Analytical Resources, Incorporated
Analytical Chemists and Consultants

06 October 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)
21G0213	N/A

Susan Dunnihoo

Digitally signed by Susan Dunnihoo
Date: 2021.10.06 14:15:33 -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

21G0213

1 of 1

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 4000

Project/Client Name: Duwamish AOC 4
Project Number: 180067 - 02.02
Contact Name: Amara Vandervoort
Sampled By: Windward

Ship to: ARI
Attn: Sue Dunnihoo
Shipper: Courier
Form filled out by: Nicolas Eckhardt

Shipping Date: 7/20/21
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	PCB	TOC/Total Solids	Archive	Dioxin Furans				Comments / Instructions [Jar tag number(s)]
					Test(s) Requested (check test(s) required)							
7/19/21	15:40	LDW21-IT655B	4	Sediment	X	X	X	X				
	15:40	LDW21-IT655C	4		X	X	X	X				
	15:40	LDW21-IT655E	4		X	X	X	X				
	13:50	LDW21-SC570	3		X	X	X					
	14:05	LDW21-SC573	3		X	X	X					
	14:44	LDW21-IT663B	4		X	X	X	X				
	"	LDW21-IT663C	4		X	X	X	X				
7/19/21	14:44	LDW21-IT663E	4	Sediment	X	X	X	X				
		Total Number of Containers	30	Purchase Order / Statement of Work #	CLF-052021-ARI							

1) Released by:	1) Rec'd by:	2) Released by:	2) Rec'd by:
Print name: Brandi Quinlisk		Print name:	
Signature: Brandi Quinlisk	Company: ARI	Signature:	Company:
Company: Windward		Company:	
Date/Time: 7/20/21 0800	Date/Time: 07/20/2021 0800	Date/Time:	Date/Time:

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

Windward 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): 4000 NA

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

Assigned ARI Job No: 21G0213

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 0820 4.6 ____ ____ ____ ____ ____

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

Temp Gun ID#: DOO 206

Cooler Accepted by: JG Date: 07/20/2021 Time: 0800

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: SC Date: 7/20/21 Time: 1038 Labels checked by: SC

***** 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:	180067-02.02	**Reported:**
Seattle, WA 98101	Project Manager:	Cindy Fields	10/06/2021 14:03

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
21G0213-01	LDW21-IT655B	Solid	07/19/21 15:40	07/20/21 08:00
21G0213-02	LDW21-IT655C	Solid	07/19/21 15:40	07/20/21 08:00
21G0213-03	LDW21-IT655E	Solid	07/19/21 15:40	07/20/21 08:00
21G0213-04	LDW21-SC570	Solid	07/19/21 13:50	07/20/21 08:00
21G0213-05	LDW21-SC573	Solid	07/19/21 14:05	07/20/21 08:00
21G0213-06	LDW21-IT663B	Solid	07/19/21 14:44	07/20/21 08:00
21G0213-07	LDW21-IT663C	Solid	07/19/21 14:44	07/20/21 08:00
21G0213-08	LDW21-IT663E	Solid	07/19/21 14:44	07/20/21 08:00

Anchor QEA, LLC	Project: Lower Duwamish AOC4	
1201 3rd Ave, Suite 2600	Project Number: 180067-02.02	**Reported:**
Seattle WA, 98101	Project Manager: Cindy Fields	06-Oct-2021 14:03

Case Narrative

Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Work Order: 21G0213

Sample receipt

Samples as listed on the preceding page were received 20-Jul-2021 08:00 under ARI work order 21G0213. For details regarding sample receipt, please refer to the Cooler Receipt Form. Mercury aliquots were frozen to meet QAPP requirements.

Dioxin/Furans - EPA Method 1613

The sample(s) were extracted and analyzed within the recommended holding times for samples stored frozen. Analysis was performed using an application specific column developed by Restek. The RTX-DIoxin2 column has unique isomer separation for the 2378-TCDF, eliminating the need for confirmation analysis.

Two samples required reanalysis at dilution due to target analytes above the calibrated range of the instrument . Diluted results have been 'Z'-flagged.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were within limits.

The cleanup surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits, with response for 1,2,3,4,6,7,8-HpCDD and OCDD below the reporting limit and "J"-flagged. Associated positive results have been "B"-flagged.

The OPR (Ongoing Precision and Recovery) standard percent recoveries were within control limits.

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

The batch BJH0203 duplicate (DUP) relative percent difference (RPD) were outside advisory control limits for 1,2,3,7,8-PeCDD (60.8%), 1,2,3,4,7,8-HxCDD (86.9%), 1,2,3,6,7,8-HxCDD (36.1%) and 1,2,3,7,8,9-HxCDD (55.4%). Results are reported under work order 21G0211.

QUALIFIERS AND NOTES

Qualifier	Definition
Z	MDL and MRL are elevated due to dilution.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
J	Estimated concentration value detected below the reporting limit.
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
B	This analyte was detected in the method blank.
*	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-IT655B

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-01 C	File ID:	21092042
Sampled:	07/19/21 15:40	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 02:16
% Solids:	76.53	Preparation:	EPA 1613	Initial/Final:	13.07 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.102	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.076	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.135	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.131	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.104	1.00	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1		1.054-1.426	0.090	1.00	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1		1.054-1.426	0.088	1.00	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1		1.054-1.426	0.093	1.00	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.144	1.054-1.426	0.110	1.00	1.48	ng/kg	
39227-28-6	1,2,3,4,7,8-HxCDD	1		1.054-1.426	0.136	1.00	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.786	1.054-1.426	0.138	1.00	0.170	ng/kg	EMPC, J
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.621	1.054-1.426	0.147	1.00	0.310	ng/kg	EMPC, J
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.008	0.893-1.208	0.084	1.00	0.280	ng/kg	J
55673-89-7	1,2,3,4,7,8,9-HpCDF	1		0.893-1.208	0.129	1.00	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.079	0.893-1.208	0.153	2.50	2.19	ng/kg	J, B
39001-02-0	OCDF	1		0.757-1.024	0.493	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.955	0.757-1.024	0.695	10.0	20.5	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	48.9	ng/kg
41903-57-5	Total TCDD	1	0.000			1.00	ND	ng/kg
30402-15-4	Total PeCDF	1	0.000			1.00	7.99	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	0.205	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	1.61	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	0.609	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	1.76	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	4.35	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.227
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.365

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT655B

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-01	File ID:	21092042
Sampled:	07/19/21 15:40	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 02:16
Solids Wt%:	76.53	Preparation:	EPA 1613	Initial/Final:	13.07 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.812	0.655-0.886	0.085	78.3	24 - 169 %	
13C12-2,3,7,8-TCDD		0.756	0.655-0.886	0.120	90.8	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.608	1.318-1.783	0.113	73.9	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.617	1.318-1.783	0.118	73.6	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.583	1.318-1.783	0.119	79.8	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.517	0.434-0.587	0.208	82.7	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.516	0.434-0.587	0.192	76.6	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.526	0.434-0.587	0.213	78.6	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.513	0.434-0.587	0.256	80.3	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.256	1.054-1.426	0.147	86.8	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.238	1.054-1.426	0.136	82.9	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.455	0.374-0.506	0.169	63.7	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.464	0.374-0.506	0.207	61.2	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.023	0.893-1.208	0.169	72.7	23 - 140 %	
13C12-OCDD		0.890	0.757-1.024	0.402	64.3	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.047	93.3	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					1.108		0.770	1253	1150								
12378-PeCDF					1.015		1.550	1129	1341								
23478-PeCDF					1.126		1.550	1129	1341								
123478-HxCDF					1.017		1.240	776	832								
234678-HxCDF					1.052		1.240	776	832								
123678-HxCDF					1.037		1.240	776	832								
123789-HxCDF	36.951	1.000	2.118e3	1.852e3	1.030	1.144	1.240	776	832	3.37e4	3.44e4	43.4	41.3	NO	db	db	0.742
1234678-HpCDF	38.800	1.001	3.537e2	3.510e2	1.327	1.008	1.050	594	551	6.83e3	4.48e3	11.5	8.1	NO	bb	bb	0.140
1234789-HpCDF					1.283		1.050	594	551								
OCDF					1.447		0.890	1528	1383								
2378-TCDD					0.920		0.770	774	549								
12378-PeCDD					0.995		1.550	584	565								
123478-HxCDD					1.027		1.240	968	1121								
123678-HxCDD	36.126	1.000	2.096e2	2.666e2	1.009	0.786	1.240	968	1121	4.28e3	5.08e3	4.4	4.5	YES	bb	bb	0.085
123789-HxCDD	36.694	1.016	4.955e2	3.056e2	0.950	1.621	1.240	968	1121	9.49e3	5.43e3	9.8	4.8	YES	bb	bb	0.155
1234678-HpCDD	40.293	1.000	1.790e3	1.660e3	1.068	1.079	1.050	632	576	3.11e4	2.36e4	49.1	41.0	NO	bb	bb	1.095
OCDD	45.050	1.000	1.230e4	1.288e4	1.181	0.955	0.890	1590	1759	1.40e5	1.54e5	88.1	87.8	NO	bd	bb	10.256
13C-2378-TCDF	25.761	1.007	3.644e5	4.489e5	1.427	0.812	0.770	1362	973	5.69e6	6.95e6	4180.1	7145.6	NO	bb	bb	78.252
13C-12378-PeCDF	29.920	1.170	4.309e5	2.680e5	1.297	1.608	1.550	1068	1754	6.67e6	4.18e6	6244.1	2385.1	NO	bb	bb	73.948
13C-23478-PeCDF	31.269	1.222	4.098e5	2.533e5	1.236	1.617	1.550	1068	1754	6.21e6	3.84e6	5810.6	2188.8	NO	bb	bb	73.615
13C-123478-HxCDF	34.889	0.955	2.248e5	4.346e5	1.242	0.517	0.510	1724	2773	3.58e6	6.88e6	2077.1	2481.1	NO	bd	bd	82.700
13C-123678-HxCDF	35.034	0.959	2.248e5	4.357e5	1.343	0.516	0.510	1724	2773	3.61e6	6.87e6	2095.7	2478.6	NO	db	db	76.618
13C-234678-HxCDF	35.903	0.983	2.111e5	4.015e5	1.215	0.526	0.510	1724	2773	3.40e6	6.52e6	1974.7	2349.8	NO	bb	bb	78.581
13C-123789-HxCDF	36.939	1.012	1.759e5	3.432e5	1.008	0.513	0.510	1724	2773	2.89e6	5.66e6	1674.8	2041.2	NO	bb	bb	80.289
13C-1234678-HpCDF	38.778	1.062	1.184e5	2.604e5	0.926	0.455	0.440	1366	1363	1.92e6	4.18e6	1405.2	3068.2	NO	bd	bd	63.710
13C-1234789-HpCDF	41.028	1.124	9.436e4	2.033e5	0.758	0.464	0.440	1366	1363	1.32e6	2.86e6	964.0	2097.9	NO	bd	bd	61.194
13C-1234-TCDD	25.579	0.000	3.145e5	4.141e5	1.000	0.760	0.770	1519	1071	5.00e6	6.57e6	3292.6	6135.9	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.032	3.178e5	4.207e5	1.116	0.756	0.770	1519	1071	4.87e6	6.39e6	3204.6	5966.8	NO	bb	bb	90.788
13C-12378-PeCDD	31.514	1.232	2.606e5	1.647e5	0.732	1.583	1.550	1014	664	4.08e6	2.58e6	4023.5	3889.7	NO	bb	bb	79.751
13C-123478-HxCDD	36.004	0.986	2.977e5	2.369e5	0.960	1.256	1.240	1401	1059	5.01e6	4.12e6	3571.6	3885.0	NO	bd	bd	86.792
13C-123678-HxCDD	36.126	0.989	3.065e5	2.476e5	1.041	1.238	1.240	1401	1059	4.96e6	3.94e6	3540.3	3716.4	NO	db	db	82.923
13C-1234678-HpCDD	40.282	1.103	1.492e5	1.458e5	0.632	1.023	1.050	711	1150	2.24e6	2.22e6	3156.2	1931.5	NO	bb	bb	72.687
13C-OCDD	45.032	1.233	1.958e5	2.200e5	0.504	0.890	0.890	1500	2024	2.31e6	2.60e6	1537.7	1283.7	NO	bb	bb	128.633
13C-123789-HxCDD	36.516	0.000	3.604e5	2.813e5	1.000	1.281	1.240	1401	1059	5.86e6	4.58e6	4182.5	4324.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	2.946e5		1.084			987		4.54e6		4605.1			bd		37.314

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.404	0.870	5.564e3	7.176e3	1.425	0.775	0.770	1253	1150	9.01e4	1.20e5	71.9	104.1	NO	bd	dd	1.099
1289-TCDF	27.364	1.062	2.243e4	3.003e4	1.043	0.747	0.770	1253	1150	3.57e5	4.81e5	285.0	418.6	NO	bd	bd	6.185
13468-PECDF	27.061	0.904	2.933e3	1.766e3	1.376	1.661	1.550	826	1109	3.77e4	2.30e4	45.7	20.7	NO	bd	bb	0.489
12389-PECDF					1.000		1.550	1129	1341								
123468-HXCDF					1.087		1.240	776	832								
1368-TCDD					0.923		0.770	774	549								
1289-TCDD					0.794		0.770	774	549								
12479-PECDD					1.843		1.550	584	565								
12389-PECDD					1.154		1.550	584	565								
124679-HXCDD	34.021	0.945	6.105e2	4.300e2	1.125	1.420	1.240	968	1121	1.24e4	6.91e3	12.8	6.2	NO	bb	bb	0.173
1234679-HPCDD	39.246	0.974	1.964e3	1.903e3	1.211	1.032	1.050	632	576	3.26e4	3.07e4	51.5	53.2	NO	bb	bb	1.083
Total-tetrafurans			9.865e4		1.192			1253		1.50e6							24.441
Total-penta1			0.000e0					826		0.00e0							
Total-pentafurans			1.718e4		1.047			1129		2.74e5							3.996
Total-hexafurans			2.357e3		1.045			776		3.80e4							0.806
Total-heptafurans			1.997e3		1.305			594		2.93e4							0.882
Total-Furans			1.442e5		1.158			1253		2.22e6							35.811
Total-tetradioxins			0.000e0		0.879			774		0.00e0							
Total-pentadioxins			3.527e2		1.331			584		6.95e3							0.103
Total-hexadioxins			1.010e3		1.028			968		2.05e4							0.305
Total-heptadioxins			3.754e3		1.140			632		6.36e4							2.177
Total-Dioxins			1.742e4		1.092			774		2.31e5							12.841
Total-TEQ			1.616e5					774		2.45e6							48.652
FUNCTION1 PFK			1.128e6					321880		2.20e7							
FUNCTION2 PFK			1.059e5					193166		3.20e6							0.000
FUNCTION3 PFK			4.654e5					260511		1.13e7							0.000
FUNCTION4 PFK			2.305e5					129146		6.05e6							
FUNCTION5 PFK			1.512e4					119457		5.70e5							
FUNCTION1 HXCD...			1.565e3					602		2.37e4							0.000
FUNCTION1 HPCD...			2.939e2					510		3.56e3							0.000
FUNCTION2 HPCD...			0.000e0					773		0.00e0							
FUNCTION3 OCDPE			2.964e2					464		6.90e3							0.000
FUNCTION4 NCDPE			2.352e4					662		3.98e5							0.000
FUNCTION5 DCDPE			3.297e3					1320		8.97e4							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.19	5.041e3	5.702e3	1.192	0.88	0.77	57.9	YES	NO	dd	dd	1.108
2	Total-tetrafurans	24.08	3.901e3	5.170e3	1.192	0.75	0.77	54.2	YES	NO	dd	dd	0.936
3	Total-tetrafurans	24.02	4.761e3	6.563e3	1.192	0.73	0.77	61.8	YES	NO	dd	dd	1.168
4	Total-tetrafurans	23.87	1.055e4	1.461e4	1.192	0.72	0.77	145.2	YES	NO	dd	dd	2.596
5	Total-tetrafurans	23.54	8.701e2	1.159e3	1.192	0.75	0.77	11.1	YES	NO	bb	bb	0.209
6	1368-TCDF	22.40	5.564e3	7.176e3	1.425	0.78	0.77	71.9	YES	NO	bd	dd	1.099
7	1289-TCDF	27.36	2.243e4	3.003e4	1.043	0.75	0.77	285.0	YES	NO	bd	bd	6.185
8	Total-tetrafurans	26.89	3.327e3	4.016e3	1.192	0.83	0.77	37.8	YES	NO	dd	bd	0.757
9	Total-tetrafurans	25.94	3.014e3	3.799e3	1.192	0.79	0.77	40.6	YES	NO	db	db	0.703
10	Total-tetrafurans	25.87	5.860e3	7.736e3	1.192	0.76	0.77	72.2	YES	NO	dd	dd	1.403
11	Total-tetrafurans	25.59	7.435e2	8.905e2	1.192	0.83	0.77	9.5	YES	NO	db	db	0.169
12	Total-tetrafurans	25.44	6.084e3	8.372e3	1.192	0.73	0.77	58.4	YES	NO	dd	dd	1.491
13	Total-tetrafurans	25.08	1.570e3	2.009e3	1.192	0.78	0.77	11.2	YES	NO	bd	dd	0.369
14	Total-tetrafurans	24.69	6.362e2	7.384e2	1.192	0.86	0.77	8.3	YES	NO	db	db	0.142
15	Total-tetrafurans	24.61	1.514e3	2.202e3	1.192	0.69	0.77	16.3	YES	NO	dd	dd	0.383
16	Total-tetrafurans	24.42	2.278e4	3.268e4	1.192	0.70	0.77	257.7	YES	NO	dd	dd	5.722

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.47	4.981e3	3.271e3	1.047	1.52	1.55	77.5	YES	NO	db	db	1.158
2	Total-pentafurans	28.38	3.821e3	2.469e3	1.047	1.55	1.55	54.2	YES	NO	bd	bd	0.883
3	Total-pentafurans	28.16	1.079e3	7.260e2	1.047	1.49	1.55	19.6	YES	NO	bb	bb	0.253
4	Total-pentafurans	31.22	2.658e3	1.956e3	1.047	1.36	1.55	31.7	YES	NO	bb	bb	0.647
5	Total-pentafurans	30.74	9.726e2	6.241e2	1.047	1.56	1.55	12.7	YES	NO	bb	bb	0.224
6	Total-pentafurans	30.30	1.853e3	1.107e3	1.047	1.67	1.55	20.3	YES	NO	db	db	0.415
7	Total-pentafurans	29.39	9.286e2	5.504e2	1.047	1.69	1.55	13.9	YES	NO	bb	bb	0.207
8	Total-pentafurans	29.06	8.848e2	5.973e2	1.047	1.48	1.55	12.4	YES	NO	bd	bb	0.208

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.95	2.118e3	1.852e3	1.030	1.14	1.24	43.4	YES	NO	db	db	0.742
2	Total-hexafurans	34.28	2.396e2	1.714e2	1.045	1.40	1.24	5.6	YES	NO	bb	bb	0.064

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	40.74	1.158e3	1.177e3	1.305	0.98	1.05	26.4	YES	NO	bb	bb	0.529
2	Total-heptafurans	39.45	4.853e2	4.564e2	1.305	1.06	1.05	11.5	YES	NO	bb	bb	0.213
3	1234678-HpCDF	38.80	3.537e2	3.510e2	1.327	1.01	1.05	11.5	YES	NO	bb	bb	0.140

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.19	5.041e3	5.702e3	1.192	0.88	0.77	57.9	YES	NO	dd	dd	1.108
2	Total-tetrafurans	24.08	3.901e3	5.170e3	1.192	0.75	0.77	54.2	YES	NO	dd	dd	0.936
3	Total-tetrafurans	24.02	4.761e3	6.563e3	1.192	0.73	0.77	61.8	YES	NO	dd	dd	1.168
4	Total-tetrafurans	23.87	1.055e4	1.461e4	1.192	0.72	0.77	145.2	YES	NO	dd	dd	2.596
5	Total-tetrafurans	23.54	8.701e2	1.159e3	1.192	0.75	0.77	11.1	YES	NO	bb	bb	0.209
6	1368-TCDF	22.40	5.564e3	7.176e3	1.425	0.78	0.77	71.9	YES	NO	bd	dd	1.099
7	Total-Furans	21.81	4.416e2	5.205e2	1.158	0.85	0.77	5.1	YES	NO	dd	dd	0.102
8	Total-Furans	21.65	3.770e3	4.922e3	1.158	0.77	0.77	52.3	YES	NO	bd	bd	0.923
9	Total-Furans	21.15	1.037e4	1.337e4	1.158	0.78	0.77	129.4	YES	NO	bd	bb	2.521
10	1289-TCDF	27.36	2.243e4	3.003e4	1.043	0.75	0.77	285.0	YES	NO	bd	bd	6.185
11	Total-tetrafurans	26.89	3.327e3	4.016e3	1.192	0.83	0.77	37.8	YES	NO	dd	bd	0.757
12	Total-tetrafurans	25.94	3.014e3	3.799e3	1.192	0.79	0.77	40.6	YES	NO	db	db	0.703
13	Total-tetrafurans	25.87	5.860e3	7.736e3	1.192	0.76	0.77	72.2	YES	NO	dd	dd	1.403
14	Total-tetrafurans	25.59	7.435e2	8.905e2	1.192	0.83	0.77	9.5	YES	NO	db	db	0.169
15	Total-tetrafurans	25.44	6.084e3	8.372e3	1.192	0.73	0.77	58.4	YES	NO	dd	dd	1.491
16	Total-tetrafurans	25.08	1.570e3	2.009e3	1.192	0.78	0.77	11.2	YES	NO	bd	dd	0.369
17	Total-tetrafurans	24.69	6.362e2	7.384e2	1.192	0.86	0.77	8.3	YES	NO	db	db	0.142
18	Total-tetrafurans	24.61	1.514e3	2.202e3	1.192	0.69	0.77	16.3	YES	NO	dd	dd	0.383
19	Total-tetrafurans	24.42	2.278e4	3.268e4	1.192	0.70	0.77	257.7	YES	NO	dd	dd	5.722
20	Total-Furans	28.06	1.549e3	2.110e3	1.158	0.73	0.77	20.6	YES	NO	bb	bb	0.388
21	Total-Furans	27.85	4.961e3	6.945e3	1.158	0.71	0.77	62.5	YES	NO	db	db	1.264
22	Total-pentafurans	28.47	4.981e3	3.271e3	1.047	1.52	1.55	77.5	YES	NO	db	db	1.158
23	Total-pentafurans	28.38	3.821e3	2.469e3	1.047	1.55	1.55	54.2	YES	NO	bd	bd	0.883
24	Total-pentafurans	28.16	1.079e3	7.260e2	1.047	1.49	1.55	19.6	YES	NO	bb	bb	0.253
25	Total-pentafurans	31.22	2.658e3	1.956e3	1.047	1.36	1.55	31.7	YES	NO	bb	bb	0.647
26	Total-pentafurans	30.74	9.726e2	6.241e2	1.047	1.56	1.55	12.7	YES	NO	bb	bb	0.224
27	Total-pentafurans	30.30	1.853e3	1.107e3	1.047	1.67	1.55	20.3	YES	NO	db	db	0.415
28	Total-pentafurans	29.39	9.286e2	5.504e2	1.047	1.69	1.55	13.9	YES	NO	bb	bb	0.207
29	Total-pentafurans	29.06	8.848e2	5.973e2	1.047	1.48	1.55	12.4	YES	NO	bd	bb	0.208
30	123789-HxCDF	36.95	2.118e3	1.852e3	1.030	1.14	1.24	43.4	YES	NO	db	db	0.742
31	Total-hexafurans	34.28	2.396e2	1.714e2	1.045	1.40	1.24	5.6	YES	NO	bb	bb	0.064
32	Total-heptafurans	40.74	1.158e3	1.177e3	1.305	0.98	1.05	26.4	YES	NO	bb	bb	0.529
33	Total-heptafurans	39.45	4.853e2	4.564e2	1.305	1.06	1.05	11.5	YES	NO	bb	bb	0.213
34	1234678-HpCDF	38.80	3.537e2	3.510e2	1.327	1.01	1.05	11.5	YES	NO	bb	bb	0.140
35	13468-PECDF	27.06	2.933e3	1.766e3	1.376	1.66	1.55	45.7	YES	NO	bd	bb	0.489

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	32.24	3.527e2	2.281e2	1.331	1.55	1.55	11.9	YES	NO	bd	bb	0.103

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	35.26	3.992e2	3.367e2	1.028	1.19	1.24	8.3	YES	NO	bb	bb	0.132
2	124679-HXCDD	34.02	6.105e2	4.300e2	1.125	1.42	1.24	12.8	YES	NO	bb	bb	0.173

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.25	1.964e3	1.903e3	1.211	1.03	1.05	51.5	YES	NO	bb	bb	1.083
2	1234678-HpCDD	40.29	1.790e3	1.660e3	1.068	1.08	1.05	49.1	YES	NO	bb	bb	1.095

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	32.24	3.527e2	2.281e2	1.331	1.55	1.55	11.9	YES	NO	bd	bb	0.103
2	Total-hexadioxins	35.26	3.992e2	3.367e2	1.028	1.19	1.24	8.3	YES	NO	bb	bb	0.132
3	124679-HXCDD	34.02	6.105e2	4.300e2	1.125	1.42	1.24	12.8	YES	NO	bb	bb	0.173
4	1234679-HPCDD	39.25	1.964e3	1.903e3	1.211	1.03	1.05	51.5	YES	NO	bb	bb	1.083
5	OCDD	45.05	1.230e4	1.288e4	1.181	0.95	0.89	88.1	YES	NO	bd	bb	10.256
6	1234678-HpCDD	40.29	1.790e3	1.660e3	1.068	1.08	1.05	49.1	YES	NO	bb	bb	1.095

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.19	5.041e3	5.702e3	1.192	0.88	0.77	57.9	YES	NO	dd	dd	1.108
2	Total-tetrafurans	24.08	3.901e3	5.170e3	1.192	0.75	0.77	54.2	YES	NO	dd	dd	0.936
3	Total-tetrafurans	24.02	4.761e3	6.563e3	1.192	0.73	0.77	61.8	YES	NO	dd	dd	1.168
4	Total-tetrafurans	23.87	1.055e4	1.461e4	1.192	0.72	0.77	145.2	YES	NO	dd	dd	2.596
5	Total-tetrafurans	23.54	8.701e2	1.159e3	1.192	0.75	0.77	11.1	YES	NO	bb	bb	0.209
6	1368-TCDF	22.40	5.564e3	7.176e3	1.425	0.78	0.77	71.9	YES	NO	bd	dd	1.099
7	Total-Furans	21.81	4.416e2	5.205e2	1.158	0.85	0.77	5.1	YES	NO	dd	dd	0.102
8	Total-Furans	21.65	3.770e3	4.922e3	1.158	0.77	0.77	52.3	YES	NO	bd	bd	0.923
9	Total-Furans	21.15	1.037e4	1.337e4	1.158	0.78	0.77	129.4	YES	NO	bd	bb	2.521
10	1289-TCDF	27.36	2.243e4	3.003e4	1.043	0.75	0.77	285.0	YES	NO	bd	bd	6.185
11	Total-tetrafurans	26.89	3.327e3	4.016e3	1.192	0.83	0.77	37.8	YES	NO	dd	bd	0.757
12	Total-tetrafurans	25.94	3.014e3	3.799e3	1.192	0.79	0.77	40.6	YES	NO	db	db	0.703
13	Total-tetrafurans	25.87	5.860e3	7.736e3	1.192	0.76	0.77	72.2	YES	NO	dd	dd	1.403
14	Total-tetrafurans	25.59	7.435e2	8.905e2	1.192	0.83	0.77	9.5	YES	NO	db	db	0.169
15	Total-tetrafurans	25.44	6.084e3	8.372e3	1.192	0.73	0.77	58.4	YES	NO	dd	dd	1.491
16	Total-tetrafurans	25.08	1.570e3	2.009e3	1.192	0.78	0.77	11.2	YES	NO	bd	dd	0.369
17	Total-tetrafurans	24.69	6.362e2	7.384e2	1.192	0.86	0.77	8.3	YES	NO	db	db	0.142
18	Total-tetrafurans	24.61	1.514e3	2.202e3	1.192	0.69	0.77	16.3	YES	NO	dd	dd	0.383
19	Total-tetrafurans	24.42	2.278e4	3.268e4	1.192	0.70	0.77	257.7	YES	NO	dd	dd	5.722
20	Total-Furans	28.06	1.549e3	2.110e3	1.158	0.73	0.77	20.6	YES	NO	bb	bb	0.388
21	Total-Furans	27.85	4.961e3	6.945e3	1.158	0.71	0.77	62.5	YES	NO	db	db	1.264
22	Total-pentafurans	28.47	4.981e3	3.271e3	1.047	1.52	1.55	77.5	YES	NO	db	db	1.158
23	Total-pentafurans	28.38	3.821e3	2.469e3	1.047	1.55	1.55	54.2	YES	NO	bd	bd	0.883
24	Total-pentafurans	28.16	1.079e3	7.260e2	1.047	1.49	1.55	19.6	YES	NO	bb	bb	0.253
25	Total-pentafurans	31.22	2.658e3	1.956e3	1.047	1.36	1.55	31.7	YES	NO	bb	bb	0.647
26	Total-pentafurans	30.74	9.726e2	6.241e2	1.047	1.56	1.55	12.7	YES	NO	bb	bb	0.224
27	Total-pentafurans	30.30	1.853e3	1.107e3	1.047	1.67	1.55	20.3	YES	NO	db	db	0.415
28	Total-pentafurans	29.39	9.286e2	5.504e2	1.047	1.69	1.55	13.9	YES	NO	bb	bb	0.207
29	Total-pentafurans	29.06	8.848e2	5.973e2	1.047	1.48	1.55	12.4	YES	NO	bd	bb	0.208
30	123789-HxCDF	36.95	2.118e3	1.852e3	1.030	1.14	1.24	43.4	YES	NO	db	db	0.742
31	Total-hexafurans	34.28	2.396e2	1.714e2	1.045	1.40	1.24	5.6	YES	NO	bb	bb	0.064
32	Total-heptafurans	40.74	1.158e3	1.177e3	1.305	0.98	1.05	26.4	YES	NO	bb	bb	0.529
33	Total-heptafurans	39.45	4.853e2	4.564e2	1.305	1.06	1.05	11.5	YES	NO	bb	bb	0.213
34	1234678-HpCDF	38.80	3.537e2	3.510e2	1.327	1.01	1.05	11.5	YES	NO	bb	bb	0.140
35	13468-PECDF	27.06	2.933e3	1.766e3	1.376	1.66	1.55	45.7	YES	NO	bd	bb	0.489
36	Total-pentadioxins	32.24	3.527e2	2.281e2	1.331	1.55	1.55	11.9	YES	NO	bd	bb	0.103
37	Total-hexadioxins	35.26	3.992e2	3.367e2	1.028	1.19	1.24	8.3	YES	NO	bb	bb	0.132

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	124679-HXCDD	34.02	6.105e2	4.300e2	1.125	1.42	1.24	12.8	YES	NO	bb	bb	0.173
39	1234679-HPCDD	39.25	1.964e3	1.903e3	1.211	1.03	1.05	51.5	YES	NO	bb	bb	1.083
40	OCDD	45.05	1.230e4	1.288e4	1.181	0.95	0.89	88.1	YES	NO	bd	bb	10.256
41	1234678-HpCDD	40.29	1.790e3	1.660e3	1.068	1.08	1.05	49.1	YES	NO	bb	bb	1.095

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.43	2.792e4					1.8	NO		bd		
2	FUNCTION1 PFK	22.30	2.708e4					1.5	NO		db		
3	FUNCTION1 PFK	22.19	5.675e4					2.5	NO		bd		
4	FUNCTION1 PFK	22.06	2.628e4					1.4	NO		db		
5	FUNCTION1 PFK	21.98	2.682e4					1.5	NO		bd		
6	FUNCTION1 PFK	21.78	3.466e3					0.7	NO		bb		
7	FUNCTION1 PFK	21.68	4.531e3					0.6	NO		bb		
8	FUNCTION1 PFK	21.60	1.251e3					0.3	NO		bb		
9	FUNCTION1 PFK	21.45	1.598e4					1.1	NO		db		
10	FUNCTION1 PFK	21.39	3.195e4					2.0	NO		dd		
11	FUNCTION1 PFK	21.33	3.736e4					2.8	NO		bd		
12	FUNCTION1 PFK	21.24	2.214e4					1.3	NO		bb		
13	FUNCTION1 PFK	21.12	1.132e4					1.0	NO		bb		
14	FUNCTION1 PFK	24.37	2.365e4					1.2	NO		bd		
15	FUNCTION1 PFK	24.07	4.958e4					1.8	NO		db		
16	FUNCTION1 PFK	24.01	1.868e4					1.2	NO		bd		
17	FUNCTION1 PFK	23.90	2.667e4					2.2	NO		db		
18	FUNCTION1 PFK	23.84	2.388e4					2.0	NO		dd		
19	FUNCTION1 PFK	23.80	3.068e4					2.2	NO		bd		
20	FUNCTION1 PFK	23.70	2.734e4					1.5	NO		bb		
21	FUNCTION1 PFK	23.51	1.588e4					1.1	NO		db		
22	FUNCTION1 PFK	23.42	3.741e4					1.6	NO		bd		
23	FUNCTION1 PFK	23.28	1.569e4					1.0	NO		bb		
24	FUNCTION1 PFK	23.07	9.990e3					0.8	NO		db		
25	FUNCTION1 PFK	23.02	7.031e3					0.7	NO		bd		
26	FUNCTION1 PFK	22.92	1.057e4					0.9	NO		bb		
27	FUNCTION1 PFK	22.65	2.287e4					1.5	NO		bb		
28	FUNCTION1 PFK	22.57	8.803e3					0.9	NO		db		
29	FUNCTION1 PFK	22.51	1.602e4					1.4	NO		dd		
30	FUNCTION1 PFK	27.54	4.796e4					1.9	NO		dd		
31	FUNCTION1 PFK	27.44	2.856e4					1.5	NO		dd		
32	FUNCTION1 PFK	27.21	5.484e4					1.6	NO		bd		
33	FUNCTION1 PFK	26.89	6.549e3					0.8	NO		bb		
34	FUNCTION1 PFK	26.83	1.284e4					1.3	NO		db		
35	FUNCTION1 PFK	26.79	2.055e4					1.2	NO		bd		
36	FUNCTION1 PFK	26.20	5.974e3					0.6	NO		bb		
37	FUNCTION1 PFK	25.84	1.973e4					1.3	NO		db		

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	25.79	8.450e3					0.8	NO		bd		
39	FUNCTION1 PFK	25.56	1.855e4					1.2	NO		bb		
40	FUNCTION1 PFK	25.44	1.941e4					1.1	NO		bb		
41	FUNCTION1 PFK	25.25	5.064e4					1.8	NO		db		
42	FUNCTION1 PFK	25.13	1.005e4					0.8	NO		bd		
43	FUNCTION1 PFK	24.66	2.197e4					1.1	NO		bb		
44	FUNCTION1 PFK	24.54	1.093e4					0.9	NO		db		
45	FUNCTION1 PFK	24.49	1.836e4					0.8	NO		dd		
46	FUNCTION1 PFK	27.94	2.466e4					1.6	NO		db		
47	FUNCTION1 PFK	27.85	3.923e4					2.1	NO		dd		
48	FUNCTION1 PFK	27.77	2.535e4					1.7	NO		dd		
49	FUNCTION1 PFK	27.68	2.796e4					1.9	NO		bd		
50	FUNCTION1 PFK	27.59	1.797e4					1.3	NO		db		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.72	4.333e3					1.2	NO		bb		0.000
2	FUNCTION2 PFK	32.19	7.243e3					1.5	NO		bb		0.000
3	FUNCTION2 PFK	31.38	1.250e4					2.1	NO		bb		0.000
4	FUNCTION2 PFK	30.80	8.320e3					1.7	NO		bb		0.000
5	FUNCTION2 PFK	28.41	4.424e4					4.0	YES		bb		0.000
6	FUNCTION2 PFK	28.36	4.904e3					1.6	NO		db		0.000
7	FUNCTION2 PFK	28.33	1.259e4					2.1	NO		dd		0.000
8	FUNCTION2 PFK	28.28	1.177e4					2.4	NO		bd		0.000

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.07	1.954e3					0.7	NO		bb		0.000
2	FUNCTION3 PFK	35.49	8.399e3					1.4	NO		bb		0.000
3	FUNCTION3 PFK	35.38	1.860e4					1.1	NO		bb		0.000
4	FUNCTION3 PFK	35.19	5.703e3					0.9	NO		db		0.000
5	FUNCTION3 PFK	35.06	4.385e4					1.9	NO		bd		0.000
6	FUNCTION3 PFK	34.73	2.104e4					1.9	NO		bb		0.000
7	FUNCTION3 PFK	34.53	1.441e4					1.3	NO		bb		0.000
8	FUNCTION3 PFK	34.41	8.336e3					1.1	NO		bb		0.000
9	FUNCTION3 PFK	33.90	2.419e3					0.8	NO		bb		0.000
10	FUNCTION3 PFK	33.85	1.179e4					1.8	NO		db		0.000
11	FUNCTION3 PFK	33.81	1.386e4					1.7	NO		bd		0.000
12	FUNCTION3 PFK	33.63	5.797e4					2.2	NO		bb		0.000
13	FUNCTION3 PFK	33.57	8.295e3					1.1	NO		db		0.000
14	FUNCTION3 PFK	33.53	1.965e4					1.5	NO		dd		0.000
15	FUNCTION3 PFK	33.46	2.829e3					0.7	NO		bd		0.000
16	FUNCTION3 PFK	33.40	1.393e4					1.9	NO		bb		0.000
17	FUNCTION3 PFK	33.34	6.288e3					0.9	NO		bb		0.000
18	FUNCTION3 PFK	37.88	1.545e3					0.4	NO		bb		0.000
19	FUNCTION3 PFK	37.78	5.889e3					1.0	NO		bb		0.000
20	FUNCTION3 PFK	37.44	5.728e3					0.9	NO		bb		0.000
21	FUNCTION3 PFK	37.34	1.706e4					1.9	NO		bb		0.000
22	FUNCTION3 PFK	37.28	2.281e3					0.6	NO		bb		0.000
23	FUNCTION3 PFK	37.13	4.816e3					0.9	NO		bb		0.000
24	FUNCTION3 PFK	36.87	6.597e3					1.3	NO		bb		0.000
25	FUNCTION3 PFK	36.83	2.464e3					0.6	NO		bb		0.000
26	FUNCTION3 PFK	36.66	4.268e4					2.1	NO		db		0.000
27	FUNCTION3 PFK	36.55	1.888e4					1.3	NO		bd		0.000
28	FUNCTION3 PFK	36.23	2.709e4					1.7	NO		bb		0.000
29	FUNCTION3 PFK	36.09	1.296e4					1.7	NO		db		0.000
30	FUNCTION3 PFK	36.03	2.594e4					2.1	NO		bd		0.000
31	FUNCTION3 PFK	35.96	1.119e4					1.7	NO		db		0.000
32	FUNCTION3 PFK	35.91	1.087e4					1.3	NO		bd		0.000
33	FUNCTION3 PFK	35.77	1.003e4					1.2	NO		bb		0.000

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.56	2.870e4					3.2	YES		db		
2	FUNCTION4 PFK	40.48	5.961e3					1.7	NO		bd		
3	FUNCTION4 PFK	40.07	1.105e4					2.1	NO		db		
4	FUNCTION4 PFK	40.04	7.300e3					1.9	NO		bd		
5	FUNCTION4 PFK	39.96	1.045e4					2.1	NO		bb		
6	FUNCTION4 PFK	39.68	6.313e2					0.4	NO		bb		
7	FUNCTION4 PFK	39.35	7.184e3					1.2	NO		db		
8	FUNCTION4 PFK	39.23	1.897e4					2.6	NO		bd		
9	FUNCTION4 PFK	39.18	7.335e3					1.7	NO		bb		
10	FUNCTION4 PFK	39.11	1.842e3					0.9	NO		bb		
11	FUNCTION4 PFK	38.71	5.019e3					1.5	NO		bb		
12	FUNCTION4 PFK	38.48	1.760e3					0.7	NO		bb		
13	FUNCTION4 PFK	38.33	1.506e3					0.7	NO		bb		
14	FUNCTION4 PFK	38.22	2.108e3					0.7	NO		bb		
15	FUNCTION4 PFK	38.03	7.708e3					0.9	NO		bb		
16	FUNCTION4 PFK	42.90	2.132e3					0.9	NO		bb		
17	FUNCTION4 PFK	42.67	4.413e3					1.2	NO		bb		
18	FUNCTION4 PFK	42.57	7.431e3					1.2	NO		db		
19	FUNCTION4 PFK	42.55	3.933e3					1.4	NO		bd		
20	FUNCTION4 PFK	42.45	1.024e4					2.0	NO		bb		
21	FUNCTION4 PFK	42.34	1.033e4					2.0	NO		bb		
22	FUNCTION4 PFK	42.15	6.885e2					0.5	NO		bb		
23	FUNCTION4 PFK	42.11	4.090e3					1.4	NO		bb		
24	FUNCTION4 PFK	41.63	1.005e4					1.9	NO		bb		
25	FUNCTION4 PFK	41.59	7.681e2					0.5	NO		bb		
26	FUNCTION4 PFK	41.31	2.410e3					0.9	NO		bb		
27	FUNCTION4 PFK	41.21	2.475e3					1.1	NO		db		
28	FUNCTION4 PFK	41.16	1.254e4					1.7	NO		bd		
29	FUNCTION4 PFK	40.98	1.625e3					0.7	NO		bb		
30	FUNCTION4 PFK	40.71	1.662e4					2.7	NO		db		
31	FUNCTION4 PFK	40.66	2.024e4					3.9	YES		bd		
32	FUNCTION4 PFK	42.96	2.949e3					0.8	NO		bb		

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.55	2.952e3					1.5	NO		bb		
2	FUNCTION5 PFK	43.11	1.217e4					3.3	YES		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.89	9.367e1					2.7	NO		bb		0.000
2	FUNCTION1 HXCD...	27.53	2.297e2					5.3	YES		bb		0.000
3	FUNCTION1 HXCD...	26.99	1.190e2					4.0	YES		bb		0.000
4	FUNCTION1 HXCD...	26.77	3.103e2					6.7	YES		bb		0.000
5	FUNCTION1 HXCD...	26.43	1.564e2					4.0	YES		db		0.000
6	FUNCTION1 HXCD...	26.32	1.330e2					4.2	YES		bd		0.000
7	FUNCTION1 HXCD...	26.23	8.046e1					2.7	NO		bb		0.000
8	FUNCTION1 HXCD...	25.90	1.003e2					2.5	NO		bb		0.000
9	FUNCTION1 HXCD...	25.34	2.348e2					4.8	YES		bb		0.000
10	FUNCTION1 HXCD...	22.95	1.076e2					2.5	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.74	7.040e1					1.8	NO		db		0.000
2	FUNCTION1 HPCD...	26.59	8.258e1					1.9	NO		bd		0.000
3	FUNCTION1 HPCD...	25.88	7.014e1					1.6	NO		bb		0.000
4	FUNCTION1 HPCD...	21.89	7.083e1					1.7	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.93	2.193e2					9.8	YES		bb		0.000
2	FUNCTION3 OCDPE	35.81	7.706e1					5.1	YES		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.42	2.352e4					601.5	YES		bb		0.000

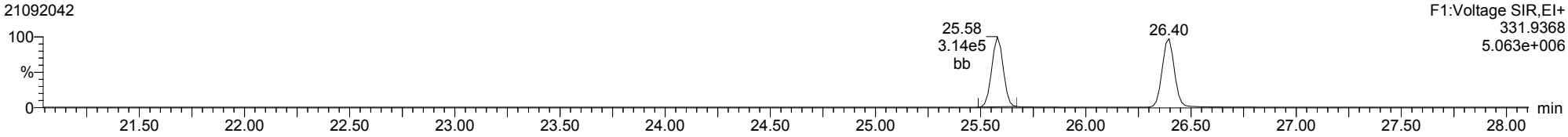
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.43	1.004e2					2.6	NO		db		0.000
2	FUNCTION5 DCDPE	44.39	7.332e1					1.6	NO		bd		0.000
3	FUNCTION5 DCDPE	44.22	8.632e1					1.6	NO		bb		0.000
4	FUNCTION5 DCDPE	43.62	1.706e2					4.6	YES		bb		0.000
5	FUNCTION5 DCDPE	43.09	1.085e2					4.0	YES		bb		0.000
6	FUNCTION5 DCDPE	45.47	1.036e2					3.1	YES		bb		0.000
7	FUNCTION5 DCDPE	45.39	1.237e2					2.9	NO		db		0.000
8	FUNCTION5 DCDPE	45.28	1.436e2					1.6	NO		dd		0.000
9	FUNCTION5 DCDPE	45.22	7.850e1					2.3	NO		dd		0.000
10	FUNCTION5 DCDPE	45.17	3.051e2					7.9	YES		dd		0.000
11	FUNCTION5 DCDPE	45.10	4.300e2					5.6	YES		dd		0.000
12	FUNCTION5 DCDPE	45.05	3.712e2					6.8	YES		dd		0.000
13	FUNCTION5 DCDPE	45.00	2.382e2					4.1	YES		dd		0.000
14	FUNCTION5 DCDPE	44.94	1.867e2					4.1	YES		dd		0.000
15	FUNCTION5 DCDPE	44.90	2.855e2					7.4	YES		dd		0.000
16	FUNCTION5 DCDPE	44.83	2.172e2					4.1	YES		dd		0.000
17	FUNCTION5 DCDPE	44.75	1.159e2					1.9	NO		bd		0.000
18	FUNCTION5 DCDPE	44.59	1.591e2					1.7	NO		bb		0.000

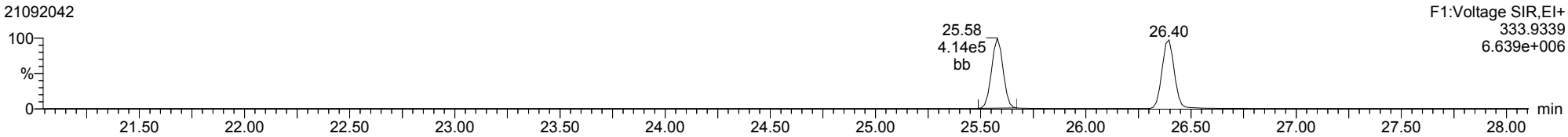
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

