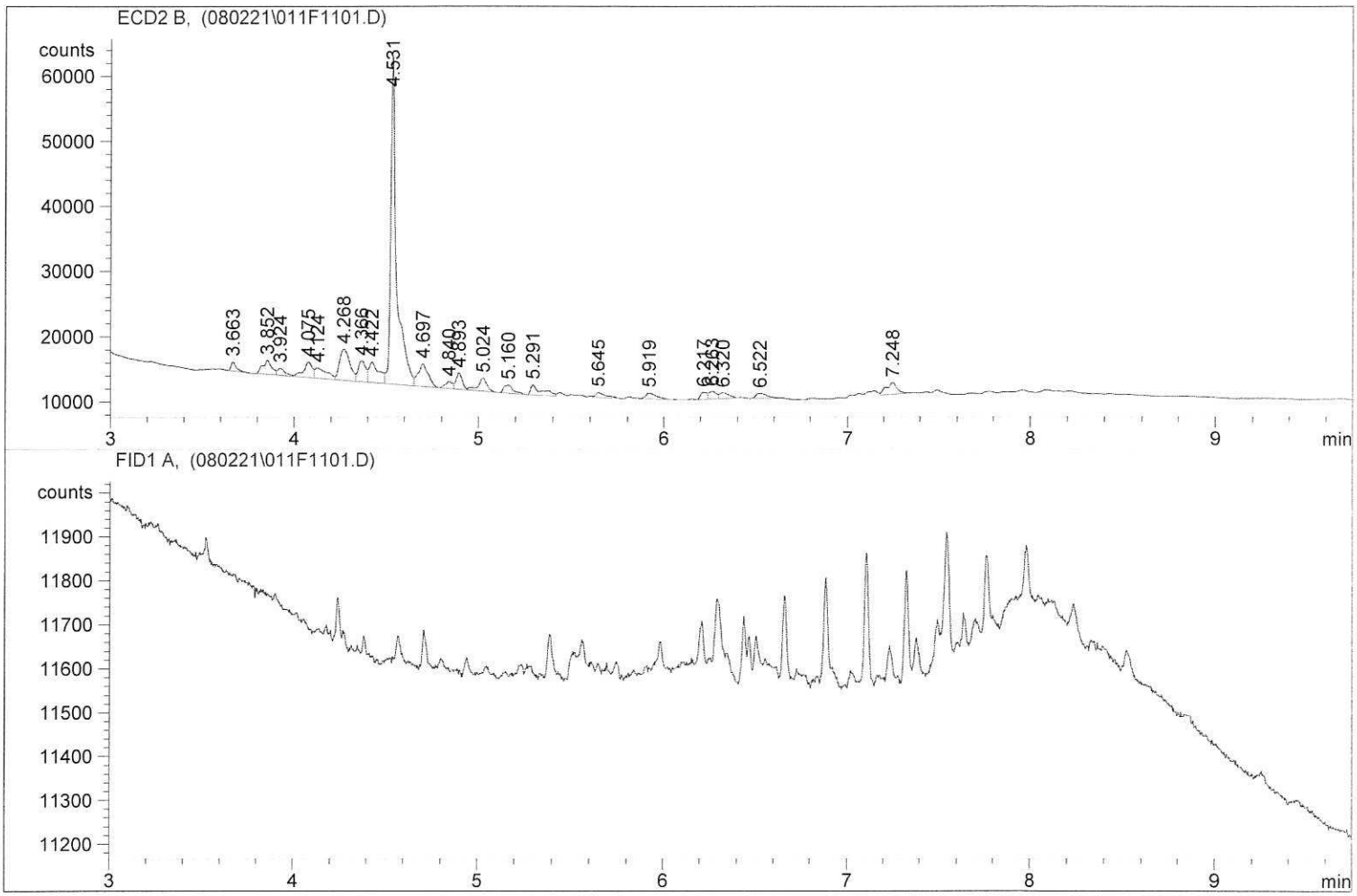
*** End of Report ***

Injection Date	: 8/2/2021 1:47:44 PM	Seq. Line :	10
Sample Name	: 21G0305 1	Location :	Vial 10
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



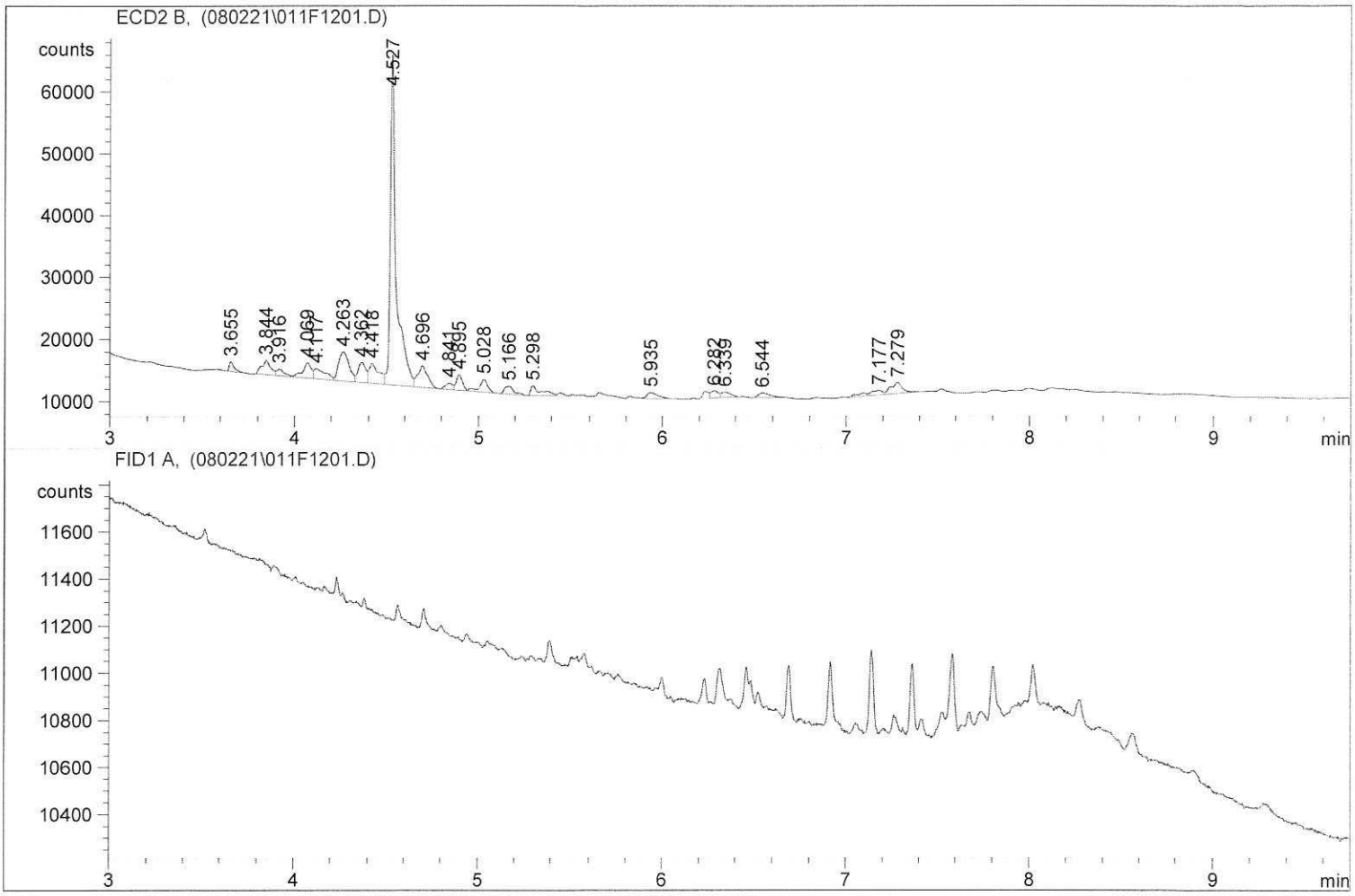
*** End of Report ***

Injection Date	: 8/2/2021 2:01:23 PM	Seq. Line :	11
Sample Name	: 21G0305 2	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



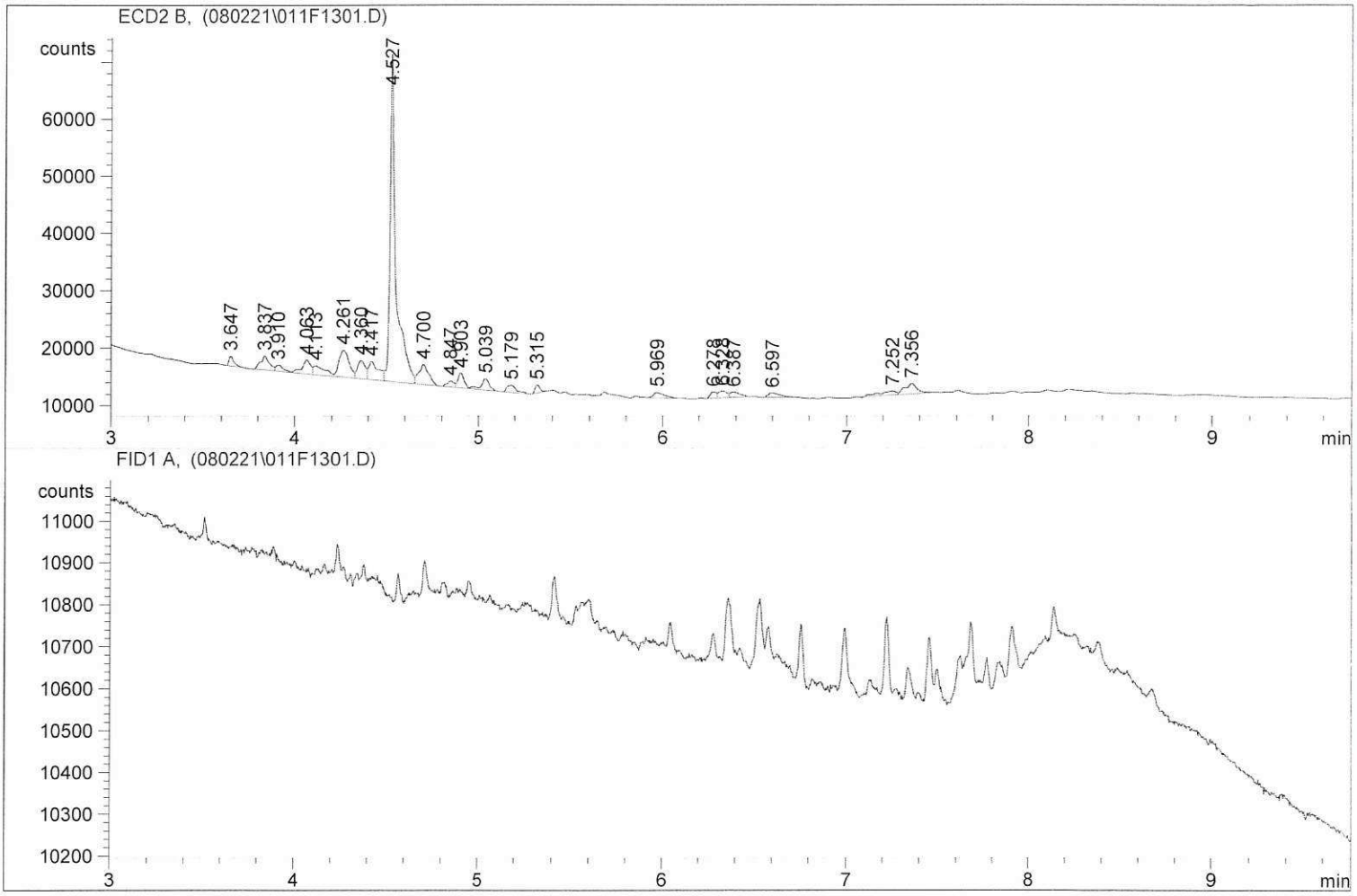
*** End of Report ***

Injection Date	: 8/2/2021 2:15:34 PM	Seq. Line :	12
Sample Name	: 21G0305 3	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



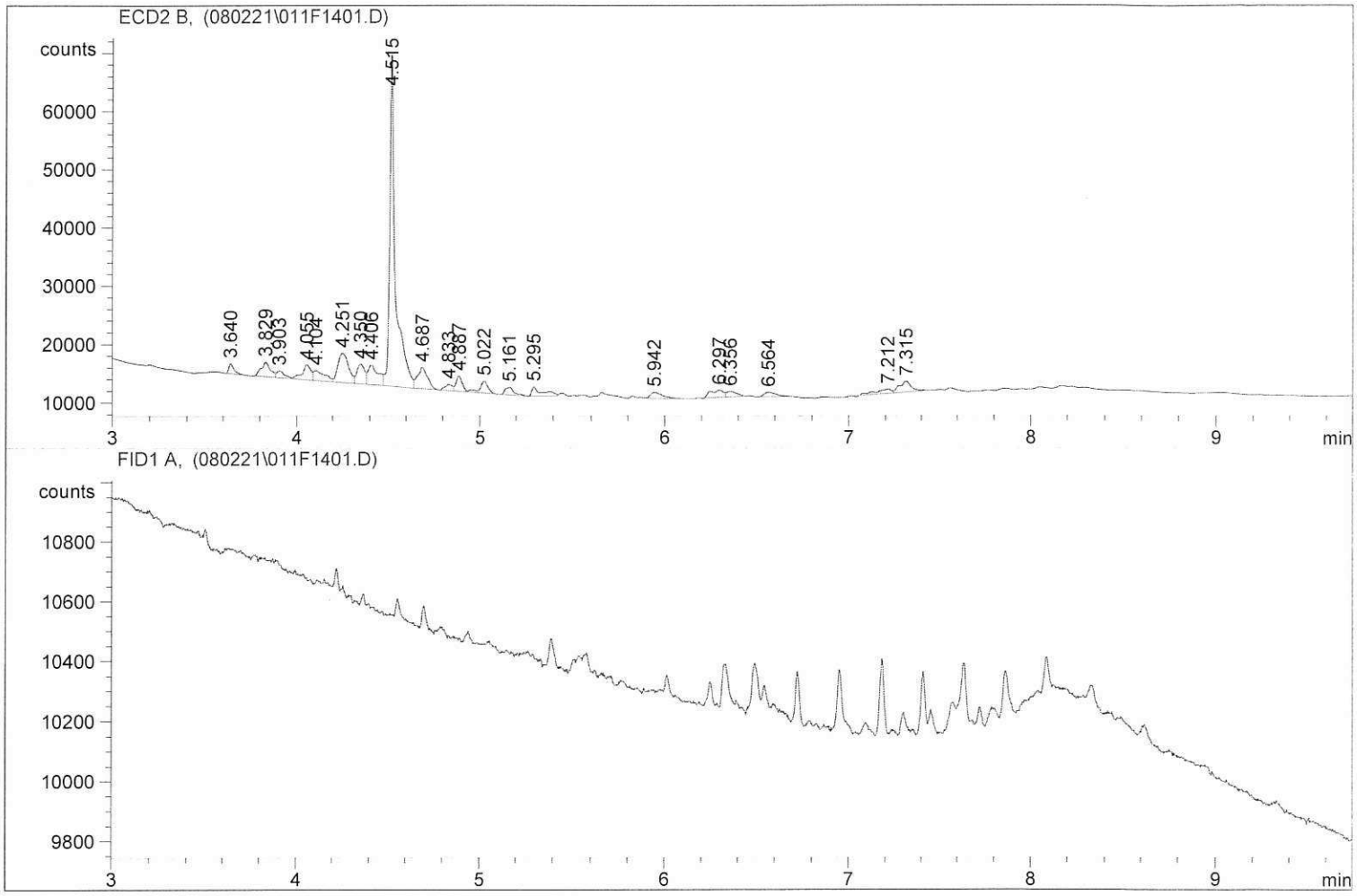
*** End of Report ***

Injection Date	: 8/2/2021 2:29:12 PM	Seq. Line :	13
Sample Name	: 21G0305 4	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



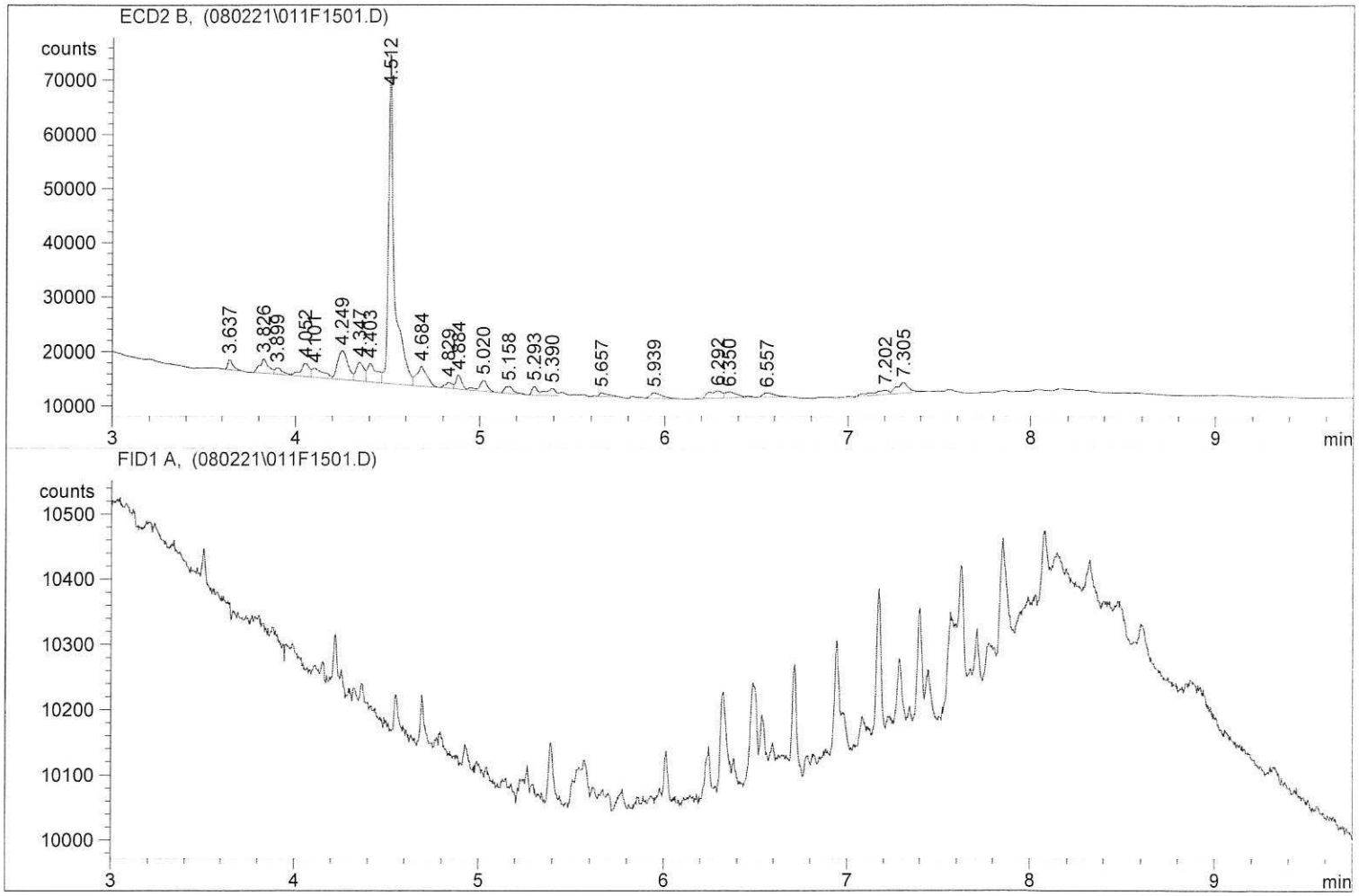
*** End of Report ***

Injection Date	: 8/2/2021 2:43:16 PM	Seq. Line :	14
Sample Name	: 21G0305 5	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



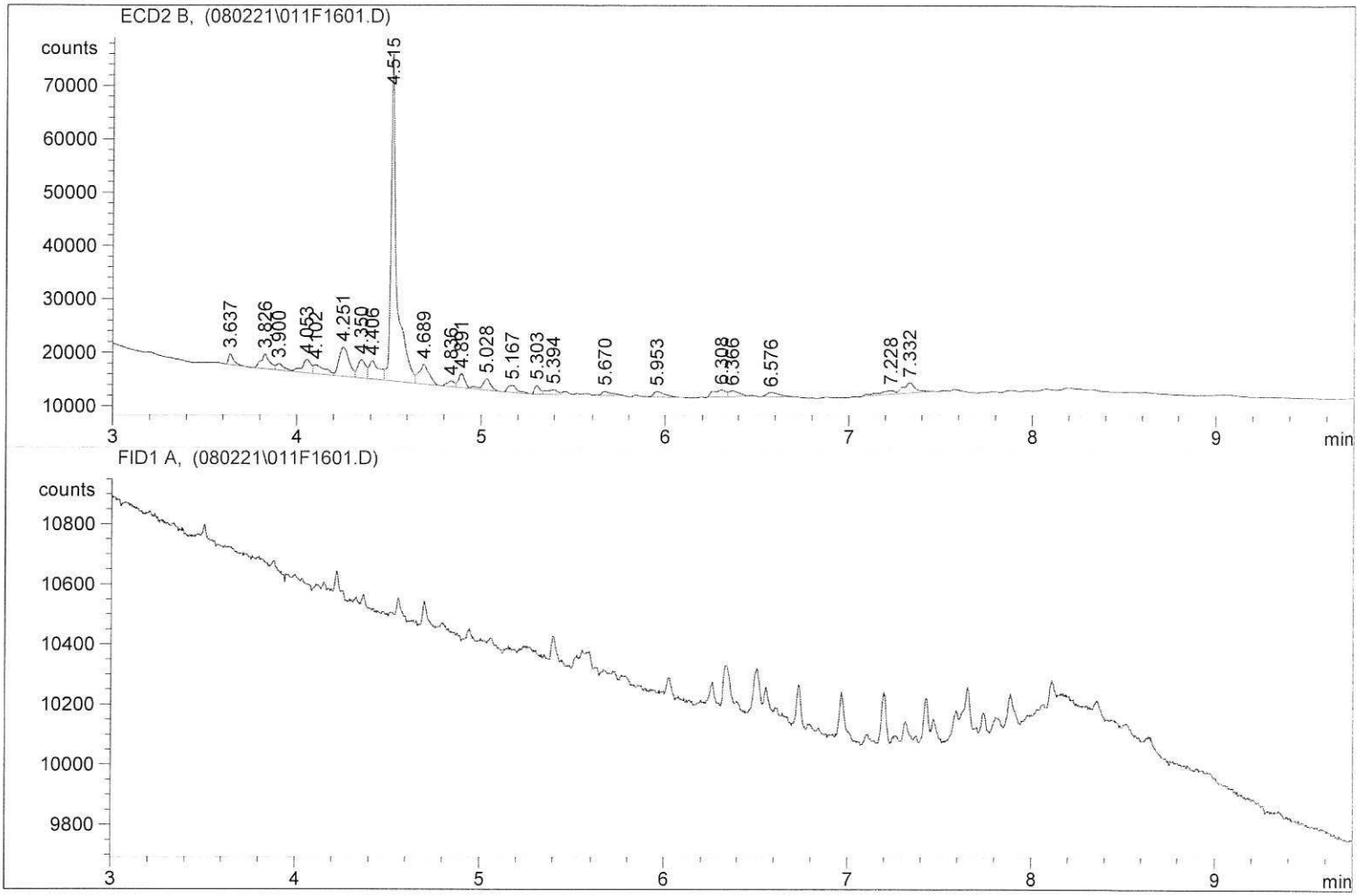
*** End of Report ***

Injection Date	: 8/2/2021 2:56:52 PM	Seq. Line :	15
Sample Name	: 21G0305 6	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



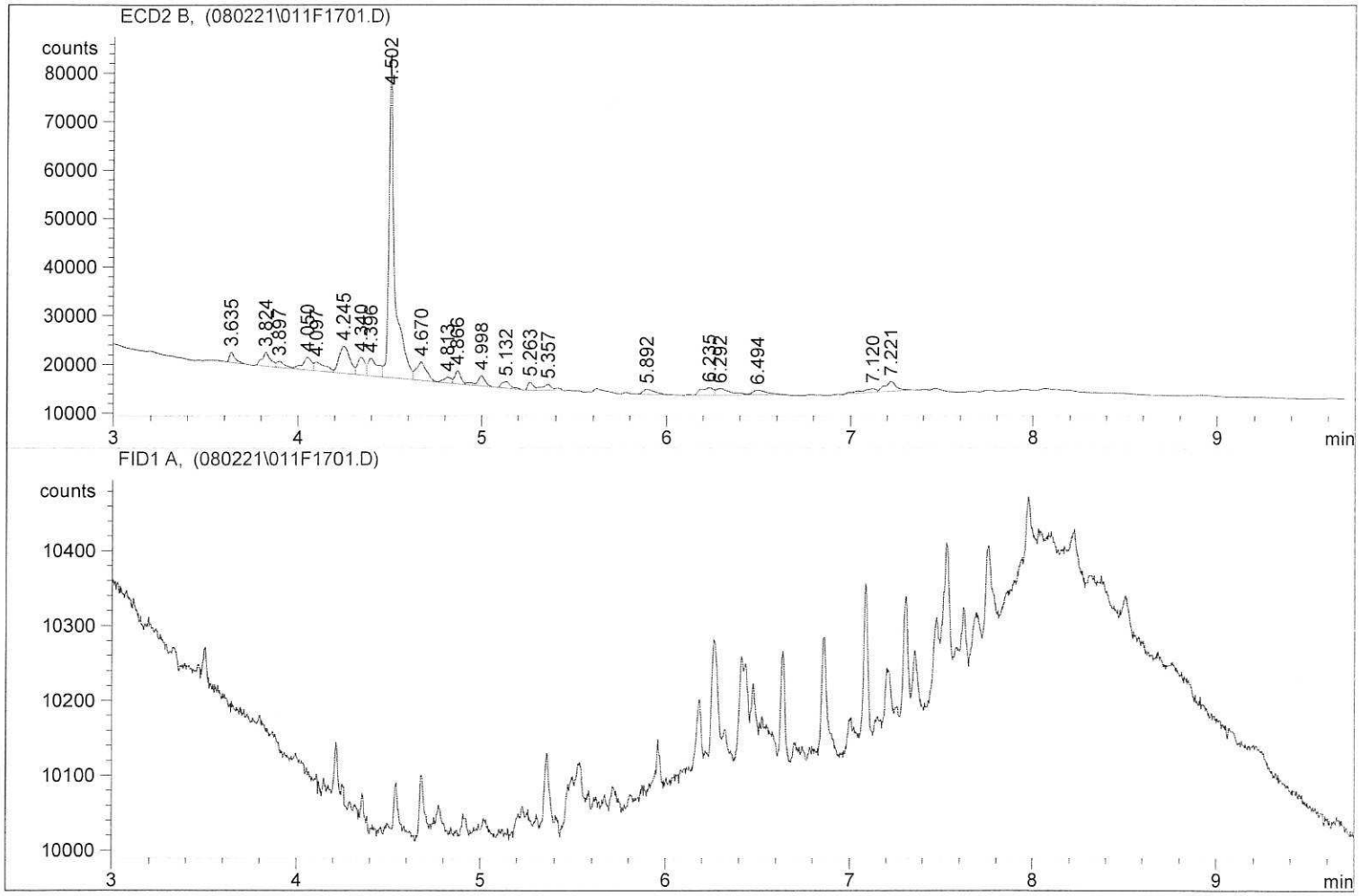
*** End of Report ***

Injection Date	: 8/2/2021 3:10:59 PM	Seq. Line :	16
Sample Name	: 21G0305 7	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



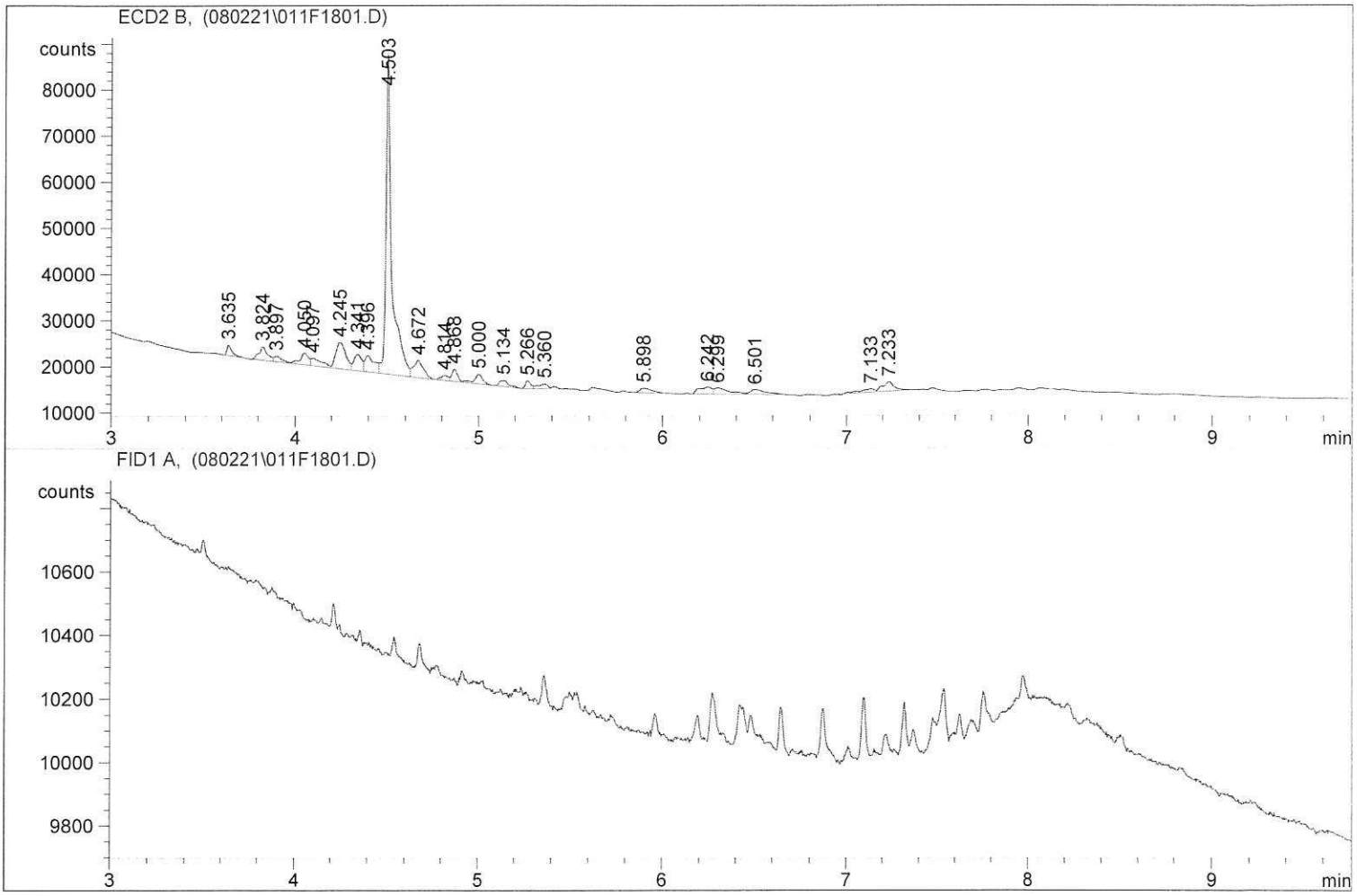
*** End of Report ***

Injection Date	: 8/2/2021 3:24:40 PM	Seq. Line :	17
Sample Name	: 21G0305 8	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



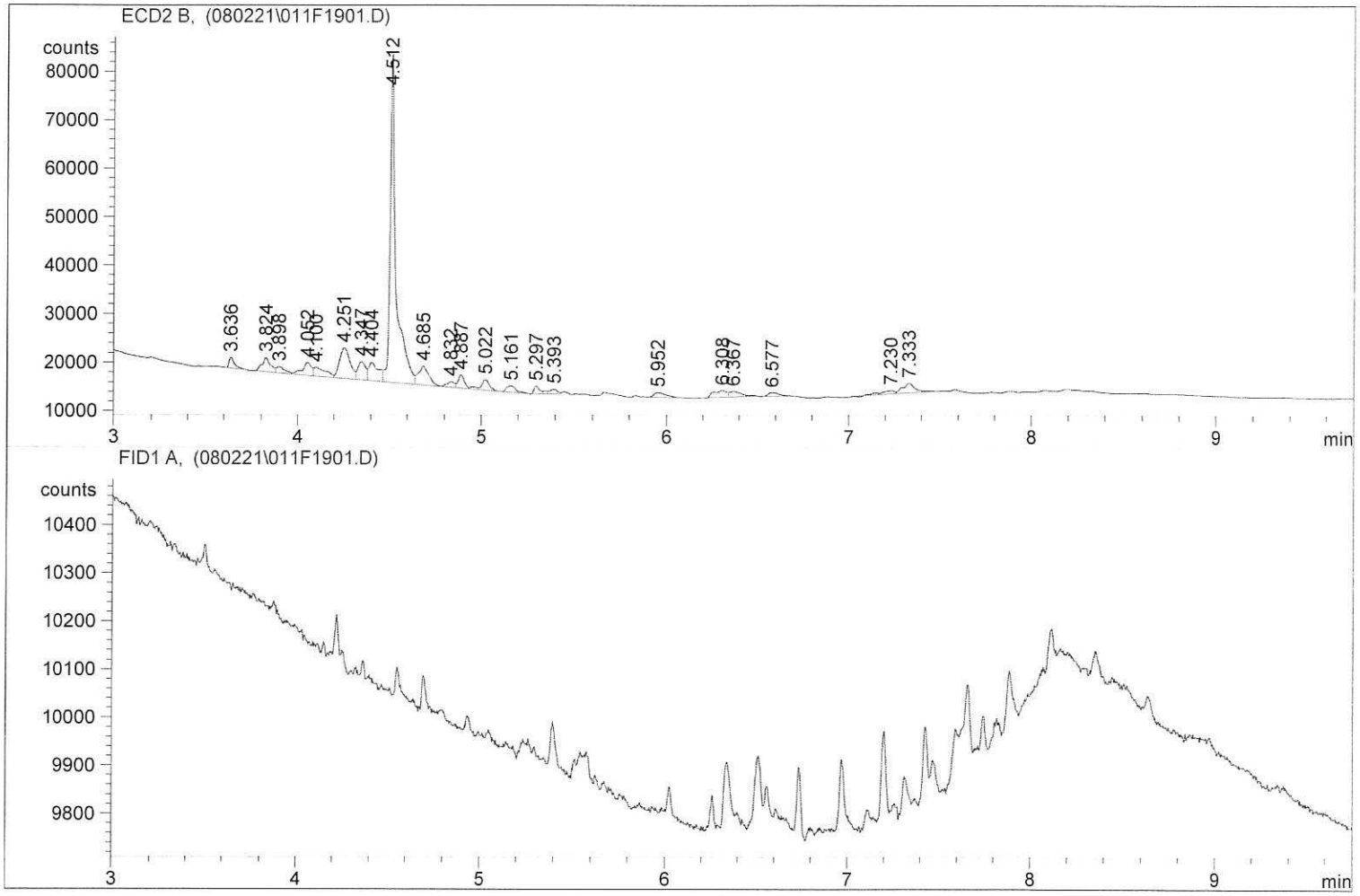
*** End of Report ***

Injection Date	: 8/2/2021 3:38:42 PM	Seq. Line :	18
Sample Name	: 21G0305 9	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



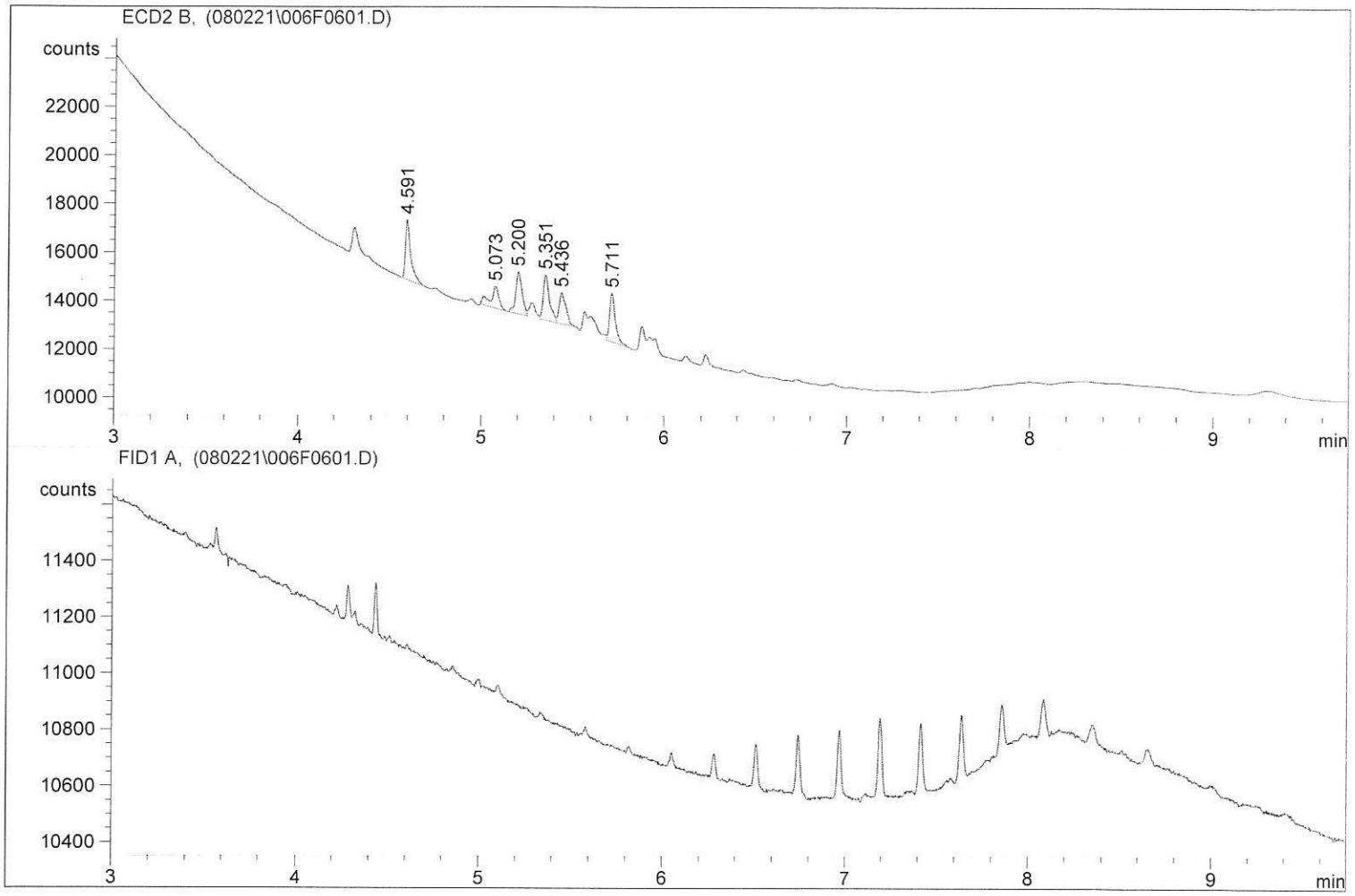
*** End of Report ***

Injection Date	: 8/2/2021 3:52:25 PM	Seq. Line :	19
Sample Name	: 21G0305 10	Location :	Vial 11
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



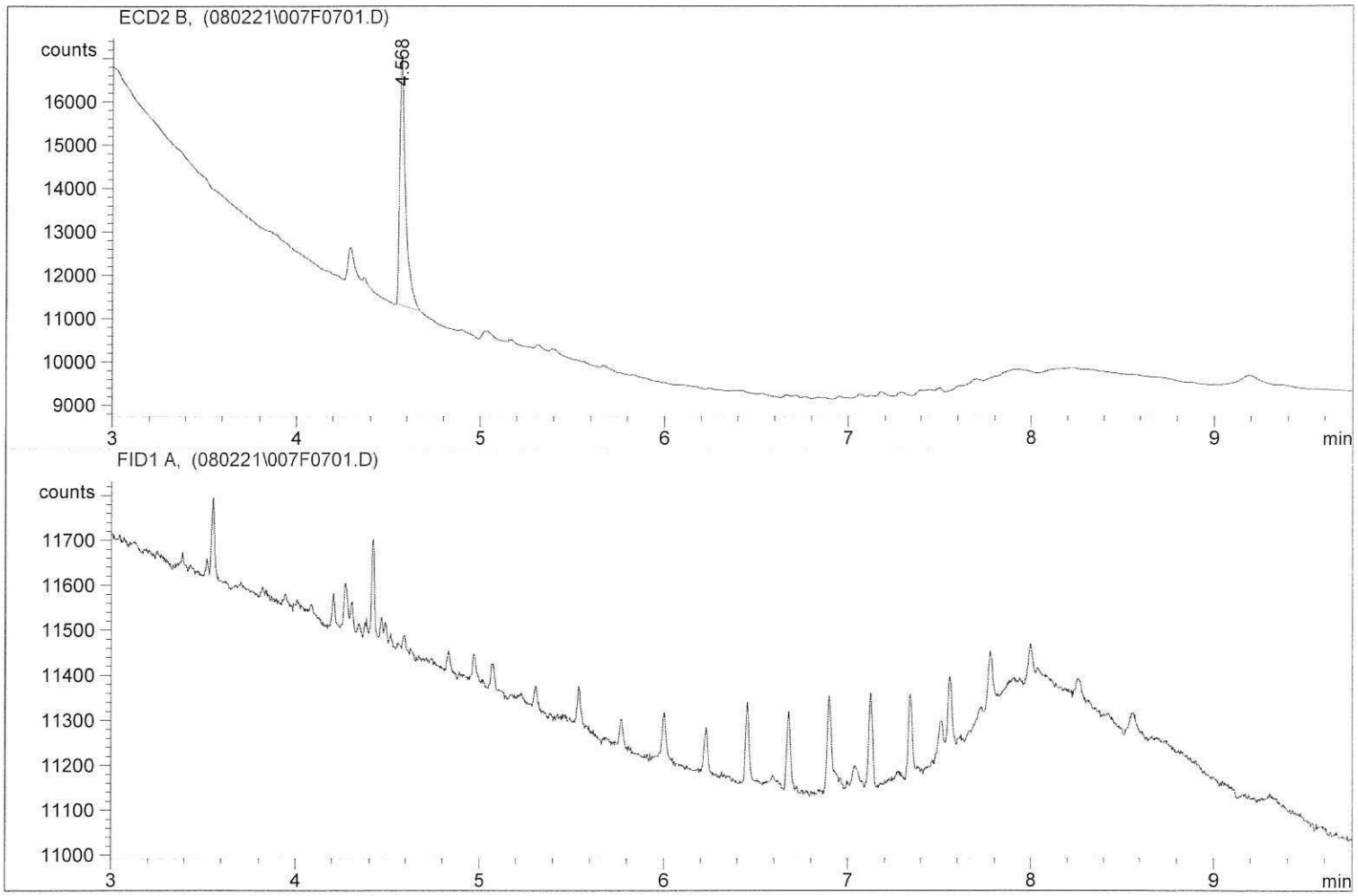
*** End of Report ***

Injection Date	: 8/2/2021 12:52:11 PM	Seq. Line :	6
Sample Name	: 21G0303 1	Location :	Vial 6
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



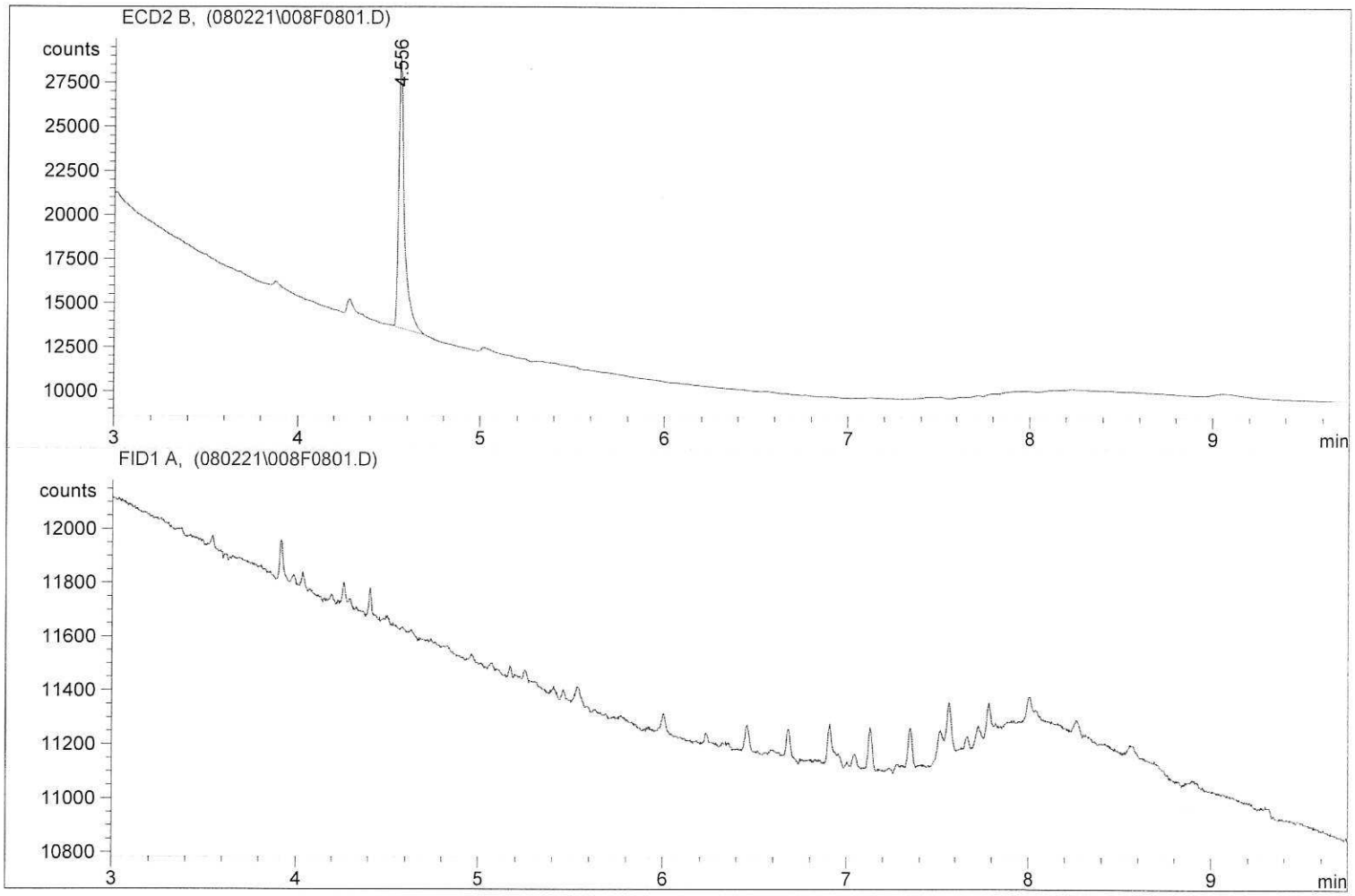
*** End of Report ***

Injection Date	: 8/2/2021 1:05:44 PM	Seq. Line :	7
Sample Name	: 21G0303 2	Location :	Vial 7
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



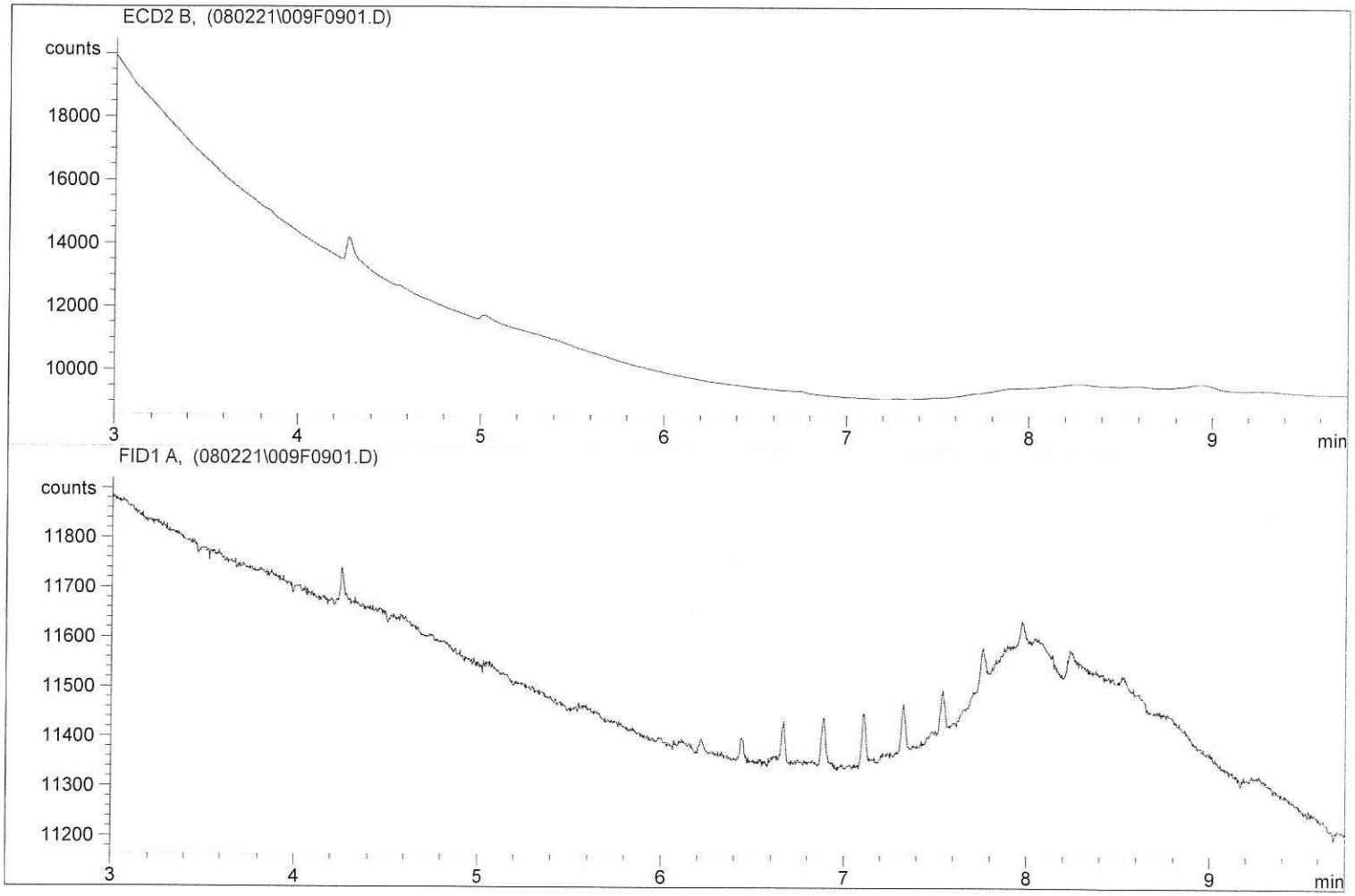
*** End of Report ***

Injection Date	: 8/2/2021 1:20:00 PM	Seq. Line :	8
Sample Name	: 21G0303 3	Location :	Vial 8
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Injection Date	: 8/2/2021 1:33:37 PM	Seq. Line :	9
Sample Name	: 21G0303 4	Location :	Vial 9
Acq. Operator	: JL	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\1\SEQUENCE\080221.S		
Method	: C:\HPCHEM\1\METHODS\SCREEN.M		
Last changed	: 7/9/2021 3:37:33 AM by TW		
SCREEN METHOD			



*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0111	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665A Sulfuric Acid Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC569	21G0305-01	08142140ECD7.D	08/12/2021	
LDW21-SC566	21G0305-03	08142142ECD7.D	08/12/2021	
LDW21-SC540	21G0305-08	08142149ECD7.D	08/12/2021	
LDW21-SC551	21G0305-10	08142151ECD7.D	08/12/2021	
LDW21-SC561	21G0305-04	08142143ECD7.D	08/12/2021	
LDW21-SC526FD	21G0305-06	08142147ECD7.D	08/12/2021	
LDW21-SC530	21G0305-07	08172107ECD7.D	08/12/2021	
Reference	BJH0034-SRM1	08142133ECD7.D	08/12/2021	
LCS	BJH0034-BS1	08142132ECD7.D	08/12/2021	
LDW21-SC567	21G0305-02	08142141ECD7.D	08/12/2021	
LDW21-SC574	21G0305-09	08142150ECD7.D	08/12/2021	
LDW21-SC526	21G0305-05	08142146ECD7.D	08/12/2021	
Blank	BJH0034-BLK1	08142131ECD7.D	08/12/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJH0111

Matrix: Solid **Cleanup using: Organics - EPA 3665A Sulfuric Acid Cleanup** **Printed: 8/12/2021 8:13:48PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0306-02	B	LDW21-SC550FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0306-01	B	LDW21-SC550	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-07	B	LDW21-SC530	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-08	B	LDW21-SC540	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-09	B	LDW21-SC574	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-10	B	LDW21-SC551	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-03	B	LDW21-IT694C	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-04	B	LDW21-IT694E	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-01	B	LDW21-SC569	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-02	B	LDW21-SC567	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-03	B	LDW21-SC566	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-04	B	LDW21-SC561	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-05	B	LDW21-SC526	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-06	B	LDW21-SC526FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-01	B	LDW21-IT694A	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-02	B	LDW21-IT694B	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
BJH0034-SRM1	-	Reference	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BLK1	-	Blank	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BS1	-	LCS	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MS1	-	Matrix Spike	-	2.5	2.5	-	8/12/2021	CCT	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0112	Cleanup Type:	Sulfur
Cleanup Method:	EPA 3660B Sulfur Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC526FD	21G0305-06	08142147ECD7.D	08/12/2021	
Reference	BJH0034-SRM1	08142133ECD7.D	08/12/2021	
LCS	BJH0034-BS1	08142132ECD7.D	08/12/2021	
Blank	BJH0034-BLK1	08142131ECD7.D	08/12/2021	
LDW21-SC567	21G0305-02	08142141ECD7.D	08/12/2021	
LDW21-SC526	21G0305-05	08142146ECD7.D	08/12/2021	
LDW21-SC530	21G0305-07	08172107ECD7.D	08/12/2021	
LDW21-SC540	21G0305-08	08142149ECD7.D	08/12/2021	
LDW21-SC551	21G0305-10	08142151ECD7.D	08/12/2021	
LDW21-SC561	21G0305-04	08142143ECD7.D	08/12/2021	
LDW21-SC566	21G0305-03	08142142ECD7.D	08/12/2021	
LDW21-SC574	21G0305-09	08142150ECD7.D	08/12/2021	
LDW21-SC569	21G0305-01	08142140ECD7.D	08/12/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJH0112

Matrix: Solid **Cleanup using: Organics - EPA 3660B Sulfur Cleanup** **Printed: 8/12/2021 8:14:33PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0306-02	B	LDW21-SC550FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0306-01	B	LDW21-SC550	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-07	B	LDW21-SC530	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-08	B	LDW21-SC540	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-09	B	LDW21-SC574	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-10	B	LDW21-SC551	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-03	B	LDW21-IT694C	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-04	B	LDW21-IT694E	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-01	B	LDW21-SC569	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-02	B	LDW21-SC567	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-03	B	LDW21-SC566	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-04	B	LDW21-SC561	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-05	B	LDW21-SC526	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-06	B	LDW21-SC526FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-01	B	LDW21-IT694A	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-02	B	LDW21-IT694B	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
BJH0034-SRM1	-	Reference	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BLK1	-	Blank	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BS1	-	LCS	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MS1	-	Matrix Spike	-	2.5	2.5	-	8/12/2021	CCT	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0113	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 8082A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC540	21G0305-08	08142149ECD7.D	08/12/2021	
LDW21-SC551	21G0305-10	08142151ECD7.D	08/12/2021	
LDW21-SC561	21G0305-04	08142143ECD7.D	08/12/2021	
LDW21-SC566	21G0305-03	08142142ECD7.D	08/12/2021	
LDW21-SC567	21G0305-02	08142141ECD7.D	08/12/2021	
LDW21-SC526FD	21G0305-06	08142147ECD7.D	08/12/2021	
LDW21-SC574	21G0305-09	08142150ECD7.D	08/12/2021	
LDW21-SC526	21G0305-05	08142146ECD7.D	08/12/2021	
Blank	BJH0034-BLK1	08142131ECD7.D	08/12/2021	
LCS	BJH0034-BS1	08142132ECD7.D	08/12/2021	
Reference	BJH0034-SRM1	08142133ECD7.D	08/12/2021	
LDW21-SC569	21G0305-01	08142140ECD7.D	08/12/2021	
LDW21-SC530	21G0305-07	08172107ECD7.D	08/12/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJH0113

Matrix: Solid **Cleanup using: Organics - EPA 3630C Silica Gel Cleanup** **Printed: 8/12/2021 8:15:14PM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0306-02	B	LDW21-SC550FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0306-01	B	LDW21-SC550	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-07	B	LDW21-SC530	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-08	B	LDW21-SC540	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-09	B	LDW21-SC574	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-10	B	LDW21-SC551	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-03	B	LDW21-IT694C	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-04	B	LDW21-IT694E	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-01	B	LDW21-SC569	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-02	B	LDW21-SC567	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-03	B	LDW21-SC566	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-04	B	LDW21-SC561	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-05	B	LDW21-SC526	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0305-06	B	LDW21-SC526FD	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-01	B	LDW21-IT694A	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
21G0303-02	B	LDW21-IT694B	B 01	2.5	2.5	8082A PCB Solid 4	8/12/2021	CCT	
BJH0034-SRM1	-	Reference	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MSD1	-	Matrix Spike Dup	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BLK1	-	Blank	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-BS1	-	LCS	-	2.5	2.5	-	8/12/2021	CCT	
BJH0034-MS1	-	Matrix Spike	-	2.5	2.5	-	8/12/2021	CCT	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
METHOD BLANK DATA SHEET
EPA 8082A

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0034-BLK1	File ID:	08142131ECD7.D
Sampled:	N/A	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 04:26
Solids:		Preparation:	EPA 3546 (Microwave)	Initial/Final:	12.5 g / 2.5 mL
Batch:	BJH0034	Sequence:	SJH0212	Calibration:	EH00034
Instrument:	ECD7	Column:	ZB5	Cleanups:	Silica Gel, Sulfur, Sulfuric Acid

CAS NO.	COMPOUND	DILUTION	CONC: (ug/kg wet)	Q	DL	RL
12674-11-2	Aroclor 1016	1	4.0	U	1.6	4.0
11104-28-2	Aroclor 1221	1	4.0	U	1.6	4.0
11141-16-5	Aroclor 1232	1	4.0	U	1.6	4.0
53469-21-9	Aroclor 1242	1	4.0	U	1.6	4.0
12672-29-6	Aroclor 1248	1	4.0	U	1.6	4.0
11097-69-1	Aroclor 1254	1	4.0	U	1.6	4.0
11096-82-5	Aroclor 1260	1	4.0	U	0.6	4.0

SURROGATES	ADDED: (ug/kg wet)	FOUND: (ug/kg wet)	% REC	QC LIMITS	Q
Decachlorobiphenyl	8.0000	7.63	95.3	40 - 126	
Tetrachlorometaxylene	8.0000	6.68	83.5	44 - 120	
Decachlorobiphenyl [2C]	8.0000	7.55	94.4	40 - 126	
Tetrachlorometaxylene [2C]	8.0000	6.20	77.5	44 - 120	

[2C] indicates second-column analyte, present if quantification on any batch samples used second column data.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142131ECD7.D
Data file 2: /210814.b/210814.b/08142131ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-BLK1
Client ID:
Injection Date: 15-AUG-2021 04:26
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	110633	5.412	-0.001	299530	33.4	31.0	7.5	Tetrachloro-m-xylene
13.164	-0.001	175971	13.848	0.001	966553	38.1	37.8	1.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	274156	5.9
Hexabromobiphenyl	425681	508387	19.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	752335	4.4
Hexabromobiphenyl	863111	1151739	33.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	7.062	0.007	69	0.2
Aroclor-1016	2	---			0.0	2	7.657	0.006	4212	4.4
Aroclor-1016	3	---			0.0	3	7.891	0.033	1284	3.4
Aroclor-1016	4	---			0.0	4	8.105	-0.000	2237	9.8
	Col1Ave: <3 Quant Peaks					Col2Ave: 4.4				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.090	0.018	3808	29.5
Aroclor-1221	3	---			0.0	3	6.404	-0.005	1487	6.6
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.776	0.050	117	1.6	2	7.062	0.004	69	0.4
Aroclor-1232	3	7.076	0.043	186	1.7	3	7.657	0.006	4212	10.7
Aroclor-1232	4	---			0.0	4	8.599	0.077	1524	14.9
	Col1Ave: <3 Quant Peaks					Col2Ave: 8.6				
Aroclor-1242	1	---			0.0	1	7.062	0.005	69	0.2
Aroclor-1242	2	7.076	0.042	186	0.8	2	7.657	0.004	4212	5.6
Aroclor-1242	3	8.379	-0.002	561	4.4	3	9.042	0.086	4809	13.7
Aroclor-1242	4	8.674	-0.002	303	5.8	4	---			0.0
	Total Col1Ave (3 peaks): 3.7					Total Col2Ave (3 peaks): 6.5 RPD = 55*				
	Corrected Ave: < 3 Peaks					Corrected Ave: < 3 Peaks				
Aroclor-1248	1	---			0.0	1	8.105	0.000	2237	7.2
Aroclor-1248	2	---			0.0	2	8.599	0.079	1524	4.0
Aroclor-1248	3	8.379	-0.000	561	2.6	3	9.042	0.090	4809	8.0
Aroclor-1248	4	8.674	-0.001	303	2.4	4	9.409	0.029	4266	8.3
	Col1Ave: <3 Quant Peaks					Col2Ave: 6.9				
Aroclor-1254	1	8.674	-0.002	303	1.3	1	9.250	0.010	3368	5.3
Aroclor-1254	2	---			0.0	2	9.409	0.076	4266	11.4
Aroclor-1254	3	9.016	-0.028	786	5.1	3	9.723	-0.040	3408	7.0
Aroclor-1254	4	---			0.0	4	9.932	0.017	224	0.2
Aroclor-1254	5	9.891	0.021	1278	6.9	5	10.153	0.001	2383	2.2
	Total Col1Ave (3 peaks): 4.4					Total Col2Ave (5 peaks): 5.2 RPD = 16				
	Corrected Ave: < 3 Peaks					Corrected Ave (4 peaks): 3.7				
Aroclor-1260	1	---			0.0	1	---			0.0
Aroclor-1260	2	---			0.0	2	11.670	-0.009	1198	0.4
Aroclor-1260	3	---			0.0	3	12.259	-0.001	423	0.2
Aroclor-1260	4	---			0.0	4	12.972	0.000	209	0.2
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 0.3				
Aroclor-1262	1	---			0.0	1	10.966	-0.004	692	0.5
Aroclor-1262	2	---			0.0	2	11.670	-0.016	1198	0.4
Aroclor-1262	3	---			0.0	3	12.195	0.007	1198	0.9
Aroclor-1262	4	---			0.0	4	12.972	-0.001	209	0.2
	Col1Ave: <3 Quant Peaks					Col2Ave: 0.5				
Aroclor-1268	1	---			0.0	1	12.195	-0.005	1198	0.4
Aroclor-1268	2	---			0.0	2	12.259	-0.008	423	0.1
Aroclor-1268	3	11.911	-0.090	3566	6.3	3	12.637	-0.007	2697	0.9
Aroclor-1268	4	12.771	-0.001	2726	1.5	4	12.784	0.001	1278	1.7
	Col1Ave: <3 Quant Peaks					Col2Ave: 0.7				

Total PCB Area Col1 (5.167 - 13.066) = 43709 Col1 Total PCB = 0.0 ppm*

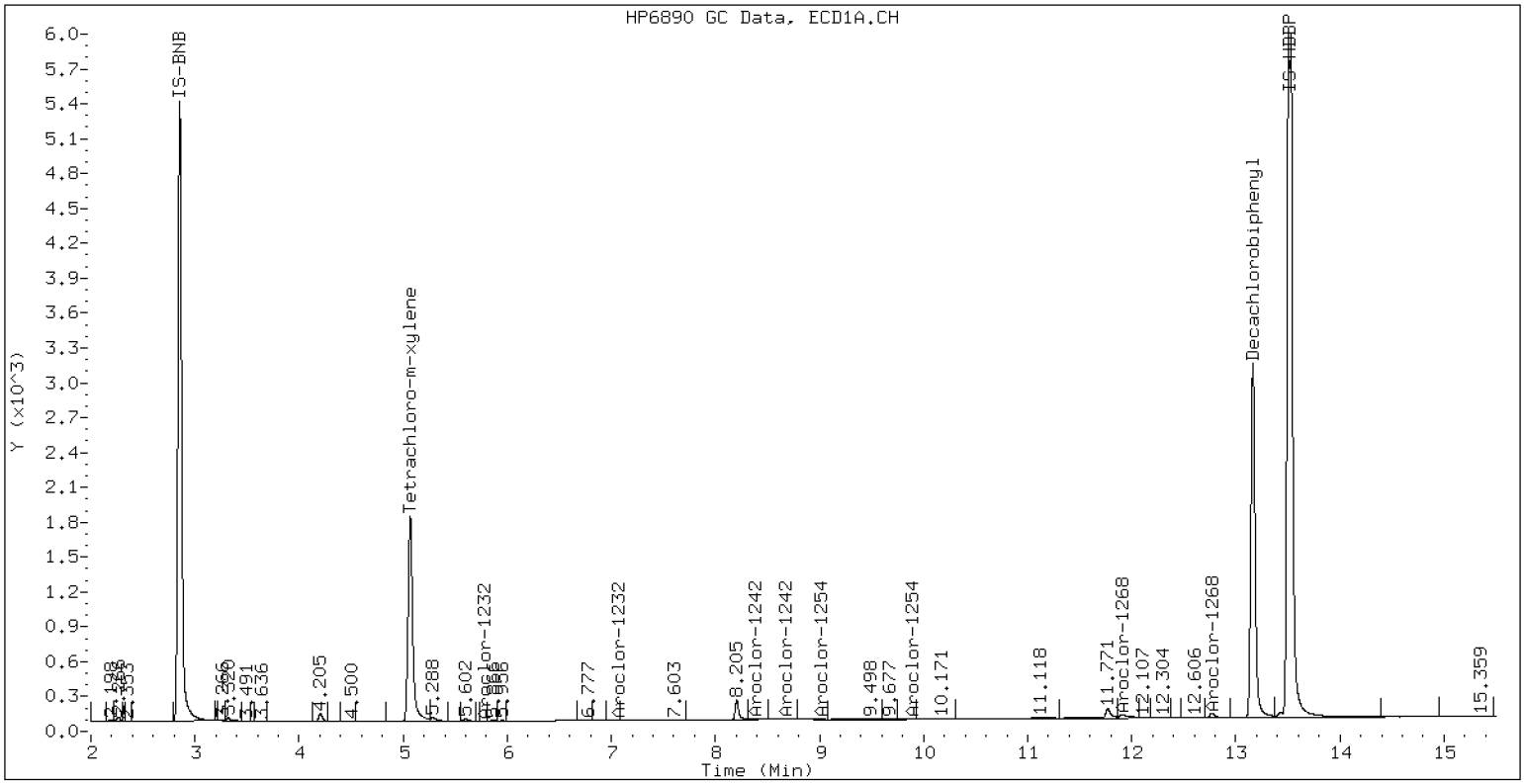
Total PCB Area Col2 (5.167 - 13.066) = 416607 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

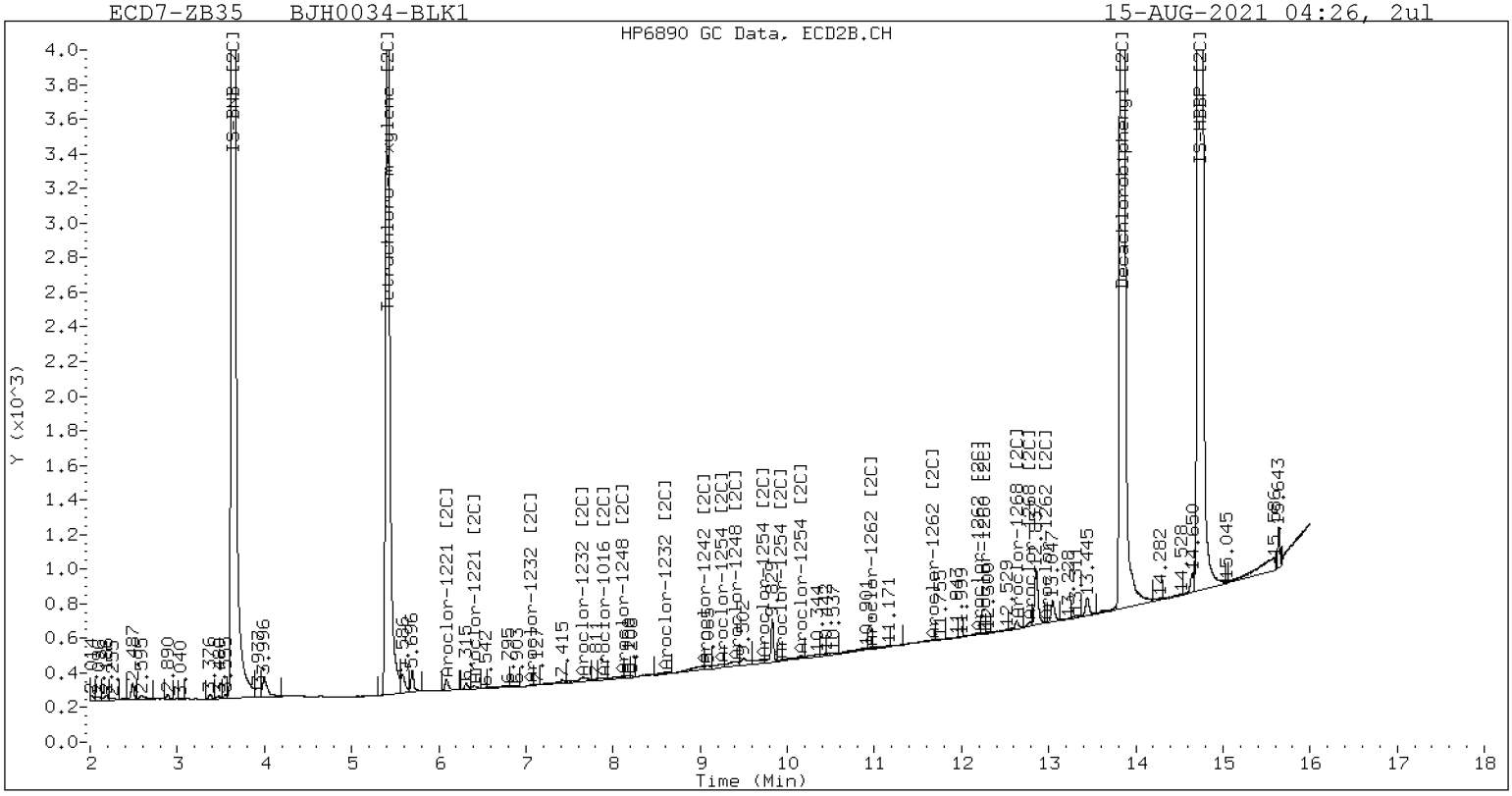
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-BLK1 15-AUG-2021 04:26, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-BLK1 15-AUG-2021 04:26, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/15/21 04:47
Batch:	BJH0034	Laboratory ID:	BJH0034-BS1
Preparation:	EPA 3546 (Microwave)	Sequence Name:	LCS
Initial/Final:	12.5 g / 2.5 mL		

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Aroclor 1016	101	81.7		81.1	56 - 120
Aroclor 1260	101	79.3		78.6	58 - 120

* Indicates values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142132ECD7.D
Data file 2: /210814.b/210814.b/08142132ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-BS1
Client ID:
Injection Date: 15-AUG-2021 04:47
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	0.000	114501	5.411	-0.001	314701	33.8	32.0	5.4	Tetrachloro-m-xylene
13.164	-0.001	173923	13.847	-0.000	917178	37.0	35.0	5.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	280139	8.2
Hexabromobiphenyl	425681	517241	21.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	764233	6.0
Hexabromobiphenyl	863111	1179918	36.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.658	-0.001	39665	399.2	1	7.055	-0.001	165720	380.3
Aroclor-1016	2	7.030	-0.003	128120	421.7	2	7.647	-0.004	397453	407.7
Aroclor-1016	3	7.176	-0.003	53632	393.3	3	7.854	-0.004	160205	418.8
Aroclor-1016	4	7.285	-0.004	35898	420.0	4	8.104	-0.002	93963	405.9
Total Col1Ave (4 peaks):				408.6		Total Col2Ave (4 peaks):			403.2	RPD = 1
Corrected Ave (3 peaks):				404.2		Corrected Ave (3 peaks):			398.0	RPD = 2
Aroclor-1221	1	4.018	0.003	350	15.8	1	4.675	-0.002	661	11.5
Aroclor-1221	2	5.448	-0.003	4507	130.0	2	6.072	0.000	16001	121.9
Aroclor-1221	3	5.723	-0.001	25527	272.5	3	6.409	-0.000	71675	313.2
Total Col1Ave (3 peaks):				139.4		Total Col2Ave (3 peaks):			148.9	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	0.000	350	25.8	1	4.675	-0.004	661	19.4
Aroclor-1232	2	5.723	-0.003	25527	345.7	2	7.055	-0.003	165720	830.3
Aroclor-1232	3	7.030	-0.004	128120	1136.7	3	7.647	-0.004	397453	995.0
Aroclor-1232	4	7.967	-0.005	47952	1034.2	4	8.518	-0.004	126089	1211.7
Total Col1Ave (4 peaks):				635.6		Total Col2Ave (4 peaks):			764.1	RPD = 18
Corrected Ave (3 peaks):				468.6		Corrected Ave (3 peaks):			614.9	RPD = 27
Aroclor-1242	1	6.658	-0.002	39665	513.9	1	7.055	-0.003	165720	471.6
Aroclor-1242	2	7.030	-0.005	128120	556.8	2	7.647	-0.006	397453	520.7
Aroclor-1242	3	8.382	0.000	36951	283.5	3	8.933	-0.024	49266	138.2
Aroclor-1242	4	8.674	-0.002	35575	667.9	4	9.027	-0.010	14547	36.0
Total Col1Ave (4 peaks):				505.5		Total Col2Ave (4 peaks):			291.6	RPD = 54*
Corrected Ave (3 peaks):				451.4		Corrected Ave (3 peaks):			215.3	RPD = 71*
Aroclor-1248	1	7.799	-0.001	61769	526.1	1	8.104	-0.002	93963	296.7
Aroclor-1248	2	7.967	-0.003	47952	312.9	2	8.518	-0.002	126089	327.1
Aroclor-1248	3	8.382	0.002	36951	164.7	3	8.933	-0.020	49266	80.2
Aroclor-1248	4	8.674	-0.001	35575	277.7	4	9.378	-0.002	9146	17.5
Total Col1Ave (4 peaks):				320.4		Total Col2Ave (4 peaks):			180.4	RPD = 56*
Corrected Ave (3 peaks):				251.8		Corrected Ave (3 peaks):			131.5	RPD = 63*
Aroclor-1254	1	8.674	-0.003	35575	147.2	1	9.237	-0.003	94813	145.8
Aroclor-1254	2	---			0.0	2	9.326	-0.007	2275	6.0
Aroclor-1254	3	9.041	-0.004	5600	35.5	3	9.762	-0.001	17207	34.7
Aroclor-1254	4	9.172	-0.007	30780	102.3	4	9.925	0.011	229745	209.2
Aroclor-1254	5	9.856	-0.014	39949	211.4	5	10.156	0.004	297032	266.7
Total Col1Ave (4 peaks):				124.1		Total Col2Ave (5 peaks):			132.5	RPD = 7
Corrected Ave (3 peaks):				95.0		Corrected Ave (4 peaks):			98.9	RPD = 4
Aroclor-1260	1	10.383	-0.001	87690	376.8	1	11.424	-0.002	329793	336.2
Aroclor-1260	2	10.700	-0.002	89228	390.7	2	11.678	-0.000	946882	332.1
Aroclor-1260	3	11.051	-0.003	259830	420.9	3	12.259	-0.001	625331	341.1
Aroclor-1260	4	11.452	-0.003	111328	404.8	4	12.971	0.000	319858	365.0
Aroclor-1260	5	11.554	-0.001	53460	388.2	NS	---			----
Total Col1Ave (5 peaks):				396.3		Total Col2Ave (4 peaks):			343.6	RPD = 14
Corrected Ave (4 peaks):				390.1		Corrected Ave (3 peaks):			336.5	RPD = 15
Aroclor-1262	1	10.383	-0.001	87690	277.8	1	10.967	-0.003	358297	248.3
Aroclor-1262	2	11.452	-0.002	111328	544.7	2	11.678	-0.007	946882	311.0
Aroclor-1262	3	11.626	-0.001	67704	229.8	3	12.187	-0.001	370020	273.8
Aroclor-1262	4	12.274	-0.000	74881	309.6	4	12.971	-0.001	319858	254.0
Total Col1Ave (4 peaks):				340.5		Total Col2Ave (4 peaks):			271.8	RPD = 22
Corrected Ave (3 peaks):				272.4		Corrected Ave (3 peaks):			258.7	RPD = 5
Aroclor-1268	1	11.554	-0.003	53460	77.0	1	12.187	-0.013	370020	109.1
Aroclor-1268	2	11.626	0.001	67704	93.0	2	12.259	-0.008	625331	169.0
Aroclor-1268	3	12.028	0.027	27754	48.5	3	12.634	-0.010	12981	4.1
Aroclor-1268	4	12.768	-0.004	19779	10.7	4	12.782	-0.001	8116	10.3
Total Col1Ave (4 peaks):				57.3		Total Col2Ave (4 peaks):			73.1	RPD = 24

Corrected Ave (3 peaks): 45.4 Corrected Ave (3 peaks): 41.2 RPD = 10

Total PCB Area Col1 (5.167 - 13.066) = 2416417 Col1 Total PCB = 0.9 ppm*

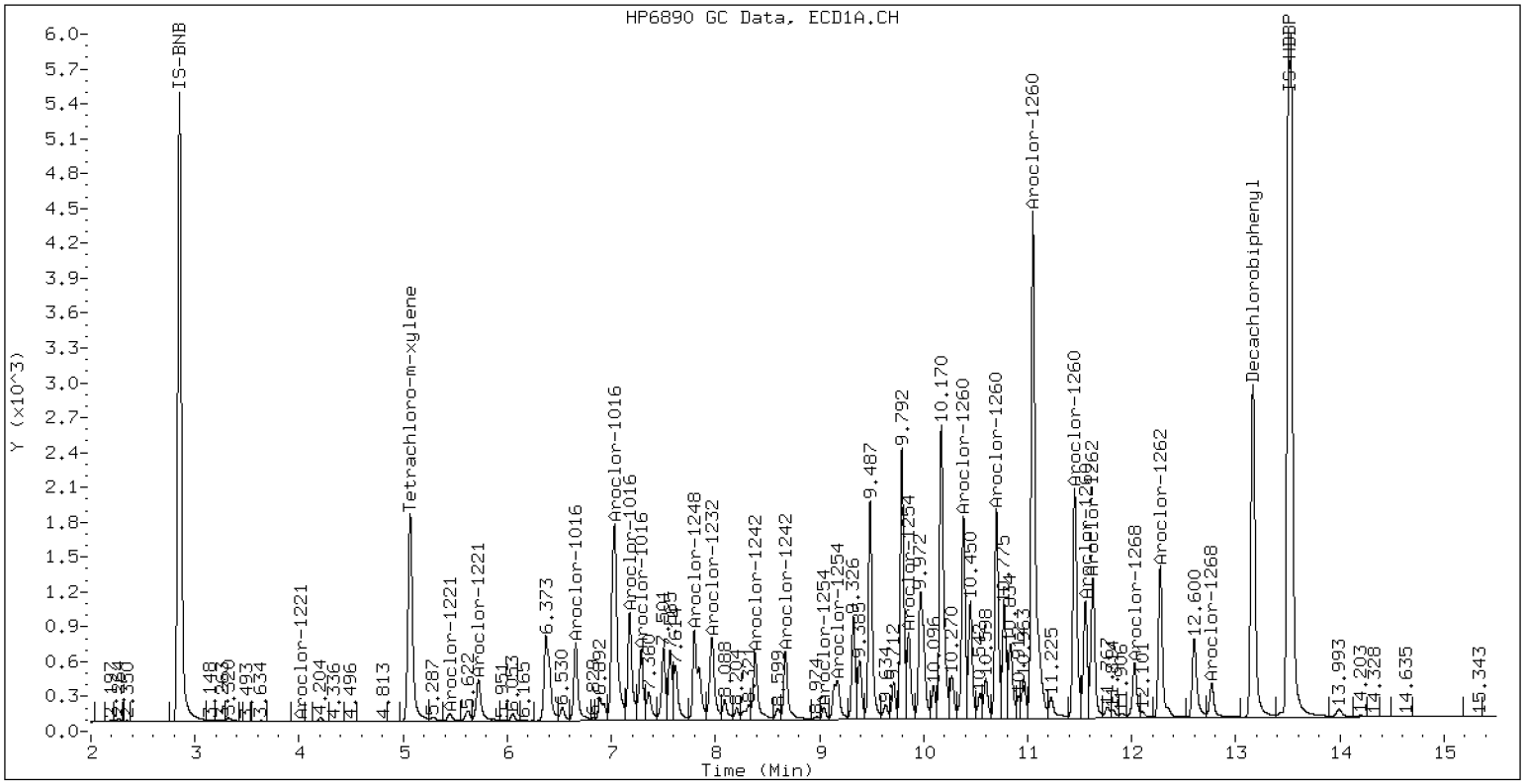
Total PCB Area Col2 (5.167 - 13.066) = 8283943 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

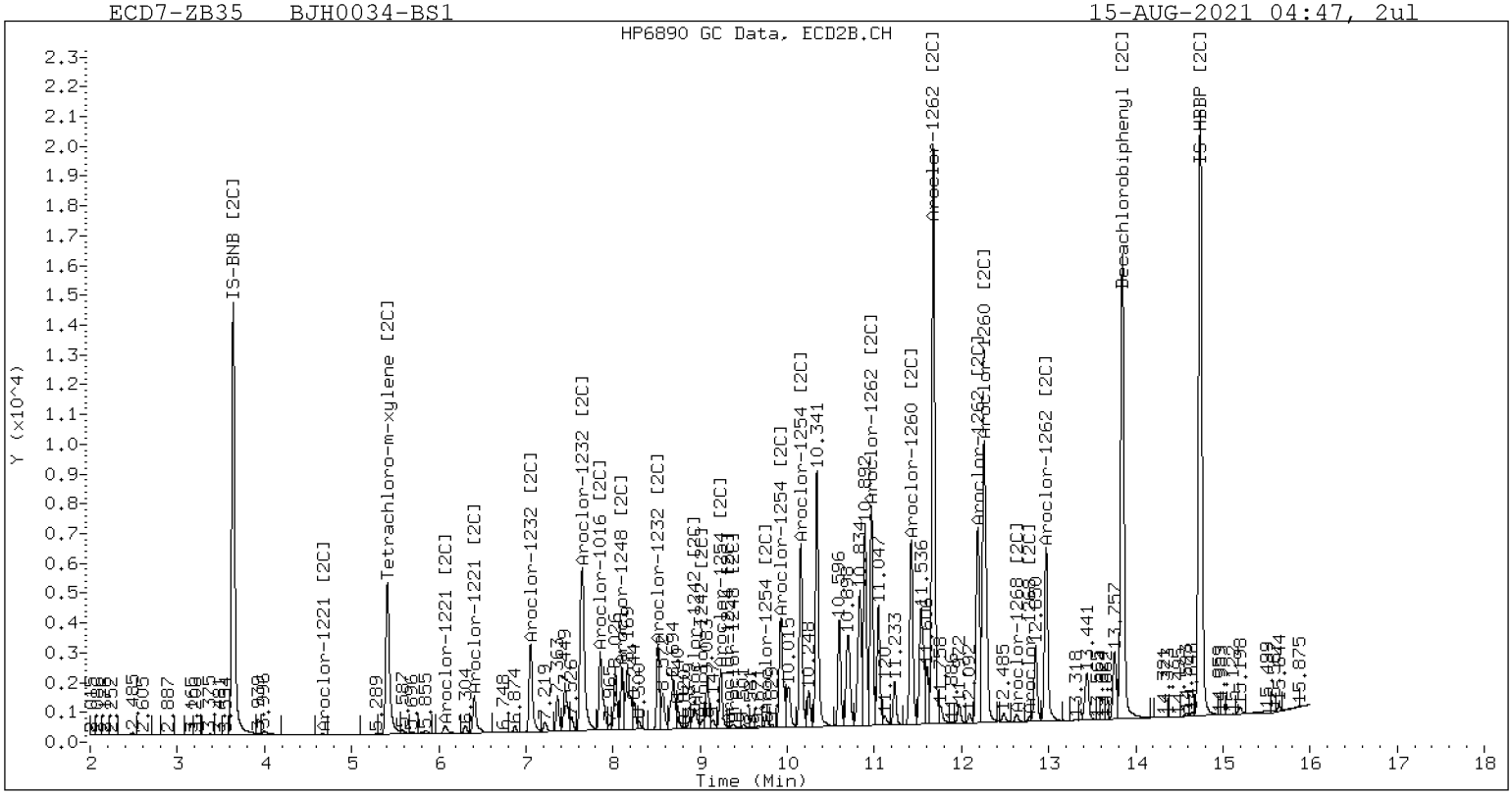
PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-BS1 15-AUG-2021 04:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 BJH0034-BS1 15-AUG-2021 04:47, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0034-SRM1
Batch: BJH0034
Initial/Final: 2.5 g / 2.5 mL
Preparation: EPA 3546 (Microwave)
Analyzed: 08/15/2021 5:07
Standard ID: J006842
Expires: 12/28/2021
Standard Lot#: PSRM0136
Description: Puget Sound reference-SRM

ANALYTE	TRUE (ug/kg wet)	FOUND (ug/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Aroclor 1260	108.00	100	2.9	20.0		92.6	38 - 167
Aroclor 1260 [2C]	108.00	82.9	2.9	20.0		76.8	38 - 167

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142133ECD7.D
Data file 2: /210814.b/210814.b/08142133ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: BJH0034-SRM1
Client ID:
Injection Date: 15-AUG-2021 05:07
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.066	-0.001	102358	5.410	-0.002	276005	31.9	29.6	7.3	Tetrachloro-m-xylene
13.159	-0.007	125530	13.842	-0.005	701222	35.2	30.9	12.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265628	2.6
Hexabromobiphenyl	425681	392793	-7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	725062	0.6
Hexabromobiphenyl	863111	1019741	18.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.607	-0.052	3927	41.7	1	7.054	-0.001	7259	17.6
Aroclor-1016	2	7.029	-0.005	3126	10.9	2	7.649	-0.002	20256	21.9
Aroclor-1016	3	7.177	-0.002	1515	11.7	3	7.854	-0.003	5924	16.3
Aroclor-1016	4	7.280	-0.009	1354	16.7	4	8.102	-0.004	11890	54.1
Total Col1Ave (4 peaks):					20.2	Total Col2Ave (4 peaks):				27.5 RPD = 30
Corrected Ave (3 peaks):					13.1	Corrected Ave (3 peaks):				18.6 RPD = 35
Aroclor-1221	1	4.102	0.087	2359	112.5	1	4.636	-0.040	2371	43.6
Aroclor-1221	2	---			0.0	2	6.100	0.028	15078	121.0
Aroclor-1221	3	5.724	-0.000	403	4.5	3	6.408	-0.001	6557	30.2
Col1Ave: <3 Quant Peaks						Col2Ave: 64.9				
Aroclor-1232	1	4.102	0.084	2359	183.1	1	4.636	-0.043	2371	73.2
Aroclor-1232	2	5.724	-0.002	403	5.8	2	7.054	-0.004	7259	38.3
Aroclor-1232	3	7.029	-0.005	3126	29.3	3	7.649	-0.002	20256	53.4
Aroclor-1232	4	7.961	-0.011	2534	57.6	4	8.515	-0.007	8346	84.5
Total Col1Ave (4 peaks):					68.9	Total Col2Ave (4 peaks):				62.4 RPD = 10
Corrected Ave (3 peaks):					30.9	Corrected Ave (3 peaks):				55.0 RPD = 56*
Aroclor-1242	1	6.607	-0.053	3927	53.7	1	7.054	-0.003	7259	21.8
Aroclor-1242	2	7.029	-0.006	3126	14.3	2	7.649	-0.004	20256	28.0
Aroclor-1242	3	8.378	-0.004	11457	92.7	3	8.938	-0.018	14079	41.6
Aroclor-1242	4	8.667	-0.009	14489	286.9	4	9.018	-0.020	10366	27.0
Total Col1Ave (4 peaks):					111.9	Total Col2Ave (4 peaks):				29.6 RPD = 116*
Corrected Ave (3 peaks):					53.6	Corrected Ave (3 peaks):				25.6 RPD = 71*
Aroclor-1248	1	7.795	-0.005	2812	25.3	1	8.102	-0.003	11890	39.6
Aroclor-1248	2	7.961	-0.009	2534	17.4	2	8.515	-0.005	8346	22.8
Aroclor-1248	3	8.378	-0.002	11457	53.8	3	8.938	-0.014	14079	24.2
Aroclor-1248	4	8.667	-0.008	14489	119.3	4	9.365	-0.015	9989	20.2
Total Col1Ave (4 peaks):					54.0	Total Col2Ave (4 peaks):				26.7 RPD = 68*
Corrected Ave (3 peaks):					32.2	Corrected Ave (3 peaks):				22.4 RPD = 36
Aroclor-1254	1	8.667	-0.009	14489	63.2	1	9.232	-0.008	41246	66.9
Aroclor-1254	2	8.740	-0.008	5310	50.1	2	9.322	-0.011	9907	27.4
Aroclor-1254	3	9.038	-0.007	7802	52.2	3	9.754	-0.009	16612	35.3
Aroclor-1254	4	9.167	-0.012	19845	69.5	4	9.909	-0.005	74876	71.8
Aroclor-1254	5	9.852	-0.019	15039	83.9	5	10.149	-0.002	107779	102.0
Total Col1Ave (5 peaks):					63.8	Total Col2Ave (5 peaks):				60.7 RPD = 5
Corrected Ave (4 peaks):					58.8	Corrected Ave (4 peaks):				50.3 RPD = 15
Aroclor-1260	1	10.376	-0.008	18348	103.8	1	11.421	-0.005	79850	94.2
Aroclor-1260	2	10.694	-0.009	14696	84.7	2	11.670	-0.008	193975	78.7
Aroclor-1260	3	11.043	-0.011	45308	96.7	3	12.253	-0.008	123538	78.0
Aroclor-1260	4	11.443	-0.012	25850	123.8	4	12.964	-0.008	61197	80.8
Aroclor-1260	5	11.547	-0.007	9532	91.2	NS	---			----
Total Col1Ave (5 peaks):					100.0	Total Col2Ave (4 peaks):				82.9 RPD = 19
Corrected Ave (4 peaks):					94.1	Corrected Ave (3 peaks):				79.2 RPD = 17
Aroclor-1262	1	10.376	-0.008	18348	76.5	1	10.961	-0.009	70688	56.7
Aroclor-1262	2	11.443	-0.012	25850	166.5	2	11.670	-0.015	193975	73.7
Aroclor-1262	3	11.620	-0.007	12103	54.1	3	12.181	-0.007	65321	55.9
Aroclor-1262	4	12.266	-0.008	11653	63.4	4	12.964	-0.009	61197	56.2
Total Col1Ave (4 peaks):					90.2	Total Col2Ave (4 peaks):				60.6 RPD = 39
Corrected Ave (3 peaks):					64.7	Corrected Ave (3 peaks):				56.3 RPD = 14
Aroclor-1268	1	11.547	-0.010	9532	18.1	1	12.181	-0.019	65321	22.3
Aroclor-1268	2	11.620	-0.006	12103	21.9	2	12.253	-0.014	123538	38.6
Aroclor-1268	3	12.020	0.019	6124	14.1	3	12.628	-0.016	5891	2.1
Aroclor-1268	4	12.761	-0.010	3894	2.8	4	12.773	-0.010	6802	10.0
Total Col1Ave (4 peaks):					14.2	Total Col2Ave (4 peaks):				18.3 RPD = 25
Corrected Ave (3 peaks):					11.6	Corrected Ave (3 peaks):				11.5 RPD = 2

Total PCB Area Col1 (5.167 - 13.066) = 525287 Col1 Total PCB = 0.2 ppm*

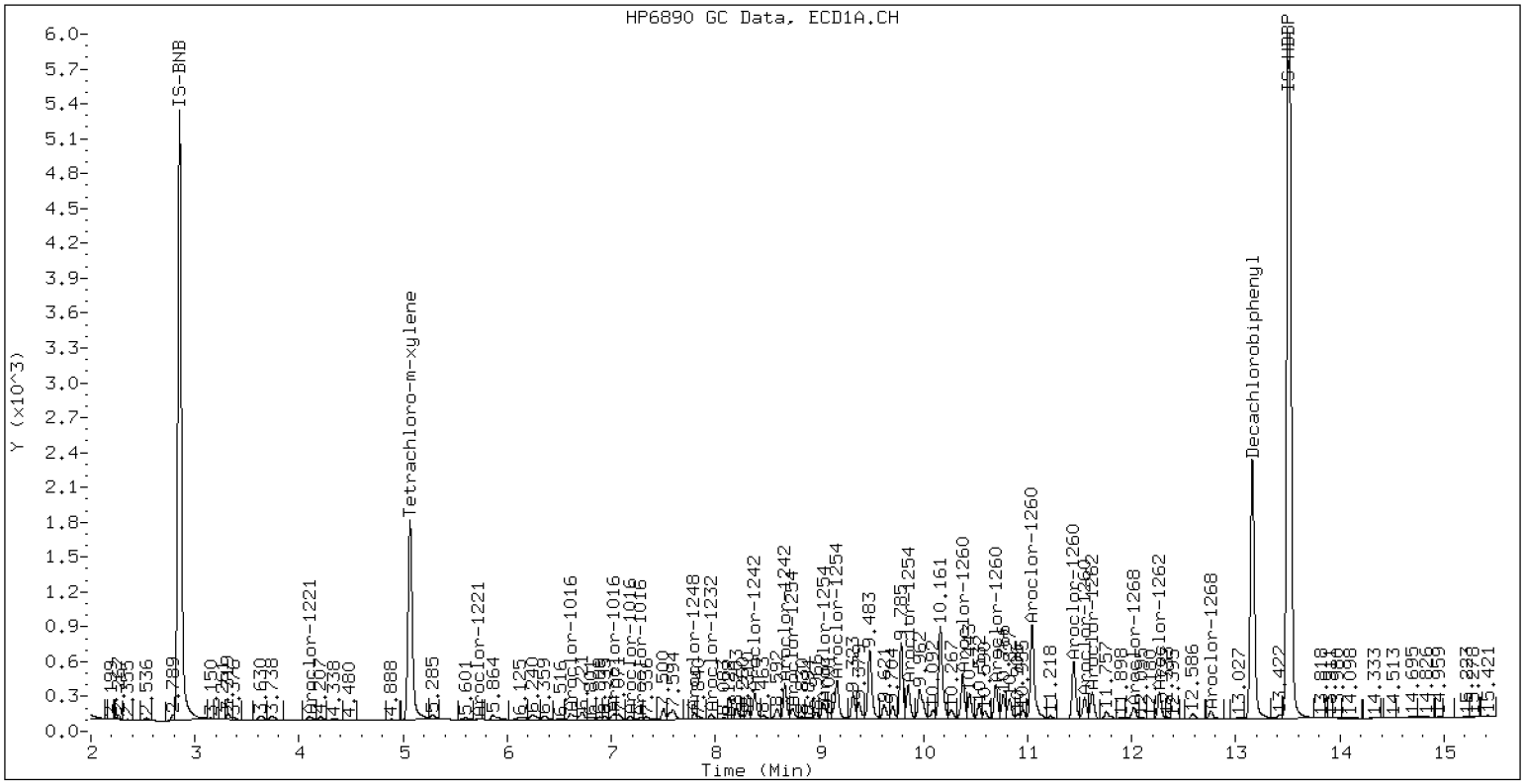
Total PCB Area Col2 (5.167 - 13.066) = 2120575 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 BJH0034-SRM1 15-AUG-2021 05:07, 2ul



ZB-5 Manual Integration: NO

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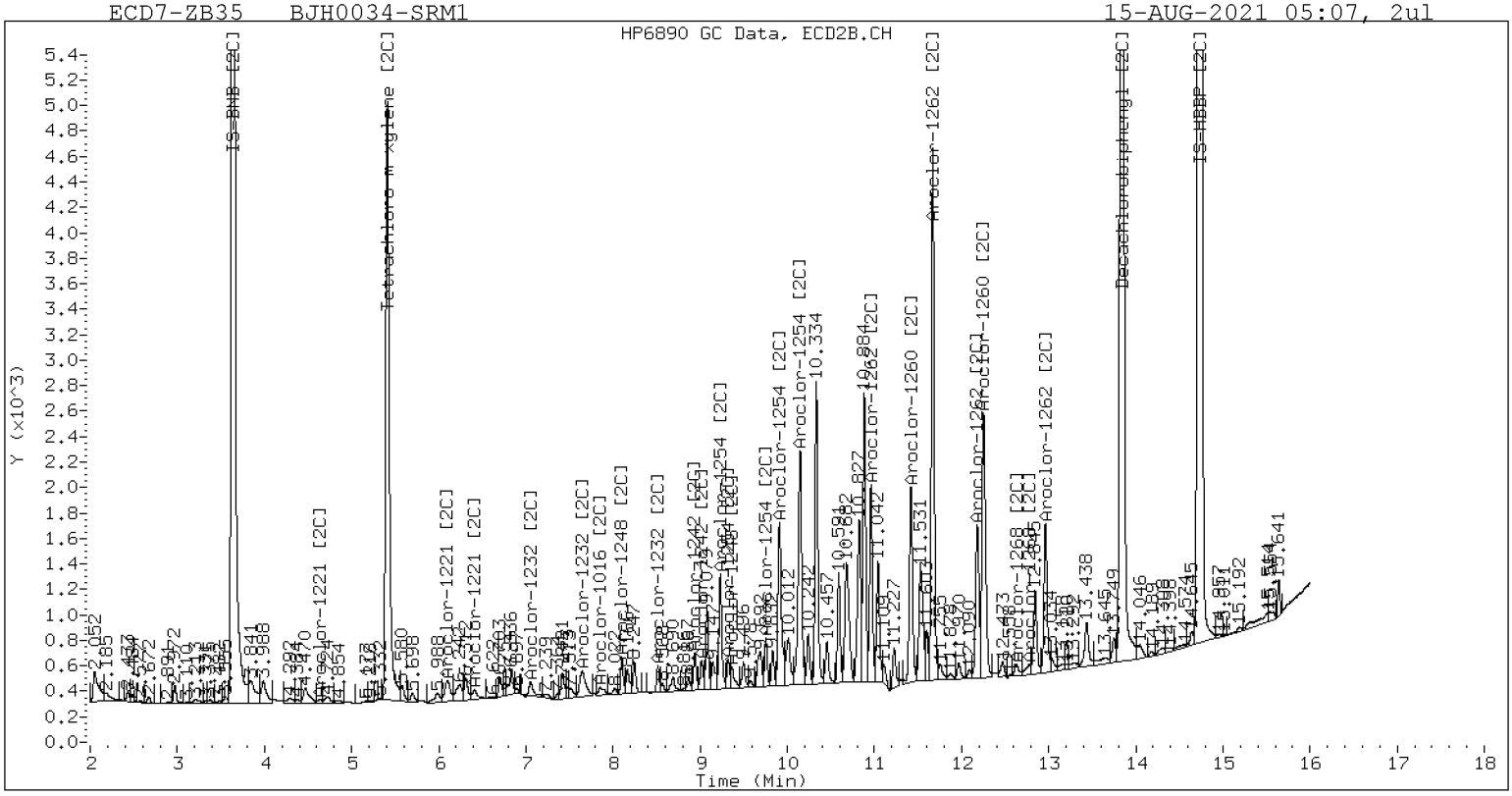

ZB-35 Manual Integration: YES

Manual Peak Adjustment, ZB-35

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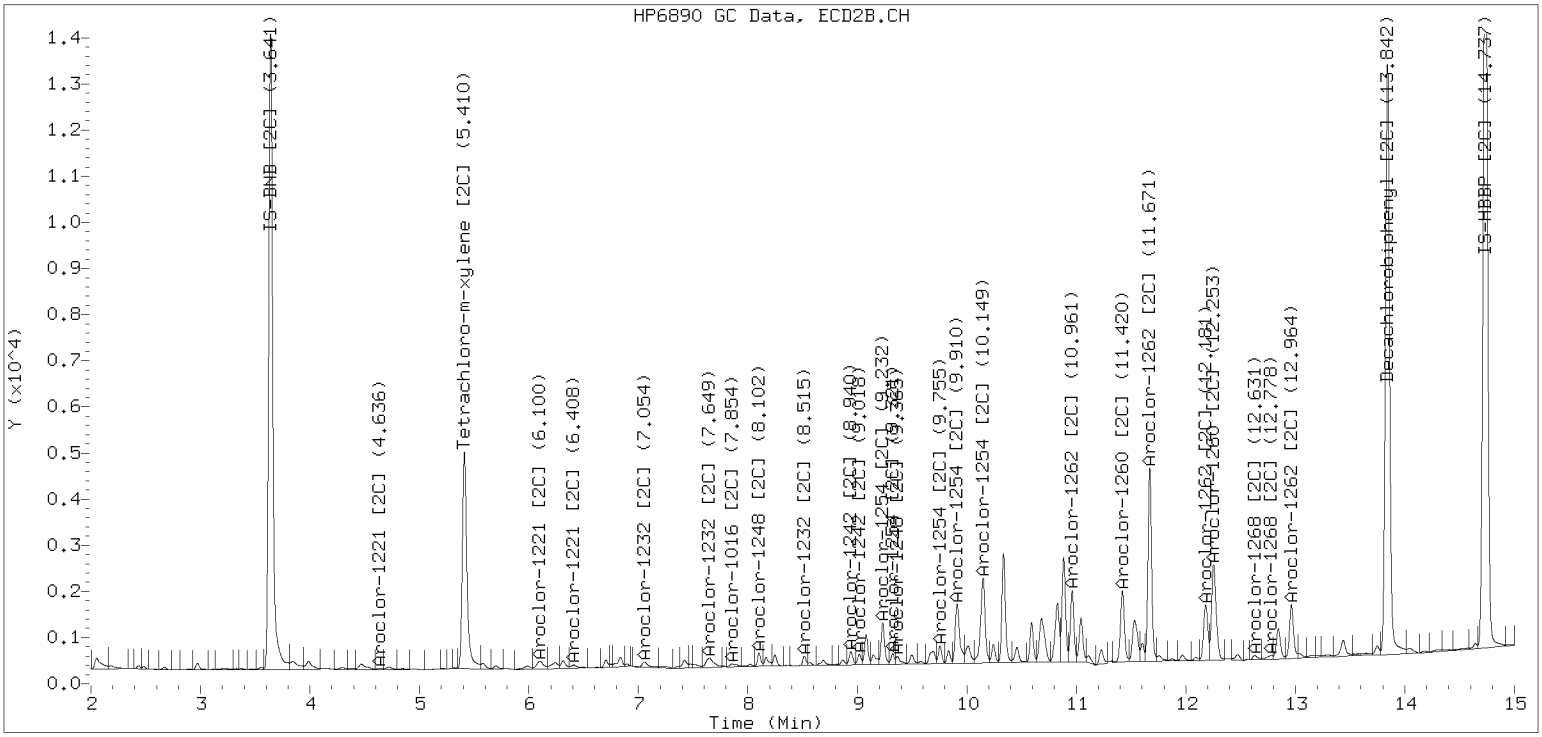
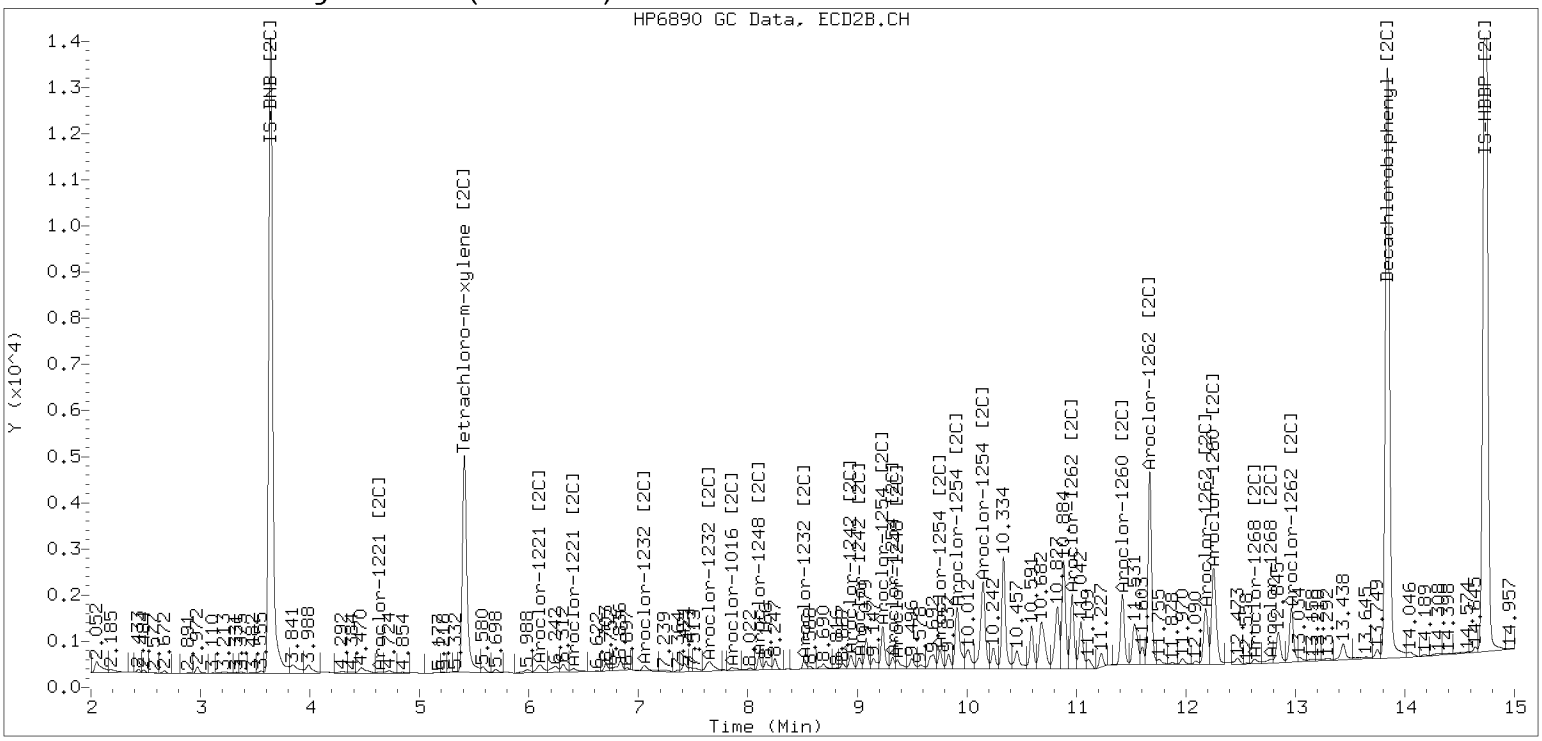
Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016	20	3.905933E-02	50	0.0446259	100	4.564066E-02	250	0.04709	500	4.625535E-02	1000	4.505981E-02
Aroclor-1016 (1)	20	2.649017E-02	50	2.912055E-02	100	2.939738E-02	250	2.963943E-02	500	2.849957E-02	1000	2.709274E-02
Aroclor-1016 (2)	20	7.428187E-02	50	8.423329E-02	100	8.746182E-02	250	9.203341E-02	500	9.182498E-02	1000	9.075441E-02
Aroclor-1016 (3)	20	3.555465E-02	50	4.092549E-02	100	4.058933E-02	250	4.075499E-02	500	3.888112E-02	1000	3.692439E-02
Aroclor-1016 (4)	20	1.991061E-02	50	2.422428E-02	100	2.511411E-02	250	2.593218E-02	500	2.581574E-02	1000	2.546764E-02
Aroclor 1260	20	4.610015E-02	50	4.459123E-02	100	4.539035E-02	250	4.776685E-02	500	4.820696E-02	1000	4.469533E-02
Aroclor-1260 (1)	20	3.649398E-02	50	3.599611E-02	100	3.587713E-02	250	3.720495E-02	500	3.606153E-02	1000	0.0343203
Aroclor-1260 (2)	20	3.493239E-02	50	3.435188E-02	100	3.496901E-02	250	3.686291E-02	500	3.620059E-02	1000	3.463348E-02
Aroclor-1260 (3)	20	9.843722E-02	50	9.112843E-02	100	9.295538E-02	250	9.789039E-02	500	0.1019955	1000	9.043784E-02
Aroclor-1260 (4)	20	3.984431E-02	50	4.042084E-02	100	4.181781E-02	250	4.477343E-02	500	4.502778E-02	1000	4.333459E-02
Aroclor-1260 (5)	20	2.079286E-02	50	2.105887E-02	100	2.133245E-02	250	2.210256E-02	500	2.174943E-02	1000	2.075043E-02
Decachlorobiphenyl	3.2	0.7431769	8	0.7302126	16	0.7455559	40	0.7525025	80	0.7163282	160	0.6694058
Tetrachlorometaxylene	3.2	0.9393656	8	0.9142096	16	0.9758103	40	1.013211	80	0.9925859	160	0.9666244

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221												
Aroclor-1221 (1)												
Aroclor-1221 (2)												
Aroclor-1221 (3)												
Aroclor 1232												
Aroclor-1232 (1)												
Aroclor-1232 (2)												
Aroclor-1232 (3)												
Aroclor-1232 (4)												
Aroclor 1242	20	3.476957E-02	50	3.251176E-02	100	3.574202E-02	250	3.627235E-02	500	0.0361029	1000	0.0348766
Aroclor-1242 (1)	20	1.894782E-02	50	2.152568E-02	100	2.336447E-02	250	2.359921E-02	500	2.299109E-02	1000	2.182021E-02
Aroclor-1242 (2)	20	5.663612E-02	50	5.706852E-02	100	6.610672E-02	250	7.095404E-02	500	7.201235E-02	1000	7.146865E-02
Aroclor-1242 (3)	20	4.583842E-02	50	3.531016E-02	100	3.720097E-02	250	3.521151E-02	500	3.564921E-02	1000	3.412729E-02
Aroclor-1242 (4)	20	1.765592E-02	50	1.614269E-02	100	1.629592E-02	250	1.532464E-02	500	1.375896E-02	1000	1.209024E-02
Aroclor 1248												
Aroclor-1248 (1)												
Aroclor-1248 (2)												
Aroclor-1248 (3)												
Aroclor-1248 (4)												
Aroclor 1254												
Aroclor-1254 (1)												
Aroclor-1254 (2)												
Aroclor-1254 (3)												
Aroclor-1254 (4)												
Aroclor-1254 (5)												
Aroclor-1262 (1)												
Aroclor-1262 (2)												
Aroclor-1262 (3)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4)												
Aroclor-1268 (1)												
Aroclor-1268 (2)												
Aroclor-1268 (3)												
Aroclor-1268 (4)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1248	20	4.277049E-02	50	4.586843E-02	100	4.478412E-02	250	4.573699E-02	500	4.502952E-02	1000	4.273277E-02
Aroclor-1248 (1)	20	3.027179E-02	50	3.457133E-02	100	0.0326326	250	3.463825E-02	500	3.494353E-02	1000	3.409812E-02
Aroclor-1248 (2)	20	3.872679E-02	50	4.418321E-02	100	4.305407E-02	250	4.595423E-02	500	4.598635E-02	1000	4.466949E-02
Aroclor-1248 (3)	20	6.153453E-02	50	6.328759E-02	100	6.556992E-02	250	0.0663208	500	6.567134E-02	1000	6.210098E-02
Aroclor-1248 (4)	20	4.054886E-02	50	4.143157E-02	100	0.0378799	250	3.603467E-02	500	3.351685E-02	1000	3.006244E-02

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016												
Aroclor-1016 (1)												
Aroclor-1016 (2)												
Aroclor-1016 (3)												
Aroclor-1016 (4)												
Aroclor 1254	20	0.0553437	50	5.697553E-02	100	5.740632E-02	250	5.907612E-02	500	5.847785E-02	1000	5.576525E-02
Aroclor-1254 (1)	20	7.163779E-02	50	0.0694659	100	6.902673E-02	250	7.004227E-02	500	6.891729E-02	1000	6.501982E-02
Aroclor-1254 (2)	20	3.299361E-02	50	3.464937E-02	100	3.312192E-02	250	3.311742E-02	500	3.111858E-02	1000	2.670265E-02
Aroclor-1254 (3)	20	4.922704E-02	50	4.279015E-02	100	4.317994E-02	250	4.501395E-02	500	4.520795E-02	1000	4.449624E-02
Aroclor-1254 (4)	20	7.660199E-02	50	8.623033E-02	100	8.820416E-02	250	9.026987E-02	500	8.928537E-02	1000	8.506473E-02
Aroclor-1254 (5)	20	4.625809E-02	50	5.174191E-02	100	5.349887E-02	250	5.693709E-02	500	5.786004E-02	1000	5.754279E-02
Aroclor 1260												
Aroclor-1260 (1)												
Aroclor-1260 (2)												
Aroclor-1260 (3)												
Aroclor-1260 (4)												
Aroclor-1260 (5)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221	20	1.344016E-02	50	1.362337E-02	100	1.424699E-02	250	1.556865E-02	500	1.496468E-02	1000	1.410511E-02
Aroclor-1221 (1)	20	6.102735E-03	50	6.616017E-03	100	6.915718E-03	250	6.699115E-03	500	6.032524E-03	1000	5.539604E-03
Aroclor-1221 (2)	20	8.599308E-03	50	8.383142E-03	100	9.463615E-03	250	1.119347E-02	500	1.106774E-02	1000	1.071014E-02
Aroclor-1221 (3)	20	2.561843E-02	50	2.587095E-02	100	2.636163E-02	250	2.881334E-02	500	2.779378E-02	1000	2.606558E-02
Aroclor 1232												
Aroclor-1232 (1)												
Aroclor-1232 (2)												
Aroclor-1232 (3)												
Aroclor-1232 (4)												
Aroclor 1242												
Aroclor-1242 (1)												
Aroclor-1242 (2)												
Aroclor-1242 (3)												
Aroclor-1242 (4)												
Aroclor 1248												
Aroclor-1248 (1)												
Aroclor-1248 (2)												
Aroclor-1248 (3)												
Aroclor-1248 (4)												
Aroclor 1254												
Aroclor-1254 (1)												
Aroclor-1254 (2)												
Aroclor-1254 (3)												
Aroclor-1254 (4)												
Aroclor-1254 (5)												
Aroclor-1262 (1)	20	5.134025E-02	50	4.712973E-02	100	4.785041E-02	250	4.922198E-02	500	4.998328E-02	1000	4.738766E-02
Aroclor-1262 (2)	20	3.096922E-02	50	2.863311E-02	100	0.0307571	250	3.227303E-02	500	3.368581E-02	1000	3.335815E-02
Aroclor-1262 (3)	20	0.046557	50	4.368276E-02	100	4.523577E-02	250	4.610753E-02	500	0.0468182	1000	4.504377E-02

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4)	20	0.0383223	50	3.598523E-02	100	3.699579E-02	250	3.807082E-02	500	0.0394668	1000	3.563971E-02
Aroclor-1268 (1)												
Aroclor-1268 (2)												
Aroclor-1268 (3)												
Aroclor-1268 (4)												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

Compound	Level 31		Level 32		Level 33		Level 34		Level 35		Level 36	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1232	20	1.402512E-02	50	1.590765E-02	100	1.784916E-02	250	1.895611E-02	500	1.948861E-02	1000	1.936821E-02
Aroclor-1232 (1)	20	4.656687E-03	50	4.246942E-03	100	0.0037225	250	3.695733E-03	500	3.631422E-03	1000	3.325733E-03
Aroclor-1232 (2)	20	1.975946E-02	50	1.981906E-02	100	2.118962E-02	250	2.245563E-02	500	2.213617E-02	1000	2.117687E-02
Aroclor-1232 (3)	20	2.266989E-02	50	2.831294E-02	100	3.249878E-02	250	3.501632E-02	500	3.681569E-02	1000	3.780662E-02
Aroclor-1232 (4)	20	9.014466E-03	50	1.125164E-02	100	1.398575E-02	250	1.465674E-02	500	1.537116E-02	1000	0.0151636
Aroclor-1268 (1)	20	0.1098826	50	0.1067175	100	0.1064917	250	0.1073455	500	0.1084757	1000	0.1050728
Aroclor-1268 (2)	20	0.116822	50	0.1125651	100	0.1123015	250	0.1123775	500	0.1131765	1000	0.1082687
Aroclor-1268 (3)	20	9.346653E-02	50	8.829601E-02	100	8.761007E-02	250	8.780397E-02	500	8.875903E-02	1000	8.540146E-02
Aroclor-1268 (4)	20	0.3021591	50	0.2885466	100	0.2854368	250	0.278664	500	0.2789172	1000	0.2801083

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016	4.462184E-02	6.4			RSD (20)	
Aroclor 1016	4.462184E-02	6.4			RSD (20)	
Aroclor-1016 (1)	2.837331E-02	4.6			RSD (20)	
Aroclor-1016 (1)	2.837331E-02	4.6			RSD (20)	
Aroclor-1016 (2)	8.676496E-02	7.9			RSD (20)	
Aroclor-1016 (2)	8.676496E-02	7.9			RSD (20)	
Aroclor-1016 (3)	3.893833E-02	5.8			RSD (20)	
Aroclor-1016 (3)	3.893833E-02	5.8			RSD (20)	
Aroclor-1016 (4)	2.441076E-02	9.4			RSD (20)	
Aroclor-1016 (4)	2.441076E-02	9.4			RSD (20)	
Aroclor 1221	1.432483E-02	5.7			RSD (20)	
Aroclor 1221	1.432483E-02	5.7			RSD (20)	
Aroclor-1221 (1)	6.317619E-03	8.1			RSD (20)	
Aroclor-1221 (1)	6.317619E-03	8.1			RSD (20)	
Aroclor-1221 (2)	9.902902E-03	12.7			RSD (20)	
Aroclor-1221 (2)	9.902902E-03	12.7			RSD (20)	
Aroclor-1221 (3)	2.675395E-02	4.7			RSD (20)	
Aroclor-1221 (3)	2.675395E-02	4.7			RSD (20)	
Aroclor 1232	1.759914E-02	12.5			RSD (20)	
Aroclor 1232	1.759914E-02	12.5			RSD (20)	
Aroclor-1232 (1)	3.879836E-03	12.4			RSD (20)	
Aroclor-1232 (1)	3.879836E-03	12.4			RSD (20)	
Aroclor-1232 (2)	2.108947E-02	5.3			RSD (20)	
Aroclor-1232 (2)	2.108947E-02	5.3			RSD (20)	
Aroclor-1232 (3)	3.218671E-02	17.9			RSD (20)	
Aroclor-1232 (3)	3.218671E-02	17.9			RSD (20)	
Aroclor-1232 (4)	1.324056E-02	19.3			RSD (20)	
Aroclor-1232 (4)	1.324056E-02	19.3			RSD (20)	
Aroclor 1242	3.504587E-02	4.0			RSD (20)	
Aroclor 1242	3.504587E-02	4.0			RSD (20)	
Aroclor-1242 (1)	2.204141E-02	7.8			RSD (20)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1242 (1)	2.204141E-02	7.8			RSD (20)	
Aroclor-1242 (2)	6.570773E-02	10.9			RSD (20)	
Aroclor-1242 (2)	6.570773E-02	10.9			RSD (20)	
Aroclor-1242 (3)	3.722293E-02	11.6			RSD (20)	
Aroclor-1242 (3)	3.722293E-02	11.6			RSD (20)	
Aroclor-1242 (4)	1.521139E-02	13.1			RSD (20)	
Aroclor-1242 (4)	1.521139E-02	13.1			RSD (20)	
Aroclor 1248	4.448705E-02	3.2			RSD (20)	
Aroclor 1248	4.448705E-02	3.2			RSD (20)	
Aroclor-1248 (1)	3.352594E-02	5.3			RSD (20)	
Aroclor-1248 (1)	3.352594E-02	5.3			RSD (20)	
Aroclor-1248 (2)	4.376236E-02	6.2			RSD (20)	
Aroclor-1248 (2)	4.376236E-02	6.2			RSD (20)	
Aroclor-1248 (3)	6.408086E-02	3.2			RSD (20)	
Aroclor-1248 (3)	6.408086E-02	3.2			RSD (20)	
Aroclor-1248 (4)	3.657905E-02	11.8			RSD (20)	
Aroclor-1248 (4)	3.657905E-02	11.8			RSD (20)	
Aroclor 1254	5.717413E-02	2.6			RSD (20)	
Aroclor 1254	5.717413E-02	2.6			RSD (20)	
Aroclor-1254 (1)	0.0690183	3.2			RSD (20)	
Aroclor-1254 (1)	0.0690183	3.2			RSD (20)	
Aroclor-1254 (2)	3.195059E-02	8.8			RSD (20)	
Aroclor-1254 (2)	3.195059E-02	8.8			RSD (20)	
Aroclor-1254 (3)	4.498588E-02	5.1			RSD (20)	
Aroclor-1254 (3)	4.498588E-02	5.1			RSD (20)	
Aroclor-1254 (4)	8.594274E-02	5.8			RSD (20)	
Aroclor-1254 (4)	8.594274E-02	5.8			RSD (20)	
Aroclor-1254 (5)	5.397313E-02	8.3			RSD (20)	
Aroclor-1254 (5)	5.397313E-02	8.3			RSD (20)	
Aroclor 1260	4.612514E-02	3.4			RSD (20)	
Aroclor 1260	4.612514E-02	3.4			RSD (20)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (1):	ZB5

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1)	3.599233E-02	2.6			RSD (20)	
Aroclor-1260 (1)	3.599233E-02	2.6			RSD (20)	
Aroclor-1260 (2)	3.532504E-02	2.8			RSD (20)	
Aroclor-1260 (2)	3.532504E-02	2.8			RSD (20)	
Aroclor-1260 (3)	9.547413E-02	4.9			RSD (20)	
Aroclor-1260 (3)	9.547413E-02	4.9			RSD (20)	
Aroclor-1260 (4)	4.253646E-02	5.2			RSD (20)	
Aroclor-1260 (4)	4.253646E-02	5.2			RSD (20)	
Aroclor-1260 (5)	2.129777E-02	2.5			RSD (20)	
Aroclor-1260 (5)	2.129777E-02	2.5			RSD (20)	
Aroclor-1262 (1)	4.881889E-02	3.4			RSD (20)	
Aroclor-1262 (1)	4.881889E-02	3.4			RSD (20)	
Aroclor-1262 (2)	3.161274E-02	6.0			RSD (20)	
Aroclor-1262 (2)	3.161274E-02	6.0			RSD (20)	
Aroclor-1262 (3)	4.557417E-02	2.6			RSD (20)	
Aroclor-1262 (3)	4.557417E-02	2.6			RSD (20)	
Aroclor-1262 (4)	3.741344E-02	3.9			RSD (20)	
Aroclor-1262 (4)	3.741344E-02	3.9			RSD (20)	
Aroclor-1268 (1)	0.107331	1.6			RSD (20)	
Aroclor-1268 (1)	0.107331	1.6			RSD (20)	
Aroclor-1268 (2)	0.1125852	2.4			RSD (20)	
Aroclor-1268 (2)	0.1125852	2.4			RSD (20)	
Aroclor-1268 (3)	8.855618E-02	3.0			RSD (20)	
Aroclor-1268 (3)	8.855618E-02	3.0			RSD (20)	
Aroclor-1268 (4)	0.2856387	3.2			RSD (20)	
Aroclor-1268 (4)	0.2856387	3.2			RSD (20)	
Decachlorobiphenyl	0.726197	4.2			RSD (20)	
Tetrachlorometaxylene	0.9669678	3.7			RSD (20)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016 [2C]	20	5.289358E-02	50	5.145778E-02	100	5.630676E-02	250	0.0556822	500	5.249244E-02	1000	4.907115E-02
Aroclor-1016 (1) [2C]	20	4.881532E-02	50	4.733252E-02	100	4.794096E-02	250	4.698295E-02	500	4.353688E-02	1000	3.909537E-02
Aroclor-1016 (2) [2C]	20	0.1001049	50	9.891498E-02	100	0.1073098	250	0.1072367	500	0.1019062	1000	9.675428E-02
Aroclor-1016 (3) [2C]	20	3.847419E-02	50	3.675556E-02	100	4.334296E-02	250	4.291058E-02	500	4.064436E-02	1000	3.814541E-02
Aroclor-1016 (4) [2C]	20	2.417992E-02	50	2.282807E-02	100	2.663338E-02	250	2.559846E-02	500	2.388226E-02	1000	2.228951E-02
Aroclor 1260 [2C]	20	0.1172691	50	0.1129179	100	0.1134907	250	0.1125851	500	0.1058395	1000	0.1031616
Aroclor-1260 (1) [2C]	20	7.145358E-02	50	7.005835E-02	100	6.872649E-02	250	6.789764E-02	500	6.298428E-02	1000	5.789875E-02
Aroclor-1260 (2) [2C]	20	0.2035789	50	0.1973001	100	0.1959076	250	0.194694	500	0.1810824	1000	0.1871902
Aroclor-1260 (3) [2C]	20	0.135521	50	0.1275038	100	0.126307	250	0.1253256	500	0.1196637	1000	0.111429
Aroclor-1260 (4) [2C]	20	5.852306E-02	50	5.680915E-02	100	6.302172E-02	250	6.242312E-02	500	5.962761E-02	1000	5.612868E-02
Decachlorobiphenyl [2C]	3.2	1.717394	8	1.720152	16	1.802687	40	1.834638	80	1.813106		
Tetrachlorometaxylene [2C]	3.2	1.034676	8	1.014034	16	1.038575	40	1.047756	80	1.011409	160	1.021859

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221 [2C]												
Aroclor-1221 (1) [2C]												
Aroclor-1221 (2) [2C]												
Aroclor-1221 (3) [2C]												
Aroclor 1232 [2C]												
Aroclor-1232 (1) [2C]												
Aroclor-1232 (2) [2C]												
Aroclor-1232 (3) [2C]												
Aroclor-1232 (4) [2C]												
Aroclor 1242 [2C]	20	5.479372E-02	50	0.0483602	100	4.955642E-02	250	4.999233E-02	500	4.785558E-02	1000	4.398032E-02
Aroclor-1242 (1) [2C]	20	3.973442E-02	50	3.734827E-02	100	3.807644E-02	250	3.757722E-02	500	3.571596E-02	1000	3.223558E-02
Aroclor-1242 (2) [2C]	20	8.232323E-02	50	7.657779E-02	100	7.865959E-02	250	8.406963E-02	500	8.150517E-02	1000	7.624912E-02
Aroclor-1242 (3) [2C]	20	4.585178E-02	50	3.889532E-02	100	3.674847E-02	250	3.609264E-02	500	0.0342552	1000	3.211077E-02
Aroclor-1242 (4) [2C]	20	5.126546E-02	50	4.061943E-02	100	4.474117E-02	250	4.222976E-02	500	3.994598E-02	1000	0.0353258
Aroclor 1248 [2C]												
Aroclor-1248 (1) [2C]												
Aroclor-1248 (2) [2C]												
Aroclor-1248 (3) [2C]												
Aroclor-1248 (4) [2C]												
Aroclor 1254 [2C]												
Aroclor-1254 (1) [2C]												
Aroclor-1254 (2) [2C]												
Aroclor-1254 (3) [2C]												
Aroclor-1254 (4) [2C]												
Aroclor-1254 (5) [2C]												
Aroclor-1262 (1) [2C]												
Aroclor-1262 (2) [2C]												
Aroclor-1262 (3) [2C]												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4) [2C]												
Aroclor-1268 (1) [2C]												
Aroclor-1268 (2) [2C]												
Aroclor-1268 (3) [2C]												
Aroclor-1268 (4) [2C]												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1248 [2C]	20	5.282516E-02	50	4.853076E-02	100	4.819472E-02	250	4.798177E-02	500	4.676512E-02	1000	4.424796E-02
Aroclor-1248 (1) [2C]	20	3.759668E-02	50	0.0346058	100	3.111703E-02	250	3.339886E-02	500	0.0322471	1000	2.994466E-02
Aroclor-1248 (2) [2C]	20	3.966831E-02	50	3.935286E-02	100	4.152605E-02	250	4.204469E-02	500	0.0409495	1000	3.856972E-02
Aroclor-1248 (3) [2C]	20	0.0719664	50	6.625807E-02	100	6.680169E-02	250	6.290895E-02	500	6.103775E-02	1000	5.666339E-02
Aroclor-1248 (4) [2C]	20	6.206924E-02	50	5.390634E-02	100	5.333413E-02	250	0.0535745	500	0.0528261	1000	5.181404E-02

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1016 [2C]												
Aroclor-1016 (1) [2C]												
Aroclor-1016 (2) [2C]												
Aroclor-1016 (3) [2C]												
Aroclor-1016 (4) [2C]												
Aroclor 1254 [2C]	20	0.0907266	50	8.081978E-02	100	7.905142E-02	250	7.586303E-02	500	0.0737105	1000	6.961669E-02
Aroclor-1254 (1) [2C]	20	7.888876E-02	50	7.221584E-02	100	6.911081E-02	250	6.590108E-02	500	6.342195E-02	1000	5.885196E-02
Aroclor-1254 (2) [2C]	20	5.118135E-02	50	4.272583E-02	100	3.986894E-02	250	3.733085E-02	500	3.576026E-02	1000	3.280467E-02
Aroclor-1254 (3) [2C]	20	0.0594386	50	5.334983E-02	100	5.220844E-02	250	5.093623E-02	500	4.936532E-02	1000	0.0460384
Aroclor-1254 (4) [2C]	20	0.138452	50	0.1175468	100	0.1157566	250	0.1093424	500	0.1061771	1000	0.1026224
Aroclor-1254 (5) [2C]	20	0.1256723	50	0.1182606	100	0.1183123	250	0.1158046	500	0.1138278	1000	0.107766
Aroclor 1260 [2C]												
Aroclor-1260 (1) [2C]												
Aroclor-1260 (2) [2C]												
Aroclor-1260 (3) [2C]												
Aroclor-1260 (4) [2C]												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1221 [2C]	20	1.523312E-02	50	1.489474E-02	100	1.520767E-02	250	1.469468E-02	500	1.419007E-02	1000	1.319573E-02
Aroclor-1221 (1) [2C]	20	6.287788E-03	50	6.851669E-03	100	6.745944E-03	250	5.928753E-03	500	5.407635E-03	1000	4.806184E-03
Aroclor-1221 (2) [2C]	20	1.435306E-02	50	1.351786E-02	100	1.387821E-02	250	1.382451E-02	500	1.376205E-02	1000	1.314042E-02
Aroclor-1221 (3) [2C]	20	2.505851E-02	50	0.0243147	100	2.499884E-02	250	2.433078E-02	500	2.340053E-02	1000	2.164058E-02
Aroclor 1232 [2C]												
Aroclor-1232 (1) [2C]												
Aroclor-1232 (2) [2C]												
Aroclor-1232 (3) [2C]												
Aroclor-1232 (4) [2C]												
Aroclor 1242 [2C]												
Aroclor-1242 (1) [2C]												
Aroclor-1242 (2) [2C]												
Aroclor-1242 (3) [2C]												
Aroclor-1242 (4) [2C]												
Aroclor 1248 [2C]												
Aroclor-1248 (1) [2C]												
Aroclor-1248 (2) [2C]												
Aroclor-1248 (3) [2C]												
Aroclor-1248 (4) [2C]												
Aroclor 1254 [2C]												
Aroclor-1254 (1) [2C]												
Aroclor-1254 (2) [2C]												
Aroclor-1254 (3) [2C]												
Aroclor-1254 (4) [2C]												
Aroclor-1254 (5) [2C]												
Aroclor-1262 (1) [2C]	20	0.1111232	50	0.1009989	100	9.894425E-02	250	9.581775E-02	500	9.184825E-02	1000	8.824609E-02
Aroclor-1262 (2) [2C]	20	0.2214786	50	0.2019168	100	0.2009354	250	0.196183	500	0.1980742	1000	0.2198905
Aroclor-1262 (3) [2C]	20	9.754009E-02	50	9.095849E-02	100	9.106464E-02	250	9.129503E-02	500	9.065447E-02	1000	8.823139E-02

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 25		Level 26		Level 27		Level 28		Level 29		Level 30	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor-1262 (4) [2C]	20	8.699307E-02	50	8.138582E-02	100	8.705168E-02	250	8.696934E-02	500	8.658007E-02	1000	8.334053E-02
Aroclor-1268 (1) [2C]												
Aroclor-1268 (2) [2C]												
Aroclor-1268 (3) [2C]												
Aroclor-1268 (4) [2C]												

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

Compound	Level 31		Level 32		Level 33		Level 34		Level 35		Level 36	
		RRF		RRF		RRF		RRF		RRF		RRF
Aroclor 1232 [2C]	20	1.836796E-02	50	1.894627E-02	100	1.924847E-02	250	1.975315E-02	500	2.002037E-02	1000	0.019426
Aroclor-1232 (1) [2C]	20	4.045981E-03	50	3.755817E-03	100	3.942223E-03	250	3.521876E-03	500	3.234309E-03	1000	2.953095E-03
Aroclor-1232 (2) [2C]	20	2.084019E-02	50	2.101109E-02	100	2.121904E-02	250	2.149953E-02	500	2.090674E-02	1000	1.987726E-02
Aroclor-1232 (3) [2C]	20	4.103054E-02	50	4.175469E-02	100	4.038428E-02	250	4.152252E-02	500	4.364594E-02	1000	4.254588E-02
Aroclor-1232 (4) [2C]	20	7.555134E-03	50	9.263472E-03	100	1.144834E-02	250	1.246866E-02	500	1.229449E-02	1000	1.232776E-02
Aroclor-1268 (1) [2C]	20	0.2417854	50	0.2285366	100	0.2220159	250	0.2190865	500	0.237896	1000	0.2777864
Aroclor-1268 (2) [2C]	20	0.2636771	50	0.2482385	100	0.2463819	250	0.246669	500	0.2491593	1000	0.2964987
Aroclor-1268 (3) [2C]	20	0.2191666	50	0.2145831	100	0.2124203	250	0.2181113	500	0.2196614	1000	0.2621661
Aroclor-1268 (4) [2C]	20	0.0536096	50	5.183009E-02	100	5.229291E-02	250	0.0546515	500	5.573302E-02	1000	5.691635E-02

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor 1016 [2C]	5.298399E-02	5.1			RSD (20)	
Aroclor 1016 [2C]	5.298399E-02	5.1			RSD (20)	
Aroclor-1016 (1) [2C]	4.561733E-02	8.0			RSD (20)	
Aroclor-1016 (1) [2C]	4.561733E-02	8.0			RSD (20)	
Aroclor-1016 (2) [2C]	0.1020378	4.3			RSD (20)	
Aroclor-1016 (2) [2C]	0.1020378	4.3			RSD (20)	
Aroclor-1016 (3) [2C]	4.004551E-02	6.7			RSD (20)	
Aroclor-1016 (3) [2C]	4.004551E-02	6.7			RSD (20)	
Aroclor-1016 (4) [2C]	2.423527E-02	6.8			RSD (20)	
Aroclor-1016 (4) [2C]	2.423527E-02	6.8			RSD (20)	
Aroclor 1221 [2C]	1.456933E-02	5.3			RSD (20)	
Aroclor 1221 [2C]	1.456933E-02	5.3			RSD (20)	
Aroclor-1221 (1) [2C]	6.004662E-03	13.2			RSD (20)	
Aroclor-1221 (1) [2C]	6.004662E-03	13.2			RSD (20)	
Aroclor-1221 (2) [2C]	1.374602E-02	2.9			RSD (20)	
Aroclor-1221 (2) [2C]	1.374602E-02	2.9			RSD (20)	
Aroclor-1221 (3) [2C]	2.395732E-02	5.4			RSD (20)	
Aroclor-1221 (3) [2C]	2.395732E-02	5.4			RSD (20)	
Aroclor 1232 [2C]	0.0192937	3.1			RSD (20)	
Aroclor 1232 [2C]	0.0192937	3.1			RSD (20)	
Aroclor-1232 (1) [2C]	3.57555E-03	11.8			RSD (20)	
Aroclor-1232 (1) [2C]	3.57555E-03	11.8			RSD (20)	
Aroclor-1232 (2) [2C]	2.089231E-02	2.6			RSD (20)	
Aroclor-1232 (2) [2C]	2.089231E-02	2.6			RSD (20)	
Aroclor-1232 (3) [2C]	4.181398E-02	2.8			RSD (20)	
Aroclor-1232 (3) [2C]	4.181398E-02	2.8			RSD (20)	
Aroclor-1232 (4) [2C]	1.089298E-02	18.6			RSD (20)	
Aroclor-1232 (4) [2C]	1.089298E-02	18.6			RSD (20)	
Aroclor 1242 [2C]	4.908976E-02	7.2			RSD (20)	
Aroclor 1242 [2C]	4.908976E-02	7.2			RSD (20)	
Aroclor-1242 (1) [2C]	3.678132E-02	7.0			RSD (20)	

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1242 (1) [2C]	3.678132E-02	7.0			RSD (20)	
Aroclor-1242 (2) [2C]	7.989742E-02	4.0			RSD (20)	
Aroclor-1242 (2) [2C]	7.989742E-02	4.0			RSD (20)	
Aroclor-1242 (3) [2C]	0.0373257	12.8			RSD (20)	
Aroclor-1242 (3) [2C]	0.0373257	12.8			RSD (20)	
Aroclor-1242 (4) [2C]	0.0423546	12.6			RSD (20)	
Aroclor-1242 (4) [2C]	0.0423546	12.6			RSD (20)	
Aroclor 1248 [2C]	4.809091E-02	5.8			RSD (20)	
Aroclor 1248 [2C]	4.809091E-02	5.8			RSD (20)	
Aroclor-1248 (1) [2C]	3.315169E-02	8.2			RSD (20)	
Aroclor-1248 (1) [2C]	3.315169E-02	8.2			RSD (20)	
Aroclor-1248 (2) [2C]	4.035186E-02	3.4			RSD (20)	
Aroclor-1248 (2) [2C]	4.035186E-02	3.4			RSD (20)	
Aroclor-1248 (3) [2C]	6.427271E-02	8.2			RSD (20)	
Aroclor-1248 (3) [2C]	6.427271E-02	8.2			RSD (20)	
Aroclor-1248 (4) [2C]	5.458739E-02	6.8			RSD (20)	
Aroclor-1248 (4) [2C]	5.458739E-02	6.8			RSD (20)	
Aroclor 1254 [2C]	0.078298	9.3			RSD (20)	
Aroclor 1254 [2C]	0.078298	9.3			RSD (20)	
Aroclor-1254 (1) [2C]	6.806507E-02	10.3			RSD (20)	
Aroclor-1254 (1) [2C]	6.806507E-02	10.3			RSD (20)	
Aroclor-1254 (2) [2C]	3.994532E-02	16.2			RSD (20)	
Aroclor-1254 (2) [2C]	3.994532E-02	16.2			RSD (20)	
Aroclor-1254 (3) [2C]	5.188947E-02	8.7			RSD (20)	
Aroclor-1254 (3) [2C]	5.188947E-02	8.7			RSD (20)	
Aroclor-1254 (4) [2C]	0.1149829	11.1			RSD (20)	
Aroclor-1254 (4) [2C]	0.1149829	11.1			RSD (20)	
Aroclor-1254 (5) [2C]	0.1166073	5.1			RSD (20)	
Aroclor-1254 (5) [2C]	0.1166073	5.1			RSD (20)	
Aroclor 1260 [2C]	0.1108773	4.8			RSD (20)	
Aroclor 1260 [2C]	0.1108773	4.8			RSD (20)	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00034	Instrument:	ECD7
Calibration Date:	08/13/2021	Column (2):	ZB35

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
Aroclor-1260 (1) [2C]	6.650318E-02	7.7			RSD (20)	
Aroclor-1260 (1) [2C]	6.650318E-02	7.7			RSD (20)	
Aroclor-1260 (2) [2C]	0.1932922	4.1			RSD (20)	
Aroclor-1260 (2) [2C]	0.1932922	4.1			RSD (20)	
Aroclor-1260 (3) [2C]	0.1242917	6.5			RSD (20)	
Aroclor-1260 (3) [2C]	0.1242917	6.5			RSD (20)	
Aroclor-1260 (4) [2C]	5.942222E-02	4.8			RSD (20)	
Aroclor-1260 (4) [2C]	5.942222E-02	4.8			RSD (20)	
Aroclor-1262 (1) [2C]	9.782974E-02	8.2			RSD (20)	
Aroclor-1262 (1) [2C]	9.782974E-02	8.2			RSD (20)	
Aroclor-1262 (2) [2C]	0.2064131	5.5			RSD (20)	
Aroclor-1262 (2) [2C]	0.2064131	5.5			RSD (20)	
Aroclor-1262 (3) [2C]	9.162402E-02	3.4			RSD (20)	
Aroclor-1262 (3) [2C]	9.162402E-02	3.4			RSD (20)	
Aroclor-1262 (4) [2C]	8.538675E-02	2.8			RSD (20)	
Aroclor-1262 (4) [2C]	8.538675E-02	2.8			RSD (20)	
Aroclor-1268 (1) [2C]	0.2378511	9.0			RSD (20)	
Aroclor-1268 (1) [2C]	0.2378511	9.0			RSD (20)	
Aroclor-1268 (2) [2C]	0.2584374	7.6			RSD (20)	
Aroclor-1268 (2) [2C]	0.2584374	7.6			RSD (20)	
Aroclor-1268 (3) [2C]	0.2243515	8.4			RSD (20)	
Aroclor-1268 (3) [2C]	0.2243515	8.4			RSD (20)	
Aroclor-1268 (4) [2C]	5.417224E-02	3.6			RSD (20)	
Aroclor-1268 (4) [2C]	5.417224E-02	3.6			RSD (20)	
Decachlorobiphenyl [2C]	1.777595	3.1			RSD (20)	
Tetrachlorometaxylene [2C]	1.028052	1.4			RSD (20)	

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ANALYSIS SEQUENCE

SJH0176

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0176-CAL1	0.02PPM AR1660	QC		1	J008420	J008446	
SJH0176-CAL2	0.05PPM AR1660	QC		2	J008419	J008446	
SJH0176-CAL3	0.1PPM AR1660	QC		3	J008418	J008446	
SJH0176-CAL4	0.25PPM AR1660	QC		4	J008417	J008446	
SJH0176-CAL5	0.5PPM AR1660	QC		5	J008416	J008446	
SJH0176-CAL6	1PPM AR1660	QC		6	J008134	J008446	
SJH0176-CAL7	0.02PPM AR1242	QC		7	J008425	J008446	
SJH0176-CAL8	0.05PPM AR1242	QC		8	J008424	J008446	
SJH0176-CAL9	0.1PPM AR1242	QC		9	J008423	J008446	
SJH0176-CALA	0.25PPM AR1242	QC		10	J008422	J008446	
SJH0176-CALB	0.5PPM AR1242	QC		11	J008421	J008446	
SJH0176-CALC	1PPM AR1242	QC		12	J008397	J008446	
SJH0176-CALD	0.02PPM AR1248	QC		13	J008430	J008446	
SJH0176-CALE	0.05PPM AR1248	QC		14	J008429	J008446	
SJH0176-CALF	0.1PPM AR1248	QC		15	J008428	J008446	
SJH0176-CALG	0.25PPM AR1248	QC		16	J008427	J008446	
SJH0176-CALH	0.5PPM AR1248	QC		17	J008426	J008446	
SJH0176-CALI	1PPM AR1248	QC		18	J008398	J008446	

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Analytical Chemists and Consultants

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ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-CAL1	0.02PPM AR1254	QC		1	J008435	J008446	
SJH0177-CAL2	0.05PPM AR1254	QC		2	J008434	J008446	
SJH0177-CAL3	0.1PPM AR1254	QC		3	J008433	J008446	
SJH0177-CAL4	0.25PPM AR1254	QC		4	J008432	J008446	
SJH0177-CAL5	0.5PPM AR1254	QC		5	J008431	J008446	
SJH0177-CAL6	1PPM AR1254	QC		6	J008399	J008446	
SJH0177-CAL7	0.02PPM AR2162	QC		7	J008440	J008446	
SJH0177-CAL8	0.05PPM AR2162	QC		8	J008439	J008446	
SJH0177-CAL9	0.1PPM AR2162	QC		9	J008438	J008446	
SJH0177-CALA	0.25PPM AR2162	QC		10	J008437	J008446	
SJH0177-CALB	0.5PPM AR2162	QC		11	J008436	J008446	
SJH0177-CALC	1PPM AR2162	QC		12	J008400	J008446	
SJH0177-CALD	0.02PPM AR3268	QC		13	J008445	J008446	
SJH0177-CALE	0.05PPM AR3268	QC		14	J008444	J008446	
SJH0177-CALF	0.1PPM AR3268	QC		15	J008443	J008446	
SJH0177-CALG	0.25PPM AR3268	QC		16	J008442	J008446	
SJH0177-CALH	0.5PPM AR3268	QC		17	J008441	J008446	
SJH0177-CALI	1PPM AR3268	QC		18	J008401	J008446	
SJH0177-SCV1	AR1660SCV1	QC		19	J008139	J008446	
SJH0177-SCV2	AR1242SCV2	QC		20	J008140	J008446	
SJH0177-SCV3	AR1248SCV3	QC		21	J008141	J008446	
SJH0177-SCV4	AR1254SCV4	QC		22	J008142	J008446	

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ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-SCV5	AR2162SCV5	QC		23	J008143	J008446	
SJH0177-SCV6	AR3268SCV6	QC		24	J008144	J008446	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	13-AUG-2021 18:41	08132101.D	1	RINSE	
2	13-AUG-2021 19:02	08132102.D	1	RINSE	
3	13-AUG-2021 19:22	08132103.D	1	RINSE	
4	13-AUG-2021 19:43	08132104.D	1	SEQ-IBL1	
5	13-AUG-2021 20:03	08132105.D	1	SEQ-CAL1	
6	13-AUG-2021 20:24	08132106.D	1	SEQ-CAL2	
7	13-AUG-2021 20:44	08132107.D	1	SEQ-CAL3	
8	13-AUG-2021 21:05	08132108.D	1	SEQ-CAL4	
9	13-AUG-2021 21:25	08132109.D	1	SEQ-CAL5	
10	13-AUG-2021 21:46	08132110.D	1	SEQ-CAL6	
11	13-AUG-2021 22:06	08132111.D	1	SEQ-CAL7	
12	13-AUG-2021 22:27	08132112.D	1	SEQ-CAL8	
13	13-AUG-2021 22:47	08132113.D	1	SEQ-CAL9	
14	13-AUG-2021 23:08	08132114.D	1	SEQ-CALA	
15	13-AUG-2021 23:28	08132115.D	1	SEQ-CALB	
16	13-AUG-2021 23:49	08132116.D	1	SEQ-CALC	
17	14-AUG-2021 00:09	08132117.D	1	SEQ-CALD	
18	14-AUG-2021 00:30	08132118.D	1	SEQ-CALE	
19	14-AUG-2021 00:50	08132119.D	1	SEQ-CALF	
20	14-AUG-2021 01:11	08132120.D	1	SEQ-CALG	
21	14-AUG-2021 01:31	08132121.D	1	SEQ-CALH	
22	14-AUG-2021 01:52	08132122.D	1	SEQ-CALI	
23	14-AUG-2021 02:12	08132123.D	1	SEQ-CALJ	
24	14-AUG-2021 02:33	08132124.D	1	SEQ-CALK	
25	14-AUG-2021 02:53	08132125.D	1	SEQ-CALL	
26	14-AUG-2021 03:13	08132126.D	1	SEQ-CALM	
27	14-AUG-2021 03:34	08132127.D	1	SEQ-CALN	
28	14-AUG-2021 03:54	08132128.D	1	SEQ-CALO	
29	14-AUG-2021 04:15	08132129.D	1	SEQ-CALP	
30	14-AUG-2021 04:35	08132130.D	1	SEQ-CALQ	
31	14-AUG-2021 04:56	08132131.D	1	SEQ-CALR	
32	14-AUG-2021 05:16	08132132.D	1	SEQ-CALS	
33	14-AUG-2021 05:37	08132133.D	1	SEQ-CALT	
34	14-AUG-2021 05:57	08132134.D	1	SEQ-CALU	
35	14-AUG-2021 06:18	08132135.D	1	SEQ-CALV	
36	14-AUG-2021 06:38	08132136.D	1	SEQ-CALW	
37	14-AUG-2021 06:59	08132137.D	1	SEQ-CALX	
38	14-AUG-2021 07:19	08132138.D	1	SEQ-CALY	
39	14-AUG-2021 07:40	08132139.D	1	SEQ-CALZ	
40	14-AUG-2021 08:00	08132140.D	1	SEQ-CALAA	
41	14-AUG-2021 08:21	08132141.D	1	SEQ-SCV1	
42	14-AUG-2021 08:41	08132142.D	1	SEQ-SCV2	
43	14-AUG-2021 09:02	08132143.D	1	SEQ-SCV3	
44	14-AUG-2021 09:22	08132144.D	1	SEQ-SCV4	
45	14-AUG-2021 09:43	08132145.D	1	SEQ-SCV5	
46	14-AUG-2021 10:03	08132146.D	1	SEQ-SCV6	
47	14-AUG-2021 10:24	08132147.D	1	0.1PPMDDTS	
48	14-AUG-2021 10:44	08132148.D	1	DS	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 13-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242,
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242,
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242,
2308	08132114.D	SEQ-CALA		1	Aroclor-1242,
2328	08132115.D	SEQ-CALB		1	Aroclor-1242,
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	08132118.D	SEQ-CALE		1	Aroclor-1248,
0050	08132119.D	SEQ-CALF		1	Aroclor-1248,
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	NO MANUAL INTEGRATION
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0841	08132142.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242 [2C],
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242 [2C],
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242 [2C],
2308	08132114.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2328	08132115.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248 [2C],
0030	08132118.D	SEQ-CALE		1	Aroclor-1248 [2C],
0050	08132119.D	SEQ-CALF		1	NO MANUAL INTEGRATION
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	Aroclor-1248 [2C],
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	08132142.D	SEQ-SCV2		1	Aroclor-1242 [2C], Aroclor-1248 [2C],
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132102ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132103ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132104ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132105ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132106ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132107ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132108ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132109ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132110ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132111ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132112ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132113ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132114ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132115ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132116ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132117ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132118ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132119ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132120ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132121ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132125ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132129ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132130ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132131ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132132ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132133ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132134ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132135ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132137ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132138ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132139ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132140ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132141ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132142ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132146ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132102ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132103ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132104ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132105ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132106ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132110ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132111ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132112ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132113ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132114ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132119ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132120ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132133ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132134ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132135ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132136ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132137ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132138ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132139ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132140ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132141ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132142ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132143ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132146ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 ecd7.i
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132105.D
Level 2: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132106.D
Level 3: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132107.D
Level 4: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132108.D
Level 5: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132109.D
Level 6: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132110.D
Level 8: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132147.D
Level 9: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132136.D
Level 10: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132137.D
Level 11: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132138.D
Level 12: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132139.D
Level 13: \\target\share\chem4\ecd7.i\210813.b\210813.b\08132140.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
1 Aroclor-1221 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00629	0.00685	0.00675	0.00593	0.00541	0.00481	0.00600	13.209
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01435	0.01352	0.01388	0.01382	0.01376	0.01314	0.01375	2.930
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02506	0.02431	0.02500	0.02433	0.02340	0.02164	0.02396	5.359
4 Aroclor-1232 [2C](1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00405	0.00376	0.00394	0.00352	0.00323	0.00295	0.00358	11.833
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02084	0.02101	0.02122	0.02150	0.02091	0.01988	0.02089	2.642
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04103	0.04175	0.04038	0.04152	0.04365	0.04255	0.04181	2.756
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00756	0.00926	0.01145	0.01247	0.01229	0.01233	0.01089	18.639

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
3 Aroclor-1242 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.03973	0.03735	0.03808	0.03758	0.03572	0.03224	0.03678	7.001
(2)	#####	#####	#####	#####	#####	#####		
	0.08232	0.07658	0.07866	0.08407	0.08151	0.07625	0.07990	4.026
(3)	#####	#####	#####	#####	#####	#####		
	0.04585	0.03890	0.03675	0.03609	0.03426	0.03211	0.03733	12.772
(4)	#####	#####	#####	#####	#####	#####		
	0.05127	0.04062	0.04474	0.04223	0.03995	0.03533	0.04235	12.641
6 Aroclor-1248 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.03760	0.03461	0.03112	0.03340	0.03225	0.02994	0.03315	8.225
(2)	#####	#####	#####	#####	#####	#####		
	0.03967	0.03935	0.04153	0.04204	0.04095	0.03857	0.04035	3.369
(3)	#####	#####	#####	#####	#####	#####		
	0.07197	0.06626	0.06680	0.06291	0.06104	0.05666	0.06427	8.226
(4)	#####	#####	#####	#####	#####	#####		
	0.06207	0.05391	0.05333	0.05357	0.05283	0.05181	0.05459	6.846
7 Aroclor-1016 [2C](1)	0.04882	0.04733	0.04794	0.04698	0.04354	0.03910		
	#####	#####	#####	#####	#####	#####	0.04562	8.042
(2)	0.10010	0.09891	0.10731	0.10724	0.10191	0.09675		
	#####	#####	#####	#####	#####	#####	0.10204	4.300
(3)	0.03847	0.03676	0.04334	0.04291	0.04064	0.03815		
	#####	#####	#####	#####	#####	#####	0.04005	6.732

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
(4)	0.02418	0.02283	0.02663	0.02560	0.02388	0.02229		
	#####	#####	#####	#####	#####	#####	0.02424	6.781
8 Aroclor-1254 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.07889	0.07222	0.06911	0.06590	0.06342	0.05885	0.06807	10.318
(2)	#####	#####	#####	#####	#####	#####		
	0.05118	0.04273	0.03987	0.03733	0.03576	0.03280	0.03995	16.198
(3)	#####	#####	#####	#####	#####	#####		
	0.05944	0.05335	0.05221	0.05094	0.04937	0.04604	0.05189	8.650
(4)	#####	#####	#####	#####	#####	#####		
	0.13845	0.11755	0.11576	0.10934	0.10618	0.10262	0.11498	11.138
(5)	#####	#####	#####	#####	#####	#####		
	0.12567	0.11826	0.11831	0.11580	0.11383	0.10777	0.11661	5.064
10 Aroclor-1262 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.11112	0.10100	0.09894	0.09582	0.09185	0.08825	0.09783	8.173
(2)	#####	#####	#####	#####	#####	#####		
	0.22148	0.20192	0.20094	0.19618	0.19807	0.21989	0.20641	5.451
(3)	#####	#####	#####	#####	#####	#####		
	0.09754	0.09096	0.09106	0.09130	0.09065	0.08823	0.09162	3.393
(4)	#####	#####	#####	#####	#####	#####		
	0.08699	0.08139	0.08705	0.08697	0.08658	0.08334	0.08539	2.844
9 Aroclor-1260 [2C](1)	0.07145	0.07006	0.06873	0.06790	0.06298	0.05790		
	#####	#####	#####	#####	#####	#####	0.06650	7.681

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
(2)	0.20358	0.19730	0.19591	0.19469	0.18108	0.18719		
	#####	#####	#####	#####	#####	#####	0.19329	4.119
(3)	0.13552	0.12750	0.12631	0.12533	0.11966	0.11143		
	#####	#####	#####	#####	#####	#####	0.12429	6.521
(4)	0.05852	0.05681	0.06302	0.06242	0.05963	0.05613		
	#####	#####	#####	#####	#####	#####	0.05942	4.789
11 Aroclor-1268 [2C](1)	#####	#####	#####	#####	#####	#####		
	0.24179	0.22854	0.22202	0.21909	0.23790	#####	0.22986	4.274
(2)	#####	#####	#####	#####	#####	#####		
	0.26368	0.24824	0.24638	0.24667	0.24916	#####	0.25083	2.900
(3)	#####	#####	#####	#####	#####	#####		
	0.21917	0.21458	0.21242	0.21811	0.21966	#####	0.21679	1.451
(4)	#####	#####	#####	#####	#####	#####		
	0.05361	0.05183	0.05229	0.05465	0.05573	#####	0.05362	3.021
41 2,4-DDE [2C]	#####	#####	#####	#####	#####	#####		
	2479	#####	#####	#####	#####	#####	2479	0.000
42 2,4-DDD [2C]	#####	#####	#####	#####	#####	#####		
	1258	#####	#####	#####	#####	#####	1258	0.000
44 4,4-DDE [2C]	#####	#####	#####	#####	#####	#####		
	1581	#####	#####	#####	#####	#####	1581	0.000
45 4,4-DDD/2,4-DDT [2C]	#####	#####	#####	#####	#####	#####		
	1766	#####	#####	#####	#####	#####	1766	0.000

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m\PCB2.m
Last Edit : 14-Aug-2021 13:38 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
46 4,4-DDT [2C]	+++++	+++++	+++++	+++++	+++++	+++++		
	721	+++++	+++++	+++++	+++++	+++++	721	0.000
48 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 2 Tetrachloro-m-xylene [2C]	1.03468	1.01403	1.03858	1.04776	1.01141	1.02186		
	+++++	+++++	+++++	+++++	+++++	+++++	1.02805	1.413
$ 13 Decachlorobiphenyl [2C]	1.71739	1.72015	1.80269	1.83464	1.81311	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	1.77760	3.090

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 ecd7.i
Curve Type : Average

Calibration File Names:
Level 1: \\target\share\chem4\ecd7.i\210813.b\08132105.D
Level 2: \\target\share\chem4\ecd7.i\210813.b\08132106.D
Level 3: \\target\share\chem4\ecd7.i\210813.b\08132107.D
Level 4: \\target\share\chem4\ecd7.i\210813.b\08132108.D
Level 5: \\target\share\chem4\ecd7.i\210813.b\08132109.D
Level 6: \\target\share\chem4\ecd7.i\210813.b\08132110.D
Level 8: \\target\share\chem4\ecd7.i\210813.b\08132147.D
Level 9: \\target\share\chem4\ecd7.i\210813.b\08132136.D
Level 10: \\target\share\chem4\ecd7.i\210813.b\08132137.D
Level 11: \\target\share\chem4\ecd7.i\210813.b\08132138.D
Level 12: \\target\share\chem4\ecd7.i\210813.b\08132139.D
Level 13: \\target\share\chem4\ecd7.i\210813.b\08132140.D

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
2 Aroclor-1221(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00610	0.00662	0.00692	0.00670	0.00603	0.00554	0.00632	8.149
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.00860	0.00838	0.00946	0.01119	0.01107	0.01071	0.00990	12.674
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.02562	0.02587	0.02636	0.02881	0.02779	0.02607	0.02675	4.734
3 Aroclor-1242(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01895	0.02153	0.02336	0.02360	0.02299	0.02182	0.02204	7.849
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.05664	0.05707	0.06611	0.07095	0.07201	0.07147	0.06571	10.923
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04584	0.03531	0.03720	0.03521	0.03565	0.03413	0.03722	11.648
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.01766	0.01614	0.01630	0.01532	0.01376	0.01209	0.01521	13.110

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
4 Aroclor-1232(1)	#####	#####	#####	#####	#####	#####		
	0.00466	0.00425	0.00372	0.00370	0.00363	0.00333	0.00388	12.445
(2)	#####	#####	#####	#####	#####	#####		
	0.01976	0.01982	0.02119	0.02246	0.02214	0.02118	0.02109	5.349
(3)	#####	#####	#####	#####	#####	#####		
	0.02267	0.02831	0.03250	0.03502	0.03682	0.03781	0.03219	17.939
(4)	#####	#####	#####	#####	#####	#####		
	0.00901	0.01125	0.01399	0.01466	0.01537	0.01516	0.01324	19.289
7 Aroclor-1016(1)	0.02649	0.02912	0.02940	0.02964	0.02850	0.02709		
	#####	#####	#####	#####	#####	#####	0.02837	4.572
(2)	0.07428	0.08423	0.08746	0.09203	0.09182	0.09075		
	#####	#####	#####	#####	#####	#####	0.08676	7.851
(3)	0.03555	0.04093	0.04059	0.04075	0.03888	0.03692		
	#####	#####	#####	#####	#####	#####	0.03894	5.798
(4)	0.01991	0.02422	0.02511	0.02593	0.02582	0.02547		
	#####	#####	#####	#####	#####	#####	0.02441	9.375
6 Aroclor-1248(1)	#####	#####	#####	#####	#####	#####		
	0.03027	0.03457	0.03263	0.03464	0.03494	0.03410	0.03353	5.345
(2)	#####	#####	#####	#####	#####	#####		
	0.03873	0.04418	0.04305	0.04595	0.04599	0.04467	0.04376	6.183
(3)	#####	#####	#####	#####	#####	#####		
	0.06153	0.06329	0.06557	0.06632	0.06567	0.06210	0.06408	3.183

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04055	0.04143	0.03788	0.03603	0.03352	0.03006	0.03658	11.799
8 Aroclor-1254(1)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07164	0.06947	0.06903	0.07004	0.06892	0.06502	0.06902	3.182
(2)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.03299	0.03465	0.03312	0.03312	0.03112	0.02670	0.03195	8.779
(3)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04923	0.04279	0.04318	0.04501	0.04521	0.04450	0.04499	5.104
(4)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.07660	0.08623	0.08820	0.09027	0.08929	0.08506	0.08594	5.774
(5)	+++++	+++++	+++++	+++++	+++++	+++++		
	0.04626	0.05174	0.05350	0.05694	0.05786	0.05754	0.05397	8.342
9 Aroclor-1260(1)	0.03649	0.03600	0.03588	0.03720	0.03606	0.03432		
	+++++	+++++	+++++	+++++	+++++	+++++	0.03599	2.646
(2)	0.03493	0.03435	0.03497	0.03686	0.03620	0.03463		
	+++++	+++++	+++++	+++++	+++++	+++++	0.03533	2.785
(3)	0.09844	0.09113	0.09296	0.09789	0.10200	0.09044		
	+++++	+++++	+++++	+++++	+++++	+++++	0.09547	4.862
(4)	0.03984	0.04042	0.04182	0.04477	0.04503	0.04333		
	+++++	+++++	+++++	+++++	+++++	+++++	0.04254	5.160
(5)	0.02079	0.02106	0.02133	0.02210	0.02175	0.02075		
	+++++	+++++	+++++	+++++	+++++	+++++	0.02130	2.541

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
10 Aroclor-1262(1)	#####	#####	#####	#####	#####	#####		
	0.05134	0.04713	0.04785	0.04922	0.04998	0.04739	0.04882	3.393
(2)	#####	#####	#####	#####	#####	#####		
	0.03097	0.02863	0.03076	0.03227	0.03369	0.03336	0.03161	5.969
(3)	#####	#####	#####	#####	#####	#####		
	0.04656	0.04368	0.04524	0.04611	0.04682	0.04504	0.04557	2.553
(4)	#####	#####	#####	#####	#####	#####		
	0.03832	0.03599	0.03700	0.03807	0.03947	0.03564	0.03741	3.935
11 Aroclor-1268(1)	#####	#####	#####	#####	#####	#####		
	0.10988	0.10672	0.10649	0.10735	0.10848	0.10507	0.10733	1.559
(2)	#####	#####	#####	#####	#####	#####		
	0.11682	0.11257	0.11230	0.11238	0.11318	0.10827	0.11259	2.418
(3)	#####	#####	#####	#####	#####	#####		
	0.09347	0.08830	0.08761	0.08780	0.08876	0.08540	0.08856	3.015
(4)	#####	#####	#####	#####	#####	#####		
	0.30216	0.28855	0.28544	0.27866	0.27892	0.28011	0.28564	3.154
42 2,4-DDE	#####	#####	#####	#####	#####	#####		
	1168	#####	#####	#####	#####	#####	1168	0.000
43 2,4-DDD	#####	#####	#####	#####	#####	#####		
	1454	#####	#####	#####	#####	#####	1454	0.000
44 2,4-DDT	#####	#####	#####	#####	#####	#####		
	#####	#####	#####	#####	#####	#####	#####	#####

ARI Labs, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 13-AUG-2021 20:03
End Cal Date : 14-AUG-2021 10:24
Quant Method : ISTD
Origin : Disabled
Target Version : 4.14
Integrator : HP Genie
Method file : \\target\share\chem4\ecd7.i\210813.b\PCB.m
Last Edit : 14-Aug-2021 15:07 ecd7.i
Curve Type : Average

Compound	20.000 Level 1	50.000 Level 2	100.000 Level 3	250.000 Level 4	500.000 Level 5	1000.000 Level 6	___ RRF	% RSD
	0.000e+00 Level 8	0.000e+00 Level 9	0.000e+00 Level 10	0.000e+00 Level 11	0.000e+00 Level 12	0.000e+00 Level 13		
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++		
	1936	+++++	+++++	+++++	+++++	+++++	1936	0.000
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++		
	2956	+++++	+++++	+++++	+++++	+++++	2956	0.000
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++		
	709	+++++	+++++	+++++	+++++	+++++	709	0.000
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 1 Tetrachloro-m-xylene	0.93937	0.91421	0.97581	1.01321	0.99259	0.96662		
	+++++	+++++	+++++	+++++	+++++	+++++	0.96697	3.705
$ 13 Decachlorobiphenyl	0.74318	0.73021	0.74556	0.75250	0.71633	0.66941		
	+++++	+++++	+++++	+++++	+++++	+++++	0.72620	4.219

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132105	08132106	08132107	08132108	08132109	08132110
INJ.DATE:	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021
INJ.TIME:	20:03	20:24	20:44	21:05	21:25	21:46

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.853	2.852	2.854	2.853	2.852	2.851	2.853	2.753-2.953	2.852	0.001
$ 1 Tetrachloro-m-xylene	5.068	5.068	5.068	5.067	5.068	5.069	5.068	4.968-5.168	5.068	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.660	6.560-6.760	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	6.660	6.659	6.660	6.659	6.659	6.658	6.660	6.560-6.760	6.659	0.001
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	10.387	10.385	10.385	10.384	10.384	10.383	10.387	10.287-10.487	10.385	0.001
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.163	13.164	13.164	13.164	13.165	13.165	13.163	13.063-13.263	13.164	0.001
* 12 IS-HBBP	13.517	13.519	13.518	13.519	13.519	13.518	13.517	13.417-13.617	13.518	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132111	08132112	08132113	08132114	08132115	08132116
INJ.DATE:	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021	13-AUG-2021
INJ.TIME:	22:06	22:27	22:47	23:08	23:28	23:49

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.852	2.854	2.853	2.855	2.854	2.853	2.852	2.752-2.952	2.853	0.001
$ 1 Tetrachloro-m-xylene	5.069	5.068	5.068	5.069	5.070	5.069	5.069	4.969-5.169	5.069	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	6.661	6.662	6.661	6.660	6.660	6.659	6.661	6.561-6.761	6.660	0.001
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.165	13.165	13.165	13.165	13.165	13.166	13.165	13.065-13.265	13.165	0.000
* 12 IS-HBBP	13.520	13.519	13.520	13.521	13.520	13.520	13.520	13.420-13.620	13.520	0.000
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132117	08132118	08132119	08132120	08132121	08132122
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	00:09	00:30	00:50	01:11	01:31	01:52

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.853	2.854	2.852	2.853	2.853	2.854	2.853	2.753-2.953	2.853	0.001
$ 1 Tetrachloro-m-xylene	5.068	5.069	5.068	5.068	5.069	5.070	5.068	4.968-5.168	5.069	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.659	6.559-6.759	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	7.799	7.803	7.800	7.800	7.801	7.799	7.799	7.699-7.899	7.800	0.001
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.165	13.164	13.165	13.165	13.164	13.166	13.165	13.065-13.265	13.165	0.001
* 12 IS-HBBP	13.520	13.520	13.521	13.521	13.520	13.520	13.520	13.420-13.620	13.520	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132123	08132124	08132125	08132126	08132127	08132128
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	02:12	02:33	02:53	03:13	03:34	03:54

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.852	2.851	2.852	2.851	2.853	2.853	2.852	2.752-2.952	2.852	0.001
$ 1 Tetrachloro-m-xylene	5.069	5.068	5.068	5.067	5.069	5.069	5.069	4.969-5.169	5.068	0.001
2 Aroclor-1221	+++++	+++++	+++++	+++++	+++++	+++++	4.015	3.915-4.115	+++++	+++++
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.659	6.559-6.759	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	8.681	8.680	8.680	8.677	8.676	8.675	8.681	8.581-8.781	8.678	0.002
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	+++++	+++++	+++++	+++++	+++++	+++++	10.384	10.284-10.484	+++++	+++++
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.166	13.165	13.166	13.166	13.166	13.166	13.166	13.066-13.266	13.166	0.000
* 12 IS-HBBP	13.521	13.521	13.522	13.521	13.520	13.520	13.521	13.421-13.621	13.520	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132129	08132130	08132131	08132132	08132133	08132134
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	04:15	04:35	04:56	05:16	05:37	05:57

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.854	2.852	2.852	2.854	2.855	2.855	2.854	2.754-2.954	2.853	0.001
$ 1 Tetrachloro-m-xylene	5.068	5.068	5.068	5.069	5.070	5.070	5.068	4.968-5.168	5.069	0.001
2 Aroclor-1221	4.020	4.015	4.015	4.015	4.015	4.015	4.020	3.920-4.120	4.016	0.002
3 Aroclor-1242	+++++	+++++	+++++	+++++	+++++	+++++	6.659	6.559-6.759	+++++	+++++
4 Aroclor-1232	+++++	+++++	+++++	+++++	+++++	+++++	4.018	3.918-4.118	+++++	+++++
7 Aroclor-1016	+++++	+++++	+++++	+++++	+++++	+++++	6.658	6.558-6.758	+++++	+++++
6 Aroclor-1248	+++++	+++++	+++++	+++++	+++++	+++++	7.799	7.699-7.899	+++++	+++++
8 Aroclor-1254	+++++	+++++	+++++	+++++	+++++	+++++	8.675	8.575-8.775	+++++	+++++
9 Aroclor-1260	+++++	+++++	+++++	+++++	+++++	+++++	10.383	10.283-10.483	+++++	+++++
10 Aroclor-1262	10.388	10.388	10.387	10.386	10.384	10.384	10.388	10.288-10.488	10.386	0.002
11 Aroclor-1268	+++++	+++++	+++++	+++++	+++++	+++++	11.557	11.457-11.657	+++++	+++++
$ 13 Decachlorobiphenyl	13.165	13.165	13.165	13.165	13.165	13.166	13.165	13.065-13.265	13.165	0.000
* 12 IS-HBBP	13.520	13.522	13.519	13.519	13.520	13.519	13.520	13.420-13.620	13.520	0.001
42 2,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	8.655	8.605-8.705	+++++	+++++
43 2,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.186	9.136-9.236	+++++	+++++
44 2,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	9.668	9.618-9.718	+++++	+++++
46 4,4-DDE	+++++	+++++	+++++	+++++	+++++	+++++	9.066	8.966-9.166	+++++	+++++

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	08132135	08132136	08132137	08132138	08132139	08132140
INJ.DATE:	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021	14-AUG-2021
INJ.TIME:	06:18	06:38	06:59	07:19	07:40	08:00

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
* 41 IS-BNB	2.853	2.854	2.856	2.856	2.854	2.855	2.853	2.753-2.953	2.855	0.001
$ 1 Tetrachloro-m-xylene	5.069	5.069	5.071	5.071	5.071	5.072	5.069	4.969-5.169	5.070	0.001
2 Aroclor-1221	#####	#####	#####	#####	#####	#####	4.015	3.915-4.115	#####	#####
3 Aroclor-1242	#####	#####	#####	#####	#####	#####	6.659	6.559-6.759	#####	#####
4 Aroclor-1232	4.020	4.014	4.017	4.018	4.016	4.018	4.020	3.920-4.120	4.017	0.002
7 Aroclor-1016	#####	#####	#####	#####	#####	#####	6.658	6.558-6.758	#####	#####
6 Aroclor-1248	#####	#####	#####	#####	#####	#####	7.799	7.699-7.899	#####	#####
8 Aroclor-1254	#####	#####	#####	#####	#####	#####	8.675	8.575-8.775	#####	#####
9 Aroclor-1260	#####	#####	#####	#####	#####	#####	10.383	10.283-10.483	#####	#####
10 Aroclor-1262	#####	#####	#####	#####	#####	#####	10.384	10.284-10.484	#####	#####
11 Aroclor-1268	11.560	11.559	11.558	11.557	11.557	11.557	11.560	11.460-11.660	11.558	0.001
$ 13 Decachlorobiphenyl	13.165	13.165	13.165	13.165	13.165	13.166	13.165	13.065-13.265	13.165	0.000
* 12 IS-HBBP	13.520	13.520	13.521	13.521	13.519	13.519	13.520	13.420-13.620	13.520	0.001
42 2,4-DDE	#####	#####	#####	#####	#####	#####	8.655	8.605-8.705	#####	#####
43 2,4-DDD	#####	#####	#####	#####	#####	#####	9.186	9.136-9.236	#####	#####
44 2,4-DDT	#####	#####	#####	#####	#####	#####	9.668	9.618-9.718	#####	#####
46 4,4-DDE	#####	#####	#####	#####	#####	#####	9.066	8.966-9.166	#####	#####

Reviewer 1 _____ Date: _____
Reviewer 2 _____ Date: _____

ARI Labs, Inc.
RETENTION TIME SUMMARY REPORT

Method File: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Batch File: \\target\share\chem4\ecd7.i\210813.b
Inst ID: ecd7.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
47 4,4-DDD	+++++	+++++	+++++	+++++	+++++	+++++	9.630	9.530-9.730	+++++	+++++
48 4,4-DDT	+++++	+++++	+++++	+++++	+++++	+++++	10.114	10.014-10.214	+++++	+++++
49 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++	1.842	1.742-1.942	+++++	+++++
50 Hexachlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++	6.708	6.608-6.808	+++++	+++++

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132104ECD7.D
Data file 2: /210813.b/210813.b/08132104ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-IBL1
Client ID:
Injection Date: 13-AUG-2021 19:43
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	126172	5.412	-0.004	360712	44.0	42.2	4.2	Tetrachloro-m-xylene
13.165	-0.001	154941	13.847	-0.033	746026	43.2	42.7	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	237189	-8.4
Hexabromobiphenyl	425681	395219	-7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	664936	-7.8
Hexabromobiphenyl	863111	787155	-8.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	---			0.0	1	---			0.0
Aroclor-1016	2	---			0.0	2	---			0.0
Aroclor-1016	3	---			0.0	3	---			0.0
Aroclor-1016	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.090	0.018	4395	38.5
Aroclor-1221	3	---			0.0	3	6.402	-0.007	1203	6.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	---			0.0
Aroclor-1232	3	---			0.0	3	---			0.0
Aroclor-1232	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1242	1	---			0.0	1	---			0.0
Aroclor-1242	2	---			0.0	2	---			0.0
Aroclor-1242	3	---			0.0	3	---			0.0
Aroclor-1242	4	---			0.0	4	---			0.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1248	1	---			0.0	1	8.108	0.002	393	1.4
Aroclor-1248	2	---			0.0	2	8.585	0.065	186	0.6
Aroclor-1248	3	---			0.0	3	---			0.0
Aroclor-1248	4	---			0.0	4	9.462	0.086	5866	12.9
	Col1Ave: <3 Quant Peaks					Col2Ave: 5.0				
Aroclor-1254	1	---			0.0	1	---			0.0
Aroclor-1254	2	---			0.0	2	---			0.0
Aroclor-1254	3	---			0.0	3	---			0.0
Aroclor-1254	4	---			0.0	4	9.834	-0.080	4733	5.0
Aroclor-1254	5	---			0.0	5	10.236	0.088	987	1.0
	Col1Ave: <3 Quant Peaks					Col2Ave: <3 Quant Peaks				
Aroclor-1260	1	---			0.0	1	11.439	0.014	341	0.5
Aroclor-1260	2	---			0.0	2	11.681	-0.000	888	0.5
Aroclor-1260	3	11.055	0.004	138	0.3	3	12.198	-0.063	704	0.6
Aroclor-1260	4	11.473	0.021	110	0.5	4	13.049	0.077	4672	8.0
Aroclor-1260	5	---			0.0	NS	---			----
	Col1Ave: <3 Quant Peaks					Col2Ave: 2.4				
Aroclor-1262	1	---			0.0	1	10.985	0.015	687	0.7
Aroclor-1262	2	---			0.0	2	11.681	-0.005	888	0.4
Aroclor-1262	3	---			0.0	3	12.198	0.010	704	0.8
Aroclor-1262	4	---			0.0	4	13.049	0.076	4672	5.6
	Col1Ave: <3 Quant Peaks					Col2Ave: 1.9				
Aroclor-1268	1	11.473	-0.084	110	0.2	1	12.198	-0.002	704	0.3
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.909	-0.092	1145	2.6	3	12.645	0.001	717	0.3
Aroclor-1268	4	12.771	-0.000	685	0.5	4	13.458	0.675	1064	2.0

Total Col1Ave (3 peaks): 1.1 Total Col2Ave (3 peaks): 0.9 RPD = 22

Corrected Ave: < 3 Peaks Corrected Ave: < 3 Peaks

Total PCB Area Col1 (5.169 - 13.066) = 10309 Col1 Total PCB = 0.0 ppm*

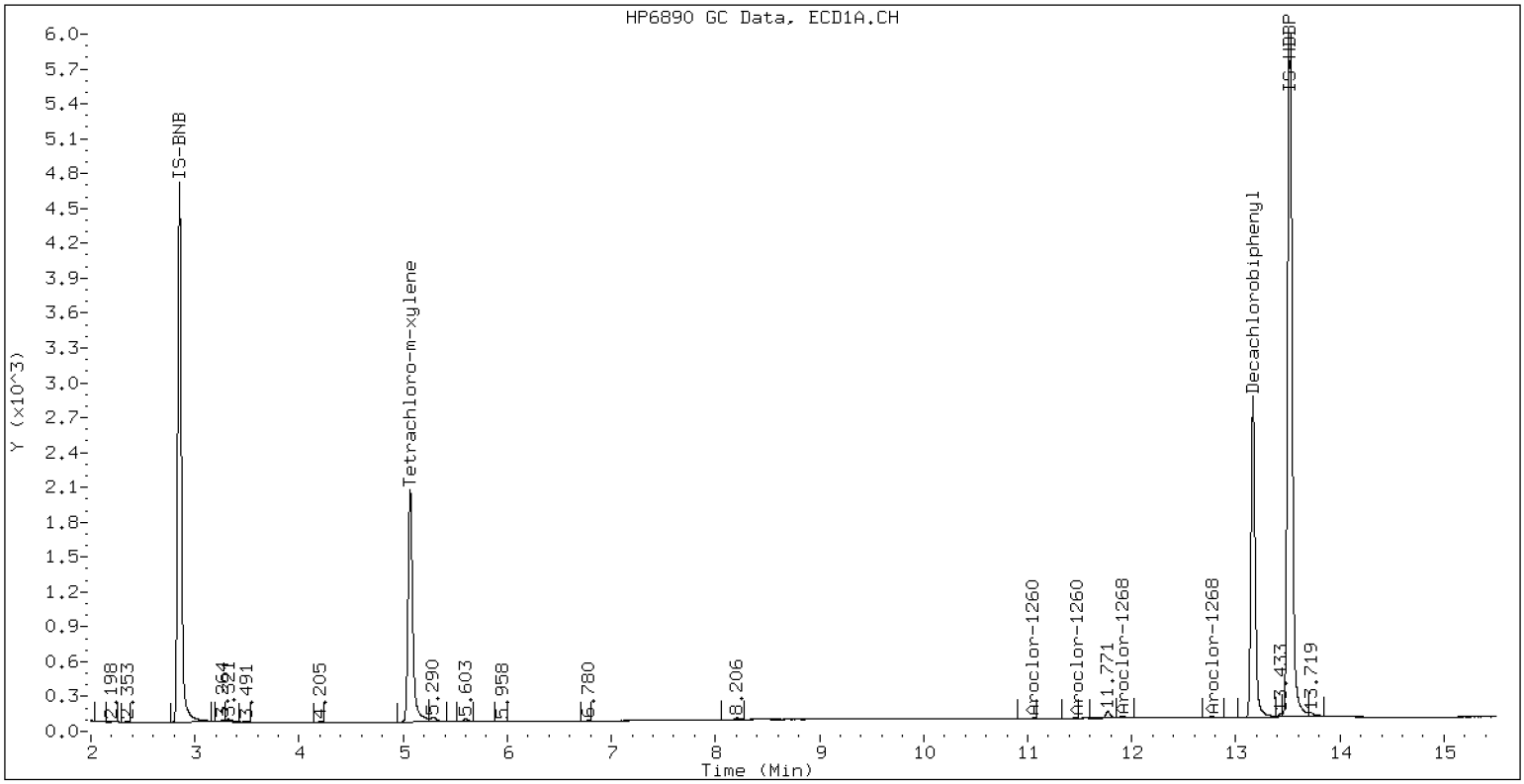
Total PCB Area Col2 (5.169 - 13.066) = 427198 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

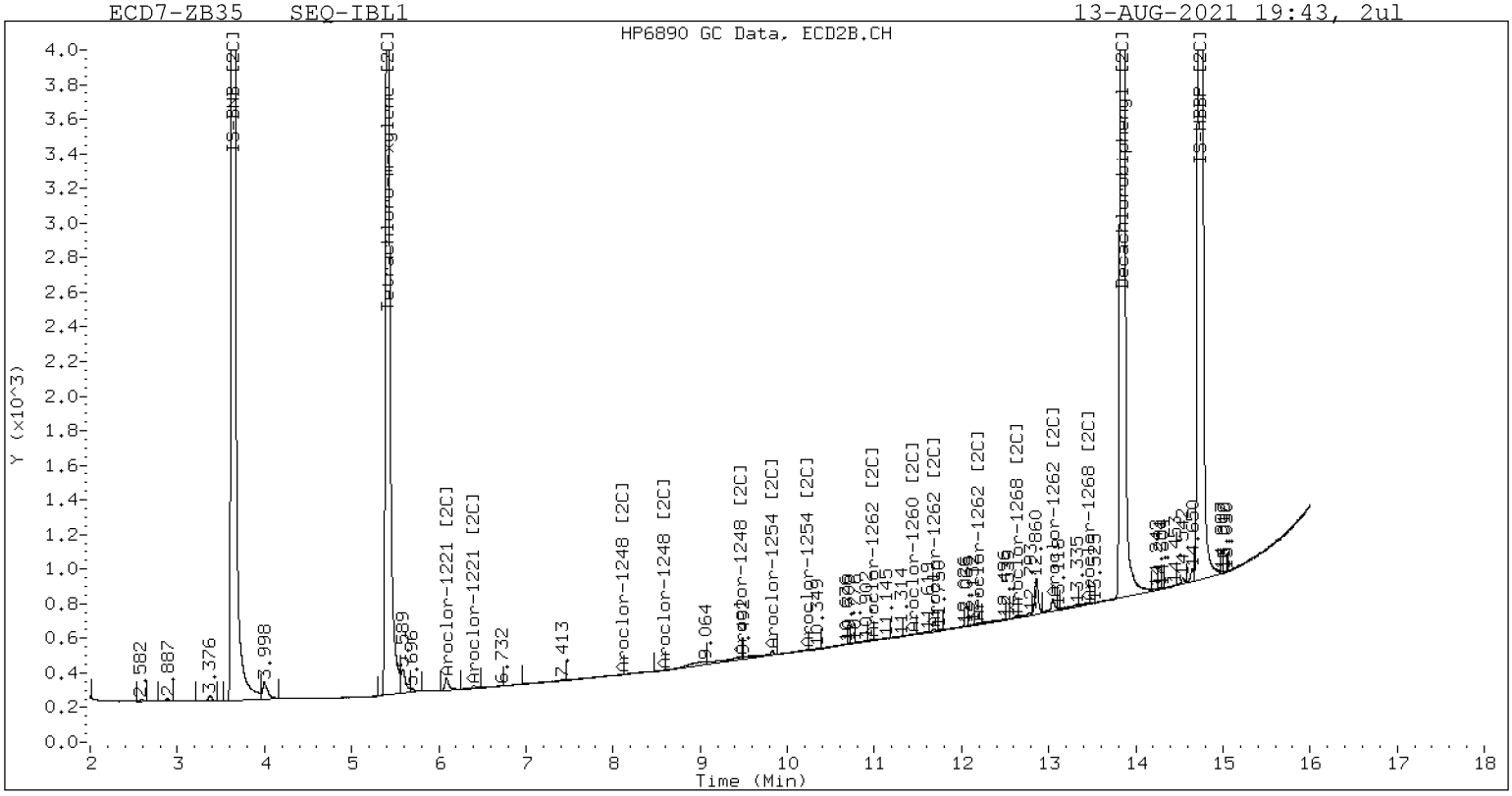
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-IBL1 13-AUG-2021 19:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-IBL1 13-AUG-2021 19:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132105ECD7.D
Data file 2: /210813.b/210813.b/08132105ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL1
Client ID:
Injection Date: 13-AUG-2021 20:03
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	9617	5.413	-0.004	29440	3.1	3.2	3.5	Tetrachloro-m-xylene
13.163	-0.003	12564	13.845	-0.035	57292	3.3	3.1	5.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	255944	-1.1
Hexabromobiphenyl	425681	422645	-0.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	711334	-1.3
Hexabromobiphenyl	863111	833996	-3.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.002	1695	18.7	1	7.056	-0.000	8681	21.4
Aroclor-1016	2	7.033	0.004	4753	17.1	2	7.654	0.007	17802	19.6
Aroclor-1016	3	7.181	0.005	2275	18.3	3	7.862	0.007	6842	19.2
Aroclor-1016	4	7.290	0.006	1274	16.3	4	8.107	0.002	4300	20.0
Total Col1Ave (4 peaks):				17.6		Total Col2Ave (4 peaks):			20.0	RPD = 13
Corrected Ave (3 peaks):				17.2		Corrected Ave (3 peaks):			19.6	RPD = 13
CalAmt %D:				-12.0		CalAmt %D:			0.2	
Aroclor-1260	1	10.387	0.004	3856	20.3	1	11.427	0.002	14898	21.5
Aroclor-1260	2	10.705	0.005	3691	19.8	2	11.682	0.000	42446	21.1
Aroclor-1260	3	11.056	0.005	10401	20.6	3	12.263	0.002	28256	21.8
Aroclor-1260	4	11.458	0.006	4210	18.7	4	12.974	0.001	12202	19.7
Aroclor-1260	5	11.557	0.003	2197	19.5	NS	---			----
Total Col1Ave (5 peaks):				19.8		Total Col2Ave (4 peaks):			21.0	RPD = 6
Corrected Ave (4 peaks):				19.6		Corrected Ave (3 peaks):			20.8	RPD = 6
CalAmt %D:				-1.1		CalAmt %D:			5.1	

Total PCB Area Col1 (5.169 - 13.066) = 102366 Col1 Total PCB = 0.0 ppm*

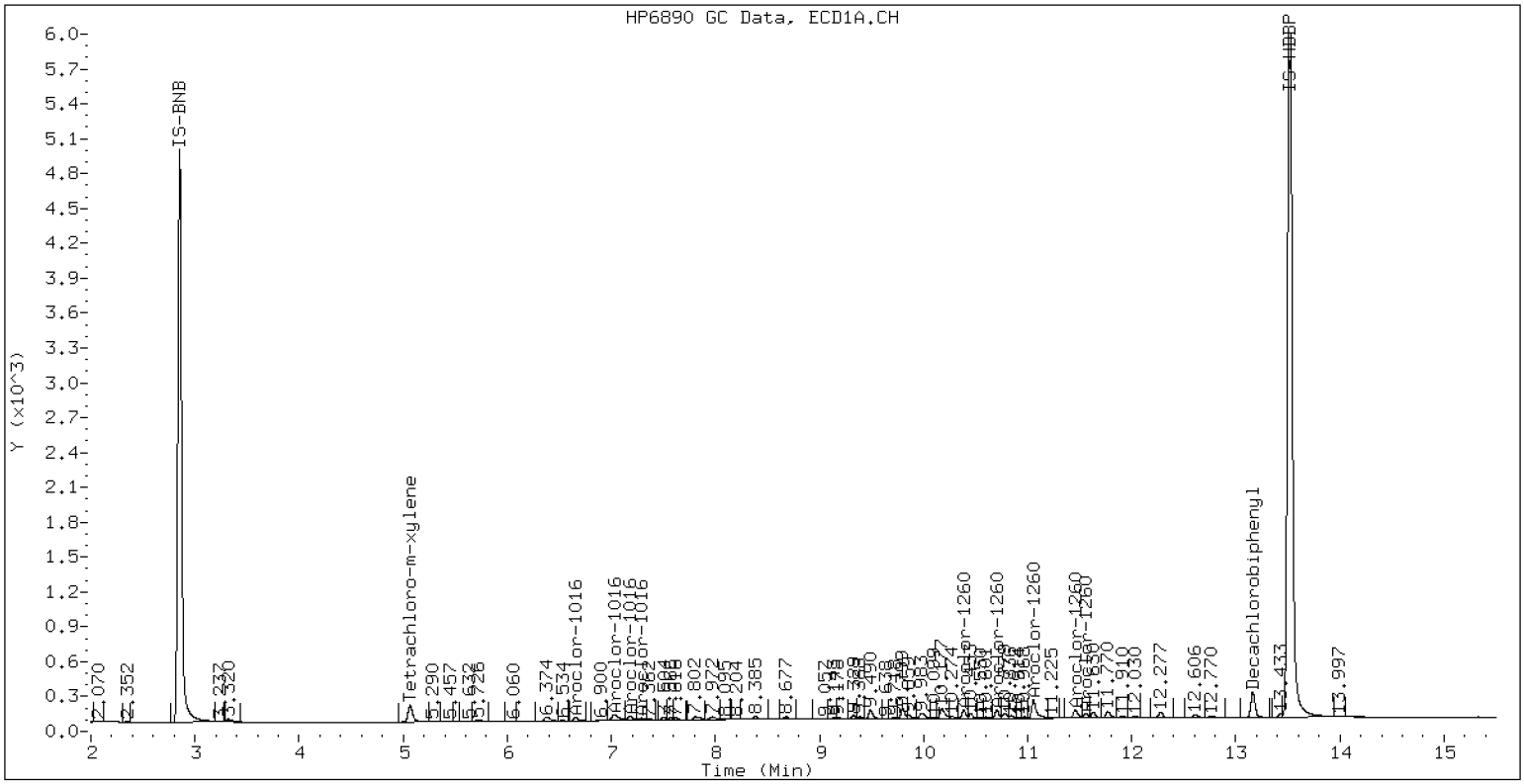
Total PCB Area Col2 (5.169 - 13.066) = 412493 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

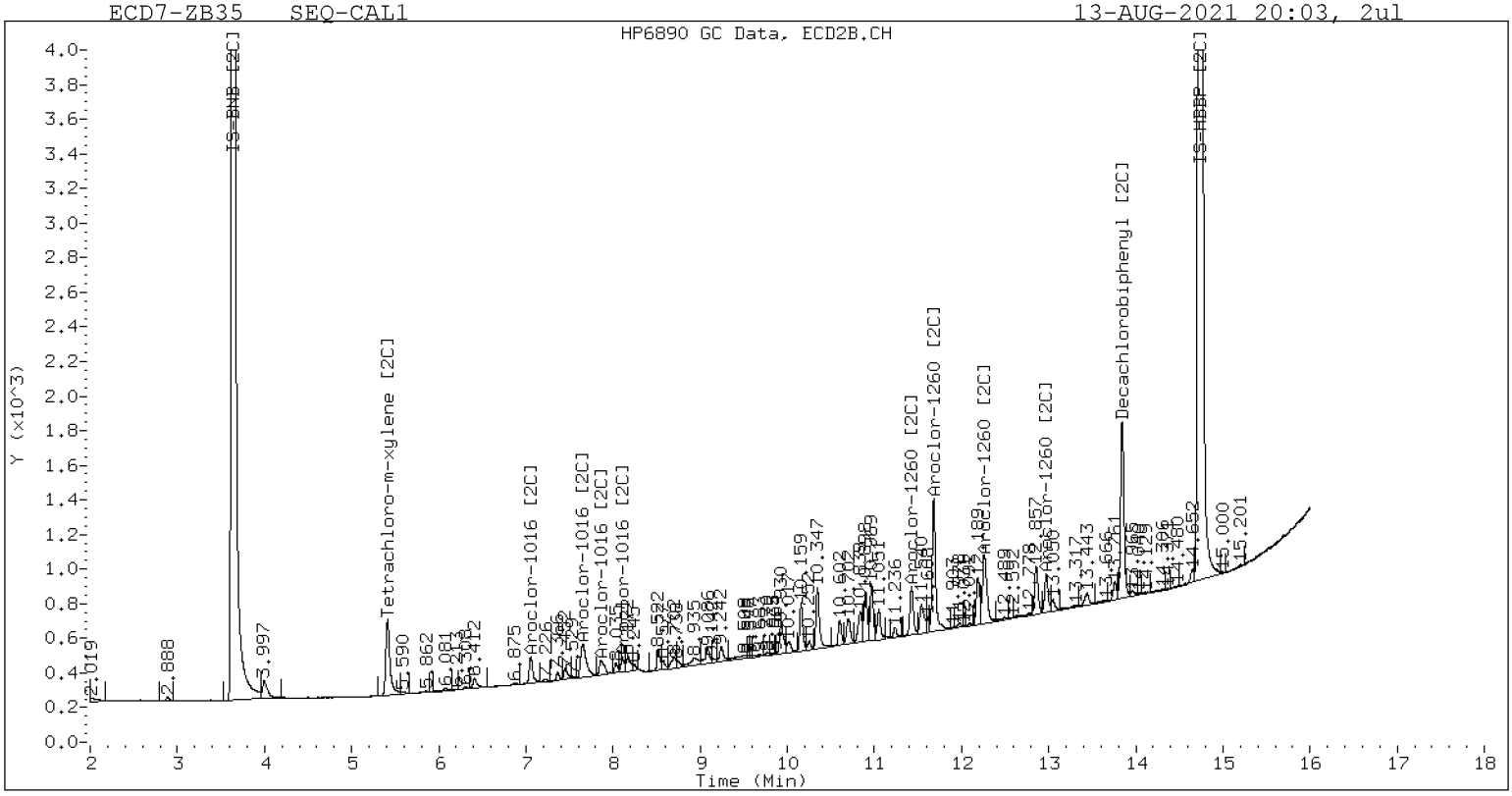
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL1 13-AUG-2021 20:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL1 13-AUG-2021 20:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132106ECD7.D
Data file 2: /210813.b/210813.b/08132106ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL2
Client ID:
Injection Date: 13-AUG-2021 20:24
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	23332	5.413	-0.004	72878	7.6	7.9	4.2	Tetrachloro-m-xylene
13.164	-0.002	31052	13.846	-0.034	144891	8.0	7.7	3.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	255215	-1.4
Hexabromobiphenyl	425681	425246	-0.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	718694	-0.3
Hexabromobiphenyl	863111	842315	-2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.001	4645	51.3	1	7.056	-0.000	21261	51.9
Aroclor-1016	2	7.034	0.005	13436	48.5	2	7.655	0.007	44431	48.5
Aroclor-1016	3	7.181	0.005	6528	52.6	3	7.861	0.006	16510	45.9
Aroclor-1016	4	7.291	0.006	3864	49.6	4	8.107	0.002	10254	47.1

Total Col1Ave (4 peaks): 50.5 Total Col2Ave (4 peaks): 48.3 RPD = 4
Corrected Ave (3 peaks): 49.8 Corrected Ave (3 peaks): 47.2 RPD = 6

CalAmt %D: 1.0 CalAmt %D: -3.3

Aroclor-1260	1	10.385	0.002	9567	50.0	1	11.427	0.002	36882	52.7
Aroclor-1260	2	10.703	0.003	9130	48.6	2	11.680	-0.001	103868	51.0
Aroclor-1260	3	11.054	0.004	24220	47.7	3	12.264	0.003	67124	51.3
Aroclor-1260	4	11.456	0.003	10743	47.5	4	12.972	-0.001	29907	47.8
Aroclor-1260	5	11.556	0.002	5597	49.4	NS	---			----

Total Col1Ave (5 peaks): 48.7 Total Col2Ave (4 peaks): 50.7 RPD = 4
Corrected Ave (4 peaks): 48.3 Corrected Ave (3 peaks): 50.0 RPD = 3

CalAmt %D: -2.7 CalAmt %D: 1.4

Total PCB Area Col1 (5.169 - 13.066) = 251626 Col1 Total PCB = 0.1 ppm*

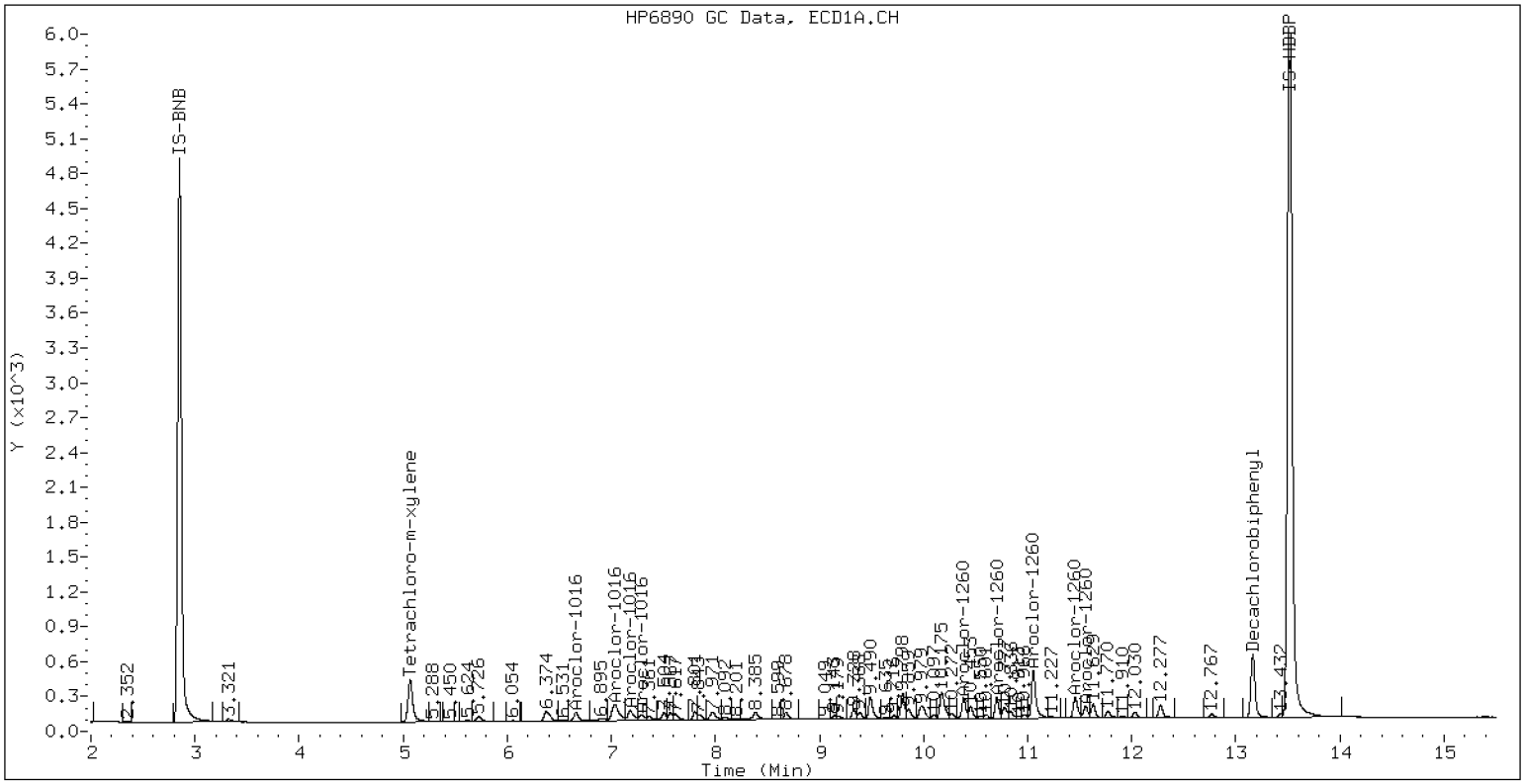
Total PCB Area Col2 (5.169 - 13.066) = 951053 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

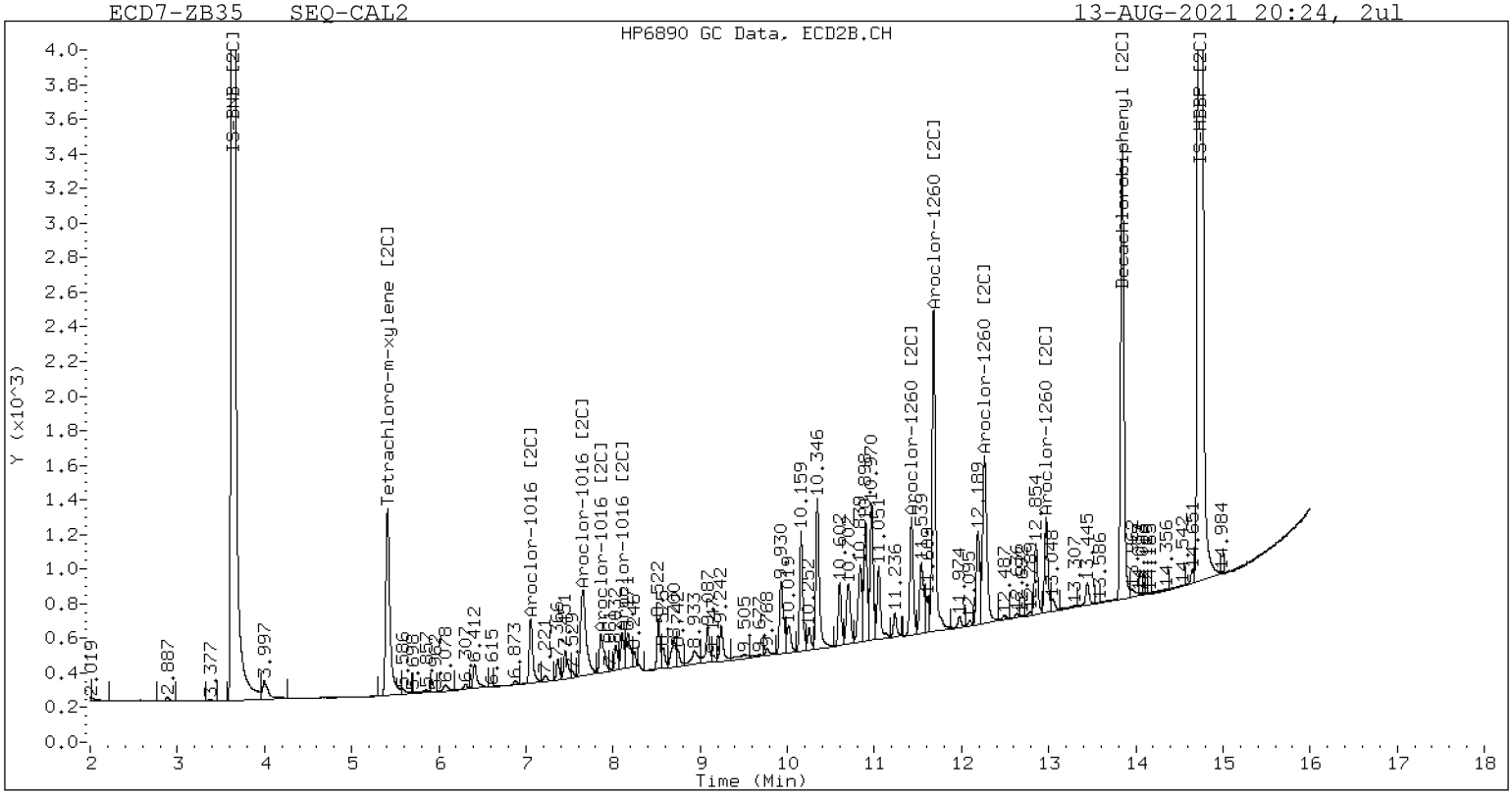
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL2 13-AUG-2021 20:24, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL2 13-AUG-2021 20:24, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132107ECD7.D
Data file 2: /210813.b/210813.b/08132107ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL3
Client ID:
Injection Date: 13-AUG-2021 20:44
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	50667	5.414	-0.003	150921	16.1	16.2	0.1	Tetrachloro-m-xylene
13.164	-0.002	64497	13.846	-0.034	311850	16.4	16.2	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	259615	0.3
Hexabromobiphenyl	425681	432543	1.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	726577	0.8
Hexabromobiphenyl	863111	864959	0.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.002	9540	103.6	1	7.057	0.000	43541	105.1
Aroclor-1016	2	7.033	0.003	28383	100.8	2	7.653	0.005	97461	105.2
Aroclor-1016	3	7.180	0.004	13172	104.2	3	7.860	0.005	39365	108.2
Aroclor-1016	4	7.290	0.005	8150	102.9	4	8.106	0.001	24189	109.9

Total Col1Ave (4 peaks): 102.9 Total Col2Ave (4 peaks): 107.1 RPD = 4
Corrected Ave (3 peaks): 102.4 Corrected Ave (3 peaks): 106.2 RPD = 4

CalAmt %D: 2.9 CalAmt %D: 7.1

Aroclor-1260	1	10.385	0.002	19398	99.7	1	11.426	0.001	74307	103.3
Aroclor-1260	2	10.702	0.002	18907	99.0	2	11.680	-0.001	211815	101.4
Aroclor-1260	3	11.054	0.003	50259	97.4	3	12.263	0.002	136563	101.6
Aroclor-1260	4	11.456	0.003	22610	98.3	4	12.972	-0.001	68139	106.1
Aroclor-1260	5	11.555	0.001	11534	100.2	NS	---			----

Total Col1Ave (5 peaks): 98.9 Total Col2Ave (4 peaks): 103.1 RPD = 4
Corrected Ave (4 peaks): 98.6 Corrected Ave (3 peaks): 102.1 RPD = 4

CalAmt %D: -1.1 CalAmt %D: 3.1

Total PCB Area Col1 (5.169 - 13.066) = 512158 Col1 Total PCB = 0.2 ppm*

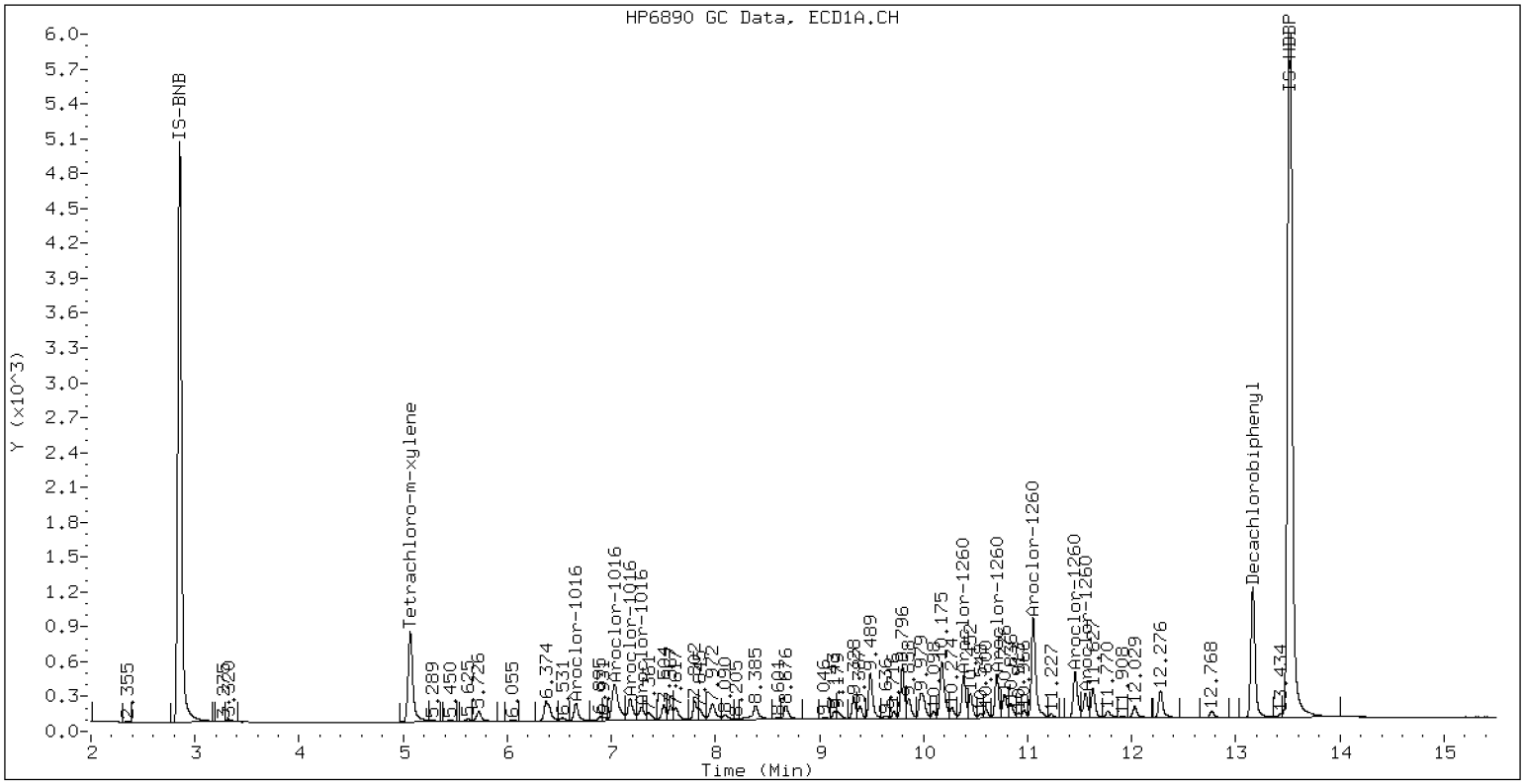
Total PCB Area Col2 (5.169 - 13.066) = 1949350 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

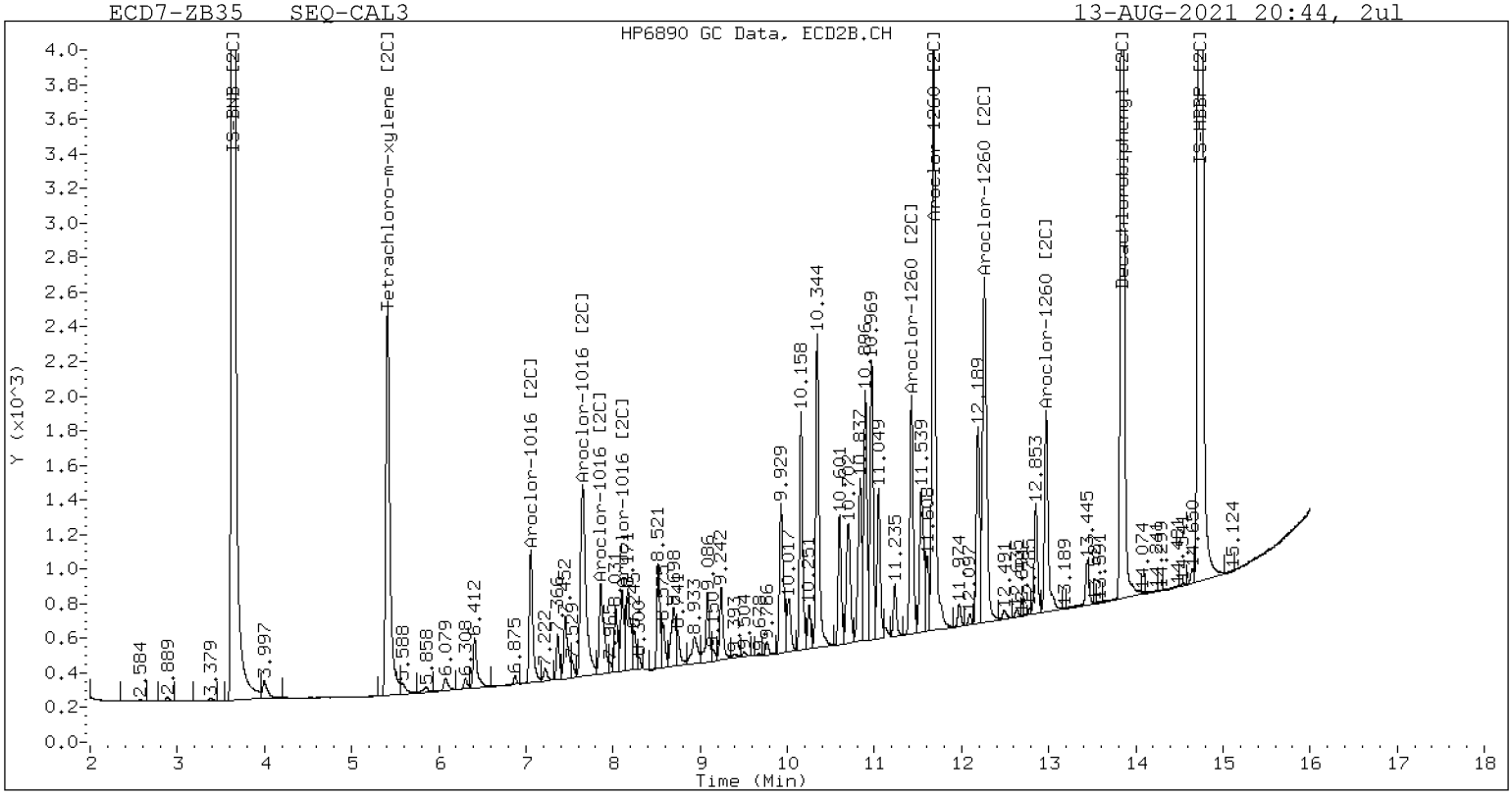
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL3 13-AUG-2021 20:44, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL3 13-AUG-2021 20:44, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132108ECD7.D
Data file 2: /210813.b/210813.b/08132108ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL4
Client ID:
Injection Date: 13-AUG-2021 21:05
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	-0.002	131143	5.413	-0.004	377693	41.9	40.8	2.8	Tetrachloro-m-xylene
13.164	-0.002	160163	13.848	-0.032	791748	41.4	41.3	0.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258866	0.0
Hexabromobiphenyl	425681	425681	0.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	720956	0.0
Hexabromobiphenyl	863111	863111	0.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.001	23977	261.2	1	7.056	-0.000	105852	257.5
Aroclor-1016	2	7.032	0.002	74451	265.2	2	7.652	0.004	241603	262.7
Aroclor-1016	3	7.178	0.002	32969	261.7	3	7.857	0.002	96677	267.9
Aroclor-1016	4	7.287	0.002	20978	265.6	4	8.106	0.001	57673	264.1

Total Col1Ave (4 peaks): 263.4 Total Col2Ave (4 peaks): 263.0 RPD = 0
Corrected Ave (3 peaks): 262.7 Corrected Ave (3 peaks): 261.4 RPD = 0

CalAmt %D: 5.4 CalAmt %D: 5.2

Aroclor-1260	1	10.384	0.001	49492	258.4	1	11.426	0.000	183135	255.2
Aroclor-1260	2	10.702	0.002	49037	260.9	2	11.679	-0.002	525133	251.8
Aroclor-1260	3	11.053	0.002	130219	256.3	3	12.261	0.000	338031	252.1
Aroclor-1260	4	11.455	0.002	59560	263.1	4	12.972	-0.001	168369	262.6
Aroclor-1260	5	11.555	0.001	29402	259.4	NS	---			----

Total Col1Ave (5 peaks): 259.6 Total Col2Ave (4 peaks): 255.4 RPD = 2
Corrected Ave (4 peaks): 258.8 Corrected Ave (3 peaks): 253.0 RPD = 2

CalAmt %D: 3.9 CalAmt %D: 2.2

Total PCB Area Col1 (5.169 - 13.066) = 1310985 Col1 Total PCB = 0.5 ppm*

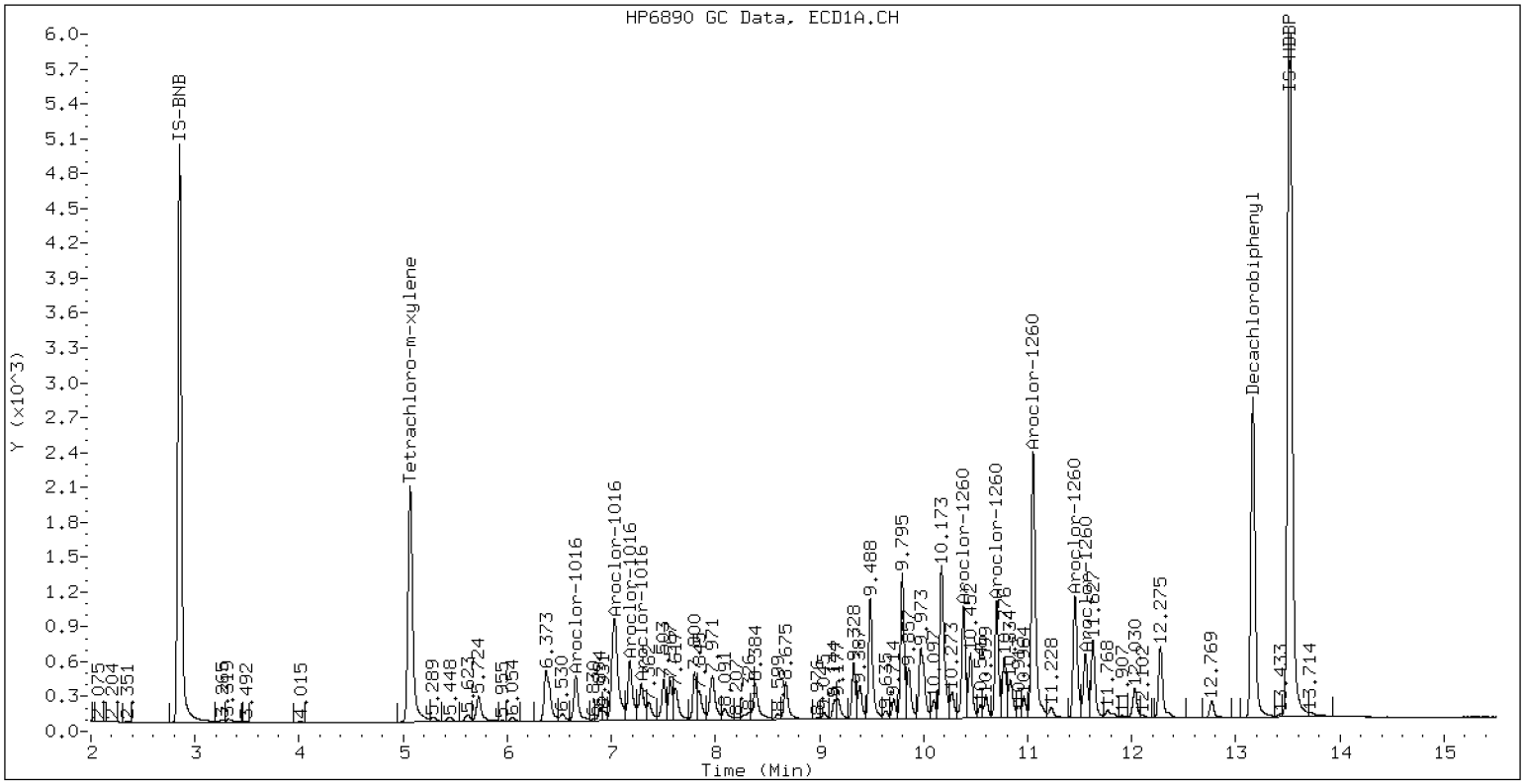
Total PCB Area Col2 (5.169 - 13.066) = 4836988 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

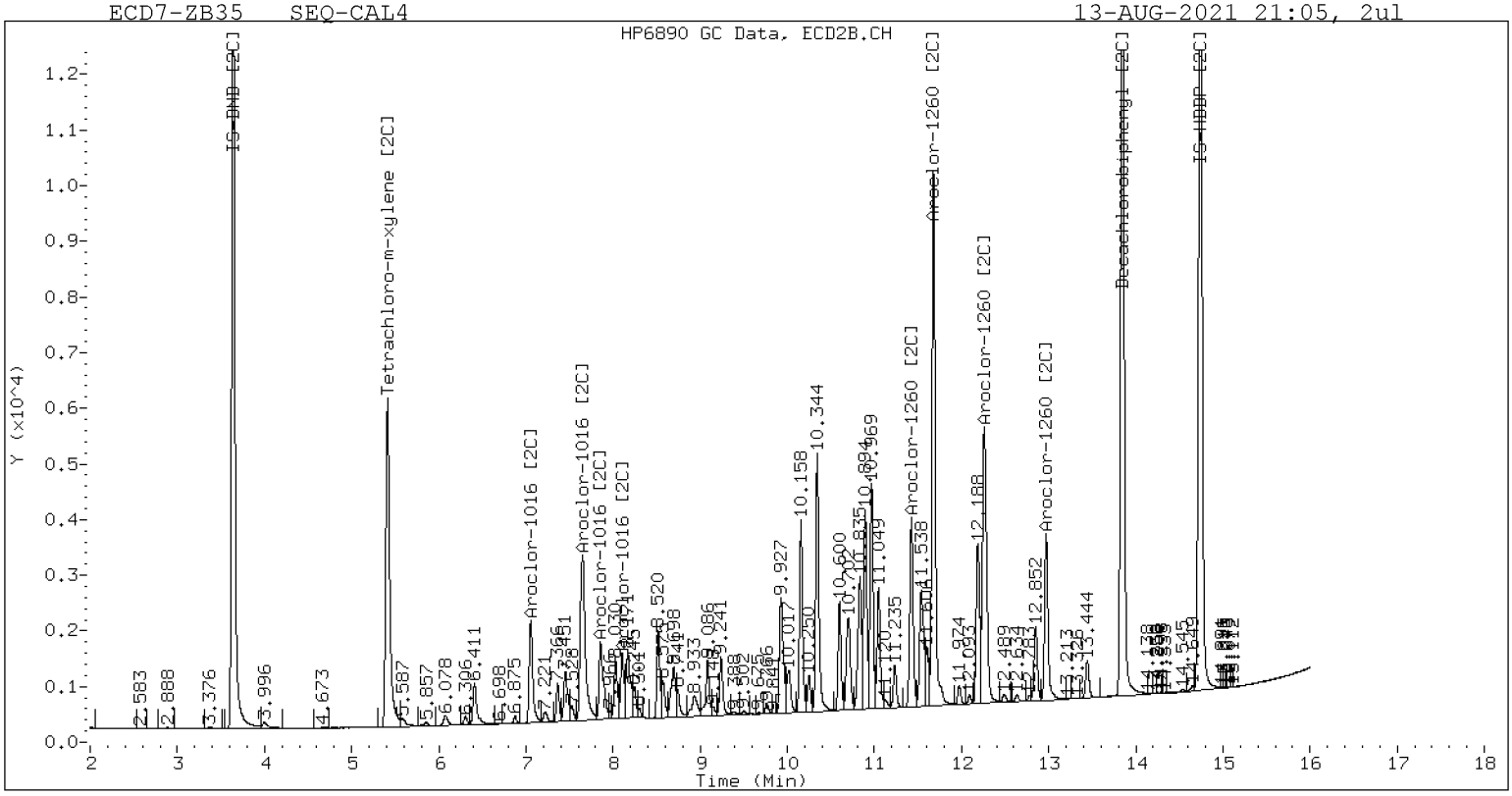
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL4 13-AUG-2021 21:05, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL4 13-AUG-2021 21:05, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132109ECD7.D
Data file 2: /210813.b/210813.b/08132109ECD7.D
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Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL5
Client ID:
Injection Date: 13-AUG-2021 21:25
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	258118	5.413	-0.004	732448	82.1	78.7	4.2	Tetrachloro-m-xylene
13.165	-0.001	309072	13.849	-0.031	1602822	78.9	81.6	3.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260046	0.5
Hexabromobiphenyl	425681	431467	1.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724186	0.4
Hexabromobiphenyl	863111	884020	2.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.000	46320	502.2	1	7.057	0.000	197055	477.2
Aroclor-1016	2	7.031	0.001	149242	529.2	2	7.650	0.002	461244	499.4
Aroclor-1016	3	7.177	0.001	63193	499.3	3	7.856	0.001	183963	507.5
Aroclor-1016	4	7.286	0.001	41958	528.8	4	8.105	0.000	108095	492.7

Total Col1Ave (4 peaks): 514.9 Total Col2Ave (4 peaks): 494.2 RPD = 4
Corrected Ave (3 peaks): 510.1 Corrected Ave (3 peaks): 489.8 RPD = 4

CalAmt %D: 3.0 CalAmt %D: -1.2

Aroclor-1260	1	10.384	0.001	97246	501.0	1	11.426	0.001	347996	473.5
Aroclor-1260	2	10.702	0.002	97621	512.4	2	11.679	-0.002	1000503	468.4
Aroclor-1260	3	11.052	0.002	275048	534.2	3	12.261	-0.000	661157	481.4
Aroclor-1260	4	11.453	0.000	121425	529.3	4	12.972	-0.001	329450	501.7
Aroclor-1260	5	11.556	0.002	58651	510.6	NS	---			----

Total Col1Ave (5 peaks): 517.5 Total Col2Ave (4 peaks): 481.3 RPD = 7
Corrected Ave (4 peaks): 513.3 Corrected Ave (3 peaks): 474.4 RPD = 8

CalAmt %D: 3.5 CalAmt %D: -3.7

Total PCB Area Col1 (5.169 - 13.066) = 2655201 Col1 Total PCB = 1.0 ppm*

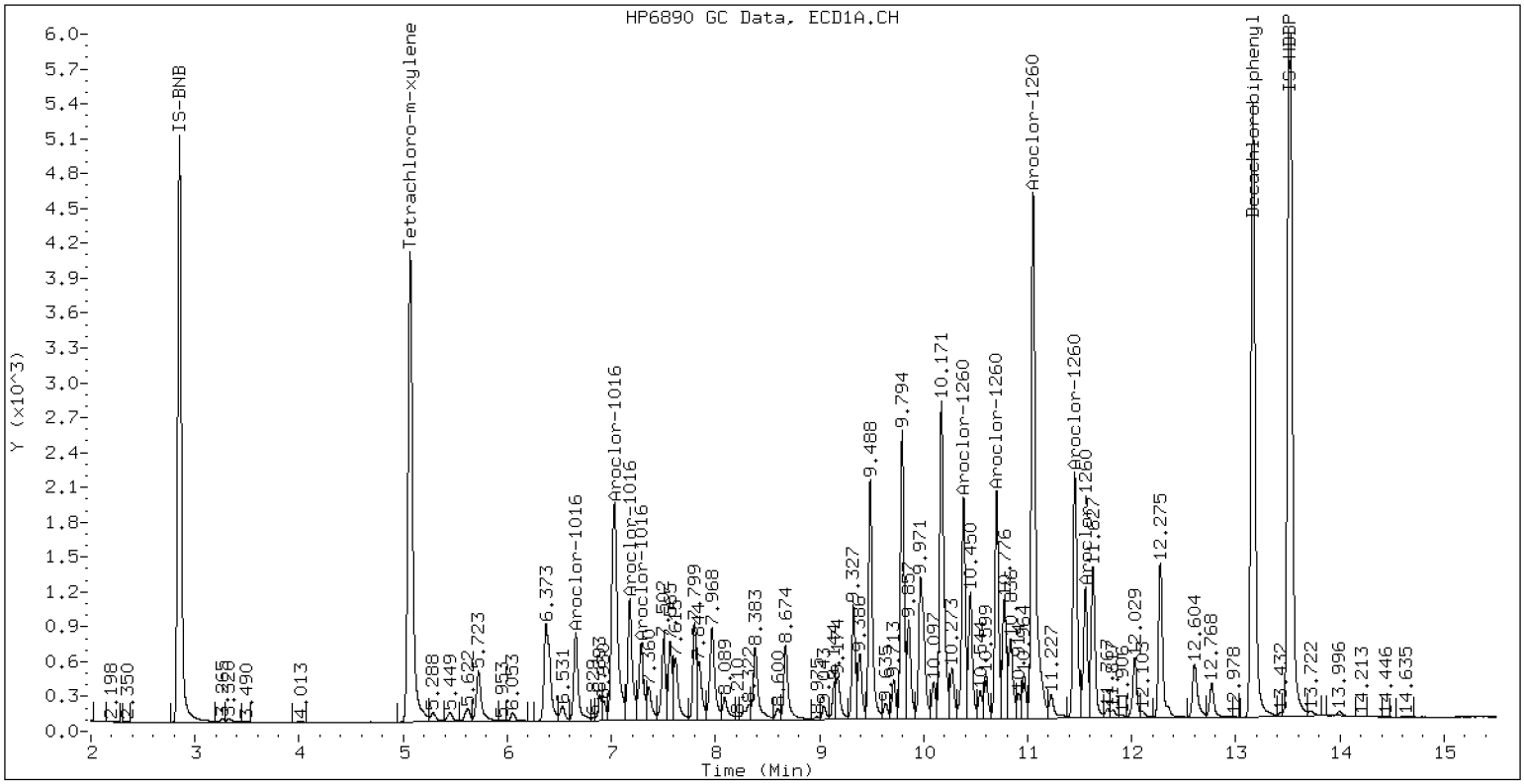
Total PCB Area Col2 (5.169 - 13.066) = 9365705 Col2 Total PCB = 1.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

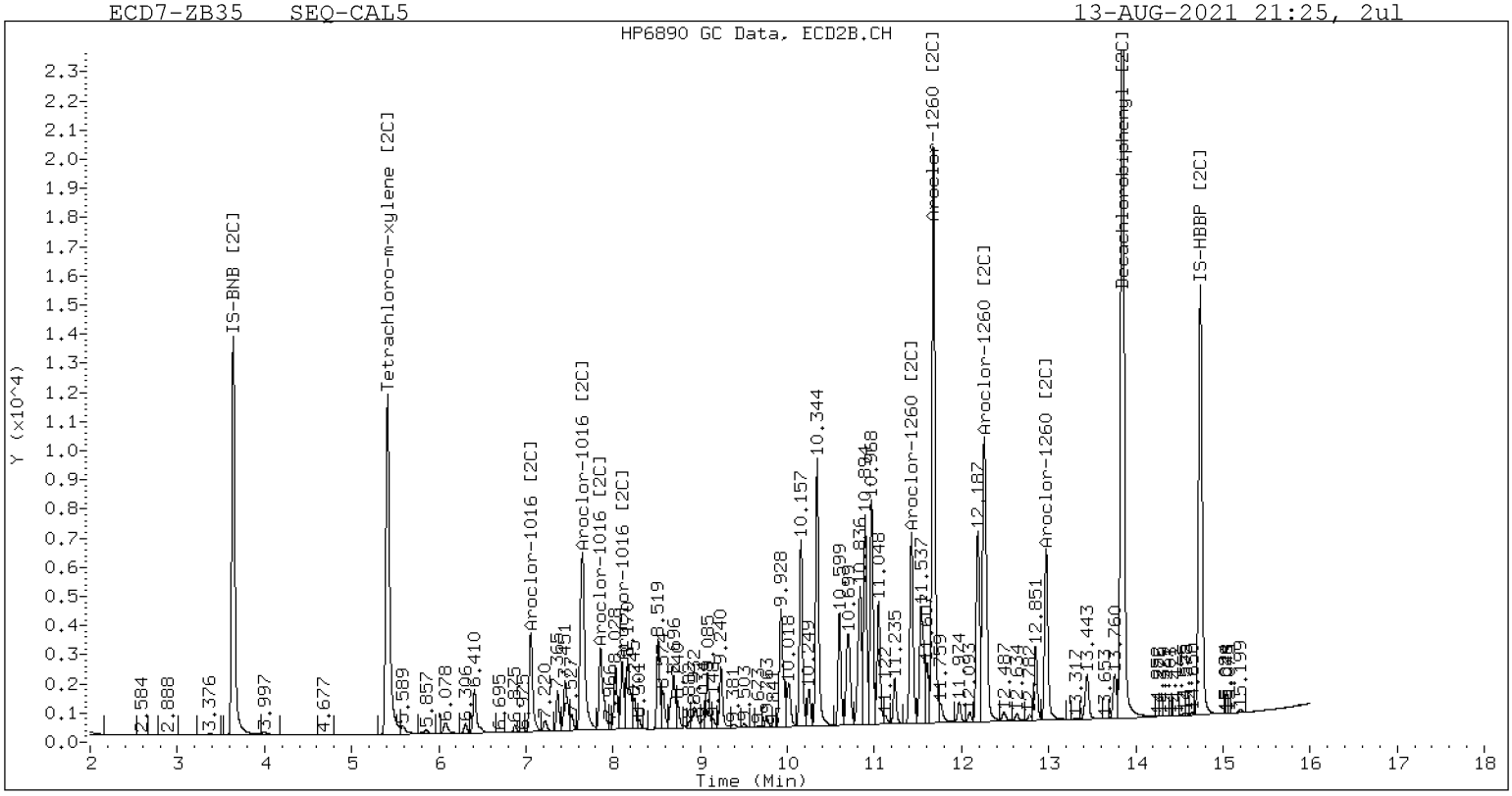
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL5 13-AUG-2021 21:25, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL5 13-AUG-2021 21:25, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132110ECD7.D
Data file 2: /210813.b/210813.b/08132110ECD7.D
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Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL6
Client ID:
Injection Date: 13-AUG-2021 21:46
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	541706	5.414	-0.003	1597689	159.9	159.0	0.6	Tetrachloro-m-xylene
13.165	-0.001	637119	13.857	-0.023	4083557	147.5	182.1	21.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	280205	8.2
Hexabromobiphenyl	425681	475884	11.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	781756	8.4
Hexabromobiphenyl	863111	1009000	16.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col			
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.658	0.000	94894	954.9	1	7.056	0.000	382038	857.0
Aroclor-1016	2	7.029	0.000	317873	1046.0	2	7.648	0.000	945478	948.2
Aroclor-1016	3	7.176	0.000	129330	948.3	3	7.855	0.000	372755	952.6
Aroclor-1016	4	7.285	0.000	89202	1043.3	4	8.105	0.000	217812	919.7

Total Col1Ave (4 peaks): 998.1 Total Col2Ave (4 peaks): 919.4 RPD = 8
Corrected Ave (3 peaks): 982.1 Corrected Ave (3 peaks): 908.3 RPD = 8

CalAmt %D: -0.2 CalAmt %D: -8.1

Aroclor-1260	1	10.383	0.000	204156	953.5	1	11.425	0.000	730248	870.6
Aroclor-1260	2	10.700	0.000	206019	980.4	2	11.681	0.000	2360936	968.4
Aroclor-1260	3	11.051	0.000	537974	947.2	3	12.261	0.000	1405398	896.5
Aroclor-1260	4	11.452	0.000	257778	1018.8	4	12.972	0.000	707923	944.6
Aroclor-1260	5	11.554	0.000	123435	974.3	NS	---			----

Total Col1Ave (5 peaks): 974.9 Total Col2Ave (4 peaks): 920.0 RPD = 6
Corrected Ave (4 peaks): 963.9 Corrected Ave (3 peaks): 903.9 RPD = 6

CalAmt %D: -2.5 CalAmt %D: -8.0

Total PCB Area Col1 (5.169 - 13.066) = 5423849 Col1 Total PCB = 1.9 ppm*

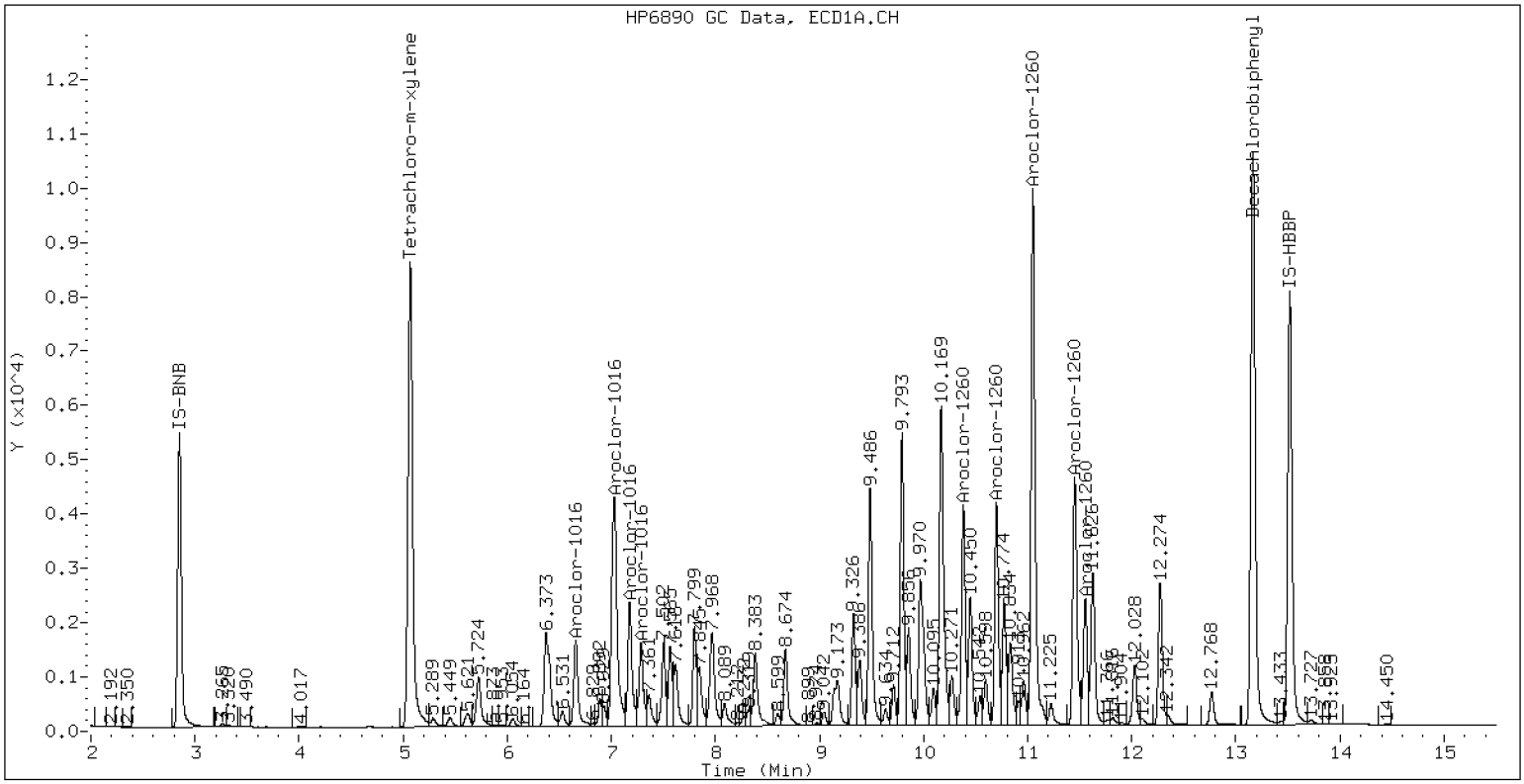
Total PCB Area Col2 (5.169 - 13.066) = 19780755 Col2 Total PCB = 1.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

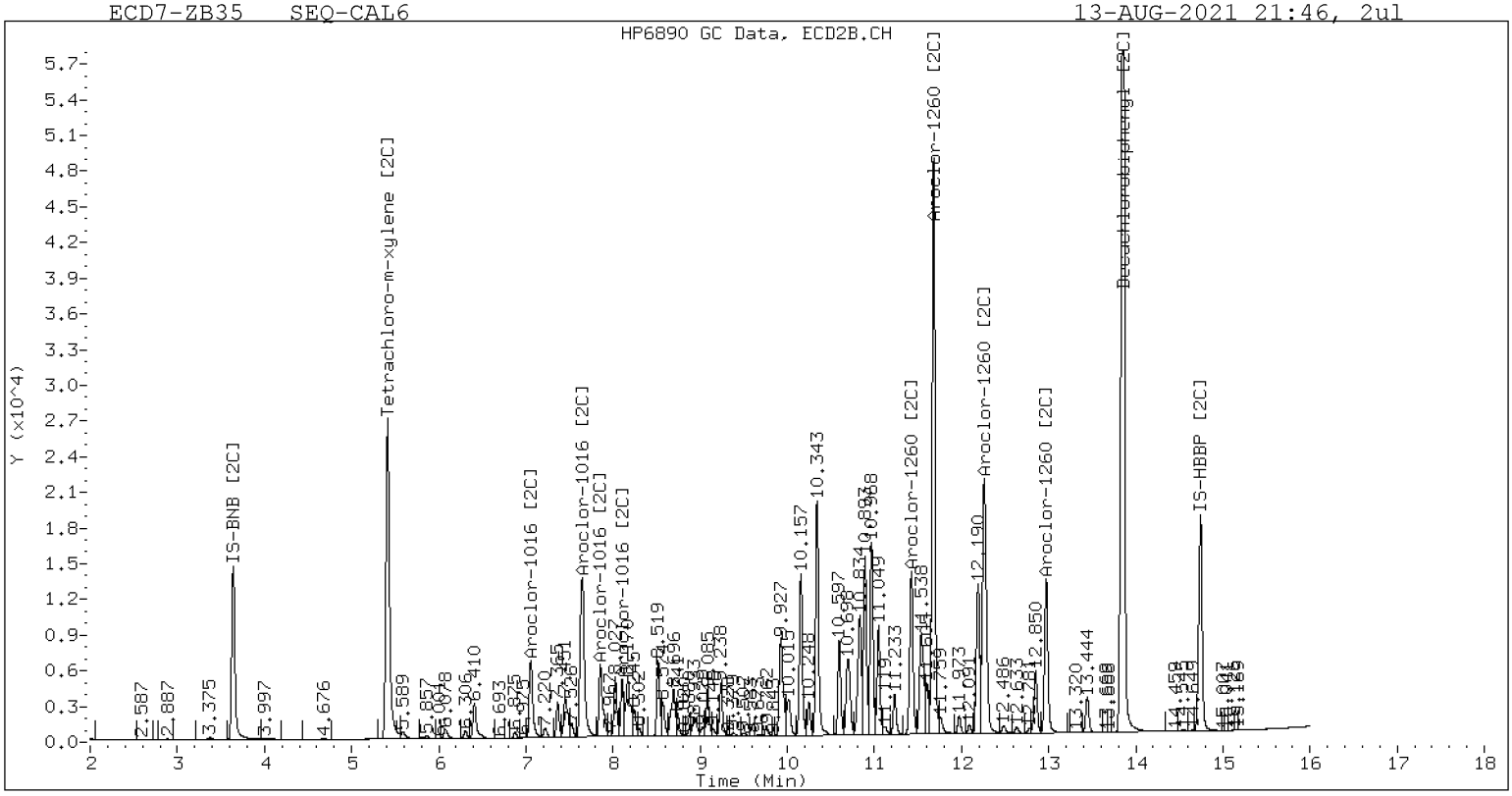
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL6 13-AUG-2021 21:46, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CAL6 13-AUG-2021 21:46, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132111ECD7.D
Data file 2: /210813.b/210813.b/08132111ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL7
Client ID:
Injection Date: 13-AUG-2021 22:06
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	8876	5.414	-0.003	30000	2.9	3.3	12.3	Tetrachloro-m-xylene
13.165	-0.001	13011	13.846	-0.034	60849	3.3	3.1	6.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250794	-3.1
Hexabromobiphenyl	425681	428399	0.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	704880	-2.2
Hexabromobiphenyl	863111	870180	0.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.661	0.003	1188	17.2	1	7.057	0.000	7002	21.6
Aroclor-1242	2	7.036	0.006	3551	17.2	2	7.656	0.007	14507	20.6
Aroclor-1242	3	8.379	0.005	2874	24.6	3	8.961	0.012	8080	24.6
Aroclor-1242	4	8.669	-0.004	1107	23.2	4	9.055	0.028	9034	24.2

Total Col1Ave (4 peaks): 20.6 Total Col2Ave (4 peaks): 22.7 RPD = 10

Corrected Ave (3 peaks): 19.2 Corrected Ave (3 peaks): 22.1 RPD = 14

Total PCB Area Col1 (5.169 - 13.066) = 29886 Col1 Total PCB = 0.0 ppm*

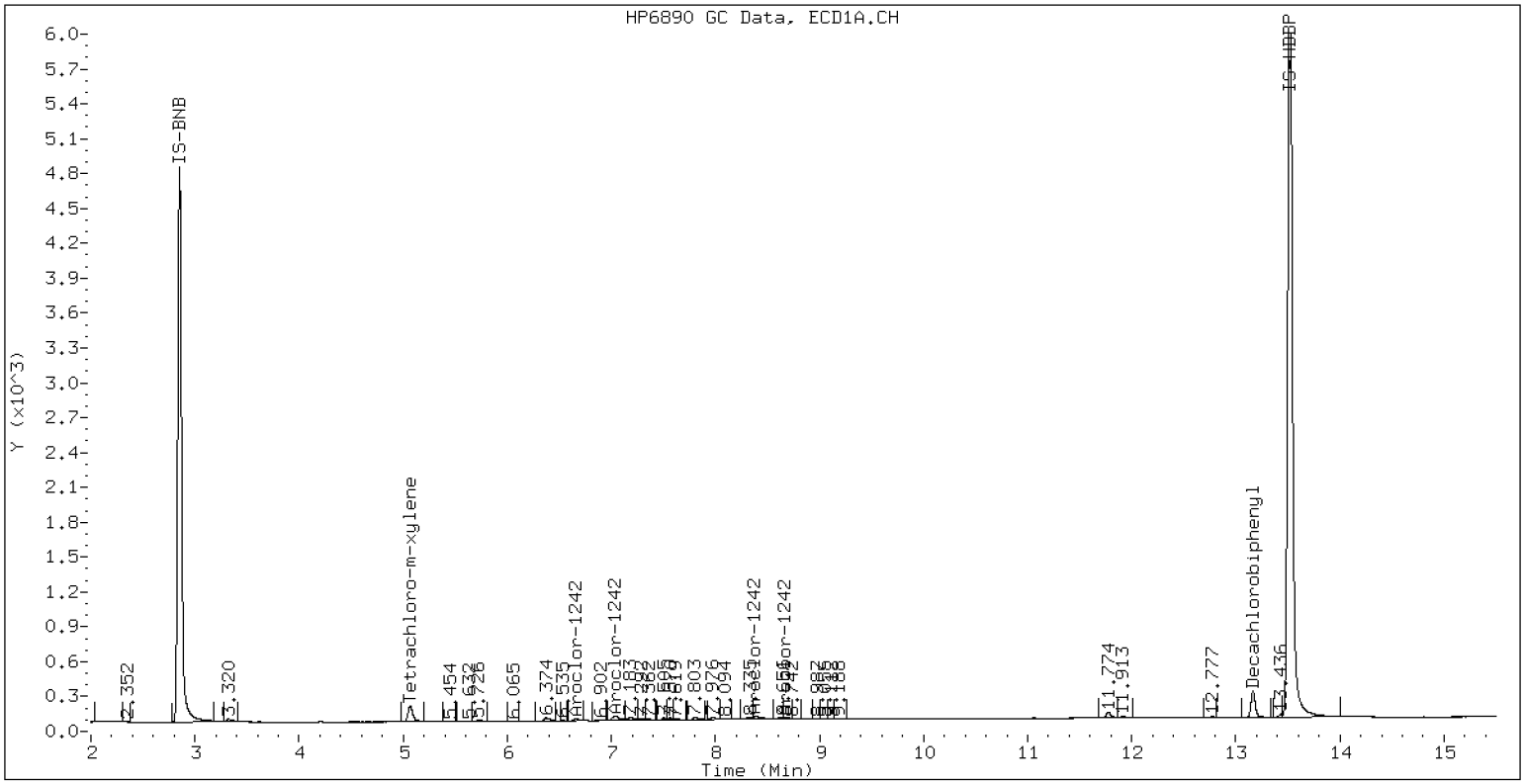
Total PCB Area Col2 (5.169 - 13.066) = 165162 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

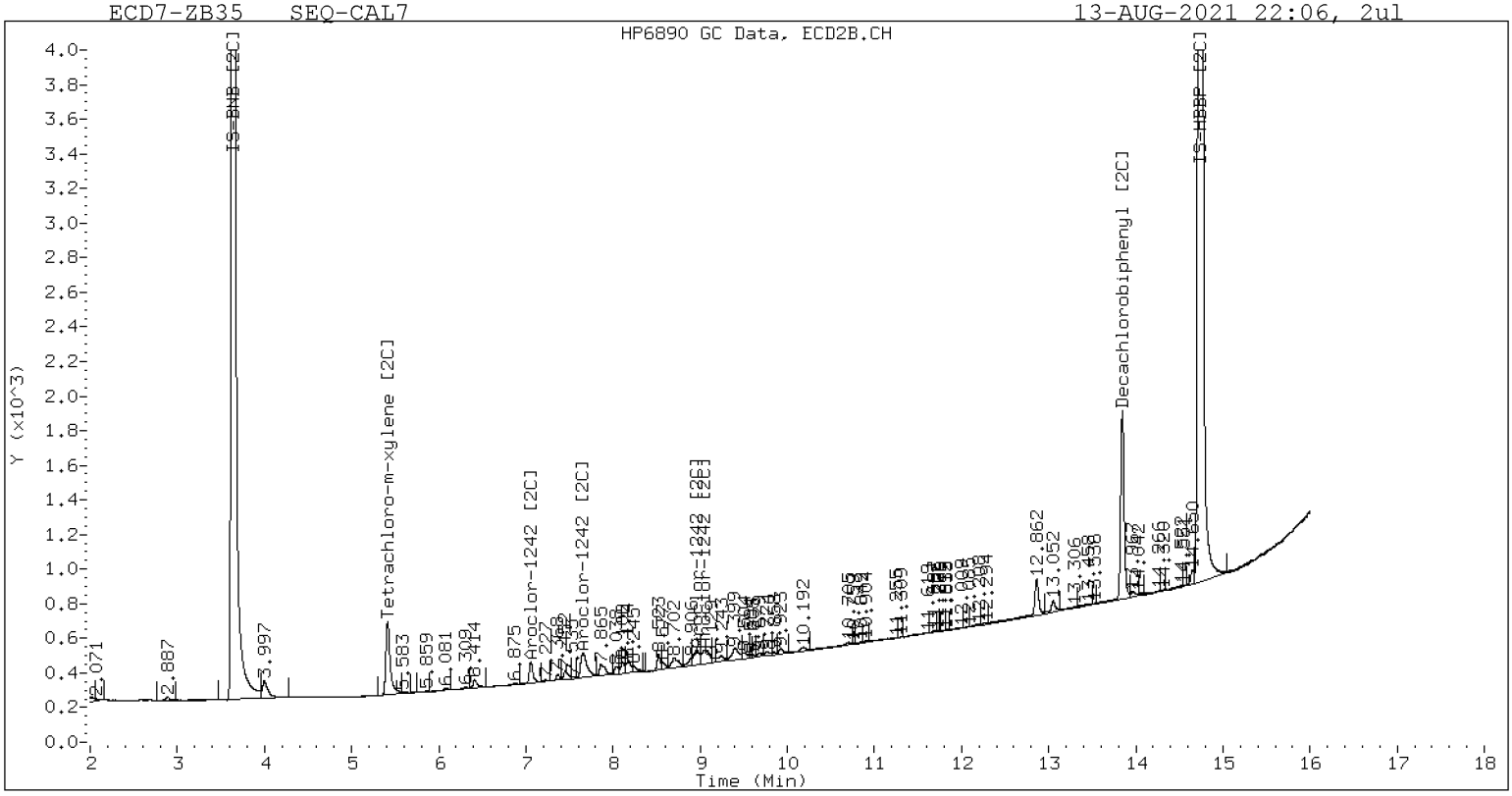
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL7 13-AUG-2021 22:06, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CAL7 13-AUG-2021 22:06, 2ul

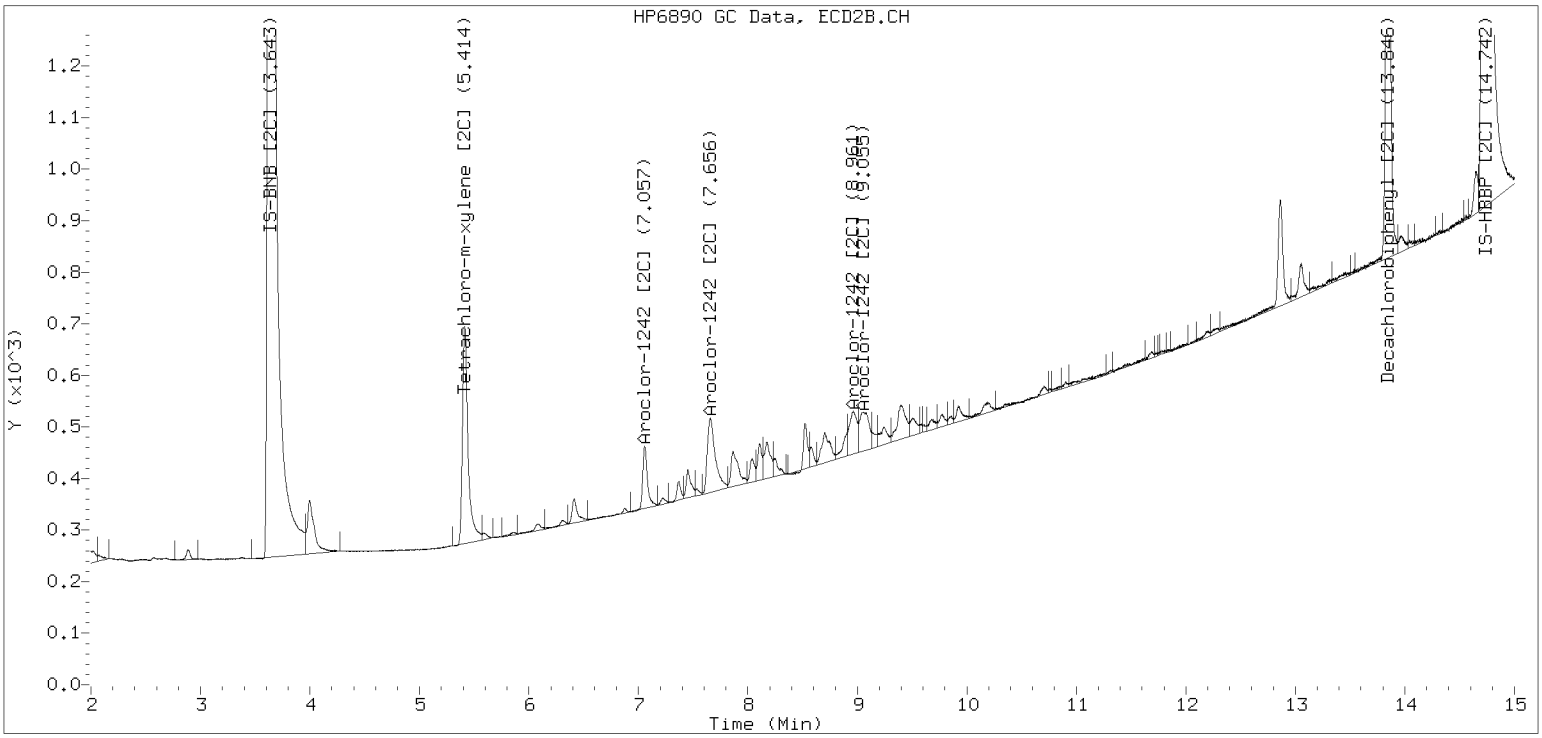


ZB-35 Manual Integration: YES

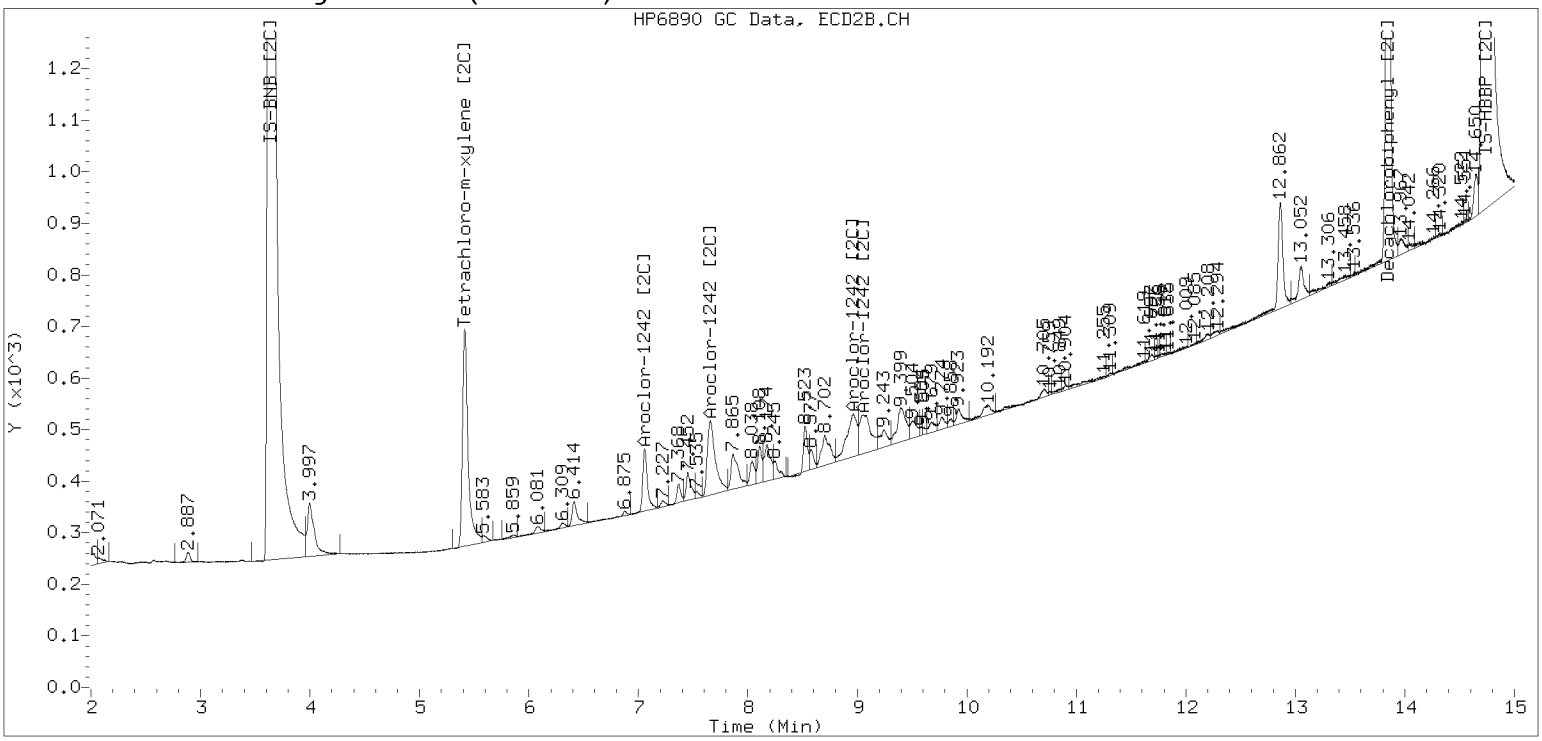
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132111.D Injection Date: 13-AUG-2021 22:0

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132112ECD7.D
Data file 2: /210813.b/210813.b/08132112ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL8
Client ID:
Injection Date: 13-AUG-2021 22:27
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	22775	5.413	-0.004	72347	7.4	7.8	5.0	Tetrachloro-m-xylene
13.165	-0.001	30955	13.846	-0.034	147761	7.9	7.6	3.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	254431	-1.7
Hexabromobiphenyl	425681	432936	1.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	722925	0.3
Hexabromobiphenyl	863111	877354	1.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1242	1	6.662	0.003	3423	48.8	1	7.058	0.001	16875	50.8
Aroclor-1242	2	7.036	0.005	9075	43.4	2	7.657	0.008	34600	47.9
Aroclor-1242	3	8.386	0.011	5615	47.4	3	8.960	0.011	17574	52.1
Aroclor-1242	4	8.677	0.003	2567	53.1	4	9.045	0.017	18353	48.0

Total Col1Ave (4 peaks): 48.2 Total Col2Ave (4 peaks): 49.7 RPD = 3

Corrected Ave (3 peaks): 46.6 Corrected Ave (3 peaks): 48.9 RPD = 5

Total PCB Area Col1 (5.169 - 13.066) = 74664 Col1 Total PCB = 0.0 ppm*

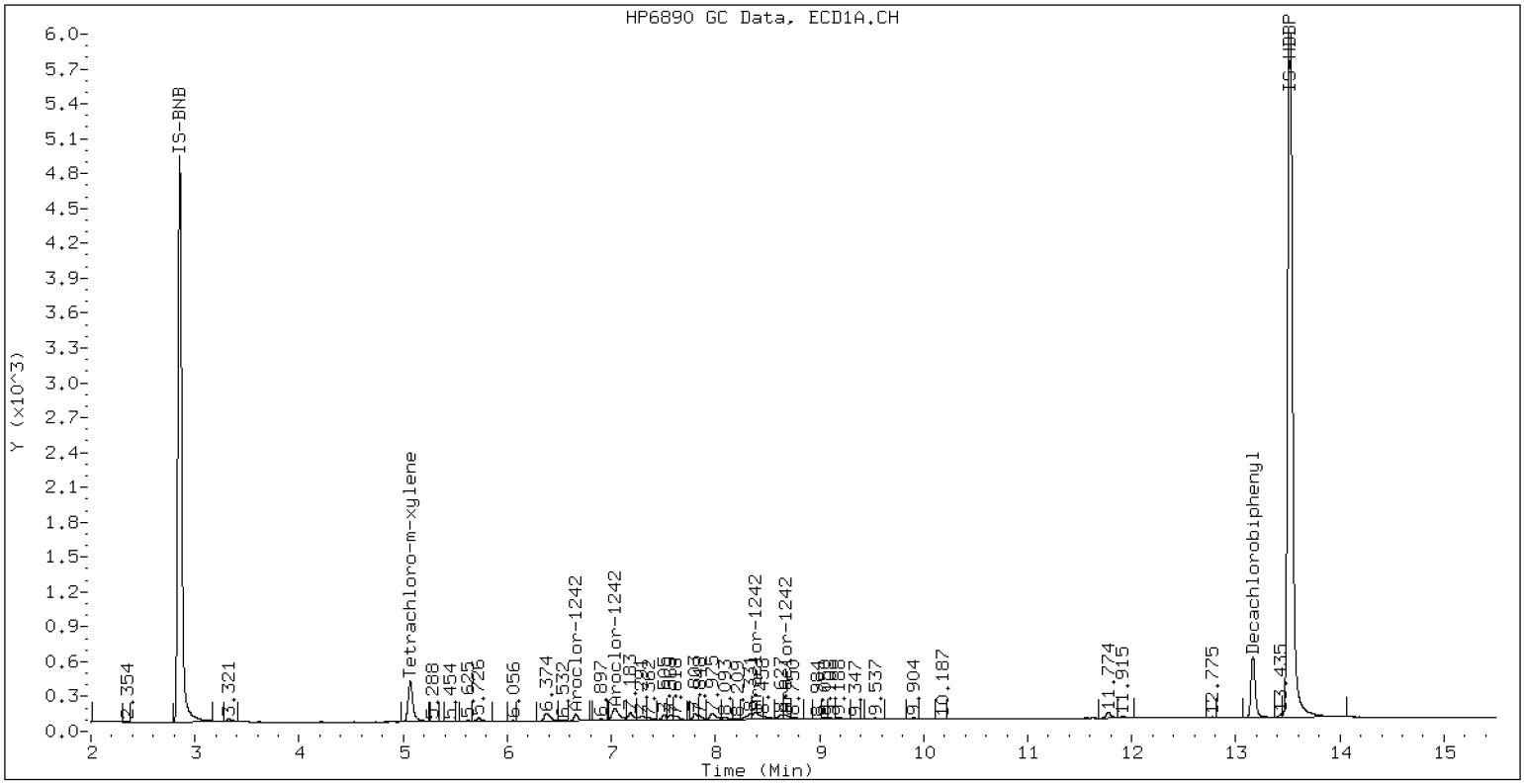
Total PCB Area Col2 (5.169 - 13.066) = 351076 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

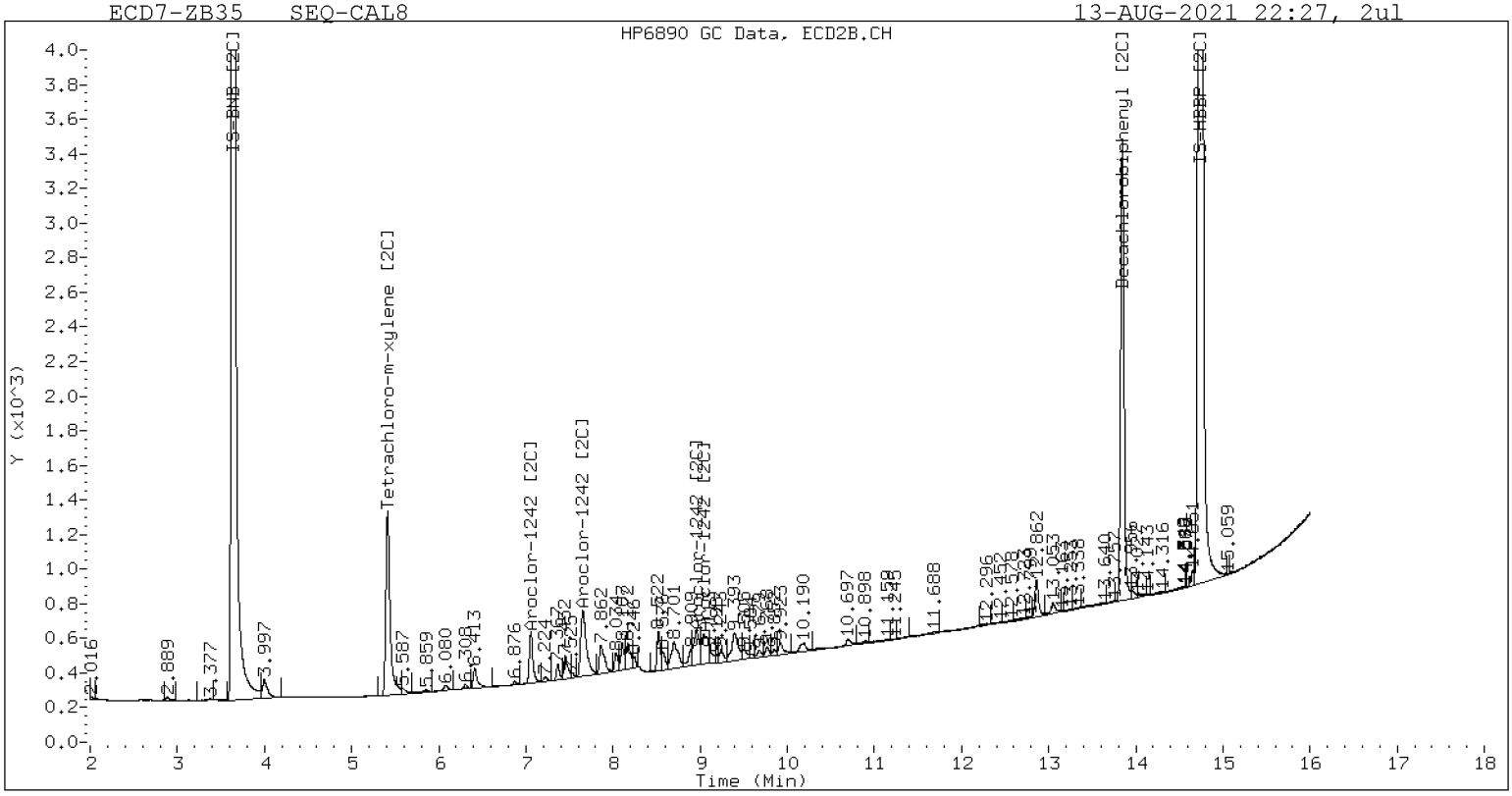
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL8 13-AUG-2021 22:27, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CAL8 13-AUG-2021 22:27, 2ul

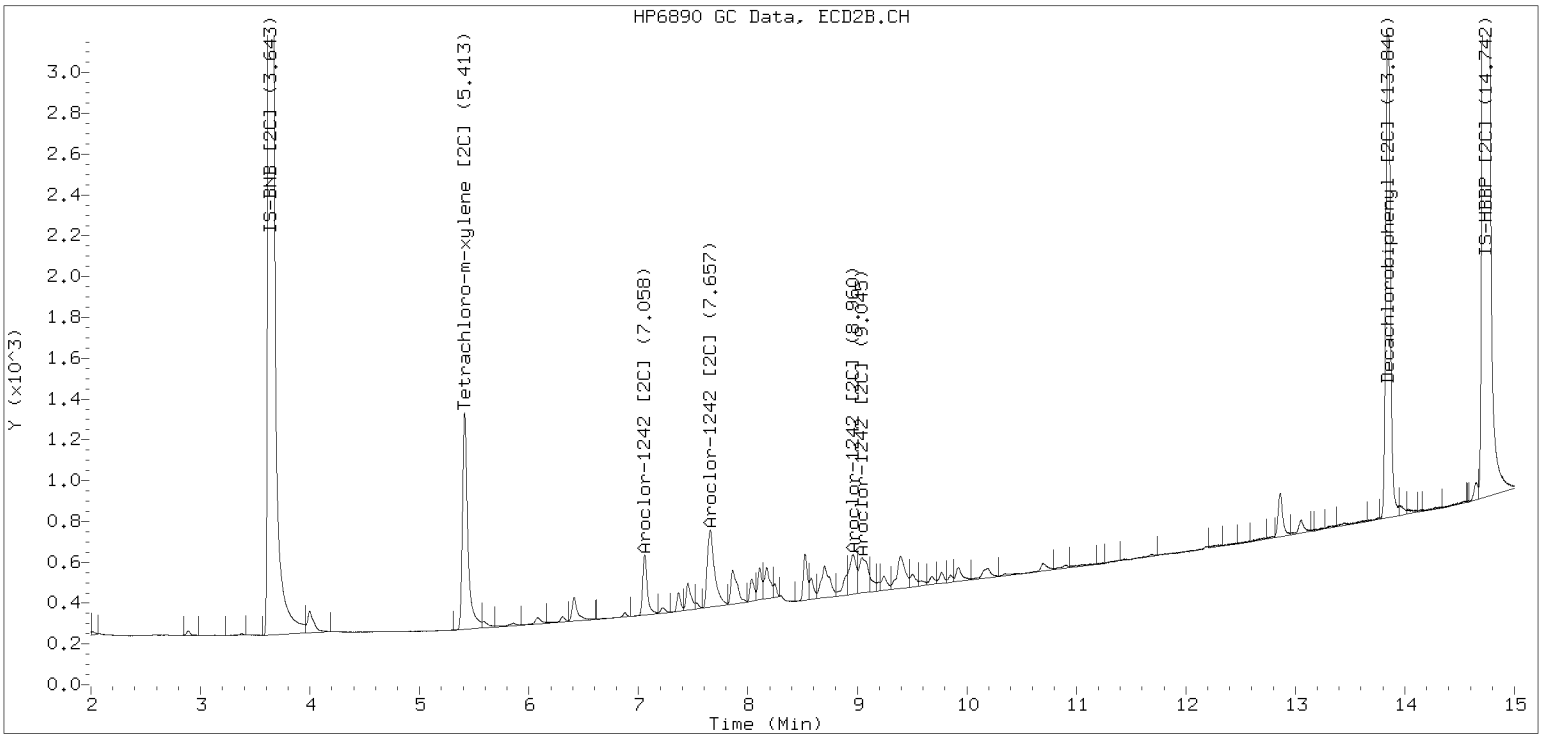


ZB-35 Manual Integration: YES

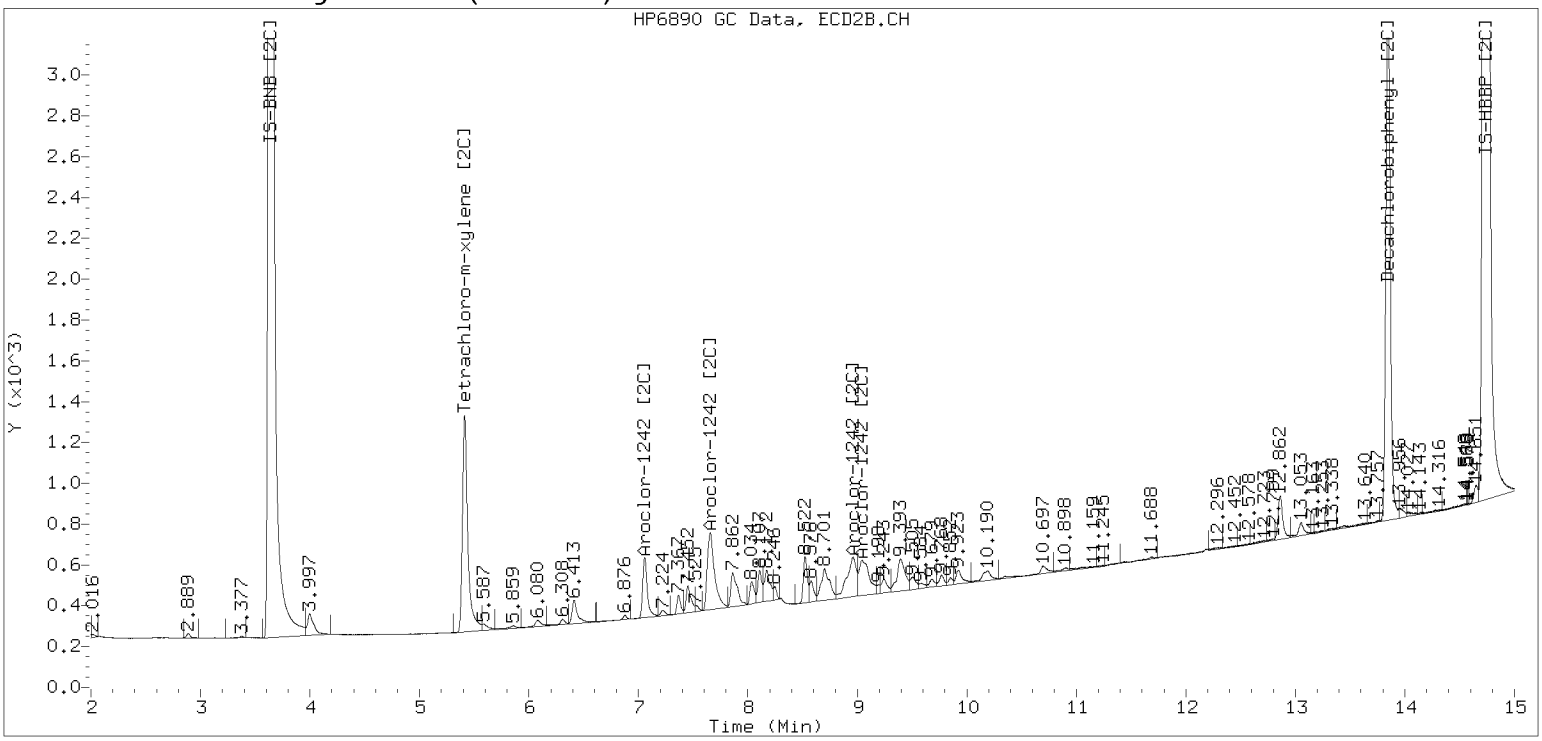
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132112.D Injection Date: 13-AUG-2021 22:2

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132113ECD7.D
Data file 2: /210813.b/210813.b/08132113ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CAL9
Client ID:
Injection Date: 13-AUG-2021 22:47
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	49575	5.413	-0.004	149310	15.6	15.7	0.9	Tetrachloro-m-xylene
13.165	-0.001	64075	13.847	-0.033	317373	15.8	15.7	0.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263477	1.8
Hexabromobiphenyl	425681	447686	5.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	739775	2.6
Hexabromobiphenyl	863111	908046	5.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.661	0.002	7695	106.0	1	7.057	-0.000	35210	103.5
Aroclor-1242	2	7.034	0.004	21772	100.6	2	7.654	0.006	72738	98.5
Aroclor-1242	3	8.380	0.006	12252	99.9	3	8.954	0.006	33982	98.5
Aroclor-1242	4	8.676	0.002	5367	107.1	4	9.039	0.012	41373	105.6

Total Col1Ave (4 peaks): 103.4 Total Col2Ave (4 peaks): 101.5 RPD = 2

Corrected Ave (3 peaks): 102.2 Corrected Ave (3 peaks): 100.1 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 168568 Col1 Total PCB = 0.1 ppm*

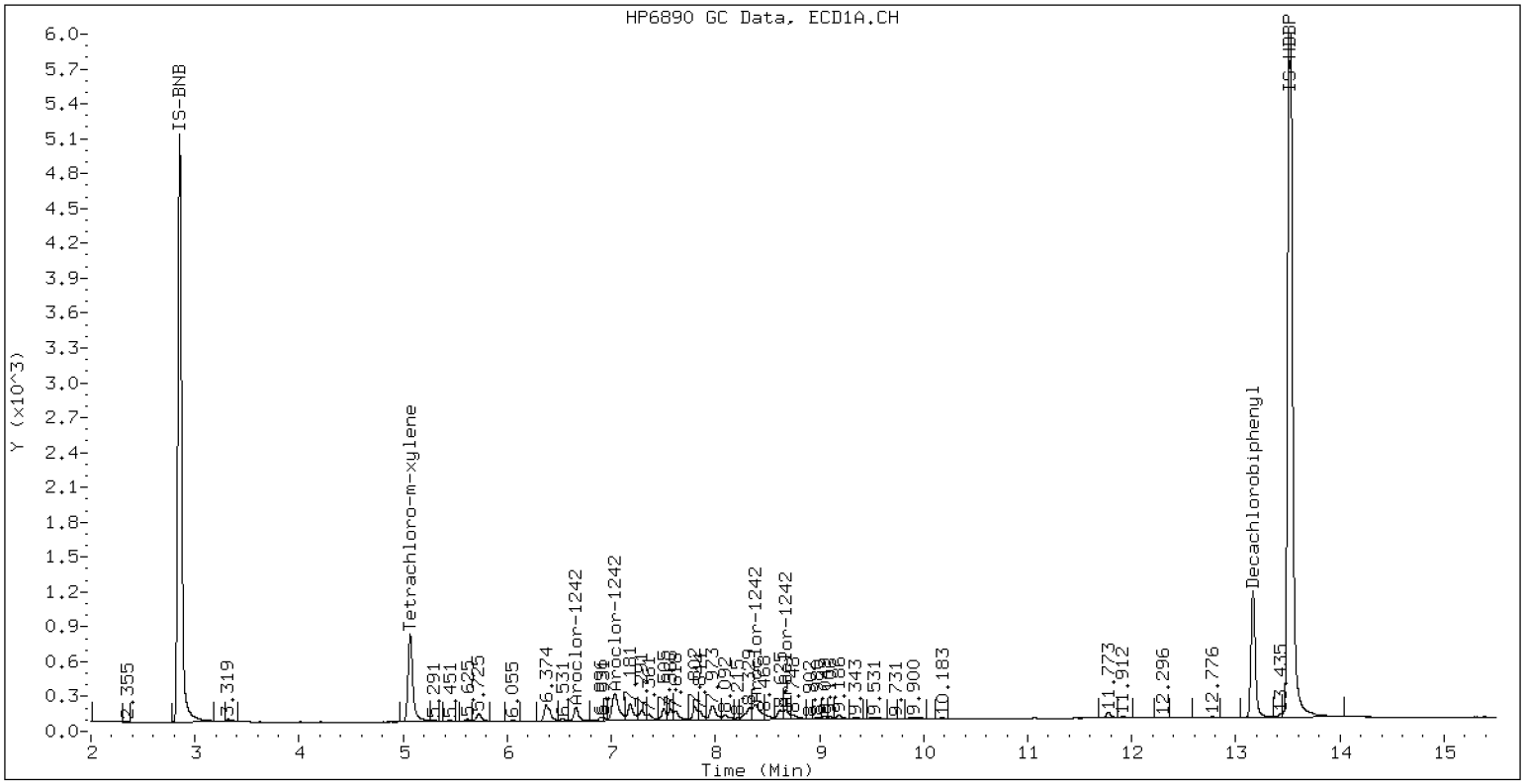
Total PCB Area Col2 (5.169 - 13.066) = 685751 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

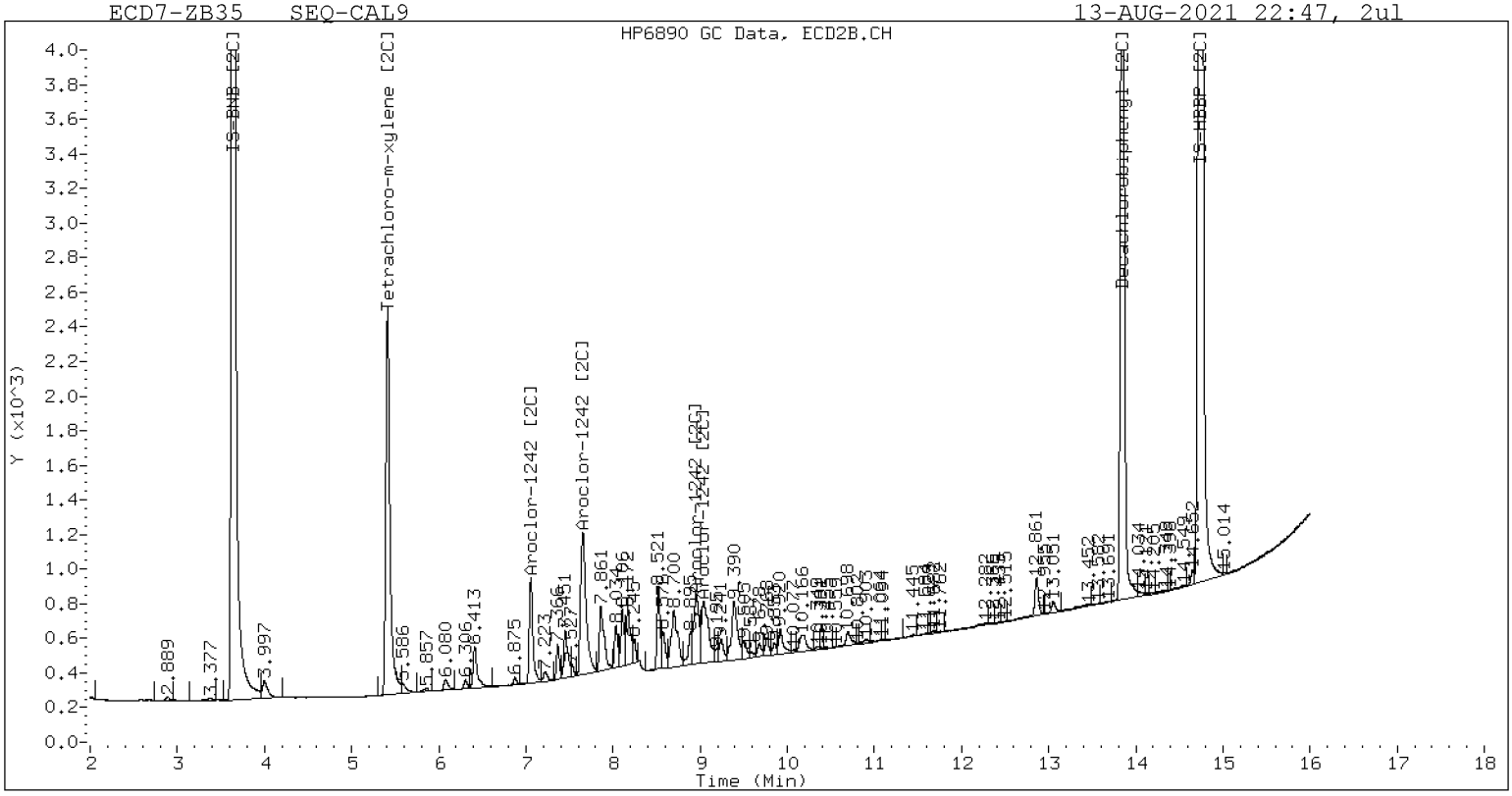
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CAL9 13-AUG-2021 22:47, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CAL9 13-AUG-2021 22:47, 2ul

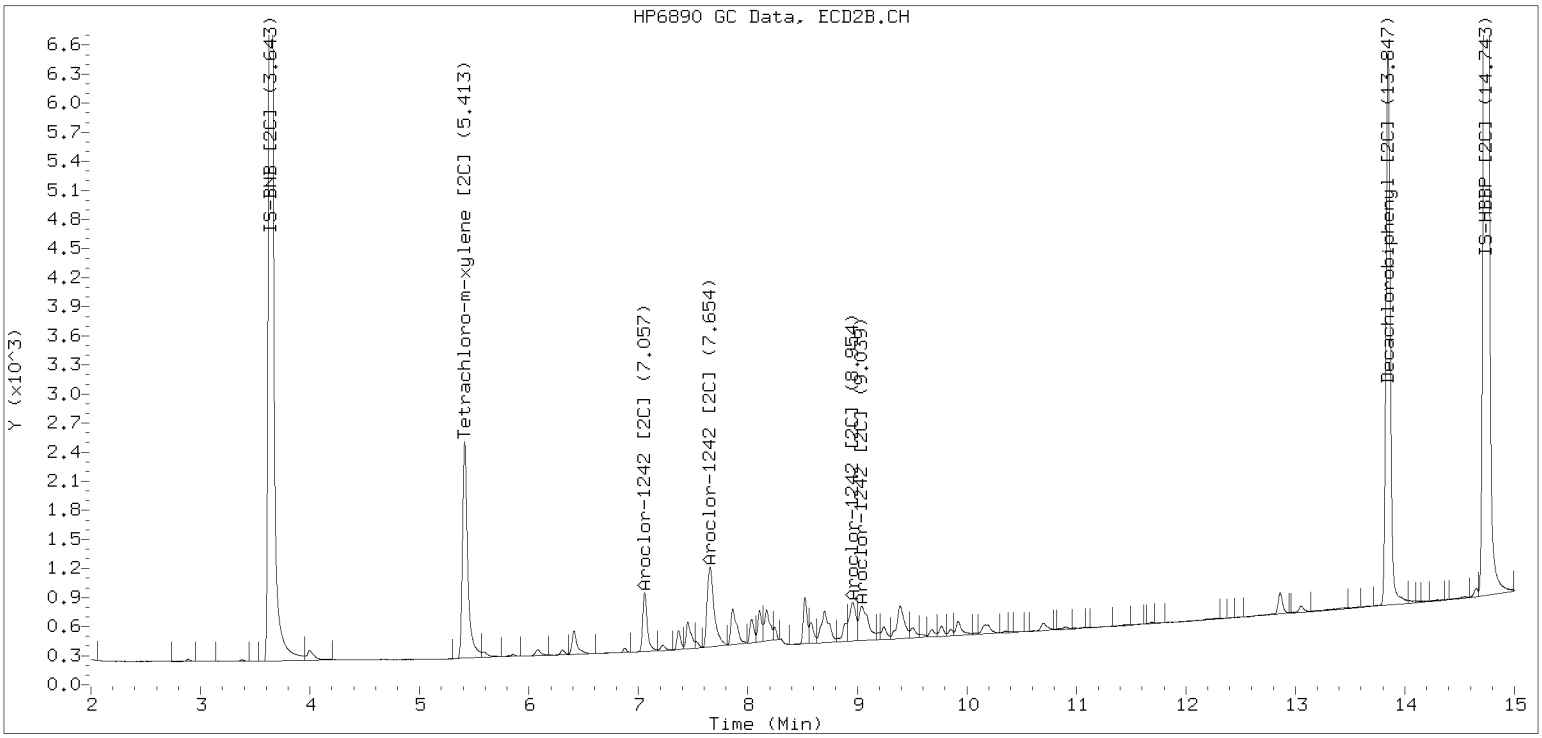


ZB-35 Manual Integration: YES

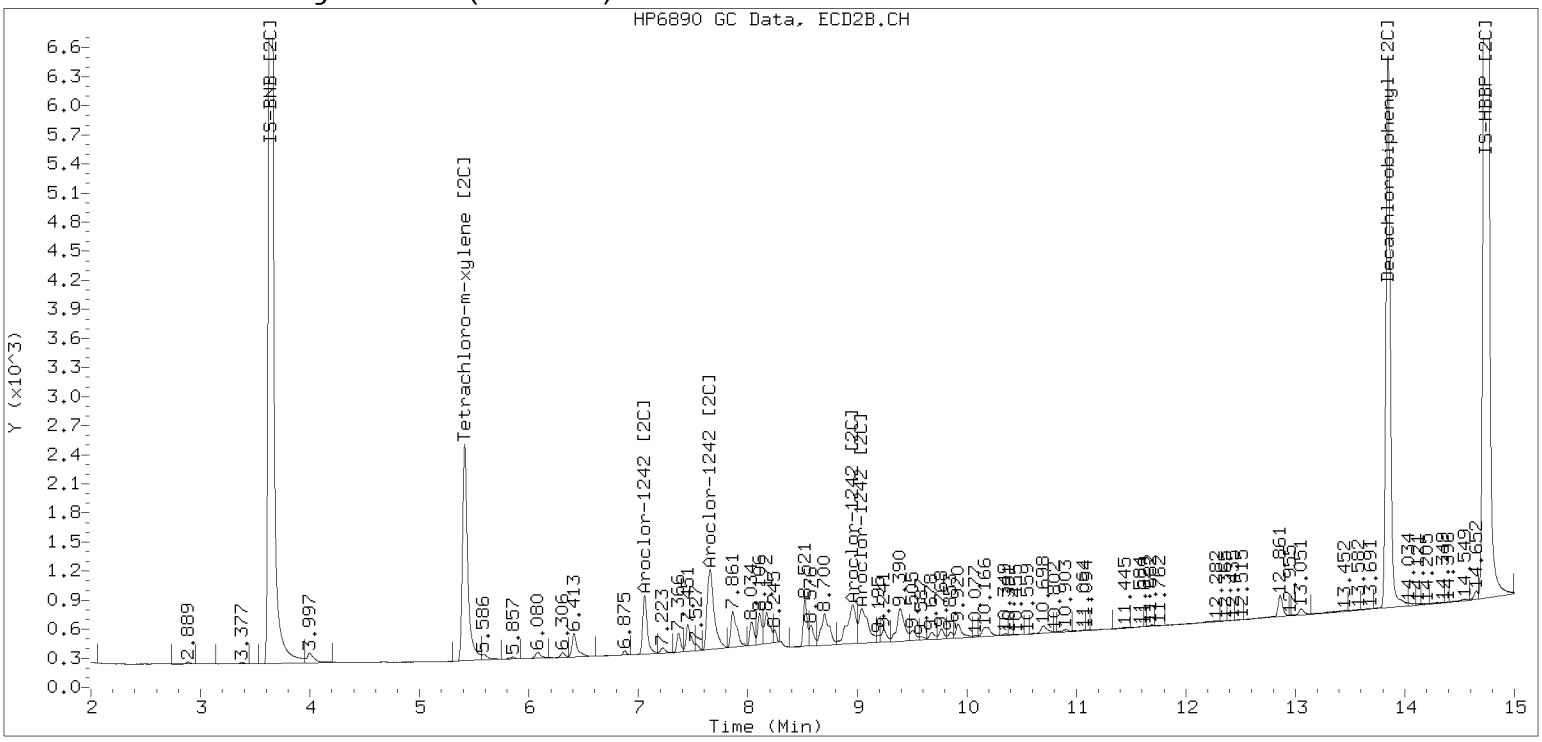
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132113.D Injection Date: 13-AUG-2021 22:4

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132114ECD7.D
Data file 2: /210813.b/210813.b/08132114ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALA
Client ID:
Injection Date: 13-AUG-2021 23:08
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	131882	5.414	-0.003	383756	41.3	40.0	3.3	Tetrachloro-m-xylene
13.165	-0.000	163389	13.847	-0.033	822599	39.5	40.3	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263941	2.0
Hexabromobiphenyl	425681	455818	7.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	746878	3.6
Hexabromobiphenyl	863111	917589	6.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1242	1	6.660	0.002	19465	267.7	1	7.056	-0.001	87705	255.4
Aroclor-1242	2	7.033	0.003	58524	270.0	2	7.652	0.004	196218	263.1
Aroclor-1242	3	8.379	0.004	29043	236.5	3	8.953	0.005	84240	241.7
Aroclor-1242	4	8.674	0.000	12640	251.9	4	9.034	0.006	98564	249.3

Total Col1Ave (4 peaks): 256.5 Total Col2Ave (4 peaks): 252.4 RPD = 2
Corrected Ave (3 peaks): 252.0 Corrected Ave (3 peaks): 248.8 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 436801 Col1 Total PCB = 0.2 ppm*

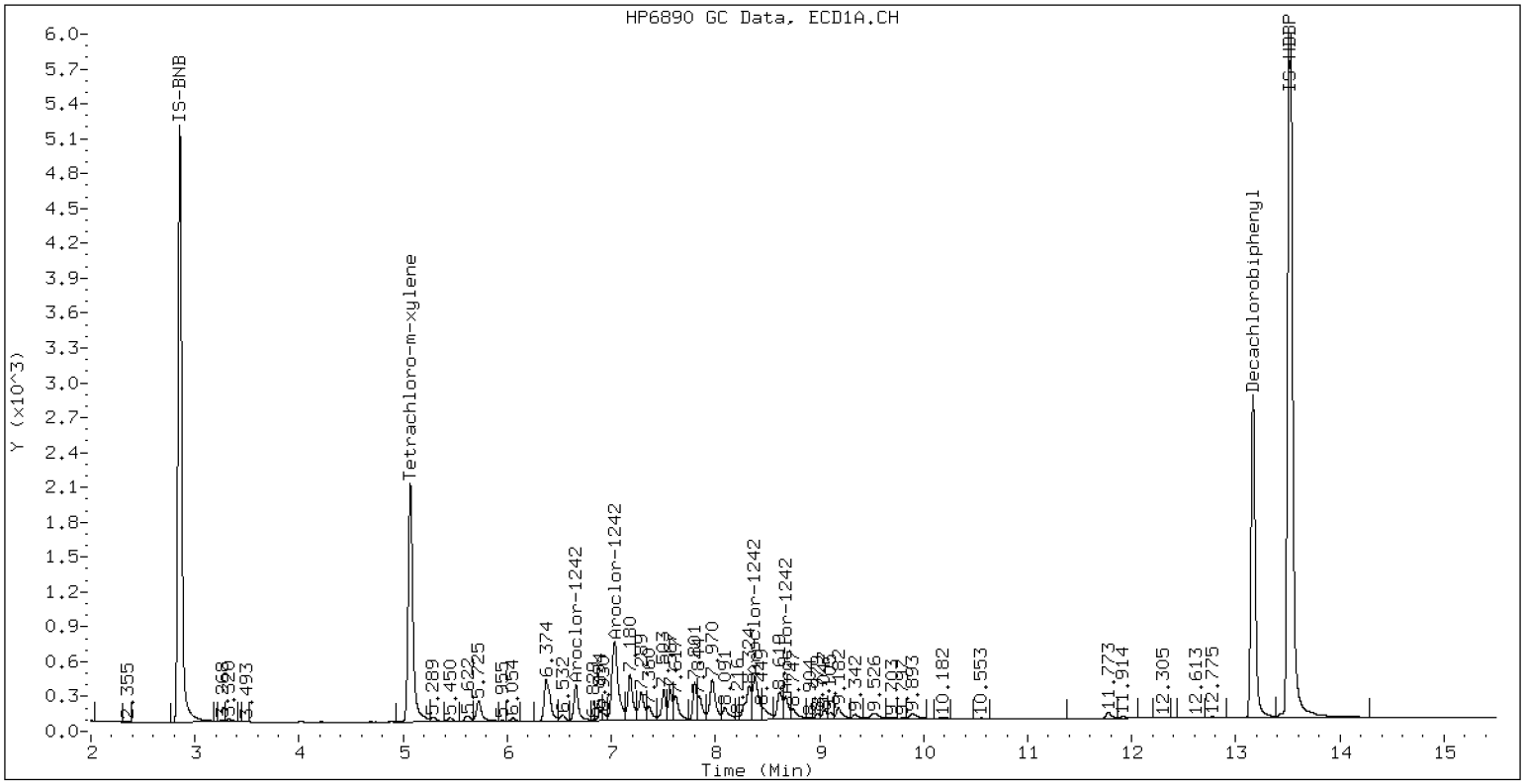
Total PCB Area Col2 (5.169 - 13.066) = 1777148 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

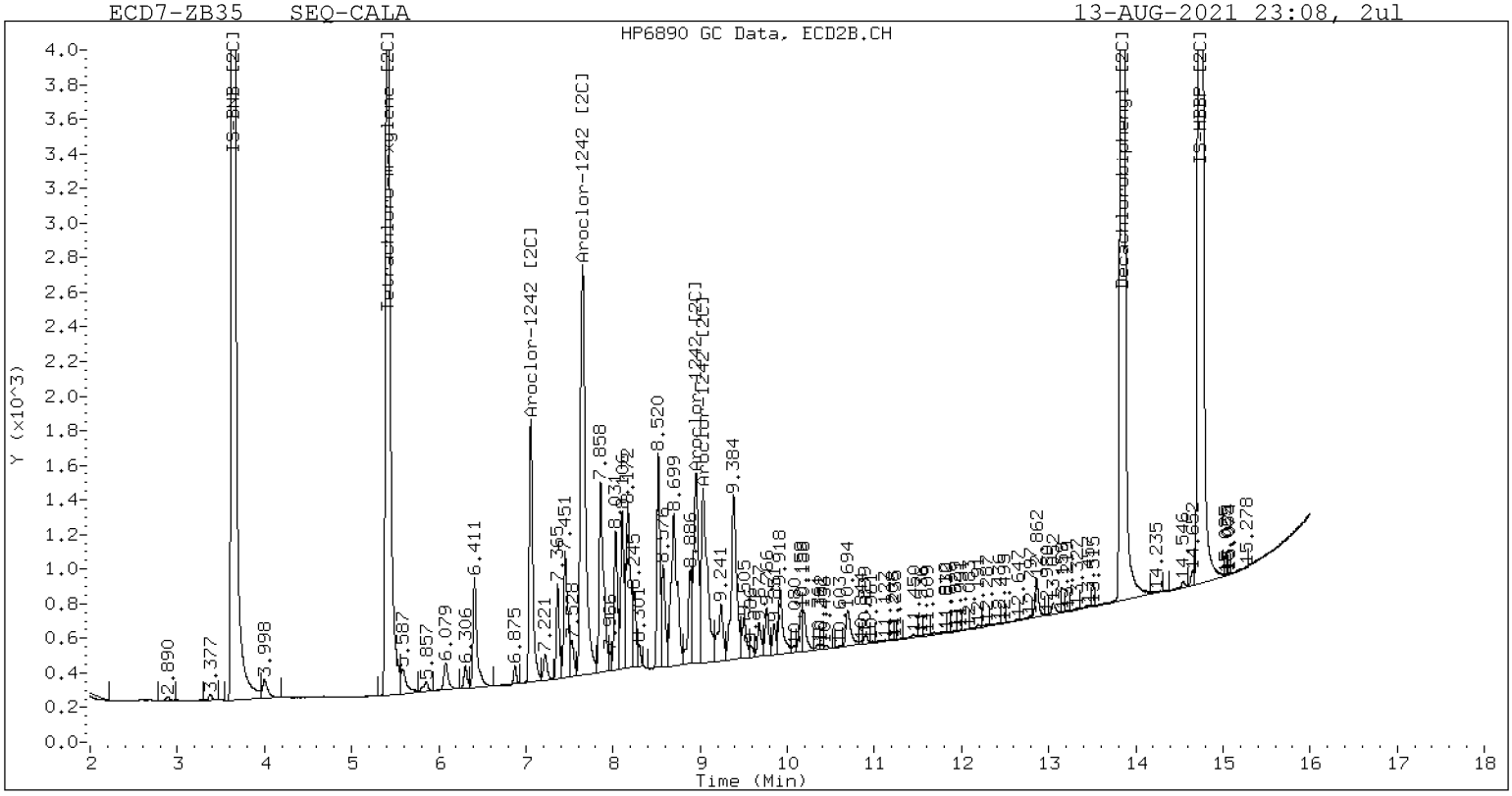
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALA 13-AUG-2021 23:08, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALA 13-AUG-2021 23:08, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132115ECD7.D
Data file 2: /210813.b/210813.b/08132115ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALB
Client ID:
Injection Date: 13-AUG-2021 23:28
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	258643	5.414	-0.003	740328	81.7	78.2	4.4	Tetrachloro-m-xylene
13.165	-0.001	313998	13.854	-0.026	1754204	77.8	86.3	10.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261764	1.1
Hexabromobiphenyl	425681	444869	4.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736715	2.2
Hexabromobiphenyl	863111	914686	6.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1242	1	6.660	0.001	37614	521.5	1	7.057	0.000	164453	485.5
Aroclor-1242	2	7.033	0.003	117814	548.0	2	7.651	0.002	375288	510.1
Aroclor-1242	3	8.379	0.004	58323	478.9	3	8.952	0.003	157727	458.9
Aroclor-1242	4	8.674	0.001	22510	452.3	4	9.032	0.004	183930	471.6

Total Col1Ave (4 peaks): 500.2 Total Col2Ave (4 peaks): 481.5 RPD = 4

Corrected Ave (3 peaks): 484.2 Corrected Ave (3 peaks): 472.0 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 859256 Col1 Total PCB = 0.3 ppm*

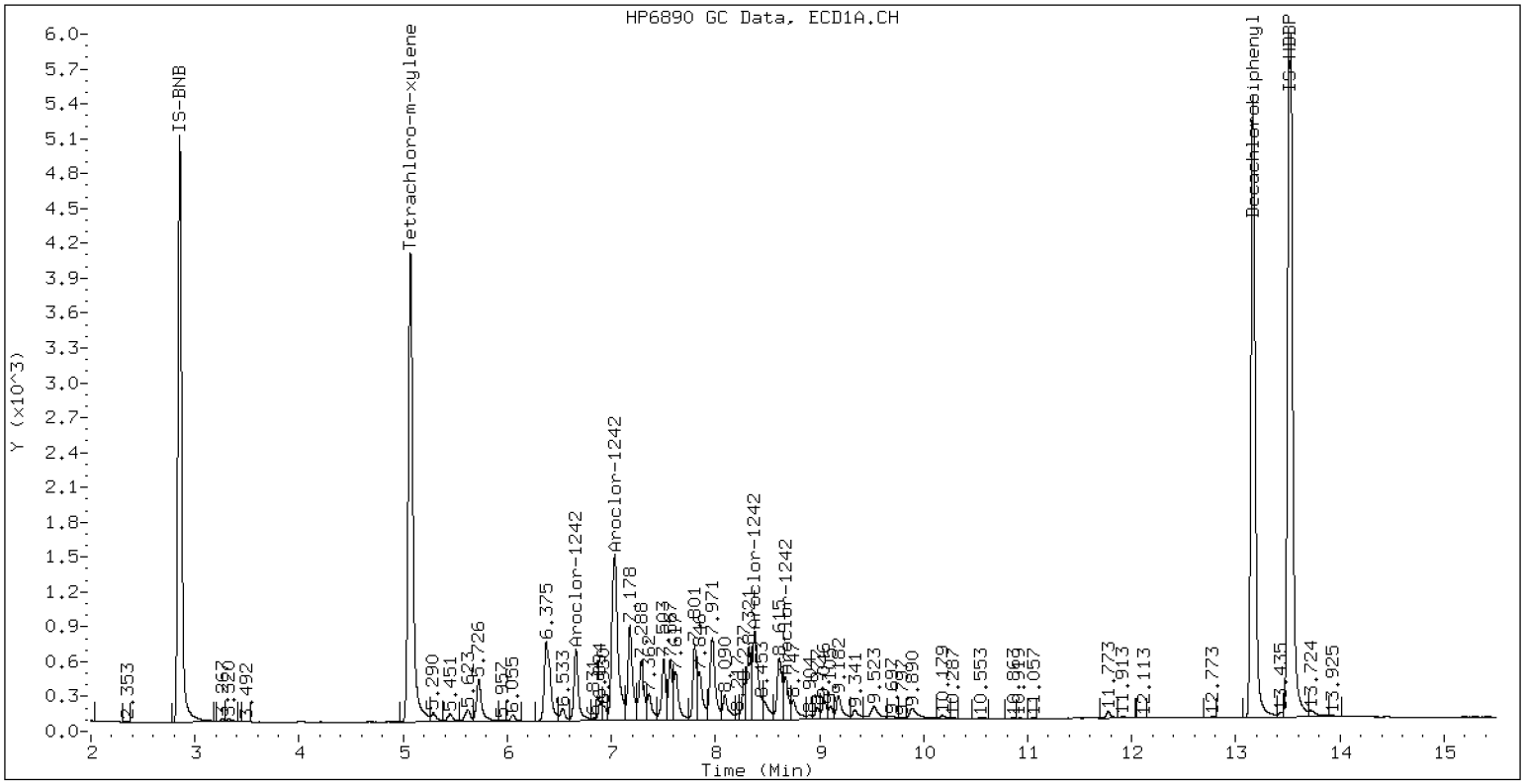
Total PCB Area Col2 (5.169 - 13.066) = 3382751 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

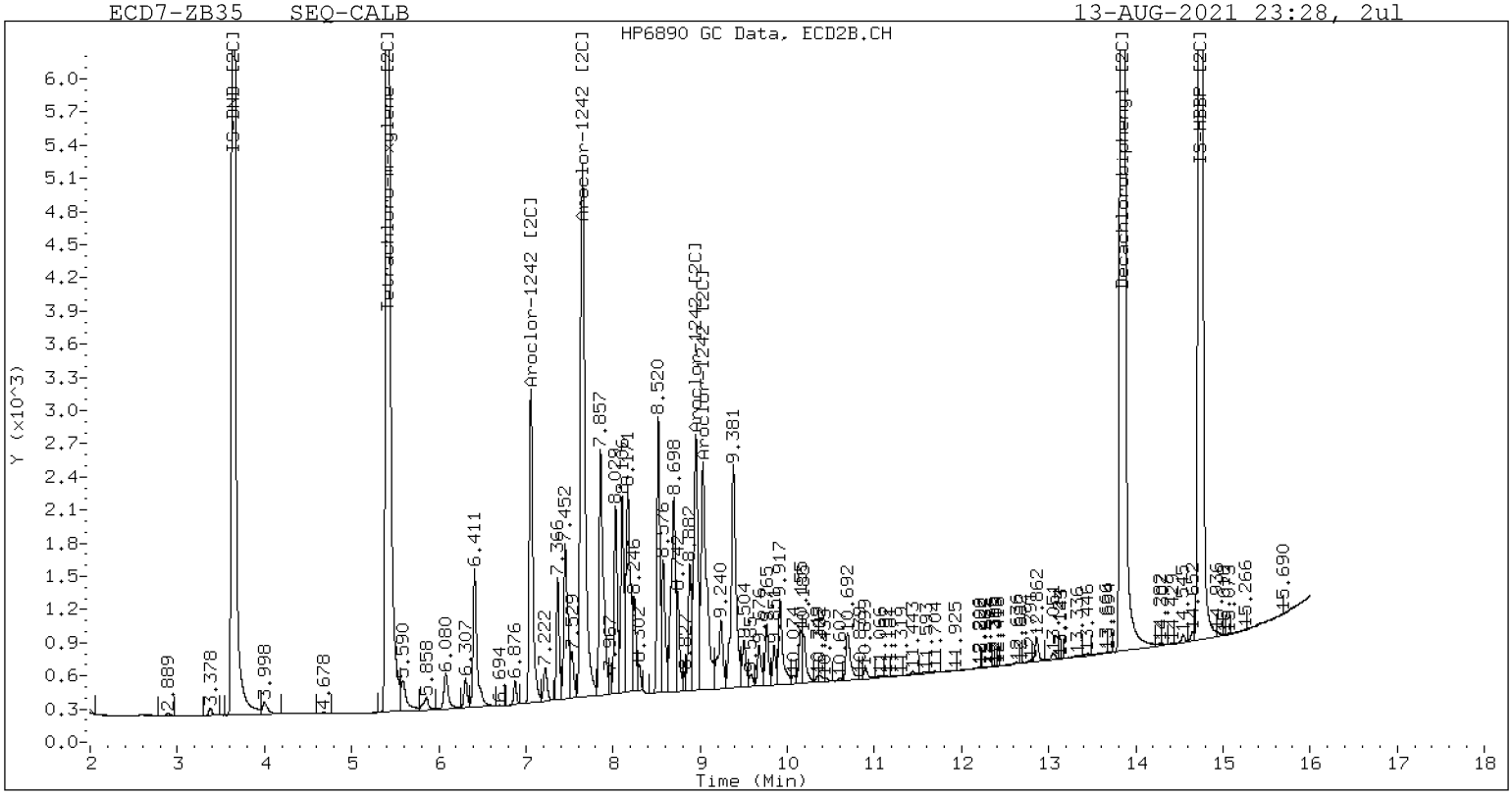
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALB 13-AUG-2021 23:28, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALB 13-AUG-2021 23:28, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132116ECD7.D
Data file 2: /210813.b/210813.b/08132116ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALC
Client ID:
Injection Date: 13-AUG-2021 23:49
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	563122	5.415	-0.001	1673143	158.2	158.3	0.1	Tetrachloro-m-xylene
13.166	0.000	671473	13.861	-0.019	4321811	147.6	182.7	21.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	294406	13.7
Hexabromobiphenyl	425681	501108	17.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	822336	14.1
Hexabromobiphenyl	863111	1064644	23.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	6.659	0.000	80300	990.0	1	7.057	0.000	331356	876.4
Aroclor-1242	2	7.030	0.000	263010	1087.7	2	7.649	0.000	783780	954.3
Aroclor-1242	3	8.374	0.000	125591	916.8	3	8.949	0.000	330073	860.3
Aroclor-1242	4	8.674	0.000	44493	794.8	4	9.028	0.000	363121	834.0

Total Col1Ave (4 peaks): 947.3 Total Col2Ave (4 peaks): 881.3 RPD = 7

Corrected Ave (3 peaks): 900.5 Corrected Ave (3 peaks): 856.9 RPD = 5

Total PCB Area Col1 (5.169 - 13.066) = 1871416 Col1 Total PCB = 0.6 ppm*

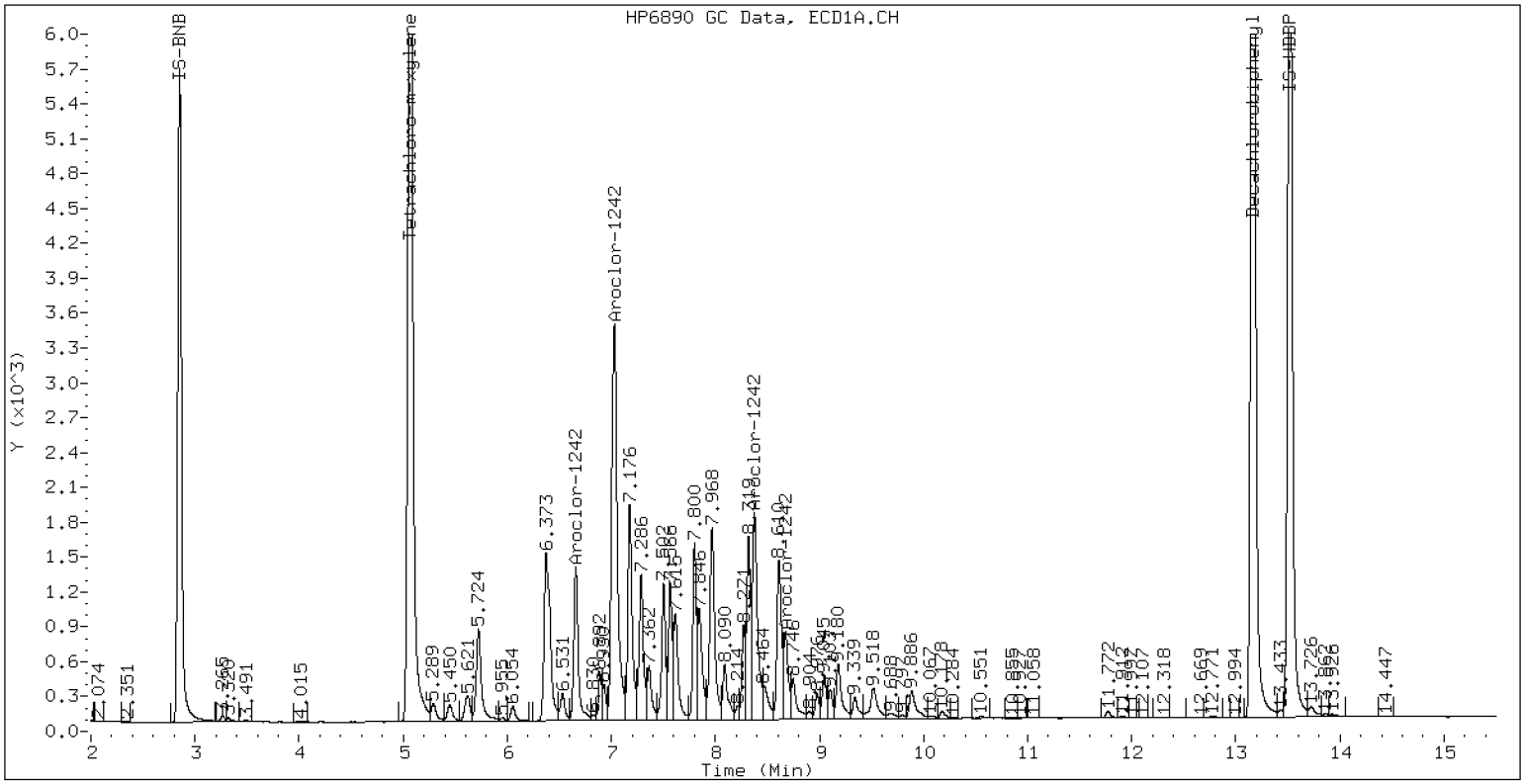
Total PCB Area Col2 (5.169 - 13.066) = 7225430 Col2 Total PCB = 0.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

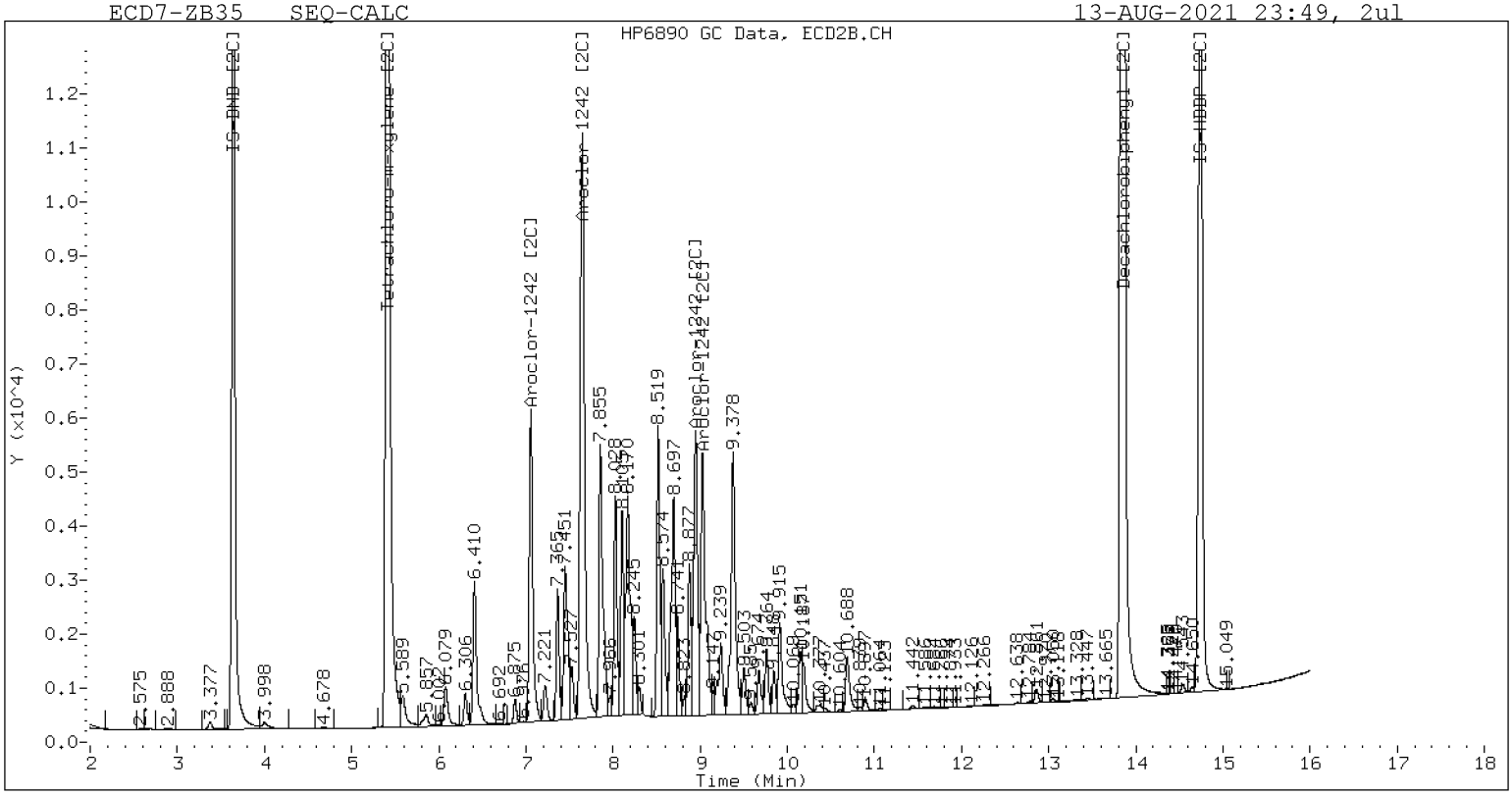
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALC 13-AUG-2021 23:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALC 13-AUG-2021 23:49, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132117ECD7.D
Data file 2: /210813.b/210813.b/08132117ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALD
Client ID:
Injection Date: 14-AUG-2021 00:09
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	9201	5.414	-0.003	29778	3.0	3.3	8.1	Tetrachloro-m-xylene
13.165	-0.001	13166	13.846	-0.034	62709	3.4	3.2	5.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250266	-3.3
Hexabromobiphenyl	425681	429293	0.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	702828	-2.5
Hexabromobiphenyl	863111	880526	2.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.799	0.001	1894	18.1	1	8.109	0.003	6606	22.7
Aroclor-1248	2	7.974	0.006	2423	17.7	2	8.525	0.005	6970	19.7
Aroclor-1248	3	8.385	0.011	3850	19.2	3	8.964	0.018	12645	22.4
Aroclor-1248	4	8.675	0.002	2537	22.2	4	9.397	0.021	10906	22.7

Total Col1Ave (4 peaks): 19.3 Total Col2Ave (4 peaks): 21.9 RPD = 13

Corrected Ave (3 peaks): 18.3 Corrected Ave (3 peaks): 21.6 RPD = 16

Total PCB Area Col1 (5.169 - 13.066) = 41564 Col1 Total PCB = 0.0 ppm*

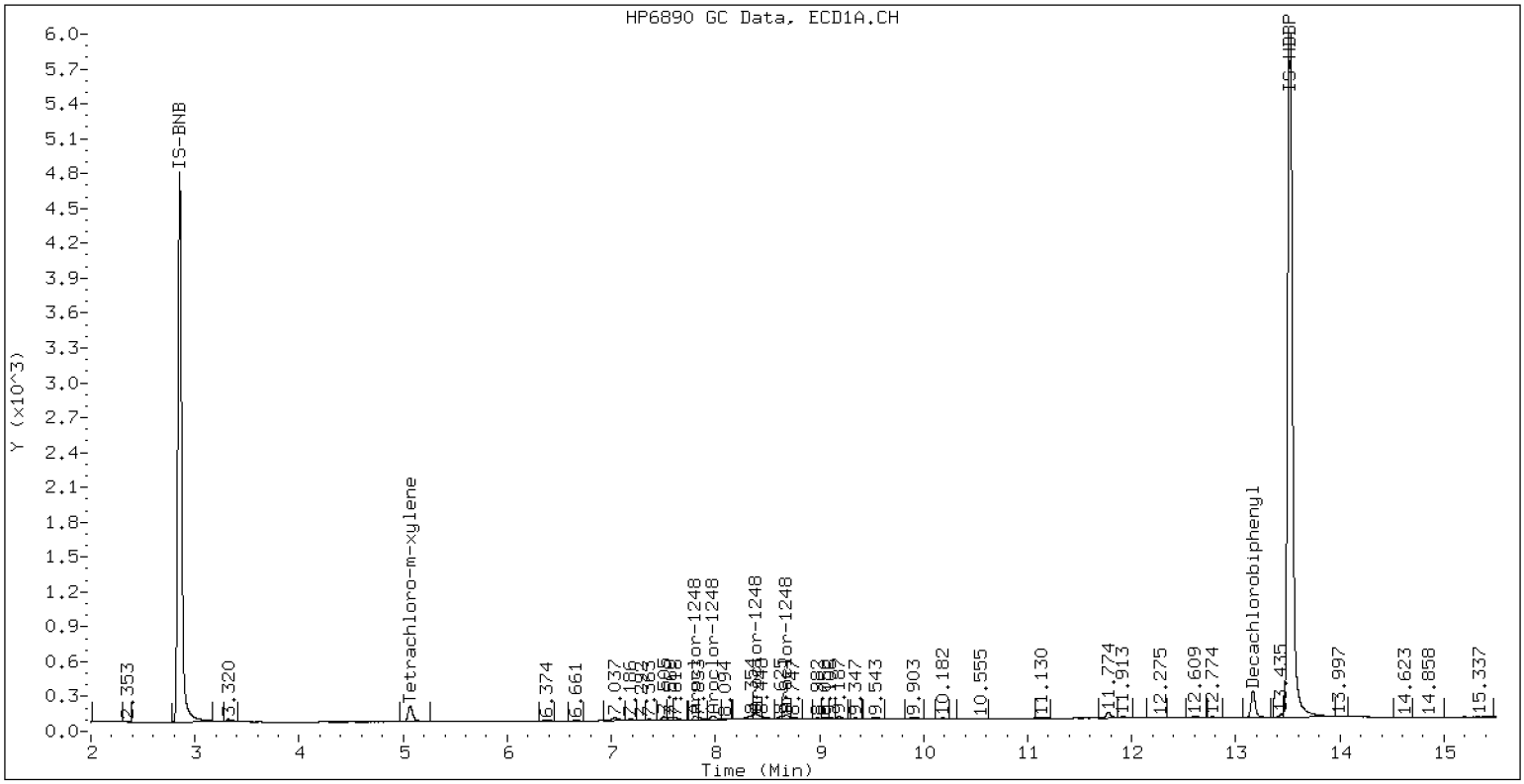
Total PCB Area Col2 (5.169 - 13.066) = 212063 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

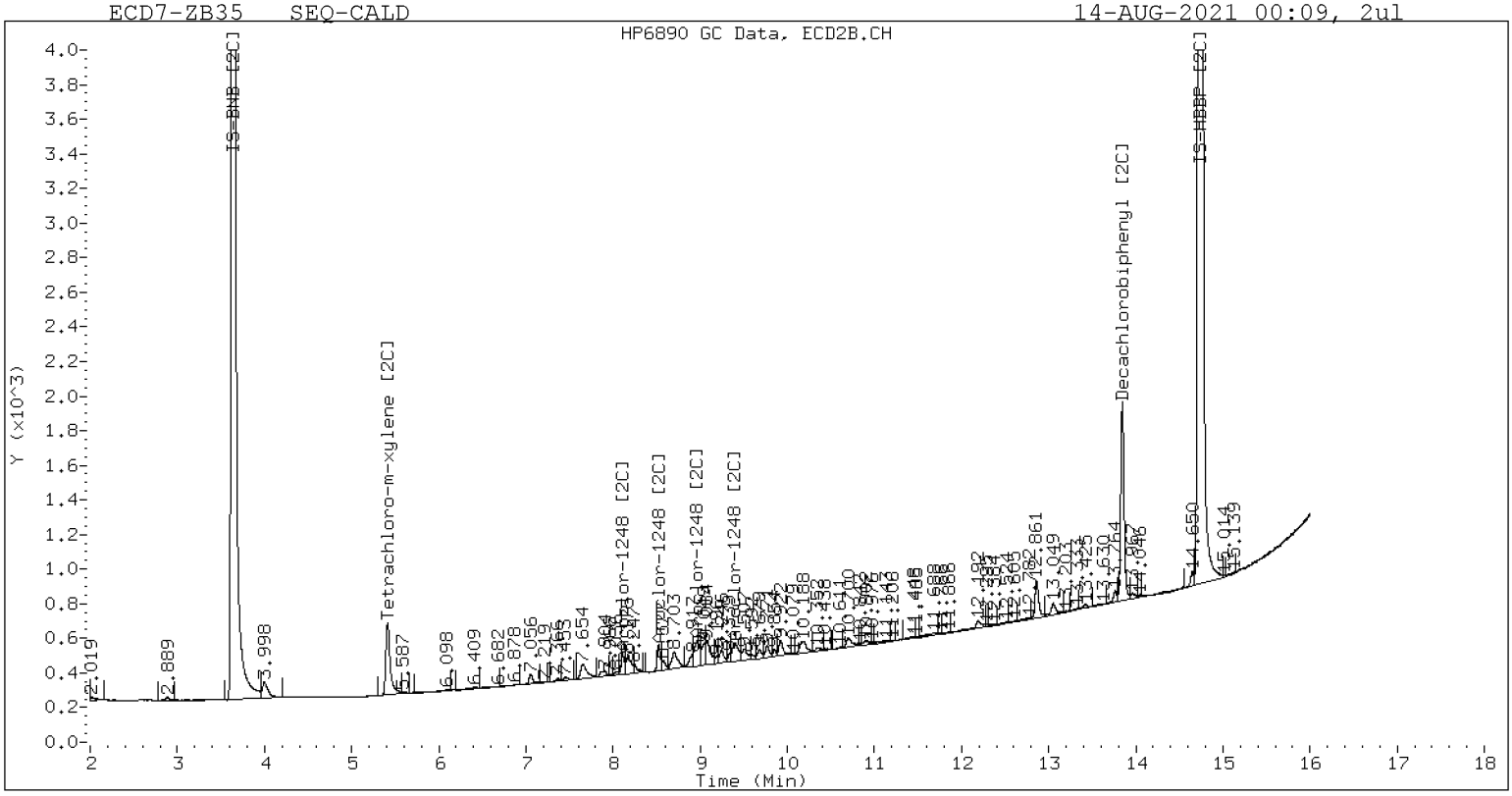
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALD 14-AUG-2021 00:09, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALD 14-AUG-2021 00:09, 2ul

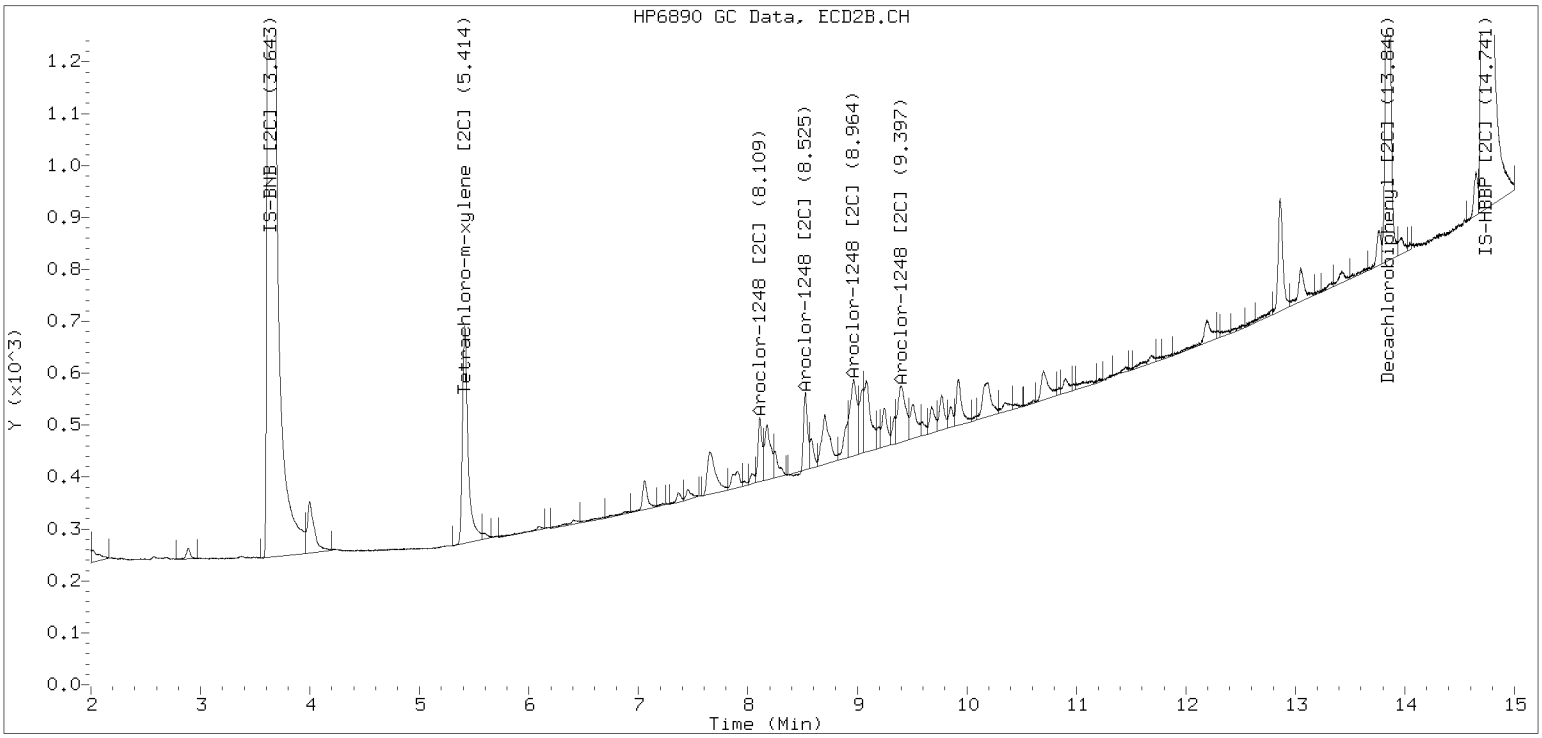


ZB-35 Manual Integration: YES

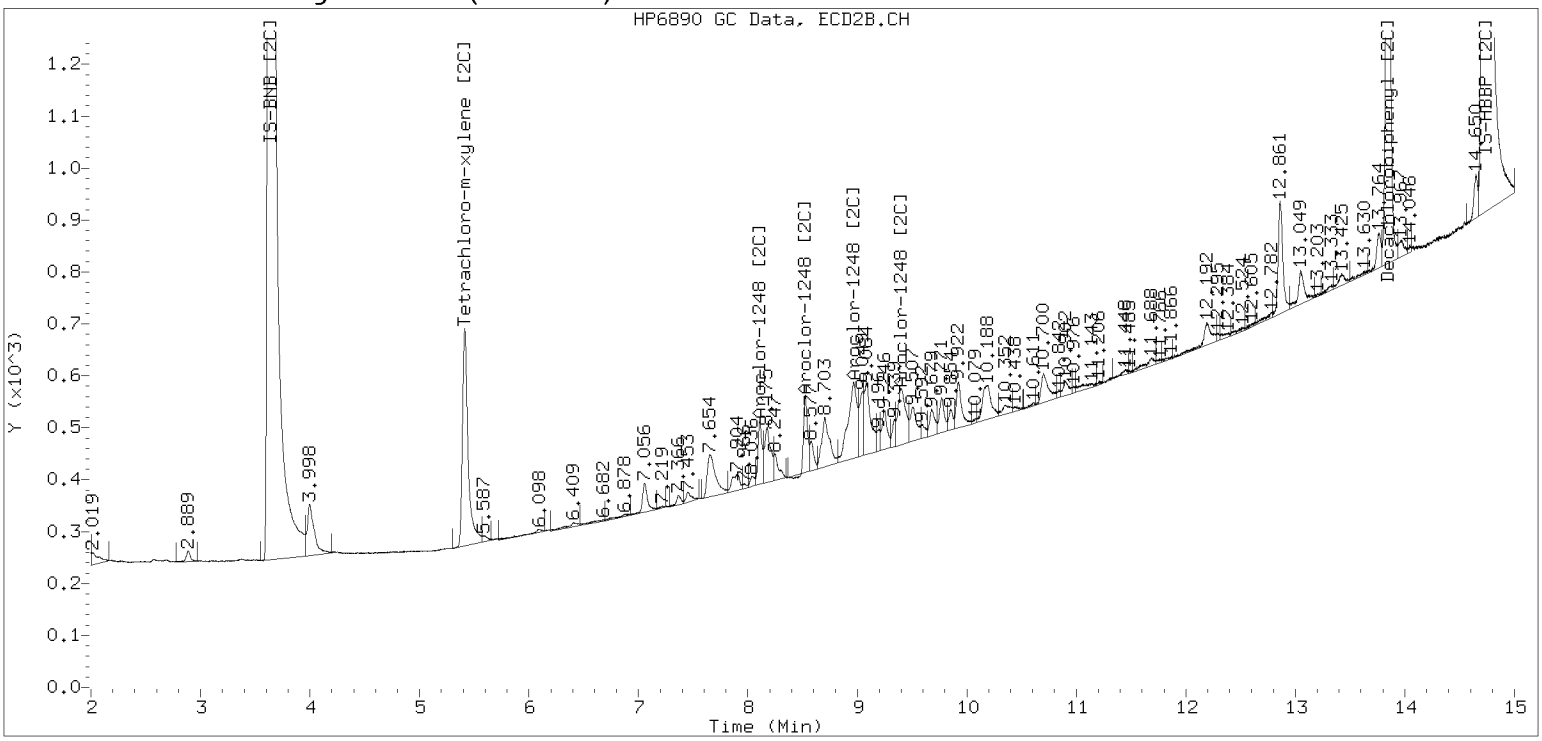
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132117.D Injection Date: 14-AUG-2021 00:0

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132118ECD7.D
Data file 2: /210813.b/210813.b/08132118ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALE
Client ID:
Injection Date: 14-AUG-2021 00:30
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	23276	5.413	-0.003	72230	7.6	7.8	3.6	Tetrachloro-m-xylene
13.164	-0.001	31855	13.847	-0.033	153320	8.0	7.7	4.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	254685	-1.6
Hexabromobiphenyl	425681	438579	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	717244	-0.5
Hexabromobiphenyl	863111	898162	4.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.803	0.004	5503	51.6	1	8.109	0.003	15513	52.2
Aroclor-1248	2	7.975	0.007	7033	50.5	2	8.523	0.003	17641	48.8
Aroclor-1248	3	8.384	0.010	10074	49.4	3	8.963	0.016	29702	51.5
Aroclor-1248	4	8.679	0.005	6595	56.6	4	9.391	0.015	24165	49.4

Total Col1Ave (4 peaks): 52.0 Total Col2Ave (4 peaks): 50.5 RPD = 3

Corrected Ave (3 peaks): 50.5 Corrected Ave (3 peaks): 49.9 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 108961 Col1 Total PCB = 0.0 ppm*

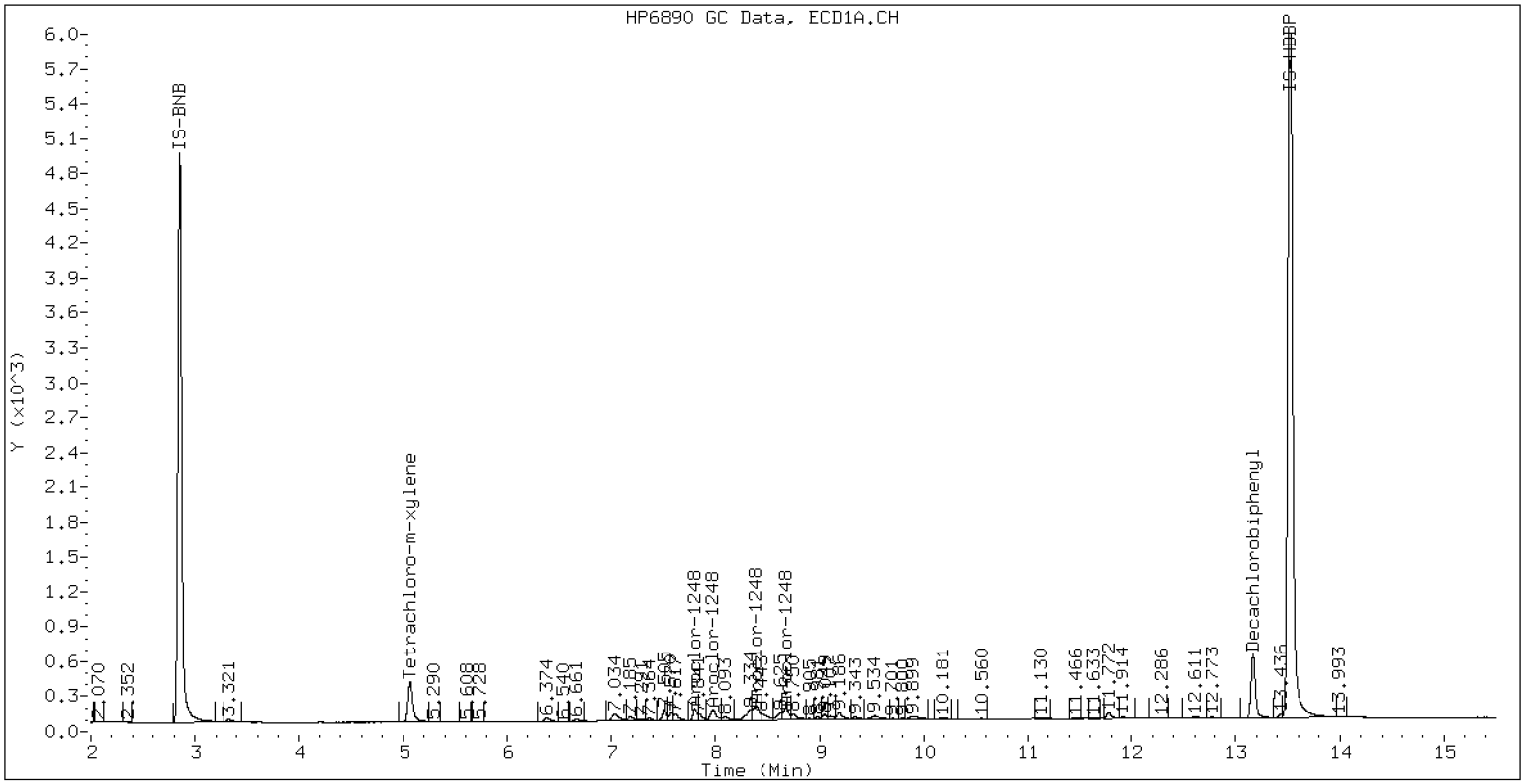
Total PCB Area Col2 (5.169 - 13.066) = 441717 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

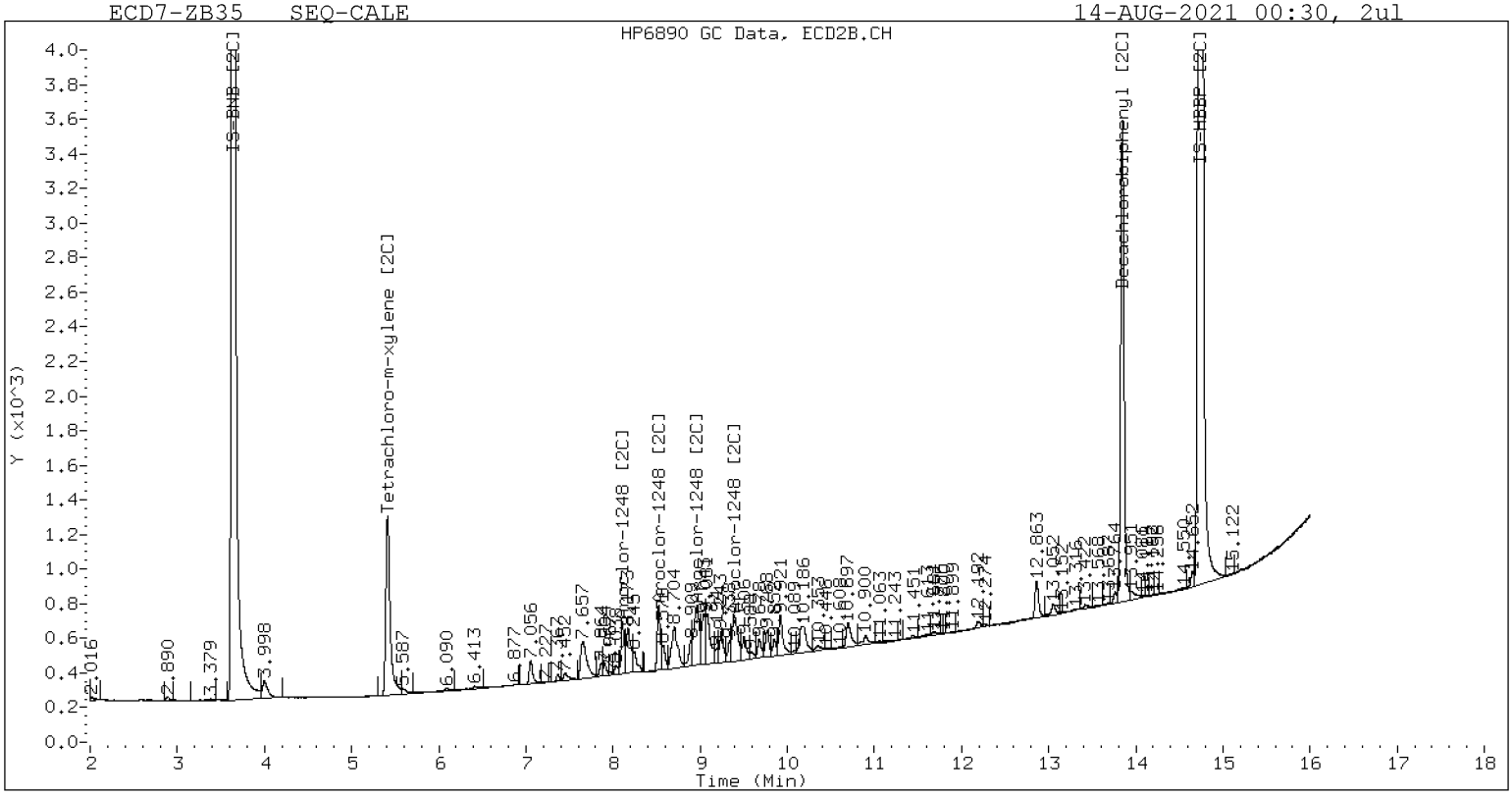
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALE 14-AUG-2021 00:30, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALE 14-AUG-2021 00:30, 2ul

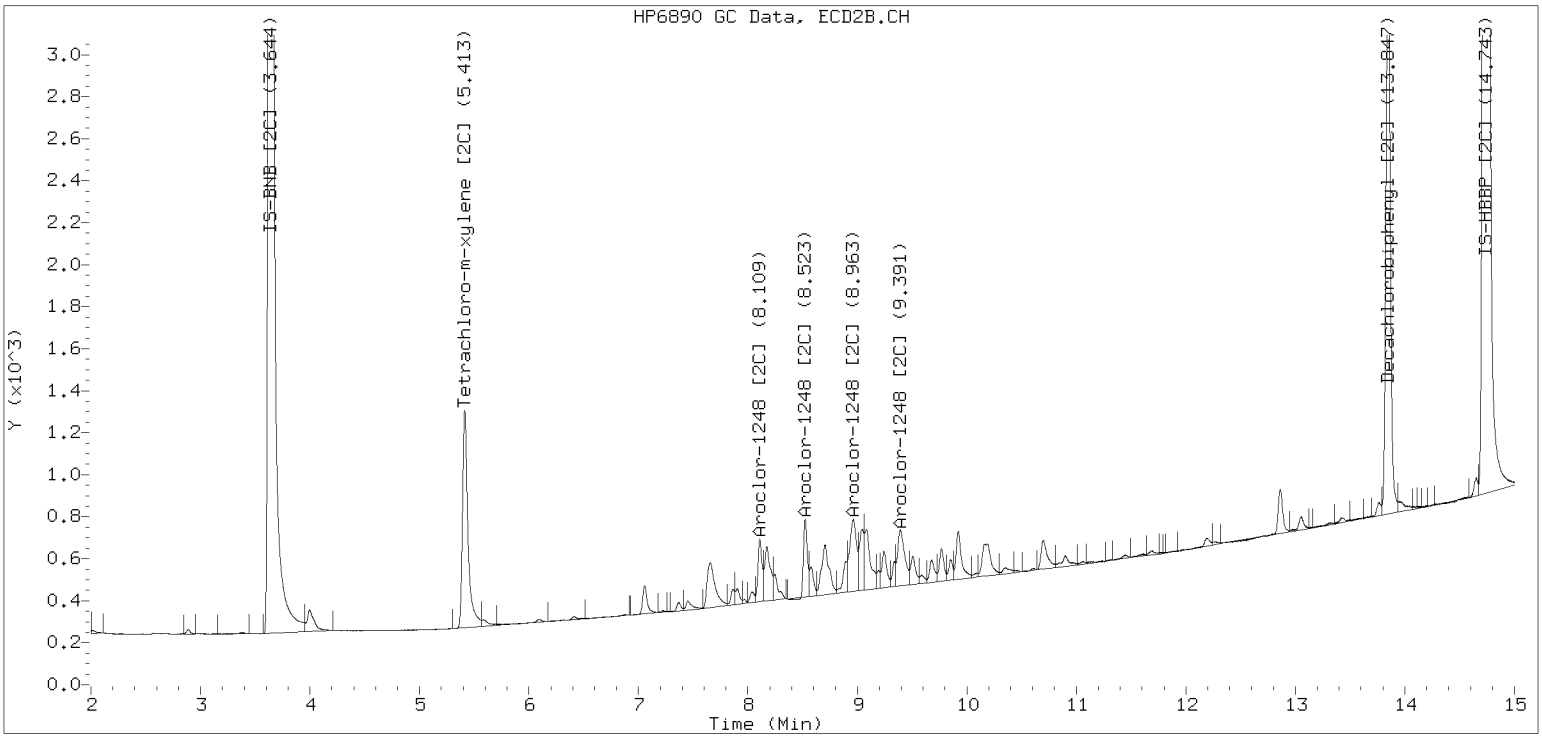


ZB-35 Manual Integration: YES

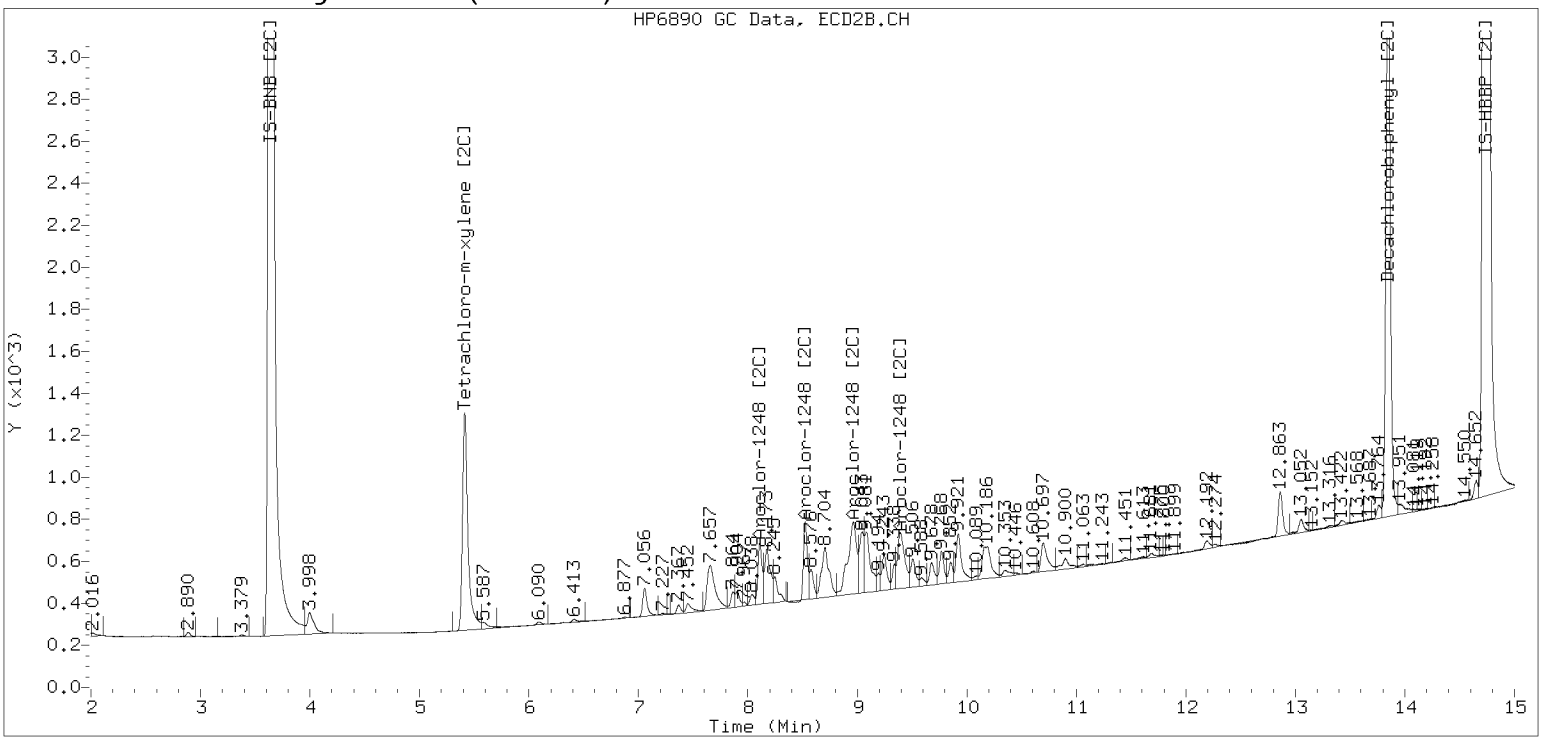
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132118.D Injection Date: 14-AUG-2021 00:3

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132119ECD7.D
Data file 2: /210813.b/210813.b/08132119ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALF
Client ID:
Injection Date: 14-AUG-2021 00:50
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	49122	5.413	-0.004	147629	15.5	15.6	1.1	Tetrachloro-m-xylene
13.165	-0.001	65855	13.847	-0.033	329717	15.9	15.8	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262535	1.4
Hexabromobiphenyl	425681	455997	7.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	734209	1.8
Hexabromobiphenyl	863111	938375	8.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	7.800	0.001	10709	97.3	1	8.107	0.001	28558	93.9
Aroclor-1248	2	7.973	0.005	14129	98.4	2	8.522	0.002	38111	102.9
Aroclor-1248	3	8.383	0.008	21518	102.3	3	8.959	0.013	61308	103.9
Aroclor-1248	4	8.677	0.003	12431	103.6	4	9.388	0.012	48948	97.7

Total Col1Ave (4 peaks): 100.4 Total Col2Ave (4 peaks): 99.6 RPD = 1

Corrected Ave (3 peaks): 99.3 Corrected Ave (3 peaks): 98.2 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 238597 Col1 Total PCB = 0.1 ppm*

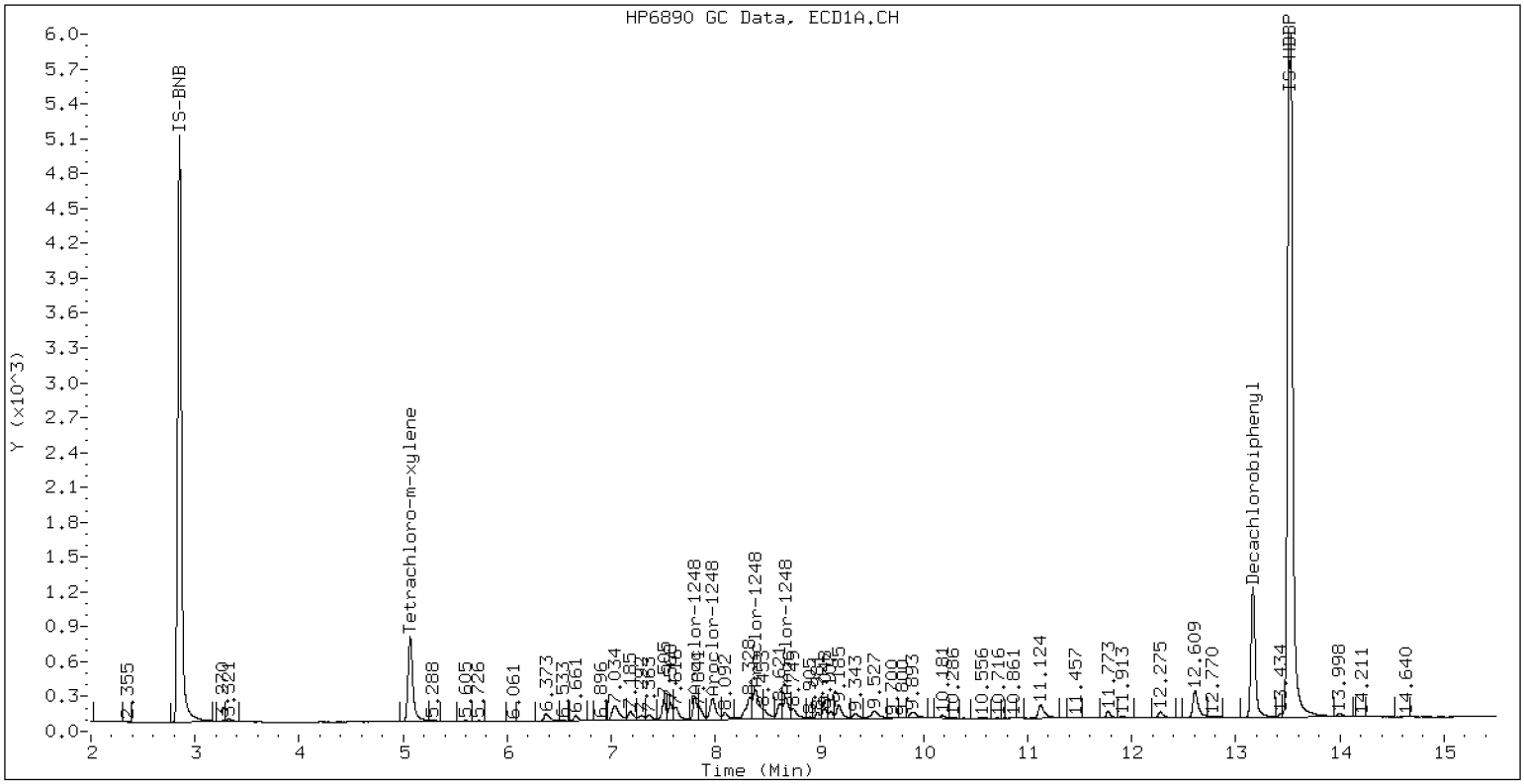
Total PCB Area Col2 (5.169 - 13.066) = 907743 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

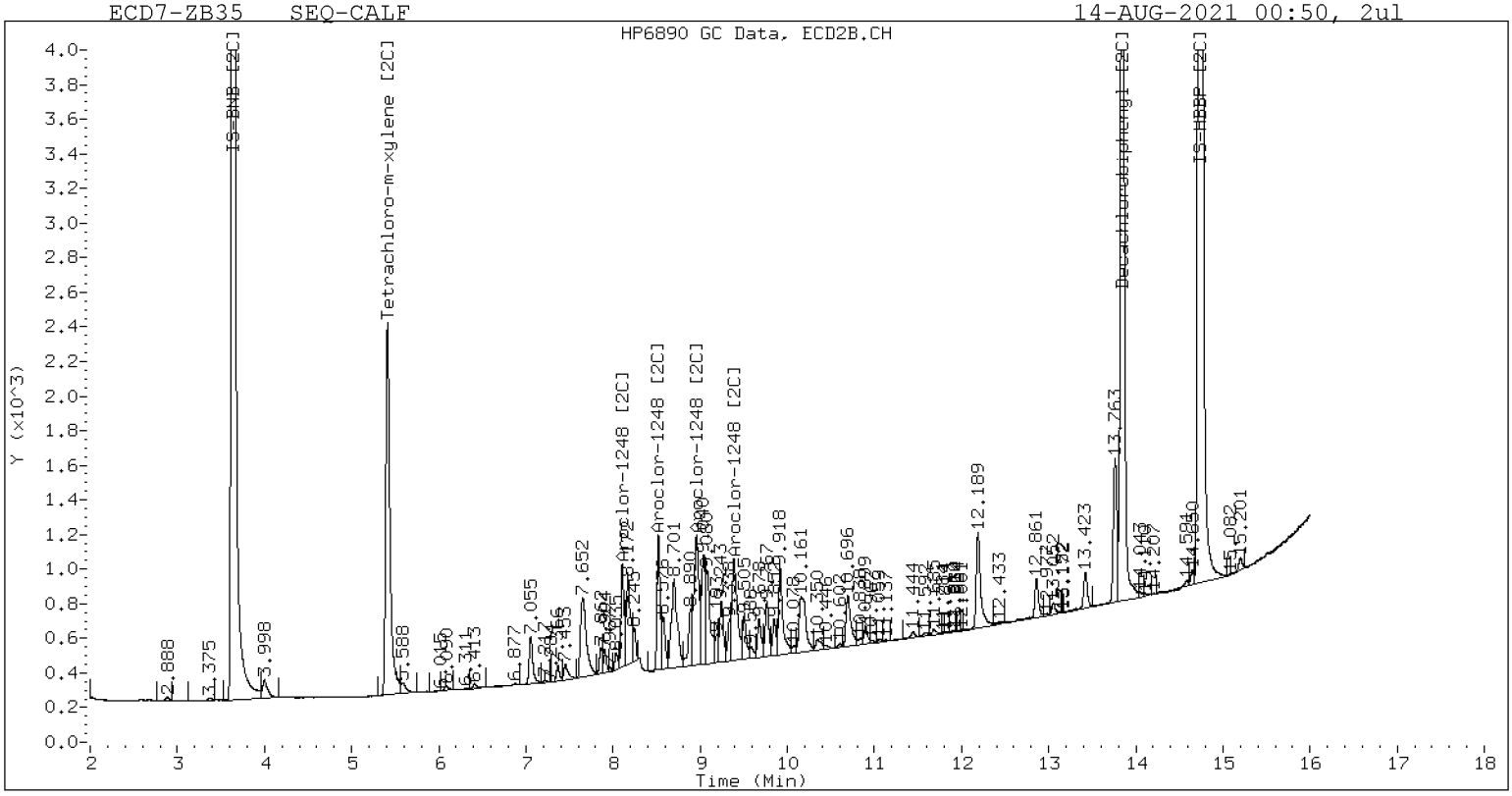
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALF 14-AUG-2021 00:50, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-CALF 14-AUG-2021 00:50, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132120ECD7.D
Data file 2: /210813.b/210813.b/08132120ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALG
Client ID:
Injection Date: 14-AUG-2021 01:11
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	129037	5.413	-0.004	373143	40.5	39.6	2.4	Tetrachloro-m-xylene
13.165	-0.000	162705	13.848	-0.032	830692	40.1	40.0	0.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263302	1.7
Hexabromobiphenyl	425681	446916	5.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	733764	1.8
Hexabromobiphenyl	863111	933874	8.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.800	0.002	28501	258.3	1	8.107	0.001	76584	251.9
Aroclor-1248	2	7.971	0.003	37812	262.5	2	8.521	0.001	96409	260.5
Aroclor-1248	3	8.381	0.006	54570	258.7	3	8.953	0.007	144251	244.7
Aroclor-1248	4	8.676	0.002	29650	246.3	4	9.382	0.005	122847	245.4

Total Col1Ave (4 peaks): 256.5 Total Col2Ave (4 peaks): 250.6 RPD = 2
Corrected Ave (3 peaks): 254.4 Corrected Ave (3 peaks): 247.3 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 569475 Col1 Total PCB = 0.2 ppm*

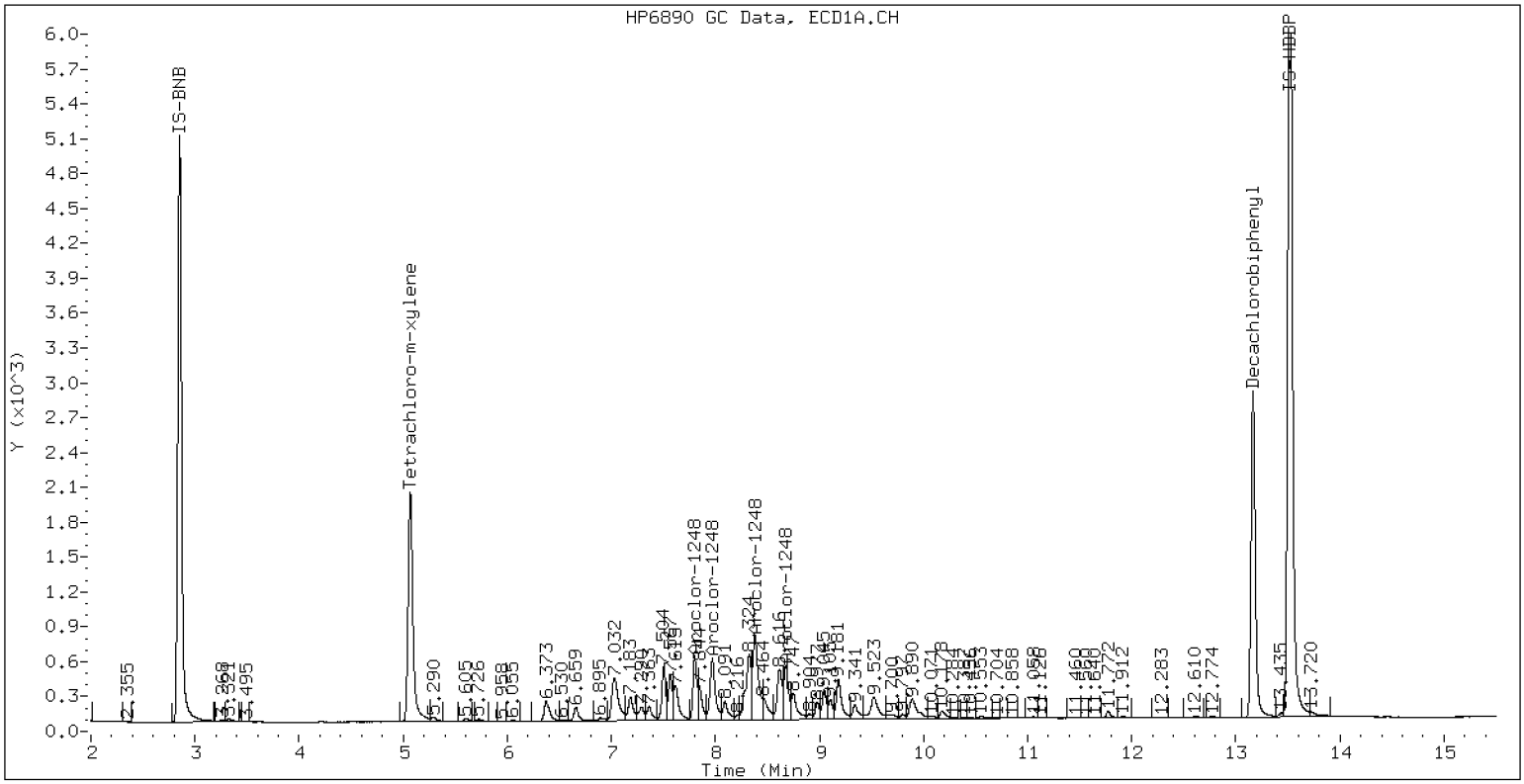
Total PCB Area Col2 (5.169 - 13.066) = 2178081 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

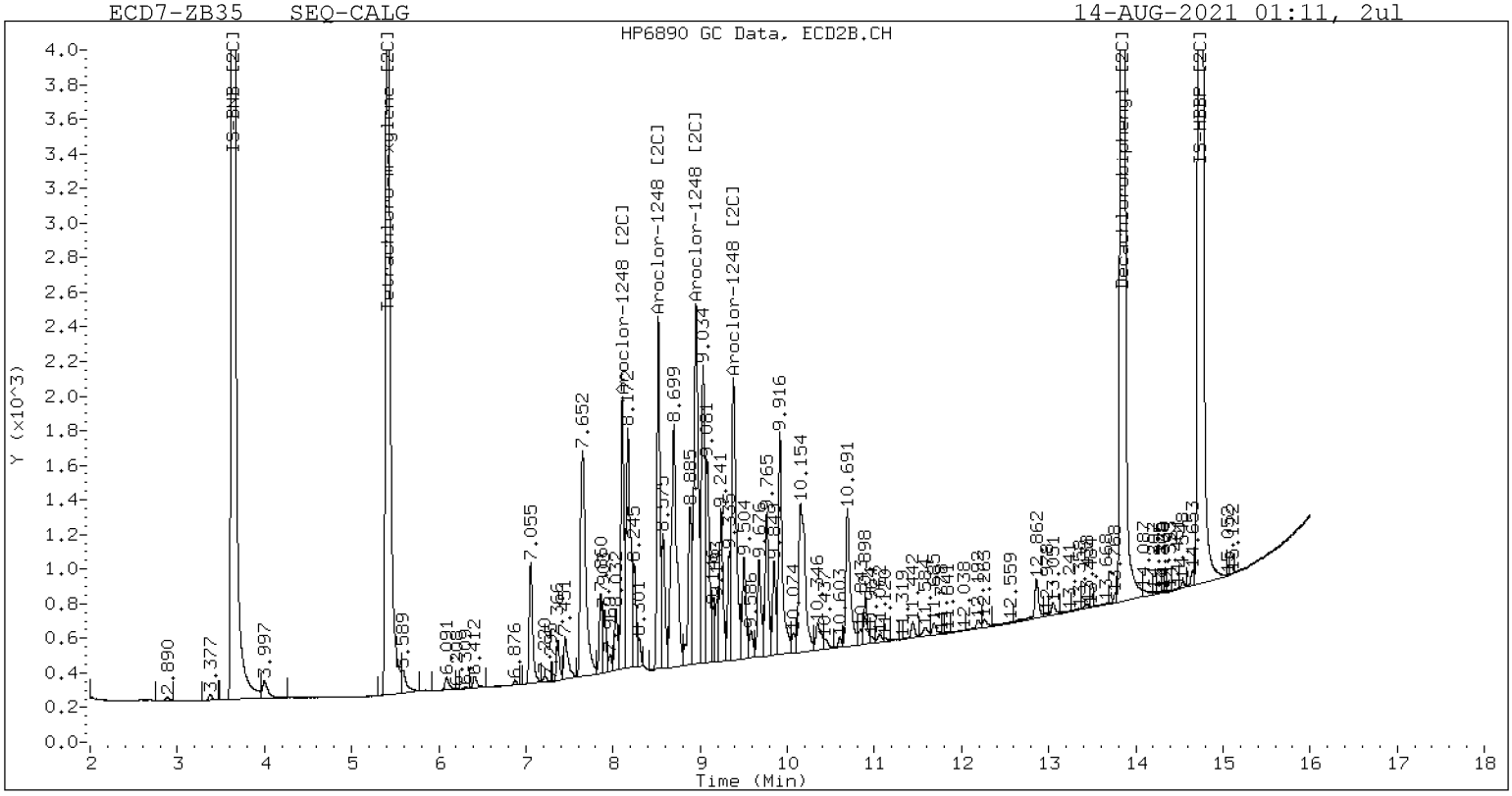
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALG 14-AUG-2021 01:11, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALG 14-AUG-2021 01:11, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132121ECD7.D
Data file 2: /210813.b/210813.b/08132121ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALH
Client ID:
Injection Date: 14-AUG-2021 01:31
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	259806	5.414	-0.003	733120	82.3	78.0	5.3	Tetrachloro-m-xylene
13.164	-0.001	317292	13.852	-0.028	1796528	78.7	86.8	9.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261194	0.9
Hexabromobiphenyl	425681	444403	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	731293	1.4
Hexabromobiphenyl	863111	931394	7.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1248	1	7.801	0.003	57044	521.1	1	8.107	0.001	147388	486.4
Aroclor-1248	2	7.970	0.003	75071	525.4	2	8.521	0.001	187163	507.4
Aroclor-1248	3	8.380	0.005	107206	512.4	3	8.951	0.004	278978	474.8
Aroclor-1248	4	8.676	0.002	54715	458.1	4	9.379	0.003	241446	483.9

Total Col1Ave (4 peaks): 504.3 Total Col2Ave (4 peaks): 488.1 RPD = 3

Corrected Ave (3 peaks): 497.2 Corrected Ave (3 peaks): 481.7 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 1127483 Col1 Total PCB = 0.4 ppm*

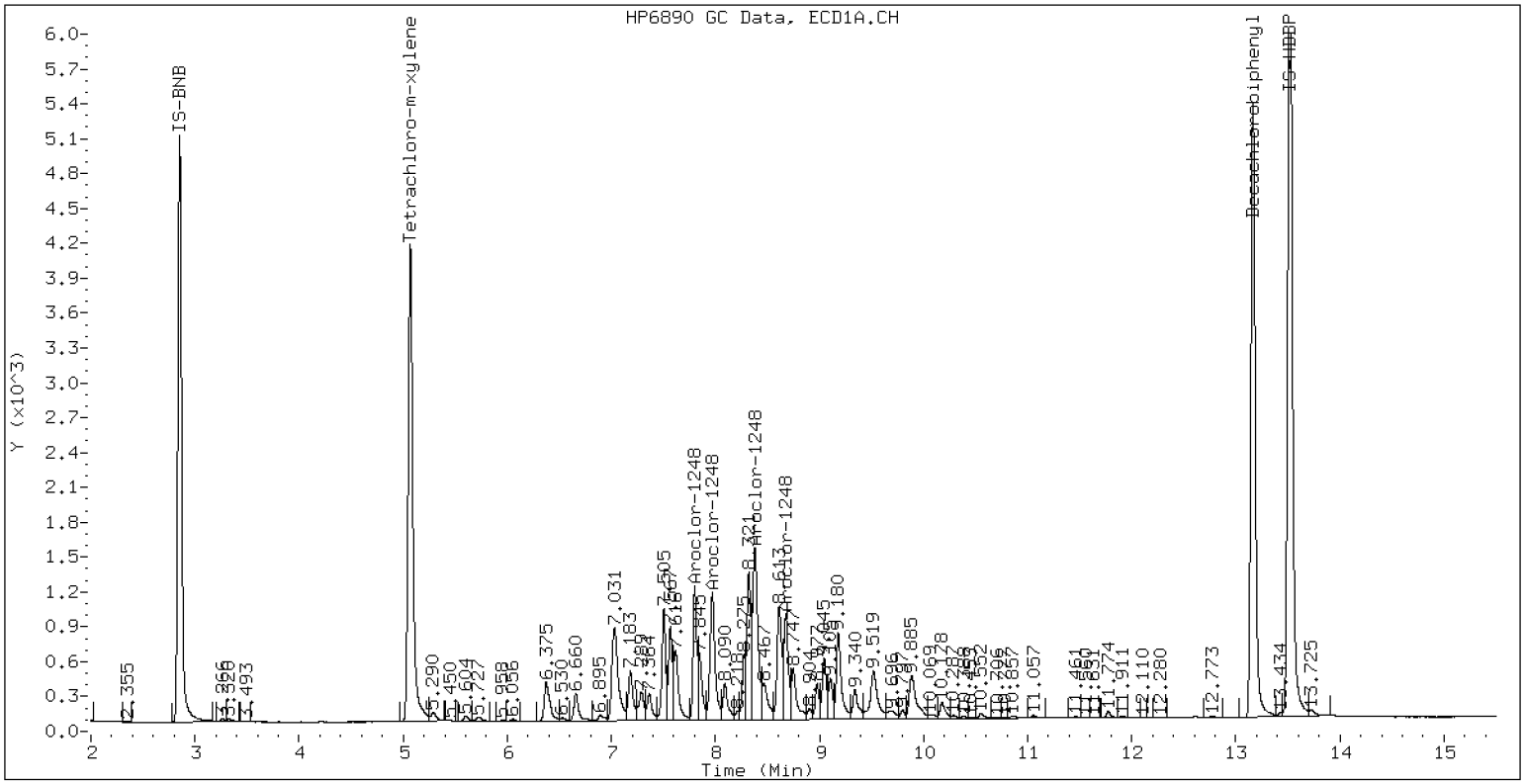
Total PCB Area Col2 (5.169 - 13.066) = 4224820 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

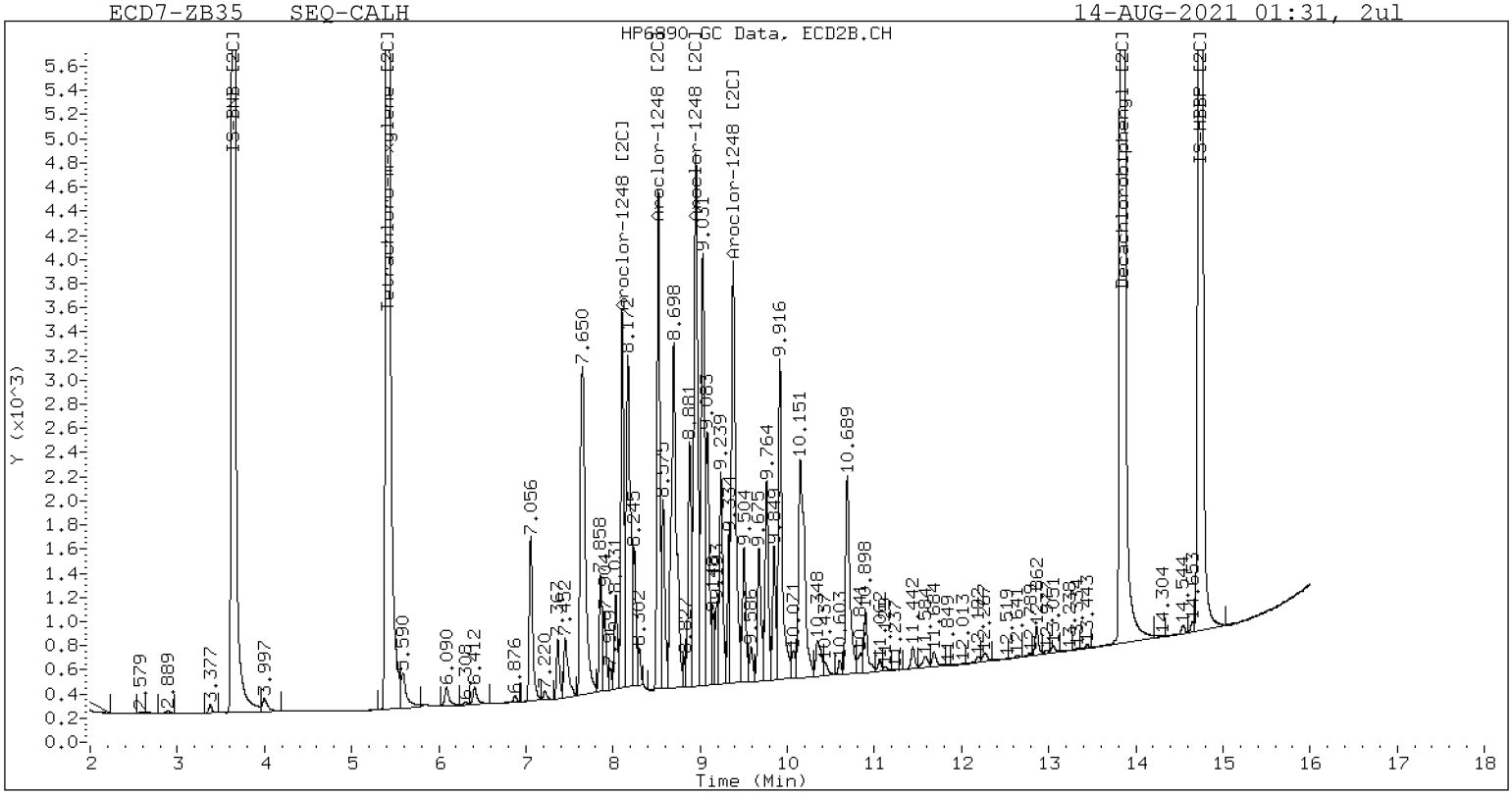
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALH 14-AUG-2021 01:31, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALH 14-AUG-2021 01:31, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132122ECD7.D
Data file 2: /210813.b/210813.b/08132122ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALI
Client ID:
Injection Date: 14-AUG-2021 01:52
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	582913	5.416	-0.001	1679809	163.4	158.5	3.0	Tetrachloro-m-xylene
13.166	-0.000	680323	13.864	-0.016	4446270	147.6	182.2	21.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	295167	14.0
Hexabromobiphenyl	425681	507659	19.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	824788	14.4
Hexabromobiphenyl	863111	1098014	27.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.799	0.000	125808	1017.1	1	8.106	0.000	308725	903.3
Aroclor-1248	2	7.968	0.000	164812	1020.7	2	8.520	0.000	397648	955.8
Aroclor-1248	3	8.375	0.000	229127	969.1	3	8.947	0.000	584191	881.6
Aroclor-1248	4	8.674	0.000	110918	821.8	4	9.377	0.000	534195	949.2

Total Col1Ave (4 peaks): 957.2 Total Col2Ave (4 peaks): 922.5 RPD = 4

Corrected Ave (3 peaks): 936.0 Corrected Ave (3 peaks): 911.4 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 2472059 Col1 Total PCB = 0.8 ppm*

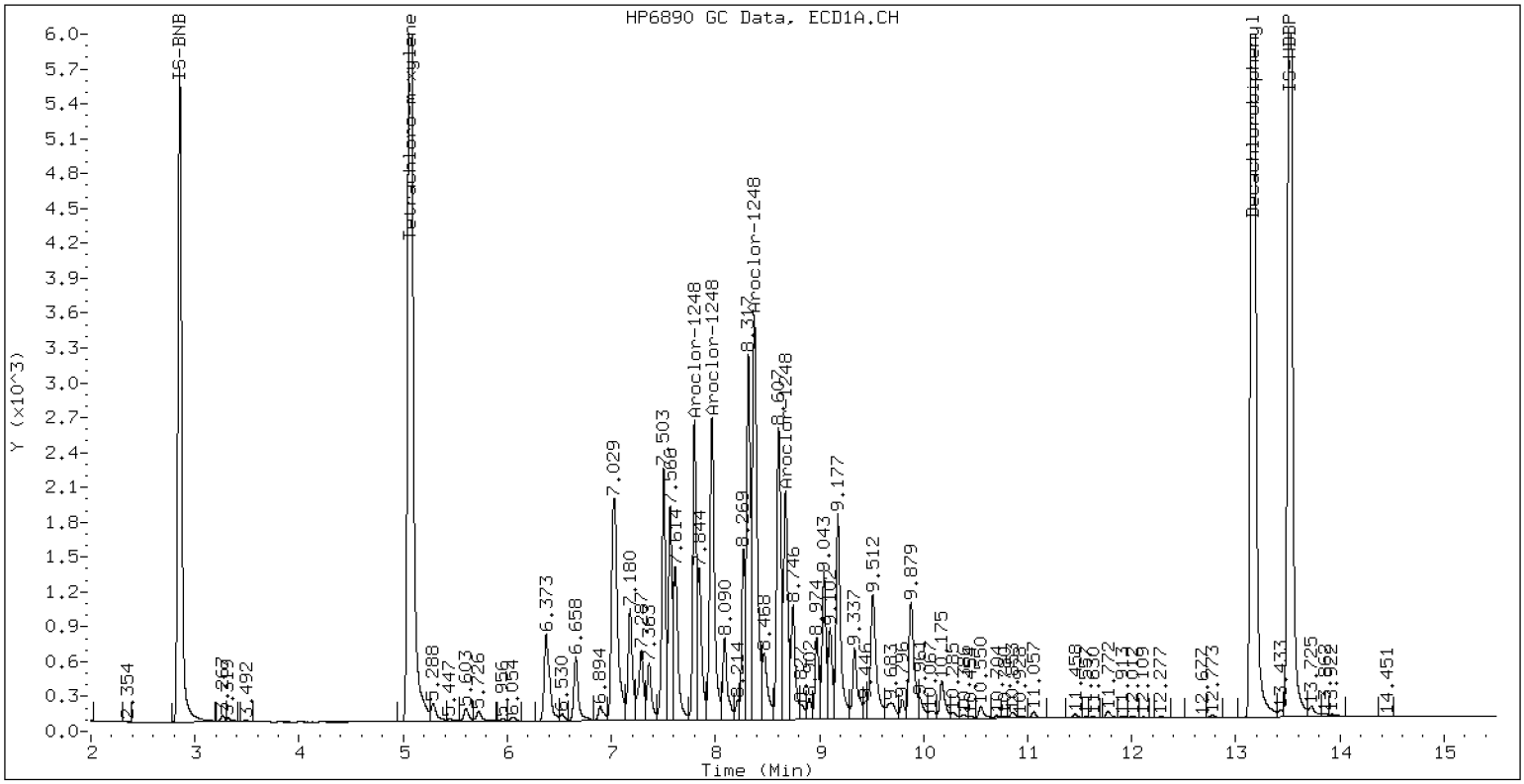
Total PCB Area Col2 (5.169 - 13.066) = 9114889 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

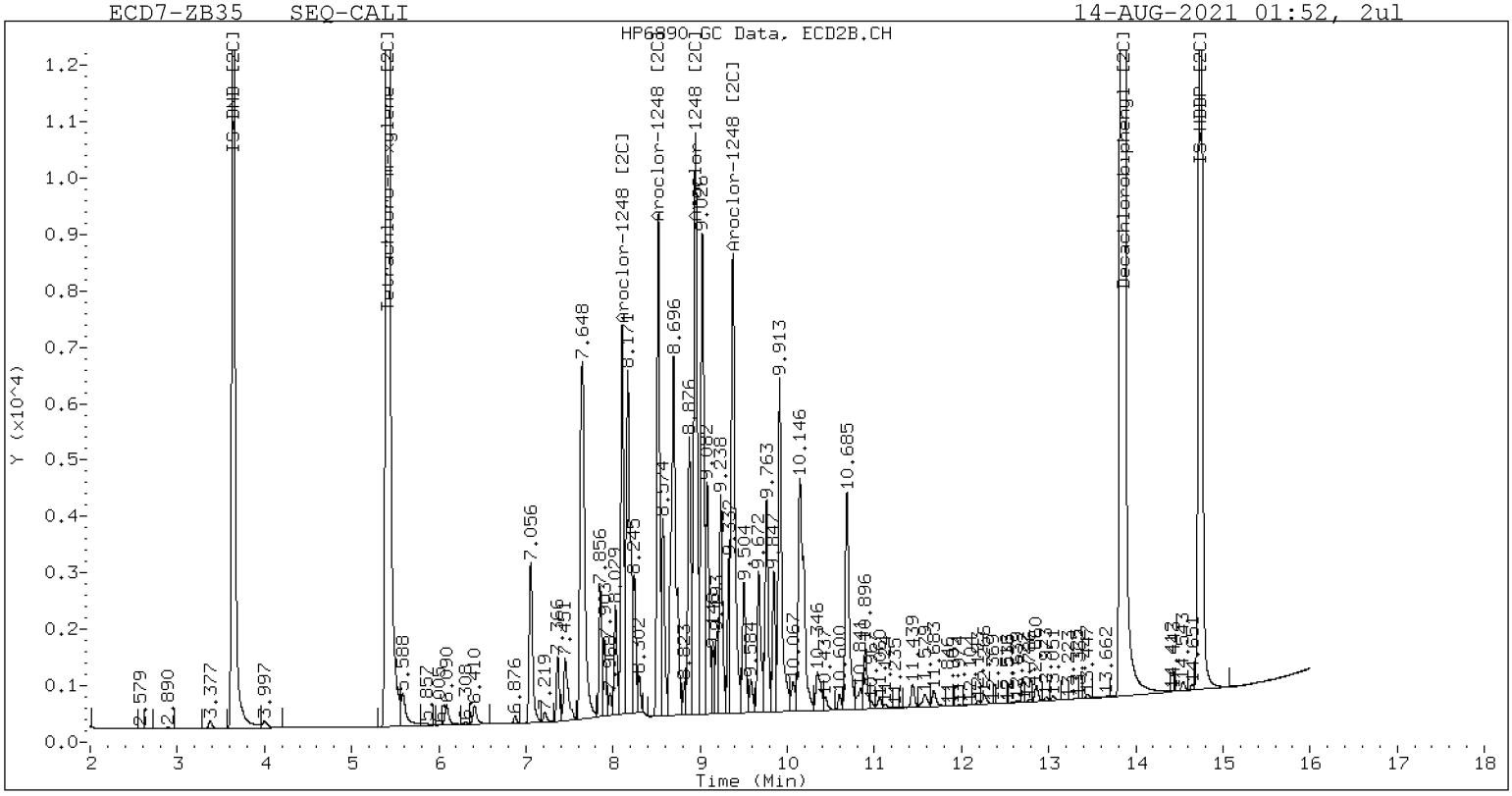
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALI 14-AUG-2021 01:52, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALI 14-AUG-2021 01:52, 2ul

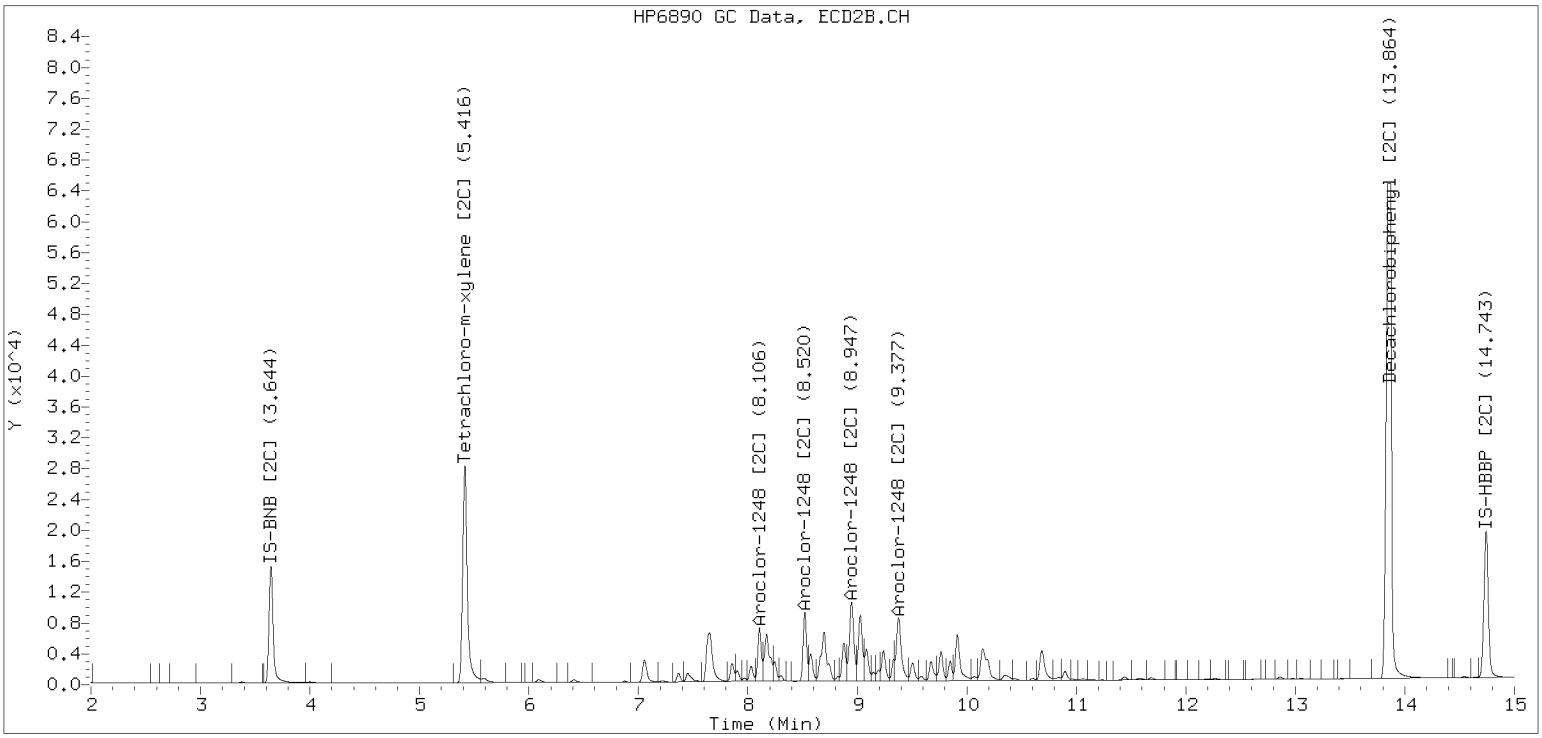


ZB-35 Manual Integration: YES

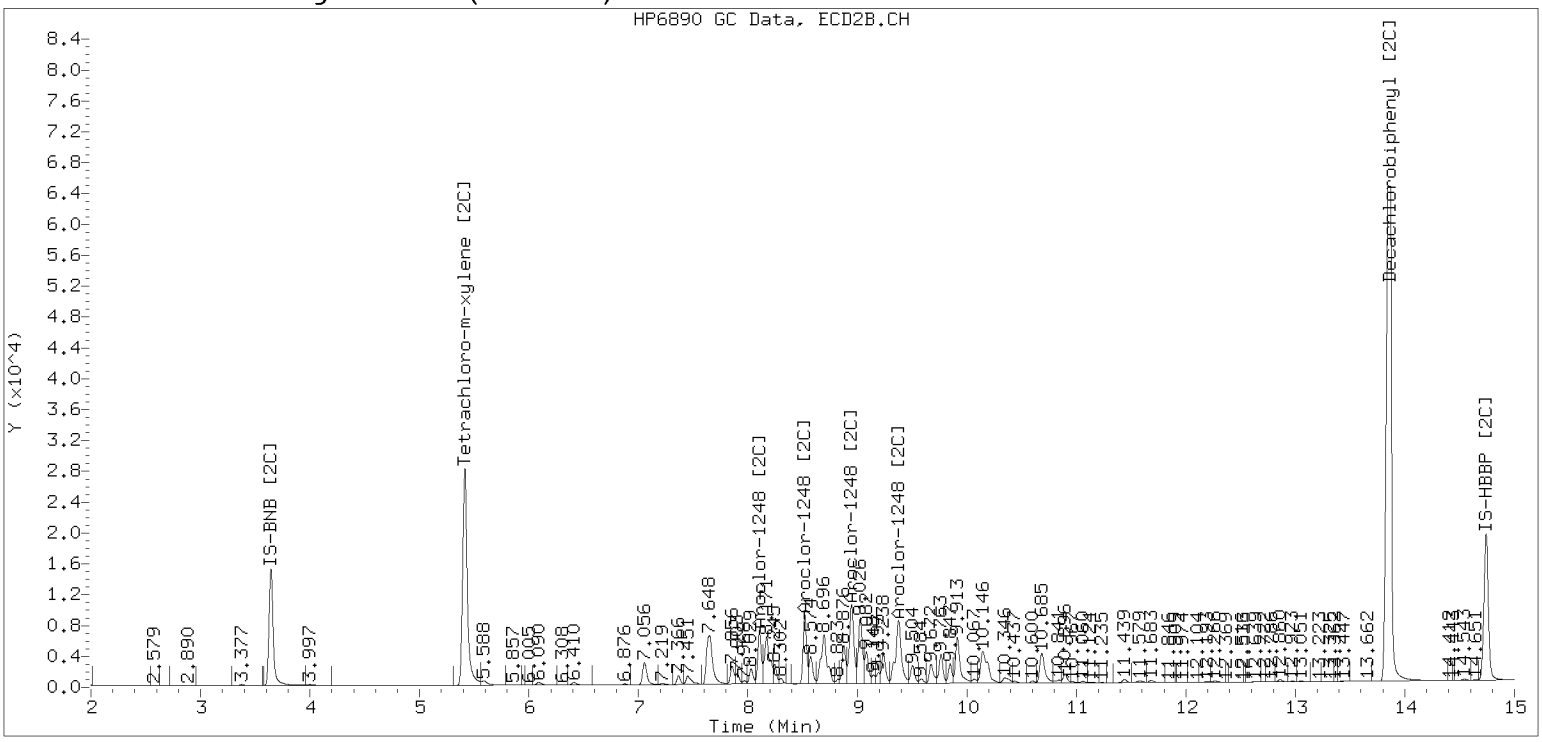
Manual Peak Adjustment, ZB-35

Datafile: ecd7.i/210813.b/210813.b/08132122.D Injection Date: 14-AUG-2021 01:5

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132123ECD7.D
Data file 2: /210813.b/210813.b/08132123ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALJ
Client ID:
Injection Date: 14-AUG-2021 02:12
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	8962	5.414	-0.003	30209	3.0	3.3	11.8	Tetrachloro-m-xylene
13.166	-0.000	13286	13.848	-0.032	64539	3.4	3.2	5.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	250594	-3.2
Hexabromobiphenyl	425681	434759	2.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705804	-2.1
Hexabromobiphenyl	863111	908740	5.3

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	8.681	0.006	4488	20.8	1	9.246	0.006	13920	23.2
Aroclor-1254	2	8.753	0.007	2067	20.7	2	9.340	0.009	9031	25.6
Aroclor-1254	3	9.050	0.008	3084	21.9	3	9.771	0.008	10488	22.9
Aroclor-1254	4	9.188	0.012	4799	17.8	4	9.923	0.009	24430	24.1
Aroclor-1254	5	9.870	0.003	2898	17.1	5	10.163	0.015	22175	21.6

Total Col1Ave (5 peaks): 19.7 Total Col2Ave (5 peaks): 23.5 RPD = 18

Corrected Ave (4 peaks): 19.1 Corrected Ave (4 peaks): 22.9 RPD = 18

Total PCB Area Col1 (5.169 - 13.066) = 50204 Col1 Total PCB = 0.0 ppm*

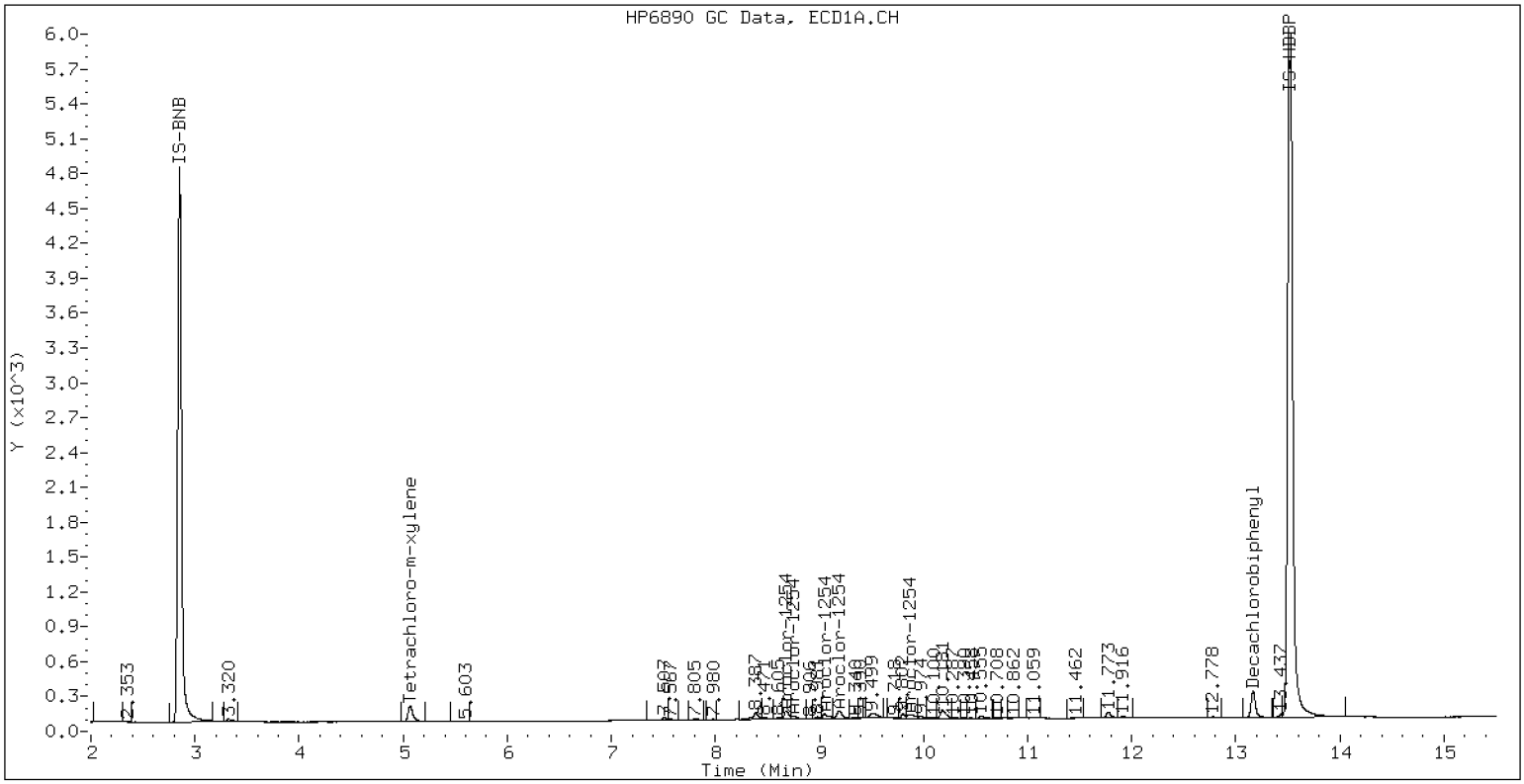
Total PCB Area Col2 (5.169 - 13.066) = 262235 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

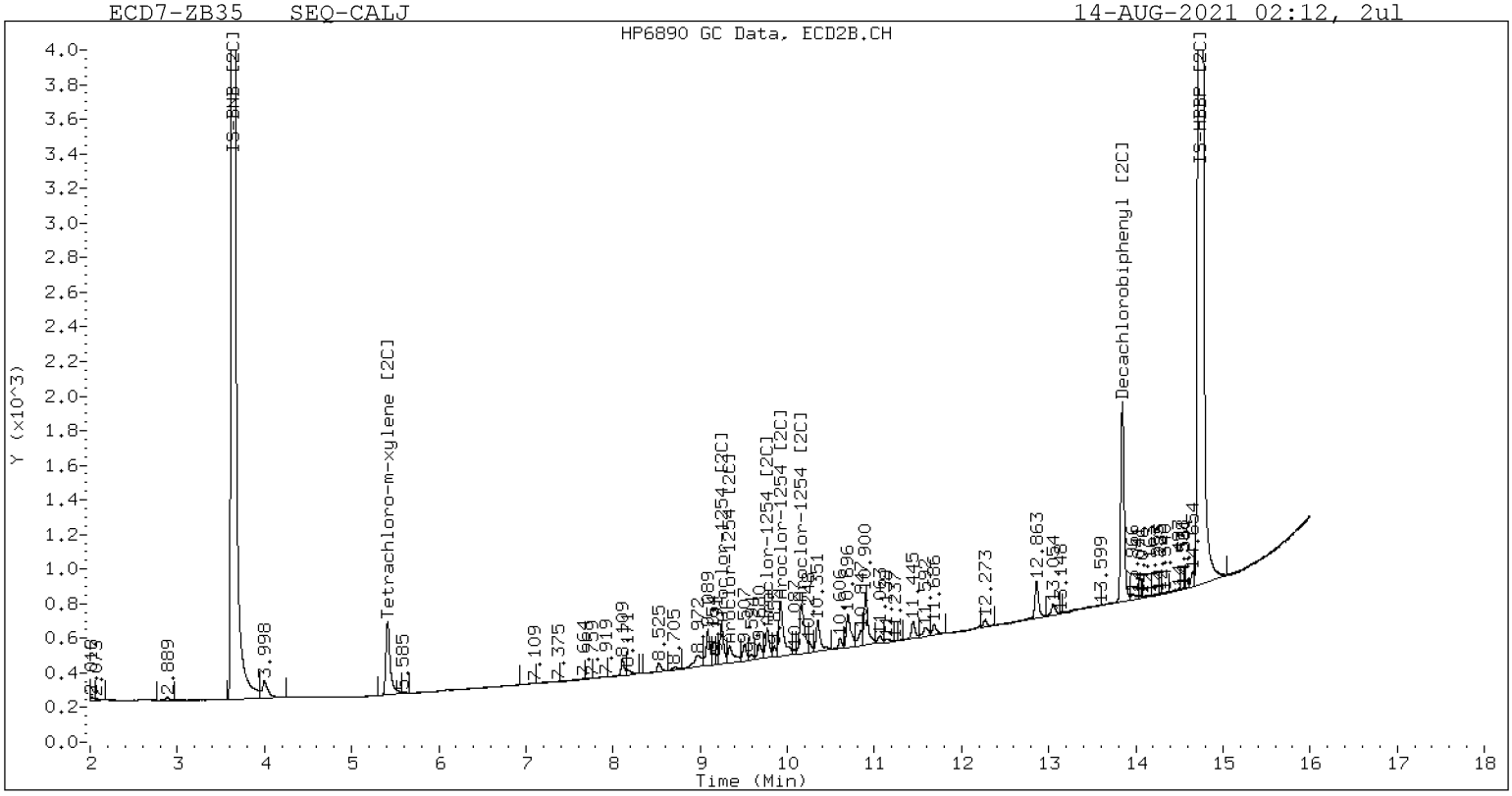
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALJ 14-AUG-2021 02:12, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALJ 14-AUG-2021 02:12, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132124ECD7.D
Data file 2: /210813.b/210813.b/08132124ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALK
Client ID:
Injection Date: 14-AUG-2021 02:33
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	23301	5.413	-0.004	73808	7.5	7.9	6.1	Tetrachloro-m-xylene
13.165	-0.001	32607	13.846	-0.034	161371	8.1	7.8	3.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258452	-0.2
Hexabromobiphenyl	425681	444493	4.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724096	0.4
Hexabromobiphenyl	863111	930444	7.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.680	0.004	11221	50.3	1	9.243	0.004	32682	53.0
Aroclor-1254	2	8.751	0.005	5597	54.2	2	9.338	0.006	19336	53.5
Aroclor-1254	3	9.049	0.008	6912	47.6	3	9.769	0.006	24144	51.4
Aroclor-1254	4	9.186	0.010	13929	50.2	4	9.921	0.007	53197	51.1
Aroclor-1254	5	9.868	0.000	8358	47.9	5	10.160	0.012	53520	50.7

Total Col1Ave (5 peaks): 50.0 Total Col2Ave (5 peaks): 52.0 RPD = 4

Corrected Ave (4 peaks): 49.0 Corrected Ave (4 peaks): 51.6 RPD = 5

Total PCB Area Col1 (5.169 - 13.066) = 139190 Col1 Total PCB = 0.1 ppm*

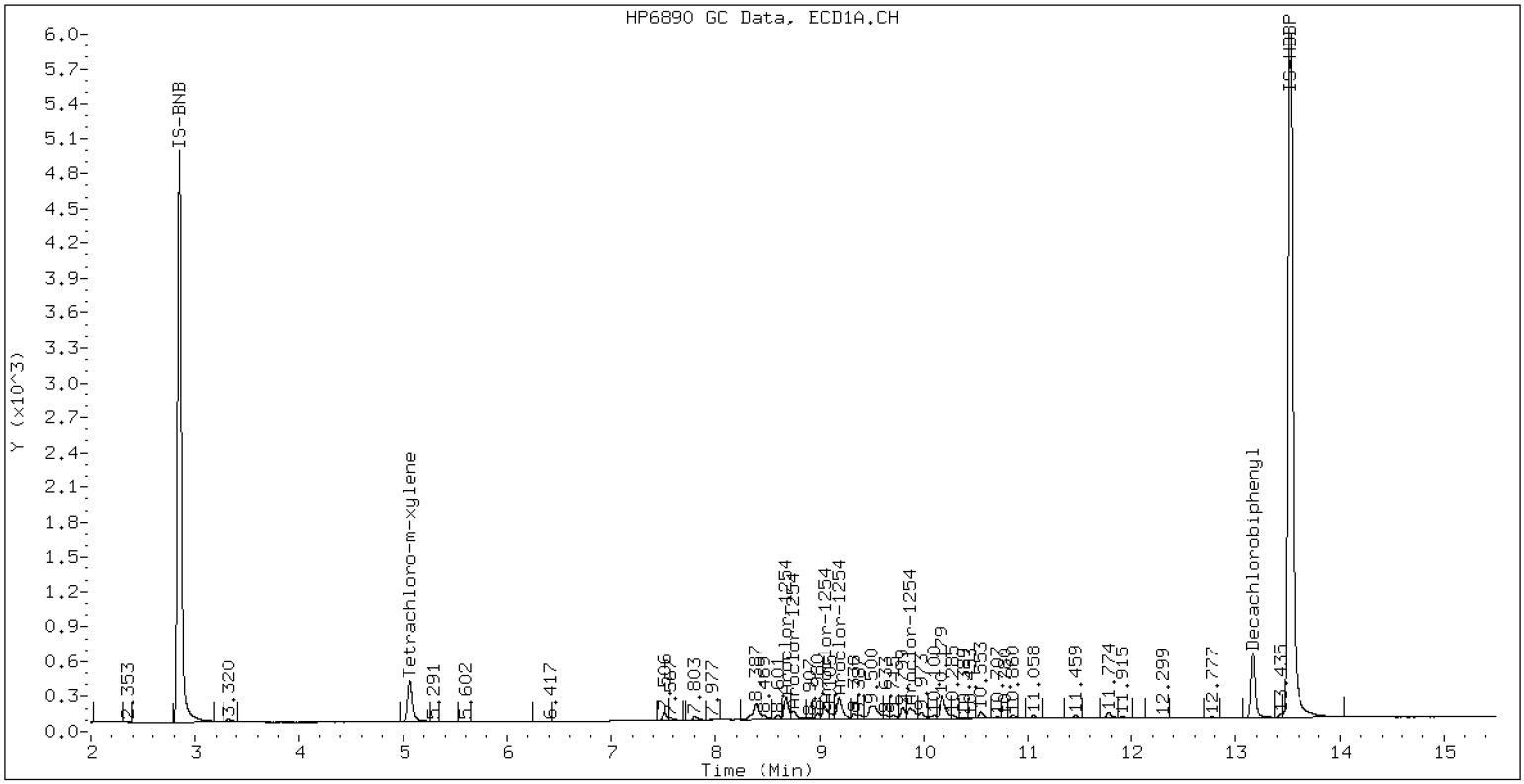
Total PCB Area Col2 (5.169 - 13.066) = 597839 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

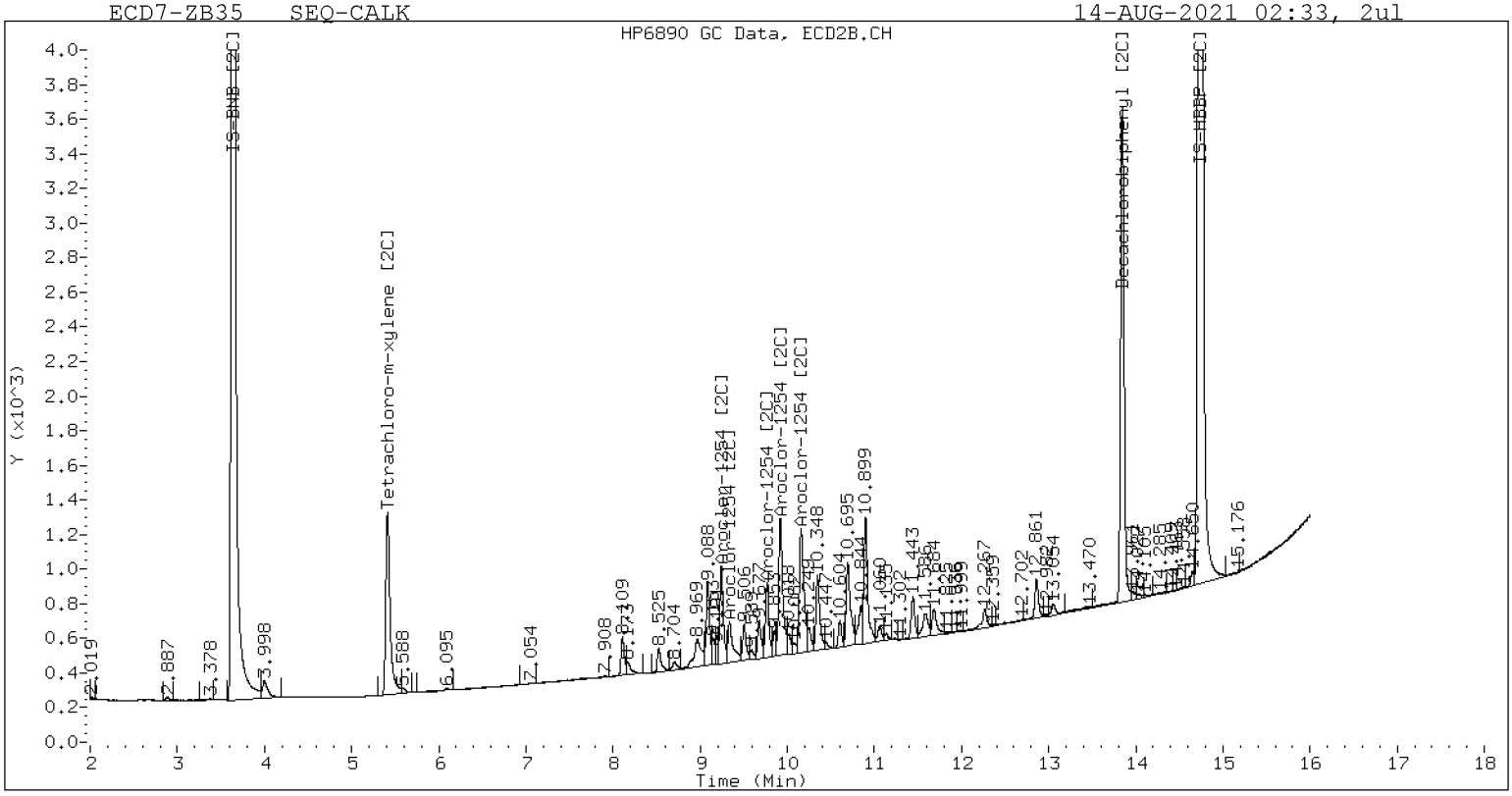
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALK 14-AUG-2021 02:33, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALK 14-AUG-2021 02:33, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132125ECD7.D
Data file 2: /210813.b/210813.b/08132125ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALL
Client ID:
Injection Date: 14-AUG-2021 02:53
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	50378	5.414	-0.003	153493	15.6	16.0	2.4	Tetrachloro-m-xylene
13.166	0.000	66760	13.847	-0.033	338703	16.0	15.8	0.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	266772	3.1
Hexabromobiphenyl	425681	460841	8.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	746546	3.5
Hexabromobiphenyl	863111	963688	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
	ZB5 Col					ZB35 Col				
Aroclor-1254	1	8.680	0.004	23018	100.0	1	9.243	0.003	64493	101.5
Aroclor-1254	2	8.751	0.005	11045	103.7	2	9.337	0.006	37205	99.8
Aroclor-1254	3	9.049	0.008	14399	96.0	3	9.768	0.005	48720	100.6
Aroclor-1254	4	9.184	0.008	29413	102.6	4	9.919	0.006	108022	100.7
Aroclor-1254	5	9.870	0.003	17840	99.1	5	10.158	0.011	110407	101.5

Total Col1Ave (5 peaks): 100.3 Total Col2Ave (5 peaks): 100.8 RPD = 1
Corrected Ave (4 peaks): 99.4 Corrected Ave (4 peaks): 100.6 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 293494 Col1 Total PCB = 0.1 ppm*

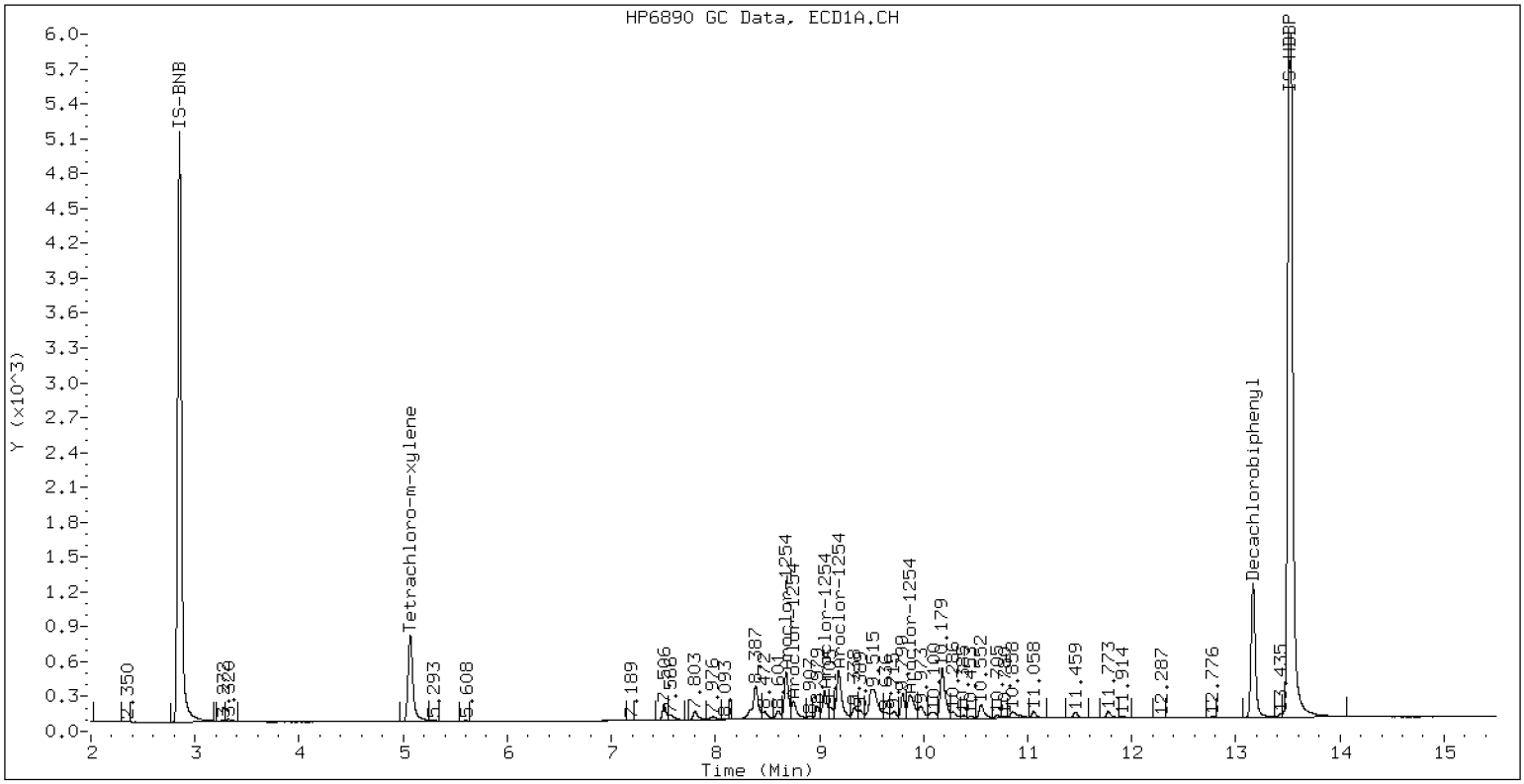
Total PCB Area Col2 (5.169 - 13.066) = 1195216 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

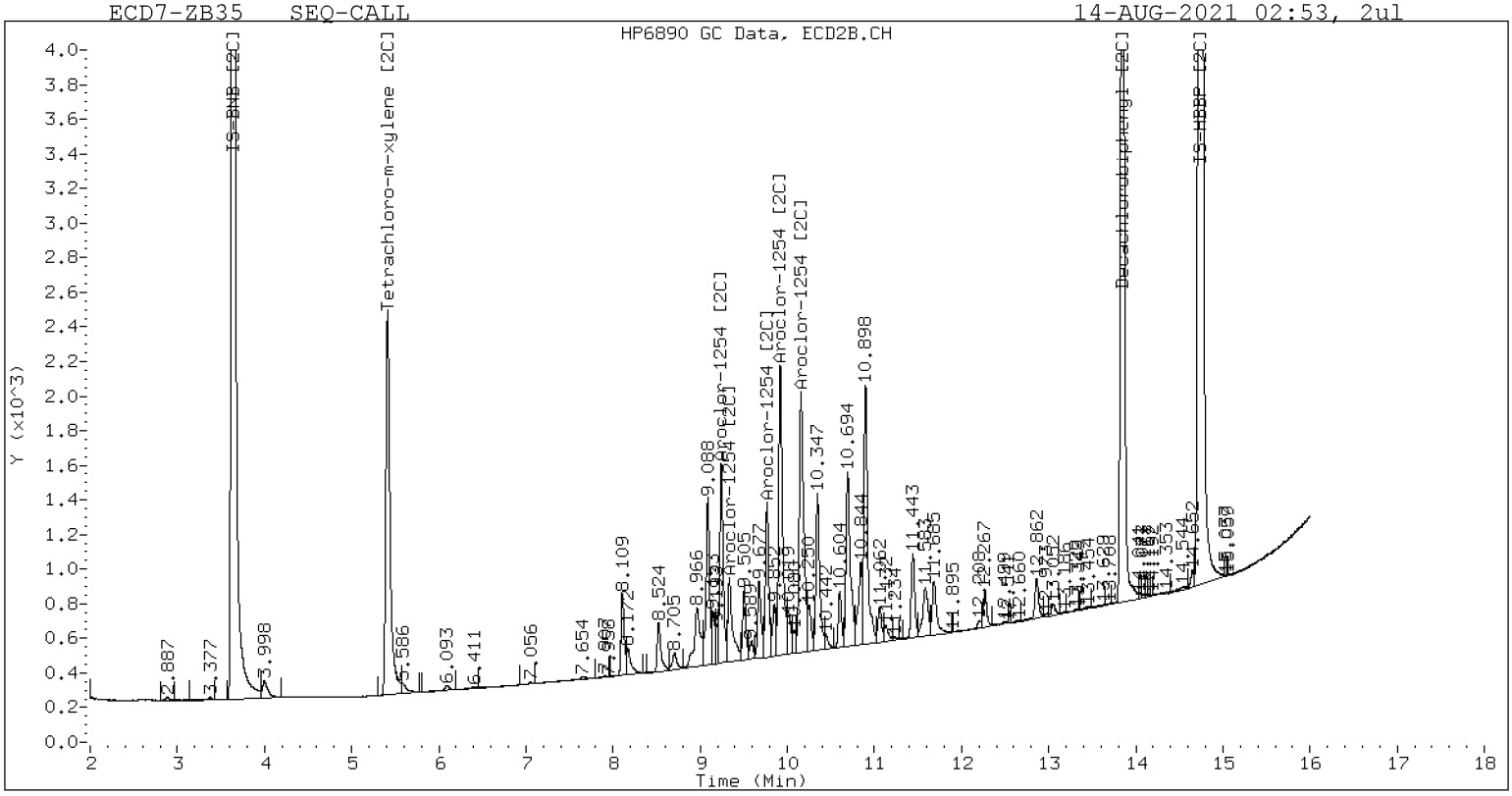
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALL 14-AUG-2021 02:53, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALL 14-AUG-2021 02:53, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132126ECD7.D
Data file 2: /210813.b/210813.b/08132126ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALM
Client ID:
Injection Date: 14-AUG-2021 03:13
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	-0.002	129839	5.412	-0.005	378453	40.6	39.8	2.1	Tetrachloro-m-xylene
13.166	-0.000	164488	13.847	-0.033	851014	39.5	39.7	0.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264494	2.2
Hexabromobiphenyl	425681	458580	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740295	2.7
Hexabromobiphenyl	863111	964396	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.677	0.002	57893	253.7	1	9.241	0.002	152457	242.1
Aroclor-1254	2	8.748	0.002	27373	259.1	2	9.334	0.003	86362	233.6
Aroclor-1254	3	9.045	0.004	37206	250.2	3	9.765	0.002	117837	245.4
Aroclor-1254	4	9.180	0.004	74612	262.6	4	9.917	0.003	252955	237.7
Aroclor-1254	5	9.870	0.003	47061	263.7	5	10.154	0.007	267905	248.3

Total Col1Ave (5 peaks): 257.9 Total Col2Ave (5 peaks): 241.4 RPD = 7
Corrected Ave (4 peaks): 256.4 Corrected Ave (4 peaks): 239.7 RPD = 7

Total PCB Area Col1 (5.169 - 13.066) = 753890 Col1 Total PCB = 0.3 ppm*

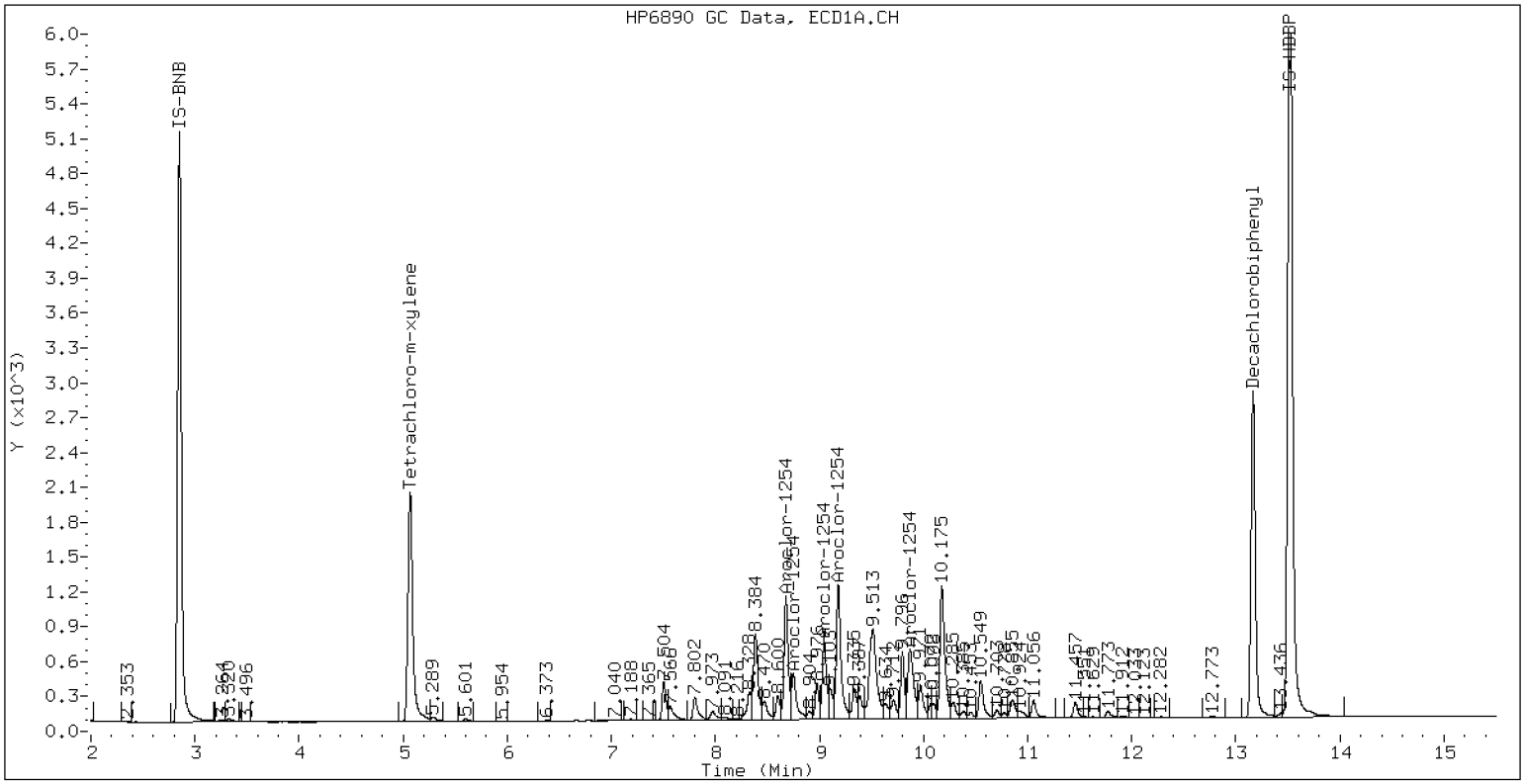
Total PCB Area Col2 (5.169 - 13.066) = 2870074 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

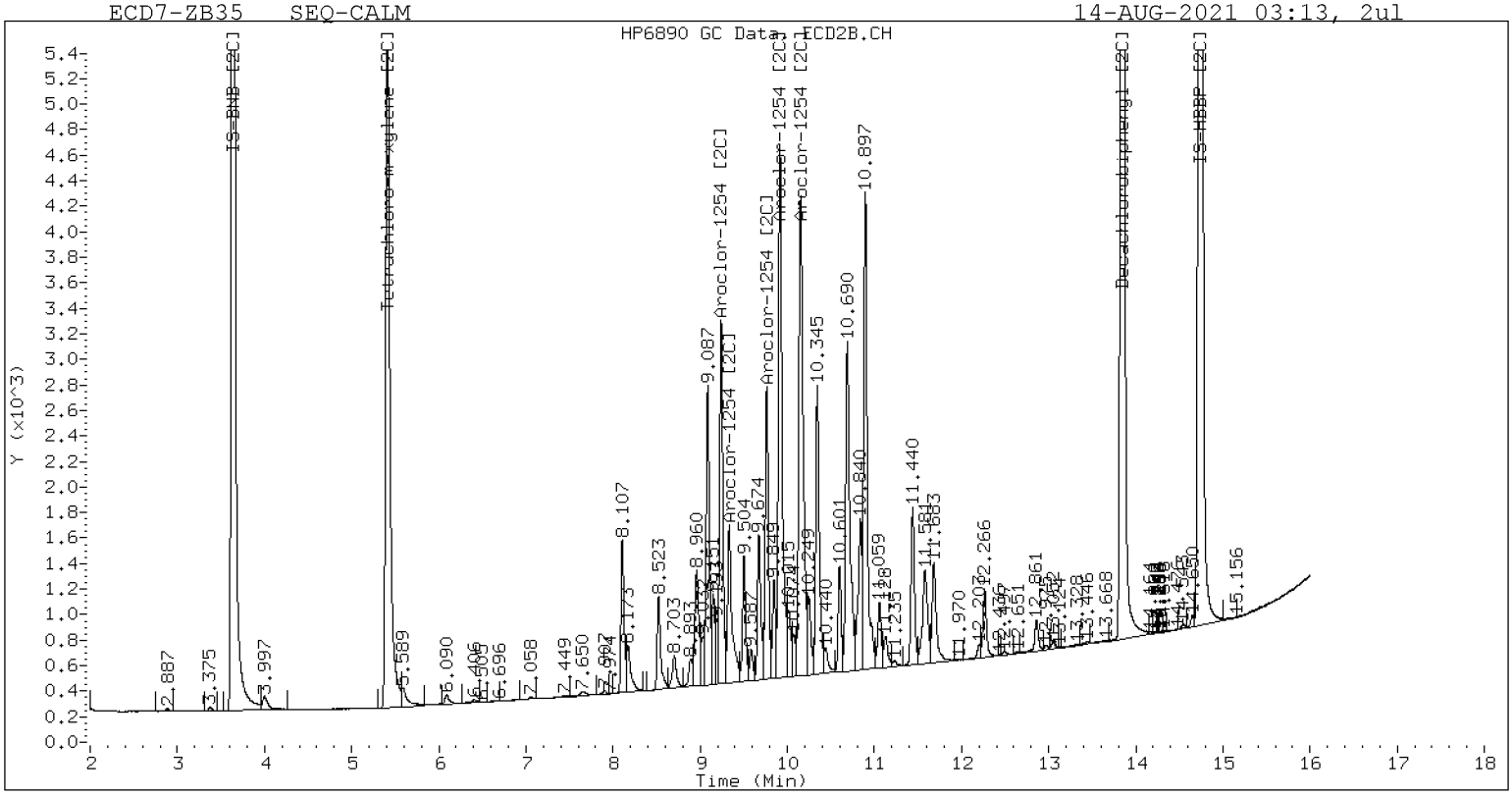
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALM 14-AUG-2021 03:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALM 14-AUG-2021 03:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132127ECD7.D
Data file 2: /210813.b/210813.b/08132127ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALN
Client ID:
Injection Date: 14-AUG-2021 03:34
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	265807	5.414	-0.003	746945	82.3	78.5	4.8	Tetrachloro-m-xylene
13.166	0.000	321408	13.852	-0.028	1865676	78.5	87.1	10.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	267061	3.2
Hexabromobiphenyl	425681	451316	6.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740536	2.7
Hexabromobiphenyl	863111	963913	11.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.676	0.001	115032	499.3	1	9.240	0.001	293539	465.9
Aroclor-1254	2	8.748	0.002	51941	487.0	2	9.332	0.001	165511	447.6
Aroclor-1254	3	9.043	0.002	75458	502.5	3	9.764	0.001	228480	475.7
Aroclor-1254	4	9.178	0.002	149029	519.4	4	9.914	0.001	491425	461.7
Aroclor-1254	5	9.869	0.002	96576	536.0	5	10.151	0.003	526835	488.1

Total Col1Ave (5 peaks): 508.8 Total Col2Ave (5 peaks): 467.8 RPD = 8
Corrected Ave (4 peaks): 502.0 Corrected Ave (4 peaks): 462.7 RPD = 8

Total PCB Area Col1 (5.169 - 13.066) = 1500587 Col1 Total PCB = 0.6 ppm*

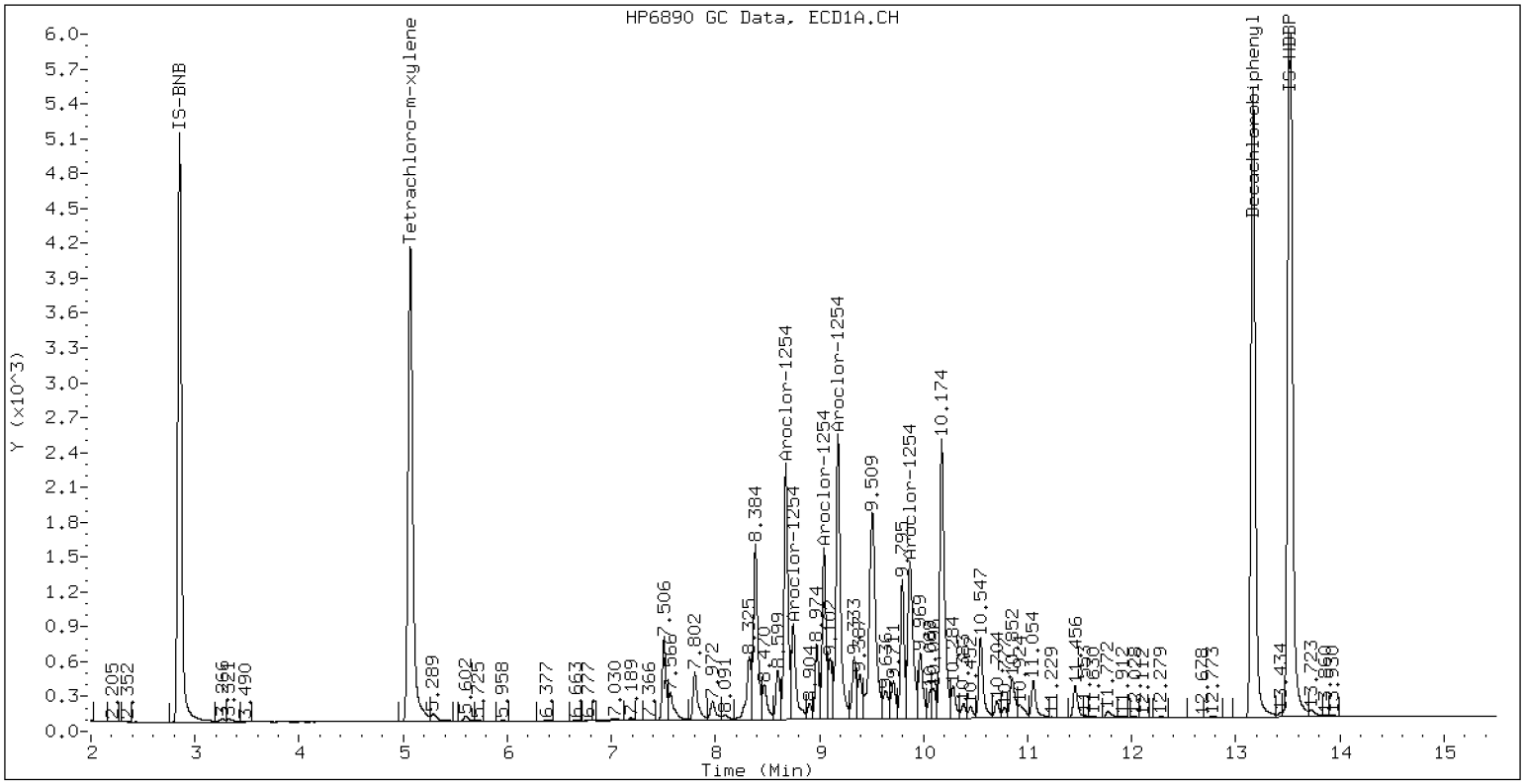
Total PCB Area Col2 (5.169 - 13.066) = 5575259 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

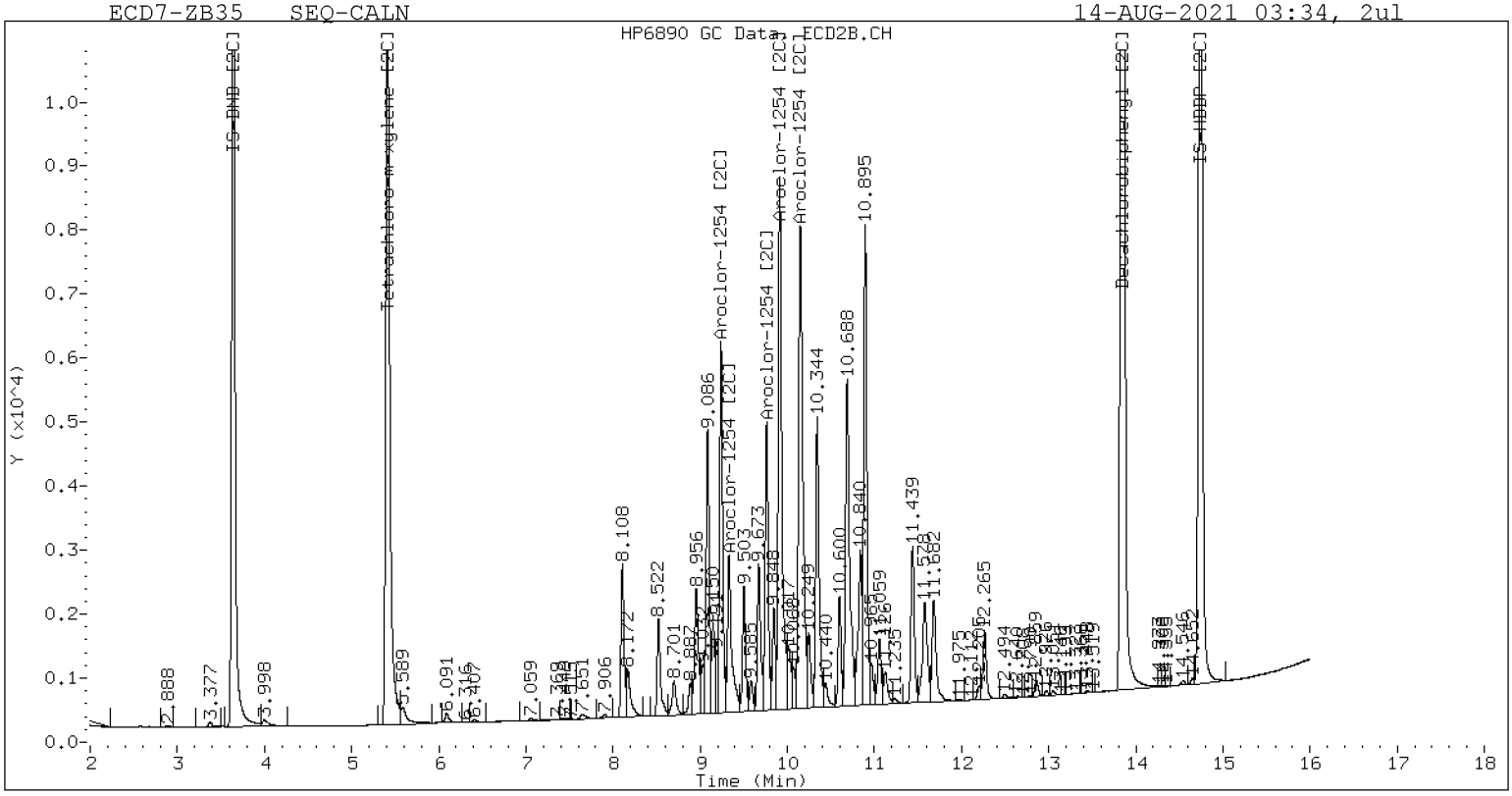
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALN 14-AUG-2021 03:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALN 14-AUG-2021 03:34, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132128ECD7.D
Data file 2: /210813.b/210813.b/08132128ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALO
Client ID:
Injection Date: 14-AUG-2021 03:54
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	586983	5.415	-0.002	1678624	161.8	156.5	3.4	Tetrachloro-m-xylene
13.166	0.000	682825	13.863	-0.017	4502724	146.2	180.1	20.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	300162	16.0
Hexabromobiphenyl	425681	514689	20.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	834903	15.8
Hexabromobiphenyl	863111	1125324	30.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	8.675	0.000	243956	942.1	1	9.239	0.000	614196	864.6
Aroclor-1254	2	8.746	0.000	100189	835.7	2	9.331	0.000	342359	821.2
Aroclor-1254	3	9.041	0.000	166951	989.1	3	9.763	0.000	480470	887.2
Aroclor-1254	4	9.176	0.000	319165	989.8	4	9.914	0.000	1070997	892.5
Aroclor-1254	5	9.867	0.000	215902	1066.1	5	10.147	0.000	1124677	924.2

Total Col1Ave (5 peaks): 964.6 Total Col2Ave (5 peaks): 878.0 RPD = 9
Corrected Ave (4 peaks): 939.2 Corrected Ave (4 peaks): 866.4 RPD = 8

Total PCB Area Col1 (5.169 - 13.066) = 3250417 Col1 Total PCB = 1.1 ppm*

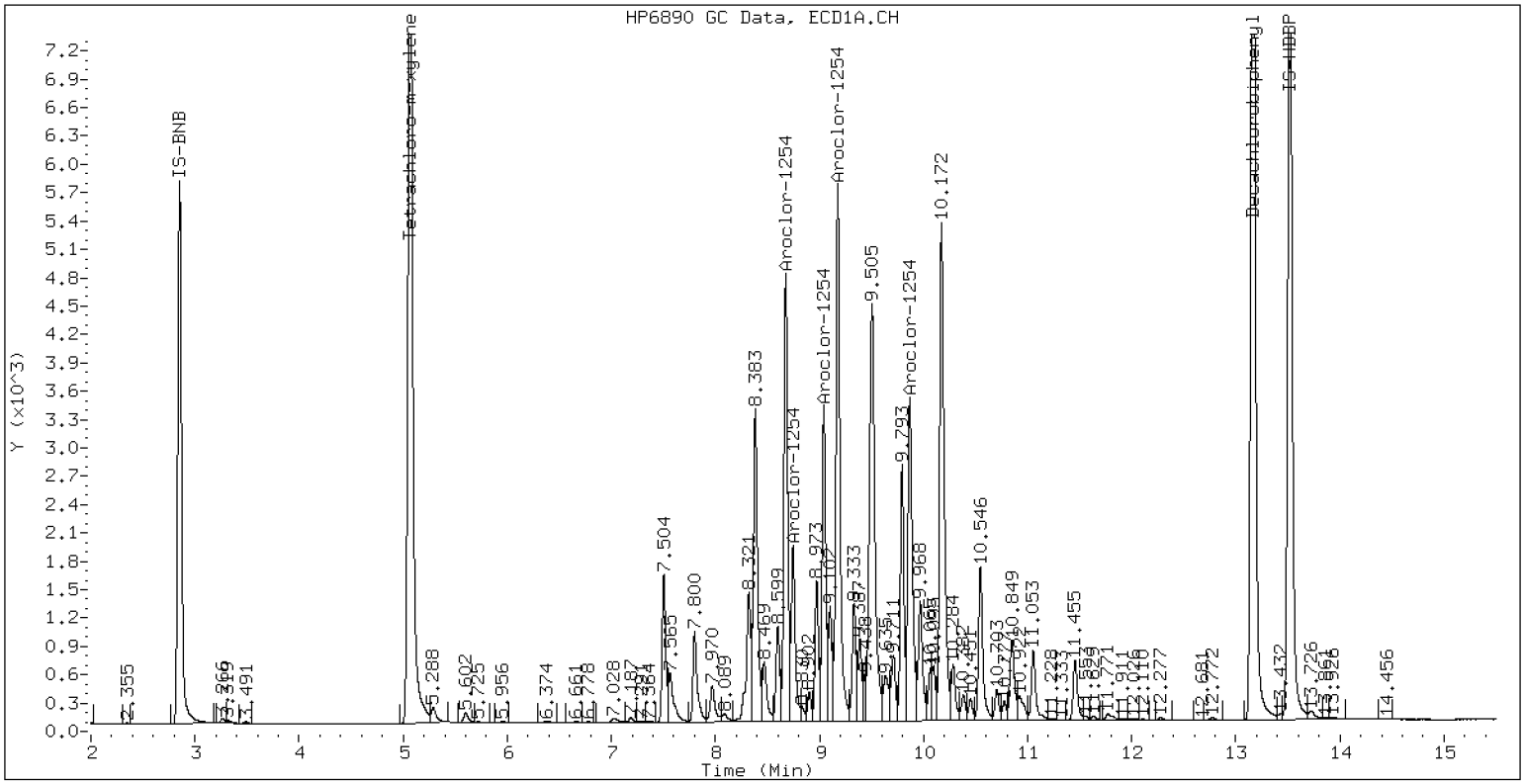
Total PCB Area Col2 (5.169 - 13.066) = 11917701 Col2 Total PCB = 1.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

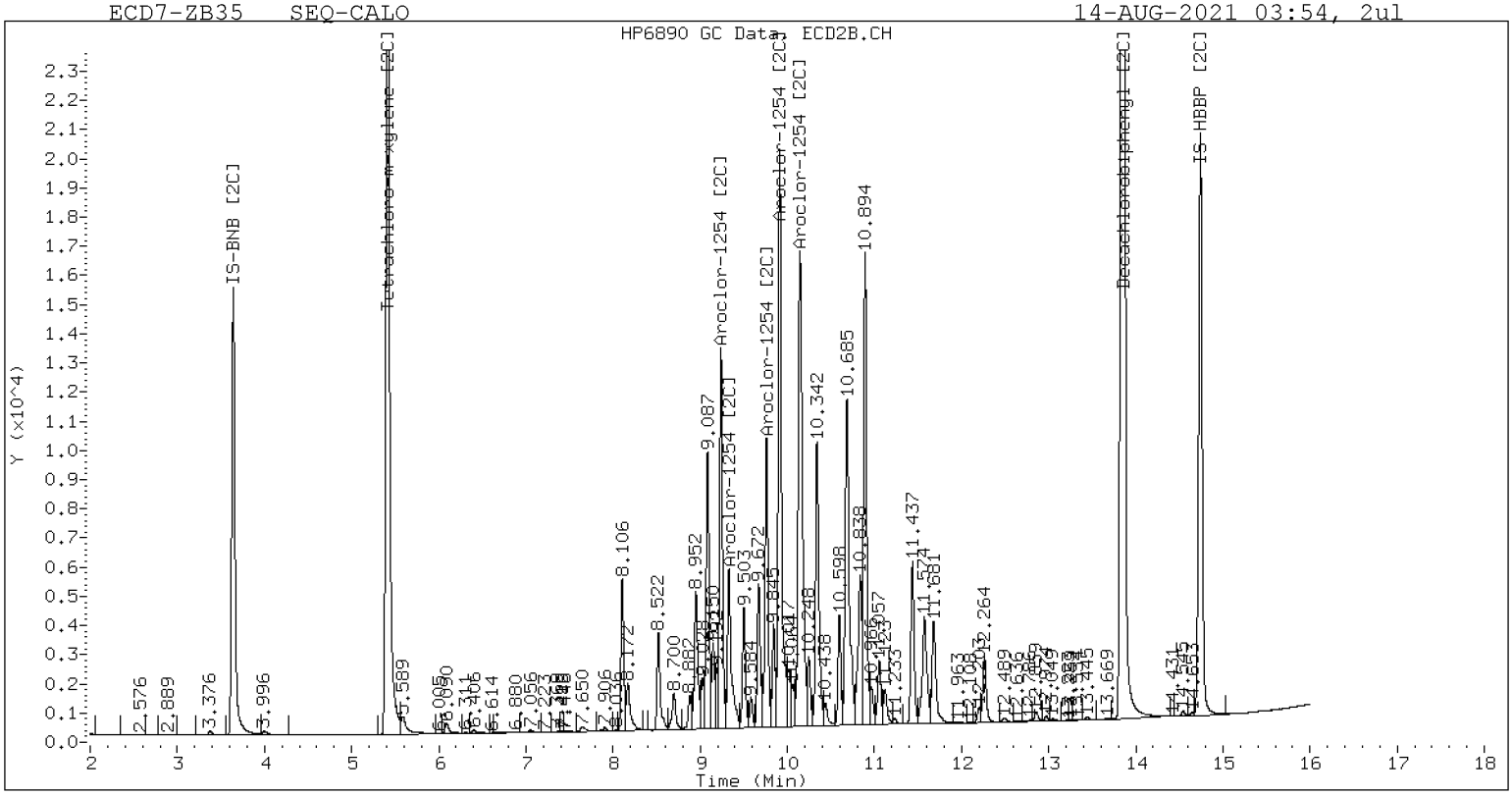
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALO 14-AUG-2021 03:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALO 14-AUG-2021 03:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132129ECD7.D
Data file 2: /210813.b/210813.b/08132129ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALP
Client ID:
Injection Date: 14-AUG-2021 04:15
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.000	8898	5.414	-0.002	31562	3.0	3.6	16.8	Tetrachloro-m-xylene
13.165	-0.001	13265	13.846	-0.034	65033	3.4	3.2	5.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	245136	-5.3
Hexabromobiphenyl	425681	426488	0.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	690863	-4.2
Hexabromobiphenyl	863111	906417	5.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.020	0.005	374	19.3	1	4.676	-0.000	1086	20.9
Aroclor-1221	2	5.451	0.000	527	17.4	2	6.075	0.003	2479	20.9
Aroclor-1221	3	5.727	0.003	1570	19.2	3	6.414	0.005	4328	20.9
Total Col1Ave (3 peaks):				18.6		Total Col2Ave (3 peaks):			20.9	RPD = 12
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.388	0.004	5474	21.0	1	10.971	0.001	25181	22.7
Aroclor-1262	2	11.461	0.007	3302	19.6	2	11.682	-0.003	50188	21.5
Aroclor-1262	3	11.631	0.004	4964	20.4	3	12.188	0.000	22103	21.3
Aroclor-1262	4	12.279	0.005	4086	20.5	4	12.974	0.001	19713	20.4
Total Col1Ave (4 peaks):				20.4		Total Col2Ave (4 peaks):			21.5	RPD = 5
Corrected Ave (3 peaks):				20.2		Corrected Ave (3 peaks):			21.0	RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 81438 Col1 Total PCB = 0.0 ppm*

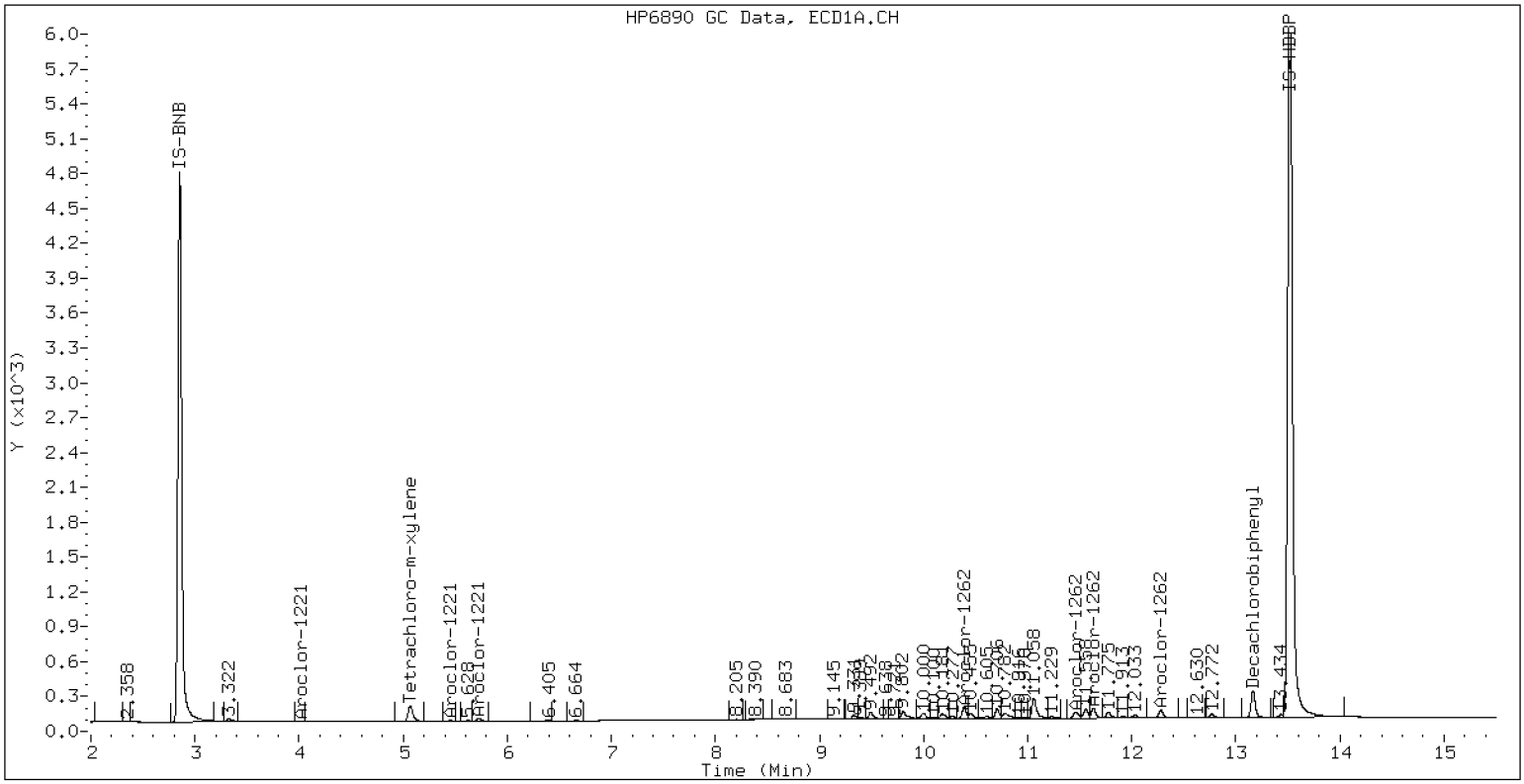
Total PCB Area Col2 (5.169 - 13.066) = 371772 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

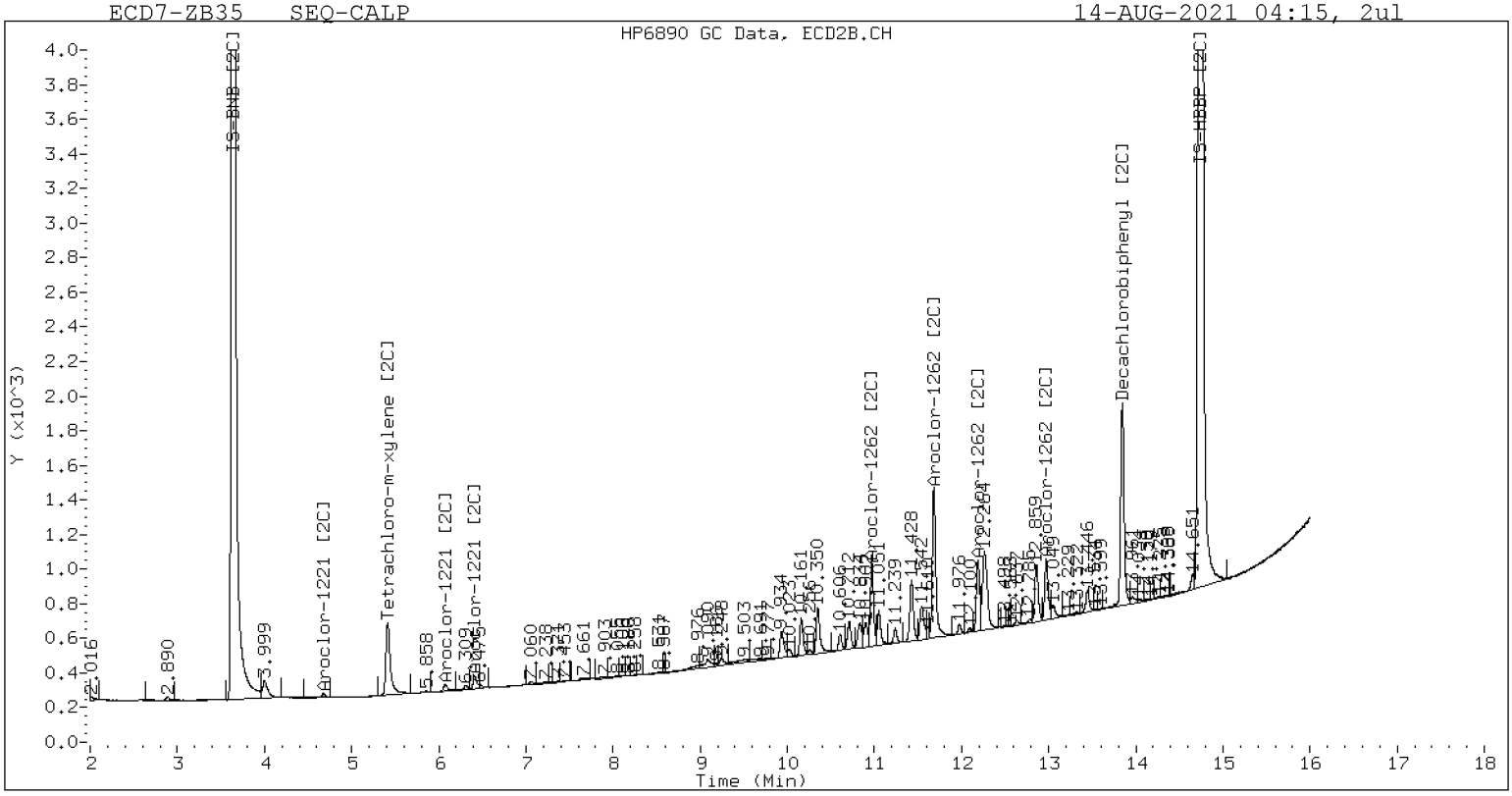
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALP 14-AUG-2021 04:15, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALP 14-AUG-2021 04:15, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132130ECD7.D
Data file 2: /210813.b/210813.b/08132130ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALQ
Client ID:
Injection Date: 14-AUG-2021 04:35
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	24022	5.414	-0.003	75627	7.6	8.0	5.5	Tetrachloro-m-xylene
13.165	-0.000	32624	13.846	-0.034	168101	7.9	7.8	1.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261668	1.1
Hexabromobiphenyl	425681	453964	6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	733252	1.7
Hexabromobiphenyl	863111	968090	12.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.015	-0.000	1082	52.4	1	4.677	0.000	3140	57.1
Aroclor-1221	2	5.454	0.003	1371	42.3	2	6.075	0.003	6195	49.2
Aroclor-1221	3	5.727	0.002	4231	48.3	3	6.413	0.004	11143	50.7
Total Col1Ave (3 peaks):				47.7		Total Col2Ave (3 peaks):			52.3	RPD = 9
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.388	0.005	13372	48.3	1	10.971	0.001	61110	51.6
Aroclor-1262	2	11.461	0.007	8124	45.3	2	11.683	-0.003	122171	48.9
Aroclor-1262	3	11.630	0.004	12394	47.9	3	12.189	0.001	55035	49.6
Aroclor-1262	4	12.280	0.005	10210	48.1	4	12.974	0.001	49243	47.7
Total Col1Ave (4 peaks):				47.4		Total Col2Ave (4 peaks):			49.5	RPD = 4
Corrected Ave (3 peaks):				47.1		Corrected Ave (3 peaks):			48.7	RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 195251 Col1 Total PCB = 0.1 ppm*

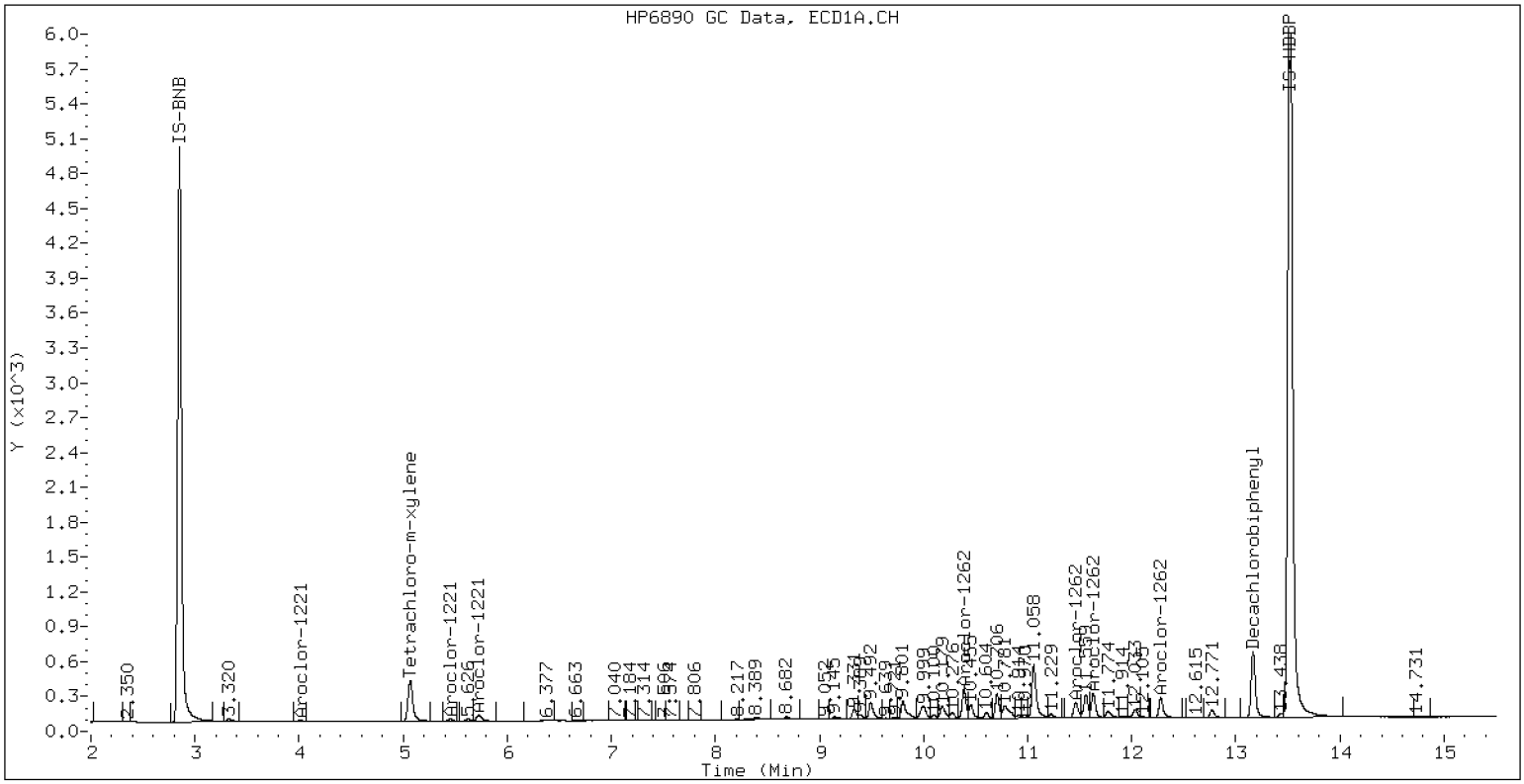
Total PCB Area Col2 (5.169 - 13.066) = 866797 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALQ 14-AUG-2021 04:35, 2ul



ZB-5 Manual Integration: NO

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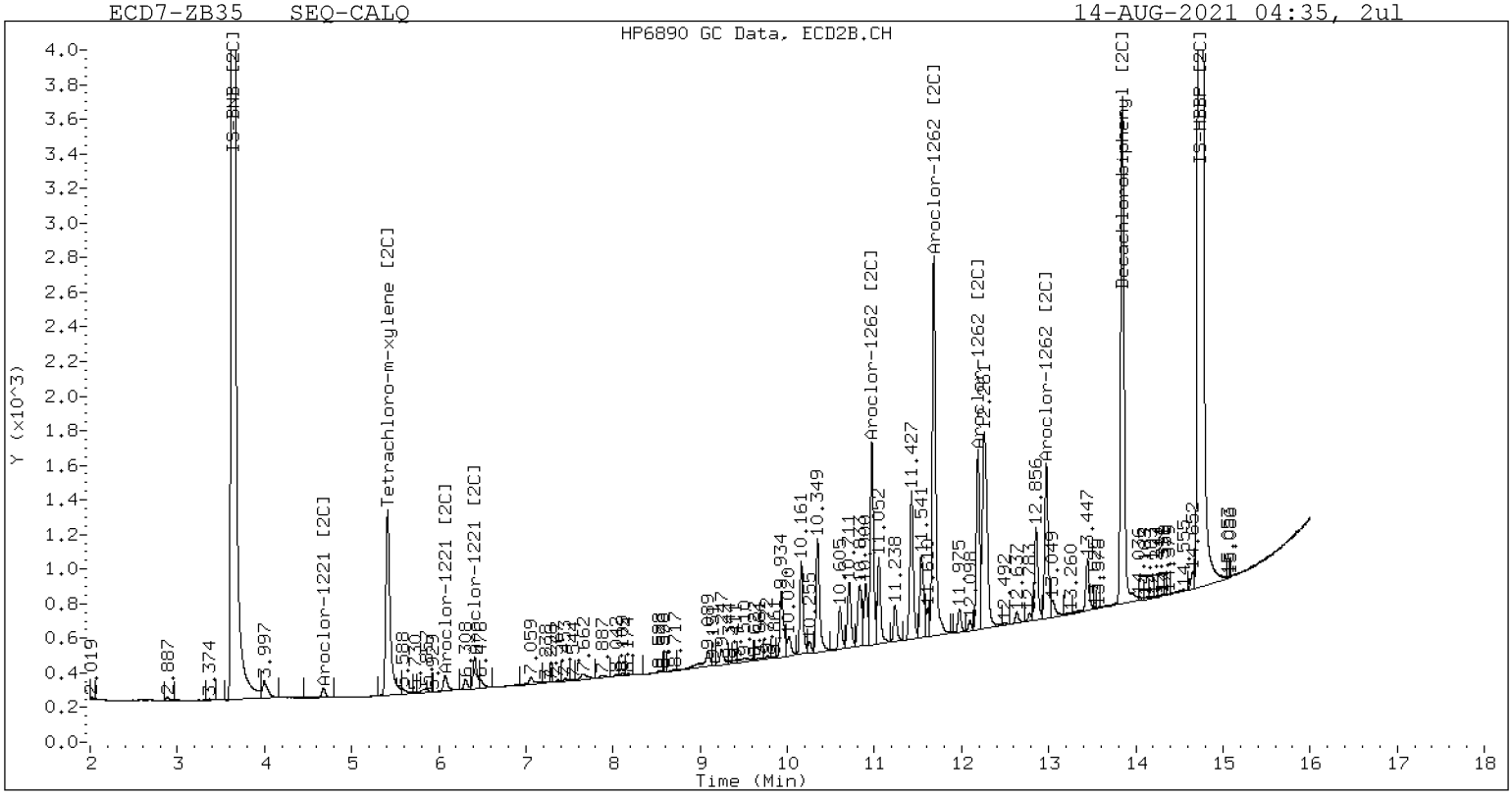


ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132131ECD7.D
Data file 2: /210813.b/210813.b/08132131ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALR
Client ID:
Injection Date: 14-AUG-2021 04:56
Report Date: 08/14/2021 15:26
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	50997	5.413	-0.004	151702	16.0	16.1	0.4	Tetrachloro-m-xylene
13.165	-0.001	66428	13.847	-0.033	341243	16.0	15.7	2.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263747	1.9
Hexabromobiphenyl	425681	456506	7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	735138	2.0
Hexabromobiphenyl	863111	978830	13.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1221	1	4.015	-0.000	2280	109.5	1	4.677	0.000	6199	112.3
Aroclor-1221	2	5.452	0.001	3120	95.6	2	6.074	0.002	12753	101.0
Aroclor-1221	3	5.727	0.002	8691	98.5	3	6.411	0.002	22972	104.3
Total Col1Ave (3 peaks):					101.2	Total Col2Ave (3 peaks):				105.9 RPD = 5
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.387	0.004	27305	98.0	1	10.970	-0.000	121062	101.1
Aroclor-1262	2	11.458	0.004	17551	97.3	2	11.681	-0.005	245852	97.3
Aroclor-1262	3	11.629	0.002	25813	99.3	3	12.187	-0.001	111421	99.4
Aroclor-1262	4	12.278	0.003	21111	98.9	4	12.973	0.000	106511	101.9
Total Col1Ave (4 peaks):					98.4	Total Col2Ave (4 peaks):				100.0 RPD = 2
Corrected Ave (3 peaks):					98.1	Corrected Ave (3 peaks):				99.3 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 401239 Col1 Total PCB = 0.2 ppm*

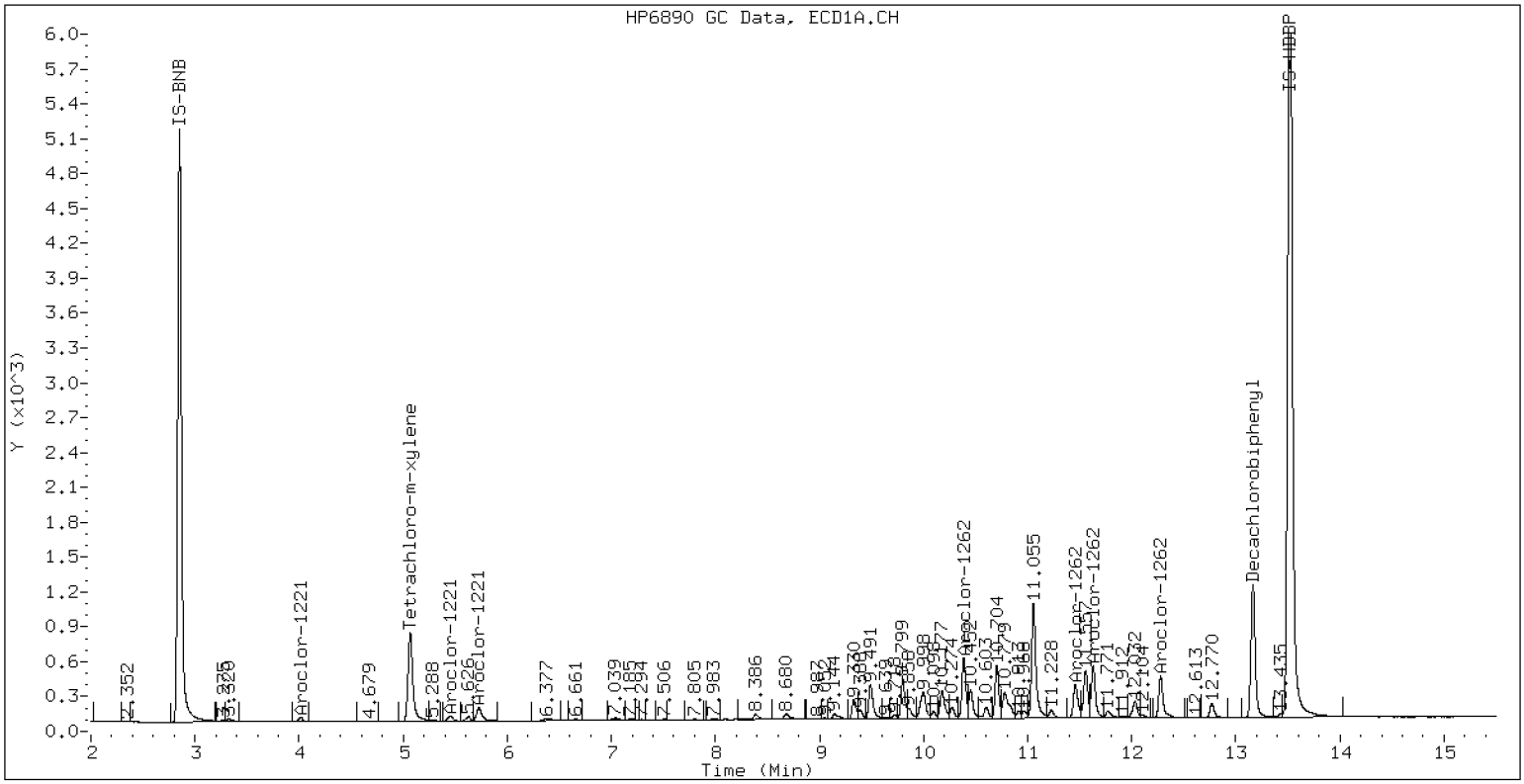
Total PCB Area Col2 (5.169 - 13.066) = 1724757 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

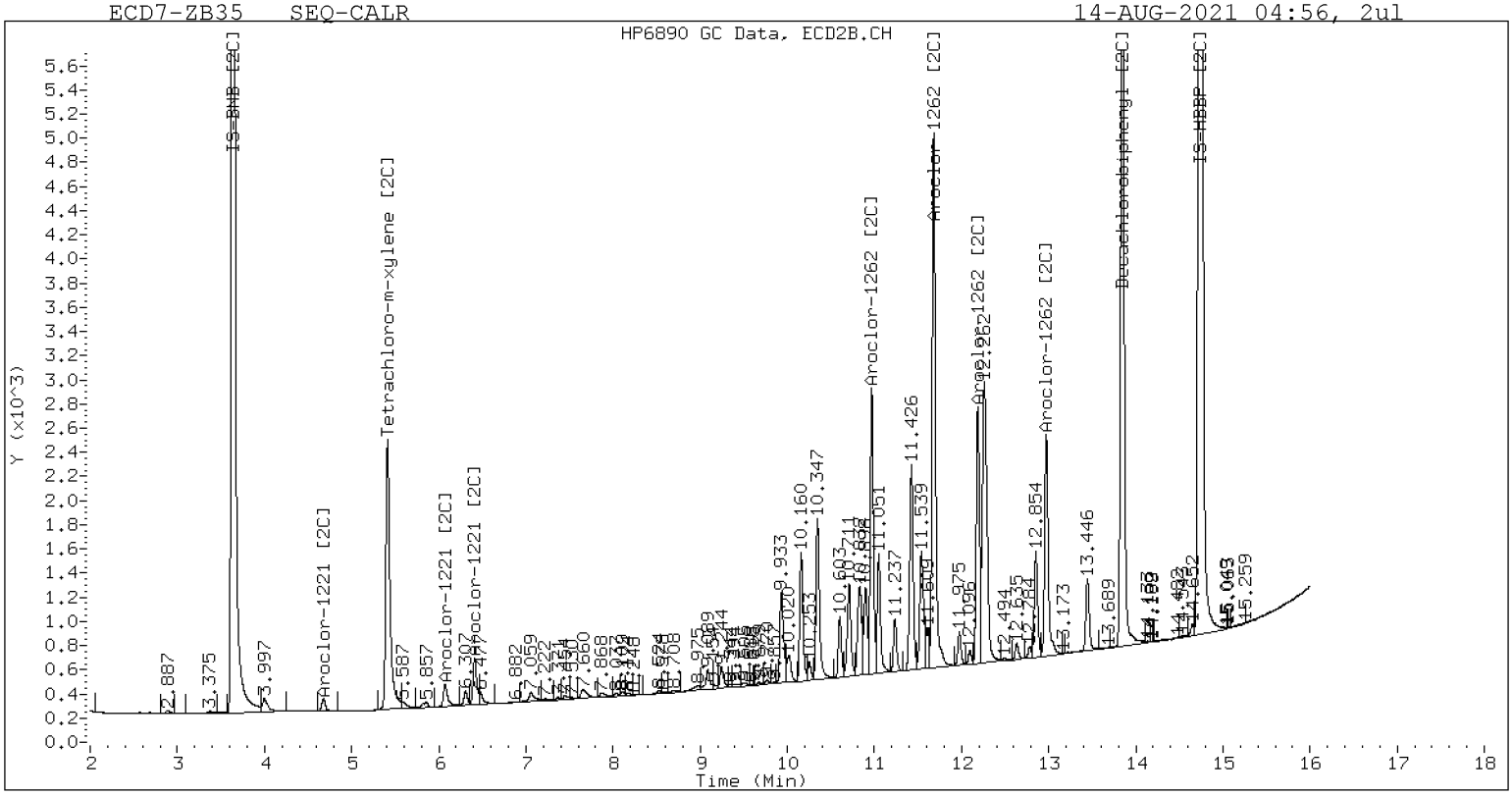
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALR 14-AUG-2021 04:56, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALR 14-AUG-2021 04:56, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132132ECD7.D
Data file 2: /210813.b/210813.b/08132132ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALS
Client ID:
Injection Date: 14-AUG-2021 05:16
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	131883	5.414	-0.003	376179	41.3	39.7	4.1	Tetrachloro-m-xylene
13.165	-0.000	165056	13.848	-0.032	866022	39.8	39.8	0.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264011	2.0
Hexabromobiphenyl	425681	456505	7.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	737936	2.4
Hexabromobiphenyl	863111	979376	13.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1221	1	4.015	-0.001	5527	265.1	1	4.677	0.000	13672	246.8
Aroclor-1221	2	5.452	0.001	9235	282.6	2	6.073	0.001	31880	251.4
Aroclor-1221	3	5.726	0.002	23772	269.2	3	6.411	0.002	56108	253.9
Total Col1Ave (3 peaks):				272.3		Total Col2Ave (3 peaks):			250.7	RPD = 8
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.386	0.002	70219	252.1	1	10.970	-0.001	293255	244.9
Aroclor-1262	2	11.456	0.002	46040	255.2	2	11.680	-0.005	600428	237.6
Aroclor-1262	3	11.629	0.002	65776	252.9	3	12.188	-0.000	279413	249.1
Aroclor-1262	4	12.277	0.003	54311	254.4	4	12.973	0.000	266174	254.6
Total Col1Ave (4 peaks):				253.7		Total Col2Ave (4 peaks):			246.6	RPD = 3
Corrected Ave (3 peaks):				253.1		Corrected Ave (3 peaks):			243.9	RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1026843 Col1 Total PCB = 0.4 ppm*

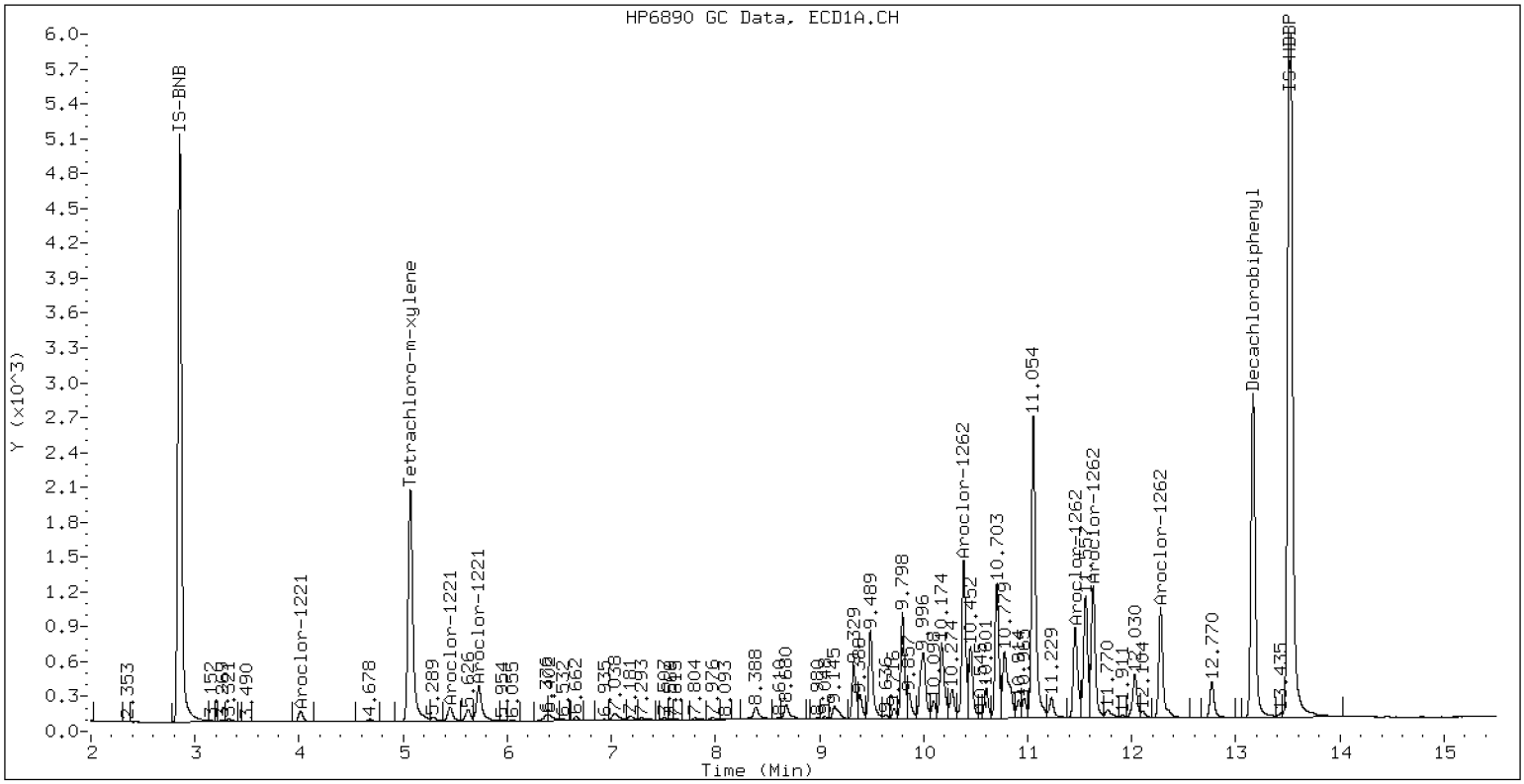
Total PCB Area Col2 (5.169 - 13.066) = 4215822 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

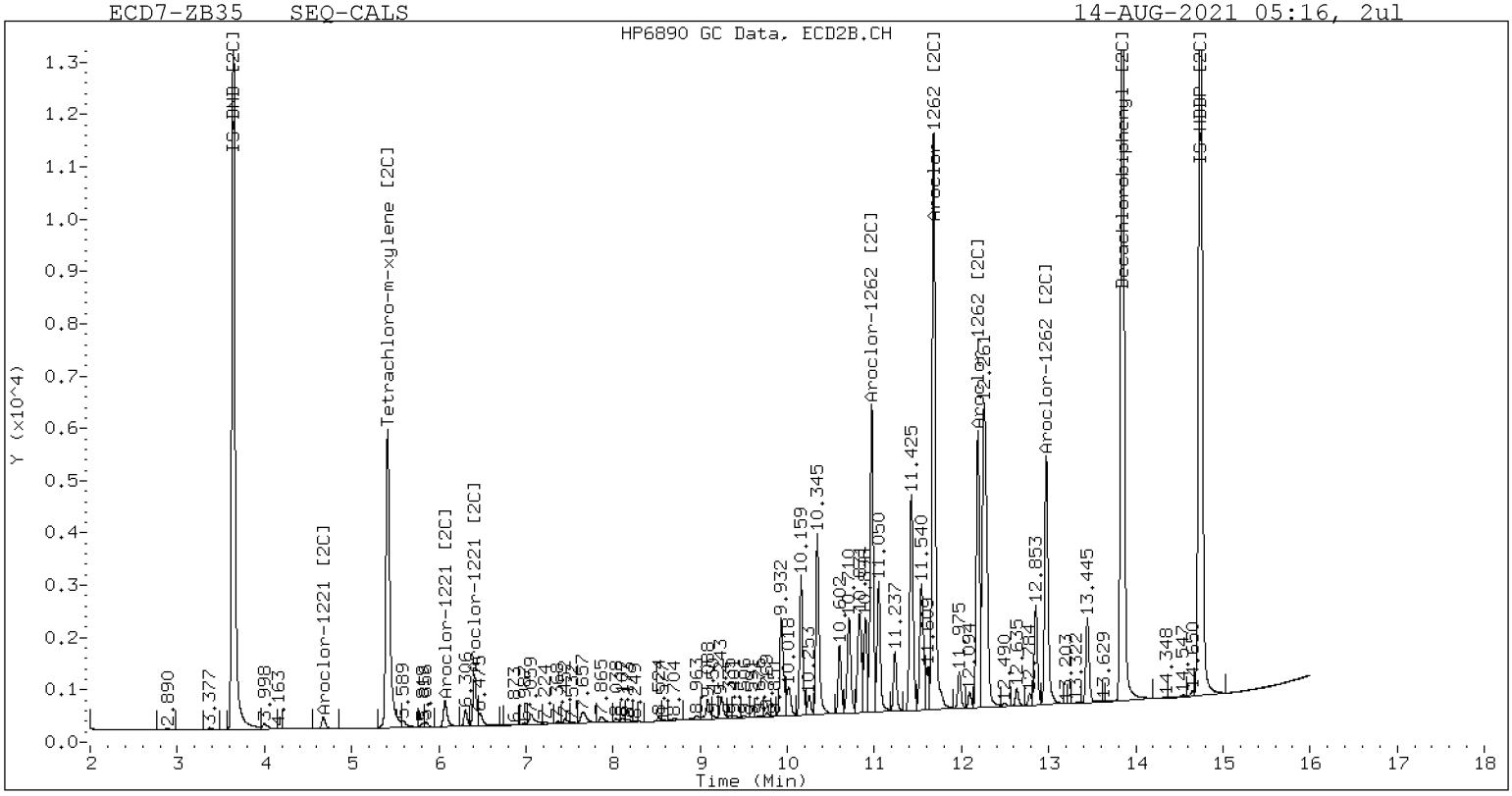
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALS 14-AUG-2021 05:16, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALS 14-AUG-2021 05:16, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132133ECD7.D
Data file 2: /210813.b/210813.b/08132133ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALT
Client ID:
Injection Date: 14-AUG-2021 05:37
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	261593	5.415	-0.002	728542	82.3	77.4	6.1	Tetrachloro-m-xylene
13.165	-0.001	319878	13.850	-0.030	1884507	78.6	86.8	9.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262948	1.6
Hexabromobiphenyl	425681	448089	5.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	732298	1.6
Hexabromobiphenyl	863111	976792	13.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.015	0.000	9914	477.4	1	4.678	0.001	24750	450.3
Aroclor-1221	2	5.452	0.001	18189	558.8	2	6.073	0.001	62987	500.6
Aroclor-1221	3	5.727	0.002	45677	519.4	3	6.411	0.002	107101	488.4
Total Col1Ave (3 peaks): 518.6						Total Col2Ave (3 peaks): 479.7 RPD = 8				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.384	0.000	139981	511.9	1	10.969	-0.002	560729	469.4
Aroclor-1262	2	11.455	0.001	94339	532.8	2	11.680	-0.006	1209233	479.8
Aroclor-1262	3	11.627	0.001	131117	513.6	3	12.187	-0.001	553441	494.7
Aroclor-1262	4	12.276	0.002	110529	527.4	4	12.972	-0.000	528567	507.0
Total Col1Ave (4 peaks): 521.5						Total Col2Ave (4 peaks): 487.7 RPD = 7				
Corrected Ave (3 peaks): 517.7						Corrected Ave (3 peaks): 481.3 RPD = 7				

Total PCB Area Col1 (5.169 - 13.066) = 2051470 Col1 Total PCB = 0.8 ppm*

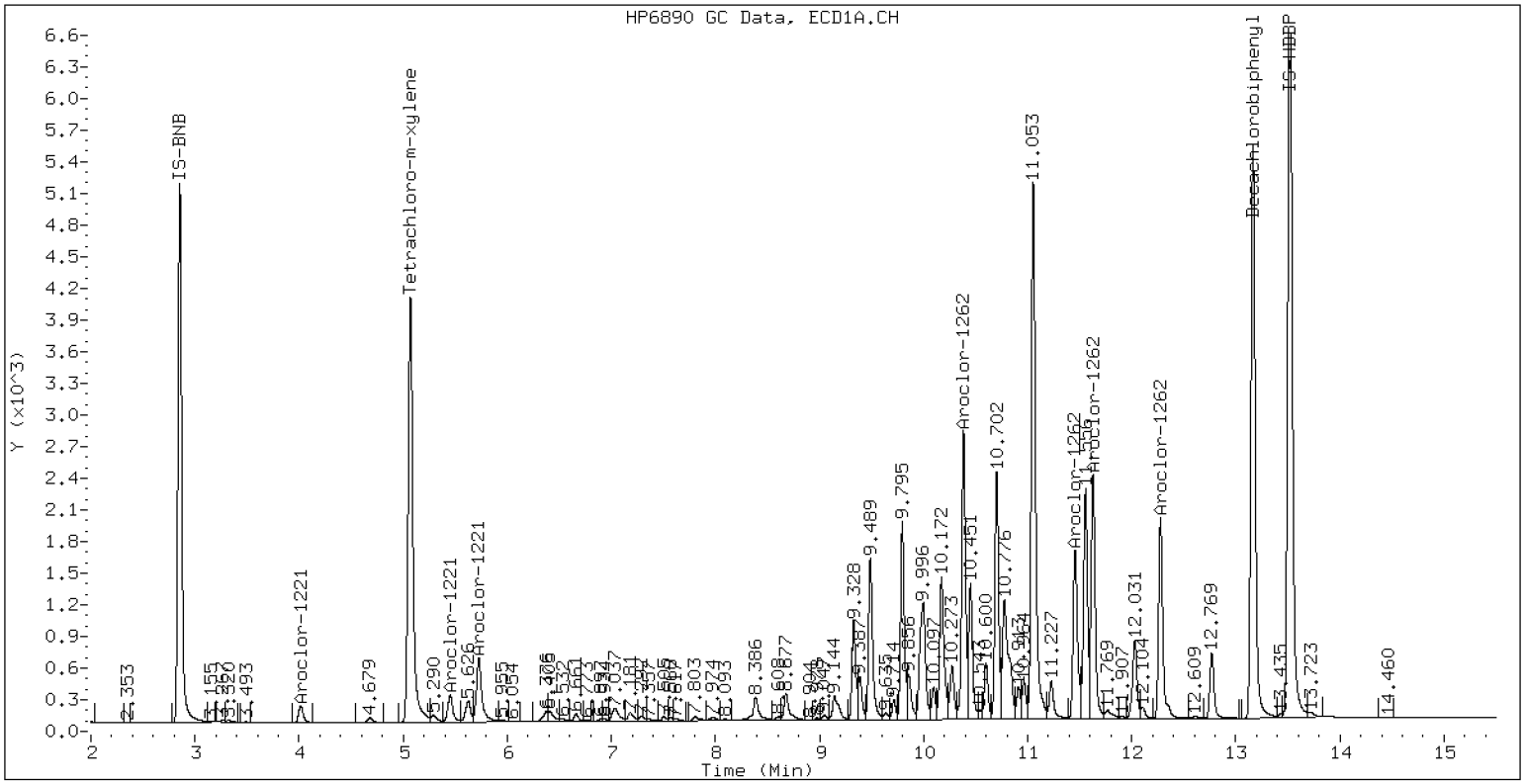
Total PCB Area Col2 (5.169 - 13.066) = 8265740 Col2 Total PCB = 0.8 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

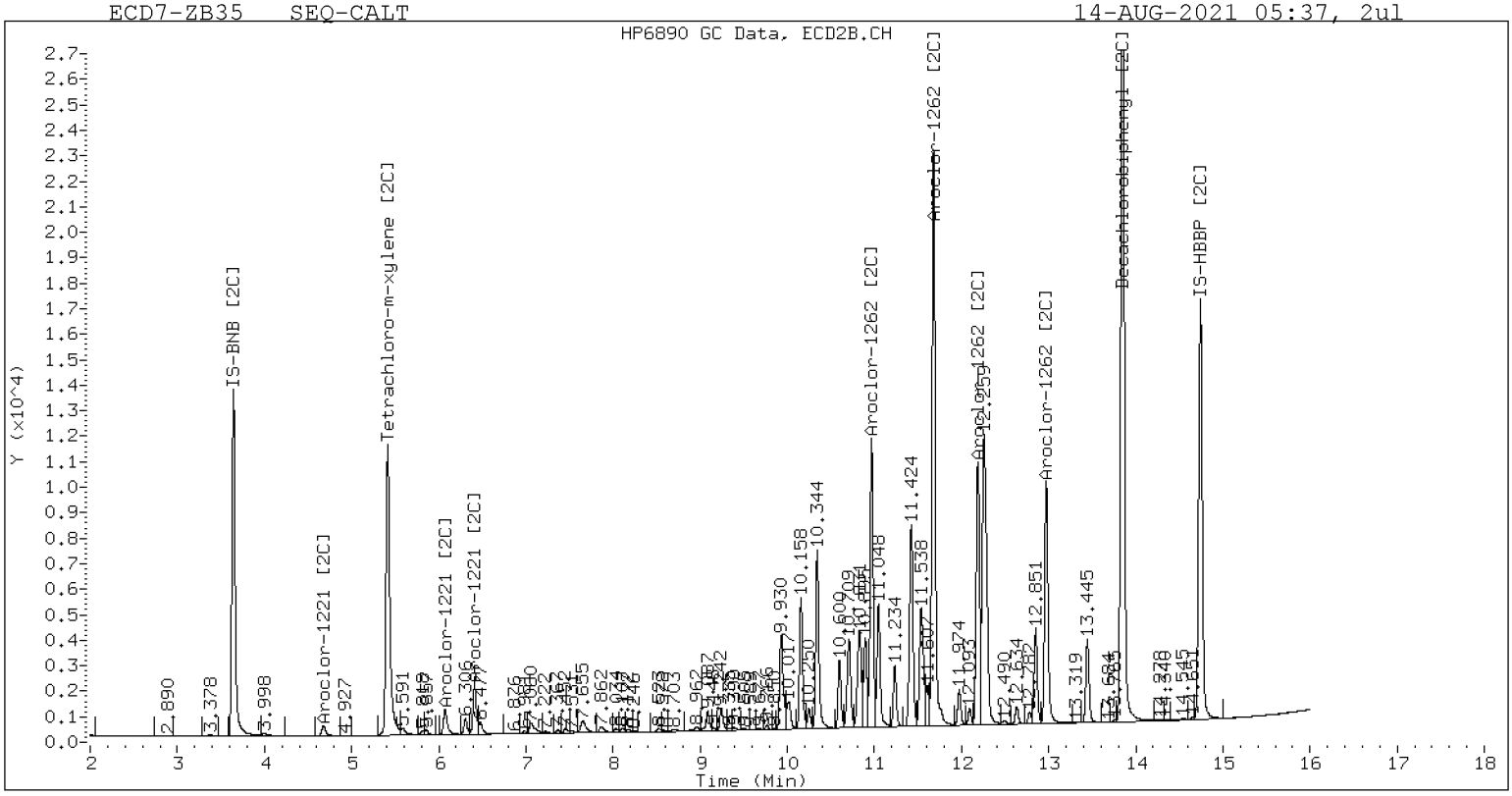
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALT 14-AUG-2021 05:37, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALT 14-AUG-2021 05:37, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132134ECD7.D
Data file 2: /210813.b/210813.b/08132134ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR2162.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALU
Client ID:
Injection Date: 14-AUG-2021 05:57
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.001	562556	5.415	-0.002	1625558	158.0	155.7	1.5	Tetrachloro-m-xylene
13.166	0.000	683202	13.866	-0.014	4564195	148.8	181.4	19.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	294577	13.8
Hexabromobiphenyl	425681	505654	18.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	812370	12.7
Hexabromobiphenyl	863111	1132299	31.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1221	1	4.015	0.000	20398	876.9	1	4.677	0.000	48805	800.4
Aroclor-1221	2	5.451	0.000	39437	1081.5	2	6.072	0.000	133436	955.9
Aroclor-1221	3	5.724	0.000	95979	974.3	3	6.409	0.000	219752	903.3
Total Col1Ave (3 peaks): 977.5						Total Col2Ave (3 peaks): 886.5 RPD = 10				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1262	1	10.384	0.000	299522	970.7	1	10.970	0.000	1249012	902.0
Aroclor-1262	2	11.454	0.000	210846	1055.2	2	11.685	0.000	3112273	1065.3
Aroclor-1262	3	11.627	0.000	284707	988.4	3	12.188	0.000	1248804	963.0
Aroclor-1262	4	12.274	0.000	225267	952.6	4	12.973	0.000	1179580	976.0
Total Col1Ave (4 peaks): 991.7						Total Col2Ave (4 peaks): 976.6 RPD = 2				
Corrected Ave (3 peaks): 970.5						Corrected Ave (3 peaks): 947.0 RPD = 2				

Total PCB Area Col1 (5.169 - 13.066) = 4488163 Col1 Total PCB = 1.5 ppm*

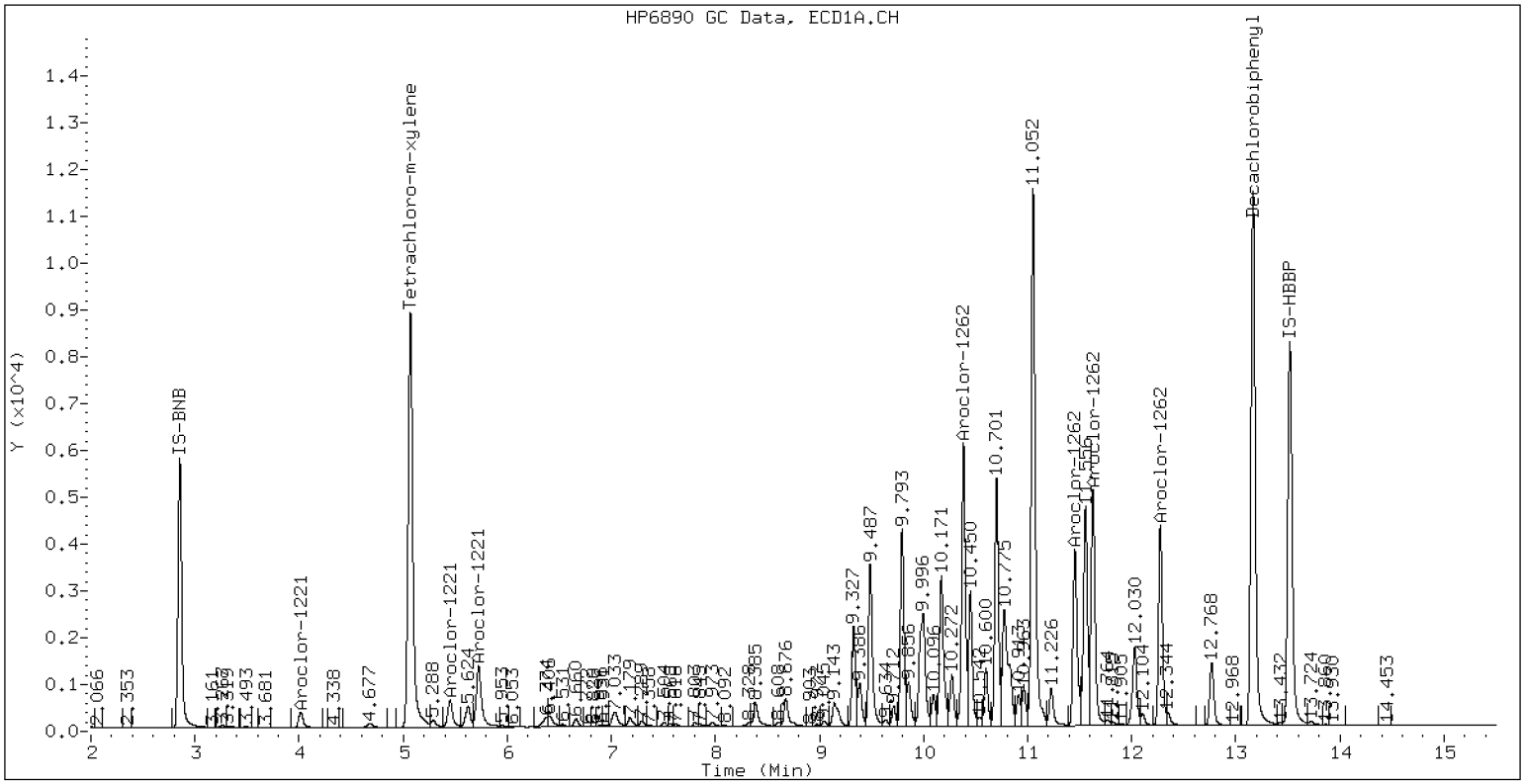
Total PCB Area Col2 (5.169 - 13.066) = 18583060 Col2 Total PCB = 1.7 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

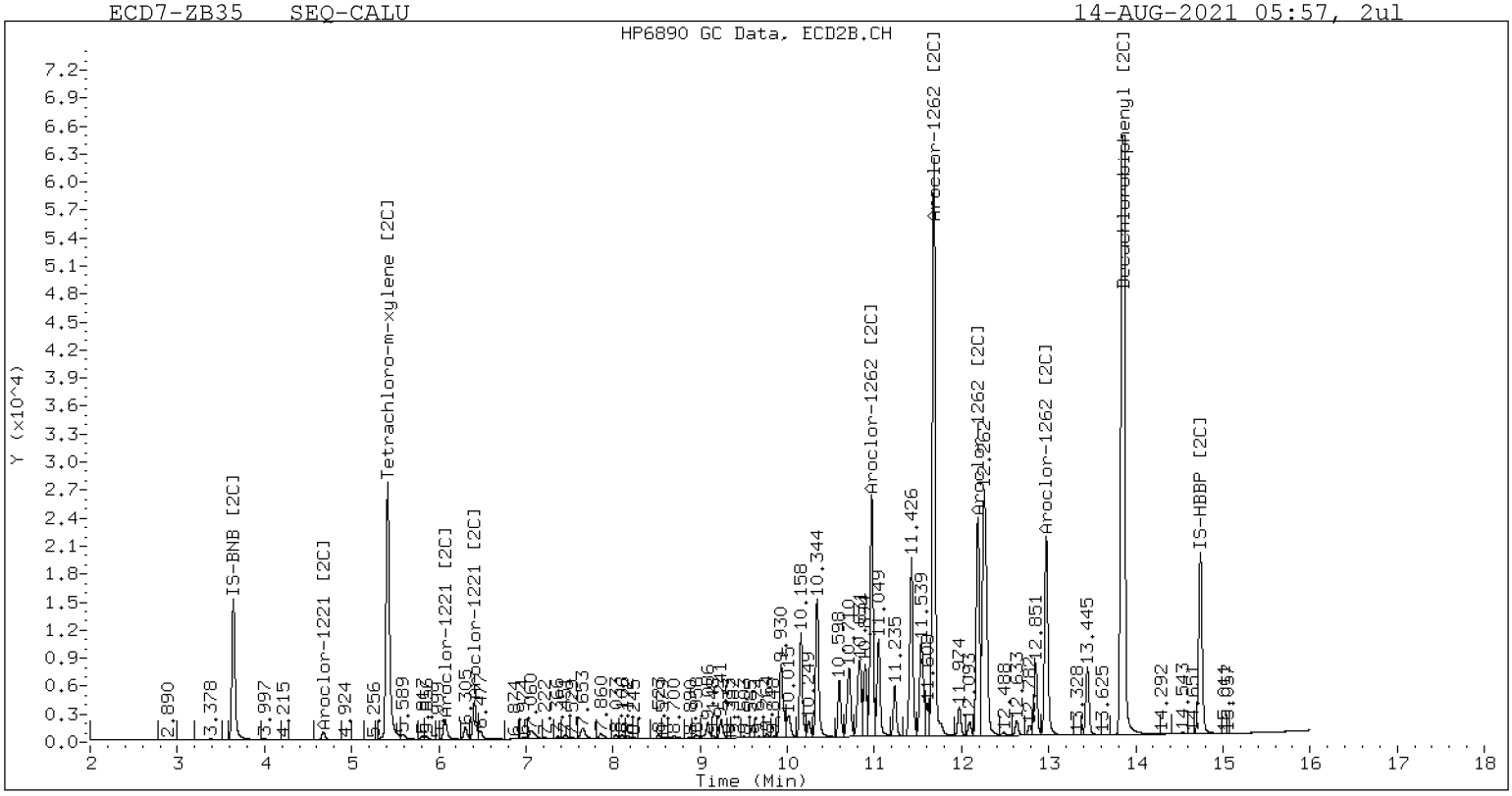
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALU 14-AUG-2021 05:57, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALU 14-AUG-2021 05:57, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132135ECD7.D
Data file 2: /210813.b/210813.b/08132135ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALV
Client ID:
Injection Date: 14-AUG-2021 06:18
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.000	9643	5.414	-0.003	29934	3.1	3.3	4.8	Tetrachloro-m-xylene
13.165	-0.001	19968	13.846	-0.034	99143	4.9	4.6	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	254258	-1.8
Hexabromobiphenyl	425681	446149	4.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	707863	-1.8
Hexabromobiphenyl	863111	962738	11.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1232	1	4.020	0.002	296	24.0	1	4.678	-0.001	716	22.6
Aroclor-1232	2	5.727	0.000	1256	18.7	2	7.057	-0.001	3688	20.0
Aroclor-1232	3	7.038	0.004	1441	14.1	3	7.661	0.010	7261	19.6
Aroclor-1232	4	7.976	0.003	573	13.6	4	8.524	0.002	1337	13.9
Total Col1Ave (4 peaks):					17.6	Total Col2Ave (4 peaks):				19.0 RPD = 8
Corrected Ave (3 peaks):					15.5	Corrected Ave (3 peaks):				17.8 RPD = 14
Aroclor-1268	1	11.560	0.003	12256	20.5	1	12.187	-0.013	58194	21.0
Aroclor-1268	2	11.629	0.003	13030	20.8	2	12.254	-0.013	63463	21.0
Aroclor-1268	3	12.001	0.001	10425	21.1	3	12.635	-0.009	52750	20.2
Aroclor-1268	4	12.771	-0.001	33702	21.2	4	12.783	0.000	12903	20.0
Total Col1Ave (4 peaks):					20.9	Total Col2Ave (4 peaks):				20.6 RPD = 1
Corrected Ave (3 peaks):					20.8	Corrected Ave (3 peaks):				20.4 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 102693 Col1 Total PCB = 0.0 ppm*

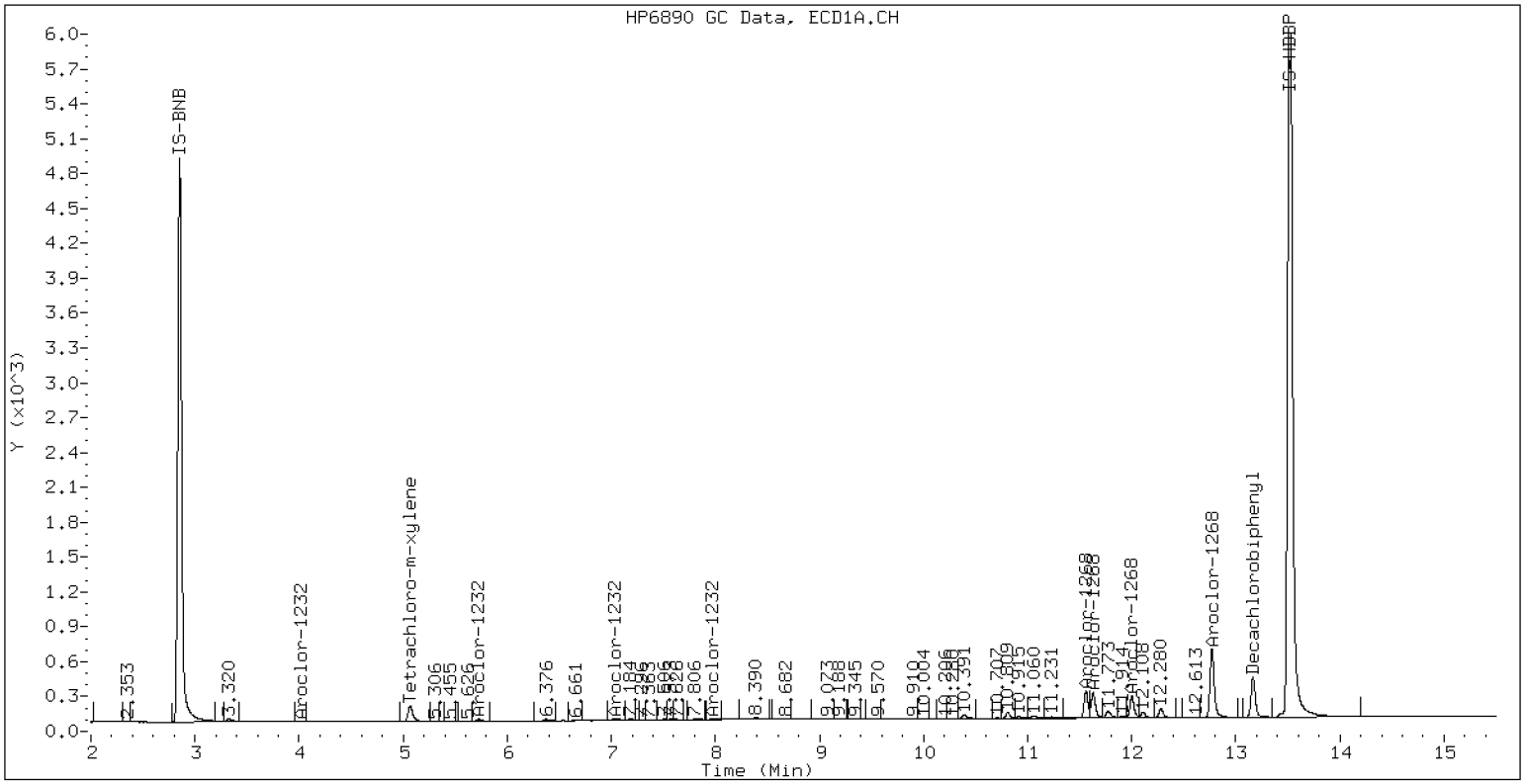
Total PCB Area Col2 (5.169 - 13.066) = 354263 Col2 Total PCB = 0.0 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

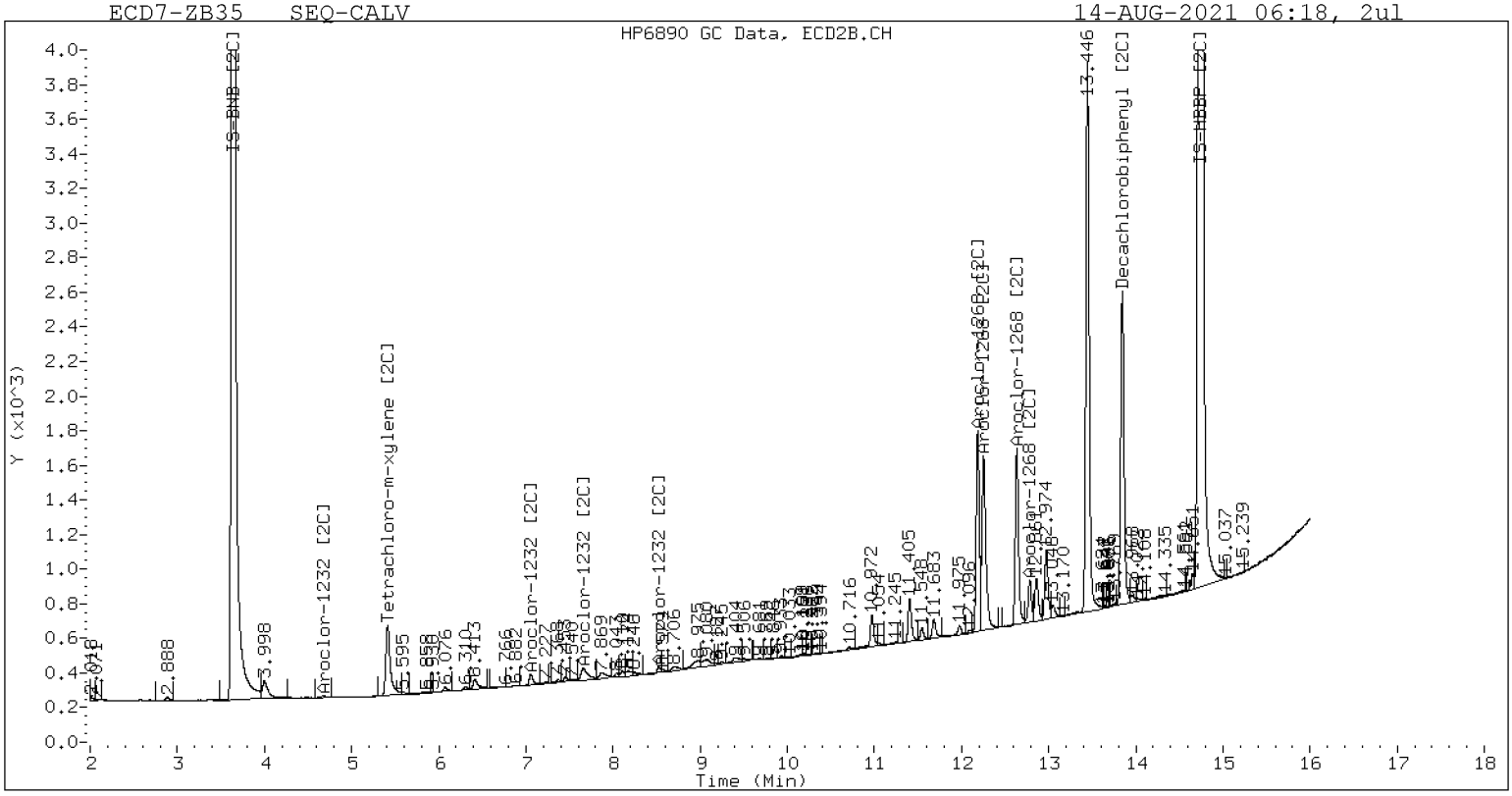
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALV 14-AUG-2021 06:18, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALV 14-AUG-2021 06:18, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132136ECD7.D
Data file 2: /210813.b/210813.b/08132136ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALW
Client ID:
Injection Date: 14-AUG-2021 06:38
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	24003	5.415	-0.002	72978	7.6	7.8	2.3	Tetrachloro-m-xylene
13.165	-0.000	48223	13.847	-0.033	249169	11.7	11.3	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	261082	0.9
Hexabromobiphenyl	425681	453384	6.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	729748	1.2
Hexabromobiphenyl	863111	990035	14.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.014	-0.004	693	54.7	1	4.679	-0.000	1713	52.5
Aroclor-1232	2	5.728	0.001	3234	47.0	2	7.059	0.001	9583	50.3
Aroclor-1232	3	7.038	0.005	4620	44.0	3	7.657	0.006	19044	49.9
Aroclor-1232	4	7.976	0.004	1836	42.5	4	8.525	0.003	4225	42.5
Total Col1Ave (4 peaks):				47.0		Total Col2Ave (4 peaks):			48.8	RPD = 4
Corrected Ave (3 peaks):				44.5		Corrected Ave (3 peaks):			47.6	RPD = 7
Aroclor-1268	1	11.559	0.001	30240	49.7	1	12.187	-0.013	141412	49.7
Aroclor-1268	2	11.629	0.004	31897	50.0	2	12.255	-0.012	153603	49.5
Aroclor-1268	3	12.001	-0.000	25020	49.9	3	12.636	-0.008	132778	49.5
Aroclor-1268	4	12.771	-0.001	81764	50.5	4	12.783	0.000	32071	48.3
Total Col1Ave (4 peaks):				50.0		Total Col2Ave (4 peaks):			49.3	RPD = 2
Corrected Ave (3 peaks):				49.9		Corrected Ave (3 peaks):			49.1	RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 250584 Col1 Total PCB = 0.1 ppm*

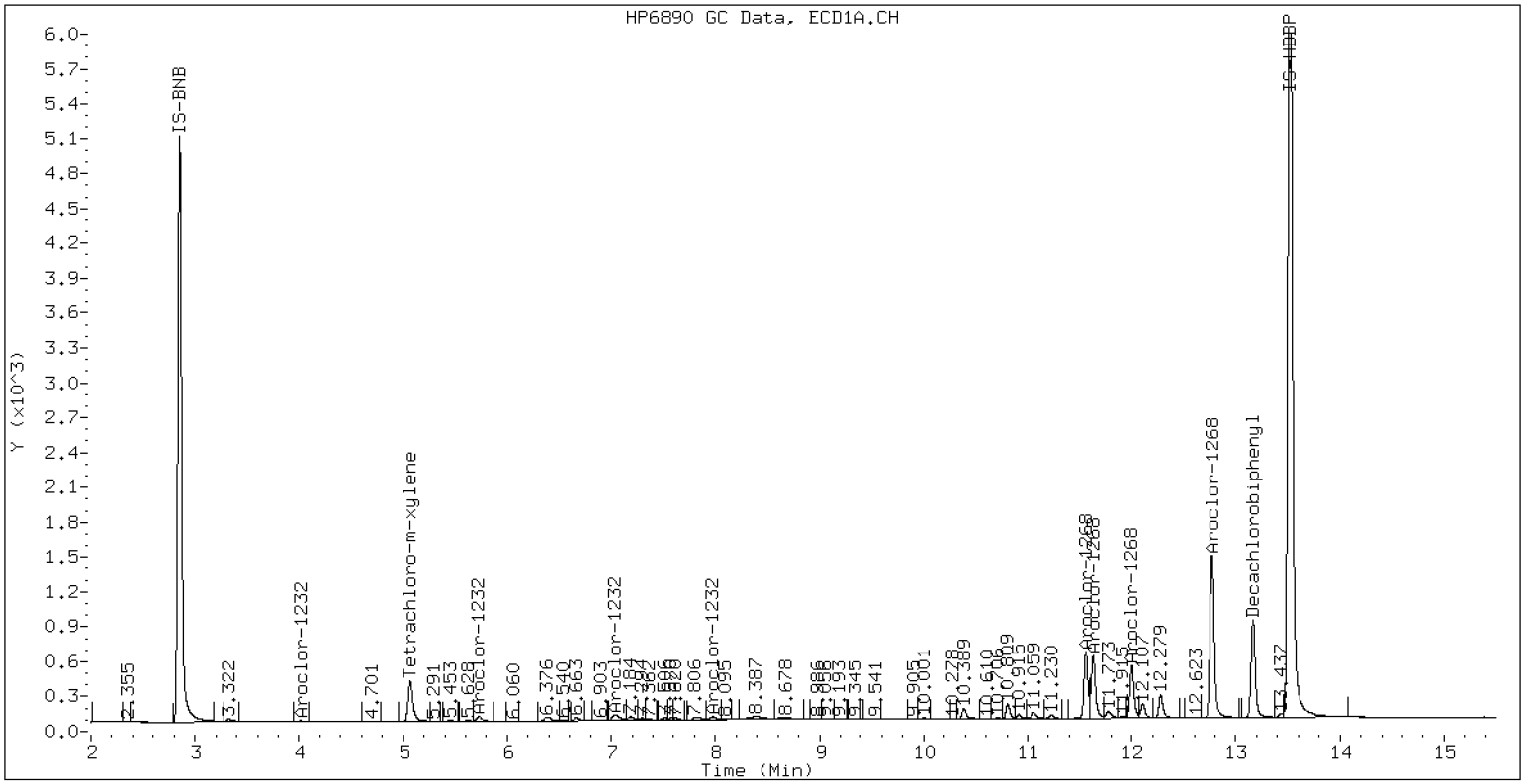
Total PCB Area Col2 (5.169 - 13.066) = 853194 Col2 Total PCB = 0.1 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

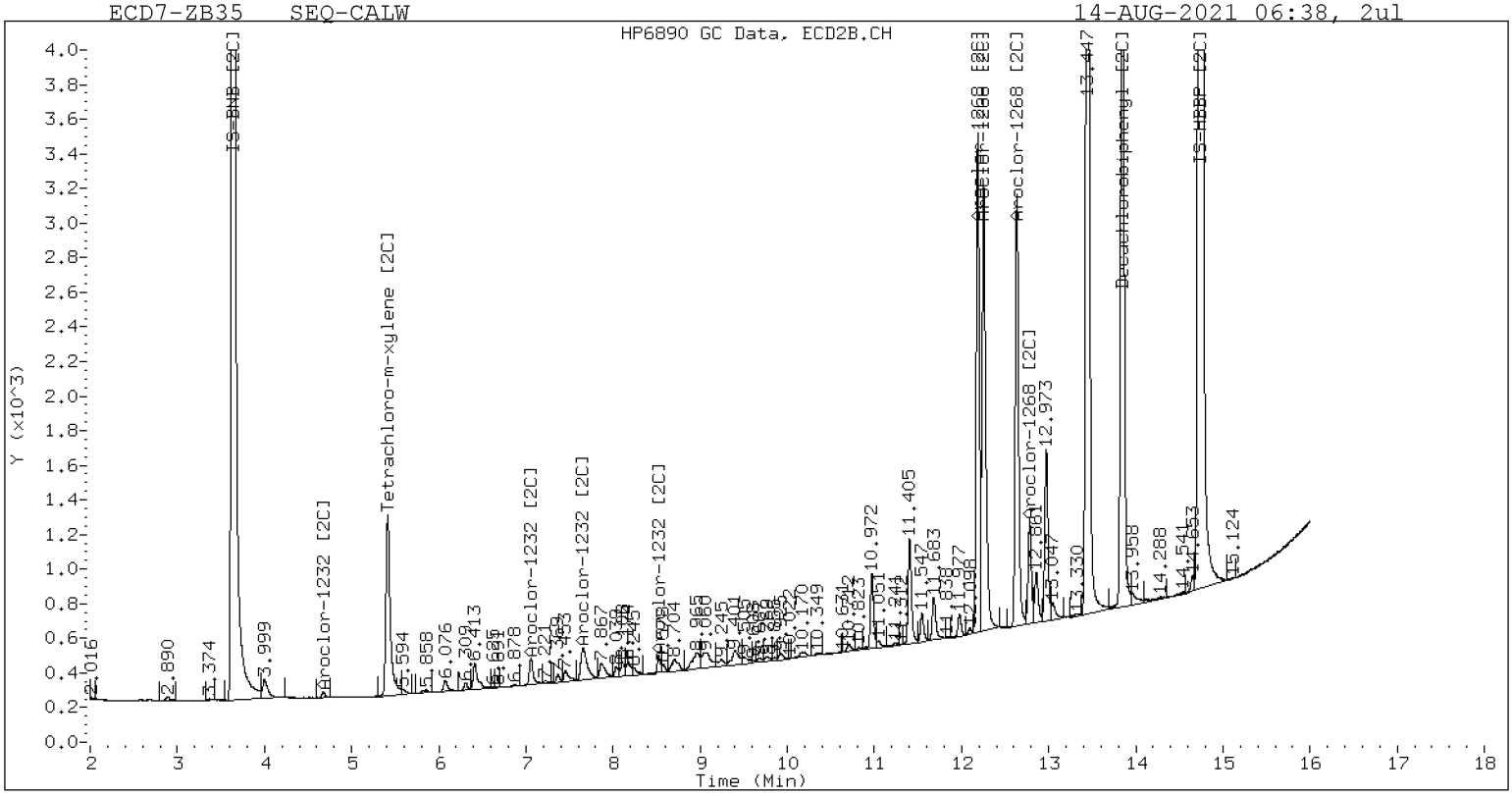
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALW 14-AUG-2021 06:38, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALW 14-AUG-2021 06:38, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132137ECD7.D
Data file 2: /210813.b/210813.b/08132137ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALX
Client ID:
Injection Date: 14-AUG-2021 06:59
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	49889	5.416	-0.001	148390	15.6	15.6	0.3	Tetrachloro-m-xylene
13.165	-0.001	98406	13.848	-0.032	525364	23.4	22.9	2.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265413	2.5
Hexabromobiphenyl	425681	463901	9.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740090	2.7
Hexabromobiphenyl	863111	1032553	19.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1232	1	4.017	-0.001	1235	95.9	1	4.680	0.001	3647	110.3
Aroclor-1232	2	5.728	0.001	7030	100.5	2	7.058	0.000	19630	101.6
Aroclor-1232	3	7.038	0.004	10782	101.0	3	7.657	0.006	37360	96.6
Aroclor-1232	4	7.976	0.003	4640	105.6	4	8.524	0.002	10591	105.1
Total Col1Ave (4 peaks):					100.8	Total Col2Ave (4 peaks):				103.4 RPD = 3
Corrected Ave (3 peaks):					99.1	Corrected Ave (3 peaks):				101.1 RPD = 2
Aroclor-1268	1	11.558	0.001	61752	99.2	1	12.187	-0.013	286554	96.6
Aroclor-1268	2	11.627	0.001	65121	99.7	2	12.254	-0.013	318003	98.2
Aroclor-1268	3	12.000	-0.001	50803	98.9	3	12.635	-0.009	274169	98.0
Aroclor-1268	4	12.771	-0.001	165518	99.9	4	12.784	0.001	67494	97.5
Total Col1Ave (4 peaks):					99.5	Total Col2Ave (4 peaks):				97.6 RPD = 2
Corrected Ave (3 peaks):					99.3	Corrected Ave (3 peaks):				97.4 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 513695 Col1 Total PCB = 0.2 ppm*

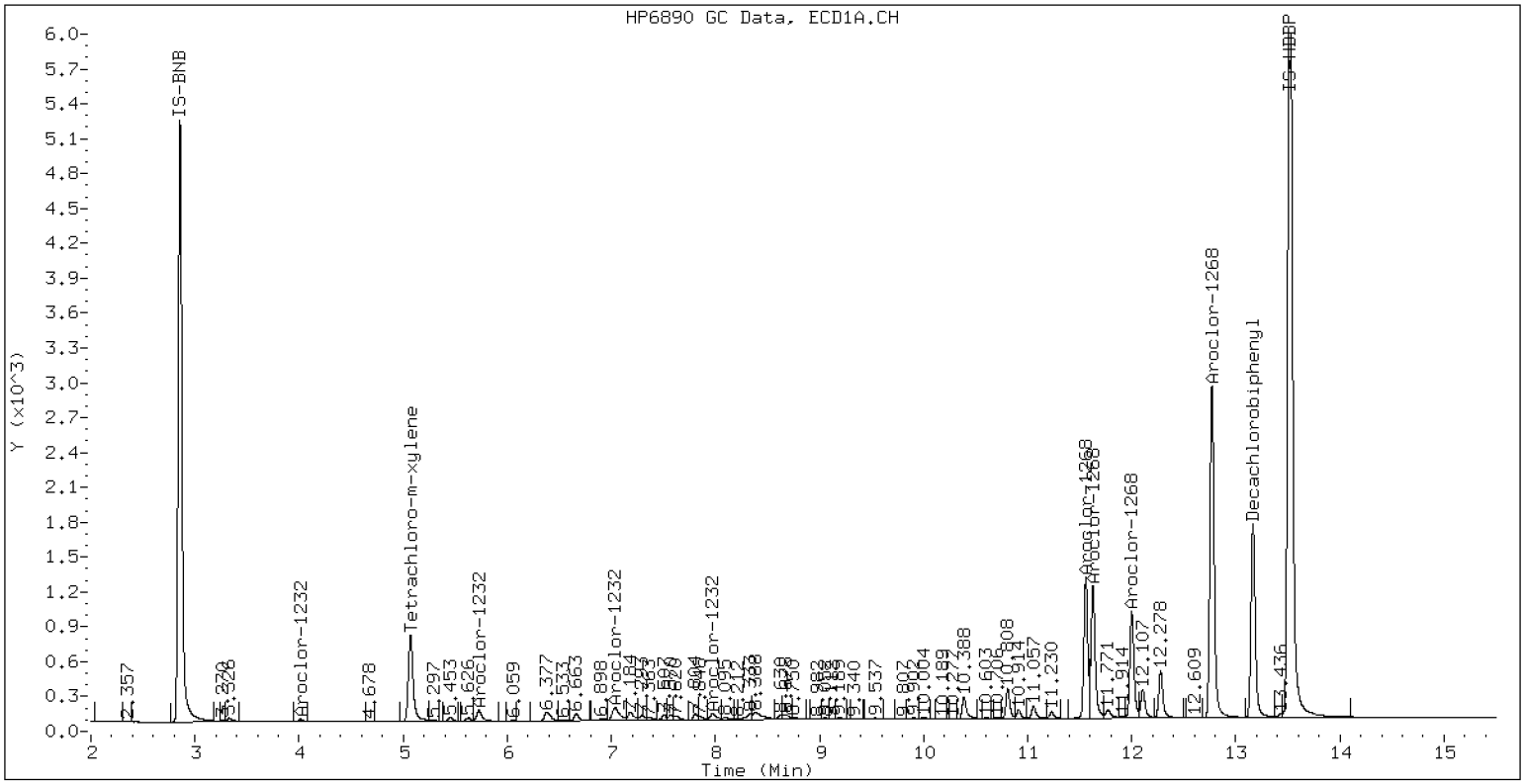
Total PCB Area Col2 (5.169 - 13.066) = 1706857 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

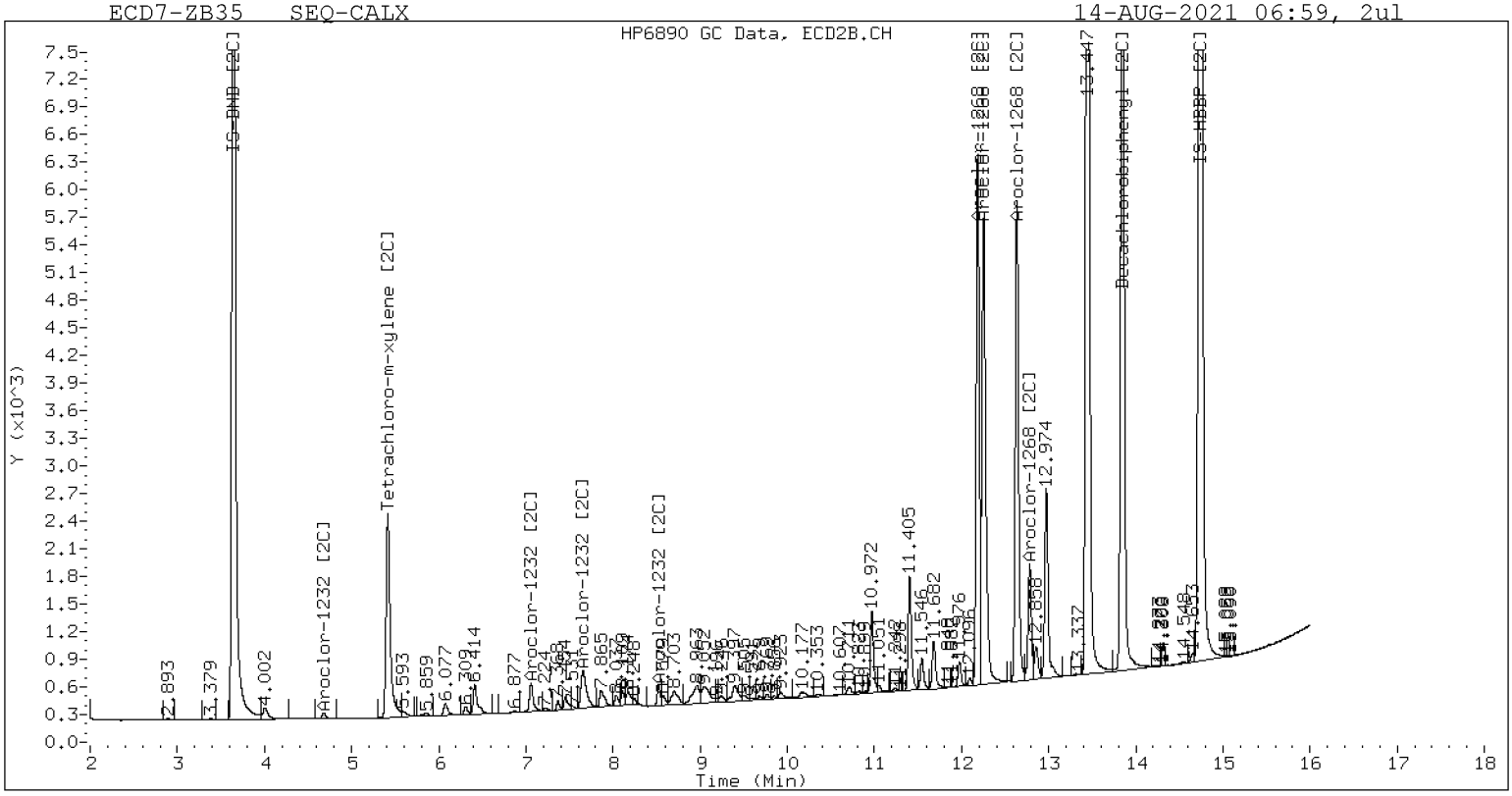
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALX 14-AUG-2021 06:59, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALX 14-AUG-2021 06:59, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132138ECD7.D
Data file 2: /210813.b/210813.b/08132138ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALY
Client ID:
Injection Date: 14-AUG-2021 07:19
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	129369	5.416	-0.001	369707	40.2	38.8	3.6	Tetrachloro-m-xylene
13.165	-0.000	244475	13.848	-0.032	1336972	57.7	58.2	0.9	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	266253	2.9
Hexabromobiphenyl	425681	467157	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	742059	2.9
Hexabromobiphenyl	863111	1034201	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.018	0.000	3075	238.1	1	4.679	-0.000	8167	246.2
Aroclor-1232	2	5.727	0.001	18684	266.2	2	7.059	0.001	49856	257.3
Aroclor-1232	3	7.036	0.002	29135	272.0	3	7.656	0.005	96288	248.3
Aroclor-1232	4	7.975	0.003	12195	276.7	4	8.523	0.001	28914	286.2

Total Col1Ave (4 peaks): 263.3 Total Col2Ave (4 peaks): 259.5 RPD = 1
Corrected Ave (3 peaks): 258.8 Corrected Ave (3 peaks): 250.6 RPD = 3

Aroclor-1268	1	11.557	-0.000	156710	250.0	1	12.186	-0.014	708061	238.3
Aroclor-1268	2	11.625	-0.000	164056	249.5	2	12.255	-0.012	797204	245.9
Aroclor-1268	3	12.000	-0.001	128182	247.9	3	12.636	-0.008	704909	251.5
Aroclor-1268	4	12.770	-0.002	406812	243.9	4	12.784	0.001	176627	254.8

Total Col1Ave (4 peaks): 247.8 Total Col2Ave (4 peaks): 247.6 RPD = 0
Corrected Ave (3 peaks): 247.1 Corrected Ave (3 peaks): 245.2 RPD = 1

Total PCB Area Col1 (5.169 - 13.066) = 1301292 Col1 Total PCB = 0.5 ppm*

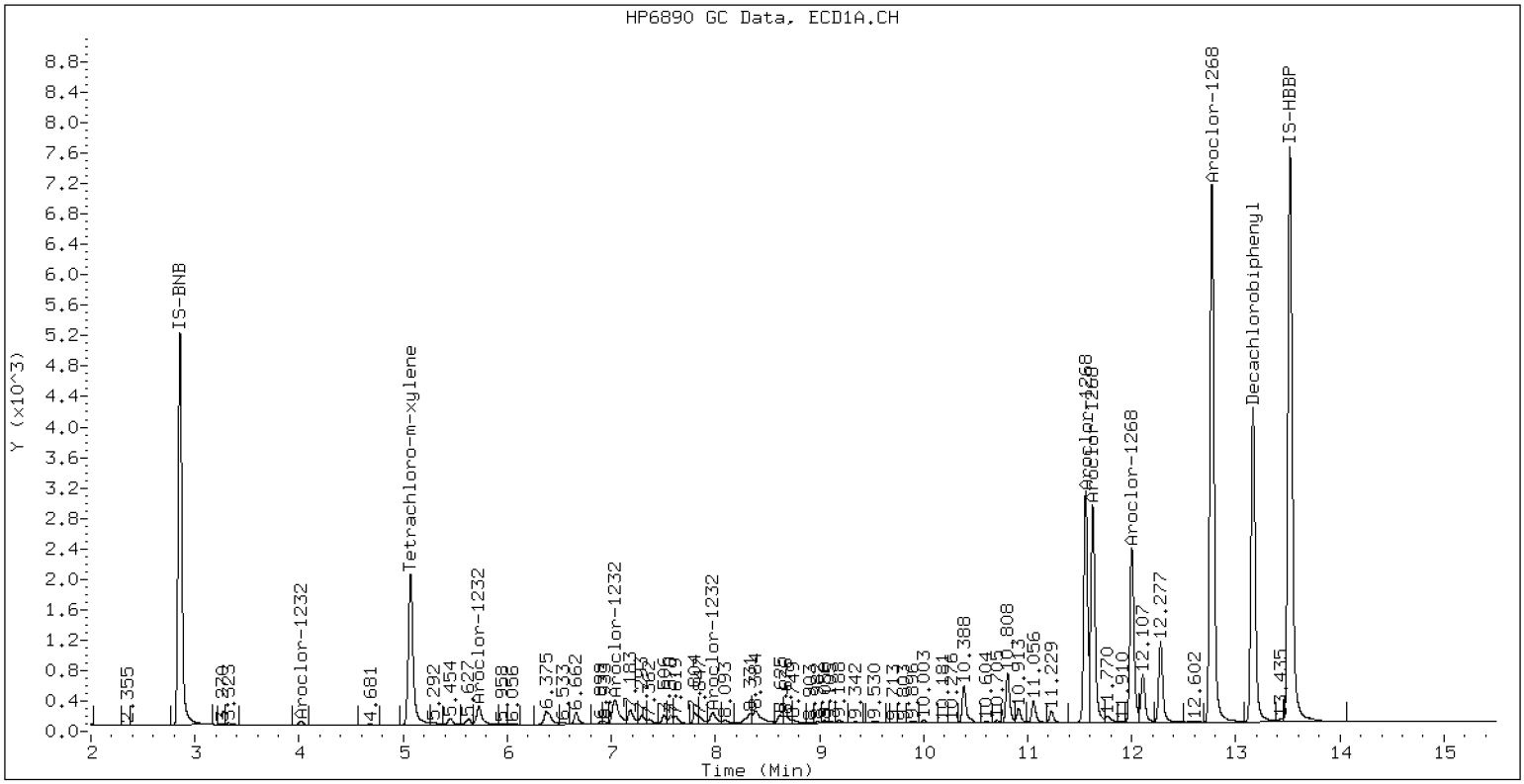
Total PCB Area Col2 (5.169 - 13.066) = 4281499 Col2 Total PCB = 0.4 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

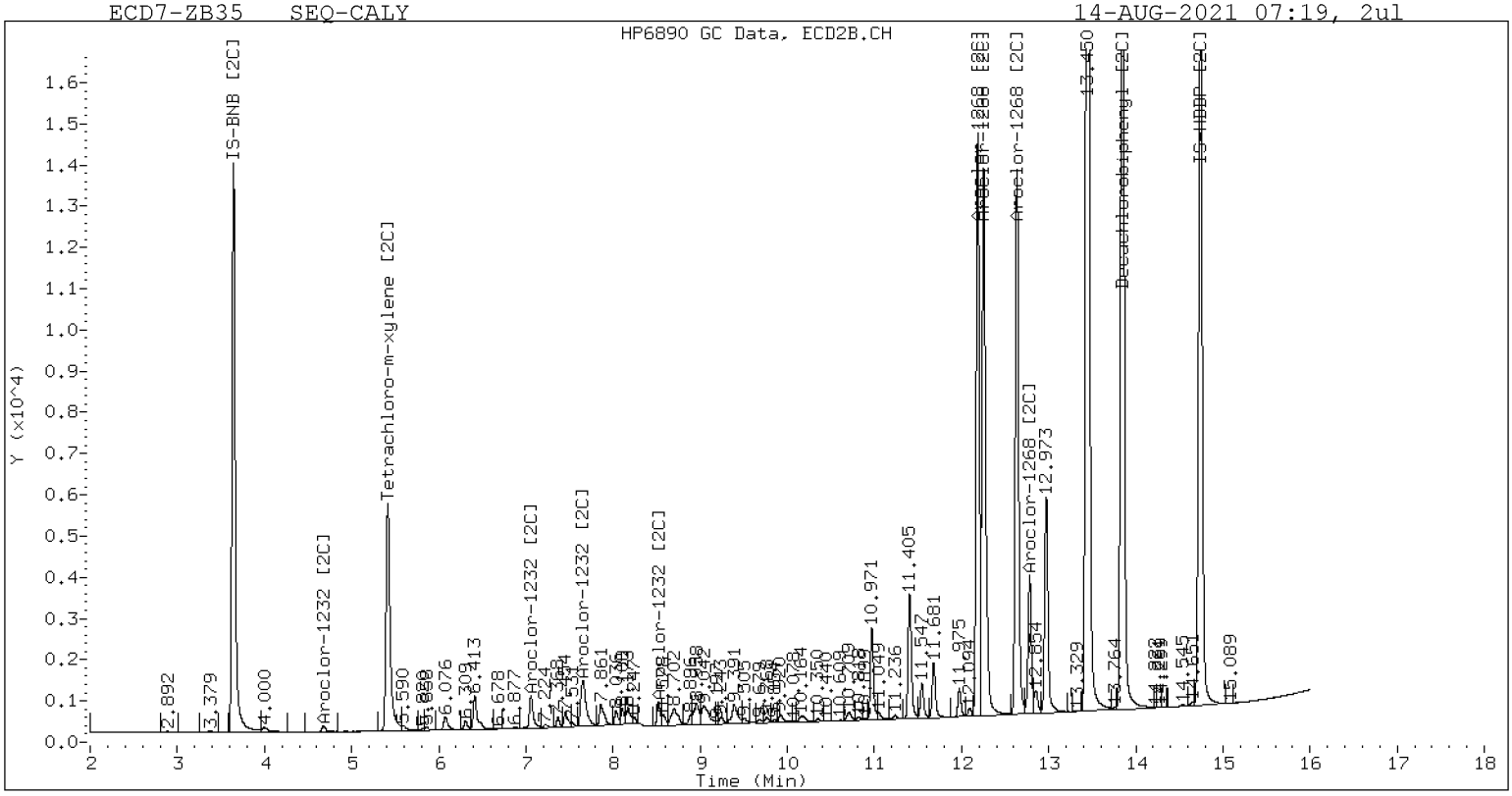
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALY 14-AUG-2021 07:19, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALY 14-AUG-2021 07:19, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132139ECD7.D
Data file 2: /210813.b/210813.b/08132139ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALZ
Client ID:
Injection Date: 14-AUG-2021 07:40
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	257867	5.415	-0.001	723234	80.8	76.2	5.8	Tetrachloro-m-xylene
13.165	-0.001	471498	13.853	-0.027	2944011	114.3	128.5	11.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264183	2.1
Hexabromobiphenyl	425681	454251	6.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	738334	2.4
Hexabromobiphenyl	863111	1031400	19.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1232	1	4.016	-0.002	5996	468.0	1	4.679	-0.000	14925	452.3
Aroclor-1232	2	5.728	0.001	36550	524.8	2	7.059	0.000	96476	500.3
Aroclor-1232	3	7.036	0.002	60788	571.9	3	7.654	0.003	201408	521.9
Aroclor-1232	4	7.973	0.001	25380	580.5	4	8.523	0.001	56734	564.3
Total Col1Ave (4 peaks):					536.3	Total Col2Ave (4 peaks):				509.7 RPD = 5
Corrected Ave (3 peaks):					521.6	Corrected Ave (3 peaks):				491.5 RPD = 6
Aroclor-1268	1	11.557	-0.000	307970	505.3	1	12.192	-0.008	1533537	517.5
Aroclor-1268	2	11.626	0.001	321316	502.6	2	12.256	-0.011	1606143	496.7
Aroclor-1268	3	12.001	0.000	251993	501.1	3	12.638	-0.006	1415992	506.6
Aroclor-1268	4	12.770	-0.002	791865	488.2	4	12.783	-0.000	359269	519.7
Total Col1Ave (4 peaks):					499.3	Total Col2Ave (4 peaks):				510.1 RPD = 2
Corrected Ave (3 peaks):					497.3	Corrected Ave (3 peaks):				506.9 RPD = 2

Total PCB Area Col1 (5.169 - 13.066) = 2578632 Col1 Total PCB = 1.0 ppm*

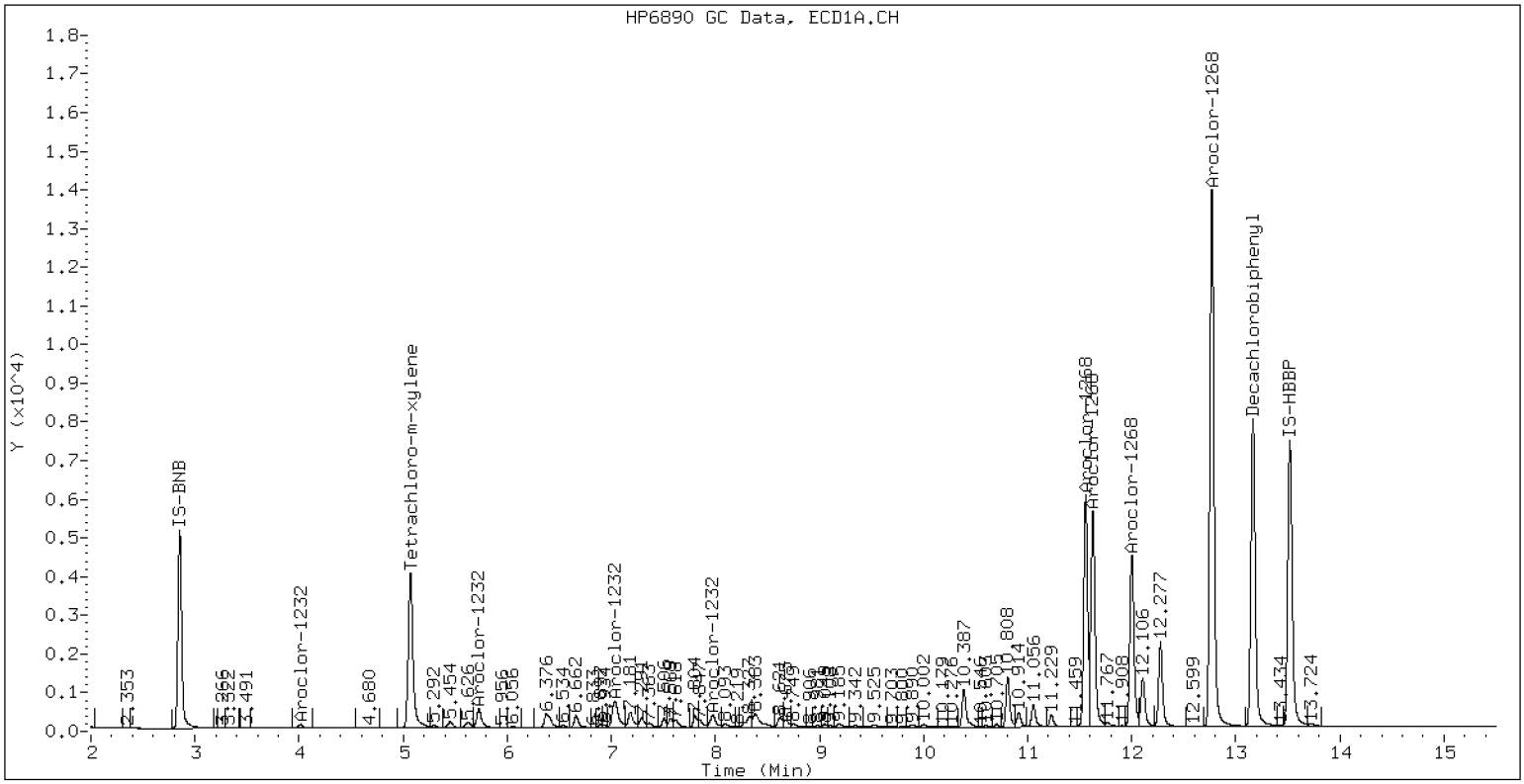
Total PCB Area Col2 (5.169 - 13.066) = 8685361 Col2 Total PCB = 0.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

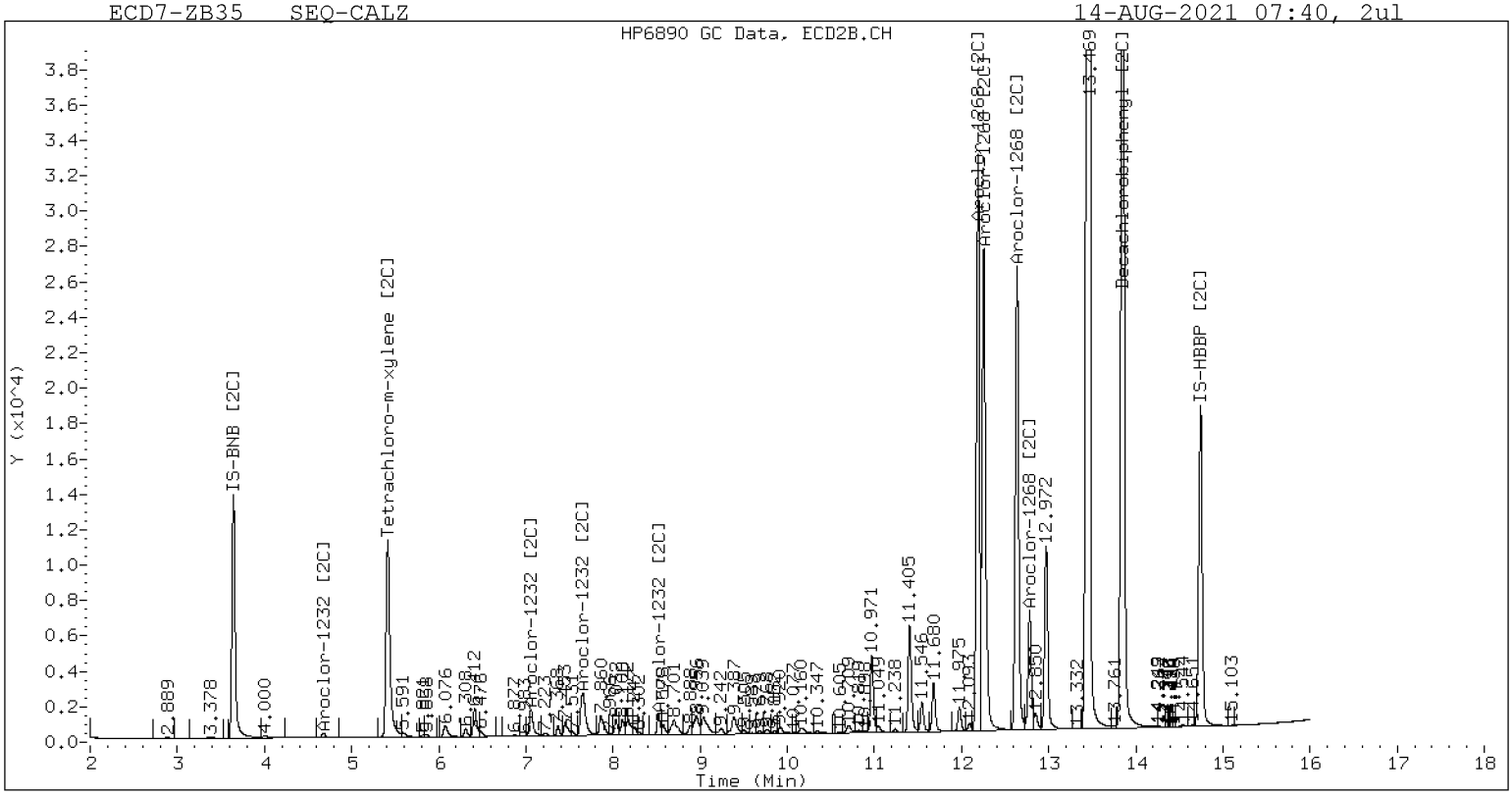
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALZ 14-AUG-2021 07:40, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALZ 14-AUG-2021 07:40, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132140ECD7.D
Data file 2: /210813.b/210813.b/08132140ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: AR3268.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-CALAA
Client ID:
Injection Date: 14-AUG-2021 08:00
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	559035	5.417	0.000	1626007	157.4	154.5	1.9	Tetrachloro-m-xylene
13.166	-0.000	1024984	13.880	-0.000	6105079	220.9	239.7	8.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	293830	13.5
Hexabromobiphenyl	425681	511240	20.1

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	819127	13.6
Hexabromobiphenyl	863111	1146408	32.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1232	1	4.018	0.000	12215	857.2	1	4.679	-0.000	30237	825.9
Aroclor-1232	2	5.726	0.000	77780	1004.1	2	7.058	0.000	203525	951.4
Aroclor-1232	3	7.034	0.000	138859	1174.6	3	7.651	0.000	435631	1017.5
Aroclor-1232	4	7.972	0.000	55694	1145.2	4	8.522	-0.000	126225	1131.7
Total Col1Ave (4 peaks): 1045.3						Total Col2Ave (4 peaks): 981.6				RPD = 6
Corrected Ave (3 peaks): 1002.2						Corrected Ave (3 peaks): 931.6				RPD = 7
Aroclor-1268	1	11.557	0.000	671468	979.0	1	12.200	-0.000	3980707	1208.5
Aroclor-1268	2	11.626	0.000	691891	961.7	2	12.267	-0.000	4248856	1182.1
Aroclor-1268	3	12.001	0.000	545758	964.4	3	12.644	0.000	3756866	1209.3
Aroclor-1268	4	12.772	0.000	1790032	980.6	4	12.783	0.000	815617	1061.4
Total Col1Ave (4 peaks): 971.4						Total Col2Ave (4 peaks): 1165.3				RPD = 18
Corrected Ave (3 peaks): 968.3						Corrected Ave (3 peaks): 1150.7				RPD = 17

Total PCB Area Col1 (5.169 - 13.066) = 5695380 Col1 Total PCB = 1.9 ppm*

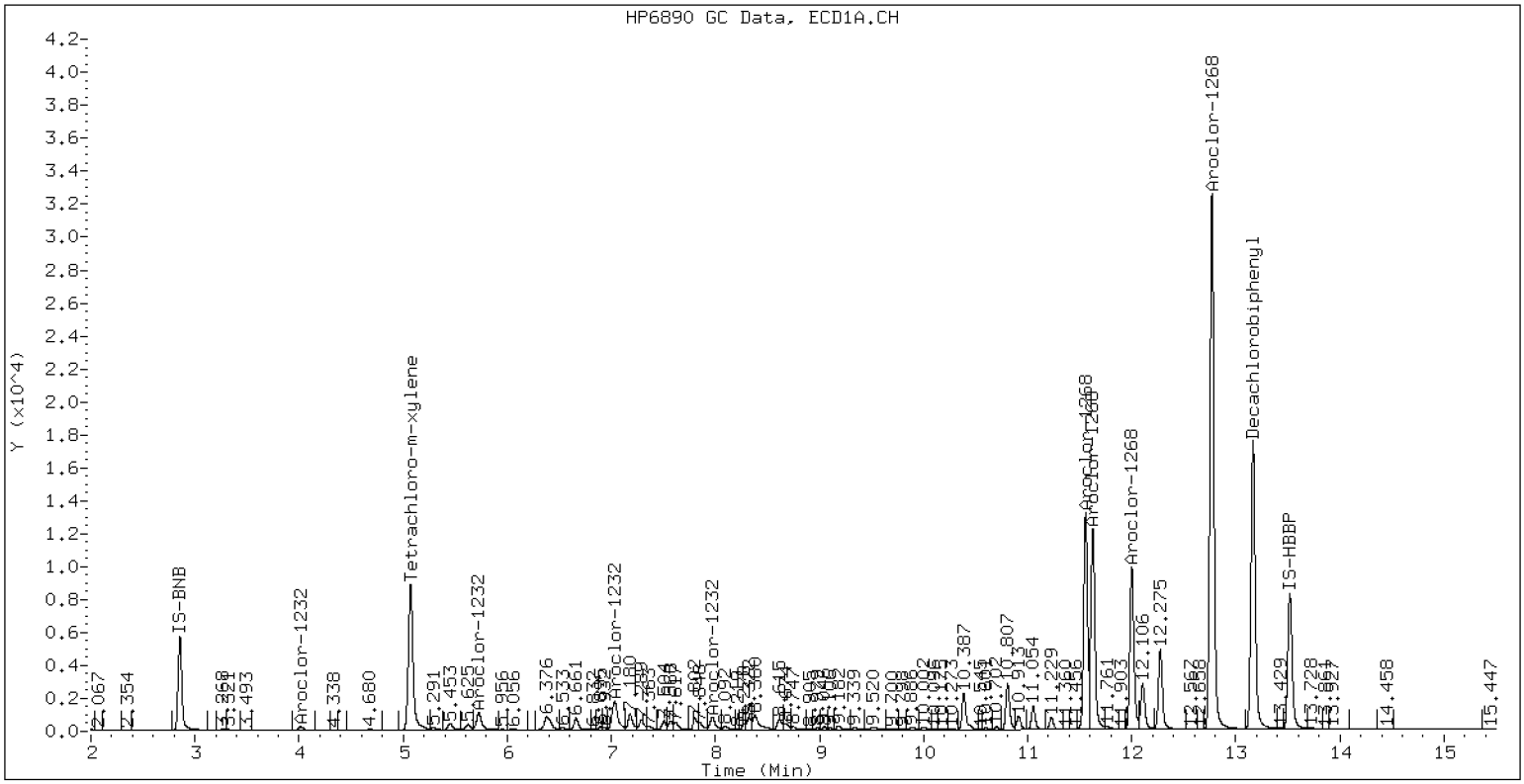
Total PCB Area Col2 (5.169 - 13.066) = 21104177 Col2 Total PCB = 1.9 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

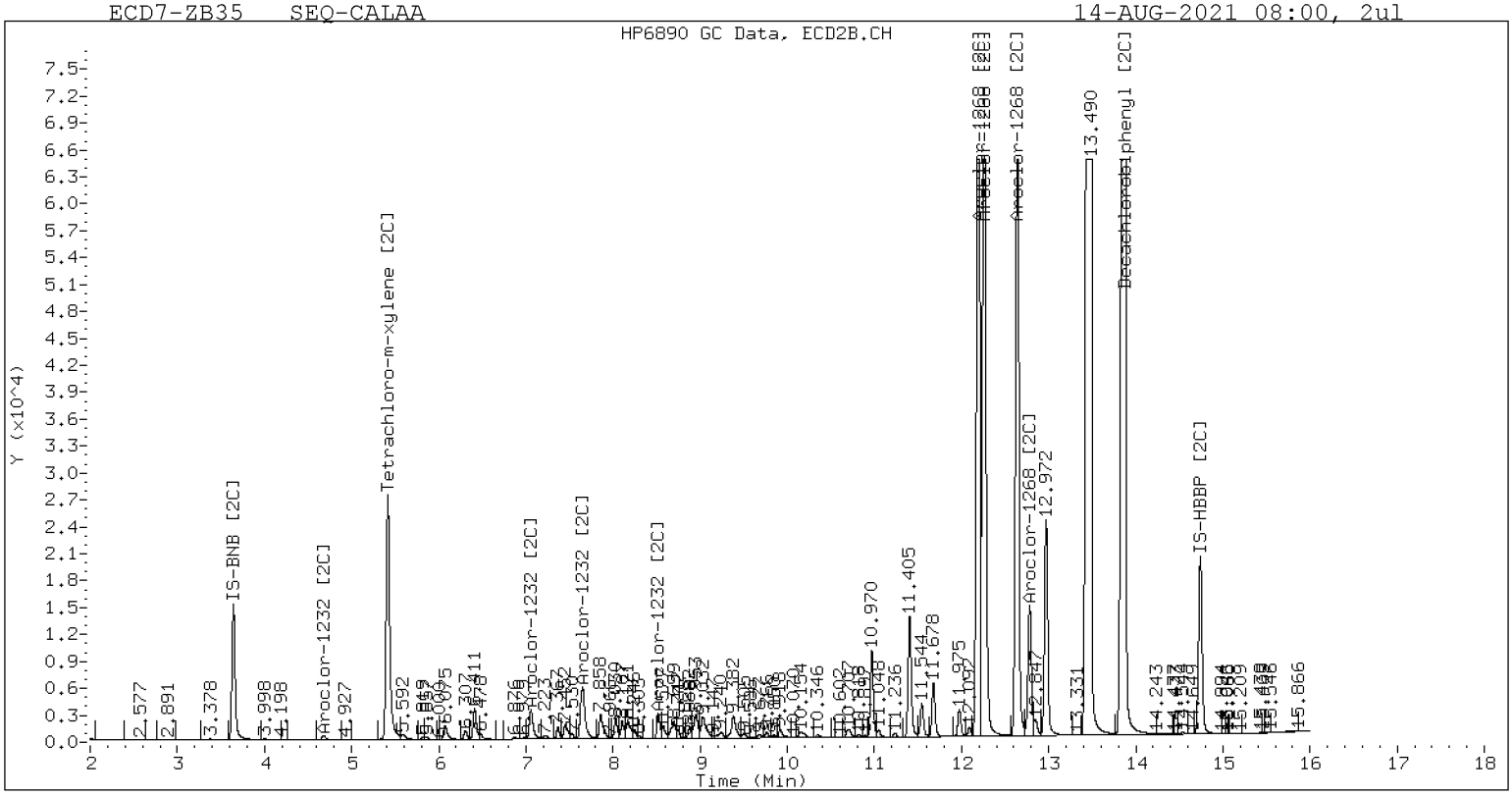
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-CALAA 14-AUG-2021 08:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-CALAA 14-AUG-2021 08:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132141ECD7.D
Data file 2: /210813.b/210813.b/08132141ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 14-AUG-2021 08:21
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	130620	5.416	-0.001	380301	43.6	41.9	4.0	Tetrachloro-m-xylene
13.166	0.000	166891	13.848	-0.032	891664	41.9	41.2	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	247644	-4.3
Hexabromobiphenyl	425681	438534	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705551	-2.1
Hexabromobiphenyl	863111	973863	12.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	25008	284.7	1	7.059	0.002	110603	274.9
Aroclor-1016	2	7.036	0.006	75849	282.4	2	7.653	0.006	251287	279.2
Aroclor-1016	3	7.182	0.006	34421	285.6	3	7.860	0.005	101098	286.3
Aroclor-1016	4	7.291	0.006	21611	286.0	4	8.108	0.003	60866	284.8
Total Col1Ave (4 peaks):					284.7	Total Col2Ave (4 peaks):				281.3 RPD = 1
Corrected Ave (3 peaks):					284.2	Corrected Ave (3 peaks):				279.6 RPD = 2
Aroclor-1221	1	4.024	0.008	183	9.4	1	4.683	0.006	532	10.0
Aroclor-1221	2	5.453	0.002	3388	110.5	2	6.080	0.008	14283	117.8
Aroclor-1221	3	5.728	0.004	17440	210.6	3	6.414	0.005	53146	251.5
Total Col1Ave (3 peaks):					110.2	Total Col2Ave (3 peaks):				126.5 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.024	0.006	183	15.2	1	4.683	0.004	532	16.9
Aroclor-1232	2	5.728	0.002	17440	267.1	2	7.059	0.001	110603	600.3
Aroclor-1232	3	7.036	0.002	75849	761.3	3	7.653	0.002	251287	681.4
Aroclor-1232	4	7.973	0.001	32123	783.7	4	8.522	0.000	77885	810.7
Total Col1Ave (4 peaks):					456.8	Total Col2Ave (4 peaks):				527.3 RPD = 14
Corrected Ave (3 peaks):					347.9	Corrected Ave (3 peaks):				432.8 RPD = 22
Aroclor-1242	1	6.662	0.003	25008	366.5	1	7.059	0.002	110603	341.0
Aroclor-1242	2	7.036	0.006	75849	372.9	2	7.653	0.005	251287	356.6
Aroclor-1242	3	8.386	0.011	23127	200.7	3	8.934	-0.015	43631	132.5
Aroclor-1242	4	8.601	-0.072	2264	48.1	4	9.087	0.060	61086	163.5
Total Col1Ave (4 peaks):					247.1	Total Col2Ave (4 peaks):				248.4 RPD = 1
Corrected Ave (3 peaks):					205.1	Corrected Ave (3 peaks):				212.3 RPD = 3
Aroclor-1248	1	7.803	0.005	21981	211.8	1	8.108	0.002	60866	208.2
Aroclor-1248	2	7.973	0.005	32123	237.1	2	8.522	0.002	77885	218.9
Aroclor-1248	3	8.386	0.011	23127	116.6	3	8.934	-0.013	43631	77.0
Aroclor-1248	4	8.678	0.004	18050	159.4	4	9.393	0.016	3902	8.1
Total Col1Ave (4 peaks):					181.2	Total Col2Ave (4 peaks):				128.0 RPD = 34
Corrected Ave (3 peaks):					162.6	Corrected Ave (3 peaks):				97.8 RPD = 50*
Aroclor-1254	1	8.678	0.003	18050	84.5	1	9.242	0.003	55374	92.2
Aroclor-1254	2	---			0.0	2	9.393	0.062	3902	11.1
Aroclor-1254	3	9.048	0.006	1874	13.5	3	9.768	0.005	7503	16.4
Aroclor-1254	4	9.179	0.003	8064	30.3	4	9.930	0.017	138725	136.8
Aroclor-1254	5	9.859	-0.008	24786	148.4	5	10.160	0.012	181859	176.8
Total Col1Ave (4 peaks):					69.2	Total Col2Ave (5 peaks):				86.7 RPD = 22
Corrected Ave (3 peaks):					42.8	Corrected Ave (4 peaks):				64.1 RPD = 40*
Aroclor-1260	1	10.386	0.003	52476	266.0	1	11.427	0.002	206923	255.6
Aroclor-1260	2	10.705	0.005	54460	281.2	2	11.681	-0.000	606031	257.6
Aroclor-1260	3	11.055	0.005	146267	279.5	3	12.264	0.003	390976	258.4
Aroclor-1260	4	11.458	0.005	67567	289.8	4	12.974	0.002	190042	262.7
Aroclor-1260	5	11.557	0.003	30592	262.0	NS	---			----
Total Col1Ave (5 peaks):					275.7	Total Col2Ave (4 peaks):				258.6 RPD = 6
Corrected Ave (4 peaks):					272.2	Corrected Ave (3 peaks):				257.2 RPD = 6
Aroclor-1262	1	10.386	0.002	52476	196.1	1	10.970	-0.000	227139	190.7
Aroclor-1262	2	11.458	0.003	67567	389.9	2	11.681	-0.004	606031	241.2
Aroclor-1262	3	11.630	0.003	39662	158.8	3	12.190	0.002	176119	157.9
Aroclor-1262	4	12.278	0.004	37281	181.8	4	12.974	0.001	190042	182.8
Total Col1Ave (4 peaks):					231.6	Total Col2Ave (4 peaks):				193.2 RPD = 18
Corrected Ave (3 peaks):					178.9	Corrected Ave (3 peaks):				177.2 RPD = 1
Aroclor-1268	1	11.557	-0.000	30592	52.0	1	12.190	-0.010	176119	62.9
Aroclor-1268	2	11.630	0.004	39662	64.3	2	12.264	-0.003	390976	128.0
Aroclor-1268	3	12.031	0.031	15649	32.2	3	12.637	-0.007	5866	2.2
Aroclor-1268	4	12.771	-0.001	7371	4.7	4	12.784	0.001	4262	6.5
Total Col1Ave (4 peaks):					38.3	Total Col2Ave (4 peaks):				49.9 RPD = 26

Corrected Ave (3 peaks): 29.6 Corrected Ave (3 peaks): 23.9 RPD = 21

Total PCB Area Col1 (5.169 - 13.066) = 1398917 Col1 Total PCB = 0.6 ppm*

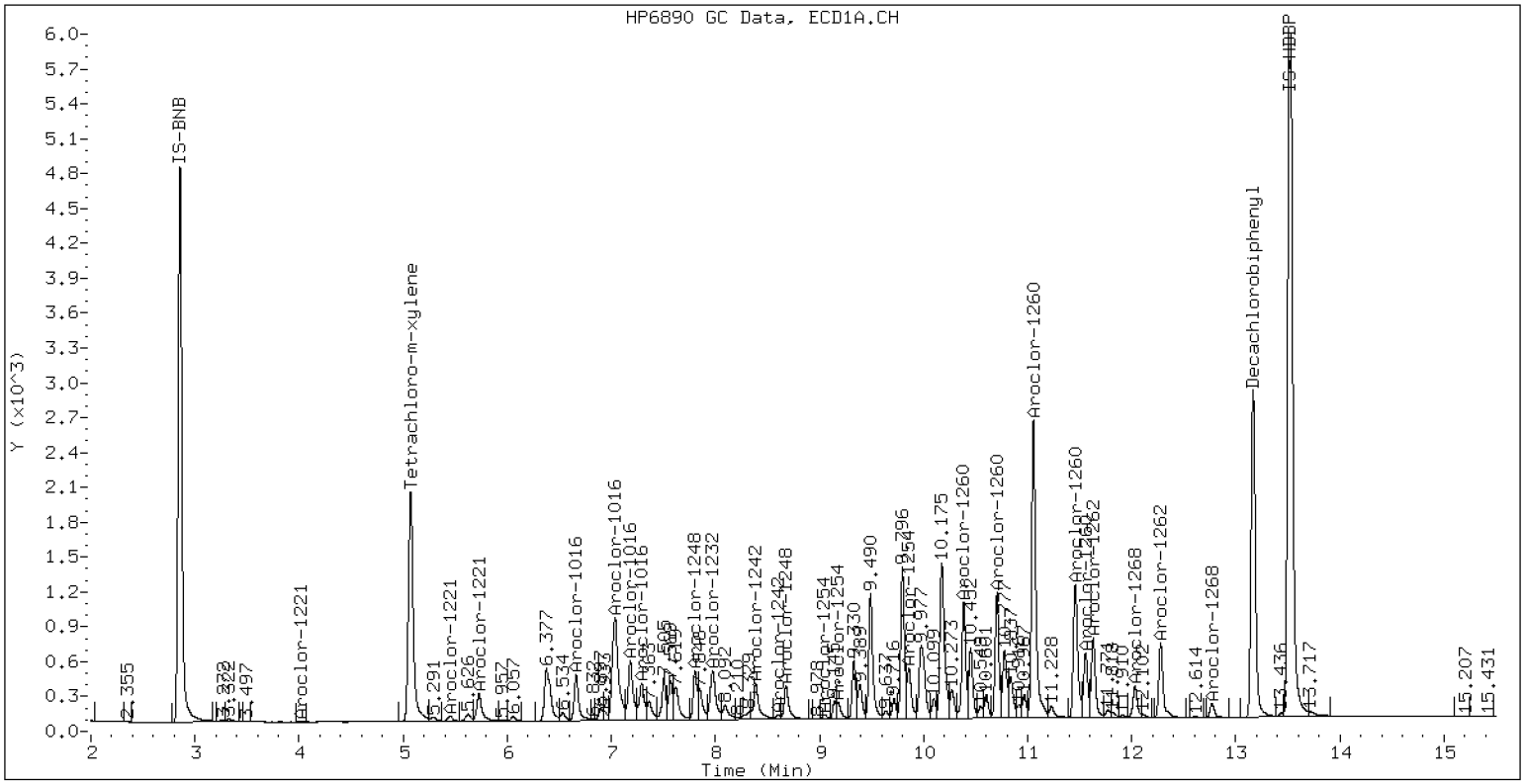
Total PCB Area Col2 (5.169 - 13.066) = 5304779 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

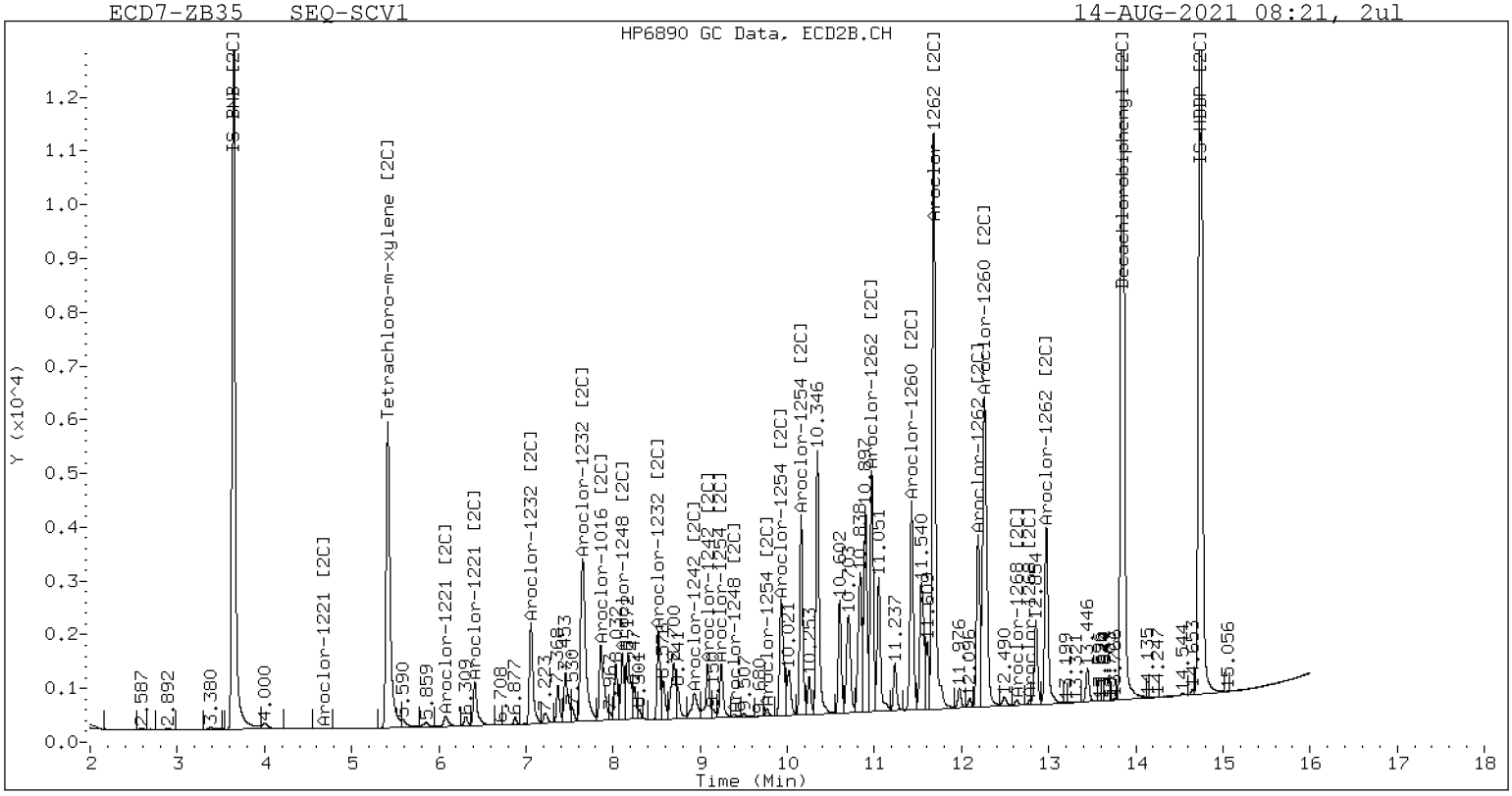
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132142ECD7.D
Data file 2: /210813.b/210813.b/08132142ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 14-AUG-2021 08:41
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	132285	5.416	-0.001	383386	42.4	41.2	2.9	Tetrachloro-m-xylene
13.167	0.001	167664	13.849	-0.031	892912	40.6	40.1	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258029	-0.3
Hexabromobiphenyl	425681	455205	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724238	0.5
Hexabromobiphenyl	863111	1002202	16.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	19016	207.8	1	7.058	0.002	84149	203.8
Aroclor-1016	2	7.036	0.007	56530	202.0	2	7.655	0.007	190019	205.7
Aroclor-1016	3	7.182	0.006	26016	207.1	3	7.861	0.006	75921	209.4
Aroclor-1016	4	7.291	0.006	16388	208.1	4	8.108	0.003	48471	220.9
Total Col1Ave (4 peaks): 206.3						Total Col2Ave (4 peaks): 210.0 RPD = 2				
Corrected Ave (3 peaks): 205.6						Corrected Ave (3 peaks): 206.3 RPD = 0				
Aroclor-1221	1	4.028	0.013	116	5.7	1	---			0.0
Aroclor-1221	2	5.452	0.001	2495	78.1	2	6.082	0.010	11569	93.0
Aroclor-1221	3	5.727	0.003	12904	149.5	3	6.414	0.005	39789	183.5
Total Col1Ave (3 peaks): 77.8						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.028	0.010	116	9.3	1	---			0.0
Aroclor-1232	2	5.727	0.001	12904	189.7	2	7.058	0.000	84149	444.9
Aroclor-1232	3	7.036	0.003	56530	544.5	3	7.655	0.004	190019	502.0
Aroclor-1232	4	7.974	0.001	26547	621.6	4	8.522	0.000	61015	618.7
Total Col1Ave (4 peaks): 341.3						Total Col2Ave (3 peaks): 521.9 RPD = 42*				
Corrected Ave (3 peaks): 247.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.662	0.003	19016	267.5	1	7.058	0.001	84149	252.7
Aroclor-1242	2	7.036	0.006	56530	266.7	2	7.655	0.006	190019	262.7
Aroclor-1242	3	8.383	0.009	29618	246.7	3	8.960	0.011	88042	260.5
Aroclor-1242	4	8.677	0.003	16945	345.4	4	9.035	0.007	96759	252.3
Total Col1Ave (4 peaks): 281.6						Total Col2Ave (4 peaks): 257.1 RPD = 9				
Corrected Ave (3 peaks): 260.3						Corrected Ave (3 peaks): 255.2 RPD = 2				
Aroclor-1248	1	7.804	0.005	17658	163.3	1	8.108	0.002	48471	161.5
Aroclor-1248	2	7.974	0.006	26547	188.1	2	8.522	0.002	61015	167.0
Aroclor-1248	3	8.383	0.009	29618	143.3	3	8.960	0.014	88042	151.3
Aroclor-1248	4	8.677	0.004	16945	143.6	4	9.387	0.011	85570	173.2
Total Col1Ave (4 peaks): 159.6						Total Col2Ave (4 peaks): 163.2 RPD = 2				
Corrected Ave (3 peaks): 150.1						Corrected Ave (3 peaks): 159.9 RPD = 6				
Aroclor-1254	1	8.677	0.002	16945	76.1	1	9.243	0.003	29242	47.5
Aroclor-1254	2	8.749	0.003	9630	93.4	2	9.387	0.056	85570	236.6
Aroclor-1254	3	9.048	0.007	7009	48.3	3	9.768	0.005	22605	48.1
Aroclor-1254	4	9.185	0.010	12002	43.3	4	9.920	0.006	43258	41.6
Aroclor-1254	5	9.892	0.025	8818	50.7	5	10.159	0.012	45764	43.4
Total Col1Ave (5 peaks): 62.4						Total Col2Ave (5 peaks): 83.4 RPD = 29				
Corrected Ave (4 peaks): 54.6						Corrected Ave (4 peaks): 45.1 RPD = 19				
Aroclor-1260	1	10.393	0.010	159	0.8	1	11.445	0.020	5299	6.4
Aroclor-1260	2	10.708	0.008	221	1.1	2	11.687	0.006	3878	1.6
Aroclor-1260	3	11.059	0.009	267	0.5	3	12.271	0.010	3933	2.5
Aroclor-1260	4	11.460	0.007	376	1.6	4	13.053	0.081	5398	7.3
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 4.4 RPD = 128*				
Corrected Ave (3 peaks): 0.8						Corrected Ave (3 peaks): 3.5 RPD = 126*				
Aroclor-1262	1	10.393	0.009	159	0.6	1	10.901	-0.069	17524	14.3
Aroclor-1262	2	11.460	0.005	376	2.1	2	11.687	0.001	3878	1.5
Aroclor-1262	3	---			0.0	3	12.271	0.083	3933	3.4
Aroclor-1262	4	---			0.0	4	13.053	0.081	5398	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: 6.1				
Aroclor-1268	1	11.460	-0.097	376	0.6	1	12.271	0.071	3933	1.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.914	-0.086	1770	3.5	3	12.639	-0.005	1023	0.4
Aroclor-1268	4	12.775	0.003	794	0.5	4	12.790	0.006	1260	1.9
Total Col1Ave (3 peaks): 1.5						Total Col2Ave (3 peaks): 1.2 RPD = 24				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 482960 Col1 Total PCB = 0.2 ppm*

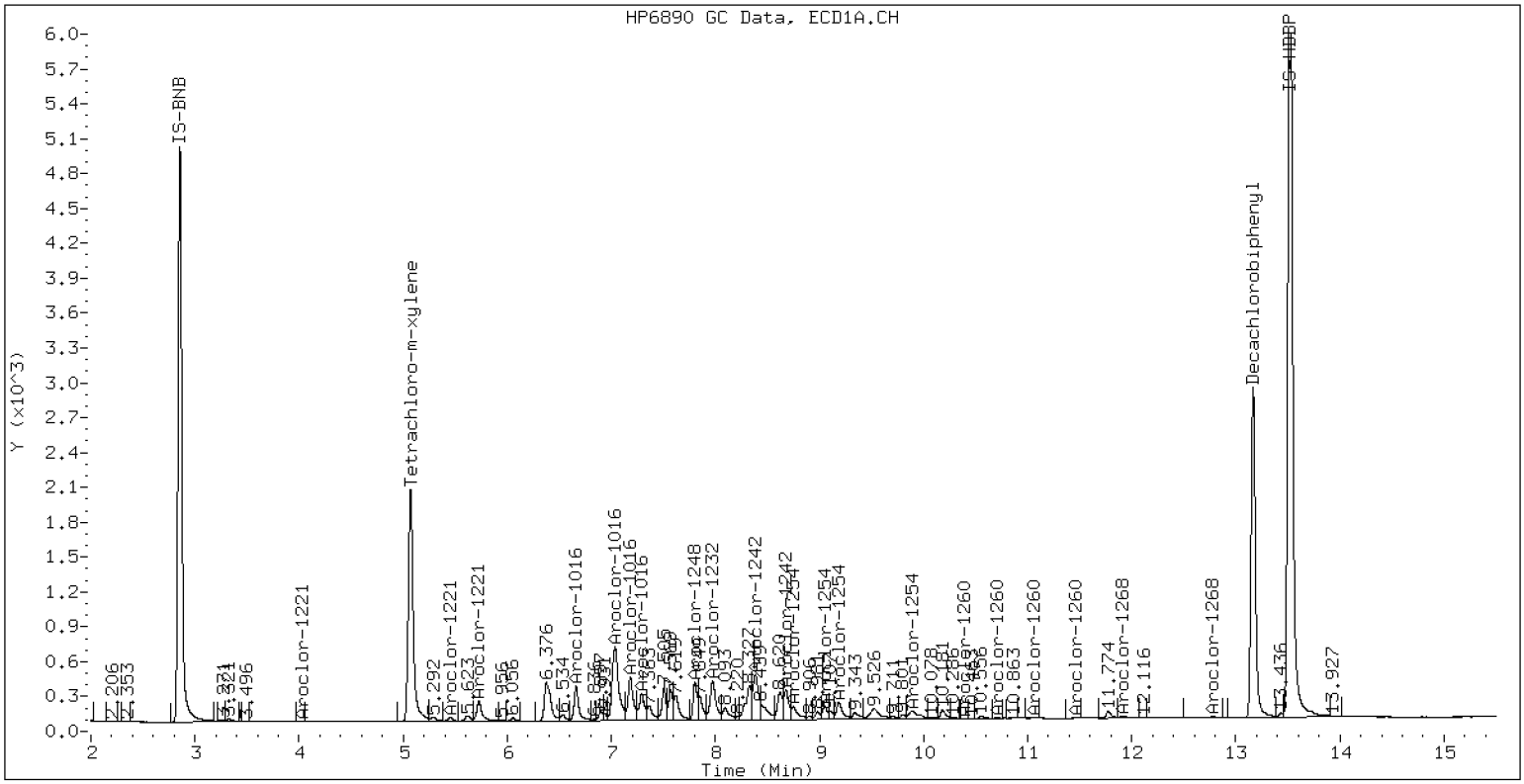
Total PCB Area Col2 (5.169 - 13.066) = 1884416 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

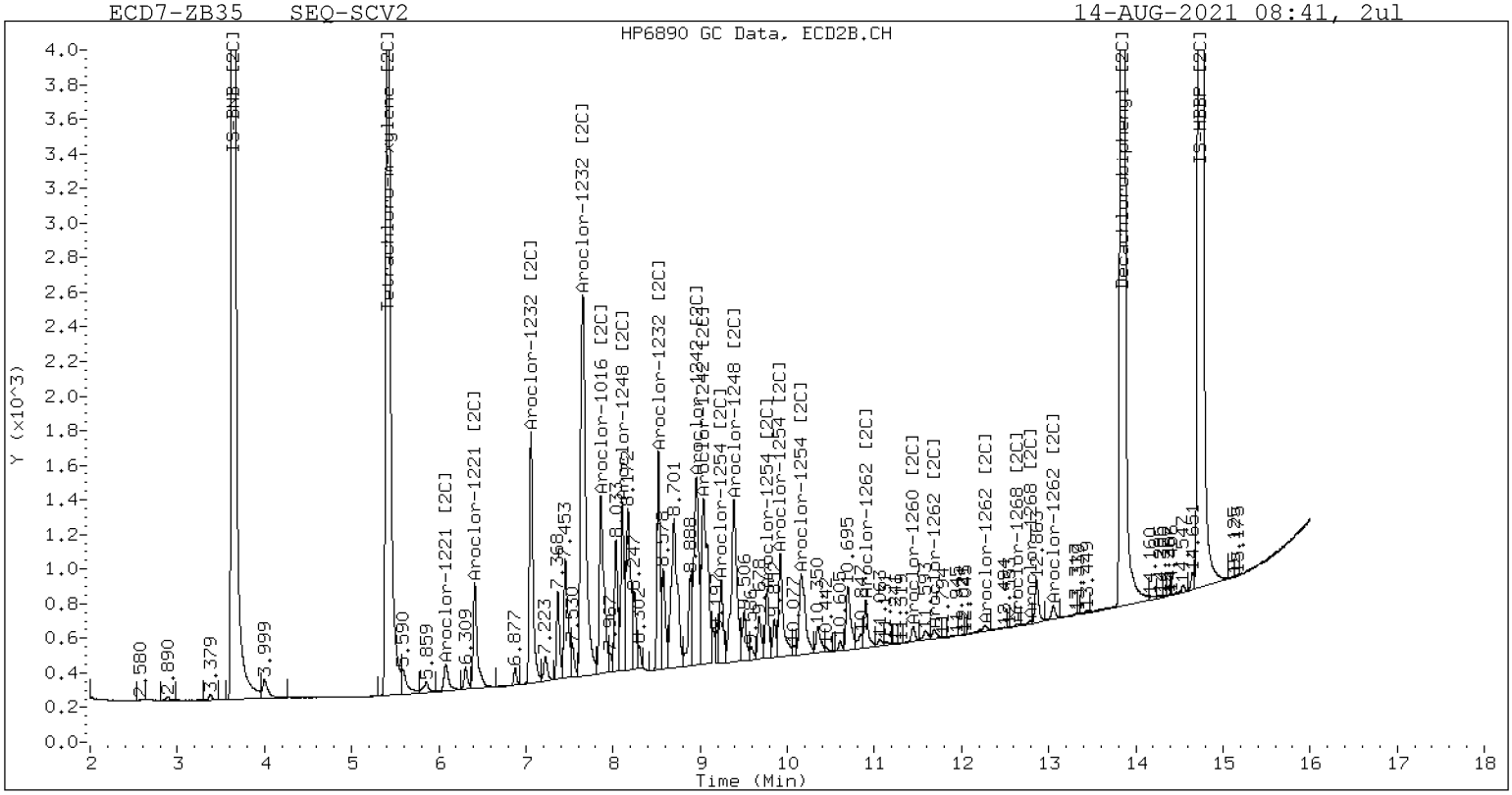
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV2 14-AUG-2021 08:41, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV2 14-AUG-2021 08:41, 2ul

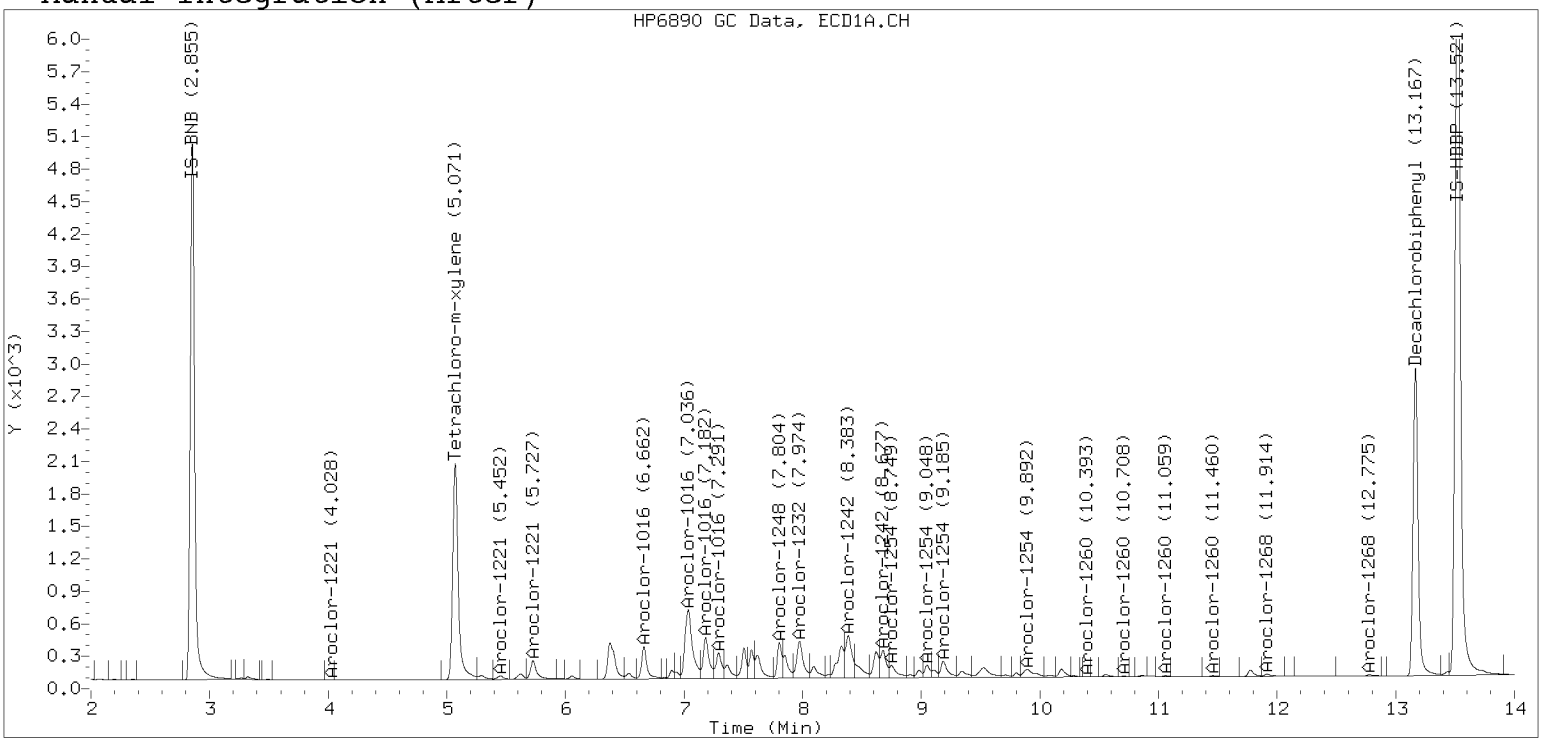


ZB-35 Manual Integration: YES

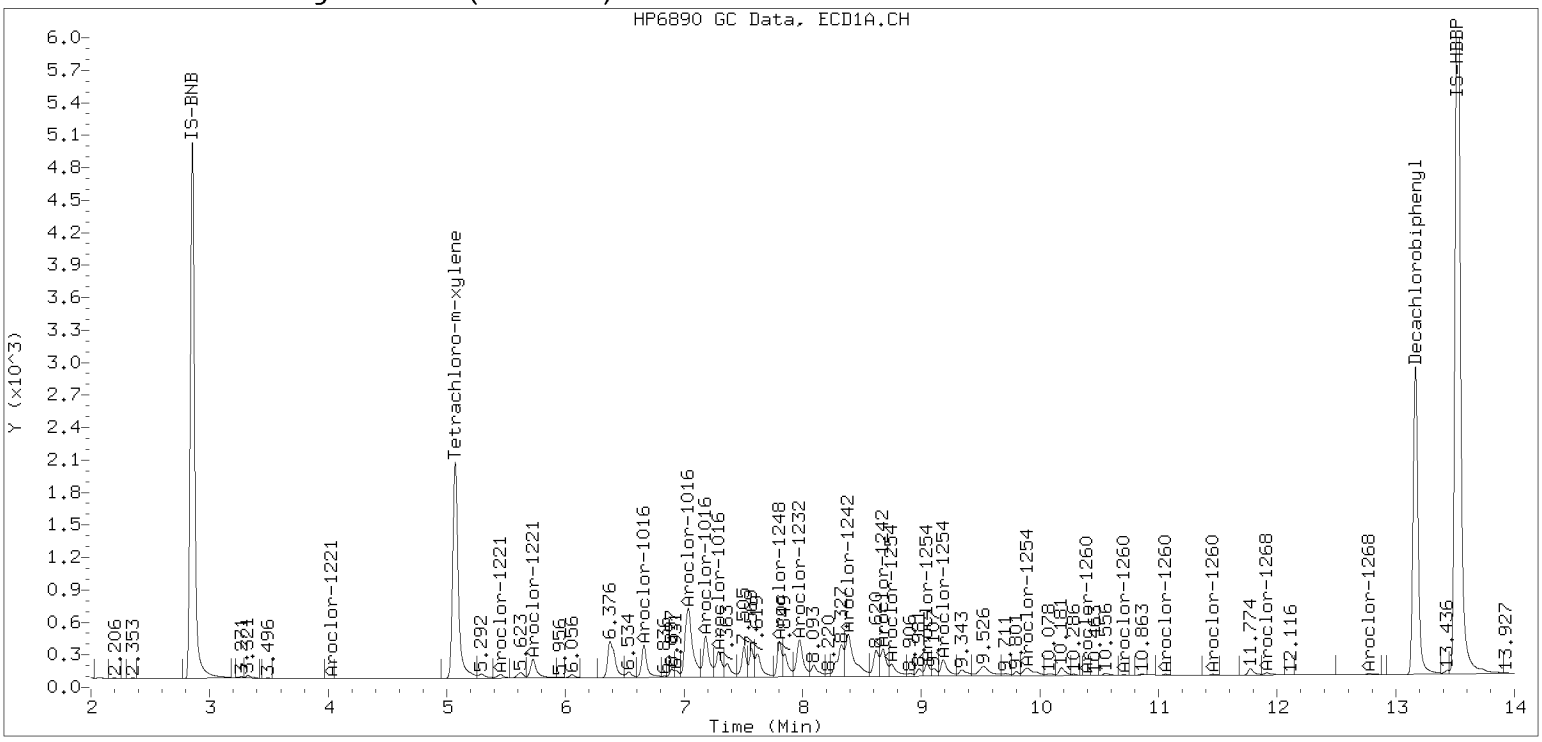
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132142ECD7.D Injection Date: 14-AUG-2021 08:41

Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132143ECD7.D
Data file 2: /210813.b/210813.b/08132143ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV3
Client ID:
Injection Date: 14-AUG-2021 09:02
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	133217	5.416	-0.001	384693	41.7	40.4	3.0	Tetrachloro-m-xylene
13.165	-0.001	166922	13.848	-0.032	892438	39.5	38.4	2.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264526	2.2
Hexabromobiphenyl	425681	465895	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740726	2.7
Hexabromobiphenyl	863111	1045189	21.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	9682	103.2	1	7.058	0.001	46276	109.6
Aroclor-1016	2	7.035	0.006	37972	132.4	2	7.654	0.006	128803	136.3
Aroclor-1016	3	7.185	0.009	16001	124.3	3	7.862	0.007	26557	71.6
Aroclor-1016	4	7.292	0.007	10150	125.7	4	8.107	0.002	83644	372.8
Total Col1Ave (4 peaks):					121.4	Total Col2Ave (4 peaks):				172.6 RPD = 35
Corrected Ave (3 peaks):					117.7	Corrected Ave (3 peaks):				105.8 RPD = 11
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.455	0.004	449	13.7	2	6.091	0.019	6638	52.2
Aroclor-1221	3	5.728	0.004	2260	25.5	3	6.414	0.005	8501	38.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.728	0.002	2260	32.4	2	7.058	-0.000	46276	239.2
Aroclor-1232	3	7.035	0.002	37972	356.8	3	7.654	0.003	128803	332.7
Aroclor-1232	4	7.972	-0.000	39250	896.5	4	8.523	0.001	102298	1014.3
Total Col1Ave (3 peaks):					428.6	Total Col2Ave (3 peaks):				528.7 RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.663	0.004	9682	132.8	1	7.058	0.000	46276	135.9
Aroclor-1242	2	7.035	0.005	37972	174.8	2	7.654	0.005	128803	174.1
Aroclor-1242	3	8.381	0.007	54555	443.2	3	8.956	0.007	151640	438.8
Aroclor-1242	4	8.678	0.004	31259	621.5	4	9.034	0.006	104178	265.6
Total Col1Ave (4 peaks):					343.1	Total Col2Ave (4 peaks):				253.6 RPD = 30
Corrected Ave (3 peaks):					250.3	Corrected Ave (3 peaks):				191.9 RPD = 26
Aroclor-1248	1	7.802	0.004	28742	259.3	1	8.107	0.002	83644	272.5
Aroclor-1248	2	7.972	0.004	39250	271.2	2	8.523	0.003	102298	273.8
Aroclor-1248	3	8.381	0.007	54555	257.5	3	8.956	0.009	151640	254.8
Aroclor-1248	4	8.678	0.004	31259	258.4	4	9.383	0.006	151004	298.8
Total Col1Ave (4 peaks):					261.6	Total Col2Ave (4 peaks):				275.0 RPD = 5
Corrected Ave (3 peaks):					258.4	Corrected Ave (3 peaks):				267.0 RPD = 3
Aroclor-1254	1	8.678	0.002	31259	137.0	1	9.242	0.003	54333	86.2
Aroclor-1254	2	8.749	0.003	18396	174.1	2	9.383	0.052	151004	408.3
Aroclor-1254	3	9.047	0.006	14863	99.9	3	9.767	0.004	47940	99.8
Aroclor-1254	4	9.184	0.008	25850	91.0	4	9.918	0.004	90159	84.7
Aroclor-1254	5	9.891	0.024	17966	100.7	5	10.157	0.010	92605	85.8
Total Col1Ave (5 peaks):					120.5	Total Col2Ave (5 peaks):				152.9 RPD = 24
Corrected Ave (4 peaks):					107.1	Corrected Ave (4 peaks):				89.1 RPD = 18
Aroclor-1260	1	10.390	0.007	578	2.8	1	11.440	0.015	6820	7.8
Aroclor-1260	2	10.706	0.006	437	2.1	2	11.683	0.002	7655	3.0
Aroclor-1260	3	11.059	0.008	1267	2.3	3	12.263	0.002	5159	3.2
Aroclor-1260	4	11.460	0.007	540	2.2	4	12.973	0.001	2451	3.2
Aroclor-1260	5	11.559	0.005	490	4.0	NS	---			----
Total Col1Ave (5 peaks):					2.7	Total Col2Ave (4 peaks):				4.3 RPD = 47*
Corrected Ave (4 peaks):					2.3	Corrected Ave (3 peaks):				3.1 RPD = 29
Aroclor-1262	1	10.390	0.006	578	2.0	1	10.972	0.001	4108	3.2
Aroclor-1262	2	11.460	0.005	540	2.9	2	11.683	-0.002	7655	2.8
Aroclor-1262	3	11.632	0.005	592	2.2	3	12.188	-0.000	3699	3.1
Aroclor-1262	4	12.278	0.004	571	2.6	4	12.973	0.001	2451	2.2
Total Col1Ave (4 peaks):					2.5	Total Col2Ave (4 peaks):				2.8 RPD = 14
Corrected Ave (3 peaks):					2.3	Corrected Ave (3 peaks):				2.7 RPD = 17
Aroclor-1268	1	11.559	0.002	490	0.8	1	12.188	-0.012	3699	1.2
Aroclor-1268	2	11.632	0.006	592	0.9	2	12.263	-0.004	5159	1.6
Aroclor-1268	3	11.915	-0.086	879	1.7	3	12.643	-0.001	909	0.3
Aroclor-1268	4	12.775	0.003	932	0.6	4	12.788	0.005	972	1.4
Total Col1Ave (4 peaks):					1.0	Total Col2Ave (4 peaks):				1.1 RPD = 13
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				1.0 RPD = 27

Total PCB Area Col1 (5.169 - 13.066) = 608290 Col1 Total PCB = 0.2 ppm*

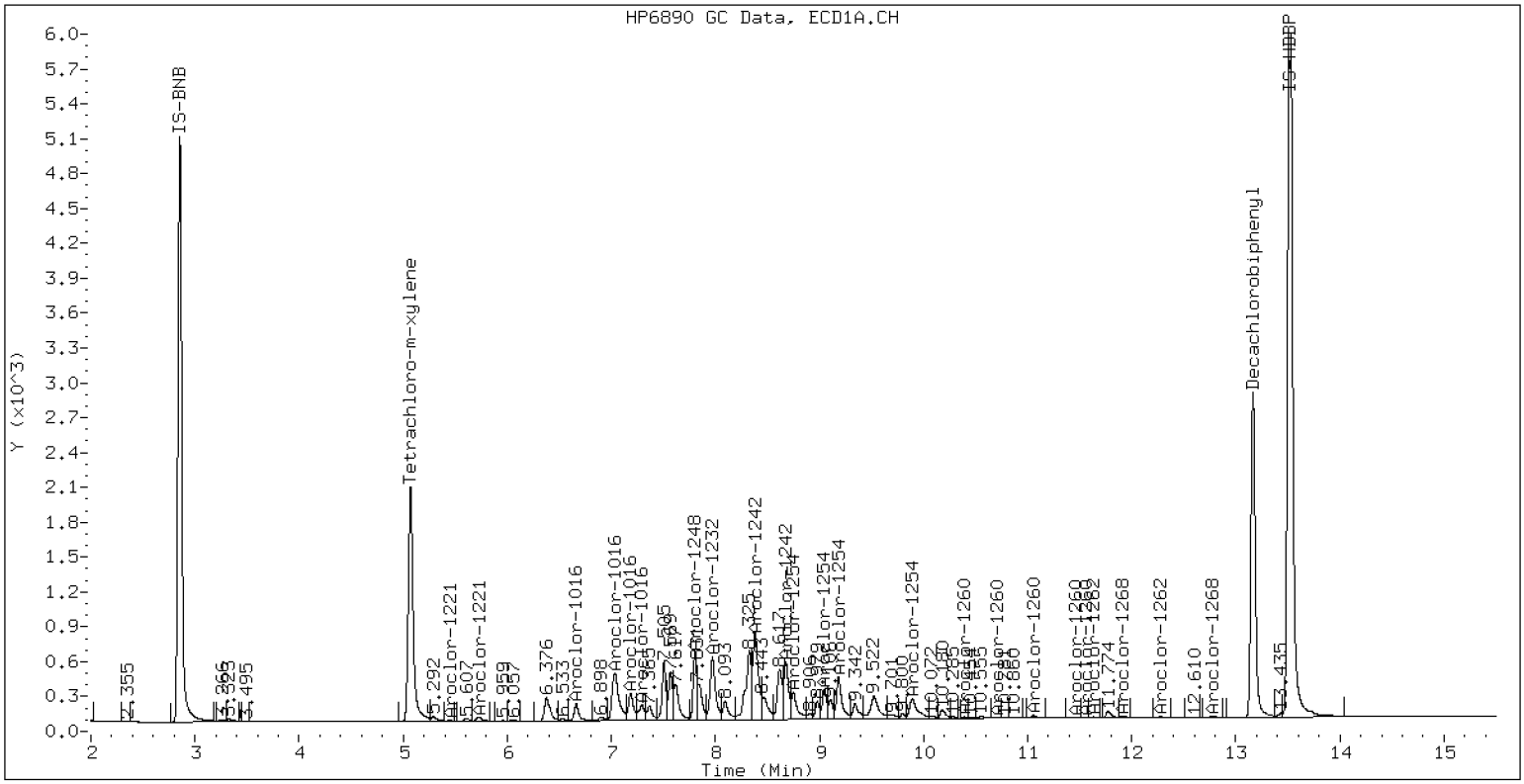
Total PCB Area Col2 (5.169 - 13.066) = 2317749 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

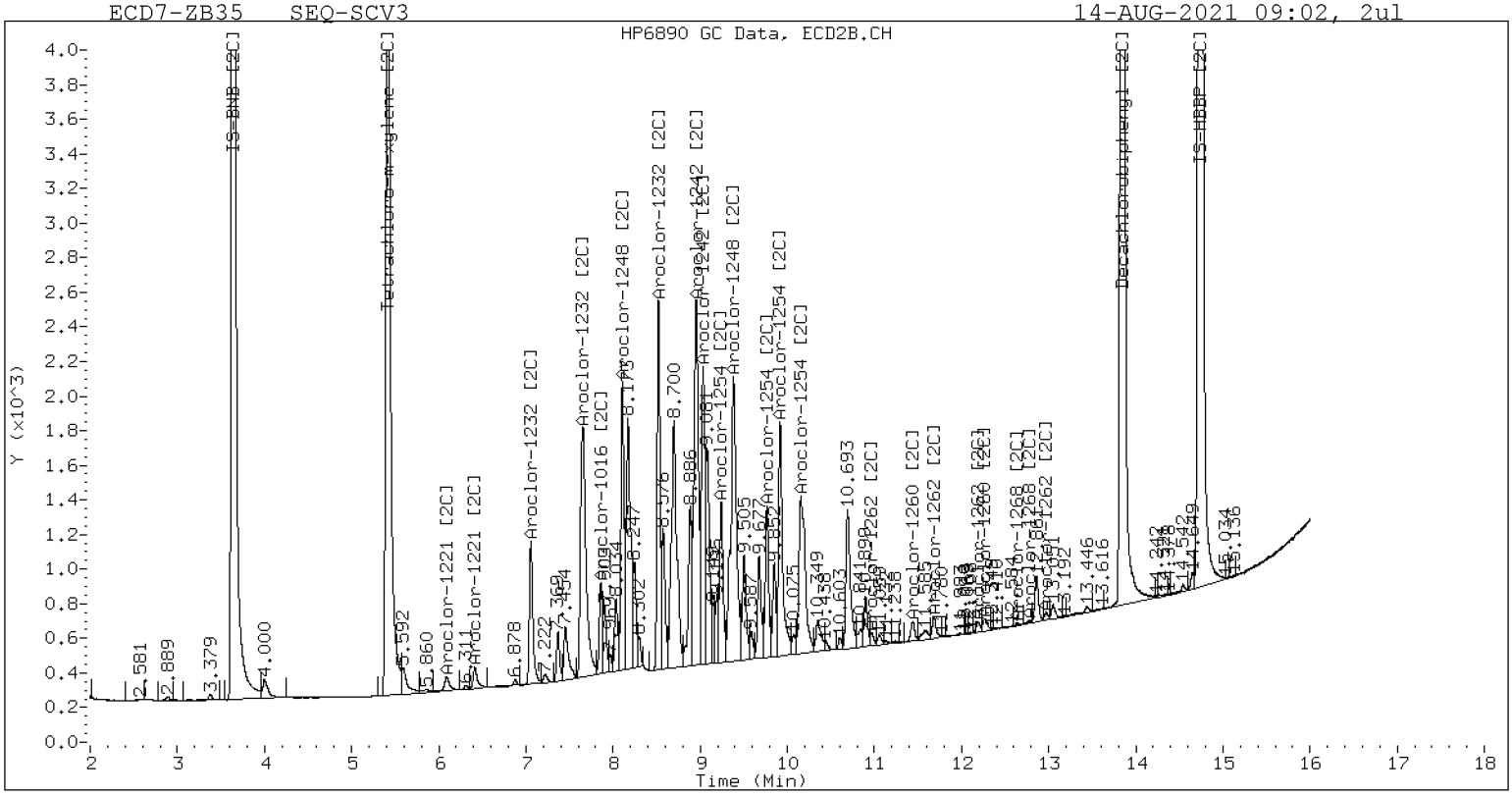
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-35 Manual Integration: NO

Manual Peak Adjustment, ZB-5

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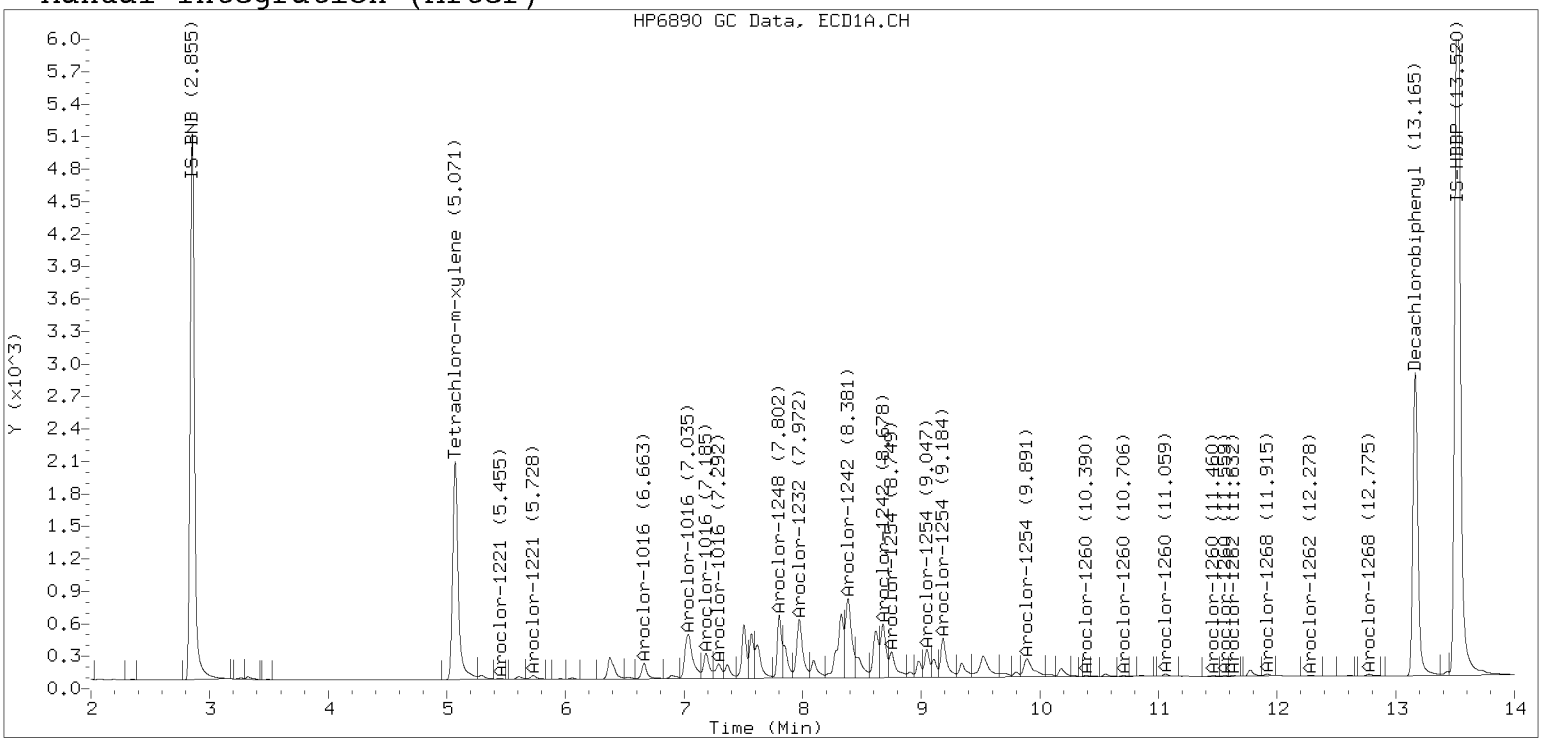
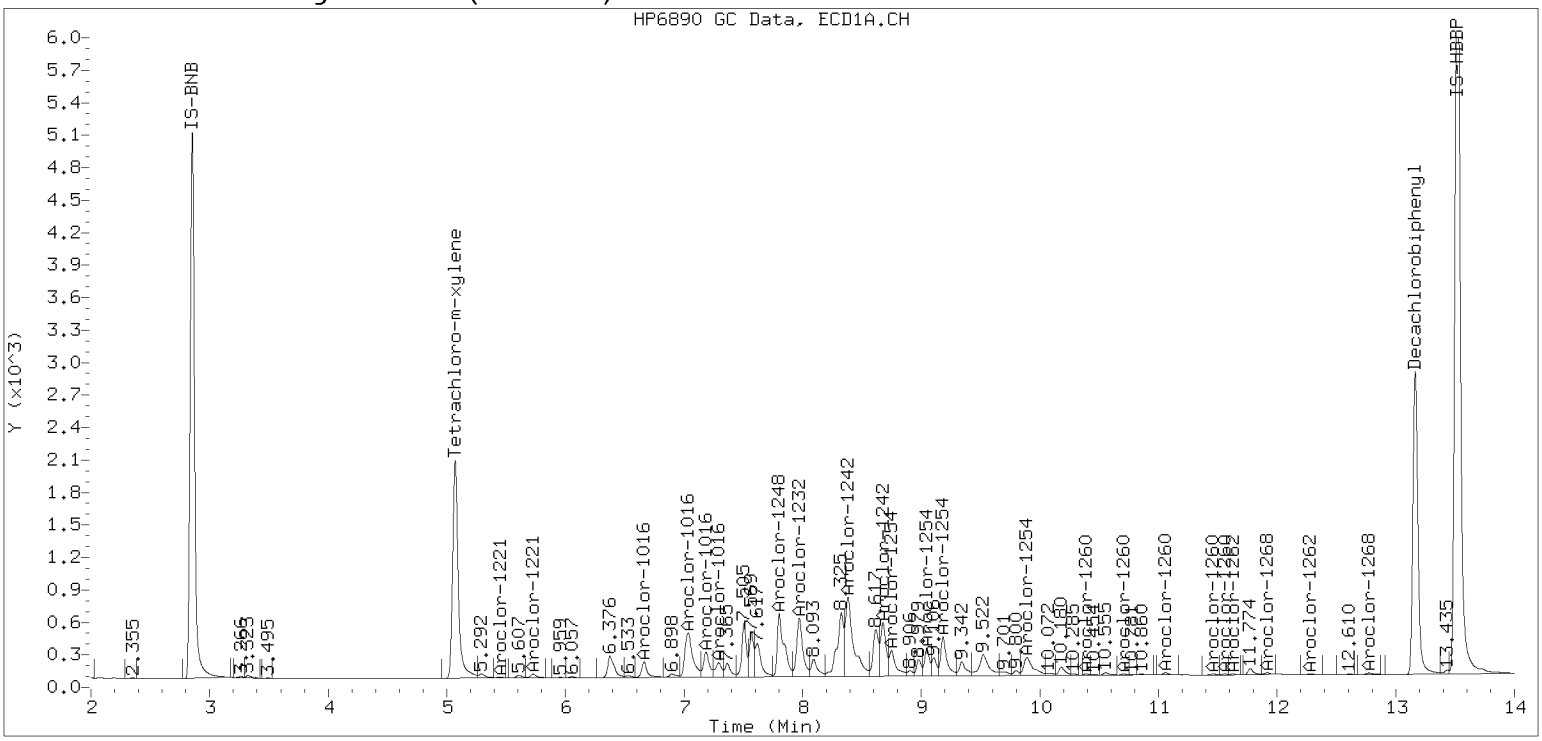
Manual Integration (After)



Processed Integration (Before)



Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132144ECD7.D
Data file 2: /210813.b/210813.b/08132144ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV4
Client ID:
Injection Date: 14-AUG-2021 09:22
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	134141	5.416	-0.001	389116	42.6	41.4	2.8	Tetrachloro-m-xylene
13.166	0.000	166634	13.848	-0.032	887620	40.1	38.6	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260417	0.6
Hexabromobiphenyl	425681	458139	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	730797	1.4
Hexabromobiphenyl	863111	1034233	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	131	1.4	1	7.062	0.005	1136	2.7
Aroclor-1016	2	7.039	0.009	605	2.1	2	7.659	0.011	3270	3.5
Aroclor-1016	3	7.189	0.014	416	3.3	3	7.909	0.054	1836	5.0
Aroclor-1016	4	---			0.0	4	8.109	0.004	59728	269.8
Total Col1Ave (3 peaks): 2.3						Total Col2Ave (4 peaks): 70.3 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 3.8				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.094	0.021	4462	35.5
Aroclor-1221	3	---			0.0	3	6.411	0.002	1085	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.062	0.004	1136	6.0
Aroclor-1232	3	7.039	0.005	605	5.8	3	7.659	0.008	3270	8.6
Aroclor-1232	4	7.975	0.003	5517	128.0	4	8.524	0.002	40317	405.2
Col1Ave: <3 Quant Peaks						Col2Ave: 139.9				
Aroclor-1242	1	6.663	0.004	131	1.8	1	7.062	0.005	1136	3.4
Aroclor-1242	2	7.039	0.008	605	2.8	2	7.659	0.010	3270	4.5
Aroclor-1242	3	8.385	0.011	48414	399.6	3	8.960	0.012	63036	184.9
Aroclor-1242	4	8.679	0.005	62054	1253.2	4	9.035	0.007	12438	32.1
Total Col1Ave (4 peaks): 414.4						Total Col2Ave (4 peaks): 56.2 RPD = 152*				
Corrected Ave (3 peaks): 134.7						Corrected Ave (3 peaks): 13.3 RPD = 164*				
Aroclor-1248	1	7.804	0.005	12376	113.4	1	8.109	0.003	59728	197.2
Aroclor-1248	2	7.975	0.007	5517	38.7	2	8.524	0.004	40317	109.4
Aroclor-1248	3	8.385	0.011	48414	232.1	3	8.960	0.014	63036	107.4
Aroclor-1248	4	8.679	0.005	62054	521.1	4	9.335	-0.041	91889	184.3
Total Col1Ave (4 peaks): 226.3						Total Col2Ave (4 peaks): 149.6 RPD = 41*				
Corrected Ave (3 peaks): 128.1						Corrected Ave (3 peaks): 133.7 RPD = 4				
Aroclor-1254	1	8.679	0.003	62054	276.2	1	9.242	0.003	166697	268.1
Aroclor-1254	2	8.751	0.005	29615	284.7	2	9.335	0.004	91889	251.8
Aroclor-1254	3	9.046	0.005	40463	276.3	3	9.766	0.003	128036	270.1
Aroclor-1254	4	9.181	0.005	78989	282.3	4	9.918	0.004	270040	257.1
Aroclor-1254	5	9.873	0.006	50845	289.4	5	10.155	0.008	293166	275.2
Total Col1Ave (5 peaks): 281.8						Total Col2Ave (5 peaks): 264.5 RPD = 6				
Corrected Ave (4 peaks): 279.9						Corrected Ave (4 peaks): 261.8 RPD = 7				
Aroclor-1260	1	10.386	0.003	4281	20.8	1	11.441	0.015	77320	89.9
Aroclor-1260	2	10.706	0.006	4756	23.5	2	11.684	0.003	61993	24.8
Aroclor-1260	3	11.057	0.007	11820	21.6	3	12.266	0.005	35733	22.2
Aroclor-1260	4	11.458	0.005	9286	38.1	4	12.973	0.001	1994	2.6
Aroclor-1260	5	11.627	0.073	440	3.6	NS	---			----
Total Col1Ave (5 peaks): 21.5						Total Col2Ave (4 peaks): 34.9 RPD = 47*				
Corrected Ave (4 peaks): 17.4						Corrected Ave (3 peaks): 16.5 RPD = 5				
Aroclor-1262	1	10.386	0.002	4281	15.3	1	10.897	-0.073	251611	198.9
Aroclor-1262	2	11.458	0.003	9286	51.3	2	11.684	-0.001	61993	23.2
Aroclor-1262	3	11.627	0.000	440	1.7	3	12.205	0.017	9780	8.3
Aroclor-1262	4	12.279	0.005	629	2.9	4	12.973	0.000	1994	1.8
Total Col1Ave (4 peaks): 17.8						Total Col2Ave (4 peaks): 58.1 RPD = 106*				
Corrected Ave (3 peaks): 6.6						Corrected Ave (3 peaks): 11.1 RPD = 50*				
Aroclor-1268	1	11.627	0.070	440	0.7	1	12.205	0.005	9780	3.3
Aroclor-1268	2	---			0.0	2	12.266	-0.001	35733	11.0
Aroclor-1268	3	11.912	-0.088	968	1.9	3	12.633	-0.011	400	0.1
Aroclor-1268	4	12.774	0.002	1001	0.6	4	12.861	0.078	15819	22.8
Total Col1Ave (3 peaks): 1.1						Total Col2Ave (4 peaks): 9.3 RPD = 158*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 4.8				

Total PCB Area Col1 (5.169 - 13.066) = 819275 Col1 Total PCB = 0.3 ppm*

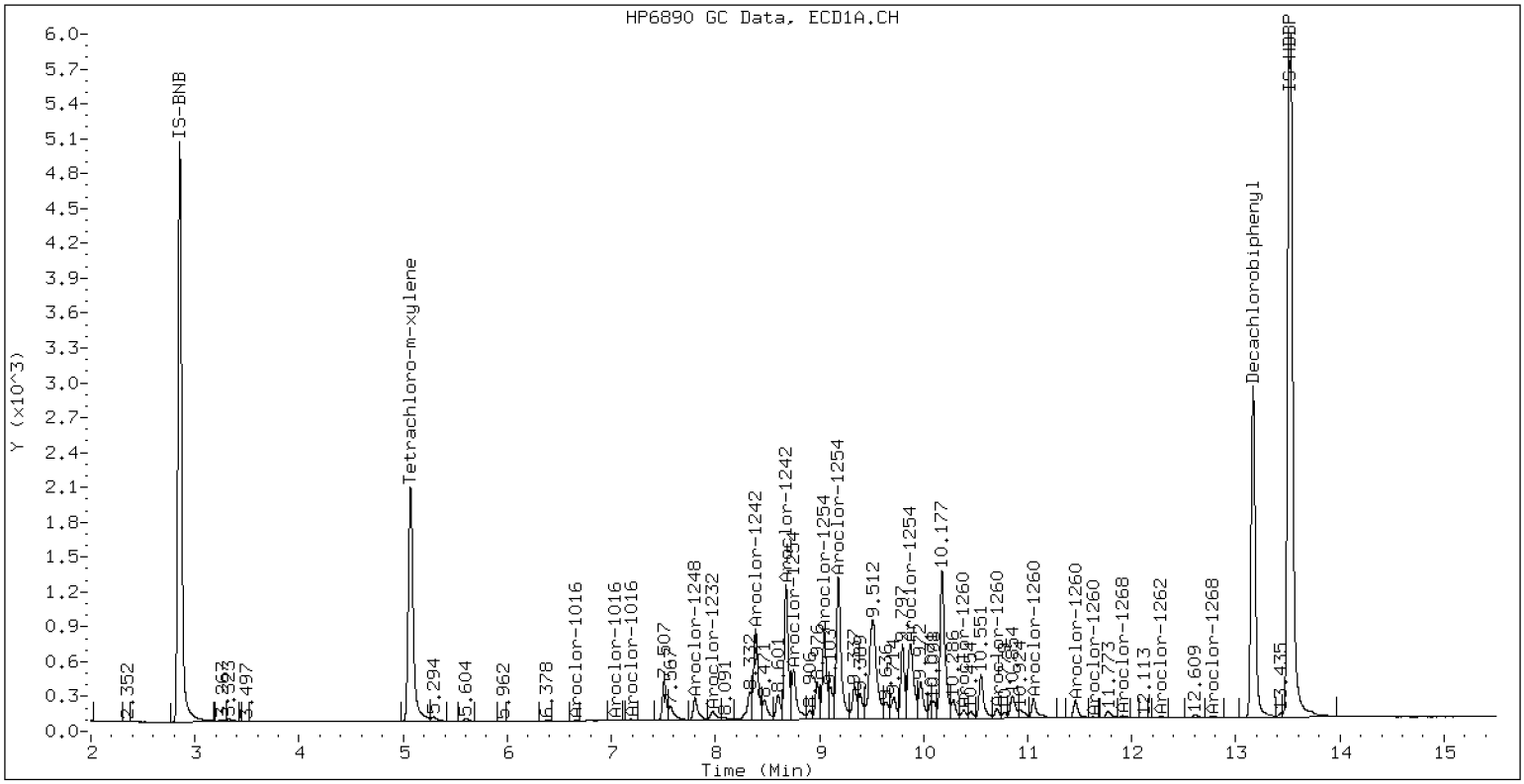
Total PCB Area Col2 (5.169 - 13.066) = 3111878 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

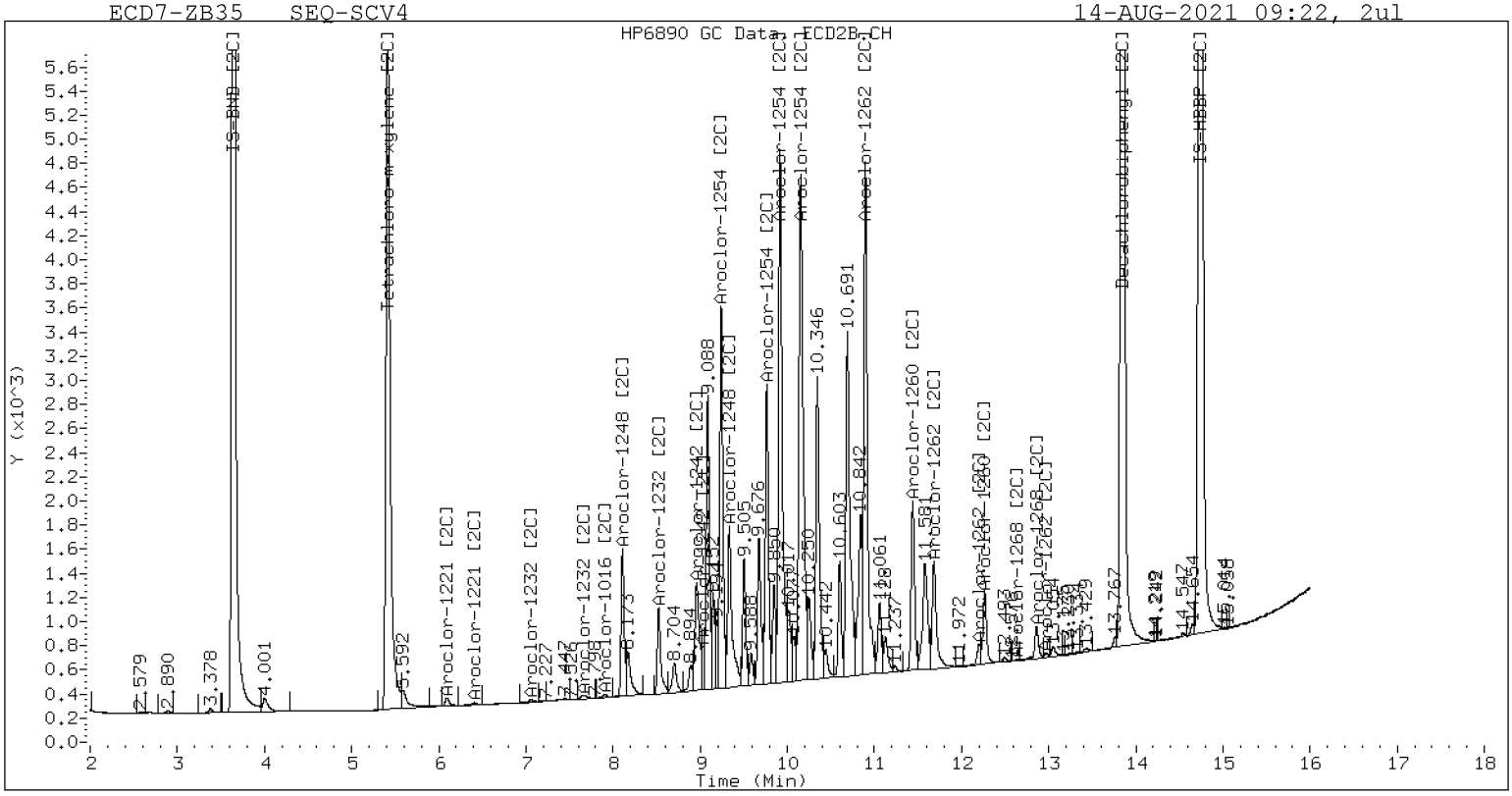
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132145ECD7.D
Data file 2: /210813.b/210813.b/08132145ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV5
Client ID:
Injection Date: 14-AUG-2021 09:43
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	131998	5.417	-0.000	375118	40.6	39.1	3.6	Tetrachloro-m-xylene
13.166	-0.000	164634	13.848	-0.032	881936	38.8	37.6	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269058	3.9
Hexabromobiphenyl	425681	467004	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	745766	3.4
Hexabromobiphenyl	863111	1054321	22.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	1551	16.3	1	7.061	0.004	17081	40.2
Aroclor-1016	2	7.039	0.009	4280	14.7	2	7.658	0.011	15832	16.6
Aroclor-1016	3	7.184	0.008	2282	17.4	3	7.865	0.010	6703	18.0
Aroclor-1016	4	7.294	0.009	1564	19.1	4	8.109	0.004	3939	17.4
Total Col1Ave (4 peaks):				16.8		Total Col2Ave (4 peaks):			23.1	RPD = 31
Corrected Ave (3 peaks):				16.1		Corrected Ave (3 peaks):			17.3	RPD = 7
Aroclor-1221	1	4.018	0.002	6262	294.7	1	4.680	0.004	15071	269.2
Aroclor-1221	2	5.454	0.003	9982	299.7	2	6.075	0.003	33472	261.2
Aroclor-1221	3	5.728	0.004	25492	283.3	3	6.413	0.004	59675	267.2
Total Col1Ave (3 peaks):				292.6		Total Col2Ave (3 peaks):			265.9	RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	-0.000	6262	479.9	1	4.680	0.001	15071	452.2
Aroclor-1232	2	5.728	0.002	25492	359.4	2	7.061	0.003	17081	87.7
Aroclor-1232	3	7.039	0.005	4280	39.5	3	7.658	0.007	15832	40.6
Aroclor-1232	4	7.978	0.006	798	17.9	4	8.525	0.003	2523	24.8
Total Col1Ave (4 peaks):				224.2		Total Col2Ave (4 peaks):			151.3	RPD = 39
Corrected Ave (3 peaks):				139.0		Corrected Ave (3 peaks):			51.1	RPD = 93*
Aroclor-1242	1	6.663	0.004	1551	20.9	1	7.061	0.004	17081	49.8
Aroclor-1242	2	7.039	0.009	4280	19.4	2	7.658	0.010	15832	21.3
Aroclor-1242	3	8.388	0.013	9148	73.1	3	8.966	0.018	6505	18.7
Aroclor-1242	4	8.680	0.006	9619	188.0	4	9.089	0.061	25267	64.0
Total Col1Ave (4 peaks):				75.3		Total Col2Ave (4 peaks):			38.4	RPD = 65*
Corrected Ave (3 peaks):				37.8		Corrected Ave (3 peaks):			29.9	RPD = 23
Aroclor-1248	1	7.805	0.007	1067	9.5	1	8.109	0.003	3939	12.7
Aroclor-1248	2	7.978	0.010	798	5.4	2	8.525	0.005	2523	6.7
Aroclor-1248	3	8.388	0.013	9148	42.4	3	8.966	0.020	6505	10.9
Aroclor-1248	4	8.680	0.007	9619	78.2	4	9.396	0.019	4022	7.9
Total Col1Ave (4 peaks):				33.9		Total Col2Ave (4 peaks):			9.6	RPD = 112*
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			8.5	RPD = 77*
Aroclor-1254	1	8.680	0.005	9619	41.4	1	9.245	0.005	26890	42.4
Aroclor-1254	2	---			0.0	2	9.336	0.005	2650	7.1
Aroclor-1254	3	9.050	0.008	1343	8.9	3	9.769	0.007	4242	8.8
Aroclor-1254	4	9.145	-0.031	9990	34.6	4	9.932	0.019	121430	113.3
Aroclor-1254	5	9.858	-0.010	13751	75.8	5	10.160	0.013	143957	132.4
Total Col1Ave (4 peaks):				40.2		Total Col2Ave (5 peaks):			60.8	RPD = 41*
Corrected Ave (3 peaks):				28.3		Corrected Ave (4 peaks):			42.9	RPD = 41*
Aroclor-1260	1	10.387	0.004	74432	354.3	1	11.427	0.001	248521	283.6
Aroclor-1260	2	10.705	0.005	63581	308.3	2	11.682	0.001	656259	257.6
Aroclor-1260	3	11.056	0.005	158724	284.8	3	12.261	0.000	468343	285.9
Aroclor-1260	4	11.457	0.004	49425	199.0	4	12.974	0.001	287502	367.1
Aroclor-1260	5	11.557	0.003	61640	495.8	NS	---			----
Total Col1Ave (5 peaks):				328.4		Total Col2Ave (4 peaks):			298.6	RPD = 10
Corrected Ave (4 peaks):				286.6		Corrected Ave (3 peaks):			275.7	RPD = 4
Aroclor-1262	1	10.387	0.003	74432	261.2	1	10.970	-0.000	313779	243.4
Aroclor-1262	2	11.457	0.002	49425	267.8	2	11.682	-0.003	656259	241.2
Aroclor-1262	3	11.628	0.001	70335	264.4	3	12.188	0.000	303167	251.1
Aroclor-1262	4	12.278	0.003	58296	266.9	4	12.974	0.001	287502	255.5
Total Col1Ave (4 peaks):				265.1		Total Col2Ave (4 peaks):			247.8	RPD = 7
Corrected Ave (3 peaks):				264.2		Corrected Ave (3 peaks):			245.2	RPD = 7
Aroclor-1268	1	11.557	0.000	61640	98.4	1	12.188	-0.012	303167	100.1
Aroclor-1268	2	11.628	0.002	70335	107.0	2	12.261	-0.006	468343	141.7
Aroclor-1268	3	12.031	0.030	24251	46.9	3	12.635	-0.009	18559	6.5
Aroclor-1268	4	12.770	-0.001	19100	11.5	4	12.783	0.000	11203	15.9
Total Col1Ave (4 peaks):				65.9		Total Col2Ave (4 peaks):			66.0	RPD = 0

Corrected Ave (3 peaks): 52.2 Corrected Ave (3 peaks): 40.8 RPD = 25

Total PCB Area Col1 (5.169 - 13.066) = 1098701 Col1 Total PCB = 0.4 ppm*

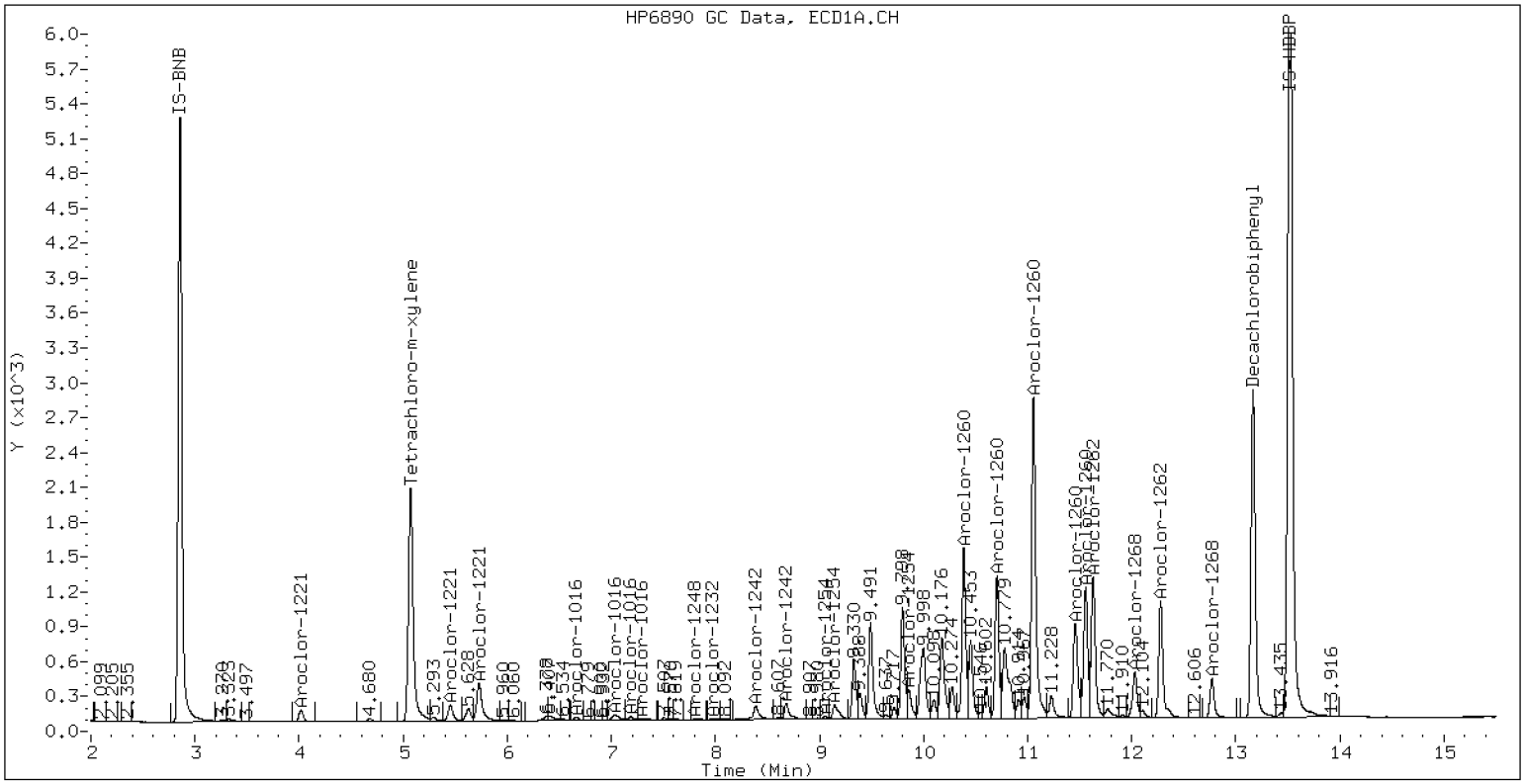
Total PCB Area Col2 (5.169 - 13.066) = 4504756 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

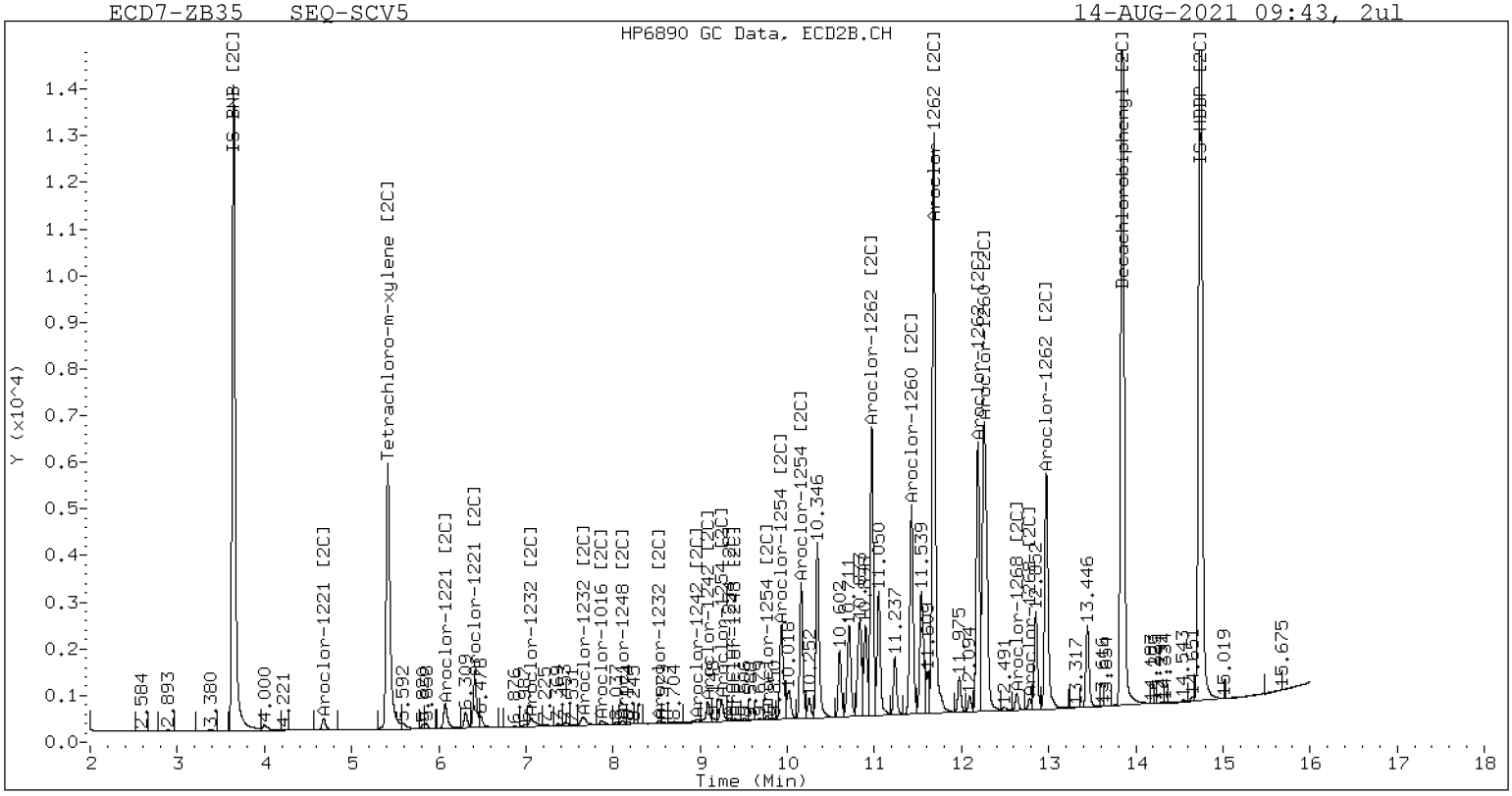
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132146ECD7.D
Data file 2: /210813.b/210813.b/08132146ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV6
Client ID:
Injection Date: 14-AUG-2021 10:03
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	131287	5.416	-0.000	375338	41.2	39.7	3.8	Tetrachloro-m-xylene
13.165	-0.001	248059	13.848	-0.032	1383308	59.6	59.3	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263445	1.8
Hexabromobiphenyl	425681	458283	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736133	2.1
Hexabromobiphenyl	863111	1049914	21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	11471	122.8	1	7.059	0.002	54454	129.7
Aroclor-1016	2	7.037	0.008	32172	112.6	2	7.656	0.009	111127	118.4
Aroclor-1016	3	7.183	0.007	15436	120.4	3	7.862	0.007	47184	128.0
Aroclor-1016	4	7.292	0.007	9103	113.2	4	8.108	0.003	26255	117.7
Total Col1Ave (4 peaks):				117.2		Total Col2Ave (4 peaks):			123.5	RPD = 5
Corrected Ave (3 peaks):				115.4		Corrected Ave (3 peaks):			121.4	RPD = 5
Aroclor-1221	1	4.017	0.002	3341	160.6	1	4.679	0.002	8452	153.0
Aroclor-1221	2	5.453	0.002	5429	166.5	2	6.077	0.004	21053	166.4
Aroclor-1221	3	5.727	0.003	17948	203.7	3	6.414	0.005	55556	252.0
Total Col1Ave (3 peaks):				176.9		Total Col2Ave (3 peaks):			190.5	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	3341	261.5	1	4.679	-0.000	8452	256.9
Aroclor-1232	2	5.727	0.001	17948	258.4	2	7.059	0.001	54454	283.3
Aroclor-1232	3	7.037	0.003	32172	303.5	3	7.656	0.005	111127	288.8
Aroclor-1232	4	7.974	0.002	13693	314.0	4	8.524	0.002	31722	316.5
Total Col1Ave (4 peaks):				284.4		Total Col2Ave (4 peaks):			286.4	RPD = 1
Corrected Ave (3 peaks):				274.5		Corrected Ave (3 peaks):			276.3	RPD = 1
Aroclor-1242	1	6.663	0.004	11471	158.0	1	7.059	0.002	54454	160.9
Aroclor-1242	2	7.037	0.007	32172	148.7	2	7.656	0.008	111127	151.2
Aroclor-1242	3	8.385	0.010	20544	167.6	3	8.959	0.010	61163	178.1
Aroclor-1242	4	8.676	0.002	6934	138.4	4	9.041	0.013	55525	142.5
Total Col1Ave (4 peaks):				153.2		Total Col2Ave (4 peaks):			158.1	RPD = 3
Corrected Ave (3 peaks):				148.4		Corrected Ave (3 peaks):			151.5	RPD = 2
Aroclor-1248	1	7.804	0.005	9056	82.0	1	8.108	0.002	26255	86.1
Aroclor-1248	2	7.974	0.006	13693	95.0	2	8.524	0.003	31722	85.4
Aroclor-1248	3	8.385	0.010	20544	97.4	3	8.959	0.012	61163	103.4
Aroclor-1248	4	8.676	0.002	6934	57.6	4	9.391	0.015	44441	88.5
Total Col1Ave (4 peaks):				83.0		Total Col2Ave (4 peaks):			90.8	RPD = 9
Corrected Ave (3 peaks):				78.2		Corrected Ave (3 peaks):			86.7	RPD = 10
Aroclor-1254	1	8.676	0.000	6934	30.5	1	9.243	0.003	10554	16.9
Aroclor-1254	2	8.748	0.002	3715	35.3	2	9.391	0.060	44441	120.9
Aroclor-1254	3	9.050	0.008	2122	14.3	3	9.769	0.007	7619	16.0
Aroclor-1254	4	9.187	0.011	3159	11.2	4	9.922	0.009	13052	12.3
Aroclor-1254	5	9.896	0.029	1953	11.0	5	10.167	0.020	14279	13.3
Total Col1Ave (5 peaks):				20.5		Total Col2Ave (5 peaks):			35.9	RPD = 55*
Corrected Ave (4 peaks):				16.7		Corrected Ave (4 peaks):			14.6	RPD = 14
Aroclor-1260	1	10.388	0.005	30028	145.6	1	11.405	-0.020	170014	194.8
Aroclor-1260	2	10.704	0.004	2256	11.1	2	11.680	-0.001	78239	30.8
Aroclor-1260	3	11.056	0.005	17997	32.9	3	12.254	-0.007	838267	513.9
Aroclor-1260	4	11.458	0.006	301	1.2	4	12.972	0.000	307546	394.4
Aroclor-1260	5	11.557	0.003	165147	1353.6	NS	---			----
Total Col1Ave (5 peaks):				308.9		Total Col2Ave (4 peaks):			283.5	RPD = 9
Corrected Ave (4 peaks):				47.7		Corrected Ave (3 peaks):			206.7	RPD = 125*
Aroclor-1262	1	10.388	0.004	30028	107.4	1	10.971	0.001	118268	92.1
Aroclor-1262	2	11.458	0.004	301	1.7	2	11.680	-0.005	78239	28.9
Aroclor-1262	3	11.626	-0.000	172148	659.4	3	12.187	-0.001	744741	619.3
Aroclor-1262	4	12.276	0.002	62869	293.3	4	12.972	-0.000	307546	274.4
Total Col1Ave (4 peaks):				265.4		Total Col2Ave (4 peaks):			253.7	RPD = 5
Corrected Ave (3 peaks):				134.1		Corrected Ave (3 peaks):			131.8	RPD = 2
Aroclor-1268	1	11.557	-0.000	165147	268.6	1	12.187	-0.013	744741	246.9
Aroclor-1268	2	11.626	0.001	172148	266.9	2	12.254	-0.013	838267	254.7
Aroclor-1268	3	12.000	-0.000	135416	266.9	3	12.635	-0.009	744001	261.5
Aroclor-1268	4	12.770	-0.002	428256	261.7	4	12.782	-0.001	187584	266.5
Total Col1Ave (4 peaks):				266.0		Total Col2Ave (4 peaks):			257.4	RPD = 3

Corrected Ave (3 peaks): 265.2 Corrected Ave (3 peaks): 254.3 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1378298 Col1 Total PCB = 0.5 ppm*

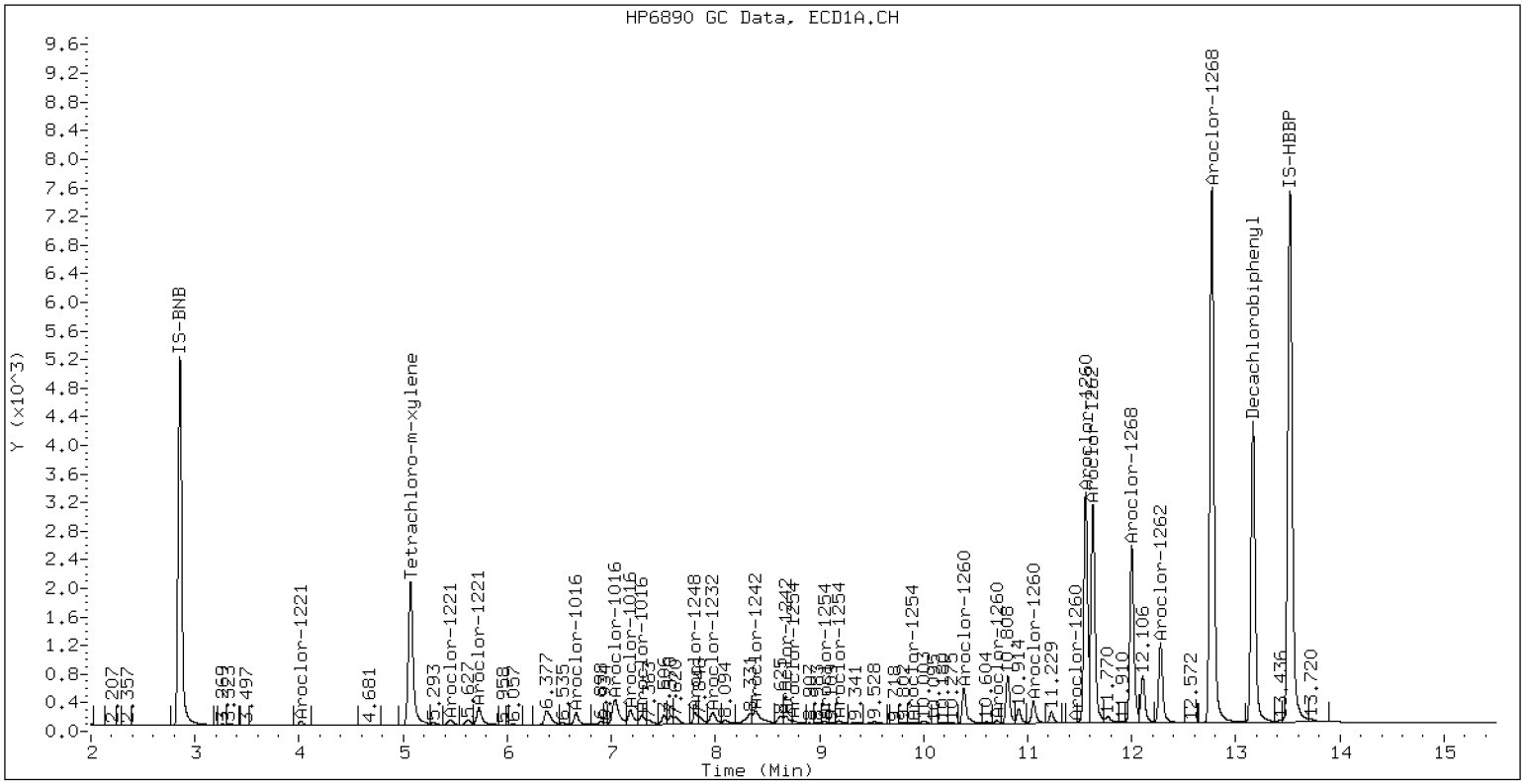
Total PCB Area Col2 (5.169 - 13.066) = 4537494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

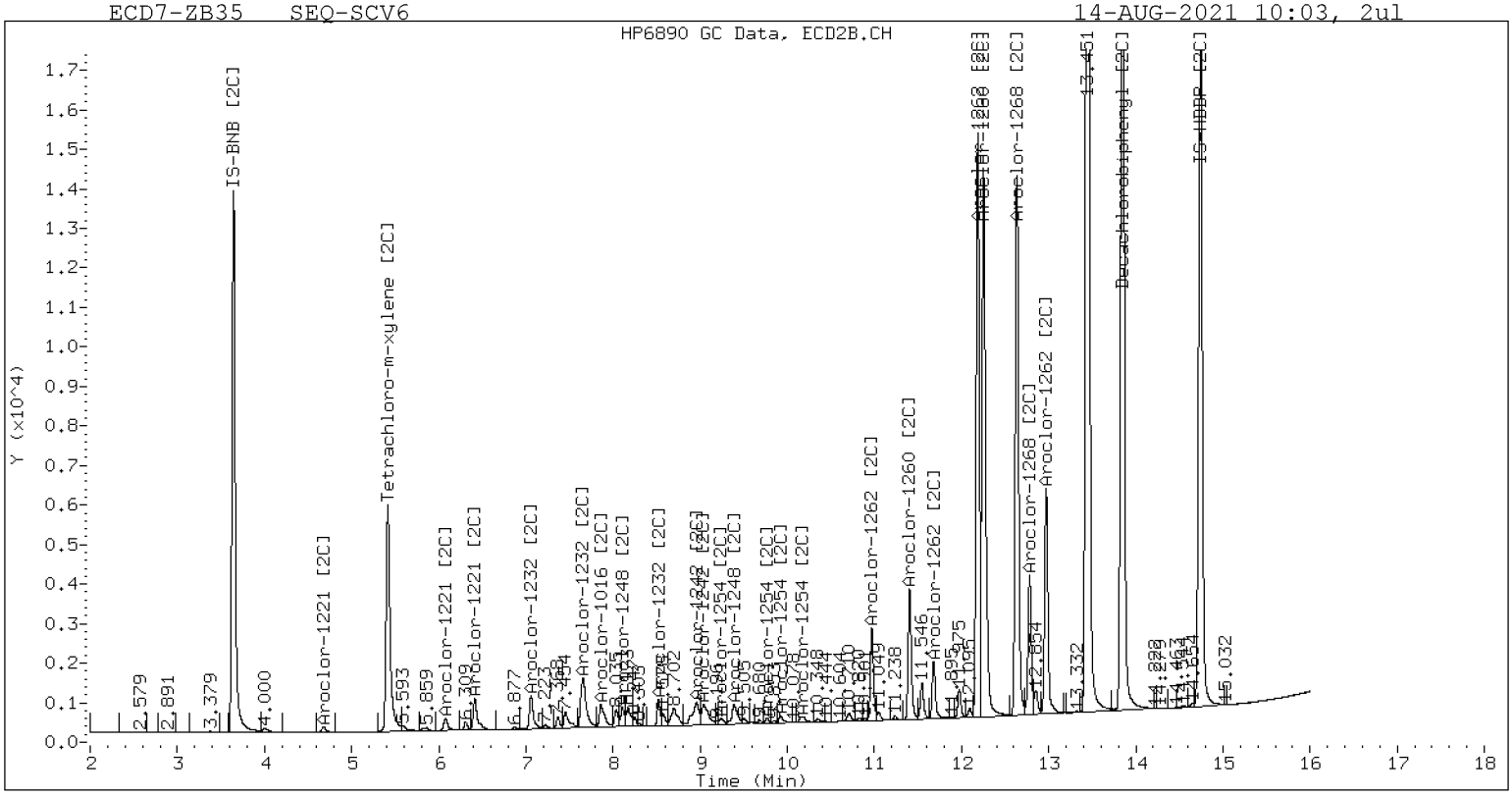
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /210813.b/08132147ECD7.D ARI ID: 0.1PPMDDTS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
8.655	0.000	378282	9.708	0.000	2247303	0.100	0.100	0.0	2,4-DDE
0.000	-9.668	0	10.472	0.000	3202027	0.000	0.200#	----	2,4-DDT
9.066	0.000	627072	10.014	0.000	1432754	0.100	0.100	0.0	4,4-DDE
9.630	0.000	957342	10.472	0.000	3202027	0.100	0.200#	66.7*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources Inc.
8082 DDT SCREEN REPORT

Data file 1: /210813.b/08132148ECD7.D ARI ID: DS

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
0.000	-8.655	0	9.713	0.005	45188	0.000	0.002	----	2,4-DDE
0.000	-9.668	0	10.469	-0.002	386231	0.000	0.024#	----	2,4-DDT
9.074	0.008	8164	10.015	0.001	1431	0.001	0.000	171.3*	4,4-DDE
9.633	0.003	99838	10.469	-0.002	386231	0.010	0.024#	79.8*	4,4-DDD

# Indicates value is from co-eluting peaks
* Indicates RPD > 40%

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV1
Sequence Name: AR1660SCV1
Standard ID: J008139

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1016	250.00	285	13.9	20.00
Aroclor 1016 [2C]	250.00	281	12.5	20.00
Aroclor 1260	250.00	276	10.3	20.00
Aroclor 1260 [2C]	250.00	259	3.4	20.00
Decachlorobiphenyl	40.000	41.9	4.8	20.00
Tetrachlorometaxylene	40.000	43.6	9.1	20.00
Decachlorobiphenyl [2C]	40.000	41.2	3.0	20.00
Tetrachlorometaxylene [2C]	40.000	41.9	4.9	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132141ECD7.D
Data file 2: /210813.b/210813.b/08132141ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 14-AUG-2021 08:21
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.072	0.003	130620	5.416	-0.001	380301	43.6	41.9	4.0	Tetrachloro-m-xylene
13.166	0.000	166891	13.848	-0.032	891664	41.9	41.2	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	247644	-4.3
Hexabromobiphenyl	425681	438534	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705551	-2.1
Hexabromobiphenyl	863111	973863	12.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	25008	284.7	1	7.059	0.002	110603	274.9
Aroclor-1016	2	7.036	0.006	75849	282.4	2	7.653	0.006	251287	279.2
Aroclor-1016	3	7.182	0.006	34421	285.6	3	7.860	0.005	101098	286.3
Aroclor-1016	4	7.291	0.006	21611	286.0	4	8.108	0.003	60866	284.8
Total Col1Ave (4 peaks):					284.7	Total Col2Ave (4 peaks):				281.3 RPD = 1
Corrected Ave (3 peaks):					284.2	Corrected Ave (3 peaks):				279.6 RPD = 2
Aroclor-1221	1	4.024	0.008	183	9.4	1	4.683	0.006	532	10.0
Aroclor-1221	2	5.453	0.002	3388	110.5	2	6.080	0.008	14283	117.8
Aroclor-1221	3	5.728	0.004	17440	210.6	3	6.414	0.005	53146	251.5
Total Col1Ave (3 peaks):					110.2	Total Col2Ave (3 peaks):				126.5 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.024	0.006	183	15.2	1	4.683	0.004	532	16.9
Aroclor-1232	2	5.728	0.002	17440	267.1	2	7.059	0.001	110603	600.3
Aroclor-1232	3	7.036	0.002	75849	761.3	3	7.653	0.002	251287	681.4
Aroclor-1232	4	7.973	0.001	32123	783.7	4	8.522	0.000	77885	810.7
Total Col1Ave (4 peaks):					456.8	Total Col2Ave (4 peaks):				527.3 RPD = 14
Corrected Ave (3 peaks):					347.9	Corrected Ave (3 peaks):				432.8 RPD = 22
Aroclor-1242	1	6.662	0.003	25008	366.5	1	7.059	0.002	110603	341.0
Aroclor-1242	2	7.036	0.006	75849	372.9	2	7.653	0.005	251287	356.6
Aroclor-1242	3	8.386	0.011	23127	200.7	3	8.934	-0.015	43631	132.5
Aroclor-1242	4	8.601	-0.072	2264	48.1	4	9.087	0.060	61086	163.5
Total Col1Ave (4 peaks):					247.1	Total Col2Ave (4 peaks):				248.4 RPD = 1
Corrected Ave (3 peaks):					205.1	Corrected Ave (3 peaks):				212.3 RPD = 3
Aroclor-1248	1	7.803	0.005	21981	211.8	1	8.108	0.002	60866	208.2
Aroclor-1248	2	7.973	0.005	32123	237.1	2	8.522	0.002	77885	218.9
Aroclor-1248	3	8.386	0.011	23127	116.6	3	8.934	-0.013	43631	77.0
Aroclor-1248	4	8.678	0.004	18050	159.4	4	9.393	0.016	3902	8.1
Total Col1Ave (4 peaks):					181.2	Total Col2Ave (4 peaks):				128.0 RPD = 34
Corrected Ave (3 peaks):					162.6	Corrected Ave (3 peaks):				97.8 RPD = 50*
Aroclor-1254	1	8.678	0.003	18050	84.5	1	9.242	0.003	55374	92.2
Aroclor-1254	2	---			0.0	2	9.393	0.062	3902	11.1
Aroclor-1254	3	9.048	0.006	1874	13.5	3	9.768	0.005	7503	16.4
Aroclor-1254	4	9.179	0.003	8064	30.3	4	9.930	0.017	138725	136.8
Aroclor-1254	5	9.859	-0.008	24786	148.4	5	10.160	0.012	181859	176.8
Total Col1Ave (4 peaks):					69.2	Total Col2Ave (5 peaks):				86.7 RPD = 22
Corrected Ave (3 peaks):					42.8	Corrected Ave (4 peaks):				64.1 RPD = 40*
Aroclor-1260	1	10.386	0.003	52476	266.0	1	11.427	0.002	206923	255.6
Aroclor-1260	2	10.705	0.005	54460	281.2	2	11.681	-0.000	606031	257.6
Aroclor-1260	3	11.055	0.005	146267	279.5	3	12.264	0.003	390976	258.4
Aroclor-1260	4	11.458	0.005	67567	289.8	4	12.974	0.002	190042	262.7
Aroclor-1260	5	11.557	0.003	30592	262.0	NS	---			----
Total Col1Ave (5 peaks):					275.7	Total Col2Ave (4 peaks):				258.6 RPD = 6
Corrected Ave (4 peaks):					272.2	Corrected Ave (3 peaks):				257.2 RPD = 6
Aroclor-1262	1	10.386	0.002	52476	196.1	1	10.970	-0.000	227139	190.7
Aroclor-1262	2	11.458	0.003	67567	389.9	2	11.681	-0.004	606031	241.2
Aroclor-1262	3	11.630	0.003	39662	158.8	3	12.190	0.002	176119	157.9
Aroclor-1262	4	12.278	0.004	37281	181.8	4	12.974	0.001	190042	182.8
Total Col1Ave (4 peaks):					231.6	Total Col2Ave (4 peaks):				193.2 RPD = 18
Corrected Ave (3 peaks):					178.9	Corrected Ave (3 peaks):				177.2 RPD = 1
Aroclor-1268	1	11.557	-0.000	30592	52.0	1	12.190	-0.010	176119	62.9
Aroclor-1268	2	11.630	0.004	39662	64.3	2	12.264	-0.003	390976	128.0
Aroclor-1268	3	12.031	0.031	15649	32.2	3	12.637	-0.007	5866	2.2
Aroclor-1268	4	12.771	-0.001	7371	4.7	4	12.784	0.001	4262	6.5
Total Col1Ave (4 peaks):					38.3	Total Col2Ave (4 peaks):				49.9 RPD = 26

Corrected Ave (3 peaks): 29.6 Corrected Ave (3 peaks): 23.9 RPD = 21

Total PCB Area Col1 (5.169 - 13.066) = 1398917 Col1 Total PCB = 0.6 ppm*

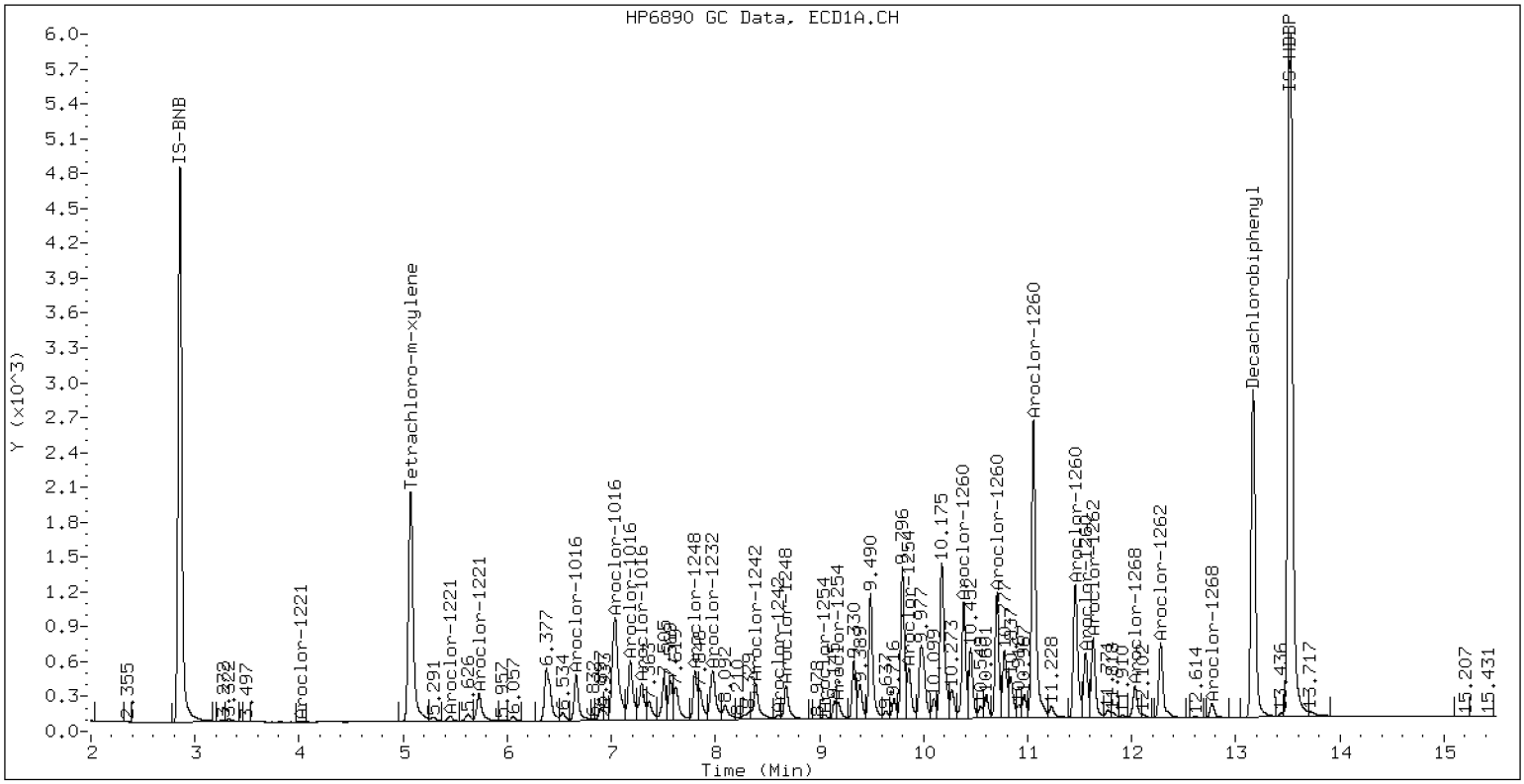
Total PCB Area Col2 (5.169 - 13.066) = 5304779 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

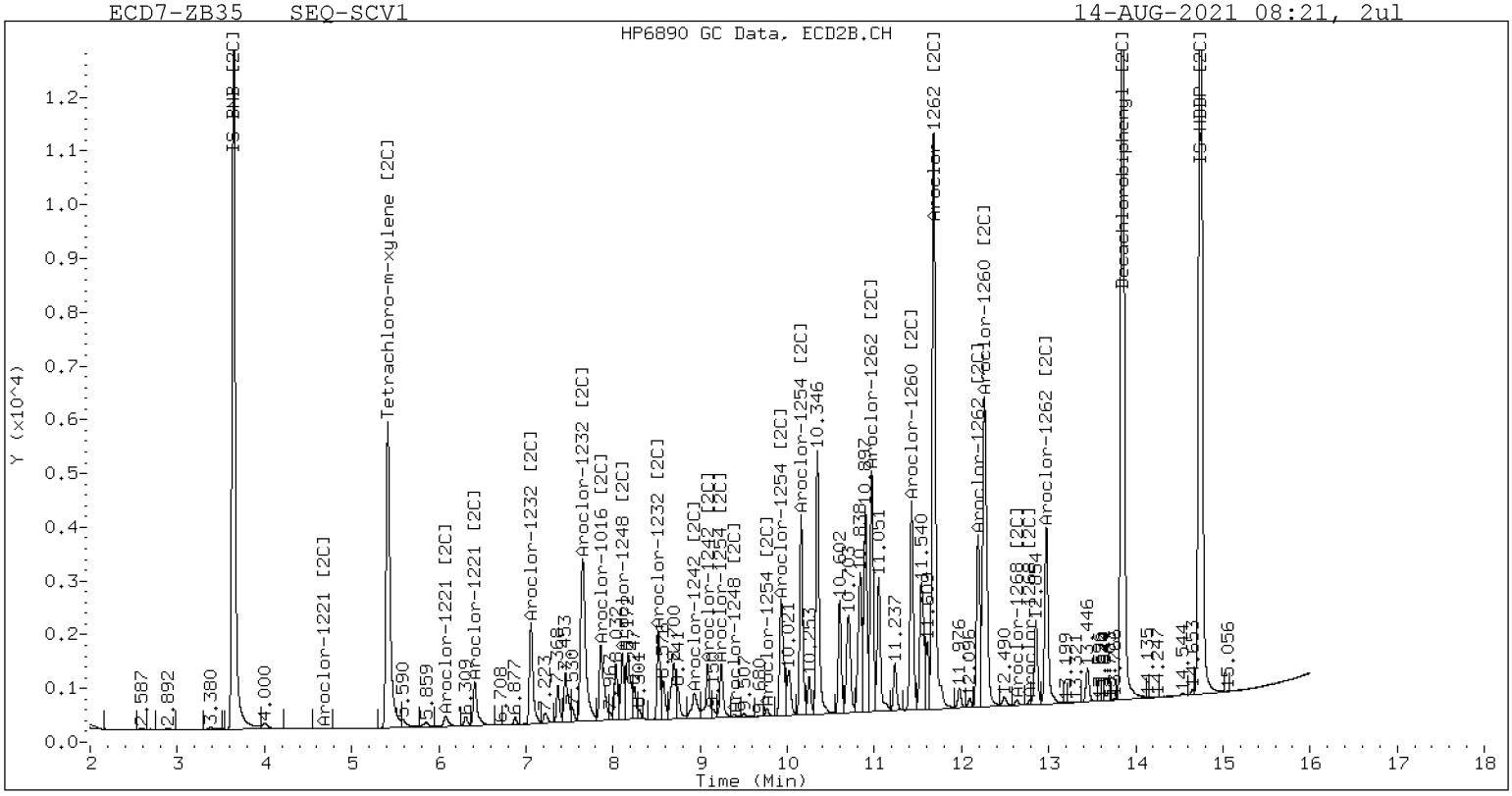
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV2
Sequence Name: AR1242SCV2
Standard ID: J008140

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1242	250.00	282	12.6	20.00
Aroclor 1242 [2C]	250.00	257	2.8	20.00
Decachlorobiphenyl	40.000	40.6	1.4	20.00
Tetrachlorometaxylene	40.000	42.4	6.0	20.00
Decachlorobiphenyl [2C]	40.000	40.1	0.2	20.00
Tetrachlorometaxylene [2C]	40.000	41.2	3.0	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132142ECD7.D
Data file 2: /210813.b/210813.b/08132142ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 14-AUG-2021 08:41
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	132285	5.416	-0.001	383386	42.4	41.2	2.9	Tetrachloro-m-xylene
13.167	0.001	167664	13.849	-0.031	892912	40.6	40.1	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258029	-0.3
Hexabromobiphenyl	425681	455205	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724238	0.5
Hexabromobiphenyl	863111	1002202	16.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	19016	207.8	1	7.058	0.002	84149	203.8
Aroclor-1016	2	7.036	0.007	56530	202.0	2	7.655	0.007	190019	205.7
Aroclor-1016	3	7.182	0.006	26016	207.1	3	7.861	0.006	75921	209.4
Aroclor-1016	4	7.291	0.006	16388	208.1	4	8.108	0.003	48471	220.9
Total Col1Ave (4 peaks): 206.3						Total Col2Ave (4 peaks): 210.0 RPD = 2				
Corrected Ave (3 peaks): 205.6						Corrected Ave (3 peaks): 206.3 RPD = 0				
Aroclor-1221	1	4.028	0.013	116	5.7	1	---			0.0
Aroclor-1221	2	5.452	0.001	2495	78.1	2	6.082	0.010	11569	93.0
Aroclor-1221	3	5.727	0.003	12904	149.5	3	6.414	0.005	39789	183.5
Total Col1Ave (3 peaks): 77.8						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.028	0.010	116	9.3	1	---			0.0
Aroclor-1232	2	5.727	0.001	12904	189.7	2	7.058	0.000	84149	444.9
Aroclor-1232	3	7.036	0.003	56530	544.5	3	7.655	0.004	190019	502.0
Aroclor-1232	4	7.974	0.001	26547	621.6	4	8.522	0.000	61015	618.7
Total Col1Ave (4 peaks): 341.3						Total Col2Ave (3 peaks): 521.9 RPD = 42*				
Corrected Ave (3 peaks): 247.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.662	0.003	19016	267.5	1	7.058	0.001	84149	252.7
Aroclor-1242	2	7.036	0.006	56530	266.7	2	7.655	0.006	190019	262.7
Aroclor-1242	3	8.383	0.009	29618	246.7	3	8.960	0.011	88042	260.5
Aroclor-1242	4	8.677	0.003	16945	345.4	4	9.035	0.007	96759	252.3
Total Col1Ave (4 peaks): 281.6						Total Col2Ave (4 peaks): 257.1 RPD = 9				
Corrected Ave (3 peaks): 260.3						Corrected Ave (3 peaks): 255.2 RPD = 2				
Aroclor-1248	1	7.804	0.005	17658	163.3	1	8.108	0.002	48471	161.5
Aroclor-1248	2	7.974	0.006	26547	188.1	2	8.522	0.002	61015	167.0
Aroclor-1248	3	8.383	0.009	29618	143.3	3	8.960	0.014	88042	151.3
Aroclor-1248	4	8.677	0.004	16945	143.6	4	9.387	0.011	85570	173.2
Total Col1Ave (4 peaks): 159.6						Total Col2Ave (4 peaks): 163.2 RPD = 2				
Corrected Ave (3 peaks): 150.1						Corrected Ave (3 peaks): 159.9 RPD = 6				
Aroclor-1254	1	8.677	0.002	16945	76.1	1	9.243	0.003	29242	47.5
Aroclor-1254	2	8.749	0.003	9630	93.4	2	9.387	0.056	85570	236.6
Aroclor-1254	3	9.048	0.007	7009	48.3	3	9.768	0.005	22605	48.1
Aroclor-1254	4	9.185	0.010	12002	43.3	4	9.920	0.006	43258	41.6
Aroclor-1254	5	9.892	0.025	8818	50.7	5	10.159	0.012	45764	43.4
Total Col1Ave (5 peaks): 62.4						Total Col2Ave (5 peaks): 83.4 RPD = 29				
Corrected Ave (4 peaks): 54.6						Corrected Ave (4 peaks): 45.1 RPD = 19				
Aroclor-1260	1	10.393	0.010	159	0.8	1	11.445	0.020	5299	6.4
Aroclor-1260	2	10.708	0.008	221	1.1	2	11.687	0.006	3878	1.6
Aroclor-1260	3	11.059	0.009	267	0.5	3	12.271	0.010	3933	2.5
Aroclor-1260	4	11.460	0.007	376	1.6	4	13.053	0.081	5398	7.3
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 4.4 RPD = 128*				
Corrected Ave (3 peaks): 0.8						Corrected Ave (3 peaks): 3.5 RPD = 126*				
Aroclor-1262	1	10.393	0.009	159	0.6	1	10.901	-0.069	17524	14.3
Aroclor-1262	2	11.460	0.005	376	2.1	2	11.687	0.001	3878	1.5
Aroclor-1262	3	---			0.0	3	12.271	0.083	3933	3.4
Aroclor-1262	4	---			0.0	4	13.053	0.081	5398	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: 6.1				
Aroclor-1268	1	11.460	-0.097	376	0.6	1	12.271	0.071	3933	1.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.914	-0.086	1770	3.5	3	12.639	-0.005	1023	0.4
Aroclor-1268	4	12.775	0.003	794	0.5	4	12.790	0.006	1260	1.9
Total Col1Ave (3 peaks): 1.5						Total Col2Ave (3 peaks): 1.2 RPD = 24				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 482960 Col1 Total PCB = 0.2 ppm*

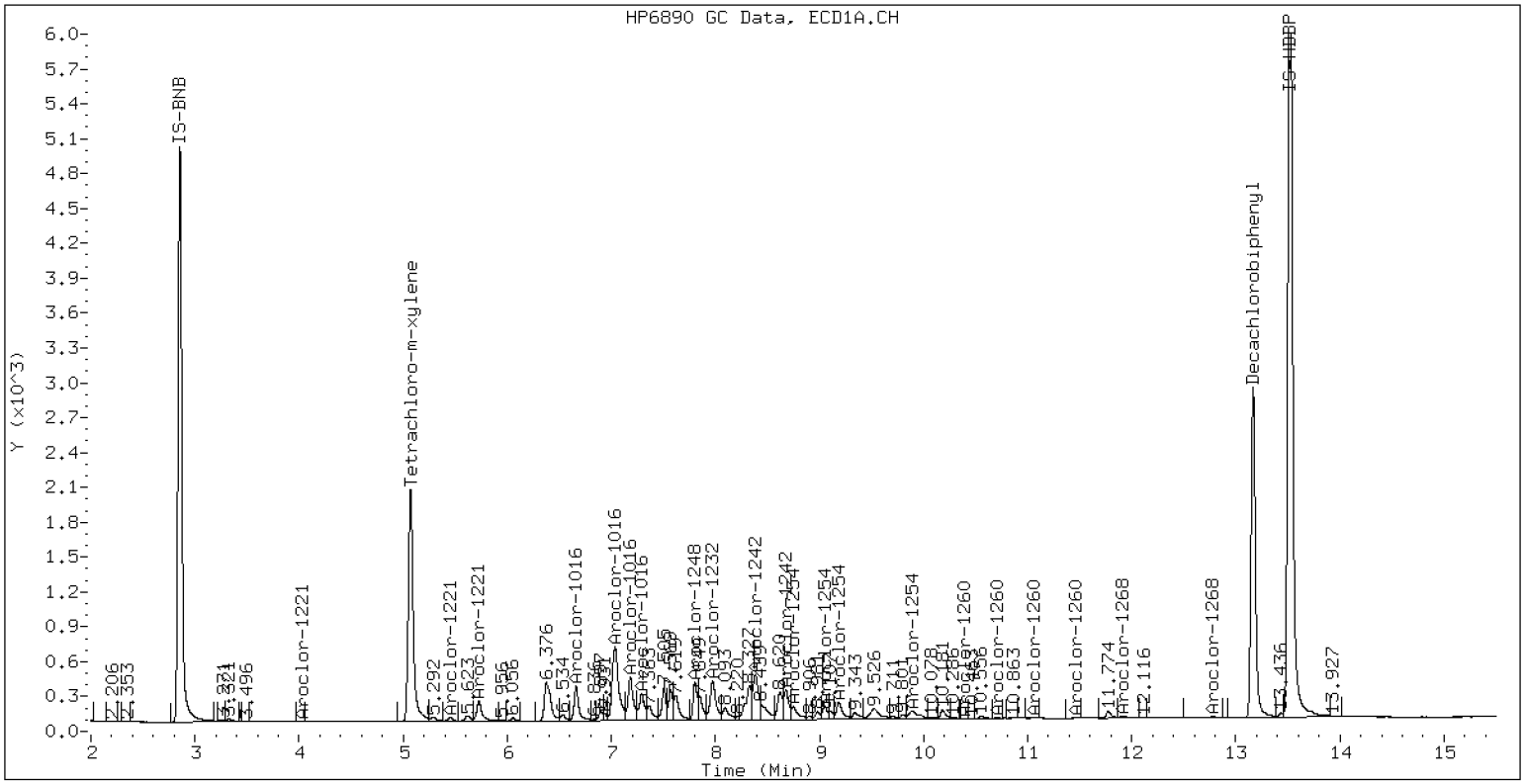
Total PCB Area Col2 (5.169 - 13.066) = 1884416 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

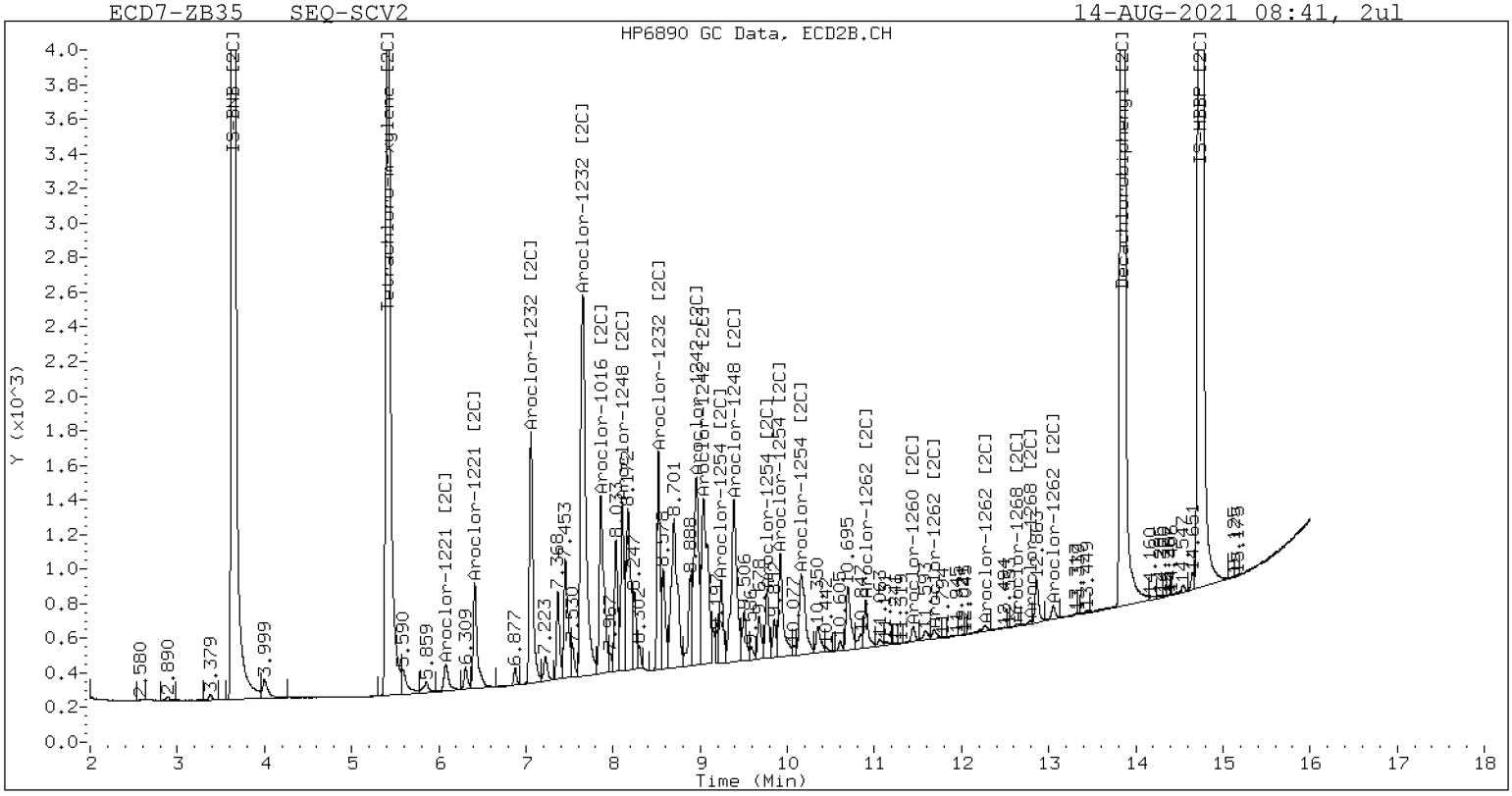
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV2 14-AUG-2021 08:41, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV2 14-AUG-2021 08:41, 2ul

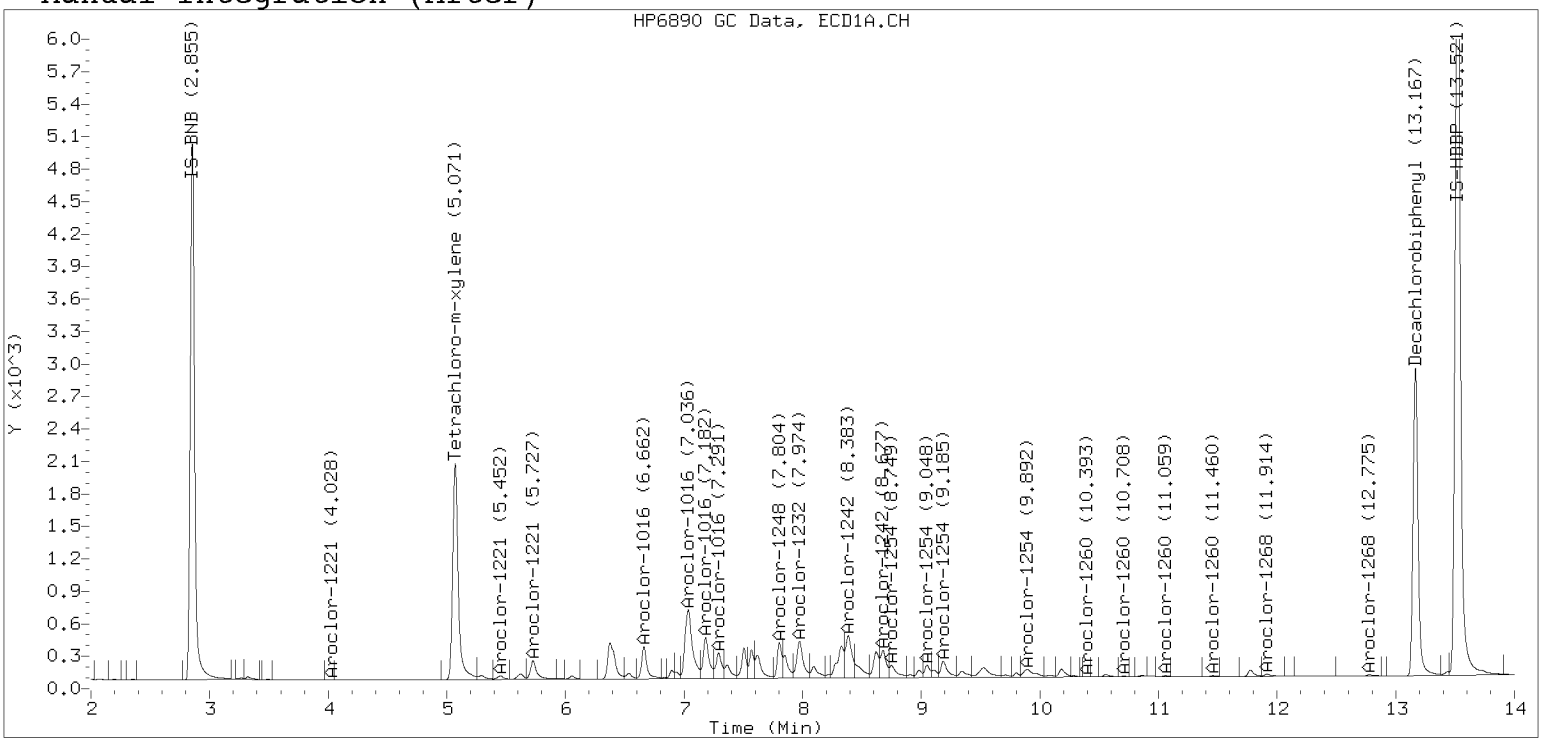


ZB-35 Manual Integration: YES

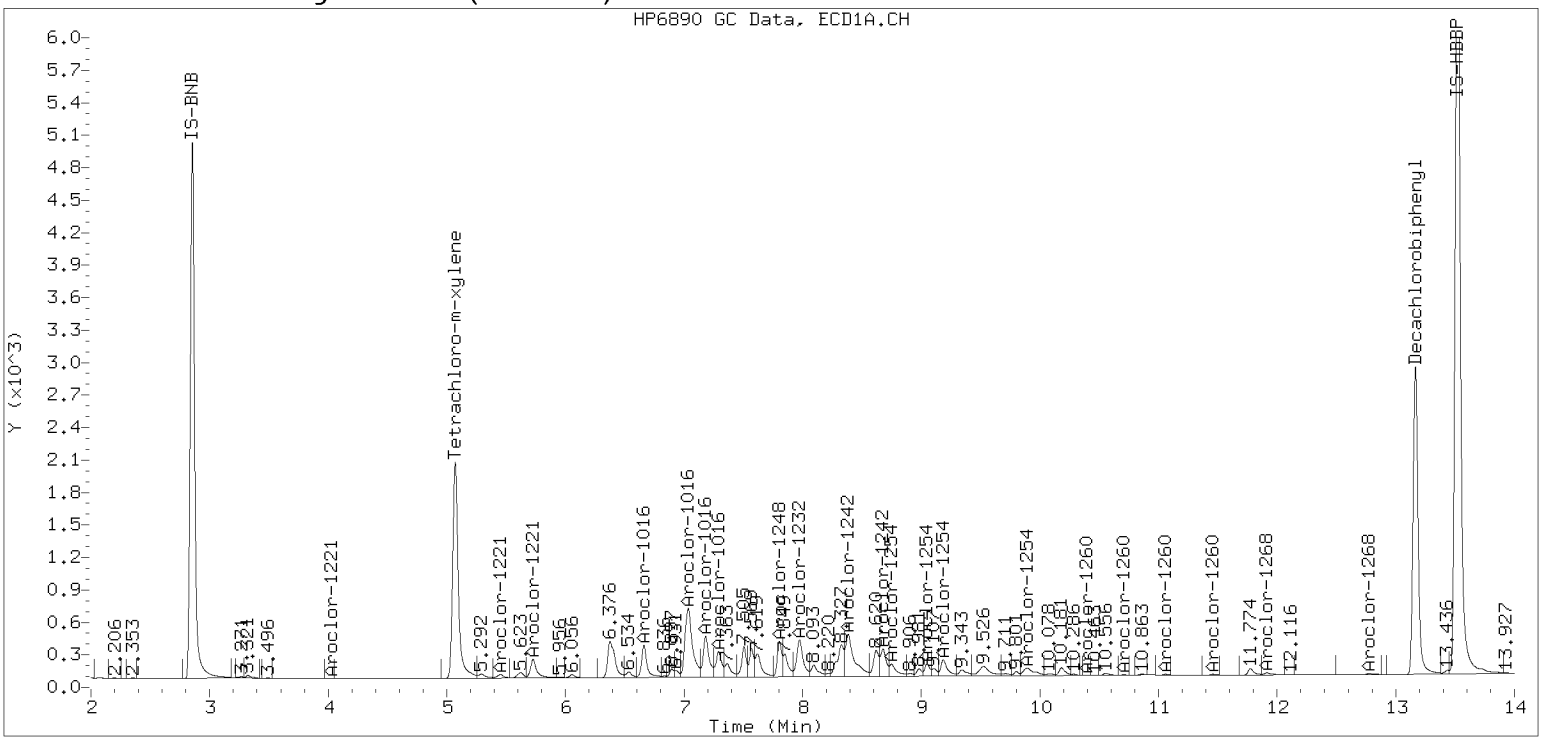
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132142ECD7.D Injection Date: 14-AUG-2021 08:41

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV3
Sequence Name: AR1248SCV3
Standard ID: J008141

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1248	250.00	262	4.6	20.00
Aroclor 1248 [2C]	250.00	275	10.0	20.00
Decachlorobiphenyl	40.000	39.5	-1.3	20.00
Tetrachlorometaxylene	40.000	41.7	4.2	20.00
Decachlorobiphenyl [2C]	40.000	38.4	-3.9	20.00
Tetrachlorometaxylene [2C]	40.000	40.4	1.0	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132143ECD7.D
Data file 2: /210813.b/210813.b/08132143ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV3
Client ID:
Injection Date: 14-AUG-2021 09:02
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.071	0.002	133217	5.416	-0.001	384693	41.7	40.4	3.0	Tetrachloro-m-xylene
13.165	-0.001	166922	13.848	-0.032	892438	39.5	38.4	2.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264526	2.2
Hexabromobiphenyl	425681	465895	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740726	2.7
Hexabromobiphenyl	863111	1045189	21.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	9682	103.2	1	7.058	0.001	46276	109.6
Aroclor-1016	2	7.035	0.006	37972	132.4	2	7.654	0.006	128803	136.3
Aroclor-1016	3	7.185	0.009	16001	124.3	3	7.862	0.007	26557	71.6
Aroclor-1016	4	7.292	0.007	10150	125.7	4	8.107	0.002	83644	372.8
Total Col1Ave (4 peaks): 121.4						Total Col2Ave (4 peaks): 172.6				RPD = 35
Corrected Ave (3 peaks): 117.7						Corrected Ave (3 peaks): 105.8				RPD = 11
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.455	0.004	449	13.7	2	6.091	0.019	6638	52.2
Aroclor-1221	3	5.728	0.004	2260	25.5	3	6.414	0.005	8501	38.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.728	0.002	2260	32.4	2	7.058	-0.000	46276	239.2
Aroclor-1232	3	7.035	0.002	37972	356.8	3	7.654	0.003	128803	332.7
Aroclor-1232	4	7.972	-0.000	39250	896.5	4	8.523	0.001	102298	1014.3
Total Col1Ave (3 peaks): 428.6						Total Col2Ave (3 peaks): 528.7				RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.663	0.004	9682	132.8	1	7.058	0.000	46276	135.9
Aroclor-1242	2	7.035	0.005	37972	174.8	2	7.654	0.005	128803	174.1
Aroclor-1242	3	8.381	0.007	54555	443.2	3	8.956	0.007	151640	438.8
Aroclor-1242	4	8.678	0.004	31259	621.5	4	9.034	0.006	104178	265.6
Total Col1Ave (4 peaks): 343.1						Total Col2Ave (4 peaks): 253.6				RPD = 30
Corrected Ave (3 peaks): 250.3						Corrected Ave (3 peaks): 191.9				RPD = 26
Aroclor-1248	1	7.802	0.004	28742	259.3	1	8.107	0.002	83644	272.5
Aroclor-1248	2	7.972	0.004	39250	271.2	2	8.523	0.003	102298	273.8
Aroclor-1248	3	8.381	0.007	54555	257.5	3	8.956	0.009	151640	254.8
Aroclor-1248	4	8.678	0.004	31259	258.4	4	9.383	0.006	151004	298.8
Total Col1Ave (4 peaks): 261.6						Total Col2Ave (4 peaks): 275.0				RPD = 5
Corrected Ave (3 peaks): 258.4						Corrected Ave (3 peaks): 267.0				RPD = 3
Aroclor-1254	1	8.678	0.002	31259	137.0	1	9.242	0.003	54333	86.2
Aroclor-1254	2	8.749	0.003	18396	174.1	2	9.383	0.052	151004	408.3
Aroclor-1254	3	9.047	0.006	14863	99.9	3	9.767	0.004	47940	99.8
Aroclor-1254	4	9.184	0.008	25850	91.0	4	9.918	0.004	90159	84.7
Aroclor-1254	5	9.891	0.024	17966	100.7	5	10.157	0.010	92605	85.8
Total Col1Ave (5 peaks): 120.5						Total Col2Ave (5 peaks): 152.9				RPD = 24
Corrected Ave (4 peaks): 107.1						Corrected Ave (4 peaks): 89.1				RPD = 18
Aroclor-1260	1	10.390	0.007	578	2.8	1	11.440	0.015	6820	7.8
Aroclor-1260	2	10.706	0.006	437	2.1	2	11.683	0.002	7655	3.0
Aroclor-1260	3	11.059	0.008	1267	2.3	3	12.263	0.002	5159	3.2
Aroclor-1260	4	11.460	0.007	540	2.2	4	12.973	0.001	2451	3.2
Aroclor-1260	5	11.559	0.005	490	4.0	NS	---			----
Total Col1Ave (5 peaks): 2.7						Total Col2Ave (4 peaks): 4.3				RPD = 47*
Corrected Ave (4 peaks): 2.3						Corrected Ave (3 peaks): 3.1				RPD = 29
Aroclor-1262	1	10.390	0.006	578	2.0	1	10.972	0.001	4108	3.2
Aroclor-1262	2	11.460	0.005	540	2.9	2	11.683	-0.002	7655	2.8
Aroclor-1262	3	11.632	0.005	592	2.2	3	12.188	-0.000	3699	3.1
Aroclor-1262	4	12.278	0.004	571	2.6	4	12.973	0.001	2451	2.2
Total Col1Ave (4 peaks): 2.5						Total Col2Ave (4 peaks): 2.8				RPD = 14
Corrected Ave (3 peaks): 2.3						Corrected Ave (3 peaks): 2.7				RPD = 17
Aroclor-1268	1	11.559	0.002	490	0.8	1	12.188	-0.012	3699	1.2
Aroclor-1268	2	11.632	0.006	592	0.9	2	12.263	-0.004	5159	1.6
Aroclor-1268	3	11.915	-0.086	879	1.7	3	12.643	-0.001	909	0.3
Aroclor-1268	4	12.775	0.003	932	0.6	4	12.788	0.005	972	1.4
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 1.1				RPD = 13
Corrected Ave (3 peaks): 0.7						Corrected Ave (3 peaks): 1.0				RPD = 27

Total PCB Area Col1 (5.169 - 13.066) = 608290 Col1 Total PCB = 0.2 ppm*

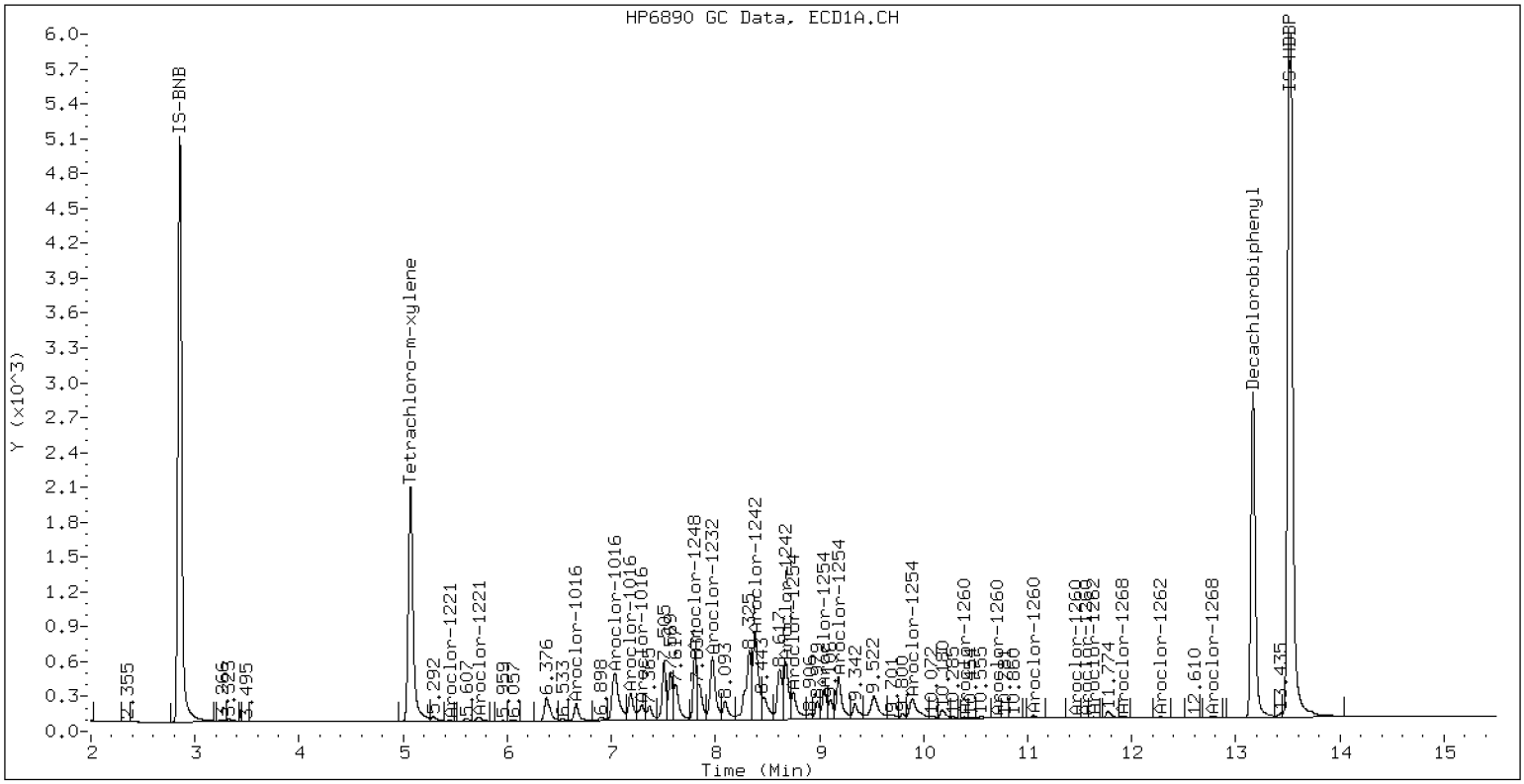
Total PCB Area Col2 (5.169 - 13.066) = 2317749 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

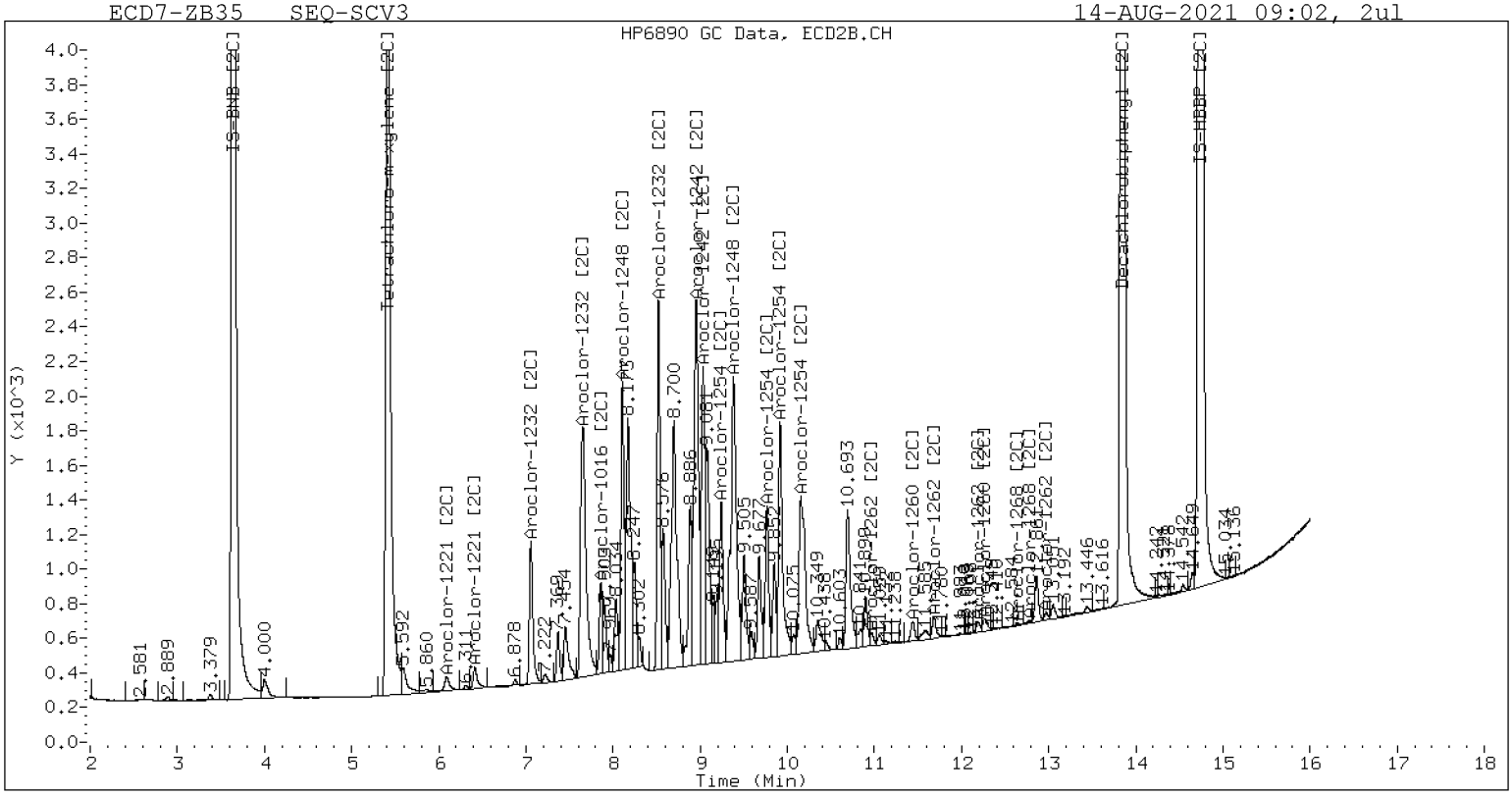
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV3 14-AUG-2021 09:02, 2ul

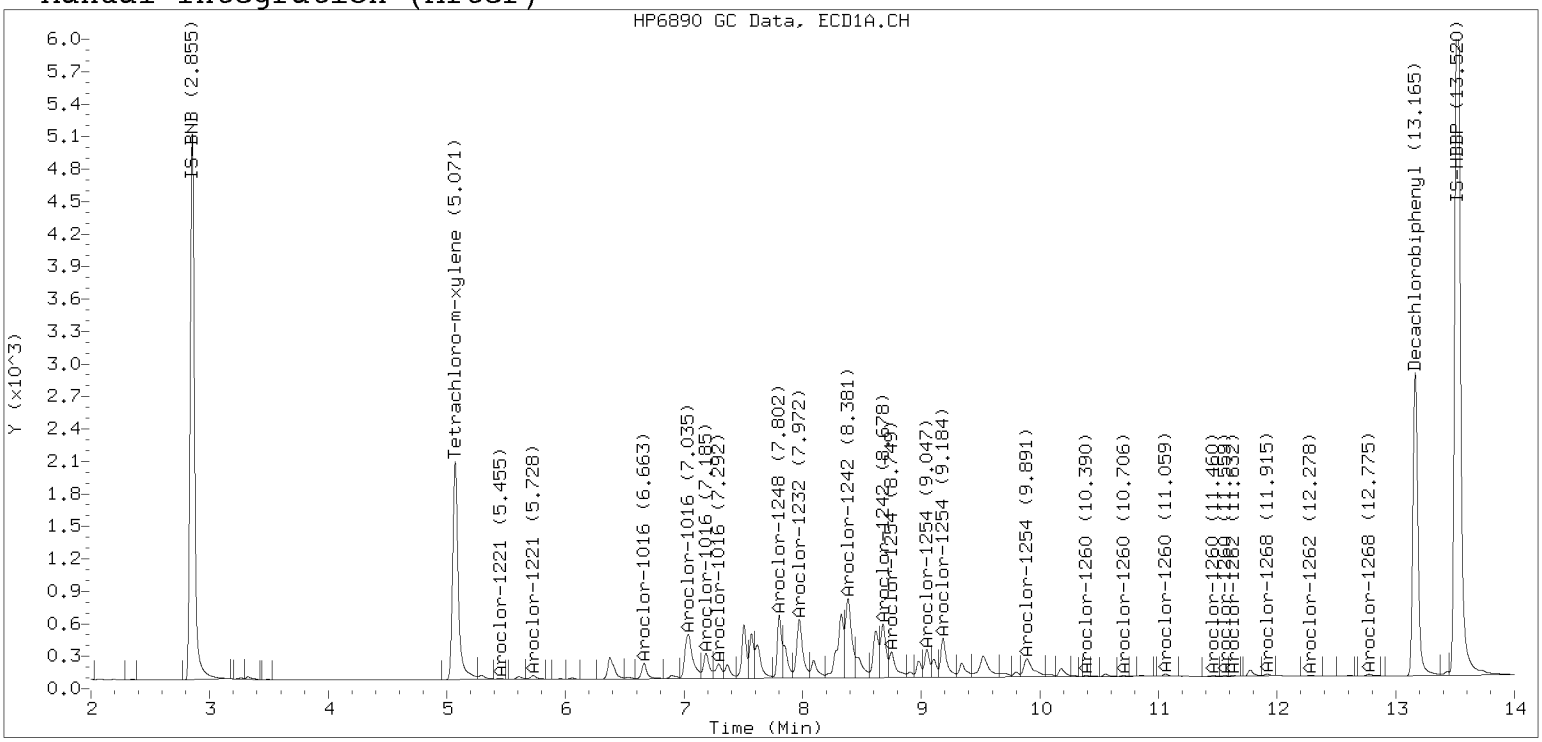


ZB-35 Manual Integration: NO

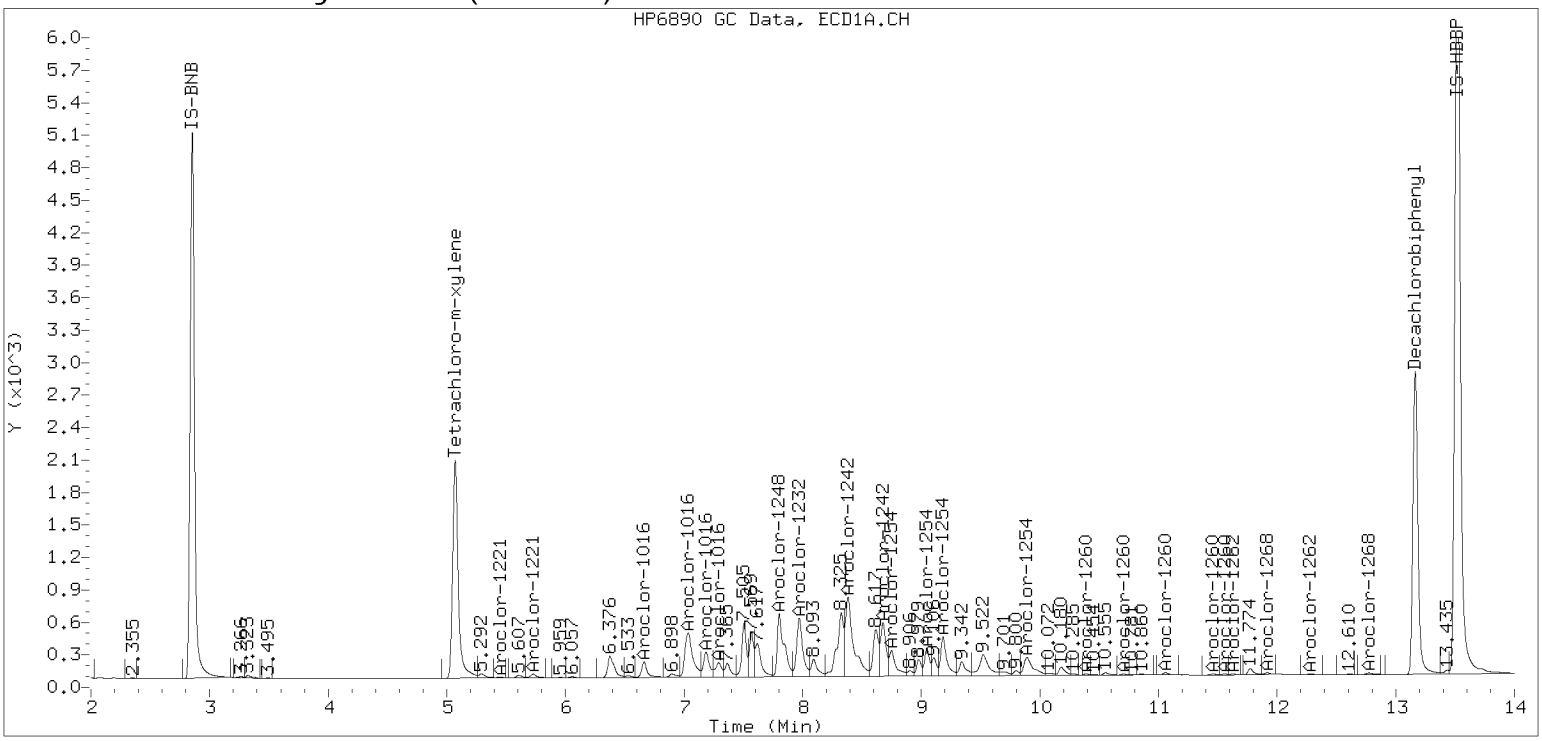
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132143ECD7.D Injection Date: 14-AUG-2021 09:02

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV4
Sequence Name: AR1254SCV4
Standard ID: J008142

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1254	250.00	282	12.7	20.00
Aroclor 1254 [2C]	250.00	264	5.8	20.00
Decachlorobiphenyl	40.000	40.1	0.2	20.00
Tetrachlorometaxylene	40.000	42.6	6.5	20.00
Decachlorobiphenyl [2C]	40.000	38.6	-3.4	20.00
Tetrachlorometaxylene [2C]	40.000	41.4	3.6	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132144ECD7.D
Data file 2: /210813.b/210813.b/08132144ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV4
Client ID:
Injection Date: 14-AUG-2021 09:22
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	134141	5.416	-0.001	389116	42.6	41.4	2.8	Tetrachloro-m-xylene
13.166	0.000	166634	13.848	-0.032	887620	40.1	38.6	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260417	0.6
Hexabromobiphenyl	425681	458139	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	730797	1.4
Hexabromobiphenyl	863111	1034233	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	131	1.4	1	7.062	0.005	1136	2.7
Aroclor-1016	2	7.039	0.009	605	2.1	2	7.659	0.011	3270	3.5
Aroclor-1016	3	7.189	0.014	416	3.3	3	7.909	0.054	1836	5.0
Aroclor-1016	4	---			0.0	4	8.109	0.004	59728	269.8
Total Col1Ave (3 peaks): 2.3						Total Col2Ave (4 peaks): 70.3 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 3.8				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.094	0.021	4462	35.5
Aroclor-1221	3	---			0.0	3	6.411	0.002	1085	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.062	0.004	1136	6.0
Aroclor-1232	3	7.039	0.005	605	5.8	3	7.659	0.008	3270	8.6
Aroclor-1232	4	7.975	0.003	5517	128.0	4	8.524	0.002	40317	405.2
Col1Ave: <3 Quant Peaks						Col2Ave: 139.9				
Aroclor-1242	1	6.663	0.004	131	1.8	1	7.062	0.005	1136	3.4
Aroclor-1242	2	7.039	0.008	605	2.8	2	7.659	0.010	3270	4.5
Aroclor-1242	3	8.385	0.011	48414	399.6	3	8.960	0.012	63036	184.9
Aroclor-1242	4	8.679	0.005	62054	1253.2	4	9.035	0.007	12438	32.1
Total Col1Ave (4 peaks): 414.4						Total Col2Ave (4 peaks): 56.2 RPD = 152*				
Corrected Ave (3 peaks): 134.7						Corrected Ave (3 peaks): 13.3 RPD = 164*				
Aroclor-1248	1	7.804	0.005	12376	113.4	1	8.109	0.003	59728	197.2
Aroclor-1248	2	7.975	0.007	5517	38.7	2	8.524	0.004	40317	109.4
Aroclor-1248	3	8.385	0.011	48414	232.1	3	8.960	0.014	63036	107.4
Aroclor-1248	4	8.679	0.005	62054	521.1	4	9.335	-0.041	91889	184.3
Total Col1Ave (4 peaks): 226.3						Total Col2Ave (4 peaks): 149.6 RPD = 41*				
Corrected Ave (3 peaks): 128.1						Corrected Ave (3 peaks): 133.7 RPD = 4				
Aroclor-1254	1	8.679	0.003	62054	276.2	1	9.242	0.003	166697	268.1
Aroclor-1254	2	8.751	0.005	29615	284.7	2	9.335	0.004	91889	251.8
Aroclor-1254	3	9.046	0.005	40463	276.3	3	9.766	0.003	128036	270.1
Aroclor-1254	4	9.181	0.005	78989	282.3	4	9.918	0.004	270040	257.1
Aroclor-1254	5	9.873	0.006	50845	289.4	5	10.155	0.008	293166	275.2
Total Col1Ave (5 peaks): 281.8						Total Col2Ave (5 peaks): 264.5 RPD = 6				
Corrected Ave (4 peaks): 279.9						Corrected Ave (4 peaks): 261.8 RPD = 7				
Aroclor-1260	1	10.386	0.003	4281	20.8	1	11.441	0.015	77320	89.9
Aroclor-1260	2	10.706	0.006	4756	23.5	2	11.684	0.003	61993	24.8
Aroclor-1260	3	11.057	0.007	11820	21.6	3	12.266	0.005	35733	22.2
Aroclor-1260	4	11.458	0.005	9286	38.1	4	12.973	0.001	1994	2.6
Aroclor-1260	5	11.627	0.073	440	3.6	NS	---			----
Total Col1Ave (5 peaks): 21.5						Total Col2Ave (4 peaks): 34.9 RPD = 47*				
Corrected Ave (4 peaks): 17.4						Corrected Ave (3 peaks): 16.5 RPD = 5				
Aroclor-1262	1	10.386	0.002	4281	15.3	1	10.897	-0.073	251611	198.9
Aroclor-1262	2	11.458	0.003	9286	51.3	2	11.684	-0.001	61993	23.2
Aroclor-1262	3	11.627	0.000	440	1.7	3	12.205	0.017	9780	8.3
Aroclor-1262	4	12.279	0.005	629	2.9	4	12.973	0.000	1994	1.8
Total Col1Ave (4 peaks): 17.8						Total Col2Ave (4 peaks): 58.1 RPD = 106*				
Corrected Ave (3 peaks): 6.6						Corrected Ave (3 peaks): 11.1 RPD = 50*				
Aroclor-1268	1	11.627	0.070	440	0.7	1	12.205	0.005	9780	3.3
Aroclor-1268	2	---			0.0	2	12.266	-0.001	35733	11.0
Aroclor-1268	3	11.912	-0.088	968	1.9	3	12.633	-0.011	400	0.1
Aroclor-1268	4	12.774	0.002	1001	0.6	4	12.861	0.078	15819	22.8
Total Col1Ave (3 peaks): 1.1						Total Col2Ave (4 peaks): 9.3 RPD = 158*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 4.8				

Total PCB Area Col1 (5.169 - 13.066) = 819275 Col1 Total PCB = 0.3 ppm*

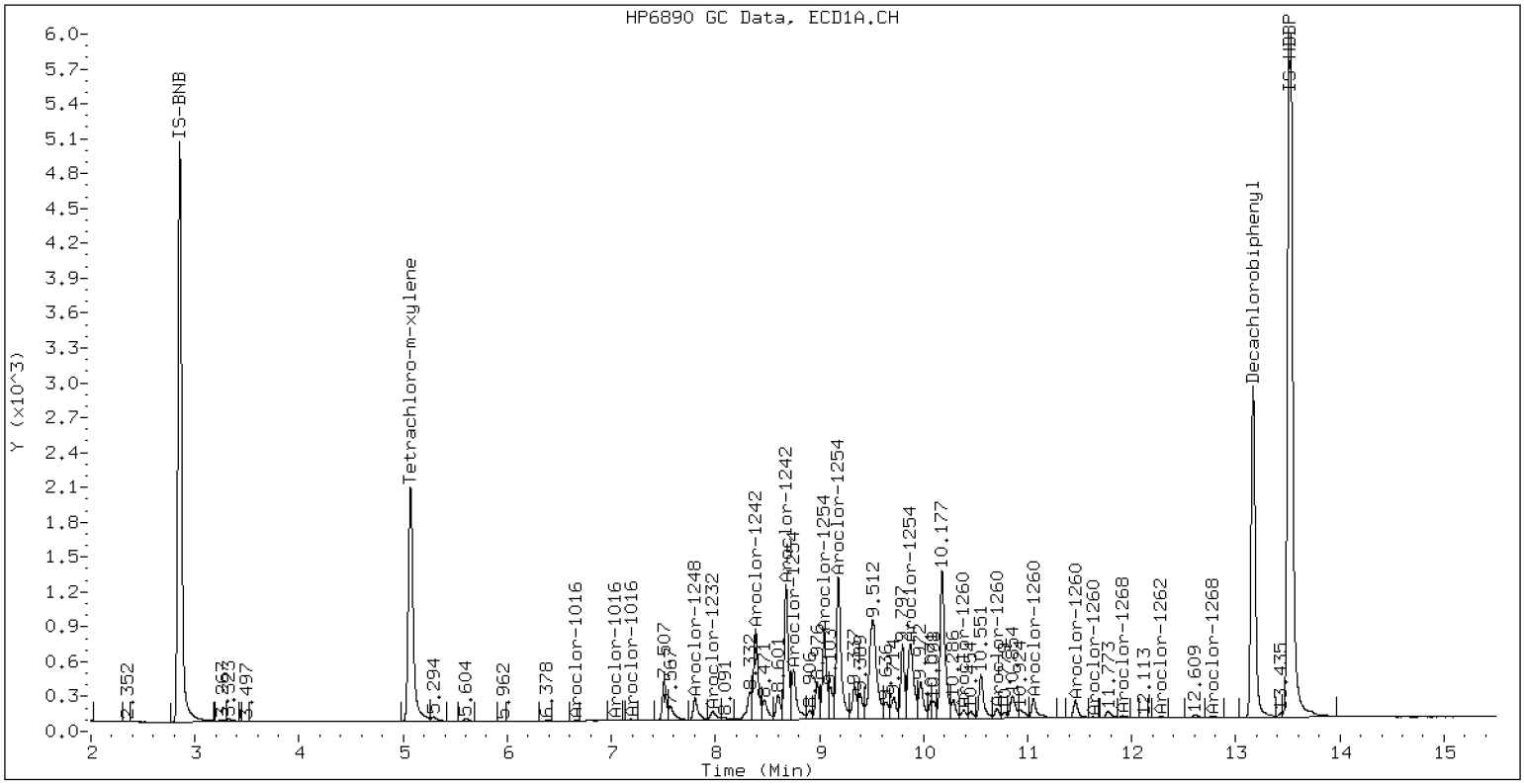
Total PCB Area Col2 (5.169 - 13.066) = 3111878 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

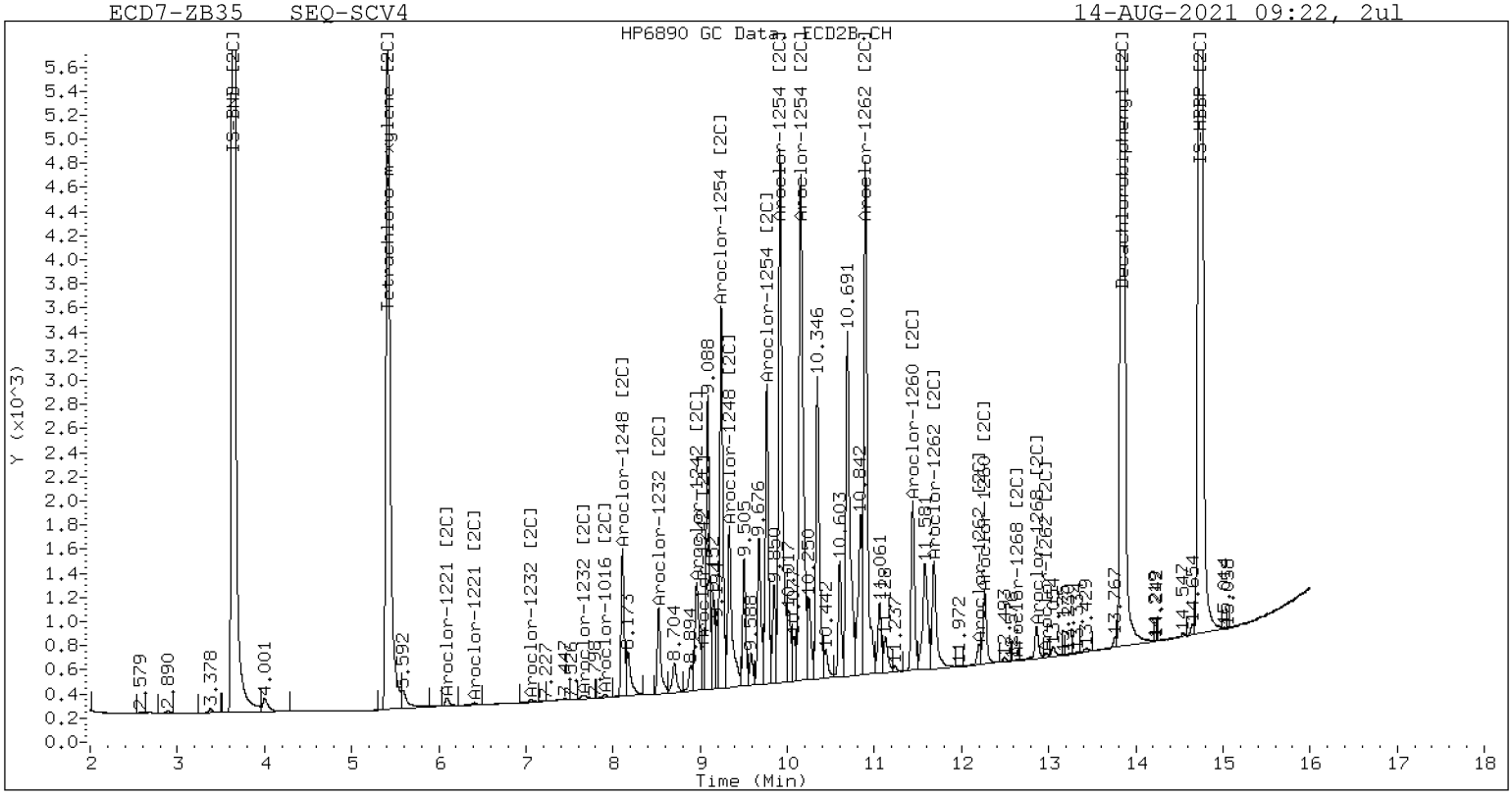
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV5
Sequence Name: AR2162SCV5
Standard ID: J008143

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1221	250.00	293	17.0	20.00
Aroclor 1221 [2C]	250.00	266	6.4	20.00
Decachlorobiphenyl	40.000	38.8	-2.9	20.00
Tetrachlorometaxylene	40.000	40.6	1.5	20.00
Decachlorobiphenyl [2C]	40.000	37.6	-5.9	20.00
Tetrachlorometaxylene [2C]	40.000	39.1	-2.1	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132145ECD7.D
Data file 2: /210813.b/210813.b/08132145ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV5
Client ID:
Injection Date: 14-AUG-2021 09:43
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	131998	5.417	-0.000	375118	40.6	39.1	3.6	Tetrachloro-m-xylene
13.166	-0.000	164634	13.848	-0.032	881936	38.8	37.6	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269058	3.9
Hexabromobiphenyl	425681	467004	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	745766	3.4
Hexabromobiphenyl	863111	1054321	22.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	1551	16.3	1	7.061	0.004	17081	40.2
Aroclor-1016	2	7.039	0.009	4280	14.7	2	7.658	0.011	15832	16.6
Aroclor-1016	3	7.184	0.008	2282	17.4	3	7.865	0.010	6703	18.0
Aroclor-1016	4	7.294	0.009	1564	19.1	4	8.109	0.004	3939	17.4
Total Col1Ave (4 peaks):				16.8		Total Col2Ave (4 peaks):			23.1	RPD = 31
Corrected Ave (3 peaks):				16.1		Corrected Ave (3 peaks):			17.3	RPD = 7
Aroclor-1221	1	4.018	0.002	6262	294.7	1	4.680	0.004	15071	269.2
Aroclor-1221	2	5.454	0.003	9982	299.7	2	6.075	0.003	33472	261.2
Aroclor-1221	3	5.728	0.004	25492	283.3	3	6.413	0.004	59675	267.2
Total Col1Ave (3 peaks):				292.6		Total Col2Ave (3 peaks):			265.9	RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	-0.000	6262	479.9	1	4.680	0.001	15071	452.2
Aroclor-1232	2	5.728	0.002	25492	359.4	2	7.061	0.003	17081	87.7
Aroclor-1232	3	7.039	0.005	4280	39.5	3	7.658	0.007	15832	40.6
Aroclor-1232	4	7.978	0.006	798	17.9	4	8.525	0.003	2523	24.8
Total Col1Ave (4 peaks):				224.2		Total Col2Ave (4 peaks):			151.3	RPD = 39
Corrected Ave (3 peaks):				139.0		Corrected Ave (3 peaks):			51.1	RPD = 93*
Aroclor-1242	1	6.663	0.004	1551	20.9	1	7.061	0.004	17081	49.8
Aroclor-1242	2	7.039	0.009	4280	19.4	2	7.658	0.010	15832	21.3
Aroclor-1242	3	8.388	0.013	9148	73.1	3	8.966	0.018	6505	18.7
Aroclor-1242	4	8.680	0.006	9619	188.0	4	9.089	0.061	25267	64.0
Total Col1Ave (4 peaks):				75.3		Total Col2Ave (4 peaks):			38.4	RPD = 65*
Corrected Ave (3 peaks):				37.8		Corrected Ave (3 peaks):			29.9	RPD = 23
Aroclor-1248	1	7.805	0.007	1067	9.5	1	8.109	0.003	3939	12.7
Aroclor-1248	2	7.978	0.010	798	5.4	2	8.525	0.005	2523	6.7
Aroclor-1248	3	8.388	0.013	9148	42.4	3	8.966	0.020	6505	10.9
Aroclor-1248	4	8.680	0.007	9619	78.2	4	9.396	0.019	4022	7.9
Total Col1Ave (4 peaks):				33.9		Total Col2Ave (4 peaks):			9.6	RPD = 112*
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			8.5	RPD = 77*
Aroclor-1254	1	8.680	0.005	9619	41.4	1	9.245	0.005	26890	42.4
Aroclor-1254	2	---			0.0	2	9.336	0.005	2650	7.1
Aroclor-1254	3	9.050	0.008	1343	8.9	3	9.769	0.007	4242	8.8
Aroclor-1254	4	9.145	-0.031	9990	34.6	4	9.932	0.019	121430	113.3
Aroclor-1254	5	9.858	-0.010	13751	75.8	5	10.160	0.013	143957	132.4
Total Col1Ave (4 peaks):				40.2		Total Col2Ave (5 peaks):			60.8	RPD = 41*
Corrected Ave (3 peaks):				28.3		Corrected Ave (4 peaks):			42.9	RPD = 41*
Aroclor-1260	1	10.387	0.004	74432	354.3	1	11.427	0.001	248521	283.6
Aroclor-1260	2	10.705	0.005	63581	308.3	2	11.682	0.001	656259	257.6
Aroclor-1260	3	11.056	0.005	158724	284.8	3	12.261	0.000	468343	285.9
Aroclor-1260	4	11.457	0.004	49425	199.0	4	12.974	0.001	287502	367.1
Aroclor-1260	5	11.557	0.003	61640	495.8	NS	---			----
Total Col1Ave (5 peaks):				328.4		Total Col2Ave (4 peaks):			298.6	RPD = 10
Corrected Ave (4 peaks):				286.6		Corrected Ave (3 peaks):			275.7	RPD = 4
Aroclor-1262	1	10.387	0.003	74432	261.2	1	10.970	-0.000	313779	243.4
Aroclor-1262	2	11.457	0.002	49425	267.8	2	11.682	-0.003	656259	241.2
Aroclor-1262	3	11.628	0.001	70335	264.4	3	12.188	0.000	303167	251.1
Aroclor-1262	4	12.278	0.003	58296	266.9	4	12.974	0.001	287502	255.5
Total Col1Ave (4 peaks):				265.1		Total Col2Ave (4 peaks):			247.8	RPD = 7
Corrected Ave (3 peaks):				264.2		Corrected Ave (3 peaks):			245.2	RPD = 7
Aroclor-1268	1	11.557	0.000	61640	98.4	1	12.188	-0.012	303167	100.1
Aroclor-1268	2	11.628	0.002	70335	107.0	2	12.261	-0.006	468343	141.7
Aroclor-1268	3	12.031	0.030	24251	46.9	3	12.635	-0.009	18559	6.5
Aroclor-1268	4	12.770	-0.001	19100	11.5	4	12.783	0.000	11203	15.9
Total Col1Ave (4 peaks):				65.9		Total Col2Ave (4 peaks):			66.0	RPD = 0

Corrected Ave (3 peaks): 52.2 Corrected Ave (3 peaks): 40.8 RPD = 25

Total PCB Area Col1 (5.169 - 13.066) = 1098701 Col1 Total PCB = 0.4 ppm*

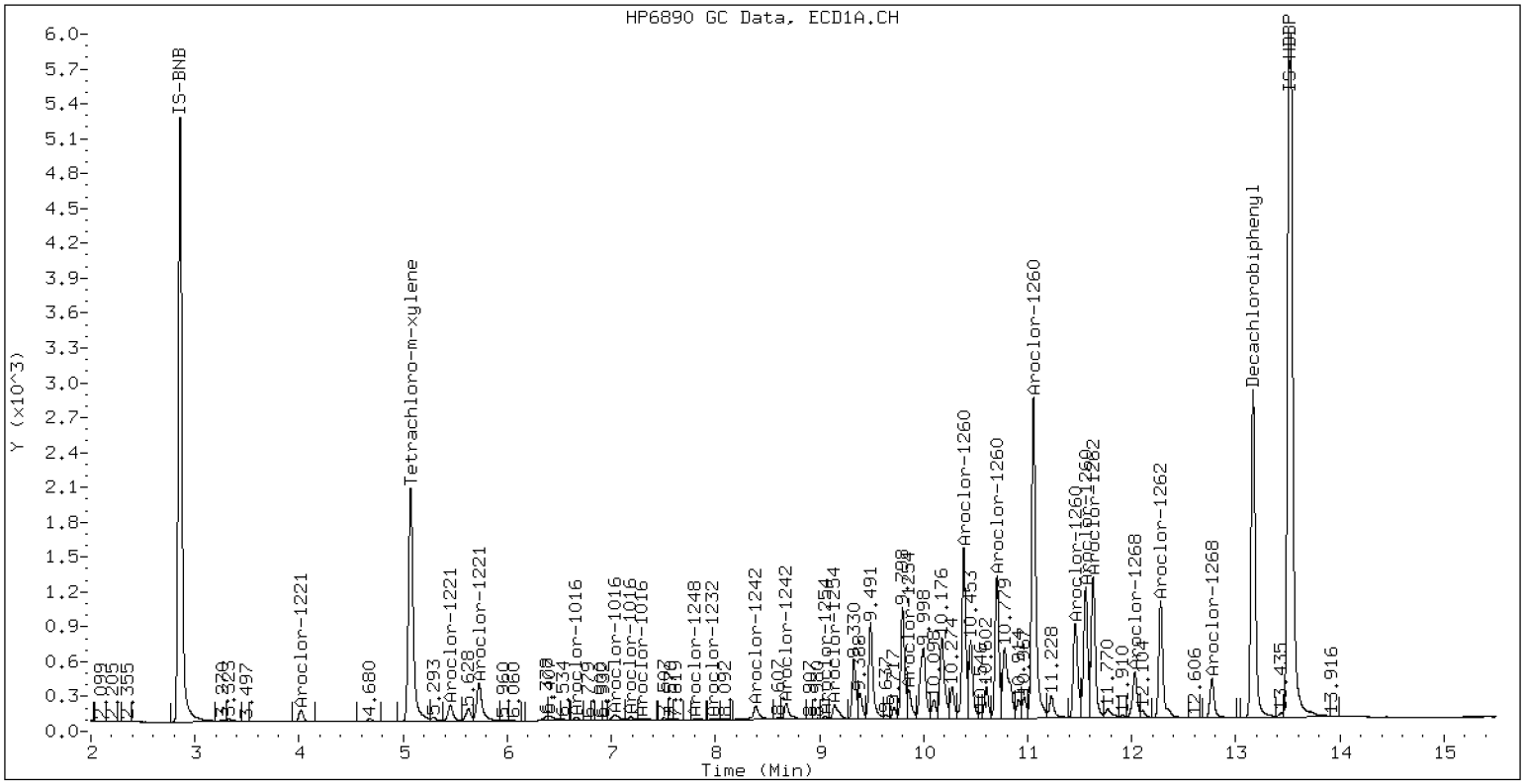
Total PCB Area Col2 (5.169 - 13.066) = 4504756 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

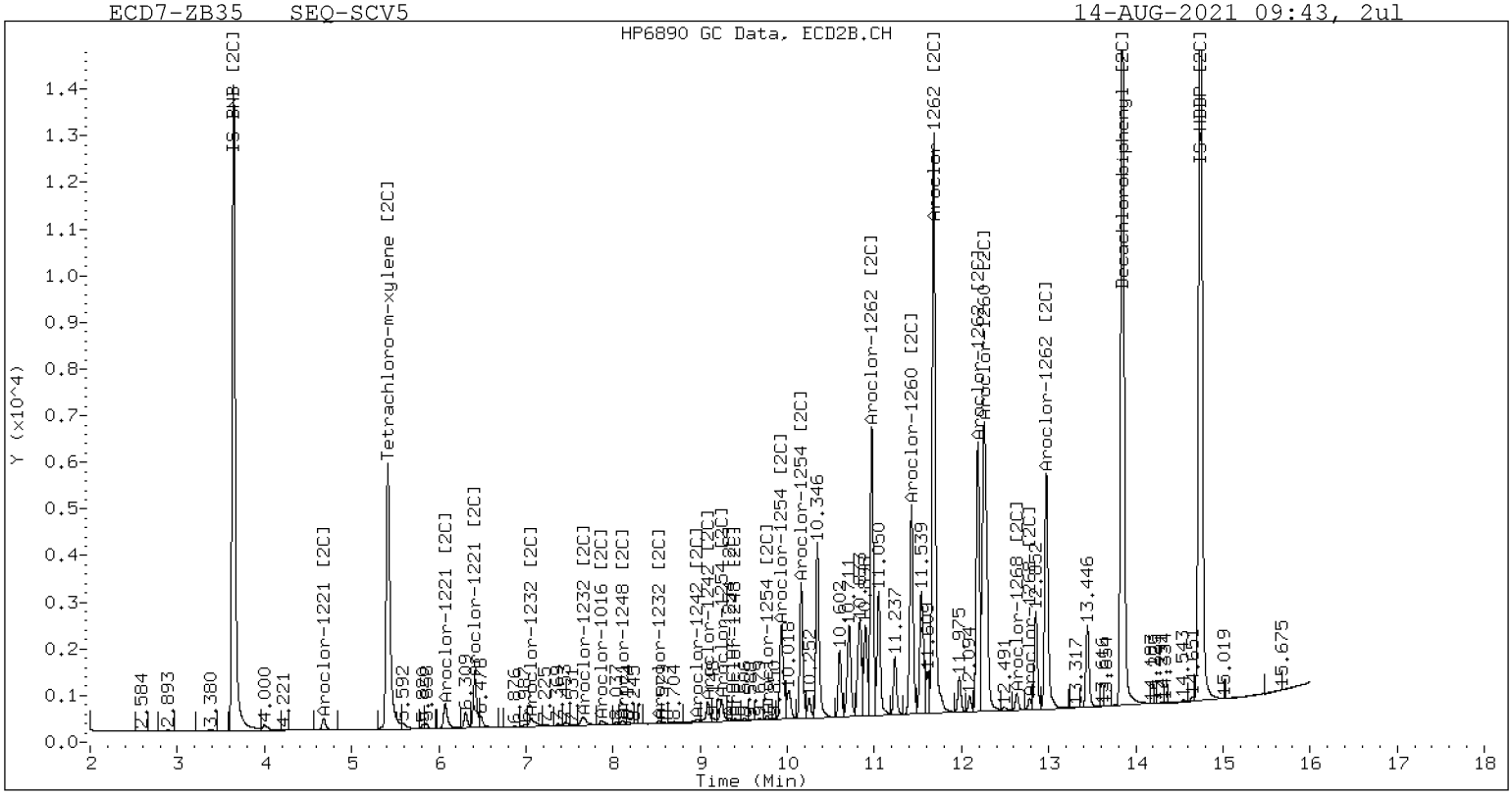
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8082A

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00034
Sequence: SJH0177

SDG: 21G0305
Project: Lower Duwamish AOC4
Laboratory ID: SJH0177-SCV6
Sequence Name: AR3268SCV6
Standard ID: J008144

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Aroclor 1232	250.00	284	13.8	20.00
Aroclor 1232 [2C]	250.00	286	14.5	20.00
Decachlorobiphenyl	40.000	59.6	49.1	20.00
Tetrachlorometaxylene	40.000	41.2	3.1	20.00
Decachlorobiphenyl [2C]	40.000	59.3	48.2	20.00
Tetrachlorometaxylene [2C]	40.000	39.7	-0.8	20.00

* Indicates values outside of QC limits
[2C] indicates second-column analyte.