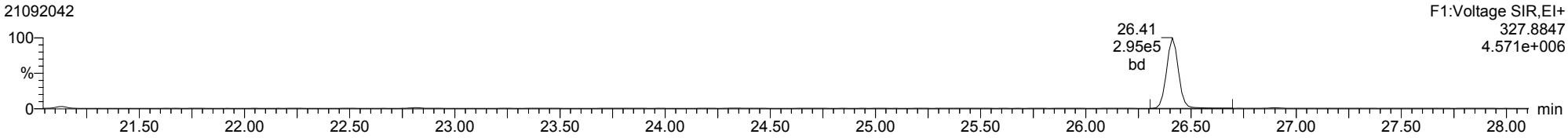
13C-1234-TCDD



13C-1234-TCDD

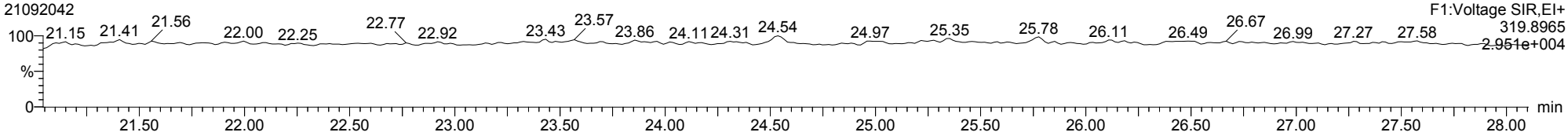


37CL-2378-TCDD

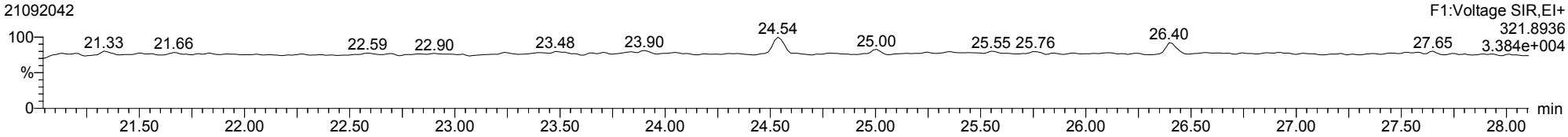


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

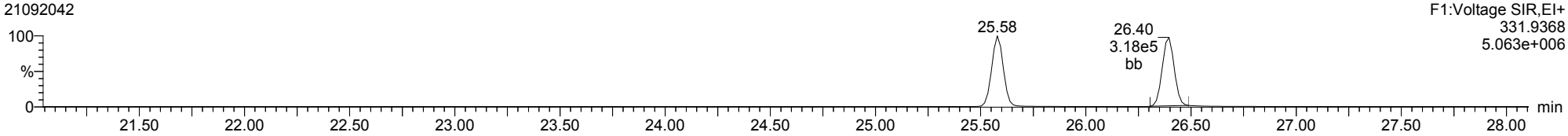
2378-TCDD



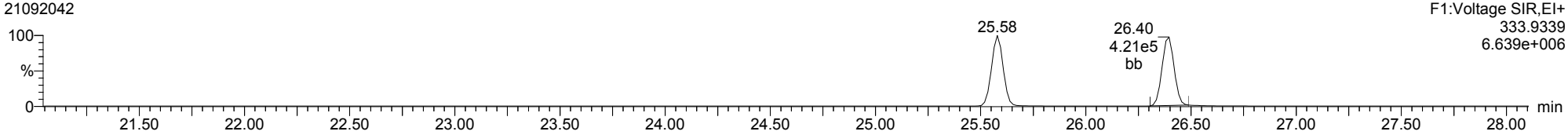
2378-TCDD



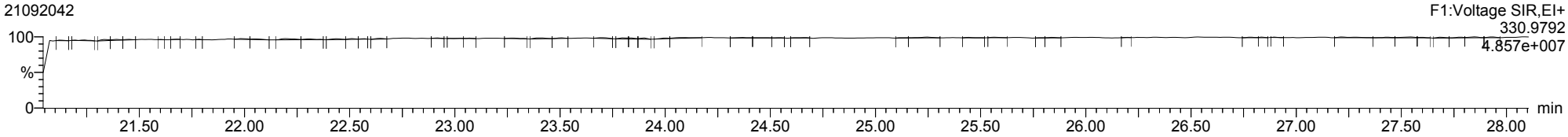
13C-2378-TCDD



13C-2378-TCDD

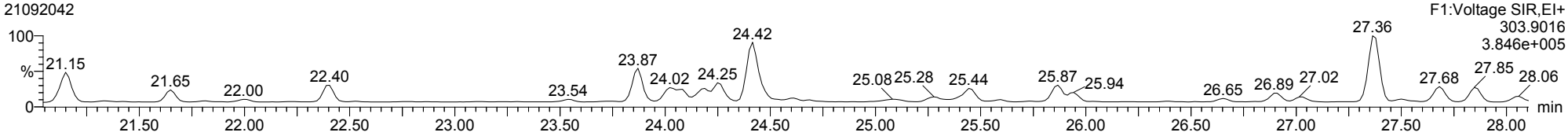


FUNCTION1 PFK

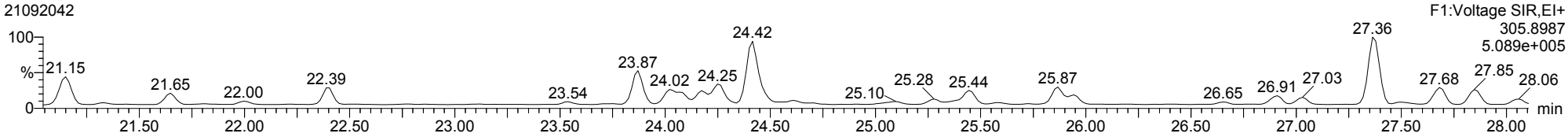


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

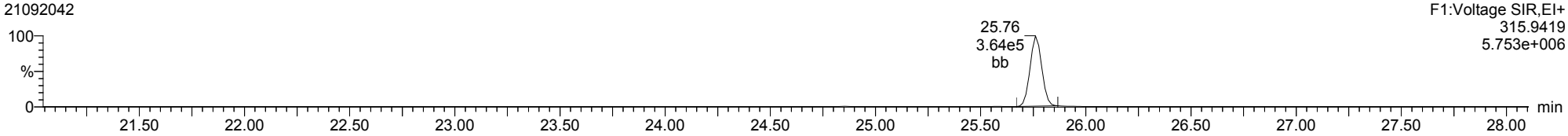
2378-TCDF



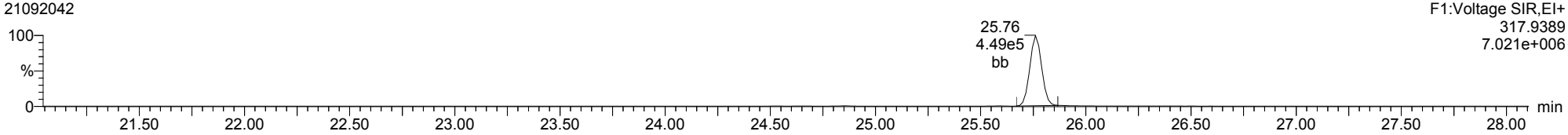
2378-TCDF



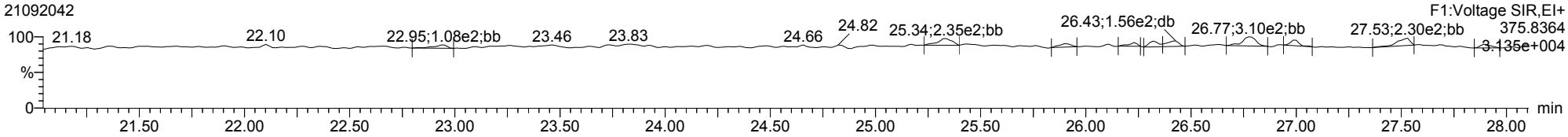
13C-2378-TCDF



13C-2378-TCDF

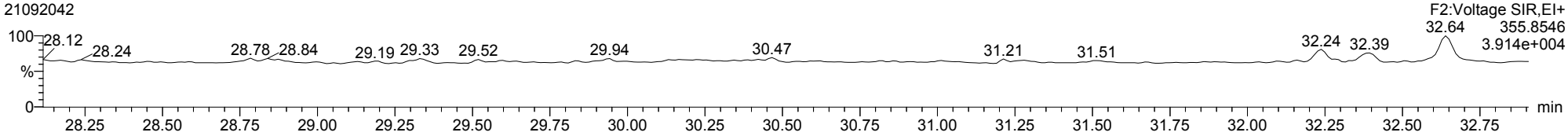


FUNCTION1 HXCDPE

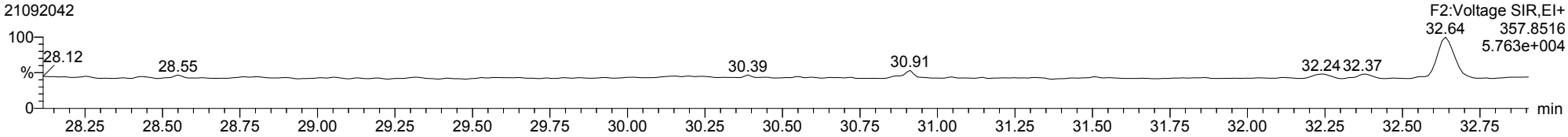


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

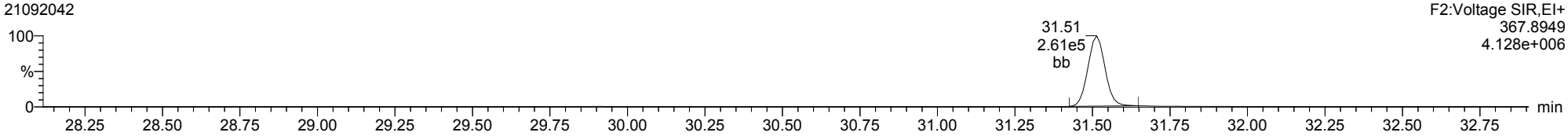
12378-PeCDD



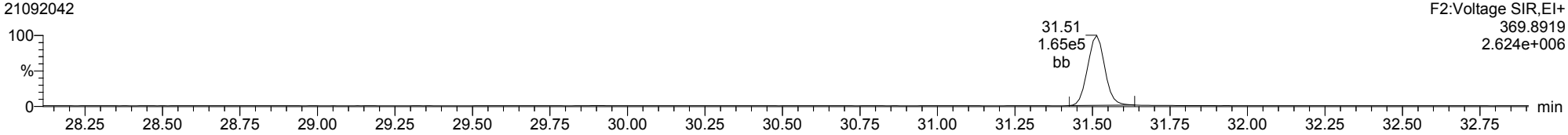
12378-PeCDD



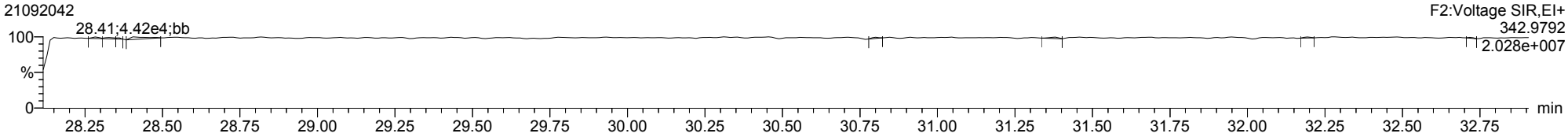
13C-12378-PeCDD



13C-12378-PeCDD

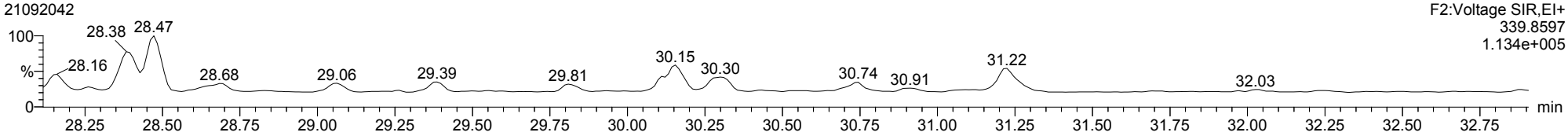


FUNCTION2 PFK

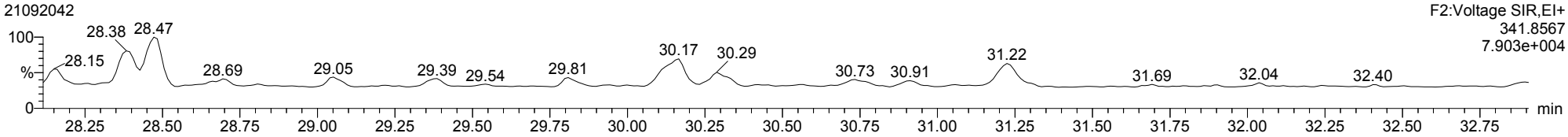


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

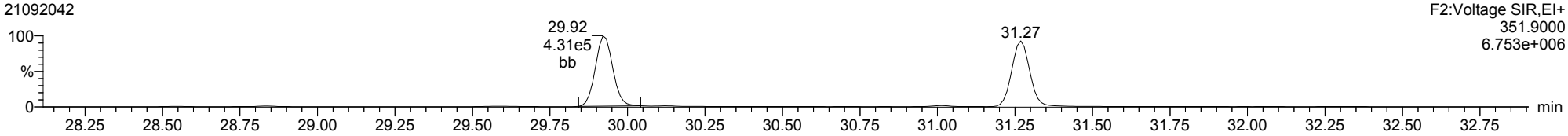
12378-PeCDF



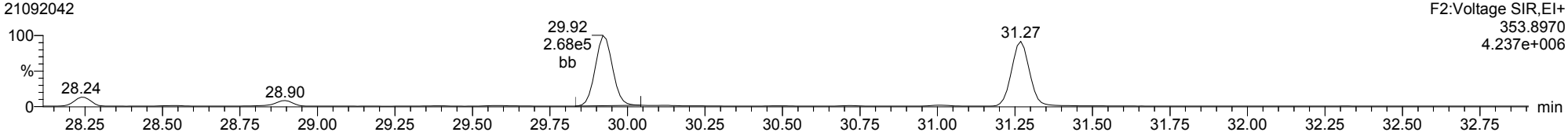
12378-PeCDF



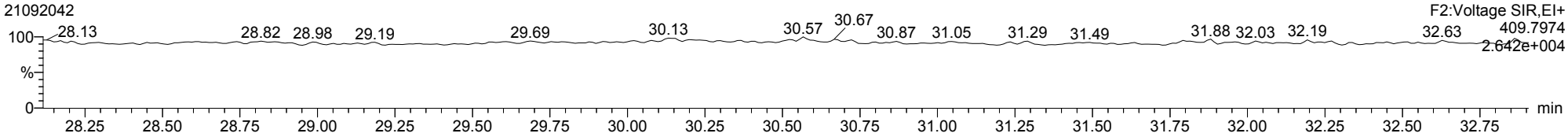
13C-12378-PeCDF



13C-12378-PeCDF

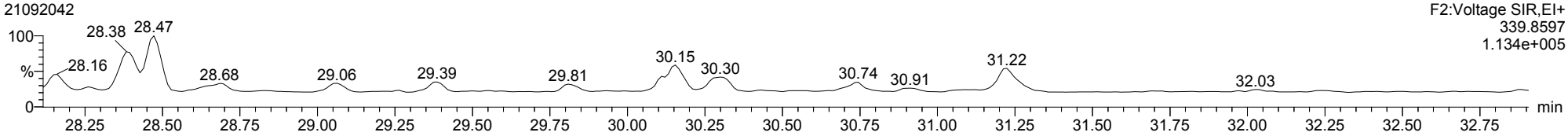


FUNCTION2 HPCDPE

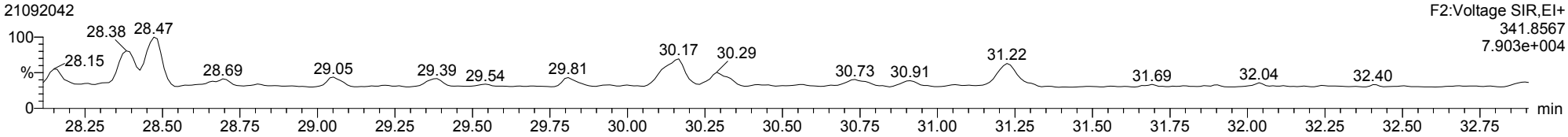


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

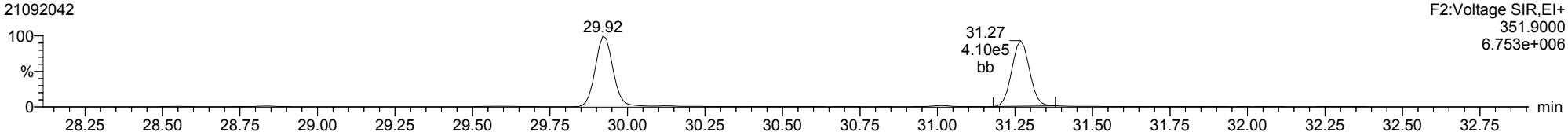
23478-PeCDF



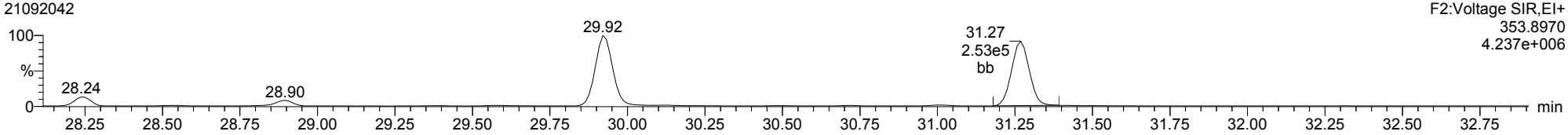
23478-PeCDF



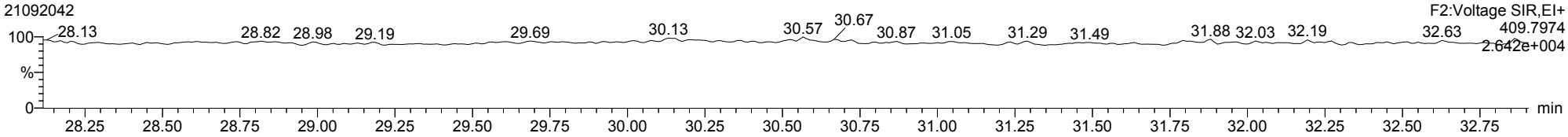
13C-23478-PeCDF



13C-23478-PeCDF

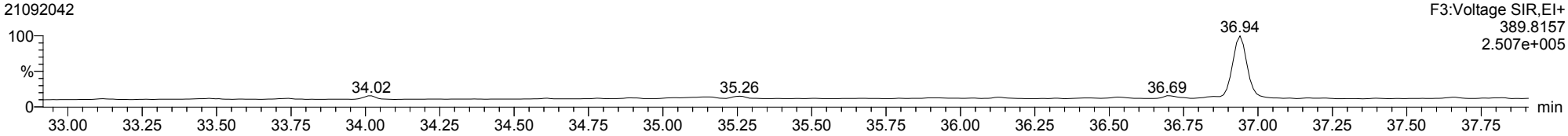


FUNCTION2 HPCDPE

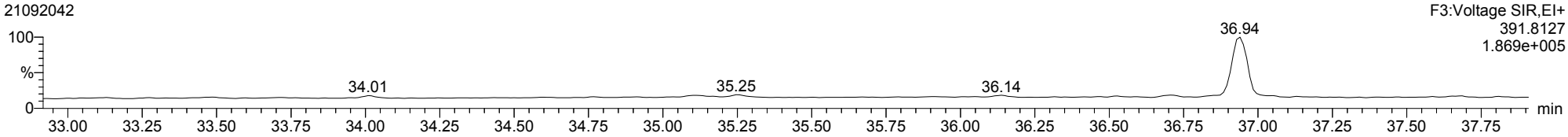


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

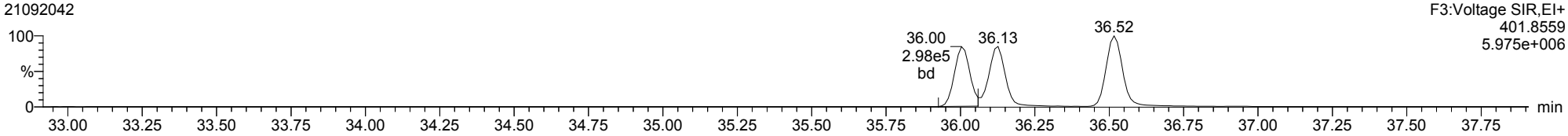
123478-HxCDD



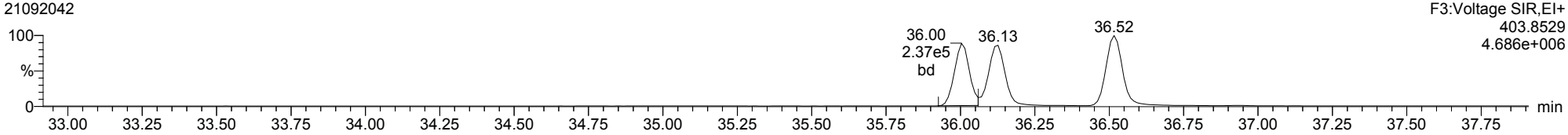
123478-HxCDD



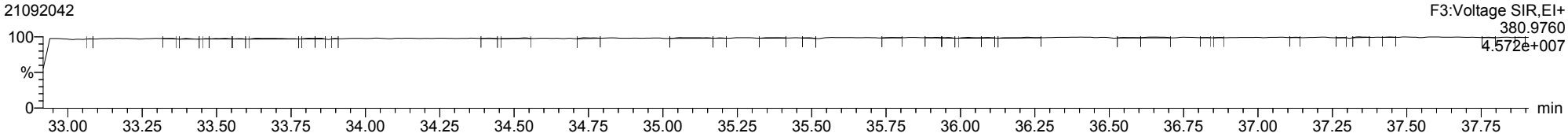
13C-123478-HxCDD



13C-123478-HxCDD

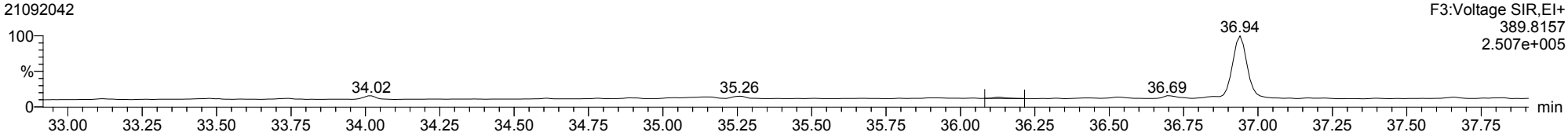


FUNCTION3 PFK

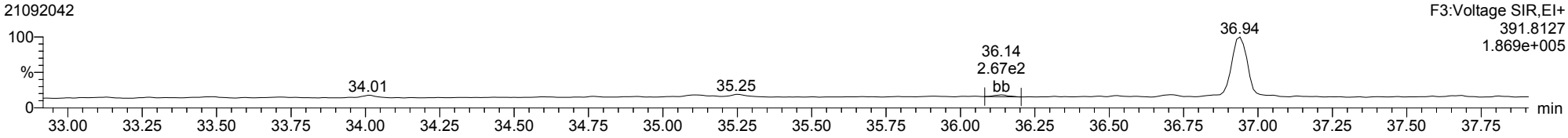


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

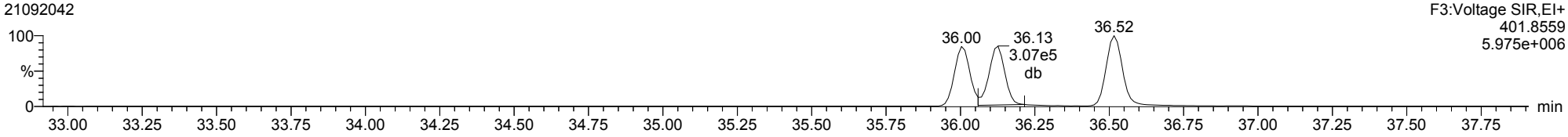
123678-HxCDD



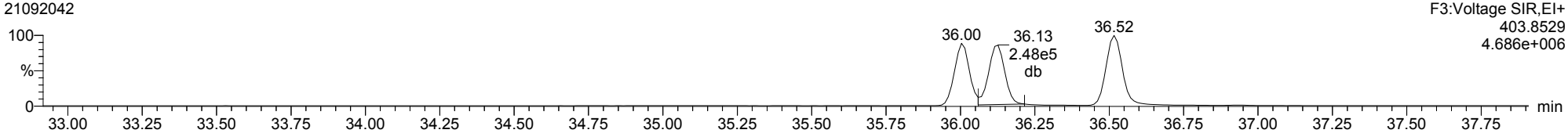
123678-HxCDD



13C-123678-HxCDD

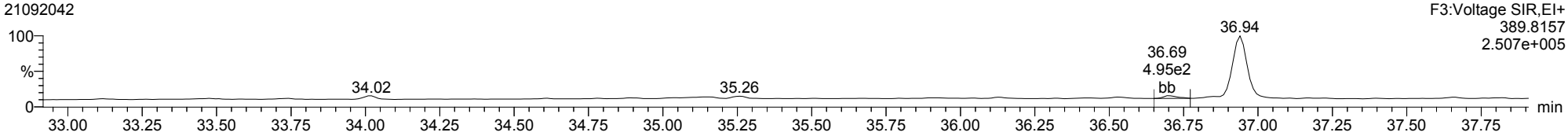


13C-123678-HxCDD

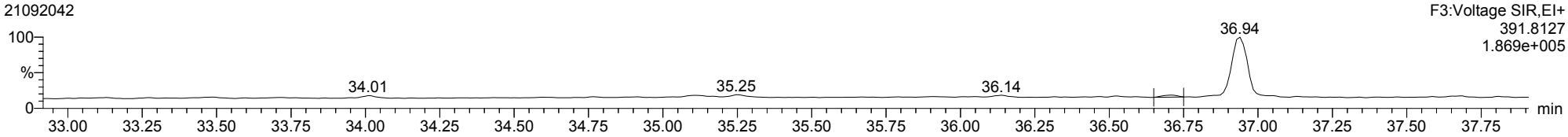


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

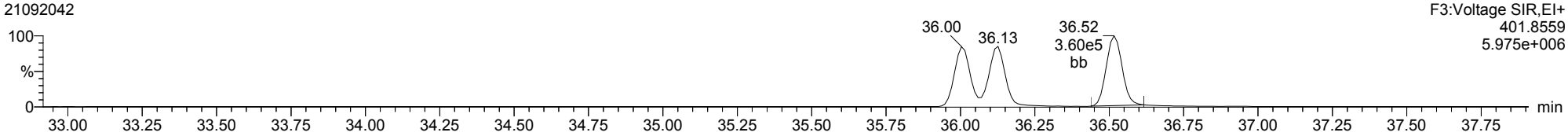
123789-HxCDD



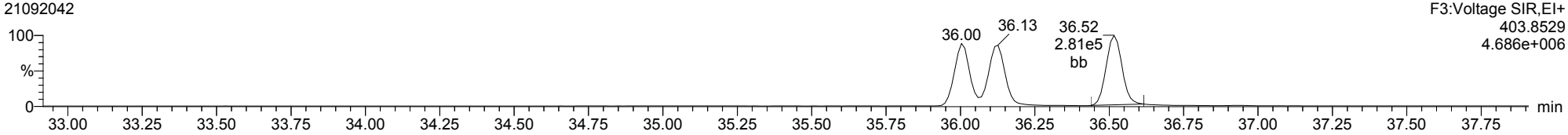
123789-HxCDD



13C-123789-HxCDD

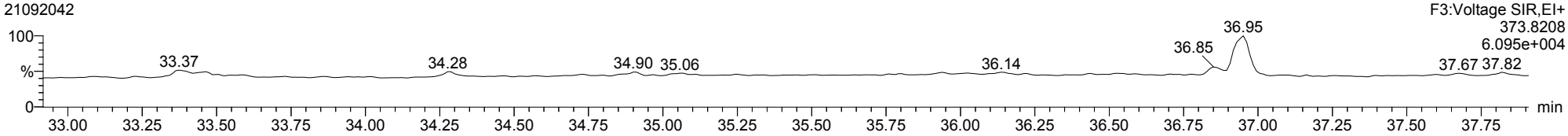


13C-123789-HxCDD

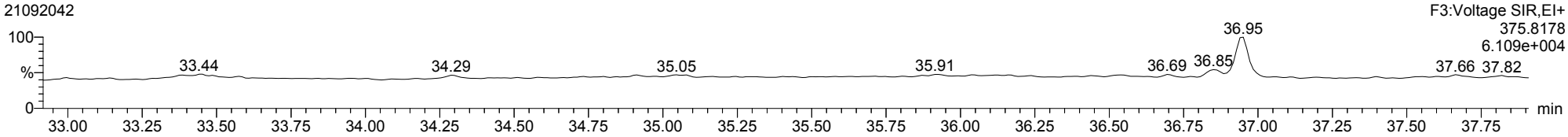


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

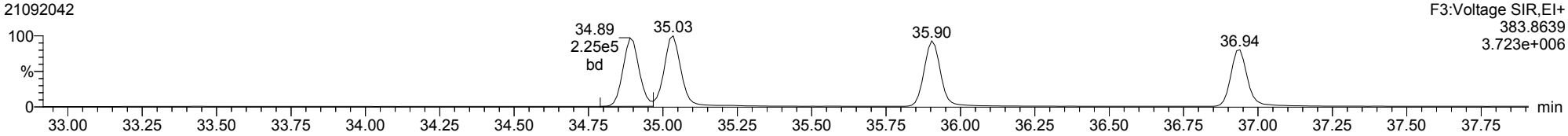
123478-HxCDF



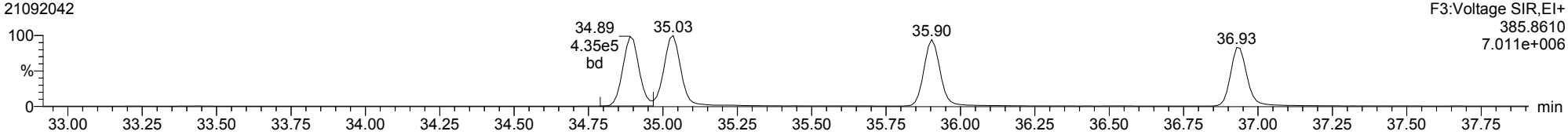
123478-HxCDF



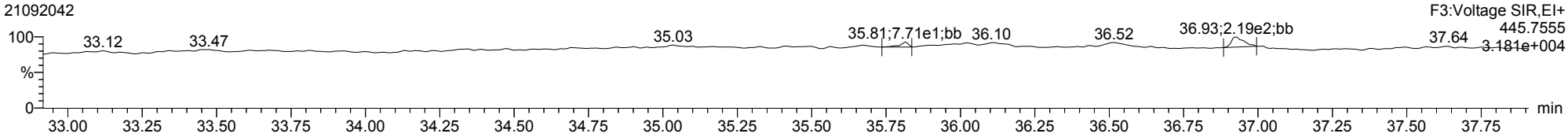
13C-123478-HxCDF



13C-123478-HxCDF

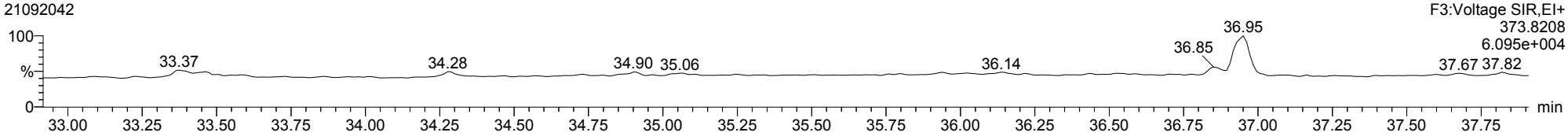


FUNCTION3 OCDPE

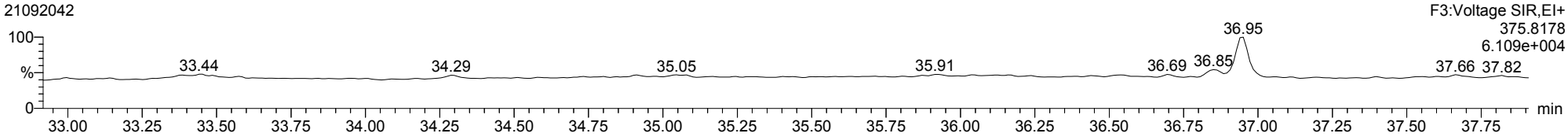


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

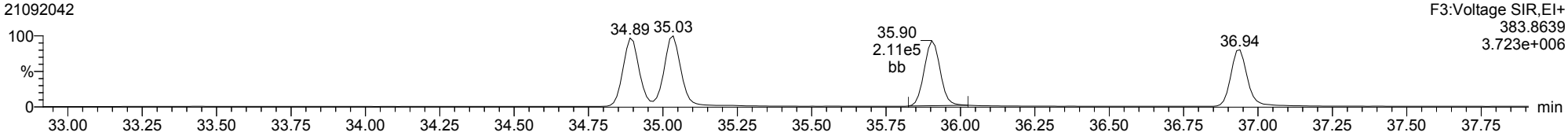
234678-HxCDF



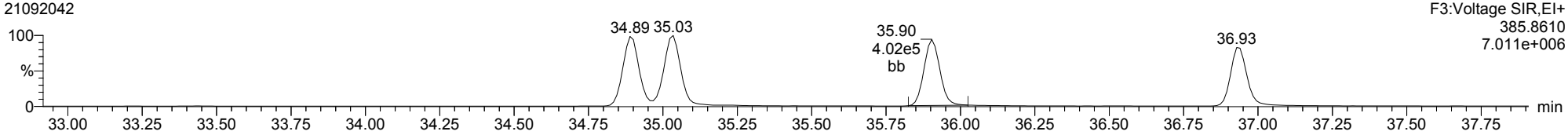
234678-HxCDF



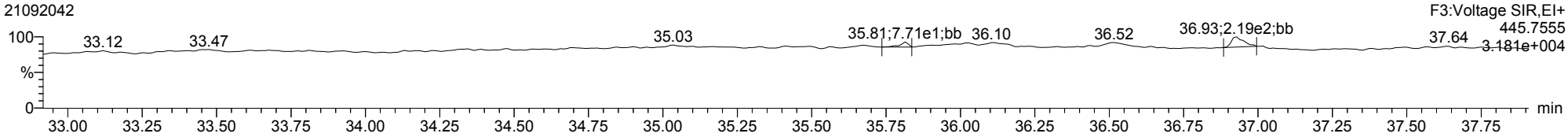
13C-234678-HxCDF



13C-234678-HxCDF

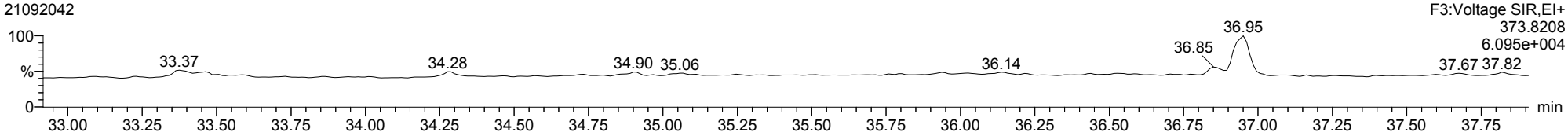


FUNCTION3 OCDPE

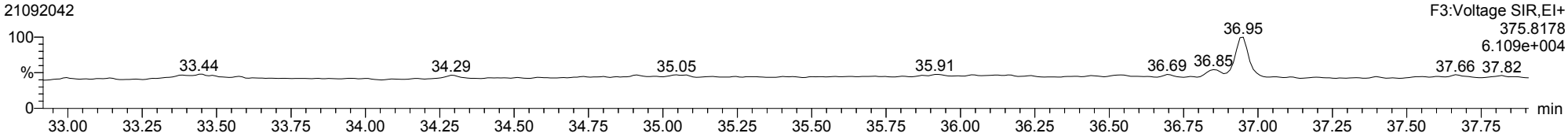


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

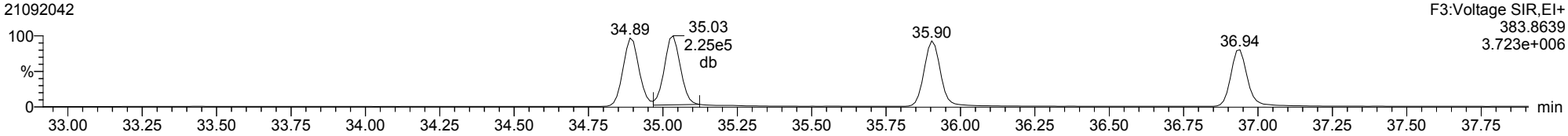
123678-HxCDF



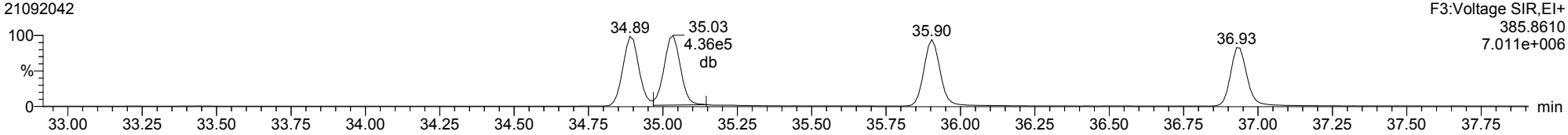
123678-HxCDF



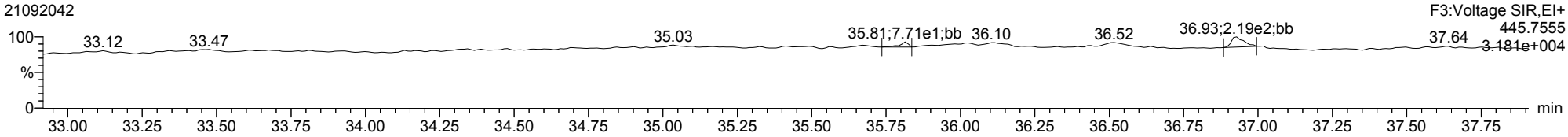
13C-123678-HxCDF



13C-123678-HxCDF



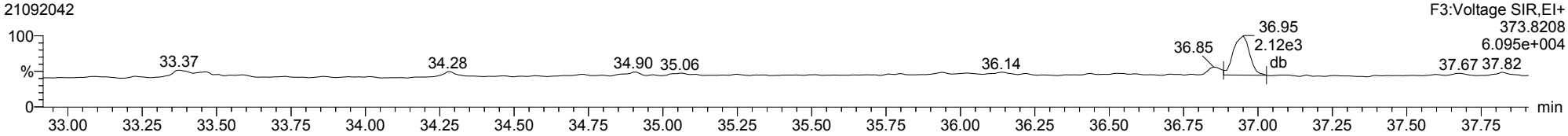
FUNCTION3 OCDPE



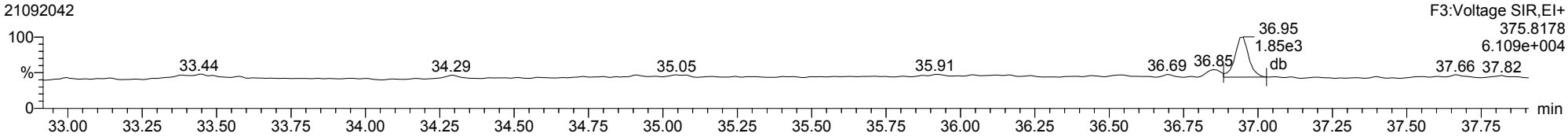
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

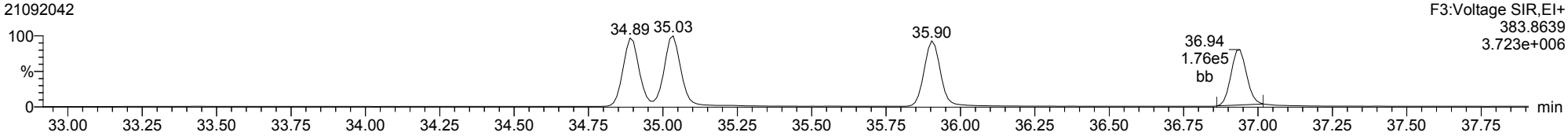
123789-HxCDF



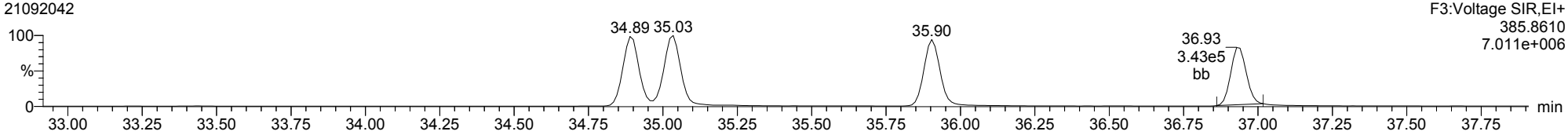
123789-HxCDF



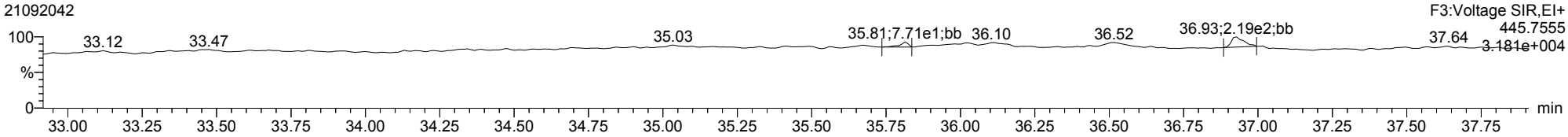
13C-123789-HxCDF



13C-123789-HxCDF

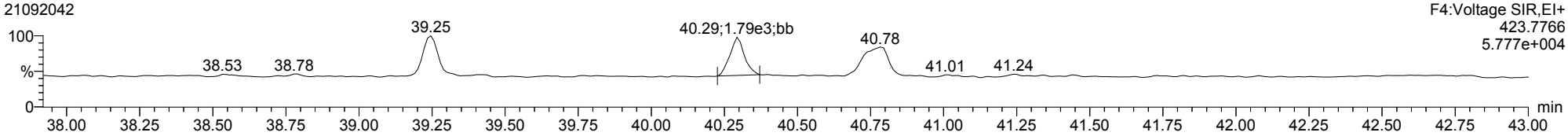


FUNCTION3 OCDPE

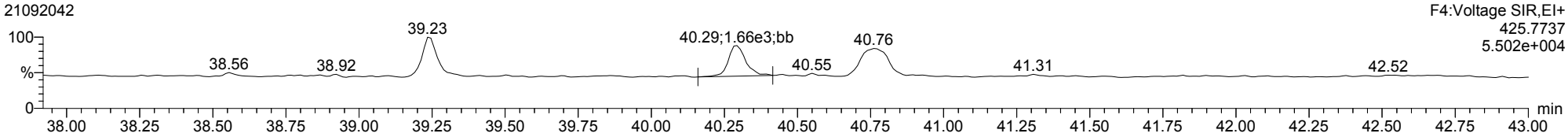


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

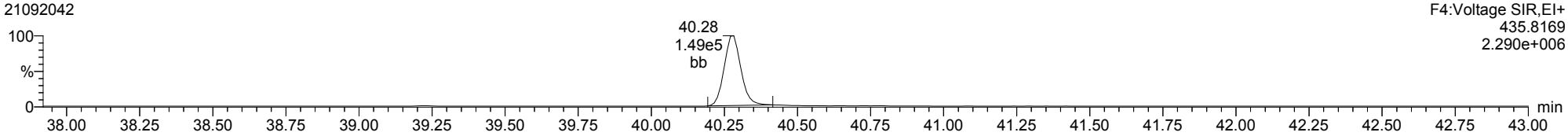
1234678-HpCDD



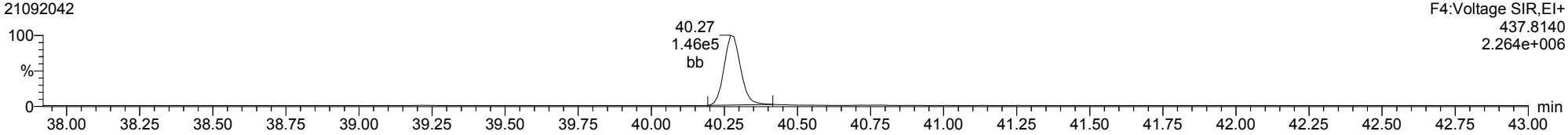
1234678-HpCDD



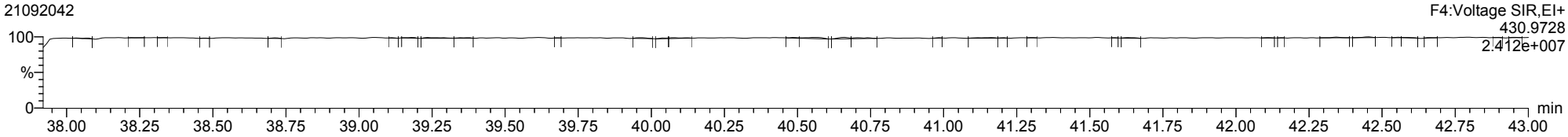
13C-1234678-HpCDD



13C-1234678-HpCDD

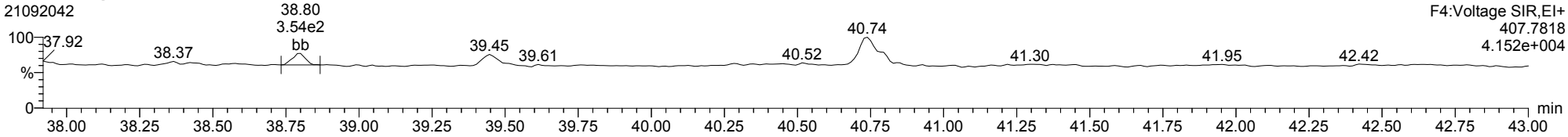


FUNCTION4 PFK

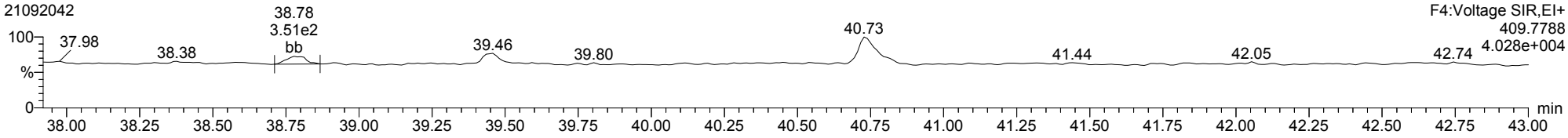


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

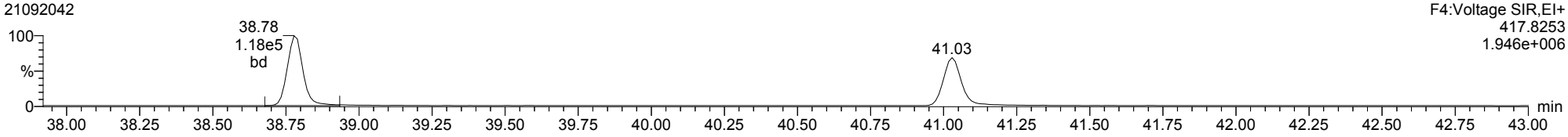
1234678-HpCDF



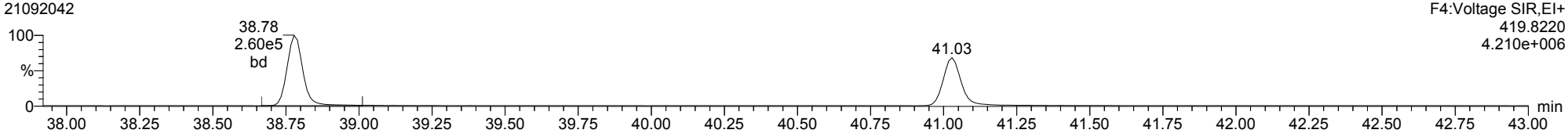
1234678-HpCDF



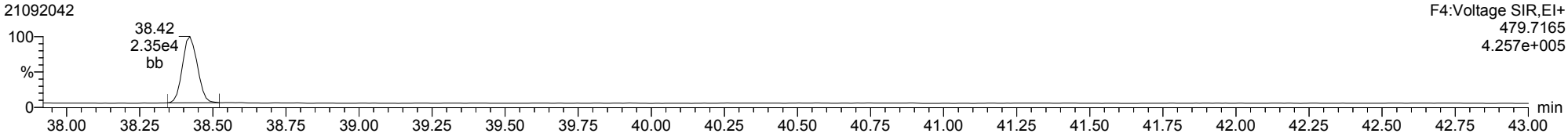
13C-1234678-HpCDF



13C-1234678-HpCDF

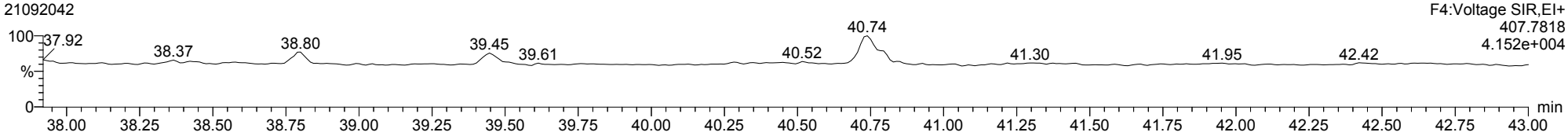


FUNCTION4 NCDPE

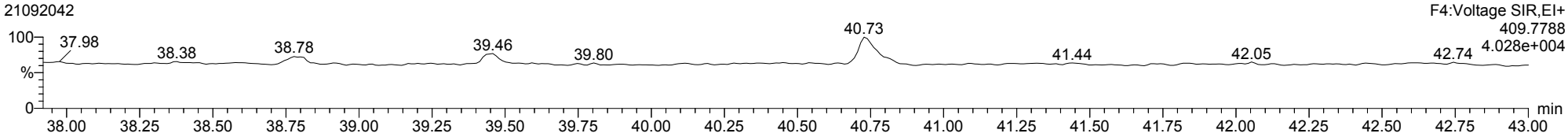


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

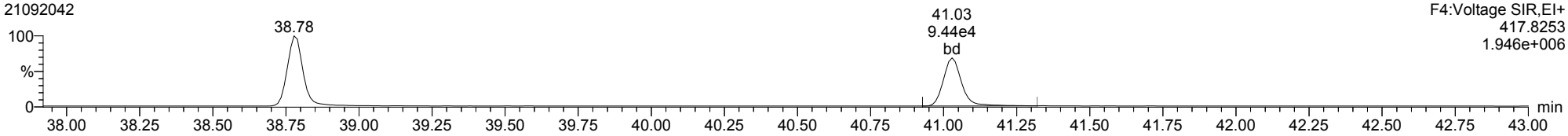
1234789-HpCDF



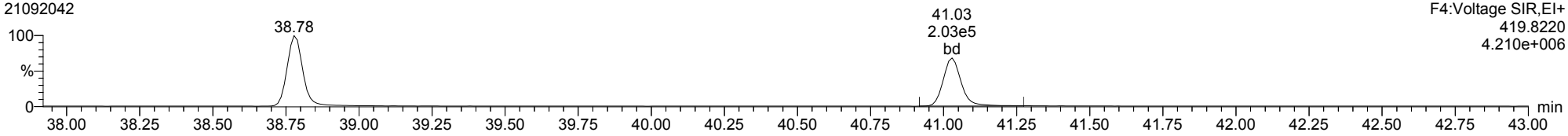
1234789-HpCDF



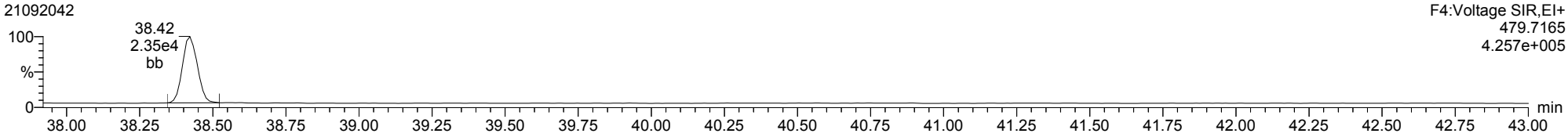
13C-1234789-HpCDF



13C-1234789-HpCDF

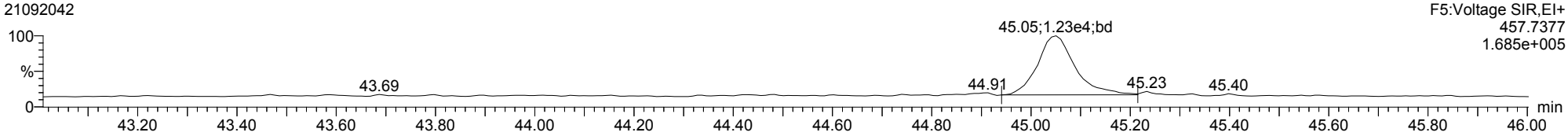


FUNCTION4 NCDPE

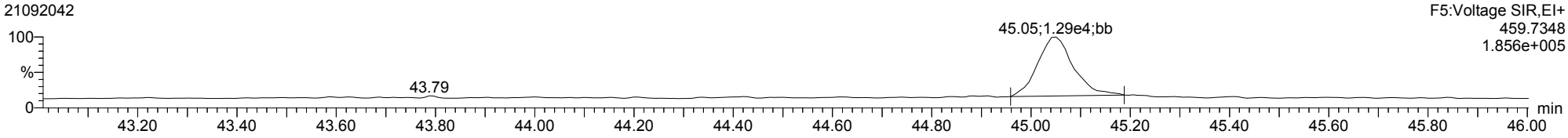


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

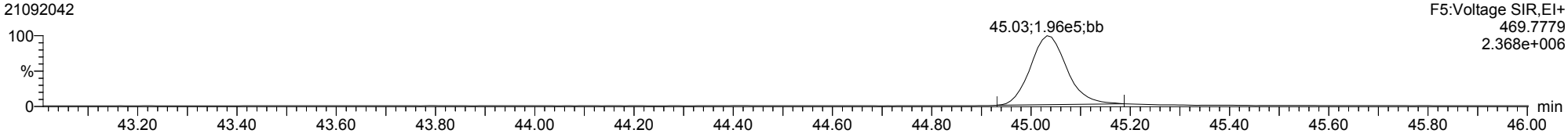
OCDD



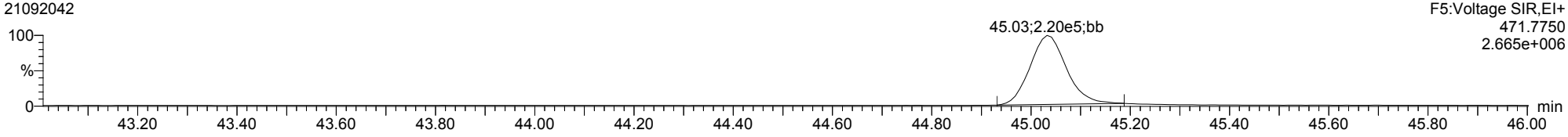
OCDD



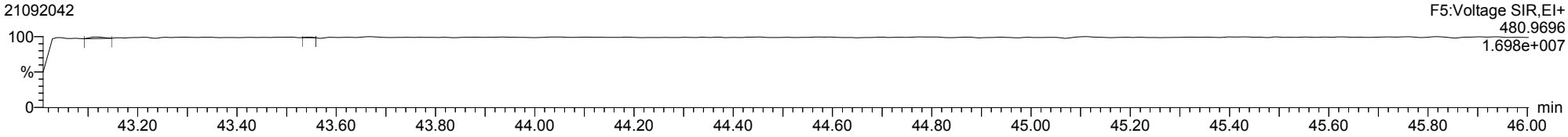
13C-OCDD



13C-OCDD

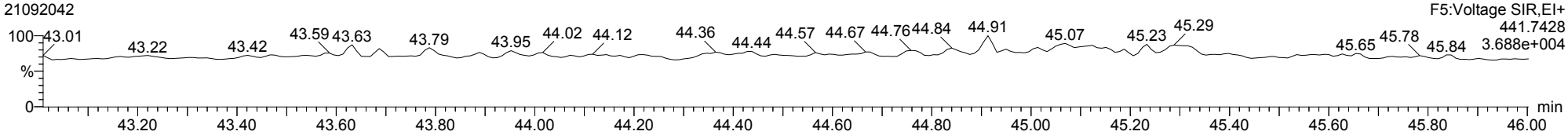


FUNCTION5 PFK

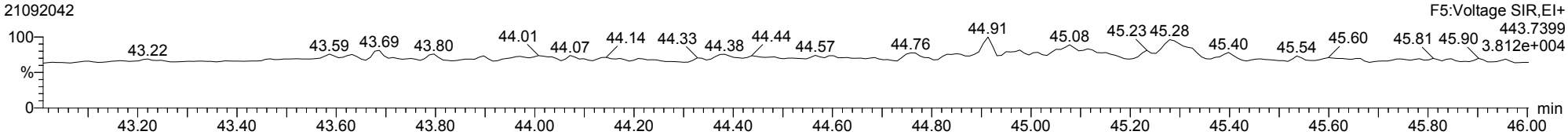


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

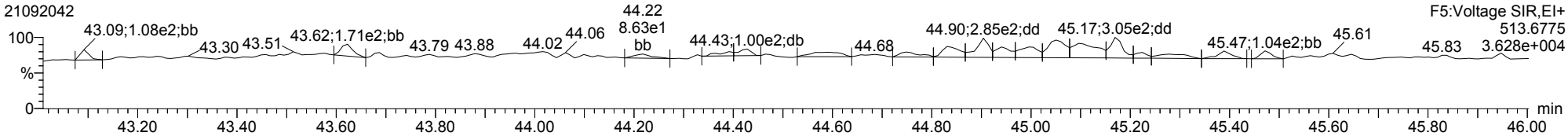
OCDF



OCDF



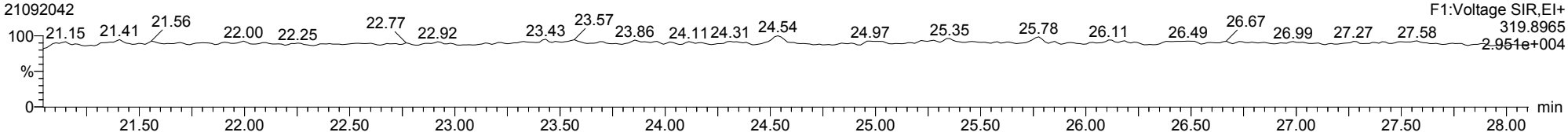
FUNCTION5 DCDPE



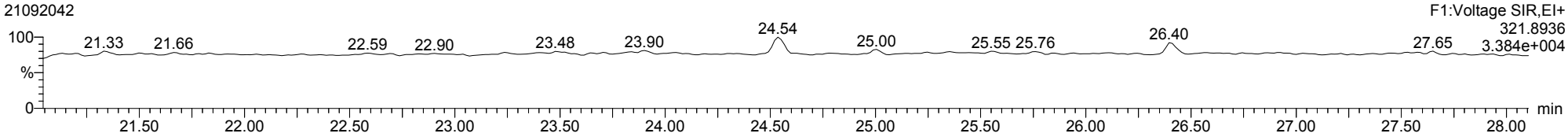
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