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132146ECD7.D
Data file 2: /210813.b/210813.b/08132146ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV6
Client ID:
Injection Date: 14-AUG-2021 10:03
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	131287	5.416	-0.000	375338	41.2	39.7	3.8	Tetrachloro-m-xylene
13.165	-0.001	248059	13.848	-0.032	1383308	59.6	59.3	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263445	1.8
Hexabromobiphenyl	425681	458283	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736133	2.1
Hexabromobiphenyl	863111	1049914	21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	11471	122.8	1	7.059	0.002	54454	129.7
Aroclor-1016	2	7.037	0.008	32172	112.6	2	7.656	0.009	111127	118.4
Aroclor-1016	3	7.183	0.007	15436	120.4	3	7.862	0.007	47184	128.0
Aroclor-1016	4	7.292	0.007	9103	113.2	4	8.108	0.003	26255	117.7
Total Col1Ave (4 peaks):				117.2		Total Col2Ave (4 peaks):			123.5	RPD = 5
Corrected Ave (3 peaks):				115.4		Corrected Ave (3 peaks):			121.4	RPD = 5
Aroclor-1221	1	4.017	0.002	3341	160.6	1	4.679	0.002	8452	153.0
Aroclor-1221	2	5.453	0.002	5429	166.5	2	6.077	0.004	21053	166.4
Aroclor-1221	3	5.727	0.003	17948	203.7	3	6.414	0.005	55556	252.0
Total Col1Ave (3 peaks):				176.9		Total Col2Ave (3 peaks):			190.5	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	3341	261.5	1	4.679	-0.000	8452	256.9
Aroclor-1232	2	5.727	0.001	17948	258.4	2	7.059	0.001	54454	283.3
Aroclor-1232	3	7.037	0.003	32172	303.5	3	7.656	0.005	111127	288.8
Aroclor-1232	4	7.974	0.002	13693	314.0	4	8.524	0.002	31722	316.5
Total Col1Ave (4 peaks):				284.4		Total Col2Ave (4 peaks):			286.4	RPD = 1
Corrected Ave (3 peaks):				274.5		Corrected Ave (3 peaks):			276.3	RPD = 1
Aroclor-1242	1	6.663	0.004	11471	158.0	1	7.059	0.002	54454	160.9
Aroclor-1242	2	7.037	0.007	32172	148.7	2	7.656	0.008	111127	151.2
Aroclor-1242	3	8.385	0.010	20544	167.6	3	8.959	0.010	61163	178.1
Aroclor-1242	4	8.676	0.002	6934	138.4	4	9.041	0.013	55525	142.5
Total Col1Ave (4 peaks):				153.2		Total Col2Ave (4 peaks):			158.1	RPD = 3
Corrected Ave (3 peaks):				148.4		Corrected Ave (3 peaks):			151.5	RPD = 2
Aroclor-1248	1	7.804	0.005	9056	82.0	1	8.108	0.002	26255	86.1
Aroclor-1248	2	7.974	0.006	13693	95.0	2	8.524	0.003	31722	85.4
Aroclor-1248	3	8.385	0.010	20544	97.4	3	8.959	0.012	61163	103.4
Aroclor-1248	4	8.676	0.002	6934	57.6	4	9.391	0.015	44441	88.5
Total Col1Ave (4 peaks):				83.0		Total Col2Ave (4 peaks):			90.8	RPD = 9
Corrected Ave (3 peaks):				78.2		Corrected Ave (3 peaks):			86.7	RPD = 10
Aroclor-1254	1	8.676	0.000	6934	30.5	1	9.243	0.003	10554	16.9
Aroclor-1254	2	8.748	0.002	3715	35.3	2	9.391	0.060	44441	120.9
Aroclor-1254	3	9.050	0.008	2122	14.3	3	9.769	0.007	7619	16.0
Aroclor-1254	4	9.187	0.011	3159	11.2	4	9.922	0.009	13052	12.3
Aroclor-1254	5	9.896	0.029	1953	11.0	5	10.167	0.020	14279	13.3
Total Col1Ave (5 peaks):				20.5		Total Col2Ave (5 peaks):			35.9	RPD = 55*
Corrected Ave (4 peaks):				16.7		Corrected Ave (4 peaks):			14.6	RPD = 14
Aroclor-1260	1	10.388	0.005	30028	145.6	1	11.405	-0.020	170014	194.8
Aroclor-1260	2	10.704	0.004	2256	11.1	2	11.680	-0.001	78239	30.8
Aroclor-1260	3	11.056	0.005	17997	32.9	3	12.254	-0.007	838267	513.9
Aroclor-1260	4	11.458	0.006	301	1.2	4	12.972	0.000	307546	394.4
Aroclor-1260	5	11.557	0.003	165147	1353.6	NS	---			----
Total Col1Ave (5 peaks):				308.9		Total Col2Ave (4 peaks):			283.5	RPD = 9
Corrected Ave (4 peaks):				47.7		Corrected Ave (3 peaks):			206.7	RPD = 125*
Aroclor-1262	1	10.388	0.004	30028	107.4	1	10.971	0.001	118268	92.1
Aroclor-1262	2	11.458	0.004	301	1.7	2	11.680	-0.005	78239	28.9
Aroclor-1262	3	11.626	-0.000	172148	659.4	3	12.187	-0.001	744741	619.3
Aroclor-1262	4	12.276	0.002	62869	293.3	4	12.972	-0.000	307546	274.4
Total Col1Ave (4 peaks):				265.4		Total Col2Ave (4 peaks):			253.7	RPD = 5
Corrected Ave (3 peaks):				134.1		Corrected Ave (3 peaks):			131.8	RPD = 2
Aroclor-1268	1	11.557	-0.000	165147	268.6	1	12.187	-0.013	744741	246.9
Aroclor-1268	2	11.626	0.001	172148	266.9	2	12.254	-0.013	838267	254.7
Aroclor-1268	3	12.000	-0.000	135416	266.9	3	12.635	-0.009	744001	261.5
Aroclor-1268	4	12.770	-0.002	428256	261.7	4	12.782	-0.001	187584	266.5
Total Col1Ave (4 peaks):				266.0		Total Col2Ave (4 peaks):			257.4	RPD = 3

Corrected Ave (3 peaks): 265.2 Corrected Ave (3 peaks): 254.3 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1378298 Col1 Total PCB = 0.5 ppm*

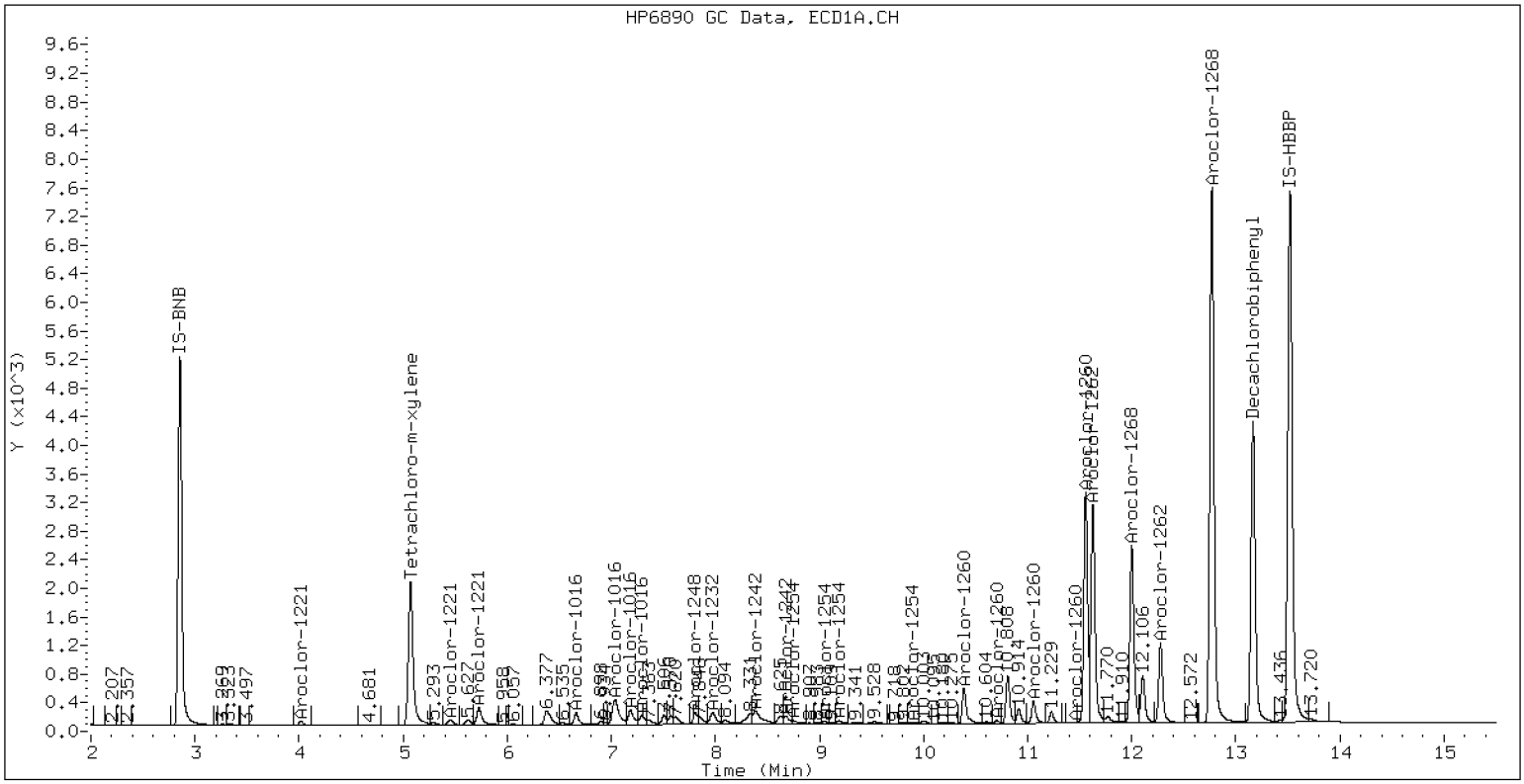
Total PCB Area Col2 (5.169 - 13.066) = 4537494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

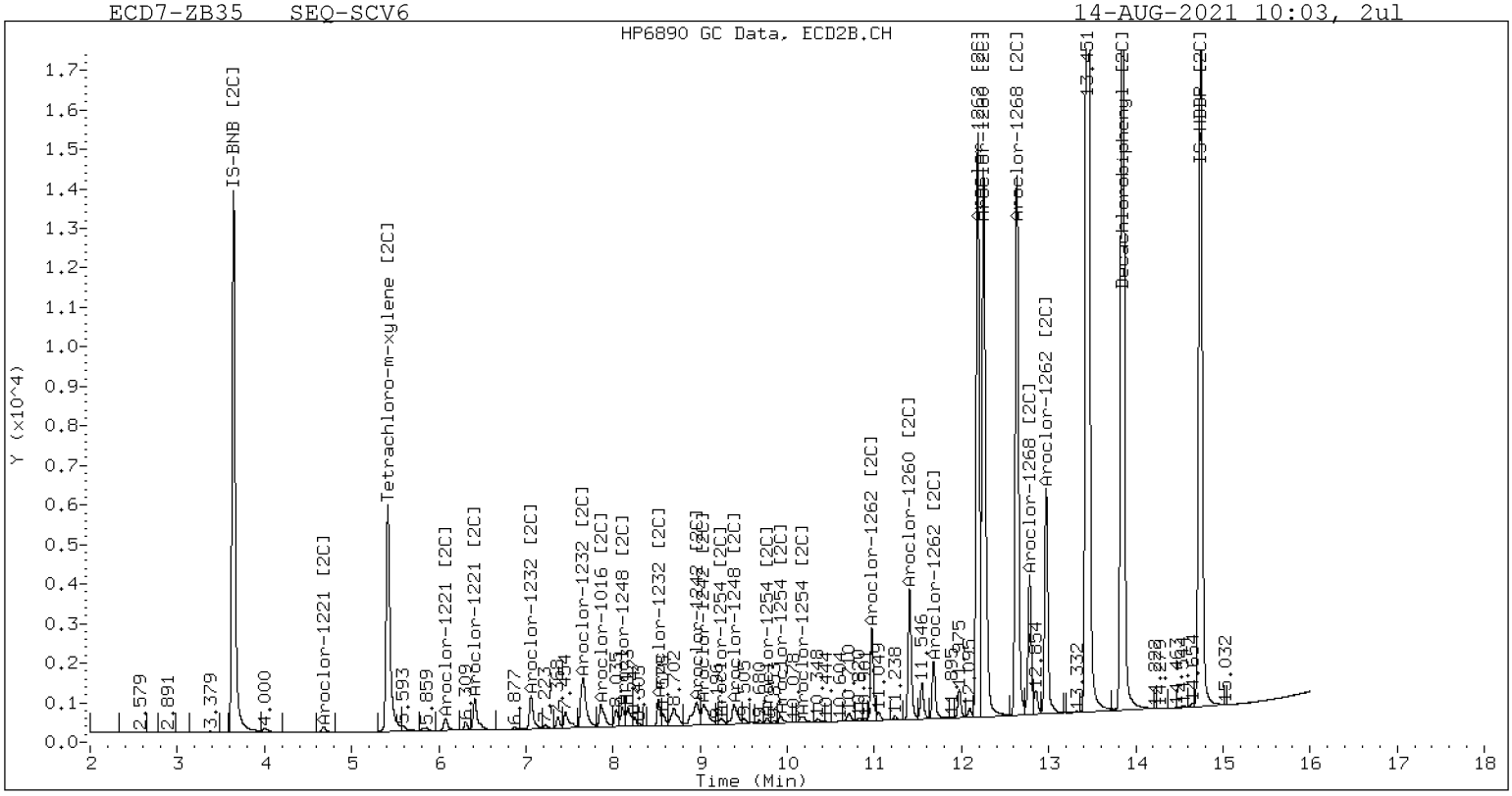
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142103ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/14/21
Lab Sample ID:	SJH0212-ICV1	Injection Time:	18:52
Sequence Name:	AR1254ICV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	253	0.0571741	0.0582074		1.4	
Aroclor-1254 (1)	A	250.00	254	0.0690183	0.0700024		1.6	
Aroclor-1254 (2)	A	250.00	250	0.0319506	0.0320164		0.0	
Aroclor-1254 (3)	A	250.00	242	0.0449859	0.0435500		-3.2	
Aroclor-1254 (4)	A	250.00	256	0.0859427	0.0881550		2.4	
Aroclor-1254 (5)	A	250.00	265	0.0539731	0.0573130		6.0	
Aroclor 1254 [2C]	A	250.00	239	0.0782980	0.0749664		-4.4	
Aroclor-1254 (1) [2C]	A	250.00	238	0.0680651	0.0647159		-4.8	
Aroclor-1254 (2) [2C]	A	250.00	233	0.0399453	0.0371660		-6.8	
Aroclor-1254 (3) [2C]	A	250.00	244	0.0518895	0.0505677		-2.4	
Aroclor-1254 (4) [2C]	A	250.00	232	0.1149829	0.1065227		-7.2	
Aroclor-1254 (5) [2C]	A	250.00	248	0.1166073	0.1158597		-0.8	
Decachlorobiphenyl	A	40.000	39.7	0.7261970	0.7212133		-0.8	
Tetrachlorometaxylene	A	40.000	41.1	0.9669678	0.9929471		2.8	
Decachlorobiphenyl [2C]	A	40.000	38.8	1.7775950	1.7245670		-3.0	
Tetrachlorometaxylene [2C]	A	40.000	40.0	1.0280520	1.0284380		0.0	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142103ECD7.D
Data file 2: /210814.b/210814.b/08142103ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 14-AUG-2021 18:52
Report Date: 08/17/2021 09:15
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.002	127692	5.413	0.001	361301	41.1	40.0	2.6	Tetrachloro-m-xylene
13.165	-0.000	160087	13.847	0.000	803787	39.7	38.8	2.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	257198	-0.6
Hexabromobiphenyl	425681	443938	4.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	702621	-2.5
Hexabromobiphenyl	863111	932161	8.0

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	8.677	0.001	56264	253.6	1	9.241	0.001	142096	237.7
Aroclor-1254	2	8.749	0.001	25733	250.5	2	9.334	0.001	81605	232.6
Aroclor-1254	3	9.045	0.000	35003	242.0	3	9.765	0.001	111031	243.6
Aroclor-1254	4	9.179	0.001	70854	256.4	4	9.916	0.002	233891	231.6
Aroclor-1254	5	9.871	0.001	46065	265.5	5	10.154	0.002	254392	248.4

Total Col1Ave (5 peaks): 253.6 Total Col2Ave (5 peaks): 238.8 RPD = 6

Corrected Ave (4 peaks): 250.6 Corrected Ave (4 peaks): 236.4 RPD = 6

CalAmt %D: 1.4 CalAmt %D: -4.5

Total PCB Area Col1 (5.167 - 13.066) = 717281 Col1 Total PCB = 0.3 ppm*

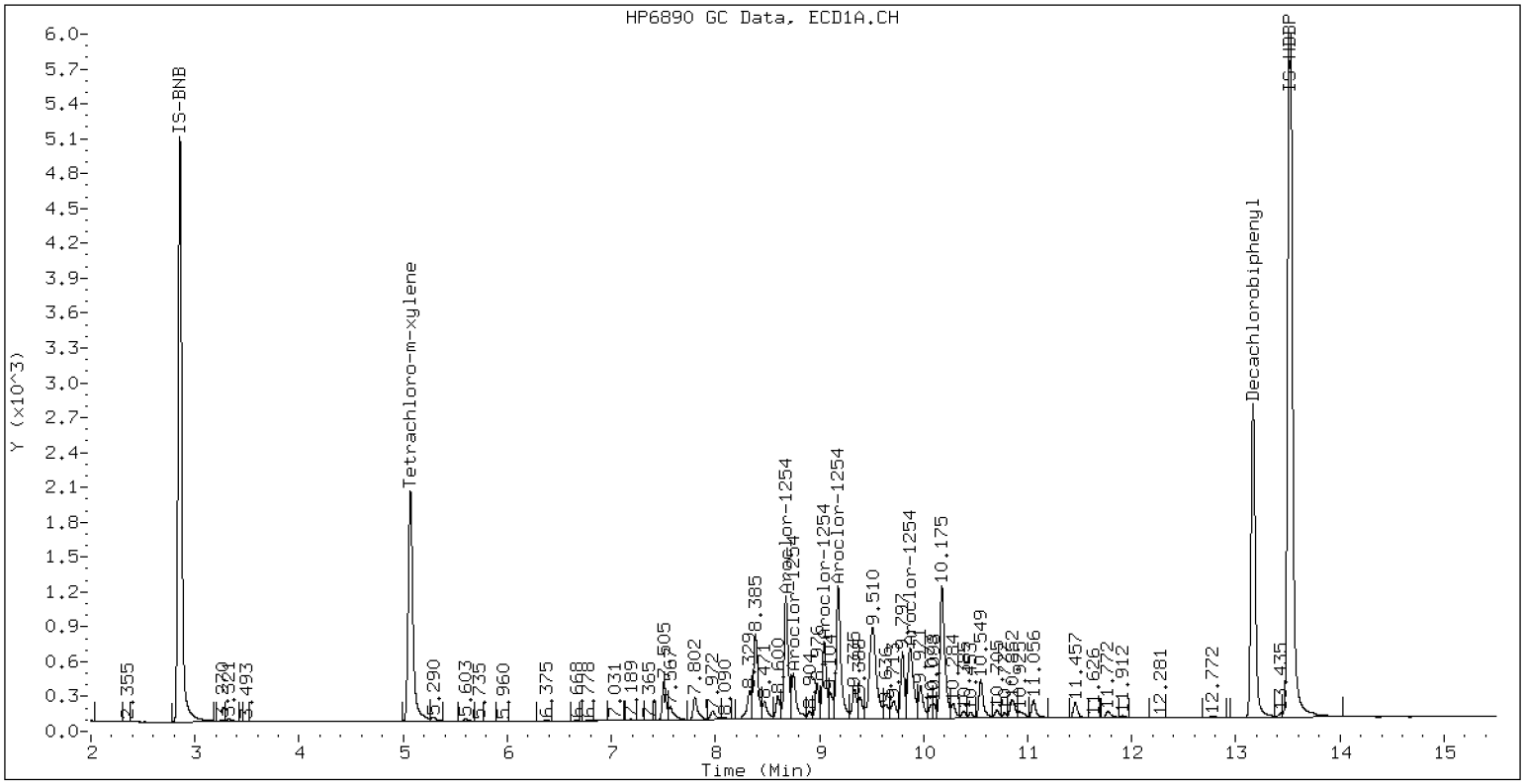
Total PCB Area Col2 (5.167 - 13.066) = 2704486 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

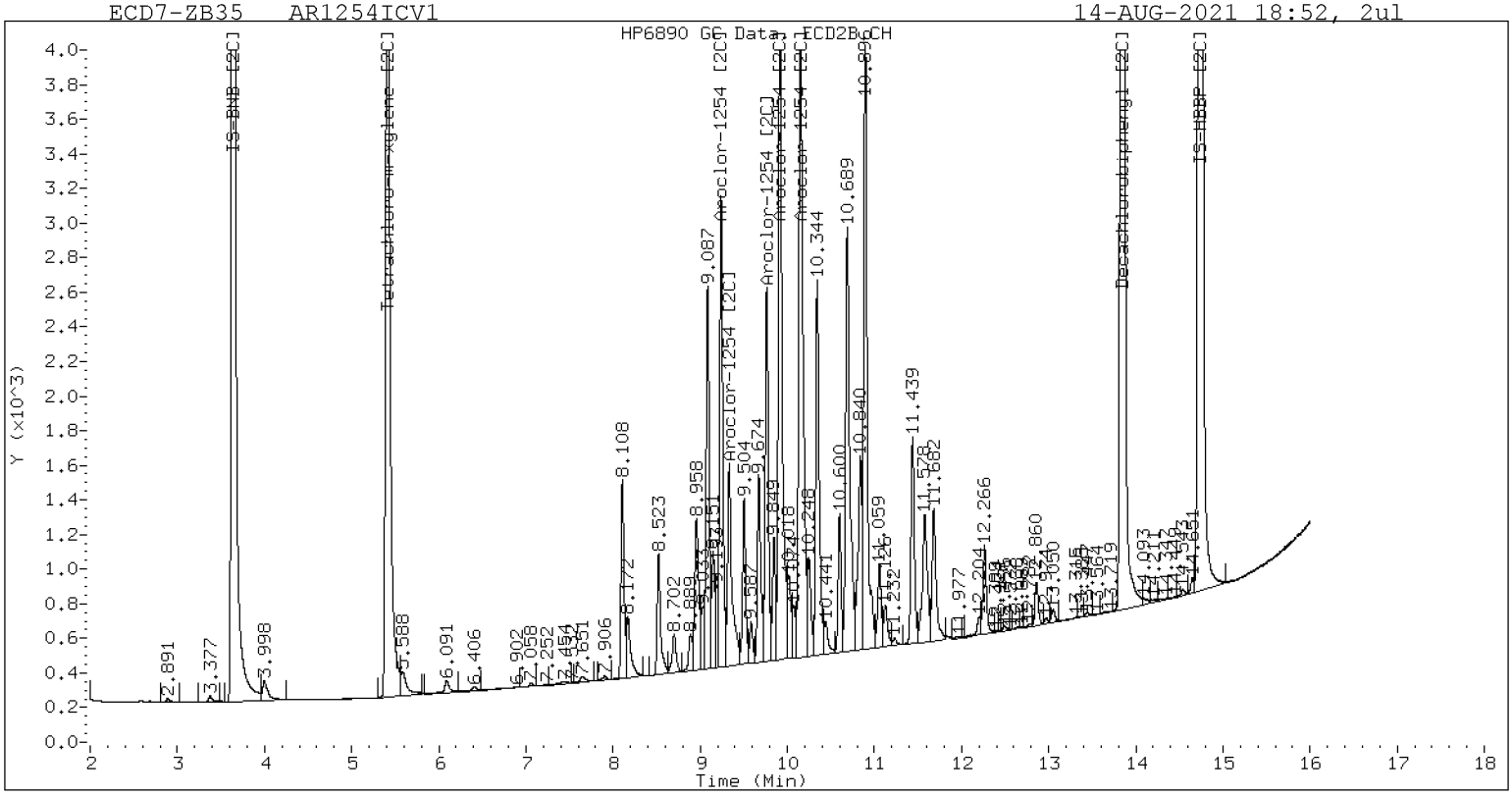
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1 14-AUG-2021 18:52, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254ICV1 14-AUG-2021 18:52, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142104ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/14/21
Lab Sample ID:	SJH0212-ICV2	Injection Time:	19:13
Sequence Name:	AR1660ICV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	267	0.0446218	0.0475420		6.7	
Aroclor-1016 (1)	A	250.00	266	0.0283733	0.0302221		6.4	
Aroclor-1016 (2)	A	250.00	266	0.0867650	0.0923516		6.4	
Aroclor-1016 (3)	A	250.00	266	0.0389383	0.0413645		6.4	
Aroclor-1016 (4)	A	250.00	269	0.0244108	0.0262298		7.6	
Aroclor 1016 [2C]	A	250.00	264	0.0529840	0.0559637		5.7	
Aroclor-1016 (1) [2C]	A	250.00	258	0.0456173	0.0471514		3.2	
Aroclor-1016 (2) [2C]	A	250.00	264	0.1020378	0.1077879		5.6	
Aroclor-1016 (3) [2C]	A	250.00	269	0.0400455	0.0431185		7.6	
Aroclor-1016 (4) [2C]	A	250.00	266	0.0242353	0.0257969		6.4	
Aroclor 1260	A	250.00	255	0.0461251	0.0469994		2.0	
Aroclor-1260 (1)	A	250.00	246	0.0359923	0.0353490		-1.6	
Aroclor-1260 (2)	A	250.00	256	0.0353250	0.0361994		2.4	
Aroclor-1260 (3)	A	250.00	254	0.0954741	0.0970662		1.6	
Aroclor-1260 (4)	A	250.00	262	0.0425365	0.0444992		4.8	
Aroclor-1260 (5)	A	250.00	257	0.0212978	0.0218831		2.8	
Aroclor 1260 [2C]	A	250.00	238	0.1108773	0.1046036		-4.9	
Aroclor-1260 (1) [2C]	A	250.00	235	0.0665032	0.0624834		-6.0	
Aroclor-1260 (2) [2C]	A	250.00	233	0.1932922	0.1799188		-6.8	
Aroclor-1260 (3) [2C]	A	250.00	235	0.1242917	0.1170105		-6.0	
Aroclor-1260 (4) [2C]	A	250.00	248	0.0594222	0.0590015		-0.8	
Decachlorobiphenyl	A	40.000	41.3	0.7261970	0.7493442		3.3	
Tetrachlorometaxylene	A	40.000	42.6	0.9669678	1.0292620		6.5	
Decachlorobiphenyl [2C]	A	40.000	40.0	1.7775950	1.7782320		0.0	
Tetrachlorometaxylene [2C]	A	40.000	41.0	1.0280520	1.0528820		2.5	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142104ECD7.D
Data file 2: /210814.b/210814.b/08142104ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 14-AUG-2021 19:13
Report Date: 08/17/2021 09:15
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.004	132412	5.414	0.002	375570	42.6	41.0	3.9	Tetrachloro-m-xylene
13.166	0.001	163408	13.847	-0.000	841648	41.3	40.0	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	257295	-0.6
Hexabromobiphenyl	425681	436136	2.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	713413	-1.0
Hexabromobiphenyl	863111	946612	9.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.662	0.002	24300	266.3	1	7.057	0.002	105120	258.4
Aroclor-1016	2	7.034	0.001	74255	266.1	2	7.653	0.002	240304	264.1
Aroclor-1016	3	7.181	0.002	33259	265.6	3	7.858	0.001	96129	269.2
Aroclor-1016	4	7.289	-0.000	21090	268.6	4	8.107	0.001	57512	266.1

Total Col1Ave (4 peaks): 266.6 Total Col2Ave (4 peaks): 264.4 RPD = 1

Corrected Ave (3 peaks): 266.0 Corrected Ave (3 peaks): 262.9 RPD = 1

CalAmt %D: 6.7 CalAmt %D: 5.8

Aroclor-1260	1	10.387	0.003	48178	245.5	1	11.427	0.001	184836	234.9
Aroclor-1260	2	10.703	0.000	49337	256.2	2	11.680	0.001	532229	232.7
Aroclor-1260	3	11.055	0.001	132294	254.2	3	12.262	0.002	346136	235.4
Aroclor-1260	4	11.456	0.001	60649	261.5	4	12.972	0.001	174536	248.2
Aroclor-1260	5	11.558	0.003	29825	256.9	NS	---			----

Total Col1Ave (5 peaks): 254.9 Total Col2Ave (4 peaks): 237.8 RPD = 7

Corrected Ave (4 peaks): 253.2 Corrected Ave (3 peaks): 234.3 RPD = 8

CalAmt %D: 1.9 CalAmt %D: -4.9

Total PCB Area Col1 (5.167 - 13.066) = 1318835 Col1 Total PCB = 0.5 ppm*

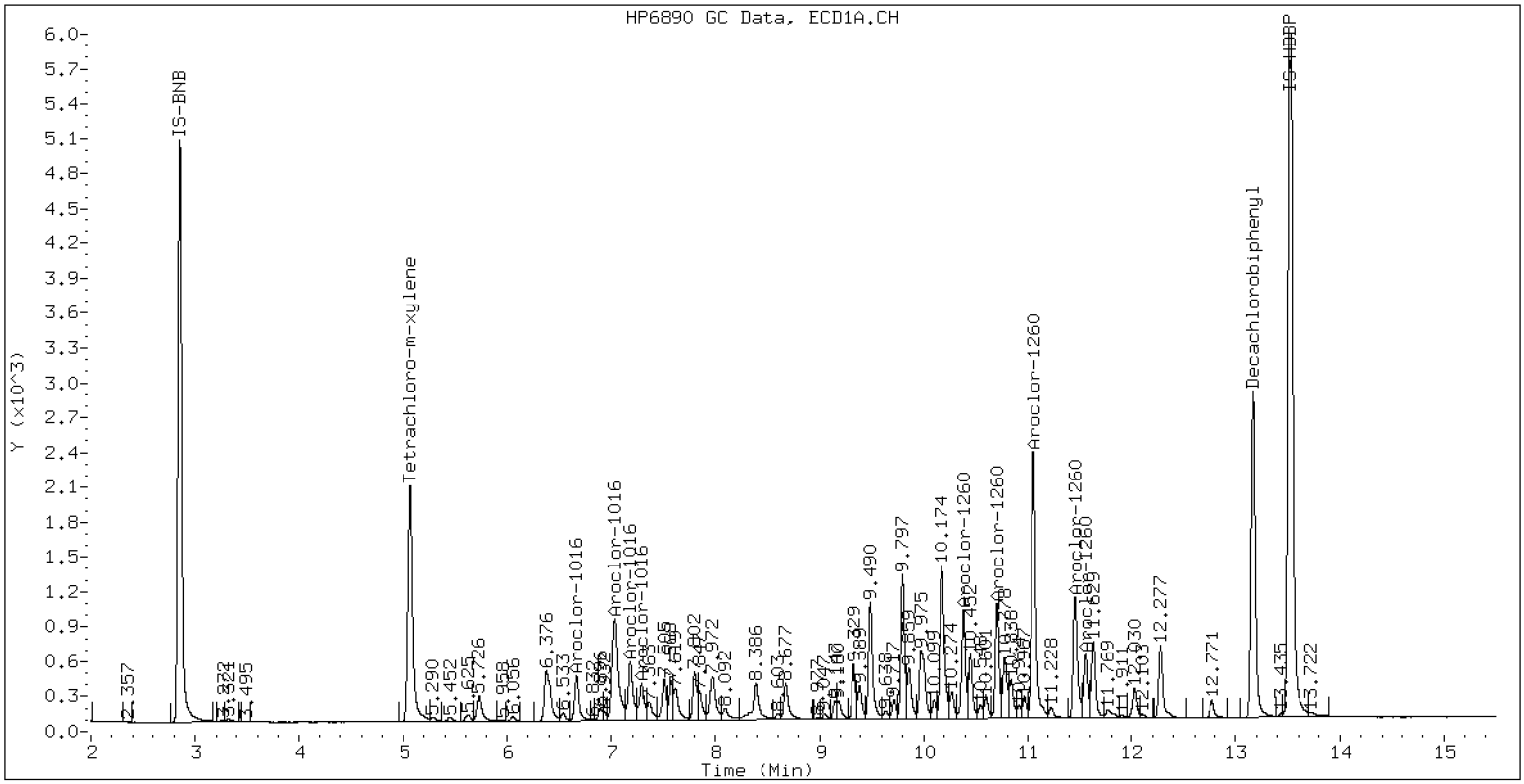
Total PCB Area Col2 (5.167 - 13.066) = 4873614 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

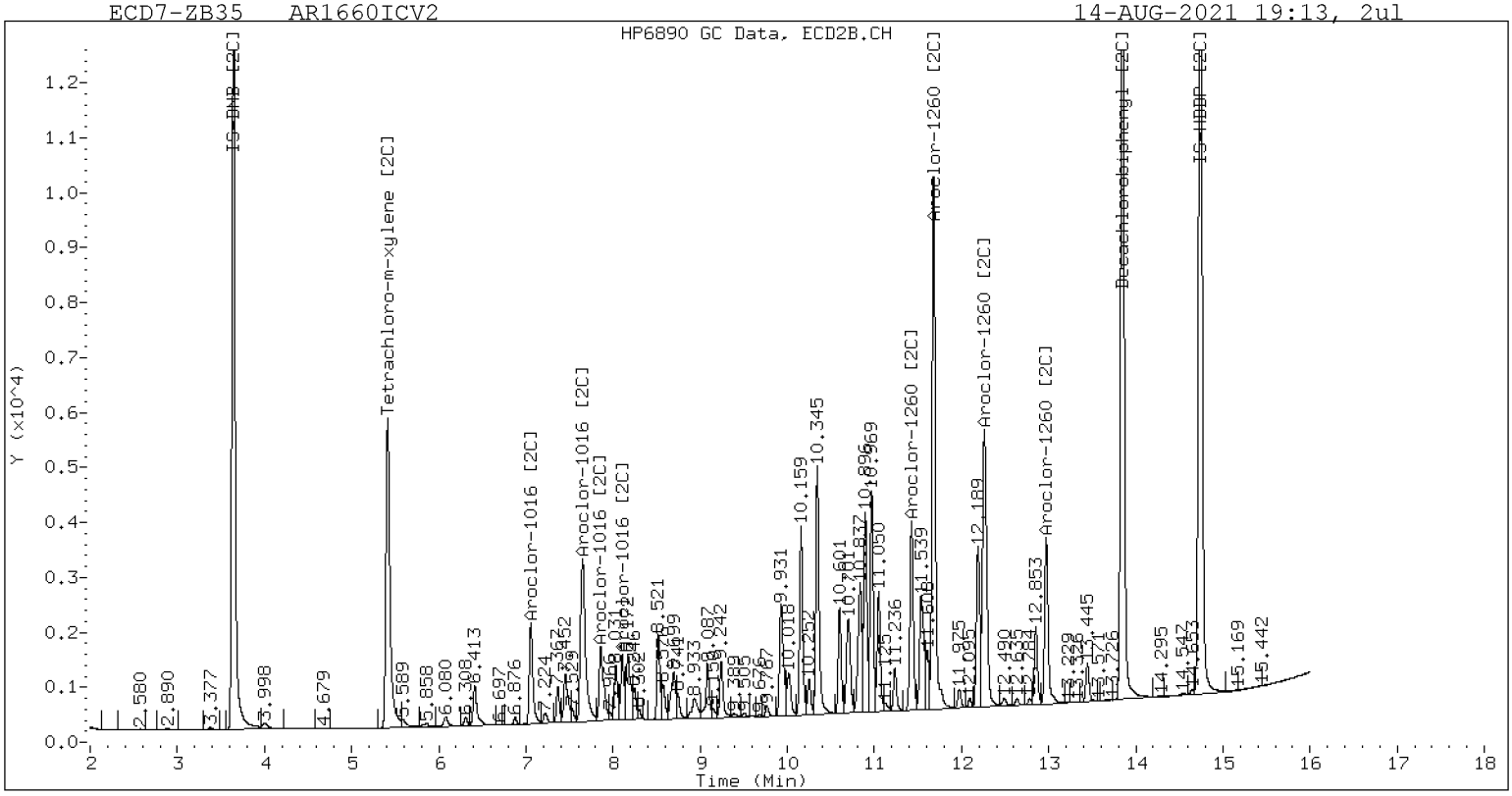
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2 14-AUG-2021 19:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2 14-AUG-2021 19:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162103S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/16/21
Lab Sample ID:	SJH0214-ICV1	Injection Time:	12:44
Sequence Name:	AR1254ICV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	255	0.0571741	0.0588573		2.1	+/-20
Aroclor-1254 (1)	A	250.00	260	0.0690183	0.0718511		4.0	
Aroclor-1254 (2)	A	250.00	251	0.0319506	0.0321209		0.4	
Aroclor-1254 (3)	A	250.00	227	0.0449859	0.0407876		-9.2	
Aroclor-1254 (4)	A	250.00	262	0.0859427	0.0899904		4.8	
Aroclor-1254 (5)	A	250.00	276	0.0539731	0.0595364		10.4	
Aroclor 1254 [2C]	A	250.00	244	0.0782980	0.0764515		-2.5	+/-20
Aroclor-1254 (1) [2C]	A	250.00	245	0.0680651	0.0668299		-2.0	
Aroclor-1254 (2) [2C]	A	250.00	238	0.0399453	0.0380048		-4.8	
Aroclor-1254 (3) [2C]	A	250.00	248	0.0518895	0.0515358		-0.8	
Aroclor-1254 (4) [2C]	A	250.00	233	0.1149829	0.1070601		-6.8	
Aroclor-1254 (5) [2C]	A	250.00	255	0.1166073	0.1188271		2.0	
Decachlorobiphenyl	A	40.000	40.2	0.7261970	0.7297583		0.5	+/-20
Tetrachlorometaxylene	A	40.000	41.9	0.9669678	1.0123860		4.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.5	1.7775950	1.6655440		-6.3	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.4	1.0280520	1.0631930		3.5	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162103S.D
Data file 2: /210816.b/210816.b/08162103S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 16-AUG-2021 12:44
Report Date: 08/17/2021 10:59
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	-0.002	144307	5.411	-0.006	417364	41.9	41.4	1.2	Tetrachloro-m-xylene
13.164	-0.002	173384	13.844	-0.036	839434	40.2	37.5	7.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	285083	10.1
Hexabromobiphenyl	425681	475182	11.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	785114	8.9
Hexabromobiphenyl	863111	1008000	16.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1254	1	8.675	0.000	64011	260.3	1	9.237	-0.002	163966	245.5
Aroclor-1254	2	8.746	0.000	28616	251.3	2	9.330	-0.001	93244	237.9
Aroclor-1254	3	9.041	-0.000	36337	226.7	3	9.761	-0.002	126442	248.3
Aroclor-1254	4	9.178	0.002	80171	261.8	4	9.912	-0.001	262670	232.8
Aroclor-1254	5	9.869	0.001	53040	275.8	5	10.148	0.001	291540	254.8

Total Col1Ave (5 peaks): 255.2 Total Col2Ave (5 peaks): 243.8 RPD = 5
Corrected Ave (4 peaks): 250.0 Corrected Ave (4 peaks): 241.1 RPD = 4

CalAmt %D: 2.1 CalAmt %D: -2.5

Total PCB Area Col1 (5.169 - 13.066) = 814867 Col1 Total PCB = 0.3 ppm*

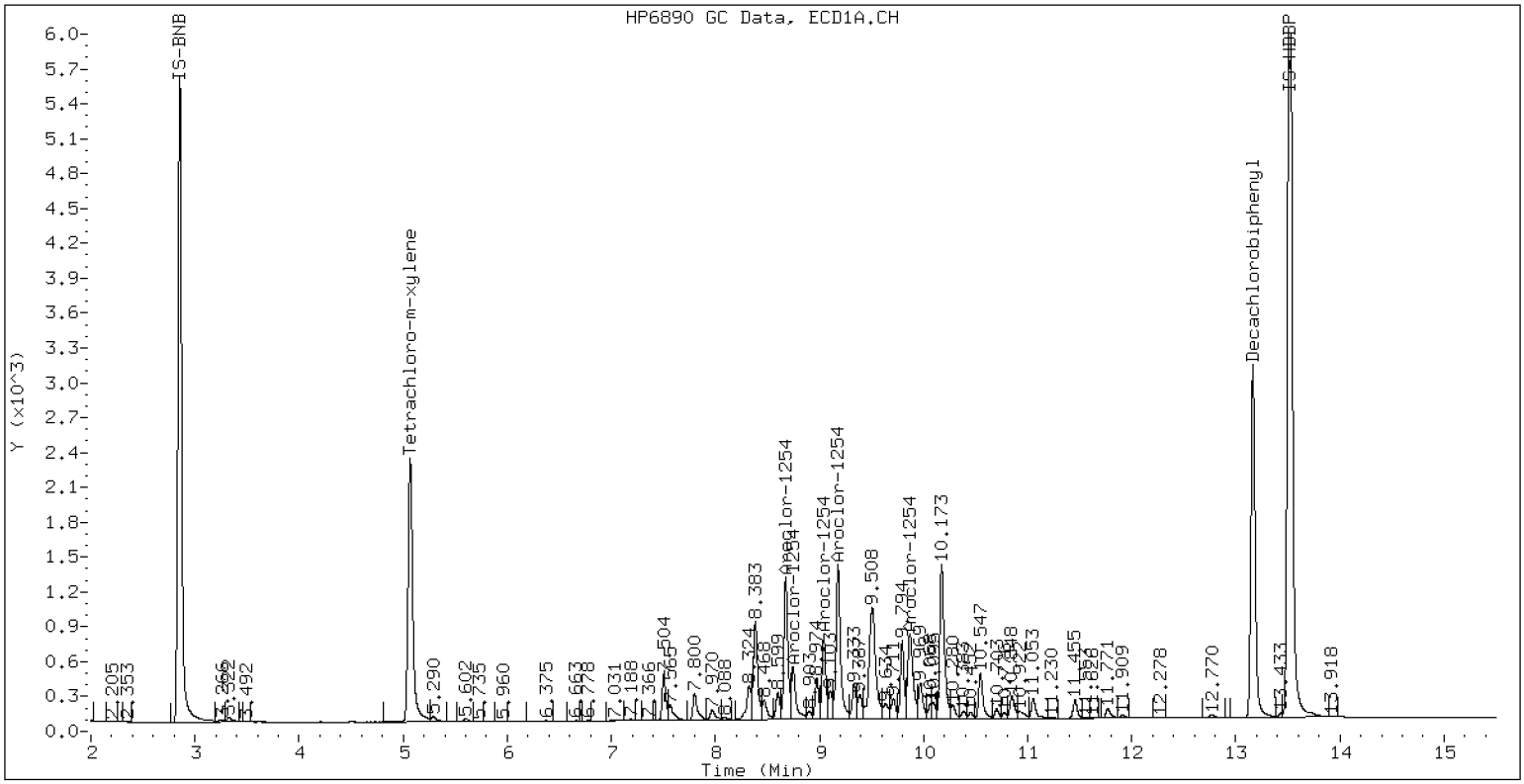
Total PCB Area Col2 (5.169 - 13.066) = 3070560 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

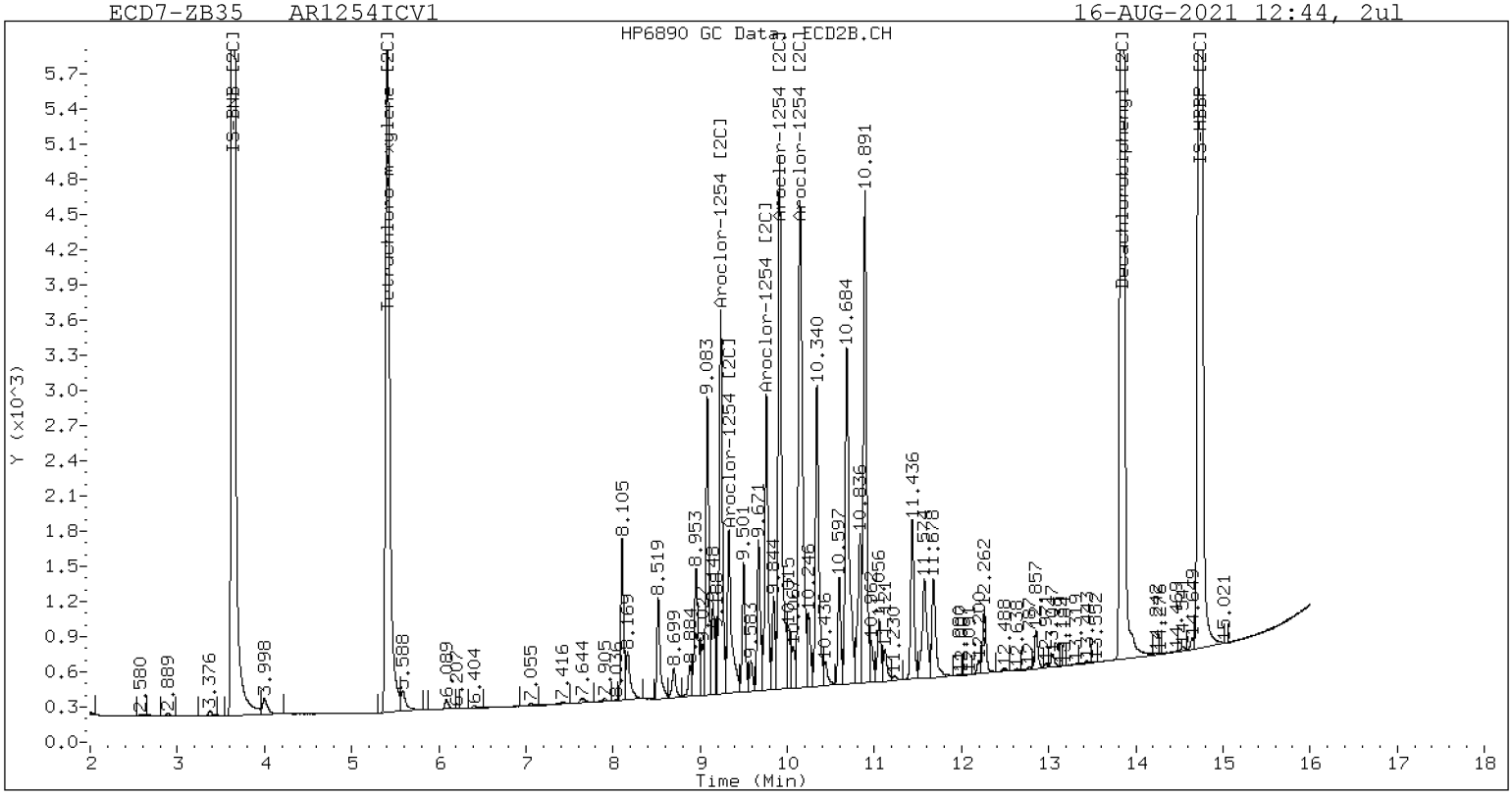
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1 16-AUG-2021 12:44, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254ICV1 16-AUG-2021 12:44, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162104S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/16/21
Lab Sample ID:	SJH0214-ICV2	Injection Time:	13:04
Sequence Name:	AR1660ICV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	275	0.0446218	0.0491927		9.9	+/-20
Aroclor-1016 (1)	A	250.00	272	0.0283733	0.0309021		8.8	
Aroclor-1016 (2)	A	250.00	278	0.0867650	0.0965303		11.2	
Aroclor-1016 (3)	A	250.00	270	0.0389383	0.0421296		8.0	
Aroclor-1016 (4)	A	250.00	279	0.0244108	0.0272088		11.6	
Aroclor 1016 [2C]	A	250.00	278	0.0529840	0.0588494		11.2	+/-20
Aroclor-1016 (1) [2C]	A	250.00	271	0.0456173	0.0494185		8.4	
Aroclor-1016 (2) [2C]	A	250.00	278	0.1020378	0.1135241		11.2	
Aroclor-1016 (3) [2C]	A	250.00	283	0.0400455	0.0453293		13.2	
Aroclor-1016 (4) [2C]	A	250.00	280	0.0242353	0.0271258		12.0	
Aroclor 1260	A	250.00	267	0.0461251	0.0491878		6.6	+/-20
Aroclor-1260 (1)	A	250.00	257	0.0359923	0.0370034		2.8	
Aroclor-1260 (2)	A	250.00	270	0.0353250	0.0381626		8.0	
Aroclor-1260 (3)	A	250.00	266	0.0954741	0.1014369		6.4	
Aroclor-1260 (4)	A	250.00	274	0.0425365	0.0466788		9.6	
Aroclor-1260 (5)	A	250.00	266	0.0212978	0.0226573		6.4	
Aroclor 1260 [2C]	A	250.00	241	0.1108773	0.1058292		-3.8	+/-20
Aroclor-1260 (1) [2C]	A	250.00	242	0.0665032	0.0644410		-3.2	
Aroclor-1260 (2) [2C]	A	250.00	236	0.1932922	0.1823046		-5.6	
Aroclor-1260 (3) [2C]	A	250.00	237	0.1242917	0.1178993		-5.2	
Aroclor-1260 (4) [2C]	A	250.00	247	0.0594222	0.0586721		-1.2	
Decachlorobiphenyl	A	40.000	41.6	0.7261970	0.7561408		4.0	+/-20
Tetrachlorometaxylene	A	40.000	43.6	0.9669678	1.0530720		9.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.8	1.7775950	1.6802550		-5.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.7	1.0280520	1.0976540		6.8	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162104S.D
Data file 2: /210816.b/210816.b/08162104S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 16-AUG-2021 13:04
Report Date: 08/17/2021 10:59
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	149364	5.412	-0.005	432234	43.6	42.7	2.0	Tetrachloro-m-xylene
13.164	-0.001	178884	13.845	-0.035	869043	41.6	37.8	9.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	283673	9.6
Hexabromobiphenyl	425681	473150	11.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	787560	9.2
Hexabromobiphenyl	863111	1034418	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.002	27394	272.3	1	7.056	-0.001	121625	270.8
Aroclor-1016	2	7.033	0.003	85572	278.1	2	7.650	0.002	279397	278.1
Aroclor-1016	3	7.179	0.003	37347	270.5	3	7.856	0.001	111561	283.0
Aroclor-1016	4	7.287	0.003	24120	278.7	4	8.104	-0.001	66760	279.8

Total Col1Ave (4 peaks): 274.9 Total Col2Ave (4 peaks): 277.9 RPD = 1
Corrected Ave (3 peaks): 273.6 Corrected Ave (3 peaks): 276.3 RPD = 1

CalAmt %D: 10.0 CalAmt %D: 11.2

Aroclor-1260	1	10.385	0.002	54713	257.0	1	11.424	-0.002	208309	242.2
Aroclor-1260	2	10.703	0.003	56427	270.1	2	11.677	-0.004	589310	235.8
Aroclor-1260	3	11.053	0.002	149984	265.6	3	12.258	-0.002	381116	237.1
Aroclor-1260	4	11.454	0.002	69019	274.3	4	12.969	-0.003	189661	246.8
Aroclor-1260	5	11.555	0.001	33501	266.0	NS	---			----

Total Col1Ave (5 peaks): 266.6 Total Col2Ave (4 peaks): 240.5 RPD = 10
Corrected Ave (4 peaks): 264.7 Corrected Ave (3 peaks): 238.4 RPD = 10

CalAmt %D: 6.6 CalAmt %D: -3.8

Total PCB Area Col1 (5.169 - 13.066) = 1503909 Col1 Total PCB = 0.5 ppm*

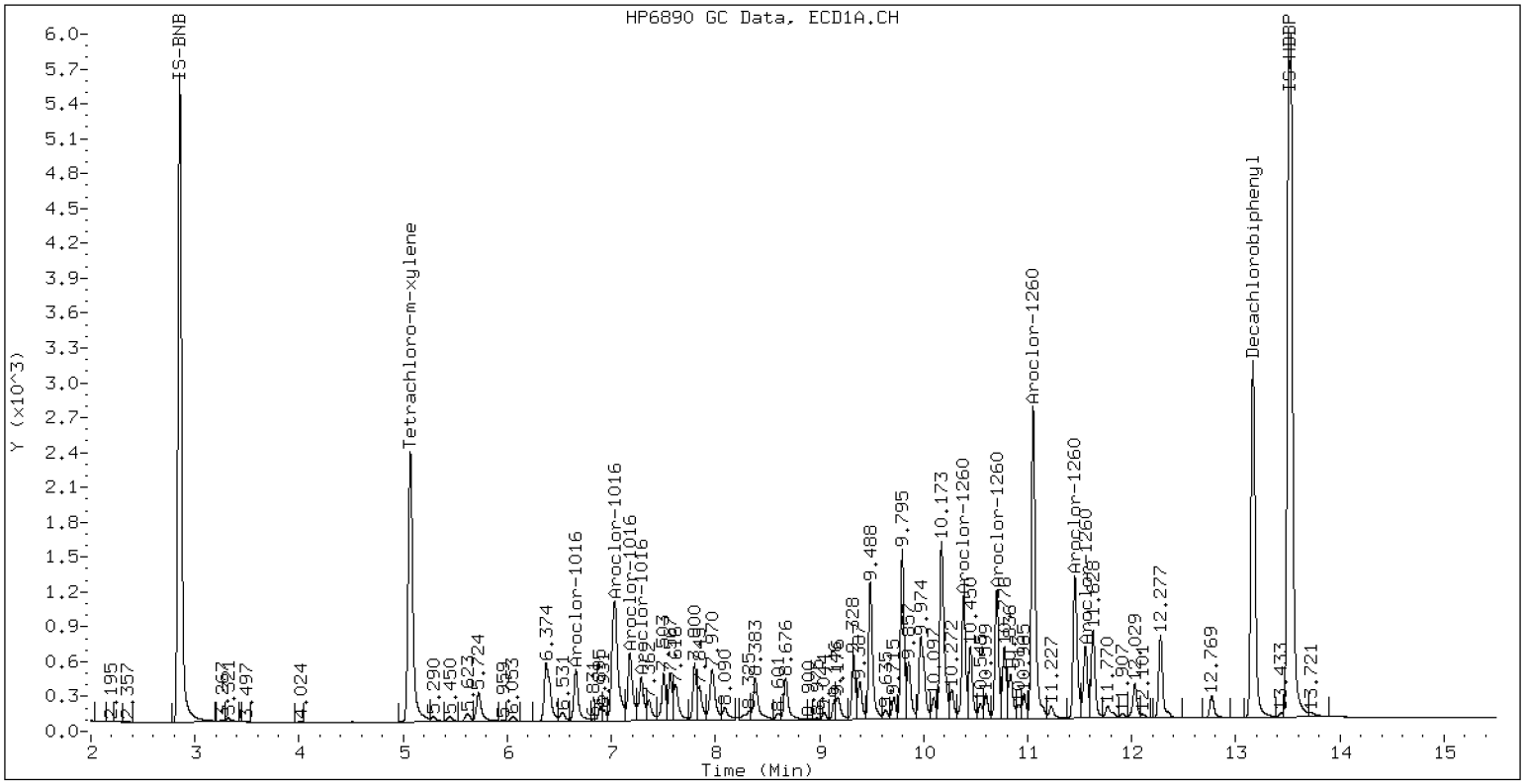
Total PCB Area Col2 (5.169 - 13.066) = 5527787 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

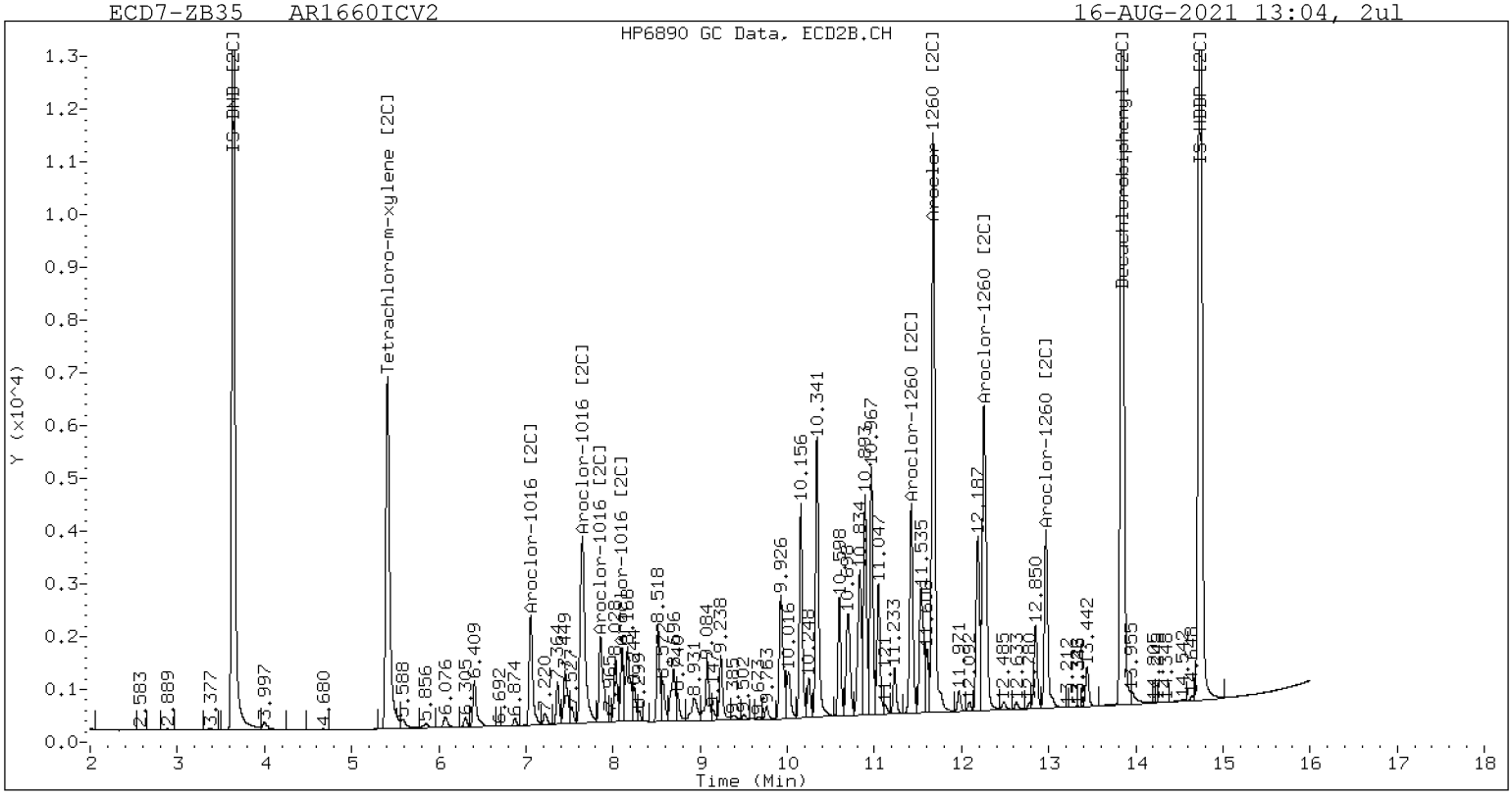
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2 16-AUG-2021 13:04, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2 16-AUG-2021 13:04, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08172102ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0216	Injection Date:	08/17/21
Lab Sample ID:	SJH0216-ICV1	Injection Time:	11:43
Sequence Name:	AR1254ICV1		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1254	A	250.00	253	0.0571741	0.0581500		1.0	+/-20
Aroclor-1254 (1)	A	250.00	258	0.0690183	0.0712242		3.2	
Aroclor-1254 (2)	A	250.00	258	0.0319506	0.0329626		3.2	
Aroclor-1254 (3)	A	250.00	214	0.0449859	0.0385928		-14.4	
Aroclor-1254 (4)	A	250.00	258	0.0859427	0.0886814		3.2	
Aroclor-1254 (5)	A	250.00	275	0.0539731	0.0592890		10.0	
Aroclor 1254 [2C]	A	250.00	243	0.0782980	0.0761652		-2.8	+/-20
Aroclor-1254 (1) [2C]	A	250.00	242	0.0680651	0.0659382		-3.2	
Aroclor-1254 (2) [2C]	A	250.00	238	0.0399453	0.0380997		-4.8	
Aroclor-1254 (3) [2C]	A	250.00	251	0.0518895	0.0521865		0.4	
Aroclor-1254 (4) [2C]	A	250.00	228	0.1149829	0.1050895		-8.8	
Aroclor-1254 (5) [2C]	A	250.00	256	0.1166073	0.1195122		2.4	
Decachlorobiphenyl	A	40.000	40.4	0.7261970	0.7330126		1.0	+/-20
Tetrachlorometaxylene	A	40.000	41.7	0.9669678	1.0071340		4.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.9	1.7775950	1.6858360		-5.3	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.4	1.0280520	1.0378200		1.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210817.b/08172102ECD7.D
Data file 2: /210817.b/210817.b/08172102ECD7.D
Method: \\target\share\chem4\ecd7.i\210817.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254ICV1
Client ID:
Injection Date: 17-AUG-2021 11:43
Report Date: 08/17/2021 17:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.001	141589	5.410	-0.001	421128	41.7	40.4	3.1	Tetrachloro-m-xylene
13.166	0.003	170406	13.844	-0.002	915421	40.4	37.9	6.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	281172	8.6
Hexabromobiphenyl	425681	464947	9.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	811563	12.6
Hexabromobiphenyl	863111	1086014	25.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.677	0.000	62582	258.0	1	9.238	0.000	167228	242.2
Aroclor-1254	2	8.749	0.000	28963	257.9	2	9.331	0.000	96626	238.4
Aroclor-1254	3	9.043	0.000	33910	214.5	3	9.762	0.000	132352	251.4
Aroclor-1254	4	9.180	0.000	77921	258.0	4	9.912	0.000	266521	228.5
Aroclor-1254	5	9.870	0.000	52095	274.6	5	10.150	0.000	303099	256.2

Total Col1Ave (5 peaks): 252.6 Total Col2Ave (5 peaks): 243.4 RPD = 4

Corrected Ave (4 peaks): 247.1 Corrected Ave (4 peaks): 240.1 RPD = 3

CalAmt %D: 1.0 CalAmt %D: -2.7

Total PCB Area Col1 (5.168 - 13.063) = 806756 Col1 Total PCB = 0.3 ppm*

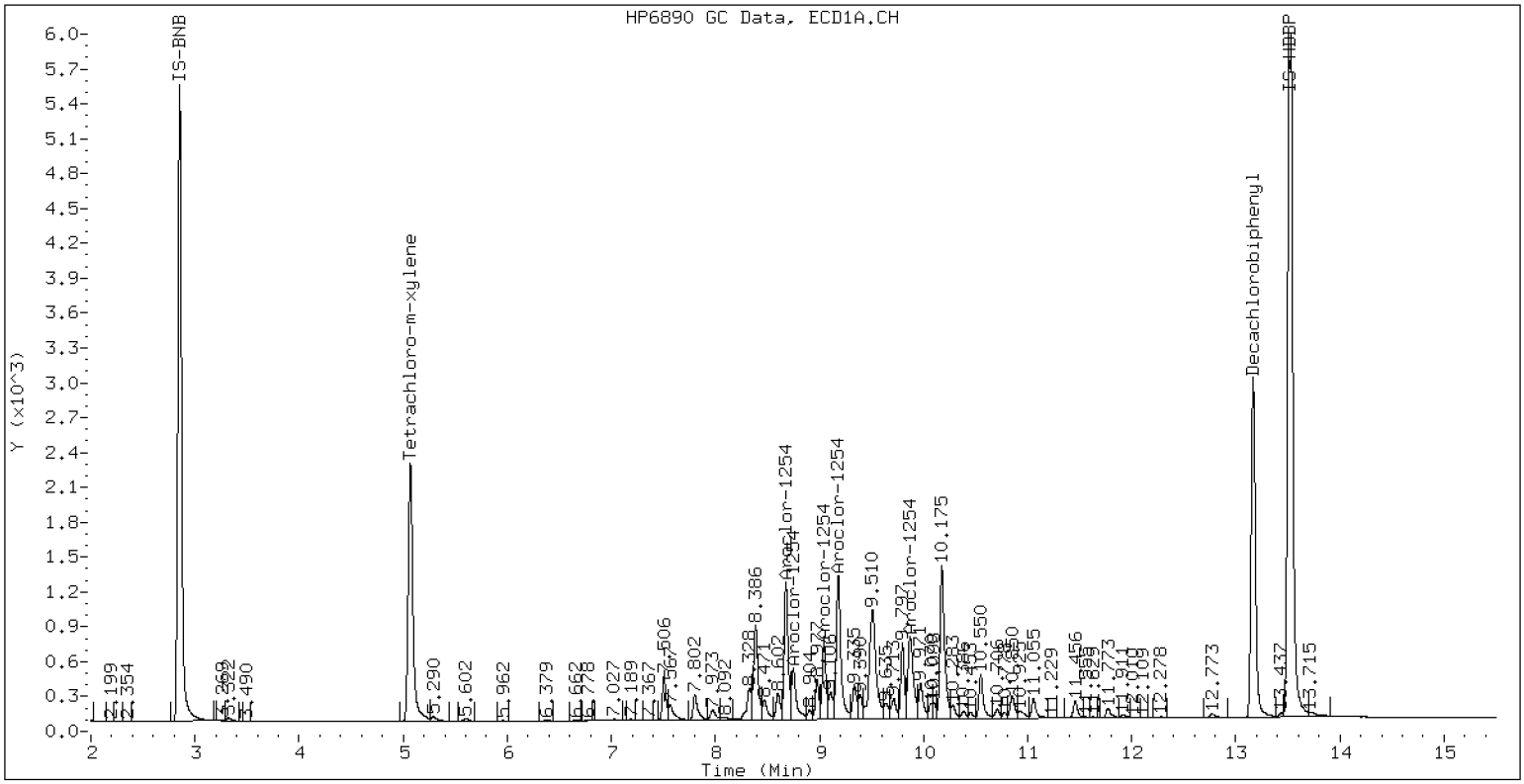
Total PCB Area Col2 (5.168 - 13.063) = 3185186 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

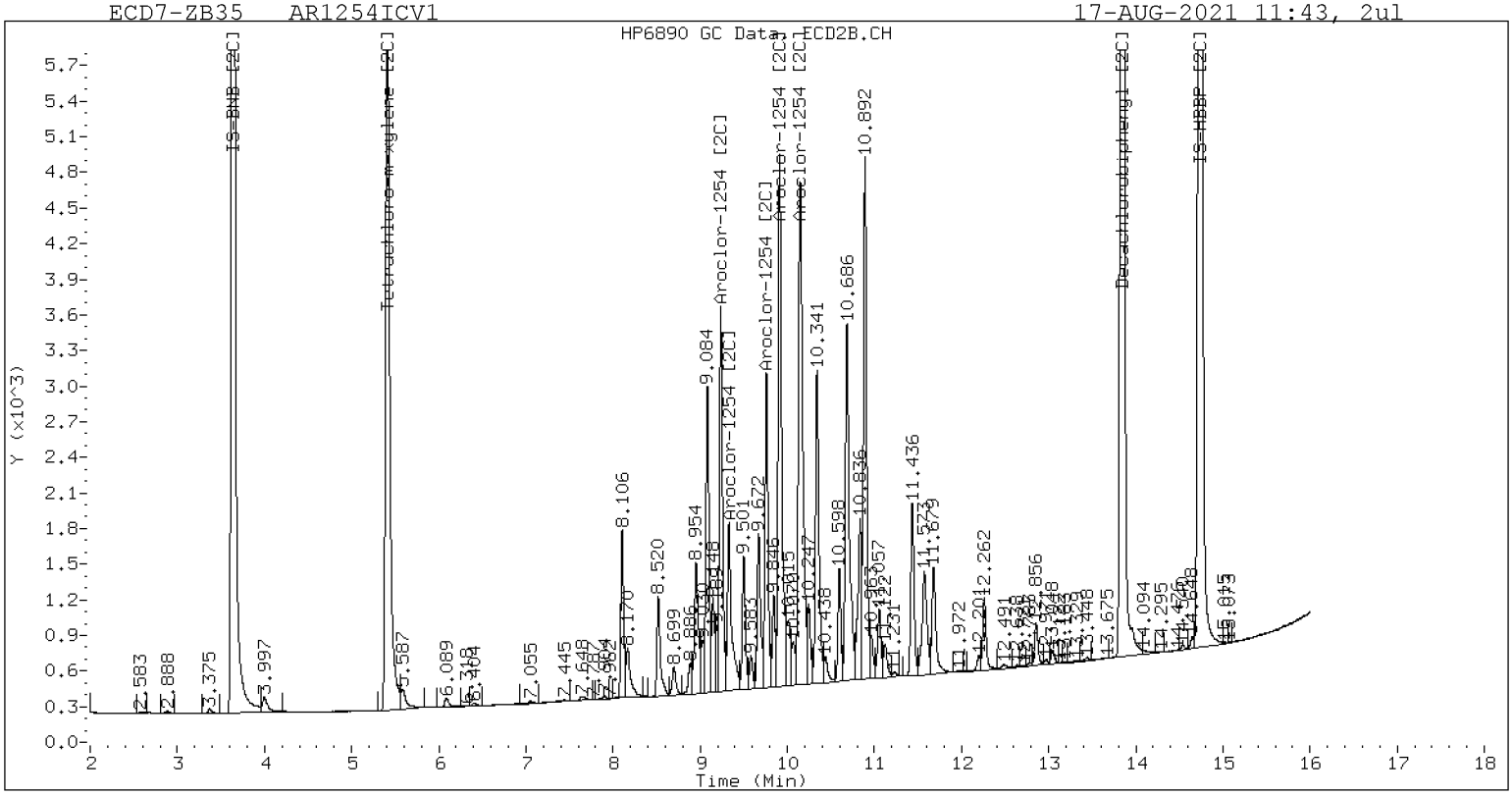
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254ICV1 17-AUG-2021 11:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254ICV1 17-AUG-2021 11:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08172103ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0216	Injection Date:	08/17/21
Lab Sample ID:	SJH0216-ICV2	Injection Time:	12:04
Sequence Name:	AR1660ICV2		

		CONC. (ug/L)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
Aroclor 1016	A	250.00	269	0.0446218	0.0480854		7.6	+/-20
Aroclor-1016 (1)	A	250.00	268	0.0283733	0.0304360		7.2	
Aroclor-1016 (2)	A	250.00	271	0.0867650	0.0939789		8.4	
Aroclor-1016 (3)	A	250.00	267	0.0389383	0.0415647		6.8	
Aroclor-1016 (4)	A	250.00	270	0.0244108	0.0263622		8.0	
Aroclor 1016 [2C]	A	250.00	272	0.0529840	0.0573948		8.6	+/-20
Aroclor-1016 (1) [2C]	A	250.00	265	0.0456173	0.0483750		6.0	
Aroclor-1016 (2) [2C]	A	250.00	270	0.1020378	0.1103326		8.0	
Aroclor-1016 (3) [2C]	A	250.00	276	0.0400455	0.0442413		10.4	
Aroclor-1016 (4) [2C]	A	250.00	275	0.0242353	0.0266302		10.0	
Aroclor 1260	A	250.00	259	0.0461251	0.0478620		3.7	+/-20
Aroclor-1260 (1)	A	250.00	247	0.0359923	0.0355509		-1.2	
Aroclor-1260 (2)	A	250.00	263	0.0353250	0.0371477		5.2	
Aroclor-1260 (3)	A	250.00	259	0.0954741	0.0990739		3.6	
Aroclor-1260 (4)	A	250.00	267	0.0425365	0.0453948		6.8	
Aroclor-1260 (5)	A	250.00	260	0.0212978	0.0221429		4.0	
Aroclor 1260 [2C]	A	250.00	241	0.1108773	0.1057927		-3.8	+/-20
Aroclor-1260 (1) [2C]	A	250.00	238	0.0665032	0.0632769		-4.8	
Aroclor-1260 (2) [2C]	A	250.00	235	0.1932922	0.1816695		-6.0	
Aroclor-1260 (3) [2C]	A	250.00	238	0.1242917	0.1186197		-4.8	
Aroclor-1260 (4) [2C]	A	250.00	251	0.0594222	0.0596046		0.4	
Decachlorobiphenyl	A	40.000	41.2	0.7261970	0.7486277		3.0	+/-20
Tetrachlorometaxylene	A	40.000	42.9	0.9669678	1.0369840		7.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.3	1.7775950	1.7019980		-4.3	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.7	1.0280520	1.0711220		4.3	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210817.b/08172103ECD7.D
Data file 2: /210817.b/210817.b/08172103ECD7.D
Method: \\target\share\chem4\ecd7.i\210817.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660ICV2
Client ID:
Injection Date: 17-AUG-2021 12:04
Report Date: 08/17/2021 17:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.001	139086	5.411	0.000	416579	42.9	41.7	2.9	Tetrachloro-m-xylene
13.166	0.003	167200	13.847	0.001	897197	41.2	38.3	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	268251	3.6
Hexabromobiphenyl	425681	446684	4.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	777837	7.9
Hexabromobiphenyl	863111	1054287	22.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.001	25514	268.2	1	7.056	0.000	117587	265.1
Aroclor-1016	2	7.034	0.002	78781	270.8	2	7.650	0.000	268190	270.3
Aroclor-1016	3	7.180	0.001	34843	266.9	3	7.857	0.001	107539	276.2
Aroclor-1016	4	7.290	0.002	22099	270.0	4	8.105	0.001	64731	274.7

Total Col1Ave (4 peaks): 269.0 Total Col2Ave (4 peaks): 271.6 RPD = 1

Corrected Ave (3 peaks): 268.3 Corrected Ave (3 peaks): 270.0 RPD = 1

CalAmt %D: 7.6 CalAmt %D: 8.6

Aroclor-1260	1	10.386	0.001	49625	246.9	1	11.424	-0.000	208475	237.9
Aroclor-1260	2	10.703	0.001	51854	262.9	2	11.678	0.001	598537	235.0
Aroclor-1260	3	11.055	0.002	138296	259.4	3	12.261	-0.000	390810	238.6
Aroclor-1260	4	11.454	0.000	63366	266.8	4	12.972	0.001	196376	250.8
Aroclor-1260	5	11.557	0.003	30909	259.9	NS	---			----

Total Col1Ave (5 peaks): 259.2 Total Col2Ave (4 peaks): 240.5 RPD = 7

Corrected Ave (4 peaks): 257.3 Corrected Ave (3 peaks): 237.1 RPD = 8

CalAmt %D: 3.7 CalAmt %D: -3.8

Total PCB Area Col1 (5.168 - 13.063) = 1381222 Col1 Total PCB = 0.5 ppm*

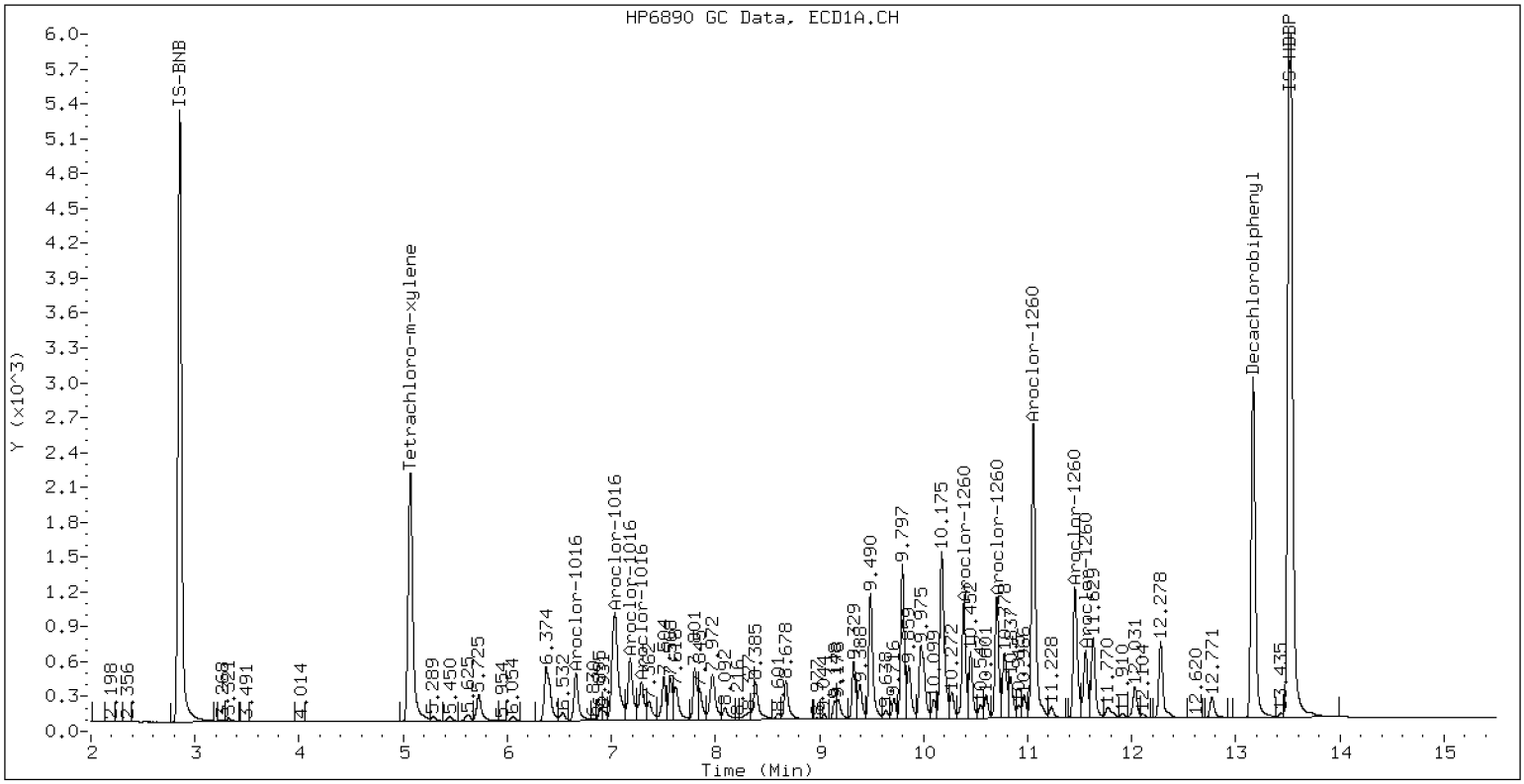
Total PCB Area Col2 (5.168 - 13.063) = 5491309 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

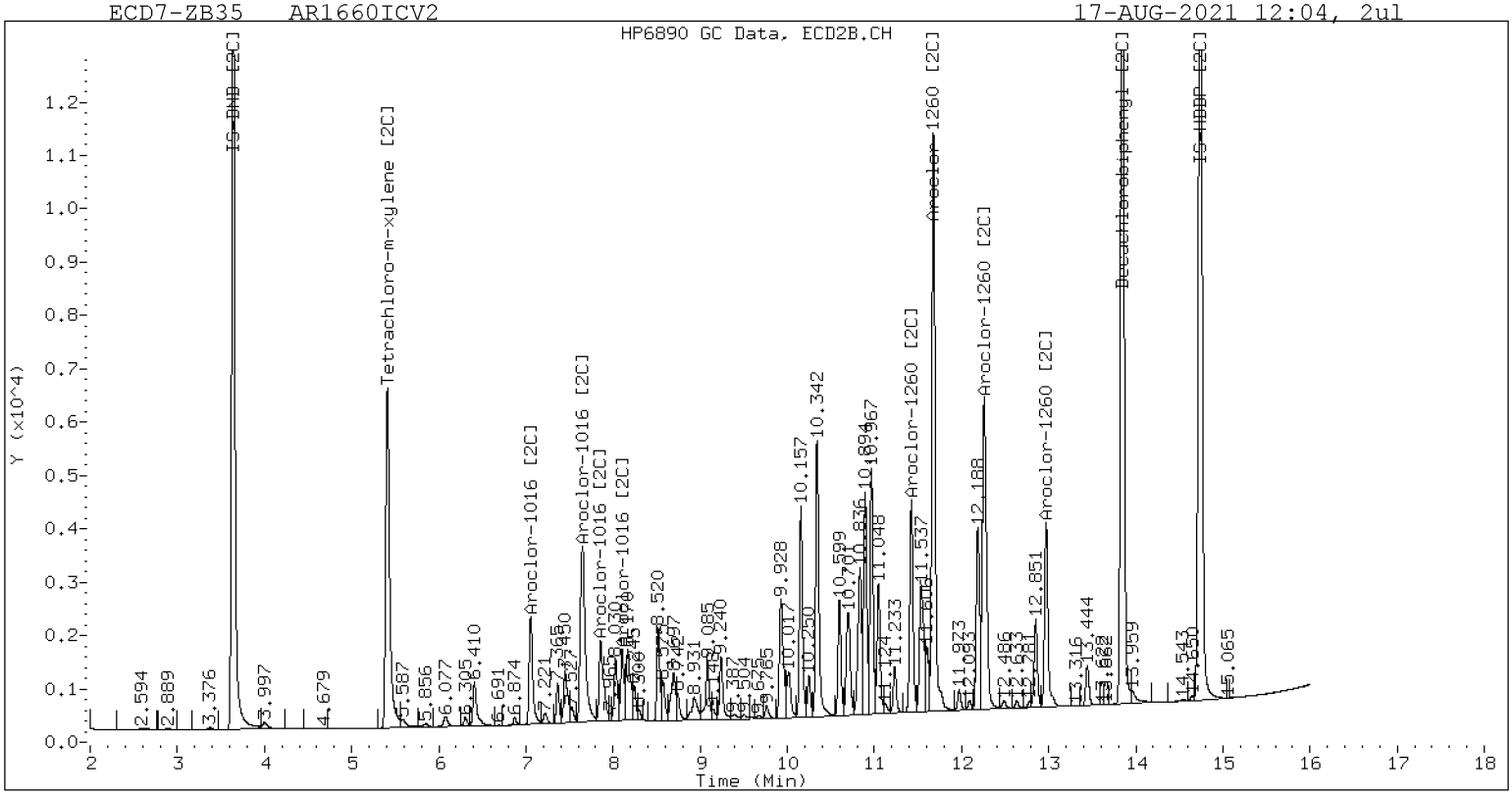
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660ICV2 17-AUG-2021 12:04, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660ICV2 17-AUG-2021 12:04, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132141ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV1	Injection Time:	08:21
Sequence Name:	AR1660SCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	285	0.0446218	0.0506821		13.9	+/-20
Aroclor 1016 [2C]	A	250.00	281	0.0529840	0.0593980		12.5	+/-20
Aroclor 1260	A	250.00	276	0.0461251	0.0512781		10.3	+/-20
Aroclor 1260 [2C]	A	250.00	259	0.1108773	0.1145107		3.4	+/-20
Decachlorobiphenyl	A	40.000	41.9	0.7261970	0.7611314		4.8	+/-20
Tetrachlorometaxylene	A	40.000	43.6	0.9669678	1.0549010		9.1	+/-20
Decachlorobiphenyl [2C]	A	40.000	41.2	1.7775950	1.8311900		3.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.9	1.0280520	1.0780260		4.9	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132141ECD7.D
Data file 2: /210813.b/210813.b/08132141ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV1
Client ID:
Injection Date: 14-AUG-2021 08:21
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.072	0.003	130620	5.416	-0.001	380301	43.6	41.9	4.0	Tetrachloro-m-xylene
13.166	0.000	166891	13.848	-0.032	891664	41.9	41.2	1.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	247644	-4.3
Hexabromobiphenyl	425681	438534	3.0

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	705551	-2.1
Hexabromobiphenyl	863111	973863	12.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	25008	284.7	1	7.059	0.002	110603	274.9
Aroclor-1016	2	7.036	0.006	75849	282.4	2	7.653	0.006	251287	279.2
Aroclor-1016	3	7.182	0.006	34421	285.6	3	7.860	0.005	101098	286.3
Aroclor-1016	4	7.291	0.006	21611	286.0	4	8.108	0.003	60866	284.8
Total Col1Ave (4 peaks):					284.7	Total Col2Ave (4 peaks):				281.3 RPD = 1
Corrected Ave (3 peaks):					284.2	Corrected Ave (3 peaks):				279.6 RPD = 2
Aroclor-1221	1	4.024	0.008	183	9.4	1	4.683	0.006	532	10.0
Aroclor-1221	2	5.453	0.002	3388	110.5	2	6.080	0.008	14283	117.8
Aroclor-1221	3	5.728	0.004	17440	210.6	3	6.414	0.005	53146	251.5
Total Col1Ave (3 peaks):					110.2	Total Col2Ave (3 peaks):				126.5 RPD = 14
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.024	0.006	183	15.2	1	4.683	0.004	532	16.9
Aroclor-1232	2	5.728	0.002	17440	267.1	2	7.059	0.001	110603	600.3
Aroclor-1232	3	7.036	0.002	75849	761.3	3	7.653	0.002	251287	681.4
Aroclor-1232	4	7.973	0.001	32123	783.7	4	8.522	0.000	77885	810.7
Total Col1Ave (4 peaks):					456.8	Total Col2Ave (4 peaks):				527.3 RPD = 14
Corrected Ave (3 peaks):					347.9	Corrected Ave (3 peaks):				432.8 RPD = 22
Aroclor-1242	1	6.662	0.003	25008	366.5	1	7.059	0.002	110603	341.0
Aroclor-1242	2	7.036	0.006	75849	372.9	2	7.653	0.005	251287	356.6
Aroclor-1242	3	8.386	0.011	23127	200.7	3	8.934	-0.015	43631	132.5
Aroclor-1242	4	8.601	-0.072	2264	48.1	4	9.087	0.060	61086	163.5
Total Col1Ave (4 peaks):					247.1	Total Col2Ave (4 peaks):				248.4 RPD = 1
Corrected Ave (3 peaks):					205.1	Corrected Ave (3 peaks):				212.3 RPD = 3
Aroclor-1248	1	7.803	0.005	21981	211.8	1	8.108	0.002	60866	208.2
Aroclor-1248	2	7.973	0.005	32123	237.1	2	8.522	0.002	77885	218.9
Aroclor-1248	3	8.386	0.011	23127	116.6	3	8.934	-0.013	43631	77.0
Aroclor-1248	4	8.678	0.004	18050	159.4	4	9.393	0.016	3902	8.1
Total Col1Ave (4 peaks):					181.2	Total Col2Ave (4 peaks):				128.0 RPD = 34
Corrected Ave (3 peaks):					162.6	Corrected Ave (3 peaks):				97.8 RPD = 50*
Aroclor-1254	1	8.678	0.003	18050	84.5	1	9.242	0.003	55374	92.2
Aroclor-1254	2	---			0.0	2	9.393	0.062	3902	11.1
Aroclor-1254	3	9.048	0.006	1874	13.5	3	9.768	0.005	7503	16.4
Aroclor-1254	4	9.179	0.003	8064	30.3	4	9.930	0.017	138725	136.8
Aroclor-1254	5	9.859	-0.008	24786	148.4	5	10.160	0.012	181859	176.8
Total Col1Ave (4 peaks):					69.2	Total Col2Ave (5 peaks):				86.7 RPD = 22
Corrected Ave (3 peaks):					42.8	Corrected Ave (4 peaks):				64.1 RPD = 40*
Aroclor-1260	1	10.386	0.003	52476	266.0	1	11.427	0.002	206923	255.6
Aroclor-1260	2	10.705	0.005	54460	281.2	2	11.681	-0.000	606031	257.6
Aroclor-1260	3	11.055	0.005	146267	279.5	3	12.264	0.003	390976	258.4
Aroclor-1260	4	11.458	0.005	67567	289.8	4	12.974	0.002	190042	262.7
Aroclor-1260	5	11.557	0.003	30592	262.0	NS	---			----
Total Col1Ave (5 peaks):					275.7	Total Col2Ave (4 peaks):				258.6 RPD = 6
Corrected Ave (4 peaks):					272.2	Corrected Ave (3 peaks):				257.2 RPD = 6
Aroclor-1262	1	10.386	0.002	52476	196.1	1	10.970	-0.000	227139	190.7
Aroclor-1262	2	11.458	0.003	67567	389.9	2	11.681	-0.004	606031	241.2
Aroclor-1262	3	11.630	0.003	39662	158.8	3	12.190	0.002	176119	157.9
Aroclor-1262	4	12.278	0.004	37281	181.8	4	12.974	0.001	190042	182.8
Total Col1Ave (4 peaks):					231.6	Total Col2Ave (4 peaks):				193.2 RPD = 18
Corrected Ave (3 peaks):					178.9	Corrected Ave (3 peaks):				177.2 RPD = 1
Aroclor-1268	1	11.557	-0.000	30592	52.0	1	12.190	-0.010	176119	62.9
Aroclor-1268	2	11.630	0.004	39662	64.3	2	12.264	-0.003	390976	128.0
Aroclor-1268	3	12.031	0.031	15649	32.2	3	12.637	-0.007	5866	2.2
Aroclor-1268	4	12.771	-0.001	7371	4.7	4	12.784	0.001	4262	6.5
Total Col1Ave (4 peaks):					38.3	Total Col2Ave (4 peaks):				49.9 RPD = 26

Corrected Ave (3 peaks): 29.6 Corrected Ave (3 peaks): 23.9 RPD = 21

Total PCB Area Col1 (5.169 - 13.066) = 1398917 Col1 Total PCB = 0.6 ppm*

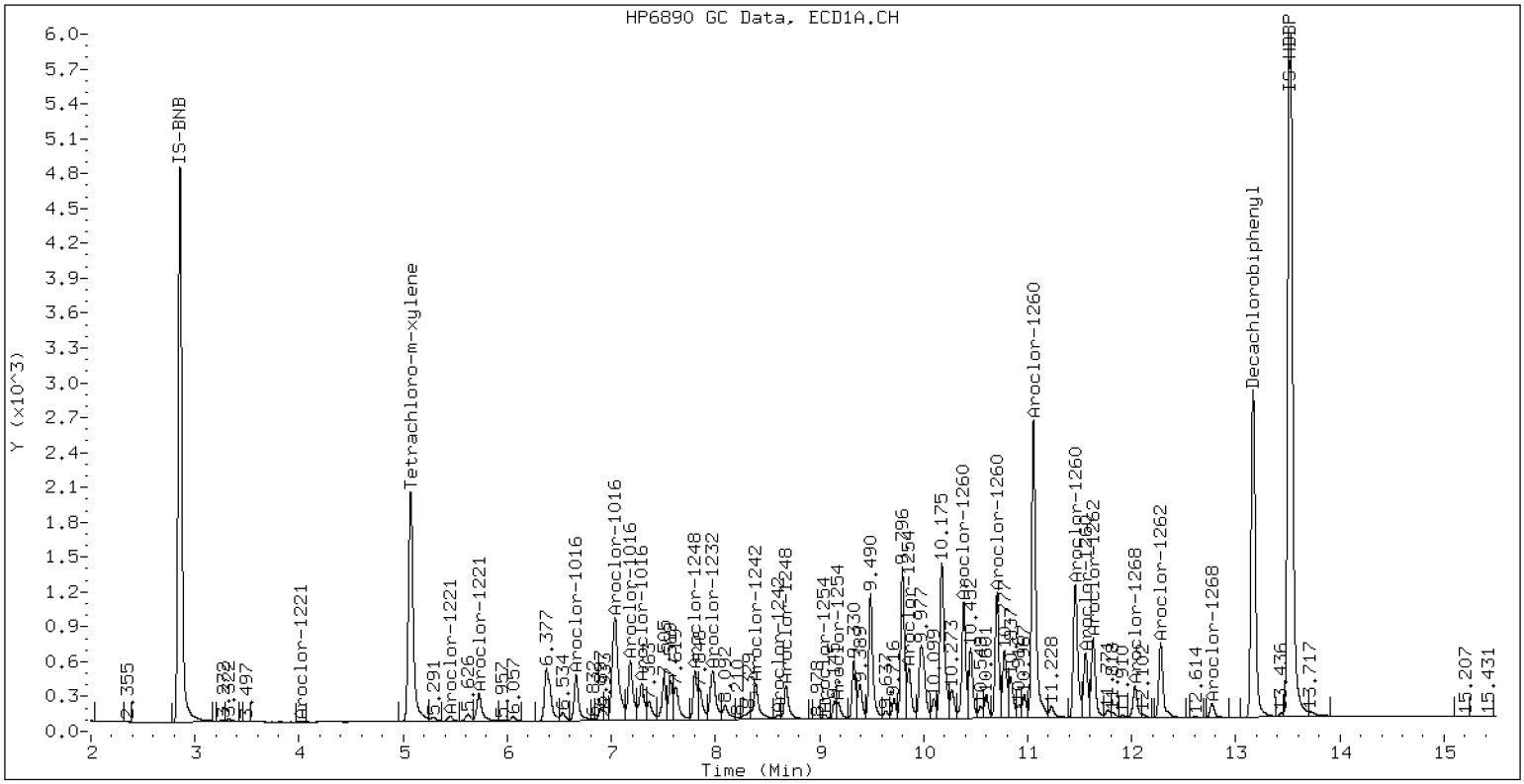
Total PCB Area Col2 (5.169 - 13.066) = 5304779 Col2 Total PCB = 0.6 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

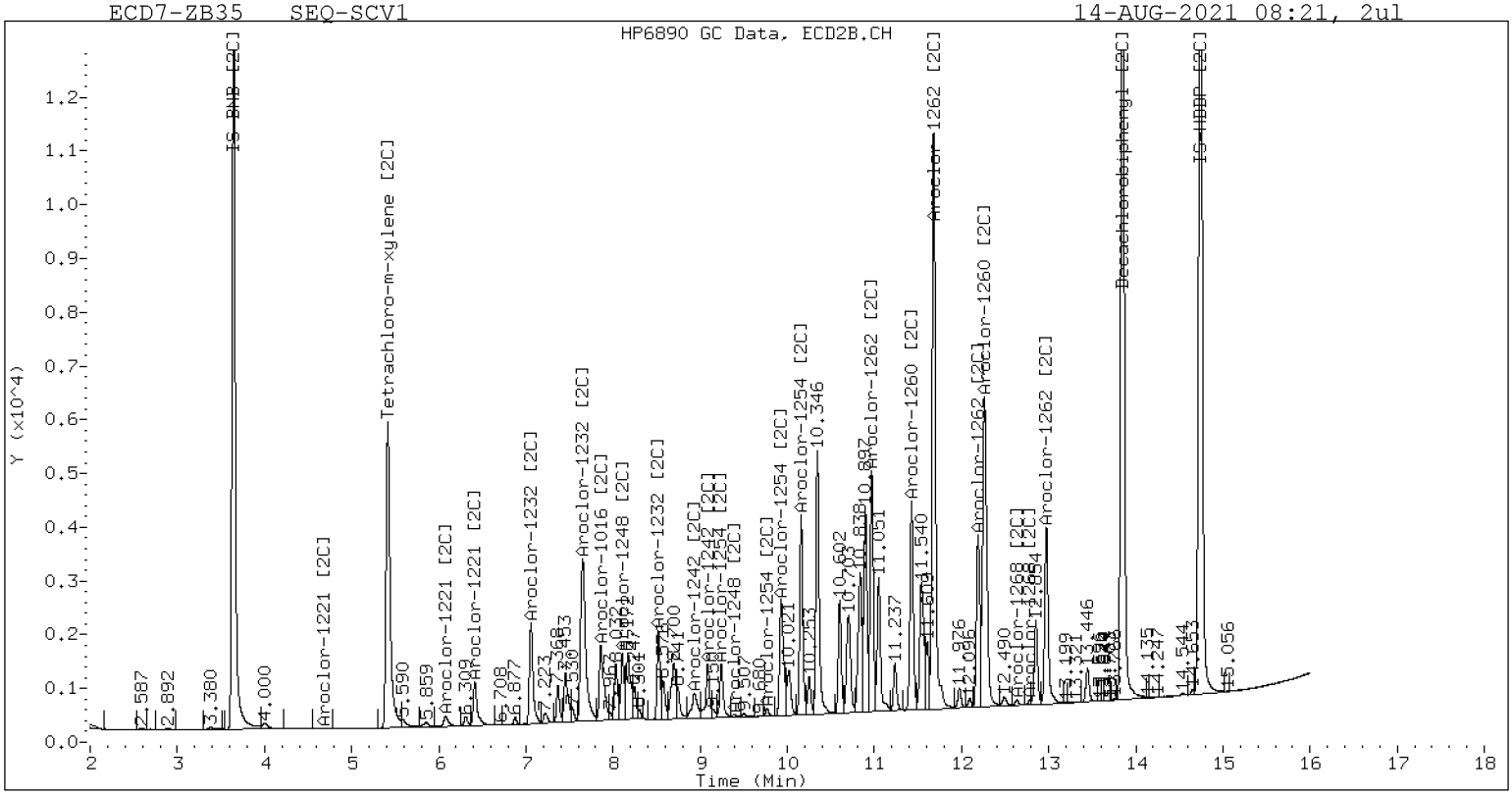
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV1 14-AUG-2021 08:21, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132142ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV2	Injection Time:	08:41
Sequence Name:	AR1242SCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	282	0.0350459	0.0378590		12.6	+/-20
Aroclor 1242 [2C]	A	250.00	257	0.0490898	0.0506982		2.8	+/-20
Decachlorobiphenyl	A	40.000	40.6	0.7261970	0.7366527		1.4	+/-20
Tetrachlorometaxylene	A	40.000	42.4	0.9669678	1.0253500		6.0	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.1	1.7775950	1.7819000		0.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.2	1.0280520	1.0587290		3.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132142ECD7.D
Data file 2: /210813.b/210813.b/08132142ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV2
Client ID:
Injection Date: 14-AUG-2021 08:41
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	132285	5.416	-0.001	383386	42.4	41.2	2.9	Tetrachloro-m-xylene
13.167	0.001	167664	13.849	-0.031	892912	40.6	40.1	1.2	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	258029	-0.3
Hexabromobiphenyl	425681	455205	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	724238	0.5
Hexabromobiphenyl	863111	1002202	16.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.662	0.004	19016	207.8	1	7.058	0.002	84149	203.8
Aroclor-1016	2	7.036	0.007	56530	202.0	2	7.655	0.007	190019	205.7
Aroclor-1016	3	7.182	0.006	26016	207.1	3	7.861	0.006	75921	209.4
Aroclor-1016	4	7.291	0.006	16388	208.1	4	8.108	0.003	48471	220.9
Total Col1Ave (4 peaks): 206.3						Total Col2Ave (4 peaks): 210.0 RPD = 2				
Corrected Ave (3 peaks): 205.6						Corrected Ave (3 peaks): 206.3 RPD = 0				
Aroclor-1221	1	4.028	0.013	116	5.7	1	---			0.0
Aroclor-1221	2	5.452	0.001	2495	78.1	2	6.082	0.010	11569	93.0
Aroclor-1221	3	5.727	0.003	12904	149.5	3	6.414	0.005	39789	183.5
Total Col1Ave (3 peaks): 77.8						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	4.028	0.010	116	9.3	1	---			0.0
Aroclor-1232	2	5.727	0.001	12904	189.7	2	7.058	0.000	84149	444.9
Aroclor-1232	3	7.036	0.003	56530	544.5	3	7.655	0.004	190019	502.0
Aroclor-1232	4	7.974	0.001	26547	621.6	4	8.522	0.000	61015	618.7
Total Col1Ave (4 peaks): 341.3						Total Col2Ave (3 peaks): 521.9 RPD = 42*				
Corrected Ave (3 peaks): 247.8						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.662	0.003	19016	267.5	1	7.058	0.001	84149	252.7
Aroclor-1242	2	7.036	0.006	56530	266.7	2	7.655	0.006	190019	262.7
Aroclor-1242	3	8.383	0.009	29618	246.7	3	8.960	0.011	88042	260.5
Aroclor-1242	4	8.677	0.003	16945	345.4	4	9.035	0.007	96759	252.3
Total Col1Ave (4 peaks): 281.6						Total Col2Ave (4 peaks): 257.1 RPD = 9				
Corrected Ave (3 peaks): 260.3						Corrected Ave (3 peaks): 255.2 RPD = 2				
Aroclor-1248	1	7.804	0.005	17658	163.3	1	8.108	0.002	48471	161.5
Aroclor-1248	2	7.974	0.006	26547	188.1	2	8.522	0.002	61015	167.0
Aroclor-1248	3	8.383	0.009	29618	143.3	3	8.960	0.014	88042	151.3
Aroclor-1248	4	8.677	0.004	16945	143.6	4	9.387	0.011	85570	173.2
Total Col1Ave (4 peaks): 159.6						Total Col2Ave (4 peaks): 163.2 RPD = 2				
Corrected Ave (3 peaks): 150.1						Corrected Ave (3 peaks): 159.9 RPD = 6				
Aroclor-1254	1	8.677	0.002	16945	76.1	1	9.243	0.003	29242	47.5
Aroclor-1254	2	8.749	0.003	9630	93.4	2	9.387	0.056	85570	236.6
Aroclor-1254	3	9.048	0.007	7009	48.3	3	9.768	0.005	22605	48.1
Aroclor-1254	4	9.185	0.010	12002	43.3	4	9.920	0.006	43258	41.6
Aroclor-1254	5	9.892	0.025	8818	50.7	5	10.159	0.012	45764	43.4
Total Col1Ave (5 peaks): 62.4						Total Col2Ave (5 peaks): 83.4 RPD = 29				
Corrected Ave (4 peaks): 54.6						Corrected Ave (4 peaks): 45.1 RPD = 19				
Aroclor-1260	1	10.393	0.010	159	0.8	1	11.445	0.020	5299	6.4
Aroclor-1260	2	10.708	0.008	221	1.1	2	11.687	0.006	3878	1.6
Aroclor-1260	3	11.059	0.009	267	0.5	3	12.271	0.010	3933	2.5
Aroclor-1260	4	11.460	0.007	376	1.6	4	13.053	0.081	5398	7.3
Aroclor-1260	5	---			0.0	NS	---			----
Total Col1Ave (4 peaks): 1.0						Total Col2Ave (4 peaks): 4.4 RPD = 128*				
Corrected Ave (3 peaks): 0.8						Corrected Ave (3 peaks): 3.5 RPD = 126*				
Aroclor-1262	1	10.393	0.009	159	0.6	1	10.901	-0.069	17524	14.3
Aroclor-1262	2	11.460	0.005	376	2.1	2	11.687	0.001	3878	1.5
Aroclor-1262	3	---			0.0	3	12.271	0.083	3933	3.4
Aroclor-1262	4	---			0.0	4	13.053	0.081	5398	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: 6.1				
Aroclor-1268	1	11.460	-0.097	376	0.6	1	12.271	0.071	3933	1.4
Aroclor-1268	2	---			0.0	2	---			0.0
Aroclor-1268	3	11.914	-0.086	1770	3.5	3	12.639	-0.005	1023	0.4
Aroclor-1268	4	12.775	0.003	794	0.5	4	12.790	0.006	1260	1.9
Total Col1Ave (3 peaks): 1.5						Total Col2Ave (3 peaks): 1.2 RPD = 24				
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				

Total PCB Area Col1 (5.169 - 13.066) = 482960 Col1 Total PCB = 0.2 ppm*

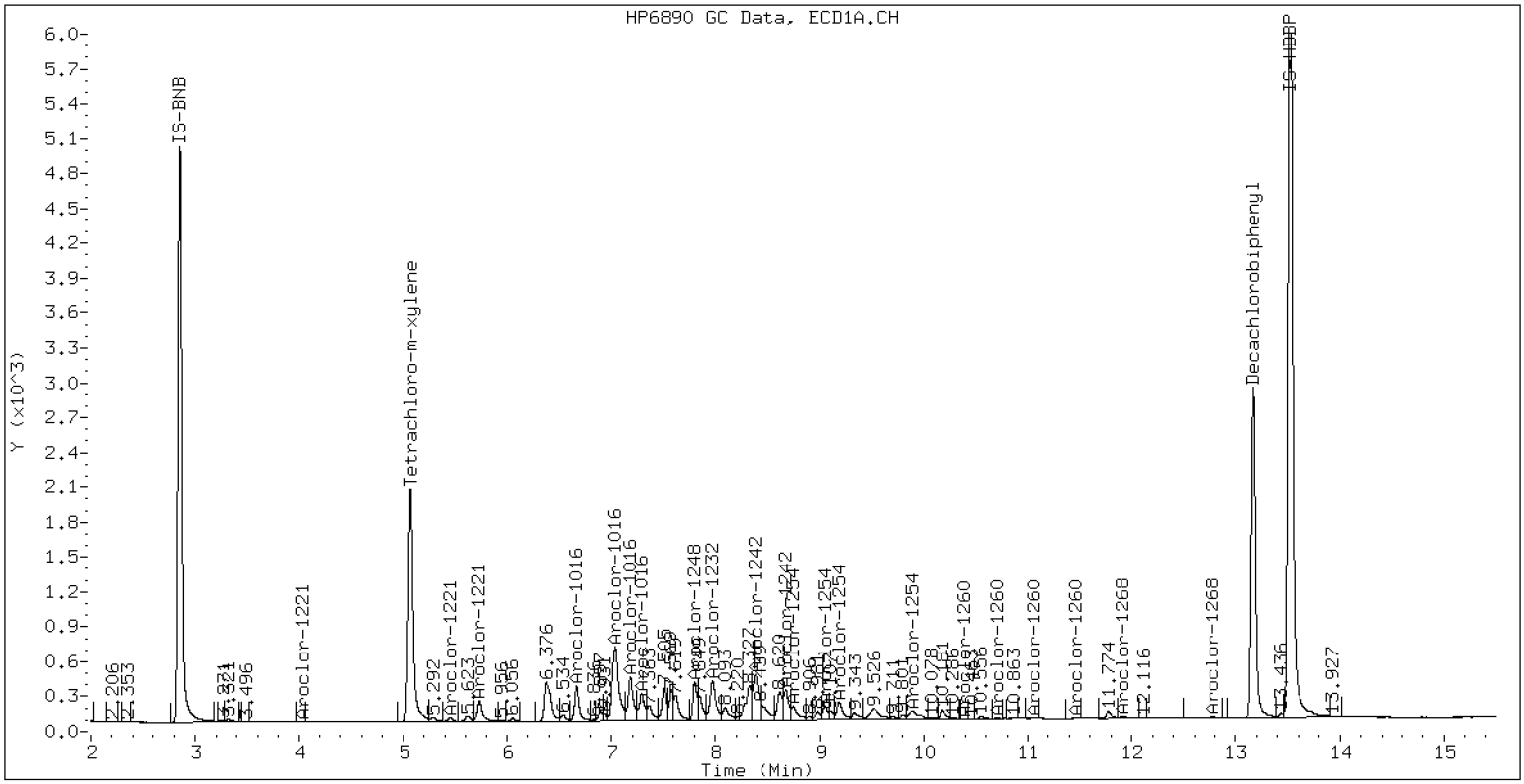
Total PCB Area Col2 (5.169 - 13.066) = 1884416 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

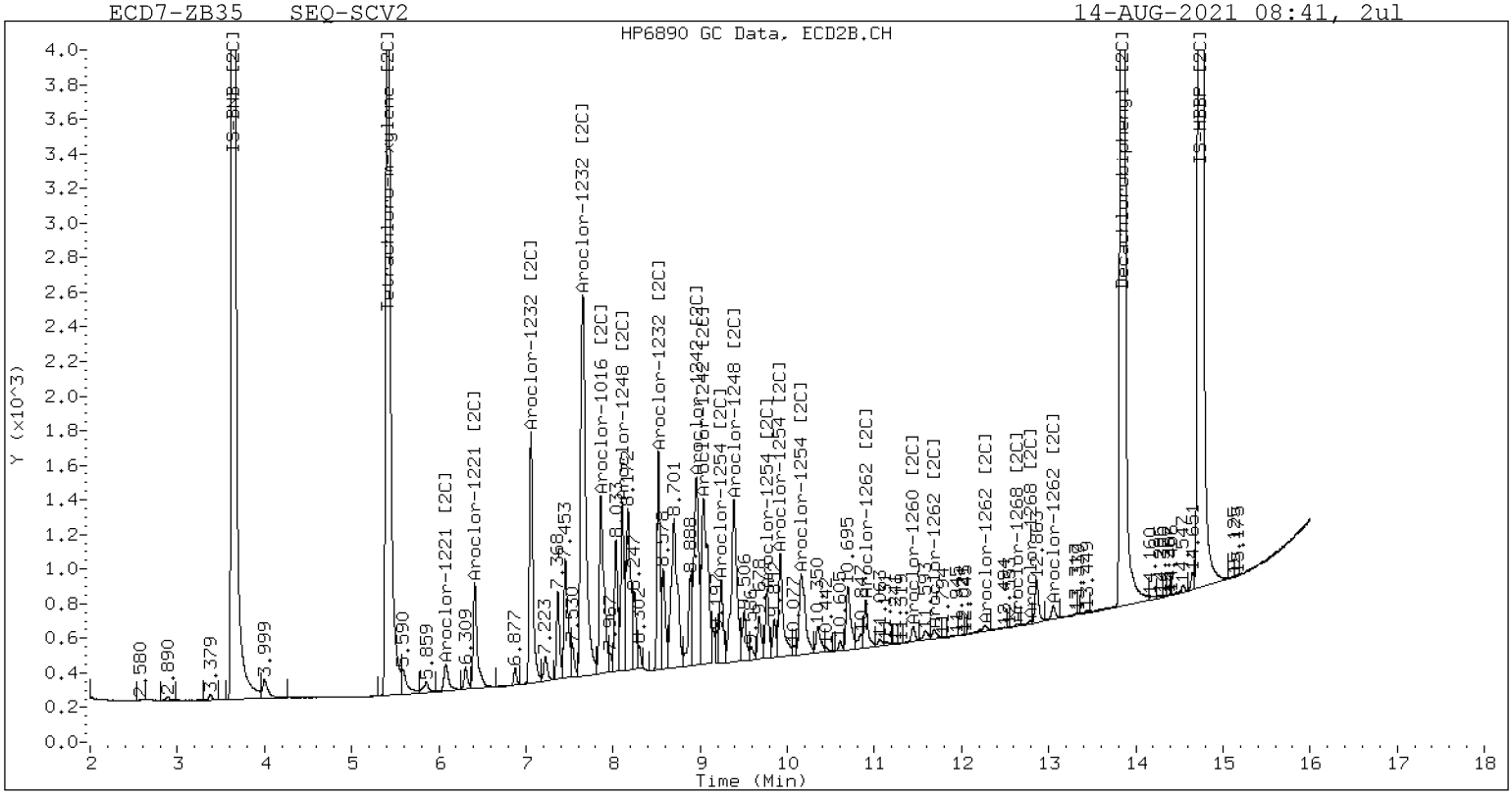
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV2 14-AUG-2021 08:41, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV2 14-AUG-2021 08:41, 2ul

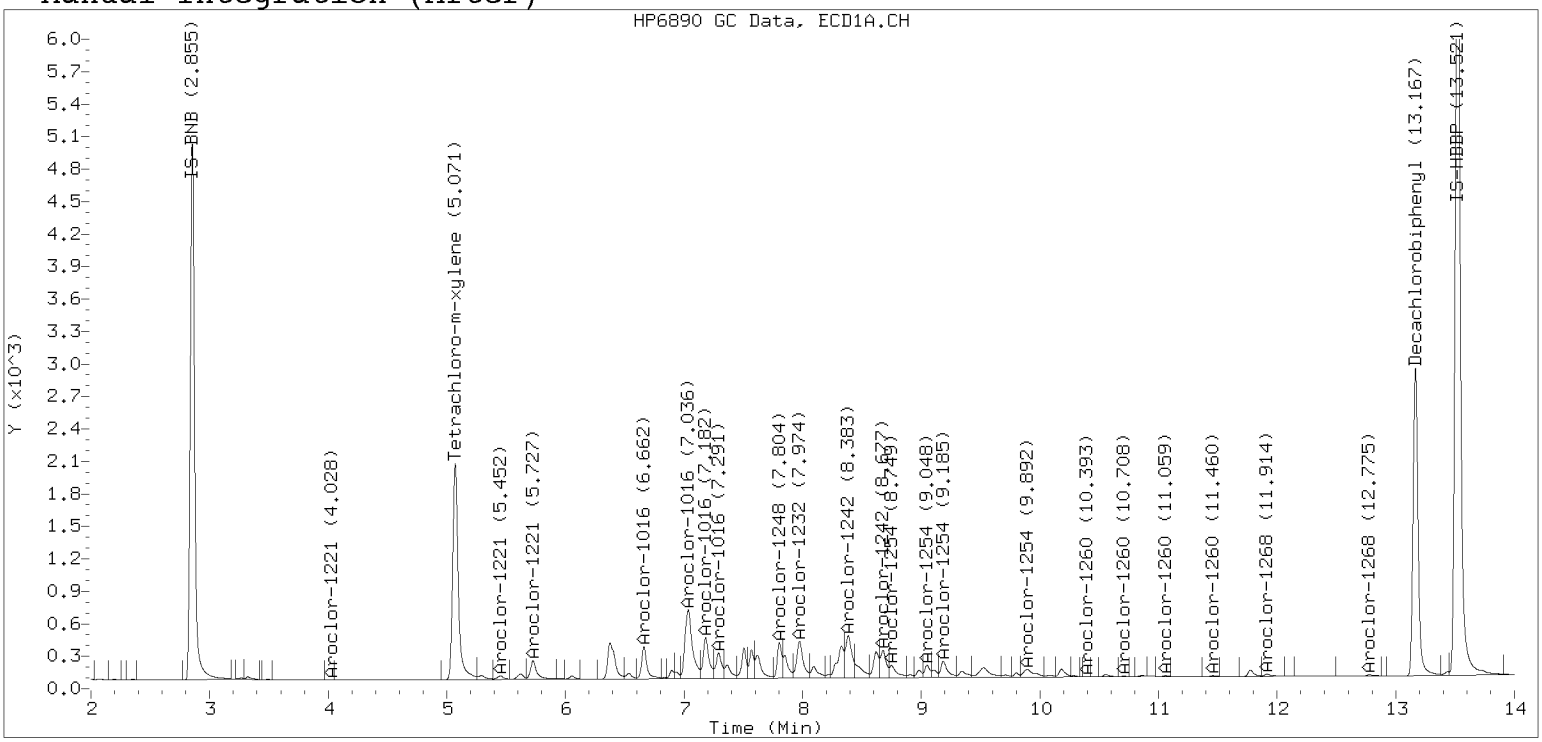


ZB-35 Manual Integration: YES

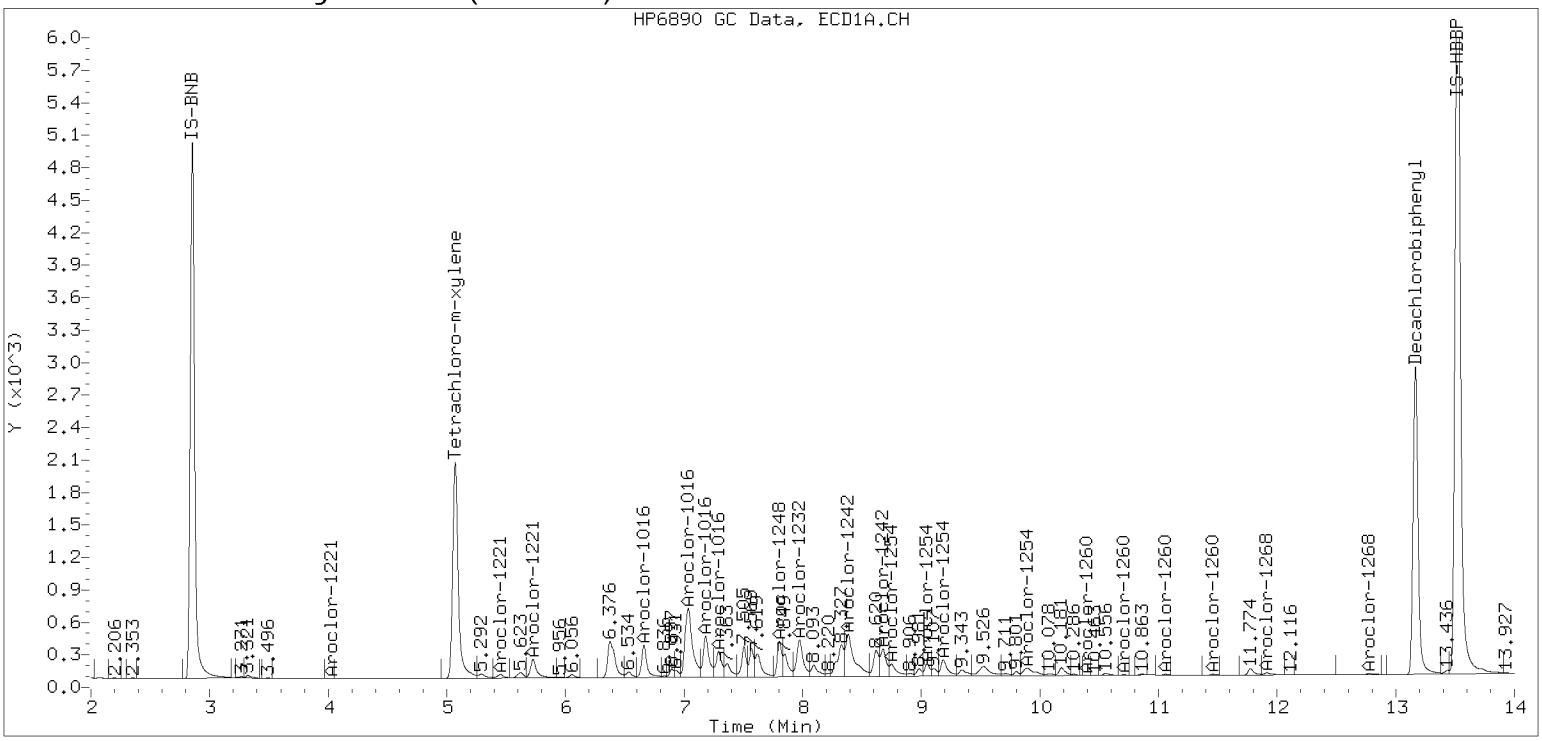
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132142ECD7.D Injection Date: 14-AUG-2021 08:41

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132143ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV3	Injection Time:	09:02
Sequence Name:	AR1248SCV3		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	262	0.0444871	0.0465152		4.6	+/-20
Aroclor 1248 [2C]	A	250.00	275	0.0480909	0.0527683		10.0	+/-20
Decachlorobiphenyl	A	40.000	39.5	0.7261970	0.7165649		-1.3	+/-20
Tetrachlorometaxylene	A	40.000	41.7	0.9669678	1.0072130		4.2	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.4	1.7775950	1.7077060		-3.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.4	1.0280520	1.0386920		1.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132143ECD7.D
Data file 2: /210813.b/210813.b/08132143ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV3
Client ID:
Injection Date: 14-AUG-2021 09:02
Report Date: 08/16/2021 17:58
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	133217	5.416	-0.001	384693	41.7	40.4	3.0	Tetrachloro-m-xylene
13.165	-0.001	166922	13.848	-0.032	892438	39.5	38.4	2.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264526	2.2
Hexabromobiphenyl	425681	465895	9.4

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	740726	2.7
Hexabromobiphenyl	863111	1045189	21.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	9682	103.2	1	7.058	0.001	46276	109.6
Aroclor-1016	2	7.035	0.006	37972	132.4	2	7.654	0.006	128803	136.3
Aroclor-1016	3	7.185	0.009	16001	124.3	3	7.862	0.007	26557	71.6
Aroclor-1016	4	7.292	0.007	10150	125.7	4	8.107	0.002	83644	372.8
Total Col1Ave (4 peaks):					121.4	Total Col2Ave (4 peaks):				172.6 RPD = 35
Corrected Ave (3 peaks):					117.7	Corrected Ave (3 peaks):				105.8 RPD = 11
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	5.455	0.004	449	13.7	2	6.091	0.019	6638	52.2
Aroclor-1221	3	5.728	0.004	2260	25.5	3	6.414	0.005	8501	38.3
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	5.728	0.002	2260	32.4	2	7.058	-0.000	46276	239.2
Aroclor-1232	3	7.035	0.002	37972	356.8	3	7.654	0.003	128803	332.7
Aroclor-1232	4	7.972	-0.000	39250	896.5	4	8.523	0.001	102298	1014.3
Total Col1Ave (3 peaks):					428.6	Total Col2Ave (3 peaks):				528.7 RPD = 21
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1242	1	6.663	0.004	9682	132.8	1	7.058	0.000	46276	135.9
Aroclor-1242	2	7.035	0.005	37972	174.8	2	7.654	0.005	128803	174.1
Aroclor-1242	3	8.381	0.007	54555	443.2	3	8.956	0.007	151640	438.8
Aroclor-1242	4	8.678	0.004	31259	621.5	4	9.034	0.006	104178	265.6
Total Col1Ave (4 peaks):					343.1	Total Col2Ave (4 peaks):				253.6 RPD = 30
Corrected Ave (3 peaks):					250.3	Corrected Ave (3 peaks):				191.9 RPD = 26
Aroclor-1248	1	7.802	0.004	28742	259.3	1	8.107	0.002	83644	272.5
Aroclor-1248	2	7.972	0.004	39250	271.2	2	8.523	0.003	102298	273.8
Aroclor-1248	3	8.381	0.007	54555	257.5	3	8.956	0.009	151640	254.8
Aroclor-1248	4	8.678	0.004	31259	258.4	4	9.383	0.006	151004	298.8
Total Col1Ave (4 peaks):					261.6	Total Col2Ave (4 peaks):				275.0 RPD = 5
Corrected Ave (3 peaks):					258.4	Corrected Ave (3 peaks):				267.0 RPD = 3
Aroclor-1254	1	8.678	0.002	31259	137.0	1	9.242	0.003	54333	86.2
Aroclor-1254	2	8.749	0.003	18396	174.1	2	9.383	0.052	151004	408.3
Aroclor-1254	3	9.047	0.006	14863	99.9	3	9.767	0.004	47940	99.8
Aroclor-1254	4	9.184	0.008	25850	91.0	4	9.918	0.004	90159	84.7
Aroclor-1254	5	9.891	0.024	17966	100.7	5	10.157	0.010	92605	85.8
Total Col1Ave (5 peaks):					120.5	Total Col2Ave (5 peaks):				152.9 RPD = 24
Corrected Ave (4 peaks):					107.1	Corrected Ave (4 peaks):				89.1 RPD = 18
Aroclor-1260	1	10.390	0.007	578	2.8	1	11.440	0.015	6820	7.8
Aroclor-1260	2	10.706	0.006	437	2.1	2	11.683	0.002	7655	3.0
Aroclor-1260	3	11.059	0.008	1267	2.3	3	12.263	0.002	5159	3.2
Aroclor-1260	4	11.460	0.007	540	2.2	4	12.973	0.001	2451	3.2
Aroclor-1260	5	11.559	0.005	490	4.0	NS	---			----
Total Col1Ave (5 peaks):					2.7	Total Col2Ave (4 peaks):				4.3 RPD = 47*
Corrected Ave (4 peaks):					2.3	Corrected Ave (3 peaks):				3.1 RPD = 29
Aroclor-1262	1	10.390	0.006	578	2.0	1	10.972	0.001	4108	3.2
Aroclor-1262	2	11.460	0.005	540	2.9	2	11.683	-0.002	7655	2.8
Aroclor-1262	3	11.632	0.005	592	2.2	3	12.188	-0.000	3699	3.1
Aroclor-1262	4	12.278	0.004	571	2.6	4	12.973	0.001	2451	2.2
Total Col1Ave (4 peaks):					2.5	Total Col2Ave (4 peaks):				2.8 RPD = 14
Corrected Ave (3 peaks):					2.3	Corrected Ave (3 peaks):				2.7 RPD = 17
Aroclor-1268	1	11.559	0.002	490	0.8	1	12.188	-0.012	3699	1.2
Aroclor-1268	2	11.632	0.006	592	0.9	2	12.263	-0.004	5159	1.6
Aroclor-1268	3	11.915	-0.086	879	1.7	3	12.643	-0.001	909	0.3
Aroclor-1268	4	12.775	0.003	932	0.6	4	12.788	0.005	972	1.4
Total Col1Ave (4 peaks):					1.0	Total Col2Ave (4 peaks):				1.1 RPD = 13
Corrected Ave (3 peaks):					0.7	Corrected Ave (3 peaks):				1.0 RPD = 27

Total PCB Area Col1 (5.169 - 13.066) = 608290 Col1 Total PCB = 0.2 ppm*

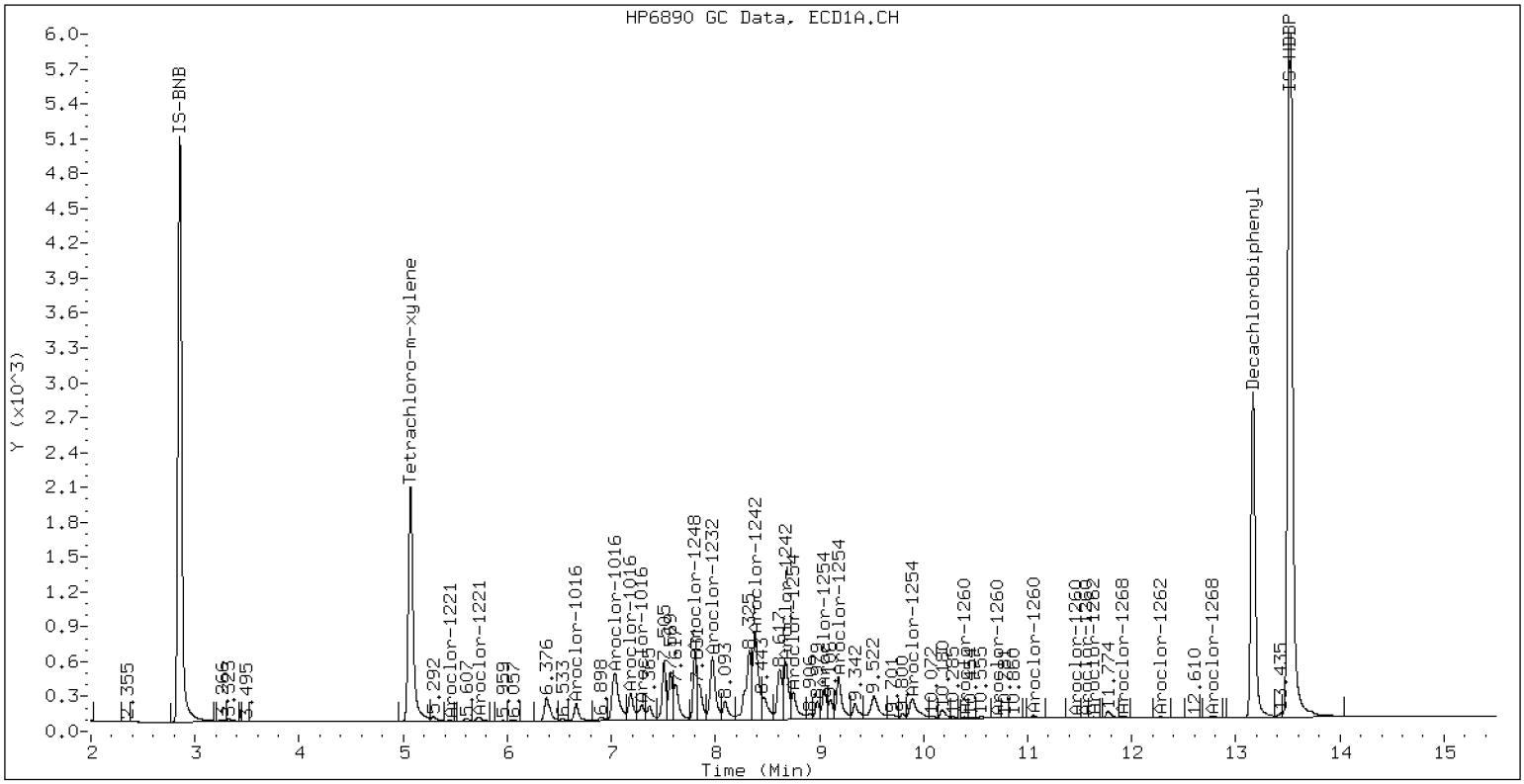
Total PCB Area Col2 (5.169 - 13.066) = 2317749 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

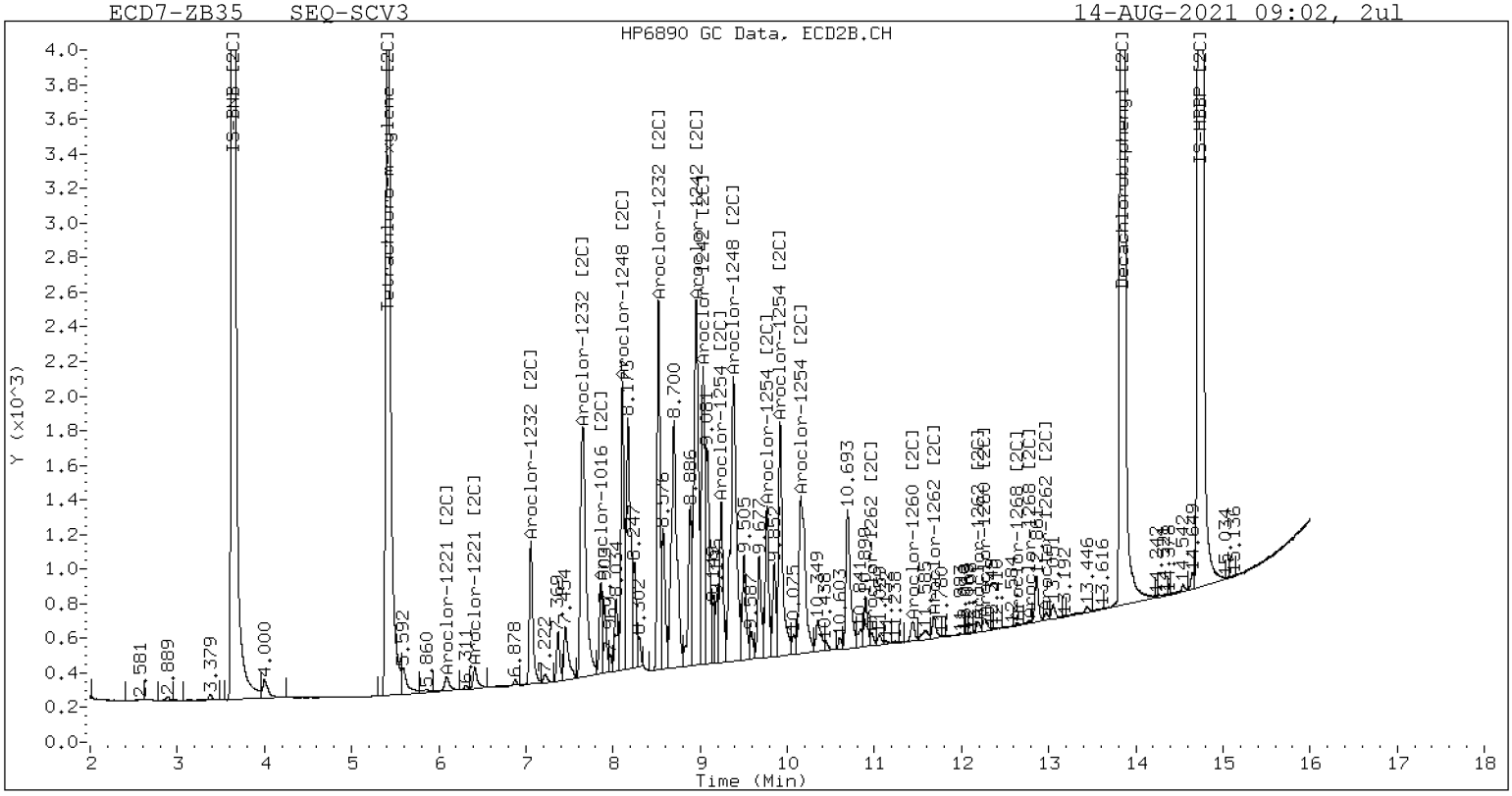
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV3 14-AUG-2021 09:02, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 SEQ-SCV3 14-AUG-2021 09:02, 2ul

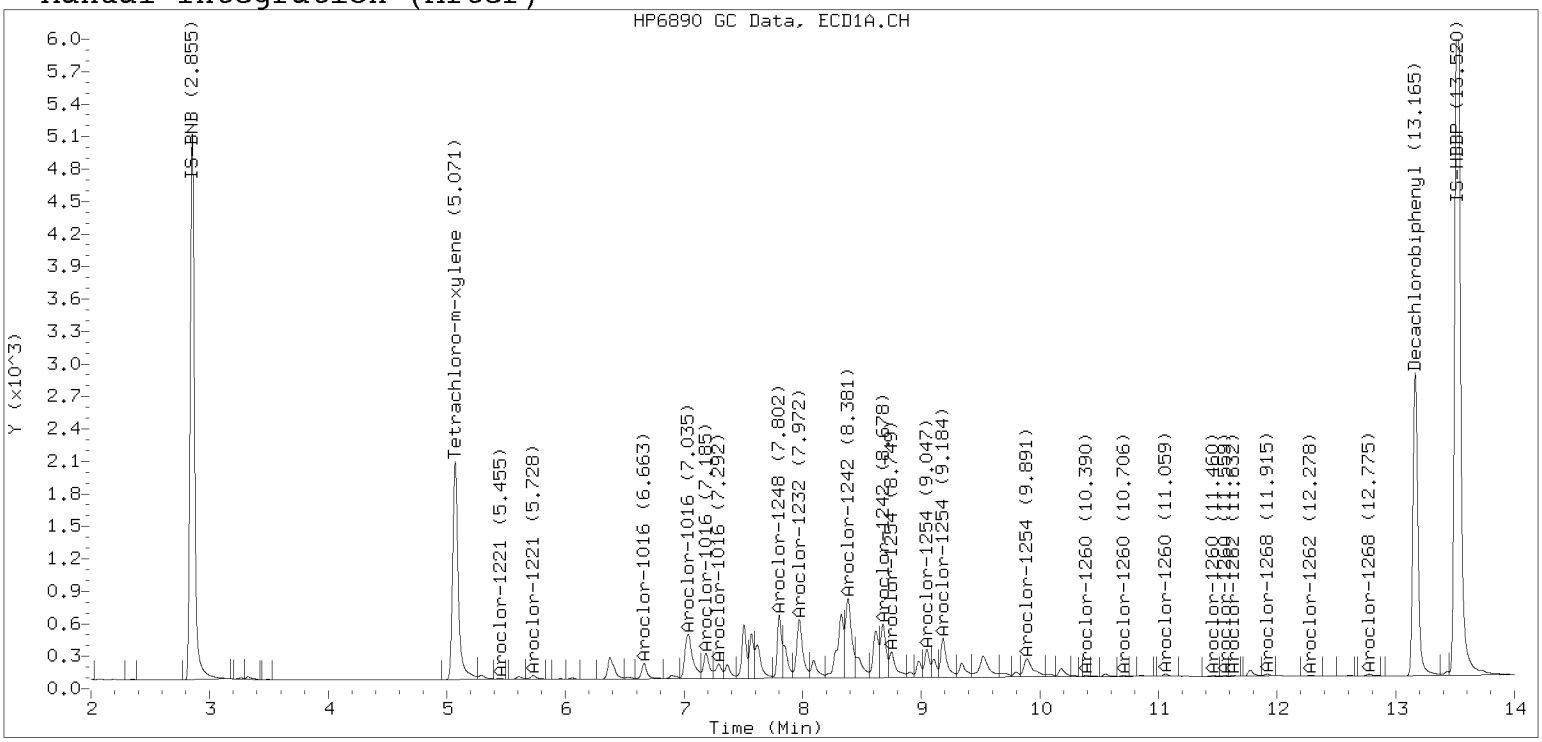


ZB-35 Manual Integration: NO

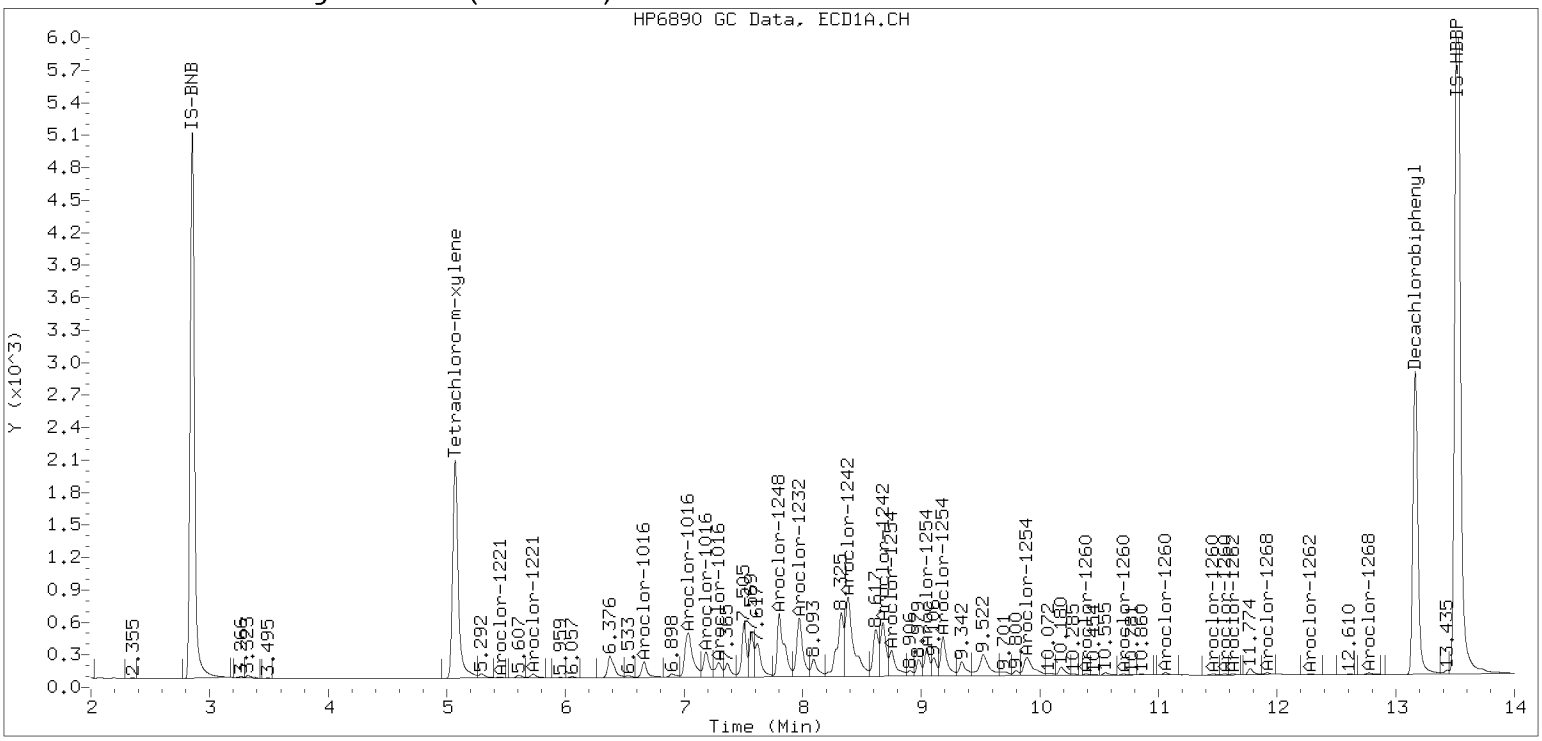
Manual Peak Adjustment, ZB-5

Datafile: ecd7.i/210813.b/08132143ECD7.D Injection Date: 14-AUG-2021 09:02

Manual Integration (After)



Processed Integration (Before)



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132144ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV4	Injection Time:	09:22
Sequence Name:	AR1254SCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	282	0.0571741	0.0643807		12.7	+/-20
Aroclor 1254 [2C]	A	250.00	264	0.0782980	0.0831818		5.8	+/-20
Decachlorobiphenyl	A	40.000	40.1	0.7261970	0.7274386		0.2	+/-20
Tetrachlorometaxylene	A	40.000	42.6	0.9669678	1.0302020		6.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.6	1.7775950	1.7164800		-3.4	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.4	1.0280520	1.0649090		3.6	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132144ECD7.D
Data file 2: /210813.b/210813.b/08132144ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV4
Client ID:
Injection Date: 14-AUG-2021 09:22
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	134141	5.416	-0.001	389116	42.6	41.4	2.8	Tetrachloro-m-xylene
13.166	0.000	166634	13.848	-0.032	887620	40.1	38.6	3.7	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	260417	0.6
Hexabromobiphenyl	425681	458139	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	730797	1.4
Hexabromobiphenyl	863111	1034233	19.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	131	1.4	1	7.062	0.005	1136	2.7
Aroclor-1016	2	7.039	0.009	605	2.1	2	7.659	0.011	3270	3.5
Aroclor-1016	3	7.189	0.014	416	3.3	3	7.909	0.054	1836	5.0
Aroclor-1016	4	---			0.0	4	8.109	0.004	59728	269.8
Total Col1Ave (3 peaks): 2.3						Total Col2Ave (4 peaks): 70.3 RPD = 187*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 3.8				
Aroclor-1221	1	---			0.0	1	---			0.0
Aroclor-1221	2	---			0.0	2	6.094	0.021	4462	35.5
Aroclor-1221	3	---			0.0	3	6.411	0.002	1085	5.0
Col1Ave: <3 Quant Peaks						Col2Ave: <3 Quant Peaks				
Aroclor-1232	1	---			0.0	1	---			0.0
Aroclor-1232	2	---			0.0	2	7.062	0.004	1136	6.0
Aroclor-1232	3	7.039	0.005	605	5.8	3	7.659	0.008	3270	8.6
Aroclor-1232	4	7.975	0.003	5517	128.0	4	8.524	0.002	40317	405.2
Col1Ave: <3 Quant Peaks						Col2Ave: 139.9				
Aroclor-1242	1	6.663	0.004	131	1.8	1	7.062	0.005	1136	3.4
Aroclor-1242	2	7.039	0.008	605	2.8	2	7.659	0.010	3270	4.5
Aroclor-1242	3	8.385	0.011	48414	399.6	3	8.960	0.012	63036	184.9
Aroclor-1242	4	8.679	0.005	62054	1253.2	4	9.035	0.007	12438	32.1
Total Col1Ave (4 peaks): 414.4						Total Col2Ave (4 peaks): 56.2 RPD = 152*				
Corrected Ave (3 peaks): 134.7						Corrected Ave (3 peaks): 13.3 RPD = 164*				
Aroclor-1248	1	7.804	0.005	12376	113.4	1	8.109	0.003	59728	197.2
Aroclor-1248	2	7.975	0.007	5517	38.7	2	8.524	0.004	40317	109.4
Aroclor-1248	3	8.385	0.011	48414	232.1	3	8.960	0.014	63036	107.4
Aroclor-1248	4	8.679	0.005	62054	521.1	4	9.335	-0.041	91889	184.3
Total Col1Ave (4 peaks): 226.3						Total Col2Ave (4 peaks): 149.6 RPD = 41*				
Corrected Ave (3 peaks): 128.1						Corrected Ave (3 peaks): 133.7 RPD = 4				
Aroclor-1254	1	8.679	0.003	62054	276.2	1	9.242	0.003	166697	268.1
Aroclor-1254	2	8.751	0.005	29615	284.7	2	9.335	0.004	91889	251.8
Aroclor-1254	3	9.046	0.005	40463	276.3	3	9.766	0.003	128036	270.1
Aroclor-1254	4	9.181	0.005	78989	282.3	4	9.918	0.004	270040	257.1
Aroclor-1254	5	9.873	0.006	50845	289.4	5	10.155	0.008	293166	275.2
Total Col1Ave (5 peaks): 281.8						Total Col2Ave (5 peaks): 264.5 RPD = 6				
Corrected Ave (4 peaks): 279.9						Corrected Ave (4 peaks): 261.8 RPD = 7				
Aroclor-1260	1	10.386	0.003	4281	20.8	1	11.441	0.015	77320	89.9
Aroclor-1260	2	10.706	0.006	4756	23.5	2	11.684	0.003	61993	24.8
Aroclor-1260	3	11.057	0.007	11820	21.6	3	12.266	0.005	35733	22.2
Aroclor-1260	4	11.458	0.005	9286	38.1	4	12.973	0.001	1994	2.6
Aroclor-1260	5	11.627	0.073	440	3.6	NS	---			----
Total Col1Ave (5 peaks): 21.5						Total Col2Ave (4 peaks): 34.9 RPD = 47*				
Corrected Ave (4 peaks): 17.4						Corrected Ave (3 peaks): 16.5 RPD = 5				
Aroclor-1262	1	10.386	0.002	4281	15.3	1	10.897	-0.073	251611	198.9
Aroclor-1262	2	11.458	0.003	9286	51.3	2	11.684	-0.001	61993	23.2
Aroclor-1262	3	11.627	0.000	440	1.7	3	12.205	0.017	9780	8.3
Aroclor-1262	4	12.279	0.005	629	2.9	4	12.973	0.000	1994	1.8
Total Col1Ave (4 peaks): 17.8						Total Col2Ave (4 peaks): 58.1 RPD = 106*				
Corrected Ave (3 peaks): 6.6						Corrected Ave (3 peaks): 11.1 RPD = 50*				
Aroclor-1268	1	11.627	0.070	440	0.7	1	12.205	0.005	9780	3.3
Aroclor-1268	2	---			0.0	2	12.266	-0.001	35733	11.0
Aroclor-1268	3	11.912	-0.088	968	1.9	3	12.633	-0.011	400	0.1
Aroclor-1268	4	12.774	0.002	1001	0.6	4	12.861	0.078	15819	22.8
Total Col1Ave (3 peaks): 1.1						Total Col2Ave (4 peaks): 9.3 RPD = 158*				
Corrected Ave: < 3 Peaks						Corrected Ave (3 peaks): 4.8				

Total PCB Area Col1 (5.169 - 13.066) = 819275 Col1 Total PCB = 0.3 ppm*

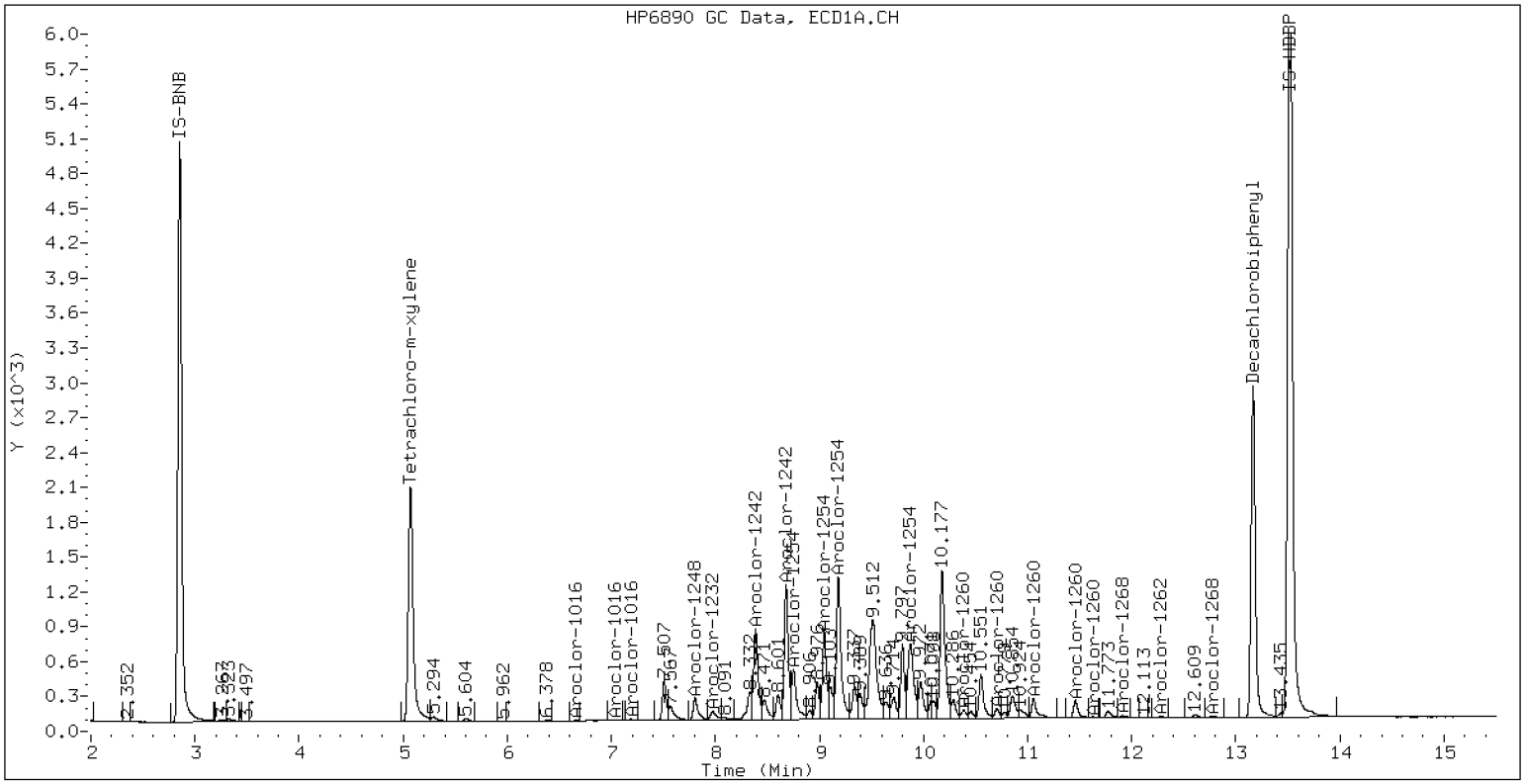
Total PCB Area Col2 (5.169 - 13.066) = 3111878 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

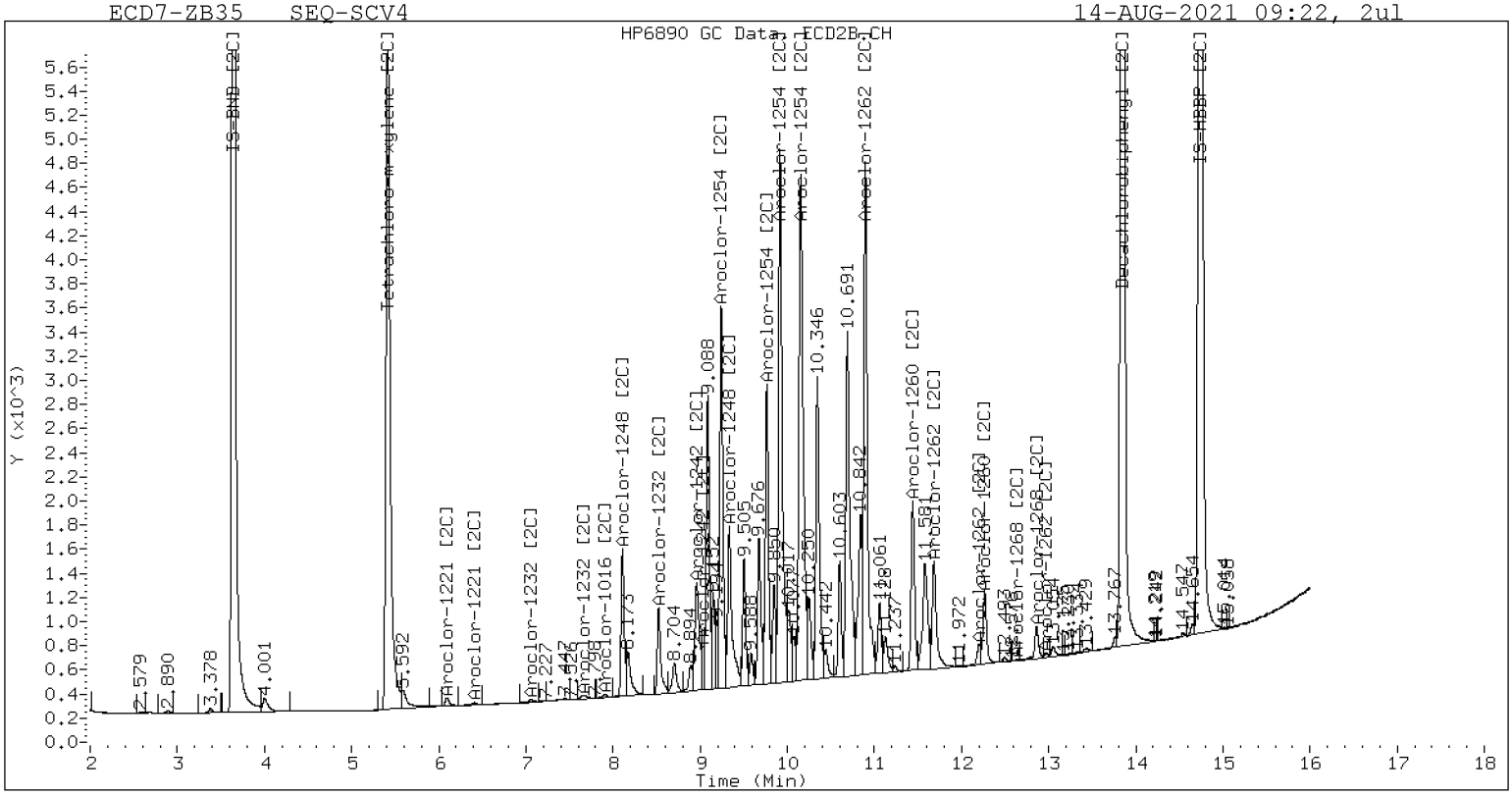
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV4 14-AUG-2021 09:22, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132145ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV5	Injection Time:	09:43
Sequence Name:	AR2162SCV5		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1221	A	250.00	293	0.0143248	0.0165460		17.0	+/-20
Aroclor 1221 [2C]	A	250.00	266	0.0145693	0.0154784		6.4	+/-20
Decachlorobiphenyl	A	40.000	38.8	0.7261970	0.7050646		-2.9	+/-20
Tetrachlorometaxylene	A	40.000	40.6	0.9669678	0.9811862		1.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.6	1.7775950	1.6729930		-5.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.1	1.0280520	1.0059940		-2.1	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132145ECD7.D
Data file 2: /210813.b/210813.b/08132145ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV5
Client ID:
Injection Date: 14-AUG-2021 09:43
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col			ZB35 Col			ZB5	ZB35		
RT	Shift	Response	RT	Shift	Response	on col	on col	RPD	Compound/Flag
5.072	0.003	131998	5.417	-0.000	375118	40.6	39.1	3.6	Tetrachloro-m-xylene
13.166	-0.000	164634	13.848	-0.032	881936	38.8	37.6	3.1	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269058	3.9
Hexabromobiphenyl	425681	467004	9.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	745766	3.4
Hexabromobiphenyl	863111	1054321	22.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	1551	16.3	1	7.061	0.004	17081	40.2
Aroclor-1016	2	7.039	0.009	4280	14.7	2	7.658	0.011	15832	16.6
Aroclor-1016	3	7.184	0.008	2282	17.4	3	7.865	0.010	6703	18.0
Aroclor-1016	4	7.294	0.009	1564	19.1	4	8.109	0.004	3939	17.4
Total Col1Ave (4 peaks):				16.8		Total Col2Ave (4 peaks):			23.1	RPD = 31
Corrected Ave (3 peaks):				16.1		Corrected Ave (3 peaks):			17.3	RPD = 7
Aroclor-1221	1	4.018	0.002	6262	294.7	1	4.680	0.004	15071	269.2
Aroclor-1221	2	5.454	0.003	9982	299.7	2	6.075	0.003	33472	261.2
Aroclor-1221	3	5.728	0.004	25492	283.3	3	6.413	0.004	59675	267.2
Total Col1Ave (3 peaks):				292.6		Total Col2Ave (3 peaks):			265.9	RPD = 10
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.018	-0.000	6262	479.9	1	4.680	0.001	15071	452.2
Aroclor-1232	2	5.728	0.002	25492	359.4	2	7.061	0.003	17081	87.7
Aroclor-1232	3	7.039	0.005	4280	39.5	3	7.658	0.007	15832	40.6
Aroclor-1232	4	7.978	0.006	798	17.9	4	8.525	0.003	2523	24.8
Total Col1Ave (4 peaks):				224.2		Total Col2Ave (4 peaks):			151.3	RPD = 39
Corrected Ave (3 peaks):				139.0		Corrected Ave (3 peaks):			51.1	RPD = 93*
Aroclor-1242	1	6.663	0.004	1551	20.9	1	7.061	0.004	17081	49.8
Aroclor-1242	2	7.039	0.009	4280	19.4	2	7.658	0.010	15832	21.3
Aroclor-1242	3	8.388	0.013	9148	73.1	3	8.966	0.018	6505	18.7
Aroclor-1242	4	8.680	0.006	9619	188.0	4	9.089	0.061	25267	64.0
Total Col1Ave (4 peaks):				75.3		Total Col2Ave (4 peaks):			38.4	RPD = 65*
Corrected Ave (3 peaks):				37.8		Corrected Ave (3 peaks):			29.9	RPD = 23
Aroclor-1248	1	7.805	0.007	1067	9.5	1	8.109	0.003	3939	12.7
Aroclor-1248	2	7.978	0.010	798	5.4	2	8.525	0.005	2523	6.7
Aroclor-1248	3	8.388	0.013	9148	42.4	3	8.966	0.020	6505	10.9
Aroclor-1248	4	8.680	0.007	9619	78.2	4	9.396	0.019	4022	7.9
Total Col1Ave (4 peaks):				33.9		Total Col2Ave (4 peaks):			9.6	RPD = 112*
Corrected Ave (3 peaks):				19.1		Corrected Ave (3 peaks):			8.5	RPD = 77*
Aroclor-1254	1	8.680	0.005	9619	41.4	1	9.245	0.005	26890	42.4
Aroclor-1254	2	---			0.0	2	9.336	0.005	2650	7.1
Aroclor-1254	3	9.050	0.008	1343	8.9	3	9.769	0.007	4242	8.8
Aroclor-1254	4	9.145	-0.031	9990	34.6	4	9.932	0.019	121430	113.3
Aroclor-1254	5	9.858	-0.010	13751	75.8	5	10.160	0.013	143957	132.4
Total Col1Ave (4 peaks):				40.2		Total Col2Ave (5 peaks):			60.8	RPD = 41*
Corrected Ave (3 peaks):				28.3		Corrected Ave (4 peaks):			42.9	RPD = 41*
Aroclor-1260	1	10.387	0.004	74432	354.3	1	11.427	0.001	248521	283.6
Aroclor-1260	2	10.705	0.005	63581	308.3	2	11.682	0.001	656259	257.6
Aroclor-1260	3	11.056	0.005	158724	284.8	3	12.261	0.000	468343	285.9
Aroclor-1260	4	11.457	0.004	49425	199.0	4	12.974	0.001	287502	367.1
Aroclor-1260	5	11.557	0.003	61640	495.8	NS	---			----
Total Col1Ave (5 peaks):				328.4		Total Col2Ave (4 peaks):			298.6	RPD = 10
Corrected Ave (4 peaks):				286.6		Corrected Ave (3 peaks):			275.7	RPD = 4
Aroclor-1262	1	10.387	0.003	74432	261.2	1	10.970	-0.000	313779	243.4
Aroclor-1262	2	11.457	0.002	49425	267.8	2	11.682	-0.003	656259	241.2
Aroclor-1262	3	11.628	0.001	70335	264.4	3	12.188	0.000	303167	251.1
Aroclor-1262	4	12.278	0.003	58296	266.9	4	12.974	0.001	287502	255.5
Total Col1Ave (4 peaks):				265.1		Total Col2Ave (4 peaks):			247.8	RPD = 7
Corrected Ave (3 peaks):				264.2		Corrected Ave (3 peaks):			245.2	RPD = 7
Aroclor-1268	1	11.557	0.000	61640	98.4	1	12.188	-0.012	303167	100.1
Aroclor-1268	2	11.628	0.002	70335	107.0	2	12.261	-0.006	468343	141.7
Aroclor-1268	3	12.031	0.030	24251	46.9	3	12.635	-0.009	18559	6.5
Aroclor-1268	4	12.770	-0.001	19100	11.5	4	12.783	0.000	11203	15.9
Total Col1Ave (4 peaks):				65.9		Total Col2Ave (4 peaks):			66.0	RPD = 0

Corrected Ave (3 peaks): 52.2 Corrected Ave (3 peaks): 40.8 RPD = 25

Total PCB Area Col1 (5.169 - 13.066) = 1098701 Col1 Total PCB = 0.4 ppm*

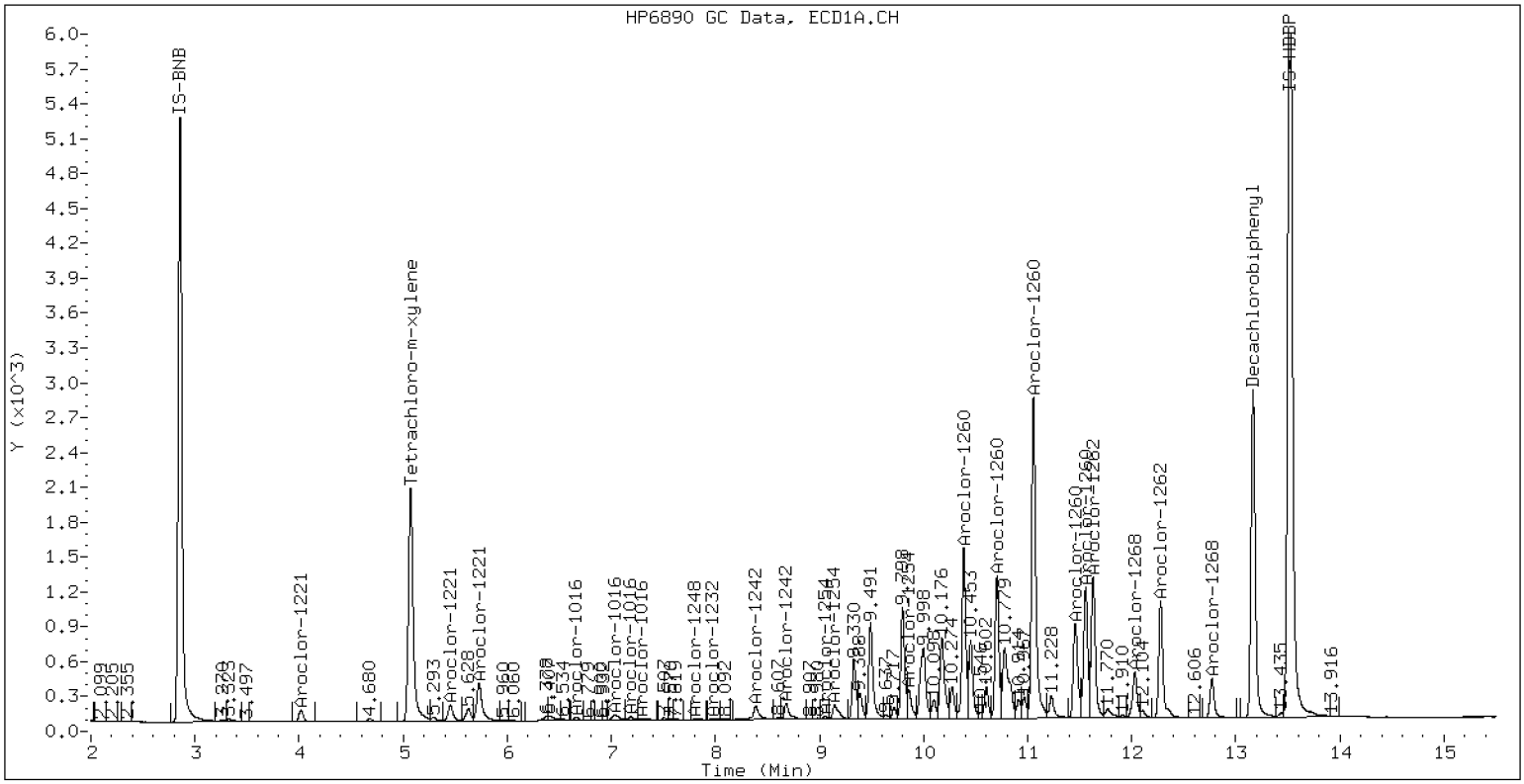
Total PCB Area Col2 (5.169 - 13.066) = 4504756 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

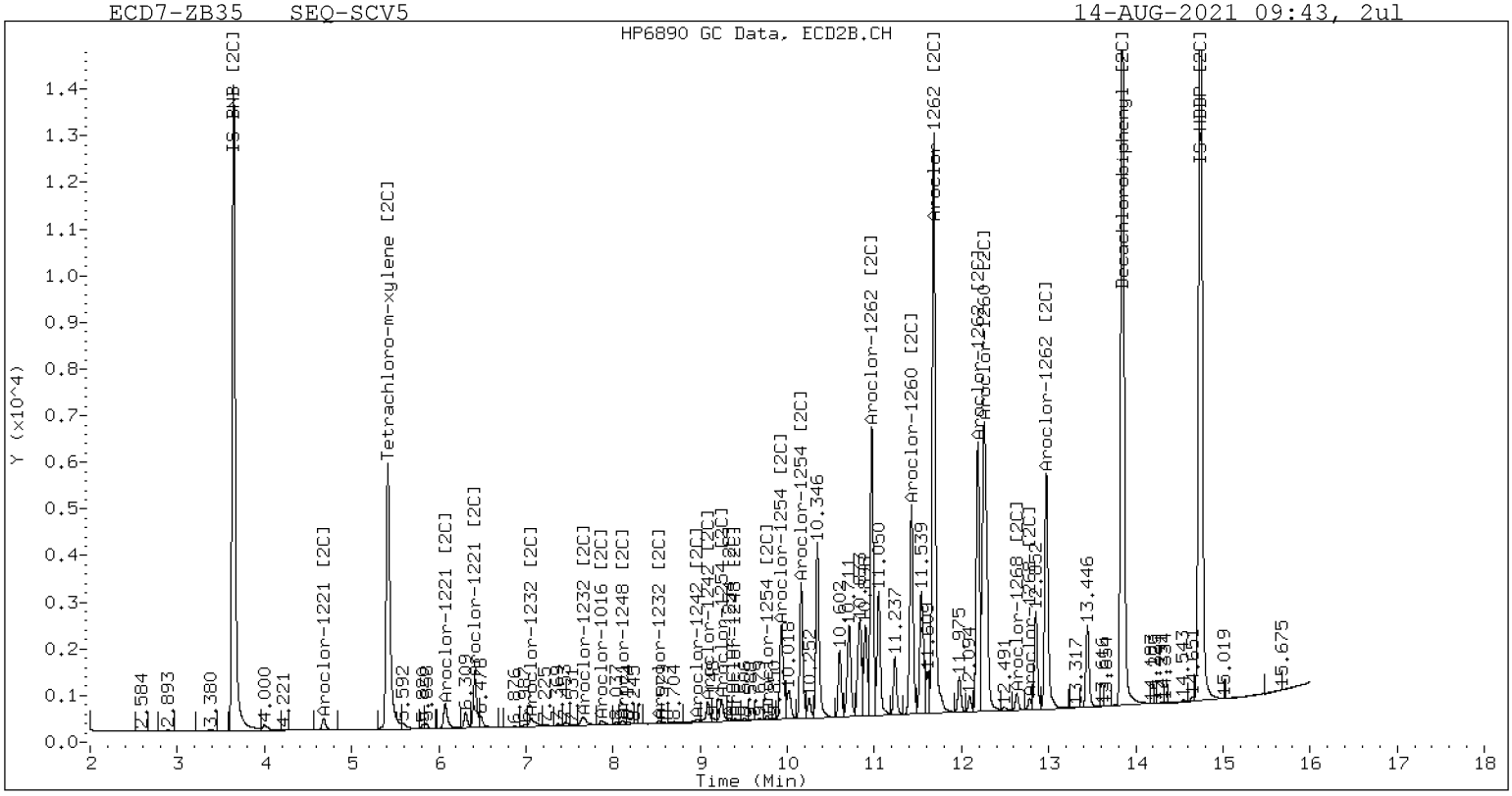
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV5 14-AUG-2021 09:43, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08132146ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0177	Injection Date:	08/14/21
Lab Sample ID:	SJH0177-SCV6	Injection Time:	10:03
Sequence Name:	AR3268SCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1232	A	250.00	284	0.0175991	0.0203926		13.8	+/-20
Aroclor 1232 [2C]	A	250.00	286	0.0192937	0.0223606		14.5	+/-20
Decachlorobiphenyl	A	40.000	59.6	0.7261970	1.0825580		49.1	+/-20
Tetrachlorometaxylene	A	40.000	41.2	0.9669678	0.9966938		3.1	+/-20
Decachlorobiphenyl [2C]	A	40.000	59.3	1.7775950	2.6350880		48.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	39.7	1.0280520	1.0197560		-0.8	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210813.b/08132146ECD7.D
Data file 2: /210813.b/210813.b/08132146ECD7.D
Method: \\target\share\chem4\ecd7.i\210813.b\PCB.m
Compound Sublist: PCB.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: SEQ-SCV6
Client ID:
Injection Date: 14-AUG-2021 10:03
Report Date: 08/14/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.071	0.002	131287	5.416	-0.000	375338	41.2	39.7	3.8	Tetrachloro-m-xylene
13.165	-0.001	248059	13.848	-0.032	1383308	59.6	59.3	0.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263445	1.8
Hexabromobiphenyl	425681	458283	7.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	736133	2.1
Hexabromobiphenyl	863111	1049914	21.6

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col					ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.663	0.005	11471	122.8	1	7.059	0.002	54454	129.7
Aroclor-1016	2	7.037	0.008	32172	112.6	2	7.656	0.009	111127	118.4
Aroclor-1016	3	7.183	0.007	15436	120.4	3	7.862	0.007	47184	128.0
Aroclor-1016	4	7.292	0.007	9103	113.2	4	8.108	0.003	26255	117.7
Total Col1Ave (4 peaks):				117.2		Total Col2Ave (4 peaks):			123.5	RPD = 5
Corrected Ave (3 peaks):				115.4		Corrected Ave (3 peaks):			121.4	RPD = 5
Aroclor-1221	1	4.017	0.002	3341	160.6	1	4.679	0.002	8452	153.0
Aroclor-1221	2	5.453	0.002	5429	166.5	2	6.077	0.004	21053	166.4
Aroclor-1221	3	5.727	0.003	17948	203.7	3	6.414	0.005	55556	252.0
Total Col1Ave (3 peaks):				176.9		Total Col2Ave (3 peaks):			190.5	RPD = 7
Corrected Ave: < 3 Peaks						Corrected Ave: < 3 Peaks				
Aroclor-1232	1	4.017	-0.001	3341	261.5	1	4.679	-0.000	8452	256.9
Aroclor-1232	2	5.727	0.001	17948	258.4	2	7.059	0.001	54454	283.3
Aroclor-1232	3	7.037	0.003	32172	303.5	3	7.656	0.005	111127	288.8
Aroclor-1232	4	7.974	0.002	13693	314.0	4	8.524	0.002	31722	316.5
Total Col1Ave (4 peaks):				284.4		Total Col2Ave (4 peaks):			286.4	RPD = 1
Corrected Ave (3 peaks):				274.5		Corrected Ave (3 peaks):			276.3	RPD = 1
Aroclor-1242	1	6.663	0.004	11471	158.0	1	7.059	0.002	54454	160.9
Aroclor-1242	2	7.037	0.007	32172	148.7	2	7.656	0.008	111127	151.2
Aroclor-1242	3	8.385	0.010	20544	167.6	3	8.959	0.010	61163	178.1
Aroclor-1242	4	8.676	0.002	6934	138.4	4	9.041	0.013	55525	142.5
Total Col1Ave (4 peaks):				153.2		Total Col2Ave (4 peaks):			158.1	RPD = 3
Corrected Ave (3 peaks):				148.4		Corrected Ave (3 peaks):			151.5	RPD = 2
Aroclor-1248	1	7.804	0.005	9056	82.0	1	8.108	0.002	26255	86.1
Aroclor-1248	2	7.974	0.006	13693	95.0	2	8.524	0.003	31722	85.4
Aroclor-1248	3	8.385	0.010	20544	97.4	3	8.959	0.012	61163	103.4
Aroclor-1248	4	8.676	0.002	6934	57.6	4	9.391	0.015	44441	88.5
Total Col1Ave (4 peaks):				83.0		Total Col2Ave (4 peaks):			90.8	RPD = 9
Corrected Ave (3 peaks):				78.2		Corrected Ave (3 peaks):			86.7	RPD = 10
Aroclor-1254	1	8.676	0.000	6934	30.5	1	9.243	0.003	10554	16.9
Aroclor-1254	2	8.748	0.002	3715	35.3	2	9.391	0.060	44441	120.9
Aroclor-1254	3	9.050	0.008	2122	14.3	3	9.769	0.007	7619	16.0
Aroclor-1254	4	9.187	0.011	3159	11.2	4	9.922	0.009	13052	12.3
Aroclor-1254	5	9.896	0.029	1953	11.0	5	10.167	0.020	14279	13.3
Total Col1Ave (5 peaks):				20.5		Total Col2Ave (5 peaks):			35.9	RPD = 55*
Corrected Ave (4 peaks):				16.7		Corrected Ave (4 peaks):			14.6	RPD = 14
Aroclor-1260	1	10.388	0.005	30028	145.6	1	11.405	-0.020	170014	194.8
Aroclor-1260	2	10.704	0.004	2256	11.1	2	11.680	-0.001	78239	30.8
Aroclor-1260	3	11.056	0.005	17997	32.9	3	12.254	-0.007	838267	513.9
Aroclor-1260	4	11.458	0.006	301	1.2	4	12.972	0.000	307546	394.4
Aroclor-1260	5	11.557	0.003	165147	1353.6	NS	---			----
Total Col1Ave (5 peaks):				308.9		Total Col2Ave (4 peaks):			283.5	RPD = 9
Corrected Ave (4 peaks):				47.7		Corrected Ave (3 peaks):			206.7	RPD = 125*
Aroclor-1262	1	10.388	0.004	30028	107.4	1	10.971	0.001	118268	92.1
Aroclor-1262	2	11.458	0.004	301	1.7	2	11.680	-0.005	78239	28.9
Aroclor-1262	3	11.626	-0.000	172148	659.4	3	12.187	-0.001	744741	619.3
Aroclor-1262	4	12.276	0.002	62869	293.3	4	12.972	-0.000	307546	274.4
Total Col1Ave (4 peaks):				265.4		Total Col2Ave (4 peaks):			253.7	RPD = 5
Corrected Ave (3 peaks):				134.1		Corrected Ave (3 peaks):			131.8	RPD = 2
Aroclor-1268	1	11.557	-0.000	165147	268.6	1	12.187	-0.013	744741	246.9
Aroclor-1268	2	11.626	0.001	172148	266.9	2	12.254	-0.013	838267	254.7
Aroclor-1268	3	12.000	-0.000	135416	266.9	3	12.635	-0.009	744001	261.5
Aroclor-1268	4	12.770	-0.002	428256	261.7	4	12.782	-0.001	187584	266.5
Total Col1Ave (4 peaks):				266.0		Total Col2Ave (4 peaks):			257.4	RPD = 3

Corrected Ave (3 peaks): 265.2 Corrected Ave (3 peaks): 254.3 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1378298 Col1 Total PCB = 0.5 ppm*

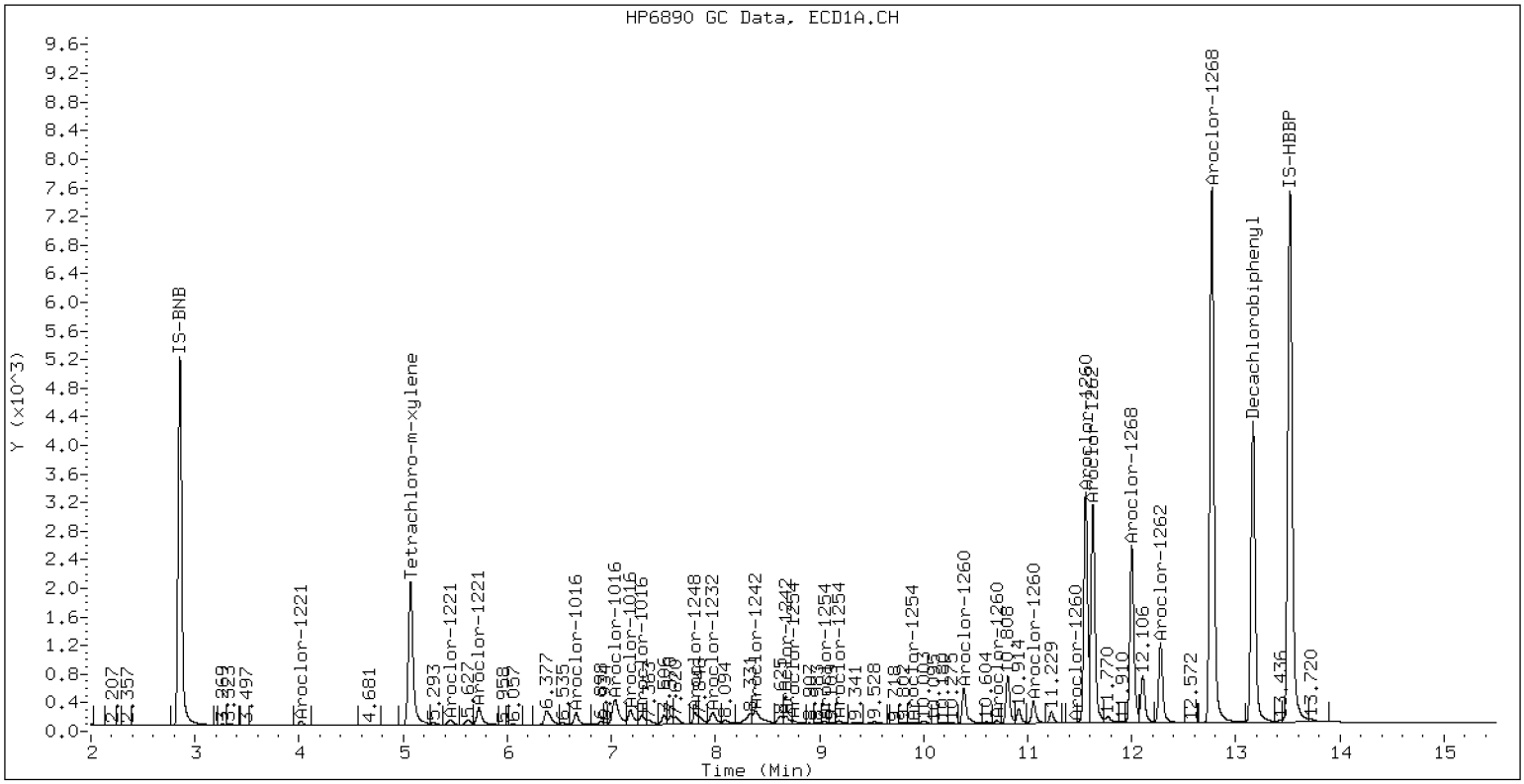
Total PCB Area Col2 (5.169 - 13.066) = 4537494 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

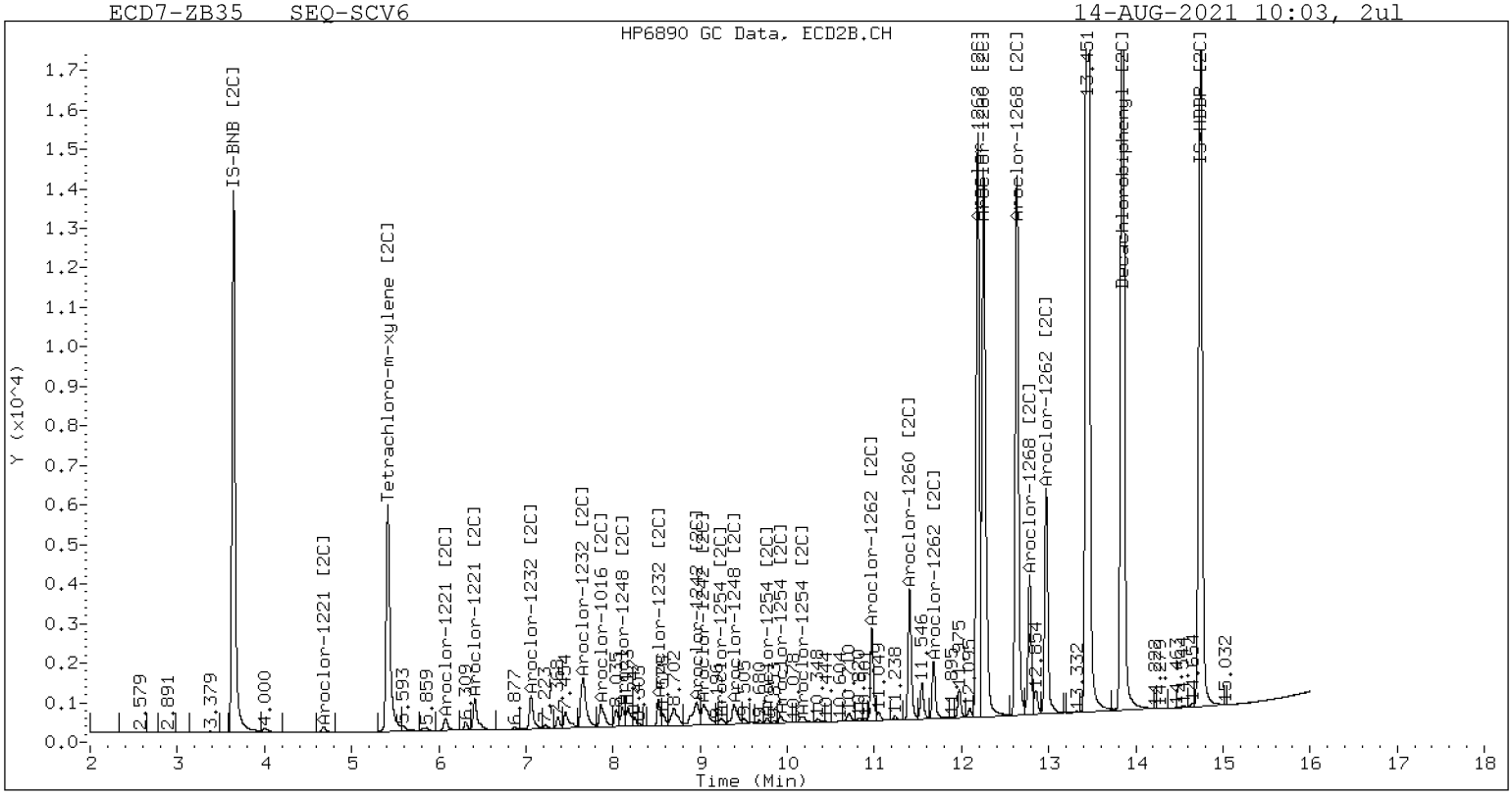
PCB Dual Column Chromatograms

ECD7-ZB5 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 SEQ-SCV6 14-AUG-2021 10:03, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142118ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/14/21
Lab Sample ID:	SJH0212-CCV1	Injection Time:	00:00
Sequence Name:	AR1248CCV1		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	263	0.0444871	0.0469949		5.3	
Aroclor-1248 (1)	A	250.00	268	0.0335259	0.0359491		7.2	
Aroclor-1248 (2)	A	250.00	268	0.0437624	0.0469636		7.2	
Aroclor-1248 (3)	A	250.00	268	0.0640809	0.0686550		7.2	
Aroclor-1248 (4)	A	250.00	249	0.0365791	0.0364119		-0.4	
Aroclor 1248 [2C]	A	250.00	255	0.0480909	0.0488949		2.0	
Aroclor-1248 (1) [2C]	A	250.00	257	0.0331517	0.0341300		2.8	
Aroclor-1248 (2) [2C]	A	250.00	261	0.0403519	0.0421316		4.4	
Aroclor-1248 (3) [2C]	A	250.00	249	0.0642727	0.0640095		-0.4	
Aroclor-1248 (4) [2C]	A	250.00	253	0.0545874	0.0553083		1.2	
Decachlorobiphenyl	A	40.000	39.6	0.7261970	0.7184049		-1.0	
Tetrachlorometaxylene	A	40.000	40.9	0.9669678	0.9882379		2.3	
Decachlorobiphenyl [2C]	A	40.000	38.2	1.7775950	1.6986640		-4.5	
Tetrachlorometaxylene [2C]	A	40.000	40.0	1.0280520	1.0276350		0.0	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142118ECD7.D
Data file 2: /210814.b/210814.b/08142118ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 14-AUG-2021 00:00
Report Date: 08/17/2021 09:15
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.001	131195	5.414	0.002	379837	40.9	40.0	2.2	Tetrachloro-m-xylene
13.165	-0.001	166555	13.847	0.000	877551	39.6	38.2	3.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	265513	2.6
Hexabromobiphenyl	425681	463680	8.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	739245	2.5
Hexabromobiphenyl	863111	1033225	19.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1248	1	7.801	0.001	29828	268.1	1	8.107	0.001	78845	257.4
Aroclor-1248	2	7.971	0.001	38967	268.3	2	8.522	0.002	97330	261.0
Aroclor-1248	3	8.381	0.001	56965	267.8	3	8.954	0.002	147871	249.0
Aroclor-1248	4	8.676	0.001	30212	248.9	4	9.383	0.004	127770	253.3

Total Col1Ave (4 peaks): 263.3 Total Col2Ave (4 peaks): 255.2 RPD = 3

Corrected Ave (3 peaks): 261.6 Corrected Ave (3 peaks): 253.2 RPD = 3

CalAmt %D: 5.3 CalAmt %D: 2.1

Total PCB Area Col1 (5.167 - 13.066) = 591947 Col1 Total PCB = 0.2 ppm*

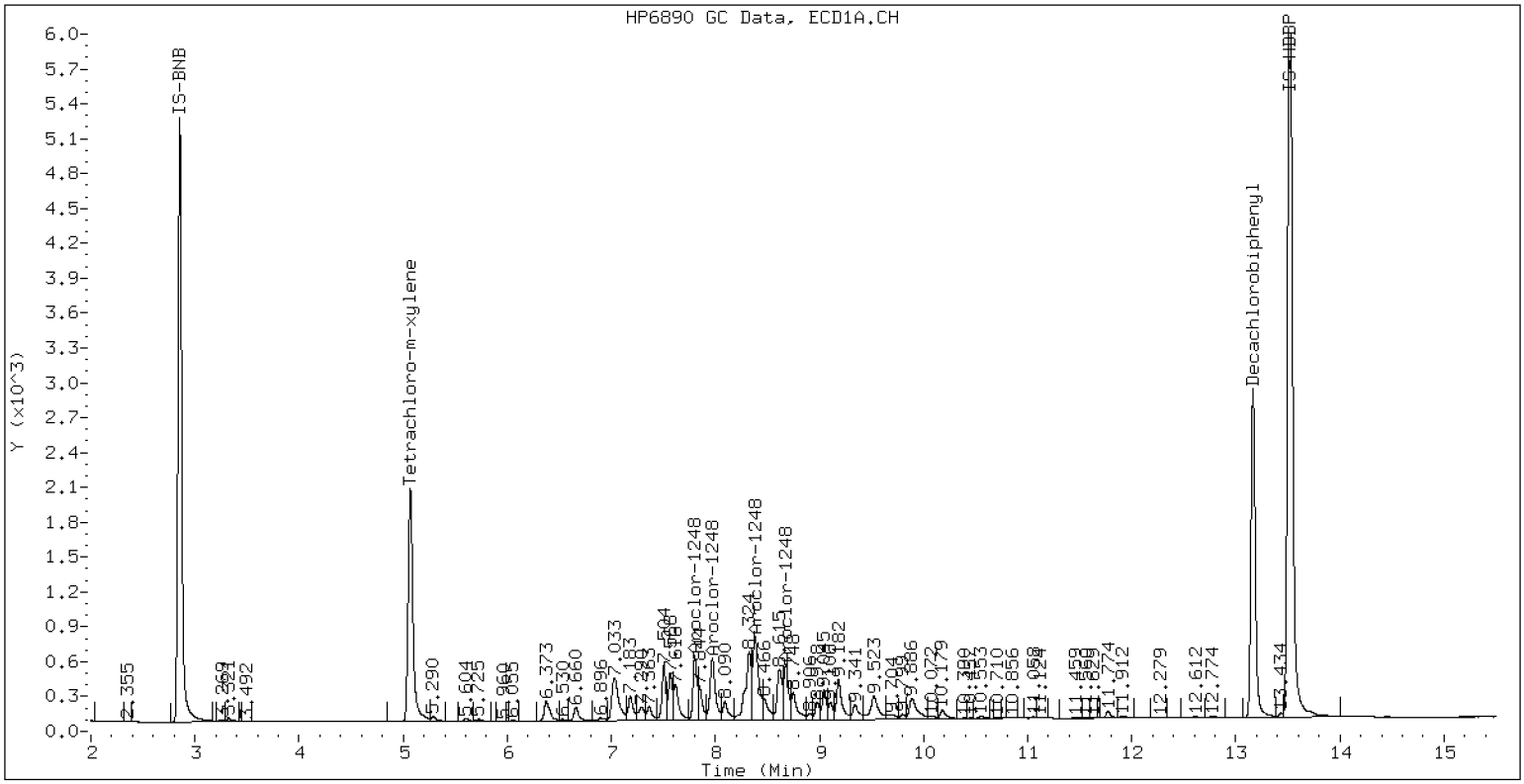
Total PCB Area Col2 (5.167 - 13.066) = 2207556 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

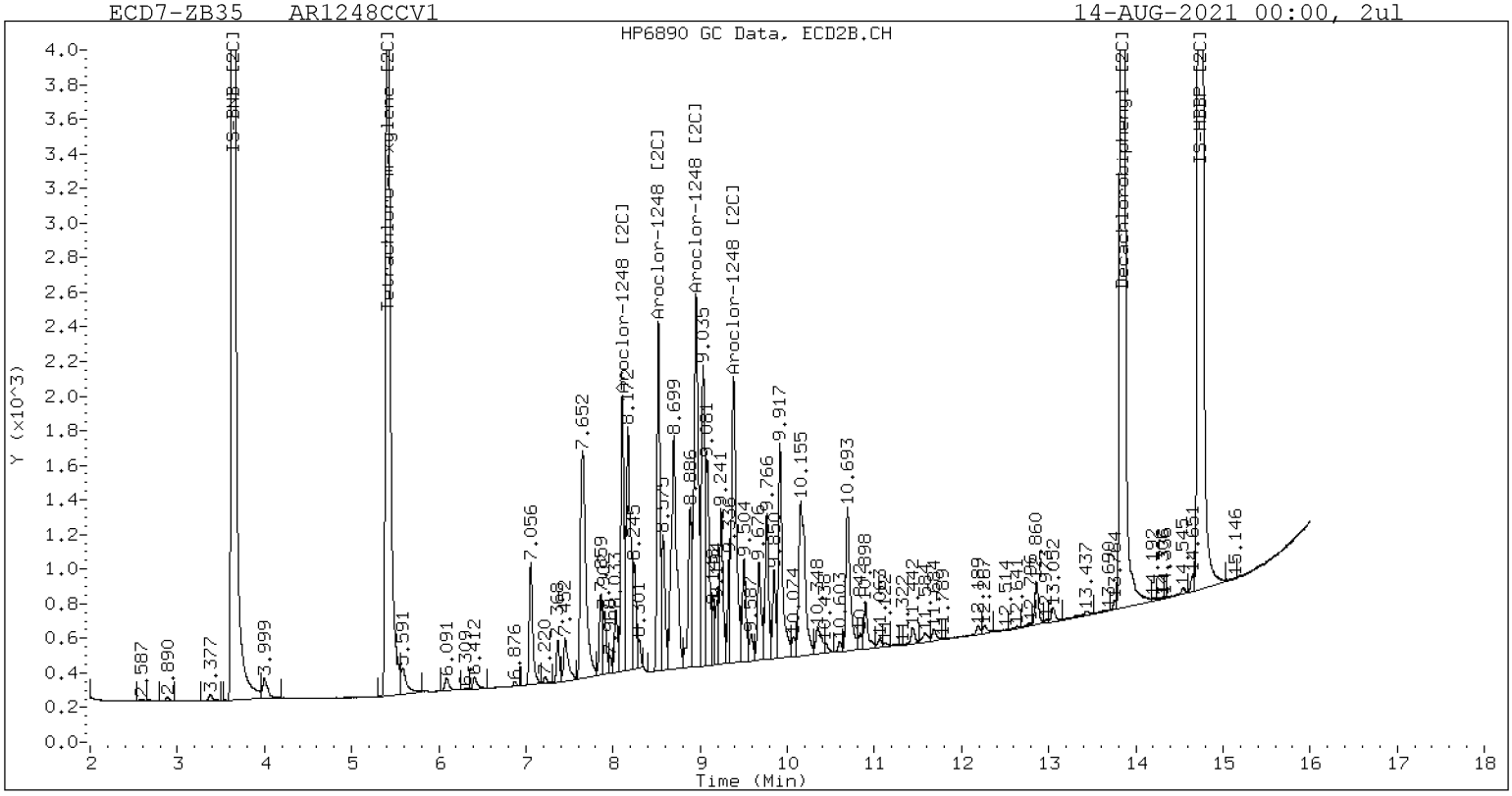
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1 14-AUG-2021 00:00, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV1 14-AUG-2021 00:00, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142119ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV2	Injection Time:	00:20
Sequence Name:	AR1660CCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	258	0.0446218	0.0462840		3.2	
Aroclor-1016 (1)	A	250.00	256	0.0283733	0.0290209		2.4	
Aroclor-1016 (2)	A	250.00	262	0.0867650	0.0909901		4.8	
Aroclor-1016 (3)	A	250.00	257	0.0389383	0.0399842		2.8	
Aroclor-1016 (4)	A	250.00	257	0.0244108	0.0251408		2.8	
Aroclor 1016 [2C]	A	250.00	268	0.0529840	0.0567120		7.3	
Aroclor-1016 (1) [2C]	A	250.00	260	0.0456173	0.0475453		4.0	
Aroclor-1016 (2) [2C]	A	250.00	267	0.1020378	0.1091737		6.8	
Aroclor-1016 (3) [2C]	A	250.00	273	0.0400455	0.0436946		9.2	
Aroclor-1016 (4) [2C]	A	250.00	273	0.0242353	0.0264345		9.2	
Aroclor 1260	A	250.00	249	0.0461251	0.0459534		-0.3	
Aroclor-1260 (1)	A	250.00	238	0.0359923	0.0342662		-4.8	
Aroclor-1260 (2)	A	250.00	251	0.0353250	0.0354852		0.4	
Aroclor-1260 (3)	A	250.00	249	0.0954741	0.0951188		-0.4	
Aroclor-1260 (4)	A	250.00	255	0.0425365	0.0433624		2.0	
Aroclor-1260 (5)	A	250.00	253	0.0212978	0.0215346		1.2	
Aroclor 1260 [2C]	A	250.00	232	0.1108773	0.1019419		-7.3	
Aroclor-1260 (1) [2C]	A	250.00	228	0.0665032	0.0607139		-8.8	
Aroclor-1260 (2) [2C]	A	250.00	226	0.1932922	0.1748384		-9.6	
Aroclor-1260 (3) [2C]	A	250.00	230	0.1242917	0.1143539		-8.0	
Aroclor-1260 (4) [2C]	A	250.00	243	0.0594222	0.0578613		-2.8	
Decachlorobiphenyl	A	40.000	40.7	0.7261970	0.7386403		1.8	
Tetrachlorometaxylene	A	40.000	42.5	0.9669678	1.0278550		6.3	
Decachlorobiphenyl [2C]	A	40.000	39.3	1.7775950	1.7479780		-1.8	
Tetrachlorometaxylene [2C]	A	40.000	41.3	1.0280520	1.0619840		3.3	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142119ECD7.D
Data file 2: /210814.b/210814.b/08142119ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 15-AUG-2021 00:20
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	0.002	134871	5.414	0.002	390120	42.5	41.3	2.9	Tetrachloro-m-xylene
13.164	-0.001	168109	13.848	0.001	888458	40.7	39.3	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	262432	1.4
Hexabromobiphenyl	425681	455185	6.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	734700	1.9
Hexabromobiphenyl	863111	1016555	17.8

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.000	23800	255.7	1	7.056	0.001	109161	260.6
Aroclor-1016	2	7.034	0.001	74621	262.2	2	7.652	0.002	250656	267.5
Aroclor-1016	3	7.180	0.001	32791	256.7	3	7.858	0.001	100320	272.8
Aroclor-1016	4	7.289	-0.001	20618	257.5	4	8.106	0.000	60692	272.7

Total Col1Ave (4 peaks): 258.0 Total Col2Ave (4 peaks): 268.4 RPD = 4
Corrected Ave (3 peaks): 256.6 Corrected Ave (3 peaks): 266.9 RPD = 4

CalAmt %D: 3.2 CalAmt %D: 7.4

Aroclor-1260	1	10.386	0.002	48742	238.0	1	11.427	0.001	192872	228.2
Aroclor-1260	2	10.703	-0.000	50476	251.1	2	11.680	0.002	555415	226.1
Aroclor-1260	3	11.054	0.000	135302	249.1	3	12.263	0.003	363272	230.0
Aroclor-1260	4	11.456	0.001	61681	254.9	4	12.973	0.002	183810	243.4
Aroclor-1260	5	11.557	0.002	30632	252.8	NS	---			----

Total Col1Ave (5 peaks): 249.2 Total Col2Ave (4 peaks): 232.0 RPD = 7
Corrected Ave (4 peaks): 247.7 Corrected Ave (3 peaks): 228.1 RPD = 8

CalAmt %D: -0.3 CalAmt %D: -7.2

Total PCB Area Col1 (5.167 - 13.066) = 1318510 Col1 Total PCB = 0.5 ppm*

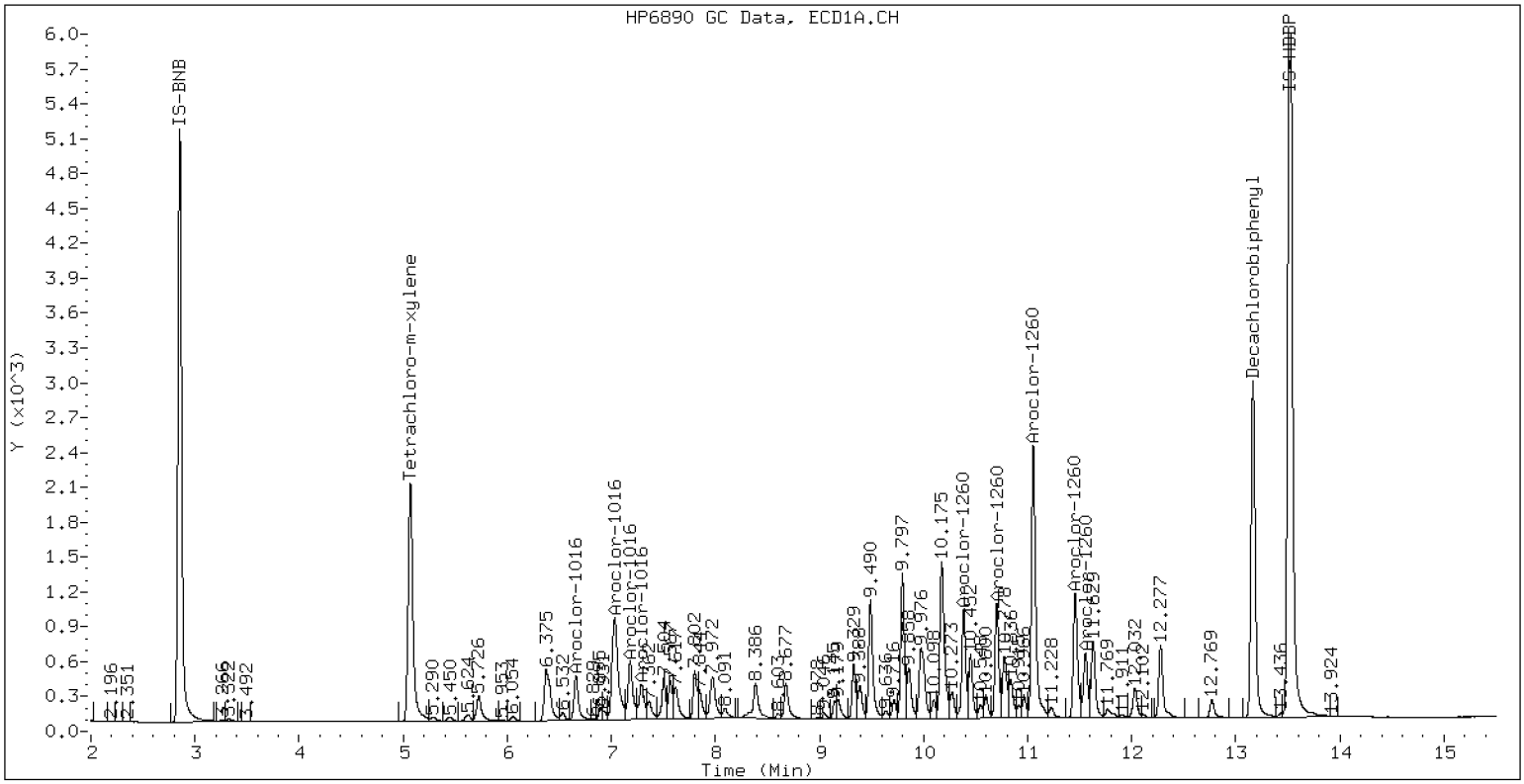
Total PCB Area Col2 (5.167 - 13.066) = 5084094 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

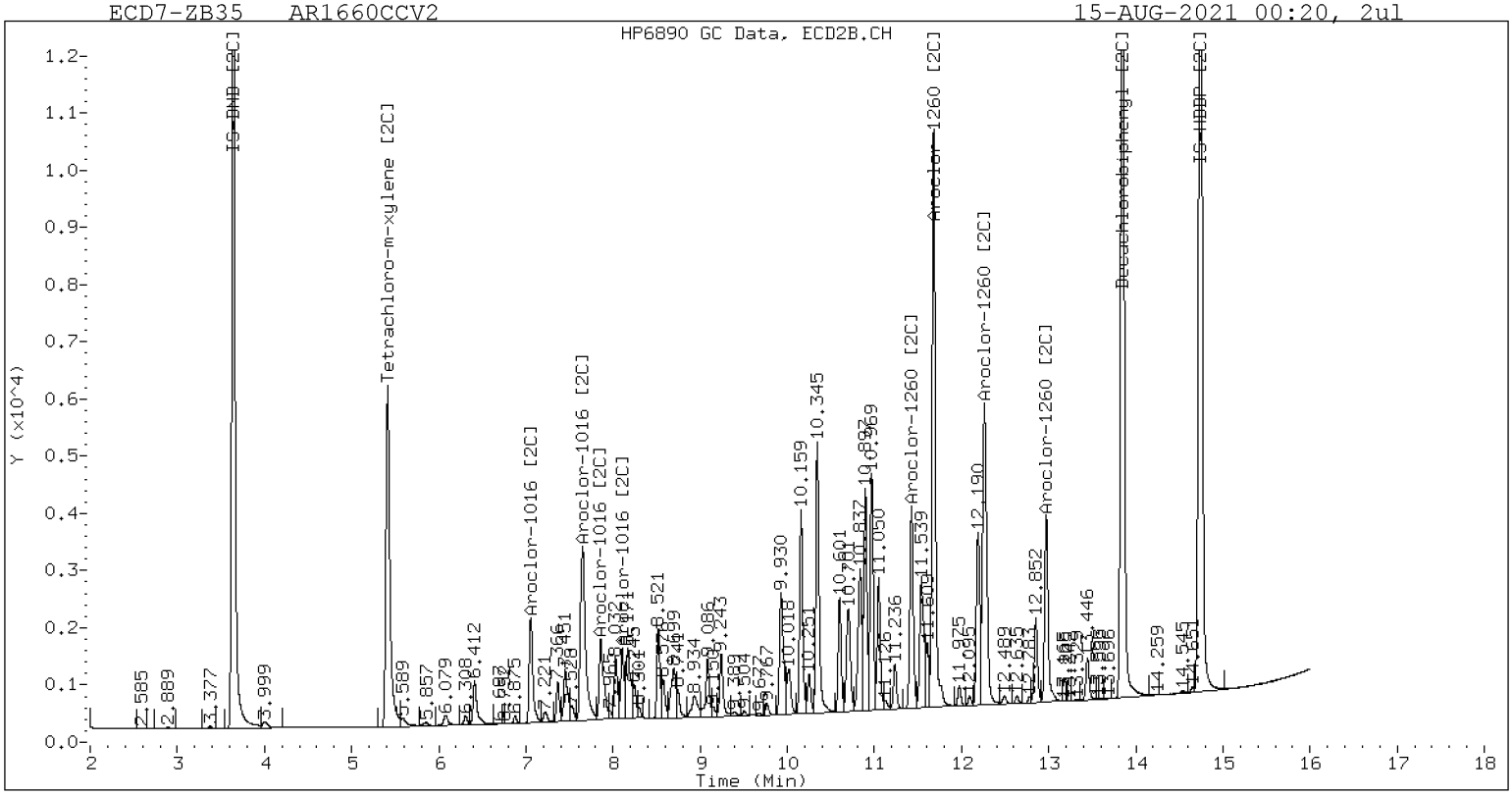
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2 15-AUG-2021 00:20, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2 15-AUG-2021 00:20, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142129ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV3	Injection Time:	03:45
Sequence Name:	AR1242CCV3		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	258	0.0350459	0.0365112		3.0	
Aroclor-1242 (1)	A	250.00	269	0.0220414	0.0237598		7.6	
Aroclor-1242 (2)	A	250.00	270	0.0657077	0.0710833		8.0	
Aroclor-1242 (3)	A	250.00	242	0.0372229	0.0360304		-3.2	
Aroclor-1242 (4)	A	250.00	249	0.0152114	0.0151713		-0.4	
Aroclor 1242 [2C]	A	250.00	255	0.0490898	0.0502701		1.9	
Aroclor-1242 (1) [2C]	A	250.00	258	0.0367813	0.0379352		3.2	
Aroclor-1242 (2) [2C]	A	250.00	260	0.0798974	0.0832279		4.0	
Aroclor-1242 (3) [2C]	A	250.00	246	0.0373257	0.0367522		-1.6	
Aroclor-1242 (4) [2C]	A	250.00	255	0.0423546	0.0431651		2.0	
Decachlorobiphenyl	A	40.000	39.6	0.7261970	0.7181001		-1.0	
Tetrachlorometaxylene	A	40.000	41.4	0.9669678	1.0013280		3.5	
Decachlorobiphenyl [2C]	A	40.000	38.1	1.7775950	1.6948560		-4.8	
Tetrachlorometaxylene [2C]	A	40.000	40.5	1.0280520	1.0405590		1.3	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142129ECD7.D
Data file 2: /210814.b/210814.b/08142129ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 15-AUG-2021 03:45
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.070	0.002	135710	5.414	0.001	395184	41.4	40.5	2.3	Tetrachloro-m-xylene
13.165	-0.001	171101	13.848	0.001	908208	39.6	38.1	3.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	271060	4.7
Hexabromobiphenyl	425681	476538	11.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	759561	5.4
Hexabromobiphenyl	863111	1071723	24.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1242	1	6.660	0.000	20126	269.5	1	7.057	0.000	90044	257.8
Aroclor-1242	2	7.034	0.000	60212	270.5	2	7.653	0.000	197552	260.4
Aroclor-1242	3	8.381	0.000	30520	242.0	3	8.956	0.000	87236	246.2
Aroclor-1242	4	8.676	0.000	12851	249.3	4	9.037	0.000	102458	254.8

Total Col1Ave (4 peaks): 257.8 Total Col2Ave (4 peaks): 254.8 RPD = 1

Corrected Ave (3 peaks): 253.6 Corrected Ave (3 peaks): 252.9 RPD = 0

CalAmt %D: 3.1 CalAmt %D: 1.9

Total PCB Area Col1 (5.167 - 13.066) = 456258 Col1 Total PCB = 0.2 ppm*

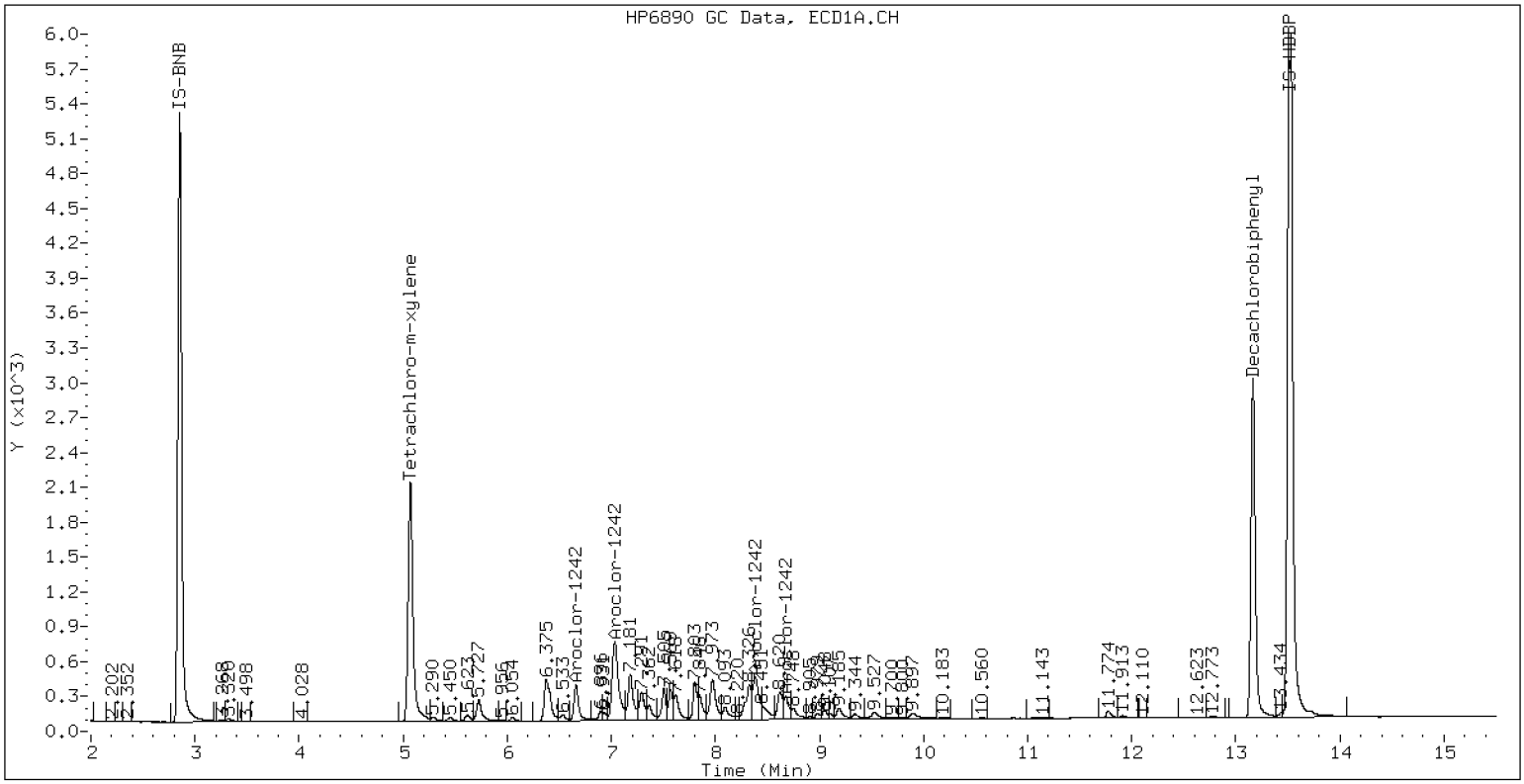
Total PCB Area Col2 (5.167 - 13.066) = 1823824 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

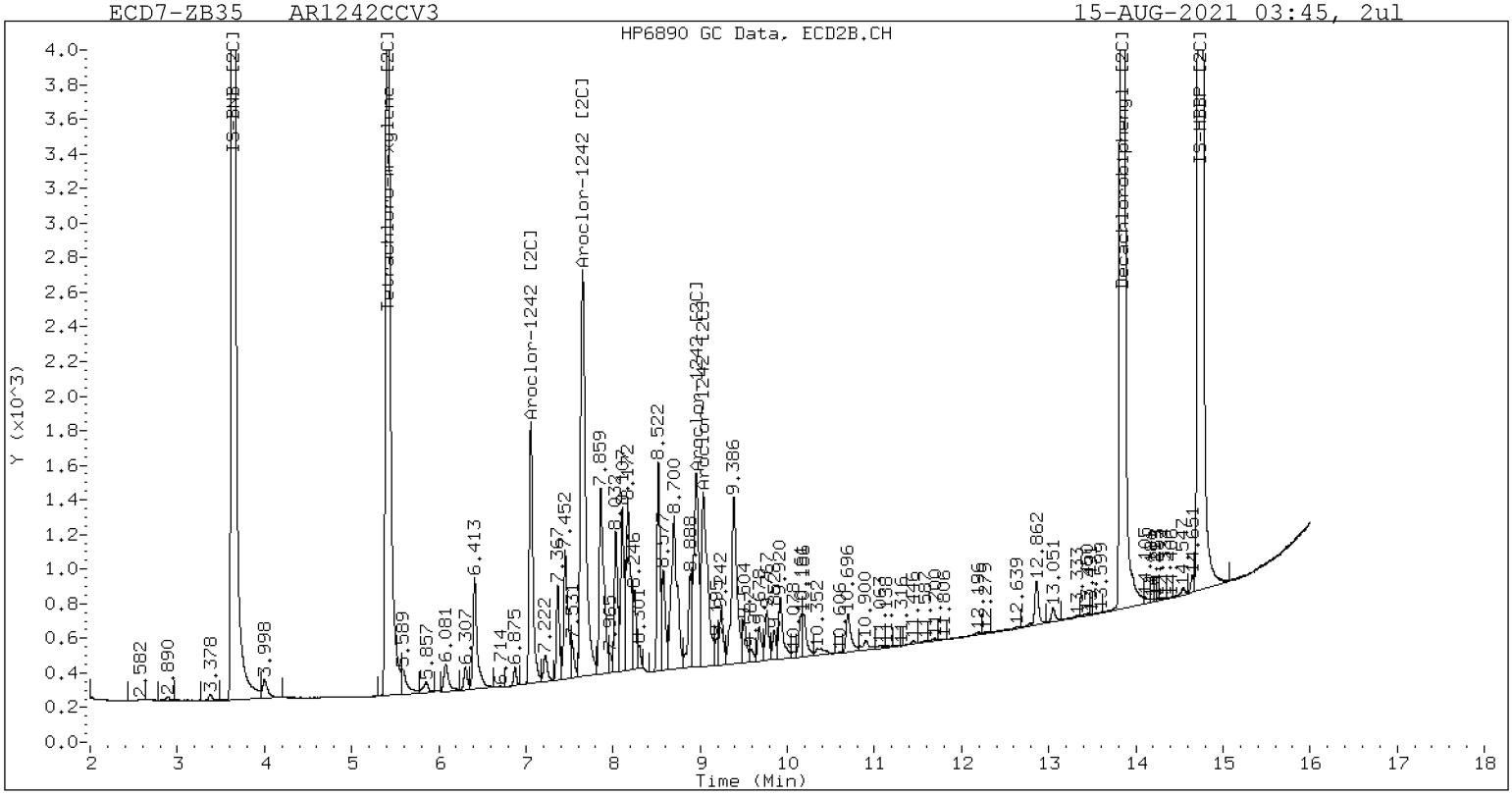
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242CCV3 15-AUG-2021 03:45, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1242CCV3 15-AUG-2021 03:45, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142130ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV4	Injection Time:	04:06
Sequence Name:	AR1660CCV4		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	265	0.0446218	0.0473021		6.0	
Aroclor-1016 (1)	A	250.00	263	0.0283733	0.0298452		5.2	
Aroclor-1016 (2)	A	250.00	265	0.0867650	0.0919220		6.0	
Aroclor-1016 (3)	A	250.00	266	0.0389383	0.0414446		6.4	
Aroclor-1016 (4)	A	250.00	266	0.0244108	0.0259966		6.4	
Aroclor 1016 [2C]	A	250.00	270	0.0529840	0.0571373		8.0	
Aroclor-1016 (1) [2C]	A	250.00	263	0.0456173	0.0479504		5.2	
Aroclor-1016 (2) [2C]	A	250.00	270	0.1020378	0.1101331		8.0	
Aroclor-1016 (3) [2C]	A	250.00	275	0.0400455	0.0440517		10.0	
Aroclor-1016 (4) [2C]	A	250.00	272	0.0242353	0.0264140		8.8	
Aroclor 1260	A	250.00	251	0.0461251	0.0463787		0.6	
Aroclor-1260 (1)	A	250.00	238	0.0359923	0.0343469		-4.8	
Aroclor-1260 (2)	A	250.00	253	0.0353250	0.0357905		1.2	
Aroclor-1260 (3)	A	250.00	252	0.0954741	0.0961310		0.8	
Aroclor-1260 (4)	A	250.00	258	0.0425365	0.0438309		3.2	
Aroclor-1260 (5)	A	250.00	256	0.0212978	0.0217942		2.4	
Aroclor 1260 [2C]	A	250.00	231	0.1108773	0.1013548		-7.8	
Aroclor-1260 (1) [2C]	A	250.00	226	0.0665032	0.0602541		-9.6	
Aroclor-1260 (2) [2C]	A	250.00	224	0.1932922	0.1734242		-10.4	
Aroclor-1260 (3) [2C]	A	250.00	230	0.1242917	0.1141089		-8.0	
Aroclor-1260 (4) [2C]	A	250.00	242	0.0594222	0.0576321		-3.2	
Decachlorobiphenyl	A	40.000	40.9	0.7261970	0.7424202		2.3	
Tetrachlorometaxylene	A	40.000	42.4	0.9669678	1.0255670		6.0	
Decachlorobiphenyl [2C]	A	40.000	39.2	1.7775950	1.7412830		-2.0	
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0280520	1.0681360		4.0	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142130ECD7.D
Data file 2: /210814.b/210814.b/08142130ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 15-AUG-2021 04:06
Report Date: 08/17/2021 09:16
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	ZB5 Col Shift	ZB5 Col Response	ZB35 Col RT	ZB35 Col Shift	ZB35 Col Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	137589	5.413	0.001	401846	42.4	41.6	2.1	Tetrachloro-m-xylene
13.166	0.000	171982	13.847	0.000	925295	40.9	39.2	4.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	268318	3.7
Hexabromobiphenyl	425681	463301	8.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	752425	4.4
Hexabromobiphenyl	863111	1062774	23.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1016	1	6.660	0.001	25025	263.0	1	7.057	0.001	112747	262.8
Aroclor-1016	2	7.034	0.001	77076	264.9	2	7.653	0.002	258959	269.8
Aroclor-1016	3	7.179	0.000	34751	266.1	3	7.859	0.001	103580	275.0
Aroclor-1016	4	7.289	-0.001	21798	266.2	4	8.107	0.001	62108	272.5

Total Col1Ave (4 peaks): 265.0 Total Col2Ave (4 peaks): 270.0 RPD = 2
Corrected Ave (3 peaks): 264.6 Corrected Ave (3 peaks): 268.4 RPD = 1

CalAmt %D: 6.0 CalAmt %D: 8.0

Aroclor-1260	1	10.387	0.003	49728	238.6	1	11.426	0.000	200114	226.5
Aroclor-1260	2	10.704	0.001	51818	253.3	2	11.680	0.001	575971	224.3
Aroclor-1260	3	11.054	0.001	139180	251.7	3	12.262	0.002	378975	229.5
Aroclor-1260	4	11.456	0.000	63459	257.6	4	12.973	0.001	191406	242.5
Aroclor-1260	5	11.556	0.001	31554	255.8	NS	---			----

Total Col1Ave (5 peaks): 251.4 Total Col2Ave (4 peaks): 230.7 RPD = 9
Corrected Ave (4 peaks): 249.9 Corrected Ave (3 peaks): 226.8 RPD = 10

CalAmt %D: 0.6 CalAmt %D: -7.7

Total PCB Area Col1 (5.167 - 13.066) = 1378872 Col1 Total PCB = 0.5 ppm*

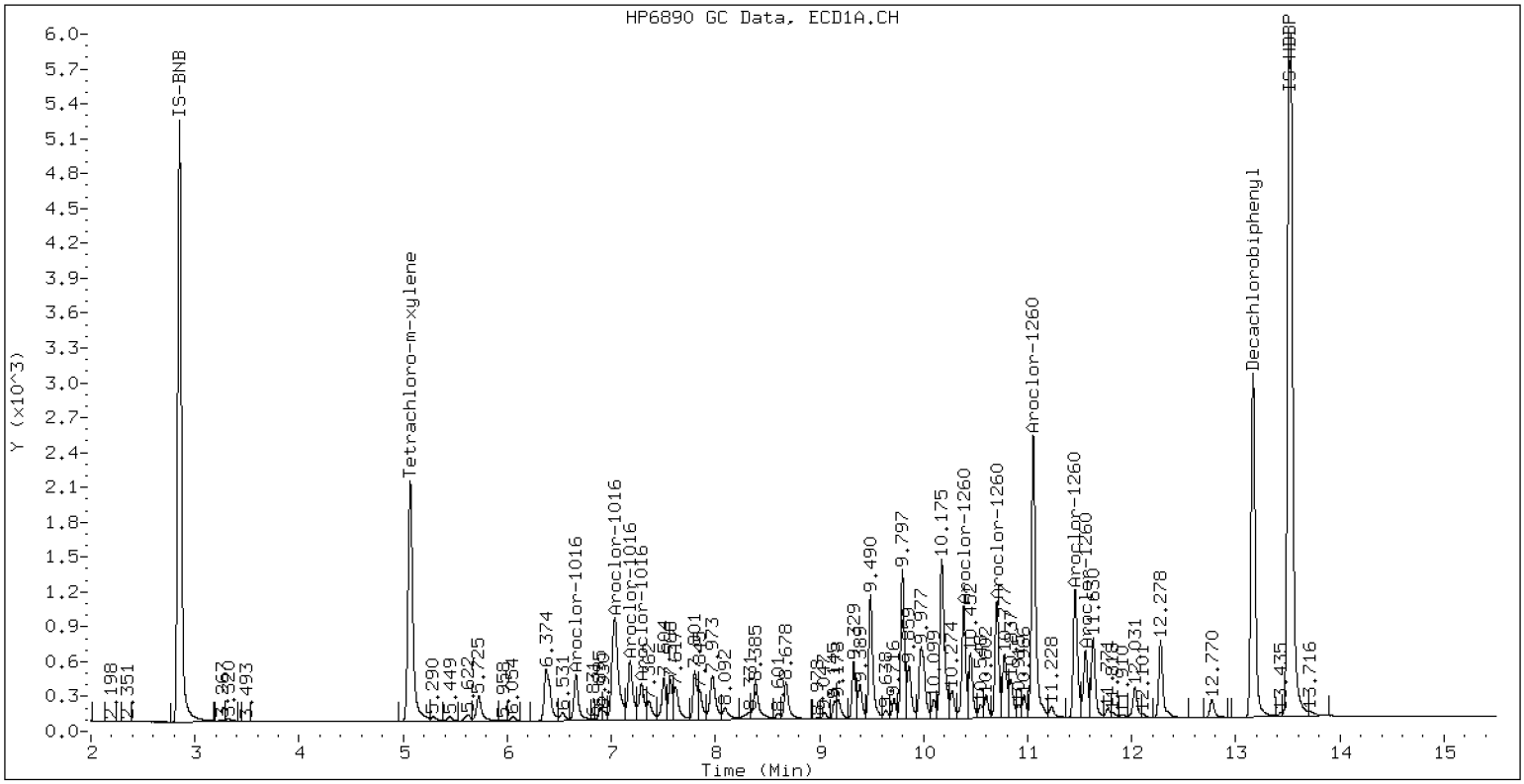
Total PCB Area Col2 (5.167 - 13.066) = 5266293 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

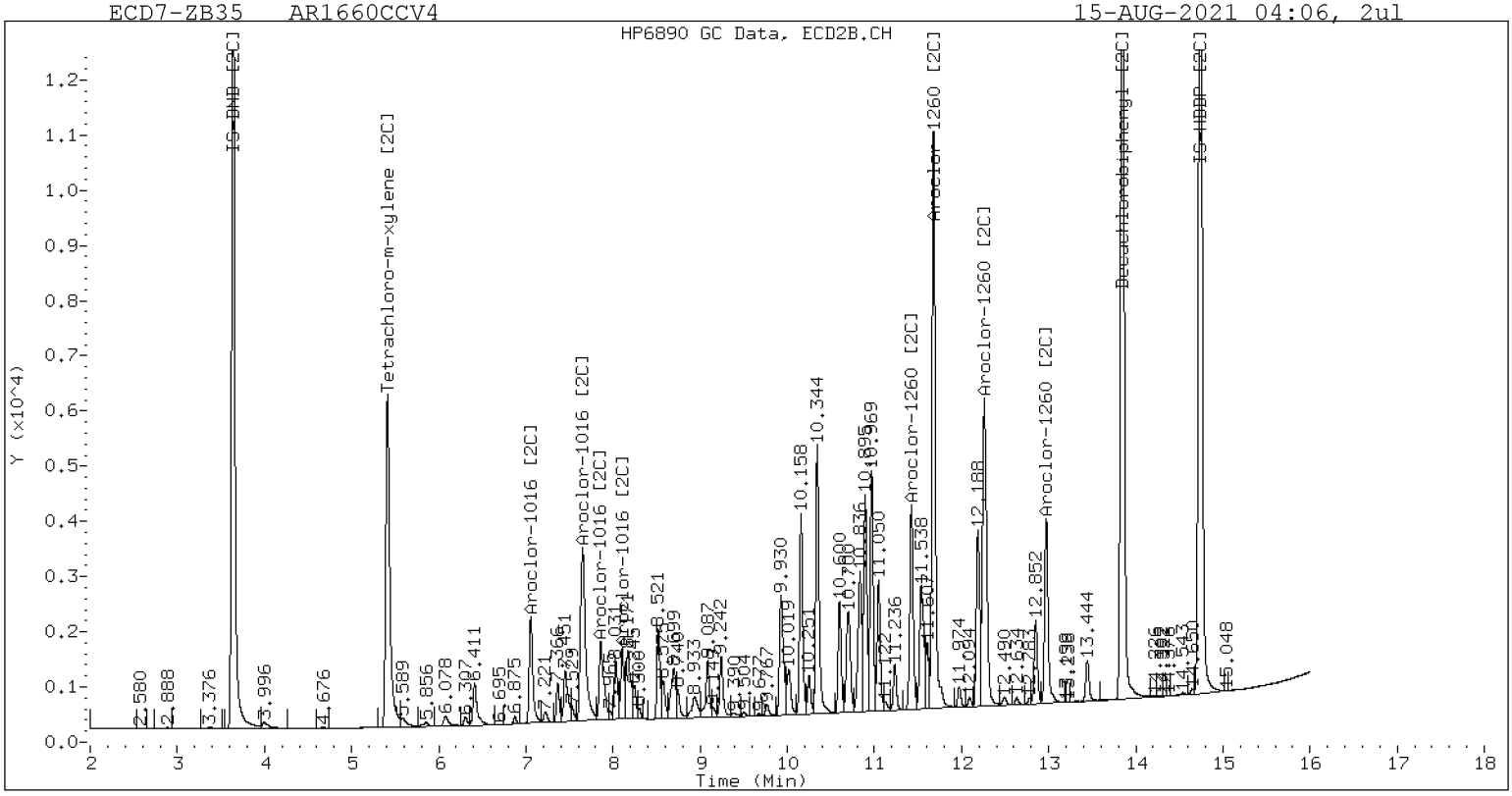
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV4 15-AUG-2021 04:06, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV4 15-AUG-2021 04:06, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142144ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV5	Injection Time:	08:53
Sequence Name:	AR1254CCV5		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	249	0.0571741	0.0569919		-0.3	
Aroclor-1254 (1)	A	250.00	250	0.0690183	0.0689734		0.0	
Aroclor-1254 (2)	A	250.00	253	0.0319506	0.0322855		1.2	
Aroclor-1254 (3)	A	250.00	238	0.0449859	0.0427534		-4.8	
Aroclor-1254 (4)	A	250.00	249	0.0859427	0.0857240		-0.4	
Aroclor-1254 (5)	A	250.00	256	0.0539731	0.0552234		2.4	
Aroclor 1254 [2C]	A	250.00	231	0.0782980	0.0725417		-7.5	
Aroclor-1254 (1) [2C]	A	250.00	234	0.0680651	0.0637472		-6.4	
Aroclor-1254 (2) [2C]	A	250.00	225	0.0399453	0.0360075		-10.0	
Aroclor-1254 (3) [2C]	A	250.00	235	0.0518895	0.0488790		-6.0	
Aroclor-1254 (4) [2C]	A	250.00	224	0.1149829	0.1030539		-10.4	
Aroclor-1254 (5) [2C]	A	250.00	238	0.1166073	0.1110207		-4.8	
Decachlorobiphenyl	A	40.000	40.0	0.7261970	0.7261120		0.0	
Tetrachlorometaxylene	A	40.000	40.6	0.9669678	0.9826819		1.5	
Decachlorobiphenyl [2C]	A	40.000	37.5	1.7775950	1.6651180		-6.3	
Tetrachlorometaxylene [2C]	A	40.000	40.2	1.0280520	1.0326780		0.5	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142144ECD7.D
Data file 2: /210814.b/210814.b/08142144ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254CCV5
Client ID:
Injection Date: 15-AUG-2021 08:53
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	0.000	131786	5.411	-0.001	397040	40.7	40.2	1.2	Tetrachloro-m-xylene
13.164	-0.002	144281	13.846	-0.001	747766	40.0	37.5	6.5	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	268217	3.6
Hexabromobiphenyl	425681	397407	-6.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	768952	6.7
Hexabromobiphenyl	863111	898154	4.1

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.676	0.000	57812	249.8	1	9.240	0.000	153183	234.1
Aroclor-1254	2	8.748	0.000	27061	252.6	2	9.333	0.000	86525	225.4
Aroclor-1254	3	9.045	0.000	35835	237.6	3	9.763	0.000	117455	235.5
Aroclor-1254	4	9.179	0.000	71852	249.4	4	9.915	0.000	247636	224.1
Aroclor-1254	5	9.870	0.000	46287	255.8	5	10.152	0.000	266780	238.0

Total Col1Ave (5 peaks): 249.0 Total Col2Ave (5 peaks): 231.4 RPD = 7

Corrected Ave (4 peaks): 247.4 Corrected Ave (4 peaks): 229.8 RPD = 7

CalAmt %D: -0.4 CalAmt %D: -7.4

Total PCB Area Col1 (5.167 - 13.066) = 734846 Col1 Total PCB = 0.3 ppm*

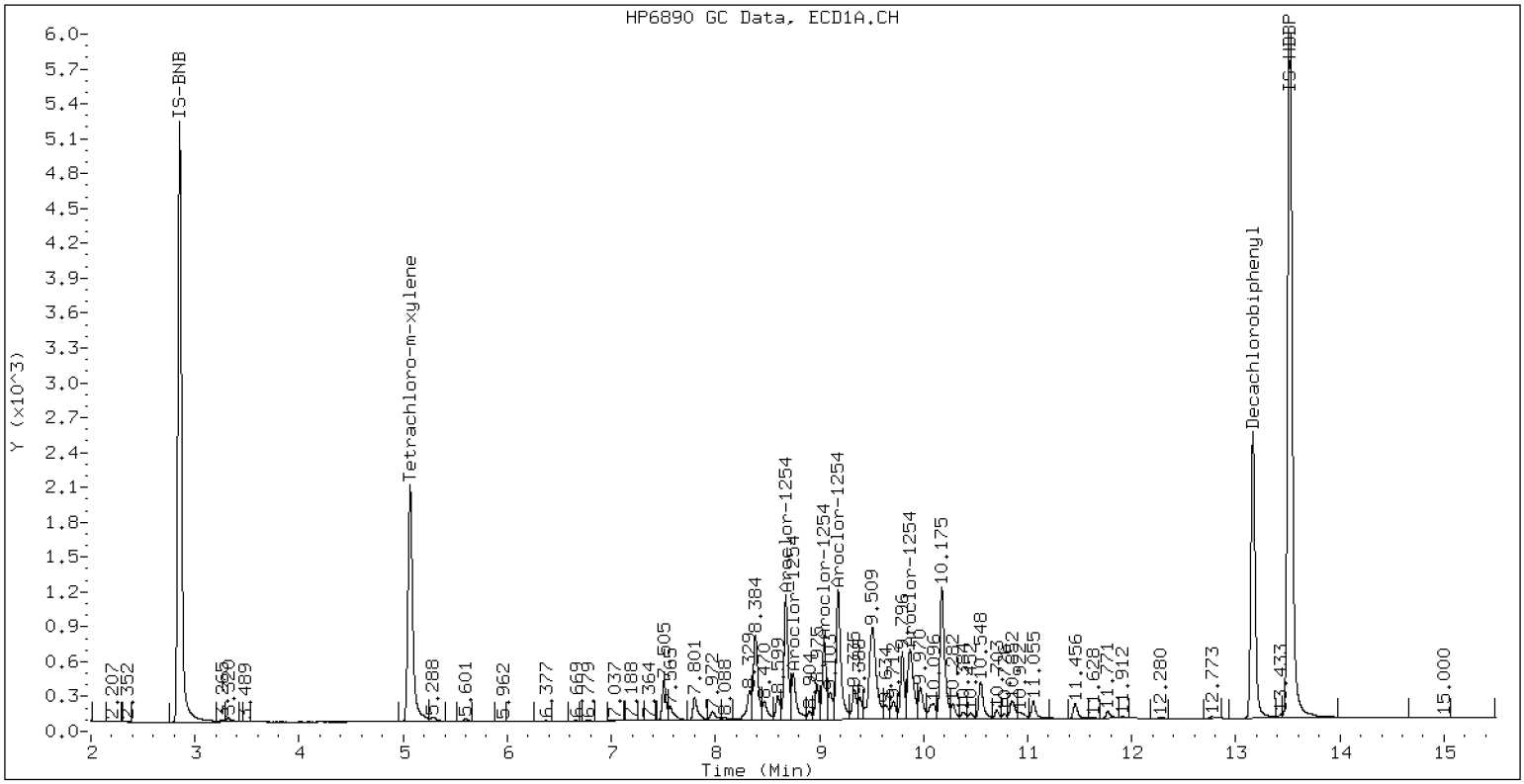
Total PCB Area Col2 (5.167 - 13.066) = 2846319 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

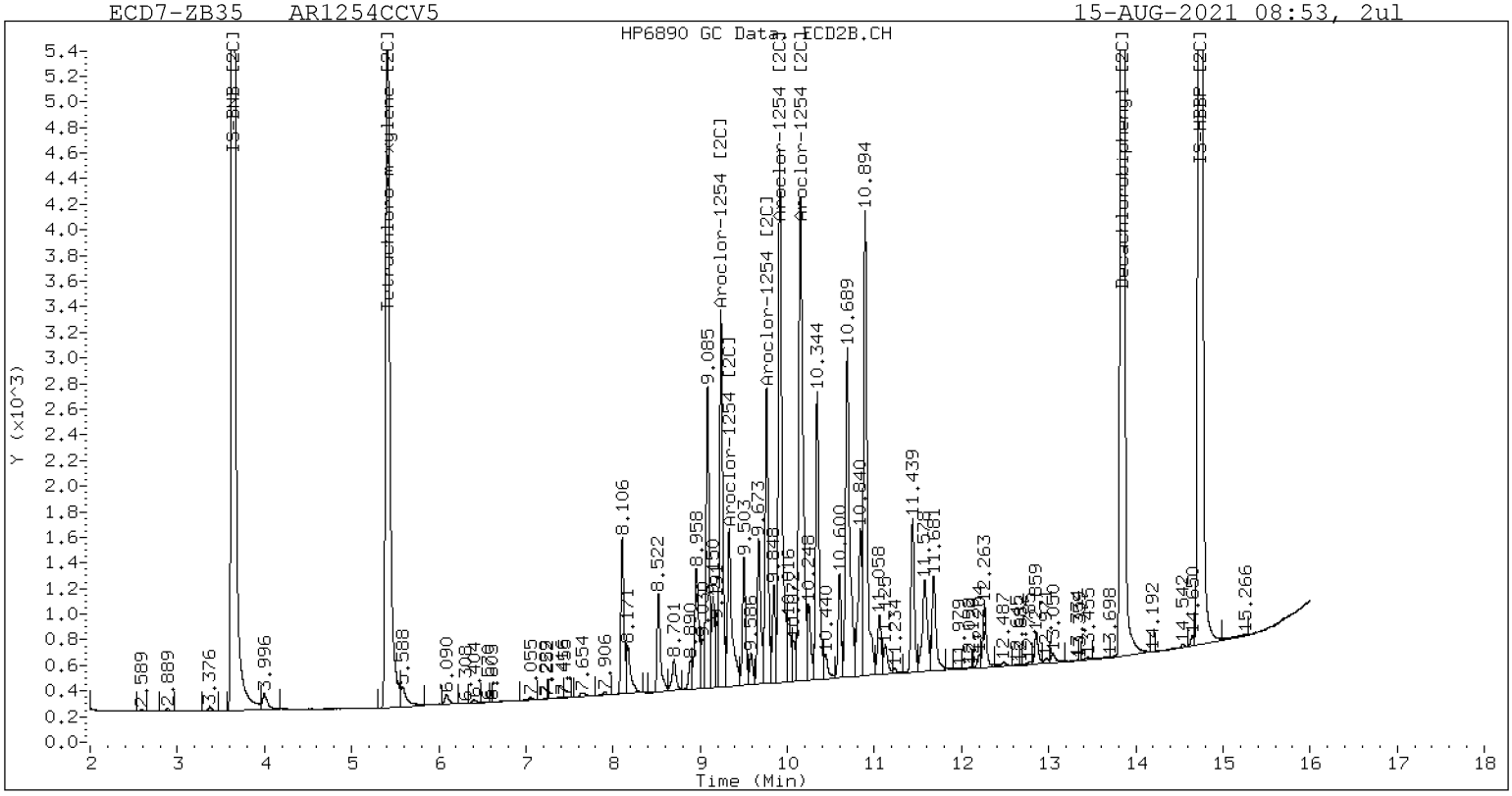
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254CCV5 15-AUG-2021 08:53, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254CCV5 15-AUG-2021 08:53, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142145ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV6	Injection Time:	09:13
Sequence Name:	AR1660CCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	265	0.0446218	0.0472971		6.0	
Aroclor-1016 (1)	A	250.00	264	0.0283733	0.0299249		5.6	
Aroclor-1016 (2)	A	250.00	265	0.0867650	0.0920218		6.0	
Aroclor-1016 (3)	A	250.00	264	0.0389383	0.0412033		5.6	
Aroclor-1016 (4)	A	250.00	267	0.0244108	0.0260386		6.8	
Aroclor 1016 [2C]	A	250.00	269	0.0529840	0.0569513		7.6	
Aroclor-1016 (1) [2C]	A	250.00	261	0.0456173	0.0476999		4.4	
Aroclor-1016 (2) [2C]	A	250.00	270	0.1020378	0.1100102		8.0	
Aroclor-1016 (3) [2C]	A	250.00	273	0.0400455	0.0436942		9.2	
Aroclor-1016 (4) [2C]	A	250.00	272	0.0242353	0.0264007		8.8	
Aroclor 1260	A	250.00	264	0.0461251	0.0487088		5.6	
Aroclor-1260 (1)	A	250.00	254	0.0359923	0.0365304		1.6	
Aroclor-1260 (2)	A	250.00	266	0.0353250	0.0376569		6.4	
Aroclor-1260 (3)	A	250.00	264	0.0954741	0.1007641		5.6	
Aroclor-1260 (4)	A	250.00	270	0.0425365	0.0459355		8.0	
Aroclor-1260 (5)	A	250.00	266	0.0212978	0.0226571		6.4	
Aroclor 1260 [2C]	A	250.00	241	0.1108773	0.1058815		-3.8	
Aroclor-1260 (1) [2C]	A	250.00	239	0.0665032	0.0636052		-4.4	
Aroclor-1260 (2) [2C]	A	250.00	236	0.1932922	0.1826957		-5.6	
Aroclor-1260 (3) [2C]	A	250.00	238	0.1242917	0.1180863		-4.8	
Aroclor-1260 (4) [2C]	A	250.00	249	0.0594222	0.0591387		-0.4	
Decachlorobiphenyl	A	40.000	41.2	0.7261970	0.7473435		3.0	
Tetrachlorometaxylene	A	40.000	42.3	0.9669678	1.0217770		5.8	
Decachlorobiphenyl [2C]	A	40.000	39.2	1.7775950	1.7409050		-2.0	
Tetrachlorometaxylene [2C]	A	40.000	41.4	1.0280520	1.0646640		3.5	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142145ECD7.D
Data file 2: /210814.b/210814.b/08142145ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV6
Client ID:
Injection Date: 15-AUG-2021 09:13
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.000	137431	5.412	-0.001	410453	42.3	41.4	2.0	Tetrachloro-m-xylene
13.165	-0.000	159547	13.845	-0.002	854055	41.2	39.2	5.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	269004	3.9
Hexabromobiphenyl	425681	426971	0.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	771047	6.9
Hexabromobiphenyl	863111	981162	13.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	ZB5 Col RT	Shift	Area	Amount	Peak#	ZB35 Col RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.000	25156	263.7	1	7.056	0.001	114934	261.4
Aroclor-1016	2	7.033	-0.000	77357	265.1	2	7.652	0.002	265072	269.5
Aroclor-1016	3	7.180	0.001	34637	264.5	3	7.858	0.001	105282	272.8
Aroclor-1016	4	7.288	-0.002	21889	266.7	4	8.106	0.000	63613	272.3

Total Col1Ave (4 peaks): 265.0 Total Col2Ave (4 peaks): 269.0 RPD = 2
Corrected Ave (3 peaks): 264.5 Corrected Ave (3 peaks): 267.8 RPD = 1

CalAmt %D: 6.0 CalAmt %D: 7.6

Aroclor-1260	1	10.385	0.001	48742	253.7	1	11.426	0.000	195022	239.1
Aroclor-1260	2	10.703	0.000	50245	266.5	2	11.680	0.001	560169	236.3
Aroclor-1260	3	11.055	0.001	134448	263.9	3	12.263	0.002	362068	237.5
Aroclor-1260	4	11.455	0.000	61291	270.0	4	12.972	0.001	181327	248.8
Aroclor-1260	5	11.557	0.002	30231	266.0	NS	---			----

Total Col1Ave (5 peaks): 264.0 Total Col2Ave (4 peaks): 240.4 RPD = 9
Corrected Ave (4 peaks): 262.5 Corrected Ave (3 peaks): 237.6 RPD = 10

CalAmt %D: 5.6 CalAmt %D: -3.8

Total PCB Area Col1 (5.167 - 13.066) = 1348670 Col1 Total PCB = 0.5 ppm*

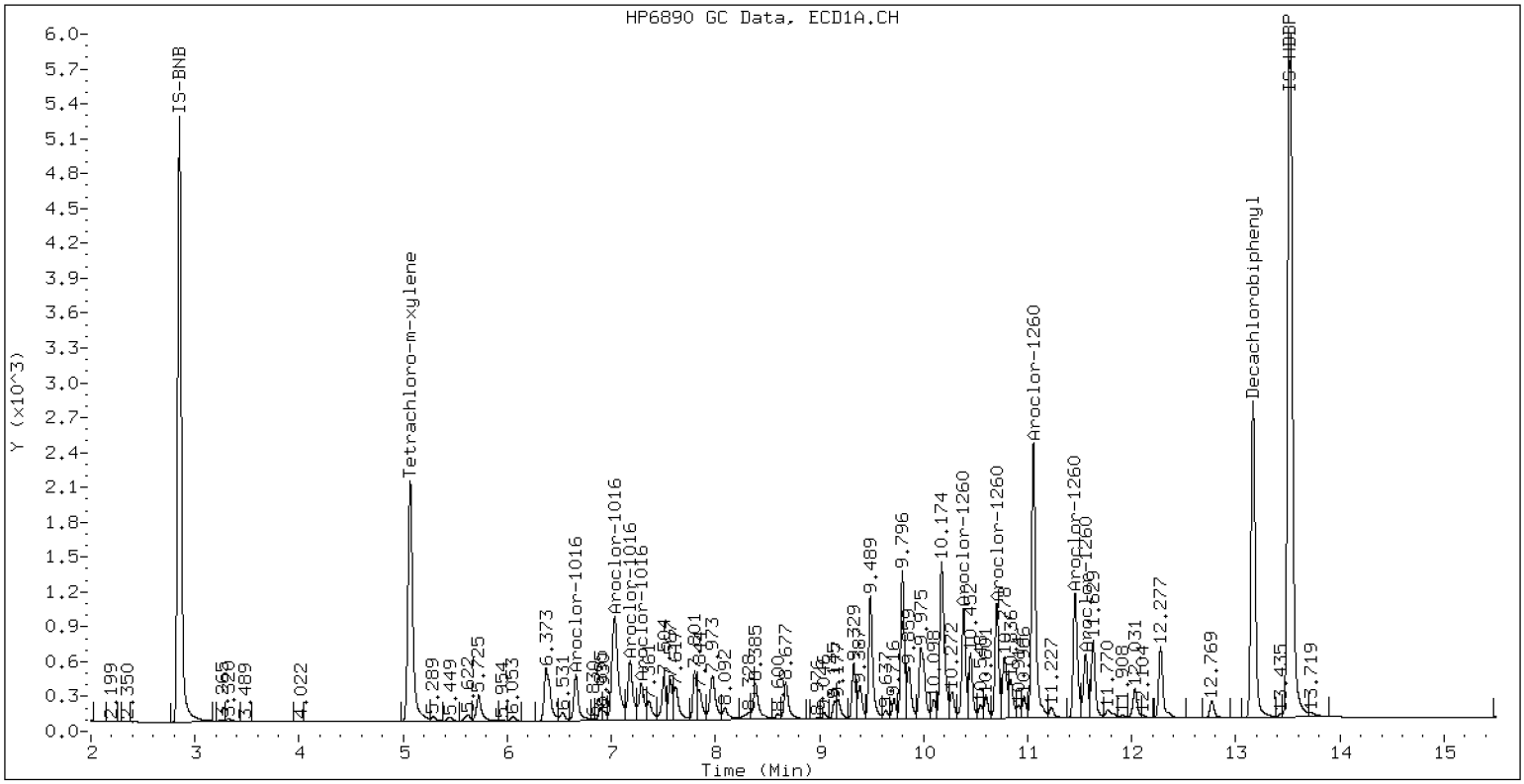
Total PCB Area Col2 (5.167 - 13.066) = 5214098 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

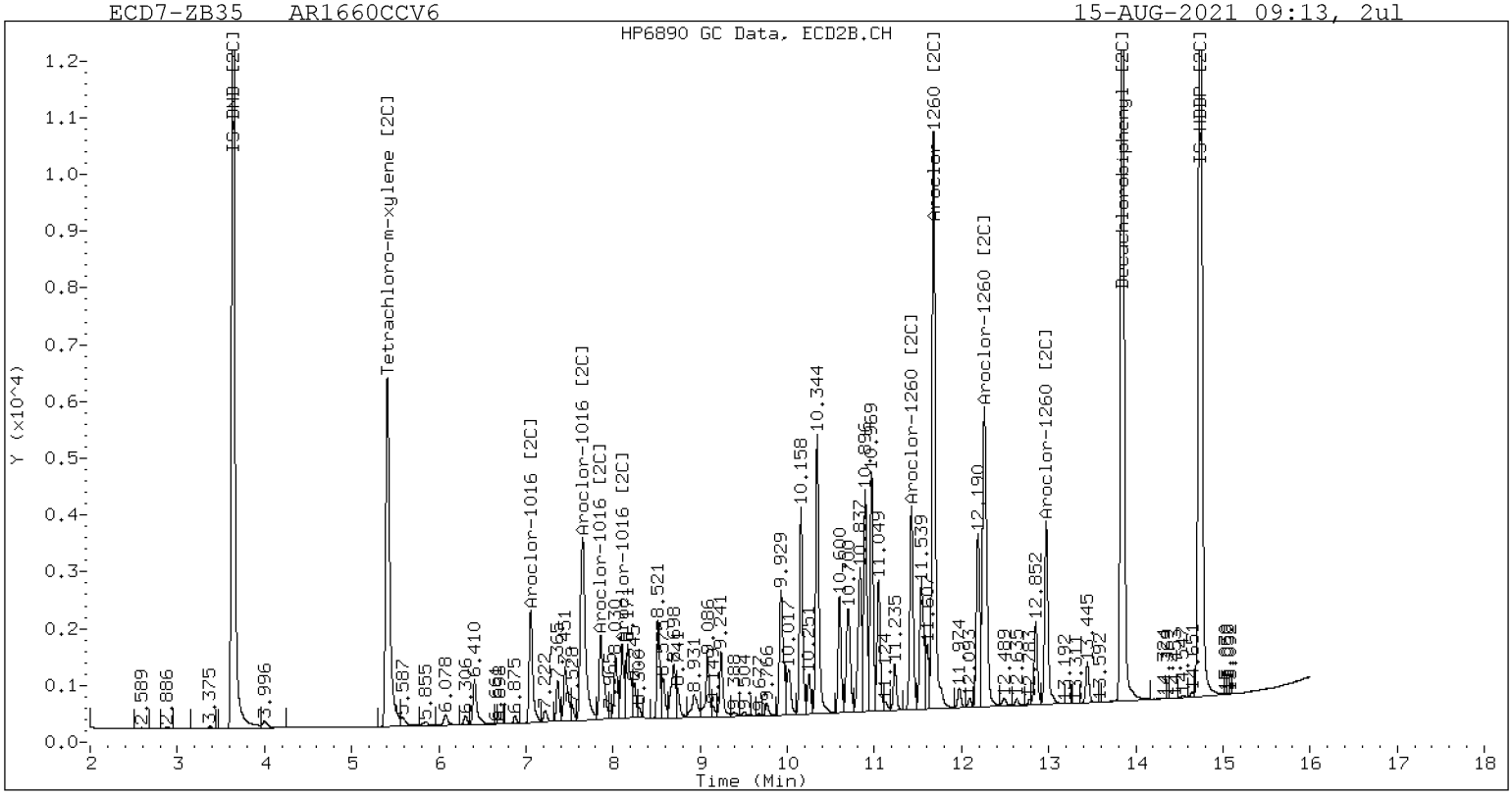
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV6 15-AUG-2021 09:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV6 15-AUG-2021 09:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142157ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV7	Injection Time:	13:19
Sequence Name:	AR1248CCV7		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	255	0.0444871	0.0455910		2.1	
Aroclor-1248 (1)	A	250.00	256	0.0335259	0.0342836		2.4	
Aroclor-1248 (2)	A	250.00	263	0.0437624	0.0459754		5.2	
Aroclor-1248 (3)	A	250.00	260	0.0640809	0.0667348		4.0	
Aroclor-1248 (4)	A	250.00	242	0.0365791	0.0353704		-3.2	
Aroclor 1248 [2C]	A	250.00	250	0.0480909	0.0478217		-0.2	
Aroclor-1248 (1) [2C]	A	250.00	251	0.0331517	0.0333098		0.4	
Aroclor-1248 (2) [2C]	A	250.00	256	0.0403519	0.0414022		2.4	
Aroclor-1248 (3) [2C]	A	250.00	244	0.0642727	0.0626992		-2.4	
Aroclor-1248 (4) [2C]	A	250.00	247	0.0545874	0.0538755		-1.2	
Decachlorobiphenyl	A	40.000	39.8	0.7261970	0.7221650		-0.5	
Tetrachlorometaxylene	A	40.000	40.8	0.9669678	0.9874666		2.0	
Decachlorobiphenyl [2C]	A	40.000	36.9	1.7775950	1.6419550		-7.8	
Tetrachlorometaxylene [2C]	A	40.000	40.3	1.0280520	1.0353670		0.8	

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142157ECD7.D
Data file 2: /210814.b/210814.b/08142157ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV7
Client ID:
Injection Date: 15-AUG-2021 13:19
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	0.000	136065	5.412	-0.001	408659	40.8	40.3	1.4	Tetrachloro-m-xylene
13.166	0.000	155077	13.846	-0.001	823662	39.8	36.9	7.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	275584	6.5
Hexabromobiphenyl	425681	429478	0.9

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	789399	9.5
Hexabromobiphenyl	863111	1003270	16.2

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.800	0.000	29525	255.6	1	8.105	0.000	82171	251.2
Aroclor-1248	2	7.970	0.000	39594	262.6	2	8.520	0.000	102134	256.5
Aroclor-1248	3	8.379	0.000	57472	260.4	3	8.952	0.000	154671	243.9
Aroclor-1248	4	8.675	0.000	30461	241.7	4	9.380	0.000	132904	246.7

Total Col1Ave (4 peaks): 255.1 Total Col2Ave (4 peaks): 249.6 RPD = 2

Corrected Ave (3 peaks): 252.6 Corrected Ave (3 peaks): 247.3 RPD = 2

CalAmt %D: 2.0 CalAmt %D: -0.2

Total PCB Area Col1 (5.167 - 13.066) = 604375 Col1 Total PCB = 0.2 ppm*

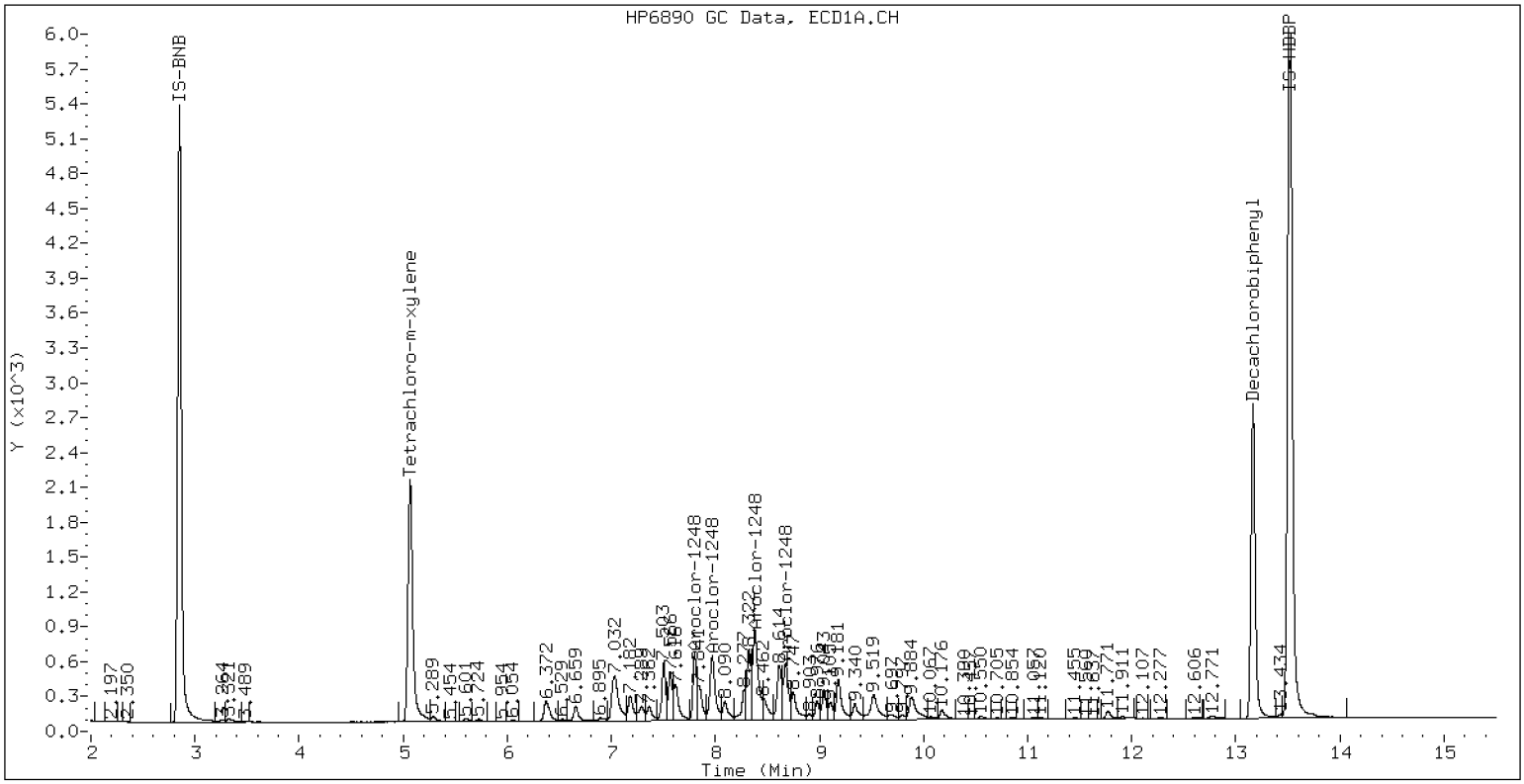
Total PCB Area Col2 (5.167 - 13.066) = 2326101 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

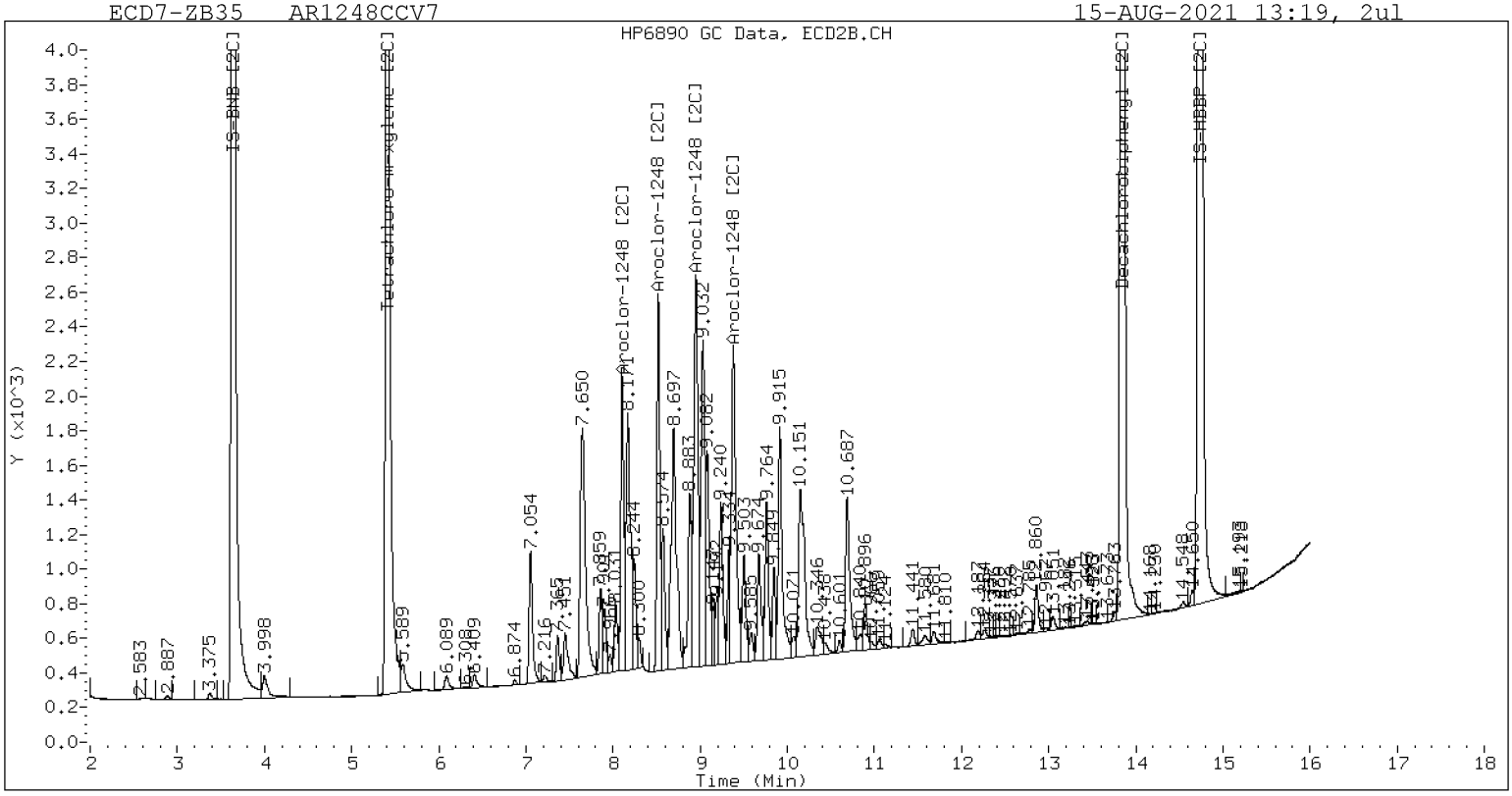
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV7 15-AUG-2021 13:19, 2ul



ZB-5 Manual Integration: YES

ECD7-ZB35 AR1248CCV7 15-AUG-2021 13:19, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08142158ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0212	Injection Date:	08/15/21
Lab Sample ID:	SJH0212-CCV8	Injection Time:	13:40
Sequence Name:	AR1660CCV8		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	267	0.0446218	0.0477126		6.9	
Aroclor-1016 (1)	A	250.00	266	0.0283733	0.0301930		6.4	
Aroclor-1016 (2)	A	250.00	268	0.0867650	0.0931210		7.2	
Aroclor-1016 (3)	A	250.00	263	0.0389383	0.0410062		5.2	
Aroclor-1016 (4)	A	250.00	272	0.0244108	0.0265301		8.8	
Aroclor 1016 [2C]	A	250.00	272	0.0529840	0.0573860		8.6	
Aroclor-1016 (1) [2C]	A	250.00	264	0.0456173	0.0481391		5.6	
Aroclor-1016 (2) [2C]	A	250.00	271	0.1020378	0.1106187		8.4	
Aroclor-1016 (3) [2C]	A	250.00	276	0.0400455	0.0441344		10.4	
Aroclor-1016 (4) [2C]	A	250.00	275	0.0242353	0.0266519		10.0	
Aroclor 1260	A	250.00	260	0.0461251	0.0480231		4.1	
Aroclor-1260 (1)	A	250.00	251	0.0359923	0.0361707		0.4	
Aroclor-1260 (2)	A	250.00	263	0.0353250	0.0372181		5.2	
Aroclor-1260 (3)	A	250.00	260	0.0954741	0.0991709		4.0	
Aroclor-1260 (4)	A	250.00	266	0.0425365	0.0453409		6.4	
Aroclor-1260 (5)	A	250.00	261	0.0212978	0.0222147		4.4	
Aroclor 1260 [2C]	A	250.00	237	0.1108773	0.1043014		-5.2	
Aroclor-1260 (1) [2C]	A	250.00	236	0.0665032	0.0626686		-5.6	
Aroclor-1260 (2) [2C]	A	250.00	232	0.1932922	0.1796385		-7.2	
Aroclor-1260 (3) [2C]	A	250.00	234	0.1242917	0.1163345		-6.4	
Aroclor-1260 (4) [2C]	A	250.00	246	0.0594222	0.0585639		-1.6	
Decachlorobiphenyl	A	40.000	40.8	0.7261970	0.7405503		2.0	
Tetrachlorometaxylene	A	40.000	42.6	0.9669678	1.0297700		6.5	
Decachlorobiphenyl [2C]	A	40.000	39.0	1.7775950	1.7312830		-2.5	
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0280520	1.0697420		4.0	

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210814.b/08142158ECD7.D
Data file 2: /210814.b/210814.b/08142158ECD7.D
Method: \\target\share\chem4\ecd7.i\210814.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV8
Client ID:
Injection Date: 15-AUG-2021 13:40
Report Date: 08/17/2021 09:17
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.001	136114	5.412	0.000	408510	42.6	41.6	2.3	Tetrachloro-m-xylene
13.164	-0.001	161320	13.847	0.000	884523	40.8	39.0	4.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	264358	2.1
Hexabromobiphenyl	425681	435676	2.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	763754	5.9
Hexabromobiphenyl	863111	1021812	18.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

	ZB5 Col				ZB35 Col				
Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.660	0.000	24943	266.0	1	7.055	0.000	114895	263.8
Aroclor-1016	2	7.033	0.000	76929	268.3	2	7.651	0.000	264017	271.0
Aroclor-1016	3	7.179	0.000	33876	263.3	3	7.858	0.000	105337	275.5
Aroclor-1016	4	7.290	0.000	21917	271.7	4	8.106	0.000	63611	274.9

Total Col1Ave (4 peaks): 267.3 Total Col2Ave (4 peaks): 271.3 RPD = 1
Corrected Ave (3 peaks): 265.9 Corrected Ave (3 peaks): 269.9 RPD = 2

CalAmt %D: 6.9 CalAmt %D: 8.5

Aroclor-1260	1	10.384	0.000	49246	251.2	1	11.426	0.000	200111	235.6
Aroclor-1260	2	10.703	0.000	50672	263.4	2	11.678	0.000	573615	232.3
Aroclor-1260	3	11.053	0.000	135020	259.7	3	12.260	0.000	371475	234.0
Aroclor-1260	4	11.455	0.000	61731	266.5	4	12.971	0.000	187004	246.4
Aroclor-1260	5	11.555	0.000	30245	260.8	NS	---			----

Total Col1Ave (5 peaks): 260.3 Total Col2Ave (4 peaks): 237.1 RPD = 9
Corrected Ave (4 peaks): 258.8 Corrected Ave (3 peaks): 234.0 RPD = 10

CalAmt %D: 4.1 CalAmt %D: -5.2

Total PCB Area Col1 (5.167 - 13.066) = 1350542 Col1 Total PCB = 0.5 ppm*

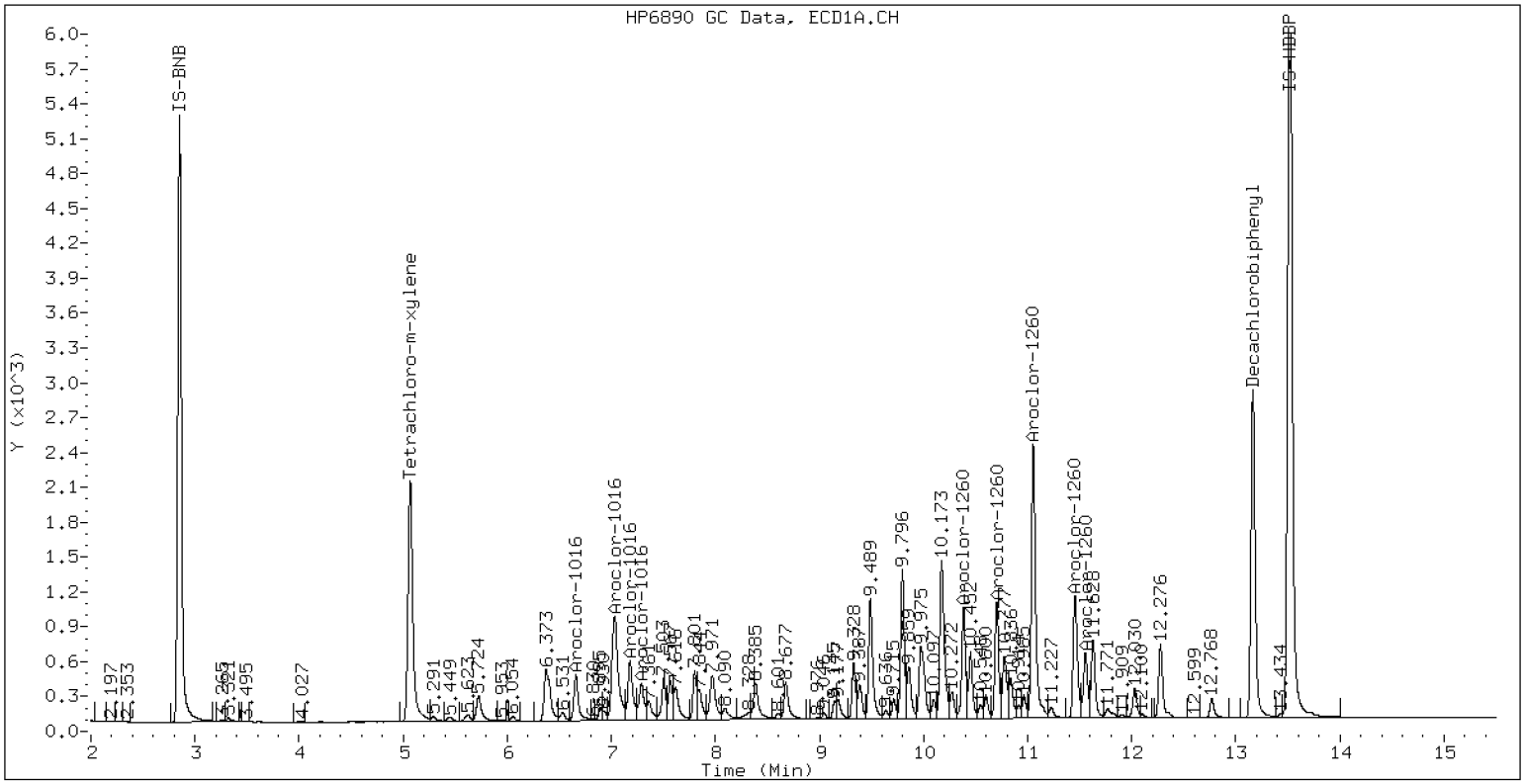
Total PCB Area Col2 (5.167 - 13.066) = 5305867 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

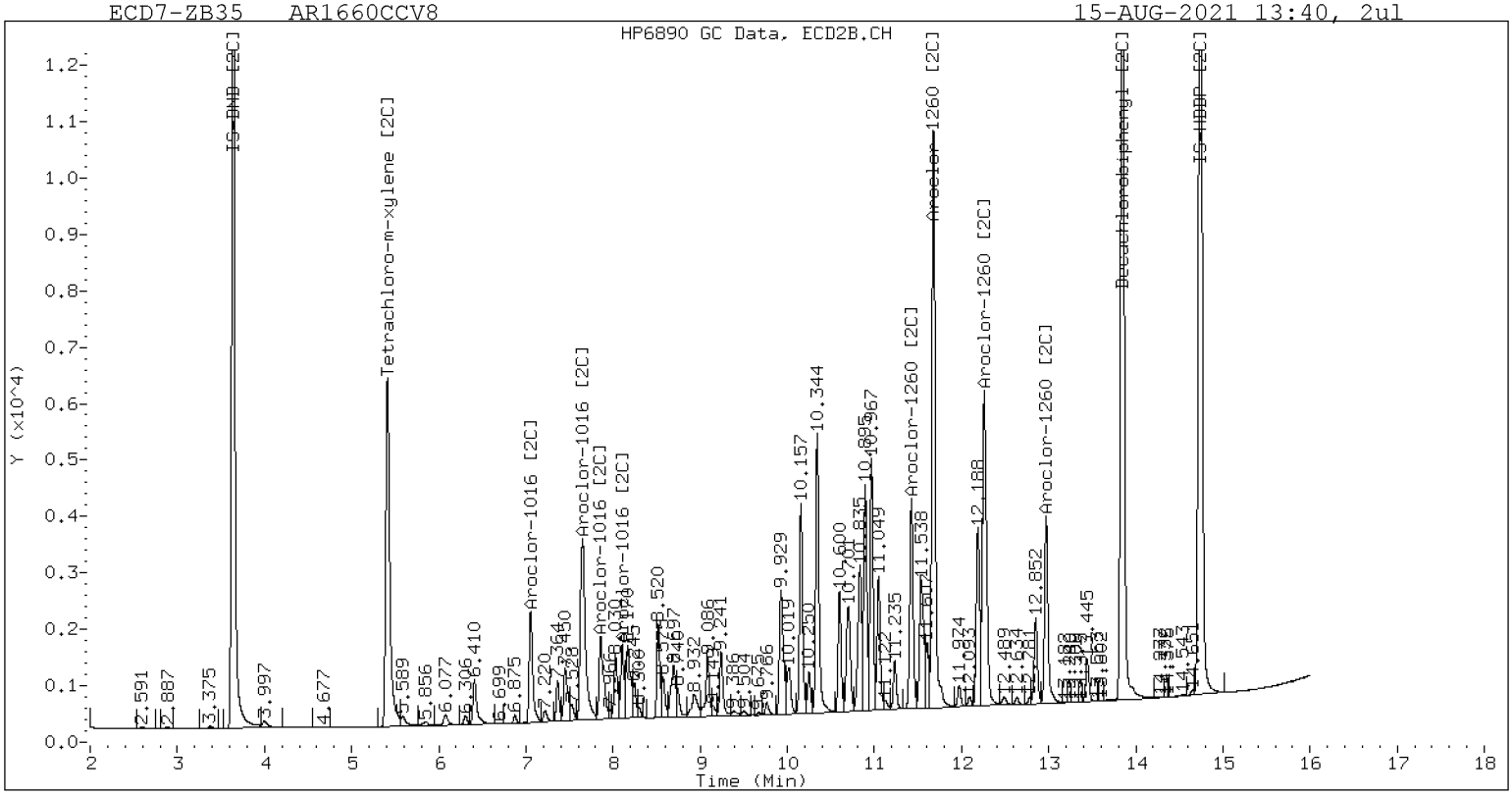
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV8 15-AUG-2021 13:40, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV8 15-AUG-2021 13:40, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162112S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/16/21
Lab Sample ID:	SJH0214-CCV1	Injection Time:	15:48
Sequence Name:	AR1248CCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	262	0.0444871	0.0468170		5.0	+/-20
Aroclor-1248 (1)	A	250.00	273	0.0335259	0.0365875		9.1	
Aroclor-1248 (2)	A	250.00	273	0.0437624	0.0478645		9.4	
Aroclor-1248 (3)	A	250.00	265	0.0640809	0.0679069		6.0	
Aroclor-1248 (4)	A	250.00	239	0.0365791	0.0349092		-4.6	
Aroclor 1248 [2C]	A	250.00	247	0.0480909	0.0471608		-1.2	+/-20
Aroclor-1248 (1) [2C]	A	250.00	253	0.0331517	0.0335898		1.3	
Aroclor-1248 (2) [2C]	A	250.00	259	0.0403519	0.0418575		3.7	
Aroclor-1248 (3) [2C]	A	250.00	241	0.0642727	0.0620786		-3.4	
Aroclor-1248 (4) [2C]	A	250.00	234	0.0545874	0.0511173		-6.4	
Decachlorobiphenyl	A	40.000	41.2	0.7261970	0.7488545		3.1	+/-20
Tetrachlorometaxylene	A	40.000	42.3	0.9669678	1.0231500		5.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	37.2	1.7775950	1.6510930		-7.1	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.2	1.0280520	1.0588150		3.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162112S.D
Data file 2: /210816.b/210816.b/08162112S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 16-AUG-2021 15:48
Report Date: 08/17/2021 10:59
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	148941	5.412	-0.005	445528	42.3	41.2	2.7	Tetrachloro-m-xylene
13.163	-0.002	136545	13.845	-0.035	641983	41.2	37.2	10.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	291142	12.5
Hexabromobiphenyl	425681	364677	-14.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	841560	16.7
Hexabromobiphenyl	863111	777646	-9.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.799	0.000	33288	272.8	1	8.104	-0.002	88337	253.3
Aroclor-1248	2	7.968	0.000	43548	273.4	2	8.518	-0.002	110080	259.3
Aroclor-1248	3	8.378	0.003	61783	264.9	3	8.948	0.002	163259	241.5
Aroclor-1248	4	8.674	0.001	31761	238.6	4	9.378	0.001	134432	234.1

Total Col1Ave (4 peaks): 262.4 Total Col2Ave (4 peaks): 247.1 RPD = 6

Corrected Ave (3 peaks): 258.8 Corrected Ave (3 peaks): 243.0 RPD = 6

Total PCB Area Col1 (5.169 - 13.066) = 658055 Col1 Total PCB = 0.2 ppm*

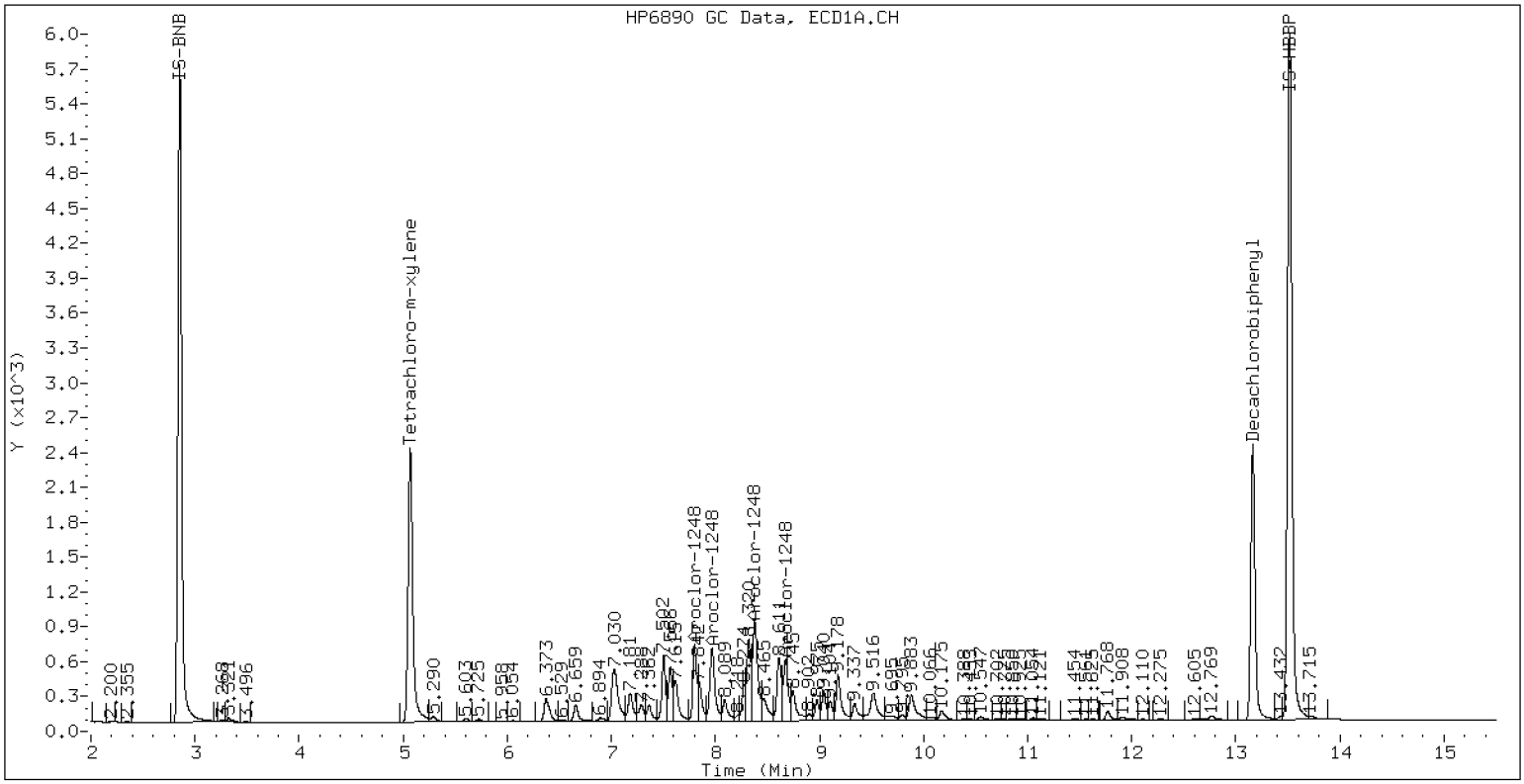
Total PCB Area Col2 (5.169 - 13.066) = 2433375 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

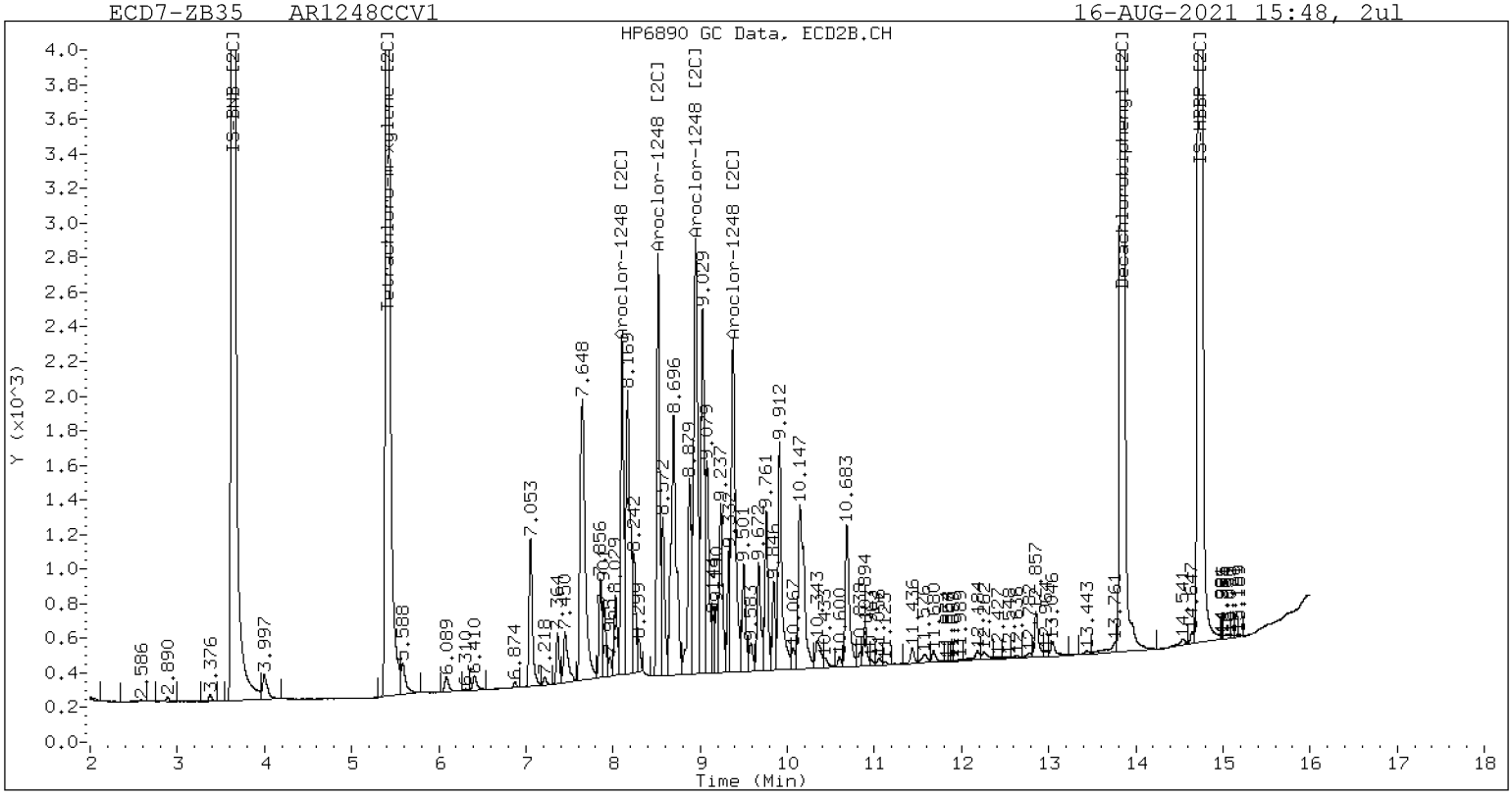
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1 16-AUG-2021 15:48, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV1 16-AUG-2021 15:48, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162113S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/16/21
Lab Sample ID:	SJH0214-CCV2	Injection Time:	16:09
Sequence Name:	AR1660CCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	277	0.0446218	0.0495442		11.0	+/-20
Aroclor-1016 (1)	A	250.00	276	0.0283733	0.0313189		10.4	
Aroclor-1016 (2)	A	250.00	279	0.0867650	0.0968465		11.6	
Aroclor-1016 (3)	A	250.00	273	0.0389383	0.0424920		9.1	
Aroclor-1016 (4)	A	250.00	282	0.0244108	0.0275196		12.7	
Aroclor 1016 [2C]	A	250.00	277	0.0529840	0.0587339		10.7	+/-20
Aroclor-1016 (1) [2C]	A	250.00	270	0.0456173	0.0492883		8.0	
Aroclor-1016 (2) [2C]	A	250.00	278	0.1020378	0.1135722		11.3	
Aroclor-1016 (3) [2C]	A	250.00	283	0.0400455	0.0452832		13.1	
Aroclor-1016 (4) [2C]	A	250.00	276	0.0242353	0.0267919		10.5	
Aroclor 1260	A	250.00	294	0.0461251	0.0541309		17.5	+/-20
Aroclor-1260 (1)	A	250.00	291	0.0359923	0.0418412		16.3	
Aroclor-1260 (2)	A	250.00	300	0.0353250	0.0424540		20.2	
Aroclor-1260 (3)	A	250.00	292	0.0954741	0.1113670		16.6	
Aroclor-1260 (4)	A	250.00	296	0.0425365	0.0502847		18.2	
Aroclor-1260 (5)	A	250.00	290	0.0212978	0.0247074		16.0	
Aroclor 1260 [2C]	A	250.00	263	0.1108773	0.1149565		5.1	+/-20
Aroclor-1260 (1) [2C]	A	250.00	266	0.0665032	0.0708699		6.6	
Aroclor-1260 (2) [2C]	A	250.00	253	0.1932922	0.1957943		1.3	
Aroclor-1260 (3) [2C]	A	250.00	257	0.1242917	0.1279614		3.0	
Aroclor-1260 (4) [2C]	A	250.00	274	0.0594222	0.0652006		9.7	
Decachlorobiphenyl	A	40.000	41.2	0.7261970	0.7484782		3.1	+/-20
Tetrachlorometaxylene	A	40.000	43.4	0.9669678	1.0483140		8.4	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.6	1.7775950	1.7604630		-1.0	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.6	1.0280520	1.0937660		6.4	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162113S.D
Data file 2: /210816.b/210816.b/08162113S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 16-AUG-2021 16:09
Report Date: 08/17/2021 10:59
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	144054	5.412	-0.005	435601	43.4	42.6	1.9	Tetrachloro-m-xylene
13.164	-0.002	142075	13.845	-0.035	702740	41.2	39.6	4.0	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	274830	6.2
Hexabromobiphenyl	425681	379637	-10.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	796516	10.5
Hexabromobiphenyl	863111	798358	-7.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.659	0.001	26898	276.0	1	7.055	-0.001	122684	270.1
Aroclor-1016	2	7.032	0.003	83176	279.0	2	7.649	0.002	282694	278.3
Aroclor-1016	3	7.179	0.003	36494	272.8	3	7.856	0.001	112715	282.7
Aroclor-1016	4	7.287	0.002	23635	281.8	4	8.104	-0.001	66688	276.4
Total Col1Ave (4 peaks):				277.4		Total Col2Ave (4 peaks):			276.9	RPD = 0
Corrected Ave (3 peaks):				275.9		Corrected Ave (3 peaks):			274.9	RPD = 0
Aroclor-1260	1	10.383	0.000	49639	290.6	1	11.423	-0.002	176811	266.4
Aroclor-1260	2	10.702	0.001	50366	300.5	2	11.677	-0.005	488481	253.2
Aroclor-1260	3	11.052	0.001	132122	291.6	3	12.258	-0.002	319247	257.4
Aroclor-1260	4	11.453	0.001	59656	295.5	4	12.969	-0.003	162667	274.3
Aroclor-1260	5	11.554	0.000	29312	290.0	NS	---			----
Total Col1Ave (5 peaks):				293.7		Total Col2Ave (4 peaks):			262.8	RPD = 11
Corrected Ave (4 peaks):				292.0		Corrected Ave (3 peaks):			259.0	RPD = 12

Total PCB Area Col1 (5.169 - 13.066) = 1401939 Col1 Total PCB = 0.5 ppm*

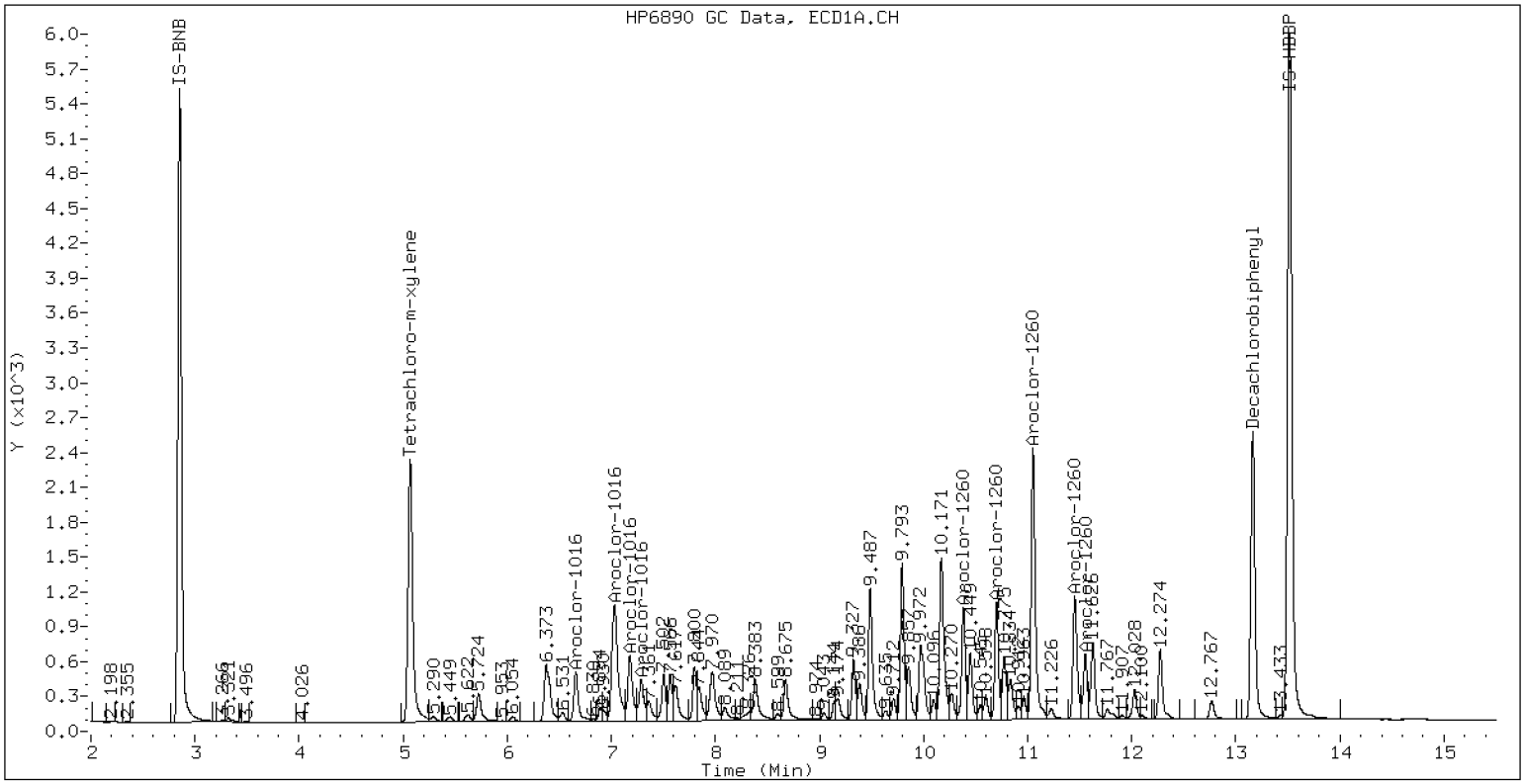
Total PCB Area Col2 (5.169 - 13.066) = 5077876 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

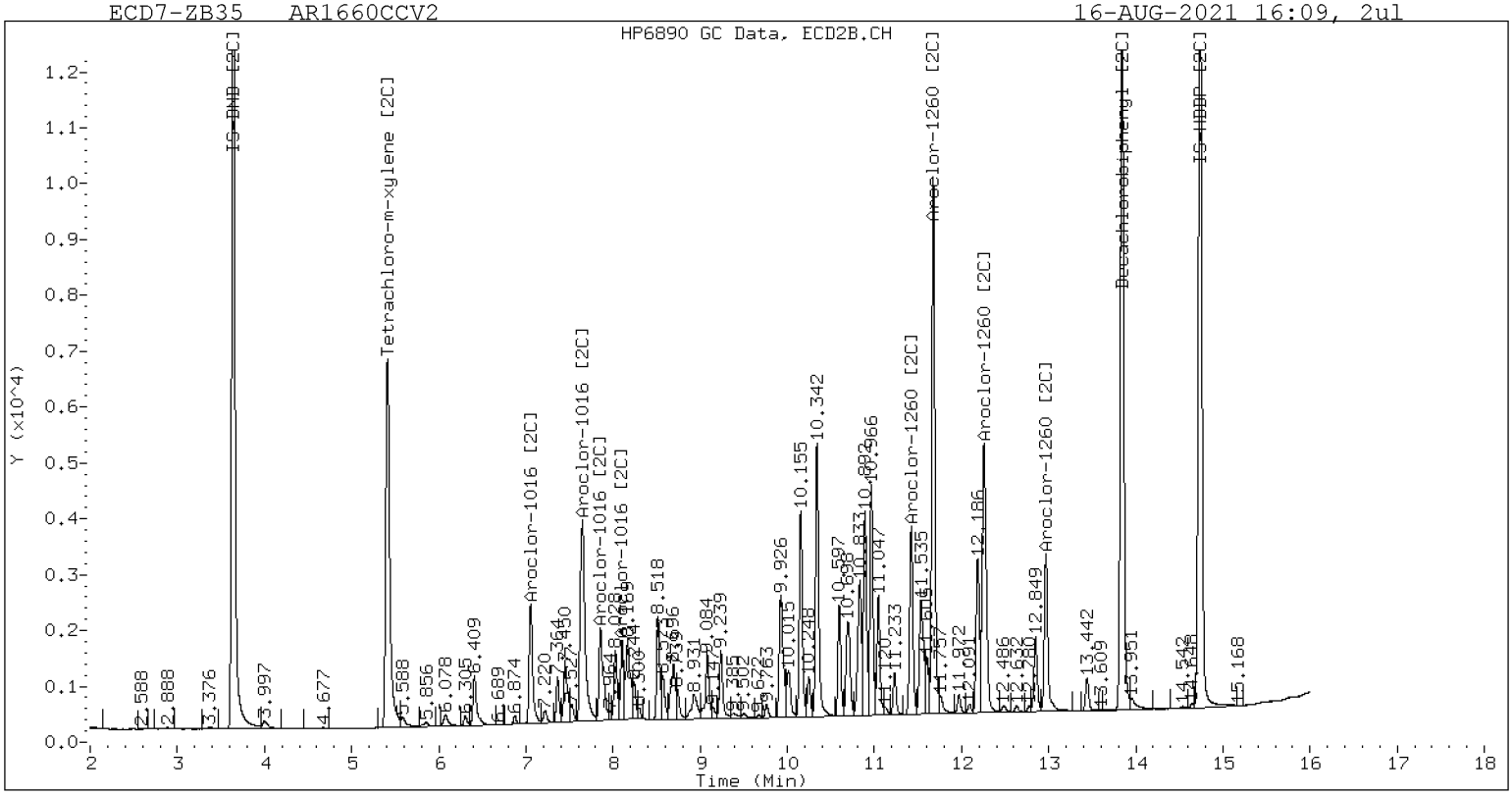
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2 16-AUG-2021 16:09, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2 16-AUG-2021 16:09, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162122S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/16/21
Lab Sample ID:	SJH0214-CCV3	Injection Time:	19:13
Sequence Name:	AR1242CCV3		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1242	A	250.00	278	0.0350459	0.0396261		11.0	+/-20
Aroclor-1242 (1)	A	250.00	275	0.0220414	0.0242251		9.9	
Aroclor-1242 (2)	A	250.00	278	0.0657077	0.0731625		11.3	
Aroclor-1242 (3)	A	250.00	309	0.0372229	0.0460385		23.7	
Aroclor-1242 (4)	A	250.00	248	0.0152114	0.0150784		-0.9	
Aroclor 1242 [2C]	A	250.00	262	0.0490898	0.0518456		4.8	+/-20
Aroclor-1242 (1) [2C]	A	250.00	266	0.0367813	0.0391656		6.5	
Aroclor-1242 (2) [2C]	A	250.00	272	0.0798974	0.0869071		8.8	
Aroclor-1242 (3) [2C]	A	250.00	250	0.0373257	0.0373895		0.2	
Aroclor-1242 (4) [2C]	A	250.00	259	0.0423546	0.0439201		3.7	
Decachlorobiphenyl	A	40.000	39.9	0.7261970	0.7242952		-0.3	+/-20
Tetrachlorometaxylene	A	40.000	42.3	0.9669678	1.0218390		5.7	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.1	1.7775950	1.6936120		-4.7	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.4	1.0280520	1.0635290		3.5	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162122S.D
Data file 2: /210816.b/210816.b/08162122S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1242.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1242CCV3
Client ID:
Injection Date: 16-AUG-2021 19:13
Report Date: 08/17/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.069	-0.000	145285	5.413	-0.004	442543	42.3	41.4	2.1	Tetrachloro-m-xylene
13.163	-0.003	165810	13.844	-0.036	869347	39.9	38.1	4.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	284360	9.8
Hexabromobiphenyl	425681	457852	7.6

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	832216	15.4
Hexabromobiphenyl	863111	1026619	18.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1242	1	6.660	0.001	21527	274.8	1	7.055	-0.002	101857	266.2
Aroclor-1242	2	7.032	0.002	65014	278.4	2	7.651	0.003	226017	271.9
Aroclor-1242	3	8.380	0.006	40911	309.2	3	8.953	0.005	97238	250.4
Aroclor-1242	4	8.675	0.002	13399	247.8	4	9.033	0.005	114222	259.2

Total Col1Ave (4 peaks): 277.5 Total Col2Ave (4 peaks): 262.0 RPD = 6
Corrected Ave (3 peaks): 267.0 Corrected Ave (3 peaks): 258.6 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 485399 Col1 Total PCB = 0.2 ppm*

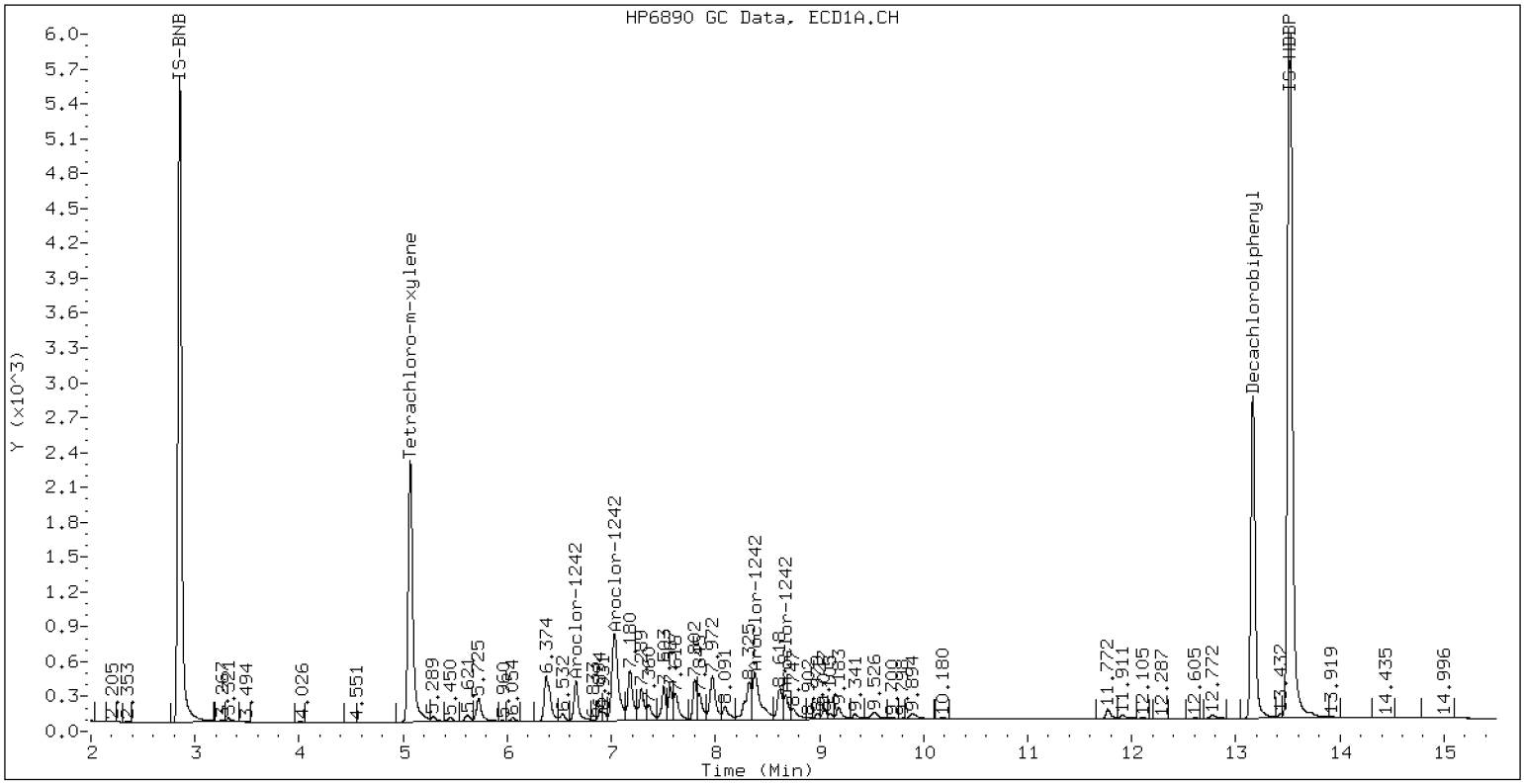
Total PCB Area Col2 (5.169 - 13.066) = 2067196 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

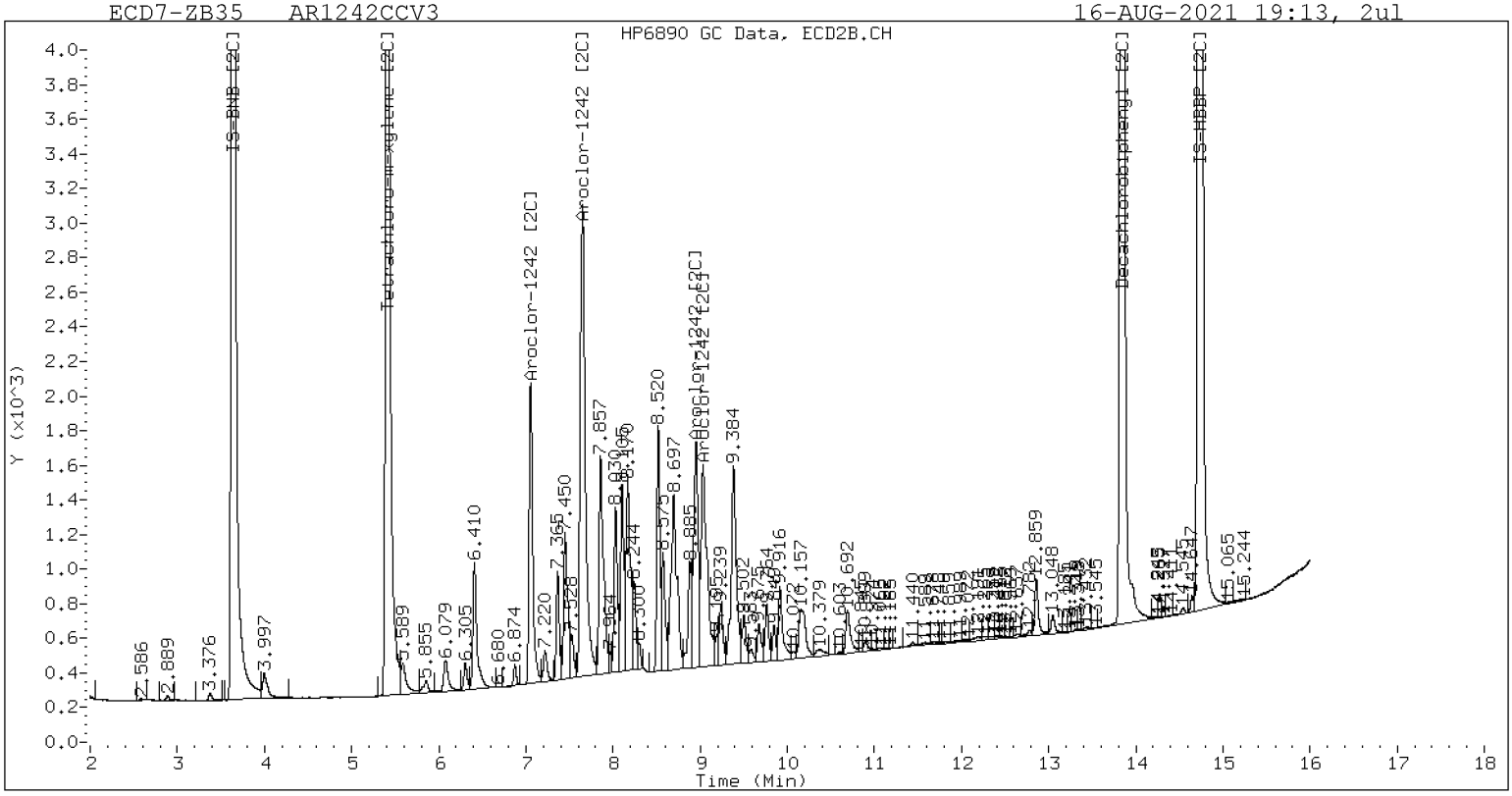
PCB Dual Column Chromatograms

ECD7-ZB5 AR1242CCV3 16-AUG-2021 19:13, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1242CCV3 16-AUG-2021 19:13, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162123S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/16/21
Lab Sample ID:	SJH0214-CCV4	Injection Time:	19:39
Sequence Name:	AR1660CCV4		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	271	0.0446218	0.0483489		8.3	+/-20
Aroclor-1016 (1)	A	250.00	268	0.0283733	0.0303624		7.0	
Aroclor-1016 (2)	A	250.00	272	0.0867650	0.0945498		9.0	
Aroclor-1016 (3)	A	250.00	267	0.0389383	0.0415507		6.7	
Aroclor-1016 (4)	A	250.00	276	0.0244108	0.0269328		10.3	
Aroclor 1016 [2C]	A	250.00	264	0.0529840	0.0558038		5.6	+/-20
Aroclor-1016 (1) [2C]	A	250.00	256	0.0456173	0.0466382		2.2	
Aroclor-1016 (2) [2C]	A	250.00	264	0.1020378	0.1076458		5.5	
Aroclor-1016 (3) [2C]	A	250.00	268	0.0400455	0.0428561		7.0	
Aroclor-1016 (4) [2C]	A	250.00	269	0.0242353	0.0260752		7.6	
Aroclor 1260	A	250.00	269	0.0461251	0.0496009		7.4	+/-20
Aroclor-1260 (1)	A	250.00	256	0.0359923	0.0369031		2.5	
Aroclor-1260 (2)	A	250.00	272	0.0353250	0.0384476		8.8	
Aroclor-1260 (3)	A	250.00	269	0.0954741	0.1027097		7.6	
Aroclor-1260 (4)	A	250.00	276	0.0425365	0.0469970		10.5	
Aroclor-1260 (5)	A	250.00	269	0.0212978	0.0229472		7.7	
Aroclor 1260 [2C]	A	250.00	255	0.1108773	0.1132231		2.1	+/-20
Aroclor-1260 (1) [2C]	A	250.00	256	0.0665032	0.0679857		2.2	
Aroclor-1260 (2) [2C]	A	250.00	256	0.1932922	0.1979488		2.4	
Aroclor-1260 (3) [2C]	A	250.00	254	0.1242917	0.1260622		1.4	
Aroclor-1260 (4) [2C]	A	250.00	256	0.0594222	0.0608958		2.5	
Decachlorobiphenyl	A	40.000	40.8	0.7261970	0.7407259		2.0	+/-20
Tetrachlorometaxylene	A	40.000	43.1	0.9669678	1.0417560		7.7	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.7	1.7775950	1.7625280		-0.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.2	1.0280520	1.0324250		0.4	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162123S.D
Data file 2: /210816.b/210816.b/08162123S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV4
Client ID:
Injection Date: 16-AUG-2021 19:39
Report Date: 08/17/2021 15:27
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.080	0.011	150616	5.406	-0.011	455846	43.1	40.2	7.0	Tetrachloro-m-xylene
13.169	0.003	175415	13.844	-0.036	931777	40.8	39.7	2.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	289158	11.7
Hexabromobiphenyl	425681	473630	11.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	883059	22.5
Hexabromobiphenyl	863111	1057319	22.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.668	0.010	27436	267.5	1	7.052	-0.005	128701	255.6
Aroclor-1016	2	7.040	0.011	85437	272.4	2	7.647	-0.000	297055	263.7
Aroclor-1016	3	7.186	0.011	37546	266.8	3	7.854	-0.001	118264	267.5
Aroclor-1016	4	7.296	0.011	24337	275.8	4	8.102	-0.003	71956	269.0
Total Col1Ave (4 peaks):					270.6	Total Col2Ave (4 peaks):				264.0 RPD = 2
Corrected Ave (3 peaks):					268.9	Corrected Ave (3 peaks):				262.3 RPD = 2
Aroclor-1260	1	10.389	0.006	54620	256.3	1	11.422	-0.003	224633	255.6
Aroclor-1260	2	10.706	0.006	56906	272.1	2	11.678	-0.003	654047	256.0
Aroclor-1260	3	11.058	0.007	152020	268.9	3	12.258	-0.003	416525	253.6
Aroclor-1260	4	11.458	0.006	69560	276.2	4	12.968	-0.004	201207	256.2
Aroclor-1260	5	11.559	0.005	33964	269.4	NS	---			----
Total Col1Ave (5 peaks):					268.6	Total Col2Ave (4 peaks):				255.3 RPD = 5
Corrected Ave (4 peaks):					266.7	Corrected Ave (3 peaks):				255.1 RPD = 4

Total PCB Area Col1 (5.169 - 13.066) = 1507927 Col1 Total PCB = 0.5 ppm*

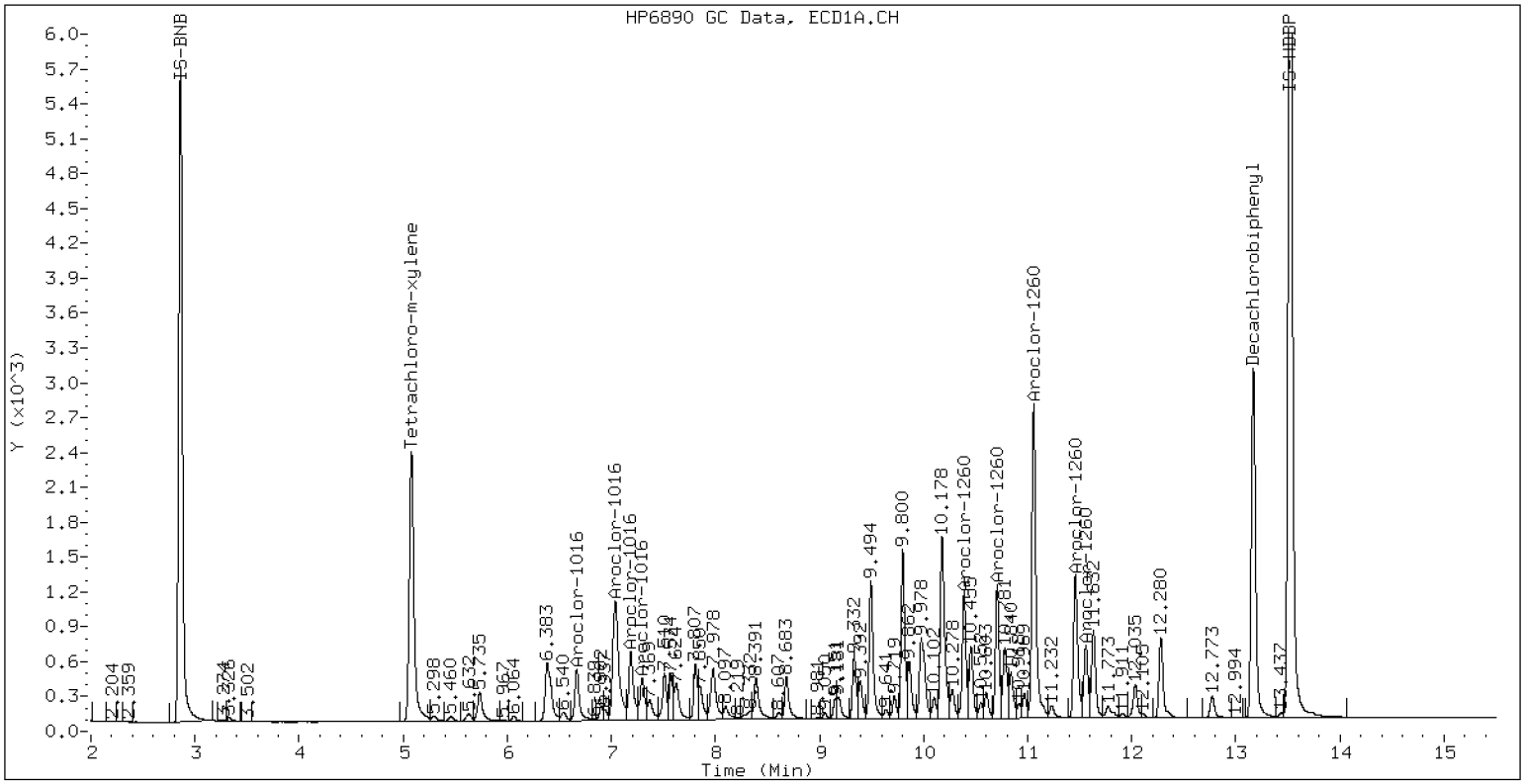
Total PCB Area Col2 (5.169 - 13.066) = 5965246 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

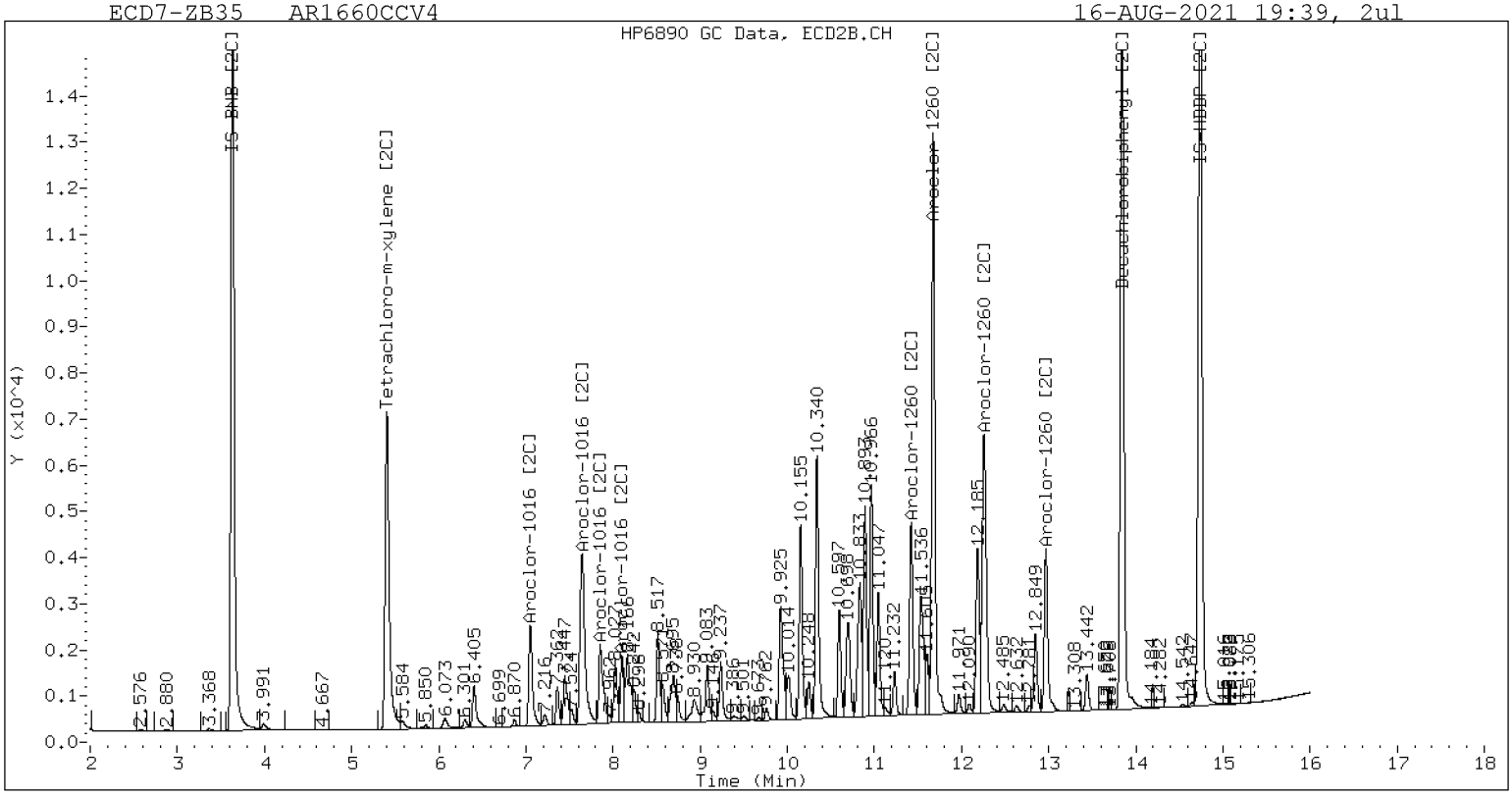
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV4 16-AUG-2021 19:39, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV4 16-AUG-2021 19:39, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162138S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/17/21
Lab Sample ID:	SJH0214-CCV5	Injection Time:	00:47
Sequence Name:	AR1254CCV5		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1254	A	250.00	252	0.0571741	0.0576971		0.6	+/-20
Aroclor-1254 (1)	A	250.00	257	0.0690183	0.0709127		2.7	
Aroclor-1254 (2)	A	250.00	257	0.0319506	0.0328507		2.8	
Aroclor-1254 (3)	A	250.00	227	0.0449859	0.0408835		-9.1	
Aroclor-1254 (4)	A	250.00	252	0.0859427	0.0867182		0.9	
Aroclor-1254 (5)	A	250.00	265	0.0539731	0.0571205		5.8	
Aroclor 1254 [2C]	A	250.00	236	0.0782980	0.0737711		-5.5	+/-20
Aroclor-1254 (1) [2C]	A	250.00	239	0.0680651	0.0651989		-4.2	
Aroclor-1254 (2) [2C]	A	250.00	232	0.0399453	0.0371481		-7.0	
Aroclor-1254 (3) [2C]	A	250.00	243	0.0518895	0.0503973		-2.9	
Aroclor-1254 (4) [2C]	A	250.00	224	0.1149829	0.1030872		-10.3	
Aroclor-1254 (5) [2C]	A	250.00	242	0.1166073	0.1130238		-3.1	
Decachlorobiphenyl	A	40.000	40.4	0.7261970	0.7331551		1.0	+/-20
Tetrachlorometaxylene	A	40.000	41.9	0.9669678	1.0132450		4.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.3	1.7775950	1.7021460		-4.2	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.8	1.0280520	1.0491380		2.1	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162138S.D
Data file 2: /210816.b/210816.b/08162138S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1254.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1254CCV5
Client ID:
Injection Date: 17-AUG-2021 00:47
Report Date: 08/17/2021 15:28
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.067	-0.002	144626	5.411	-0.006	457625	41.9	40.8	2.6	Tetrachloro-m-xylene
13.164	-0.002	150832	13.845	-0.035	811567	40.4	38.3	5.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	285471	10.3
Hexabromobiphenyl	425681	411460	-3.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	872383	21.0
Hexabromobiphenyl	863111	953581	10.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1254	1	8.676	0.001	63261	256.9	1	9.238	-0.002	177745	239.5
Aroclor-1254	2	8.748	0.001	29306	257.0	2	9.332	0.001	101273	232.5
Aroclor-1254	3	9.043	0.002	36472	227.2	3	9.762	-0.000	137393	242.8
Aroclor-1254	4	9.179	0.003	77361	252.3	4	9.914	0.001	281036	224.1
Aroclor-1254	5	9.869	0.002	50957	264.6	5	10.150	0.003	308125	242.3

Total Col1Ave (5 peaks): 251.6 Total Col2Ave (5 peaks): 236.2 RPD = 6
Corrected Ave (4 peaks): 248.3 Corrected Ave (4 peaks): 234.6 RPD = 6

Total PCB Area Col1 (5.169 - 13.066) = 802002 Col1 Total PCB = 0.3 ppm*

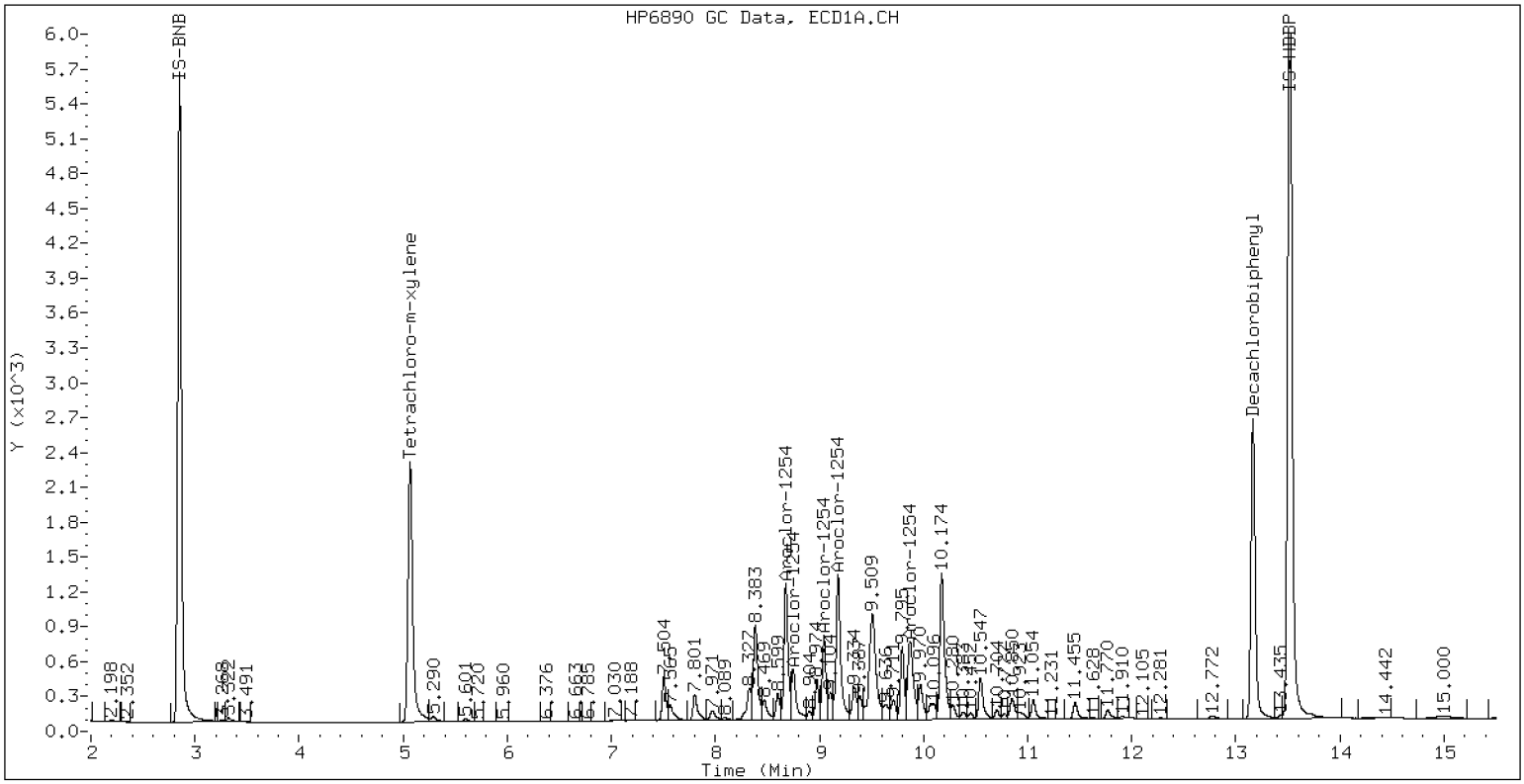
Total PCB Area Col2 (5.169 - 13.066) = 3278566 Col2 Total PCB = 0.3 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

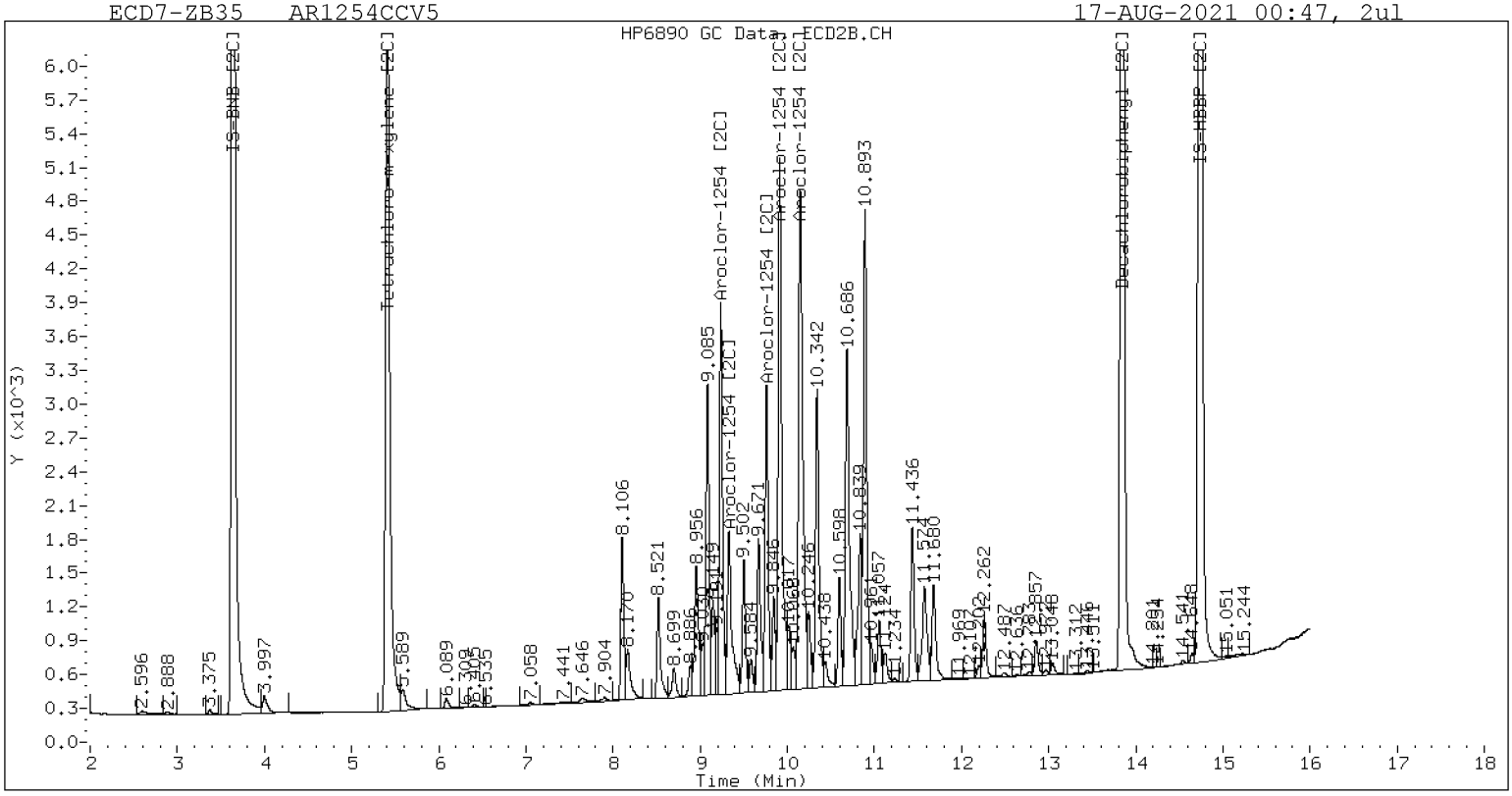
PCB Dual Column Chromatograms

ECD7-ZB5 AR1254CCV5 17-AUG-2021 00:47, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1254CCV5 17-AUG-2021 00:47, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162139S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/17/21
Lab Sample ID:	SJH0214-CCV6	Injection Time:	01:08
Sequence Name:	AR1660CCV6		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	271	0.0446218	0.0485237		8.6	+/-20
Aroclor-1016 (1)	A	250.00	269	0.0283733	0.0305792		7.8	
Aroclor-1016 (2)	A	250.00	274	0.0867650	0.0949618		9.4	
Aroclor-1016 (3)	A	250.00	268	0.0389383	0.0417525		7.2	
Aroclor-1016 (4)	A	250.00	274	0.0244108	0.0268012		9.8	
Aroclor 1016 [2C]	A	250.00	276	0.0529840	0.0583412		10.4	+/-20
Aroclor-1016 (1) [2C]	A	250.00	266	0.0456173	0.0486137		6.6	
Aroclor-1016 (2) [2C]	A	250.00	276	0.1020378	0.1126061		10.4	
Aroclor-1016 (3) [2C]	A	250.00	280	0.0400455	0.0449058		12.1	
Aroclor-1016 (4) [2C]	A	250.00	281	0.0242353	0.0272392		12.4	
Aroclor 1260	A	250.00	278	0.0461251	0.0512413		11.0	+/-20
Aroclor-1260 (1)	A	250.00	266	0.0359923	0.0383660		6.6	
Aroclor-1260 (2)	A	250.00	283	0.0353250	0.0400010		13.2	
Aroclor-1260 (3)	A	250.00	277	0.0954741	0.1058972		10.9	
Aroclor-1260 (4)	A	250.00	284	0.0425365	0.0484016		13.8	
Aroclor-1260 (5)	A	250.00	276	0.0212978	0.0235405		10.5	
Aroclor 1260 [2C]	A	250.00	248	0.1108773	0.1088801		-0.6	+/-20
Aroclor-1260 (1) [2C]	A	250.00	251	0.0665032	0.0667140		0.3	
Aroclor-1260 (2) [2C]	A	250.00	240	0.1932922	0.1854609		-4.1	
Aroclor-1260 (3) [2C]	A	250.00	246	0.1242917	0.1221607		-1.7	
Aroclor-1260 (4) [2C]	A	250.00	257	0.0594222	0.0611847		3.0	
Decachlorobiphenyl	A	40.000	41.9	0.7261970	0.7601289		4.7	+/-20
Tetrachlorometaxylene	A	40.000	43.0	0.9669678	1.0391830		7.5	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.4	1.7775950	1.7074730		-3.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	42.2	1.0280520	1.0843330		5.5	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162139S.D
Data file 2: /210816.b/210816.b/08162139S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV6
Client ID:
Injection Date: 17-AUG-2021 01:08
Report Date: 08/17/2021 15:28
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	150163	5.414	-0.003	475013	43.0	42.2	1.9	Tetrachloro-m-xylene
13.165	-0.001	167811	13.846	-0.034	905660	41.9	38.4	8.6	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	289002	11.6
Hexabromobiphenyl	425681	441533	3.7

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	876139	21.5
Hexabromobiphenyl	863111	1060819	22.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	ZB5 Col Peak#	RT	Shift	Area	Amount	ZB35 Col Peak#	RT	Shift	Area	Amount
Aroclor-1016	1	6.659	0.001	27617	269.4	1	7.055	-0.001	133101	266.4
Aroclor-1016	2	7.033	0.003	85763	273.6	2	7.651	0.003	308308	275.9
Aroclor-1016	3	7.179	0.003	37708	268.1	3	7.856	0.001	122949	280.3
Aroclor-1016	4	7.288	0.003	24205	274.5	4	8.105	-0.000	74579	281.0
Total Col1Ave (4 peaks):				271.4		Total Col2Ave (4 peaks):			275.9	RPD = 2
Corrected Ave (3 peaks):				270.4		Corrected Ave (3 peaks):			274.2	RPD = 1
Aroclor-1260	1	10.385	0.002	52937	266.5	1	11.425	-0.000	221161	250.8
Aroclor-1260	2	10.702	0.002	55193	283.1	2	11.680	-0.001	614814	239.9
Aroclor-1260	3	11.053	0.002	146116	277.3	3	12.260	-0.001	404970	245.7
Aroclor-1260	4	11.455	0.002	66784	284.5	4	12.971	-0.001	202831	257.4
Aroclor-1260	5	11.555	0.000	32481	276.3	NS	---			----
Total Col1Ave (5 peaks):				277.5		Total Col2Ave (4 peaks):			248.4	RPD = 11
Corrected Ave (4 peaks):				275.8		Corrected Ave (3 peaks):			245.5	RPD = 12

Total PCB Area Col1 (5.169 - 13.066) = 1476639 Col1 Total PCB = 0.5 ppm*

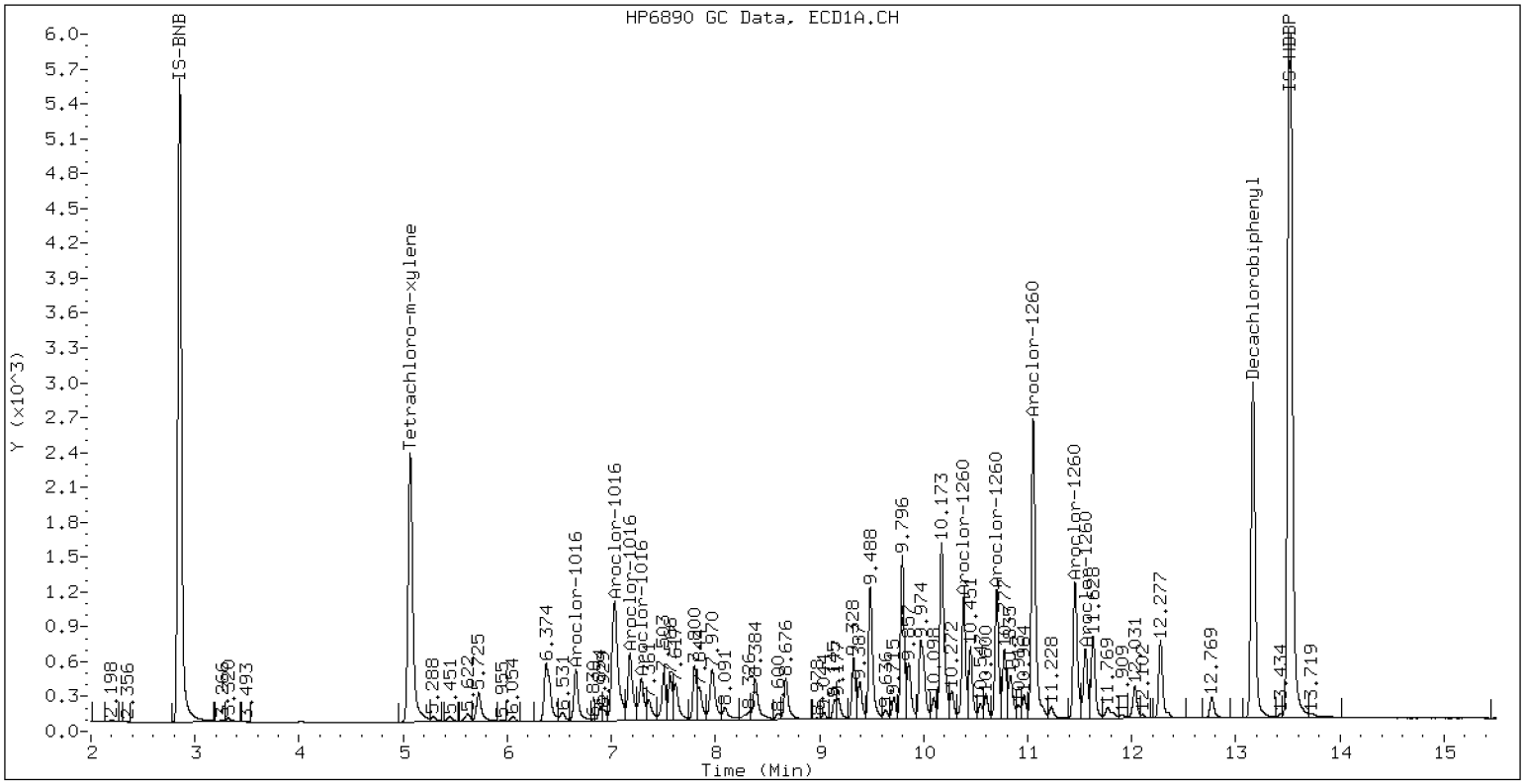
Total PCB Area Col2 (5.169 - 13.066) = 5997760 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

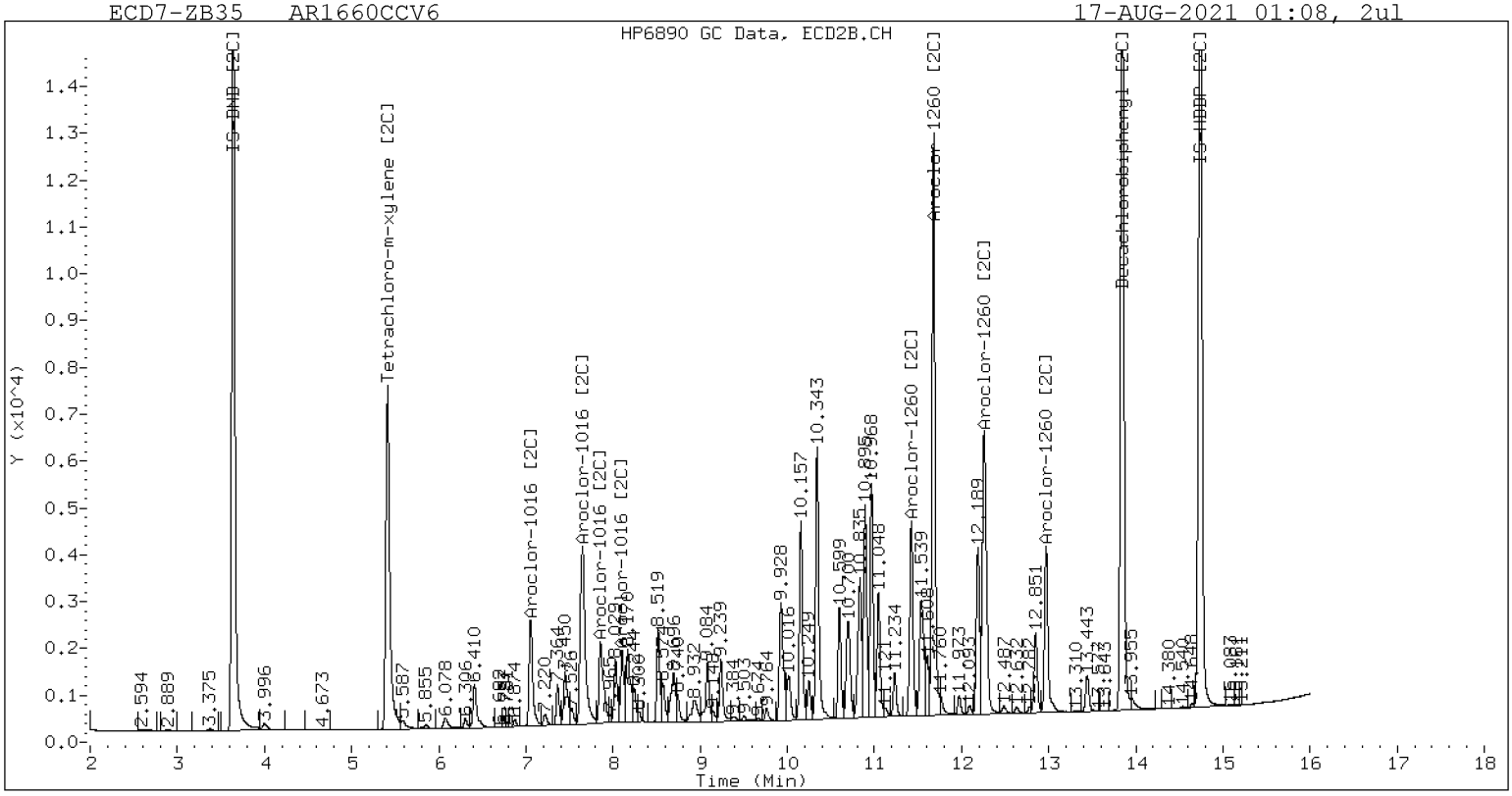
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV6 17-AUG-2021 01:08, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV6 17-AUG-2021 01:08, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162152S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/17/21
Lab Sample ID:	SJH0214-CCV7	Injection Time:	05:34
Sequence Name:	AR1248CCV7		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	265	0.0444871	0.0472921		5.9	+/-20
Aroclor-1248 (1)	A	250.00	269	0.0335259	0.0360385		7.5	
Aroclor-1248 (2)	A	250.00	274	0.0437624	0.0479482		9.6	
Aroclor-1248 (3)	A	250.00	270	0.0640809	0.0691452		7.9	
Aroclor-1248 (4)	A	250.00	246	0.0365791	0.0360365		-1.5	
Aroclor 1248 [2C]	A	250.00	255	0.0480909	0.0488525		2.0	+/-20
Aroclor-1248 (1) [2C]	A	250.00	258	0.0331517	0.0341975		3.2	
Aroclor-1248 (2) [2C]	A	250.00	261	0.0403519	0.0421610		4.5	
Aroclor-1248 (3) [2C]	A	250.00	250	0.0642727	0.0641942		-0.1	
Aroclor-1248 (4) [2C]	A	250.00	251	0.0545874	0.0548575		0.5	
Decachlorobiphenyl	A	40.000	40.6	0.7261970	0.7371898		1.5	+/-20
Tetrachlorometaxylene	A	40.000	42.1	0.9669678	1.0173130		5.2	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.3	1.7775950	1.7448170		-1.8	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.0	1.0280520	1.0270290		-0.1	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162152S.D
Data file 2: /210816.b/210816.b/08162152S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV7
Client ID:
Injection Date: 17-AUG-2021 05:34
Report Date: 08/17/2021 15:28
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	160943	5.413	-0.004	497340	42.1	40.0	5.2	Tetrachloro-m-xylene
13.165	-0.001	193481	13.846	-0.034	1132161	40.6	39.3	3.4	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	316408	22.2
Hexabromobiphenyl	425681	524915	23.3

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	968502	34.3
Hexabromobiphenyl	863111	1297742	50.4

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.800	0.001	35634	268.7	1	8.105	-0.001	103501	257.9
Aroclor-1248	2	7.969	0.001	47410	273.9	2	8.518	-0.002	127603	261.2
Aroclor-1248	3	8.379	0.004	68369	269.8	3	8.951	0.005	194288	249.7
Aroclor-1248	4	8.675	0.002	35632	246.3	4	9.379	0.002	166030	251.2

Total Col1Ave (4 peaks): 264.7 Total Col2Ave (4 peaks): 255.0 RPD = 4
Corrected Ave (3 peaks): 261.6 Corrected Ave (3 peaks): 252.9 RPD = 3

Total PCB Area Col1 (5.169 - 13.066) = 727907 Col1 Total PCB = 0.2 ppm*

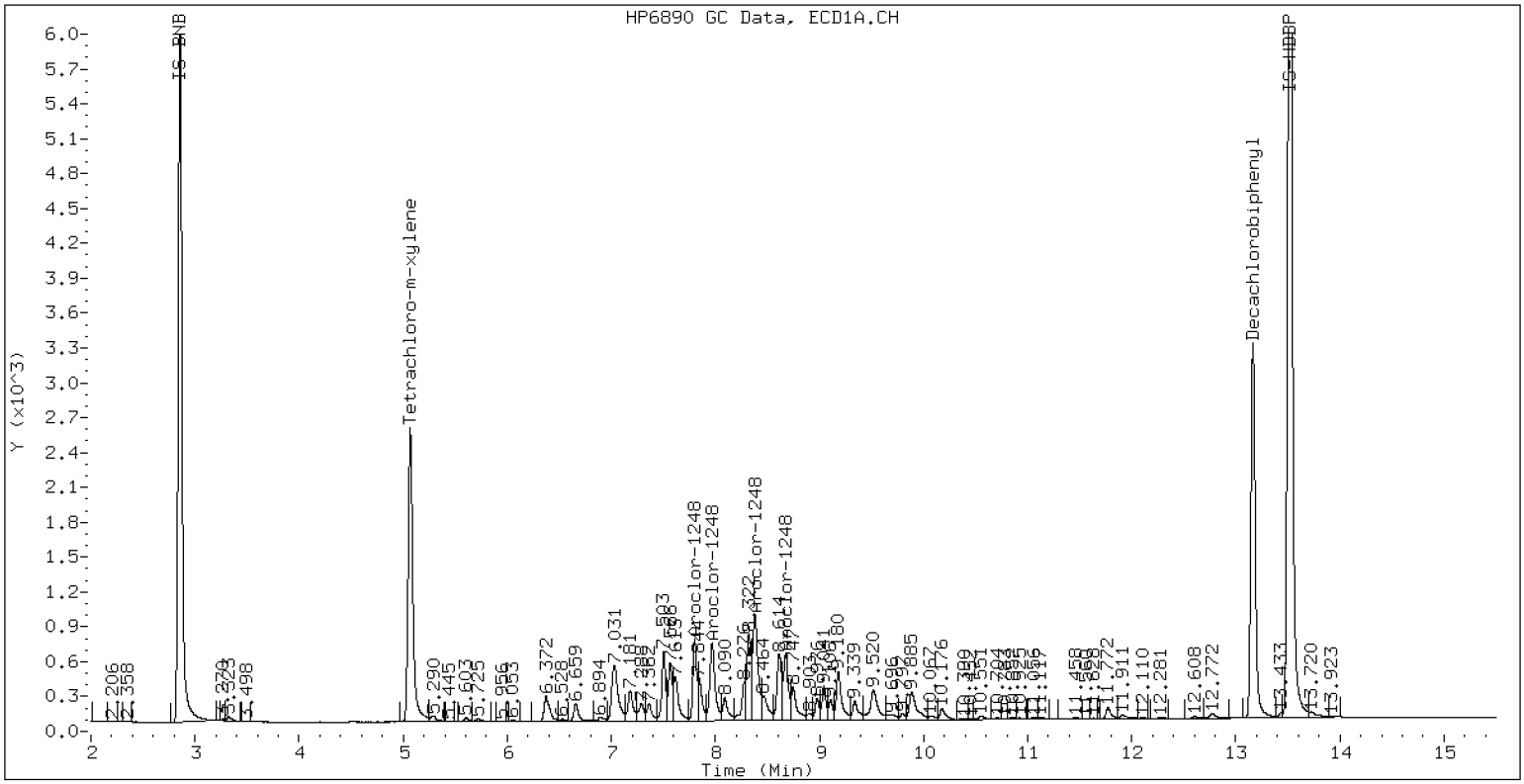
Total PCB Area Col2 (5.169 - 13.066) = 2886298 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

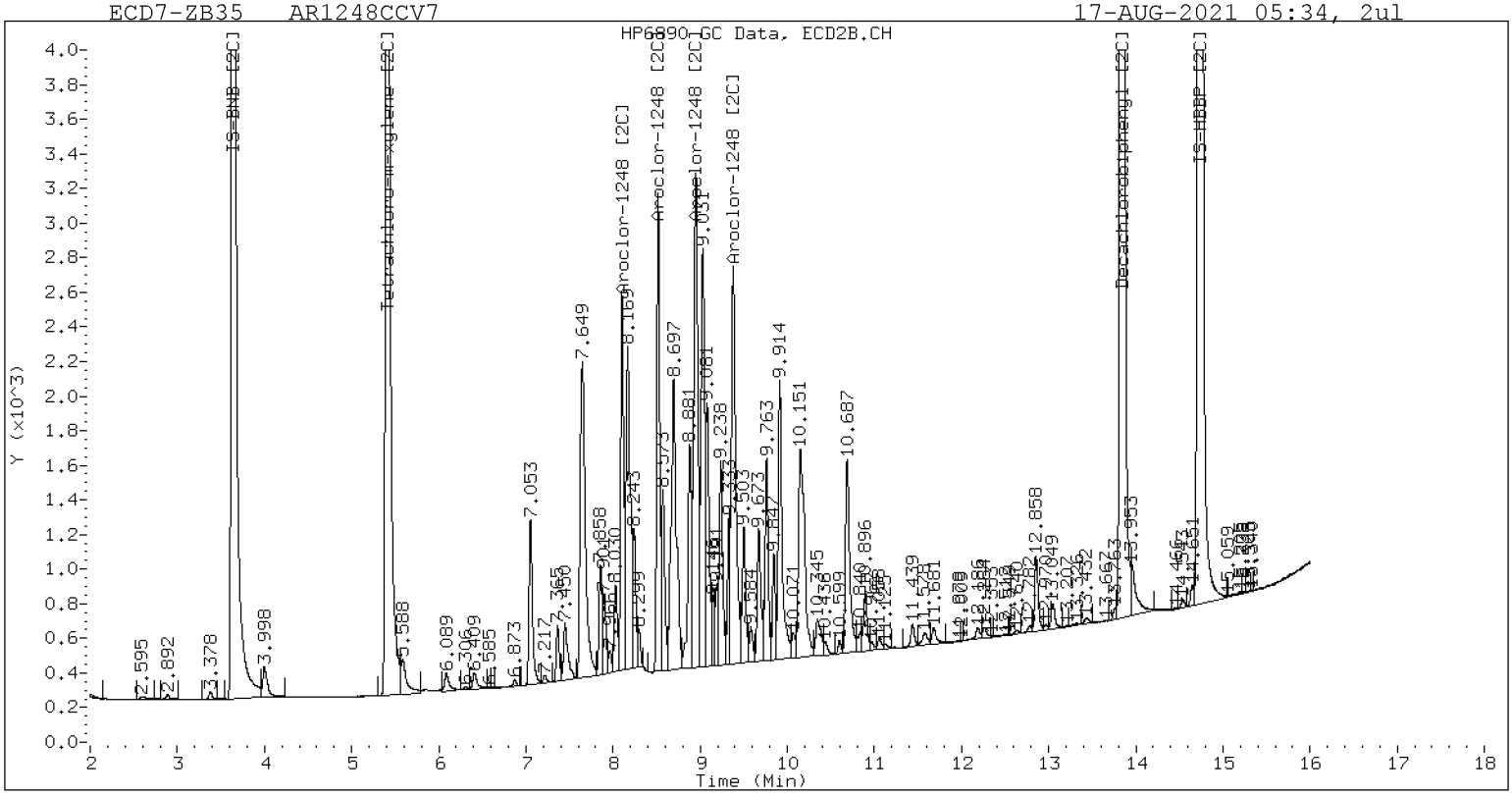
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV7 17-AUG-2021 05:34, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV7 17-AUG-2021 05:34, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08162153S.D	Calibration Date:	08/13/2021
Sequence:	SJH0214	Injection Date:	08/17/21
Lab Sample ID:	SJH0214-CCV8	Injection Time:	05:54
Sequence Name:	AR1660CCV8		

COMPOUND	TYPE	CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
		STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	267	0.0446218	0.0477247		6.9	+/-20
Aroclor-1016 (1)	A	250.00	265	0.0283733	0.0301305		6.2	
Aroclor-1016 (2)	A	250.00	268	0.0867650	0.0931599		7.4	
Aroclor-1016 (3)	A	250.00	264	0.0389383	0.0410750		5.5	
Aroclor-1016 (4)	A	250.00	272	0.0244108	0.0265334		8.7	
Aroclor 1016 [2C]	A	250.00	274	0.0529840	0.0579636		9.7	+/-20
Aroclor-1016 (1) [2C]	A	250.00	265	0.0456173	0.0484441		6.2	
Aroclor-1016 (2) [2C]	A	250.00	274	0.1020378	0.1116802		9.5	
Aroclor-1016 (3) [2C]	A	250.00	279	0.0400455	0.0447143		11.7	
Aroclor-1016 (4) [2C]	A	250.00	279	0.0242353	0.0270157		11.5	
Aroclor 1260	A	250.00	260	0.0461251	0.0480309		4.0	+/-20
Aroclor-1260 (1)	A	250.00	246	0.0359923	0.0354534		-1.5	
Aroclor-1260 (2)	A	250.00	264	0.0353250	0.0372725		5.5	
Aroclor-1260 (3)	A	250.00	261	0.0954741	0.0995025		4.2	
Aroclor-1260 (4)	A	250.00	268	0.0425365	0.0456124		7.2	
Aroclor-1260 (5)	A	250.00	262	0.0212978	0.0223139		4.8	
Aroclor 1260 [2C]	A	250.00	241	0.1108773	0.1056899		-3.5	+/-20
Aroclor-1260 (1) [2C]	A	250.00	239	0.0665032	0.0635831		-4.4	
Aroclor-1260 (2) [2C]	A	250.00	232	0.1932922	0.1793097		-7.2	
Aroclor-1260 (3) [2C]	A	250.00	241	0.1242917	0.1196460		-3.7	
Aroclor-1260 (4) [2C]	A	250.00	253	0.0594222	0.0602207		1.3	
Decachlorobiphenyl	A	40.000	41.1	0.7261970	0.7453544		2.6	+/-20
Tetrachlorometaxylene	A	40.000	42.7	0.9669678	1.0314970		6.7	+/-20
Decachlorobiphenyl [2C]	A	40.000	40.3	1.7775950	1.7928290		0.9	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.8	1.0280520	1.0754180		4.6	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210816.b/08162153S.D
Data file 2: /210816.b/210816.b/08162153S.D
Method: \\target\share\chem4\ecd7.i\210816.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV8
Client ID:
Injection Date: 17-AUG-2021 05:54
Report Date: 08/17/2021 15:28
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	-0.001	151776	5.411	-0.006	466598	42.7	41.8	2.0	Tetrachloro-m-xylene
13.165	-0.001	181660	13.846	-0.034	1066564	41.1	40.3	1.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	294283	13.7
Hexabromobiphenyl	425681	487446	14.5

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	867752	20.4
Hexabromobiphenyl	863111	1189811	37.9

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.660	0.002	27709	265.5	1	7.055	-0.001	131367	265.5
Aroclor-1016	2	7.034	0.004	85673	268.4	2	7.650	0.002	302846	273.6
Aroclor-1016	3	7.179	0.003	37774	263.7	3	7.856	0.001	121253	279.1
Aroclor-1016	4	7.289	0.004	24401	271.7	4	8.104	-0.001	73259	278.7
Total Col1Ave (4 peaks):				267.3		Total Col2Ave (4 peaks):			274.2	RPD = 3
Corrected Ave (3 peaks):				265.9		Corrected Ave (3 peaks):			272.6	RPD = 2
Aroclor-1260	1	10.386	0.003	54005	246.3	1	11.425	0.000	236412	239.0
Aroclor-1260	2	10.702	0.002	56776	263.8	2	11.679	-0.002	666702	231.9
Aroclor-1260	3	11.054	0.003	151569	260.5	3	12.260	-0.001	444863	240.7
Aroclor-1260	4	11.455	0.003	69480	268.1	4	12.970	-0.002	223910	253.4
Aroclor-1260	5	11.555	0.001	33990	261.9	NS	---			----
Total Col1Ave (5 peaks):				260.1		Total Col2Ave (4 peaks):			241.2	RPD = 8
Corrected Ave (4 peaks):				258.1		Corrected Ave (3 peaks):			237.2	RPD = 8

Total PCB Area Col1 (5.169 - 13.066) = 1511677 Col1 Total PCB = 0.5 ppm*

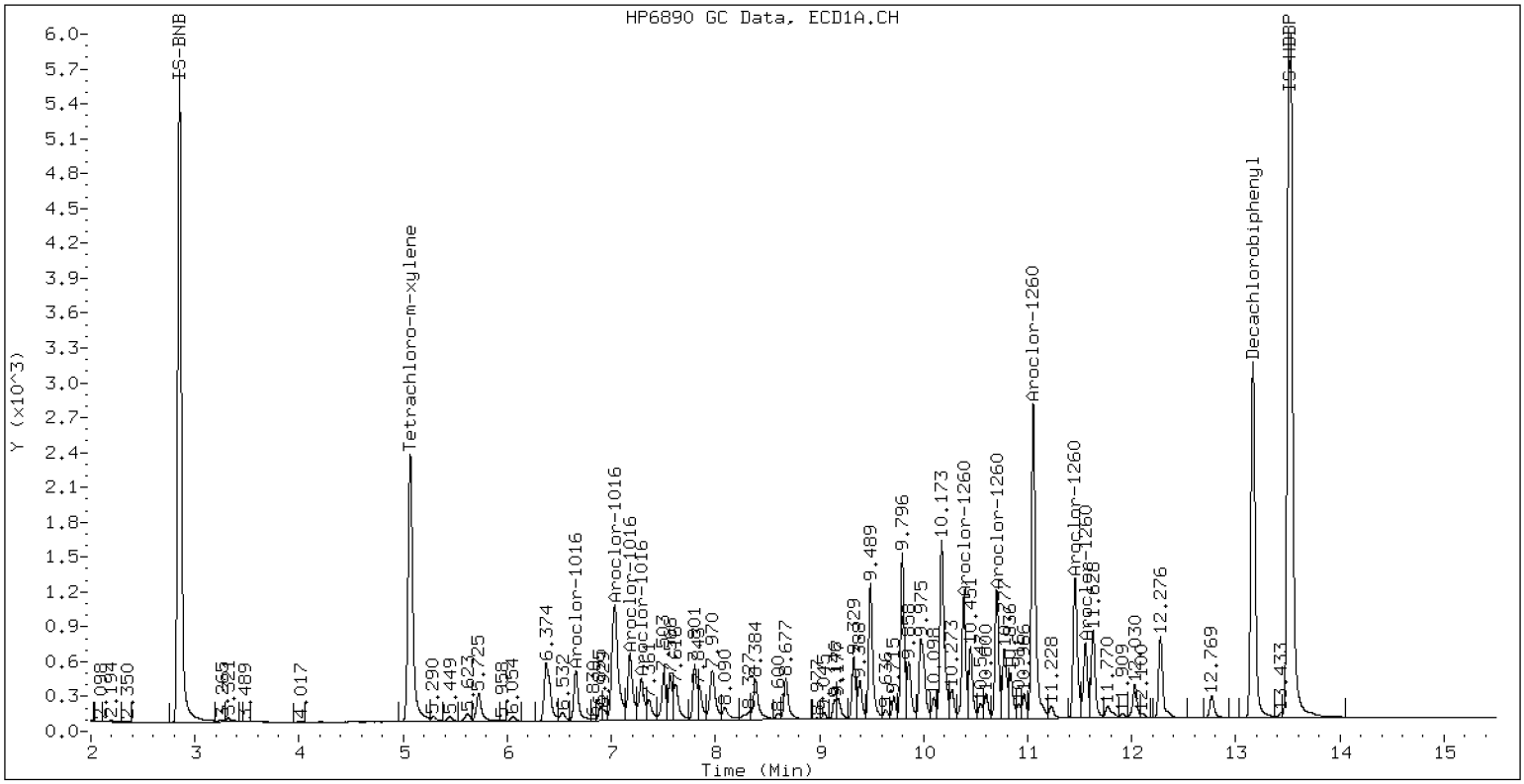
Total PCB Area Col2 (5.169 - 13.066) = 6223470 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

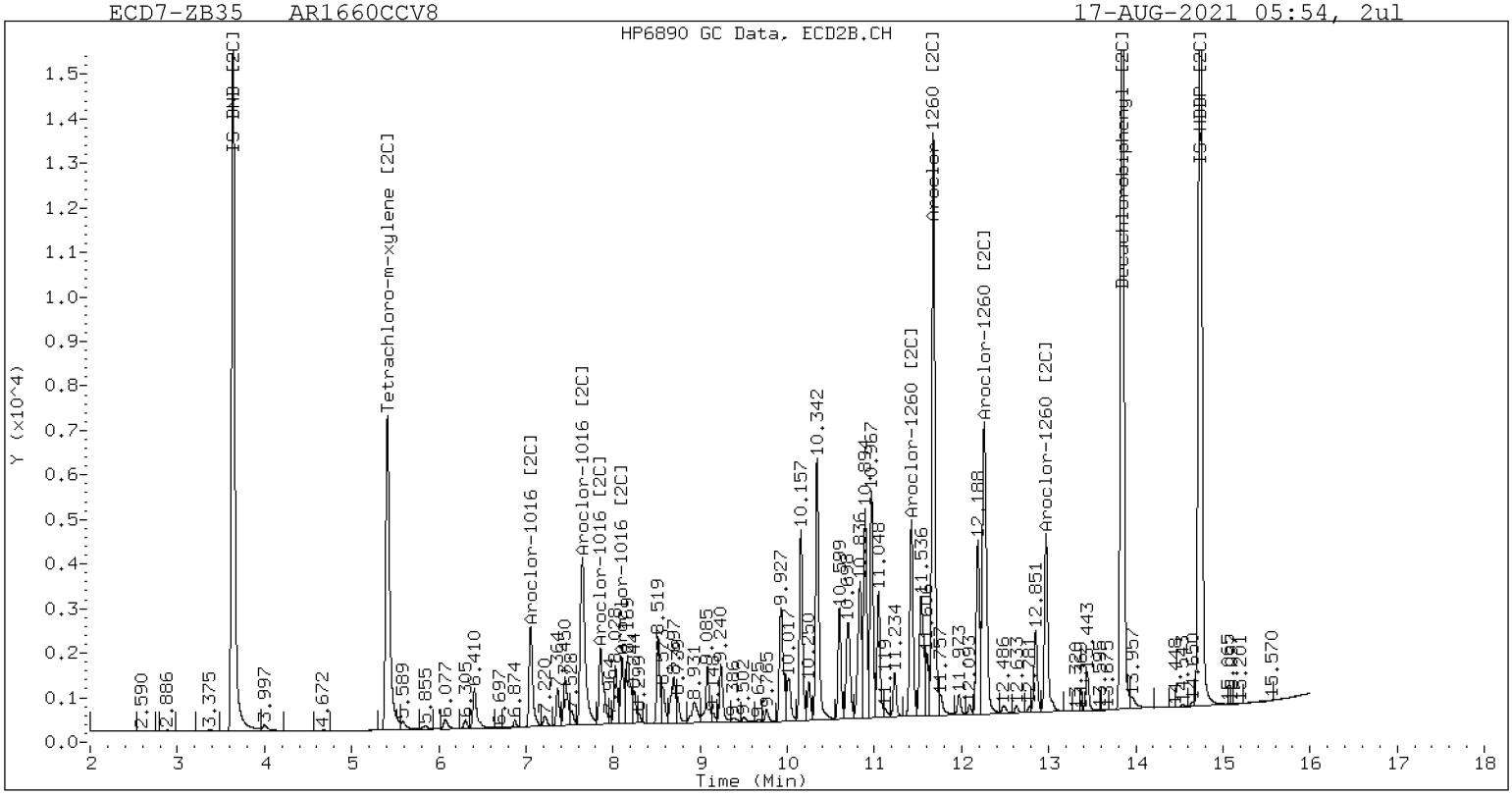
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV8 17-AUG-2021 05:54, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV8 17-AUG-2021 05:54, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08172114ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0216	Injection Date:	08/17/21
Lab Sample ID:	SJH0216-CCV1	Injection Time:	15:49
Sequence Name:	AR1248CCV1		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1248	A	250.00	263	0.0444871	0.0468859		5.0	+/-20
Aroclor-1248 (1)	A	250.00	269	0.0335259	0.0361046		7.6	
Aroclor-1248 (2)	A	250.00	273	0.0437624	0.0477835		9.2	
Aroclor-1248 (3)	A	250.00	266	0.0640809	0.0681912		6.4	
Aroclor-1248 (4)	A	250.00	242	0.0365791	0.0354642		-3.2	
Aroclor 1248 [2C]	A	250.00	255	0.0480909	0.0488081		2.1	+/-20
Aroclor-1248 (1) [2C]	A	250.00	261	0.0331517	0.0345763		4.4	
Aroclor-1248 (2) [2C]	A	250.00	262	0.0403519	0.0423624		4.8	
Aroclor-1248 (3) [2C]	A	250.00	252	0.0642727	0.0646700		0.8	
Aroclor-1248 (4) [2C]	A	250.00	246	0.0545874	0.0536237		-1.6	
Decachlorobiphenyl	A	40.000	40.2	0.7261970	0.7297665		0.5	+/-20
Tetrachlorometaxylene	A	40.000	41.9	0.9669678	1.0138710		4.8	+/-20
Decachlorobiphenyl [2C]	A	40.000	39.9	1.7775950	1.7724110		-0.3	+/-20
Tetrachlorometaxylene [2C]	A	40.000	40.4	1.0280520	1.0380440		1.0	+/-20

* Values outside of QC limits

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210817.b/08172114ECD7.D
Data file 2: /210817.b/210817.b/08172114ECD7.D
Method: \\target\share\chem4\ecd7.i\210817.b\PCB.m
Compound Sublist: AR1248.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1248CCV1
Client ID:
Injection Date: 17-AUG-2021 15:49
Report Date: 08/17/2021 17:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.066	-0.002	151483	5.411	-0.000	459368	41.9	40.4	3.8	Tetrachloro-m-xylene
13.163	-0.000	175823	13.848	0.002	1022816	40.2	39.9	0.8	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	298821	15.4
Hexabromobiphenyl	425681	481861	13.2

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	885065	22.8
Hexabromobiphenyl	863111	1154152	33.7

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT	Shift	Area	Amount	Peak#	RT	Shift	Area	Amount
		ZB5 Col					ZB35 Col			
Aroclor-1248	1	7.799	0.000	33715	269.2	1	8.105	0.000	95632	260.7
Aroclor-1248	2	7.970	0.000	44621	273.0	2	8.519	0.000	117167	262.5
Aroclor-1248	3	8.379	0.000	63678	266.0	3	8.951	0.000	178866	251.5
Aroclor-1248	4	8.676	0.000	33117	242.4	4	9.380	0.000	148314	245.6

Total Col1Ave (4 peaks): 262.7 Total Col2Ave (4 peaks): 255.1 RPD = 3

Corrected Ave (3 peaks): 259.2 Corrected Ave (3 peaks): 252.6 RPD = 3

CalAmt %D: 5.1 CalAmt %D: 2.0

Total PCB Area Col1 (5.168 - 13.063) = 684375 Col1 Total PCB = 0.2 ppm*

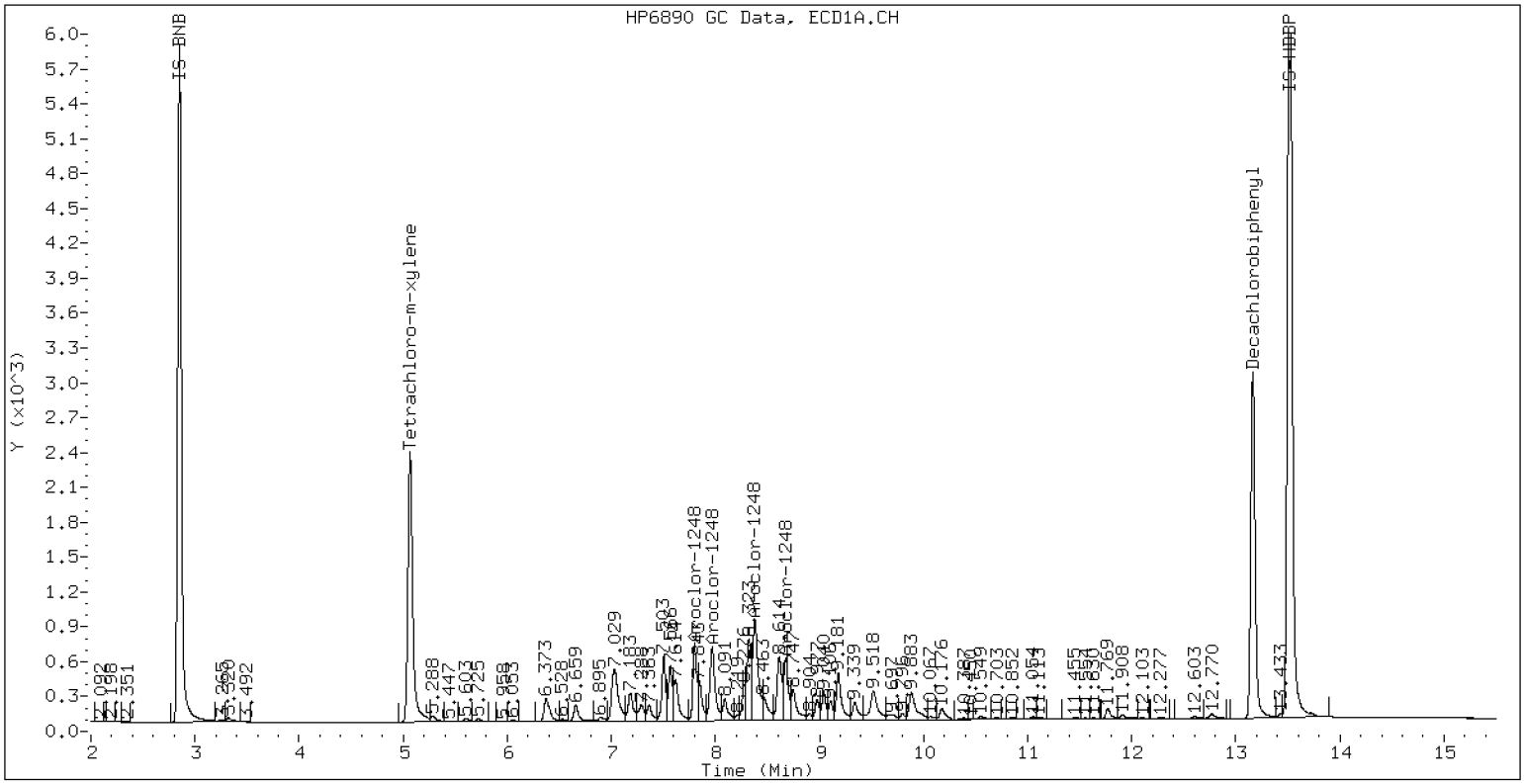
Total PCB Area Col2 (5.168 - 13.063) = 2646260 Col2 Total PCB = 0.2 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

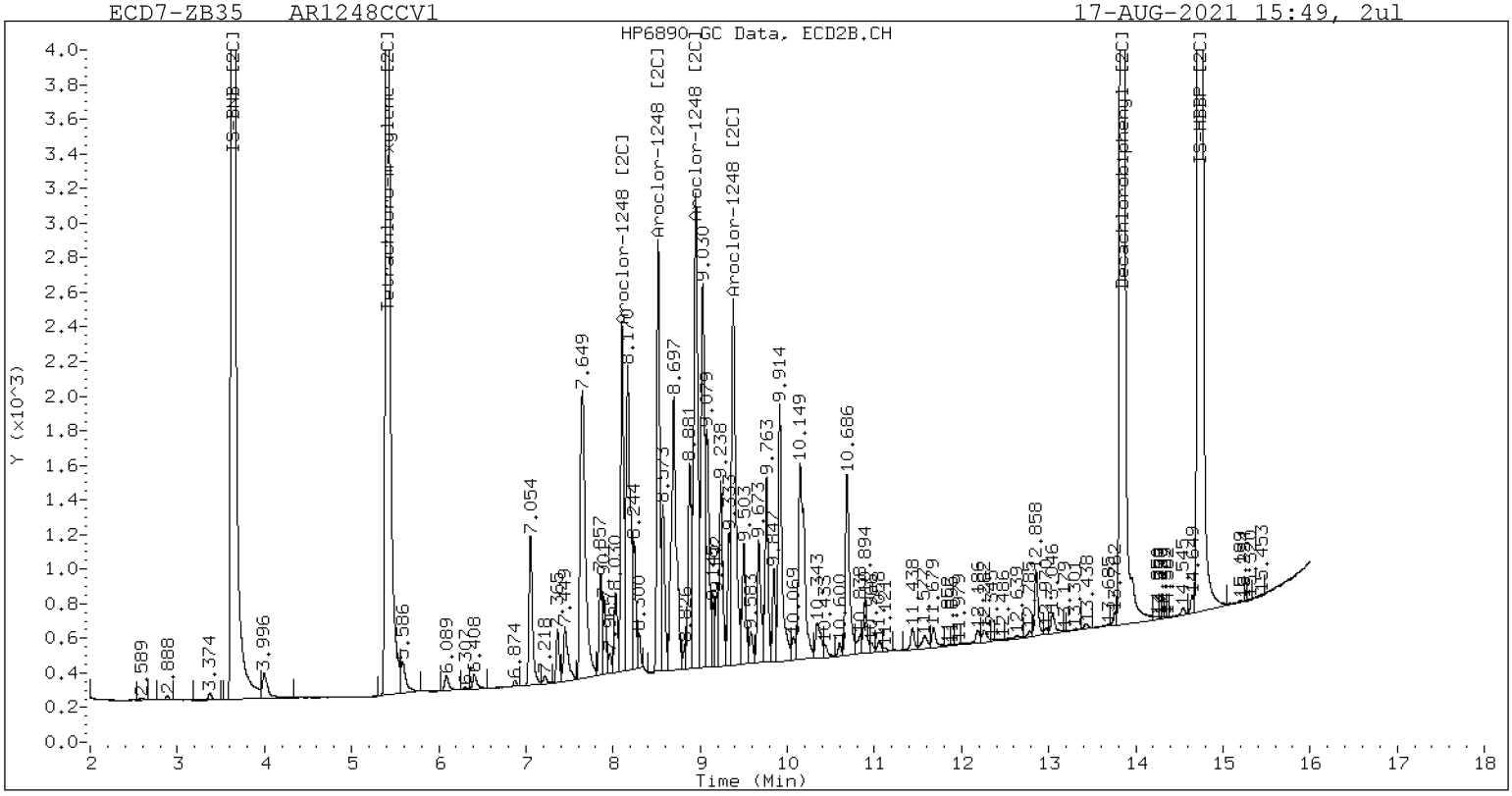
PCB Dual Column Chromatograms

ECD7-ZB5 AR1248CCV1 17-AUG-2021 15:49, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1248CCV1 17-AUG-2021 15:49, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	ECD7	Calibration:	EH00034
Lab File ID:	08172115ECD7.D	Calibration Date:	08/13/2021
Sequence:	SJH0216	Injection Date:	08/17/21
Lab Sample ID:	SJH0216-CCV2	Injection Time:	16:10
Sequence Name:	AR1660CCV2		

		CONC. (ug/L)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
Aroclor 1016	A	250.00	265	0.0446218	0.0474606		6.1	+/-20
Aroclor-1016 (1)	A	250.00	264	0.0283733	0.0299629		5.6	
Aroclor-1016 (2)	A	250.00	267	0.0867650	0.0926589		6.8	
Aroclor-1016 (3)	A	250.00	264	0.0389383	0.0411904		5.6	
Aroclor-1016 (4)	A	250.00	266	0.0244108	0.0260301		6.4	
Aroclor 1016 [2C]	A	250.00	271	0.0529840	0.0572739		8.4	+/-20
Aroclor-1016 (1) [2C]	A	250.00	263	0.0456173	0.0480371		5.2	
Aroclor-1016 (2) [2C]	A	250.00	270	0.1020378	0.1101860		8.0	
Aroclor-1016 (3) [2C]	A	250.00	275	0.0400455	0.0440699		10.0	
Aroclor-1016 (4) [2C]	A	250.00	276	0.0242353	0.0268025		10.4	
Aroclor 1260	A	250.00	264	0.0461251	0.0487293		5.6	+/-20
Aroclor-1260 (1)	A	250.00	252	0.0359923	0.0362574		0.8	
Aroclor-1260 (2)	A	250.00	268	0.0353250	0.0378335		7.2	
Aroclor-1260 (3)	A	250.00	265	0.0954741	0.1011068		6.0	
Aroclor-1260 (4)	A	250.00	270	0.0425365	0.0459061		8.0	
Aroclor-1260 (5)	A	250.00	265	0.0212978	0.0225426		6.0	
Aroclor 1260 [2C]	A	250.00	239	0.1108773	0.1051784		-4.5	+/-20
Aroclor-1260 (1) [2C]	A	250.00	236	0.0665032	0.0627450		-5.6	
Aroclor-1260 (2) [2C]	A	250.00	234	0.1932922	0.1811321		-6.4	
Aroclor-1260 (3) [2C]	A	250.00	236	0.1242917	0.1175399		-5.6	
Aroclor-1260 (4) [2C]	A	250.00	249	0.0594222	0.0592967		-0.4	
Decachlorobiphenyl	A	40.000	41.6	0.7261970	0.7551880		4.0	+/-20
Tetrachlorometaxylene	A	40.000	42.5	0.9669678	1.0270770		6.3	+/-20
Decachlorobiphenyl [2C]	A	40.000	38.6	1.7775950	1.7179090		-3.5	+/-20
Tetrachlorometaxylene [2C]	A	40.000	41.6	1.0280520	1.0698420		4.0	+/-20

* Values outside of QC limits

Analytical Resources Inc.
Dual Column 608/8082 PCB Quantitation Report

Data file 1: /210817.b/08172115ECD7.D
Data file 2: /210817.b/210817.b/08172115ECD7.D
Method: \\target\share\chem4\ecd7.i\210817.b\PCB.m
Compound Sublist: AR1660.sub
Instrument, Inj. Vol.: ecd7.i, 2ul
Quant Method: Internal Std

ARI ID: AR1660CCV2
Client ID:
Injection Date: 17-AUG-2021 16:10
Report Date: 08/17/2021 17:51
Matrix: NONE
Dilution Factor: 1.0

SURROGATES

ZB5 Col RT	Shift	Response	ZB35 Col RT	Shift	Response	ZB5 on col	ZB35 on col	RPD	Compound/Flag
5.068	0.000	135550	5.411	0.000	411496	42.5	41.6	2.0	Tetrachloro-m-xylene
13.163	0.000	159393	13.846	0.000	885760	41.6	38.7	7.3	Decachlorobiphenyl

* Indicates RPD > 40%

INTERNAL STANDARD SUMMARY

Column 1

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	258866	263953	2.0
Hexabromobiphenyl	425681	422128	-0.8

Column 2

Standard Cpnd	Standard Area*	Sample Area	%D
Bromo-Nitrobenzene	720956	769265	6.7
Hexabromobiphenyl	863111	1031207	19.5

* Standard Areas taken from Initial Cal Level 3
Initial Calibration Date: 13-AUG-2021
<- Indicates standard response outside Limits (-50 to +100%)

Aroclor	Peak#	RT (ZB5 Col)	Shift	Area	Amount	Peak#	RT (ZB35 Col)	Shift	Area	Amount
Aroclor-1016	1	6.659	0.000	24715	264.0	1	7.055	0.000	115479	263.3
Aroclor-1016	2	7.032	0.000	76430	267.0	2	7.650	0.000	264882	270.0
Aroclor-1016	3	7.179	0.000	33976	264.5	3	7.856	0.000	105942	275.1
Aroclor-1016	4	7.288	0.000	21471	266.6	4	8.105	0.000	64432	276.5

Total Col1Ave (4 peaks): 265.5 Total Col2Ave (4 peaks): 271.2 RPD = 2
Corrected Ave (3 peaks): 265.0 Corrected Ave (3 peaks): 269.4 RPD = 2

CalAmt %D: 6.2 CalAmt %D: 8.5

Aroclor-1260	1	10.385	0.000	47829	251.8	1	11.424	0.000	202197	235.9
Aroclor-1260	2	10.702	0.000	49908	267.8	2	11.678	0.000	583702	234.3
Aroclor-1260	3	11.052	0.000	133375	264.7	3	12.261	0.000	378775	236.4
Aroclor-1260	4	11.454	0.000	60557	269.8	4	12.971	0.000	191085	249.5
Aroclor-1260	5	11.554	0.000	29737	264.6	NS	---			----

Total Col1Ave (5 peaks): 263.8 Total Col2Ave (4 peaks): 239.0 RPD = 10
Corrected Ave (4 peaks): 262.2 Corrected Ave (3 peaks): 235.5 RPD = 11

CalAmt %D: 5.5 CalAmt %D: -4.4

Total PCB Area Col1 (5.168 - 13.063) = 1335514 Col1 Total PCB = 0.5 ppm*

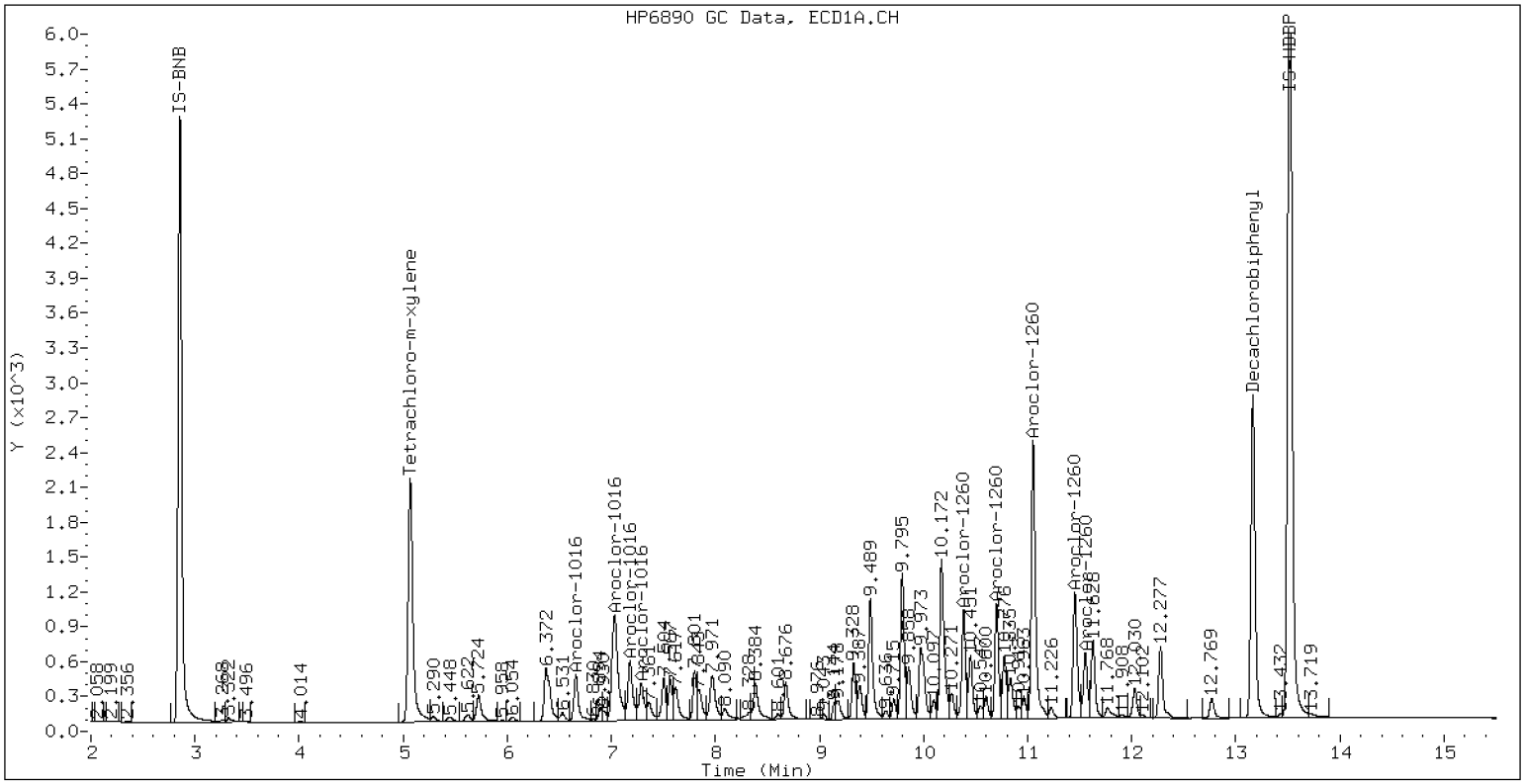
Total PCB Area Col2 (5.168 - 13.063) = 5370141 Col2 Total PCB = 0.5 ppm*

* Quantitated against AR1660 0.25ppm in Ical

PCB-Form 10 Mod.

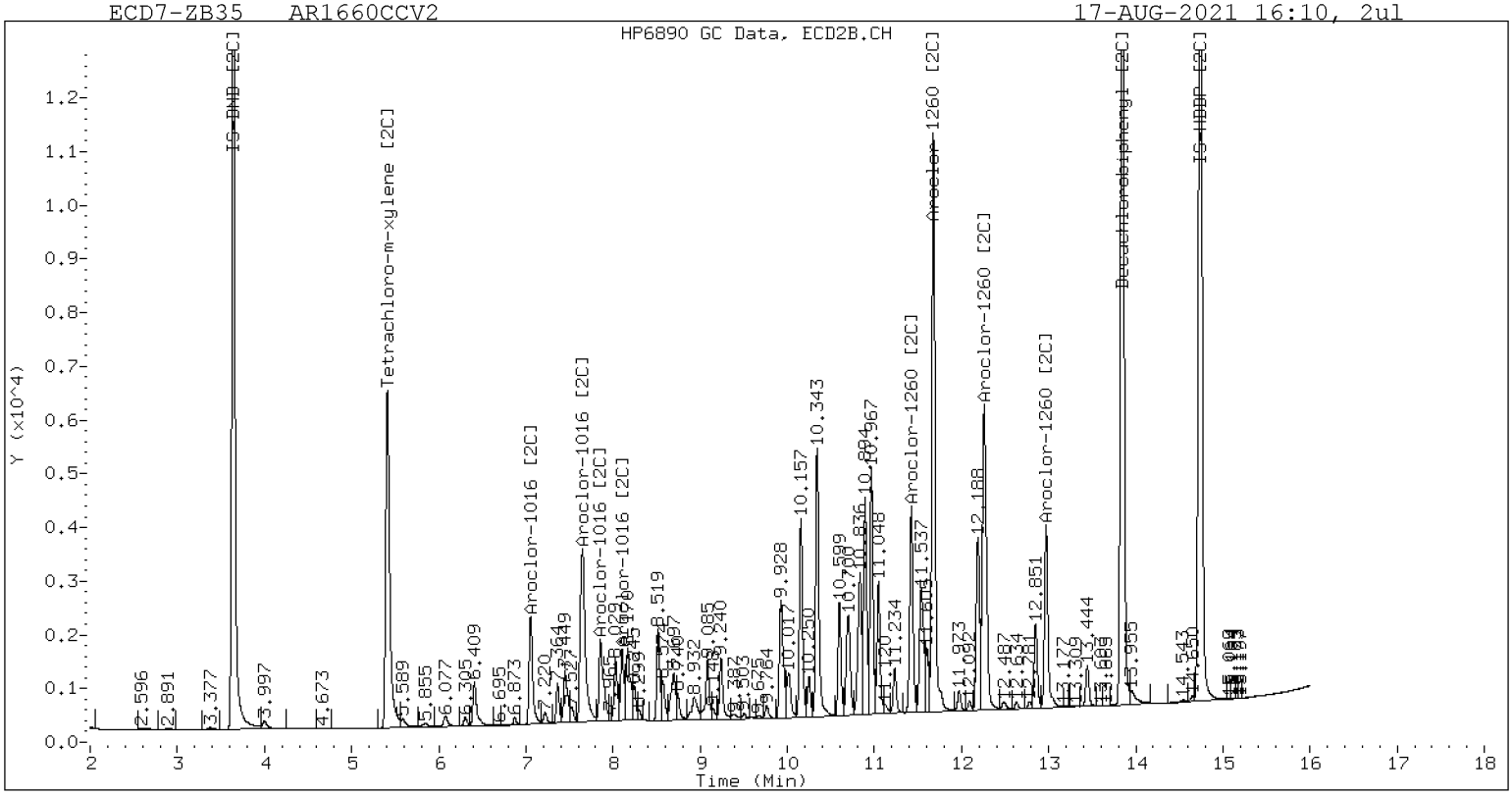
PCB Dual Column Chromatograms

ECD7-ZB5 AR1660CCV2 17-AUG-2021 16:10, 2ul



ZB-5 Manual Integration: NO

ECD7-ZB35 AR1660CCV2 17-AUG-2021 16:10, 2ul



ZB-35 Manual Integration: NO

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0176	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0176-CAL1	08132105ECD7.D	08132105ECD7.D	NA	08/13/21 20:03
Cal Standard	SJH0176-CAL2	08132106ECD7.D	08132106ECD7.D	NA	08/13/21 20:24
Cal Standard	SJH0176-CAL3	08132107ECD7.D	08132107ECD7.D	NA	08/13/21 20:44
Cal Standard	SJH0176-CAL4	08132108ECD7.D	08132108ECD7.D	NA	08/13/21 21:05
Cal Standard	SJH0176-CAL5	08132109ECD7.D	08132109ECD7.D	NA	08/13/21 21:25
Cal Standard	SJH0176-CAL6	08132110ECD7.D	08132110ECD7.D	NA	08/13/21 21:46
Cal Standard	SJH0176-CAL7	08132111ECD7.D	08132111ECD7.D	NA	08/13/21 22:06
Cal Standard	SJH0176-CAL8	08132112ECD7.D	08132112ECD7.D	NA	08/13/21 22:27
Cal Standard	SJH0176-CAL9	08132113ECD7.D	08132113ECD7.D	NA	08/13/21 22:47
Cal Standard	SJH0176-CALA	08132114ECD7.D	08132114ECD7.D	NA	08/13/21 23:08
Cal Standard	SJH0176-CALB	08132115ECD7.D	08132115ECD7.D	NA	08/13/21 23:28
Cal Standard	SJH0176-CALC	08132116ECD7.D	08132116ECD7.D	NA	08/13/21 23:49
Cal Standard	SJH0176-CALD	08132117ECD7.D	08132117ECD7.D	NA	08/14/21 00:09
Cal Standard	SJH0176-CALE	08132118ECD7.D	08132118ECD7.D	NA	08/14/21 00:30
Cal Standard	SJH0176-CALF	08132119ECD7.D	08132119ECD7.D	NA	08/14/21 00:50
Cal Standard	SJH0176-CALG	08132120ECD7.D	08132120ECD7.D	NA	08/14/21 01:11
Cal Standard	SJH0176-CALH	08132121ECD7.D	08132121ECD7.D	NA	08/14/21 01:31
Cal Standard	SJH0176-CALI	08132122ECD7.D	08132122ECD7.D	NA	08/14/21 01:52

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/16/2021 5:13:05PM

ANALYSIS SEQUENCE

SJH0176

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0176-CAL1	0.02PPM AR1660	QC		1	J008420	J008446	
SJH0176-CAL2	0.05PPM AR1660	QC		2	J008419	J008446	
SJH0176-CAL3	0.1PPM AR1660	QC		3	J008418	J008446	
SJH0176-CAL4	0.25PPM AR1660	QC		4	J008417	J008446	
SJH0176-CAL5	0.5PPM AR1660	QC		5	J008416	J008446	
SJH0176-CAL6	1PPM AR1660	QC		6	J008134	J008446	
SJH0176-CAL7	0.02PPM AR1242	QC		7	J008425	J008446	
SJH0176-CAL8	0.05PPM AR1242	QC		8	J008424	J008446	
SJH0176-CAL9	0.1PPM AR1242	QC		9	J008423	J008446	
SJH0176-CALA	0.25PPM AR1242	QC		10	J008422	J008446	
SJH0176-CALB	0.5PPM AR1242	QC		11	J008421	J008446	
SJH0176-CALC	1PPM AR1242	QC		12	J008397	J008446	
SJH0176-CALD	0.02PPM AR1248	QC		13	J008430	J008446	
SJH0176-CALE	0.05PPM AR1248	QC		14	J008429	J008446	
SJH0176-CALF	0.1PPM AR1248	QC		15	J008428	J008446	
SJH0176-CALG	0.25PPM AR1248	QC		16	J008427	J008446	
SJH0176-CALH	0.5PPM AR1248	QC		17	J008426	J008446	
SJH0176-CALI	1PPM AR1248	QC		18	J008398	J008446	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 13-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242,
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242,
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242,
2308	08132114.D	SEQ-CALA		1	Aroclor-1242,
2328	08132115.D	SEQ-CALB		1	Aroclor-1242,
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	08132118.D	SEQ-CALE		1	Aroclor-1248,
0050	08132119.D	SEQ-CALF		1	Aroclor-1248,
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	NO MANUAL INTEGRATION
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0841	08132142.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242 [2C],
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242 [2C],
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242 [2C],
2308	08132114.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2328	08132115.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248 [2C],
0030	08132118.D	SEQ-CALE		1	Aroclor-1248 [2C],
0050	08132119.D	SEQ-CALF		1	NO MANUAL INTEGRATION
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	Aroclor-1248 [2C],
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	08132142.D	SEQ-SCV2		1	Aroclor-1242 [2C], Aroclor-1248 [2C],
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	13-AUG-2021 18:41	08132101.D	1	RINSE	
2	13-AUG-2021 19:02	08132102.D	1	RINSE	
3	13-AUG-2021 19:22	08132103.D	1	RINSE	
4	13-AUG-2021 19:43	08132104.D	1	SEQ-IBL1	
5	13-AUG-2021 20:03	08132105.D	1	SEQ-CAL1	
6	13-AUG-2021 20:24	08132106.D	1	SEQ-CAL2	
7	13-AUG-2021 20:44	08132107.D	1	SEQ-CAL3	
8	13-AUG-2021 21:05	08132108.D	1	SEQ-CAL4	
9	13-AUG-2021 21:25	08132109.D	1	SEQ-CAL5	
10	13-AUG-2021 21:46	08132110.D	1	SEQ-CAL6	
11	13-AUG-2021 22:06	08132111.D	1	SEQ-CAL7	
12	13-AUG-2021 22:27	08132112.D	1	SEQ-CAL8	
13	13-AUG-2021 22:47	08132113.D	1	SEQ-CAL9	
14	13-AUG-2021 23:08	08132114.D	1	SEQ-CALA	
15	13-AUG-2021 23:28	08132115.D	1	SEQ-CALB	
16	13-AUG-2021 23:49	08132116.D	1	SEQ-CALC	
17	14-AUG-2021 00:09	08132117.D	1	SEQ-CALD	
18	14-AUG-2021 00:30	08132118.D	1	SEQ-CALE	
19	14-AUG-2021 00:50	08132119.D	1	SEQ-CALF	
20	14-AUG-2021 01:11	08132120.D	1	SEQ-CALG	
21	14-AUG-2021 01:31	08132121.D	1	SEQ-CALH	
22	14-AUG-2021 01:52	08132122.D	1	SEQ-CALI	
23	14-AUG-2021 02:12	08132123.D	1	SEQ-CALJ	
24	14-AUG-2021 02:33	08132124.D	1	SEQ-CALK	
25	14-AUG-2021 02:53	08132125.D	1	SEQ-CALL	
26	14-AUG-2021 03:13	08132126.D	1	SEQ-CALM	
27	14-AUG-2021 03:34	08132127.D	1	SEQ-CALN	
28	14-AUG-2021 03:54	08132128.D	1	SEQ-CALO	
29	14-AUG-2021 04:15	08132129.D	1	SEQ-CALP	
30	14-AUG-2021 04:35	08132130.D	1	SEQ-CALQ	
31	14-AUG-2021 04:56	08132131.D	1	SEQ-CALR	
32	14-AUG-2021 05:16	08132132.D	1	SEQ-CALS	
33	14-AUG-2021 05:37	08132133.D	1	SEQ-CALT	
34	14-AUG-2021 05:57	08132134.D	1	SEQ-CALU	
35	14-AUG-2021 06:18	08132135.D	1	SEQ-CALV	
36	14-AUG-2021 06:38	08132136.D	1	SEQ-CALW	
37	14-AUG-2021 06:59	08132137.D	1	SEQ-CALX	
38	14-AUG-2021 07:19	08132138.D	1	SEQ-CALY	
39	14-AUG-2021 07:40	08132139.D	1	SEQ-CALZ	
40	14-AUG-2021 08:00	08132140.D	1	SEQ-CALAA	
41	14-AUG-2021 08:21	08132141.D	1	SEQ-SCV1	
42	14-AUG-2021 08:41	08132142.D	1	SEQ-SCV2	
43	14-AUG-2021 09:02	08132143.D	1	SEQ-SCV3	
44	14-AUG-2021 09:22	08132144.D	1	SEQ-SCV4	
45	14-AUG-2021 09:43	08132145.D	1	SEQ-SCV5	
46	14-AUG-2021 10:03	08132146.D	1	SEQ-SCV6	
47	14-AUG-2021 10:24	08132147.D	1	0.1PPMDDTS	
48	14-AUG-2021 10:44	08132148.D	1	DS	

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132102ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132103ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132104ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0177	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0177-CAL1	08132123ECD7.D	08132123ECD7.D	NA	08/14/21 02:12
Cal Standard	SJH0177-CAL2	08132124ECD7.D	08132124ECD7.D	NA	08/14/21 02:33
Cal Standard	SJH0177-CAL3	08132125ECD7.D	08132125ECD7.D	NA	08/14/21 02:53
Cal Standard	SJH0177-CAL4	08132126ECD7.D	08132126ECD7.D	NA	08/14/21 03:13
Cal Standard	SJH0177-CAL5	08132127ECD7.D	08132127ECD7.D	NA	08/14/21 03:34
Cal Standard	SJH0177-CAL6	08132128ECD7.D	08132128ECD7.D	NA	08/14/21 03:54
Cal Standard	SJH0177-CAL7	08132129ECD7.D	08132129ECD7.D	NA	08/14/21 04:15
Cal Standard	SJH0177-CAL8	08132130ECD7.D	08132130ECD7.D	NA	08/14/21 04:35
Cal Standard	SJH0177-CAL9	08132131ECD7.D	08132131ECD7.D	NA	08/14/21 04:56
Cal Standard	SJH0177-CALA	08132132ECD7.D	08132132ECD7.D	NA	08/14/21 05:16
Cal Standard	SJH0177-CALB	08132133ECD7.D	08132133ECD7.D	NA	08/14/21 05:37
Cal Standard	SJH0177-CALC	08132134ECD7.D	08132134ECD7.D	NA	08/14/21 05:57
Cal Standard	SJH0177-CALD	08132135ECD7.D	08132135ECD7.D	NA	08/14/21 06:18
Cal Standard	SJH0177-CALE	08132136ECD7.D	08132136ECD7.D	NA	08/14/21 06:38
Cal Standard	SJH0177-CALF	08132137ECD7.D	08132137ECD7.D	NA	08/14/21 06:59
Cal Standard	SJH0177-CALG	08132138ECD7.D	08132138ECD7.D	NA	08/14/21 07:19
Cal Standard	SJH0177-CALH	08132139ECD7.D	08132139ECD7.D	NA	08/14/21 07:40
Cal Standard	SJH0177-CALI	08132140ECD7.D	08132140ECD7.D	NA	08/14/21 08:00
Secondary Cal Check	SJH0177-SCV1	08132141ECD7.D	08132141ECD7.D	NA	08/14/21 08:21
Secondary Cal Check	SJH0177-SCV2	08132142ECD7.D	08132142ECD7.D	NA	08/14/21 08:41
Secondary Cal Check	SJH0177-SCV3	08132143ECD7.D	08132143ECD7.D	NA	08/14/21 09:02
Secondary Cal Check	SJH0177-SCV4	08132144ECD7.D	08132144ECD7.D	NA	08/14/21 09:22
Secondary Cal Check	SJH0177-SCV5	08132145ECD7.D	08132145ECD7.D	NA	08/14/21 09:43
Secondary Cal Check	SJH0177-SCV6	08132146ECD7.D	08132146ECD7.D	NA	08/14/21 10:03

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Printed: 8/16/2021 5:27:01PM

ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-CAL1	0.02PPM AR1254	QC		1	J008435	J008446	
SJH0177-CAL2	0.05PPM AR1254	QC		2	J008434	J008446	
SJH0177-CAL3	0.1PPM AR1254	QC		3	J008433	J008446	
SJH0177-CAL4	0.25PPM AR1254	QC		4	J008432	J008446	
SJH0177-CAL5	0.5PPM AR1254	QC		5	J008431	J008446	
SJH0177-CAL6	1PPM AR1254	QC		6	J008399	J008446	
SJH0177-CAL7	0.02PPM AR2162	QC		7	J008440	J008446	
SJH0177-CAL8	0.05PPM AR2162	QC		8	J008439	J008446	
SJH0177-CAL9	0.1PPM AR2162	QC		9	J008438	J008446	
SJH0177-CALA	0.25PPM AR2162	QC		10	J008437	J008446	
SJH0177-CALB	0.5PPM AR2162	QC		11	J008436	J008446	
SJH0177-CALC	1PPM AR2162	QC		12	J008400	J008446	
SJH0177-CALD	0.02PPM AR3268	QC		13	J008445	J008446	
SJH0177-CALE	0.05PPM AR3268	QC		14	J008444	J008446	
SJH0177-CALF	0.1PPM AR3268	QC		15	J008443	J008446	
SJH0177-CALG	0.25PPM AR3268	QC		16	J008442	J008446	
SJH0177-CALH	0.5PPM AR3268	QC		17	J008441	J008446	
SJH0177-CALI	1PPM AR3268	QC		18	J008401	J008446	
SJH0177-SCV1	AR1660SCV1	QC		19	J008139	J008446	
SJH0177-SCV2	AR1242SCV2	QC		20	J008140	J008446	
SJH0177-SCV3	AR1248SCV3	QC		21	J008141	J008446	
SJH0177-SCV4	AR1254SCV4	QC		22	J008142	J008446	

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ANALYSIS SEQUENCE

SJH0177

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0177-SCV5	AR2162SCV5	QC		23	J008143	J008446	
SJH0177-SCV6	AR3268SCV6	QC		24	J008144	J008446	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

ARI Job No.: RINS Method: PCB.m Instrument: ecd7.i Date: 13-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242,
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242,
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242,
2308	08132114.D	SEQ-CALA		1	Aroclor-1242,
2328	08132115.D	SEQ-CALB		1	Aroclor-1242,
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0030	08132118.D	SEQ-CALE		1	Aroclor-1248,
0050	08132119.D	SEQ-CALF		1	Aroclor-1248,
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	NO MANUAL INTEGRATION
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION
0841	08132142.D	SEQ-SCV2		1	NO MANUAL INTEGRATION
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION
1841	08132101.D	RINSE		1	NO MANUAL INTEGRATION
1902	08132102.D	RINSE		1	NO MANUAL INTEGRATION
1922	08132103.D	RINSE		1	NO MANUAL INTEGRATION
1943	08132104.D	SEQ-IBL1		1	NO MANUAL INTEGRATION
2003	08132105.D	SEQ-CAL1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2024	08132106.D	SEQ-CAL2		1	NO MANUAL INTEGRATION
2044	08132107.D	SEQ-CAL3		1	NO MANUAL INTEGRATION
2105	08132108.D	SEQ-CAL4		1	NO MANUAL INTEGRATION
2125	08132109.D	SEQ-CAL5		1	NO MANUAL INTEGRATION
2146	08132110.D	SEQ-CAL6		1	NO MANUAL INTEGRATION
2206	08132111.D	SEQ-CAL7		1	Aroclor-1242 [2C],
2227	08132112.D	SEQ-CAL8		1	Aroclor-1242 [2C],
2247	08132113.D	SEQ-CAL9		1	Aroclor-1242 [2C],
2308	08132114.D	SEQ-CALA		1	NO MANUAL INTEGRATION
2328	08132115.D	SEQ-CALB		1	NO MANUAL INTEGRATION
2349	08132116.D	SEQ-CALC		1	NO MANUAL INTEGRATION
0009	08132117.D	SEQ-CALD		1	Aroclor-1248 [2C],
0030	08132118.D	SEQ-CALE		1	Aroclor-1248 [2C],
0050	08132119.D	SEQ-CALF		1	NO MANUAL INTEGRATION
0111	08132120.D	SEQ-CALG		1	NO MANUAL INTEGRATION
0131	08132121.D	SEQ-CALH		1	NO MANUAL INTEGRATION
0152	08132122.D	SEQ-CALI		1	Aroclor-1248 [2C],
0212	08132123.D	SEQ-CALJ		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0233	08132124.D	SEQ-CALK		1	NO MANUAL INTEGRATION
0253	08132125.D	SEQ-CALL		1	NO MANUAL INTEGRATION
0313	08132126.D	SEQ-CALM		1	NO MANUAL INTEGRATION
0334	08132127.D	SEQ-CALN		1	NO MANUAL INTEGRATION
0354	08132128.D	SEQ-CALO		1	NO MANUAL INTEGRATION
0415	08132129.D	SEQ-CALP		1	NO MANUAL INTEGRATION
0435	08132130.D	SEQ-CALQ		1	NO MANUAL INTEGRATION
0456	08132131.D	SEQ-CALR		1	NO MANUAL INTEGRATION
0516	08132132.D	SEQ-CALS		1	NO MANUAL INTEGRATION
0537	08132133.D	SEQ-CALT		1	NO MANUAL INTEGRATION
0557	08132134.D	SEQ-CALU		1	NO MANUAL INTEGRATION
0618	08132135.D	SEQ-CALV		1	NO MANUAL INTEGRATION
0638	08132136.D	SEQ-CALW		1	NO MANUAL INTEGRATION
0659	08132137.D	SEQ-CALX		1	NO MANUAL INTEGRATION
0719	08132138.D	SEQ-CALY		1	NO MANUAL INTEGRATION
0740	08132139.D	SEQ-CALZ		1	NO MANUAL INTEGRATION
0800	08132140.D	SEQ-CALAA		1	NO MANUAL INTEGRATION
0821	08132141.D	SEQ-SCV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b\210813.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0841	08132142.D	SEQ-SCV2		1	Aroclor-1242 [2C], Aroclor-1248 [2C],
0902	08132143.D	SEQ-SCV3		1	NO MANUAL INTEGRATION
0922	08132144.D	SEQ-SCV4		1	NO MANUAL INTEGRATION
0943	08132145.D	SEQ-SCV5		1	NO MANUAL INTEGRATION
1003	08132146.D	SEQ-SCV6		1	NO MANUAL INTEGRATION
1024	08132147.D	0.1PPMDDTS		1	NO MANUAL INTEGRATION
1044	08132148.D	DS		1	NO MANUAL INTEGRATION

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210813.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	13-AUG-2021 18:41	08132101.D	1	RINSE	
2	13-AUG-2021 19:02	08132102.D	1	RINSE	
3	13-AUG-2021 19:22	08132103.D	1	RINSE	
4	13-AUG-2021 19:43	08132104.D	1	SEQ-IBL1	
5	13-AUG-2021 20:03	08132105.D	1	SEQ-CAL1	
6	13-AUG-2021 20:24	08132106.D	1	SEQ-CAL2	
7	13-AUG-2021 20:44	08132107.D	1	SEQ-CAL3	
8	13-AUG-2021 21:05	08132108.D	1	SEQ-CAL4	
9	13-AUG-2021 21:25	08132109.D	1	SEQ-CAL5	
10	13-AUG-2021 21:46	08132110.D	1	SEQ-CAL6	
11	13-AUG-2021 22:06	08132111.D	1	SEQ-CAL7	
12	13-AUG-2021 22:27	08132112.D	1	SEQ-CAL8	
13	13-AUG-2021 22:47	08132113.D	1	SEQ-CAL9	
14	13-AUG-2021 23:08	08132114.D	1	SEQ-CALA	
15	13-AUG-2021 23:28	08132115.D	1	SEQ-CALB	
16	13-AUG-2021 23:49	08132116.D	1	SEQ-CALC	
17	14-AUG-2021 00:09	08132117.D	1	SEQ-CALD	
18	14-AUG-2021 00:30	08132118.D	1	SEQ-CALE	
19	14-AUG-2021 00:50	08132119.D	1	SEQ-CALF	
20	14-AUG-2021 01:11	08132120.D	1	SEQ-CALG	
21	14-AUG-2021 01:31	08132121.D	1	SEQ-CALH	
22	14-AUG-2021 01:52	08132122.D	1	SEQ-CALI	
23	14-AUG-2021 02:12	08132123.D	1	SEQ-CALJ	
24	14-AUG-2021 02:33	08132124.D	1	SEQ-CALK	
25	14-AUG-2021 02:53	08132125.D	1	SEQ-CALL	
26	14-AUG-2021 03:13	08132126.D	1	SEQ-CALM	
27	14-AUG-2021 03:34	08132127.D	1	SEQ-CALN	
28	14-AUG-2021 03:54	08132128.D	1	SEQ-CALO	
29	14-AUG-2021 04:15	08132129.D	1	SEQ-CALP	
30	14-AUG-2021 04:35	08132130.D	1	SEQ-CALQ	
31	14-AUG-2021 04:56	08132131.D	1	SEQ-CALR	
32	14-AUG-2021 05:16	08132132.D	1	SEQ-CALS	
33	14-AUG-2021 05:37	08132133.D	1	SEQ-CALT	
34	14-AUG-2021 05:57	08132134.D	1	SEQ-CALU	
35	14-AUG-2021 06:18	08132135.D	1	SEQ-CALV	
36	14-AUG-2021 06:38	08132136.D	1	SEQ-CALW	
37	14-AUG-2021 06:59	08132137.D	1	SEQ-CALX	
38	14-AUG-2021 07:19	08132138.D	1	SEQ-CALY	
39	14-AUG-2021 07:40	08132139.D	1	SEQ-CALZ	
40	14-AUG-2021 08:00	08132140.D	1	SEQ-CALAA	
41	14-AUG-2021 08:21	08132141.D	1	SEQ-SCV1	
42	14-AUG-2021 08:41	08132142.D	1	SEQ-SCV2	
43	14-AUG-2021 09:02	08132143.D	1	SEQ-SCV3	
44	14-AUG-2021 09:22	08132144.D	1	SEQ-SCV4	
45	14-AUG-2021 09:43	08132145.D	1	SEQ-SCV5	
46	14-AUG-2021 10:03	08132146.D	1	SEQ-SCV6	
47	14-AUG-2021 10:24	08132147.D	1	0.1PPMDDTS	
48	14-AUG-2021 10:44	08132148.D	1	DS	

Security Status Report

Date: 16-Aug-2021 17:20

08132101ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
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08132119ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132120ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132121ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132122ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132123ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132124ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132125ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132126ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132127ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132128ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132129ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132130ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132131ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132132ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132133ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132134ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132135ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132136ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132137ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132138ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132139ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132140ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132141ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132142ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132143ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132144ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

08132145ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132146ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132147ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44
08132148ECD7.D	Data Locked	jrains, 15-Aug-2021 12:44

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Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Calibration Check	SJH0212-CCV1	08142118ECD7.D	08142118ECD7.D	NA	08/14/21 00:00
Initial Cal Check	SJH0212-ICV1	08142103ECD7.D	08142103ECD7.D	NA	08/14/21 18:52
Initial Cal Check	SJH0212-ICV2	08142104ECD7.D	08142104ECD7.D	NA	08/14/21 19:13
Calibration Check	SJH0212-CCV2	08142119ECD7.D	08142119ECD7.D	NA	08/15/21 00:20
Calibration Check	SJH0212-CCV3	08142129ECD7.D	08142129ECD7.D	NA	08/15/21 03:45
Calibration Check	SJH0212-CCV4	08142130ECD7.D	08142130ECD7.D	NA	08/15/21 04:06
Blank	BJH0034-BLK1	08142131ECD7.D	08142131ECD7.D	Solid	08/15/21 04:26
LCS	BJH0034-BS1	08142132ECD7.D	08142132ECD7.D	Solid	08/15/21 04:47
Reference	BJH0034-SRM1	08142133ECD7.D	08142133ECD7.D	Solid	08/15/21 05:07
LDW21-SC569	21G0305-01	08142140ECD7.D	08142140ECD7.D	Solid	08/15/21 07:31
LDW21-SC567	21G0305-02	08142141ECD7.D	08142141ECD7.D	Solid	08/15/21 07:51
LDW21-SC566	21G0305-03	08142142ECD7.D	08142142ECD7.D	Solid	08/15/21 08:12
LDW21-SC561	21G0305-04	08142143ECD7.D	08142143ECD7.D	Solid	08/15/21 08:32
Calibration Check	SJH0212-CCV5	08142144ECD7.D	08142144ECD7.D	NA	08/15/21 08:53
Calibration Check	SJH0212-CCV6	08142145ECD7.D	08142145ECD7.D	NA	08/15/21 09:13
LDW21-SC526	21G0305-05	08142146ECD7.D	08142146ECD7.D	Solid	08/15/21 09:34
LDW21-SC526FD	21G0305-06	08142147ECD7.D	08142147ECD7.D	Solid	08/15/21 09:54
LDW21-SC540	21G0305-08	08142149ECD7.D	08142149ECD7.D	Solid	08/15/21 10:35
LDW21-SC574	21G0305-09	08142150ECD7.D	08142150ECD7.D	Solid	08/15/21 10:56
LDW21-SC551	21G0305-10	08142151ECD7.D	08142151ECD7.D	Solid	08/15/21 11:16
Calibration Check	SJH0212-CCV7	08142157ECD7.D	08142157ECD7.D	NA	08/15/21 13:19
Calibration Check	SJH0212-CCV8	08142158ECD7.D	08142158ECD7.D	NA	08/15/21 13:40

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ANALYSIS SEQUENCE

SJH0212

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0212-ICV1	AR1254ICV1	QC		1	J008432	J008446	
SJH0212-ICV2	AR1660ICV2	QC		2	J008417	J008446	
BJG0589-BLK1	Blank	QC		3		J008446	
BJG0589-BS1	LCS	QC		4		J008446	
BJG0589-BSD1	LCS Dup	QC		5		J008446	
21G0236-01	LTST-W-EFF-072121	8082A PCB Water 0.01	A 01	6		J008446	
21G0257-01	SW21-SW1-18	8082A PCB Water 0.01	A 01	7		J008446	
21G0257-02	SW21-SW1-20	8082A PCB Water 0.01	A 01	8		J008446	
21G0257-03	SW21-SW1-19	8082A PCB Water 0.01	A 01	9		J008446	
21G0257-04	SW21-MA09	8082A PCB Water 0.01	A 01	10		J008446	
21G0292-01	SW21-NMC-TG	8082A PCB Water 0.01	A 01	11		J008446	
21G0292-02	SW21-MA25	8082A PCB Water 0.01	A 01	12		J008446	
21G0292-03	SW21-SW1-15	8082A PCB Water 0.01	A 01	13		J008446	
21G0292-04	SW21-DU01	8082A PCB Water 0.01	A 01	14		J008446	
21G0300-01	SW21-SW1-16	8082A PCB Water 0.01	A 01	15		J008446	
SJH0212-CCV1	AR1248CCV1	QC		16	J008427	J008446	
SJH0212-CCV2	AR1660CCV2	QC		17	J008417	J008446	
21G0300-02	SW21-TC-04	8082A PCB Water 0.01	A 01	18		J008446	
21G0300-03	SW21-DB-07	8082A PCB Water 0.01	A 01	19		J008446	
21G0300-04	SW21-TC-01	8082A PCB Water 0.01	A 01	20		J008446	
21G0300-05	SW21-TC-02	8082A PCB Water 0.01	A 01	21		J008446	
21G0300-06	SW21-TC-03	8082A PCB Water 0.01	A 01	22		J008446	

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ANALYSIS SEQUENCE

SJH0212

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
21G0300-07	SW21-SW1-17	8082A PCB Water 0.01	A 01	23		J008446	
21G0300-08	SW21-DB-14	8082A PCB Water 0.01	A 01	24		J008446	
BJG0589-MS1	Matrix Spike	QC		25		J008446	
BJG0589-MSD1	Matrix Spike Dup	QC		26		J008446	
SJH0212-CCV3	AR1242CCV3	QC		27	J008422	J008446	
SJH0212-CCV4	AR1660CCV4	QC		28	J008417	J008446	
BJH0034-BLK1	Blank	QC		29		J008446	
BJH0034-BS1	LCS	QC		30		J008446	
BJH0034-SRM1	Reference	QC		31		J008446	
21G0303-01	LDW21-IT694A	8082A PCB Solid 4	B 01	32		J008446	
21G0303-02	LDW21-IT694B	8082A PCB Solid 4	B 01	33		J008446	
21G0303-03	LDW21-IT694C	8082A PCB Solid 4	B 01	34		J008446	
21G0303-04	LDW21-IT694E	8082A PCB Solid 4	B 01	35		J008446	
BJH0034-MS1	Matrix Spike	QC		36		J008446	
BJH0034-MSD1	Matrix Spike Dup	QC		37		J008446	
21G0305-01	LDW21-SC569	8082A PCB Solid 4	B 01	38		J008446	
21G0305-02	LDW21-SC567	8082A PCB Solid 4	B 01	39		J008446	
21G0305-03	LDW21-SC566	8082A PCB Solid 4	B 01	40		J008446	
21G0305-04	LDW21-SC561	8082A PCB Solid 4	B 01	41		J008446	
SJH0212-CCV5	AR1254CCV5	QC		42	J008432	J008446	
SJH0212-CCV6	AR1660CCV6	QC		43	J008417	J008446	
21G0305-05	LDW21-SC526	8082A PCB Solid 4	B 01	44		J008446	

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ANALYSIS SEQUENCE

SJH0212

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
21G0305-06	LDW21-SC526FD	8082A PCB Solid 4	B 01	45		J008446	
21G0305-07	LDW21-SC530	8082A PCB Solid 4	B 01	46		J008446	
21G0305-08	LDW21-SC540	8082A PCB Solid 4	B 01	47		J008446	
21G0305-09	LDW21-SC574	8082A PCB Solid 4	B 01	48		J008446	
21G0305-10	LDW21-SC551	8082A PCB Solid 4	B 01	49		J008446	
21G0306-01	LDW21-SC550	8082A PCB Solid 4	B 01	50		J008446	
21G0306-02	LDW21-SC550FD	8082A PCB Solid 4	B 01	51		J008446	
BJH0344-BLK1	Blank	QC		52		J008446	
BJH0344-BS1	LCS	QC		53		J008446	
21H0142-01	8-11-21T2	8082A PCB Medium Level Oils	A 01	54		J008446	
SJH0212-CCV7	AR1248CCV7	QC		55	J008427	J008446	
SJH0212-CCV8	AR1660CCV8	QC		56	J008417	J008446	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	14-AUG-2021 18:11	08142101ECD7.D	1	DDT	
2	14-AUG-2021 18:32	08142102ECD7.D	1	BD	
3	14-AUG-2021 18:52	08142103ECD7.D	1	AR1254ICV1	
4	14-AUG-2021 19:13	08142104ECD7.D	1	AR1660ICV2	
5	14-AUG-2021 19:33	08142105ECD7.D	1	BJG0589-BLK1	
6	14-AUG-2021 19:54	08142106ECD7.D	1	BJG0589-BS1	
7	14-AUG-2021 20:14	08142107ECD7.D	1	BJG0589-BSD1	
8	14-AUG-2021 20:35	08142108ECD7.D	1	21G0236-01	
9	14-AUG-2021 20:55	08142109ECD7.D	1	21G0257-01	
10	14-AUG-2021 21:16	08142110ECD7.D	1	21G0257-02	
11	14-AUG-2021 21:36	08142111ECD7.D	1	21G0257-03	
12	14-AUG-2021 21:57	08142112ECD7.D	1	21G0257-04	
13	14-AUG-2021 22:17	08142113ECD7.D	1	21G0292-01	
14	14-AUG-2021 22:38	08142114ECD7.D	1	21G0292-02	
15	14-AUG-2021 22:58	08142115ECD7.D	1	21G0292-03	
16	14-AUG-2021 23:19	08142116ECD7.D	1	21G0292-04	
17	14-AUG-2021 23:39	08142117ECD7.D	1	21G0300-01	
18	14-AUG-2021 00:00	08142118ECD7.D	1	AR1248CCV1	
19	15-AUG-2021 00:20	08142119ECD7.D	1	AR1660CCV2	
20	15-AUG-2021 00:41	08142120ECD7.D	1	21G0300-02	
21	15-AUG-2021 01:01	08142121ECD7.D	1	21G0300-03	
22	15-AUG-2021 01:22	08142122ECD7.D	1	21G0300-04	
23	15-AUG-2021 01:42	08142123ECD7.D	1	21G0300-05	
24	15-AUG-2021 02:03	08142124ECD7.D	1	21G0300-06	
25	15-AUG-2021 02:23	08142125ECD7.D	1	21G0300-07	
26	15-AUG-2021 02:44	08142126ECD7.D	1	21G0300-08	
27	15-AUG-2021 03:04	08142127ECD7.D	1	BJG0589-MS1	
28	15-AUG-2021 03:25	08142128ECD7.D	1	BJG0589-MSD1	
29	15-AUG-2021 03:45	08142129ECD7.D	1	AR1242CCV3	
30	15-AUG-2021 04:06	08142130ECD7.D	1	AR1660CCV4	
31	15-AUG-2021 04:26	08142131ECD7.D	1	BJH0034-BLK1	
32	15-AUG-2021 04:47	08142132ECD7.D	1	BJH0034-BS1	
33	15-AUG-2021 05:07	08142133ECD7.D	1	BJH0034-SRM1	
34	15-AUG-2021 05:28	08142134ECD7.D	1	21G0303-01	
35	15-AUG-2021 05:48	08142135ECD7.D	1	21G0303-02	
36	15-AUG-2021 06:09	08142136ECD7.D	1	21G0303-03	
37	15-AUG-2021 06:29	08142137ECD7.D	1	21G0303-04	
38	15-AUG-2021 06:50	08142138ECD7.D	1	BJH0034-MS1	
39	15-AUG-2021 07:10	08142139ECD7.D	1	BJH0034-MSD1	
40	15-AUG-2021 07:31	08142140ECD7.D	1	21G0305-01	
41	15-AUG-2021 07:51	08142141ECD7.D	1	21G0305-02	
42	15-AUG-2021 08:12	08142142ECD7.D	1	21G0305-03	
43	15-AUG-2021 08:32	08142143ECD7.D	1	21G0305-04	
44	15-AUG-2021 08:53	08142144ECD7.D	1	AR1254CCV5	
45	15-AUG-2021 09:13	08142145ECD7.D	1	AR1660CCV6	
46	15-AUG-2021 09:34	08142146ECD7.D	1	21G0305-05	
47	15-AUG-2021 09:54	08142147ECD7.D	1	21G0305-06	
48	15-AUG-2021 10:15	08142148ECD7.D	1	21G0305-07	
49	15-AUG-2021 10:35	08142149ECD7.D	1	21G0305-08	
50	15-AUG-2021 10:56	08142150ECD7.D	1	21G0305-09	

	Inject Date/Time	Filename	DF	LabID	ClientID
51	15-AUG-2021 11:16	08142151ECD7.D	1	21G0305-10	
52	15-AUG-2021 11:37	08142152ECD7.D	10	21G0306-01	
53	15-AUG-2021 11:57	08142153ECD7.D	10	21G0306-02	
54	15-AUG-2021 12:18	08142154ECD7.D	1	BJH0344-BLK1	
55	15-AUG-2021 12:38	08142155ECD7.D	1	BJH0344-BS1	
56	15-AUG-2021 12:59	08142156ECD7.D	1	21H0142-01	
57	15-AUG-2021 13:19	08142157ECD7.D	1	AR1248CCV7	
58	15-AUG-2021 13:40	08142158ECD7.D	1	AR1660CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

ARI Job No.: DDT Method: PCB.m Instrument: ecd7.i Date: 14-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1811	08142101ECD7.D	DDT		1	NO MANUAL INTEGRATION
1832	08142102ECD7.D	BD		1	NO MANUAL INTEGRATION
1852	08142103ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1913	08142104ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1933	08142105ECD7.D	BJG0589-BLK1		1	NO MANUAL INTEGRATION
1954	08142106ECD7.D	BJG0589-BS1		1	NO MANUAL INTEGRATION
2014	08142107ECD7.D	BJG0589-BSD1		1	NO MANUAL INTEGRATION
2035	08142108ECD7.D	21G0236-01		1	NO MANUAL INTEGRATION
2055	08142109ECD7.D	21G0257-01		1	NO MANUAL INTEGRATION
2116	08142110ECD7.D	21G0257-02		1	NO MANUAL INTEGRATION
2136	08142111ECD7.D	21G0257-03		1	NO MANUAL INTEGRATION
2157	08142112ECD7.D	21G0257-04		1	NO MANUAL INTEGRATION
2217	08142113ECD7.D	21G0292-01		1	NO MANUAL INTEGRATION
2238	08142114ECD7.D	21G0292-02		1	NO MANUAL INTEGRATION
2258	08142115ECD7.D	21G0292-03		1	NO MANUAL INTEGRATION
2319	08142116ECD7.D	21G0292-04		1	NO MANUAL INTEGRATION
2339	08142117ECD7.D	21G0300-01		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0000	08142118ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
0020	08142119ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
0041	08142120ECD7.D	21G0300-02		1	NO MANUAL INTEGRATION
0101	08142121ECD7.D	21G0300-03		1	NO MANUAL INTEGRATION
0122	08142122ECD7.D	21G0300-04		1	NO MANUAL INTEGRATION
0142	08142123ECD7.D	21G0300-05		1	NO MANUAL INTEGRATION
0203	08142124ECD7.D	21G0300-06		1	NO MANUAL INTEGRATION
0223	08142125ECD7.D	21G0300-07		1	NO MANUAL INTEGRATION
0244	08142126ECD7.D	21G0300-08		1	NO MANUAL INTEGRATION
0304	08142127ECD7.D	BJG0589-MS1		1	NO MANUAL INTEGRATION
0325	08142128ECD7.D	BJG0589-MSD1		1	NO MANUAL INTEGRATION
0345	08142129ECD7.D	AR1242CCV3		1	Aroclor-1242,
0406	08142130ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
0426	08142131ECD7.D	BJH0034-BLK1		1	NO MANUAL INTEGRATION
0447	08142132ECD7.D	BJH0034-BS1		1	NO MANUAL INTEGRATION
0507	08142133ECD7.D	BJH0034-SRM1		1	NO MANUAL INTEGRATION
0528	08142134ECD7.D	21G0303-01		1	Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
0548	08142135ECD7.D	21G0303-02		1	Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0609	08142136ECD7.D	21G0303-03		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Decachlorobiphenyl,
0629	08142137ECD7.D	21G0303-04		1	NO MANUAL INTEGRATION
0650	08142138ECD7.D	BJH0034-MS1		1	NO MANUAL INTEGRATION
0710	08142139ECD7.D	BJH0034-MSD1		1	NO MANUAL INTEGRATION
0731	08142140ECD7.D	21G0305-01		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
0751	08142141ECD7.D	21G0305-02		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
0812	08142142ECD7.D	21G0305-03		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, IS-HBBP, Decachlorobiphenyl,
0832	08142143ECD7.D	21G0305-04		1	NO MANUAL INTEGRATION
0853	08142144ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0913	08142145ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
0934	08142146ECD7.D	21G0305-05		1	NO MANUAL INTEGRATION
0954	08142147ECD7.D	21G0305-06		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1015	08142148ECD7.D	21G0305-07		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1035	08142149ECD7.D	21G0305-08		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, IS-HBBP, Decachlorobiphenyl,
1056	08142150ECD7.D	21G0305-09		1	NO MANUAL INTEGRATION
1116	08142151ECD7.D	21G0305-10		1	NO MANUAL INTEGRATION
1137	08142152ECD7.D	21G0306-01		10	NO MANUAL INTEGRATION
1157	08142153ECD7.D	21G0306-02		10	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1218	08142154ECD7.D	BJH0344-BLK1		1	NO MANUAL INTEGRATION
1238	08142155ECD7.D	BJH0344-BS1		1	NO MANUAL INTEGRATION
1259	08142156ECD7.D	21H0142-01		1	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262,
1319	08142157ECD7.D	AR1248CCV7		1	Aroclor-1248,
1340	08142158ECD7.D	AR1660CCV8		1	NO MANUAL INTEGRATION
1811	08142101ECD7.D	DDT		1	NO MANUAL INTEGRATION
1832	08142102ECD7.D	BD		1	NO MANUAL INTEGRATION
1852	08142103ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1913	08142104ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1933	08142105ECD7.D	BJG0589-BLK1		1	NO MANUAL INTEGRATION
1954	08142106ECD7.D	BJG0589-BS1		1	NO MANUAL INTEGRATION
2014	08142107ECD7.D	BJG0589-BSD1		1	NO MANUAL INTEGRATION
2035	08142108ECD7.D	21G0236-01		1	NO MANUAL INTEGRATION
2055	08142109ECD7.D	21G0257-01		1	NO MANUAL INTEGRATION
2116	08142110ECD7.D	21G0257-02		1	NO MANUAL INTEGRATION
2136	08142111ECD7.D	21G0257-03		1	NO MANUAL INTEGRATION
2157	08142112ECD7.D	21G0257-04		1	NO MANUAL INTEGRATION
2217	08142113ECD7.D	21G0292-01		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
2238	08142114ECD7.D	21G0292-02		1	NO MANUAL INTEGRATION
2258	08142115ECD7.D	21G0292-03		1	NO MANUAL INTEGRATION
2319	08142116ECD7.D	21G0292-04		1	NO MANUAL INTEGRATION
2339	08142117ECD7.D	21G0300-01		1	NO MANUAL INTEGRATION
0000	08142118ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
0020	08142119ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
0041	08142120ECD7.D	21G0300-02		1	NO MANUAL INTEGRATION
0101	08142121ECD7.D	21G0300-03		1	NO MANUAL INTEGRATION
0122	08142122ECD7.D	21G0300-04		1	NO MANUAL INTEGRATION
0142	08142123ECD7.D	21G0300-05		1	NO MANUAL INTEGRATION
0203	08142124ECD7.D	21G0300-06		1	NO MANUAL INTEGRATION
0223	08142125ECD7.D	21G0300-07		1	NO MANUAL INTEGRATION
0244	08142126ECD7.D	21G0300-08		1	NO MANUAL INTEGRATION
0304	08142127ECD7.D	BJG0589-MS1		1	NO MANUAL INTEGRATION
0325	08142128ECD7.D	BJG0589-MSD1		1	NO MANUAL INTEGRATION
0345	08142129ECD7.D	AR1242CCV3		1	NO MANUAL INTEGRATION
0406	08142130ECD7.D	AR1660CCV4		1	NO MANUAL INTEGRATION
0426	08142131ECD7.D	BJH0034-BLK1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0447	08142132ECD7.D	BJH0034-BS1		1	NO MANUAL INTEGRATION
0507	08142133ECD7.D	BJH0034-SRM1		1	Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Aroclor-1268 [2C],
0528	08142134ECD7.D	21G0303-01		1	NO MANUAL INTEGRATION
0548	08142135ECD7.D	21G0303-02		1	NO MANUAL INTEGRATION
0609	08142136ECD7.D	21G0303-03		1	NO MANUAL INTEGRATION
0629	08142137ECD7.D	21G0303-04		1	NO MANUAL INTEGRATION
0650	08142138ECD7.D	BJH0034-MS1		1	NO MANUAL INTEGRATION
0710	08142139ECD7.D	BJH0034-MSD1		1	NO MANUAL INTEGRATION
0731	08142140ECD7.D	21G0305-01		1	NO MANUAL INTEGRATION
0751	08142141ECD7.D	21G0305-02		1	NO MANUAL INTEGRATION
0812	08142142ECD7.D	21G0305-03		1	NO MANUAL INTEGRATION
0832	08142143ECD7.D	21G0305-04		1	NO MANUAL INTEGRATION
0853	08142144ECD7.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0913	08142145ECD7.D	AR1660CCV6		1	NO MANUAL INTEGRATION
0934	08142146ECD7.D	21G0305-05		1	NO MANUAL INTEGRATION
0954	08142147ECD7.D	21G0305-06		1	NO MANUAL INTEGRATION
1015	08142148ECD7.D	21G0305-07		1	NO MANUAL INTEGRATION
1035	08142149ECD7.D	21G0305-08		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210814.b\210814.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1056	08142150ECD7.D	21G0305-09		1	NO MANUAL INTEGRATION
1116	08142151ECD7.D	21G0305-10		1	NO MANUAL INTEGRATION
1137	08142152ECD7.D	21G0306-01		10	NO MANUAL INTEGRATION
1157	08142153ECD7.D	21G0306-02		10	NO MANUAL INTEGRATION
1218	08142154ECD7.D	BJH0344-BLK1		1	NO MANUAL INTEGRATION
1238	08142155ECD7.D	BJH0344-BS1		1	NO MANUAL INTEGRATION
1259	08142156ECD7.D	21H0142-01		1	Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C],
1319	08142157ECD7.D	AR1248CCV7		1	NO MANUAL INTEGRATION
1340	08142158ECD7.D	AR1660CCV8		1	NO MANUAL INTEGRATION

Security Status Report

Date: 17-Aug-2021 16:08

08142101ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142102ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142103ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142106ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142107ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142110ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142111ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142112ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142113ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142115ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142120ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142129ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142130ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142131ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142132ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142133ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142134ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142135ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142136ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142137ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142138ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142139ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142140ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142141ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142142ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142143ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142146ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142147ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
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08142150ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142151ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142152ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142153ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142154ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142155ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142156ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142157ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08
08142158ECD7.D	Data Locked	jrains, 17-Aug-2021 16:08

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0214	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0214-ICV1	08162103S.D	08162103S.D	NA	08/16/21 12:44
Initial Cal Check	SJH0214-ICV2	08162104S.D	08162104S.D	NA	08/16/21 13:04
Calibration Check	SJH0214-CCV1	08162112S.D	08162112S.D	NA	08/16/21 15:48
Calibration Check	SJH0214-CCV2	08162113S.D	08162113S.D	NA	08/16/21 16:09
Calibration Check	SJH0214-CCV3	08162122S.D	08162122S.D	NA	08/16/21 19:13
Calibration Check	SJH0214-CCV4	08162123S.D	08162123S.D	NA	08/16/21 19:39
LDW21-SC567	21G0305-02RE1	08162124S.D	08162124S.D	Solid	08/16/21 20:00
LDW21-SC566	21G0305-03RE1	08162125S.D	08162125S.D	Solid	08/16/21 20:21
LDW21-SC551	21G0305-10RE1	08162126S.D	08162126S.D	Solid	08/16/21 20:41
Calibration Check	SJH0214-CCV5	08162138S.D	08162138S.D	NA	08/17/21 00:47
Calibration Check	SJH0214-CCV6	08162139S.D	08162139S.D	NA	08/17/21 01:08
Calibration Check	SJH0214-CCV7	08162152S.D	08162152S.D	NA	08/17/21 05:34
Calibration Check	SJH0214-CCV8	08162153S.D	08162153S.D	NA	08/17/21 05:54

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/17/2021 4:27:28PM

ANALYSIS SEQUENCE

SJH0214

Instrument: ECD7 Element Column ID: i0010655/i0010
Calibration ID: EE00069 Tune File:
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0214-ICV1	AR1254ICV1	QC		1	J008432	J008132	
SJH0214-ICV2	AR1660ICV2	QC		2	J008417	J008132	
BJH0375-BLK1	Blank	QC		3		J008132	
BJH0375-BS1	LCS	QC		4		J008132	
BJH0375-BSD1	LCS Dup	QC		5		J008132	
21H0166-04	A-1707-Fives-L4	8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L	A 02	6		J008132	
SJH0214-CCV1	AR1248CCV1	QC		7	J008427	J008132	
SJH0214-CCV2	AR1660CCV2	QC		8	J008417	J008132	
BJG0724-BLK1	Blank	QC		9		J008132	
BJG0724-BS1	LCS	QC		10		J008132	
BJG0724-SRM1	Reference	QC		11		J008132	
21G0269-10RE1	LDW21-SS575	8082A PCB Solid 4	A 01	12		J008132	Added 8/16/2021 by JGR
21G0269-11RE1	LDW21-SS505	8082A PCB Solid 4	B 01	13		J008132	Added 8/16/2021 by JGR
21G0269-12RE1	LDW21-SS506	8082A PCB Solid 4	B 01	14		J008132	Added 8/16/2021 by JGR
SJH0214-CCV3	AR1242CCV3	QC		15	J008422	J008132	
SJH0214-CCV4	AR1660CCV4	QC		16	J008417	J008132	
21G0305-02RE1	LDW21-SC567	8082A PCB Solid 4	B 01	17		J008132	Added 8/17/2021 by YZ
21G0305-03RE1	LDW21-SC566	8082A PCB Solid 4	B 01	18		J008132	Added 8/17/2021 by YZ
21G0305-10RE1	LDW21-SC551	8082A PCB Solid 4	B 01	19		J008132	Added 8/17/2021 by YZ
21G0283-01	LDW21-SC505	8082A PCB Solid 4	B 02	20		J008132	
21G0283-02	LDW21-SC506	8082A PCB Solid 4	B 02	21		J008132	
21G0283-03	LDW21-SC508	8082A PCB Solid 4	B 02	22		J008132	

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Printed: 8/17/2021 4:27:28PM

ANALYSIS SEQUENCE

SJH0214

Instrument: ECD7 Element Column ID: i0010655/i0010
Calibration ID: EE00069 Tune File:
EM Voltage:

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
21G0283-04	LDW21-SC515	8082A PCB Solid 4	B 02	23		J008132	
21G0283-06	LDW21-SC523	8082A PCB Solid 4	B 02	24		J008132	
21G0283-07	LDW21-SC516	8082A PCB Solid 4	B 02	25		J008132	
21G0283-08	LDW21-SC536	8082A PCB Solid 4	B 02	26		J008132	
SJH0214-CCV5	AR1254CCV5	QC		27	J008432	J008132	
SJH0214-CCV6	AR1660CCV6	QC		28	J008417	J008132	
21G0283-09	LDW21-SC548	8082A PCB Solid 4	B 02	29		J008132	
21G0283-10	LDW21-SC511	8082A PCB Solid 4	B 01	30		J008132	
21G0283-11	LDW21-IT664B	8082A PCB Solid 4	B 01	31		J008132	
21G0283-12	LDW21-IT664C	8082A PCB Solid 4	B 01	32		J008132	
21G0283-13	LDW21-IT664E	8082A PCB Solid 4	B 01	33		J008132	
21G0283-14	LDW21-IT670B	8082A PCB Solid 4	B 01	34		J008132	
21G0283-15	LDW21-IT670C	8082A PCB Solid 4	B 01	35		J008132	
21G0283-16	LDW21-IT670E	8082A PCB Solid 4	B 01	36		J008132	
21G0283-17	LDW21-IT650B	8082A PCB Solid 4	B 01	37		J008132	
BJG0724-MS1	Matrix Spike	QC		38		J008132	
BJG0724-MSD1	Matrix Spike Dup	QC		39		J008132	
21G0283-18	LDW21-IT650C	8082A PCB Solid 4	B 01	40		J008132	
SJH0214-CCV7	AR1248CCV7	QC		41	J008427	J008132	
SJH0214-CCV8	AR1660CCV8	QC		42	J008417	J008132	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210816.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	16-AUG-2021 12:44	08162103S.D	1	AR1254ICV1	
2	16-AUG-2021 13:04	08162104S.D	1	AR1660ICV2	
3	16-AUG-2021 13:25	08162105S.D	1	BJH0375-BLK1	
4	16-AUG-2021 13:45	08162106S.D	1	BJH0375-BS1	
5	16-AUG-2021 14:06	08162107S.D	1	BJH0375-BSD1	
6	16-AUG-2021 14:26	08162108S.D	1	21H0166-01	
7	16-AUG-2021 14:47	08162109S.D	1	21H0166-02	
8	16-AUG-2021 15:07	08162110S.D	1	21H0166-03	
9	16-AUG-2021 15:28	08162111S.D	1	21H0166-04	
10	16-AUG-2021 15:48	08162112S.D	1	AR1248CCV1	
11	16-AUG-2021 16:09	08162113S.D	1	AR1660CCV2	
12	16-AUG-2021 16:29	08162114S.D	10	21G0269-10RE1	
13	16-AUG-2021 16:50	08162115S.D	10	21G0269-11RE1	
14	16-AUG-2021 17:10	08162116S.D	10	21G0269-12RE1	
15	16-AUG-2021 17:31	08162117S.D	10	BJG0722-MS1	
16	16-AUG-2021 17:51	08162118S.D	10	BJG0722-MSD1	
17	16-AUG-2021 18:12	08162119S.D	5	21G0305-02RE1	
18	16-AUG-2021 18:32	08162120S.D	5	21G0305-03RE1	
19	16-AUG-2021 18:53	08162121S.D	5	21G0305-10RE1	
20	16-AUG-2021 19:13	08162122S.D	1	AR1242CCV3	
21	16-AUG-2021 19:39	08162123S.D	1	AR1660CCV4	
22	16-AUG-2021 20:00	08162124S.D	5	21G0305-02RE1	
23	16-AUG-2021 20:21	08162125S.D	5	21G0305-03RE1	
24	16-AUG-2021 20:41	08162126S.D	5	21G0305-10RE1	
25	16-AUG-2021 21:02	08162127S.D	1	BJG0724-BLK1	
26	16-AUG-2021 21:22	08162128S.D	1	BJG0724-BS1	
27	16-AUG-2021 21:43	08162129S.D	1	BJG0724-SRM1	
28	16-AUG-2021 22:03	08162130S.D	1	21G0283-01	
29	16-AUG-2021 22:24	08162131S.D	1	21G0283-02	
30	16-AUG-2021 22:44	08162132S.D	1	21G0283-03	
31	16-AUG-2021 23:05	08162133S.D	1	21G0283-04	
32	16-AUG-2021 23:25	08162134S.D	1	21G0283-05	
33	16-AUG-2021 23:46	08162135S.D	1	21G0283-06	
34	17-AUG-2021 00:06	08162136S.D	1	21G0283-07	
35	17-AUG-2021 00:27	08162137S.D	1	21G0283-08	
36	17-AUG-2021 00:47	08162138S.D	1	AR1254CCV5	
37	17-AUG-2021 01:08	08162139S.D	1	AR1660CCV6	
38	17-AUG-2021 01:28	08162140S.D	1	21G0283-09	
39	17-AUG-2021 01:48	08162141S.D	1	21G0283-10	
40	17-AUG-2021 02:09	08162142S.D	1	21G0283-11	
41	17-AUG-2021 02:29	08162143S.D	1	21G0283-12	
42	17-AUG-2021 02:50	08162144S.D	1	21G0283-13	
43	17-AUG-2021 03:10	08162145S.D	1	21G0283-14	
44	17-AUG-2021 03:31	08162146S.D	1	21G0283-15	
45	17-AUG-2021 03:51	08162147S.D	1	21G0283-16	
46	17-AUG-2021 04:12	08162148S.D	1	21G0283-17	
47	17-AUG-2021 04:32	08162149S.D	1	BJG0724-MS1	
48	17-AUG-2021 04:53	08162150S.D	1	BJG0724-MSD1	
49	17-AUG-2021 05:13	08162151S.D	1	21G0283-18	
50	17-AUG-2021 05:34	08162152S.D	1	AR1248CCV7	

	Inject Date/Time	Filename	DF	LabID	ClientID
51	17-AUG-2021 05:54	08162153S.D	1	AR1660CCV8	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210816.b

ARI Job No.: AR12 Method: PCB.m Instrument: ecd7.i Date: 16-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1244	08162103S.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1304	08162104S.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1325	08162105S.D	BJH0375-BLK1		1	NO MANUAL INTEGRATION
1345	08162106S.D	BJH0375-BS1		1	NO MANUAL INTEGRATION
1406	08162107S.D	BJH0375-BSD1		1	NO MANUAL INTEGRATION
1426	08162108S.D	21H0166-01		1	Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1447	08162109S.D	21H0166-02		1	NO MANUAL INTEGRATION
1507	08162110S.D	21H0166-03		1	NO MANUAL INTEGRATION
1528	08162111S.D	21H0166-04		1	NO MANUAL INTEGRATION
1548	08162112S.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1609	08162113S.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1629	08162114S.D	21G0269-10RE1		10	NO MANUAL INTEGRATION
1650	08162115S.D	21G0269-11RE1		10	NO MANUAL INTEGRATION
1710	08162116S.D	21G0269-12RE1		10	NO MANUAL INTEGRATION
1731	08162117S.D	BJG0722-MS1		10	NO MANUAL INTEGRATION
1751	08162118S.D	BJG0722-MSD1		10	NO MANUAL INTEGRATION
1812	08162119S.D	21G0305-02RE1		5	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210816.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1832	08162120S.D	21G0305-03RE1		5	NO MANUAL INTEGRATION
1853	08162121S.D	21G0305-10RE1		5	NO MANUAL INTEGRATION
1913	08162122S.D	AR1242CCV3		1	NO MANUAL INTEGRATION
1939	08162123S.D	AR1660CCV4		1	NO MANUAL INTEGRATION
2000	08162124S.D	21G0305-02RE1		5	NO MANUAL INTEGRATION
2021	08162125S.D	21G0305-03RE1		5	NO MANUAL INTEGRATION
2041	08162126S.D	21G0305-10RE1		5	NO MANUAL INTEGRATION
2102	08162127S.D	BJG0724-BLK1		1	NO MANUAL INTEGRATION
2122	08162128S.D	BJG0724-BS1		1	NO MANUAL INTEGRATION
2143	08162129S.D	BJG0724-SRM1		1	NO MANUAL INTEGRATION
2203	08162130S.D	21G0283-01		1	NO MANUAL INTEGRATION
2224	08162131S.D	21G0283-02		1	NO MANUAL INTEGRATION
2244	08162132S.D	21G0283-03		1	NO MANUAL INTEGRATION
2305	08162133S.D	21G0283-04		1	NO MANUAL INTEGRATION
2325	08162134S.D	21G0283-05		1	NO MANUAL INTEGRATION
2346	08162135S.D	21G0283-06		1	NO MANUAL INTEGRATION
0006	08162136S.D	21G0283-07		1	NO MANUAL INTEGRATION
0027	08162137S.D	21G0283-08		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210816.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
0047	08162138S.D	AR1254CCV5		1	NO MANUAL INTEGRATION
0108	08162139S.D	AR1660CCV6		1	NO MANUAL INTEGRATION
0128	08162140S.D	21G0283-09		1	NO MANUAL INTEGRATION
0148	08162141S.D	21G0283-10		1	NO MANUAL INTEGRATION
0209	08162142S.D	21G0283-11		1	NO MANUAL INTEGRATION
0229	08162143S.D	21G0283-12		1	NO MANUAL INTEGRATION
0250	08162144S.D	21G0283-13		1	NO MANUAL INTEGRATION
0310	08162145S.D	21G0283-14		1	NO MANUAL INTEGRATION
0331	08162146S.D	21G0283-15		1	NO MANUAL INTEGRATION
0351	08162147S.D	21G0283-16		1	NO MANUAL INTEGRATION
0412	08162148S.D	21G0283-17		1	NO MANUAL INTEGRATION
0432	08162149S.D	BJG0724-MS1		1	NO MANUAL INTEGRATION
0453	08162150S.D	BJG0724-MSD1		1	NO MANUAL INTEGRATION
0513	08162151S.D	21G0283-18		1	Aroclor-1254,
0534	08162152S.D	AR1248CCV7		1	NO MANUAL INTEGRATION
0554	08162153S.D	AR1660CCV8		1	NO MANUAL INTEGRATION

Security Status Report

Date: 17-Aug-2021 16:01

08162103S.D	Data Locked	yev, 17-
08162104S.D	Data Locked	yev, 17-
08162105S.D	Data Locked	yev, 17-
08162106S.D	Data Locked	yev, 17-
08162107S.D	Data Locked	yev, 17-
08162108S.D	Data Locked	yev, 17-
08162109S.D	Data Locked	yev, 17-
08162110S.D	Data Locked	yev, 17-
08162111S.D	Data Locked	yev, 17-
08162112S.D	Data Locked	yev, 17-
08162113S.D	Data Locked	yev, 17-
08162114S.D	Data Locked	yev, 17-
08162115S.D	Data Locked	yev, 17-
08162116S.D	Data Locked	yev, 17-
08162117S.D	Data Locked	yev, 17-
08162118S.D	Data Locked	yev, 17-
08162119S.D	Data Locked	yev, 17-
08162120S.D	Data Locked	yev, 17-
08162121S.D	Data Locked	yev, 17-
08162122S.D	Data Locked	yev, 17-
08162123S.D	Data Locked	yev, 17-
08162124S.D	Data Locked	yev, 17-
08162125S.D	Data Locked	yev, 17-
08162126S.D	Data Locked	yev, 17-
08162127S.D	Data Locked	yev, 17-
08162128S.D	Data Locked	yev, 17-
08162129S.D	Data Locked	yev, 17-
08162130S.D	Data Locked	yev, 17-
08162131S.D	Data Locked	yev, 17-
08162132S.D	Data Locked	yev, 17-
08162133S.D	Data Locked	yev, 17-
08162134S.D	Data Locked	yev, 17-
08162135S.D	Data Locked	yev, 17-
08162136S.D	Data Locked	yev, 17-
08162137S.D	Data Locked	yev, 17-
08162138S.D	Data Locked	yev, 17-
08162139S.D	Data Locked	yev, 17-
08162140S.D	Data Locked	yev, 17-
08162141S.D	Data Locked	yev, 17-
08162142S.D	Data Locked	yev, 17-
08162143S.D	Data Locked	yev, 17-
08162144S.D	Data Locked	yev, 17-
08162145S.D	Data Locked	yev, 17-
08162146S.D	Data Locked	yev, 17-
08162147S.D	Data Locked	yev, 17-
08162148S.D	Data Locked	yev, 17-
08162149S.D	Data Locked	yev, 17-
08162150S.D	Data Locked	yev, 17-
08162151S.D	Data Locked	yev, 17-
08162152S.D	Data Locked	yev, 17-
08162153S.D	Data Locked	yev, 17-

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dual Column

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0216	Instrument:	ECD7
		Calibration:	EH00034

Sample Name	Lab Sample ID	Column 1 File ID	Column 2 File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0216-ICV1	08172102ECD7.D	08172102ECD7.D	NA	08/17/21 11:43
Initial Cal Check	SJH0216-ICV2	08172103ECD7.D	08172103ECD7.D	NA	08/17/21 12:04
LDW21-SC530	21G0305-07	08172107ECD7.D	08172107ECD7.D	Solid	08/17/21 13:26
Calibration Check	SJH0216-CCV1	08172114ECD7.D	08172114ECD7.D	NA	08/17/21 15:49
Calibration Check	SJH0216-CCV2	08172115ECD7.D	08172115ECD7.D	NA	08/17/21 16:10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/17/2021 6:03:11PM

ANALYSIS SEQUENCE

SJH0216

Instrument: ECD7 Element Column ID: i10655i10656
Calibration ID: EH00034

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJH0216-ICV1	AR1254ICV1	QC		1	J008432	J008446	
SJH0216-ICV2	AR1660ICV2	QC		2	J008417	J008446	
21H0166-03	A-1707-Fives-L3	8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	A 02	3		J008446	
21H0166-02	A-1707-Fives-L2	8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	A 02	4		J008446	
21H0166-01	A-1707-Fives-L1	8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	A 02	5		J008446	
21G0305-07	LDW21-SC530	8082A PCB Solid 4	B 01	6		J008446	
21G0283-05	LDW21-SC522	8082A PCB Solid 4	B 02	7		J008446	
BJH0402-BLK1	Blank	QC		8		J008446	
BJH0402-BS1	LCS	QC		9		J008446	
BJH0402-BSD1	LCS Dup	QC		10		J008446	
21H0188-01	SHHW081621 T1	8082A PCB Medium Level Oils	A 01	11		J008446	See Version Comment
SJH0216-CCV1	AR1248CCV1	QC		12	J008427	J008446	
SJH0216-CCV2	AR1660CCV2	QC		13	J008417	J008446	

GC LOG SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210817.b

	Inject Date/Time	Filename	DF	LabID	ClientID
1	17-AUG-2021 11:23	08172101ECD7.D	1	DDT	
2	17-AUG-2021 11:43	08172102ECD7.D	1	AR1254ICV1	
3	17-AUG-2021 12:04	08172103ECD7.D	1	AR1660ICV2	
4	17-AUG-2021 12:24	08172104ECD7.D	5	21H0166-01RE1	
5	17-AUG-2021 12:45	08172105ECD7.D	5	21H0166-02RE1	
6	17-AUG-2021 13:05	08172106ECD7.D	5	21H0166-03RE1	
7	17-AUG-2021 13:26	08172107ECD7.D	5	21G0305-07RE1	
8	17-AUG-2021 13:46	08172108ECD7.D	25	21G0283-05RE1	
9	17-AUG-2021 14:07	08172109ECD7.D	1	BJH0402-BLK1	
10	17-AUG-2021 14:27	08172110ECD7.D	1	BJH0402-BS1	
11	17-AUG-2021 14:48	08172111ECD7.D	1	BJH0402-BSD1	
12	17-AUG-2021 15:08	08172112ECD7.D	1	21H0188-01	
13	17-AUG-2021 15:29	08172113ECD7.D	1	21G0305-04RE1misinj	
14	17-AUG-2021 15:49	08172114ECD7.D	1	AR1248CCV1	
15	17-AUG-2021 16:10	08172115ECD7.D	1	AR1660CCV2	

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210817.b

ARI Job No.: DDT Method: PCB.m Instrument: ecd7.i Date: 17-AUG-2021

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1123	08172101ECD7.D	DDT		1	NO MANUAL INTEGRATION
1143	08172102ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION
1204	08172103ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1224	08172104ECD7.D	21H0166-01RE1		5	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1245	08172105ECD7.D	21H0166-02RE1		5	Aroclor-1016, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1305	08172106ECD7.D	21H0166-03RE1		5	Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268,
1326	08172107ECD7.D	21G0305-07RE1		5	NO MANUAL INTEGRATION
1346	08172108ECD7.D	21G0283-05RE1		25	NO MANUAL INTEGRATION
1407	08172109ECD7.D	BJH0402-BLK1		1	NO MANUAL INTEGRATION
1427	08172110ECD7.D	BJH0402-BS1		1	NO MANUAL INTEGRATION
1448	08172111ECD7.D	BJH0402-BSD1		1	NO MANUAL INTEGRATION
1508	08172112ECD7.D	21H0188-01		1	Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, Aroclor-1262, Aroclor-1268, Tetrachloro-m-xylene,
1529	08172113ECD7.D	21G0305-04RE1		5	NO MANUAL INTEGRATION
1549	08172114ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1610	08172115ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION
1123	08172101ECD7.D	DDT		1	NO MANUAL INTEGRATION
1143	08172102ECD7.D	AR1254ICV1		1	NO MANUAL INTEGRATION

MANUAL INTEGRATION SUMMARY FOR DATABATCH - \\target\share\chem4\ecd7.i\210817.b\210817.b

Time	Filename	LabID	ClientId	DF	Manually Integrated Compounds
1204	08172103ECD7.D	AR1660ICV2		1	NO MANUAL INTEGRATION
1224	08172104ECD7.D	21H0166-01RE1		5	Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C],
1245	08172105ECD7.D	21H0166-02RE1		5	Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1262 [2C],
1305	08172106ECD7.D	21H0166-03RE1		5	Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C],
1326	08172107ECD7.D	21G0305-07RE1		5	NO MANUAL INTEGRATION
1346	08172108ECD7.D	21G0283-05RE1		25	NO MANUAL INTEGRATION
1407	08172109ECD7.D	BJH0402-BLK1		1	NO MANUAL INTEGRATION
1427	08172110ECD7.D	BJH0402-BS1		1	NO MANUAL INTEGRATION
1448	08172111ECD7.D	BJH0402-BSD1		1	NO MANUAL INTEGRATION
1508	08172112ECD7.D	21H0188-01		1	Aroclor-1221 [2C], Aroclor-1232 [2C], Aroclor-1242 [2C], Aroclor-1248 [2C], Aroclor-1254 [2C], Aroclor-1260 [2C], Aroclor-1262 [2C], Tetrachloro-m-xylene [2C],
1529	08172113ECD7.D	21G0305-04RE1		5	NO MANUAL INTEGRATION
1549	08172114ECD7.D	AR1248CCV1		1	NO MANUAL INTEGRATION
1610	08172115ECD7.D	AR1660CCV2		1	NO MANUAL INTEGRATION

Security Status Report

Date: 17-Aug-2021 18:18

08172101ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172102ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172103ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172104ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172105ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172106ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172107ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172108ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172109ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172110ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172111ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172112ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172113ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172114ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18
08172115ECD7.D	Data Locked	jrains, 17-Aug-2021 18:18

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0177	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0177-SCV1 (Solid)			Lab File ID: 08132141ECD7.D				Analyzed: 08/14/21 08:21	
Decachlorobiphenyl	40.000	105	80 - 120	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	109	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	103	80 - 120	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	5.416	5.412667	0.0033	N/A	
SJH0177-SCV2 (Solid)			Lab File ID: 08132142ECD7.D				Analyzed: 08/14/21 08:41	
Decachlorobiphenyl	40.000	101	80 - 120	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	106	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	100	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	5.415	5.412667	0.0023	N/A	
SJH0177-SCV3 (Solid)			Lab File ID: 08132143ECD7.D				Analyzed: 08/14/21 09:02	
Decachlorobiphenyl	40.000	98.7	80 - 120	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	104	80 - 120	5.07	5.0675	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	96.1	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	5.415	5.412667	0.0023	N/A	
SJH0177-SCV4 (Solid)			Lab File ID: 08132144ECD7.D				Analyzed: 08/14/21 09:22	
Decachlorobiphenyl	40.000	100	80 - 120	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	5.07	5.0675	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	96.6	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	5.415	5.412667	0.0023	N/A	
SJH0177-SCV5 (Solid)			Lab File ID: 08132145ECD7.D				Analyzed: 08/14/21 09:43	
Decachlorobiphenyl	40.000	97.1	80 - 120	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	101	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	94.1	80 - 120	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	97.9	80 - 120	5.416	5.412667	0.0033	N/A	
SJH0177-SCV6 (Solid)			Lab File ID: 08132146ECD7.D				Analyzed: 08/14/21 10:03	
Decachlorobiphenyl	40.000	149	80 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	103	80 - 120	5.071	5.0675	0.0035	N/A	
Decachlorobiphenyl [2C]	40.000	148	80 - 200	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	99.2	80 - 120	5.416	5.412667	0.0033	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0212-CCV1 (Water)			Lab File ID: 08142118ECD7.D				Analyzed: 08/14/21 00:00	
Decachlorobiphenyl	40.000	99.0	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	102	0 - 200	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	95.5	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	100	0 - 200	5.414	5.412667	0.0013	N/A	
SJH0212-ICV1 (Water)			Lab File ID: 08142103ECD7.D				Analyzed: 08/14/21 18:52	
Decachlorobiphenyl	40.000	99.3	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	103	0 - 200	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	97.0	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	100	0 - 200	5.413	5.412667	0.0003	N/A	
SJH0212-ICV2 (Water)			Lab File ID: 08142104ECD7.D				Analyzed: 08/14/21 19:13	
Decachlorobiphenyl	40.000	103	0 - 200	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	107	0 - 200	5.07	5.0675	0.0025	N/A	
Decachlorobiphenyl [2C]	40.000	100	0 - 200	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	103	0 - 200	5.414	5.412667	0.0013	N/A	
SJH0212-CCV2 (Water)			Lab File ID: 08142119ECD7.D				Analyzed: 08/15/21 00:20	
Decachlorobiphenyl	40.000	102	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	106	0 - 200	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	98.3	0 - 200	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	0 - 200	5.414	5.412667	0.0013	N/A	
SJH0212-CCV3 (Water)			Lab File ID: 08142129ECD7.D				Analyzed: 08/15/21 03:45	
Decachlorobiphenyl	40.000	99.0	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	104	0 - 200	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	95.3	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.413	5.412667	0.0003	N/A	
SJH0212-CCV4 (Water)			Lab File ID: 08142130ECD7.D				Analyzed: 08/15/21 04:06	
Decachlorobiphenyl	40.000	102	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	106	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	98.0	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	0 - 200	5.413	5.412667	0.0003	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
BJH0034-BLK1 (Solid)			Lab File ID: 08142131ECD7.D				Analyzed: 08/15/21 04:26	
Decachlorobiphenyl	8.0000	95.3	40 - 126	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	8.0000	83.5	44 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	8.0000	94.4	40 - 126	13.848	13.846	0.0020	N/A	
Tetrachlorometaxylene [2C]	8.0000	77.5	44 - 120	5.411	5.412667	-0.0017	N/A	
BJH0034-BS1 (Solid)			Lab File ID: 08142132ECD7.D				Analyzed: 08/15/21 04:47	
Decachlorobiphenyl	8.0000	92.6	40 - 126	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	8.0000	84.5	44 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	8.0000	87.5	40 - 126	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	8.0000	80.1	44 - 120	5.411	5.412667	-0.0017	N/A	
BJH0034-SRM1 (Solid)			Lab File ID: 08142133ECD7.D				Analyzed: 08/15/21 05:07	
Decachlorobiphenyl	40.000	88.0	40 - 126	13.158	13.16367	-0.0057	N/A	
Tetrachlorometaxylene	40.000	79.7	44 - 120	5.066	5.0675	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	77.4	40 - 126	13.841	13.846	-0.0050	N/A	
Tetrachlorometaxylene [2C]	40.000	74.1	44 - 120	5.41	5.412667	-0.0027	N/A	
21G0305-01 (Solid)			Lab File ID: 08142140ECD7.D				Analyzed: 08/15/21 07:31	
Decachlorobiphenyl	7.9808	89.1	40 - 126	13.148	13.16367	-0.0157	N/A	
Tetrachlorometaxylene	7.9808	77.2	44 - 120	5.062	5.0675	-0.0055	N/A	
Decachlorobiphenyl [2C]	7.9808	66.3	40 - 126	13.833	13.846	-0.0130	N/A	
Tetrachlorometaxylene [2C]	7.9808	68.5	44 - 120	5.405	5.412667	-0.0077	N/A	
21G0305-02 (Solid)			Lab File ID: 08142141ECD7.D				Analyzed: 08/15/21 07:51	
Decachlorobiphenyl	7.9876	93.2	40 - 126	13.15	13.16367	-0.0137	N/A	
Tetrachlorometaxylene	7.9876	78.8	44 - 120	5.061	5.0675	-0.0065	N/A	
Decachlorobiphenyl [2C]	7.9876	70.1	40 - 126	13.835	13.846	-0.0110	N/A	
Tetrachlorometaxylene [2C]	7.9876	67.5	44 - 120	5.405	5.412667	-0.0077	N/A	
21G0305-03 (Solid)			Lab File ID: 08142142ECD7.D				Analyzed: 08/15/21 08:12	
Decachlorobiphenyl	8.0007	101	40 - 126	13.148	13.16367	-0.0157	N/A	
Tetrachlorometaxylene	8.0007	74.5	44 - 120	5.062	5.0675	-0.0055	N/A	
Decachlorobiphenyl [2C]	8.0007	74.6	40 - 126	13.834	13.846	-0.0120	N/A	
Tetrachlorometaxylene [2C]	8.0007	64.9	44 - 120	5.405	5.412667	-0.0077	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
21G0305-04 (Solid)			Lab File ID: 08142143ECD7.D				Analyzed: 08/15/21 08:32	
Decachlorobiphenyl	7.9969	93.6	40 - 126	13.149	13.16367	-0.0147	N/A	
Tetrachlorometaxylene	7.9969	84.2	44 - 120	5.064	5.0675	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9969	70.3	40 - 126	13.834	13.846	-0.0120	N/A	
Tetrachlorometaxylene [2C]	7.9969	74.7	44 - 120	5.408	5.412667	-0.0047	N/A	
SJH0212-CCV5 (Water)			Lab File ID: 08142144ECD7.D				Analyzed: 08/15/21 08:53	
Decachlorobiphenyl	40.000	100	0 - 200	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	102	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	93.8	0 - 200	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.411	5.412667	-0.0017	N/A	
SJH0212-CCV6 (Water)			Lab File ID: 08142145ECD7.D				Analyzed: 08/15/21 09:13	
Decachlorobiphenyl	40.000	103	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	106	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	98.0	0 - 200	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	0 - 200	5.411	5.412667	-0.0017	N/A	
21G0305-05 (Solid)			Lab File ID: 08142146ECD7.D				Analyzed: 08/15/21 09:34	
Decachlorobiphenyl	7.9727	94.8	40 - 126	13.149	13.16367	-0.0147	N/A	
Tetrachlorometaxylene	7.9727	85.5	44 - 120	5.064	5.0675	-0.0035	N/A	
Decachlorobiphenyl [2C]	7.9727	70.7	40 - 126	13.835	13.846	-0.0110	N/A	
Tetrachlorometaxylene [2C]	7.9727	75.3	44 - 120	5.407	5.412667	-0.0057	N/A	
21G0305-06 (Solid)			Lab File ID: 08142147ECD7.D				Analyzed: 08/15/21 09:54	
Decachlorobiphenyl	7.9837	88.6	40 - 126	13.149	13.16367	-0.0147	N/A	
Tetrachlorometaxylene	7.9837	78.7	44 - 120	5.062	5.0675	-0.0055	N/A	
Decachlorobiphenyl [2C]	7.9837	65.6	40 - 126	13.834	13.846	-0.0120	N/A	
Tetrachlorometaxylene [2C]	7.9837	69.3	44 - 120	5.406	5.412667	-0.0067	N/A	
21G0305-08 (Solid)			Lab File ID: 08142149ECD7.D				Analyzed: 08/15/21 10:35	
Decachlorobiphenyl	7.9687	88.3	40 - 126	13.151	13.16367	-0.0127	N/A	
Tetrachlorometaxylene	7.9687	81.6	44 - 120	5.065	5.0675	-0.0025	N/A	
Decachlorobiphenyl [2C]	7.9687	72.2	40 - 126	13.837	13.846	-0.0090	N/A	
Tetrachlorometaxylene [2C]	7.9687	72.3	44 - 120	5.409	5.412667	-0.0037	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
21G0305-09 (Solid)			Lab File ID: 08142150ECD7.D				Analyzed: 08/15/21 10:56	
Decachlorobiphenyl	7.9902	89.9	40 - 126	13.149	13.16367	-0.0147	N/A	
Tetrachlorometaxylene	7.9902	84.8	44 - 120	5.063	5.0675	-0.0045	N/A	
Decachlorobiphenyl [2C]	7.9902	67.1	40 - 126	13.834	13.846	-0.0120	N/A	
Tetrachlorometaxylene [2C]	7.9902	74.5	44 - 120	5.407	5.412667	-0.0057	N/A	
21G0305-10 (Solid)			Lab File ID: 08142151ECD7.D				Analyzed: 08/15/21 11:16	
Decachlorobiphenyl	8.0001	95.4	40 - 126	13.15	13.16367	-0.0137	N/A	
Tetrachlorometaxylene	8.0001	87.0	44 - 120	5.064	5.0675	-0.0035	N/A	
Decachlorobiphenyl [2C]	8.0001	72.6	40 - 126	13.836	13.846	-0.0100	N/A	
Tetrachlorometaxylene [2C]	8.0001	75.8	44 - 120	5.408	5.412667	-0.0047	N/A	
SJH0212-CCV7 (Water)			Lab File ID: 08142157ECD7.D				Analyzed: 08/15/21 13:19	
Decachlorobiphenyl	40.000	99.5	0 - 200	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	102	0 - 200	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	92.3	0 - 200	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	101	0 - 200	5.411	5.412667	-0.0017	N/A	
SJH0212-CCV8 (Water)			Lab File ID: 08142158ECD7.D				Analyzed: 08/15/21 13:40	
Decachlorobiphenyl	40.000	102	0 - 200	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	107	0 - 200	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	97.5	0 - 200	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	0 - 200	5.412	5.412667	-0.0007	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0214	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0214-ICV1 (Solid)			Lab File ID: 08162103S.D				Analyzed: 08/16/21 12:44	
Decachlorobiphenyl	40.000	101	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	93.8	80 - 120	13.844	13.846	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	5.41	5.412667	-0.0027	N/A	
SJH0214-ICV2 (Solid)			Lab File ID: 08162104S.D				Analyzed: 08/16/21 13:04	
Decachlorobiphenyl	40.000	104	80 - 120	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	109	80 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	94.5	80 - 120	13.844	13.846	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	107	80 - 120	5.412	5.412667	-0.0007	N/A	
SJH0214-CCV1 (Solid)			Lab File ID: 08162112S.D				Analyzed: 08/16/21 15:48	
Decachlorobiphenyl	40.000	103	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	106	80 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	92.9	80 - 120	13.844	13.846	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	5.411	5.412667	-0.0017	N/A	
SJH0214-CCV2 (Solid)			Lab File ID: 08162113S.D				Analyzed: 08/16/21 16:09	
Decachlorobiphenyl	40.000	103	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	99.0	80 - 120	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	106	80 - 120	5.412	5.412667	-0.0007	N/A	
SJH0214-CCV3 (Solid)			Lab File ID: 08162122S.D				Analyzed: 08/16/21 19:13	
Decachlorobiphenyl	40.000	99.7	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	106	80 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	95.3	80 - 120	13.844	13.846	-0.0020	N/A	
Tetrachlorometaxylene [2C]	40.000	103	80 - 120	5.412	5.412667	-0.0007	N/A	
SJH0214-CCV4 (Solid)			Lab File ID: 08162123S.D				Analyzed: 08/16/21 19:39	
Decachlorobiphenyl	40.000	102	80 - 120	13.168	13.16367	0.0043	N/A	
Tetrachlorometaxylene	40.000	108	80 - 120	5.079	5.0675	0.0115	N/A	
Decachlorobiphenyl [2C]	40.000	99.2	80 - 120	13.843	13.846	-0.0030	N/A	
Tetrachlorometaxylene [2C]	40.000	100	80 - 120	5.405	5.412667	-0.0077	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0214	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
21G0305-02RE1 (Solid)			Lab File ID: 08162124S.D				Analyzed: 08/16/21 20:00	
Decachlorobiphenyl	7.9876	110	40 - 126	13.157	13.16367	-0.0067	N/A	
Tetrachlorometaxylene	7.9876	93.7	44 - 120	5.065	5.0675	-0.0025	N/A	
Decachlorobiphenyl [2C]	7.9876	87.2	40 - 126	13.838	13.846	-0.0080	N/A	
Tetrachlorometaxylene [2C]	7.9876	84.9	44 - 120	5.408	5.412667	-0.0047	N/A	
21G0305-03RE1 (Solid)			Lab File ID: 08162125S.D				Analyzed: 08/16/21 20:21	
Decachlorobiphenyl	8.0007	146	40 - 126	13.156	13.16367	-0.0077	N/A	*
Tetrachlorometaxylene	8.0007	87.9	44 - 120	5.065	5.0675	-0.0025	N/A	
Decachlorobiphenyl [2C]	8.0007	86.7	40 - 126	13.836	13.846	-0.0100	N/A	
Tetrachlorometaxylene [2C]	8.0007	80.3	44 - 120	5.409	5.412667	-0.0037	N/A	
21G0305-10RE1 (Solid)			Lab File ID: 08162126S.D				Analyzed: 08/16/21 20:41	
Decachlorobiphenyl	8.0001	103	40 - 126	13.157	13.16367	-0.0067	N/A	
Tetrachlorometaxylene	8.0001	90.2	44 - 120	5.065	5.0675	-0.0025	N/A	
Decachlorobiphenyl [2C]	8.0001	80.5	40 - 126	13.837	13.846	-0.0090	N/A	
Tetrachlorometaxylene [2C]	8.0001	88.6	44 - 120	5.409	5.412667	-0.0037	N/A	
SJH0214-CCV5 (Solid)			Lab File ID: 08162138S.D				Analyzed: 08/17/21 00:47	
Decachlorobiphenyl	40.000	101	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	95.8	80 - 120	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	102	80 - 120	5.411	5.412667	-0.0017	N/A	
SJH0214-CCV6 (Solid)			Lab File ID: 08162139S.D				Analyzed: 08/17/21 01:08	
Decachlorobiphenyl	40.000	105	80 - 120	13.165	13.16367	0.0013	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	96.1	80 - 120	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	5.413	5.412667	0.0003	N/A	
SJH0214-CCV7 (Solid)			Lab File ID: 08162152S.D				Analyzed: 08/17/21 05:34	
Decachlorobiphenyl	40.000	102	80 - 120	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	5.067	5.0675	-0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	98.2	80 - 120	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	99.9	80 - 120	5.412	5.412667	-0.0007	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0214	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/13/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0214-CCV8 (Solid)				Lab File ID: 08162153S.D			Analyzed: 08/17/21 05:54	
Decachlorobiphenyl	40.000	103	80 - 120	13.164	13.16367	0.0003	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	101	80 - 120	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	105	80 - 120	5.411	5.412667	-0.0017	N/A	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG/WO:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0216	Instrument:	ECD7
Calibration:	EH00034	Calibration Date:	08/14/2021

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
SJH0216-ICV1 (Solid)			Lab File ID: 08172102ECD7.D				Analyzed: 08/17/21 11:43	
Decachlorobiphenyl	40.000	101	80 - 120	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	104	80 - 120	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	94.8	80 - 120	13.843	13.846	-0.0030	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	5.41	5.412667	-0.0027	N/A	
SJH0216-ICV2 (Solid)			Lab File ID: 08172103ECD7.D				Analyzed: 08/17/21 12:04	
Decachlorobiphenyl	40.000	103	80 - 120	13.166	13.16367	0.0023	N/A	
Tetrachlorometaxylene	40.000	107	80 - 120	5.069	5.0675	0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	95.8	80 - 120	13.846	13.846	0.0000	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	5.411	5.412667	-0.0017	N/A	
21G0305-07 (Solid)			Lab File ID: 08172107ECD7.D				Analyzed: 08/17/21 13:26	
Decachlorobiphenyl	8.0002	97.9	40 - 126	13.156	13.16367	-0.0077	N/A	
Tetrachlorometaxylene	8.0002	89.2	44 - 120	5.065	5.0675	-0.0025	N/A	
Decachlorobiphenyl [2C]	8.0002	76.5	40 - 126	13.837	13.846	-0.0090	N/A	
Tetrachlorometaxylene [2C]	8.0002	84.6	44 - 120	5.409	5.412667	-0.0037	N/A	
SJH0216-CCV1 (Solid)			Lab File ID: 08172114ECD7.D				Analyzed: 08/17/21 15:49	
Decachlorobiphenyl	40.000	101	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	105	80 - 120	5.066	5.0675	-0.0015	N/A	
Decachlorobiphenyl [2C]	40.000	99.8	80 - 120	13.847	13.846	0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	101	80 - 120	5.411	5.412667	-0.0017	N/A	
SJH0216-CCV2 (Solid)			Lab File ID: 08172115ECD7.D				Analyzed: 08/17/21 16:10	
Decachlorobiphenyl	40.000	104	80 - 120	13.163	13.16367	-0.0007	N/A	
Tetrachlorometaxylene	40.000	106	80 - 120	5.068	5.0675	0.0005	N/A	
Decachlorobiphenyl [2C]	40.000	96.5	80 - 120	13.845	13.846	-0.0010	N/A	
Tetrachlorometaxylene [2C]	40.000	104	80 - 120	5.411	5.412667	-0.0017	N/A	

Analytical Resources, Incorporated
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INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0177	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Secondary Cal Check (SJH0177-SCV1)		(Solid)		Lab File ID: 08132141ECD7.D				Analyzed: 08/14/21 08:21	
1-Bromo-2-Nitrobenzene	247644	2.856				50 - 200		+/-0.50	
Hexabromobiphenyl	438534	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	705551	3.645				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	973863	14.744				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV2)		(Solid)		Lab File ID: 08132142ECD7.D				Analyzed: 08/14/21 08:41	
1-Bromo-2-Nitrobenzene	258029	2.855				50 - 200		+/-0.50	
Hexabromobiphenyl	455205	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	724238	3.645				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1002202	14.745				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV3)		(Solid)		Lab File ID: 08132143ECD7.D				Analyzed: 08/14/21 09:02	
1-Bromo-2-Nitrobenzene	264526	2.854				50 - 200		+/-0.50	
Hexabromobiphenyl	465895	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	740726	3.644				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1045189	14.744				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV4)		(Solid)		Lab File ID: 08132144ECD7.D				Analyzed: 08/14/21 09:22	
1-Bromo-2-Nitrobenzene	260417	2.853				50 - 200		+/-0.50	
Hexabromobiphenyl	458139	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	730797	3.644				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1034233	14.745				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV5)		(Solid)		Lab File ID: 08132145ECD7.D				Analyzed: 08/14/21 09:43	
1-Bromo-2-Nitrobenzene	269058	2.856				50 - 200		+/-0.50	
Hexabromobiphenyl	467004	13.521				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	745766	3.646				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1054321	14.744				50 - 200		+/-0.50	
Secondary Cal Check (SJH0177-SCV6)		(Solid)		Lab File ID: 08132146ECD7.D				Analyzed: 08/14/21 10:03	
1-Bromo-2-Nitrobenzene	263445	2.855				50 - 200		+/-0.50	
Hexabromobiphenyl	458283	13.52				50 - 200		+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	736133	3.645				50 - 200		+/-0.50	
Hexabromobiphenyl [2C]	1049914	14.745				50 - 200		+/-0.50	

Analytical Resources, Incorporated
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INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJH0212-ICV1)		(Water)		Lab File ID: 08142103ECD7.D				Analyzed: 08/14/21 18:52	
1-Bromo-2-Nitrobenzene	257198	2.855	265513	2.854	97	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	443938	13.519	463680	13.518	96	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	702621	3.643	739245	3.643	95	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	932161	14.742	1033225	14.744	90	50 - 200	-0.002	+/-0.50	
Initial Cal Check (SJH0212-ICV2)		(Water)		Lab File ID: 08142104ECD7.D				Analyzed: 08/14/21 19:13	
1-Bromo-2-Nitrobenzene	257295	2.855	265513	2.854	97	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl	436136	13.52	463680	13.518	94	50 - 200	0.002	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	713413	3.644	739245	3.643	97	50 - 200	0.001	+/-0.50	
Hexabromobiphenyl [2C]	946612	14.741	1033225	14.744	92	50 - 200	-0.003	+/-0.50	
Blank (BJH0034-BLK1)		(Solid)		Lab File ID: 08142131ECD7.D				Analyzed: 08/15/21 04:26	
1-Bromo-2-Nitrobenzene	274156	2.853	265513	2.854	103	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	508387	13.517	463680	13.518	110	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	752335	3.642	739245	3.643	102	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl [2C]	1151739	14.74	1033225	14.744	111	50 - 200	-0.004	+/-0.50	
LCS (BJH0034-BS1)		(Solid)		Lab File ID: 08142132ECD7.D				Analyzed: 08/15/21 04:47	
1-Bromo-2-Nitrobenzene	280139	2.851	265513	2.854	106	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	517241	13.517	463680	13.518	112	50 - 200	-0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	764233	3.64	739245	3.643	103	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	1179918	14.74	1033225	14.744	114	50 - 200	-0.004	+/-0.50	
Reference (BJH0034-SRM1)		(Solid)		Lab File ID: 08142133ECD7.D				Analyzed: 08/15/21 05:07	
1-Bromo-2-Nitrobenzene	265628	2.852	265513	2.854	100	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	392793	13.509	463680	13.518	85	50 - 200	-0.009	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	725062	3.64	739245	3.643	98	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	1019741	14.737	1033225	14.744	99	50 - 200	-0.007	+/-0.50	
LDW21-SC569 (21G0305-01)		(Solid)		Lab File ID: 08142140ECD7.D				Analyzed: 08/15/21 07:31	
1-Bromo-2-Nitrobenzene	272972	2.851	257295	2.855	106	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	276557	13.499	436136	13.52	63	50 - 200	-0.021	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	697387	3.639	713413	3.644	98	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl [2C]	741363	14.729	946612	14.741	78	50 - 200	-0.012	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW21-SC567 (21G0305-02)		(Solid)		Lab File ID: 08142141ECD7.D				Analyzed: 08/15/21 07:51	
1-Bromo-2-Nitrobenzene	250407	2.85	257295	2.855	97	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl	270393	13.501	436136	13.52	62	50 - 200	-0.019	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	642945	3.639	713413	3.644	90	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl [2C]	730101	14.731	946612	14.741	77	50 - 200	-0.010	+/-0.50	
LDW21-SC566 (21G0305-03)		(Solid)		Lab File ID: 08142142ECD7.D				Analyzed: 08/15/21 08:12	
1-Bromo-2-Nitrobenzene	265629	2.85	257295	2.855	103	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl	267207	13.501	436136	13.52	61	50 - 200	-0.019	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	682431	3.639	713413	3.644	96	50 - 200	-0.005	+/-0.50	
Hexabromobiphenyl [2C]	730812	14.73	946612	14.741	77	50 - 200	-0.011	+/-0.50	
LDW21-SC561 (21G0305-04)		(Solid)		Lab File ID: 08142143ECD7.D				Analyzed: 08/15/21 08:32	
1-Bromo-2-Nitrobenzene	255739	2.854	257295	2.855	99	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	268619	13.501	436136	13.52	62	50 - 200	-0.019	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	688538	3.642	713413	3.644	97	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	711557	14.73	946612	14.741	75	50 - 200	-0.011	+/-0.50	
LDW21-SC526 (21G0305-05)		(Solid)		Lab File ID: 08142146ECD7.D				Analyzed: 08/15/21 09:34	
1-Bromo-2-Nitrobenzene	251985	2.855	257295	2.855	98	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	273637	13.502	436136	13.52	63	50 - 200	-0.018	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	670751	3.642	713413	3.644	94	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	736954	14.731	946612	14.741	78	50 - 200	-0.010	+/-0.50	
LDW21-SC526FD (21G0305-06)		(Solid)		Lab File ID: 08142147ECD7.D				Analyzed: 08/15/21 09:54	
1-Bromo-2-Nitrobenzene	255992	2.852	257295	2.855	99	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	274711	13.502	436136	13.52	63	50 - 200	-0.018	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	690460	3.64	713413	3.644	97	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	741844	14.731	946612	14.741	78	50 - 200	-0.010	+/-0.50	
LDW21-SC540 (21G0305-08)		(Solid)		Lab File ID: 08142149ECD7.D				Analyzed: 08/15/21 10:35	
1-Bromo-2-Nitrobenzene	259719	2.854	257295	2.855	101	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	301309	13.506	436136	13.52	69	50 - 200	-0.014	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	705120	3.641	713413	3.644	99	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl [2C]	828056	14.733	946612	14.741	87	50 - 200	-0.008	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0212	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LDW21-SC574 (21G0305-09)		(Solid)		Lab File ID: 08142150ECD7.D				Analyzed: 08/15/21 10:56	
1-Bromo-2-Nitrobenzene	246653	2.852	257295	2.855	96	50 - 200	-0.003	+/-0.50	
Hexabromobiphenyl	269110	13.5	436136	13.52	62	50 - 200	-0.020	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	660465	3.64	713413	3.644	93	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	727712	14.73	946612	14.741	77	50 - 200	-0.011	+/-0.50	
LDW21-SC551 (21G0305-10)		(Solid)		Lab File ID: 08142151ECD7.D				Analyzed: 08/15/21 11:16	
1-Bromo-2-Nitrobenzene	261008	2.851	257295	2.855	101	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl	276372	13.501	436136	13.52	63	50 - 200	-0.019	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	715989	3.64	713413	3.644	100	50 - 200	-0.004	+/-0.50	
Hexabromobiphenyl [2C]	743531	14.73	946612	14.741	79	50 - 200	-0.011	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0214	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJH0214-ICV1)		(Solid)		Lab File ID: 08162103S.D			Analyzed: 08/16/21 12:44		
1-Bromo-2-Nitrobenzene	285083	2.853	285083	2.853	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	475182	13.518	475182	13.518	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	785114	3.642	785114	3.642	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	1008000	14.742	1008000	14.742	100	50 - 200	0.000	+/-0.50	
Initial Cal Check (SJH0214-ICV2)		(Solid)		Lab File ID: 08162104S.D			Analyzed: 08/16/21 13:04		
1-Bromo-2-Nitrobenzene	283673	2.853	285083	2.853	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	473150	13.518	475182	13.518	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	787560	3.642	785114	3.642	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	1034418	14.741	1008000	14.742	103	50 - 200	-0.001	+/-0.50	
LDW21-SC567 (21G0305-02RE1)		(Solid)		Lab File ID: 08162124S.D			Analyzed: 08/16/21 20:00		
1-Bromo-2-Nitrobenzene	245439	2.852	283673	2.853	87	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	319588	13.51	473150	13.518	68	50 - 200	-0.008	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	681429	3.64	787560	3.642	87	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	822422	14.733	1034418	14.741	80	50 - 200	-0.008	+/-0.50	
LDW21-SC566 (21G0305-03RE1)		(Solid)		Lab File ID: 08162125S.D			Analyzed: 08/16/21 20:21		
1-Bromo-2-Nitrobenzene	256207	2.851	283673	2.853	90	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	330417	13.507	473150	13.518	70	50 - 200	-0.011	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	716344	3.64	787560	3.642	91	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	849413	14.732	1034418	14.741	82	50 - 200	-0.009	+/-0.50	
LDW21-SC551 (21G0305-10RE1)		(Solid)		Lab File ID: 08162126S.D			Analyzed: 08/16/21 20:41		
1-Bromo-2-Nitrobenzene	265317	2.851	283673	2.853	94	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl	345174	13.509	473150	13.518	73	50 - 200	-0.009	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	752417	3.64	787560	3.642	96	50 - 200	-0.002	+/-0.50	
Hexabromobiphenyl [2C]	884003	14.734	1034418	14.741	85	50 - 200	-0.007	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INTERNAL STANDARD AREA AND RT SUMMARY

EPA 8082A

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0216	Instrument:	ECD7
		Calibration:	EH00034

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Initial Cal Check (SJH0216-ICV1)		(Solid)		Lab File ID: 08172102ECD7.D				Analyzed: 08/17/21 11:43	
1-Bromo-2-Nitrobenzene	281172	2.853	268251	2.854	105	50 - 200	-0.001	+/-0.50	
Hexabromobiphenyl	464947	13.521	446684	13.52	104	50 - 200	0.001	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	811563	3.641	777837	3.641	104	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	1086014	14.741	1054287	14.742	103	50 - 200	-0.001	+/-0.50	
Initial Cal Check (SJH0216-ICV2)		(Solid)		Lab File ID: 08172103ECD7.D				Analyzed: 08/17/21 12:04	
1-Bromo-2-Nitrobenzene	268251	2.854	268251	2.854	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	446684	13.52	446684	13.52	100	50 - 200	0.000	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	777837	3.641	777837	3.641	100	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	1054287	14.742	1054287	14.742	100	50 - 200	0.000	+/-0.50	
LDW21-SC530 (21G0305-07)		(Solid)		Lab File ID: 08172107ECD7.D				Analyzed: 08/17/21 13:26	
1-Bromo-2-Nitrobenzene	262708	2.854	268251	2.854	98	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl	322240	13.508	446684	13.52	72	50 - 200	-0.012	+/-0.50	
1-Bromo-2-Nitrobenzene [2C]	747543	3.641	777837	3.641	96	50 - 200	0.000	+/-0.50	
Hexabromobiphenyl [2C]	829669	14.734	1054287	14.742	79	50 - 200	-0.008	+/-0.50	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-01	File ID:	08142140ECD7.D
Sampled:	07/22/21 09:10	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 07:31
Solids:	53.80	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.651	8.6755	0.0245	58193	53.6	19.9
	2	9.349	9.385333	0.0363	88058.25	43.9	
Aroclor 1254	* 1	9.834	9.868333	0.0343	86711.8	88.5	22.9
	2	10.118	10.155	0.037	259445.6	70.3	
Aroclor 1260	* 1	11.532	11.55517	0.0232	53883.2	67.9	31.
	2	12.954	12.9715	0.0175	242755.8	49.7	

* Column used for quantitation

Analytical Resources, Incorporated
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DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-02	File ID:	08142141ECD7.D
Sampled:	07/22/21 09:34	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 07:51
Solids:	64.80	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.655	8.6755	0.0205	139064.3	200	16.8
	2	9.354	9.385333	0.0313	315563.5	169	
Aroclor 1254	* 1	9.839	9.868333	0.0293	105377	115	4.4
	2	10.117	10.155	0.038	329049.6	110	
Aroclor 1260	* 1	11.535	11.55517	0.0202	24774.4	32.1	19.9
	2	12.956	12.9715	0.0155	122347.3	26.3	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-03	File ID:	08142142ECD7.D
Sampled:	07/22/21 09:48	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 08:12
Solids:	54.82	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.651	8.6755	0.0245	283260.5	306	17.8
	2	9.35	9.385333	0.0353	480824.8	256	
Aroclor 1254	* 1	9.834	9.868333	0.0343	302052	310	16.4
	2	10.119	10.155	0.036	949102.4	263	
Aroclor 1260	* 1	11.532	11.55517	0.0232	105834.4	141	24.7
	2	12.956	12.9715	0.0155	522877.5	110	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-04	File ID:	08142143ECD7.D
Sampled:	07/22/21 10:09	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 08:32
Solids:	63.38	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.654	8.6755	0.0215	31496.25	32.2	24.4
	2	9.353	9.385333	0.0323	50130.5	25.2	
Aroclor 1254	* 1	9.838	9.868333	0.0303	42728	46.4	25.5
	2	10.126	10.155	0.029	132059.6	35.9	
Aroclor 1260	* 1	11.535	11.55517	0.0202	31027.4	40.4	29.9
	2	12.956	12.9715	0.0155	139337.3	29.9	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-05	File ID:	08142146ECD7.D
Sampled:	07/22/21 10:26	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 09:34
Solids:	60.10	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.654	8.6755	0.0215	52345	52.5	23.2
	2	9.353	9.385333	0.0323	80053	41.6	
Aroclor 1254	* 1	9.839	9.868333	0.0293	71044.6	77.6	24.3
	2	10.125	10.155	0.03	215942.4	60.8	
Aroclor 1260	* 1	11.536	11.55517	0.0192	48449.6	61.1	31.4
	2	12.957	12.9715	0.0145	216950.3	44.5	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-06	File ID:	08142147ECD7.D
Sampled:	07/22/21 10:26	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 09:54
Solids:	60.51	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.654	8.6755	0.0215	52814.25	51.4	20.1
	2	9.352	9.385333	0.0333	82722.5	42.0	
Aroclor 1254	* 1	9.838	9.868333	0.0303	71667.8	76.9	21.1
	2	10.126	10.155	0.029	228891.8	62.2	
Aroclor 1260	* 1	11.536	11.55517	0.0192	46560	59.2	28.6
	2	12.956	12.9715	0.0155	216288	44.4	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-08	File ID:	08142149ECD7.D
Sampled:	07/22/21 10:58	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 10:35
Solids:	70.62	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.659	8.6755	0.0165	51568.25	50.4	45.3
	2	9.356	9.385333	0.0293	81007	31.8	
Aroclor 1254	* 1	9.844	9.868333	0.0243	65913.8	69.6	20.1
	2	10.134	10.155	0.021	211303.2	56.9	
Aroclor 1260	* 1	11.541	11.55517	0.0142	38970.2	45.6	30.
	2	12.96	12.9715	0.0115	183758.8	33.7	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-09	File ID:	08142150ECD7.D
Sampled:	07/22/21 11:20	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 10:56
Solids:	57.41	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.653	8.6755	0.0225	35307	36.3	26.5
	2	9.352	9.385333	0.0333	53982.25	27.8	
Aroclor 1254	* 1	9.836	9.868333	0.0323	50524.4	57.1	28.9
	2	10.122	10.155	0.033	149511.4	42.7	
Aroclor 1260	* 1	11.534	11.55517	0.0212	34476.6	44.4	33.4
	2	12.955	12.9715	0.0165	151649.8	31.7	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-10	File ID:	08142151ECD7.D
Sampled:	07/22/21 15:32	Prepared:	08/03/21 11:35	Analyzed:	08/15/21 11:16
Solids:	58.52	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0212		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.655	8.6755	0.0205	76490	62.1	40.5
	2	9.353	9.385333	0.0323	79780.25	41.2	
Aroclor 1254	* 1	9.838	9.868333	0.0303	115177.6	120	13.3
	2	10.138	10.155	0.017	417330.2	105	
Aroclor 1260	* 1	11.537	11.55517	0.0182	164980	200	29.9
	2	12.958	12.9715	0.0135	779436	148	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-02RE1	File ID:	08162124S.D
Sampled:	07/22/21 09:34	Prepared:	08/03/21 11:35	Analyzed:	08/16/21 20:00
Solids:	64.80	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0214		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.666	8.6755	0.0095	38150.5	280	17.5
	2	9.361	9.385333	0.0243	93344.25	235	
Aroclor 1254	* 1	9.855	9.868333	0.0133	29141	163	25.6
	2	10.126	10.155	0.029	87992.2	126	
Aroclor 1260	* 1	11.547	11.55517	0.00817	7309.2	39.6	7.9
	2	12.961	12.9715	0.0105	38284	36.6	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-03RE1	File ID:	08162125S.D
Sampled:	07/22/21 09:48	Prepared:	08/03/21 11:35	Analyzed:	08/16/21 20:21
Solids:	54.82	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0214		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.664	8.6755	0.0115	72184.75	408	19.4
	2	9.359	9.385333	0.0263	133504.3	336	
Aroclor 1254	* 1	9.849	9.868333	0.0193	76866.8	411	21.3
	2	10.13	10.155	0.025	248947.6	332	
Aroclor 1260	* 1	11.544	11.55517	0.0112	28993.2	155	14.5
	2	12.96	12.9715	0.0115	146405	134	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-10RE1	File ID:	08162126S.D
Sampled:	07/22/21 15:32	Prepared:	08/03/21 11:35	Analyzed:	08/16/21 20:41
Solids:	58.52	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0214		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.665	8.6755	0.0105	19671.5	79.0	34.6
	2	9.36	9.385333	0.0253	22731.25	55.7	
Aroclor 1254	* 1	9.85	9.868333	0.0183	29619.2	152	5.4
	2	10.145	10.155	0.01	119141	144	
Aroclor 1260	* 1	11.546	11.55517	0.00917	43780.2	212	22.
	2	12.961	12.9715	0.0105	207634.8	170	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DUAL COLUMN CONFIRMATION SUMMARY

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0305-07	File ID:	08172107ECD7.D
Sampled:	07/22/21 10:44	Prepared:	08/03/21 11:35	Analyzed:	08/17/21 13:26
Solids:	64.90	Preparation:	EPA 3546 (Microwave)	Instrument:	ECD7
Batch:	BJH0034	Sequence:	SJH0216		
GC Column(1):	ZB5			GC Column(2):	ZB35

COMPOUND	COL	RT	EXP RT	RT DIFF	AREA	CONC	RPD
Aroclor 1248	* 1	8.665	8.6755	0.0105	39432.5	192	20.7
	2	9.359	9.385333	0.0263	61969.25	156	
Aroclor 1254	* 1	9.85	9.868333	0.0183	50534.6	264	20.
	2	10.135	10.155	0.02	167407.6	216	
Aroclor 1260	* 1	11.545	11.55517	0.0102	23809.8	129	14.1
	2	12.96	12.9715	0.0115	120111.8	112	

* Column used for quantitation

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HOLDING TIME SUMMARY

Analysis: EPA 8082A

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW21-SC569 21G0305-01	07/22/21 09:10	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 07:31	12	40	
LDW21-SC567 21G0305-02	07/22/21 09:34	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 07:51	12	40	
LDW21-SC567 21G0305-02RE1	07/22/21 09:34	07/22/21 17:30	08/03/21 11:35	12	14	08/16/21 20:00	13	40	
LDW21-SC566 21G0305-03	07/22/21 09:48	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 08:12	12	40	
LDW21-SC566 21G0305-03RE1	07/22/21 09:48	07/22/21 17:30	08/03/21 11:35	12	14	08/16/21 20:21	13	40	
LDW21-SC561 21G0305-04	07/22/21 10:09	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 08:32	12	40	
LDW21-SC526 21G0305-05	07/22/21 10:26	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 09:34	12	40	
LDW21-SC526FD 21G0305-06	07/22/21 10:26	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 09:54	12	40	
LDW21-SC530 21G0305-07	07/22/21 10:44	07/22/21 17:30	08/03/21 11:35	12	14	08/17/21 13:26	14	40	
LDW21-SC540 21G0305-08	07/22/21 10:58	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 10:35	12	40	
LDW21-SC574 21G0305-09	07/22/21 11:20	07/22/21 17:30	08/03/21 11:35	12	14	08/15/21 10:56	12	40	
LDW21-SC551 21G0305-10	07/22/21 15:32	07/22/21 17:30	08/03/21 11:35	11	14	08/15/21 11:16	12	40	
LDW21-SC551 21G0305-10RE1	07/22/21 15:32	07/22/21 17:30	08/03/21 11:35	11	14	08/16/21 20:41	13	40	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.6	4.0	ug/kg
Aroclor 1016 [2C]	1.6	4.0	ug/kg
Aroclor 1221	1.6	4.0	ug/kg
Aroclor 1221 [2C]	1.6	4.0	ug/kg
Aroclor 1232	1.6	4.0	ug/kg
Aroclor 1232 [2C]	1.6	4.0	ug/kg
Aroclor 1242	1.6	4.0	ug/kg
Aroclor 1242 [2C]	1.6	4.0	ug/kg
Aroclor 1248	1.6	4.0	ug/kg
Aroclor 1248 [2C]	1.6	4.0	ug/kg
Aroclor 1254	1.6	4.0	ug/kg
Aroclor 1254 [2C]	1.6	4.0	ug/kg
Aroclor 1260	0.6	4.0	ug/kg
Aroclor 1260 [2C]	0.6	4.0	ug/kg

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 8082A

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Water
Instrument: ECD7

Analyte	MDL	RL	Units
Aroclor 1016	1.56	4.00	ug/kg
Aroclor 1016 [2C]	1.56	4.00	ug/kg
Aroclor 1242	1.56	4.00	ug/kg
Aroclor 1242 [2C]	1.56	4.00	ug/kg
Aroclor 1248	1.56	4.00	ug/kg
Aroclor 1248 [2C]	1.56	4.00	ug/kg
Aroclor 1254	1.56	4.00	ug/kg
Aroclor 1254 [2C]	1.56	4.00	ug/kg
Aroclor 1260	0.589	4.00	ug/kg
Aroclor 1260 [2C]	0.589	4.00	ug/kg

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: S-279N
DESCRIPTION: Volatile Organic Compound (TCMx)
LOT #: 0052481B-1
SOLVENT: N/A

EXPIRATION: July 28, 2015

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1]	Certified Analyte Concentration[2]
Tetrachloro-meta-xylene (TCMX)	877-09-8	96.0	N/A	N/A

Te

* I1769A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified ~ 4-6-09 (8)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000147 **Printed: 4/23/2015 11:52:09AM**

Description:	tetrachlormetaxylene	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	n/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:01 by JGR
Vendor:	Accustandard	Lot #:	0052481b-1
Vendor Catalog #:			

Comments

see I1769a
updated for calibration TCX DCBP 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Tetrachlorometaxylene [2C]	877-09-8	1000000	ug/mL
Tetrachlorometaxylene	877-09-8	1000000	ug/mL
TCX 1660 [2C]	877-09-8	1000000	ug/mL
TCX 1660	877-09-8	1000000	ug/mL
TCX [2C]	877-09-8	1000000	ug/mL
TCX (A) [2C]	877-09-8	1000000	ug/mL
TCX (A)	877-09-8	1000000	ug/mL
TCX	877-09-8	1000000	ug/mL

Reviewed By Date

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

PRODUCT: C-209N
EXPIRATION: Jul 28, 2015
DESCRIPTION: 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl
LOT #: 990521LB-AC
SOLVENT: N/A

This product is guaranteed accurate to ±0.5% of the Certified Analyte concentration through the Expiration Date on the Label.