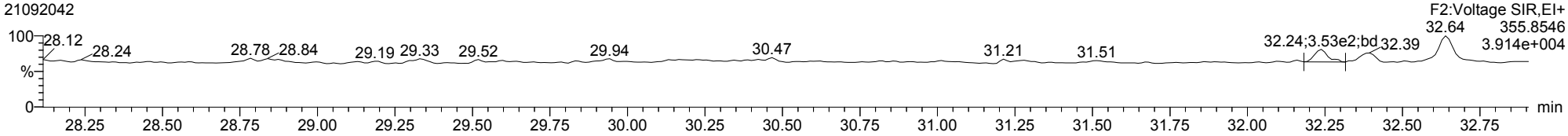
Total-tetradioxins



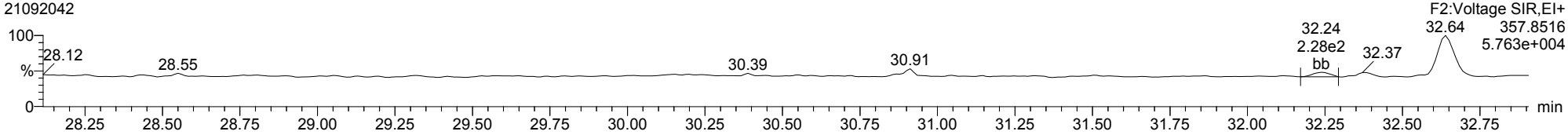
Total-tetradioxins



Total-pentadioxins

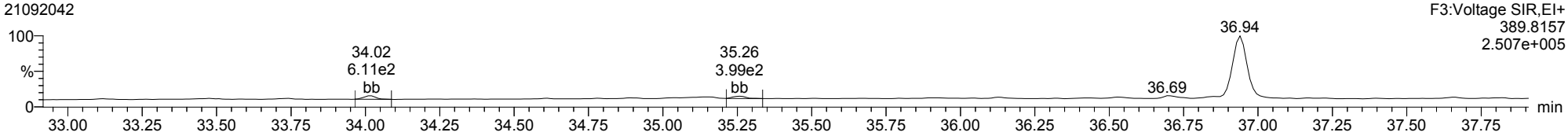


Total-pentadioxins

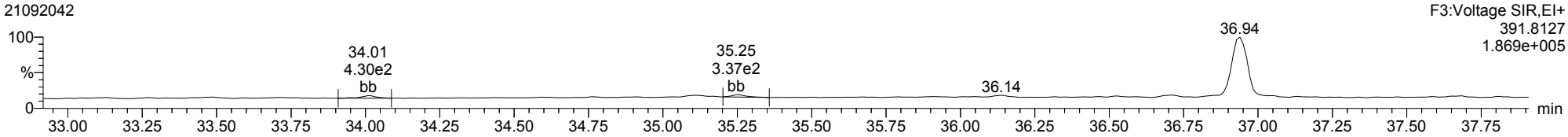


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

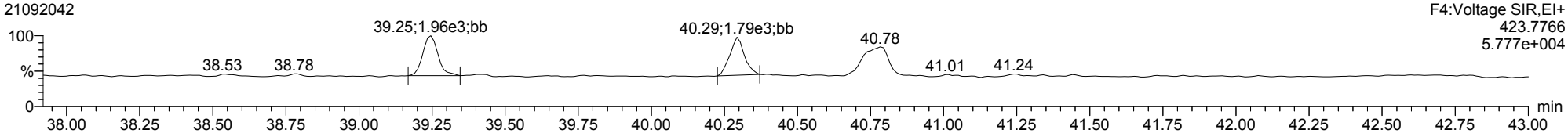
Total-hexadioxins



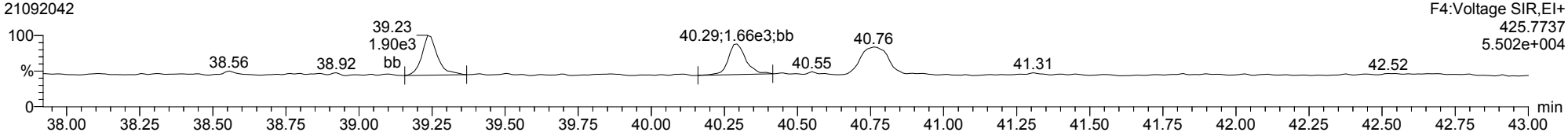
Total-hexadioxins



Total-heptadioxins

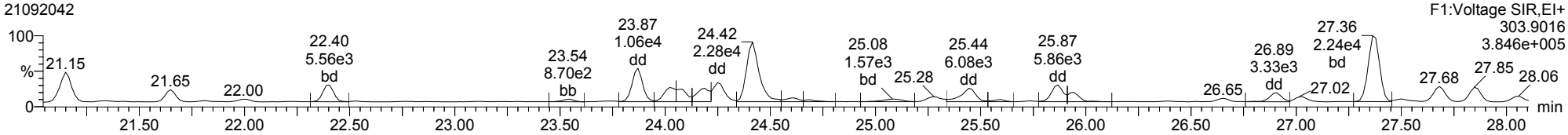


Total-heptadioxins

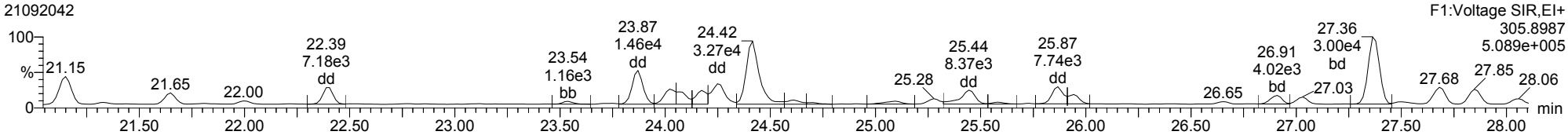


ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

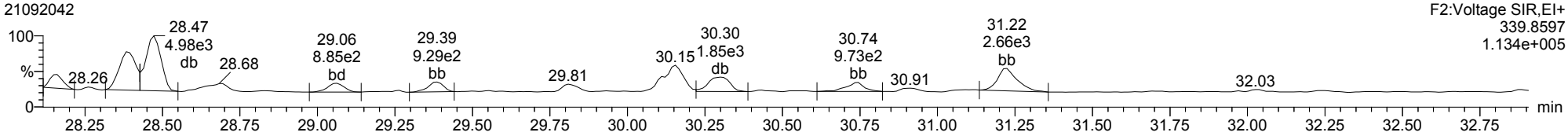
Total-tetrafurans



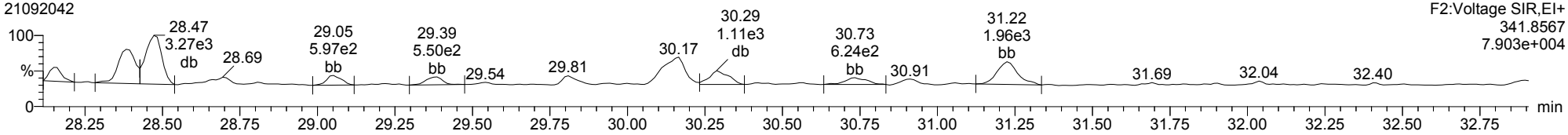
Total-tetrafurans



Total-pentafurans



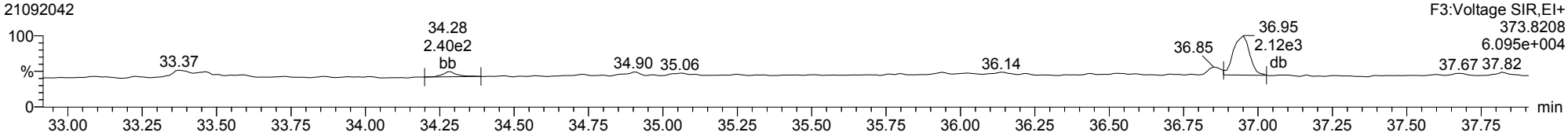
Total-pentafurans



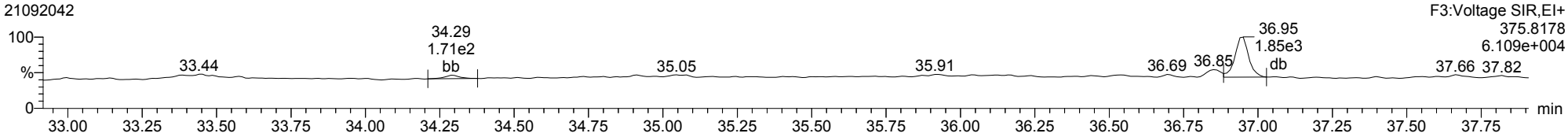
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:19 Pacific Daylight Time

ID: 21G0213-01, Name: 21092042, Date: 22-Sep-2021, Time: 02:16:12, Conditions: AUTOSPEC01, User: pk

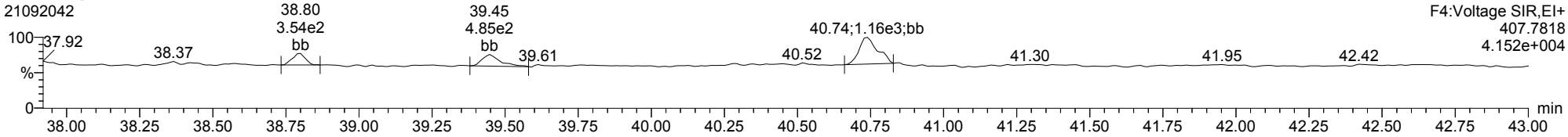
Total-hexafurans



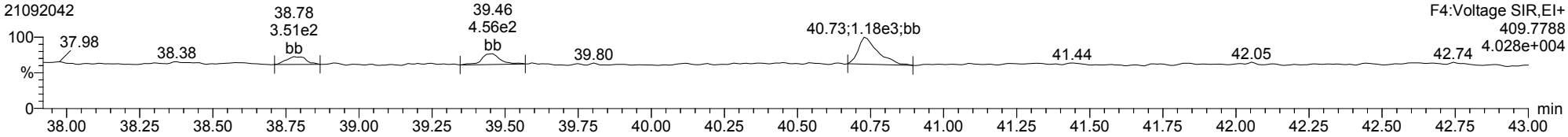
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT655C

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-02 C	File ID:	21092043
Sampled:	07/19/21 15:40	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 03:05
% Solids:	74.45	Preparation:	EPA 1613	Initial/Final:	13.45 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.168	0.999	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.109	0.999	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.082	0.999	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.079	0.999	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.115	0.999	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1		1.054-1.426	0.077	0.999	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1		1.054-1.426	0.075	0.999	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1		1.054-1.426	0.077	0.999	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	0.909	1.054-1.426	0.092	0.999	0.234	ng/kg	EMPC, J
39227-28-6	1,2,3,4,7,8-HxCDD	1		1.054-1.426	0.110	0.999	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1		1.054-1.426	0.109	0.999	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.398	1.054-1.426	0.117	0.999	0.175	ng/kg	J
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	0.624	0.893-1.208	0.079	0.999	0.173	ng/kg	EMPC, J
55673-89-7	1,2,3,4,7,8,9-HpCDF	1		0.893-1.208	0.116	0.999	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.028	0.893-1.208	0.154	2.50	1.27	ng/kg	J, B
39001-02-0	OCDF	1		0.757-1.024	0.232	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.882	0.757-1.024	0.389	9.99	15.9	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	9.30	ng/kg
41903-57-5	Total TCDD	1	0.000			0.999	ND	ng/kg
30402-15-4	Total PeCDF	1	0.000			0.999	0.120	ng/kg
36088-22-9	Total PeCDD	1	0.000			0.999	ND	ng/kg
55684-94-1	Total HxCDF	1	0.000			0.999	ND	ng/kg
34465-46-8	Total HxCDD	1	0.000			0.999	0.500	ng/kg
38998-75-3	Total HpCDF	1	0.000			0.999	ND	ng/kg
37871-00-4	Total HpCDD	1	0.000			0.999	2.84	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.060
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.217

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT655C

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-02	File ID:	21092043
Sampled:	07/19/21 15:40	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 03:05
Solids Wt%:	74.45	Preparation:	EPA 1613	Initial/Final:	13.45 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.800	0.655-0.886	0.119	82.3	24 - 169 %	
13C12-2,3,7,8-TCDD		0.760	0.655-0.886	0.130	95.7	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.599	1.318-1.783	0.135	77.2	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.607	1.318-1.783	0.142	75.5	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.582	1.318-1.783	0.145	84.2	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.512	0.434-0.587	0.182	85.6	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.519	0.434-0.587	0.168	78.7	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.517	0.434-0.587	0.186	82.8	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.512	0.434-0.587	0.224	82.4	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.254	1.054-1.426	0.150	90.9	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.266	1.054-1.426	0.138	86.3	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.458	0.374-0.506	0.171	63.8	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.444	0.374-0.506	0.209	62.1	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.026	0.893-1.208	0.171	73.4	23 - 140 %	
13C12-OCDD		0.893	0.757-1.024	0.319	62.9	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.061	96.6	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:30 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					1.108		0.770	1991	2274								
12378-PeCDF					1.015		1.550	711	970								
23478-PeCDF					1.126		1.550	711	970								
123478-HxCDF					1.017		1.240	584	897								
234678-HxCDF					1.052		1.240	584	897								
123678-HxCDF					1.037		1.240	584	897								
123789-HxCDF	36.951	1.000	3.225e2	3.547e2	1.030	0.909	1.240	584	897	5.59e3	4.83e3	9.6	5.4	YES	bb	db	0.117
1234678-HpCDF	38.800	1.000	1.769e2	2.835e2	1.327	0.624	1.050	564	531	3.80e3	5.37e3	6.7	10.1	YES	db	bb	0.087
1234789-HpCDF					1.283		1.050	564	531								
OCDF					1.447		0.890	704	654								
2378-TCDD					0.920		0.770	1040	1133								
12378-PeCDD					0.995		1.550	766	648								
123478-HxCDD					1.027		1.240	843	1019								
123678-HxCDD					1.009		1.240	843	1019								
123789-HxCDD	36.527	1.011	2.909e2	2.080e2	0.950	1.398	1.240	843	1019	5.19e3	3.28e3	6.2	3.2	NO	MM	bb	0.088
1234678-HpCDD	40.293	1.000	1.080e3	1.050e3	1.068	1.028	1.050	703	564	1.64e4	1.54e4	23.3	27.3	NO	bb	bb	0.635
OCDD	45.060	1.000	9.433e3	1.069e4	1.181	0.882	0.890	764	1098	1.06e5	1.33e5	139.1	120.9	NO	bb	bb	7.957
13C-2378-TCDF	25.761	1.007	4.102e5	5.128e5	1.427	0.800	0.770	1886	1566	6.10e6	7.75e6	3234.5	4950.9	NO	bb	bb	82.284
13C-12378-PeCDF	29.932	1.170	4.843e5	3.028e5	1.297	1.599	1.550	1725	1854	7.42e6	4.67e6	4301.2	2516.3	NO	bb	bb	77.171
13C-23478-PeCDF	31.269	1.222	4.523e5	2.815e5	1.236	1.607	1.550	1725	1854	6.99e6	4.34e6	4050.2	2343.3	NO	bb	bb	75.477
13C-123478-HxCDF	34.901	0.956	2.436e5	4.754e5	1.242	0.512	0.510	1629	2532	3.84e6	7.52e6	2359.5	2971.0	NO	bd	bd	85.645
13C-123678-HxCDF	35.034	0.959	2.440e5	4.705e5	1.343	0.519	0.510	1629	2532	3.91e6	7.43e6	2397.8	2936.1	NO	db	db	78.708
13C-234678-HxCDF	35.903	0.983	2.316e5	4.483e5	1.215	0.517	0.510	1629	2532	3.74e6	7.35e6	2299.1	2902.0	NO	bb	bb	82.831
13C-123789-HxCDF	36.939	1.012	1.900e5	3.711e5	1.008	0.512	0.510	1629	2532	3.18e6	6.26e6	1950.7	2472.4	NO	bb	bb	82.411
13C-1234678-HpCDF	38.789	1.062	1.255e5	2.740e5	0.926	0.458	0.440	1279	1631	1.97e6	4.29e6	1537.6	2632.3	NO	bb	bd	63.807
13C-1234789-HpCDF	41.040	1.124	9.779e4	2.200e5	0.758	0.444	0.440	1279	1631	1.36e6	2.95e6	1061.4	1810.2	NO	bd	bd	62.056
13C-1234-TCDD	25.580	0.000	3.411e5	4.451e5	1.000	0.766	0.770	1579	1372	5.30e6	6.92e6	3357.6	5041.3	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.032	3.628e5	4.772e5	1.116	0.760	0.770	1579	1372	5.60e6	7.38e6	3545.7	5380.4	NO	bb	bb	95.695
13C-12378-PeCDD	31.514	1.232	2.967e5	1.876e5	0.732	1.582	1.550	640	1523	4.53e6	2.86e6	7069.8	1876.5	NO	bb	bb	84.157
13C-123478-HxCDD	36.015	0.986	3.279e5	2.615e5	0.960	1.254	1.240	1099	1547	5.49e6	4.44e6	5001.0	2870.9	NO	bd	bd	90.879
13C-123678-HxCDD	36.126	0.989	3.394e5	2.680e5	1.041	1.266	1.240	1099	1547	5.69e6	4.53e6	5181.3	2926.6	NO	db	db	86.331
13C-1234678-HpCDD	40.282	1.103	1.589e5	1.549e5	0.632	1.026	1.050	1095	898	2.34e6	2.33e6	2140.9	2590.3	NO	bd	bb	73.429
13C-OCDD	45.042	1.233	2.021e5	2.263e5	0.504	0.893	0.890	1680	1277	2.29e6	2.58e6	1363.8	2024.8	NO	bb	bb	125.863
13C-123789-HxCDD	36.516	0.000	3.777e5	2.979e5	1.000	1.268	1.240	1099	1547	6.16e6	4.83e6	5609.1	3123.2	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	3.291e5		1.084			1348		4.84e6		3587.4			bb		38.630

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:30 Pacific Daylight Time

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.404	0.870	1.855e3	2.375e3	1.425	0.781	0.770	1991	2274	2.70e4	4.26e4	13.6	18.7	NO	dd	bb	0.322
1289-TCDF	27.379	1.063	4.173e3	4.969e3	1.043	0.840	0.770	1991	2274	6.37e4	7.97e4	32.0	35.0	NO	bd	bb	0.950
13468-PECDF					1.376		1.550	1356	1259								
12389-PECDF					1.000		1.550	711	970								
123468-HXCDF	33.218	0.952	1.018e2	1.065e2	1.087	0.956	1.240	584	897	3.53e3	3.35e3	6.0	3.7	YES	bb	bd	0.027
1368-TCDD					0.923		0.770	1040	1133								
1289-TCDD					0.794		0.770	1040	1133								
12479-PECDD					1.843		1.550	766	648								
12389-PECDD					1.154		1.550	766	648								
124679-HXCDD	34.021	0.945	5.579e2	5.205e2	1.125	1.072	1.240	843	1019	9.72e3	8.37e3	11.5	8.2	NO	bb	bb	0.163
1234679-HPCDD	39.246	0.974	1.477e3	1.521e3	1.211	0.971	1.050	703	564	2.36e4	1.97e4	33.6	34.9	NO	bb	bd	0.789
Total-tetrafurans			2.173e4		1.192			1991		3.13e5							4.659
Total-penta1			0.000e0					1356		0.00e0							
Total-pentafurans			2.809e2		1.047			711		4.49e3							0.060
Total-hexafurans			0.000e0		1.045			584		0.00e0							
Total-heptafurans			0.000e0		1.305			564		0.00e0							
Total-Furans			2.927e4		1.158			1991		4.25e5							6.318
Total-tetradioxins			0.000e0		0.879			1040		0.00e0							
Total-pentadioxins			0.000e0		1.331			766		0.00e0							
Total-hexadioxins			8.488e2		1.028			843		1.49e4							0.250
Total-heptadioxins			2.557e3		1.140			703		4.01e4							1.424
Total-Dioxins			1.284e4		1.092			1040		1.61e5							9.632
Total-TEQ			4.211e4					1040		5.87e5							15.950
FUNCTION1 PFK			1.451e5					311521		2.90e6							
FUNCTION2 PFK			0.000e0					180500		0.00e0							
FUNCTION3 PFK			1.417e7					265325		7.06e7							0.000
FUNCTION4 PFK			4.270e5					128568		8.20e6							
FUNCTION5 PFK			1.678e5					110809		4.86e6							
FUNCTION1 HXCD...			3.493e3					1430		5.55e4							0.000
FUNCTION1 HPCD...			3.026e3					1104		5.29e4							0.000
FUNCTION2 HPCD...			7.994e2					904		1.94e4							0.000
FUNCTION3 OCDPE			6.975e2					814		1.42e4							0.000
FUNCTION4 NCDPE			2.564e5					1041		4.58e6							0.000
FUNCTION5 DCDPE			3.972e2					736		7.40e3							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDF	22.40	1.855e3	2.375e3	1.425	0.78	0.77	13.6	YES	NO	dd	bb	0.322
2	Total-tetrafurans	25.44	9.984e2	1.278e3	1.192	0.78	0.77	4.9	YES	NO	db	dd	0.207
3	Total-tetrafurans	25.29	6.167e2	8.319e2	1.192	0.74	0.77	3.6	YES	NO	dd	bd	0.132
4	Total-tetrafurans	24.42	3.758e3	5.307e3	1.192	0.71	0.77	24.6	YES	NO	dd	dd	0.824
5	Total-tetrafurans	24.26	1.540e3	2.132e3	1.192	0.72	0.77	13.1	YES	NO	dd	dd	0.334
6	Total-tetrafurans	24.19	2.061e3	2.600e3	1.192	0.79	0.77	13.7	YES	NO	dd	dd	0.424
7	Total-tetrafurans	23.89	4.440e3	6.487e3	1.192	0.68	0.77	35.7	YES	NO	dd	dd	0.993
8	1289-TCDF	27.38	4.173e3	4.969e3	1.043	0.84	0.77	32.0	YES	NO	bd	bb	0.950
9	Total-tetrafurans	26.91	1.254e3	1.427e3	1.192	0.88	0.77	8.4	YES	NO	bd	bd	0.244
10	Total-tetrafurans	25.88	1.031e3	1.501e3	1.192	0.69	0.77	7.8	YES	NO	dd	dd	0.230

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	29.82	2.809e2	1.964e2	1.047	1.43	1.55	6.3	YES	NO	bb	bd	0.060

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDF	22.40	1.855e3	2.375e3	1.425	0.78	0.77	13.6	YES	NO	dd	bb	0.322
2	Total-Furans	21.16	6.613e3	9.018e3	1.158	0.73	0.77	49.8	YES	NO	bd	bd	1.462
3	Total-tetrafurans	25.44	9.984e2	1.278e3	1.192	0.78	0.77	4.9	YES	NO	db	dd	0.207
4	Total-tetrafurans	25.29	6.167e2	8.319e2	1.192	0.74	0.77	3.6	YES	NO	dd	bd	0.132
5	Total-tetrafurans	24.42	3.758e3	5.307e3	1.192	0.71	0.77	24.6	YES	NO	dd	dd	0.824
6	Total-tetrafurans	24.26	1.540e3	2.132e3	1.192	0.72	0.77	13.1	YES	NO	dd	dd	0.334
7	Total-tetrafurans	24.19	2.061e3	2.600e3	1.192	0.79	0.77	13.7	YES	NO	dd	dd	0.424
8	Total-tetrafurans	23.89	4.440e3	6.487e3	1.192	0.68	0.77	35.7	YES	NO	dd	dd	0.993
9	Total-Furans	27.86	6.497e2	8.093e2	1.158	0.80	0.77	4.5	YES	NO	bb	bb	0.136
10	1289-TCDF	27.38	4.173e3	4.969e3	1.043	0.84	0.77	32.0	YES	NO	bd	bb	0.950
11	Total-tetrafurans	26.91	1.254e3	1.427e3	1.192	0.88	0.77	8.4	YES	NO	bd	bd	0.244
12	Total-tetrafurans	25.88	1.031e3	1.501e3	1.192	0.69	0.77	7.8	YES	NO	dd	dd	0.230
13	Total-pentafurans	29.82	2.809e2	1.964e2	1.047	1.43	1.55	6.3	YES	NO	bb	bd	0.060

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.02	5.579e2	5.205e2	1.125	1.07	1.24	11.5	YES	NO	bb	bb	0.163
2	123789-HxCDD	36.53	2.909e2	2.080e2	0.950	1.40	1.24	6.2	YES	NO	MM	bb	0.088

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.29	1.080e3	1.050e3	1.068	1.03	1.05	23.3	YES	NO	bb	bb	0.635
2	1234679-HPCDD	39.25	1.477e3	1.521e3	1.211	0.97	1.05	33.6	YES	NO	bb	bd	0.789

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.02	5.579e2	5.205e2	1.125	1.07	1.24	11.5	YES	NO	bb	bb	0.163
2	123789-HxCDD	36.53	2.909e2	2.080e2	0.950	1.40	1.24	6.2	YES	NO	MM	bb	0.088
3	OCDD	45.06	9.433e3	1.069e4	1.181	0.88	0.89	139.1	YES	NO	bb	bb	7.957
4	1234678-HpCDD	40.29	1.080e3	1.050e3	1.068	1.03	1.05	23.3	YES	NO	bb	bb	0.635
5	1234679-HPCDD	39.25	1.477e3	1.521e3	1.211	0.97	1.05	33.6	YES	NO	bb	bd	0.789

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDF	22.40	1.855e3	2.375e3	1.425	0.78	0.77	13.6	YES	NO	dd	bb	0.322
2	Total-Furans	21.16	6.613e3	9.018e3	1.158	0.73	0.77	49.8	YES	NO	bd	bd	1.462
3	Total-tetrafurans	25.44	9.984e2	1.278e3	1.192	0.78	0.77	4.9	YES	NO	db	dd	0.207
4	Total-tetrafurans	25.29	6.167e2	8.319e2	1.192	0.74	0.77	3.6	YES	NO	dd	bd	0.132
5	Total-tetrafurans	24.42	3.758e3	5.307e3	1.192	0.71	0.77	24.6	YES	NO	dd	dd	0.824
6	Total-tetrafurans	24.26	1.540e3	2.132e3	1.192	0.72	0.77	13.1	YES	NO	dd	dd	0.334
7	Total-tetrafurans	24.19	2.061e3	2.600e3	1.192	0.79	0.77	13.7	YES	NO	dd	dd	0.424
8	Total-tetrafurans	23.89	4.440e3	6.487e3	1.192	0.68	0.77	35.7	YES	NO	dd	dd	0.993
9	Total-Furans	27.86	6.497e2	8.093e2	1.158	0.80	0.77	4.5	YES	NO	bb	bb	0.136
10	1289-TCDF	27.38	4.173e3	4.969e3	1.043	0.84	0.77	32.0	YES	NO	bd	bb	0.950
11	Total-tetrafurans	26.91	1.254e3	1.427e3	1.192	0.88	0.77	8.4	YES	NO	bd	bd	0.244
12	Total-tetrafurans	25.88	1.031e3	1.501e3	1.192	0.69	0.77	7.8	YES	NO	dd	dd	0.230
13	Total-pentafurans	29.82	2.809e2	1.964e2	1.047	1.43	1.55	6.3	YES	NO	bb	bd	0.060
14	124679-HXCDD	34.02	5.579e2	5.205e2	1.125	1.07	1.24	11.5	YES	NO	bb	bb	0.163
15	123789-HxCDD	36.53	2.909e2	2.080e2	0.950	1.40	1.24	6.2	YES	NO	MM	bb	0.088
16	OCDD	45.06	9.433e3	1.069e4	1.181	0.88	0.89	139.1	YES	NO	bb	bb	7.957
17	1234678-HpCDD	40.29	1.080e3	1.050e3	1.068	1.03	1.05	23.3	YES	NO	bb	bb	0.635
18	1234679-HPCDD	39.25	1.477e3	1.521e3	1.211	0.97	1.05	33.6	YES	NO	bb	bd	0.789

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	27.53	1.227e4					1.2	NO		bb		
2	FUNCTION1 PFK	26.70	6.684e3					0.8	NO		bb		
3	FUNCTION1 PFK	22.53	8.740e3					1.0	NO		bb		
4	FUNCTION1 PFK	22.18	7.225e4					2.3	NO		bb		
5	FUNCTION1 PFK	21.24	2.617e4					2.2	NO		db		
6	FUNCTION1 PFK	21.18	1.894e4					1.8	NO		bd		

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.52	4.559e6					41.1	YES		dd		0.000
2	FUNCTION3 PFK	33.34	5.498e5					47.3	YES		dd		0.000
3	FUNCTION3 PFK	33.17	4.191e6					53.8	YES		dd		0.000
4	FUNCTION3 PFK	32.98	1.401e6					60.2	YES		bd		0.000
5	FUNCTION3 PFK	37.79	7.733e3					1.1	NO		bb		0.000
6	FUNCTION3 PFK	37.61	3.624e3					0.9	NO		bb		0.000
7	FUNCTION3 PFK	37.56	1.322e4					1.9	NO		db		0.000
8	FUNCTION3 PFK	37.52	1.255e4					1.6	NO		dd		0.000
9	FUNCTION3 PFK	37.45	2.898e4					2.1	NO		bd		0.000
10	FUNCTION3 PFK	37.28	1.542e4					1.6	NO		bb		0.000
11	FUNCTION3 PFK	36.76	4.133e3					0.8	NO		bb		0.000
12	FUNCTION3 PFK	36.15	3.279e3					0.7	NO		bb		0.000
13	FUNCTION3 PFK	35.86	6.594e3					1.0	NO		bb		0.000
14	FUNCTION3 PFK	35.58	8.187e3					1.2	NO		bb		0.000
15	FUNCTION3 PFK	35.28	1.496e3					0.5	NO		bb		0.000
16	FUNCTION3 PFK	34.40	4.104e5					10.7	YES		db		0.000
17	FUNCTION3 PFK	34.32	7.106e5					13.3	YES		dd		0.000
18	FUNCTION3 PFK	33.93	2.243e6					26.4	YES		dd		0.000

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.01	3.225e3					1.5	NO		bb		
2	FUNCTION4 PFK	40.40	5.210e3					1.7	NO		bb		
3	FUNCTION4 PFK	40.33	2.786e4					2.2	NO		bb		
4	FUNCTION4 PFK	40.05	1.289e3					0.7	NO		bb		
5	FUNCTION4 PFK	40.00	4.379e3					1.4	NO		db		
6	FUNCTION4 PFK	39.96	6.150e3					1.6	NO		bd		
7	FUNCTION4 PFK	39.84	2.580e3					0.9	NO		bb		
8	FUNCTION4 PFK	39.52	3.626e3					0.9	NO		bb		
9	FUNCTION4 PFK	39.40	5.724e3					1.8	NO		bb		
10	FUNCTION4 PFK	39.06	1.977e3					0.8	NO		bb		
11	FUNCTION4 PFK	38.90	2.884e4					2.4	NO		bb		
12	FUNCTION4 PFK	38.60	4.105e4					3.8	YES		db		
13	FUNCTION4 PFK	38.56	2.072e4					4.1	YES		dd		
14	FUNCTION4 PFK	38.49	4.875e4					5.5	YES		bd		
15	FUNCTION4 PFK	38.31	7.750e4					4.7	YES		db		
16	FUNCTION4 PFK	38.24	9.313e3					2.2	NO		bd		
17	FUNCTION4 PFK	38.05	4.735e3					1.5	NO		bb		
18	FUNCTION4 PFK	42.33	8.779e3					1.5	NO		bb		
19	FUNCTION4 PFK	42.12	1.274e4					2.1	NO		bb		
20	FUNCTION4 PFK	41.89	5.370e3					1.5	NO		db		
21	FUNCTION4 PFK	41.85	1.679e3					0.8	NO		bd		
22	FUNCTION4 PFK	41.71	1.022e3					0.7	NO		bb		
23	FUNCTION4 PFK	41.49	3.101e3					1.1	NO		bb		
24	FUNCTION4 PFK	41.32	2.397e4					2.0	NO		db		
25	FUNCTION4 PFK	41.23	4.865e3					1.6	NO		bd		
26	FUNCTION4 PFK	41.17	2.231e3					1.0	NO		db		
27	FUNCTION4 PFK	41.15	5.822e3					1.5	NO		bd		
28	FUNCTION4 PFK	41.05	1.155e4					2.4	NO		db		
29	FUNCTION4 PFK	40.97	5.677e3					1.9	NO		bd		
30	FUNCTION4 PFK	40.79	1.750e3					0.8	NO		bb		
31	FUNCTION4 PFK	40.71	8.041e3					1.4	NO		bb		
32	FUNCTION4 PFK	40.64	5.155e3					1.3	NO		bb		
33	FUNCTION4 PFK	40.52	7.215e3					1.8	NO		bb		
34	FUNCTION4 PFK	42.70	2.509e4					2.8	NO		bb		

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.17	1.102e4					2.4	NO		dd		
2	FUNCTION5 PFK	44.12	6.801e3					2.3	NO		dd		
3	FUNCTION5 PFK	44.07	1.081e4					2.9	NO		dd		
4	FUNCTION5 PFK	44.03	2.050e4					2.5	NO		bd		
5	FUNCTION5 PFK	43.94	1.029e3					0.8	NO		bb		
6	FUNCTION5 PFK	43.82	3.322e3					0.9	NO		bb		
7	FUNCTION5 PFK	43.75	7.038e3					1.8	NO		bb		
8	FUNCTION5 PFK	43.66	4.323e3					1.1	NO		bb		
9	FUNCTION5 PFK	43.59	2.682e3					0.9	NO		bb		
10	FUNCTION5 PFK	43.40	8.968e2					0.5	NO		bb		
11	FUNCTION5 PFK	43.30	1.003e3					0.6	NO		bb		
12	FUNCTION5 PFK	43.22	4.658e3					1.7	NO		db		
13	FUNCTION5 PFK	43.19	6.794e3					2.1	NO		dd		
14	FUNCTION5 PFK	43.16	4.892e3					1.7	NO		bd		
15	FUNCTION5 PFK	45.71	4.445e3					1.4	NO		bb		
16	FUNCTION5 PFK	45.66	4.014e2					0.4	NO		bb		
17	FUNCTION5 PFK	45.54	6.121e2					0.6	NO		bb		
18	FUNCTION5 PFK	45.43	4.072e3					0.9	NO		bb		
19	FUNCTION5 PFK	45.27	4.471e3					1.3	NO		bb		
20	FUNCTION5 PFK	45.11	1.572e3					0.8	NO		bb		
21	FUNCTION5 PFK	44.98	5.030e2					0.5	NO		bb		
22	FUNCTION5 PFK	44.89	1.361e3					0.6	NO		bb		
23	FUNCTION5 PFK	44.85	3.757e3					1.3	NO		bb		
24	FUNCTION5 PFK	44.79	5.601e3					1.1	NO		db		
25	FUNCTION5 PFK	44.71	4.094e3					1.2	NO		bd		
26	FUNCTION5 PFK	44.66	1.802e4					2.1	NO		bb		
27	FUNCTION5 PFK	44.44	4.218e2					0.4	NO		bb		
28	FUNCTION5 PFK	44.40	9.476e2					0.6	NO		db		
29	FUNCTION5 PFK	44.33	7.418e3					1.3	NO		bd		
30	FUNCTION5 PFK	44.26	6.930e3					1.5	NO		db		
31	FUNCTION5 PFK	45.94	5.894e3					1.6	NO		db		
32	FUNCTION5 PFK	45.90	2.317e3					1.1	NO		bd		
33	FUNCTION5 PFK	45.82	3.015e3					1.5	NO		db		
34	FUNCTION5 PFK	45.79	6.138e3					1.5	NO		bd		

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.55	1.374e2					2.1	NO		db		0.000
2	FUNCTION1 HXCD...	25.46	7.077e1					1.1	NO		dd		0.000
3	FUNCTION1 HXCD...	25.35	2.109e2					1.8	NO		dd		0.000
4	FUNCTION1 HXCD...	25.22	2.064e2					2.3	NO		dd		0.000
5	FUNCTION1 HXCD...	25.13	1.109e2					1.9	NO		bd		0.000
6	FUNCTION1 HXCD...	23.39	1.492e2					1.6	NO		bb		0.000
7	FUNCTION1 HXCD...	22.03	7.654e1					1.4	NO		bb		0.000
8	FUNCTION1 HXCD...	21.44	8.161e1					1.4	NO		db		0.000
9	FUNCTION1 HXCD...	21.30	4.023e2					3.3	YES		dd		0.000
10	FUNCTION1 HXCD...	21.19	3.047e2					3.1	YES		dd		0.000
11	FUNCTION1 HXCD...	21.13	4.308e2					3.7	YES		bd		0.000
12	FUNCTION1 HXCD...	26.85	2.524e2					3.1	YES		bb		0.000
13	FUNCTION1 HXCD...	26.64	2.927e2					3.8	YES		db		0.000
14	FUNCTION1 HXCD...	26.53	1.830e2					1.9	NO		dd		0.000
15	FUNCTION1 HXCD...	26.41	2.765e2					2.2	NO		bd		0.000
16	FUNCTION1 HXCD...	26.23	1.953e2					2.8	NO		bb		0.000
17	FUNCTION1 HXCD...	25.70	1.120e2					1.1	NO		bb		0.000

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	25.17	2.517e2					2.3	NO		bd		0.000
2	FUNCTION1 HPCD...	25.02	1.108e2					2.8	NO		bb		0.000
3	FUNCTION1 HPCD...	24.88	8.251e1					1.4	NO		bb		0.000
4	FUNCTION1 HPCD...	23.39	1.386e2					1.6	NO		bb		0.000
5	FUNCTION1 HPCD...	22.00	1.586e2					3.6	YES		bb		0.000
6	FUNCTION1 HPCD...	21.41	1.527e2					1.8	NO		db		0.000
7	FUNCTION1 HPCD...	21.27	2.139e2					2.5	NO		dd		0.000
8	FUNCTION1 HPCD...	21.19	1.797e2					3.3	YES		dd		0.000
9	FUNCTION1 HPCD...	21.13	3.470e2					4.0	YES		bd		0.000
10	FUNCTION1 HPCD...	26.94	9.702e1					1.7	NO		db		0.000
11	FUNCTION1 HPCD...	26.80	2.026e2					2.6	NO		bd		0.000
12	FUNCTION1 HPCD...	26.64	8.666e1					1.6	NO		db		0.000
13	FUNCTION1 HPCD...	26.50	1.125e2					2.1	NO		bd		0.000
14	FUNCTION1 HPCD...	26.23	1.113e2					2.0	NO		bb		0.000
15	FUNCTION1 HPCD...	25.97	8.562e1					1.2	NO		db		0.000
16	FUNCTION1 HPCD...	25.88	9.018e1					1.4	NO		dd		0.000
17	FUNCTION1 HPCD...	25.75	1.697e2					3.0	NO		dd		0.000
18	FUNCTION1 HPCD...	25.70	1.837e2					4.1	YES		dd		0.000
19	FUNCTION1 HPCD...	25.64	7.799e1					1.8	NO		bd		0.000
20	FUNCTION1 HPCD...	25.46	8.499e1					1.1	NO		bb		0.000
21	FUNCTION1 HPCD...	25.22	8.838e1					1.9	NO		db		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.03	1.163e2					1.9	NO		db		0.000
2	FUNCTION2 HPCD...	28.93	7.063e1					2.6	NO		bd		0.000
3	FUNCTION2 HPCD...	28.68	9.087e1					1.7	NO		bb		0.000
4	FUNCTION2 HPCD...	30.62	1.023e2					3.3	YES		bb		0.000
5	FUNCTION2 HPCD...	30.53	1.728e2					6.3	YES		bb		0.000
6	FUNCTION2 HPCD...	29.80	7.365e1					1.6	NO		db		0.000
7	FUNCTION2 HPCD...	29.72	1.001e2					2.3	NO		bd		0.000
8	FUNCTION2 HPCD...	29.53	7.270e1					1.7	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:30 Pacific Daylight Time

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.61	8.864e1					2.6	NO		bb		0.000
2	FUNCTION3 OCDPE	37.36	8.325e1					1.8	NO		bb		0.000
3	FUNCTION3 OCDPE	36.90	7.286e1					1.4	NO		bb		0.000
4	FUNCTION3 OCDPE	36.25	1.534e2					2.7	NO		bb		0.000
5	FUNCTION3 OCDPE	34.35	1.772e2					4.1	YES		bb		0.000
6	FUNCTION3 OCDPE	33.21	1.222e2					4.7	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.71	7.886e1					3.1	YES		bb		0.000
2	FUNCTION4 NCDPE	38.43	2.562e5					4395.9	YES		bb		0.000
3	FUNCTION4 NCDPE	38.06	1.054e2					2.9	NO		bb		0.000

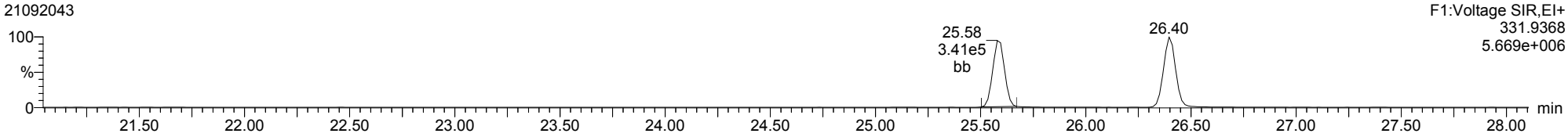
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.71	3.972e2					10.1	YES		bb		0.000

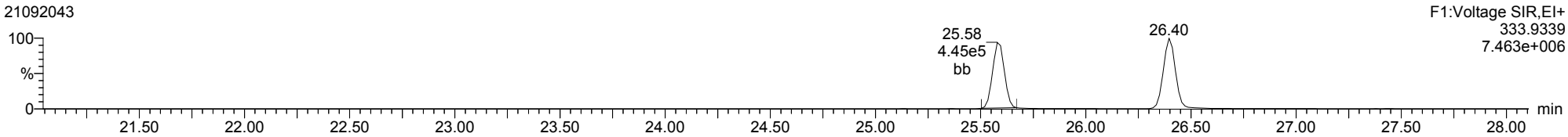
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

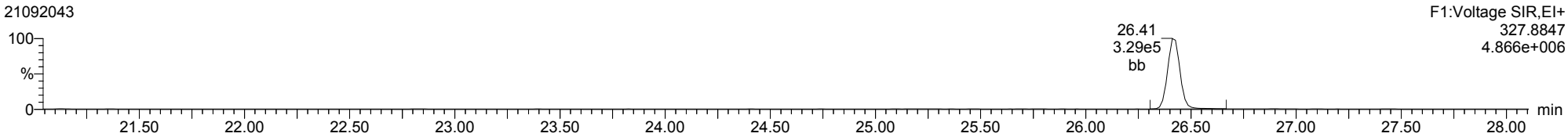
13C-1234-TCDD



13C-1234-TCDD

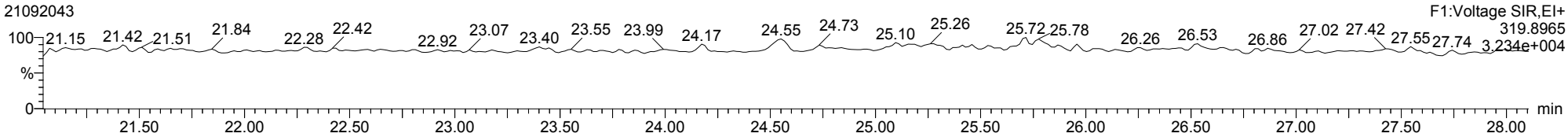


37CL-2378-TCDD

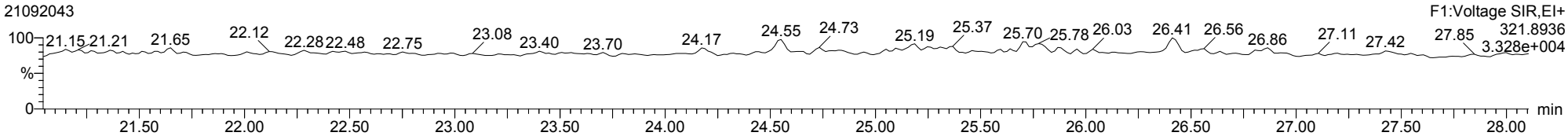


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

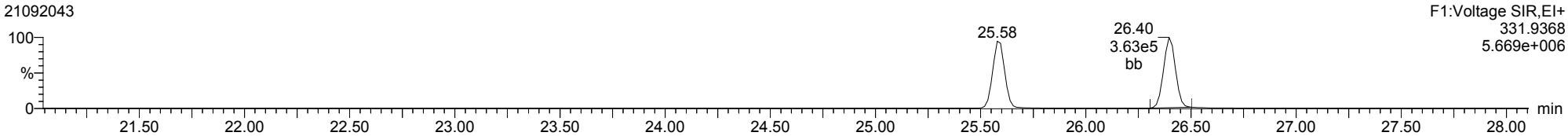
2378-TCDD



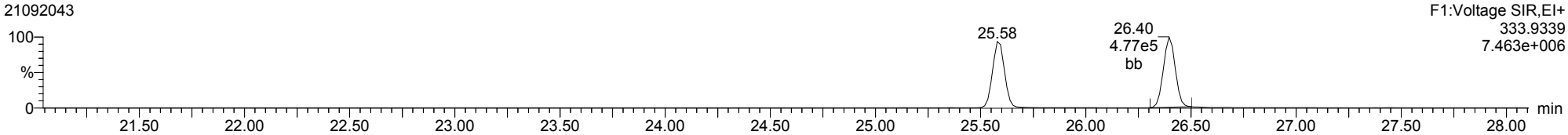
2378-TCDD



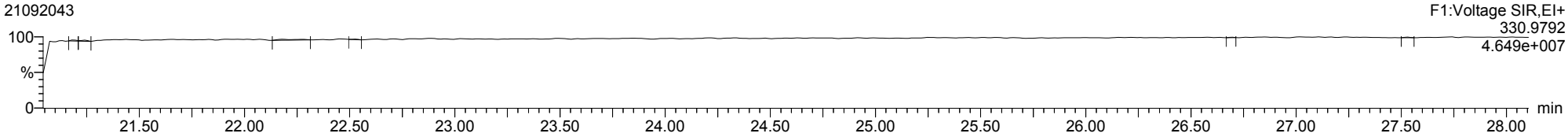
13C-2378-TCDD



13C-2378-TCDD

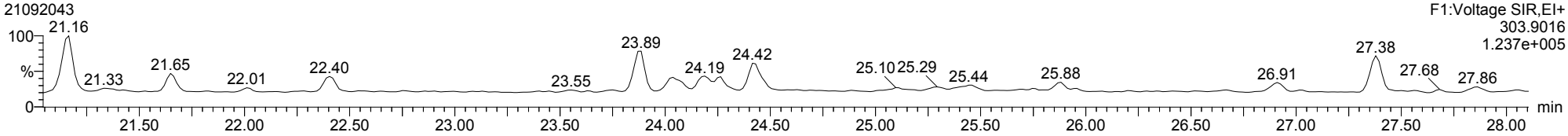


FUNCTION1 PFK

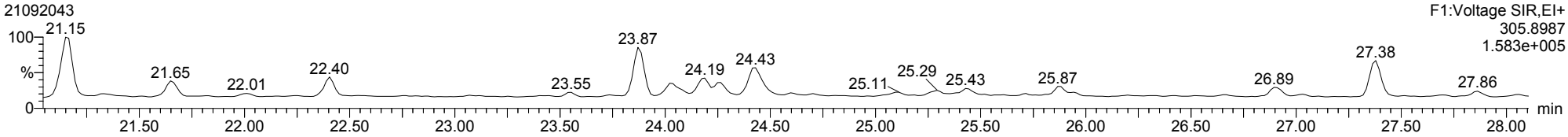


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

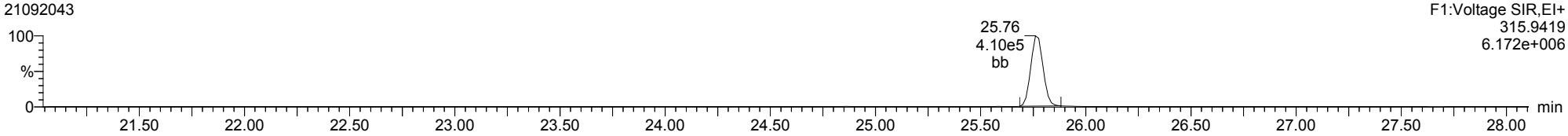
2378-TCDF



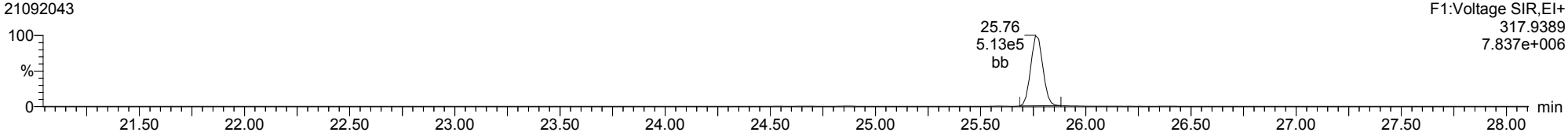
2378-TCDF



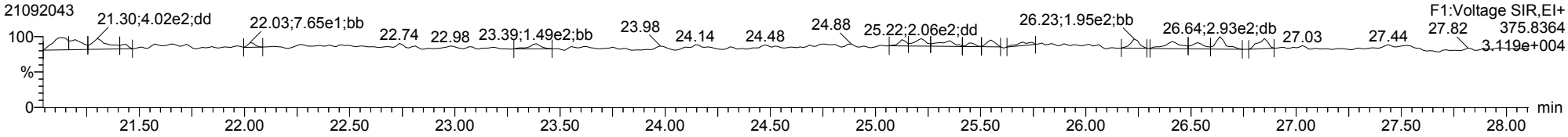
13C-2378-TCDF



13C-2378-TCDF

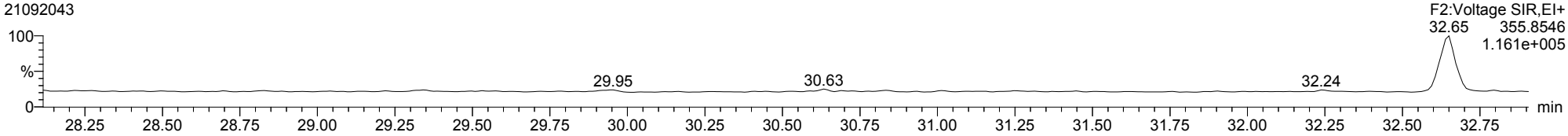


FUNCTION1 HXCDPE

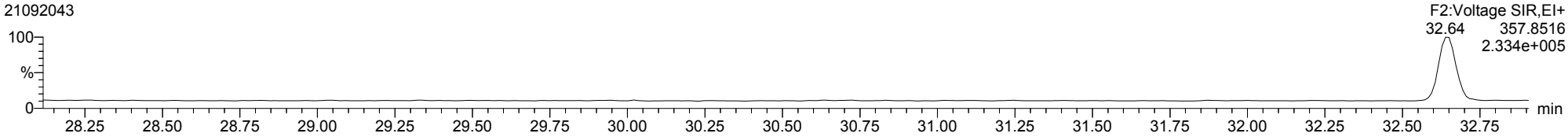


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

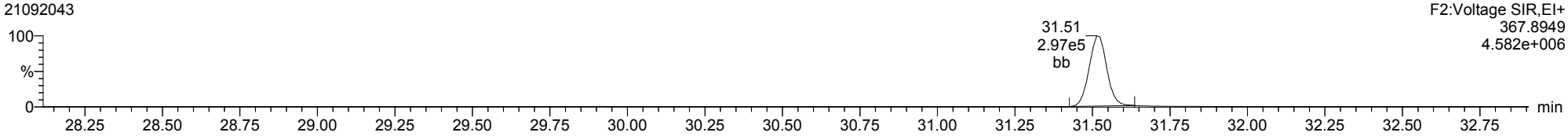
12378-PeCDD



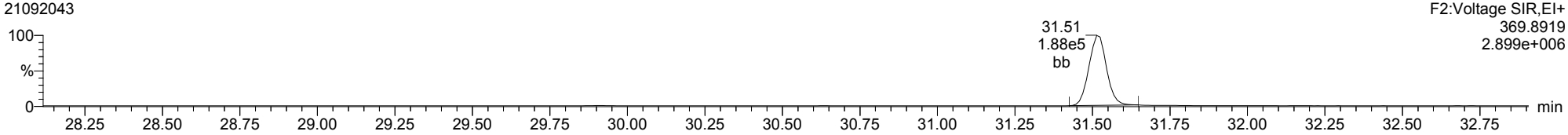
12378-PeCDD



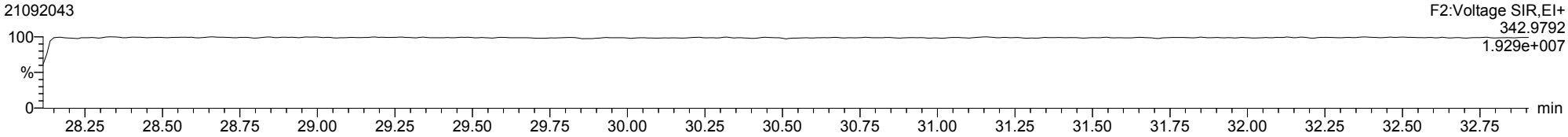
13C-12378-PeCDD



13C-12378-PeCDD

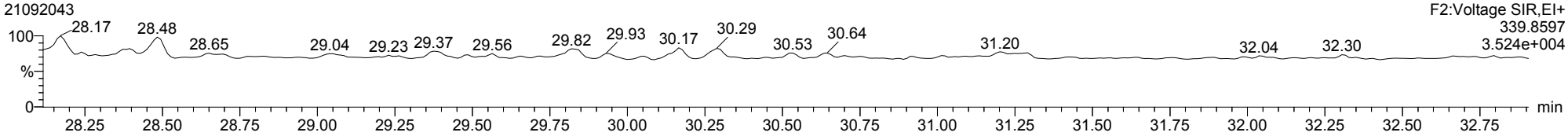


FUNCTION2 PFK

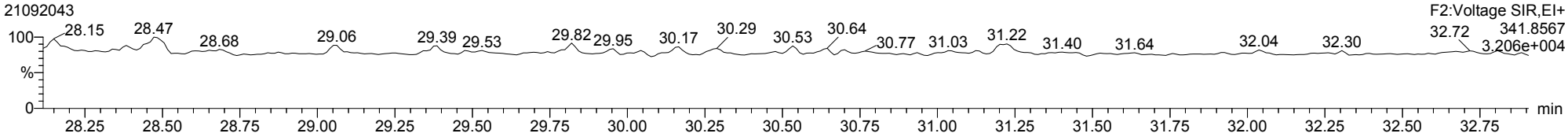


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

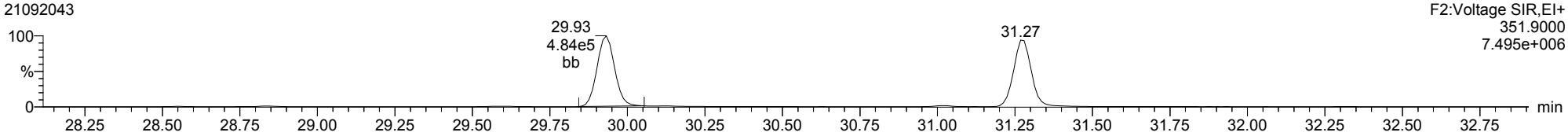
12378-PeCDF



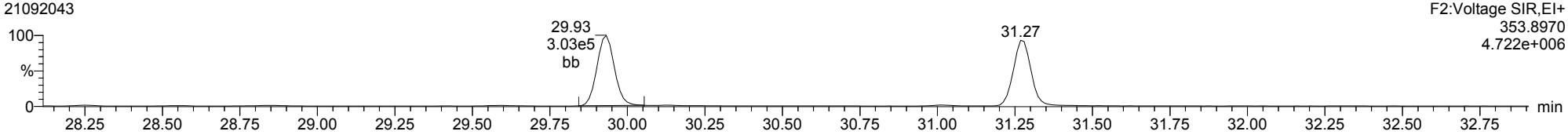
12378-PeCDF



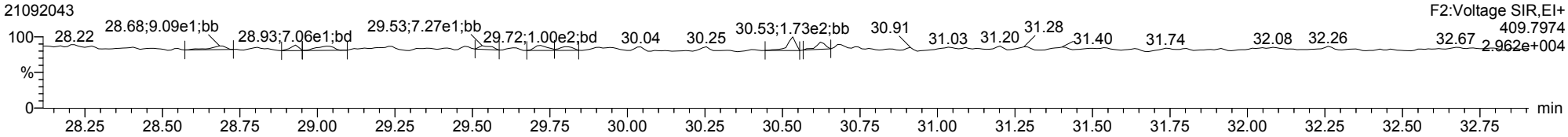
13C-12378-PeCDF



13C-12378-PeCDF

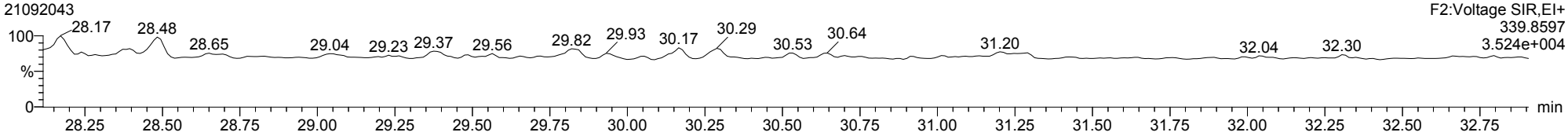


FUNCTION2 HPCDPE

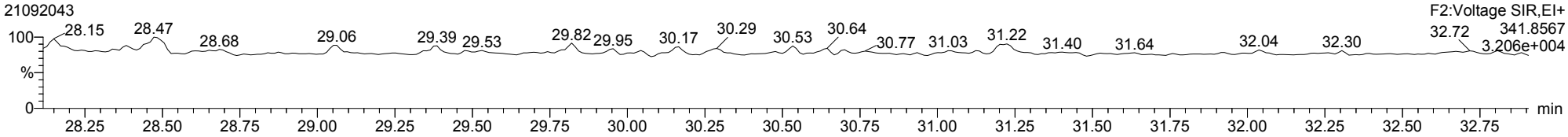


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

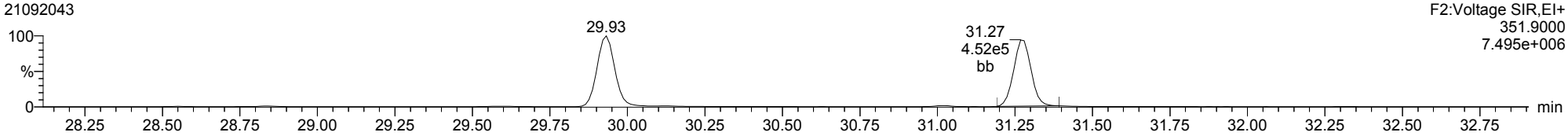
23478-PeCDF



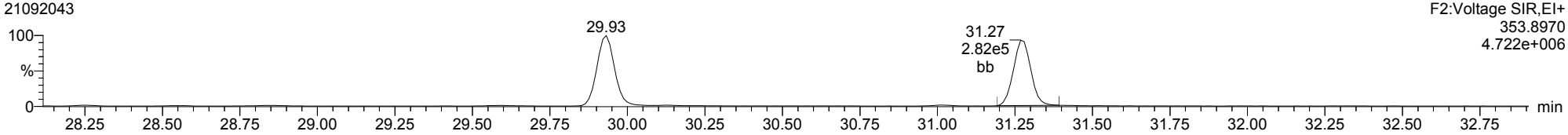
23478-PeCDF



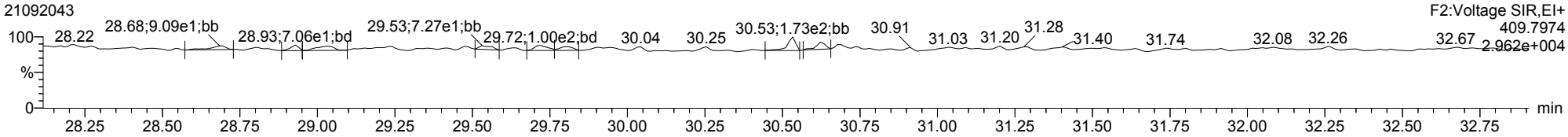
13C-23478-PeCDF



13C-23478-PeCDF

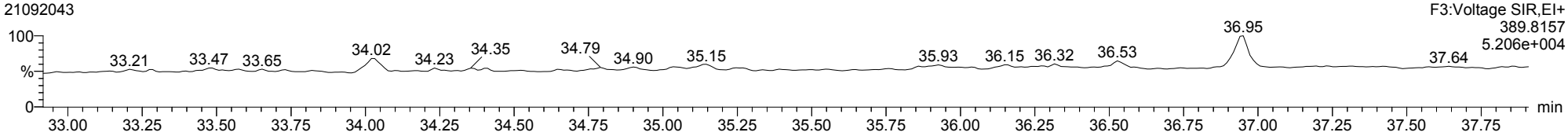


FUNCTION2 HPCDPE

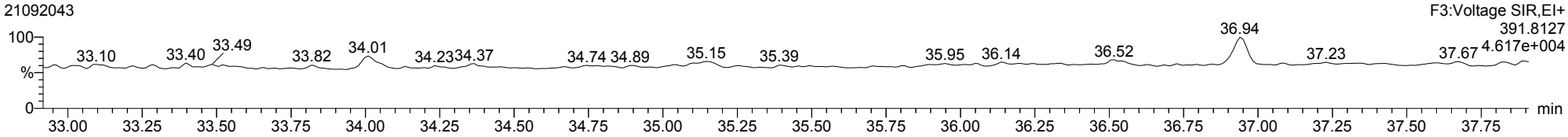


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

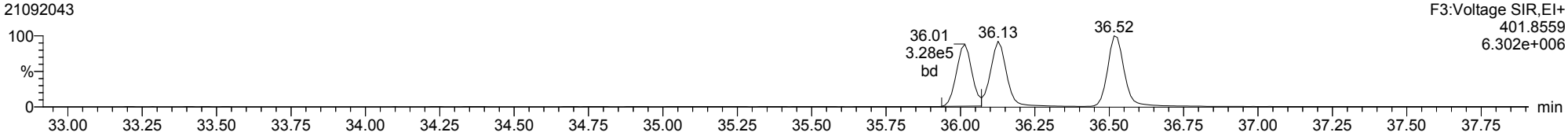
123478-HxCDD



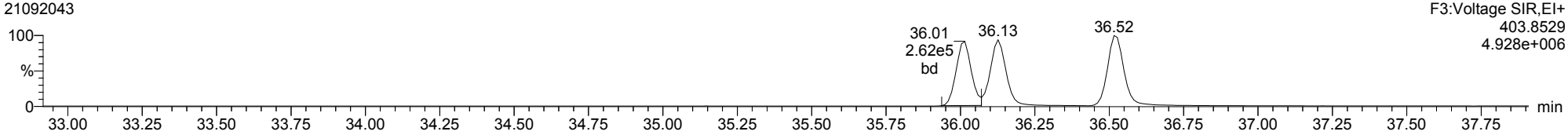
123478-HxCDD



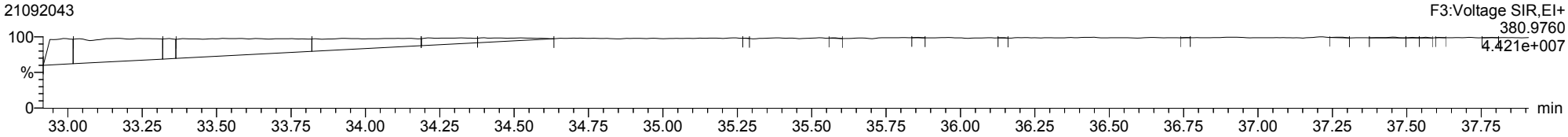
13C-123478-HxCDD



13C-123478-HxCDD

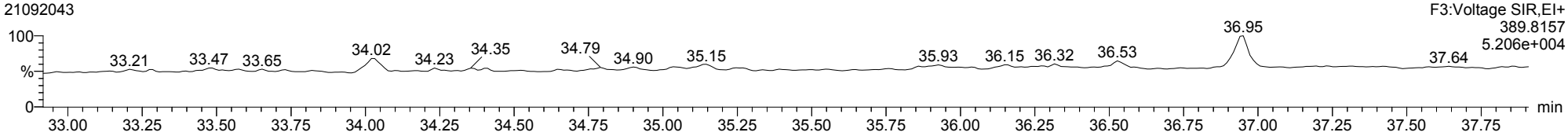


FUNCTION3 PFK

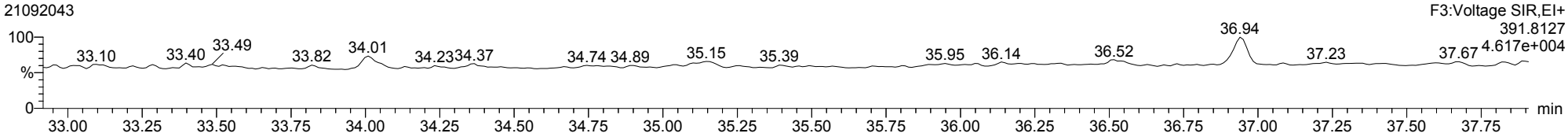


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

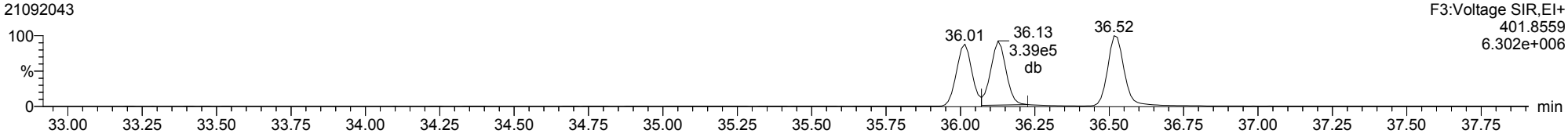
123678-HxCDD



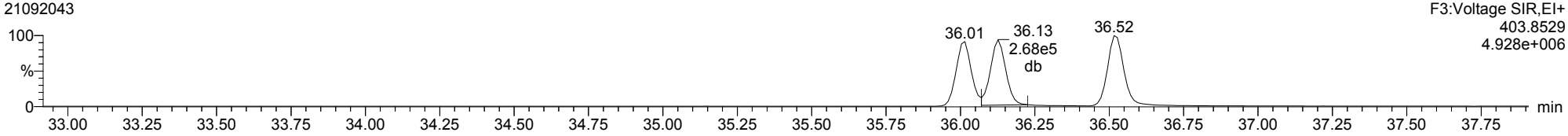
123678-HxCDD



13C-123678-HxCDD

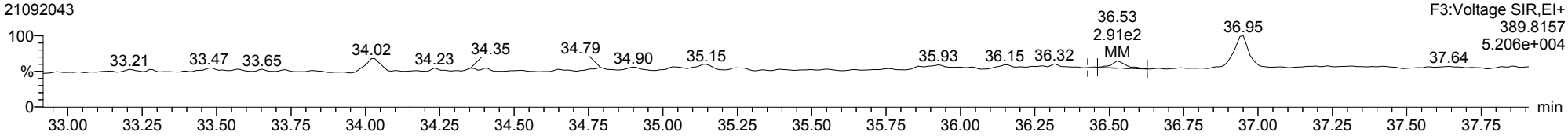


13C-123678-HxCDD

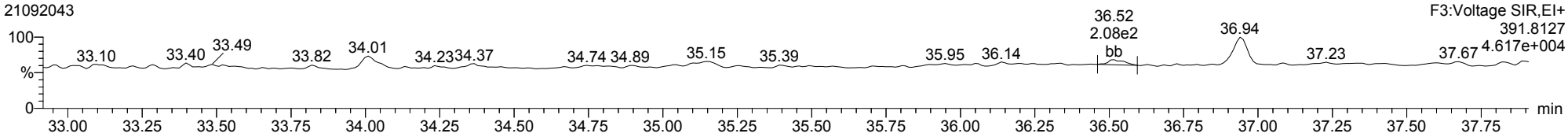


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

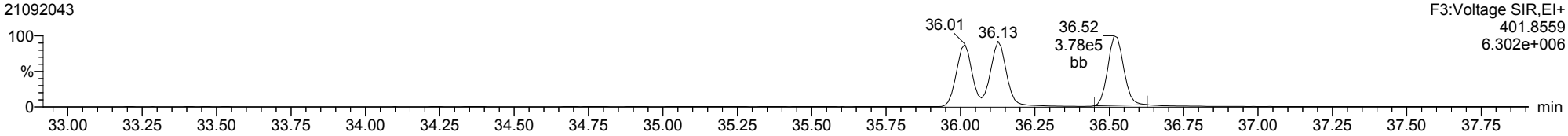
123789-HxCDD



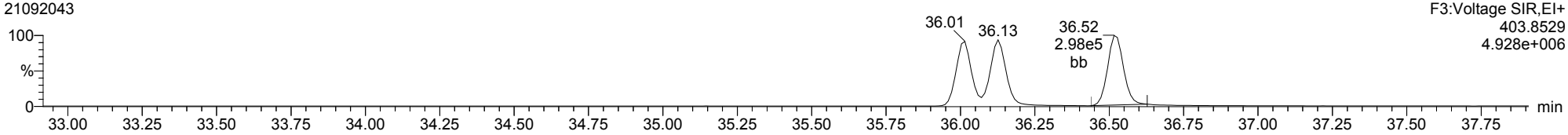
123789-HxCDD



13C-123789-HxCDD

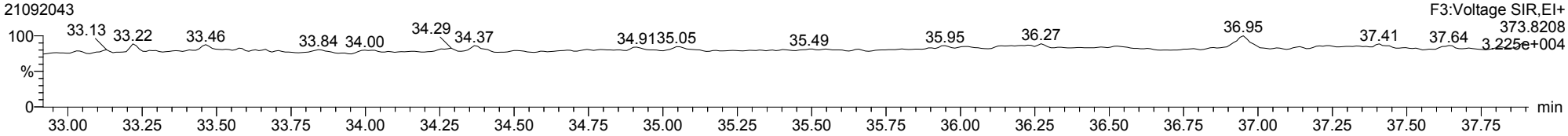


13C-123789-HxCDD

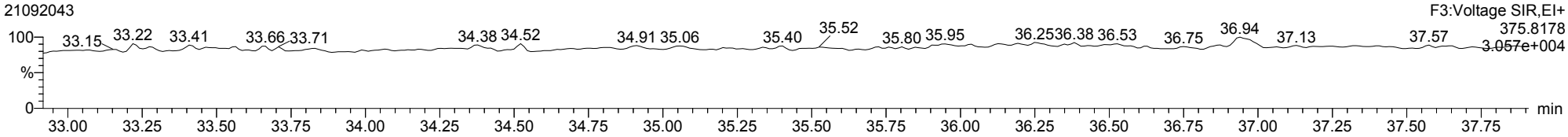


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

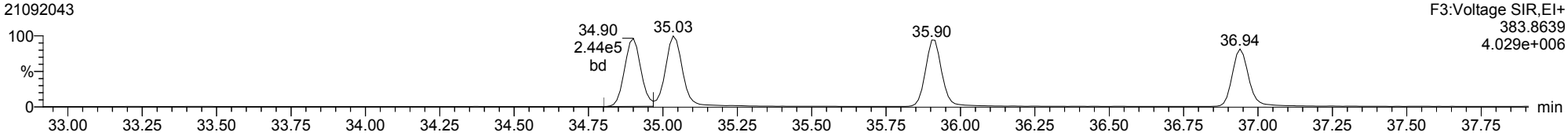
123478-HxCDF



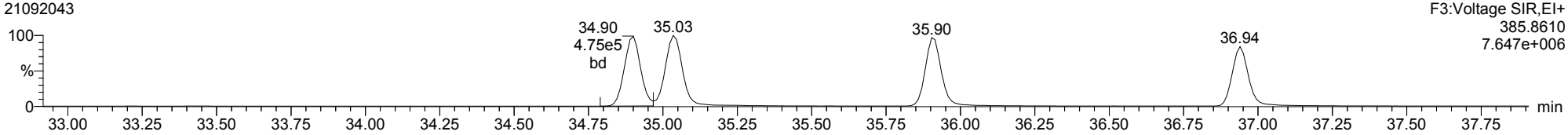
123478-HxCDF



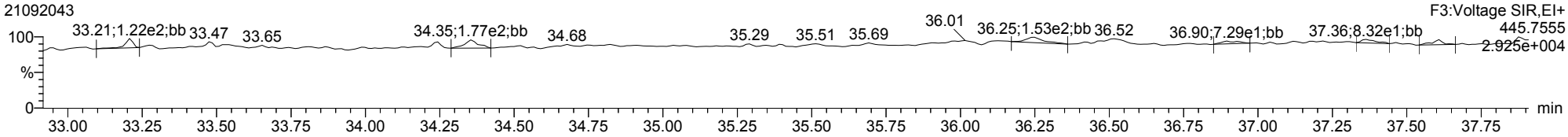
13C-123478-HxCDF



13C-123478-HxCDF

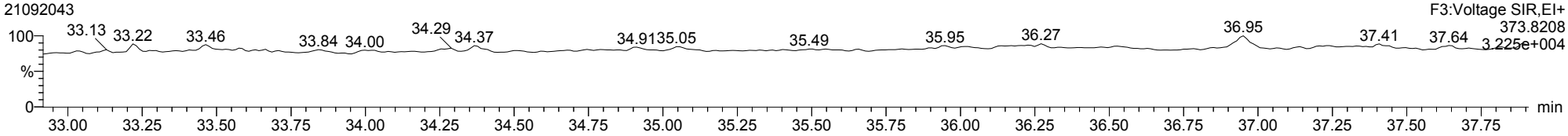


FUNCTION3 OCDPE

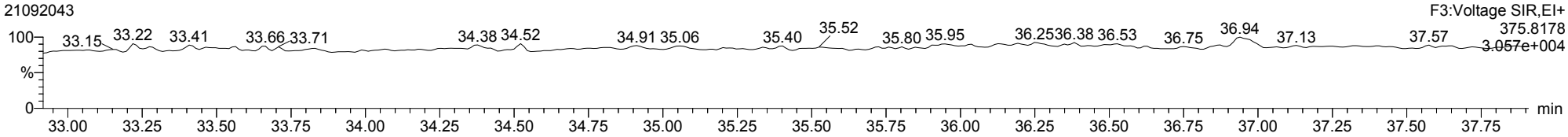


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

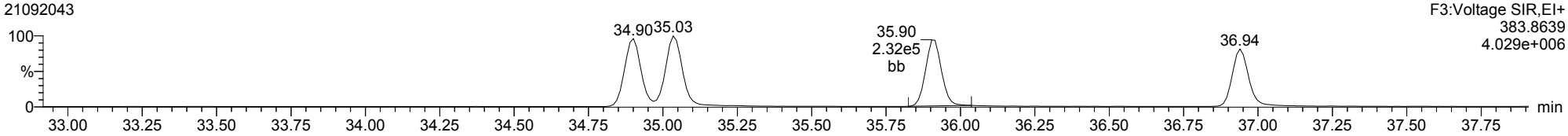
234678-HxCDF



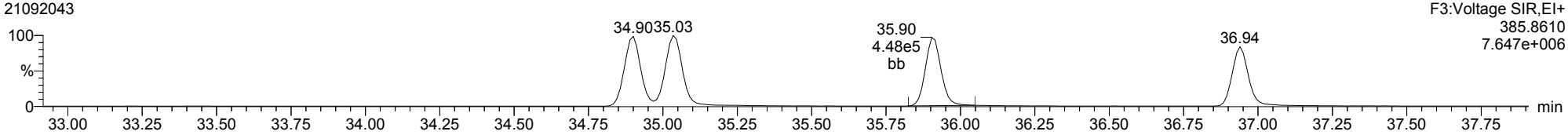
234678-HxCDF



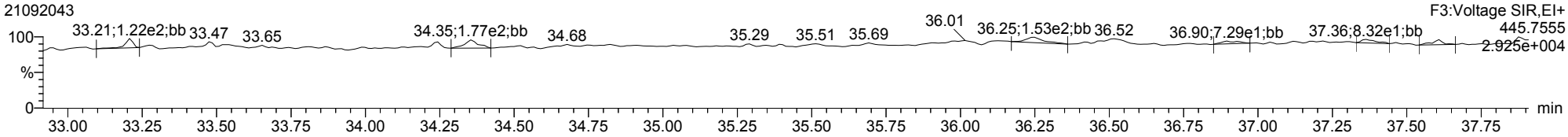
13C-234678-HxCDF



13C-234678-HxCDF

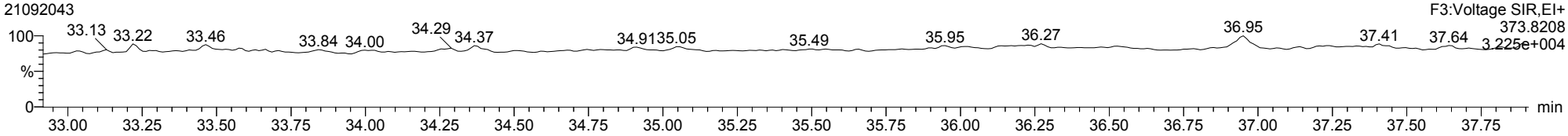


FUNCTION3 OCDPE

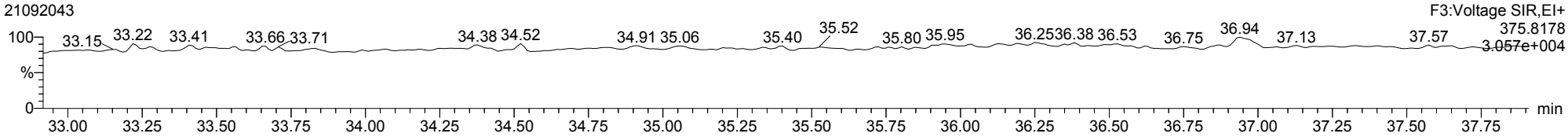


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

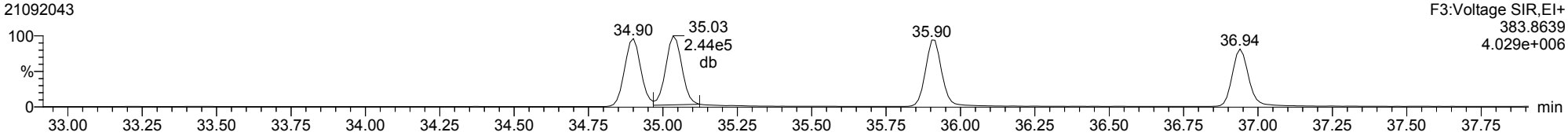
123678-HxCDF



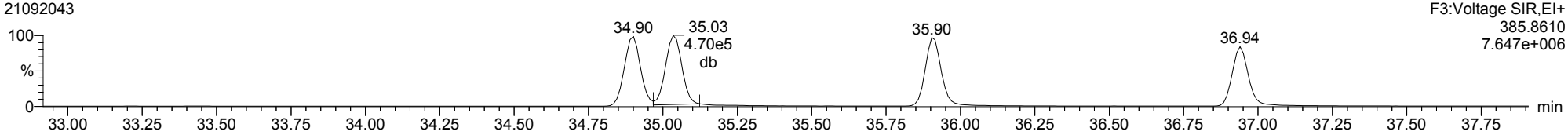
123678-HxCDF



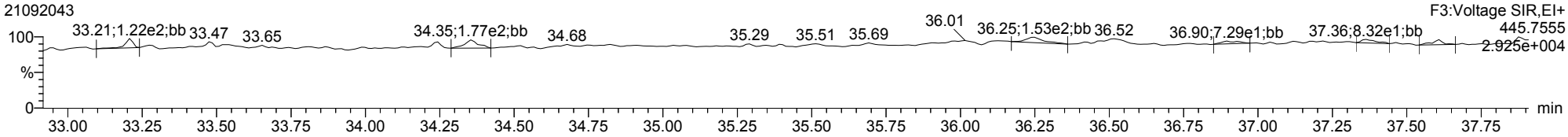
13C-123678-HxCDF



13C-123678-HxCDF

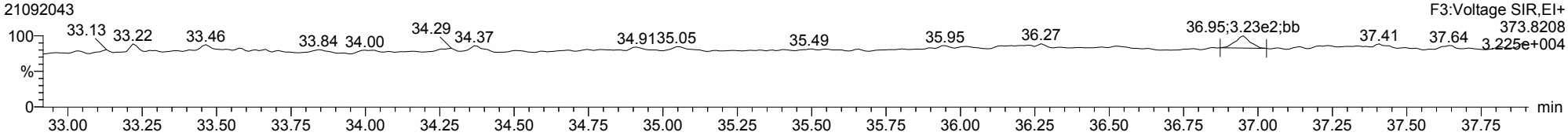


FUNCTION3 OCDPE

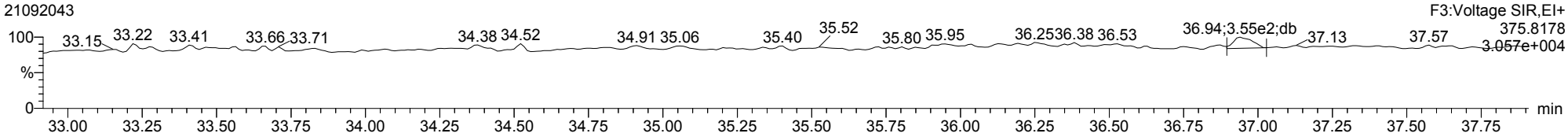


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

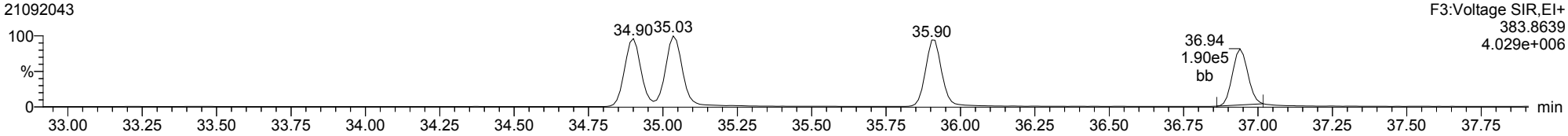
123789-HxCDF



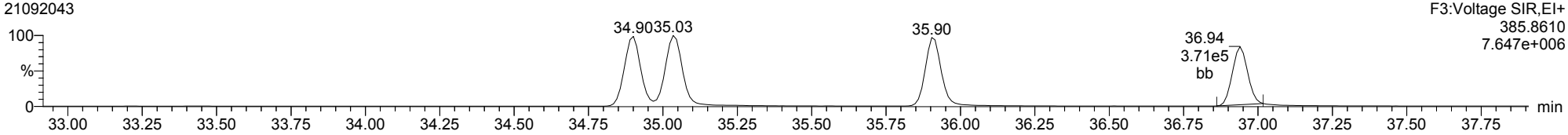
123789-HxCDF



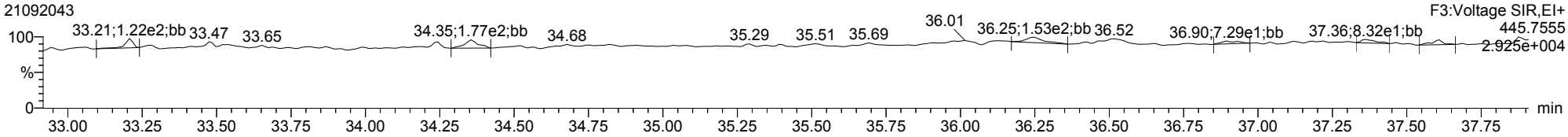
13C-123789-HxCDF



13C-123789-HxCDF

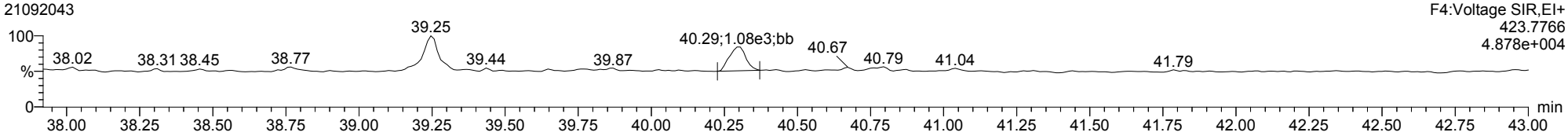


FUNCTION3 OCDPE

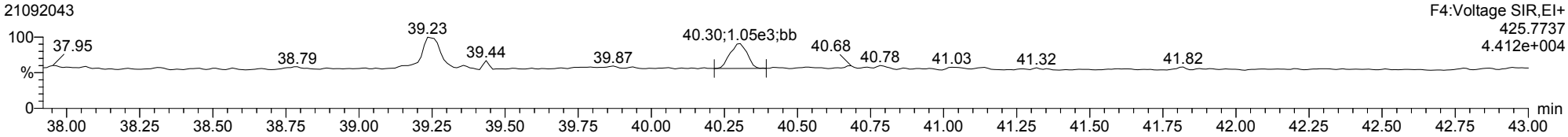


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

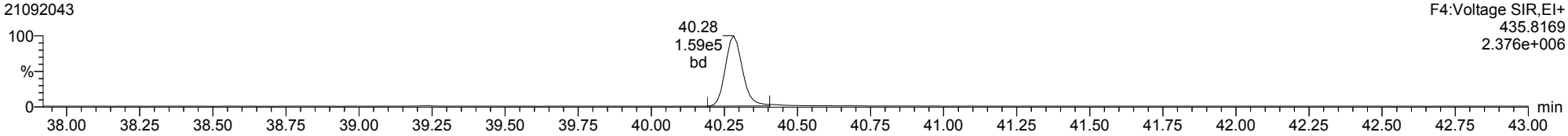
1234678-HpCDD



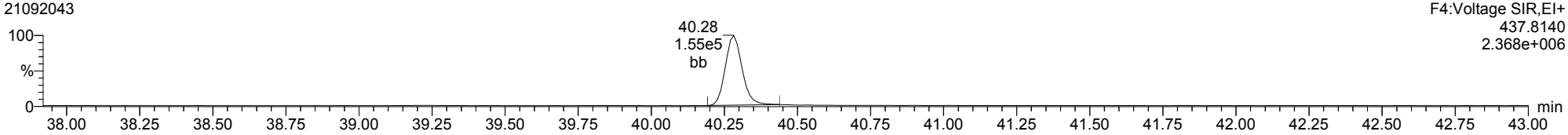
1234678-HpCDD



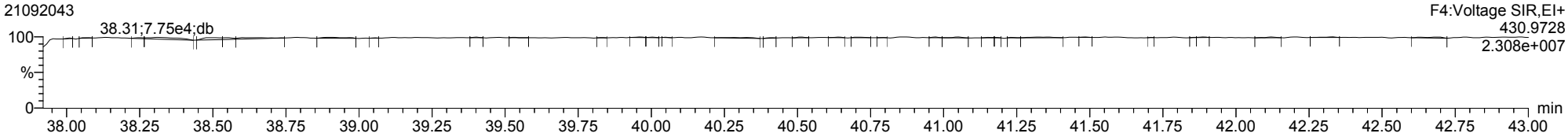
13C-1234678-HpCDD



13C-1234678-HpCDD

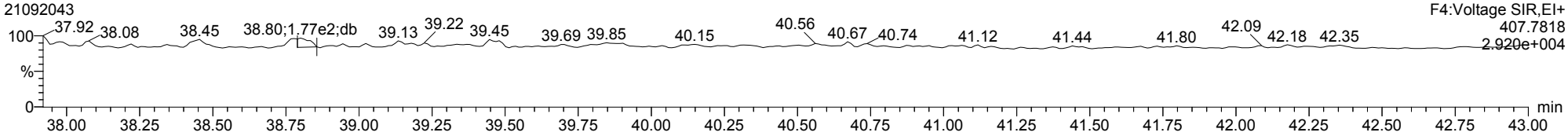


FUNCTION4 PFK

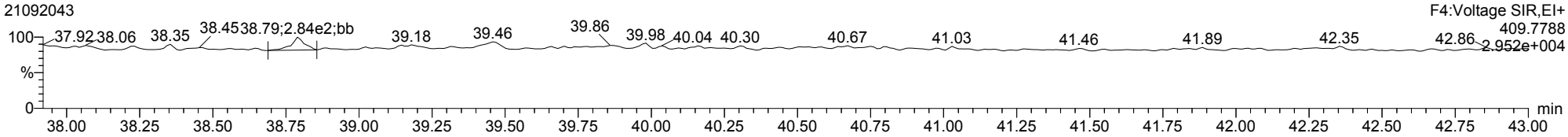


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

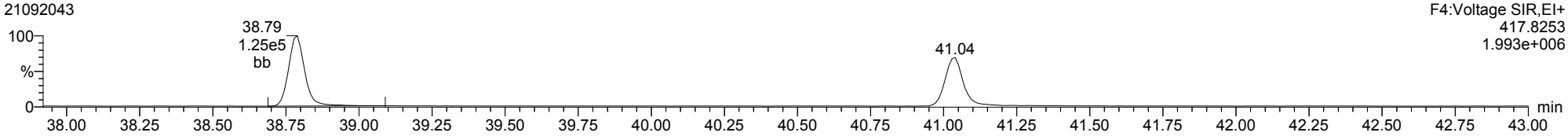
1234678-HpCDF



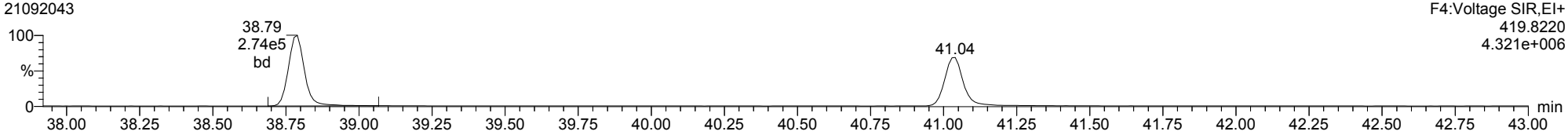
1234678-HpCDF



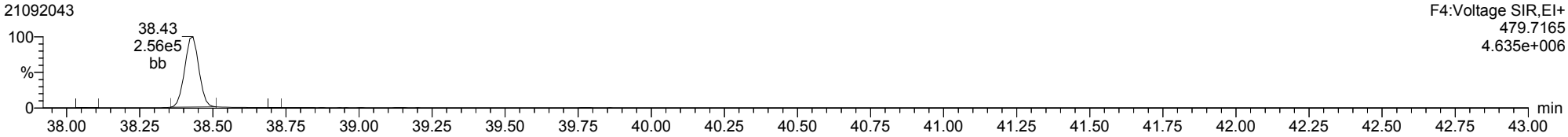
13C-1234678-HpCDF



13C-1234678-HpCDF

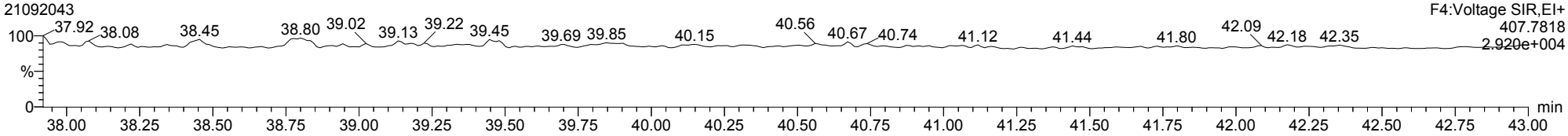


FUNCTION4 NCDPE

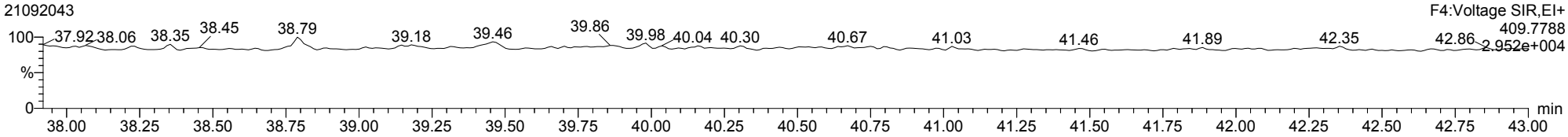


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

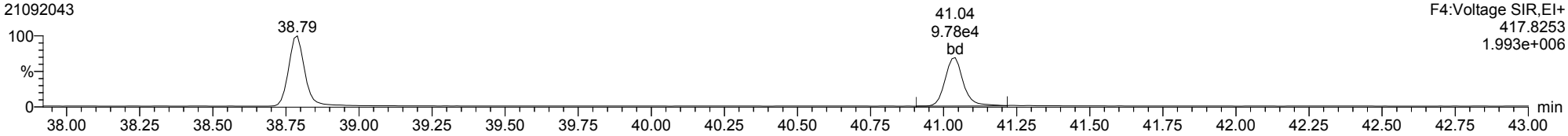
1234789-HpCDF



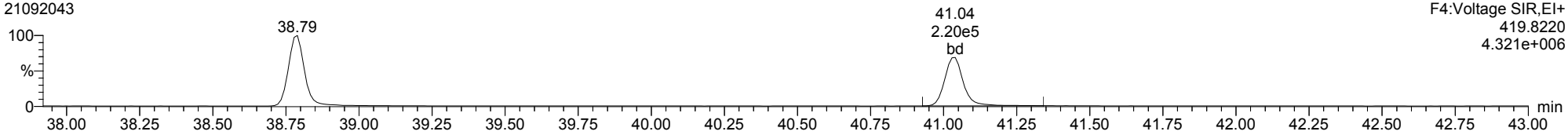
1234789-HpCDF



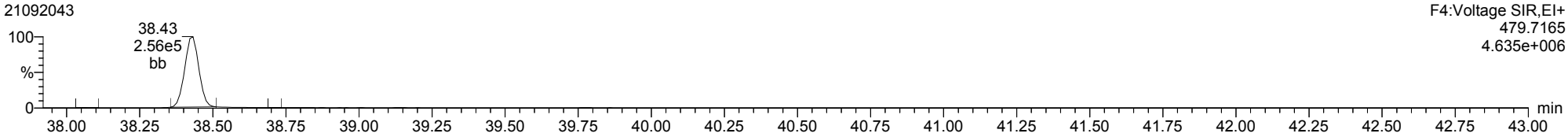
13C-1234789-HpCDF



13C-1234789-HpCDF

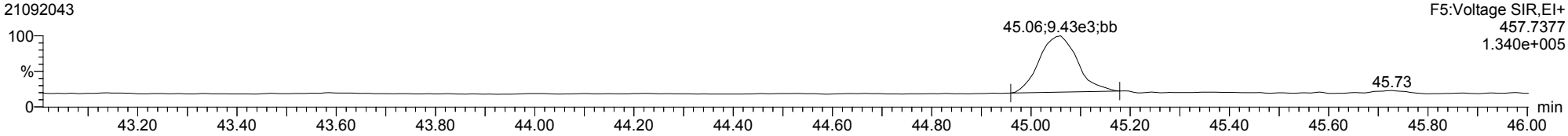


FUNCTION4 NCDPE

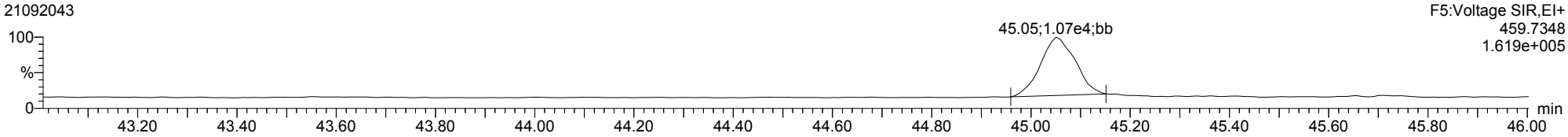


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

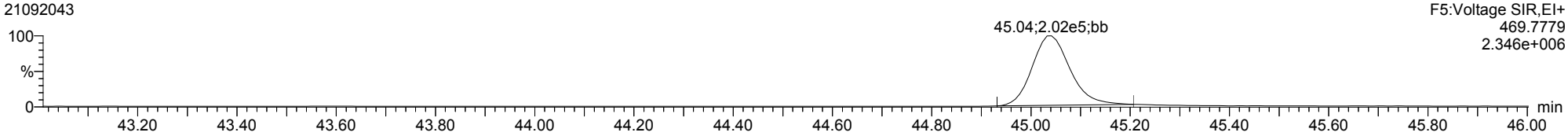
OCDD



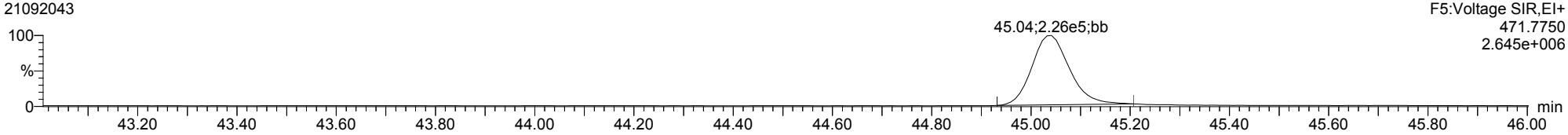
OCDD



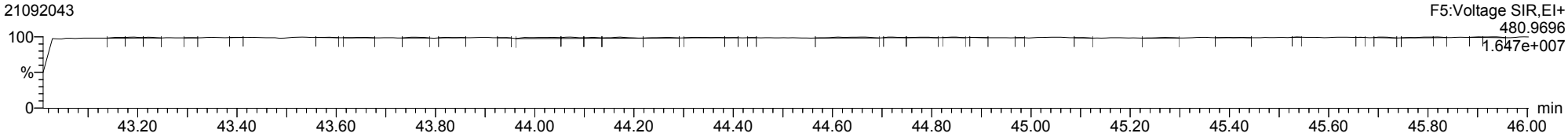
13C-OCDD



13C-OCDD

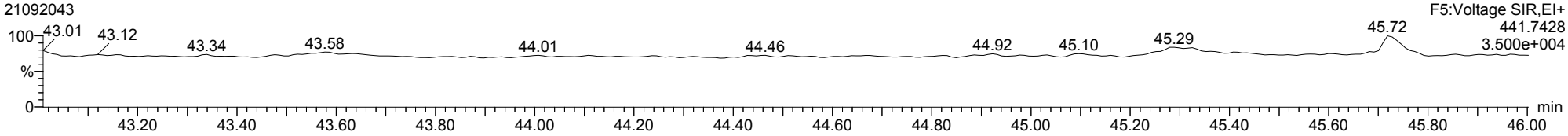


FUNCTION5 PFK

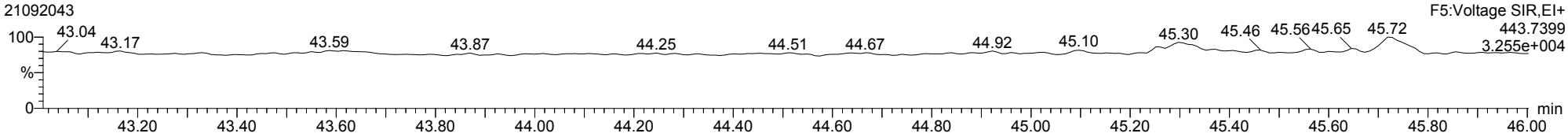


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

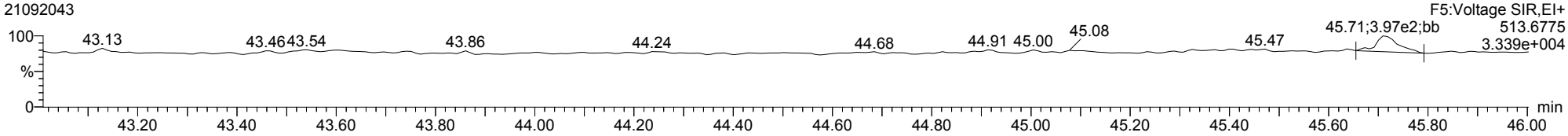
OCDF



OCDF

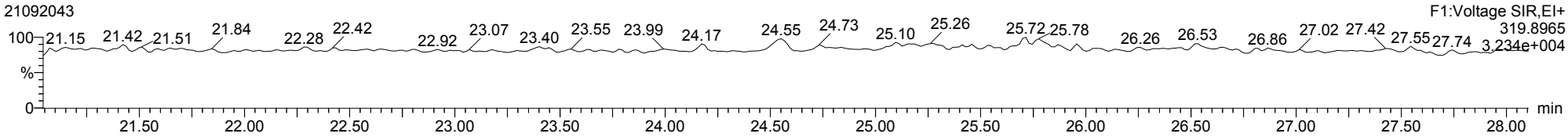


FUNCTION5 DCDPE

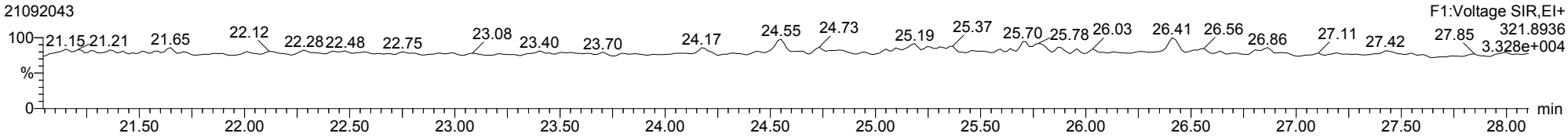


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

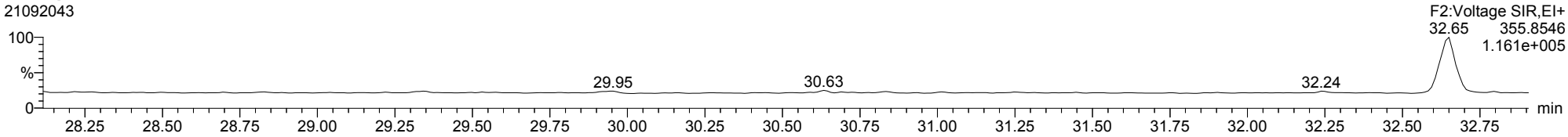
Total-tetradioxins



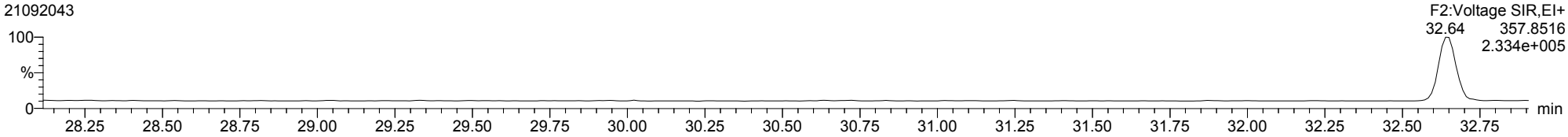
Total-tetradioxins



Total-pentadioxins



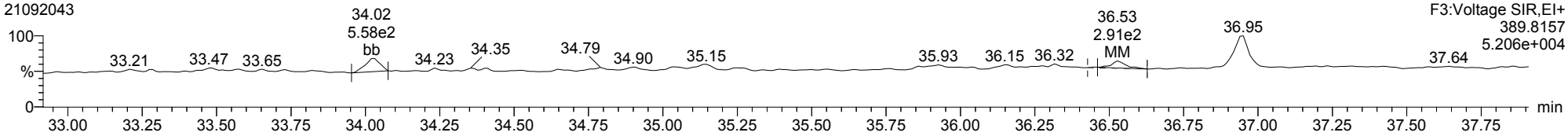
Total-pentadioxins



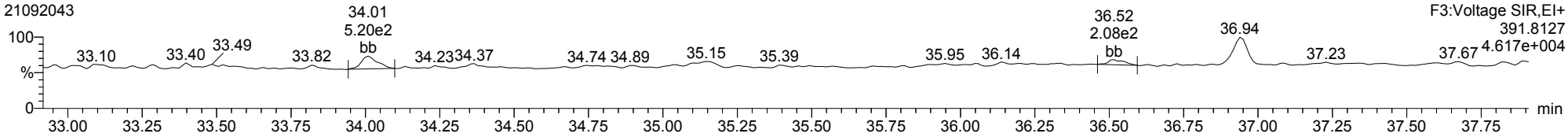
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:30 Pacific Daylight Time