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1]	Certified Analyte Concentration[2]
2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	2051-24-3	100	N/A	N/A

2,

* I1768A

Certified by: R. Cooper

1. All weights are traceable through National Institute of Standards & Technology, Test No. 822/254480
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±4% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc.) on its lot# has had its expiration date extended and is identical to the same lot# without the suffix.

Please note: AccuStandard follows the U.S. conventions in reporting numerical values, on both certificates and labels.

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

This product was manufactured in accordance to quality system requirements of ISO 9001:2000 and ISO 17025

* Recertified 2 4-6-09 (JS)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: C000148 **Printed: 4/23/2015 11:54:44AM**

Description:	decachlorbiphenyl	Expires:	15-Jan-2020
Standard Type:	Other	Prepared:	15-Jan-2014
Solvent:	na/a	Prepared By:	Joshua Rains
Final Volume (mls):	1	Department:	Organics
Vials:	1	Last Edit:	27-Feb-2015 13:03 by JGR
Vendor:	Accustandard	Lot #:	990521lb-ac
Vendor Catalog #:			

Comments

see i1768a
SOM calibrations added 06/12/14 sdrd

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl [2C]	2051-24-3	1000000	ug/mL
Decachlorobiphenyl	2051-24-3	1000000	ug/mL
DCB 1660 [2C]	2051-24-3	1000000	ug/mL
DCB 1660	2051-24-3	1000000	ug/mL
DCB [2C]	2051-24-3	1000000	ug/mL
DCB (A) [2C]	2051-24-3	1000000	ug/mL
DCB (A)	2051-24-3	1000000	ug/mL
DCB	2051-24-3	1000000	ug/mL

Reviewed By Date

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Certificate of Analysis

Phenova Certified Reference Materials are sold by Phenomenex.
411 Madrid Ave., Torrance, CA 90501 USA ▪ Tel: 310-212-0555 ▪ Fax: 310-328-7768 ▪ info@phenomenex.com
Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101467
Description: Aroclor 1016
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Isooctane

Lot Number: CL12908
Certification Date: November 19, 2018
Expiration Date: October 31, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1016	12674-11-2	1000	± 0.553%

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IL11110613_us

ACCREDITED
Reference Material Producer
Certificate No. 2427.02

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Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Chemical Testing Laboratory
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Certificate of Analysis

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6390 Joyce Drive STE 100, Golden, CO 80403 USA ▪ Tel: 303-940-0033 ▪ Fax: 303-940-0043 ▪ info@phenova.com
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1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Access your MSDS and digital C of A at **www.phenomenex.com/mysupport. Re-order at www.phenomenex.com/standards**

Certified Reference Material

This product is included in Phenova's ISO/IEC 17025 and ISO Guide 34 Scopes of Accreditation

Catalog No.: AL0-101462
Description: Aroclor 1260
Storage: 4 °C
Provided As: 1 mL in 2 mL Ampoule in Hexane

Lot Number: CL13054
Certification Date: November 29, 2018
Expiration Date: November 30, 2026

Andrea L Gill

Andrea Gill, Certified Reference Materials Manager

Component	CAS #	Certified Value µg/mL	Expanded Uncertainty
Aroclor 1260	11096-82-5	1000	± 0.520%

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Recd. JR
09/22/20

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Certified Reference Materials

Manufactured by Phenova, Inc.
Phenova's testing and calibration results are internationally recognized through the ILAC MRA. Phenova is an accredited ISO Guide 34 Reference Material Provider and ISO/IEC 17025 accredited Chemical Testing Laboratory.

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Reference Material Producer
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Certificate of Analysis

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Access your Safety Data Sheets and digital Certificates at **www.phenova.com/documents.**

1. Quality Document: This Certificate of Analysis has been created in accordance with ISO Guide 31[1] and ISO Guide 35.[2]

2. Quality Standards: Phenova is accredited by A2LA to ISO 17034[3] and ISO/IEC 17025[4] as a producer of Certified Reference Materials and Reference Materials. This ensures that our manufacturing processes have been accredited to and meet strict international standards.

3. Intended Use: The product is manufactured for use in calibration, calibration verification, quantification, identification and other appropriate analytical control applications. The product is intended for routine laboratory analysis and research purposes only. Only trained personnel should handle this product.

4. Handling and Usage Notes: Store according to recommended conditions listed and avoid prolonged exposure to light. Visually inspect the solution inside the ampoule for any un-dissolved material. If particulate is visible, sonicate the unopened ampoule until material is fully dissolved. Dilute as required, use only class A glassware and diluents compatible with all analytes in the mixture. Considerations should be made related to repeated use of the opened product. Once opened, exposure to light, air, heat, objects, and additional transfer vessels may cause evaporation, degradation or contamination resulting in changes in concentration, uncertainty and stability duration. Store opened standards in a clean, tightly capped vessel under the recommended temperature. Appropriate controls, such as the use of additional verification standards should be used to confirm the opened product is fit for purpose under repeated use conditions.

5. Hazardous Situation: The product is intended for use by experienced professional personnel. A Safety Data Sheet (SDS) is available at www.phenova.com/documents.

6. Level of Homogeneity: The product has been certified to guarantee the certified values and their uncertainties at a volume of 2 µL.

7. Certified Value: Certified Value is based upon gravimetric and volumetric preparation using calibrated balances and Class A glassware.

8. Raw Materials and Purity: Phenova reference standard products are prepared from the highest quality starting materials. The purity of this material was verified using an ISO/IEC 17025 methodology.

9. Expanded Uncertainty: The expanded uncertainty (uCRM) as stated is determined in accordance with ISO/IEC Guide 98[5] and ISO Guide 35 incorporating Type A standard uncertainty at a 95% confidence level. The uncertainty contains elements of manufacturing (uM), homogeneity analysis (uH) and long-term stability testing (uLTS). The uncertainty is calculated based on the root-sum-of-squares equation times a coverage factor (k=2).

$$uCRM = k\sqrt{uM^2 + uH^2 + uLTS^2}$$

   Transport conditions (short-term stability) have been tested such that there is no contribution to the uncertainty reported. The expanded uncertainty applies to the product as received.

10. Metrological Traceability: The property value (certified value and its uncertainty) are traceable through an unbroken chain of calibration to the SI base unit kg through a NIST traceable weight in accordance with ISO 17034. This is achieved through calibration of balances, verification of weights, use of national methodology for glassware calibration and product homogeneity and stability testing utilizing an ISO/IEC 17025 methodology.

11. Values Obtained During Product Testing: This product is subjected to verification, homogeneity and stability testing using an ISO/IEC 17025 chromatographic methodology. All values obtained during testing meet criteria in accordance with ISO 17034.

12. Period of Validity: The Certified Values, Uncertainties and Expiration Date are based on the unopened product being stored according to the recommended storage condition listed and are guaranteed until the expiration date. This product will be monitored during the period of validity and customers notified of any significant changes in stability.

References:

[1] ISO Guide 31 – Reference Materials – Contents of Certificates and Labels.
[2] ISO Guide 35 – Reference Material – General and Statistical Principles for Certification.
[3] ISO 17034 – General Requirements for the Competence of Reference Material Producers.
[4] ISO/IEC 17025 – General Requirements for the Competence of Testing and Calibration Laboratories.
[5] ISO/IEC Guide 98-3:2008(E) – Uncertainty of Measurement – Part 3: Guide to Expression of Uncertainty in Measurement (GUM: 1995)

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Certificate of Analysis

Aroclor 1016 Solution

Product Number: PP-282 **Page:** 1 of 1

Lot Number: CR-0761 **Lot Issue Date:** 28-Feb-2017 **Expiration Date:** 31-Mar-2025

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1016	012674-11-2	NT01016	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

J000580

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ISO 9001 Registered TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

Agilent

Certificate of Analysis

Product Name: Aroclor 1221 Standard

Product Number: PP-292-1 **Lot Issue Date:** 28-Apr-2020

Lot Number: 0006535333 **Expiration Date:** 31-May-2024

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1221	011104-28-2	RM04278	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

J000581

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

ISO 17034 Cert No. AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

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Certificate of Analysis
ISO 17034

Aroclor 1232 Standard

Product Number: PP-302-1 **Page:** 1 of 1

Lot Number: CF-2197A **Lot Issue Date:** 05-Jul-2016 **Expiration Date:** 31-Aug-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1232	011141-16-5	NT01717	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

I 2021/15/21
J000582

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No. AT-1937

Agilent

Certificate of Analysis
ISO Guide 34

Aroclor 1242 Solution

Product Number: PP-312 **Page:** 1 of 1

Lot Number: CS-6293 **Lot Issue Date:** 04-Jan-2019 **Expiration Date:** 31-Jan-2023

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1242	053469-21-9	NT01020	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

J 000583

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

ISO Guide 34 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System

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ISO17025 Cert No.
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Certificate of Analysis
ISO Guide 34

Aroclor 1248 Standard

Product Number: PP-342 **Page:** 1 of 1

Lot Number: CT-0774 **Lot Issue Date:** 08-Mar-2019 **Expiration Date:** 31-Mar-2023

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1248	012672-29-6	NT01718	100.3 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

J000584
01/15/21

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ISO Guide 34 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO17025 Cert No. AT-1937

Certificate of Analysis

Aroclor 1254 Solution

Product Number:	PP-352			**Page:**	1 of 1
Lot Number:	CK-4250	**Lot Issue Date:**	31-Dec-2013	**Expiration Date:**	31-Jan-2022

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1254	011097-69-1	RM00922	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15-30°C).

J000585

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED

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ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
wwww.ultrasci.com

William J. Leary
Quality Assurance Manager

Agilent

Certificate of Analysis
ISO 17034

Aroclor 1262 Standard

Product Number: PP-372-1 **Page:** 1 of 1

Lot Number: 0006499800 **Lot Issue Date:** 04-Nov-2019 **Expiration Date:** 30-Nov-2023

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1262	037324-23-5	RM14263	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

Monica Bourgeois
QMS Representative

J000 587

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ISO 17034 Cert No. AR-1936

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ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
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Certificate of Analysis
ISO 17034

Aroclor 1268 Standard

Product Number: PP-382-1 **Page:** 1 of 1

Lot Number: 0006478417 **Lot Issue Date:** 24-Jul-2019 **Expiration Date:** 31-Aug-2027

This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1268	011100-14-4	RM00937	100.3 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

M Bourgeois

Monica Bourgeois
QMS Representative

J000588

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034 Cert No. AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026 registered ISO 9001 Quality Management System

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO 17025 Cert No. AT-1937

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Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 15130

Order Number: CB014550

Date Shipped: 6/30/2021

AirBill No(s): 460843969796

From: QATS LABORATORY
2700 CHANDLER AVENUE, BLDG. C
LAS VEGAS, NV 89120
PHONE: 1-702-895-8712
FAX: 1-702-795-8210

To: SUE DUNNIHOO
ANALYTICAL RESOURCES INC.
4611 S. 134TH PLACE SUITE 100
TUKWILA WA 98168
250-695-6207

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0134 - J006840	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0135 - J006841	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0136 - J006842	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0137 - J006843	1	PUGET SOUND SEDIMENT RM	PS-SRM
		6/30/2021	
		DUWAMISH AOC4	

Please use the enclosed Sample Preparation Instructions. If catalogue number(s) are listed at the top of the Sample Preparation Instructions use the Sample Preparation Instructions with catalogue number(s) matching the catalogue number(s) of each of the samples listed above.

Relinquished by: (Signature)	Date/Time 1400 6/30/2021	Received by: (Signature)	Date/Time 07/01/2021 1042
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Report No. 00, 9/11/2014

SMP Version 3.3

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 7471B

Total Metals

LDW21-SC574

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-09 D	SDG:	21G0305
Sampled:	07/22/21 11:20	Prepared:	08/06/21 14:40	File ID:	SMM 08-06-21-124
% Solids:	56.32	Preparation:	SMM EPA 7471B	Analyzed:	08/06/21 17:47
Batch:	BJH0135	Sequence:	SJH0086	Initial/Final:	0.278 g Wet / 50 mL
Instrument:	ICP2			Calibration:	EH00014

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	0.111	1	0.00671	0.0319	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 7471B

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0135	Batch Matrix:	Solid	Preparation:	SMM EPA 7471B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC574	21G0305-09	SMM 08-06-21-124	08/06/21 14:40	Store frozen
Blank	BJH0135-BLK1	SMM 08-06-21-115	08/06/21 14:40	BJH0135 SMM
LCS	BJH0135-BS1	SMM 08-06-21-116	08/06/21 14:40	BJH0135 SMM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Mercury Digestion Log

Prep Code: SMM
Analyst: MM
Bath Temp: 95C
Start Time: 1440
Matrix: Soil
Date: 8/6/21
End Time: 1535

ARI Sample ID	Sample Bottle #	pH<2	Initial Weight (g) Volume (mL)	Final Volume (mL)	# $KMnO_4$ Aliquots	CLP	Comments
216286-2	B		0.260	50	4		
-4	B		0.273				
216305-9	D		0.278				
216306-1	C		0.219				
BSH135-MK	—		—				
-BS1	—		—				
-MS1	—		0.260				216286-2
-MSD1	—		0.256				
-DUP1	—		0.256				

MM 8/6/21

Chemical/Reagent ID:

HNO_3: 57647
H_2SO_4: 3931
HCl: —
5% $K_2S_2O_8$: J6919
5% $KMnO_4$: J6407
Digest Tube Lot: 2010035

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 7471B

Total Metals

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0135	Laboratory ID:	BJH0135-BLK1	Prepared:	08/06/21 14:40
Matrix:	Solid	Preparation:	SMM EPA 7471B	Analyzed:	08/06/21 17:26
Sequence:	SJH0086	Calibration:	EH00014	Instrument:	ICP2

CAS NO.	Analyte	Concentration (mg/kg wet)	Dilution Factor	MDL	MRL	Q
7439-97-6	Mercury	ND	1	0.00525	0.0250	U

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 7471B

Total Metals

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/06/21 17:28
Batch:	BJH0135	Laboratory ID:	BJH0135-BS1
Preparation:	SMM EPA 7471B	Sequence Name:	LCS
Initial/Final:	0.2 g / 50 mL		

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
Mercury	0.500	0.480		96.1	80 - 120

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 7471B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00014	Instrument:	ICP2
Calibration Date:	08/06/2021 18:04		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Mercury	0	0	0.0001	1.344E+07	0.0005	8020000	0.001	7131000	0.002	6731000	0.005	6693800

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 7471B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00014	Instrument:	ICP2
Calibration Date:	08/06/2021 18:04		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Mercury	7002633	61.2	0.9998		0.99	

SMM 08-06-21

E1400014

Method: ARI 5 ppb (NO 0.05) Operator: Admin Date of Analysis: 06 Aug 2021 12:58:07

Sample ID	Mean	Units	Date	Method
SEQ-CAL1	269	PPB	06 Aug 2021 13:00:33	ARI 5 ppb (NO 0.05)
SEQ-CAL2	1344	PPB	06 Aug 2021 13:02:54	ARI 5 ppb (NO 0.05)
SEQ-CAL3	4010	PPB	06 Aug 2021 13:05:14	ARI 5 ppb (NO 0.05)
SEQ-CAL4	7131	PPB	06 Aug 2021 13:07:34	ARI 5 ppb (NO 0.05)
SEQ-CAL5	13462	PPB	06 Aug 2021 13:09:54	ARI 5 ppb (NO 0.05)
SEQ-CAL6	33469	PPB	06 Aug 2021 13:12:13	ARI 5 ppb (NO 0.05)
SEQ-ICV	95.1% 3.8055	PPB	06 Aug 2021 13:14:57	ARI 5 ppb (NO 0.05)
SEQ-ICB	-0.0595	PPB	06 Aug 2021 13:17:15	ARI 5 ppb (NO 0.05)
SEQ-CRL	114.7% 0.1147	PPB	06 Aug 2021 13:19:38	ARI 5 ppb (NO 0.05)
SEQ-CCV	96.2% 3.8491	PPB	06 Aug 2021 13:21:59	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0593	PPB	06 Aug 2021 13:24:17	ARI 5 ppb (NO 0.05)
BJG0748-BLK1	-0.0396	PPB	06 Aug 2021 13:26:39	ARI 5 ppb (NO 0.05)
BJG0748-BS1	2.0004	PPB	06 Aug 2021 13:28:57	ARI 5 ppb (NO 0.05)
21G0247-06	0.0346	PPB	06 Aug 2021 13:31:15	ARI 5 ppb (NO 0.05)
BJG0748-DUP1	0.0248	PPB	06 Aug 2021 13:33:34	ARI 5 ppb (NO 0.05)
BJG0748-MS1	1.1601	PPB	06 Aug 2021 13:35:52	ARI 5 ppb (NO 0.05)
BJG0748-MSD1	1.0708	PPB	06 Aug 2021 13:38:10	ARI 5 ppb (NO 0.05)
21G0247-07	0.0181	PPB	06 Aug 2021 13:40:30	ARI 5 ppb (NO 0.05)
21G0247-08	-0.0029	PPB	06 Aug 2021 13:42:49	ARI 5 ppb (NO 0.05)
21G0247-12	0.0450	PPB	06 Aug 2021 13:45:08	ARI 5 ppb (NO 0.05)
21G0247-13	0.0970	PPB	06 Aug 2021 13:47:27	ARI 5 ppb (NO 0.05)
SEQ-CCV	95.0% 3.8003	PPB	06 Aug 2021 13:49:47	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0571	PPB	06 Aug 2021 13:52:05	ARI 5 ppb (NO 0.05)
21G0247-17	0.0846	PPB	06 Aug 2021 13:54:28	ARI 5 ppb (NO 0.05)
21G0247-18	0.0385	PPB	06 Aug 2021 13:56:48	ARI 5 ppb (NO 0.05)
21G0247-22	0.0364	PPB	06 Aug 2021 13:59:08	ARI 5 ppb (NO 0.05)
21G0247-23	-0.0022	PPB	06 Aug 2021 14:01:27	ARI 5 ppb (NO 0.05)
21G0247-27	0.1042	PPB	06 Aug 2021 14:03:45	ARI 5 ppb (NO 0.05)
21G0247-28	0.1342	PPB	06 Aug 2021 14:06:03	ARI 5 ppb (NO 0.05)
BJG0751-BLK1	-0.0204	PPB	06 Aug 2021 14:08:22	ARI 5 ppb (NO 0.05)
BJG0751-BS1	2.0005	PPB	06 Aug 2021 14:10:40	ARI 5 ppb (NO 0.05)
21G0199-04	0.2820	PPB	06 Aug 2021 14:12:58	ARI 5 ppb (NO 0.05)
BJG0751-DUP1	0.1181	PPB	06 Aug 2021 14:15:17	ARI 5 ppb (NO 0.05)
SEQ-CCV	96.1% 3.8440	PPB	06 Aug 2021 14:17:36	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0573	PPB	06 Aug 2021 14:19:54	ARI 5 ppb (NO 0.05)
BJG0751-MS1	1.2474	PPB	06 Aug 2021 14:22:17	ARI 5 ppb (NO 0.05)
BJG0751-MSD1	1.1732	PPB	06 Aug 2021 14:24:36	ARI 5 ppb (NO 0.05)
21G0253-01	0.4258	PPB	06 Aug 2021 14:26:56	ARI 5 ppb (NO 0.05)
BJG0751-DUP2	0.4131	PPB	06 Aug 2021 14:29:16	ARI 5 ppb (NO 0.05)
BJG0751-MS2	1.5791	PPB	06 Aug 2021 14:31:36	ARI 5 ppb (NO 0.05)
21G0199-09	0.2090	PPB	06 Aug 2021 14:33:55	ARI 5 ppb (NO 0.05)
21G0253-02	0.7210	PPB	06 Aug 2021 14:36:15	ARI 5 ppb (NO 0.05)
21G0253-03	0.6067	PPB	06 Aug 2021 14:38:34	ARI 5 ppb (NO 0.05)
21G0253-04	0.5506	PPB	06 Aug 2021 14:40:52	ARI 5 ppb (NO 0.05)
21G0253-05	0.6743	PPB	06 Aug 2021 14:43:11	ARI 5 ppb (NO 0.05)
SEQ-CCV	95.8% 3.8334	PPB	06 Aug 2021 14:45:30	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0511	PPB	06 Aug 2021 14:47:48	ARI 5 ppb (NO 0.05)
21G0253-06	1.3696	PPB	06 Aug 2021 14:50:11	ARI 5 ppb (NO 0.05)
21G0253-07	1.3434	PPB	06 Aug 2021 14:52:30	ARI 5 ppb (NO 0.05)
21G0253-08	0.9888	PPB	06 Aug 2021 14:54:50	ARI 5 ppb (NO 0.05)
21G0253-09	0.6825	PPB	06 Aug 2021 14:57:09	ARI 5 ppb (NO 0.05)
21G0282-01	0.2835	PPB	06 Aug 2021 14:59:29	ARI 5 ppb (NO 0.05)
21G0282-02	0.8832	PPB	06 Aug 2021 15:01:49	ARI 5 ppb (NO 0.05)
21G0282-03	0.6084	PPB	06 Aug 2021 15:04:09	ARI 5 ppb (NO 0.05)
21G0282-04	0.2951	PPB	06 Aug 2021 15:06:27	ARI 5 ppb (NO 0.05)
21G0282-05	0.4640	PPB	06 Aug 2021 15:08:46	ARI 5 ppb (NO 0.05)
21G0282-06	0.4752	PPB	06 Aug 2021 15:11:05	ARI 5 ppb (NO 0.05)
SEQ-CCV	96.5% 3.8601	PPB	06 Aug 2021 15:13:24	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0535	PPB	06 Aug 2021 15:15:42	ARI 5 ppb (NO 0.05)
21G0289-01	0.1488	PPB	06 Aug 2021 15:18:04	ARI 5 ppb (NO 0.05)

SMM 08-06-21

Method: ARI 5 ppb (NO 0.05) Operator: Admin Date of Analysis: 06 Aug 2021 12:58:07

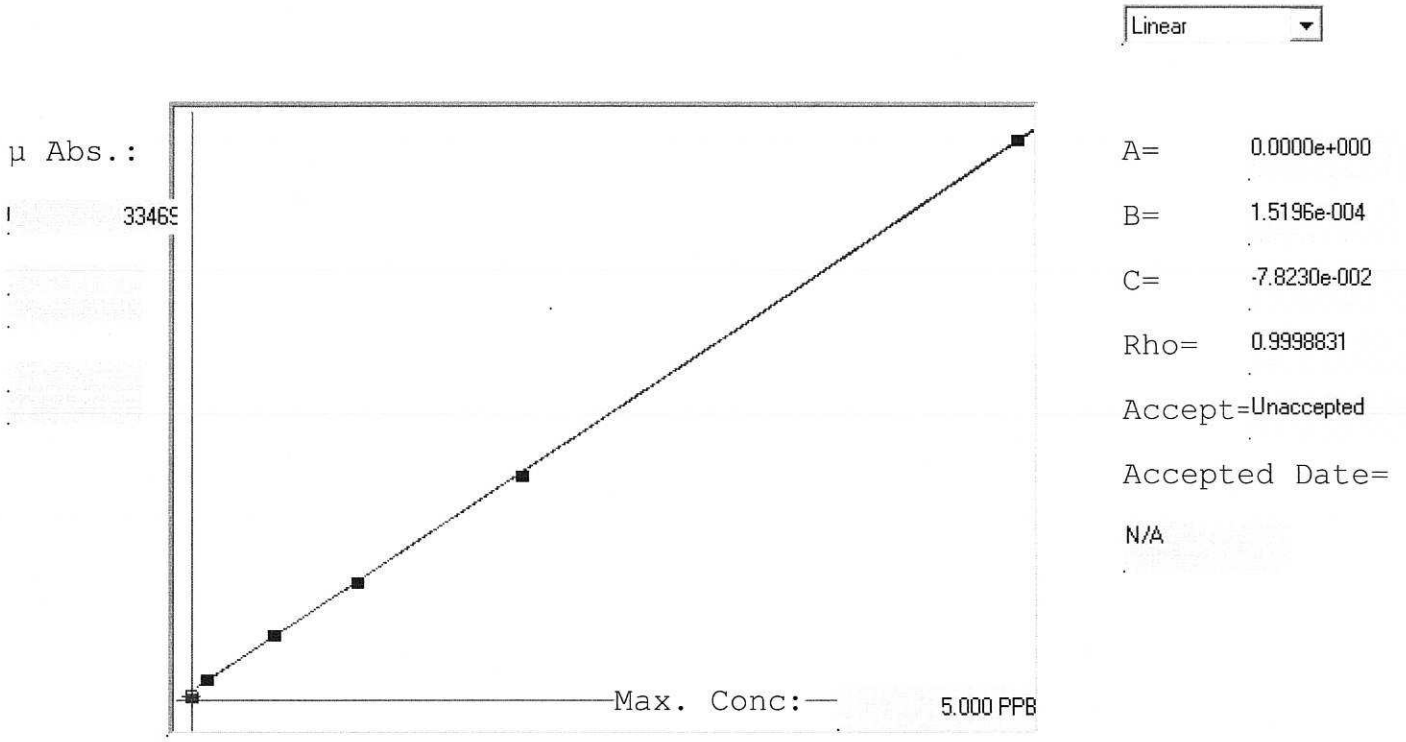
Sample ID	Mean	Units	Date	Method
21G0289-02	0.1891	PPB	06 Aug 2021 15:20:22	ARI 5 ppb (NO 0.05)
21G0289-05	0.1587	PPB	06 Aug 2021 15:22:41	ARI 5 ppb (NO 0.05)
BJH0069-BLK1	-0.0415	PPB	06 Aug 2021 15:25:00	ARI 5 ppb (NO 0.05)
BJH0069-BS1	1.9459	PPB	06 Aug 2021 15:27:19	ARI 5 ppb (NO 0.05)
21G0272-01	0.8086	PPB	06 Aug 2021 15:29:38	ARI 5 ppb (NO 0.05)
BJH0069-DUP1	0.7624	PPB	06 Aug 2021 15:31:59	ARI 5 ppb (NO 0.05)
BJH0069-MS1	1.9085	PPB	06 Aug 2021 15:34:20	ARI 5 ppb (NO 0.05)
21G0272-02	0.7245	PPB	06 Aug 2021 15:36:40	ARI 5 ppb (NO 0.05)
21G0272-03	0.8353	PPB	06 Aug 2021 15:38:59	ARI 5 ppb (NO 0.05)
SEQ-CCV	94.1% 3.7636	PPB	06 Aug 2021 15:41:18	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0541	PPB	06 Aug 2021 15:43:36	ARI 5 ppb (NO 0.05)
21G0272-04	0.7496	PPB	06 Aug 2021 15:45:58	ARI 5 ppb (NO 0.05)
BJH0071-BLK1	-0.0451	PPB	06 Aug 2021 15:48:17	ARI 5 ppb (NO 0.05)
BJH0071-BS1	2.0213	PPB	06 Aug 2021 15:50:36	ARI 5 ppb (NO 0.05)
21G0283-09	0.2349	PPB	06 Aug 2021 15:52:55	ARI 5 ppb (NO 0.05)
BJH0071-DUP1	0.1579	PPB	06 Aug 2021 15:55:15	ARI 5 ppb (NO 0.05)
BJH0071-MS1	1.2347	PPB	06 Aug 2021 15:57:35	ARI 5 ppb (NO 0.05)
BJH0071-MSD1	1.2621	PPB	06 Aug 2021 15:59:53	ARI 5 ppb (NO 0.05)
BJH0107-BLK1	-0.0482	PPB	06 Aug 2021 16:02:13	ARI 5 ppb (NO 0.05)
BJH0107-BS1	1.9399	PPB	06 Aug 2021 16:04:32	ARI 5 ppb (NO 0.05)
21G0276-01	0.1432	PPB	06 Aug 2021 16:06:52	ARI 5 ppb (NO 0.05)
SEQ-CCV	94.8% 3.7910	PPB	06 Aug 2021 16:09:13	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0540	PPB	06 Aug 2021 16:11:32	ARI 5 ppb (NO 0.05)
BJH0107-DUP1	0.1461	PPB	06 Aug 2021 16:13:55	ARI 5 ppb (NO 0.05)
BJH0107-MS1	1.2450	PPB	06 Aug 2021 16:16:15	ARI 5 ppb (NO 0.05)
21G0276-02	0.6643	PPB	06 Aug 2021 16:18:34	ARI 5 ppb (NO 0.05)
21G0276-03	0.3441	PPB	06 Aug 2021 16:20:54	ARI 5 ppb (NO 0.05)
21G0276-04	0.1233	PPB	06 Aug 2021 16:23:13	ARI 5 ppb (NO 0.05)
21G0284-01	0.6959	PPB	06 Aug 2021 16:25:32	ARI 5 ppb (NO 0.05)
21G0284-02	0.4587	PPB	06 Aug 2021 16:27:51	ARI 5 ppb (NO 0.05)
21G0284-03	0.5674	PPB	06 Aug 2021 16:30:10	ARI 5 ppb (NO 0.05)
21G0284-04	0.7067	PPB	06 Aug 2021 16:32:29	ARI 5 ppb (NO 0.05)
21G0284-06	0.7864	PPB	06 Aug 2021 16:34:49	ARI 5 ppb (NO 0.05)
SEQ-CCV	103.1% 4.1253	PPB	06 Aug 2021 16:37:09	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0526	PPB	06 Aug 2021 16:39:27	ARI 5 ppb (NO 0.05)
21G0284-07	0.1182	PPB	06 Aug 2021 16:41:49	ARI 5 ppb (NO 0.05)
21G0284-08	0.0945	PPB	06 Aug 2021 16:44:10	ARI 5 ppb (NO 0.05)
BJH0108-BLK1	0.0263	PPB	06 Aug 2021 16:46:30	ARI 5 ppb (NO 0.05)
BJH0108-BS1	2.0550	PPB	06 Aug 2021 16:48:49	ARI 5 ppb (NO 0.05)
21G0269-10	0.2442	PPB	06 Aug 2021 16:51:09	ARI 5 ppb (NO 0.05)
BJH0108-DUP1	0.1813	PPB	06 Aug 2021 16:53:29	ARI 5 ppb (NO 0.05)
BJH0108-MS1	1.2880	PPB	06 Aug 2021 16:55:49	ARI 5 ppb (NO 0.05)
BJH0108-MSD1	1.3293	PPB	06 Aug 2021 16:58:09	ARI 5 ppb (NO 0.05)
BJH0136-BLK1	-0.0001	PPB	06 Aug 2021 17:00:28	ARI 5 ppb (NO 0.05)
BJH0136-BS1	2.0598	PPB	06 Aug 2021 17:02:48	ARI 5 ppb (NO 0.05)
SEQ-CCV	102.9% 4.1161	PPB	06 Aug 2021 17:05:07	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0546	PPB	06 Aug 2021 17:07:26	ARI 5 ppb (NO 0.05)
21G0280-01	0.4789	PPB	06 Aug 2021 17:09:49	ARI 5 ppb (NO 0.05)
BJH0136-DUP1	0.1504	PPB	06 Aug 2021 17:12:08	ARI 5 ppb (NO 0.05)
BJH0136-MS1	0.0392	PPB	06 Aug 2021 17:14:29	ARI 5 ppb (NO 0.05)
21G0277-02	0.1293	PPB	06 Aug 2021 17:16:49	ARI 5 ppb (NO 0.05)
21G0277-03	0.1768	PPB	06 Aug 2021 17:19:10	ARI 5 ppb (NO 0.05)
21G0280-02	0.1189	PPB	06 Aug 2021 17:21:29	ARI 5 ppb (NO 0.05)
21G0280-03	-0.0006	PPB	06 Aug 2021 17:23:49	ARI 5 ppb (NO 0.05)
BJH0135-BLK1	-0.0109	PPB	06 Aug 2021 17:26:09	ARI 5 ppb (NO 0.05)
BJH0135-BS1	1.9210	PPB	06 Aug 2021 17:28:28	ARI 5 ppb (NO 0.05)
21G0286-02	0.0776	PPB	06 Aug 2021 17:30:48	ARI 5 ppb (NO 0.05)
SEQ-CCV	103.6% 4.1445	PPB	06 Aug 2021 17:33:08	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0550	PPB	06 Aug 2021 17:35:26	ARI 5 ppb (NO 0.05)
BJH0135-DUP1	0.0751	PPB	06 Aug 2021 17:37:49	ARI 5 ppb (NO 0.05)

SMM 08-06-21

Method: ARI 5 ppb (NO 0.05) Operator: Admin Date of Analysis: 06 Aug 2021 12:58:07

Sample ID	Mean	Units	Date	Method
BJH0135-MS1	1.1121	PPB	06 Aug 2021 17:40:08	ARI 5 ppb (NO 0.05)
BJH0135-MSD1	1.1406	PPB	06 Aug 2021 17:42:28	ARI 5 ppb (NO 0.05)
21G0286-04	0.2131	PPB	06 Aug 2021 17:44:47	ARI 5 ppb (NO 0.05)
21G0305-09	0.3467	PPB	06 Aug 2021 17:47:07	ARI 5 ppb (NO 0.05)
21G0306-01	0.1095	PPB	06 Aug 2021 17:49:27	ARI 5 ppb (NO 0.05)
SEQ-CCV	103.0% 4.1180	PPB	06 Aug 2021 17:51:47	ARI 5 ppb (NO 0.05)
SEQ-CCB	-0.0580	PPB	06 Aug 2021 17:54:05	ARI 5 ppb (NO 0.05)

ARI 5 ppb (NO 0.05)



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
SEQ-CAL1 - Blank	0.000	-0.037	-0.037	269	1.414	270	267	270		
SEQ-CAL2 - 0.1 PPB	0.100	0.126	0.026	1344	1.2 %	1335	1331	1367		
SEQ-CAL3 - 0.5 PPB	0.500	0.531	0.031	4010	1.9 %	3907	4043	4080		
SEQ-CAL4 - 1.0 PPB	1.000	1.005	0.005	7130	0.9 %	7049	7131	7212		
SEQ-CAL5 - 2.0 PPB	2.000	1.967	-0.033	13461	0.6 %	13341	13510	13534		
SEQ-CAL6 - 5.0 PPB	5.000	5.008	0.008	33468	0.7 %	33155	33526	33725		

Mercury Analysis Log

Analyst: MIL

Instrument: HMDRA

Date: 08/06/21

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ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
SEQ -Cal1	JMM	1X		
-Cal2				
-Cal3				
-Cal4				
-Cal5				
-Cal6				
-ICV			✓3.80	
-ICB			✓-0.05	
-CRL			✓0.11	
-CCV			✓3.84	
-CCB			✓-0.05	
BJG0748 -BIK1				
-BS1			✓2.00	100% R
21G0247 -06			0.034	
BJG0748 -PDS1				
-MS1			1.16	112 %R
-MSD1			1.07	103 %R
21G0247 -07				
-08				
-12				
-13				
SEQ -CCV			✓3.80	
-CCB			✓-0.05	
21G0247 -17				
-18				
-22				
-23				
-27				
-28				
BJG0751 -BIK1				

Chemical/Reagent ID:

10% $SnCl_2$: J8803

14% $NH_2OH/NaCl$: J2396

Standard ID:

Standard: J8067-J8072

ICV/CCV: J8066

Mercury Analysis Log

Analyst: —— Date: ——

Instrument: —— Page: 2 of 5

ARI Sample ID		Prep Code	Dilution	QC Data (ppb)	Comments
↓	-BS1			2.00	100 % R
21G0199	-04			0.28	
BJG0751	-DUP1				
SEQ	-CCV			3.84	
↓	-CCB			-0.05	
BJG0751	-MS1			1.24	97 % R
↓	-MSD1			1.17	89 % R
21G0253	-01			0.42	
BJG0751	-DX2				
↓	-MS2			1.57	115 % R
21G0199	-09				
21G0253	-02				
	-03				
	-04				
↓	-05				
SEQ	-CCV			3.83	
↓	-CCB			-0.05	
21G253	-06				
	-07				
	-08				
↓	-09				
21G0282	-01				
	-02				
	-03				
	-04				
	-05				
↓	-06				
SEQ	-CCV			3.86	
↓	-CCB			-0.05	
21G0289	-01				

Chemical/Reagent ID:
10% $SnCl_2$: —— 14% $NH_2OH/NaCl$: ——

Standard ID: ——
Standard: —— ICV/CCV: ——

Mercury Analysis Log

Analyst: ——

Instrument: ——

Date: ——

Page: 3 of 5

ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
↓ -02				
↓ -05				
BJH0069 -BIK1				
↓ -BS1			1.94	97% R
2160272 -01			0.80	
BJH0069 -DUP1				
↓ -MS1			1.90	110% R
2160272 -02				
↓ -03				
SEQ -CCV			3.76	
↓ -CCB			-0.05	
2160272 -04				
BJH0071 -BIK1				
↓ -BS1			2.02	101% R
2160283 -09			0.23	
BJH0071 -DUP1				
↓ -MS1			1.23	100% R
↓ -MSD1			1.26	103% R
BJH0107 -BIK1				
↓ -BS1			1.93	96.5% R
2160276 -01			0.14	
SEQ -CCV			3.79	
↓ -CCB			-0.05	
BJH0107 -DUP1				
↓ -MS1			1.24	110% R
2160276 -02				
↓ -03				
↓ -04				
2160284 -01				
↓ -02				

Chemical/Reagent ID:

10% $SnCl_2$: ——

14% $NH_2OH/NaCl$: ——

Standard ID:

Standard: ——

ICV/CCV: ——

5026F

Revision 4
1/26/01

Mercury Analysis Log

Analyst: ——

Instrument: ——

Date: [illegible]

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ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
-03				
-04				
-06				
SEQ -CCV			✓4.12	
↓ -CCB			✓-0.05	
2160284 -07				
↓ -08				
BJH0103 -BIK1				
↓ -BS1			✓2.05	102.5 %R
2160269 -10			0.24	
BJH0103 -DUP1				
-MS1			✓1.28	104 %R
↓ -MSD1			✓1.32	108 %R
BJH0136 -BIK1				
↓ -BS1			2.05	102 %R
SEQ -CCV			✓4.11	
↓ -CCB				
2160280 -01			0.47	
BJH0136 -DUP1				
↓ -MS1			✗003	
2160277 -02				
↓ -03				
2160280 -02				
↓ -03				
BJH0135 -BIK1				
↓ -BS1			✓1.92	96 %R
2160286 -02			0.07	
SEQ -CCV			✓4.14	
↓ -CCB				
BJH0135 -DUP1				

Chemical/Reagent ID:

10% $SnCl_2$: ——

14% $NH_2OH/NaCl$: ——

Standard ID: ——

Standard: ——

ICV/CCV: ——

Mercury Analysis Log

Analyst: —

Instrument: —

Date: —

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ARI Sample ID	Prep Code	Dilution	QC Data (ppb)	Comments
-MS1			1.11	104 % R
-MSD1			1.14	107 % R
21G0286 -04				
21G0305 -09				
21G0306 -01				
SEQ -CCV			4.11	
-CCB			-6.05	

MH 08/06/21

Chemical/Reagent ID:

10% $SnCl_2$: —

Standard ID: —

Standard: _____

14% $NH_2OH/NaCl$: —

ICV/CCV: —

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 7471B

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: ICP2
Calibration: EH00014
Control Limt: +/- 20.00%
Sequence: SJH0086

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0086-ICV1	Mercury	0.0040000	0.00381	95.1	mg/L	EPA 7471B
SJH0086-CCV1	Mercury	0.0040000	0.00385	96.2	mg/L	EPA 7471B
SJH0086-CCV2	Mercury	0.0040000	0.00380	95.0	mg/L	EPA 7471B
SJH0086-CCV3	Mercury	0.0040000	0.00384	96.1	mg/L	EPA 7471B
SJH0086-CCV4	Mercury	0.0040000	0.00383	95.8	mg/L	EPA 7471B
SJH0086-CCV5	Mercury	0.0040000	0.00386	96.5	mg/L	EPA 7471B
SJH0086-CCV6	Mercury	0.0040000	0.00376	94.1	mg/L	EPA 7471B
SJH0086-CCV7	Mercury	0.0040000	0.00379	94.8	mg/L	EPA 7471B
SJH0086-CCV8	Mercury	0.0040000	0.00413	103	mg/L	EPA 7471B
SJH0086-CCV9	Mercury	0.0040000	0.00412	103	mg/L	EPA 7471B
SJH0086-CCVA	Mercury	0.0040000	0.00414	104	mg/L	EPA 7471B
SJH0086-CCVB	Mercury	0.0040000	0.00412	103	mg/L	EPA 7471B

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 7471B

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: ICP2
Calibration: EH00014
Sequence: SJH0086
Date Analyzed: 08/06/21 13:17

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0086-ICB1	Mercury	-0.000060	0.000021	0.000100	mg/L	
SJH0086-CCB1	Mercury	-0.000059	0.000021	0.000100	mg/L	
SJH0086-CCB2	Mercury	-0.000057	0.000021	0.000100	mg/L	
SJH0086-CCB3	Mercury	-0.000057	0.000021	0.000100	mg/L	
SJH0086-CCB4	Mercury	-0.000051	0.000021	0.000100	mg/L	
SJH0086-CCB5	Mercury	-0.000054	0.000021	0.000100	mg/L	
SJH0086-CCB6	Mercury	-0.000054	0.000021	0.000100	mg/L	
SJH0086-CCB7	Mercury	-0.000054	0.000021	0.000100	mg/L	
SJH0086-CCB8	Mercury	-0.000053	0.000021	0.000100	mg/L	
SJH0086-CCB9	Mercury	-0.000055	0.000021	0.000100	mg/L	
SJH0086-CCBA	Mercury	-0.000055	0.000021	0.000100	mg/L	
SJH0086-CCBB	Mercury	-0.000058	0.000021	0.000100	mg/L	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0086	Instrument:	ICP2
		Calibration:	EH00014

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0086-CAL1	SMM 08-06-21-001	NA	08/06/21 13:00
Cal Standard	SJH0086-CAL2	SMM 08-06-21-002	NA	08/06/21 13:02
Cal Standard	SJH0086-CAL3	SMM 08-06-21-003	NA	08/06/21 13:05
Cal Standard	SJH0086-CAL4	SMM 08-06-21-004	NA	08/06/21 13:07
Cal Standard	SJH0086-CAL5	SMM 08-06-21-005	NA	08/06/21 13:09
Cal Standard	SJH0086-CAL6	SMM 08-06-21-006	NA	08/06/21 13:12
Initial Cal Check	SJH0086-ICV1	SMM 08-06-21-007	NA	08/06/21 13:14
Initial Cal Blank	SJH0086-ICB1	SMM 08-06-21-008	NA	08/06/21 13:17
Instrument RL Check	SJH0086-CRL1	SMM 08-06-21-009	NA	08/06/21 13:19
Calibration Check	SJH0086-CCV1	SMM 08-06-21-010	NA	08/06/21 13:21
Calibration Blank	SJH0086-CCB1	SMM 08-06-21-011	NA	08/06/21 13:24
Calibration Check	SJH0086-CCV2	SMM 08-06-21-022	NA	08/06/21 13:49
Calibration Blank	SJH0086-CCB2	SMM 08-06-21-023	NA	08/06/21 13:52
Calibration Check	SJH0086-CCV3	SMM 08-06-21-034	NA	08/06/21 14:17
Calibration Blank	SJH0086-CCB3	SMM 08-06-21-035	NA	08/06/21 14:19
Calibration Check	SJH0086-CCV4	SMM 08-06-21-046	NA	08/06/21 14:45
Calibration Blank	SJH0086-CCB4	SMM 08-06-21-047	NA	08/06/21 14:47
Calibration Check	SJH0086-CCV5	SMM 08-06-21-058	NA	08/06/21 15:13
Calibration Blank	SJH0086-CCB5	SMM 08-06-21-059	NA	08/06/21 15:15
Calibration Check	SJH0086-CCV6	SMM 08-06-21-070	NA	08/06/21 15:41
Calibration Blank	SJH0086-CCB6	SMM 08-06-21-071	NA	08/06/21 15:43
Calibration Check	SJH0086-CCV7	SMM 08-06-21-082	NA	08/06/21 16:09
Calibration Blank	SJH0086-CCB7	SMM 08-06-21-083	NA	08/06/21 16:11
Calibration Check	SJH0086-CCV8	SMM 08-06-21-094	NA	08/06/21 16:37
Calibration Blank	SJH0086-CCB8	SMM 08-06-21-095	NA	08/06/21 16:39
Calibration Check	SJH0086-CCV9	SMM 08-06-21-106	NA	08/06/21 17:05
Calibration Blank	SJH0086-CCB9	SMM 08-06-21-107	NA	08/06/21 17:07
Blank	BJH0135-BLK1	SMM 08-06-21-115	Solid	08/06/21 17:26
LCS	BJH0135-BS1	SMM 08-06-21-116	Solid	08/06/21 17:28
Calibration Check	SJH0086-CCVA	SMM 08-06-21-118	NA	08/06/21 17:33

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 7471B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0086	Instrument:	ICP2
		Calibration:	EH00014

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Blank	SJH0086-CCBA	SMM 08-06-21-119	NA	08/06/21 17:35
LDW21-SC574	21G0305-09	SMM 08-06-21-124	Solid	08/06/21 17:47
Calibration Check	SJH0086-CCVB	SMM 08-06-21-126	NA	08/06/21 17:51
Calibration Blank	SJH0086-CCBB	SMM 08-06-21-127	NA	08/06/21 17:54

Analytical Resources, Incorporated
Analytical Chemists and Consultants

DETECTION LEVEL STANDARD
EPA 7471B

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: ICP2
Calibration: EH00014
Sequence: SJH0086
Lab Sample ID: SJH0086-CRL1

Analyte	True	Found	%R	Units	QC Limts
Mercury	0.000100	0.000115	115	mg/L	70 - 130

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HOLDING TIME SUMMARY

Analysis: EPA 7471B

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW21-SC574 21G0305-09	07/22/21 11:20	07/22/21 17:30	08/06/21 14:40	15	28	08/06/21 17:47	15	28	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 7471B

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument: ICP2

Analyte	MDL	RL	Units
Mercury	0.00525	0.0250	mg/kg

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGHG1
Lot Number:	P2-HG677010
Matrix:	5% (v/v) HNO3
Value / Analyte(s):	1 000 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1000 ± 3 µg/mL

Density: 1.026 g/mL (measured at 20 ± 4 ºC)

Assay Information:

Assay Method #1 **999 ± 3 µg/mL**
EDTA NIST SRM 928 Lot Number: 928

Assay Method #2 **999 ± 7 µg/mL**
ICP Assay NIST SRM 3133 Lot Number: 061204

Assay Method #3 **1001 ± 3 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.001157	M	Eu	<	0.000201	O	Na		0.000434	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000090	O	Fe		0.000112	M	Nb	<	0.000201	O	Si		0.000525	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000745	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.002004	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000095	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000969	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

May 10, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **May 10, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
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1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	QCP-QCS-4
Lot Number:	P2-MEB683982
Matrix:	7% (v/v) HNO3
Value / Analyte(s):	5 µg/mL ea: Mercury

Second Source: Whenever possible, this solution was manufactured from a second set of concentrates in our manufacturing facility.

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Mercury, Hg	**5.000 ± 0.022 µg/mL**		

Density: 1.034 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 03, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 03, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC569

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-01 C	SDG:	21G0305
Sampled:	07/22/21 09:10	Prepared:	07/27/21 11:38	File ID:	
% Solids:	53.49	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	53.49	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
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LDW21-SC567

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-02 C	SDG:	21G0305
Sampled:	07/22/21 09:34	Prepared:	07/27/21 11:38	File ID:	
% Solids:	62.00	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	62.00	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC566

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-03 C	SDG:	21G0305
Sampled:	07/22/21 09:48	Prepared:	07/27/21 11:38	File ID:	
% Solids:	54.48	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	54.48	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC561

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-04 C	SDG:	21G0305
Sampled:	07/22/21 10:09	Prepared:	07/27/21 11:38	File ID:	
% Solids:	62.19	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	62.19	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC526

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-05 C	SDG:	21G0305
Sampled:	07/22/21 10:26	Prepared:	07/27/21 11:38	File ID:	
% Solids:	59.75	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	59.75	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC526FD

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-06 C	SDG:	21G0305
Sampled:	07/22/21 10:26	Prepared:	07/27/21 11:38	File ID:	
% Solids:	58.77	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	58.77	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC530

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-07 C	SDG:	21G0305
Sampled:	07/22/21 10:44	Prepared:	07/27/21 11:38	File ID:	
% Solids:	62.47	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	62.47	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC540

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-08 C	SDG:	21G0305
Sampled:	07/22/21 10:58	Prepared:	07/27/21 11:38	File ID:	
% Solids:	65.82	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	65.82	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC574

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-09 C	SDG:	21G0305
Sampled:	07/22/21 11:20	Prepared:	07/27/21 11:38	File ID:	
% Solids:	56.32	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	56.32	1	0.04	0.04	

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Form I
INORGANIC ANALYSIS DATA SHEET
SM 2540 G-97

LDW21-SC551

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-10 C	SDG:	21G0305
Sampled:	07/22/21 15:32	Prepared:	07/27/21 11:38	File ID:	
% Solids:	57.06	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Batch:	BJG0626	Sequence:		Initial/Final:	5 g Wet / 5 g
Instrument:	BAL2			Calibration:	

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	57.06	1	0.04	0.04	

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PREPARATION BATCH SUMMARY

SM 2540 G-97

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJG0626	Batch Matrix:	Solid	Preparation:	No Prep Wet Chem

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC569	21G0305-01		07/27/21 11:38	
LDW21-SC567	21G0305-02		07/27/21 11:38	
LDW21-SC566	21G0305-03		07/27/21 11:38	
LDW21-SC561	21G0305-04		07/27/21 11:38	
LDW21-SC526	21G0305-05		07/27/21 11:38	
LDW21-SC526FD	21G0305-06		07/27/21 11:38	
LDW21-SC530	21G0305-07		07/27/21 11:38	
LDW21-SC540	21G0305-08		07/27/21 11:38	
LDW21-SC574	21G0305-09		07/27/21 11:38	
LDW21-SC551	21G0305-10		07/27/21 11:38	
Blank	BJG0626-BLK1		07/27/21 11:38	

TOTAL SOLIDS/VOLATILE SOLIDS (TS / TVS) BENCHSHEET for Solid samples

Method: PSEP 1986, SM2540, EPA 160.1

(dry at 104 (12-24 hr) then combust at 550 (30 min))

Batch:	BJG0626
Date:	7/27/2021 11:43
Analyst:	DOE

Instrumentation

Drying Ovens:	12	**Analytical Balance:**	BAL2
Muffle Furnace:	2		

Batch drying time				**Oven Temps, °C**	
record times as mm/dd/yy hh:mm			TS (%) calculated as:	Start Temp	106
date/time in oven:	7/27/2021 12:20		Final dry wt (g) = (Dry Wt - Tare Wt)	Dry Cycle 1	104
date/time out:	7/28/2021 10:05		TS = (Final Dry Wt)/ (grams Sample-Tare)	Dry Cycle 2	
elapsed hrs =	21.8	OK		Dry Cycle 3	

TVS (mg/kg dry wt) calculated as:
Final ash wt (g) = (min ash wt - tare wt)
TVS (mg/kg) = [(Dry wt-Ash wt)/ (dry weight)] *1,000,000
if ash wt > dry wt, "Chk for Err"
if dry wt-ash wt < 0.001 g, "< (1/dry wt)*1,000,000

Balance Calibration Check

Record weights to 4 places											
	Cal Weight ID:	CV-02	CV-02	CV-02	CV-02	CV-02		CV-02	CV-02	CV-02	
	Date & Time:	7/27/21 11:45	7/27/21 11:50	7/28/21 10:20							
Cal Wt (g):	10.0000	9.9999	9.9999	9.9999							
		Cal OK!	Cal OK!	Cal OK!							

Sample ID	Dish #	Tare Wt. (g)	Dish & Sample (g)	Dry Wt 104C (grams) 1	2	3	dry Wt (g)	TS (%)	Notes	ASH WT 550C (grams) 1	2	3	Ash Wt (g)	TVS (mg/kg)	TVS (%)	Notes	Fixed (%)
BJG0626-BLK1	24	0.7949	0.0000	0.7949			0.0000	0.00%									
21G0145-03	25	0.7972	4.4501	2.8345			2.0373	55.77%									
BJG0626-DUP1	26	0.7866	4.0016	2.5768			1.7902	55.68%	RPD=0.2								
BJG0626-DUP2	27	0.7848	4.8231	3.0394			2.2546	55.83%	RSD=0.1								
21G0286-01	28	0.8030	5.9909	4.6839			3.8809	74.81%									
21G0286-02	29	0.8087	4.2434	3.3226			2.5139	73.19%									
21G0286-03	30	0.7787	6.2840	5.6336			4.8549	88.19%									
21G0286-04	31	0.7918	5.3965	3.3145			2.5227	54.79%									
21G0286-05	32	0.7832	5.0639	3.5883			2.8051	65.53%									
21G0303-01	33	0.7916	6.0696	4.5626			3.7710	71.45%									
21G0303-02	34	0.8041	5.8266	4.3410			3.5369	70.42%									
21G0303-03	35	0.7833	7.2462	5.4422			4.6589	72.09%									
21G0303-04	36	0.7743	4.6232	3.8580			3.0837	80.12%									
21G0305-01	37	0.7924	4.8537	2.9648			2.1724	53.49%									
21G0305-02	38	0.8019	7.2929	4.8265			4.0246	62.00%									
21G0305-03	39	0.7782	5.2463	3.2125			2.4343	54.48%									
21G0305-04	40	0.7922	4.8488	3.3149			2.5227	62.19%									
21G0305-05	41	0.8149	5.3145	3.5035			2.6886	59.75%									
21G0305-06	42	0.7927	4.6397	3.0534			2.2607	58.77%									
21G0305-07	43	0.7969	6.5334	4.3807			3.5838	62.47%									
21G0305-08	44	0.7941	8.2977	5.7333			4.9392	65.82%									
21G0305-09	45	0.7814	4.8889	3.0948			2.3134	56.32%									
21G0305-10	46	0.8050	5.2435	3.3377			2.5327	57.06%									

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Form I

METHOD BLANK DATA SHEET

SM 2540 G-97

TotalAnalytes

Blank

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJG0626	Laboratory ID:	BJG0626-BLK1	Prepared:	07/27/21 11:38
Matrix:	Solid	Preparation:	No Prep Wet Chem	Analyzed:	07/27/21 11:43
Sequence:		Calibration:		Instrument:	BAL2

CAS NO.	Analyte	Concentration (%)	Dilution Factor	MDL	MRL	Q
	Total Solids	ND	1	0.04	0.04	U

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HOLDING TIME SUMMARY

Analysis: SM 2540 G-97

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW21-SC569 21G0305-01	07/22/21 09:10	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC567 21G0305-02	07/22/21 09:34	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC566 21G0305-03	07/22/21 09:48	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC561 21G0305-04	07/22/21 10:09	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC526 21G0305-05	07/22/21 10:26	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC526FD 21G0305-06	07/22/21 10:26	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC530 21G0305-07	07/22/21 10:44	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC540 21G0305-08	07/22/21 10:58	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC574 21G0305-09	07/22/21 11:20	07/22/21 17:30	07/27/21 11:38	5	180	07/27/21 11:43	5	180	
LDW21-SC551 21G0305-10	07/22/21 15:32	07/22/21 17:30	07/27/21 11:38	4	180	07/27/21 11:43	5	180	

* Indicates hold time exceedance.

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METHOD DETECTION AND REPORTING LIMITS

SM 2540 G-97

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument:

Analyte	MDL	RL	Units
Total Solids	0.04	0.04	%

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC569

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-01 C	SDG:	21G0305
Sampled:	07/22/21 09:10	Prepared:	08/11/21 14:09	File ID:	CubeData_08162021@1103-055
% Solids:	53.49	Preparation:	PSEP 1986 (modified)	Analyzed:	08/13/21 17:58
Batch:	BJH0300	Sequence:	SJH0136	Initial/Final:	0.5961 g Wet / 0.5961 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.79	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC567

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-02RE1 C	SDG:	21G0305
Sampled:	07/22/21 09:34	Prepared:	08/11/21 14:09	File ID:	CubeData_08312021@1034-024
% Solids:	62.00	Preparation:	PSEP 1986 (modified)	Analyzed:	08/30/21 15:14
Batch:	BJH0300	Sequence:	SJH0331	Initial/Final:	0.2492 g Wet / 0.2492 mL
Instrument:	TOC Cube			Calibration:	EH00065

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.10	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC566

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-03 C	SDG:	21G0305
Sampled:	07/22/21 09:48	Prepared:	08/11/21 14:09	File ID:	CubeData_08162021@1103-057
% Solids:	54.48	Preparation:	PSEP 1986 (modified)	Analyzed:	08/13/21 19:01
Batch:	BJH0300	Sequence:	SJH0136	Initial/Final:	0.5509 g Wet / 0.5509 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.72	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC561

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-04 C	SDG:	21G0305
Sampled:	07/22/21 10:09	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-249
% Solids:	62.19	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 18:09
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.5516 g Wet / 0.5516 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.41	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC526

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-05 C	SDG:	21G0305
Sampled:	07/22/21 10:26	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-268
% Solids:	59.75	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 19:44
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.5819 g Wet / 0.5819 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.67	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC526FD

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-06 C	SDG:	21G0305
Sampled:	07/22/21 10:26	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-275
% Solids:	58.77	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 20:15
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.5821 g Wet / 0.5821 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.45	1	0.02	0.02	

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Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC530

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-07 C	SDG:	21G0305
Sampled:	07/22/21 10:44	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-283
% Solids:	62.47	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 20:47
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.5246 g Wet / 0.5246 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.53	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC540

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-08 C	SDG:	21G0305
Sampled:	07/22/21 10:58	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-290
% Solids:	65.82	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 21:19
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.5741 g Wet / 0.5741 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	0.97	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC574

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-09 C	SDG:	21G0305
Sampled:	07/22/21 11:20	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-295
% Solids:	56.32	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 21:51
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.5626 g Wet / 0.5626 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	1.50	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I
INORGANIC ANALYSIS DATA SHEET
EPA 9060A m

LDW21-SC551

Laboratory:	Analytical Resources, Inc.				
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0305-10 C	SDG:	21G0305
Sampled:	07/22/21 15:32	Prepared:	08/11/21 14:13	File ID:	CubeData_08232021@1356-301
% Solids:	57.06	Preparation:	PSEP 1986 (modified)	Analyzed:	08/16/21 22:23
Batch:	BJH0301	Sequence:	SJH0183	Initial/Final:	0.647 g Wet / 0.647 mL
Instrument:	TOC Cube			Calibration:	EH00021

CAS NO.	Analyte	Concentration (% dry)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	2.06	1	0.02	0.02	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0300	Batch Matrix:	Solid	Preparation:	PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC569	21G0305-01	eData_08162021@1103-	08/11/21 14:09	
LDW21-SC567	21G0305-02RE1	eData_08312021@1034-	08/11/21 14:09	Added 8/31/2021 by BF
LDW21-SC566	21G0305-03	eData_08162021@1103-	08/11/21 14:09	
Blank	BJH0300-BLK1	eData_08162021@1103-	08/11/21 14:09	
LCS	BJH0300-BS1	eData_08162021@1103-	08/11/21 14:09	
MRL Check	BJH0300-MRL1	eData_08162021@1103-	08/11/21 14:09	
Reference	BJH0300-SRM1	eData_08162021@1103-	08/11/21 14:09	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.			SDG:	21G0305
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0301	Batch Matrix:	Solid	Preparation:	PSEP 1986 (modified)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC561	21G0305-04	eData_08232021@1356-	08/11/21 14:13	
LDW21-SC526	21G0305-05	eData_08232021@1356-	08/11/21 14:13	
LDW21-SC526FD	21G0305-06	eData_08232021@1356-	08/11/21 14:13	
LDW21-SC530	21G0305-07	eData_08232021@1356-	08/11/21 14:13	
LDW21-SC540	21G0305-08	eData_08232021@1356-	08/11/21 14:13	
LDW21-SC574	21G0305-09	eData_08232021@1356-	08/11/21 14:13	
LDW21-SC551	21G0305-10	eData_08232021@1356-	08/11/21 14:13	
Blank	BJH0301-BLK1	eData_08162021@1103-	08/11/21 14:13	
LCS	BJH0301-BS1	eData_08162021@1103-	08/11/21 14:13	
LDW21-SC561	BJH0301-DUP1	eData_08232021@1356-	08/11/21 14:13	
MRL Check	BJH0301-MRL1	eData_08162021@1103-	08/11/21 14:13	
LDW21-SC561	BJH0301-MS1	eData_08232021@1356-	08/11/21 14:13	
Reference	BJH0301-SRM1	eData_08162021@1103-	08/11/21 14:13	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Batch: BJH0300
Laboratory ID: BJH0300-BLK1
Prepared: 08/11/21 14:09
Matrix: Solid
Preparation: PSEP 1986 (modified)
Analyzed: 08/13/21 00:35
Sequence: SJH0136
Calibration: EH00021
Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Form I

METHOD BLANK DATA SHEET

EPA 9060A m

TotalAnalytes

Blank

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Batch: BJH0301
Laboratory ID: BJH0301-BLK1
Prepared: 08/11/21 14:13
Matrix: Solid
Preparation: PSEP 1986 (modified)
Analyzed: 08/13/21 20:03
Sequence: SJH0136
Calibration: EH00021
Instrument: TOC Cube

CAS NO.	Analyte	Concentration (% wet)	Dilution Factor	MDL	MRL	Q
	Total Organic Carbon	ND	1	0.02	0.02	U

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/13/21 01:07
Batch:	BJH0300	Laboratory ID:	BJH0300-BS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	LCS
Initial/Final:	0.0208 g / 0.0208 mL		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	44.5		100	80 - 120

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS / LCS DUPLICATE RECOVERY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/13/21 20:35
Batch:	BJH0301	Laboratory ID:	BJH0301-BS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	LCS
Initial/Final:	0.0215 g / 0.0215 mL		

COMPOUND	SPIKE ADDED (% wet)	LCS CONCENTRATION (% wet)	Q	LCS % REC. #	QC LIMITS REC.
Total Organic Carbon	44.4	46.1		104	80 - 120

* Indicates values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC561

DUPLICATES

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0301-DUP1
Batch: BJH0301
Lab Source ID: 21G0305-04
Preparation: PSEP 1986 (modified)
Initial/Final: 0.5348 g / 0.5348 mL
Source Sample Name: LDW21-SC561
% Solids: 62.19

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
Total Organic Carbon	20	1.41	1.24	12.9	

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC561

MS / MS DUPLICATE RECOVERY
EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/16/21 19:12
Batch:	BJH0301	Laboratory ID:	BJH0301-MS1
Preparation:	PSEP 1986 (modified)	Sequence Name:	Matrix Spike
Initial/Final:	0.5446 g / 0.5446 mL	Source Sample:	LDW21-SC561

COMPOUND	SPIKE ADDED (% dry)	SAMPLE CONCENTRATION (% dry)	Q	MS CONCENTRATION (% dry)	Q	MS % REC. #	QC LIMITS REC.
Total Organic Carbon	1.31	1.41		2.45		79.3	75 - 125

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

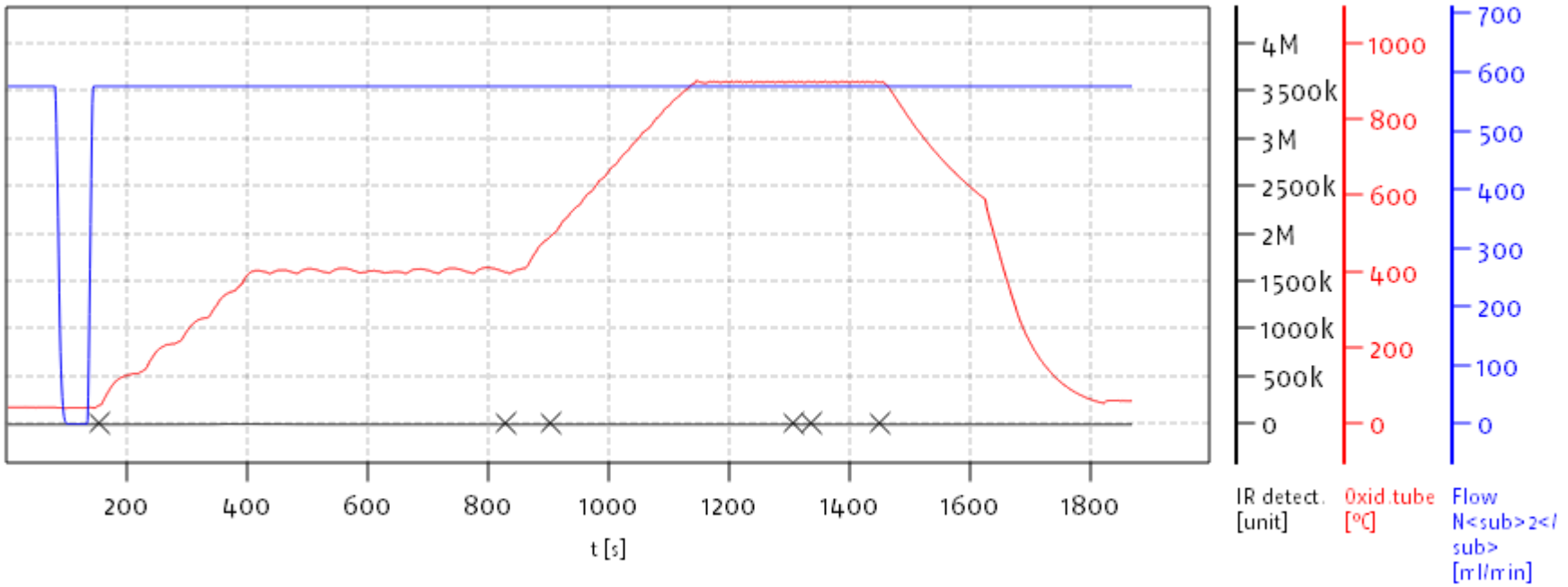
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0113	Instrument:	TOC Cube
		Calibration:	EH00021

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0113-CAL1	peData_08112021@1352-(	NA	08/10/21 14:19
Cal Standard	SJH0113-CAL2	peData_08112021@1352-(	NA	08/10/21 14:51
Cal Standard	SJH0113-CAL3	peData_08112021@1352-(	NA	08/10/21 15:22
Cal Standard	SJH0113-CAL4	peData_08112021@1352-(	NA	08/10/21 15:54
Cal Standard	SJH0113-CAL5	peData_08112021@1352-(	NA	08/10/21 16:25
Cal Standard	SJH0113-CAL6	peData_08112021@1352-(	NA	08/10/21 16:57
Cal Standard	SJH0113-CAL7	peData_08112021@1352-(	NA	08/10/21 17:28
Cal Standard	SJH0113-CAL8	peData_08112021@1352-(	NA	08/10/21 18:00
Cal Standard	SJH0113-CAL9	peData_08112021@1352-(	NA	08/10/21 18:32
Cal Standard	SJH0113-CALA	peData_08112021@1352-(	NA	08/10/21 19:03
Cal Standard	SJH0113-CALB	peData_08112021@1352-(	NA	08/10/21 19:34
Cal Standard	SJH0113-CALC	peData_08112021@1352-(	NA	08/10/21 20:06
Cal Standard	SJH0113-CALD	peData_08112021@1352-(	NA	08/10/21 20:37
Cal Standard	SJH0113-CALE	peData_08112021@1352-(	NA	08/10/21 21:08
Cal Standard	SJH0113-CALF	peData_08112021@1352-(	NA	08/10/21 21:40
Cal Standard	SJH0113-CALG	peData_08112021@1352-(	NA	08/10/21 22:11
Cal Standard	SJH0113-CALH	peData_08112021@1352-(	NA	08/10/21 22:42
Cal Standard	SJH0113-CALI	peData_08112021@1352-(	NA	08/10/21 23:14
Cal Standard	SJH0113-CALJ	peData_08112021@1352-(	NA	08/10/21 23:45
Cal Standard	SJH0113-CALK	peData_08112021@1352-(	NA	08/11/21 00:16
Cal Standard	SJH0113-CALL	peData_08112021@1352-(	NA	08/11/21 00:48
Cal Standard	SJH0113-CALM	peData_08112021@1352-(	NA	08/11/21 01:19
Cal Standard	SJH0113-CALN	peData_08112021@1352-(	NA	08/11/21 01:50
Cal Standard	SJH0113-CALO	peData_08112021@1352-(	NA	08/11/21 02:22
Initial Cal Check	SJH0113-ICV1	peData_08112021@1352-(	NA	08/11/21 04:27
Initial Cal Blank	SJH0113-ICB1	peData_08112021@1352-(	NA	08/11/21 04:59

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	8/10/2021 1:17 PM	0.000	0.000	0.000	bl	22 805	4 168	1 160	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

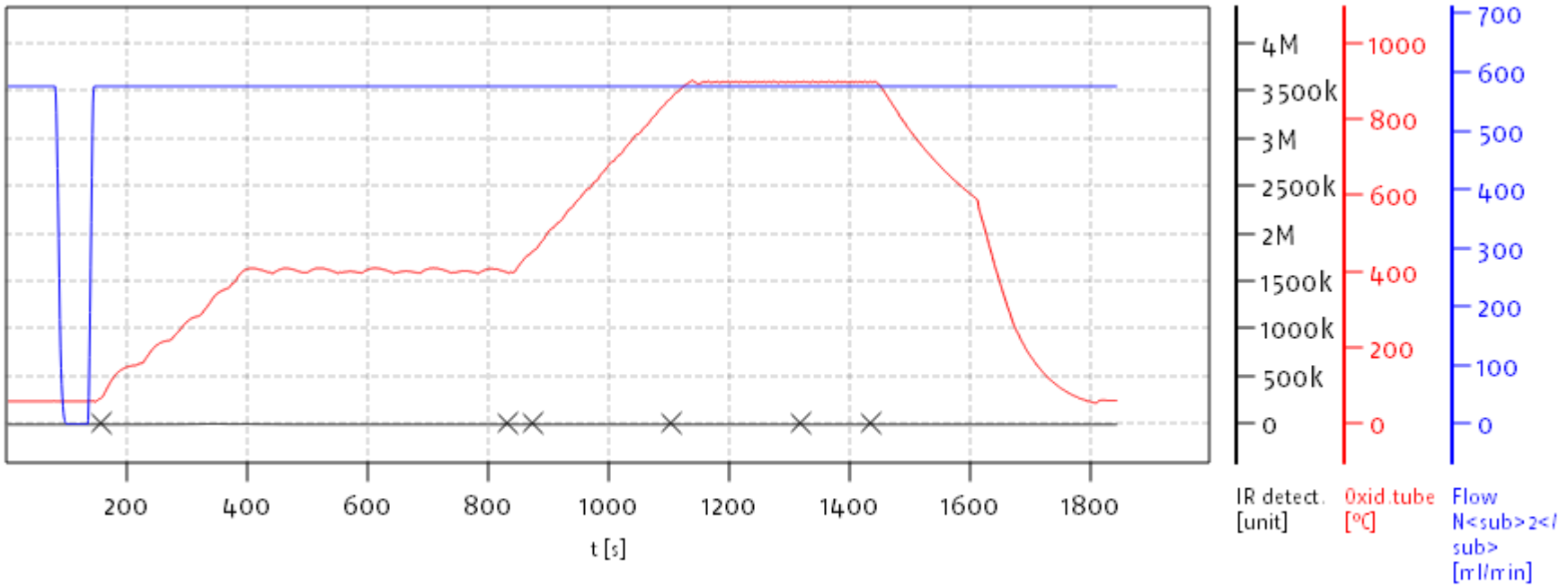
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	8/10/2021 1:48 PM	0.000	0.000	0.000	bl	25 029	584	417	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
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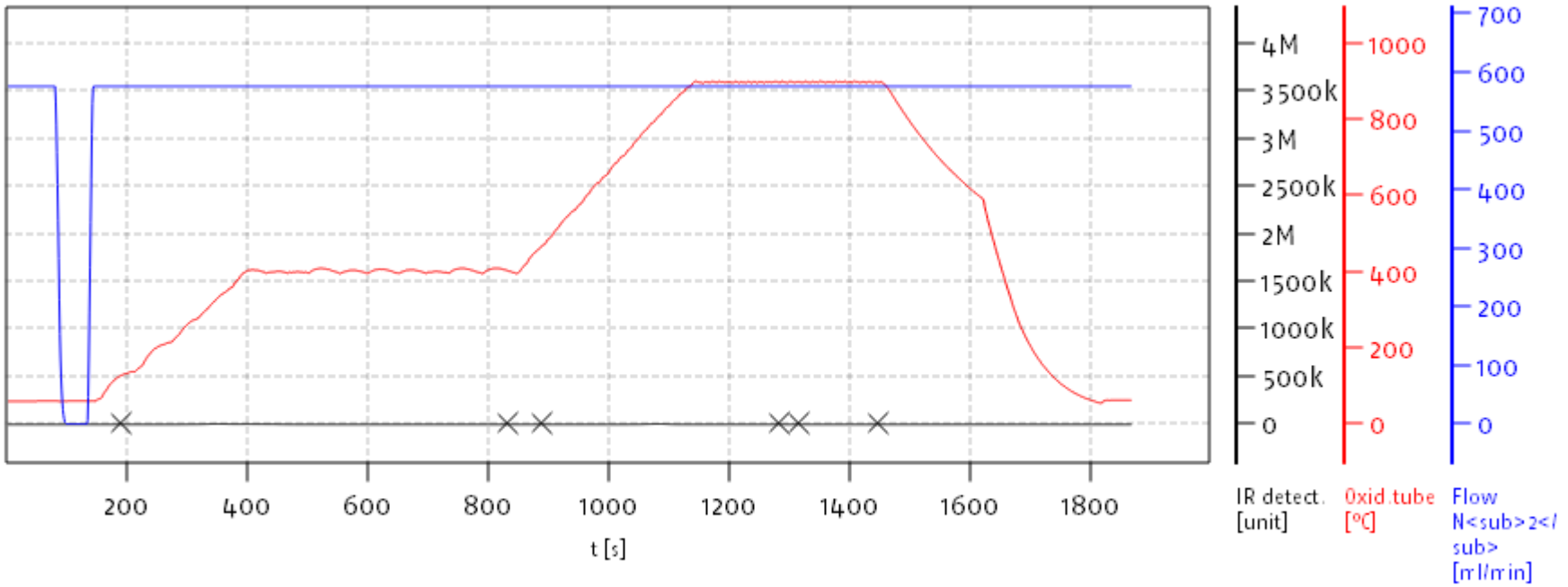
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SJH0113-CAL1	200.00	0.0028	1.00	CARBON	8/10/2021 2:19 PM	0.022	0.010	0.032	bl,C2u	22 693	9 521	406	1.0000	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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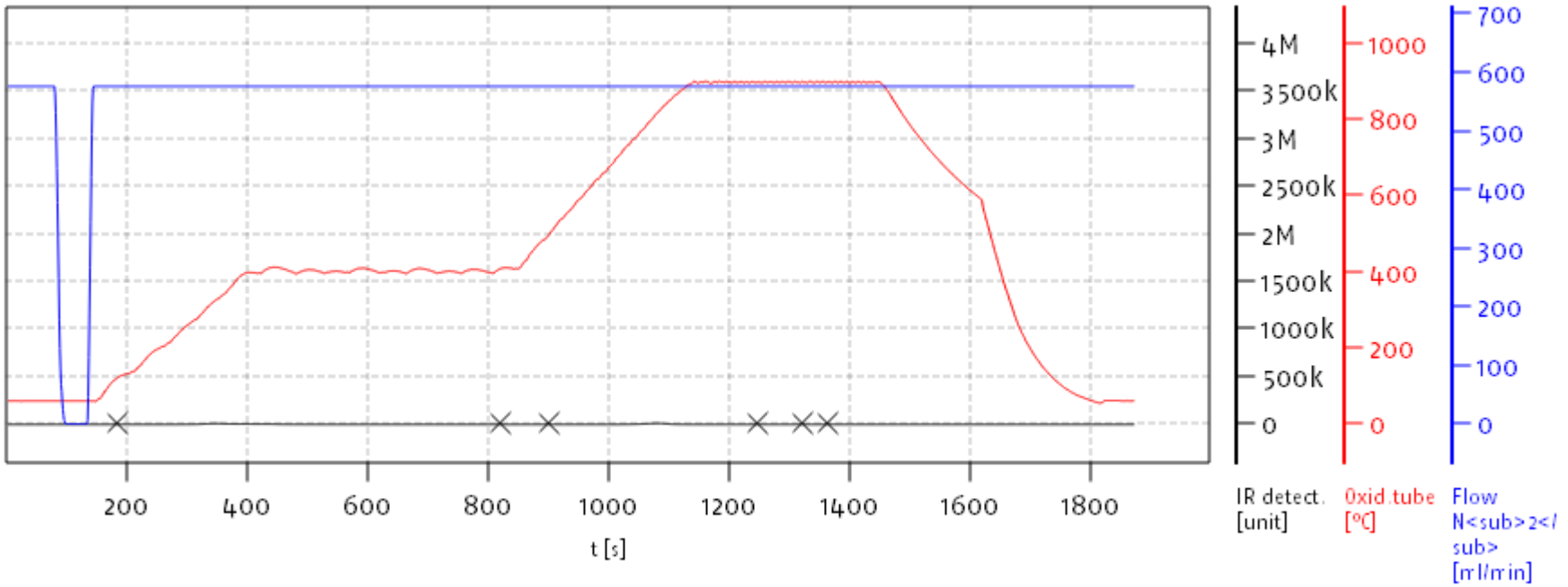
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SJH0113-CAL2	200.00	0.0053	1.00	CARBON	8/10/2021 2:51 PM	0.029	0.018	0.046	bl,C2u	30 832	20 112	139	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

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Serial No: 0300.181017
Mode CCC

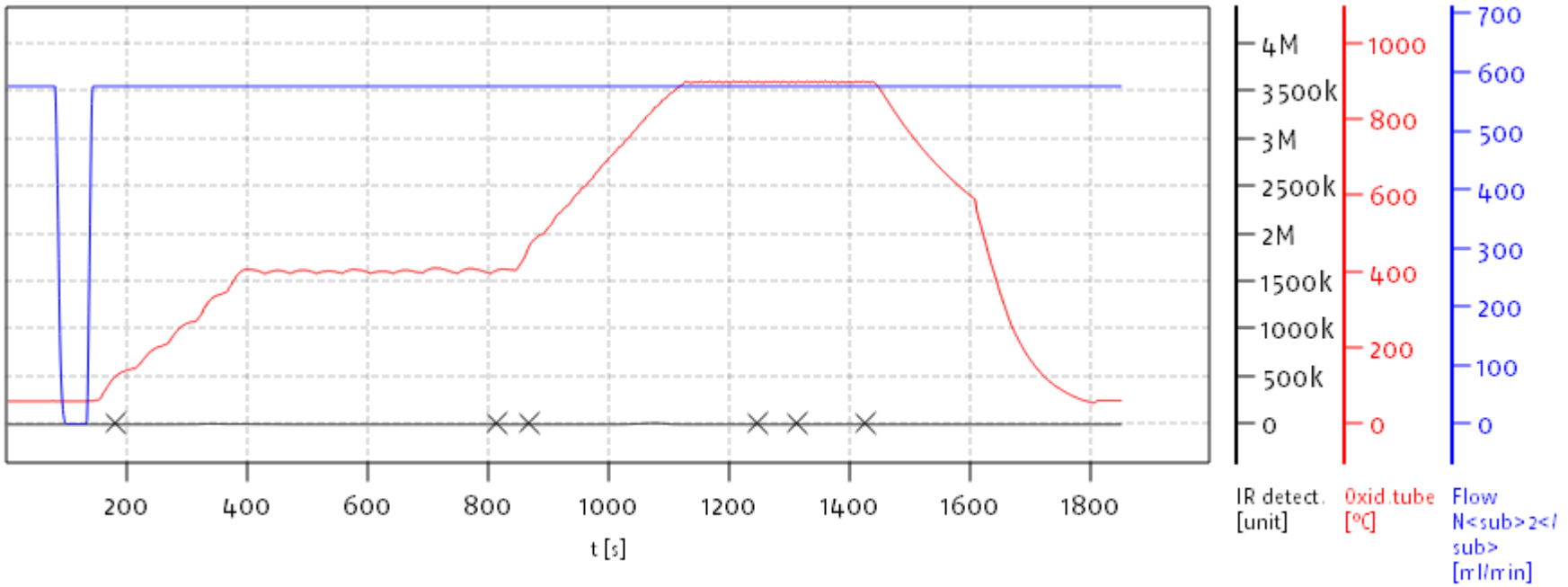
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SJH0113-CAL3	200.00	0.0070	1.00	CARBON	8/10/2021 3:22 PM	0.022	0.021	0.043	bl,C2u	22 146	23 616	314	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

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Serial No: 0300.181017
Mode CCC

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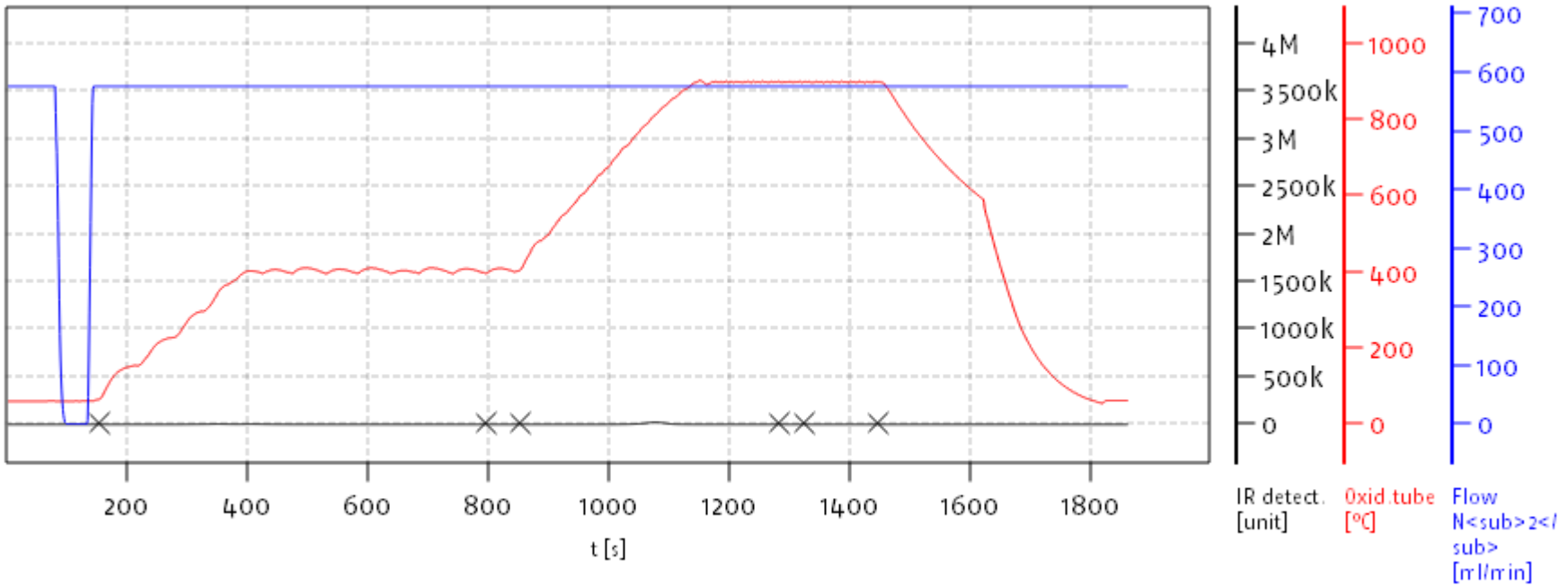
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SJH0113-CAL4	200.00	0.0103	1.00	CARBON	8/10/2021 3:54 PM	0.018	0.032	0.050	bl,C2u	17 342	38 128	280	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

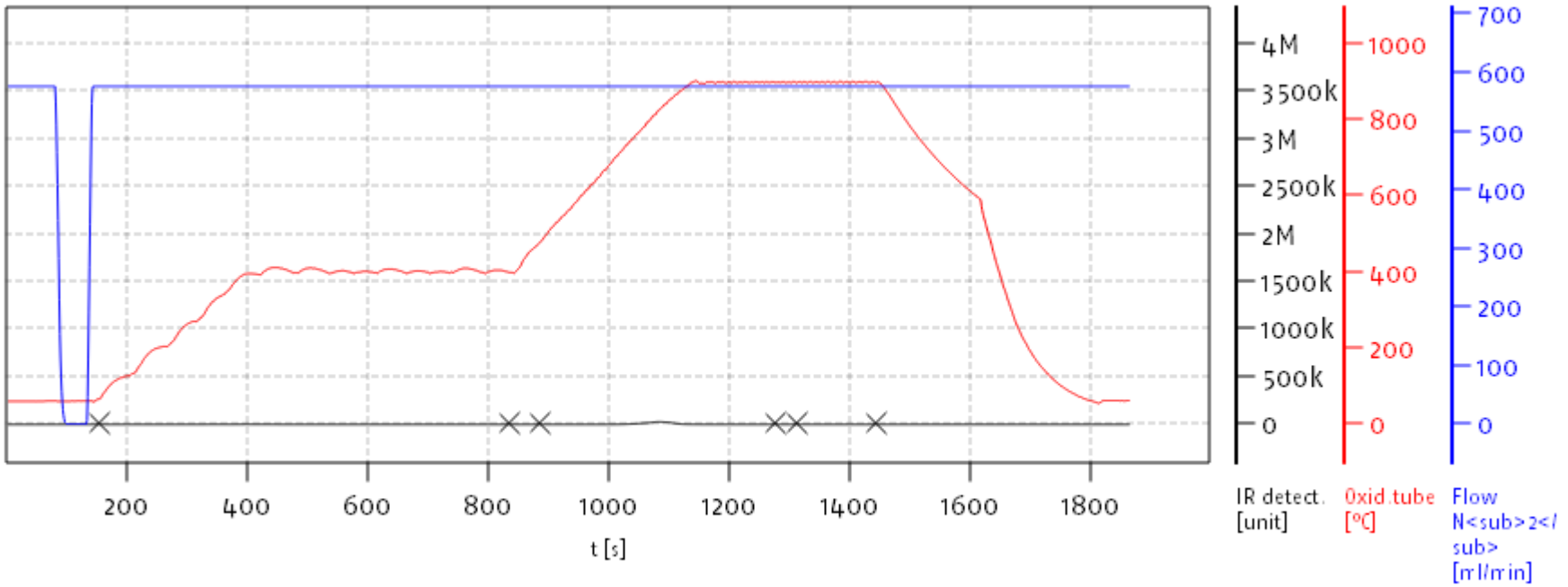
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SJH0113-CAL5	200.00	0.0150	1.00	CARBON	8/10/2021 4:25 PM	0.009	0.046	0.055	bl,C1u,C2u	6 405	55 349	275	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

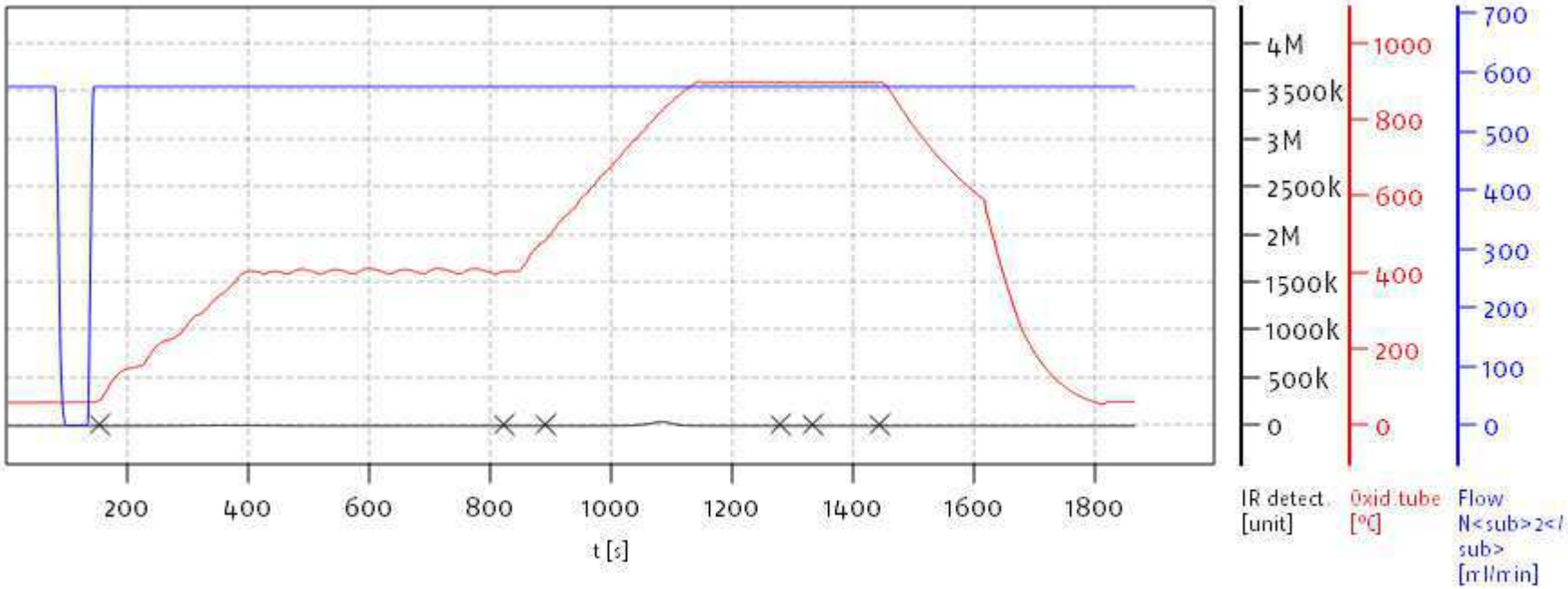
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SJH0113-CAL6	200.00	0.0199	1.00	CARBON	8/10/2021 4:57 PM	0.024	0.063	0.087	bl,C2u	25 078	76 805	308	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

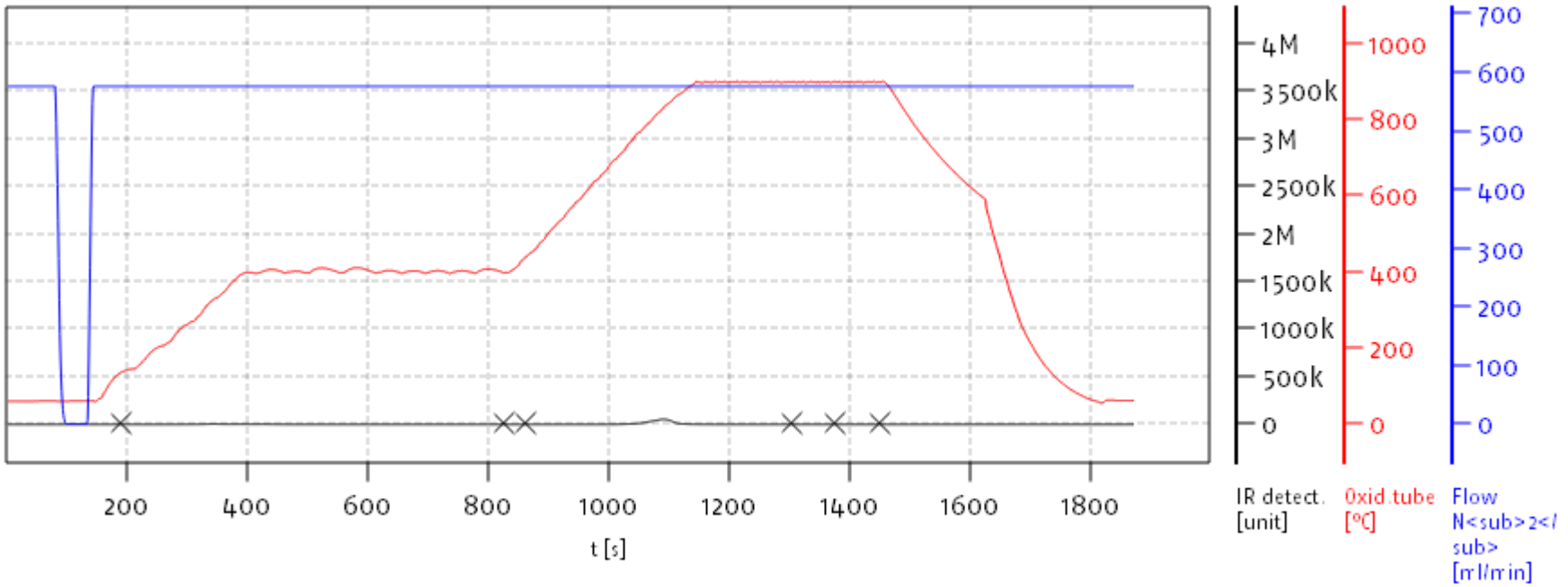
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SJH0113-CAL7	200.00	0.0248	1.00	CARBON	8/10/2021 5:28 PM	0.017	0.079	0.096	bl,C2u	16 608	97 209	190	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
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Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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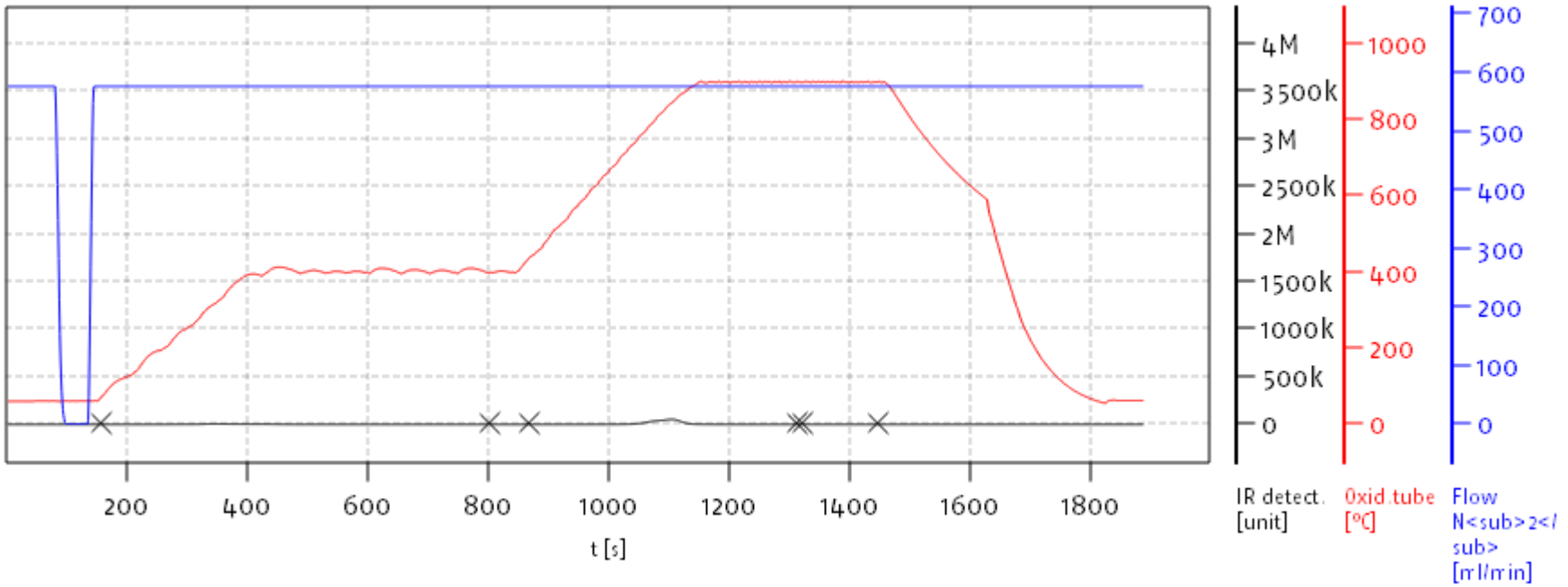
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SJH0113-CAL8	200.00	0.0302	1.00	CARBON	8/10/2021 6:00 PM	0.024	0.092	0.116	bl,C2u	24 582	114 459	270	1.0000	1.0000



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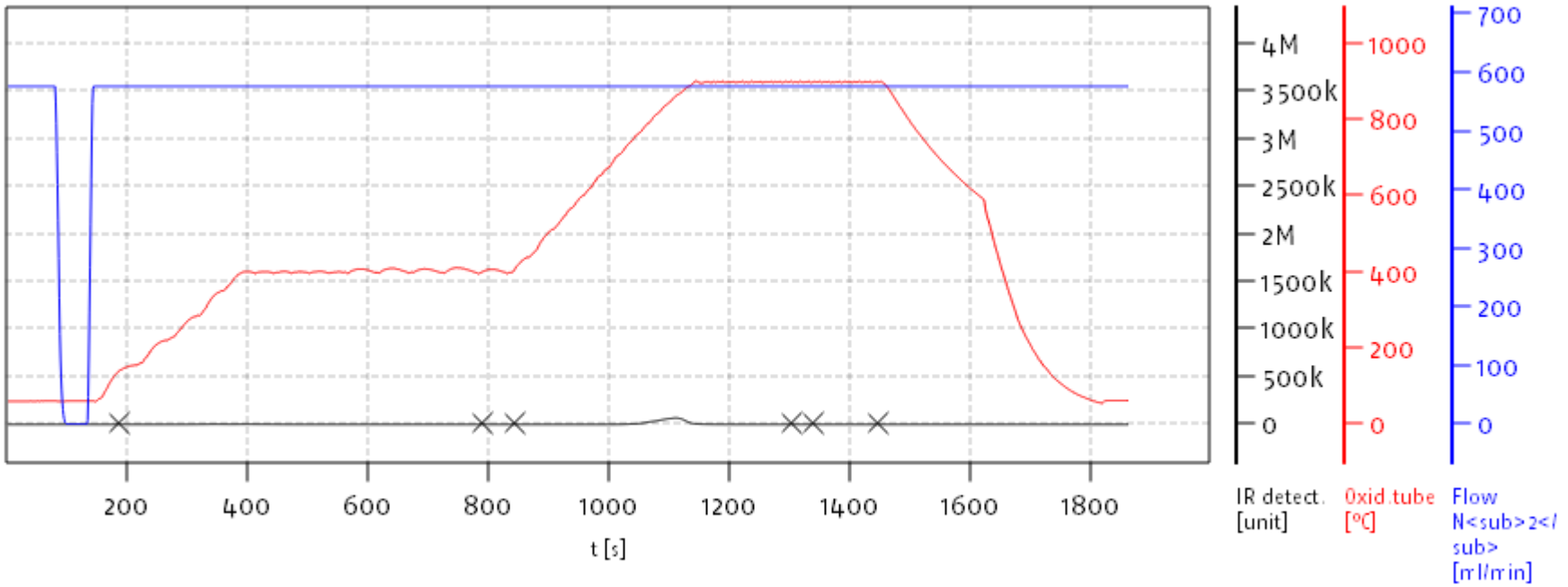
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SJH0113-CAL9	200.00	0.0397	1.00	CARBON	8/10/2021 6:32 PM	0.014	0.118	0.132	bl,C2u	12 556	147 448	246	1.0000	1.0000



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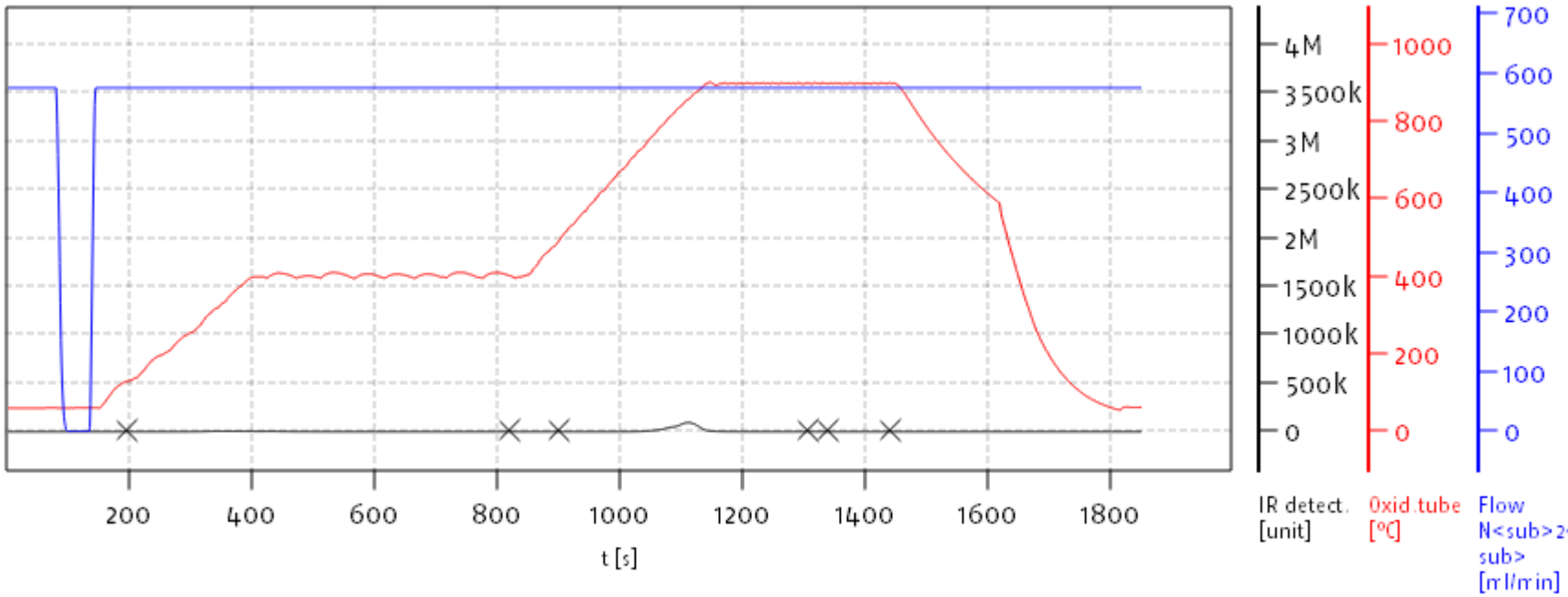
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SJH0113-CALA	200.00	0.0497	1.00	CARBON	8/10/2021 7:03 PM	0.024	0.145	0.168	bl,C2u	24 575	180 758	227	1.0000	1.0000



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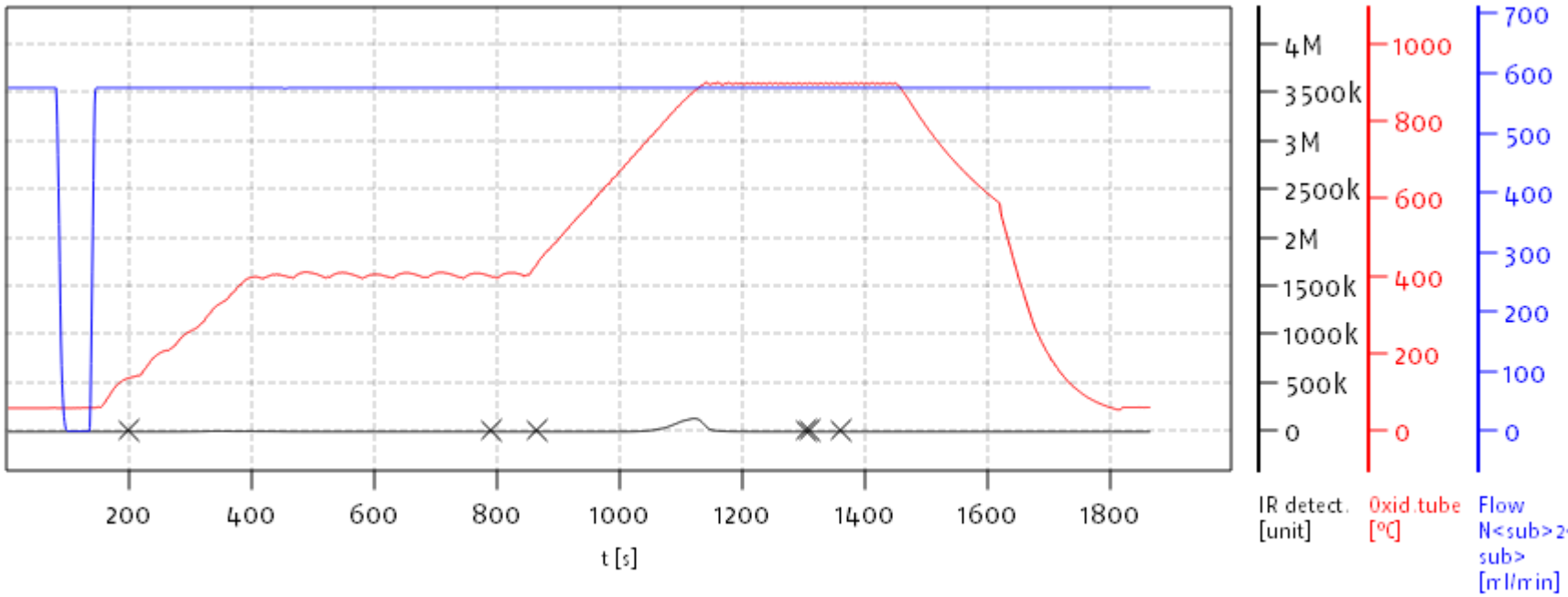
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SJH0113-CALB	200.00	0.0039	1.00	CARBON	8/10/2021 7:34 PM	0.023	0.236	0.260	bl,C2u	24 401	297 056	121	1.0000	1.0000



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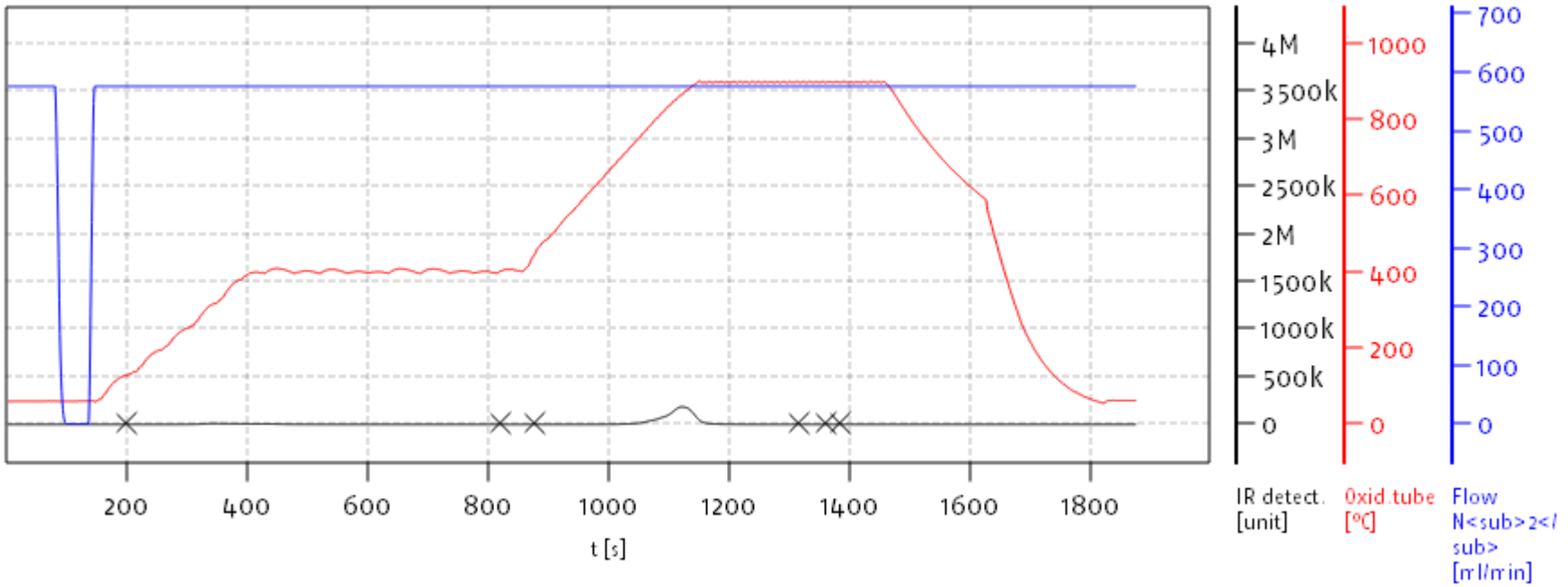
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SJH0113-CALC	200.00	0.0052	1.00	CARBON	8/10/2021 8:06 PM	0.036	0.311	0.347	bl,C2u	40 501	391 829	67	1.0000	1.0000



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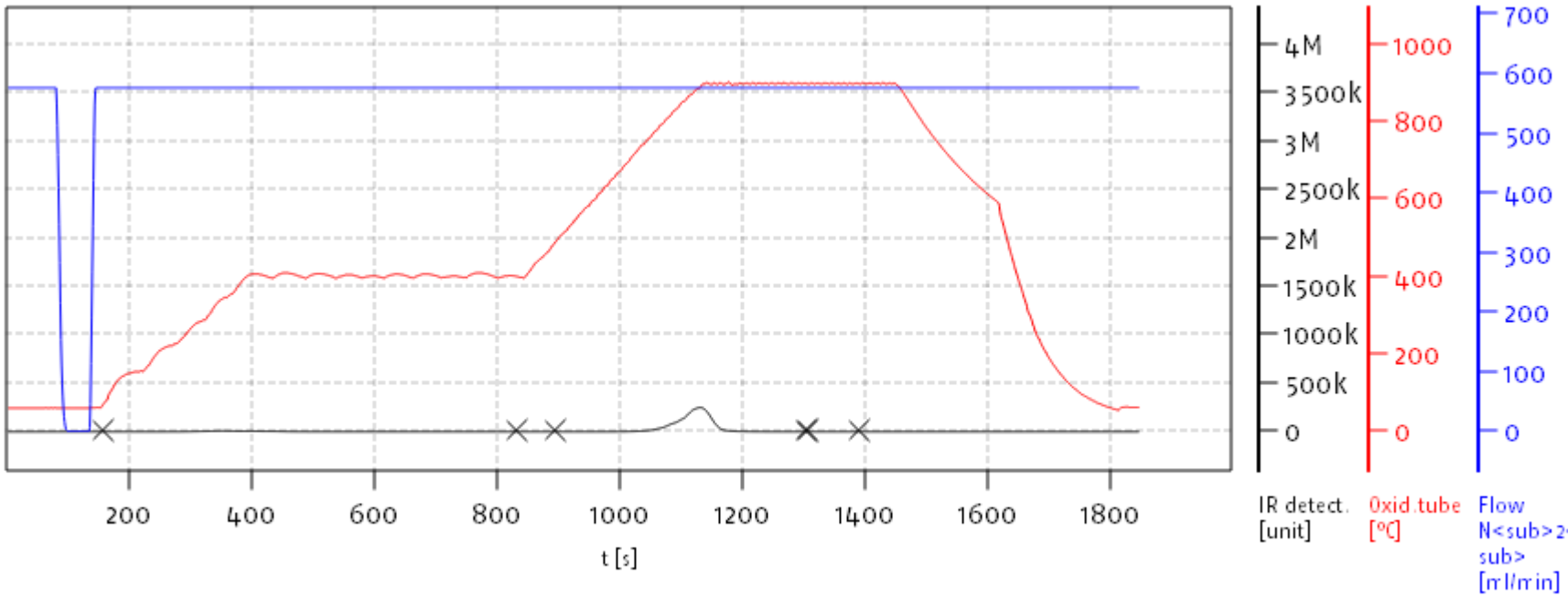
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SJH0113-CALD	200.00	0.0072	1.00	CARBON	8/10/2021 8:37 PM	0.032	0.439	0.470	bl,C2u	34 638	553 926	294	1.0000	1.0000



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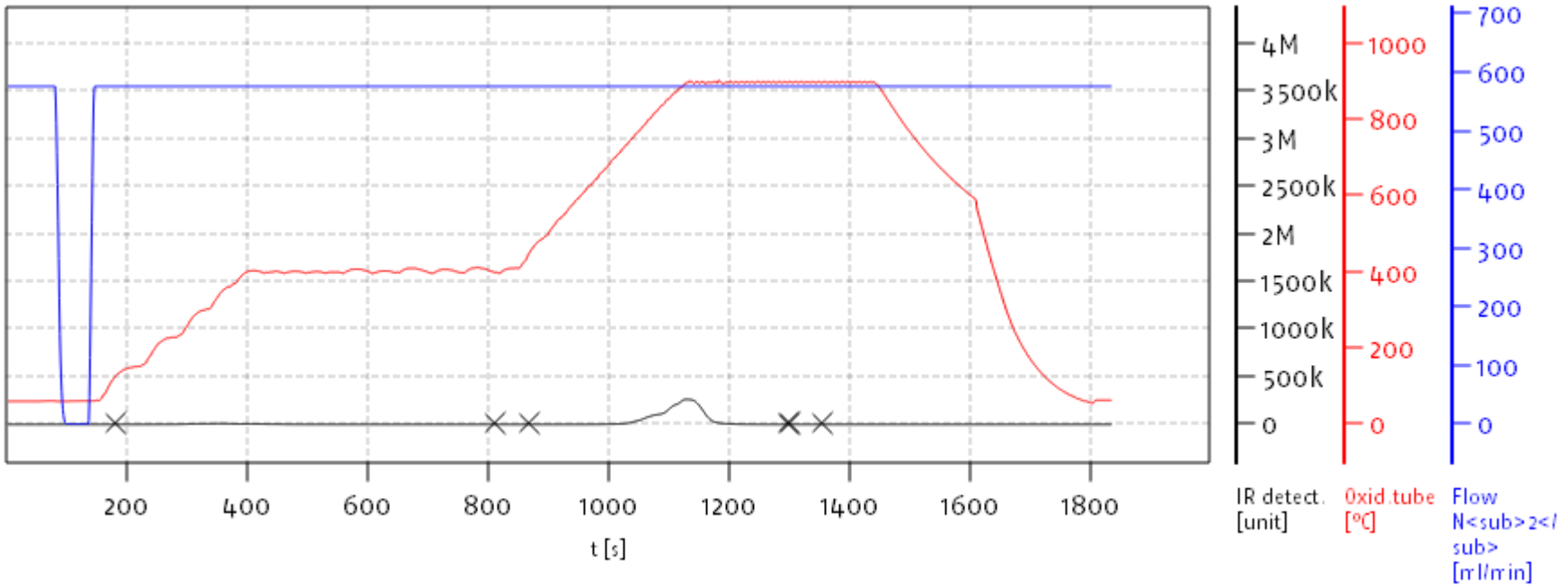
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SJH0113-CALE	200.00	0.0098	1.00	CARBON	8/10/2021 9:08 PM	0.037	0.592	0.630	bl,C2u	42 067	748 510	251	1.0000	1.0000



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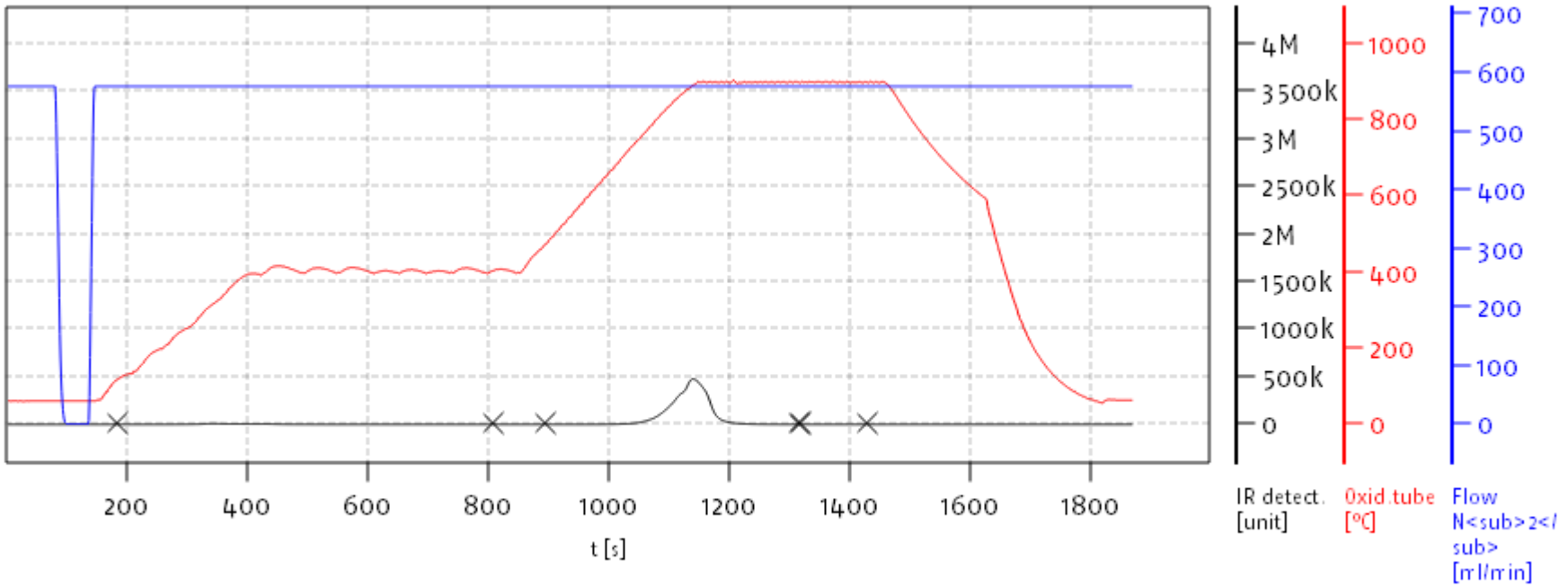
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SJH0113-CALF	200.00	0.0150	1.00	CARBON	8/10/2021 9:40 PM	0.030	0.934	0.964	bl,C2u	32 751	1 182 576	479	1.0000	1.0000



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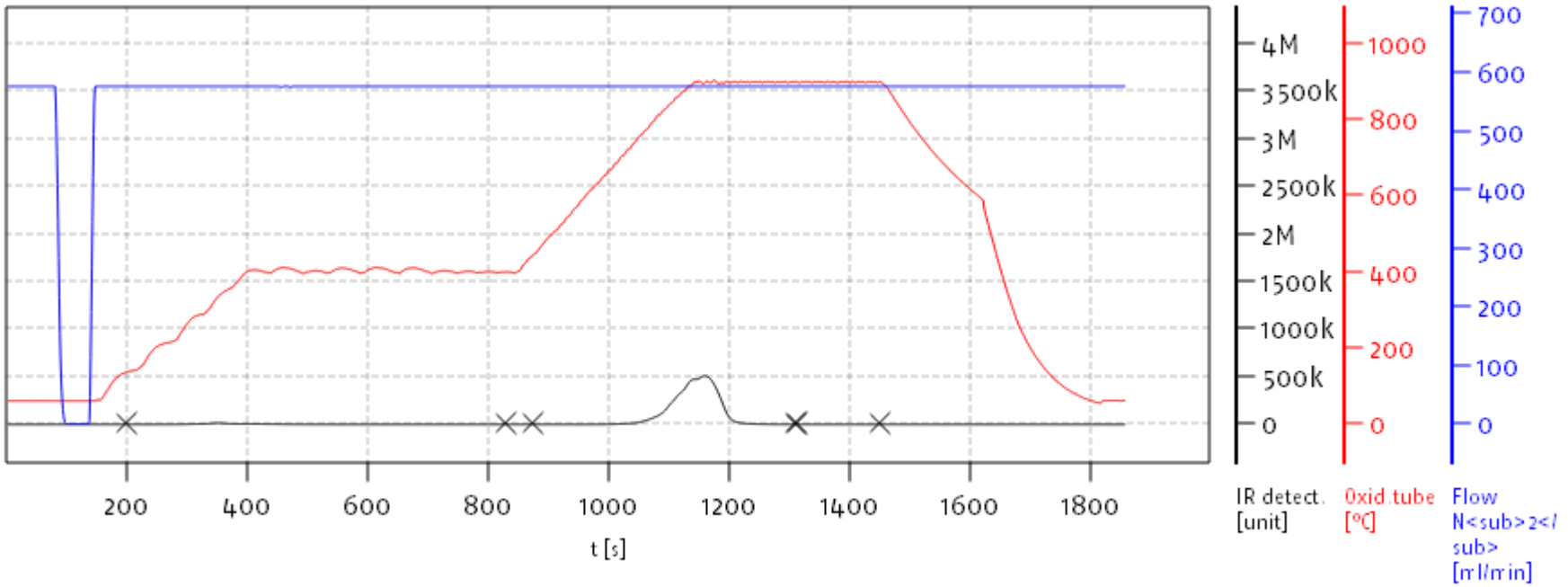
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SJH0113-CALG	200.00	0.0203	1.00	CARBON	8/10/2021 10:11 PM	0.039	1.249	1.287	bl,C2u	42 932	1 581 667	955	1.0000	1.0000



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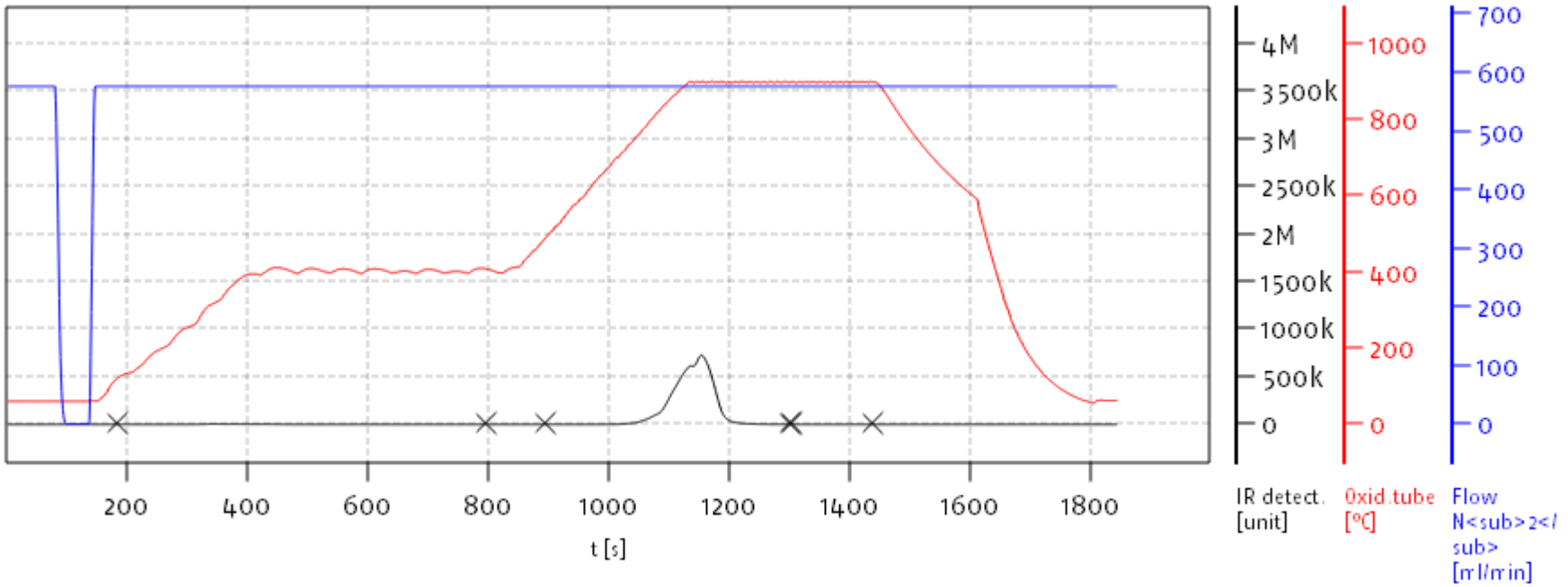
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SJH0113-CALH	200.00	0.0251	1.00	CARBON	8/10/2021 10:42 PM	0.019	1.538	1.557	bl,C2u	17 895	1 948 888	1 191	1.0000	1.0000



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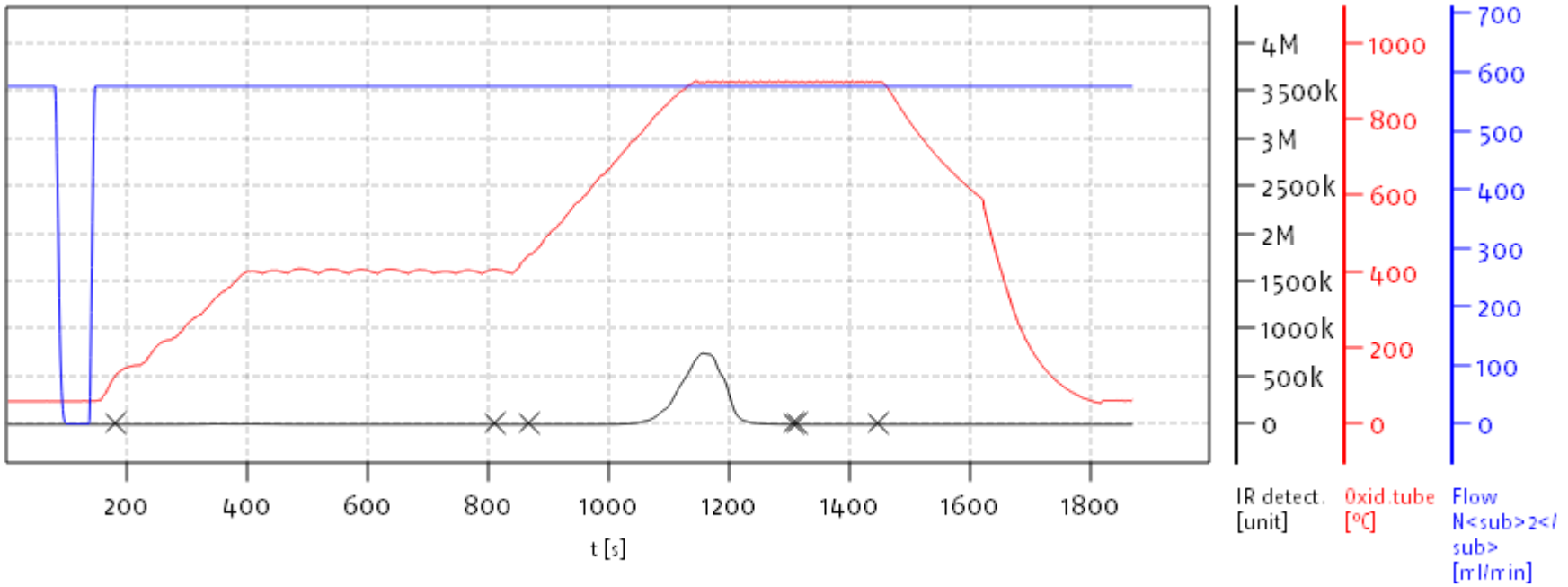
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SJH0113-CALI	200.00	0.0304	1.00	CARBON	8/10/2021 11:14 PM	0.024	1.868	1.892	bl,C2u	23 738	2 367 098	1 836	1.0000	1.0000



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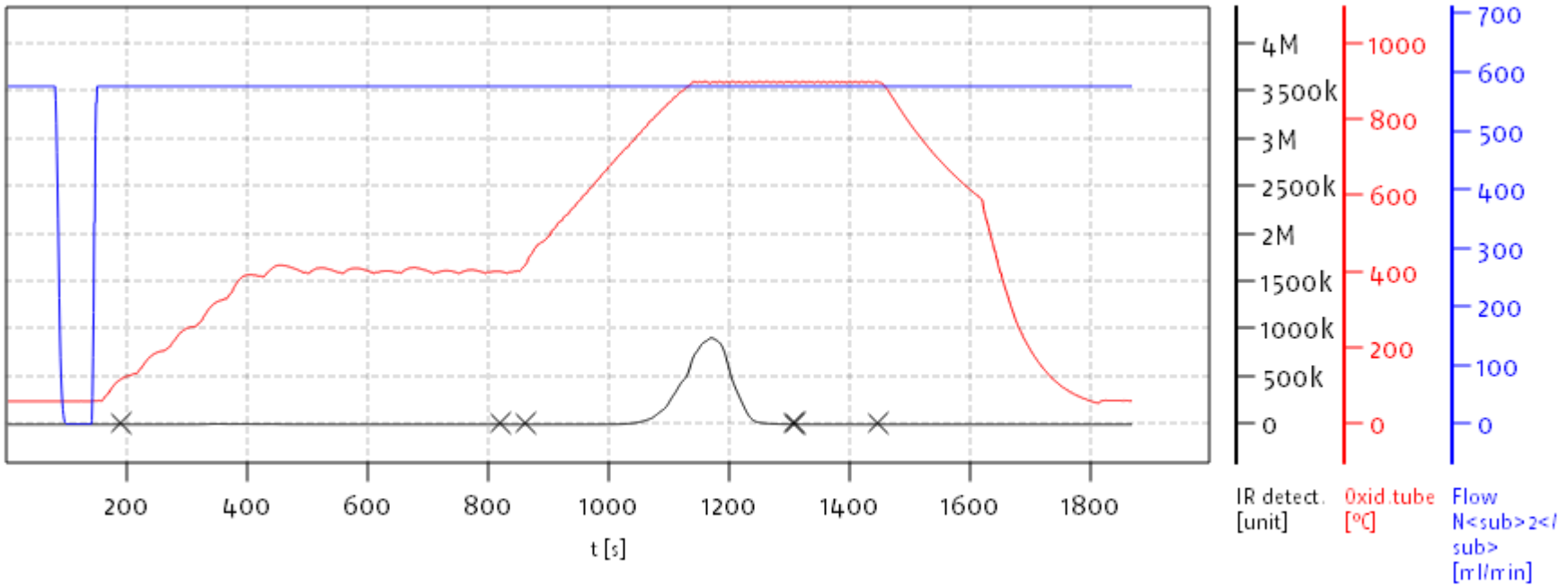
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SJH0113-CALJ	200.00	0.0399	1.00	CARBON	8/10/2021 11:45 PM	0.023	2.454	2.477	bl,C2u	21 349	3 110 916	2 579	1.0000	1.0000



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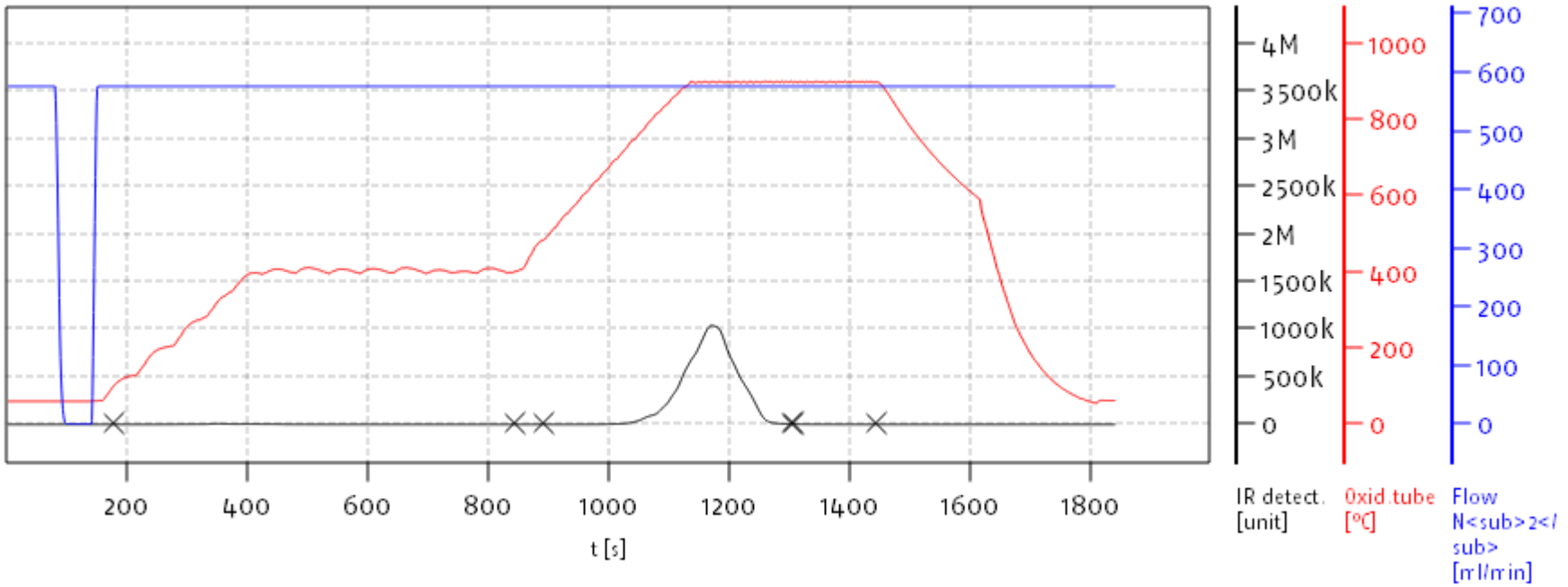
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SJH0113-CALK	200.00	0.0500	1.00	CARBON	8/11/2021 12:16 AM	0.030	3.054	3.084	bl,C2u	29 231	3 872 043	4 133	1.0000	1.0000



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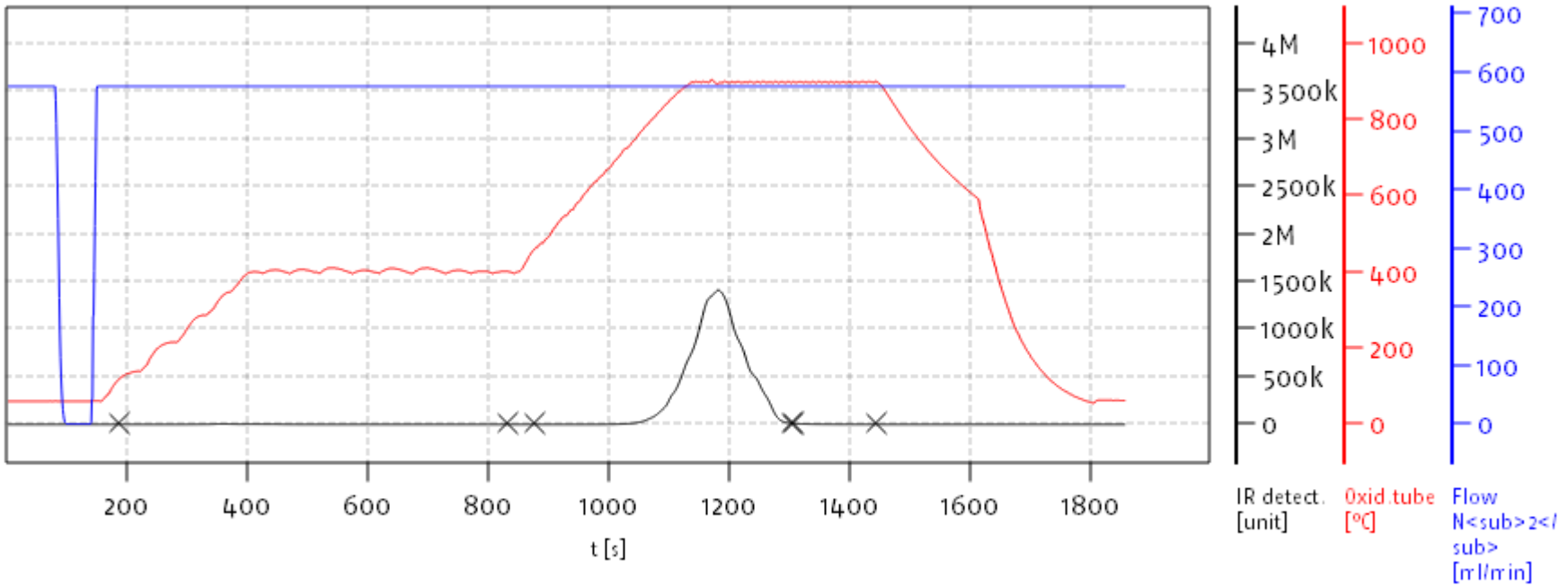
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SJH0113-CALL	200.00	0.0699	1.00	CARBON	8/11/2021 12:48 AM	0.028	4.289	4.317	bl	19 838	5 438 583	10 830	1.0000	1.0000



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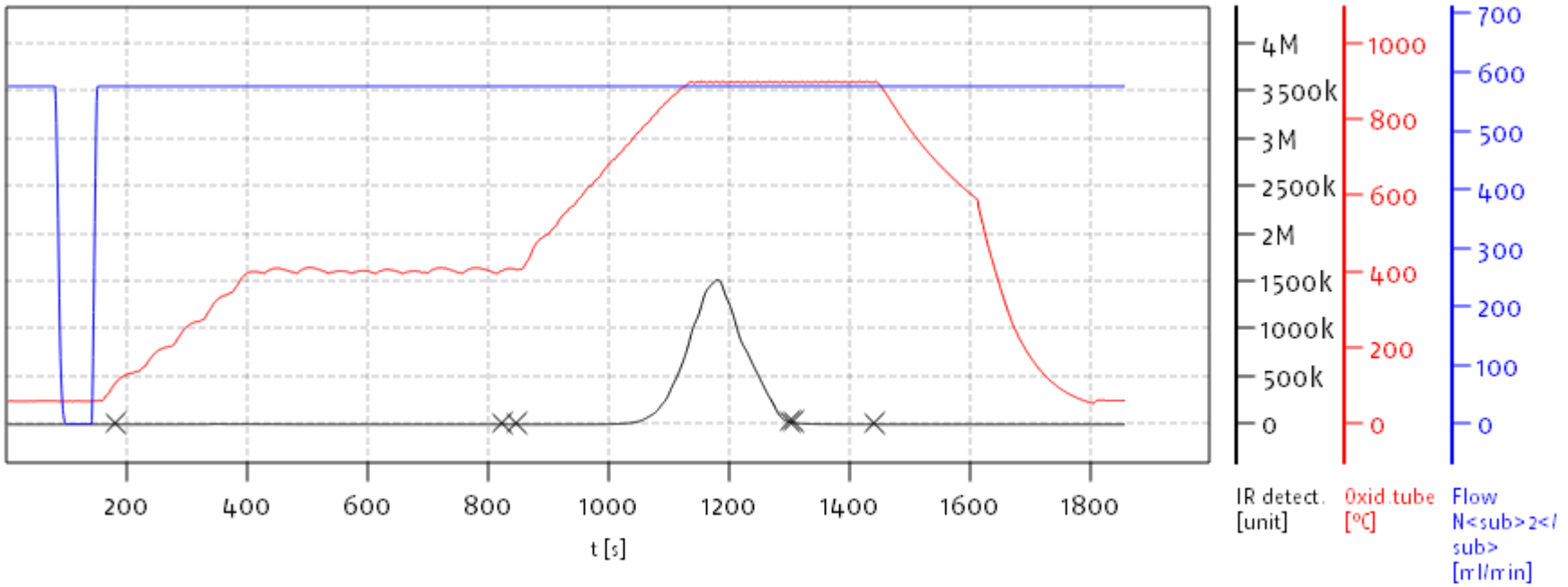
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SJH0113-CALM	200.00	0.0801	1.00	CARBON	8/11/2021 1:19 AM	0.030	4.919	4.949	bl	16 438	6 238 324	16 703	1.0000	1.0000



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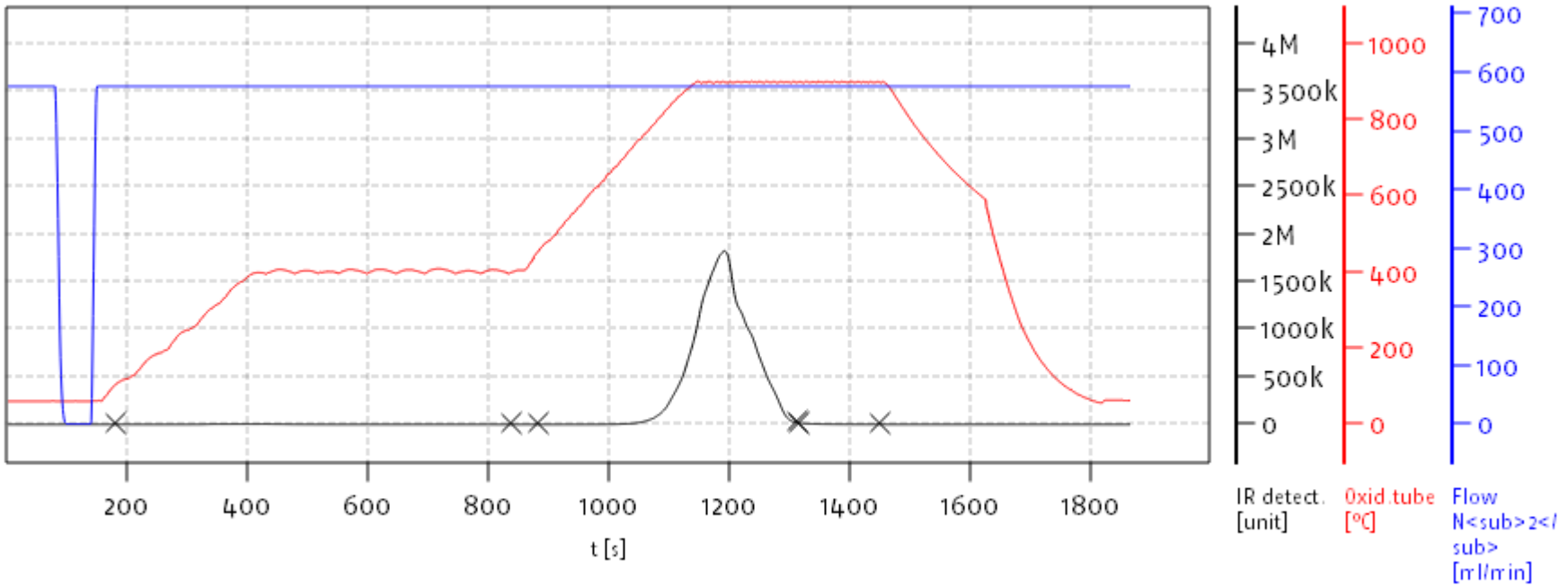
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SJH0113-CALN	200.00	0.0903	1.00	CARBON	8/11/2021 1:50 AM	0.035	5.550	5.585	bl	23 597	7 038 842	15 761	1.0000	1.0000



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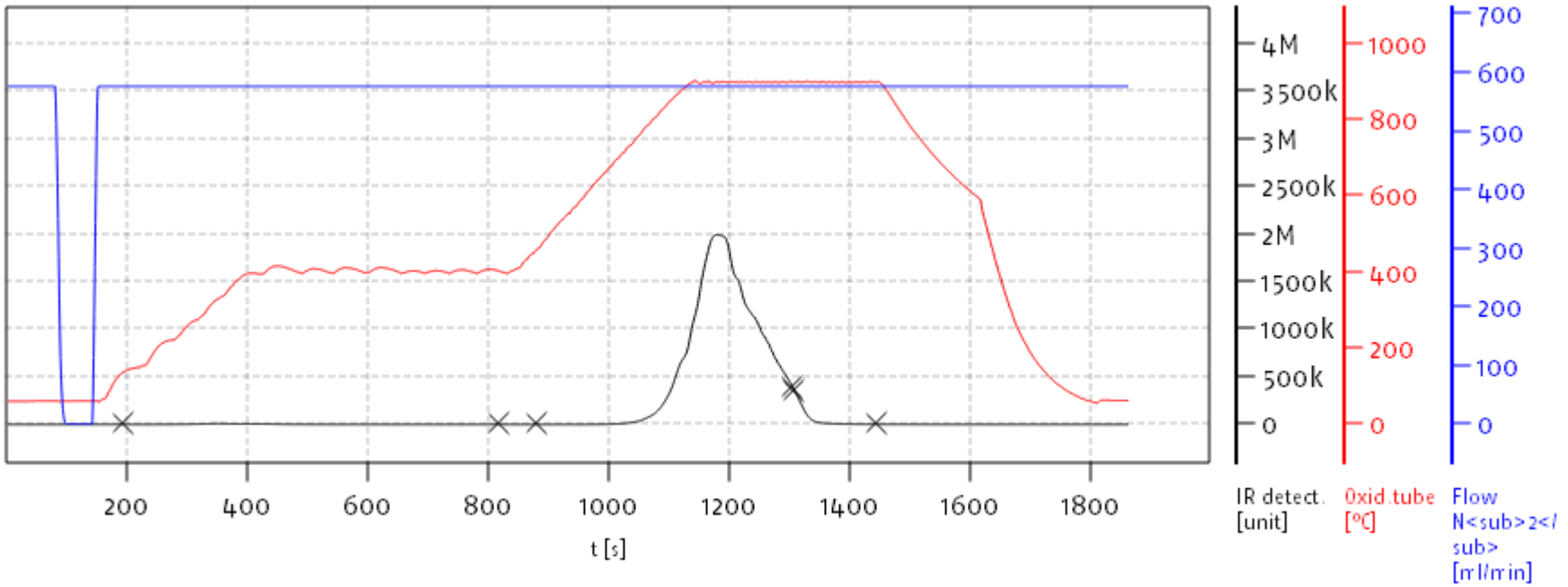
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SJH0113-CALO	200.00	0.1198	1.00	CARBON	8/11/2021 2:22 AM	0.206	7.202	7.408	bl,C3o	38 020	9 134 974	218 134	1.0000	1.0000



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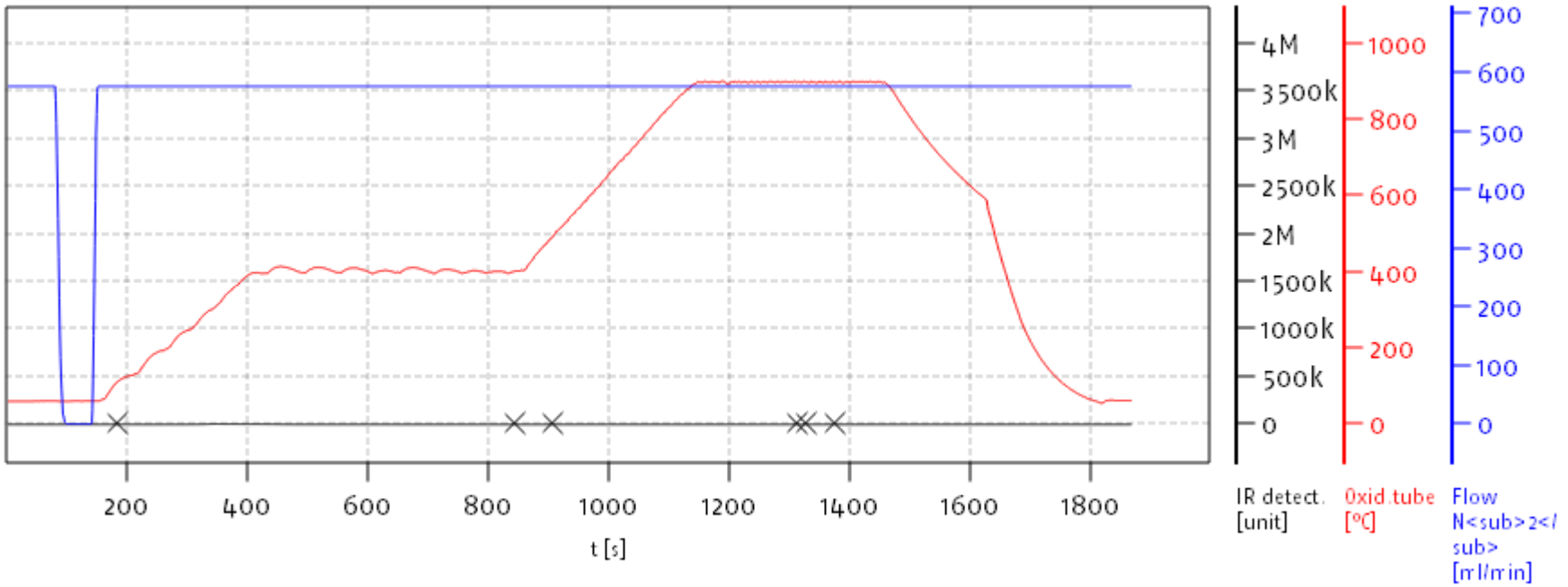
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	8/11/2021 2:53 AM	0.000	0.000	0.000	bl	19 335	23	0	1.0000	1.0000



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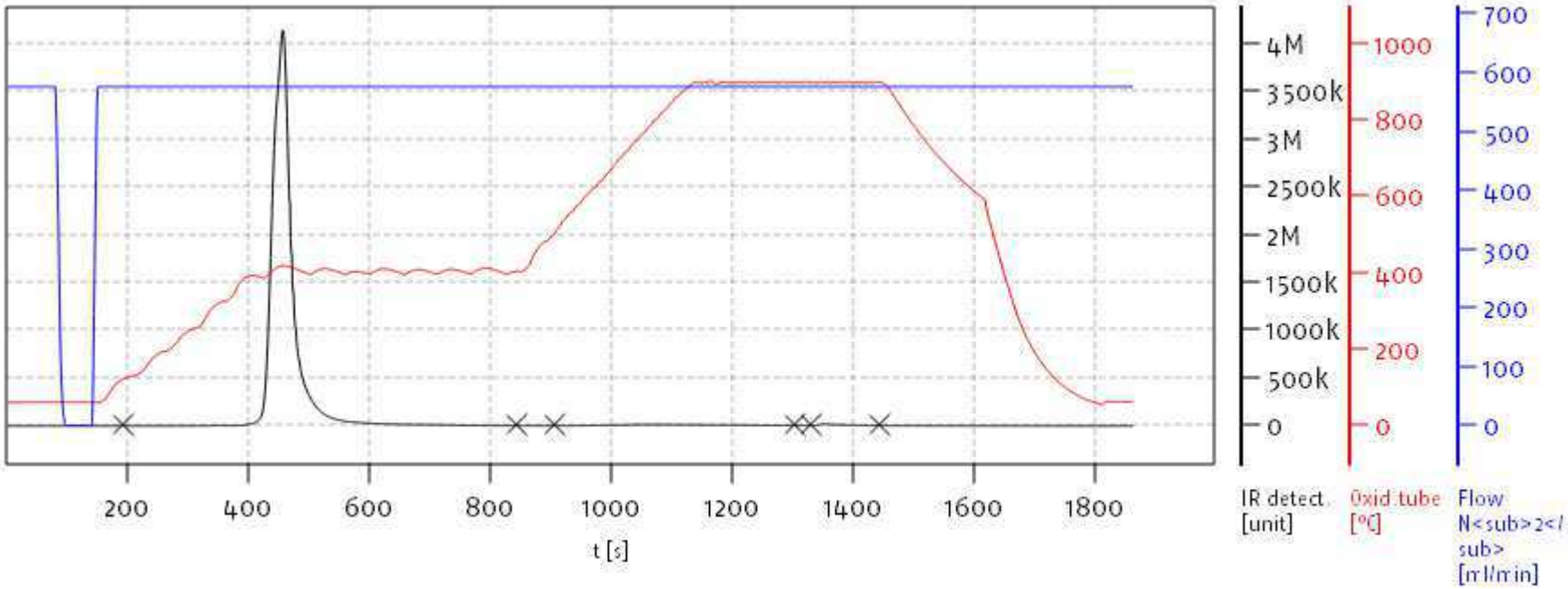
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	20.90		1.00	CARBON	8/11/2021 3:25 AM	44.744	0.921	45.666	bl	5 800 620	119 521	37 001	1.0154	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

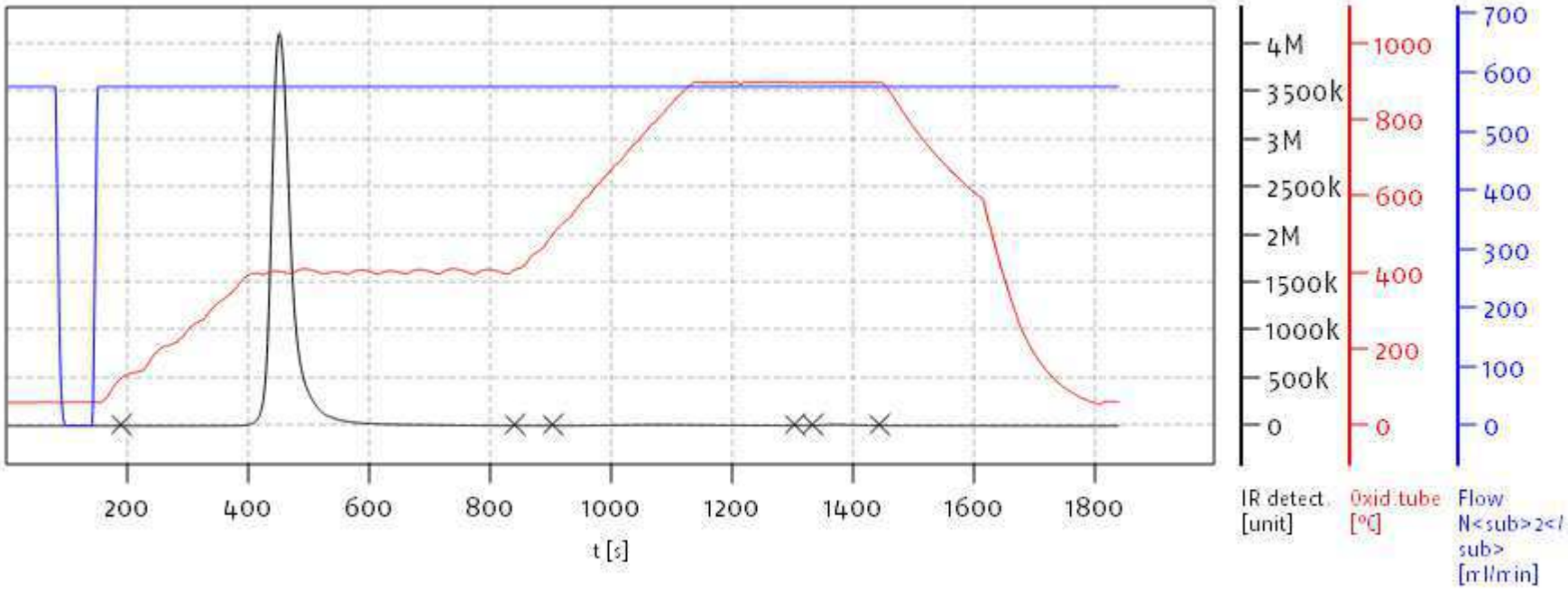
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	21.50		1.00	CARBON	8/11/2021 3:56 AM	44.697	0.738	45.435	bl	5 956 386	98 039	31 649	1.0173	1.0000



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Soli TOC Cube, Carbon
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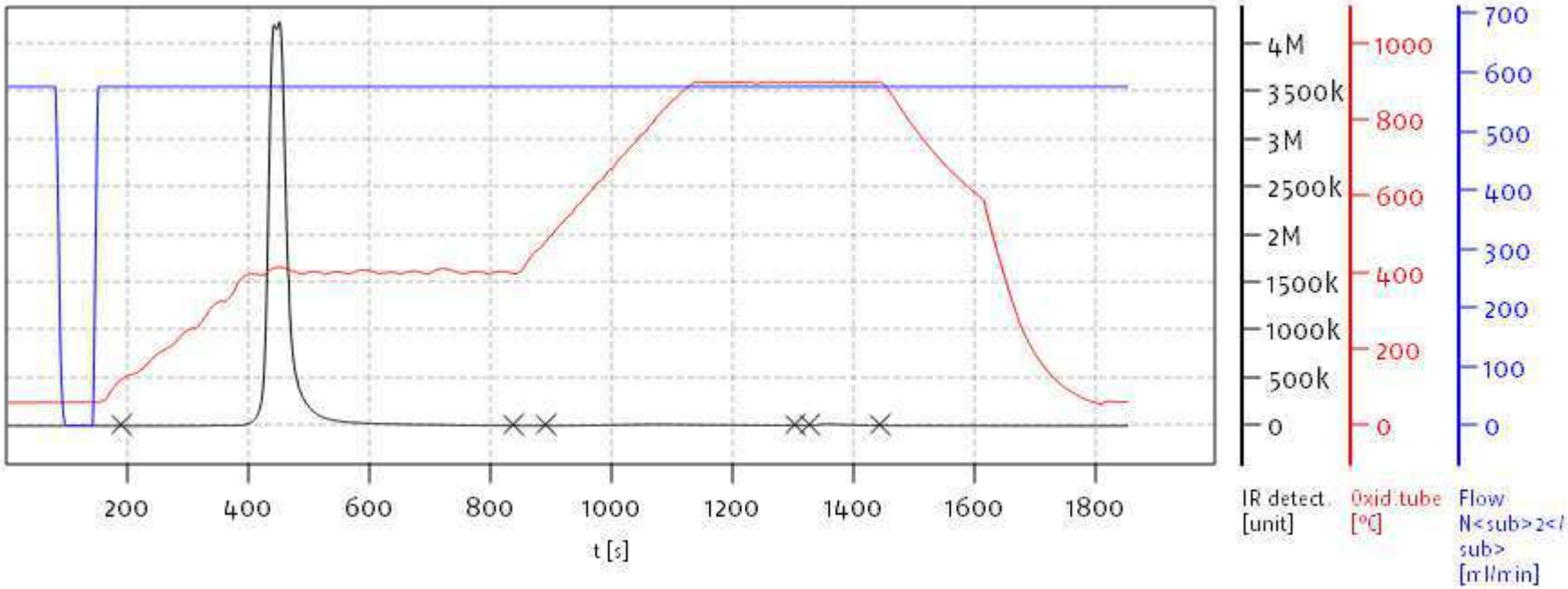
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SJH0113-ICV1	21.40		1.00	CARBON	8/11/2021 4:27 AM	44.407	0.930	45.337	bl	5 886 637	123 684	40 335	1.0163	1.0000



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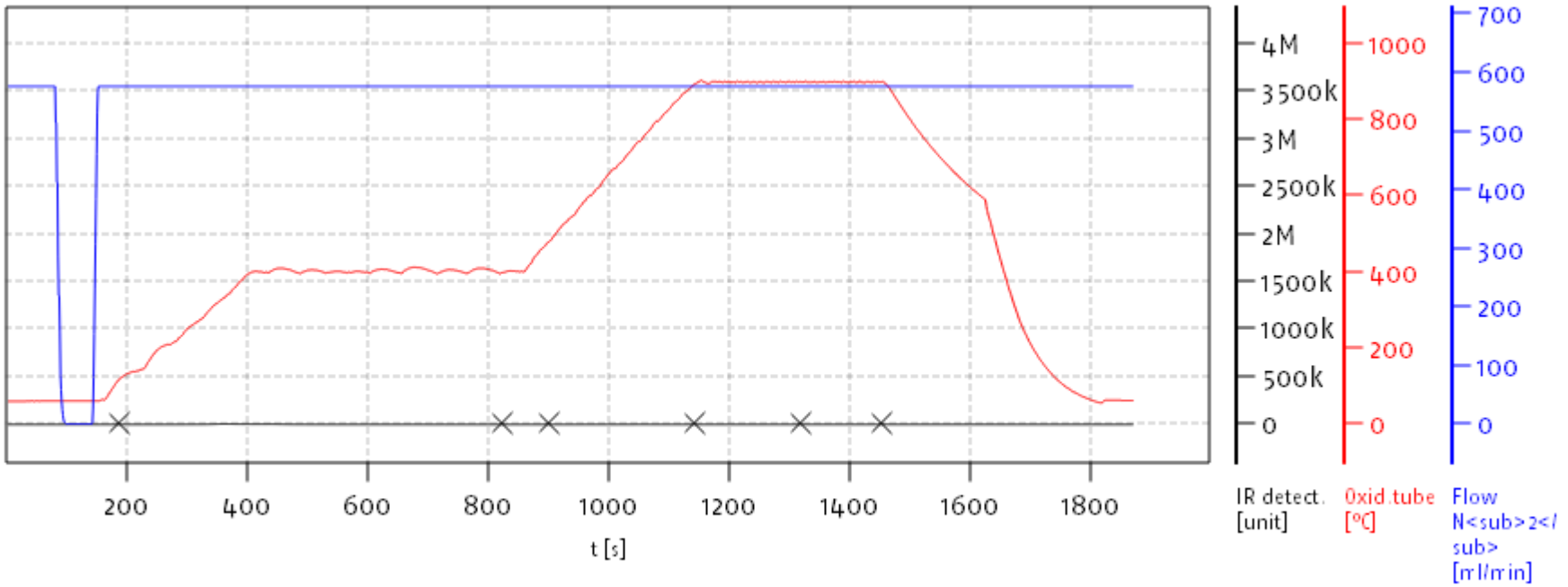
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SJH0113-ICB1	613.30		1.00	CARBON	8/11/2021 4:59 AM	0.007	0.001	0.008	bl,C3u,C2u	20 520	1 826	970	1.0163	1.0000



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ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

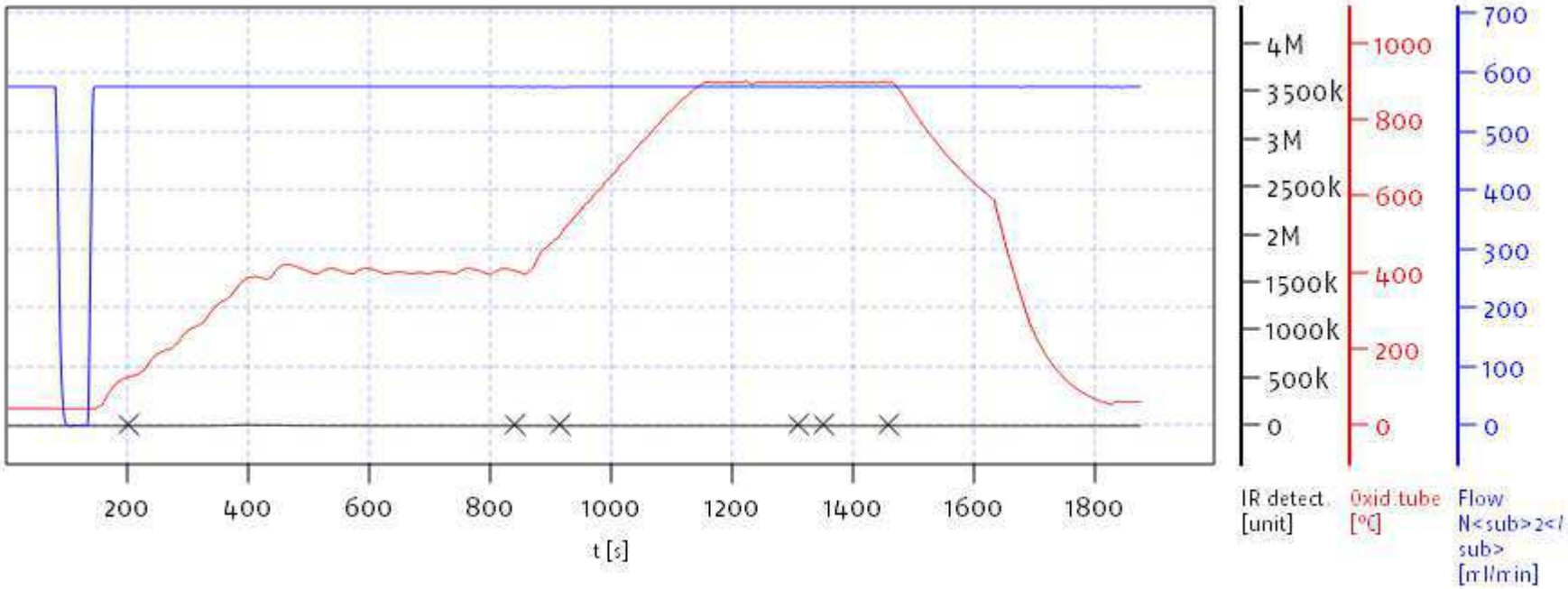
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0136	Instrument:	TOC Cube
		Calibration:	EH00021

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0136-ICV1	peData_08162021@1103-(	NA	08/12/21 14:07
Initial Cal Blank	SJH0136-ICB1	peData_08162021@1103-(	NA	08/12/21 14:39
Calibration Check	SJH0136-CCV1	peData_08162021@1103-(	NA	08/12/21 20:25
Calibration Blank	SJH0136-CCB1	peData_08162021@1103-(	NA	08/12/21 20:56
MRL Check	BJH0300-MRL1	peData_08162021@1103-(	Solid	08/13/21 00:04
Blank	BJH0300-BLK1	peData_08162021@1103-(	Solid	08/13/21 00:35
LCS	BJH0300-BS1	peData_08162021@1103-(	Solid	08/13/21 01:07
Reference	BJH0300-SRM1	peData_08162021@1103-(	Solid	08/13/21 01:38
Calibration Check	SJH0136-CCV2	peData_08162021@1103-(	NA	08/13/21 02:41
Calibration Blank	SJH0136-CCB2	peData_08162021@1103-(	NA	08/13/21 03:12
Calibration Check	SJH0136-CCV3	peData_08162021@1103-(	NA	08/13/21 08:59
Calibration Blank	SJH0136-CCB3	peData_08162021@1103-(	NA	08/13/21 09:31
Calibration Check	SJH0136-CCV4	peData_08162021@1103-(	NA	08/13/21 15:19
Calibration Blank	SJH0136-CCB4	peData_08162021@1103-(	NA	08/13/21 15:51
LDW21-SC569	21G0305-01	peData_08162021@1103-(	Solid	08/13/21 17:58
LDW21-SC566	21G0305-03	peData_08162021@1103-(	Solid	08/13/21 19:01
MRL Check	BJH0301-MRL1	peData_08162021@1103-(	Solid	08/13/21 19:32
Blank	BJH0301-BLK1	peData_08162021@1103-(	Solid	08/13/21 20:03
LCS	BJH0301-BS1	peData_08162021@1103-(	Solid	08/13/21 20:35
Reference	BJH0301-SRM1	peData_08162021@1103-(	Solid	08/13/21 21:06
Calibration Check	SJH0136-CCV5	peData_08162021@1103-(	NA	08/13/21 21:38
Calibration Blank	SJH0136-CCB5	peData_08162021@1103-(	NA	08/13/21 22:09

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	8/12/2021 12:33 PM	0.000	0.000	0.000	bl	41 948	5 336	1 662	1.0000	1.0000



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Access: soliTOC superuser

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Serial No: 0300.181017
Mode CCC

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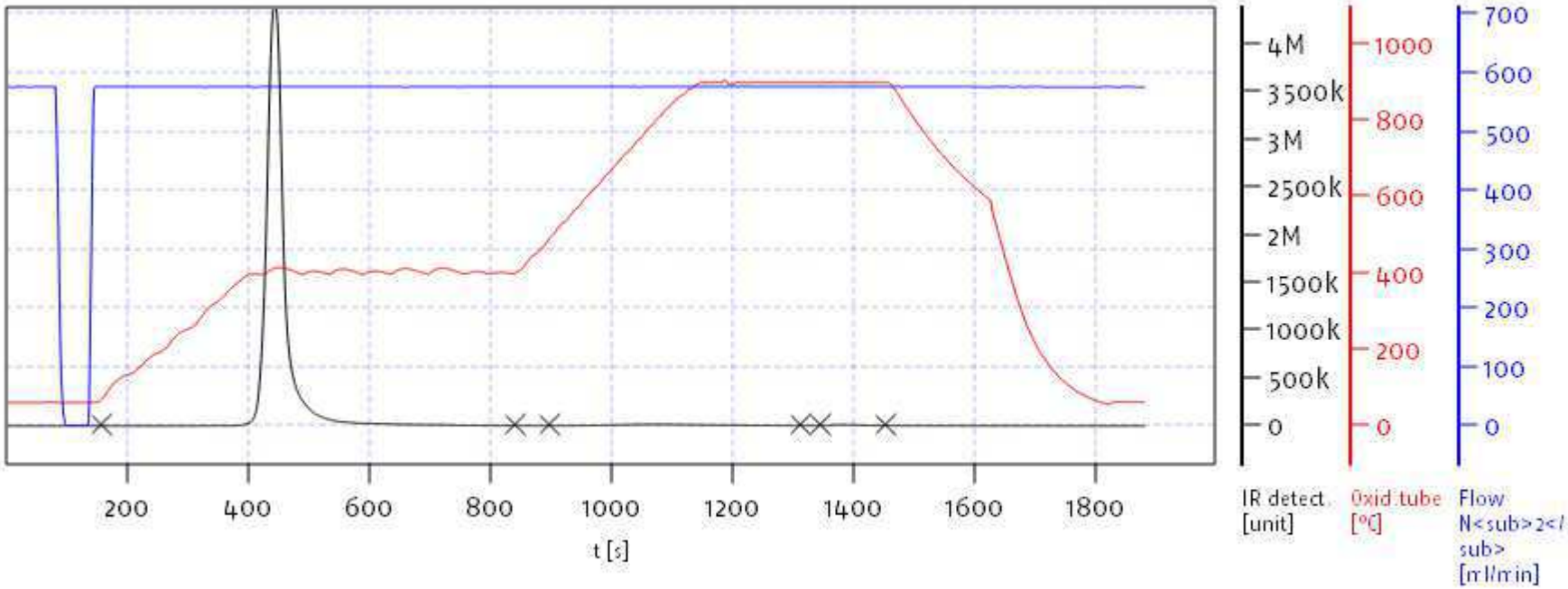
EXCELLENCE IN ELEMENTS

Document: 081321BF from: 8/14/2021 4:11 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	Dfactor	20.20		1.00	CARBON	8/12/2021 1:04 PM	44.572	0.855	45.427	bl	5 595 942	121 740	27 062	1.0329	1.0000



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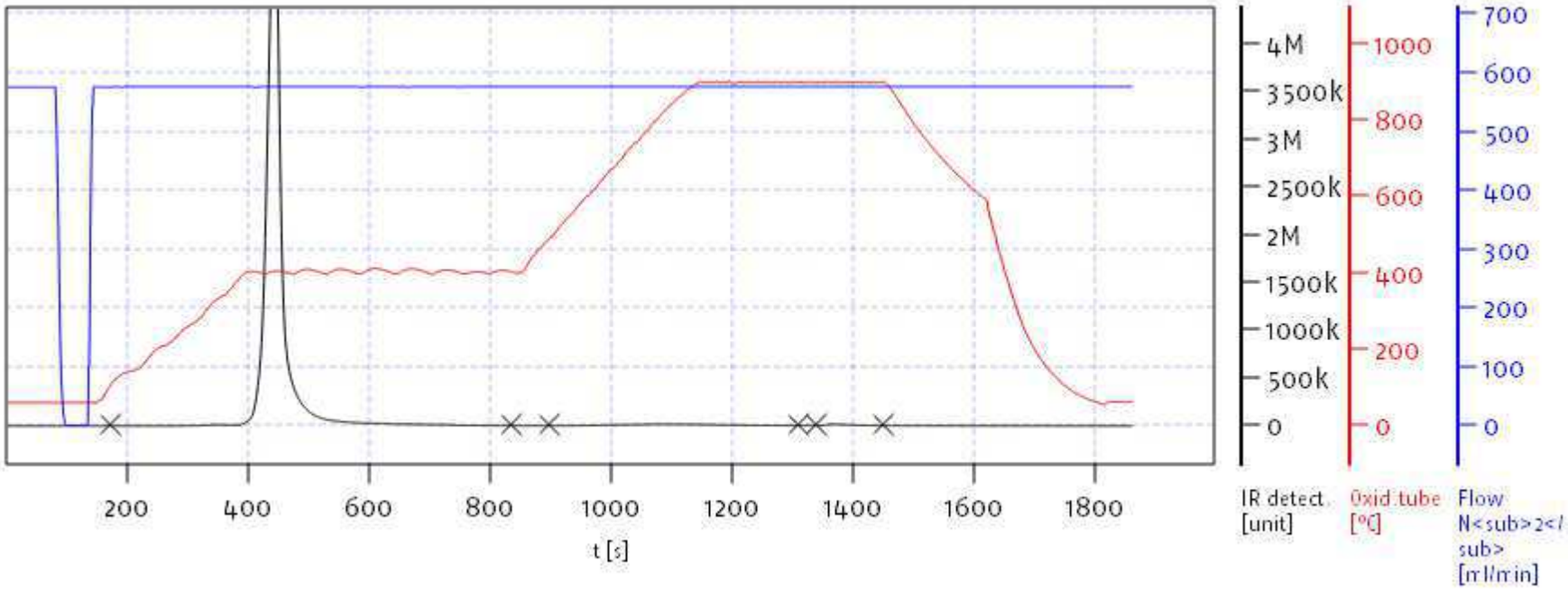
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	Dfactor	20.90		1.00	CARBON	8/12/2021 1:36 PM	44.614	0.945	45.560	bl	5 909 514	137 627	33 371	1.0119	1.0000



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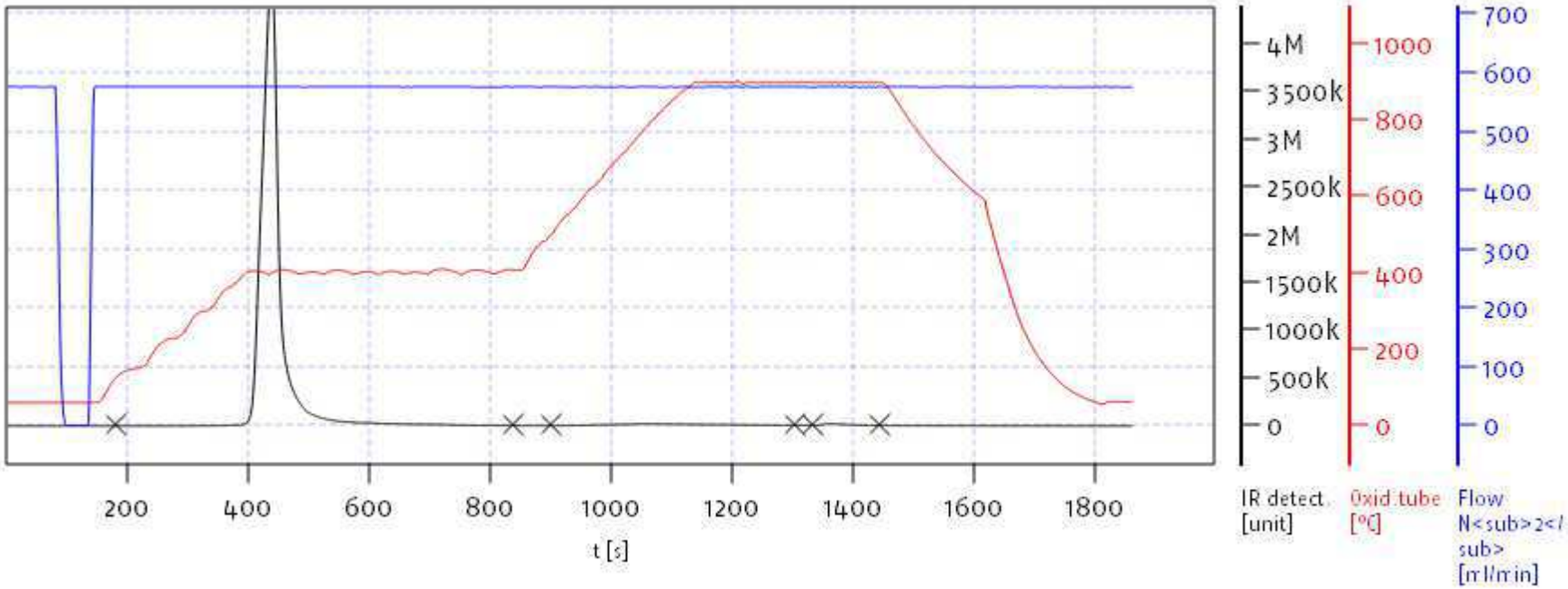
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SJH0136-ICV1	21.90		1.00	CARBON	8/12/2021 2:07 PM	43.713	1.159	44.872	bl	5 993 607	173 728	45 260	1.0224	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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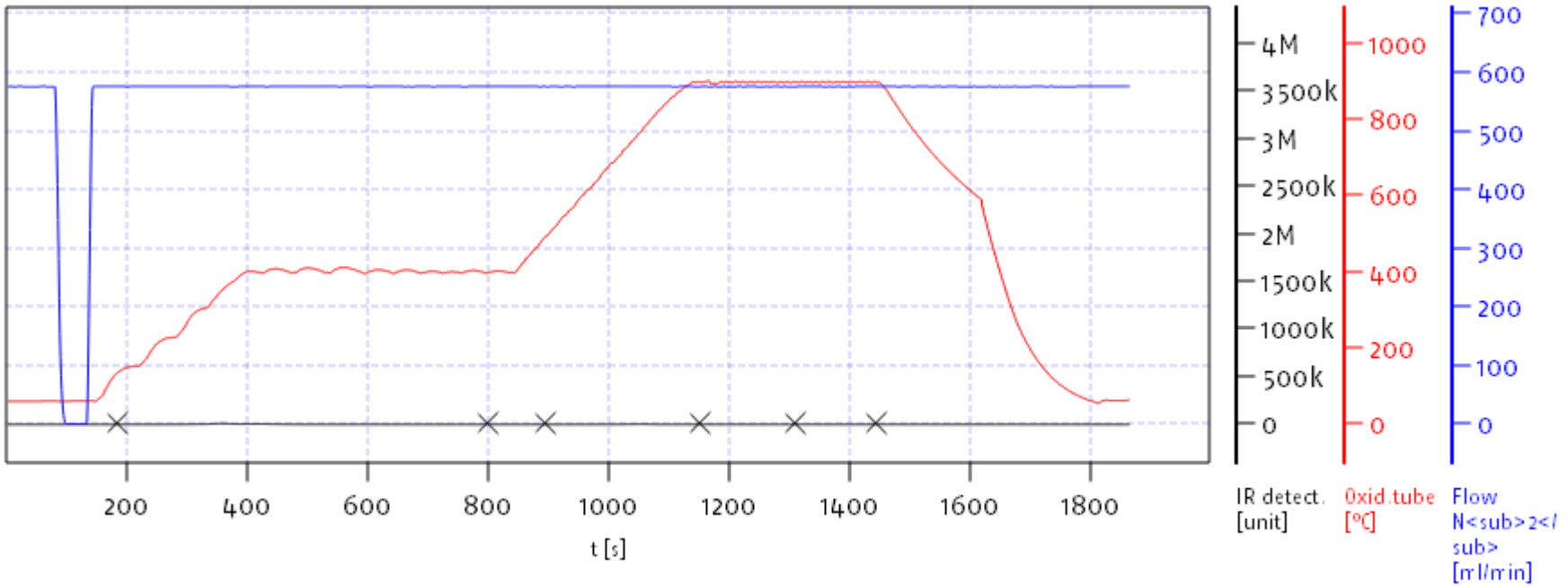
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SJH0136-ICB1	577.90		1.00	CARBON	8/12/2021 2:39 PM	0.005	0.000	0.005	bl,C3u,C2u	29 519	5 556	1 151	1.0224	1.0000



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Soli TOC Cube, Carbon
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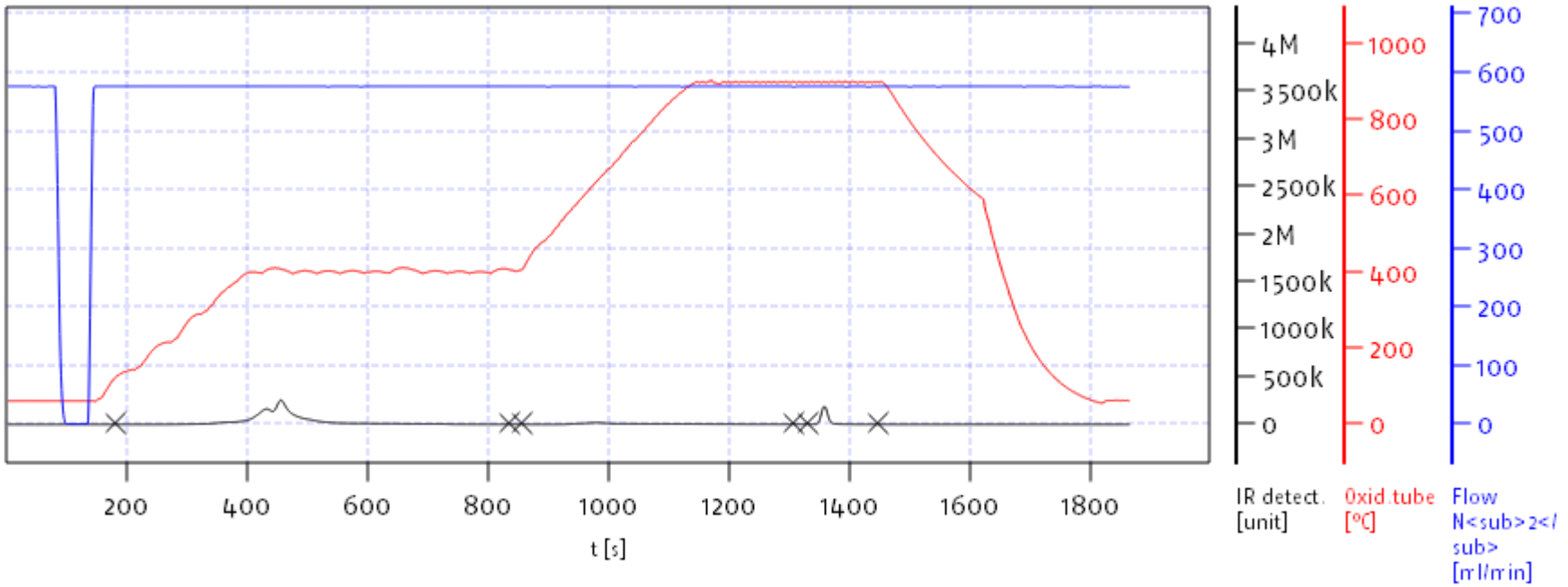
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	21G0178-09RE1	591.20		1.00	CARBON	8/12/2021 3:10 PM	0.197	0.019	0.216	bl	658 608	83 826	95 834	1.0224	1.0000



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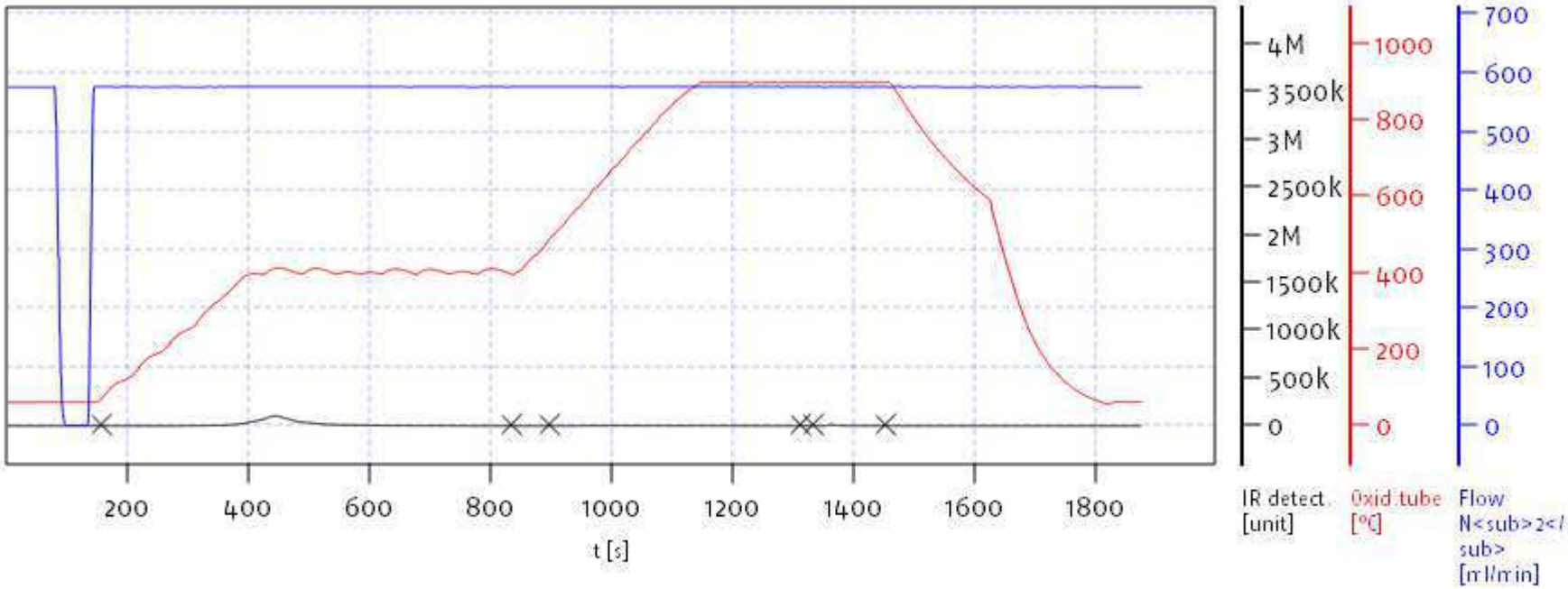
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	BJG0675-DUP3	540.50		1.00	CARBON	8/12/2021 3:42 PM	0.100	0.004	0.103	bl	349 752	23 420	9 502	1.0224	1.0000



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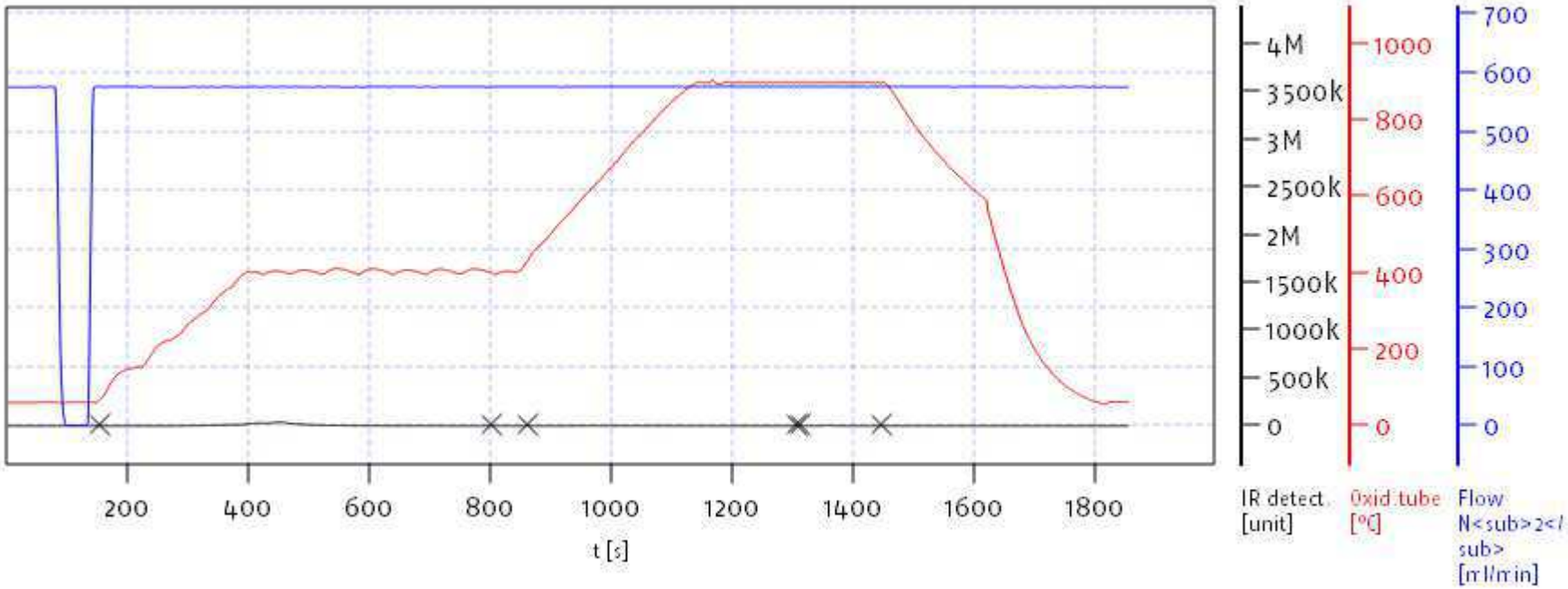
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	21G0178-10RE2	523.00		1.00	CARBON	8/12/2021 4:13 PM	0.044	0.000	0.044	bl,C2u	153 726	10 002	4 057	1.0224	1.0000



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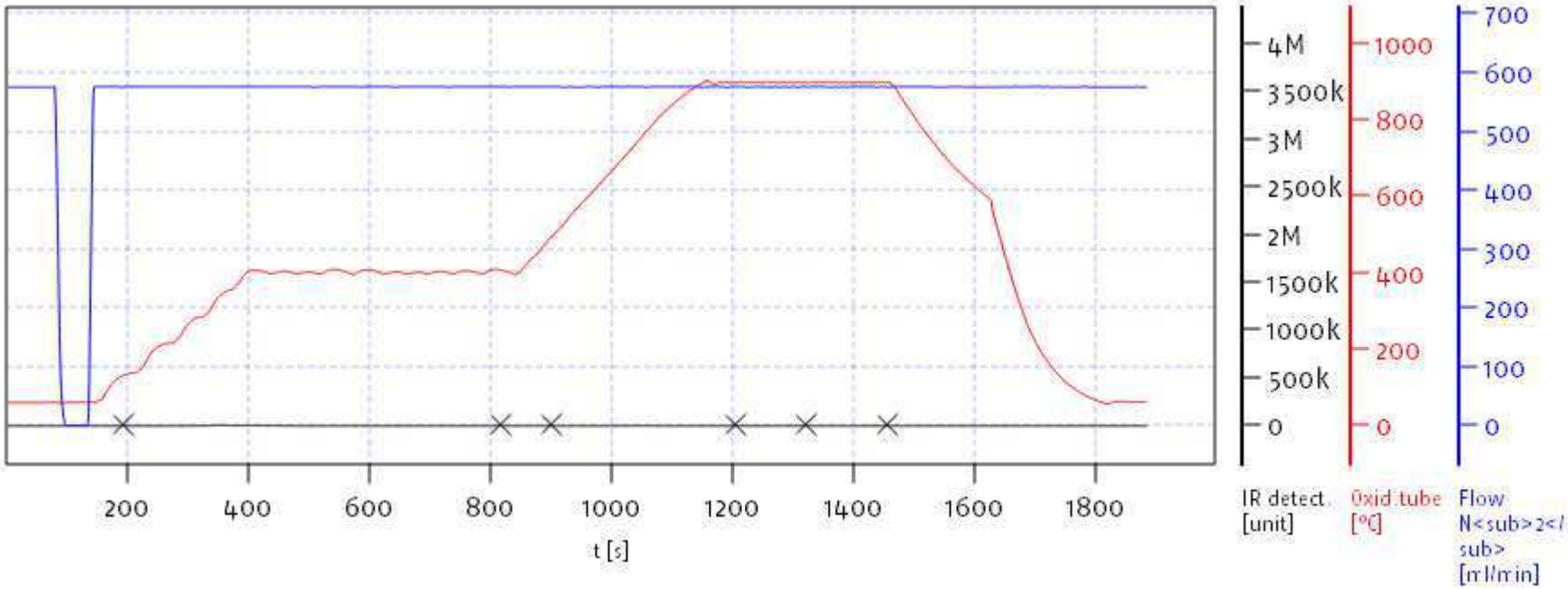
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	BJH0016-BLK2	503.10		1.00	CARBON	8/12/2021 4:45 PM	0.004	0.000	0.004	bl,C3u,C2u	23 185	3 811	605	1.0224	1.0000



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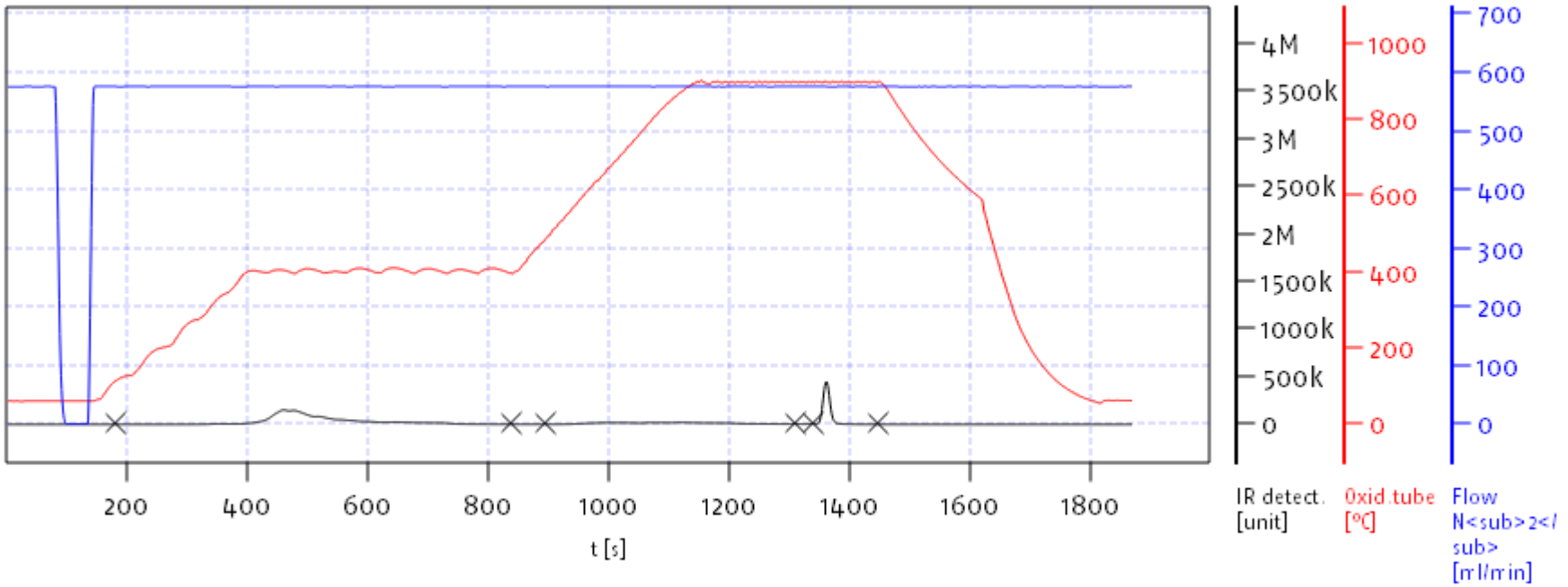
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	21G0211-14RE1	693.80		1.00	CARBON	8/12/2021 5:16 PM	0.205	0.039	0.244	bl	689 524	186 465	229 196	1.0224	1.0000



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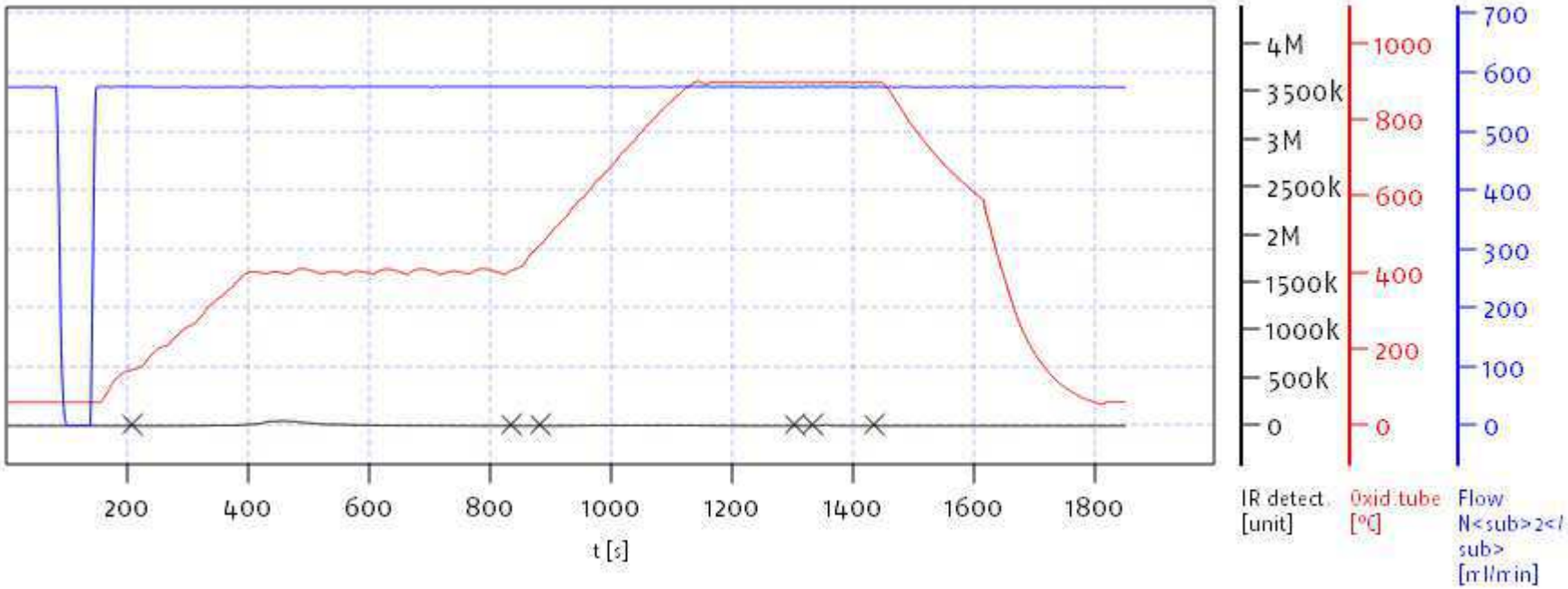
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	21G0211-16RE1	539.30		1.00	CARBON	8/12/2021 5:48 PM	0.066	0.009	0.075	bl,C2u	233 609	43 572	5 608	1.0224	1.0000



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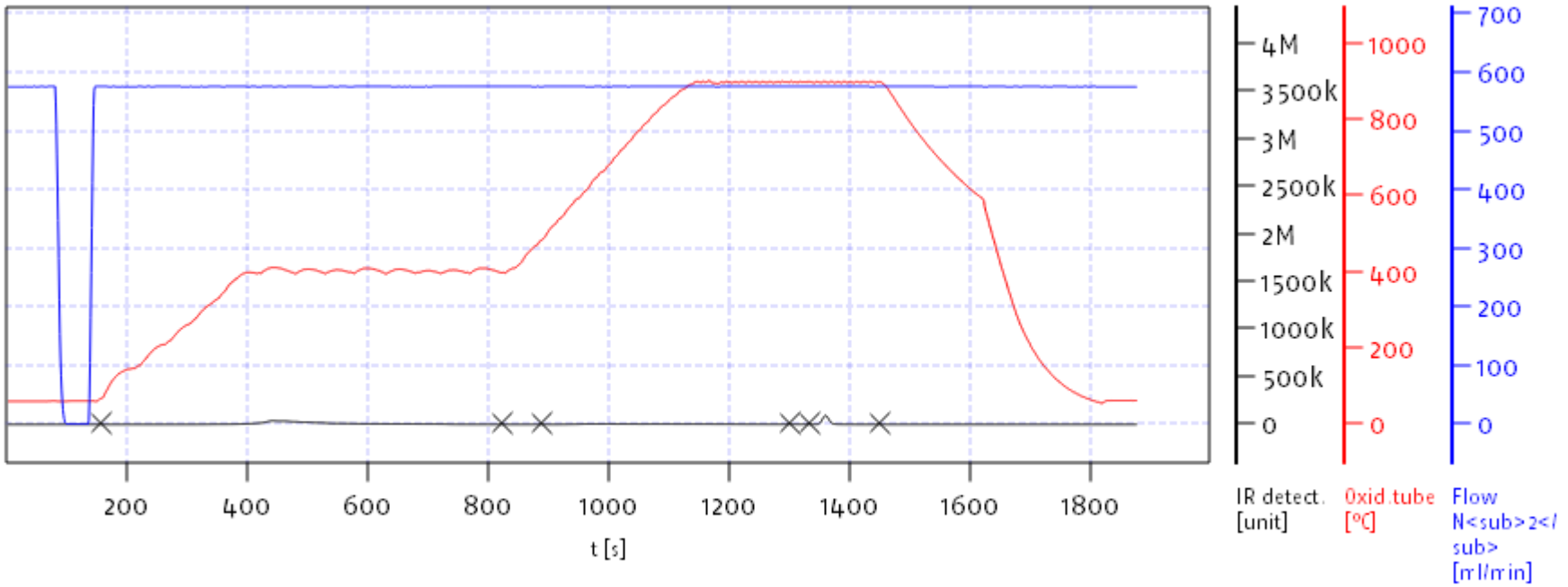
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	21G0213-01RE1	501.80		1.00	CARBON	8/12/2021 6:19 PM	0.065	0.012	0.077	bl	178 641	50 040	47 338	1.0224	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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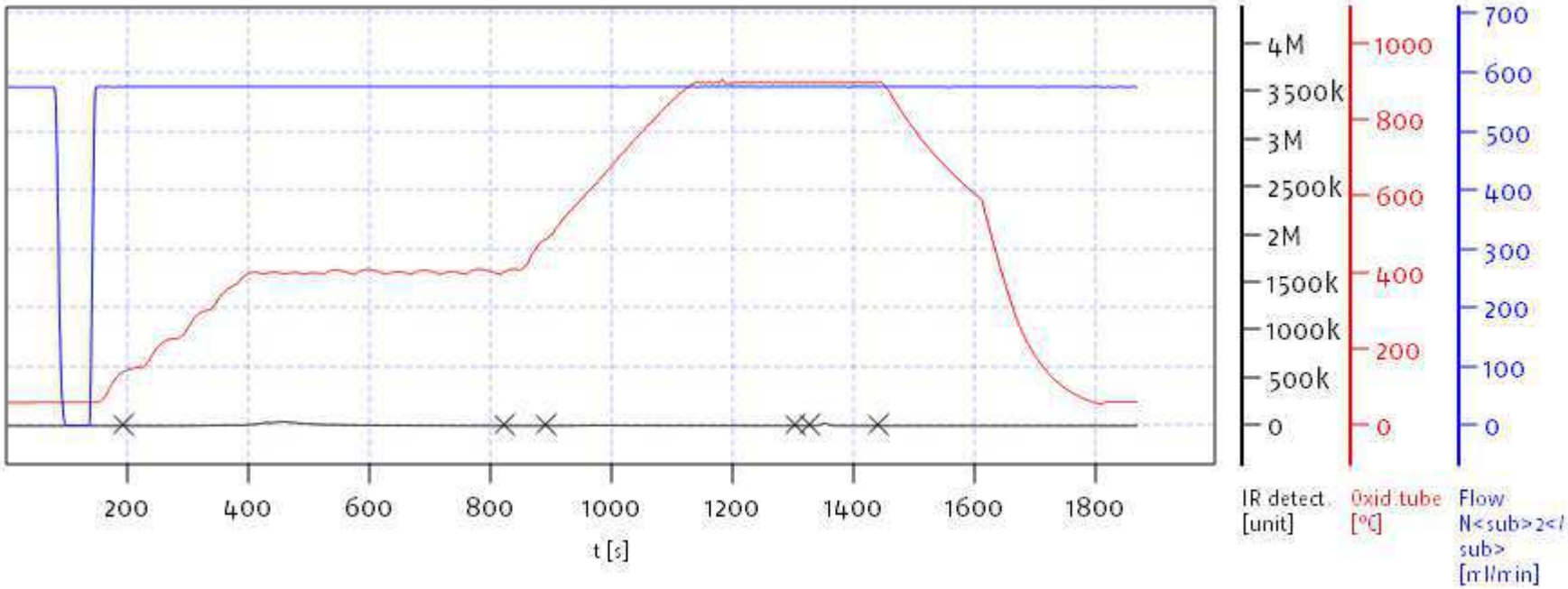
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	21G0213-02RE1	601.30		1.00	CARBON	8/12/2021 6:51 PM	0.050	0.007	0.057	bl	195 797	38 562	14 083	1.0224	1.0000



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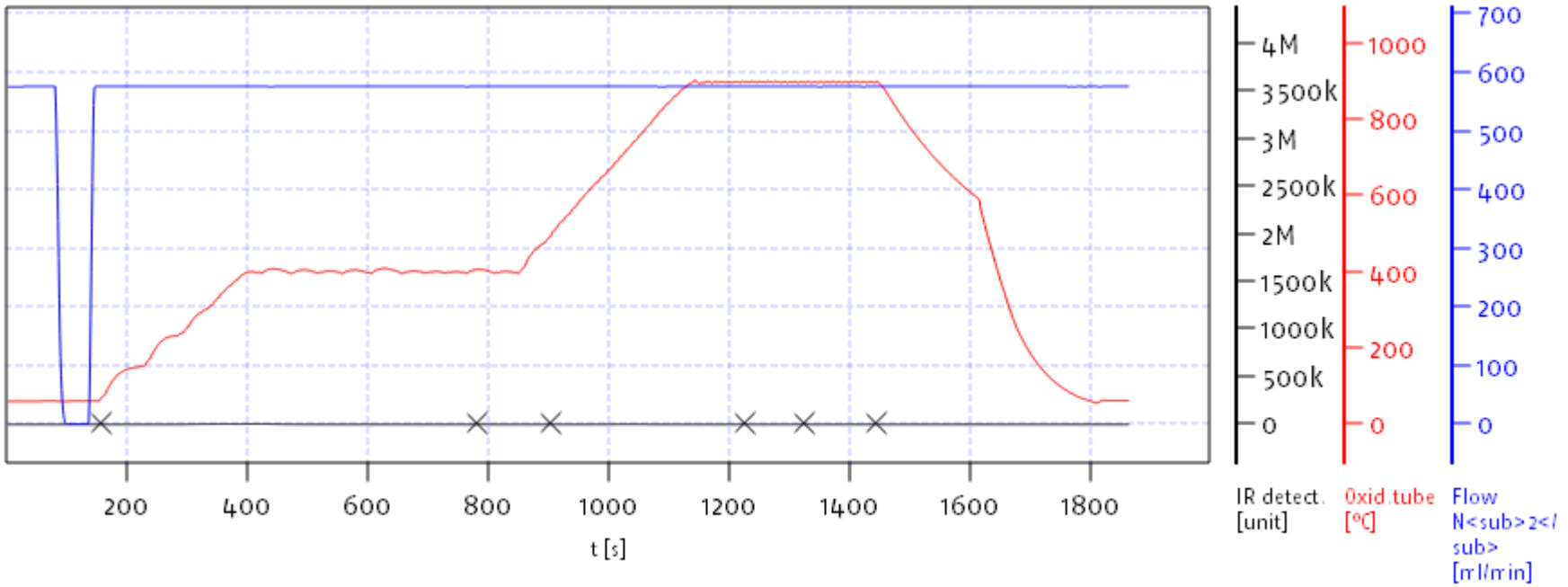
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	BJH0022-BLK2	556.20		1.00	CARBON	8/12/2021 7:22 PM	0.006	0.000	0.006	bl,C3u,C2u	30 212	6 574	391	1.0224	1.0000



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Date: Mon Aug 16 10:56:12 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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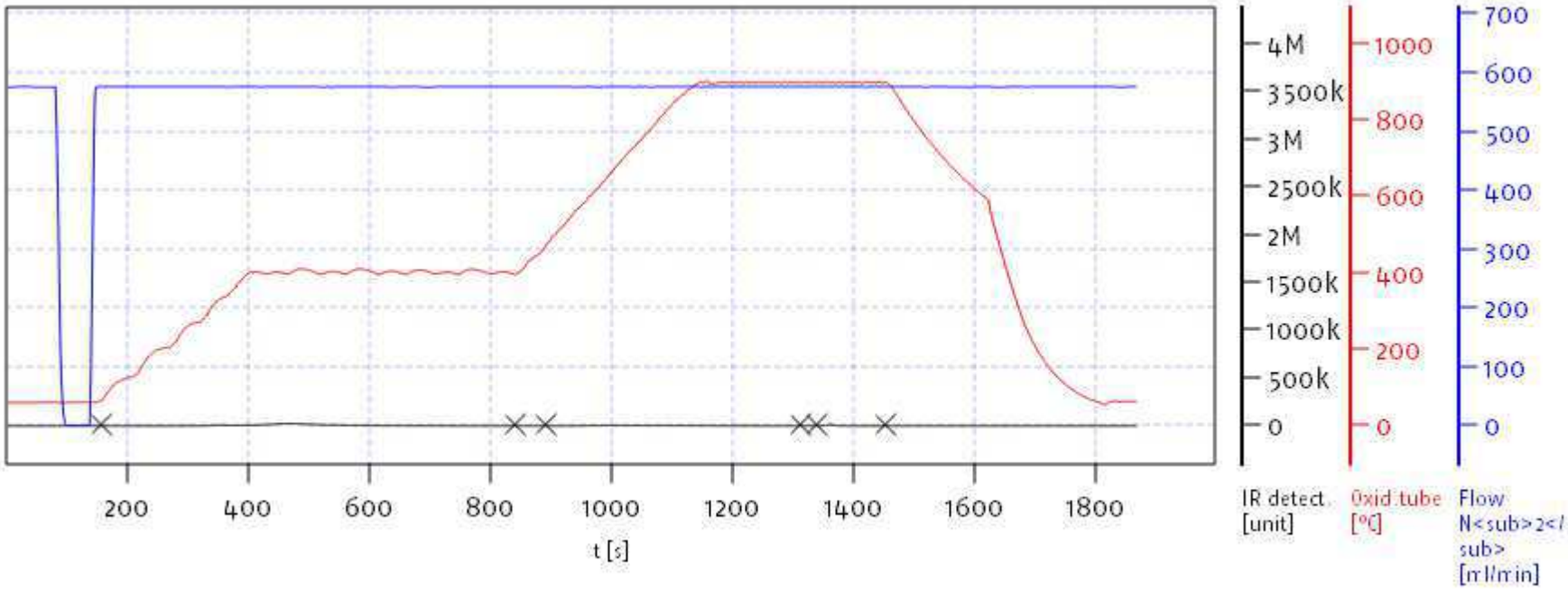
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	21G0213-08RE1	579.00		1.00	CARBON	8/12/2021 7:54 PM	0.031	0.006	0.037	bl	123 692	32 071	8 050	1.0224	1.0000



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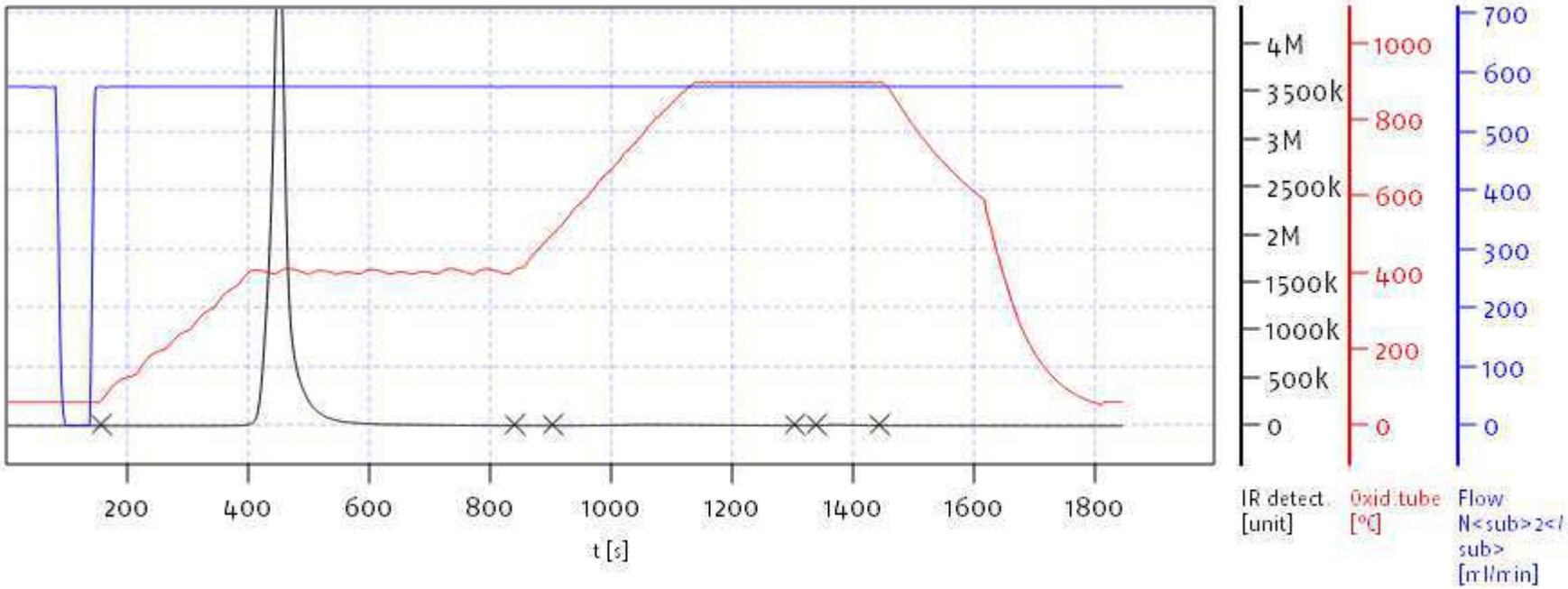
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SJH0136-CCV1	21.20		1.00	CARBON	8/12/2021 8:25 PM	44.537	0.644	45.181	bl	5 931 953	98 361	23 951	1.0224	1.0000



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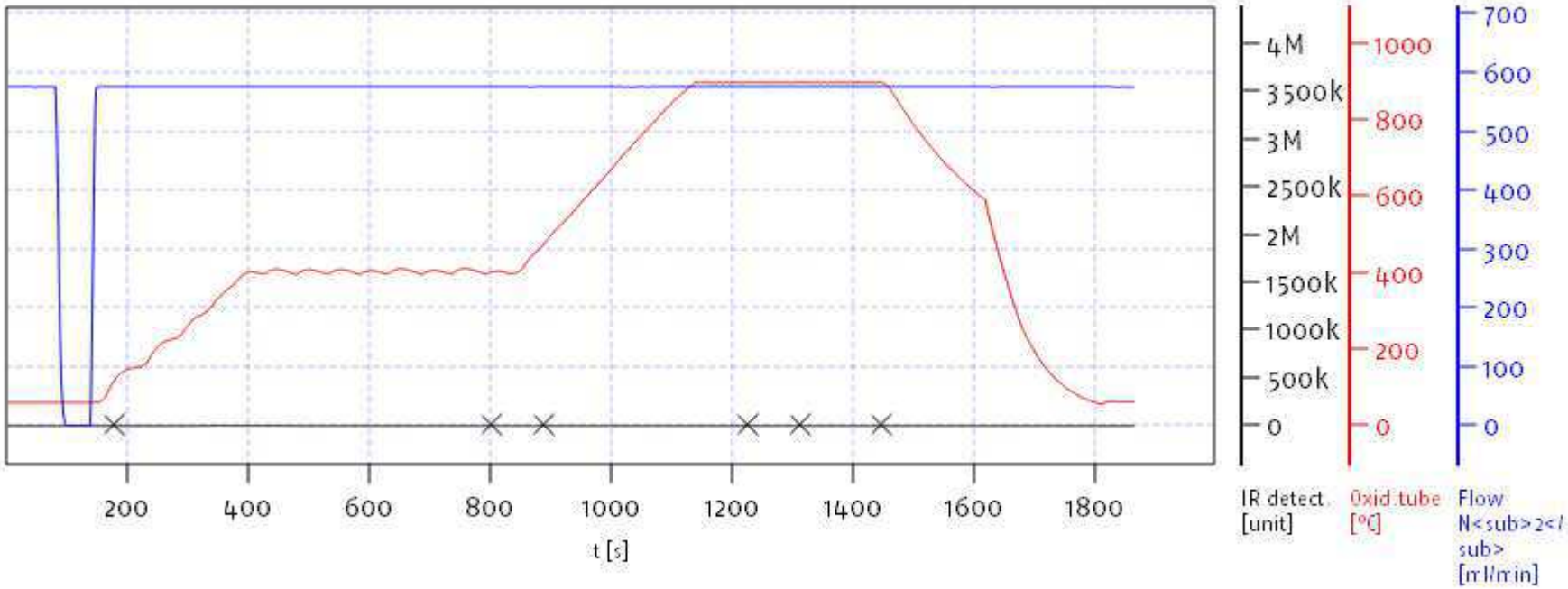
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SJH0136-CCB1	567.30		1.00	CARBON	8/12/2021 8:56 PM	0.001	0.000	0.001	bl,C3u,C2u	15 804	1 054	542	1.0224	1.0000



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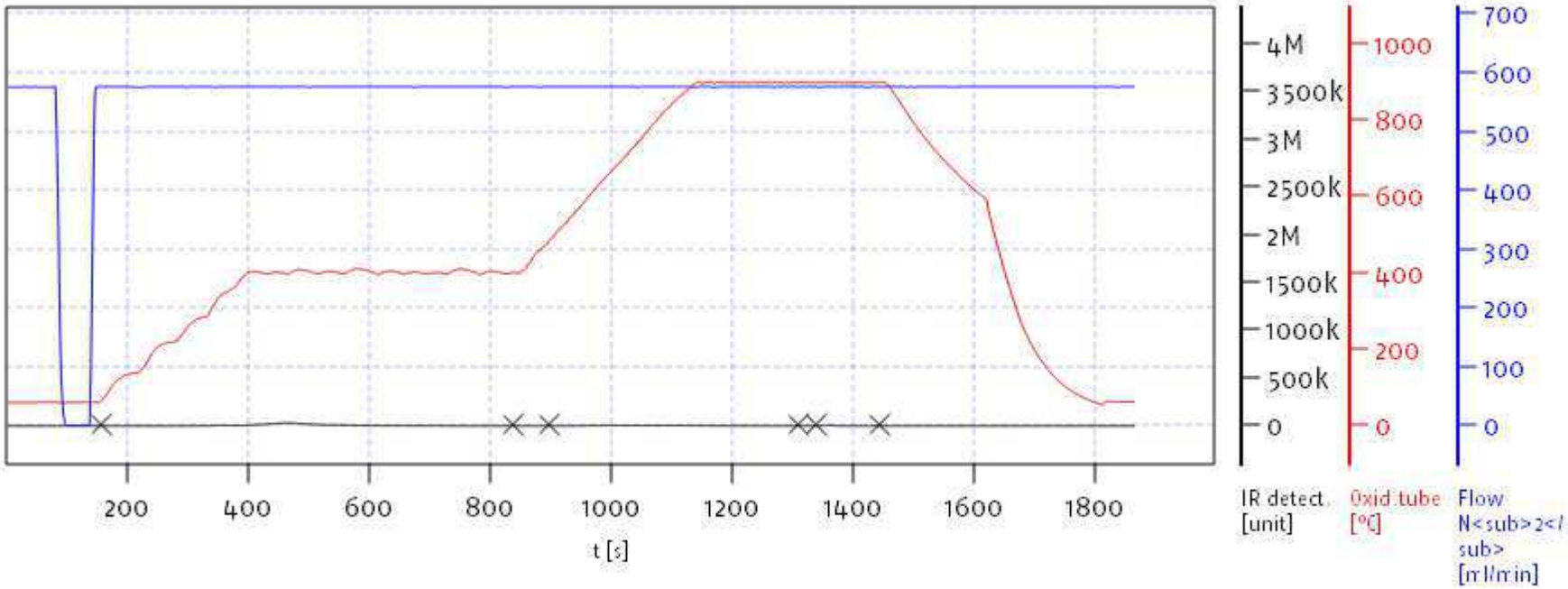
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	BJH0022-DUP3	617.70		1.00	CARBON	8/12/2021 9:28 PM	0.034	0.007	0.041	bl,C2u	140 903	38 526	5 357	1.0224	1.0000



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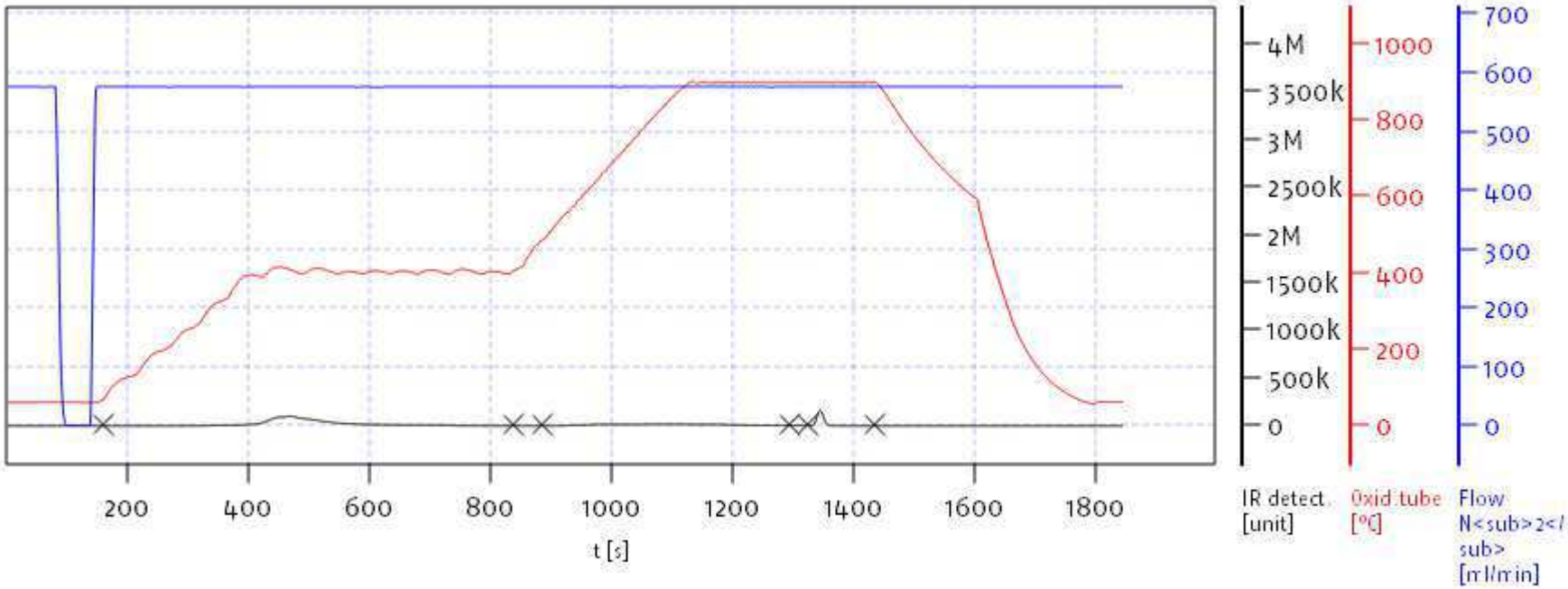
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	21G0285-04RE1	545.50		1.00	CARBON	8/12/2021 9:59 PM	0.148	0.044	0.192	bl	450 760	165 757	79 186	1.0224	1.0000



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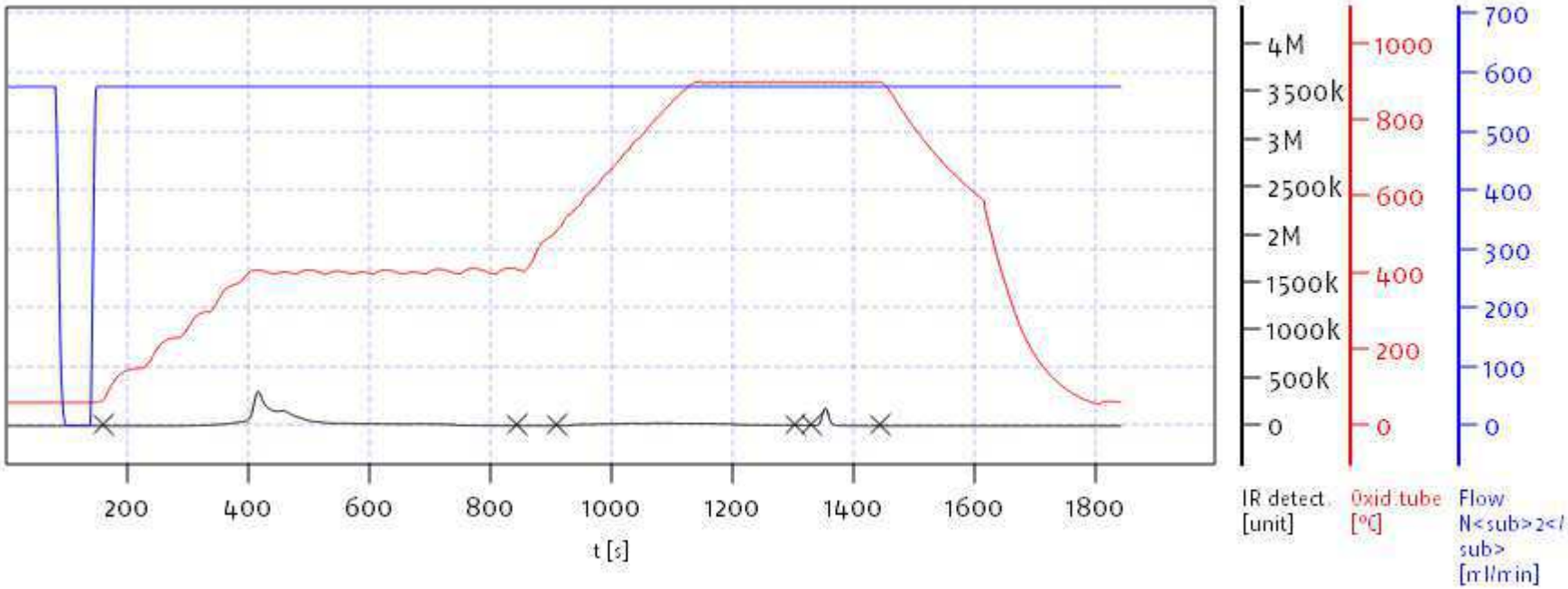
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	21G0285-07RE1	543.90		1.00	CARBON	8/12/2021 10:30 PM	0.285	0.071	0.355	bl	901 749	257 671	94 244	1.0224	1.0000



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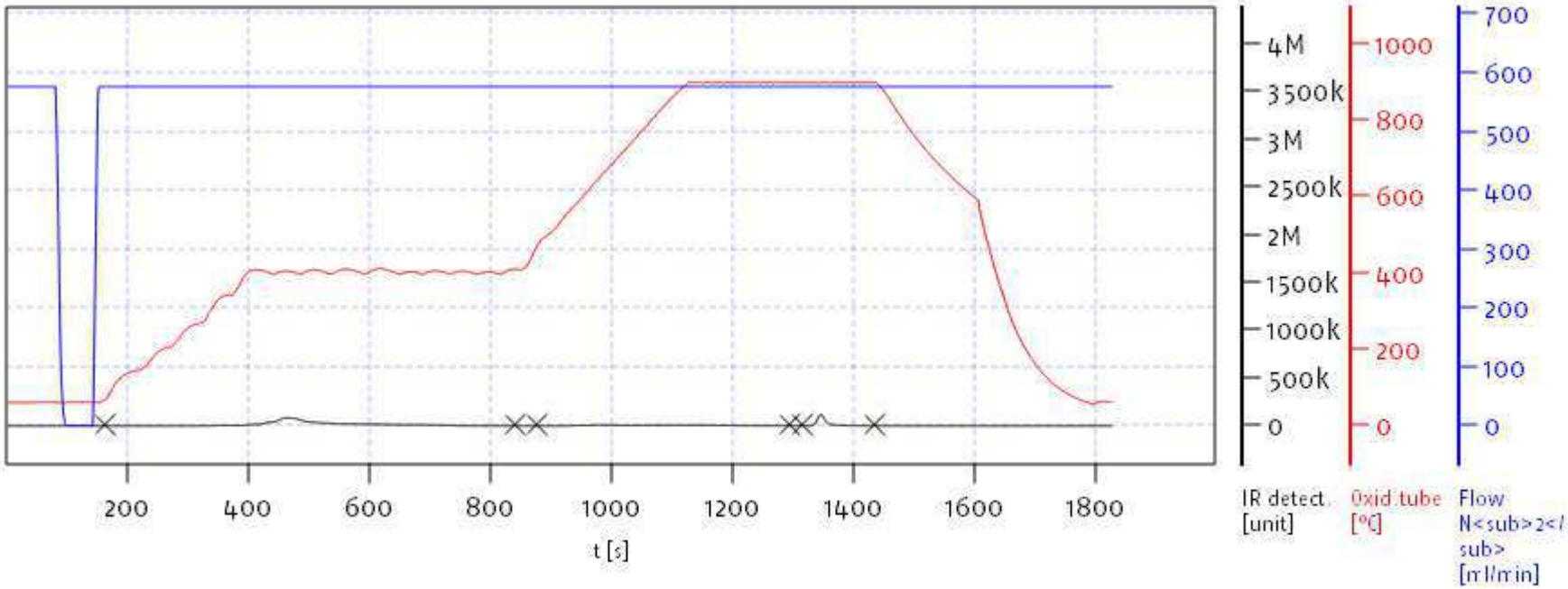
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	21G0289-01RE1	612.70		1.00	CARBON	8/12/2021 11:01 PM	0.105	0.017	0.122	bl	350 182	78 169	76 548	1.0224	1.0000



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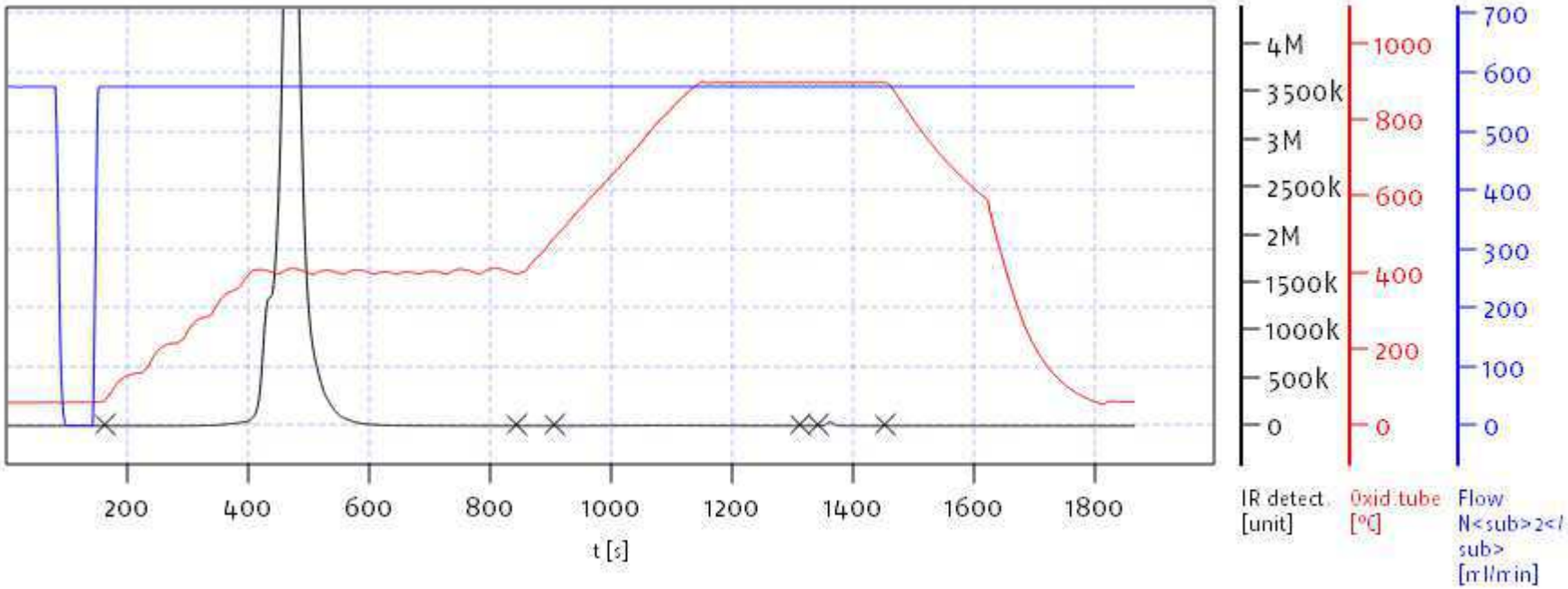
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	21G0303-02RE1	328.50		1.00	CARBON	8/12/2021 11:33 PM	5.492	0.010	5.501	bl,Co	11 339 005	31 023	20 693	1.0224	1.0000



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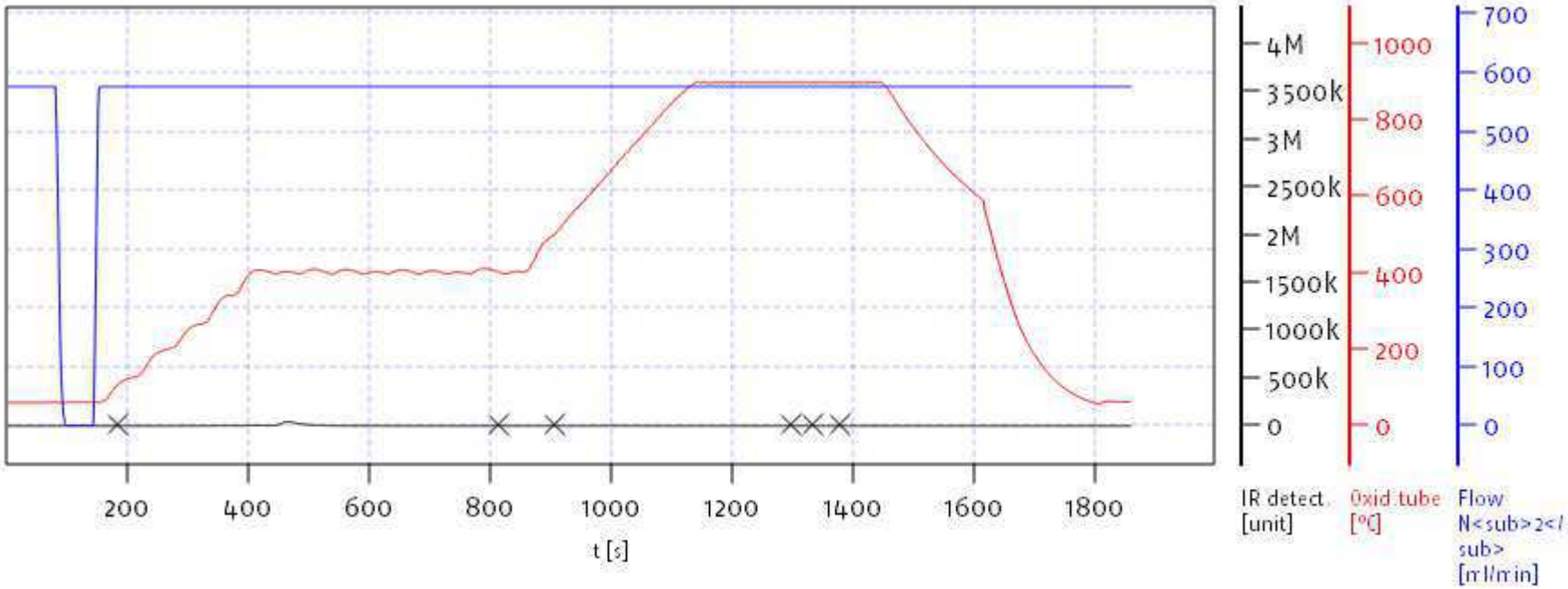
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	BJH0300-MRL1	545.90		1.00	CARBON	8/13/2021 12:04 AM	0.022	0.000	0.022	bl,C3u,C2u	85 074	5 823	189	1.0224	1.0000



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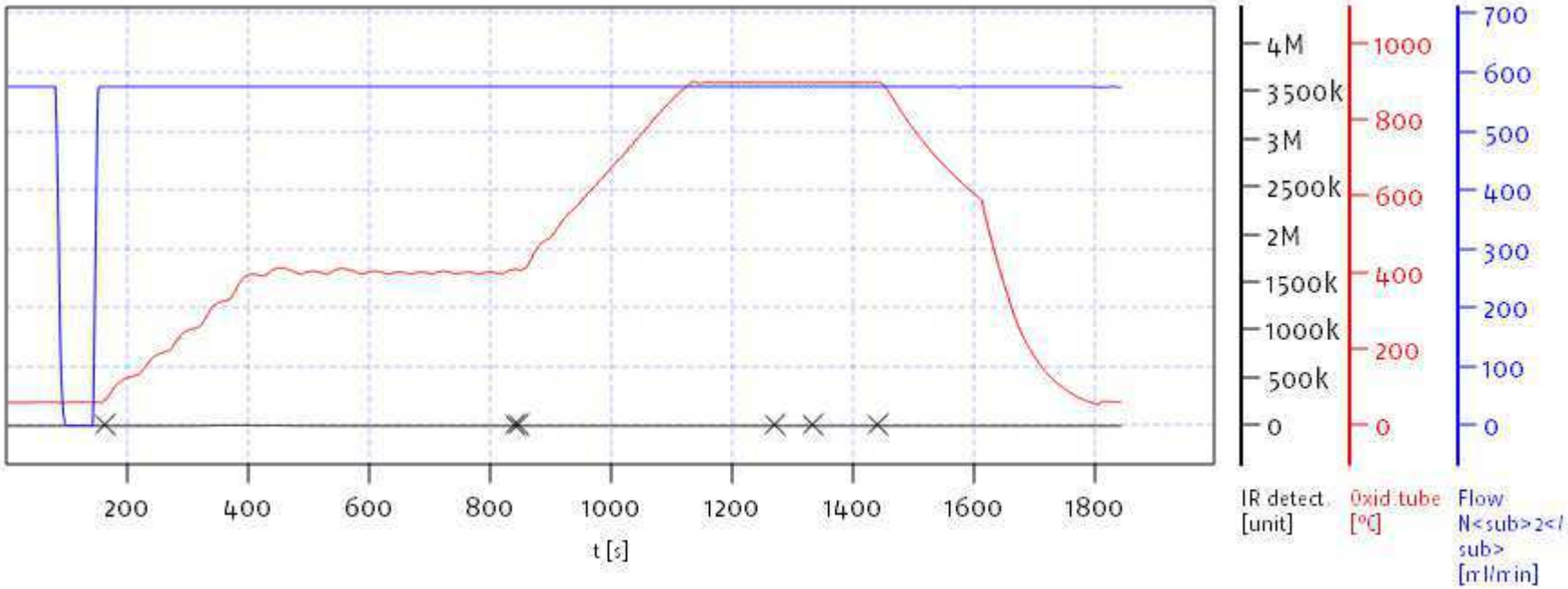
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	BJH0300-BLK1	565.10		1.00	CARBON	8/13/2021 12:35 AM	0.006	0.000	0.006	bl,C3u,C2u	30 517	1 924	280	1.0224	1.0000



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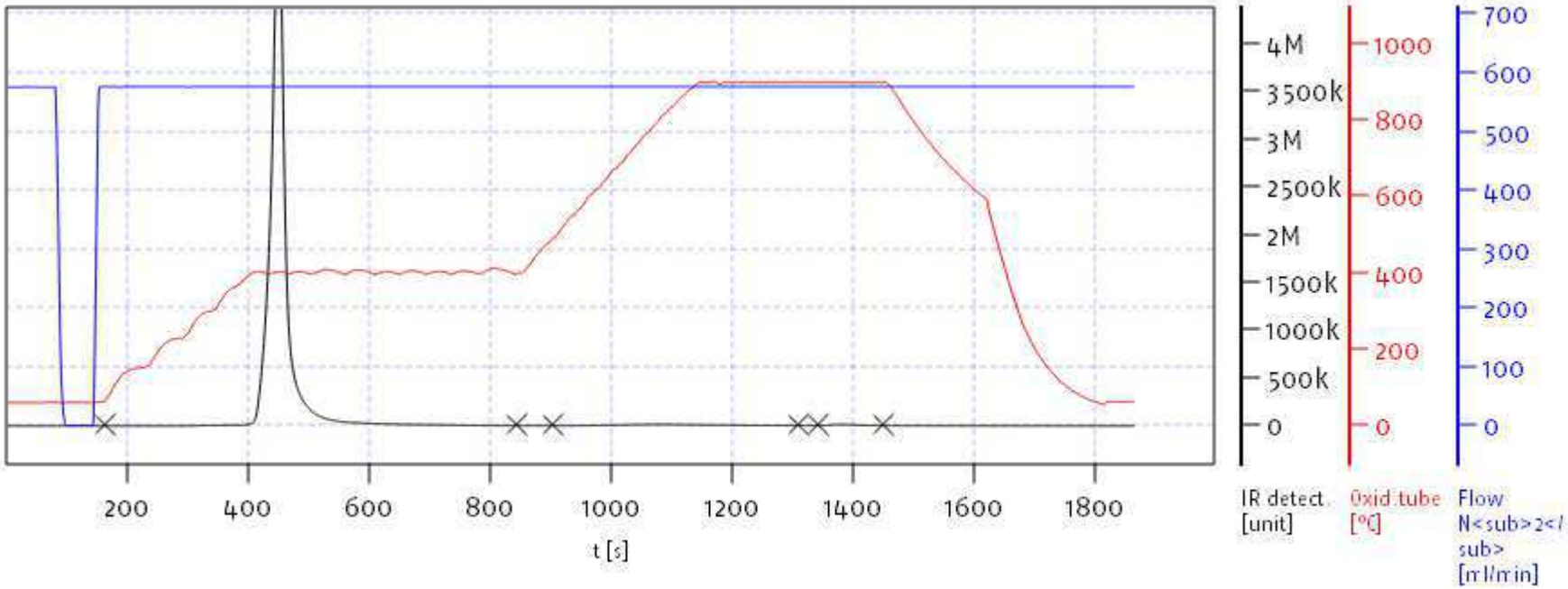
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	BJH0300-BS1	20.80		1.00	CARBON	8/13/2021 1:07 AM	44.500	0.813	45.312	bl	5 807 955	119 306	31 228	1.0224	1.0000



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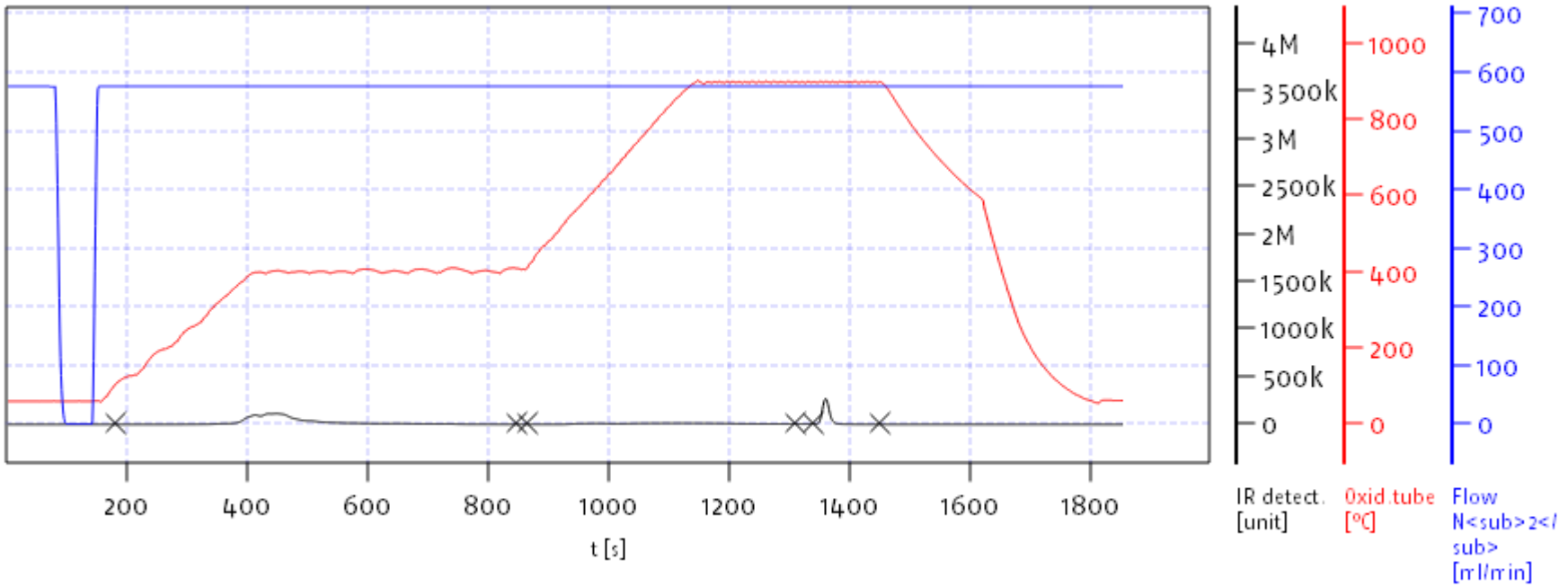
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	BJH0300-SRM1	39.50		1.00	CARBON	8/13/2021 1:38 AM	2.422	0.461	2.883	bl	484 152	127 774	141 317	1.0224	1.0000



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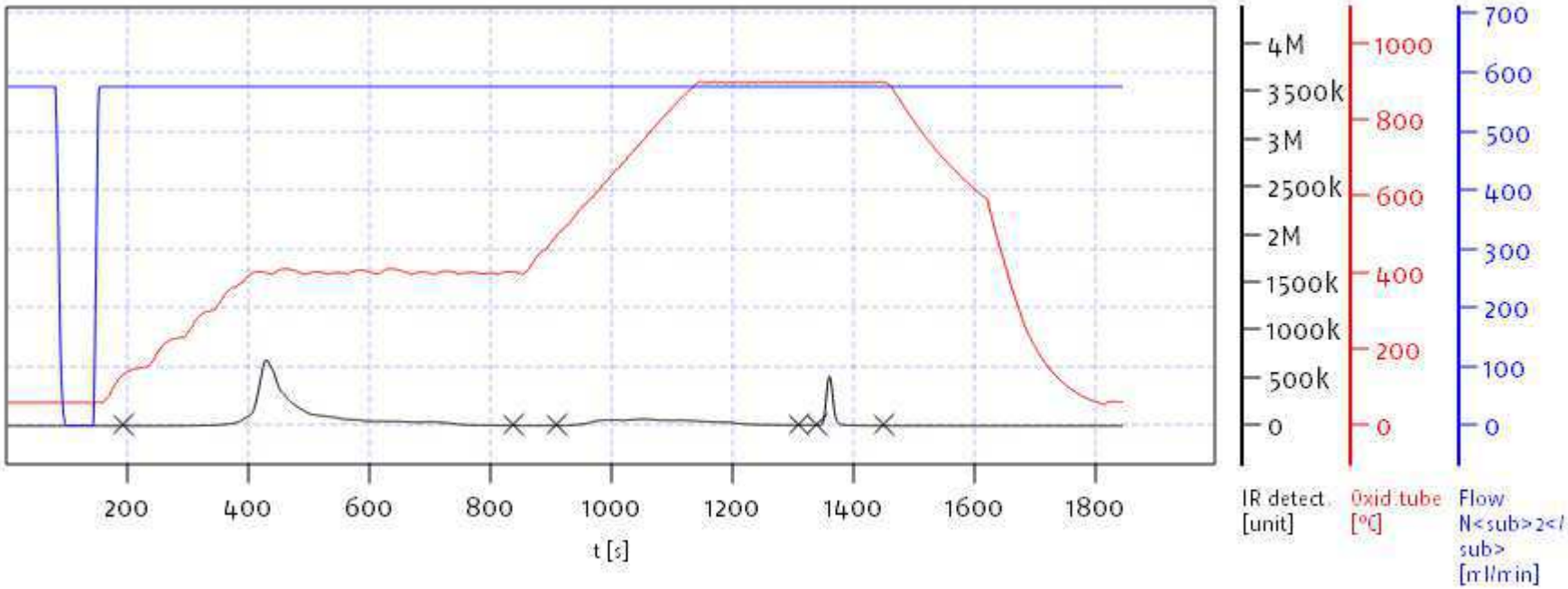
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	21G0269-12	555.10		1.00	CARBON	8/13/2021 2:09 AM	0.618	0.156	0.774	bl	1 918 678	567 810	264 618	1.0224	1.0000



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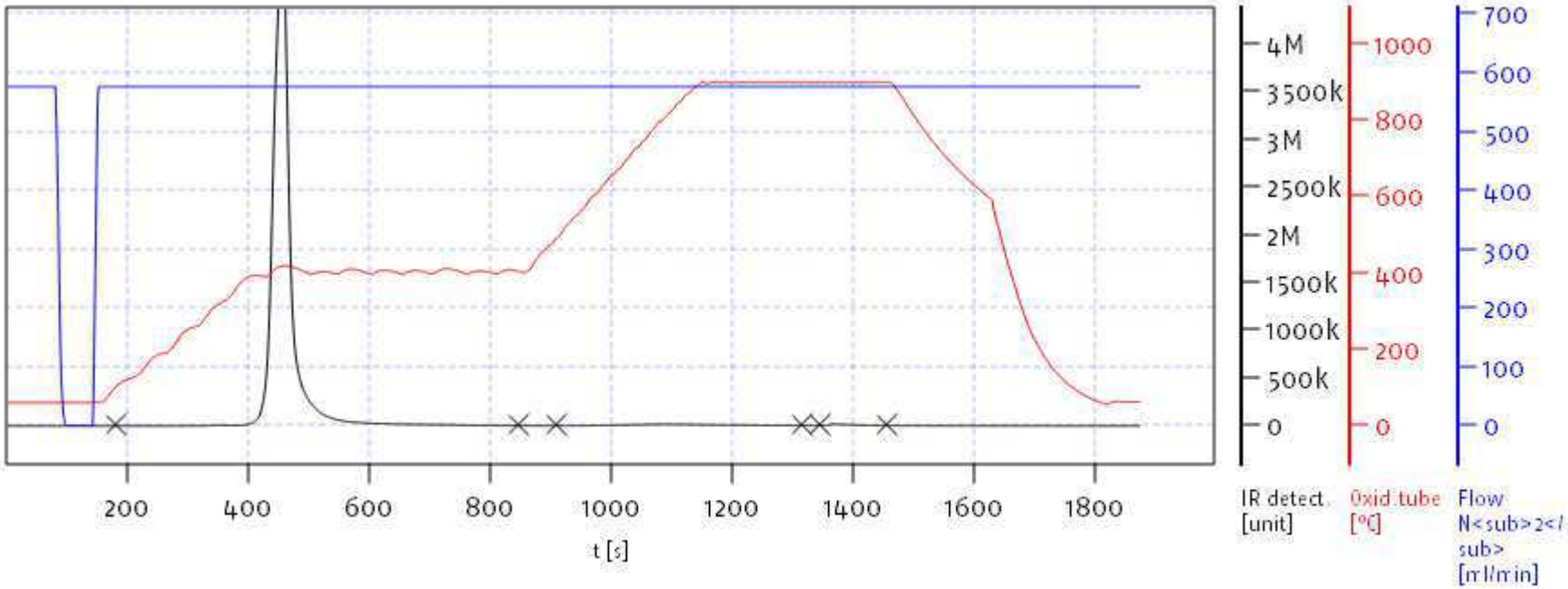
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	SJH0136-CCV2	22.10		1.00	CARBON	8/13/2021 2:41 AM	44.604	0.826	45.430	bl	6 181 251	128 062	36 085	1.0224	1.0000



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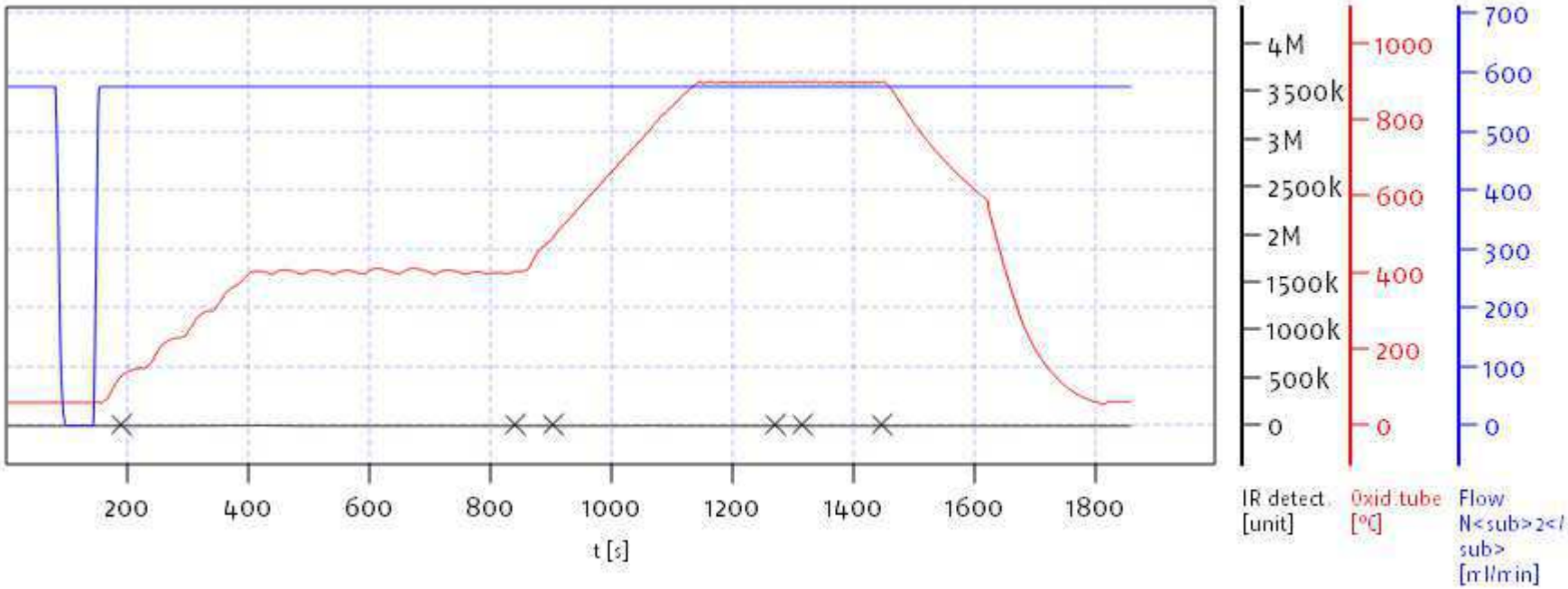
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	SJH0136-CCB2	572.00		1.00	CARBON	8/13/2021 3:12 AM	0.003	0.000	0.003	bl,C3u,C2u	21 310	4 531	752	1.0224	1.0000



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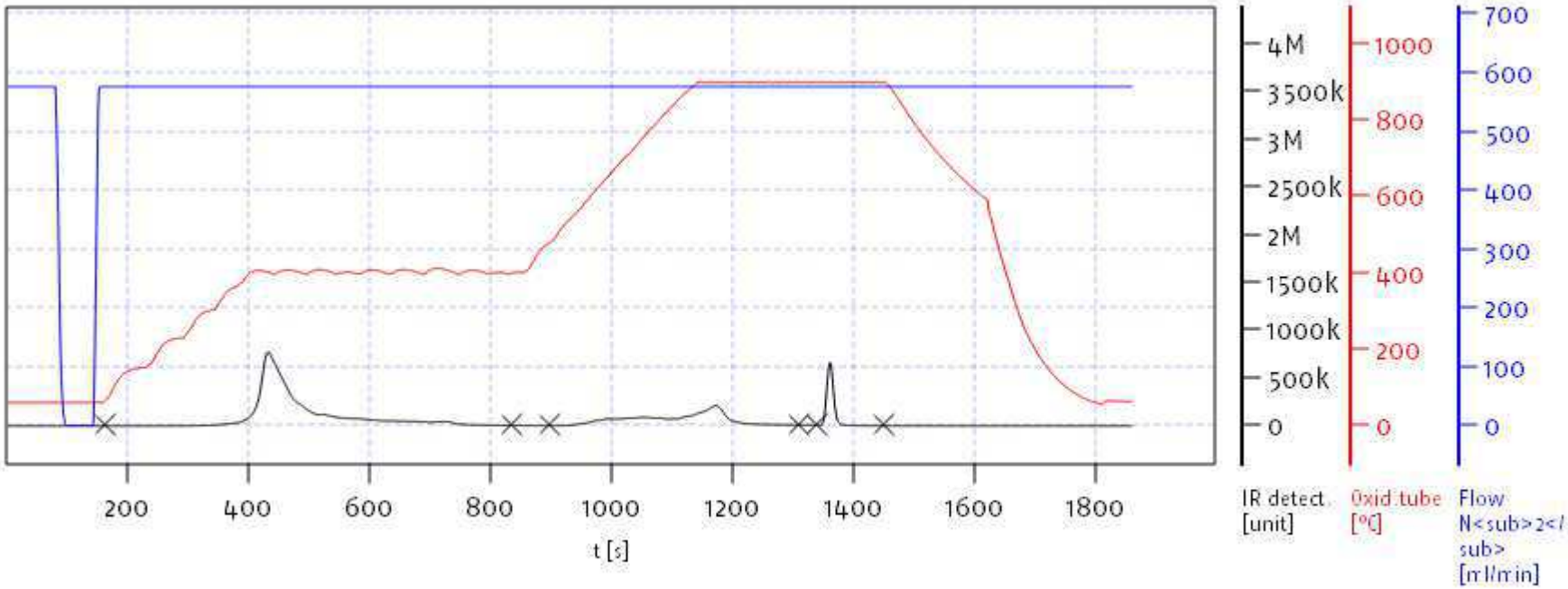
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	BJH0300-DUP1	589.00		1.00	CARBON	8/13/2021 3:43 AM	0.672	0.251	0.923	bl	2 179 612	962 224	336 683	1.0224	1.0000



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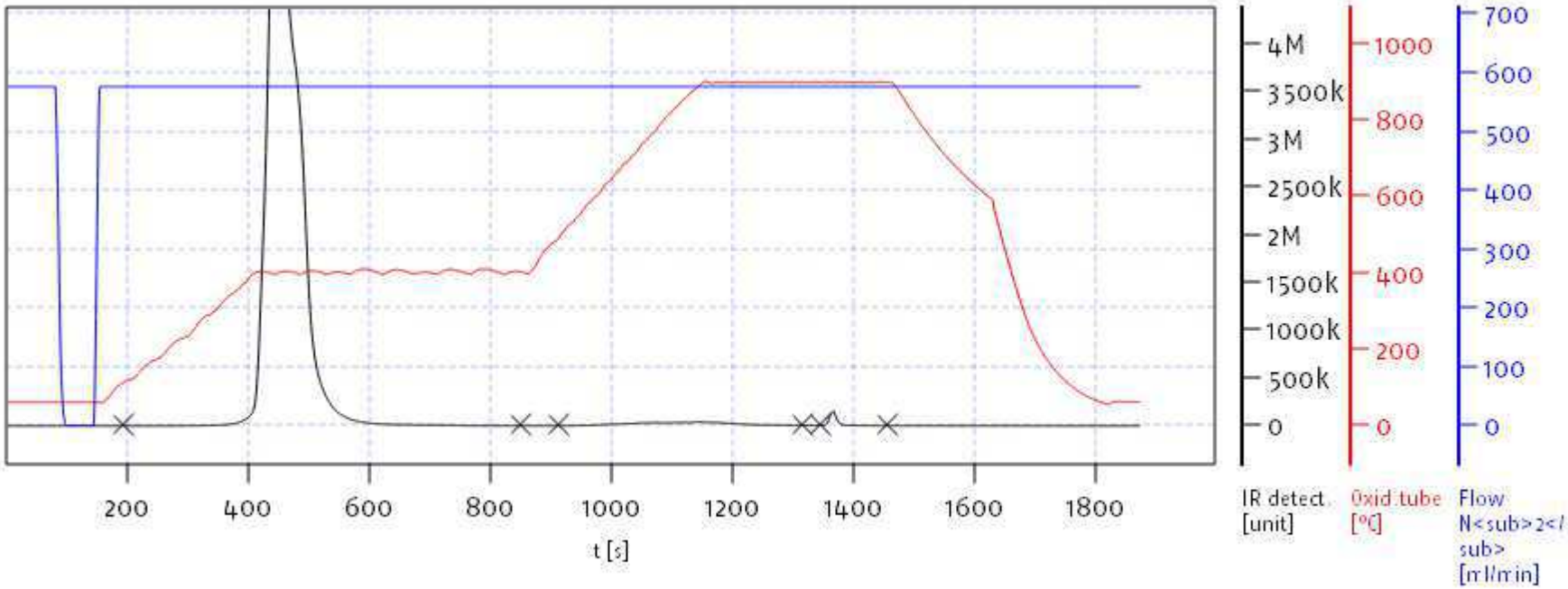
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	BJH0300-MS1	535.20	0.0127	1.00	CARBON	8/13/2021 4:15 AM	3.925	0.084	4.009	bl,C1o	13 137386	299 495	88 503	1.0224	1.0000



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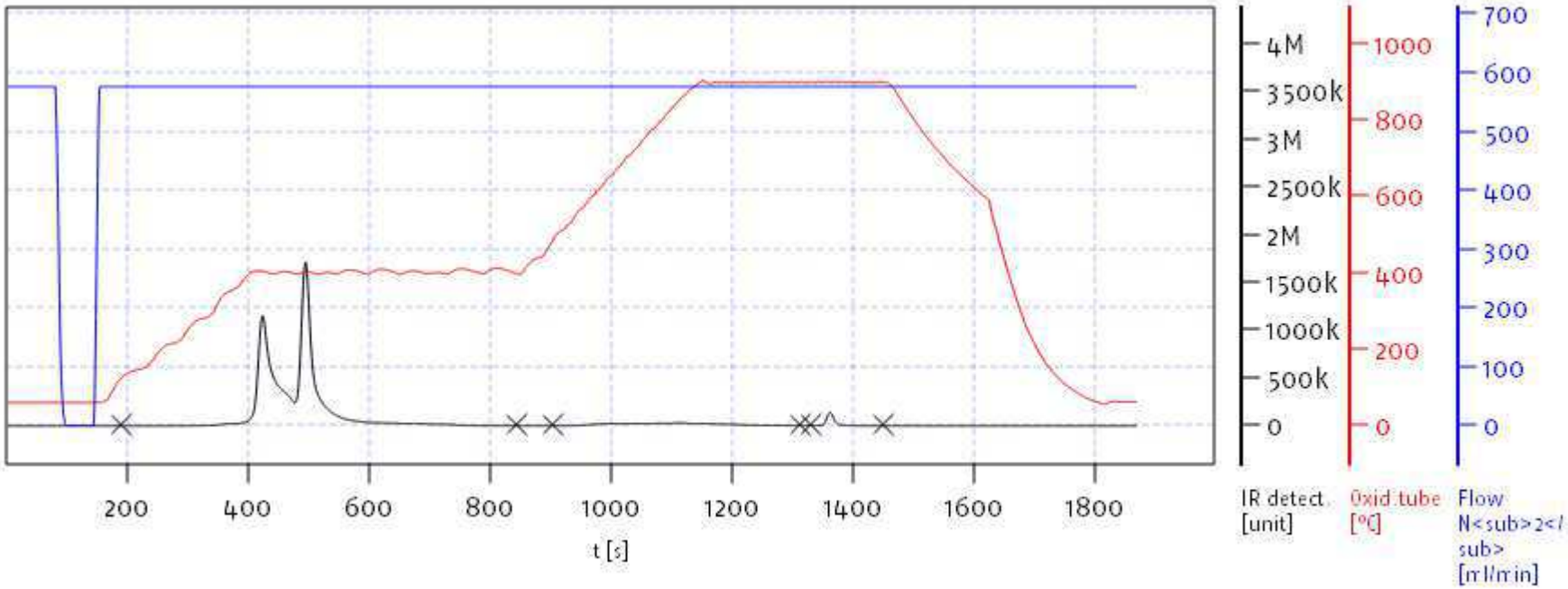
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
32	32	21G0276-01	631.30		1.00	CARBON	8/13/2021 4:47 AM	0.814	0.056	0.871	bl	3 173 044	239 366	80 738	1.0224	1.0000



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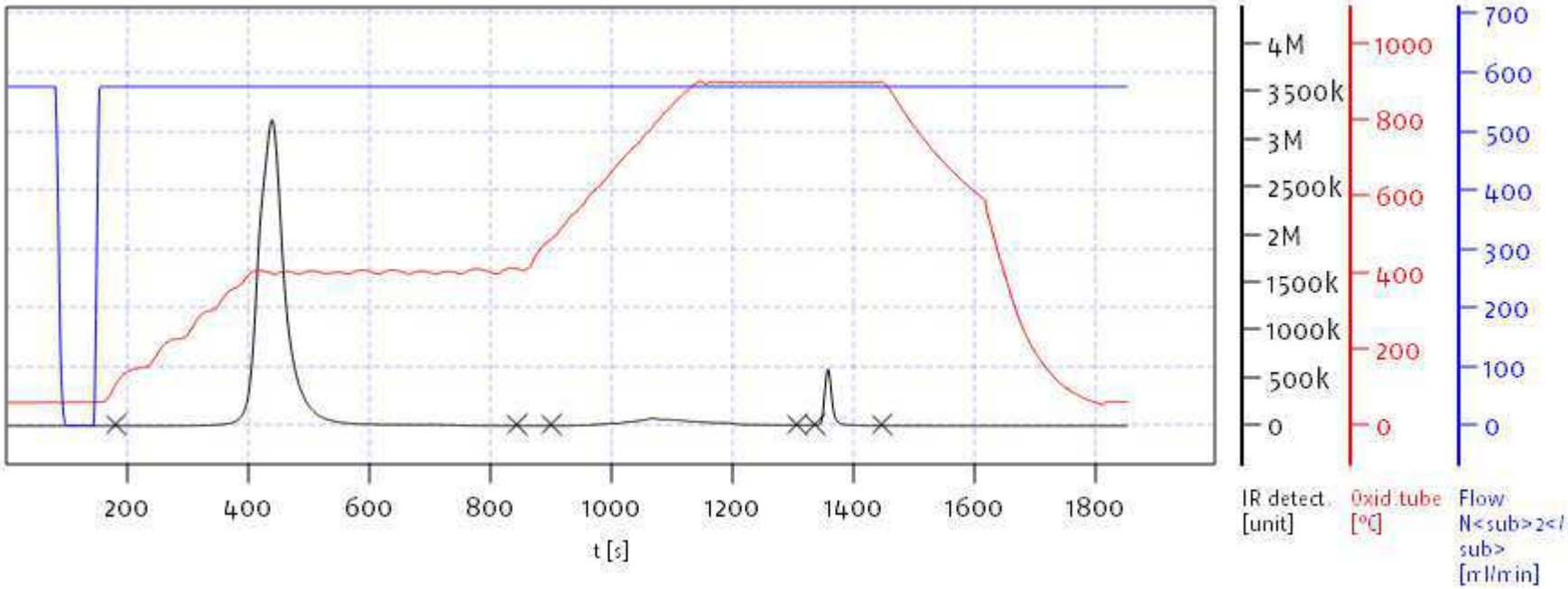
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
33	33	21G0276-02	573.10		1.00	CARBON	8/13/2021 5:18 AM	1.780	0.114	1.893	bl	6 117 406	430 072	320 471	1.0224	1.0000



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Date: Mon Aug 16 10:56:12 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
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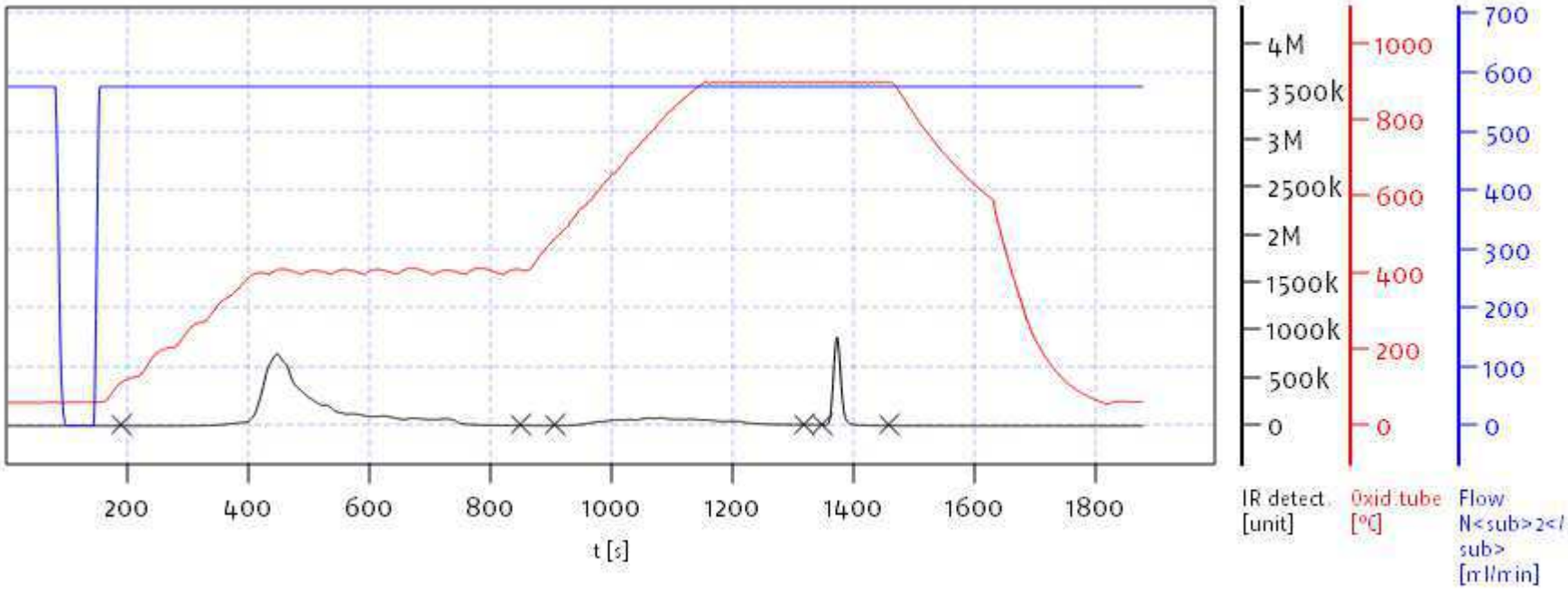
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
34	34	21G0276-03	597.40		1.00	CARBON	8/13/2021 5:50 AM	0.888	0.173	1.061	bl	2 850 374	674 045	515 168	1.0224	1.0000



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Balance: BAL3
Analyst: BF

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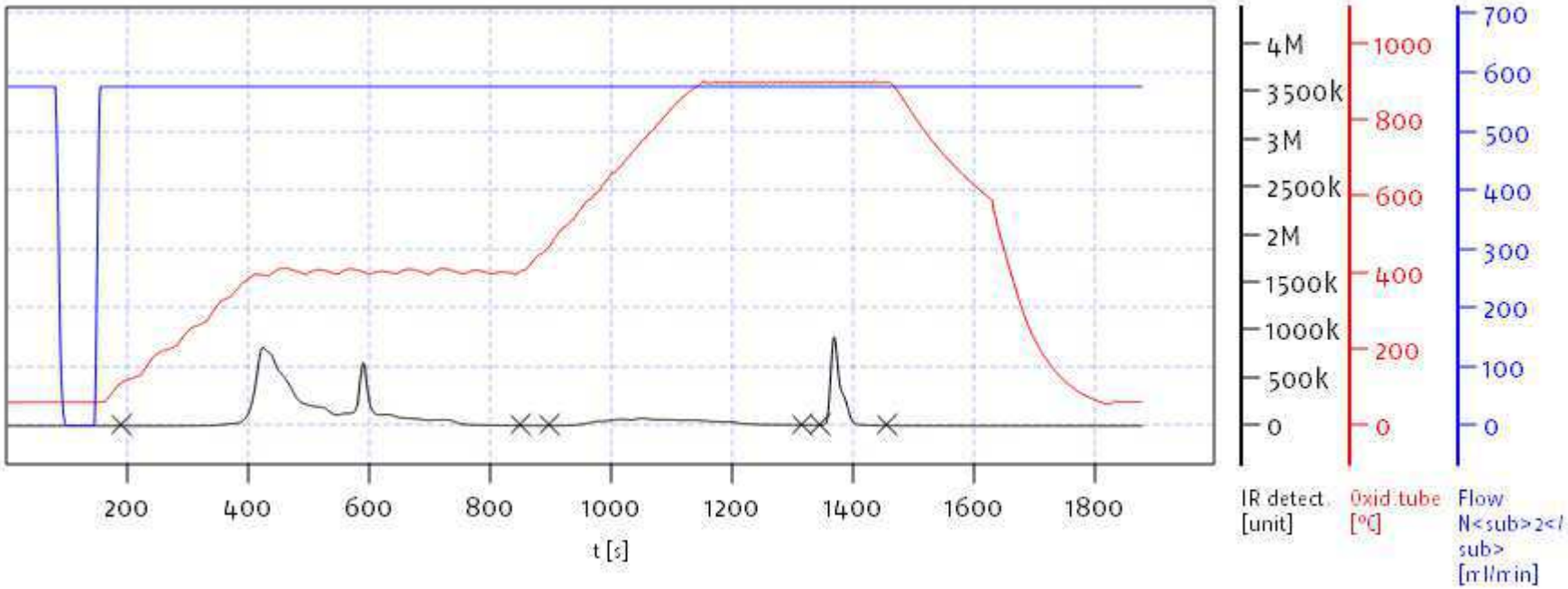
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
35	35	21G0276-04	558.60		1.00	CARBON	8/13/2021 6:21 AM	1.102	0.166	1.268	bl	3 221 716	606 516	683 587	1.0224	1.0000



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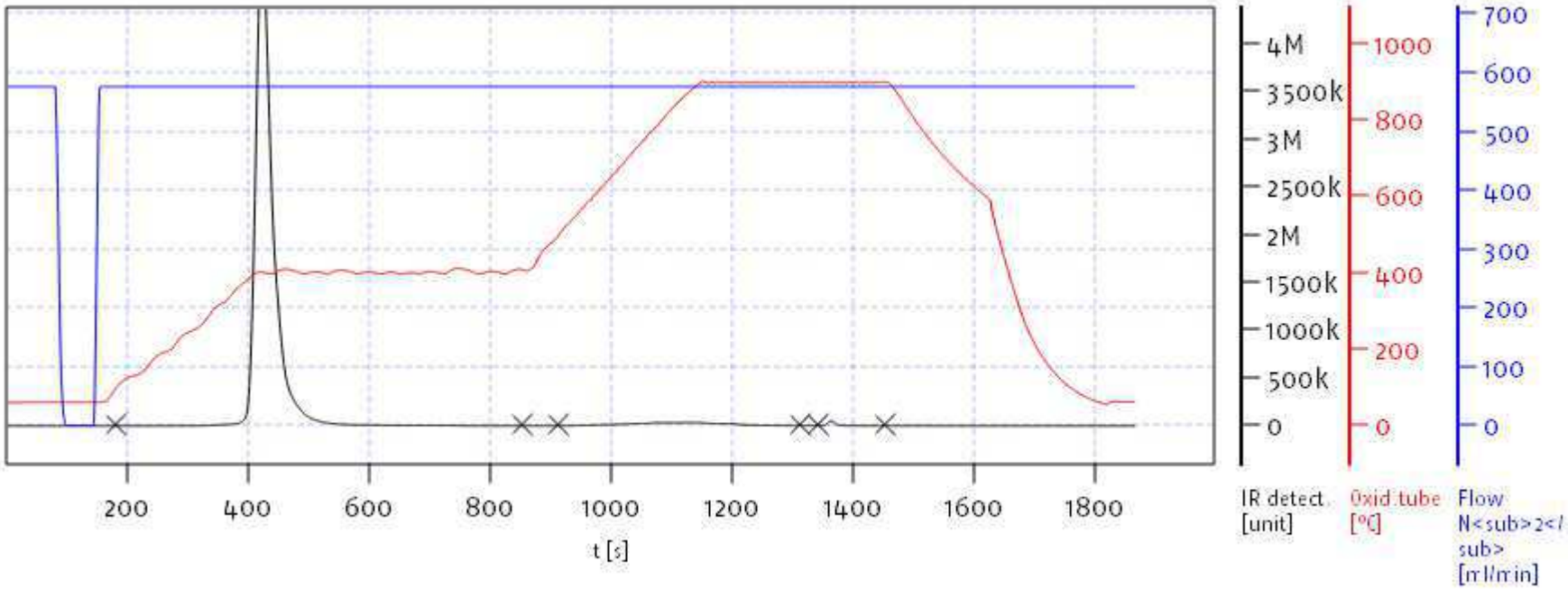
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
36	36	21G0284-01	523.50		1.00	CARBON	8/13/2021 6:53 AM	1.911	0.071	1.982	bl	6 277 909	249 006	31 980	1.0224	1.0000



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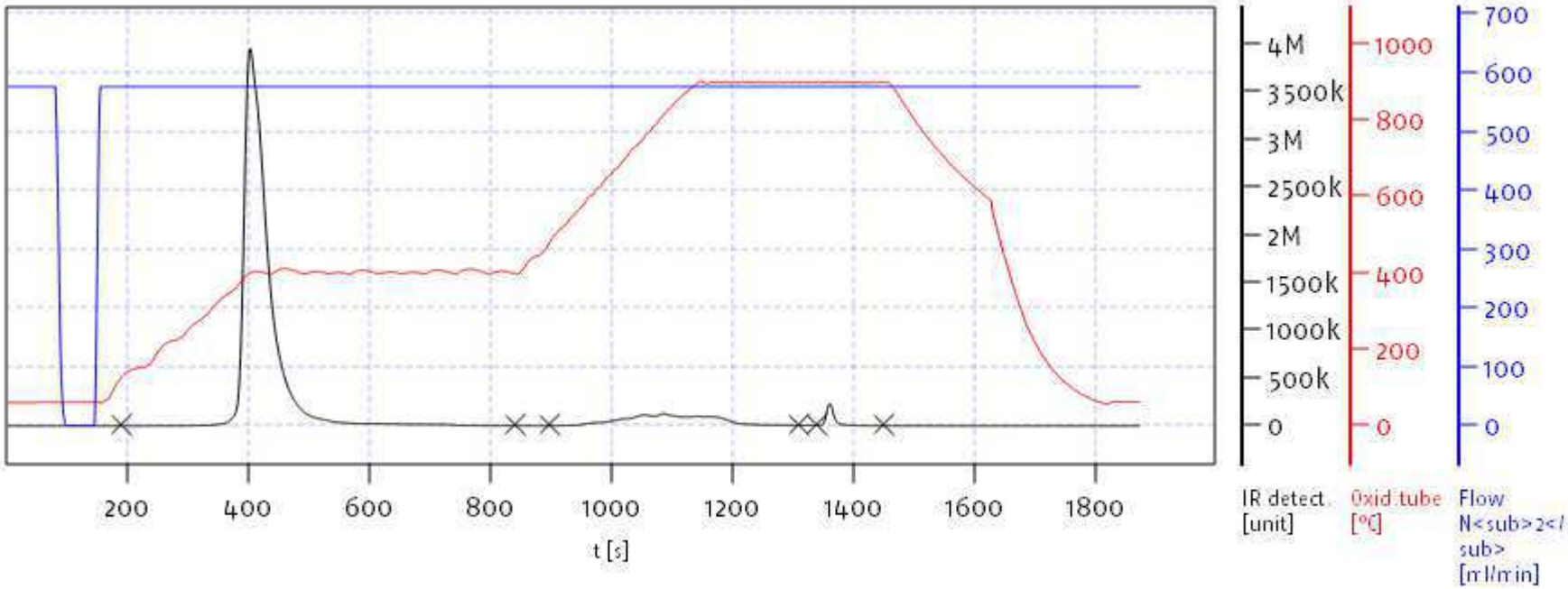
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
37	37	BJH0300-DUP2	626.80		1.00	CARBON	8/13/2021 7:24 AM	1.747	0.200	1.947	bl	6 769 883	816 521	135 391	1.0224	1.0000



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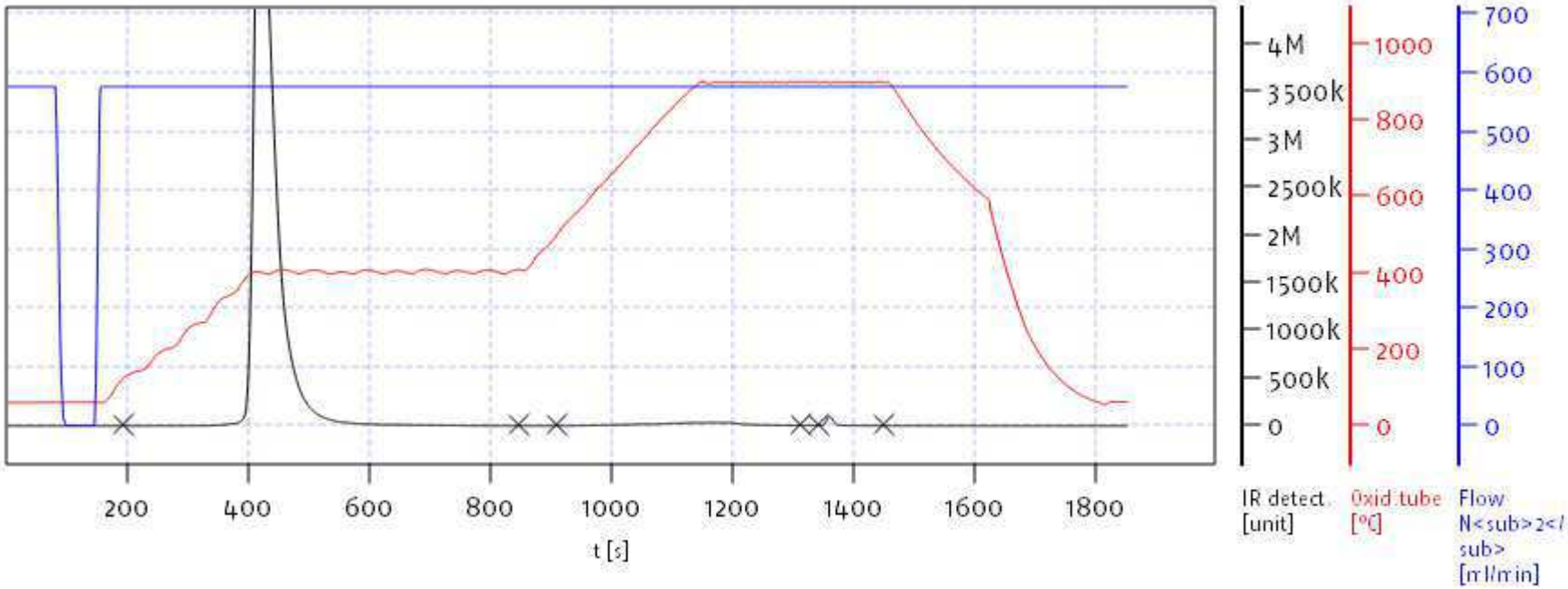
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
38	38	BJH0300-MS2	524.80	0.0130	1.00	CARBON	8/13/2021 7:56 AM	2.925	0.068	2.993	bl,C1o	9 613 544	241 346	55 455	1.0224	1.0000



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Soli TOC Cube, Carbon
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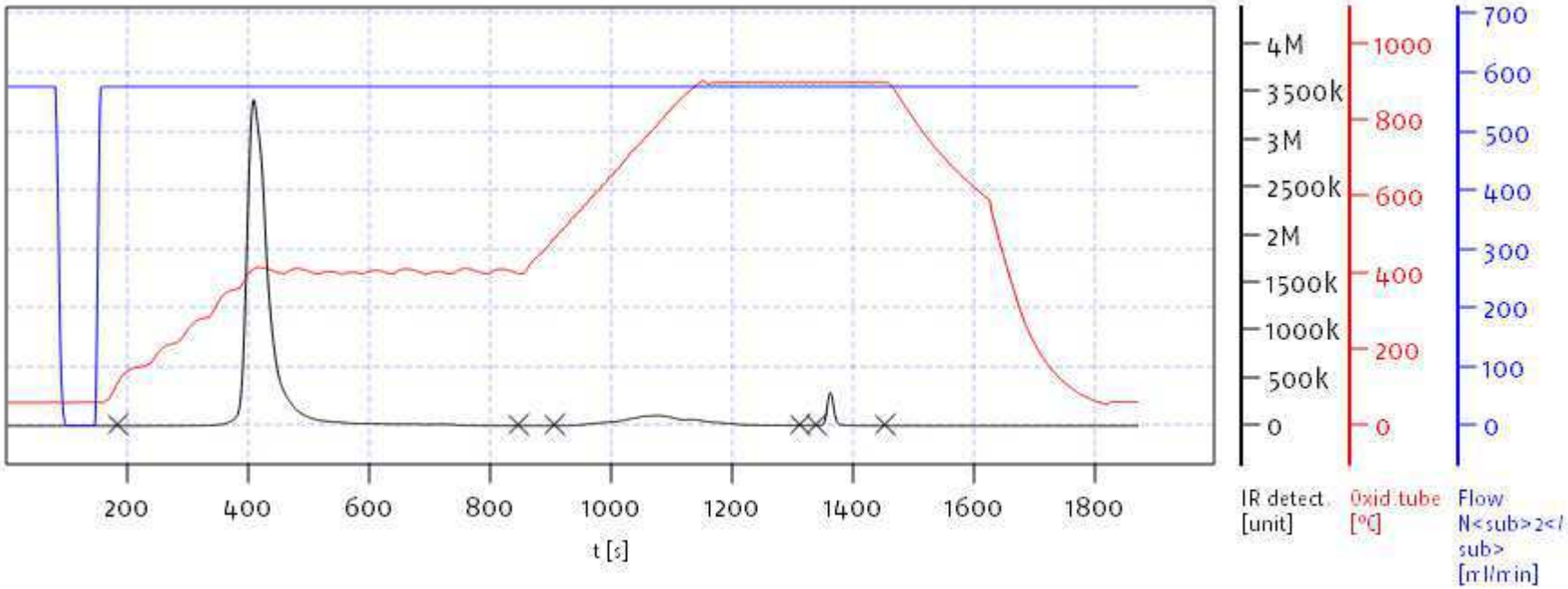
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
39	39	21G0284-02	510.20		1.00	CARBON	8/13/2021 8:27 AM	1.721	0.177	1.898	bl	5 370 681	592 151	172 971	1.0224	1.0000



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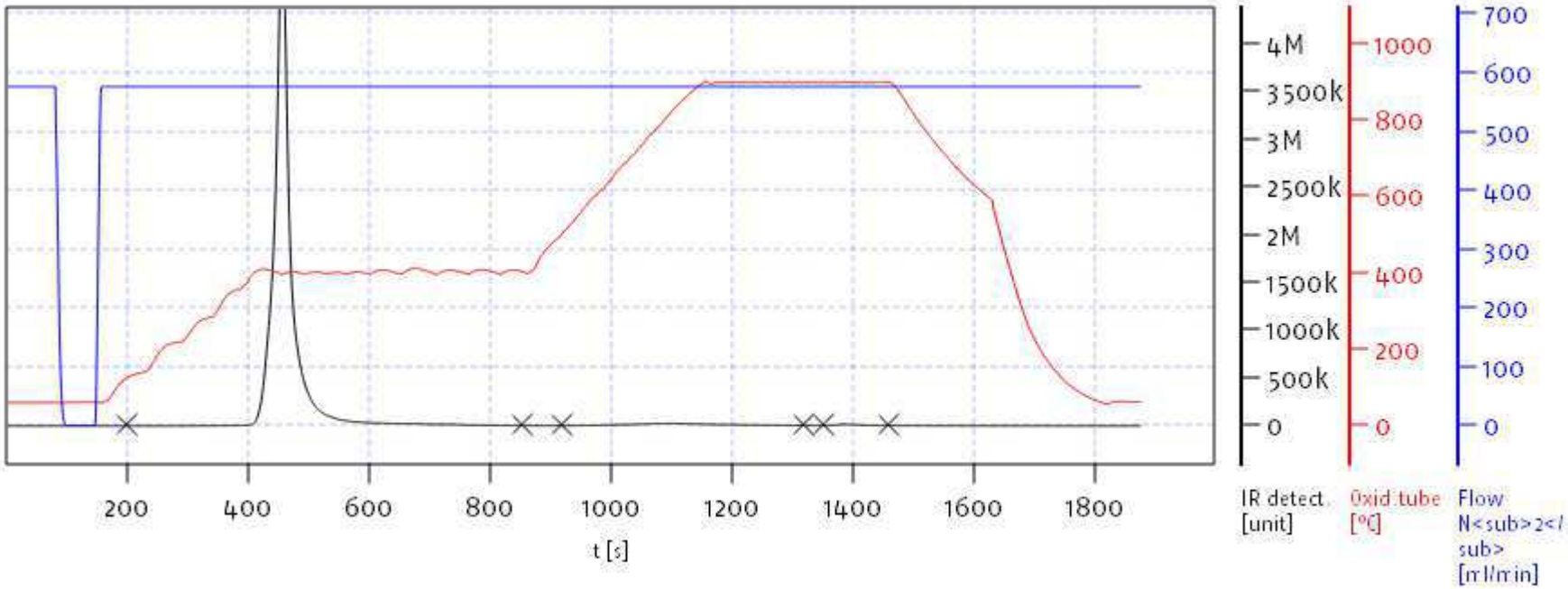
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
40	40	SJH0136-CCV3	21.60		1.00	CARBON	8/13/2021 8:59 AM	43.660	1.255	44.916	bl	5 917 170	184 920	31 809	1.0224	1.0000



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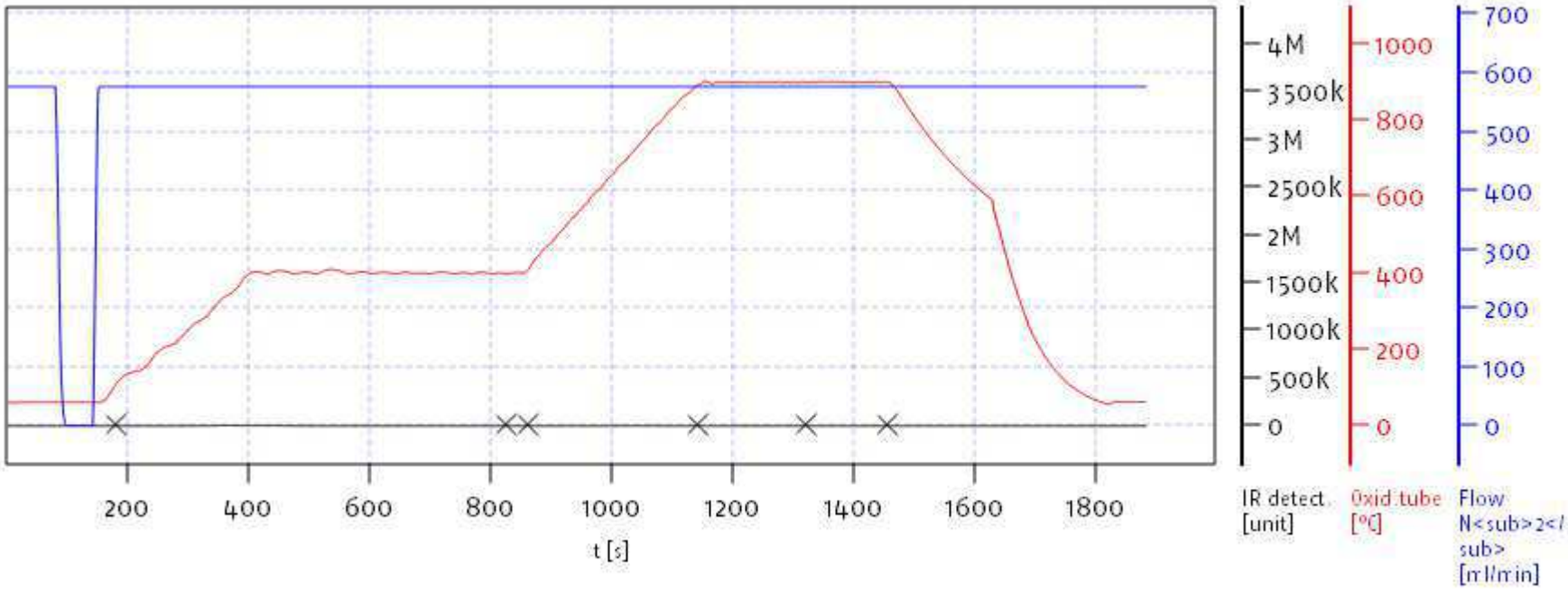
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
41	41	SJH0136-CCB3	591.00		1.00	CARBON	8/13/2021 9:31 AM	0.003	0.000	0.003	bl,C3u,C2u	21 119	3 240	816	1.0224	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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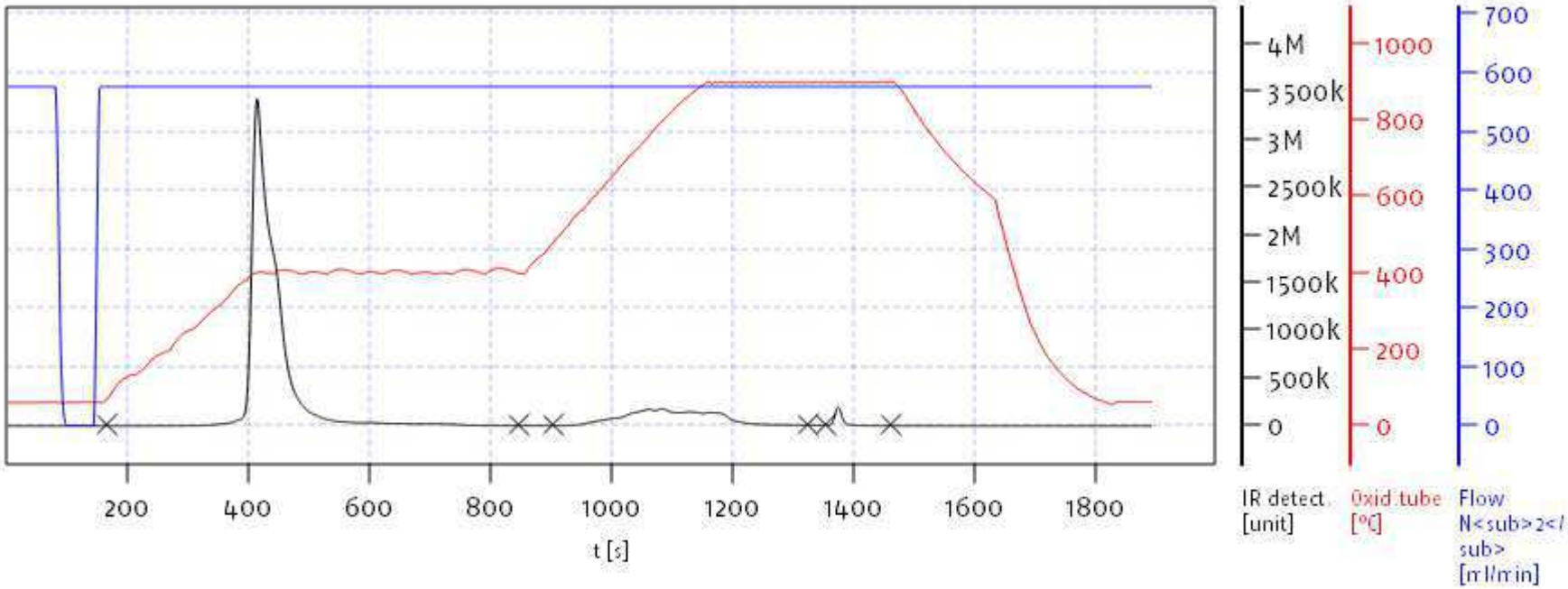
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
42	42	21G0284-03	671.80		1.00	CARBON	8/13/2021 10:03 AM	1.366	0.273	1.639	bl	5 679 800	1 190 746	111 502	1.0224	1.0000



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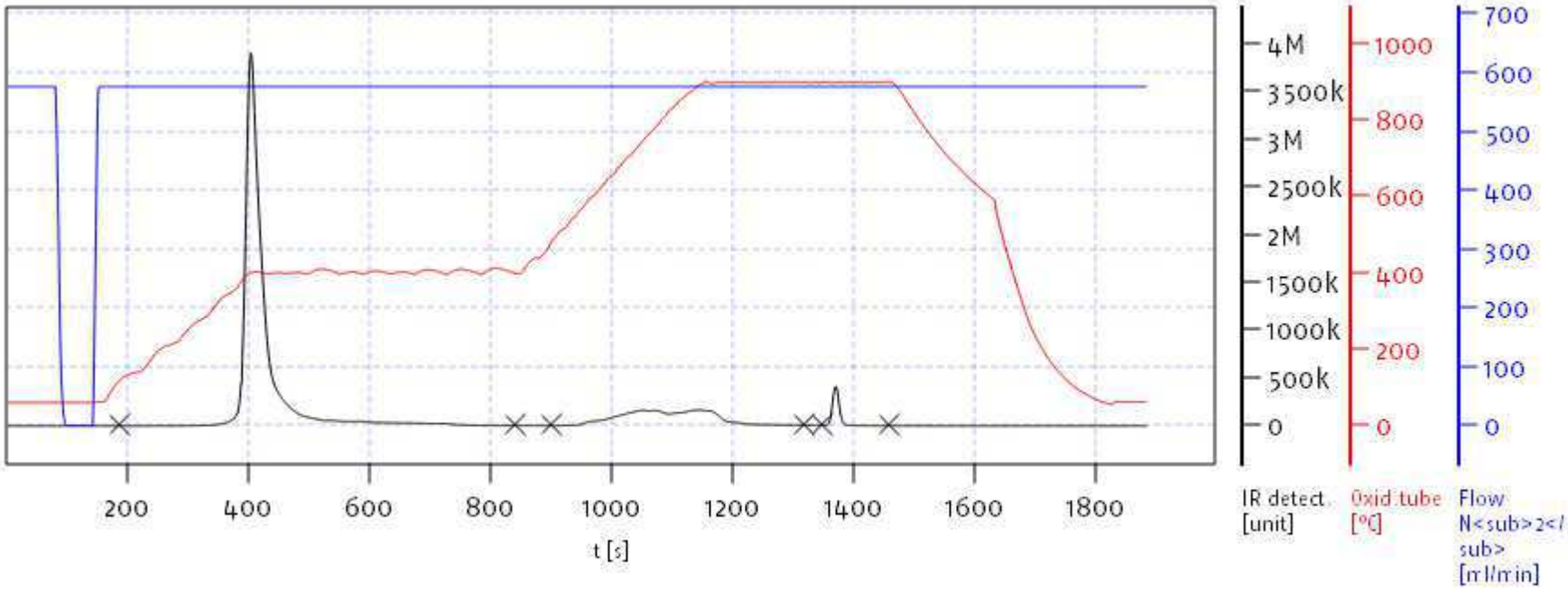
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
43	43	21G0284-04	511.90		1.00	CARBON	8/13/2021 10:34 AM	1.583	0.353	1.937	bl	4 911 346	1 172 729	208 620	1.0224	1.0000



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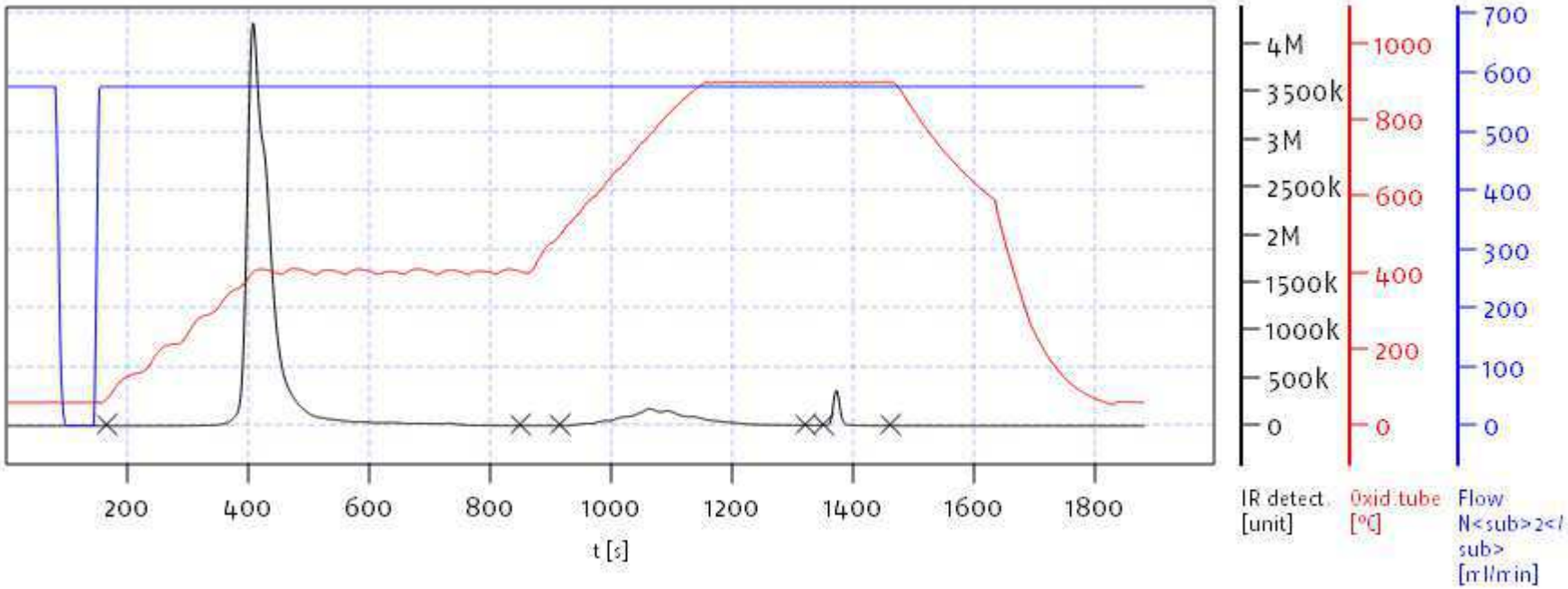
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
44	44	21G0284-06	631.10		1.00	CARBON	8/13/2021 11:06 AM	1.783	0.222	2.005	bl	6 907 258	909 006	191 734	1.0224	1.0000



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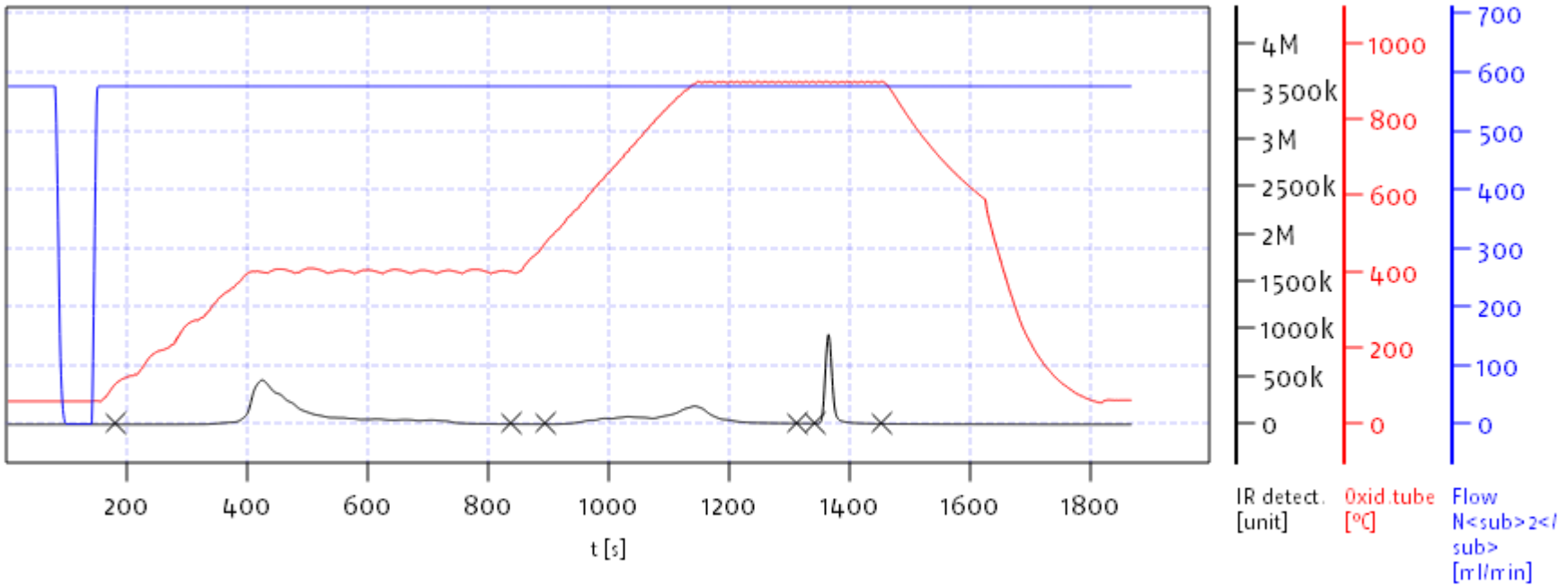
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
45	45	21G0284-07	593.00		1.00	CARBON	8/13/2021 11:38 AM	0.590	0.240	0.830	bl	1 719 178	926 990	510 550	1.0224	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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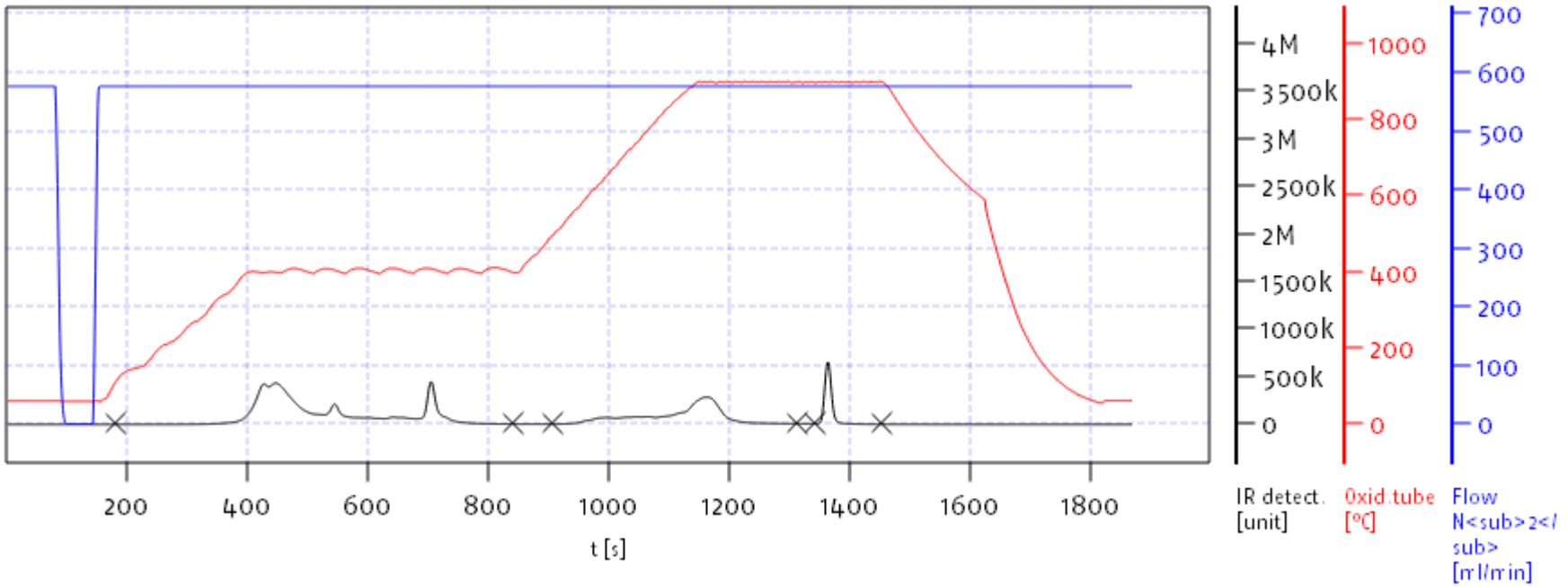
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
46	46	21G0284-08	561.90		1.00	CARBON	8/13/2021 12:09 PM	0.706	0.314	1.020	bl	2 185 124	1 143 800	336 948	1.0224	1.0000



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Soli TOC Cube, Carbon
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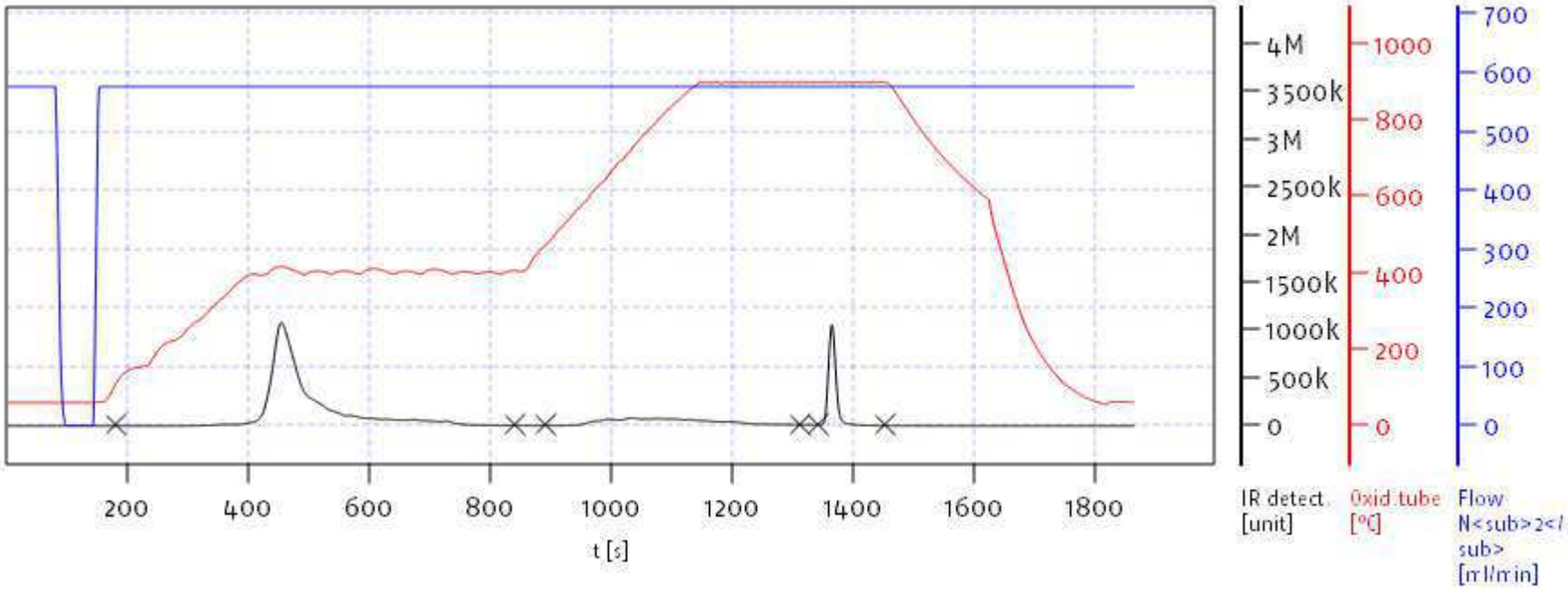
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
47	47	21G0286-01	567.10		1.00	CARBON	8/13/2021 12:41 PM	0.944	0.178	1.122	bl	2 817 518	658 656	581 586	1.0224	1.0000



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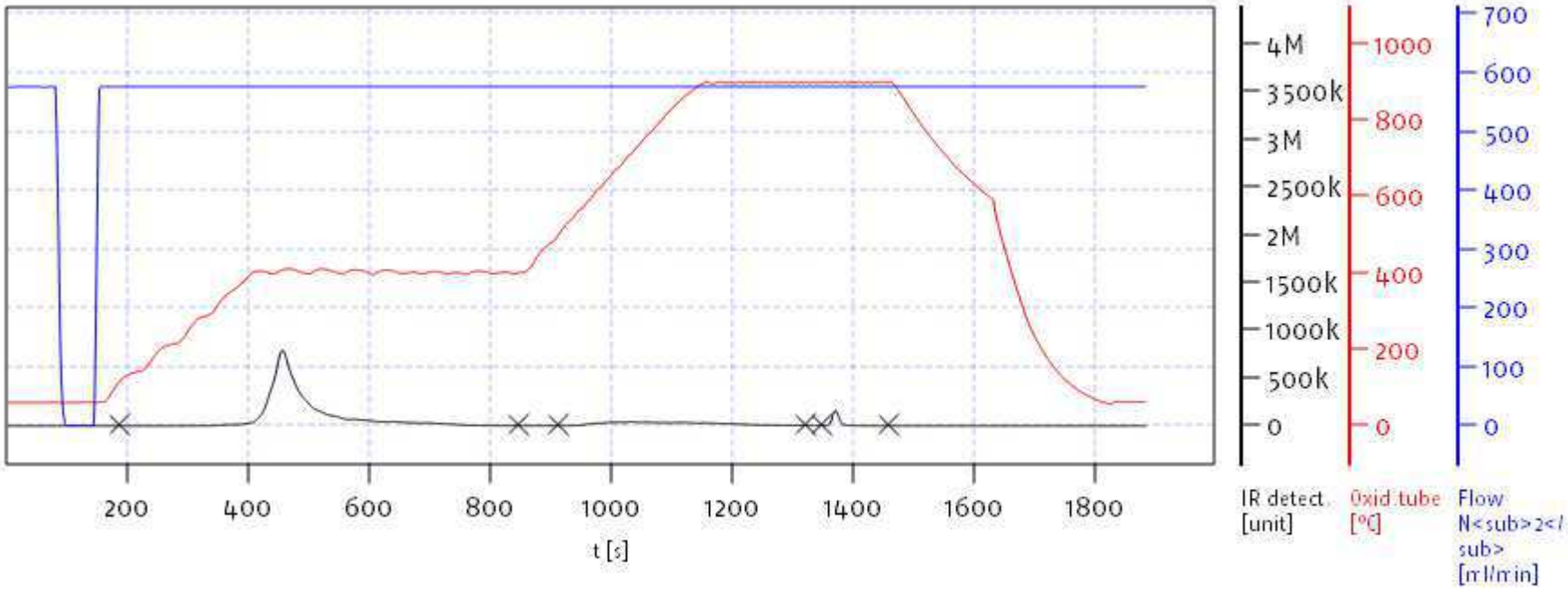
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
48	48	21G0286-02	736.90		1.00	CARBON	8/13/2021 1:13 PM	0.443	0.069	0.512	bl	1 991 731	337 588	83 734	1.0224	1.0000



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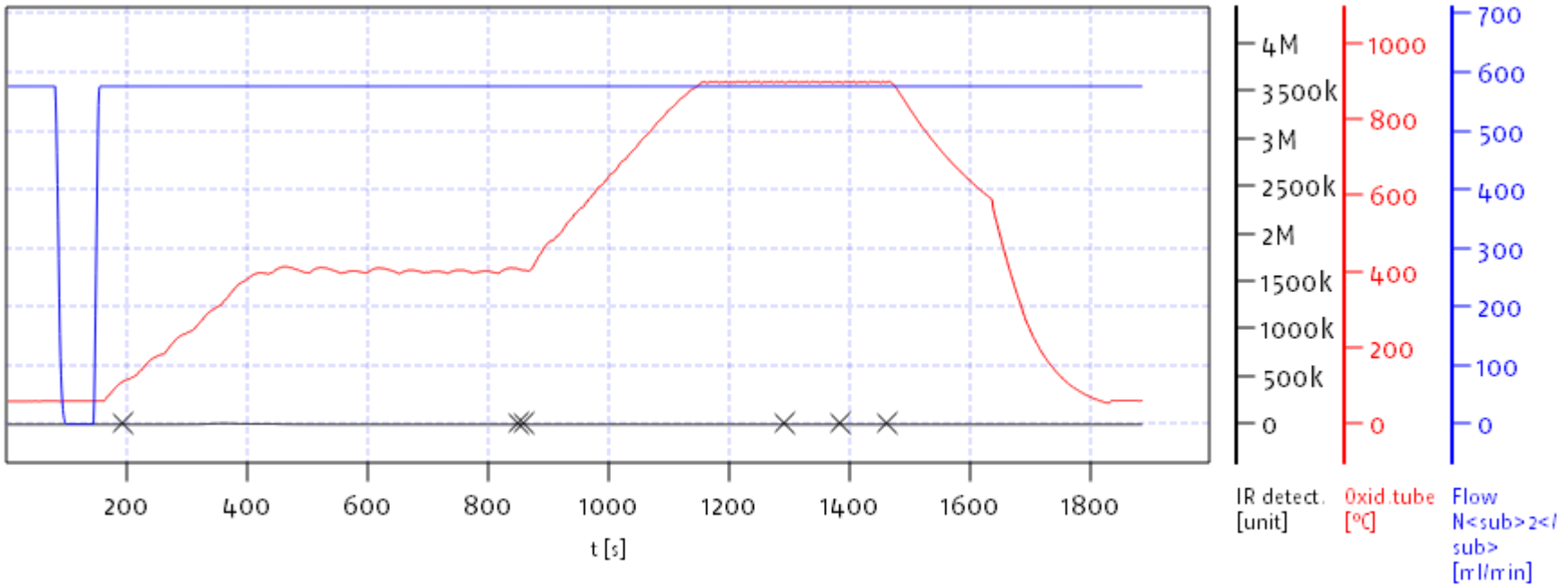
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
49	49	BLANK	1.00		1.00	CARBON	8/13/2021 1:44 PM	0.000	0.000	0.000	bl	38 490	3 016	262	1.0224	1.0000



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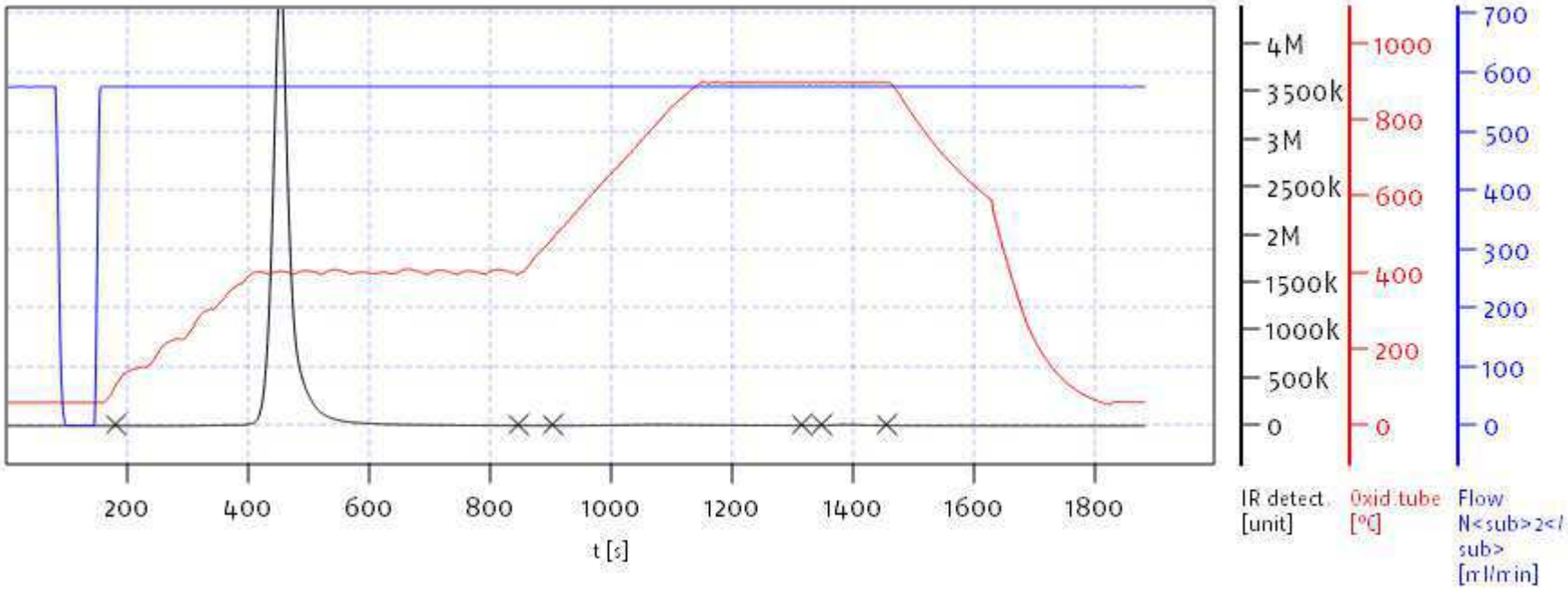
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
50	50	Dfactor	21.10		1.00	CARBON	8/13/2021 2:16 PM	44.580	0.683	45.263	bl	5 889 374	103 326	28 903	1.0251	1.0000



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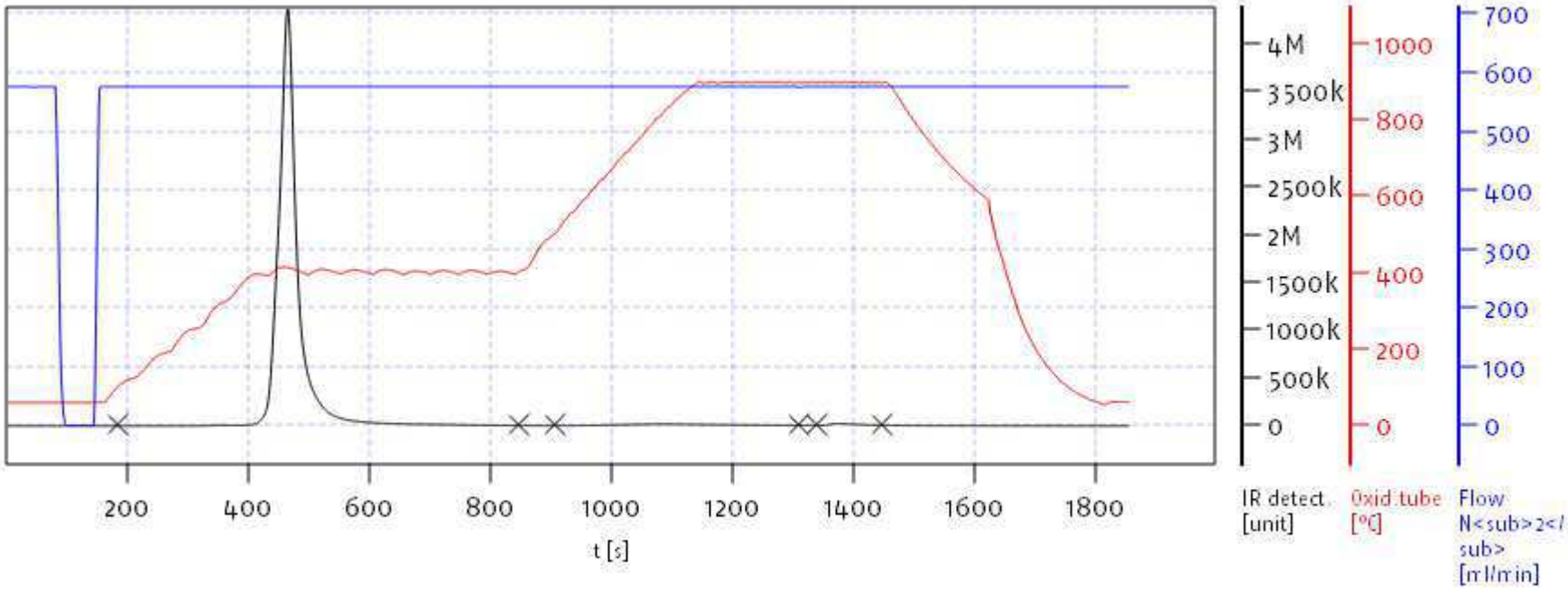
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
51	51	Dfactor	21.40		1.00	CARBON	8/13/2021 2:47 PM	44.746	1.021	45.767	bl	5 848 510	151 033	52 061	1.0469	1.0000



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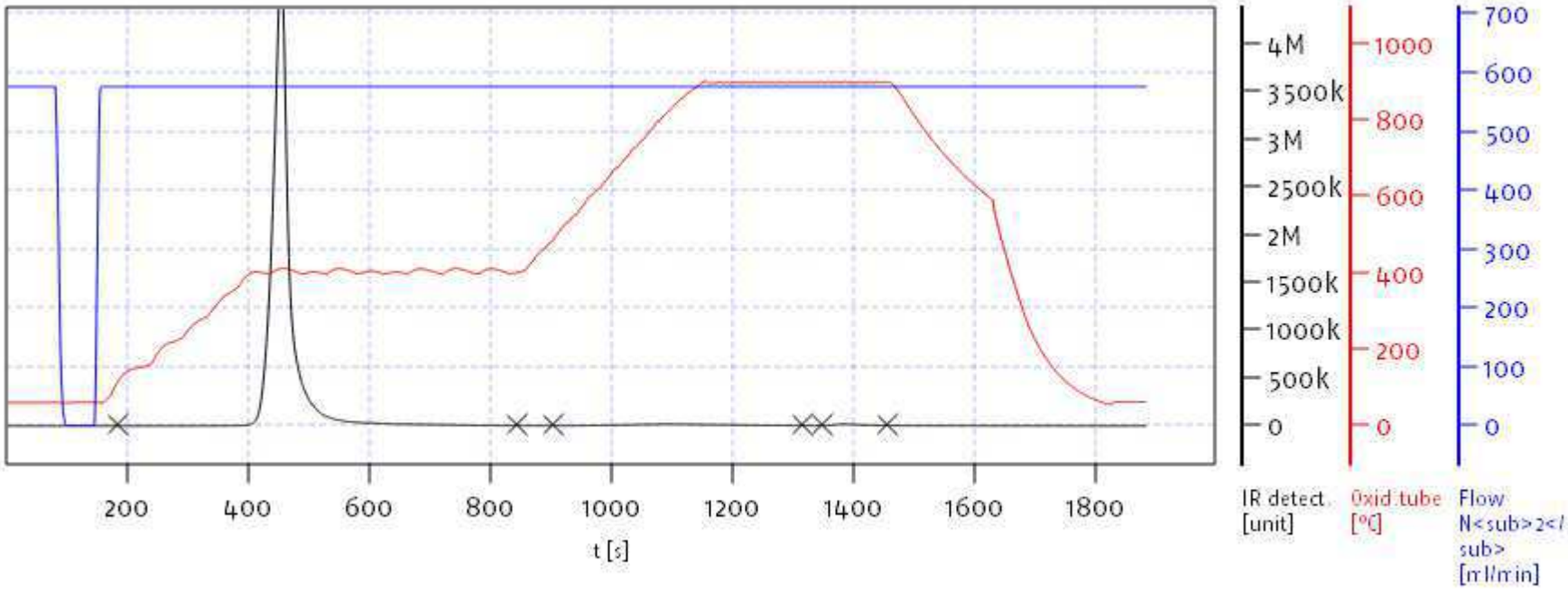
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
52	52	SJH0136-CCV4	20.70		1.00	CARBON	8/13/2021 3:19 PM	44.592	0.977	45.569	bl	5 709 297	140 650	38 200	1.0360	1.0000



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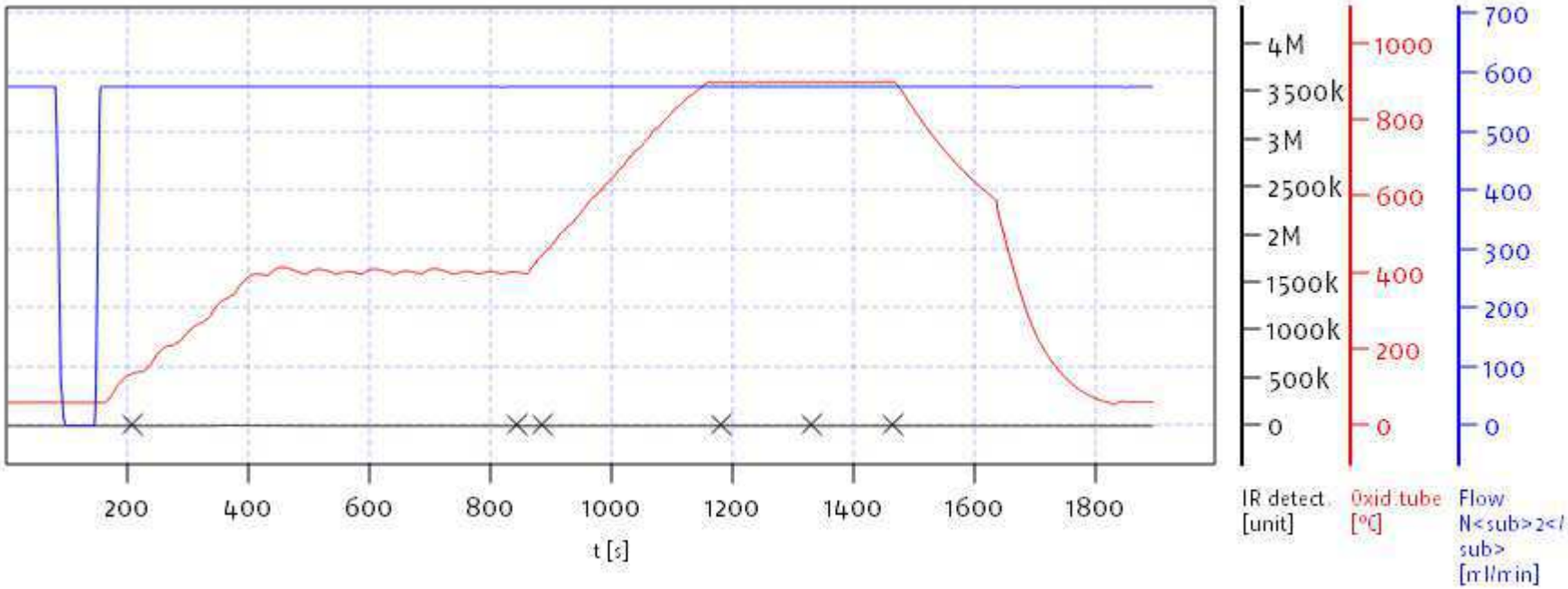
Document: 081321BF from: 8/14/2021 4:11 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
53	53	SJH0136-CCB4	554.30		1.00	CARBON	8/13/2021 3:51 PM	0.002	0.000	0.002	bl,C3u,C2u	18 340	856	1 281	1.0360	1.0000



Name:

Access: soliTOC superuser

Date: Mon Aug 16 10:56:12 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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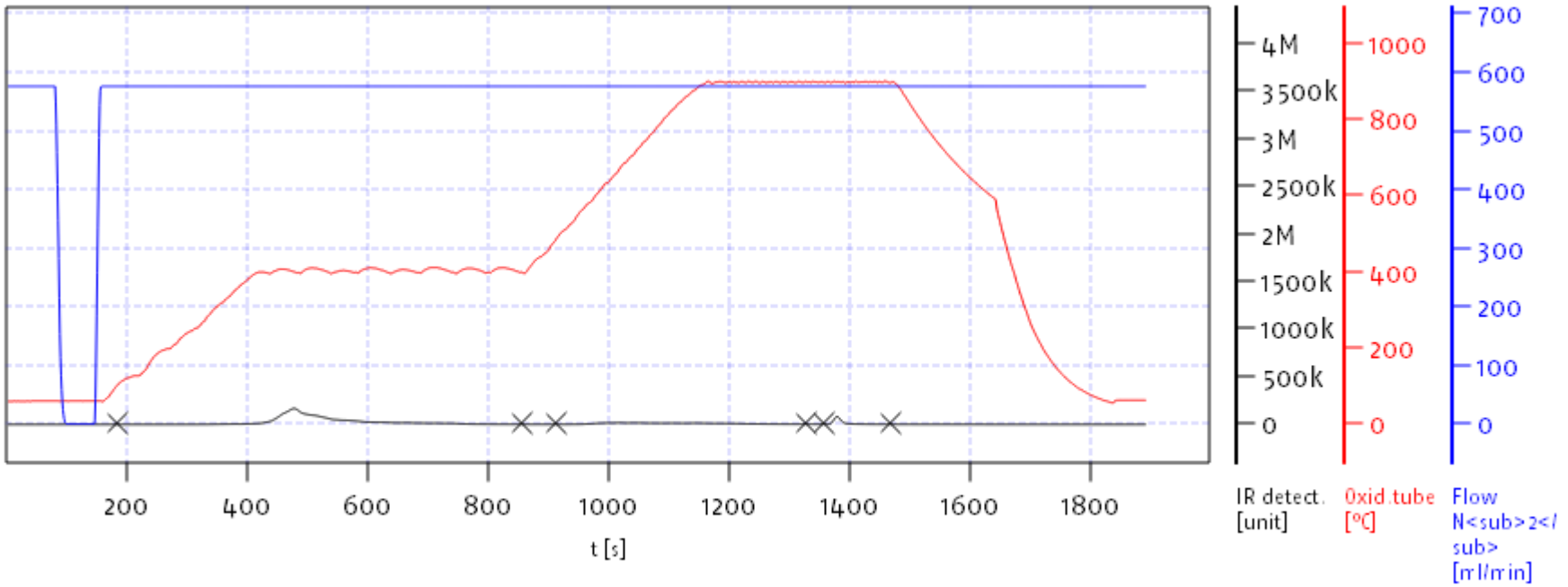
Document: 081321BF from: 8/14/2021 4:11 PM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
54	54	21G0286-03	522.10		1.00	CARBON	8/13/2021 4:23 PM	0.198	0.040	0.238	bl	609 620	145 032	53 040	1.0360	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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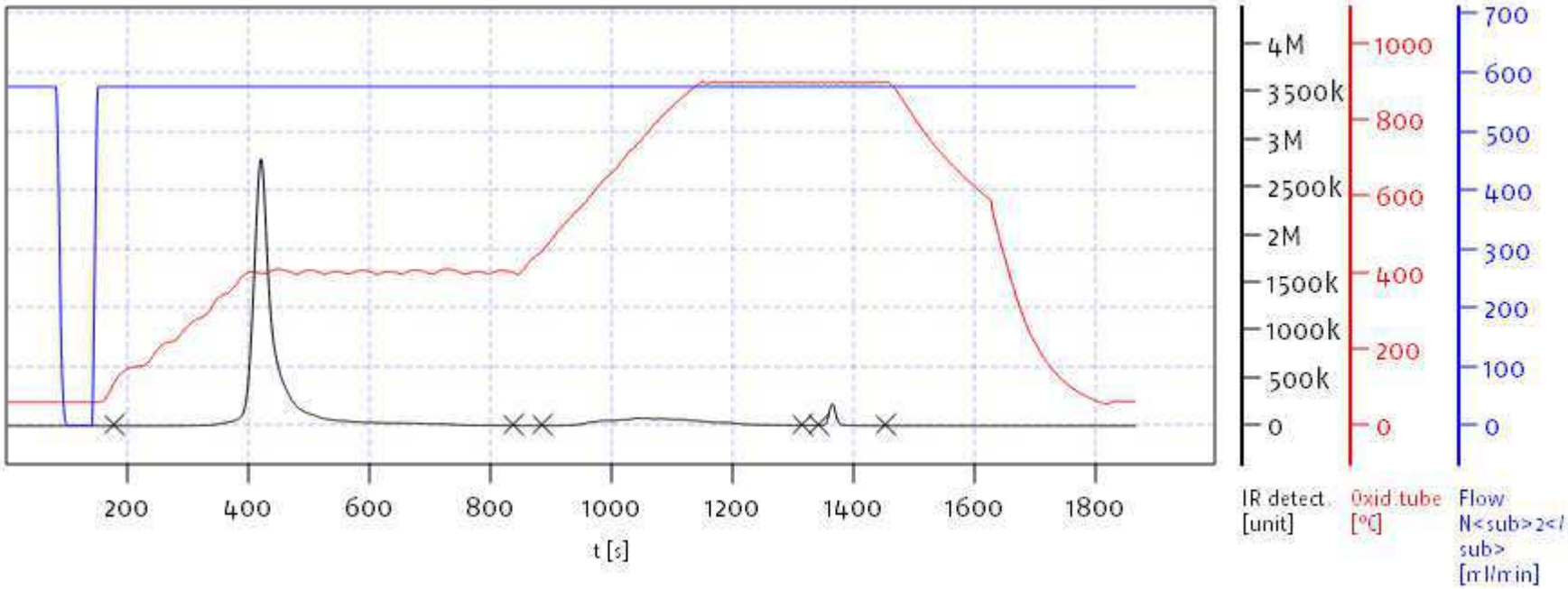
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
55	55	21G0286-04	595.30		1.00	CARBON	8/13/2021 4:55 PM	1.130	0.151	1.281	bl	4 076 907	588 870	118 856	1.0360	1.0000



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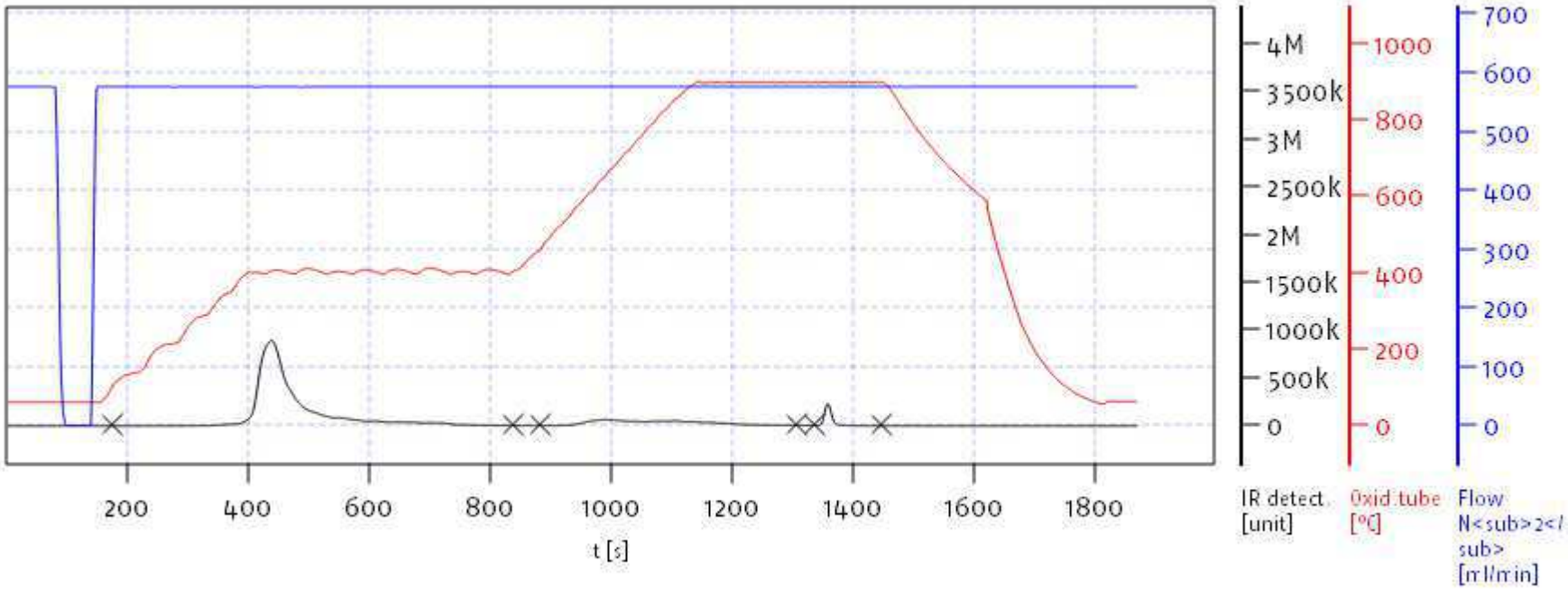
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
56	56	21G0286-05	564.20		1.00	CARBON	8/13/2021 5:26 PM	0.705	0.131	0.836	bl	2 366 436	485 502	124 893	1.0360	1.0000



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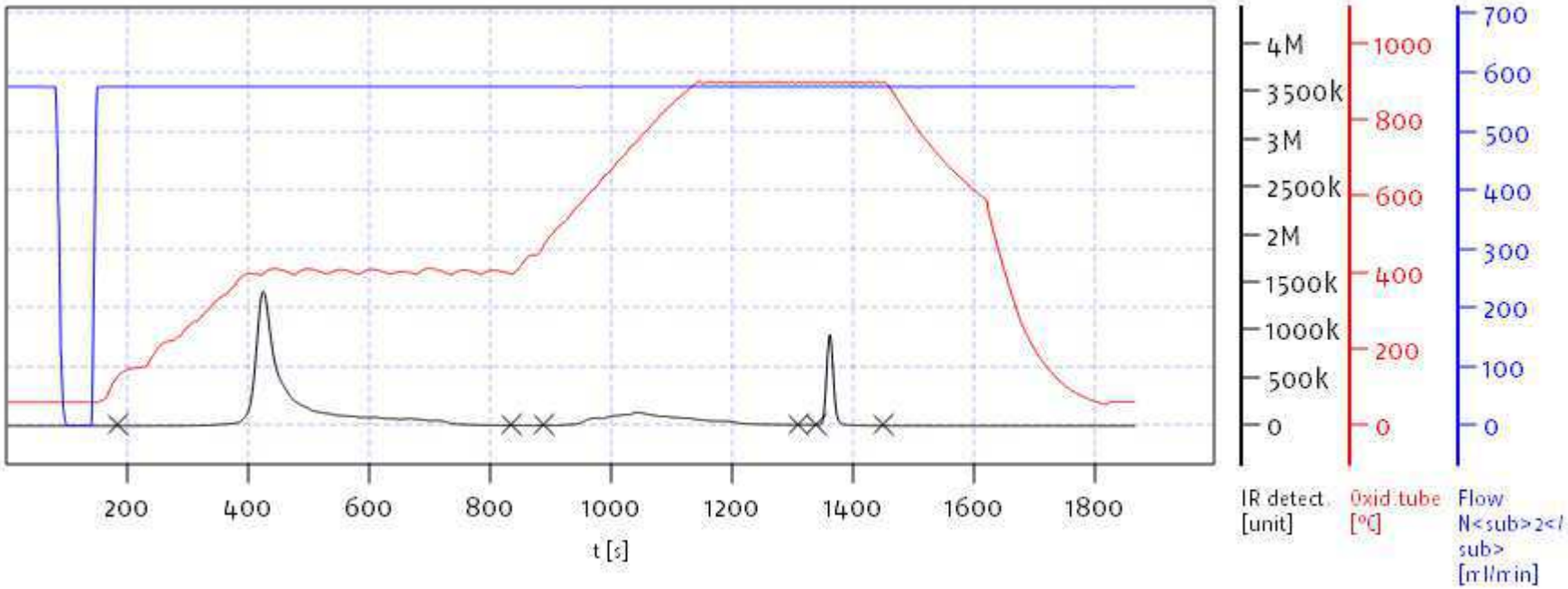
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
57	57	21G0305-01	596.10		1.00	CARBON	8/13/2021 5:58 PM	0.955	0.236	1.191	bl	3 079 026	914 557	491 759	1.0360	1.0000



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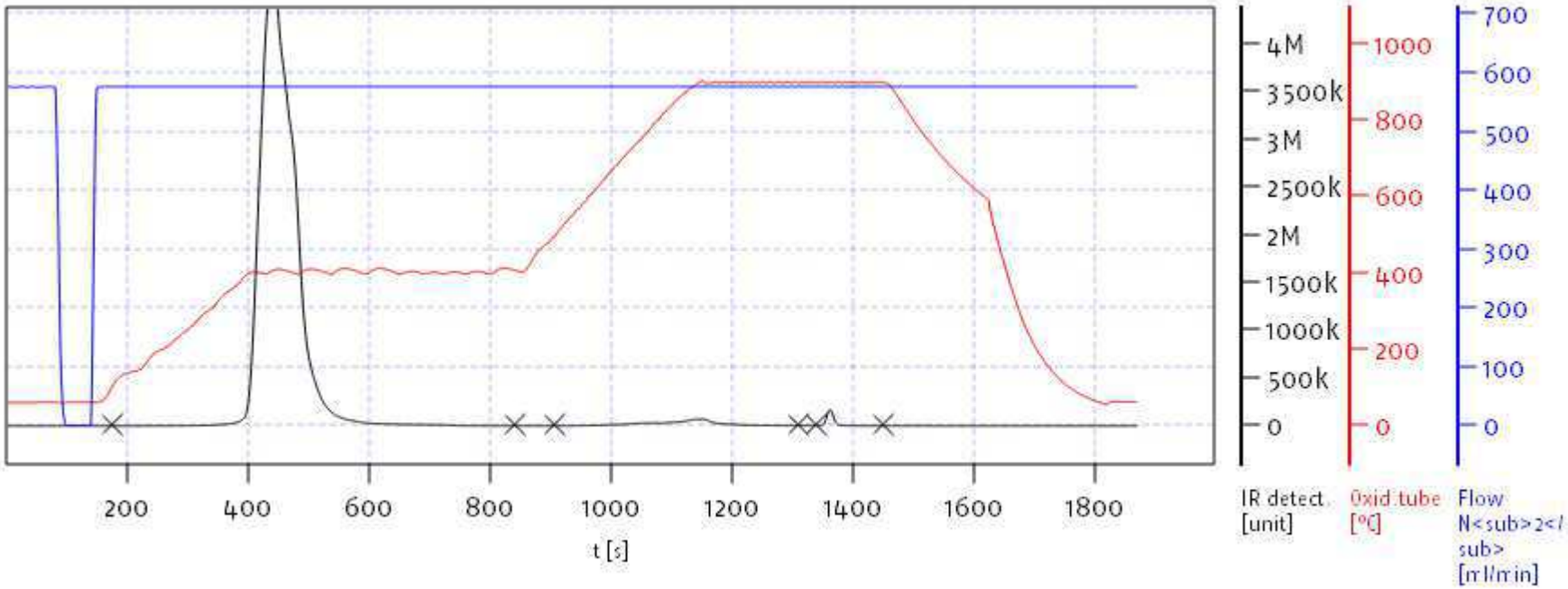
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
58	58	21G0305-02	577.10		1.00	CARBON	8/13/2021 6:29 PM	3.223	0.077	3.300	bl,C1o	11 470 300	297 189	89 388	1.0360	1.0000



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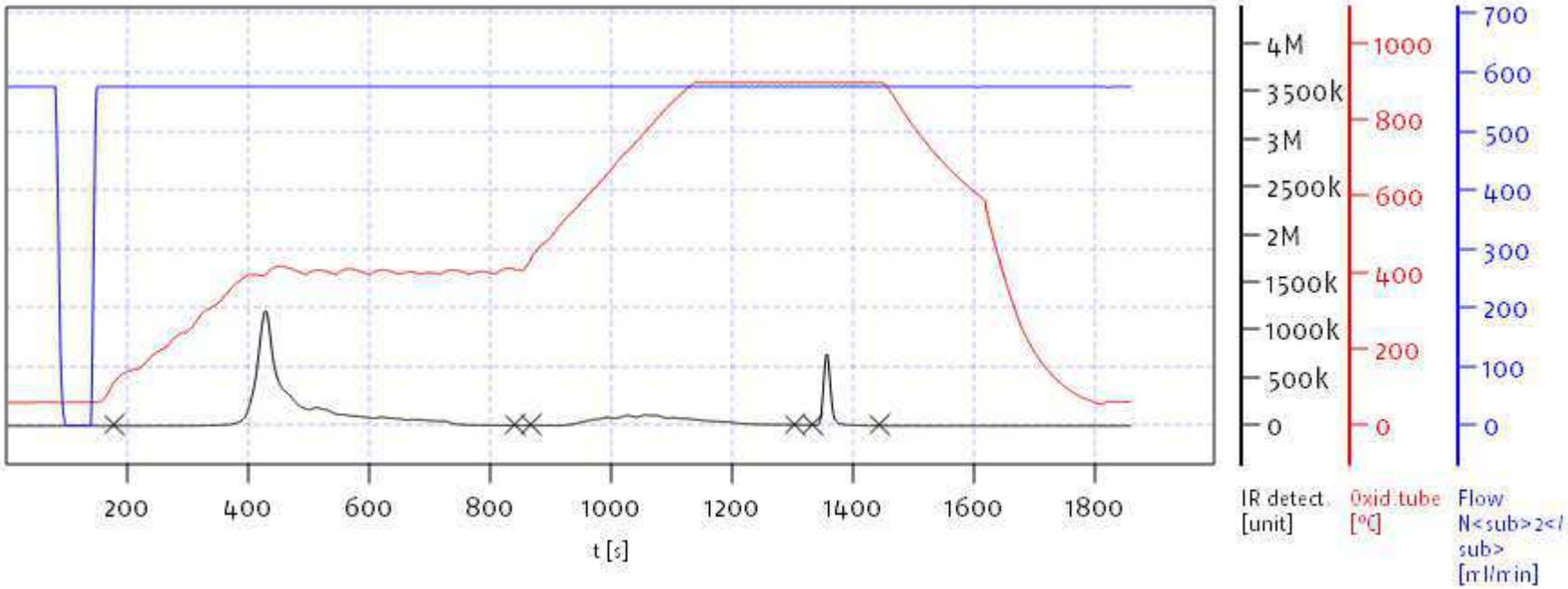
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
59	59	21G0305-03	550.90		1.00	CARBON	8/13/2021 7:01 PM	0.938	0.228	1.166	bl	2 838 498	816 801	402 021	1.0360	1.0000