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

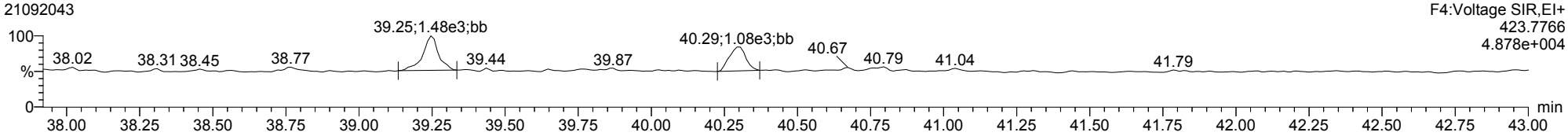
Total-hexadioxins



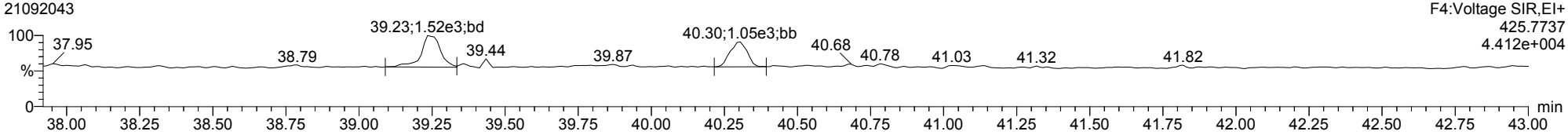
Total-hexadioxins



Total-heptadioxins

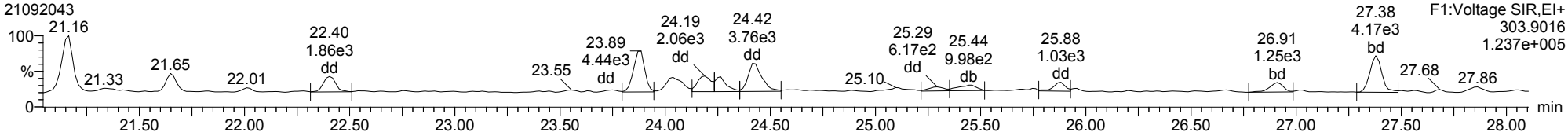


Total-heptadioxins

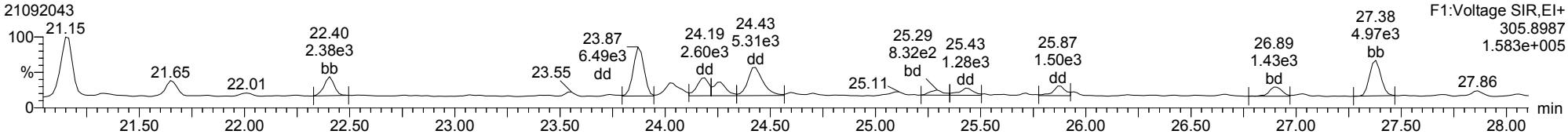


ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

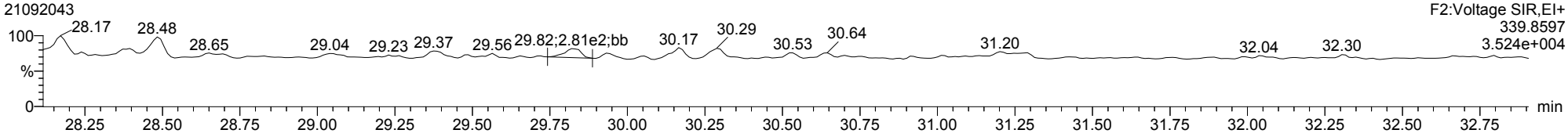
Total-tetrafurans



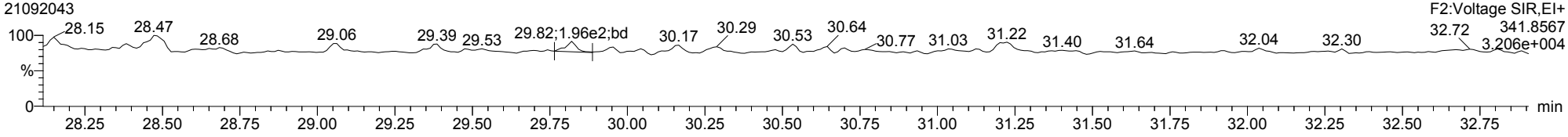
Total-tetrafurans



Total-pentafurans



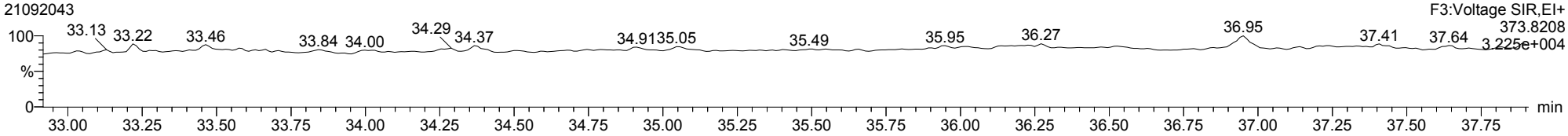
Total-pentafurans



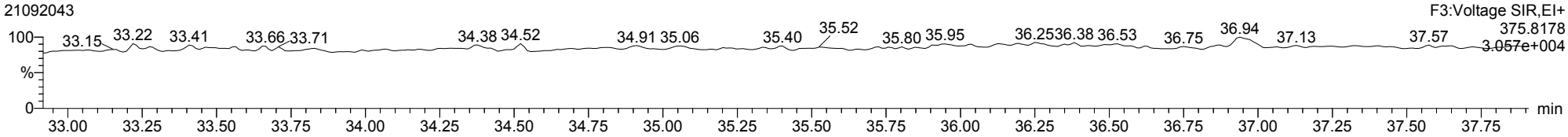
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:30 Pacific Daylight Time

ID: 21G0213-02, Name: 21092043, Date: 22-Sep-2021, Time: 03:05:03, Conditions: AUTOSPEC01, User: pk

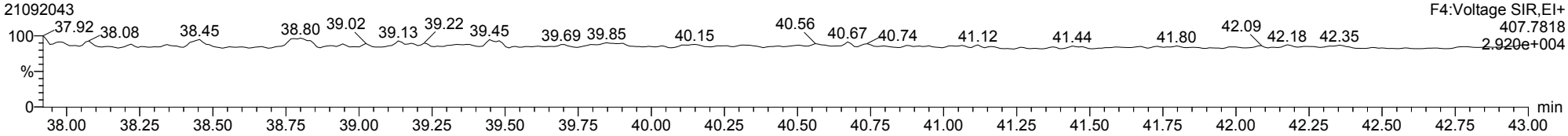
Total-hexafurans



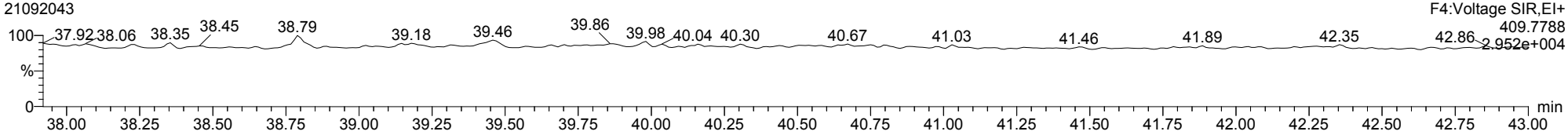
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT655E

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-03 C	File ID:	21092046
Sampled:	07/19/21 15:40	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 05:38
% Solids:	76.42	Preparation:	EPA 1613	Initial/Final:	13.09 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.139	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.091	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.086	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.086	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.096	1.00	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1		1.054-1.426	0.060	1.00	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1		1.054-1.426	0.054	1.00	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1		1.054-1.426	0.059	1.00	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	2.325	1.054-1.426	0.072	1.00	0.181	ng/kg	EMPC, J
39227-28-6	1,2,3,4,7,8-HxCDD	1		1.054-1.426	0.080	1.00	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1		1.054-1.426	0.083	1.00	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1		1.054-1.426	0.087	1.00	ND	ng/kg	U
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.049	0.893-1.208	0.087	1.00	0.171	ng/kg	J
55673-89-7	1,2,3,4,7,8,9-HpCDF	1		0.893-1.208	0.132	1.00	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.040	0.893-1.208	0.141	2.50	1.31	ng/kg	J, B
39001-02-0	OCDF	1		0.757-1.024	0.197	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.934	0.757-1.024	0.383	10.0	15.4	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	64.7	ng/kg
41903-57-5	Total TCDD	1	0.000			1.00	ND	ng/kg
30402-15-4	Total PeCDF	1	0.000			1.00	4.49	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	ND	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	ND	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	1.31	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	0.344	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	1.31	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.038
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.174

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT655E

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-03	File ID:	21092046
Sampled:	07/19/21 15:40	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 05:38
Solids Wt%:	76.42	Preparation:	EPA 1613	Initial/Final:	13.09 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.806	0.655-0.886	0.087	64.2	24 - 169 %	
13C12-2,3,7,8-TCDD		0.757	0.655-0.886	0.086	81.1	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.605	1.318-1.783	0.102	77.5	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.617	1.318-1.783	0.107	72.0	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.568	1.318-1.783	0.086	82.6	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.517	0.434-0.587	0.164	83.9	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.525	0.434-0.587	0.152	80.3	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.520	0.434-0.587	0.168	80.2	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.507	0.434-0.587	0.202	79.6	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.328	1.054-1.426	0.156	91.6	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.248	1.054-1.426	0.144	85.8	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.460	0.374-0.506	0.128	63.7	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.461	0.374-0.506	0.156	59.0	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.040	0.893-1.208	0.129	75.6	23 - 140 %	
13C12-OCDD		0.903	0.757-1.024	0.210	65.9	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.036	81.6	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					1.108		0.770	1564	1505								
12378-PeCDF					1.015		1.550	949	939								
23478-PeCDF					1.126		1.550	949	939								
123478-HxCDF					1.017		1.240	518	664								
234678-HxCDF					1.052		1.240	518	664								
123678-HxCDF					1.037		1.240	518	664								
123789-HxCDF	36.939	1.000	3.760e2	1.617e2	1.030	2.325	1.240	518	664	5.88e3	3.46e3	11.3	5.2	YES	db	db	0.090
1234678-HpCDF	38.800	1.001	2.474e2	2.358e2	1.327	1.049	1.050	685	615	3.21e3	3.82e3	4.7	6.2	NO	bb	bb	0.086
1234789-HpCDF					1.283		1.050	685	615								
OCDF					1.447		0.890	672	660								
2378-TCDD					0.920		0.770	963	697								
12378-PeCDD					0.995		1.550	796	467								
123478-HxCDD					1.027		1.240	664	812								
123678-HxCDD					1.009		1.240	664	812								
123789-HxCDD					0.950		1.240	664	812								
1234678-HpCDD	40.293	1.000	1.231e3	1.184e3	1.068	1.040	1.050	687	632	1.94e4	1.60e4	28.3	25.3	NO	bb	bb	0.657
OCDD	45.050	1.000	1.049e4	1.123e4	1.181	0.934	0.890	1475	641	1.22e5	1.35e5	82.7	210.8	NO	bb	bb	7.695
13C-2378-TCDF	25.761	1.007	3.450e5	4.279e5	1.427	0.806	0.770	1501	1300	5.33e6	6.60e6	3549.9	5072.3	NO	bb	bb	64.154
13C-12378-PeCDF	29.920	1.170	5.229e5	3.258e5	1.297	1.605	1.550	1879	1098	8.02e6	4.98e6	4270.2	4539.3	NO	bb	bb	77.466
13C-23478-PeCDF	31.269	1.222	4.645e5	2.872e5	1.236	1.617	1.550	1879	1098	7.26e6	4.48e6	3864.5	4084.0	NO	bb	bb	71.984
13C-123478-HxCDF	34.889	0.956	2.557e5	4.941e5	1.242	0.517	0.510	1560	2559	3.98e6	7.72e6	2551.6	3016.2	NO	bd	bd	83.858
13C-123678-HxCDF	35.034	0.959	2.675e5	5.091e5	1.343	0.525	0.510	1560	2559	4.38e6	8.21e6	2807.4	3210.4	NO	db	db	80.321
13C-234678-HxCDF	35.903	0.983	2.397e5	4.614e5	1.215	0.520	0.510	1560	2559	3.89e6	7.54e6	2496.1	2946.3	NO	bb	bb	80.186
13C-123789-HxCDF	36.939	1.012	1.944e5	3.832e5	1.008	0.507	0.510	1560	2559	3.23e6	6.37e6	2073.6	2488.0	NO	bb	bb	79.648
13C-1234678-HpCDF	38.778	1.062	1.338e5	2.911e5	0.926	0.460	0.440	1106	1290	2.13e6	4.64e6	1930.1	3601.8	NO	bd	bb	63.724
13C-1234789-HpCDF	41.028	1.124	1.016e5	2.205e5	0.758	0.461	0.440	1106	1290	1.45e6	3.12e6	1311.7	2417.1	NO	bd	bd	59.048
13C-1234-TCDD	25.579	0.000	3.647e5	4.798e5	1.000	0.760	0.770	1227	927	5.81e6	7.63e6	4737.6	8236.0	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.032	3.293e5	4.350e5	1.116	0.757	0.770	1227	927	5.11e6	6.69e6	4165.6	7221.7	NO	bb	bb	81.060
13C-12378-PeCDD	31.514	1.232	3.118e5	1.989e5	0.732	1.568	1.550	835	580	4.84e6	3.09e6	5799.2	5325.3	NO	bb	bb	82.608
13C-123478-HxCDD	36.004	0.986	3.610e5	2.719e5	0.960	1.328	1.240	1498	1529	6.13e6	4.73e6	4092.3	3096.3	NO	bd	bd	91.619
13C-123678-HxCDD	36.126	0.989	3.568e5	2.859e5	1.041	1.248	1.240	1498	1529	5.89e6	4.56e6	3933.5	2985.4	NO	db	db	85.755
13C-1234678-HpCDD	40.282	1.103	1.755e5	1.688e5	0.632	1.040	1.050	795	854	2.68e6	2.54e6	3374.9	2968.5	NO	bb	bb	75.648
13C-OCDD	45.032	1.233	2.268e5	2.512e5	0.504	0.903	0.890	945	1188	2.66e6	2.98e6	2819.6	2506.9	NO	bb	bb	131.873
13C-123789-HxCDD	36.516	0.000	3.968e5	3.228e5	1.000	1.229	1.240	1498	1529	6.68e6	5.31e6	4459.8	3474.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	2.986e5		1.084			879		4.57e6		5197.7			bb		32.633

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.404	0.870	1.070e4	1.460e4	1.425	0.733	0.770	1564	1505	1.67e5	2.21e5	107.0	146.9	NO	bd	bd	2.296
1289-TCDF	27.364	1.062	2.163e4	2.927e4	1.043	0.739	0.770	1564	1505	3.36e5	4.55e5	215.0	302.0	NO	bd	bd	6.314
13468-PECDF	27.061	0.904	3.774e3	2.522e3	1.376	1.497	1.550	643	1641	5.01e4	3.40e4	77.8	20.7	NO	bd	bb	0.539
12389-PECDF					1.000		1.550	949	939								
123468-HXCDF					1.087		1.240	518	664								
1368-TCDD					0.923		0.770	963	697								
1289-TCDD					0.794		0.770	963	697								
12479-PECDD					1.843		1.550	796	467								
12389-PECDD					1.154		1.550	796	467								
124679-HXCDD	34.009	0.945	9.778e2	7.225e2	1.125	1.353	1.240	664	812	1.64e4	1.18e4	24.6	14.5	NO	bb	bb	0.239
1234679-HPCDD	39.246	0.974	1.686e3	1.288e3	1.211	1.309	1.050	687	632	3.16e4	2.18e4	46.0	34.5	YES	bb	bb	0.713
Total-tetrafurans			1.259e5		1.192			1564		1.83e6							32.373
Total-penta1			6.388e2					643		9.33e3							0.130
Total-pentafurans			1.062e4		1.047			949		1.71e5							2.117
Total-hexafurans			0.000e0		1.045			518		0.00e0							
Total-heptafurans			4.546e2		1.305			685		7.17e3							0.172
Total-Furans			1.822e5		1.158			1564		2.70e6							46.116
Total-tetradioxins			0.000e0		0.879			963		0.00e0							
Total-pentadioxins			0.000e0		1.331			796		0.00e0							
Total-hexadioxins			2.517e3		1.028			664		4.11e4							0.657
Total-heptadioxins			1.231e3		1.140			687		1.94e4							0.657
Total-Dioxins			1.424e4		1.092			963		1.82e5							9.009
Total-TEQ			1.964e5					963		2.89e6							55.125
FUNCTION1 PFK			3.080e6					326317		3.38e7							
FUNCTION2 PFK			1.190e5					205773		3.36e6							0.000
FUNCTION3 PFK			2.778e5					253032		6.34e6							0.000
FUNCTION4 PFK			2.383e5					153991		6.27e6							
FUNCTION5 PFK			5.141e4					120767		1.65e6							
FUNCTION1 HXCD...			1.195e3					590		1.89e4							0.000
FUNCTION1 HPCD...			3.526e2					654		6.44e3							0.000
FUNCTION2 HPCD...			7.261e1					586		1.43e3							0.000
FUNCTION3 OCDPE			0.000e0					543		0.00e0							
FUNCTION4 NCDPE			8.290e4					676		1.50e6							0.000
FUNCTION5 DCDPE			0.000e0					540		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.04	1.055e4	1.443e4	1.192	0.73	0.77	68.8	YES	NO	dd	dd	2.712
2	Total-tetrafurans	23.87	2.331e4	2.985e4	1.192	0.78	0.77	245.7	YES	NO	dd	dd	5.770
3	Total-tetrafurans	23.54	7.303e2	1.008e3	1.192	0.72	0.77	7.3	YES	NO	bb	bd	0.189
4	Total-tetrafurans	23.10	4.446e2	5.094e2	1.192	0.87	0.77	4.4	YES	NO	bb	bb	0.104
5	1368-TCDF	22.40	1.070e4	1.460e4	1.425	0.73	0.77	107.0	YES	NO	bd	bd	2.296
6	Total-tetrafurans	26.18	4.792e2	7.066e2	1.192	0.68	0.77	5.7	YES	NO	bb	db	0.129
7	Total-tetrafurans	25.87	3.160e3	4.346e3	1.192	0.73	0.77	32.5	YES	NO	dd	dd	0.815
8	Total-tetrafurans	25.72	8.876e2	1.091e3	1.192	0.81	0.77	7.3	YES	NO	dd	bd	0.215
9	Total-tetrafurans	25.58	7.084e2	1.080e3	1.192	0.66	0.77	5.9	YES	NO	dd	db	0.194
10	Total-tetrafurans	25.44	5.473e3	7.709e3	1.192	0.71	0.77	38.0	YES	NO	dd	dd	1.431
11	Total-tetrafurans	25.28	2.048e3	2.574e3	1.192	0.80	0.77	18.5	YES	NO	bd	dd	0.502
12	Total-tetrafurans	25.11	2.749e3	3.811e3	1.192	0.72	0.77	18.5	YES	NO	bb	dd	0.712
13	Total-tetrafurans	24.42	1.940e4	2.541e4	1.192	0.76	0.77	154.1	YES	NO	dd	dd	4.864
14	Total-tetrafurans	24.25	1.180e4	1.594e4	1.192	0.74	0.77	113.1	YES	NO	dd	dd	3.010
15	Total-tetrafurans	24.17	5.128e3	6.869e3	1.192	0.75	0.77	56.4	YES	NO	dd	dd	1.302
16	1289-TCDF	27.36	2.163e4	2.927e4	1.043	0.74	0.77	215.0	YES	NO	bd	bd	6.314
17	Total-tetrafurans	27.03	2.046e3	3.024e3	1.192	0.68	0.77	23.4	YES	NO	db	db	0.550
18	Total-tetrafurans	26.91	2.864e3	4.181e3	1.192	0.68	0.77	27.8	YES	NO	bd	bd	0.765
19	Total-tetrafurans	25.94	1.836e3	2.775e3	1.192	0.66	0.77	19.7	YES	NO	MM	MM	0.501

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.98	6.388e2	3.758e2		1.70	1.55	14.5	YES	NO	bb	db	0.130

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.38	1.295e3	7.371e2	1.047	1.76	1.55	24.3	YES	NO	dd	bd	0.243
2	Total-pentafurans	28.16	8.363e2	4.861e2	1.047	1.72	1.55	15.7	YES	NO	bb	bb	0.158
3	Total-pentafurans	31.21	1.540e3	9.301e2	1.047	1.66	1.55	25.7	YES	NO	bb	bb	0.295
4	Total-pentafurans	30.29	6.452e2	4.871e2	1.047	1.32	1.55	14.3	YES	NO	db	db	0.135
5	Total-pentafurans	30.14	2.322e3	1.706e3	1.047	1.36	1.55	30.1	YES	NO	bd	bd	0.481
6	Total-pentafurans	29.83	2.872e2	2.147e2	1.047	1.34	1.55	5.0	YES	NO	bb	bb	0.060
7	Total-pentafurans	29.37	7.198e2	4.411e2	1.047	1.63	1.55	13.8	YES	NO	bb	bb	0.139
8	Total-pentafurans	29.04	4.519e2	3.062e2	1.047	1.48	1.55	7.0	YES	NO	bb	bb	0.091
9	Total-pentafurans	28.47	2.525e3	1.803e3	1.047	1.40	1.55	44.6	YES	NO	dd	db	0.517

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.46	2.072e2	2.146e2	1.305	0.97	1.05	5.8	YES	NO	bb	bb	0.087
2	1234678-HpCDF	38.80	2.474e2	2.358e2	1.327	1.05	1.05	4.7	YES	NO	bb	bb	0.086

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.04	1.055e4	1.443e4	1.192	0.73	0.77	68.8	YES	NO	dd	dd	2.712
2	Total-tetrafurans	23.87	2.331e4	2.985e4	1.192	0.78	0.77	245.7	YES	NO	dd	dd	5.770
3	Total-tetrafurans	23.54	7.303e2	1.008e3	1.192	0.72	0.77	7.3	YES	NO	bb	bd	0.189
4	Total-tetrafurans	23.10	4.446e2	5.094e2	1.192	0.87	0.77	4.4	YES	NO	bb	bb	0.104
5	1368-TCDF	22.40	1.070e4	1.460e4	1.425	0.73	0.77	107.0	YES	NO	bd	bd	2.296
6	Total-Furans	22.00	2.698e3	3.617e3	1.158	0.75	0.77	27.9	YES	NO	dd	db	0.705
7	Total-Furans	21.65	7.237e3	9.723e3	1.158	0.74	0.77	71.1	YES	NO	dd	bb	1.895
8	Total-Furans	21.15	2.446e4	3.391e4	1.158	0.72	0.77	241.4	YES	NO	bd	bd	6.520
9	Total-tetrafurans	26.18	4.792e2	7.066e2	1.192	0.68	0.77	5.7	YES	NO	bb	db	0.129
10	Total-tetrafurans	25.87	3.160e3	4.346e3	1.192	0.73	0.77	32.5	YES	NO	dd	dd	0.815
11	Total-tetrafurans	25.72	8.876e2	1.091e3	1.192	0.81	0.77	7.3	YES	NO	dd	bd	0.215
12	Total-tetrafurans	25.58	7.084e2	1.080e3	1.192	0.66	0.77	5.9	YES	NO	dd	db	0.194
13	Total-tetrafurans	25.44	5.473e3	7.709e3	1.192	0.71	0.77	38.0	YES	NO	dd	dd	1.431
14	Total-tetrafurans	25.28	2.048e3	2.574e3	1.192	0.80	0.77	18.5	YES	NO	bd	dd	0.502
15	Total-tetrafurans	25.11	2.749e3	3.811e3	1.192	0.72	0.77	18.5	YES	NO	bb	dd	0.712
16	Total-tetrafurans	24.42	1.940e4	2.541e4	1.192	0.76	0.77	154.1	YES	NO	dd	dd	4.864
17	Total-tetrafurans	24.25	1.180e4	1.594e4	1.192	0.74	0.77	113.1	YES	NO	dd	dd	3.010
18	Total-tetrafurans	24.17	5.128e3	6.869e3	1.192	0.75	0.77	56.4	YES	NO	dd	dd	1.302
19	Total-Furans	28.06	1.023e3	1.452e3	1.158	0.70	0.77	10.7	YES	NO	bb	bb	0.277
20	Total-Furans	27.85	5.350e3	7.075e3	1.158	0.76	0.77	55.8	YES	NO	db	bb	1.388
21	1289-TCDF	27.36	2.163e4	2.927e4	1.043	0.74	0.77	215.0	YES	NO	bd	bd	6.314
22	Total-tetrafurans	27.03	2.046e3	3.024e3	1.192	0.68	0.77	23.4	YES	NO	db	db	0.550
23	Total-tetrafurans	26.91	2.864e3	4.181e3	1.192	0.68	0.77	27.8	YES	NO	bd	bd	0.765
24	Total-pentafurans	28.38	1.295e3	7.371e2	1.047	1.76	1.55	24.3	YES	NO	dd	bd	0.243
25	Total-pentafurans	28.16	8.363e2	4.861e2	1.047	1.72	1.55	15.7	YES	NO	bb	bb	0.158
26	Total-pentafurans	31.21	1.540e3	9.301e2	1.047	1.66	1.55	25.7	YES	NO	bb	bb	0.295
27	Total-pentafurans	30.29	6.452e2	4.871e2	1.047	1.32	1.55	14.3	YES	NO	db	db	0.135
28	Total-pentafurans	30.14	2.322e3	1.706e3	1.047	1.36	1.55	30.1	YES	NO	bd	bd	0.481
29	Total-pentafurans	29.83	2.872e2	2.147e2	1.047	1.34	1.55	5.0	YES	NO	bb	bb	0.060
30	Total-pentafurans	29.37	7.198e2	4.411e2	1.047	1.63	1.55	13.8	YES	NO	bb	bb	0.139
31	Total-pentafurans	29.04	4.519e2	3.062e2	1.047	1.48	1.55	7.0	YES	NO	bb	bb	0.091
32	Total-pentafurans	28.47	2.525e3	1.803e3	1.047	1.40	1.55	44.6	YES	NO	dd	db	0.517
33	Total-heptafurans	39.46	2.072e2	2.146e2	1.305	0.97	1.05	5.8	YES	NO	bb	bb	0.087
34	1234678-HpCDF	38.80	2.474e2	2.358e2	1.327	1.05	1.05	4.7	YES	NO	bb	bb	0.086
35	Total-penta1	27.98	6.388e2	3.758e2		1.70	1.55	14.5	YES	NO	bb	db	0.130
36	13468-PECDF	27.06	3.774e3	2.522e3	1.376	1.50	1.55	77.8	YES	NO	bd	bb	0.539
37	Total-tetrafurans	25.94	1.836e3	2.775e3	1.192	0.66	0.77	19.7	YES	NO	MM	MM	0.501

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.94	1.539e3	1.200e3	1.028	1.28	1.24	37.2	YES	NO	bb	bb	0.418
2	124679-HXCDD	34.01	9.778e2	7.225e2	1.125	1.35	1.24	24.6	YES	NO	bb	bb	0.239

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.29	1.231e3	1.184e3	1.068	1.04	1.05	28.3	YES	NO	bb	bb	0.657

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.94	1.539e3	1.200e3	1.028	1.28	1.24	37.2	YES	NO	bb	bb	0.418
2	124679-HXCDD	34.01	9.778e2	7.225e2	1.125	1.35	1.24	24.6	YES	NO	bb	bb	0.239
3	OCDD	45.05	1.049e4	1.123e4	1.181	0.93	0.89	82.7	YES	NO	bb	bb	7.695
4	1234678-HpCDD	40.29	1.231e3	1.184e3	1.068	1.04	1.05	28.3	YES	NO	bb	bb	0.657

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.04	1.055e4	1.443e4	1.192	0.73	0.77	68.8	YES	NO	dd	dd	2.712
2	Total-tetrafurans	23.87	2.331e4	2.985e4	1.192	0.78	0.77	245.7	YES	NO	dd	dd	5.770
3	Total-tetrafurans	23.54	7.303e2	1.008e3	1.192	0.72	0.77	7.3	YES	NO	bb	bd	0.189
4	Total-tetrafurans	23.10	4.446e2	5.094e2	1.192	0.87	0.77	4.4	YES	NO	bb	bb	0.104
5	1368-TCDF	22.40	1.070e4	1.460e4	1.425	0.73	0.77	107.0	YES	NO	bd	bd	2.296
6	Total-Furans	22.00	2.698e3	3.617e3	1.158	0.75	0.77	27.9	YES	NO	dd	db	0.705
7	Total-Furans	21.65	7.237e3	9.723e3	1.158	0.74	0.77	71.1	YES	NO	dd	bb	1.895
8	Total-Furans	21.15	2.446e4	3.391e4	1.158	0.72	0.77	241.4	YES	NO	bd	bd	6.520
9	Total-tetrafurans	26.18	4.792e2	7.066e2	1.192	0.68	0.77	5.7	YES	NO	bb	db	0.129
10	Total-tetrafurans	25.87	3.160e3	4.346e3	1.192	0.73	0.77	32.5	YES	NO	dd	dd	0.815
11	Total-tetrafurans	25.72	8.876e2	1.091e3	1.192	0.81	0.77	7.3	YES	NO	dd	bd	0.215
12	Total-tetrafurans	25.58	7.084e2	1.080e3	1.192	0.66	0.77	5.9	YES	NO	dd	db	0.194
13	Total-tetrafurans	25.44	5.473e3	7.709e3	1.192	0.71	0.77	38.0	YES	NO	dd	dd	1.431
14	Total-tetrafurans	25.28	2.048e3	2.574e3	1.192	0.80	0.77	18.5	YES	NO	bd	dd	0.502
15	Total-tetrafurans	25.11	2.749e3	3.811e3	1.192	0.72	0.77	18.5	YES	NO	bb	dd	0.712
16	Total-tetrafurans	24.42	1.940e4	2.541e4	1.192	0.76	0.77	154.1	YES	NO	dd	dd	4.864
17	Total-tetrafurans	24.25	1.180e4	1.594e4	1.192	0.74	0.77	113.1	YES	NO	dd	dd	3.010
18	Total-tetrafurans	24.17	5.128e3	6.869e3	1.192	0.75	0.77	56.4	YES	NO	dd	dd	1.302
19	Total-Furans	28.06	1.023e3	1.452e3	1.158	0.70	0.77	10.7	YES	NO	bb	bb	0.277
20	Total-Furans	27.85	5.350e3	7.075e3	1.158	0.76	0.77	55.8	YES	NO	db	bb	1.388
21	1289-TCDF	27.36	2.163e4	2.927e4	1.043	0.74	0.77	215.0	YES	NO	bd	bd	6.314
22	Total-tetrafurans	27.03	2.046e3	3.024e3	1.192	0.68	0.77	23.4	YES	NO	db	db	0.550
23	Total-tetrafurans	26.91	2.864e3	4.181e3	1.192	0.68	0.77	27.8	YES	NO	bd	bd	0.765
24	Total-pentafurans	28.38	1.295e3	7.371e2	1.047	1.76	1.55	24.3	YES	NO	dd	bd	0.243
25	Total-pentafurans	28.16	8.363e2	4.861e2	1.047	1.72	1.55	15.7	YES	NO	bb	bb	0.158
26	Total-pentafurans	31.21	1.540e3	9.301e2	1.047	1.66	1.55	25.7	YES	NO	bb	bb	0.295
27	Total-pentafurans	30.29	6.452e2	4.871e2	1.047	1.32	1.55	14.3	YES	NO	db	db	0.135
28	Total-pentafurans	30.14	2.322e3	1.706e3	1.047	1.36	1.55	30.1	YES	NO	bd	bd	0.481
29	Total-pentafurans	29.83	2.872e2	2.147e2	1.047	1.34	1.55	5.0	YES	NO	bb	bb	0.060
30	Total-pentafurans	29.37	7.198e2	4.411e2	1.047	1.63	1.55	13.8	YES	NO	bb	bb	0.139
31	Total-pentafurans	29.04	4.519e2	3.062e2	1.047	1.48	1.55	7.0	YES	NO	bb	bb	0.091
32	Total-pentafurans	28.47	2.525e3	1.803e3	1.047	1.40	1.55	44.6	YES	NO	dd	db	0.517
33	Total-heptafurans	39.46	2.072e2	2.146e2	1.305	0.97	1.05	5.8	YES	NO	bb	bb	0.087
34	1234678-HpCDF	38.80	2.474e2	2.358e2	1.327	1.05	1.05	4.7	YES	NO	bb	bb	0.086
35	Total-penta1	27.98	6.388e2	3.758e2		1.70	1.55	14.5	YES	NO	bb	db	0.130
36	13468-PECDF	27.06	3.774e3	2.522e3	1.376	1.50	1.55	77.8	YES	NO	bd	bb	0.539
37	Total-tetrafurans	25.94	1.836e3	2.775e3	1.192	0.66	0.77	19.7	YES	NO	MM	MM	0.501

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-hexadioxins	36.94	1.539e3	1.200e3	1.028	1.28	1.24	37.2	YES	NO	bb	bb	0.418
39	124679-HXCDD	34.01	9.778e2	7.225e2	1.125	1.35	1.24	24.6	YES	NO	bb	bb	0.239
40	OCDD	45.05	1.049e4	1.123e4	1.181	0.93	0.89	82.7	YES	NO	bb	bb	7.695
41	1234678-HpCDD	40.29	1.231e3	1.184e3	1.068	1.04	1.05	28.3	YES	NO	bb	bb	0.657

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	23.04	4.728e4					1.9	NO		bb		
2	FUNCTION1 PFK	22.83	5.313e4					2.0	NO		db		
3	FUNCTION1 PFK	22.68	1.213e5					3.4	YES		dd		
4	FUNCTION1 PFK	22.62	3.992e4					3.1	YES		dd		
5	FUNCTION1 PFK	22.46	2.536e5					5.0	YES		dd		
6	FUNCTION1 PFK	22.37	7.457e4					4.3	YES		dd		
7	FUNCTION1 PFK	22.22	3.041e5					6.9	YES		dd		
8	FUNCTION1 PFK	22.15	1.642e5					6.2	YES		bd		
9	FUNCTION1 PFK	21.97	2.980e5					8.7	YES		db		
10	FUNCTION1 PFK	21.83	3.805e5					7.7	YES		dd		
11	FUNCTION1 PFK	21.65	3.271e5					7.5	YES		dd		
12	FUNCTION1 PFK	21.53	1.944e5					6.5	YES		dd		
13	FUNCTION1 PFK	21.44	2.429e5					5.0	YES		dd		
14	FUNCTION1 PFK	21.25	1.650e4					1.9	NO		dd		
15	FUNCTION1 PFK	21.19	4.681e4					2.7	NO		dd		
16	FUNCTION1 PFK	21.13	1.624e4					1.5	NO		bd		
17	FUNCTION1 PFK	26.06	1.890e4					1.0	NO		db		
18	FUNCTION1 PFK	25.97	2.004e4					1.2	NO		dd		
19	FUNCTION1 PFK	25.91	1.215e4					1.1	NO		bd		
20	FUNCTION1 PFK	25.81	1.842e4					1.0	NO		bb		
21	FUNCTION1 PFK	25.55	4.154e4					1.9	NO		bb		
22	FUNCTION1 PFK	25.31	1.683e4					1.3	NO		bb		
23	FUNCTION1 PFK	25.10	5.318e4					2.0	NO		bb		
24	FUNCTION1 PFK	24.90	2.470e4					1.0	NO		bb		
25	FUNCTION1 PFK	24.70	4.813e3					0.6	NO		bb		
26	FUNCTION1 PFK	24.64	1.574e3					0.3	NO		bb		
27	FUNCTION1 PFK	24.19	4.688e3					0.5	NO		db		
28	FUNCTION1 PFK	24.05	3.102e4					1.6	NO		dd		
29	FUNCTION1 PFK	23.99	4.908e4					2.3	NO		bd		
30	FUNCTION1 PFK	23.46	1.076e4					1.0	NO		bb		
31	FUNCTION1 PFK	23.28	5.133e4					2.2	NO		db		
32	FUNCTION1 PFK	23.21	4.331e4					2.7	NO		bd		
33	FUNCTION1 PFK	27.83	5.711e3					0.5	NO		bb		
34	FUNCTION1 PFK	27.70	9.768e3					0.5	NO		db		
35	FUNCTION1 PFK	27.59	2.528e4					1.6	NO		bd		
36	FUNCTION1 PFK	27.23	4.527e3					0.5	NO		bb		
37	FUNCTION1 PFK	26.86	5.392e3					0.6	NO		bb		

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	26.79	1.496e4					1.0	NO		bb		
39	FUNCTION1 PFK	26.26	1.160e4					0.9	NO		db		
40	FUNCTION1 PFK	26.18	1.254e4					0.9	NO		dd		
41	FUNCTION1 PFK	26.12	7.452e3					0.8	NO		bd		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.22	1.608e4					1.1	NO		bb		0.000
2	FUNCTION2 PFK	29.07	5.125e3					1.0	NO		bb		0.000
3	FUNCTION2 PFK	28.97	1.887e4					1.3	NO		bb		0.000
4	FUNCTION2 PFK	28.69	2.915e3					0.7	NO		bb		0.000
5	FUNCTION2 PFK	28.32	1.153e3					0.5	NO		bb		0.000
6	FUNCTION2 PFK	28.19	1.930e3					0.8	NO		bb		0.000
7	FUNCTION2 PFK	32.54	1.375e4					1.4	NO		db		0.000
8	FUNCTION2 PFK	32.45	1.650e4					1.9	NO		dd		0.000
9	FUNCTION2 PFK	32.39	1.286e4					1.7	NO		bd		0.000
10	FUNCTION2 PFK	32.33	4.922e3					1.0	NO		bb		0.000
11	FUNCTION2 PFK	31.66	2.758e3					0.7	NO		bb		0.000
12	FUNCTION2 PFK	31.32	1.008e4					1.2	NO		db		0.000
13	FUNCTION2 PFK	31.26	4.217e3					0.8	NO		bd		0.000
14	FUNCTION2 PFK	30.76	1.001e3					0.4	NO		bb		0.000
15	FUNCTION2 PFK	30.21	1.049e3					0.5	NO		bb		0.000
16	FUNCTION2 PFK	29.95	5.818e3					1.2	NO		bb		0.000

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.05	5.218e3					0.9	NO		bb		0.000
2	FUNCTION3 PFK	33.93	1.442e4					1.7	NO		bb		0.000
3	FUNCTION3 PFK	33.34	2.193e4					1.7	NO		bb		0.000
4	FUNCTION3 PFK	33.08	4.442e3					0.8	NO		db		0.000
5	FUNCTION3 PFK	33.02	2.792e4					1.6	NO		bd		0.000
6	FUNCTION3 PFK	37.83	6.873e3					1.1	NO		bb		0.000
7	FUNCTION3 PFK	37.57	1.721e4					1.3	NO		bb		0.000
8	FUNCTION3 PFK	37.53	2.415e3					0.6	NO		bb		0.000
9	FUNCTION3 PFK	37.40	4.898e3					1.0	NO		bb		0.000
10	FUNCTION3 PFK	37.33	1.153e4					1.3	NO		bb		0.000
11	FUNCTION3 PFK	37.05	3.566e3					0.7	NO		bb		0.000
12	FUNCTION3 PFK	36.85	2.166e4					2.6	NO		bb		0.000
13	FUNCTION3 PFK	36.69	6.878e3					1.1	NO		bb		0.000
14	FUNCTION3 PFK	36.46	1.359e4					1.4	NO		bb		0.000
15	FUNCTION3 PFK	36.20	8.132e4					2.5	NO		db		0.000
16	FUNCTION3 PFK	36.07	4.916e3					0.8	NO		bd		0.000
17	FUNCTION3 PFK	35.91	1.702e4					1.4	NO		bb		0.000
18	FUNCTION3 PFK	34.88	4.740e3					0.9	NO		bb		0.000
19	FUNCTION3 PFK	34.78	1.181e3					0.4	NO		bb		0.000
20	FUNCTION3 PFK	34.43	4.947e3					0.8	NO		bb		0.000
21	FUNCTION3 PFK	34.38	1.156e3					0.4	NO		bb		0.000

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.55	7.283e3					1.0	NO		bb		
2	FUNCTION4 PFK	39.46	6.584e3					1.4	NO		bb		
3	FUNCTION4 PFK	39.30	6.659e2					0.4	NO		bb		
4	FUNCTION4 PFK	39.20	1.486e4					1.9	NO		bb		
5	FUNCTION4 PFK	39.06	1.863e3					0.5	NO		bb		
6	FUNCTION4 PFK	39.01	5.813e3					0.7	NO		bb		
7	FUNCTION4 PFK	38.89	3.825e3					1.0	NO		bb		
8	FUNCTION4 PFK	38.73	1.167e4					1.6	NO		db		
9	FUNCTION4 PFK	38.66	7.762e3					1.2	NO		bd		
10	FUNCTION4 PFK	38.47	1.360e4					1.6	NO		bb		
11	FUNCTION4 PFK	38.37	2.012e3					0.6	NO		bb		
12	FUNCTION4 PFK	38.31	1.232e4					1.4	NO		bb		
13	FUNCTION4 PFK	38.14	2.105e3					0.8	NO		bb		
14	FUNCTION4 PFK	38.10	5.047e3					1.1	NO		bb		
15	FUNCTION4 PFK	38.03	4.573e3					1.3	NO		bb		
16	FUNCTION4 PFK	41.98	1.691e4					1.0	NO		bb		
17	FUNCTION4 PFK	41.83	1.523e4					2.5	NO		bb		
18	FUNCTION4 PFK	41.65	2.684e3					0.9	NO		bb		
19	FUNCTION4 PFK	41.52	6.432e3					1.1	NO		bb		
20	FUNCTION4 PFK	41.34	7.109e3					1.2	NO		db		
21	FUNCTION4 PFK	41.25	8.744e3					1.5	NO		bd		
22	FUNCTION4 PFK	41.01	2.218e3					0.6	NO		bb		
23	FUNCTION4 PFK	40.86	1.417e4					2.0	NO		db		
24	FUNCTION4 PFK	40.82	4.509e3					1.3	NO		bd		
25	FUNCTION4 PFK	40.68	6.630e3					1.4	NO		db		
26	FUNCTION4 PFK	40.62	1.920e4					2.0	NO		bd		
27	FUNCTION4 PFK	40.45	3.339e3					0.9	NO		bb		
28	FUNCTION4 PFK	40.38	6.763e3					1.4	NO		db		
29	FUNCTION4 PFK	40.33	9.560e3					1.7	NO		bd		
30	FUNCTION4 PFK	40.06	3.845e3					1.1	NO		bb		
31	FUNCTION4 PFK	39.69	1.447e3					0.5	NO		bb		
32	FUNCTION4 PFK	42.94	2.343e3					0.7	NO		bb		
33	FUNCTION4 PFK	42.90	5.782e2					0.3	NO		bb		
34	FUNCTION4 PFK	42.57	1.992e3					0.8	NO		bb		
35	FUNCTION4 PFK	42.22	3.890e3					0.9	NO		bb		
36	FUNCTION4 PFK	42.06	7.709e2					0.4	NO		bb		

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.68	5.622e2					0.5	NO		bb		
2	FUNCTION5 PFK	45.61	3.730e3					1.4	NO		bb		
3	FUNCTION5 PFK	45.37	1.490e3					0.8	NO		bb		
4	FUNCTION5 PFK	44.75	6.415e2					0.6	NO		bb		
5	FUNCTION5 PFK	44.60	8.919e3					2.1	NO		bb		
6	FUNCTION5 PFK	44.46	7.167e3					1.8	NO		bb		
7	FUNCTION5 PFK	44.38	1.837e3					0.8	NO		bb		
8	FUNCTION5 PFK	43.81	1.365e4					1.6	NO		bb		
9	FUNCTION5 PFK	43.18	1.052e3					0.7	NO		db		
10	FUNCTION5 PFK	43.15	7.133e3					1.2	NO		bd		
11	FUNCTION5 PFK	45.90	3.947e3					1.4	NO		bb		
12	FUNCTION5 PFK	45.82	1.290e3					0.7	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.58	8.409e1					3.2	YES		db		0.000
2	FUNCTION1 HXCD...	27.51	1.740e2					4.5	YES		bd		0.000
3	FUNCTION1 HXCD...	27.03	1.006e2					3.0	YES		bb		0.000
4	FUNCTION1 HXCD...	26.77	1.992e2					5.1	YES		bb		0.000
5	FUNCTION1 HXCD...	26.59	7.557e1					1.9	NO		bb		0.000
6	FUNCTION1 HXCD...	25.34	3.200e2					4.9	YES		bb		0.000
7	FUNCTION1 HXCD...	23.75	1.388e2					4.1	YES		bb		0.000
8	FUNCTION1 HXCD...	21.97	1.023e2					5.3	YES		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	27.06	7.450e1					1.0	NO		bb		0.000
2	FUNCTION1 HPCD...	26.40	9.097e1					2.2	NO		bb		0.000
3	FUNCTION1 HPCD...	26.08	1.030e2					4.1	YES		bb		0.000
4	FUNCTION1 HPCD...	23.89	8.410e1					2.6	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.56	7.261e1					2.4	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.66	7.218e1					4.7	YES		bb		0.000
2	FUNCTION4 NCDPE	38.42	8.283e4					2217.0	YES		bb		0.000

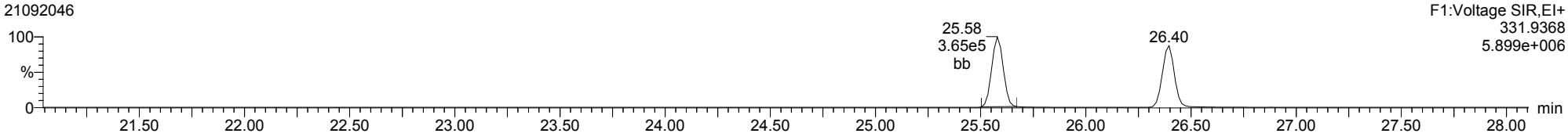
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

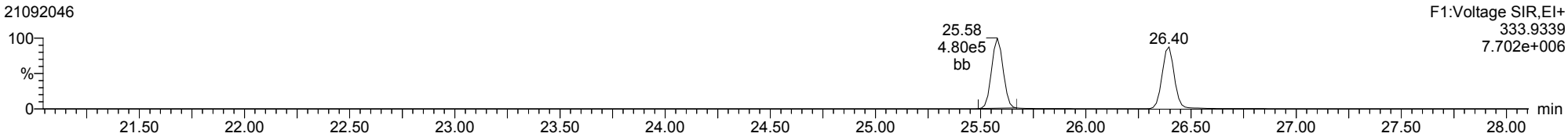
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