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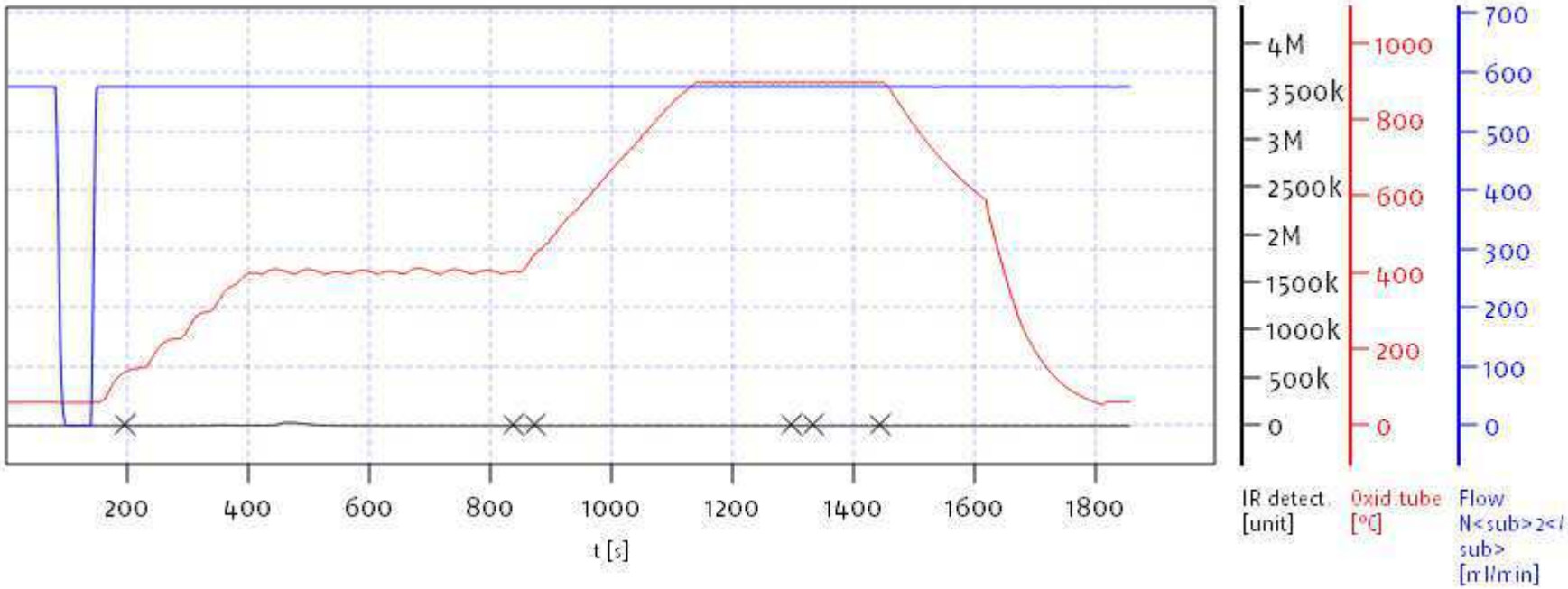
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
60	60	BJH0301-MRL1	606.60		1.00	CARBON	8/13/2021 7:32 PM	0.023	0.000	0.023	bl,C3u,C2u	95 952	6 374	368	1.0360	1.0000



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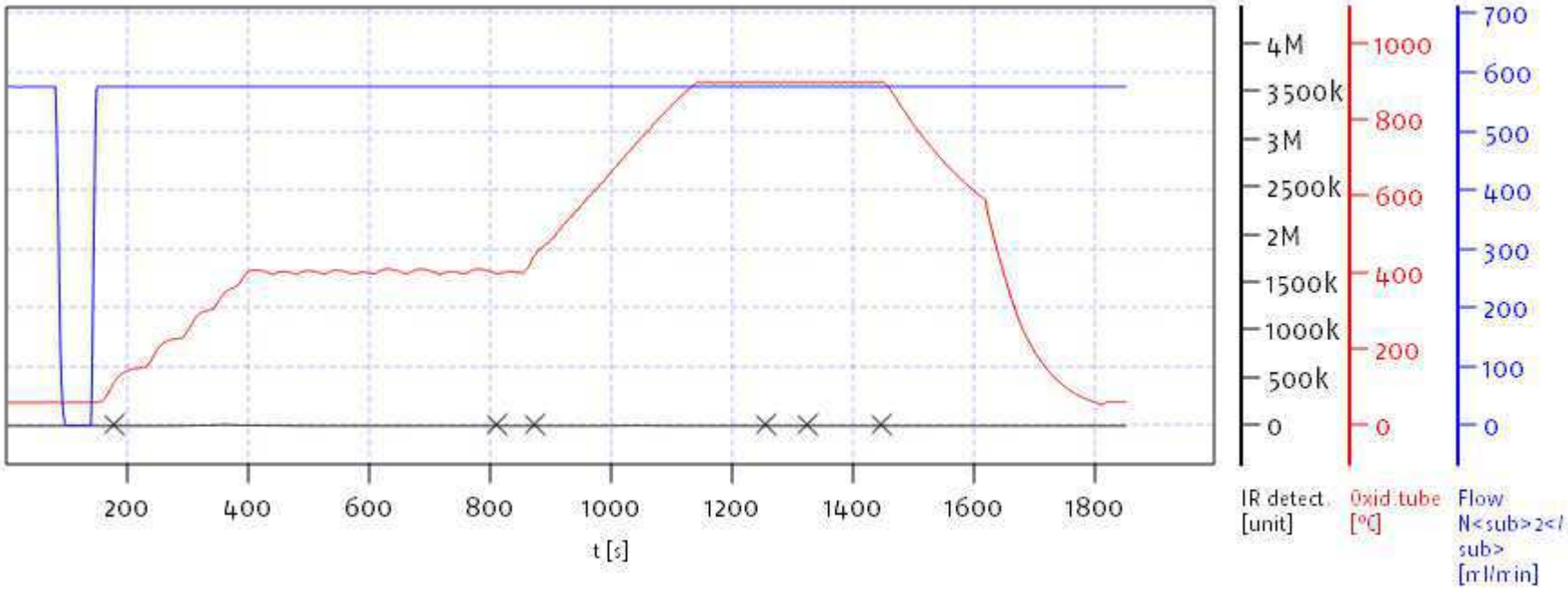
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
61	61	BJH0301-BLK1	638.60		1.00	CARBON	8/13/2021 8:03 PM	0.008	0.000	0.008	bl,C2u	40 664	11 009	424	1.0360	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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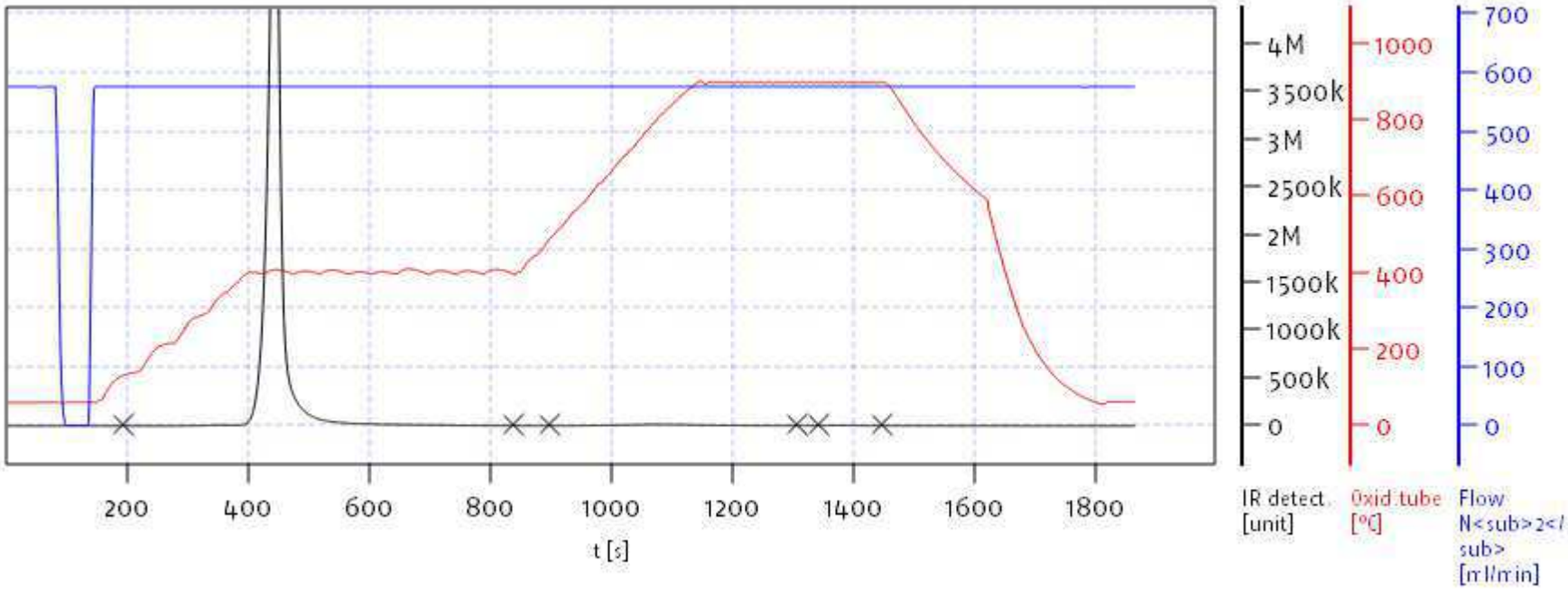
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
62	62	BJH0301-BS1	21.50		1.00	CARBON	8/13/2021 8:35 PM	46.107	0.647	46.753	bl	6 156 006	100 042	13 965	1.0360	1.0000



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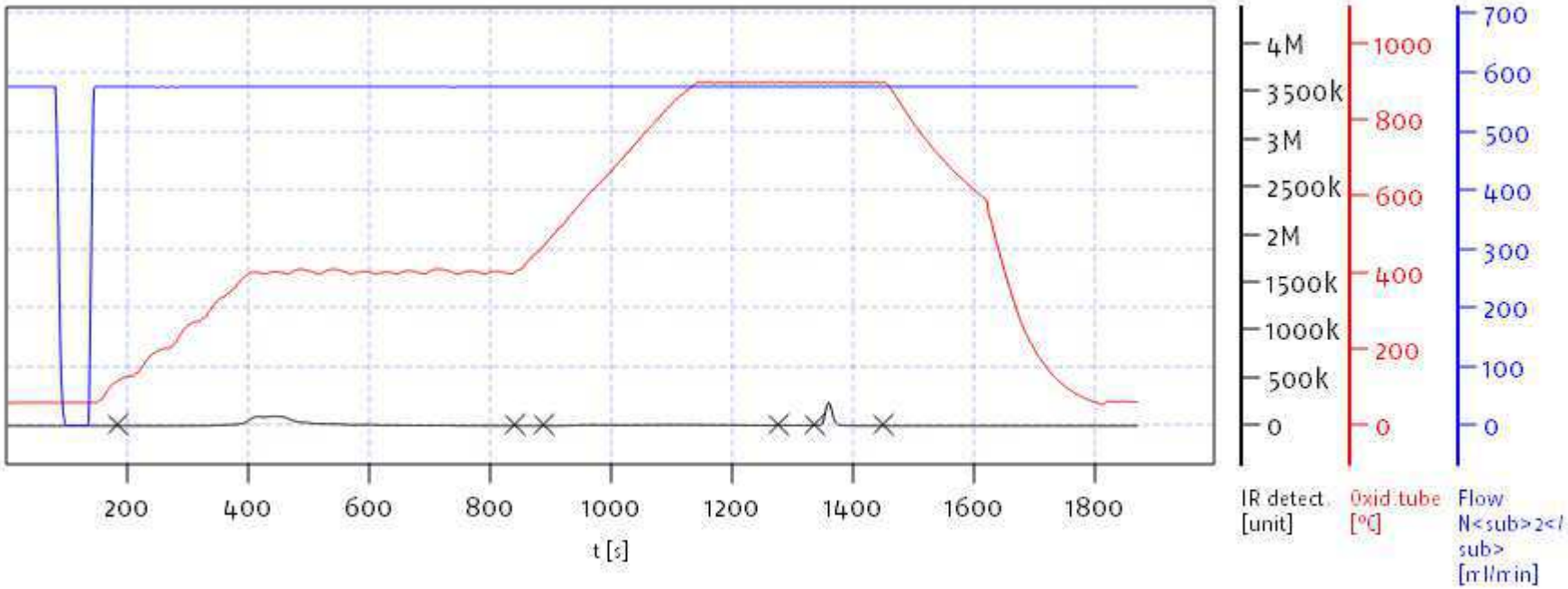
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
63	63	BJH0301-SRM1	35.10		1.00	CARBON	8/13/2021 9:06 PM	2.438	0.439	2.877	bl	426 524	109 654	129 876	1.0360	1.0000



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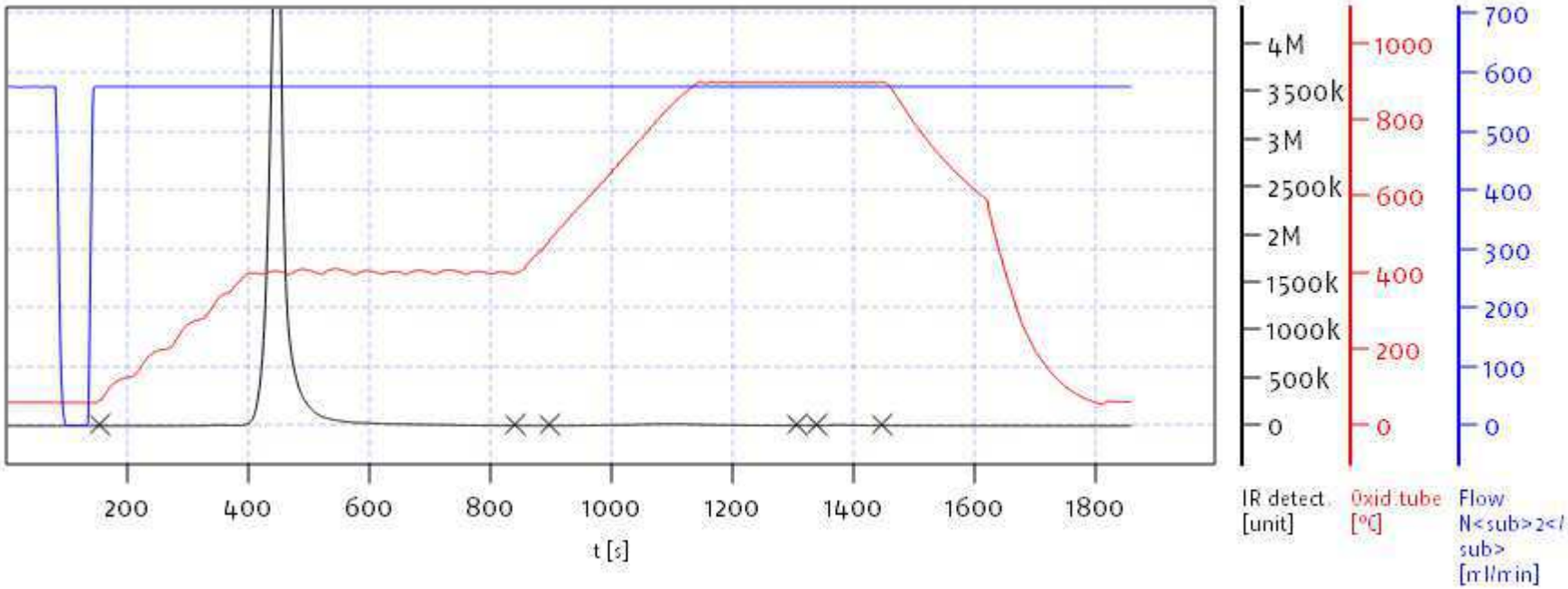
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
64	64	SJH0136-CCV5	22.60		1.00	CARBON	8/13/2021 9:38 PM	45.156	0.873	46.030	bl	6 328 328	137 522	23 307	1.0360	1.0000



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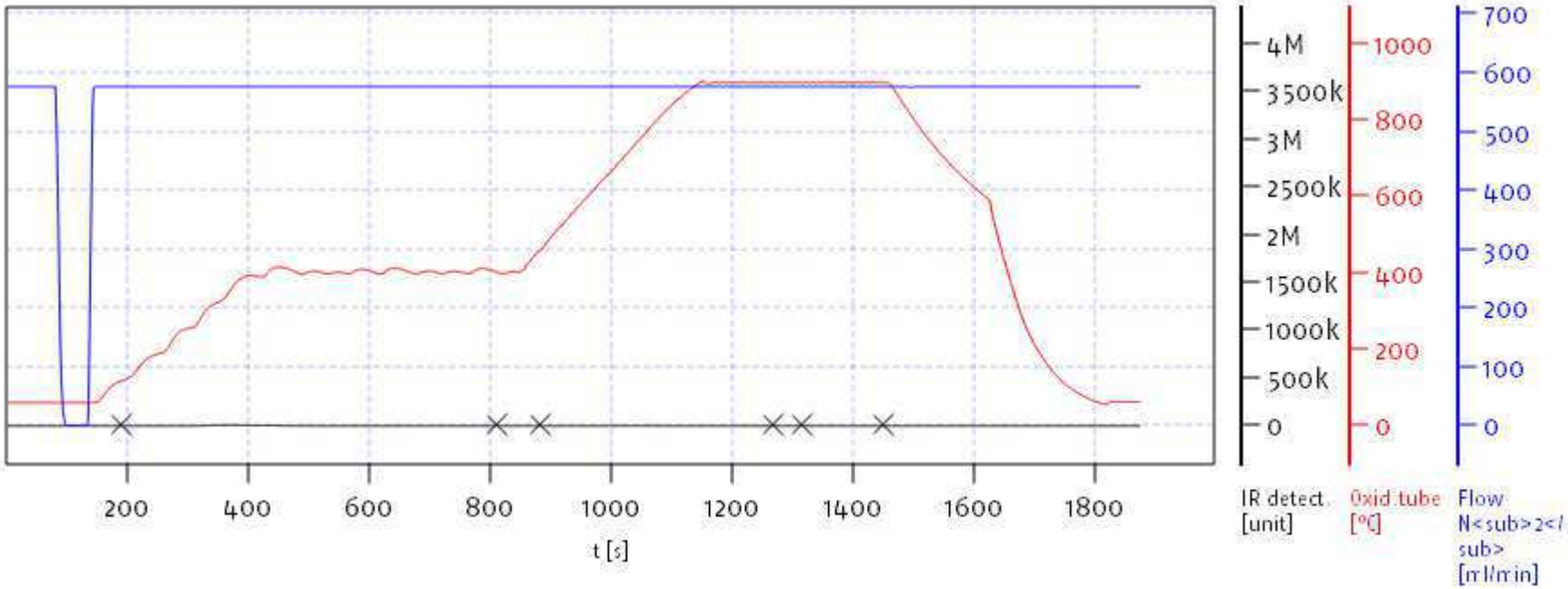
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
65	65	SJH0136-CCB5	502.20		1.00	CARBON	8/13/2021 10:09 PM	0.007	0.000	0.007	bl,C3u,C2u	33 223	3 760	847	1.0360	1.0000



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Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0183	Instrument:	TOC Cube
		Calibration:	EH00021

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0183-ICV1	peData_08232021@1356-2	NA	08/16/21 17:06
Initial Cal Blank	SJH0183-ICB1	peData_08232021@1356-2	NA	08/16/21 17:38
LDW21-SC561	21G0305-04	peData_08232021@1356-2	Solid	08/16/21 18:09
LDW21-SC561	BJH0301-DUP1	peData_08232021@1356-2	Solid	08/16/21 18:41
LDW21-SC561	BJH0301-MS1	peData_08232021@1356-2	Solid	08/16/21 19:12
LDW21-SC526	21G0305-05	peData_08232021@1356-2	Solid	08/16/21 19:44
LDW21-SC526FD	21G0305-06	peData_08232021@1356-2	Solid	08/16/21 20:15
LDW21-SC530	21G0305-07	peData_08232021@1356-2	Solid	08/16/21 20:47
LDW21-SC540	21G0305-08	peData_08232021@1356-2	Solid	08/16/21 21:19
LDW21-SC574	21G0305-09	peData_08232021@1356-2	Solid	08/16/21 21:51
LDW21-SC551	21G0305-10	peData_08232021@1356-3	Solid	08/16/21 22:23
Calibration Check	SJH0183-CCV1	peData_08232021@1356-3	NA	08/16/21 23:26
Calibration Blank	SJH0183-CCB1	peData_08232021@1356-3	NA	08/16/21 23:58
Calibration Check	SJH0183-CCV2	peData_08232021@1356-3	NA	08/17/21 05:43
Calibration Blank	SJH0183-CCB2	peData_08232021@1356-3	NA	08/17/21 06:14
Calibration Check	SJH0183-CCV3	peData_08232021@1356-(	NA	08/17/21 11:59
Calibration Blank	SJH0183-CCB3	peData_08232021@1356-(	NA	08/17/21 12:31
Calibration Check	SJH0183-CCV4	peData_08232021@1356-1	NA	08/17/21 18:16
Calibration Blank	SJH0183-CCB4	peData_08232021@1356-1	NA	08/17/21 18:48
Calibration Check	SJH0183-CCV5	peData_08232021@1356-1	NA	08/18/21 00:35
Calibration Blank	SJH0183-CCB5	peData_08232021@1356-1	NA	08/18/21 01:06
Calibration Check	SJH0183-CCV6	peData_08232021@1356-2	NA	08/18/21 06:52
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Calibration Check	SJH0183-CCV7	peData_08232021@1356-2	NA	08/18/21 13:10
Calibration Blank	SJH0183-CCB7	peData_08232021@1356-2	NA	08/18/21 13:41
Calibration Check	SJH0183-CCV8	peData_08232021@1356-2	NA	08/18/21 19:28
Calibration Blank	SJH0183-CCB8	peData_08232021@1356-2	NA	08/18/21 20:00
Calibration Check	SJH0183-CCV9	peData_08232021@1356-3	NA	08/19/21 01:48
Calibration Blank	SJH0183-CCB9	peData_08232021@1356-3	NA	08/19/21 02:19
Calibration Check	SJH0183-CCVA	peData_08232021@1356-(	NA	08/19/21 08:05

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

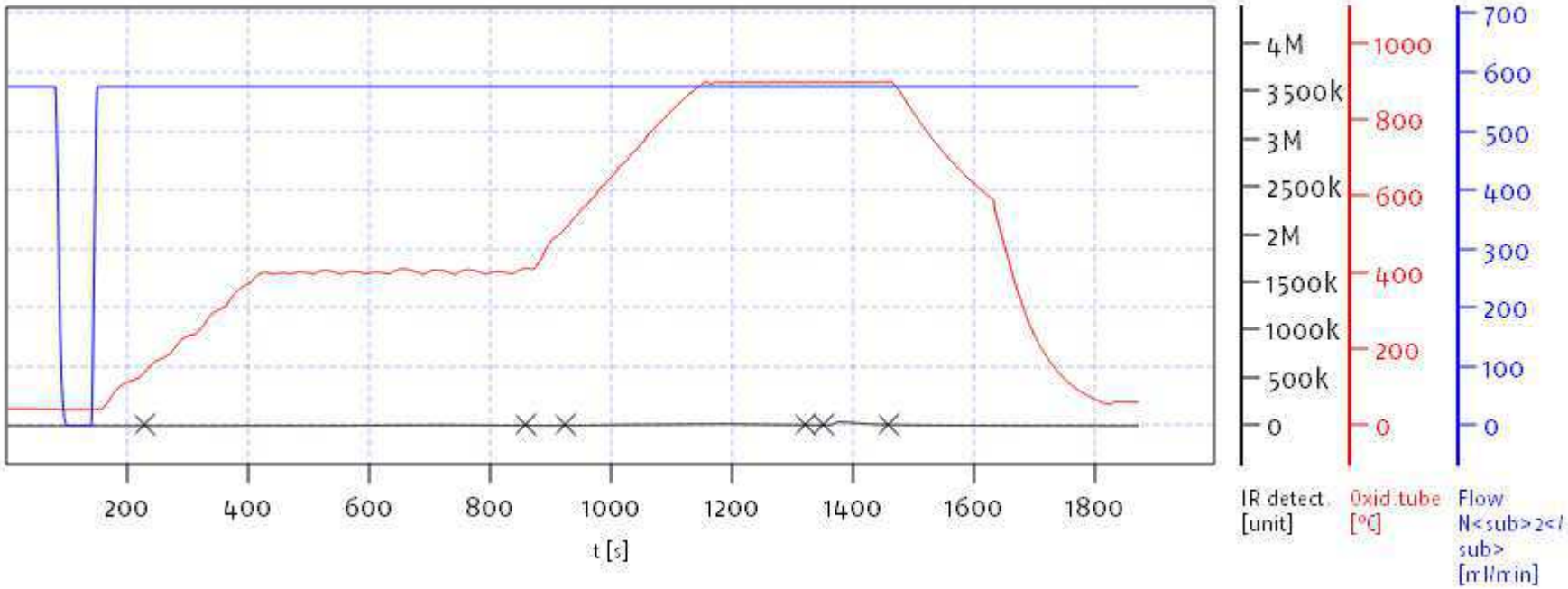
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0183	Instrument:	TOC Cube
		Calibration:	EH00021

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Blank	SJH0183-CCBA	peData_08232021@1356-(	NA	08/19/21 08:36
Calibration Check	SJH0183-CCVB	peData_08232021@1356-1	NA	08/19/21 14:22
Calibration Blank	SJH0183-CCBB	peData_08232021@1356-1	NA	08/19/21 14:54
Calibration Check	SJH0183-CCVC	peData_08232021@1356-1	NA	08/19/21 20:42
Calibration Blank	SJH0183-CCBC	peData_08232021@1356-1	NA	08/19/21 21:13

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	61	BLANK	1.00		1.00	CARBON	8/16/2021 3:32 PM	0.000	0.000	0.000	bl	90 231	198 327	96 062	1.0000	1.0000



Name:

Access: soliTOC superuser

Date: Mon Aug 23 13:43:13 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

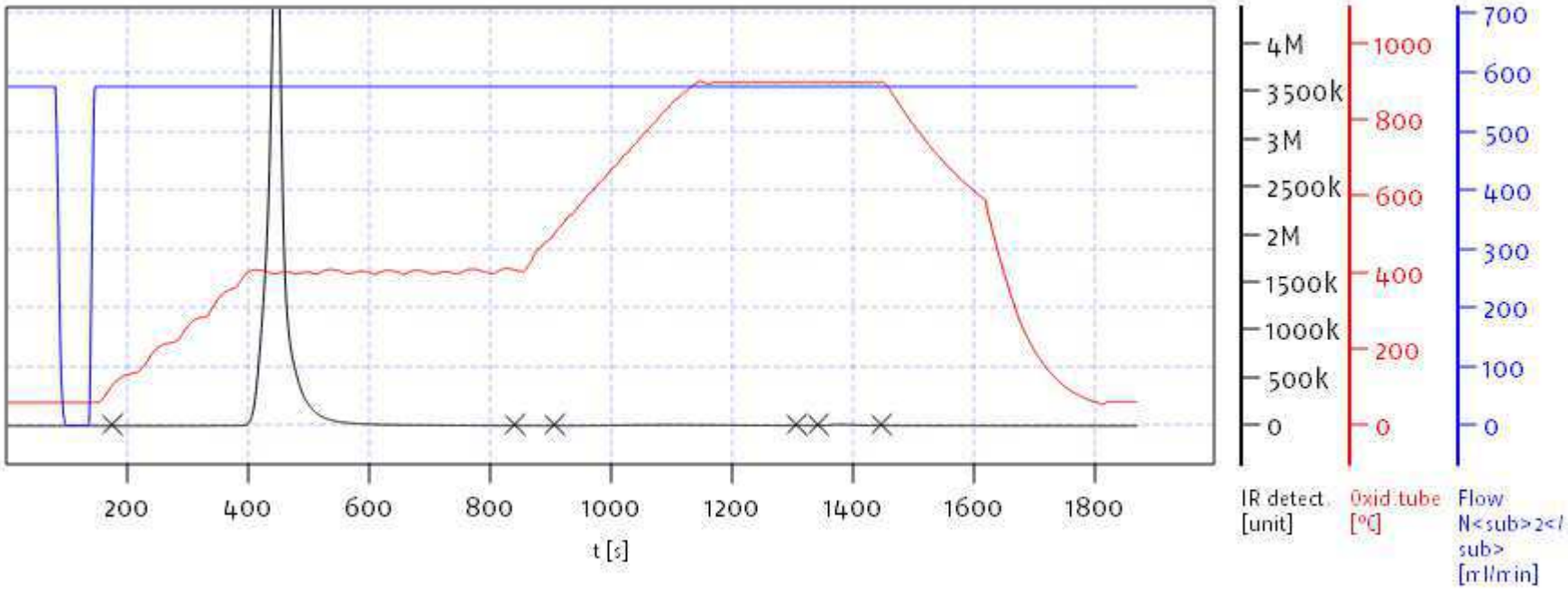
elementar
EXCELLENCE IN ELEMENTS

Document: 081621BF from: 8/20/2021 10:36 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	62	Dfactor	22.00		1.00	CARBON	8/16/2021 4:03 PM	44.586	0.578	45.165	bl	6 221 932	92 467	30 558	1.0116	1.0000



Name:

Access: soliTOC superuser

Date: Mon Aug 23 13:43:13 2021

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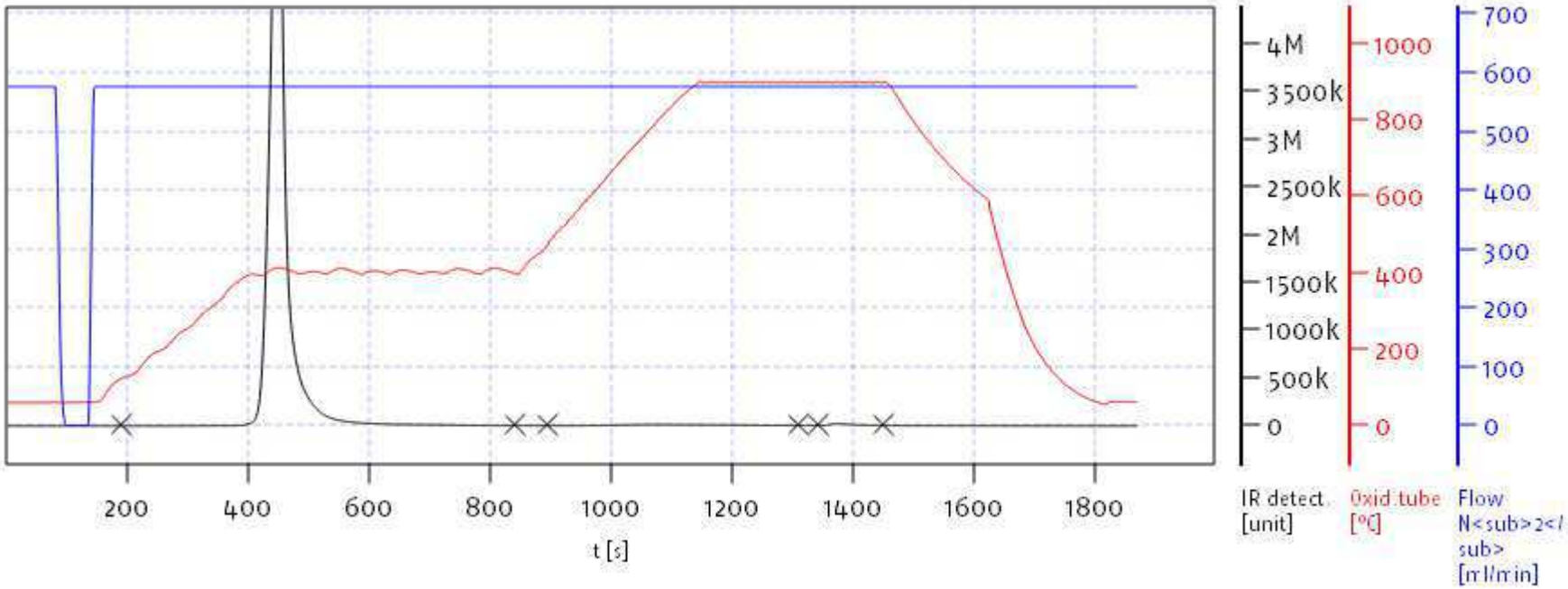
Document: 081621BF from: 8/20/2021 10:36 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	63	Dfactor	27.20		1.00	CARBON	8/16/2021 4:35 PM	44.626	0.617	45.243	bl	7 677 574	118 542	42 213	1.0132	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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elementar
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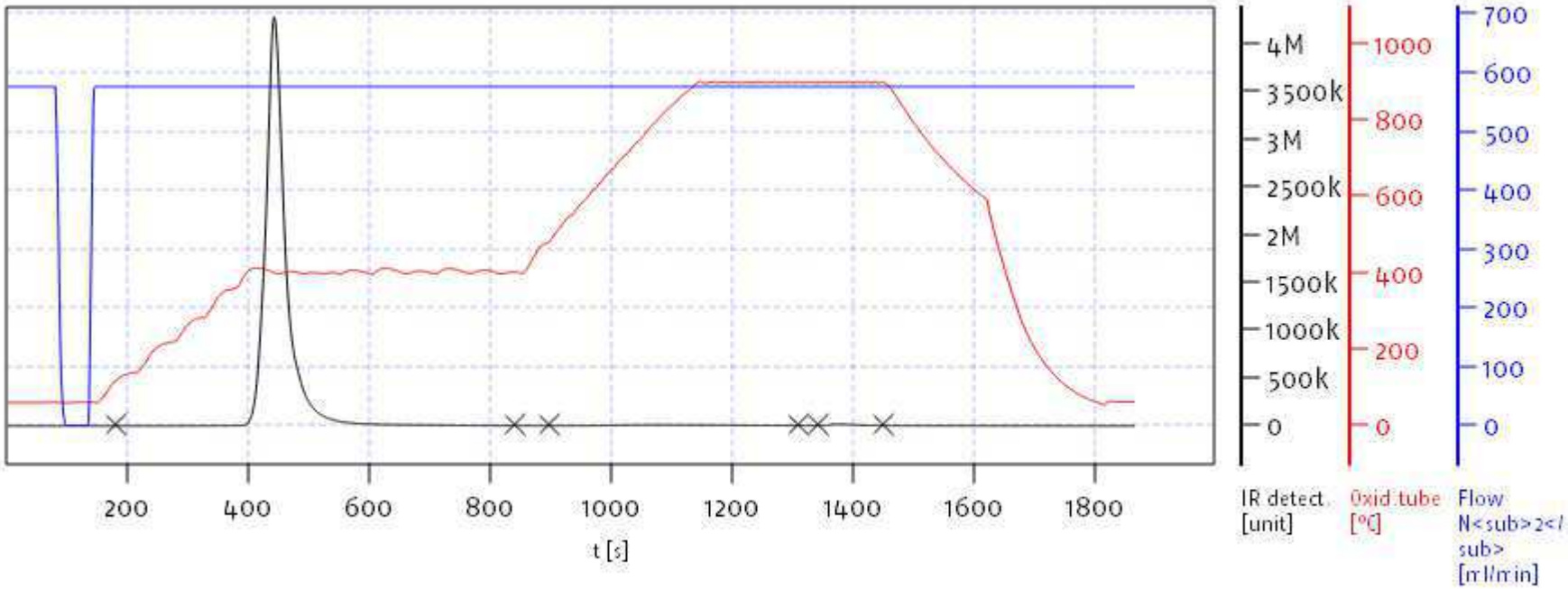
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	64	SJH0183-ICV1	21.90		1.00	CARBON	8/16/2021 5:06 PM	44.613	0.604	45.217	bl	6 186 899	95 728	36 077	1.0124	1.0000



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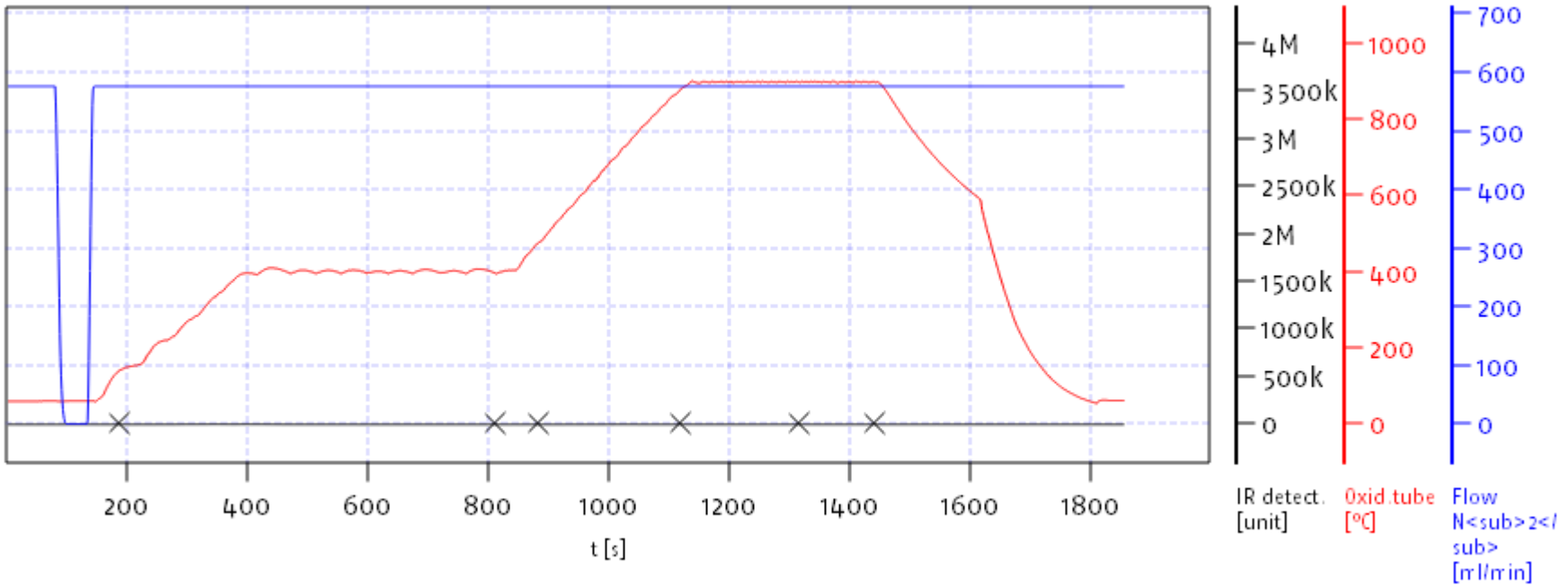
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	65	SJH0183-ICB1	521.20		1.00	CARBON	8/16/2021 5:38 PM	0.000	0.000	0.000	bl,C3u,C2u	11 160	1 978	1 055	1.0124	1.0000



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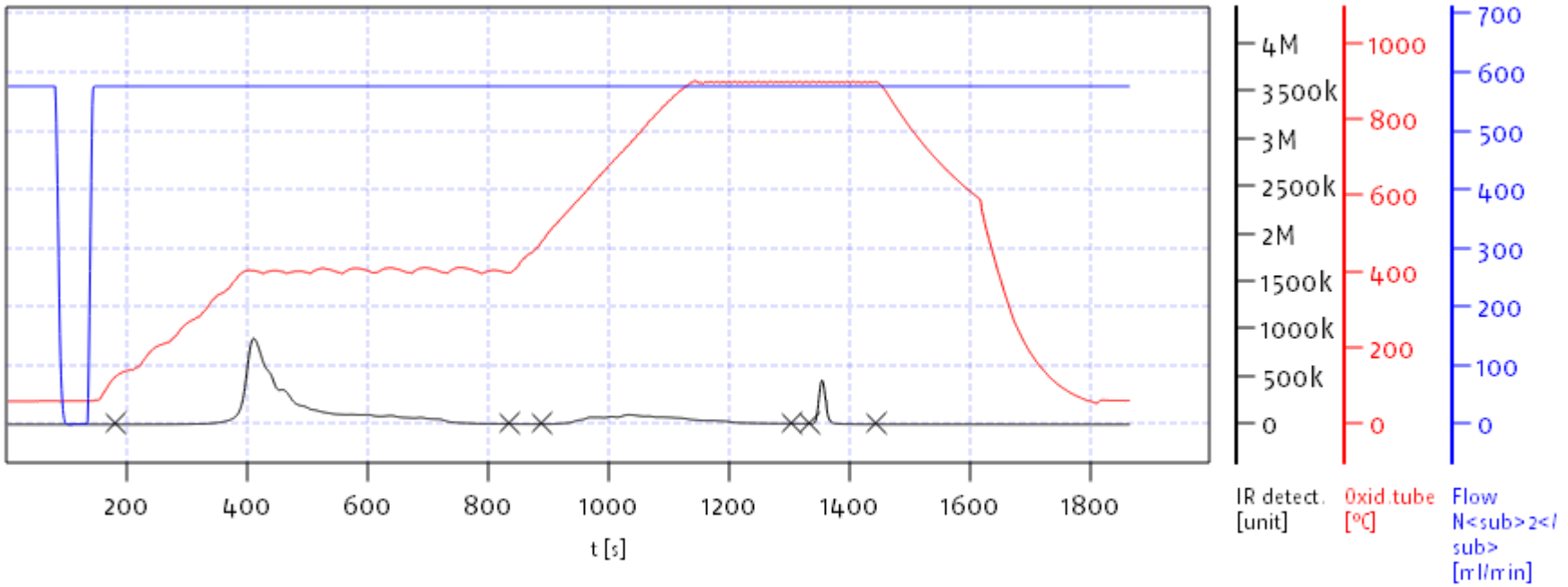
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	66	21G0305-04	551.60		1.00	CARBON	8/16/2021 6:09 PM	0.876	0.198	1.074	bl	2 848 123	714 129	242 706	1.0124	1.0000



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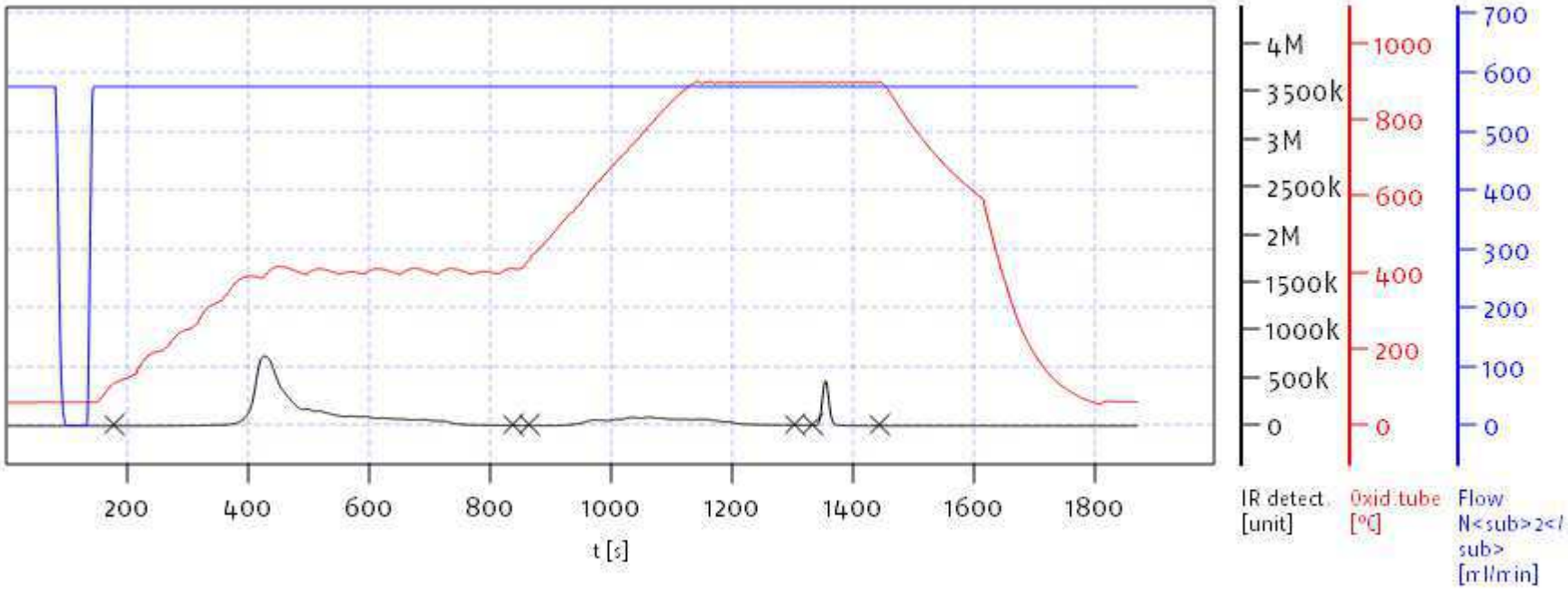
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	67	BJH0301-DUP1	534.80		1.00	CARBON	8/16/2021 6:41 PM	0.770	0.200	0.971	bl	2 400 388	699 686	238 267	1.0124	1.0000



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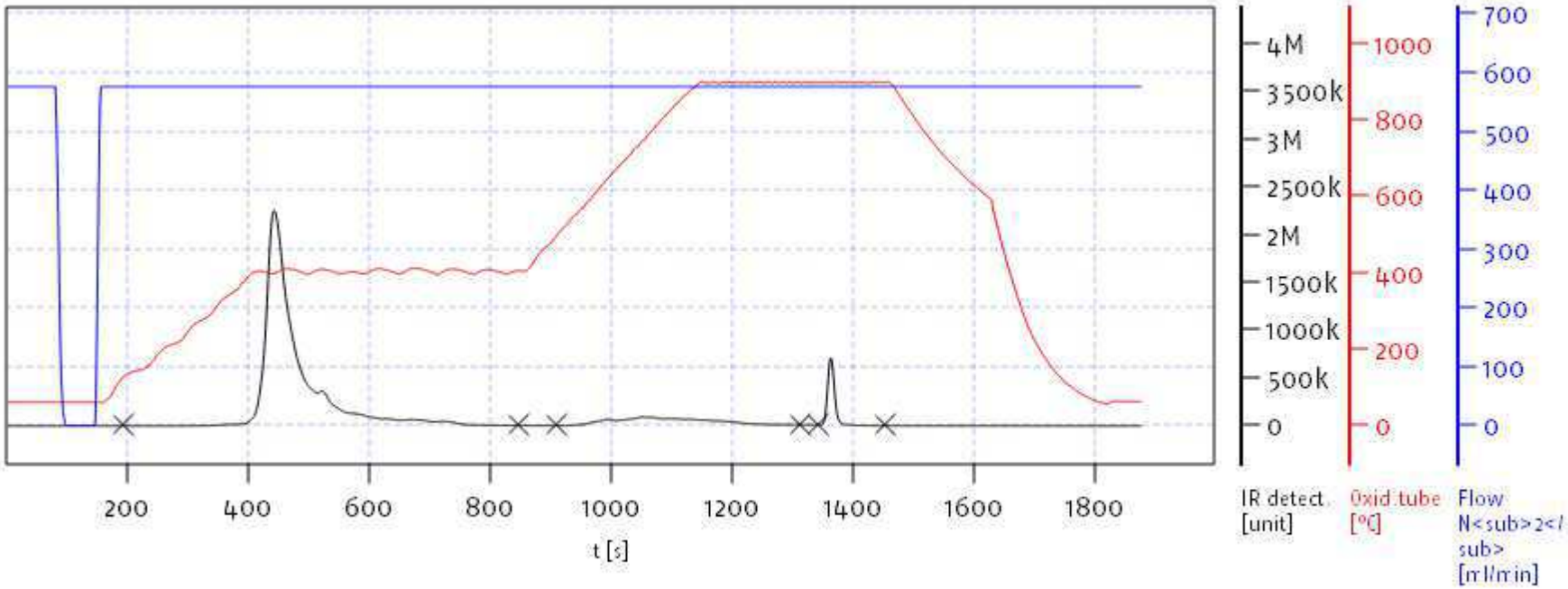
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	68	BJH0301-MS1	544.60	0.0100	1.00	CARBON	8/16/2021 7:12 PM	1.523	0.192	1.715	bl	4 919 000	682 181	370 534	1.0124	1.0000



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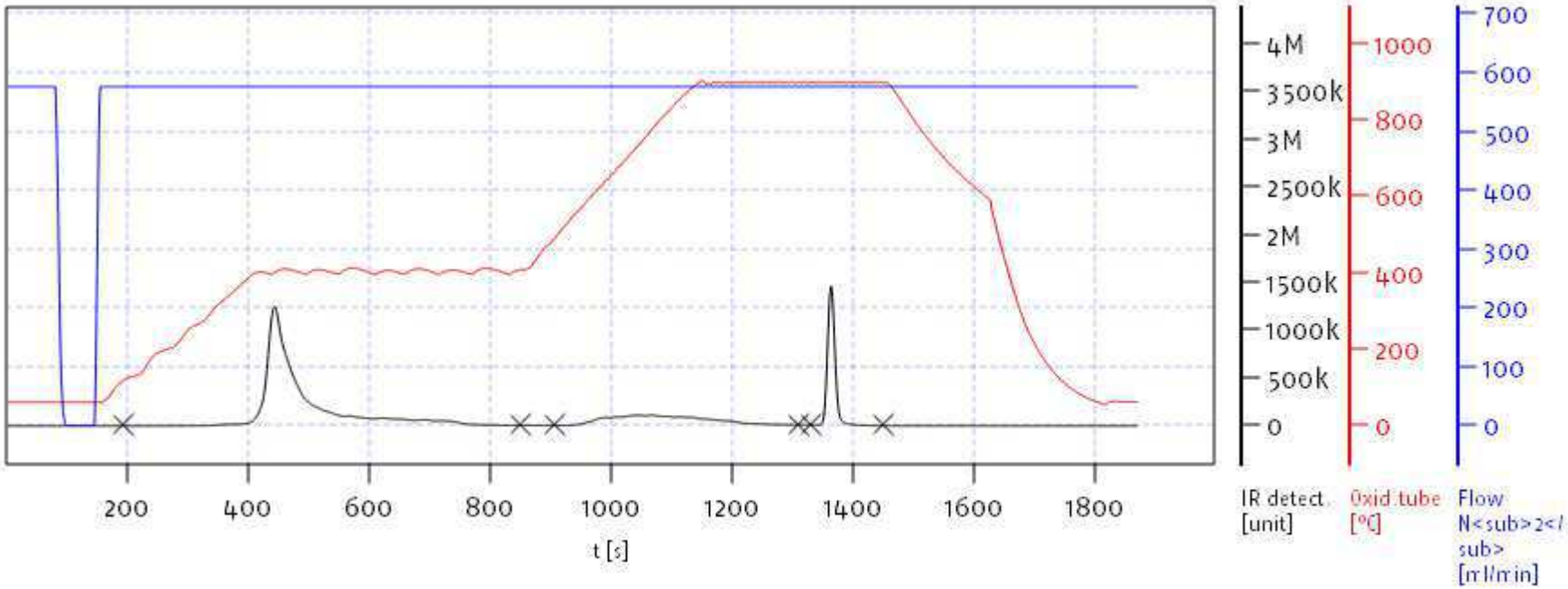
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	69	21G0305-05	581.90		1.00	CARBON	8/16/2021 7:44 PM	0.999	0.232	1.231	bl	2 917 608	878 233	801 890	1.0124	1.0000



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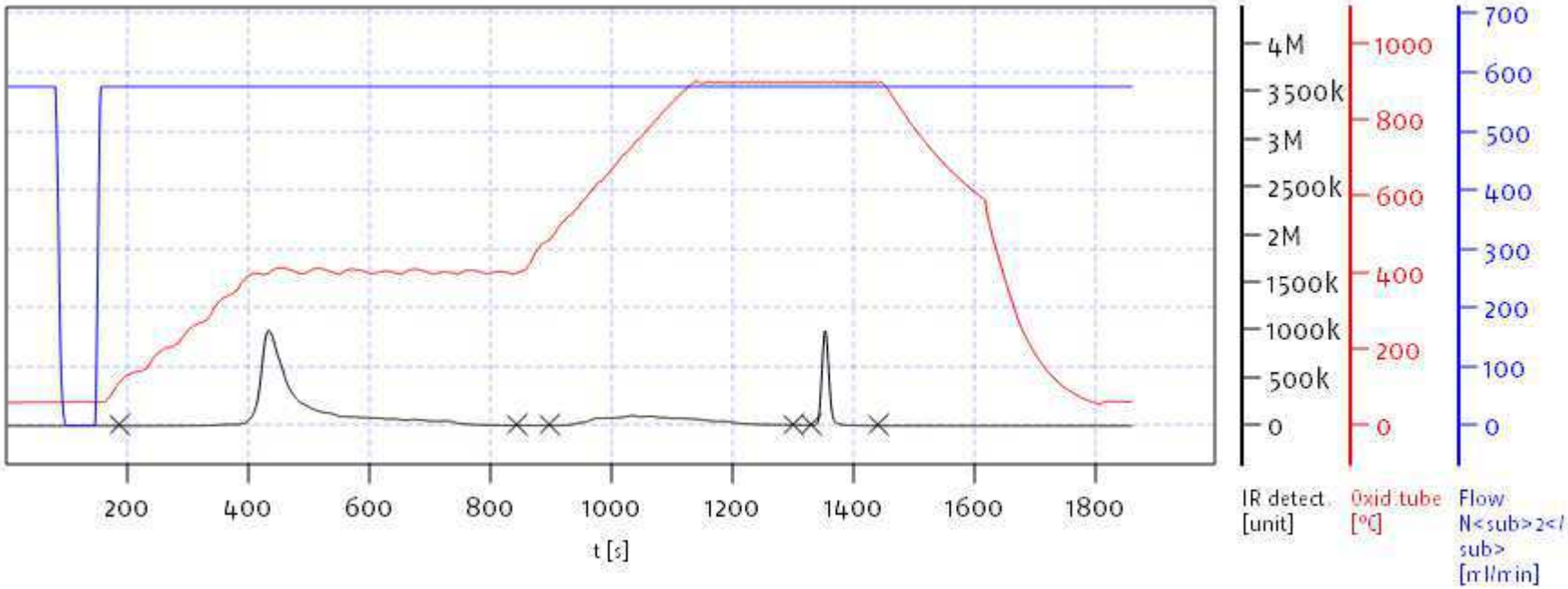
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	70	21G0305-06	582.10		1.00	CARBON	8/16/2021 8:15 PM	0.852	0.210	1.062	bl	2 654 497	795 924	520 221	1.0124	1.0000



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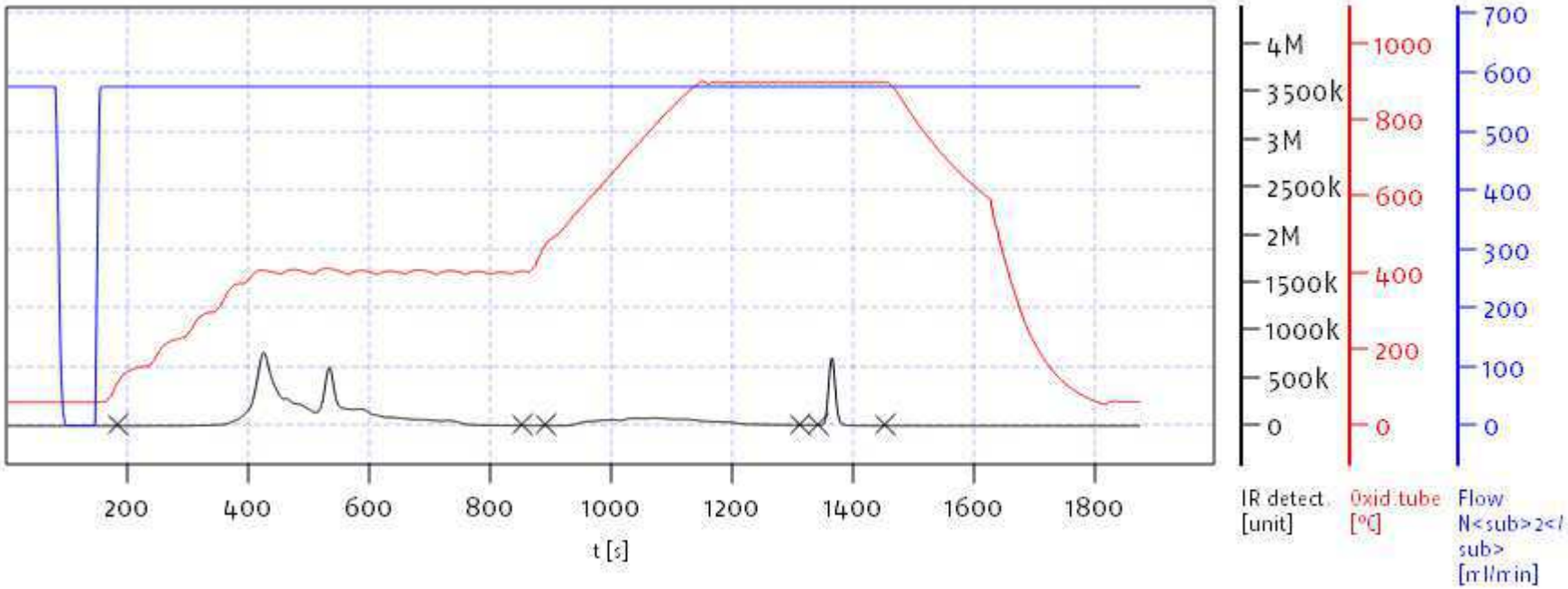
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	71	21G0305-07	524.60		1.00	CARBON	8/16/2021 8:47 PM	0.955	0.192	1.147	bl	2 843 062	658 710	362 644	1.0124	1.0000



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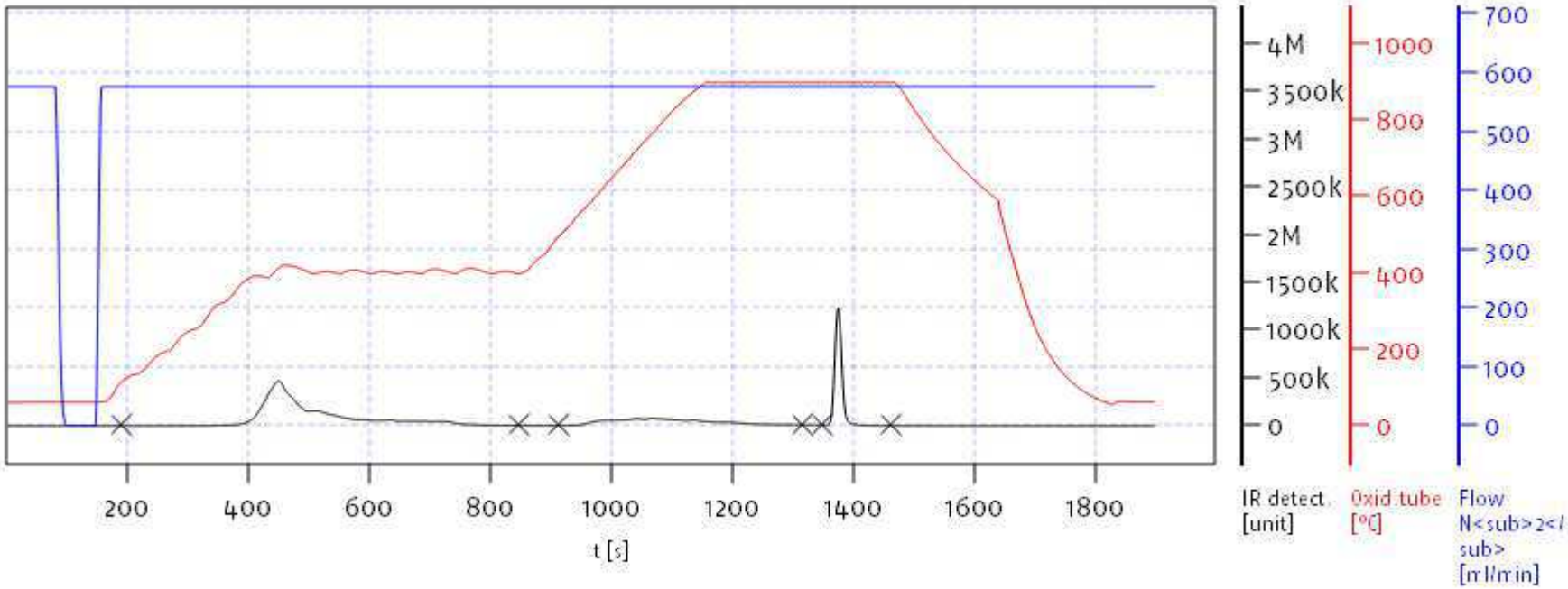
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	72	21G0305-08	574.10		1.00	CARBON	8/16/2021 9:19 PM	0.641	0.162	0.803	bl	1 722 431	607 614	642 566	1.0124	1.0000



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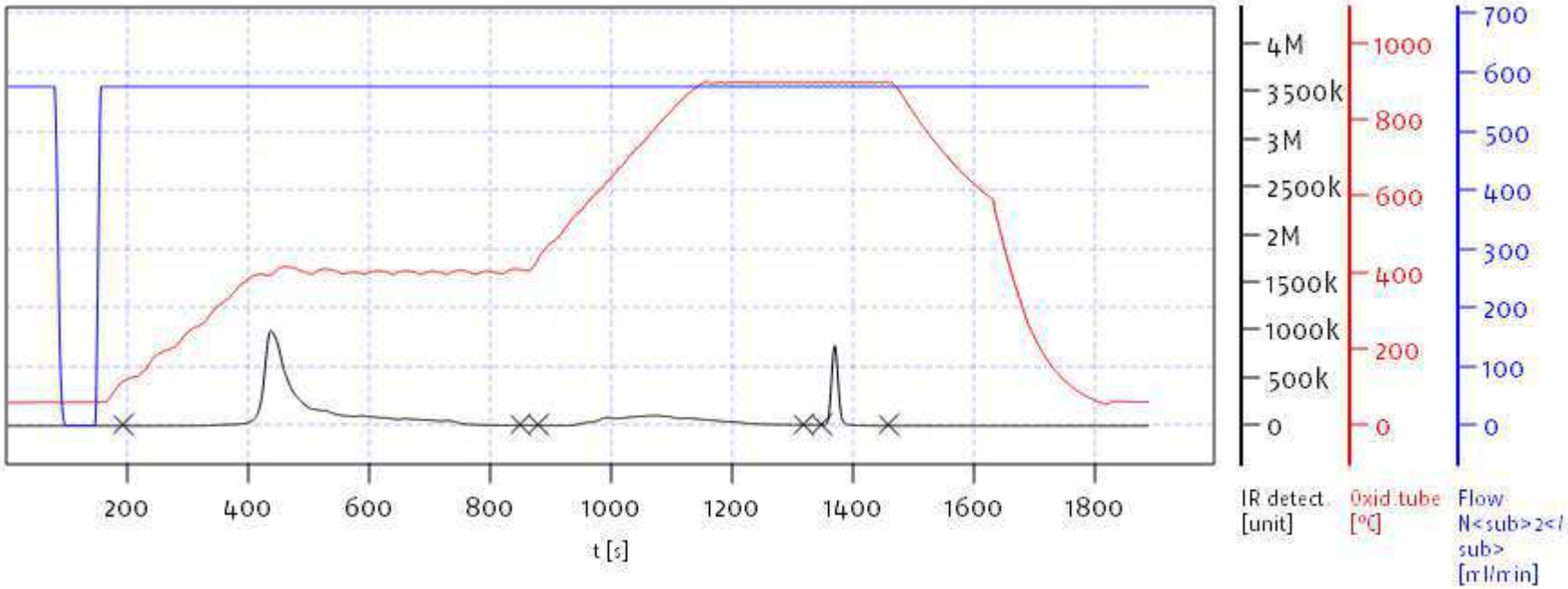
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	73	21G0305-09	562.60		1.00	CARBON	8/16/2021 9:51 PM	0.844	0.222	1.066	bl	2 618 814	814 928	419 651	1.0124	1.0000



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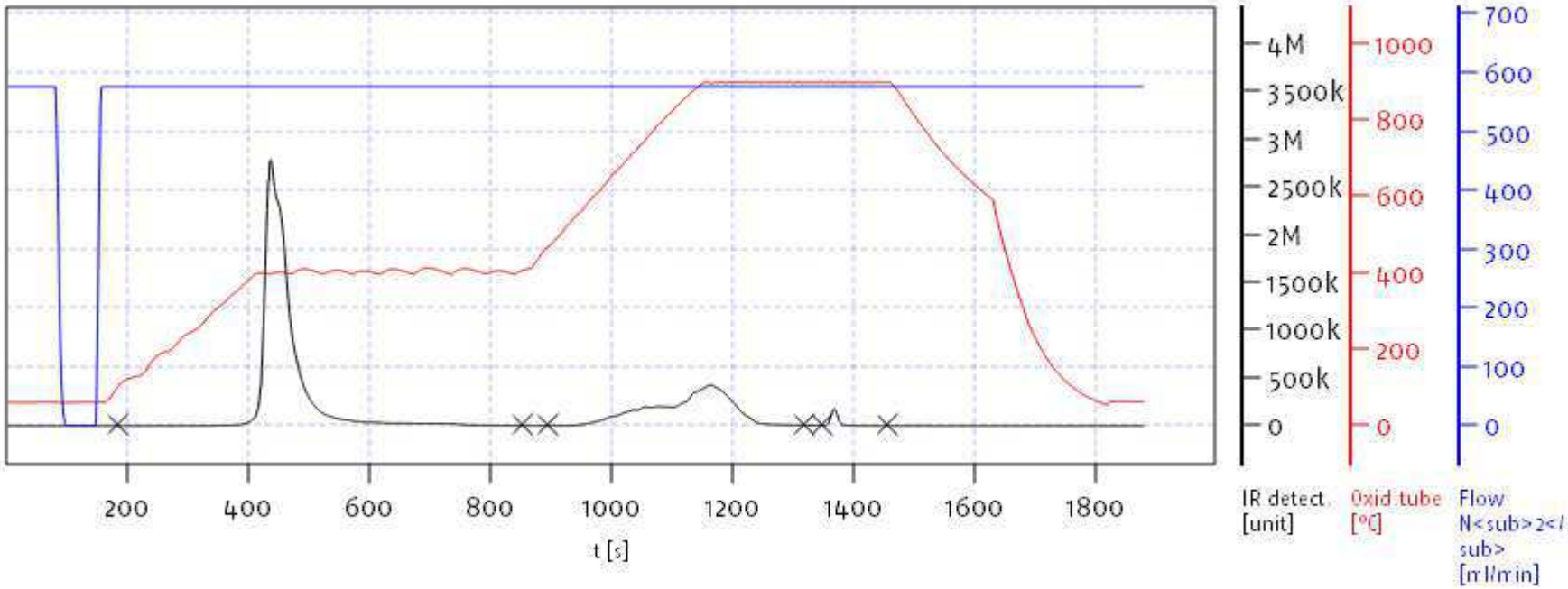
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	74	21G0305-10	674.00		1.00	CARBON	8/16/2021 10:23 PM	1.174	0.504	1.679	bl	4 950 761	2 194 213	95 498	1.0124	1.0000



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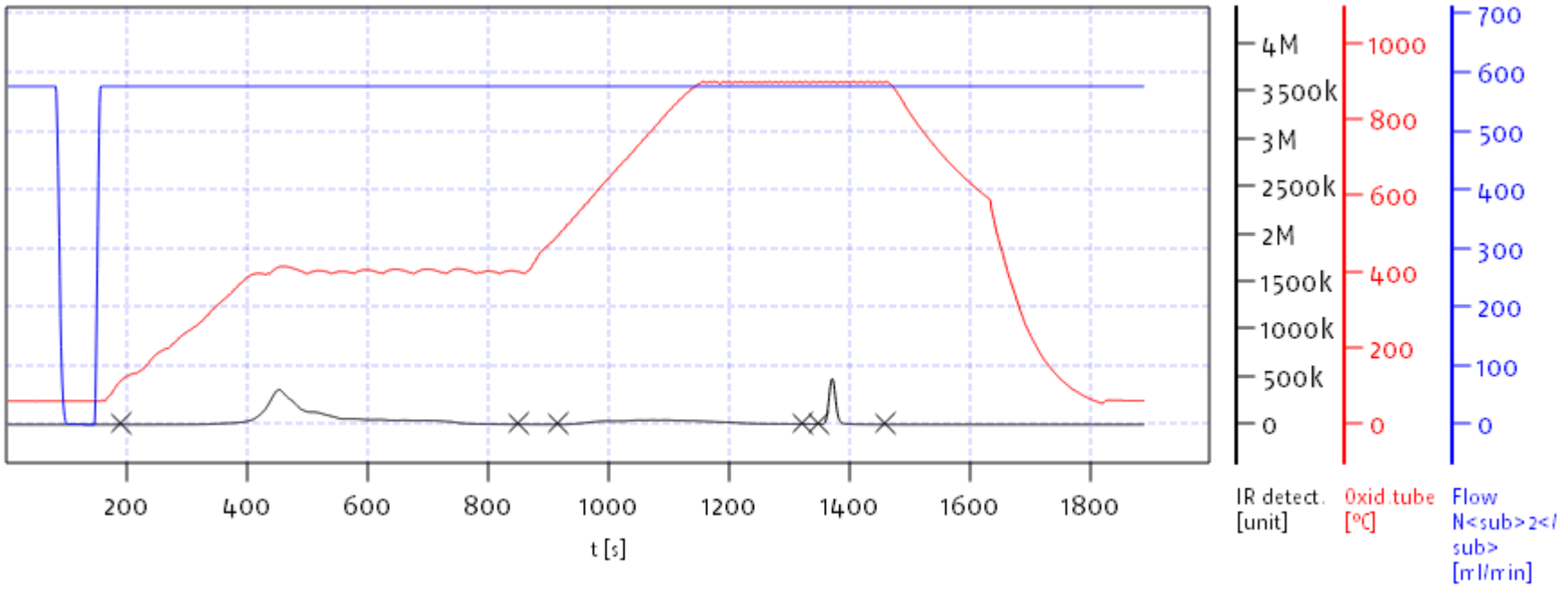
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	75	21G0306-01	656.40		1.00	CARBON	8/16/2021 10:55 PM	0.381	0.091	0.472	bl	1 368 734	395 052	242 321	1.0124	1.0000



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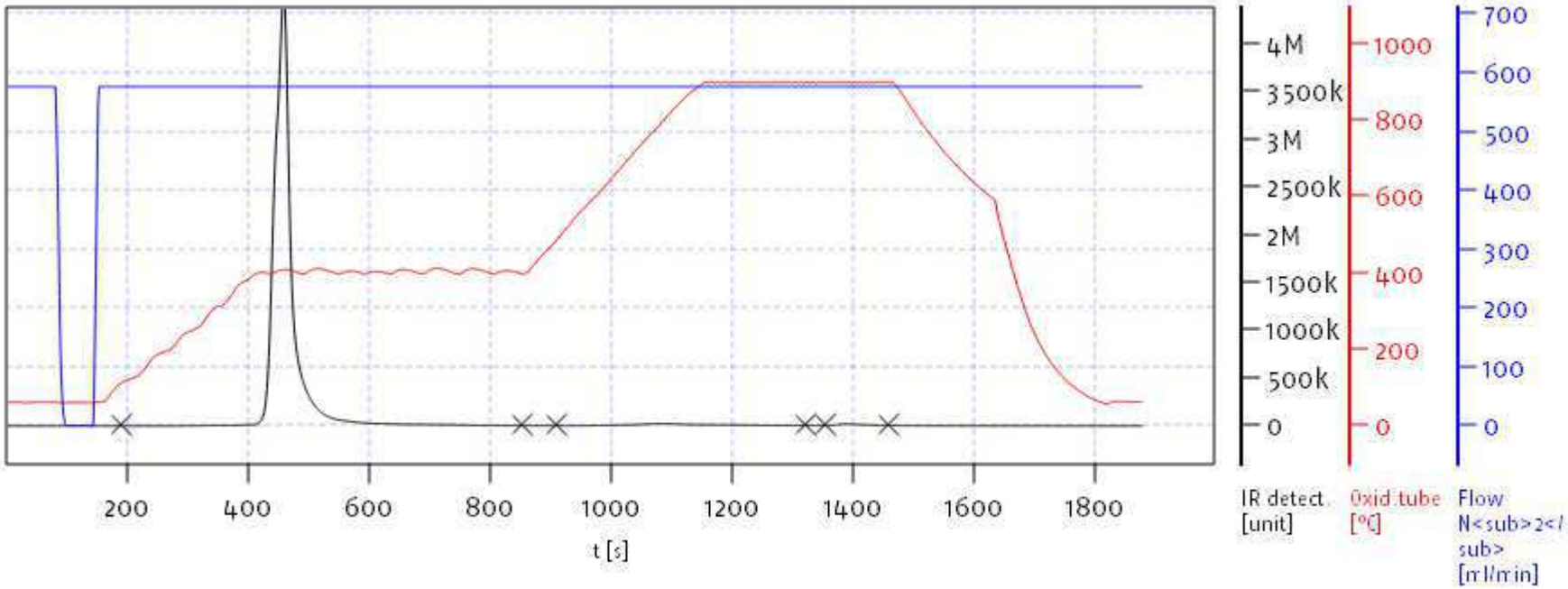
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	76	SJH0183-CCV1	20.30		1.00	CARBON	8/16/2021 11:26 PM	43.141	1.059	44.200	bl	5 538 675	148 845	41 646	1.0124	1.0000



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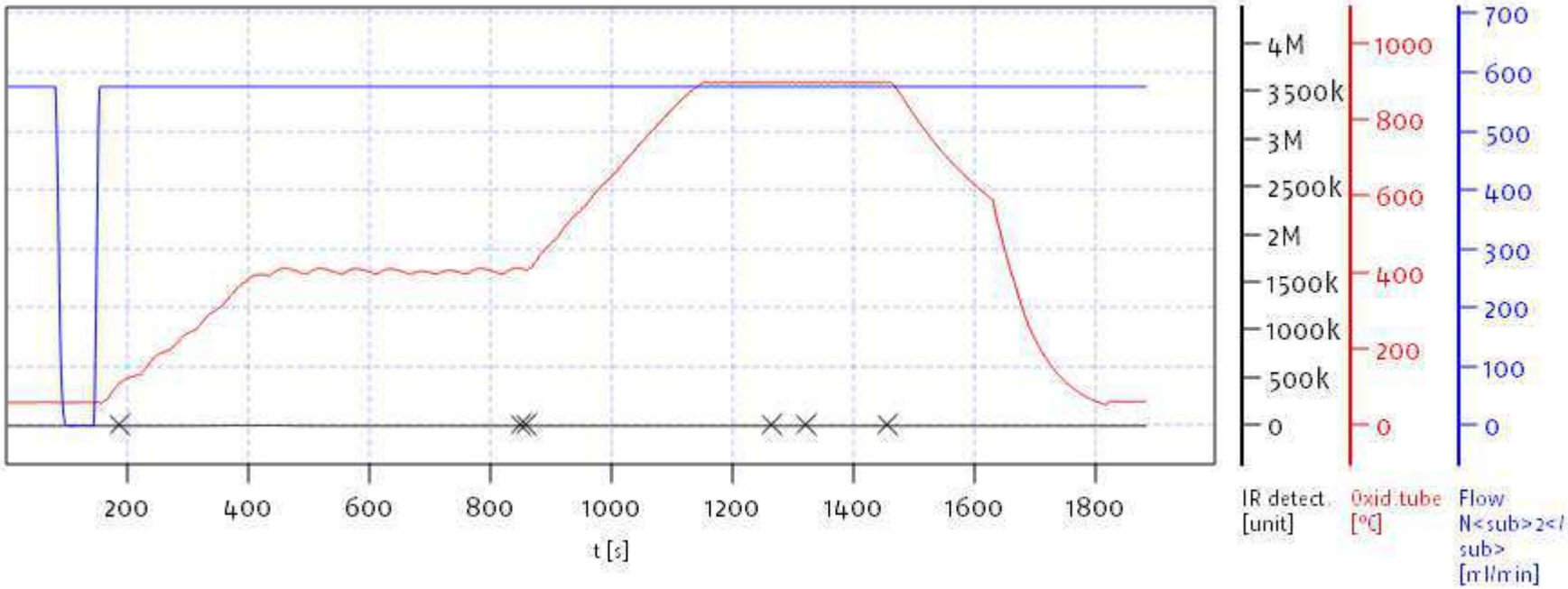
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	77	SJH0183-CCB1	524.00		1.00	CARBON	8/16/2021 11:58 PM	0.003	0.000	0.003	bl,C3u,C2u	22 179	907	569	1.0124	1.0000



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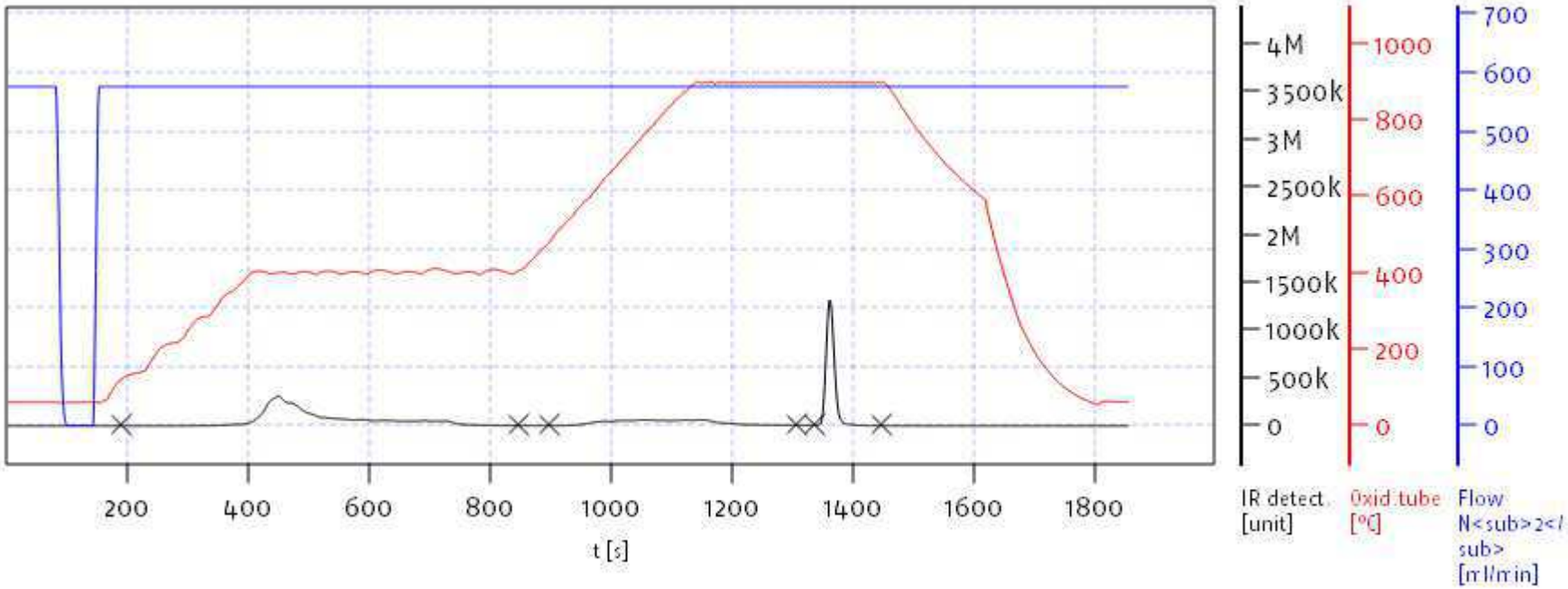
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	78	21G0306-02	641.00		1.00	CARBON	8/17/2021 12:29 AM	0.517	0.124	0.641	bl	1 345 422	520 299	789 842	1.0124	1.0000



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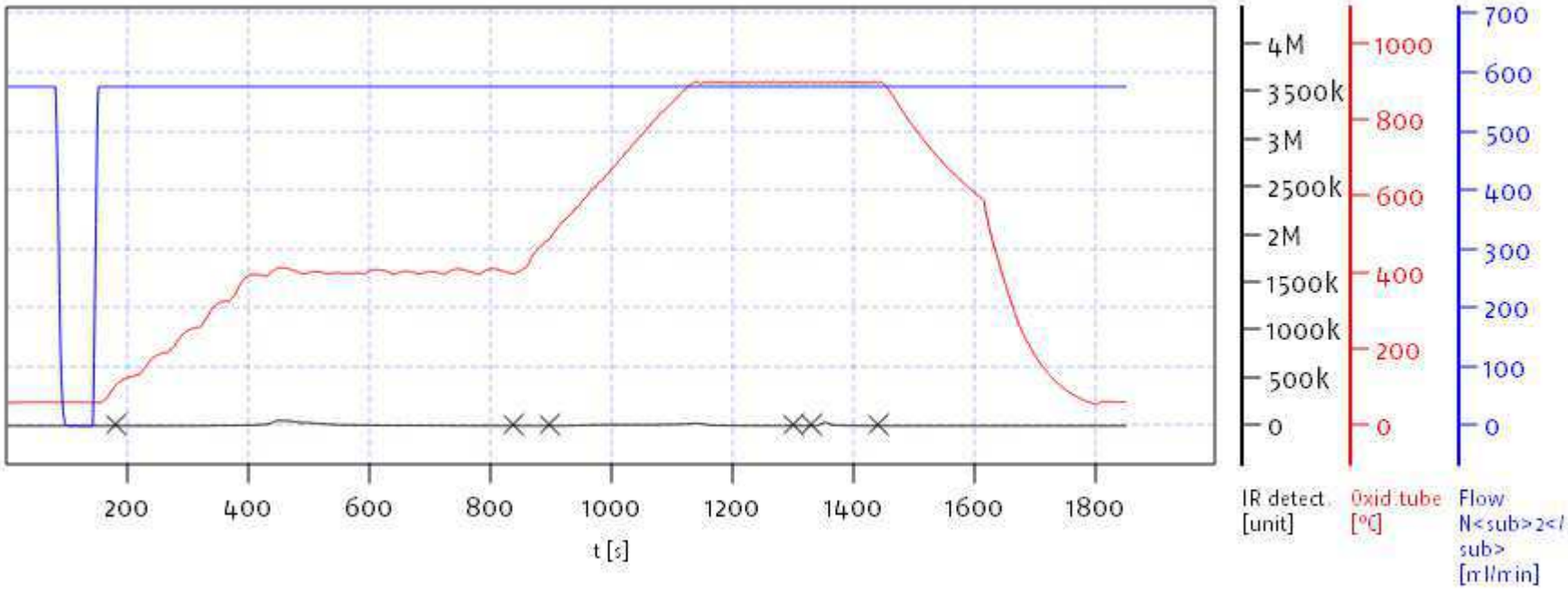
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	79	21G0310-01	504.80		1.00	CARBON	8/17/2021 1:01 AM	0.069	0.035	0.103	bl	214 215	123 240	27 655	1.0124	1.0000



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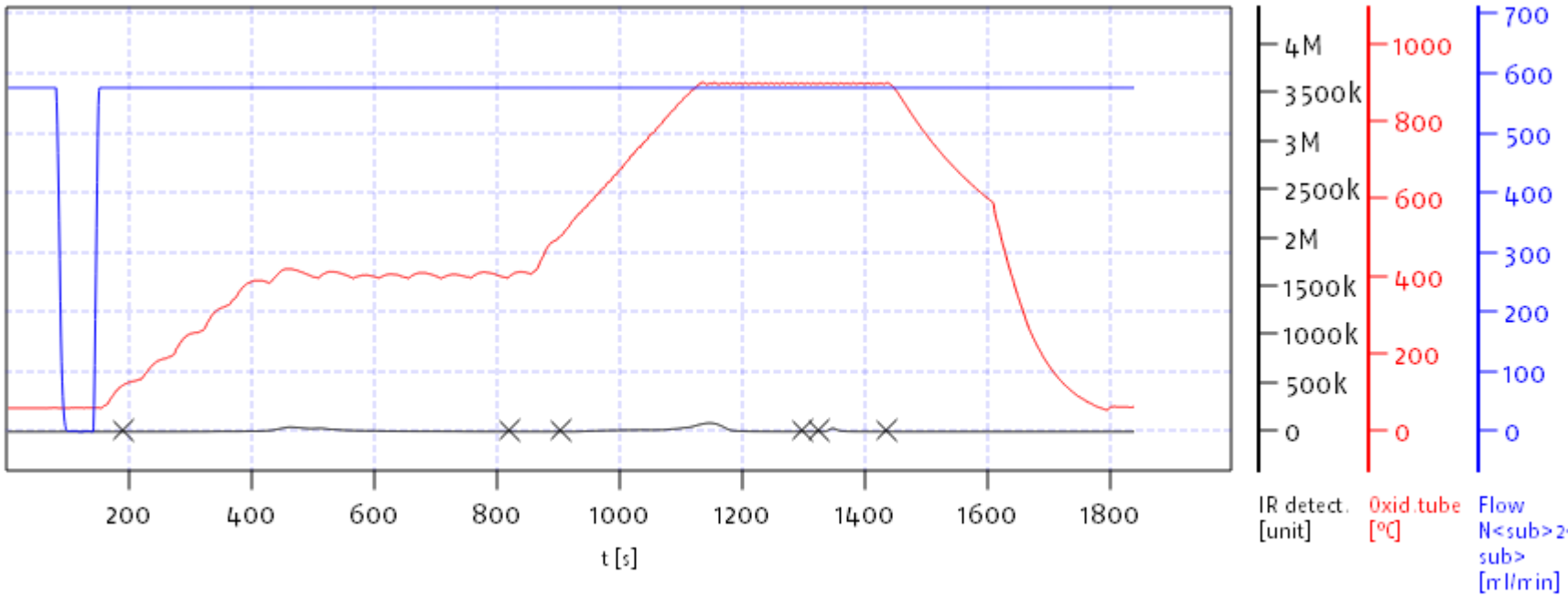
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	80	BJH0301-DUP2	507.30		1.00	CARBON	8/17/2021 1:32 AM	0.065	0.087	0.153	bl	206 863	295 556	24 366	1.0124	1.0000



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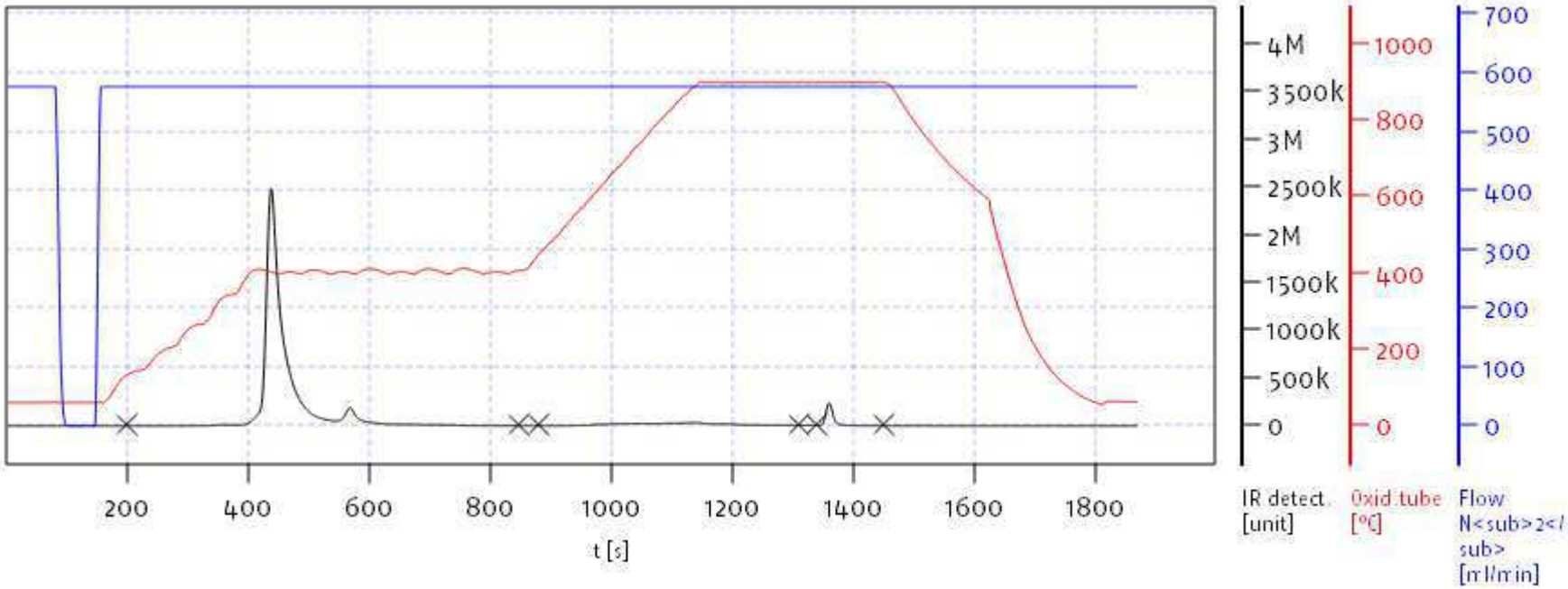
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	81	BJH0301-MS2	591.20	0.0105	1.00	CARBON	8/17/2021 2:03 AM	0.884	0.060	0.944	bl	3 211 412	238 750	129 003	1.0124	1.0000



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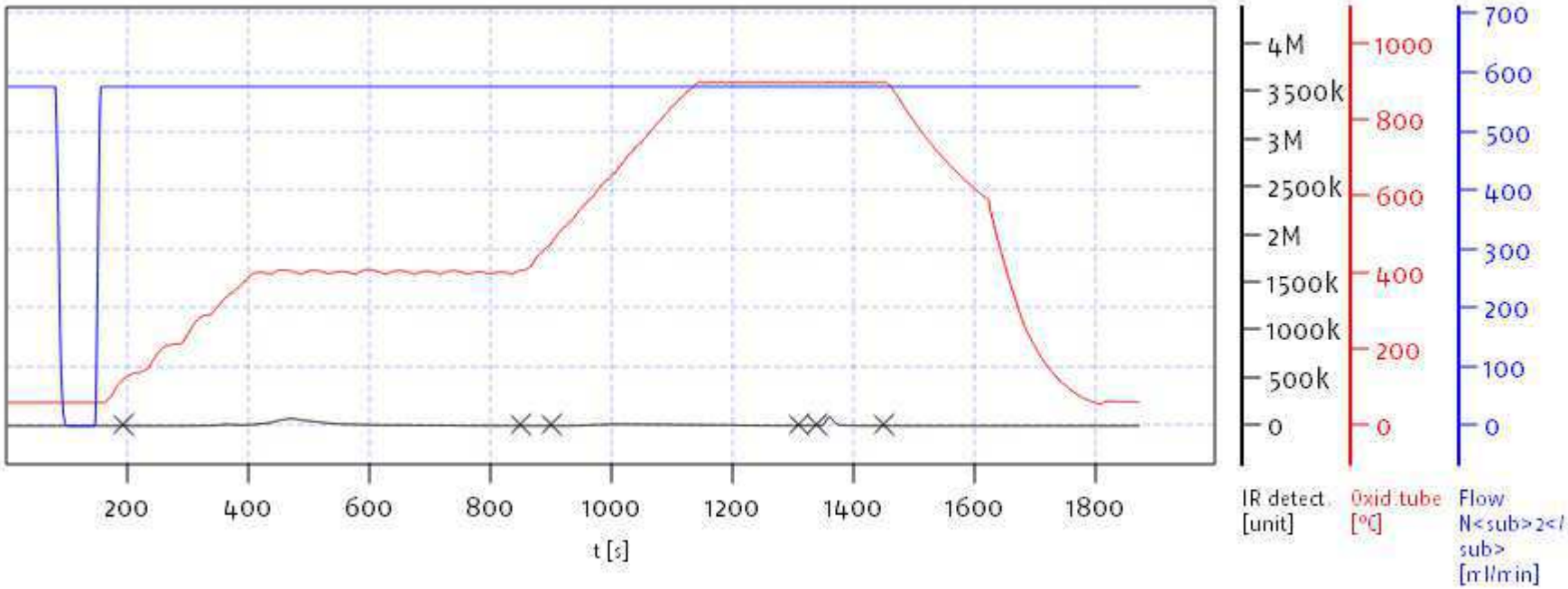
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	82	21G0310-02	690.40		1.00	CARBON	8/17/2021 2:35 AM	0.085	0.028	0.113	bl	336 087	134 641	57 652	1.0124	1.0000



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Serial No: 0300.181017
Mode CCC

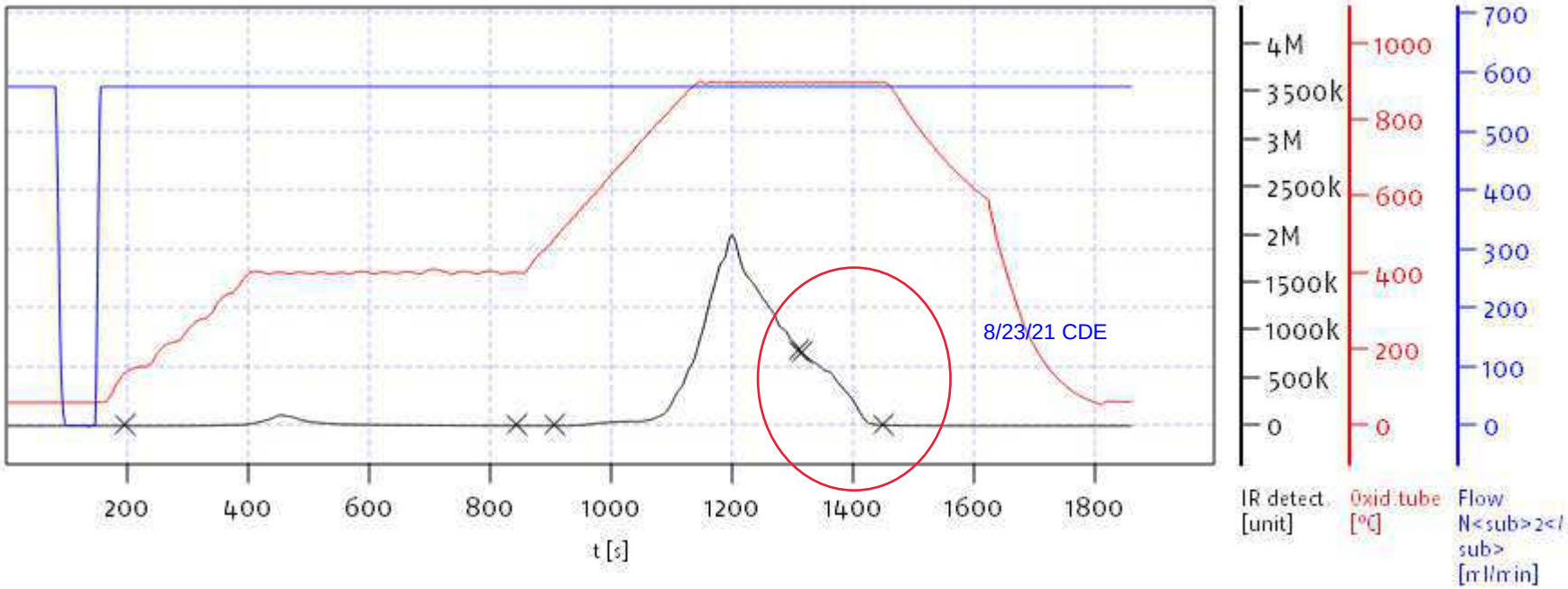
elementar
EXCELLENCE IN ELEMENTS

Document: 081621BF from: 8/20/2021 10:36 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	83	21G0310-03	439.10		1.00	CARBON	8/17/2021 3:06 AM	0.792	3.444	4.236	bl,C3o	410 028	9 726 879	1 841 979	1.0124	1.0000



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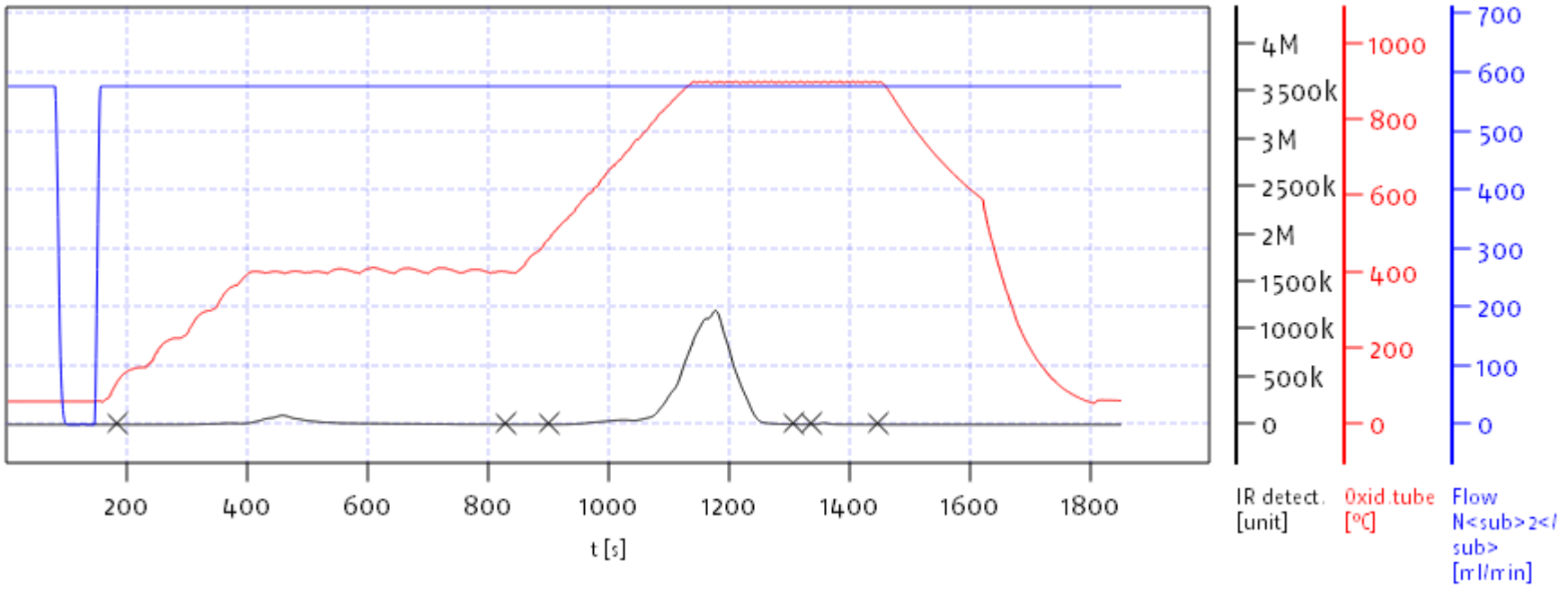
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	84	21G0310-04	371.50		1.00	CARBON	8/17/2021 3:37 AM	0.155	1.769	1.924	bl	374 234	4 234 139	13 077	1.0124	1.0000



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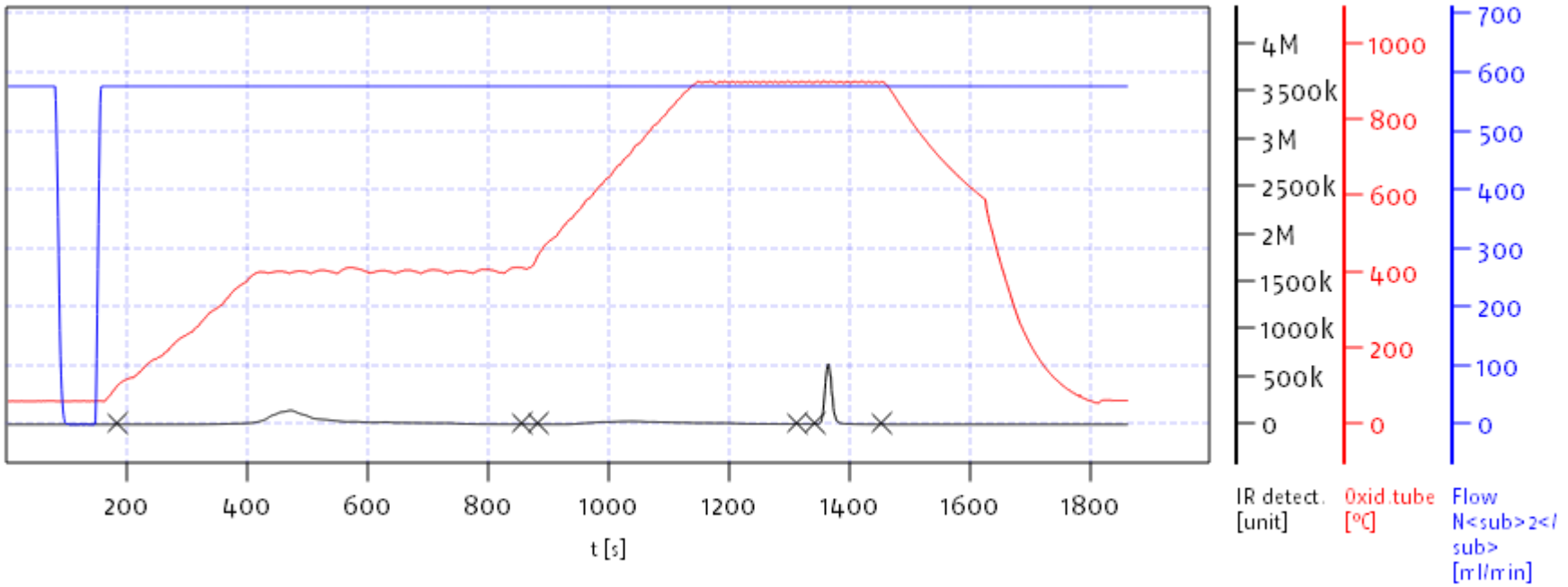
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	85	21G0310-05	578.20		1.00	CARBON	8/17/2021 4:09 AM	0.248	0.060	0.308	bl	607 254	233 636	327 459	1.0124	1.0000



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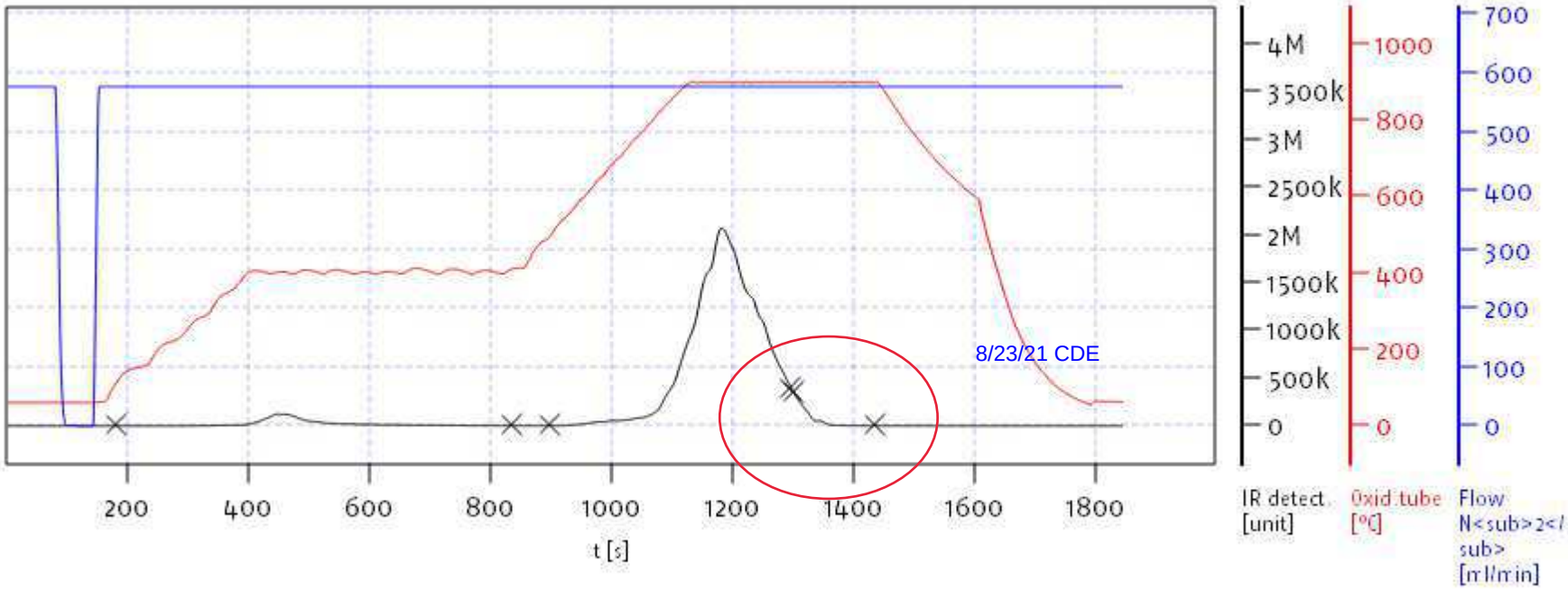
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	86	21G0310-06	430.10		1.00	CARBON	8/17/2021 4:40 AM	0.273	3.458	3.732	bl,C3o	481 966	9 567 986	289 296	1.0124	1.0000



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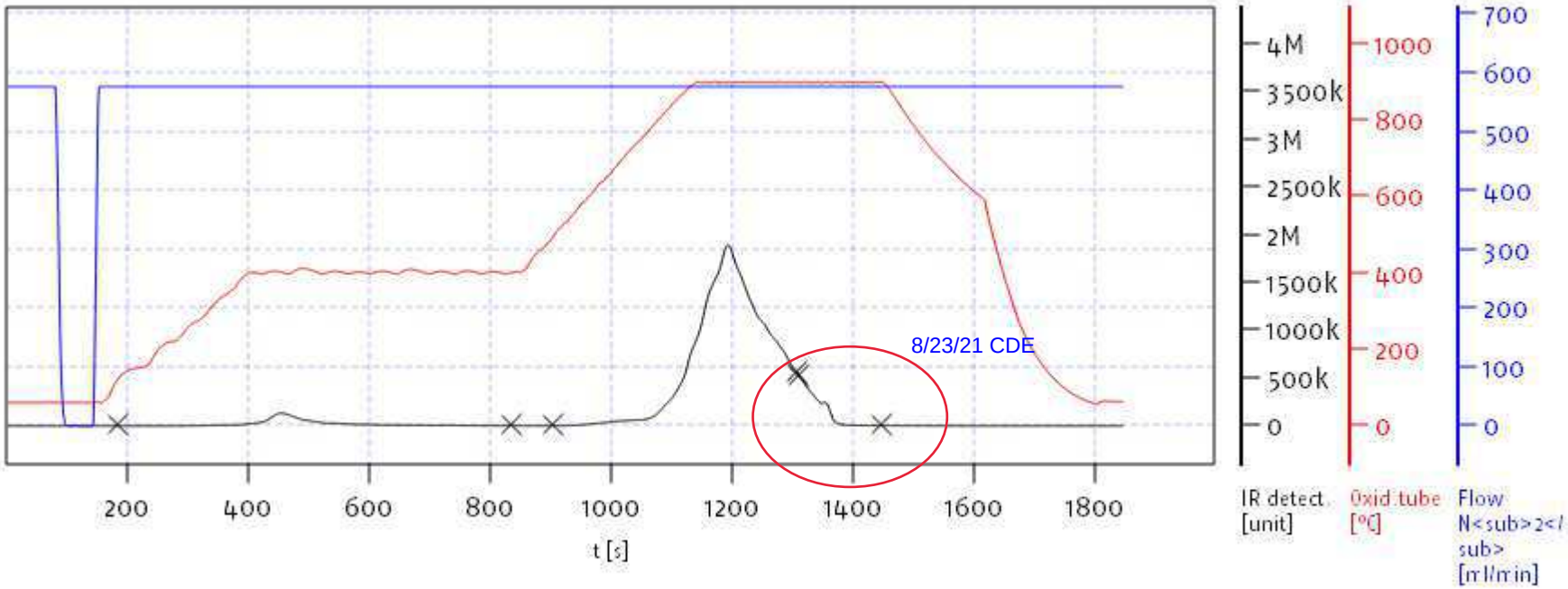
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	87	21G0310-07	378.50		1.00	CARBON	8/17/2021 5:11 AM	0.453	3.697	4.151	bl	470 320	9 003 073	648 112	1.0124	1.0000



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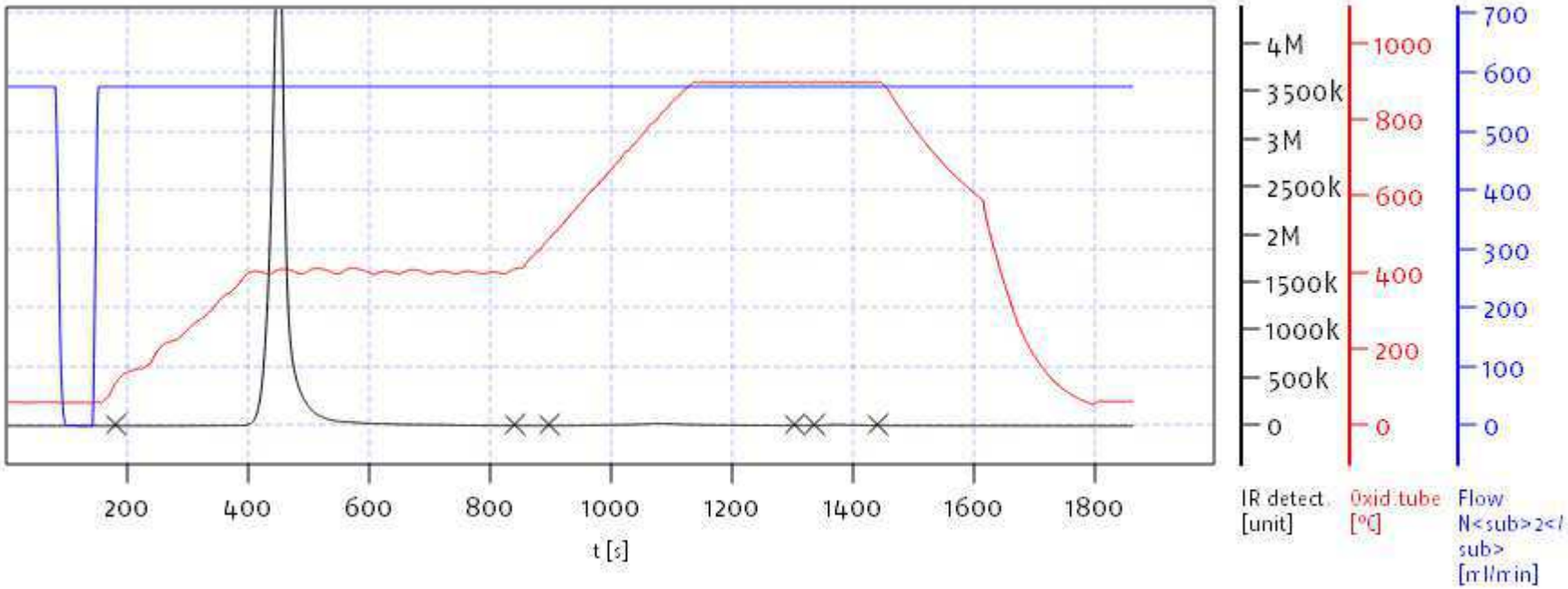
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	88	SJH0183-CCV2	20.80		1.00	CARBON	8/17/2021 5:43 AM	42.969	0.996	43.965	bl	5 665 476	143 837	28 865	1.0124	1.0000



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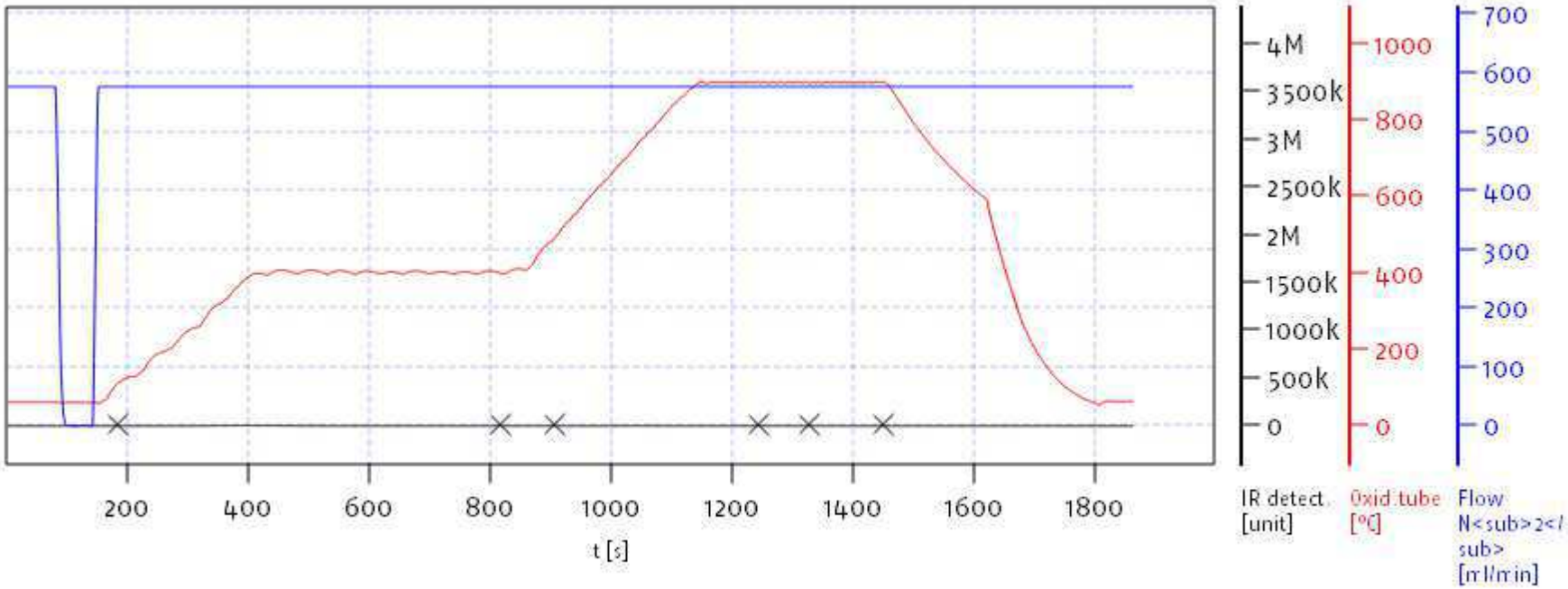
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	89	SJH0183-CCB2	612.90		1.00	CARBON	8/17/2021 6:14 AM	0.003	0.000	0.003	bl,C3u,C2u	21 283	3 385	586	1.0124	1.0000



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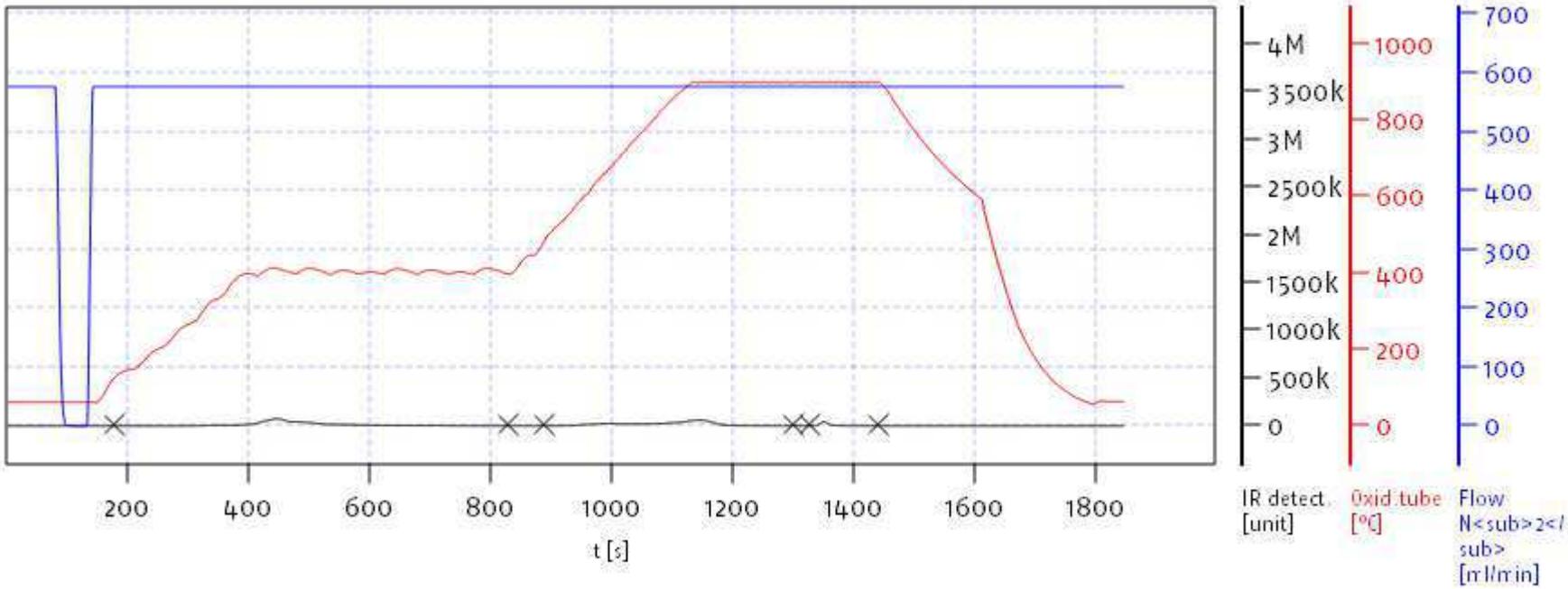
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	1	21G0310-08	532.40		1.00	CARBON	8/17/2021 6:45 AM	0.086	0.075	0.161	bl	282 439	268 569	28 112	1.0124	1.0000



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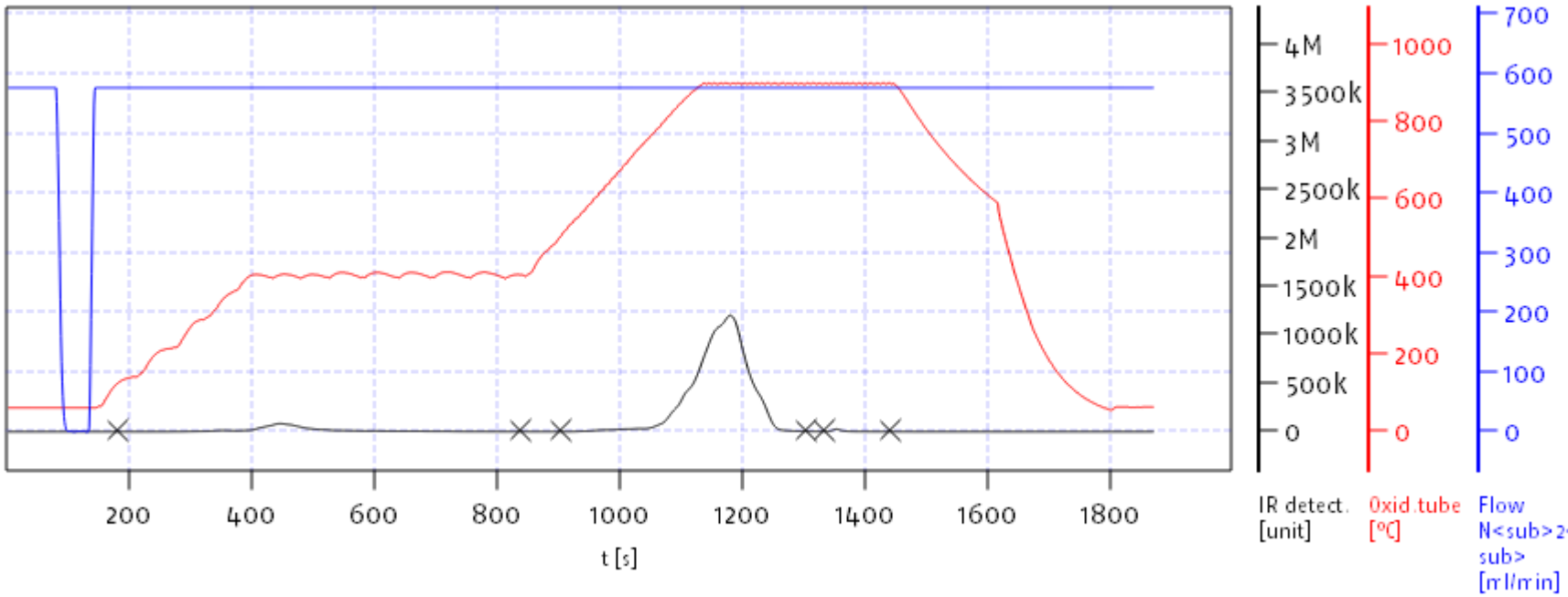
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	2	21G0310-09	350.80		1.00	CARBON	8/17/2021 7:17 AM	0.142	1.934	2.076	bl	318 650	4 370 180	19 965	1.0124	1.0000



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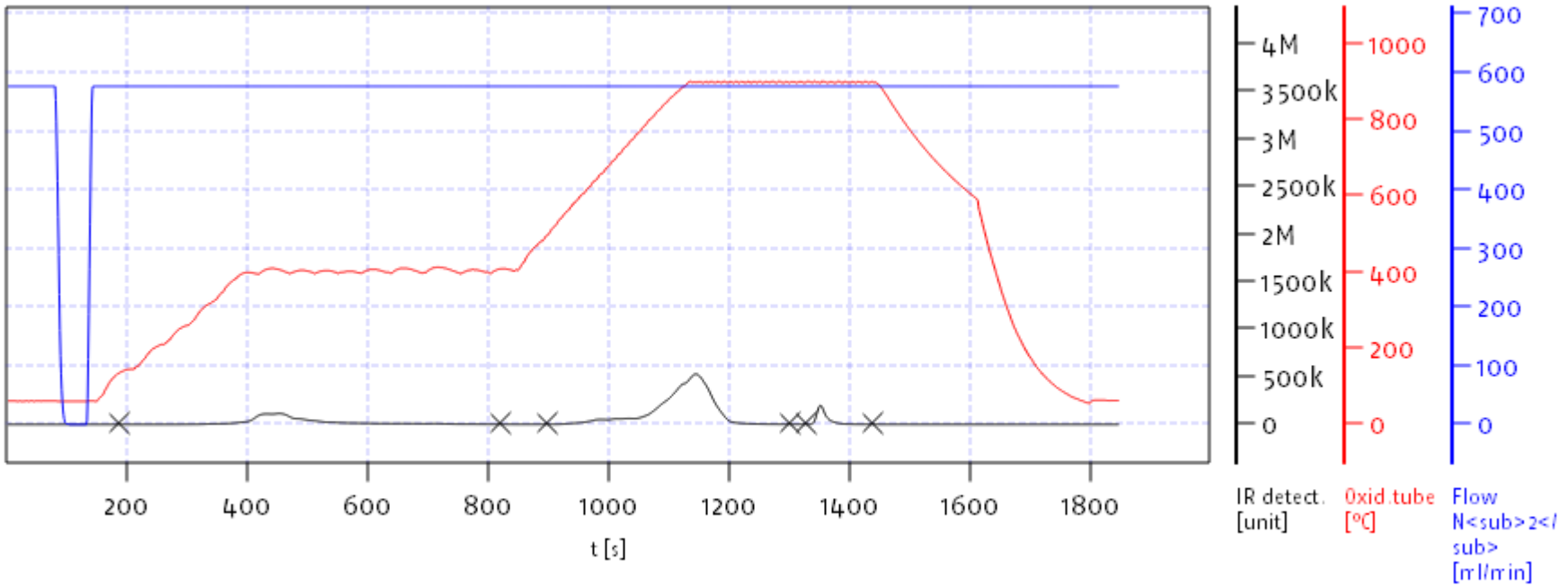
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
32	3	21G0310-10	511.30		1.00	CARBON	8/17/2021 7:48 AM	0.185	0.543	0.728	bl	483 967	1 793 367	140 047	1.0124	1.0000



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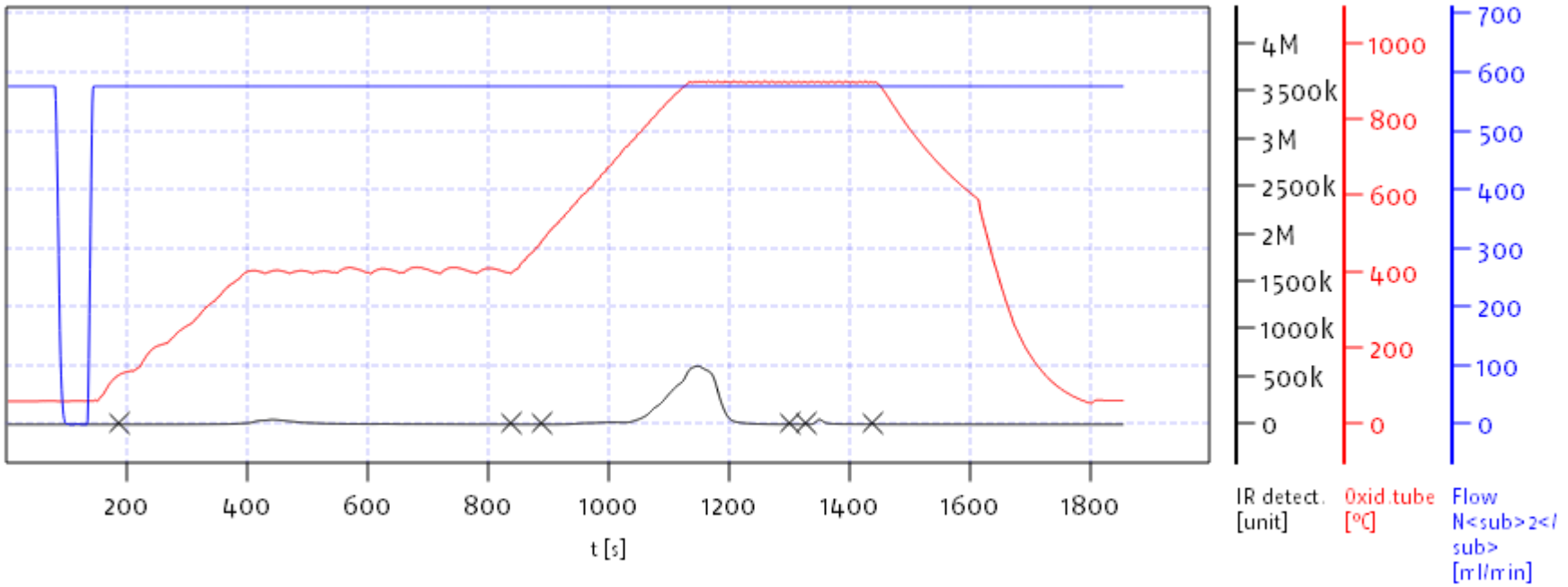
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
33	4	21G0310-11	308.40		1.00	CARBON	8/17/2021 8:20 AM	0.109	1.056	1.165	bl	196 588	2 103 974	38 739	1.0124	1.0000



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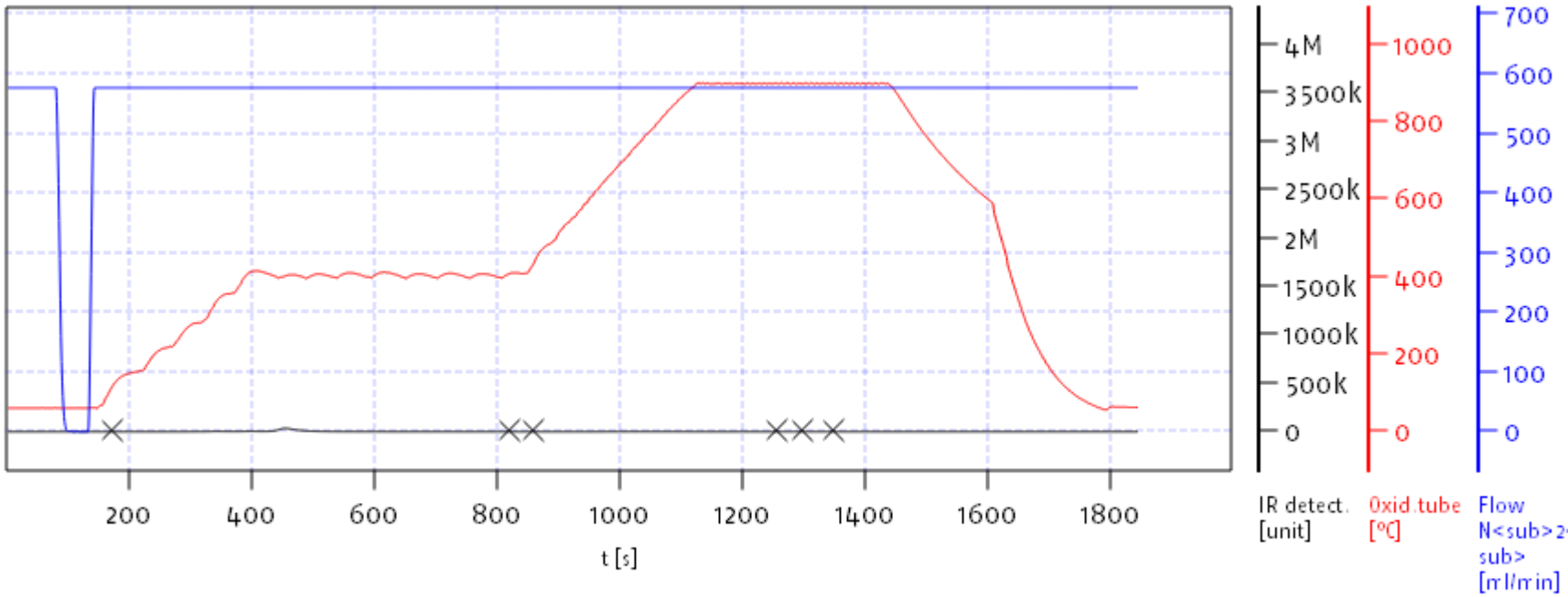
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
34	5	BJH0302-MRL1	501.30		1.00	CARBON	8/17/2021 8:51 AM	0.018	0.000	0.018	bl,C3u,C2u	67 971	6 321	83	1.0124	1.0000



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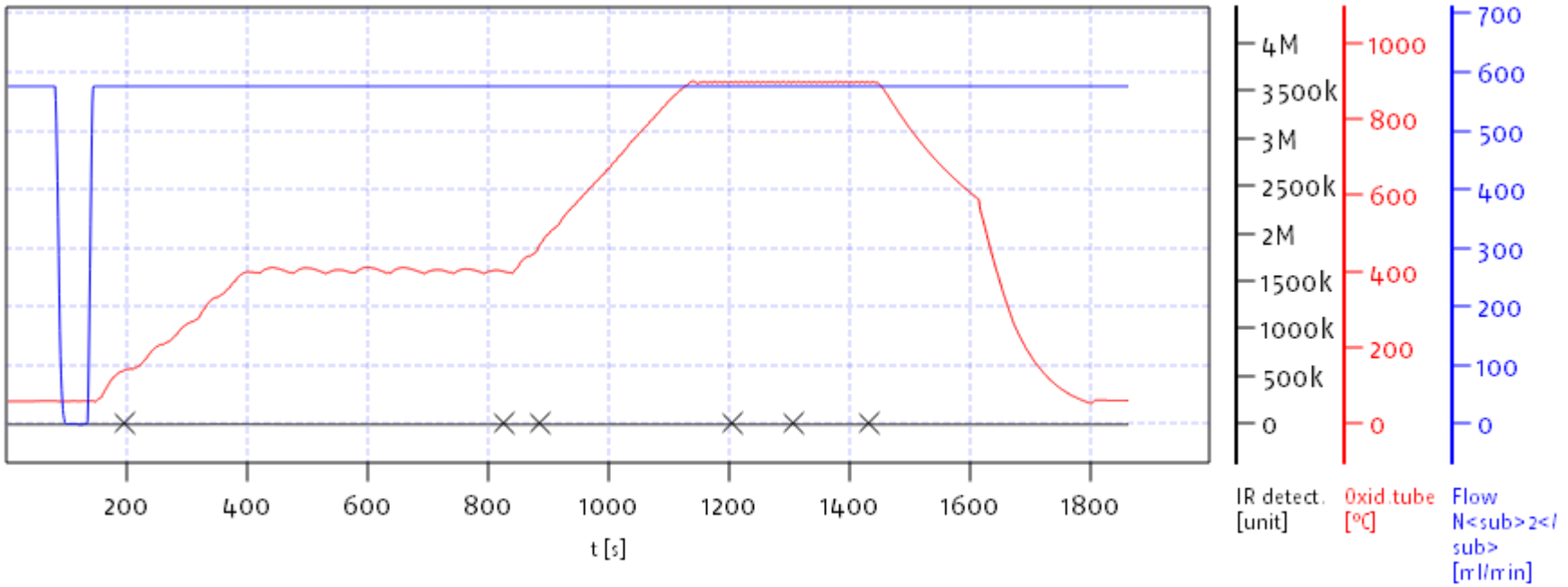
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
35	6	BJH0302-BLK1	551.80		1.00	CARBON	8/17/2021 9:22 AM	0.000	0.000	0.000	bl,C3u,C2u	9 188	1 888	252	1.0124	1.0000



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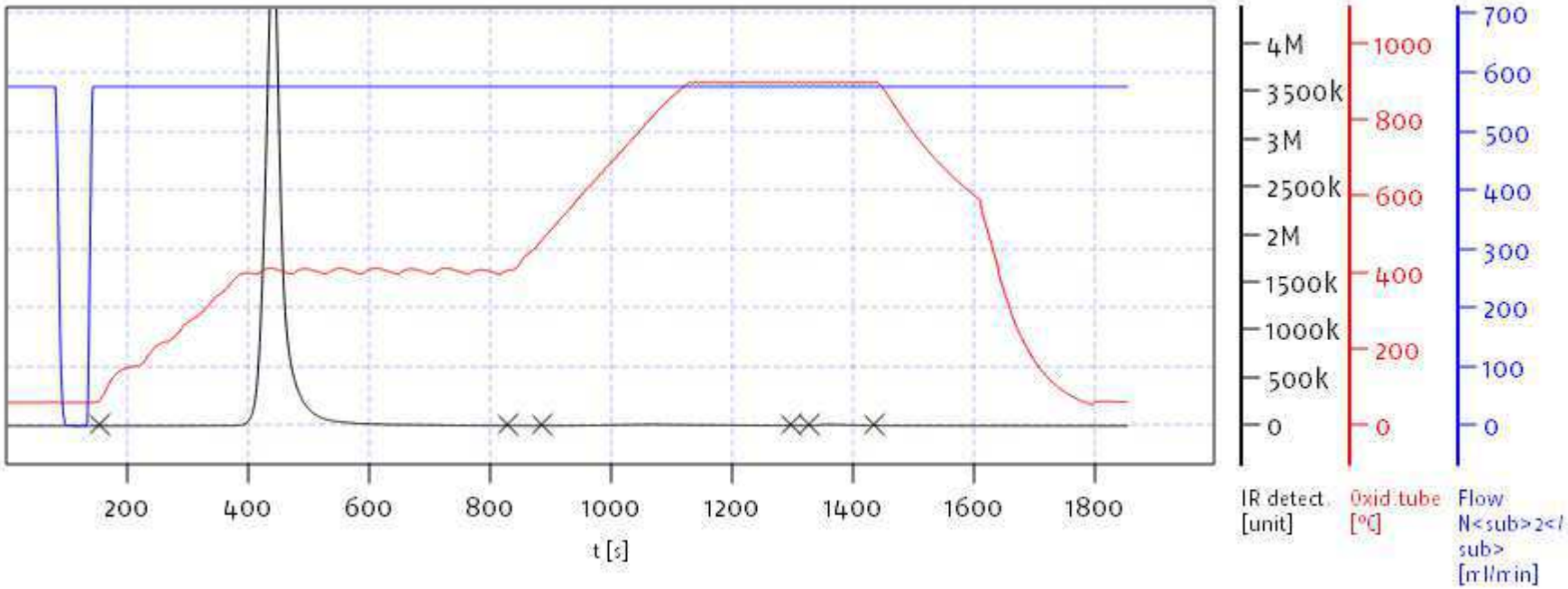
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
36	7	BJH0302-BS1	22.40		1.00	CARBON	8/17/2021 9:53 AM	42.894	0.718	43.612	bl	6 088 364	113 999	31 763	1.0124	1.0000



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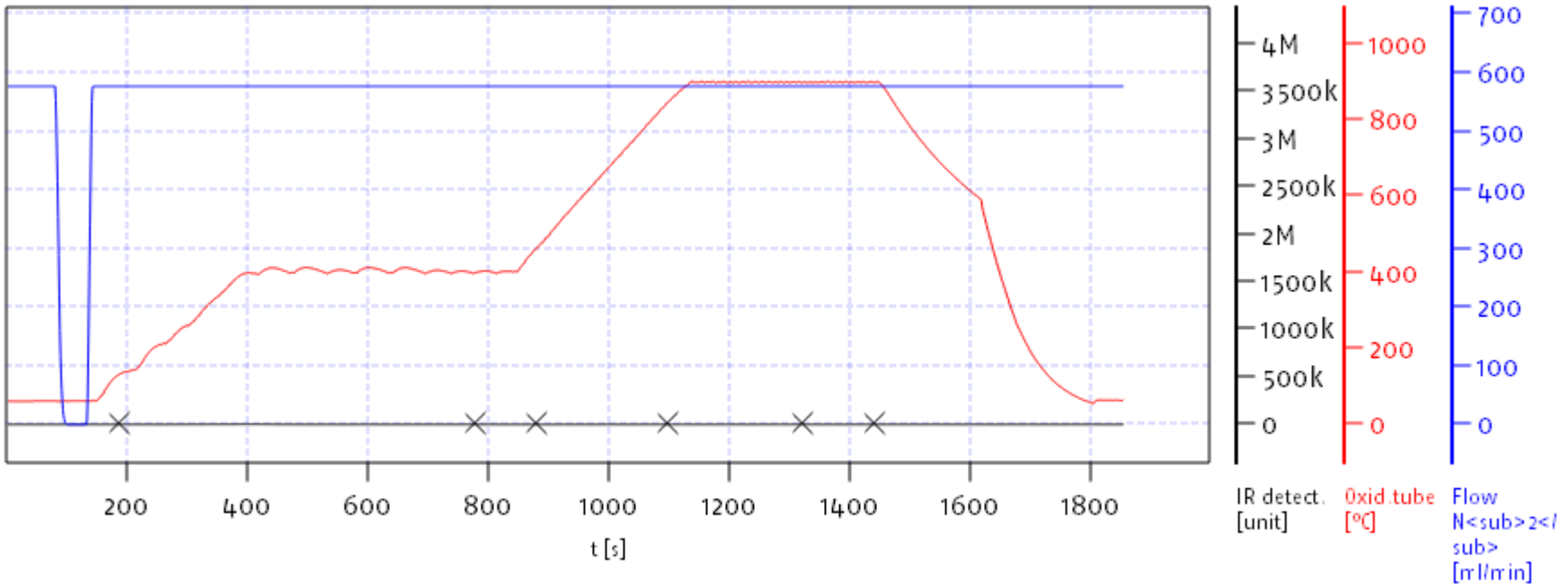
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
37	8	BLANK	1.00		1.00	CARBON	8/17/2021 10:25 AM	0.000	0.000	0.000	bl	10 937	454	514	1.0124	1.0000



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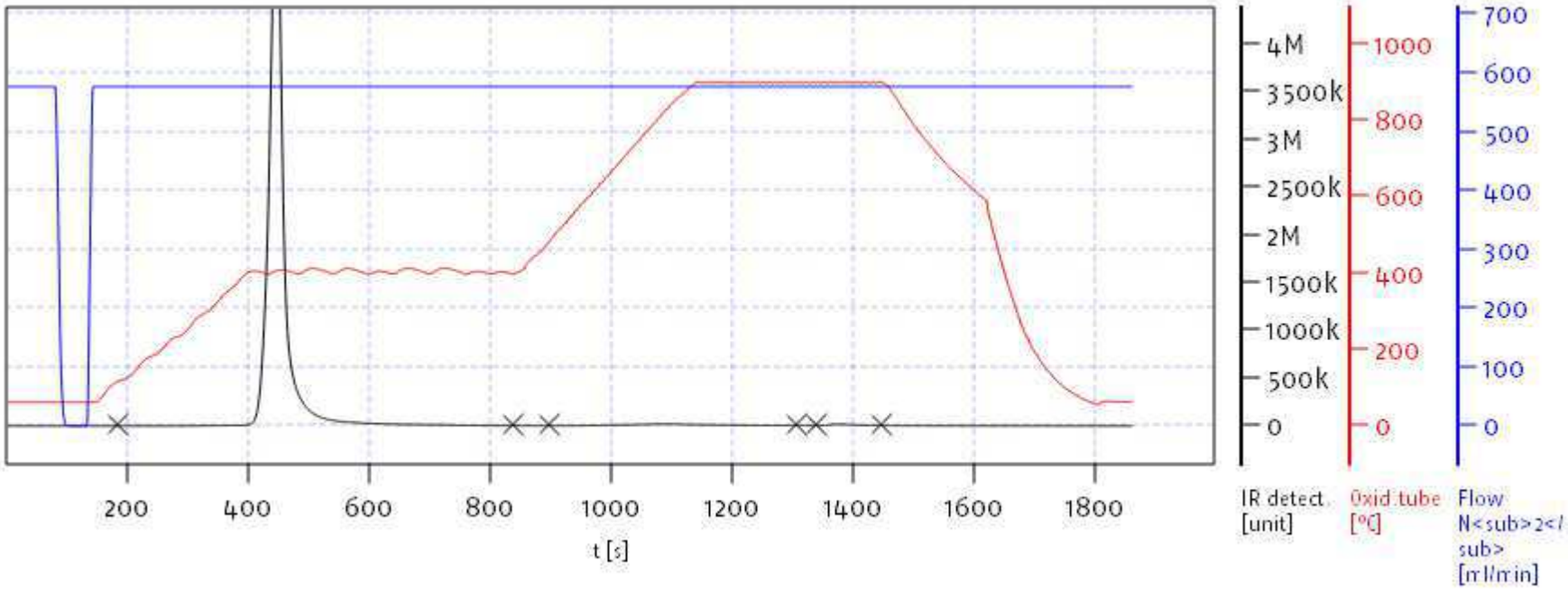
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
38	9	Dfactor	21.80		1.00	CARBON	8/17/2021 10:56 AM	44.631	0.881	45.512	bl	5 972 534	134 168	36 604	1.0443	1.0000



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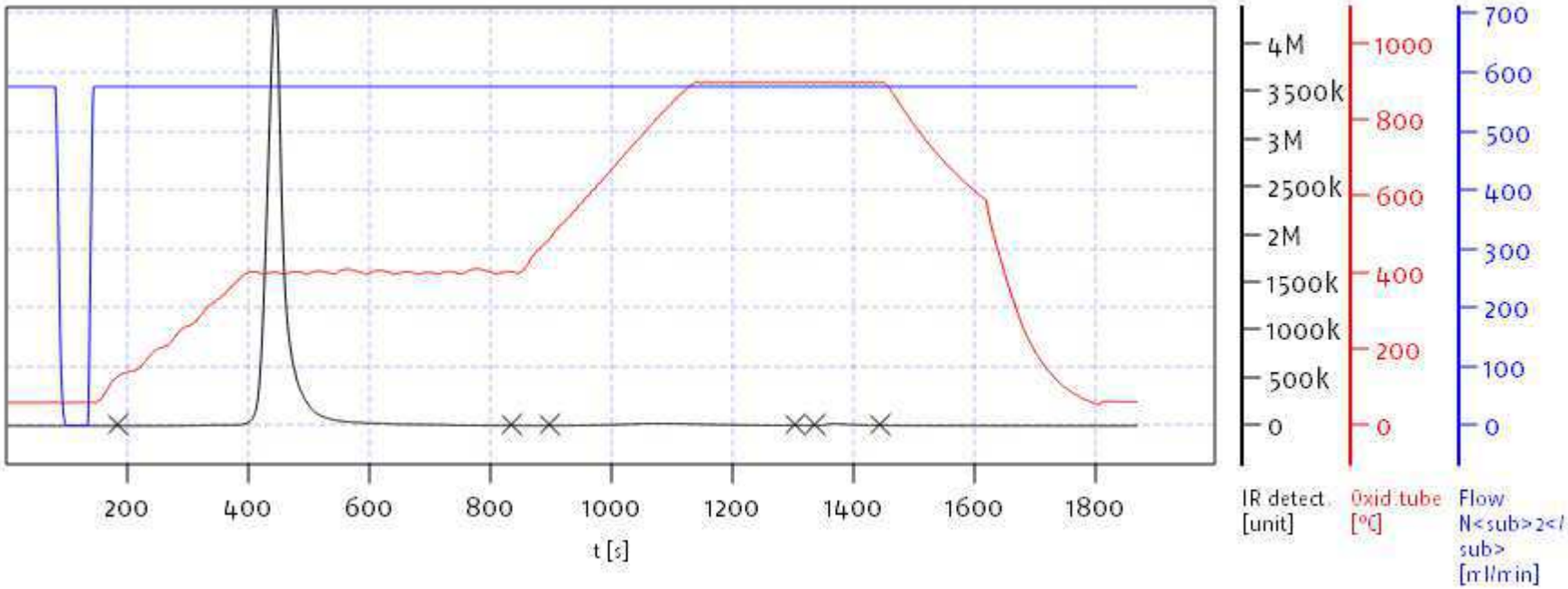
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
39	10	Dfactor	20.70		1.00	CARBON	8/17/2021 11:28 AM	44.703	1.286	45.989	bl	5 632 141	181 778	44 878	1.0517	1.0000



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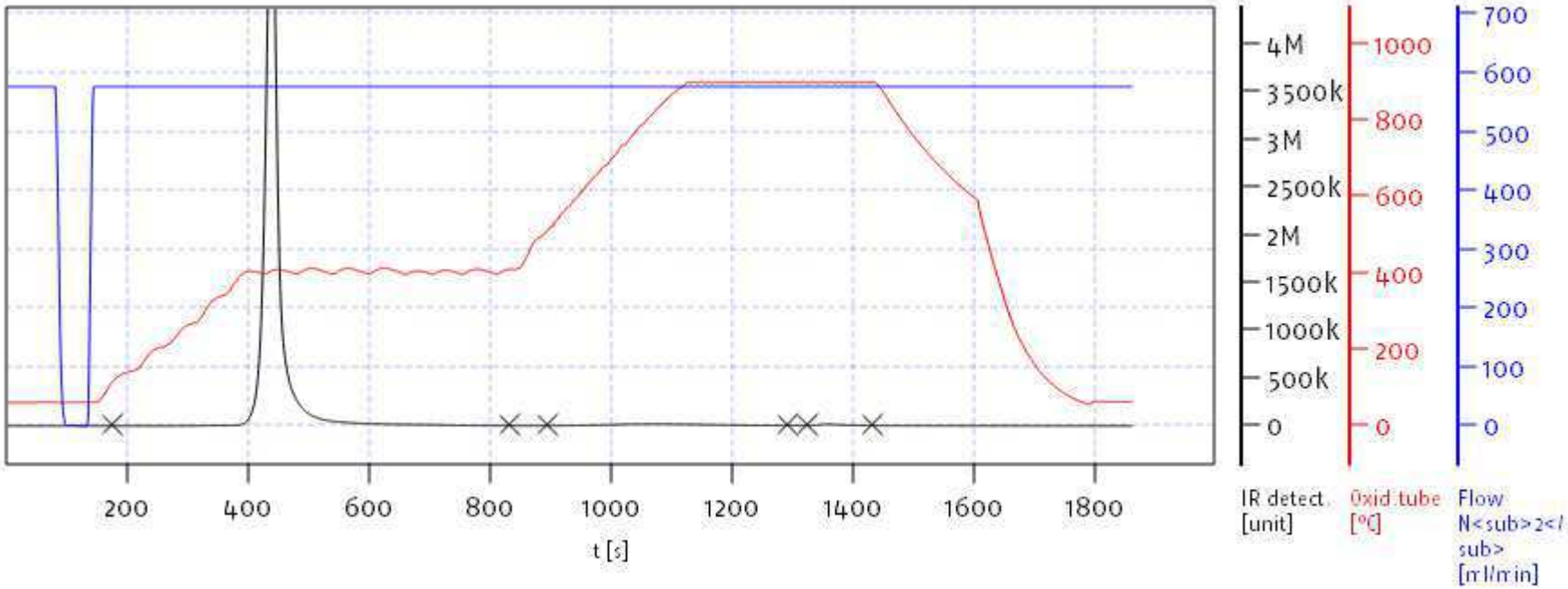
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
40	11	SJH0183-CCV3	20.80		1.00	CARBON	8/17/2021 11:59 AM	44.675	1.040	45.715	bl	5 686 565	149 677	33 599	1.0480	1.0000



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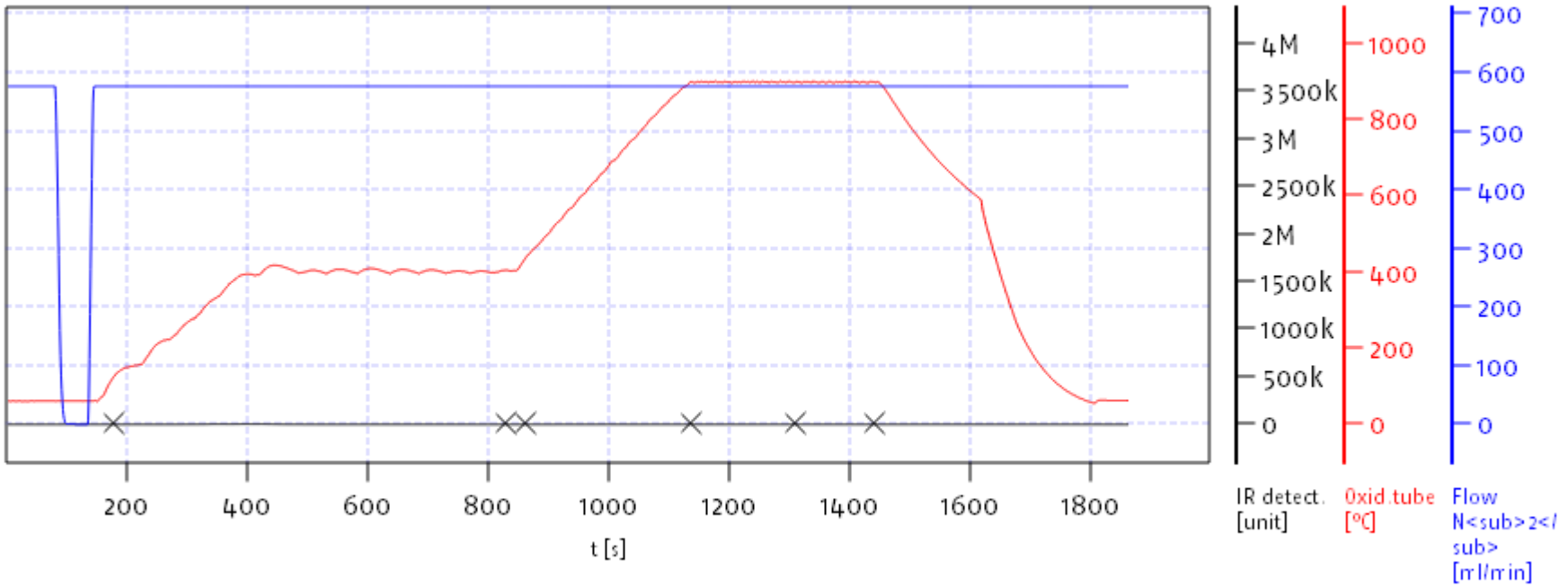
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
41	12	SJH0183-CCB3	510.30		1.00	CARBON	8/17/2021 12:31 PM	0.002	0.000	0.002	bl,C3u,C2u	18 049	1 516	915	1.0480	1.0000



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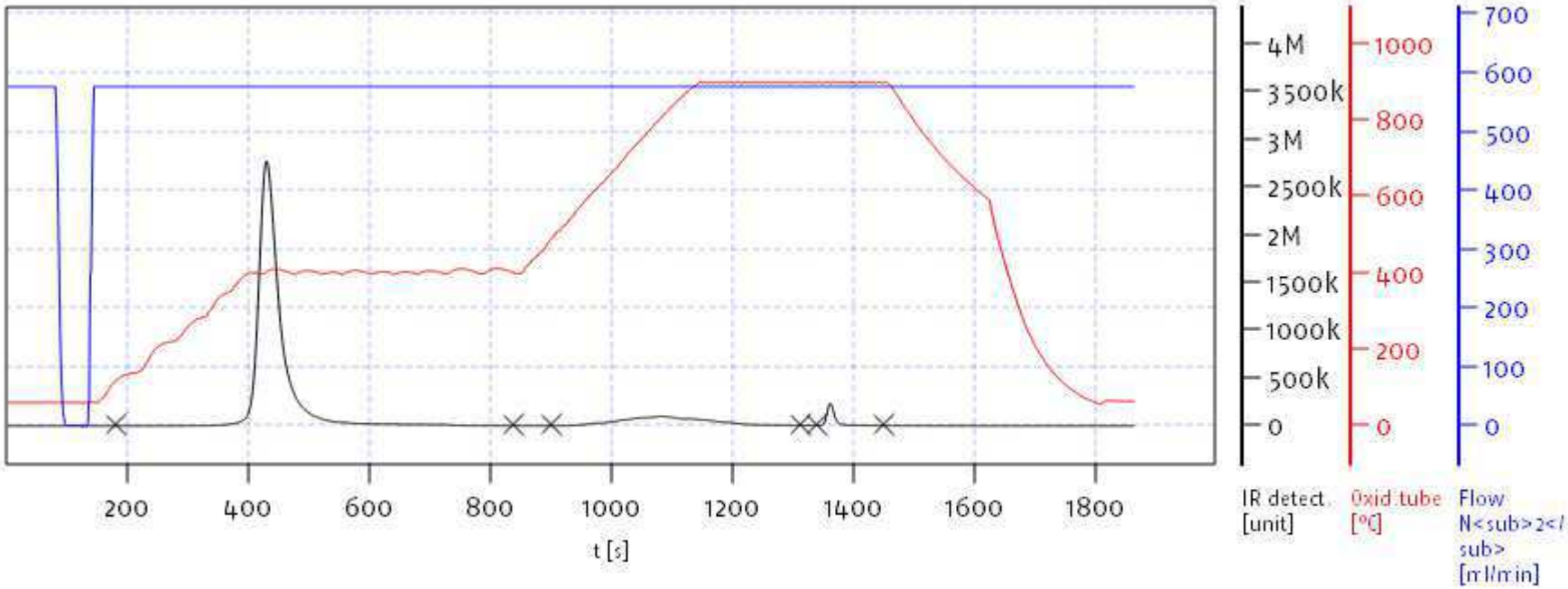
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
42	13	21H0004-05	635.10		1.00	CARBON	8/17/2021 1:02 PM	1.131	0.152	1.282	bl	4 290 460	630 187	139 614	1.0480	1.0000



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Access: soliTOC superuser

Date: Mon Aug 23 13:43:13 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

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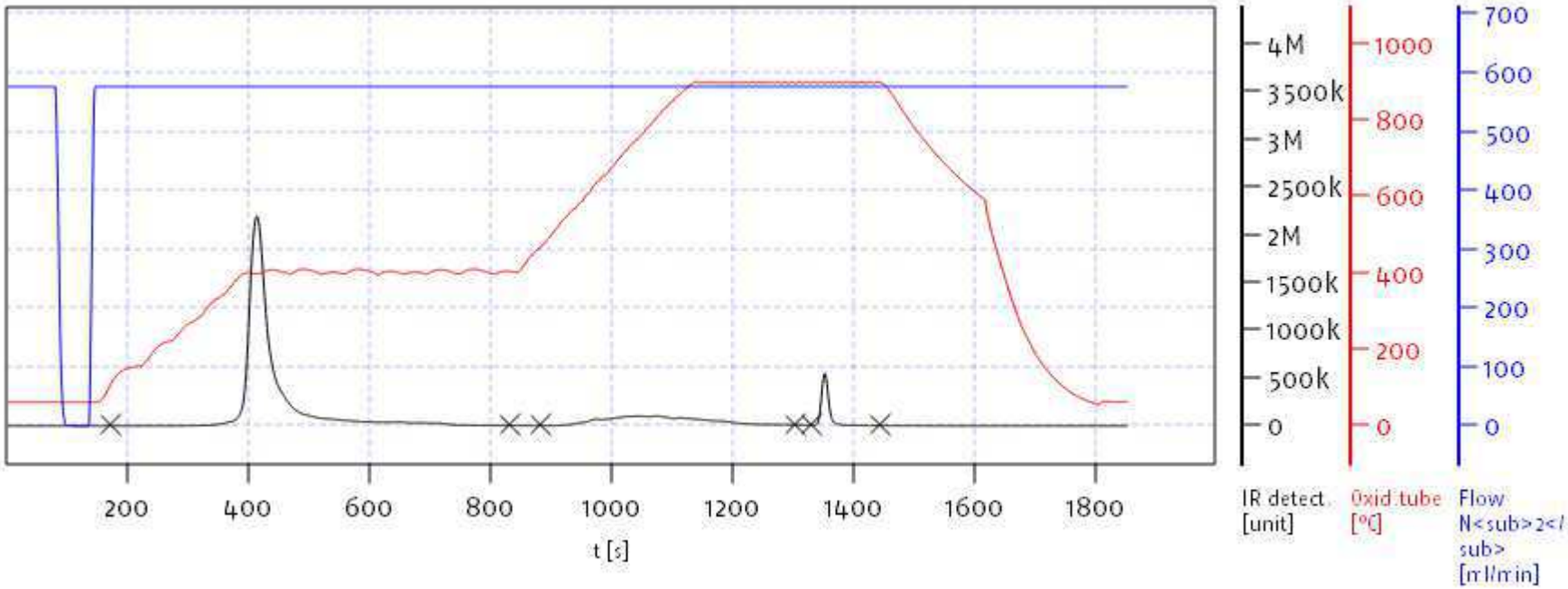
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
43	14	BJH0302-DUP1	588.50		1.00	CARBON	8/17/2021 1:33 PM	1.065	0.209	1.274	bl	3 582 620	799 768	296 567	1.0480	1.0000



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Analyst: BF

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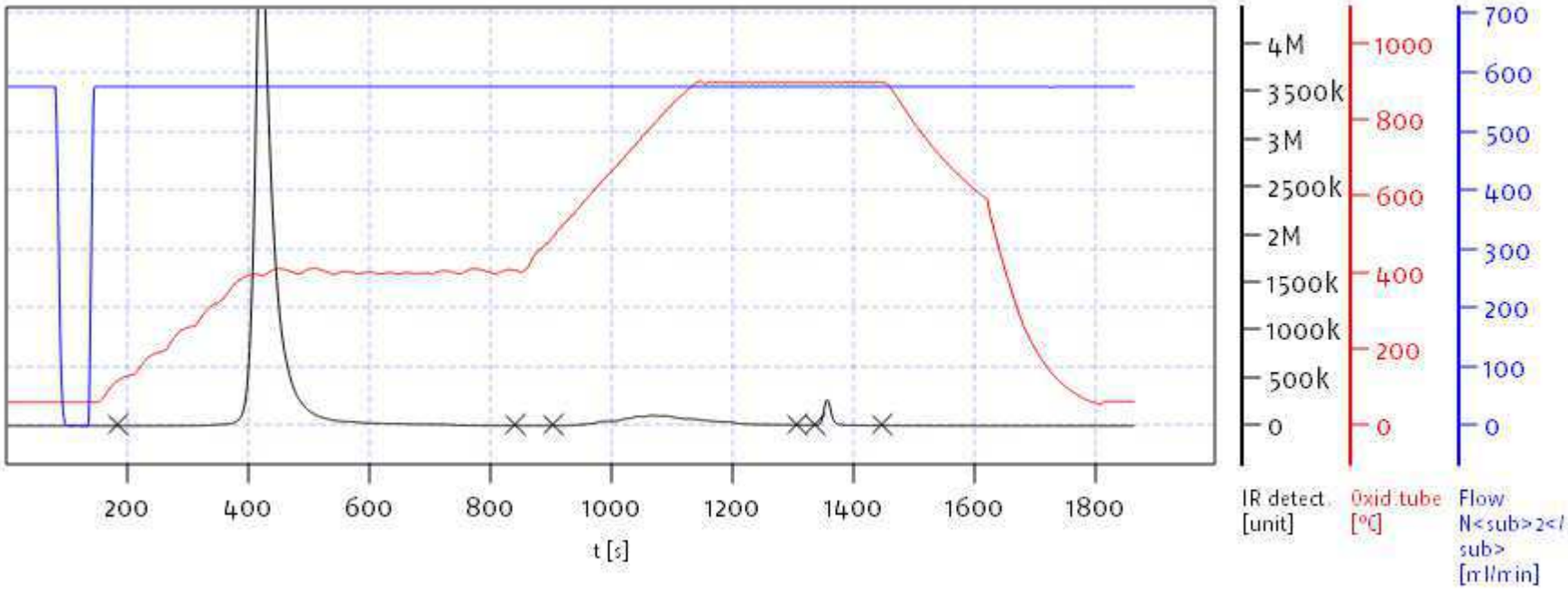
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
44	15	BJH0302-MS1	526.60	0.0132	1.00	CARBON	8/17/2021 2:05 PM	2.231	0.203	2.434	bl	7 069 026	697 304	161 833	1.0480	1.0000



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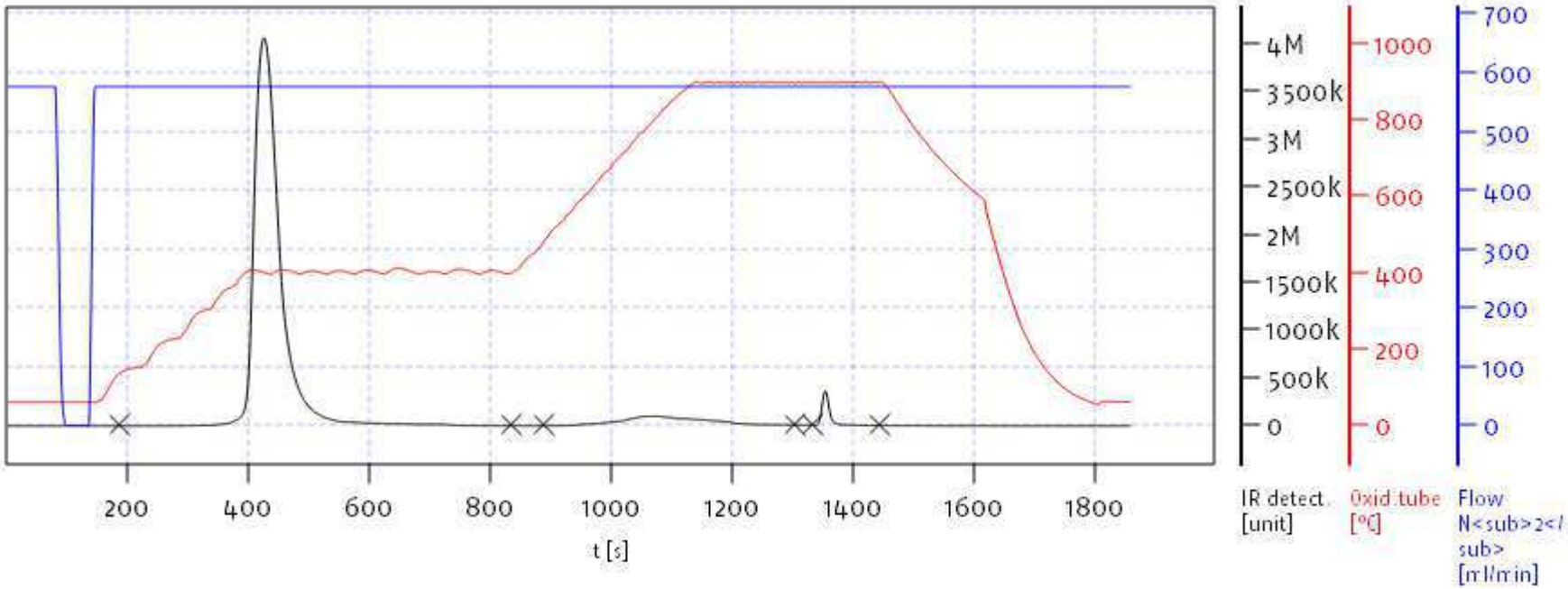
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
45	16	BJH0302-MSD1	632.30	0.0111	1.00	CARBON	8/17/2021 2:36 PM	1.972	0.157	2.129	bl	7 466 014	649 687	210 795	1.0480	1.0000



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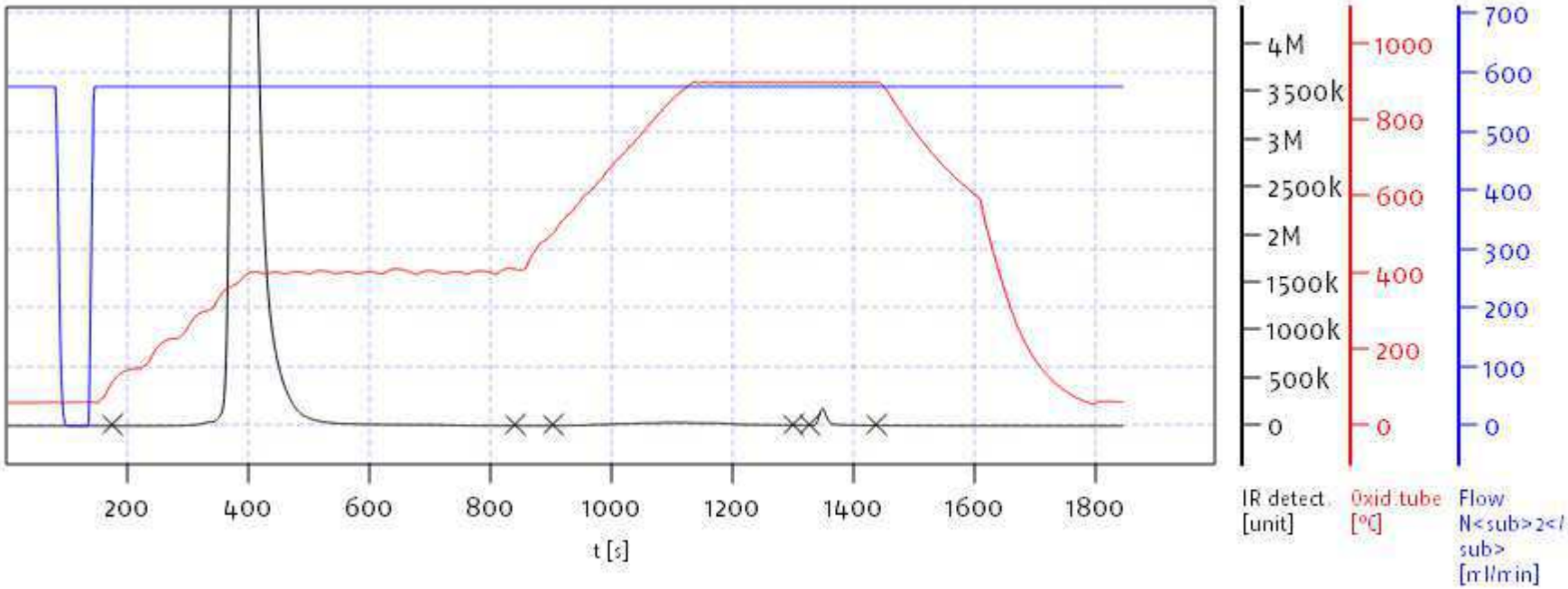
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
46	17	21H0061-01	623.90		1.00	CARBON	8/17/2021 3:07 PM	4.804	0.067	4.870	bl,C1o	18 280418	277 879	121 921	1.0480	1.0000



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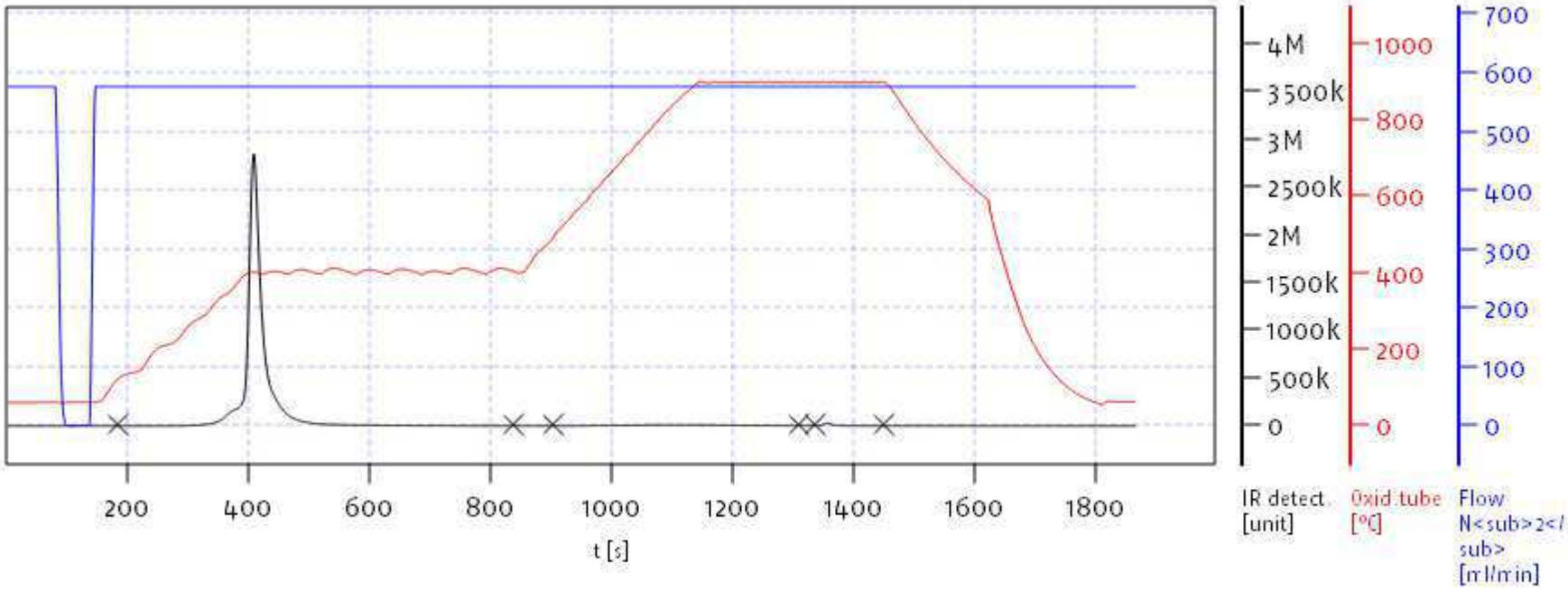
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
47	18	21H0061-02	166.70		1.00	CARBON	8/17/2021 3:39 PM	2.914	0.065	2.979	bl	2 979 477	80 275	20 379	1.0480	1.0000



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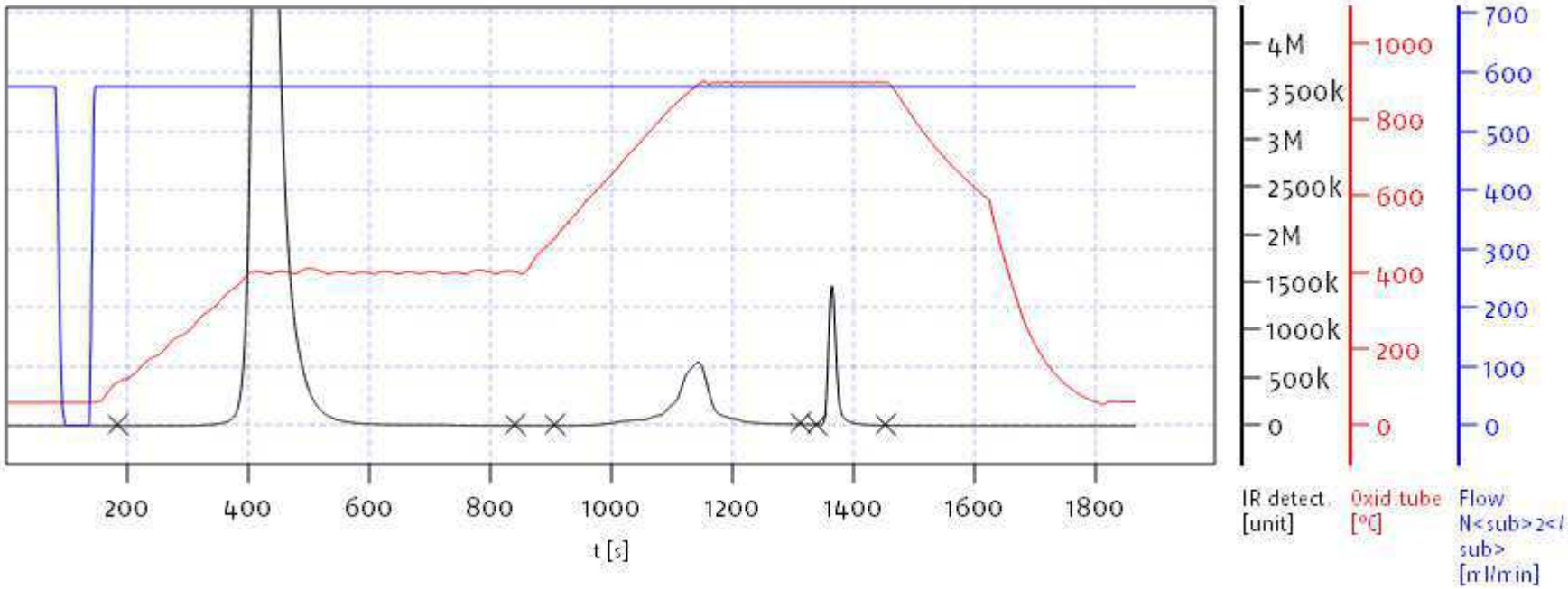
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
48	19	21H0061-03	512.10		1.00	CARBON	8/17/2021 4:10 PM	5.506	0.546	6.052	bl,C1o	16 490222	1 807 184	858 401	1.0480	1.0000



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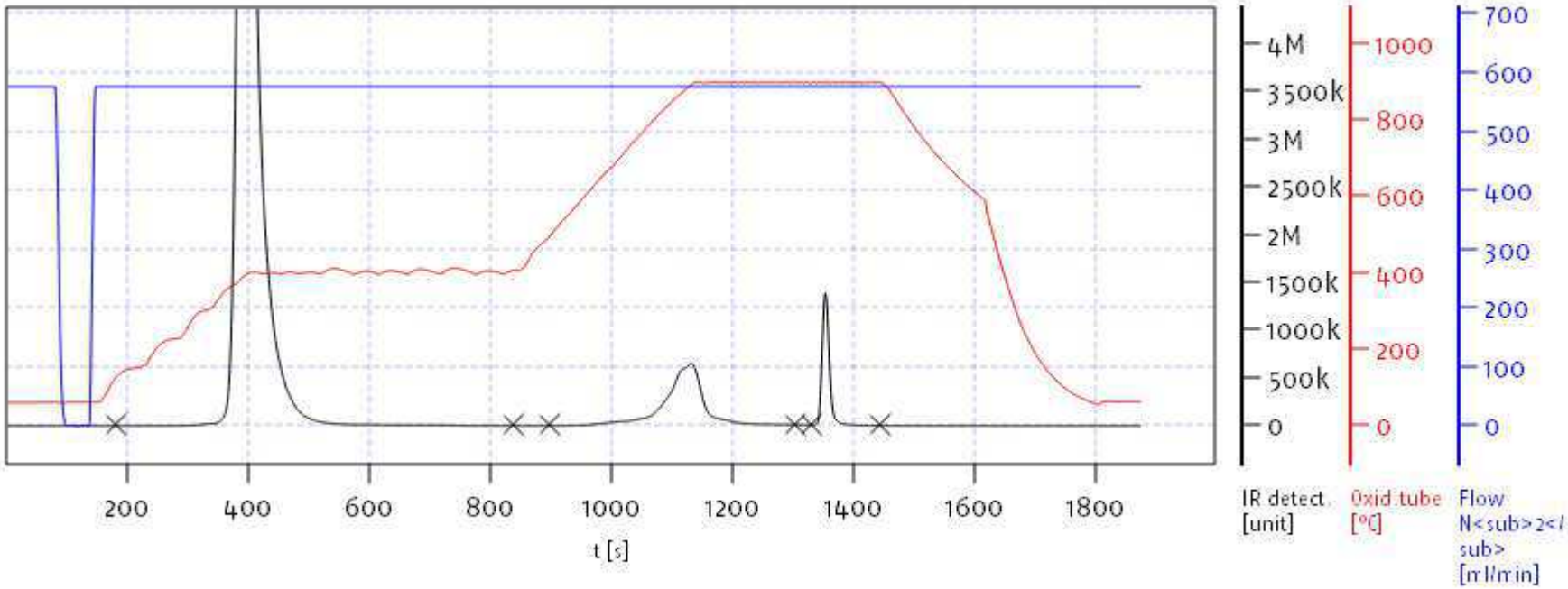
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
49	20	21H0061-04	309.50		1.00	CARBON	8/17/2021 4:42 PM	7.680	0.881	8.561	bl,C1o	13 893921	1 762 876	734 906	1.0480	1.0000



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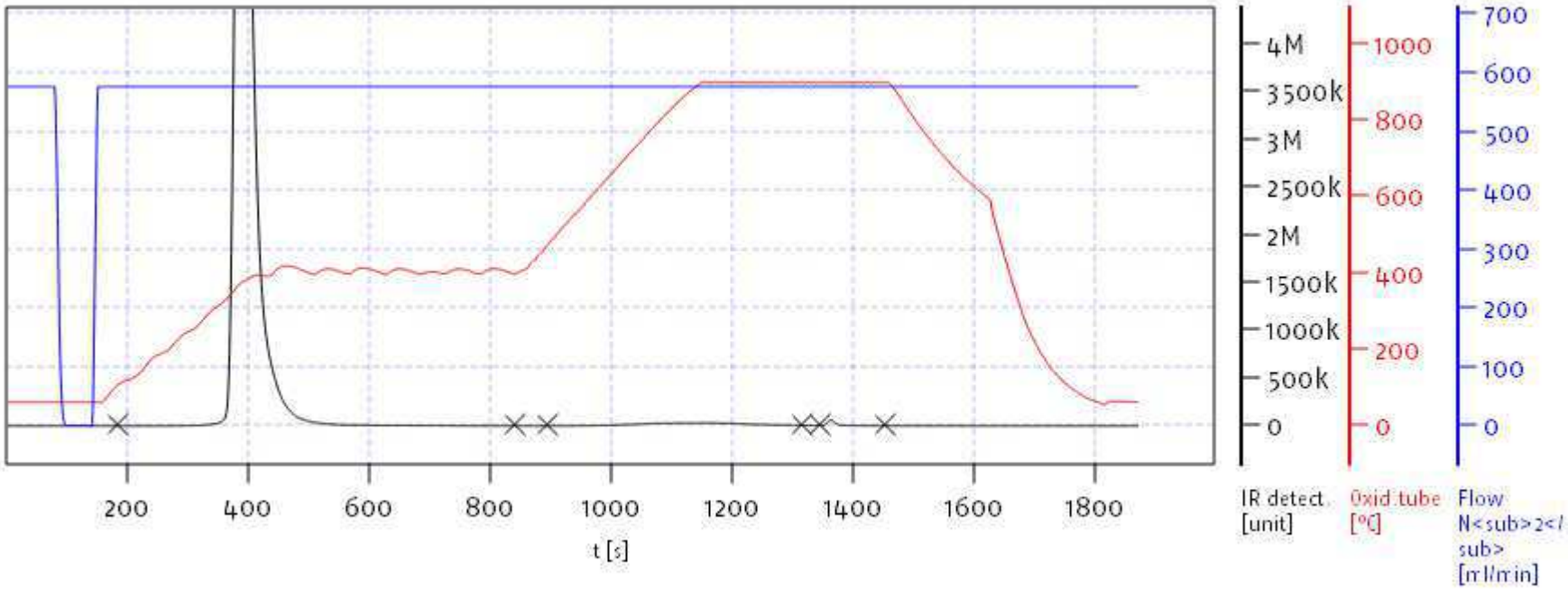
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
50	21	21H0061-05	253.90		1.00	CARBON	8/17/2021 5:13 PM	7.569	0.147	7.716	bl,Clo	11 765688	250 027	41 006	1.0480	1.0000



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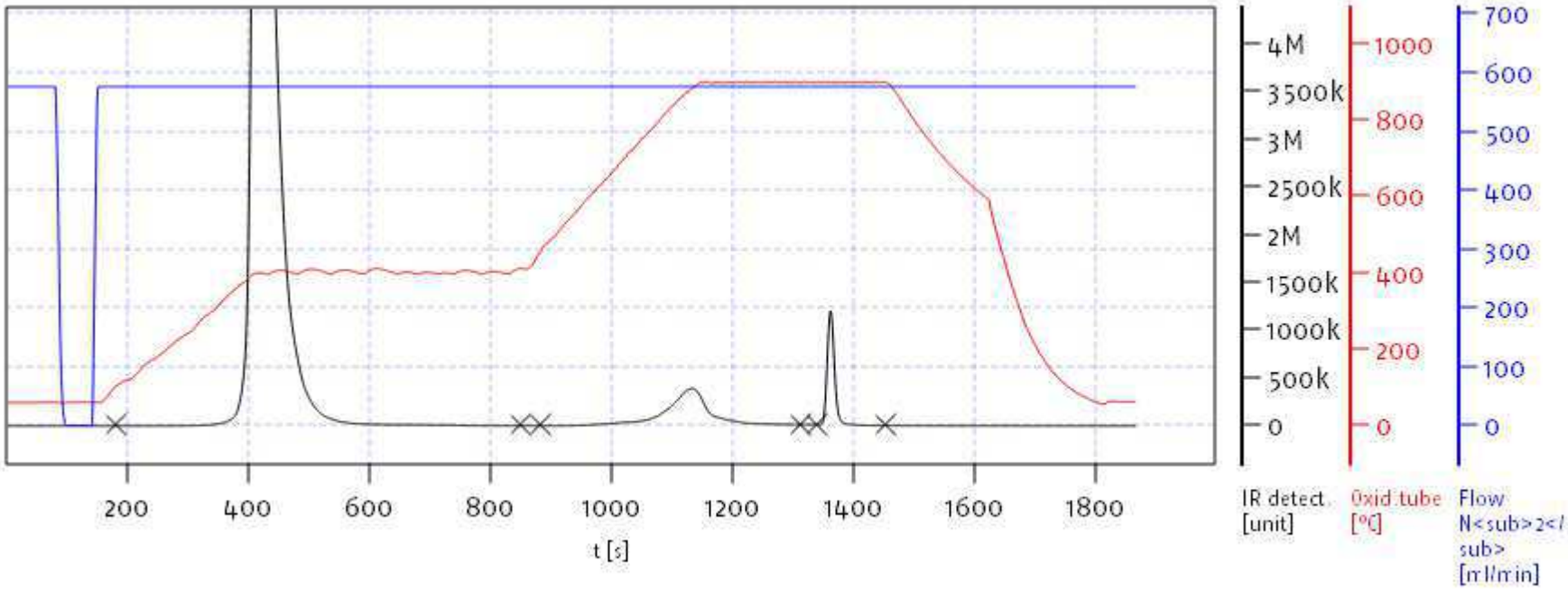
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
51	22	21H0061-06	301.40		1.00	CARBON	8/17/2021 5:45 PM	8.926	0.630	9.556	bl,C1o	15 897 634	1 230 538	648 247	1.0480	1.0000



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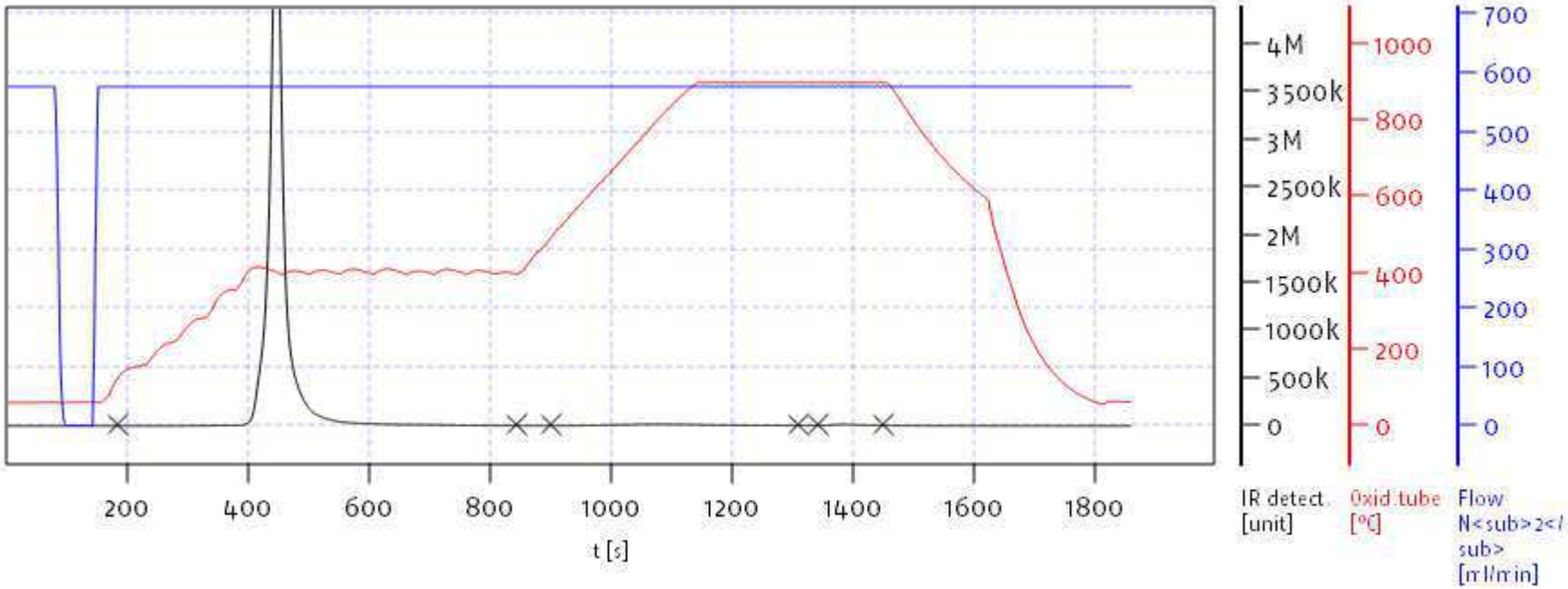
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
52	23	SJH0183-CCV4	21.70		1.00	CARBON	8/17/2021 6:16 PM	45.113	0.838	45.952	bl	5 991 391	127 584	33 568	1.0480	1.0000



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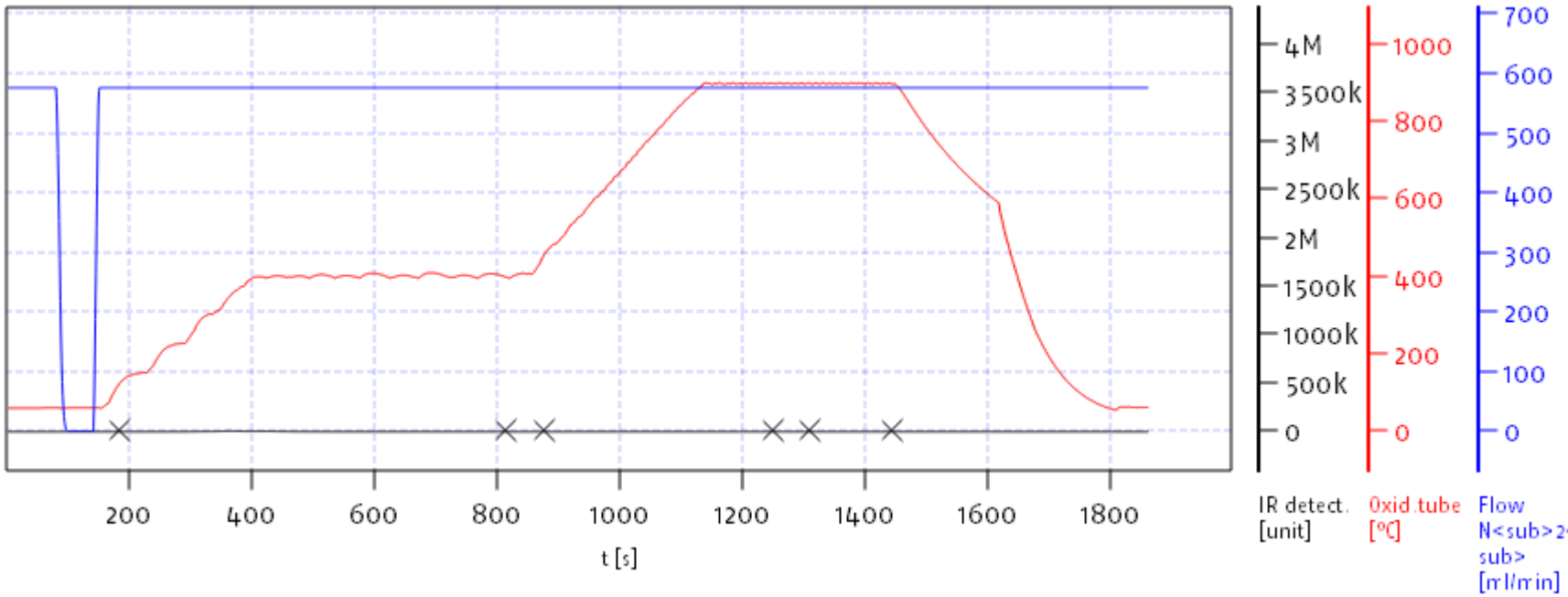
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
53	24	SJH0183-CCB4	558.70		1.00	CARBON	8/17/2021 6:48 PM	0.005	0.000	0.005	bl,C3u,C2u	27 873	2 573	928	1.0480	1.0000



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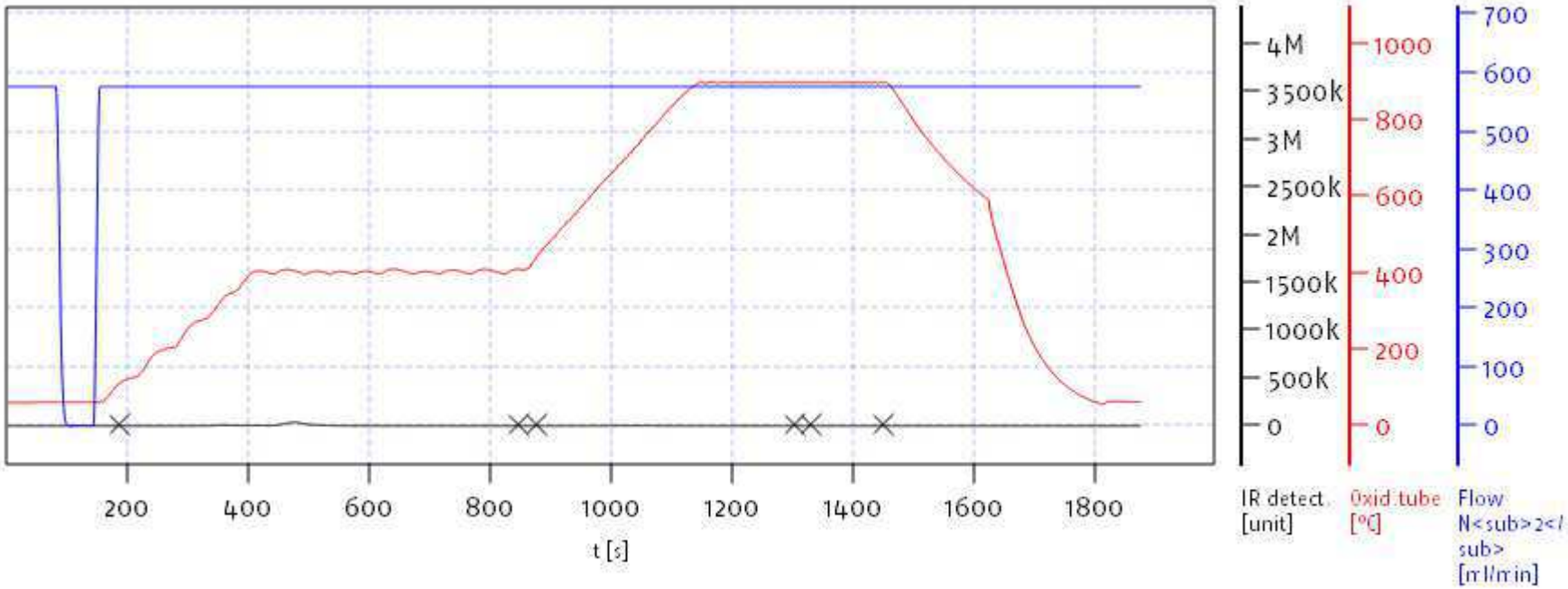
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
54	25	BJH0349-MRL1	509.80		1.00	CARBON	8/17/2021 7:19 PM	0.025	0.000	0.025	bl,C2u	89 277	10 446	770	1.0480	1.0000



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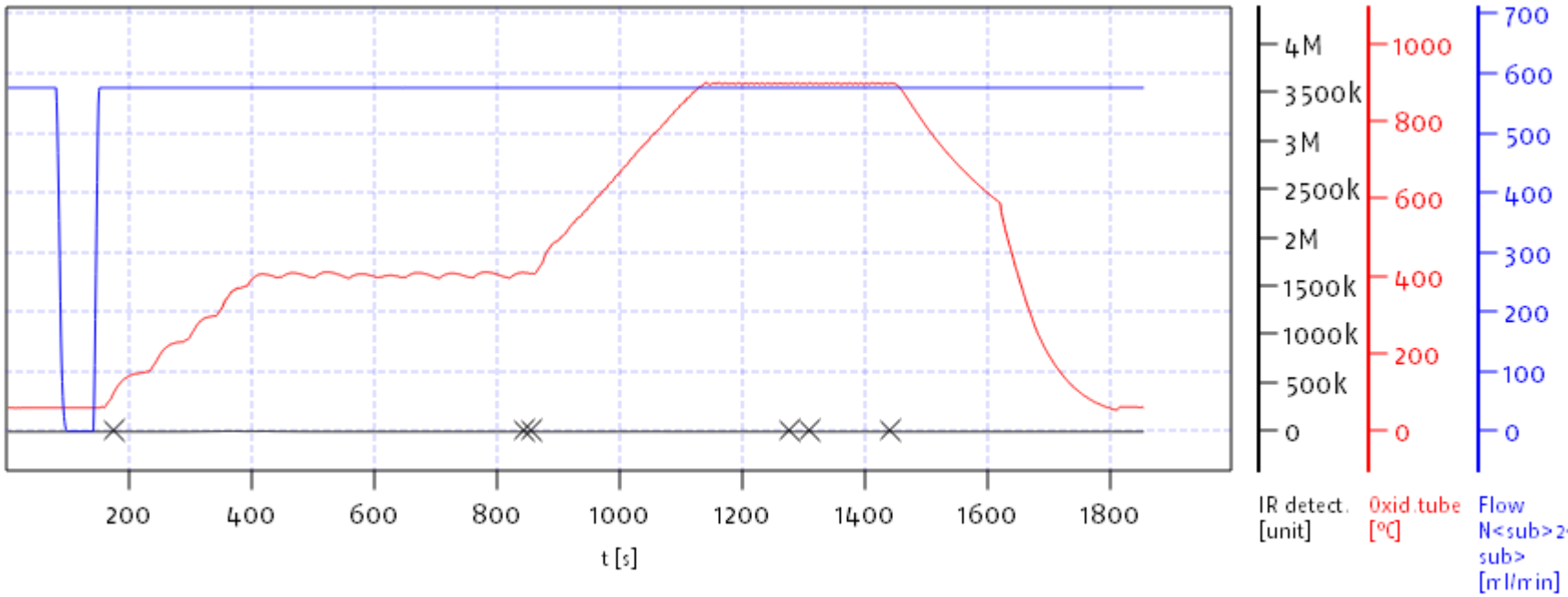
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
55	26	BJH0349-BLK1	523.30		1.00	CARBON	8/17/2021 7:51 PM	0.005	0.000	0.005	bl,C3u,C2u	25 750	3 706	617	1.0480	1.0000



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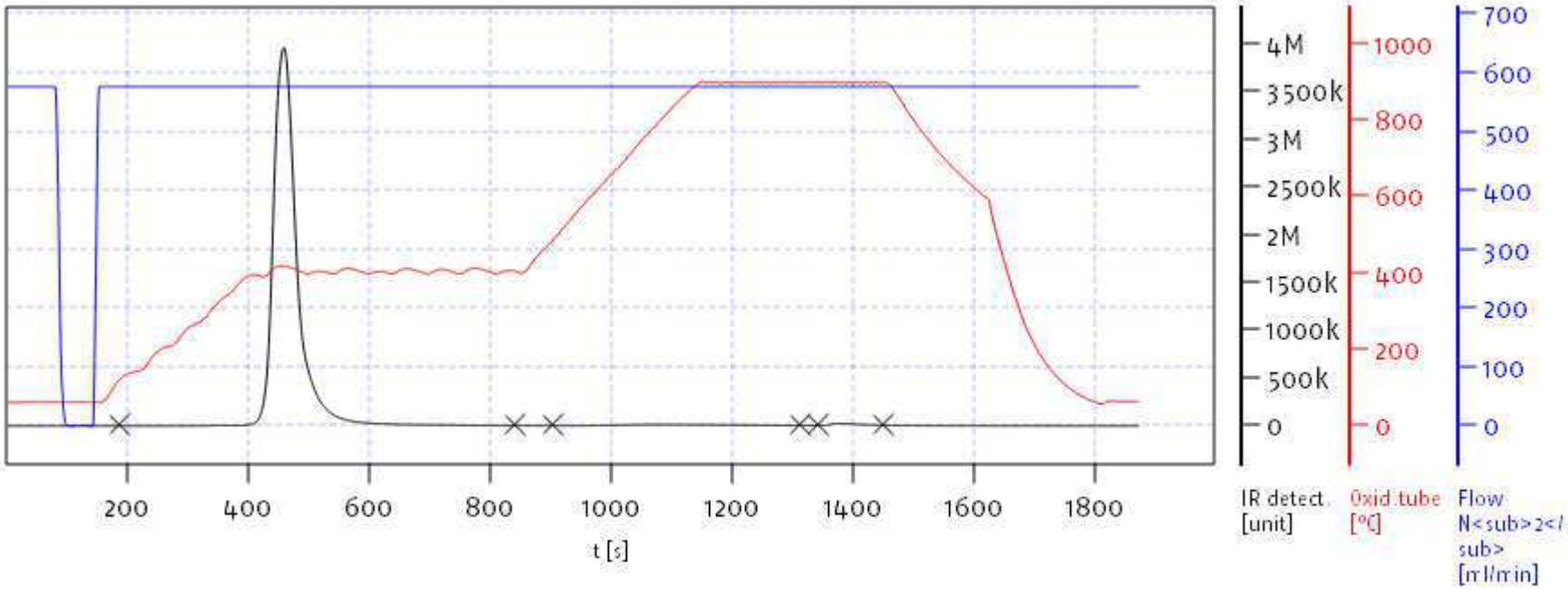
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
56	27	BJH0349-BS1	24.30		1.00	CARBON	8/17/2021 8:22 PM	45.199	0.711	45.910	bl	6 700 820	121 742	57 121	1.0480	1.0000



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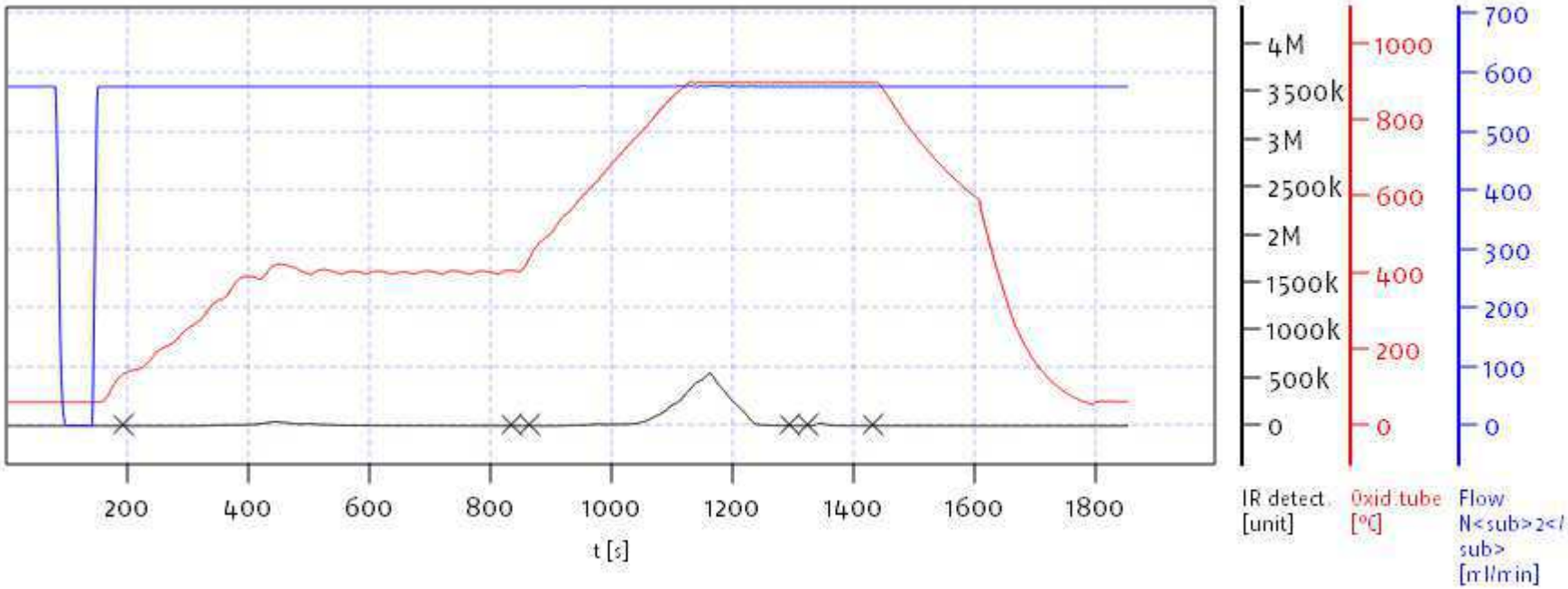
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
57	28	21G0310-12	334.70		1.00	CARBON	8/17/2021 8:54 PM	0.084	0.908	0.992	bl	170 977	1 963 591	23 654	1.0480	1.0000



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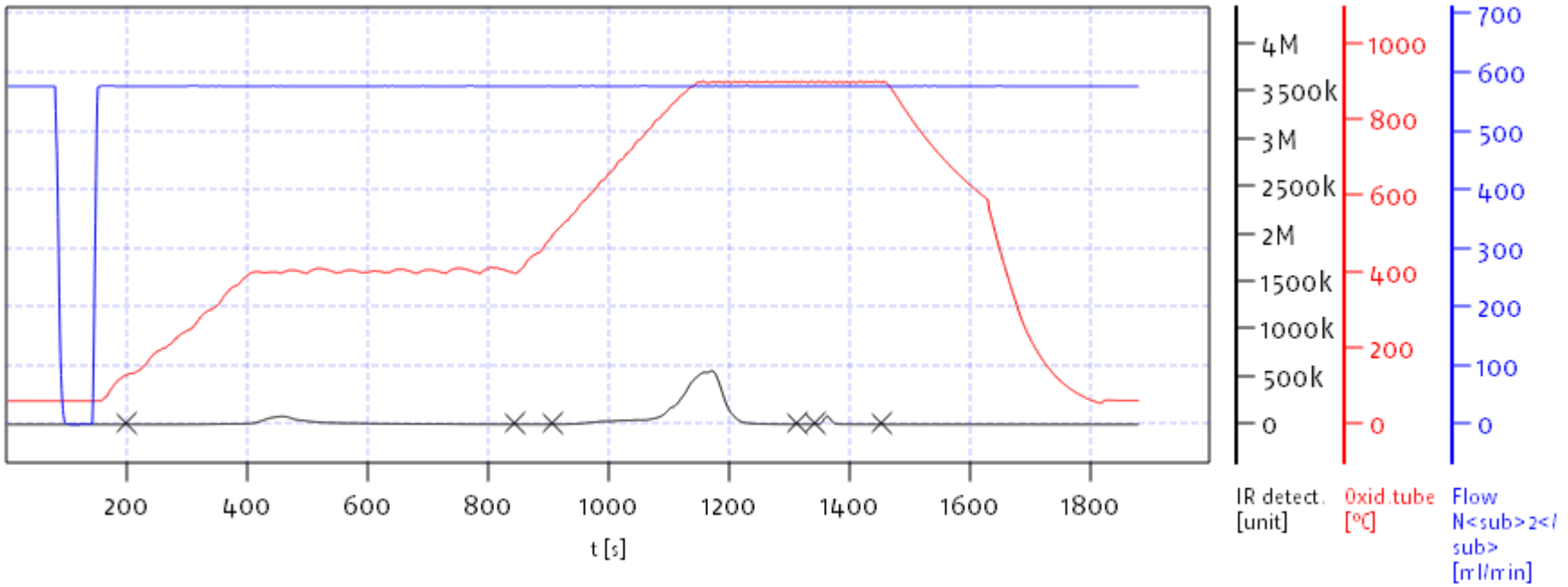
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
58	29	21G0310-13	311.40		1.00	CARBON	8/17/2021 9:25 PM	0.178	0.894	1.072	bl	314 260	1 799 139	48 235	1.0480	1.0000



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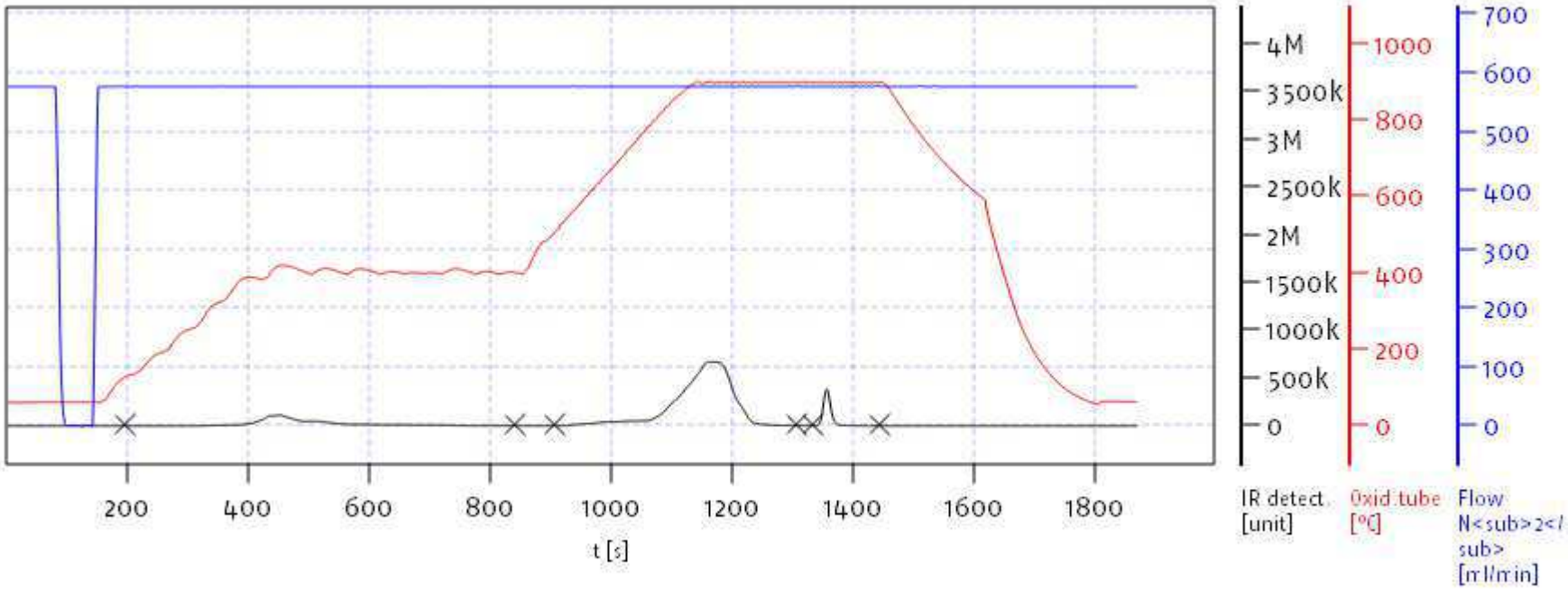
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
59	30	21G0310-14	335.80		1.00	CARBON	8/17/2021 9:57 PM	0.311	1.178	1.489	bl	460 600	2 552 192	209 614	1.0480	1.0000



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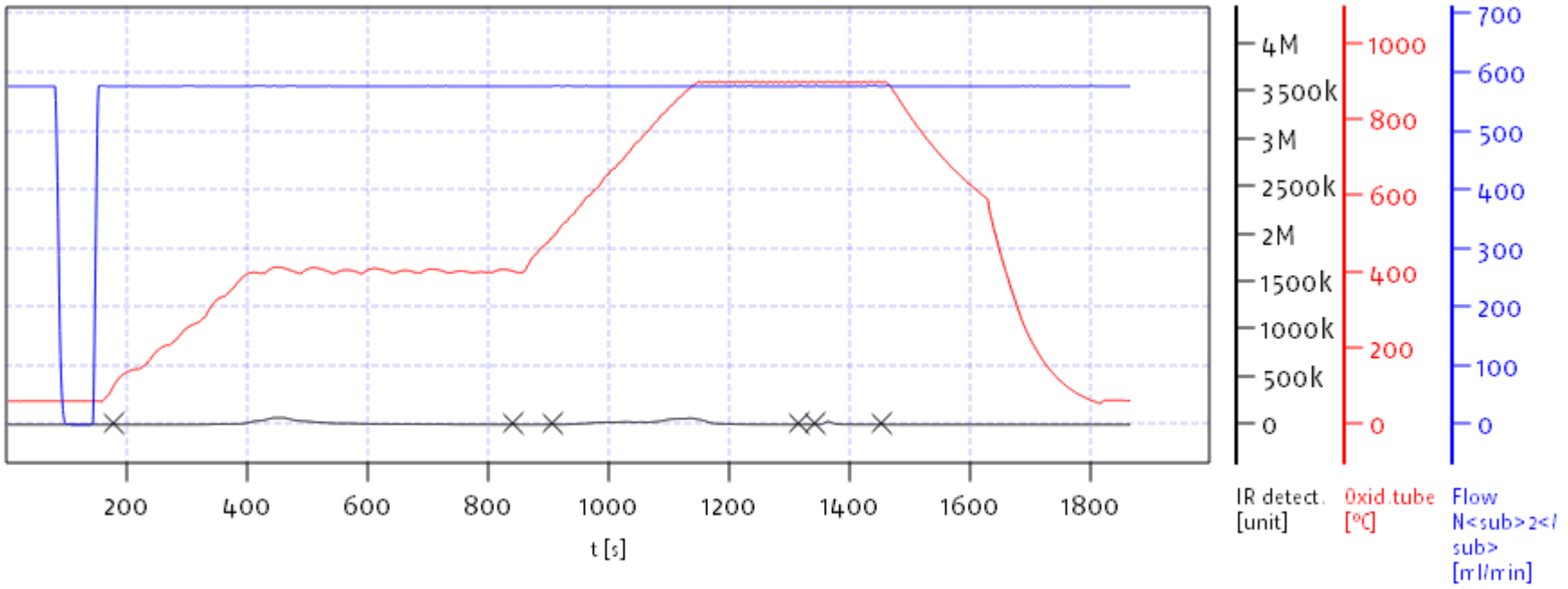
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
60	31	21G0310-15	405.80		1.00	CARBON	8/17/2021 10:28 PM	0.120	0.114	0.234	bl	297 605	307 817	22 094	1.0480	1.0000



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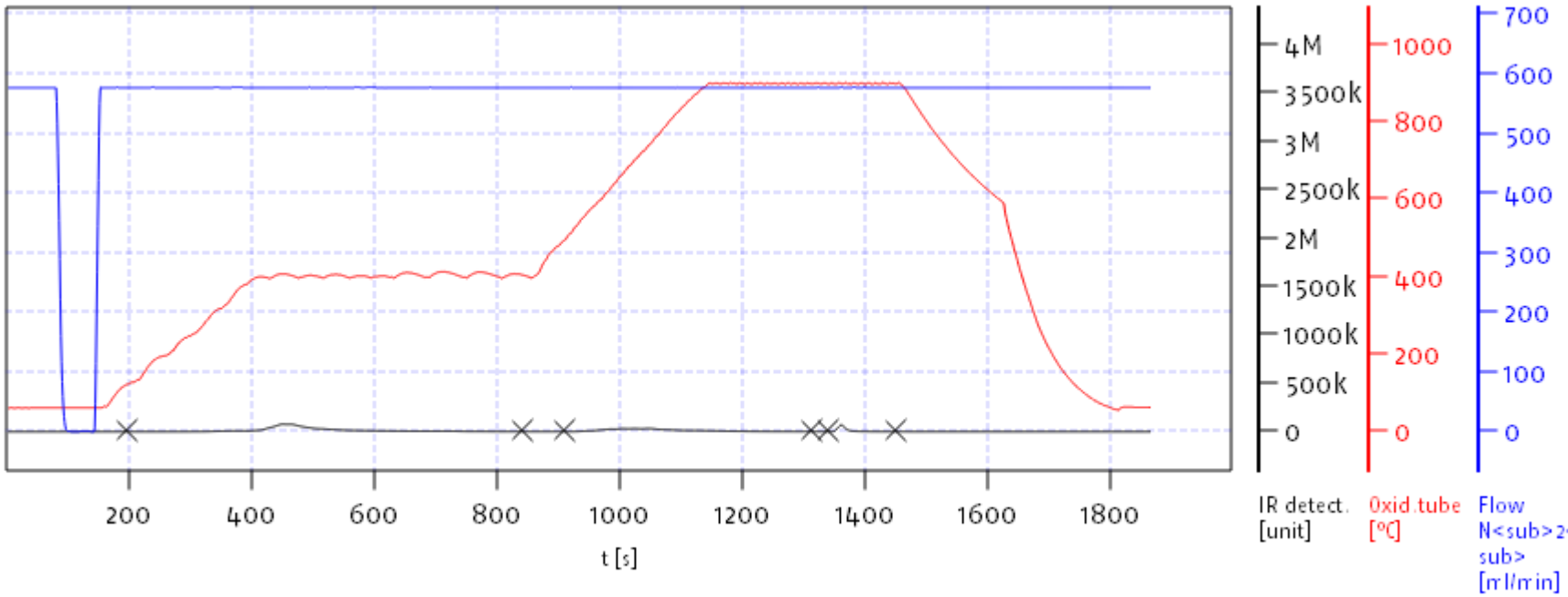
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
61	32	21G0310-16	596.30		1.00	CARBON	8/17/2021 11:00 PM	0.090	0.044	0.135	bl	310 702	180 805	42 778	1.0480	1.0000



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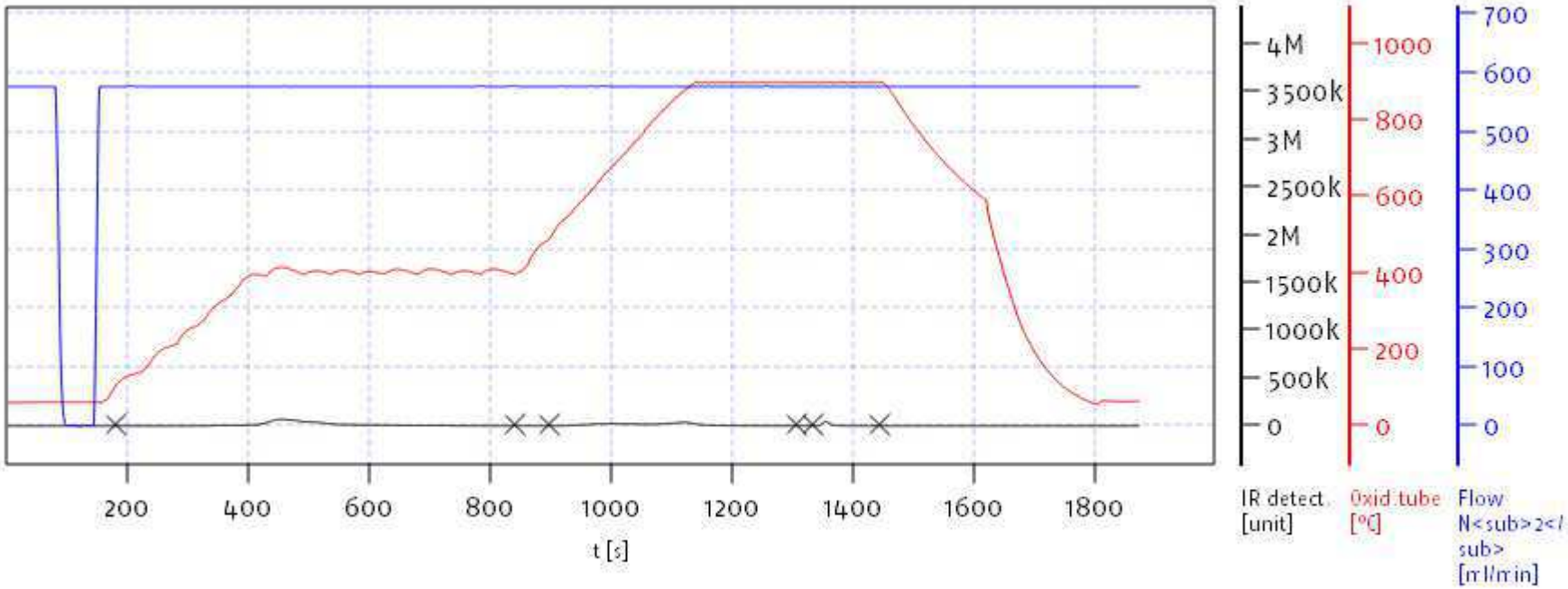
EXCELLENCE IN ELEMENTS

Document: 081621BF from: 8/20/2021 10:36 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
62	33	21G0310-17	509.10		1.00	CARBON	8/17/2021 11:31 PM	0.094	0.053	0.147	bl	289 129	183 621	27 482	1.0480	1.0000



Name:

Access: soliTOC superuser

Date: Mon Aug 23 13:43:13 2021

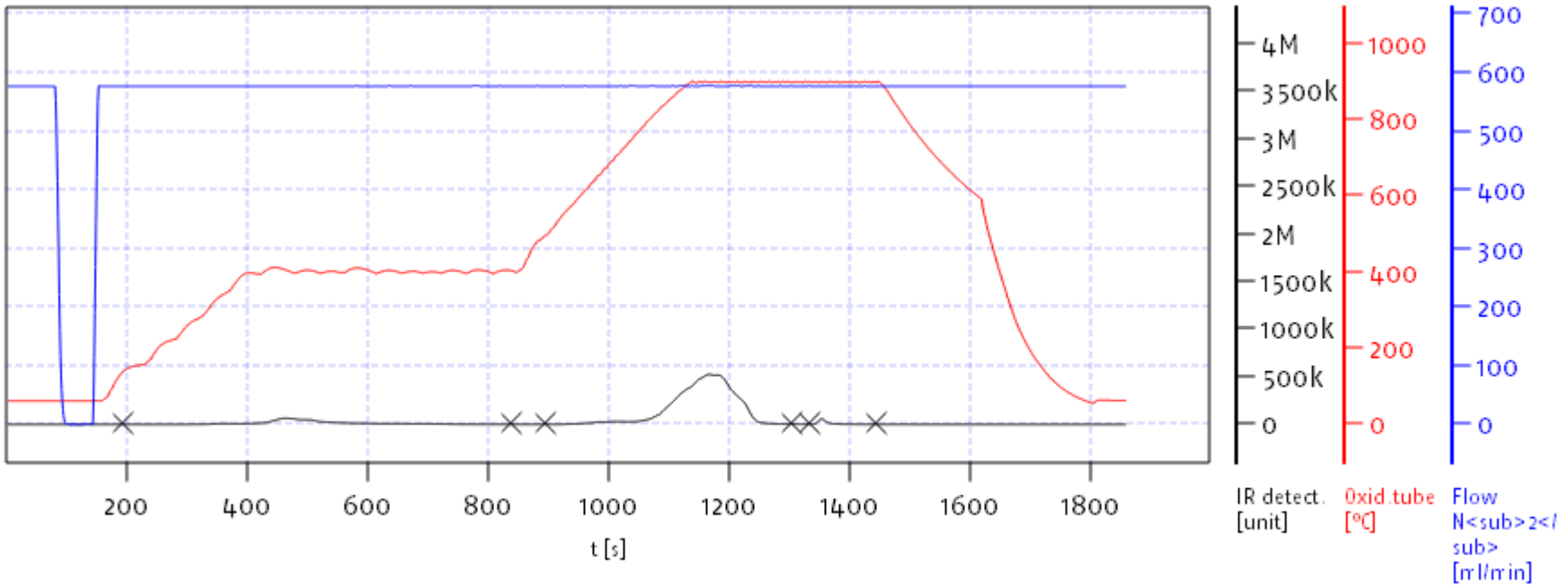
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
63	34	21G0310-18	592.80		1.00	CARBON	8/18/2021 12:03 AM	0.085	0.586	0.672	bl	293 090	2 244 752	40 237	1.0480	1.0000



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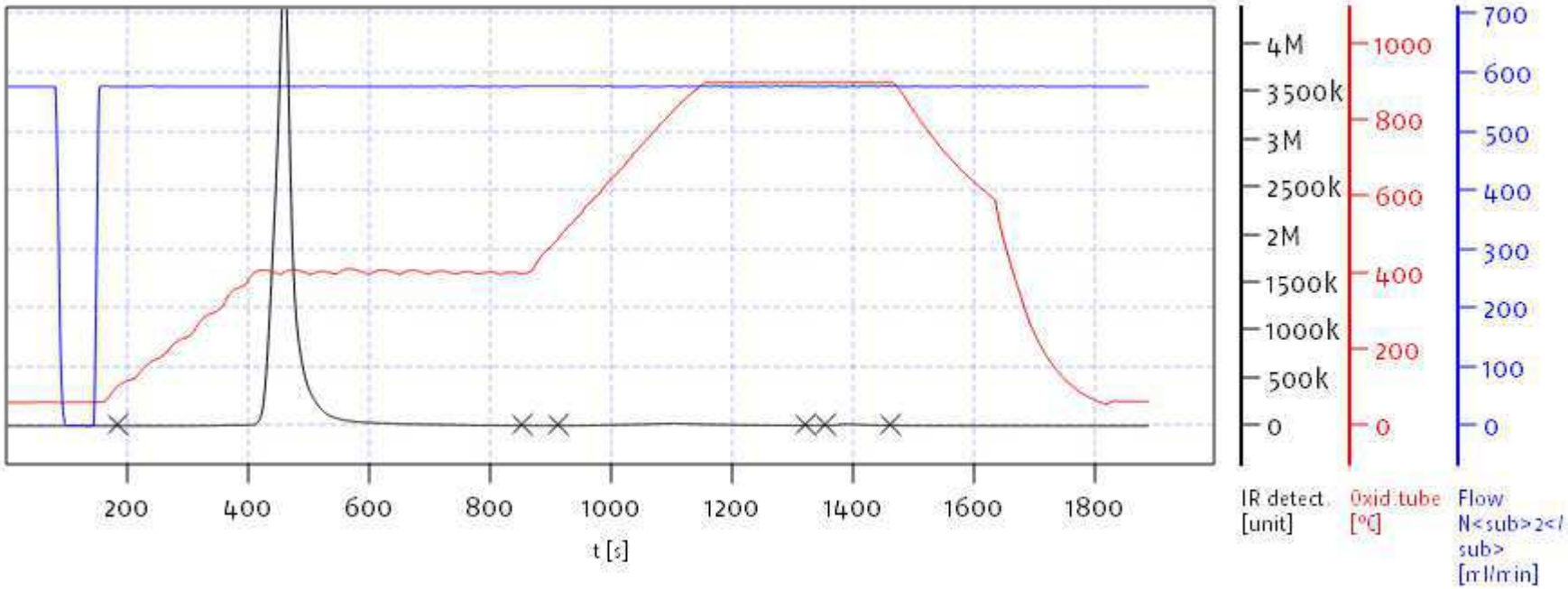
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
64	35	SJH0183-CCV5	22.70		1.00	CARBON	8/18/2021 12:35 AM	44.394	1.079	45.473	bl	6 164 699	168 022	36 955	1.0480	1.0000



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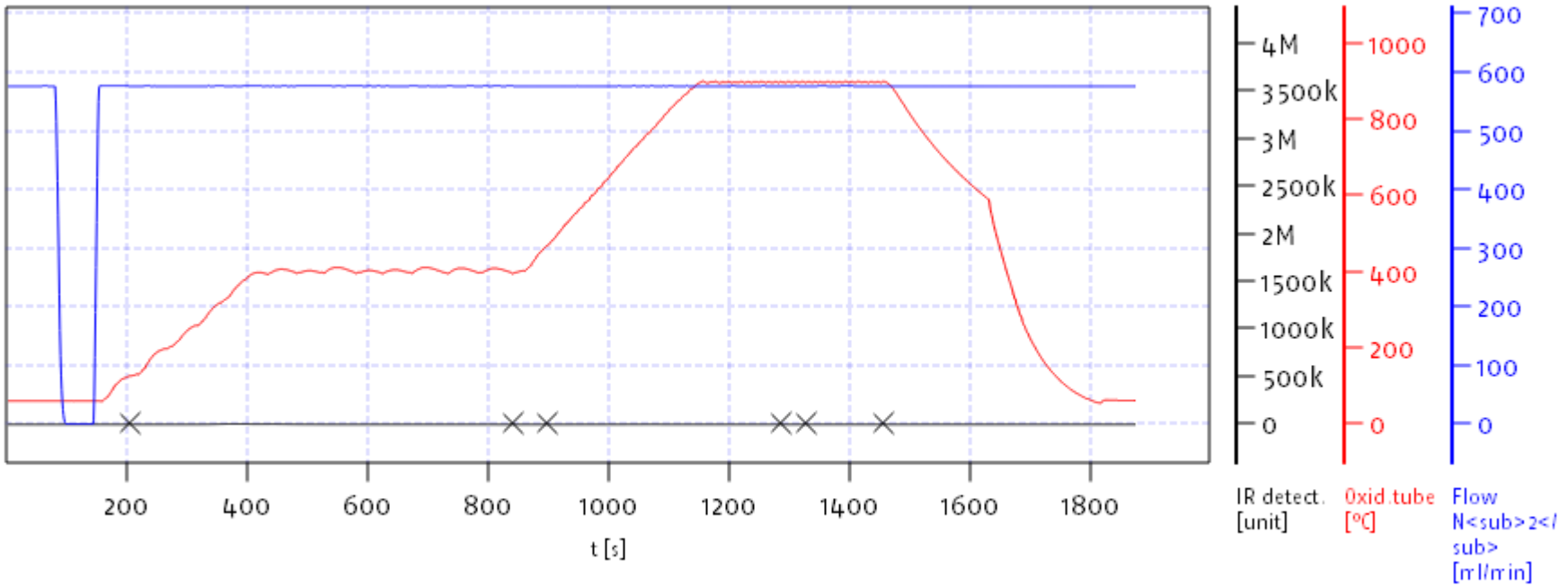
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
65	36	SJH0183-CCB5	574.40		1.00	CARBON	8/18/2021 1:06 AM	0.003	0.000	0.003	bl,C3u,C2u	22 253	2 985	583	1.0480	1.0000



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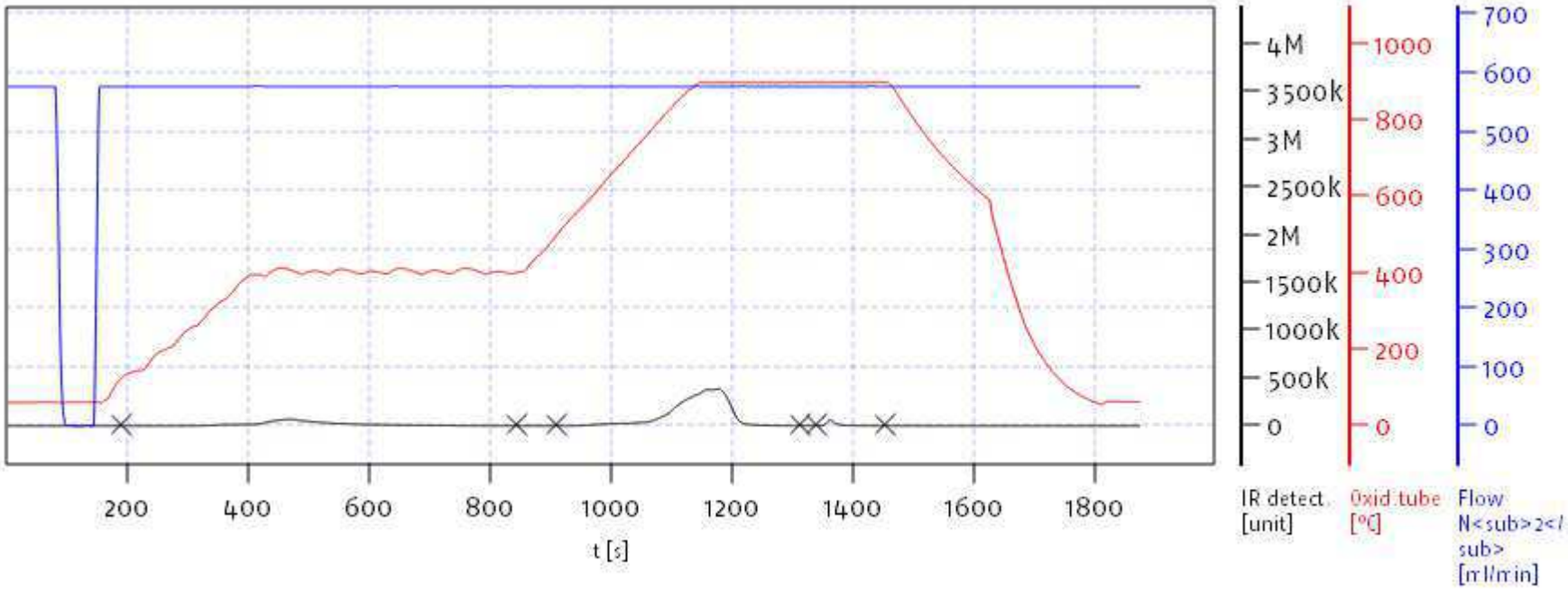
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
66	37	BJH0349-DUP1	638.90		1.00	CARBON	8/18/2021 1:38 AM	0.095	0.353	0.448	bl	353 746	1 459 001	42 127	1.0480	1.0000



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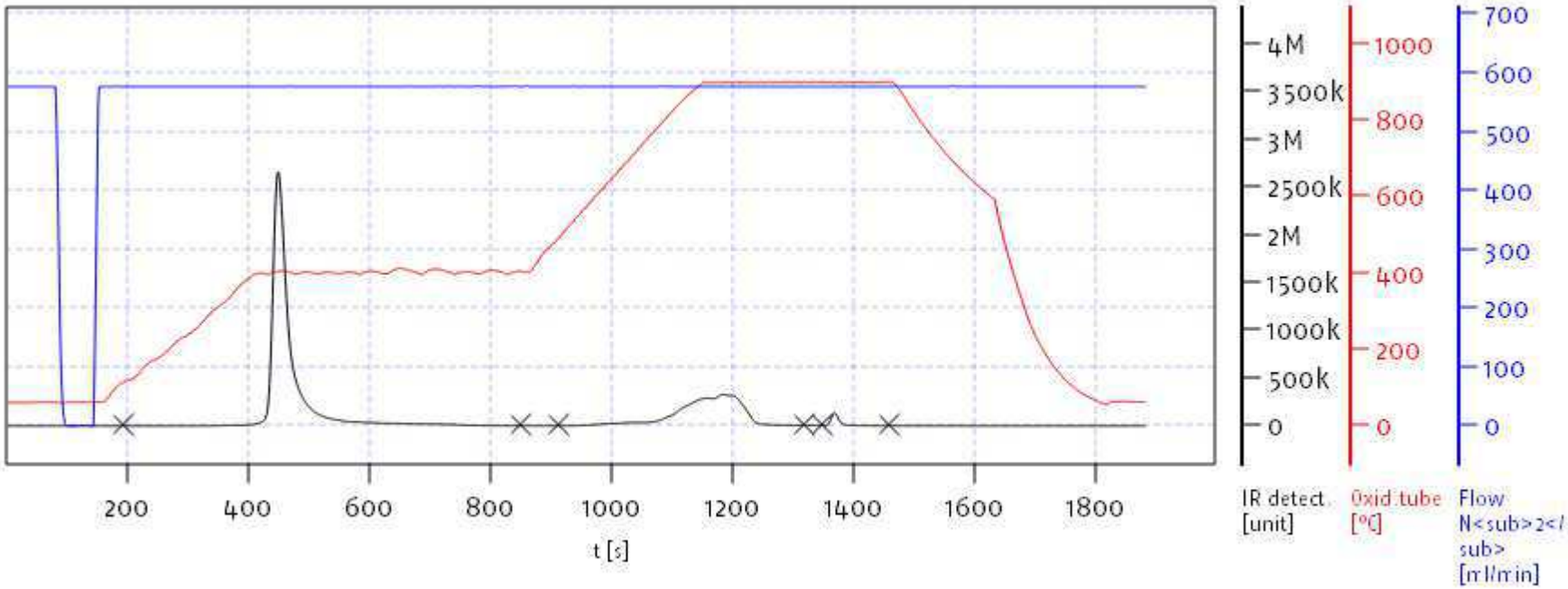
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
67	38	BJH0349-MS1	504.70	0.0111	1.00	CARBON	8/18/2021 2:10 AM	1.060	0.449	1.509	bl	3 221 872	1 465 782	82 696	1.0480	1.0000



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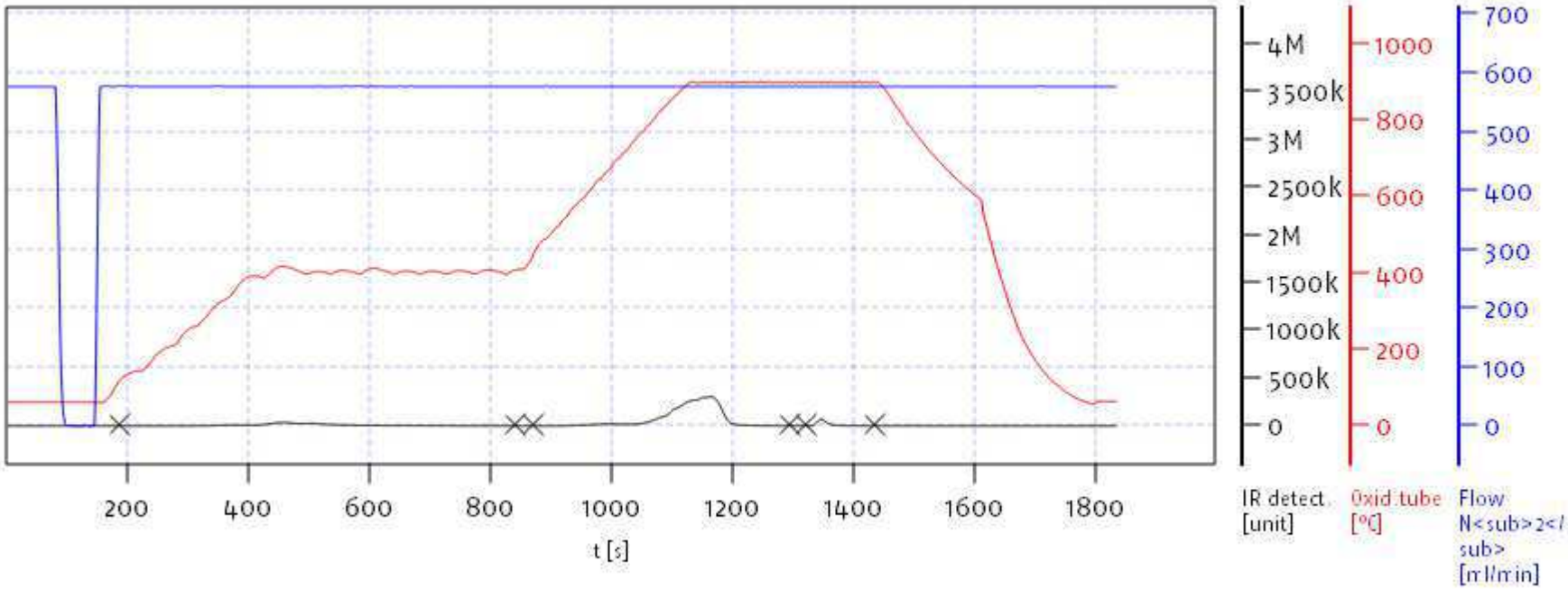
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
68	39	21G0312-01	502.90		1.00	CARBON	8/18/2021 2:41 AM	0.065	0.323	0.388	bl	170 436	1 053 650	53 189	1.0480	1.0000



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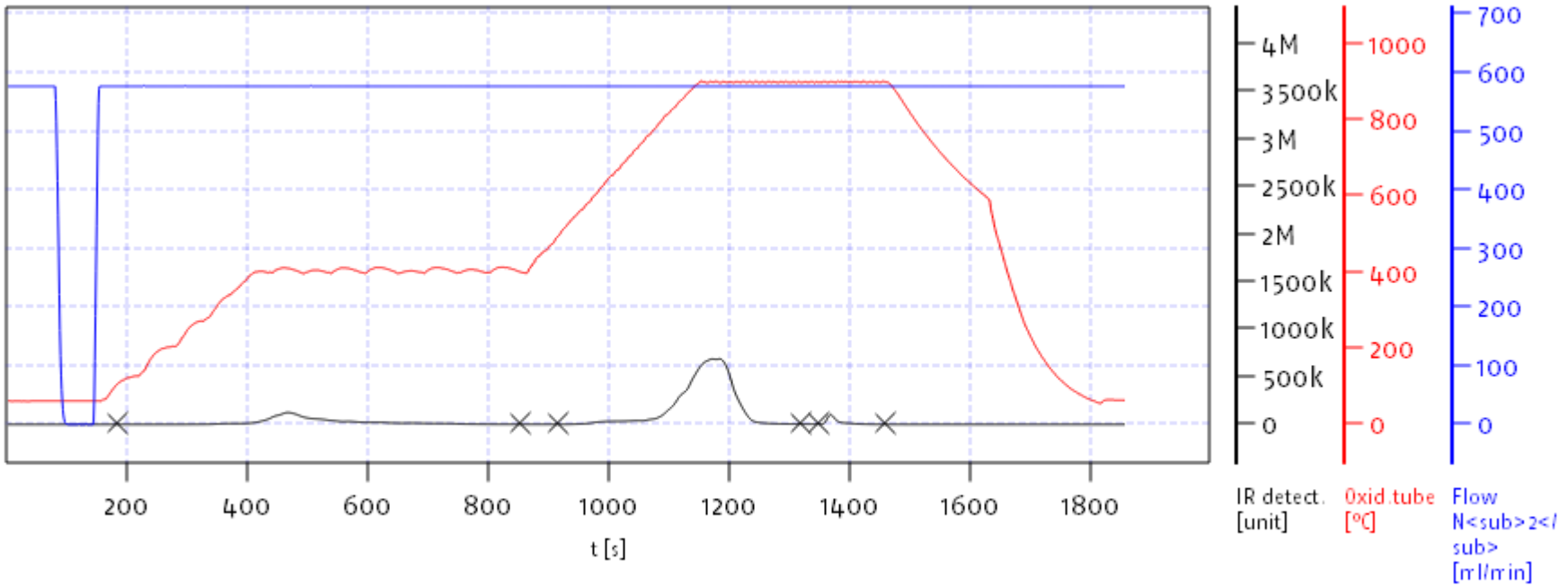
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
69	40	21G0312-02	519.30		1.00	CARBON	8/18/2021 3:12 AM	0.184	0.743	0.927	bl	531 506	2 489 415	79 177	1.0480	1.0000



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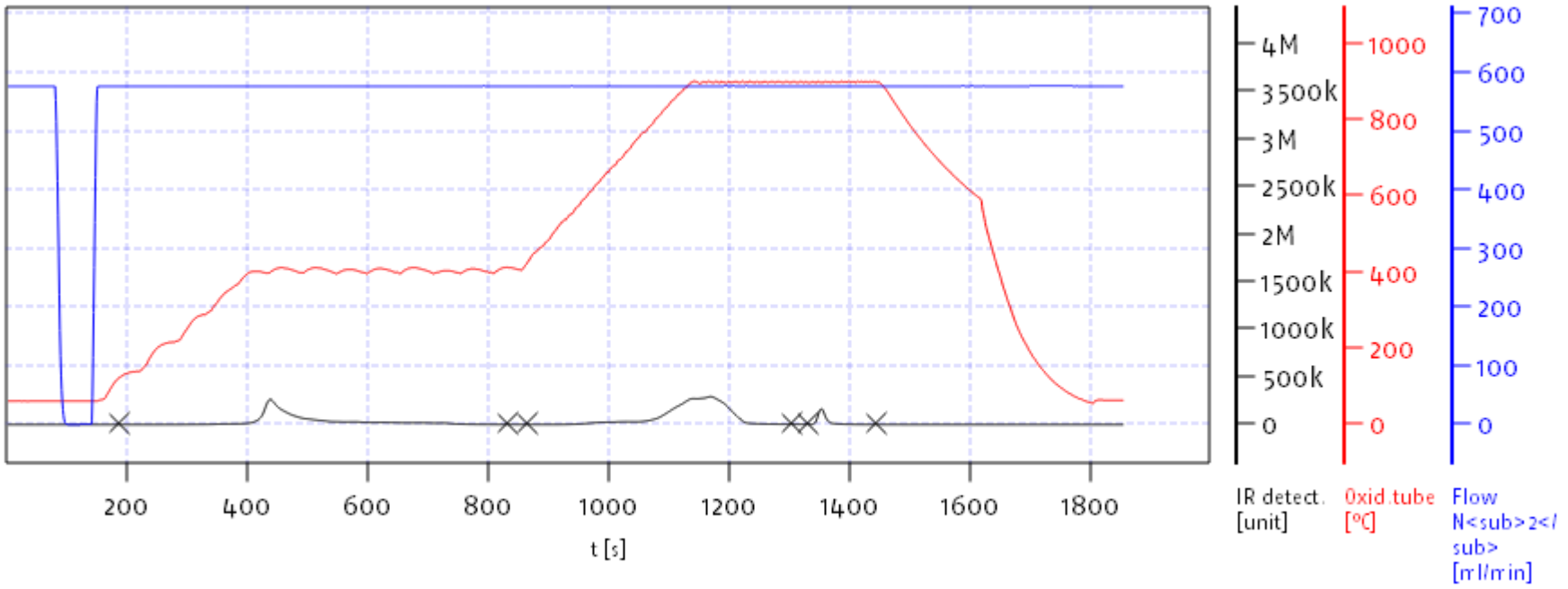
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
70	41	21G0312-03	425.80		1.00	CARBON	8/18/2021 3:43 AM	0.295	0.444	0.739	bl	695 464	1 226 351	99 056	1.0480	1.0000



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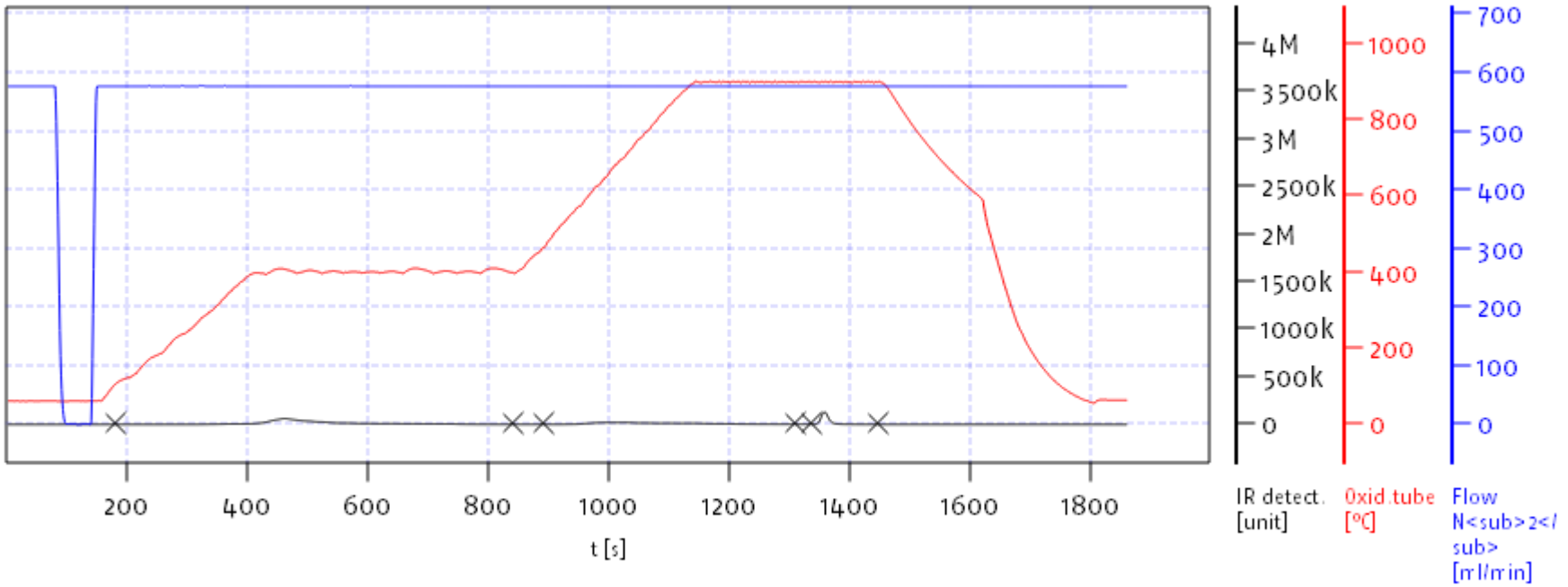
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
71	42	21G0312-04	508.30		1.00	CARBON	8/18/2021 4:15 AM	0.099	0.039	0.138	bl	258 419	137 940	75 195	1.0480	1.0000



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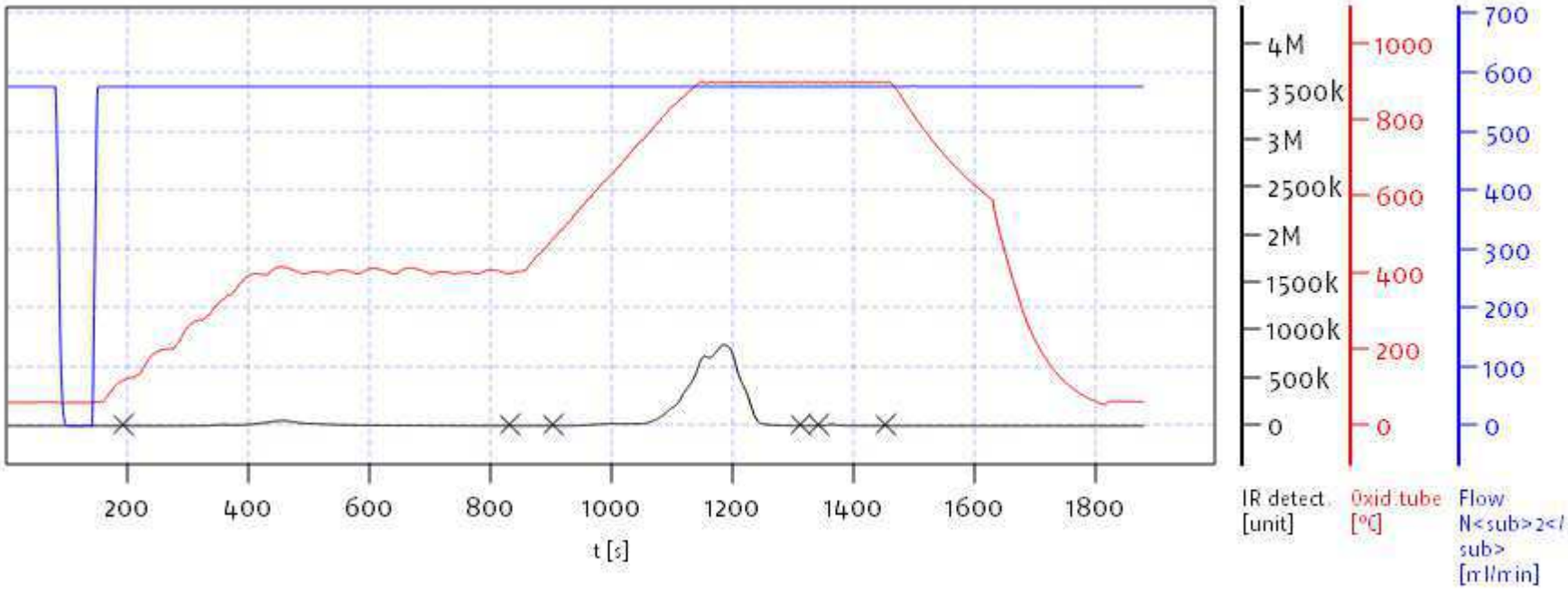
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
72	43	21G0312-05	324.60		1.00	CARBON	8/18/2021 4:47 AM	0.114	1.462	1.576	bl	235 143	3 059 184	13 399	1.0480	1.0000



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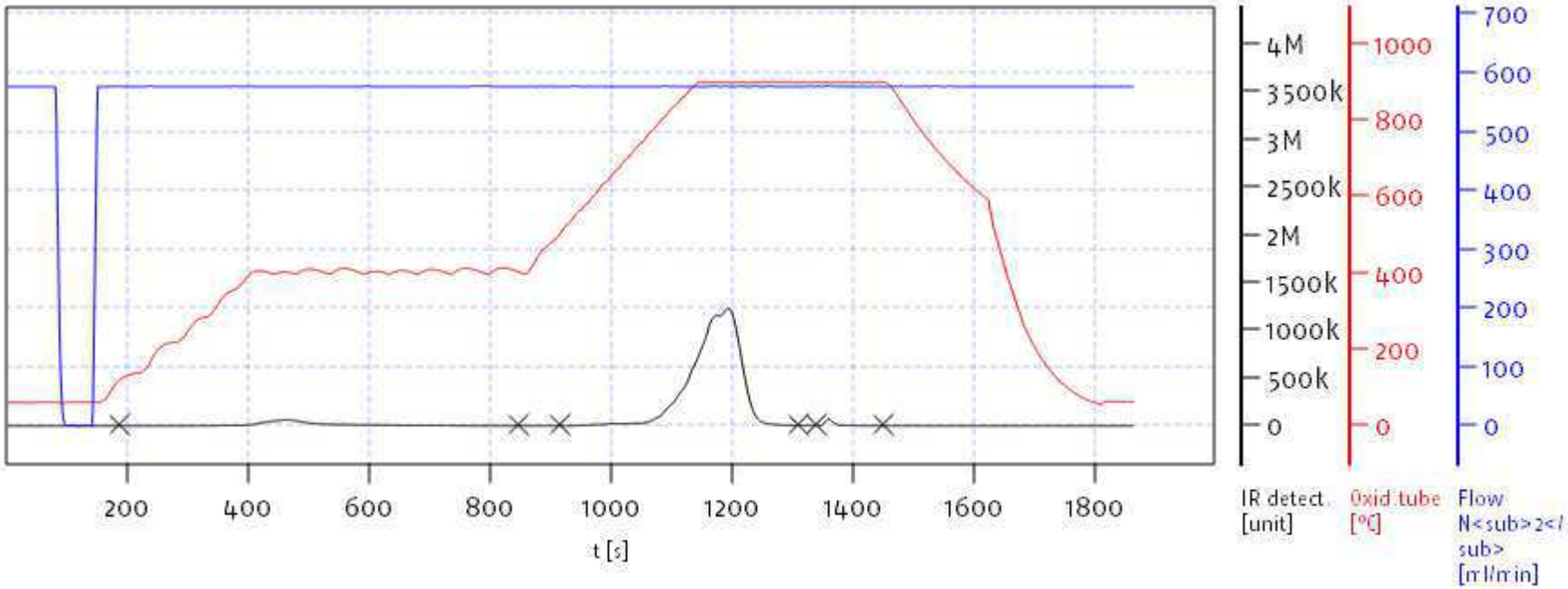
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
73	44	21G0312-06	332.70		1.00	CARBON	8/18/2021 5:18 AM	0.143	1.939	2.082	bl	267 281	4 157 064	47 447	1.0480	1.0000



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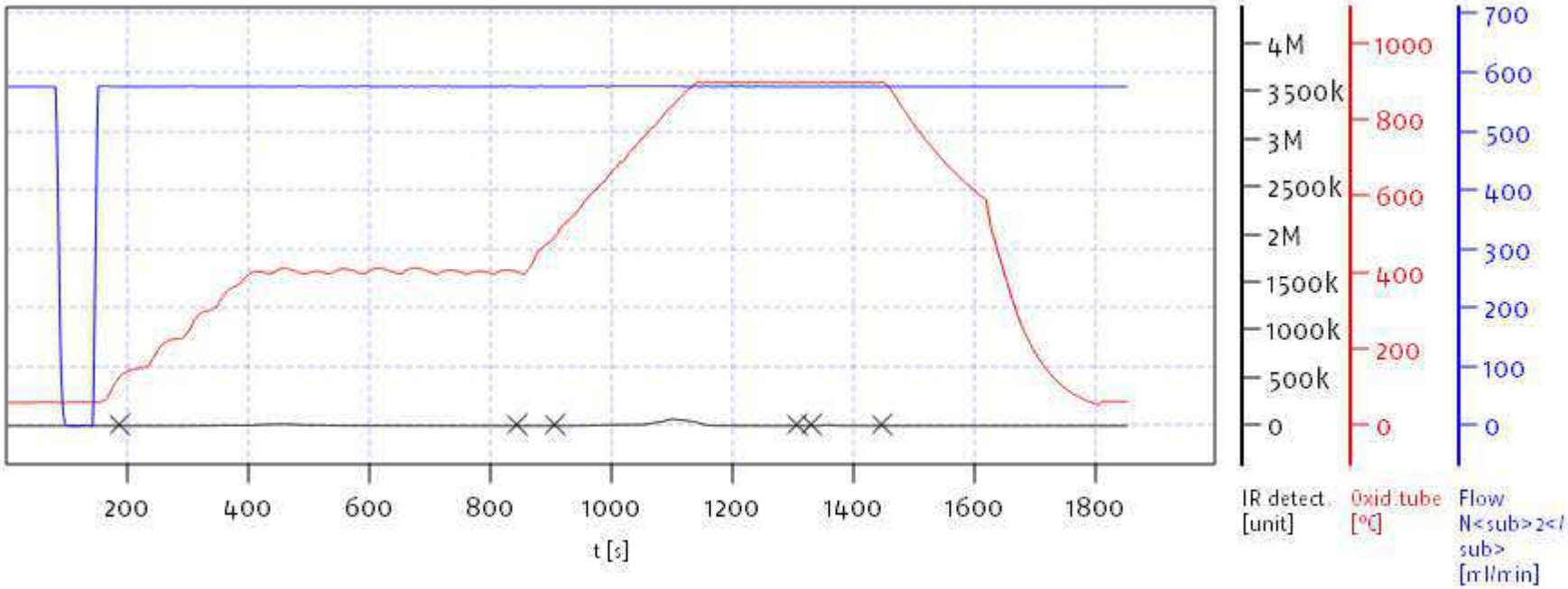
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
74	45	21G0312-07	312.00		1.00	CARBON	8/18/2021 5:49 AM	0.041	0.100	0.141	bl	89 204	210 805	8 226	1.0480	1.0000



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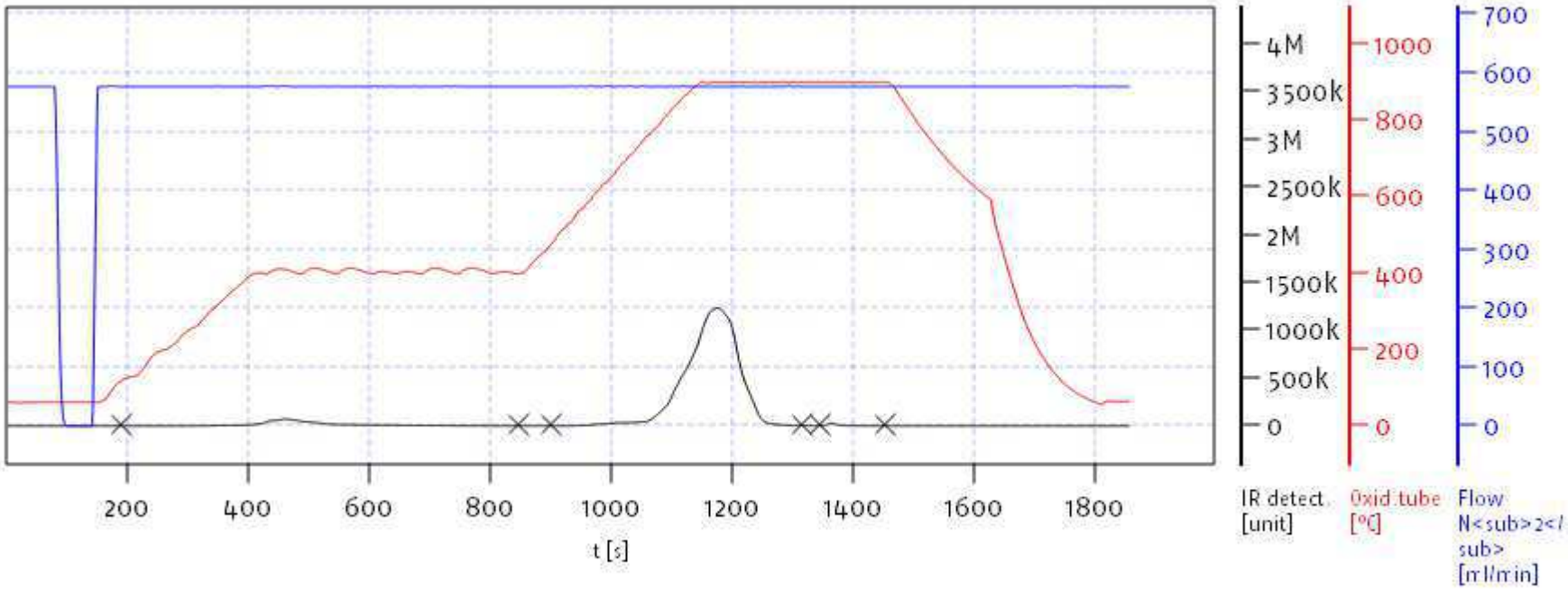
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
75	46	21G0312-08	300.20		1.00	CARBON	8/18/2021 6:21 AM	0.161	2.348	2.509	bl	296 211	4 539 690	21 730	1.0480	1.0000



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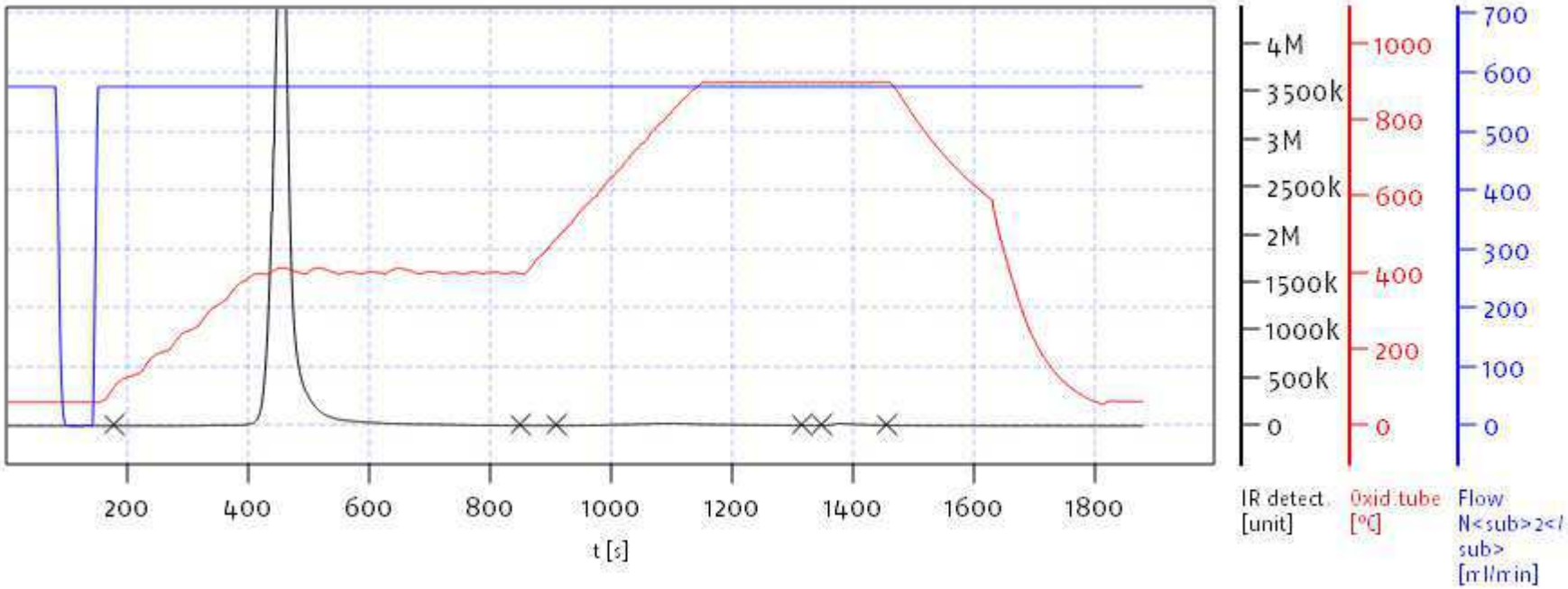
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
76	47	SJH0183-CCV6	25.50		1.00	CARBON	8/18/2021 6:52 AM	44.368	1.044	45.413	bl	6 909 863	181 825	50 503	1.0480	1.0000



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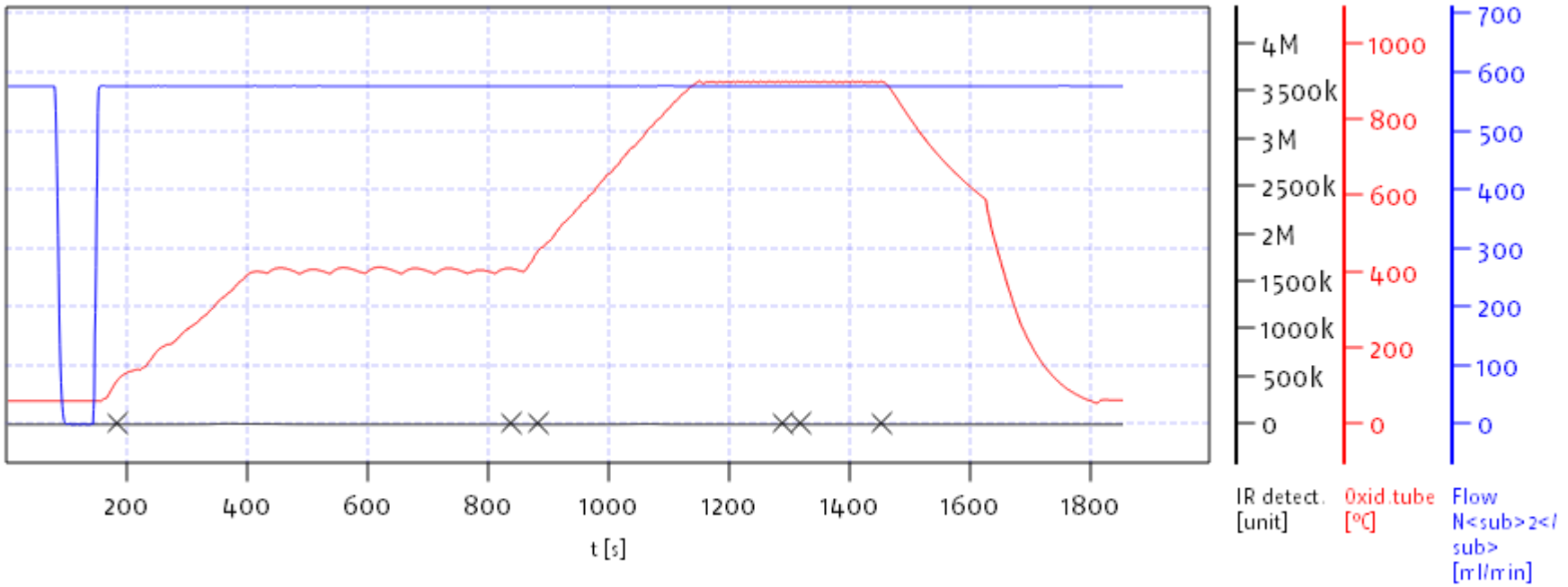
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
77	48	SJH0183-CCB6	542.40		1.00	CARBON	8/18/2021 7:24 AM	0.005	0.000	0.005	bl,C2u	28 130	9 495	707	1.0480	1.0000



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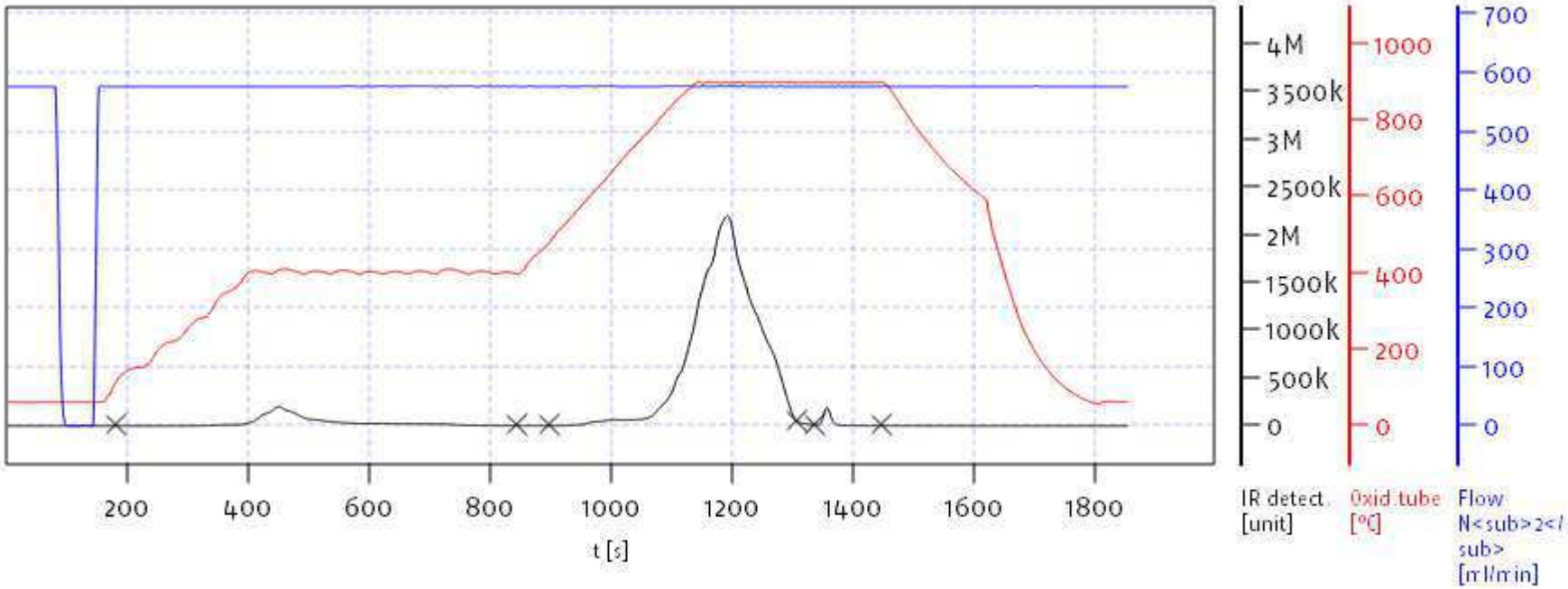
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
78	49	21G0312-09	351.10		1.00	CARBON	8/18/2021 7:55 AM	0.399	4.179	4.577	bl,C3o	772 255	9 438 193	111 984	1.0480	1.0000



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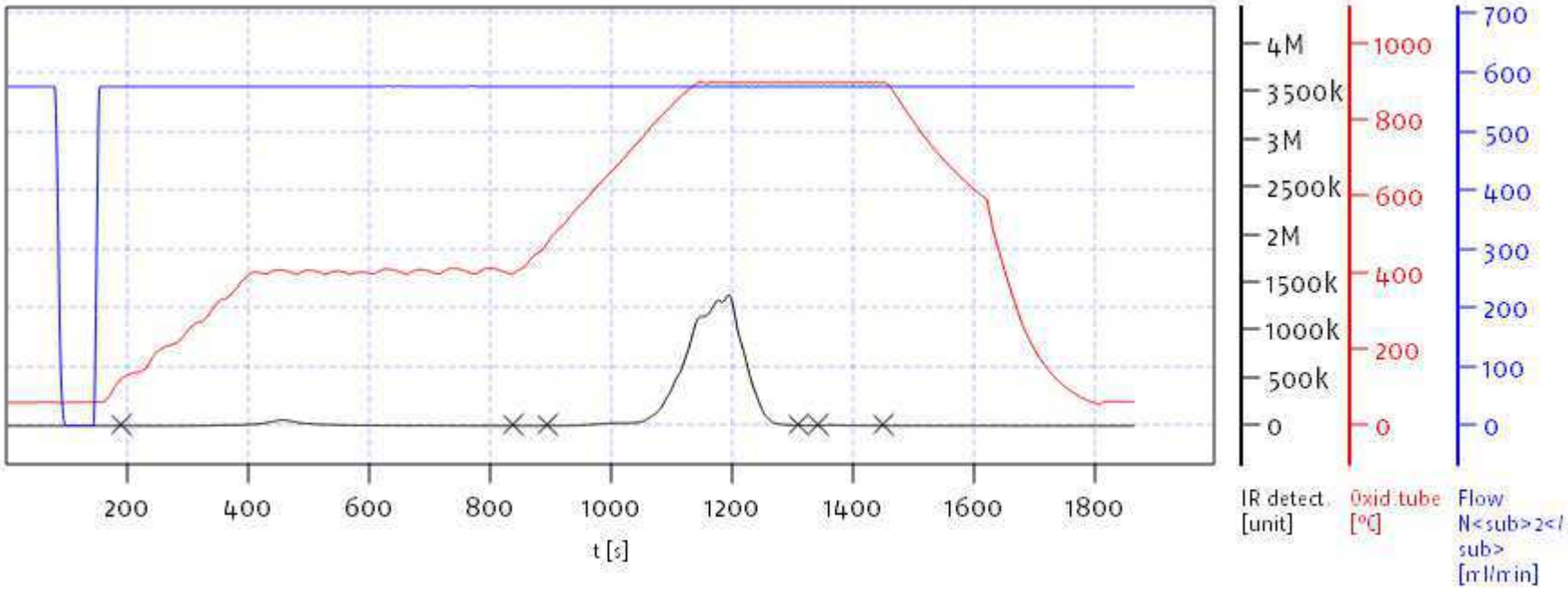
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
79	50	21G0312-10	310.20		1.00	CARBON	8/18/2021 8:26 AM	0.112	2.775	2.888	bl	218 904	5 542 920	16 063	1.0480	1.0000



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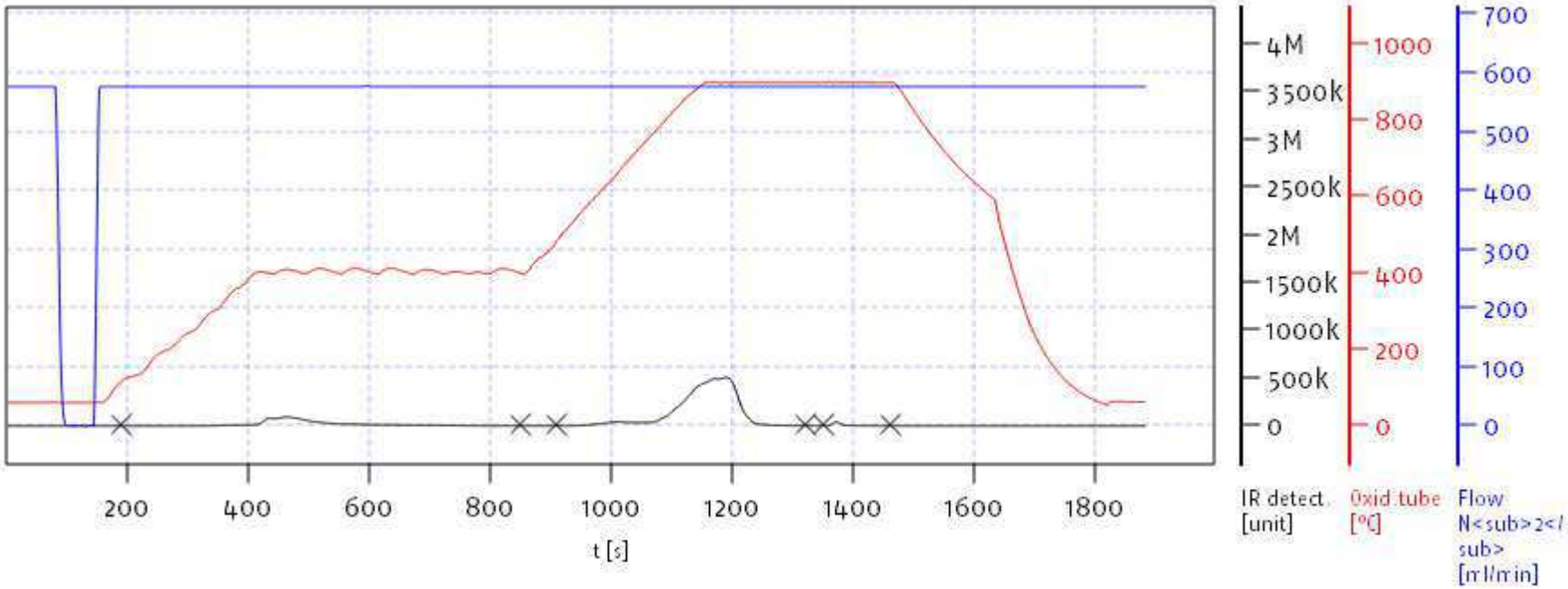
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
80	51	21G0312-11	531.40		1.00	CARBON	8/18/2021 8:58 AM	0.124	0.576	0.700	bl	397 082	1 978 847	29 241	1.0480	1.0000



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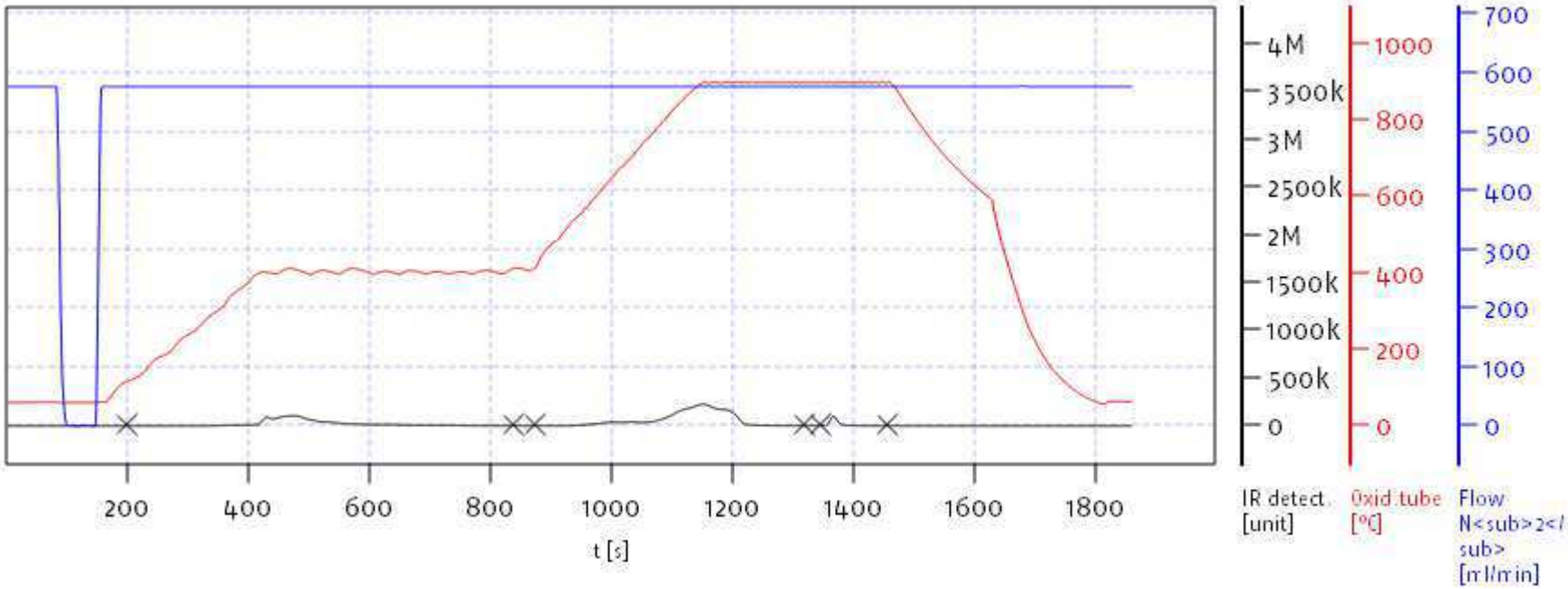
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
81	52	21G0312-12	569.50		1.00	CARBON	8/18/2021 9:30 AM	0.144	0.268	0.412	bl	468 201	991 721	59 635	1.0480	1.0000



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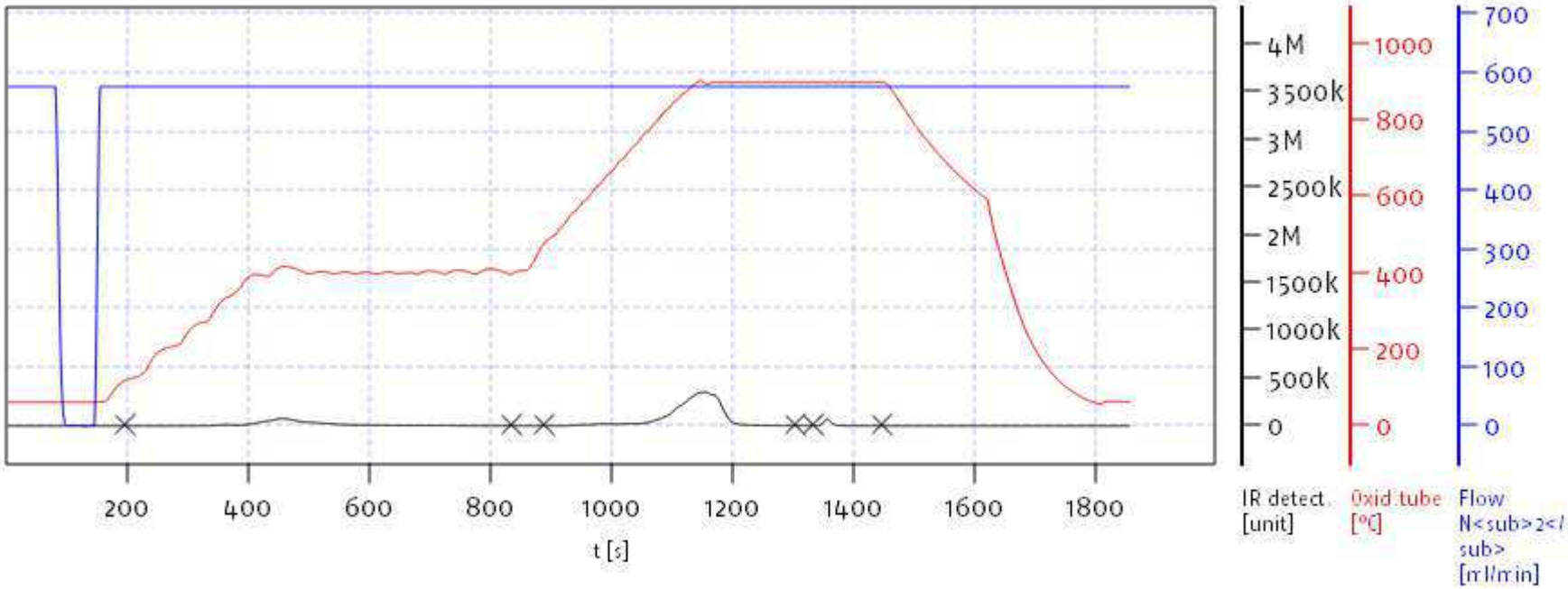
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
82	53	21G0312-13	346.50		1.00	CARBON	8/18/2021 10:01 AM	0.159	0.524	0.683	bl	317 310	1 177 289	42 391	1.0480	1.0000



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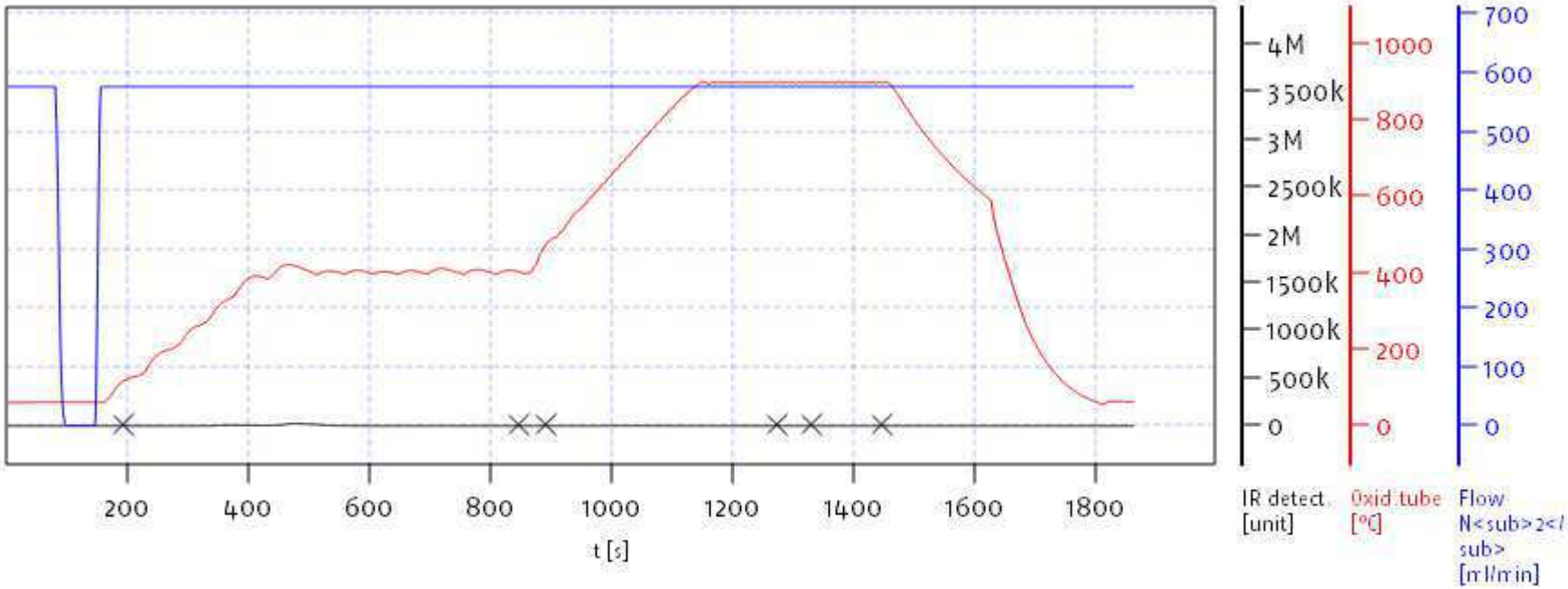
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
83	54	BJH0350-MRL1	523.80		1.00	CARBON	8/18/2021 10:32 AM	0.024	0.000	0.024	bl,C3u,C2u	87 202	7 459	283	1.0480	1.0000



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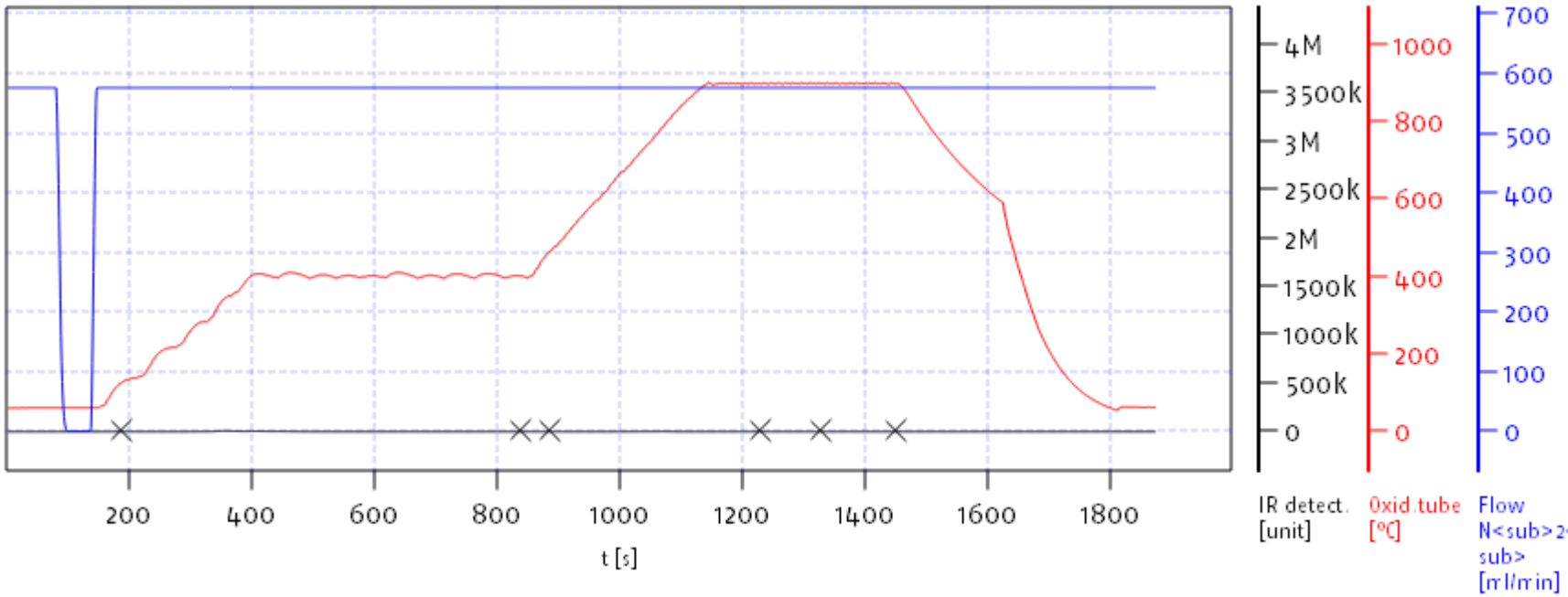
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
84	55	BJH0350-BLK1	583.90		1.00	CARBON	8/18/2021 11:04 AM	0.004	0.000	0.004	bl,C3u,C2u	26 433	5 284	275	1.0480	1.0000



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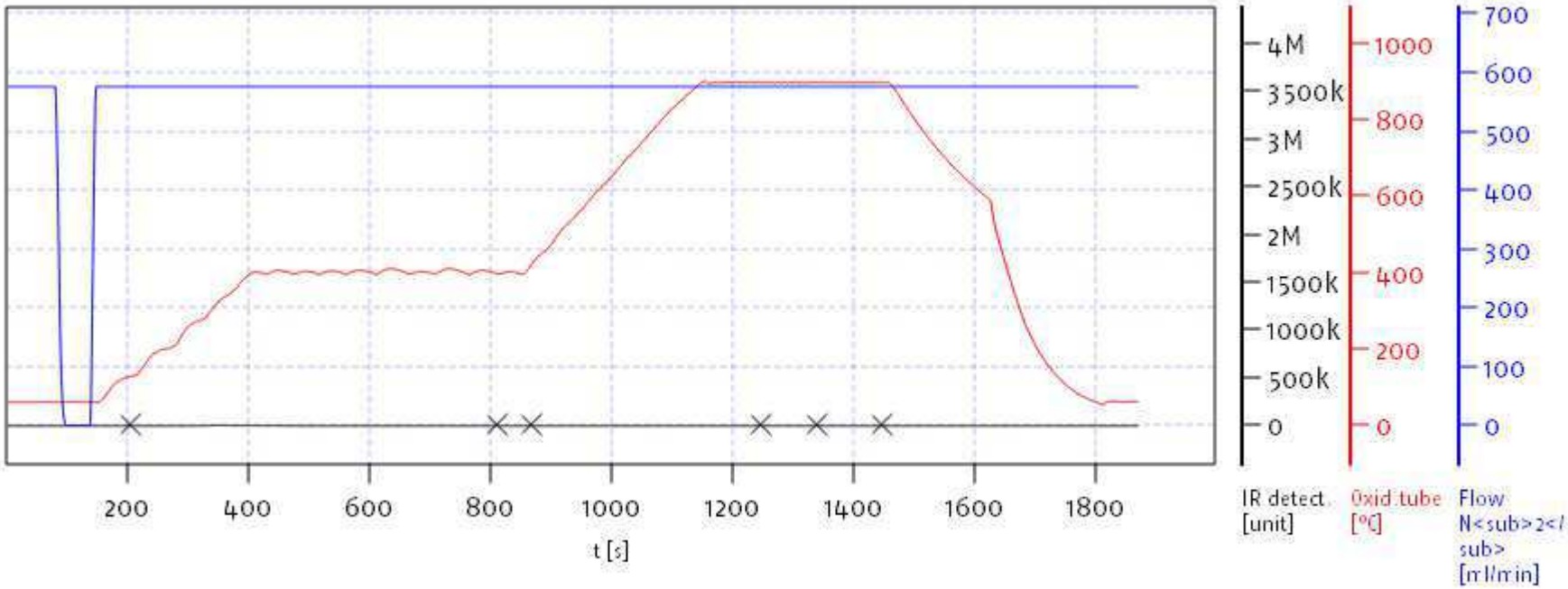
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
85	56	BLANK	1.00		1.00	CARBON	8/18/2021 11:36 AM	0.000	0.000	0.000	bl	20 348	874	233	1.0480	1.0000



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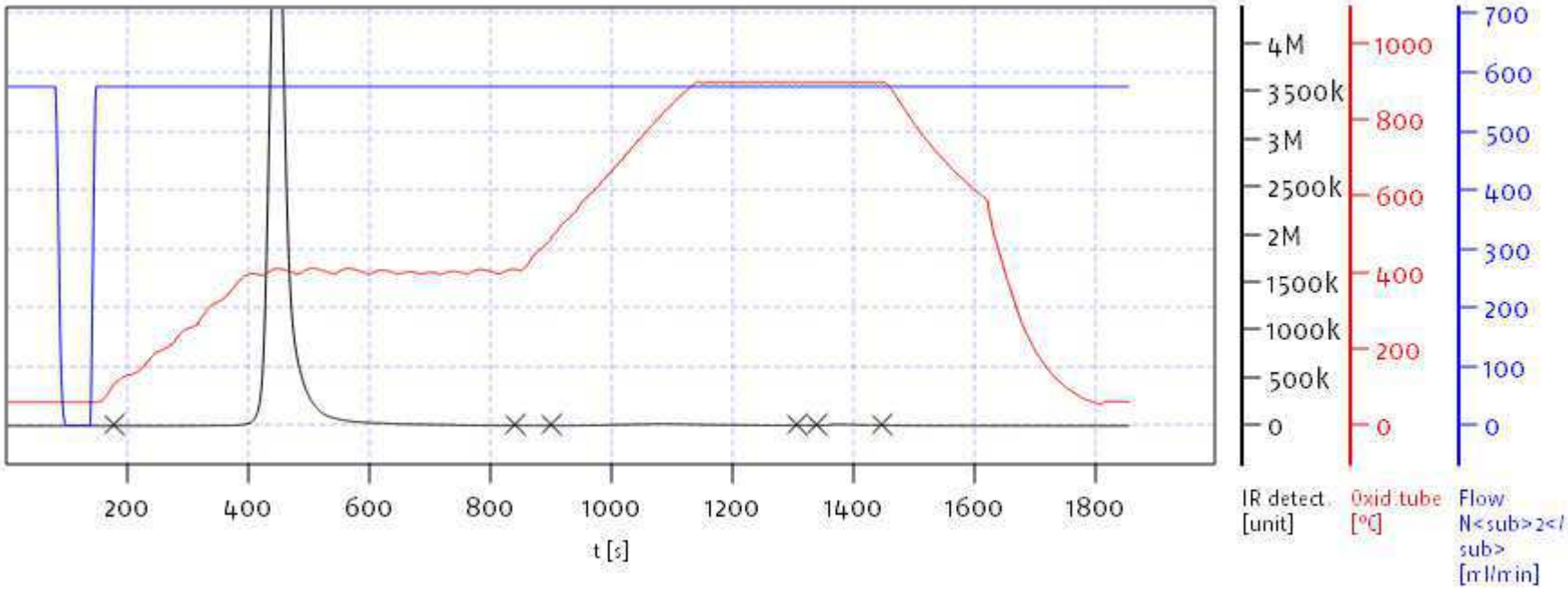
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
86	57	Dfactor	27.80		1.00	CARBON	8/18/2021 12:07 PM	44.590	0.794	45.384	bl	7 720 043	152 495	36 533	1.0299	1.0000



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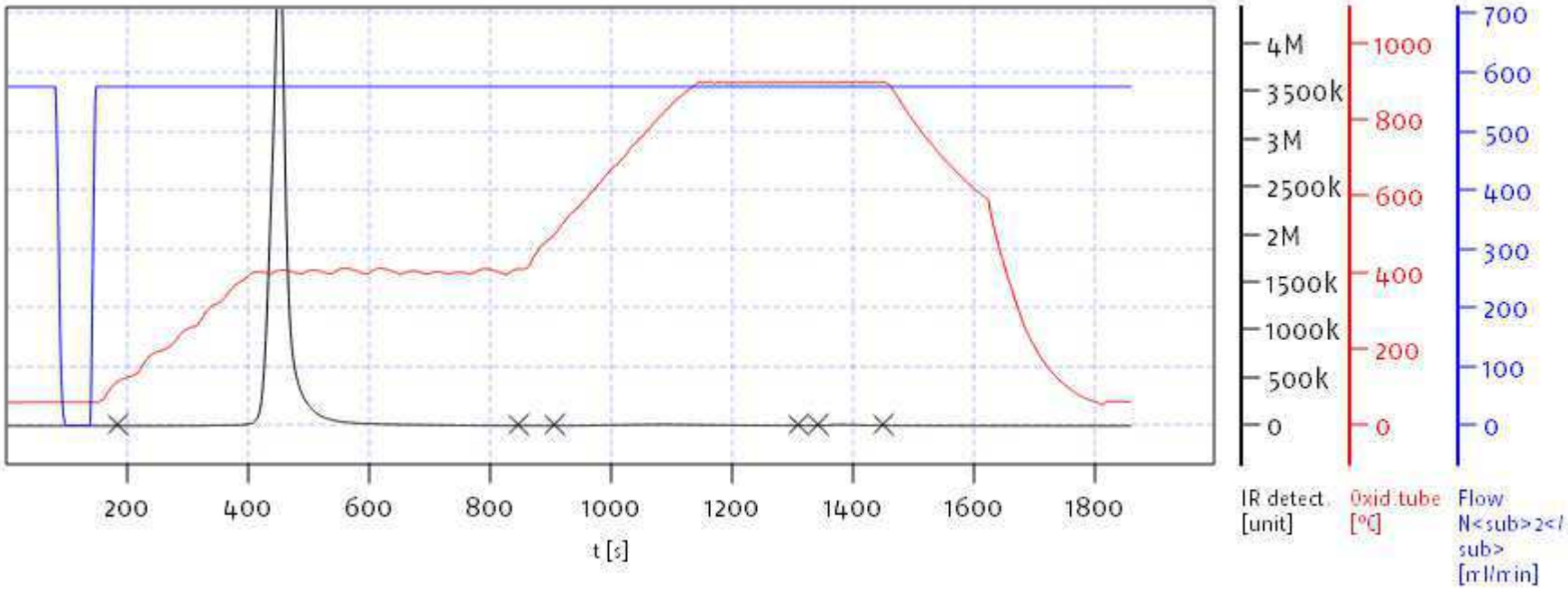
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
87	58	Dfactor	20.50		1.00	CARBON	8/18/2021 12:38 PM	44.586	0.775	45.361	bl	5 640 390	112 764	29 146	1.0400	1.0000



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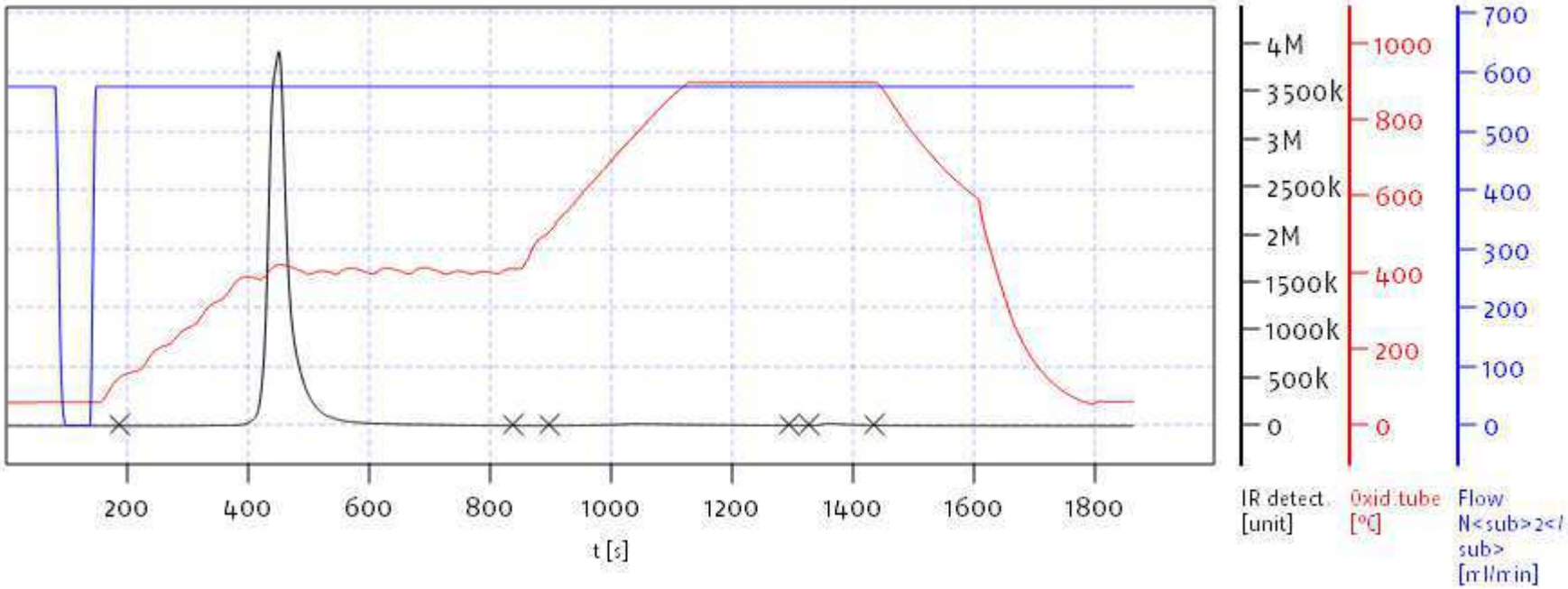
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
88	59	SJH0183-CCV7	21.70		1.00	CARBON	8/18/2021 1:10 PM	43.793	0.969	44.763	bl	5 872 735	145 853	50 470	1.0349	1.0000



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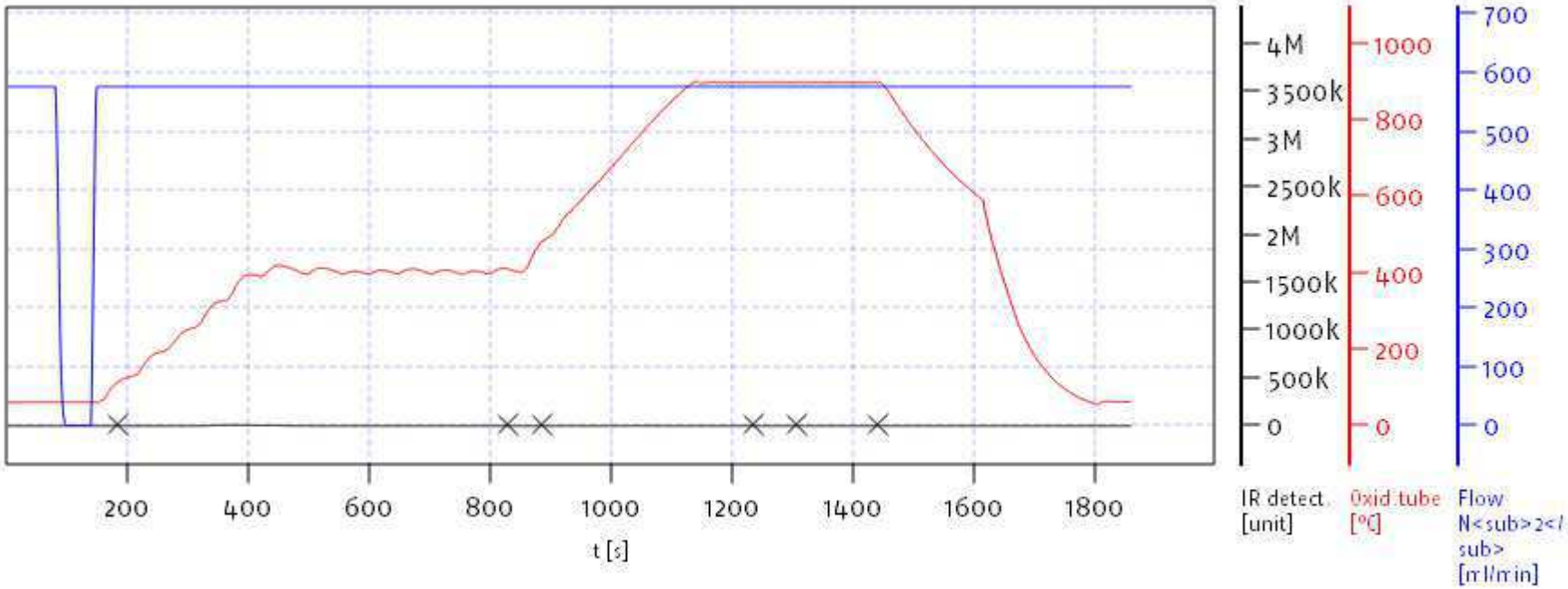
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
89	60	SJH0183-CCB7	526.80		1.00	CARBON	8/18/2021 1:41 PM	0.008	0.000	0.008	bl,C3u,C2u	37 608	3 200	1 026	1.0349	1.0000



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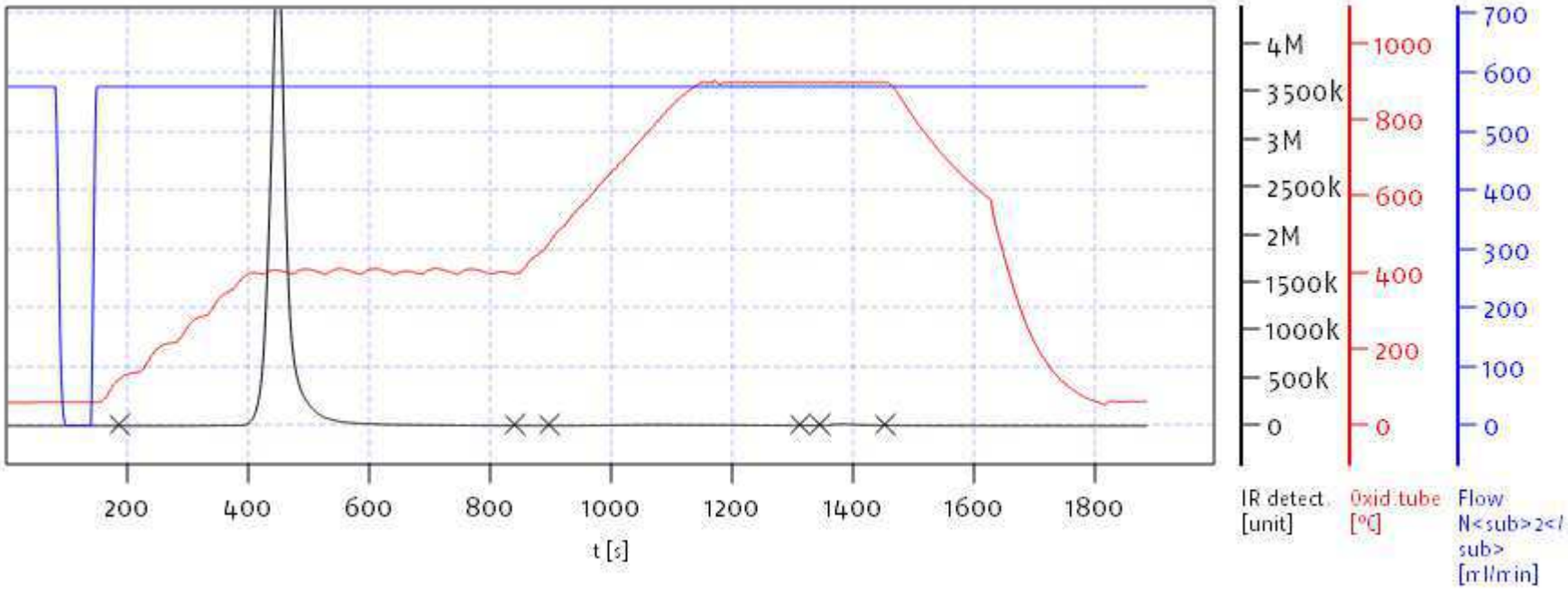
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
90	61	BJH0350-BS1	21.70		1.00	CARBON	8/18/2021 2:13 PM	44.473	0.675	45.147	bl	5 974 354	104 757	39 992	1.0349	1.0000



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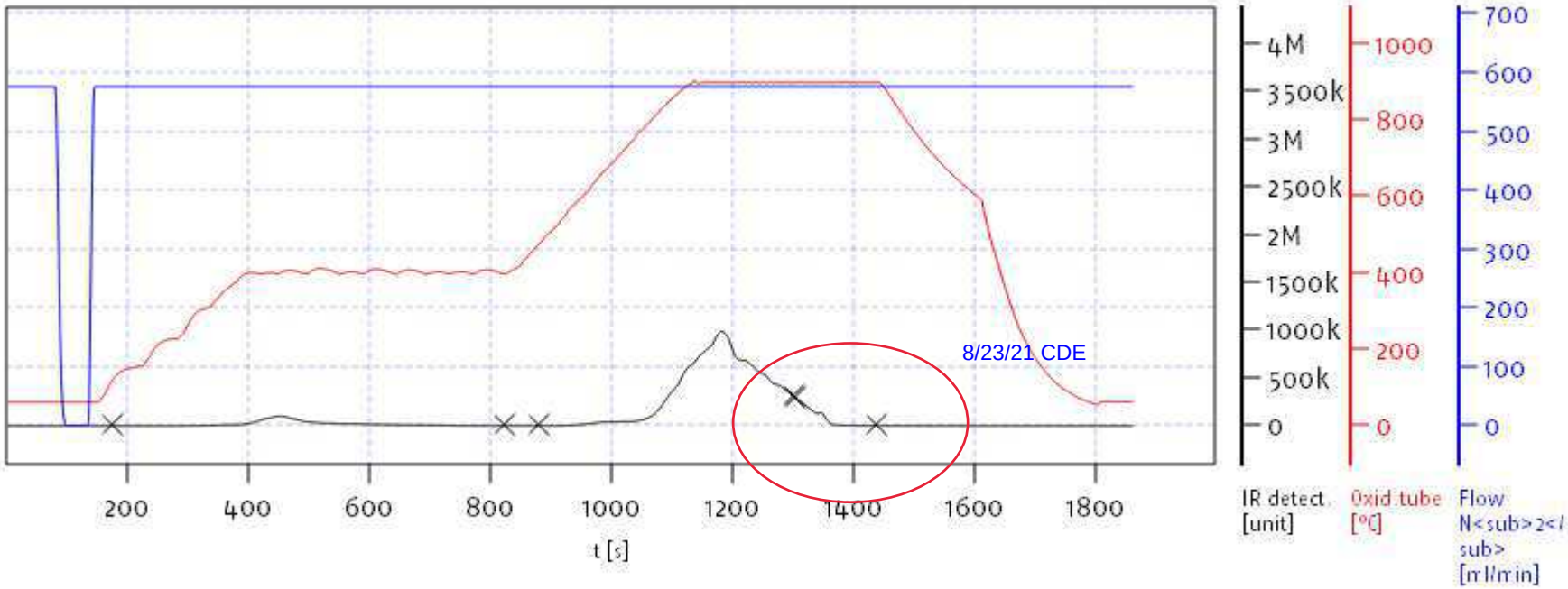
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
91	62	21G0312-14	355.00		1.00	CARBON	8/18/2021 2:45 PM	0.353	2.303	2.656	bl	447 059	5 264 976	363 281	1.0349	1.0000



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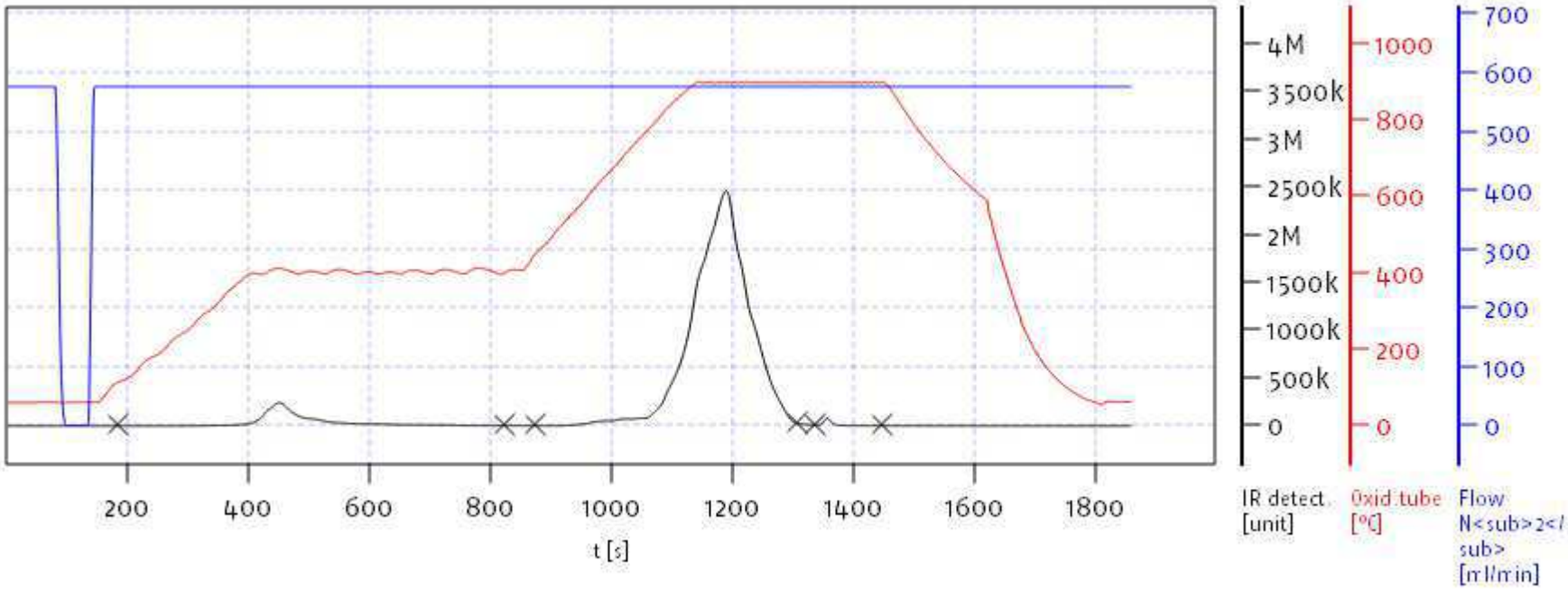
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
92	63	21G0312-15	392.60		1.00	CARBON	8/18/2021 3:16 PM	0.315	3.819	4.134	bl,C3o	736 207	9 646 036	54 031	1.0349	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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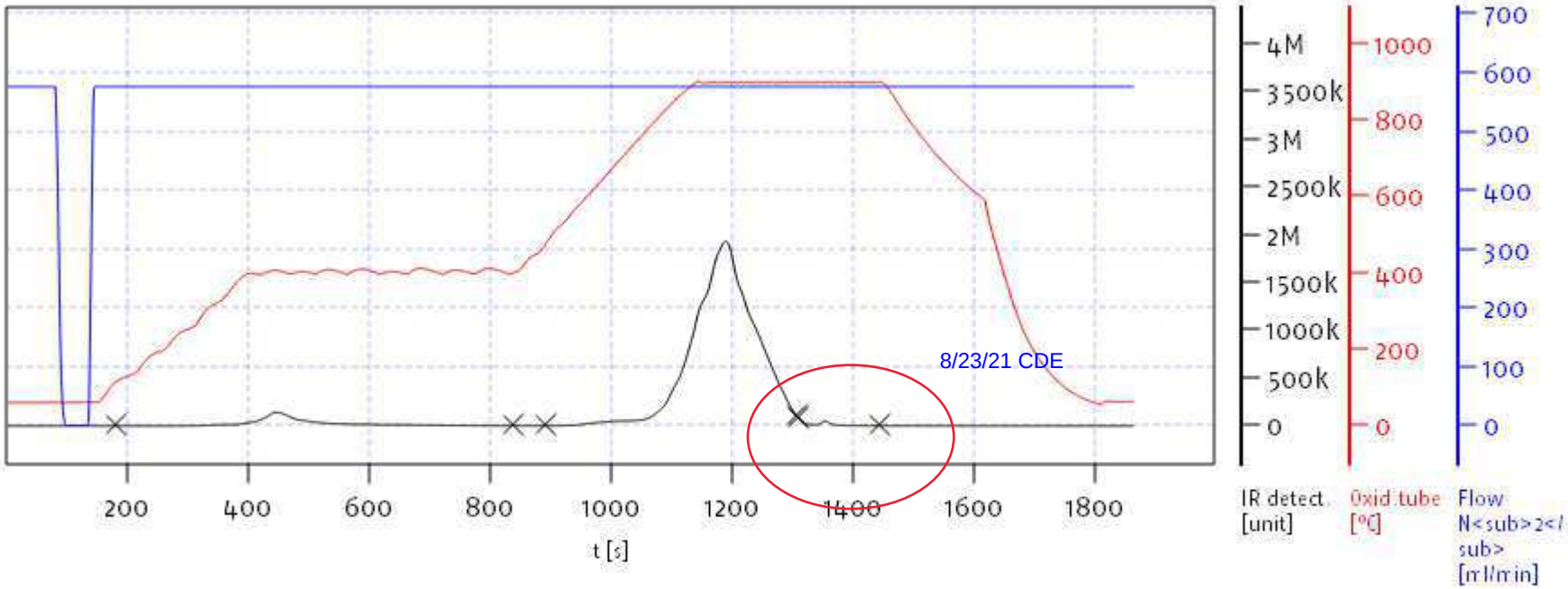
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
93	64	21G0312-16	449.00		1.00	CARBON	8/18/2021 3:47 PM	0.200	2.892	3.092	bl	510 950	8 354 396	69 514	1.0349	1.0000



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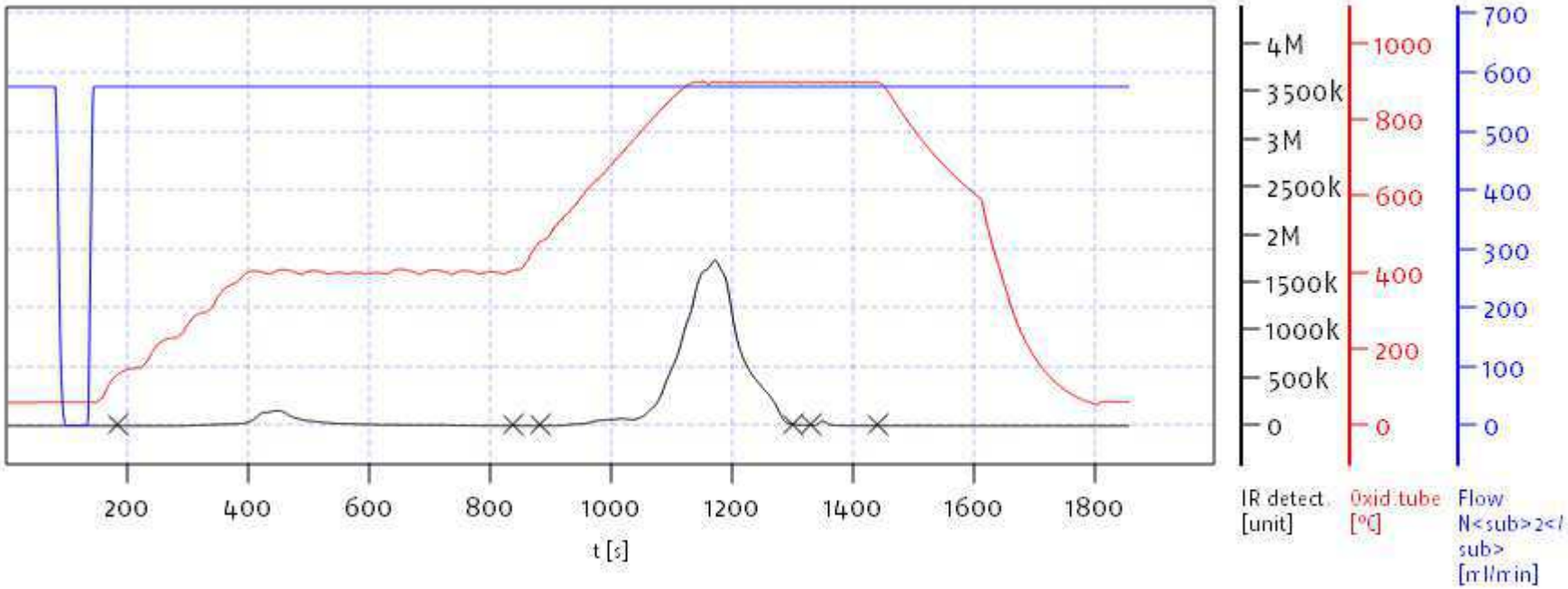
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
94	65	21G0312-17	350.50		1.00	CARBON	8/18/2021 4:19 PM	0.296	3.276	3.572	bl	627 933	7 389 428	37 650	1.0349	1.0000



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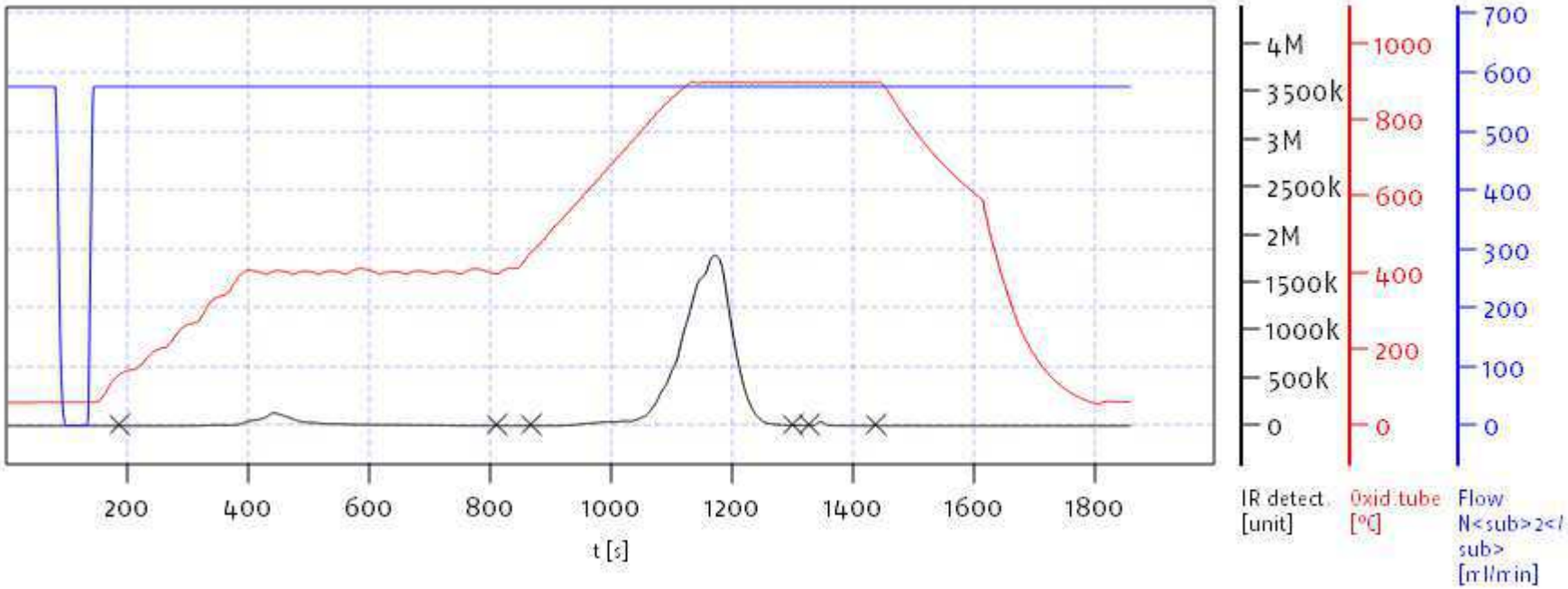
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
95	66	21G0312-18	326.50		1.00	CARBON	8/18/2021 4:50 PM	0.233	3.057	3.290	bl	465 426	6 423 892	29 519	1.0349	1.0000



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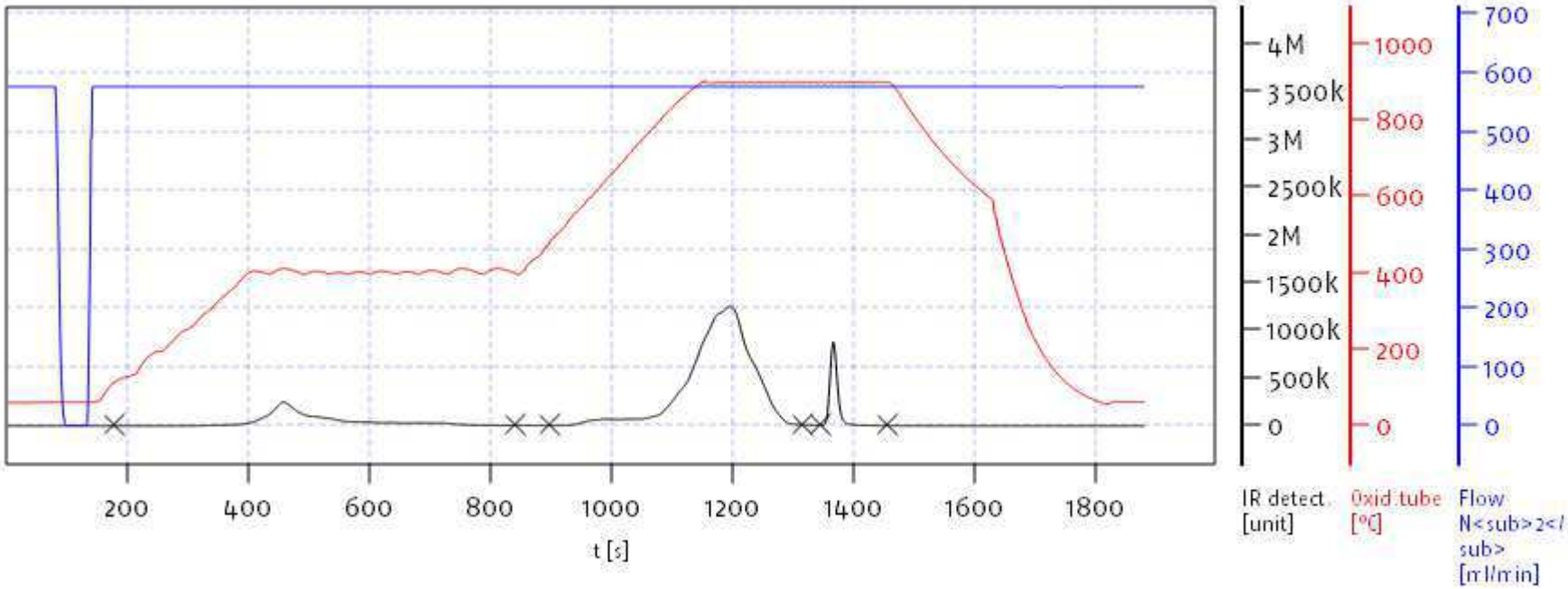
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
96	67	21G0312-19	470.80		1.00	CARBON	8/18/2021 5:22 PM	0.486	1.781	2.267	bl	976 399	5 398 316	482 077	1.0349	1.0000



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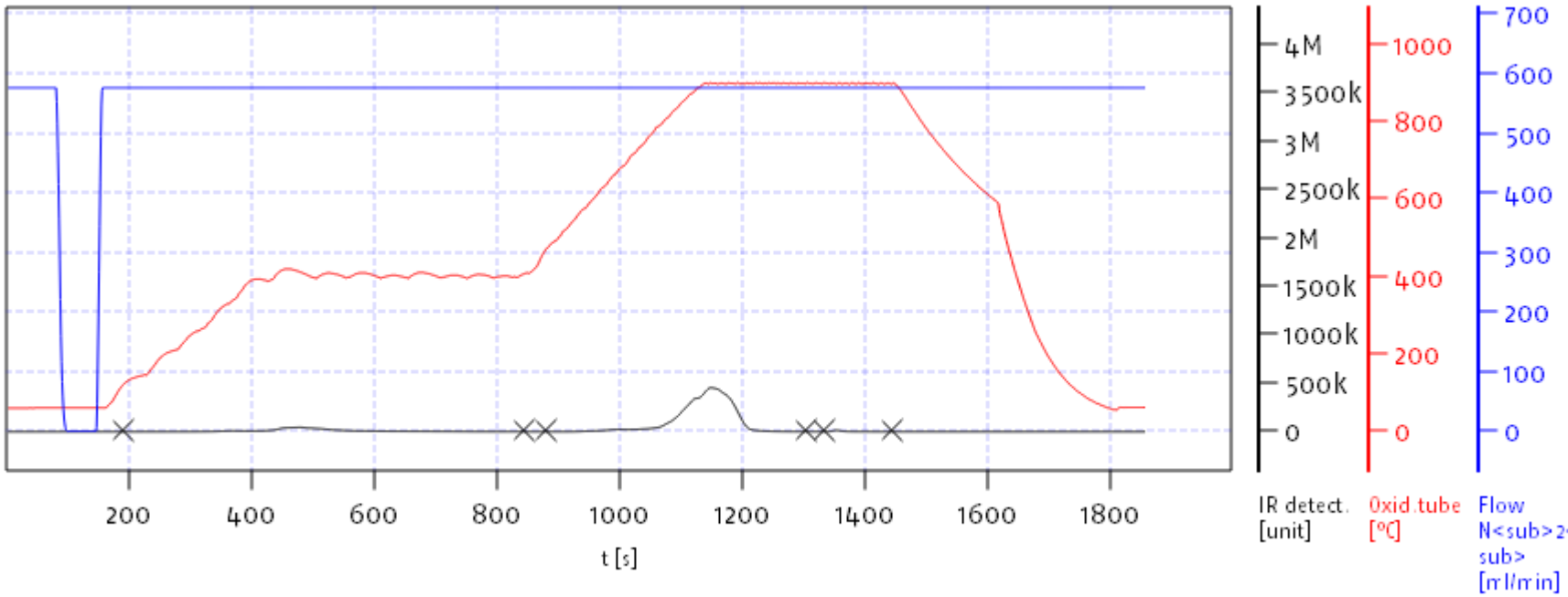
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
97	68	21G0313-01	422.50		1.00	CARBON	8/18/2021 5:53 PM	0.073	0.571	0.644	bl	203 090	1 559 632	10 770	1.0349	1.0000



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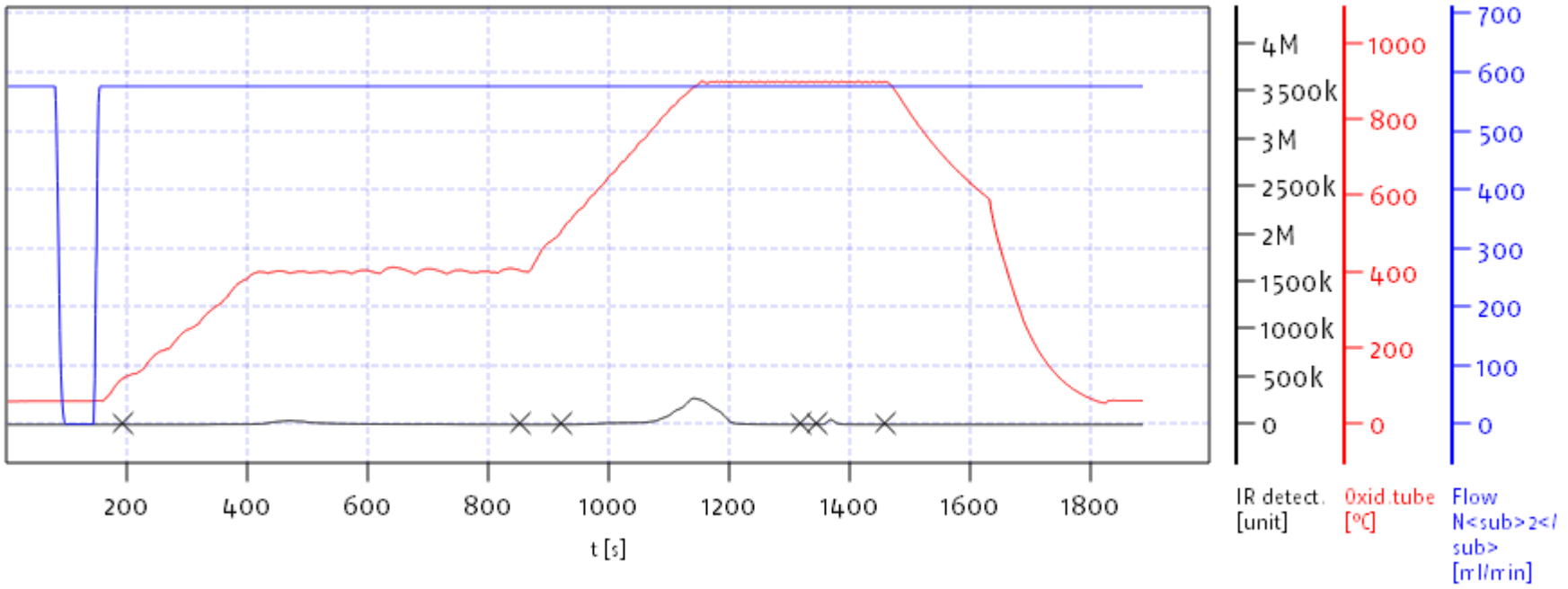
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
98	69	21G0313-02	317.60		1.00	CARBON	8/18/2021 6:25 PM	0.091	0.409	0.500	bl	170 787	844 690	31 601	1.0349	1.0000



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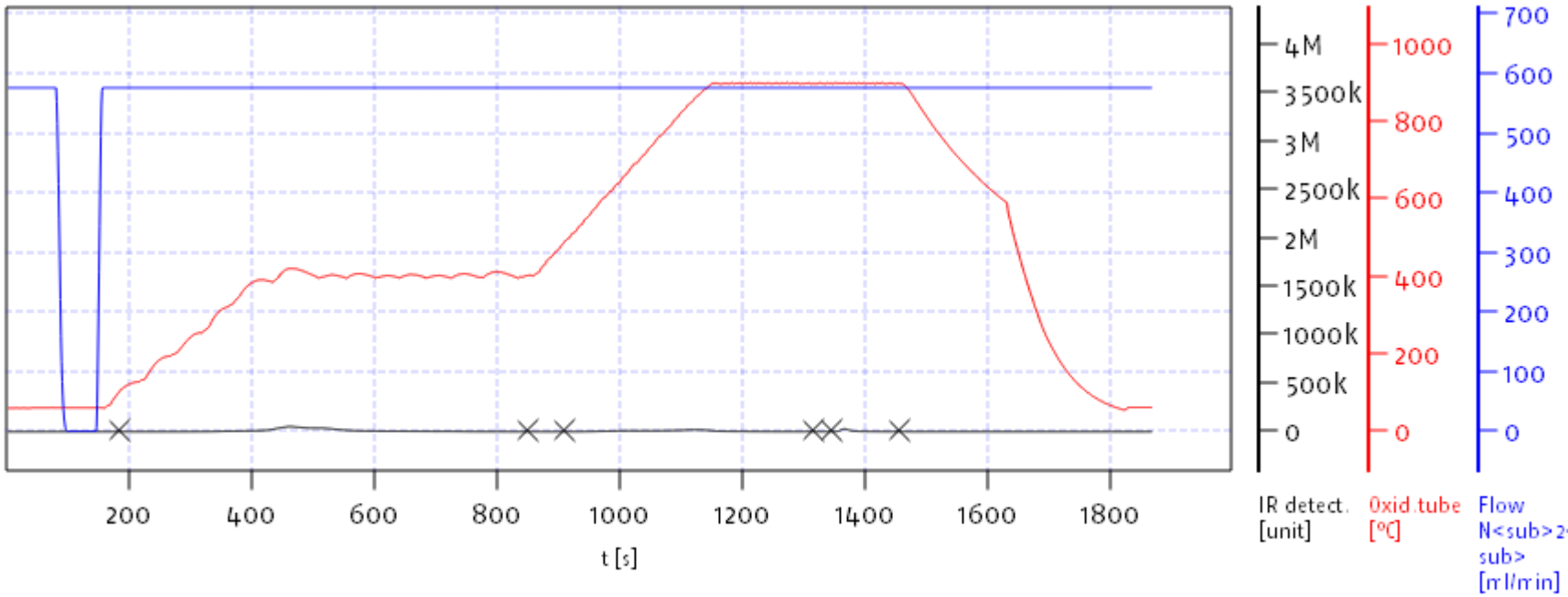
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
99	70	21G0313-03	574.00		1.00	CARBON	8/18/2021 6:57 PM	0.067	0.023	0.090	bl	238 947	93 896	22 398	1.0349	1.0000



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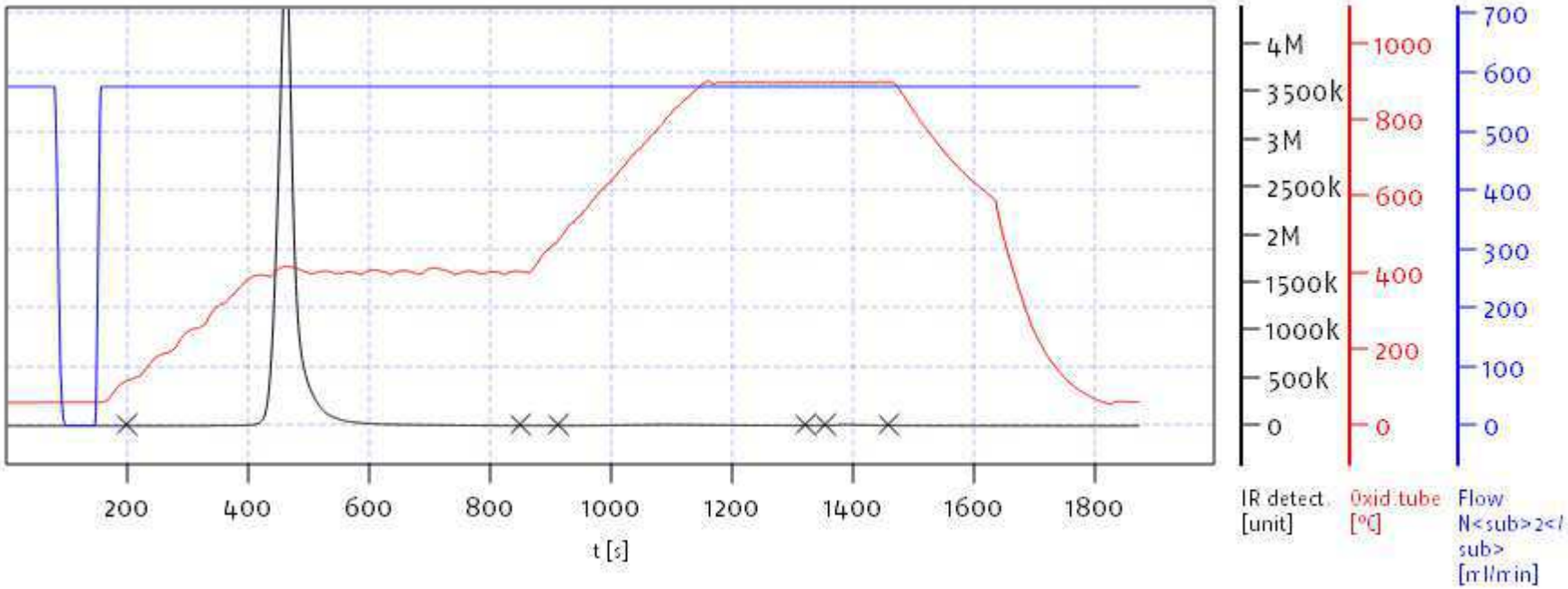
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
100	71	SJH0183-CCV8	21.30		1.00	CARBON	8/18/2021 7:28 PM	44.600	0.671	45.271	bl	5 890 926	102 559	29 443	1.0349	1.0000



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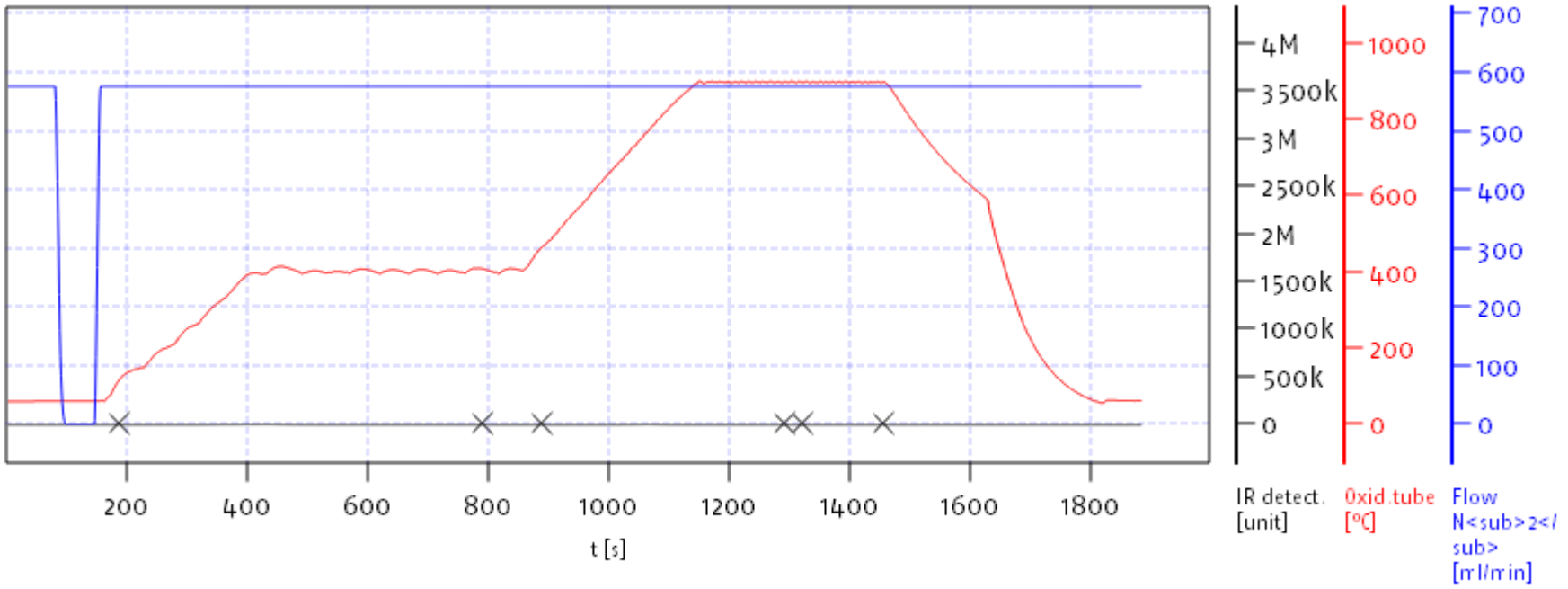
elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
101	72	SJH0183-CCB8	553.60		1.00	CARBON	8/18/2021 8:00 PM	0.001	0.000	0.001	bl,C3u,C2u	12 520	5 527	521	1.0349	1.0000



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Access: soliTOC superuser

Date: Mon Aug 23 13:43:13 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
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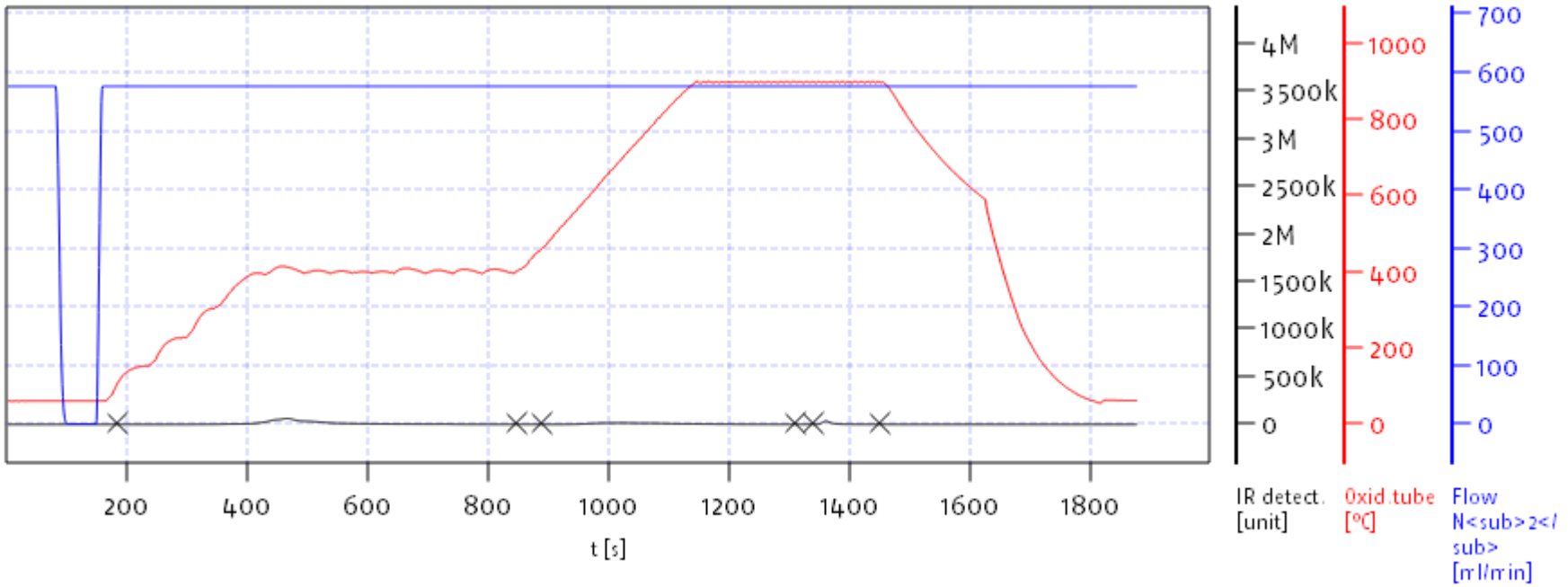
Document: 081621BF from: 8/20/2021 10:36 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
102	73	21G0313-04	564.00		1.00	CARBON	8/18/2021 8:32 PM	0.067	0.023	0.090	bl	232 413	93 924	25 298	1.0349	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
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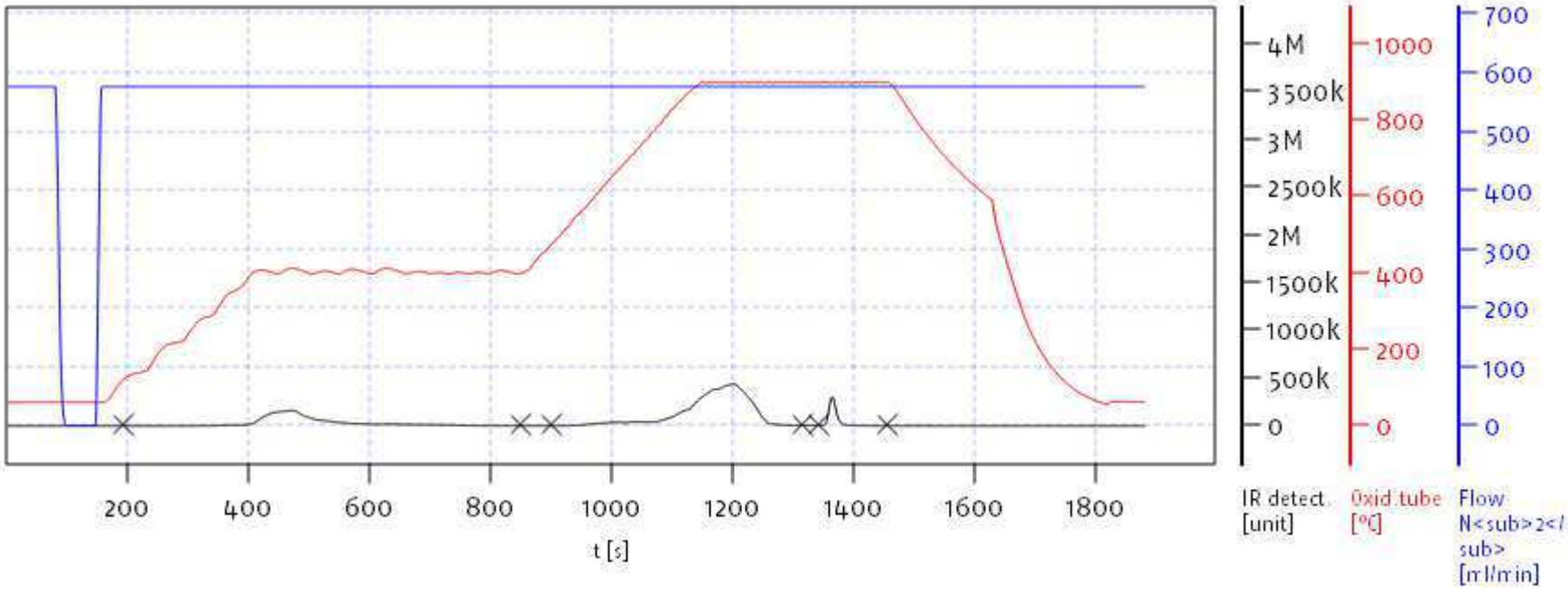
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
103	74	21G0313-05	526.70		1.00	CARBON	8/18/2021 9:04 PM	0.252	0.551	0.802	bl	681 610	1 875 378	167 607	1.0349	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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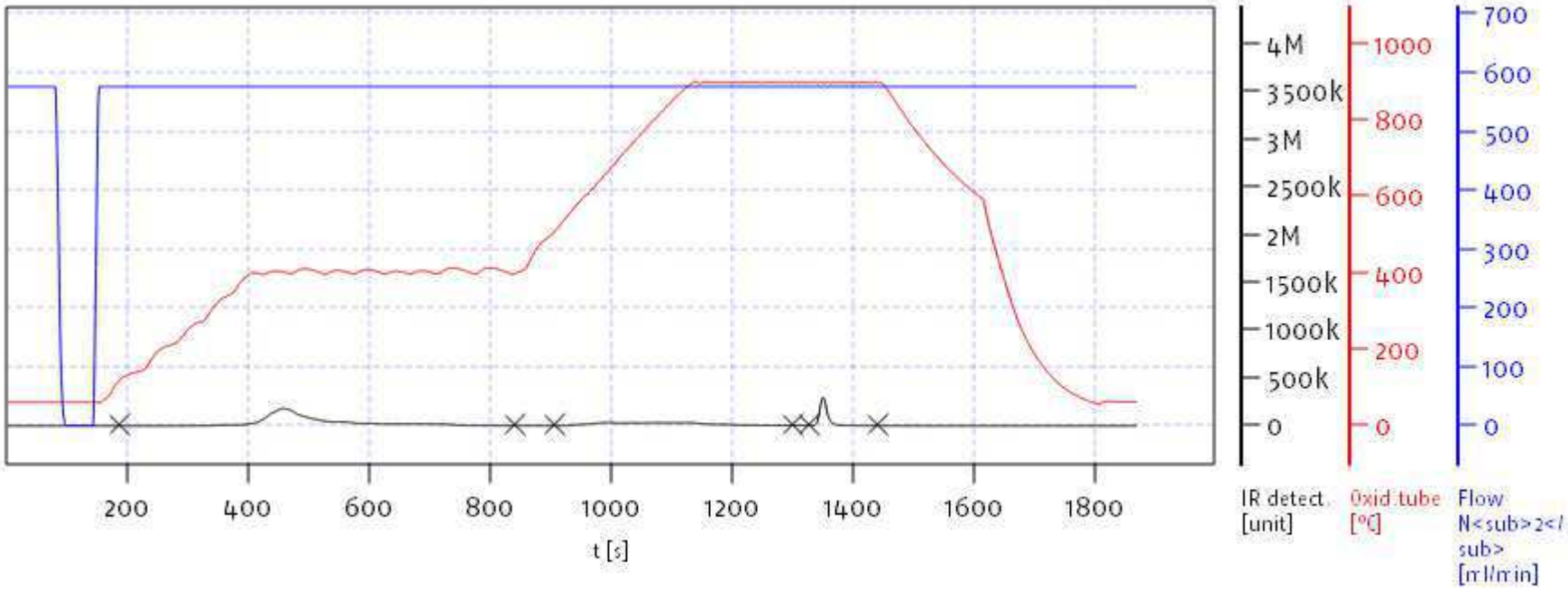
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
104	75	BJH0350-DUP1	538.60		1.00	CARBON	8/18/2021 9:35 PM	0.259	0.079	0.338	bl	722 716	284 698	168 635	1.0349	1.0000



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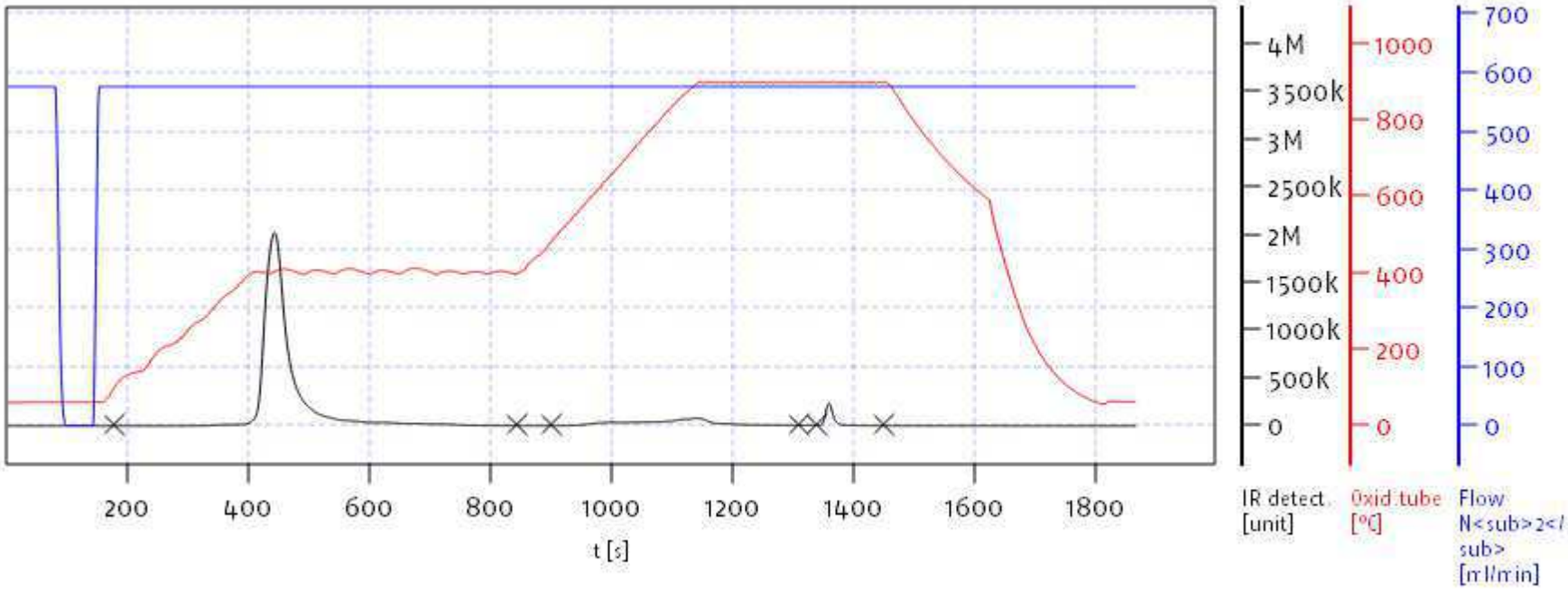
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
105	76	BJH0350-MS1	564.20	0.0106	1.00	CARBON	8/18/2021 10:07 PM	1.050	0.117	1.167	bl	3 565 444	434 649	137 506	1.0349	1.0000



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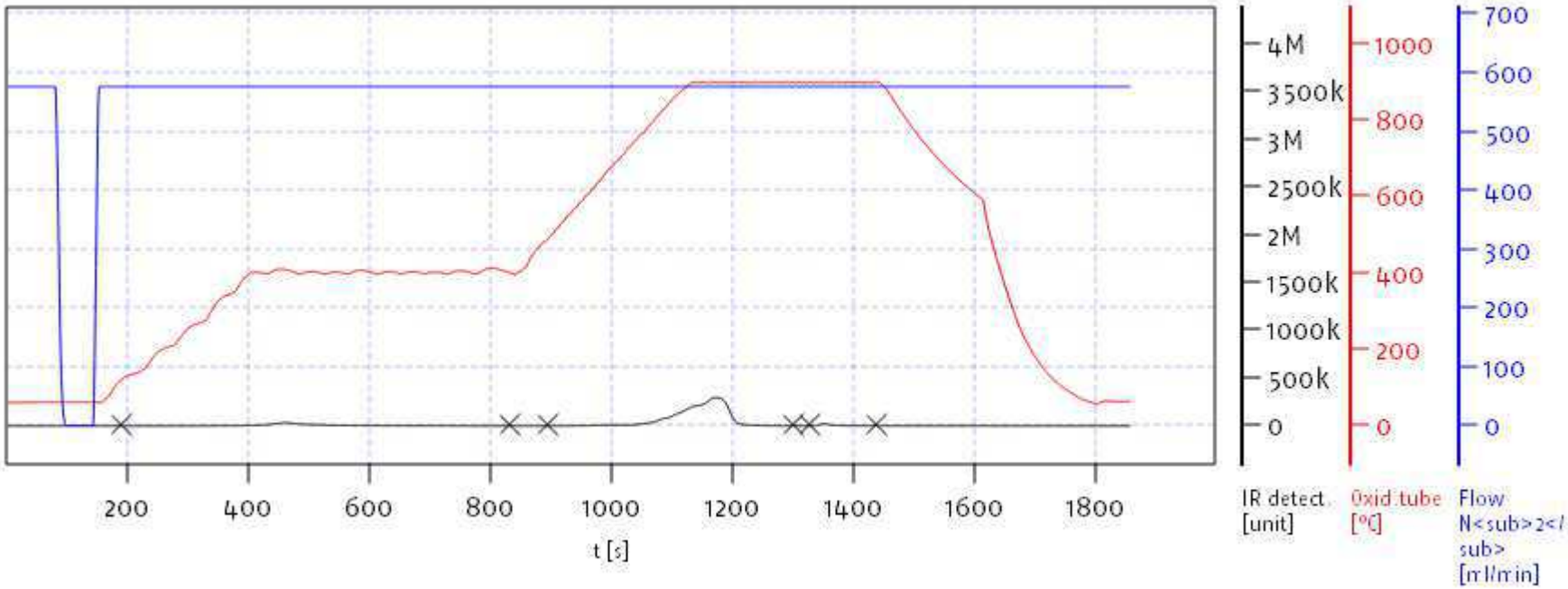
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
106	77	21G0313-06	550.20		1.00	CARBON	8/18/2021 10:38 PM	0.034	0.267	0.301	bl	114 523	954 733	21 937	1.0349	1.0000



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Soli TOC Cube, Carbon
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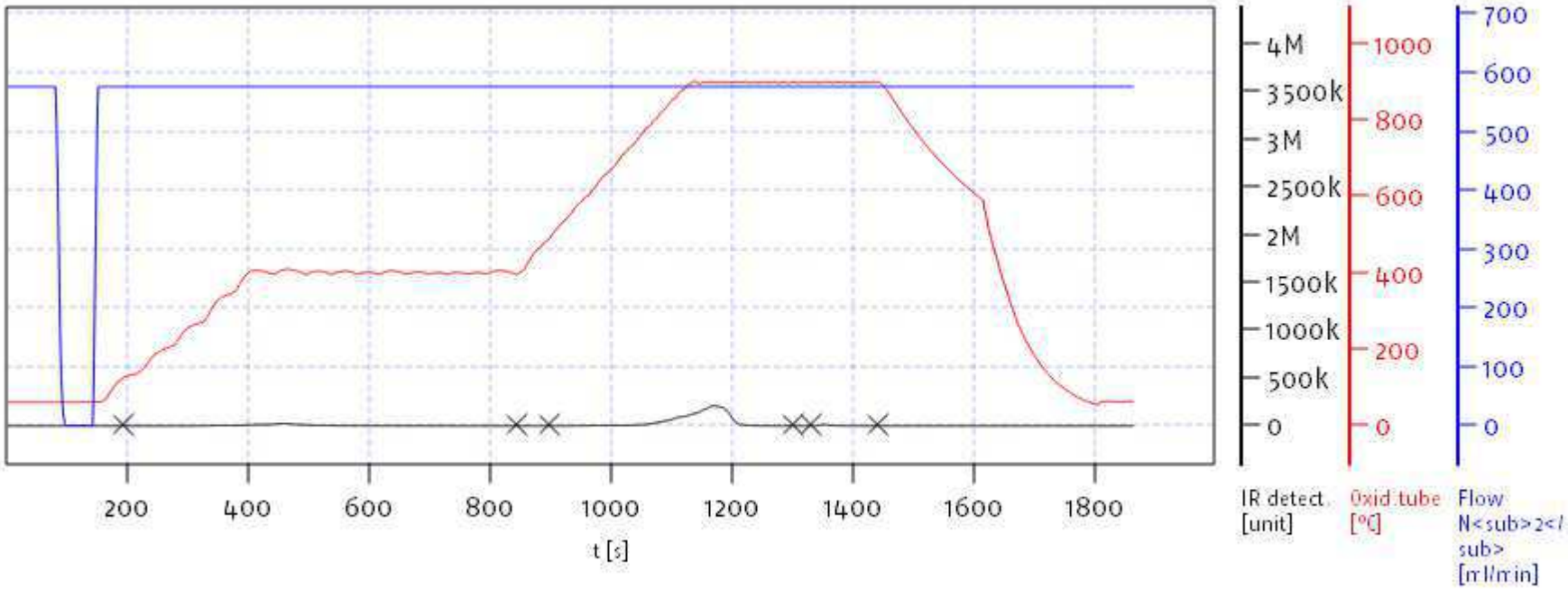
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
107	78	21G0313-07	366.80		1.00	CARBON	8/18/2021 11:09 PM	0.038	0.275	0.313	bl	94 838	659 778	12 004	1.0349	1.0000



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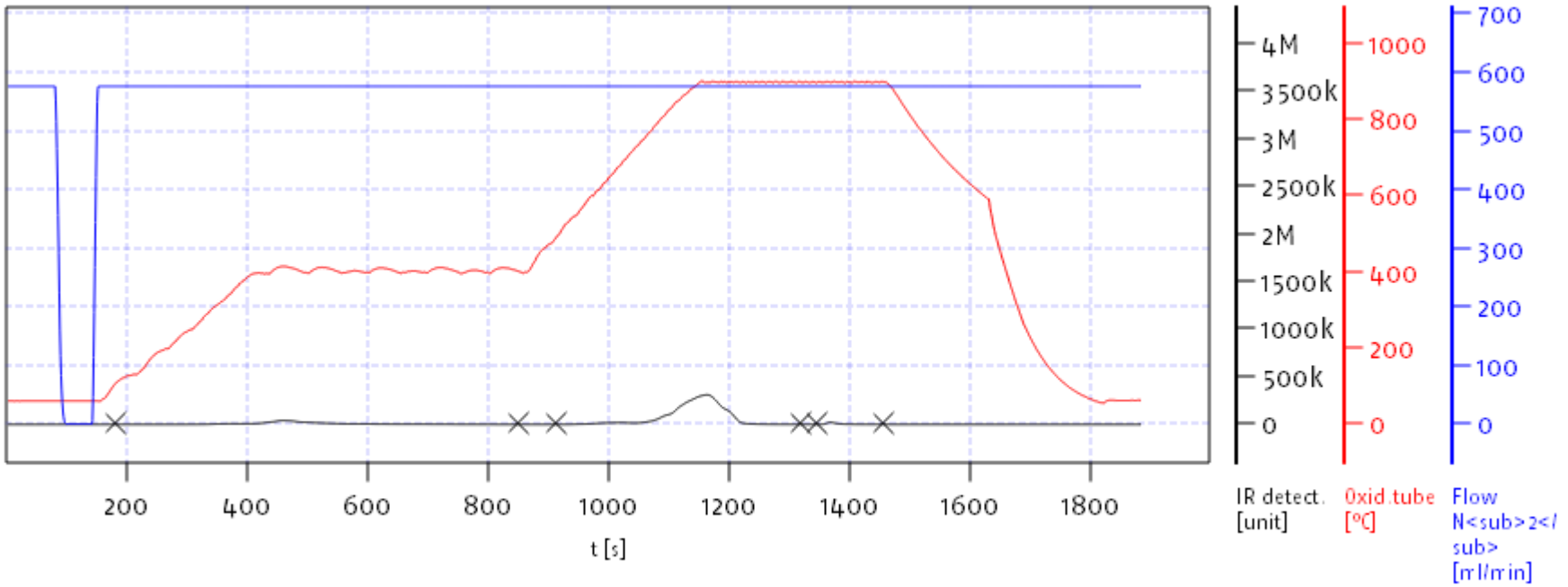
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
108	79	21G0313-08	480.00		1.00	CARBON	8/18/2021 11:41 PM	0.056	0.343	0.399	bl	169 422	1 067 918	18 601	1.0349	1.0000



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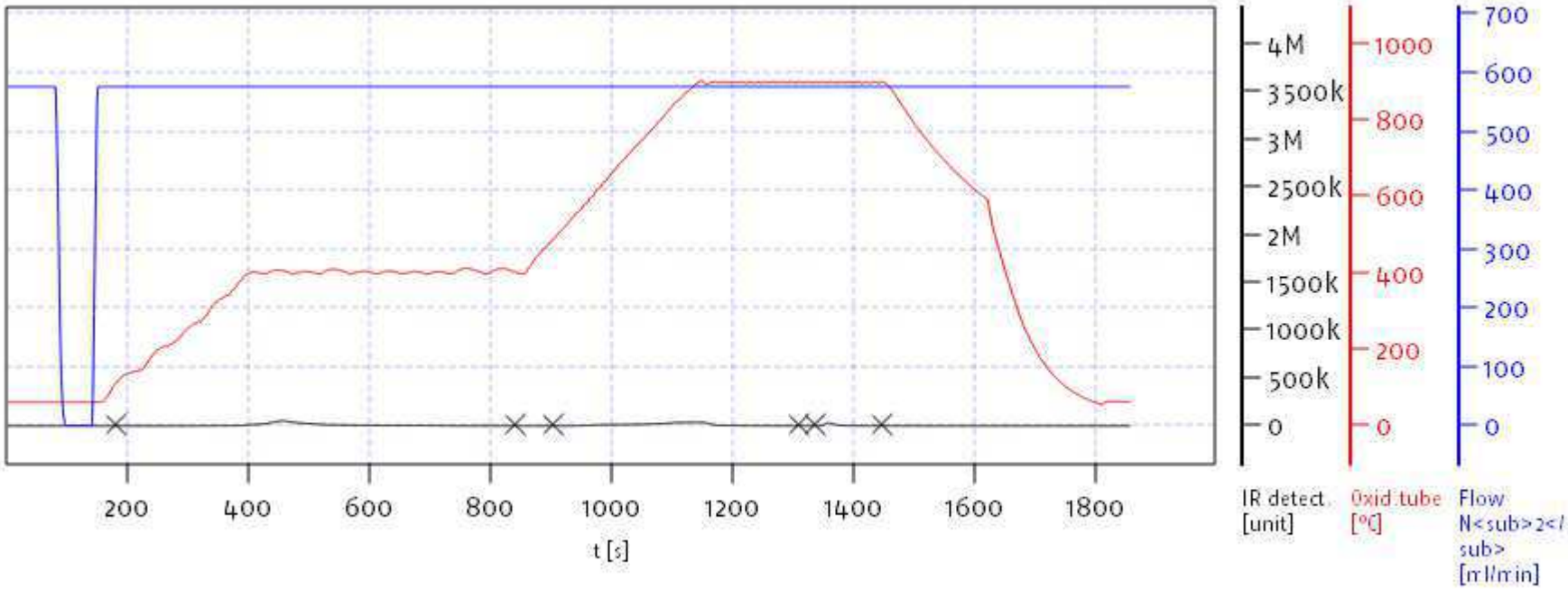
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
109	80	21G0313-09	506.80		1.00	CARBON	8/19/2021 12:13 AM	0.063	0.053	0.116	bl	195 903	182 544	25 633	1.0349	1.0000



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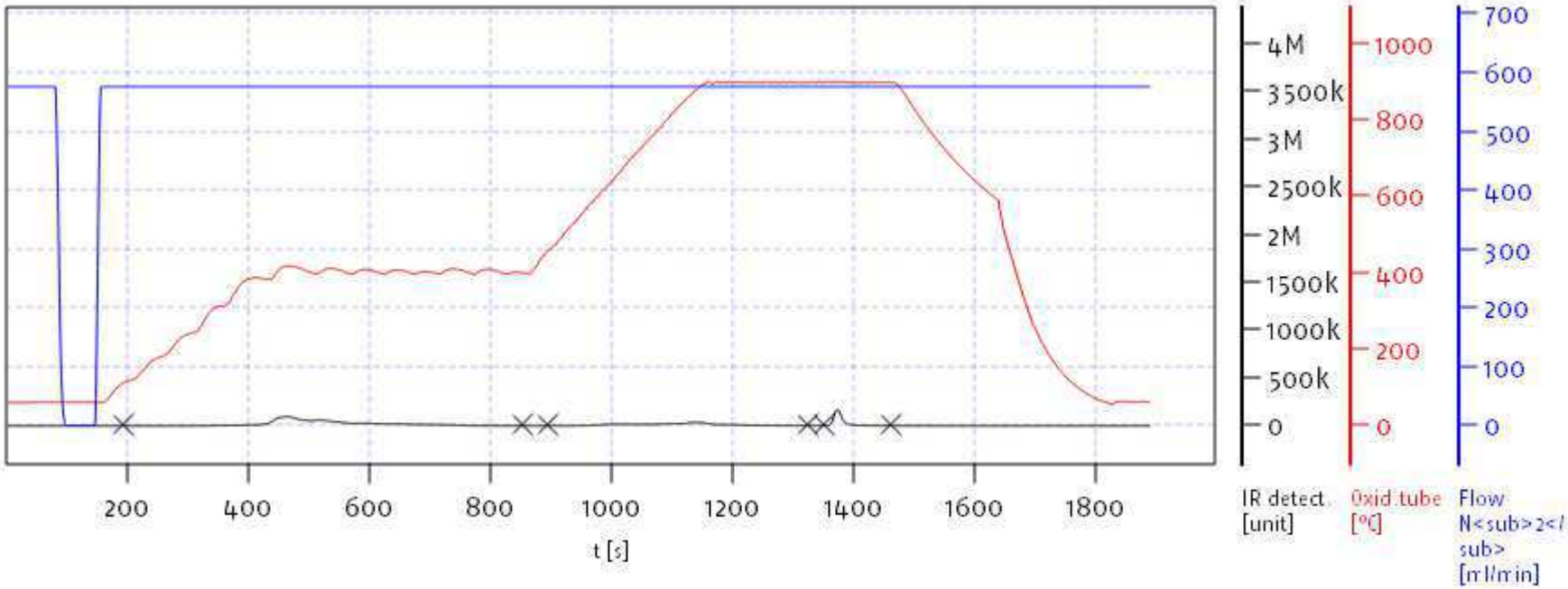
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
110	81	21G0313-10	661.10		1.00	CARBON	8/19/2021 12:45 AM	0.135	0.042	0.177	bl	467 181	190 227	110 008	1.0349	1.0000



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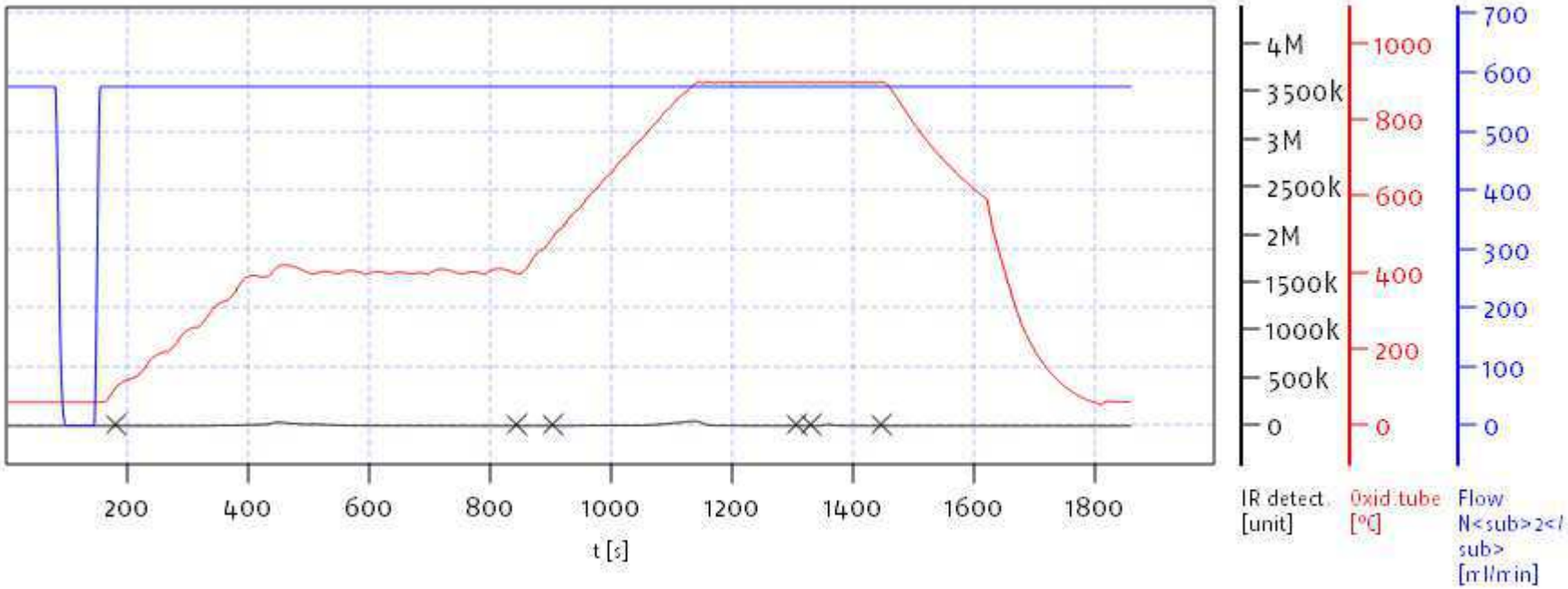
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
111	82	21G0313-11	413.70		1.00	CARBON	8/19/2021 1:16 AM	0.049	0.048	0.097	bl	136 079	137 781	11 999	1.0349	1.0000



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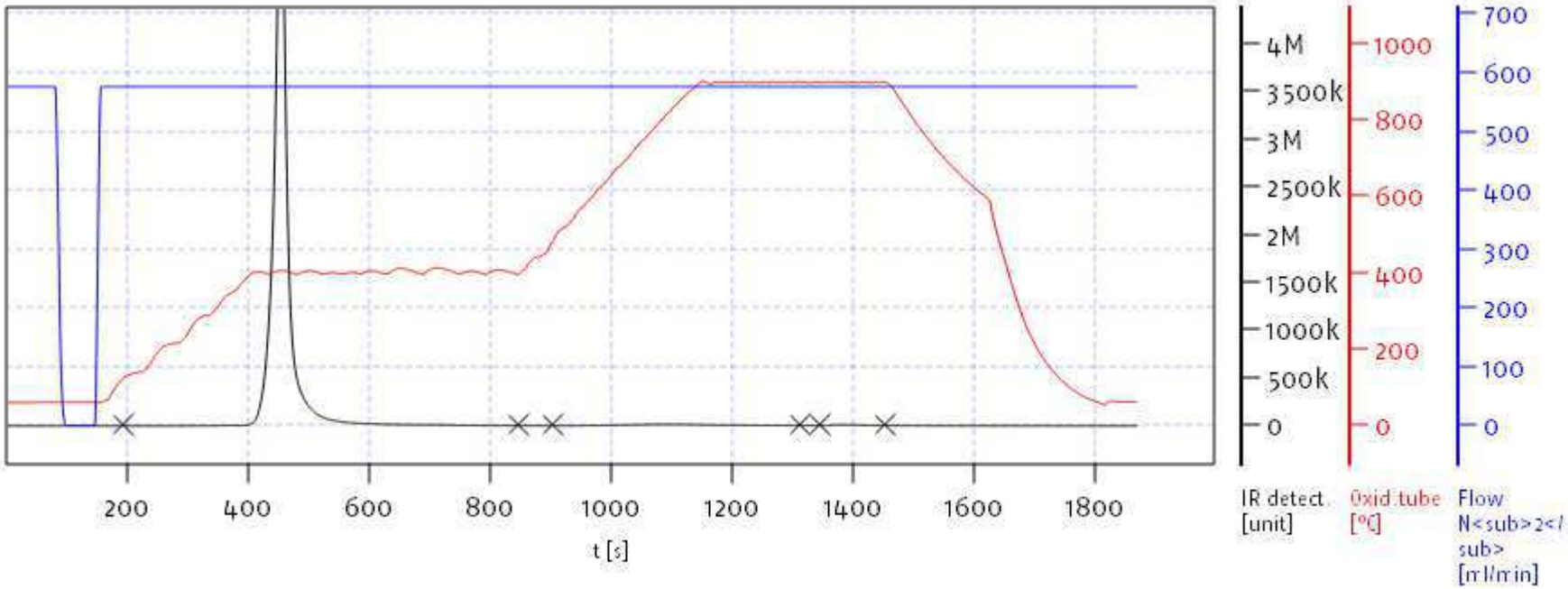
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
112	83	SJH0183-CCV9	21.00		1.00	CARBON	8/19/2021 1:48 AM	43.795	0.824	44.619	bl	5 703 444	121 943	28 841	1.0349	1.0000



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Balance: BAL3
Analyst: BF

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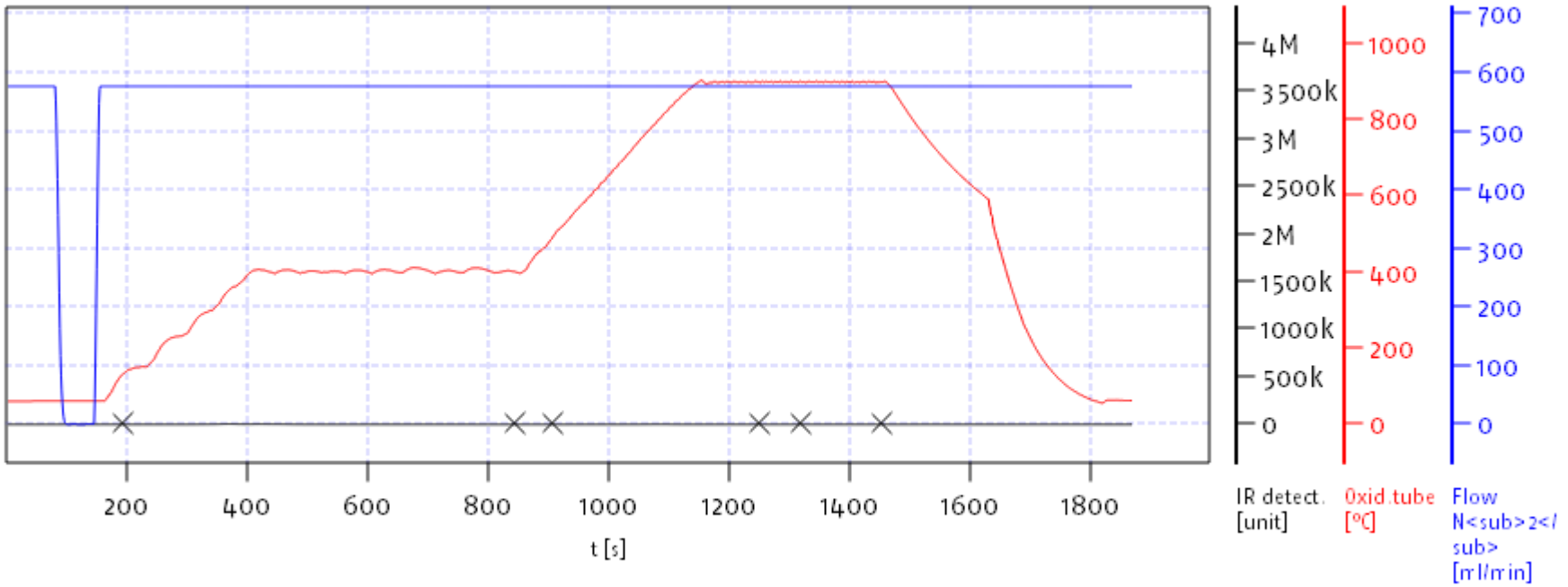
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
113	84	SJH0183-CCB9	577.60		1.00	CARBON	8/19/2021 2:19 AM	0.002	0.000	0.002	bl,C3u,C2u	16 859	3 328	540	1.0349	1.0000



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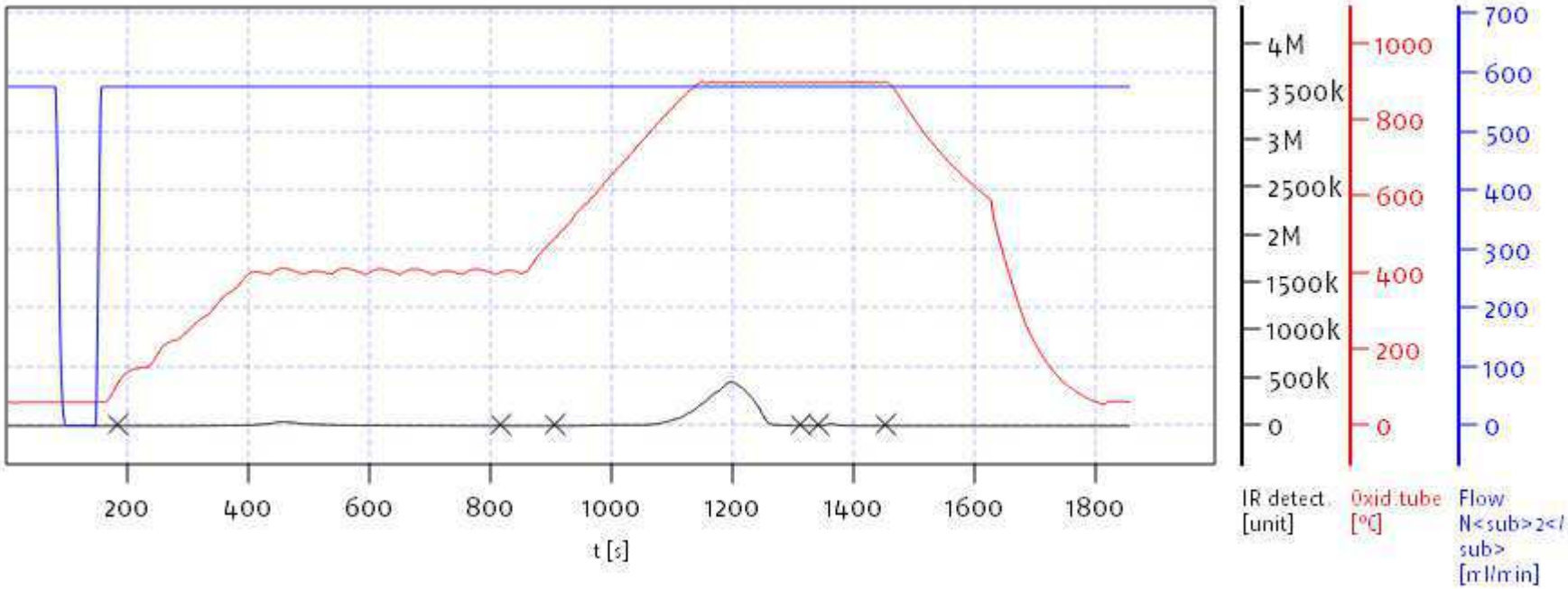
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
114	85	21G0313-12	398.30		1.00	CARBON	8/19/2021 2:50 AM	0.065	0.637	0.702	bl	161 642	1 640 989	19 775	1.0349	1.0000



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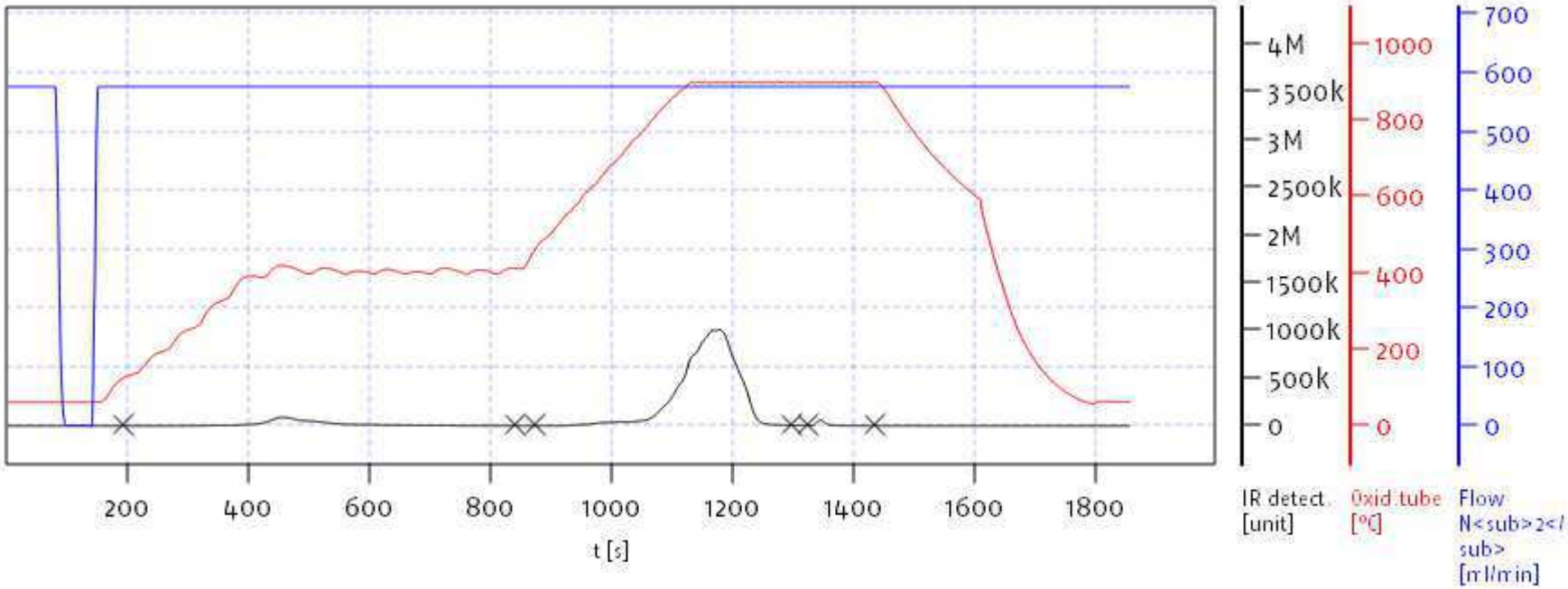
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
115	86	21G0313-13	499.70		1.00	CARBON	8/19/2021 3:22 AM	0.125	1.222	1.347	bl	367 575	3 934 820	42 778	1.0349	1.0000



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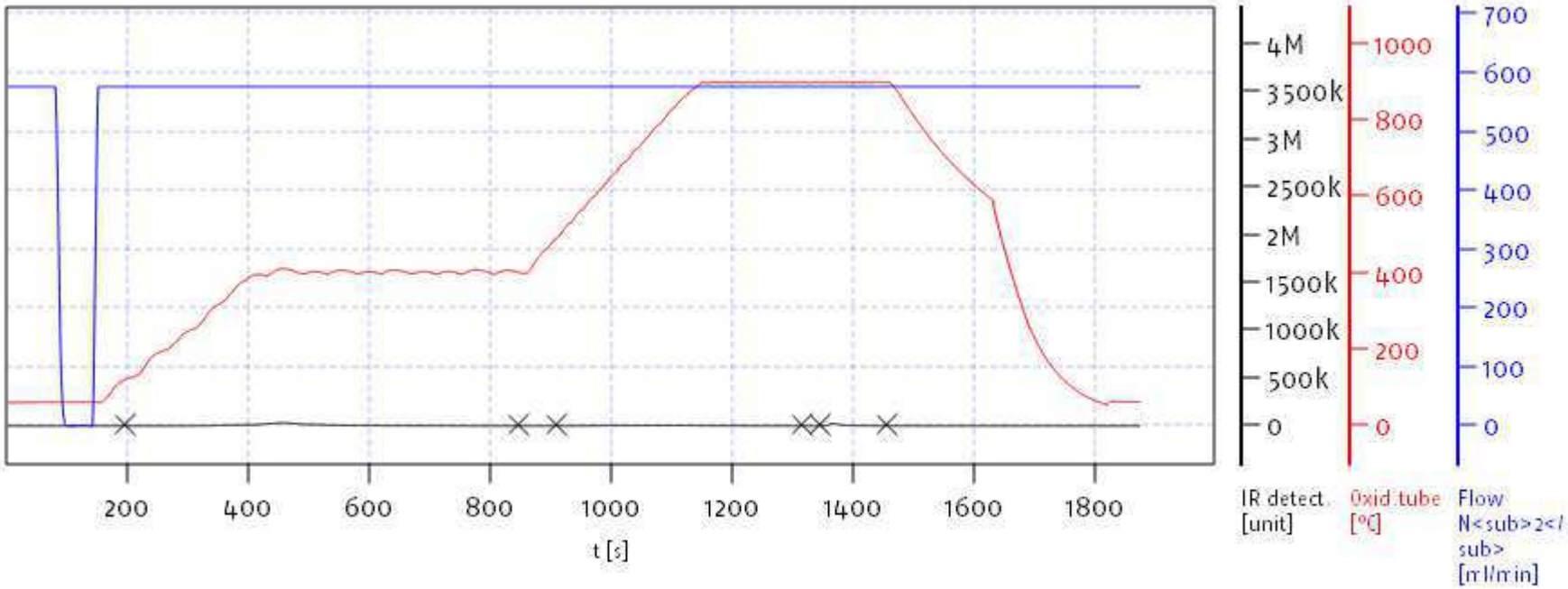
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
116	87	21G0313-14	598.10		1.00	CARBON	8/19/2021 3:53 AM	0.039	0.007	0.046	bl	143 051	38 100	23 003	1.0349	1.0000



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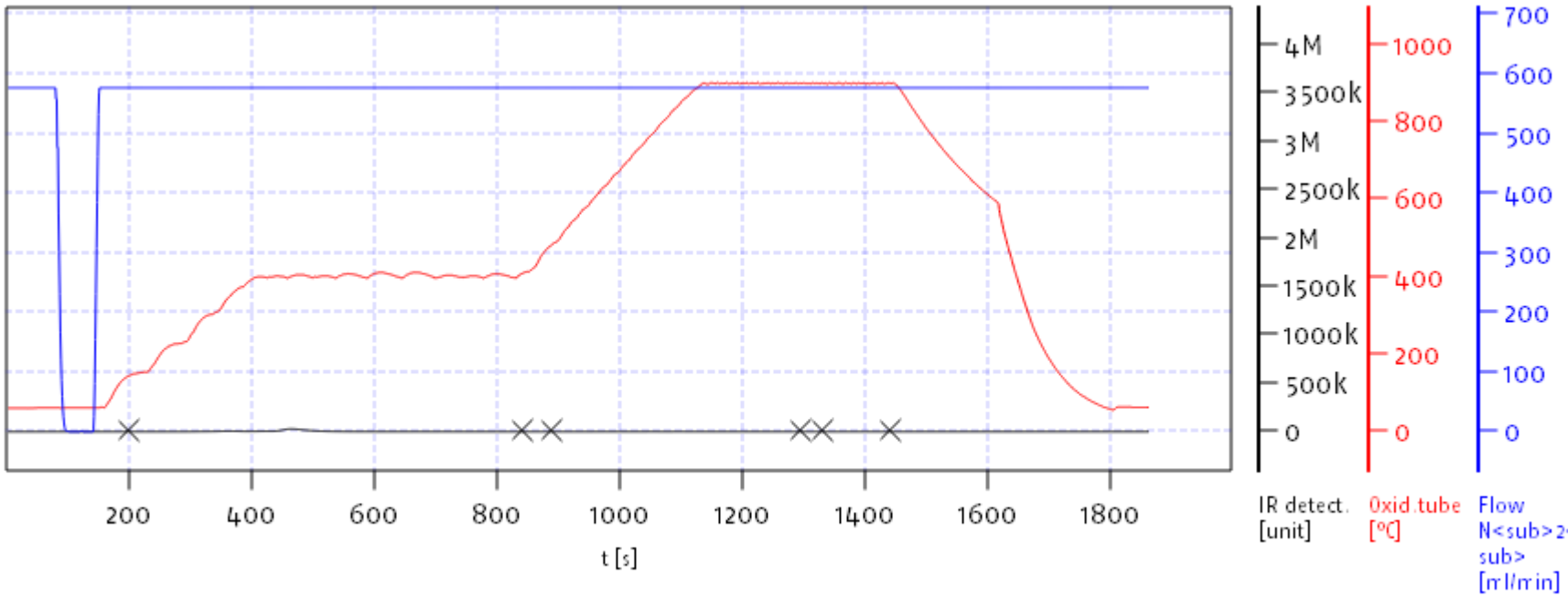
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
117	88	BJH0351-MRL1	500.40		1.00	CARBON	8/19/2021 4:25 AM	0.020	0.000	0.020	bl,C3u,C2u	73 720	4 477	265	1.0349	1.0000



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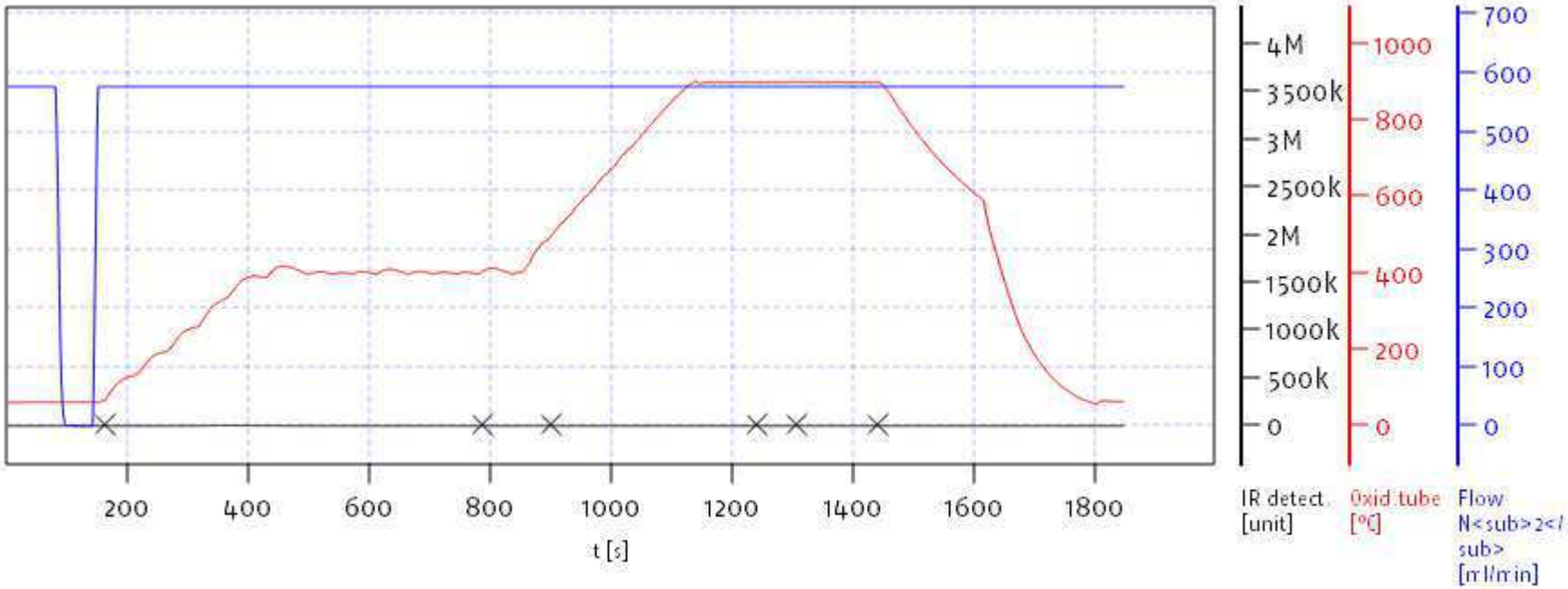
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
118	89	BJH0351-BLK1	509.30		1.00	CARBON	8/19/2021 4:56 AM	0.003	0.000	0.003	bl,C3u,C2u	20 329	1 400	315	1.0349	1.0000



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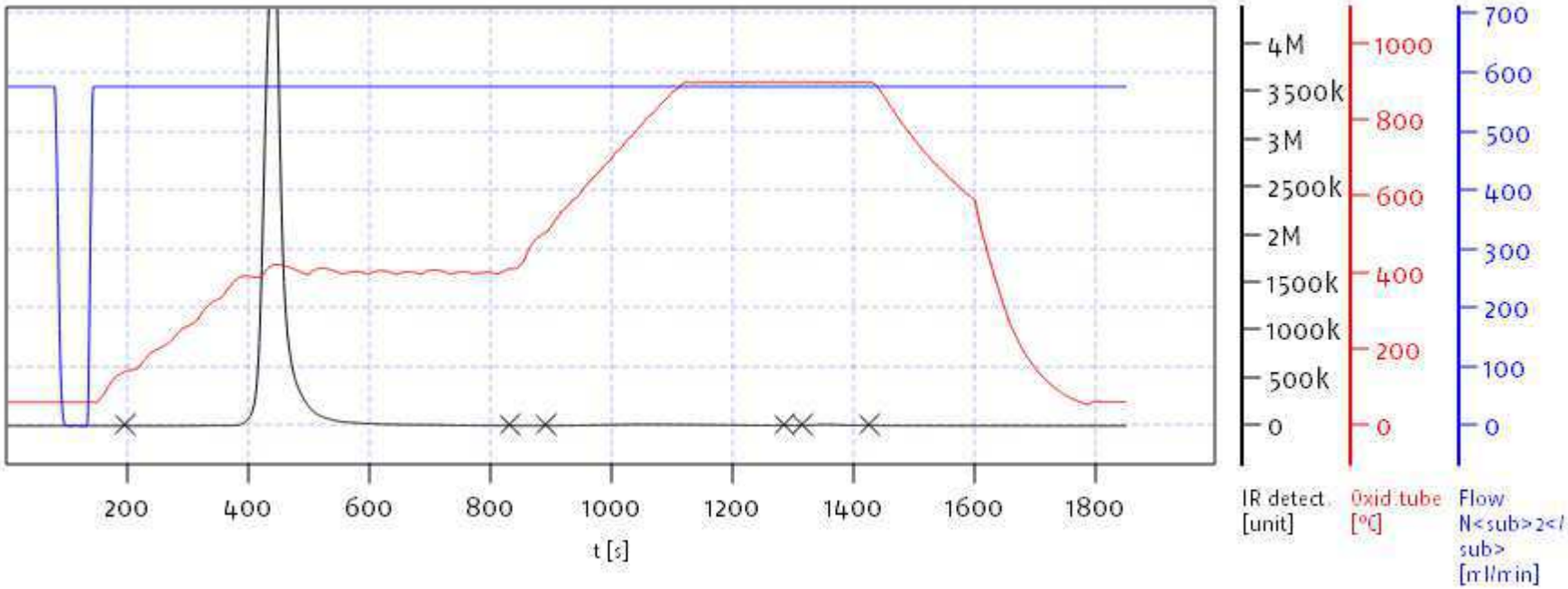
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
119	1	BJH0351-BS1	24.50		1.00	CARBON	8/19/2021 5:27 AM	44.233	0.774	45.007	bl	6 718 330	132 586	32 441	1.0349	1.0000