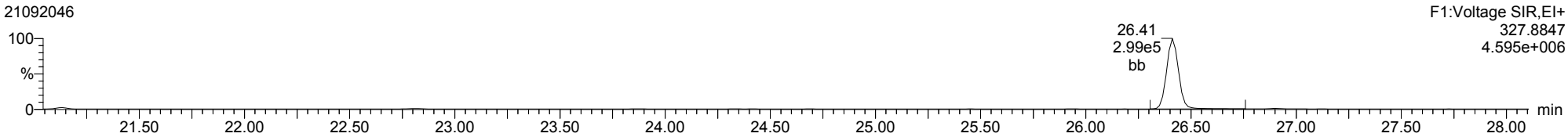
13C-1234-TCDD



13C-1234-TCDD

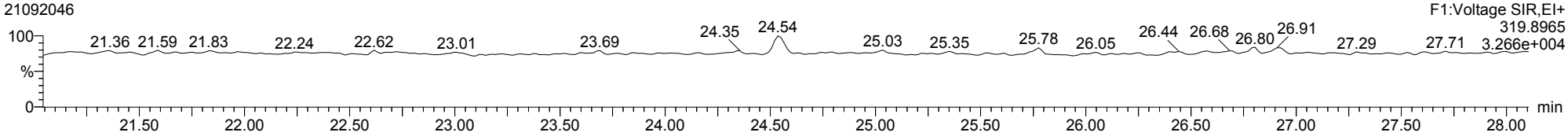


37CL-2378-TCDD

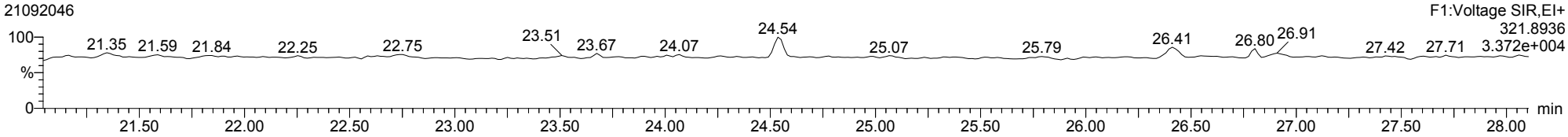


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

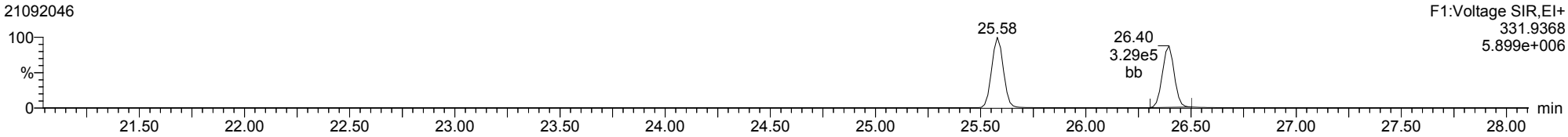
2378-TCDD



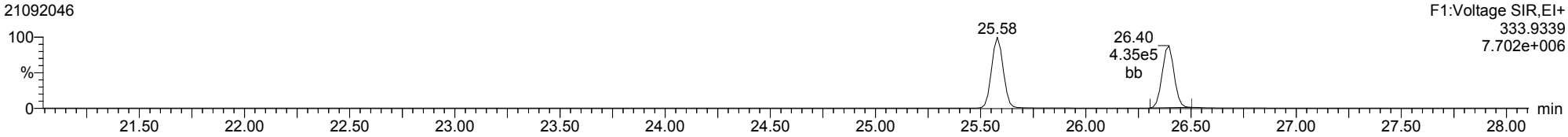
2378-TCDD



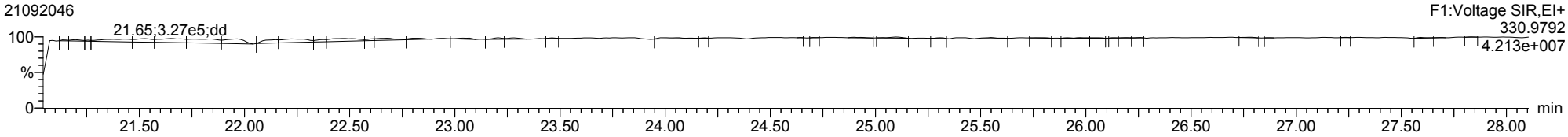
13C-2378-TCDD



13C-2378-TCDD

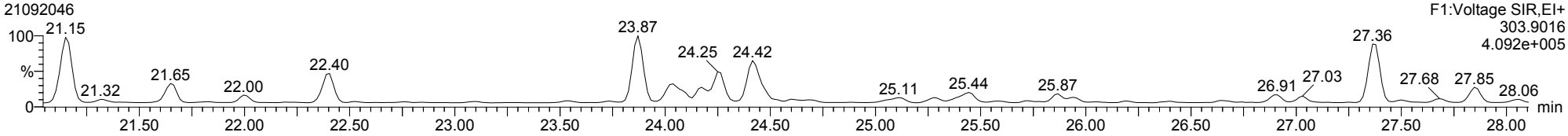


FUNCTION1 PFK

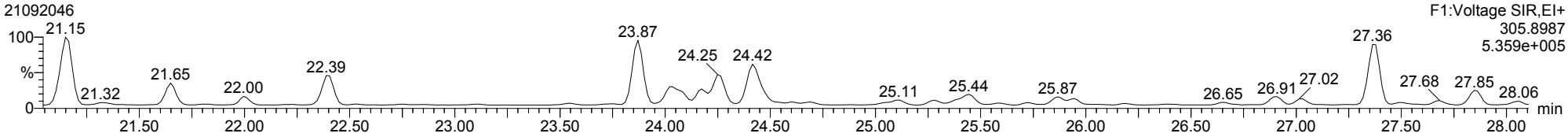


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

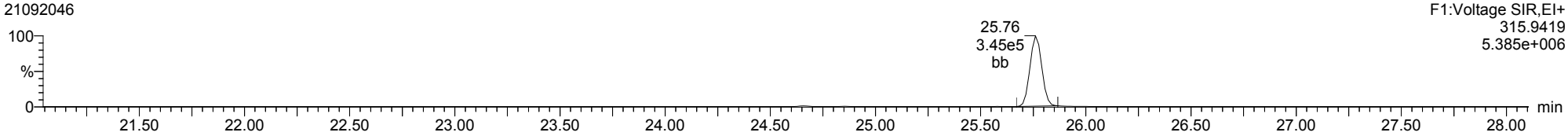
2378-TCDF



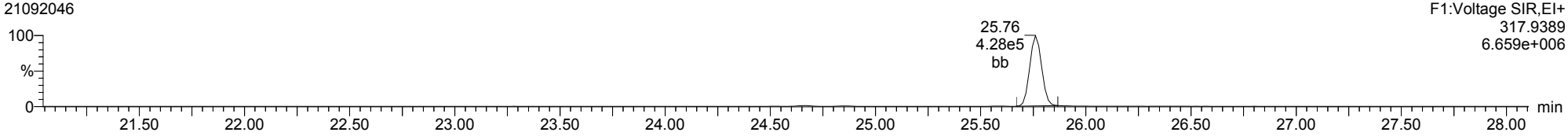
2378-TCDF



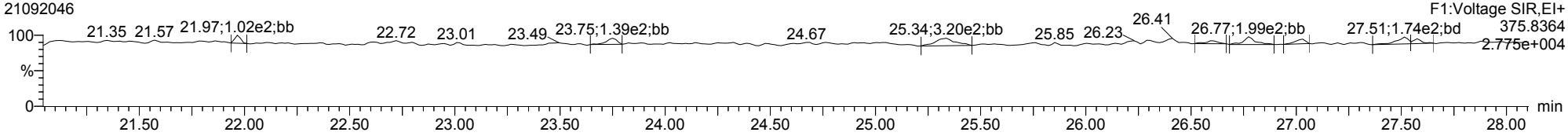
13C-2378-TCDF



13C-2378-TCDF

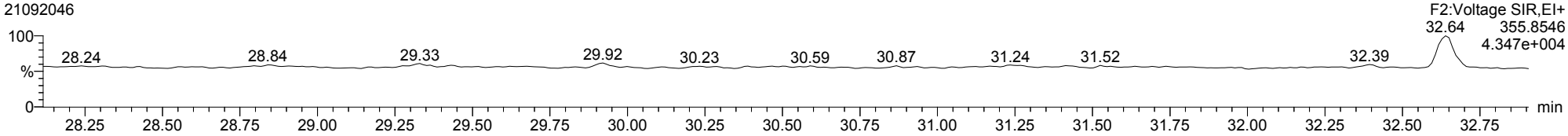


FUNCTION1 HXCDPE

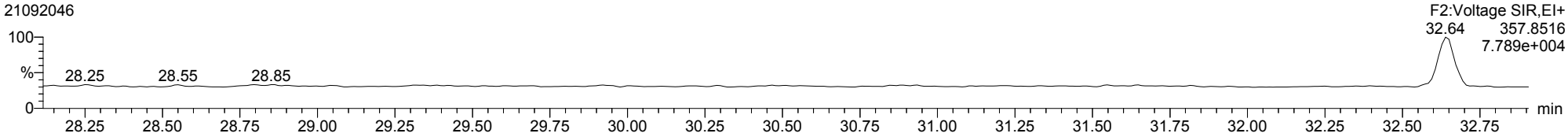


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

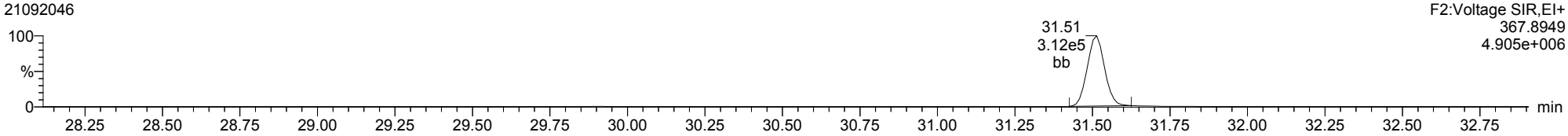
12378-PeCDD



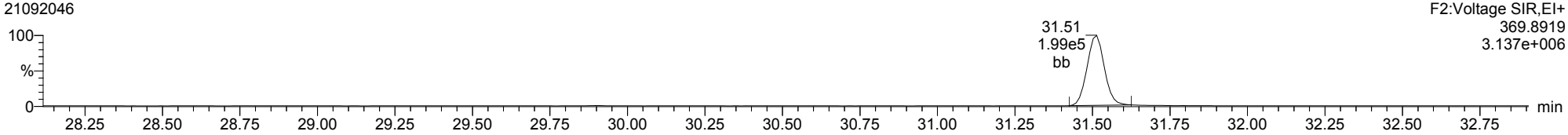
12378-PeCDD



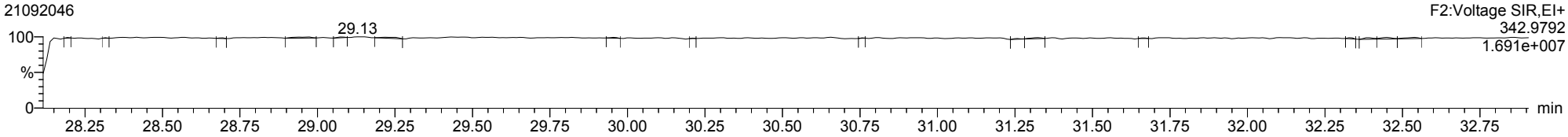
13C-12378-PeCDD



13C-12378-PeCDD

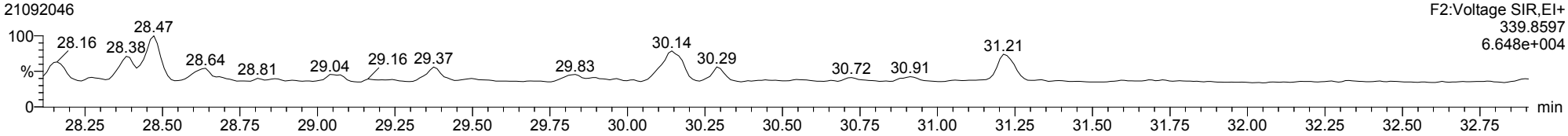


FUNCTION2 PFK

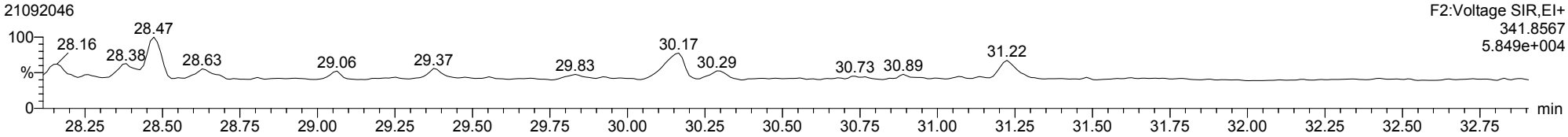


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

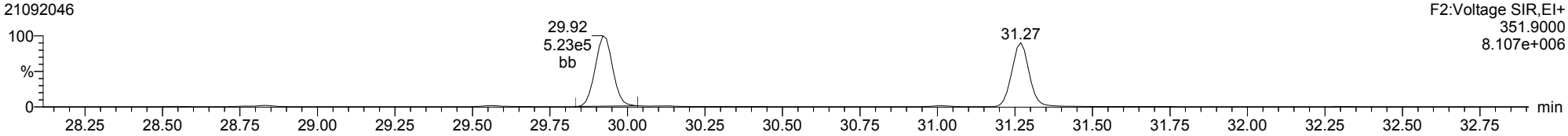
12378-PeCDF



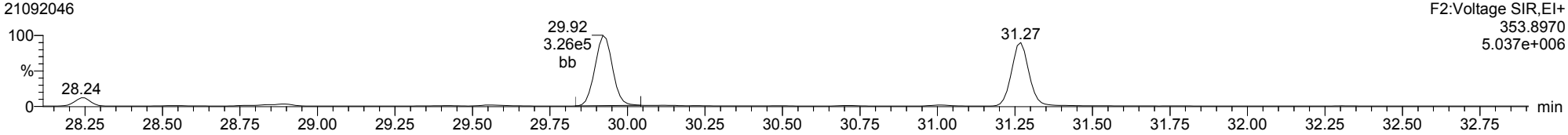
12378-PeCDF



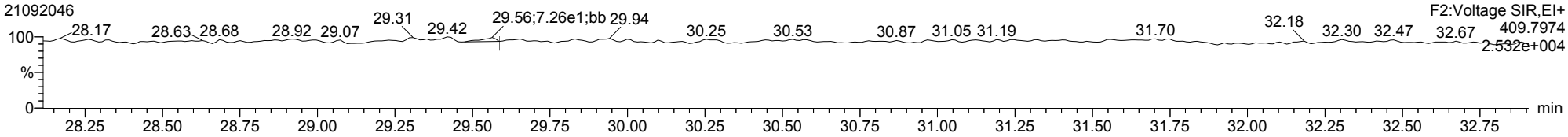
13C-12378-PeCDF



13C-12378-PeCDF

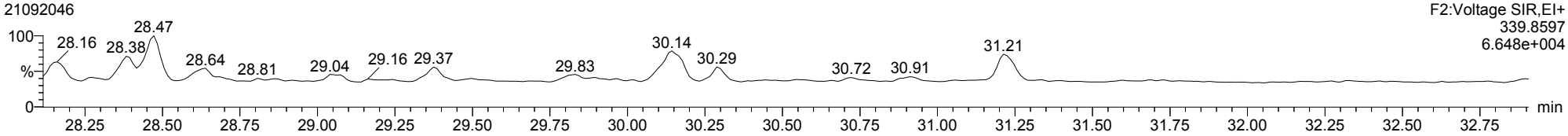


FUNCTION2 HPCDPE

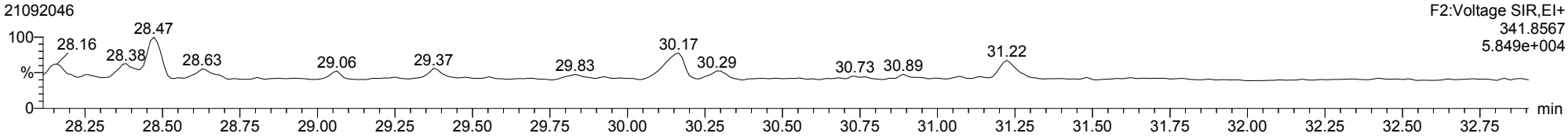


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

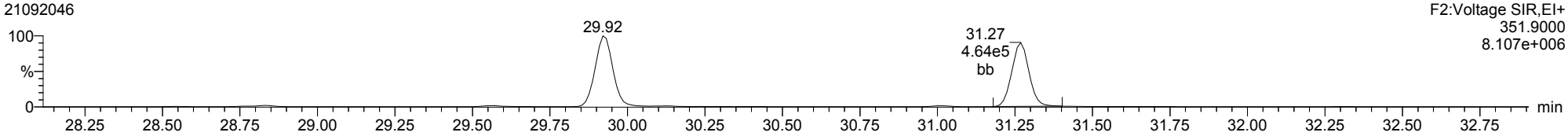
23478-PeCDF



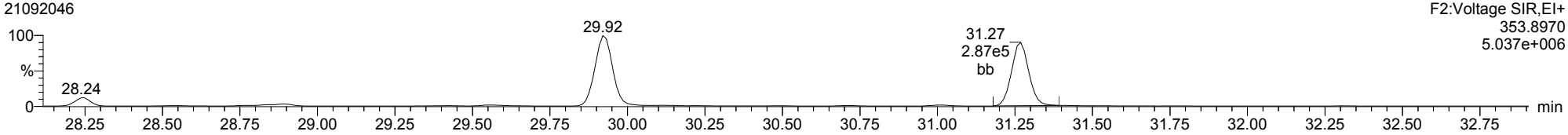
23478-PeCDF



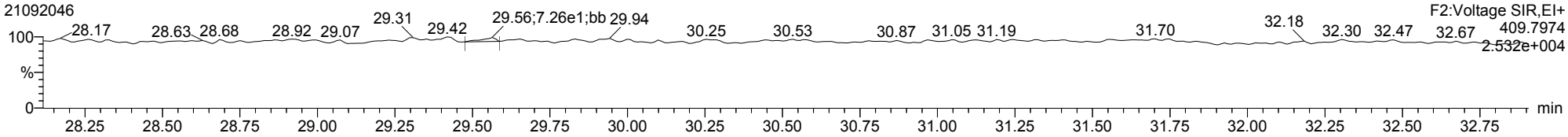
13C-23478-PeCDF



13C-23478-PeCDF

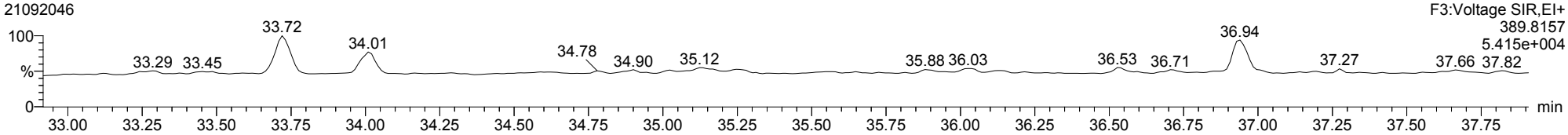


FUNCTION2 HPCDPE

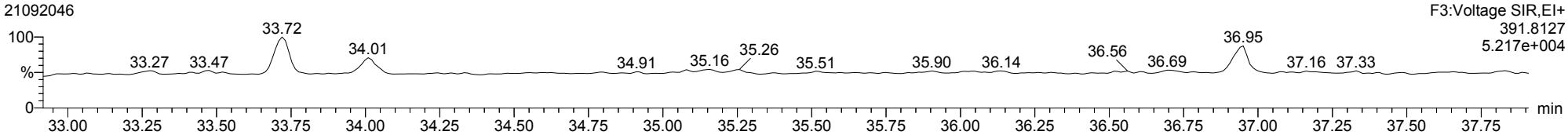


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

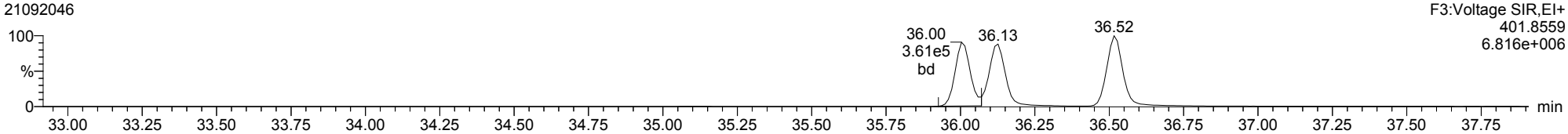
123478-HxCDD



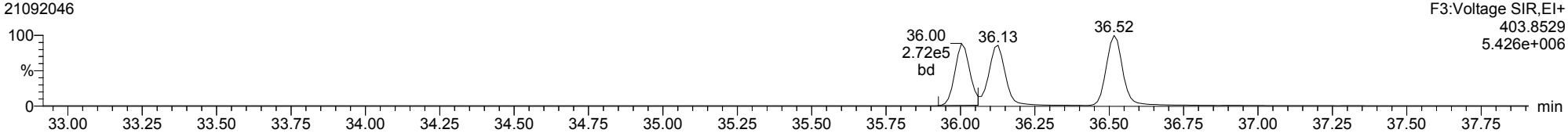
123478-HxCDD



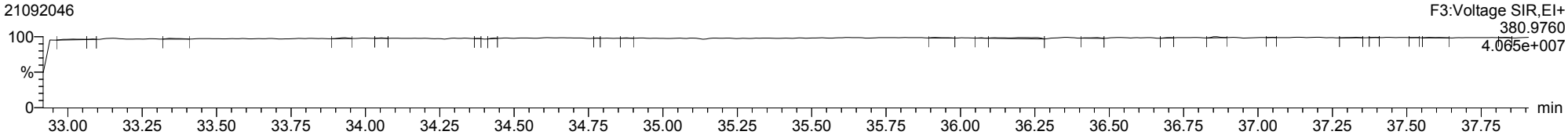
13C-123478-HxCDD



13C-123478-HxCDD

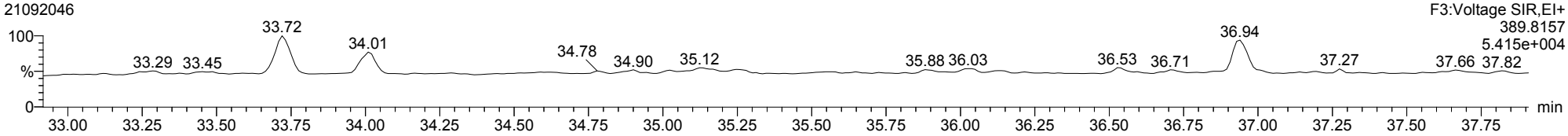


FUNCTION3 PFK

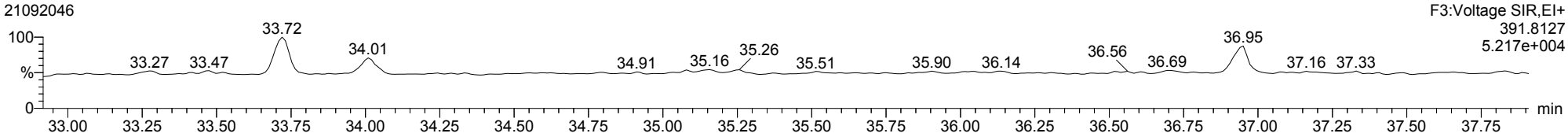


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

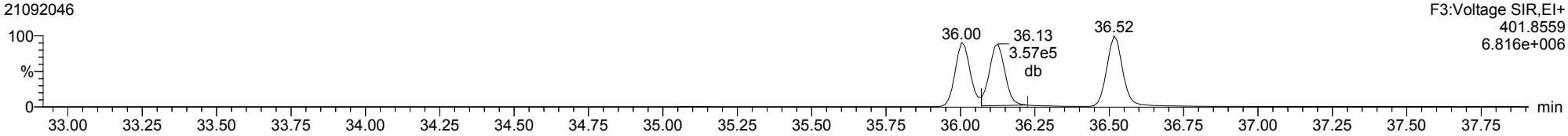
123678-HxCDD



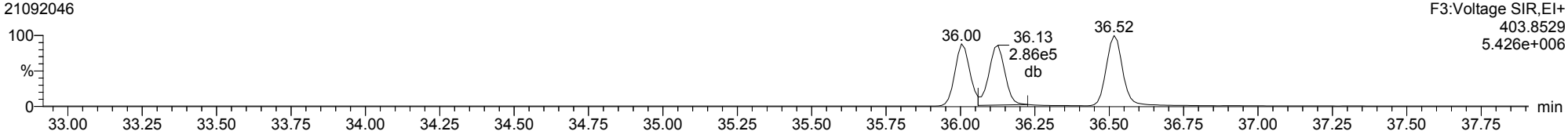
123678-HxCDD



13C-123678-HxCDD

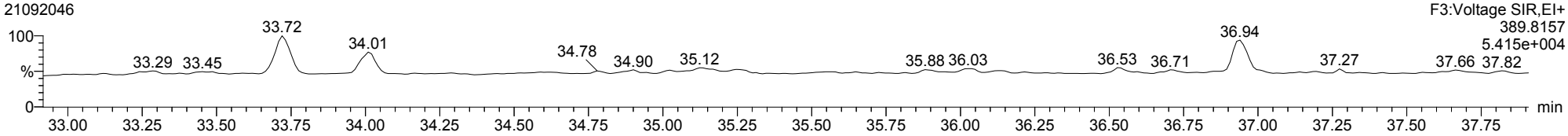


13C-123678-HxCDD

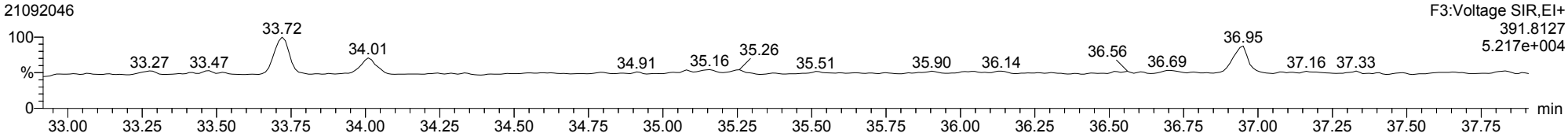


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

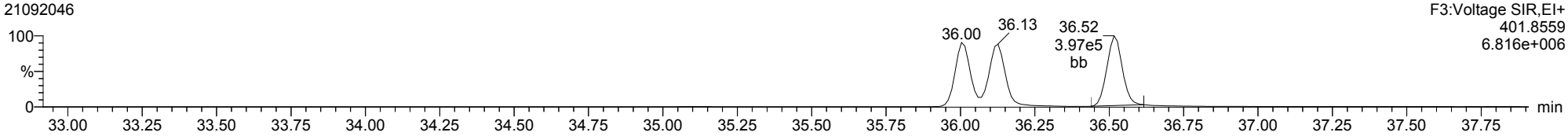
123789-HxCDD



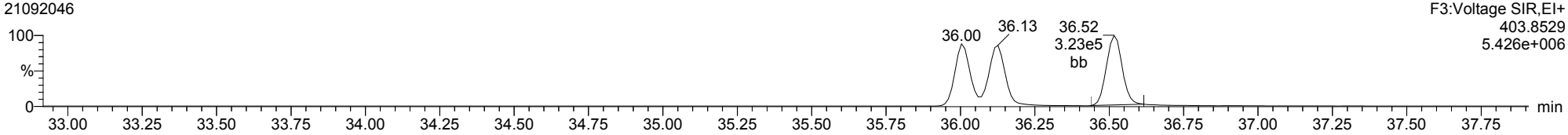
123789-HxCDD



13C-123789-HxCDD

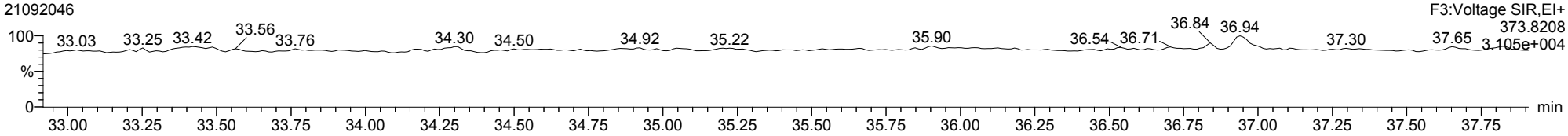


13C-123789-HxCDD

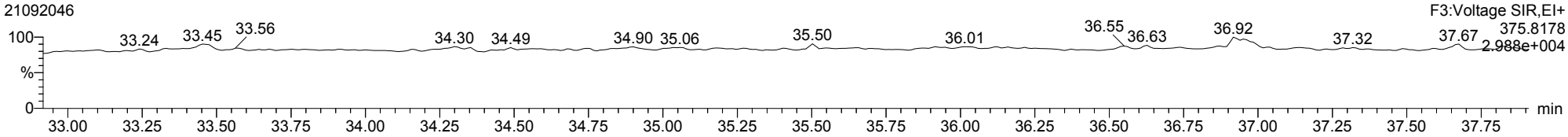


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

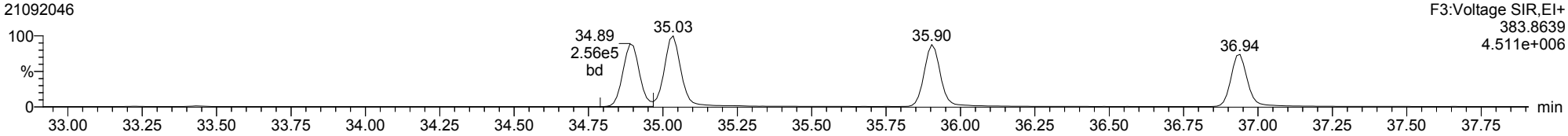
123478-HxCDF



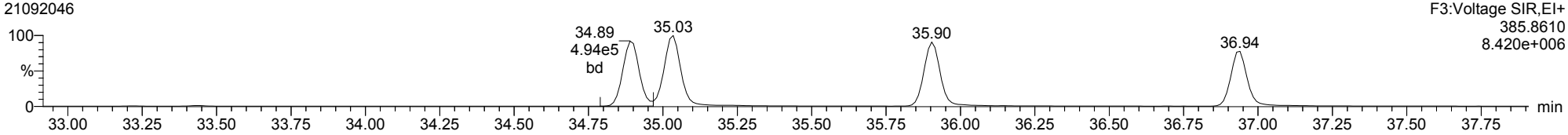
123478-HxCDF



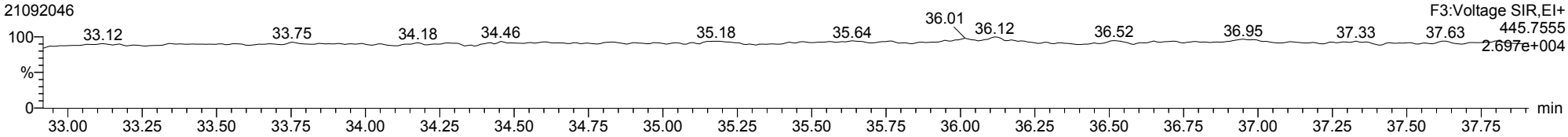
13C-123478-HxCDF



13C-123478-HxCDF

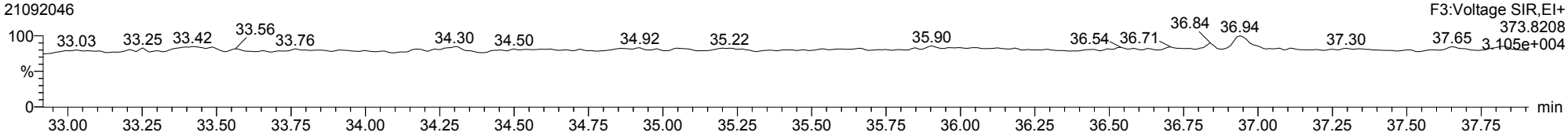


FUNCTION3 OCDPE

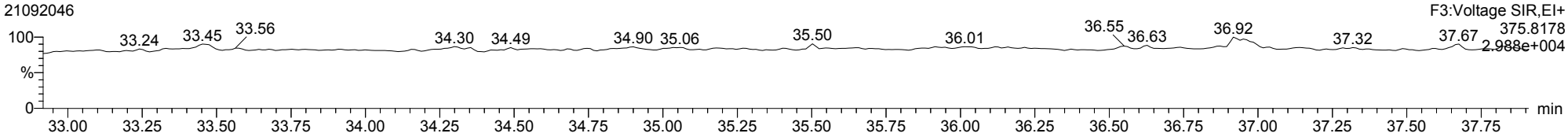


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

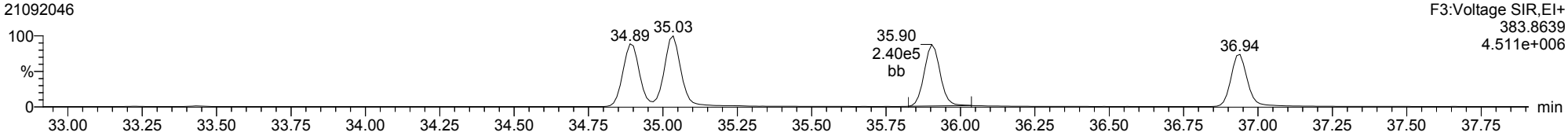
234678-HxCDF



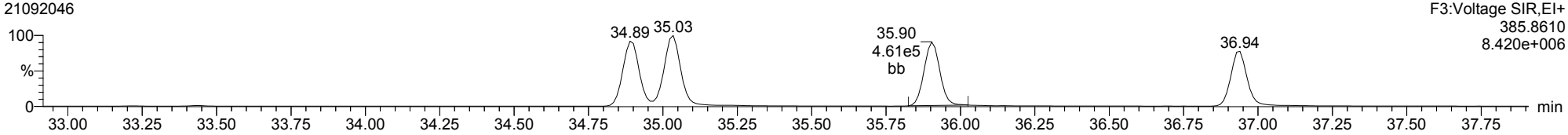
234678-HxCDF



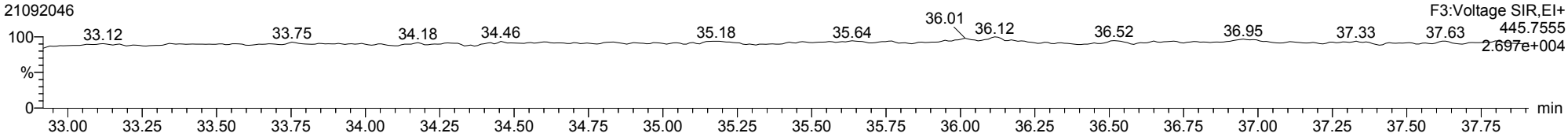
13C-234678-HxCDF



13C-234678-HxCDF

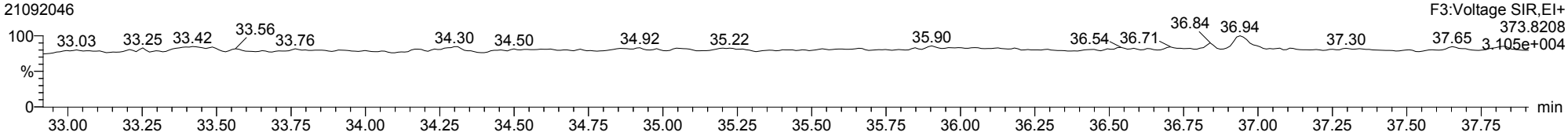


FUNCTION3 OCDPE

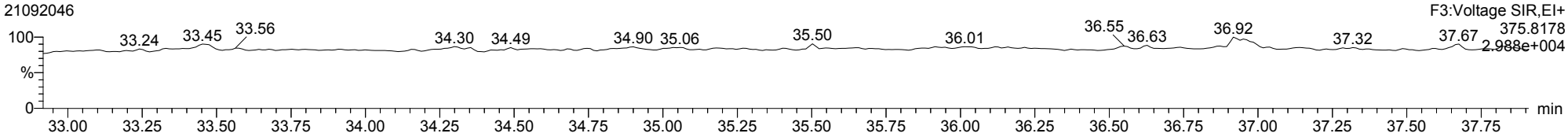


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

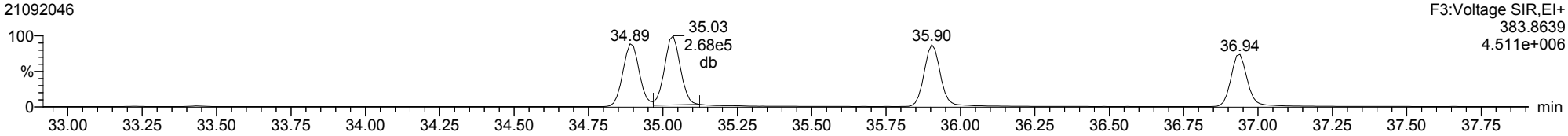
123678-HxCDF



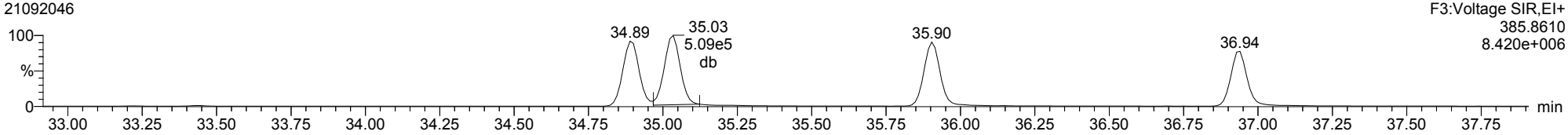
123678-HxCDF



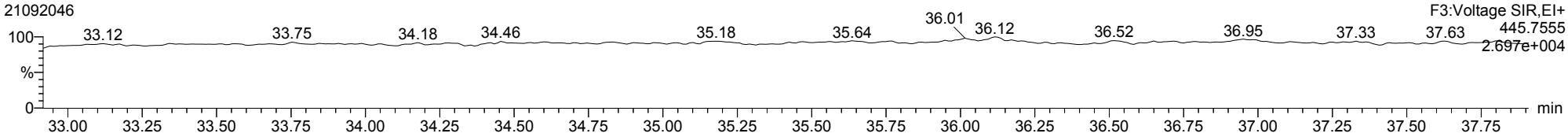
13C-123678-HxCDF



13C-123678-HxCDF

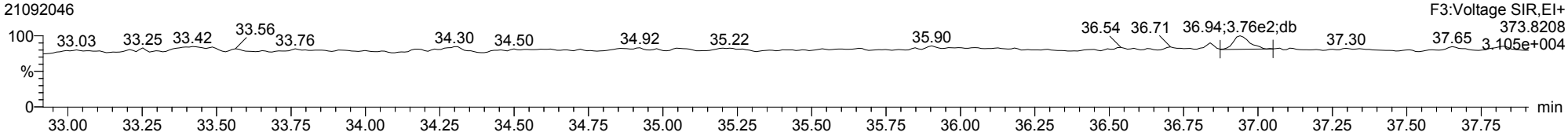


FUNCTION3 OCDPE

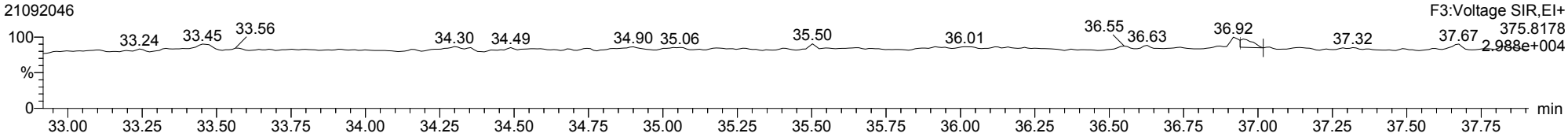


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

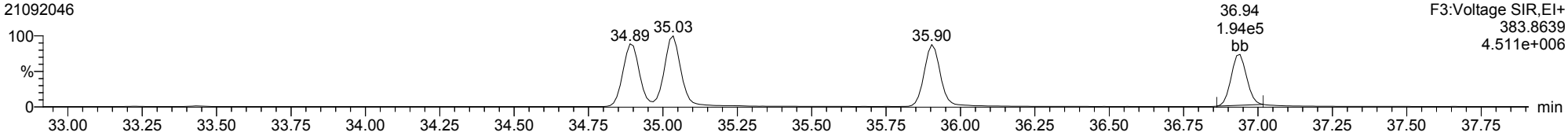
123789-HxCDF



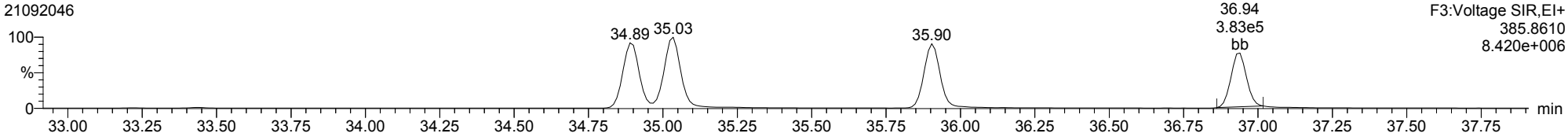
123789-HxCDF



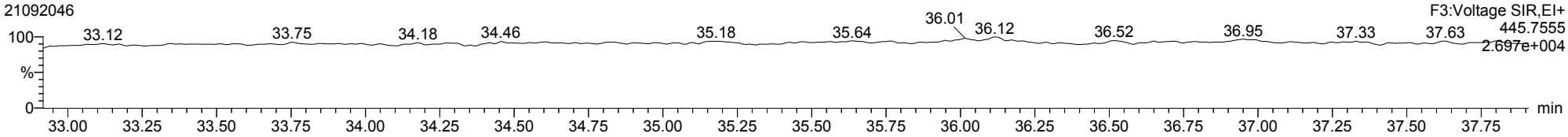
13C-123789-HxCDF



13C-123789-HxCDF

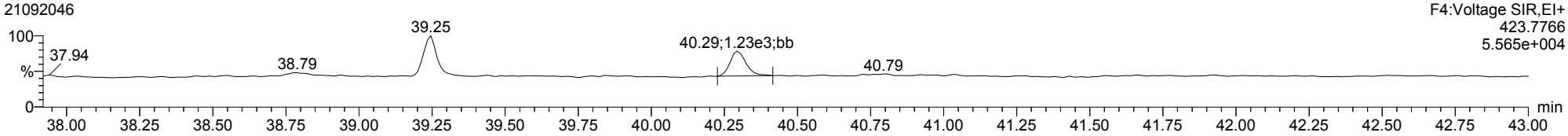


FUNCTION3 OCDPE

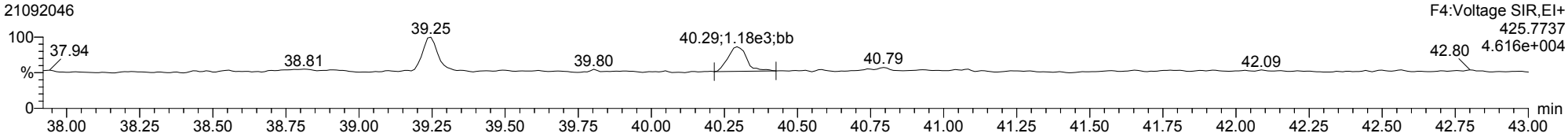


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

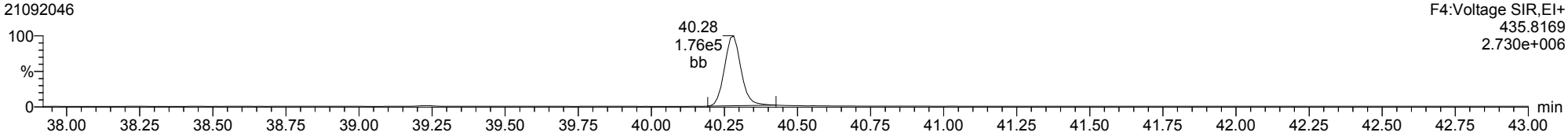
1234678-HpCDD



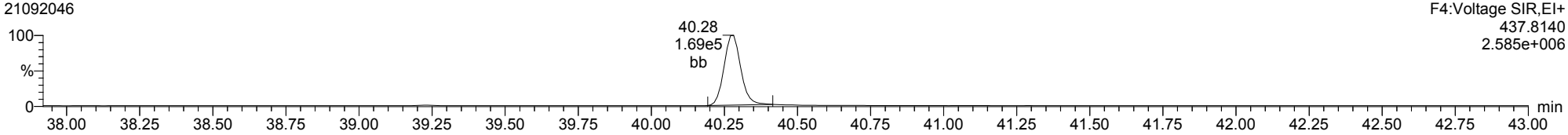
1234678-HpCDD



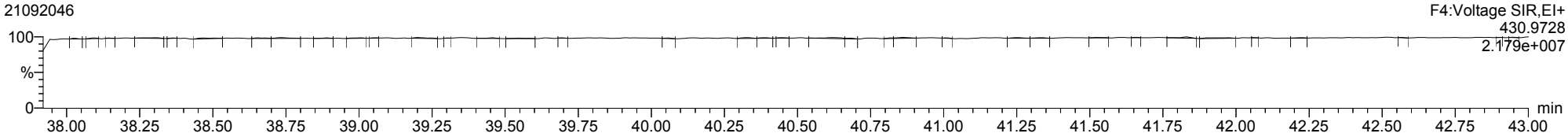
13C-1234678-HpCDD



13C-1234678-HpCDD

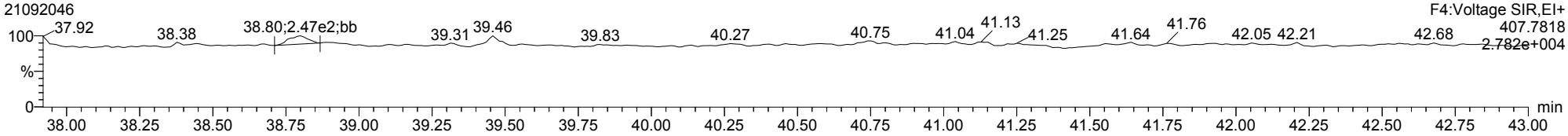


FUNCTION4 PFK

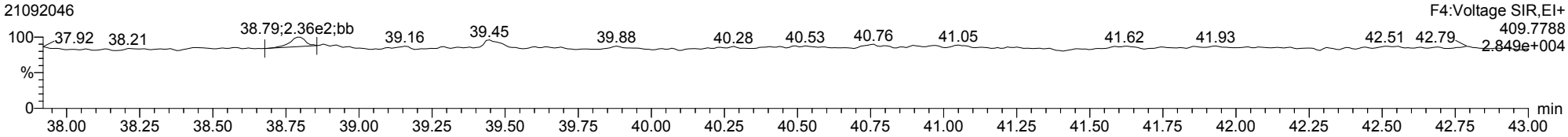


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

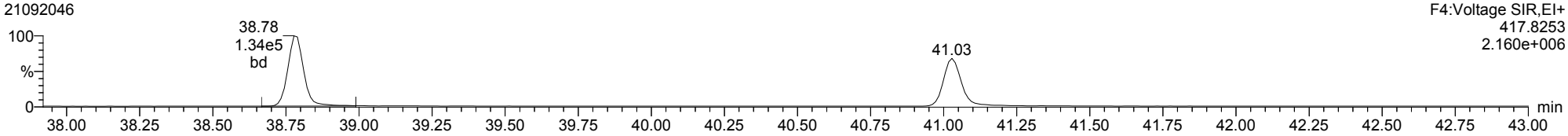
1234678-HpCDF



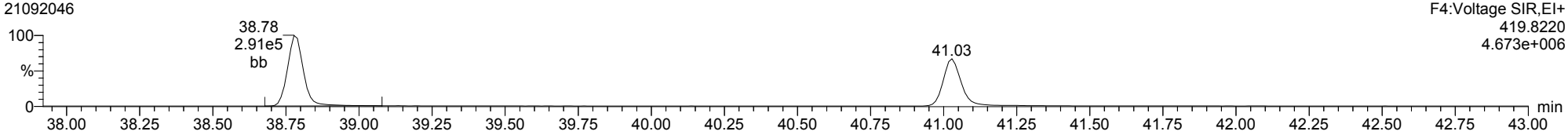
1234678-HpCDF



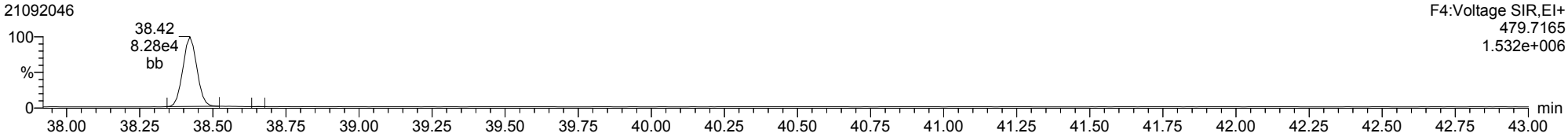
13C-1234678-HpCDF



13C-1234678-HpCDF

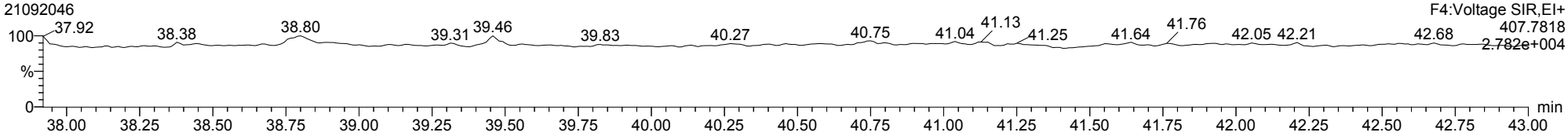


FUNCTION4 NCDPE

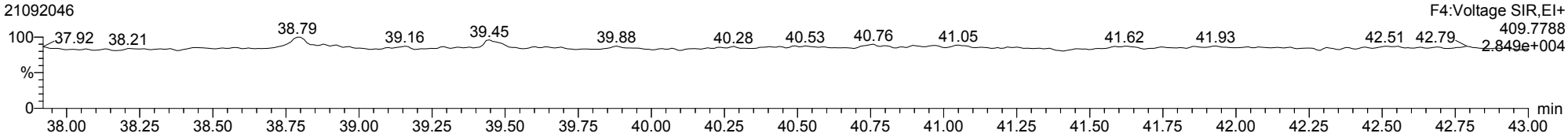


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

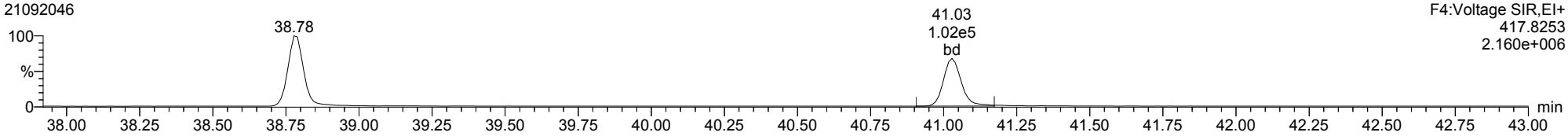
1234789-HpCDF



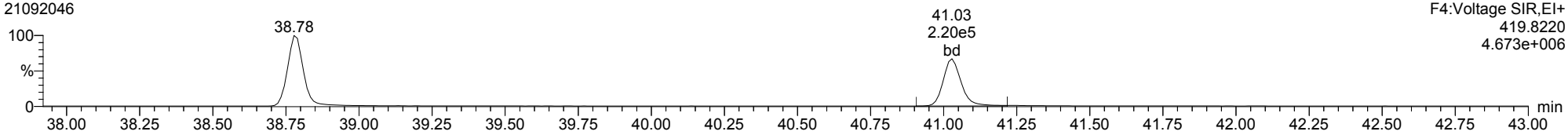
1234789-HpCDF



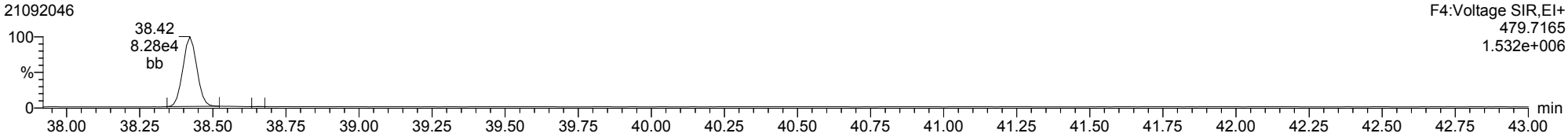
13C-1234789-HpCDF



13C-1234789-HpCDF

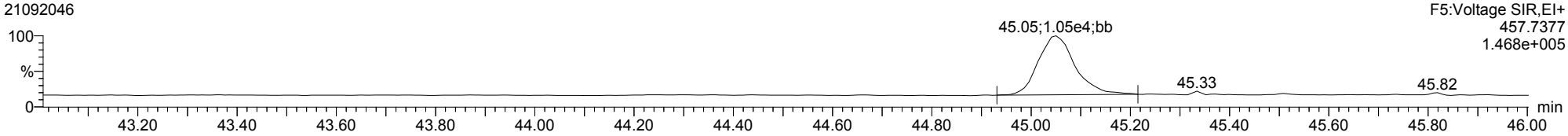


FUNCTION4 NCDPE

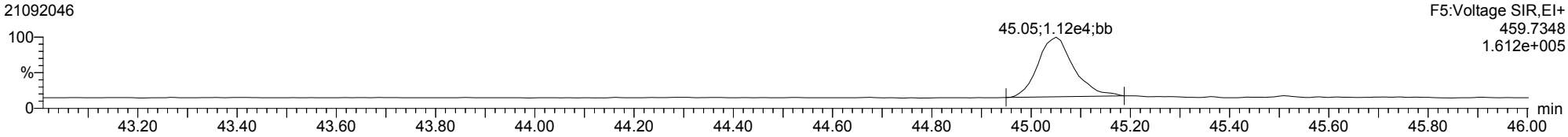


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

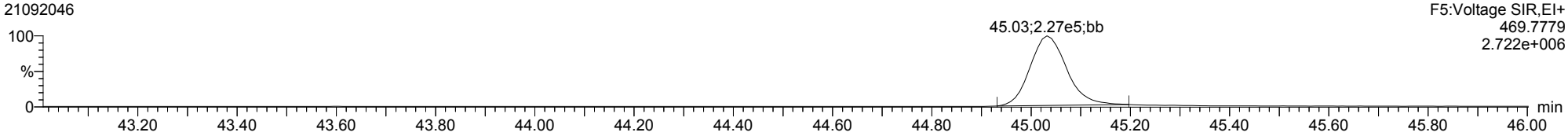
OCDD



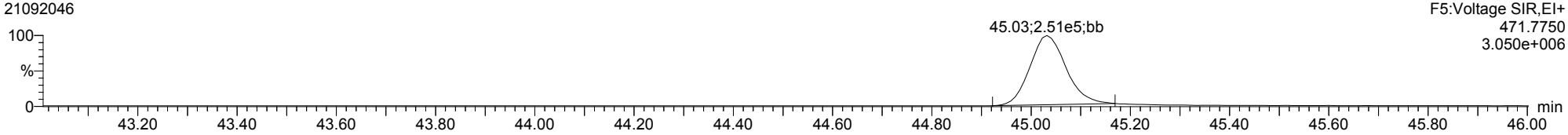
OCDD



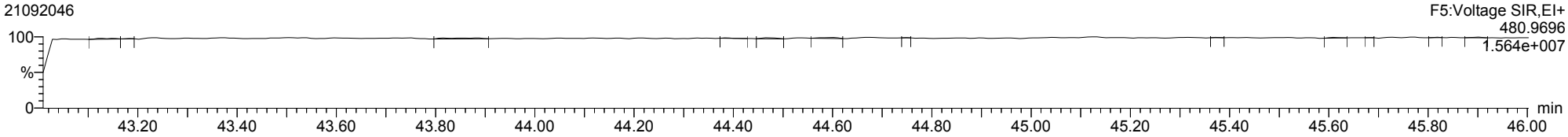
13C-OCDD



13C-OCDD

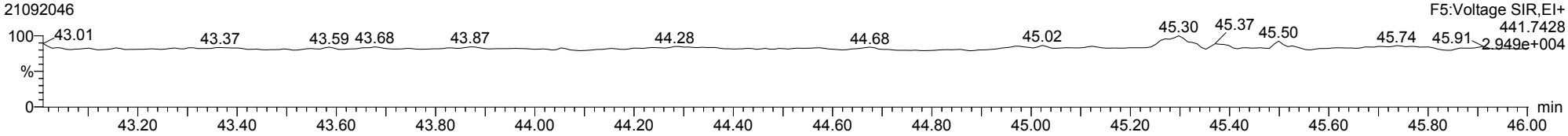


FUNCTION5 PFK

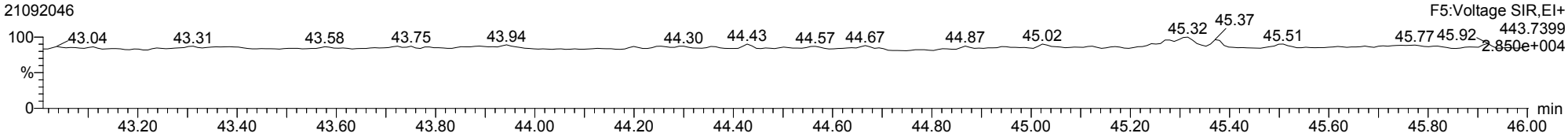


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

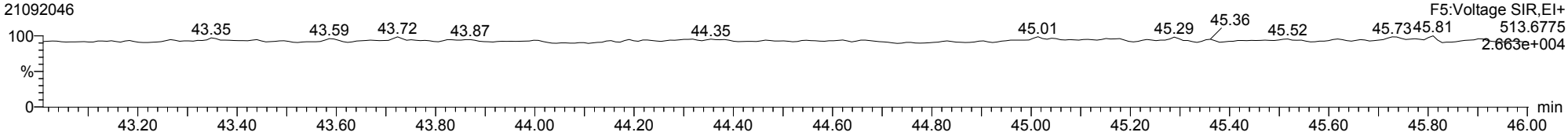
OCDF



OCDF

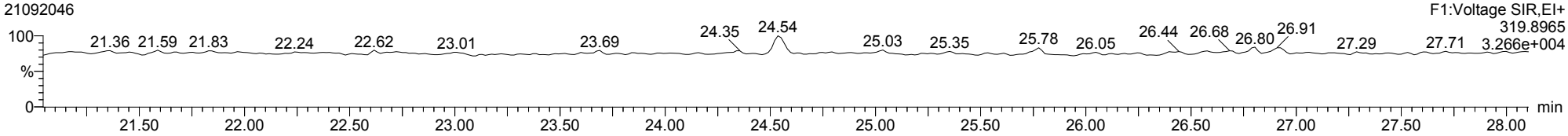


FUNCTION5 DCDPE

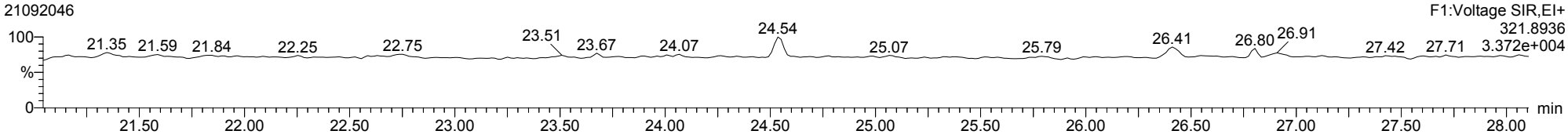


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

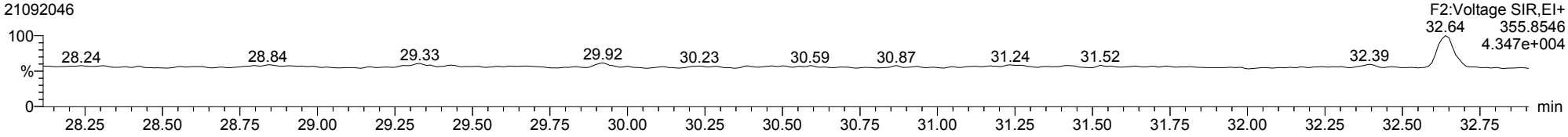
Total-tetradioxins



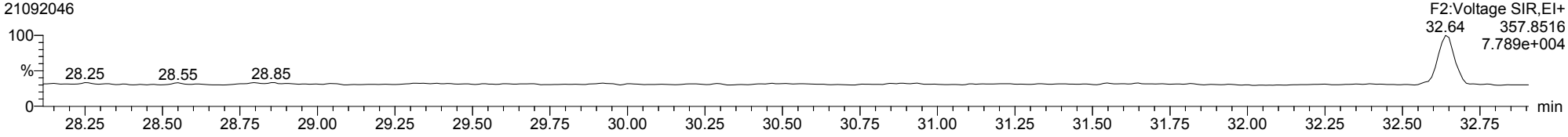
Total-tetradioxins



Total-pentadioxins

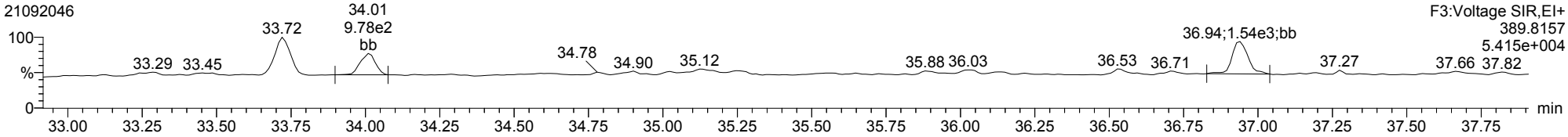


Total-pentadioxins

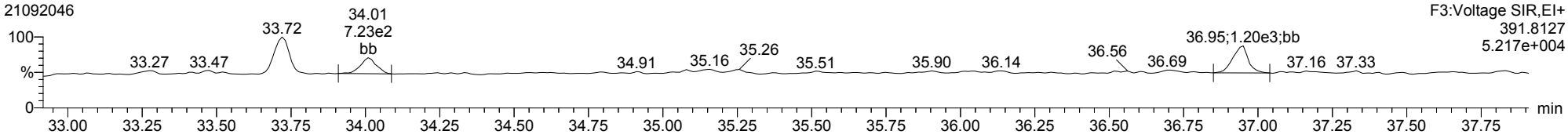


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

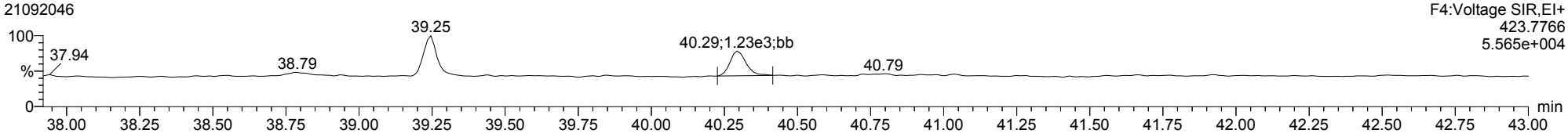
Total-hexadioxins



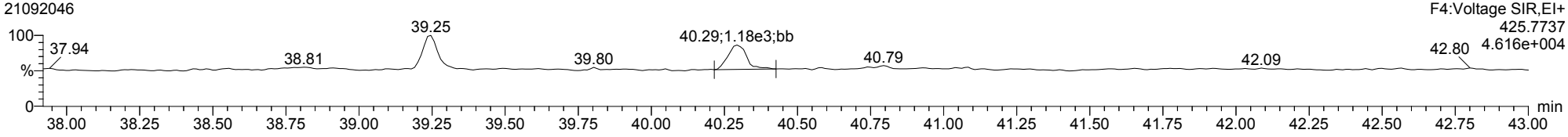
Total-hexadioxins



Total-heptadioxins

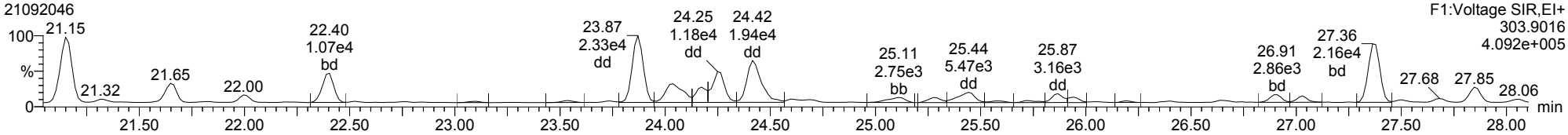


Total-heptadioxins

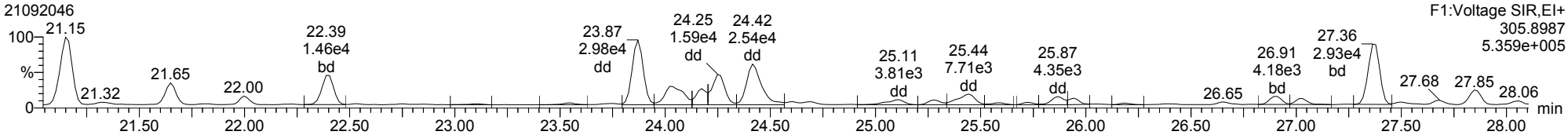


ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

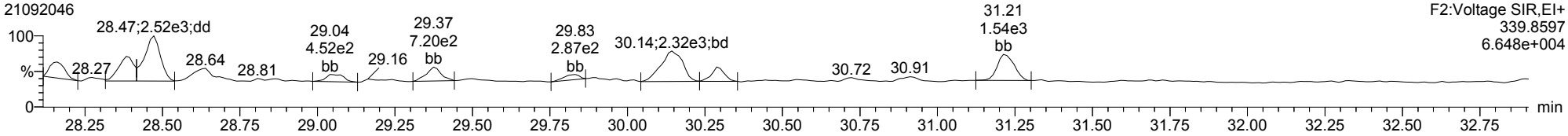
Total-tetrafurans



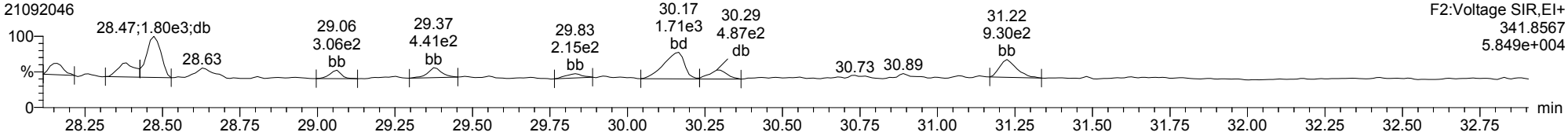
Total-tetrafurans



Total-pentafurans



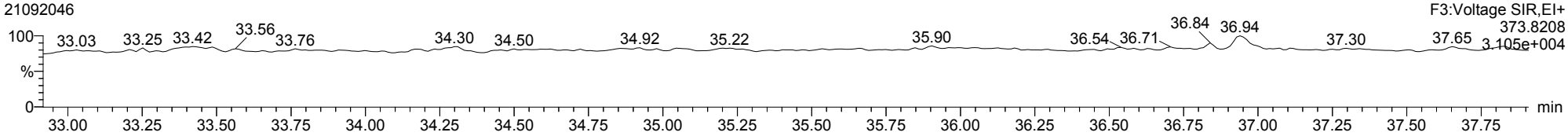
Total-pentafurans



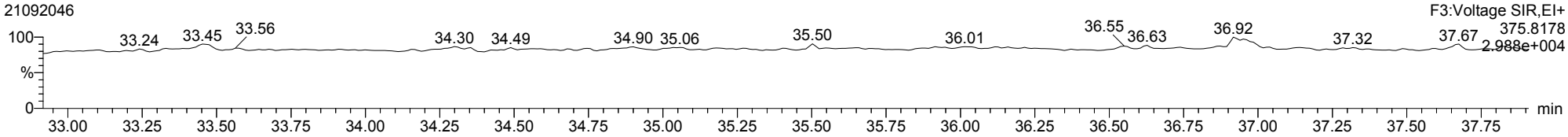
Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:13 Pacific Daylight Time

ID: 21G0213-03, Name: 21092046, Date: 22-Sep-2021, Time: 05:38:52, Conditions: AUTOSPEC01, User: pk

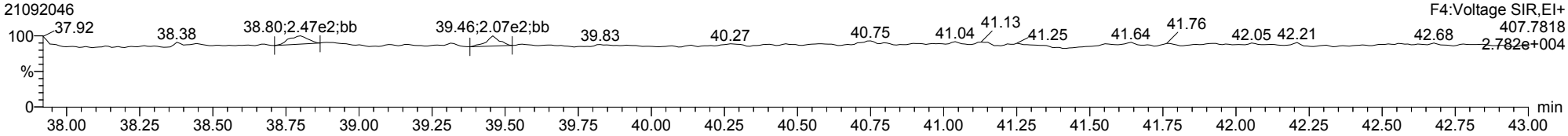
Total-hexafurans



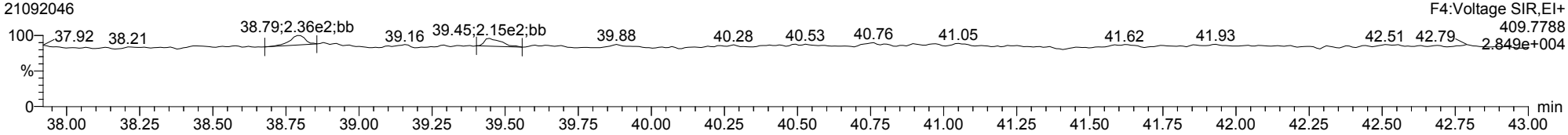
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663B

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-06 C	File ID:	21092047
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 06:27
% Solids:	64.69	Preparation:	EPA 1613	Initial/Final:	15.47 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1	0.734	0.655-0.886	0.274	0.999	5.96	ng/kg	
1746-01-6	2,3,7,8-TCDD	1	0.736	0.655-0.886	0.125	0.999	3.00	ng/kg	
57117-41-6	1,2,3,7,8-PeCDF	1	1.565	1.318-1.783	0.124	0.999	4.93	ng/kg	
57117-31-4	2,3,4,7,8-PeCDF	1	1.589	1.318-1.783	0.116	0.999	8.89	ng/kg	
40321-76-4	1,2,3,7,8-PeCDD	1	1.612	1.318-1.783	0.340	0.999	26.2	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.181	1.054-1.426	0.141	0.999	44.1	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.176	1.054-1.426	0.137	0.999	32.1	ng/kg	
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.192	1.054-1.426	0.144	0.999	43.7	ng/kg	
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.254	1.054-1.426	0.163	0.999	9.14	ng/kg	
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.211	1.054-1.426	0.549	0.999	41.7	ng/kg	
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.283	1.054-1.426	0.551	0.999	235	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.274	1.054-1.426	0.589	0.999	101	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.040	0.893-1.208	0.313	0.999	1080	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.051	0.893-1.208	0.467	0.999	75.6	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.041	0.893-1.208	1.20	2.50	7480	ng/kg	E, B
39001-02-0	OCDF	1	0.873	0.757-1.024	0.221	2.50	3550	ng/kg	
3268-87-9	OCDD	1	0.890	0.757-1.024	1.31	9.99	51400	ng/kg	E, B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	135	ng/kg	
41903-57-5	Total TCDD	1	0.000			0.999	243	ng/kg	
30402-15-4	Total PeCDF	1	0.000			0.999	368	ng/kg	
36088-22-9	Total PeCDD	1	0.000			0.999	328	ng/kg	
55684-94-1	Total HxCDF	1	0.000			0.999	978	ng/kg	
34465-46-8	Total HxCDD	1	0.000			0.999	2190	ng/kg	
38998-75-3	Total HpCDF	1	0.000			0.999	3510	ng/kg	
37871-00-4	Total HpCDD	1	0.000			0.999	13500	ng/kg	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 186.1
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 186.1

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663B

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-06	File ID:	21092047
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 06:27
Solids Wt%:	64.69	Preparation:	EPA 1613	Initial/Final:	15.47 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.793	0.655-0.886	0.075	59.6	24 - 169 %	
13C12-2,3,7,8-TCDD		0.759	0.655-0.886	0.075	78.1	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.621	1.318-1.783	0.100	70.1	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.612	1.318-1.783	0.104	69.4	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.585	1.318-1.783	0.121	81.2	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.520	0.434-0.587	0.147	80.6	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.516	0.434-0.587	0.136	75.7	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.517	0.434-0.587	0.150	78.1	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.512	0.434-0.587	0.181	81.6	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.265	1.054-1.426	0.114	91.0	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.264	1.054-1.426	0.105	83.1	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.451	0.374-0.506	0.149	59.4	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.454	0.374-0.506	0.182	58.3	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.035	0.893-1.208	0.160	74.9	23 - 140 %	
13C12-OCDD		0.900	0.757-1.024	0.153	70.3	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.048	76.3	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:24 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.791	1.001	1.178e4	1.606e4	1.108	0.734	0.770	3407	3317	1.64e5	2.32e5	48.3	69.8	NO	dd	dd	2.981
12378-PeCDF	29.943	1.001	1.378e4	8.800e3	1.015	1.565	1.550	1856	1097	2.09e5	1.40e5	112.7	127.9	NO	bb	bb	2.467
23478-PeCDF	31.291	1.001	2.616e4	1.646e4	1.126	1.589	1.550	1856	1097	3.95e5	2.58e5	213.1	235.4	NO	dd	dd	4.449
123478-HxCDF	34.912	1.001	1.089e5	9.227e4	1.017	1.181	1.240	1538	1982	1.77e6	1.49e6	1153.9	749.6	NO	dd	dd	22.056
234678-HxCDF	35.881	0.999	1.064e5	8.932e4	1.052	1.192	1.240	1538	1982	1.16e6	9.69e5	753.7	489.0	NO	bb	bb	21.876
123678-HxCDF	35.045	1.000	8.186e4	6.958e4	1.037	1.176	1.240	1538	1982	1.27e6	1.11e6	825.6	559.8	NO	db	db	16.039
123789-HxCDF	36.928	1.000	1.929e4	1.538e4	1.030	1.254	1.240	1538	1982	2.72e5	2.19e5	176.8	110.6	NO	db	bb	4.571
1234678-HpCDF	38.800	1.001	1.808e6	1.740e6	1.327	1.040	1.050	2861	2945	3.05e7	2.94e7	10661.1	9988.2	NO	MM	MM	542.142
1234789-HpCDF	41.040	1.000	9.850e4	9.368e4	1.283	1.051	1.050	2861	2945	1.49e6	1.41e6	522.4	478.2	NO	bb	bd	37.811
OCDF	45.307	1.005	3.795e6	4.348e6	1.447	0.873	0.890	1027	771	4.76e7	5.45e7	46314.3	70773.1	NO	bb	bb	1774.002
2378-TCDD	26.411	1.001	5.075e3	6.895e3	0.920	0.736	0.770	1503	1115	8.25e4	1.05e5	54.9	94.2	NO	bd	bd	1.503
12378-PeCDD	31.525	1.000	4.744e4	2.943e4	0.995	1.612	1.550	2977	2314	6.52e5	4.08e5	219.2	176.4	NO	bb	bb	13.096
123478-HxCDD	36.026	1.000	9.190e4	7.587e4	1.027	1.211	1.240	6601	5505	1.65e6	1.34e6	250.3	243.2	NO	bd	bd	20.884
123678-HxCDD	36.137	1.000	5.174e5	4.034e5	1.009	1.283	1.240	6601	5505	8.75e6	6.79e6	1325.9	1233.6	NO	db	db	117.777
123789-HxCDD	36.538	1.011	2.088e5	1.640e5	0.950	1.274	1.240	6601	5505	3.57e6	2.78e6	540.7	505.1	NO	bb	bb	50.390
1234678-HpCDD	40.293	1.000	8.642e6	8.302e6	1.068	1.041	1.050	7875	6775	1.43e8	1.37e8	18165.6	20154.9	NO	bb	bb	3740.542
OCDD	45.087	1.001	4.535e7	5.096e7	1.181	0.890	0.890	5142	3543	5.39e8	6.08e8	104746.0	171664.3	NO	bb	bb	25709.886
13C-2378-TCDF	25.776	1.007	3.728e5	4.704e5	1.427	0.793	0.770	1568	1195	5.88e6	7.35e6	3747.0	6151.6	NO	bb	bb	59.586
13C-12378-PeCDF	29.920	1.169	5.576e5	3.440e5	1.297	1.621	1.550	1691	1646	8.67e6	5.35e6	5126.6	3252.2	NO	bb	bb	70.063
13C-23478-PeCDF	31.268	1.222	5.254e5	3.258e5	1.236	1.612	1.550	1691	1646	8.37e6	5.20e6	4949.7	3160.9	NO	bb	bb	69.399
13C-123478-HxCDF	34.889	0.955	3.068e5	5.903e5	1.242	0.520	0.510	2565	2035	5.02e6	9.68e6	1957.2	4756.5	NO	bd	bd	80.613
13C-123678-HxCDF	35.034	0.959	3.101e5	6.005e5	1.343	0.516	0.510	2565	2035	5.05e6	9.70e6	1970.0	4766.3	NO	db	db	75.680
13C-234678-HxCDF	35.903	0.983	2.899e5	5.603e5	1.215	0.517	0.510	2565	2035	4.75e6	9.16e6	1850.7	4502.9	NO	bb	bb	78.142
13C-123789-HxCDF	36.939	1.012	2.494e5	4.868e5	1.008	0.512	0.510	2565	2035	4.26e6	8.27e6	1661.9	4061.7	NO	bb	bb	81.568
13C-1234678-HpCDF	38.778	1.062	1.533e5	3.398e5	0.926	0.451	0.440	1269	2210	2.61e6	5.76e6	2053.2	2606.7	NO	bb	bb	59.419
13C-1234789-HpCDF	41.028	1.124	1.237e5	2.723e5	0.758	0.454	0.440	1269	2210	1.81e6	4.01e6	1429.4	1813.0	NO	bb	bb	58.341
13C-1234-TCDD	25.594	0.000	4.257e5	5.663e5	1.000	0.752	0.770	1273	878	6.65e6	8.77e6	5222.0	9987.3	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.031	3.733e5	4.921e5	1.116	0.759	0.770	1273	878	5.90e6	7.78e6	4636.7	8855.1	NO	bb	bb	78.141
13C-12378-PeCDD	31.514	1.231	3.616e5	2.281e5	0.732	1.585	1.550	1072	1212	5.74e6	3.57e6	5354.4	2949.0	NO	bb	bb	81.216
13C-123478-HxCDD	36.015	0.986	4.368e5	3.452e5	0.960	1.265	1.240	1100	1656	7.19e6	5.66e6	6538.7	3417.6	NO	bd	bd	90.962
13C-123678-HxCDD	36.126	0.989	4.326e5	3.422e5	1.041	1.264	1.240	1100	1656	7.29e6	5.78e6	6631.7	3488.2	NO	db	db	83.071
13C-1234678-HpCDD	40.282	1.103	2.157e5	2.084e5	0.632	1.035	1.050	1021	1527	3.49e6	3.35e6	3421.8	2195.7	NO	bb	bb	74.870
13C-OCDD	45.060	1.234	3.004e5	3.340e5	0.504	0.900	0.890	780	1155	3.19e6	3.65e6	4093.5	3157.0	NO	bb	bb	140.621
13C-123789-HxCDD	36.516	0.000	4.957e5	4.000e5	1.000	1.239	1.240	1100	1656	8.36e6	6.86e6	7597.8	4145.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.032	3.283e5		1.084			1331		5.03e6		3775.8			bb		30.539

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:24 Pacific Daylight Time

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.253	0.863	1.448e4	1.975e4	1.425	0.733	0.770	3407	3317	2.23e5	2.99e5	65.4	90.3	NO	bd	dd	2.849
1289-TCDF	27.364	1.062	3.962e3	5.672e3	1.043	0.699	0.770	3407	3317	6.26e4	8.36e4	18.4	25.2	NO	dd	db	1.096
13468-PECDF					1.376		1.550	891	1101								
12389-PECDF	32.338	1.081	1.398e3	9.829e2	1.000	1.423	1.550	1856	1097	2.57e4	1.45e4	13.8	13.3	NO	bb	db	0.264
123468-HXCDF	33.241	0.953	2.555e5	2.179e5	1.087	1.173	1.240	1538	1982	4.07e6	3.51e6	2646.5	1773.1	NO	bb	bb	48.565
1368-TCDD	23.599	0.894	9.544e4	1.217e5	0.923	0.784	0.770	1503	1115	1.55e6	2.02e6	1029.9	1815.1	NO	bb	bd	27.182
1289-TCDD	27.031	1.024	2.481e3	3.491e3	0.794	0.711	0.770	1503	1115	3.66e4	4.13e4	24.4	37.1	NO	db	dd	0.869
12479-PECDD	28.829	0.915	6.053e5	3.857e5	1.843	1.569	1.550	2977	2314	6.41e6	4.04e6	2154.1	1747.0	NO	db	bb	91.165
12389-PECDD	31.937	1.013	1.201e4	7.386e3	1.154	1.626	1.550	2977	2314	1.83e5	1.14e5	61.4	49.1	NO	bb	bb	2.851
124679-HXCDD	34.009	0.944	2.427e6	1.910e6	1.125	1.270	1.240	6601	5505	3.83e7	3.03e7	5807.0	5498.9	NO	bb	bb	492.975
1234679-HPCDD	39.246	0.974	7.906e6	7.583e6	1.211	1.043	1.050	7875	6775	1.36e8	1.31e8	17291.0	19288.6	NO	bb	bb	3016.111
Total-tetrafurans			2.942e5		1.192			3407		3.93e6							67.645
Total-penta1			5.940e5					891		8.95e6							118.695
Total-pentafurans			3.616e5		1.047			1856		5.63e6							65.406
Total-hexafurans			2.377e6		1.045			1538		3.76e7							489.428
Total-heptafurans			5.370e6		1.305			2861		8.99e7							1755.693
Total-Furans			1.279e7		1.158			3407		1.94e8							4271.296
Total-tetradioxins			4.096e5		0.879			1503		6.16e6							121.822
Total-pentadioxins			9.370e5		1.331			2977		1.13e7							163.953
Total-hexadioxins			5.090e6		1.028			6601		7.59e7							1096.786
Total-heptadioxins			1.655e7		1.140			7875		2.79e8							6756.653
Total-Dioxins			6.833e7		1.092			1503		9.11e8							33849.274
Total-TEQ			8.113e7					1503		1.10e9							38120.570
FUNCTION1 PFK			5.314e7					311289		9.40e7							
FUNCTION2 PFK			2.535e4					155739		5.17e5							0.000
FUNCTION3 PFK			9.838e5					293903		5.21e6							0.000
FUNCTION4 PFK			1.127e6					133101		1.52e7							
FUNCTION5 PFK			7.555e5					119120		2.11e6							
FUNCTION1 HXCD...			7.574e3					886		1.19e5							0.000
FUNCTION1 HPCD...			1.745e3					815		2.53e4							0.000
FUNCTION2 HPCD...			3.199e3					741		4.94e4							0.000
FUNCTION3 OCDPE			5.258e3					775		8.70e4							0.000
FUNCTION4 NCDPE			5.737e3					688		1.07e5							0.000
FUNCTION5 DCDPE			5.894e3					398		5.09e4							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.72	2.601e3	3.276e3	1.192	0.79	0.77	14.5	YES	NO	dd	dd	0.585
2	Total-tetrafurans	23.63	2.225e4	2.792e4	1.192	0.80	0.77	59.1	YES	NO	dd	dd	4.992
3	Total-tetrafurans	23.11	3.864e4	4.947e4	1.192	0.78	0.77	93.8	YES	NO	dd	bd	8.767
4	Total-tetrafurans	22.86	1.356e3	1.615e3	1.192	0.84	0.77	5.9	YES	NO	db	db	0.296
5	Total-tetrafurans	22.53	4.020e4	5.320e4	1.192	0.76	0.77	174.7	YES	NO	db	dd	9.294
6	1368-TCDF	22.25	1.448e4	1.975e4	1.425	0.73	0.77	65.4	YES	NO	bd	dd	2.849
7	Total-tetrafurans	25.94	1.131e4	1.568e4	1.192	0.72	0.77	45.9	YES	NO	dd	dd	2.686
8	2378-TCDF	25.79	1.178e4	1.606e4	1.108	0.73	0.77	48.3	YES	NO	dd	dd	2.981
9	Total-tetrafurans	25.61	5.706e3	7.921e3	1.192	0.72	0.77	26.4	YES	NO	dd	dd	1.356
10	Total-tetrafurans	25.56	4.752e3	6.477e3	1.192	0.73	0.77	25.8	YES	NO	dd	dd	1.117
11	Total-tetrafurans	25.43	1.937e3	2.618e3	1.192	0.74	0.77	8.4	YES	NO	dd	dd	0.453
12	Total-tetrafurans	25.29	4.698e3	6.337e3	1.192	0.74	0.77	16.3	YES	NO	dd	dd	1.098
13	Total-tetrafurans	25.11	6.170e3	7.980e3	1.192	0.77	0.77	25.2	YES	NO	dd	dd	1.408
14	Total-tetrafurans	24.88	1.453e4	1.885e4	1.192	0.77	0.77	69.1	YES	NO	dd	dd	3.322
15	Total-tetrafurans	24.69	1.799e4	2.475e4	1.192	0.73	0.77	80.0	YES	NO	dd	dd	4.253
16	Total-tetrafurans	24.48	1.796e4	2.154e4	1.192	0.83	0.77	65.7	YES	NO	dd	dd	3.930
17	Total-tetrafurans	24.31	9.541e2	1.100e3	1.192	0.87	0.77	4.3	YES	NO	dd	dd	0.204
18	Total-tetrafurans	24.07	1.750e4	2.348e4	1.192	0.75	0.77	69.9	YES	NO	dd	dd	4.078
19	Total-tetrafurans	23.95	1.482e4	1.936e4	1.192	0.77	0.77	65.0	YES	NO	dd	dd	3.402
20	Total-tetrafurans	23.84	1.514e4	2.139e4	1.192	0.71	0.77	59.4	YES	NO	dd	dd	3.635
21	1289-TCDF	27.36	3.962e3	5.672e3	1.043	0.70	0.77	18.4	YES	NO	dd	db	1.096
22	Total-tetrafurans	26.65	9.672e2	1.183e3	1.192	0.82	0.77	4.0	YES	NO	bd	bd	0.214
23	Total-tetrafurans	26.02	2.451e4	3.208e4	1.192	0.76	0.77	107.4	YES	NO	dd	dd	5.631

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.20	5.940e5	3.874e5		1.53	1.55	10040.6	YES	NO	bb	bb	118.695

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.86	1.067e5	7.007e4	1.047	1.52	1.55	875.7	YES	NO	db	dd	19.275
2	Total-pentafurans	28.80	4.973e4	3.368e4	1.047	1.48	1.55	473.1	YES	NO	dd	dd	9.092
3	Total-pentafurans	28.67	2.603e4	1.738e4	1.047	1.50	1.55	179.1	YES	NO	dd	dd	4.732
4	12389-PECDF	32.34	1.398e3	9.829e2	1.000	1.42	1.55	13.8	YES	NO	bb	db	0.264
5	Total-pentafurans	31.48	8.935e2	5.516e2	1.047	1.62	1.55	6.9	YES	NO	db	db	0.158
6	23478-PeCDF	31.29	2.616e4	1.646e4	1.126	1.59	1.55	213.1	YES	NO	dd	dd	4.449
7	Total-pentafurans	31.13	1.643e4	1.105e4	1.047	1.49	1.55	131.4	YES	NO	dd	dd	2.996
8	Total-pentafurans	31.03	1.219e4	8.440e3	1.047	1.44	1.55	101.2	YES	NO	bd	bd	2.250
9	Total-pentafurans	30.78	1.401e3	9.903e2	1.047	1.42	1.55	11.4	YES	NO	bb	bb	0.261
10	Total-pentafurans	30.42	1.376e3	8.894e2	1.047	1.55	1.55	11.5	YES	NO	db	bb	0.247
11	Total-pentafurans	30.24	6.539e3	4.497e3	1.047	1.45	1.55	45.4	YES	NO	dd	db	1.203
12	Total-pentafurans	30.14	2.455e4	1.618e4	1.047	1.52	1.55	206.1	YES	NO	bd	bd	4.440
13	12378-PeCDF	29.94	1.378e4	8.800e3	1.015	1.57	1.55	112.7	YES	NO	bb	bb	2.467
14	Total-pentafurans	29.66	1.200e4	8.145e3	1.047	1.47	1.55	108.5	YES	NO	db	db	2.196
15	Total-pentafurans	29.58	2.975e4	2.088e4	1.047	1.42	1.55	249.6	YES	NO	dd	dd	5.520
16	Total-pentafurans	29.47	3.269e4	2.103e4	1.047	1.55	1.55	296.0	YES	NO	dd	dd	5.856

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123468-HXCDF	33.24	2.555e5	2.179e5	1.087	1.17	1.24	2646.5	YES	NO	bb	bb	48.565
2	Total-hexafurans	36.34	1.251e3	1.129e3	1.045	1.11	1.24	11.4	YES	NO	bd	bb	0.269
3	234678-HxCDF	35.88	1.064e5	8.932e4	1.052	1.19	1.24	753.7	YES	NO	bb	bb	21.876
4	Total-hexafurans	35.57	2.836e3	2.266e3	1.045	1.25	1.24	32.2	YES	NO	bb	bb	0.576
5	Total-hexafurans	35.39	9.005e3	7.841e3	1.045	1.15	1.24	99.3	YES	NO	bb	bb	1.901
6	Total-hexafurans	35.25	2.500e3	2.322e3	1.045	1.08	1.24	30.3	YES	NO	bb	bb	0.544
7	123678-HxCDF	35.05	8.186e4	6.958e4	1.037	1.18	1.24	825.6	YES	NO	db	db	16.039
8	123478-HxCDF	34.91	1.089e5	9.227e4	1.017	1.18	1.24	1153.9	YES	NO	dd	dd	22.056
9	Total-hexafurans	34.77	2.126e4	1.769e4	1.045	1.20	1.24	216.2	YES	NO	bd	bd	4.395
10	Total-hexafurans	34.29	1.041e6	8.845e5	1.045	1.18	1.24	11193.7	YES	NO	db	db	217.249
11	Total-hexafurans	33.99	4.793e4	4.040e4	1.045	1.19	1.24	494.9	YES	NO	bb	bb	9.965
12	Total-hexafurans	33.71	5.197e3	4.104e3	1.045	1.27	1.24	52.0	YES	NO	bb	bb	1.049
13	Total-hexafurans	33.45	6.740e5	5.703e5	1.045	1.18	1.24	6780.4	YES	NO	bb	bb	140.373
14	123789-HxCDF	36.93	1.929e4	1.538e4	1.030	1.25	1.24	176.8	YES	NO	db	bb	4.571

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.04	9.850e4	9.368e4	1.283	1.05	1.05	522.4	YES	NO	bb	bd	37.811
2	Total-heptafurans	40.30	5.284e3	5.036e3	1.305	1.05	1.05	25.3	YES	NO	bb	bb	1.778
3	Total-heptafurans	39.46	3.425e6	3.323e6	1.305	1.03	1.05	20030.8	YES	NO	bb	bb	1162.8...
4	Total-heptafurans	39.20	3.298e4	3.177e4	1.305	1.04	1.05	174.1	YES	NO	db	bb	11.159
5	1234678-HpCDF	38.80	1.808e6	1.740e6	1.327	1.04	1.05	10661.1	YES	NO	MM	MM	542.142

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.72	2.601e3	3.276e3	1.192	0.79	0.77	14.5	YES	NO	dd	dd	0.585
2	Total-tetrafurans	23.63	2.225e4	2.792e4	1.192	0.80	0.77	59.1	YES	NO	dd	dd	4.992
3	Total-tetrafurans	23.11	3.864e4	4.947e4	1.192	0.78	0.77	93.8	YES	NO	dd	bd	8.767
4	Total-tetrafurans	22.86	1.356e3	1.615e3	1.192	0.84	0.77	5.9	YES	NO	db	db	0.296
5	Total-tetrafurans	22.53	4.020e4	5.320e4	1.192	0.76	0.77	174.7	YES	NO	db	dd	9.294
6	1368-TCDF	22.25	1.448e4	1.975e4	1.425	0.73	0.77	65.4	YES	NO	bd	dd	2.849
7	Total-Furans	21.13	1.712e3	2.468e3	1.158	0.69	0.77	5.6	YES	NO	bb	bb	0.428
8	Total-tetrafurans	25.94	1.131e4	1.568e4	1.192	0.72	0.77	45.9	YES	NO	dd	dd	2.686
9	2378-TCDF	25.79	1.178e4	1.606e4	1.108	0.73	0.77	48.3	YES	NO	dd	dd	2.981
10	Total-tetrafurans	25.61	5.706e3	7.921e3	1.192	0.72	0.77	26.4	YES	NO	dd	dd	1.356
11	Total-tetrafurans	25.56	4.752e3	6.477e3	1.192	0.73	0.77	25.8	YES	NO	dd	dd	1.117
12	Total-tetrafurans	25.43	1.937e3	2.618e3	1.192	0.74	0.77	8.4	YES	NO	dd	dd	0.453
13	Total-tetrafurans	25.29	4.698e3	6.337e3	1.192	0.74	0.77	16.3	YES	NO	dd	dd	1.098
14	Total-tetrafurans	25.11	6.170e3	7.980e3	1.192	0.77	0.77	25.2	YES	NO	dd	dd	1.408
15	Total-tetrafurans	24.88	1.453e4	1.885e4	1.192	0.77	0.77	69.1	YES	NO	dd	dd	3.322
16	Total-tetrafurans	24.69	1.799e4	2.475e4	1.192	0.73	0.77	80.0	YES	NO	dd	dd	4.253
17	Total-tetrafurans	24.48	1.796e4	2.154e4	1.192	0.83	0.77	65.7	YES	NO	dd	dd	3.930
18	Total-tetrafurans	24.31	9.541e2	1.100e3	1.192	0.87	0.77	4.3	YES	NO	dd	dd	0.204
19	Total-tetrafurans	24.07	1.750e4	2.348e4	1.192	0.75	0.77	69.9	YES	NO	dd	dd	4.078
20	Total-tetrafurans	23.95	1.482e4	1.936e4	1.192	0.77	0.77	65.0	YES	NO	dd	dd	3.402
21	Total-tetrafurans	23.84	1.514e4	2.139e4	1.192	0.71	0.77	59.4	YES	NO	dd	dd	3.635
22	1289-TCDF	27.36	3.962e3	5.672e3	1.043	0.70	0.77	18.4	YES	NO	dd	db	1.096
23	Total-tetrafurans	26.65	9.672e2	1.183e3	1.192	0.82	0.77	4.0	YES	NO	bd	bd	0.214
24	Total-tetrafurans	26.02	2.451e4	3.208e4	1.192	0.76	0.77	107.4	YES	NO	dd	dd	5.631
25	Total-pentafurans	28.86	1.067e5	7.007e4	1.047	1.52	1.55	875.7	YES	NO	db	dd	19.275
26	Total-pentafurans	28.80	4.973e4	3.368e4	1.047	1.48	1.55	473.1	YES	NO	dd	dd	9.092
27	Total-pentafurans	28.67	2.603e4	1.738e4	1.047	1.50	1.55	179.1	YES	NO	dd	dd	4.732
28	12389-PECDF	32.34	1.398e3	9.829e2	1.000	1.42	1.55	13.8	YES	NO	bb	db	0.264
29	Total-pentafurans	31.48	8.935e2	5.516e2	1.047	1.62	1.55	6.9	YES	NO	db	db	0.158
30	23478-PeCDF	31.29	2.616e4	1.646e4	1.126	1.59	1.55	213.1	YES	NO	dd	dd	4.449
31	Total-pentafurans	31.13	1.643e4	1.105e4	1.047	1.49	1.55	131.4	YES	NO	dd	dd	2.996
32	Total-pentafurans	31.03	1.219e4	8.440e3	1.047	1.44	1.55	101.2	YES	NO	bd	bd	2.250
33	Total-pentafurans	30.78	1.401e3	9.903e2	1.047	1.42	1.55	11.4	YES	NO	bb	bb	0.261
34	Total-pentafurans	30.42	1.376e3	8.894e2	1.047	1.55	1.55	11.5	YES	NO	db	bb	0.247
35	Total-pentafurans	30.24	6.539e3	4.497e3	1.047	1.45	1.55	45.4	YES	NO	dd	db	1.203
36	Total-pentafurans	30.14	2.455e4	1.618e4	1.047	1.52	1.55	206.1	YES	NO	bd	bd	4.440
37	12378-PeCDF	29.94	1.378e4	8.800e3	1.015	1.57	1.55	112.7	YES	NO	bb	bb	2.467

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-pentafurans	29.66	1.200e4	8.145e3	1.047	1.47	1.55	108.5	YES	NO	db	db	2.196
39	Total-pentafurans	29.58	2.975e4	2.088e4	1.047	1.42	1.55	249.6	YES	NO	dd	dd	5.520
40	Total-pentafurans	29.47	3.269e4	2.103e4	1.047	1.55	1.55	296.0	YES	NO	dd	dd	5.856
41	123468-HXCDF	33.24	2.555e5	2.179e5	1.087	1.17	1.24	2646.5	YES	NO	bb	bb	48.565
42	Total-hexafurans	36.34	1.251e3	1.129e3	1.045	1.11	1.24	11.4	YES	NO	bd	bb	0.269
43	234678-HxCDF	35.88	1.064e5	8.932e4	1.052	1.19	1.24	753.7	YES	NO	bb	bb	21.876
44	Total-hexafurans	35.57	2.836e3	2.266e3	1.045	1.25	1.24	32.2	YES	NO	bb	bb	0.576
45	Total-hexafurans	35.39	9.005e3	7.841e3	1.045	1.15	1.24	99.3	YES	NO	bb	bb	1.901
46	Total-hexafurans	35.25	2.500e3	2.322e3	1.045	1.08	1.24	30.3	YES	NO	bb	bb	0.544
47	123678-HxCDF	35.05	8.186e4	6.958e4	1.037	1.18	1.24	825.6	YES	NO	db	db	16.039
48	123478-HxCDF	34.91	1.089e5	9.227e4	1.017	1.18	1.24	1153.9	YES	NO	dd	dd	22.056
49	Total-hexafurans	34.77	2.126e4	1.769e4	1.045	1.20	1.24	216.2	YES	NO	bd	bd	4.395
50	Total-hexafurans	34.29	1.041e6	8.845e5	1.045	1.18	1.24	11193.7	YES	NO	db	db	217.249
51	Total-hexafurans	33.99	4.793e4	4.040e4	1.045	1.19	1.24	494.9	YES	NO	bb	bb	9.965
52	Total-hexafurans	33.71	5.197e3	4.104e3	1.045	1.27	1.24	52.0	YES	NO	bb	bb	1.049
53	Total-hexafurans	33.45	6.740e5	5.703e5	1.045	1.18	1.24	6780.4	YES	NO	bb	bb	140.373
54	123789-HxCDF	36.93	1.929e4	1.538e4	1.030	1.25	1.24	176.8	YES	NO	db	bb	4.571
55	1234789-HpCDF	41.04	9.850e4	9.368e4	1.283	1.05	1.05	522.4	YES	NO	bb	bd	37.811
56	Total-heptafurans	40.30	5.284e3	5.036e3	1.305	1.05	1.05	25.3	YES	NO	bb	bb	1.778
57	Total-heptafurans	39.46	3.425e6	3.323e6	1.305	1.03	1.05	20030.8	YES	NO	bb	bb	1162.8...
58	Total-heptafurans	39.20	3.298e4	3.177e4	1.305	1.04	1.05	174.1	YES	NO	db	bb	11.159
59	1234678-HpCDF	38.80	1.808e6	1.740e6	1.327	1.04	1.05	10661.1	YES	NO	MM	MM	542.142
60	OCDF	45.31	3.795e6	4.348e6	1.447	0.87	0.89	46314.3	YES	NO	bb	bb	1774.0...
61	Total-penta1	27.20	5.940e5	3.874e5		1.53	1.55	10040.6	YES	NO	bb	bb	118.695