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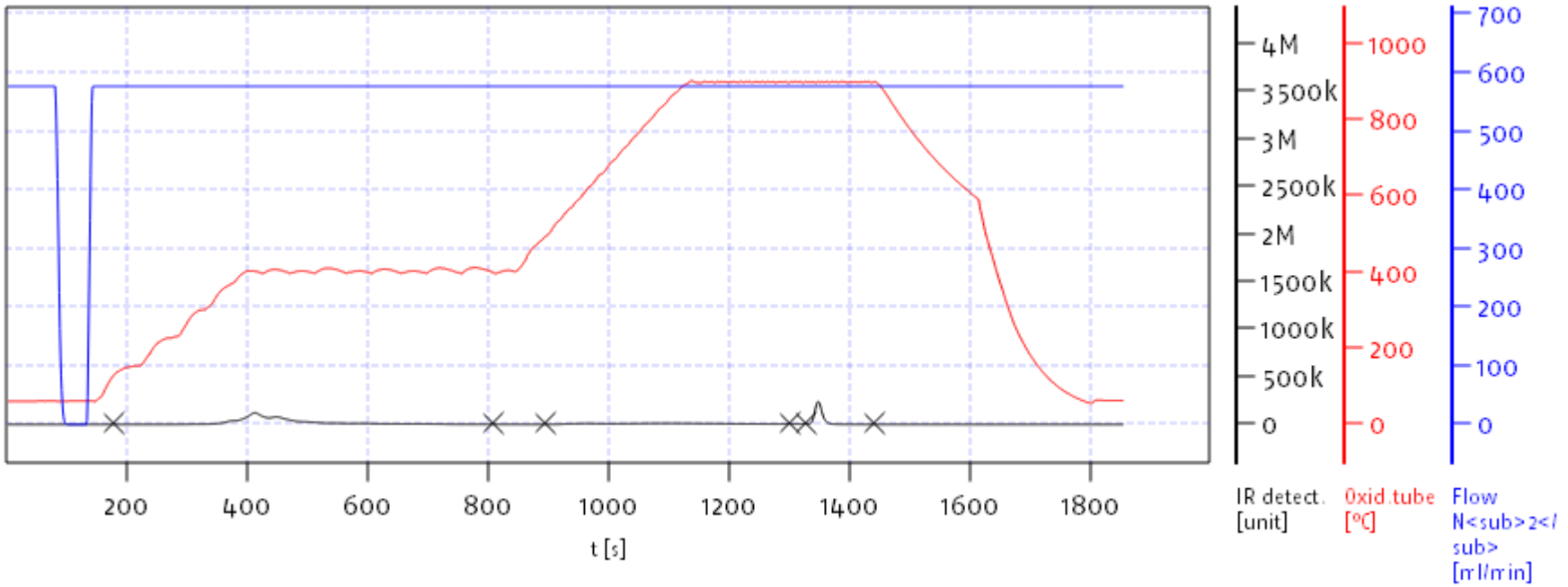
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
120	2	BJH0351-SRM1	35.00		1.00	CARBON	8/19/2021 5:59 AM	2.403	0.452	2.855	bl	415 962	112 375	131 765	1.0349	1.0000



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Date: Mon Aug 23 13:43:13 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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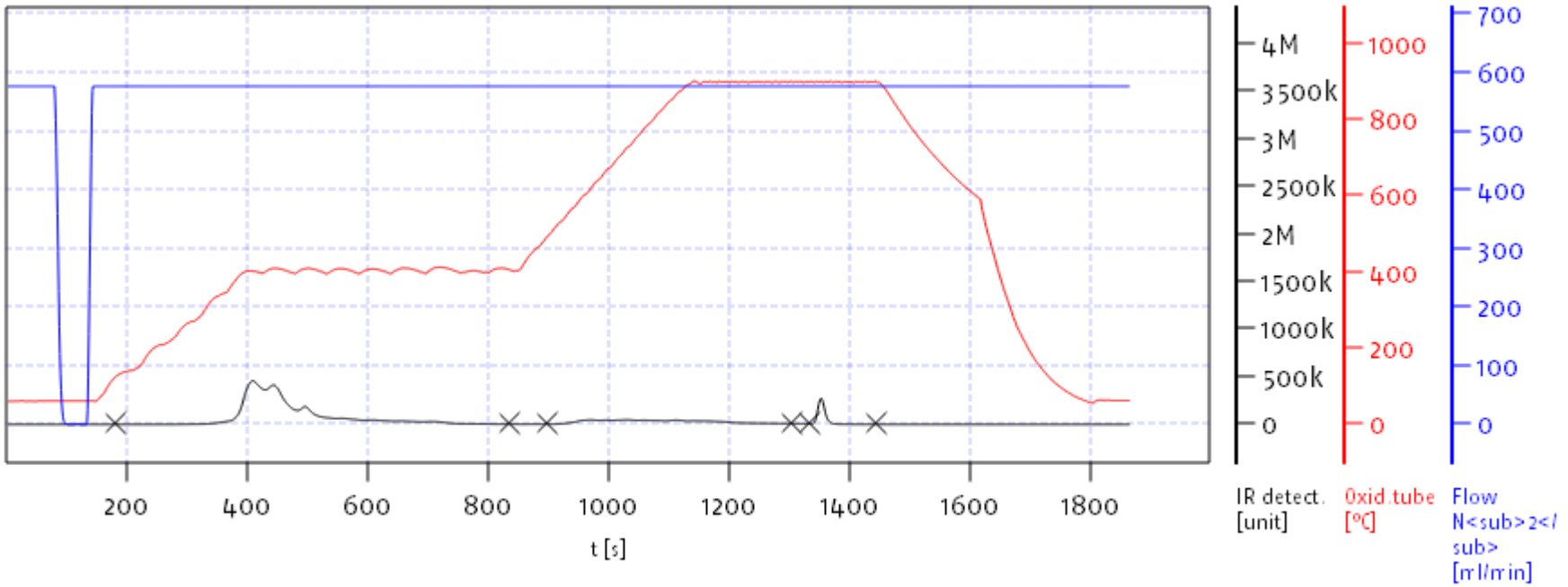
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
121	3	21F0430-01	535.60		1.00	CARBON	8/19/2021 6:30 AM	0.582	0.128	0.710	bl	1 810 866	452 110	149 077	1.0349	1.0000



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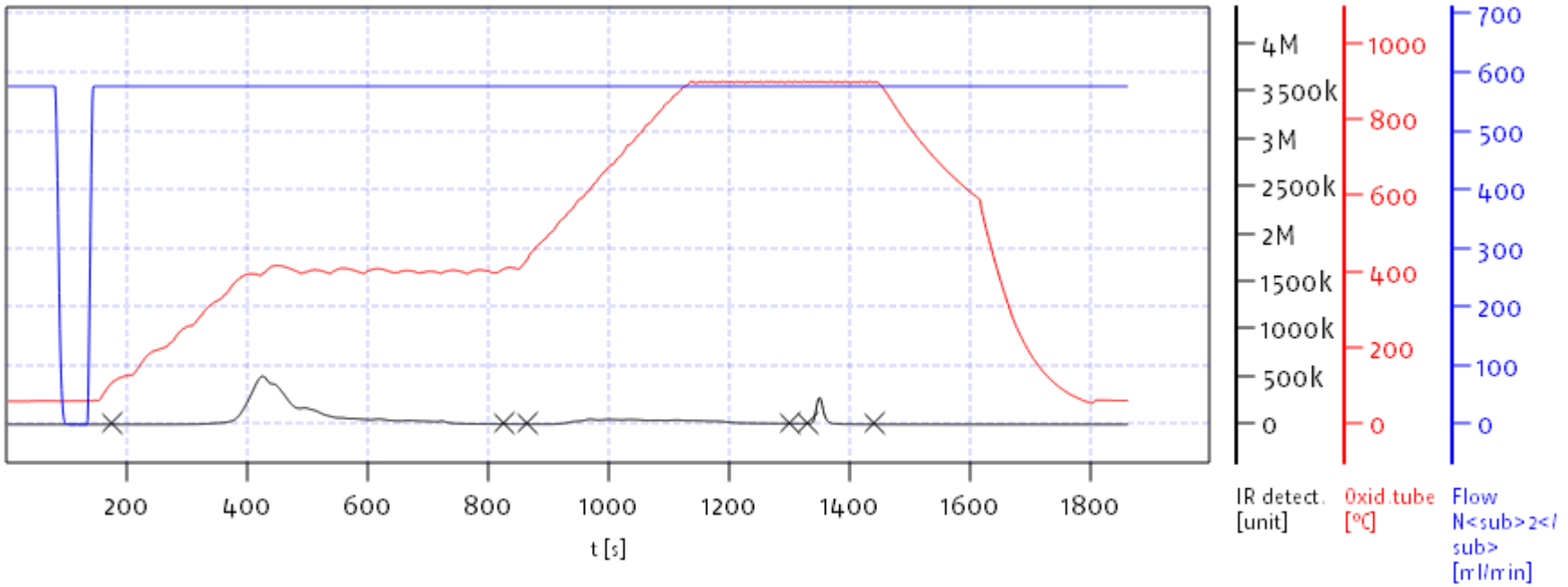
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
122	4	BJH0351-DUP1	545.00		1.00	CARBON	8/19/2021 7:02 AM	0.608	0.135	0.742	bl	1 924 383	482 020	158 594	1.0349	1.0000



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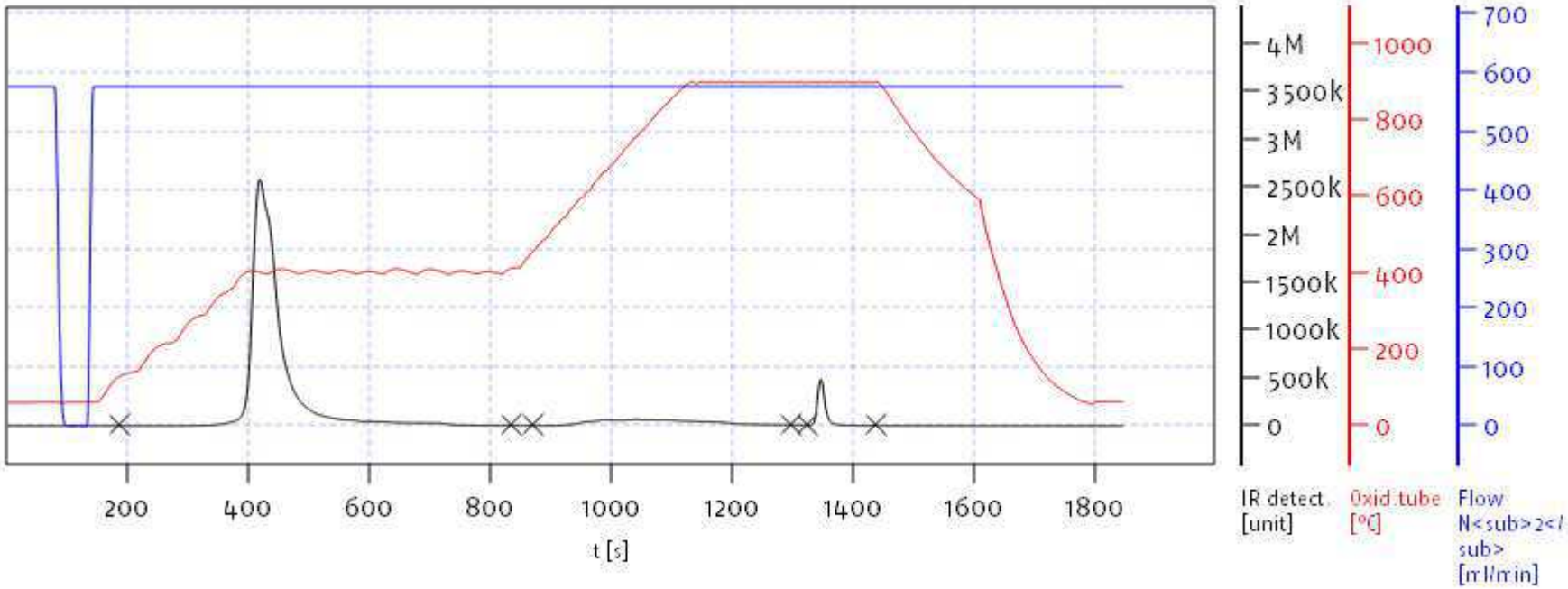
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
123	5	BJH0351-MS1	534.40	0.0114	1.00	CARBON	8/19/2021 7:33 AM	1.601	0.164	1.765	bl	5 062 521	574 524	279 787	1.0349	1.0000



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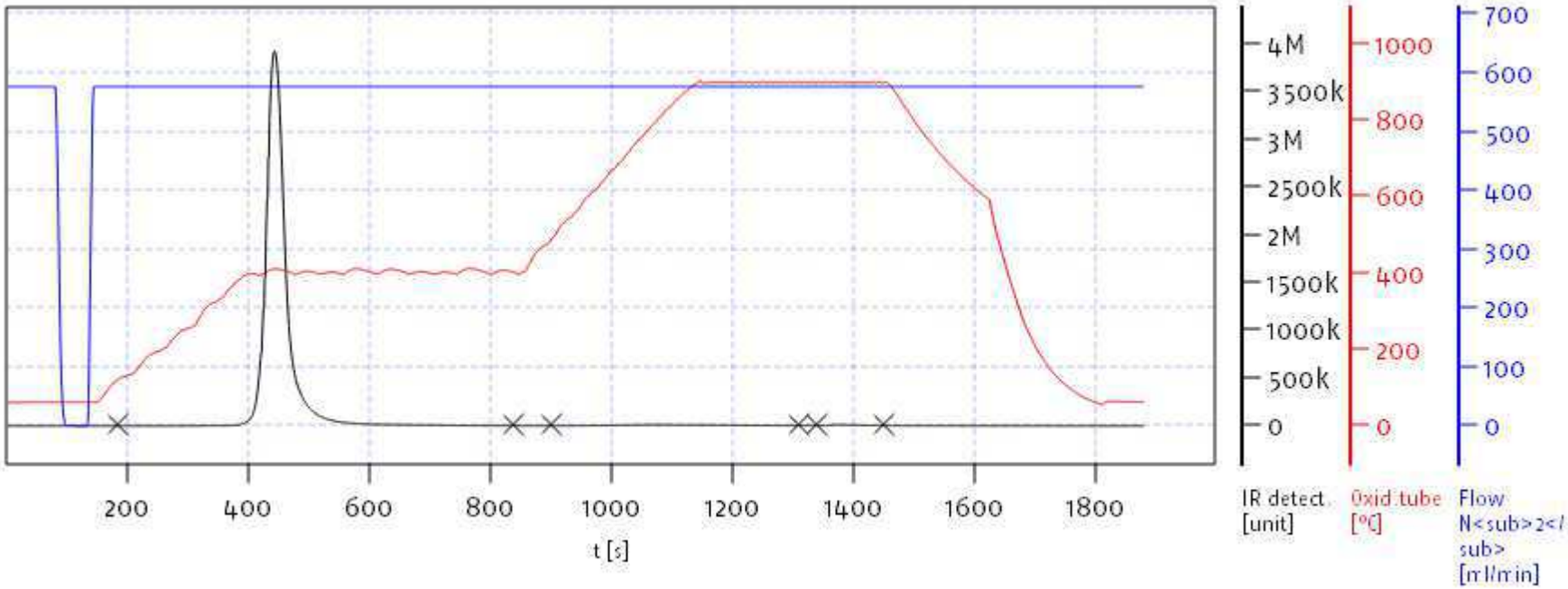
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
124	6	SJH0183-CCVA	20.70		1.00	CARBON	8/19/2021 8:05 AM	43.171	0.656	43.827	bl	5 541 704	97 942	28 920	1.0349	1.0000



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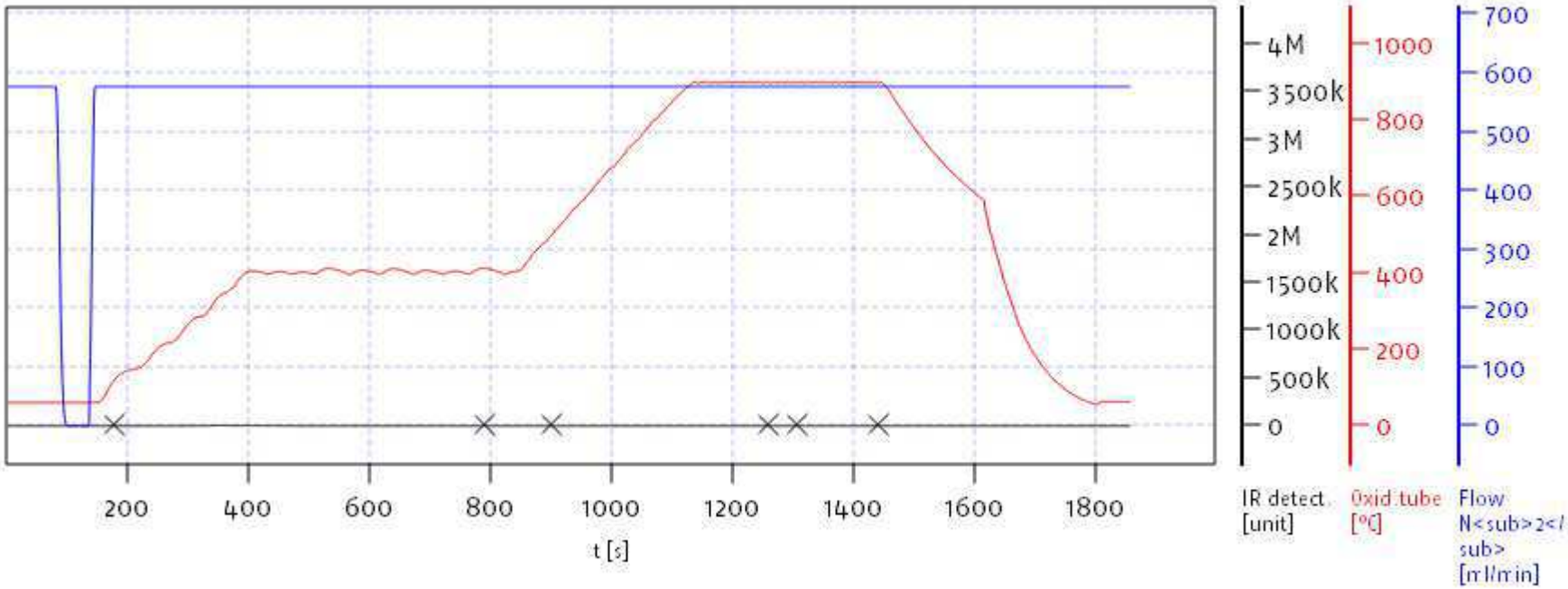
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
125	7	SJH0183-CCBA	573.20		1.00	CARBON	8/19/2021 8:36 AM	0.002	0.000	0.002	bl,C3u,C2u	19 420	1 257	685	1.0349	1.0000



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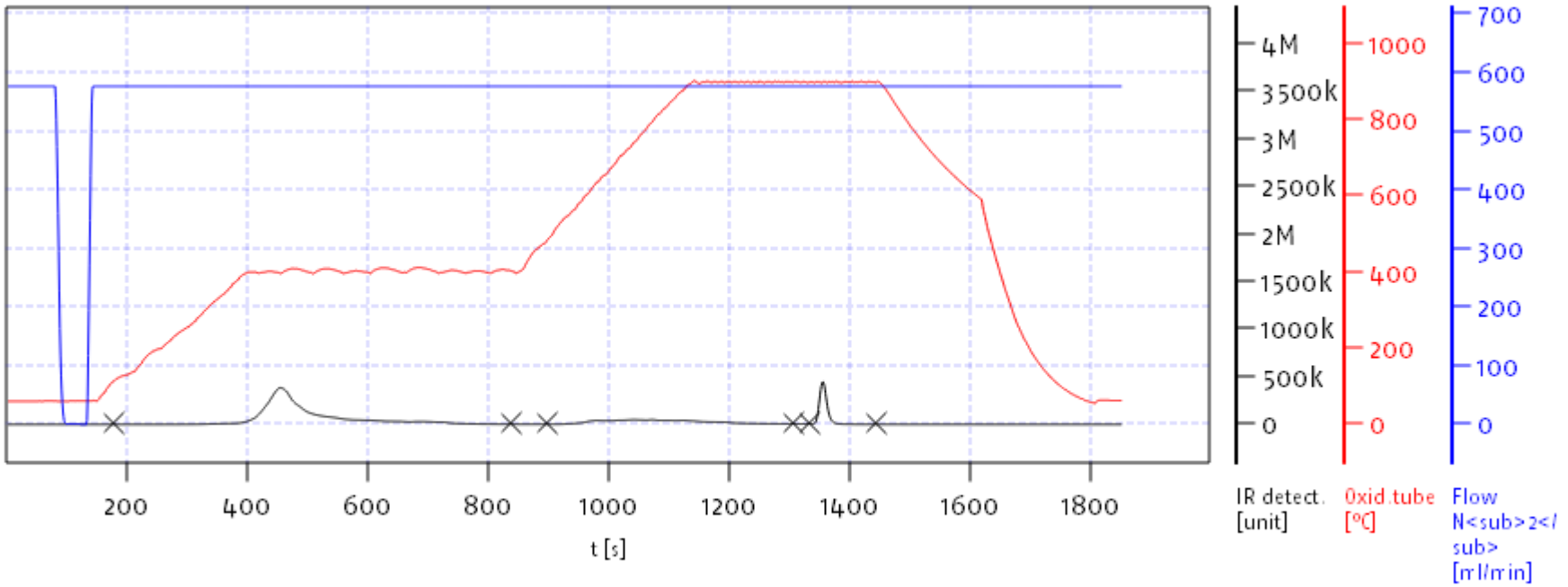
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
126	8	21F0430-02	637.70		1.00	CARBON	8/19/2021 9:07 AM	0.379	0.095	0.474	bl	1 284 559	399 497	246 331	1.0349	1.0000



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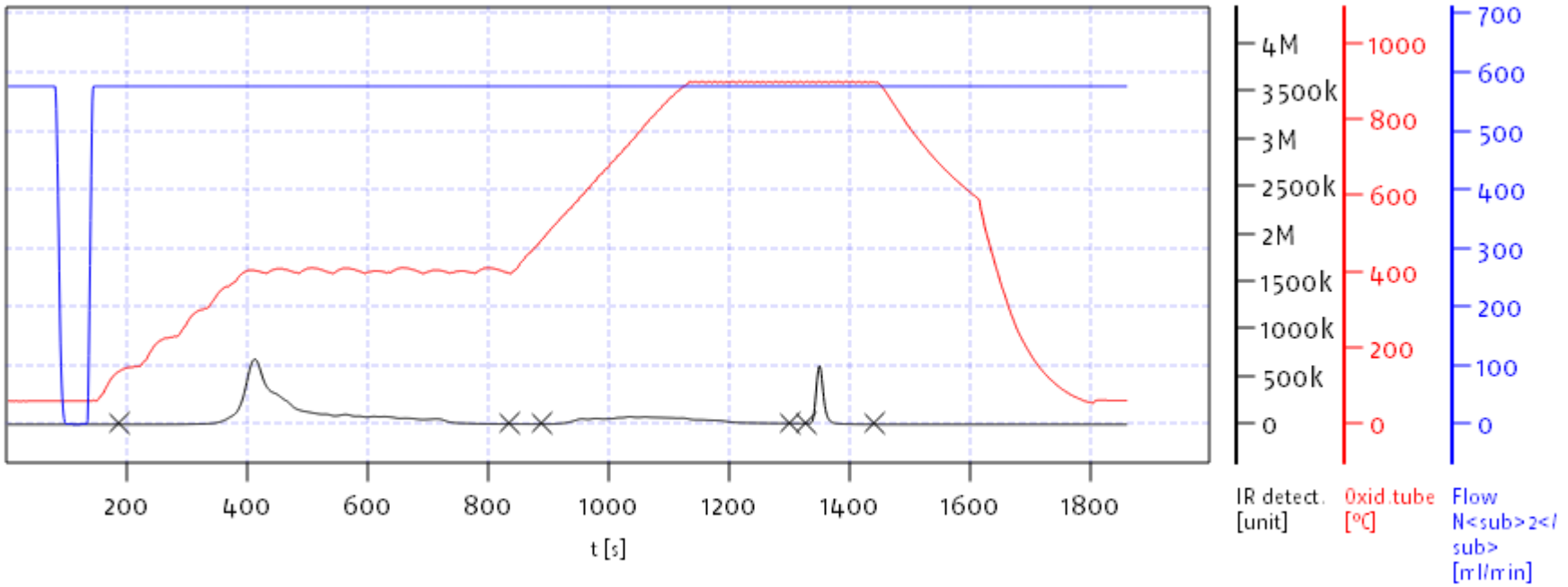
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
127	9	21F0430-03	652.80		1.00	CARBON	8/19/2021 9:39 AM	0.644	0.157	0.800	bl	2 302 624	667 743	339 257	1.0349	1.0000



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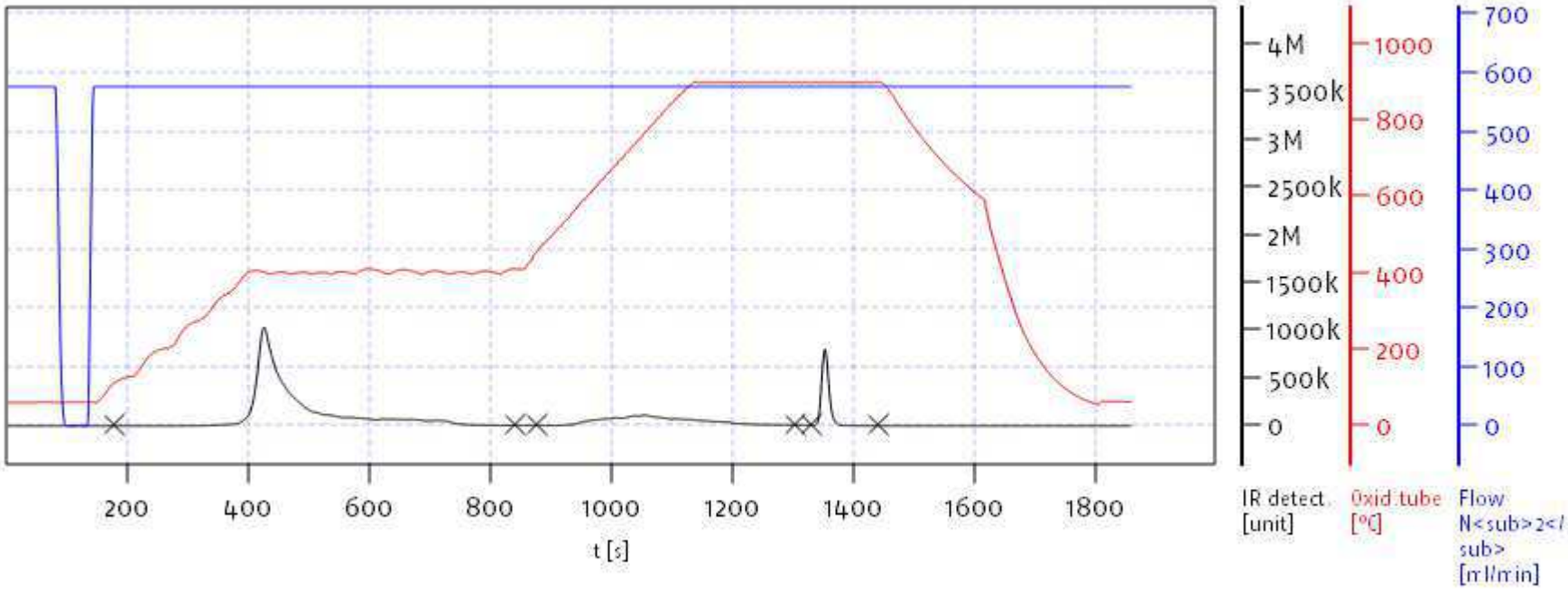
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
128	10	21F0430-04	590.00		1.00	CARBON	8/19/2021 10:10 AM	0.813	0.195	1.008	bl	2 583 930	751 394	430 239	1.0349	1.0000



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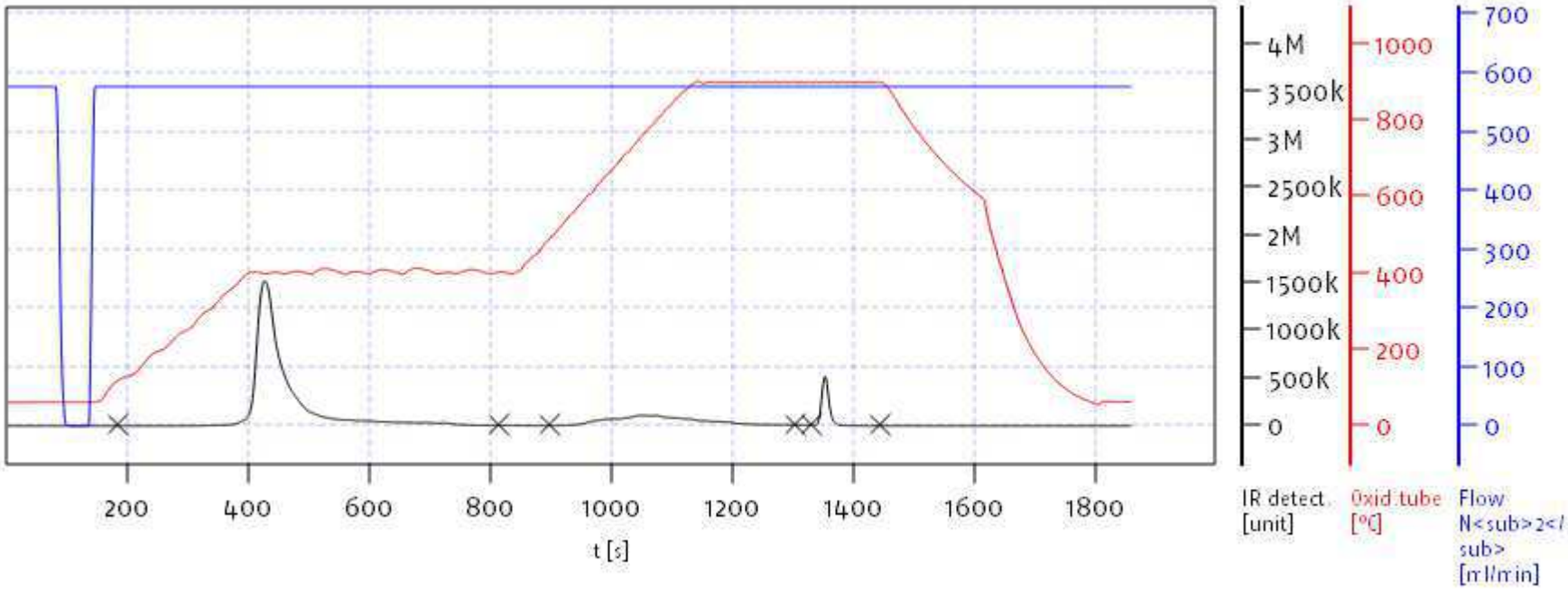
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
129	11	21F0430-05	526.60		1.00	CARBON	8/19/2021 10:41 AM	1.017	0.216	1.233	bl	3 076 505	740 719	278 625	1.0349	1.0000



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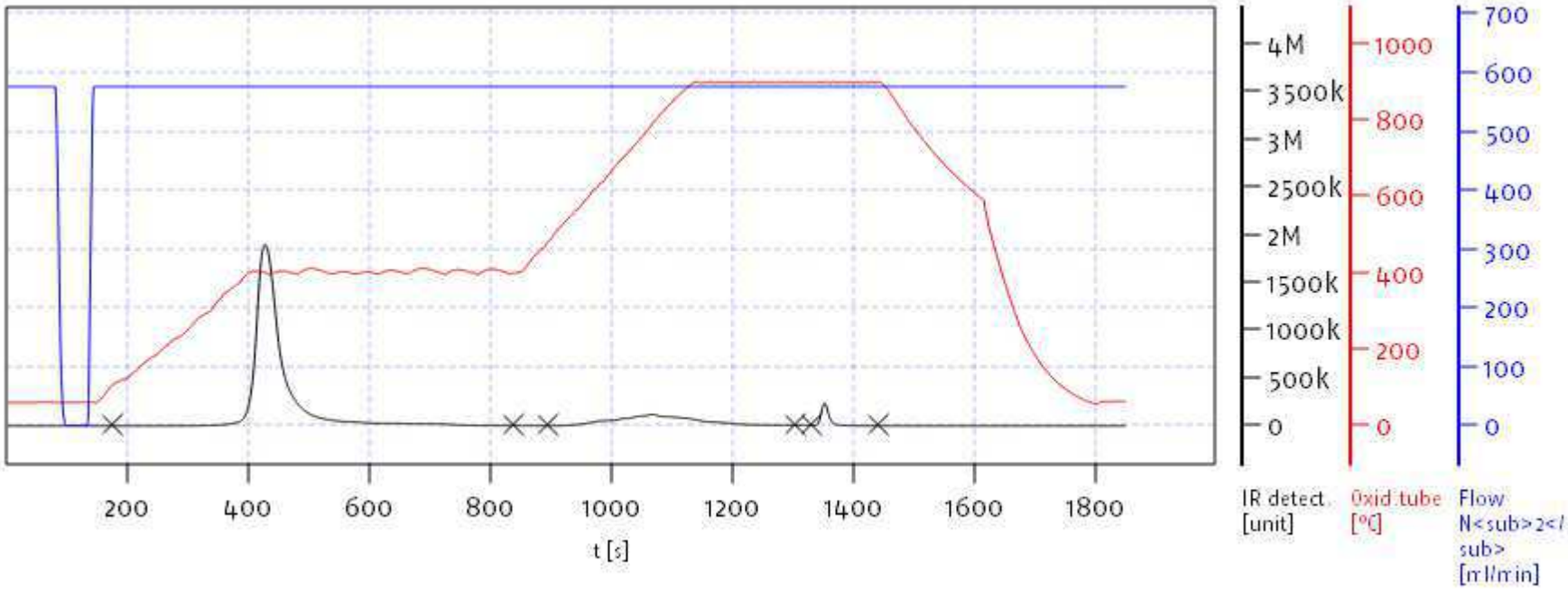
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
130	12	21F0430-06	531.10		1.00	CARBON	8/19/2021 11:13 AM	1.084	0.200	1.284	bl	3 463 173	692 714	136 242	1.0349	1.0000



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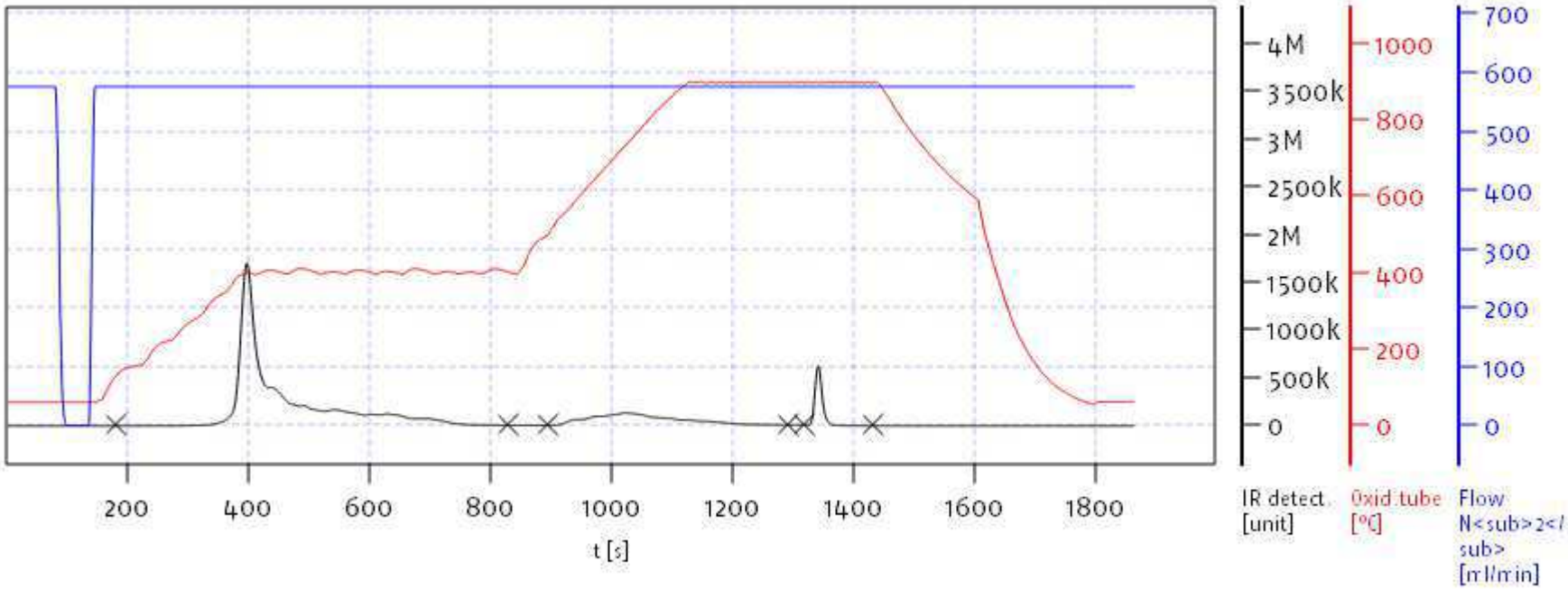
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
131	13	21F0430-07	569.10		1.00	CARBON	8/19/2021 11:44 AM	1.139	0.238	1.378	bl	3 721 144	882 364	337 350	1.0349	1.0000



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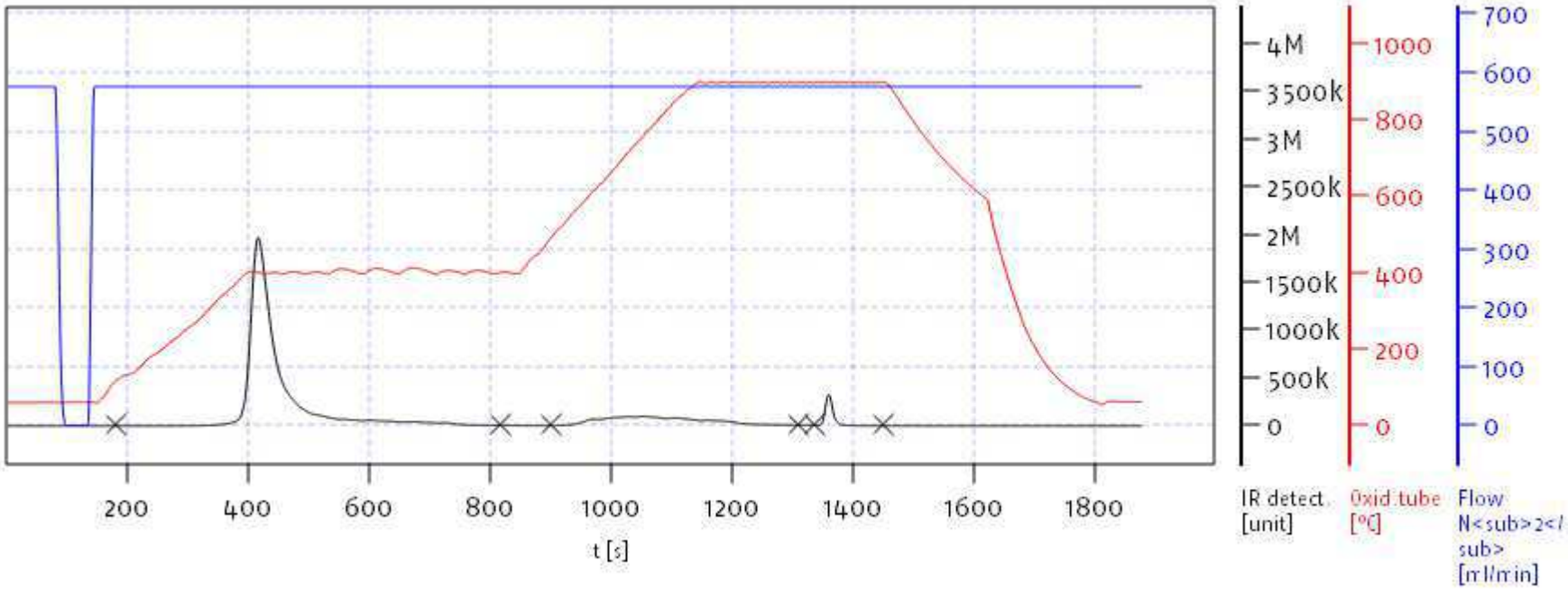
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
132	14	21F0430-08	562.00		1.00	CARBON	8/19/2021 12:16 PM	1.124	0.213	1.337	bl	3 763 356	778 725	186 166	1.0349	1.0000



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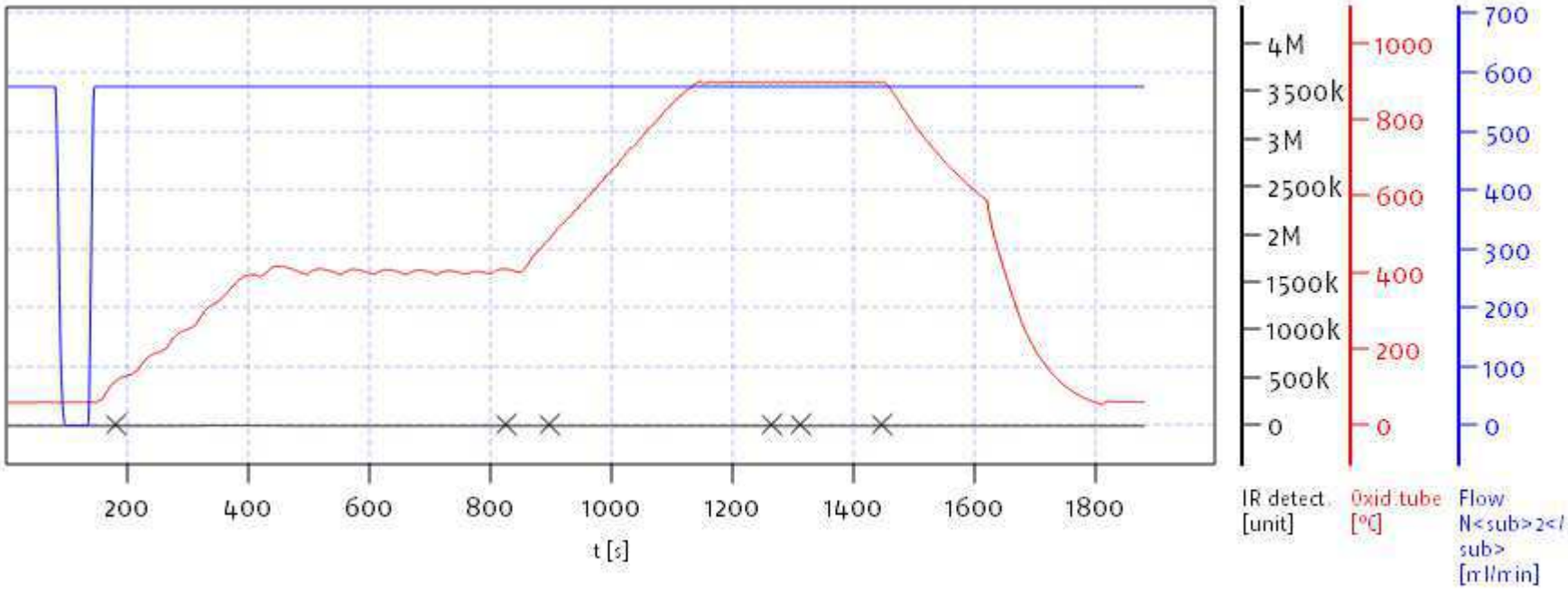
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
133	15	BLANK	1.00		1.00	CARBON	8/19/2021 12:48 PM	0.000	0.000	0.000	bl	19 326	995	362	1.0349	1.0000



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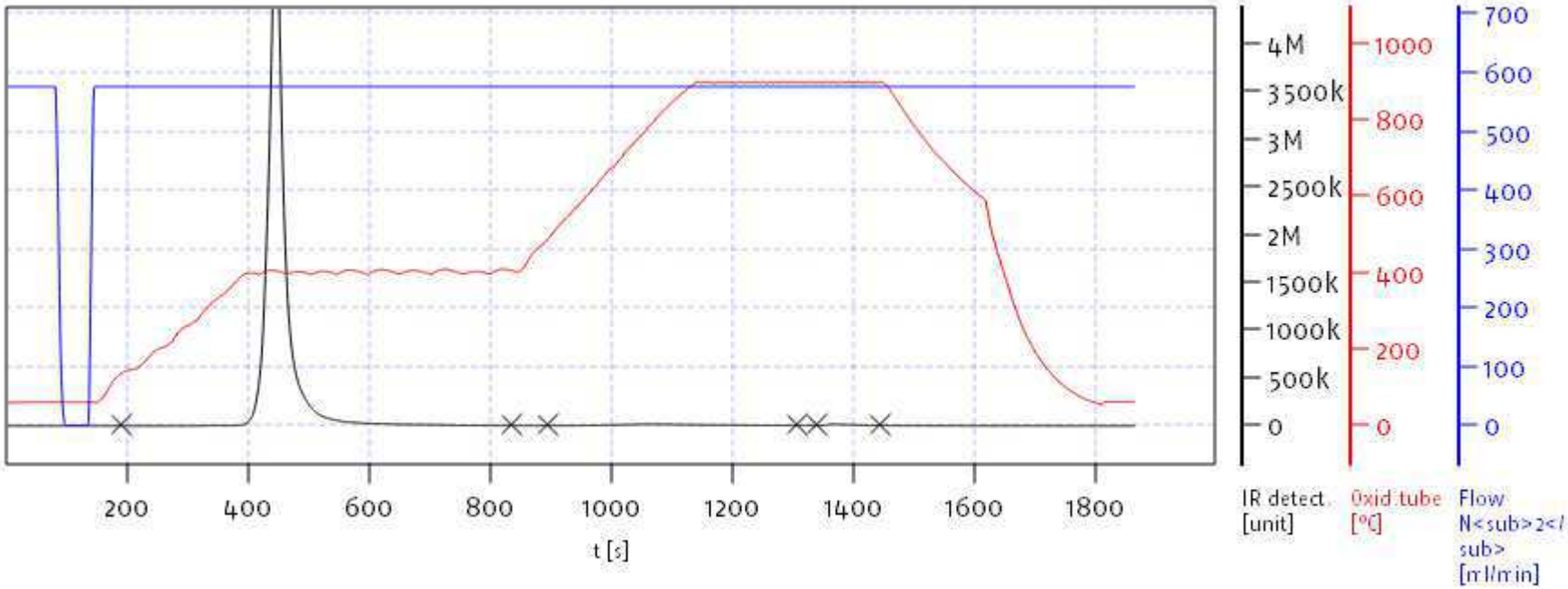
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
134	16	Dfactor	23.10		1.00	CARBON	8/19/2021 1:19 PM	44.623	0.823	45.447	bl	6 261 286	132 929	37 050	1.0555	1.0000



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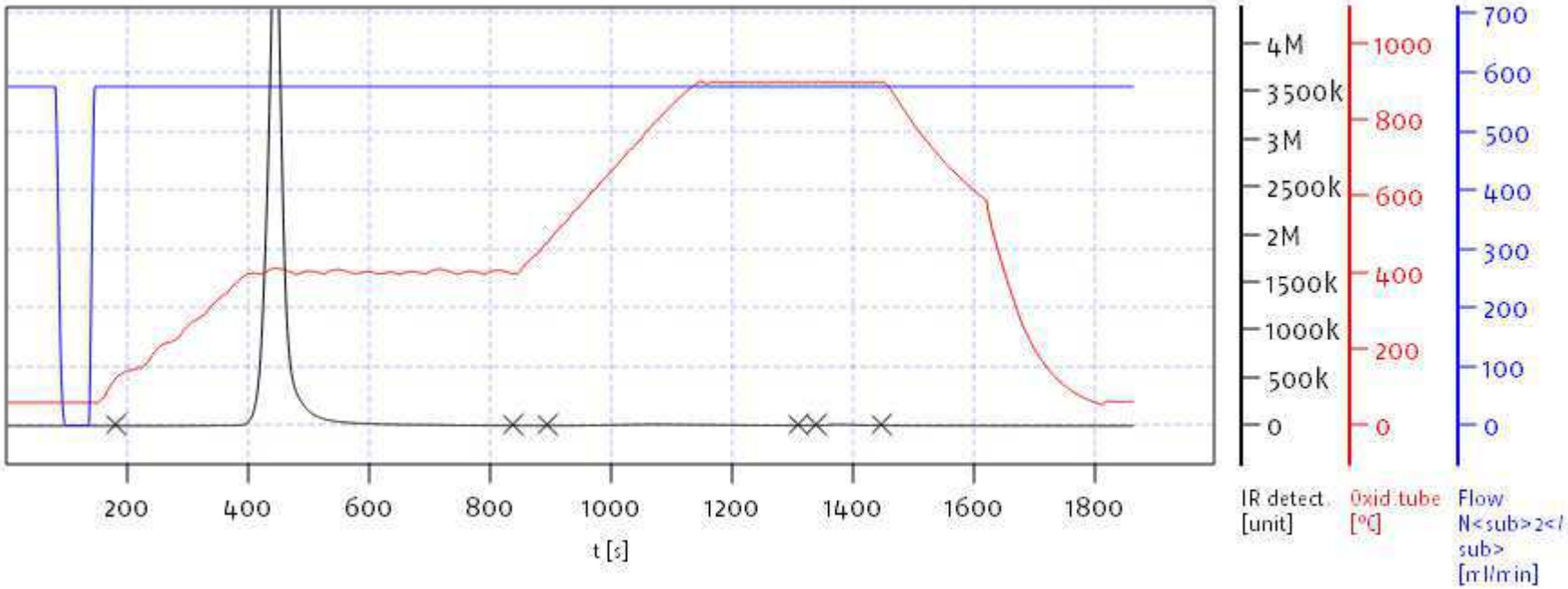
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
135	17	Dfactor	22.20		1.00	CARBON	8/19/2021 1:51 PM	44.604	0.811	45.415	bl	6 068 629	126 385	33 332	1.0466	1.0000



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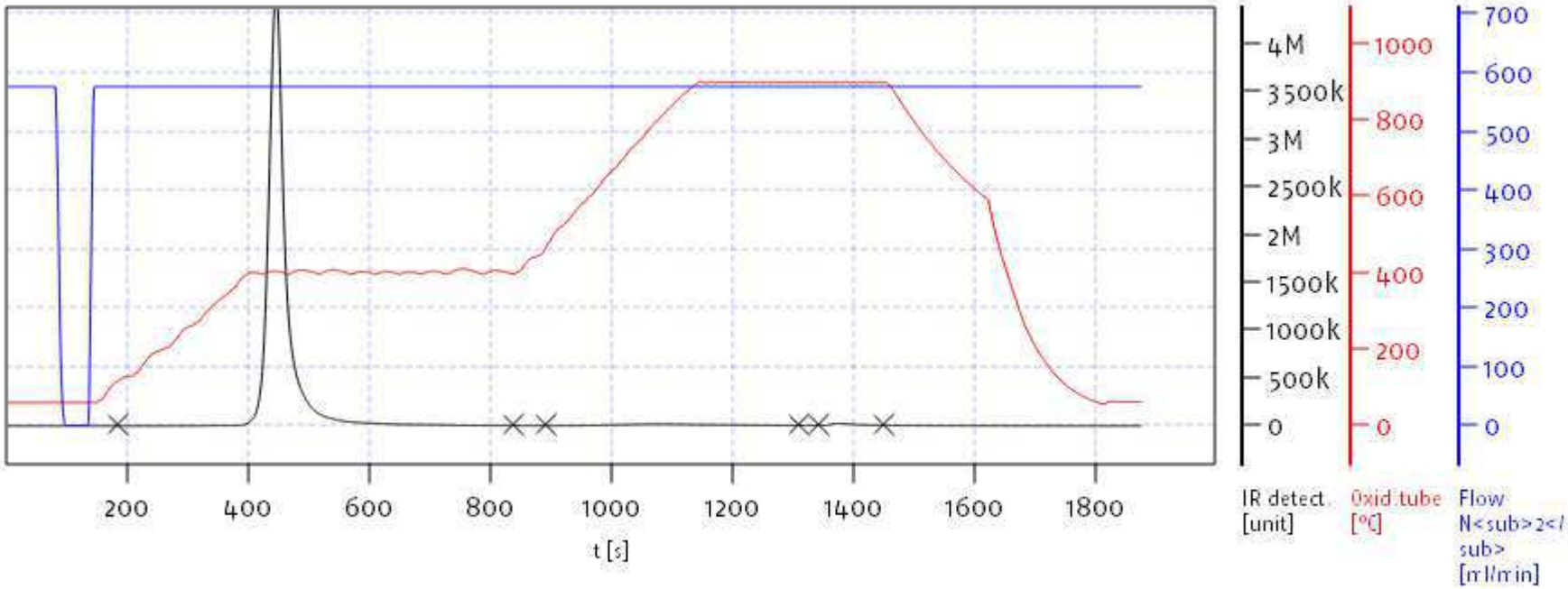
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
136	18	SJH0183-CCVB	21.00		1.00	CARBON	8/19/2021 2:22 PM	43.985	1.002	44.988	bl	5 620 094	145 939	50 462	1.0510	1.0000



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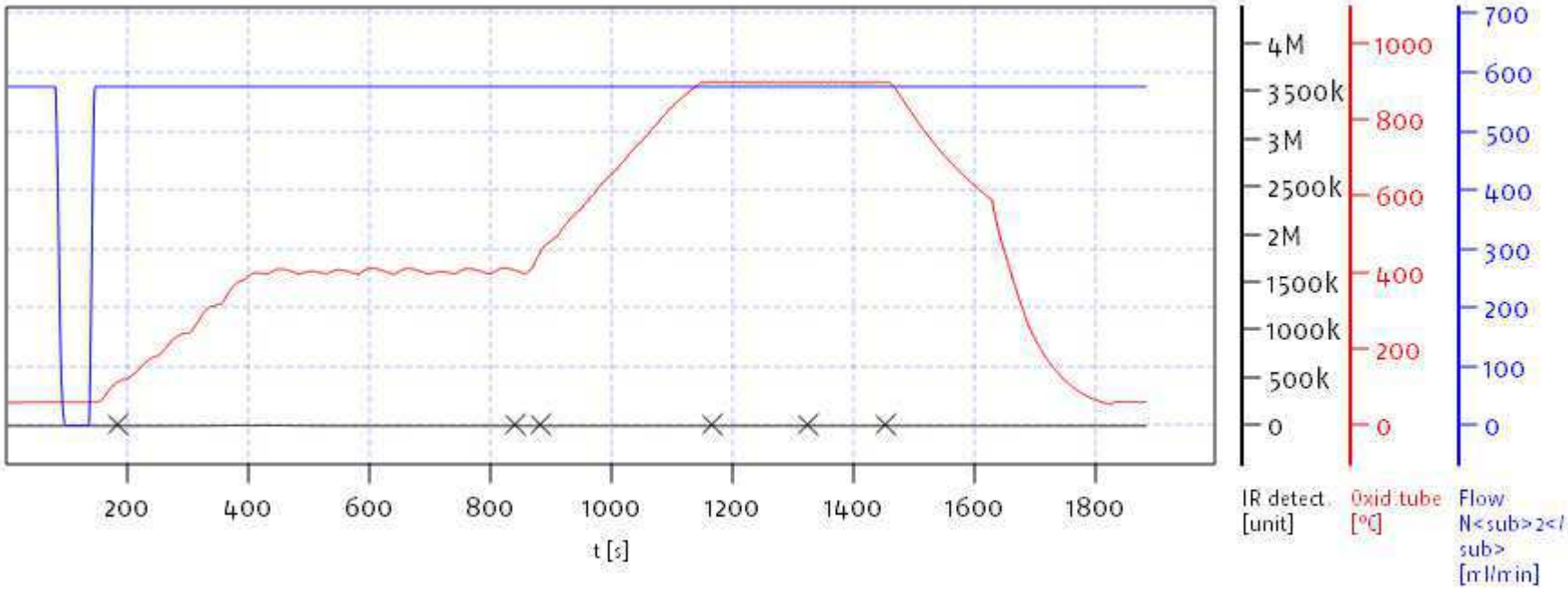
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
137	19	SJH0183-CCBB	515.10		1.00	CARBON	8/19/2021 2:54 PM	0.006	0.000	0.006	bl,C3u,C2u	29 088	1 250	1 029	1.0510	1.0000



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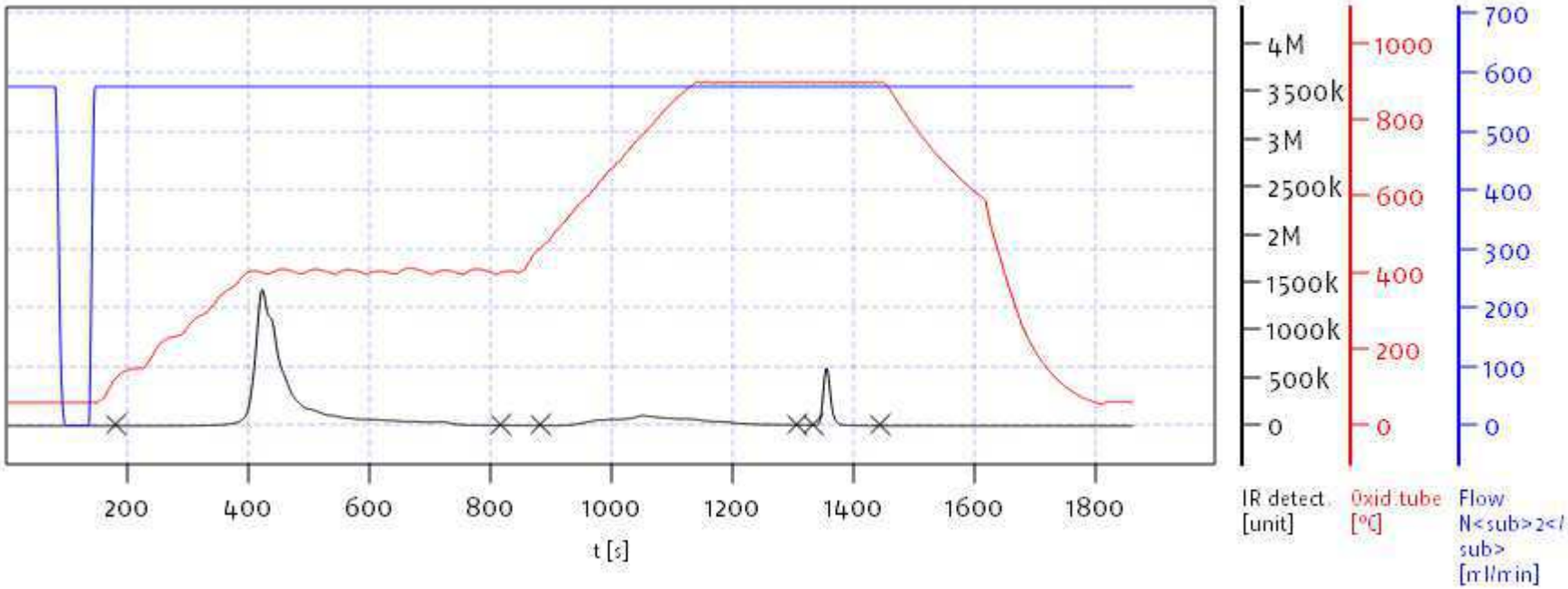
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
138	20	21F0430-09	588.20		1.00	CARBON	8/19/2021 3:25 PM	0.974	0.187	1.161	bl	3 205 536	717 323	333 530	1.0510	1.0000



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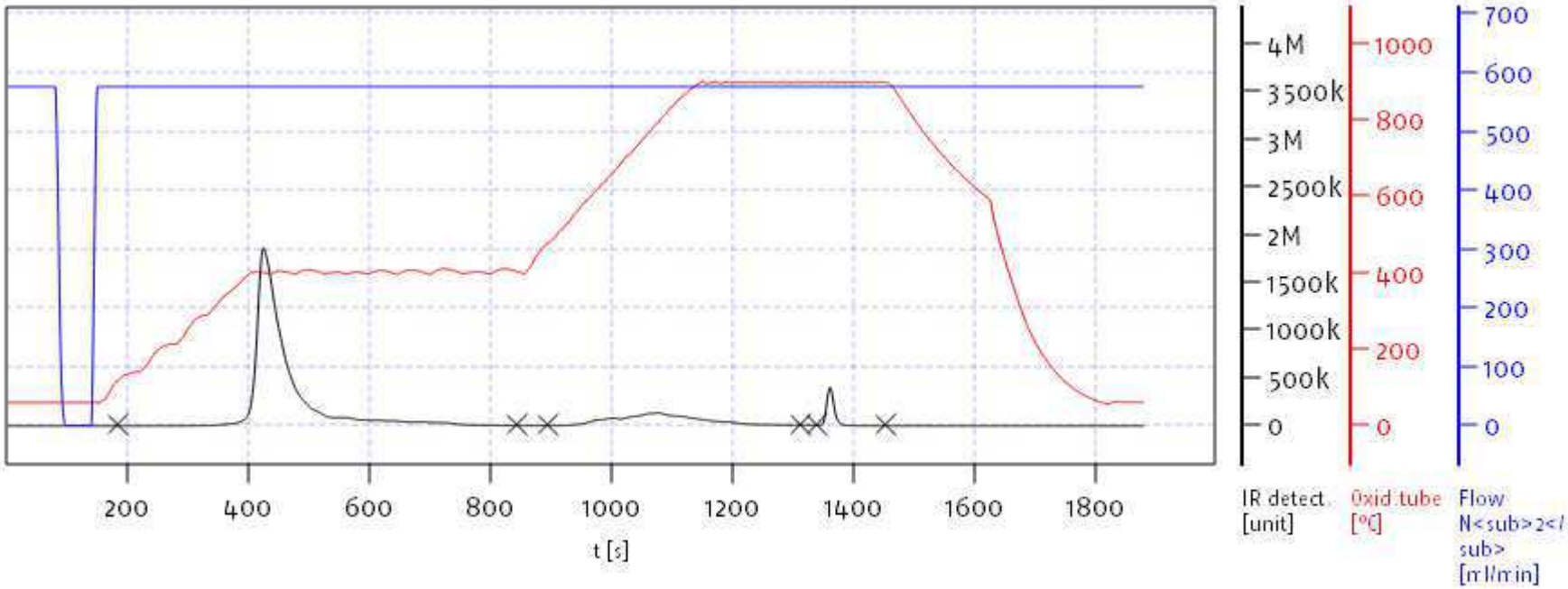
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
139	21	21F0430-10	638.40		1.00	CARBON	8/19/2021 3:57 PM	1.038	0.201	1.239	bl	3 860 690	833 852	222 293	1.0510	1.0000



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Access: soliTOC superuser

Date: Mon Aug 23 13:43:13 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

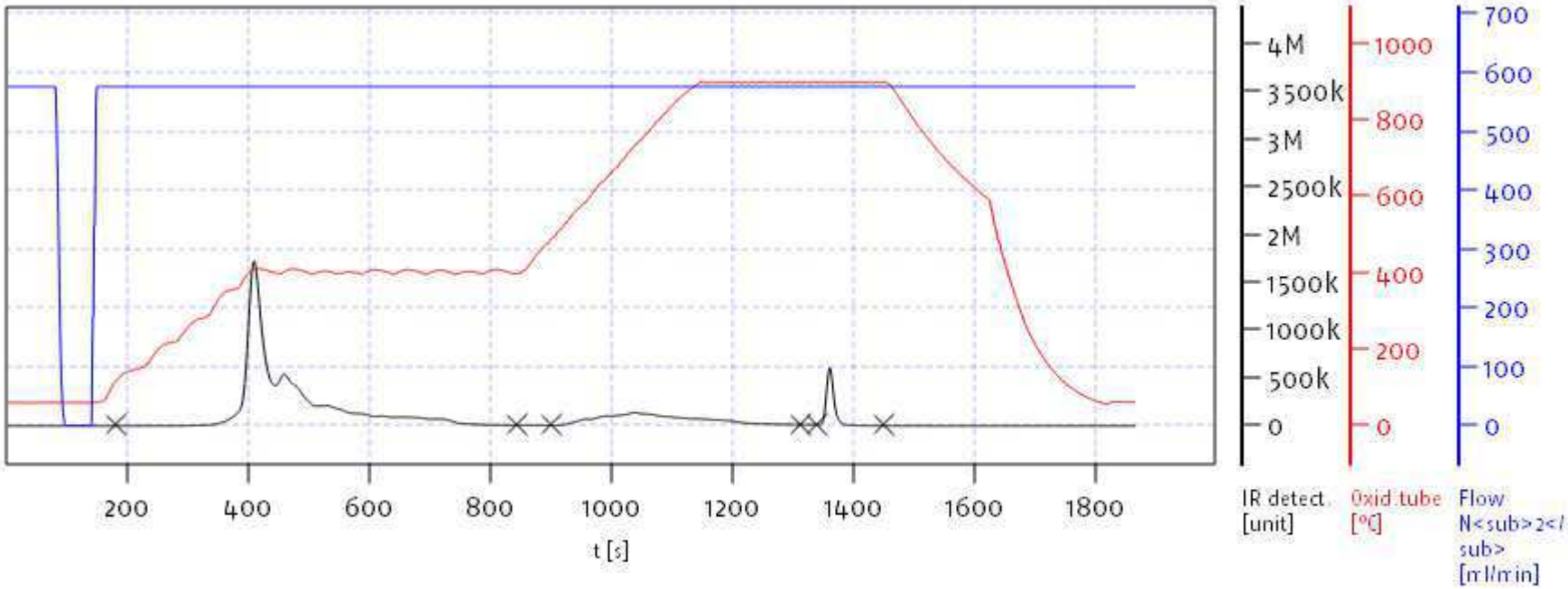
elementar
EXCELLENCE IN ELEMENTS

Document: 081621BF from: 8/20/2021 10:36 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
140	22	21F0430-11	625.90		1.00	CARBON	8/19/2021 4:29 PM	1.146	0.245	1.391	bl	4 083 292	997 718	337 399	1.0510	1.0000



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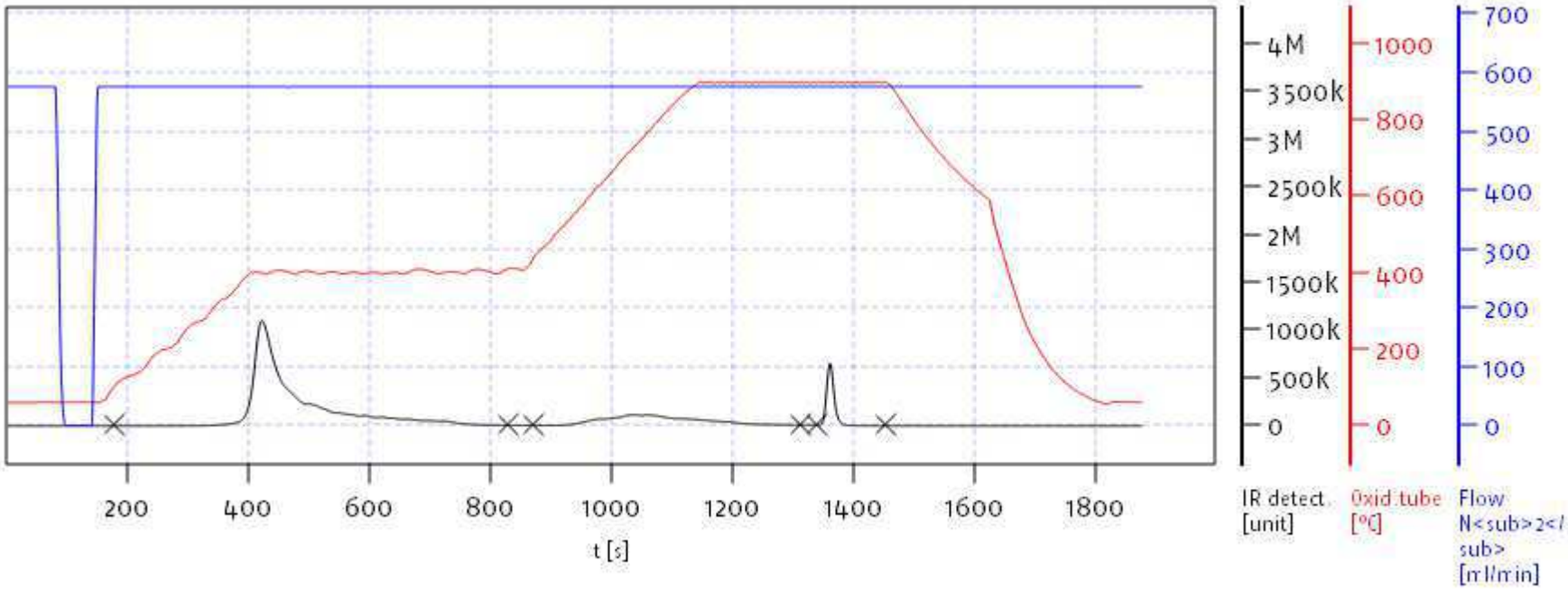
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
141	23	21F0430-12	626.50		1.00	CARBON	8/19/2021 5:00 PM	0.885	0.203	1.088	bl	3 068 690	828 052	359 419	1.0510	1.0000



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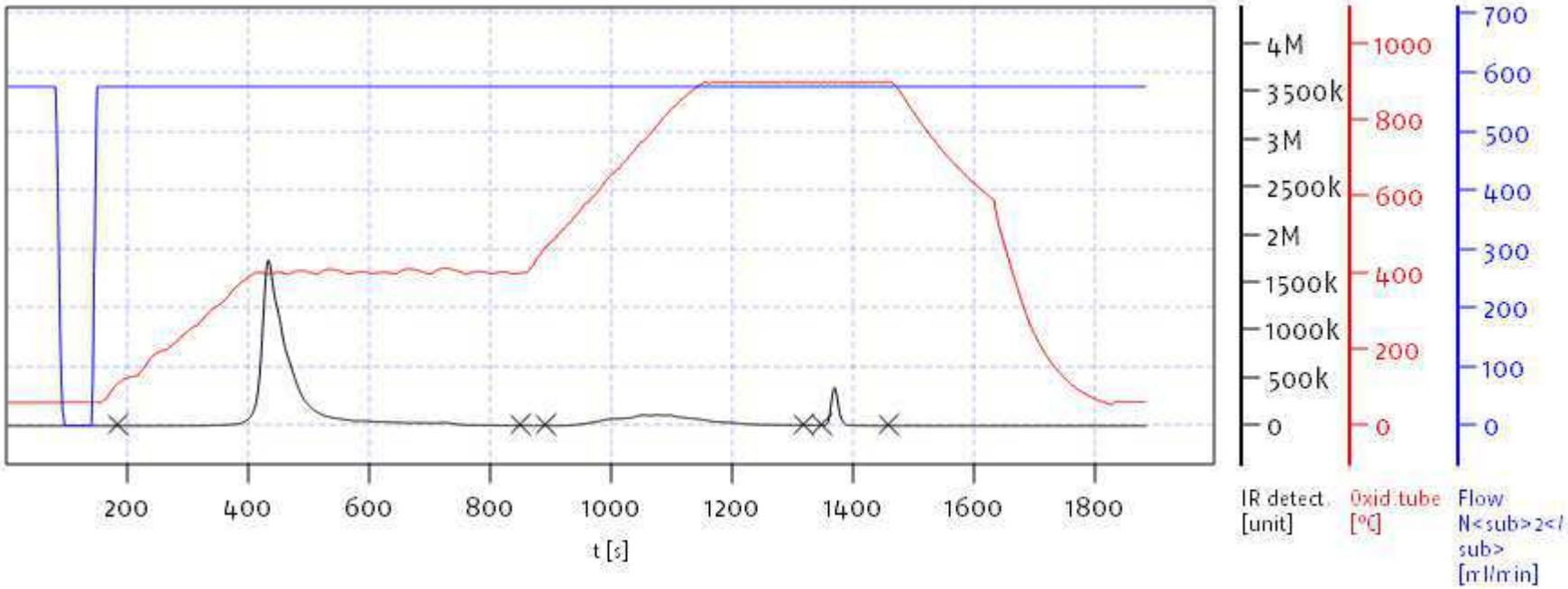
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
142	24	21F0430-13	577.30		1.00	CARBON	8/19/2021 5:32 PM	1.016	0.203	1.219	bl	3 398 809	763 833	218 649	1.0510	1.0000



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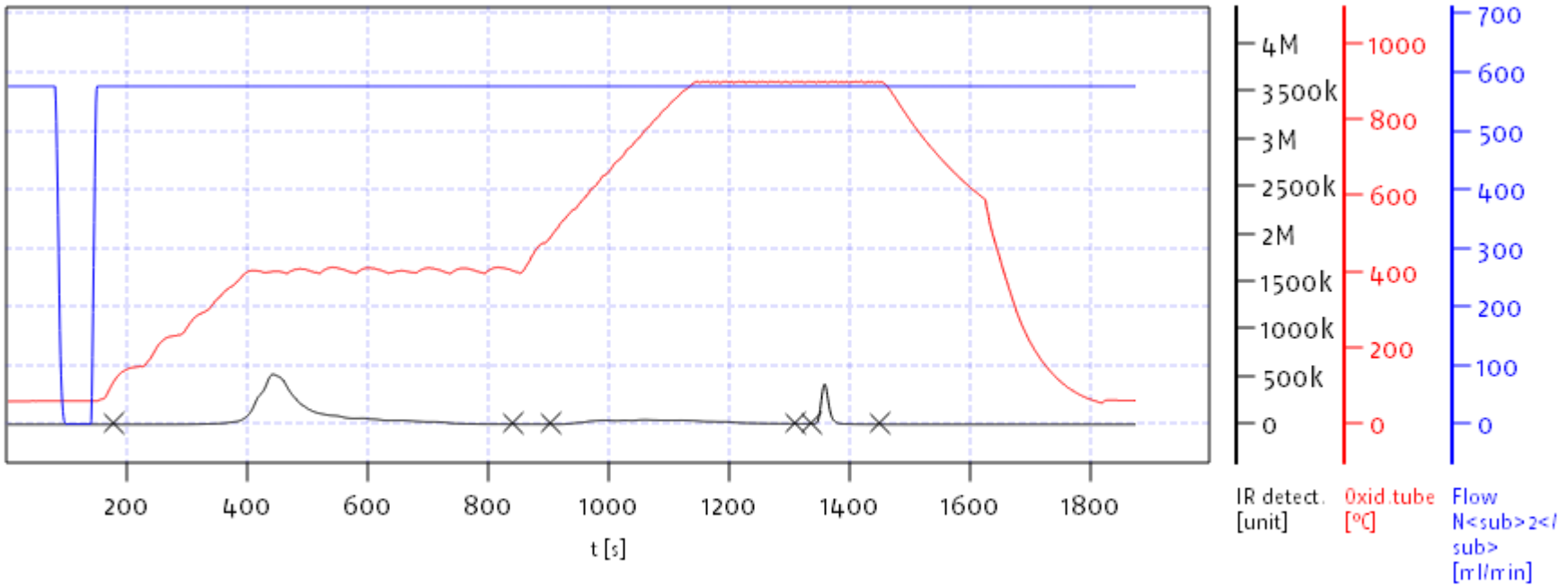
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
143	25	21F0430-14	597.60		1.00	CARBON	8/19/2021 6:04 PM	0.568	0.107	0.675	bl	1 867 329	420 184	240 264	1.0510	1.0000



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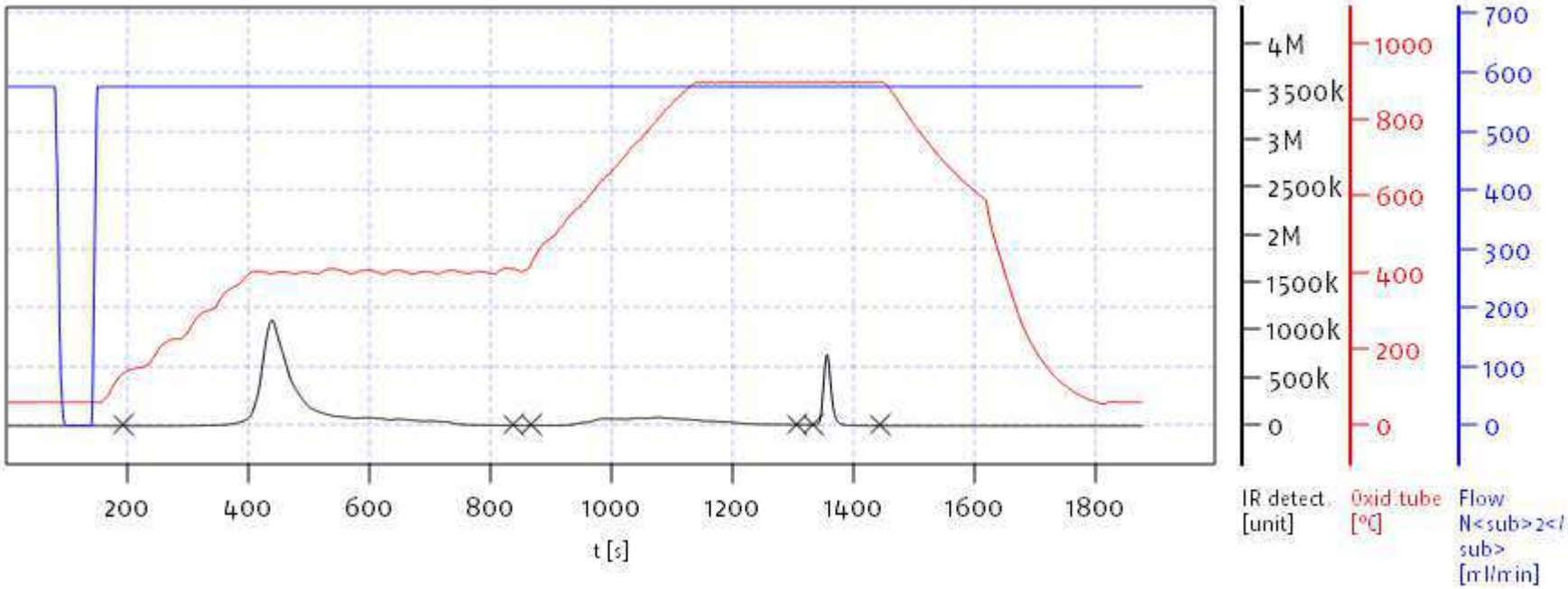
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
144	26	21F0430-15	530.70		1.00	CARBON	8/19/2021 6:36 PM	1.016	0.206	1.222	bl	2 914 891	712 725	423 046	1.0510	1.0000



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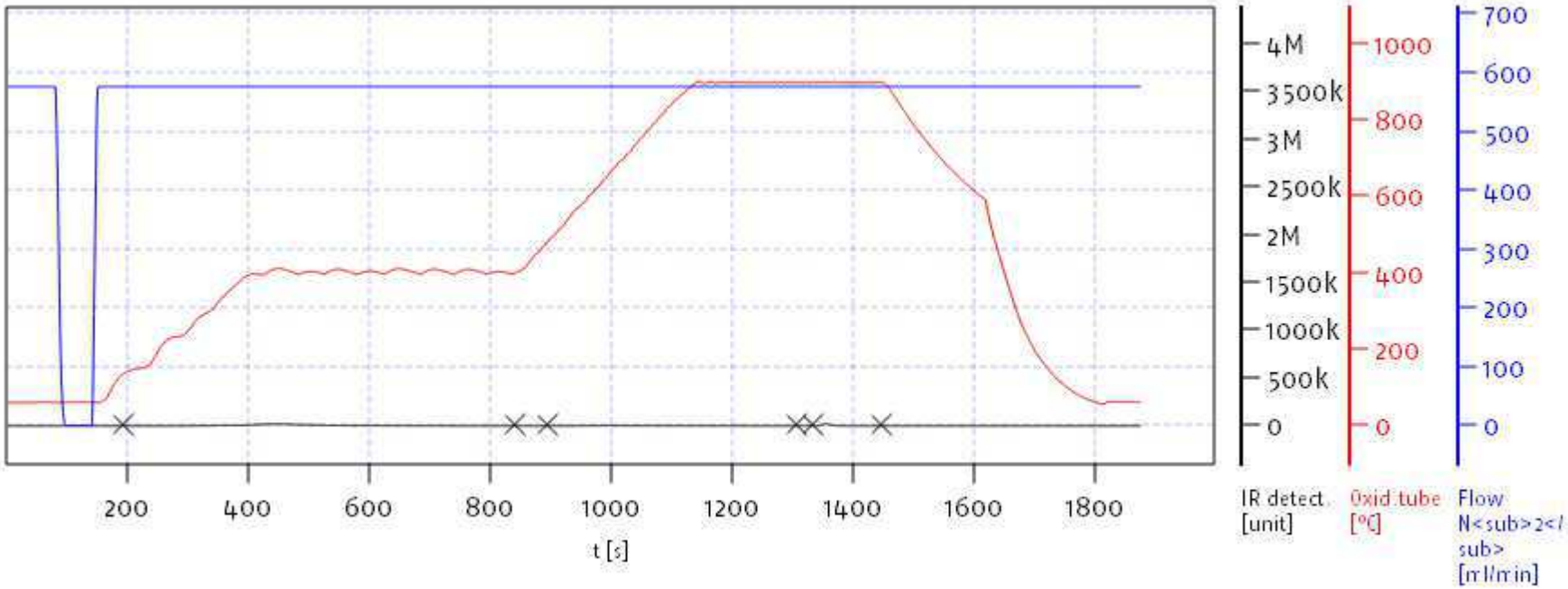
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
145	27	21H0033-04	647.10		1.00	CARBON	8/19/2021 7:07 PM	0.024	0.003	0.026	bl	102 084	21 260	13 243	1.0510	1.0000



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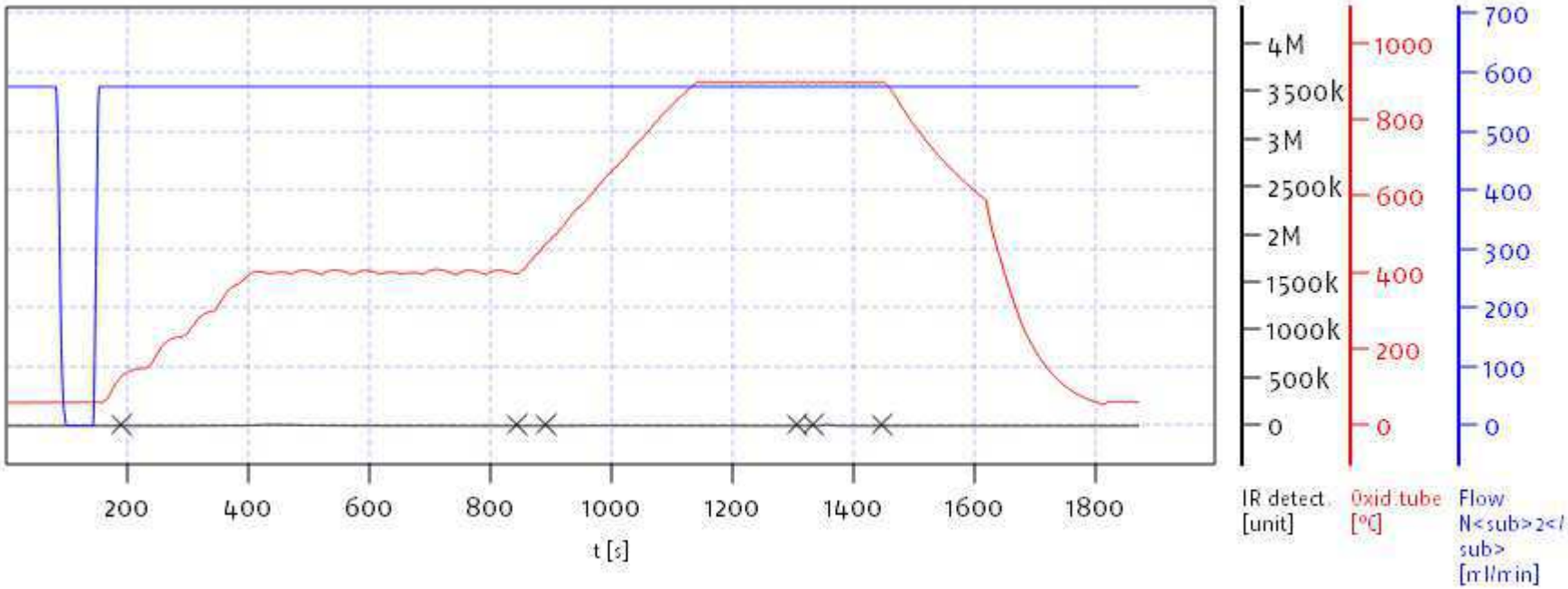
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
146	28	21H0078-10	503.80		1.00	CARBON	8/19/2021 7:39 PM	0.016	0.002	0.017	bl	58 920	16 233	8 715	1.0510	1.0000



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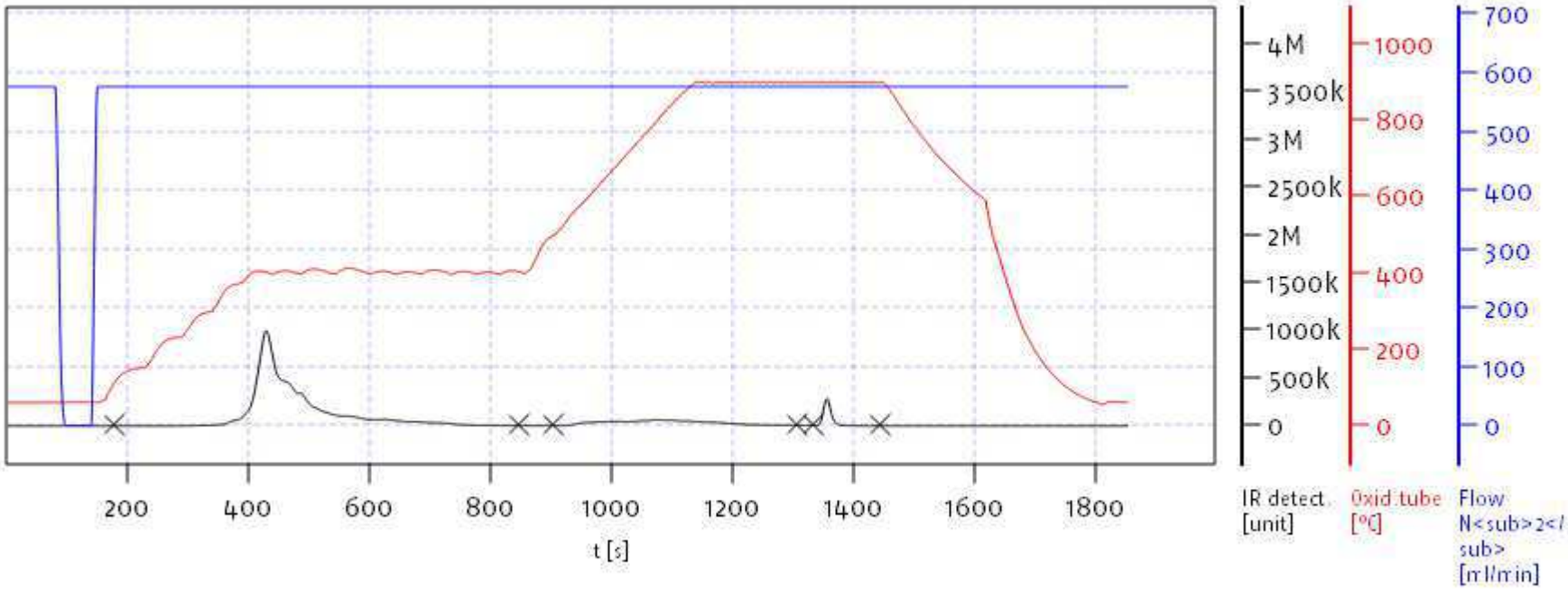
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
147	29	21H0078-31	666.60		1.00	CARBON	8/19/2021 8:10 PM	0.708	0.111	0.819	bl	2 750 217	486 358	163 668	1.0510	1.0000



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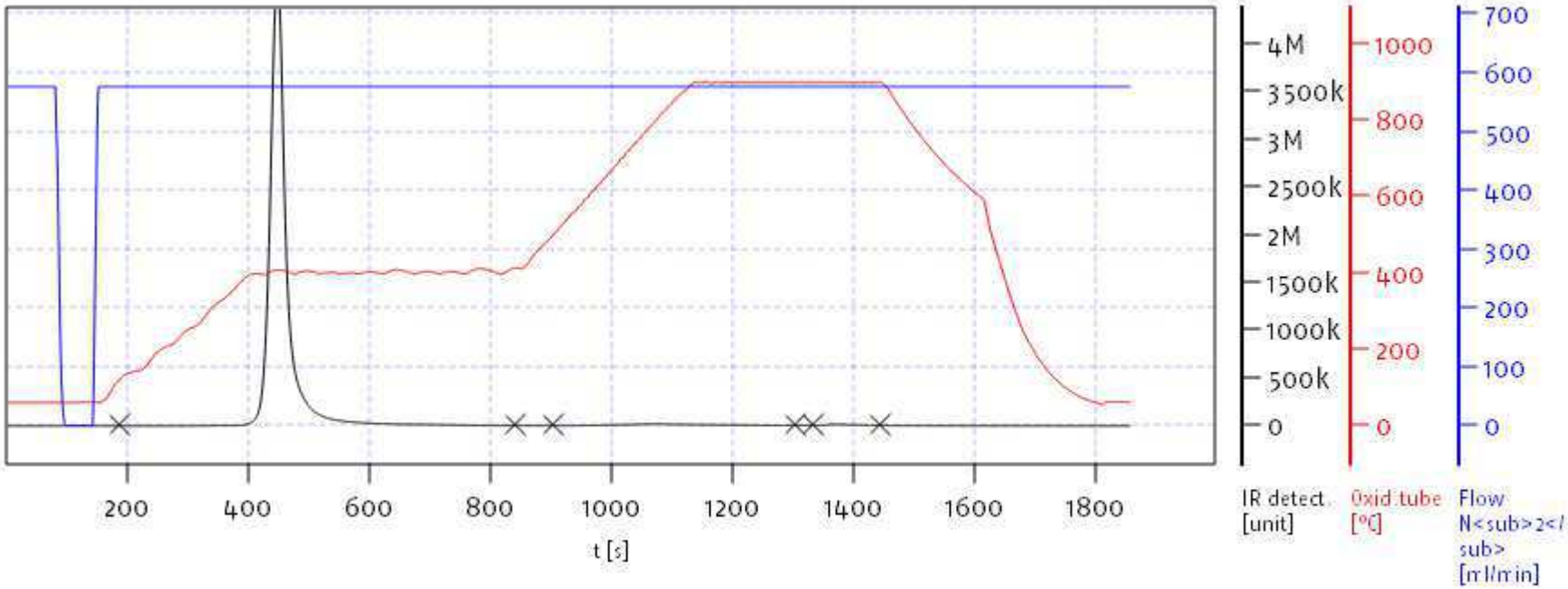
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
148	30	SJH0183-CCVC	20.40		1.00	CARBON	8/19/2021 8:42 PM	44.553	0.996	45.550	bl	5 540 794	141 291	38 677	1.0510	1.0000



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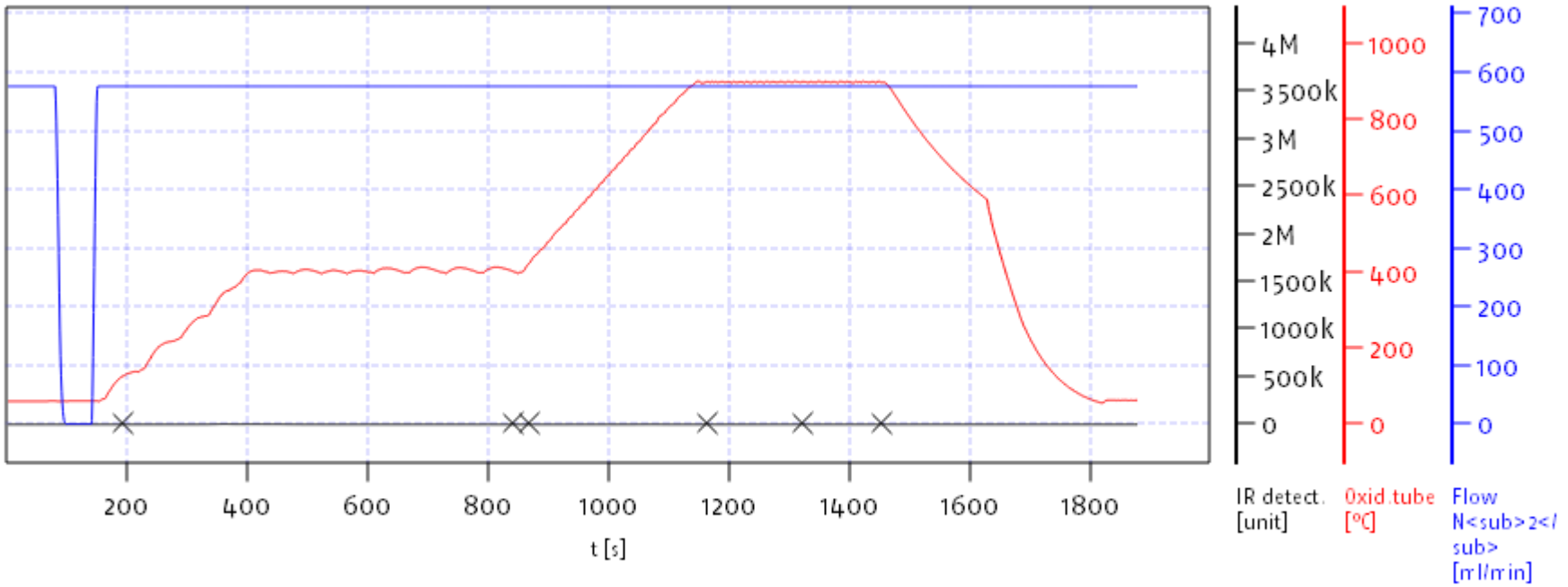
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
149	31	SJH0183-CCBC	535.50		1.00	CARBON	8/19/2021 9:13 PM	0.001	0.000	0.001	bl,C3u,C2u	14 164	2 315	561	1.0510	1.0000



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Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

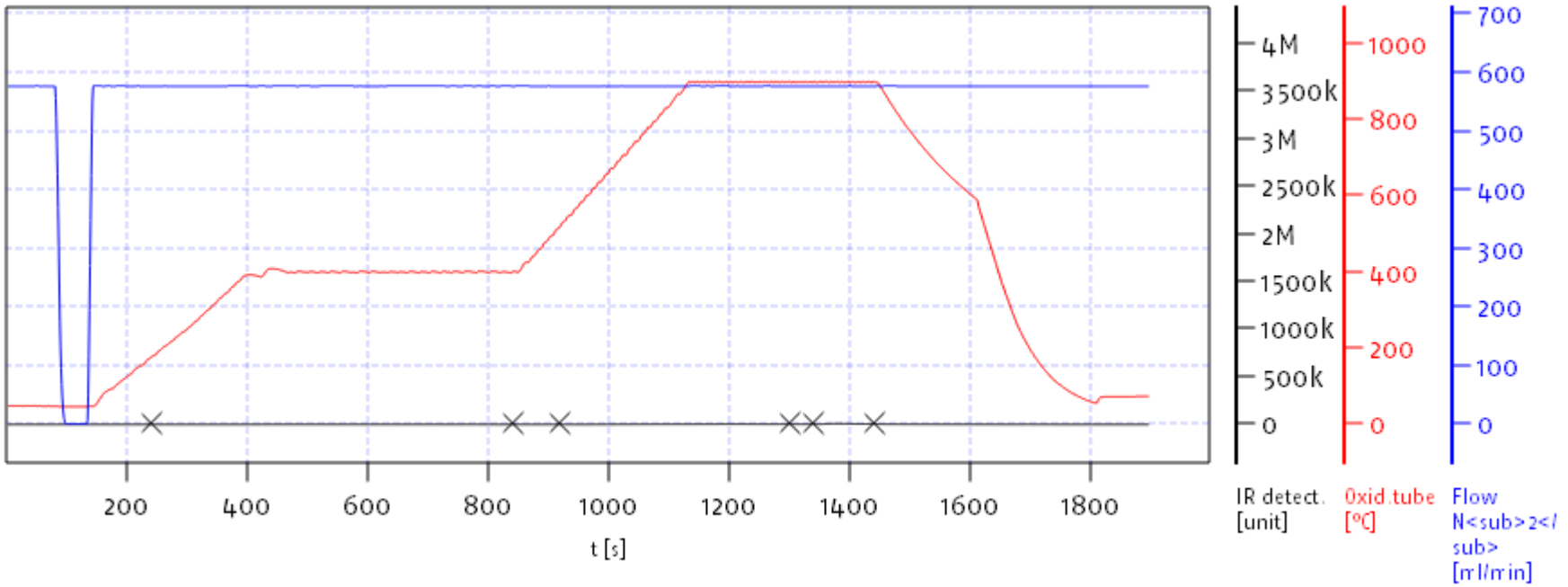
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0323	Instrument:	TOC Cube
		Calibration:	EH00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Cal Standard	SJH0323-CAL1	peData_08252021@1209-(	NA	08/24/21 19:03
Cal Standard	SJH0323-CAL2	peData_08252021@1209-(	NA	08/24/21 19:34
Cal Standard	SJH0323-CAL3	peData_08252021@1209-(	NA	08/24/21 20:06
Cal Standard	SJH0323-CAL4	peData_08252021@1209-(	NA	08/24/21 20:38
Cal Standard	SJH0323-CAL5	peData_08252021@1209-(	NA	08/24/21 21:10
Cal Standard	SJH0323-CAL6	peData_08252021@1209-(	NA	08/24/21 21:41
Cal Standard	SJH0323-CAL7	peData_08252021@1209-(	NA	08/24/21 22:13
Cal Standard	SJH0323-CAL8	peData_08252021@1209-(	NA	08/24/21 22:44
Cal Standard	SJH0323-CAL9	peData_08252021@1209-(	NA	08/24/21 23:16
Cal Standard	SJH0323-CALA	peData_08252021@1209-(	NA	08/24/21 23:48
Cal Standard	SJH0323-CALB	peData_08252021@1209-(	NA	08/25/21 00:19
Cal Standard	SJH0323-CALC	peData_08252021@1209-(	NA	08/25/21 00:51
Cal Standard	SJH0323-CALD	peData_08252021@1209-(	NA	08/25/21 01:22
Cal Standard	SJH0323-CALE	peData_08252021@1209-(	NA	08/25/21 01:54
Cal Standard	SJH0323-CALF	peData_08252021@1209-(	NA	08/25/21 02:26
Cal Standard	SJH0323-CALG	peData_08252021@1209-(	NA	08/25/21 02:58
Cal Standard	SJH0323-CALH	peData_08252021@1209-(	NA	08/25/21 03:29
Cal Standard	SJH0323-CALI	peData_08252021@1209-(	NA	08/25/21 04:01
Cal Standard	SJH0323-CALJ	peData_08252021@1209-(	NA	08/25/21 04:33
Initial Cal Check	SJH0323-ICV1	peData_08252021@1209-(	NA	08/25/21 09:19
Initial Cal Blank	SJH0323-ICB1	peData_08252021@1209-(	NA	08/25/21 09:51
Cal Standard	SJH0323-CALK	peData_08252021@1209-(	NA	08/25/21 11:41
Cal Standard	SJH0323-CALL	peData_08252021@1209-(	NA	08/25/21 11:42
Cal Standard	SJH0323-CALM	peData_08252021@1209-(	NA	08/25/21 11:43
Cal Standard	SJH0323-CALN	peData_08252021@1209-(	NA	08/25/21 11:45
Cal Standard	SJH0323-CALO	peData_08252021@1209-(	NA	08/25/21 11:46

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	9	BLANK	1.00		1.00	CARBON	8/24/2021 6:00 PM	0.000	0.000	0.000	bl	13 861	33 454	21 567	1.0000	1.0000



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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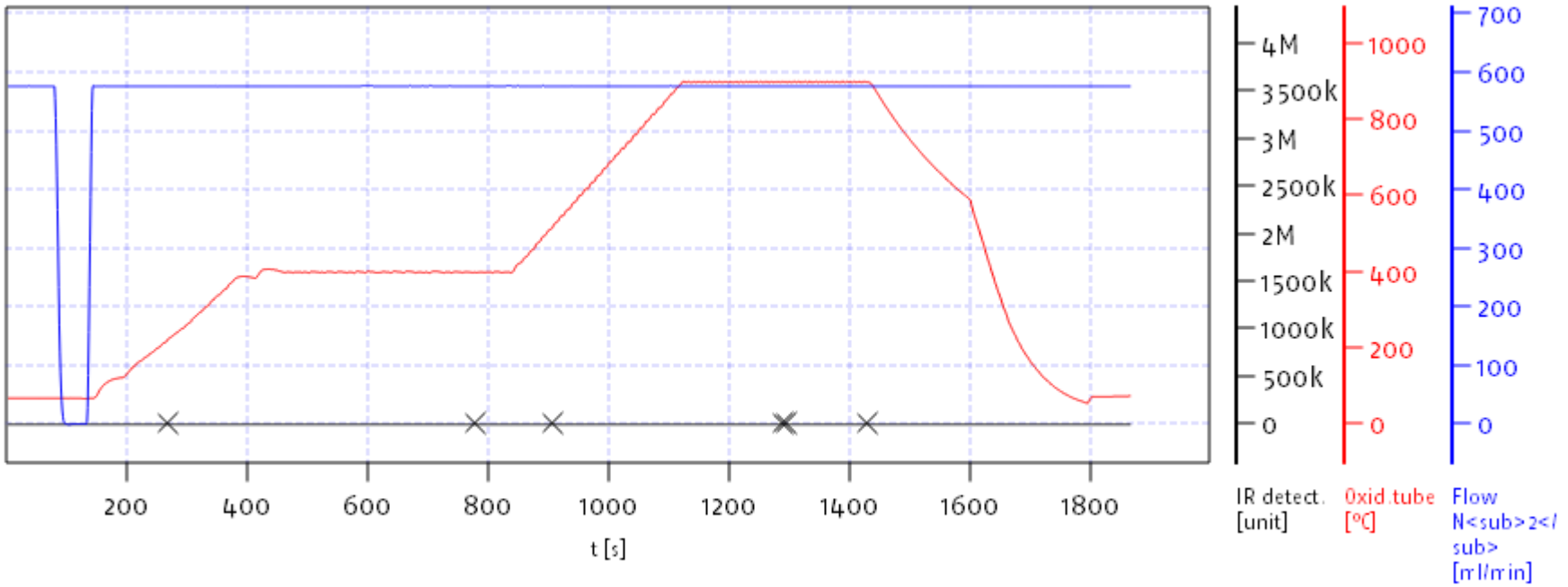
Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	10	BLANK	1.00		1.00	CARBON	8/24/2021 6:31 PM	0.000	0.000	0.000	bl	1 643	8	245	1.0000	1.0000



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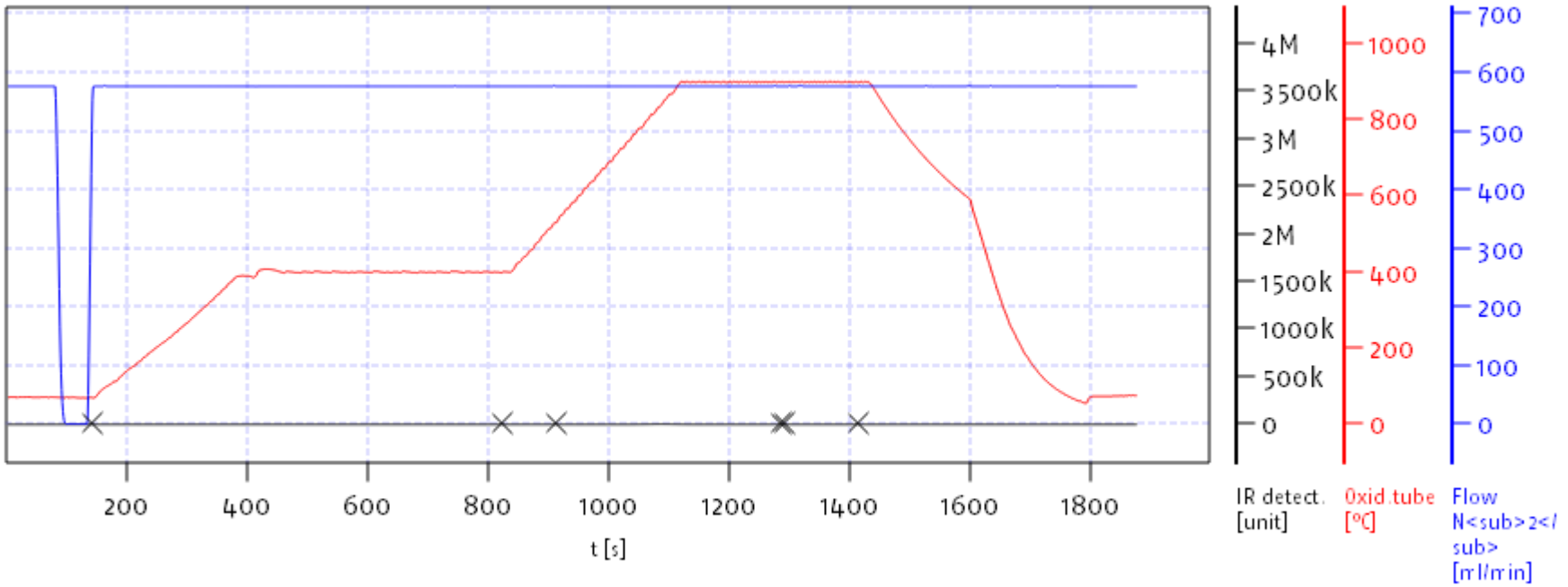
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	11	SEQ-CAL1	200.00	0.0017	1.00	CARBON	8/24/2021 7:03 PM	0.000	0.008	0.008	bl,C1u,C3u,C2u	1 070	6 478	141	1.0000	1.1719



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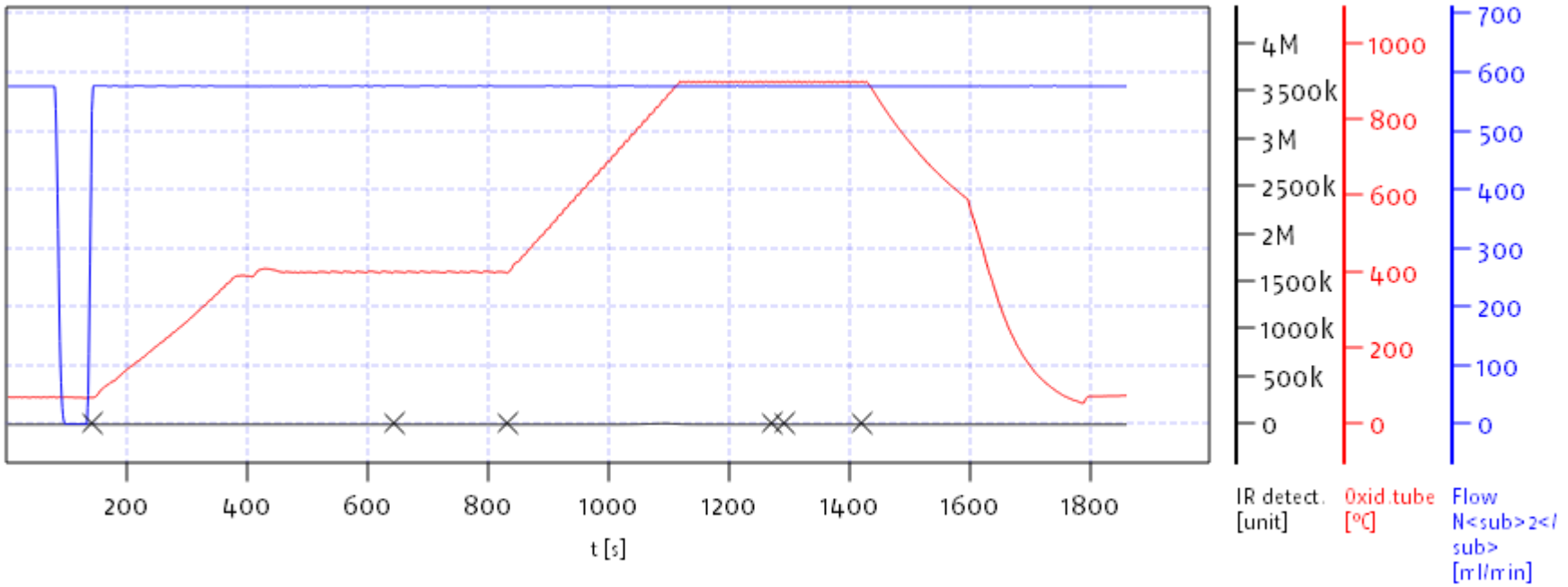
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	12	SEQ-CAL2	200.00	0.0054	1.00	CARBON	8/24/2021 7:34 PM	0.000	0.015	0.015	bl,C1u,C2u	660	18 783	85	1.0000	0.9072



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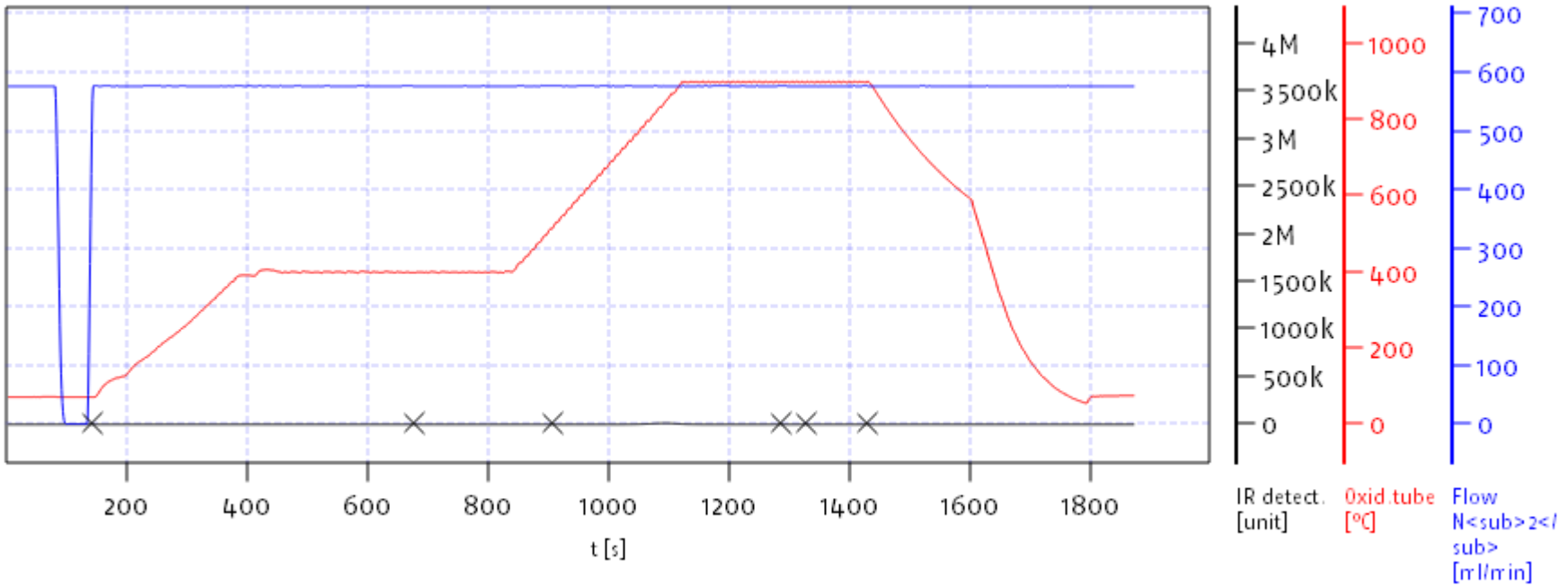
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	13	SEQ-CAL3	200.00	0.0068	1.00	CARBON	8/24/2021 8:06 PM	0.000	0.022	0.022	bl,C1u,C2u	889	24 712	60	1.0000	1.0307



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	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
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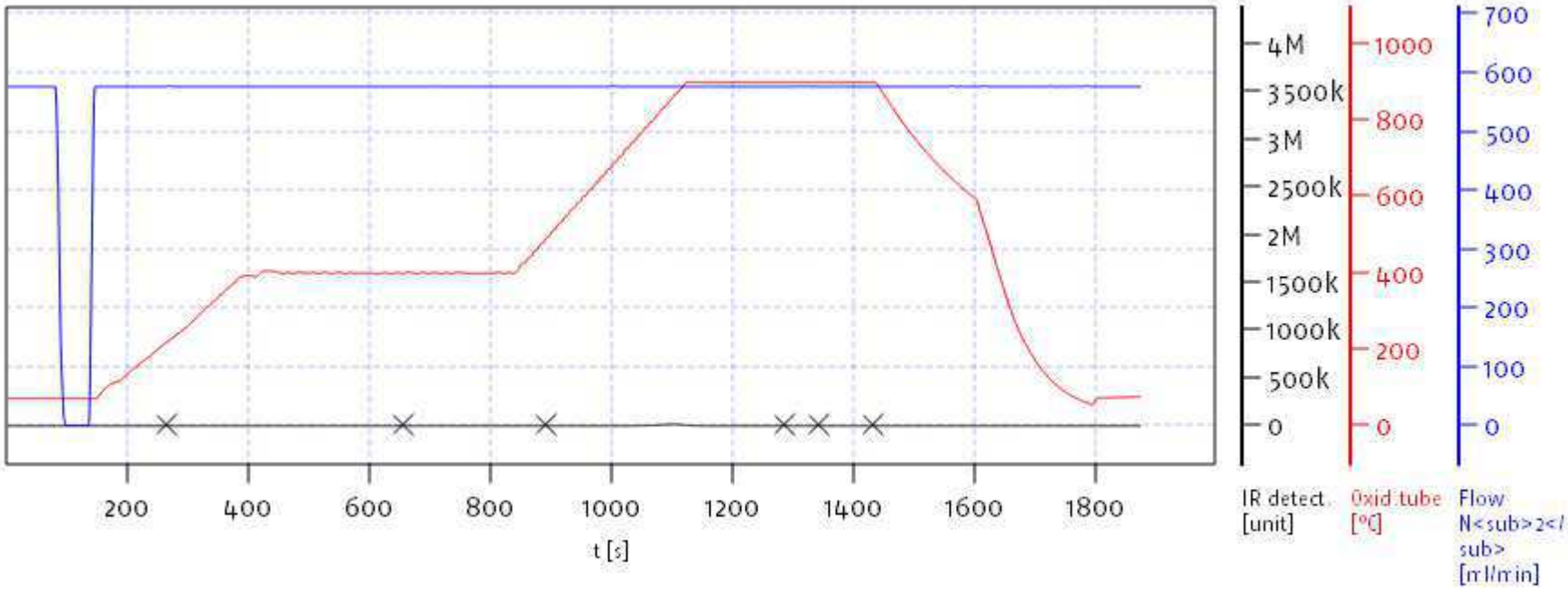

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Analyst: BF

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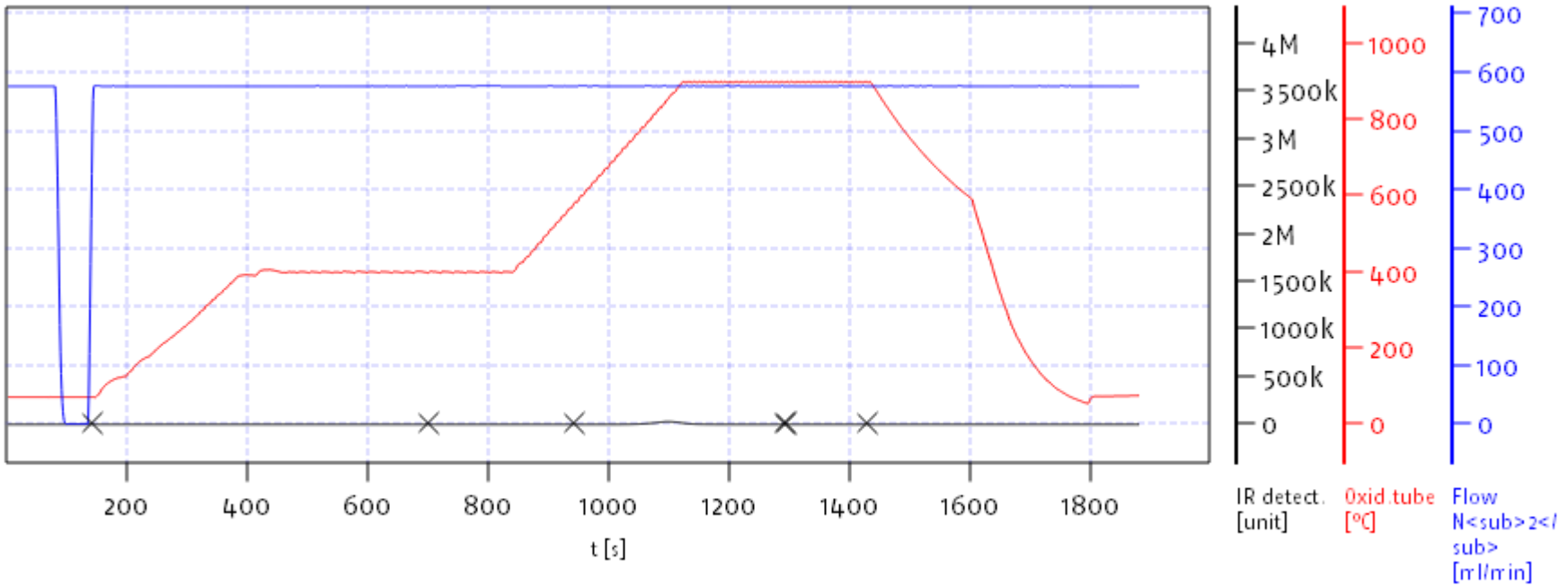
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	15	SEQ-CAL5	200.00	0.0151	1.00	CARBON	8/24/2021 9:10 PM	0.000	0.045	0.045	bl,C1u,C2u	776	61 535	62	1.0000	0.8900



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Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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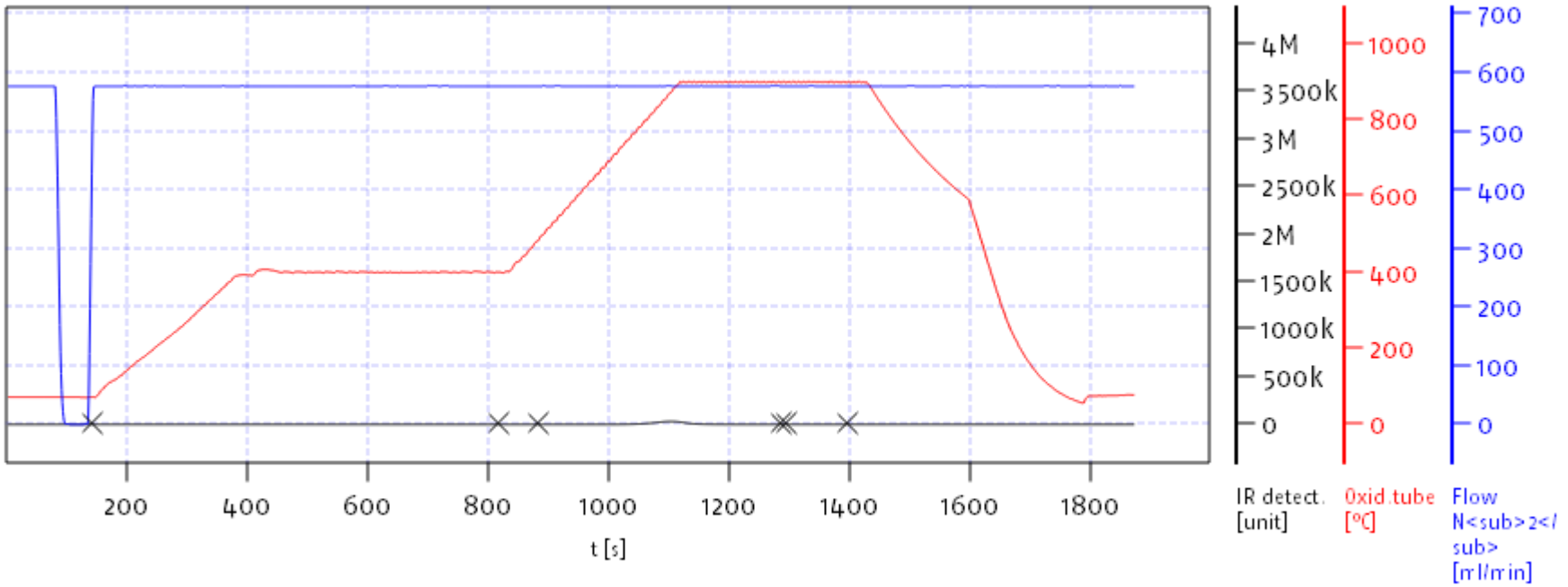
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	16	SEQ-CAL6	200.00	0.0200	1.00	CARBON	8/24/2021 9:41 PM	0.000	0.061	0.061	bl,C1u,C2u	1 086	73 745	55	1.0000	1.0168



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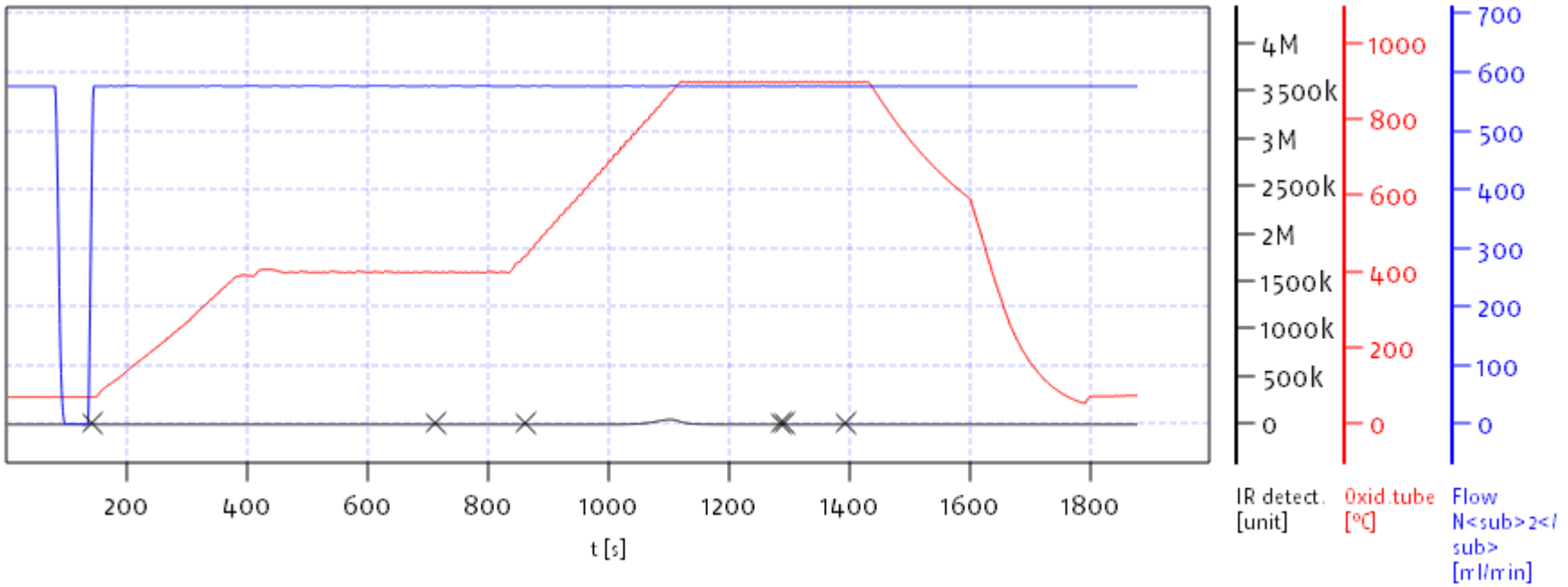
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	17	SEQ-CAL7	200.00	0.0256	1.00	CARBON	8/24/2021 10:13 PM	0.000	0.075	0.075	bl,C1u,C2u	1 149	100 193	99	1.0000	0.9293



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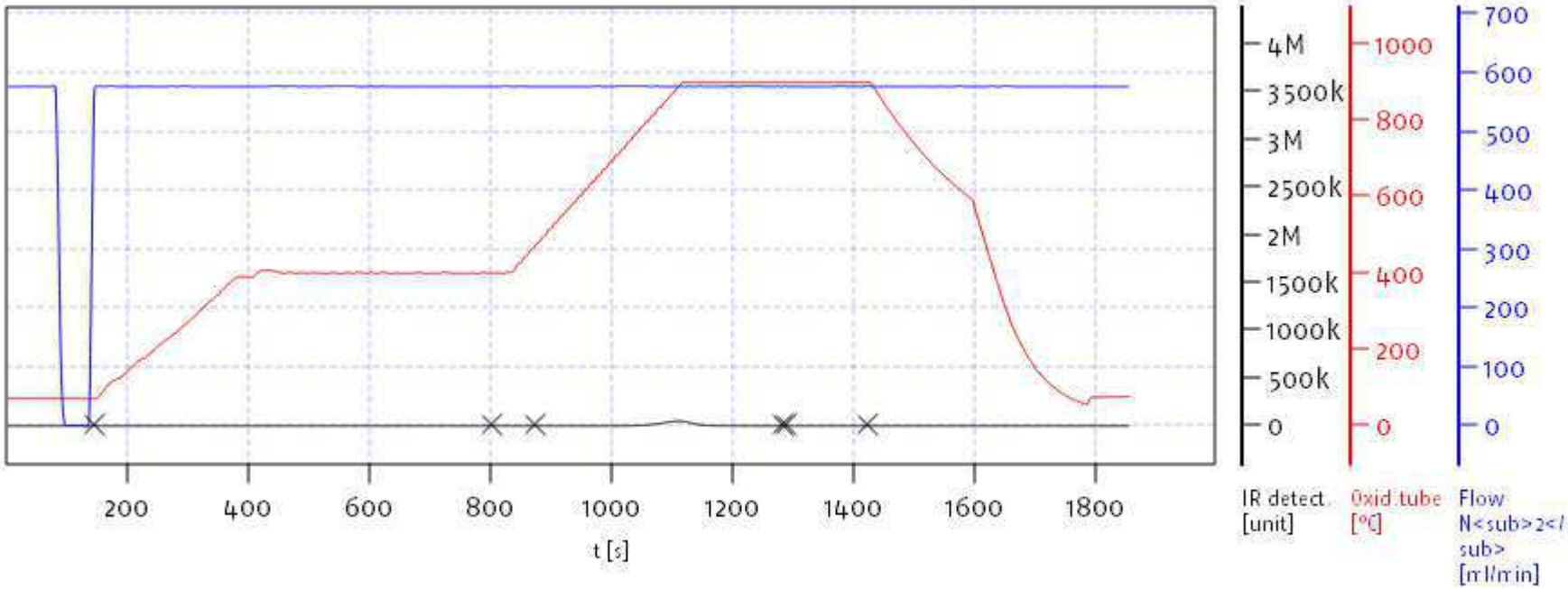
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	18	SEQ-CAL8	200.00	0.0303	1.00	CARBON	8/24/2021 10:44 PM	0.000	0.091	0.091	bl,C1u,C2u	779	118 482	109	1.0000	0.9492



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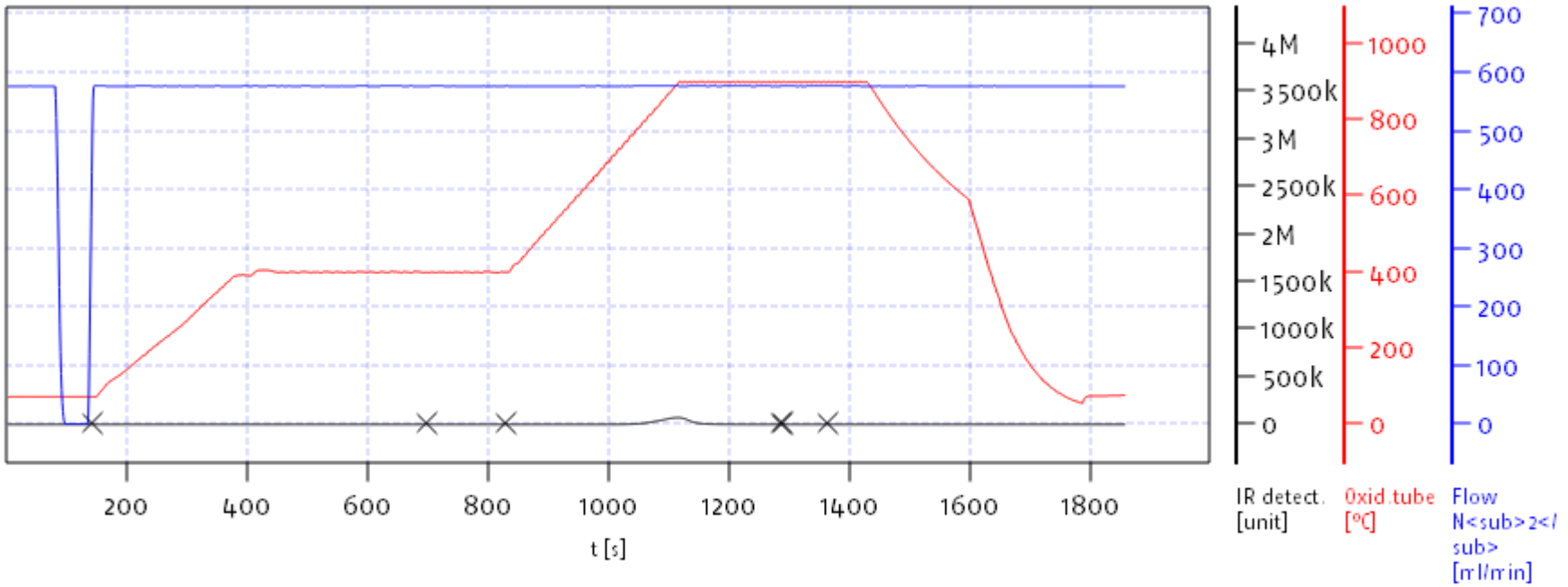
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	19	SEQ-CAL9	200.00	0.0396	1.00	CARBON	8/24/2021 11:16 PM	0.000	0.120	0.120	bl,C1u,C2u	848	163 267	93	1.0000	0.9178



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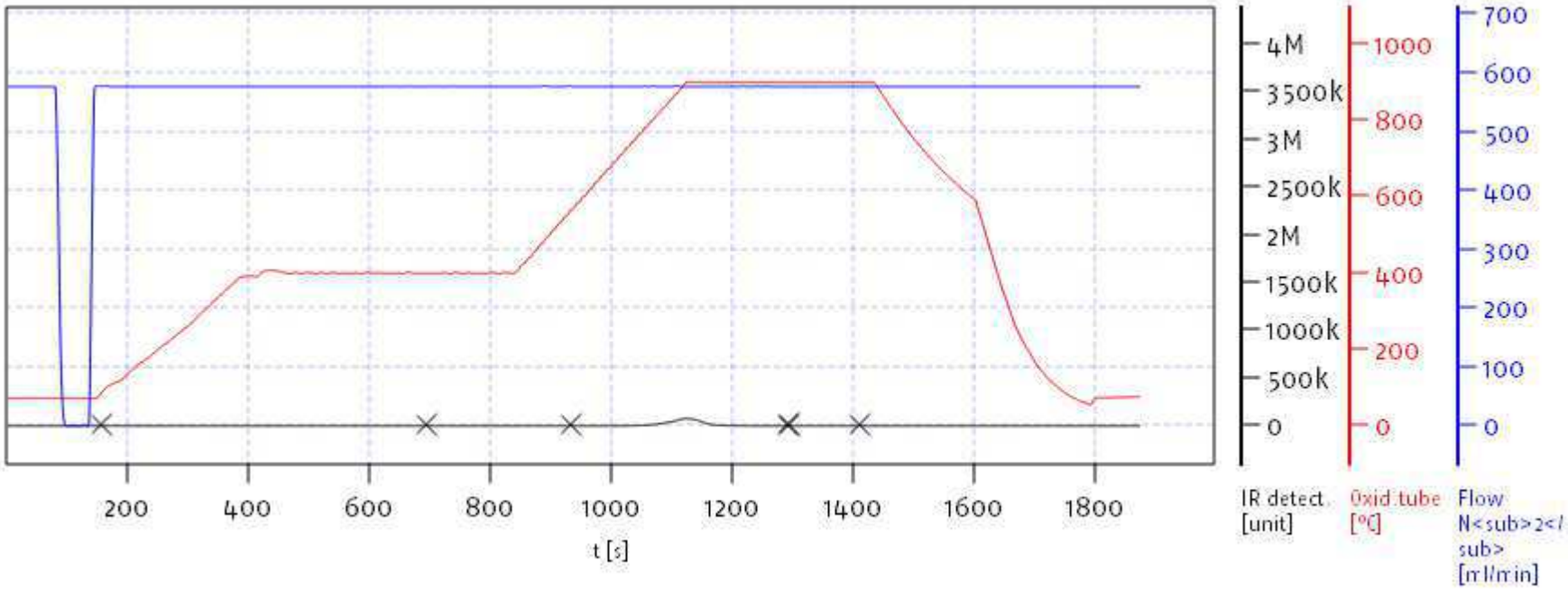
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	20	SEQ-CALA	200.00	0.0498	1.00	CARBON	8/24/2021 11:48 PM	0.000	0.151	0.151	bl,C1u,C2u	1 818	184 410	146	1.0000	1.0237



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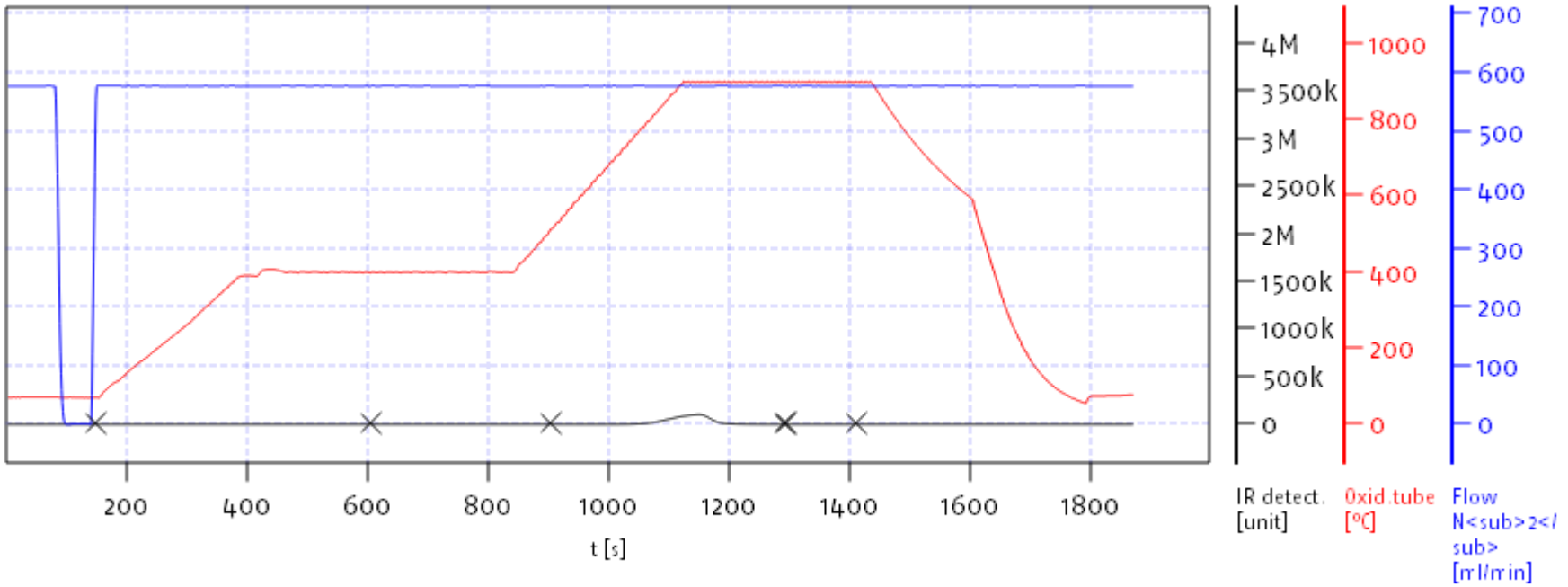
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	21	SEQ-CALB	200.00	0.0042	1.00	CARBON	8/25/2021 12:19 AM	0.000	0.258	0.258	bl,C1u,C2u	972	305 136	284	1.0000	1.0636



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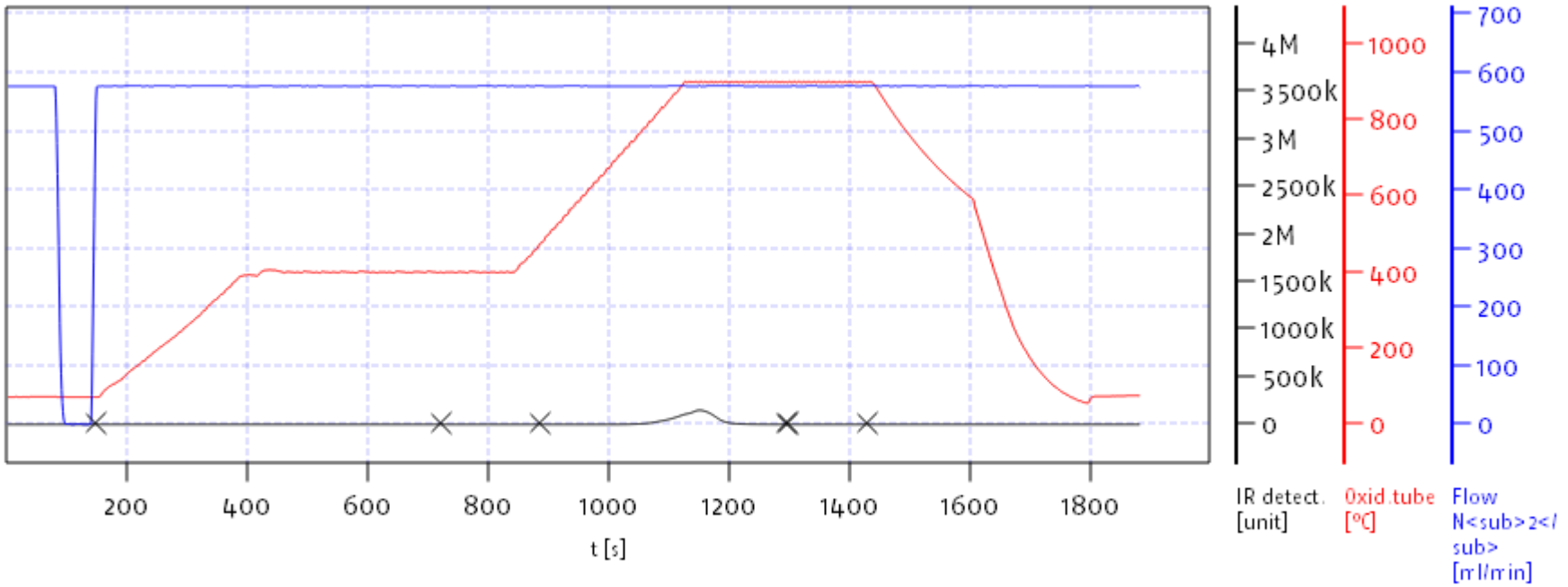
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	22	SEQ-CALC	200.00	0.0056	1.00	CARBON	8/25/2021 12:51 AM	0.000	0.324	0.324	bl,C1u,C2u	925	413 926	393	1.0000	0.9869



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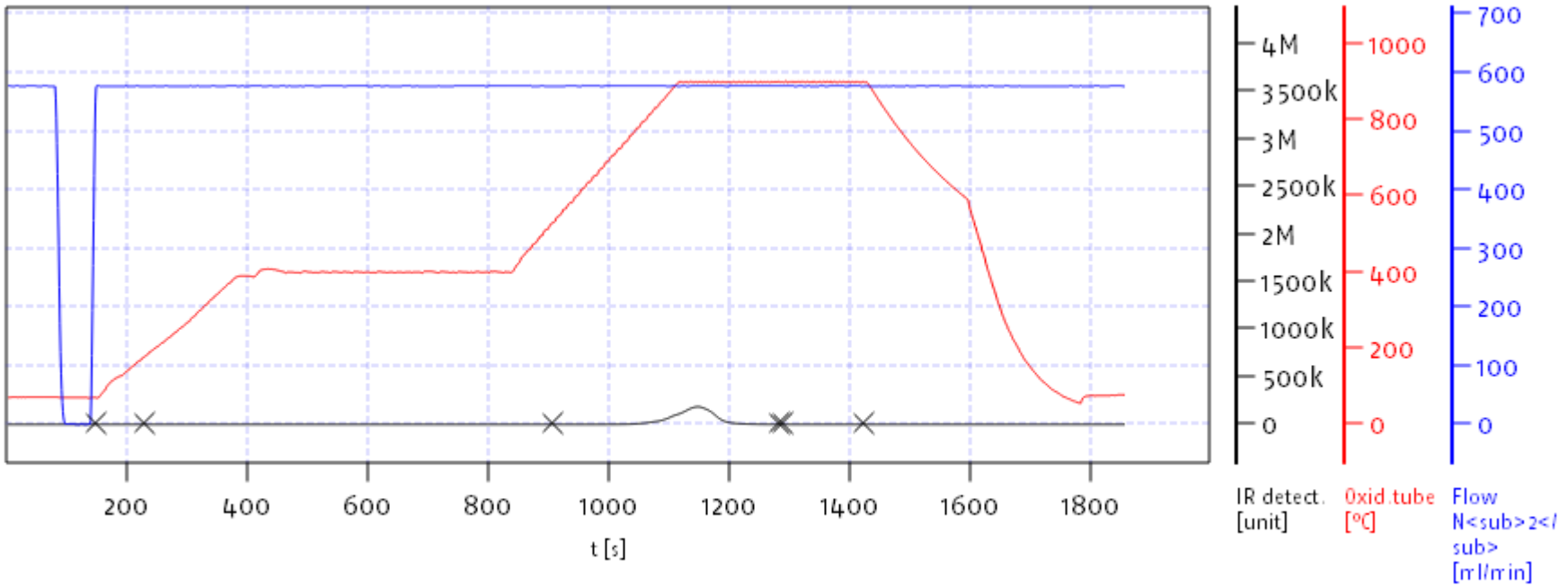
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	23	SEQ-CALD	200.00	0.0069	1.00	CARBON	8/25/2021 1:22 AM	0.000	0.444	0.444	bl,C1u,C2u	172	525 080	677	1.0000	1.0675



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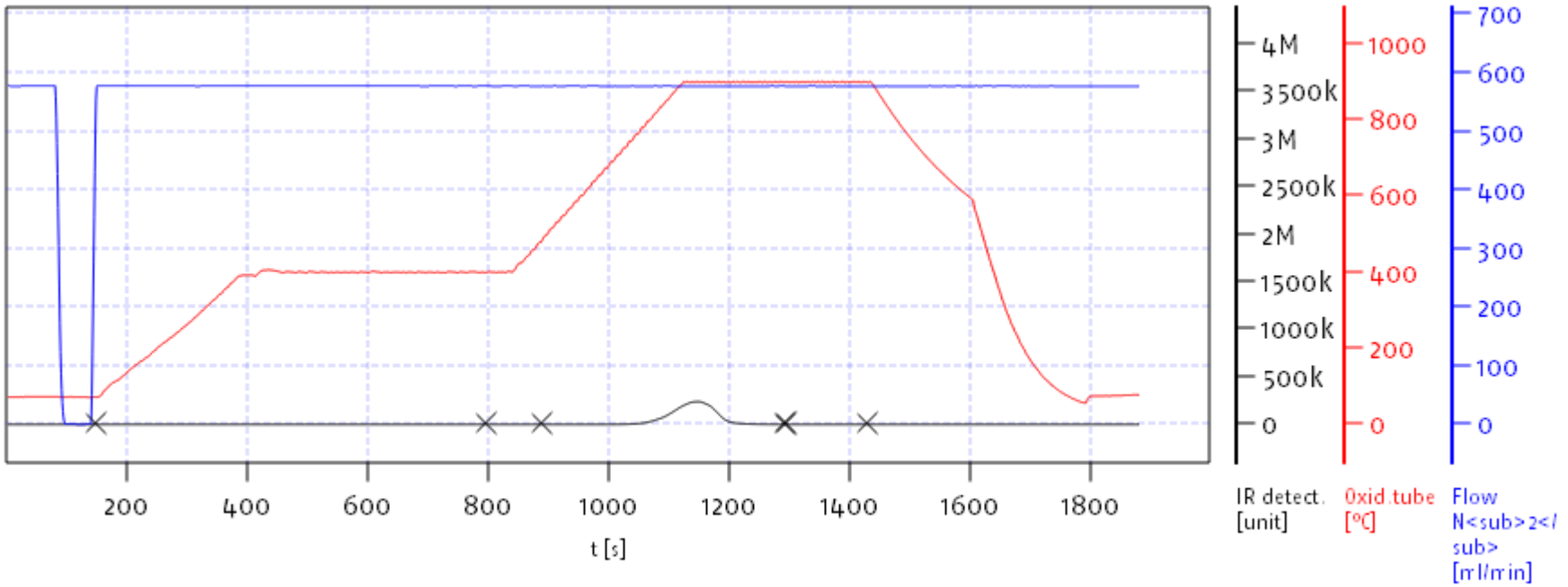
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	24	SEQ-CALE	200.00	0.0097	1.00	CARBON	8/25/2021 1:54 AM	0.000	0.600	0.600	bl,C1u,C2u	989	743 966	687	1.0000	1.0196



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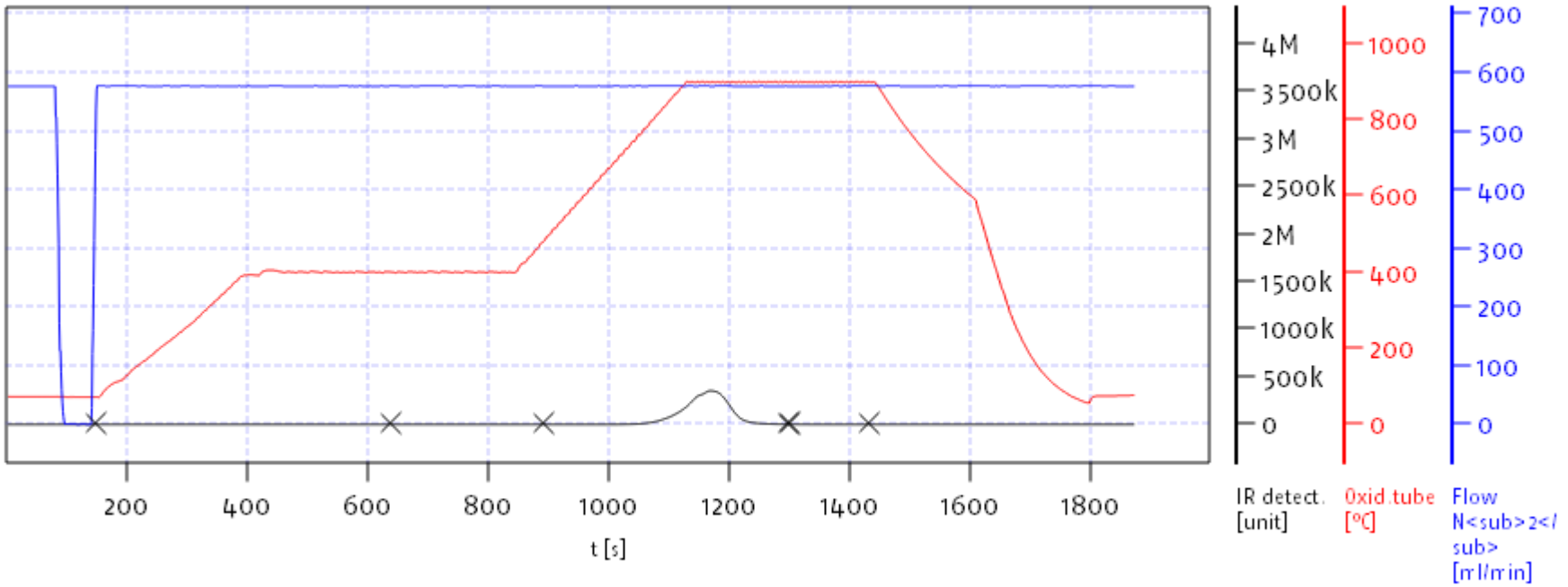
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	25	SEQ-CALF	200.00	0.0147	1.00	CARBON	8/25/2021 2:26 AM	0.000	0.906	0.906	bl,C1u,C2u	925	1 115 840	1 898	1.0000	1.0277



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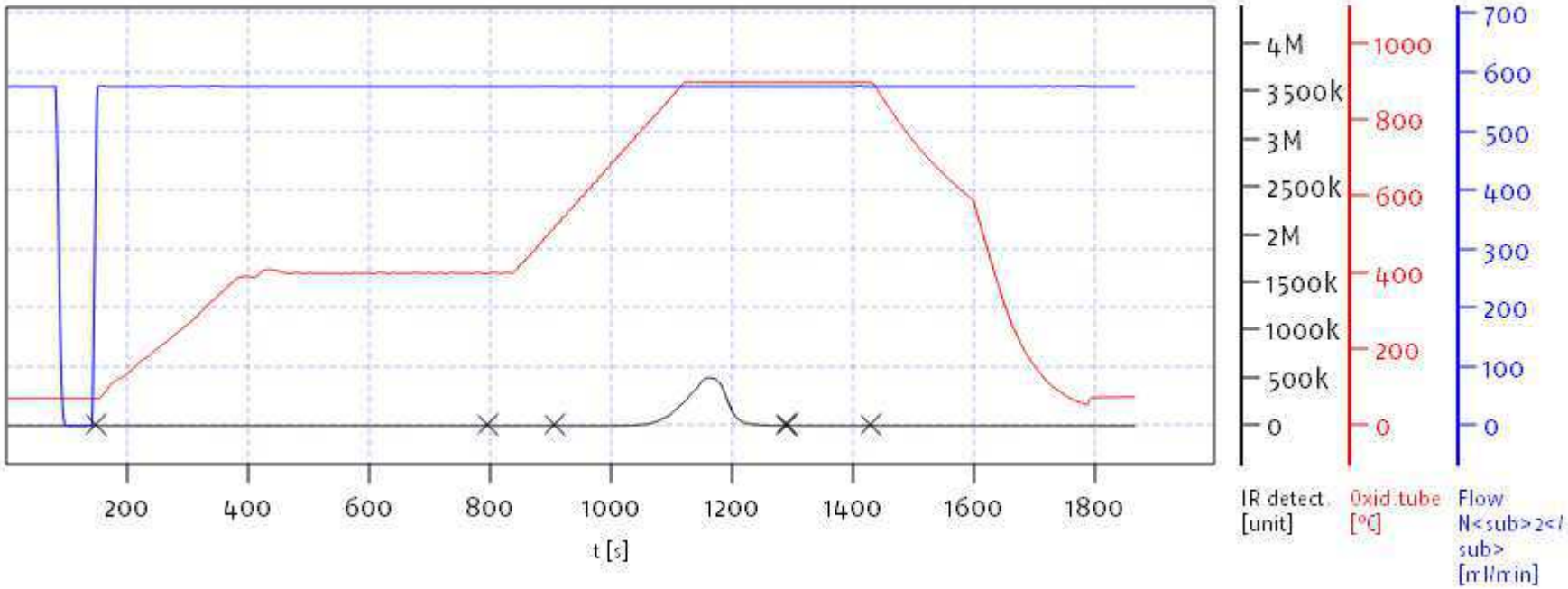
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	26	SEQ-CALG	200.00	0.0199	1.00	CARBON	8/25/2021 2:58 AM	0.000	1.206	1.206	bl,C1u,C2u	1 253	1 509 240	2 258	1.0000	1.0121



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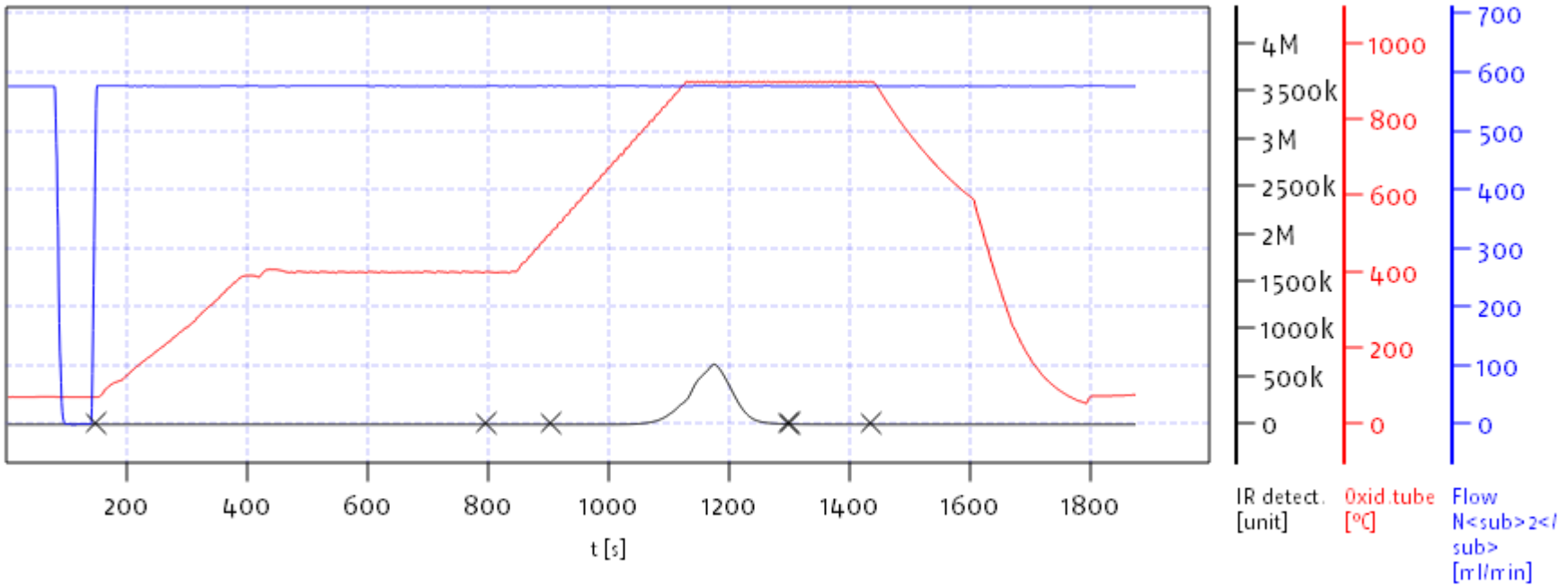
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	27	SEQ-CALH	200.00	0.0253	1.00	CARBON	8/25/2021 3:29 AM	0.000	1.524	1.524	bl,C1u,C2u	1 233	1 930 390	4 311	1.0000	1.0003



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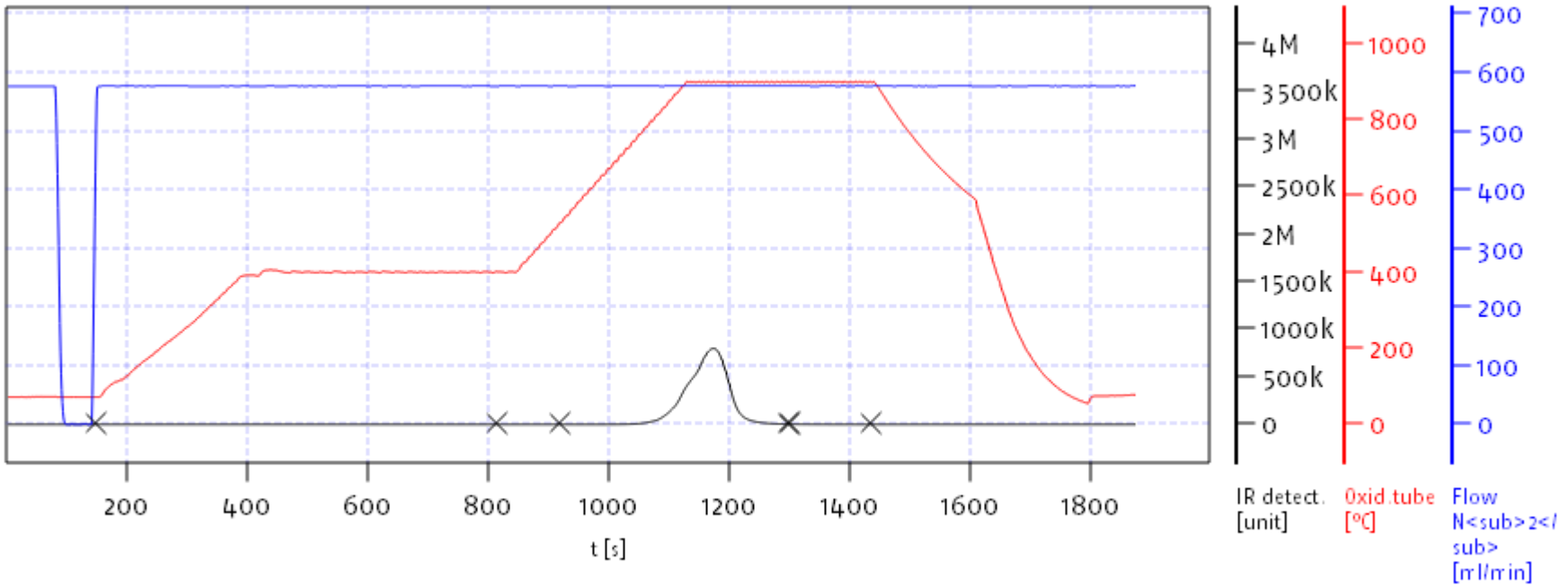
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	28	SEQ-CALI	200.00	0.0302	1.00	CARBON	8/25/2021 4:01 AM	0.000	1.800	1.800	bl,C1u,C2u	1 600	2 286 540	3 907	1.0000	0.9976



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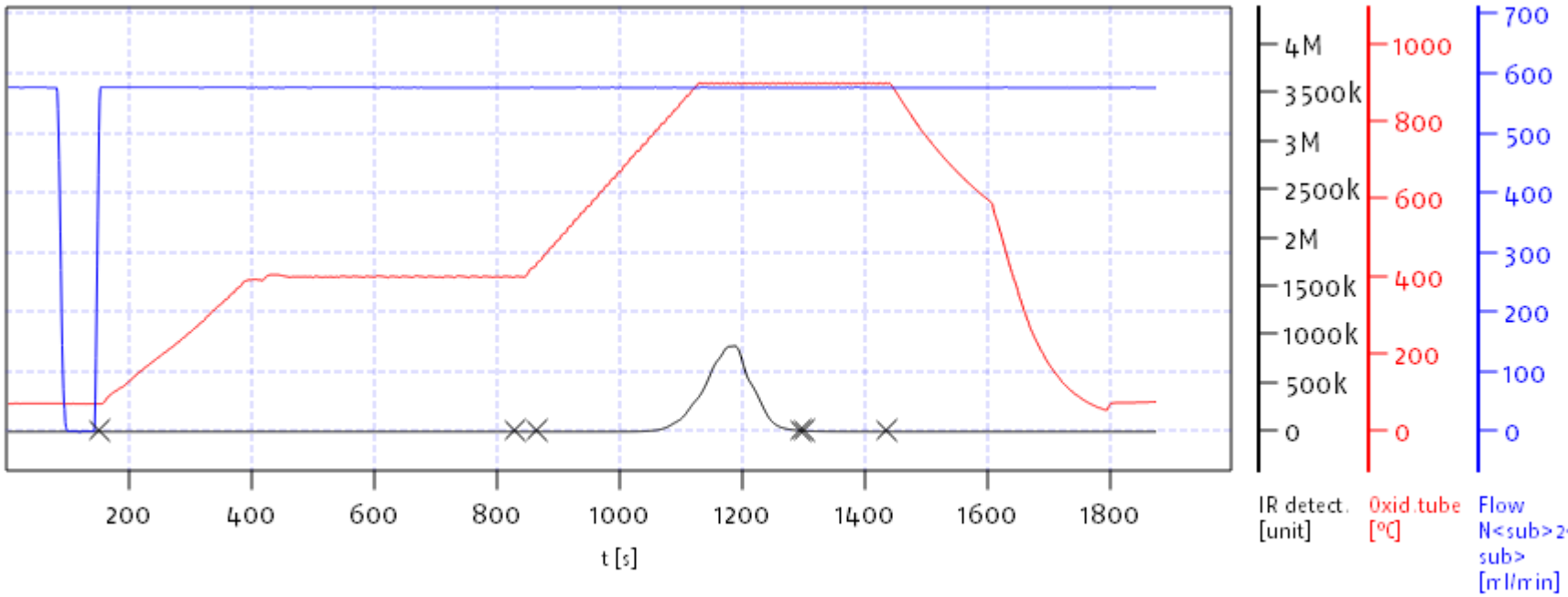
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	29	SEQ-CALJ	200.00	0.0400	1.00	CARBON	8/25/2021 4:33 AM	0.000	2.400	2.400	bl,C1u	1 589	**3 013 270**	**9 826**	1.0000	1.0096



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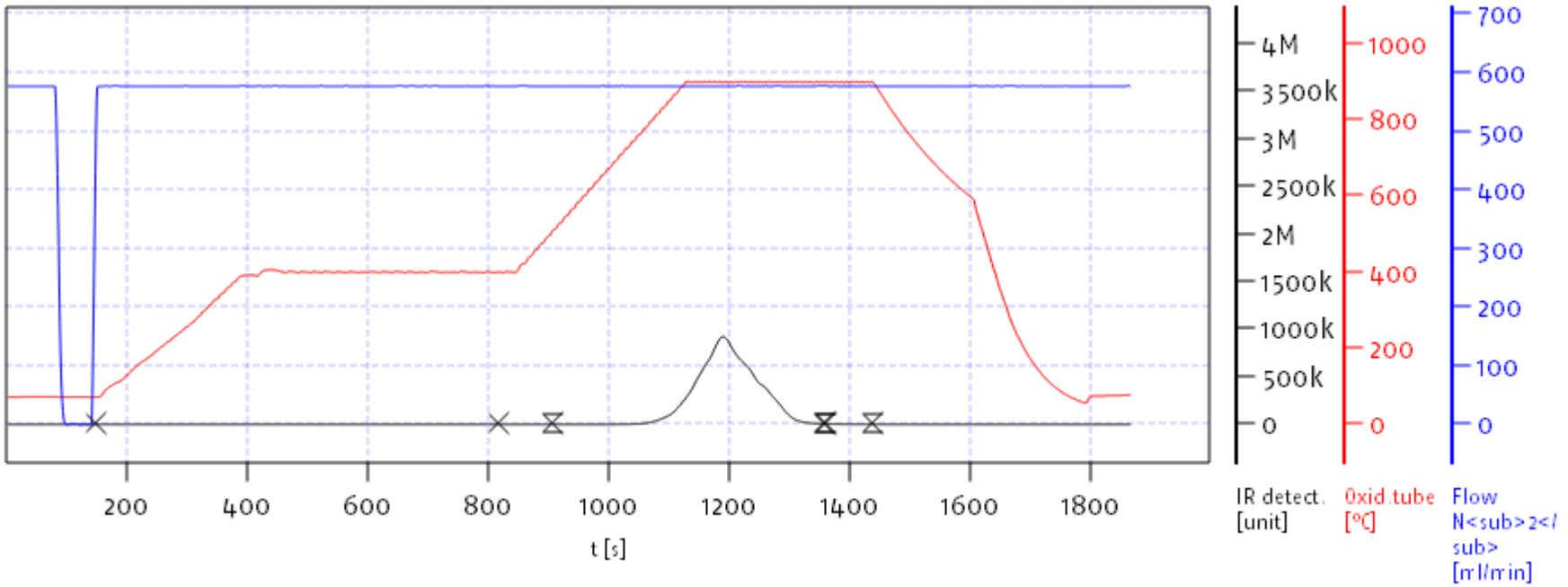
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	30	SEQ-CALK	200.00	0.0498	1.00	CARBON	8/25/2021 11:41 AM	0.000	3.012	3.012	bl,C1u	2 117	**3 411 713**	**0**	1.0000	1.0310



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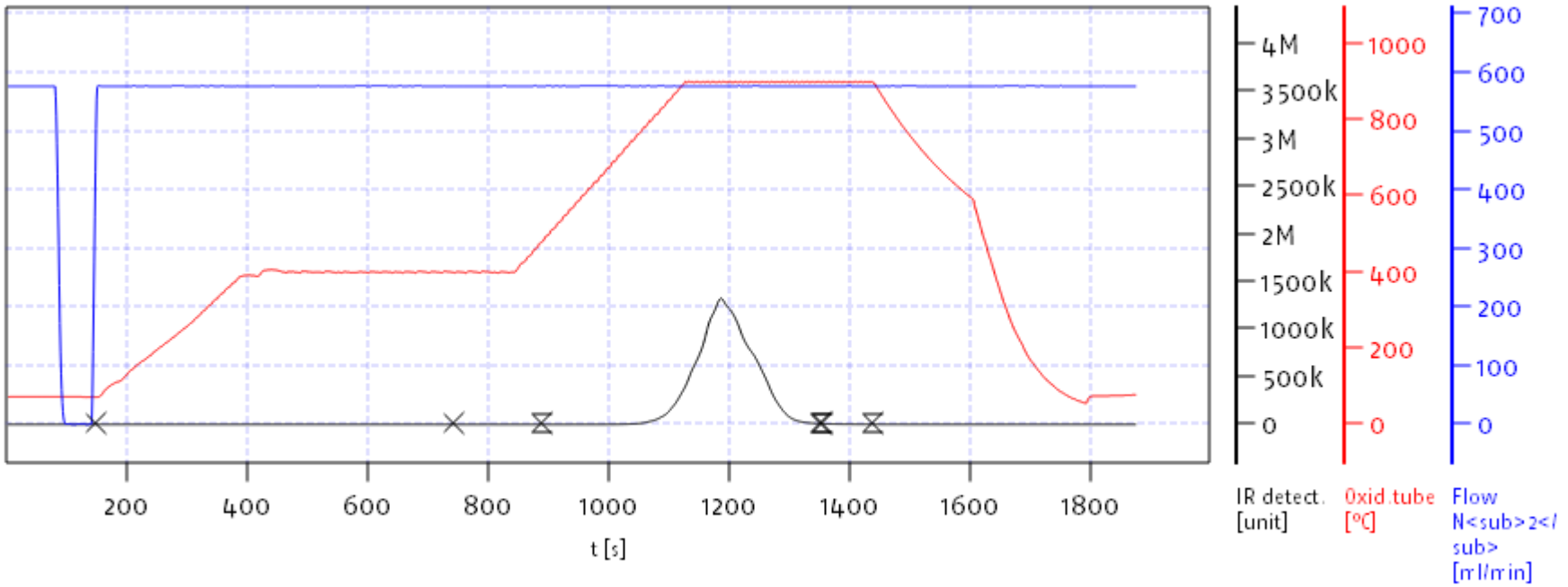
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	31	SEQ-CALL	200.00	0.0699	1.00	CARBON	8/25/2021 11:42 AM	0.000	4.206	4.206	bl,C1u	1 285	**4 920 073**	**0**	1.0000	1.0206



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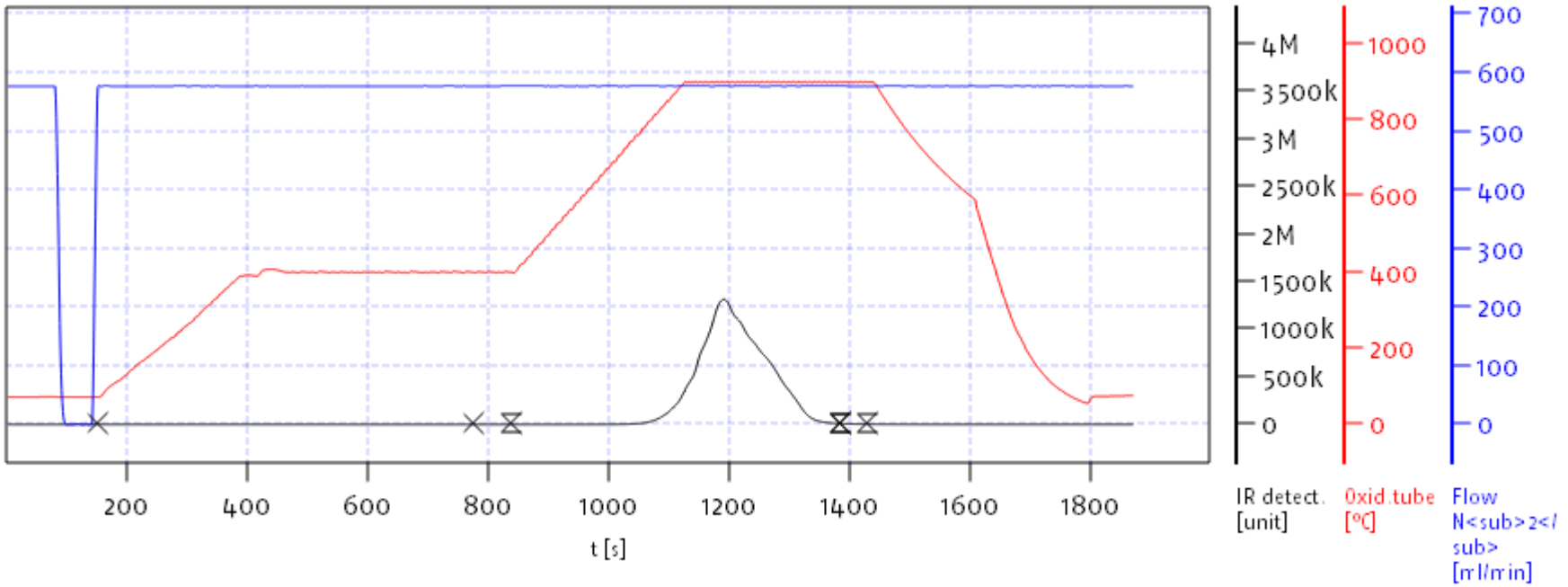
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	32	SEQ-CALM	200.00	0.0803	1.00	CARBON	8/25/2021 11:43 AM	0.000	4.812	4.812	bl,C1u	1 537	**5 655 573**	**0**	1.0000	1.0683



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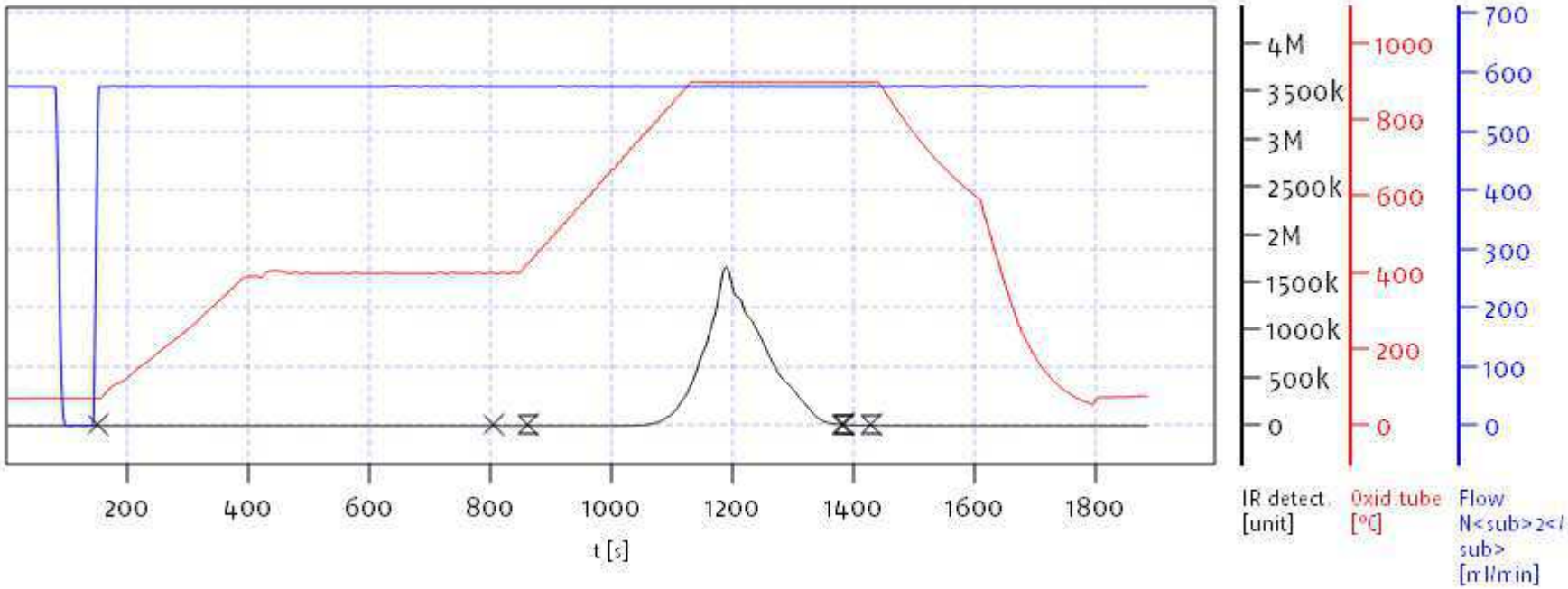
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	33	SEQ-CALN	200.00	0.0902	1.00	CARBON	8/25/2021 11:45 AM	0.000	5.406	5.406	bl,C1u	1 694	**6 449 031**	**0**	1.0000	1.0610



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Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

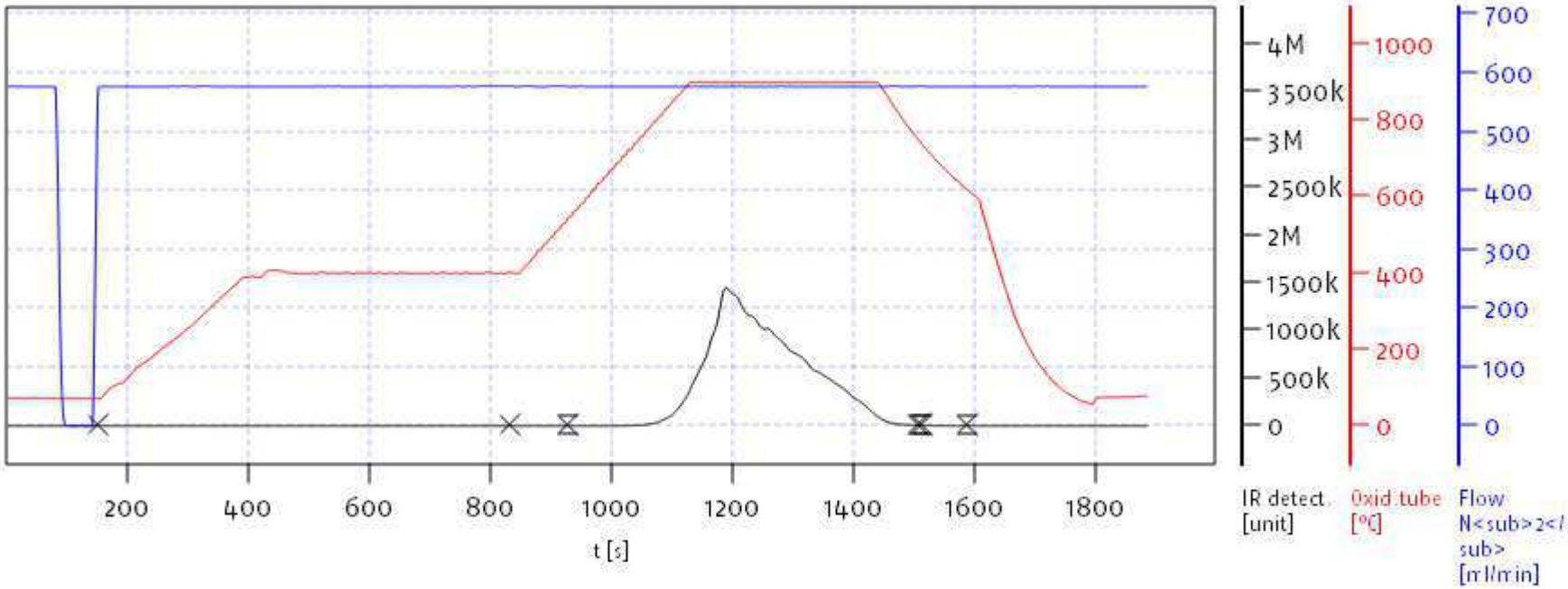
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	34	SEQ-CALO	200.00	0.1204	1.00	CARBON	8/25/2021 11:46 AM	0.000	7.218	7.218	bl,C1u,C3o	1 658	8 593 324	0	1.0000	1.3657



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Date: Wed Aug 25 11:48:01 2021

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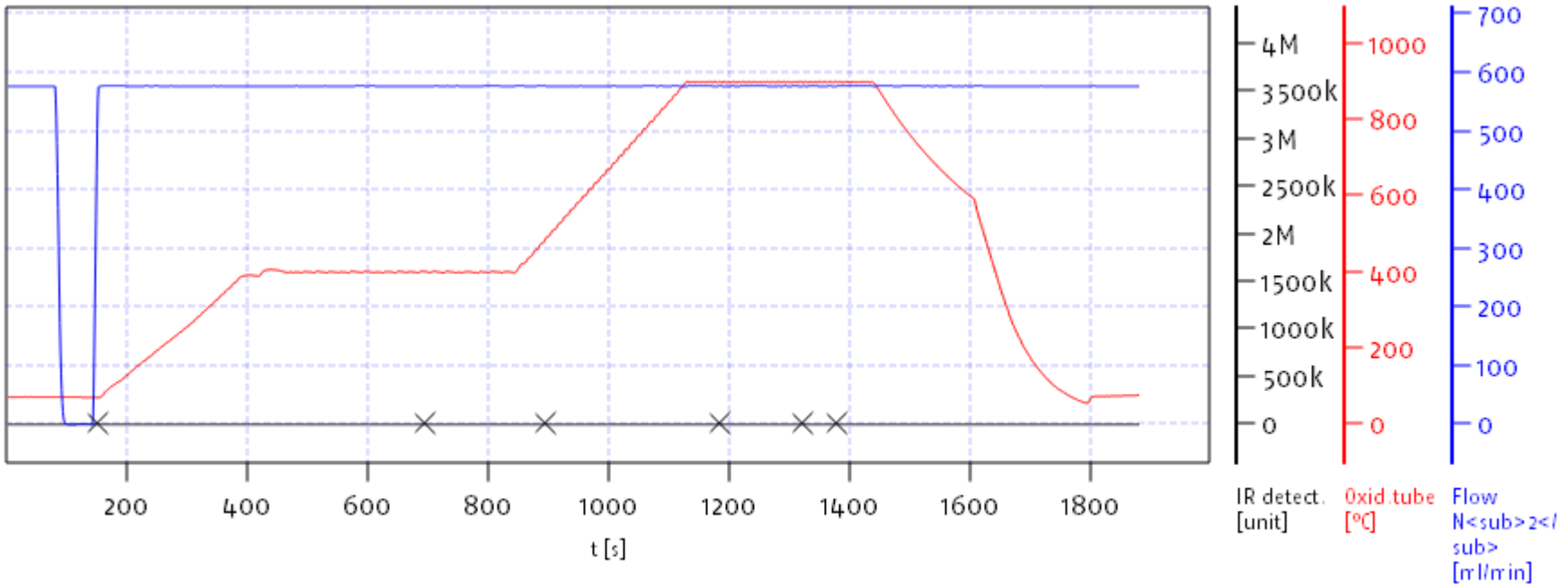
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	35	BLANK	1.00		1.00	CARBON	8/25/2021 7:43 AM	0.000	0.000	0.000	bl	708	0	0	1.0000	1.0293



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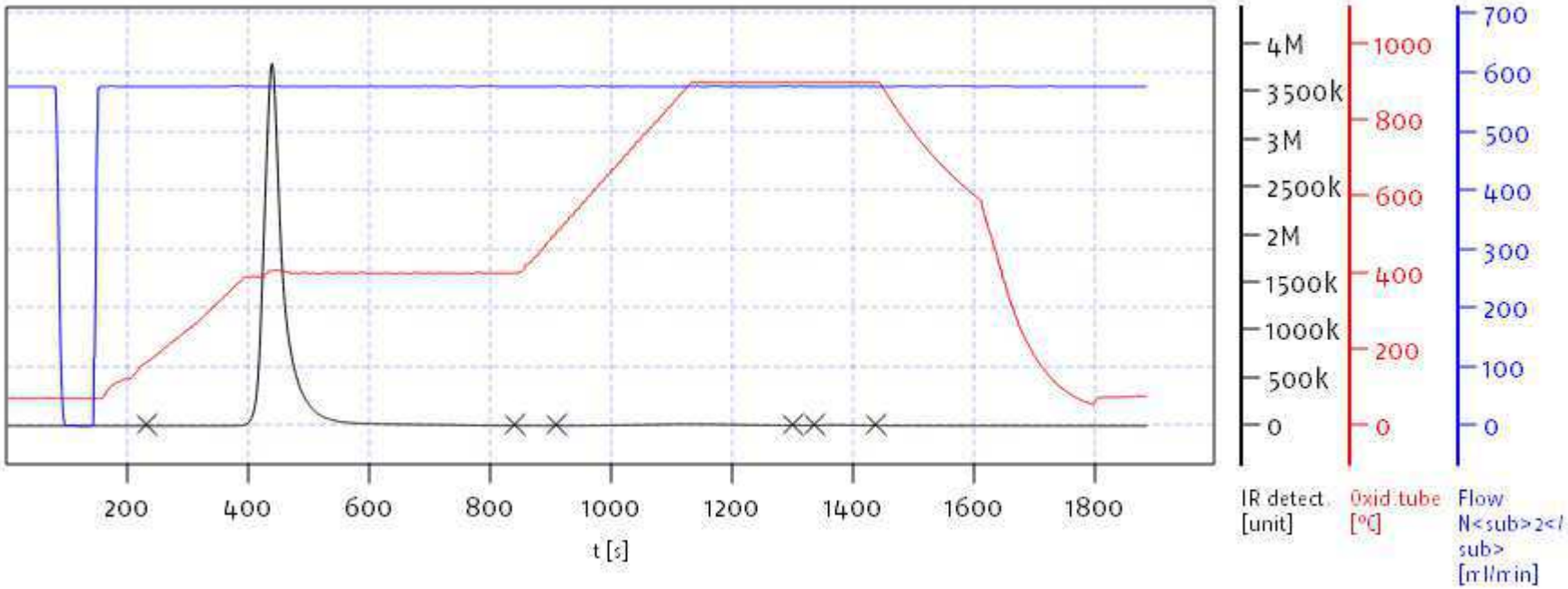
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	36	Dfactor	20.30		1.00	CARBON	8/25/2021 8:15 AM	44.446	0.000	44.446	bl	5 319 150	136 410	24 452	1.0755	1.0000



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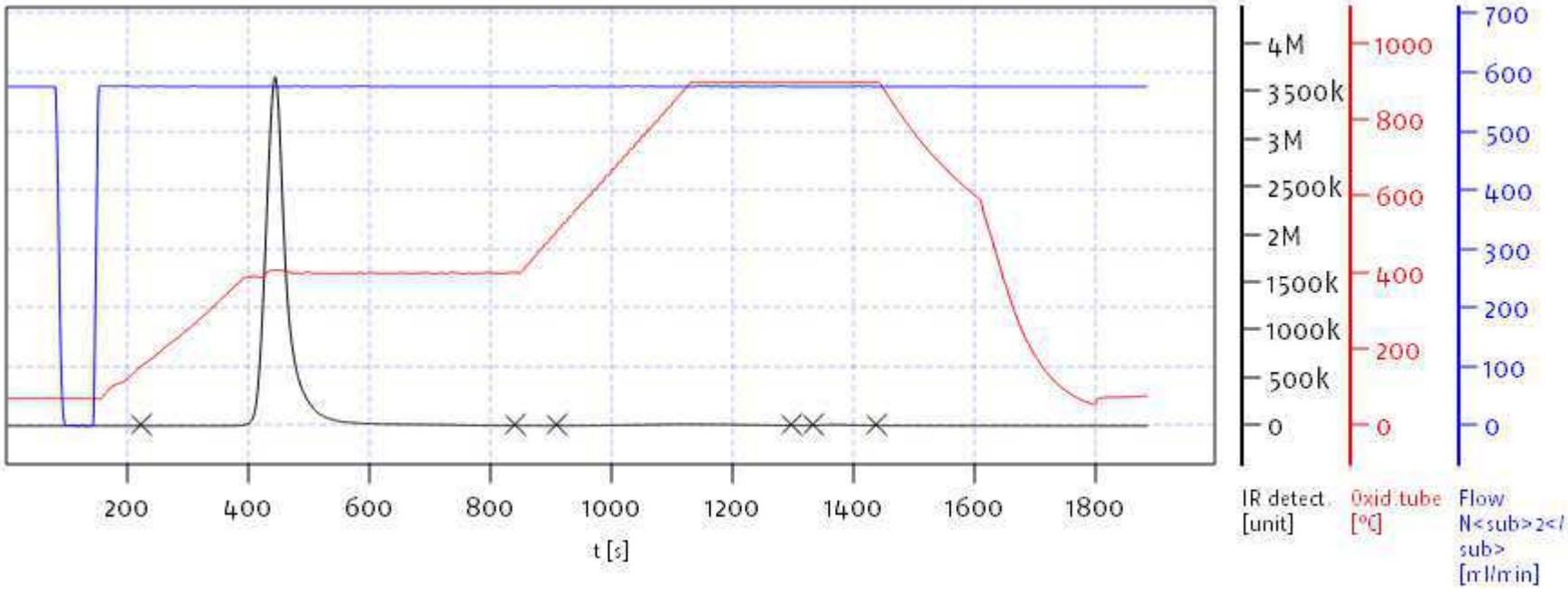
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	37	Dfactor	21.00		1.00	CARBON	8/25/2021 8:47 AM	44.446	0.000	44.446	bl	5 524 800	134 598	27 280	1.0712	1.0000



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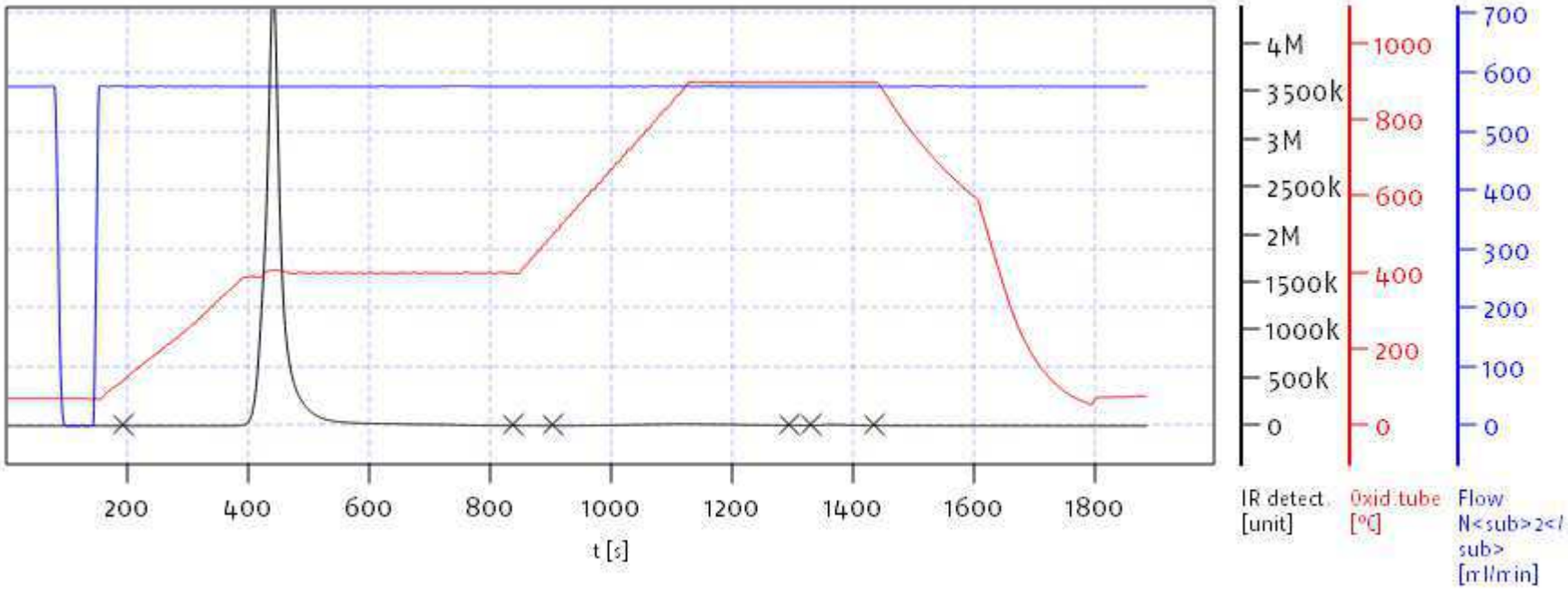
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	38	SEQ-ICV1	20.50		1.00	CARBON	8/25/2021 9:19 AM	47.154	1.091	48.245	bl	5 328 380	151 538	28 760	1.0733	1.0293



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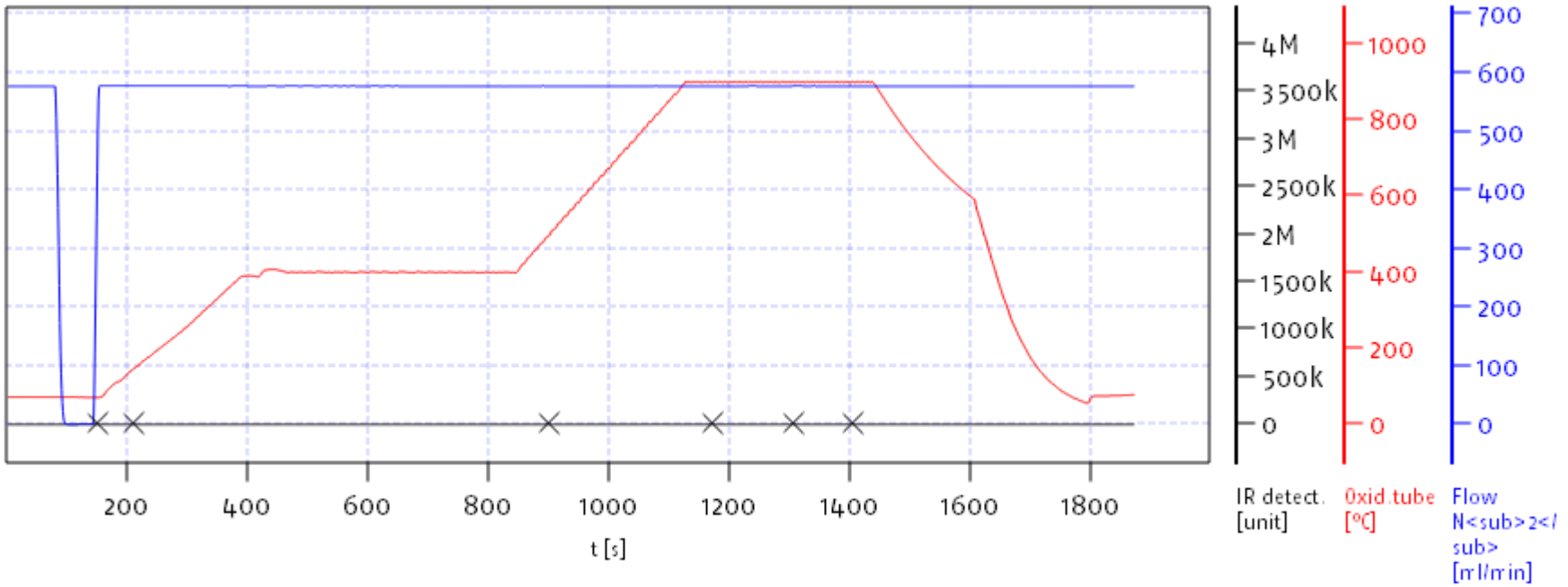
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	39	SEQ-ICB1	599.20		1.00	CARBON	8/25/2021 9:51 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	172	1 307	338	1.0733	1.0293



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Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0331	Instrument:	TOC Cube
		Calibration:	EH00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Initial Cal Check	SJH0331-ICV1	peData_08312021@1034-2	NA	08/25/21 16:08
Initial Cal Blank	SJH0331-ICB1	peData_08312021@1034-3	NA	08/25/21 16:40
Calibration Check	SJH0331-CCV1	peData_08312021@1034-4	NA	08/25/21 22:29
Calibration Blank	SJH0331-CCB1	peData_08312021@1034-4	NA	08/25/21 23:01
Calibration Check	SJH0331-CCV2	peData_08312021@1034-5	NA	08/26/21 04:48
Calibration Blank	SJH0331-CCB2	peData_08312021@1034-5	NA	08/26/21 05:20
Calibration Check	SJH0331-CCV3	peData_08312021@1034-6	NA	08/26/21 11:09
Calibration Blank	SJH0331-CCB3	peData_08312021@1034-7	NA	08/26/21 11:41
Calibration Check	SJH0331-CCV4	peData_08312021@1034-6	NA	08/26/21 17:29
Calibration Blank	SJH0331-CCB4	peData_08312021@1034-6	NA	08/26/21 18:01
Calibration Check	SJH0331-CCV5	peData_08312021@1034-1	NA	08/26/21 23:59
Calibration Blank	SJH0331-CCB5	peData_08312021@1034-1	NA	08/27/21 00:30
Calibration Check	SJH0331-CCV6	peData_08312021@1034-1	NA	08/27/21 06:16
Calibration Blank	SJH0331-CCB6	peData_08312021@1034-1	NA	08/27/21 06:47
Calibration Check	SJH0331-CCV7	peData_08312021@1034-2	NA	08/27/21 12:34
Calibration Blank	SJH0331-CCB7	peData_08312021@1034-2	NA	08/27/21 13:06
Calibration Check	SJH0331-CCV8	peData_08312021@1034-3	NA	08/27/21 18:53
Calibration Blank	SJH0331-CCB8	peData_08312021@1034-3	NA	08/27/21 19:24
Calibration Check	SJH0331-CCV9	peData_08312021@1034-5	NA	08/28/21 01:09
Calibration Blank	SJH0331-CCB9	peData_08312021@1034-5	NA	08/28/21 01:40
Calibration Check	SJH0331-CCVA	peData_08312021@1034-6	NA	08/28/21 07:24
Calibration Blank	SJH0331-CCBA	peData_08312021@1034-6	NA	08/28/21 07:56
Calibration Check	SJH0331-CCVB	peData_08312021@1034-7	NA	08/28/21 13:42
Calibration Blank	SJH0331-CCBB	peData_08312021@1034-7	NA	08/28/21 14:13
Calibration Check	SJH0331-CCVC	peData_08312021@1034-6	NA	08/28/21 19:57
Calibration Blank	SJH0331-CCBC	peData_08312021@1034-6	NA	08/28/21 20:28
Calibration Check	SJH0331-CCVD	peData_08312021@1034-1	NA	08/29/21 02:10
Calibration Blank	SJH0331-CCBD	peData_08312021@1034-1	NA	08/29/21 02:41
Calibration Check	SJH0331-CCVE	peData_08312021@1034-2	NA	08/29/21 08:25
Calibration Blank	SJH0331-CCBE	peData_08312021@1034-2	NA	08/29/21 08:56

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 9060A m

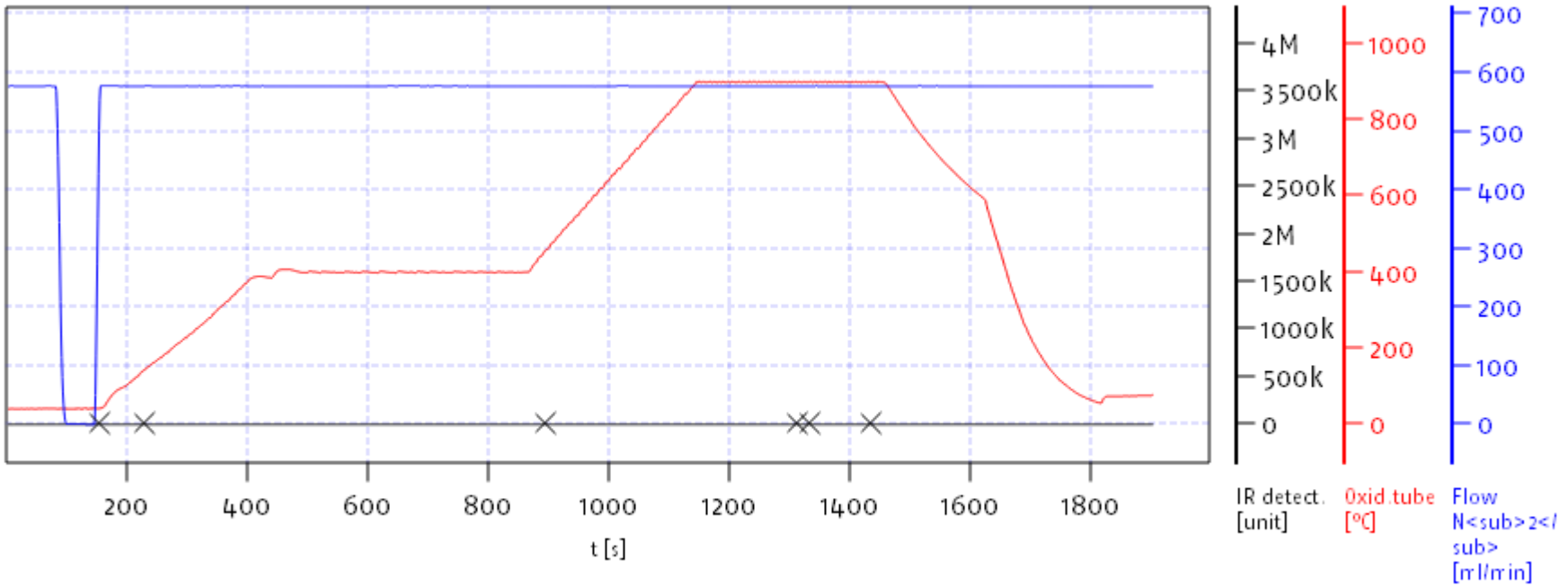
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0331	Instrument:	TOC Cube
		Calibration:	EH00065

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
Calibration Check	SJH0331-CCVF	peData_08312021@1034-3	NA	08/29/21 14:41
Calibration Blank	SJH0331-CCBF	peData_08312021@1034-3	NA	08/29/21 15:13
Calibration Check	SJH0331-CCVG	peData_08312021@1034-4	NA	08/29/21 20:58
Calibration Blank	SJH0331-CCBG	peData_08312021@1034-4	NA	08/29/21 21:29
Calibration Check	SJH0331-CCVH	peData_08312021@1034-5	NA	08/30/21 03:12
Calibration Blank	SJH0331-CCBH	peData_08312021@1034-5	NA	08/30/21 03:43
Calibration Check	SJH0331-CCVI	peData_08312021@1034-7	NA	08/30/21 09:27
Calibration Blank	SJH0331-CCBI	peData_08312021@1034-7	NA	08/30/21 09:59
LDW21-SC567	21G0305-02RE1	peData_08312021@1034-(	Solid	08/30/21 15:14
Calibration Check	SJH0331-CCVJ	peData_08312021@1034-(	NA	08/30/21 15:45
Calibration Blank	SJH0331-CCBJ	peData_08312021@1034-(	NA	08/30/21 16:16

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	39	BLANK	1.00		1.00	CARBON	8/25/2021 2:33 PM	0.000	0.000	0.000	bl	269	2 397	1 039	1.0000	1.0000



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Date: Tue Aug 31 14:32:59 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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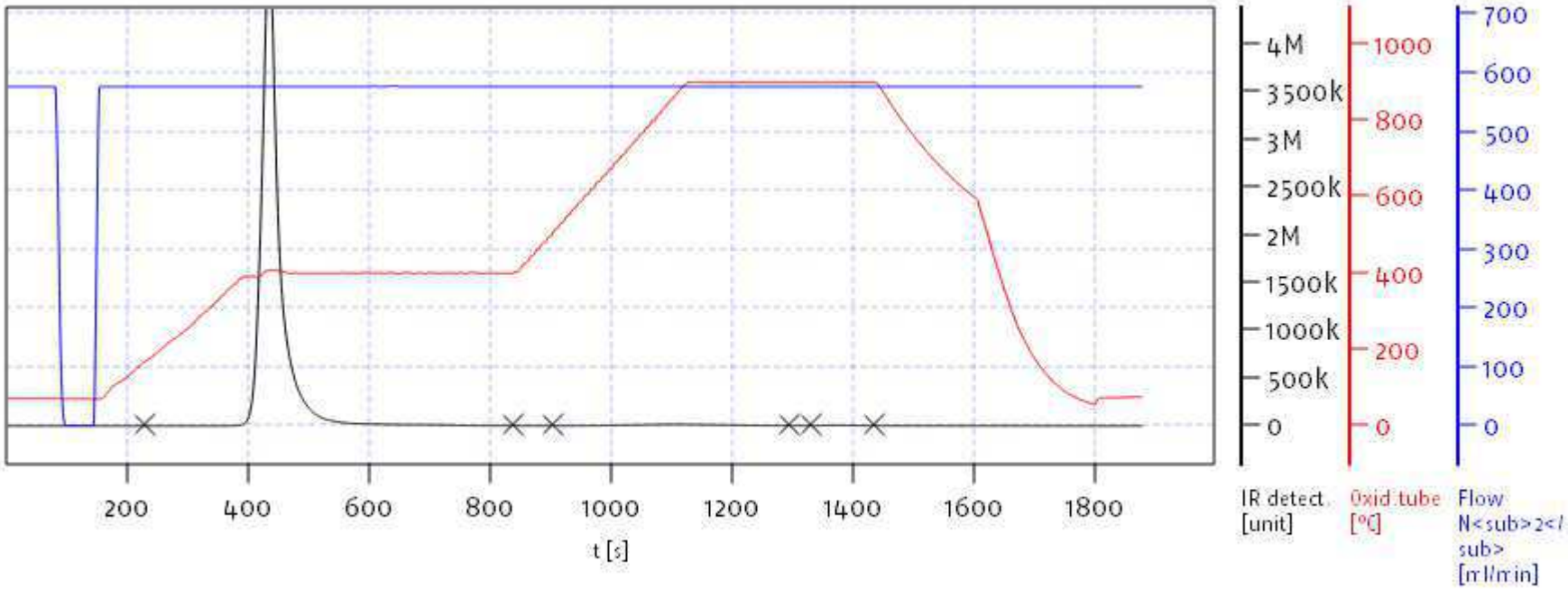
EXCELLENCE IN ELEMENTS

Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	40	Dfactor	23.10		1.00	CARBON	8/25/2021 3:05 PM	44.489	0.729	45.218	bl	6 305 580	111 318	17 655	0.9659	1.0000



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Date: Tue Aug 31 14:32:59 2021

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Balance: BAL3
Analyst: BF

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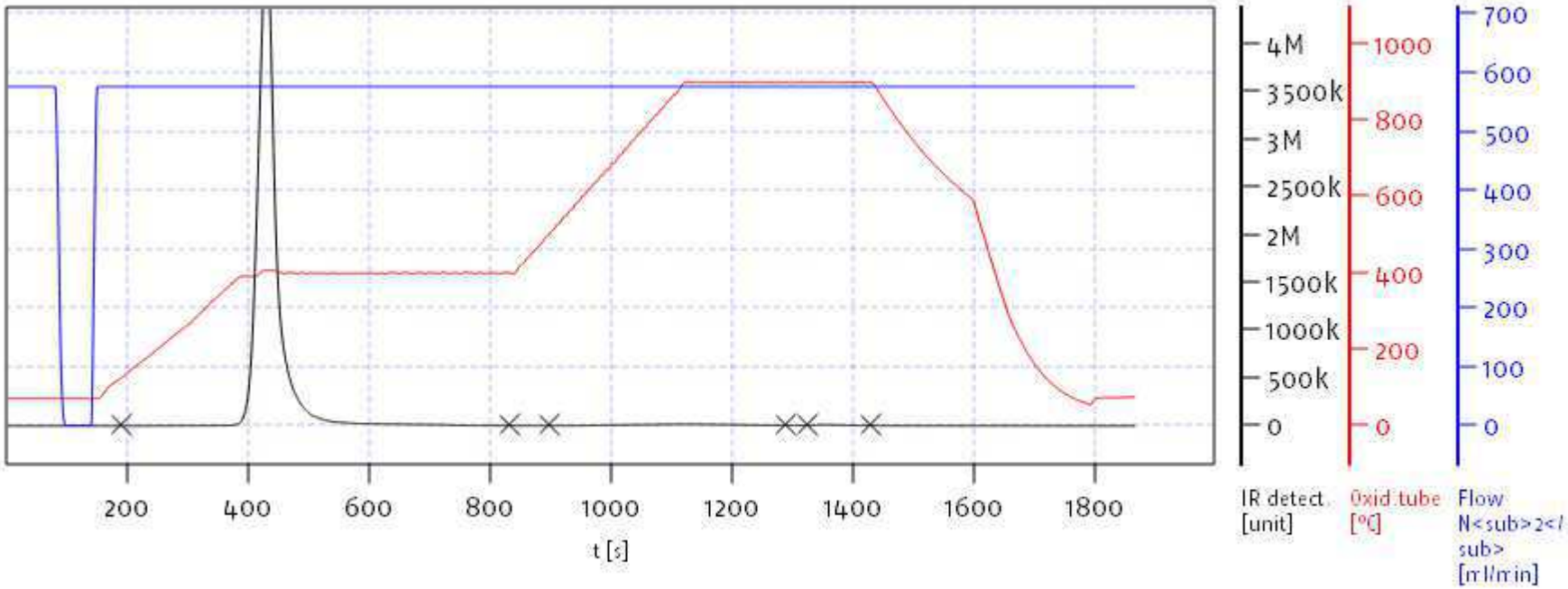
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	41	Dfactor	24.40		1.00	CARBON	8/25/2021 3:36 PM	44.543	0.898	45.441	bl	6 680 720	141 475	25 730	0.9629	1.0000



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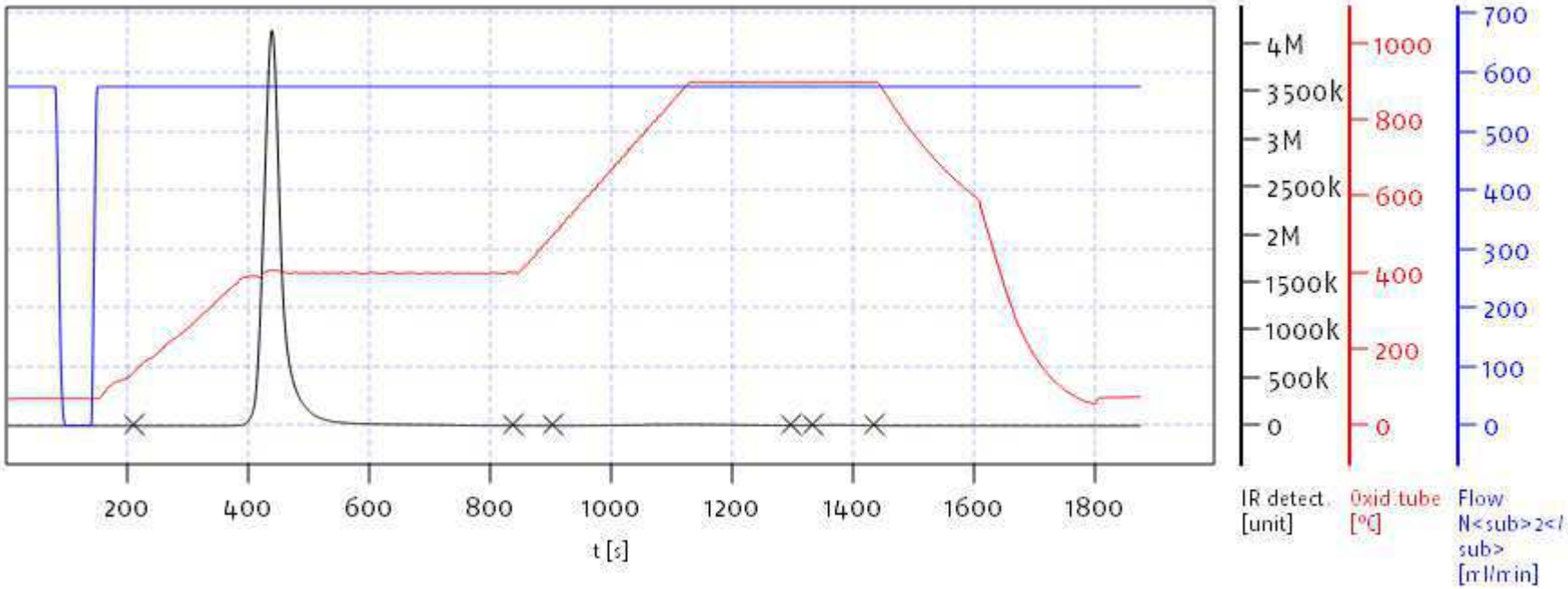
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	42	SJH0331-ICV1	20.10		1.00	CARBON	8/25/2021 4:08 PM	43.884	0.897	44.781	bl	5 416 100	118 414	22 631	0.9644	1.0000



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Balance: BAL3
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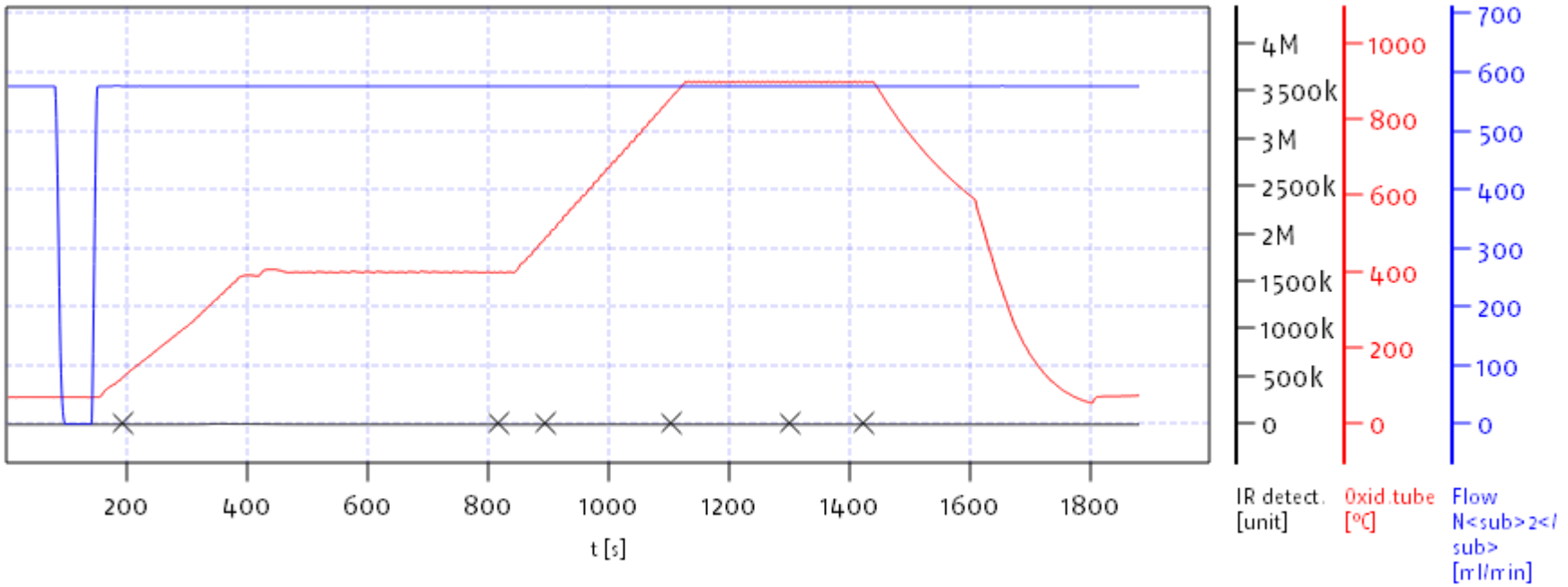
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	43	SJH0331-ICB1	554.10		1.00	CARBON	8/25/2021 4:40 PM	0.003	0.000	0.003	bl,C3u,C2u	23 343	1 885	805	0.9644	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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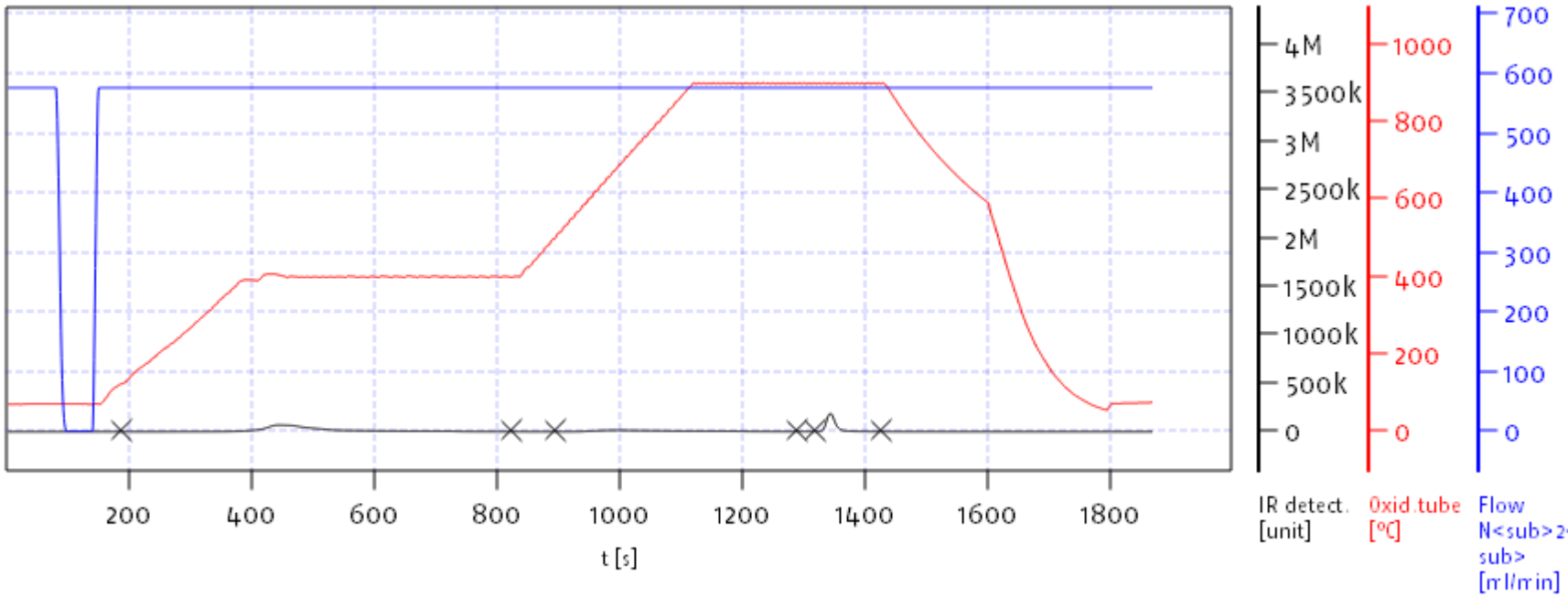
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	44	21G0313-17	621.60		1.00	CARBON	8/25/2021 5:12 PM	0.103	0.022	0.125	bl	287 974	92 124	123 678	0.9644	1.0000



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Balance: BAL3
Analyst: BF

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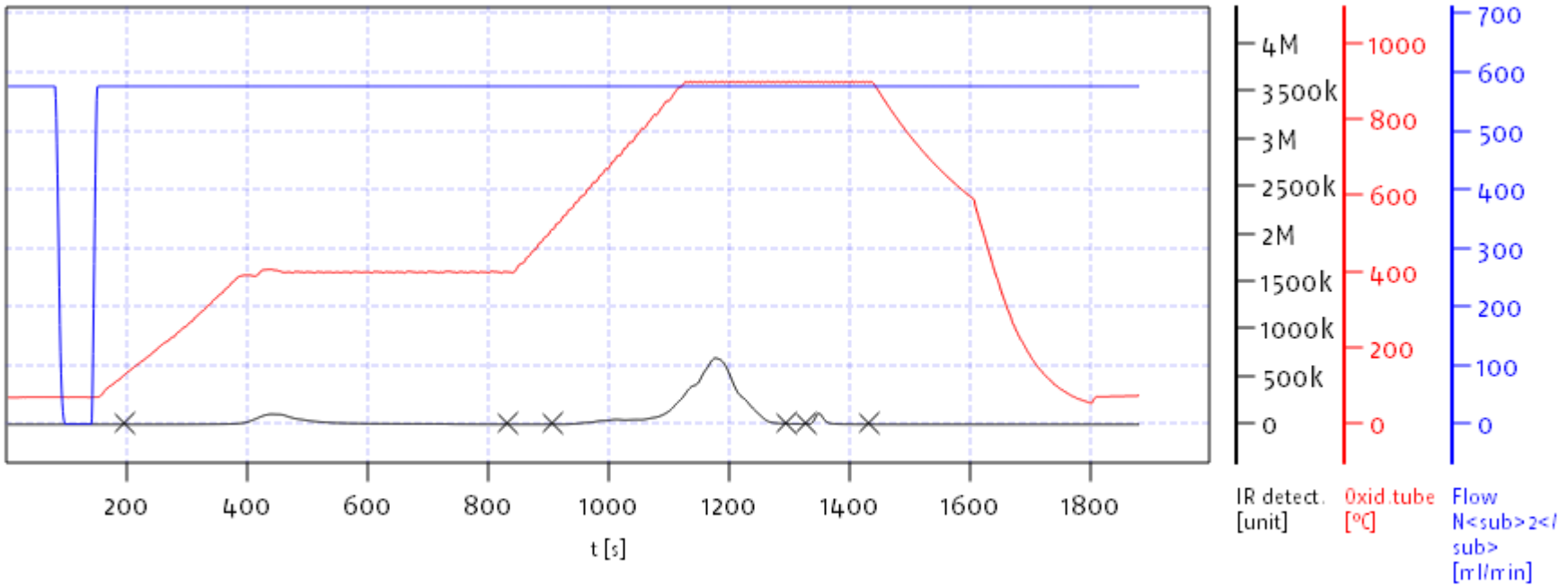
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	45	21G0313-18	364.50		1.00	CARBON	8/25/2021 5:43 PM	0.210	1.195	1.405	bl	412 259	2 590 880	78 972	0.9644	1.0000



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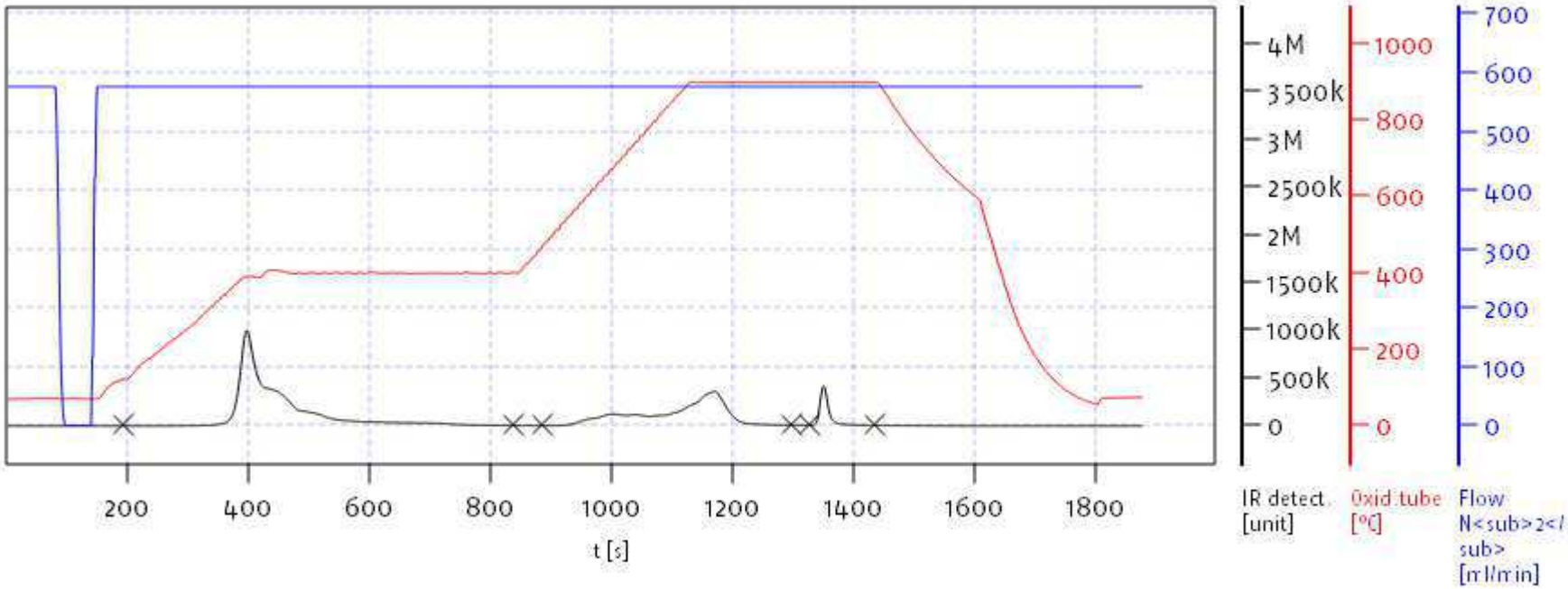
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	46	21G0322-05	555.60		1.00	CARBON	8/25/2021 6:15 PM	0.794	0.479	1.274	bl	2 451 470	1 589 110	272 309	0.9644	1.0000



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Analyst: BF

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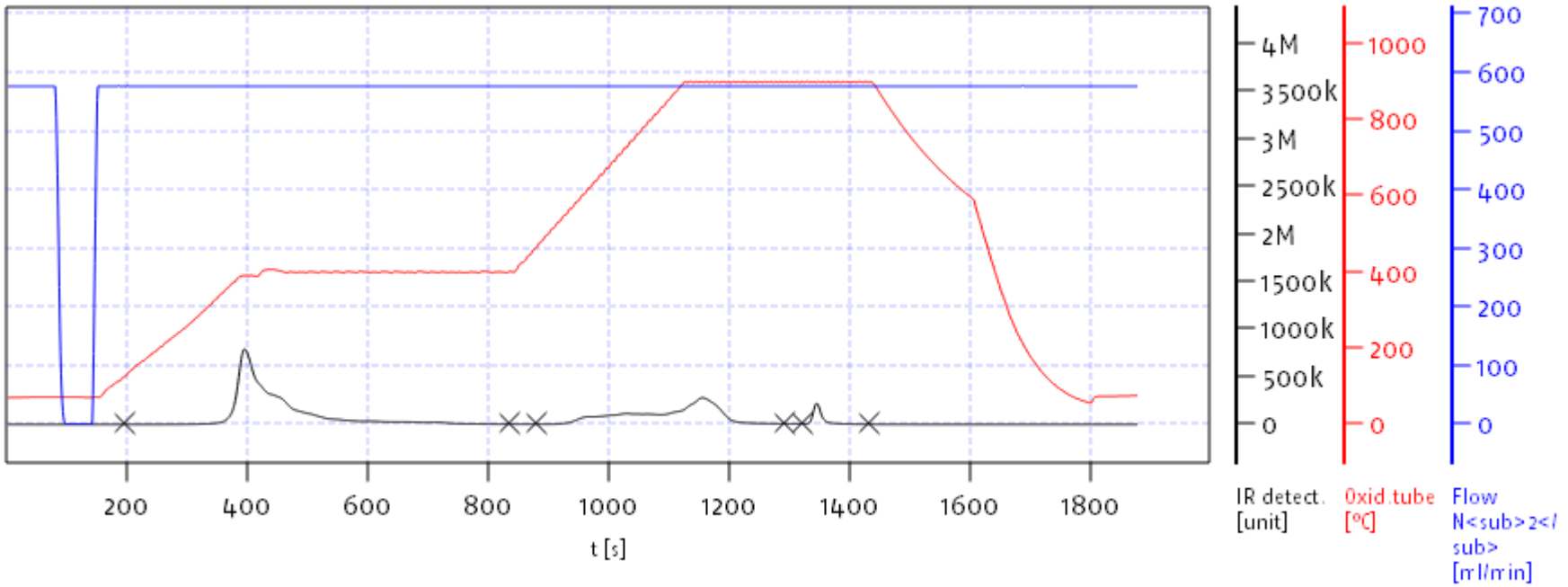
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	47	BJH0434-DUP3	525.50		1.00	CARBON	8/25/2021 6:47 PM	0.682	0.425	1.107	bl	2 074 920	1 332 920	144 038	0.9644	1.0000



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Balance: BAL3
Analyst: BF

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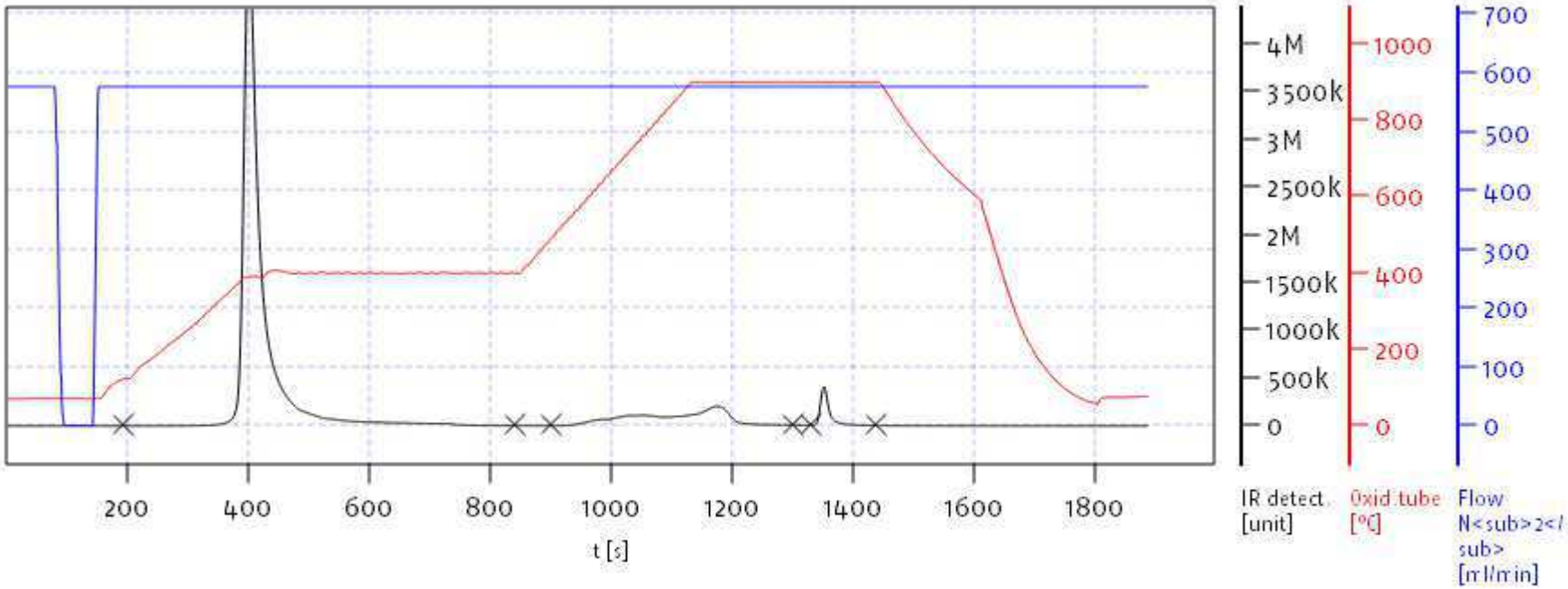
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	48	BJH0434-MS3	537.50	0.0145	1.00	CARBON	8/25/2021 7:19 PM	1.970	0.338	2.309	bl	6 246 020	1 088 690	269 680	0.9644	1.0000



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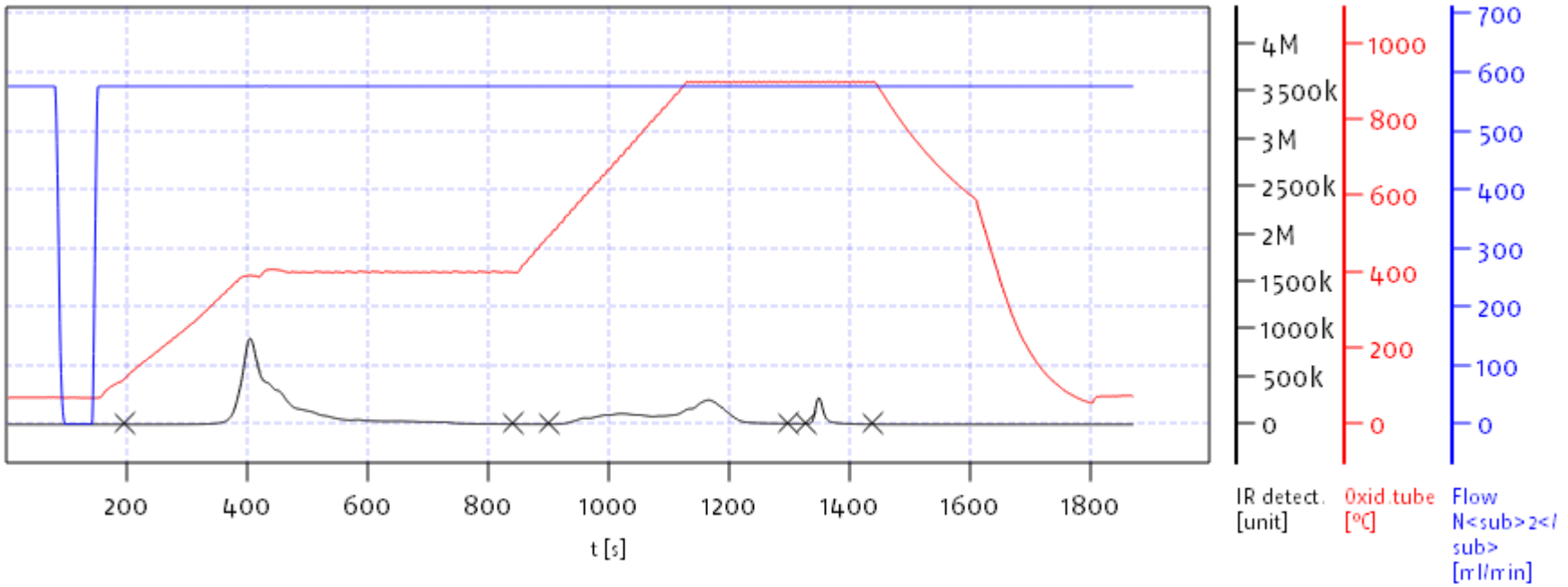
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	49	21G0322-06	586.50		1.00	CARBON	8/25/2021 7:51 PM	0.703	0.368	1.071	bl	2 364 740	1 288 930	184 548	0.9644	1.0000



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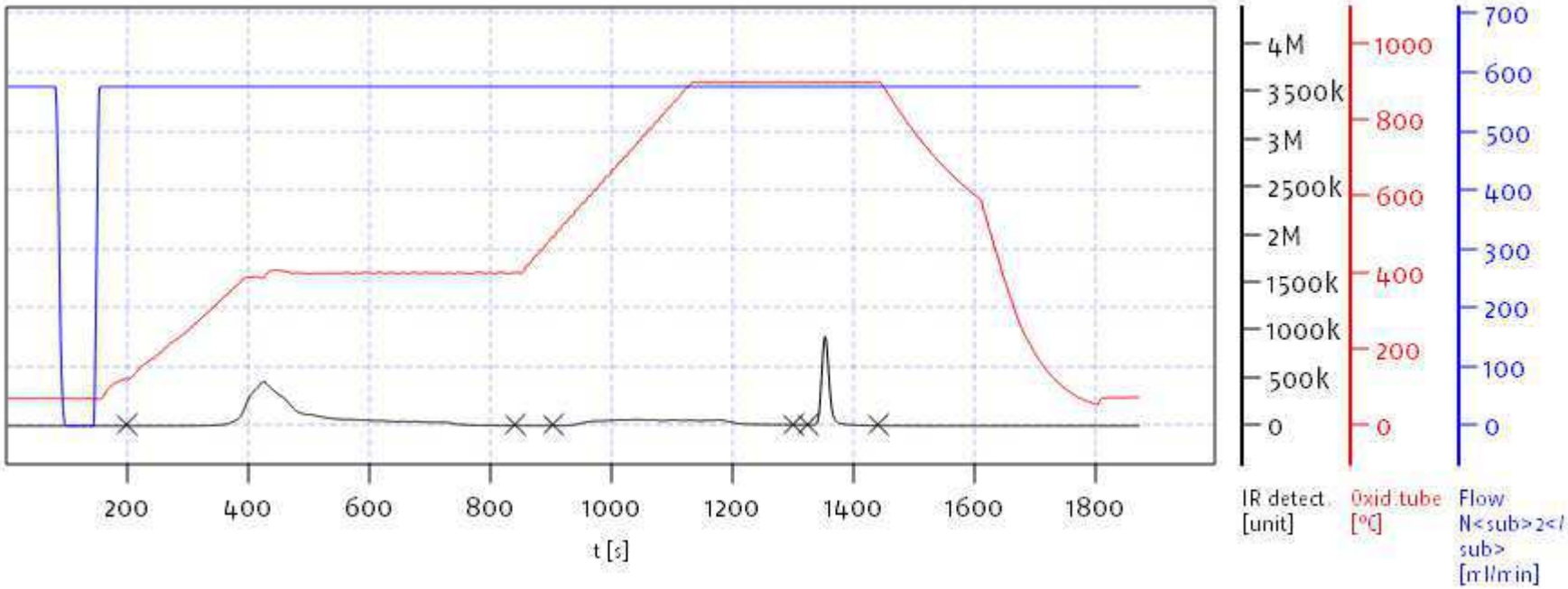
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	50	21G0322-07	645.40		1.00	CARBON	8/25/2021 8:22 PM	0.587	0.155	0.742	bl	1 802 760	603 747	527 933	0.9644	1.0000



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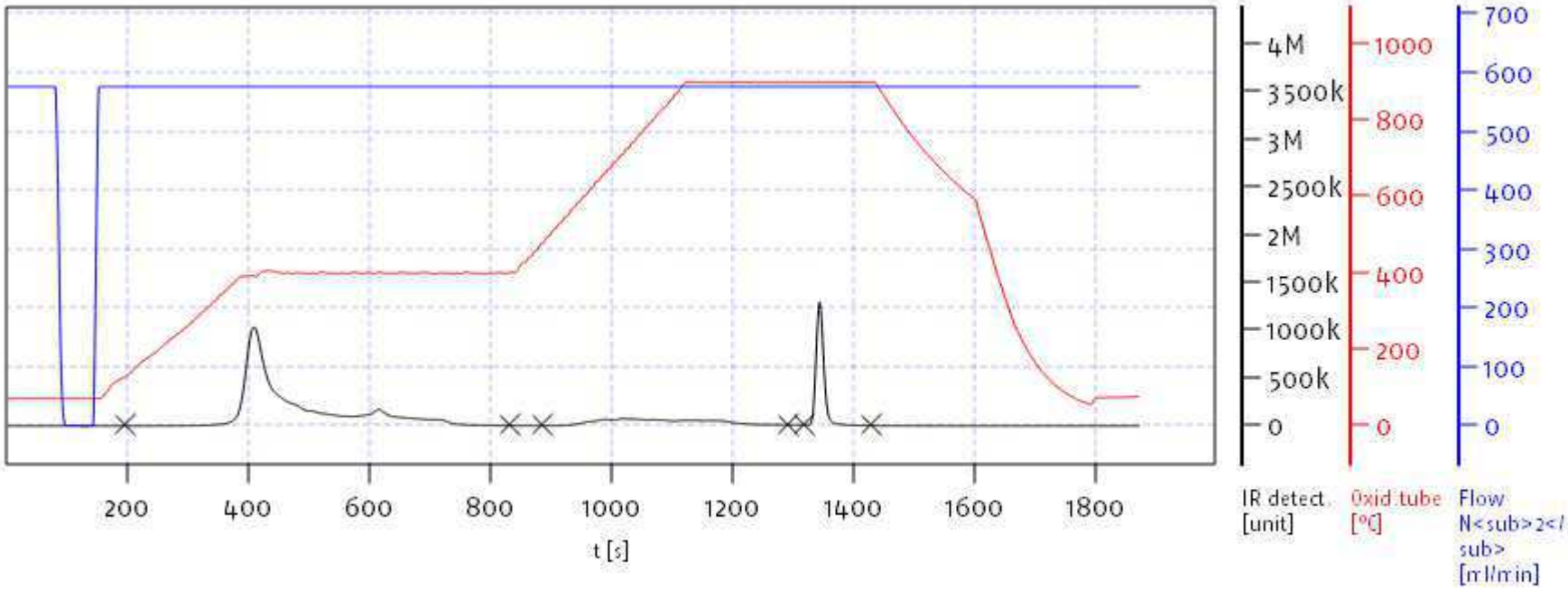
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	51	21G0322-08	526.80		1.00	CARBON	8/25/2021 8:54 PM	1.132	0.194	1.327	bl	2 929 100	618 360	729 749	0.9644	1.0000



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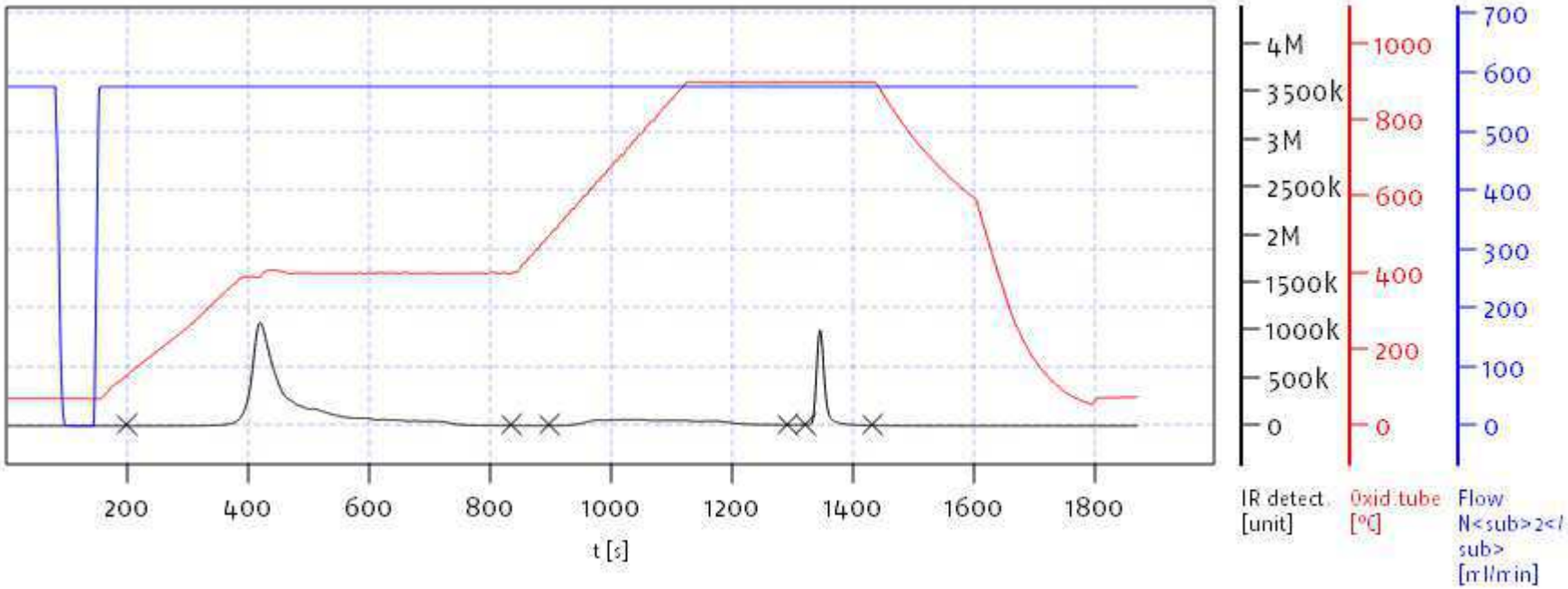
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	52	21G0322-09	525.60		1.00	CARBON	8/25/2021 9:26 PM	1.042	0.183	1.225	bl	2 762 510	580 911	600 994	0.9644	1.0000



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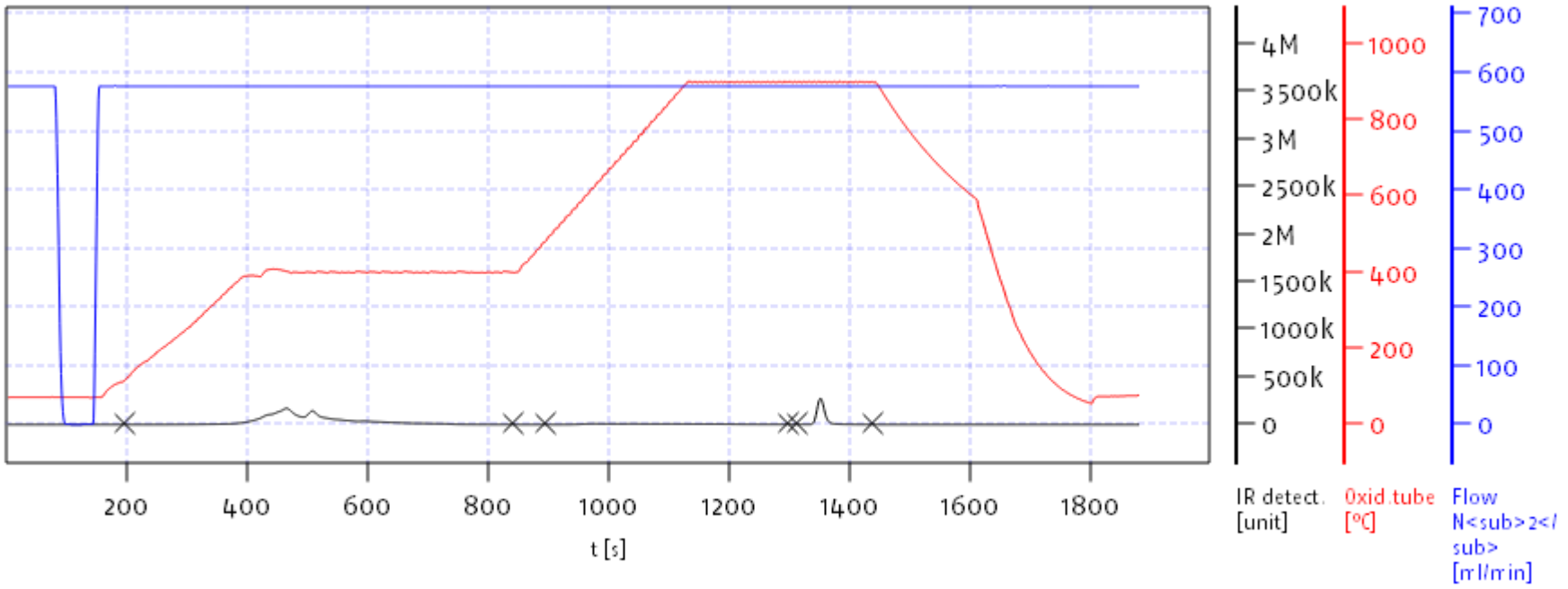
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	53	21G0330-01	587.30		1.00	CARBON	8/25/2021 9:57 PM	0.242	0.018	0.260	bl	734 950	73 410	156 753	0.9644	1.0000



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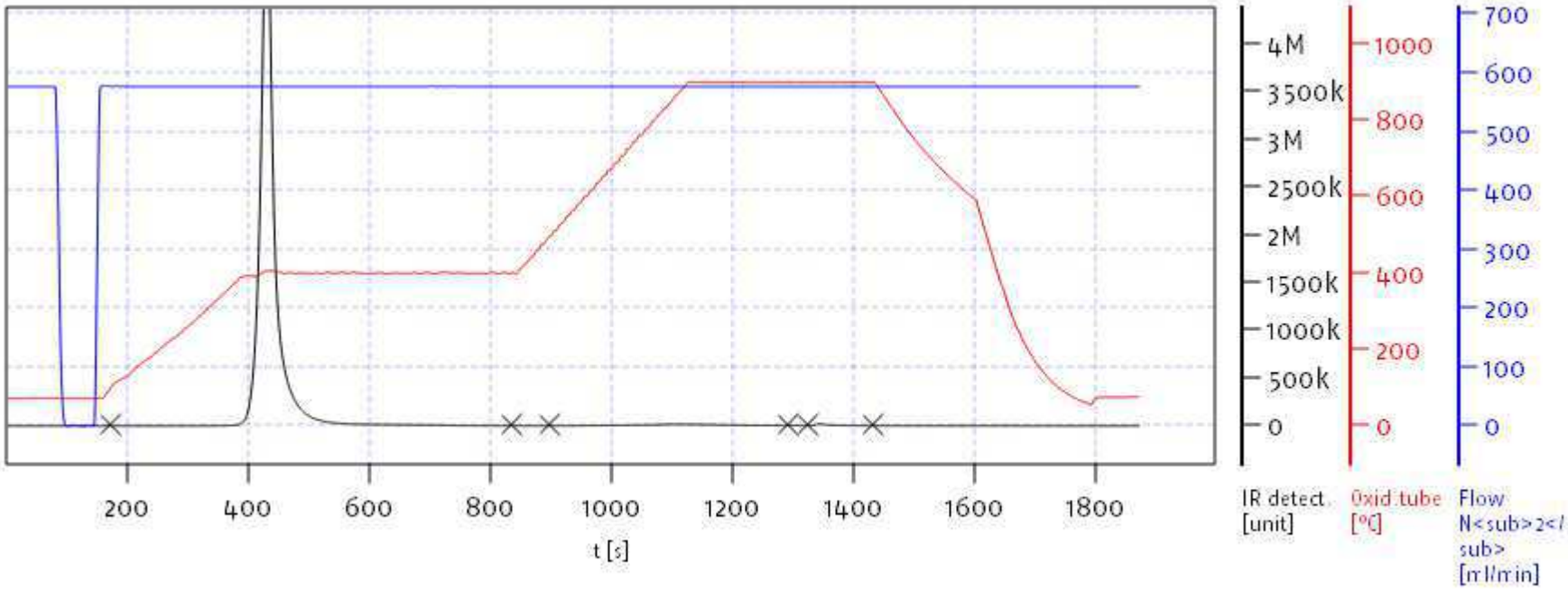
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	54	SJH0331-CCV1	20.90		1.00	CARBON	8/25/2021 10:29 PM	43.755	0.830	44.585	bl	5 610 790	114 398	26 780	0.9644	1.0000



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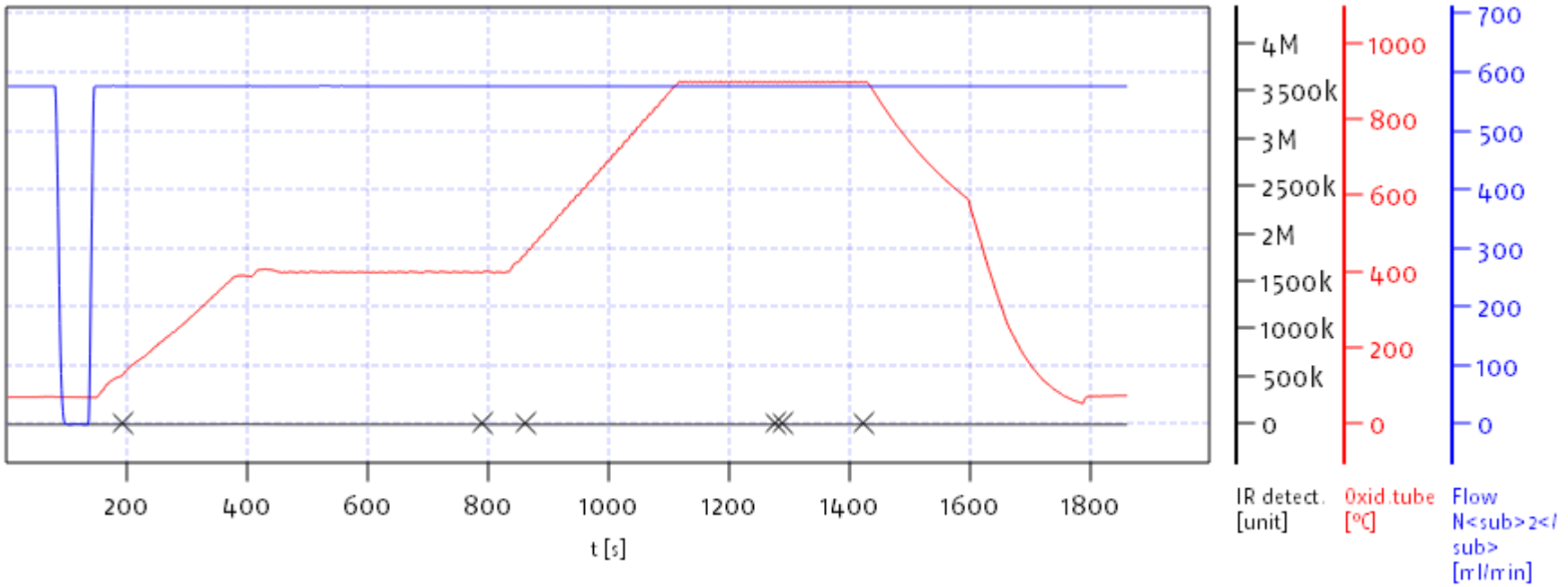
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	55	SJH0331-CCB1	539.70		1.00	CARBON	8/25/2021 11:01 PM	0.000	0.000	0.000	bl,C3u,C2u	8 568	654	96	0.9644	1.0000



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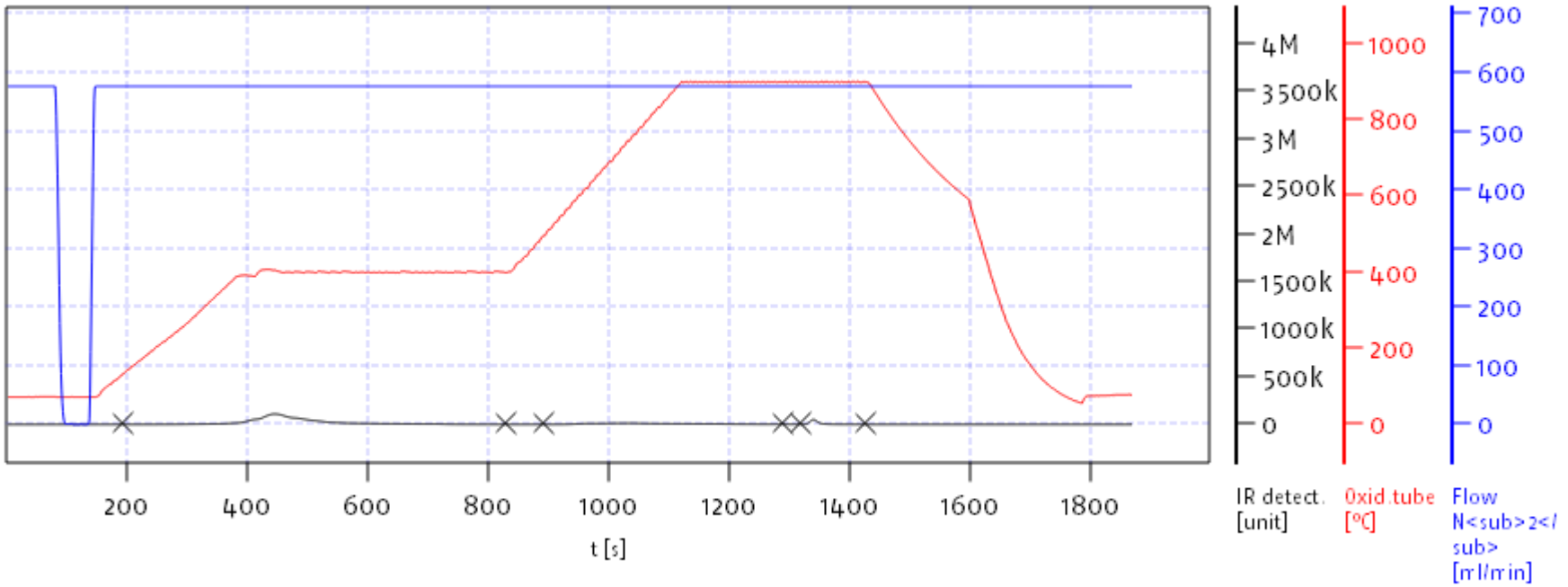
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	56	BJH0434-DUP4	597.30		1.00	CARBON	8/25/2021 11:32 PM	0.120	0.021	0.141	bl	430 799	87 095	32 284	0.9644	1.0000



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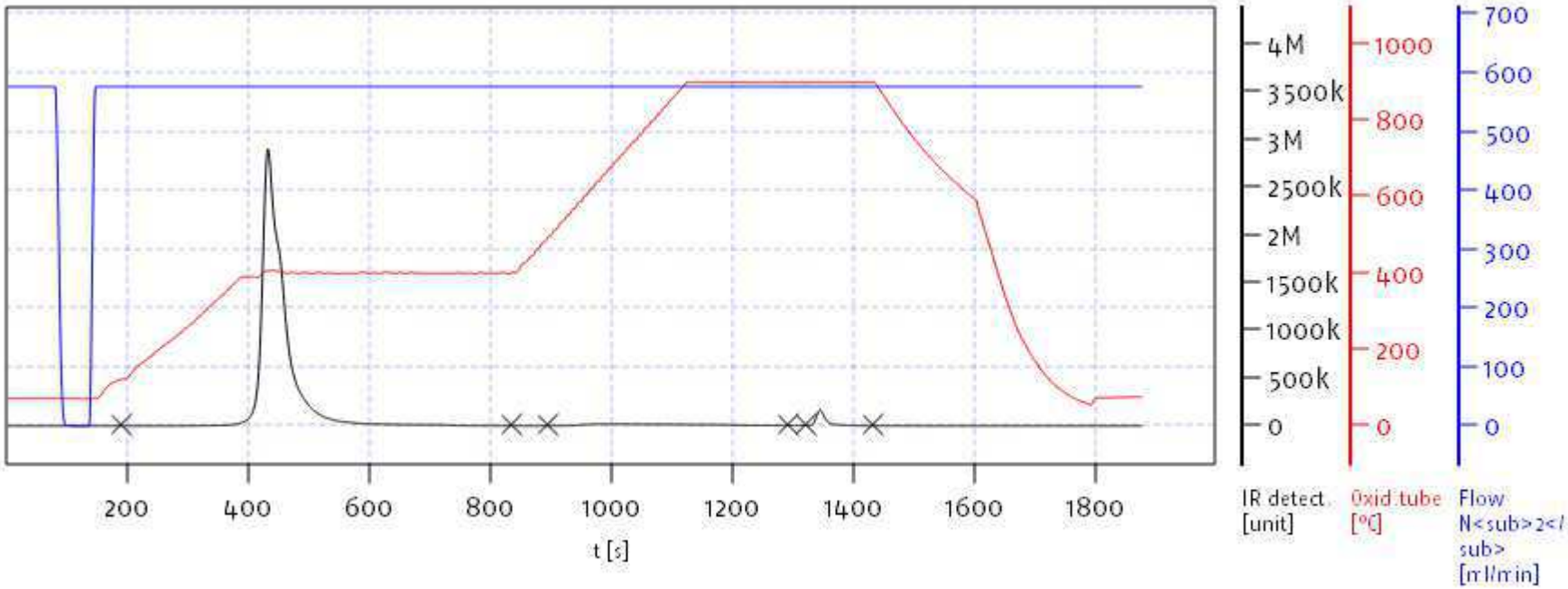
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	57	BJH0434-MS4	640.80	0.0128	1.00	CARBON	8/26/2021 12:04 AM	1.164	0.041	1.205	bl	4 483 710	165 615	115 595	0.9644	1.0000



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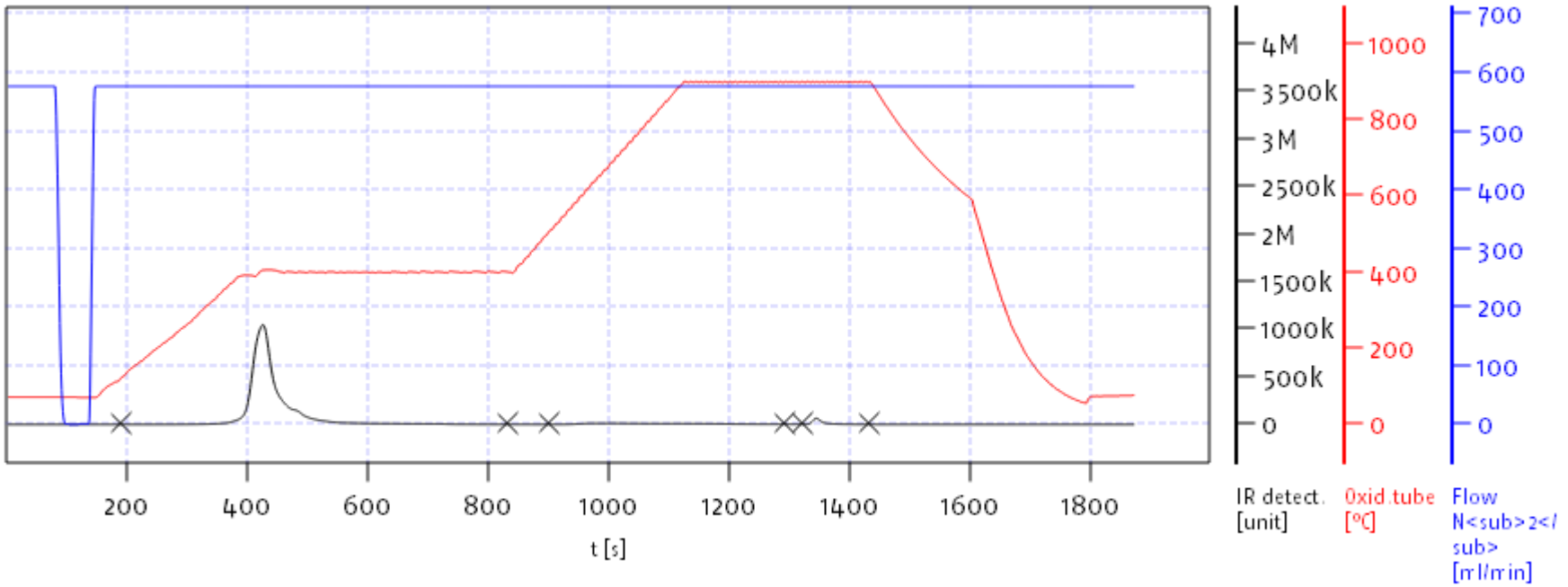
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	58	21G0330-02	694.00		1.00	CARBON	8/26/2021 12:36 AM	0.444	0.021	0.465	bl	1 867 910	96 006	47 239	0.9644	1.0000



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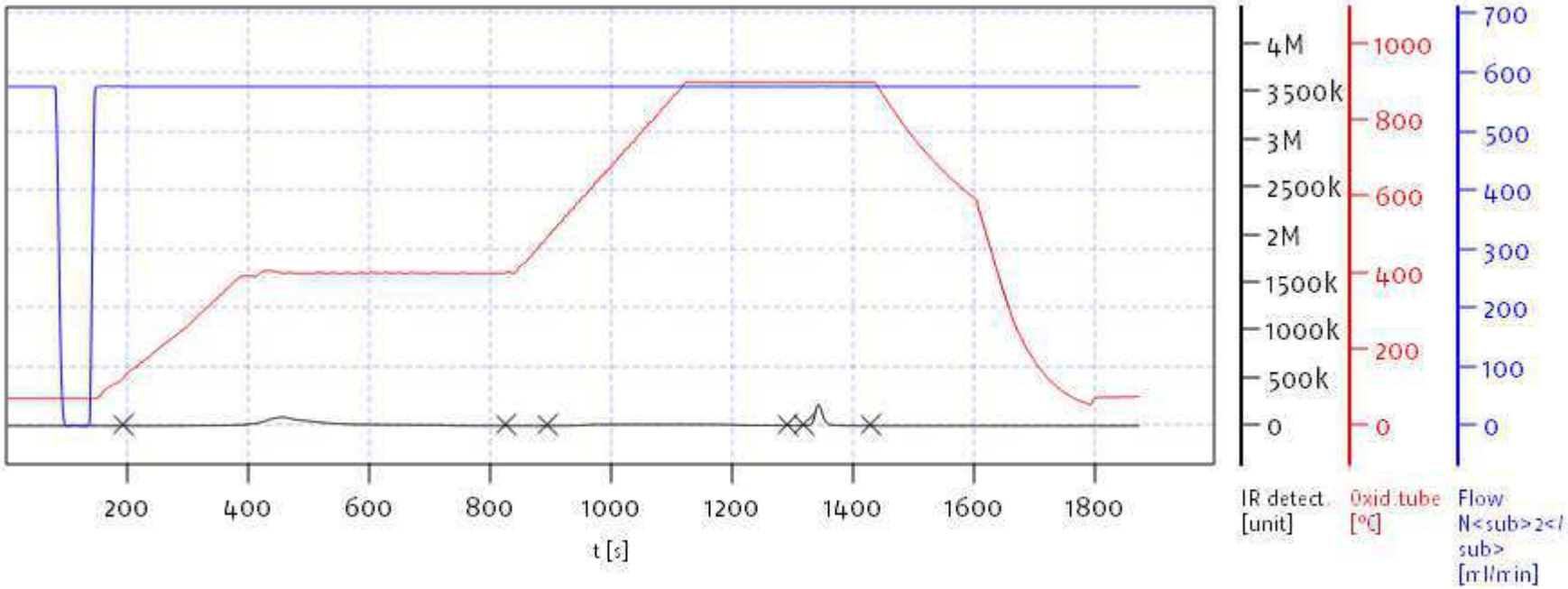
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	59	21G0330-03	566.50		1.00	CARBON	8/26/2021 1:07 AM	0.147	0.042	0.189	bl	400 378	151 075	129 909	0.9644	1.0000



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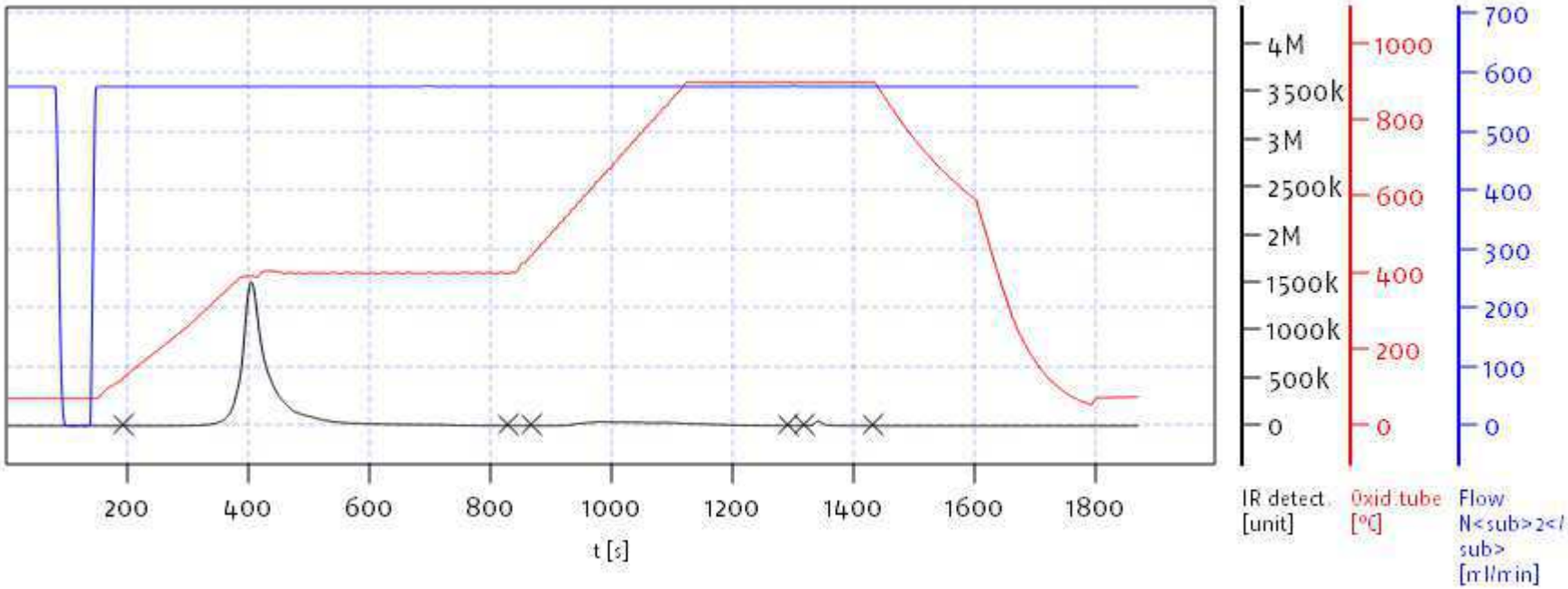
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	60	21H0072-13	522.70		1.00	CARBON	8/26/2021 1:39 AM	0.911	0.094	1.005	bl	2 912 900	303 233	33 518	0.9644	1.0000



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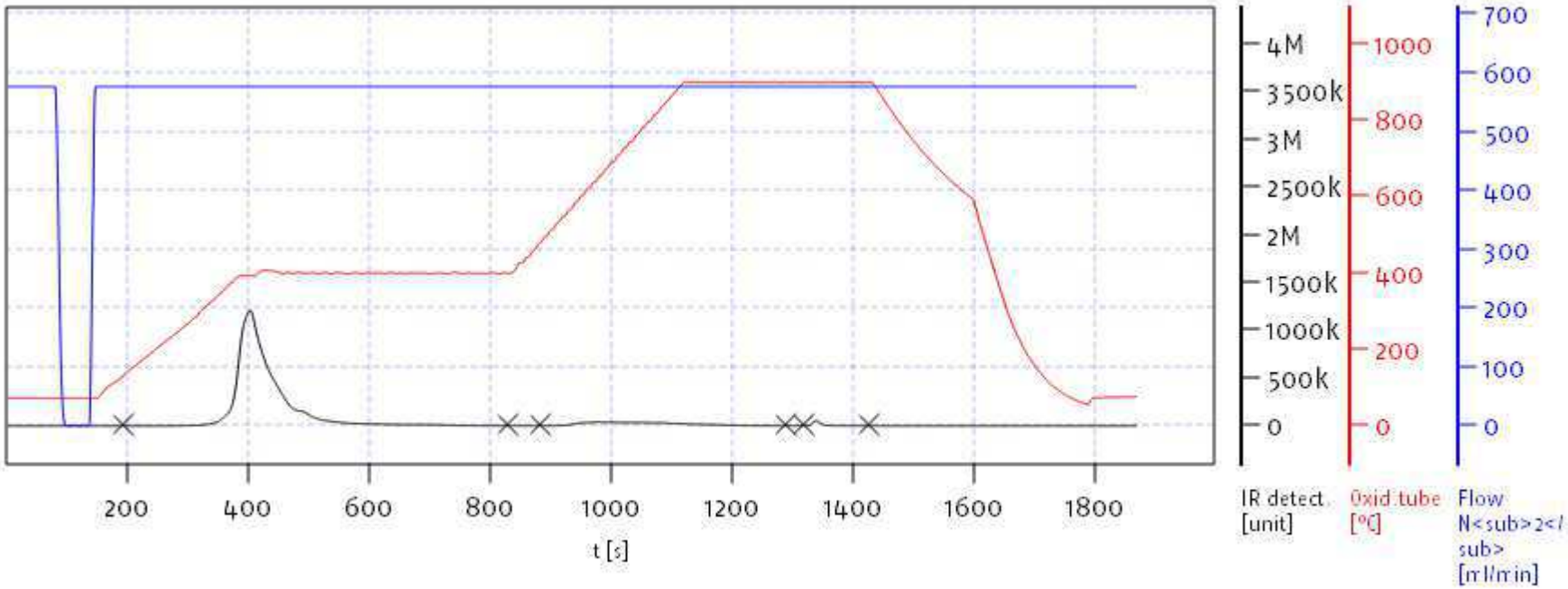
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	61	BJH0434-DUP1	541.00		1.00	CARBON	8/26/2021 2:11 AM	0.899	0.085	0.984	bl	2 974 090	282 649	34 924	0.9644	1.0000



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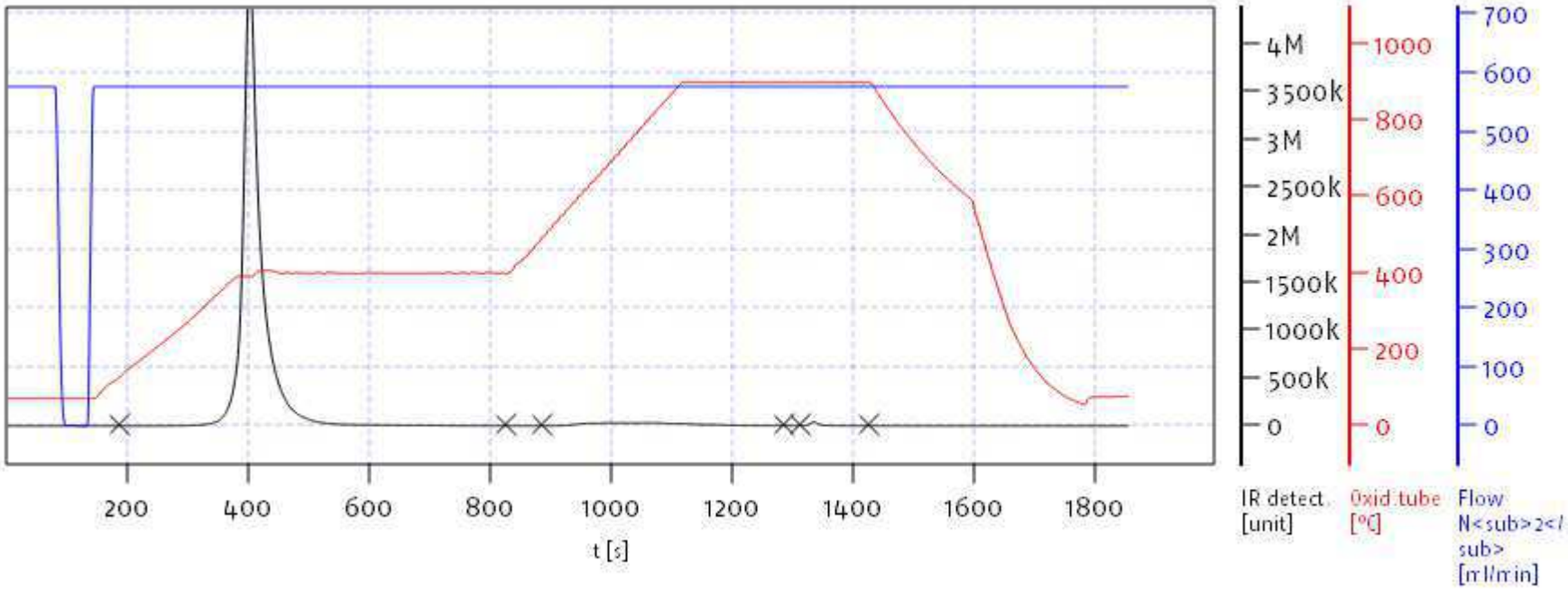
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	62	BJH0434-MS1	522.80	0.0110	1.00	CARBON	8/26/2021 2:42 AM	1.895	0.075	1.970	bl	6 077 010	242 912	29 009	0.9644	1.0000



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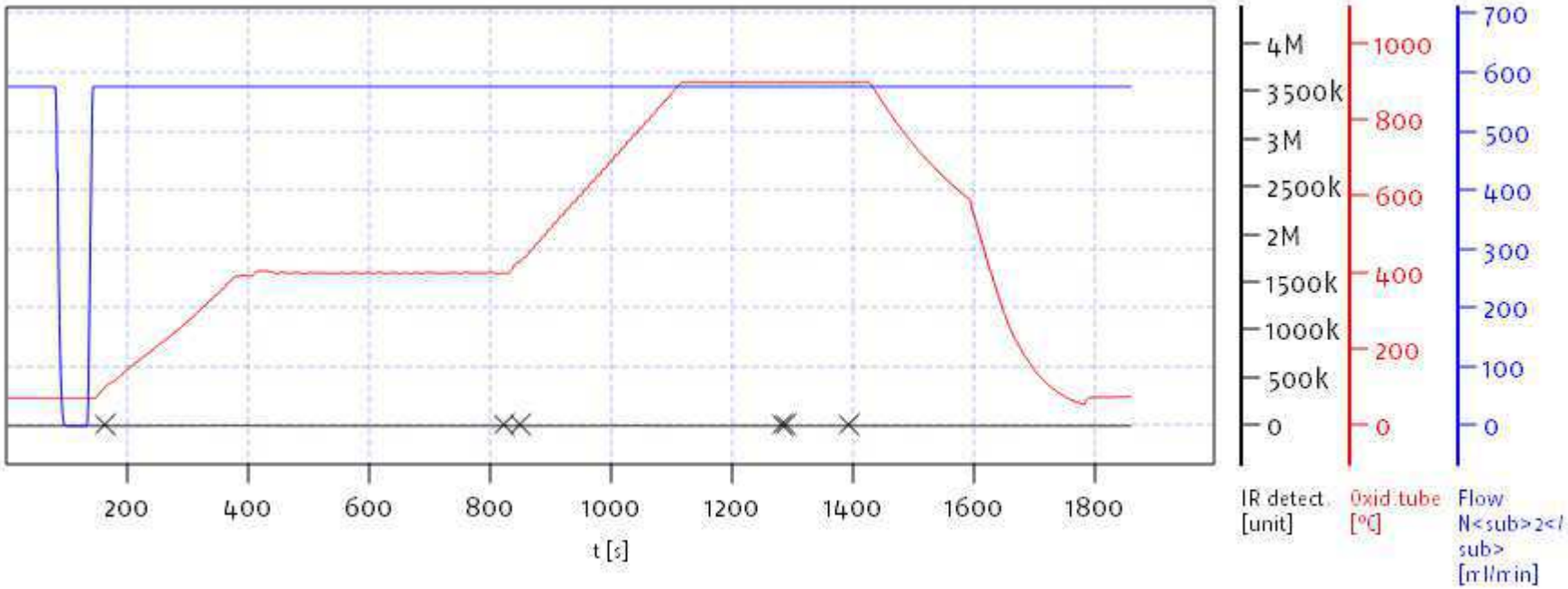
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	63	BLANK	1.00		1.00	CARBON	8/26/2021 3:13 AM	0.000	0.000	0.000	bl	13 366	5 962	130	0.9644	1.0000



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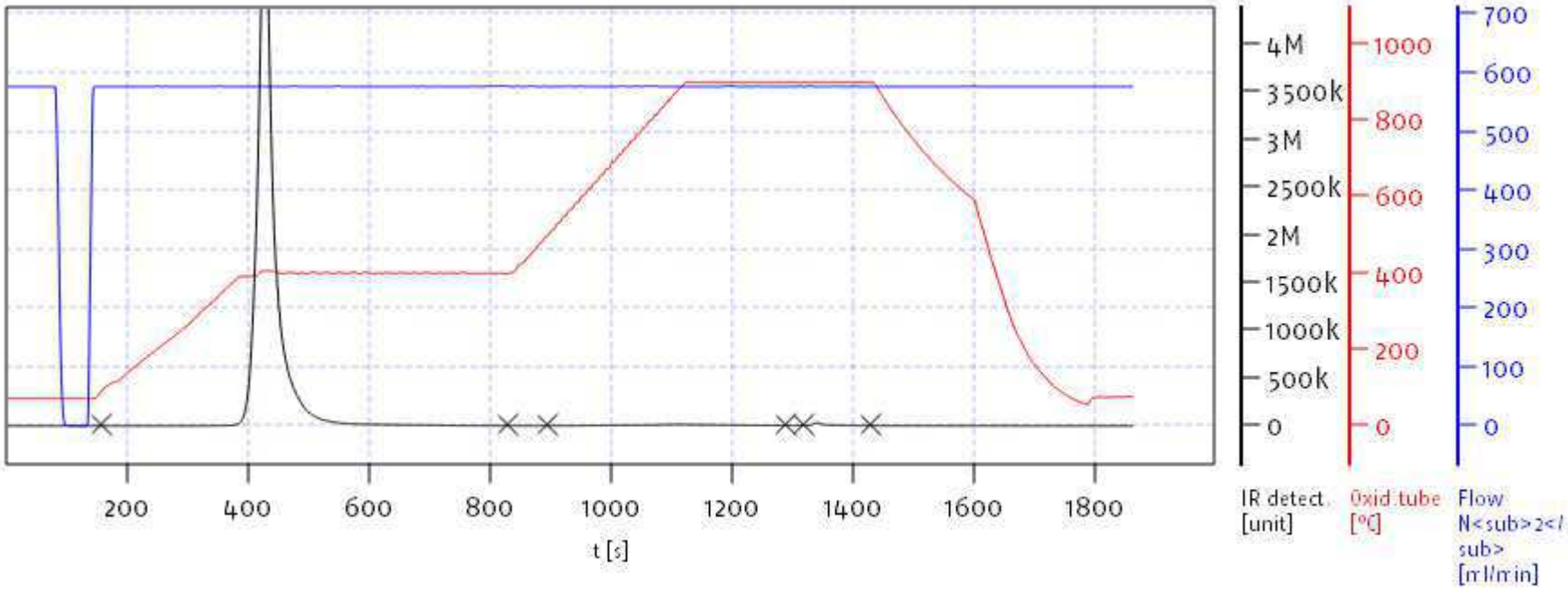
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	64	Dfactor	24.70		1.00	CARBON	8/26/2021 3:45 AM	44.611	0.662	45.273	bl	6 594 660	108 528	35 848	0.9874	1.0000



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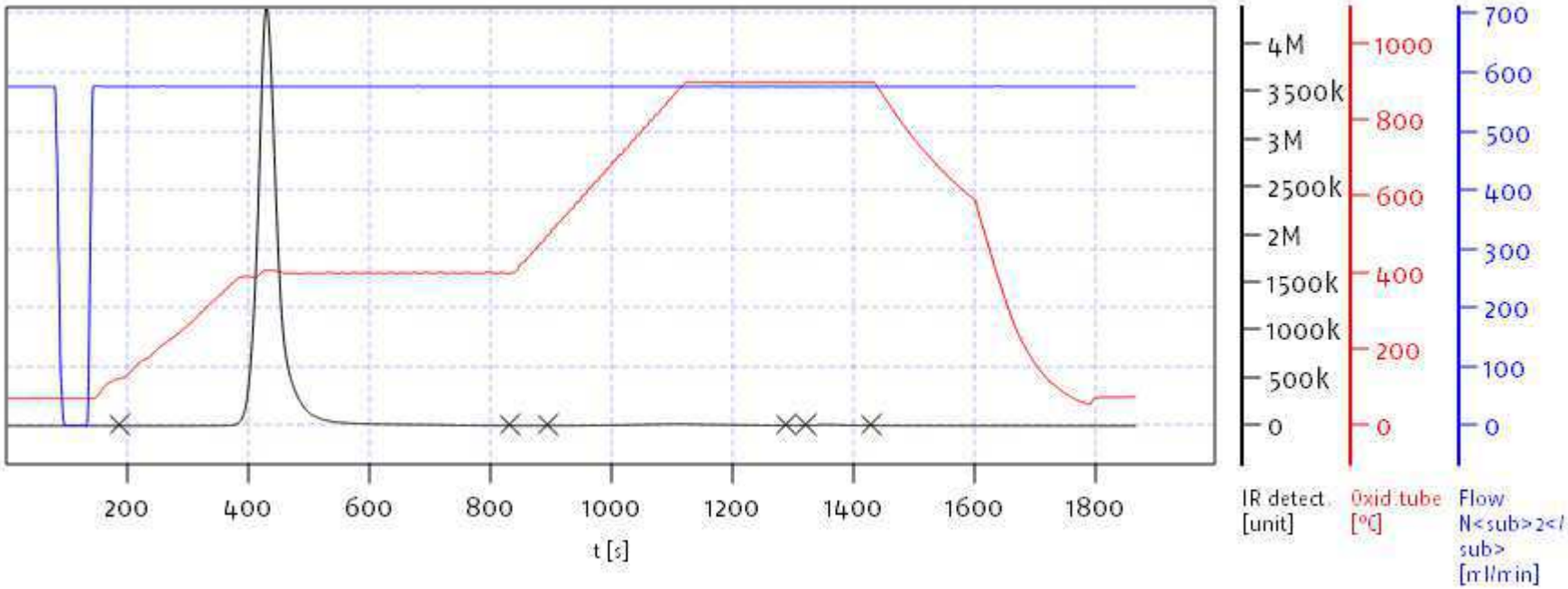
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	65	Dfactor	23.90		1.00	CARBON	8/26/2021 4:16 AM	44.558	0.869	45.427	bl	6 381 320	134 583	27 642	0.9875	1.0000



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Analyst: BF

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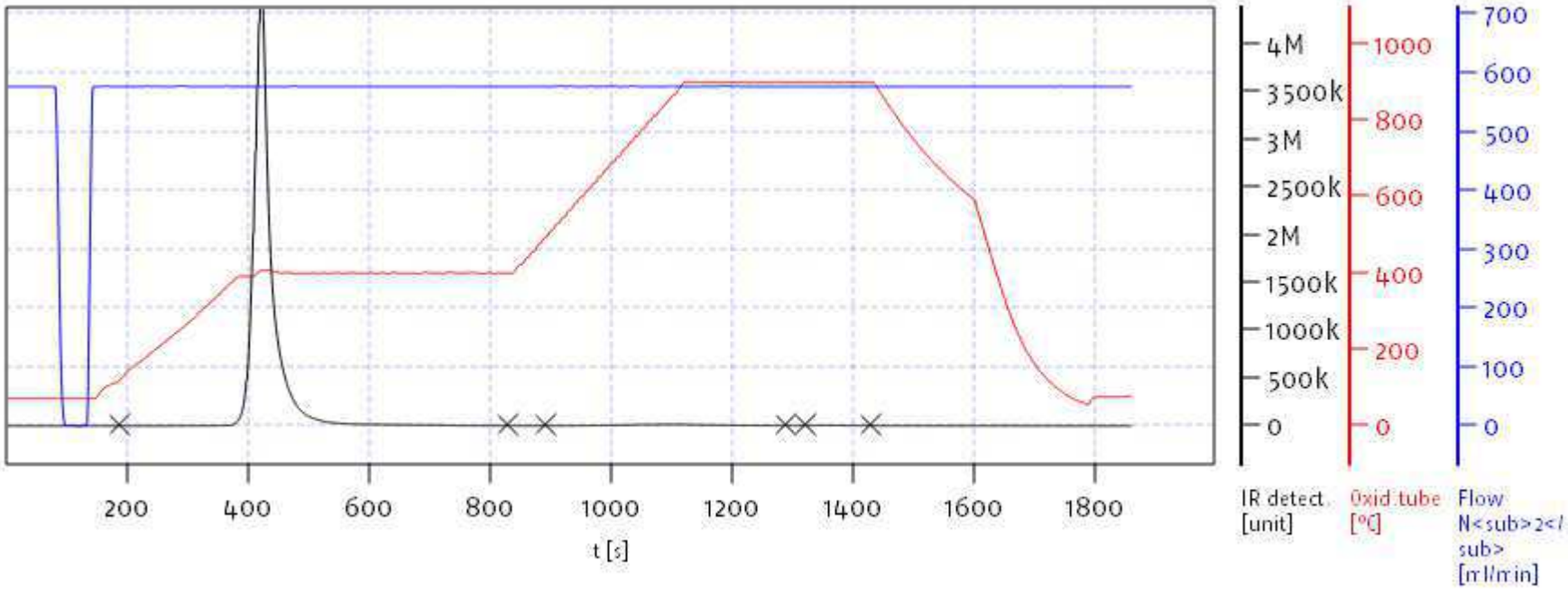
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	66	SJH0331-CCV2	21.00		1.00	CARBON	8/26/2021 4:48 AM	44.434	0.764	45.198	bl	5 602 300	106 661	16 290	0.9874	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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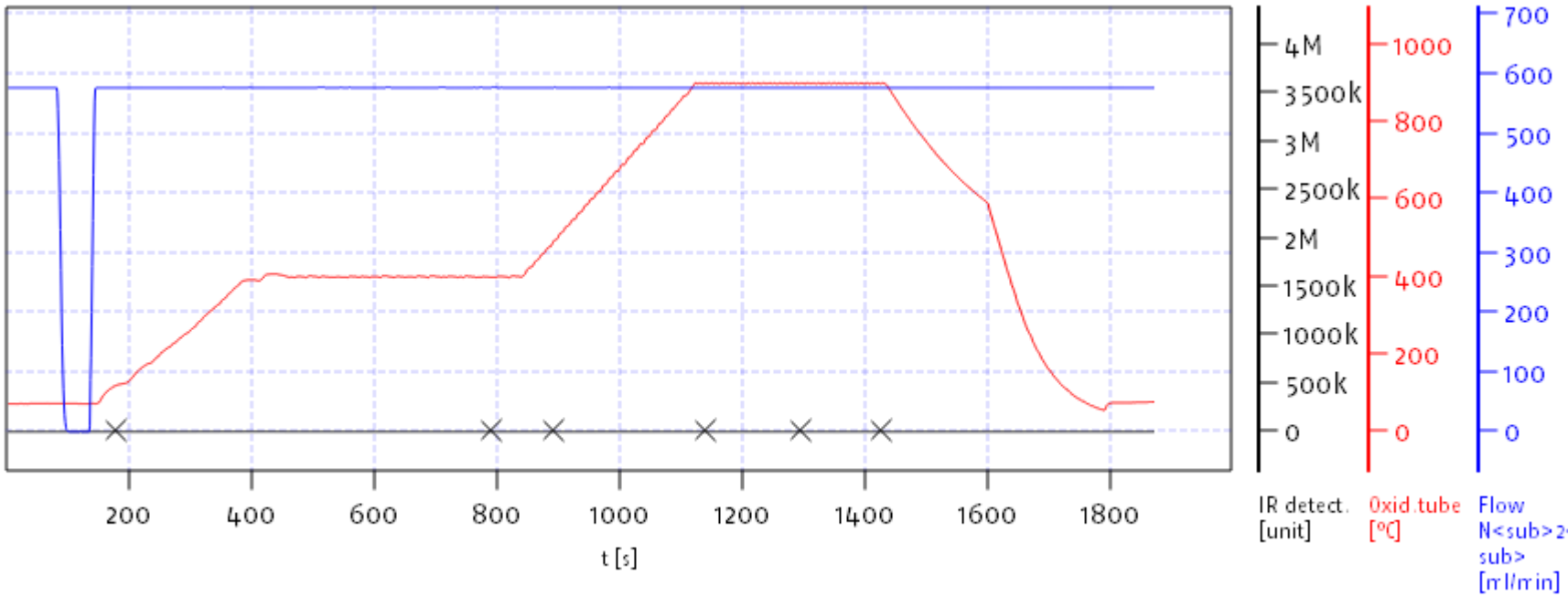
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	67	SJH0331-CCB2	533.80		1.00	CARBON	8/26/2021 5:20 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	6 424	425	331	0.9874	1.0000



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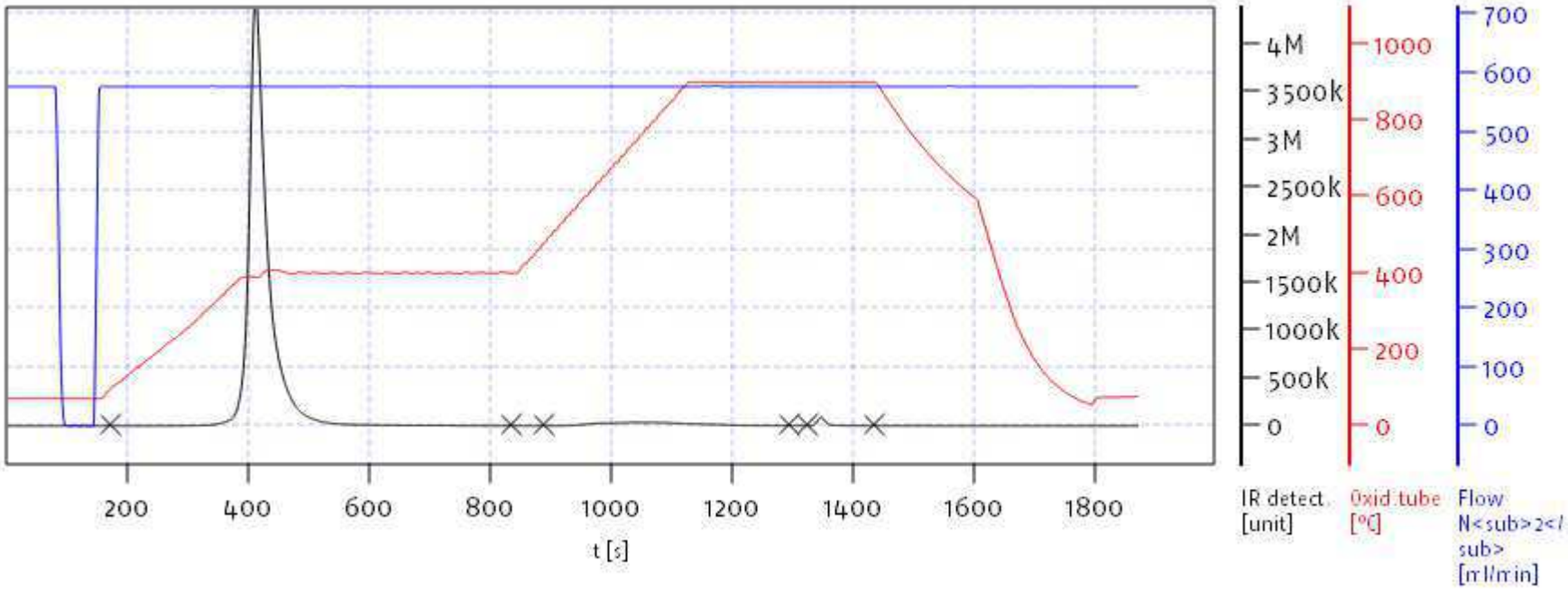
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	68	BJH0434-MSD1	528.30	0.0106	1.00	CARBON	8/26/2021 5:51 AM	1.899	0.078	1.977	bl	5 979 850	256 903	58 386	0.9874	1.0000



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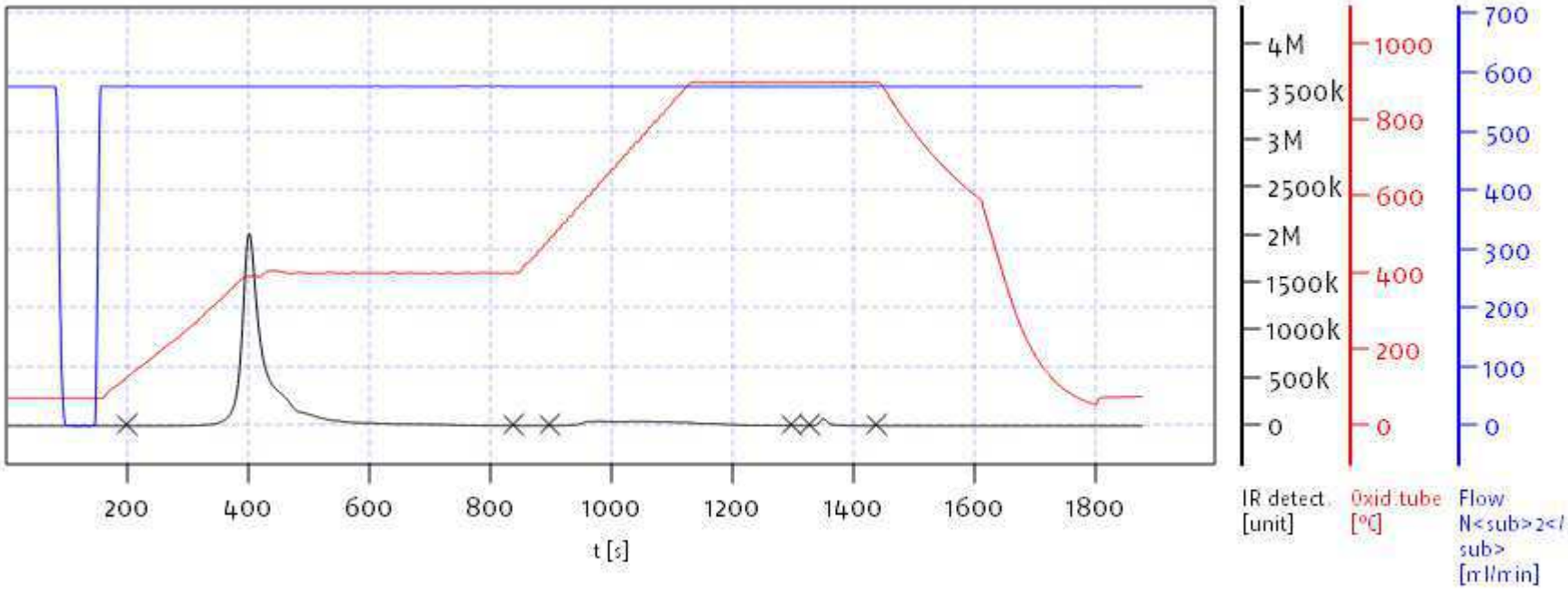
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	69	21H0072-21	518.60		1.00	CARBON	8/26/2021 6:23 AM	1.107	0.118	1.225	bl	3 412 750	373 576	53 031	0.9874	1.0000



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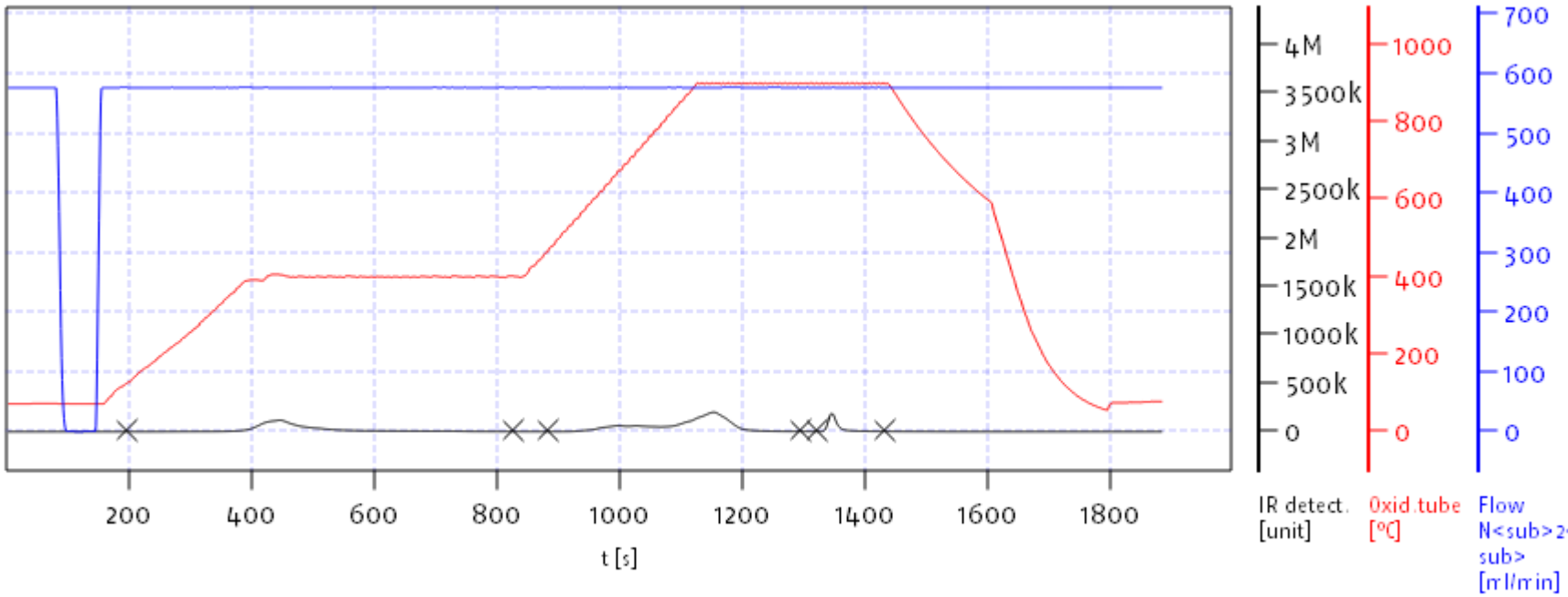
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
32	70	21H0187-07	530.70		1.00	CARBON	8/26/2021 6:55 AM	0.169	0.256	0.425	bl	429 842	816 538	128 915	0.9874	1.0000



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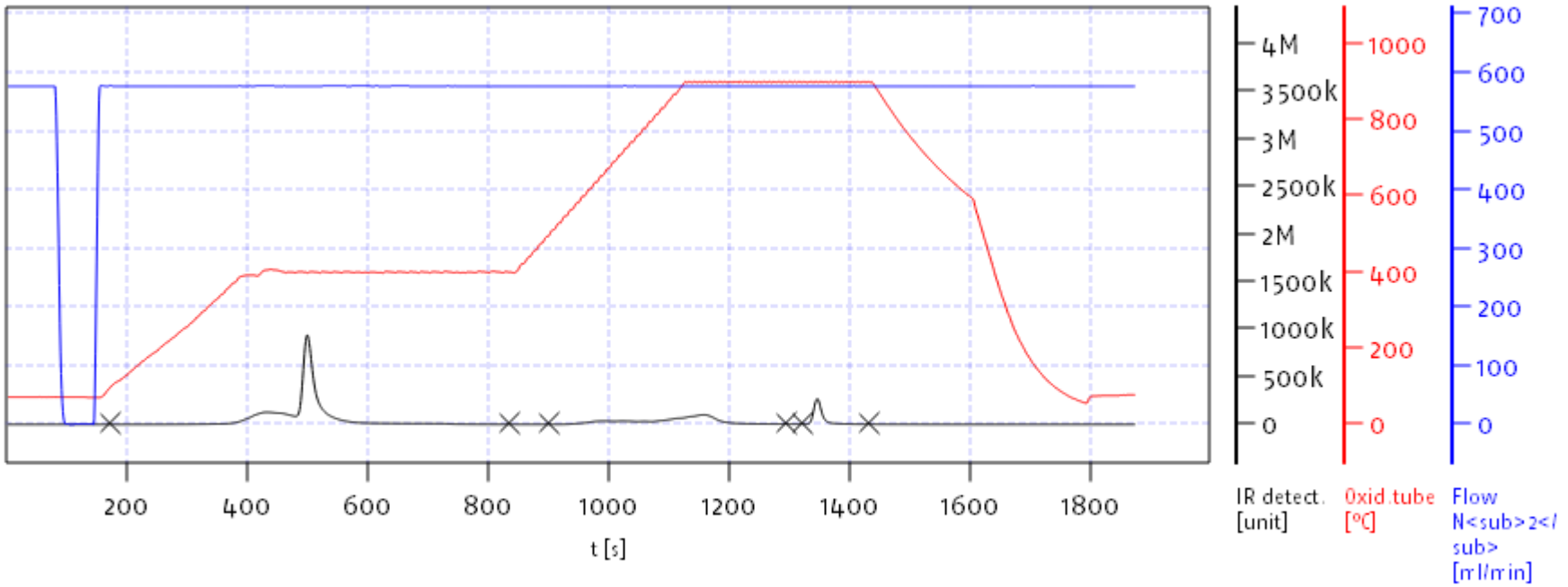
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
33	71	21H0187-08	554.70		1.00	CARBON	8/26/2021 7:27 AM	0.438	0.138	0.576	bl	1 311 880	465 029	167 039	0.9874	1.0000



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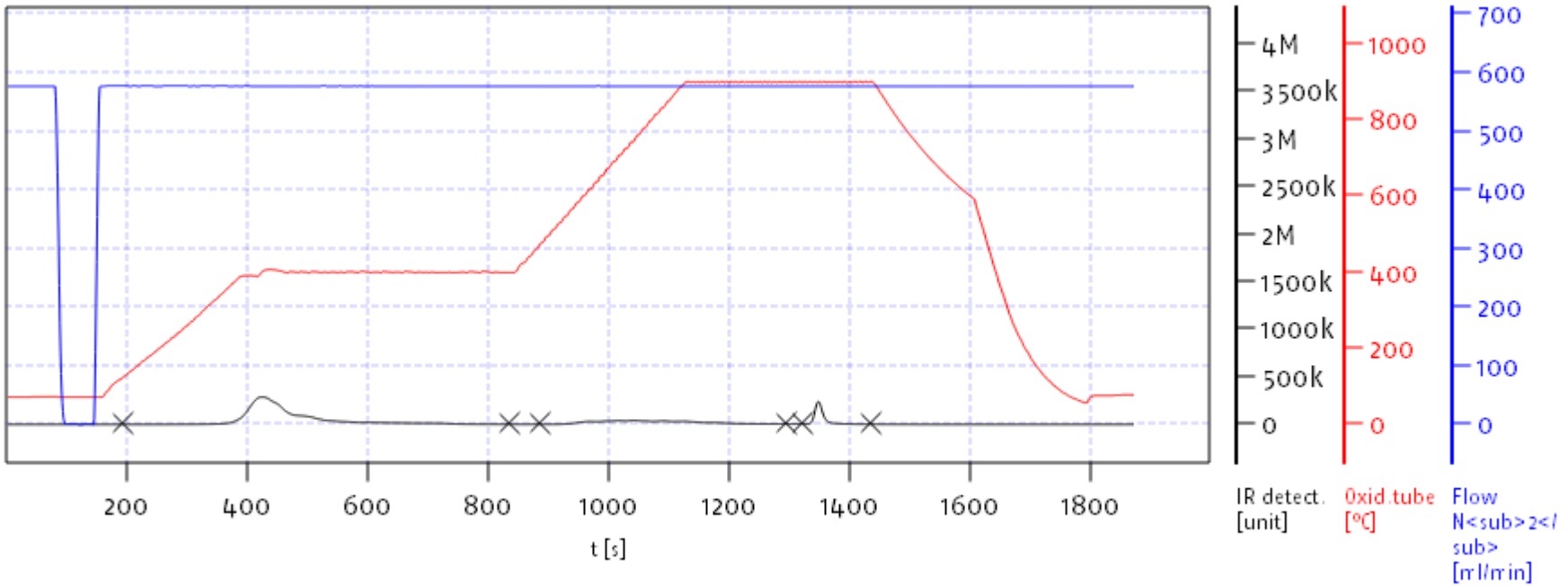
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
34	72	21H0187-09	521.80		1.00	CARBON	8/26/2021 7:58 AM	0.363	0.099	0.462	bl	1 003 630	317 868	152 982	0.9874	1.0000



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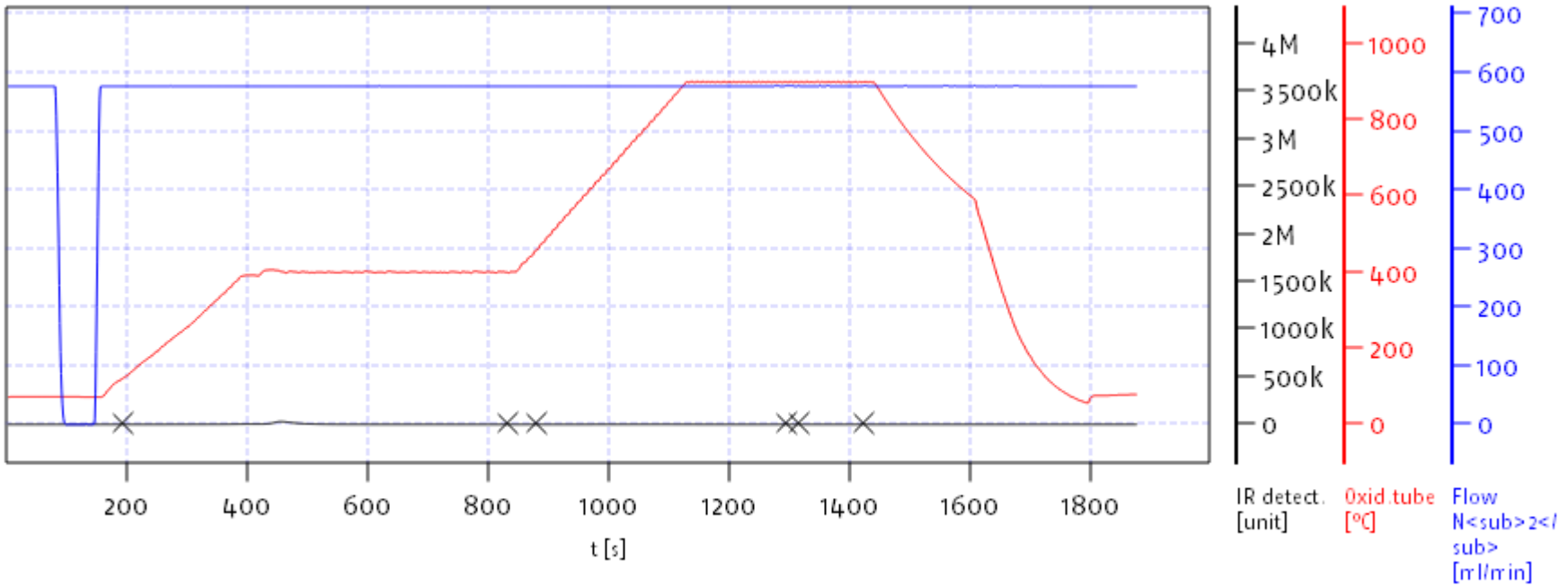
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
35	73	BJH0435-MRL1	524.20		1.00	CARBON	8/26/2021 8:30 AM	0.017	0.000	0.017	bl,C3u,C2u	66 010	6 866	196	0.9874	1.0000



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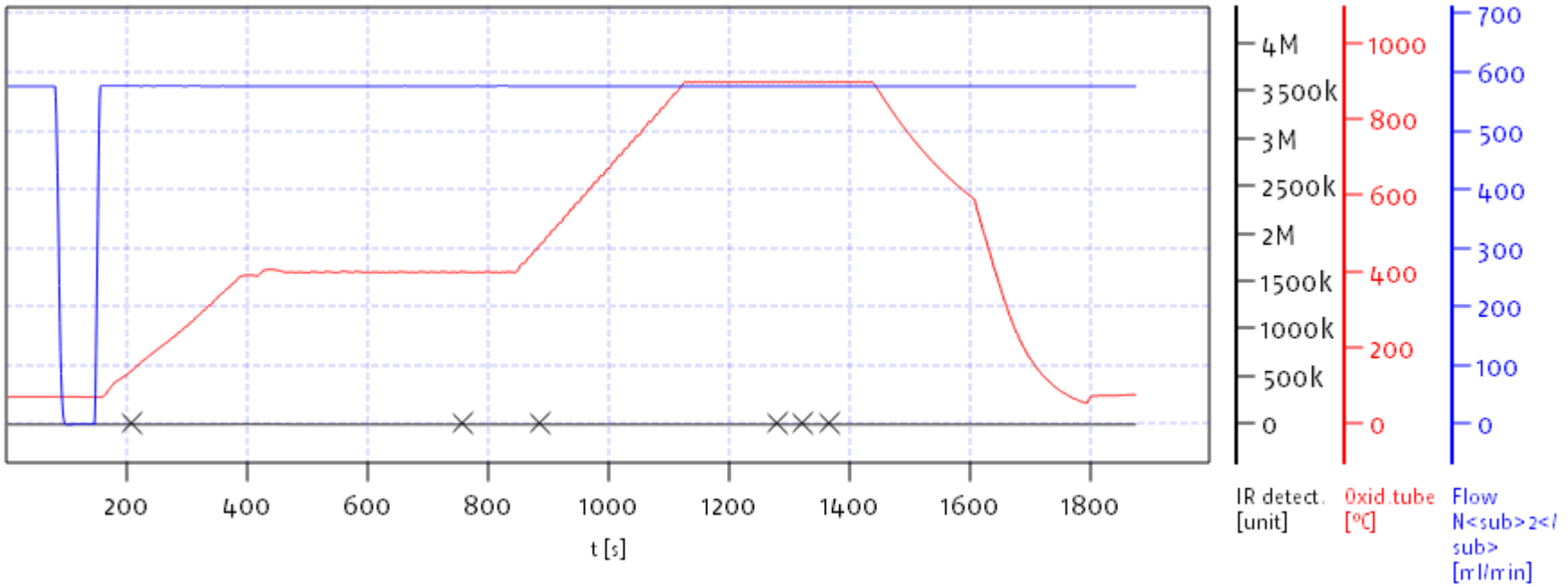
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
36	74	BJH0435-BLK1	502.50		1.00	CARBON	8/26/2021 9:02 AM	0.000	0.000	0.000	bl,C3u,C2u	10 640	1 609	83	0.9874	1.0000



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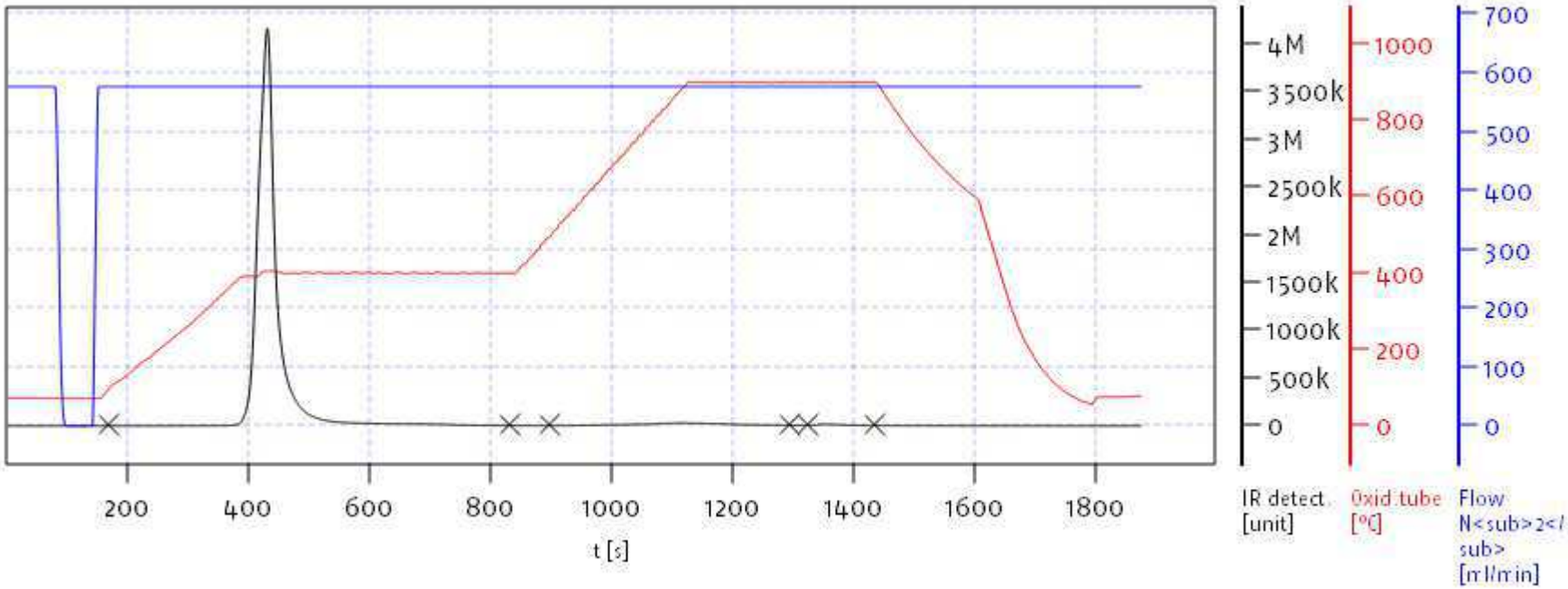
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
37	75	BJH0435-BS1	21.00		1.00	CARBON	8/26/2021 9:33 AM	43.894	1.611	45.505	bl	5 514 320	211 943	36 116	0.9874	1.0000



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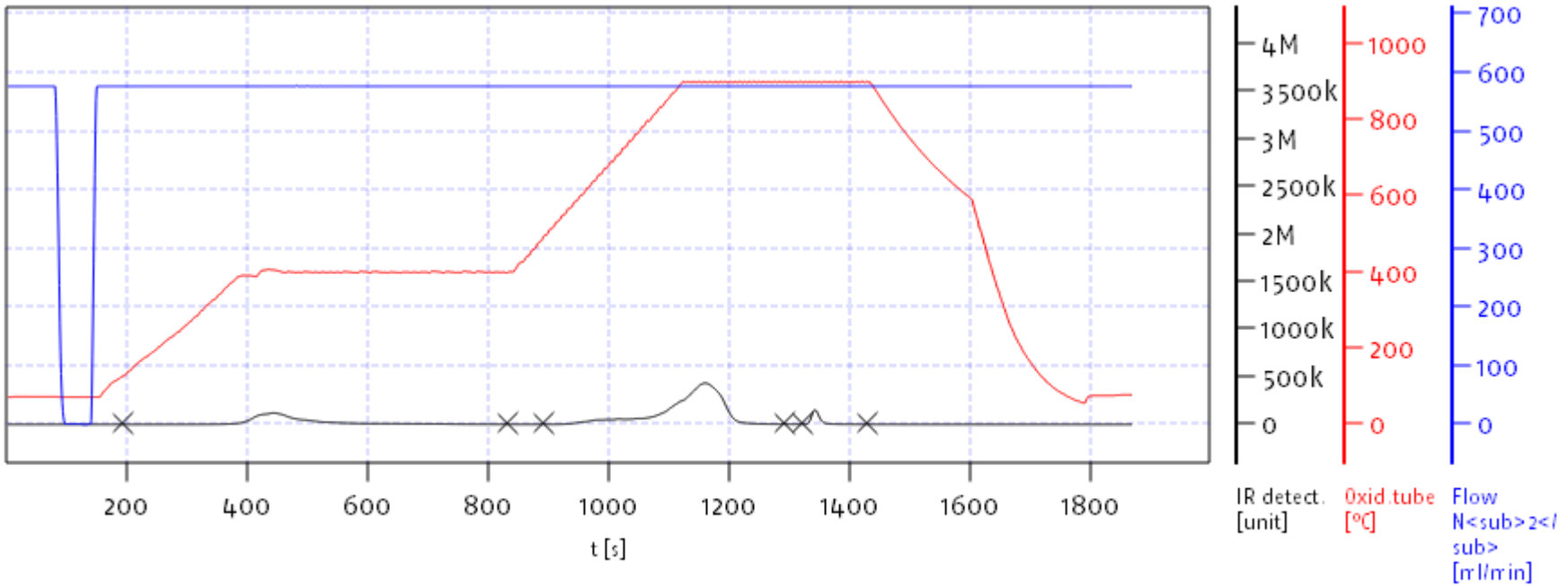
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
38	76	21H0089-01	581.50		1.00	CARBON	8/26/2021 10:05 AM	0.150	0.456	0.605	bl	451 971	1 580 450	91 893	0.9874	1.0000



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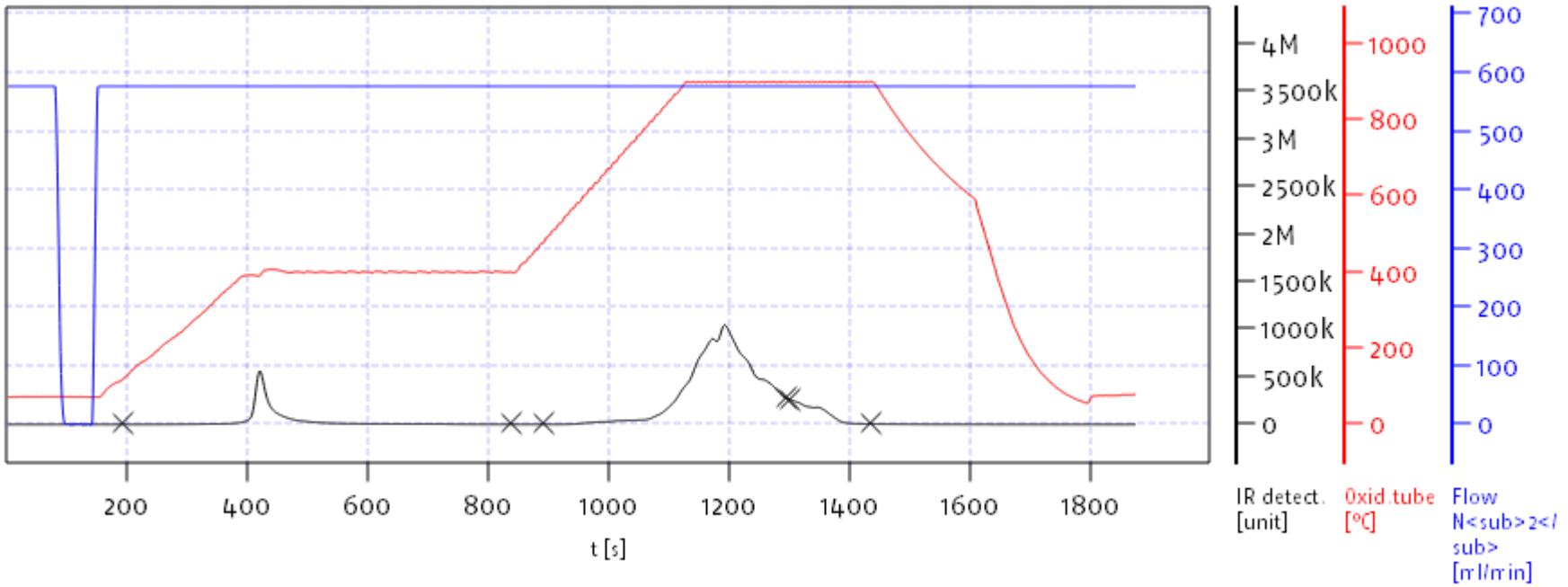
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
39	77	21H0089-02	385.10		1.00	CARBON	8/26/2021 10:37 AM	0.538	2.055	2.593	bl	724 446	4 697 810	535 223	0.9874	1.0000



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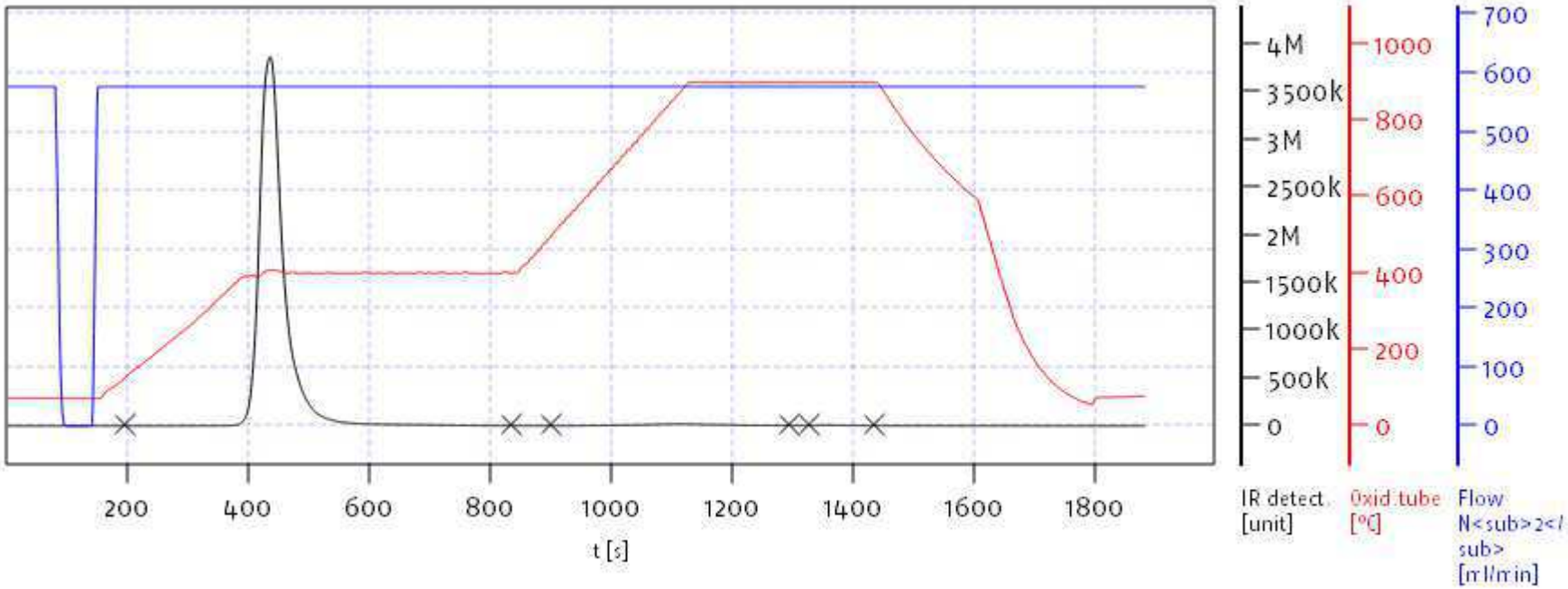
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
40	78	SJH0331-CCV3	25.10		1.00	CARBON	8/26/2021 11:09 AM	44.440	0.785	45.225	bl	6 692 970	128 338	18 911	0.9874	1.0000



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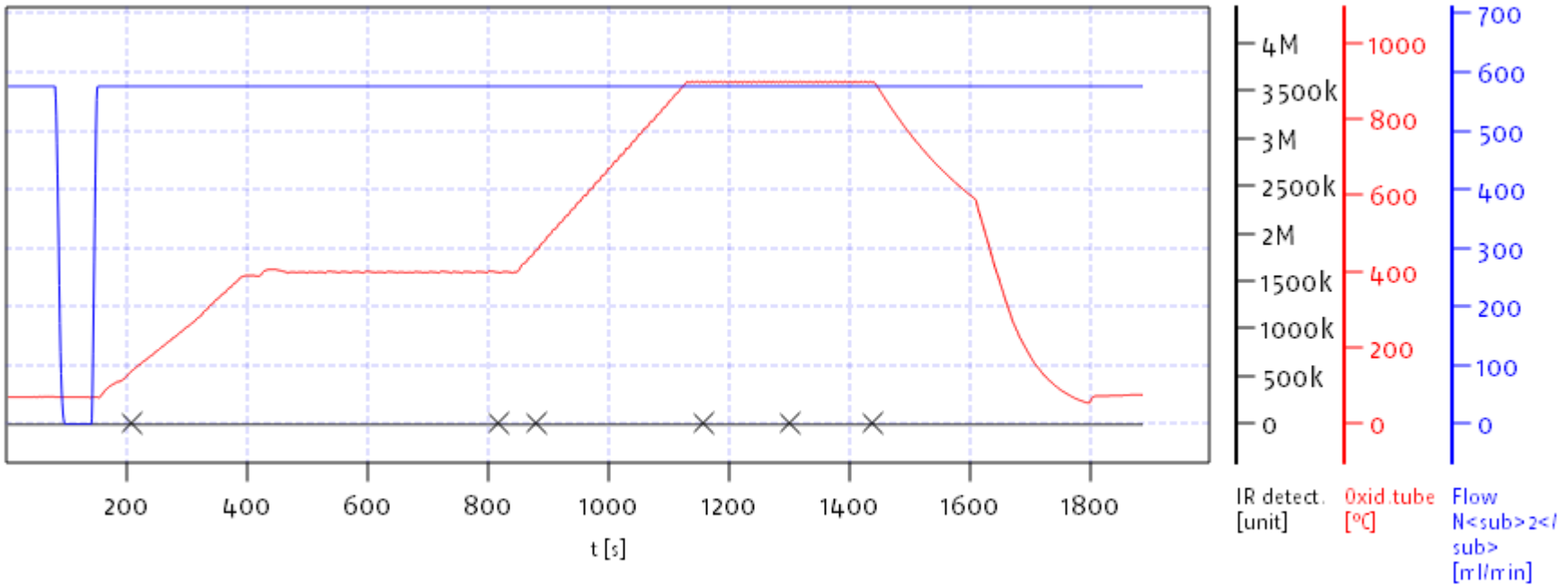
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
41	79	SJH0331-CCB3	569.10		1.00	CARBON	8/26/2021 11:41 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 768	263	150	0.9874	1.0000



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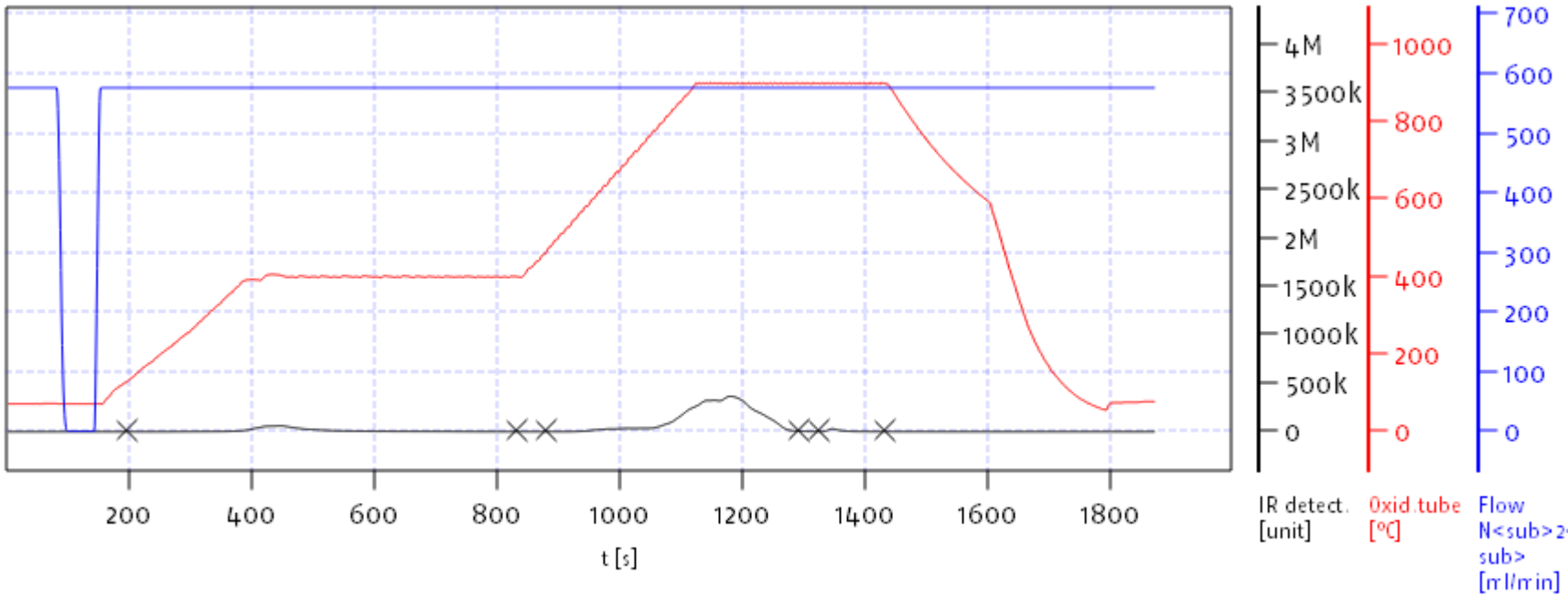
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
42	80	21H0089-03	516.00		1.00	CARBON	8/26/2021 12:12 PM	0.080	0.604	0.684	bl	242 131	1 857 580	27 577	0.9874	1.0000



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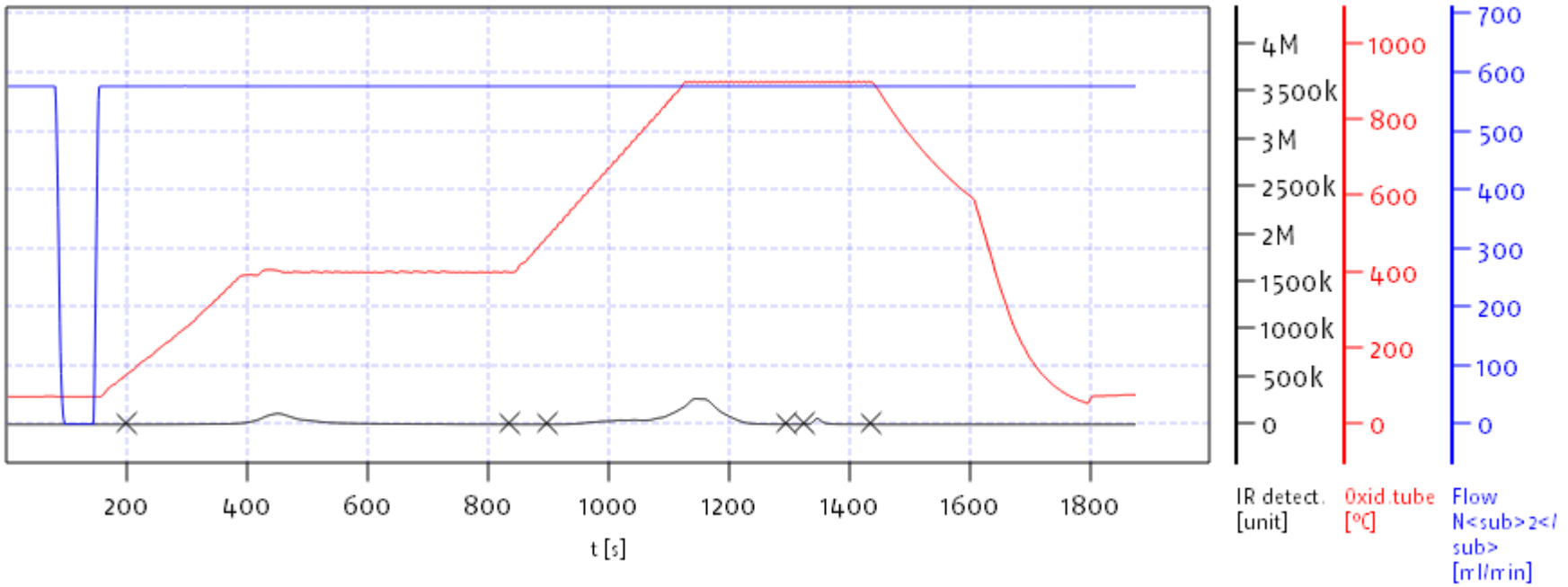
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
43	81	21H0089-04	552.80		1.00	CARBON	8/26/2021 12:44 PM	0.126	0.306	0.432	bl	397 649	1 014 540	42 472	0.9874	1.0000



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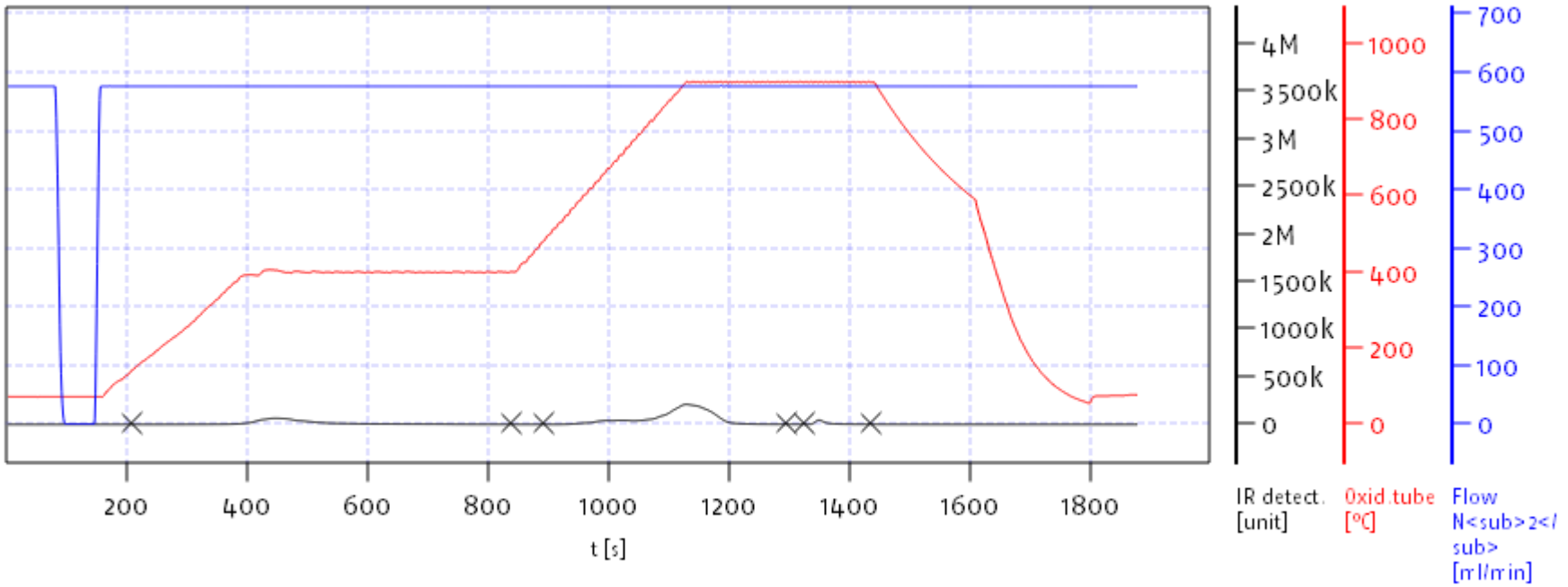
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
44	82	21H0089-05	564.10		1.00	CARBON	8/26/2021 1:16 PM	0.084	0.244	0.327	bl	266 687	825 800	39 239	0.9874	1.0000



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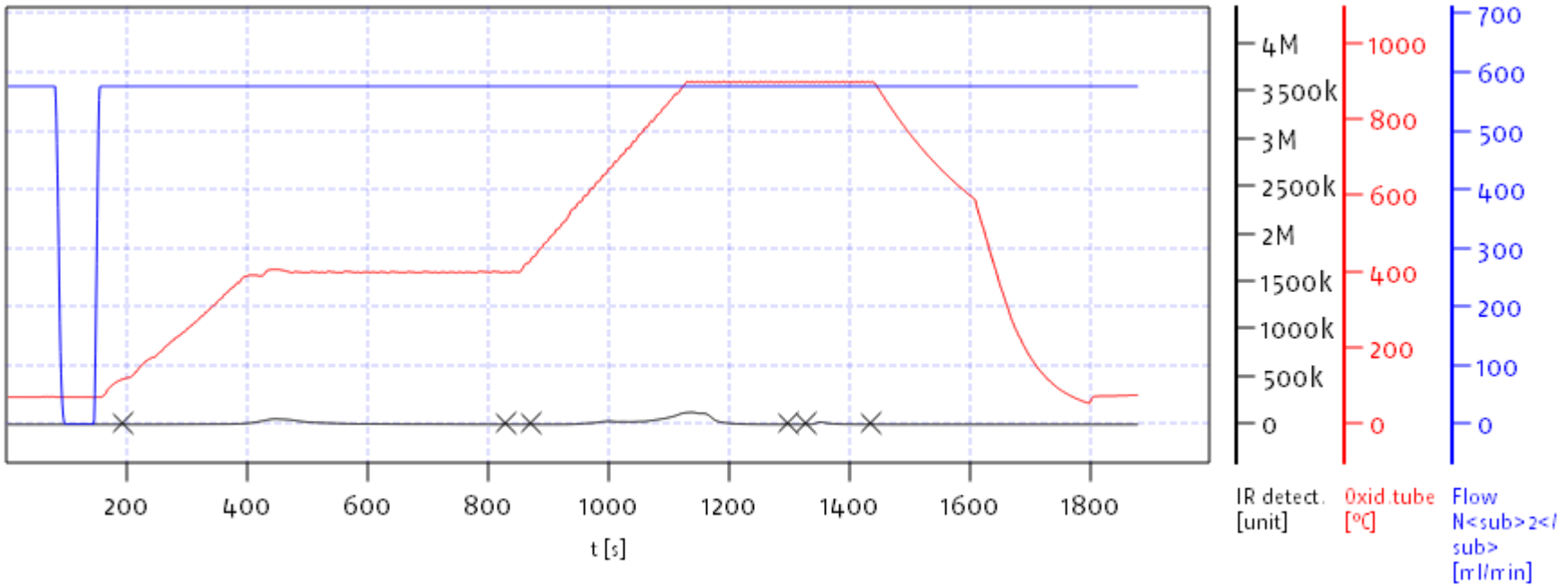
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
45	83	21H0089-06	588.50		1.00	CARBON	8/26/2021 1:48 PM	0.067	0.144	0.210	bl	233 472	511 885	24 682	0.9874	1.0000



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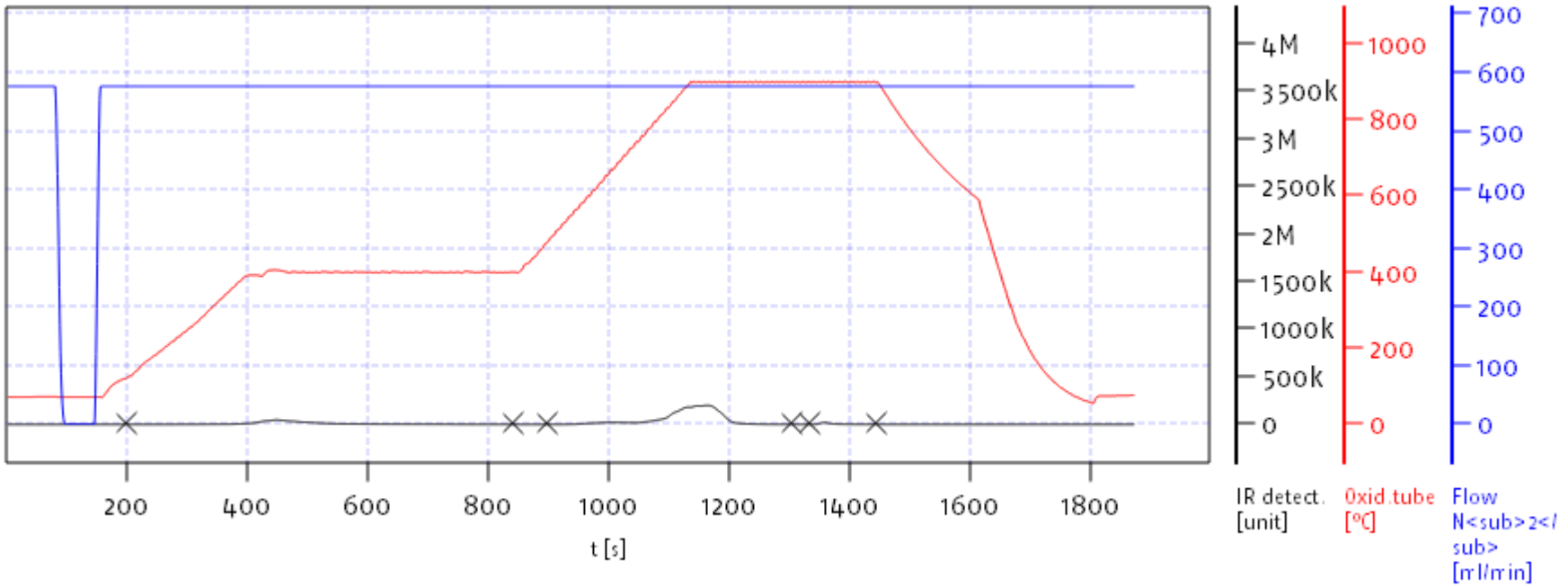
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
46	84	21H0089-07	361.00		1.00	CARBON	8/26/2021 2:19 PM	0.082	0.347	0.429	bl	182 745	753 491	17 851	0.9874	1.0000



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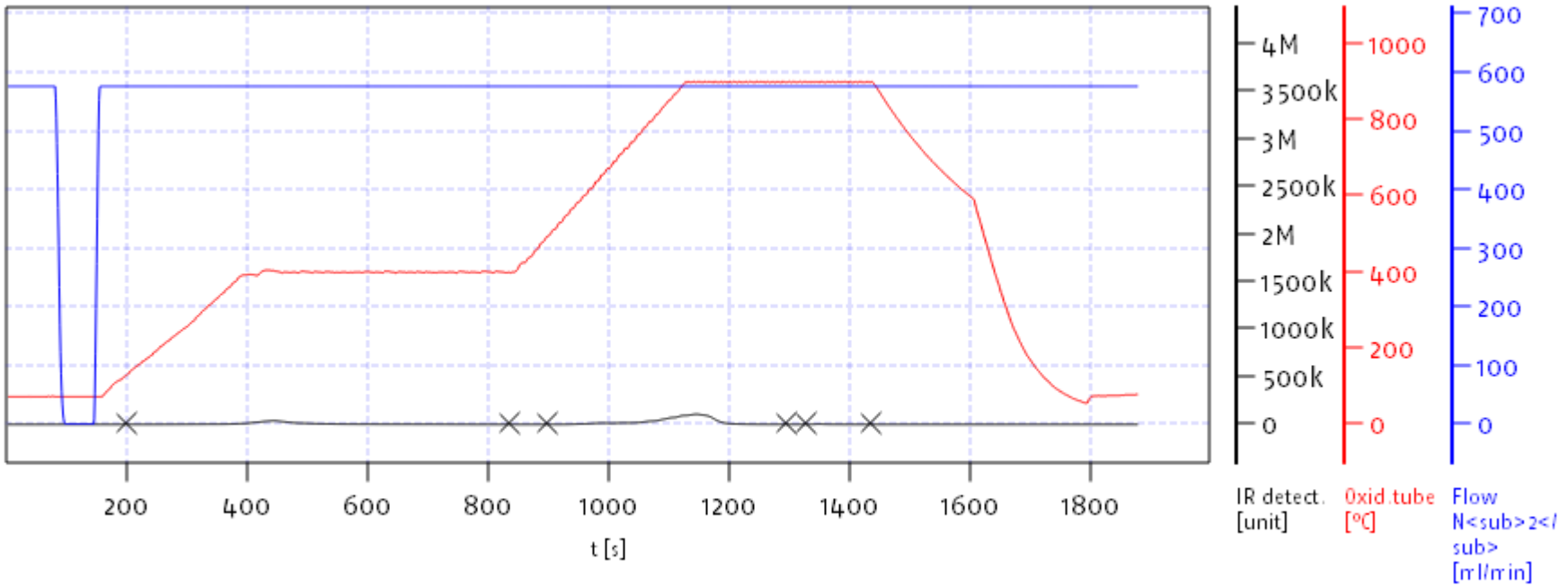
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
47	85	21H0089-08	317.80		1.00	CARBON	8/26/2021 2:51 PM	0.067	0.212	0.279	bl,C2u	138 785	410 820	4 329	0.9874	1.0000



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Balance: BAL3
Analyst: BF

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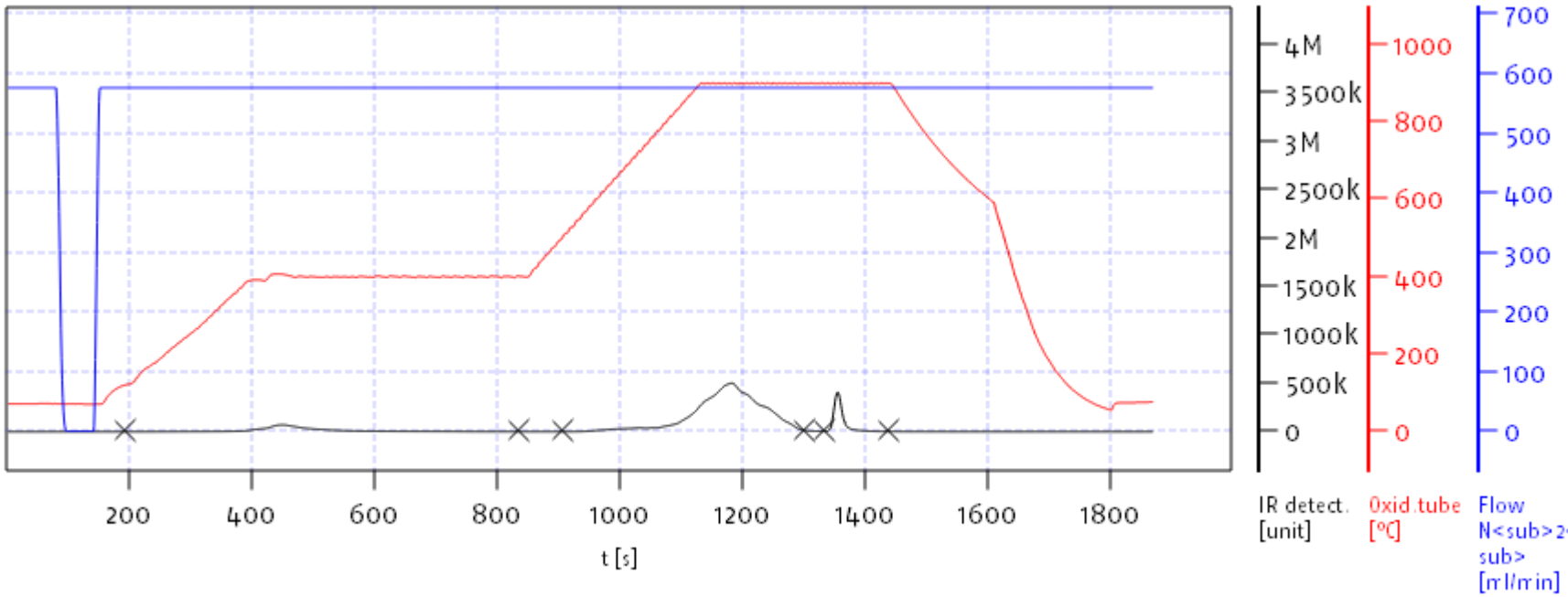
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
48	86	21H0089-09	632.60		1.00	CARBON	8/26/2021 3:23 PM	0.131	0.591	0.722	bl	257 988	2 225 310	257 517	0.9874	1.0000



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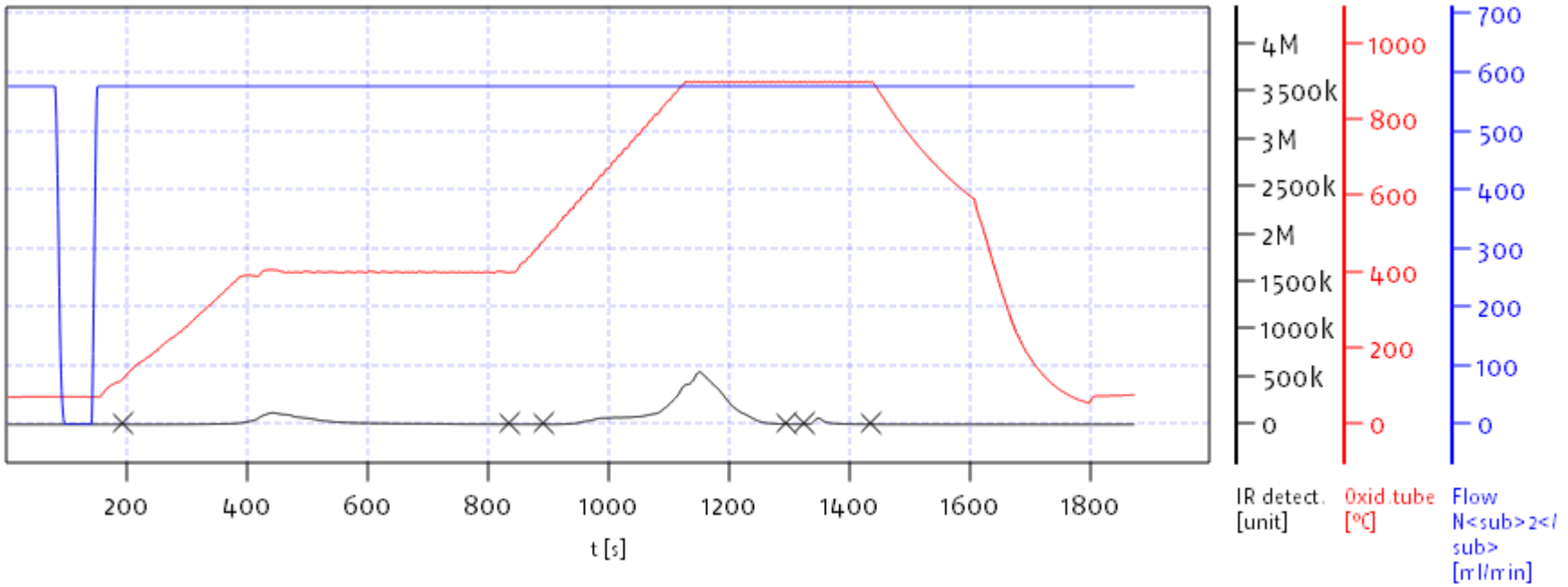
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
49	87	21H0089-10	546.30		1.00	CARBON	8/26/2021 3:54 PM	0.167	0.670	0.837	bl	513 495	2 178 030	57 477	0.9874	1.0000



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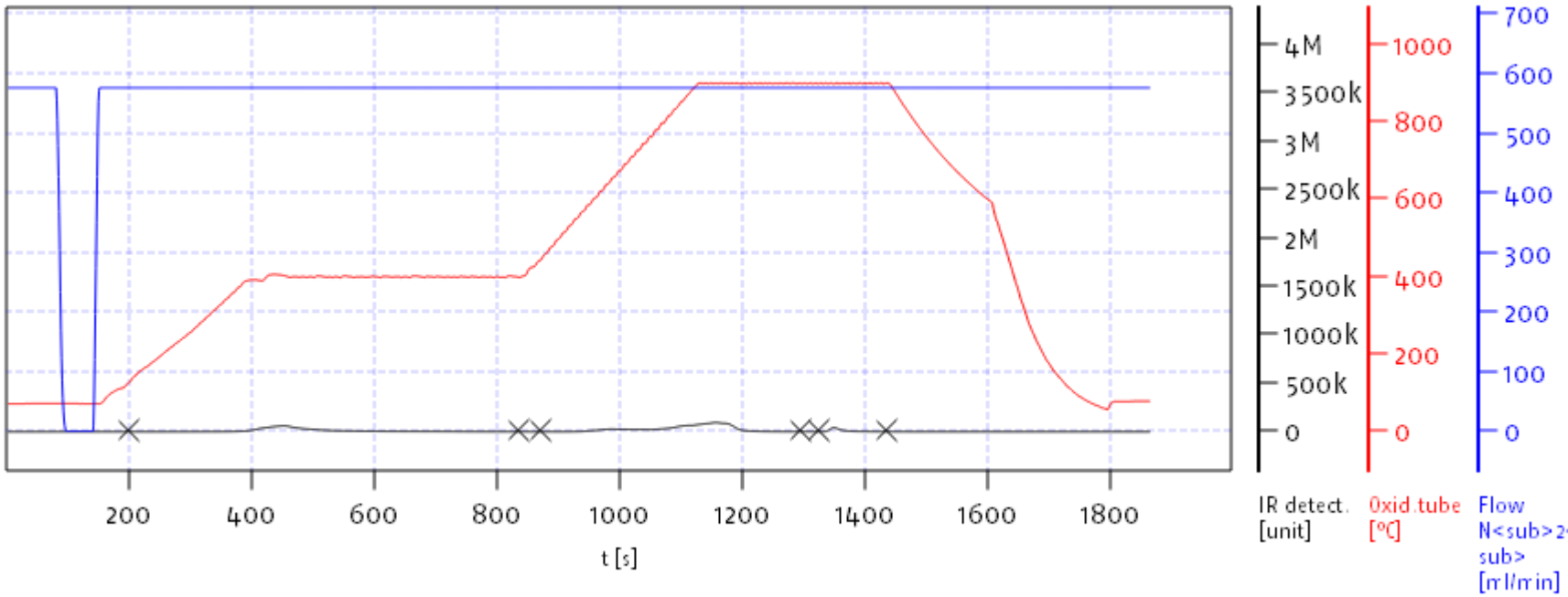
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
50	88	BJH0435-DUP1	576.50		1.00	CARBON	8/26/2021 4:26 PM	0.068	0.121	0.189	bl	221 089	424 708	36 187	0.9874	1.0000



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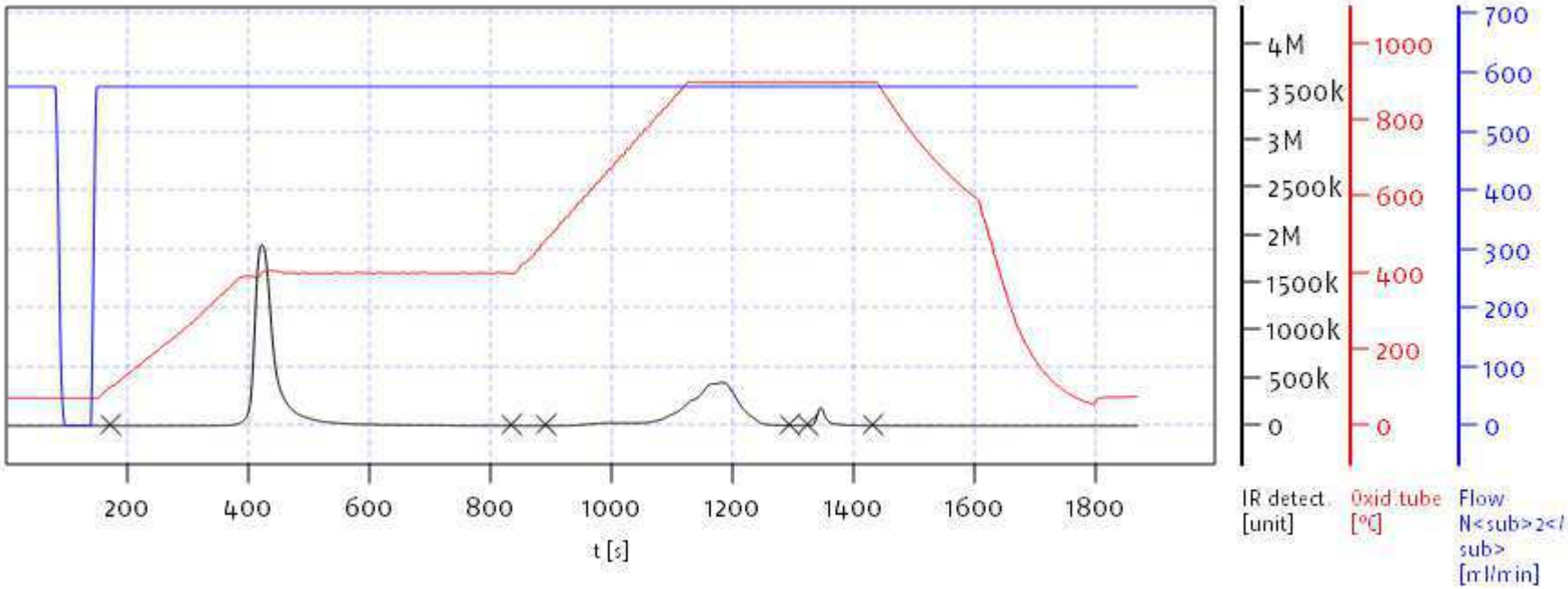
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
51	89	BJH0435-MS1	537.40	0.0097	1.00	CARBON	8/26/2021 4:58 PM	0.883	0.541	1.424	bl	2 731 800	1 732 510	134 777	0.9874	1.0000



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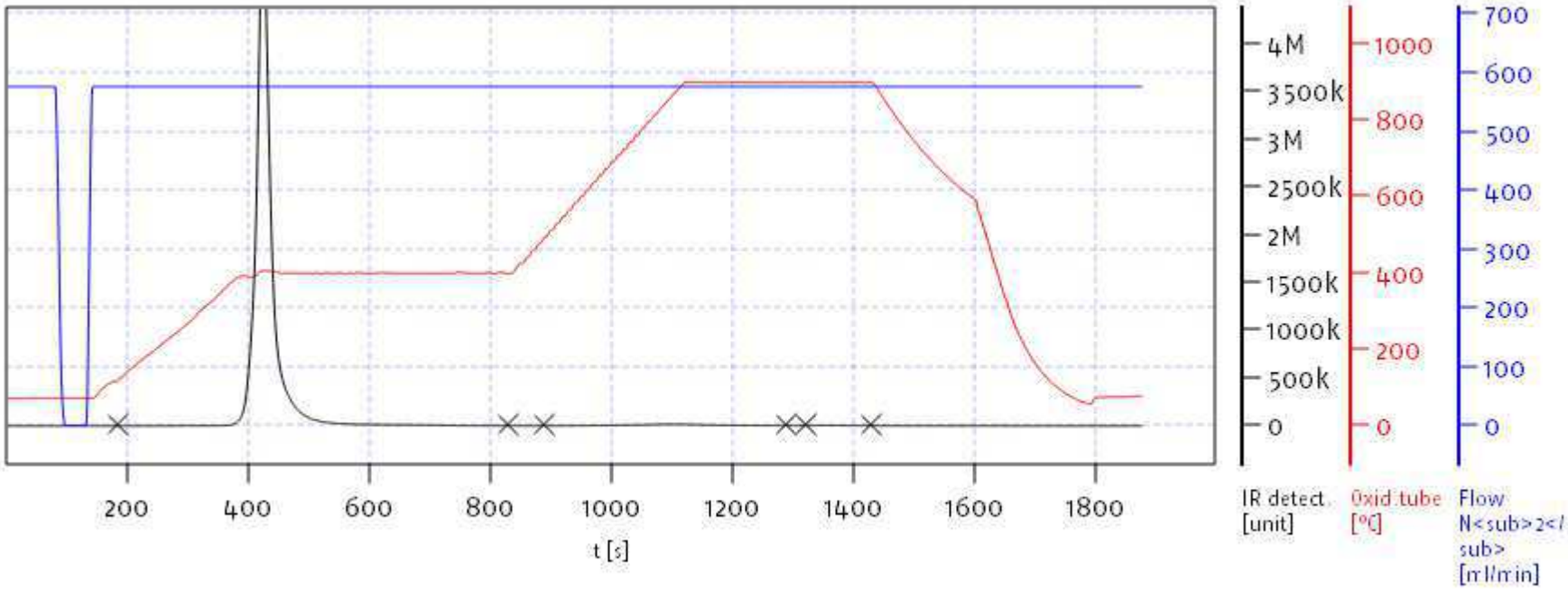
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
52	1	SJH0331-CCV4	20.80		1.00	CARBON	8/26/2021 5:29 PM	45.104	0.777	45.882	bl	5 633 340	107 423	15 635	0.9874	1.0000



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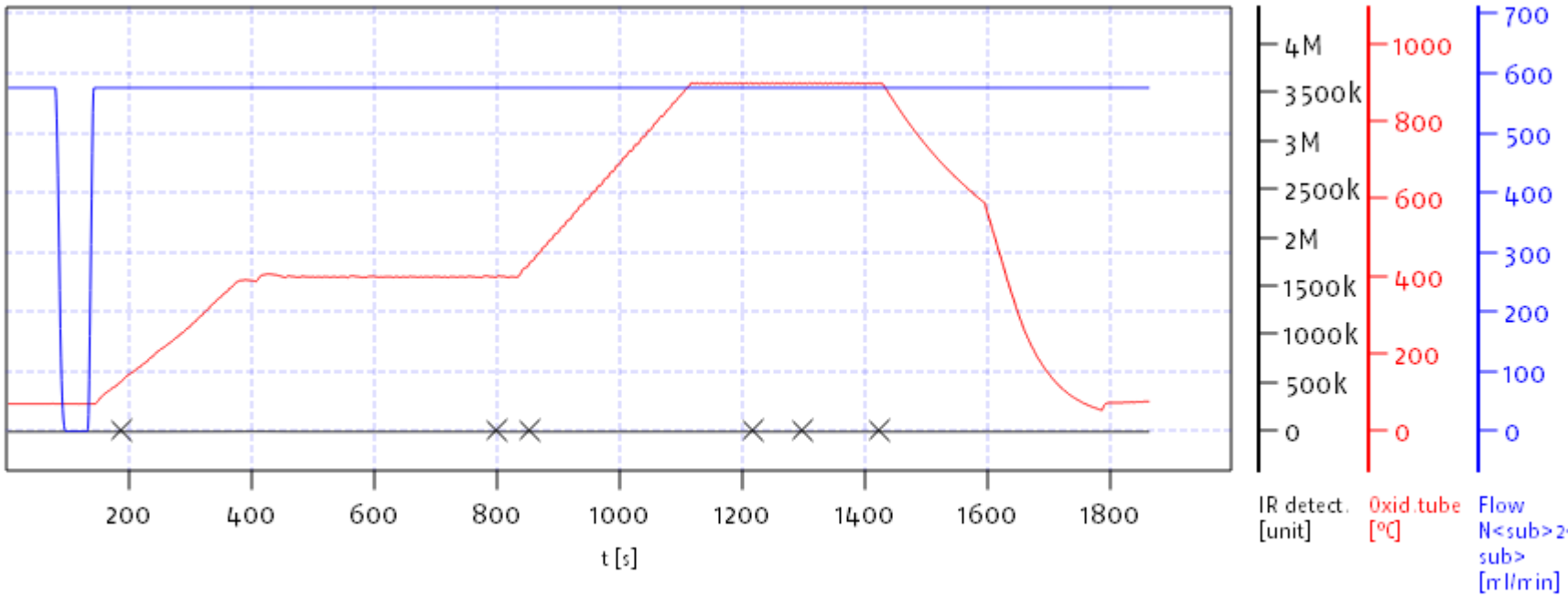
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
53	2	SJH0331-CCB4	501.80		1.00	CARBON	8/26/2021 6:01 PM	0.000	0.000	0.000	bl,C3u,C2u	9 295	757	141	0.9874	1.0000



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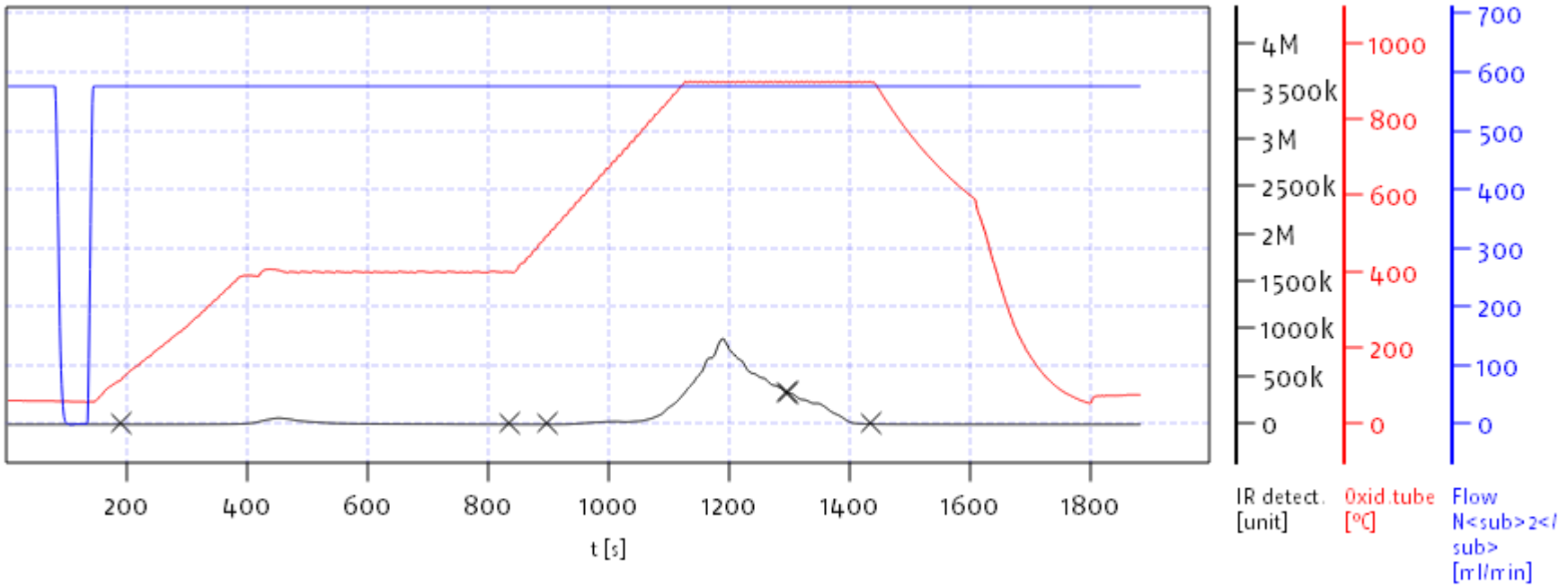
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
54	3	21H0089-11	509.70		1.00	CARBON	8/26/2021 6:45 PM	0.313	1.378	1.691	bl	249 160	4 170 120	721 848	0.9874	1.0000



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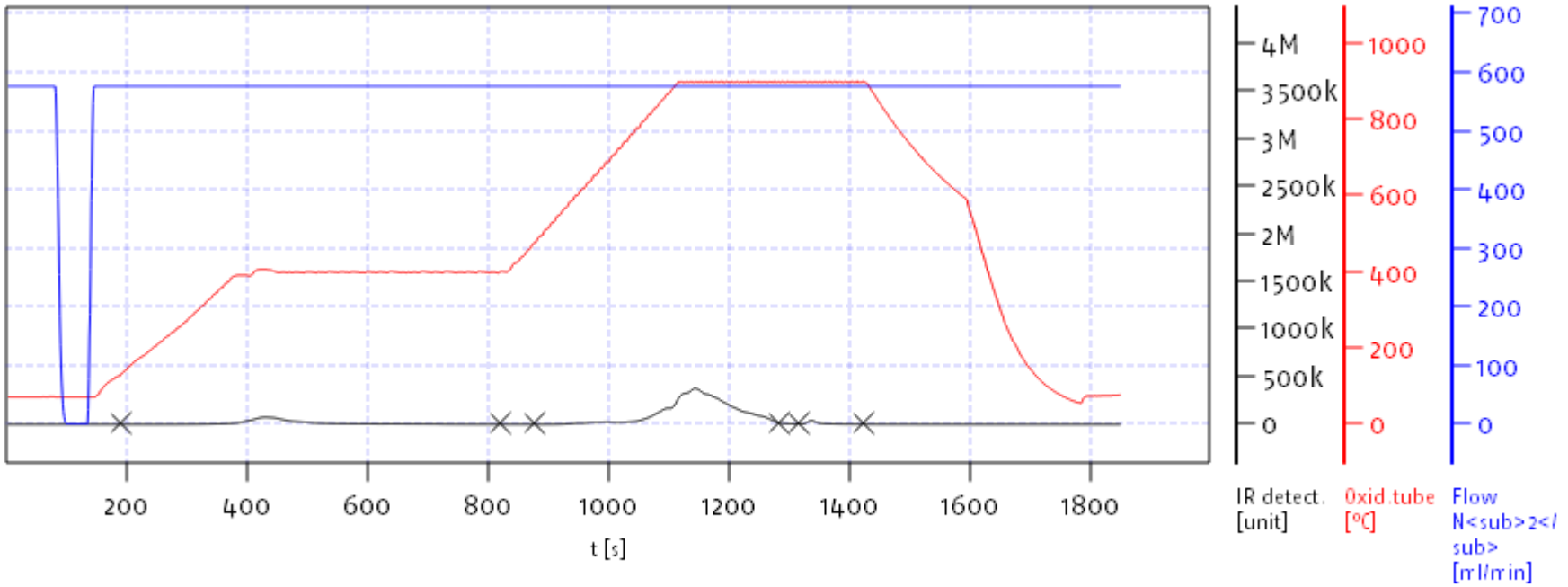
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
55	4	21H0089-12	594.10		1.00	CARBON	8/26/2021 7:17 PM	0.084	0.483	0.567	bl	282 821	1 711 920	37 656	0.9874	1.0000



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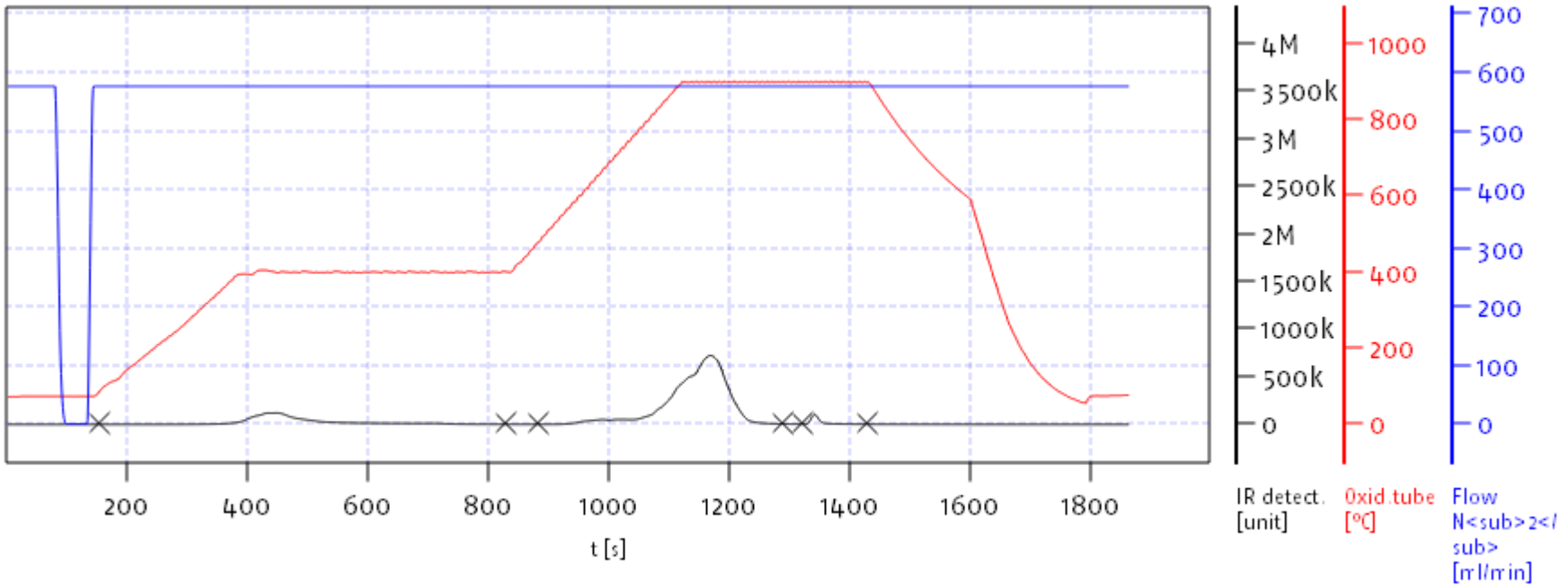
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
56	5	21H0089-13	519.30		1.00	CARBON	8/26/2021 7:48 PM	0.187	0.863	1.050	bl	532 313	2 666 160	71 419	0.9874	1.0000



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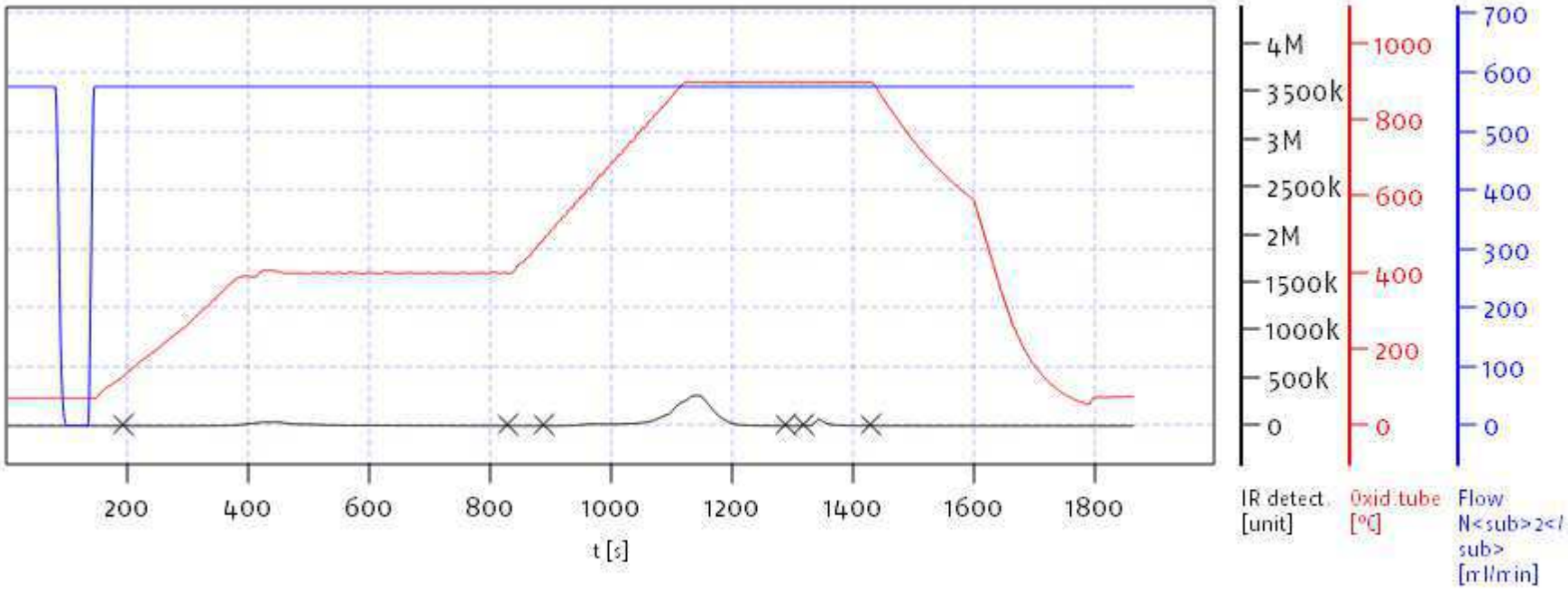
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
57	6	21H0089-14	585.70		1.00	CARBON	8/26/2021 8:20 PM	0.061	0.285	0.345	bl	178 011	998 528	57 679	0.9874	1.0000



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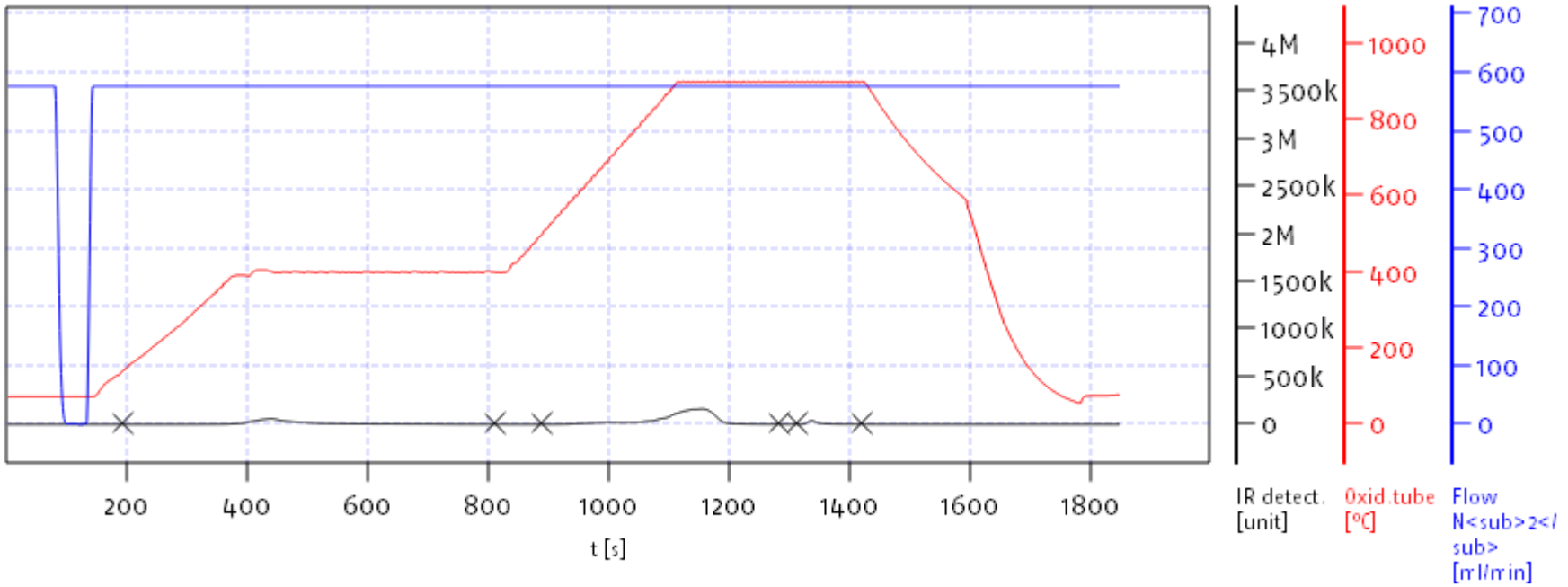
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
58	7	21H0089-15	556.20		1.00	CARBON	8/26/2021 8:51 PM	0.067	0.179	0.246	bl	213 437	600 872	33 727	0.9874	1.0000



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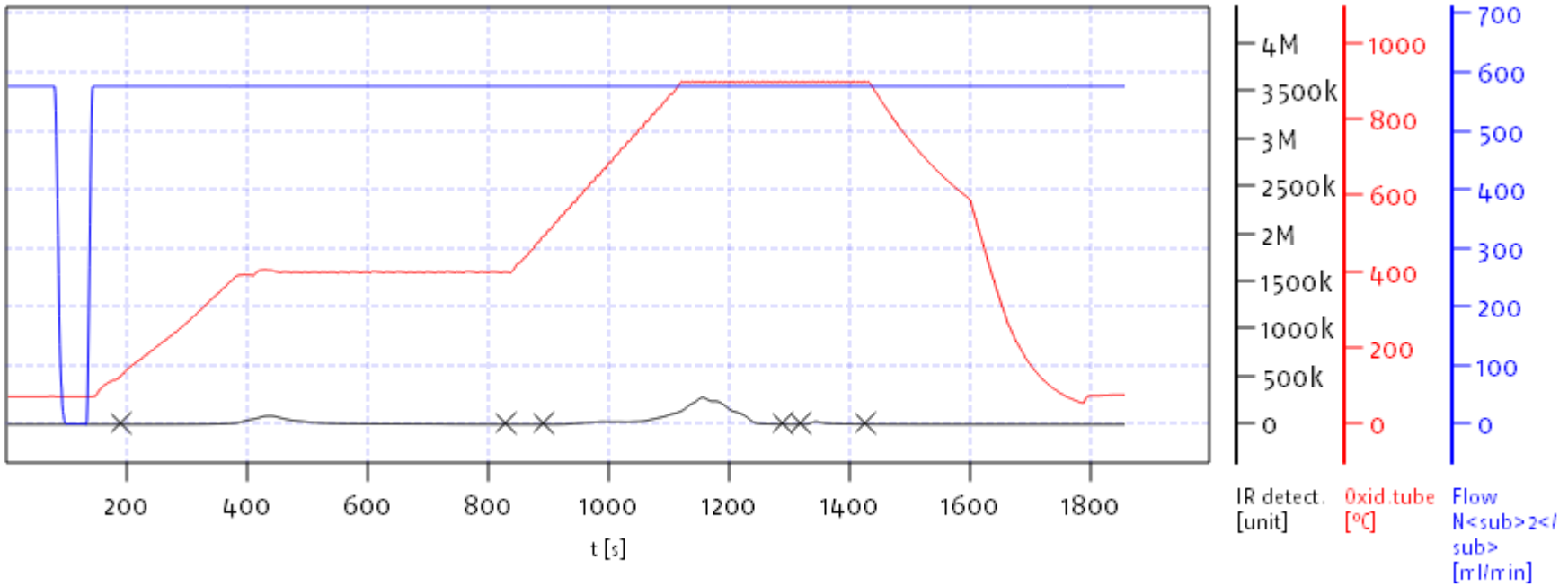
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
59	8	21H0089-16	505.30		1.00	CARBON	8/26/2021 9:22 PM	0.114	0.378	0.492	bl	331 092	1 143 220	37 581	0.9874	1.0000



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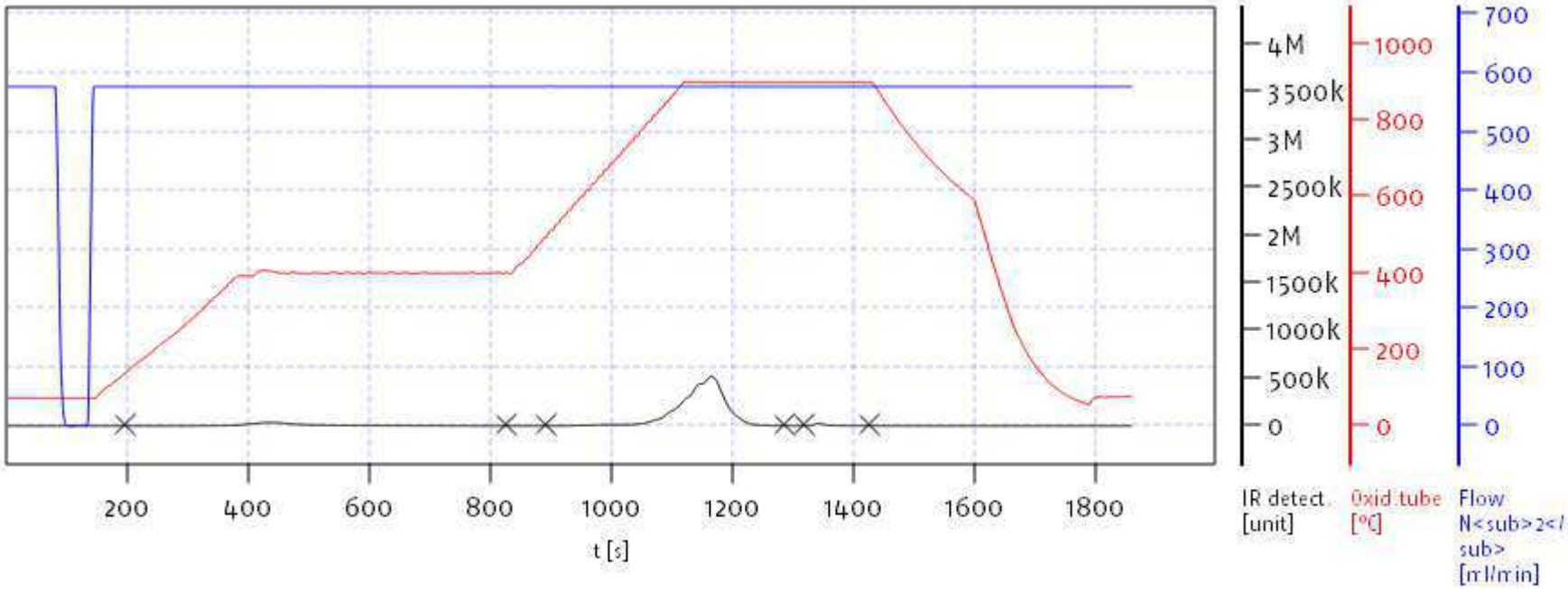
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
60	9	21H0089-17	586.90		1.00	CARBON	8/26/2021 9:54 PM	0.042	0.443	0.486	bl	149 159	1 552 010	23 359	0.9874	1.0000



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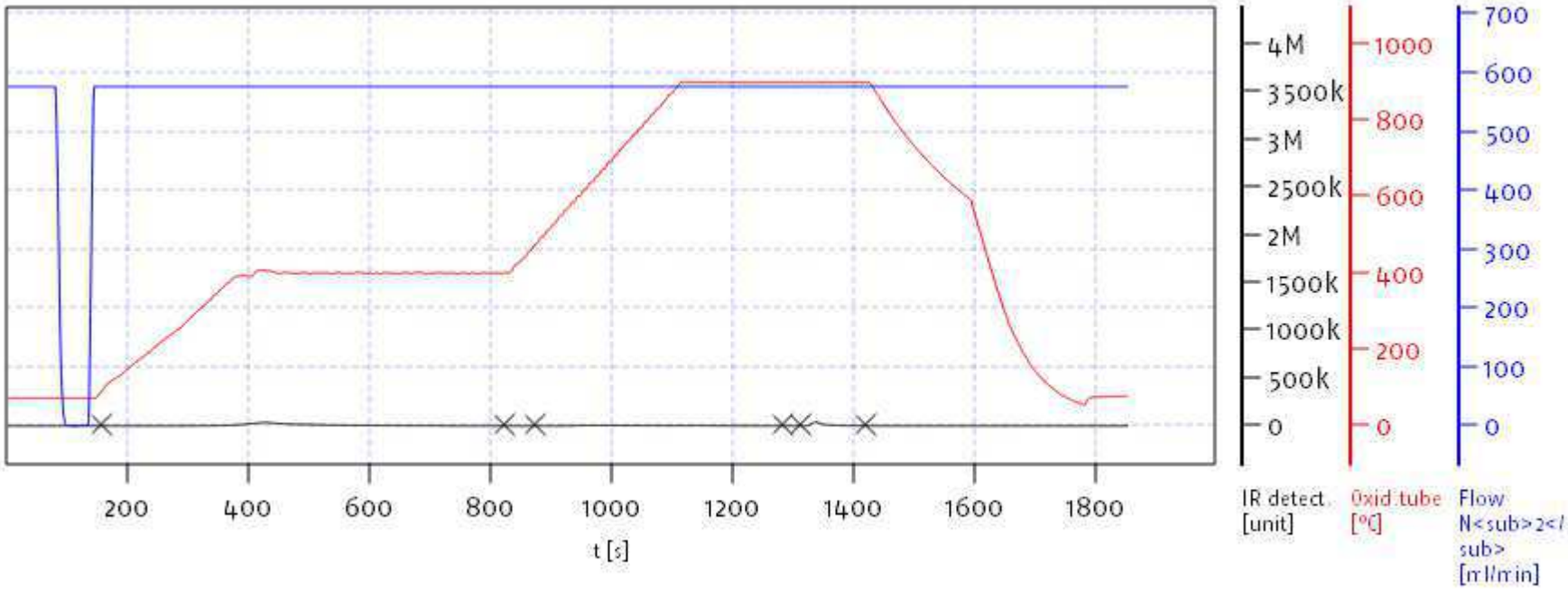
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
61	10	21H0089-18	534.50		1.00	CARBON	8/26/2021 10:25 PM	0.053	0.009	0.061	bl	154 711	38 983	37 170	0.9874	1.0000



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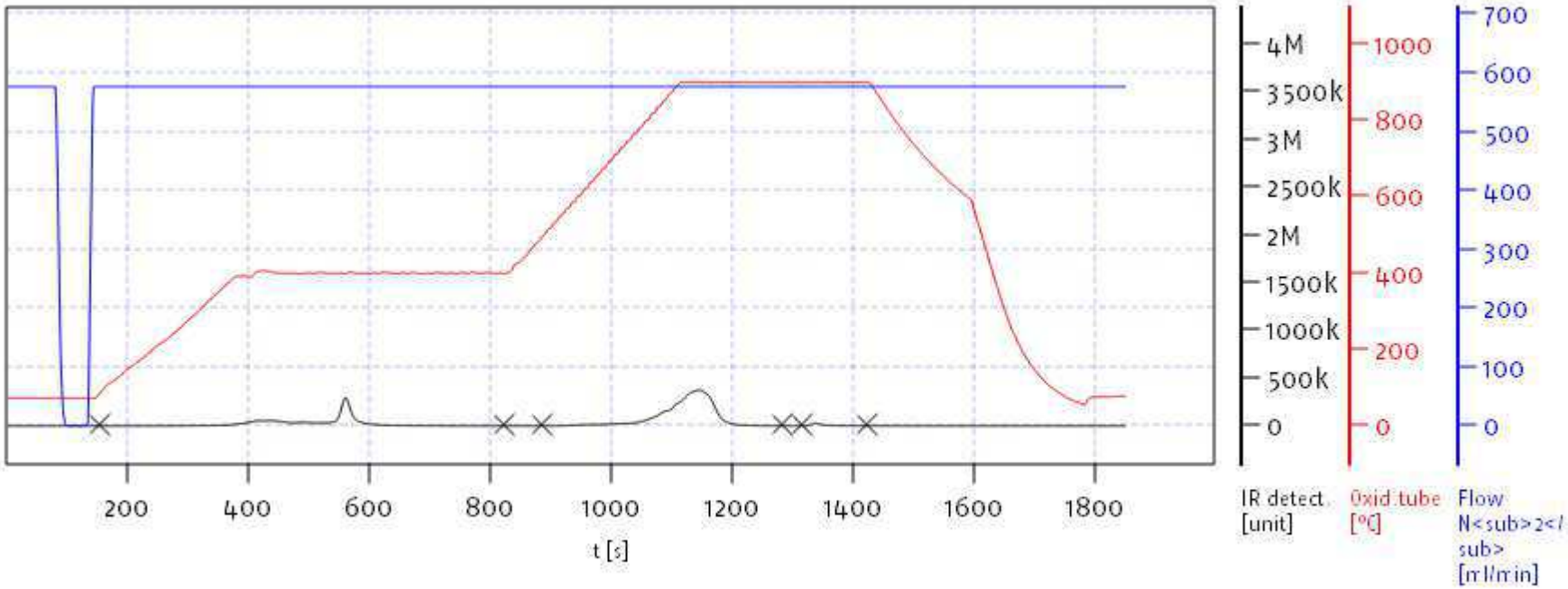
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
62	11	21H0089-19	509.70		1.00	CARBON	8/26/2021 10:56 PM	0.173	0.392	0.565	bl	528 317	1 193 990	24 687	0.9874	1.0000



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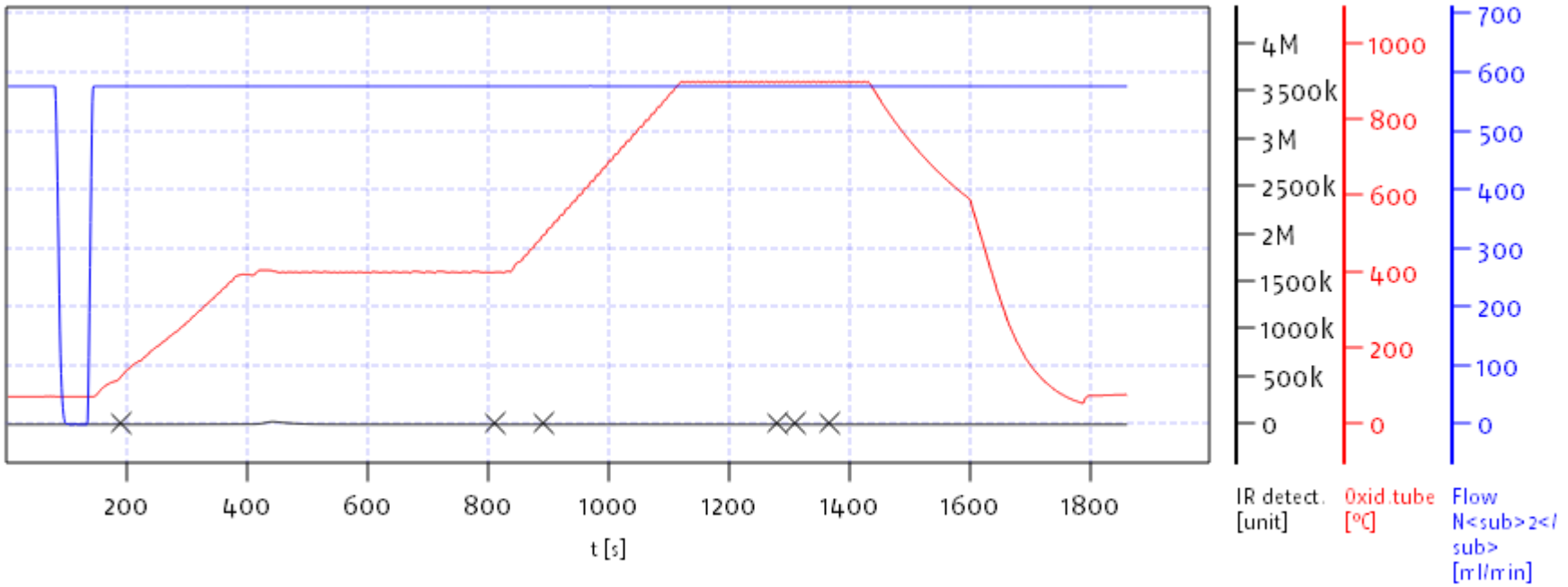
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
63	12	BJH0512-MRL1	505.70		1.00	CARBON	8/26/2021 11:28 PM	0.016	0.000	0.016	bl,C3u,C2u	61 318	4 395	68	0.9874	1.0000



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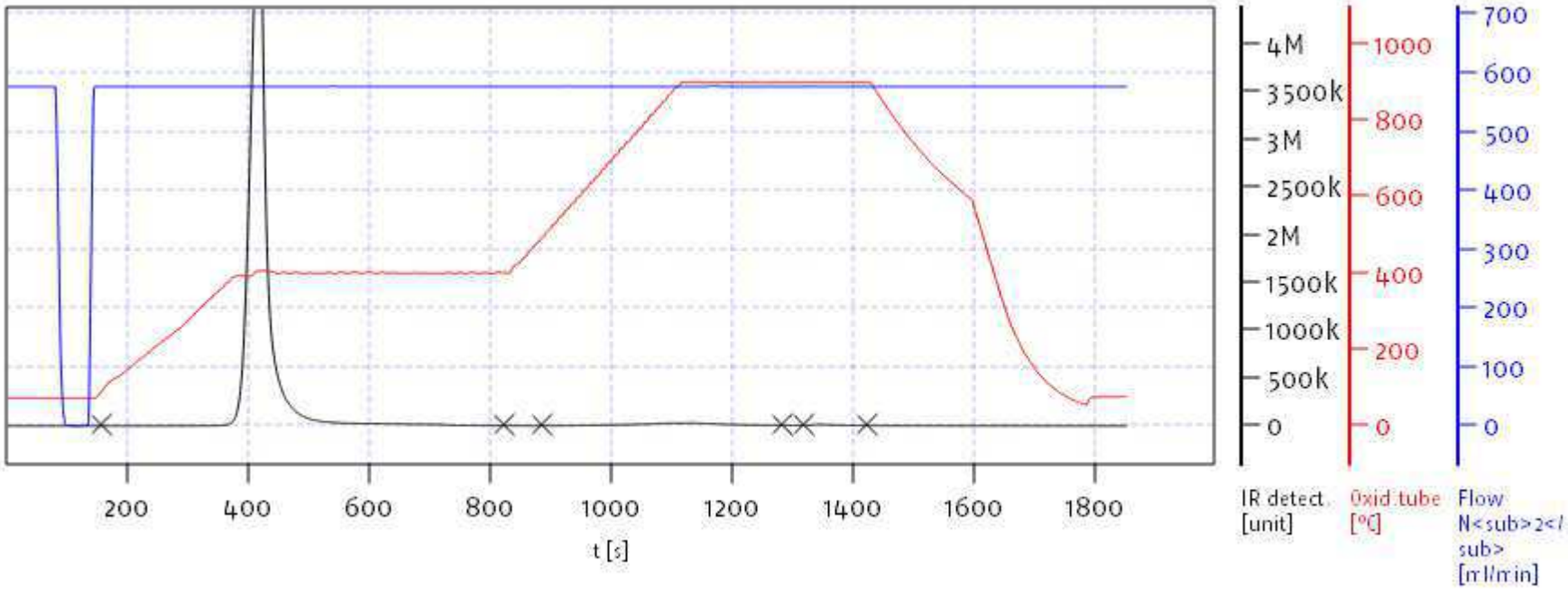
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
64	13	SJH0331-CCV5	25.20		1.00	CARBON	8/26/2021 11:59 PM	44.658	1.274	45.931	bl	6 741 860	201 751	29 459	0.9874	1.0000



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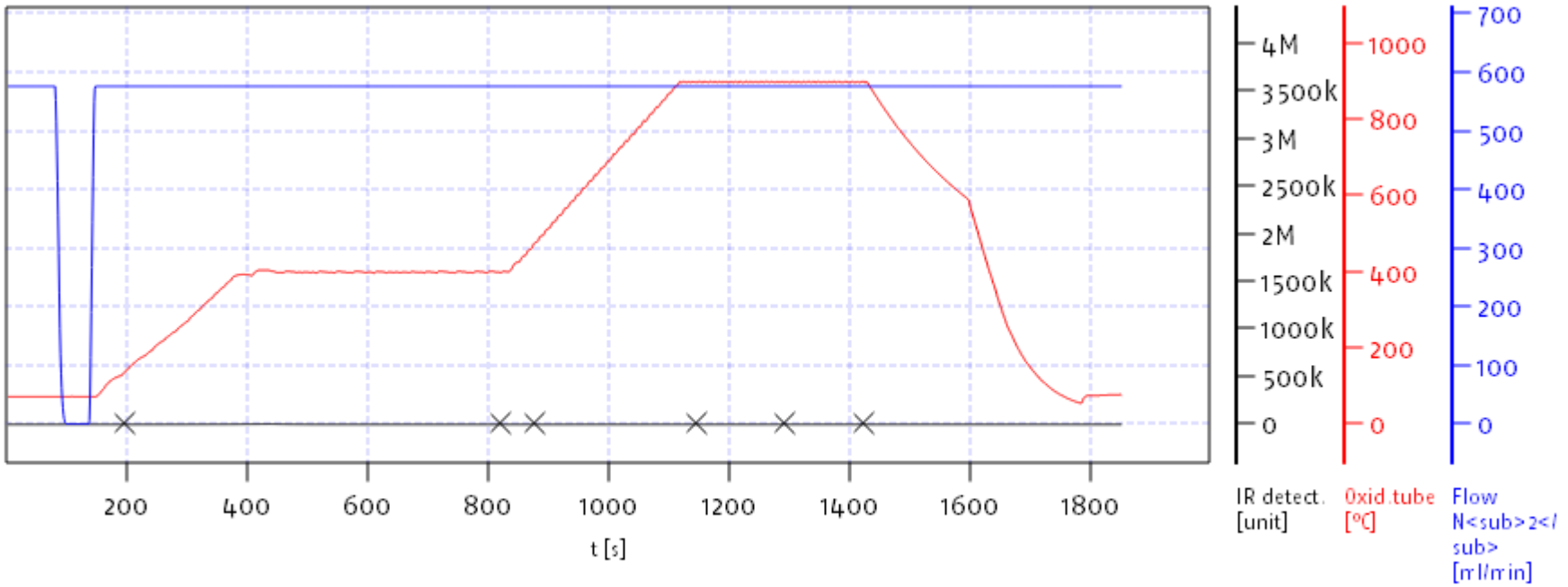
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
65	14	SJH0331-CCB5	635.00		1.00	CARBON	8/27/2021 12:30 AM	0.001	0.000	0.001	bl,C2u	15 694	0	30	0.9874	1.0000



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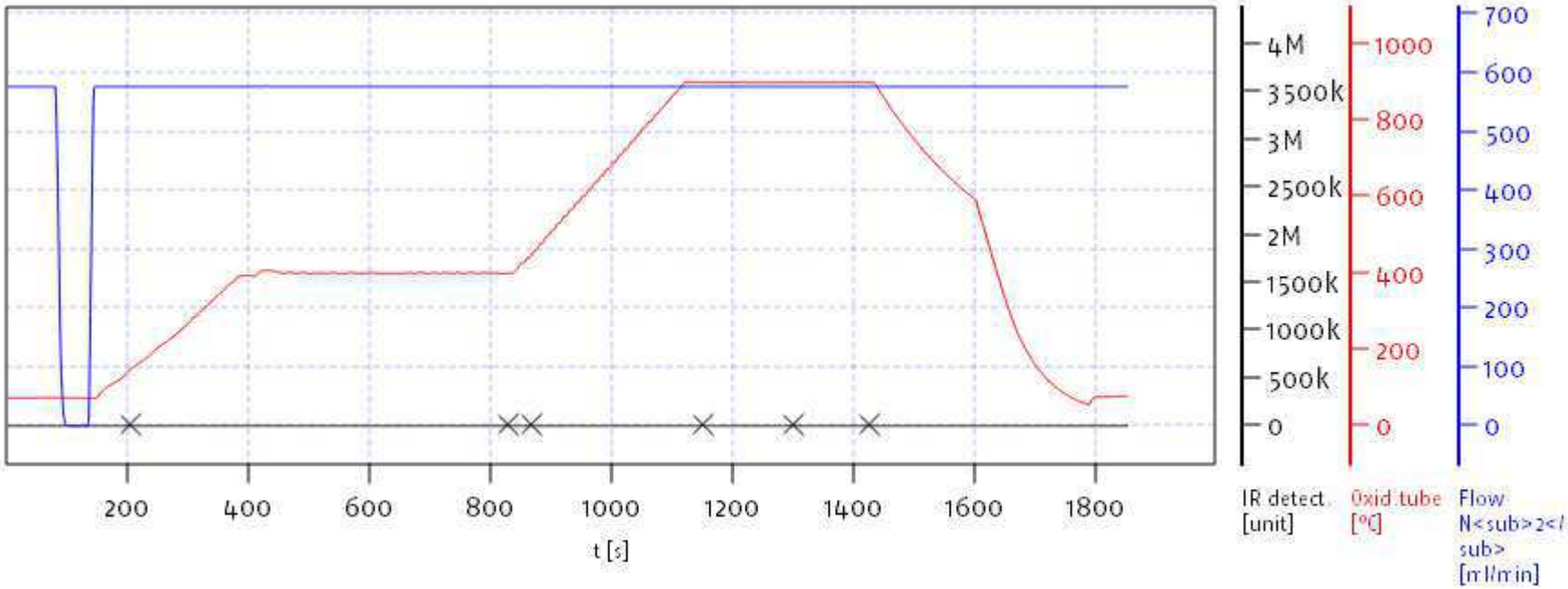
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
66	15	BJH0512-BLK1	632.60		1.00	CARBON	8/27/2021 1:02 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	3 308	920	473	0.9874	1.0000



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Date: Tue Aug 31 14:32:59 2021

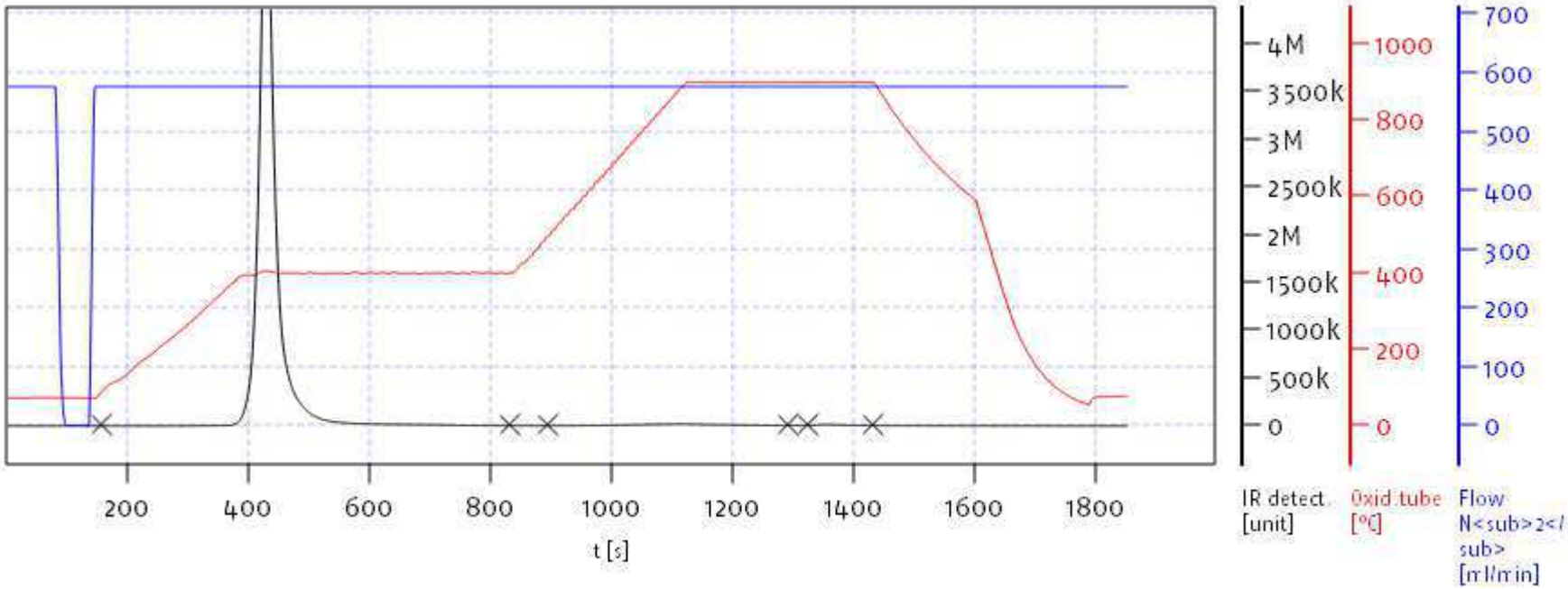
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
67	16	BJH0512-BS1	25.40		1.00	CARBON	8/27/2021 1:33 AM	45.782	0.838	46.620	bl	6 966 500	137 684	29 632	0.9874	1.0000



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Balance: BAL3
Analyst: BF

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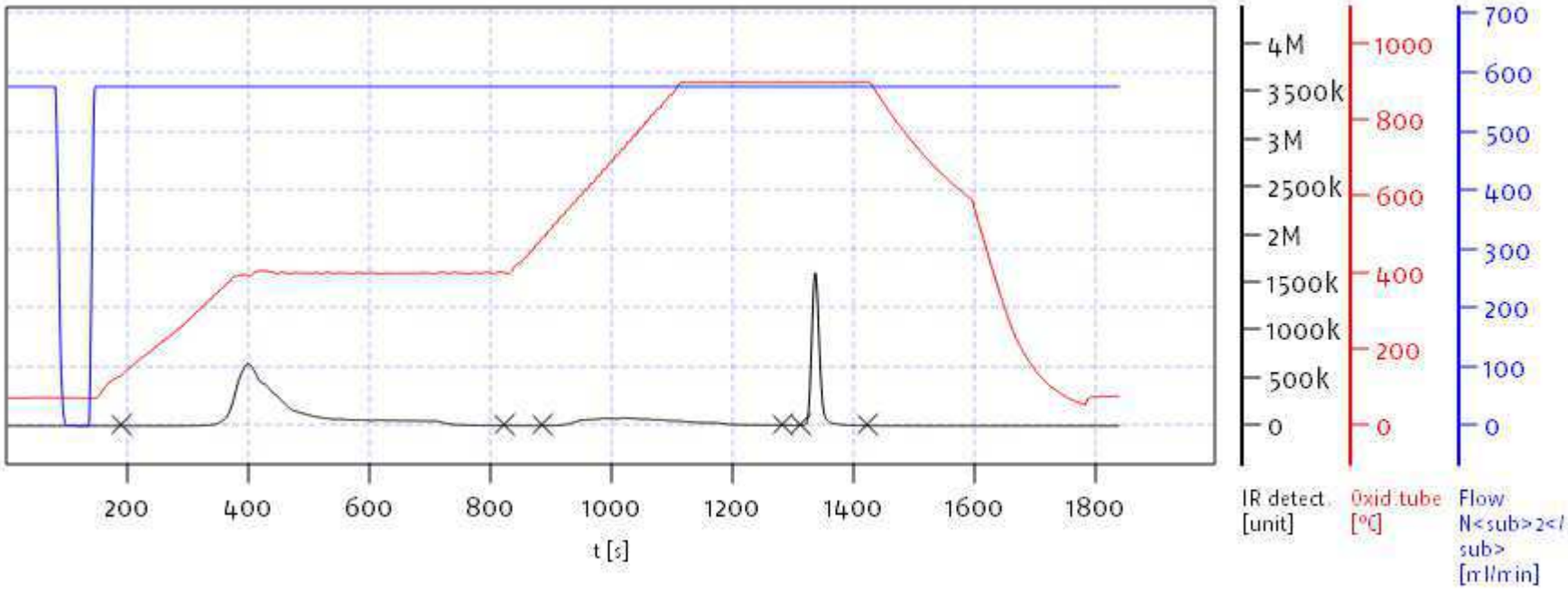
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
68	17	21H0140-01	515.40		1.00	CARBON	8/27/2021 2:04 AM	1.042	0.192	1.235	bl	2 331 590	599 122	901 849	0.9874	1.0000



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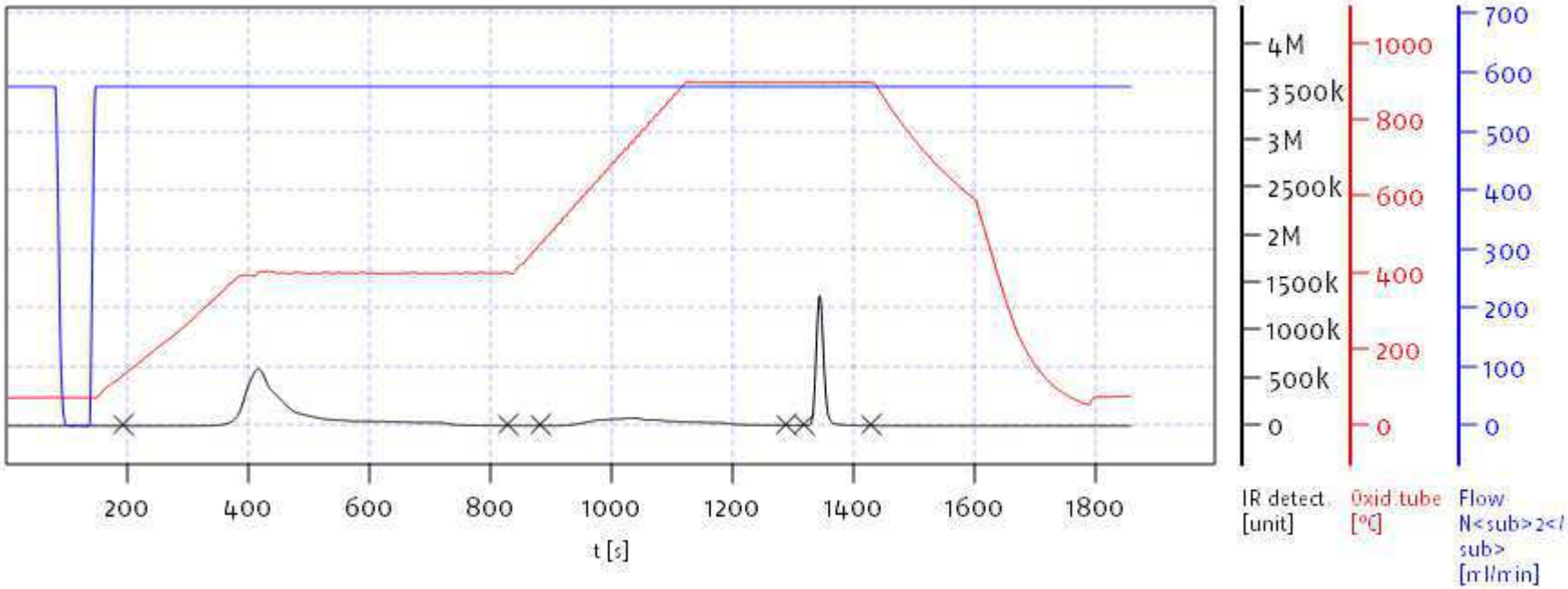
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
69	18	BJH0512-DUP1	505.50		1.00	CARBON	8/27/2021 2:36 AM	0.859	0.174	1.033	bl	1 863 800	533 584	753 606	0.9874	1.0000



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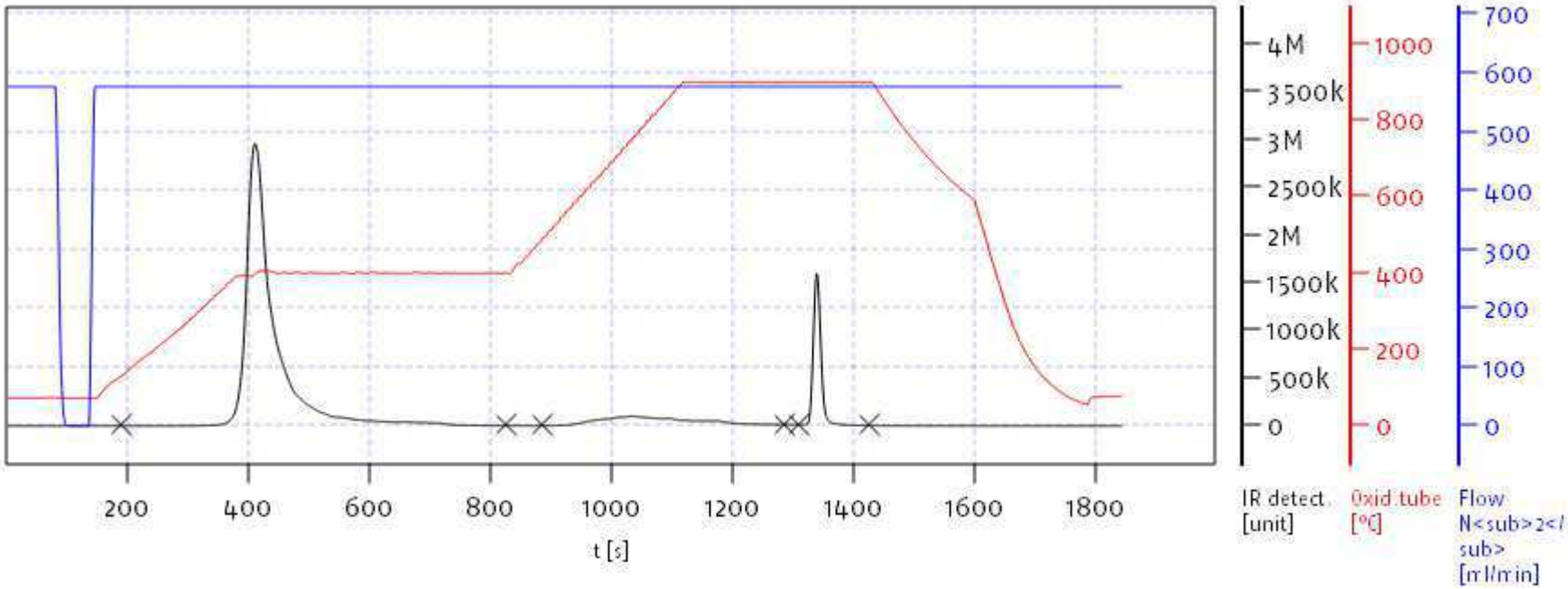
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
70	19	BJH0512-MS1	555.00	0.0119	1.00	CARBON	8/27/2021 3:07 AM	1.974	0.213	2.187	bl	5 694 500	710 678	888 309	0.9874	1.0000



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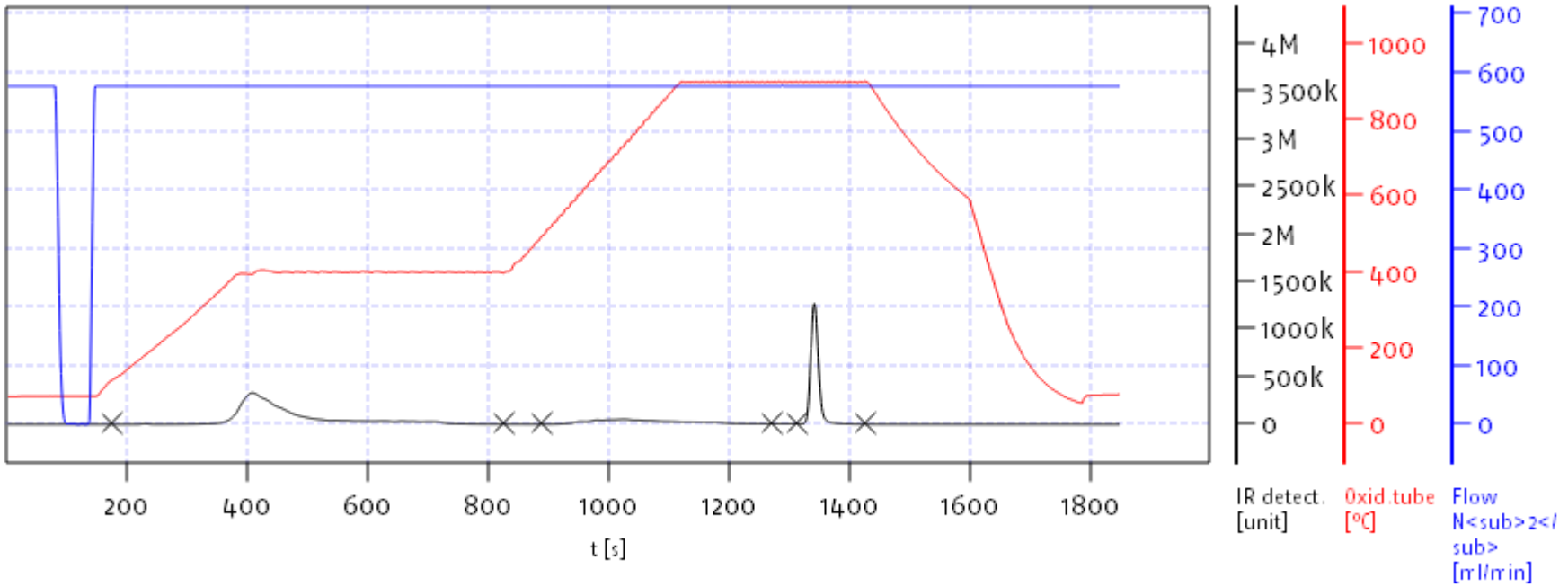
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
71	20	21H0140-02	358.70		1.00	CARBON	8/27/2021 3:38 AM	0.926	0.164	1.090	bl	1 281 940	359 426	725 012	0.9874	1.0000



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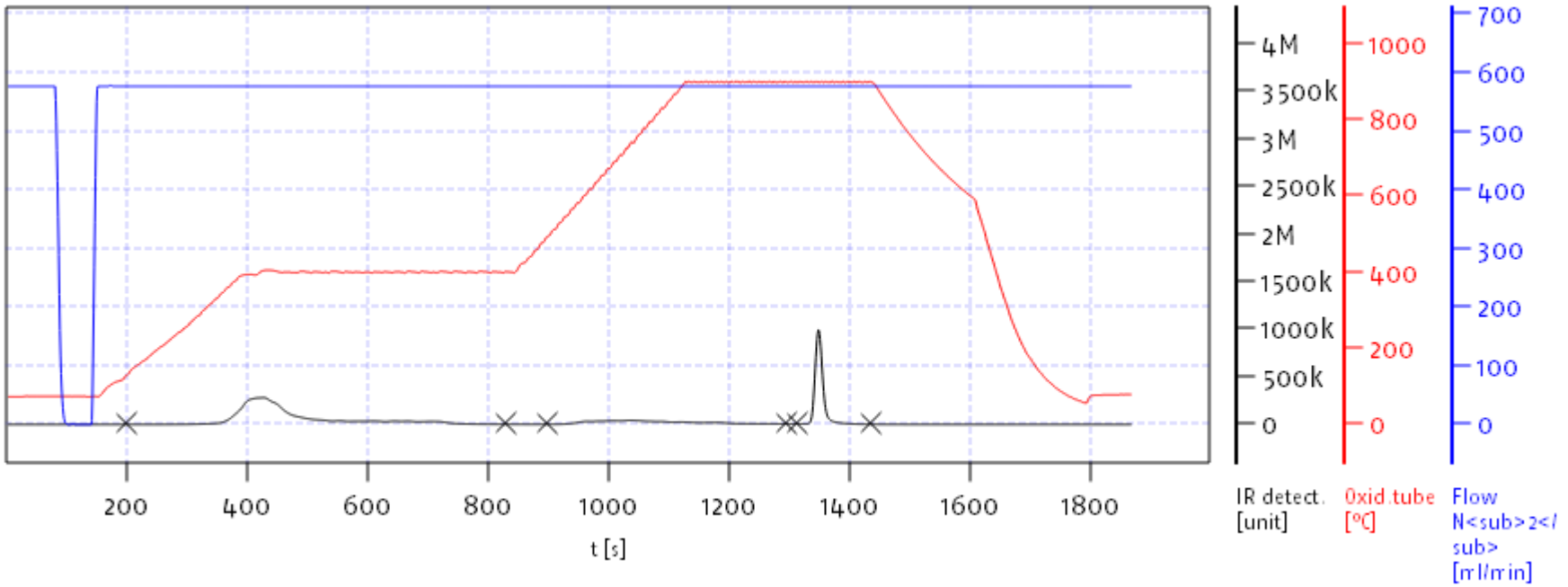
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
72	21	21H0140-03	294.80		1.00	CARBON	8/27/2021 4:10 AM	0.993	0.171	1.164	bl	1 209 590	309 979	562 495	0.9874	1.0000



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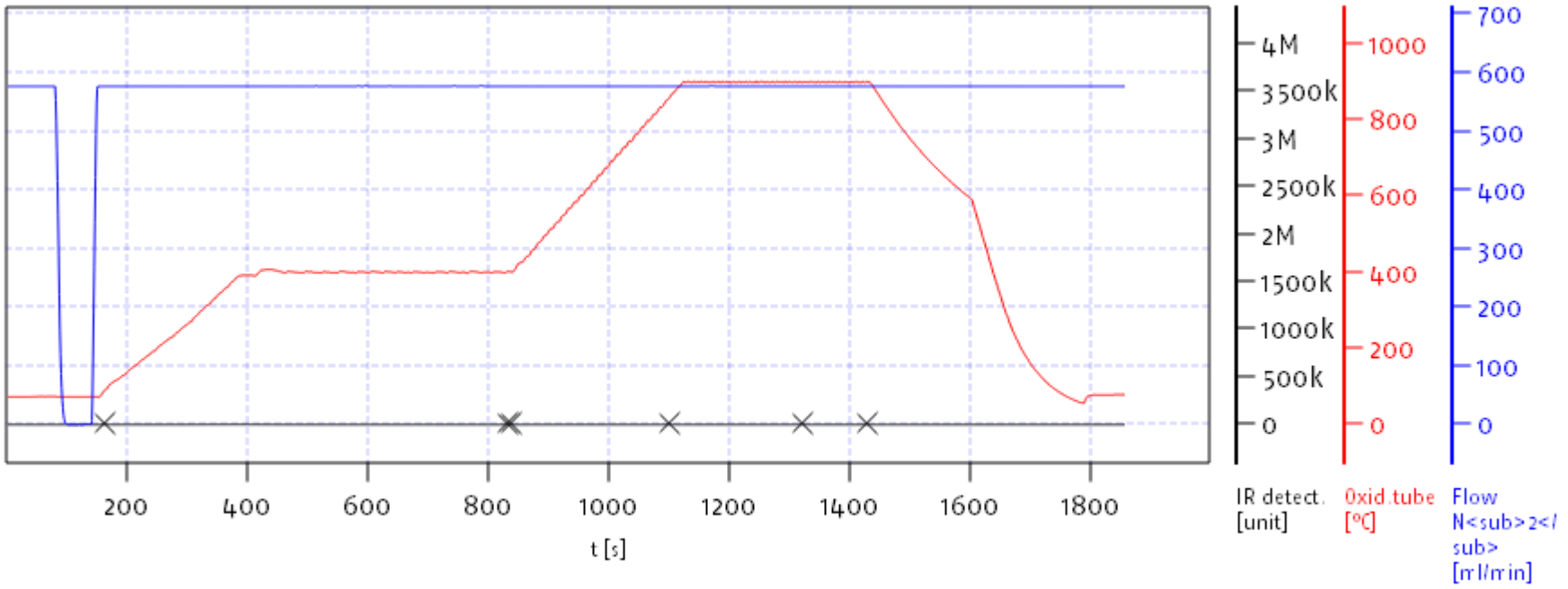
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
73	22	BLANK	1.00		1.00	CARBON	8/27/2021 4:41 AM	0.000	0.000	0.000	bl	7 936	478	259	0.9874	1.0000



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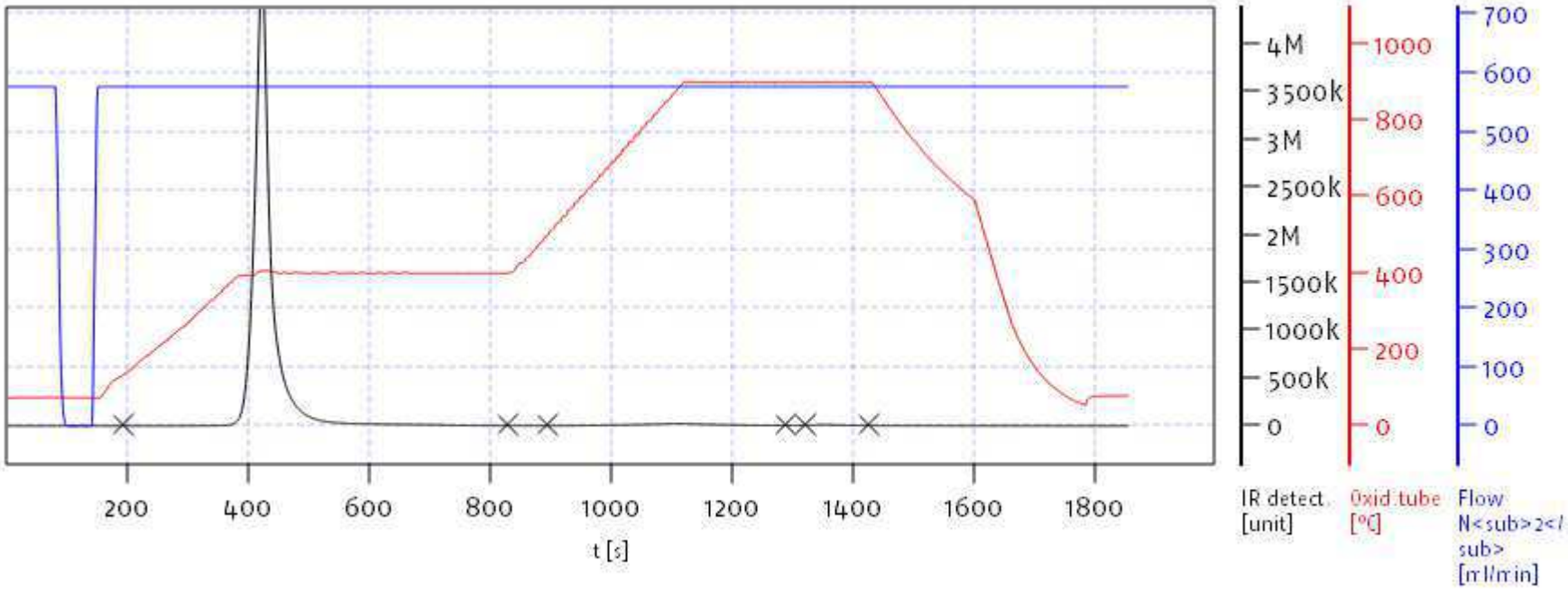
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
74	23	Dfactor	21.10		1.00	CARBON	8/27/2021 5:13 AM	44.565	1.103	45.668	bl	5 624 490	149 430	26 588	0.9893	1.0000



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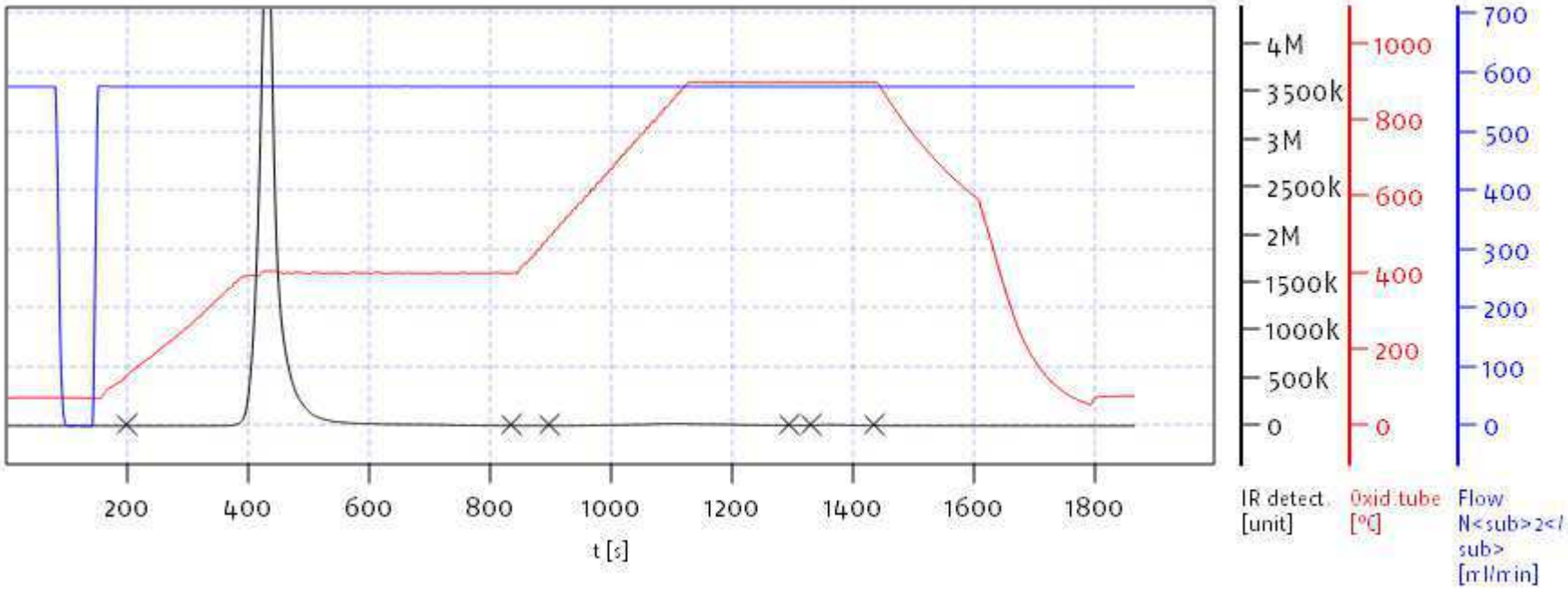
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
75	24	Dfactor	24.80		1.00	CARBON	8/27/2021 5:44 AM	44.537	1.026	45.563	bl	6 724 490	162 352	25 078	0.9723	1.0000



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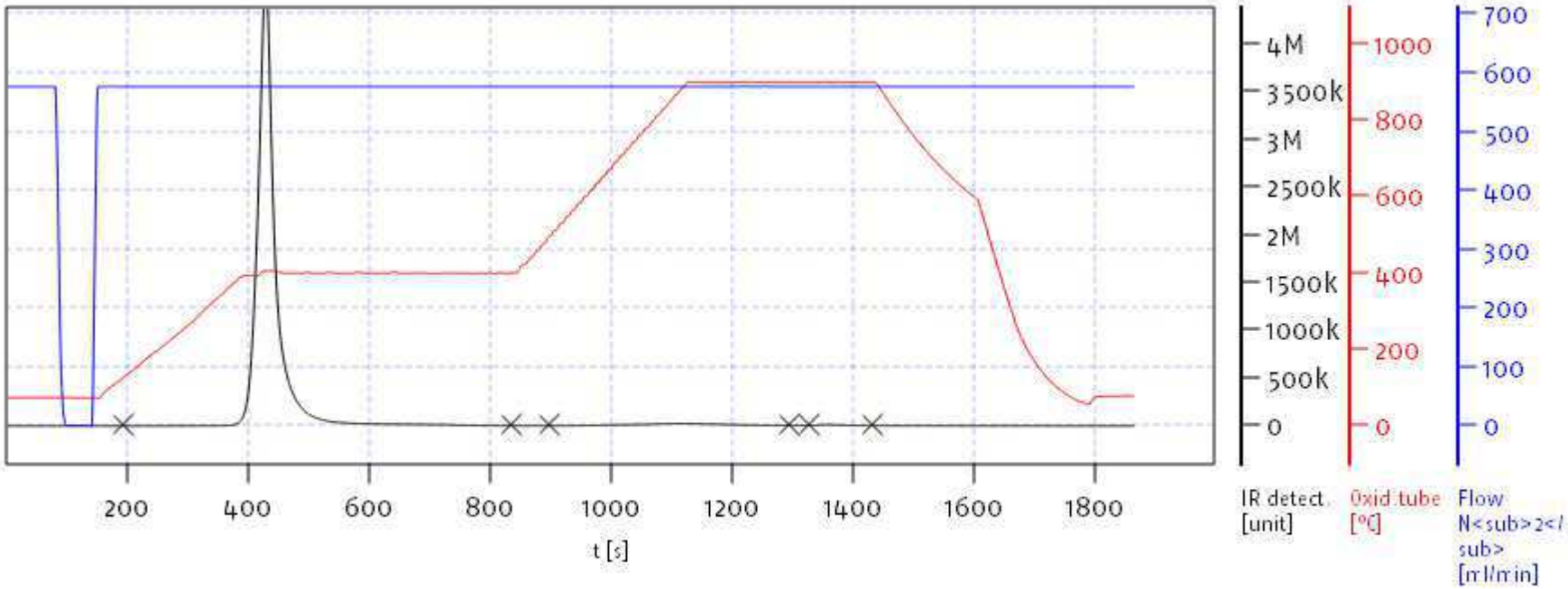
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
76	25	SJH0331-CCV6	22.00		1.00	CARBON	8/27/2021 6:16 AM	44.038	1.236	45.274	bl	5 845 220	172 698	26 767	0.9808	1.0000



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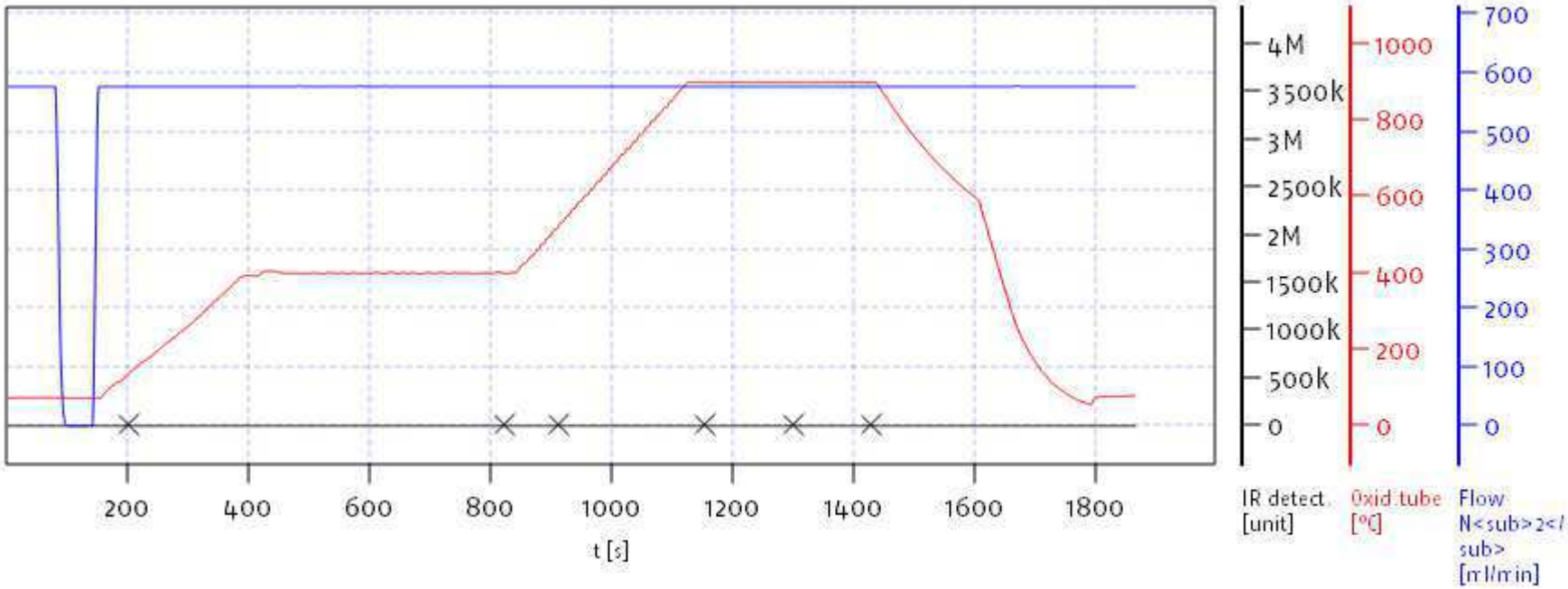
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
77	26	SJH0331-CCB6	548.30		1.00	CARBON	8/27/2021 6:47 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	1 753	1 180	250	0.9808	1.0000



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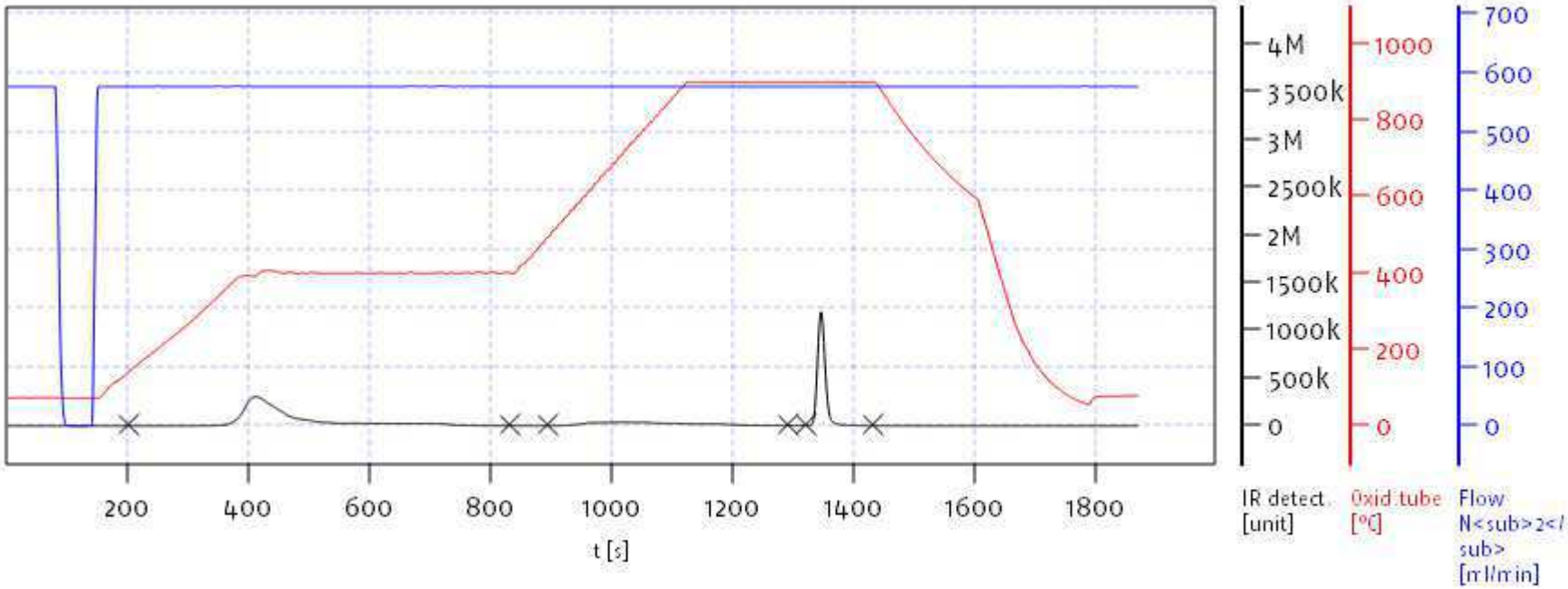
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
78	27	21H0140-04	303.90		1.00	CARBON	8/27/2021 7:19 AM	0.932	0.155	1.086	bl	1 049 770	290 373	669 853	0.9808	1.0000



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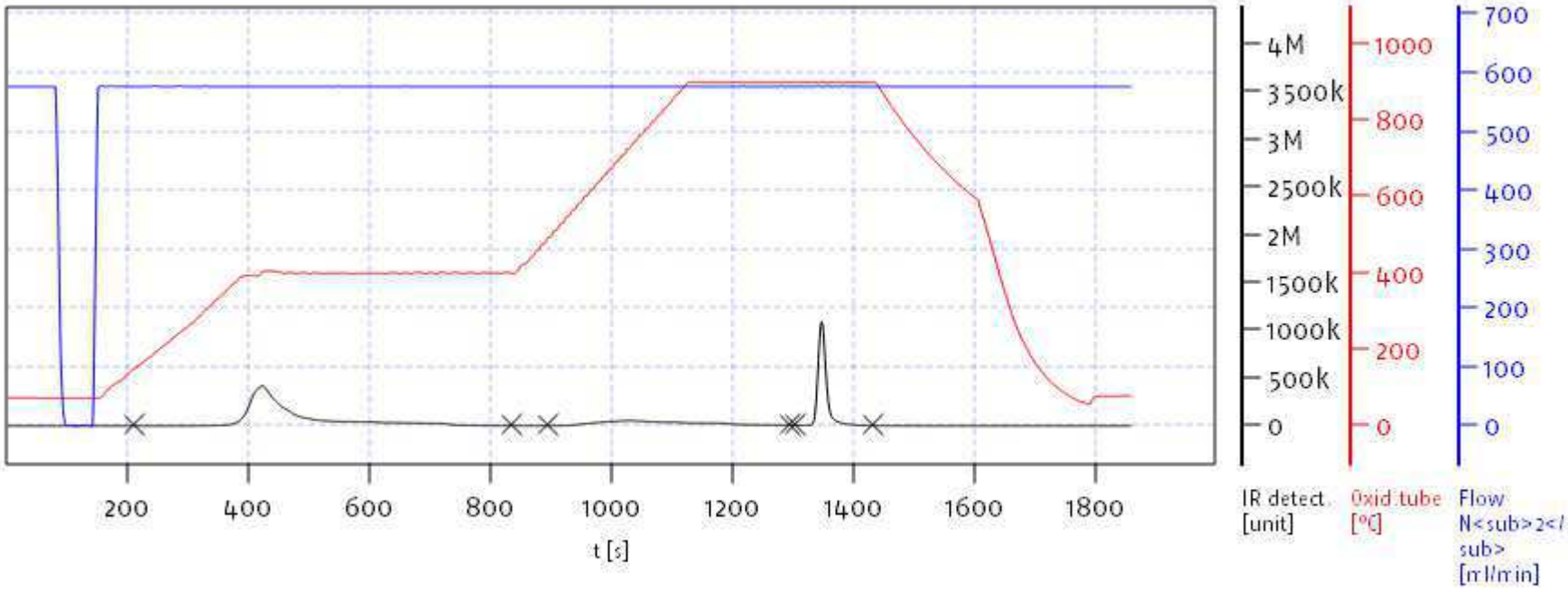
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
79	28	21H0140-05	398.10		1.00	CARBON	8/27/2021 7:50 AM	0.819	0.162	0.981	bl	1 317 800	393 649	661 266	0.9808	1.0000



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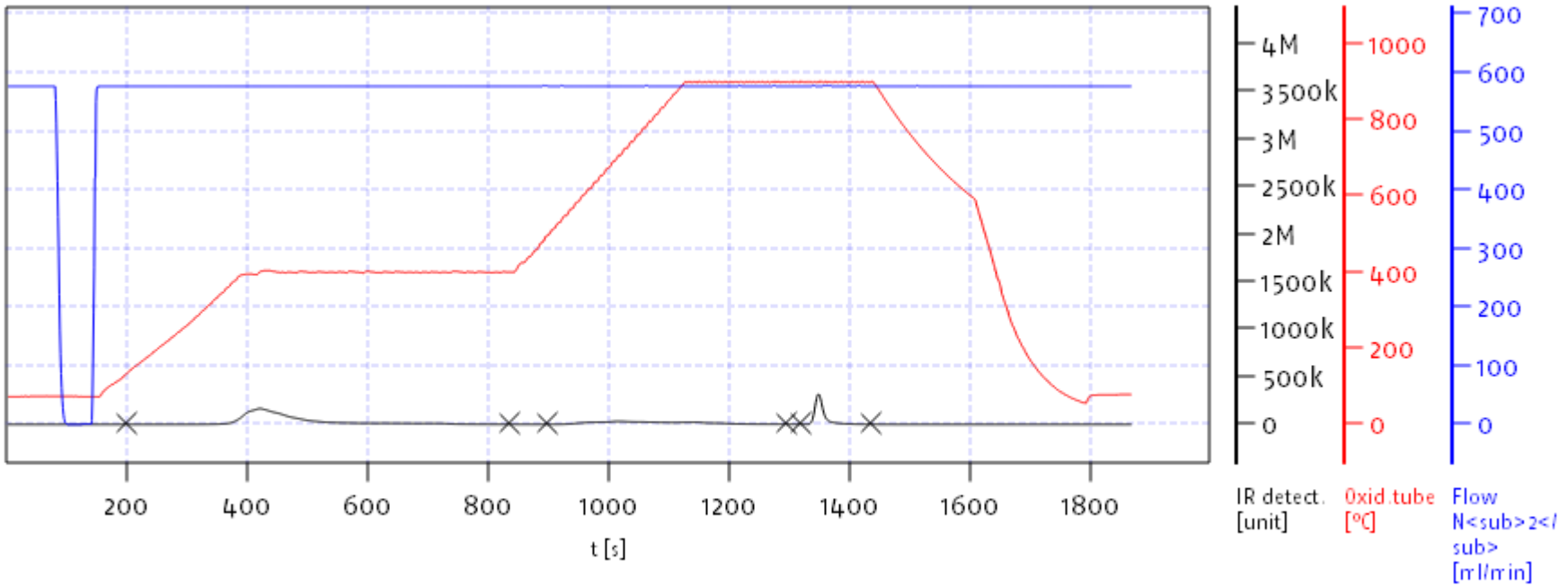
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
80	29	21H0140-06	334.50		1.00	CARBON	8/27/2021 8:22 AM	0.404	0.109	0.514	bl	634 956	228 189	201 330	0.9808	1.0000



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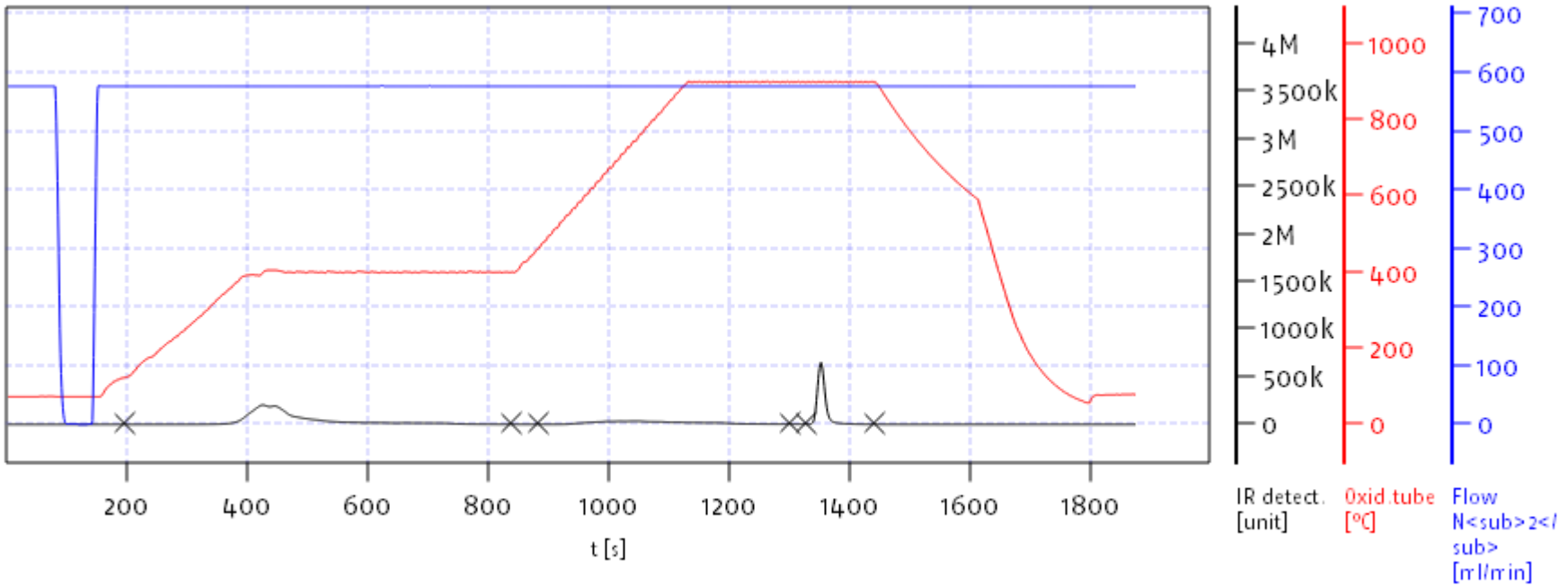
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
81	30	21H0140-07	323.10		1.00	CARBON	8/27/2021 8:54 AM	0.579	0.126	0.705	bl	777 363	252 881	367 554	0.9808	1.0000



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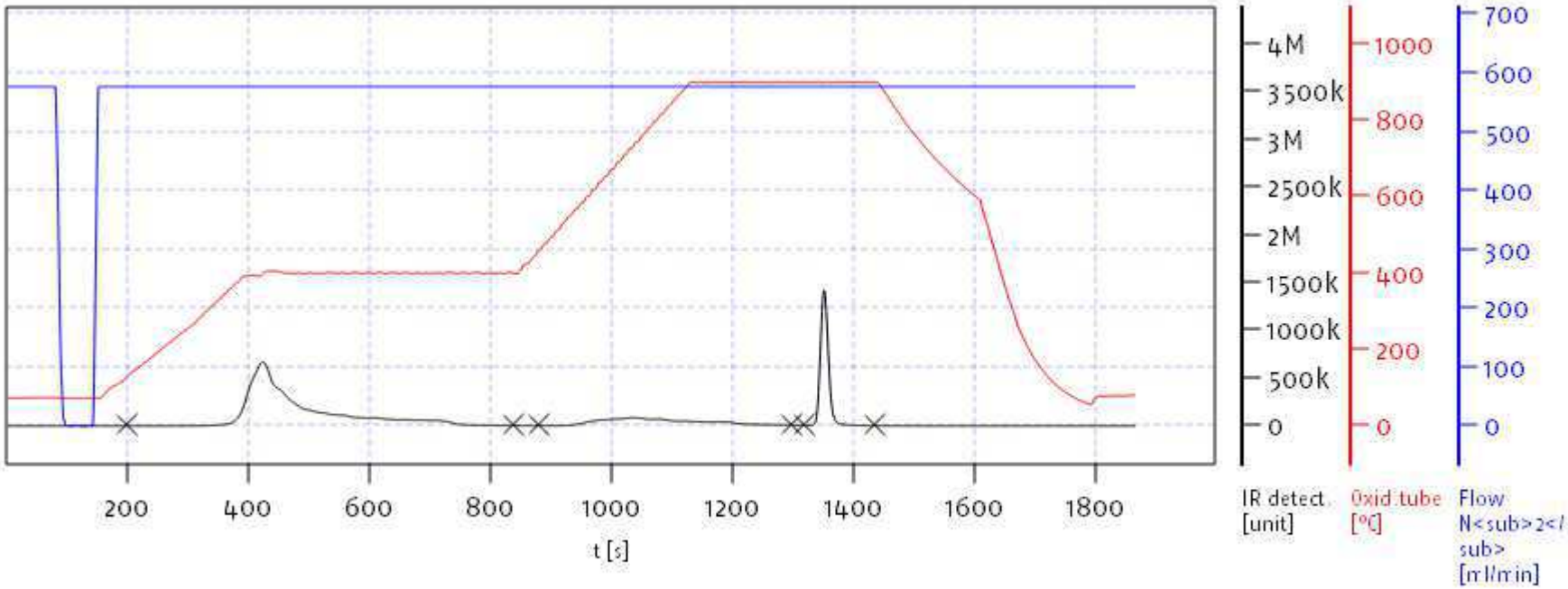
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
82	31	21H0140-08	608.70		1.00	CARBON	8/27/2021 9:25 AM	0.884	0.165	1.050	bl	2 427 370	607 996	828 909	0.9808	1.0000



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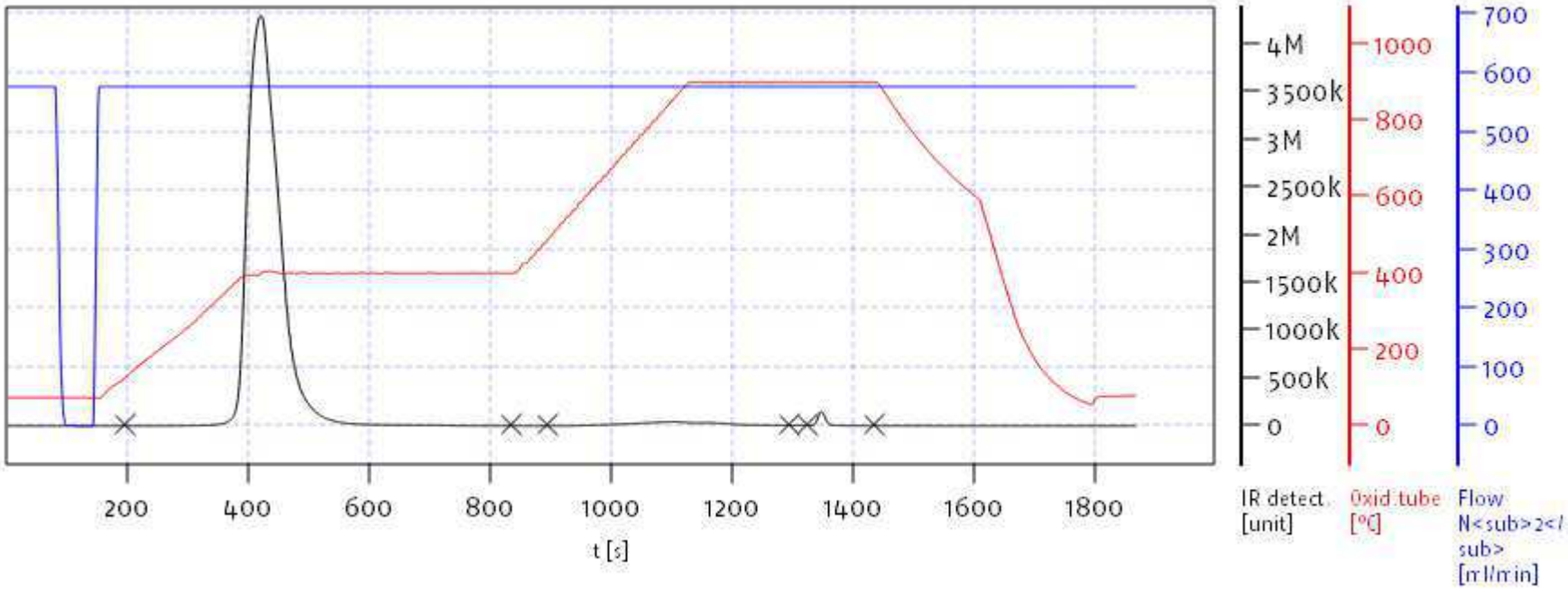
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
83	32	21H0140-09	579.90		1.00	CARBON	8/27/2021 9:57 AM	2.798	0.076	2.875	bl,Cl o	9 729 350	274 246	89 035	0.9808	1.0000



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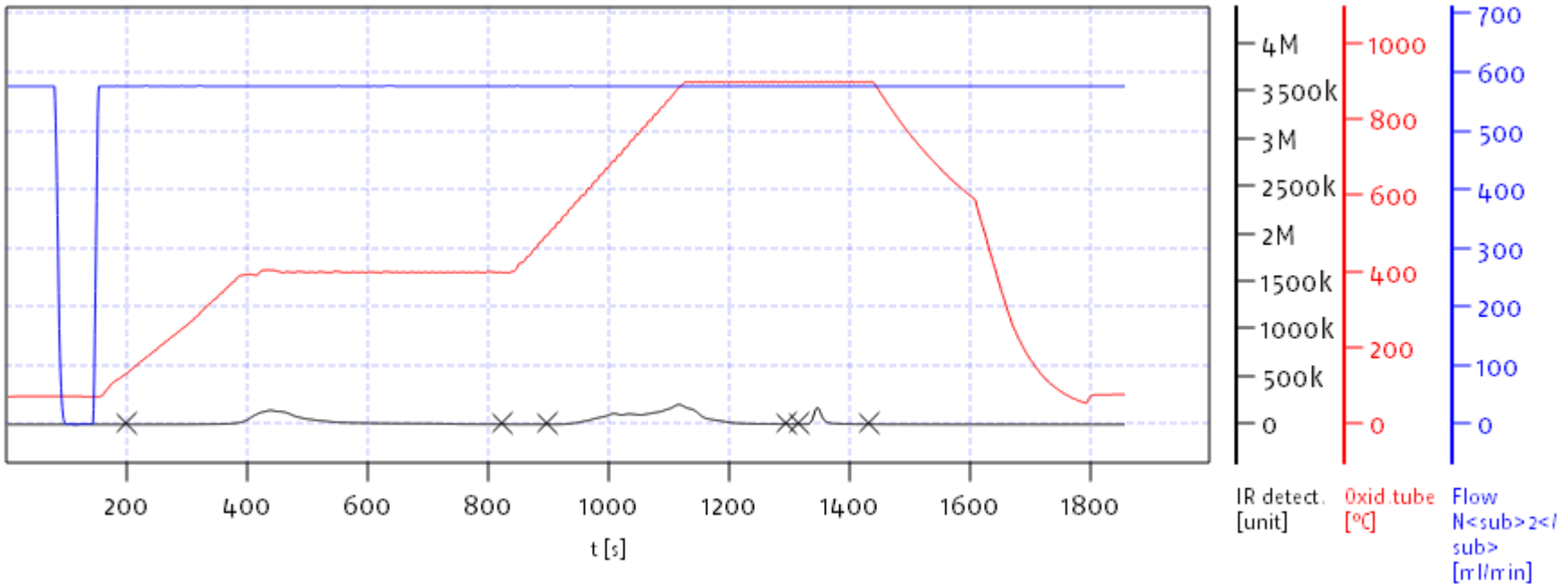
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
84	33	21H0140-10	723.80		1.00	CARBON	8/27/2021 10:28 AM	0.160	0.231	0.391	bl	601 404	1 003 240	117 021	0.9808	1.0000



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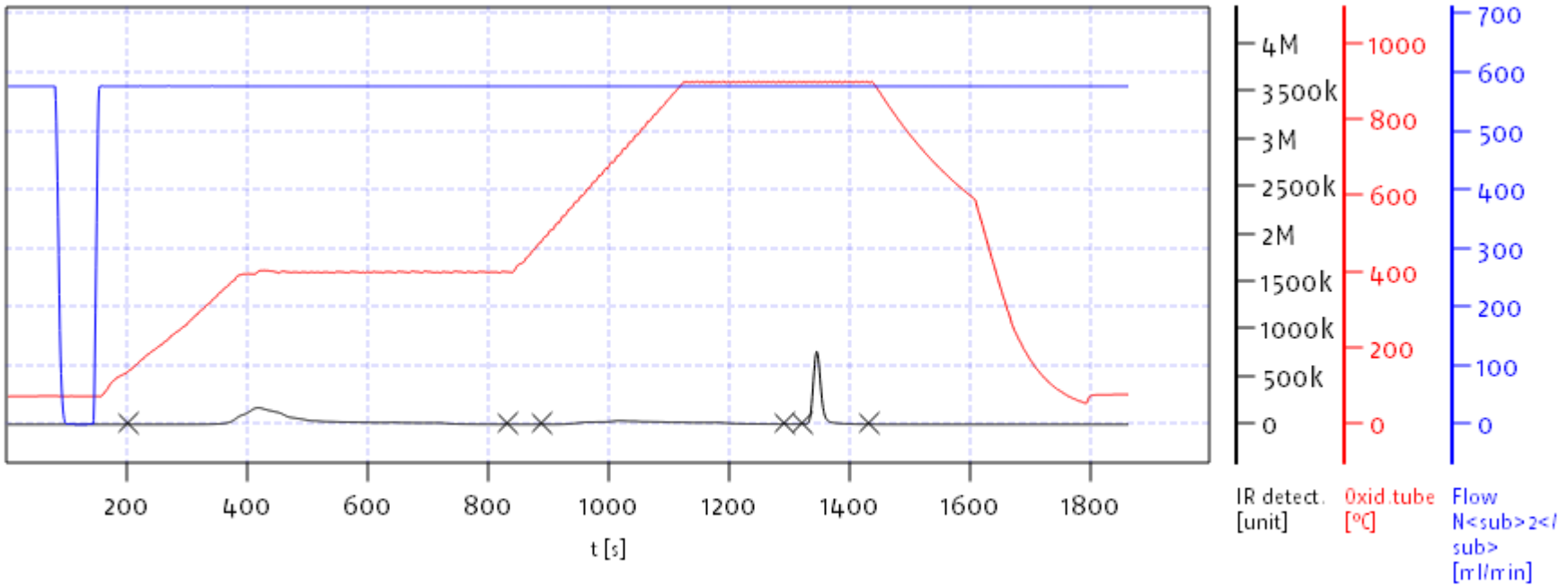
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
85	34	21H0184-01	375.90		1.00	CARBON	8/27/2021 11:00 AM	0.506	0.113	0.620	bl	728 873	263 986	434 915	0.9808	1.0000



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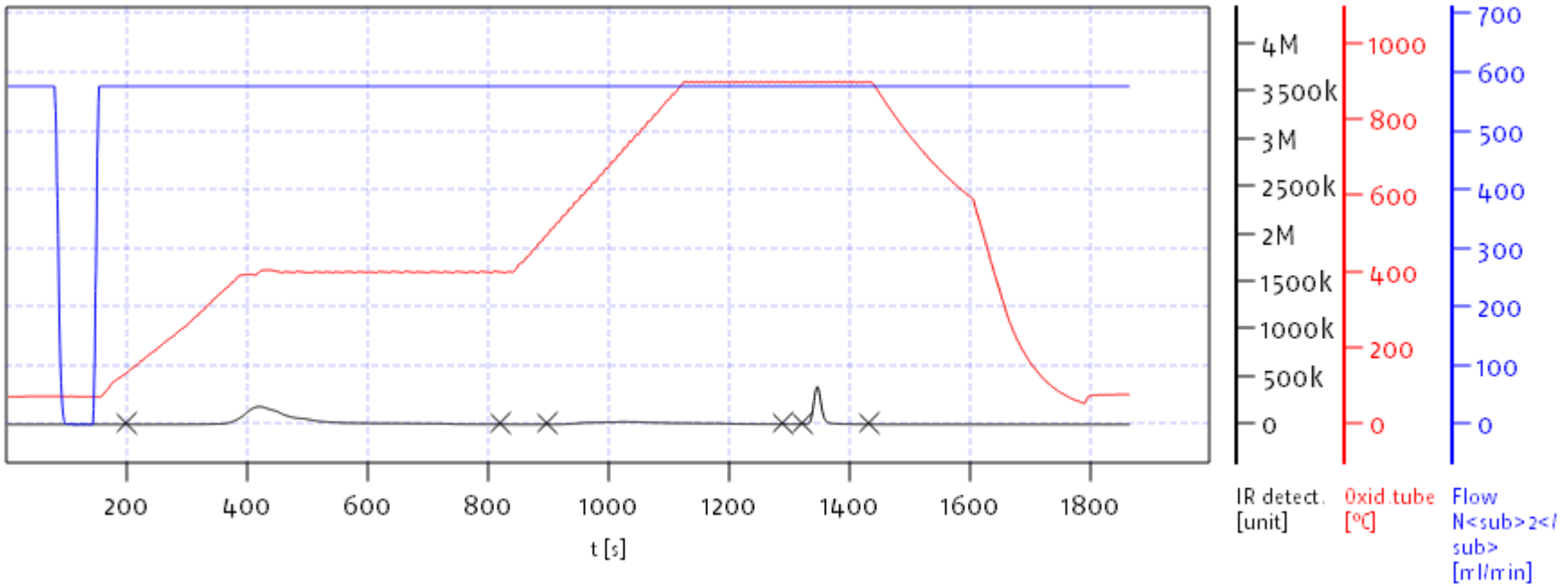
soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
86	35	21H0184-02	319.90		1.00	CARBON	8/27/2021 11:31 AM	0.466	0.091	0.557	bl	693 735	184 376	224 532	0.9808	1.0000



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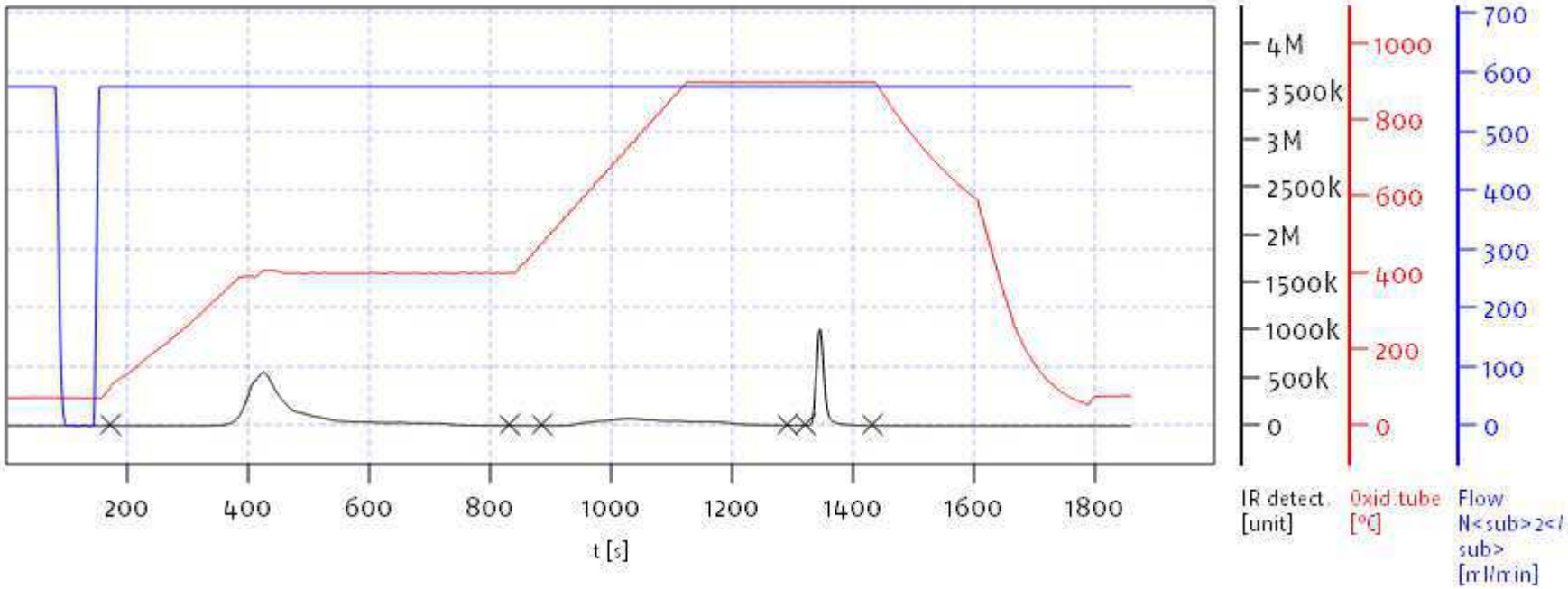
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
87	36	21H0184-03	526.60		1.00	CARBON	8/27/2021 12:03 PM	0.741	0.172	0.912	bl	1 774 540	546 694	592 063	0.9808	1.0000



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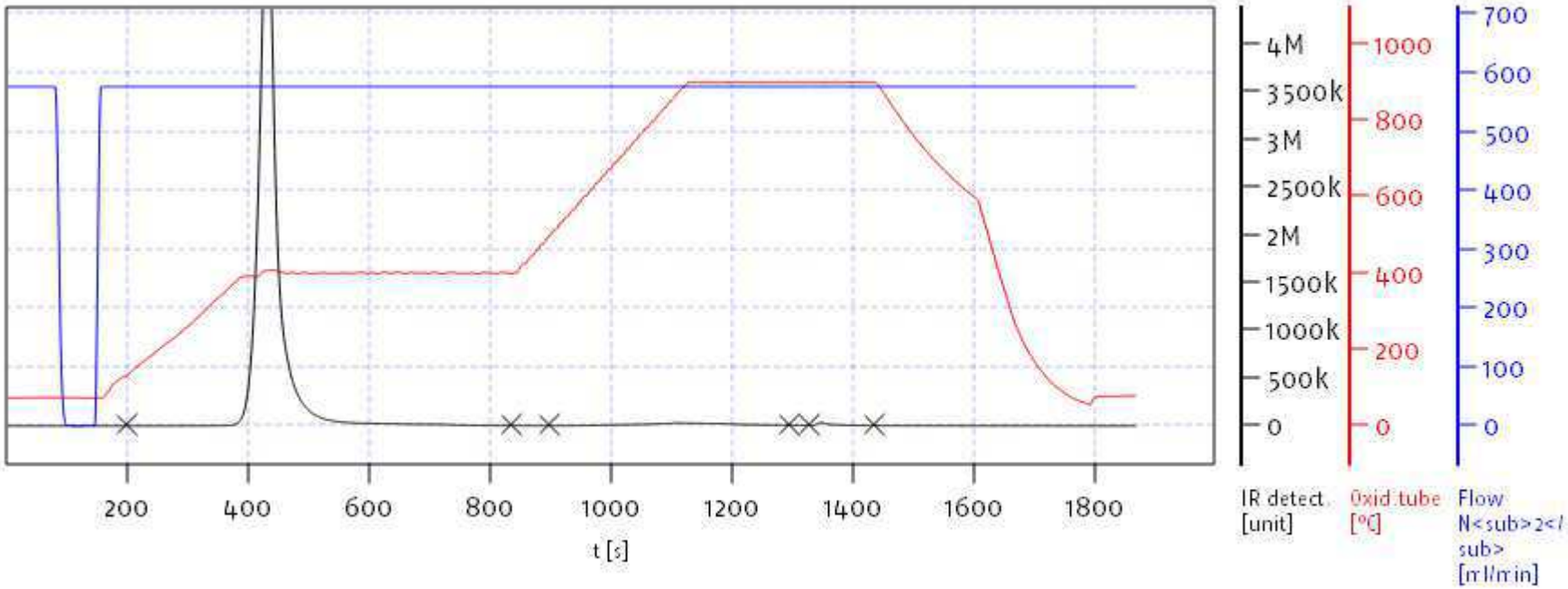
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
88	37	SJH0331-CCV7	27.10		1.00	CARBON	8/27/2021 12:34 PM	44.781	1.263	46.044	bl	7 306 970	214 316	42 302	0.9808	1.0000



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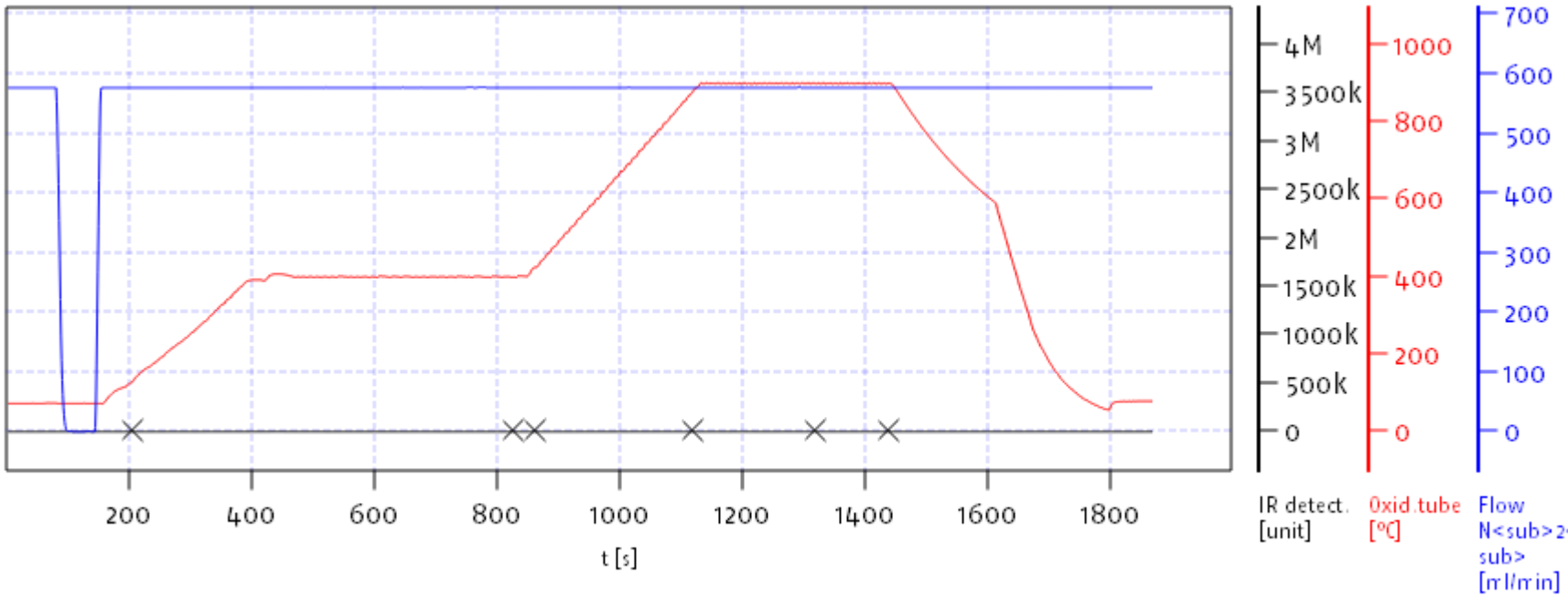
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
89	38	SJH0331-CCB7	695.50		1.00	CARBON	8/27/2021 1:06 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	1 587	48	62	0.9808	1.0000



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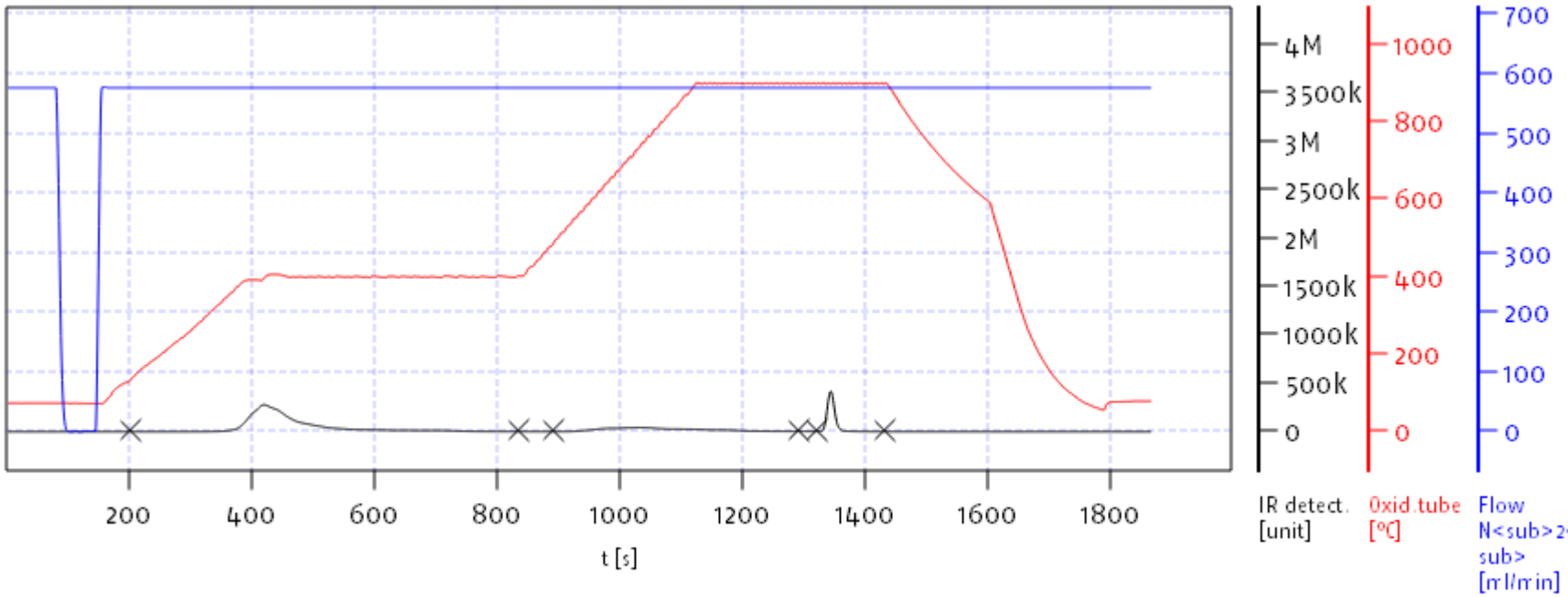
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
90	39	21H0184-04	393.70		1.00	CARBON	8/27/2021 1:38 PM	0.492	0.119	0.611	bl	963 846	288 789	225 300	0.9808	1.0000



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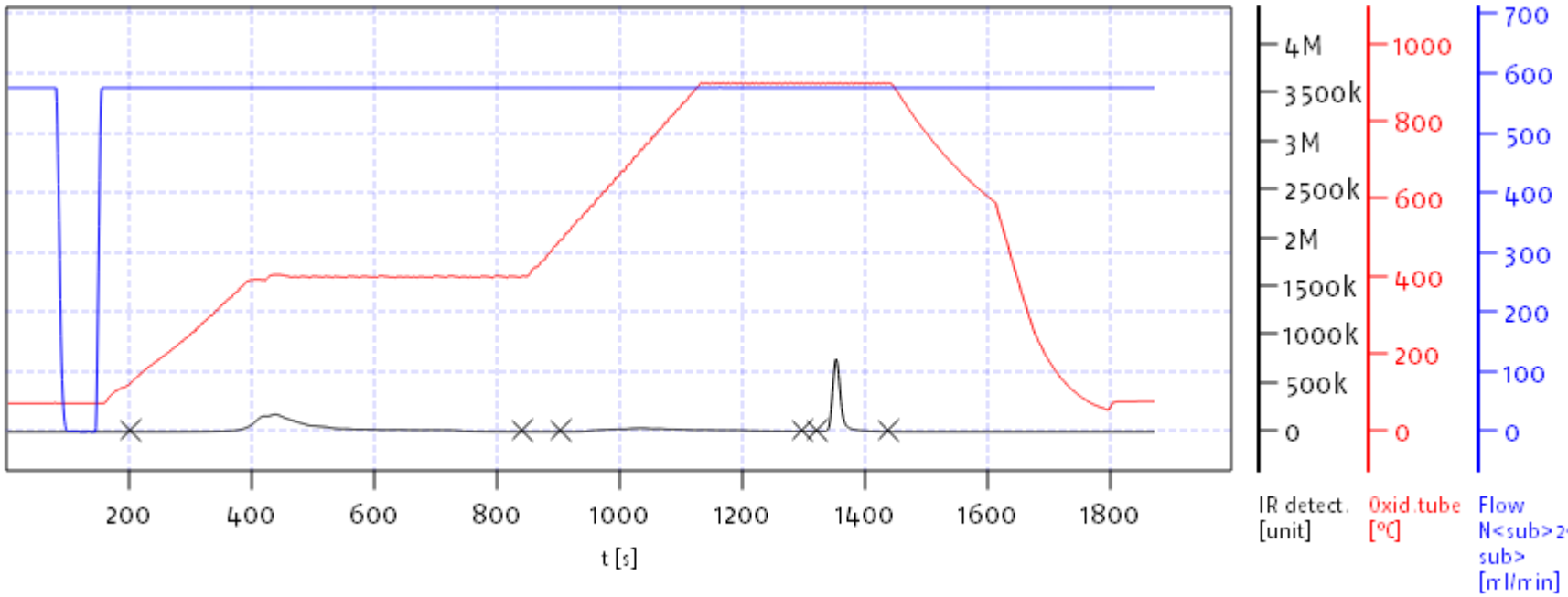
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
91	40	21H0184-05	349.50		1.00	CARBON	8/27/2021 2:09 PM	0.553	0.110	0.663	bl	744 608	240 260	437 124	0.9808	1.0000



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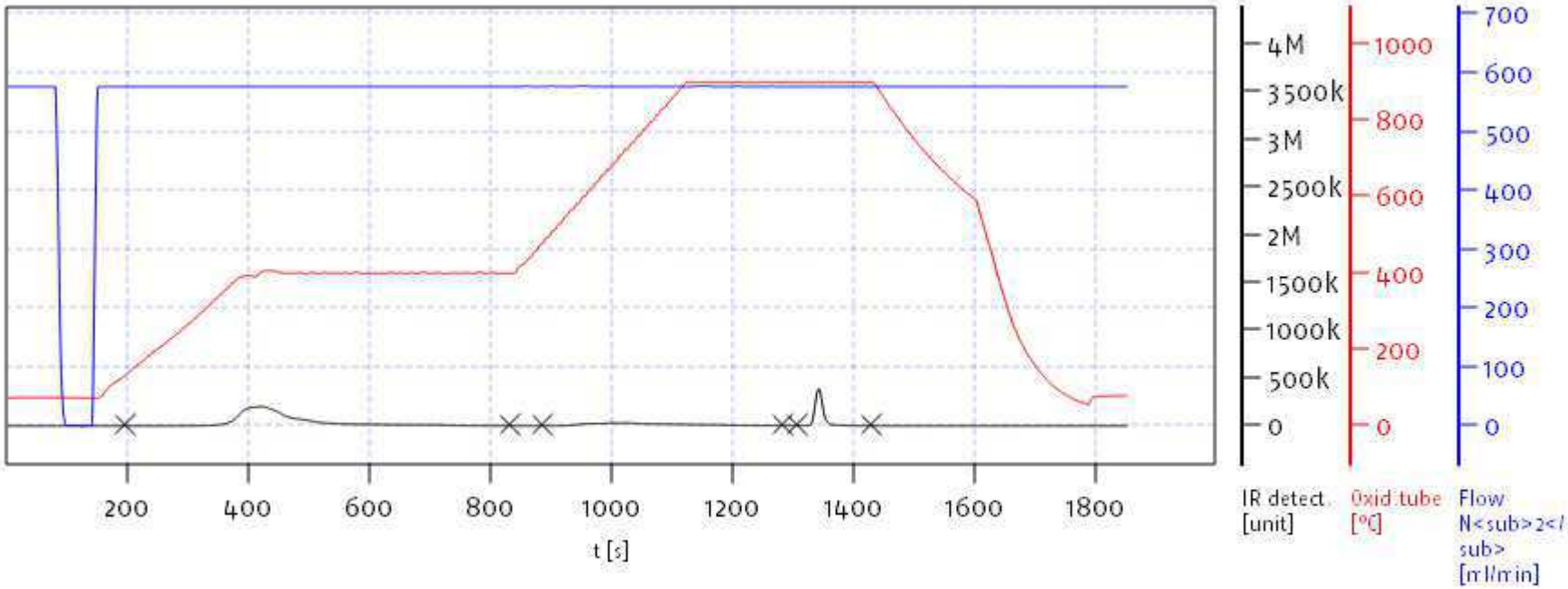
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
92	41	21H0184-06	341.10		1.00	CARBON	8/27/2021 2:41 PM	0.500	0.097	0.596	bl	825 519	206 956	222 455	0.9808	1.0000



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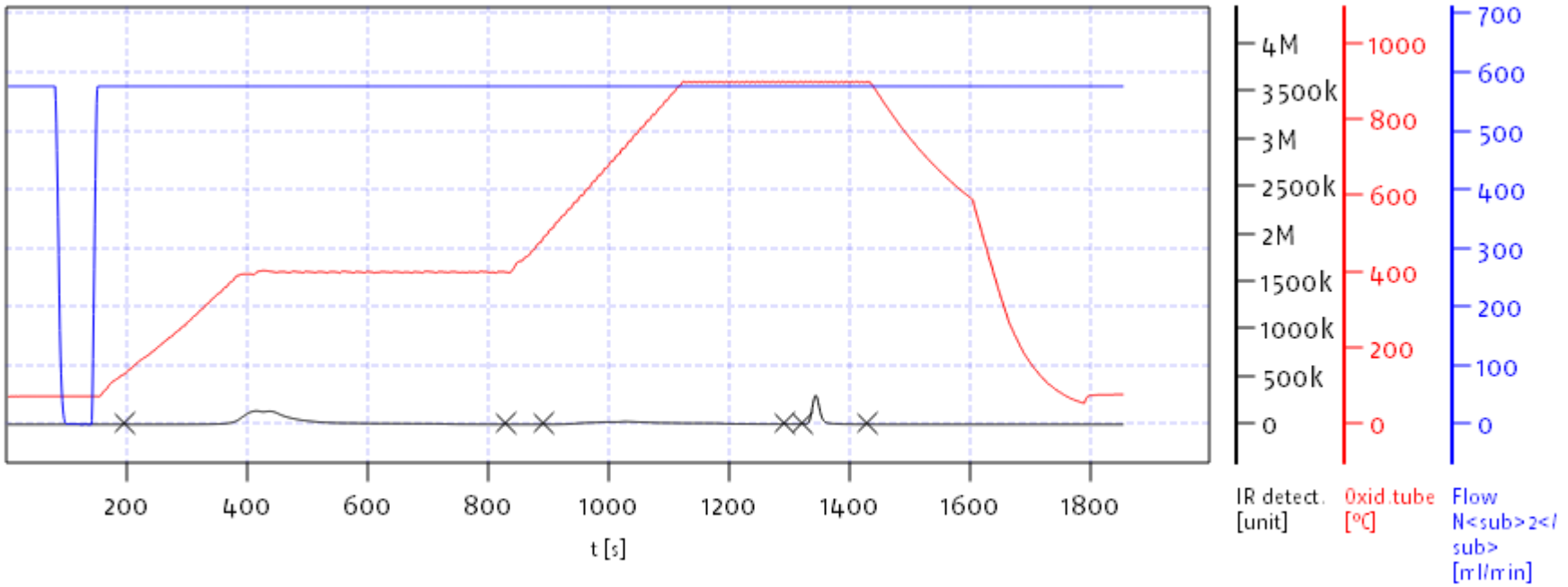
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
93	42	21H0184-07	370.40		1.00	CARBON	8/27/2021 3:12 PM	0.322	0.082	0.404	bl	564 895	191 885	174 826	0.9808	1.0000



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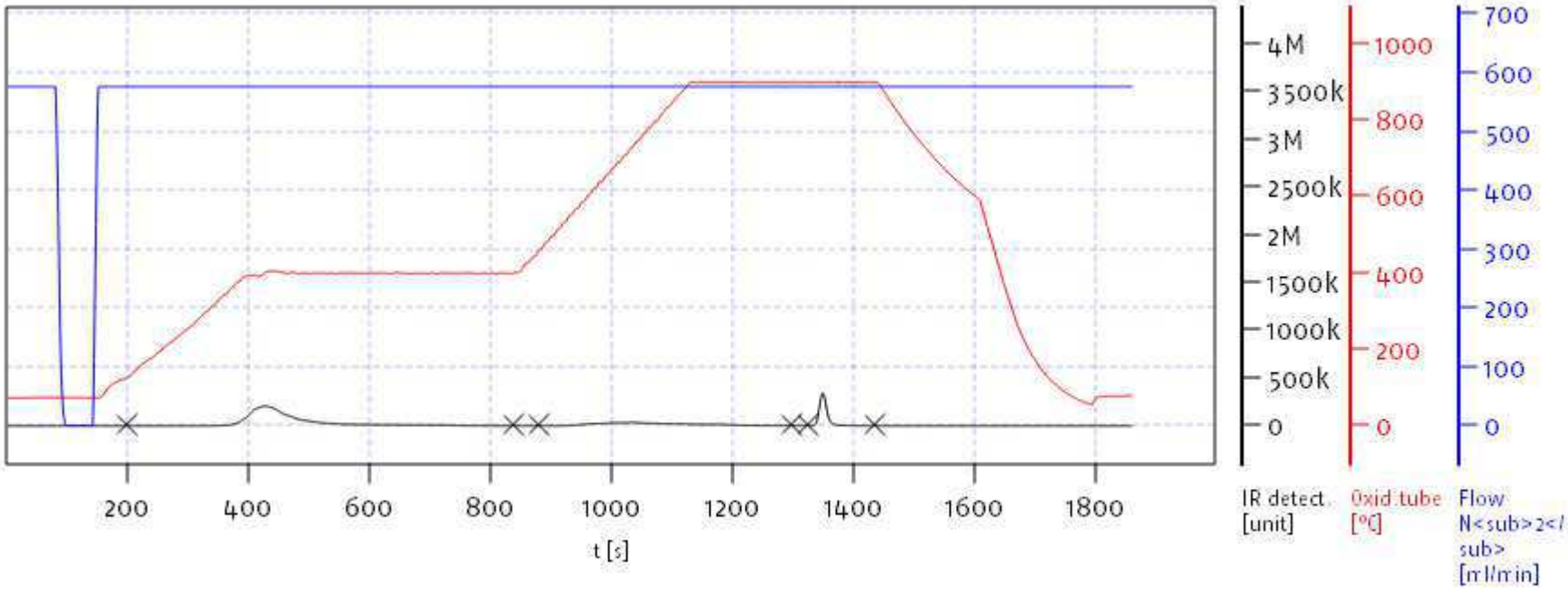
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
94	43	21H0184-08	373.40		1.00	CARBON	8/27/2021 3:44 PM	0.392	0.102	0.494	bl	713 486	236 589	189 620	0.9808	1.0000



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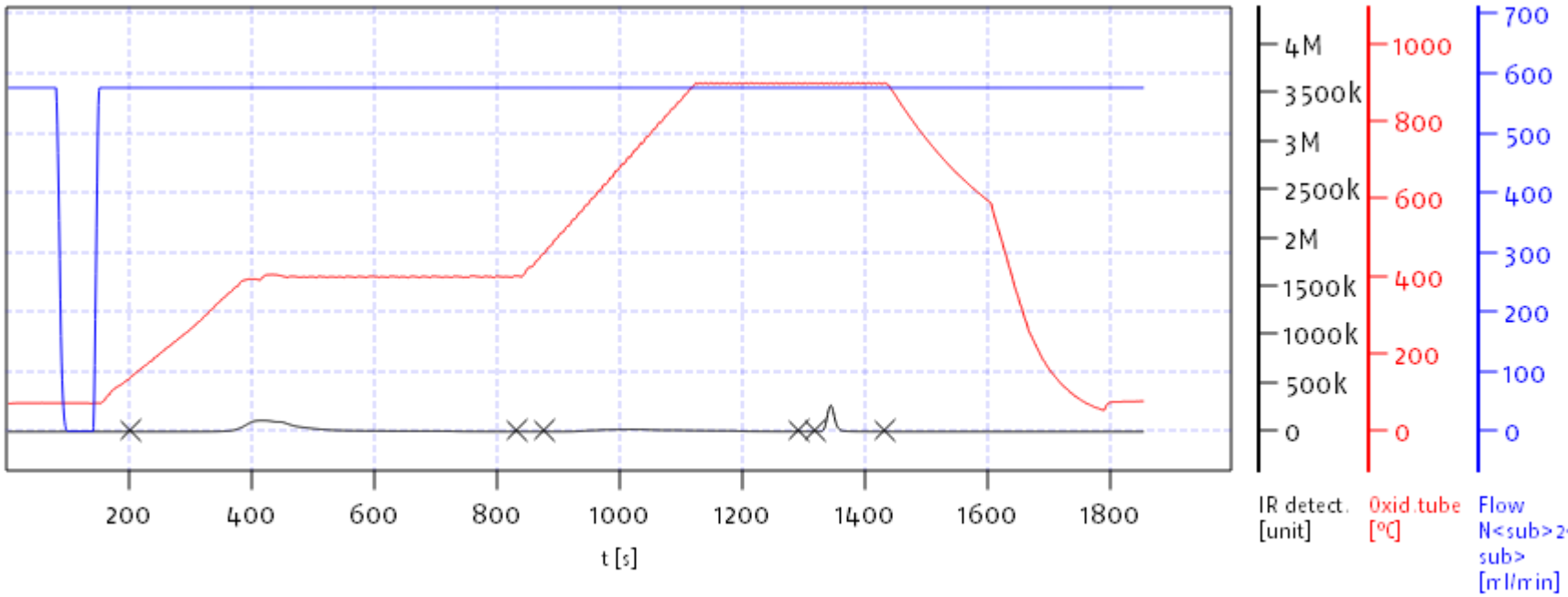
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
95	44	21H0184-09	358.60		1.00	CARBON	8/27/2021 4:15 PM	0.276	0.069	0.345	bl	469 728	158 825	148 800	0.9808	1.0000



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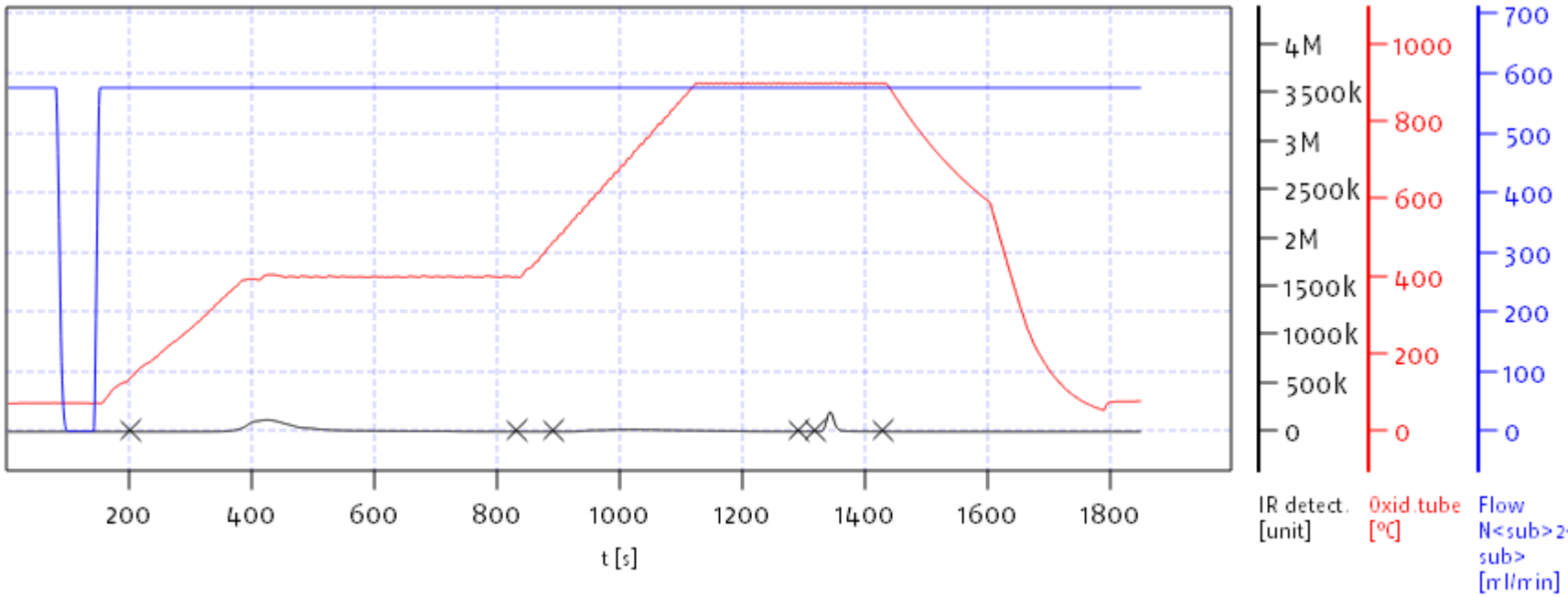
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
96	45	21H0184-10	306.60		1.00	CARBON	8/27/2021 4:46 PM	0.298	0.071	0.369	bl	455 082	139 894	117 552	0.9808	1.0000



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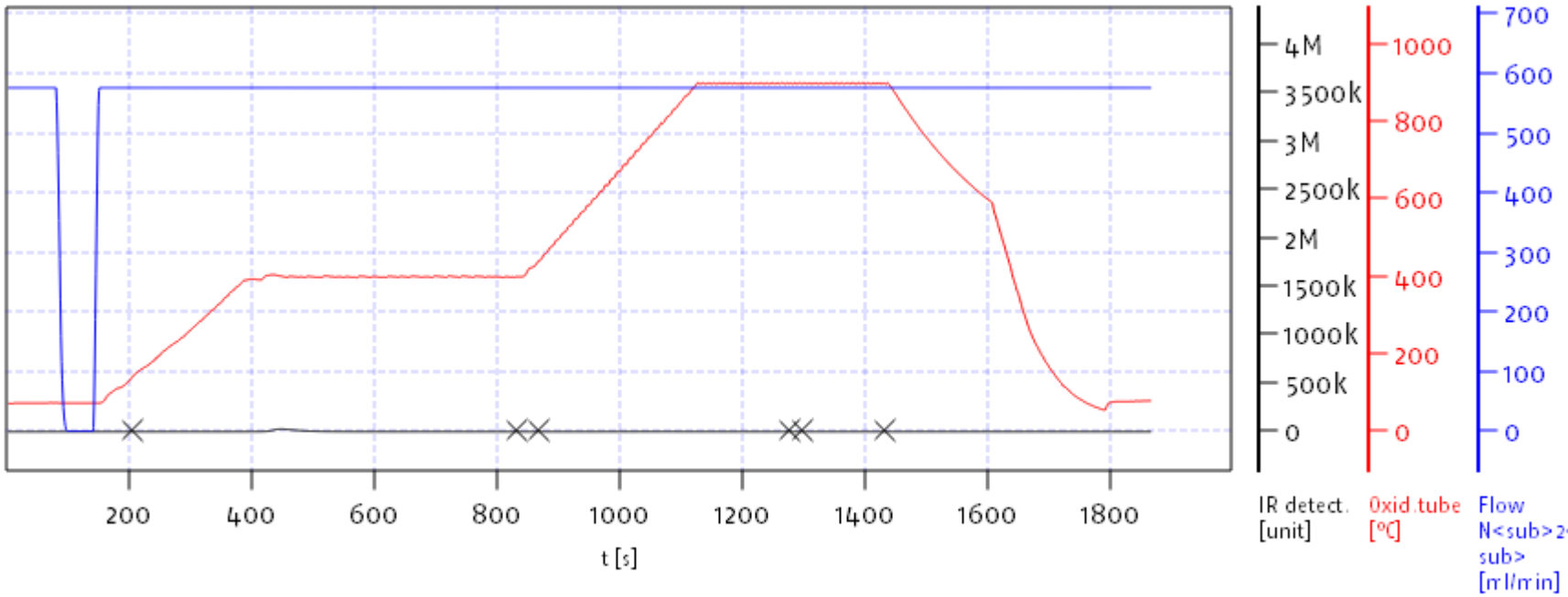
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
97	46	BJH0513-MRL1	500.20		1.00	CARBON	8/27/2021 5:18 PM	0.013	0.000	0.013	bl,C3u,C2u	51 185	4 331	286	0.9808	1.0000



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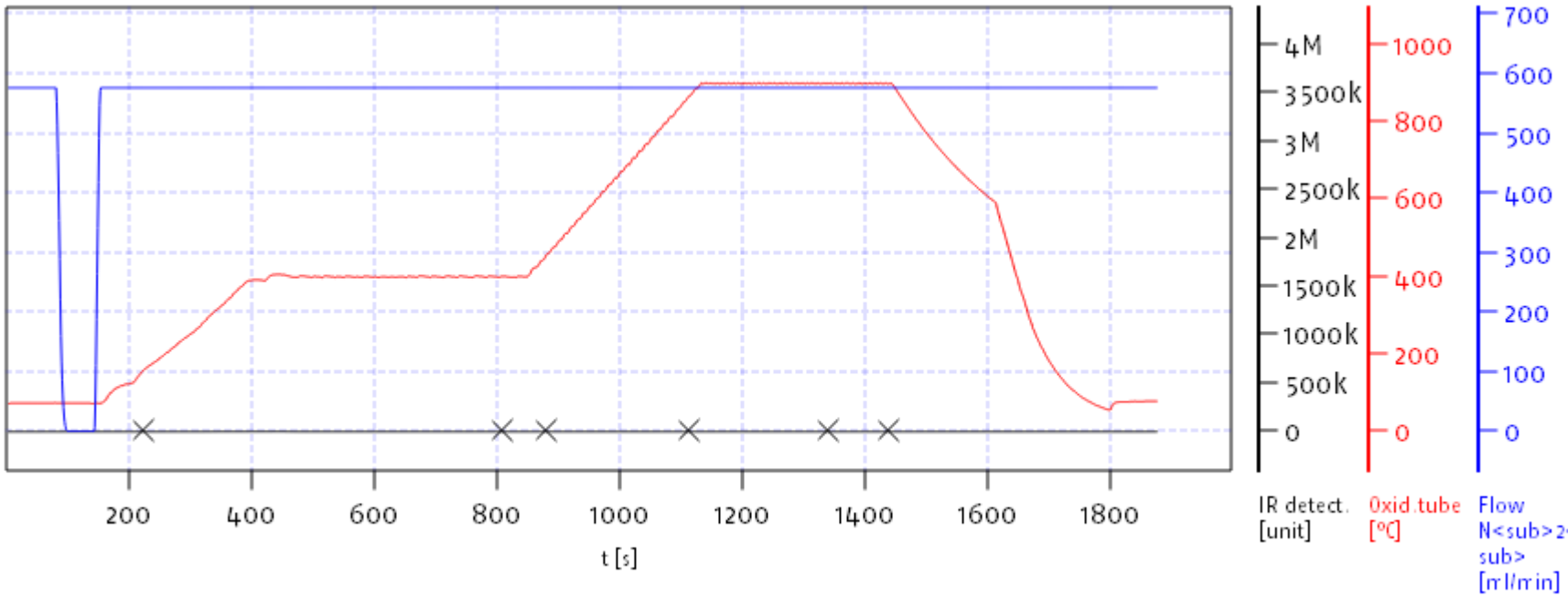
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
98	47	BJH0513-BLK1	571.50		1.00	CARBON	8/27/2021 5:50 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	7 247	601	259	0.9808	1.0000



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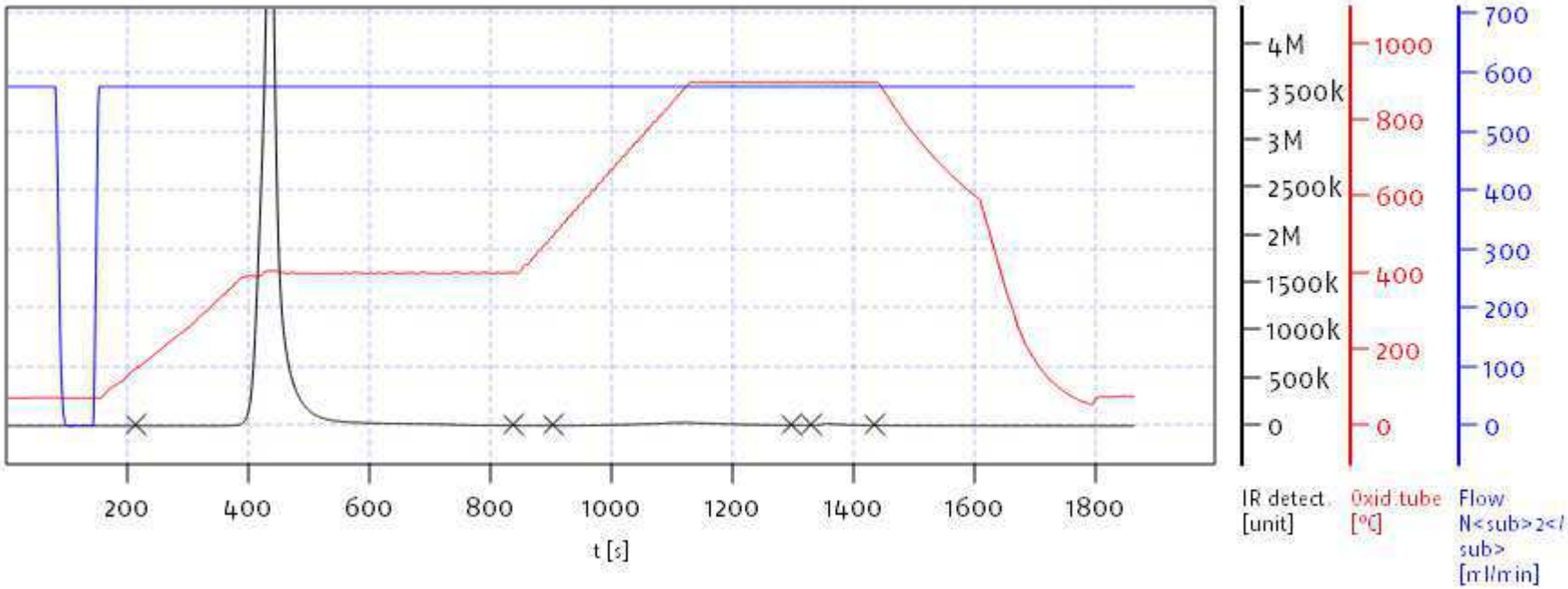
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
99	48	BJH0513-BS1	25.20		1.00	CARBON	8/27/2021 6:21 PM	44.727	1.438	46.165	bl	6 784 580	226 203	42 714	0.9808	1.0000



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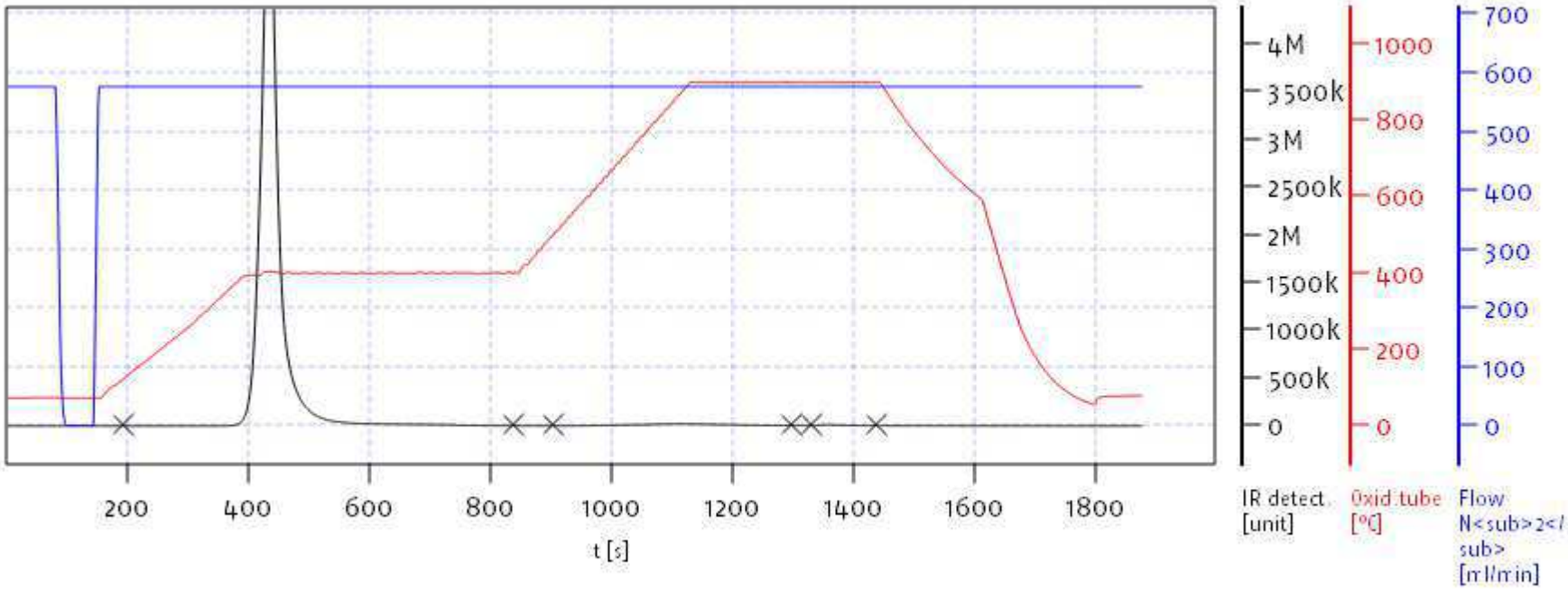
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
100	49	SJH0331-CCV8	26.70		1.00	CARBON	8/27/2021 6:53 PM	45.580	0.857	46.437	bl	7 346 060	147 195	24 181	0.9808	1.0000



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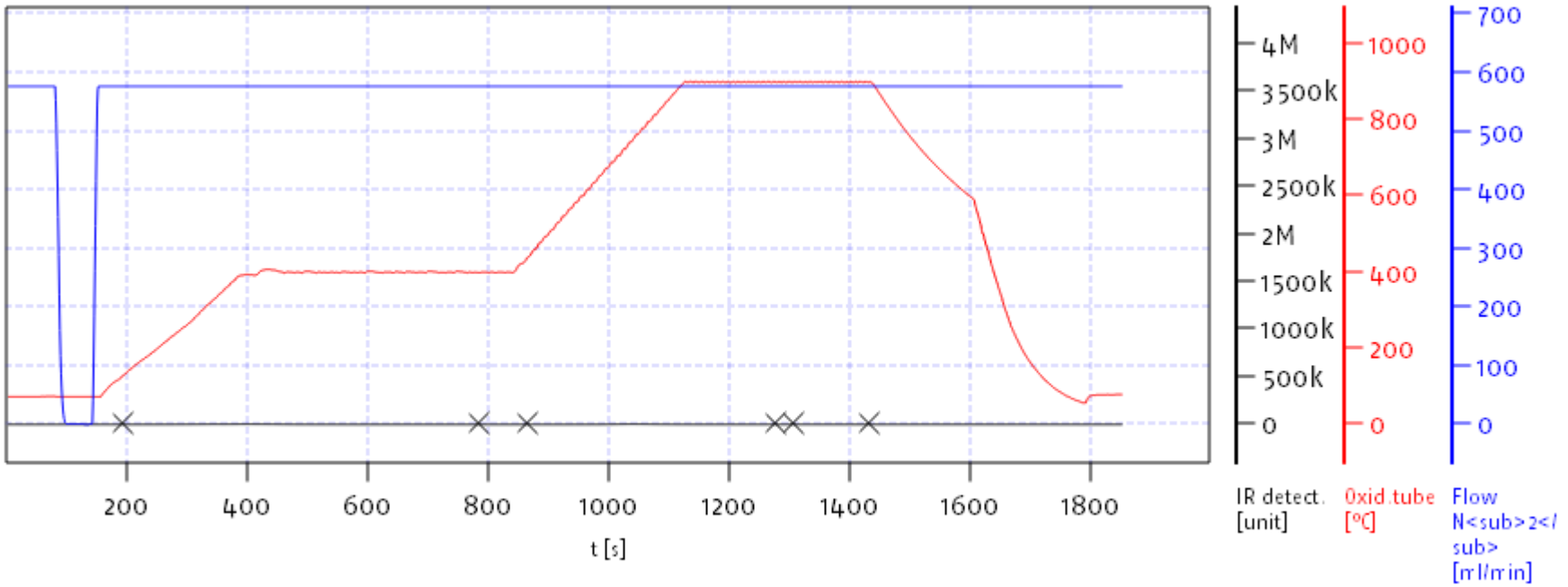
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
101	50	SJH0331-CCB8	587.00		1.00	CARBON	8/27/2021 7:24 PM	0.001	0.000	0.001	bl,C2u	16 174	10 034	388	0.9808	1.0000



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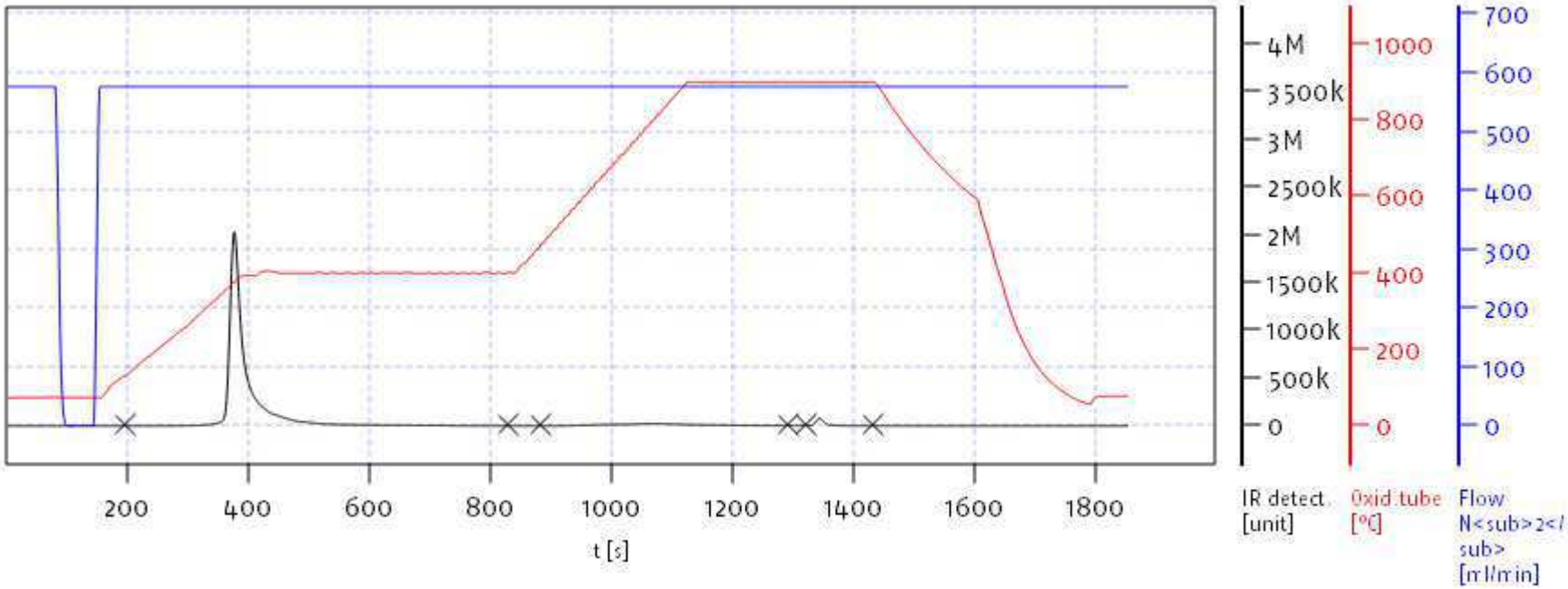
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
102	51	21H0103-01	107.50		1.00	CARBON	8/27/2021 7:56 PM	3.481	0.212	3.693	bl	2 231 660	146 521	50 144	0.9808	1.0000



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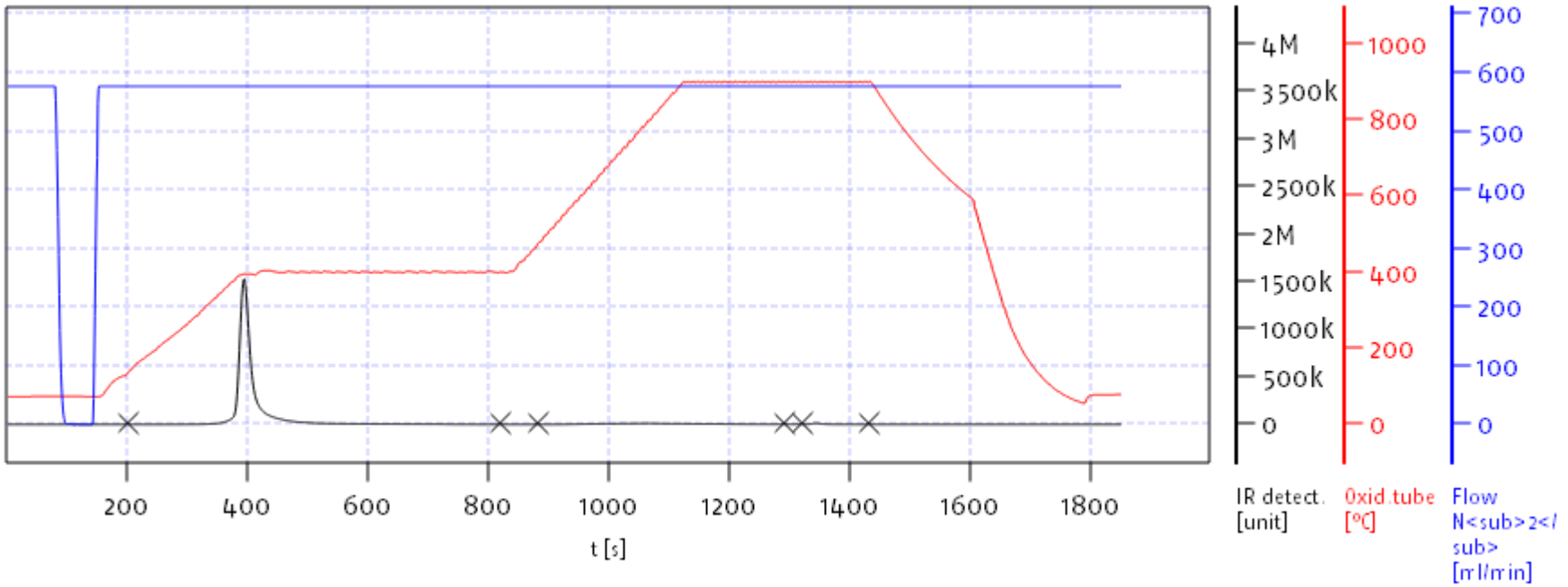
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
103	52	21H0103-02	115.30		1.00	CARBON	8/27/2021 8:27 PM	2.022	0.095	2.118	bl	1 419 470	76 665	11 001	0.9808	1.0000



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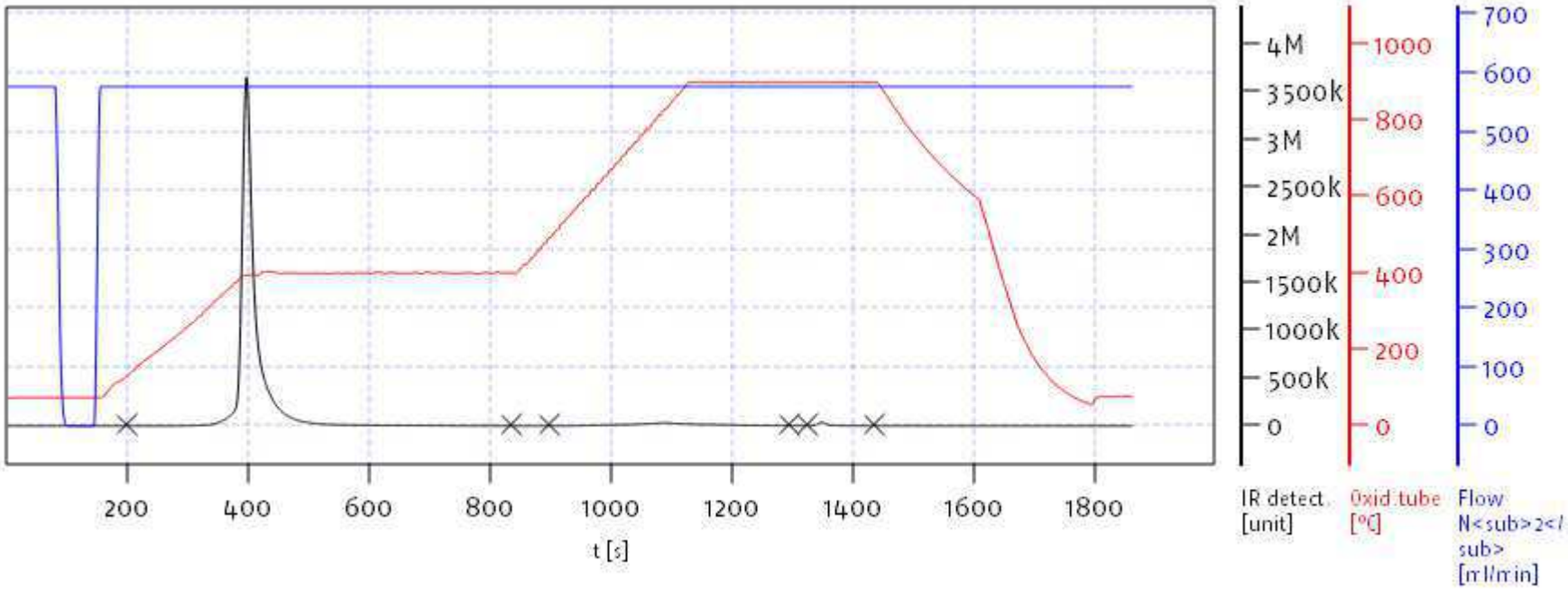
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
104	53	21H0103-03	107.10		1.00	CARBON	8/27/2021 8:59 PM	5.418	0.247	5.665	bl	3 497 970	168 576	28 083	0.9808	1.0000



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Balance: BAL3
Analyst: BF

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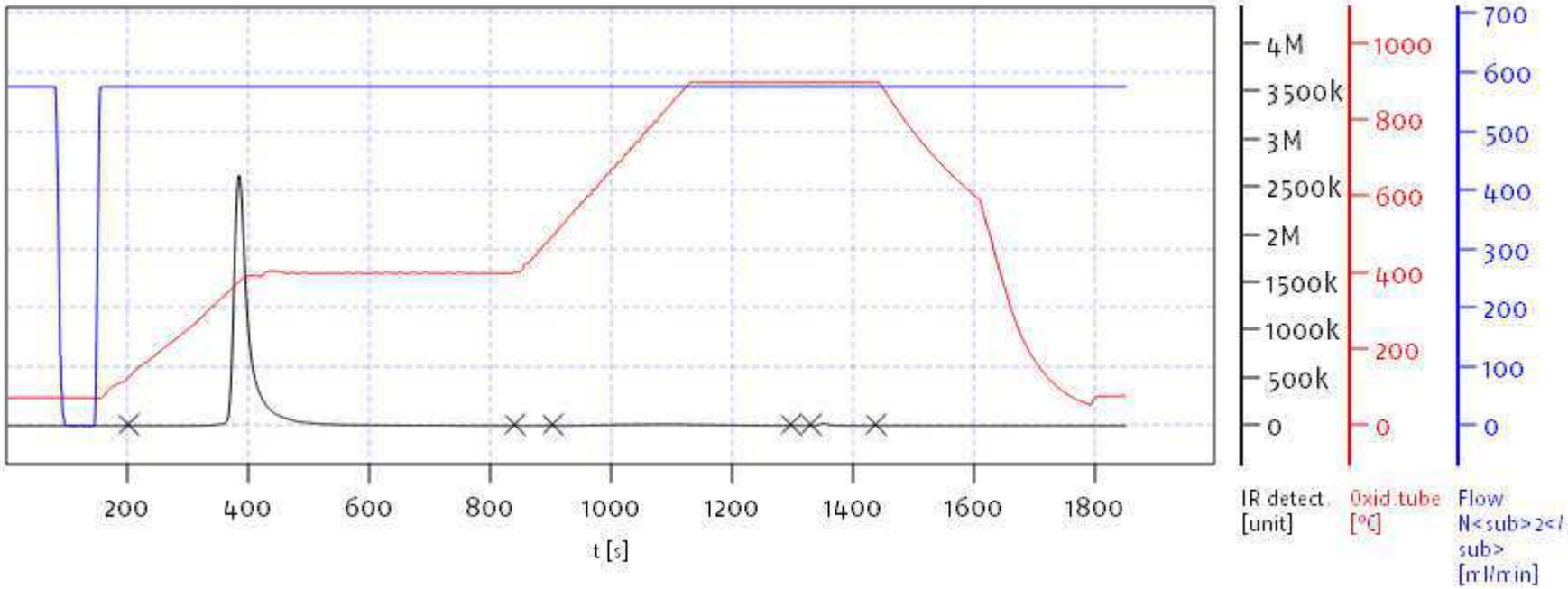
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
105	54	21H0103-04	149.90		1.00	CARBON	8/27/2021 9:30 PM	3.161	0.124	3.285	bl	2 864 670	121 706	19 422	0.9808	1.0000



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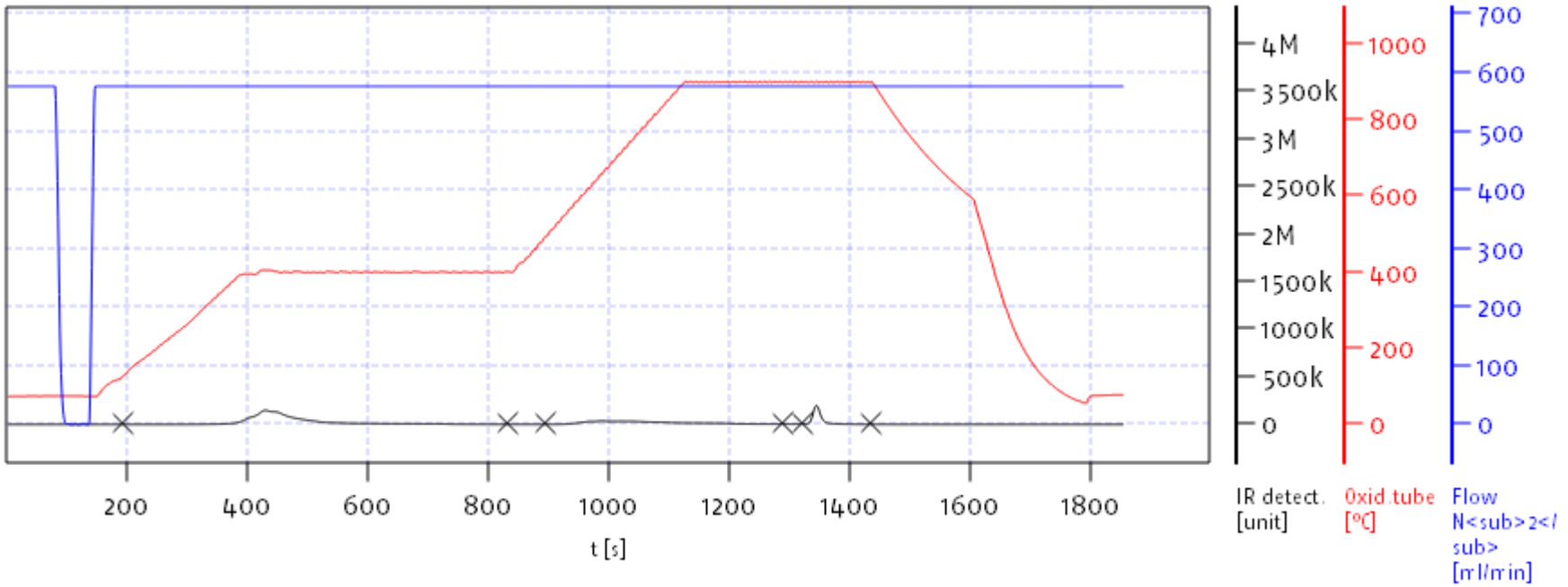
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
106	55	21H0176-01	541.00		1.00	CARBON	8/27/2021 10:01 PM	0.188	0.072	0.260	bl	515 890	241 787	120 500	0.9808	1.0000



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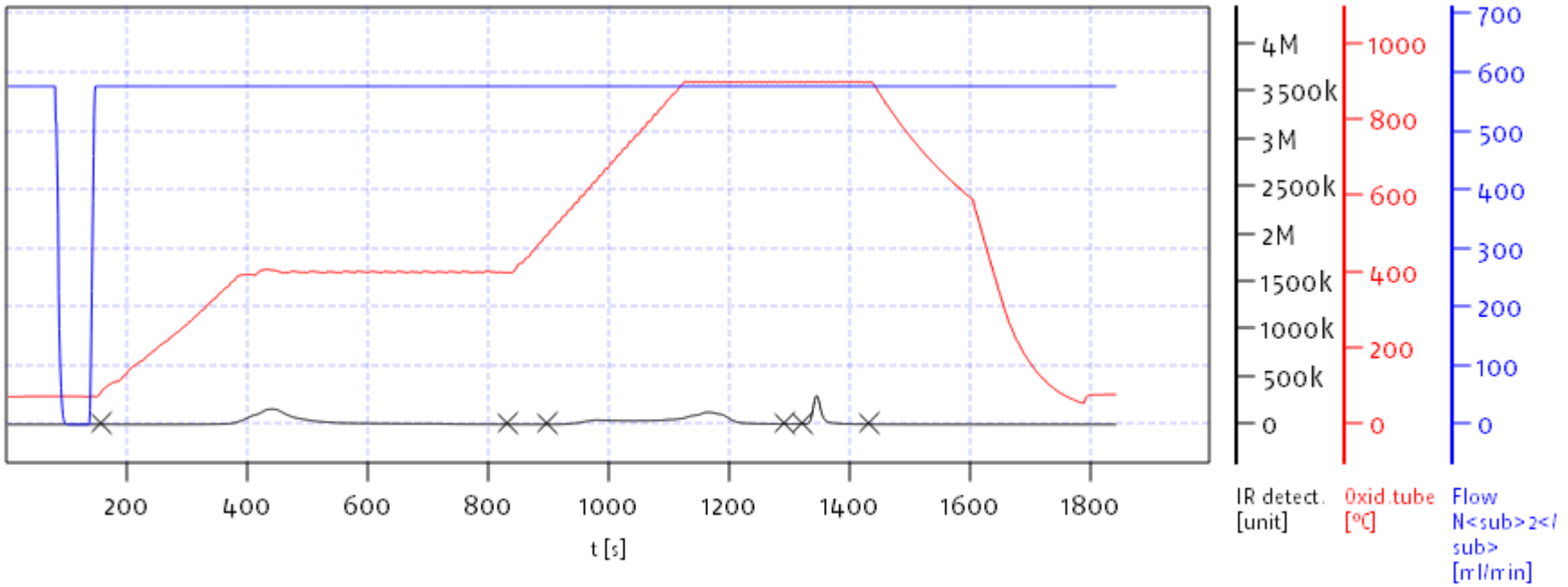
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
107	56	BJH0513-DUP1	581.10		1.00	CARBON	8/27/2021 10:33 PM	0.213	0.178	0.390	bl	577 819	622 448	187 712	0.9808	1.0000



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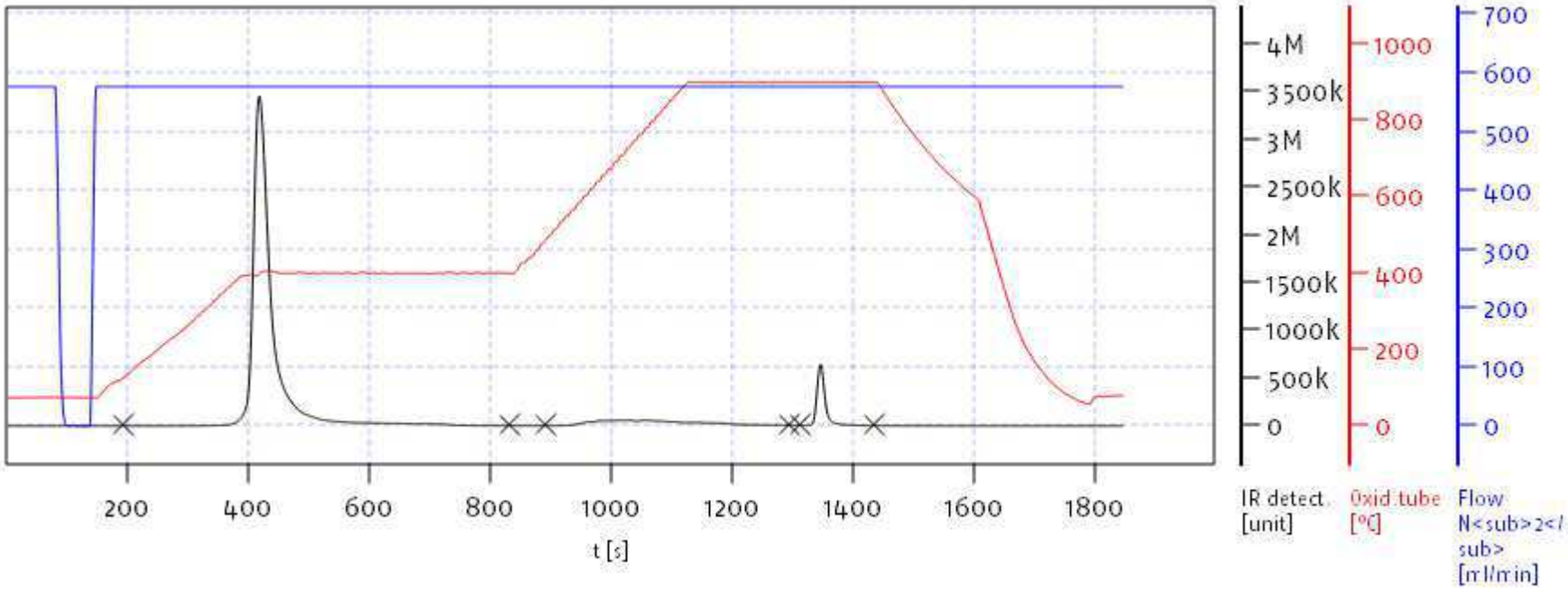
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
108	57	BJH0513-MS1	676.20	0.0142	1.00	CARBON	8/27/2021 11:04 PM	1.188	0.112	1.300	bl	4 484 310	458 939	382 479	0.9808	1.0000



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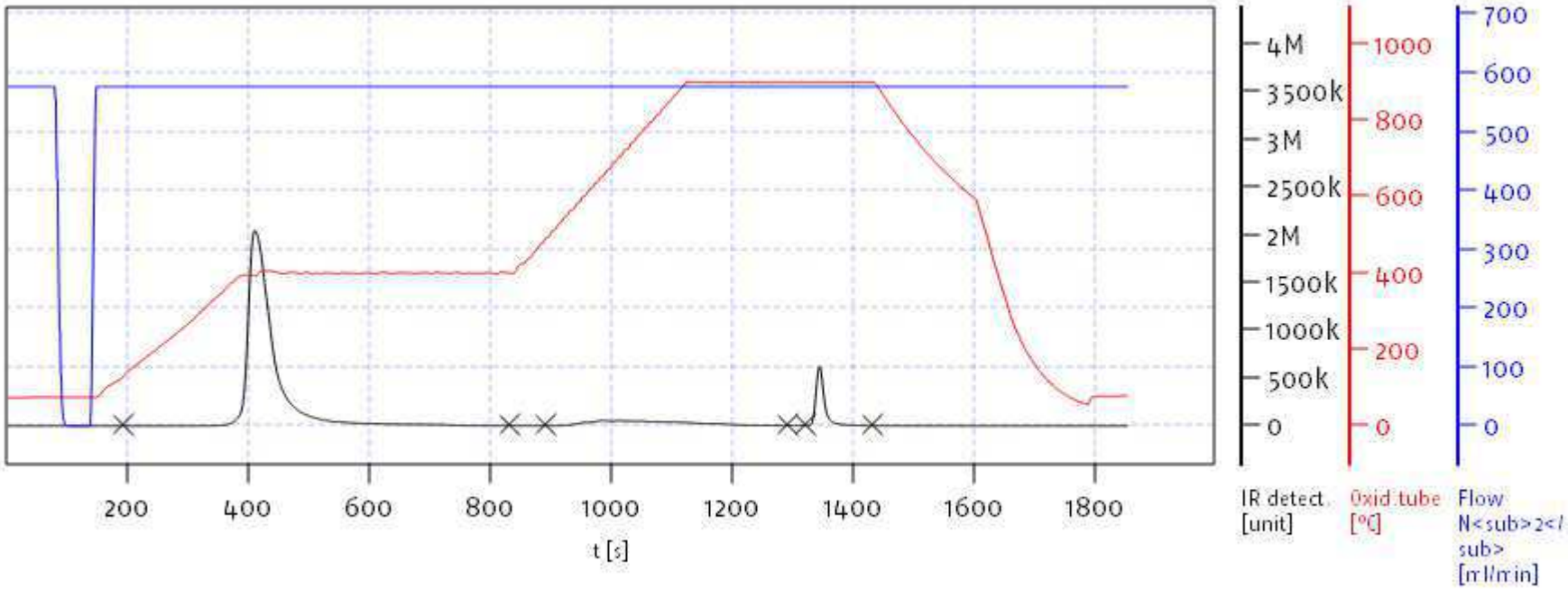
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
109	58	BJH0513-MSD1	535.30	0.0122	1.00	CARBON	8/27/2021 11:35 PM	1.231	0.124	1.355	bl	3 614 900	405 006	377 980	0.9808	1.0000



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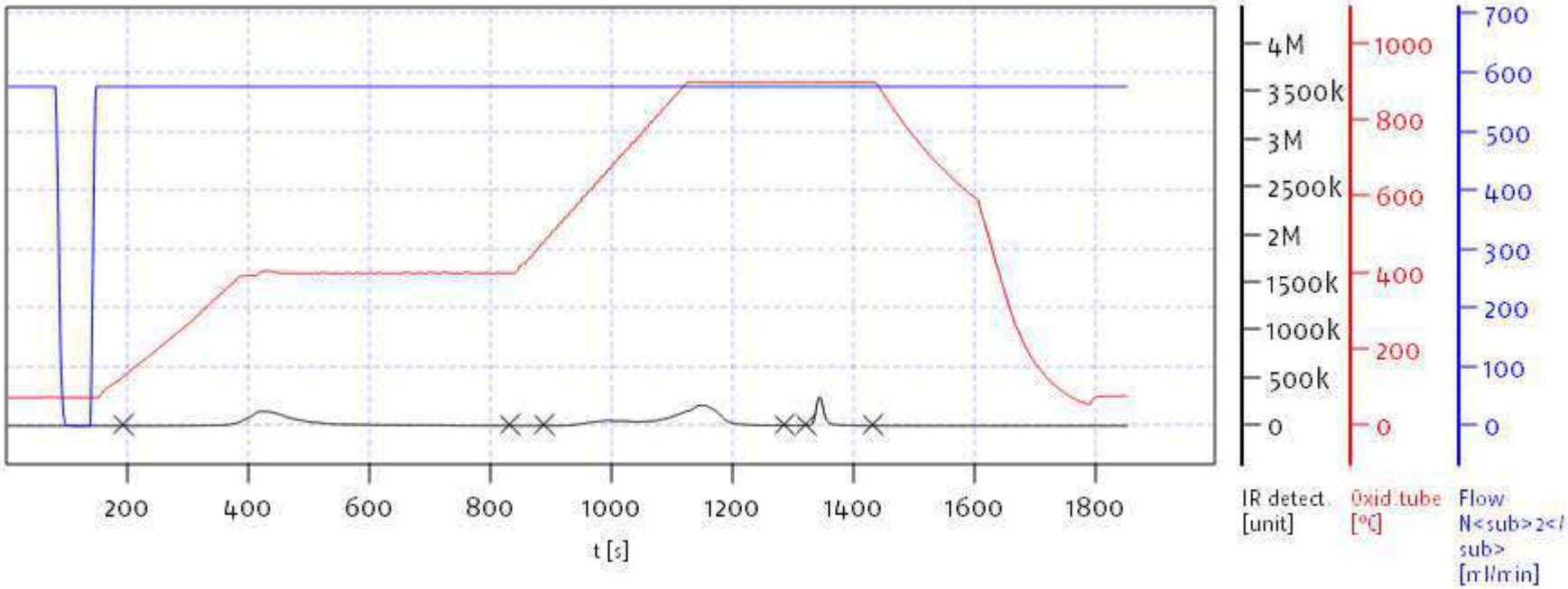
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
110	59	21H0176-02	541.10		1.00	CARBON	8/28/2021 12:07 AM	0.228	0.268	0.496	bl	581 433	870 357	184 279	0.9808	1.0000



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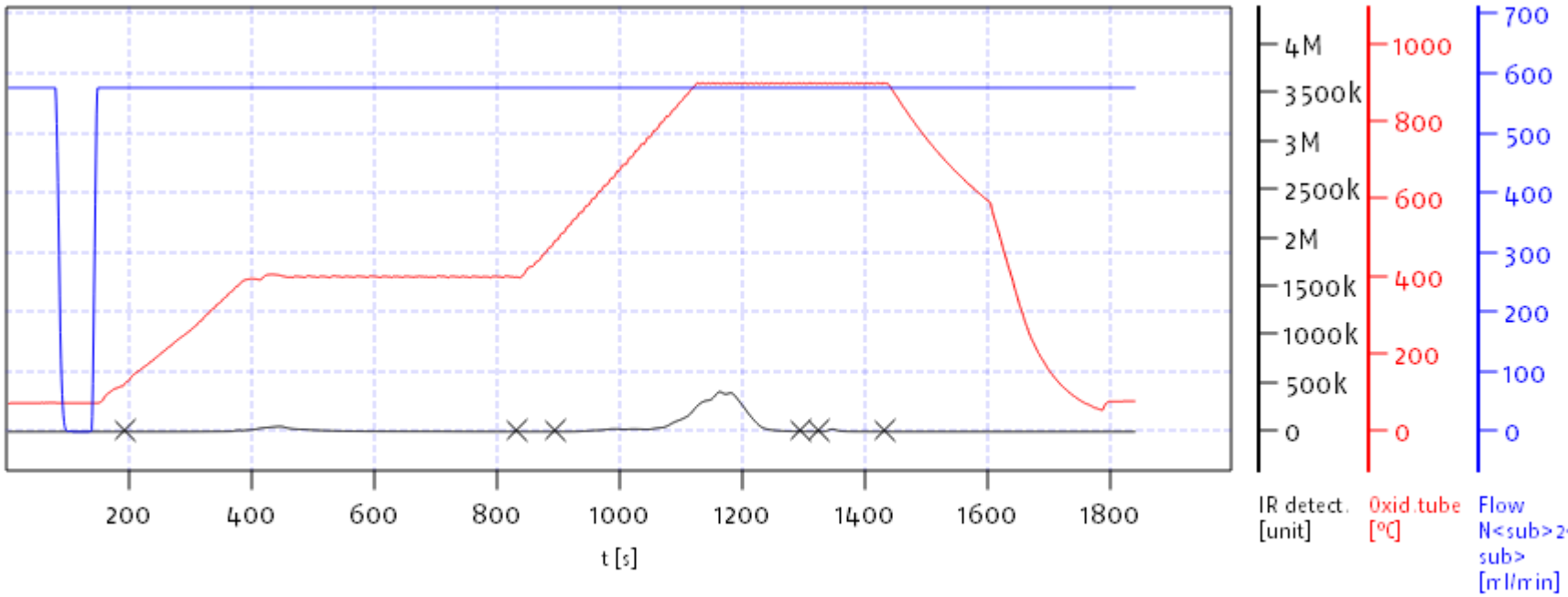
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
111	60	21H0176-03	416.50		1.00	CARBON	8/28/2021 12:38 AM	0.077	0.631	0.708	bl	197 028	1 568 240	20 300	0.9808	1.0000



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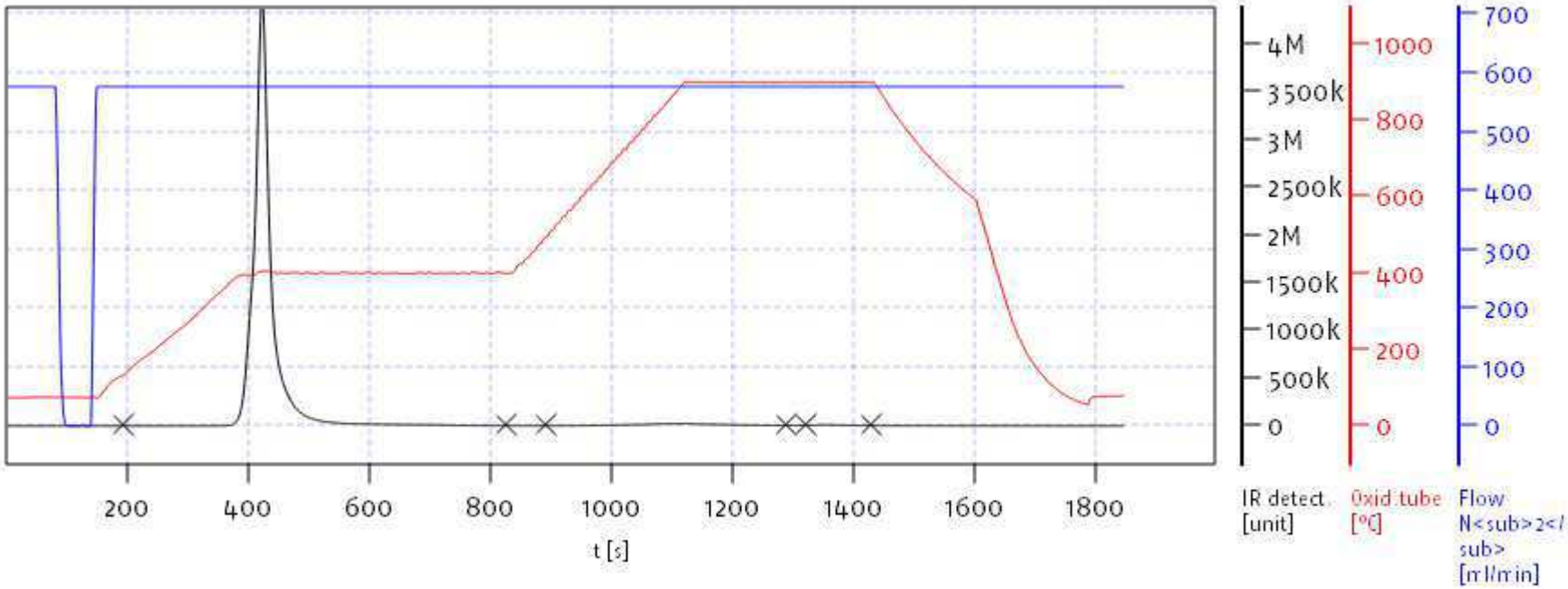
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
112	61	SJH0331-CCV9	20.30		1.00	CARBON	8/28/2021 1:09 AM	43.170	1.200	44.370	bl	5 288 560	155 914	25 110	0.9808	1.0000



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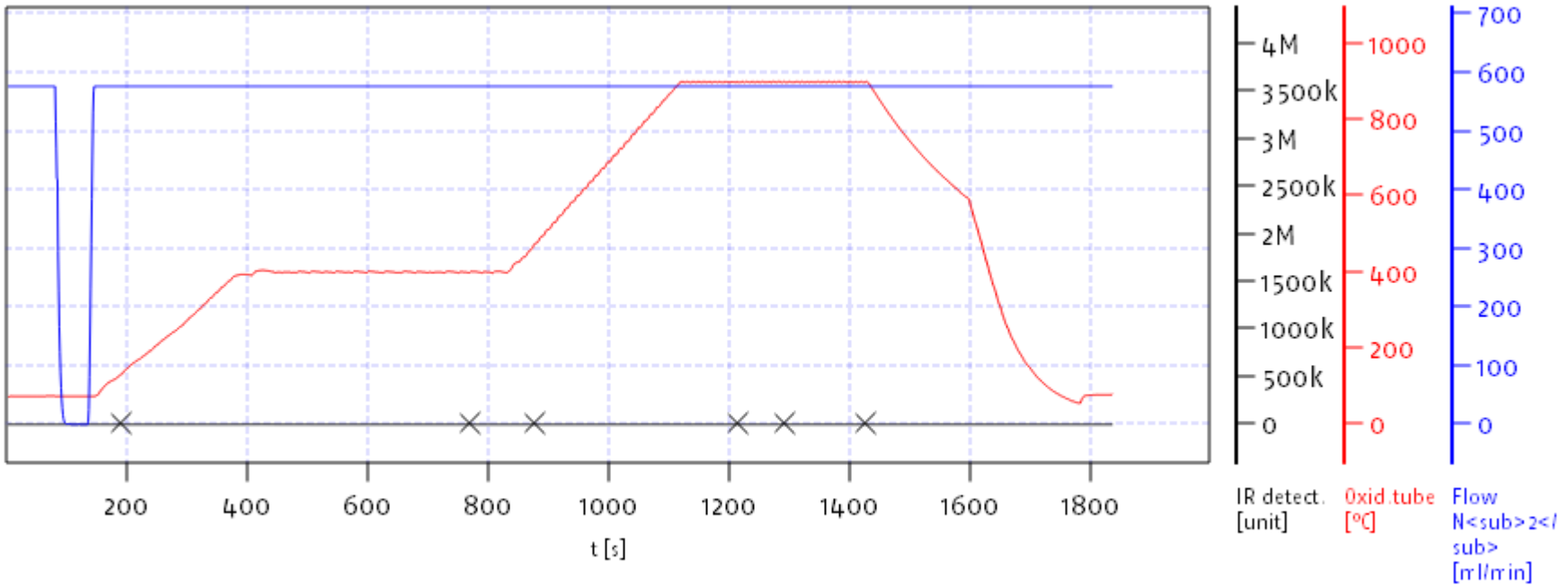
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
113	62	SJH0331-CCB9	597.10		1.00	CARBON	8/28/2021 1:40 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 135	522	52	0.9808	1.0000



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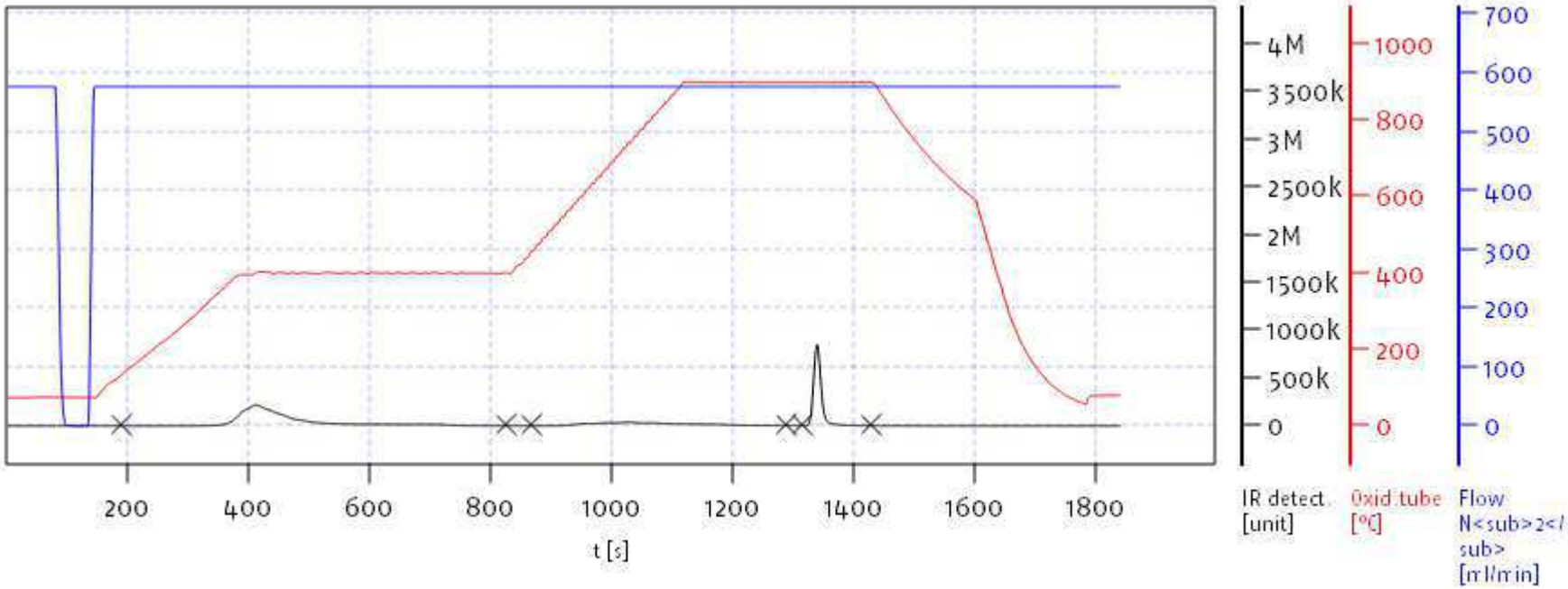
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
114	63	21H0184-11	319.30		1.00	CARBON	8/28/2021 2:11 AM	0.657	0.131	0.788	bl	812 426	258 742	468 624	0.9808	1.0000



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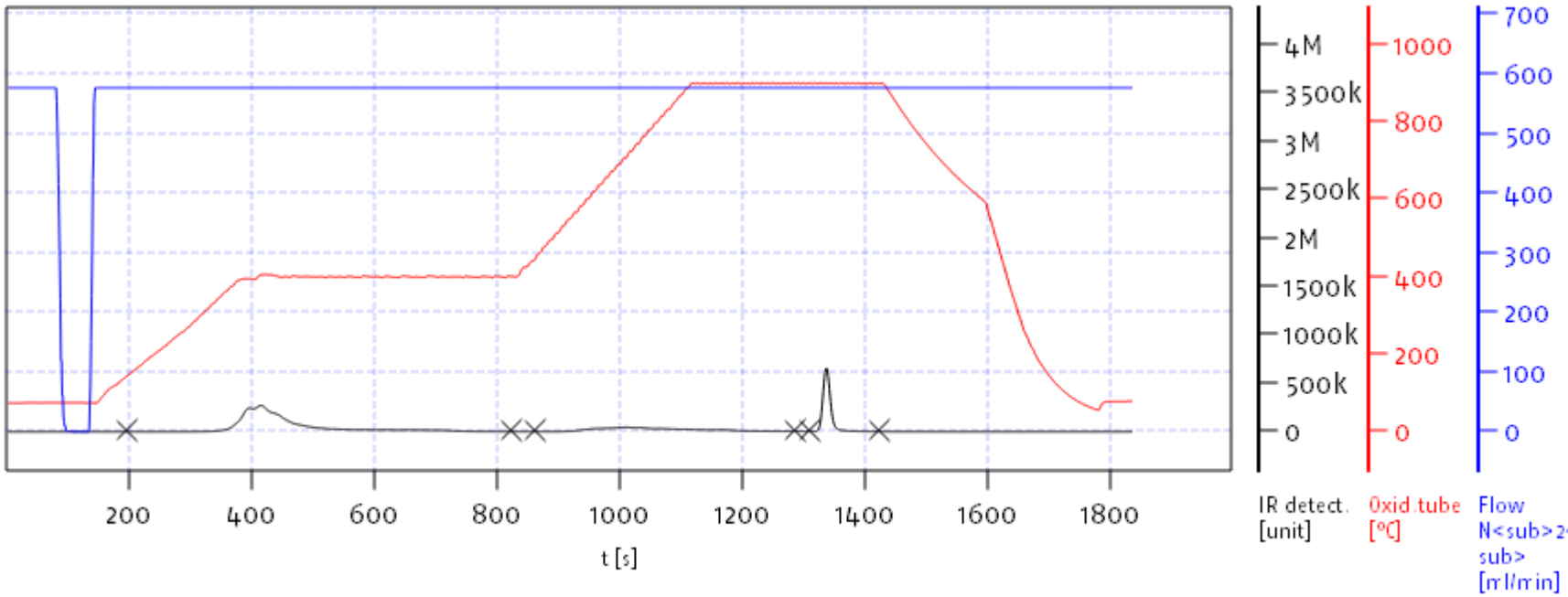
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
115	64	BJH0513-DUP3	383.80		1.00	CARBON	8/28/2021 2:42 AM	0.561	0.127	0.688	bl	960 731	300 644	356 407	0.9808	1.0000



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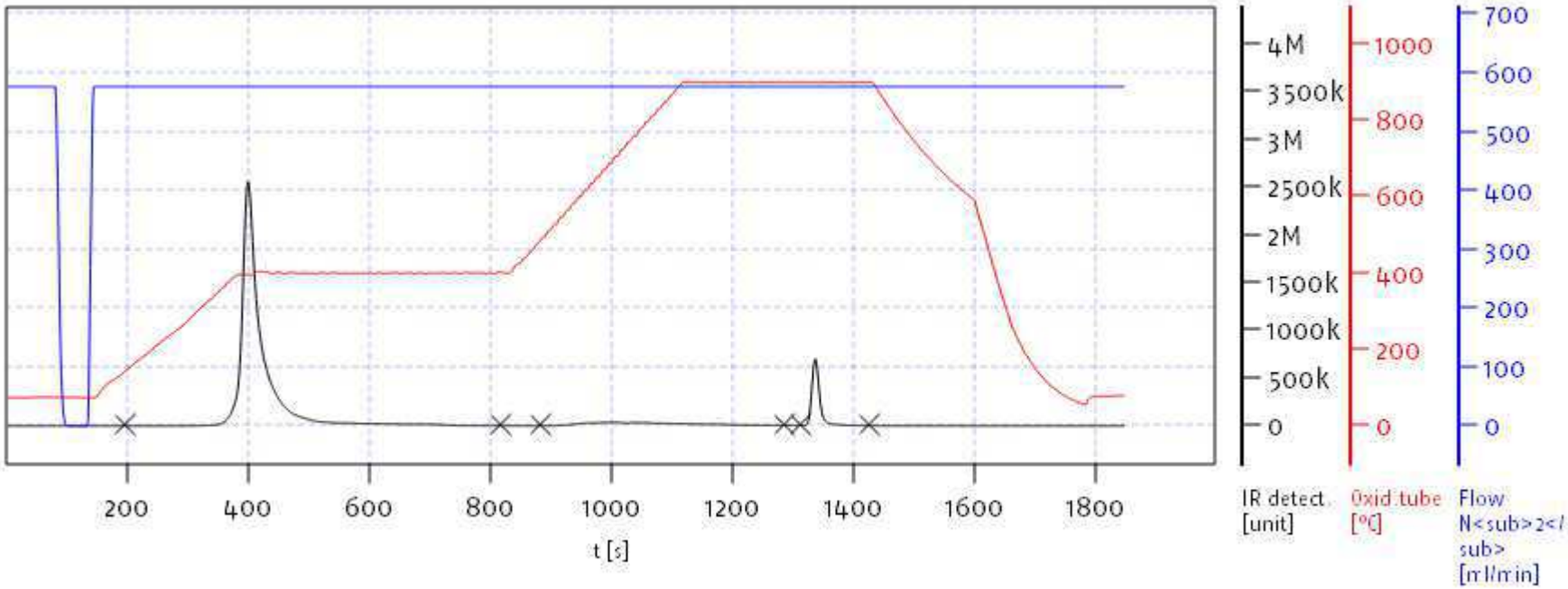
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
116	65	BJH0513-MS3	313.40	0.0104	1.00	CARBON	8/28/2021 3:13 AM	2.034	0.150	2.185	bl	3 467 590	290 894	396 867	0.9808	1.0000



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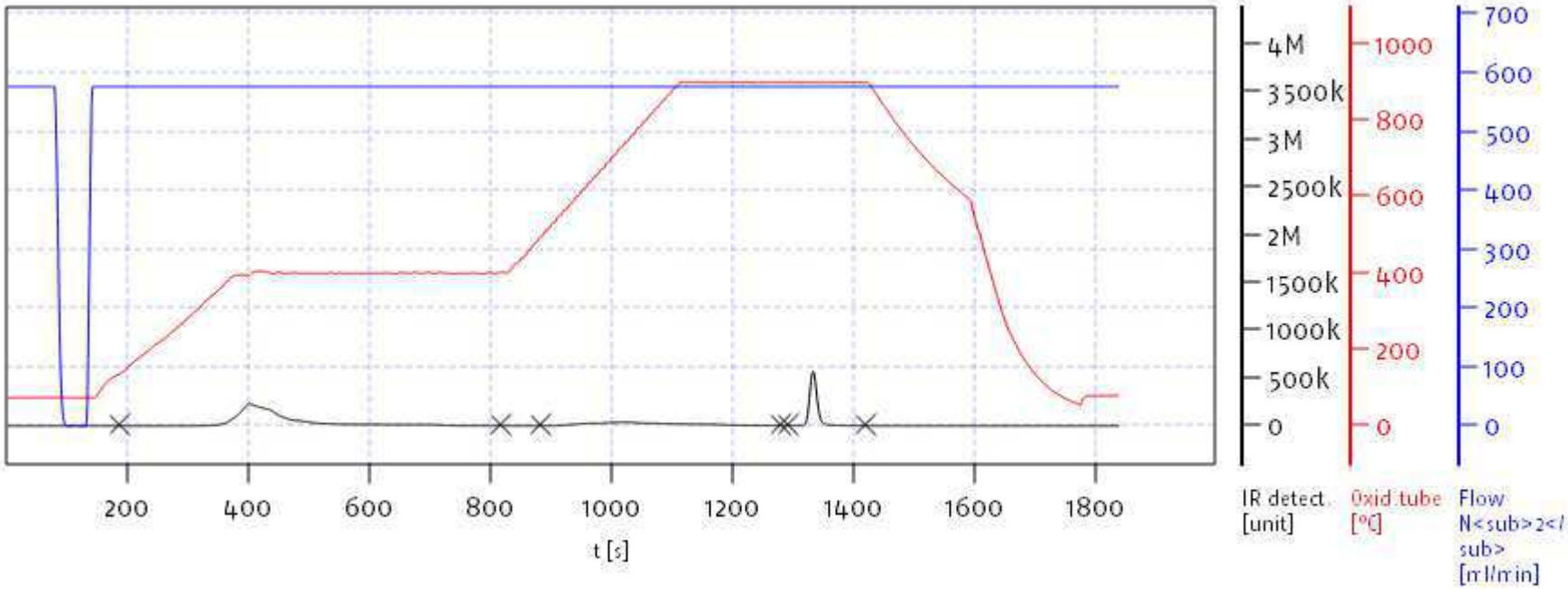
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
117	66	21H0184-12	306.00		1.00	CARBON	8/28/2021 3:45 AM	0.585	0.135	0.720	bl	786 153	255 459	312 050	0.9808	1.0000



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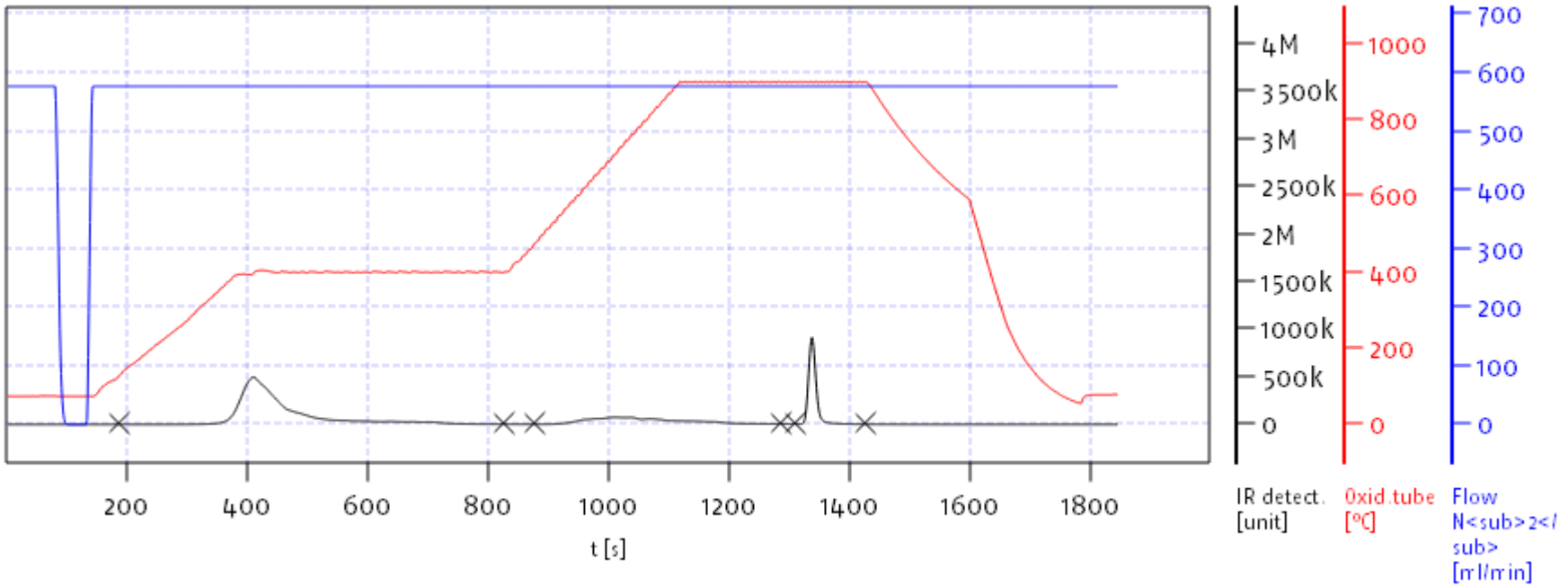
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
118	67	21H0184-13	597.90		1.00	CARBON	8/28/2021 4:16 AM	0.589	0.140	0.729	bl	1 637 950	506 802	502 418	0.9808	1.0000



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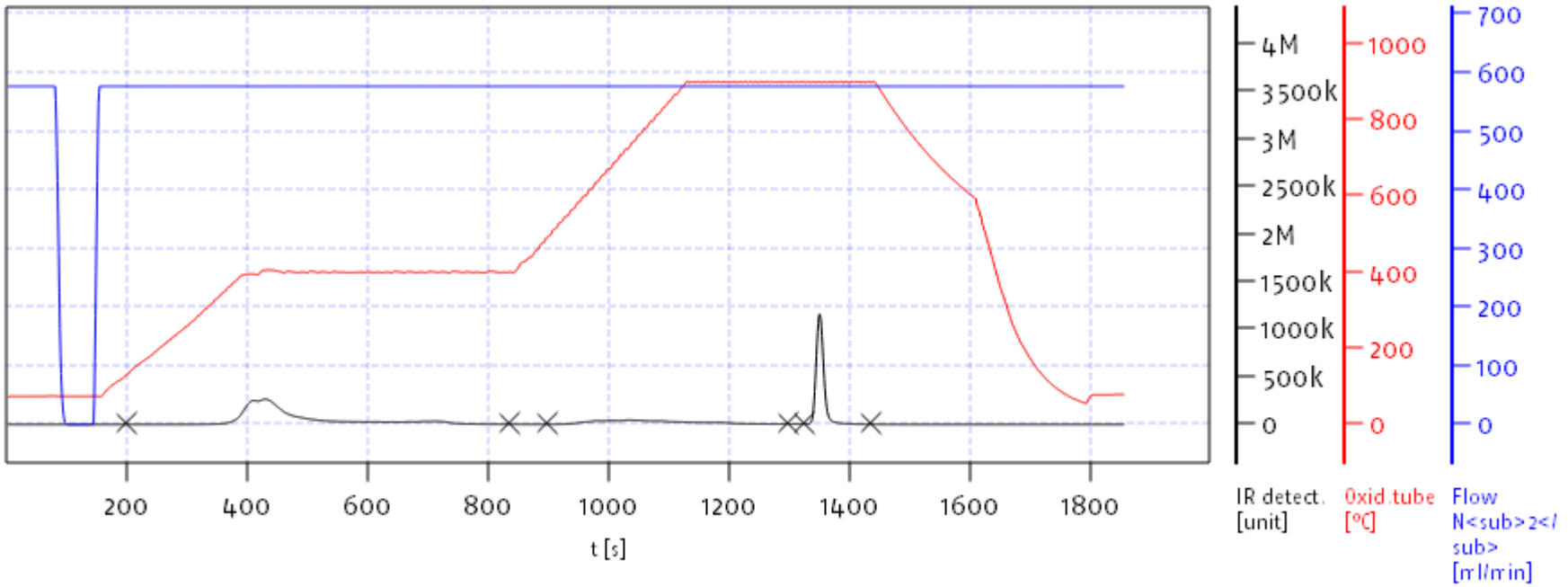
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
119	68	21H0184-14	283.00		1.00	CARBON	8/28/2021 4:47 AM	0.977	0.184	1.160	bl	1 042 850	319 175	637 140	0.9808	1.0000



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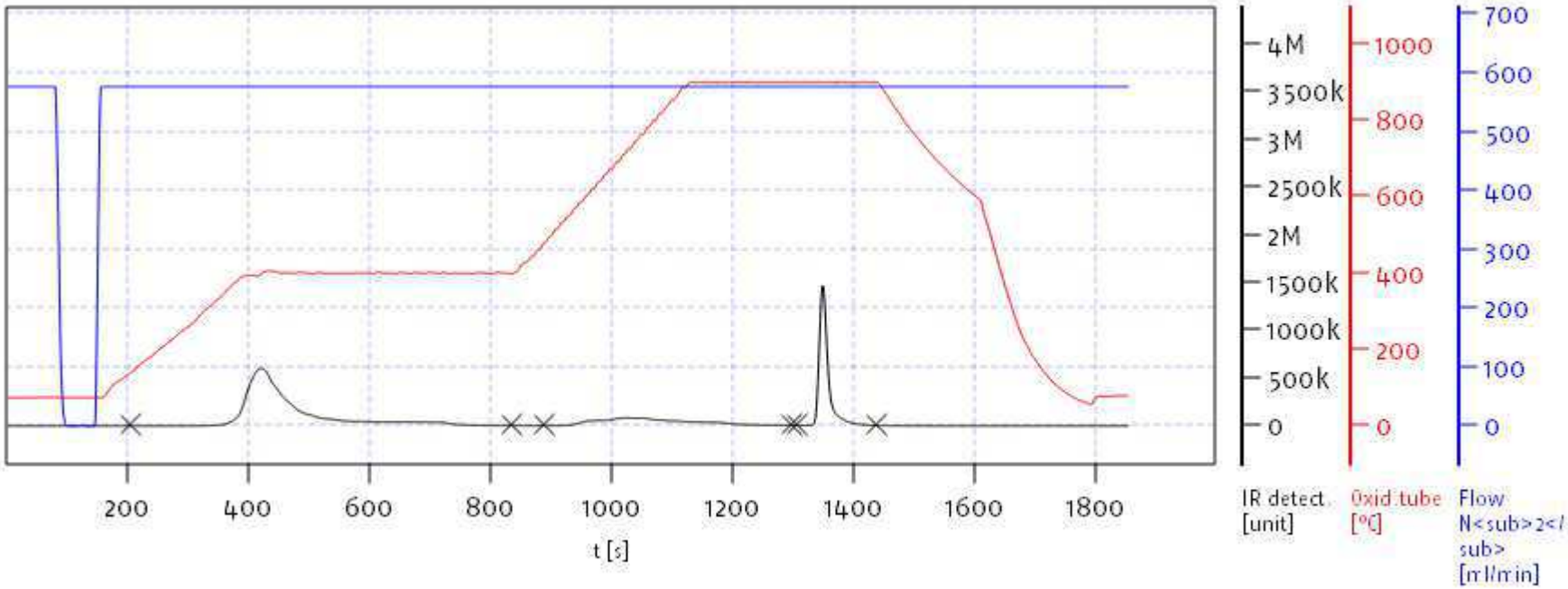
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
120	69	21H0184-15	519.90		1.00	CARBON	8/28/2021 5:18 AM	0.944	0.182	1.126	bl	2 016 720	573 102	951 018	0.9808	1.0000



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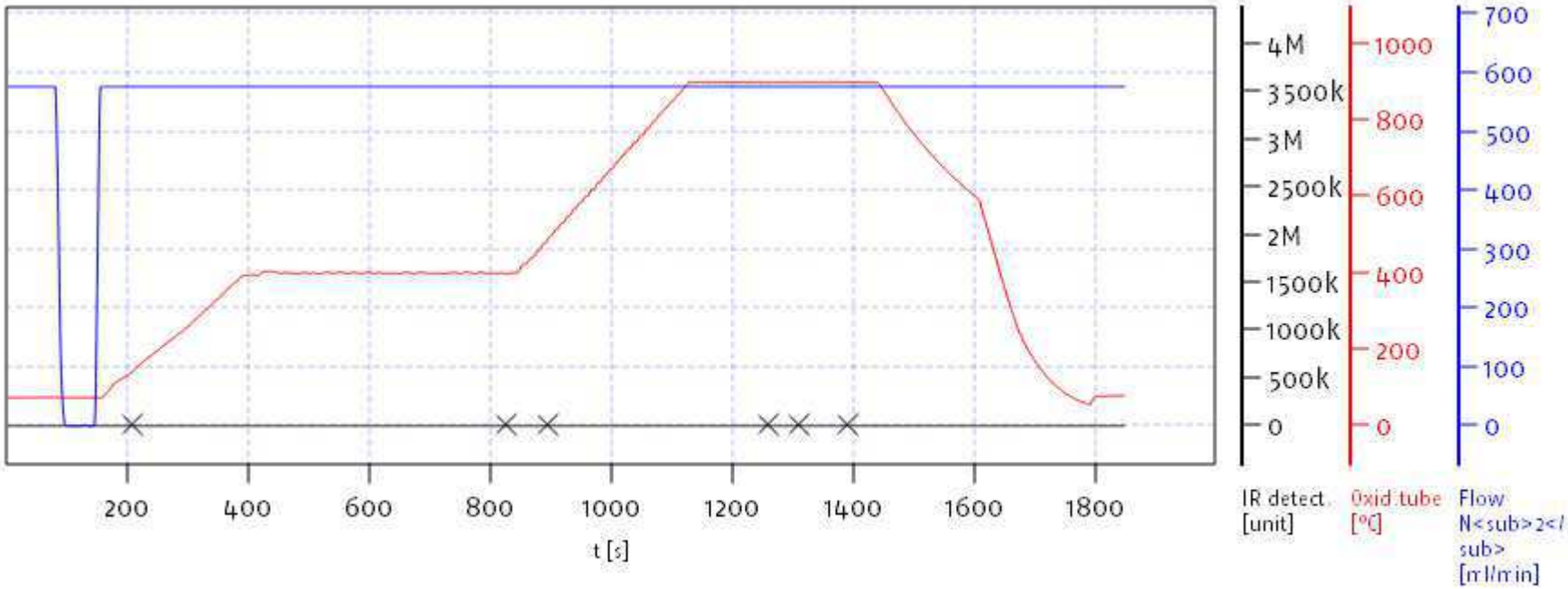
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
121	70	BLANK	1.00		1.00	CARBON	8/28/2021 5:50 AM	0.000	0.000	0.000	bl	1 460	264	159	0.9808	1.0000



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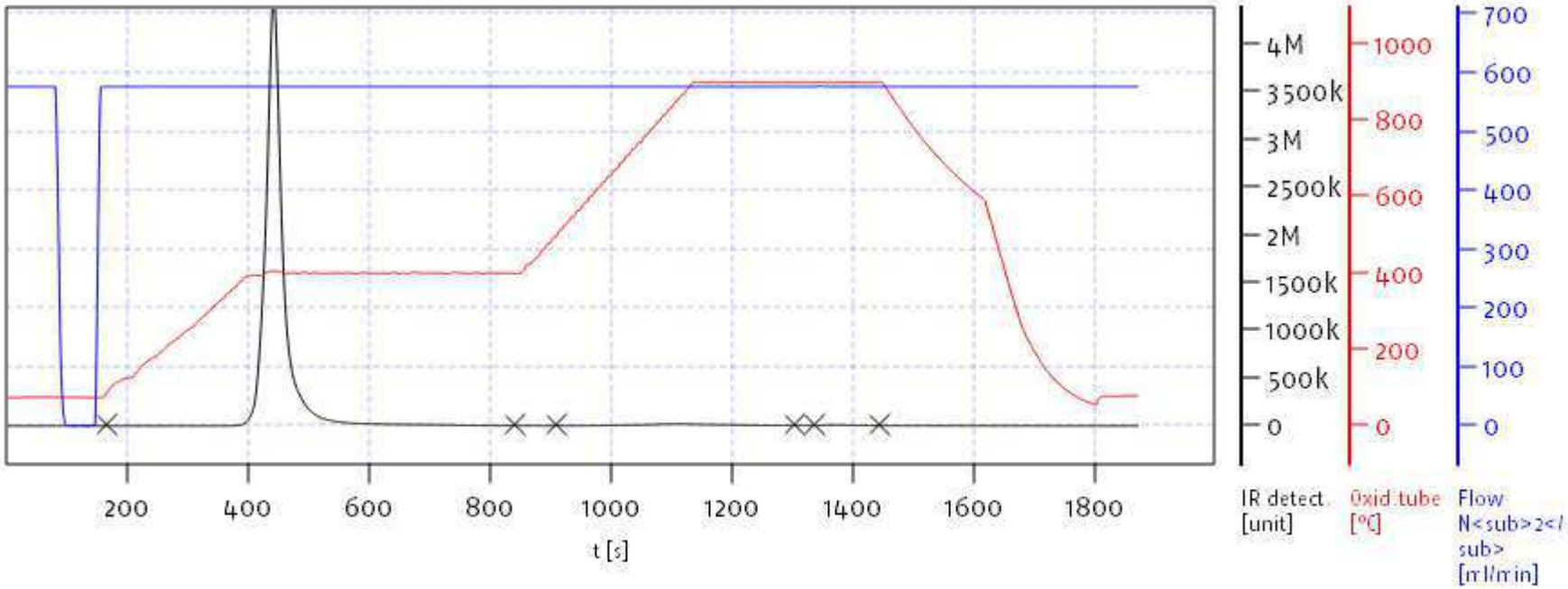
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
122	71	Dfactor	20.90		1.00	CARBON	8/28/2021 6:21 AM	44.549	0.999	45.547	bl	5 558 350	135 245	24 453	0.9916	1.0000



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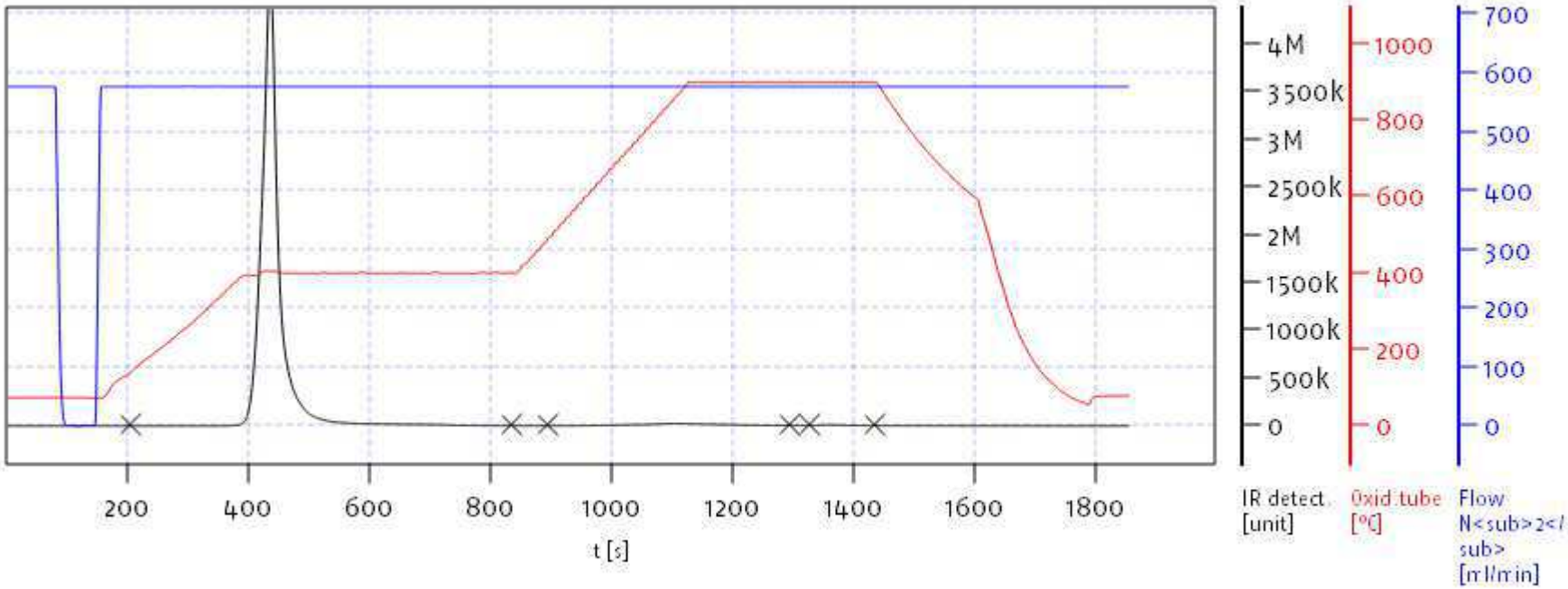
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
123	72	Dfactor	21.40		1.00	CARBON	8/28/2021 6:53 AM	44.550	1.165	45.715	bl	5 694 210	159 244	24 952	0.9911	1.0000



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Date: Tue Aug 31 14:32:59 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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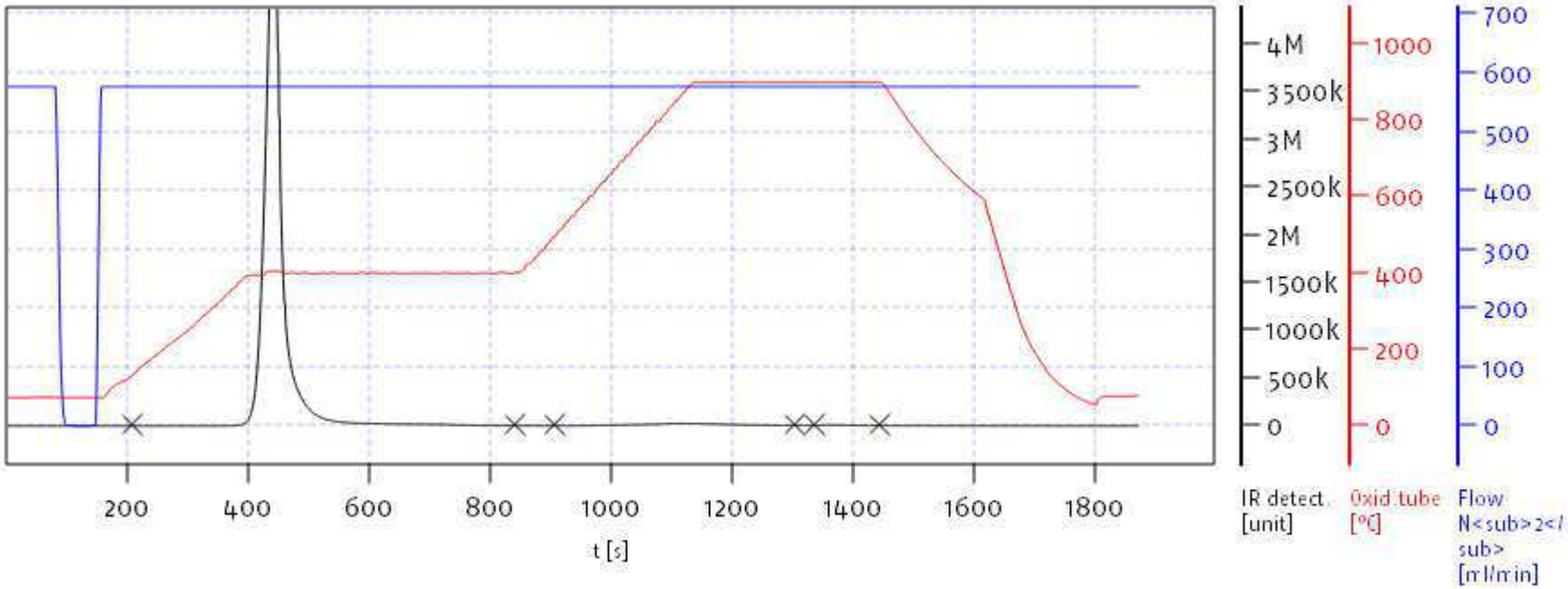
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
124	73	SJH0331-CCVA	24.30		1.00	CARBON	8/28/2021 7:24 AM	45.175	1.141	46.317	bl	6 557 250	175 865	22 725	0.9913	1.0000



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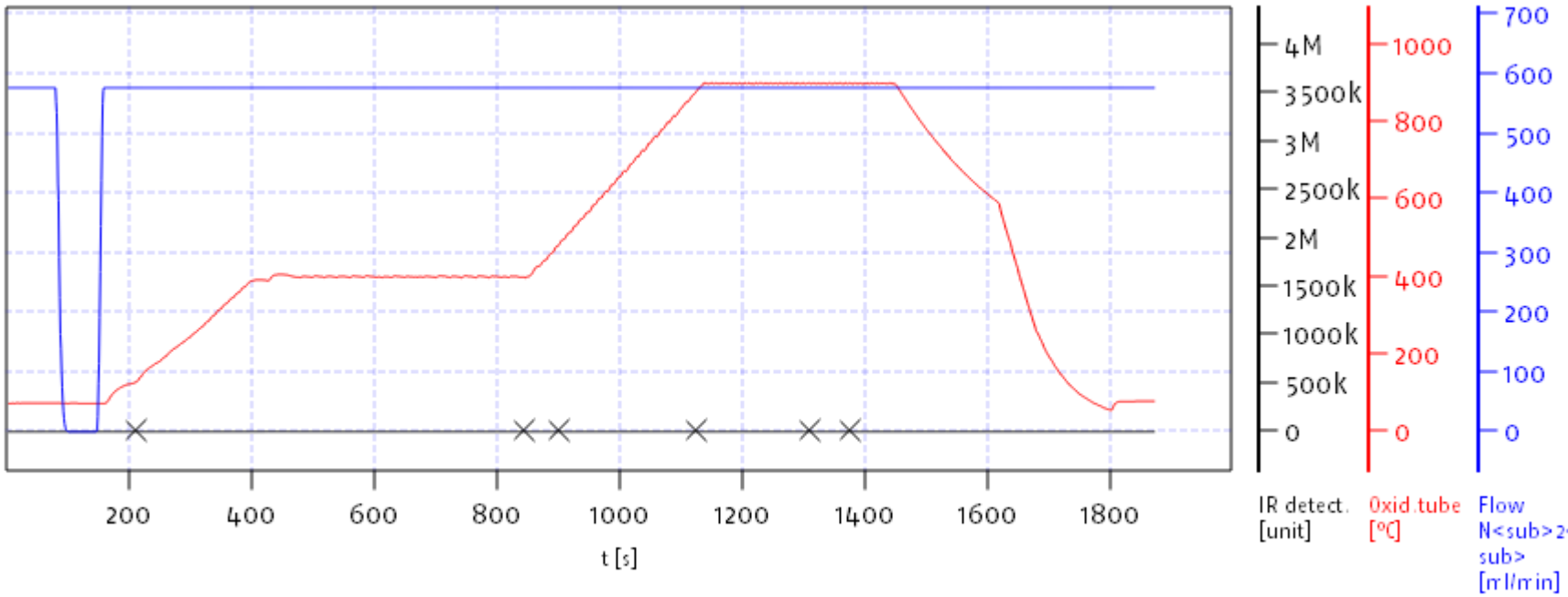
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
125	74	SJH0331-CCBA	622.30		1.00	CARBON	8/28/2021 7:56 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 179	58	345	0.9913	1.0000



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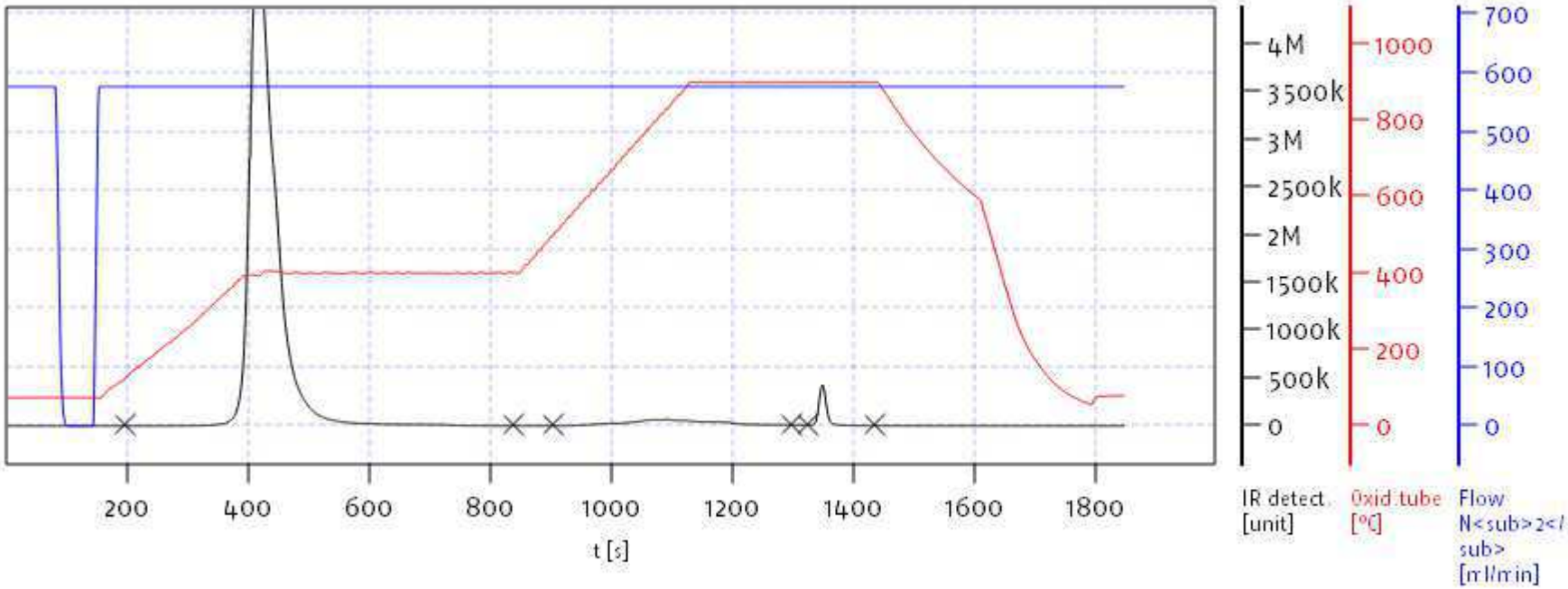
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
126	75	21H0184-16	565.70		1.00	CARBON	8/28/2021 8:27 AM	2.809	0.127	2.936	bl,Cl o	9 272 570	438 152	238 331	0.9913	1.0000



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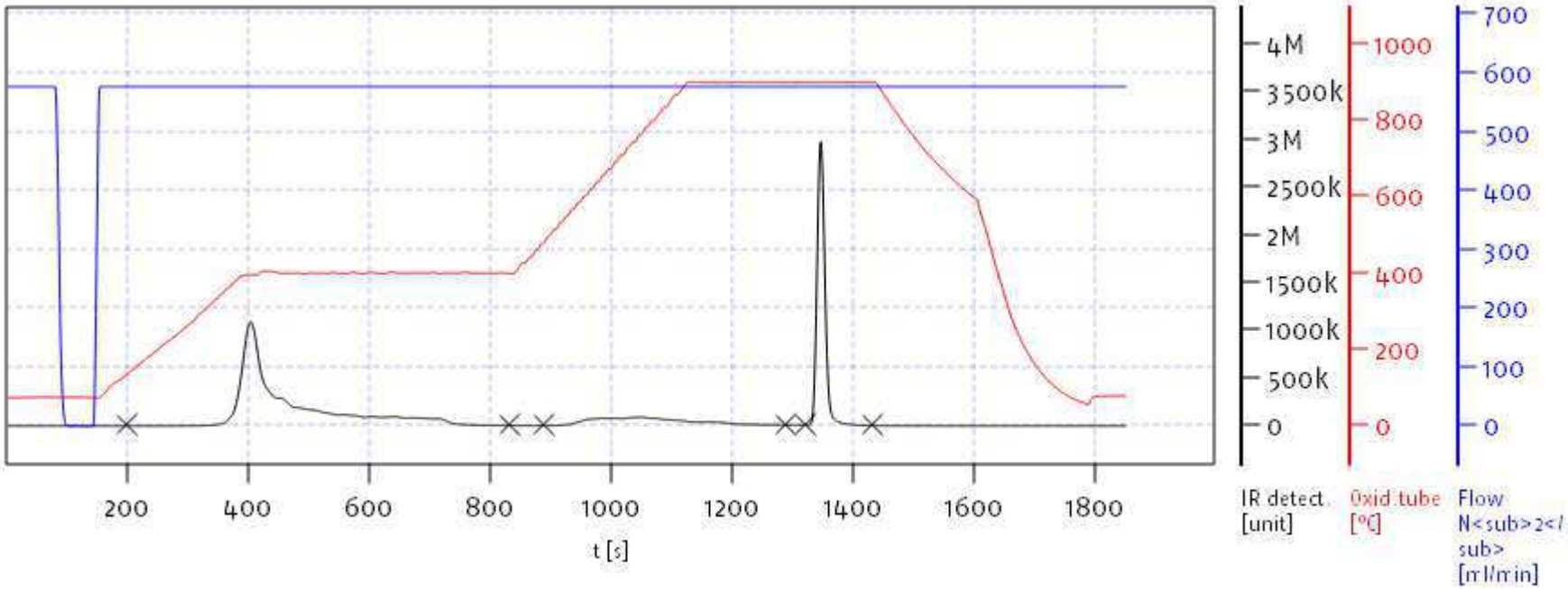
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
127	76	21H0184-17	328.10		1.00	CARBON	8/28/2021 8:59 AM	2.389	0.337	2.725	bl	2 990 010	665 689	1 699 900	0.9913	1.0000



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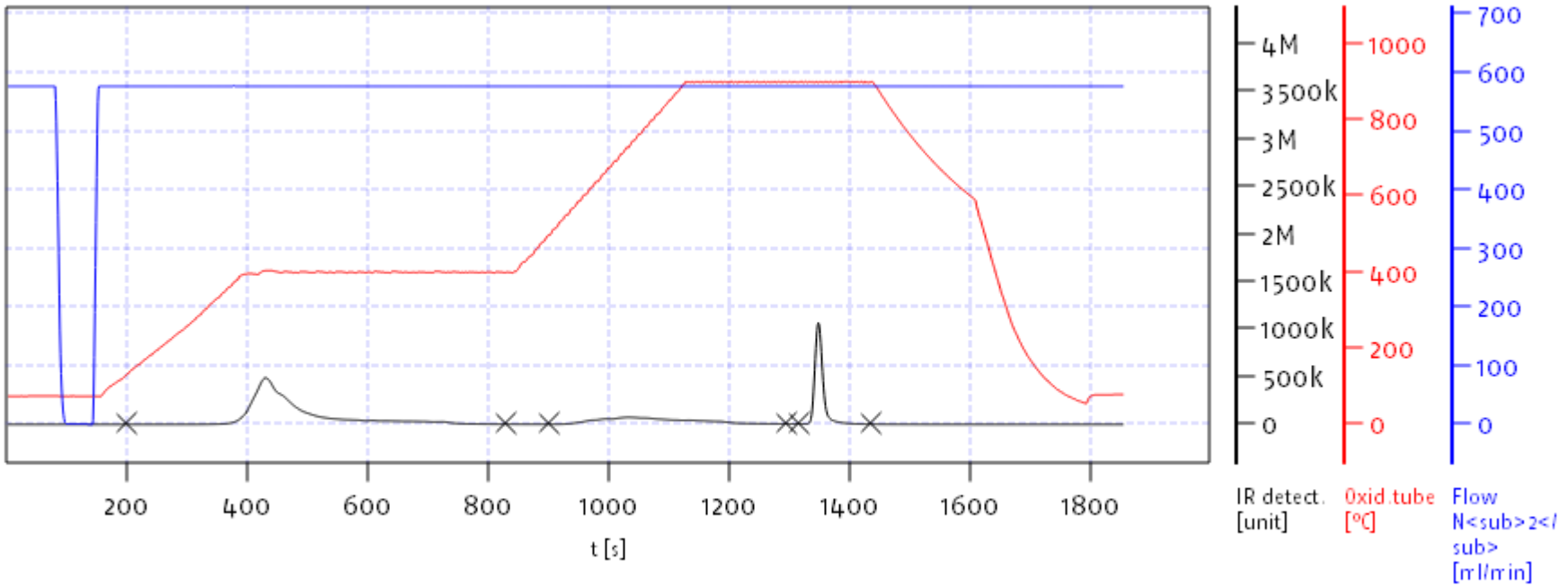
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
128	77	21H0184-18	627.00		1.00	CARBON	8/28/2021 9:30 AM	0.588	0.134	0.722	bl	1 591 990	510 199	627 006	0.9913	1.0000



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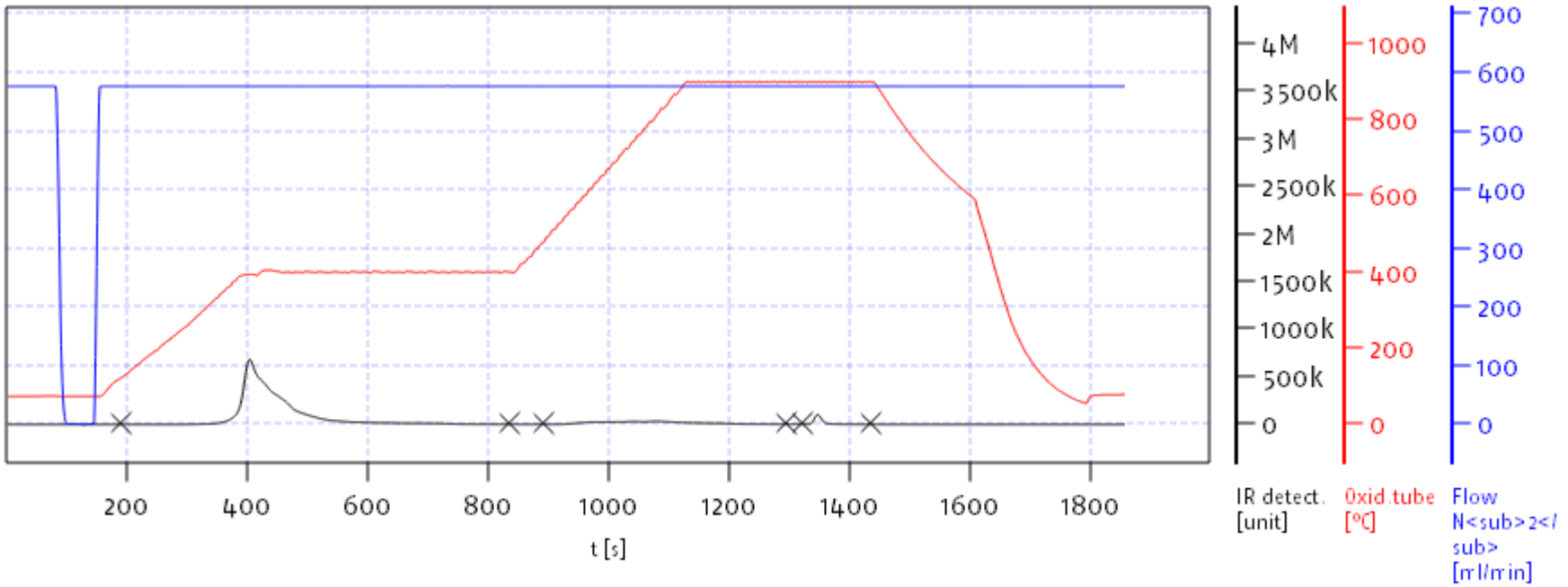
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
129	78	21H0219-01	527.60		1.00	CARBON	8/28/2021 10:02 AM	0.565	0.071	0.636	bl	1 743 570	232 620	60 843	0.9913	1.0000



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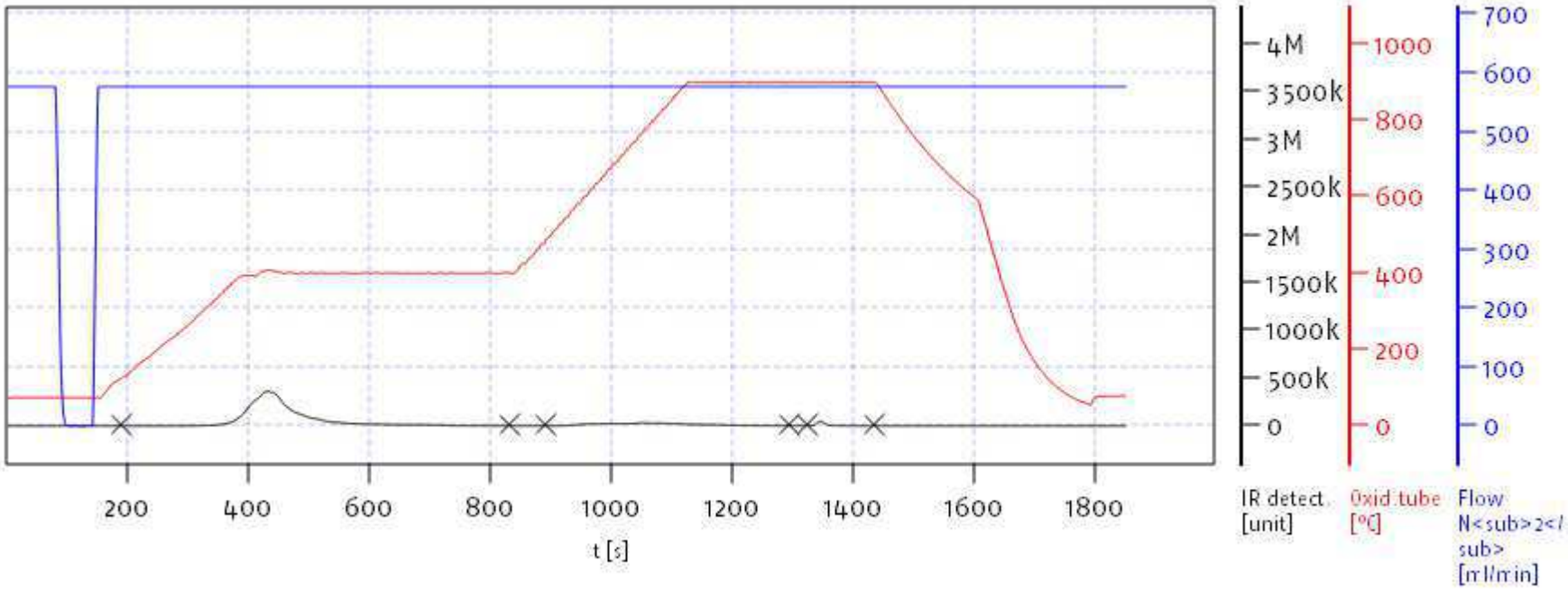
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
130	79	BJH0513-DUP2	532.50		1.00	CARBON	8/28/2021 10:33 AM	0.393	0.062	0.455	bl	1 241 740	208 054	30 430	0.9913	1.0000



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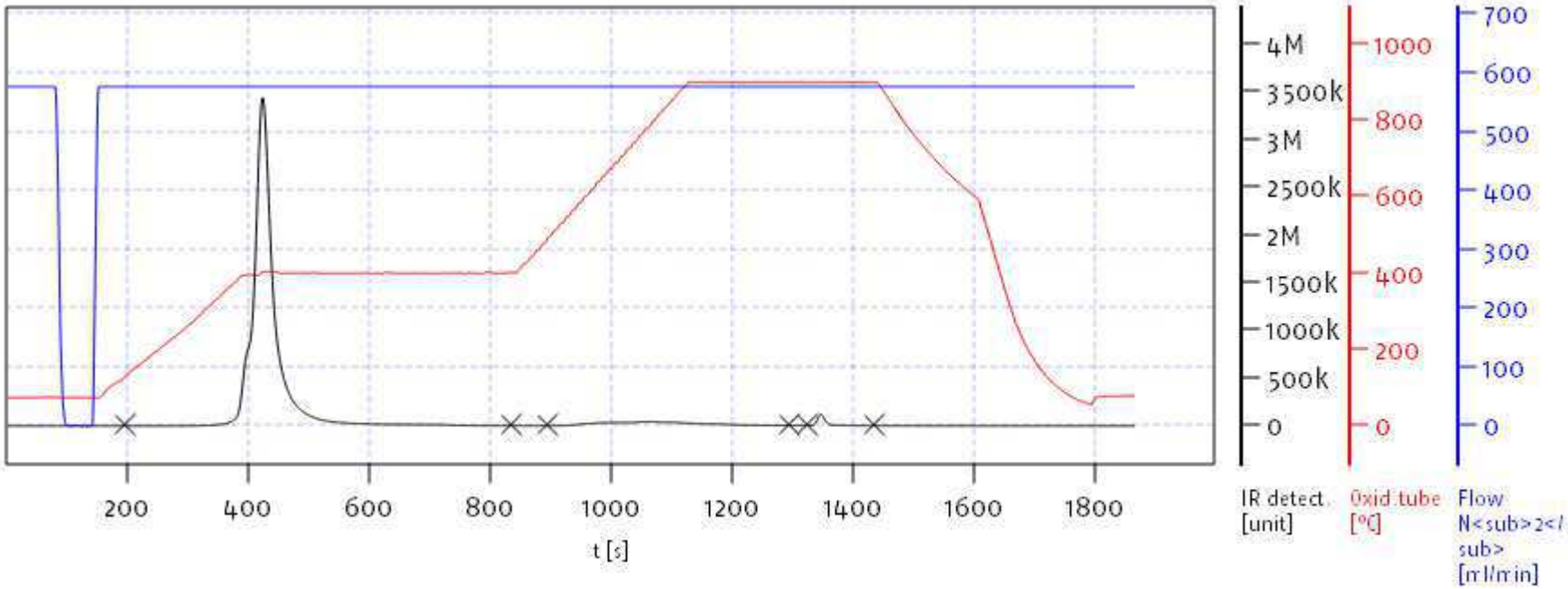
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
131	80	BJH0513-MS2	566.50	0.0108	1.00	CARBON	8/28/2021 11:04 AM	1.473	0.091	1.564	bl	4 929 470	318 082	77 016	0.9913	1.0000



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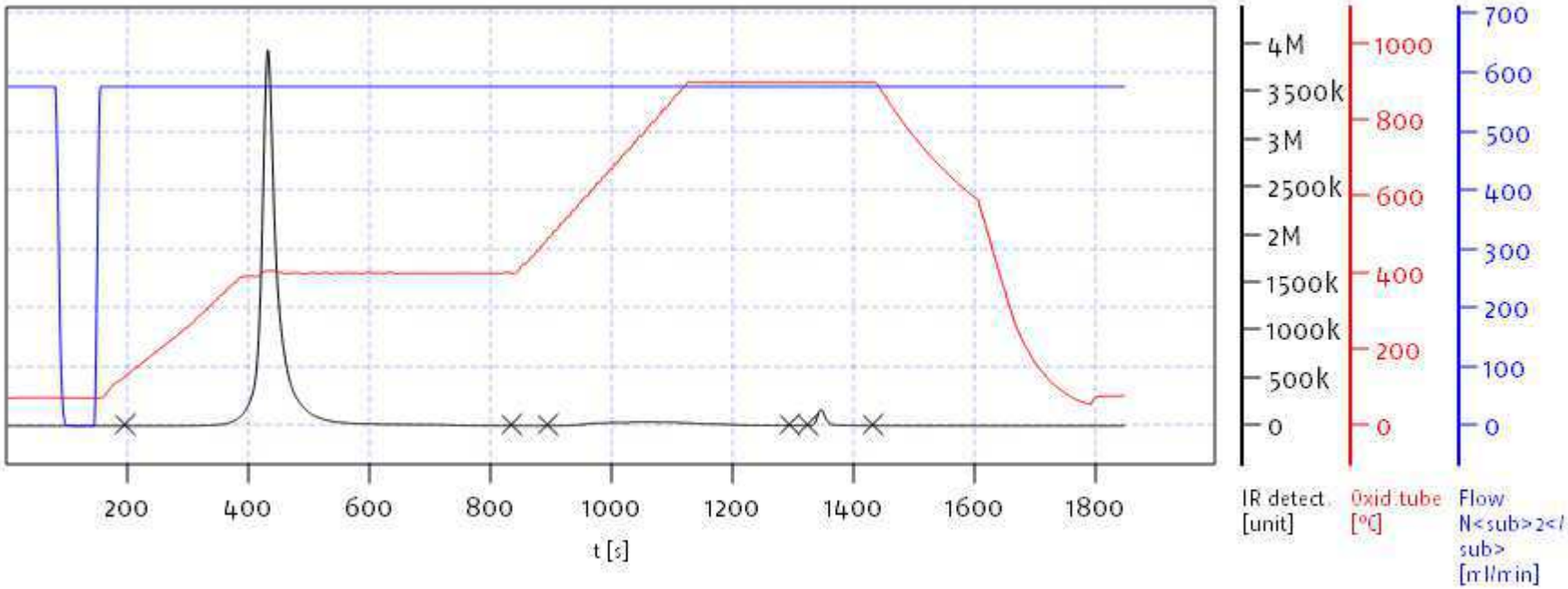
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
132	81	BJH0513-MSD2	598.70	0.0113	1.00	CARBON	8/28/2021 11:36 AM	1.347	0.084	1.431	bl	4 728 330	308 742	109 916	0.9913	1.0000



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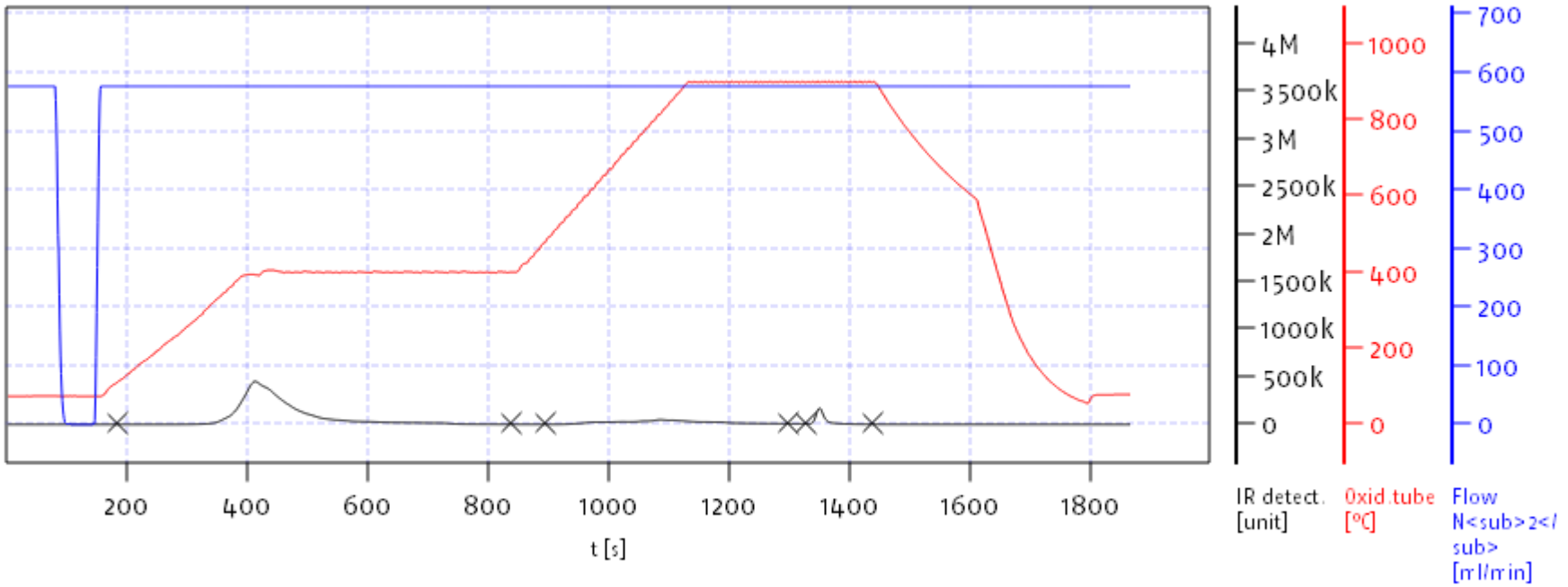
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
133	82	21H0223-01	105.40		1.00	CARBON	8/28/2021 12:07 PM	2.778	0.500	3.278	bl	1 657 300	323 449	113 953	0.9913	1.0000



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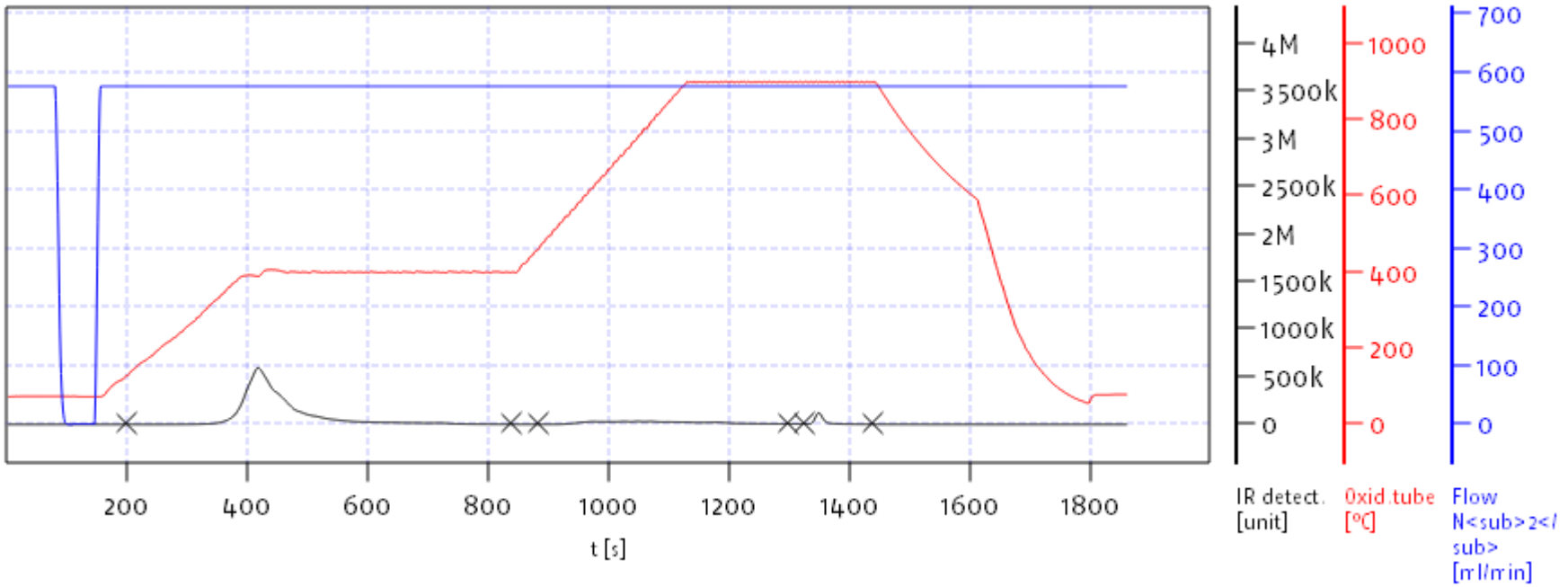
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
134	83	21H0223-02	114.70		1.00	CARBON	8/28/2021 12:39 PM	2.679	0.397	3.077	bl	1 777 140	281 623	81 103	0.9913	1.0000



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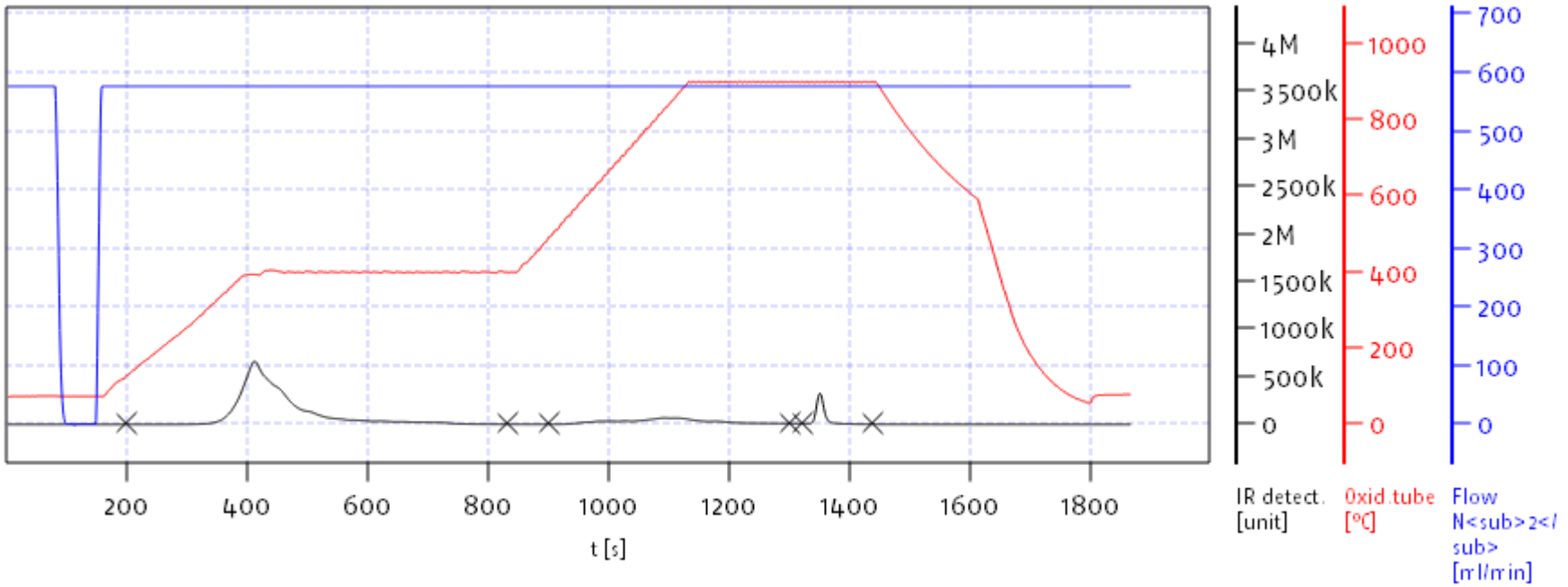
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
135	84	21H0223-03	121.20		1.00	CARBON	8/28/2021 1:10 PM	3.307	0.600	3.908	bl	2 220 990	442 362	195 018	0.9913	1.0000



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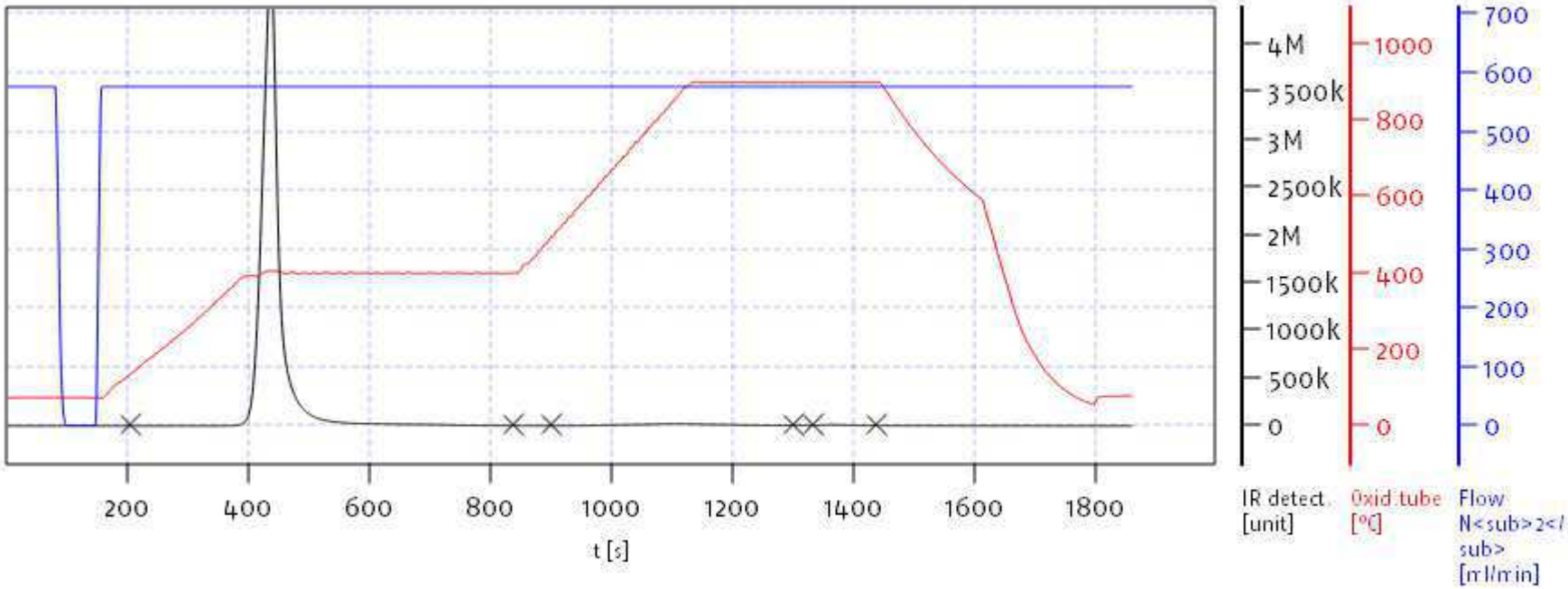
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
136	85	SJH0331-CCVB	21.80		1.00	CARBON	8/28/2021 1:42 PM	44.633	1.082	45.716	bl	5 809 870	151 374	24 927	0.9913	1.0000



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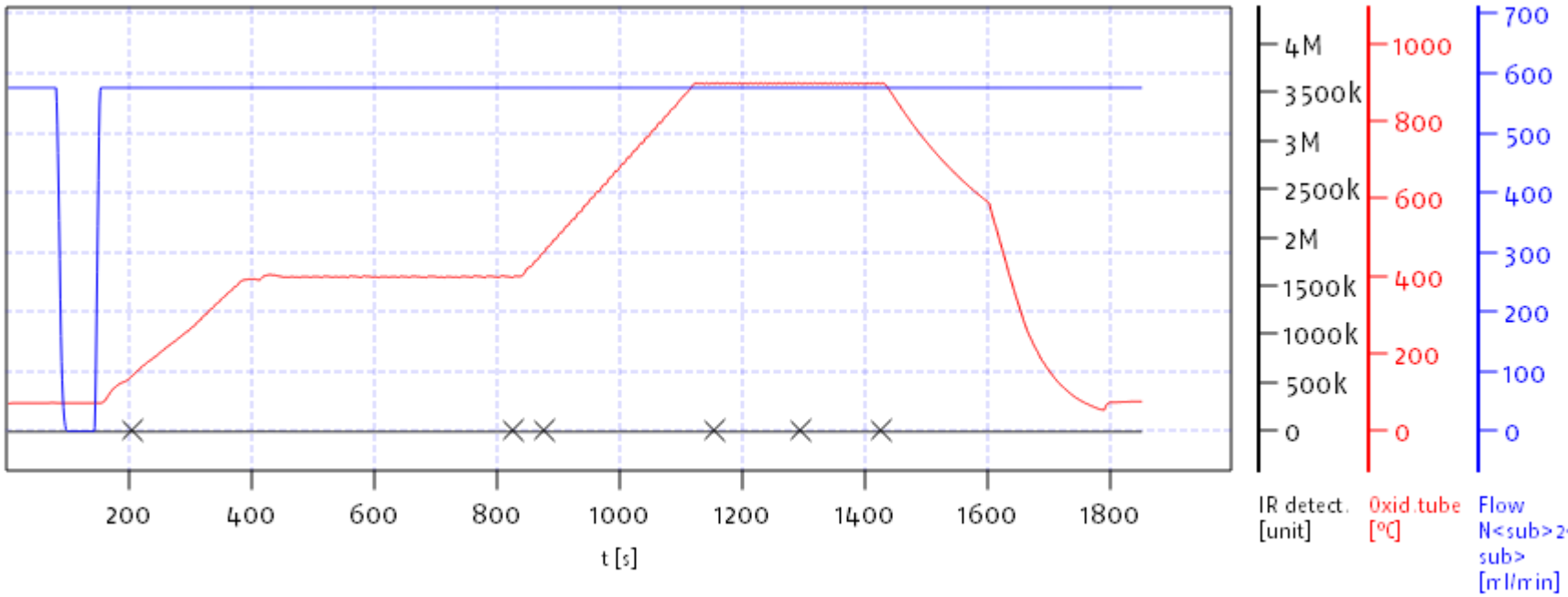
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
137	86	SJH0331-CCBB	553.80		1.00	CARBON	8/28/2021 2:13 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	3 219	275	254	0.9913	1.0000



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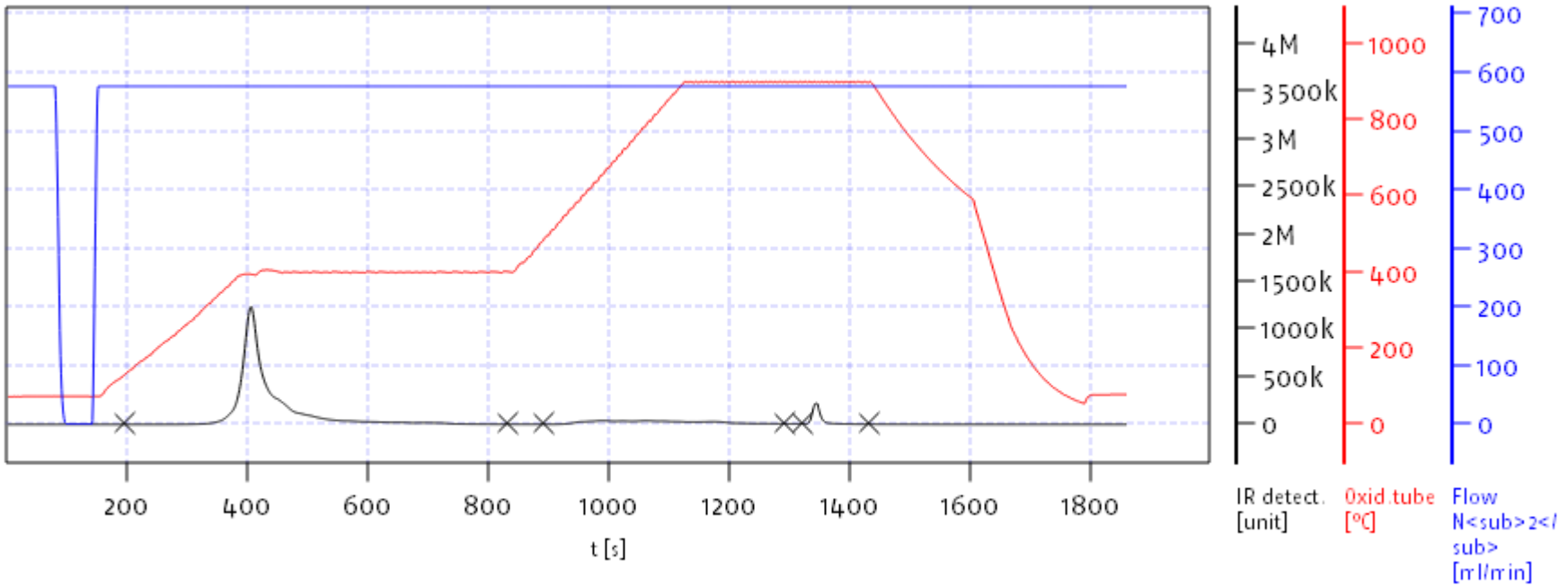
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
138	87	21H0223-04	138.40		1.00	CARBON	8/28/2021 2:45 PM	2.972	0.409	3.381	bl	2 338 910	346 798	139 874	0.9913	1.0000



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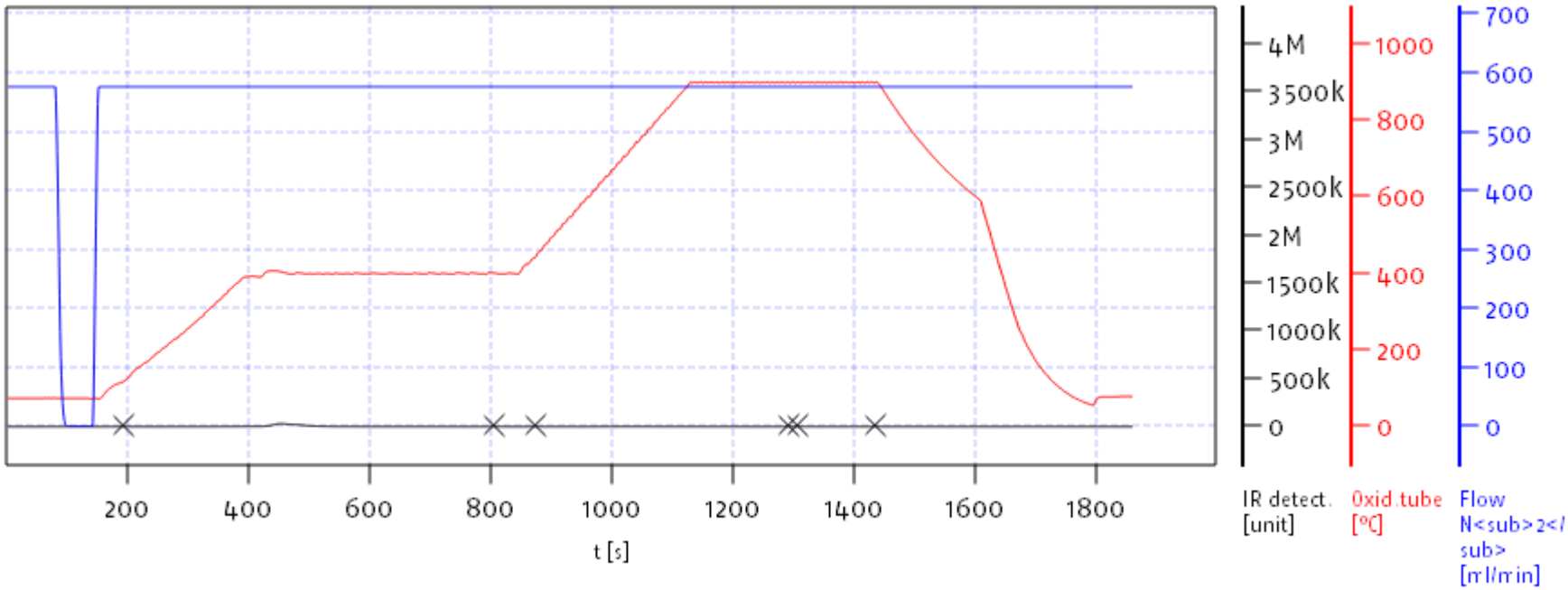
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
139	88	BJH0434-MRL1	556.70		1.00	CARBON	8/28/2021 3:16 PM	0.017	0.000	0.017	bl,C3u,C2u	68 246	7 250	503	0.9913	1.0000



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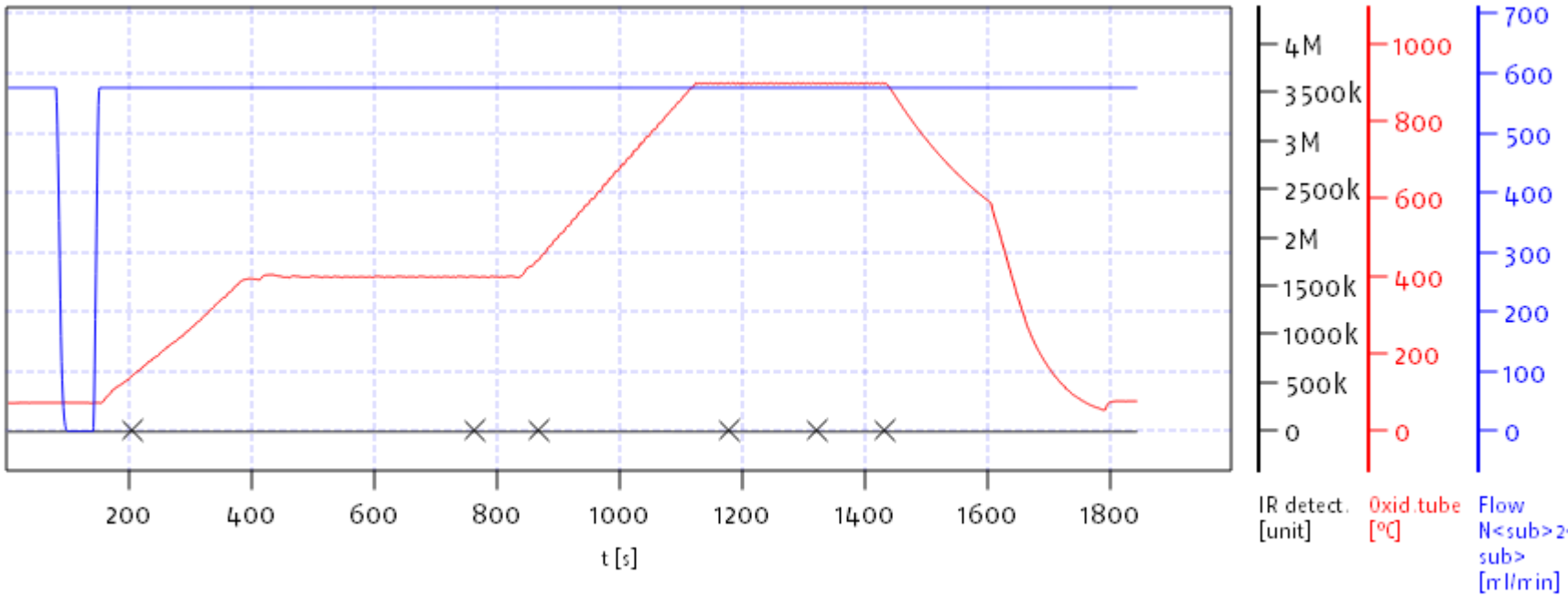
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
140	89	BJH0434-BLK1	518.90		1.00	CARBON	8/28/2021 3:47 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	1 696	2 157	367	0.9913	1.0000



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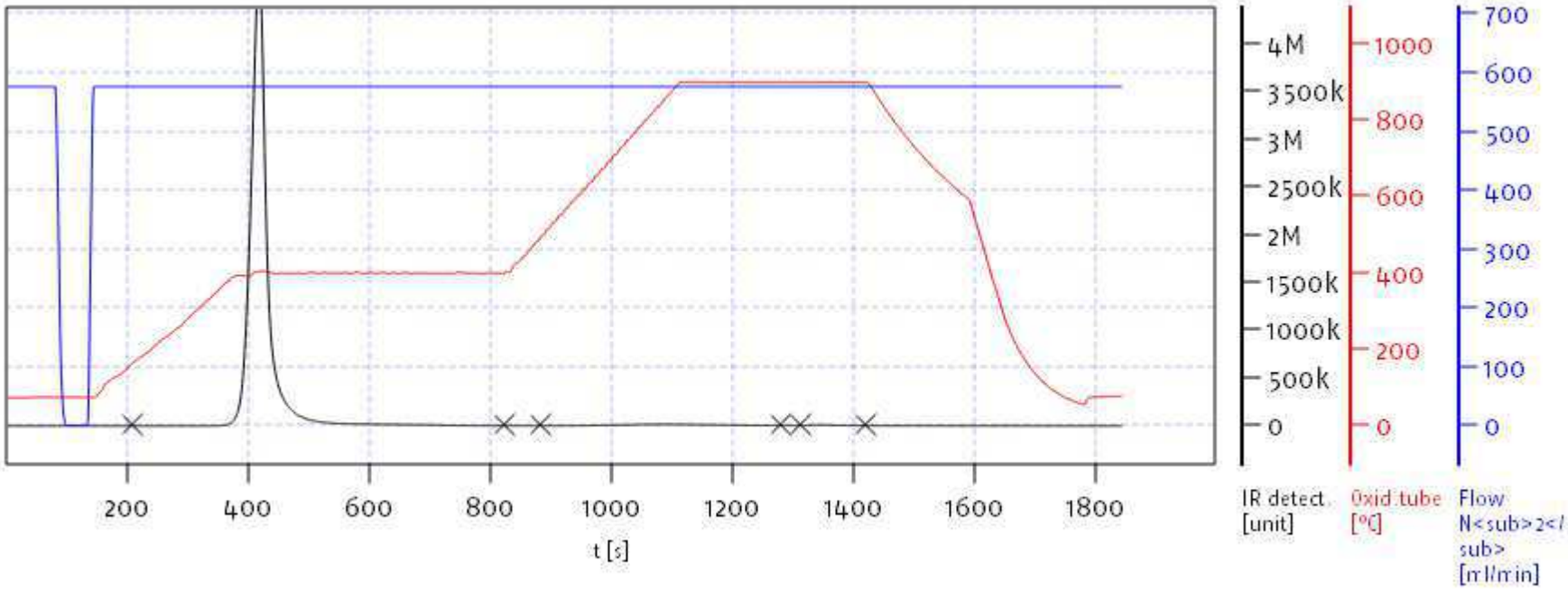
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
141	1	BJH0434-BS1	20.20		1.00	CARBON	8/28/2021 4:19 PM	46.270	0.931	47.201	bl	5 582 080	123 050	23 665	0.9913	1.0000



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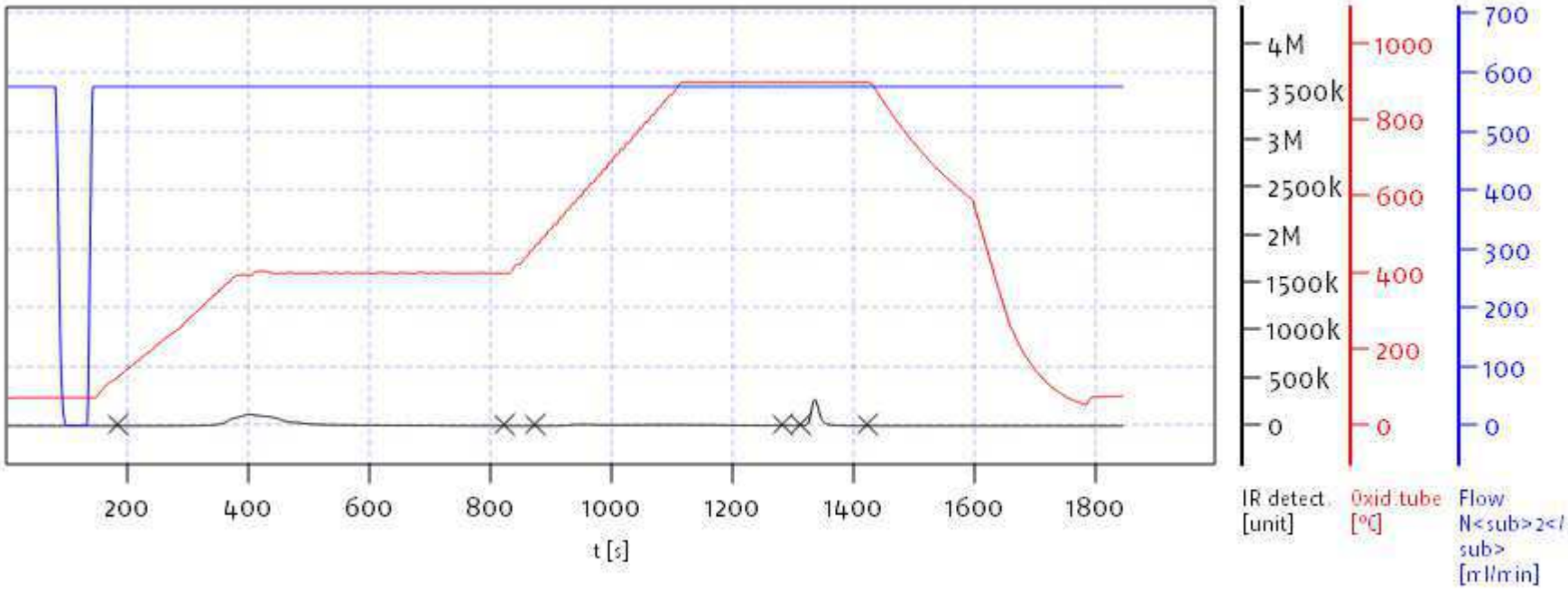
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
142	2	BJH0434-SRM1	40.00		1.00	CARBON	8/28/2021 4:50 PM	2.600	0.445	3.046	bl	473 382	117 120	169 870	0.9913	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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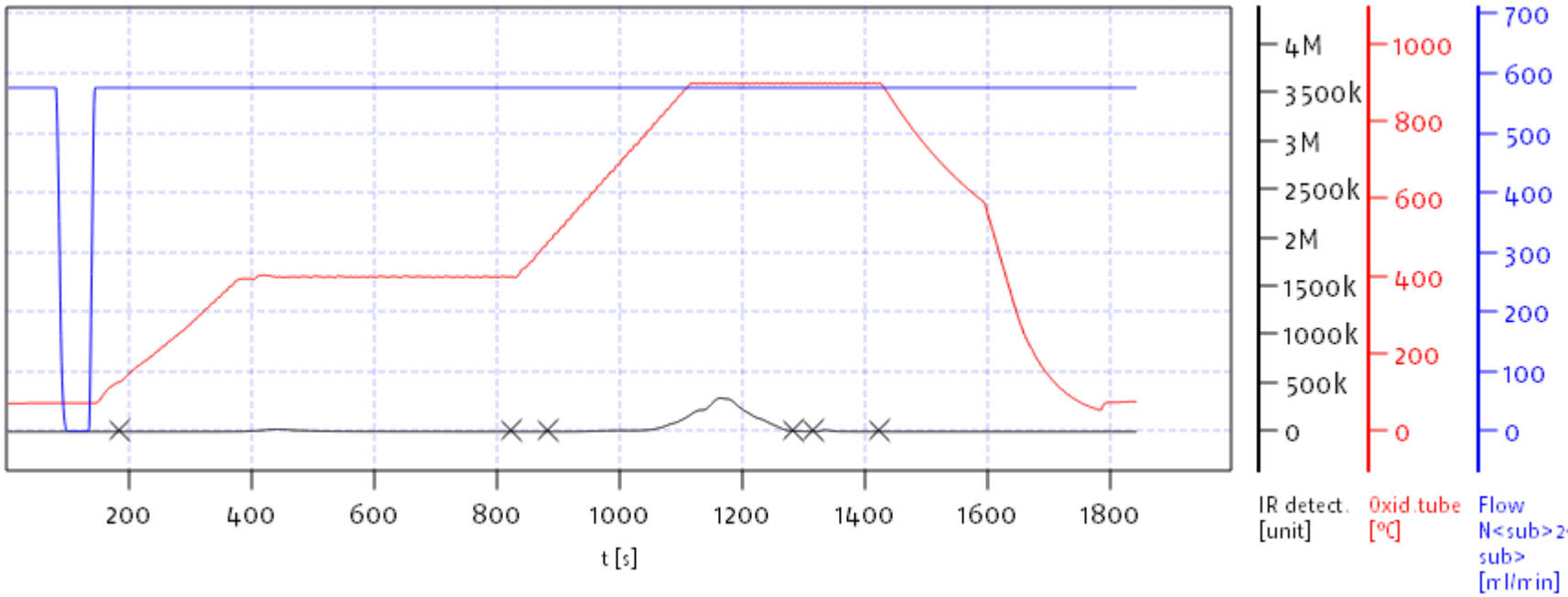
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
143	3	21G0313-15	362.60		1.00	CARBON	8/28/2021 5:21 PM	0.036	0.662	0.698	bl	87 395	1 432 640	14 807	0.9913	1.0000



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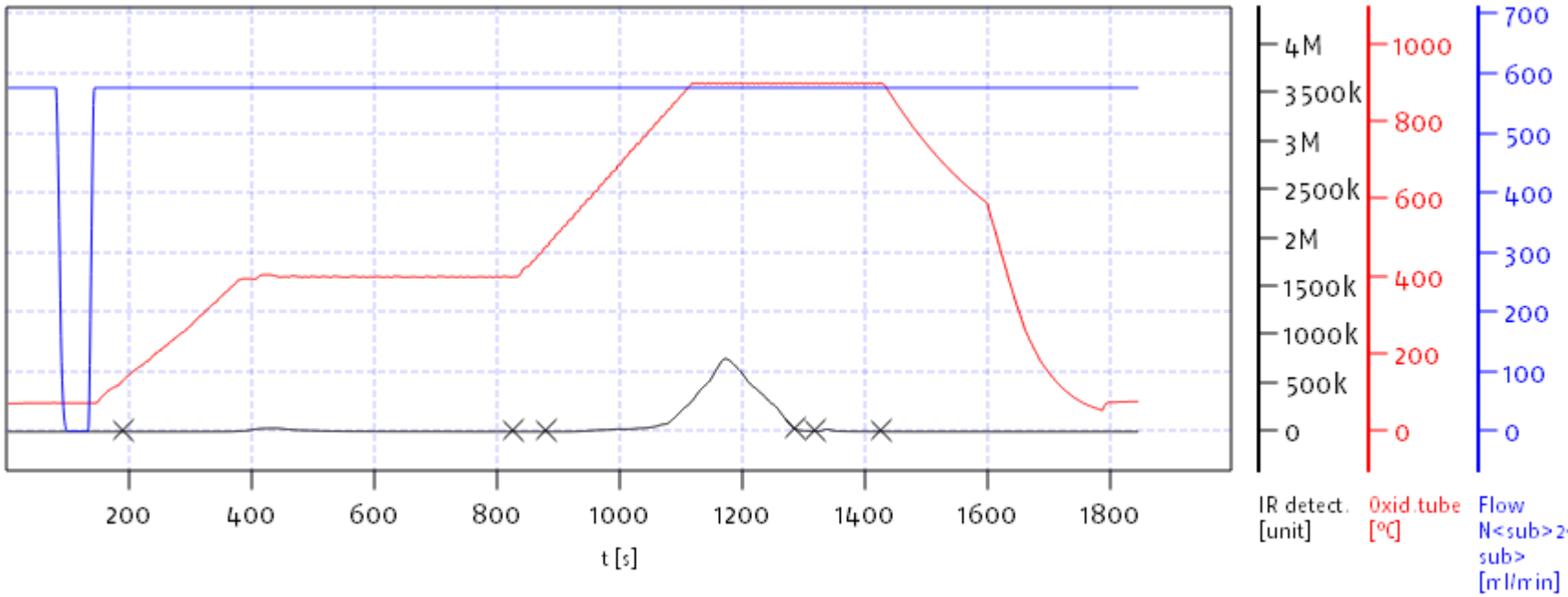
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
144	4	BJH0434-DUP2	376.10		1.00	CARBON	8/28/2021 5:52 PM	0.059	1.468	1.527	bl	133 193	3 280 160	22 916	0.9913	1.0000



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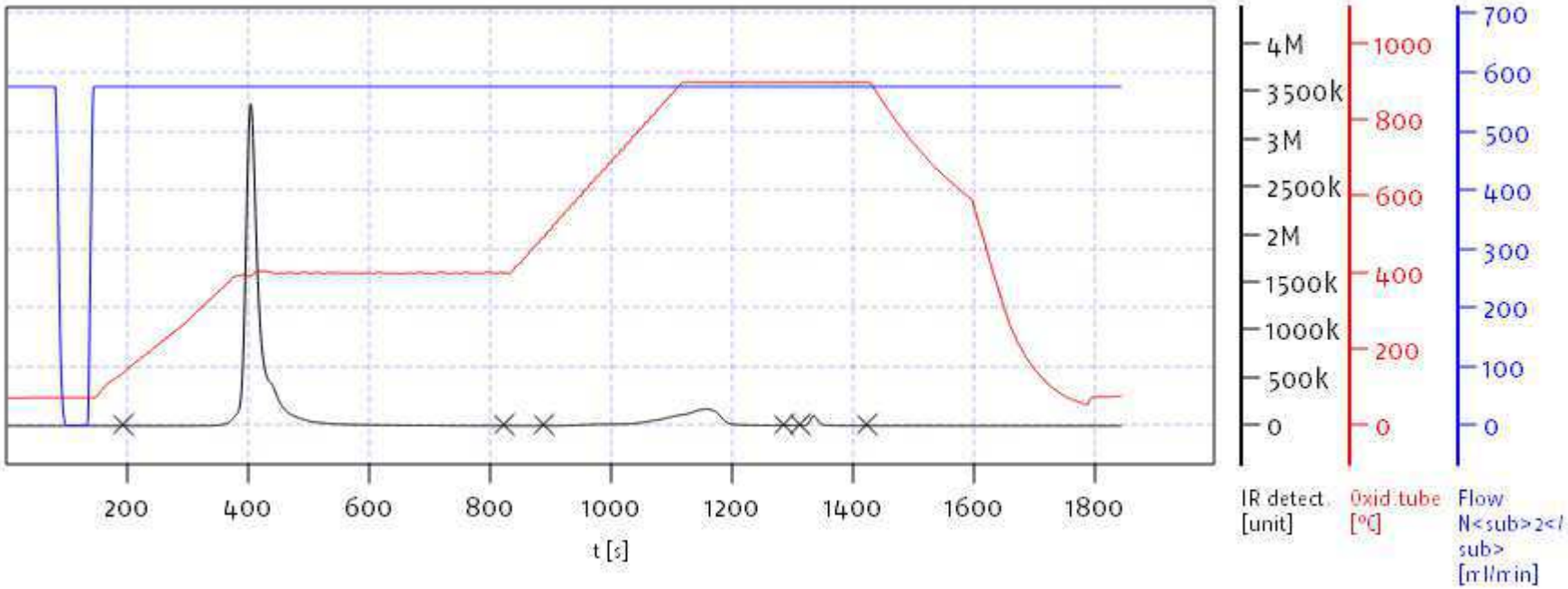
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
145	5	BJH0434-MS2	313.00	0.0113	1.00	CARBON	8/28/2021 6:23 PM	1.881	0.357	2.239	bl	3 473 330	674 151	66 394	0.9913	1.0000



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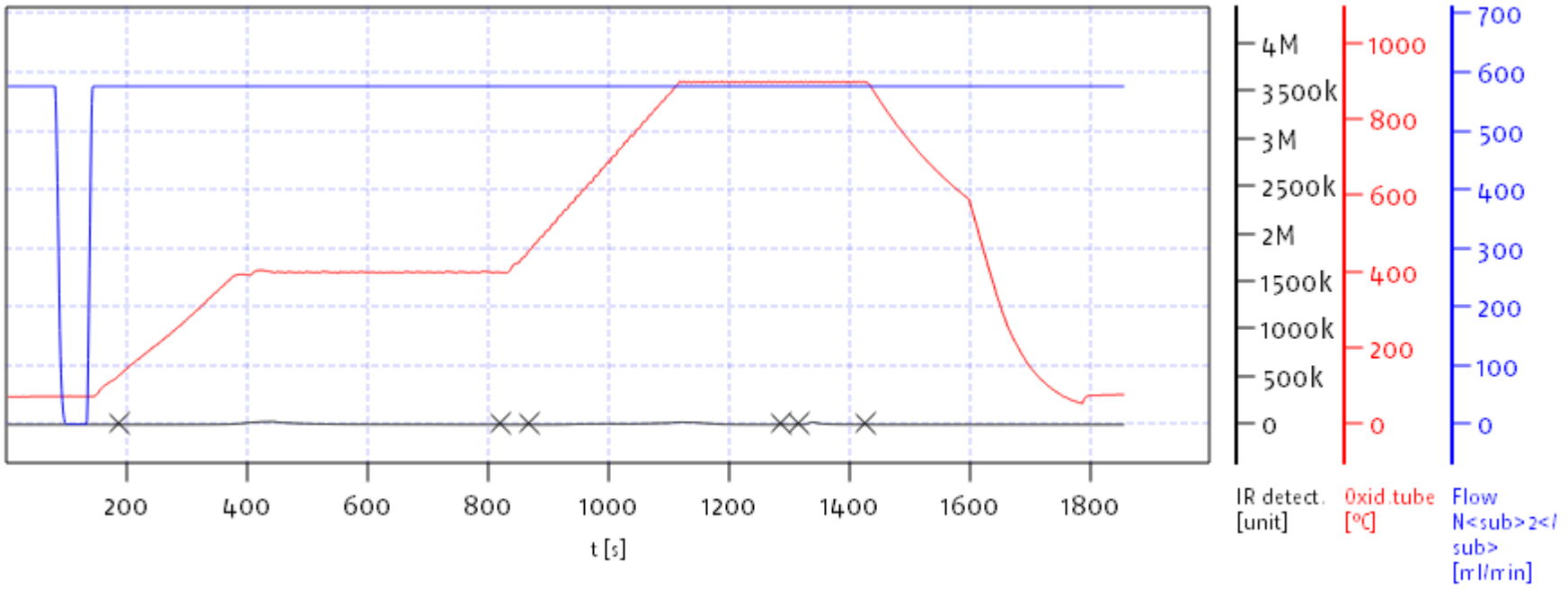
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
146	6	21G0313-16	500.80		1.00	CARBON	8/28/2021 6:55 PM	0.041	0.035	0.076	bl	122 396	114 752	23 407	0.9913	1.0000



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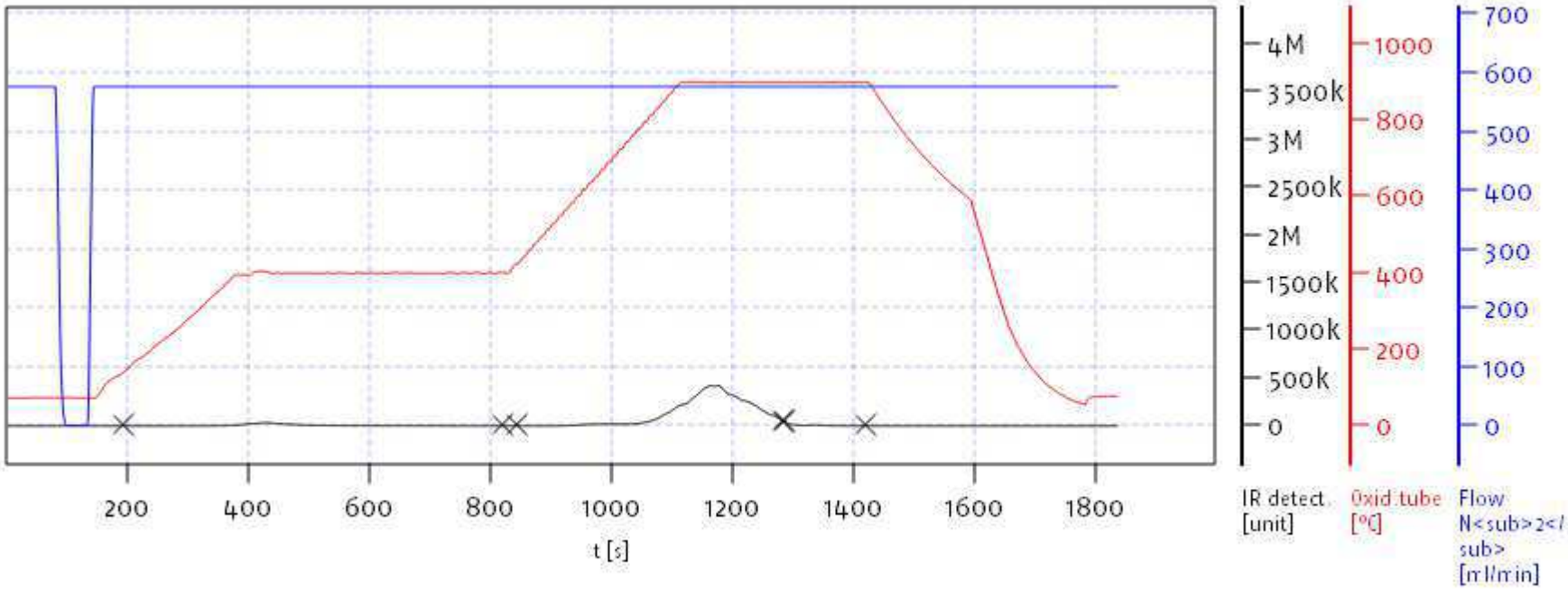
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
147	7	21G0310-03RE1	217.60		1.00	CARBON	8/28/2021 7:26 PM	0.083	1.270	1.353	bl	119 849	2 040 220	29 068	0.9913	1.0000



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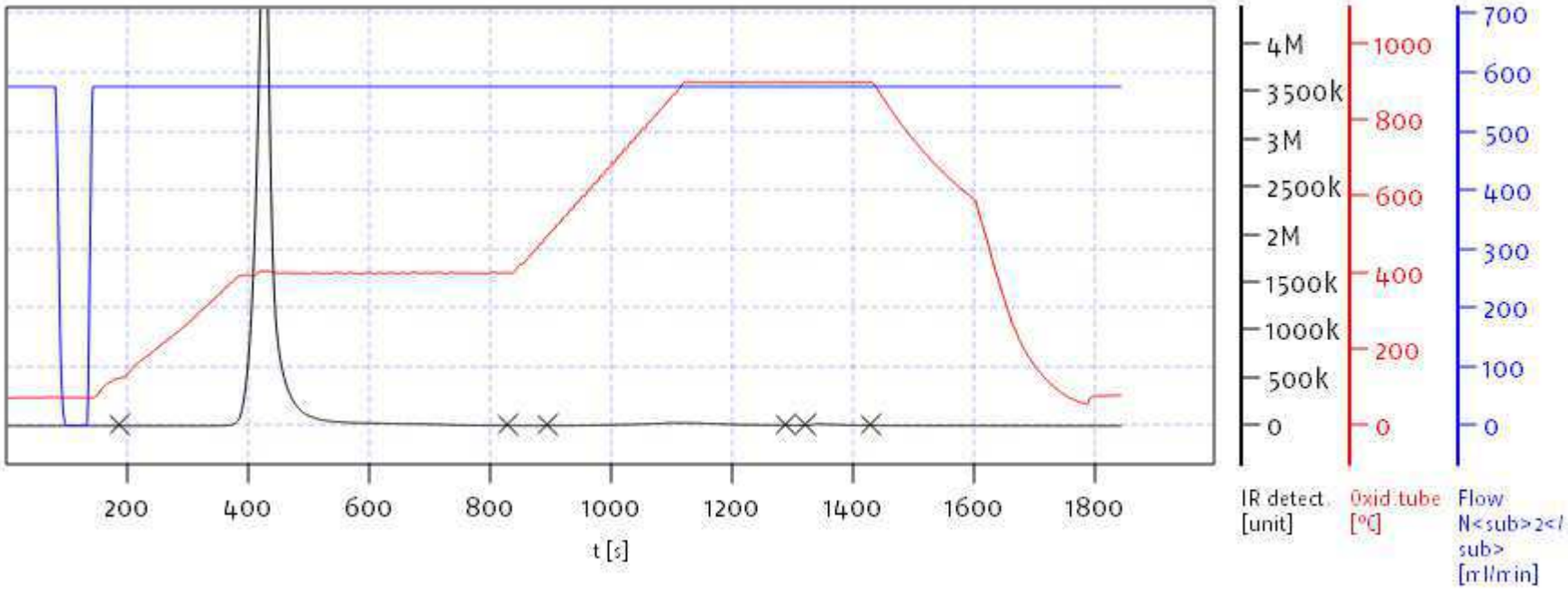
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
148	8	SJH0331-CCVC	23.90		1.00	CARBON	8/28/2021 7:57 PM	44.711	1.455	46.166	bl	6 364 610	217 611	40 995	0.9913	1.0000



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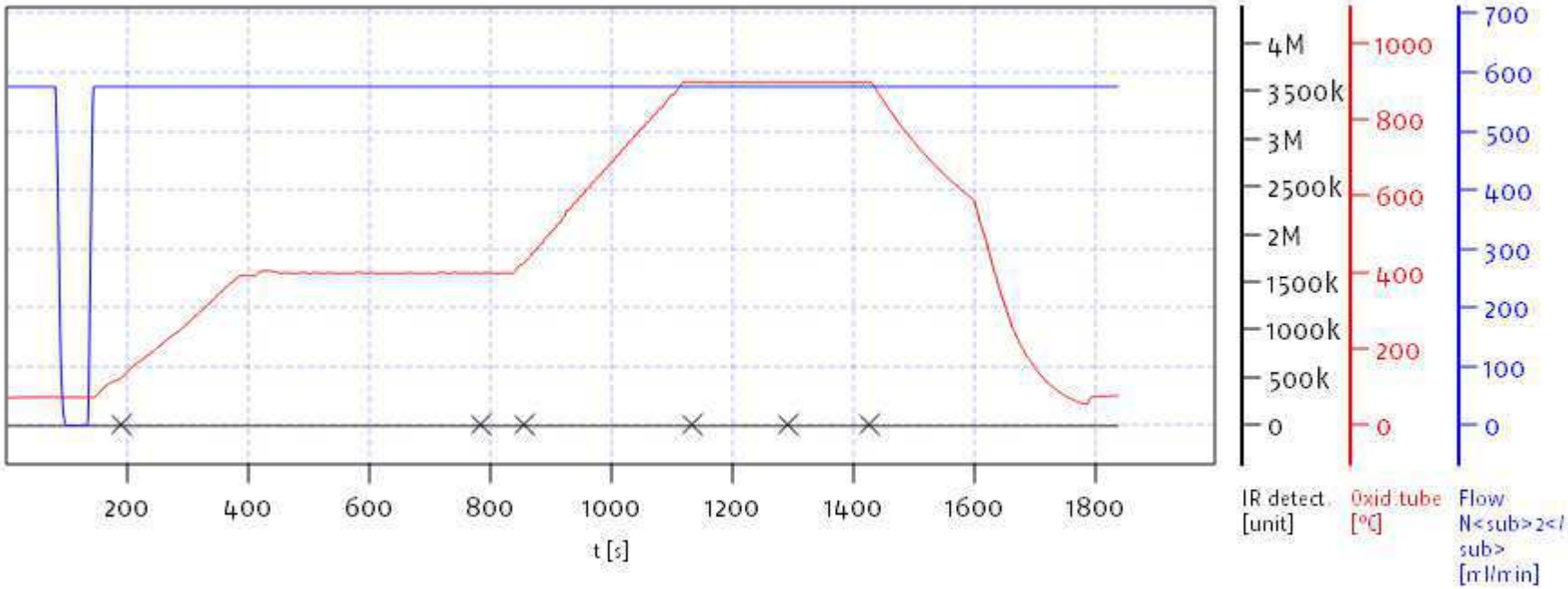
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
149	9	SJH0331-CCBC	588.20		1.00	CARBON	8/28/2021 8:28 PM	0.000	0.000	0.000	bl,C1u,C3u,C2u	2 316	13	79	0.9913	1.0000



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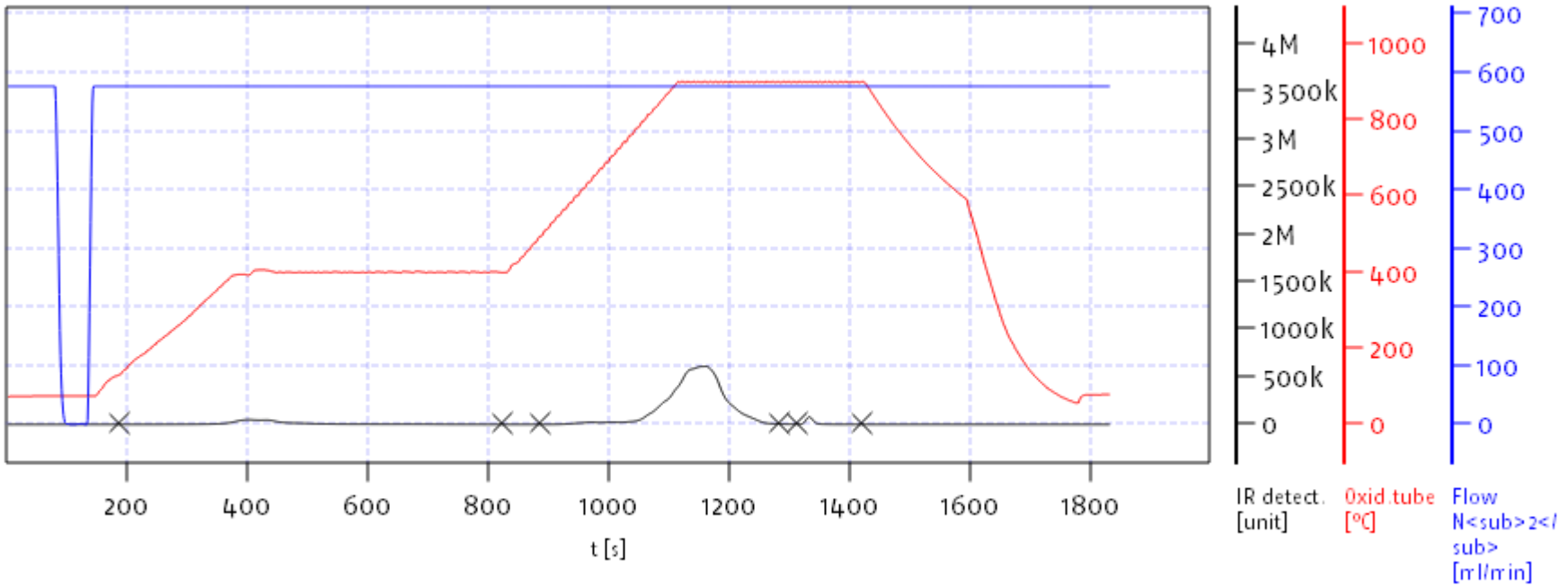
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
150	10	21G0310-06RE1	131.50		1.00	CARBON	8/28/2021 8:59 PM	0.285	3.067	3.353	bl	201 867	2 399 770	45 380	0.9913	1.0000



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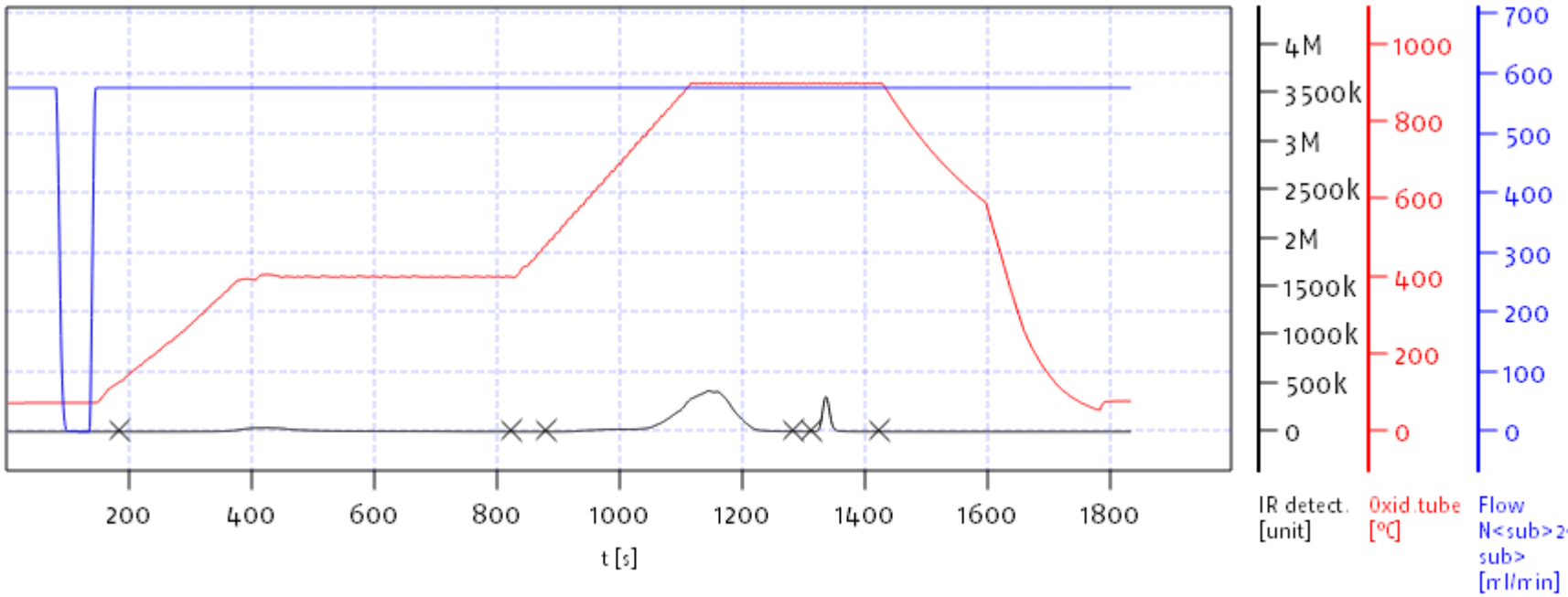
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
151	11	21G0310-07RE1	184.30		1.00	CARBON	8/28/2021 9:30 PM	0.325	1.485	1.810	bl	188 140	1 632 090	190 979	0.9913	1.0000



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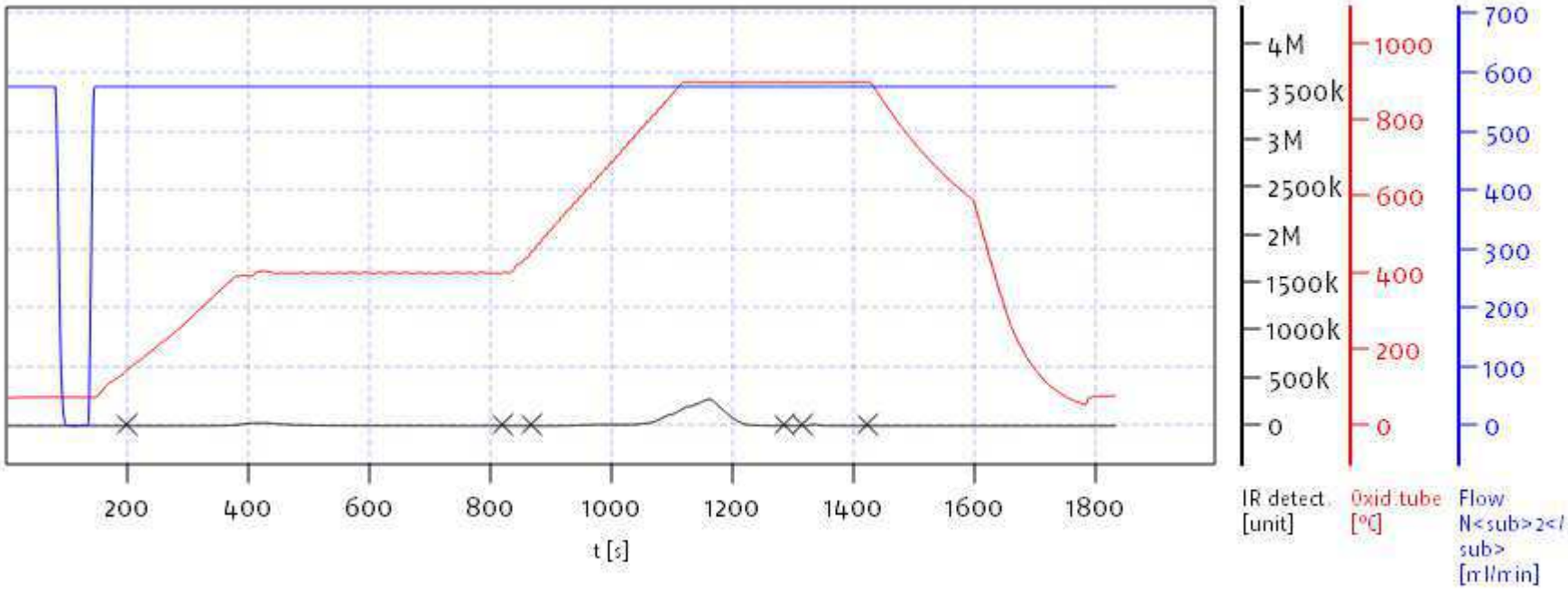
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
152	12	21G0312-14RE1	105.00		1.00	CARBON	8/28/2021 10:01 PM	0.163	1.524	1.687	bl	113 787	959 154	10 137	0.9913	1.0000



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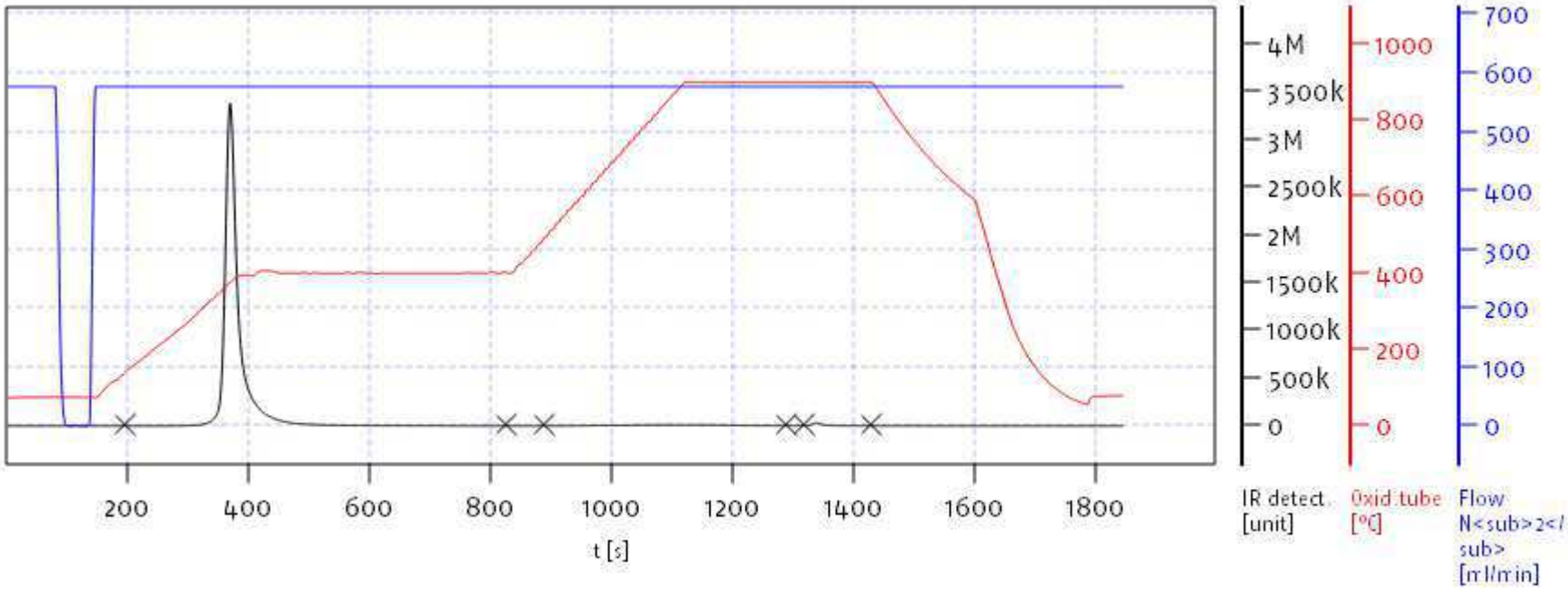
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
153	13	21H0061-01RE1	100.70		1.00	CARBON	8/28/2021 10:32 PM	5.373	0.116	5.489	bl	3 228 540	80 938	26 398	0.9913	1.0000



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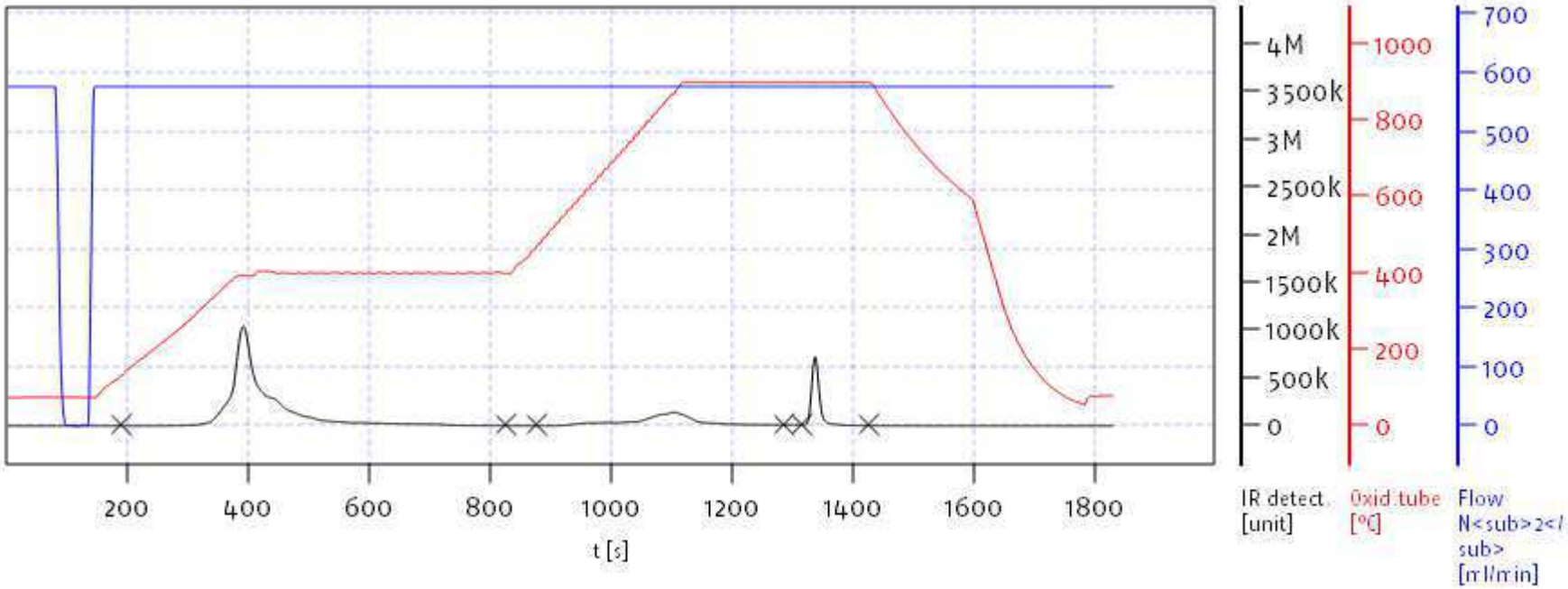
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
154	14	21H0061-03RE1	104.30		1.00	CARBON	8/28/2021 11:03 PM	4.442	0.954	5.396	bl	2 376 800	601 105	410 254	0.9913	1.0000



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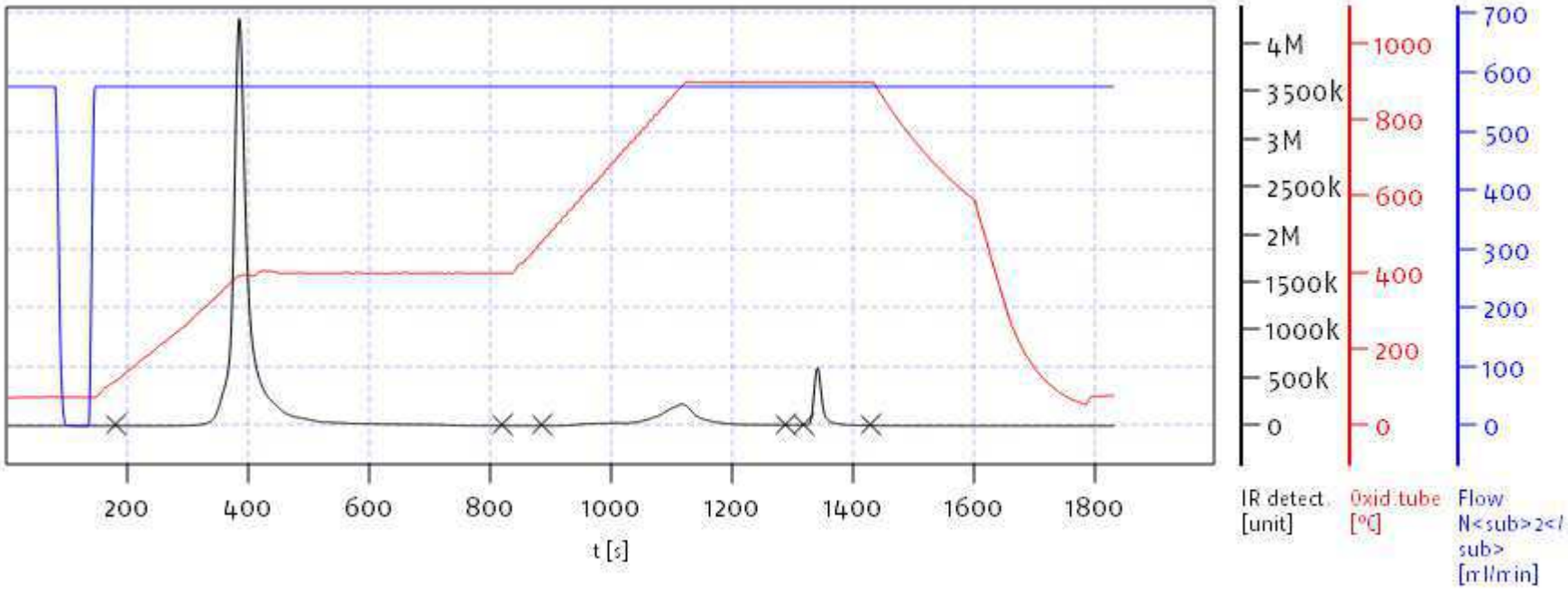
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
155	15	21H0061-04RE1	112.90		1.00	CARBON	8/28/2021 11:34 PM	7.662	1.113	8.775	bl	4 816 740	755 540	370 349	0.9913	1.0000



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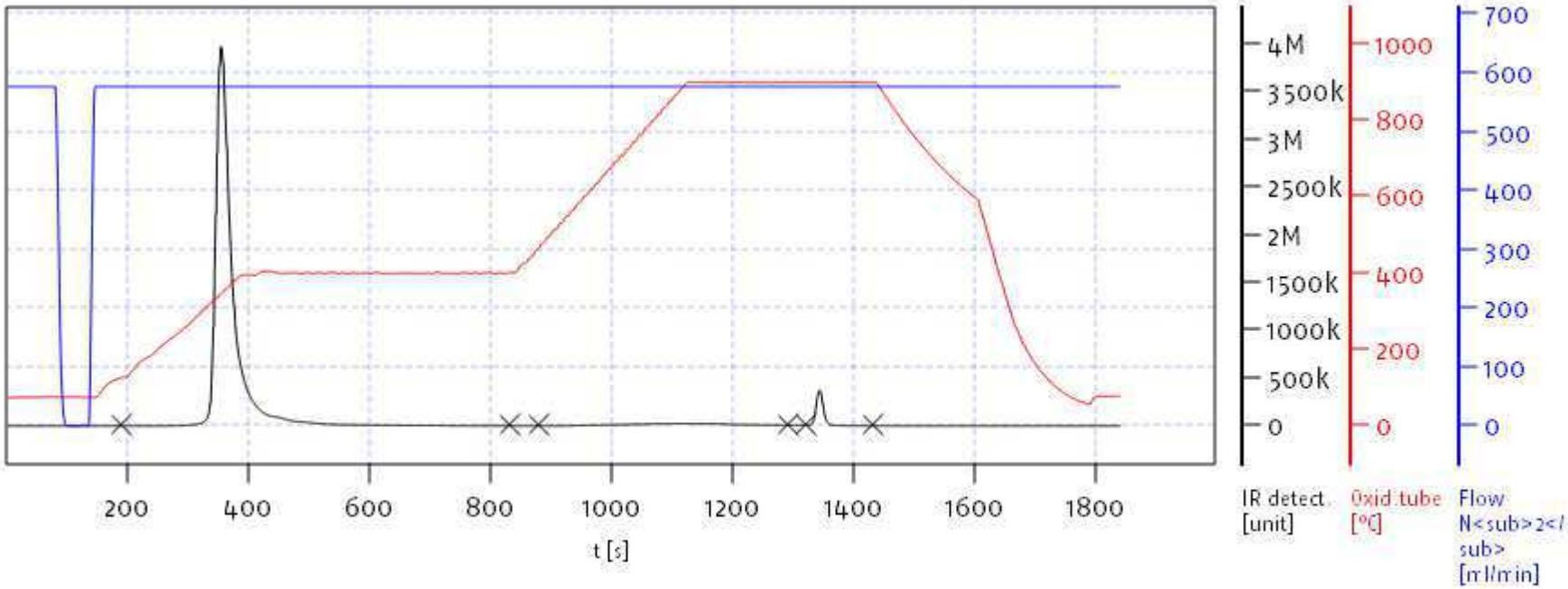
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
156	16	21H0061-05RE1	128.60		1.00	CARBON	8/29/2021 12:06 AM	6.375	0.247	6.622	bl	4 719 210	199 614	199 518	0.9913	1.0000



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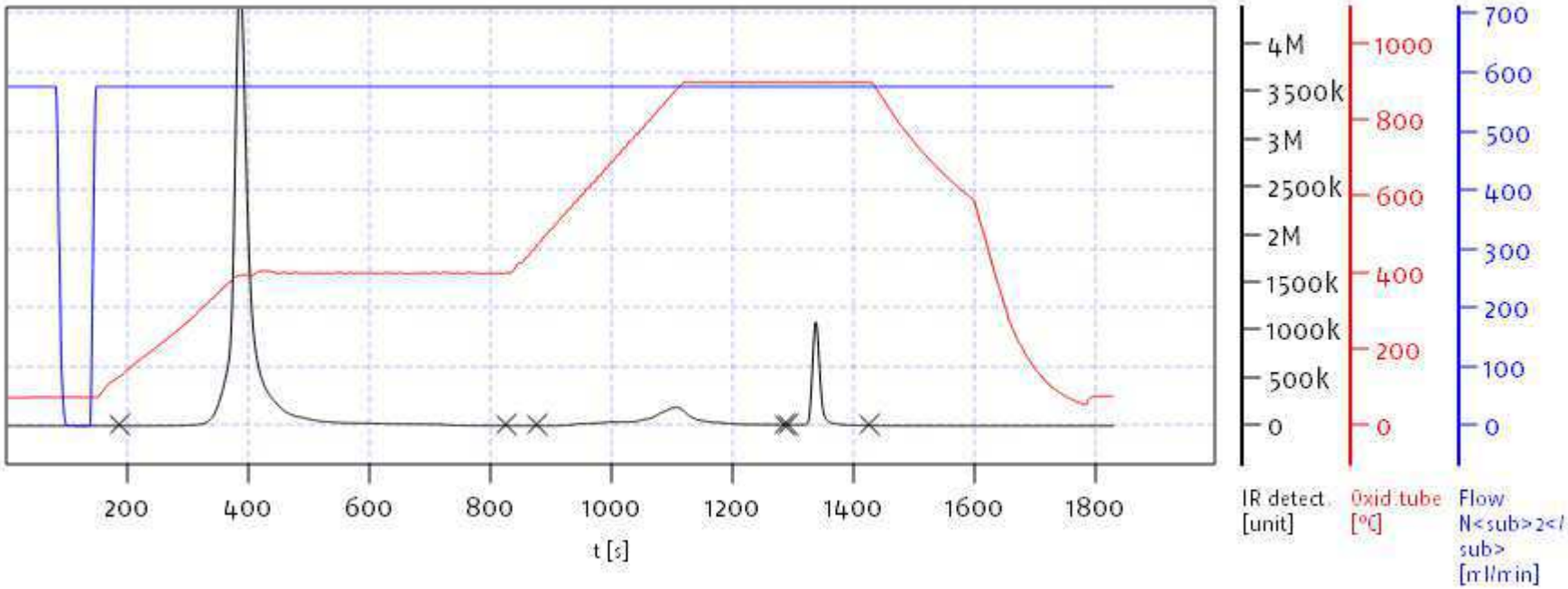
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
157	17	21H0061-06RE1	157.50		1.00	CARBON	8/29/2021 12:36 AM	6.566	0.765	7.331	bl	5 574 890	725 044	620 006	0.9913	1.0000



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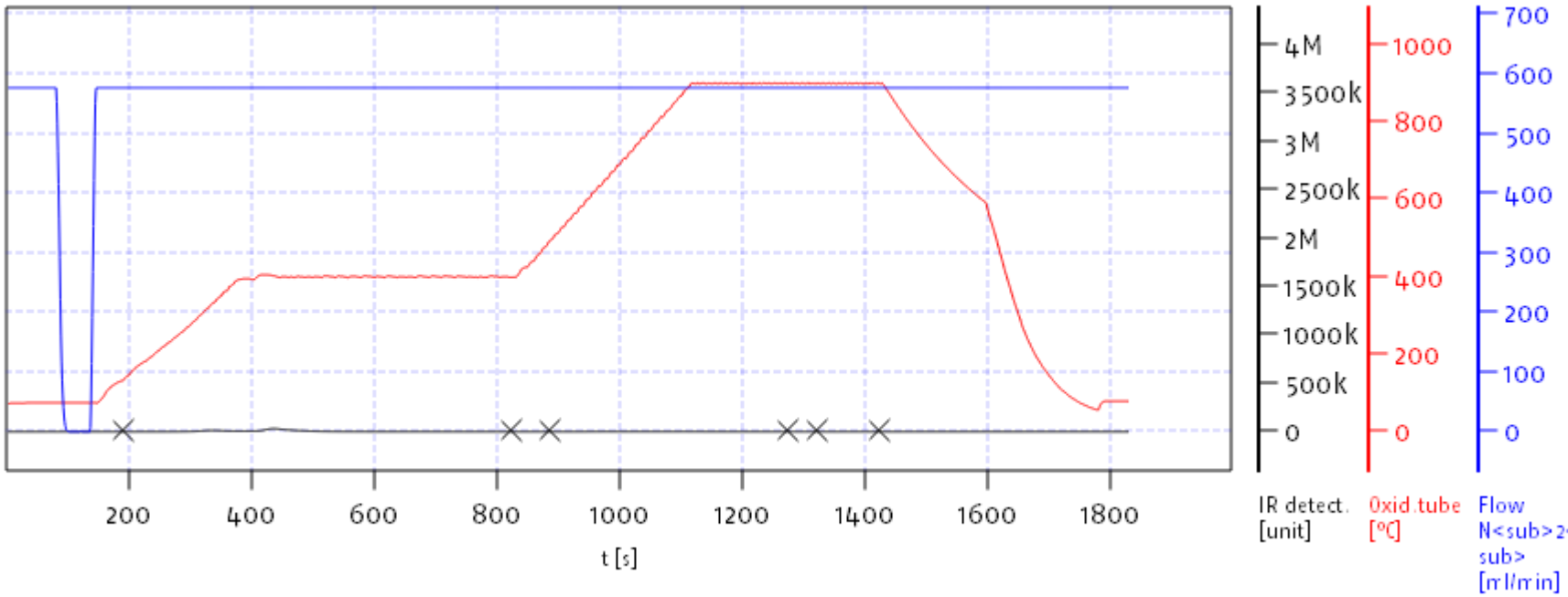
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
158	18	BJH0674-MRL1	519.00		1.00	CARBON	8/29/2021 1:07 AM	0.028	0.000	0.028	bl,C3u,C2u	97 908	6 907	347	0.9913	1.0000



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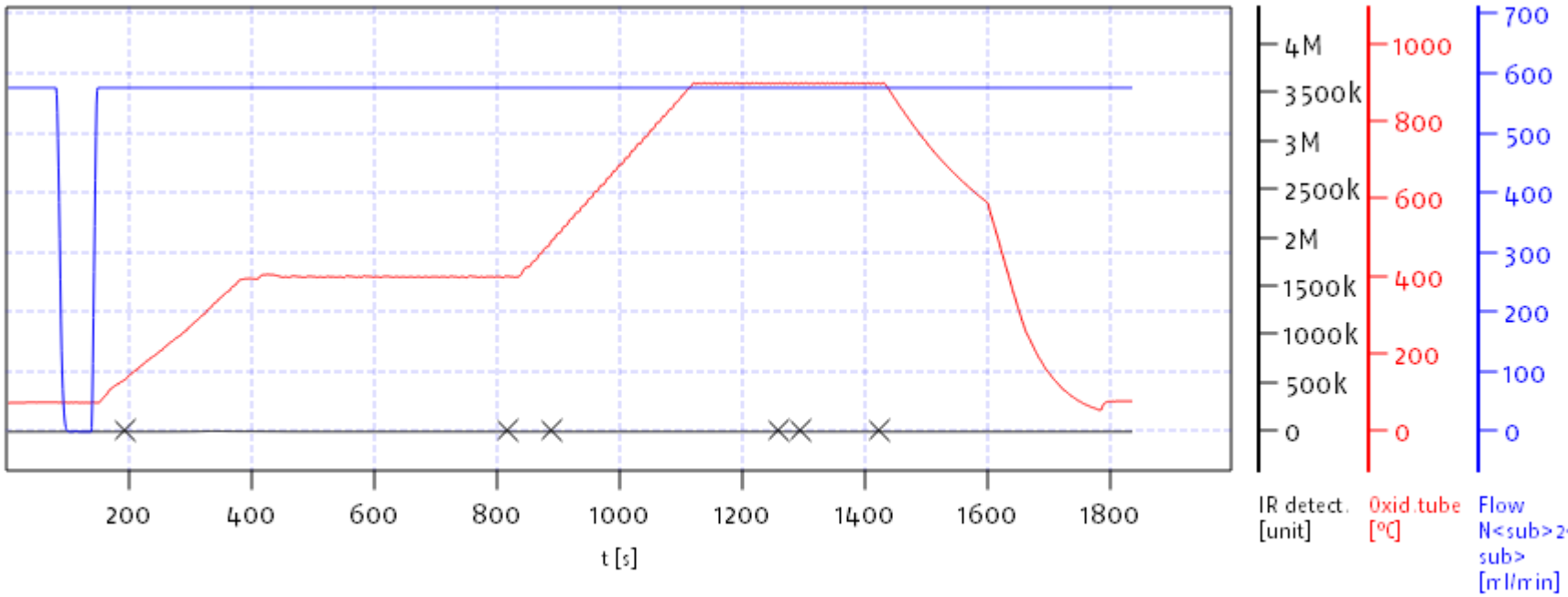
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
159	19	BJH0674-BLK1	618.30		1.00	CARBON	8/29/2021 1:38 AM	0.003	0.000	0.003	bl,C3u,C2u	23 033	2 269	472	0.9913	1.0000



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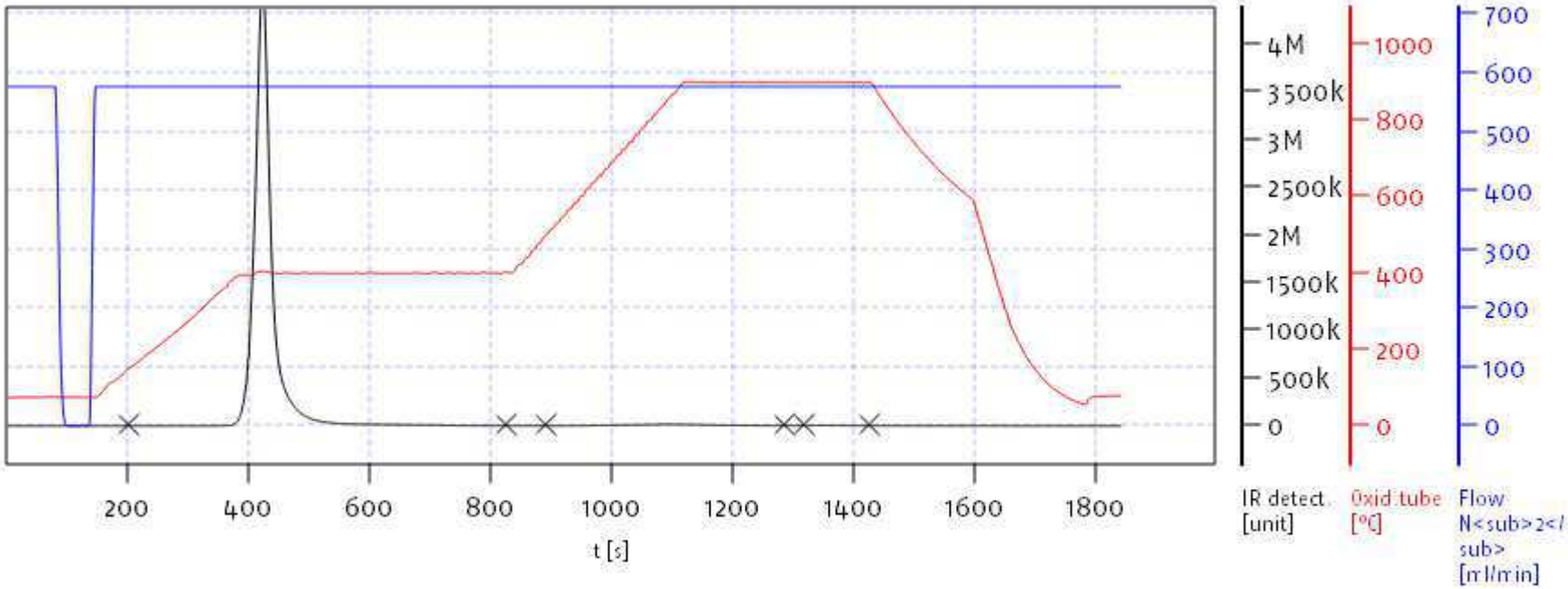
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
160	20	SJH0331-CCVD	20.30		1.00	CARBON	8/29/2021 2:10 AM	45.619	0.782	46.401	bl	5 540 110	105 612	14 448	0.9913	1.0000



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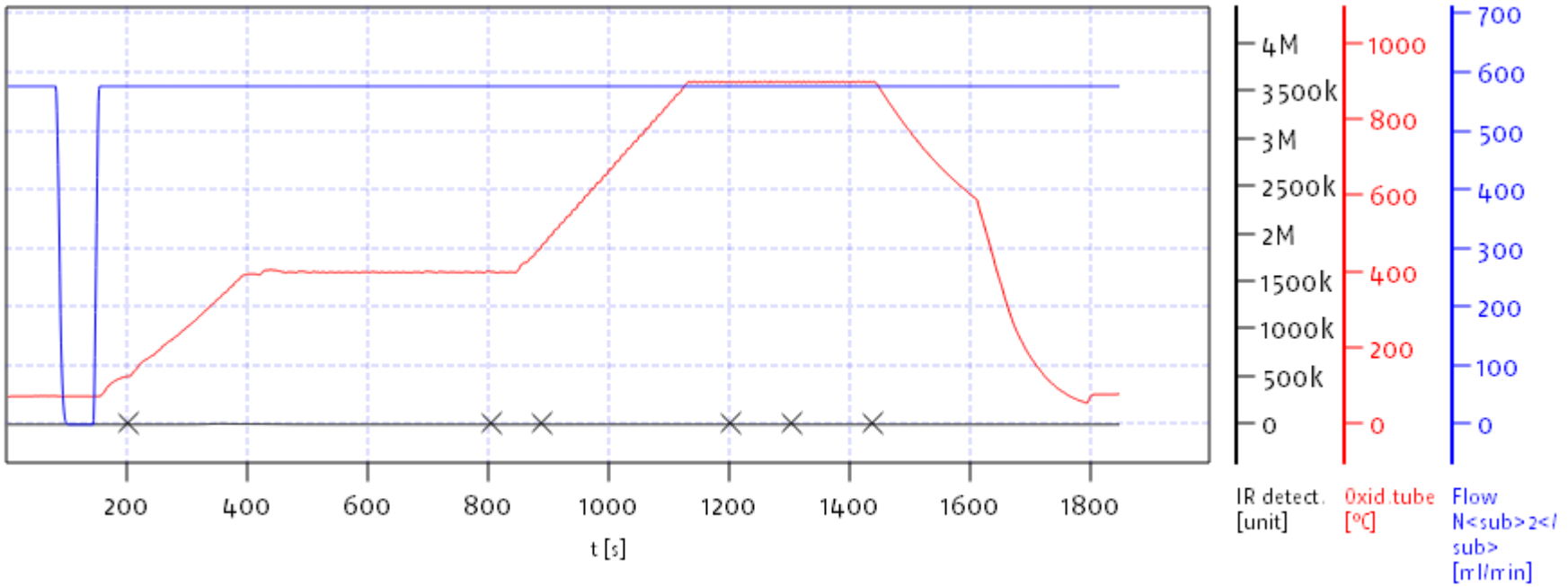
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
161	21	SJH0331-CCBD	664.20		1.00	CARBON	8/29/2021 2:41 AM	0.004	0.000	0.004	bl,C3u,C2u	25 929	1 898	287	0.9913	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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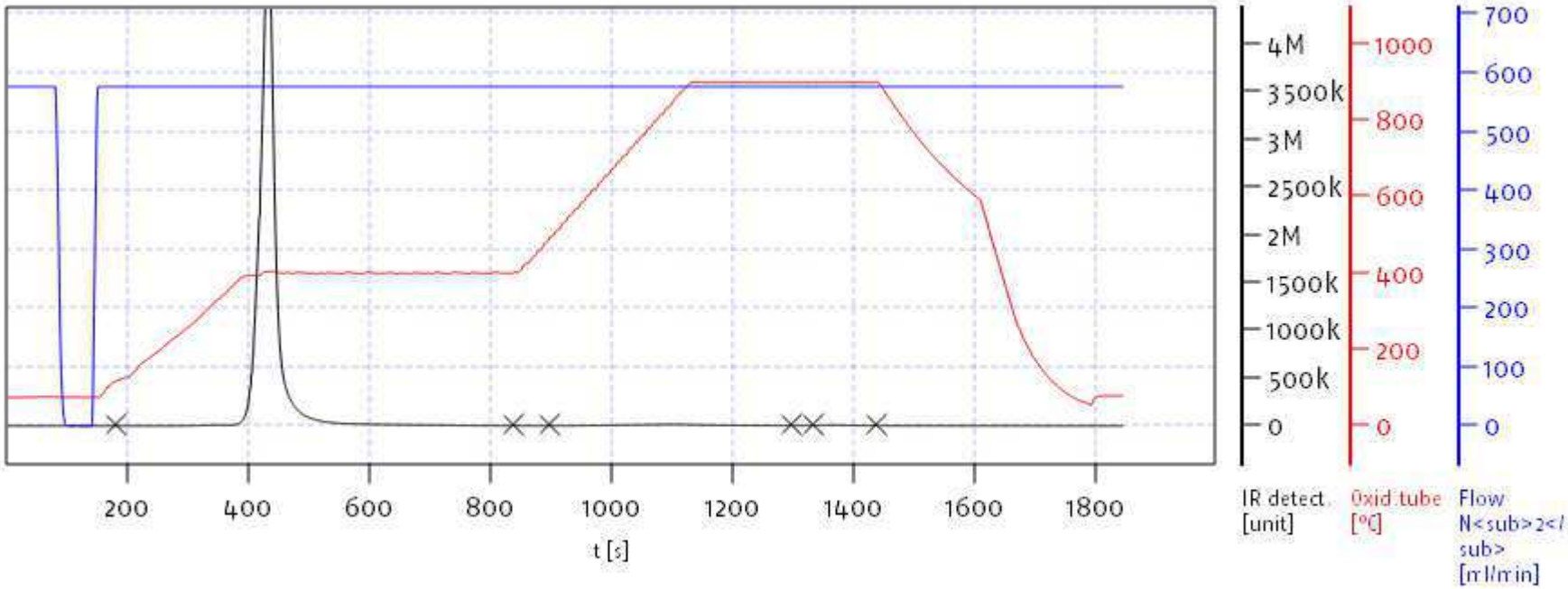
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
162	22	BJH0674-BS1	20.70		1.00	CARBON	8/29/2021 3:12 AM	45.521	0.772	46.292	bl	5 631 530	106 242	19 786	0.9913	1.0000



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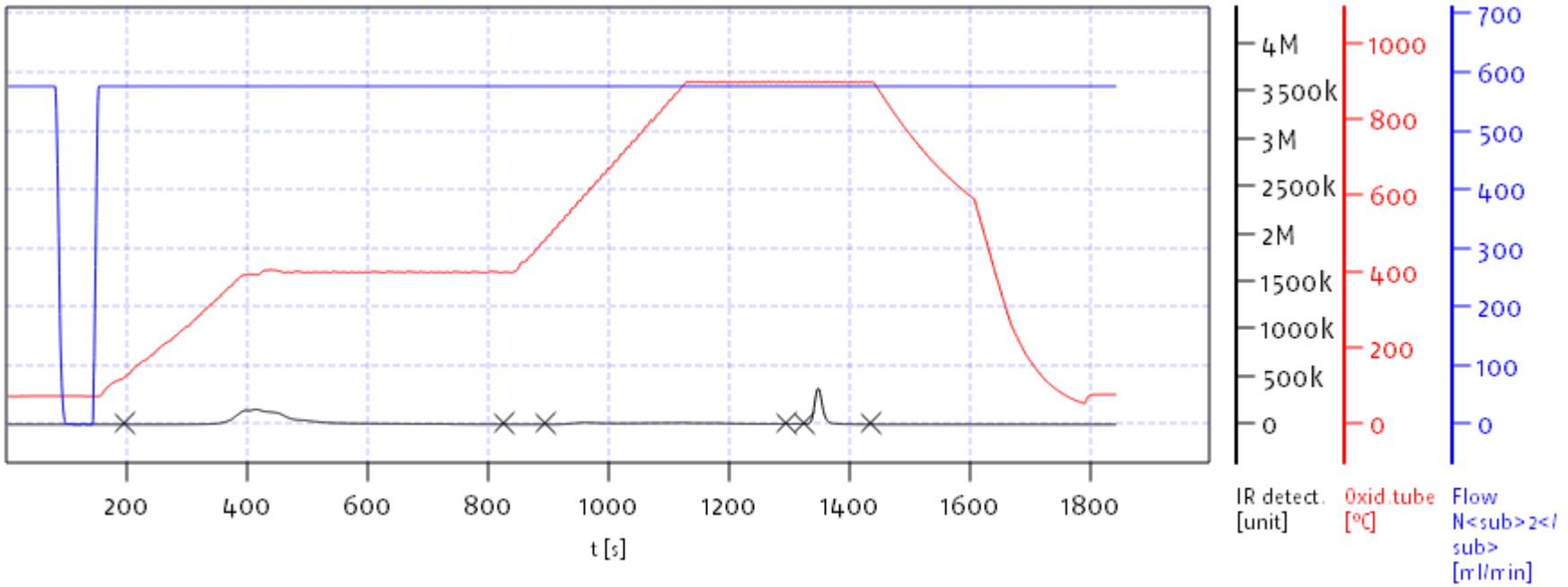
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
163	23	BJH0674-SRM1	54.60		1.00	CARBON	8/29/2021 3:43 AM	2.569	0.462	3.031	bl	634 862	161 145	224 316	0.9913	1.0000



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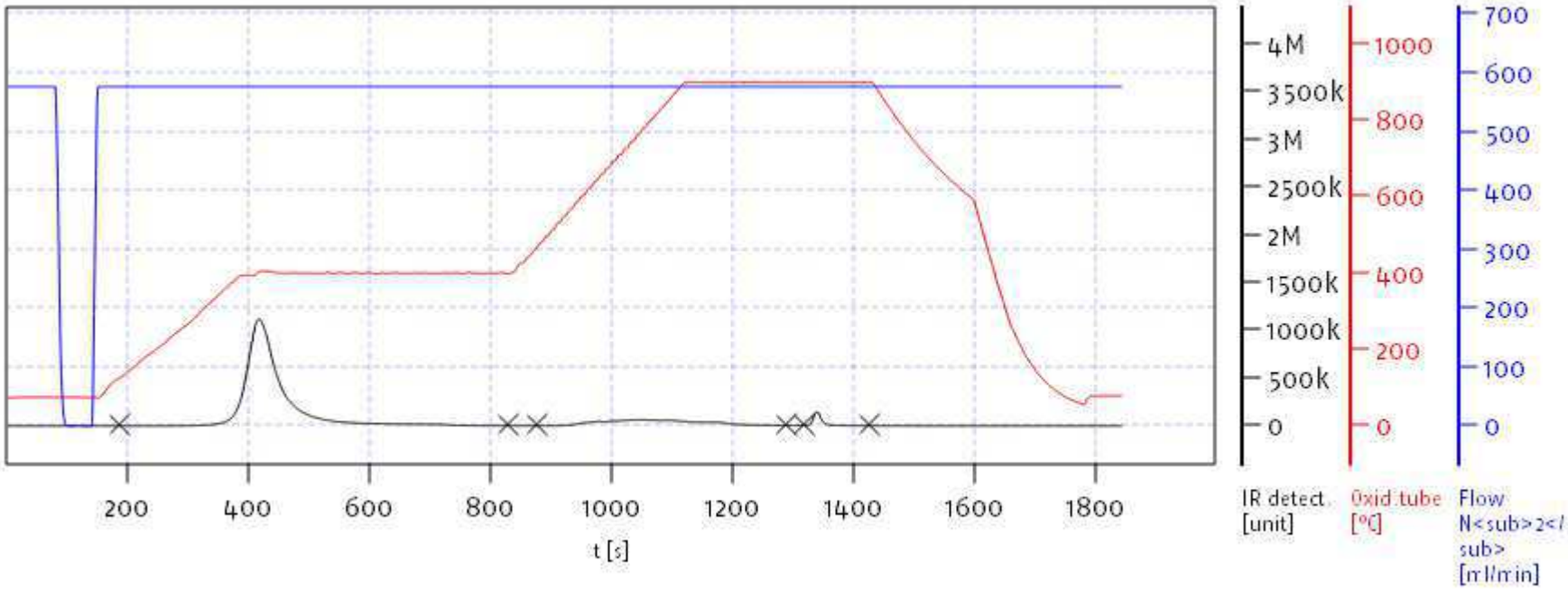
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
164	24	21H0244-01	598.90		1.00	CARBON	8/29/2021 4:14 AM	0.785	0.135	0.920	bl	2 735 500	491 425	93 499	0.9913	1.0000



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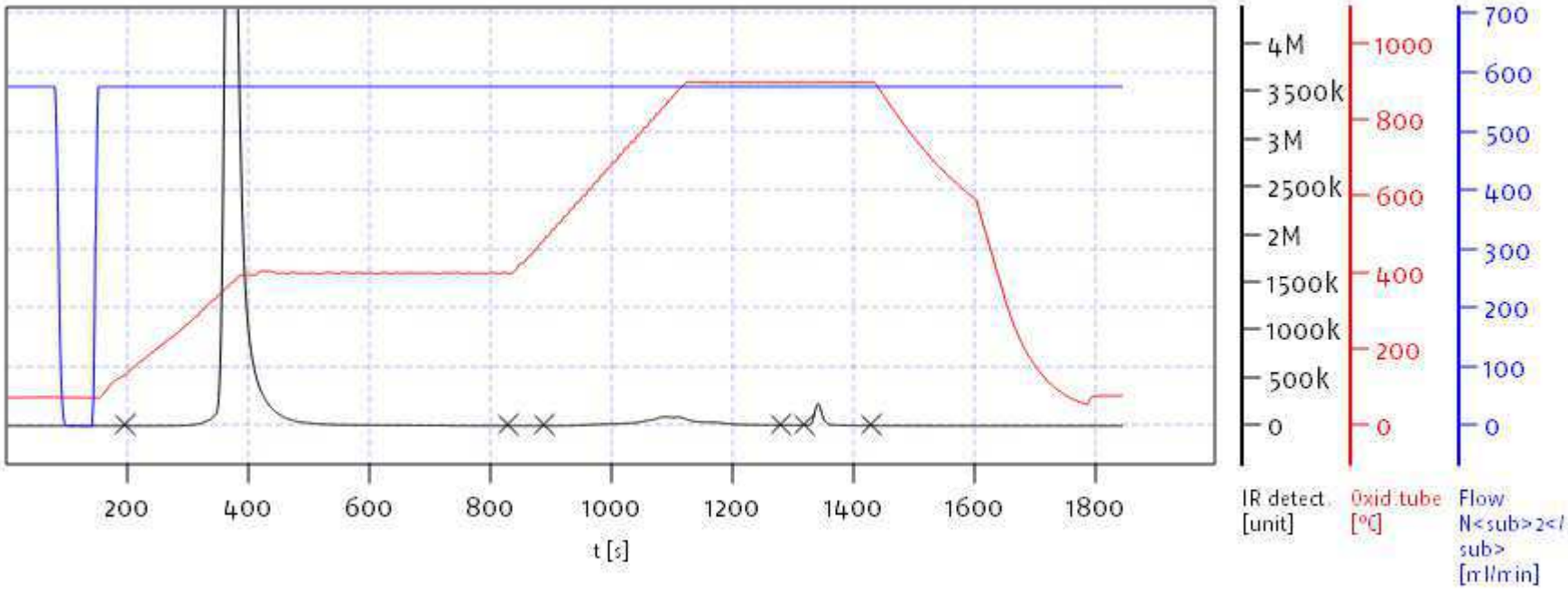
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
165	25	21H0260-01	202.60		1.00	CARBON	8/29/2021 4:46 AM	7.327	0.359	7.686	bl,Cl o	8 747 300	442 274	141 368	0.9913	1.0000



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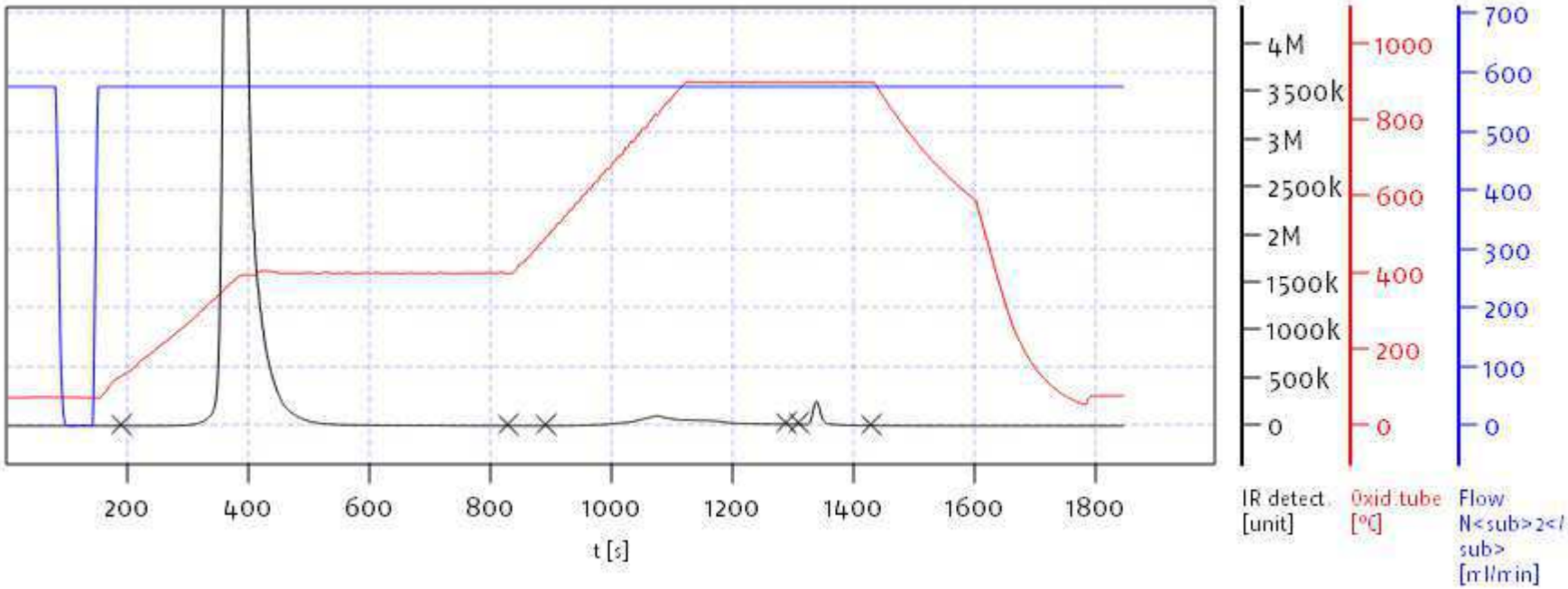
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
166	26	21H0260-02	170.80		1.00	CARBON	8/29/2021 5:17 AM	19.149	0.520	19.670	bl,C1o	19 383800	538 066	173 440	0.9913	1.0000



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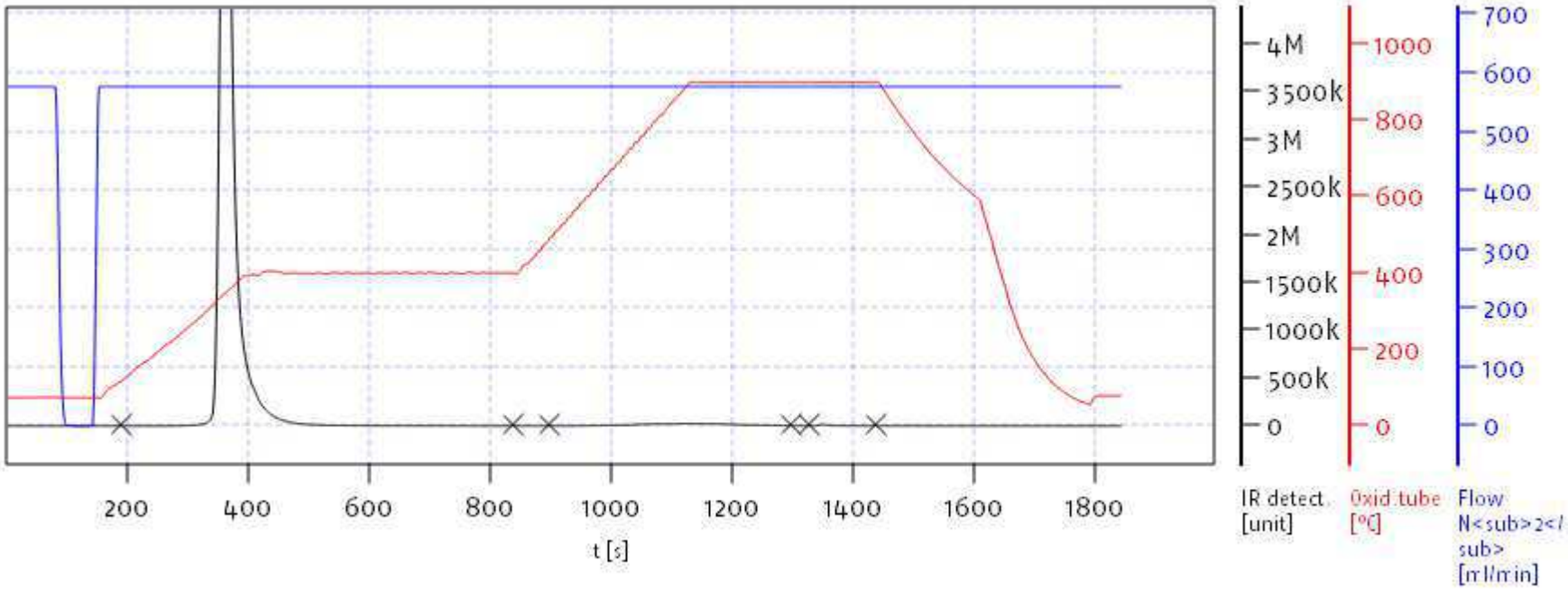
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
167	27	21H0260-03	206.90		1.00	CARBON	8/29/2021 5:48 AM	6.145	0.130	6.275	bl	7 604 160	170 475	13 148	0.9913	1.0000



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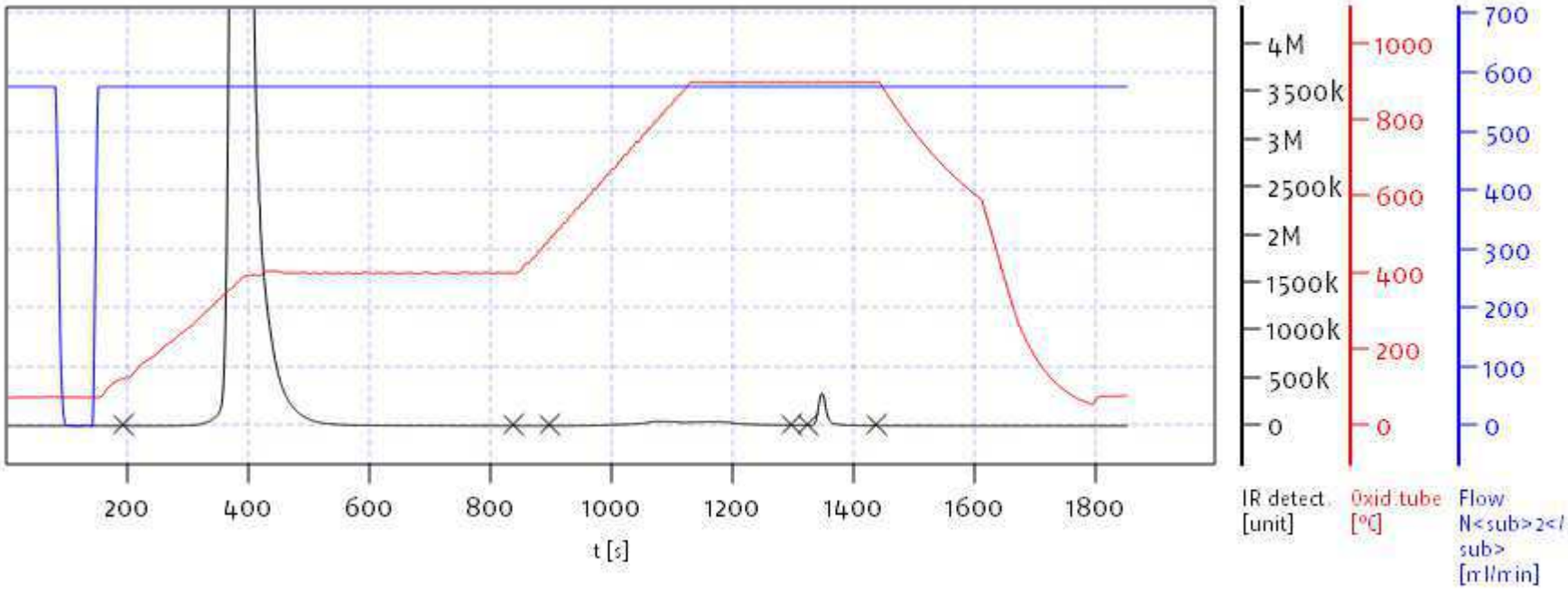
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
168	28	21H0261-01	209.00		1.00	CARBON	8/29/2021 6:19 AM	14.878	0.250	15.127	bl,C1o	18 385400	320 810	208 132	0.9913	1.0000



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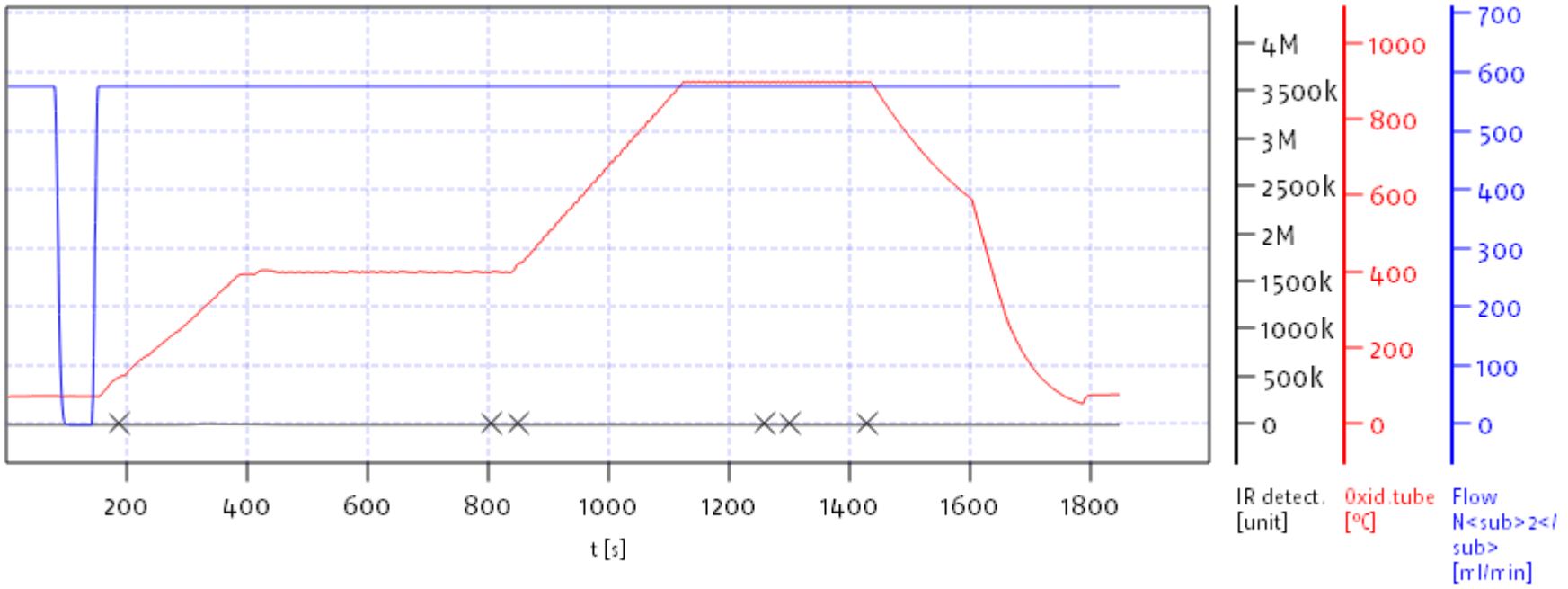
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
169	29	BLANK	1.00		1.00	CARBON	8/29/2021 6:51 AM	0.000	0.000	0.000	bl	28 416	2 891	319	0.9913	1.0000



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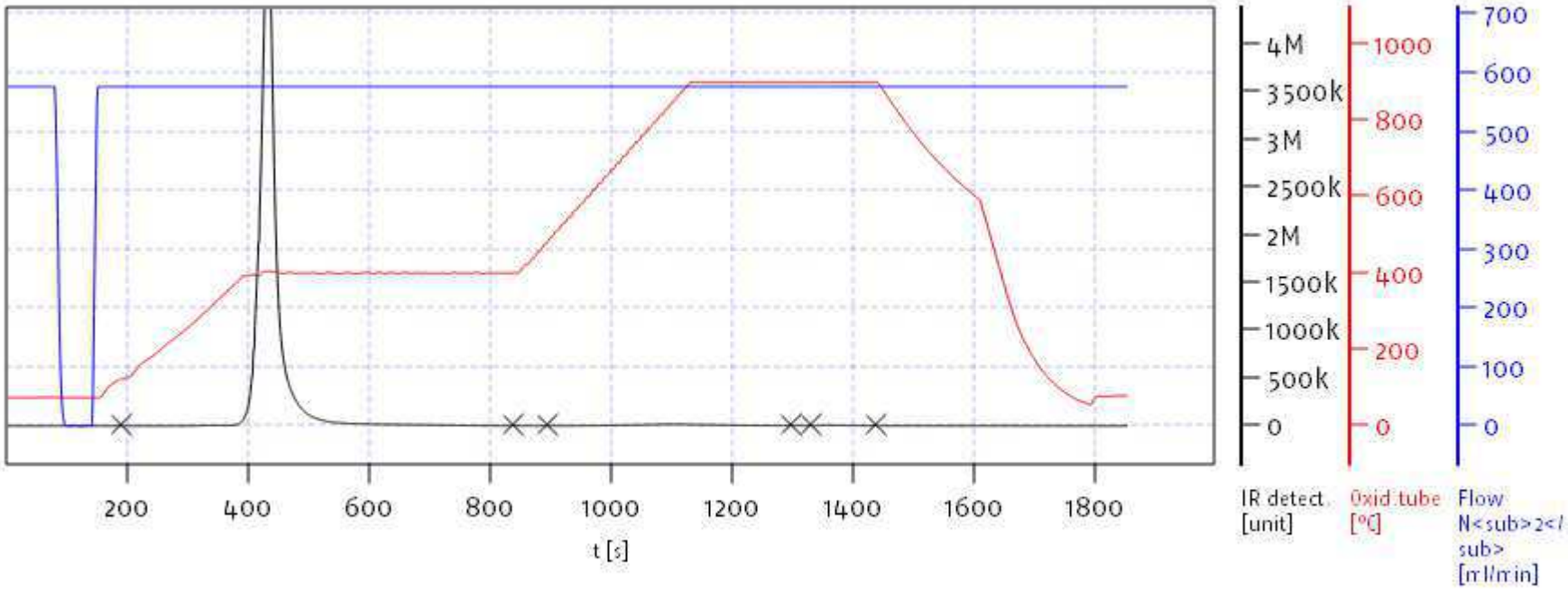
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
170	30	Dfactor	21.90		1.00	CARBON	8/29/2021 7:22 AM	44.490	0.782	45.272	bl	5 966 290	113 062	17 465	0.9679	1.0000



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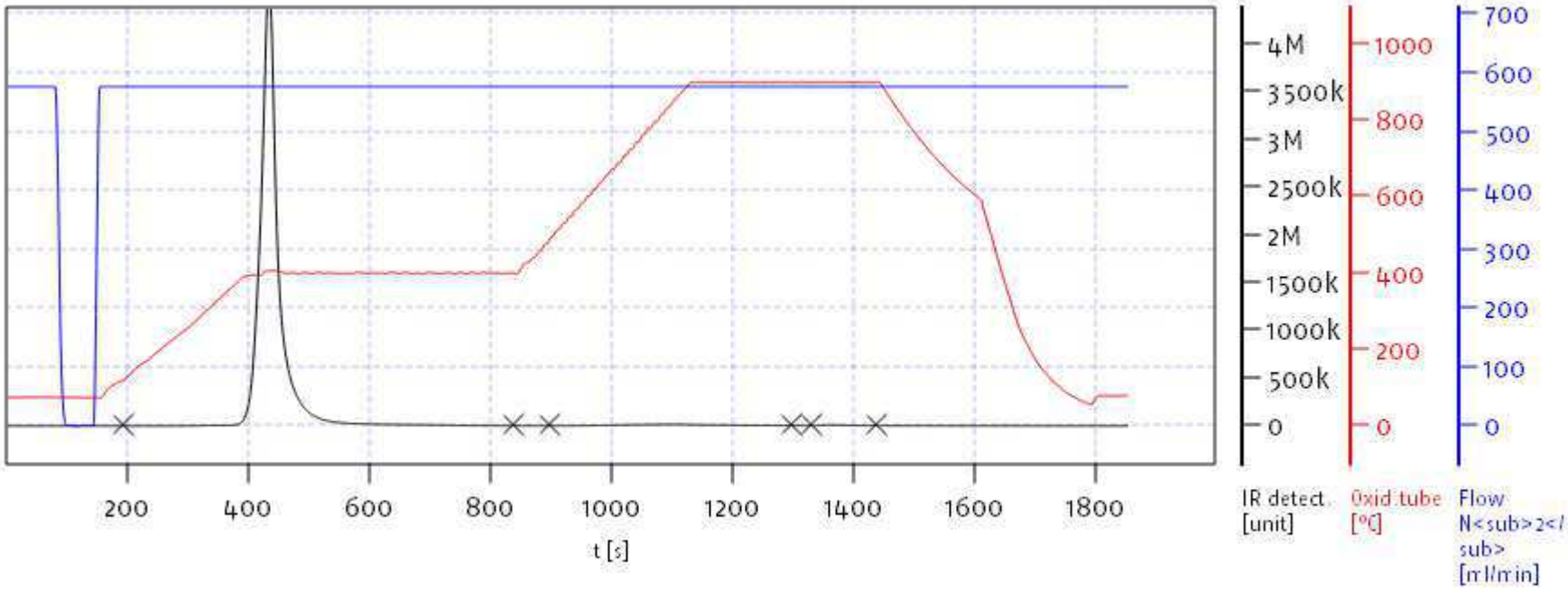
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
171	31	Dfactor	21.20		1.00	CARBON	8/29/2021 7:53 AM	44.523	0.814	45.338	bl	5 808 890	113 876	21 433	0.9624	1.0000



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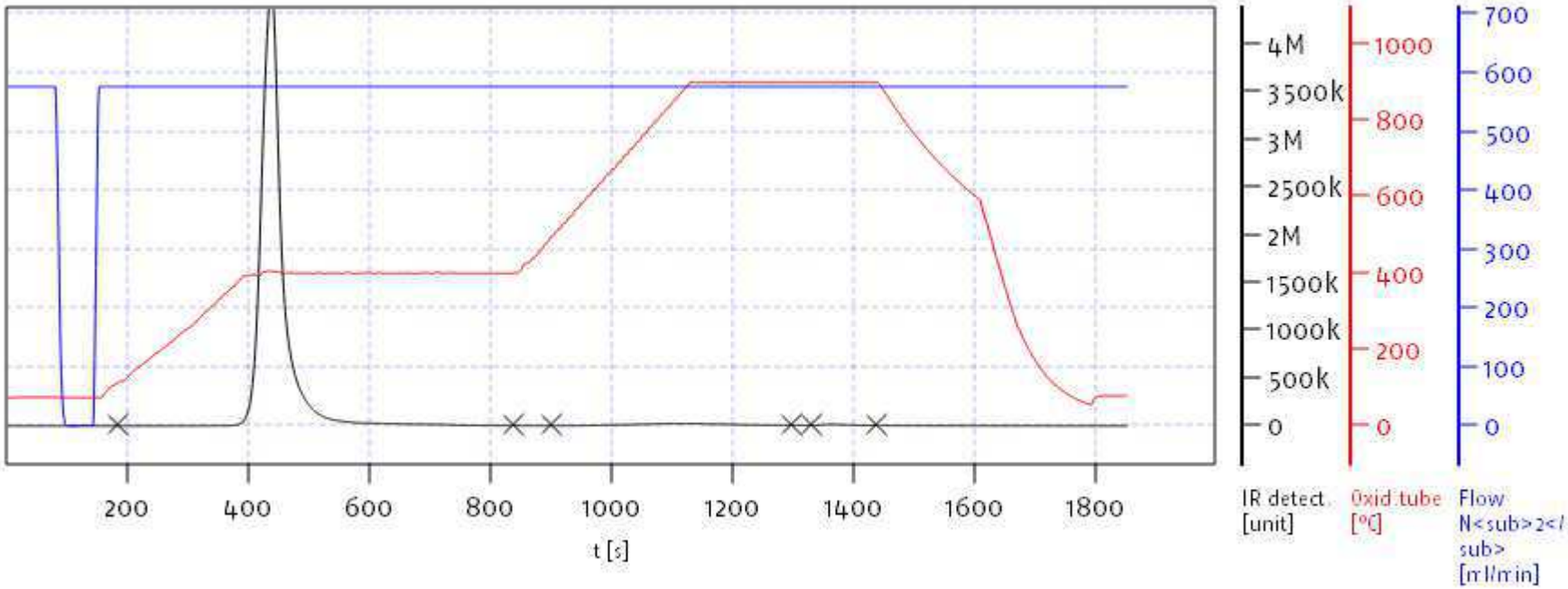
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
172	32	SJH0331-CCVE	25.60		1.00	CARBON	8/29/2021 8:25 AM	43.530	1.131	44.661	bl	6 823 460	183 162	35 661	0.9651	1.0000



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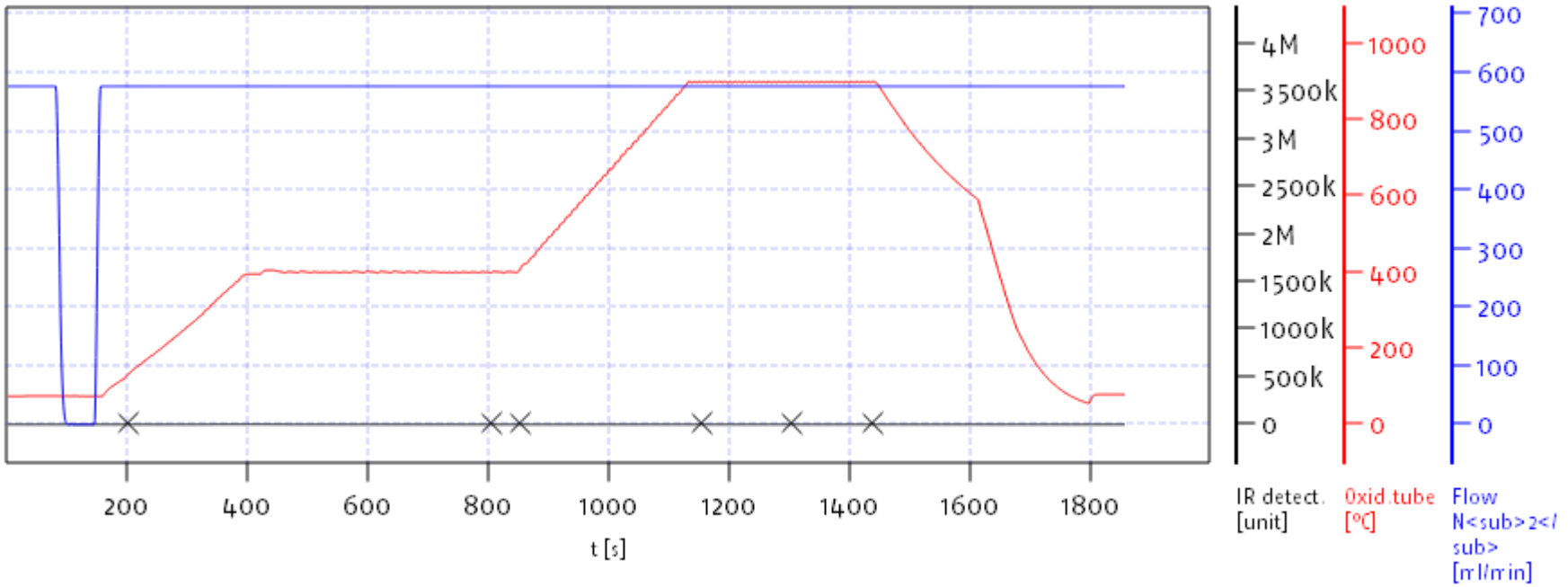
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
173	33	SJH0331-CCBE	558.70		1.00	CARBON	8/29/2021 8:56 AM	0.000	0.000	0.000	bl,C3u,C2u	8 363	771	466	0.9651	1.0000



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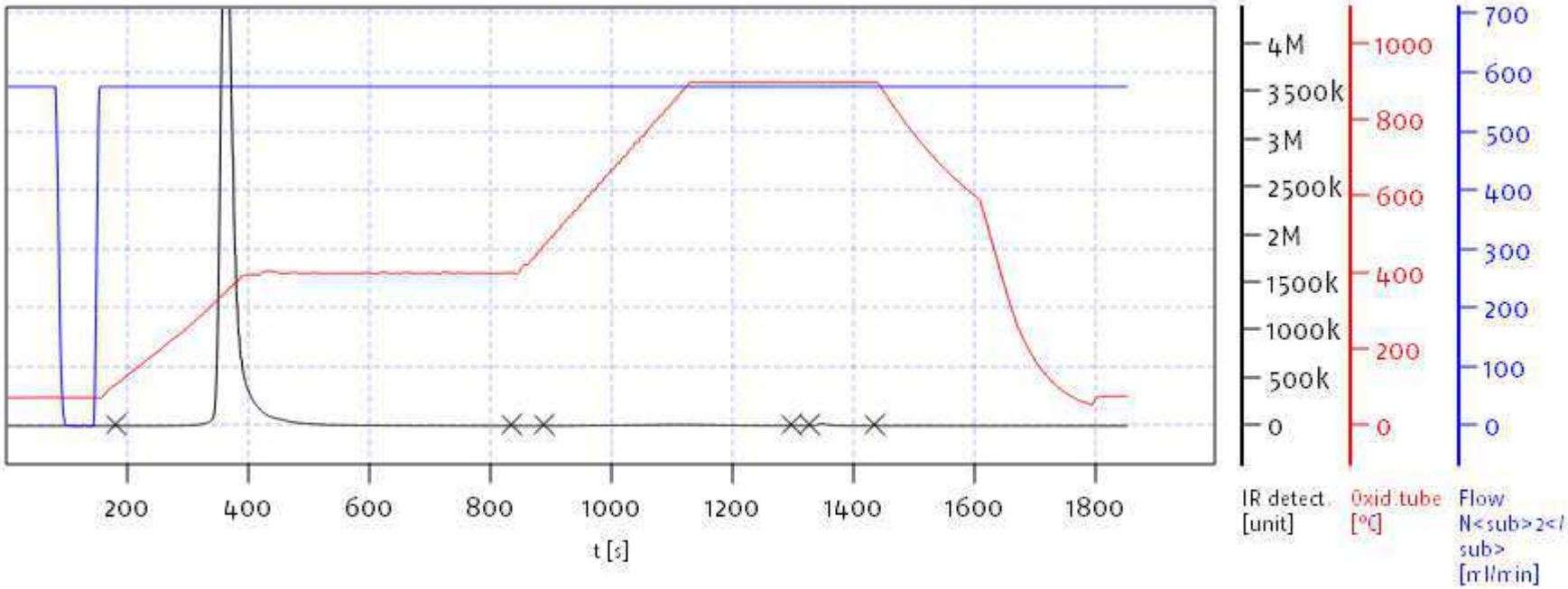
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
174	34	21H0261-02	203.40		1.00	CARBON	8/29/2021 9:28 AM	4.376	0.063	4.439	bl	5 463 700	87 012	20 134	0.9651	1.0000



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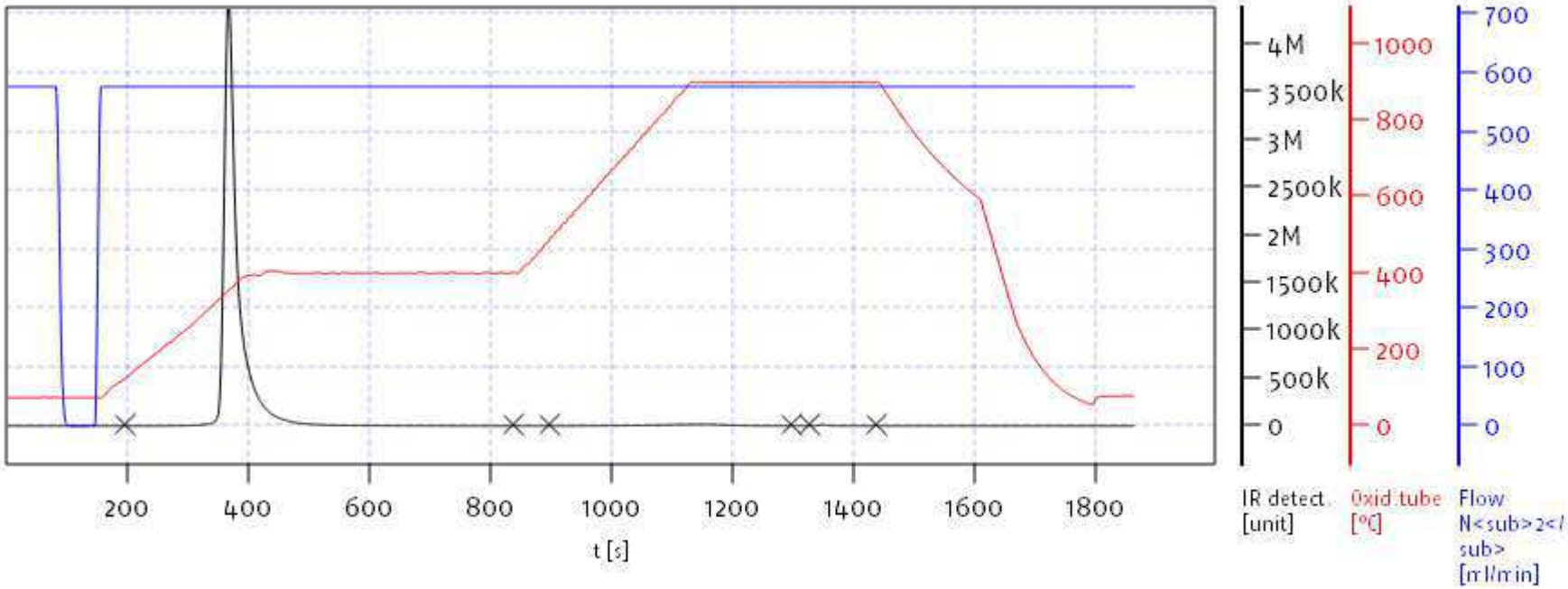
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
175	35	21H0261-03	159.20		1.00	CARBON	8/29/2021 9:59 AM	4.463	0.073	4.536	bl	4 370 410	80 886	9 432	0.9651	1.0000



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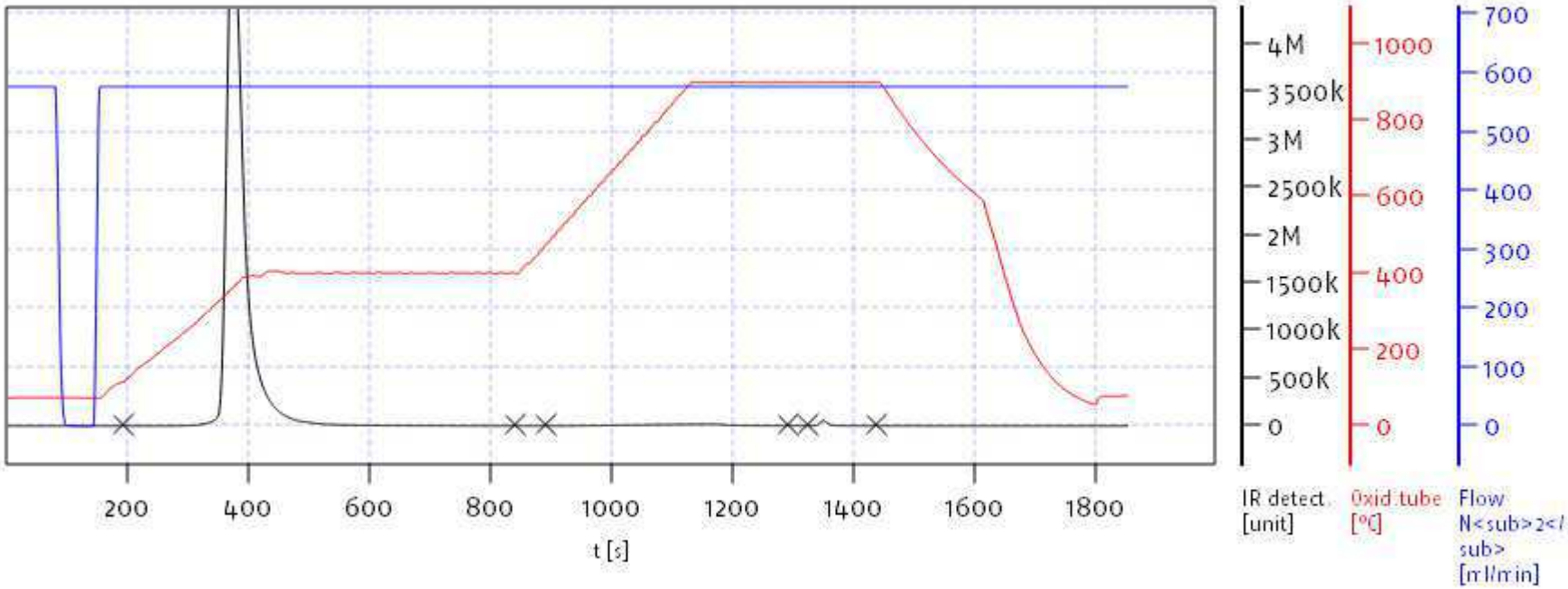
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
176	36	21H0261-04	216.30		1.00	CARBON	8/29/2021 10:30 AM	5.130	0.077	5.207	bl	6 795 630	110 543	34 709	0.9651	1.0000



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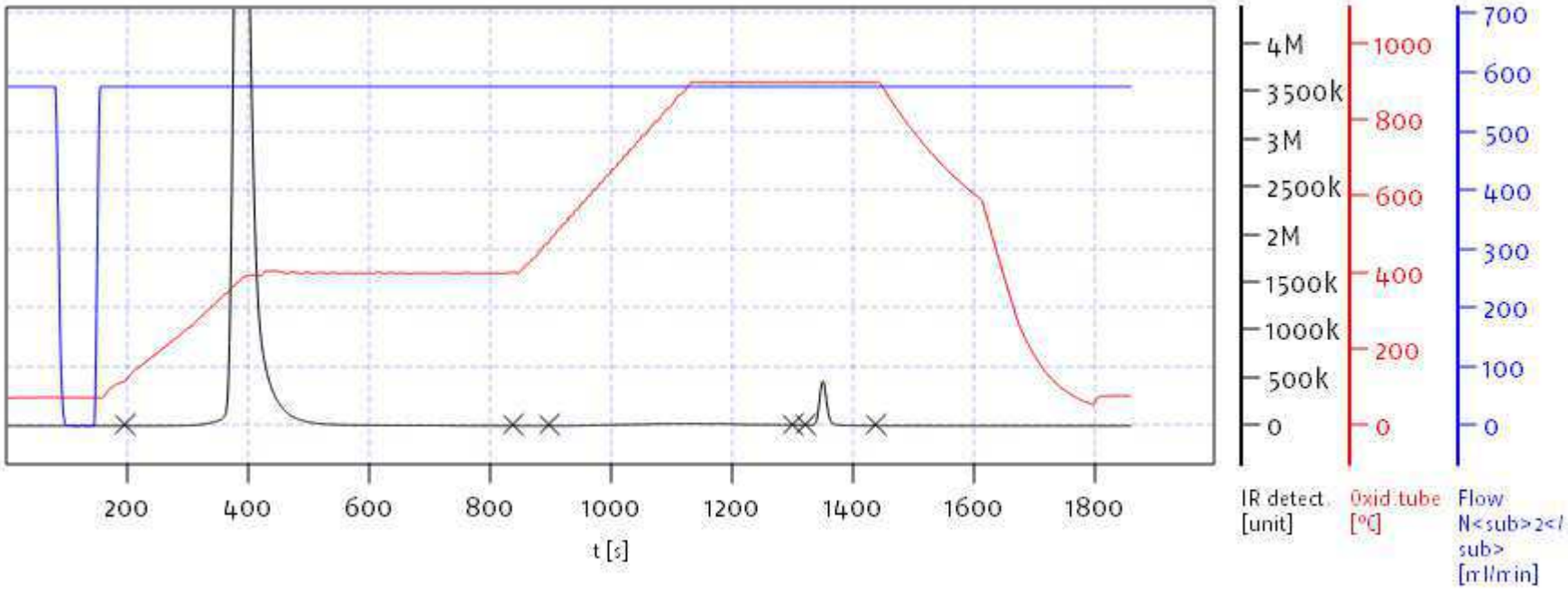
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
177	37	21H0262-01	157.10		1.00	CARBON	8/29/2021 11:02 AM	10.857	0.204	11.061	bl,Co	10 220 000	201 520	258 859	0.9651	1.0000



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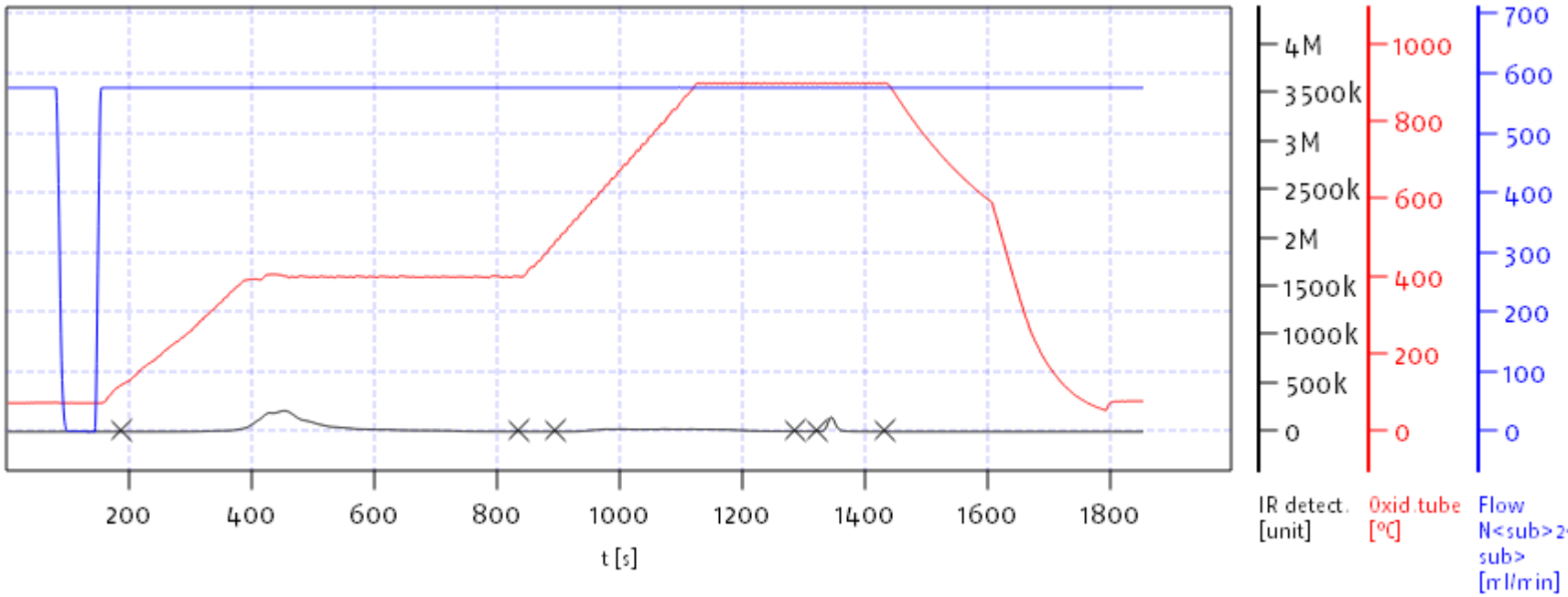
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
178	38	21H0263-01	564.90		1.00	CARBON	8/29/2021 11:33 AM	0.278	0.069	0.347	bl	895 505	242 038	88 665	0.9651	1.0000



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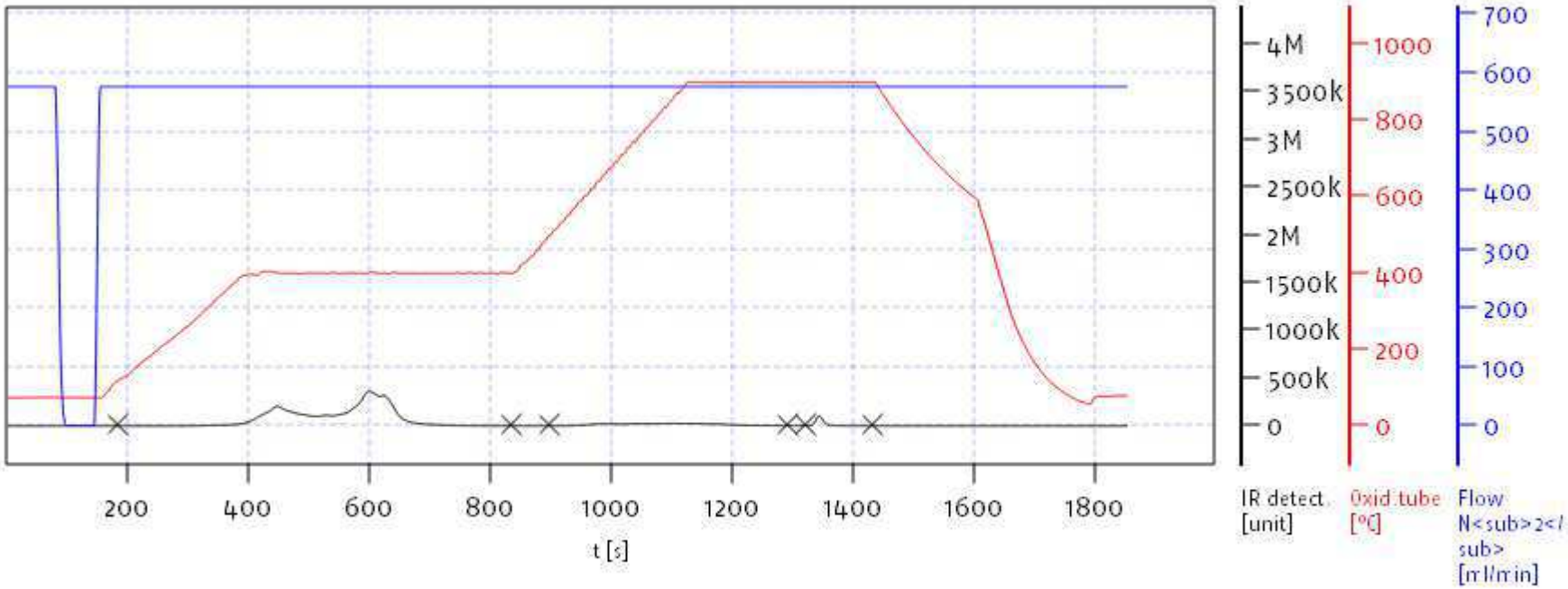
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
179	39	BJH0674-DUP1	530.50		1.00	CARBON	8/29/2021 12:05 PM	0.546	0.065	0.611	bl	1 737 790	214 569	61 081	0.9651	1.0000



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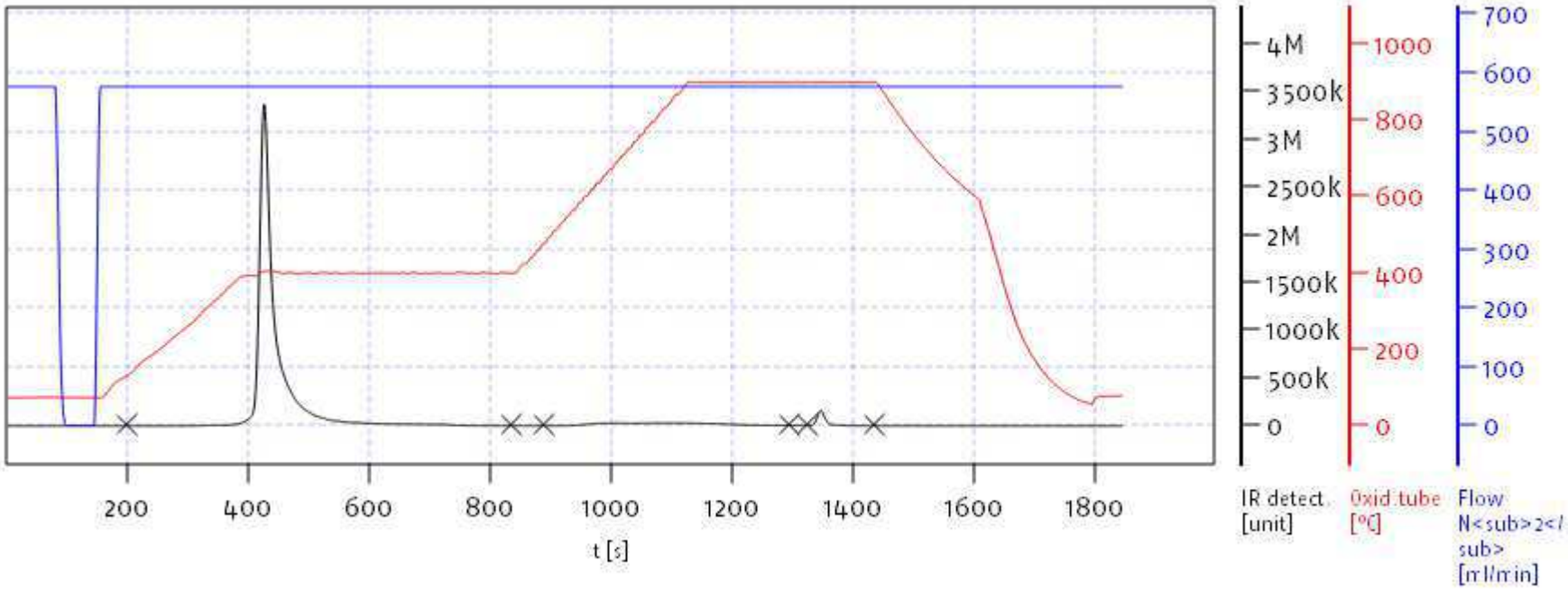
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
180	40	BJH0674-MS1	545.40	0.0106	1.00	CARBON	8/29/2021 12:36 PM	1.140	0.081	1.221	bl	3 733 680	273 424	100 090	0.9651	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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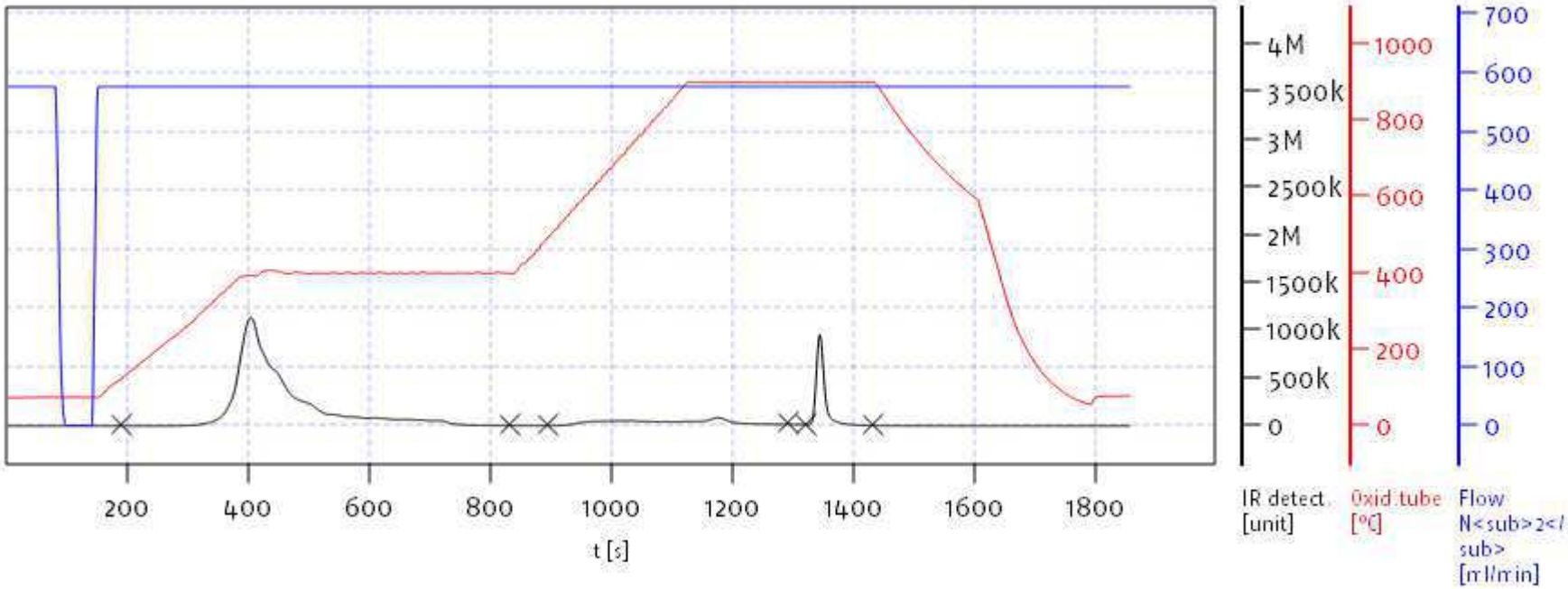
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
181	41	21H0274-01	165.80		1.00	CARBON	8/29/2021 1:07 PM	4.321	0.571	4.892	bl	3 818 180	572 056	580 044	0.9651	1.0000



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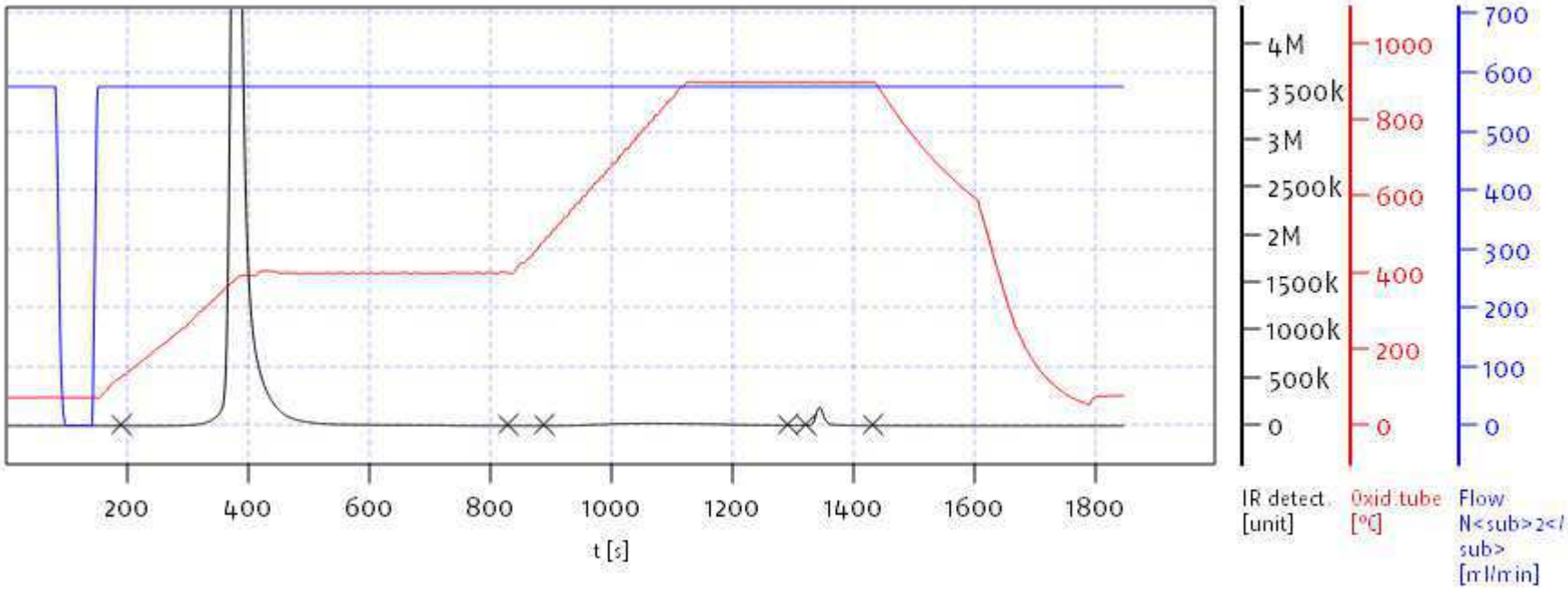
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
182	42	21H0274-02	138.80		1.00	CARBON	8/29/2021 1:39 PM	9.473	0.246	9.719	bl	7 959 620	213 893	126 043	0.9651	1.0000



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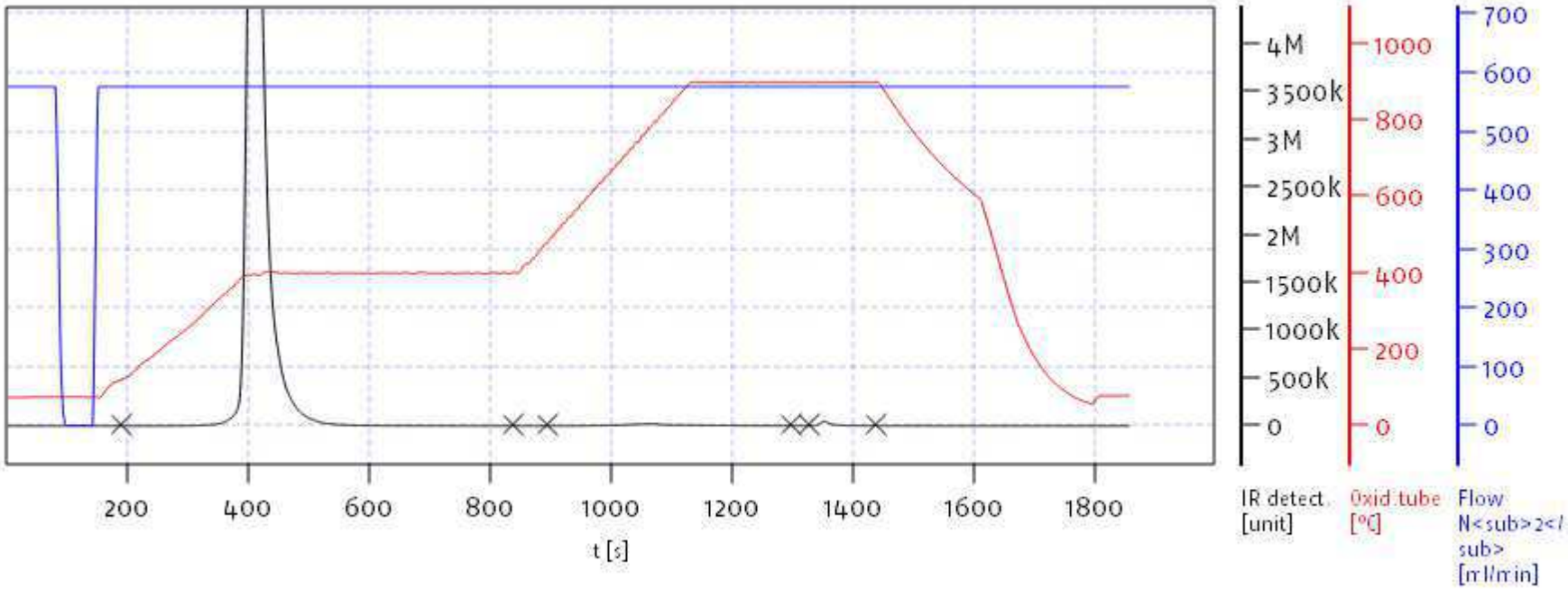
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
183	43	21H0274-03	520.80		1.00	CARBON	8/29/2021 2:10 PM	2.924	0.026	2.950	bl,Cl o	9 325 870	92 408	39 198	0.9651	1.0000



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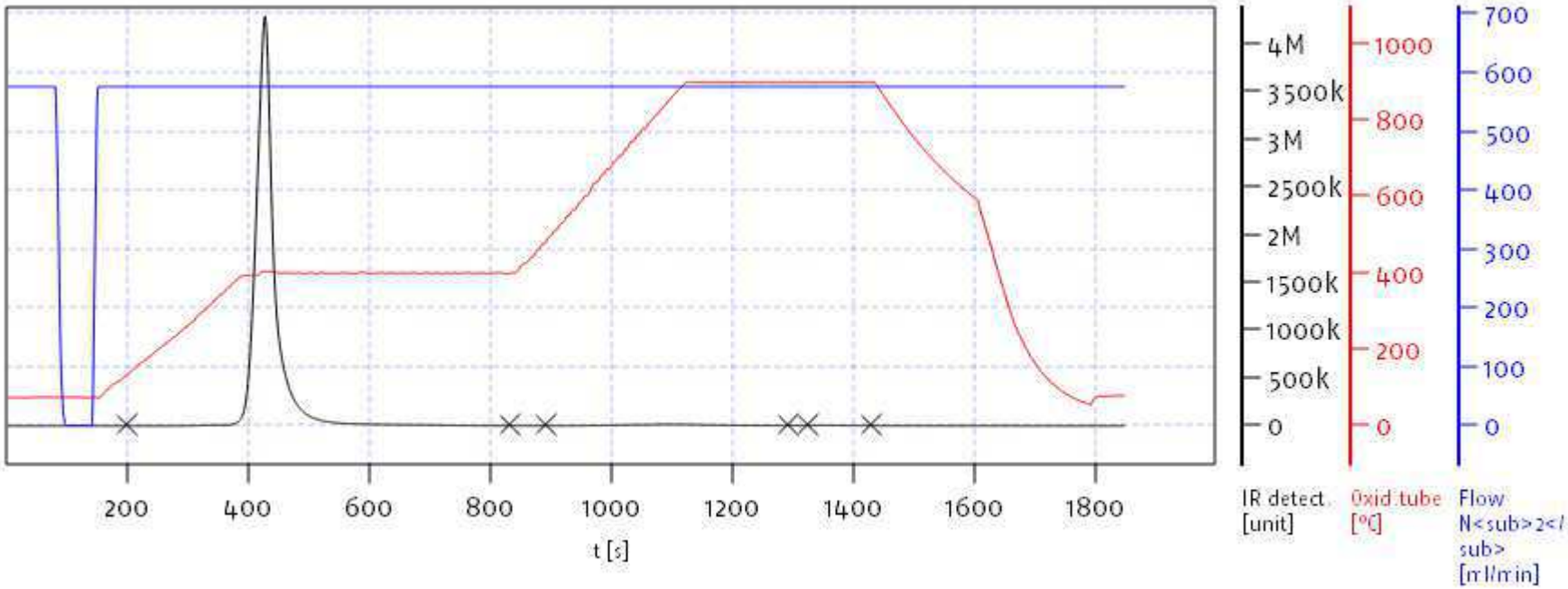
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
184	44	SJH0331-CCVF	20.30		1.00	CARBON	8/29/2021 2:41 PM	44.779	0.801	45.580	bl	5 584 430	107 969	15 612	0.9651	1.0000



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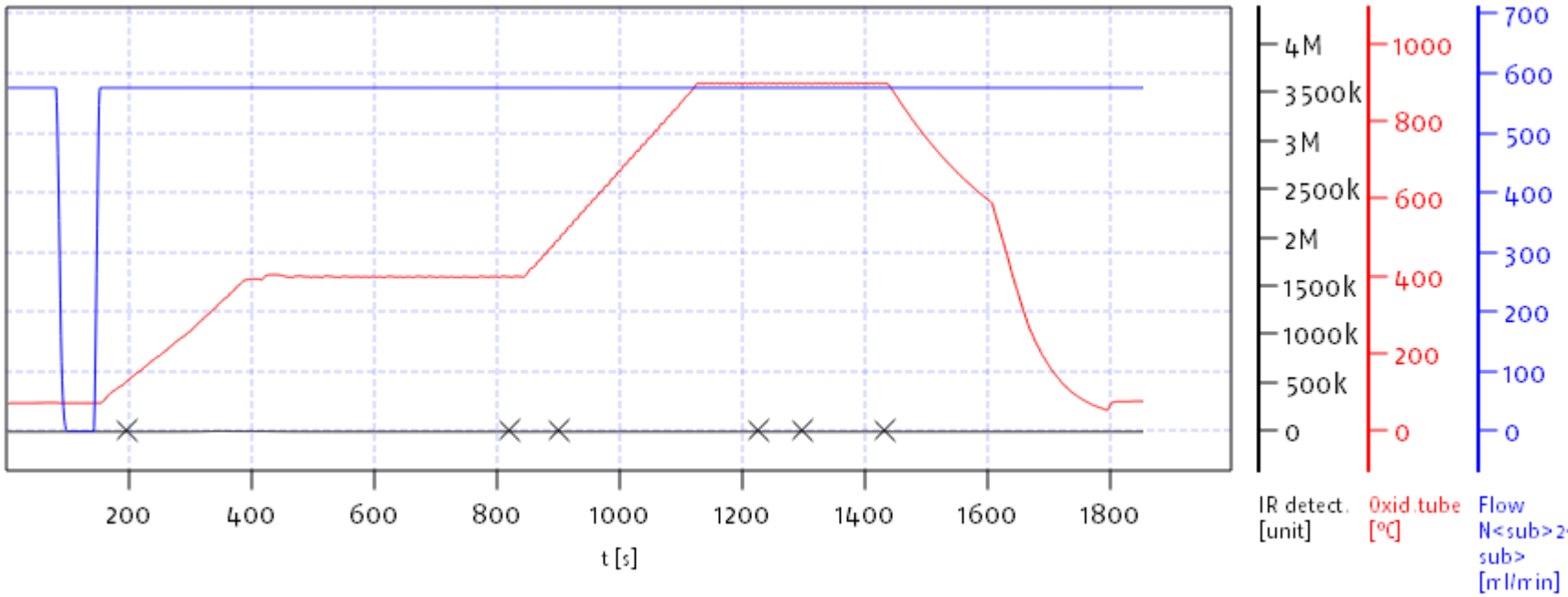
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
185	45	SJH0331-CCBF	512.70		1.00	CARBON	8/29/2021 3:13 PM	0.004	0.000	0.004	bl,C3u,C2u	24 272	1 086	436	0.9651	1.0000



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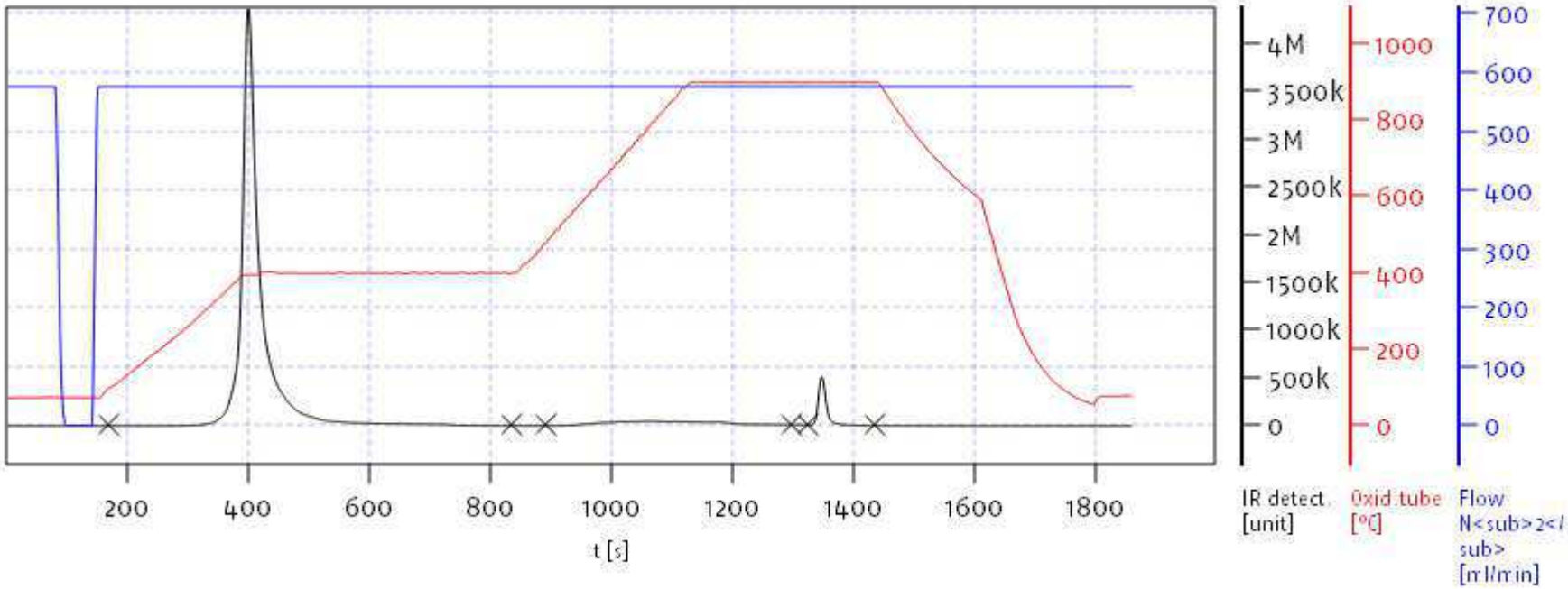
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
186	46	21H0274-04	172.00		1.00	CARBON	8/29/2021 3:44 PM	5.685	0.416	6.101	bl	5 703 440	435 100	307 981	0.9651	1.0000



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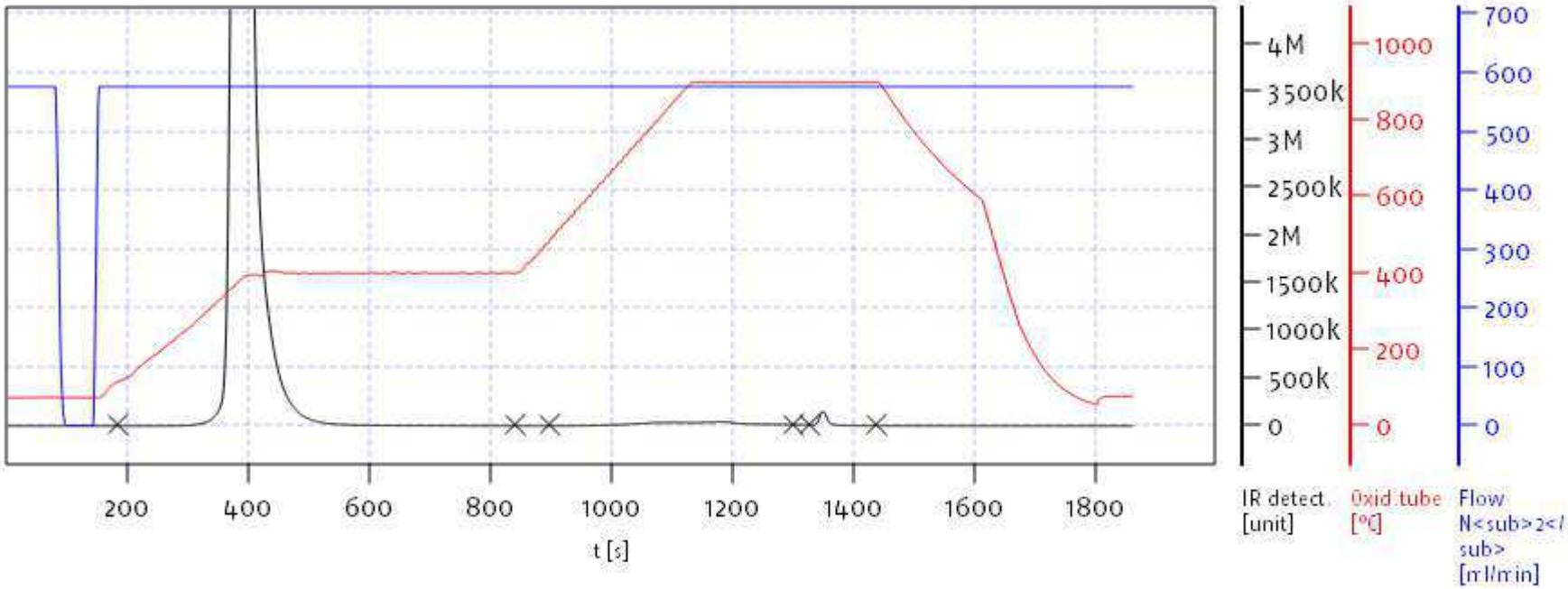
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
187	47	21H0275-01	152.70		1.00	CARBON	8/29/2021 4:16 PM	18.942	0.327	19.268	bl,C1o	17 668300	307 174	96 733	0.9651	1.0000



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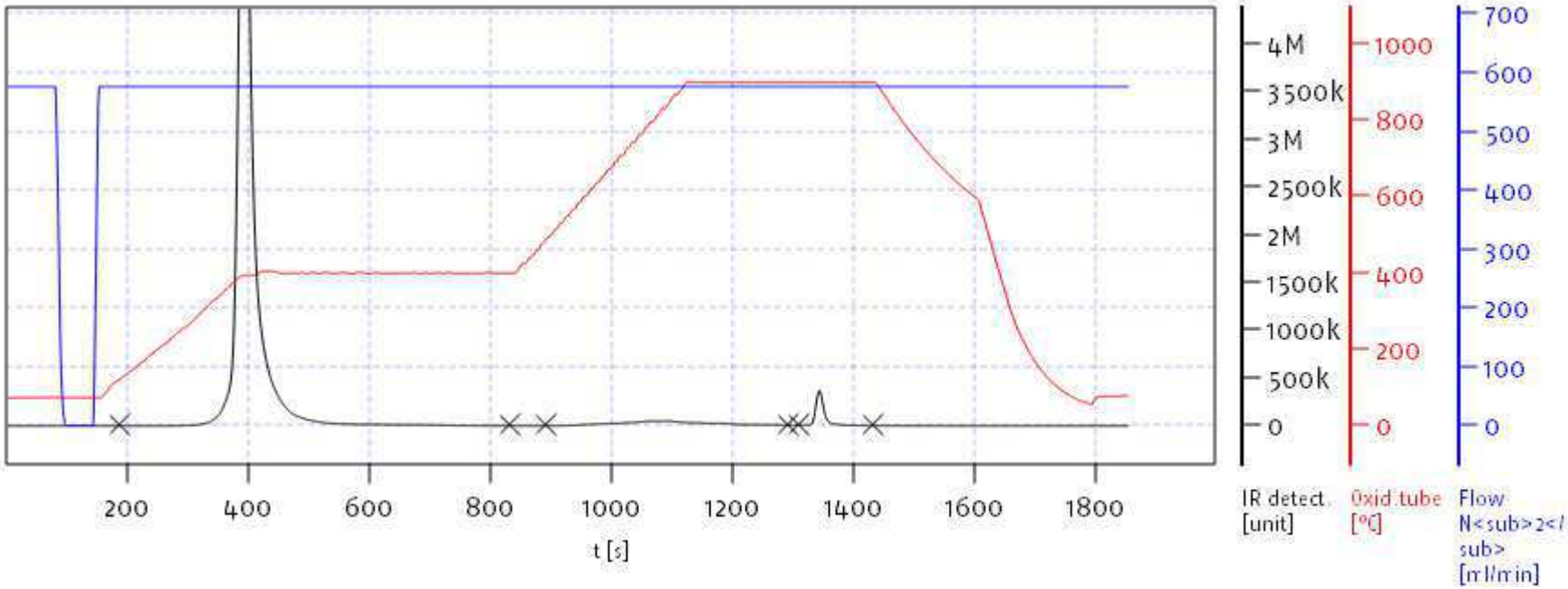
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
188	48	21H0275-02	181.60		1.00	CARBON	8/29/2021 4:47 PM	7.225	0.314	7.540	bl	7 834 780	349 790	230 470	0.9651	1.0000



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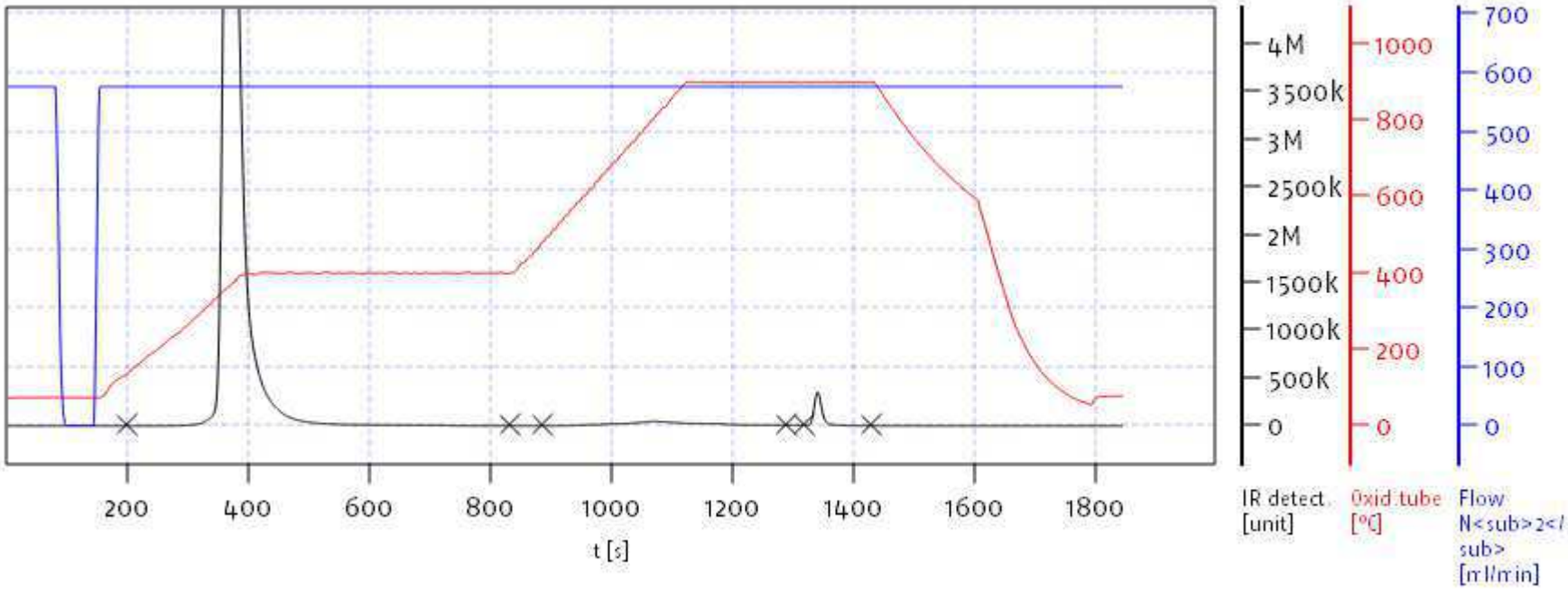
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
189	49	21H0275-03	175.40		1.00	CARBON	8/29/2021 5:18 PM	9.928	0.256	10.184	bl,Clo	10 495 200	278 007	204 224	0.9651	1.0000



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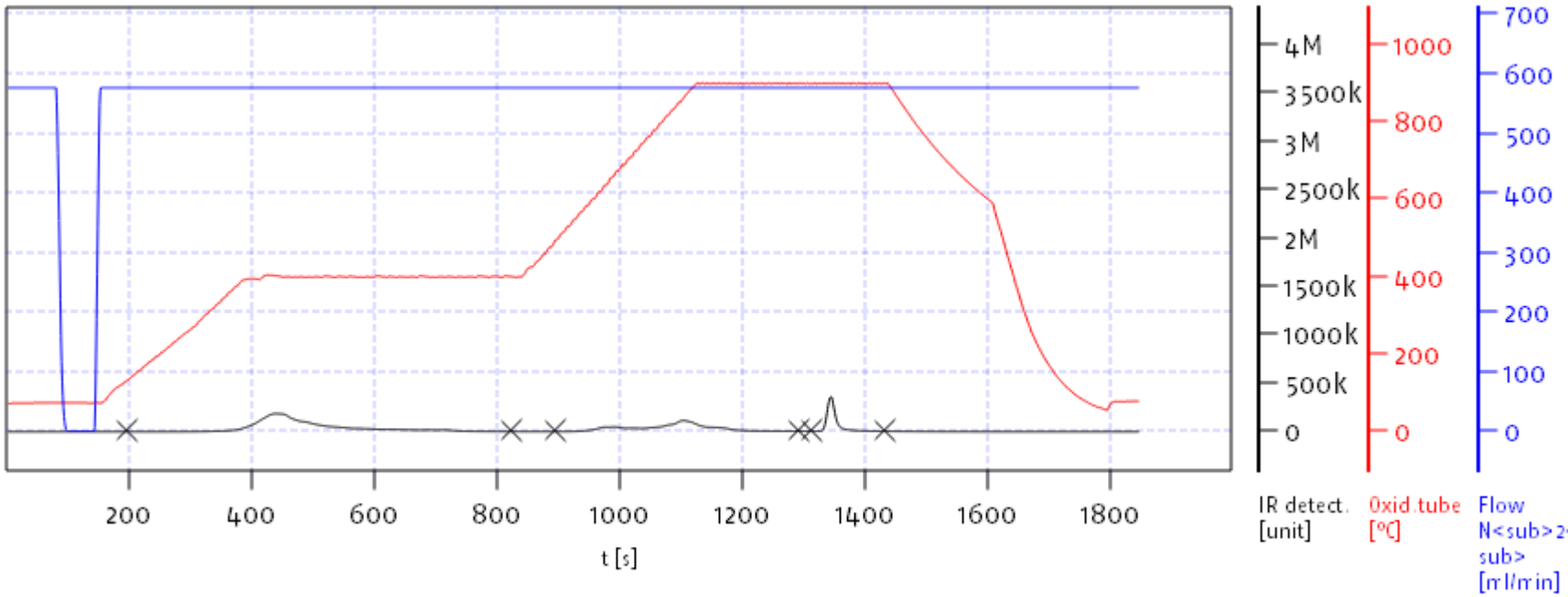
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
190	50	21H0275-04	595.50		1.00	CARBON	8/29/2021 5:49 PM	0.288	0.138	0.426	bl	832 669	498 138	234 707	0.9651	1.0000



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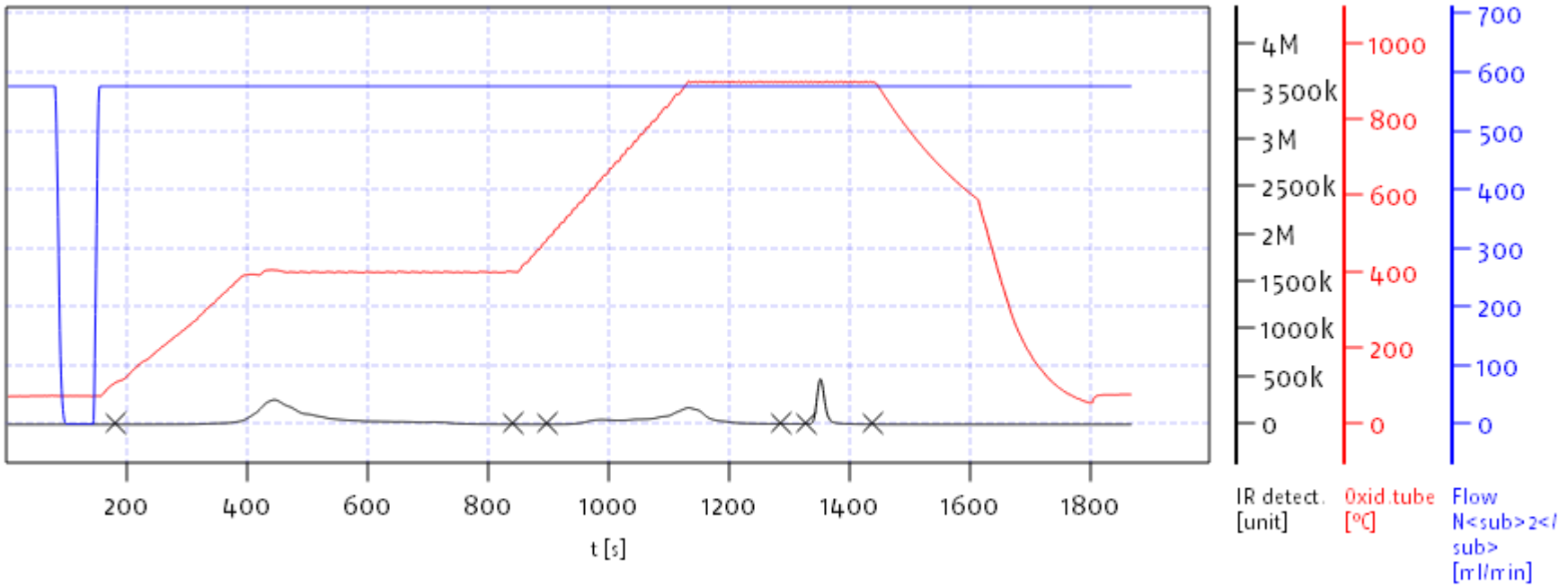
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
191	51	21H0275-05	526.70		1.00	CARBON	8/29/2021 6:21 PM	0.421	0.225	0.645	bl	1 085 710	711 901	286 674	0.9651	1.0000



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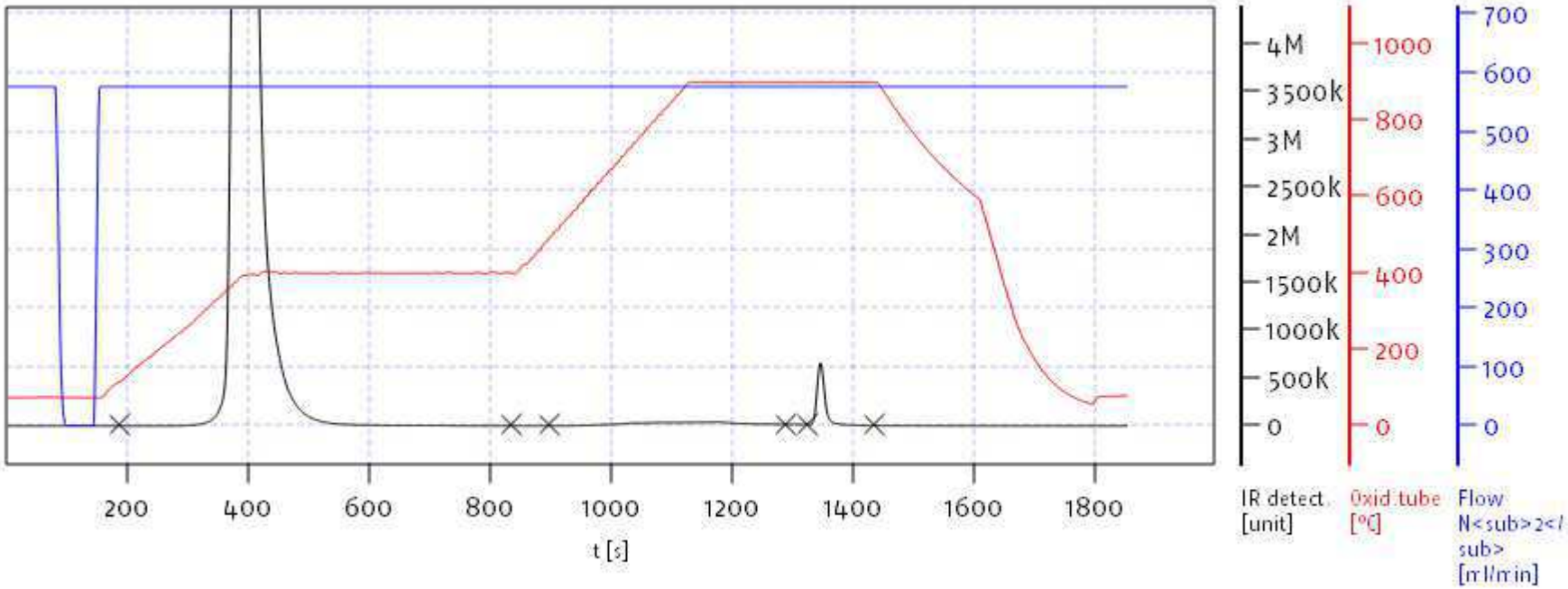
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
192	52	21H0275-06	179.70		1.00	CARBON	8/29/2021 6:52 PM	19.636	0.297	19.934	bl,Cl o	21 271 400	328 099	386 832	0.9651	1.0000



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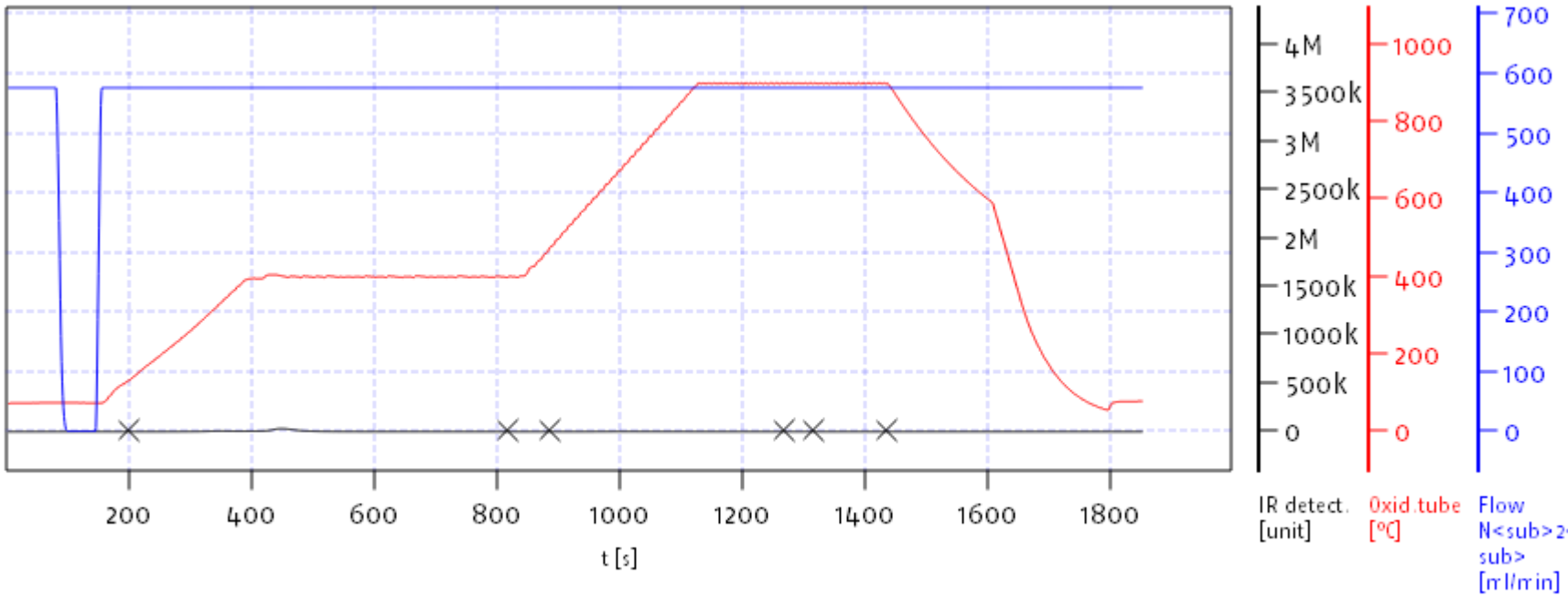
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
193	53	BJH0677-MRL1	538.30		1.00	CARBON	8/29/2021 7:24 PM	0.021	0.000	0.021	bl,C3u,C2u	81 334	6 834	305	0.9651	1.0000



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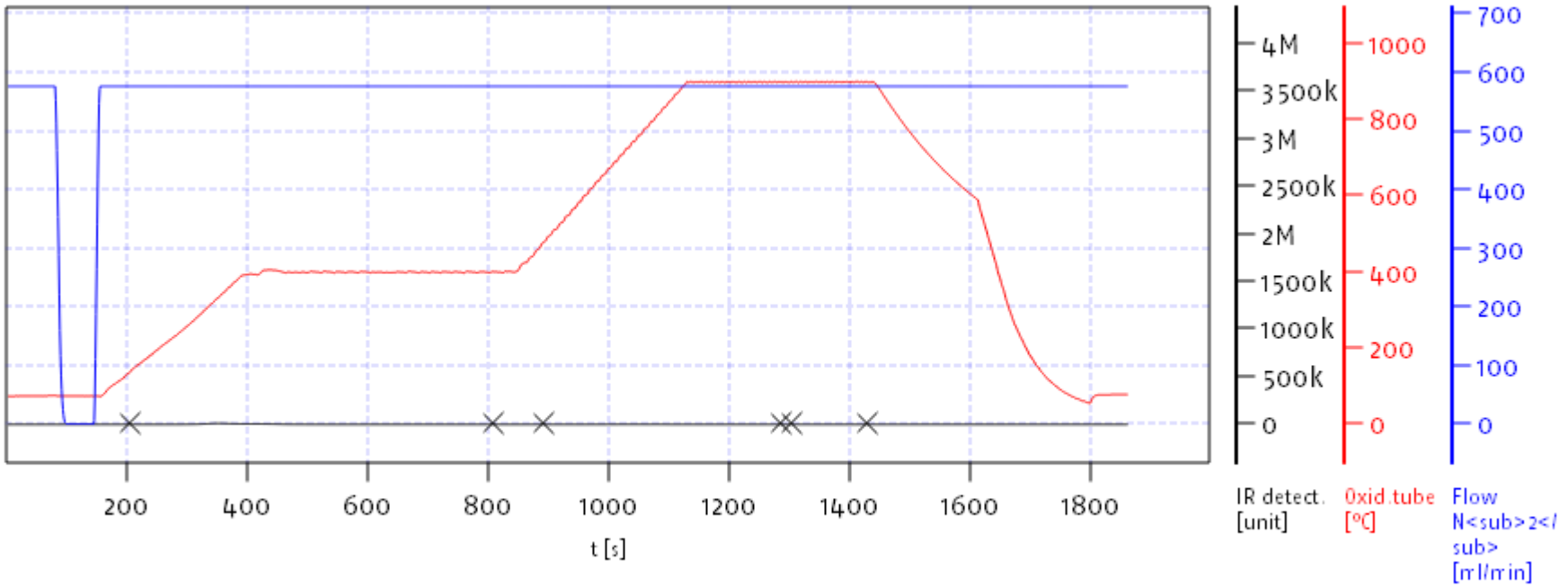
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
194	54	BJH0677-BLK1	537.20		1.00	CARBON	8/29/2021 7:55 PM	0.008	0.000	0.008	bl,C3u,C2u	36 820	4 881	448	0.9651	1.0000



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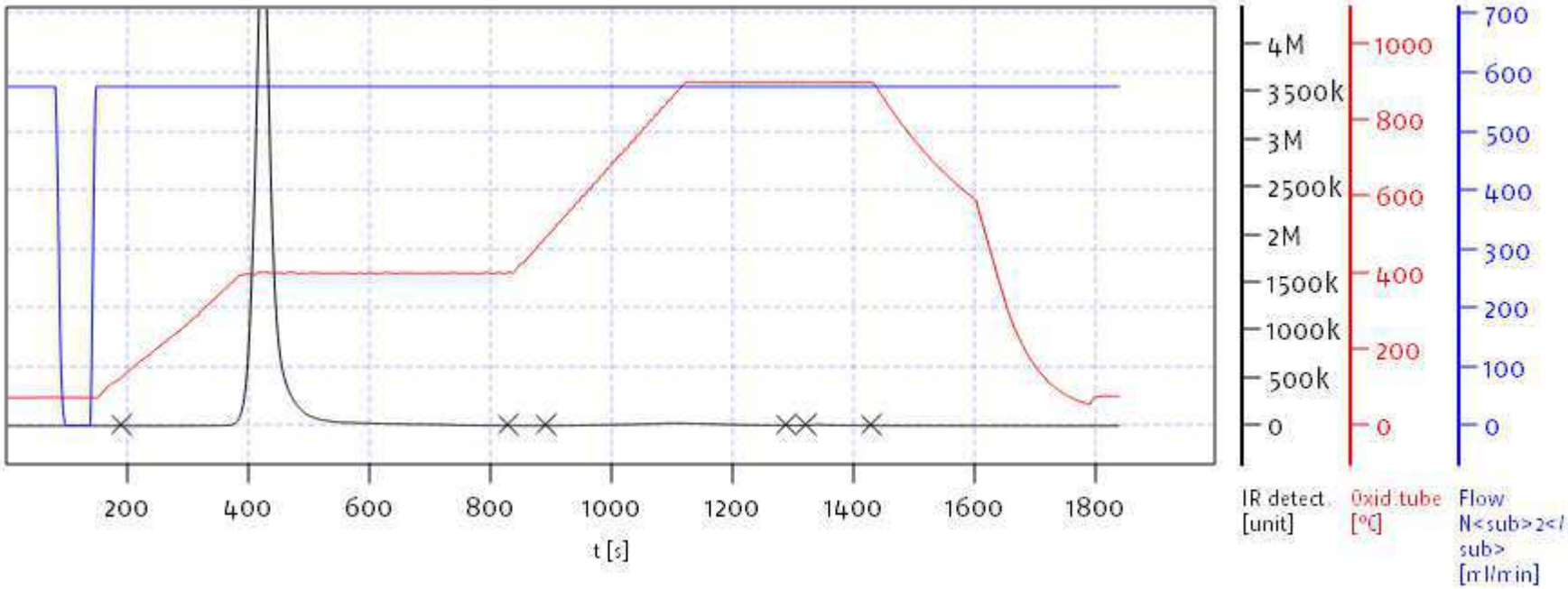
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
195	55	BJH0677-BS1	24.50		1.00	CARBON	8/29/2021 8:26 PM	44.364	1.263	45.627	bl	6 667 020	194 880	24 111	0.9651	1.0000



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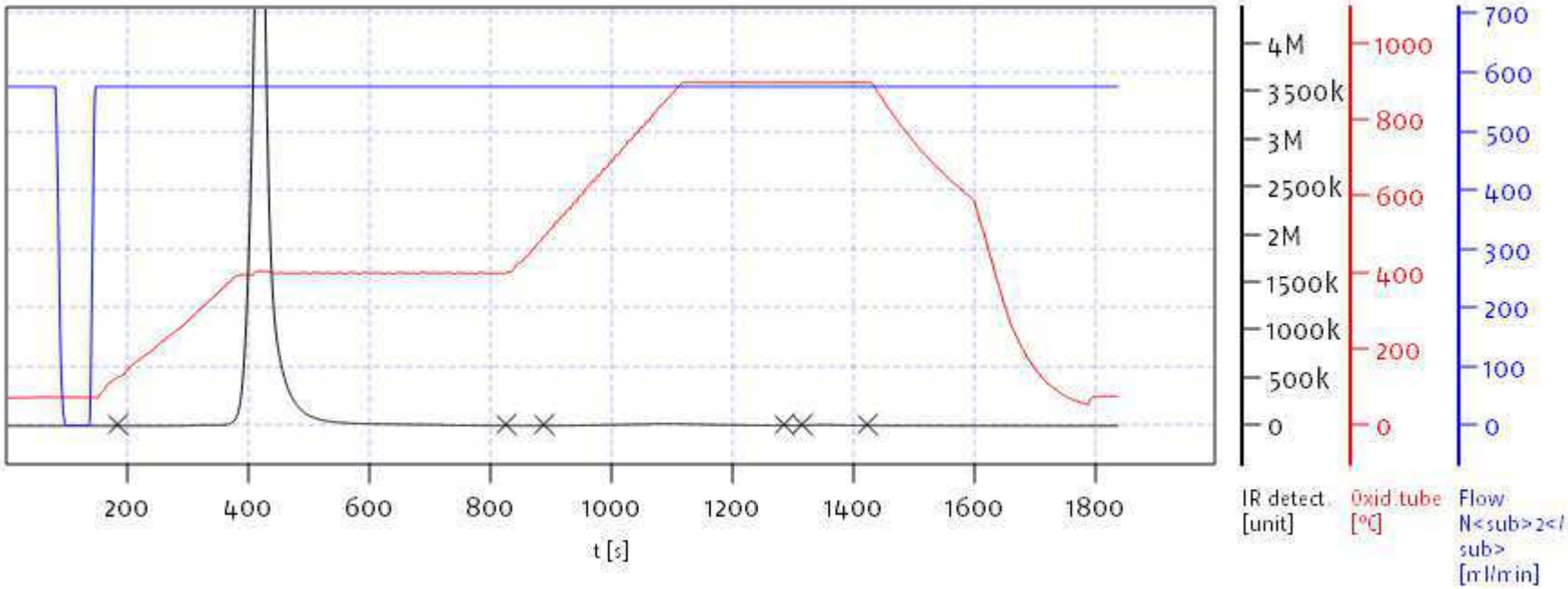
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
196	56	SJH0331-CCVG	28.20		1.00	CARBON	8/29/2021 8:58 PM	45.395	0.880	46.275	bl	7 851 740	158 612	24 729	0.9651	1.0000



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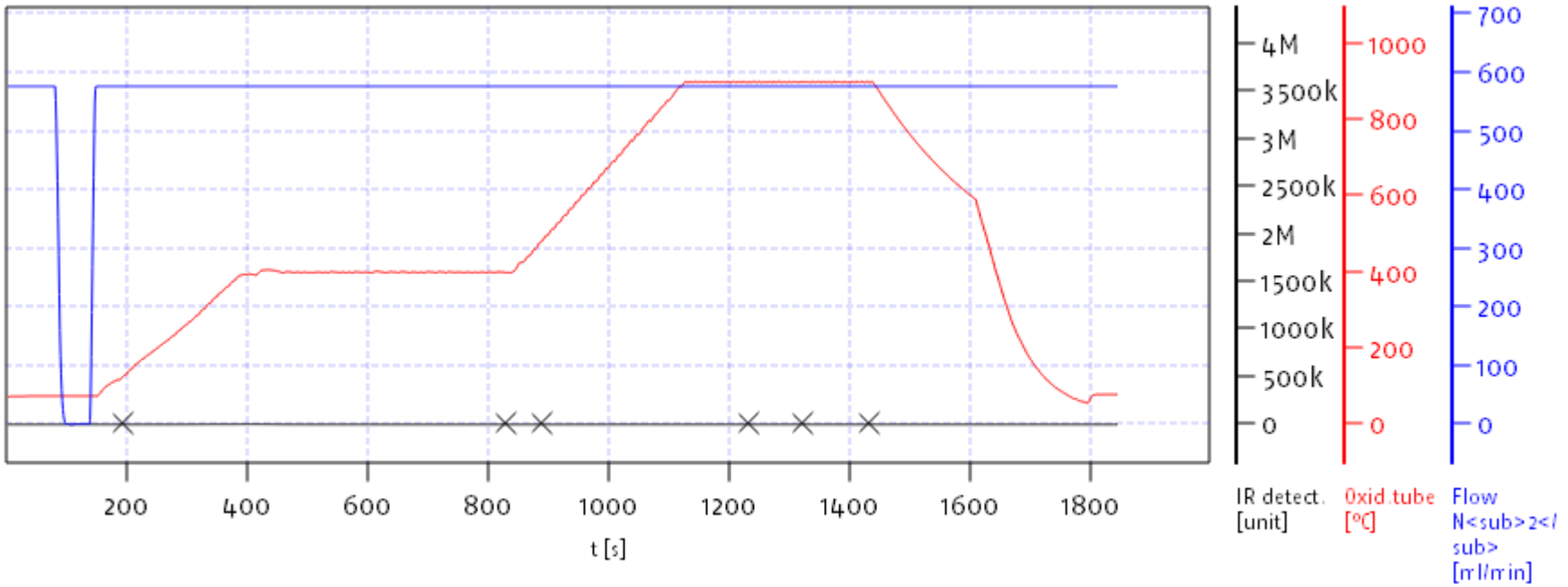
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
197	57	SJH0331-CCBG	515.50		1.00	CARBON	8/29/2021 9:29 PM	0.000	0.000	0.000	bl,C3u,C2u	12 285	1 549	397	0.9651	1.0000



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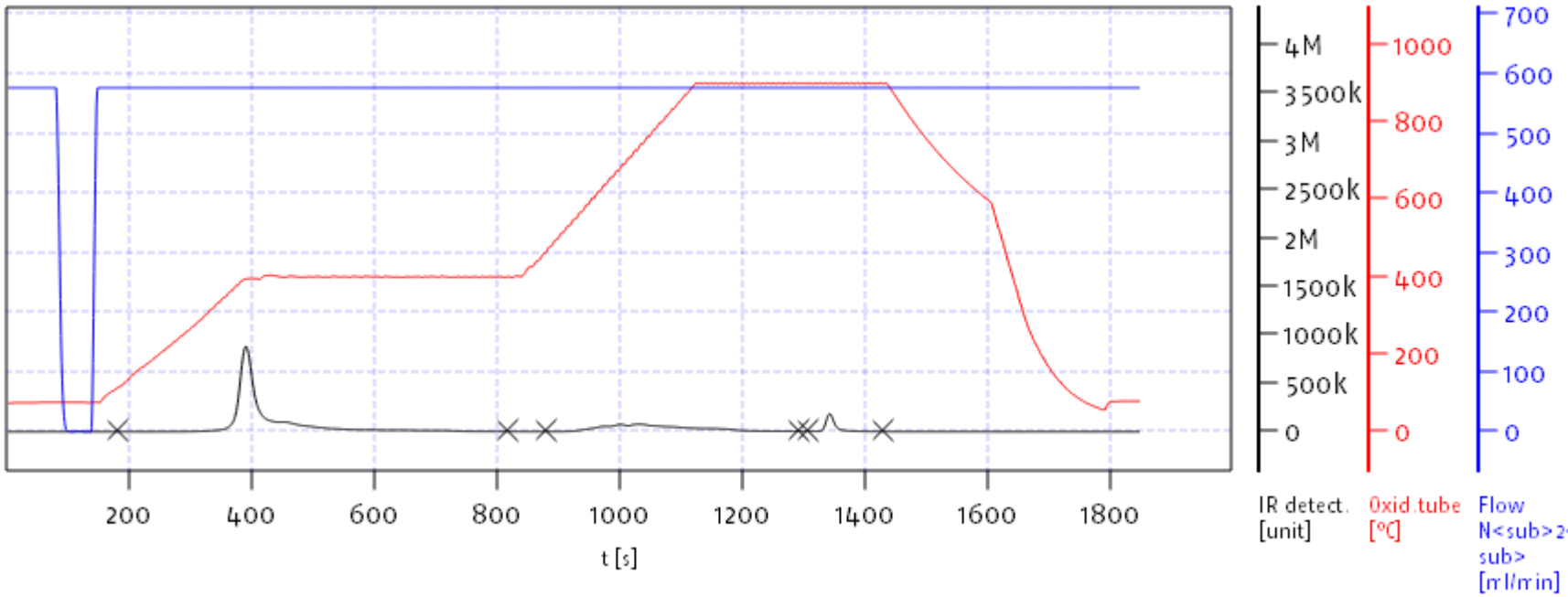
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
198	58	21H0224-02	321.90		1.00	CARBON	8/29/2021 10:00 PM	0.739	0.246	0.985	bl	1 357 010	480 652	122 297	0.9651	1.0000



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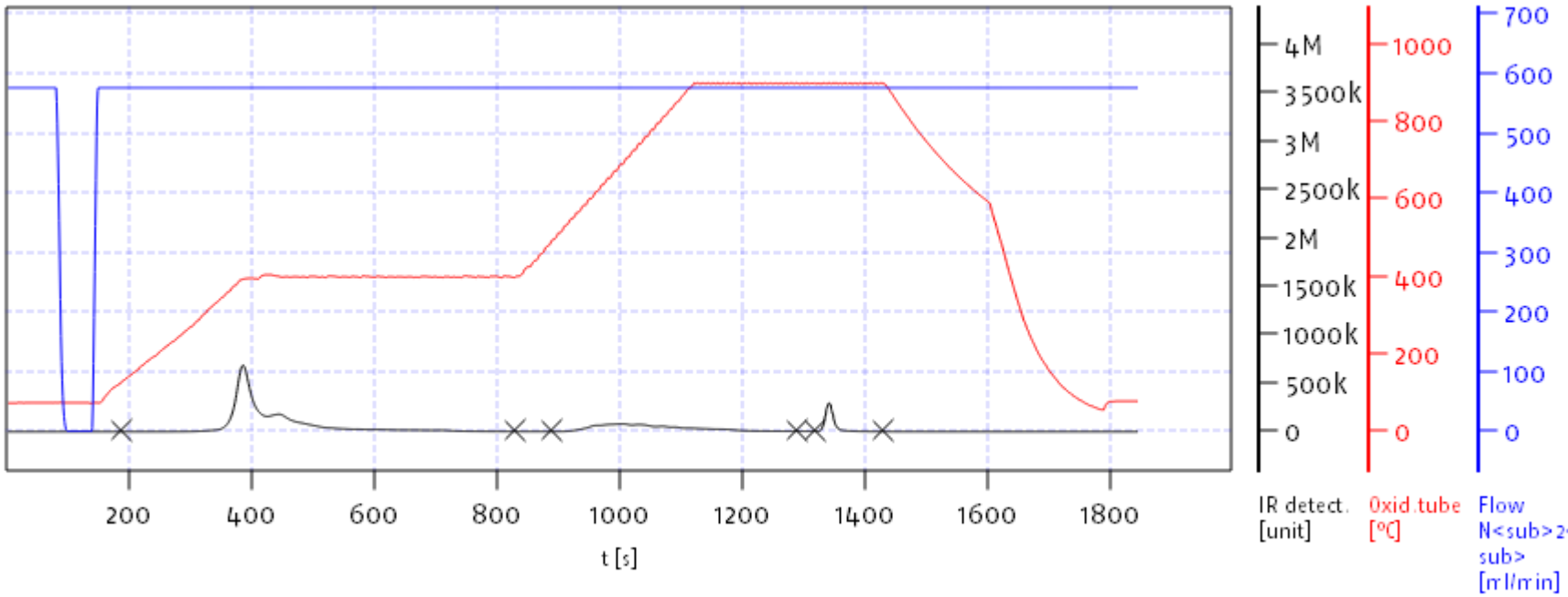
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
199	59	BJH0677-DUP1	331.90		1.00	CARBON	8/29/2021 10:31 PM	0.791	0.254	1.045	bl	1 448 930	511 750	178 206	0.9651	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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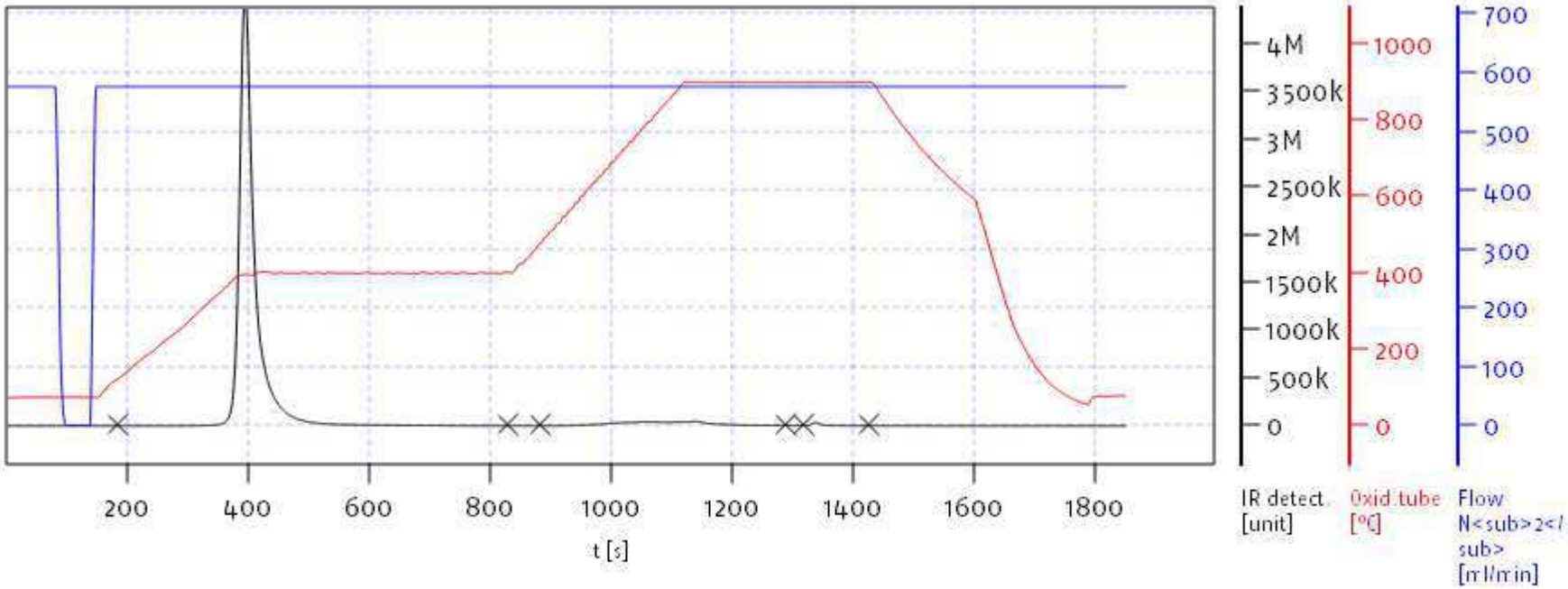
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
200	60	BJH0677-MS1	268.40	0.0122	1.00	CARBON	8/29/2021 11:03 PM	3.006	0.189	3.195	bl	4 945 240	311 892	26 776	0.9651	1.0000



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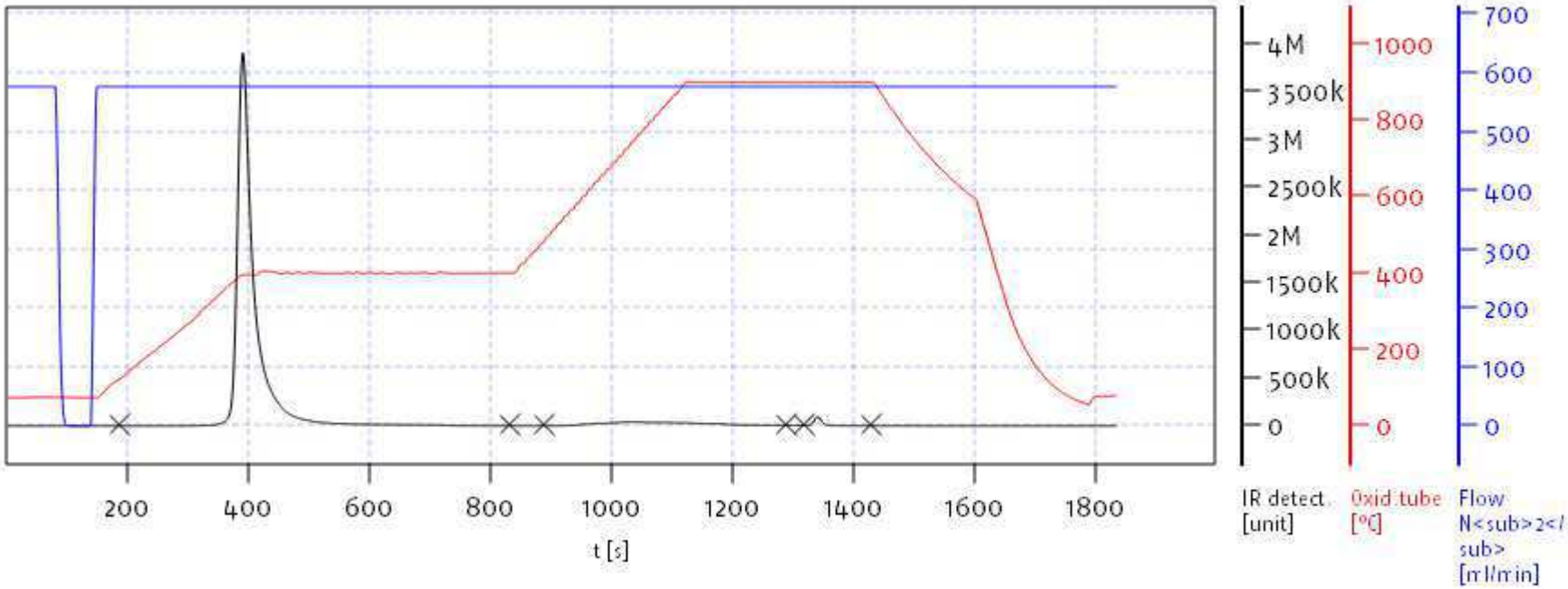
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
201	61	BJH0677-MSD1	258.10	0.0119	1.00	CARBON	8/29/2021 11:34 PM	2.949	0.195	3.144	bl	4 632 900	309 617	58 939	0.9651	1.0000



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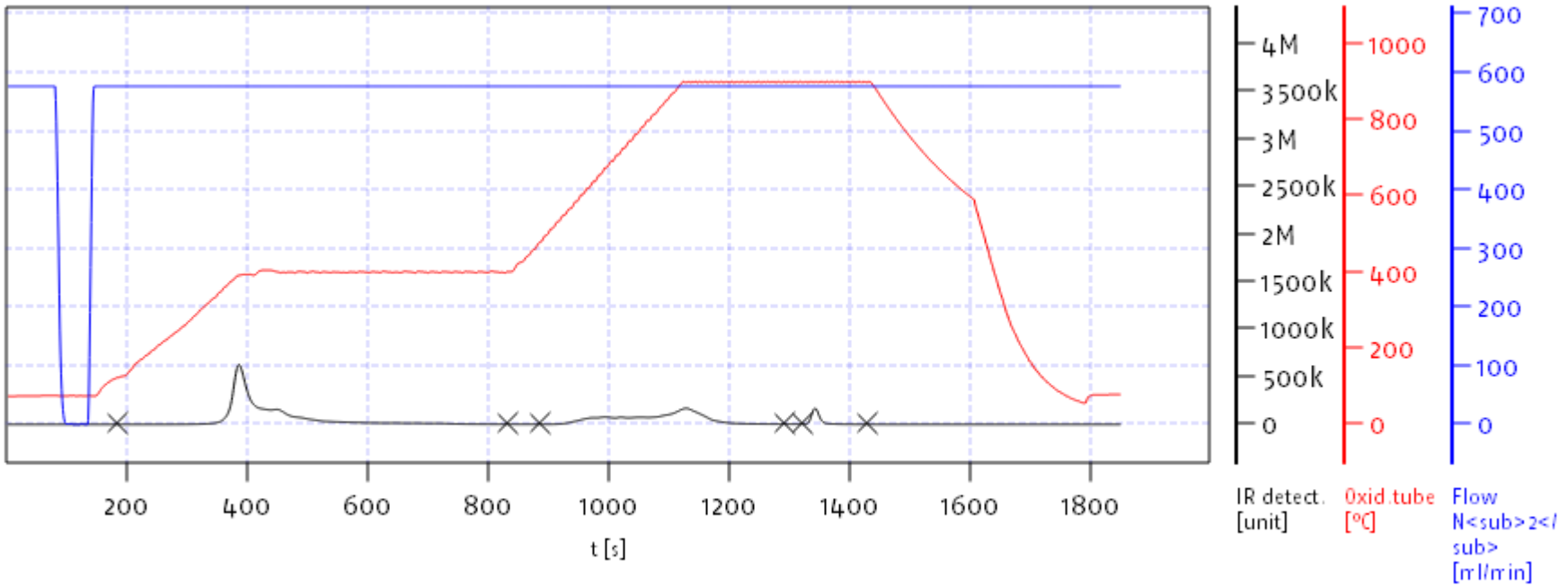
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
202	62	21H0224-03	331.30		1.00	CARBON	8/30/2021 12:05 AM	0.674	0.413	1.087	bl	1 287 520	821 348	102 649	0.9651	1.0000



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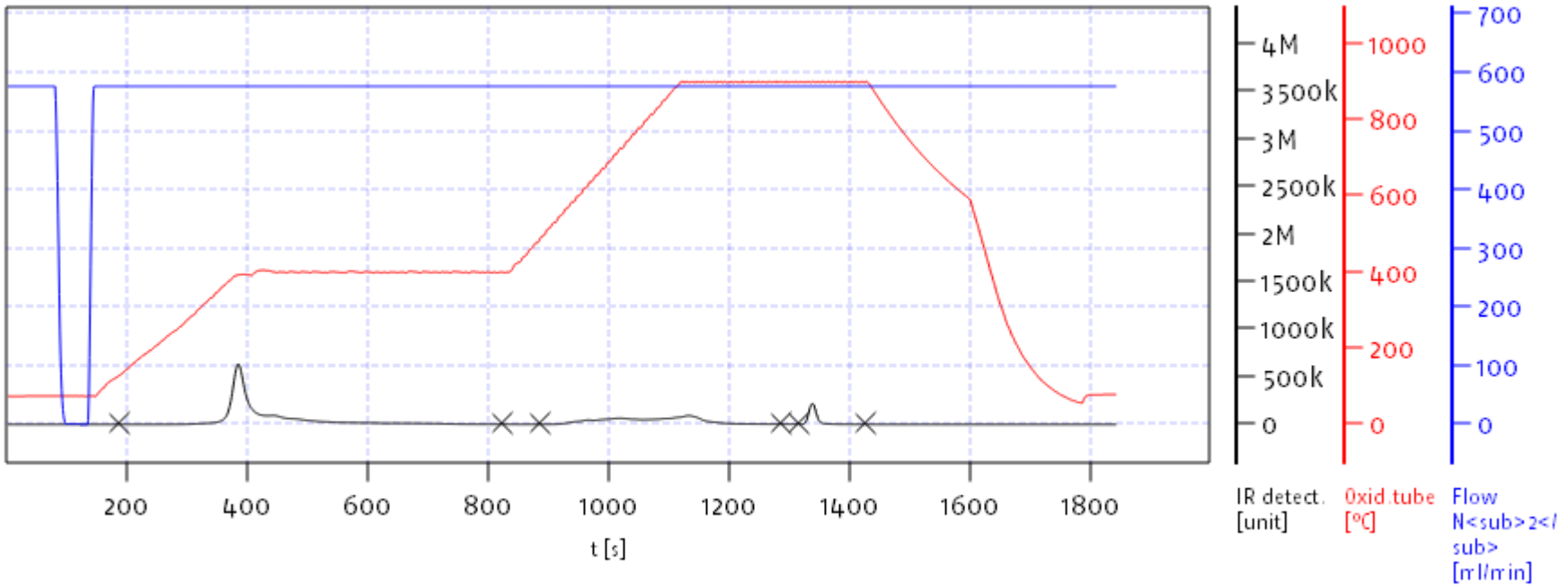
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
203	63	21H0224-04	216.30		1.00	CARBON	8/30/2021 12:36 AM	0.883	0.409	1.292	bl	1 064 670	535 045	126 428	0.9651	1.0000



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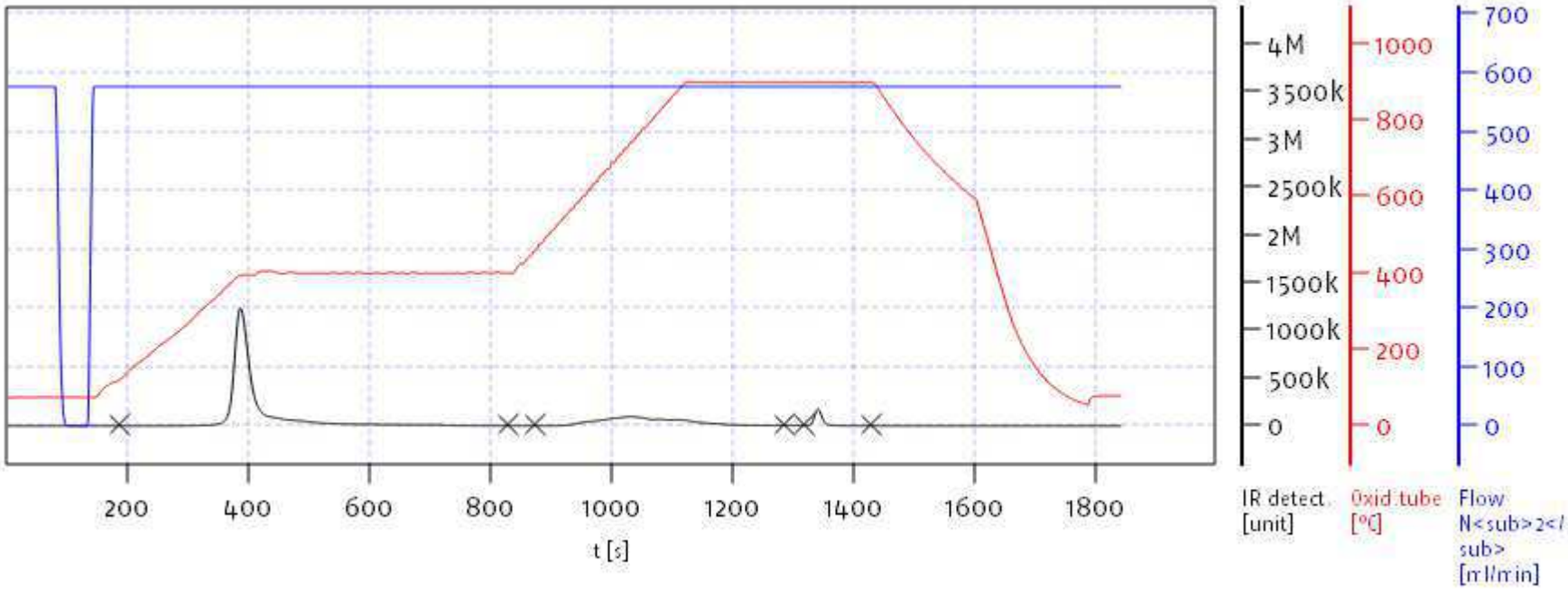
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
204	64	21H0224-05	325.20		1.00	CARBON	8/30/2021 1:07 AM	0.894	0.294	1.188	bl	1 702 020	577 355	102 413	0.9651	1.0000



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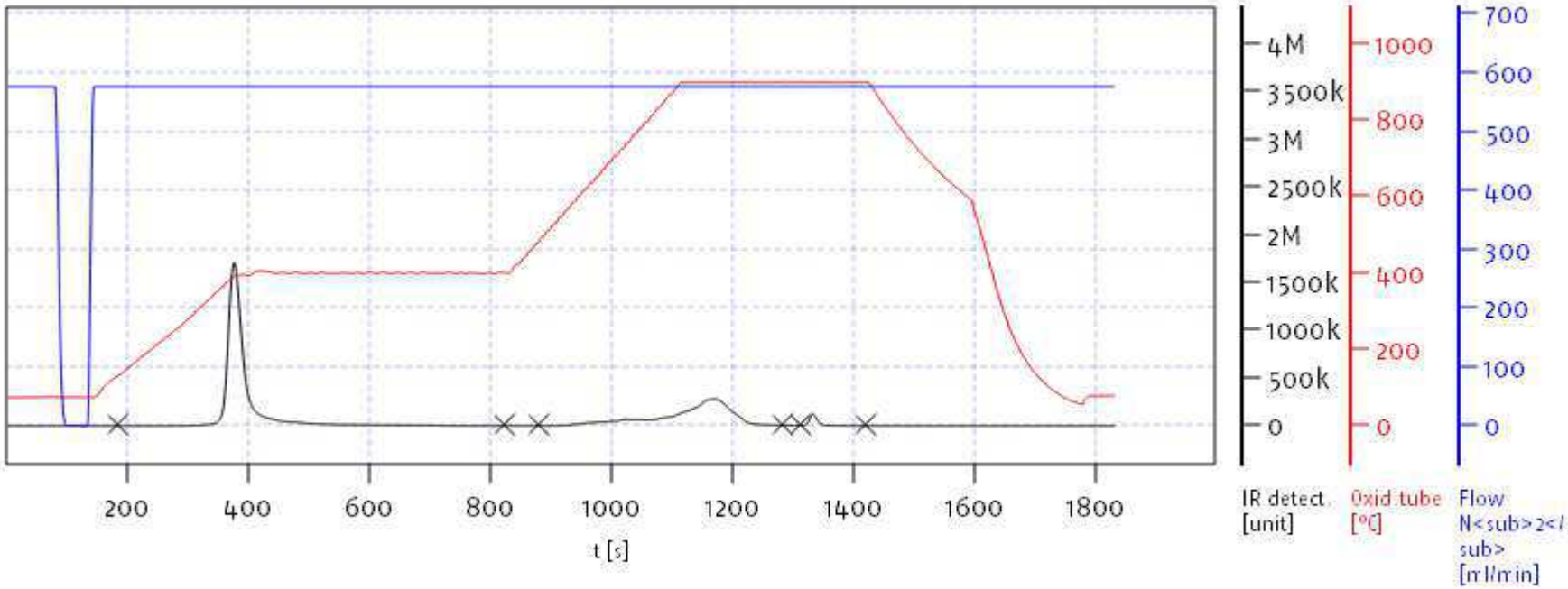
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
205	65	21H0224-06	343.50		1.00	CARBON	8/30/2021 1:38 AM	0.978	0.587	1.565	bl	2 005 360	1 205 480	77 385	0.9651	1.0000



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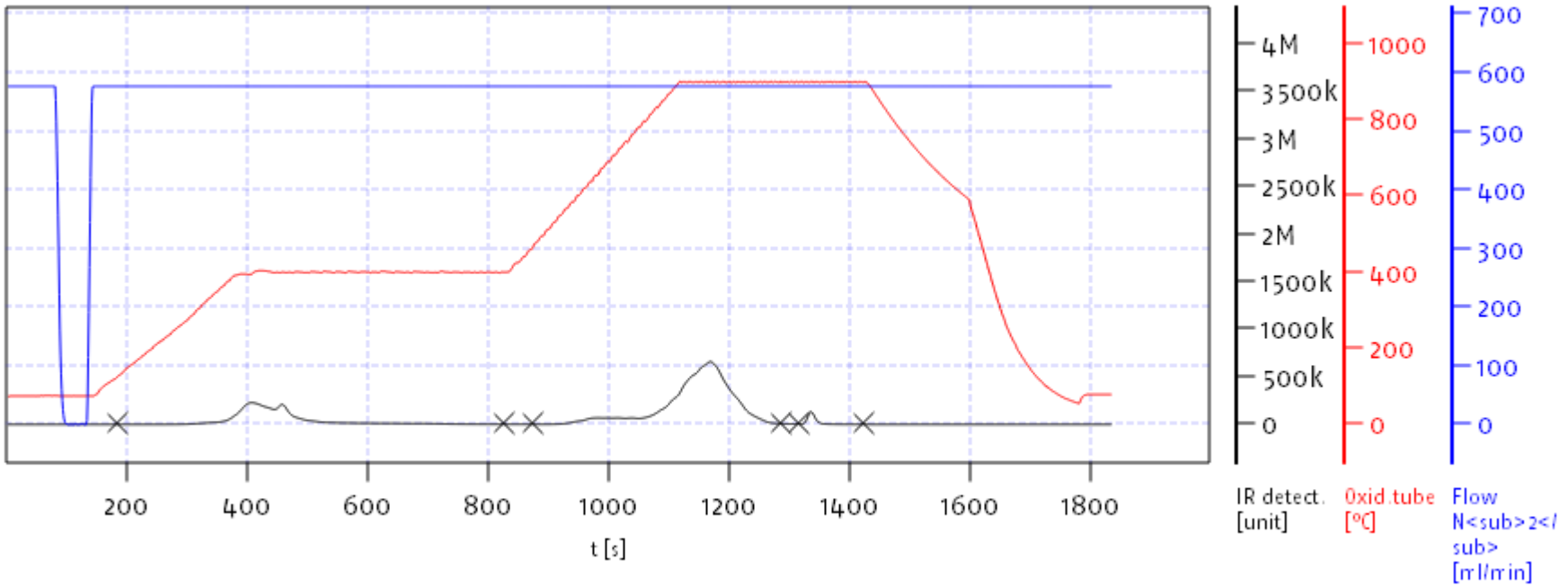
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
206	66	21H0224-07	345.80		1.00	CARBON	8/30/2021 2:09 AM	0.456	1.305	1.761	bl	909 599	2 684 350	78 594	0.9651	1.0000



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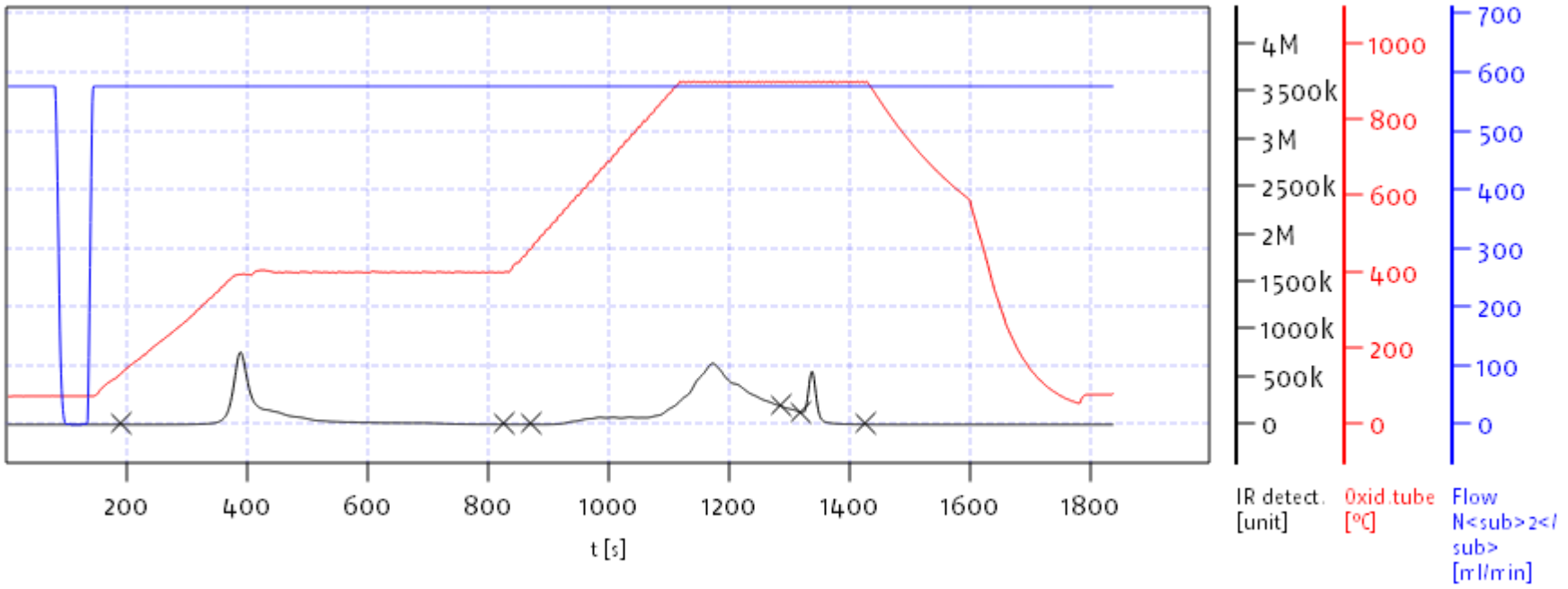
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
207	67	21H0224-08	336.20		1.00	CARBON	8/30/2021 2:40 AM	0.880	1.549	2.429	bl	1 447 370	3 095 250	376 840	0.9651	1.0000



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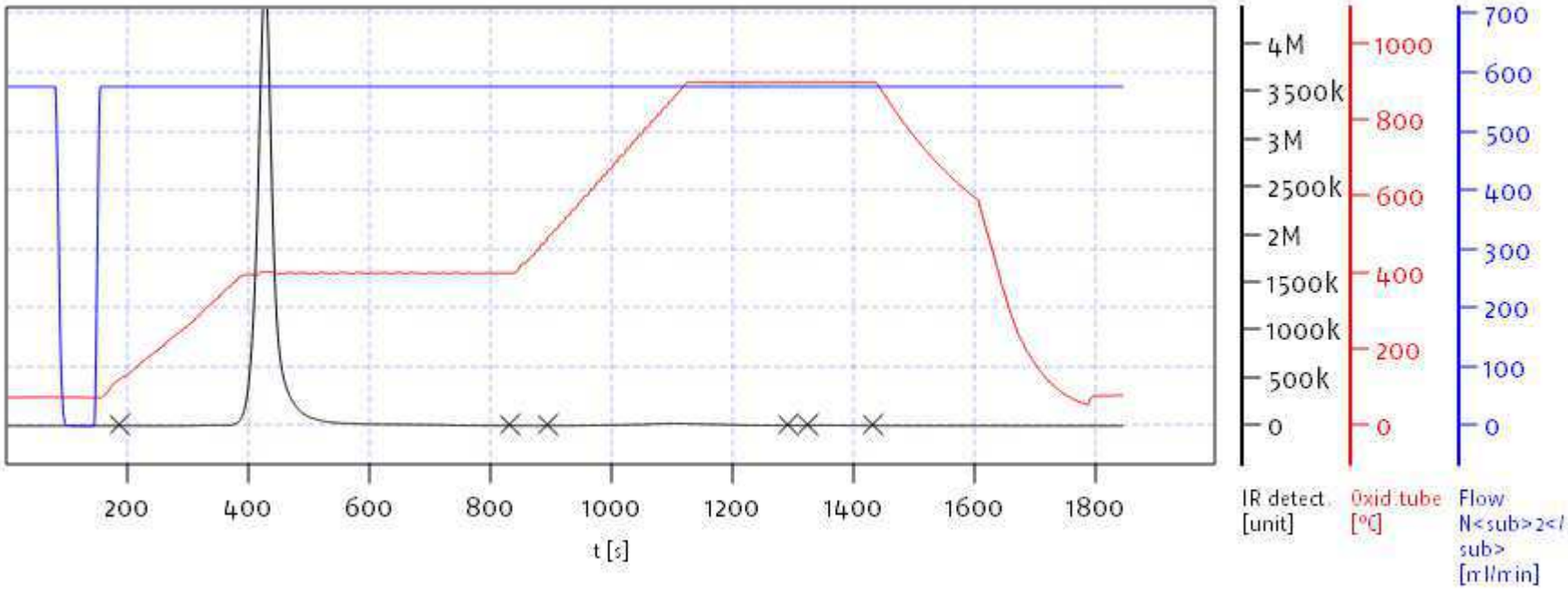
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
208	68	SJH0331-CCVH	20.30		1.00	CARBON	8/30/2021 3:12 AM	44.545	1.246	45.790	bl	5 554 990	161 382	15 856	0.9651	1.0000



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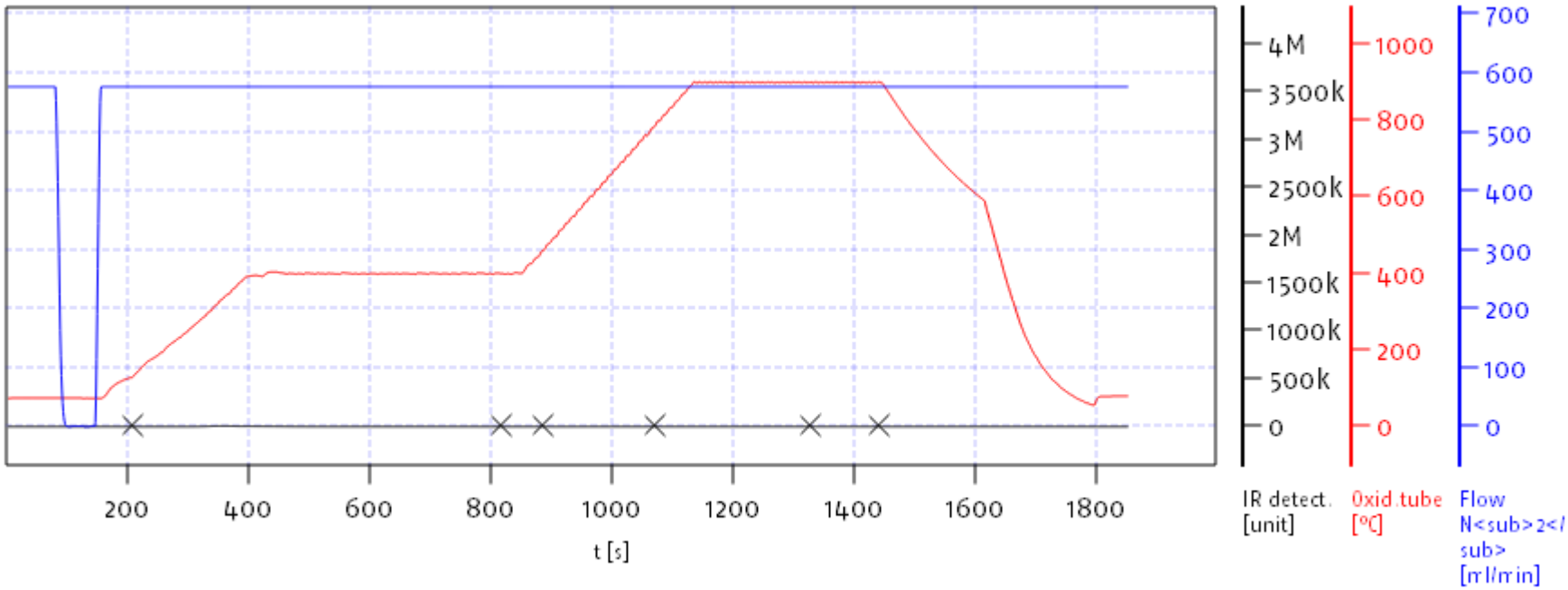
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
209	69	SJH0331-CCBH	513.70		1.00	CARBON	8/30/2021 3:43 AM	0.003	0.000	0.003	bl,C3u,C2u	22 555	212	386	0.9651	1.0000



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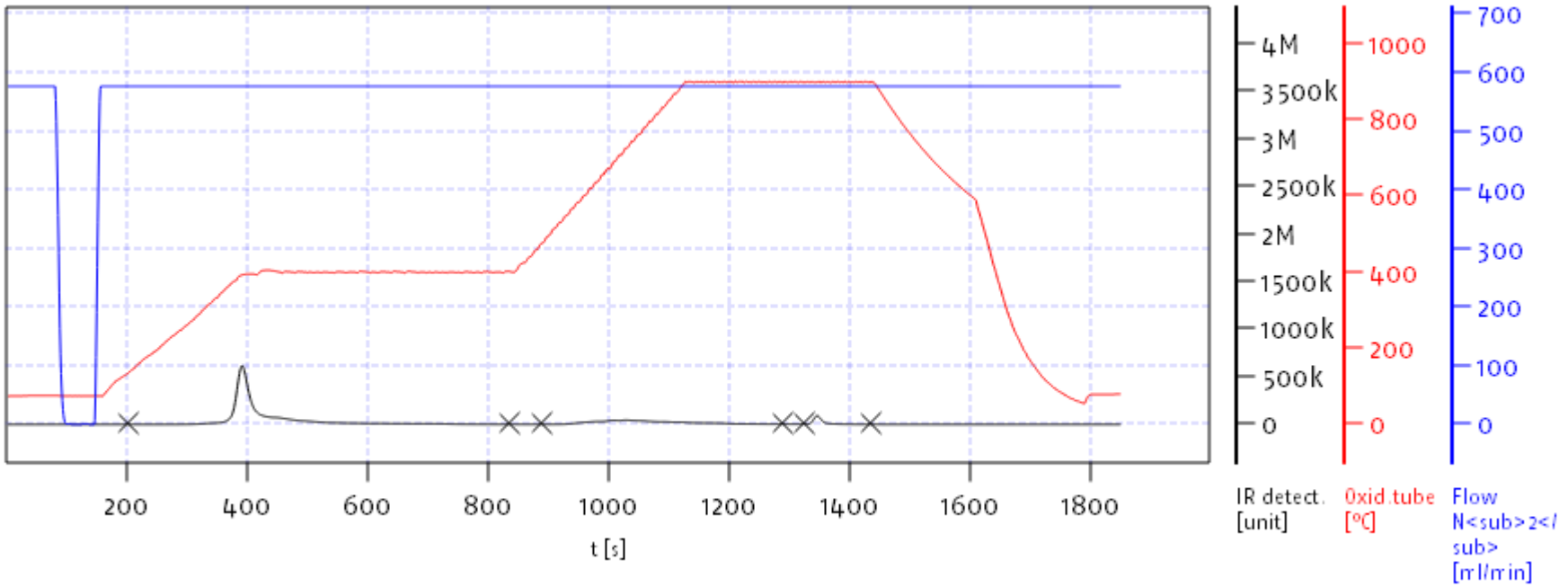
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
210	70	21H0224-09	213.30		1.00	CARBON	8/30/2021 4:14 AM	0.729	0.211	0.940	bl	915 310	278 071	60 869	0.9651	1.0000



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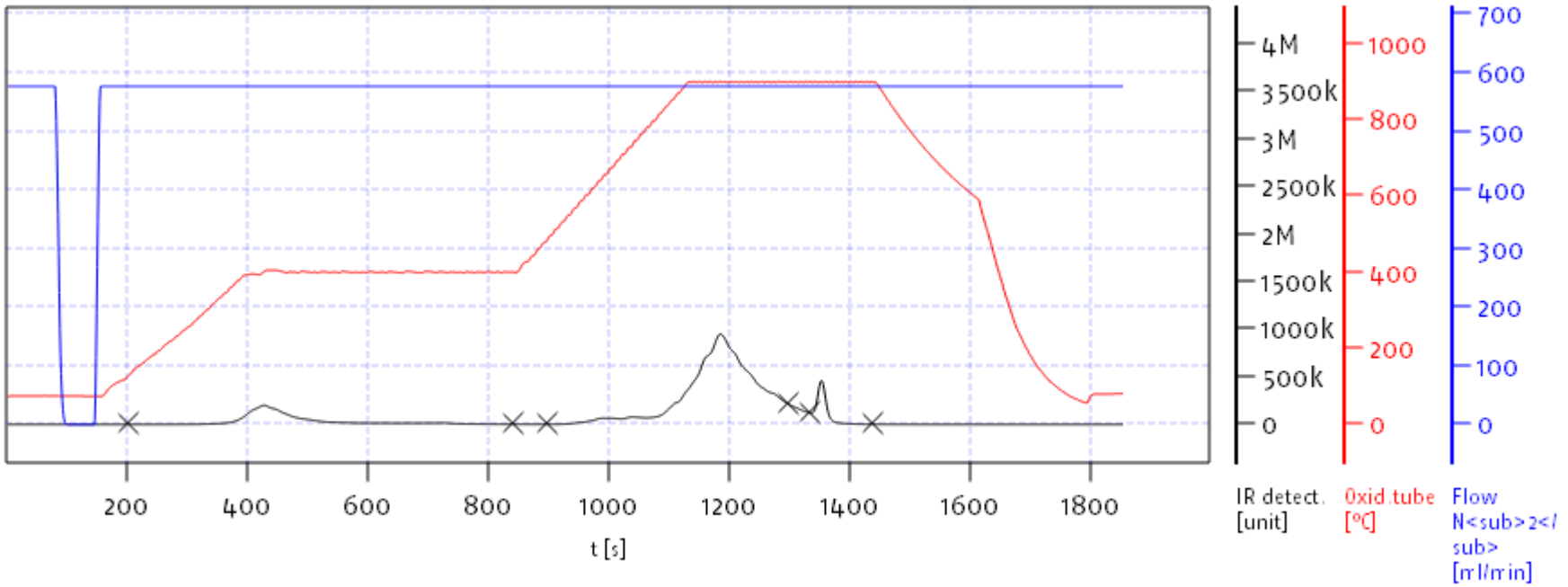
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
211	71	21H0234-01	219.50		1.00	CARBON	8/30/2021 4:46 AM	0.794	3.228	4.022	bl	744 062	4 207 200	336 945	0.9651	1.0000



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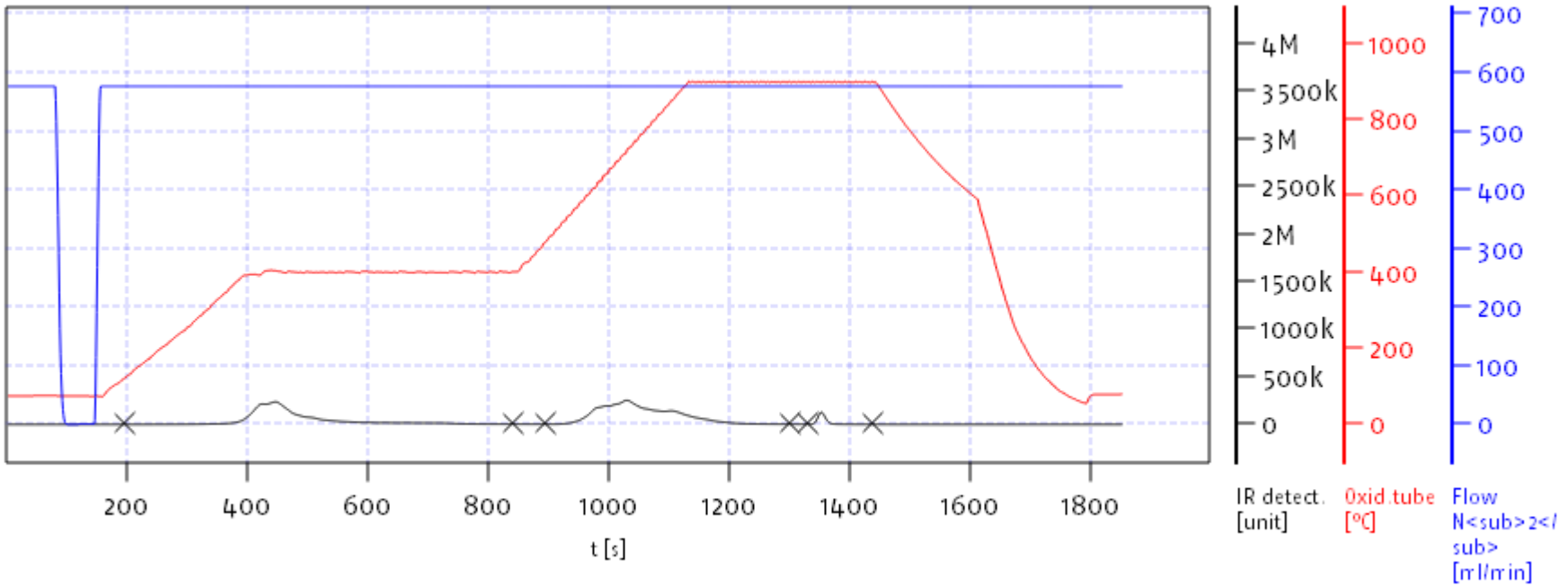
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
212	72	21H0234-04	517.90		1.00	CARBON	8/30/2021 5:17 AM	0.303	0.412	0.715	bl	907 251	1 275 550	76 254	0.9651	1.0000



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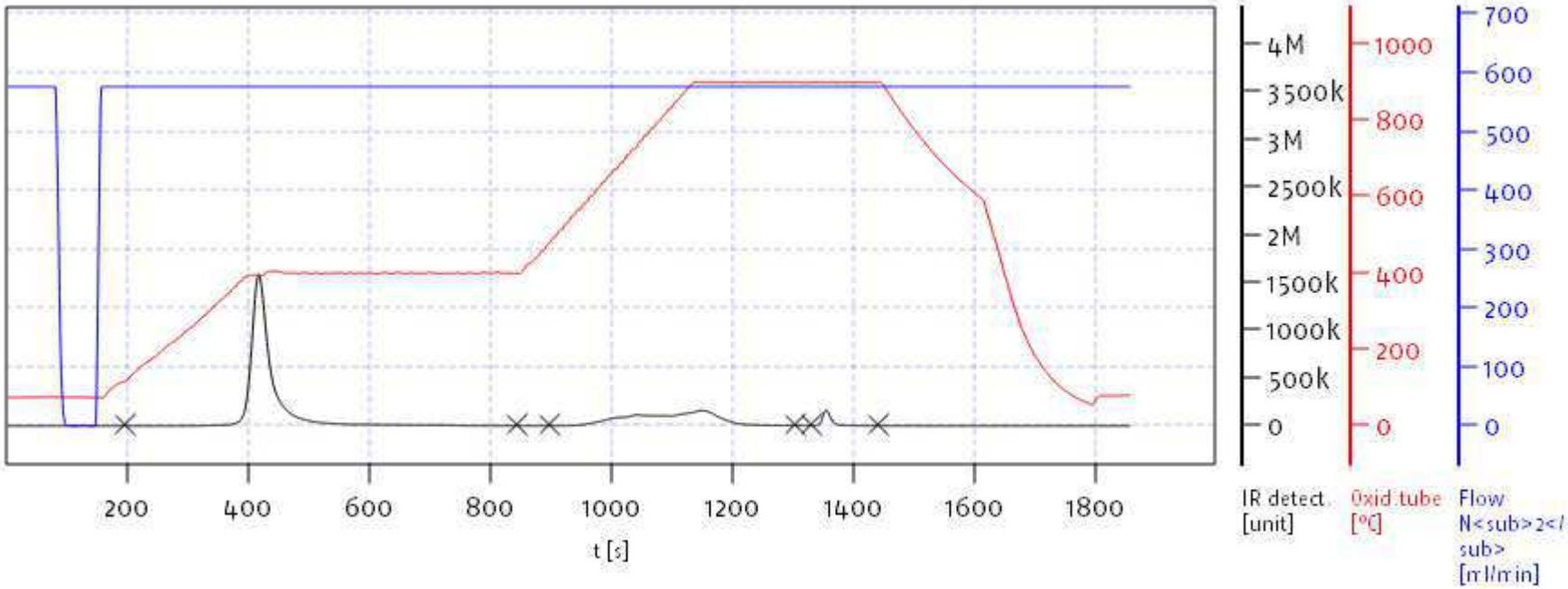
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
213	73	21H0234-06	373.10		1.00	CARBON	8/30/2021 5:49 AM	1.009	0.420	1.429	bl	2 225 290	939 624	104 534	0.9651	1.0000



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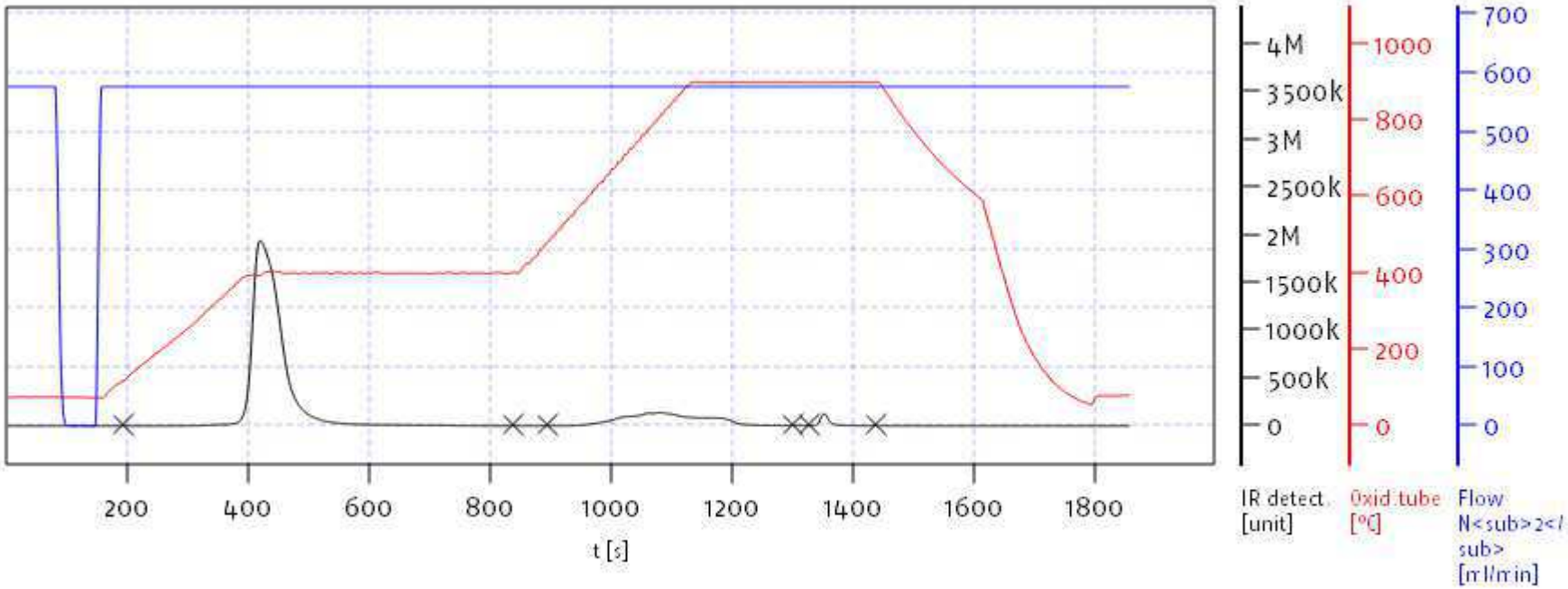
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
214	74	21H0234-09	556.70		1.00	CARBON	8/30/2021 6:20 AM	1.189	0.252	1.441	bl	3 997 190	841 290	83 898	0.9651	1.0000



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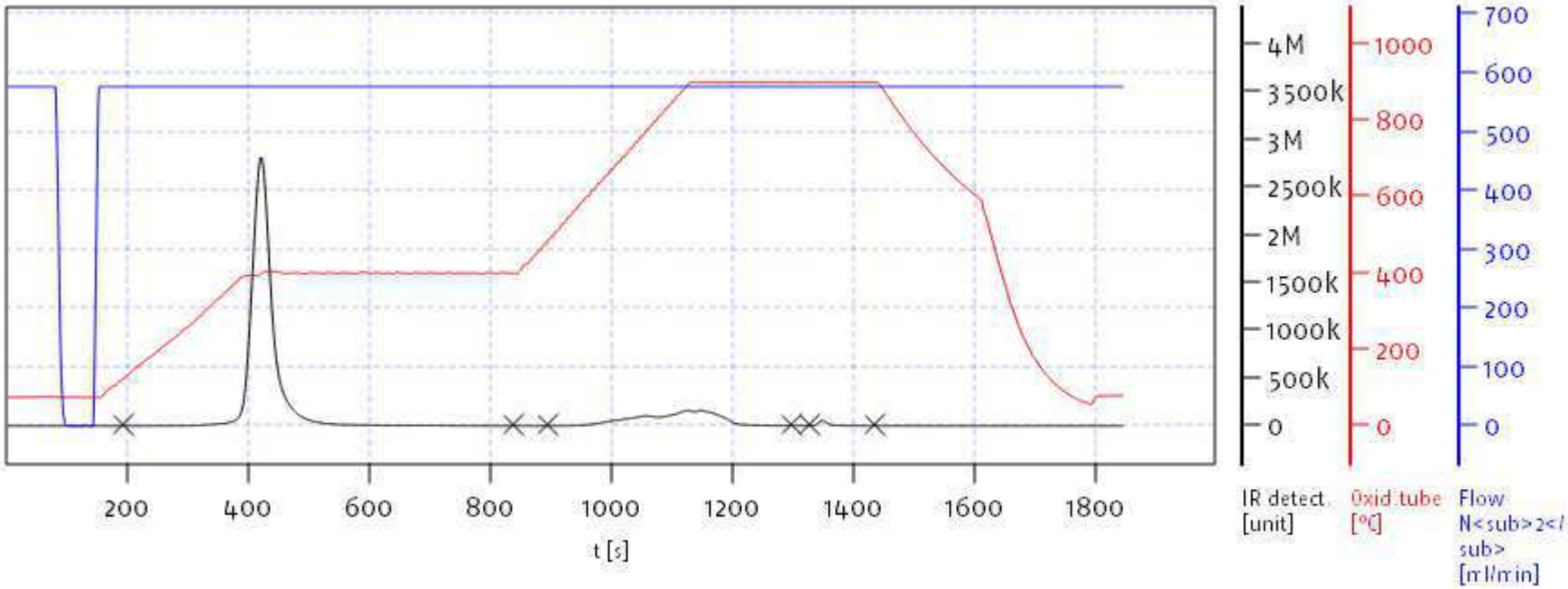
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
215	75	21H0281-01	468.50		1.00	CARBON	8/30/2021 6:51 AM	1.433	0.317	1.750	bl	4 098 100	890 549	42 629	0.9651	1.0000



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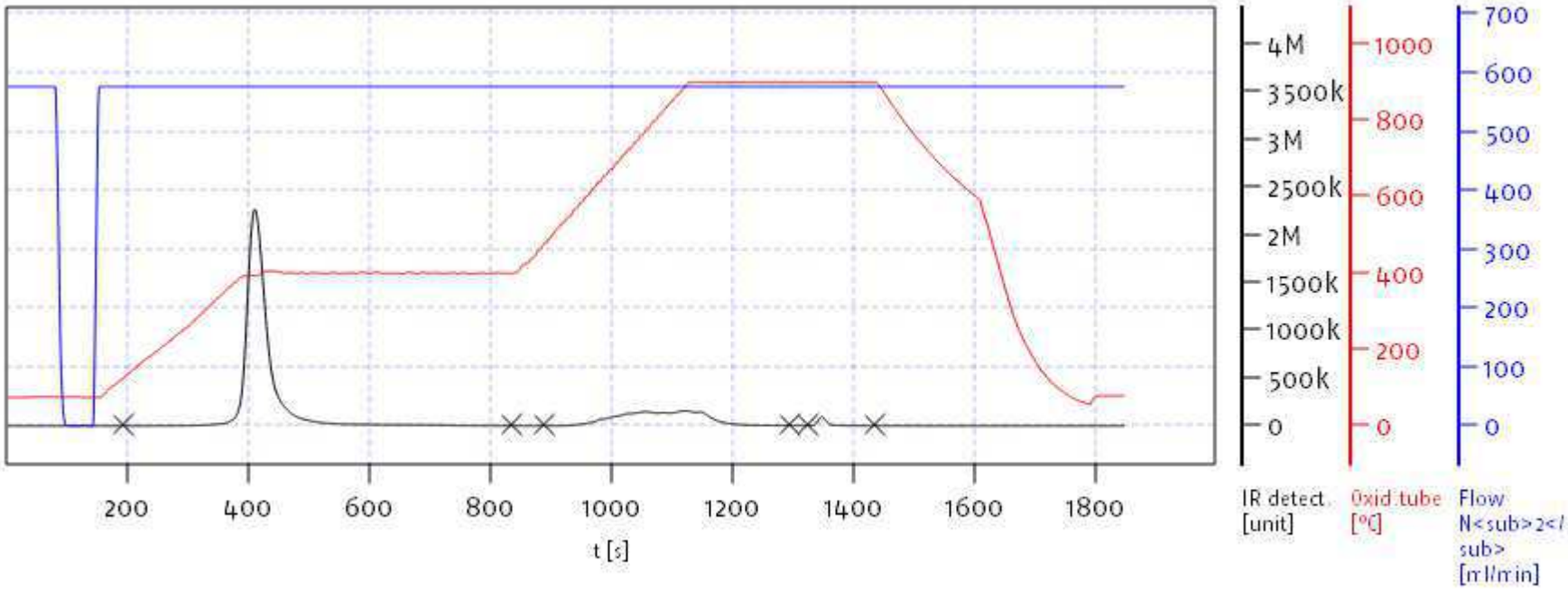
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
216	76	BJH0677-DUP2	454.40		1.00	CARBON	8/30/2021 7:22 AM	1.230	0.373	1.603	bl	3 387 130	1 014 720	63 796	0.9651	1.0000



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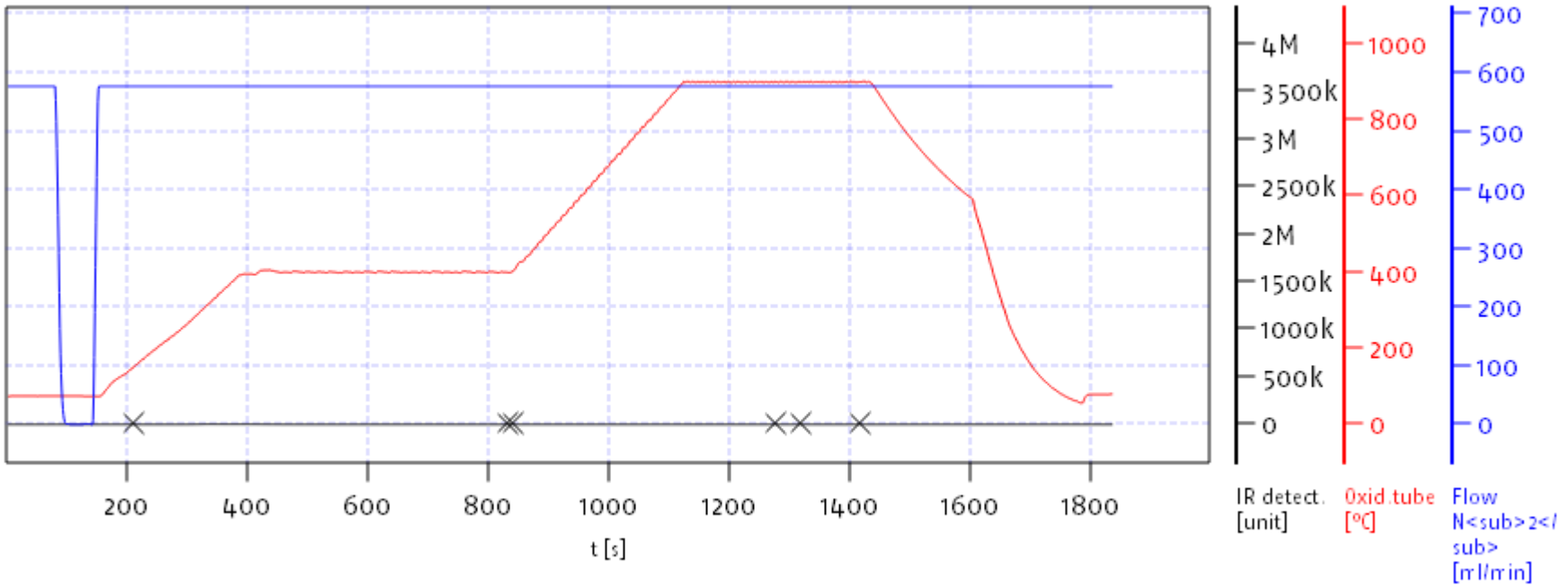
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
217	77	BLANK	1.00		1.00	CARBON	8/30/2021 7:53 AM	0.000	0.000	0.000	bl	11 607	1 004	451	0.9651	1.0000



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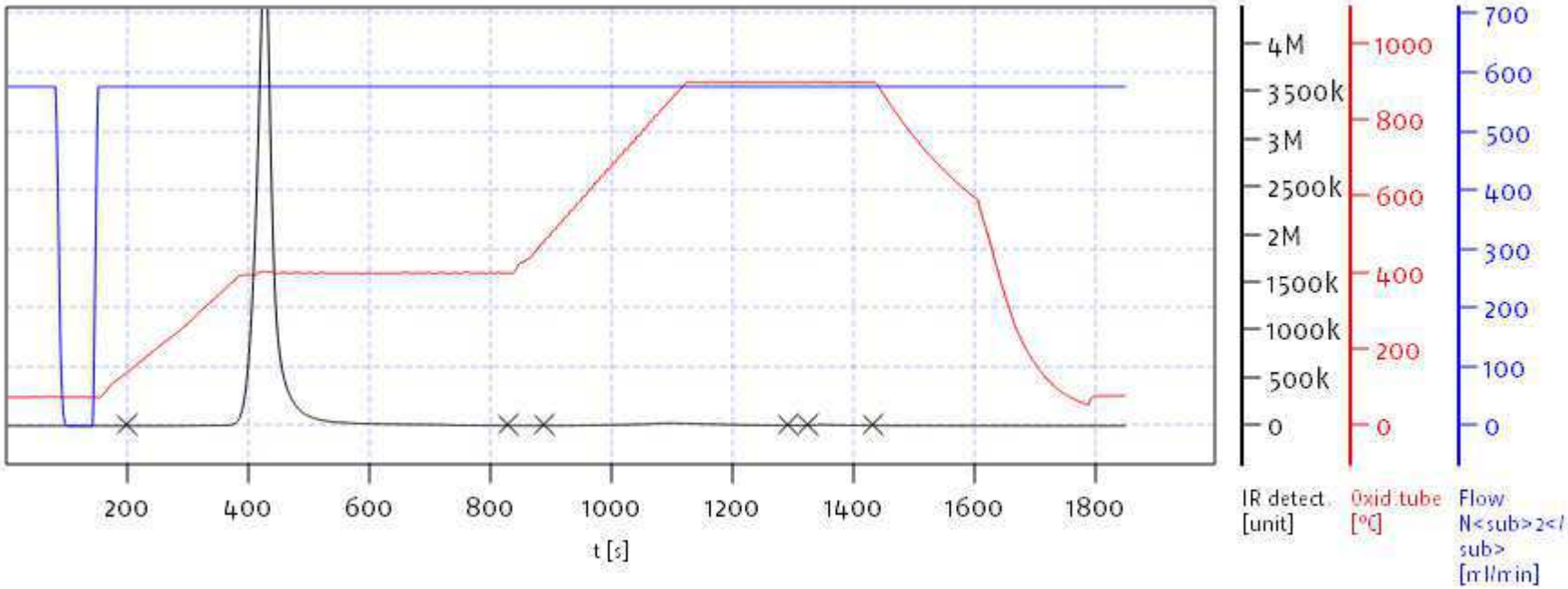
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
218	78	Dfactor	22.70		1.00	CARBON	8/30/2021 8:25 AM	44.555	1.284	45.839	bl	6 054 780	184 262	26 404	0.9886	1.0000



Name:

Access: soliTOC superuser

Date: Tue Aug 31 14:32:59 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

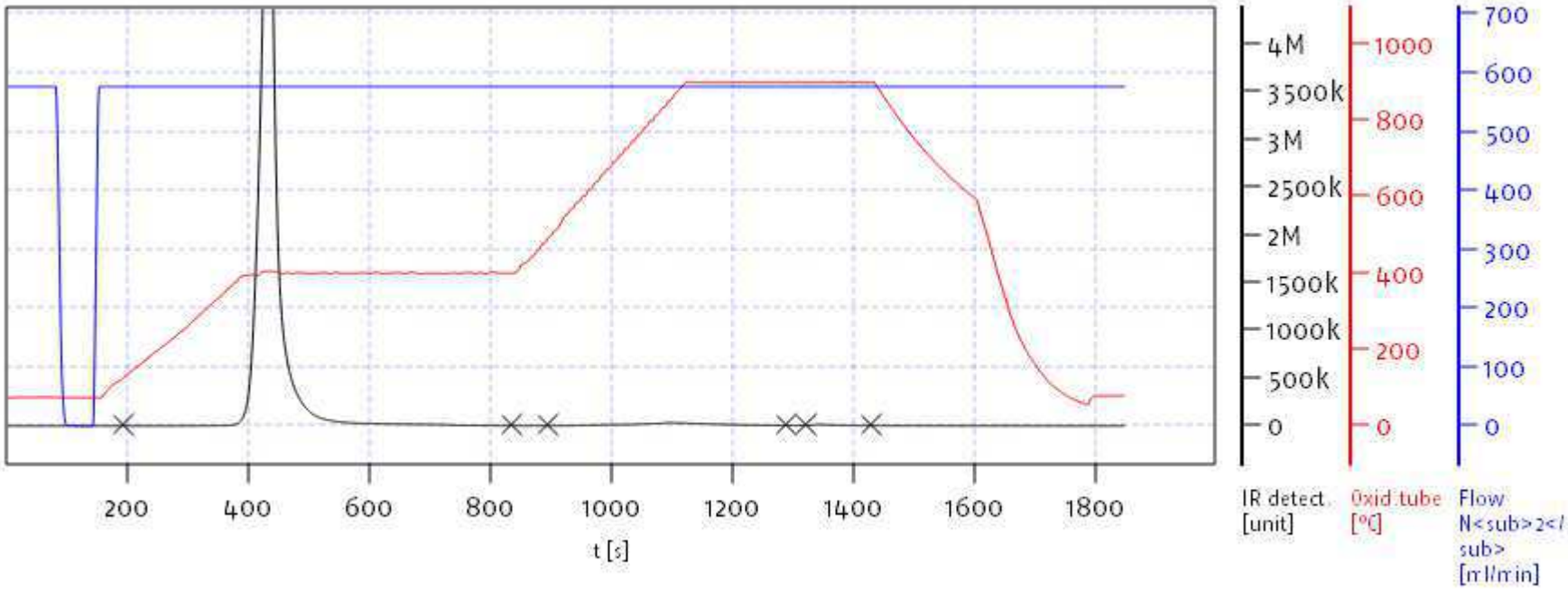
elementar
EXCELLENCE IN ELEMENTS

Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
219	79	Dfactor	28.40		1.00	CARBON	8/30/2021 8:56 AM	44.533	1.142	45.676	bl	7 906 780	203 751	26 438	0.9467	1.0000



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Date: Tue Aug 31 14:32:59 2021

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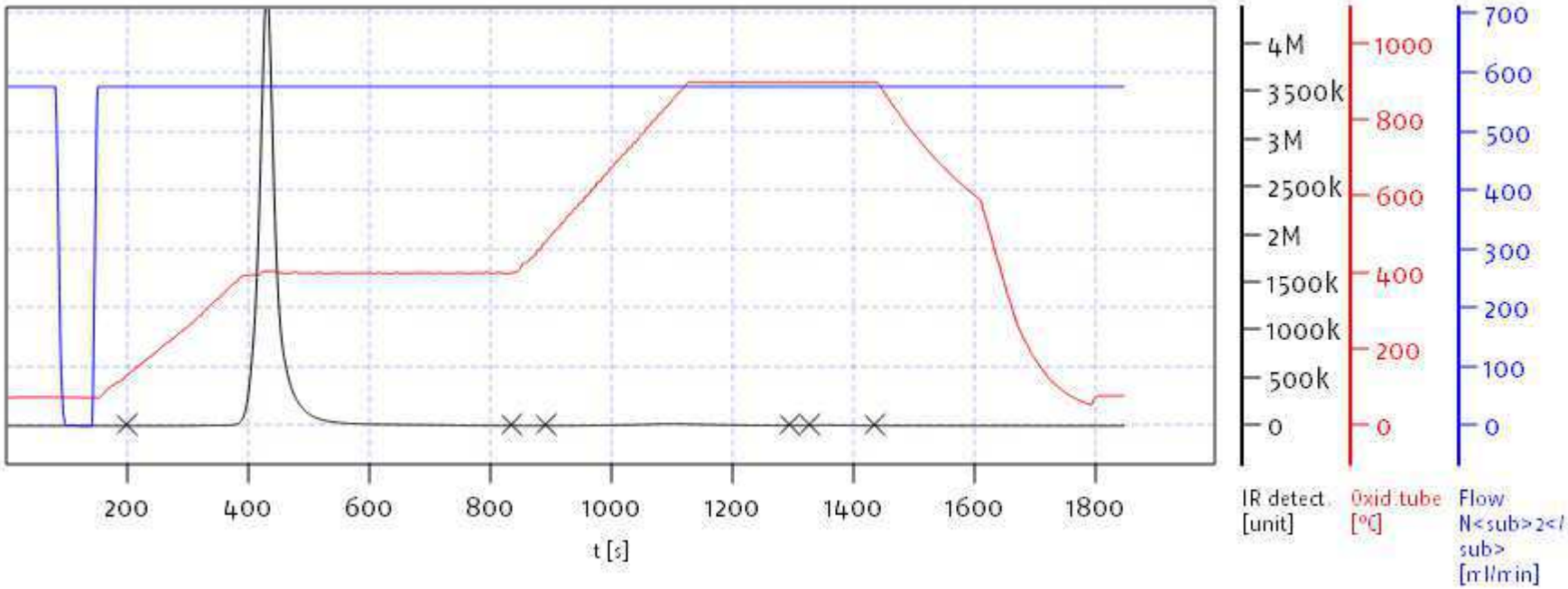
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
220	80	SJH0331-CCVI	21.40		1.00	CARBON	8/30/2021 9:27 AM	44.014	0.984	44.998	bl	5 769 520	136 407	17 400	0.9676	1.0000



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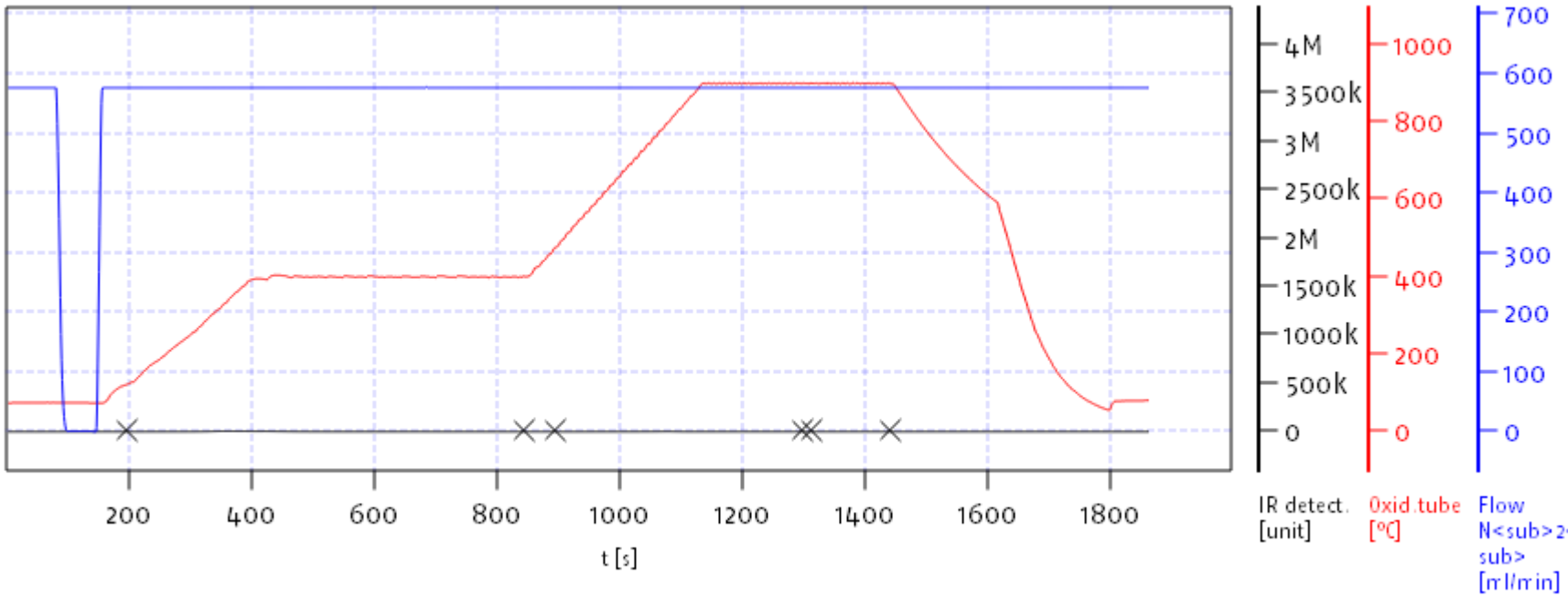
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
221	81	SJH0331-CCBI	586.00		1.00	CARBON	8/30/2021 9:59 AM	0.003	0.000	0.003	bl,C3u,C2u	23 563	4 985	576	0.9676	1.0000



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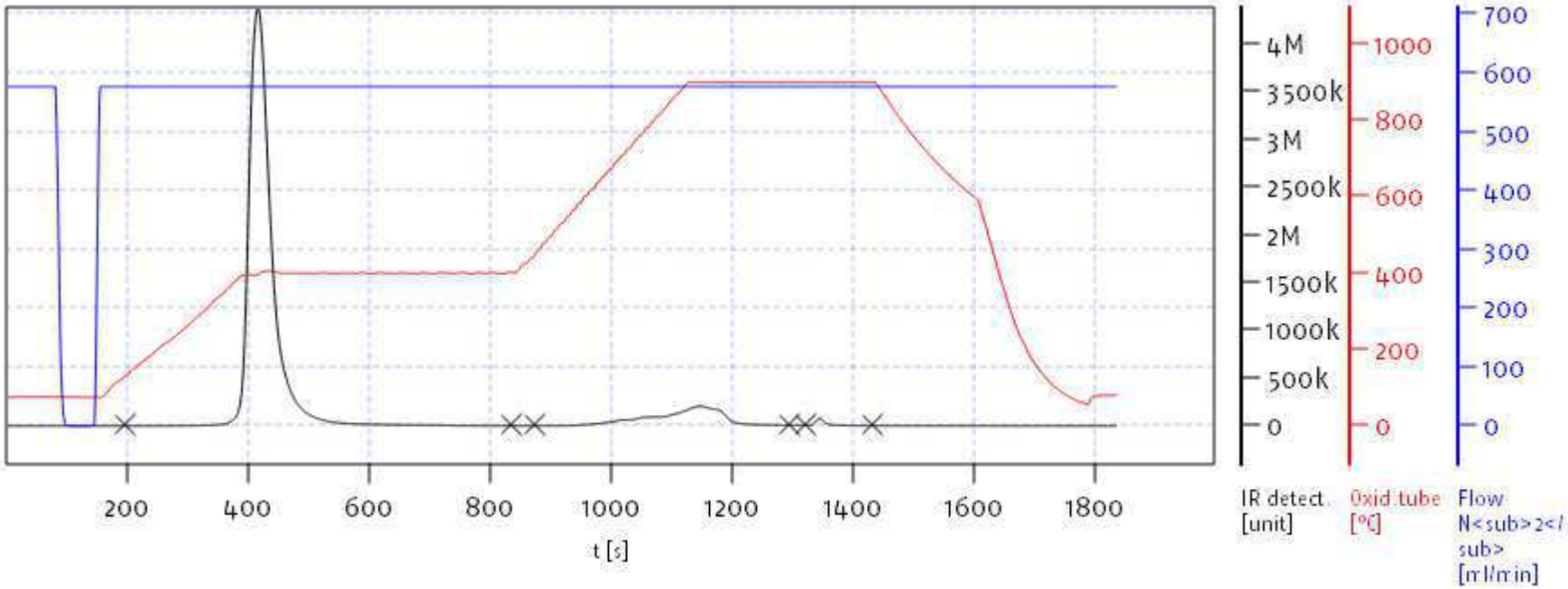
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
222	82	BJH0677-MS2	446.30	0.0141	1.00	CARBON	8/30/2021 10:30 AM	2.612	0.371	2.983	bl	7 093 380	992 173	61 344	0.9676	1.0000



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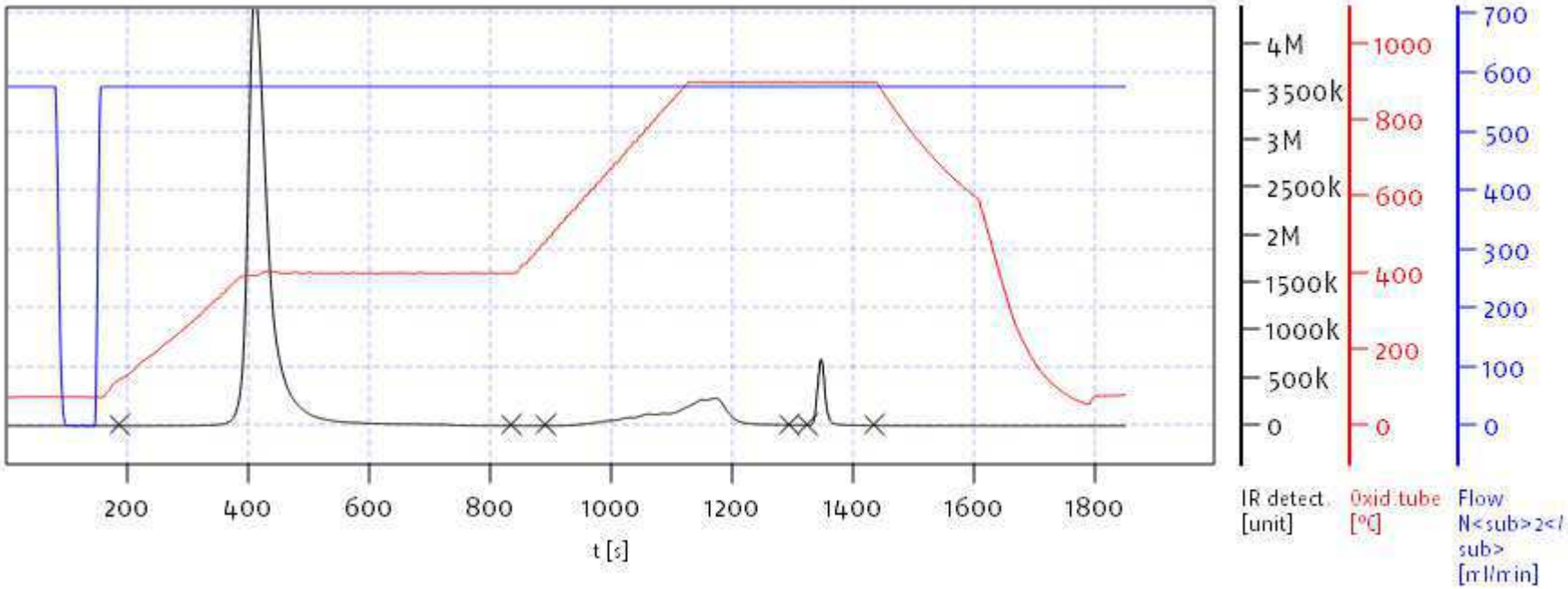
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
223	83	BJH0677-MSD2	451.90	0.0146	1.00	CARBON	8/30/2021 11:01 AM	2.604	0.502	3.106	bl	6 813 400	1 355 300	397 860	0.9676	1.0000



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Date: Tue Aug 31 14:32:59 2021

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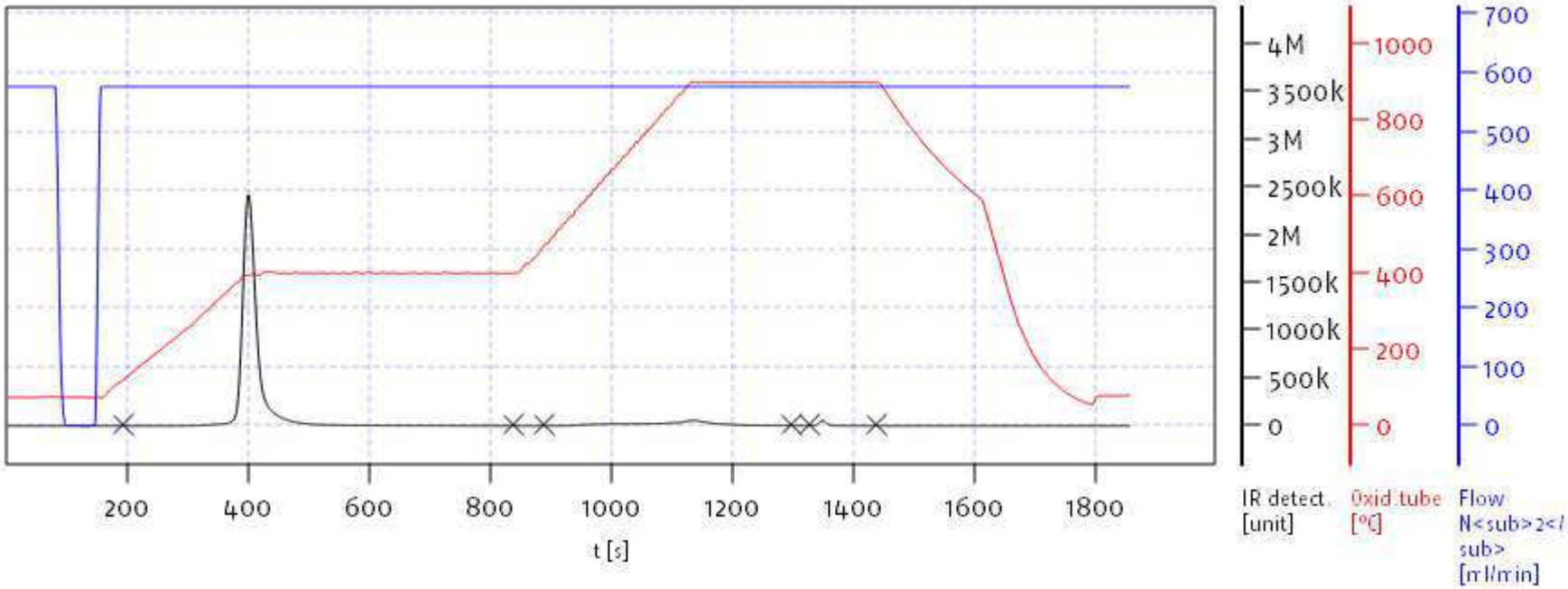
EXCELLENCE IN ELEMENTS

Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
224	84	21H0281-04	255.10		1.00	CARBON	8/30/2021 11:33 AM	1.615	0.171	1.786	bl	2 511 560	270 300	32 476	0.9676	1.0000



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Access: soliTOC superuser

Date: Tue Aug 31 14:32:59 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
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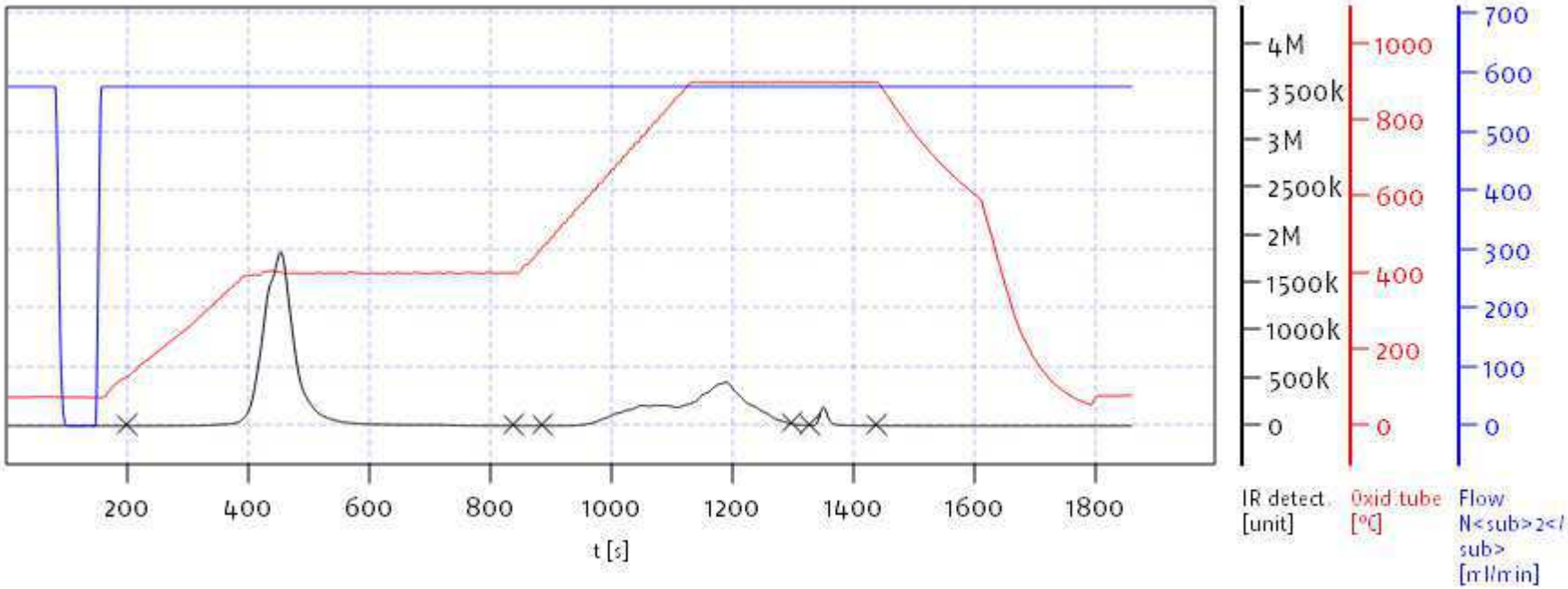
EXCELLENCE IN ELEMENTS

Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
225	85	21H0281-11	770.90		1.00	CARBON	8/30/2021 12:04 PM	0.894	0.568	1.462	bl	4 111 100	2 604 340	125 164	0.9676	1.0000



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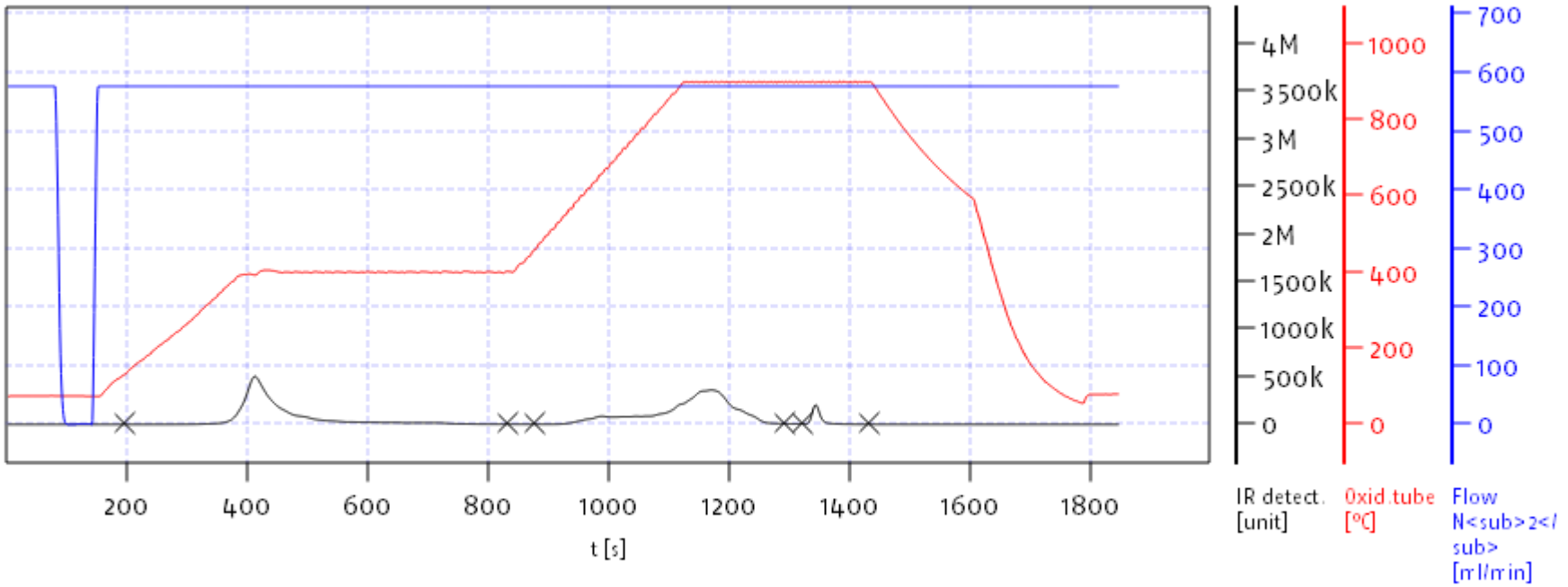
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
226	86	21H0281-14	315.70		1.00	CARBON	8/30/2021 12:35 PM	0.746	0.953	1.699	bl	1 332 770	1 792 890	127 280	0.9676	1.0000



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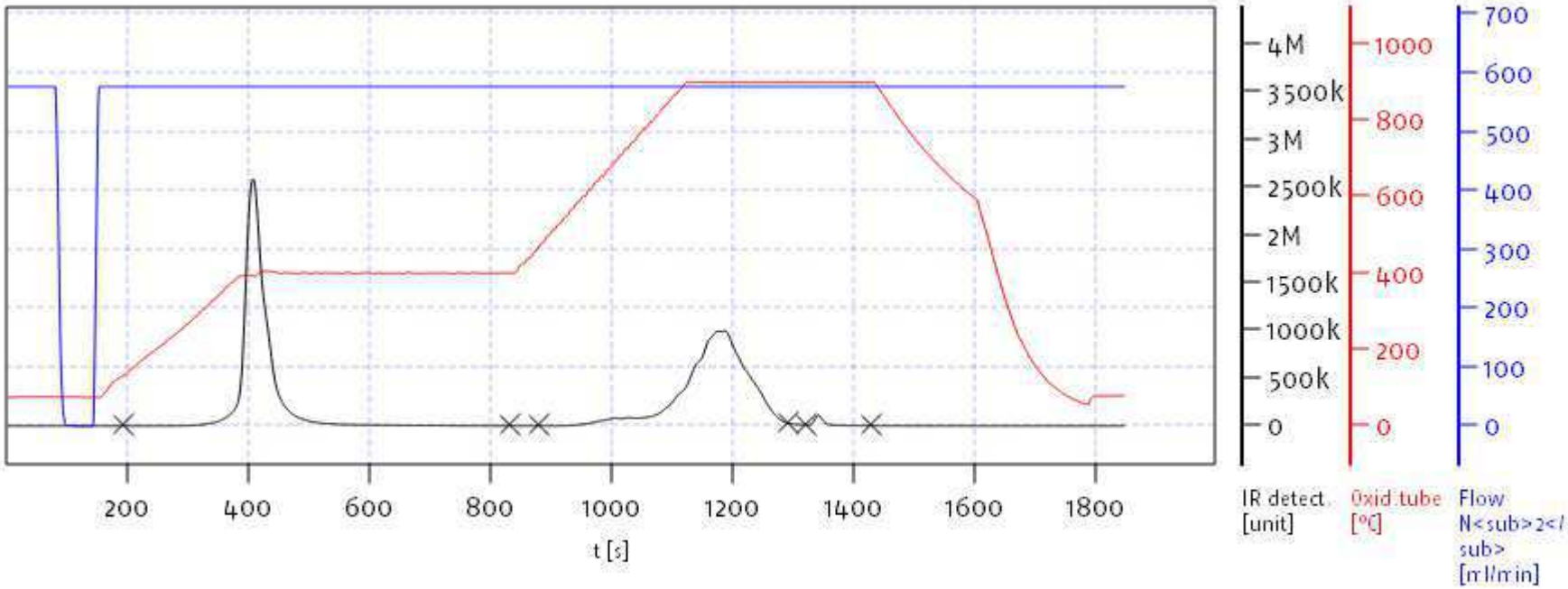
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
227	87	21H0281-15	369.40		1.00	CARBON	8/30/2021 1:07 PM	1.763	1.991	3.754	bl	3 926 950	4 365 750	79 254	0.9676	1.0000



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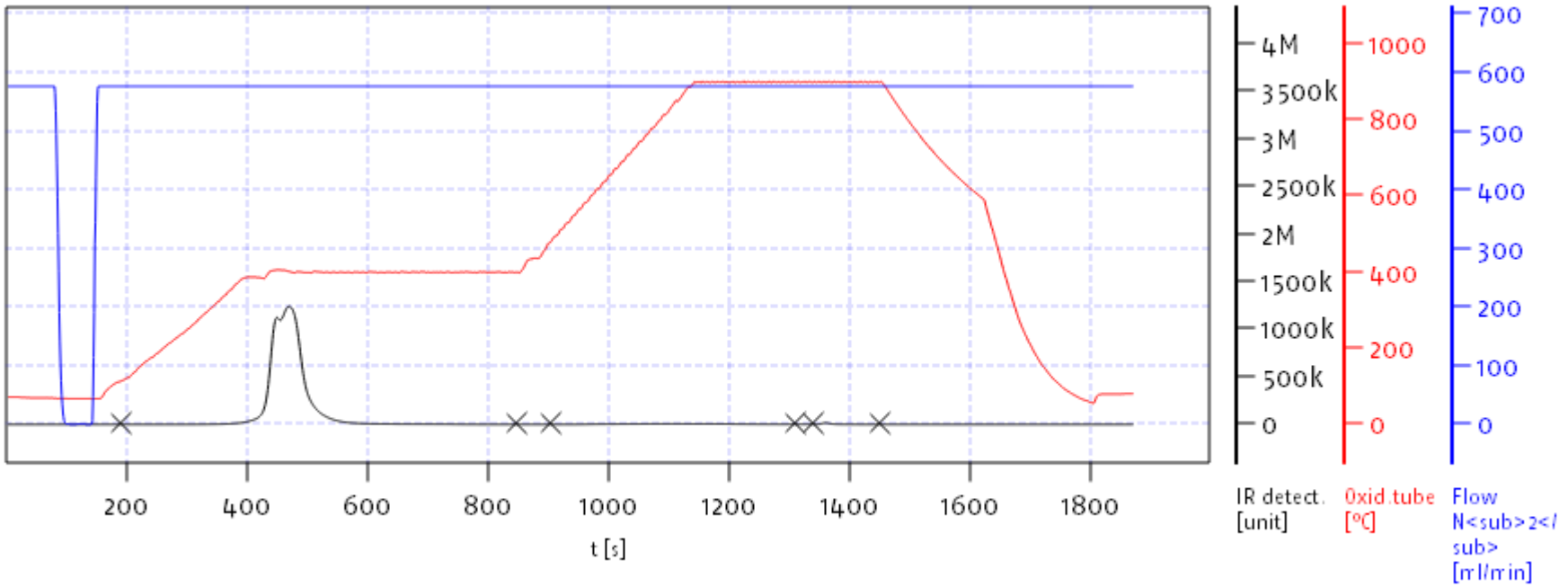
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
228	88	21G0303-02RE2	138.60		1.00	CARBON	8/30/2021 1:41 PM	3.374	0.053	3.427	bl	2 780 800	54 927	11 700	1.0000	1.0000



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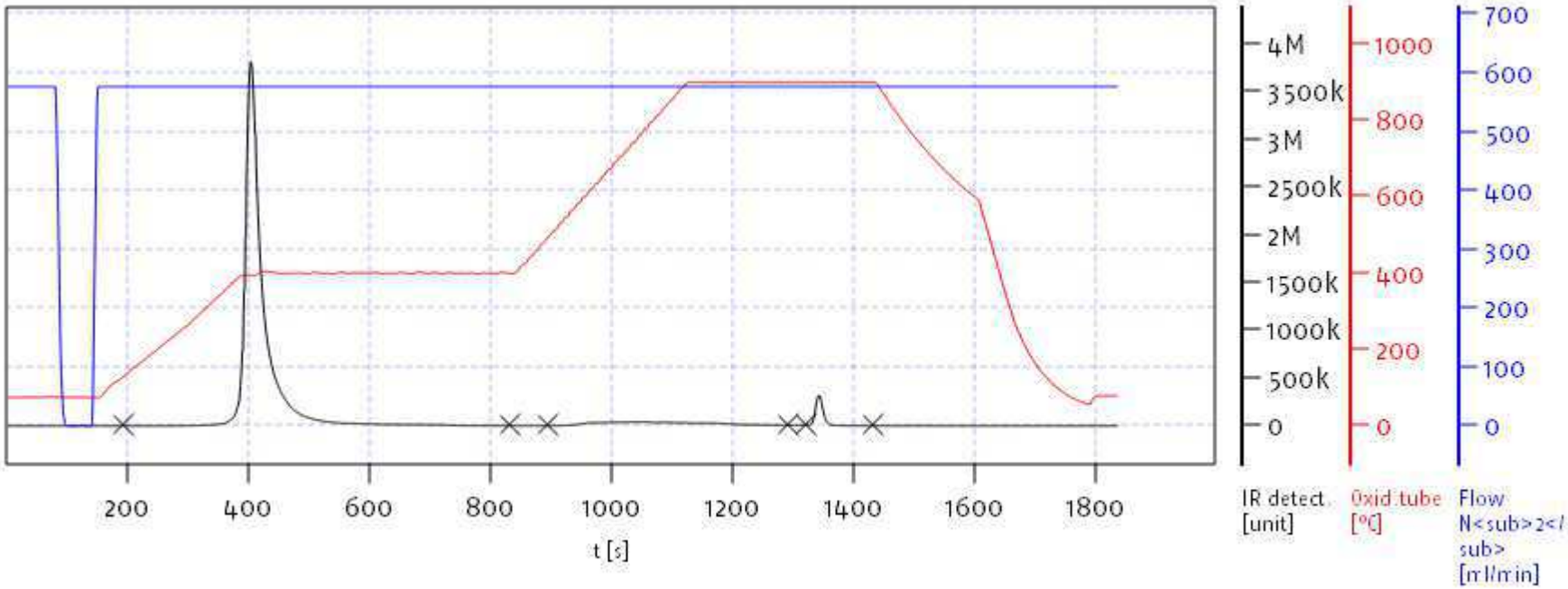
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
229	89	BJH0300-MS3	286.90	0.0132	1.00	CARBON	8/30/2021 2:12 PM	2.785	0.204	2.989	bl	4 726 410	358 091	180 107	0.9676	1.0000



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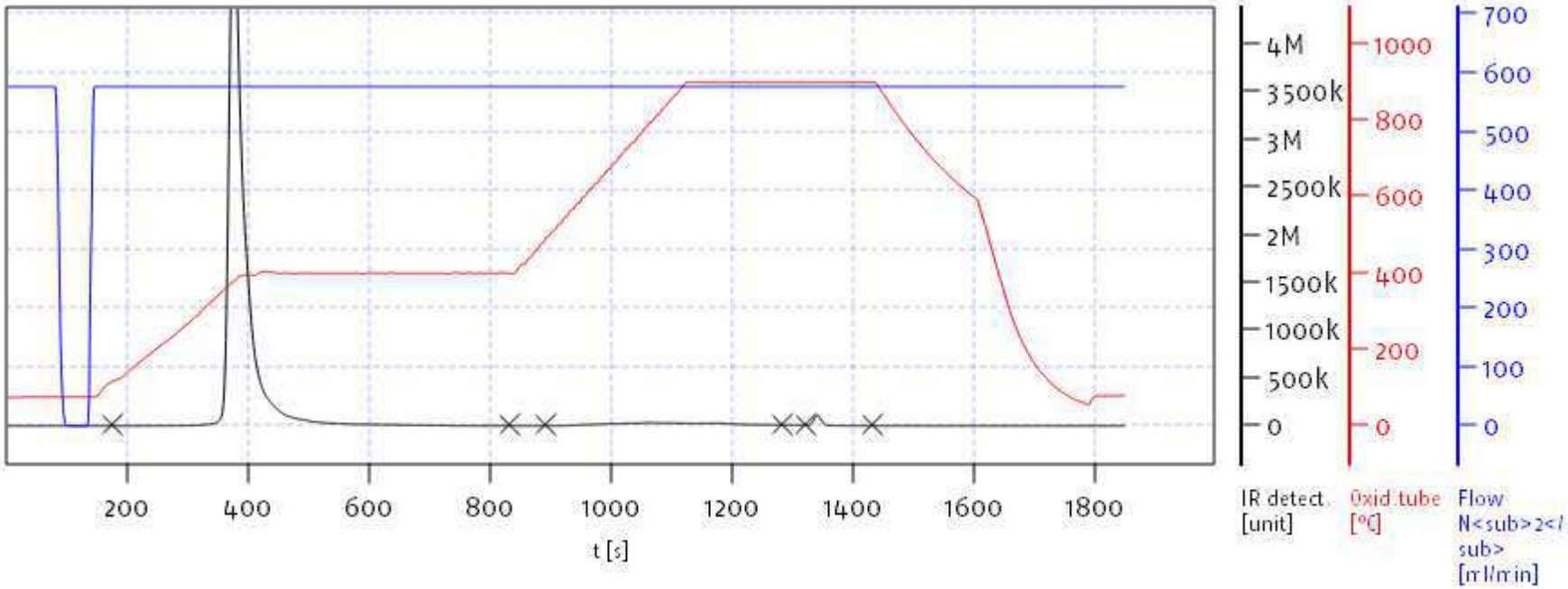
Document: 082521BFb from: 8/31/2021 10:17 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
230	1	BJH0300-MS4	273.90	0.0102	1.00	CARBON	8/30/2021 2:43 PM	3.680	0.167	3.847	bl	6 122 540	281 811	67 609	0.9676	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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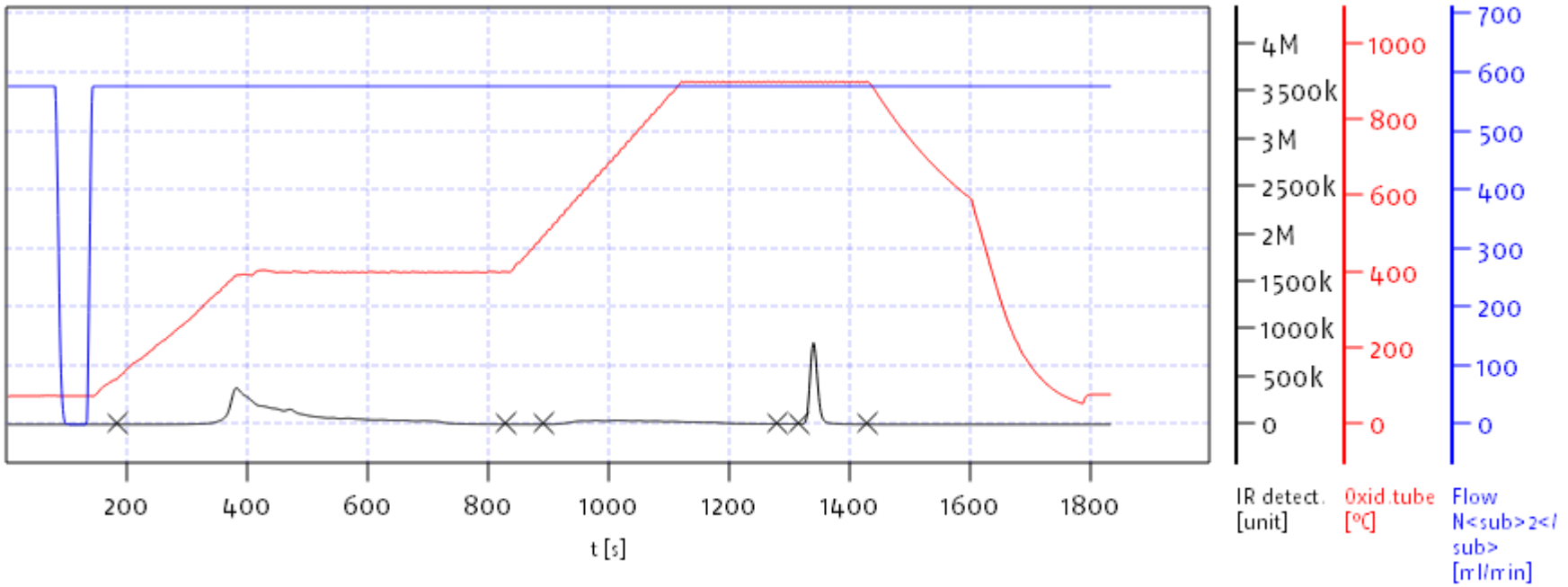
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
231	2	21G0305-02RE1	249.20		1.00	CARBON	8/30/2021 3:14 PM	1.304	0.222	1.527	bl	1 517 780	339 933	478 774	0.9676	1.0000



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Balance: BAL3
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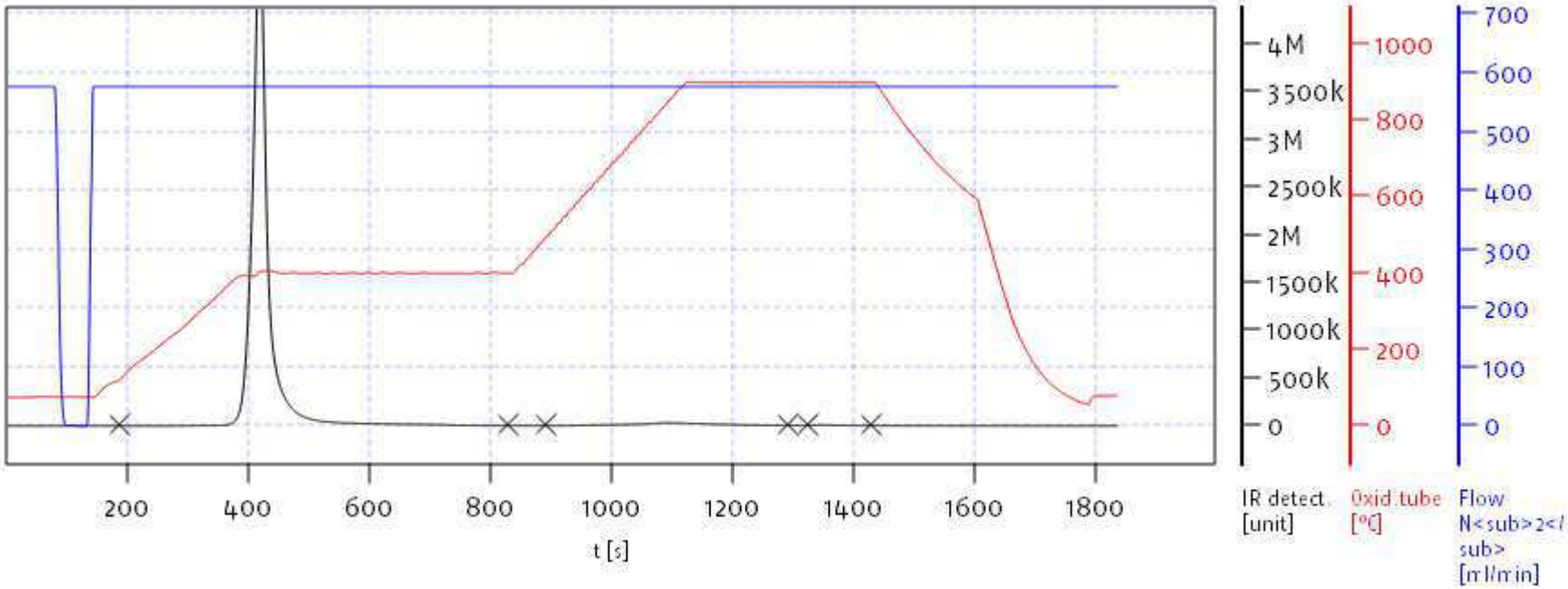
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
232	3	SJH0331-CCVJ	20.90		1.00	CARBON	8/30/2021 3:45 PM	45.536	1.533	47.069	bl	5 638 790	201 321	19 734	1.0000	1.0000



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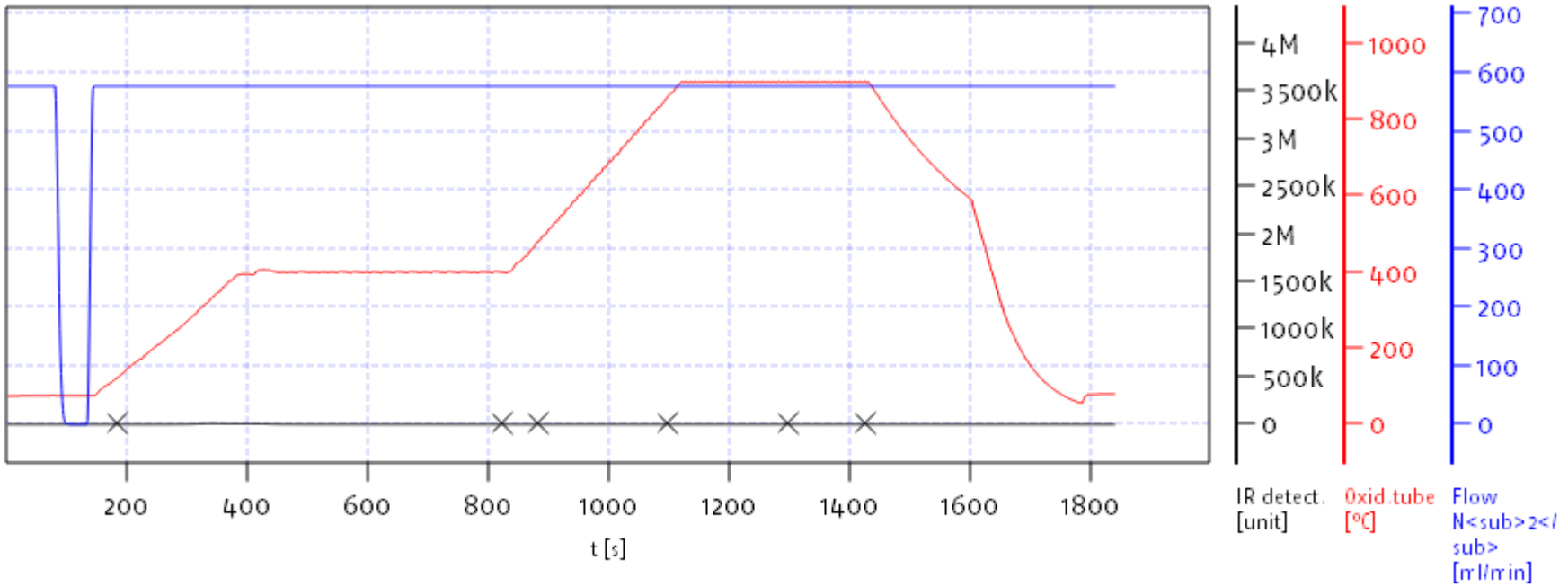
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
233	4	SJH0331-CCBJ	559.70		1.00	CARBON	8/30/2021 4:16 PM	0.007	0.000	0.007	bl,C3u,C2u	36 369	1 670	384	1.0000	1.0000



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Balance: BAL3
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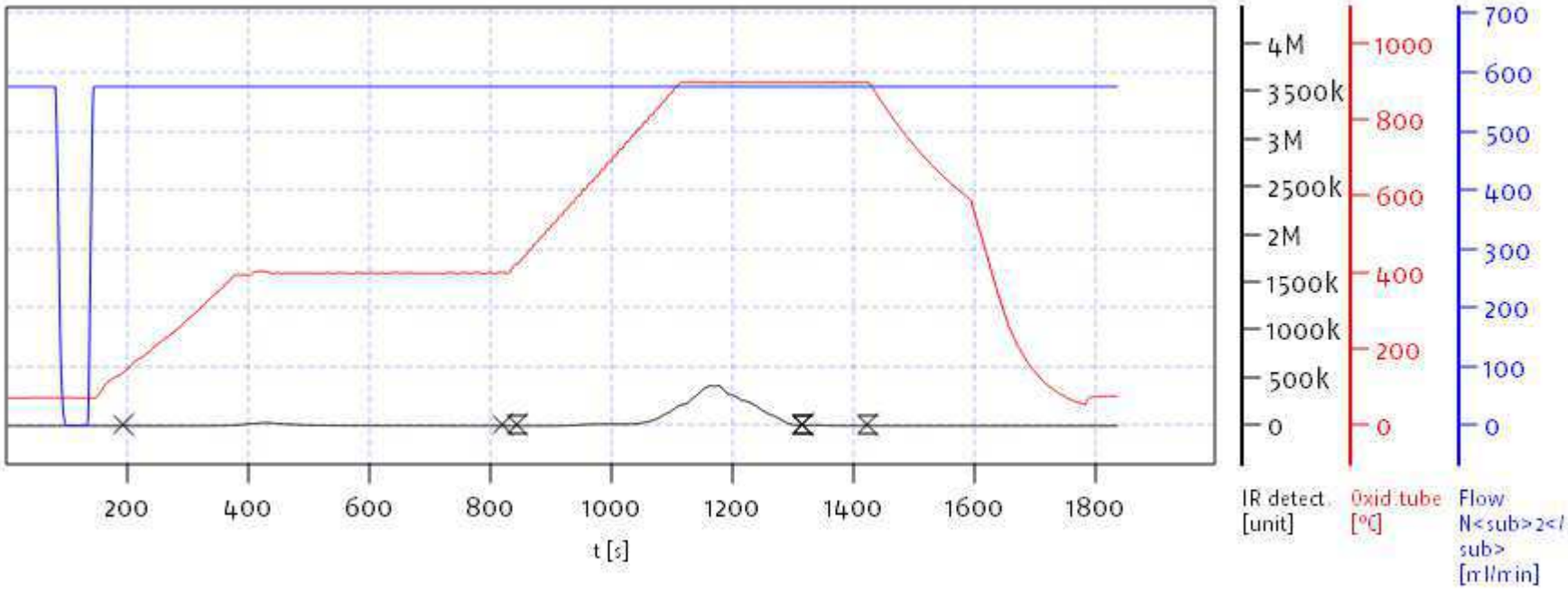
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
147	7	21G0310-03RE1	217.60		1.00	CARBON	9/1/2021 10:21 AM	0.083	1.269	1.352	bl	119 849	1 646 642	0	0.9913	1.0000



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Access: soliTOC superuser

Date: Wed Sep 1 10:22:45 2021

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Serial No: 0300.181017
Mode CCC

elementar
EXCELLENCE IN ELEMENTS

Document: 082521BFb from: 9/1/2021 10:22 AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515
Total Carbon	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515
Total Inorganic Carbon	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515
% Soot	0.008374	1136972	0.015851	1268816	0.020935	1128063	0.030804	1237761	0.04486	1233816	0.059515	1290515

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862
Total Carbon	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862
Total Inorganic Carbon	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862
% Soot	0.074169	1310642	0.090319	1267275	0.11873	1241877	0.14864	1216079	0.234	1269470	0.312	1255862

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751
Total Carbon	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751
Total Inorganic Carbon	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751
% Soot	0.432	1282236	0.588	1272976	0.9	1313973	1.218	1298577	1.506	1294082	1.824	1297751

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865
Total Carbon	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865
Total Inorganic Carbon	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865
% Soot	2.394	1299464	3	1290681	4.194	1296753	4.806	1298028	5.418	1299159	7.188	1270865

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

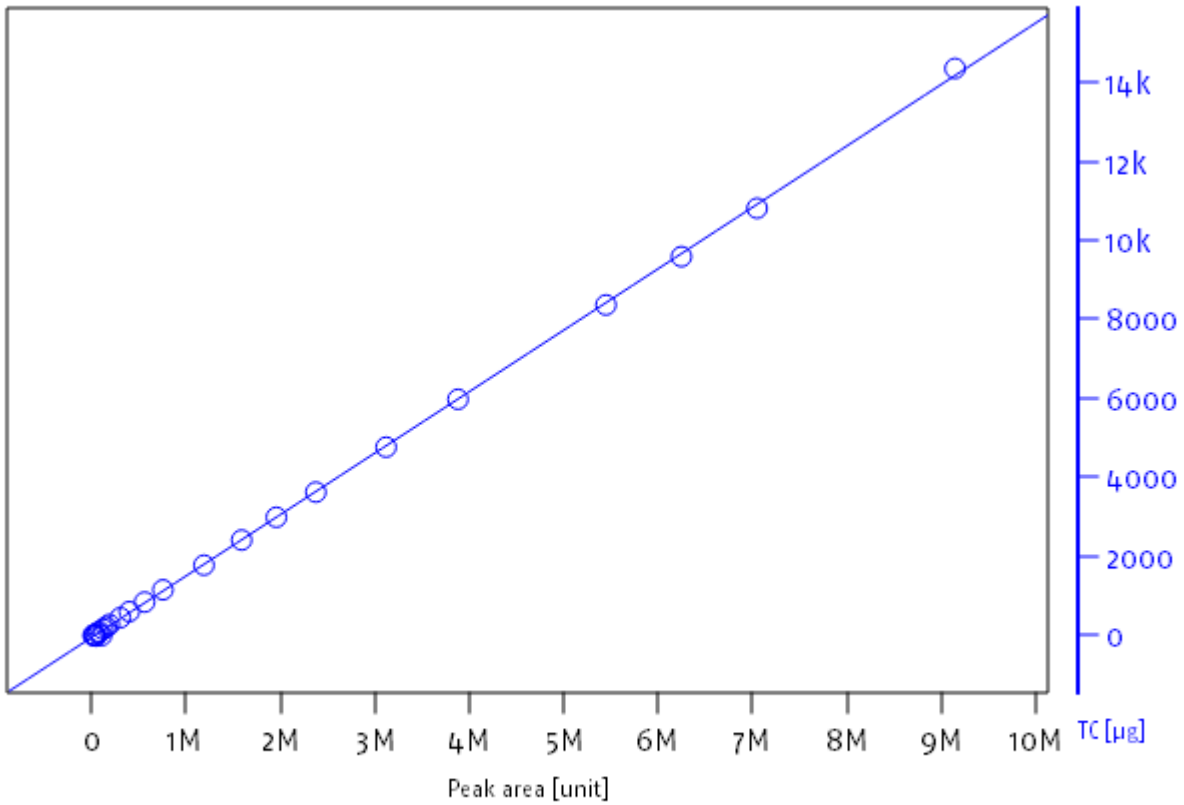
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00021	Instrument:	TOC Cube
Calibration Date:	08/10/2021 12:39		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1265487	3.8	0.9998			
Total Carbon	1265487	3.8	0.9998			
Total Inorganic Carbon	1265487	3.8	0.9998			
% Soot	1265487	3.8	0.9998			

Calibration parameters TC, Whole range

a	-1.664439e-02
b	+1.556221e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.999802
r_old	0.999802
Proc.-SD	57.257020 µg

Calibration graph TC, Whole range



Name:

Access: soliTOC superuser

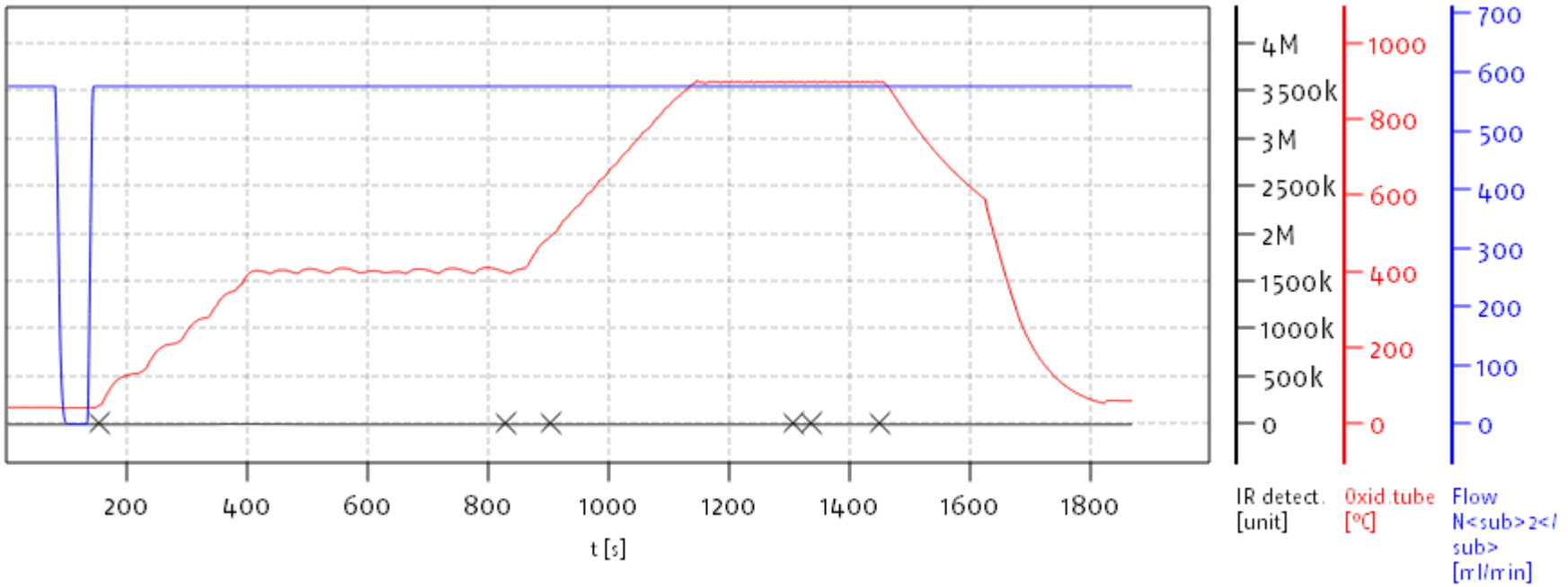
Date: Wed Aug 11 13:29:19 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	1	BLANK	1.00		1.00	CARBON	8/10/2021 1:17 PM	0.000	0.000	0.000	bl	22 805	4 168	1 160	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

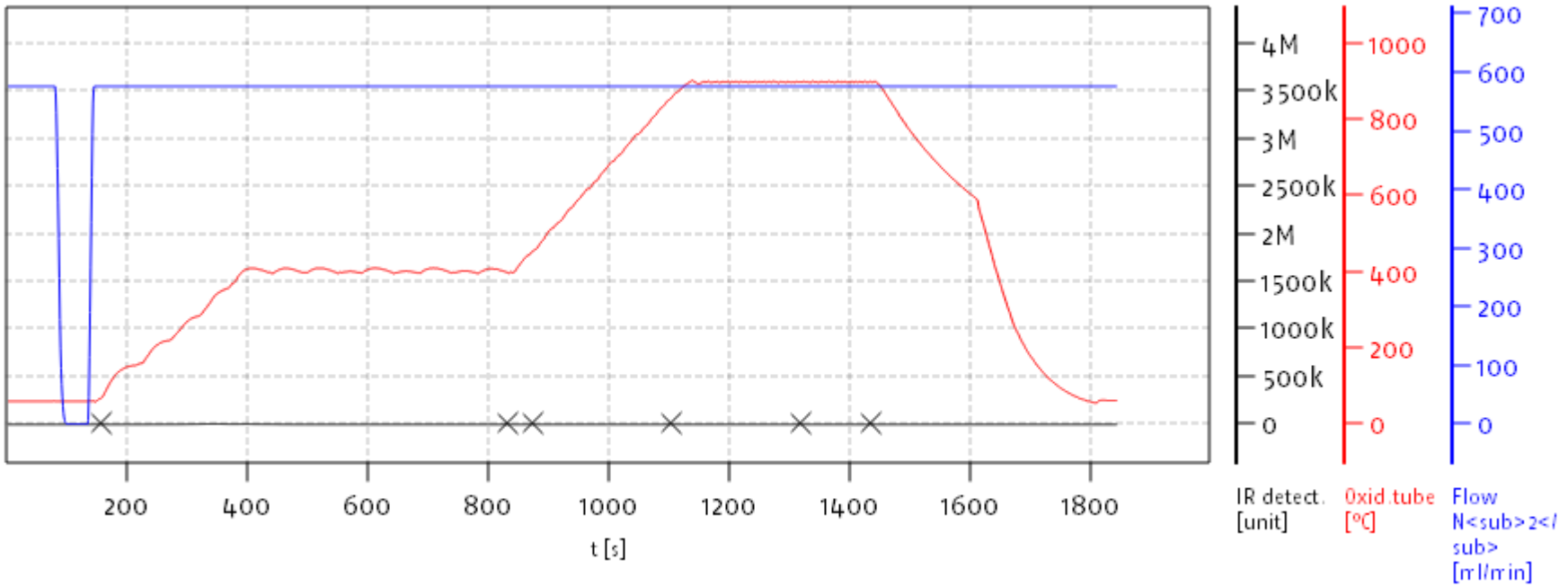
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
2	2	BLANK	1.00		1.00	CARBON	8/10/2021 1:48 PM	0.000	0.000	0.000	bl	25 029	584	417	1.0000	1.0000



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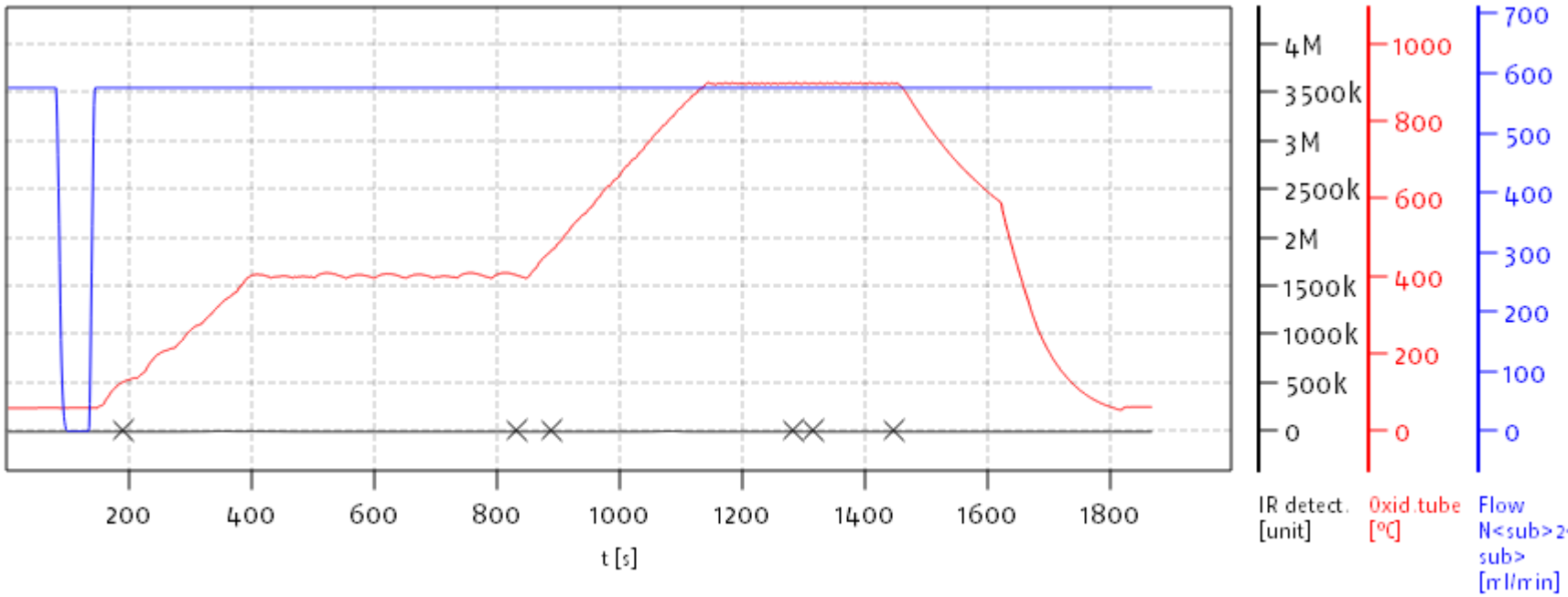
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	3	SJH0113-CAL1	200.00	0.0028	1.00	CARBON	8/10/2021 2:19 PM	0.022	0.010	0.032	bl,C2u	22 693	9 521	406	1.0000	1.0000



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Soli TOC Cube, Carbon
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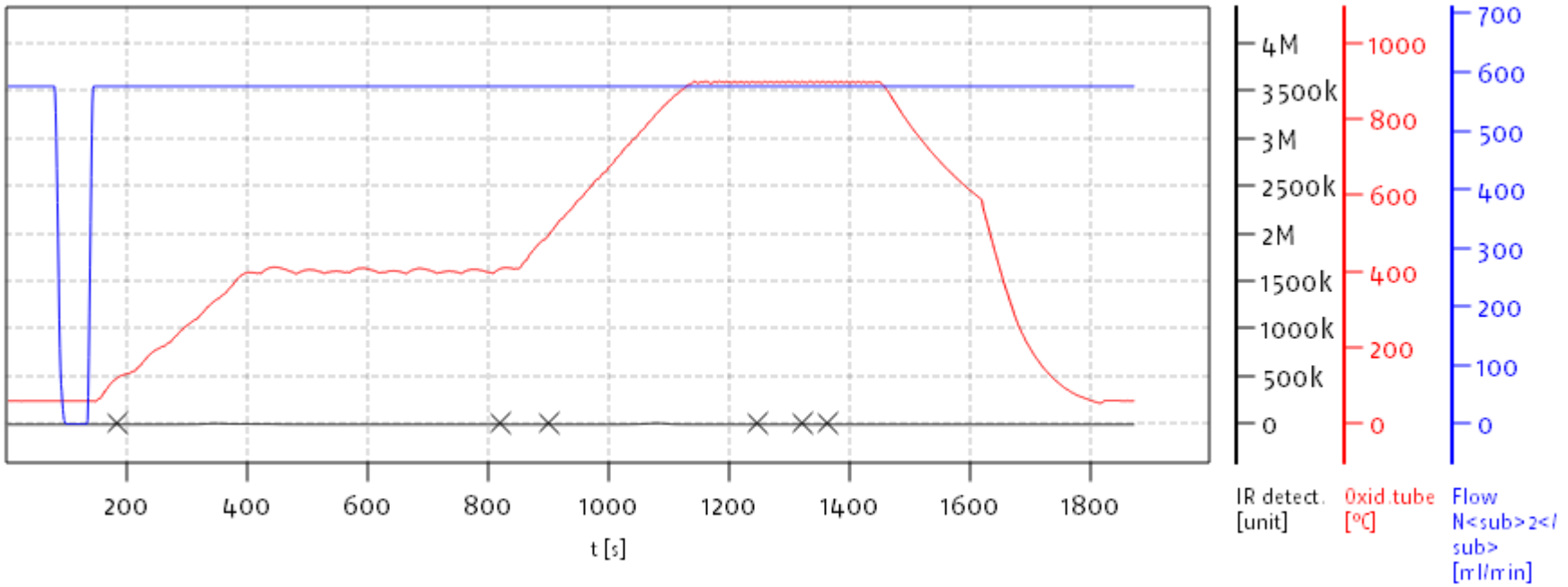
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	4	SJH0113-CAL2	200.00	0.0053	1.00	CARBON	8/10/2021 2:51 PM	0.029	0.018	0.046	bl,C2u	30 832	20 112	139	1.0000	1.0000



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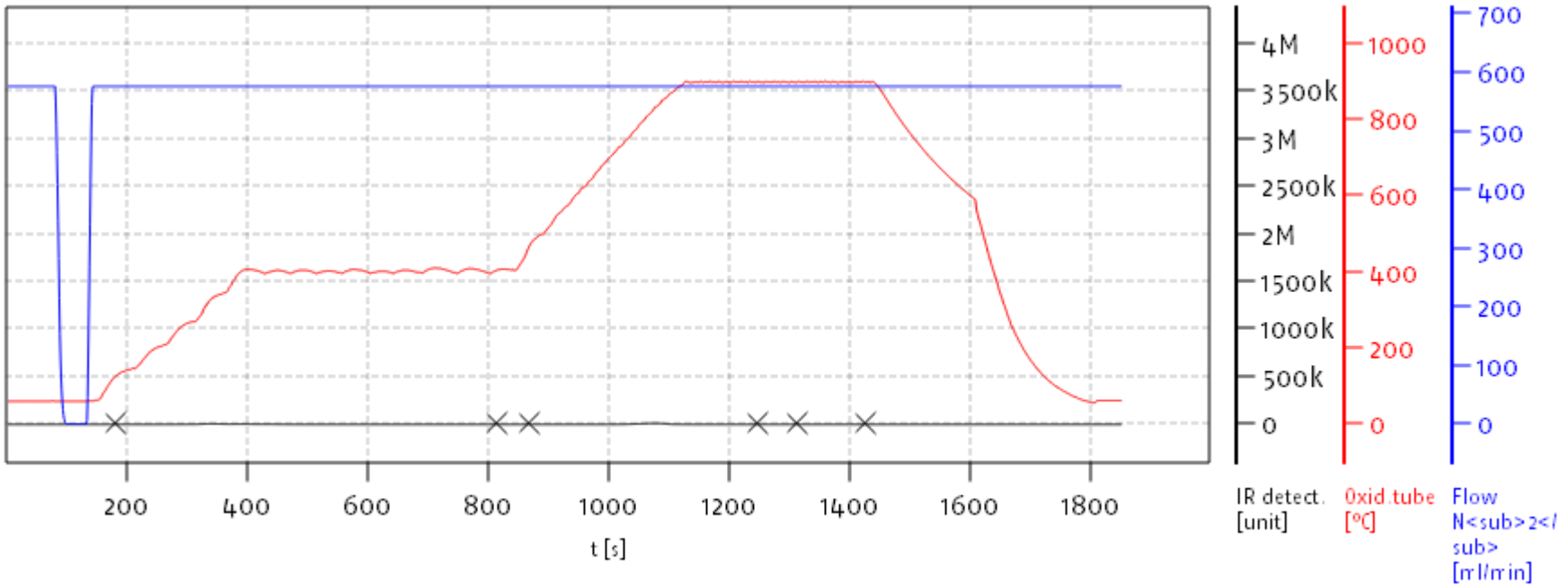
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	5	SJH0113-CAL3	200.00	0.0070	1.00	CARBON	8/10/2021 3:22 PM	0.022	0.021	0.043	bl,C2u	22 146	23 616	314	1.0000	1.0000



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Balance: BAL3
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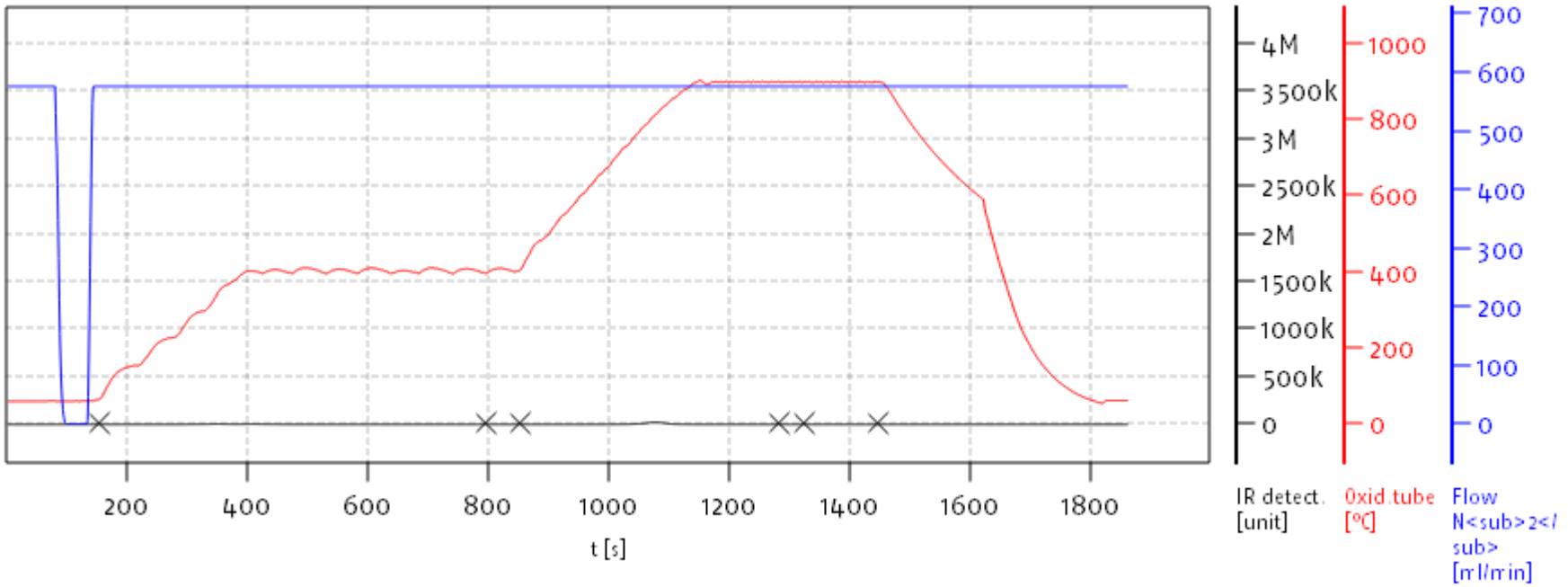
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	6	SJH0113-CAL4	200.00	0.0103	1.00	CARBON	8/10/2021 3:54 PM	0.018	0.032	0.050	bl,C2u	17 342	38 128	280	1.0000	1.0000



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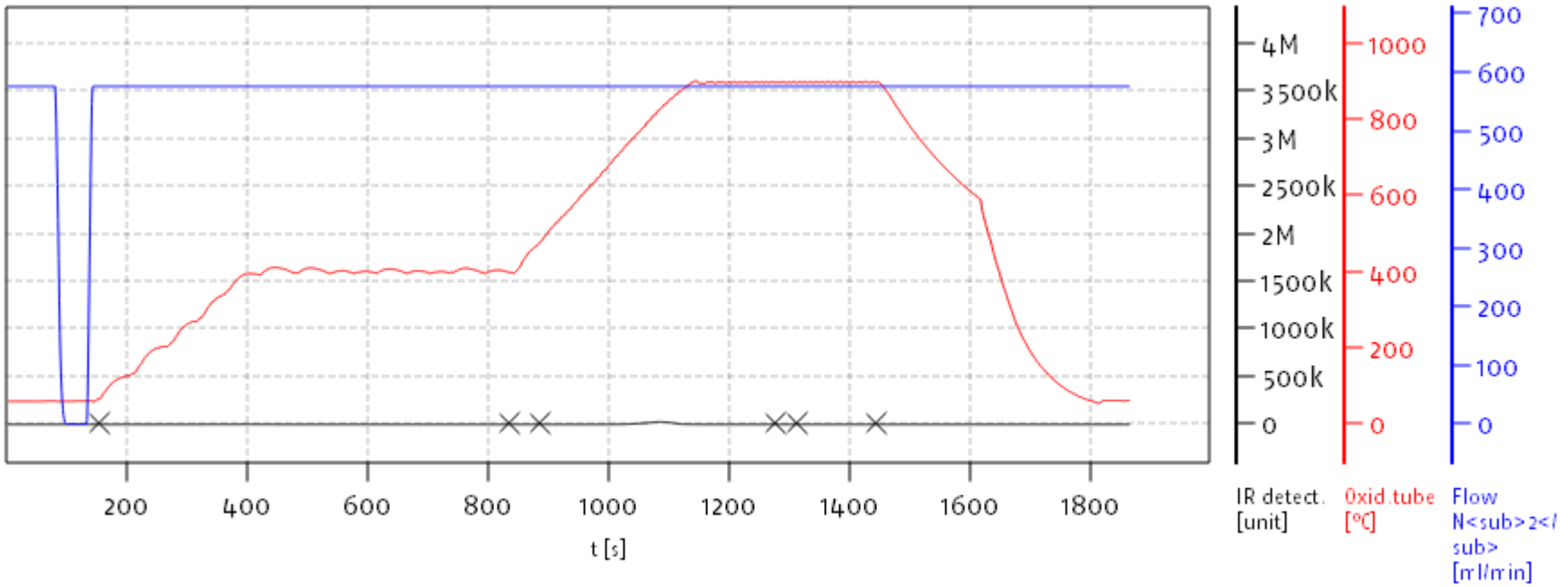
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	7	SJH0113-CAL5	200.00	0.0150	1.00	CARBON	8/10/2021 4:25 PM	0.009	0.046	0.055	bl,C1u,C2u	6 405	55 349	275	1.0000	1.0000



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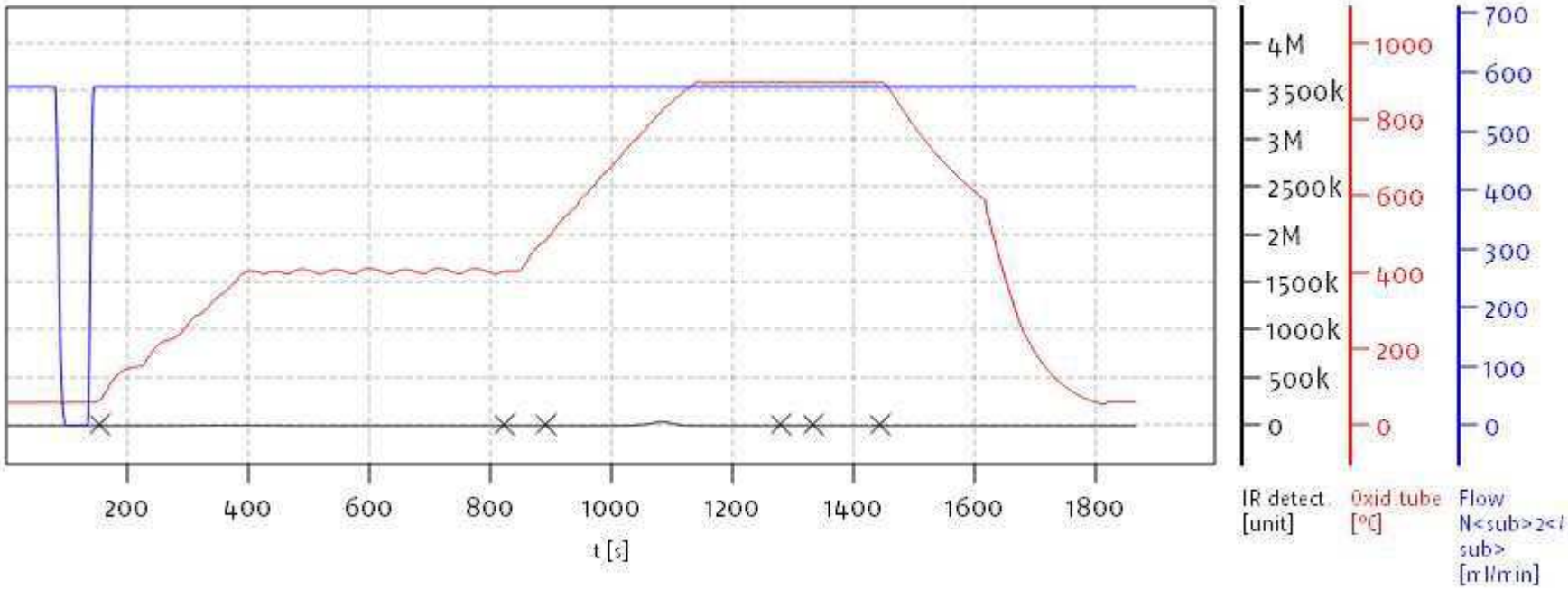
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	8	SJH0113-CAL6	200.00	0.0199	1.00	CARBON	8/10/2021 4:57 PM	0.024	0.063	0.087	bl,C2u	25 078	76 805	308	1.0000	1.0000



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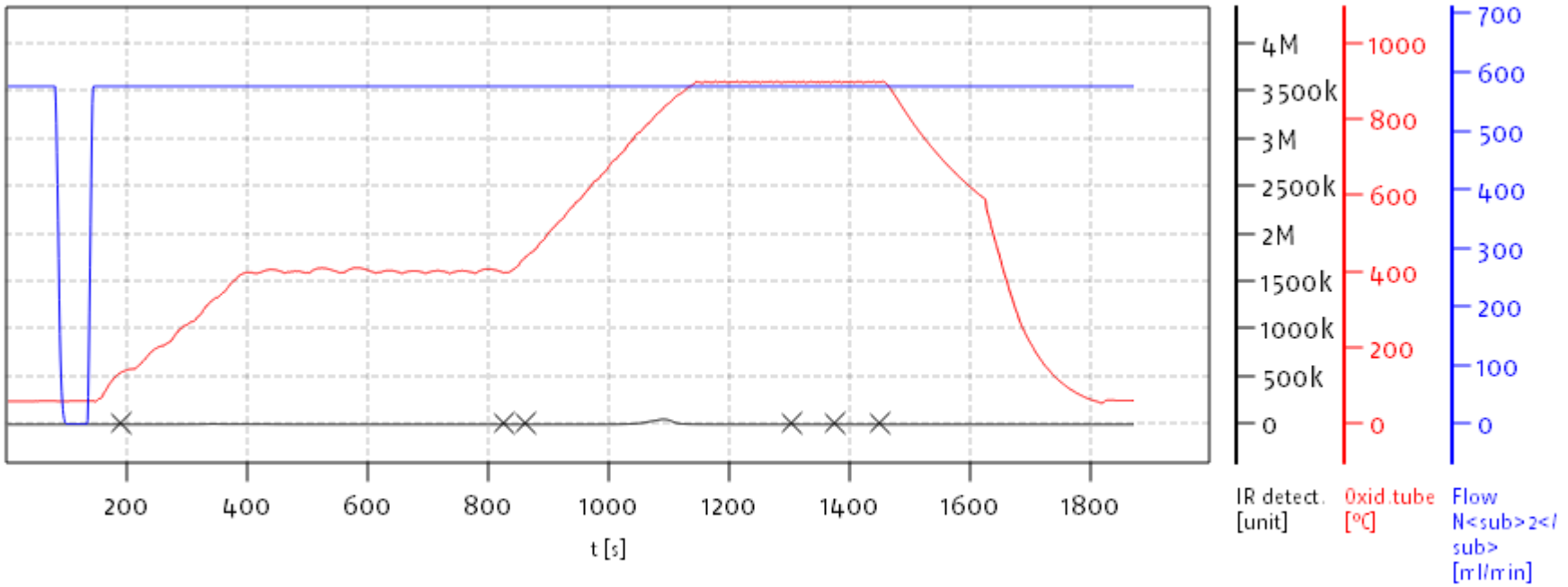
Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	9	SJH0113-CAL7	200.00	0.0248	1.00	CARBON	8/10/2021 5:28 PM	0.017	0.079	0.096	bl,C2u	16 608	97 209	190	1.0000	1.0000



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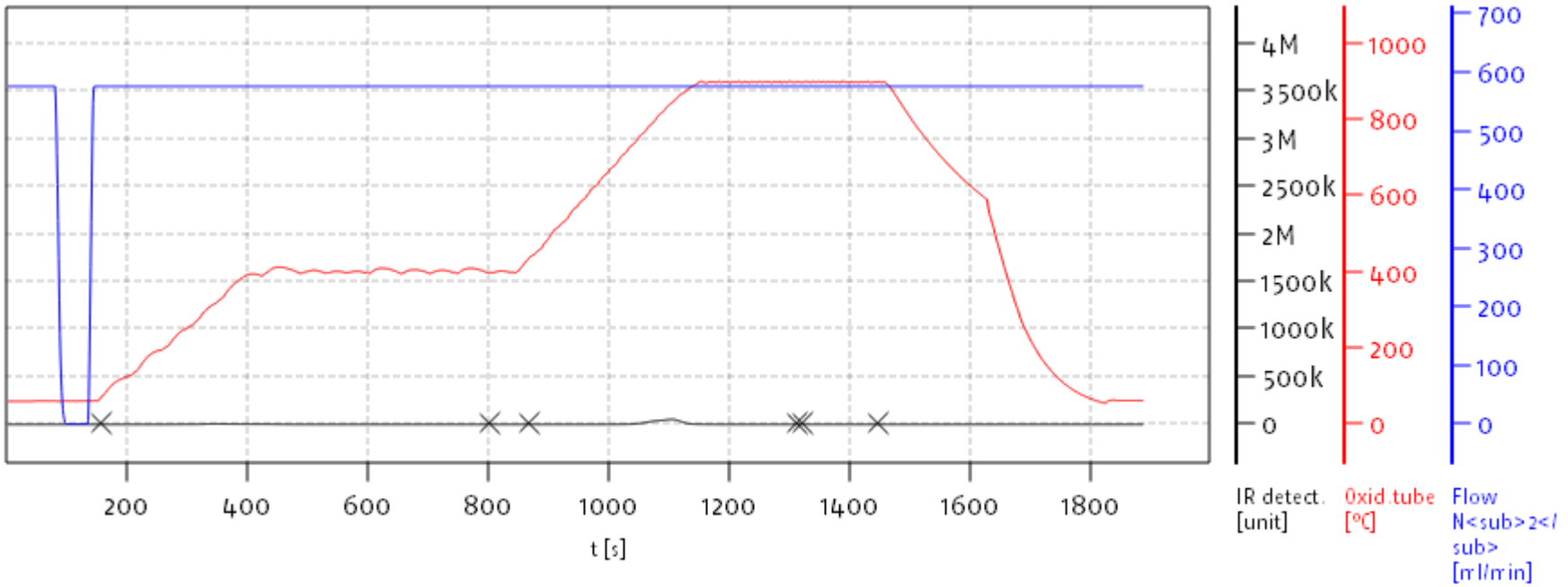
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	10	SJH0113-CAL8	200.00	0.0302	1.00	CARBON	8/10/2021 6:00 PM	0.024	0.092	0.116	bl,C2u	24 582	114 459	270	1.0000	1.0000



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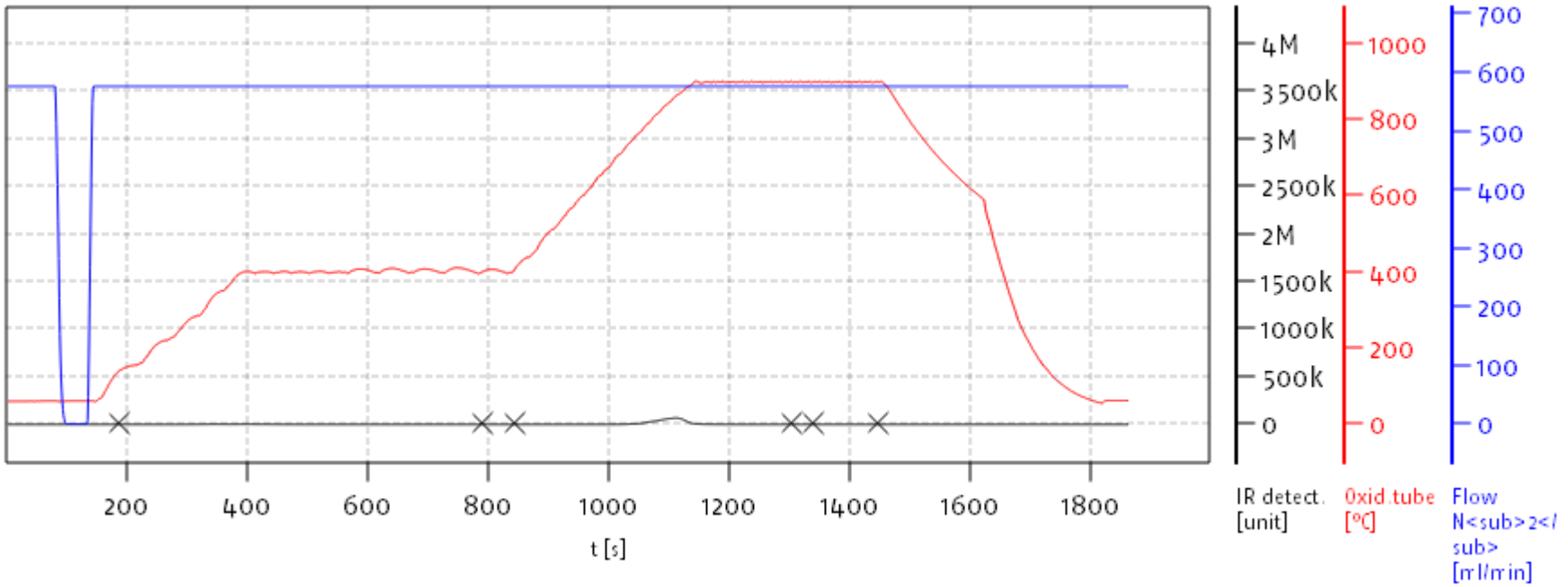
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	11	SJH0113-CAL9	200.00	0.0397	1.00	CARBON	8/10/2021 6:32 PM	0.014	0.118	0.132	bl,C2u	12 556	147 448	246	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

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Serial No: 0300.181017
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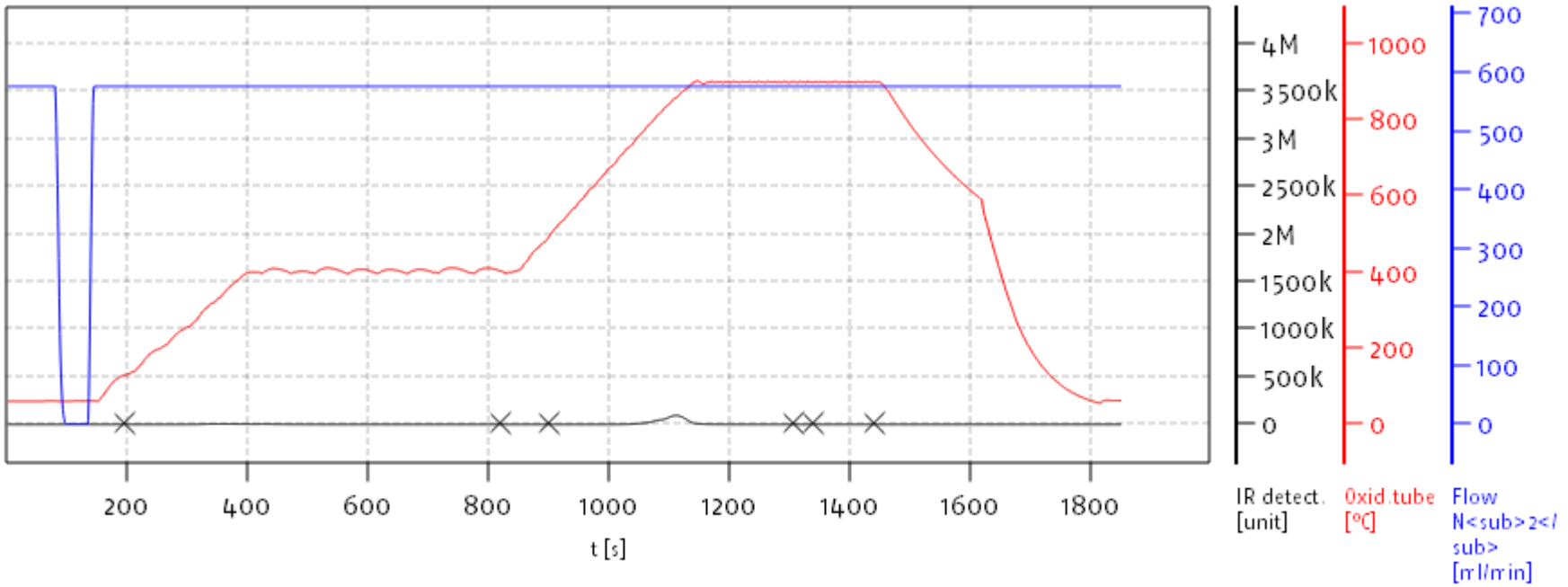
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	12	SJH0113-CALA	200.00	0.0497	1.00	CARBON	8/10/2021 7:03 PM	0.024	0.145	0.168	bl,C2u	24 575	180 758	227	1.0000	1.0000



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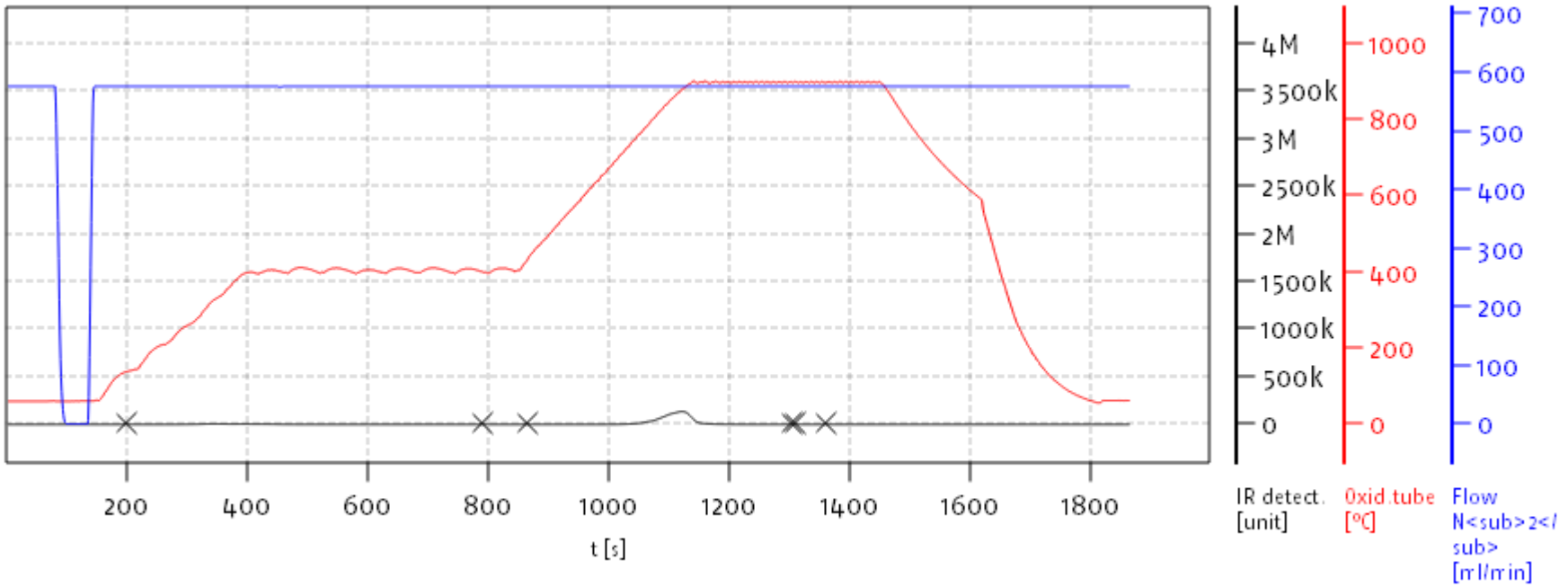
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	13	SJH0113-CALB	200.00	0.0039	1.00	CARBON	8/10/2021 7:34 PM	0.023	0.236	0.260	bl,C2u	24 401	297 056	121	1.0000	1.0000



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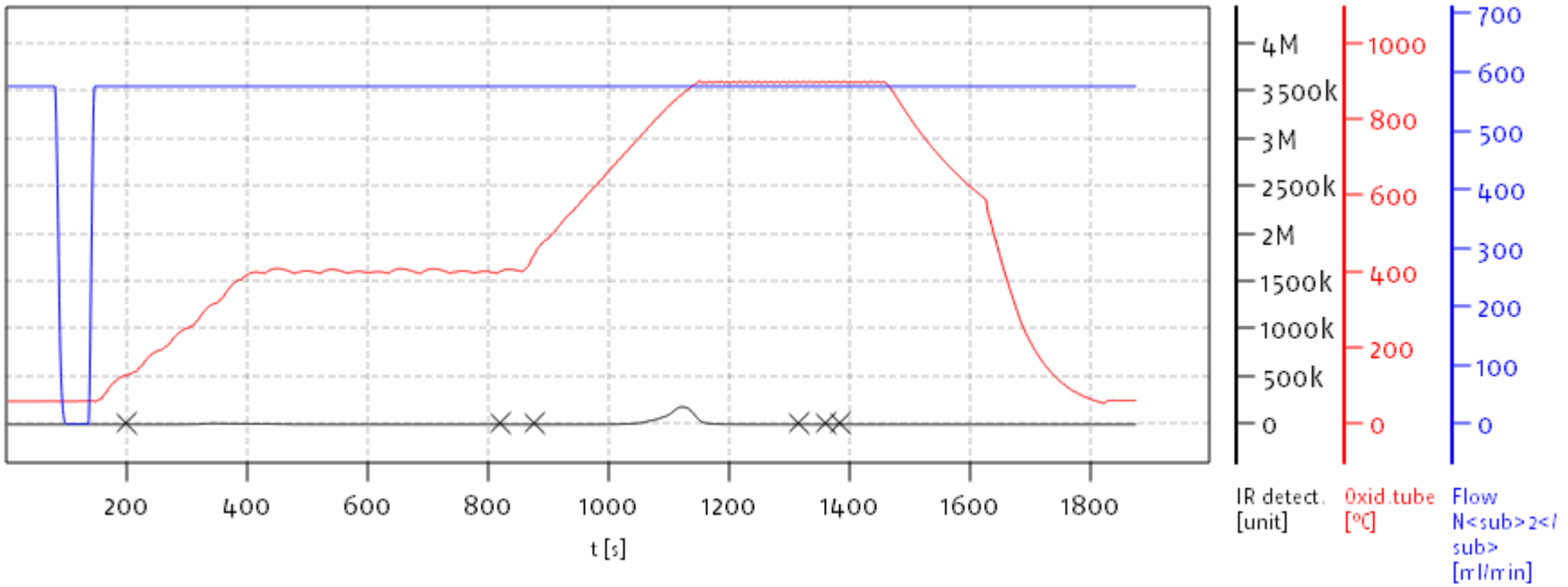
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	14	SJH0113-CALC	200.00	0.0052	1.00	CARBON	8/10/2021 8:06 PM	0.036	0.311	0.347	bl,C2u	40 501	391 829	67	1.0000	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
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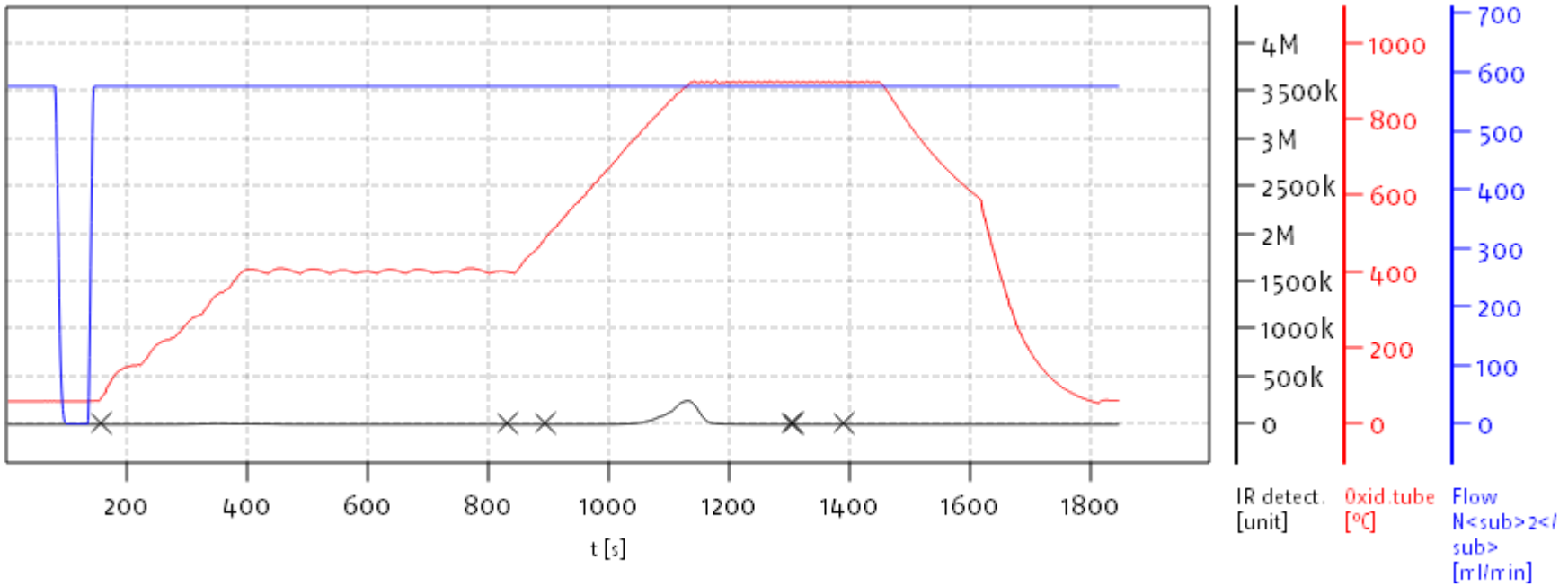
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	15	SJH0113-CALD	200.00	0.0072	1.00	CARBON	8/10/2021 8:37 PM	0.032	0.439	0.470	bl,C2u	34 638	553 926	294	1.0000	1.0000



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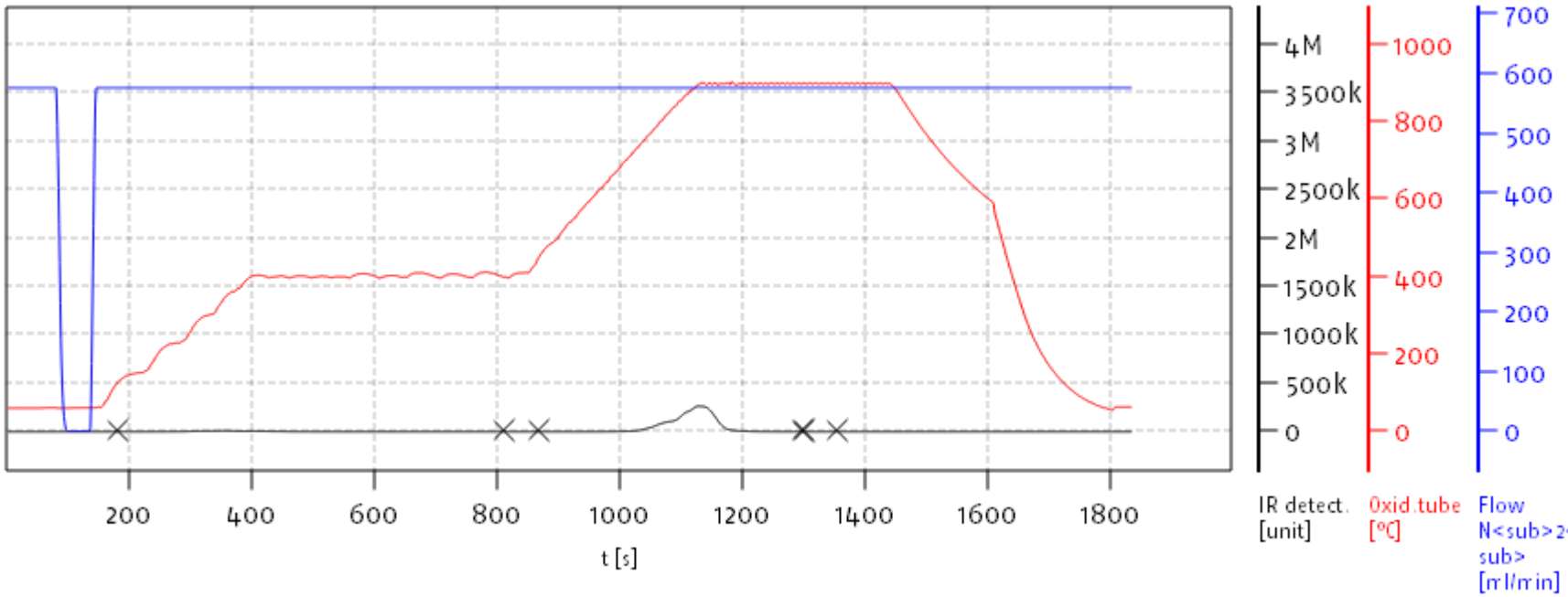
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	16	SJH0113-CALE	200.00	0.0098	1.00	CARBON	8/10/2021 9:08 PM	0.037	0.592	0.630	bl,C2u	42 067	748 510	251	1.0000	1.0000



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Soli TOC Cube, Carbon
Balance: BAL3
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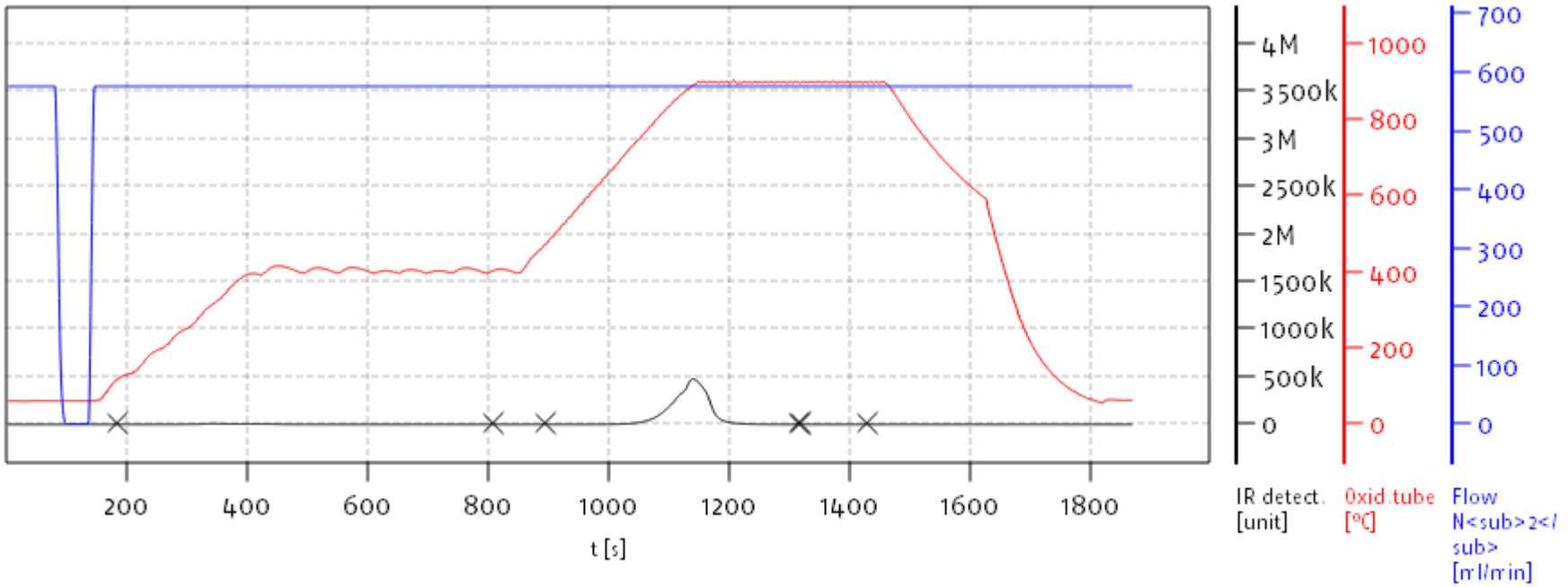
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	17	SJH0113-CALF	200.00	0.0150	1.00	CARBON	8/10/2021 9:40 PM	0.030	0.934	0.964	bl,C2u	32 751	1 182 576	479	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

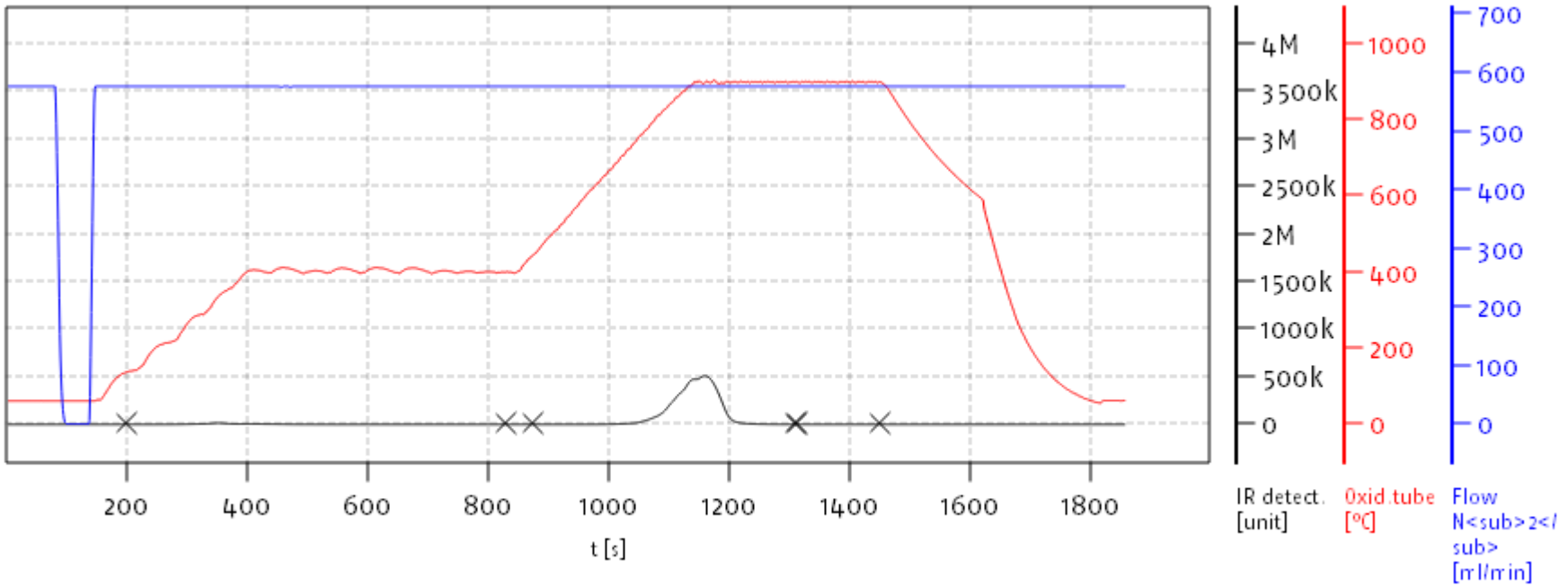
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	18	SJH0113-CALG	200.00	0.0203	1.00	CARBON	8/10/2021 10:11 PM	0.039	1.249	1.287	bl,C2u	42 932	1 581 667	955	1.0000	1.0000



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Access: soliTOC superuser

Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

elementar
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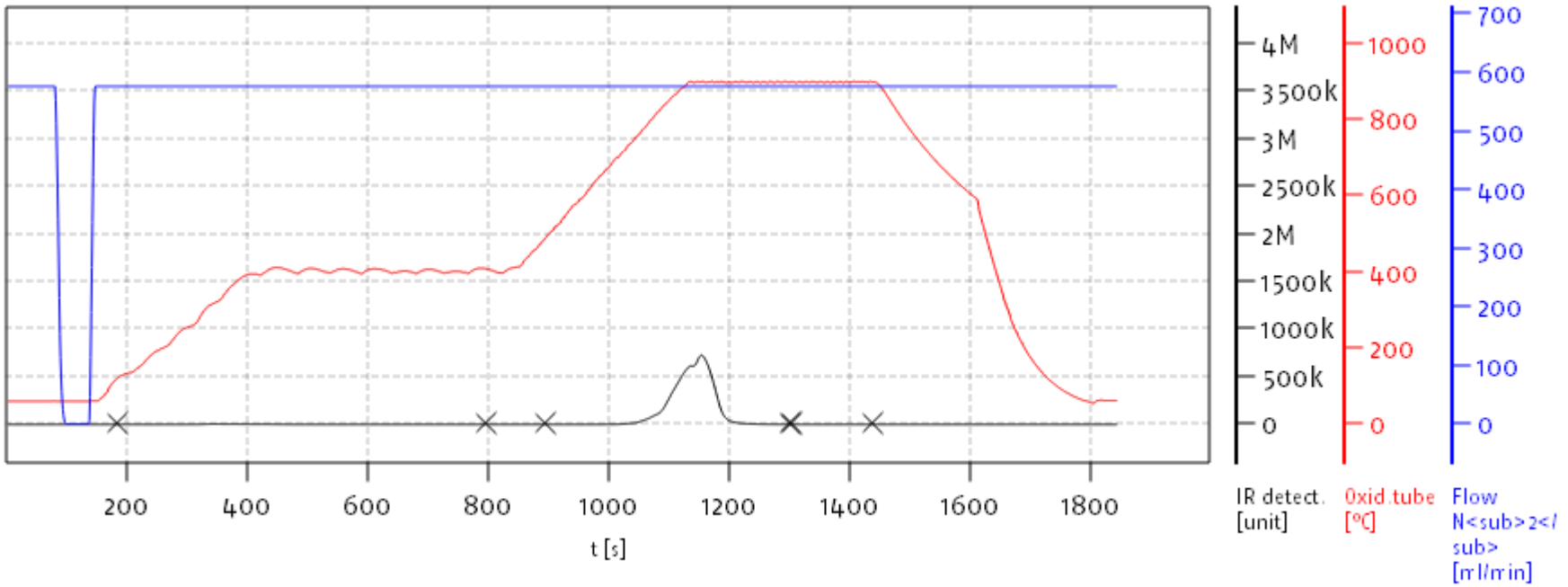
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	19	SJH0113-CALH	200.00	0.0251	1.00	CARBON	8/10/2021 10:42 PM	0.019	1.538	1.557	bl,C2u	17 895	1 948 888	1 191	1.0000	1.0000



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Balance: BAL3
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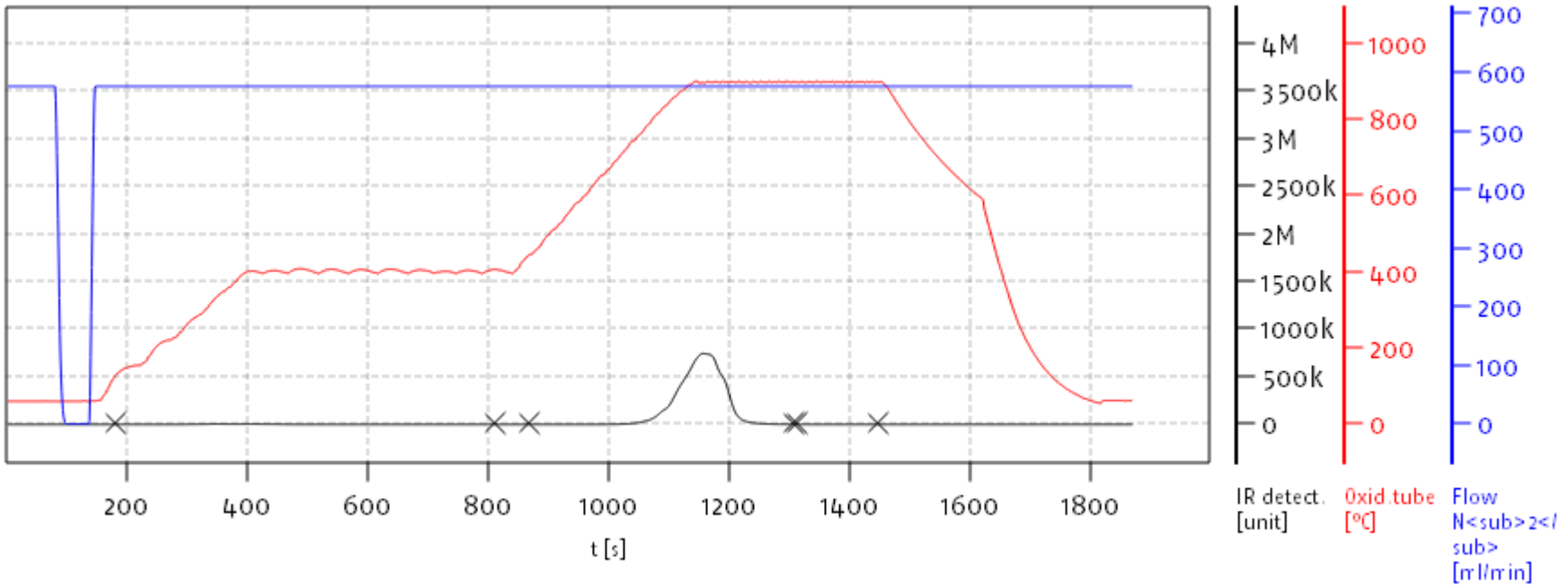
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	20	SJH0113-CALI	200.00	0.0304	1.00	CARBON	8/10/2021 11:14 PM	0.024	1.868	1.892	bl,C2u	23 738	2 367 098	1 836	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
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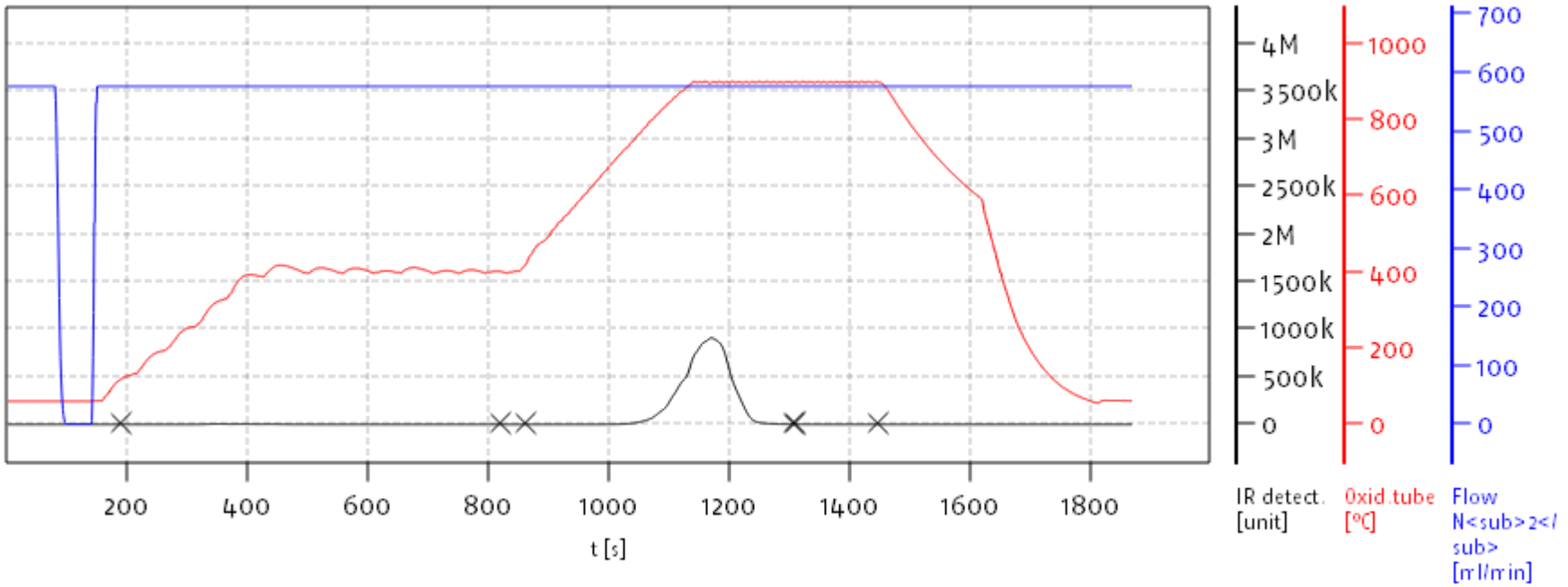
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	21	SJH0113-CALJ	200.00	0.0399	1.00	CARBON	8/10/2021 11:45 PM	0.023	2.454	2.477	bl,C2u	21 349	3 110 916	2 579	1.0000	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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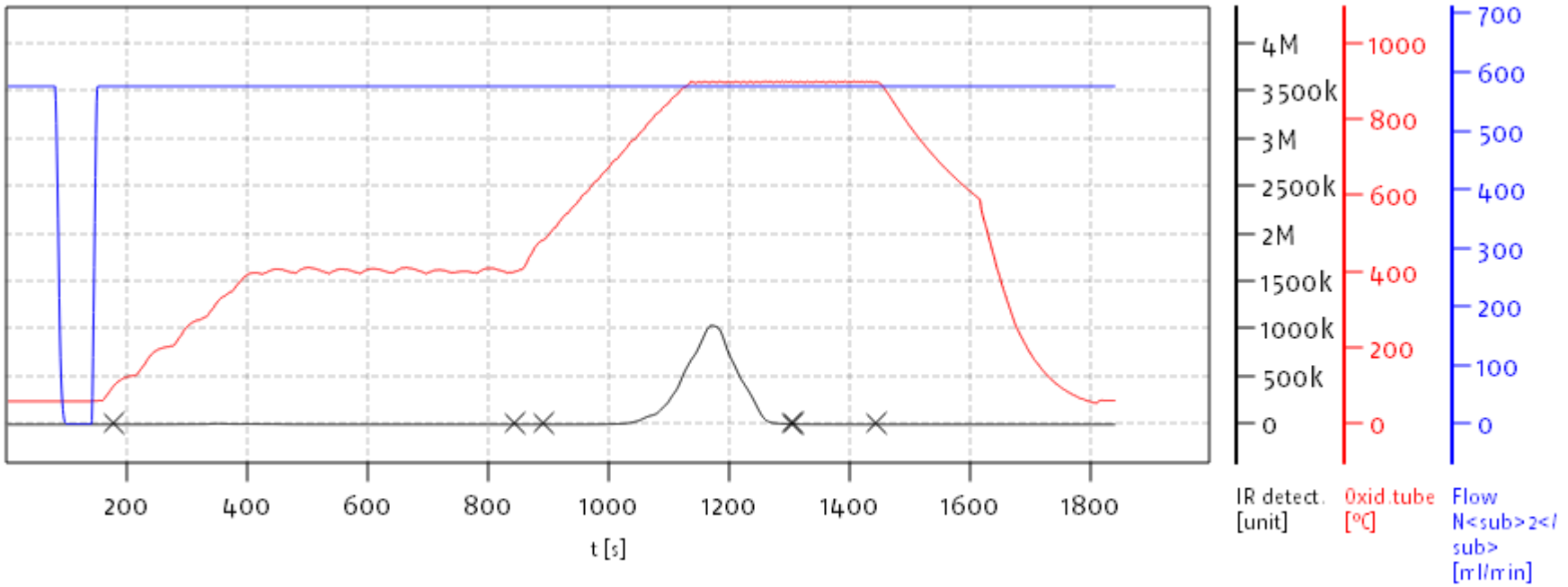
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	22	SJH0113-CALK	200.00	0.0500	1.00	CARBON	8/11/2021 12:16 AM	0.030	3.054	3.084	bl,C2u	29 231	3 872 043	4 133	1.0000	1.0000



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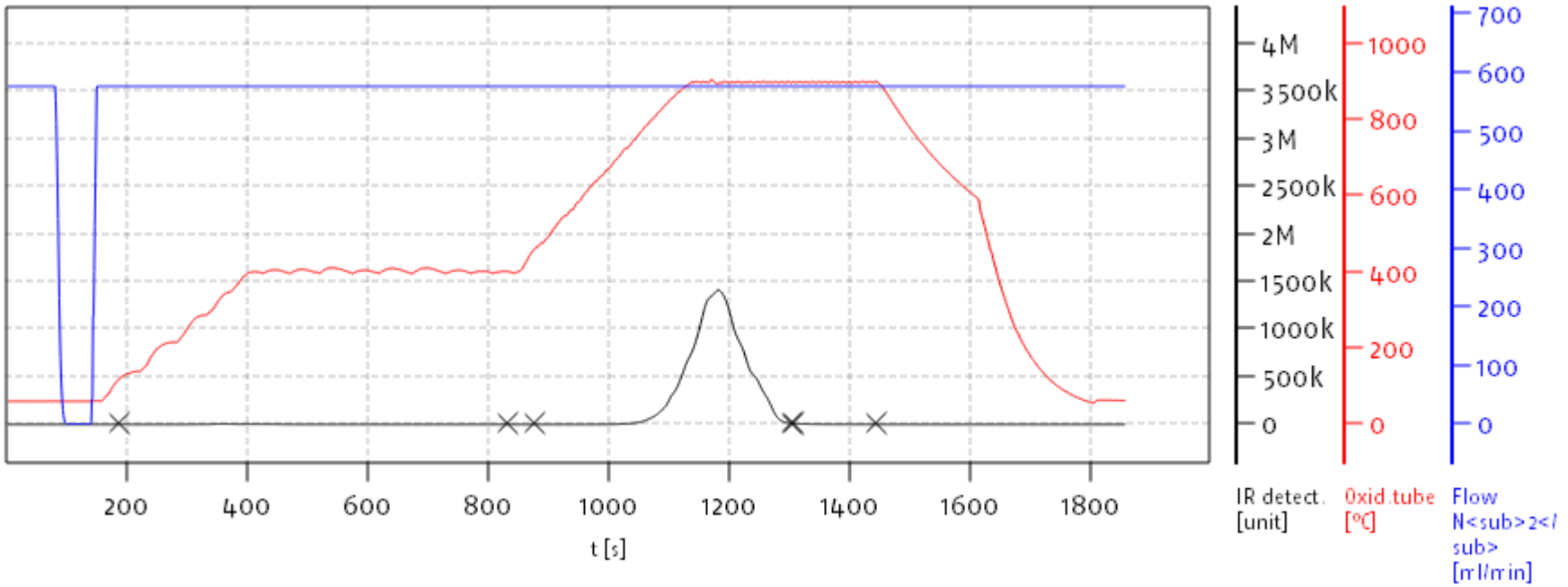
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	23	SJH0113-CALL	200.00	0.0699	1.00	CARBON	8/11/2021 12:48 AM	0.028	4.289	4.317	bl	19 838	5 438 583	10 830	1.0000	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
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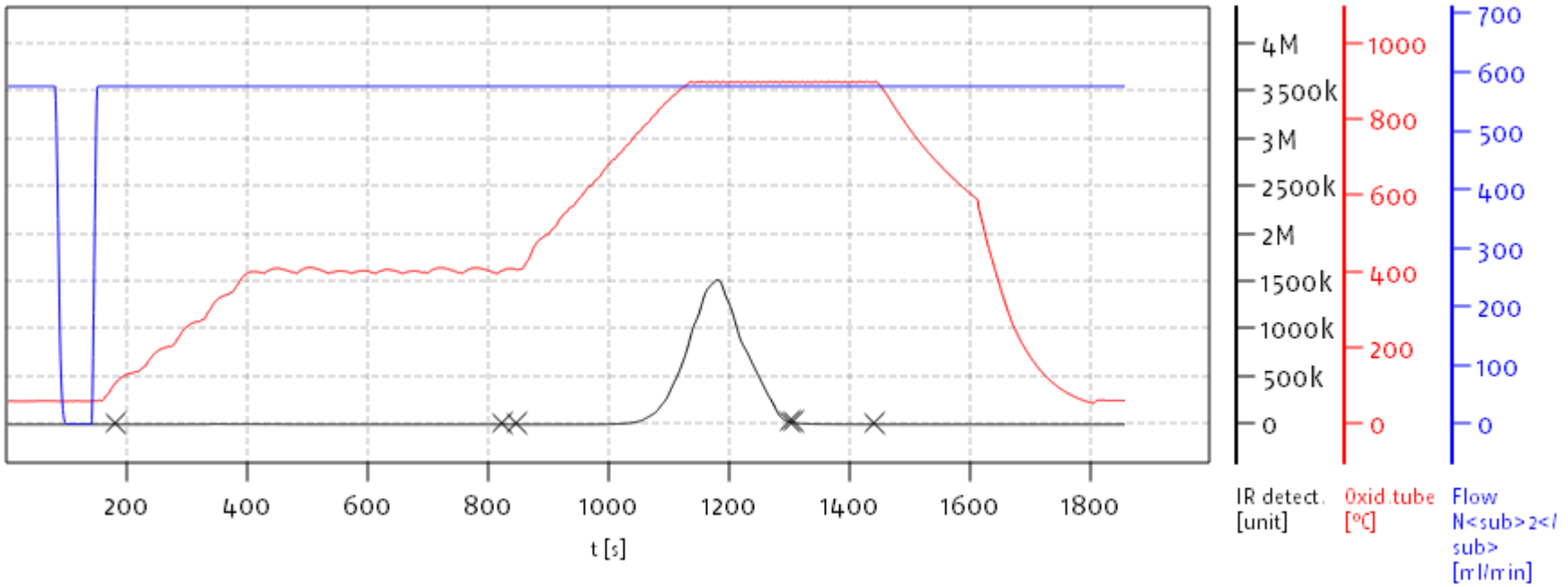
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	24	SJH0113-CALM	200.00	0.0801	1.00	CARBON	8/11/2021 1:19 AM	0.030	4.919	4.949	bl	16 438	6 238 324	16 703	1.0000	1.0000



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Date: Wed Aug 11 13:04:23 2021

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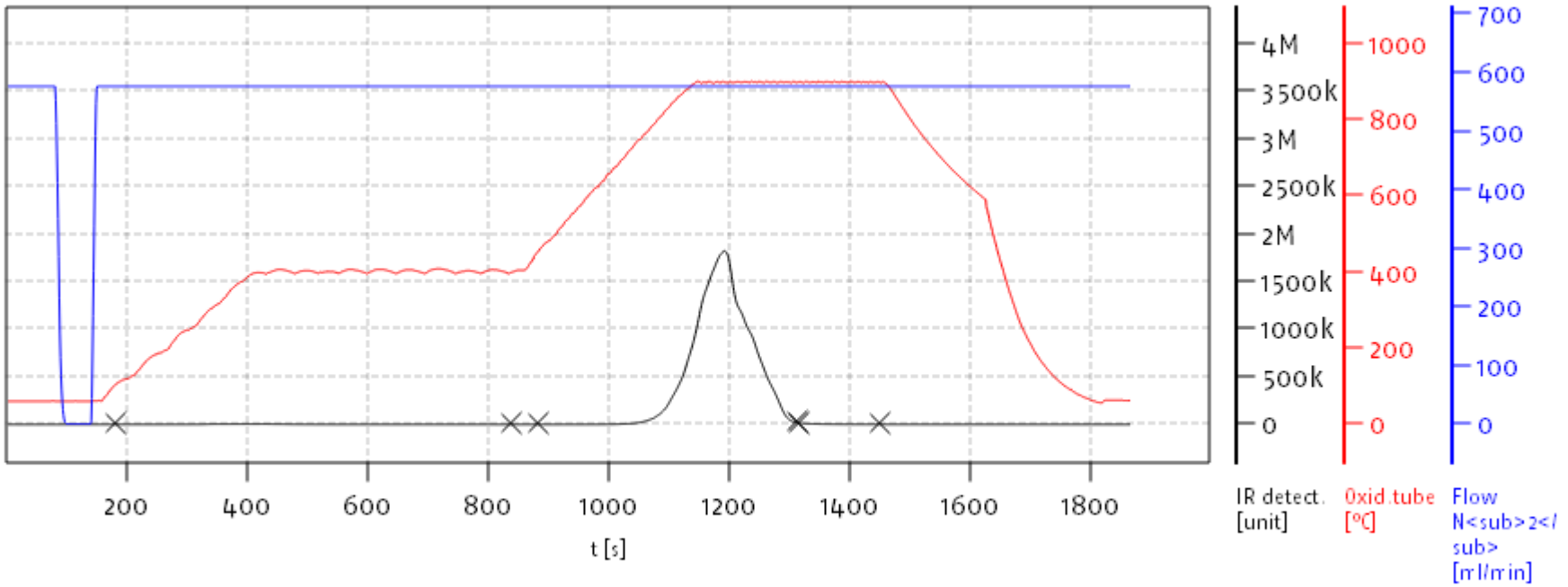
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	25	SJH0113-CALN	200.00	0.0903	1.00	CARBON	8/11/2021 1:50 AM	0.035	5.550	5.585	bl	23 597	7 038 842	15 761	1.0000	1.0000



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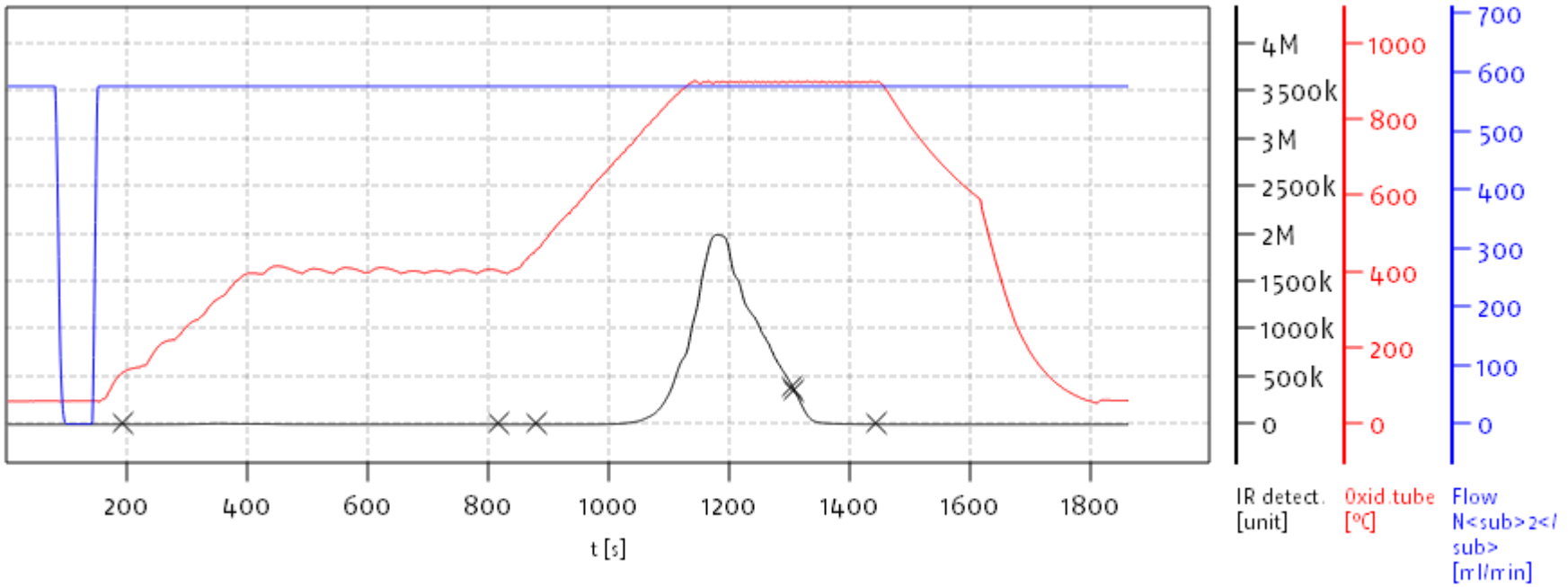
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	26	SJH0113-CALO	200.00	0.1198	1.00	CARBON	8/11/2021 2:22 AM	0.206	7.202	7.408	bl,C3o	38 020	9 134 974	218 134	1.0000	1.0000



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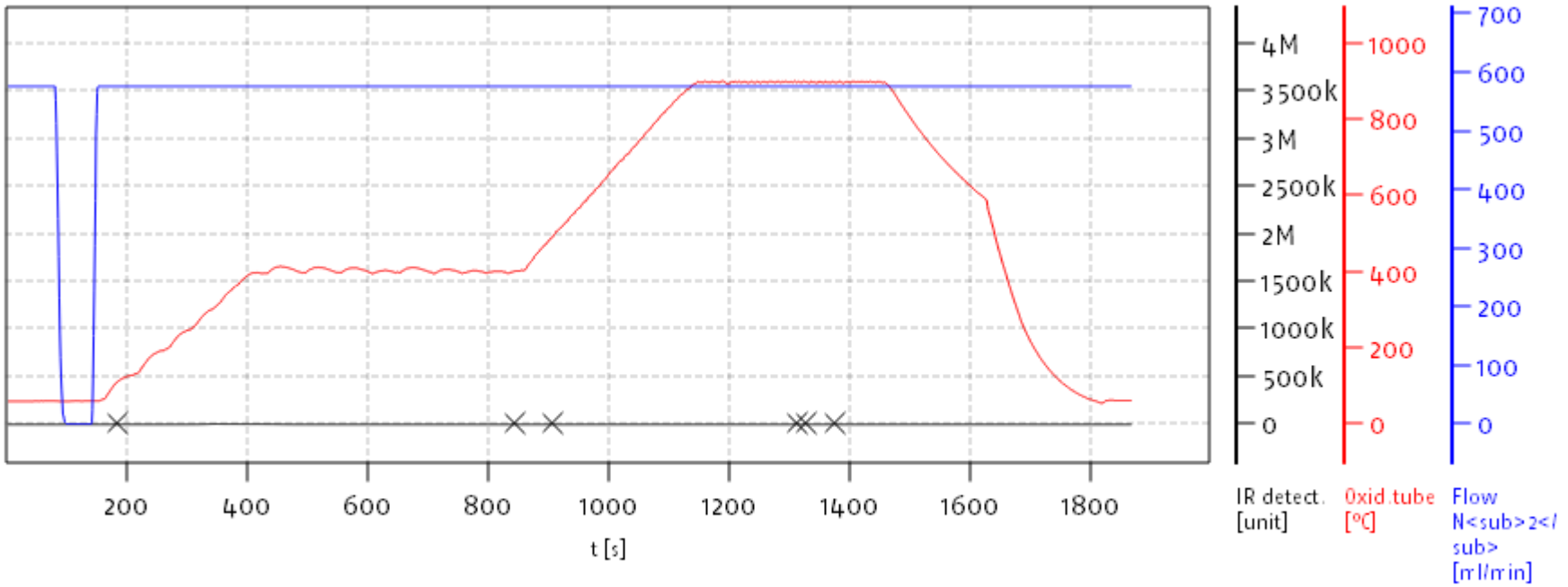
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	27	BLANK	1.00		1.00	CARBON	8/11/2021 2:53 AM	0.000	0.000	0.000	bl	19 335	23	0	1.0000	1.0000



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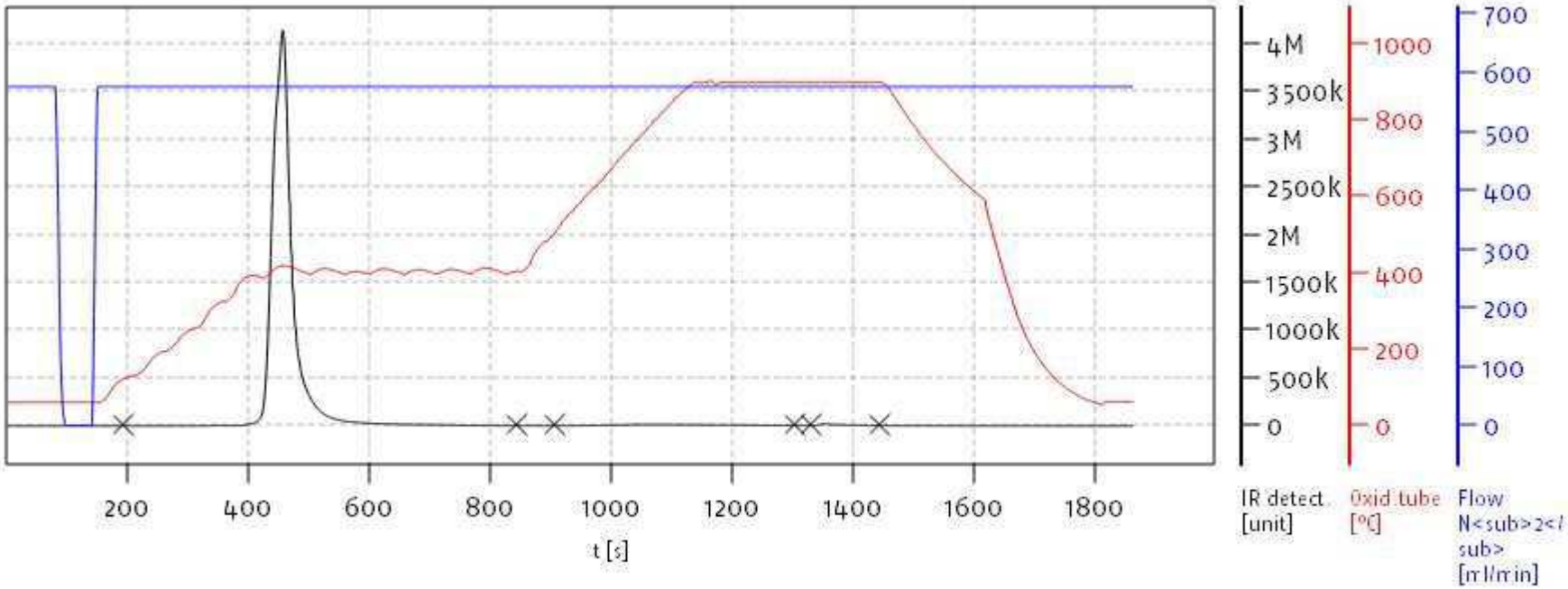
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	28	Dfactor	20.90		1.00	CARBON	8/11/2021 3:25 AM	44.744	0.921	45.666	bl	5 800 620	119 521	37 001	1.0154	1.0000



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soliTOC V2.0.2 (31015f9) 2018-11-19
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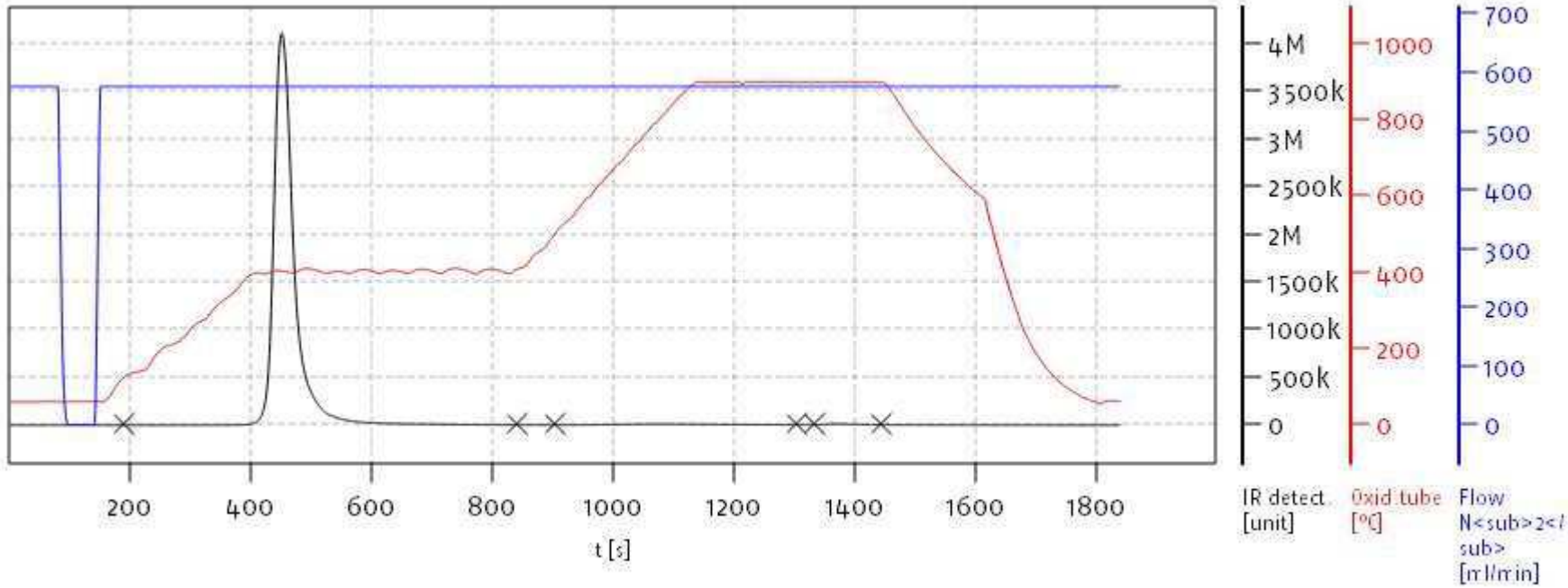
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	29	Dfactor	21.50		1.00	CARBON	8/11/2021 3:56 AM	44.697	0.738	45.435	bl	5 956 386	98 039	31 649	1.0173	1.0000



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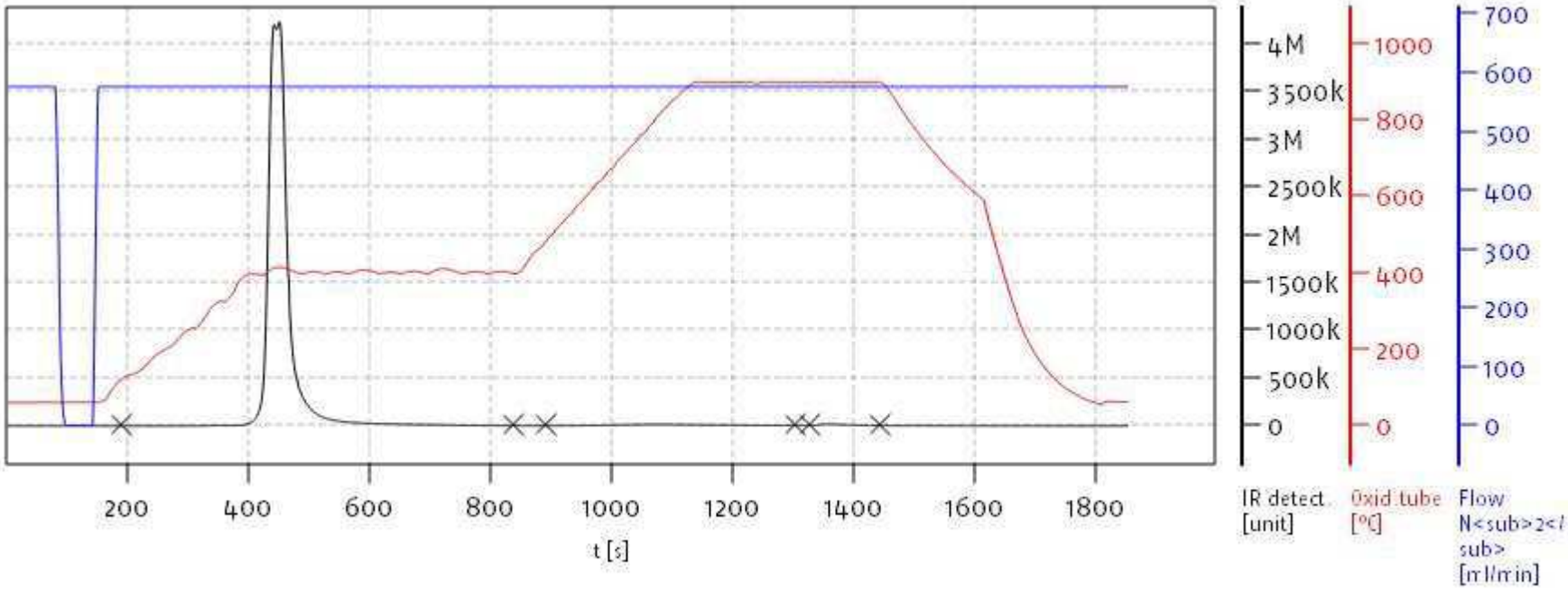
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	30	SJH0113-ICV1	21.40		1.00	CARBON	8/11/2021 4:27 AM	44.407	0.930	45.337	bl	5 886 637	123 684	40 335	1.0163	1.0000



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Mode CCC

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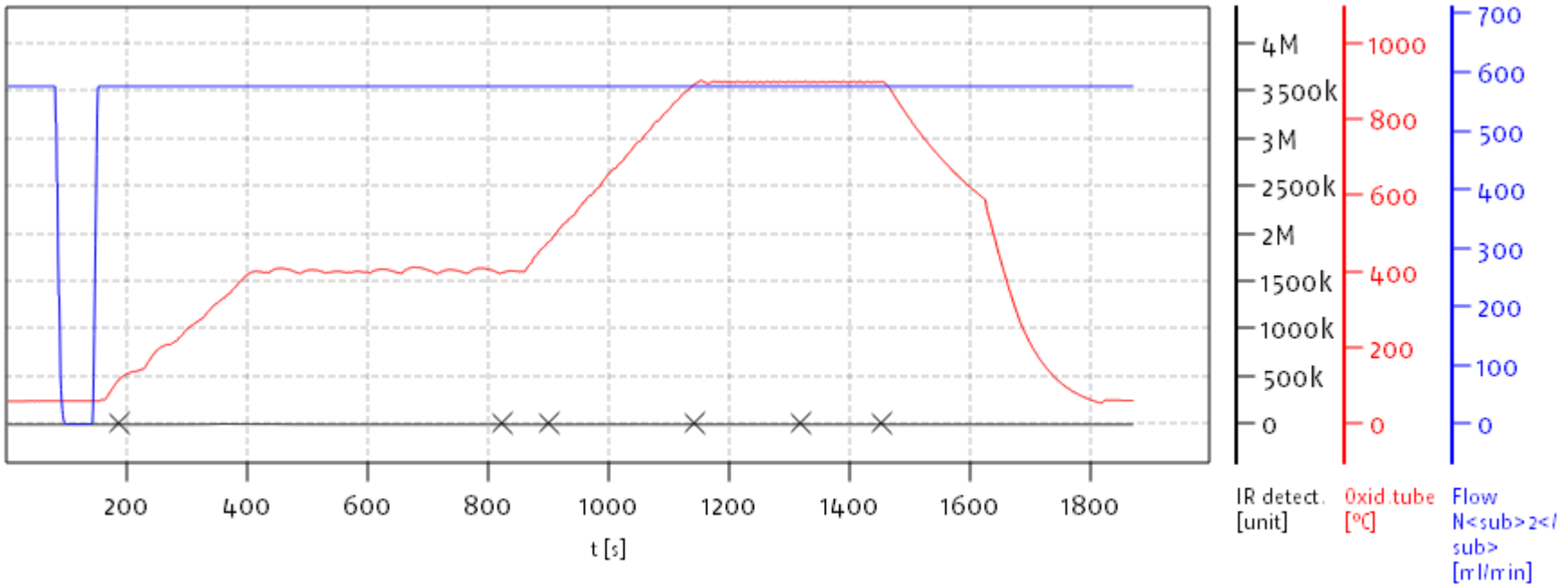
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	31	SJH0113-ICB1	613.30		1.00	CARBON	8/11/2021 4:59 AM	0.007	0.001	0.008	bl,C3u,C2u	20 520	1 826	970	1.0163	1.0000



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EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00021 081021BF from: --.--.-- (modified)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039
Total Carbon	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039
Total Inorganic Carbon	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039
% Soot	0.005112	1267041	0.01624	1156589	0.020451	1208352	0.030375	1027852	0.045412	1355038	0.060149	1226039

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923
Total Carbon	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923
Total Inorganic Carbon	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923
% Soot	0.076991	1301360	0.091126	1300200	0.1191	1370840	0.14977	1231288	0.252	1210857	0.336	1231923

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887
Total Carbon	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887
Total Inorganic Carbon	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887
% Soot	0.414	1268309	0.582	1278292	0.882	1265125	1.194	1264020	1.518	1271667	1.812	1261887

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

Compound	Level 19		Level 20		Level 21		Level 22		Level 23		Level 24	
		RF		RF		RF		RF		RF		RF
Total Organic Carbon	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	1189552
Total Carbon	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	892723
Total Inorganic Carbon	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	892723
% Soot	2.4	1255529	2.988	1141805	4.194	1173122	4.818	1173843	5.412	1191617	7.224	892723

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA

EPA 9060A m

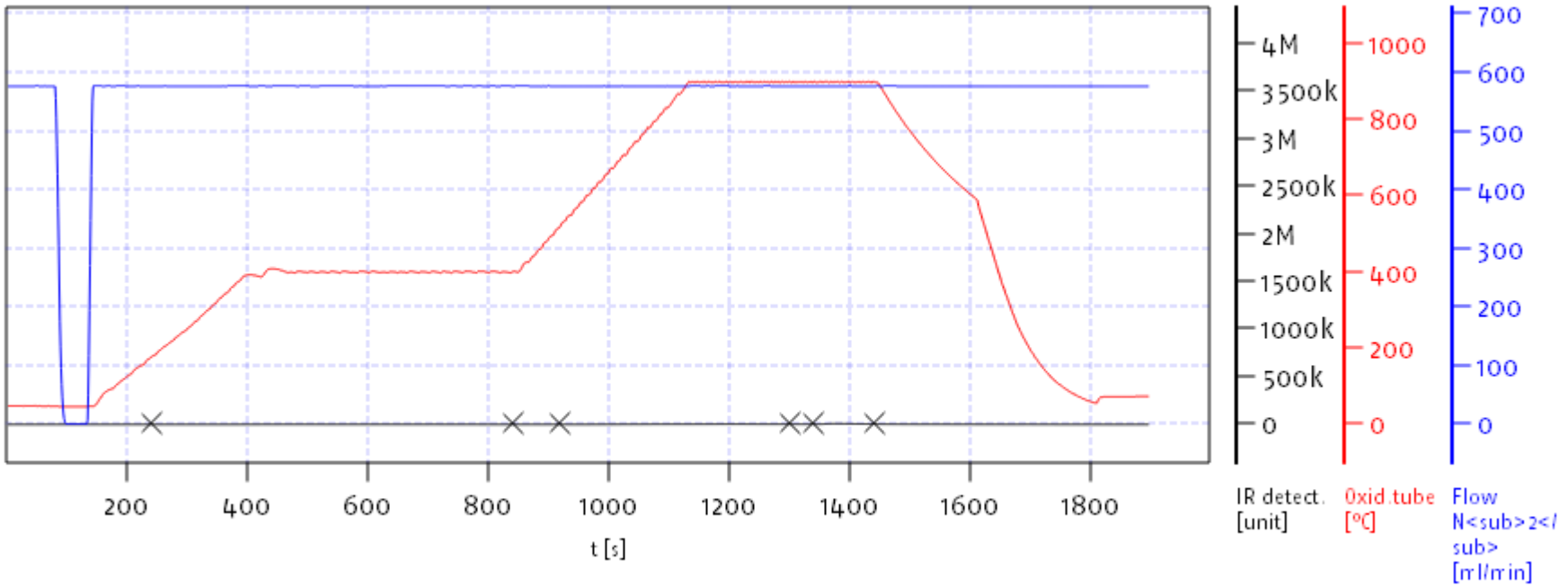
Laboratory:	Analytical Resources, Inc.	SDG:	21G0305
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00065	Instrument:	TOC Cube
Calibration Date:	08/24/2021 17:16		

COMPOUND	Mean RF	RF RSD	Linear COD	Quad COD	COD Limit	Q
Total Organic Carbon	1234256	5.9	0.9993			
Total Carbon	1221888	8.2	0.9742			
Total Inorganic Carbon	1221888	8.2	0.9742			
% Soot	1221888	8.2	0.9742			

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
1	9	BLANK	1.00		1.00	CARBON	8/24/2021 6:00 PM	0.000	0.000	0.000	bl	13 861	33 454	21 567	1.0000	1.0000



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Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
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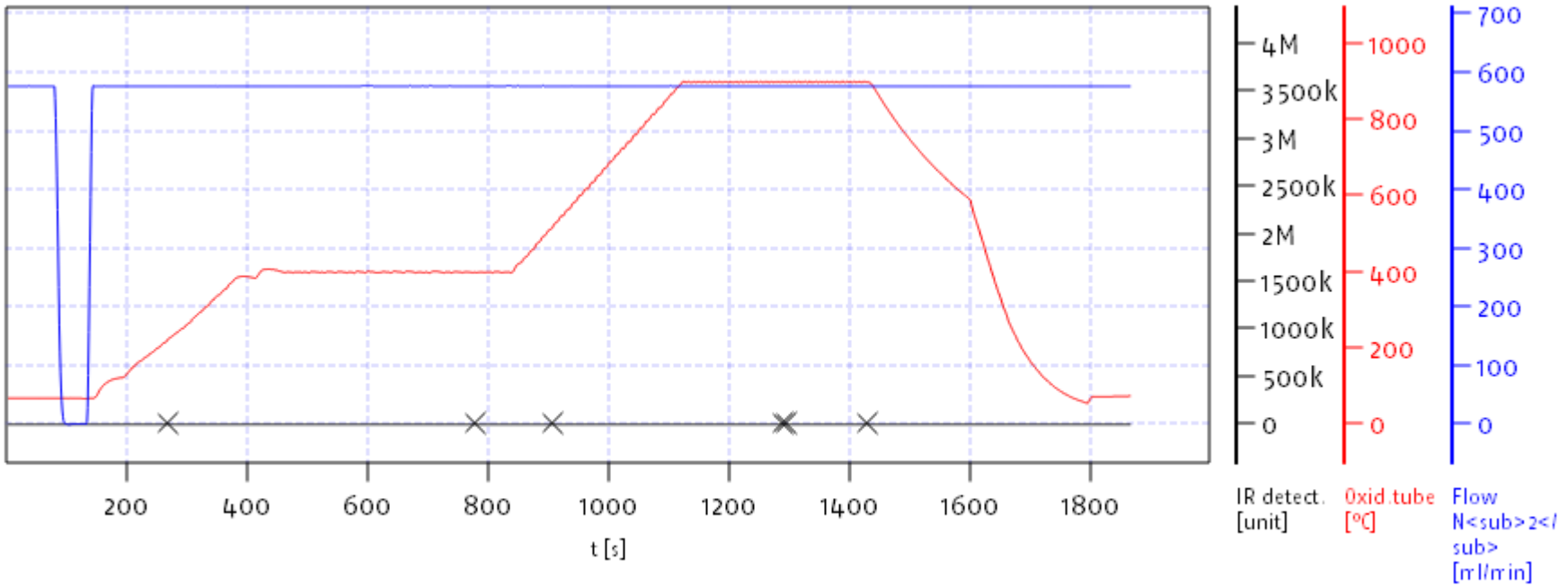

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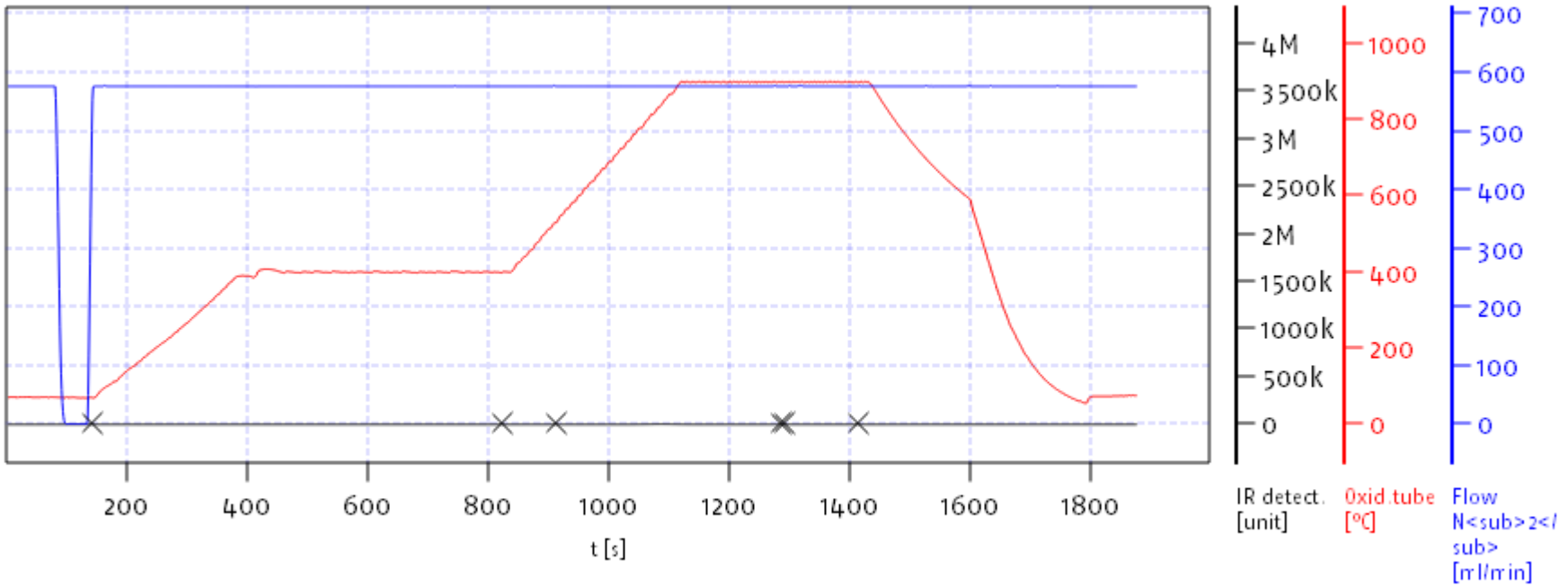
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
3	11	SEQ-CAL1	200.00	0.0017	1.00	CARBON	8/24/2021 7:03 PM	0.000	0.008	0.008	bl,C1u,C3u,C2u	1 070	6 478	141	1.0000	1.1719



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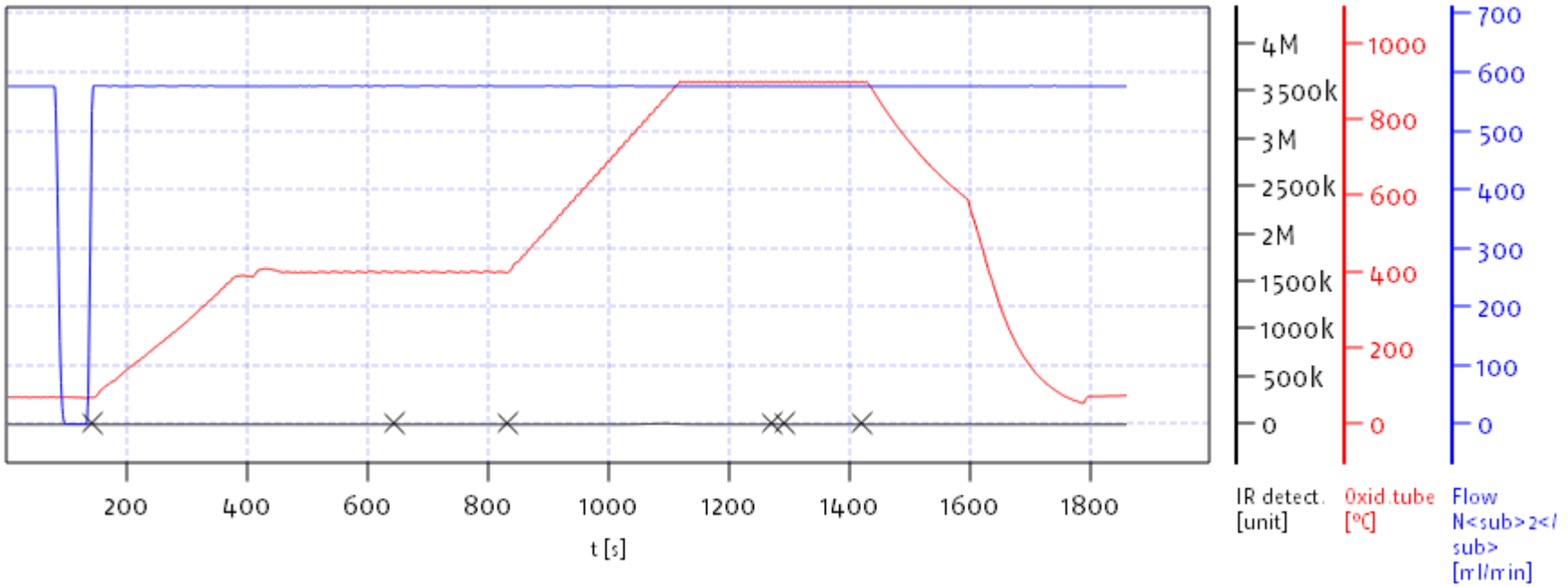
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
4	12	SEQ-CAL2	200.00	0.0054	1.00	CARBON	8/24/2021 7:34 PM	0.000	0.015	0.015	bl,C1u,C2u	660	18 783	85	1.0000	0.9072



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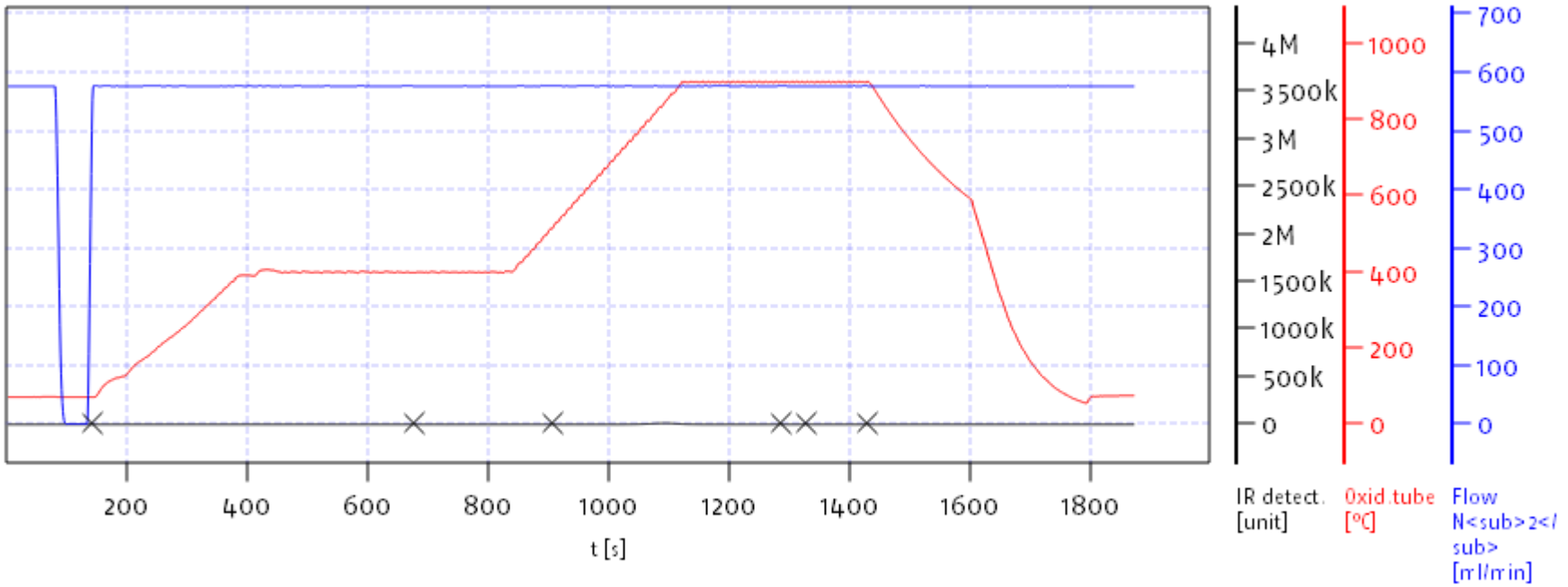
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
5	13	SEQ-CAL3	200.00	0.0068	1.00	CARBON	8/24/2021 8:06 PM	0.000	0.022	0.022	bl,C1u,C2u	889	24 712	60	1.0000	1.0307



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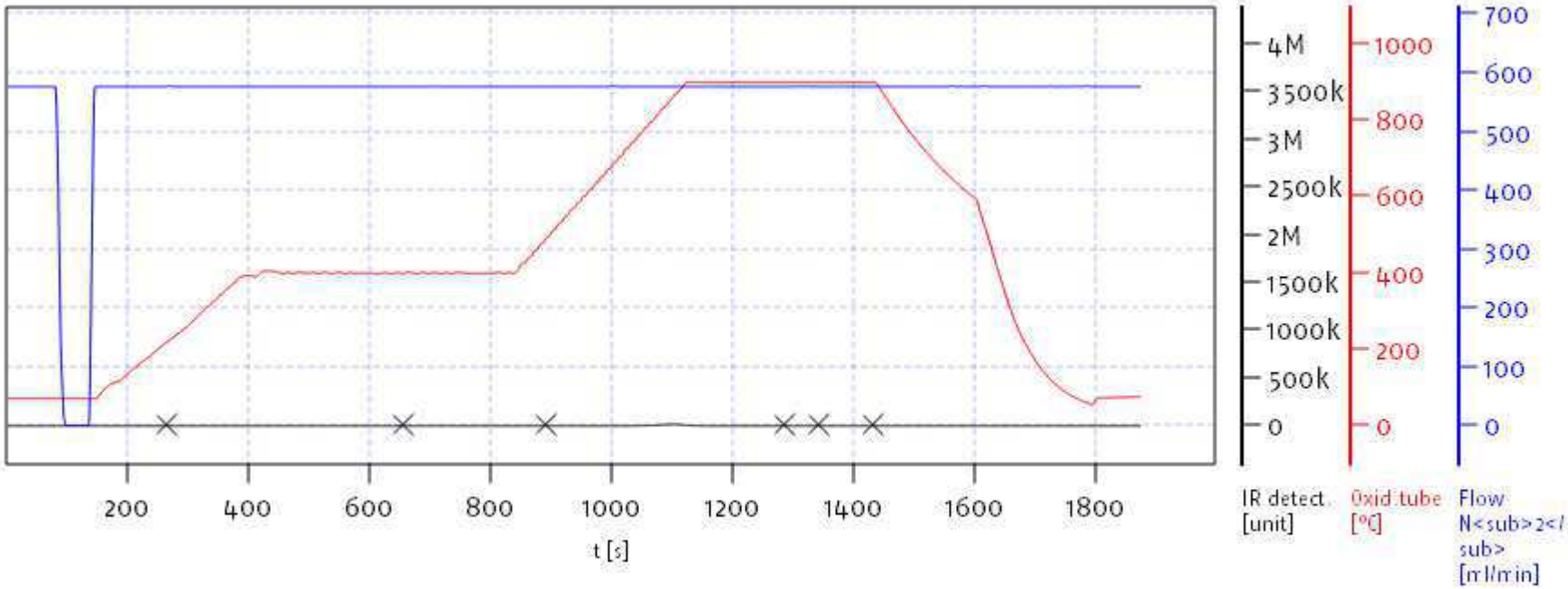
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
6	14	SEQ-CAL4	200.00	0.0101	1.00	CARBON	8/24/2021 8:38 PM	0.000	0.030	0.030	bl,C1u,C2u	1 503	31 221	84	1.0000	1.1361



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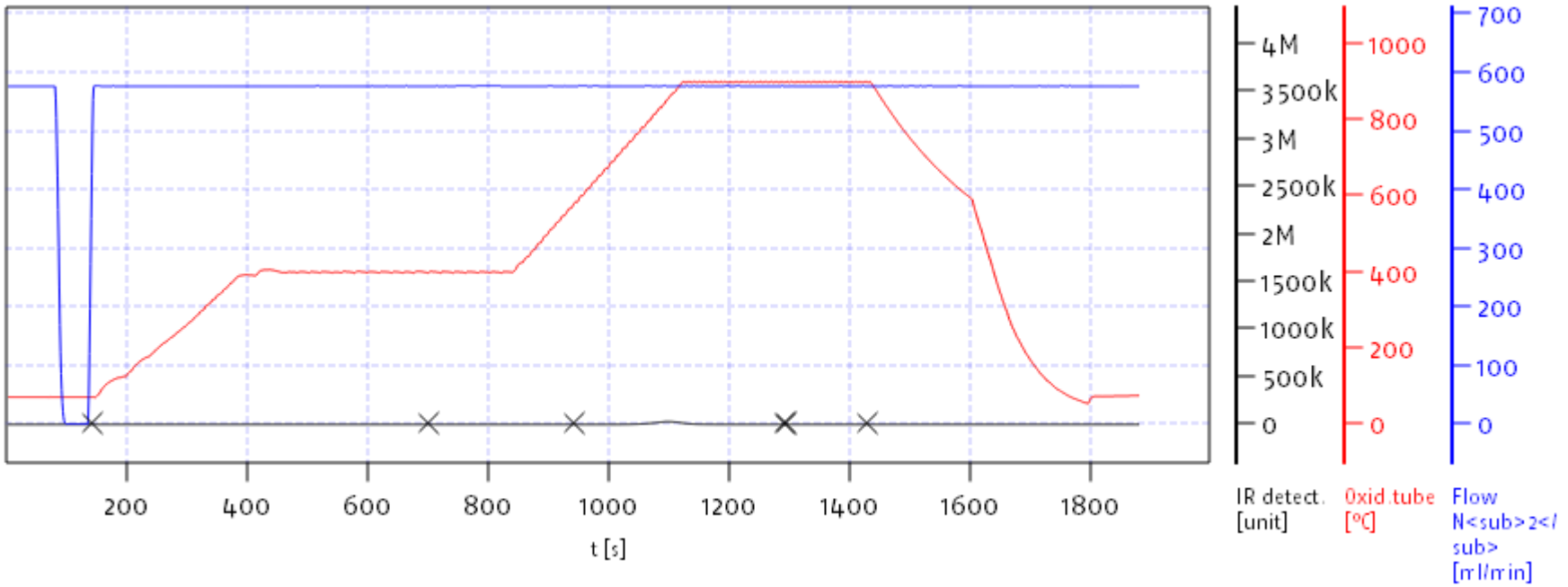
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
7	15	SEQ-CAL5	200.00	0.0151	1.00	CARBON	8/24/2021 9:10 PM	0.000	0.045	0.045	bl,C1u,C2u	776	61 535	62	1.0000	0.8900



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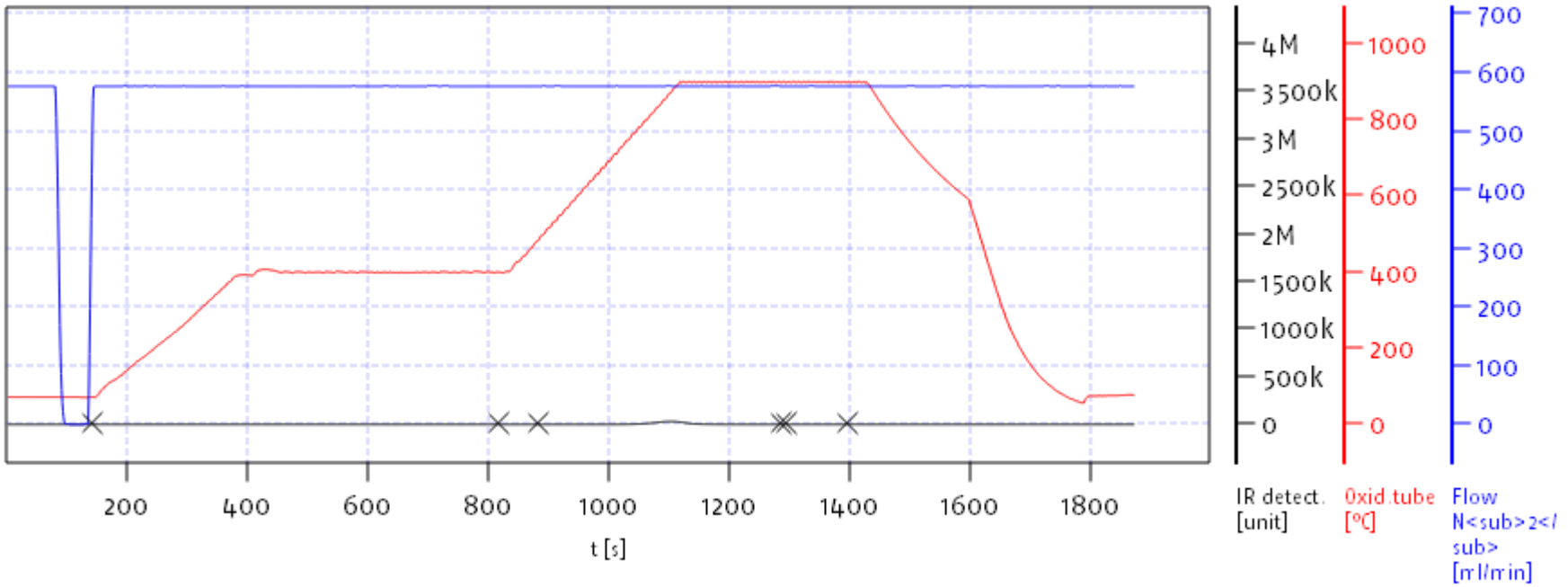
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
8	16	SEQ-CAL6	200.00	0.0200	1.00	CARBON	8/24/2021 9:41 PM	0.000	0.061	0.061	bl,C1u,C2u	1 086	73 745	55	1.0000	1.0168



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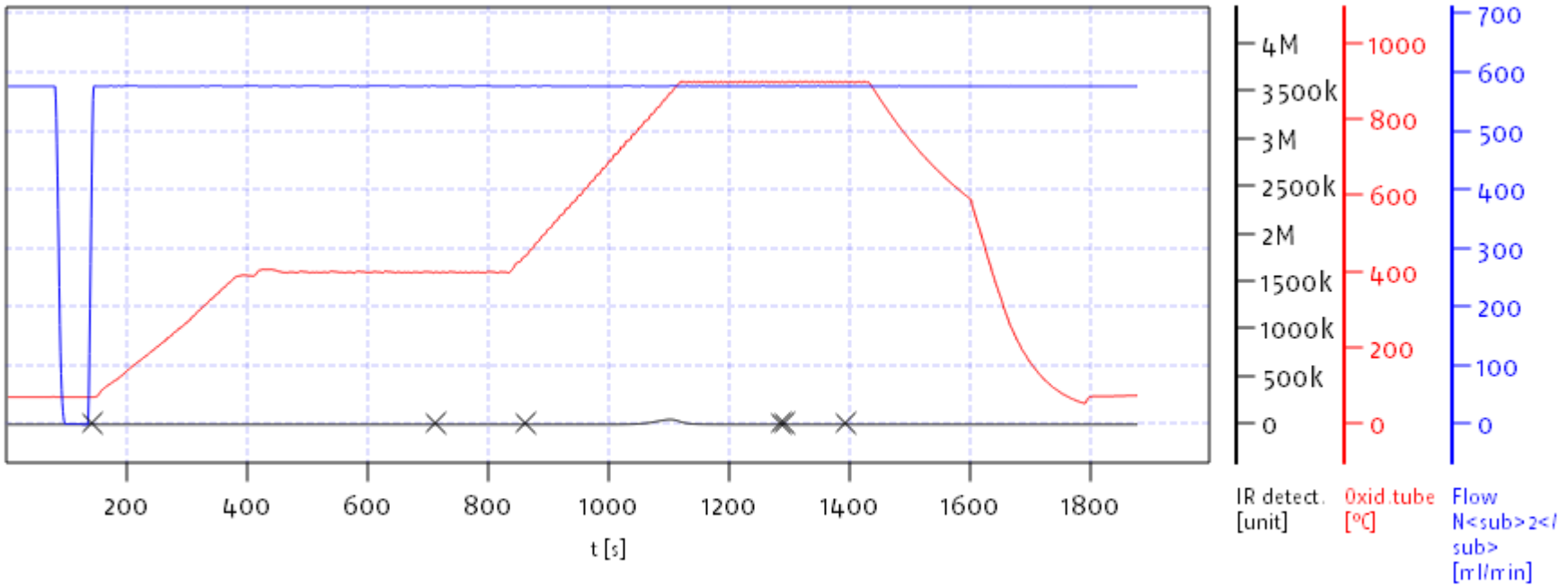
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
9	17	SEQ-CAL7	200.00	0.0256	1.00	CARBON	8/24/2021 10:13 PM	0.000	0.075	0.075	bl,C1u,C2u	1 149	100 193	99	1.0000	0.9293



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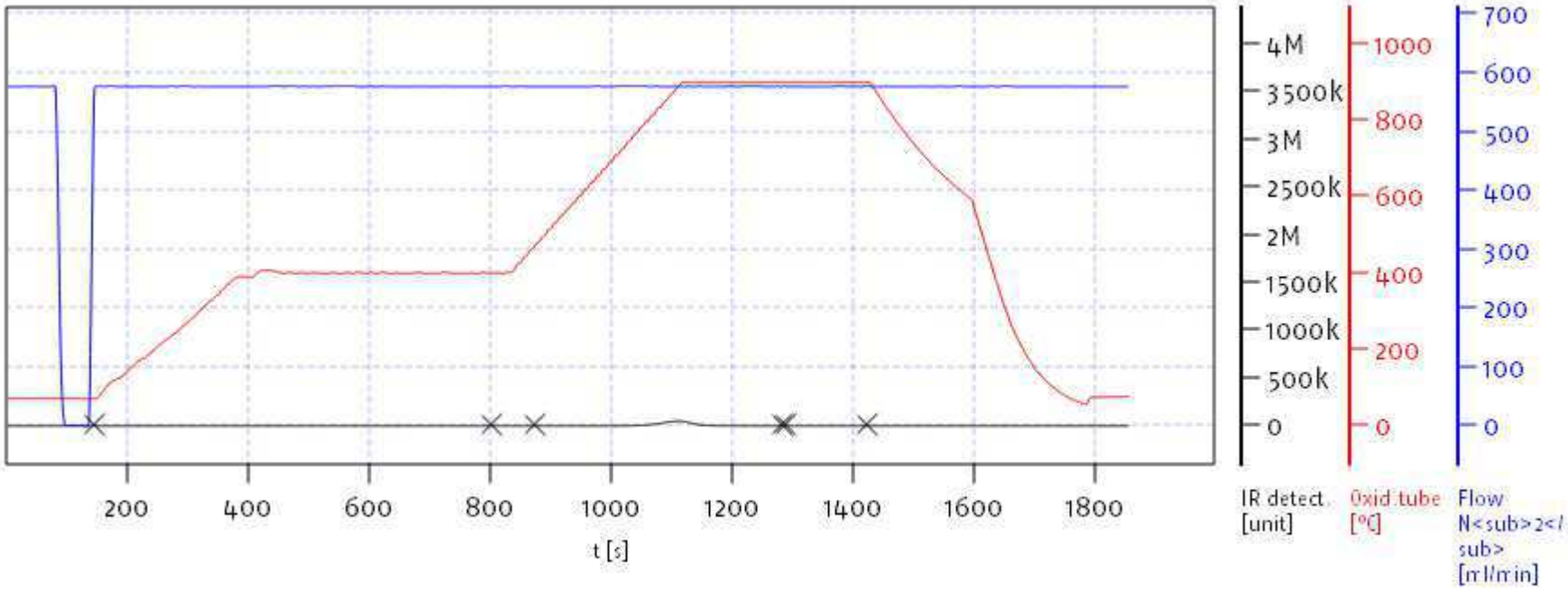
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
10	18	SEQ-CAL8	200.00	0.0303	1.00	CARBON	8/24/2021 10:44 PM	0.000	0.091	0.091	bl,C1u,C2u	779	118 482	109	1.0000	0.9492



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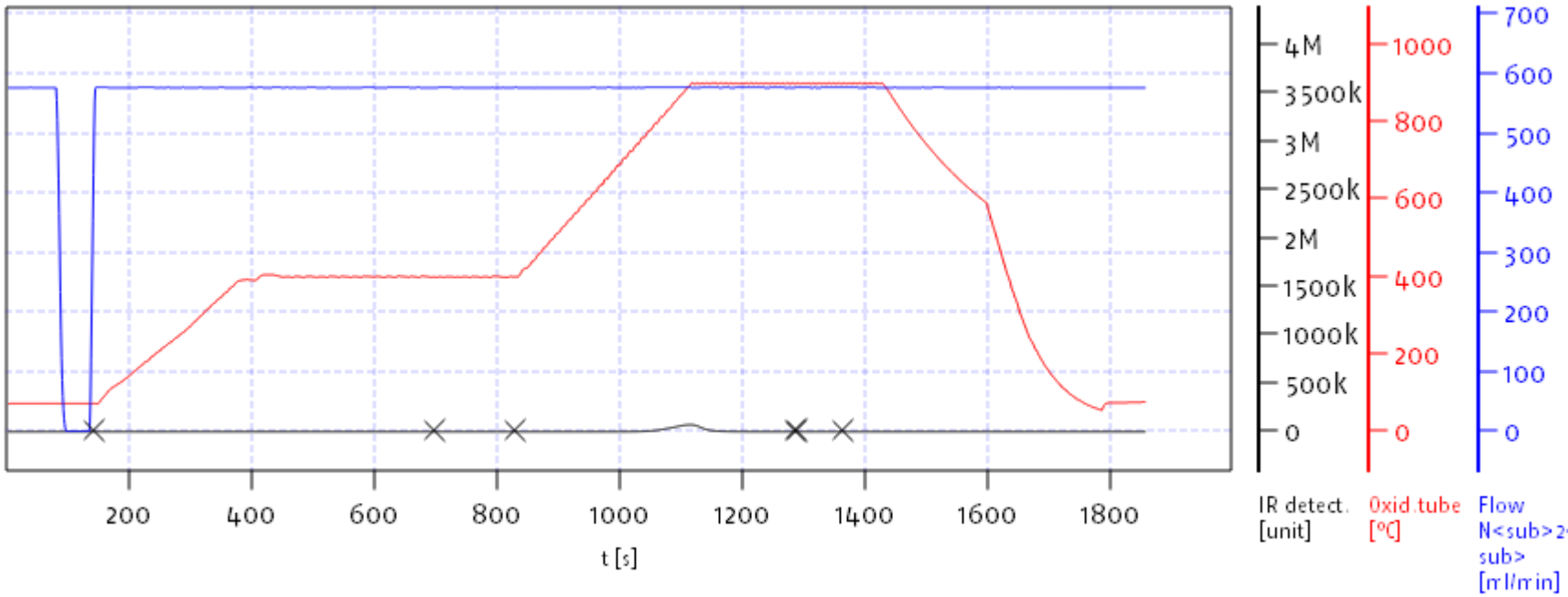
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
11	19	SEQ-CAL9	200.00	0.0396	1.00	CARBON	8/24/2021 11:16 PM	0.000	0.120	0.120	bl,C1u,C2u	848	163 267	93	1.0000	0.9178



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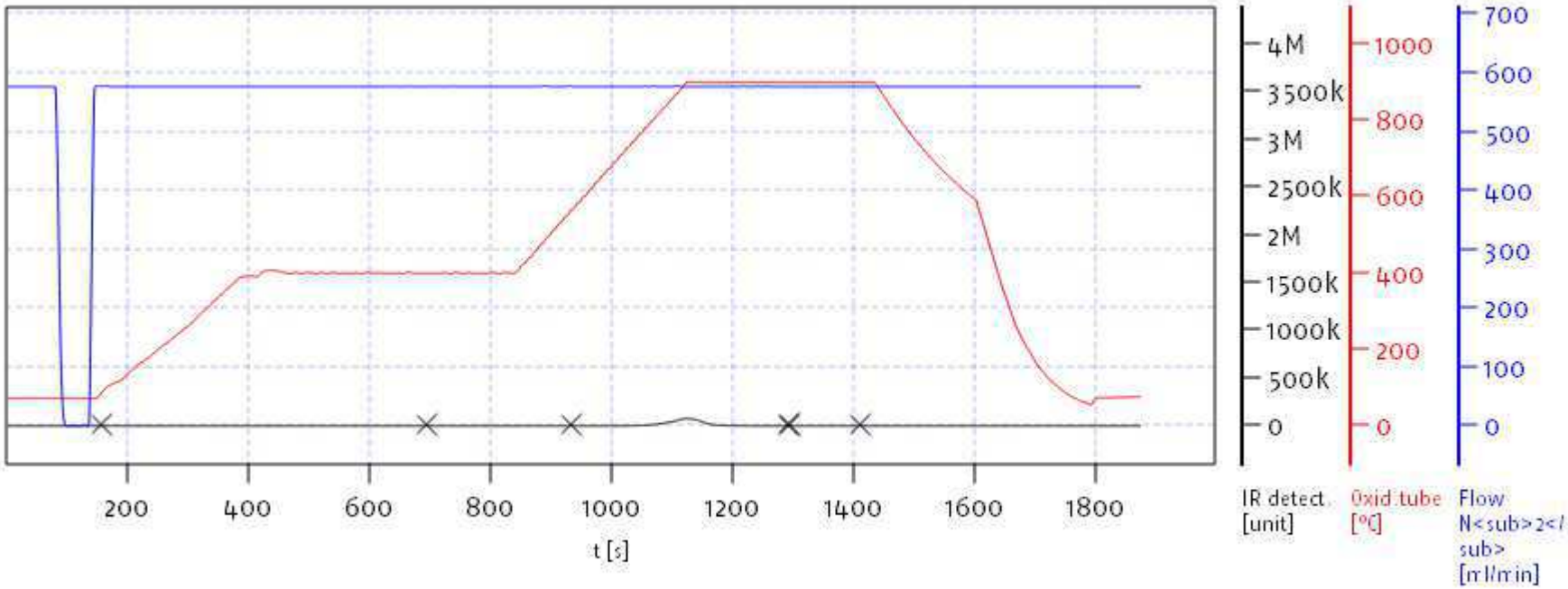
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
12	20	SEQ-CALA	200.00	0.0498	1.00	CARBON	8/24/2021 11:48 PM	0.000	0.151	0.151	bl,C1u,C2u	1 818	184 410	146	1.0000	1.0237



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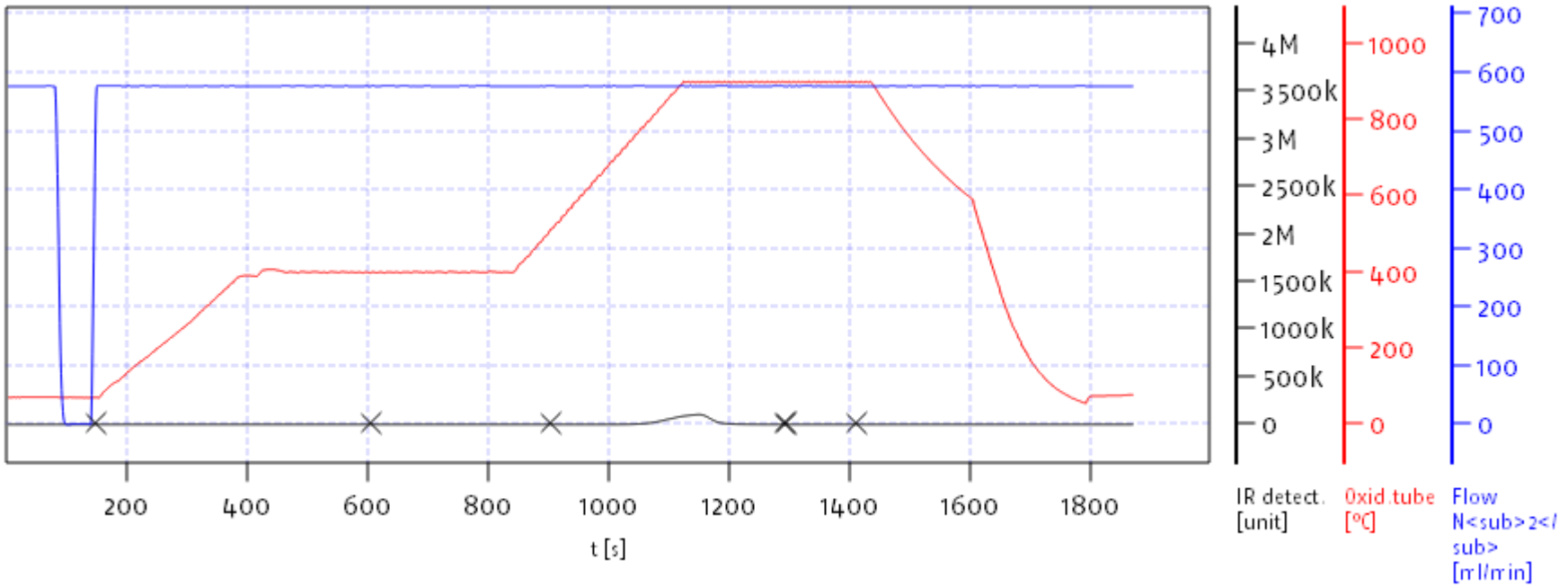
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
13	21	SEQ-CALB	200.00	0.0042	1.00	CARBON	8/25/2021 12:19 AM	0.000	0.258	0.258	bl,C1u,C2u	972	305 136	284	1.0000	1.0636



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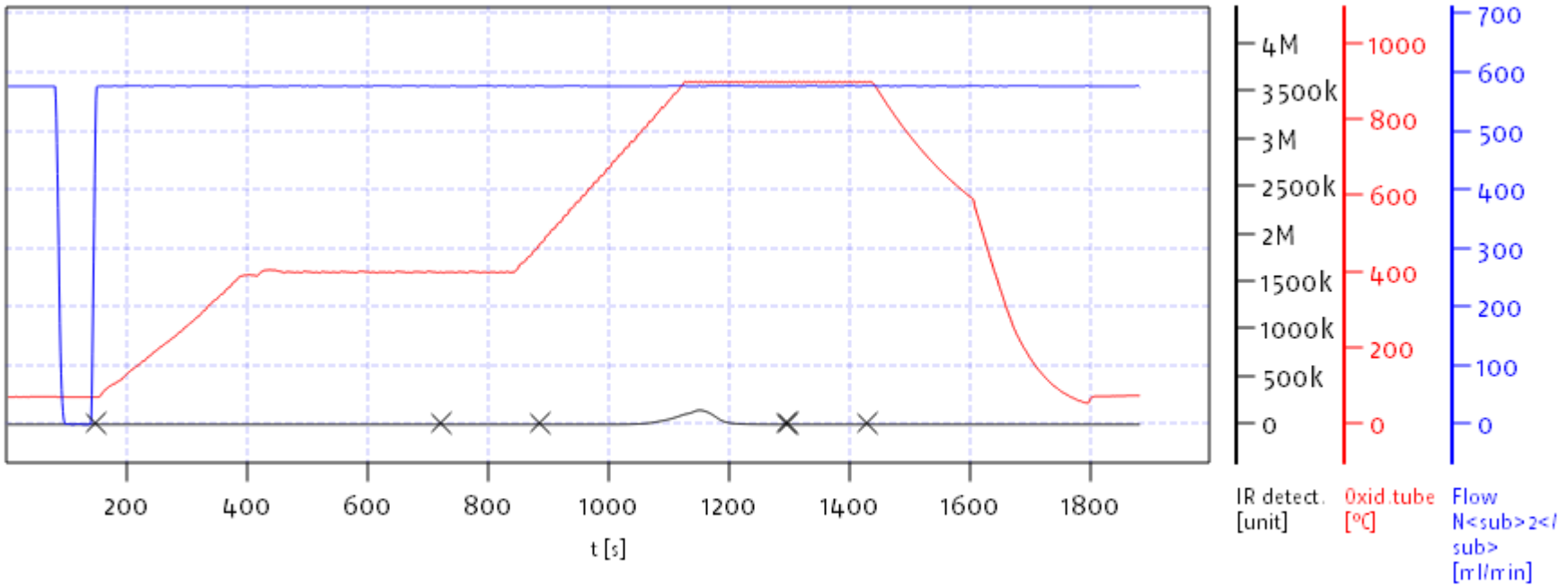
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
14	22	SEQ-CALC	200.00	0.0056	1.00	CARBON	8/25/2021 12:51 AM	0.000	0.324	0.324	bl,C1u,C2u	925	413 926	393	1.0000	0.9869



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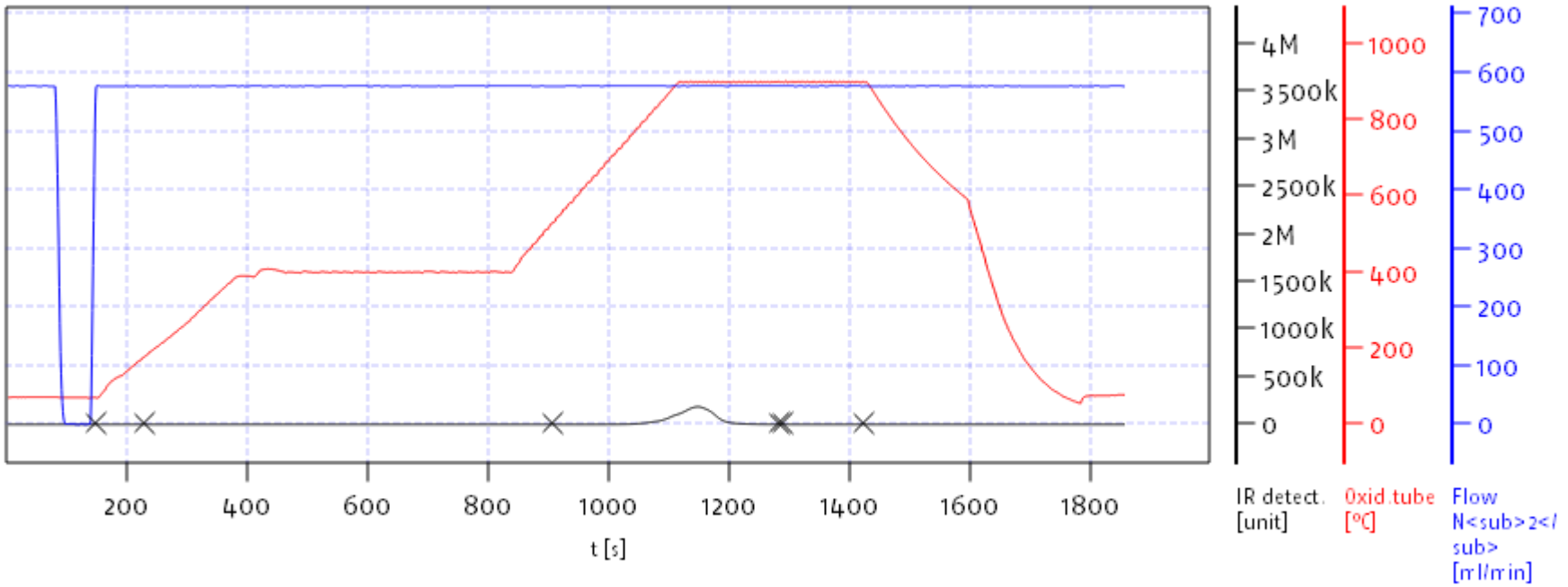
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
15	23	SEQ-CALD	200.00	0.0069	1.00	CARBON	8/25/2021 1:22 AM	0.000	0.444	0.444	bl,C1u,C2u	172	525 080	677	1.0000	1.0675



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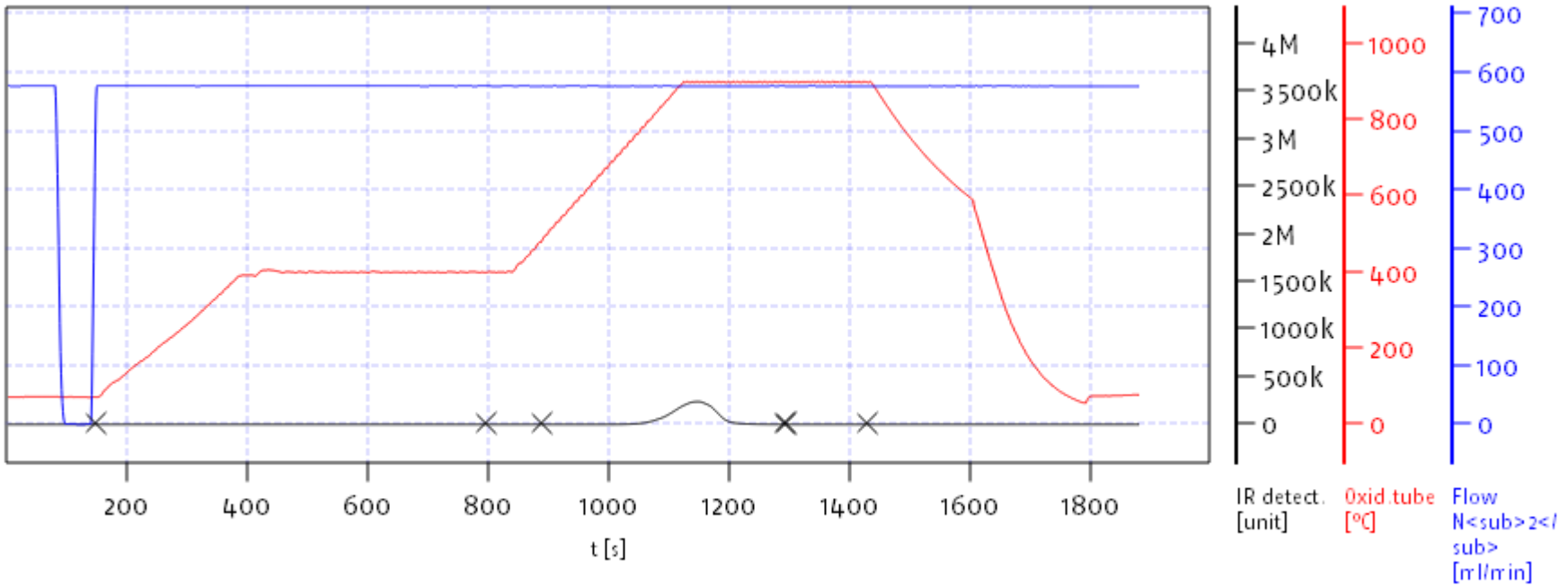
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
16	24	SEQ-CALE	200.00	0.0097	1.00	CARBON	8/25/2021 1:54 AM	0.000	0.600	0.600	bl,C1u,C2u	989	743 966	687	1.0000	1.0196



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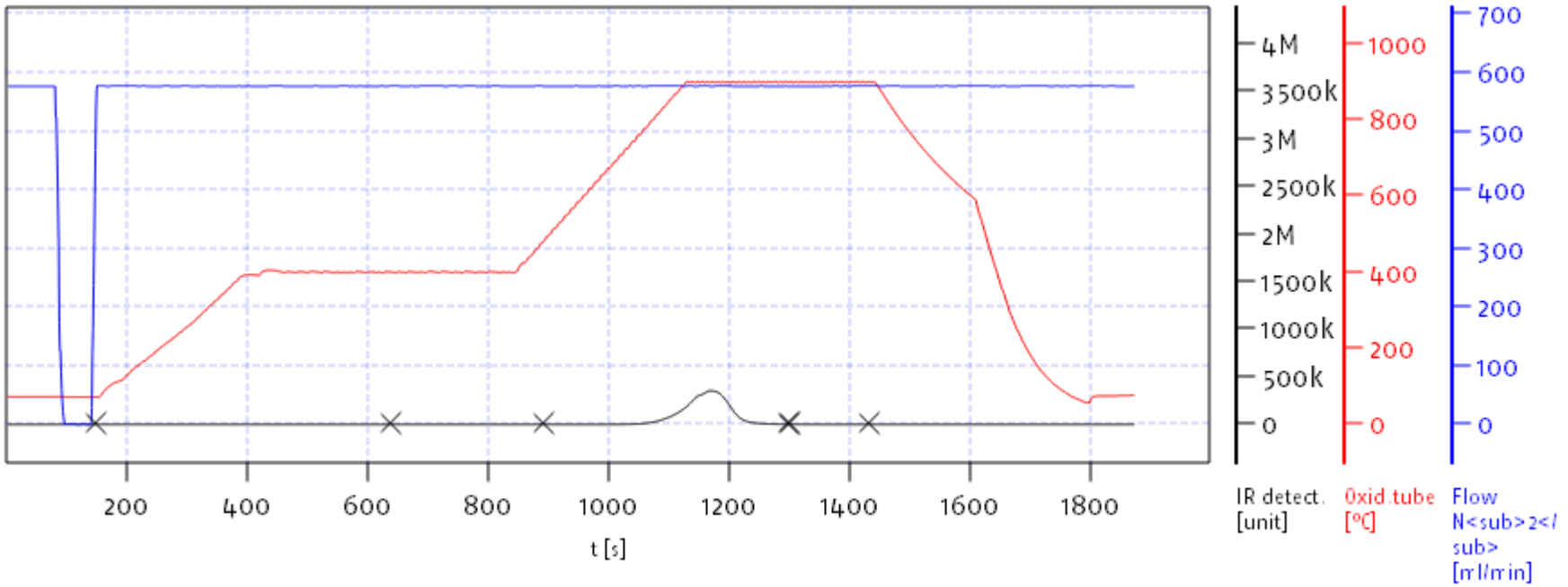
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
17	25	SEQ-CALF	200.00	0.0147	1.00	CARBON	8/25/2021 2:26 AM	0.000	0.906	0.906	bl,C1u,C2u	925	1 115 840	1 898	1.0000	1.0277



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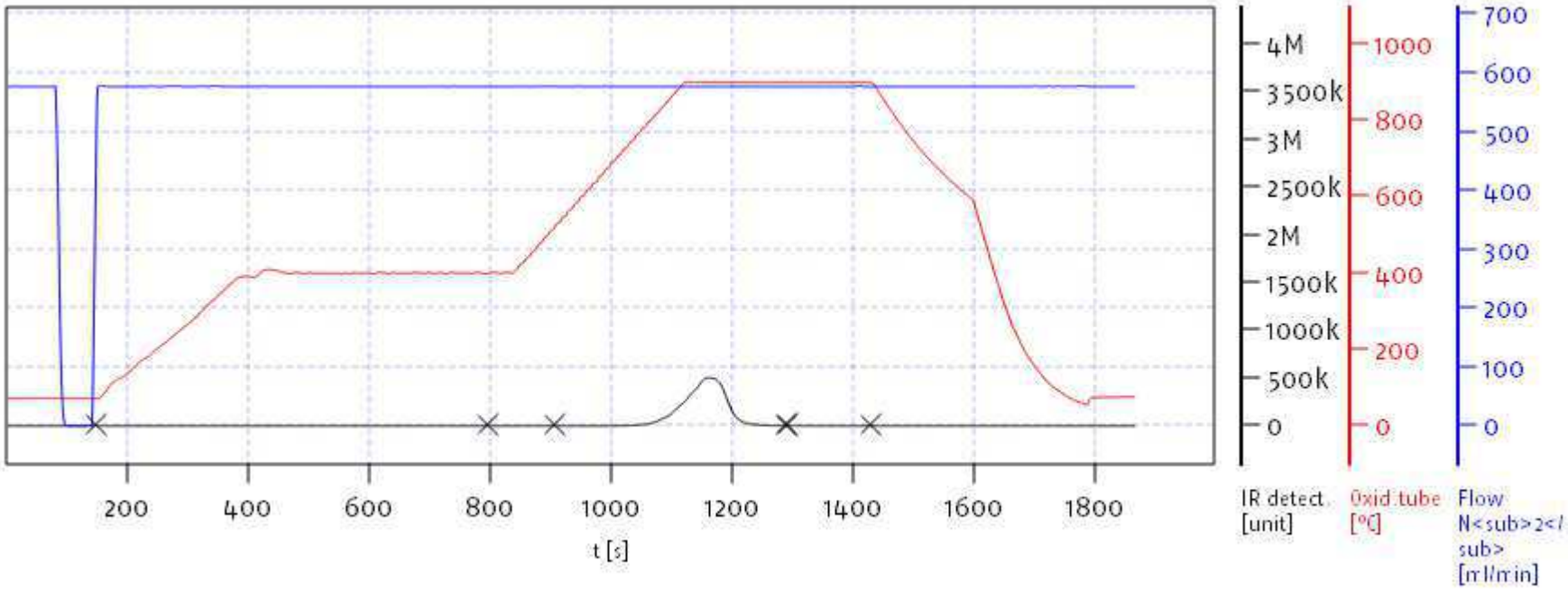
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
18	26	SEQ-CALG	200.00	0.0199	1.00	CARBON	8/25/2021 2:58 AM	0.000	1.206	1.206	bl,C1u,C2u	1 253	1 509 240	2 258	1.0000	1.0121



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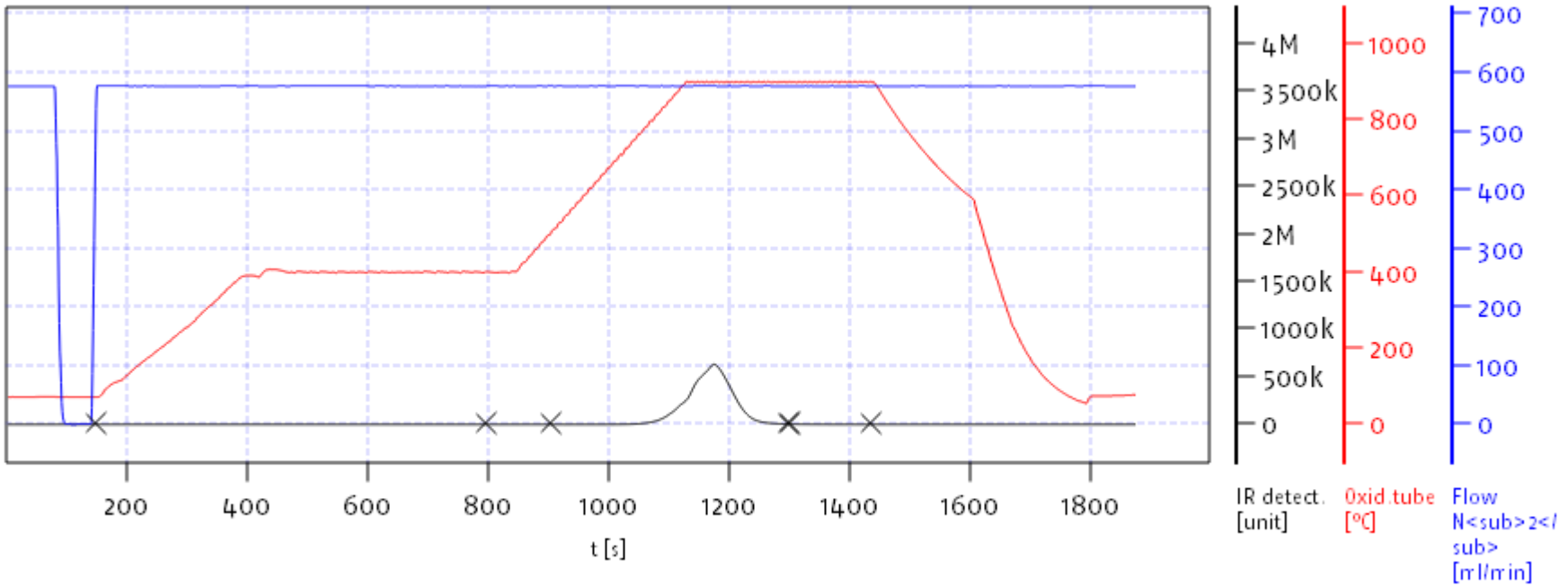
	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
19	27	SEQ-CALH	200.00	0.0253	1.00	CARBON	8/25/2021 3:29 AM	0.000	1.524	1.524	bl,C1u,C2u	1 233	1 930 390	4 311	1.0000	1.0003



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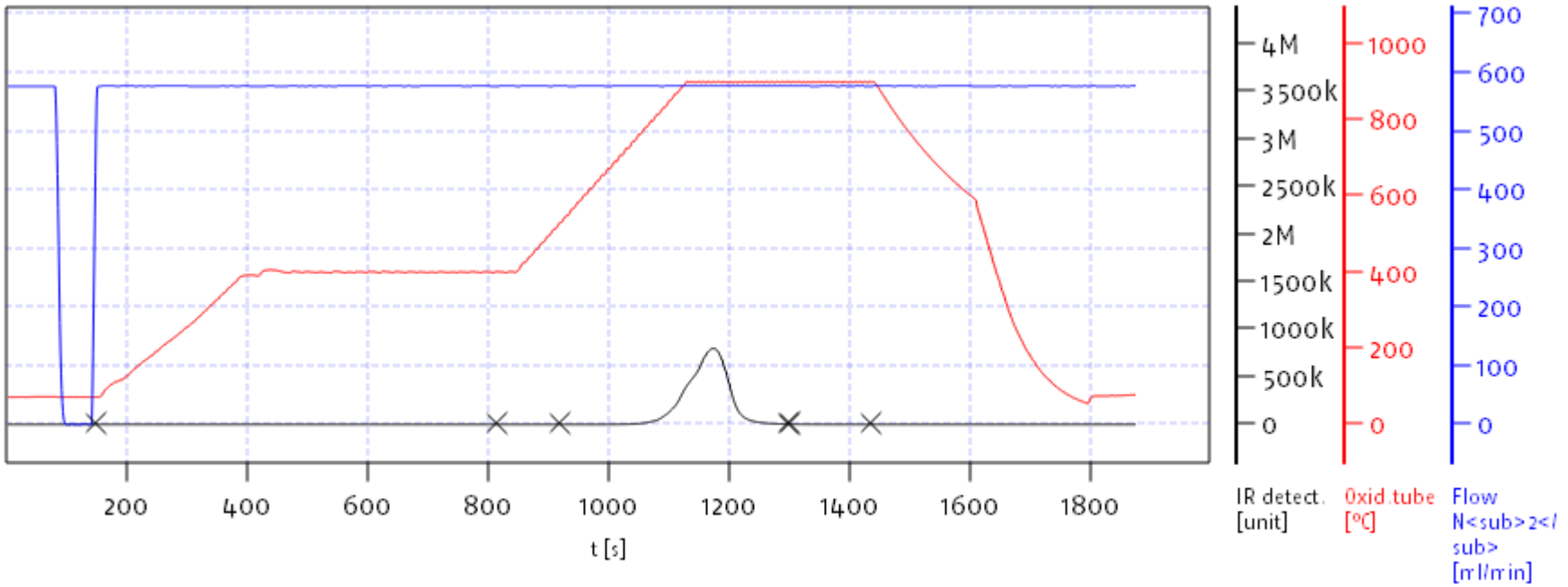
Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
20	28	SEQ-CALI	200.00	0.0302	1.00	CARBON	8/25/2021 4:01 AM	0.000	1.800	1.800	bl,C1u,C2u	1 600	2 286 540	3 907	1.0000	0.9976



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

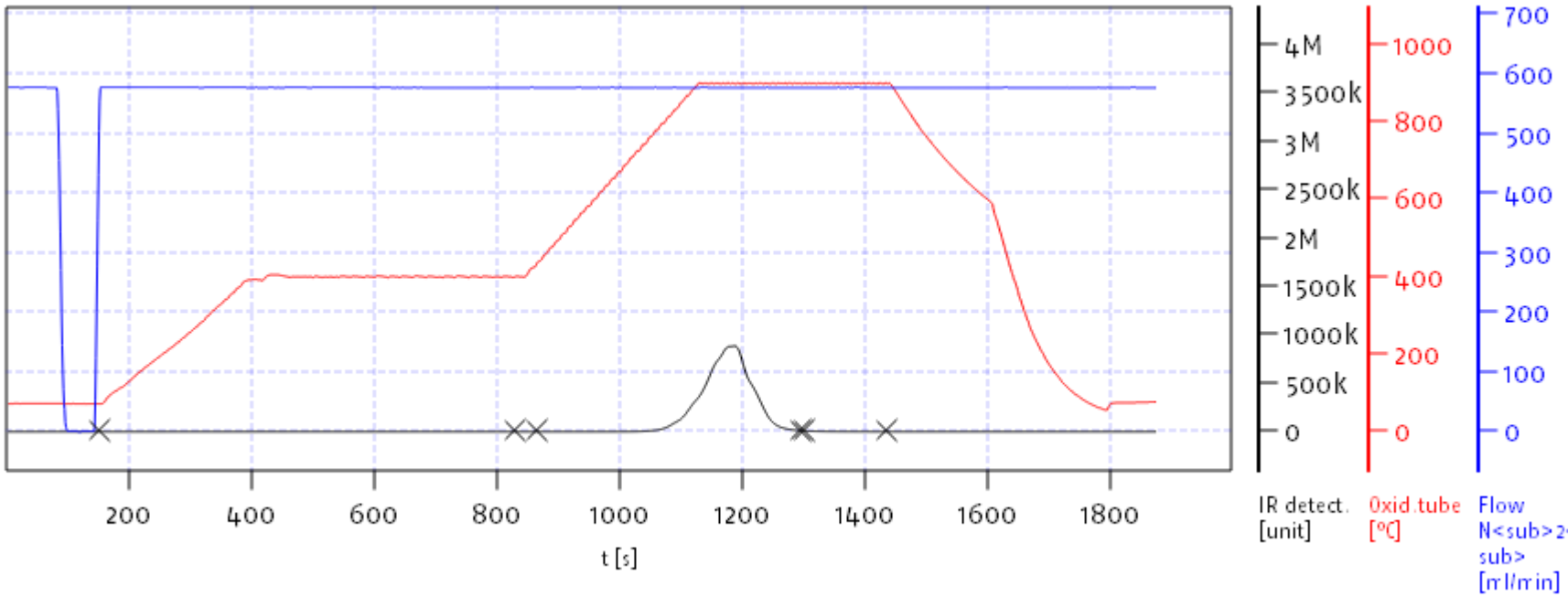
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
21	29	SEQ-CALJ	200.00	0.0400	1.00	CARBON	8/25/2021 4:33 AM	0.000	2.400	2.400	bl,C1u	1 589	**3 013 270**	**9 826**	1.0000	1.0096



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Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

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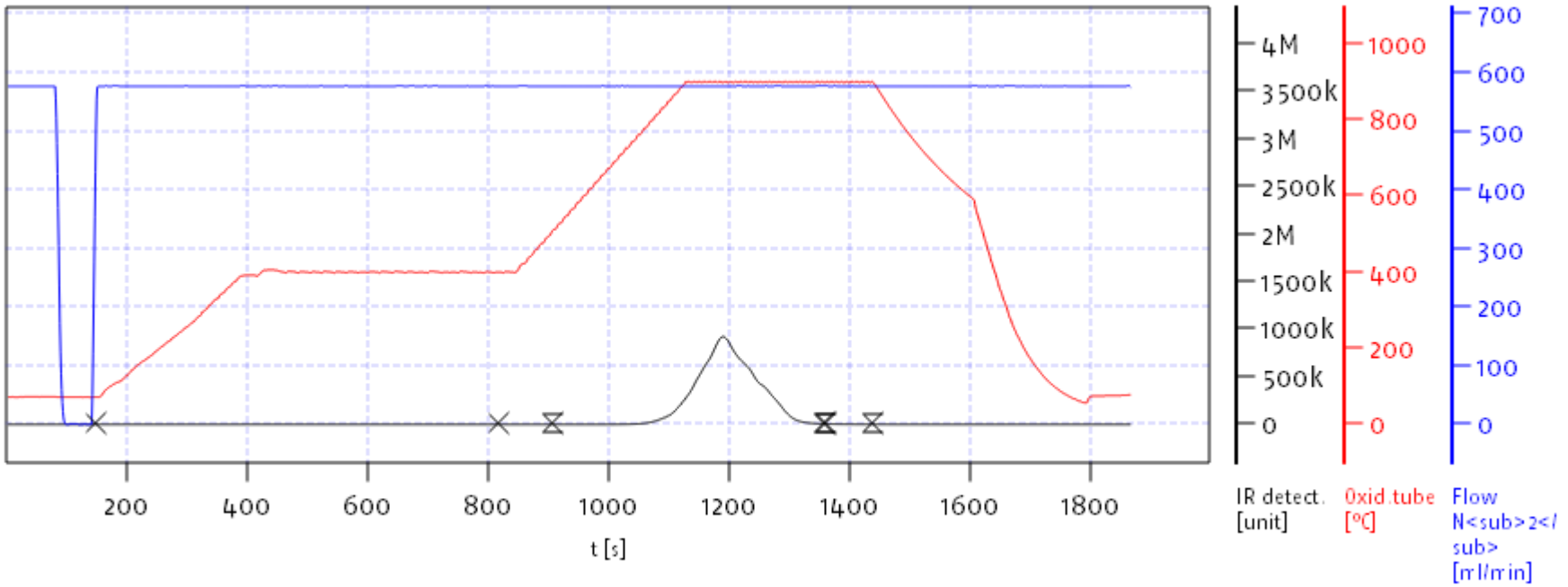
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
22	30	SEQ-CALK	200.00	0.0498	1.00	CARBON	8/25/2021 11:41 AM	0.000	3.012	3.012	bl,C1u	2 117	**3 411 713**	**0**	1.0000	1.0310



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Serial No: 0300.181017
Mode CCC

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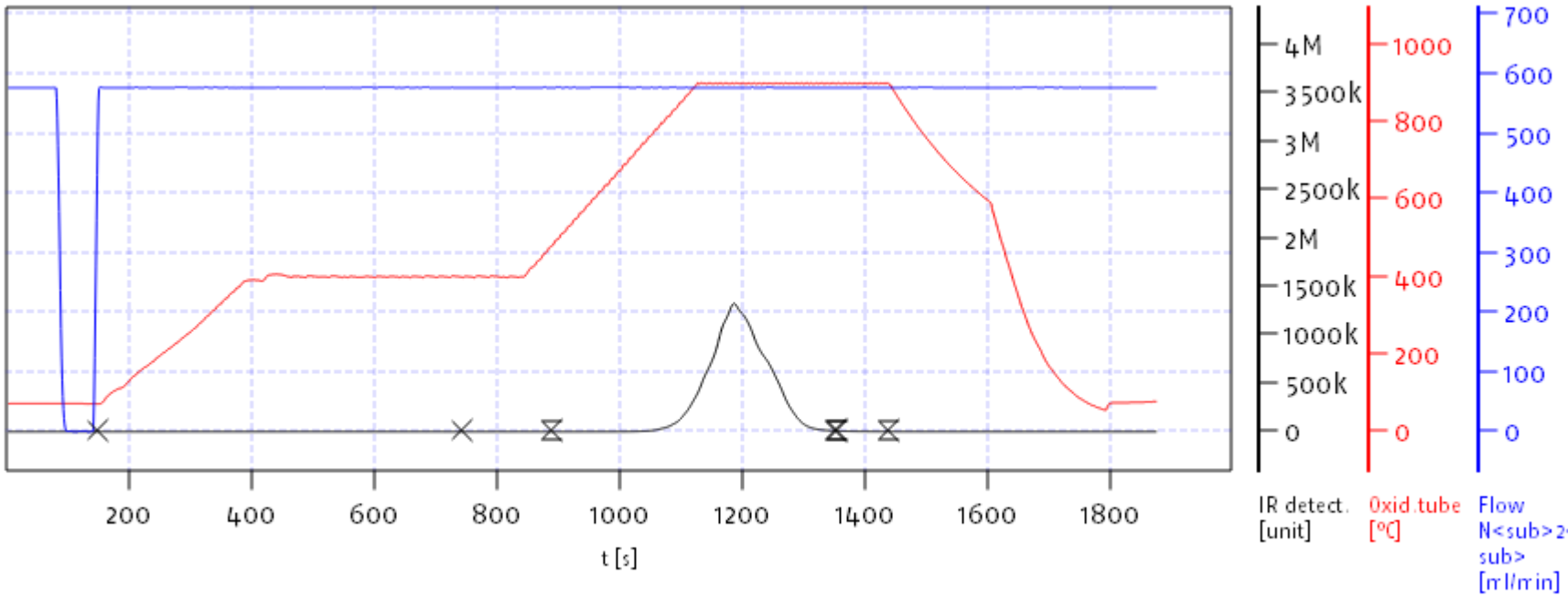
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
23	31	SEQ-CALL	200.00	0.0699	1.00	CARBON	8/25/2021 11:42 AM	0.000	4.206	4.206	bl,C1u	1 285	**4 920 073**	**0**	1.0000	1.0206



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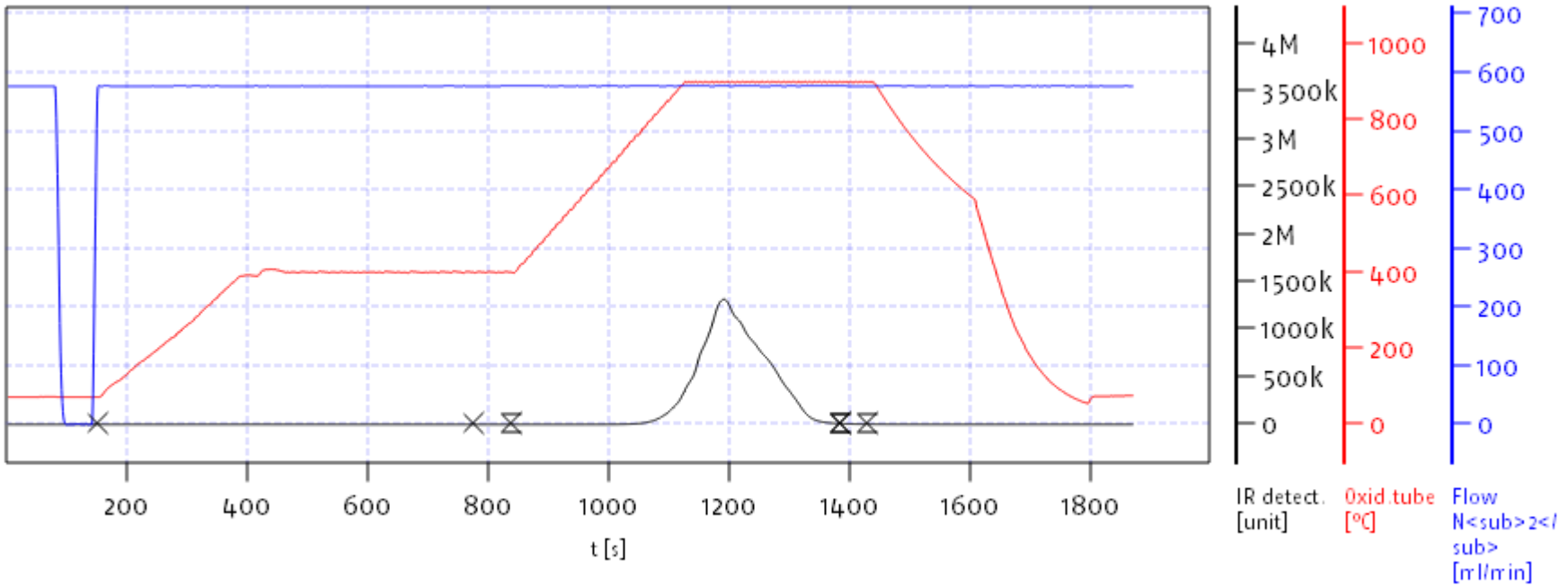
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
24	32	SEQ-CALM	200.00	0.0803	1.00	CARBON	8/25/2021 11:43 AM	0.000	4.812	4.812	bl,C1u	1 537	**5 655 573**	**0**	1.0000	1.0683



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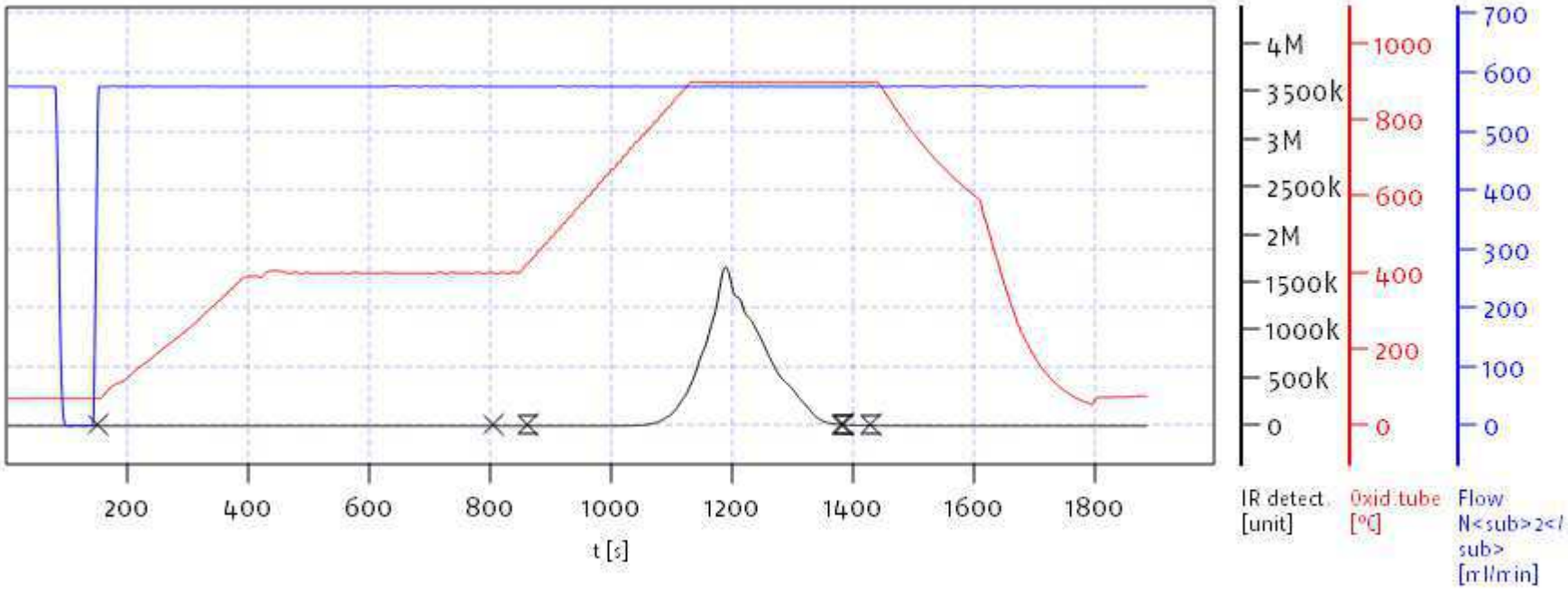
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
25	33	SEQ-CALN	200.00	0.0902	1.00	CARBON	8/25/2021 11:45 AM	0.000	5.406	5.406	bl,C1u	1 694	**6 449 031**	**0**	1.0000	1.0610



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Mode CCC

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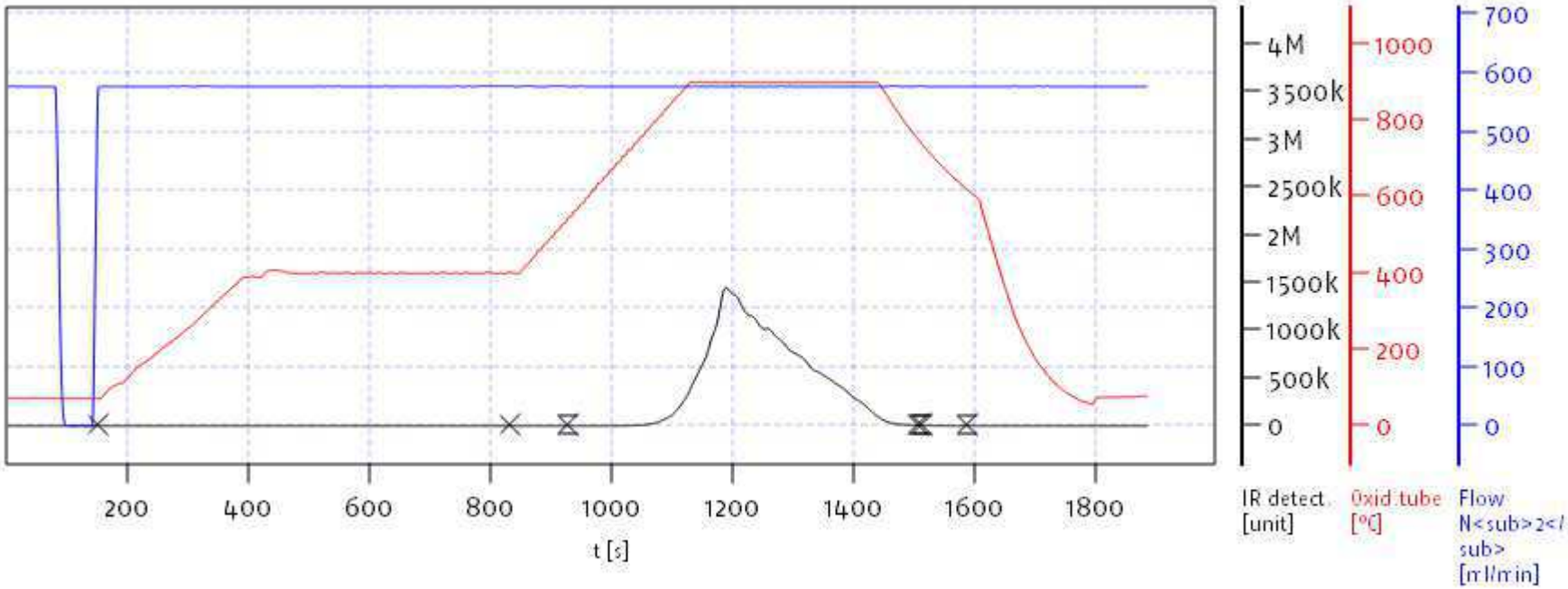
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
26	34	SEQ-CALO	200.00	0.1204	1.00	CARBON	8/25/2021 11:46 AM	0.000	7.218	7.218	bl,C1u,C3o	1 658	8 593 324	0	1.0000	1.3657



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Date: Wed Aug 25 11:48:01 2021

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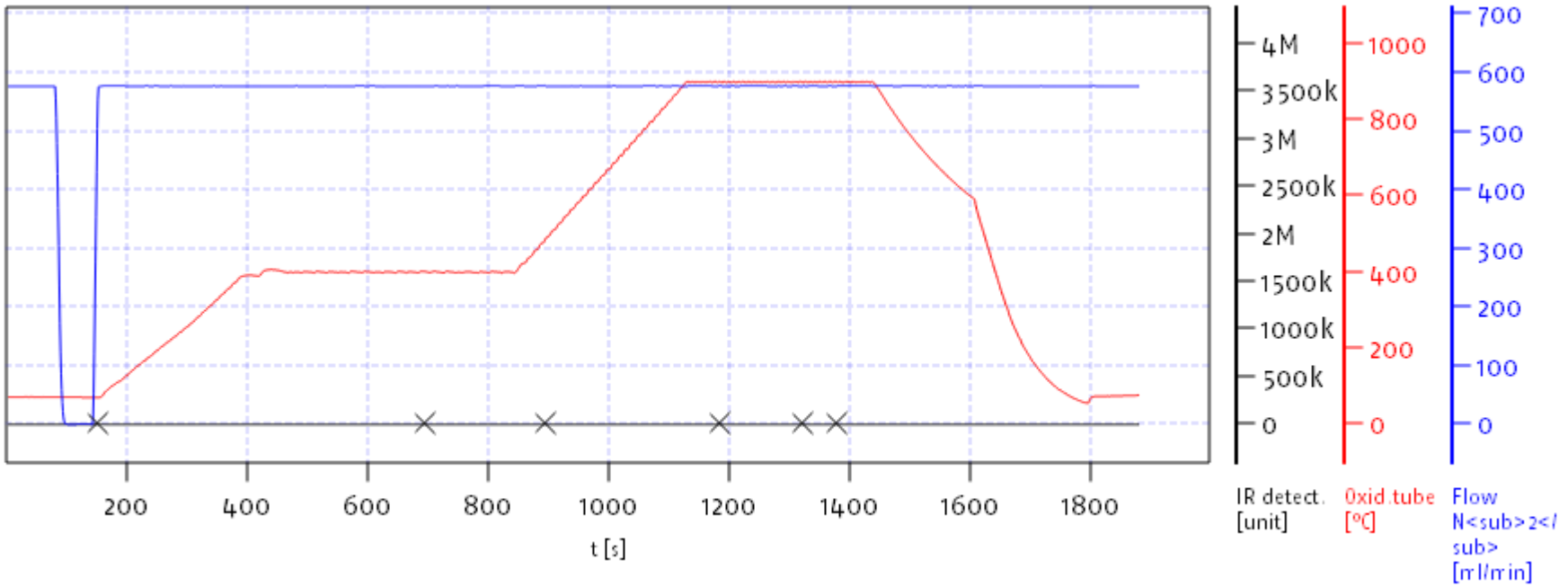
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
27	35	BLANK	1.00		1.00	CARBON	8/25/2021 7:43 AM	0.000	0.000	0.000	bl	708	0	0	1.0000	1.0293



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

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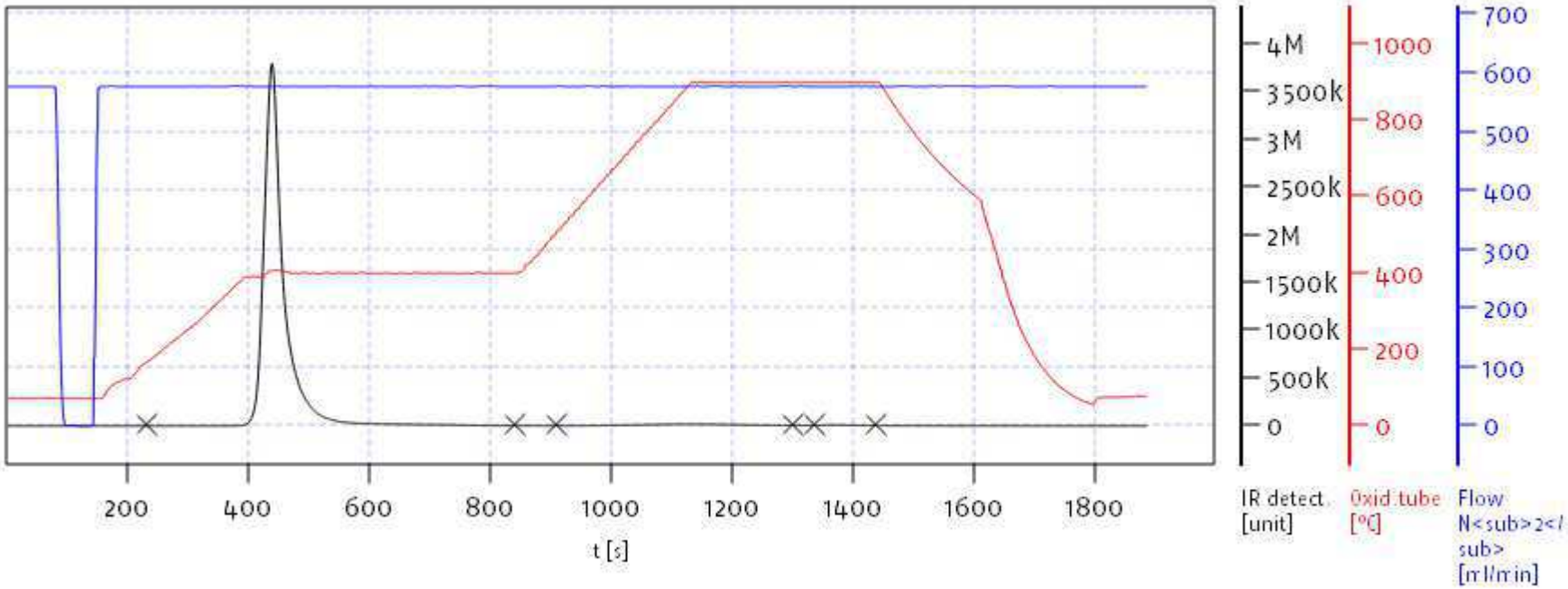
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
28	36	Dfactor	20.30		1.00	CARBON	8/25/2021 8:15 AM	44.446	0.000	44.446	bl	5 319 150	136 410	24 452	1.0755	1.0000



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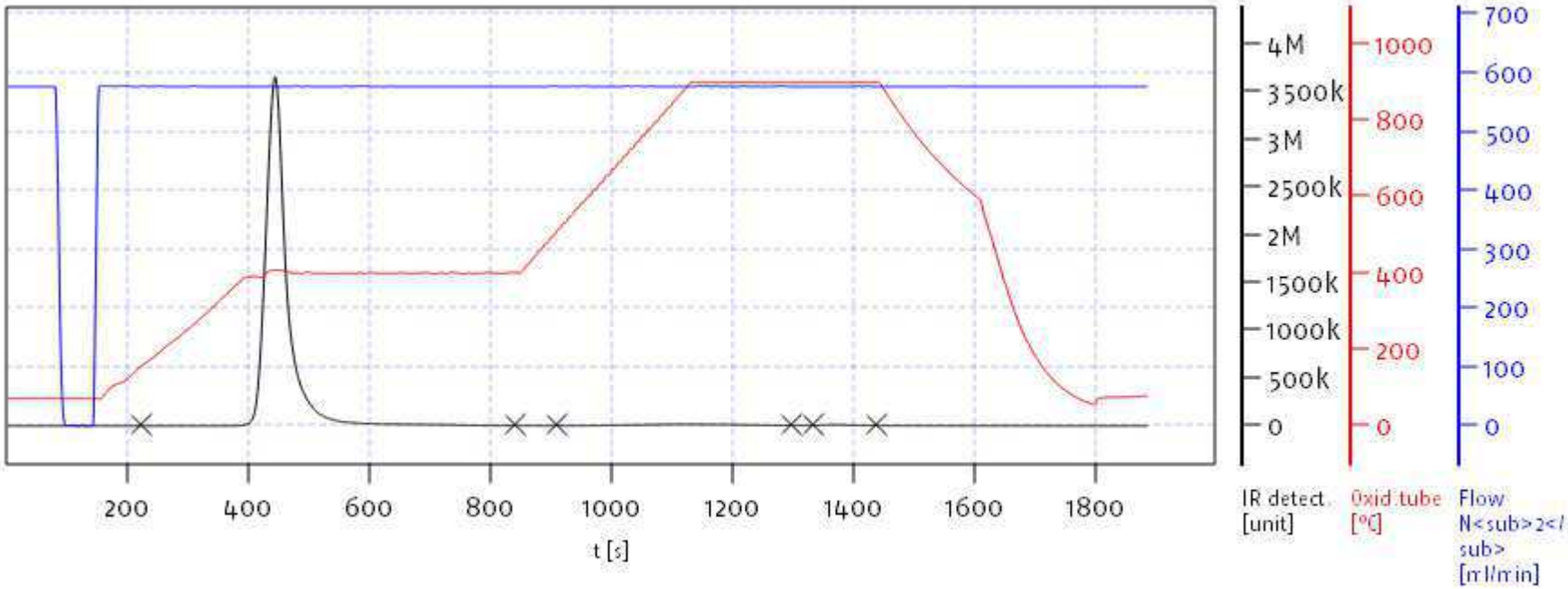
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
29	37	Dfactor	21.00		1.00	CARBON	8/25/2021 8:47 AM	44.446	0.000	44.446	bl	5 524 800	134 598	27 280	1.0712	1.0000



Name:

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Date: Wed Aug 25 11:48:01 2021

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Serial No: 0300.181017
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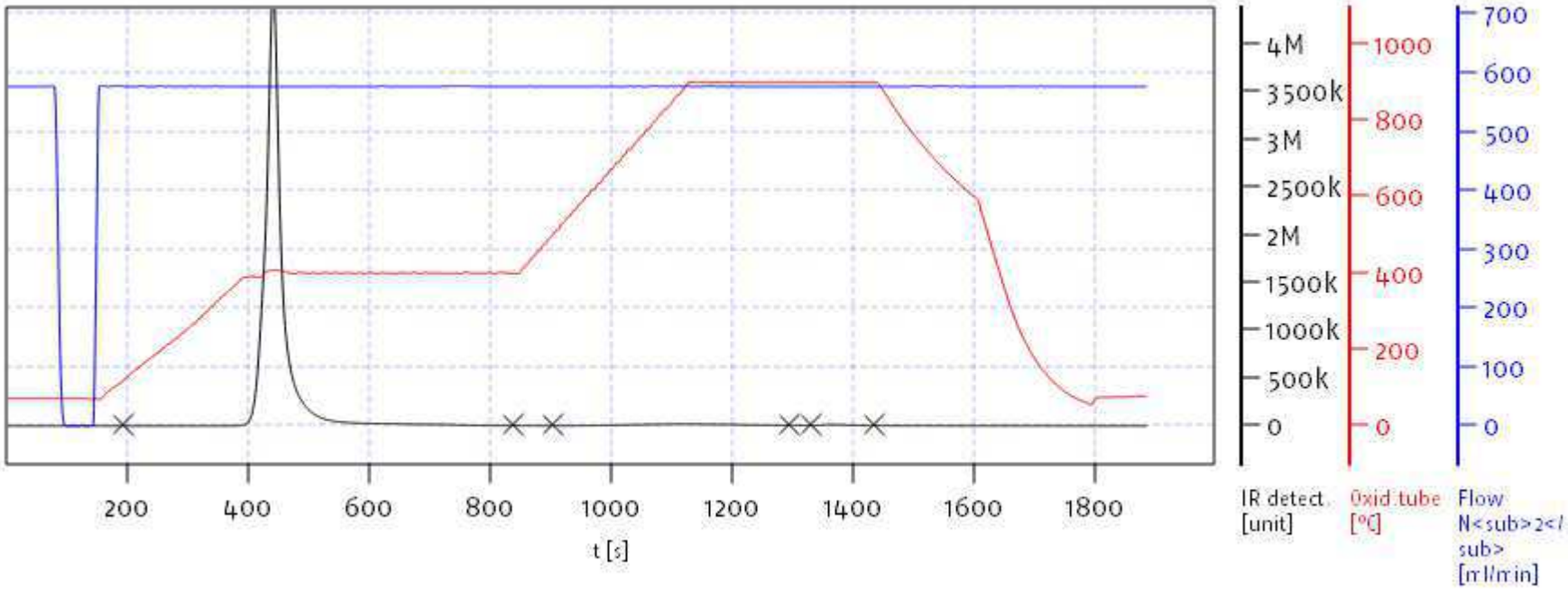
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
30	38	SEQ-ICV1	20.50		1.00	CARBON	8/25/2021 9:19 AM	47.154	1.091	48.245	bl	5 328 380	151 538	28 760	1.0733	1.0293



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

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Serial No: 0300.181017
Mode CCC

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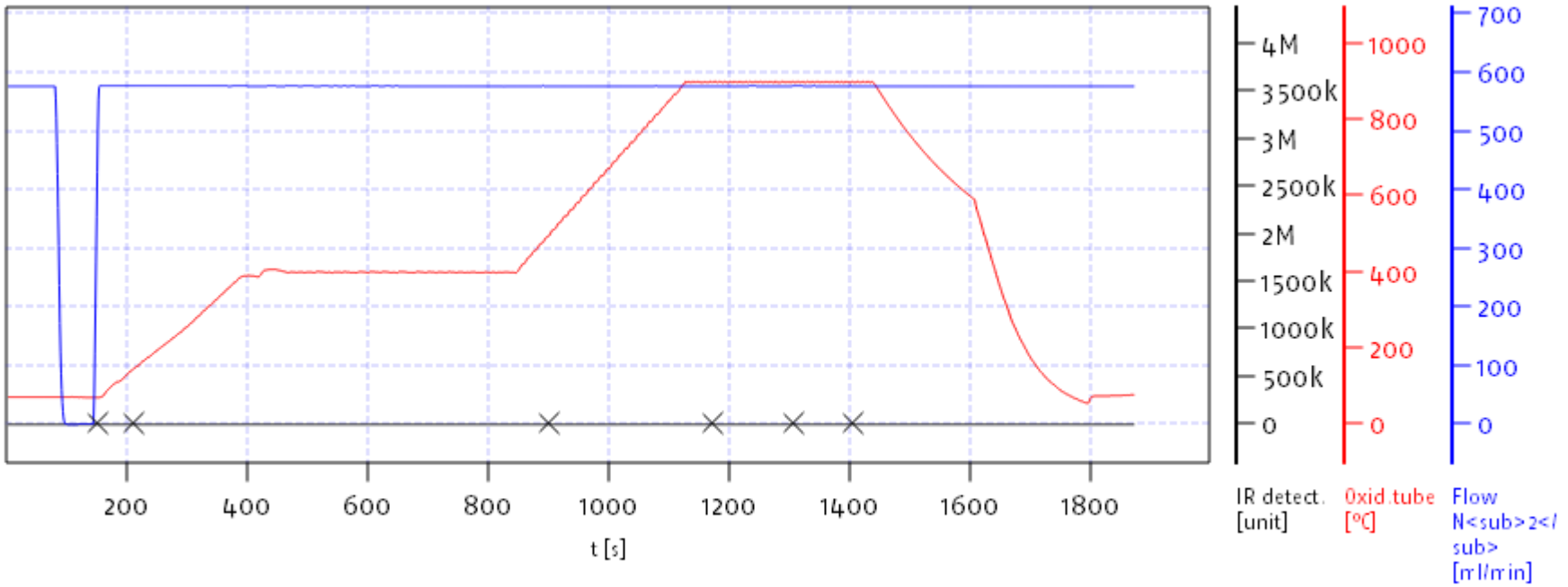
Soli TOC Cube, Carbon
Balance: BAL3
Analyst: BF

Analytical Resources, Incorporated
Analytical Chemists and Consultants

	Pos.	Name	Weight [mg]	Memo	Dilut. Factor	Method	Date Time	TOC [%]	TIC900 [%]	TC [%]	Info	TOC400 Area	TIC900 Area	ROC Area	TOC400 Factor	TIC900 Factor
31	39	SEQ-ICB1	599.20		1.00	CARBON	8/25/2021 9:51 AM	0.000	0.000	0.000	bl,C1u,C3u,C2u	172	1 307	338	1.0733	1.0293



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:01 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

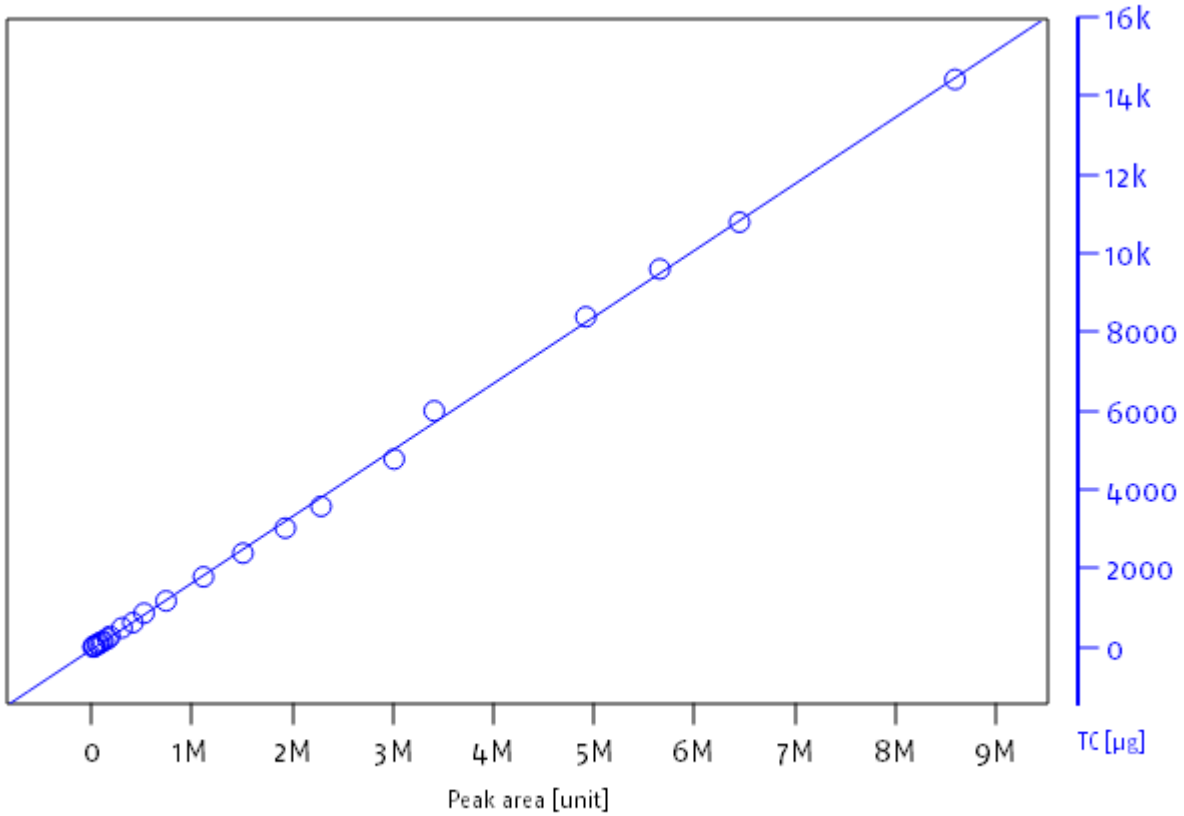
elementar
EXCELLENCE IN ELEMENTS

Document: TOC Calibration EH00065 082421BFb from: 8/25/2021 11:47 AM

Calibration parameters TC, Whole range

a	-1.970923e-02
b	+1.688862e-06
c	+0.000000e+00
d	+0.000000e+00
e	+0.000000e+00
r	0.999218
r_old	0.999218
Proc.-SD	115.145985 µg

Calibration graph TC, Whole range



Name:

Access: soliTOC superuser

Date: Wed Aug 25 11:48:57 2021

soliTOC V2.0.2 (31015f9) 2018-11-19
Serial No: 0300.181017
Mode CCC

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Sequence: SJH0113
Date Analyzed: 08/11/21 04:59

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0113-ICB1	Total Organic Carbon	0.007	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Sequence: SJH0136
Date Analyzed: 08/12/21 14:39

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0136-ICB1	Total Organic Carbon	0.005	0.02	0.02	%	
SJH0136-CCB1	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0136-CCB2	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0136-CCB3	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0136-CCB4	Total Organic Carbon	0.002	0.02	0.02	%	
SJH0136-CCB5	Total Organic Carbon	0.007	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Sequence: SJH0183
Date Analyzed: 08/16/21 17:38

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0183-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0183-CCB1	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0183-CCB2	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0183-CCB3	Total Organic Carbon	0.002	0.02	0.02	%	
SJH0183-CCB4	Total Organic Carbon	0.005	0.02	0.02	%	
SJH0183-CCB5	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0183-CCB6	Total Organic Carbon	0.005	0.02	0.02	%	
SJH0183-CCB7	Total Organic Carbon	0.008	0.02	0.02	%	
SJH0183-CCB8	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0183-CCB9	Total Organic Carbon	0.002	0.02	0.02	%	
SJH0183-CCBA	Total Organic Carbon	0.002	0.02	0.02	%	
SJH0183-CCBB	Total Organic Carbon	0.006	0.02	0.02	%	
SJH0183-CCBC	Total Organic Carbon	0.001	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Sequence: SJH0323
Date Analyzed: 08/25/21 09:51

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0323-ICB1	Total Organic Carbon	0.00	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INSTRUMENT BLANKS
EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Sequence: SJH0331
Date Analyzed: 08/25/21 16:40

Lab Sample ID	Analyte	Found	MDL	MRL	Units	C
SJH0331-ICB1	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0331-CCB1	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB2	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB3	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB4	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB5	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0331-CCB6	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB7	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCB8	Total Organic Carbon	0.001	0.02	0.02	%	
SJH0331-CCB9	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBA	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBB	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBC	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBD	Total Organic Carbon	0.004	0.02	0.02	%	
SJH0331-CCBE	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBF	Total Organic Carbon	0.004	0.02	0.02	%	
SJH0331-CCBG	Total Organic Carbon	0.00	0.02	0.02	%	
SJH0331-CCBH	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0331-CCBI	Total Organic Carbon	0.003	0.02	0.02	%	
SJH0331-CCBJ	Total Organic Carbon	0.007	0.02	0.02	%	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Control Limt: +/- 10.00%
Sequence: SJH0113

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0113-ICV1	Total Organic Carbon	44.446	44.4	99.9	%	EPA 9060A m
	Total Carbon	44.446	45.3	102	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	0.93		%	EPA 9060A m
	% Soot	0.0000	0.32		%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Control Limt: +/- 10.00%
Sequence: SJH0136

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0136-ICV1	Total Organic Carbon	44.446	43.7	98.4	%	EPA 9060A m
SJH0136-CCV1	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SJH0136-CCV2	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0136-CCV3	Total Organic Carbon	44.446	43.7	98.2	%	EPA 9060A m
SJH0136-CCV4	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0136-CCV5	Total Organic Carbon	44.446	45.2	102	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00021
Control Limt: +/- 10.00%
Sequence: SJH0183

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0183-ICV1	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0183-CCV1	Total Organic Carbon	44.446	43.1	97.1	%	EPA 9060A m
SJH0183-CCV2	Total Organic Carbon	44.446	43.0	96.7	%	EPA 9060A m
SJH0183-CCV3	Total Organic Carbon	44.446	44.7	101	%	EPA 9060A m
SJH0183-CCV4	Total Organic Carbon	44.446	45.1	102	%	EPA 9060A m
SJH0183-CCV5	Total Organic Carbon	44.446	44.4	99.9	%	EPA 9060A m
SJH0183-CCV6	Total Organic Carbon	44.446	44.4	99.8	%	EPA 9060A m
SJH0183-CCV7	Total Organic Carbon	44.446	43.8	98.5	%	EPA 9060A m
SJH0183-CCV8	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0183-CCV9	Total Organic Carbon	44.446	43.8	98.5	%	EPA 9060A m
SJH0183-CCVA	Total Organic Carbon	44.446	43.2	97.1	%	EPA 9060A m
SJH0183-CCVB	Total Organic Carbon	44.446	44.0	99.0	%	EPA 9060A m
SJH0183-CCVC	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Control Limt: +/- 10.00%
Sequence: SJH0323

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0323-ICV1	Total Organic Carbon	44.446	47.2	106	%	EPA 9060A m
	Total Carbon	44.446	48.2	109	%	EPA 9060A m
	Total Inorganic Carbon	0.0000	1.09		%	EPA 9060A m
	% Soot	0.0000	0.14		%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Instrument ID: TOC Cube
Calibration: EH00065
Control Limt: +/- 10.00%
Sequence: SJH0331

Lab Sample ID	Analyte	True	Found	%R	Units	Method
SJH0331-ICV1	Total Organic Carbon	44.446	43.9	98.7	%	EPA 9060A m
SJH0331-CCV1	Total Organic Carbon	44.446	43.8	98.4	%	EPA 9060A m
SJH0331-CCV2	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SJH0331-CCV3	Total Organic Carbon	44.446	44.4	100	%	EPA 9060A m
SJH0331-CCV4	Total Organic Carbon	44.446	45.1	101	%	EPA 9060A m
SJH0331-CCV5	Total Organic Carbon	44.446	44.7	100	%	EPA 9060A m
SJH0331-CCV6	Total Organic Carbon	44.446	44.0	99.1	%	EPA 9060A m
SJH0331-CCV7	Total Organic Carbon	44.446	44.8	101	%	EPA 9060A m
SJH0331-CCV8	Total Organic Carbon	44.446	45.6	103	%	EPA 9060A m
SJH0331-CCV9	Total Organic Carbon	44.446	43.2	97.1	%	EPA 9060A m
SJH0331-CCVA	Total Organic Carbon	44.446	45.2	102	%	EPA 9060A m
SJH0331-CCVB	Total Organic Carbon	44.446	44.6	100	%	EPA 9060A m
SJH0331-CCVC	Total Organic Carbon	44.446	44.7	101	%	EPA 9060A m
SJH0331-CCVD	Total Organic Carbon	44.446	45.6	103	%	EPA 9060A m
SJH0331-CCVE	Total Organic Carbon	44.446	43.5	97.9	%	EPA 9060A m
SJH0331-CCVF	Total Organic Carbon	44.446	44.8	101	%	EPA 9060A m
SJH0331-CCVG	Total Organic Carbon	44.446	45.4	102	%	EPA 9060A m
SJH0331-CCVH	Total Organic Carbon	44.446	44.5	100	%	EPA 9060A m
SJH0331-CCVI	Total Organic Carbon	44.446	44.0	99.0	%	EPA 9060A m
SJH0331-CCVJ	Total Organic Carbon	44.446	45.5	102	%	EPA 9060A m

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0300-SRM1
Batch: BJH0300
Initial/Final: 0.0395 g / 0.0395 mL
Preparation: PSEP 1986 (modified)
Analyzed: 08/13/2021 1:38
Standard ID: H003424
Expires: 12/31/2079
Standard Lot#: 1941b
Description: 1941B- Organics in Marine Sediment (Conv)

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	2.42	0.02	0.02		81.0	80 - 120

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0301-SRM1
Batch: BJH0301
Initial/Final: 0.0351 g / 0.0351 mL
Preparation: PSEP 1986 (modified)
Analyzed: 08/13/2021 21:06
Standard ID: H003424
Expires: 12/31/2079
Standard Lot#: 1941b
Description: 1941B- Organics in Marine Sediment (Conv)

ANALYTE	TRUE (% wet)	FOUND (% wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
Total Organic Carbon	2.9900	2.44	0.02	0.02		81.5	80 - 120

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HOLDING TIME SUMMARY

Analysis: EPA 9060A m

Laboratory: Analytical Resources, Inc. SDG: 21G0305

Client: Anchor QEA, LLC Project: Lower Duwamish AOC4

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
LDW21-SC569 21G0305-01	07/22/21 09:10	07/22/21 17:30	08/11/21 14:09	20	180	08/13/21 17:58			
LDW21-SC567 21G0305-02RE1	07/22/21 09:34	07/22/21 17:30	08/11/21 14:09	20	180	08/30/21 15:14			
LDW21-SC566 21G0305-03	07/22/21 09:48	07/22/21 17:30	08/11/21 14:09	20	180	08/13/21 19:01			
LDW21-SC561 21G0305-04	07/22/21 10:09	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 18:09			
LDW21-SC526 21G0305-05	07/22/21 10:26	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 19:44			
LDW21-SC526FD 21G0305-06	07/22/21 10:26	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 20:15			
LDW21-SC530 21G0305-07	07/22/21 10:44	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 20:47			
LDW21-SC540 21G0305-08	07/22/21 10:58	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 21:19			
LDW21-SC574 21G0305-09	07/22/21 11:20	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 21:51			
LDW21-SC551 21G0305-10	07/22/21 15:32	07/22/21 17:30	08/11/21 14:13	19	180	08/16/21 22:23			
Duplicate BJH0301-DUP1	07/22/21 10:09	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 18:41			
Matrix Spike BJH0301-MS1	07/22/21 10:09	07/22/21 17:30	08/11/21 14:13	20	180	08/16/21 19:12			

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 9060A m

Laboratory: Analytical Resources, Inc.
SDG: 21G0305
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument: TOC Cube

Analyte	MDL	RL	Units
Total Organic Carbon	0.02	0.02	%

H001822

MP Biomedicals, LLC
29525 Fountain Parkway
Solon, Ohio 44139
Telephone: 440/337-1200
Toll Free: 800/854-0530
Fax: 440/337-1180
web: www.mpbio.com

Certificate of Analysis

Product Description: Microcrystalline Cellulose Powder
Catalog Number: 191499
Lot: Q9483

Formula: $(C_6H_{10}O_5)n$
CAS #: 9004-34-6
Physical Description: White Powder

Formula Weight: N/A
Storage: 15 - 30°C

Test	Specification	Result
Identity Test	Passes	Passes
Purity	97.0 - 102.0%	97.0 - 102.0%
Moisture	<5.0%	3.4%
Particle Size/Mesh +60 mesh +200 mesh	Wt % <8% >45%	 <1% 55%
pH	5 - 7	6.73
Residue on Ignition	<0.05%	<0.05%
Water Soluble Substances	<12.0 mg/5 g	4.5 mg/5 g
Heavy Metals	<10 ppm	<10 ppm

Identification A & B: Passes
Bulk Density: 0.29 g/ml
Bulk Density (graduated cylinder): 0.31 g/ml
Conductivity: 18 µS/cm
Starch: Negative
Ether Soluble Substances: 0.01%
Total Aerobic microbial Count: 100 cfu/g
Total Mold and Yeast Count: 20 cfu/g
Staphylococcus aureus: Absent/1 g
Pseudomonas aeruginosa: Absent/1 g
E. coli: Absent/1 g
Salmonella: Absent/10 g
Particle size:
- 450 mesh: 77%
- d10: 37 um
- d50: 139 um
- d90: 271 um
TUP: <9/600 cm^2
Degree of brightness: >88%
Powder flow-angle of repose: <42°
Recommended Retest Date: 11/30/2022

07/26/2018 - John Huang, PhD
MP Biomedicals, LLC.
Quality Control Manager

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National Institute of Standards & Technology

Certificate of Analysis

Standard Reference Material® 1941b

Organics in Marine Sediment

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. Information values are also provided for total organic carbon (TOC), total carbon, hydrogen, and nitrogen. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Certified Mass Fraction Values: Certified mass fraction values for PAHs, PCB congeners, and chlorinated pesticides are provided in Table 1 through Table 3. The certified values for the PAHs, PCB congeners, and chlorinated pesticides are based on the agreement of results obtained at NIST from two or more chemically independent analytical techniques along with results from an interlaboratory comparison study [1]. A NIST certified value is a value for which NIST has the highest confidence in its accuracy in that all known or suspected sources of bias have been investigated or taken into account [1].

Reference Mass Fraction Values: Reference mass fraction values for additional PAHs (some in combination), additional PCB congeners, and additional chlorinated pesticides are provided in Table 4 through Table 7. Reference values for alkylated PAH groups are provided in Table 8 and for selected hopanes and steranes in Table 9. A reference value for total organic carbon is provided in Table 10. Reference values are noncertified values that are the best estimate of the true value; however, the values do not meet the NIST criteria for certification and are provided with associated uncertainties that may reflect only measurement precision, may not include all sources of uncertainty, or may reflect a lack of sufficient statistical agreement among multiple analytical methods [1].

Information Mass Fraction Values: Information mass fraction values are provided in Table 11 for carbon, hydrogen, and nitrogen. An information value is considered to be a value that will be of use to the SRM user, but insufficient information is available to assess the uncertainty associated with the value [1]. Information values cannot be used to establish metrological traceability.

Expiration of Certification: The certification of **SRM 1941b** is valid, within the measurement uncertainty specified, until **01 October 2020**, provided the SRM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Handling, Storage, and Use"). This certification is nullified if the SRM is damaged, contaminated, or otherwise modified.

Maintenance of SRM Certification: NIST will monitor this SRM over the period of its certification. If substantive technical changes occur that affect the certification before the expiration of this certificate, NIST will notify the purchaser. Registration (see attached sheet or register online) will facilitate notification.

Coordination of the technical measurements leading to the certification of this material was under the leadership of M.M. Schantz and S.A. Wise of the NIST Chemical Sciences Division.

Analytical measurements for the certification of SRM 1941b were performed at NIST by J.R. Kucklick, B.J. Porter, D.L. Poster, M.M. Schantz, P. Schubert, S. Tutschku, and L.L. Yu of the NIST Chemical Sciences Division.

Carlos A. Gonzalez, Chief
Chemical Sciences Division

Robert L. Watters, Jr., Director
Office of Reference Materials

Gaithersburg, MD 20899
Certificate Issue Date: 16 January 2015

Measurements for TOC were provided by a commercial laboratory and T.L. Wade of the Geochemical and Environmental Research Group, Texas A&M University (College Station, TX). The carbon, hydrogen, and nitrogen data were provided by a commercial laboratory. Results for the PAHs, PCBs, and chlorinated pesticides from 38 laboratories (see Appendix A) that participated in an interlaboratory comparison exercise coordinated by NIST were used. Results for the alkylated PAH groups, hopanes, and steranes from 33 laboratories (see Appendix B) that participated in another interlaboratory comparison exercise coordinated by NIST were also used.

Collection and preparation of SRM 1941b were performed by M.P. Cronise and C.N. Fales of the NIST Office of Reference Materials and B.J. Porter and M.M. Schantz of the NIST Chemical Sciences Division. The sediment material was collected with the assistance of G.G. Lauenstein, J. Collier, and J. Lewis (National Oceanic and Atmospheric Administration, Silver Spring, MD).

Consultation on the statistical design of the experimental work and evaluation of the data were provided by S.D. Leigh and J.H. Yen of the NIST Statistical Engineering Division.

Support aspects involved in the issuance of this SRM were coordinated through the NIST Office of Reference Materials.

INSTRUCTIONS FOR HANDLING, STORAGE, AND USE

Handling: This material is naturally occurring marine sediment from an urban area and may contain constituents of unknown toxicities; therefore, caution and care should be exercised during its handling and use.

Storage: SRM 1941b must be stored in its original bottle at temperatures less than 30 °C and away from direct sunlight.

Use: Prior to removal of subsamples for analysis, the contents of the bottle should be mixed. The mass fractions of constituents in SRM 1941b are reported on a dry-mass basis. The SRM, as received, contains a mass fraction of approximately 2.4 % moisture (see "Conversion to Dry-Mass Basis"). The sediment sample should be dried to a constant mass before weighing for analysis; or a separate subsample of the sediment should be removed from the bottle at the time of analysis and dried to determine the mass fraction on a dry-mass basis. If the constituents of interest are volatile, then the moisture must be determined with a separate subsample.

PREPARATION AND ANALYSIS[1]

Sample Collection and Preparation: The sediment used to prepare this SRM was collected from the Chesapeake Bay at the mouth of the Baltimore (MD) Harbor near the Francis Scott Key Bridge (39°12.3'N and 76°31.4'W). This location is very near the site where SRM 1941 and SRM 1941a were collected. The sediment was collected using a Kynar-coated modified Van Veen-type grab sampler. A total of approximately 3300 kg of wet sediment was collected from the site. The sediment was freeze-dried, sieved at 150 µm (100 % passing), homogenized in a cone blender, radiation sterilized (^{60}Co), and then packaged in screw-capped amber glass bottles each containing approximately 50 g.

Conversion to Dry-Mass Basis: The results for the constituents in SRM 1941b are reported on a dry-mass basis; however, the material "as received" contains residual moisture. The amount of moisture in SRM 1941b was determined by measuring the mass loss after freeze-drying subsamples of 1.1 g to 1.3 g for four days at 1 Pa with a –10 °C shelf temperature and a –50 °C condenser temperature. The moisture content in SRM 1941b at the time of the certification analyses was 2.39 % ± 0.08 % (95 % confidence level). Analytical results for the organic constituents were determined on an as-received basis and then converted to a dry-mass basis by dividing by the conversion factor of 0.9761 (gram dry mass per gram as-received mass).

Polycyclic Aromatic Hydrocarbons: The general approach used for the value assignment of the PAHs in SRM 1941b was similar to that reported in detail elsewhere [2]. The approach consisted of combining results from analyses using various combinations of different extraction techniques and solvents, clean-up/isolation procedures, and chromatographic separation and detection techniques: Soxhlet extraction and pressurized-fluid extraction (PFE) using dichloromethane (DCM) or a hexane/acetone mixture, cleanup of the extracts using solid-phase extraction (SPE) or normal-phase liquid chromatography (LC), followed by analysis using the following techniques: (1) reversed-phase liquid chromatography with fluorescence detection (LC-FL) analysis of the total PAH fraction, (2) reversed-phase

[1] Certain commercial equipment, instruments or materials are identified in this certificate to adequately specify the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards

LC-FL analysis of isomeric PAH fractions isolated by normal-phase LC (i.e., multidimensional LC), (3) gas chromatography/mass spectrometry (GC/MS) analysis of the PAH fraction on three stationary phases of different selectivity, i.e., a 5 % (all column compositions are given as mole fractions in %) phenyl-substituted methylpolysiloxane phase, a 50 % phenyl-substituted methylpolysiloxane phase, and a relatively non-polar proprietary phase.

Three sets of GC/MS results, designated as GC/MS (I), GC/MS (II), and GC/MS (III), were obtained using three columns with different selectivities for the separation of PAHs. For GC/MS (I) analyses, duplicate subsamples of approximately 1 g from ten bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 2 % DCM in hexane (all solvent concentrations are given as volume fractions in %). The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-5 MS, J&W Scientific, Folsom, CA). The GC/MS (II) analyses were performed using 5 g subsamples from six bottles of SRM 1941b. These samples were extracted using PFE with DCM. The high molecular mass compounds were removed from the extracts using size exclusion chromatography (SEC) with a preparative-scale divinylbenzene-polystyrene column (10 µm particle size with 10 nm diameter pores), and the sulfur was removed from the extracts by adding copper powder. The concentrated extract was passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The analysis was by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17 MS, J&W Scientific). For the GC/MS (III), 9 g subsamples from six bottles of SRM 1941b were Soxhlet-extracted for 18 h with 250 mL of a mixture of 50 % hexane/50 % acetone. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 µm film thickness; DB-XLB, J&W Scientific).

Two sets of LC-FL results, designated as LC-FL (total) and LC-FL (isomer), were used in the certification process. For the LC-FL (total), subsamples of approximately 1 g from six bottles of SRM 1941b were extracted using PFE with a mixture of 50 % hexane/50 % acetone. The extracts were concentrated and then processed through an aminopropylsilane SPE cartridge using 2 % DCM in hexane to obtain the total PAH fraction. For the LC-FL (isomer), a 5 g subsample from the six bottles was extracted using PFE with DCM and processed through an aminopropylsilane SPE cartridge using 10 % DCM in hexane; the PAH fraction was then fractionated further on a semi-preparative aminopropylsilane column (µBondapak NH_2, 9 mm i.d. × 30 cm, Waters Associates, Milford, MA) to isolate isomeric PAH fractions as described previously [3–6]. The total PAH fraction and the isomeric PAH fractions were analyzed using a 5 µm particle-size polymeric octadecylsilane (C_{18}) column (4.6 mm i.d. × 25 cm, Hypersil-PAH, Keystone Scientific, Inc., Bellefonte, PA) with wavelength-programmed fluorescence detection [4,5].

For the GC/MS and LC-FL measurements described above, selected perdeuterated PAHs were added to the sediment prior to solvent extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PAHs in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

Homogeneity Assessment for PAHs: The homogeneity of SRM 1941b was assessed by analyzing duplicate samples of approximately 1 g from ten bottles selected by stratified random sampling. Samples were extracted, processed, and analyzed as described above for GC/MS (I). No statistically significant differences among bottles were observed for the PAHs at this sample size.

PAH Isomers of Molecular Mass 300 and 302: For the determination of the molecular mass 300 and 302 isomers, three subsamples of approximately 5 g each were extracted using PFE with DCM. The extracts were then concentrated with a solvent change to hexane and passed through an aminopropyl SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS using a 0.25 mm i.d. × 60 m fused silica capillary column with a 50 % phenyl-substituted methylpolysiloxane phase (0.25 µm film thickness; DB-17MS, J&W Scientific). Perdeuterated dibenzo[*a,i*]pyrene was added to the sediment prior to extraction for use as an internal standard [8].

PCBs and Chlorinated Pesticides: The general approach used for the determination of PCBs and chlorinated pesticides in SRM 1941b consisted of combining results from analyses using various combinations of different extraction techniques and solvents, cleanup/isolation procedures, and chromatographic separation and detection techniques. Techniques and solvents included Soxhlet extraction and PFE using DCM or a hexane/acetone mixture,

clean-up/isolation using SPE or LC, followed by analysis using GC/MS and gas chromatography with electron capture detection (GC-ECD) on two columns with different selectivity for the separation of PCBs and chlorinated pesticides. The analytical methods are described in detail elsewhere [2].

Six sets of results were obtained and designated as GC-ECD (I) A and B, GC/MS (I) A and B, GC/MS (II), and Interlaboratory Comparison Exercise. For the GC-ECD (I) analyses, approximately 10 g subsamples from six bottles of SRM 1941b were extracted using PFE with DCM. Copper powder was added to the extract to remove elemental sulfur, and SEC, as described above, was used to remove the high molecular mass compounds. The concentrated extract was then fractionated on a semi-preparative aminopropylsilane column to isolate two fractions containing: (1) the PCBs and lower-polarity pesticides and (2) the more polar pesticides. GC-ECD analyses of the two fractions were performed on two columns of different selectivities for PCB separations: 0.25 mm × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5, J&W Scientific), and a 0.25 mm × 60 m fused silica capillary column with a non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The results from the 5 % phenyl phase are designated as GC-ECD (IA) and the results from the proprietary phase are designated as GC-ECD (IB). For the GC-ECD analyses, two PCB congeners that are not significantly present in the sediment extract (PCB 103 and PCB 198 [9,10]) and endosulfan I-d_4, 4,4'-DDE-d_8, 4,4'-DD-d_8, and 4,4'-DDT-d_8 were added to the sediment prior to extraction for use as internal standards for quantification purposes.

Two sets of results were obtained by GC/MS. For GC/MS (I), approximately 9 g subsamples from six bottles were Soxhlet- extracted with a mixture of 50 % hexane/50 % acetone for approximately 18 h. Copper powder was added to the extract to remove elemental sulfur, and the concentrated extract was passed through a silica SPE cartridge and eluted with 10 % DCM in hexane. The processed extract was then analyzed by GC/MS with two ionization modes, electron impact (EI) and negative ion chemical ionization (NICI). The GC/MS EI method, GC/MS (IA), used a 0.25 mm i.d. × 60 m fused silica capillary column with a relatively non-polar proprietary phase (0.25 μm film thickness; DB-XLB, J&W Scientific). The GC/MS NICI method, GC/MS (IB), used a 0.25 mm i.d. × 60 m fused silica capillary column with a 5 % phenyl-substituted methylpolysiloxane phase (0.25 μm film thickness; DB-5MS, J&W Scientific). The GC/MS (II) results were obtained in the same manner as the GC/MS (IA) analyses except that three subsamples were Soxhlet-extracted with DCM for approximately 18 h. For the GC/MS analyses, selected carbon-13 labeled PCB congeners and chlorinated pesticides were added to the sediment prior to extraction for use as internal standards for quantification purposes.

In addition to the analyses performed at NIST, SRM 1941b was used in an interlaboratory comparison exercise in 1999 as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment [7]. Results from 38 laboratories that participated in this exercise were used as the sixth data set in the determination of the certified values for PCB congeners and chlorinated pesticides in SRM 1941b. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest.

The reference value for PCB 77 was determined from a separate fraction. The samples were extracted and processed as for GC-ECD (I) above. The first (PCB and lower-polarity pesticide) fraction from the semi-preparative aminopropylsilane column was further fractionated using a Cosmosil PYE (pyrenylethyl group bonded) column (5 μm particle size, 4.6 mm i.d. × 25 cm ; Phenomenex, Torrance, CA) [11]. Three fractions were collected: the first fraction contained the pesticides and multi-*ortho* PCBs, the second fraction contained the polychlorinated naphthalenes, non-*ortho* PCB congeners, and some mono-*ortho* PCB congeners, and the third fraction removed the residual planar compounds from the column. The second fraction was analyzed by GC/MS NICI using the same column as GC/MS (IB) above. Carbon-13 labeled PCB 77 was used as an internal standard for quantification purposes.

Alkylated PAH Groups, Hopanes, and Steranes: SRM 1941b was used in an interlaboratory comparison exercise in 2011 [12]. Results from 33 laboratories that participated in this exercise were used in the determination of the reference values for alkylated PAH groups, hopanes, and steranes in SRM 1941b. Note that not all laboratories returned data for each analyte. The laboratories participating in this exercise used the analytical procedures routinely used in their laboratories to measure the analytes of interest. For the alkylated PAHs, the majority of the laboratories (>90 %) used the parent PAH for determination of the response factor for the corresponding alkylated group.

Total Organic Carbon (TOC): Two laboratories provided results for TOC using similar procedures. Briefly, subsamples of approximately 200 mg were reacted with 6 mol/L hydrochloric acid and rinsed with deionized water prior to combustion in a gas fusion furnace. The carbon monoxide and carbon dioxide produced were measured and compared to a blank for calculation of the percent TOC. Each laboratory analyzed subsamples from three bottles of SRM 1941b. One of the laboratories also analyzed three subsamples from three bottles of SRM 1941b for carbon, hydrogen, and nitrogen.

Table 1. Certified Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
Naphthalene[b,c,d,e,f,g]	848	±	95[h]
Fluorene[b,c,d,e,f,g]	85	±	15[h]
Phenanthrene[b,c,d,e,f,g]	406	±	44[h]
Anthracene[b,c,d,e,f,g]	184	±	18[h]
3-Methylphenanthrene[b,c,d]	105	±	13[h]
2-Methylphenathrene[b,c,d]	128	±	14[h]
1-Methylphenanthrene[b,c,d,g]	73.2	±	5.9[h]
Fluoranthene[b,c,d,e,f,g]	651	±	50[h]
Pyrene[b,c,d,e,f,g]	581	±	39[h]
Benz[*a*]anthracene[b,c,d,e,f,g]	335	±	25[h]
Chrysene[d,f]	291	±	31[h]
Triphenylene[d,f]	108	±	5[i]
Benzo[*b*]fluoranthene[c,e]	453	±	21[h]
Benzo[*k*]fluoranthene[b,c,d,e]	225	±	18[h]
Benzo[*e*]pyrene[b,c,d,g]	325	±	25[h]
Benzo[*a*]pyrene[b,c,d,f,g]	358	±	17[h]
Perylene[b,c,d,f,g]	397	±	45[h]
Benzo[*ghi*]perylene[b,c,d,f,g]	307	±	45[h]
Indeno[1,2,3-*cd*]pyrene[b,c,d,f,g]	341	±	57[h]
Dibenz[*a,j*]anthracene[b,c,d,f]	48.9	±	4.6[h]
Dibenz[*a,c*]anthracene[c,f]	36.7	±	5.2[h]
Dibenz[*a,h*]anthracene[c,f]	53	±	10[h]
Benzo[*b*]chrysene[b,c,d,f]	53	±	12[h]
Picene[b,c,d]	46.6	±	4.7[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] LC-FL (total) of total PAH fraction after PFE with DCM.
[f] LC-FL (isomer) of isomeric PAH fractions after PFE with DCM.
[g] 1999 Interlaboratory Comparison Study [7] with 21 to 29 laboratories submitting data for each PAH.
[h] Certified values are weighted means of the results from two to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[i] The certified value is an unweighted mean of the results from two analytical methods. The uncertainty listed with the value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the value is metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 2. Certified Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b] (µg/kg)		
PCB	8	(2,4'-Dichlorobiphenyl)[c,d,e,f,g]	1.65	±	0.19[h]
PCB	18	(2,2',5-Trichlorobiphenyl)[c,d,e,f,g]	2.39	±	0.29[h]
PCB	28	(2,4,4'-Trichlorobiphenyl)[c,d,e,f,g]	4.52	±	0.57[h]
PCB	31	(2,4',5-Trichlorobiphenyl)[c,e,f]	3.18	±	0.41[h]
PCB	44	(2,2'3,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	3.85	±	0.20[i]
PCB	49	(2,2'4,5'-Tetrachlorobiphenyl)[c,d,e,f]	4.34	±	0.28[i]
PCB	52	(2,2',5,5'-Tetrachlorobiphenyl)[c,d,e,f,g]	5.24	±	0.28[i]
PCB	66	(2,3',4,4'-Tetrachlorobiphenyl)[c,e,f,g,j]	4.96	±	0.53[i]
PCB	87	(2,2',3,4,5'-Pentachlorobiphenyl)[c,d,f,j]	1.14	±	0.16[h]
PCB	95	(2,2',3,5',6-Pentachlorobiphenyl)[c,e,f,g]	3.93	±	0.62[i]
PCB	99	(2,2',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g]	2.90	±	0.36[i]
PCB	101	(2,2',4,5,5'-Pentachlorobiphenyl)[c,e,f,g,j]	5.11	±	0.34[i]
PCB	105	(2,3,3',4,4'-Pentachlorobiphenyl)[c,d,e,f,g,j]	1.43	±	0.10[i]
PCB	110	(2,3,3',4',6-Pentachlorobiphenyl)[c,e,f,j]	4.62	±	0.36[i]
PCB	118	(2,3',4,4',5-Pentachlorobiphenyl)[c,d,e,f,g,j]	4.23	±	0.19[i]
PCB	128	(2,2',3,3',4,4'-Hexachlorobiphenyl)[c,d,e,f,g,j]	0.696	±	0.044[i]
PCB	138	(2,2',3,4,4',5'-Hexachlorobiphenyl)[c,e,f,j]	3.60	±	0.28[i]
PCB	149	(2,2',3,4',5',6-Hexachlorobiphenyl)[c,d,e,j]	4.35	±	0.26[h]
PCB	153	(2,2',4,4',5,5'-Hexachlorobiphenyl)[c,d,e,f,g,j]	5.47	±	0.32[i]
PCB	156	(2,3,3',4,4',5-Hexachlorobiphenyl)[c,d,e,f,j]	0.507	±	0.090[h]
PCB	170	(2,2',3,3',4,4',5-Heptachlorobiphenyl)[c,d,e,f,g,j]	1.35	±	0.09[i]
PCB	180	(2,2',3,4,4',5,5'-Heptachlorobiphenyl)[c,d,e,f,g,j]	3.24	±	0.51[i]
PCB	183	(2,2',3,4,4',5',6-Heptachlorobiphenyl)[c,d,e,j]	0.979	±	0.087[h]
PCB	187	(2,2',3,4',5,5',6-Heptachlorobiphenyl)[c,d,e,f,g,j]	2.17	±	0.22[i]
PCB	194	(2,2',3,3',4,4',5,5'-Octachlorobiphenyl)[c,d,e,j]	1.04	±	0.06[h]
PCB	195	(2,2',3,3',4,4',5,6-Octachlorbiphenyl)[c,e,g,j]	0.645	±	0.060[i]
PCB	201	(2,2',3,3',4,5',6,6'-Octachlorobiphenyl)[c,e,j]	0.777	±	0.034[h]
PCB	206	(2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl)[c,e,f,g,j]	2.42	±	0.19[i]
PCB	209	Decachlorobiphenyl[c,d,e,f,g,j]	4.86	±	0.45[i]

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform to IUPAC rules, except PCB 201. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 201 is listed as PCB 200.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.

[g] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each PCB congener.

[h] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[i] Certified values are weighted means of the results from three to six analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[j] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

Table 3. Certified Mass Fraction Values for Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a] (µg/kg)
Hexachlorobenzene[b,c,d,e]	5.83 ± 0.38[f]
cis-Chlordane[b,c,d,e,g]	0.85 ± 0.11[h]
trans-Chlordane[b,c,e]	0.566 ± 0.093[f]
cis-Nonachlor[b,e,g]	0.378 ± 0.053[h]
trans-Nonachlor[b,c,d,e,g]	0.438 ± 0.073[f]
4,4'-DDE[b,d,e,g]	3.22 ± 0.28[h]
4,4'-DDD[b,d,e,g]	4.66 ± 0.46[h]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[e] 1999 Interlaboratory Comparison Study [7] with 13 to 31 laboratories submitting data for each pesticide.
[f] Certified values are unweighted means of the results from three to five analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the constituent listed and the values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.
[h] Certified values are weighted means of the results from three to five analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed and the values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 4. Reference Mass Fraction Values for PAHs in SRM 1941b

PAHs	Mass Fractions[a] (µg/kg)		
1-Methylnaphthalene[b,c,d,e]	127	±	14[f]
2-Methylnaphthalene[b,c,d,e]	276	±	53[f]
2,6-Dimethylnaphthalene[b,c,d,e]	75.9	±	4.5[f]
2,3,5-Trimethylnaphthalene[b,c,d,e]	25.5	±	5.1[f]
Biphenyl[b,c,d,e]	74.0	±	8.0[f]
Acenaphthylene[b,c,d,e]	53.3	±	6.4[f]
Acenaphthene[b,c,d,e]	38.4	±	5.2[f]
9-Methylphenanthrene[c]	63.5	±	2.5[g]
4-Methylphenanthrene and 9-Methylphenanthrene[b,d]	80.1	±	4.8[f]
2-Methylanthracene[c,d]	36	±	15[f]
8-Methylfluoranthene[b]	49.5	±	2.7[g]
7-Methylfluoranthene[b]	45.4	±	1.5[g]
1-Methylfluoranthene[b]	42.4	±	2.1[g]
3-Methylfluoranthene[b]	28.8	±	1.3[g]
2-Methylpyrene[b]	78.7	±	4.0[g]
4-Methylpyrene[b]	66.4	±	2.6[g]
1-Methylpyrene[b]	52.5	±	2.3[g]
Acephenanthrene[d]	30.5	±	1.9[g]
Benzo[*c*]phenanthrene[b,c,d]	58	±	15[f]
Benzo[*a*]fluoranthene[b,c,d]	73	±	18[f]
Benzo[*j*]fluoranthene[c]	217	±	5[g]
Indeno[1,2,3-*cd*]fluoranthene[d]	9.63	±	0.34[g]
Pentaphene[d]	25.3	±	1.0[g]

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] GC/MS (I) on 5 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[c] GC/MS (II) on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM.
[d] GC/MS (III) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.
[e] 1999 Interlaboratory Comparison Study [7] with 14 to 26 laboratories submitting data for each PAH.
[f] Reference values are weighted means of the results from two to four analytical methods [13]. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of PAHs listed as determined by the methods indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[g] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for the associated degrees of freedom (19 for footnote b and 5 for footnotes c and d) and 95 % confidence level for each analyte. The measurand is the total mass fraction of the PAHs listed as determined by the method indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

Table 5. Reference Mass Fraction Values for PAHs of Molecular Mass 300 and 302 in SRM 1941b

PAHs of Molecular Mass 300 and 302	Mass Fractions[a,b,c] (µg/kg)		
Coronene	72.6	±	4.7
Dibenzo[*b,e*]fluoranthene	10.3	±	0.3
Naphtho[1,2-*b*]fluoranthene	91.0	±	3.1
Naphtho[1,2-*k*]fluoranthene and Naphtho[2,3-*j*]fluoranthene	79.8	±	2.5
Naphtho[2,3-*b*]fluoranthene	23.5	±	0.3
Dibenzo[*b,k*]fluoranthene	95.6	±	3.1
Dibenzo[*a,k*]fluoranthene	26.6	±	0.4
Dibenzo[*j,l*]fluoranthene	63.8	±	1.8
Dibenzo[*a,l*]pyrene	11.1	±	1.0
Naphtho[2,3-*k*]fluoranthene	10.7	±	0.6
Naphtho[1,2-*a*]pyrene	16.7	±	1.4
Naphtho[2,3-*e*]pyrene	33.2	±	2.3
Dibenzo[*a,e*]pyrene	76.1	±	3.6
Naphtho[2,1-*a*]pyrene	59.2	±	1.8
Dibenzo[*e,i*]pyrene	35.0	±	2.4
Naphtho[2,3-*a*]pyrene	16.5	±	0.6
Benzo[*b*]perylene	38.2	±	1.2
Dibenzo[*a,i*]pyrene	25.5	±	1.0
Dibenzo[*a,h*]pyrene	6.94	±	0.29

[a] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[b] Reference values are the means of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution for two degrees of freedom and 95 % confidence level for each analyte. The measurand is the total mass fraction of the constituent listed as determined by the method indicted. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.

[c] GC/MS on 50 % phenyl-substituted methylpolysiloxane phase after PFE with DCM [8].

Table 6. Reference Mass Fraction Values for PCB Congeners[a] in SRM 1941b

PCB Congeners			Mass Fractions[b,c] (µg/kg)		
PCB	45	(2,2',3,6-Tetrachlorobiphenyl)[d,e]	0.73	±	0.12
PCB	56	(2,3,3',4'-Tetrachlorobiphenyl)[d,f,g]	1.21	±	0.11
PCB	63	(2,3,4',5-Tetrachlorobiphenyl)[e,f,g]	0.213	±	0.040
PCB	70	(2,3',4',5-Tetrachlorobiphenyl)[e,f,g]	4.99	±	0.29
PCB	74	(2,4,4',5-Tetrachlorobiphenyl)[e,f,g]	2.04	±	0.15
PCB	77	(3,3',4,4'-Tetrachlorobiphenyl)[h]	0.31	±	0.03
PCB	107	(2,3,3',4',5-Pentachlorobiphenyl)[d,e,f,g]	0.628	±	0.028
PCB	132	(2,2',3,3',4,6'-Hexachlorobiphenyl)[d,f,g]	1.28	±	0.27
PCB	146	(2,2',3,4',5,5'-Hexachlorobiphenyl)[e,f,g]	1.22	±	0.12
PCB	158	(2,3,3',4,4',6-Hexachlorobiphenyl)[d,e,f,g]	0.65	±	0.15
PCB	163	(2,3,3',4',5,6-Hexachlorobiphenyl)[e,f,g]	1.28	±	0.06
PCB	174	(2,2',3,3',4,5,6'-Heptachlorobiphenyl)[d,e,f,g]	1.51	±	0.39
PCB	193	(2,3,3',4',5,5',6-Heptachlorobiphenyl)[d,e,f,g]	0.292	±	0.075

[a] PCB congeners are numbered according to the scheme proposed by Ballschmiter and Zell [9] and later revised by Schulte and Malisch [10] to conform with IUPAC rules, except PCB 107. Under the Ballschmiter and Zell numbering system, the IUPAC PCB 107 is listed as PCB 108.

[b] Mass fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.

[c] For these PCB congeners except PCB 77, the reference values are unweighted means of the results from two to four analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled within-method variance following the ISO/JCGM Guide [14,15]. For PCB 77, the reference value is the mean of results obtained by NIST using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the analyte mean, and the coverage factor, k, is determined from the Student's t-distribution corresponding to two degrees of freedom and 95 % confidence level for PCB 77. The measurand is the total mass fraction of the PCB Congeners listed as determined by the method or methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as microgram per kilogram on a dry-mass basis.

[d] GC-ECD (IA) on 5 % phenyl-substituted methylpolysiloxane phase after PFE extraction with DCM.

[e] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).

[f] GC/MS (IA) on a relatively non-polar proprietary phase after Soxhlet extraction with 50 % hexane/50 % acetone mixture.

[g] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).

[h] GC/MS NICI on a 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC-ECD (I) fractionated using a PYE column.

Table 7. Reference Mass Fraction Values for Selected Chlorinated Pesticides in SRM 1941b

Chlorinated Pesticides	Mass Fractions[a,b] (µg/kg)		
2,4'-DDE[c,d]	0.38	±	0.12
4,4'-DDT[e,f]	1.12	±	0.42

[a] Mass Fractions reported on dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference values are unweighted means of the results from two analytical methods. The uncertainty listed with each value is an expanded uncertainty about the mean, with coverage factor 2, calculated by combining a between-method variance [16] with a pooled, within-method variance following the ISO/JCGM Guide [14,15]. The measurand is the total mass fraction of the chlorinated pesticides listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[c] GC/MS (IB) on 5 % phenyl-substituted methylpolysiloxane phase; same extracts analyzed as in GC/MS (IA).
[d] GC-ECD (IB) on a relatively non-polar proprietary phase; same extracts analyzed as in GC-ECD (IA).
[e] GC/MS (II) on a relatively non-polar proprietary phase after Soxhlet extraction with DCM.
[f] 1999 Interlaboratory Comparison Study [7] with 10 laboratories submitting data for 4,4'-DDT.

Table 8. Reference Mass Fraction Values for Alkylated PAH Groups in SRM 1941b

Alkylated PAH Group	Mass Fraction[a,b] (µg/kg)		
C2-decalins	18	±	5
C4-decalins	41	±	4
C2-naphthalenes	187	±	53
C3-naphthalenes	158	±	42
C1-benzothiophenes	25	±	14
C2-benzothiophenes	20	±	11
C3-benzothiophenes	22	±	13
C4-benzothiophenes	18	±	5
C1-fluorenes	57	±	18
C2-fluorenes	122	±	43
C3-fluorenes	128	±	31
C1-phenanthrenes/anthracenes	313	±	99
C2-phenanthrenes/anthracenes	247	±	62
C3-phenanthrenes/anthracenes	165	±	46
C4-phenanthrenes/anthracenes	87	±	36
C1-dibenzothiophenes	54	±	13
C2-dibenzothiophenes	91	±	18
C3-dibenzothiophenes	84	±	15
C4-dibenzothiophenes	57	±	13
C1-fluoranthenes/pyrenes	252	±	48
C2-fluoranthenes/pyrenes	205	±	38
C3-fluoranthenes/pyrenes	102	±	22
C4-fluoranthenes/pyrenes	121	±	59
C1-benzanthraces/chrysenes/triphenylenes	208	±	43
C2-benzanthraces/chrysenes/triphenylenes	120	±	24
C3-benzanthraces/chrysenes/triphenylenes	73	±	31
C4-benzanthraces/chrysenes/triphenylenes	41	±	11

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the alkylated PAH groups listed as determined by the interlaboratory study methods. The values listed are metrologically traceable to the SI unit of mass fraction, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 9. Reference Mass Fraction Values for Hopanes and Steranes in SRM 1941b

Hopane or Sterane	Mass Fraction[a,b] (μg/kg)		
17α(H)-22,29,30-Trisnorhopane	54	±	18
17α(H)-21β(H)-30-Norhopane	137	±	21
17α(H)-21β(H)-30-Hopane	215	±	44
17α(H)-21β(H)-22R-Homohopane	44	±	10
17α(H)-21β(H)-22S-Homohopane	48	±	13
5α(H)-14α(H),17α(H)-Cholestane 20R	41	±	11
5α(H)-14β(H),17β(H)-Cholestane 20R	27	±	6
5α(H)-14β(H),17β(H)-24-Methylcholestane 20R	21	±	8
5α(H)-14α(H),17α(H)-24-Ethylcholestane 20R	19	±	5
5α(H)-14β(H),17β(H)-24-Ethylcholestane 20R	41	±	9

[a] The reference mass fraction value reported on a dry-mass basis is the median of results using one analytical technique. The expanded uncertainty, U, is calculated as $U = ku_c$, where u_c is one standard deviation of the median, and the coverage factor, $k = 2$. The measurand is the total mass fraction of the constituent listed as determined by the methods used during the interlaboratory study. The values are metrologically traceable to the SI unit of mass, expressed as micrograms per kilogram on a dry-mass basis.
[b] Data from the interlaboratory study [12].

Table 10. Reference Mass Fraction Value for Total Organic Carbon in SRM 1941b

Total Organic Carbon (TOC)	2.99 % ± 0.24 %[a,b]

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.
[b] The reference value for total organic carbon is a weighted mean value from routine measurements made by two laboratories [21]. The uncertainty listed is an expanded uncertainty about the mean, with coverage factor 2 (approximately 95 % confidence), calculated by combining a between-method variance incorporating inter-method bias with a pooled within-method variance. The reporting follows the ISO/JCGM Guides [2]. The measurand is the total mass fraction of TOC listed as determined by the methods indicted. The values listed are metrologically traceable to the SI unit of mass, expressed as a percent on a dry-mass basis.

Table 11. Information Mass Fraction Values for Carbon, Hydrogen, and Nitrogen in SRM 1941b

Elements	Mass Fractions[a] (%)
Carbon	3.3
Hydrogen	1.2
Nitrogen	<0.5

[a] Mass fraction is reported on a dry-mass basis; material as received contains approximately 2.4 % moisture.

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Certificate Revision History: 16 January 2015 (Corrected IUPAC name for PCB-56 and PCB-107; editorial changes); 10 June 2014 (Units corrected from mg/kg to µg/kg in Tables 8 and 9; editorial changes); 10 April 2012 (Reference value added for alkylated PAH groups, hopanes, and steranes; extension of certification period; editorial changes); 16 August 2004 (Reference values for the butyl tins removed; editorial changes); 15 July 2002 (Original certificate date).

Users of this SRM should ensure that the Certificate of Analysis in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srminfo@nist.gov; or via the Internet at http://www.nist.gov/srm.

APPENDIX A

The laboratories listed below performed measurements that contributed to the certification of PAHs, PCBs, and chlorinated pesticides in SRM 1941b Organics in Marine Sediment.

Arthur D. Little, Inc; Cambridge, MA
Axys Analytical Services; Sidney, BC, Canada
B & B Laboratories; College Station, TX
Battelle Ocean Sciences; Duxbury, MA
Bedford Institute of Oceanography; Dartmouth, NS, Canada
California Department of Fish and Game; Rancho Cordova, CA
Central Contra Costa Sanitary District; Martinez, CA
Chesapeake Biological Laboratory; Solomons, MD
Centro de Investigacionies Energeticas Medioambientales y Tecnologicas; Madrid, Spain
City of Los Angeles Environmental Monitoring Division; Playa del Rey, CA
City of San Jose Environmental Services Department; San Jose, CA
Columbia Analytical Services; Kelso, WA
East Bay Municipal Utility District; Oakland, CA
Florida Department of Environmental Protection; Tallahassee, FL
Manchester Environmental Laboratory; Port Orchard, WA
Murray State University; Murray, KY
Massachusetts Water Resources Authority Central Lab; Winthrop, MA
National Research Council of Canada; Ottawa, Ontario, Canada
National Oceanic and Atmospheric Association (NOAA), National Marine Fisheries Service (NMFS), Auke Bay Laboratory; Juneau, AK
NOAA, National Ocean Service/Center for Coastal Environmental Health and Biomolecular Research; Charleston, SC
NOAA, NMFS, Sandy Hook Marine Laboratory; Highlands, NJ
NOAA, NMFS, Northwest Fisheries Science Center; Seattle, WA
Orange County Sanitation District; Fountain Valley, CA
Philip Analytical Services; Burlington, Ontario, Canada
Serv de Hidrografia Naval; Buenos Aires, Argentina
Skidaway Institute of Technology; Savannah, GA
Southwest Laboratory of Oklahoma; Broken Arrow, OK
Severn Trent Knoxville Laboratory; Knoxville, TN
Texas A&M University, Geochemical and Environmental Research Group; College Station, TX
Texas Parks and Wildlife Department; San Marcos, TX
University of California at Los Angeles, Institute of Geophysics and Planetary Physics; Los Angeles, CA
University of Connecticut, Environmental Research Institute; Storrs, CT
University of Rhode Island, Graduate School of Oceanography; Narragansett, RI
US Department of Agriculture, Environmental Chemistry Laboratory; Beltsville, MD
US Environmental Protection Agency, Atlantic Ecology Division; Narragansett, RI
US Geological Survey, National Water Quality Laboratory; Denver, CO
Woods Hole Group Environmental Lab; Raynham, MA
Wright State University; Dayton, OH

APPENDIX B

The laboratories listed below performed measurements that contributed to the certification of alkylated PAH groups, hopanes, and steranes in SRM 1941b Organics in Marine Sediment.

Alpha Analytical, Inc.; Mansfield, MA
Analytical Resources, Inc.; Tukwila, WA
Axys Analytical Services; Sydney, BC, Canada
Battelle Analytical & Environmental Chemistry Laboratory; Duxbury, MA
Center for Laboratory Sciences; Pasco, WA
Columbia Analytical Services; Jacksonville, FL
Columbia Analytical Services; Rochester, NY
Columbia Analytical Services, Kelso, WA
Florida Department of Environmental Protection; Tallahassee, FL
Florida International University; North Miami, FL
Michigan Department of Natural Resources and Environment; Lansing, MI
Mississippi State Chemical Laboratory; Mississippi State, MS
NIST; Charleston, SC
NIST; Gaithersburg, MD
NOAA/NCCOS/NOS; Charleston, SC
NOAA/NMFS/Alaska Fisheries Science Center; Juneau, AK
NY State Department of Health; Albany, NY
Pace Analytical Services, Inc. Minneapolis; Minneapolis, MN
RJ Lee Group, Inc; Monroeville, PA
TDI/B&B Laboratories, Inc.; College Station, TX
TestAmerica Laboratories; Mobile, AL
TestAmerica Laboratories; West Sacramento, CA
TestAmerica Laboratories; University Park, IL
TestAmerica Laboratories; Schriever, LA
TestAmerica Laboratories; Edison, NJ
TestAmerica Laboratories; Knoxville, TN
TestAmerica Laboratories; Pittsburgh, PA
TestAmerica Laboratories; South Burlington, VT
TestAmerica Laboratories; Tacoma, WA
US Army Engineer Research and Development Center; Vicksburg, MS
USGS Columbia Environmental Research Center; Columbia, MO
University of Iowa, State Hygienic Laboratory; Iowa City, IO
Washington State Public Health Laboratories; Shoreline, WA

NIST

Date of Issue:
31 March 2014

SAFETY DATA SHEET

1. Substance and Source Identification

Product Identifier

SRM Number: 1941b
SRM Name: Organics in Marine Sediment
Other Means of Identification: Not applicable.

Recommended Use of This Material and Restrictions of Use

This Standard Reference Material (SRM) is marine sediment collected at the mouth of the Baltimore (MD) Harbor. SRM 1941b is intended for use in evaluating analytical methods for the determination of selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in marine sediment and similar matrices. All of the constituents for which certified, reference, and information values are provided in SRM 1941b were naturally present in the sediment before processing. A unit of SRM 1941b consists of a bottle containing 50 g of radiation-sterilized, freeze-dried sediment.

Company Information

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

Telephone: 301-975-2200
FAX: 301-948-3730
E-mail: SRMMSDS@nist.gov
Website: http://www.nist.gov/srm

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

2. Hazards Identification

Classification

Physical Hazard: Not classified.
Health Hazard: Not classified.

Label Elements
Symbol
No Symbol/Pictogram

Signal Word
Not applicable.

Hazard Statement(s): Not applicable.

Precautionary Statement(s): Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients(s) with Unknown Acute Toxicity: Not applicable.

3. Composition and Information on Hazardous Ingredients

Substance: Marine sediment

Other Designations: Sediment.

This material is naturally occurring marine sediment from an urban area. The material contains trace amounts of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and should be handled with care. Components are listed in compliance with OSHA's 29 CFR 1910.1200; for the actual values see the Certificate of Analysis.

Hazardous Component(s)	CAS Number	EC Number (EINECS)	Nominal Mass Concentration (%)
Marine Sediment	Not available	Not available	100

4. First Aid Measures

Description of First Aid Measures:

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by qualified personnel. Seek immediate medical attention.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for at least 15 minutes. If necessary, seek medical attention.

Ingestion: If adverse effects occur after ingestion, seek medical treatment.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation.

Indication of any immediate medical attention and special treatment needed, if necessary: If any of the above symptoms are present, seek medical attention if needed.

5. Fire Fighting Measures

Fire and Explosion Hazards: Negligible fire hazard. Avoid generating dust. See Section 9, "Physical and Chemical Properties" for flammability properties.

Extinguishing Media:
Suitable: Use extinguishing media appropriate for surrounding fire.
Unsuitable: None listed.

Specific Hazards Arising from the Chemical: None listed.

Special Protective Equipment and Precautions for Fire-Fighters: Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).

NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)

Health = 1 Fire = 0 Reactivity = 0

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Any accumulated material on surfaces should be removed and properly disposed of. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".

Methods and Materials for Containment and Clean up: Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry.

7. Handling and Storage

Safe Handling Precautions: Minimize dust generation and accumulation on surfaces. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. See Section 8, "Exposure Controls and Personal Protection".

Storage: Store and handling in accordance with all current regulations and standards.

8. Exposure Controls and Personal Protection

Exposure Limits: No occupational exposure limits have been established for marine sediment. This material is a particulate matter and adequate inhalation/respiratory protection should be used to minimize exposure. The exposure limits for Particulates Not Otherwise Regulated (PNOR) are applicable.

OSHA (PEL): 15 mg/m^3 (TWA, total particulates not otherwise regulated)
OSHA (PEL) 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

NIOSH (REL): 10 mg/m^3 (TWA, total particulates not otherwise regulated, 8 h)
NIOSH (REL): 5 mg/m^3 (TWA, respirable particulates not otherwise regulated)

Engineering Controls: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protection: In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.

Respiratory Protection: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye/Face Protection: Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.

Skin and Body Protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

9. Physical and Chemical Properties

Descriptive Properties:

Appearance (physical state, color, etc.):	amorphous powder
Molecular Formula:	not applicable
Molar Mass (g/mol):	not applicable
Odor:	not available
Odor threshold:	not available
pH:	not available
Evaporation rate:	not applicable
Melting point/freezing point (°C):	not available
Specific Gravity (water=1)	not available
Vapor Pressure (mmHg):	not applicable
Vapor Density (air = 1):	not applicable
Viscosity (cP):	not applicable
Solubility(ies):	not available
Partition coefficient (n-octanol/water):	not available
Particle Size:	<150 μm

Thermal Stability Properties:

Autoignition Temperature (°C):	not available
Thermal Decomposition (°C):	not available
Initial boiling point and boiling range (°C):	not available
Explosive Limits, LEL (Volume %):	not available
Explosive Limits, UEL (Volume %):	not available
Flash Point (°C):	not available
Flammability (solid, gas):	not available

10. Stability and Reactivity

Reactivity: Stable at normal temperatures and pressure.

Stability: X Stable _____ Unstable

Possible Hazardous Reactions: None listed.

Conditions to Avoid: Avoid generating dust.

Incompatible Materials: None listed.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Thermal decomposition will produce oxides of carbon.

Hazardous Polymerization: _____ Will Occur X Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Exposure: X Inhalation X Skin _____ Ingestion

Symptoms Related to the Physical, Chemical and Toxicological Characteristics: Generated dust may cause irritation if inhaled.

Potential Health Effects (Acute, Chronic and Delayed):

Inhalation: Generated dust may cause irritation.

Skin Contact: May cause mechanical irritation.

Eye Contact: May cause mechanical irritation.

Ingestion: No data available.

Numerical Measures of Toxicity:

Acute Toxicity: Not classified; no data available.

Skin Corrosion/Irritation: Not classified; no data available.

Serious Eye damage/ Eye irritation: Not classified; no data available.

Respiratory Sensitization: Not classified; no data available.

Skin Sensitization: Not classified; no data available.

Germ Cell Mutagenicity: Not classified; no data available.

Carcinogenicity: Not classified.

Listed as a Carcinogen/Potential Carcinogen _____ Yes X No
Marine sediment is not listed by NTP, IARC or OSHA as a carcinogen.

Reproductive Toxicity: Not classified; no data available.

Specific Target Organ Toxicity, Single Exposure: Not classified; no data available.

Specific Target Organ Toxicity, Repeated Exposure: Not classified; no data available.

Aspiration Hazard: Not classified; no data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other Adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose of waste in accordance with all applicable federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH:	No.
CHRONIC HEALTH:	No.
FIRE:	No.
REACTIVE:	No.
PRESSURE:	No.

State Regulations:
California Proposition 65: Not listed.

U.S. TSCA Inventory: Not listed.

TSCA 12(b), Export Notification: Not listed.

Canadian Regulations:
WHMIS Information: Not provided for this material.

16. OTHER INFORMATION

Issue Date: 31 March 2014

Sources: 29 CFR Occupational Health and Safety Office (OSHA) 1910.1000, *Limits for Air Contaminants*, Table Z-1; available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992 (accessed Mar 2014).

Center for Disease Control (CDC) NIOSH Pocket Guide to Chemical Hazards, *Particulates not otherwise regulated*; available at http://www.cdc.gov/niosh/npg/npgd0480.html (accessed Mar 2014).

Key of Acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists	NRC	Nuclear Regulatory Commission
ALI	Annual Limit on Intake	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	REL	Recommended Exposure Limit
EC50	Effective Concentration, 50 %	RM	Reference Material
EINECS	European Inventory of Existing Commercial Chemical Substances	RQ	Reportable Quantity
EPCRA	Emergency Planning and Community Right-to-Know Act	RTECS	Registry of Toxic Effects of Chemical Substances
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
IATA	International Air Transportation Agency	SCBA	Self-Contained Breathing Apparatus
IDLH	Immediately Dangerous to Life and Health	SRM	Standard Reference Material
LC50	Lethal Concentration, 50 %	STEL	Short Term Exposure Limit
LD50	Lethal Dose, 50 %	TLV	Threshold Limit Value
LEL	Lower Explosive Limit	TPQ	Threshold Planning Quantity
MSDS	Material Safety Data Sheet	TSCA	Toxic Substances Control Act
NFPA	National Fire Protection Association	TWA	Time Weighted Average
NIOSH	National Institute for Occupational Safety and Health	UEL	Upper Explosive Limit
NIST	National Institute of Standards and Technology	WHMIS	Workplace Hazardous Materials Information System

Disclaimer: Physical and chemical data contained in this SDS are provided only for use in assessing the hazardous nature of the material. The SDS was prepared carefully, using current references; however, NIST does not certify the data in the SDS. The certified values for this material are given in the NIST Certificate of Analysis.

Users of this SRM should ensure that the SDS in their possession is current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at http://www.nist.gov/srm.

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Order discrepancies (other than back ordered items) must be reported to our Customer Relations Department at 301-975-6776 within 5 days of receipt of shipment or this order will be considered complete. NIST SRMs/RMs are generally not returnable - with the exception of defective goods or shipments made in error by NIST. To return a SRM/RM, please call for instructions and a Return SRM/RM Authorization Number before shipment. Returns WILL NOT BE ACCEPTED without prior authorization.

Order	UOM	Ship	UOM	B/O	UOM	Item	Description
1	EACH	1	EACH	0	EACH	1941B	Organics in Marine Sediment
						Total qty:	1 / EACH
							NOT FOR HUMAN CONSUMPTION, LABORATORY USE ONLY.

9/21/16
04:04 PM

Picked by	
Packed by	
# of pieces	
Weight	

1700101