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.05	2.551e4	3.421e4	0.879	0.75	0.77	284.6	YES	NO	db	db	7.849
2	Total-tetradioxins	23.87	1.687e5	2.190e5	0.879	0.77	0.77	1627.1	YES	NO	bd	dd	50.953
3	1368-TCDD	23.60	9.544e4	1.217e5	0.923	0.78	0.77	1029.9	YES	NO	bb	bd	27.182
4	Total-tetradioxins	26.76	3.350e2	4.949e2	0.879	0.68	0.77	3.2	YES	NO	db	db	0.109
5	Total-tetradioxins	26.64	2.488e3	3.015e3	0.879	0.83	0.77	29.0	YES	NO	dd	dd	0.723
6	Total-tetradioxins	26.55	8.921e3	1.147e4	0.879	0.78	0.77	89.2	YES	NO	dd	dd	2.681
7	2378-TCDD	26.41	5.075e3	6.895e3	0.920	0.74	0.77	54.9	YES	NO	bd	bd	1.503
8	Total-tetradioxins	26.03	8.612e3	1.012e4	0.879	0.85	0.77	57.7	YES	NO	bd	bb	2.462
9	Total-tetradioxins	25.75	1.376e3	1.798e3	0.879	0.77	0.77	12.1	YES	NO	db	db	0.417
10	Total-tetradioxins	25.61	1.156e4	1.511e4	0.879	0.76	0.77	112.9	YES	NO	dd	dd	3.506
11	Total-tetradioxins	25.40	1.685e4	2.119e4	0.879	0.80	0.77	171.5	YES	NO	dd	dd	5.000
12	Total-tetradioxins	25.29	2.581e3	3.437e3	0.879	0.75	0.77	29.1	YES	NO	bd	dd	0.791
13	Total-tetradioxins	25.13	1.015e3	1.243e3	0.879	0.82	0.77	14.1	YES	NO	db	dd	0.297
14	Total-tetradioxins	25.02	2.603e4	3.410e4	0.879	0.76	0.77	256.7	YES	NO	bd	bd	7.903
15	Total-tetradioxins	24.75	1.840e4	2.235e4	0.879	0.82	0.77	151.9	YES	NO	db	bb	5.356
16	Total-tetradioxins	24.57	1.420e4	1.791e4	0.879	0.79	0.77	149.2	YES	NO	bd	bb	4.221
17	1289-TCDD	27.03	2.481e3	3.491e3	0.794	0.71	0.77	24.4	YES	NO	db	dd	0.869

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.94	1.201e4	7.386e3	1.154	1.63	1.55	61.4	YES	NO	bb	bb	2.851
2	12378-PeCDD	31.52	4.744e4	2.943e4	0.995	1.61	1.55	219.2	YES	NO	bb	bb	13.096
3	Total-pentadioxins	30.85	2.035e4	1.291e4	1.331	1.58	1.55	98.5	YES	NO	bb	bb	4.239
4	Total-pentadioxins	30.46	5.027e4	3.286e4	1.331	1.53	1.55	168.4	YES	NO	db	db	10.594
5	Total-pentadioxins	30.29	3.747e4	2.380e4	1.331	1.57	1.55	196.0	YES	NO	dd	dd	7.808
6	Total-pentadioxins	30.13	5.116e4	3.229e4	1.331	1.58	1.55	272.6	YES	NO	bd	bd	10.634
7	Total-pentadioxins	29.92	4.775e4	3.052e4	1.331	1.56	1.55	258.7	YES	NO	db	db	9.975
8	Total-pentadioxins	29.68	2.792e3	1.624e3	1.331	1.72	1.55	15.4	YES	NO	bb	bb	0.563
9	Total-pentadioxins	29.32	6.241e4	3.982e4	1.331	1.57	1.55	356.9	YES	NO	bb	bb	13.028
10	12479-PECDD	28.83	6.053e5	3.857e5	1.843	1.57	1.55	2154.1	YES	NO	db	bb	91.165

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDD	36.03	9.190e4	7.587e4	1.027	1.21	1.24	250.3	YES	NO	bd	bd	20.884
2	Total-hexadioxins	35.26	4.333e4	3.579e4	1.028	1.21	1.24	115.5	YES	NO	db	db	9.889
3	Total-hexadioxins	35.15	1.377e6	1.101e6	1.028	1.25	1.24	2396.4	YES	NO	bd	bd	309.695
4	Total-hexadioxins	34.78	3.808e5	2.988e5	1.028	1.27	1.24	946.0	YES	NO	bb	bb	84.943
5	124679-HXCDD	34.01	2.427e6	1.910e6	1.125	1.27	1.24	5807.0	YES	NO	bb	bb	492.975
6	123789-HxCDD	36.54	2.088e5	1.640e5	0.950	1.27	1.24	540.7	YES	NO	bb	bb	50.390
7	Total-hexadioxins	36.32	4.387e4	3.801e4	1.028	1.15	1.24	118.1	YES	NO	bb	bb	10.234
8	123678-HxCDD	36.14	5.174e5	4.034e5	1.009	1.28	1.24	1325.9	YES	NO	db	db	117.777

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.29	8.642e6	8.302e6	1.068	1.04	1.05	18165.6	YES	NO	bb	bb	3740.5...
2	1234679-HPCDD	39.25	7.906e6	7.583e6	1.211	1.04	1.05	17291.0	YES	NO	bb	bb	3016.111

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.05	2.551e4	3.421e4	0.879	0.75	0.77	284.6	YES	NO	db	db	7.849
2	Total-tetradioxins	23.87	1.687e5	2.190e5	0.879	0.77	0.77	1627.1	YES	NO	bd	dd	50.953
3	1368-TCDD	23.60	9.544e4	1.217e5	0.923	0.78	0.77	1029.9	YES	NO	bb	bd	27.182
4	Total-Dioxins	23.02	7.339e2	9.219e2	1.092	0.80	0.77	5.2	YES	NO	bb	bb	0.175
5	Total-tetradioxins	26.76	3.350e2	4.949e2	0.879	0.68	0.77	3.2	YES	NO	db	db	0.109
6	Total-tetradioxins	26.64	2.488e3	3.015e3	0.879	0.83	0.77	29.0	YES	NO	dd	dd	0.723
7	Total-tetradioxins	26.55	8.921e3	1.147e4	0.879	0.78	0.77	89.2	YES	NO	dd	dd	2.681
8	2378-TCDD	26.41	5.075e3	6.895e3	0.920	0.74	0.77	54.9	YES	NO	bd	bd	1.503
9	Total-tetradioxins	26.03	8.612e3	1.012e4	0.879	0.85	0.77	57.7	YES	NO	bd	bb	2.462
10	Total-tetradioxins	25.75	1.376e3	1.798e3	0.879	0.77	0.77	12.1	YES	NO	db	db	0.417
11	Total-tetradioxins	25.61	1.156e4	1.511e4	0.879	0.76	0.77	112.9	YES	NO	dd	dd	3.506
12	Total-tetradioxins	25.40	1.685e4	2.119e4	0.879	0.80	0.77	171.5	YES	NO	dd	dd	5.000
13	Total-tetradioxins	25.29	2.581e3	3.437e3	0.879	0.75	0.77	29.1	YES	NO	bd	dd	0.791
14	Total-tetradioxins	25.13	1.015e3	1.243e3	0.879	0.82	0.77	14.1	YES	NO	db	dd	0.297
15	Total-tetradioxins	25.02	2.603e4	3.410e4	0.879	0.76	0.77	256.7	YES	NO	bd	bd	7.903
16	Total-tetradioxins	24.75	1.840e4	2.235e4	0.879	0.82	0.77	151.9	YES	NO	db	bb	5.356
17	Total-tetradioxins	24.57	1.420e4	1.791e4	0.879	0.79	0.77	149.2	YES	NO	bd	bb	4.221
18	1289-TCDD	27.03	2.481e3	3.491e3	0.794	0.71	0.77	24.4	YES	NO	db	dd	0.869
19	12389-PECDD	31.94	1.201e4	7.386e3	1.154	1.63	1.55	61.4	YES	NO	bb	bb	2.851
20	12378-PeCDD	31.52	4.744e4	2.943e4	0.995	1.61	1.55	219.2	YES	NO	bb	bb	13.096
21	Total-pentadioxins	30.85	2.035e4	1.291e4	1.331	1.58	1.55	98.5	YES	NO	bb	bb	4.239
22	Total-pentadioxins	30.46	5.027e4	3.286e4	1.331	1.53	1.55	168.4	YES	NO	db	db	10.594
23	Total-pentadioxins	30.29	3.747e4	2.380e4	1.331	1.57	1.55	196.0	YES	NO	dd	dd	7.808
24	Total-pentadioxins	30.13	5.116e4	3.229e4	1.331	1.58	1.55	272.6	YES	NO	bd	bd	10.634
25	Total-pentadioxins	29.92	4.775e4	3.052e4	1.331	1.56	1.55	258.7	YES	NO	db	db	9.975
26	Total-pentadioxins	29.68	2.792e3	1.624e3	1.331	1.72	1.55	15.4	YES	NO	bb	bb	0.563
27	Total-pentadioxins	29.32	6.241e4	3.982e4	1.331	1.57	1.55	356.9	YES	NO	bb	bb	13.028
28	12479-PECDD	28.83	6.053e5	3.857e5	1.843	1.57	1.55	2154.1	YES	NO	db	bb	91.165
29	123478-HxCDD	36.03	9.190e4	7.587e4	1.027	1.21	1.24	250.3	YES	NO	bd	bd	20.884
30	Total-hexadioxins	35.26	4.333e4	3.579e4	1.028	1.21	1.24	115.5	YES	NO	db	db	9.889
31	Total-hexadioxins	35.15	1.377e6	1.101e6	1.028	1.25	1.24	2396.4	YES	NO	bd	bd	309.695
32	Total-hexadioxins	34.78	3.808e5	2.988e5	1.028	1.27	1.24	946.0	YES	NO	bb	bb	84.943
33	124679-HXCDD	34.01	2.427e6	1.910e6	1.125	1.27	1.24	5807.0	YES	NO	bb	bb	492.975
34	123789-HxCDD	36.54	2.088e5	1.640e5	0.950	1.27	1.24	540.7	YES	NO	bb	bb	50.390
35	Total-hexadioxins	36.32	4.387e4	3.801e4	1.028	1.15	1.24	118.1	YES	NO	bb	bb	10.234
36	123678-HxCDD	36.14	5.174e5	4.034e5	1.009	1.28	1.24	1325.9	YES	NO	db	db	117.777
37	1234678-HpCDD	40.29	8.642e6	8.302e6	1.068	1.04	1.05	18165.6	YES	NO	bb	bb	3740.5...

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	39.25	7.906e6	7.583e6	1.211	1.04	1.05	17291.0	YES	NO	bb	bb	3016.111
39	OCDD	45.09	4.535e7	5.096e7	1.181	0.89	0.89	10474...	YES	NO	bb	bb	25709....

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.72	2.601e3	3.276e3	1.192	0.79	0.77	14.5	YES	NO	dd	dd	0.585
2	Total-tetrafurans	23.63	2.225e4	2.792e4	1.192	0.80	0.77	59.1	YES	NO	dd	dd	4.992
3	Total-tetrafurans	23.11	3.864e4	4.947e4	1.192	0.78	0.77	93.8	YES	NO	dd	bd	8.767
4	Total-tetrafurans	22.86	1.356e3	1.615e3	1.192	0.84	0.77	5.9	YES	NO	db	db	0.296
5	Total-tetrafurans	22.53	4.020e4	5.320e4	1.192	0.76	0.77	174.7	YES	NO	db	dd	9.294
6	1368-TCDF	22.25	1.448e4	1.975e4	1.425	0.73	0.77	65.4	YES	NO	bd	dd	2.849
7	Total-Furans	21.13	1.712e3	2.468e3	1.158	0.69	0.77	5.6	YES	NO	bb	bb	0.428
8	Total-tetrafurans	25.94	1.131e4	1.568e4	1.192	0.72	0.77	45.9	YES	NO	dd	dd	2.686
9	2378-TCDF	25.79	1.178e4	1.606e4	1.108	0.73	0.77	48.3	YES	NO	dd	dd	2.981
10	Total-tetrafurans	25.61	5.706e3	7.921e3	1.192	0.72	0.77	26.4	YES	NO	dd	dd	1.356
11	Total-tetrafurans	25.56	4.752e3	6.477e3	1.192	0.73	0.77	25.8	YES	NO	dd	dd	1.117
12	Total-tetrafurans	25.43	1.937e3	2.618e3	1.192	0.74	0.77	8.4	YES	NO	dd	dd	0.453
13	Total-tetrafurans	25.29	4.698e3	6.337e3	1.192	0.74	0.77	16.3	YES	NO	dd	dd	1.098
14	Total-tetrafurans	25.11	6.170e3	7.980e3	1.192	0.77	0.77	25.2	YES	NO	dd	dd	1.408
15	Total-tetrafurans	24.88	1.453e4	1.885e4	1.192	0.77	0.77	69.1	YES	NO	dd	dd	3.322
16	Total-tetrafurans	24.69	1.799e4	2.475e4	1.192	0.73	0.77	80.0	YES	NO	dd	dd	4.253
17	Total-tetrafurans	24.48	1.796e4	2.154e4	1.192	0.83	0.77	65.7	YES	NO	dd	dd	3.930
18	Total-tetrafurans	24.31	9.541e2	1.100e3	1.192	0.87	0.77	4.3	YES	NO	dd	dd	0.204
19	Total-tetrafurans	24.07	1.750e4	2.348e4	1.192	0.75	0.77	69.9	YES	NO	dd	dd	4.078
20	Total-tetrafurans	23.95	1.482e4	1.936e4	1.192	0.77	0.77	65.0	YES	NO	dd	dd	3.402
21	Total-tetrafurans	23.84	1.514e4	2.139e4	1.192	0.71	0.77	59.4	YES	NO	dd	dd	3.635
22	1289-TCDF	27.36	3.962e3	5.672e3	1.043	0.70	0.77	18.4	YES	NO	dd	db	1.096
23	Total-tetrafurans	26.65	9.672e2	1.183e3	1.192	0.82	0.77	4.0	YES	NO	bd	bd	0.214
24	Total-tetrafurans	26.02	2.451e4	3.208e4	1.192	0.76	0.77	107.4	YES	NO	dd	dd	5.631
25	Total-pentafurans	28.86	1.067e5	7.007e4	1.047	1.52	1.55	875.7	YES	NO	db	dd	19.275
26	Total-pentafurans	28.80	4.973e4	3.368e4	1.047	1.48	1.55	473.1	YES	NO	dd	dd	9.092
27	Total-pentafurans	28.67	2.603e4	1.738e4	1.047	1.50	1.55	179.1	YES	NO	dd	dd	4.732
28	12389-PECDF	32.34	1.398e3	9.829e2	1.000	1.42	1.55	13.8	YES	NO	bb	db	0.264
29	Total-pentafurans	31.48	8.935e2	5.516e2	1.047	1.62	1.55	6.9	YES	NO	db	db	0.158
30	23478-PeCDF	31.29	2.616e4	1.646e4	1.126	1.59	1.55	213.1	YES	NO	dd	dd	4.449
31	Total-pentafurans	31.13	1.643e4	1.105e4	1.047	1.49	1.55	131.4	YES	NO	dd	dd	2.996
32	Total-pentafurans	31.03	1.219e4	8.440e3	1.047	1.44	1.55	101.2	YES	NO	bd	bd	2.250
33	Total-pentafurans	30.78	1.401e3	9.903e2	1.047	1.42	1.55	11.4	YES	NO	bb	bb	0.261
34	Total-pentafurans	30.42	1.376e3	8.894e2	1.047	1.55	1.55	11.5	YES	NO	db	bb	0.247
35	Total-pentafurans	30.24	6.539e3	4.497e3	1.047	1.45	1.55	45.4	YES	NO	dd	db	1.203
36	Total-pentafurans	30.14	2.455e4	1.618e4	1.047	1.52	1.55	206.1	YES	NO	bd	bd	4.440
37	12378-PeCDF	29.94	1.378e4	8.800e3	1.015	1.57	1.55	112.7	YES	NO	bb	bb	2.467

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-pentafurans	29.66	1.200e4	8.145e3	1.047	1.47	1.55	108.5	YES	NO	db	db	2.196
39	Total-pentafurans	29.58	2.975e4	2.088e4	1.047	1.42	1.55	249.6	YES	NO	dd	dd	5.520
40	Total-pentafurans	29.47	3.269e4	2.103e4	1.047	1.55	1.55	296.0	YES	NO	dd	dd	5.856
41	123468-HXCDF	33.24	2.555e5	2.179e5	1.087	1.17	1.24	2646.5	YES	NO	bb	bb	48.565
42	Total-hexafurans	36.34	1.251e3	1.129e3	1.045	1.11	1.24	11.4	YES	NO	bd	bb	0.269
43	234678-HxCDF	35.88	1.064e5	8.932e4	1.052	1.19	1.24	753.7	YES	NO	bb	bb	21.876
44	Total-hexafurans	35.57	2.836e3	2.266e3	1.045	1.25	1.24	32.2	YES	NO	bb	bb	0.576
45	Total-hexafurans	35.39	9.005e3	7.841e3	1.045	1.15	1.24	99.3	YES	NO	bb	bb	1.901
46	Total-hexafurans	35.25	2.500e3	2.322e3	1.045	1.08	1.24	30.3	YES	NO	bb	bb	0.544
47	123678-HxCDF	35.05	8.186e4	6.958e4	1.037	1.18	1.24	825.6	YES	NO	db	db	16.039
48	123478-HxCDF	34.91	1.089e5	9.227e4	1.017	1.18	1.24	1153.9	YES	NO	dd	dd	22.056
49	Total-hexafurans	34.77	2.126e4	1.769e4	1.045	1.20	1.24	216.2	YES	NO	bd	bd	4.395
50	Total-hexafurans	34.29	1.041e6	8.845e5	1.045	1.18	1.24	11193.7	YES	NO	db	db	217.249
51	Total-hexafurans	33.99	4.793e4	4.040e4	1.045	1.19	1.24	494.9	YES	NO	bb	bb	9.965
52	Total-hexafurans	33.71	5.197e3	4.104e3	1.045	1.27	1.24	52.0	YES	NO	bb	bb	1.049
53	Total-hexafurans	33.45	6.740e5	5.703e5	1.045	1.18	1.24	6780.4	YES	NO	bb	bb	140.373
54	123789-HxCDF	36.93	1.929e4	1.538e4	1.030	1.25	1.24	176.8	YES	NO	db	bb	4.571
55	1234789-HpCDF	41.04	9.850e4	9.368e4	1.283	1.05	1.05	522.4	YES	NO	bb	bd	37.811
56	Total-heptafurans	40.30	5.284e3	5.036e3	1.305	1.05	1.05	25.3	YES	NO	bb	bb	1.778
57	Total-heptafurans	39.46	3.425e6	3.323e6	1.305	1.03	1.05	20030.8	YES	NO	bb	bb	1162.8...
58	Total-heptafurans	39.20	3.298e4	3.177e4	1.305	1.04	1.05	174.1	YES	NO	db	bb	11.159
59	1234678-HpCDF	38.80	1.808e6	1.740e6	1.327	1.04	1.05	10661.1	YES	NO	MM	MM	542.142
60	OCDF	45.31	3.795e6	4.348e6	1.447	0.87	0.89	46314.3	YES	NO	bb	bb	1774.0...
61	Total-penta1	27.20	5.940e5	3.874e5		1.53	1.55	10040.6	YES	NO	bb	bb	118.695
62	Total-tetradioxins	24.05	2.551e4	3.421e4	0.879	0.75	0.77	284.6	YES	NO	db	db	7.849
63	Total-tetradioxins	23.87	1.687e5	2.190e5	0.879	0.77	0.77	1627.1	YES	NO	bd	dd	50.953
64	1368-TCDD	23.60	9.544e4	1.217e5	0.923	0.78	0.77	1029.9	YES	NO	bb	bd	27.182
65	Total-Dioxins	23.02	7.339e2	9.219e2	1.092	0.80	0.77	5.2	YES	NO	bb	bb	0.175
66	Total-tetradioxins	26.76	3.350e2	4.949e2	0.879	0.68	0.77	3.2	YES	NO	db	db	0.109
67	Total-tetradioxins	26.64	2.488e3	3.015e3	0.879	0.83	0.77	29.0	YES	NO	dd	dd	0.723
68	Total-tetradioxins	26.55	8.921e3	1.147e4	0.879	0.78	0.77	89.2	YES	NO	dd	dd	2.681
69	2378-TCDD	26.41	5.075e3	6.895e3	0.920	0.74	0.77	54.9	YES	NO	bd	bd	1.503
70	Total-tetradioxins	26.03	8.612e3	1.012e4	0.879	0.85	0.77	57.7	YES	NO	bd	bb	2.462
71	Total-tetradioxins	25.75	1.376e3	1.798e3	0.879	0.77	0.77	12.1	YES	NO	db	db	0.417
72	Total-tetradioxins	25.61	1.156e4	1.511e4	0.879	0.76	0.77	112.9	YES	NO	dd	dd	3.506
73	Total-tetradioxins	25.40	1.685e4	2.119e4	0.879	0.80	0.77	171.5	YES	NO	dd	dd	5.000
74	Total-tetradioxins	25.29	2.581e3	3.437e3	0.879	0.75	0.77	29.1	YES	NO	bd	dd	0.791

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
75	Total-tetradioxins	25.13	1.015e3	1.243e3	0.879	0.82	0.77	14.1	YES	NO	db	dd	0.297
76	Total-tetradioxins	25.02	2.603e4	3.410e4	0.879	0.76	0.77	256.7	YES	NO	bd	bd	7.903
77	Total-tetradioxins	24.75	1.840e4	2.235e4	0.879	0.82	0.77	151.9	YES	NO	db	bb	5.356
78	Total-tetradioxins	24.57	1.420e4	1.791e4	0.879	0.79	0.77	149.2	YES	NO	bd	bb	4.221
79	1289-TCDD	27.03	2.481e3	3.491e3	0.794	0.71	0.77	24.4	YES	NO	db	dd	0.869
80	12389-PECDD	31.94	1.201e4	7.386e3	1.154	1.63	1.55	61.4	YES	NO	bb	bb	2.851
81	12378-PeCDD	31.52	4.744e4	2.943e4	0.995	1.61	1.55	219.2	YES	NO	bb	bb	13.096
82	Total-pentadioxins	30.85	2.035e4	1.291e4	1.331	1.58	1.55	98.5	YES	NO	bb	bb	4.239
83	Total-pentadioxins	30.46	5.027e4	3.286e4	1.331	1.53	1.55	168.4	YES	NO	db	db	10.594
84	Total-pentadioxins	30.29	3.747e4	2.380e4	1.331	1.57	1.55	196.0	YES	NO	dd	dd	7.808
85	Total-pentadioxins	30.13	5.116e4	3.229e4	1.331	1.58	1.55	272.6	YES	NO	bd	bd	10.634
86	Total-pentadioxins	29.92	4.775e4	3.052e4	1.331	1.56	1.55	258.7	YES	NO	db	db	9.975
87	Total-pentadioxins	29.68	2.792e3	1.624e3	1.331	1.72	1.55	15.4	YES	NO	bb	bb	0.563
88	Total-pentadioxins	29.32	6.241e4	3.982e4	1.331	1.57	1.55	356.9	YES	NO	bb	bb	13.028
89	12479-PECDD	28.83	6.053e5	3.857e5	1.843	1.57	1.55	2154.1	YES	NO	db	bb	91.165
90	123478-HxCDD	36.03	9.190e4	7.587e4	1.027	1.21	1.24	250.3	YES	NO	bd	bd	20.884
91	Total-hexadioxins	35.26	4.333e4	3.579e4	1.028	1.21	1.24	115.5	YES	NO	db	db	9.889
92	Total-hexadioxins	35.15	1.377e6	1.101e6	1.028	1.25	1.24	2396.4	YES	NO	bd	bd	309.695
93	Total-hexadioxins	34.78	3.808e5	2.988e5	1.028	1.27	1.24	946.0	YES	NO	bb	bb	84.943
94	124679-HXCDD	34.01	2.427e6	1.910e6	1.125	1.27	1.24	5807.0	YES	NO	bb	bb	492.975
95	123789-HxCDD	36.54	2.088e5	1.640e5	0.950	1.27	1.24	540.7	YES	NO	bb	bb	50.390
96	Total-hexadioxins	36.32	4.387e4	3.801e4	1.028	1.15	1.24	118.1	YES	NO	bb	bb	10.234
97	123678-HxCDD	36.14	5.174e5	4.034e5	1.009	1.28	1.24	1325.9	YES	NO	db	db	117.777
98	1234678-HpCDD	40.29	8.642e6	8.302e6	1.068	1.04	1.05	18165.6	YES	NO	bb	bb	3740.5...
99	1234679-HPCDD	39.25	7.906e6	7.583e6	1.211	1.04	1.05	17291.0	YES	NO	bb	bb	3016.111
100	OCDD	45.09	4.535e7	5.096e7	1.181	0.89	0.89	10474...	YES	NO	bb	bb	25709....

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.83	1.922e7					71.5	YES		dd		
2	FUNCTION1 PFK	21.97	4.853e6					39.0	YES		dd		
3	FUNCTION1 PFK	21.45	9.546e5					19.0	YES		bd		
4	FUNCTION1 PFK	27.05	3.014e4					2.3	NO		bb		
5	FUNCTION1 PFK	25.20	2.027e7					12.4	YES		db		
6	FUNCTION1 PFK	23.57	6.604e6					75.5	YES		dd		
7	FUNCTION1 PFK	23.36	8.976e5					64.4	YES		bd		
8	FUNCTION1 PFK	23.22	3.116e5					17.7	YES		db		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.39	2.535e4					3.3	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	36.98	2.277e5					6.4	YES		bb		0.000
2	FUNCTION3 PFK	36.78	7.561e5					11.3	YES		bb		0.000

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.33	5.741e4					8.8	YES		dd		
2	FUNCTION4 PFK	38.19	1.965e5					14.7	YES		dd		
3	FUNCTION4 PFK	38.15	1.835e5					15.5	YES		dd		
4	FUNCTION4 PFK	38.06	1.295e5					18.4	YES		dd		
5	FUNCTION4 PFK	38.02	2.230e5					17.9	YES		bd		
6	FUNCTION4 PFK	42.69	7.700e2					0.5	NO		bb		
7	FUNCTION4 PFK	42.40	1.904e3					0.9	NO		bb		
8	FUNCTION4 PFK	41.82	1.364e4					2.6	NO		bb		
9	FUNCTION4 PFK	40.93	5.293e3					1.2	NO		bb		
10	FUNCTION4 PFK	40.35	2.108e4					3.0	NO		bb		
11	FUNCTION4 PFK	40.24	1.170e4					2.3	NO		bb		
12	FUNCTION4 PFK	39.91	8.606e3					1.9	NO		bb		
13	FUNCTION4 PFK	39.76	1.846e4					2.4	NO		db		
14	FUNCTION4 PFK	39.65	4.379e4					4.1	YES		bd		
15	FUNCTION4 PFK	39.48	4.498e4					3.1	YES		bb		
16	FUNCTION4 PFK	39.17	3.998e4					4.1	YES		bb		
17	FUNCTION4 PFK	38.88	1.978e4					1.9	NO		bb		
18	FUNCTION4 PFK	38.52	1.806e4					3.1	YES		db		
19	FUNCTION4 PFK	38.40	8.921e4					7.8	YES		dd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.70	5.061e5					6.6	YES		bb		
2	FUNCTION5 PFK	45.22	2.494e5					11.0	YES		bb		

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.80	1.389e2					5.1	YES		dd		0.000
2	FUNCTION1 HXCD...	26.76	2.765e2					5.8	YES		bd		0.000
3	FUNCTION1 HXCD...	26.23	1.082e2					3.1	YES		db		0.000
4	FUNCTION1 HXCD...	26.12	7.464e2					10.5	YES		dd		0.000
5	FUNCTION1 HXCD...	25.88	9.194e1					1.9	NO		dd		0.000
6	FUNCTION1 HXCD...	25.73	7.773e2					11.3	YES		dd		0.000
7	FUNCTION1 HXCD...	25.55	9.434e1					1.6	NO		bd		0.000
8	FUNCTION1 HXCD...	25.10	2.364e2					5.3	YES		bb		0.000
9	FUNCTION1 HXCD...	23.78	1.981e3					36.9	YES		bb		0.000
10	FUNCTION1 HXCD...	23.58	4.221e2					5.8	YES		bb		0.000
11	FUNCTION1 HXCD...	22.74	7.636e2					12.3	YES		bb		0.000
12	FUNCTION1 HXCD...	22.31	3.368e2					5.6	YES		db		0.000
13	FUNCTION1 HXCD...	22.16	5.754e2					10.8	YES		bd		0.000
14	FUNCTION1 HXCD...	21.38	7.562e1					1.1	NO		bb		0.000
15	FUNCTION1 HXCD...	27.80	3.127e2					5.6	YES		db		0.000
16	FUNCTION1 HXCD...	27.62	2.478e2					3.8	YES		dd		0.000
17	FUNCTION1 HXCD...	27.53	7.601e1					1.5	NO		dd		0.000
18	FUNCTION1 HXCD...	27.41	8.433e1					1.6	NO		bd		0.000
19	FUNCTION1 HXCD...	27.08	1.492e2					3.5	YES		bb		0.000
20	FUNCTION1 HXCD...	26.88	8.005e1					1.5	NO		db		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.86	8.660e1					1.8	NO		bb		0.000
2	FUNCTION1 HPCD...	25.55	9.048e1					3.5	YES		bb		0.000
3	FUNCTION1 HPCD...	23.52	8.855e1					2.2	NO		db		0.000
4	FUNCTION1 HPCD...	23.42	3.271e2					3.6	YES		bd		0.000
5	FUNCTION1 HPCD...	22.98	1.861e2					2.0	NO		db		0.000
6	FUNCTION1 HPCD...	22.81	1.756e2					2.0	NO		bd		0.000
7	FUNCTION1 HPCD...	22.31	2.420e2					3.3	YES		db		0.000
8	FUNCTION1 HPCD...	22.15	8.530e1					2.3	NO		dd		0.000
9	FUNCTION1 HPCD...	22.04	7.885e1					1.6	NO		bd		0.000
10	FUNCTION1 HPCD...	27.89	2.045e2					4.4	YES		db		0.000
11	FUNCTION1 HPCD...	27.82	8.353e1					2.4	NO		bd		0.000
12	FUNCTION1 HPCD...	27.39	9.584e1					2.1	NO		bb		0.000

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.19	4.852e2					8.3	YES		bb		0.000
2	FUNCTION2 HPCD...	29.19	2.351e2					6.1	YES		db		0.000
3	FUNCTION2 HPCD...	29.05	6.514e2					16.3	YES		dd		0.000
4	FUNCTION2 HPCD...	28.92	1.827e3					36.1	YES		bd		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.82	1.009e2					3.1	YES		bb		0.000
2	FUNCTION3 OCDPE	36.53	9.942e1					3.0	YES		bb		0.000
3	FUNCTION3 OCDPE	34.19	3.300e3					71.9	YES		bb		0.000
4	FUNCTION3 OCDPE	34.02	1.391e2					3.1	YES		bb		0.000
5	FUNCTION3 OCDPE	33.66	1.863e2					5.3	YES		bb		0.000
6	FUNCTION3 OCDPE	33.40	1.071e2					2.8	NO		bb		0.000
7	FUNCTION3 OCDPE	33.07	1.324e3					23.0	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.73	9.574e1					4.4	YES		bb		0.000
2	FUNCTION4 NCDPE	40.33	8.240e2					22.3	YES		db		0.000
3	FUNCTION4 NCDPE	40.29	4.698e2					21.5	YES		bd		0.000
4	FUNCTION4 NCDPE	39.26	9.073e2					14.8	YES		bb		0.000
5	FUNCTION4 NCDPE	38.41	1.664e3					41.9	YES		db		0.000
6	FUNCTION4 NCDPE	38.29	1.777e3					50.4	YES		bd		0.000

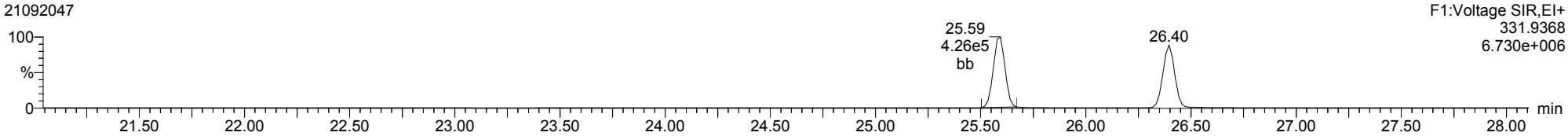
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.32	9.058e2					21.5	YES		db		0.000
2	FUNCTION5 DCDPE	45.10	4.989e3					106.5	YES		bd		0.000

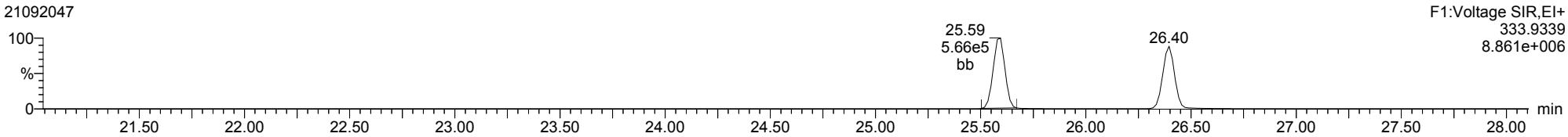
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

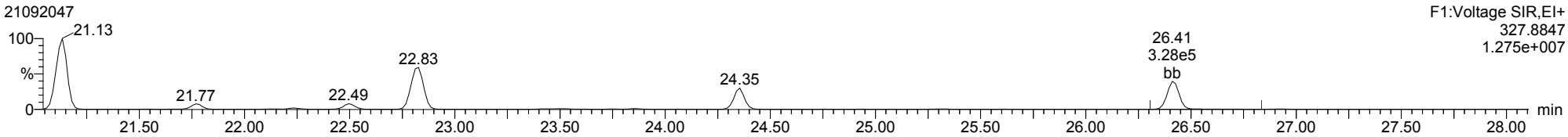
13C-1234-TCDD



13C-1234-TCDD

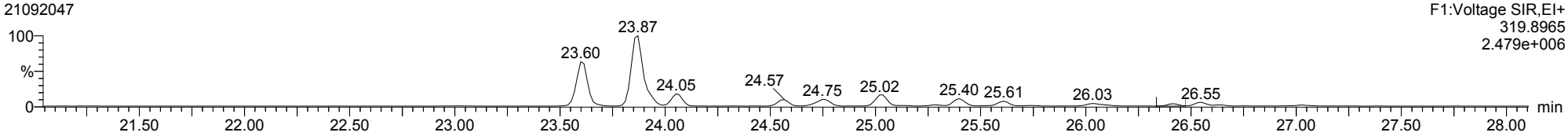


37CL-2378-TCDD

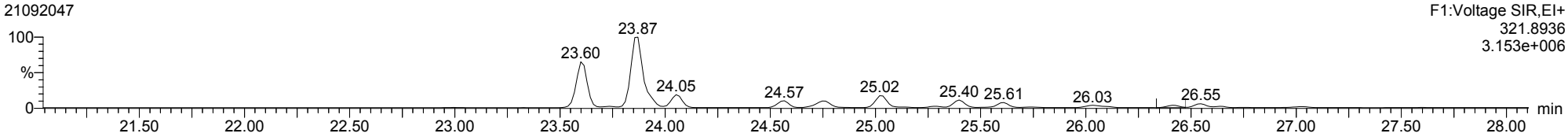


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

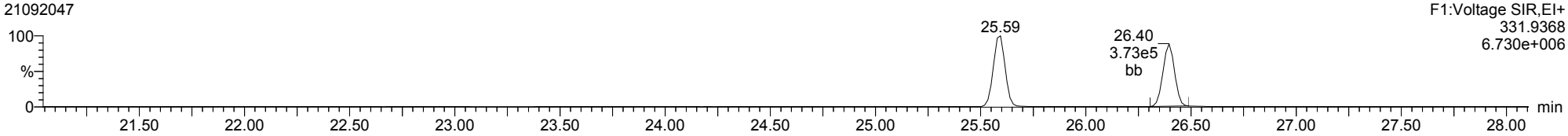
2378-TCDD



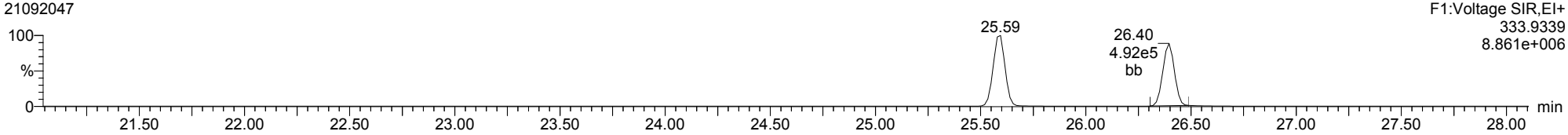
2378-TCDD



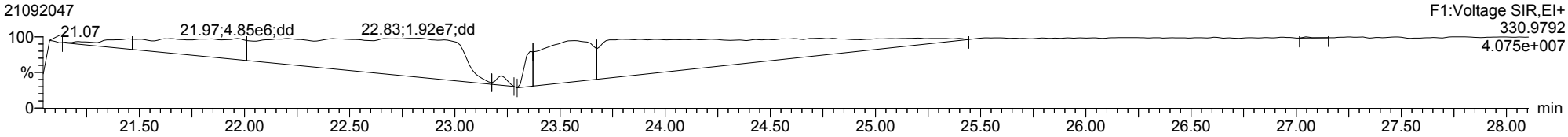
13C-2378-TCDD



13C-2378-TCDD

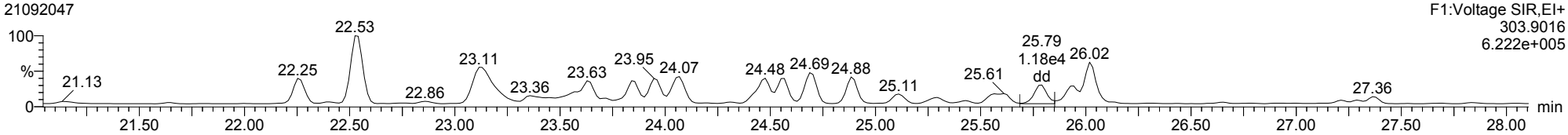


FUNCTION1 PFK

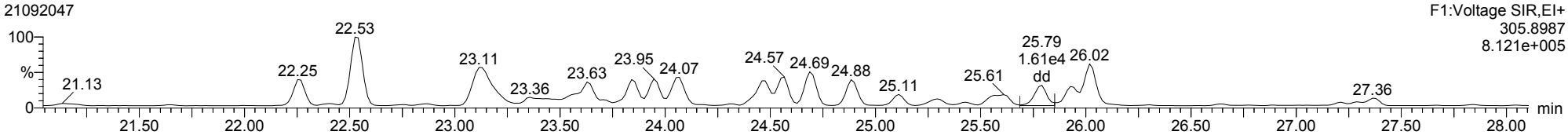


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

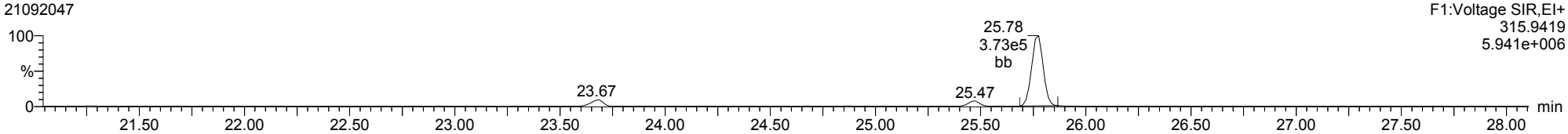
2378-TCDF



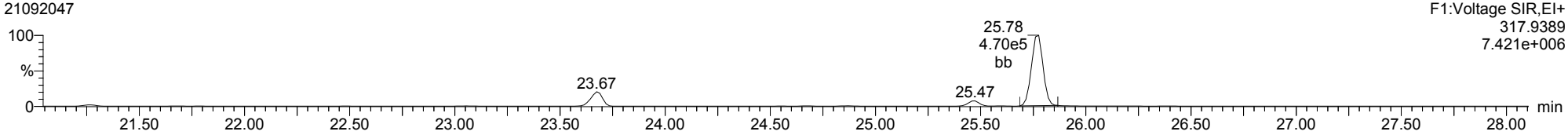
2378-TCDF



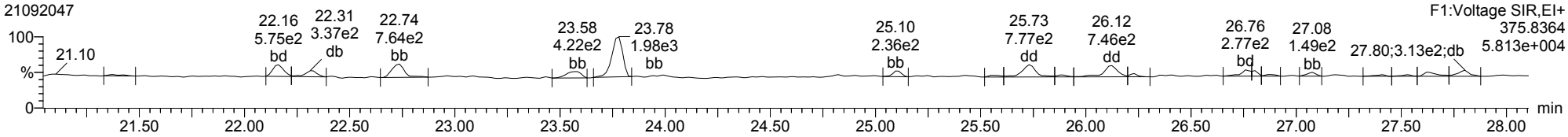
13C-2378-TCDF



13C-2378-TCDF

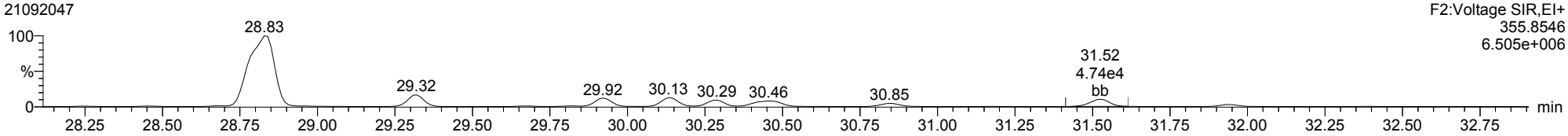


FUNCTION1 HXCDPE

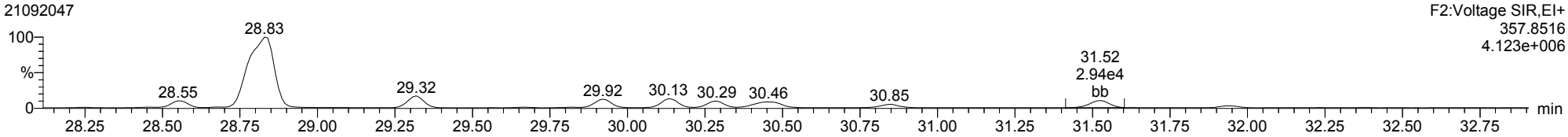


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

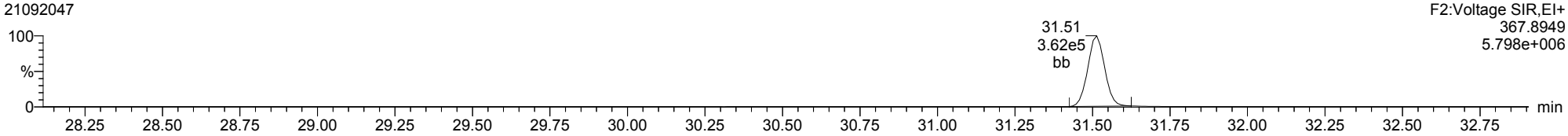
12378-PeCDD



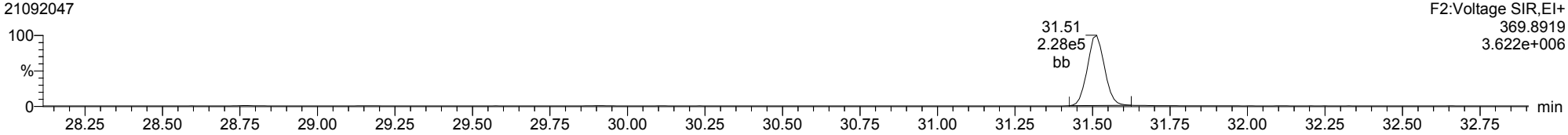
12378-PeCDD



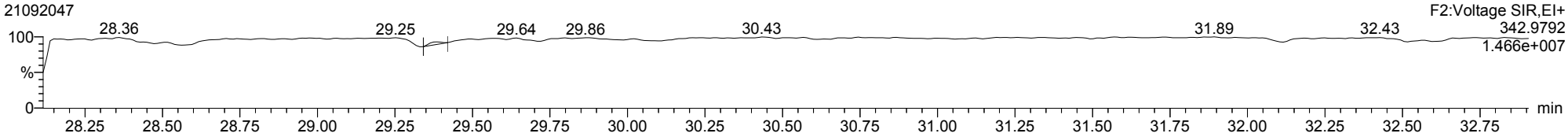
13C-12378-PeCDD



13C-12378-PeCDD

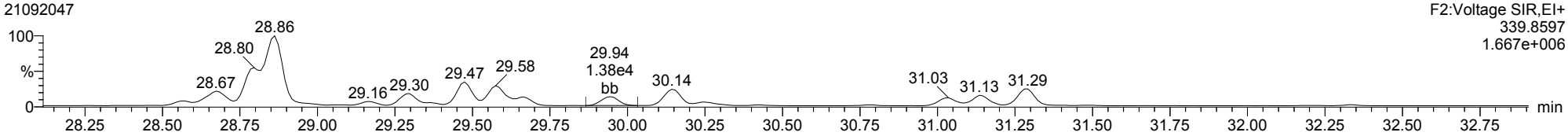


FUNCTION2 PFK

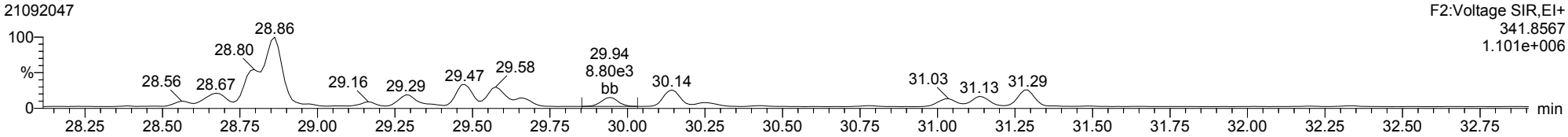


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

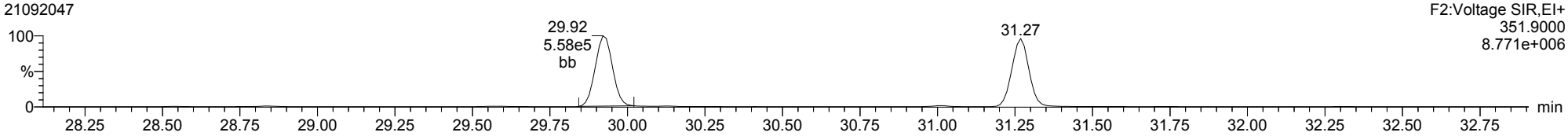
12378-PeCDF



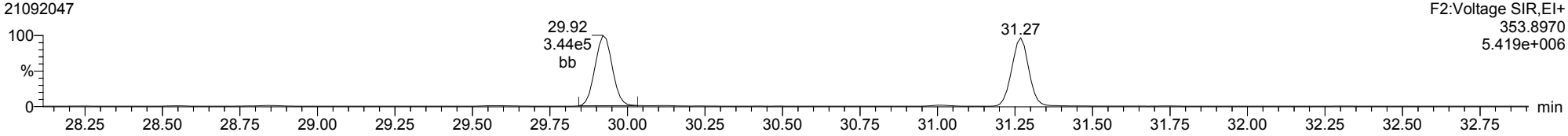
12378-PeCDF



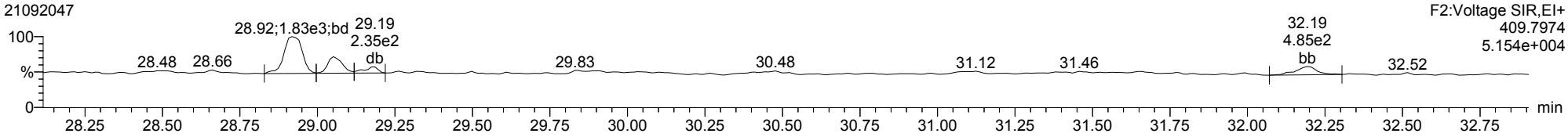
13C-12378-PeCDF



13C-12378-PeCDF

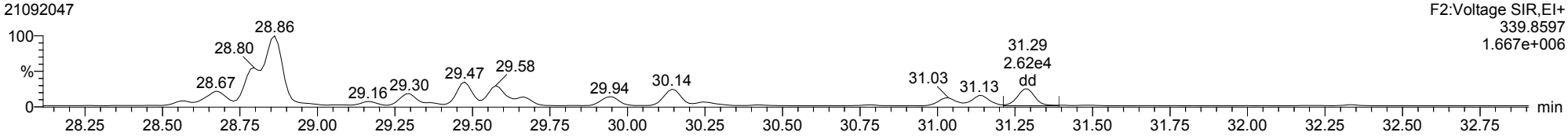


FUNCTION2 HPCDPE

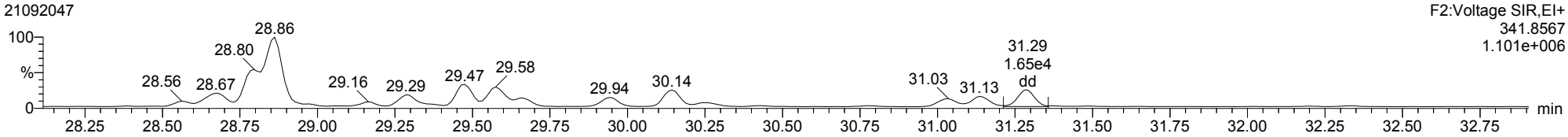


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

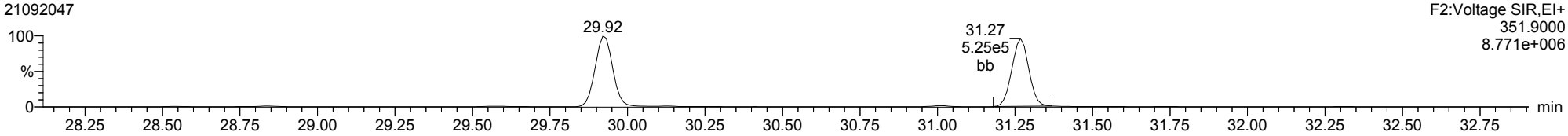
23478-PeCDF



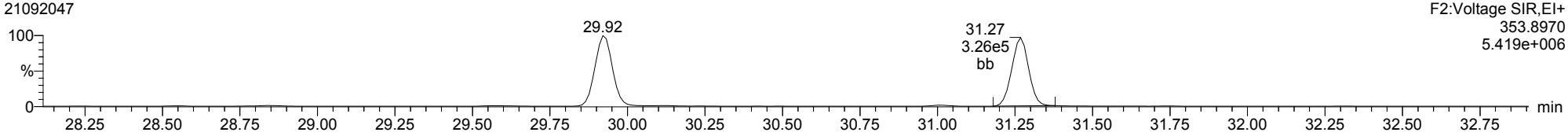
23478-PeCDF



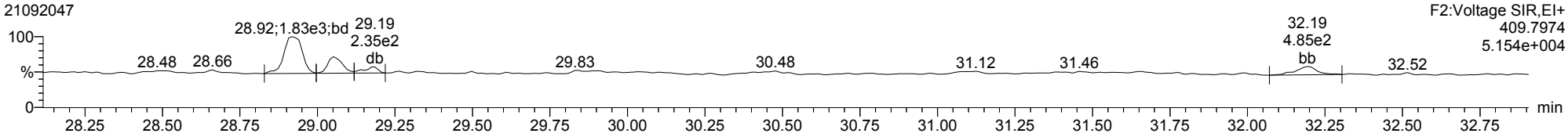
13C-23478-PeCDF



13C-23478-PeCDF

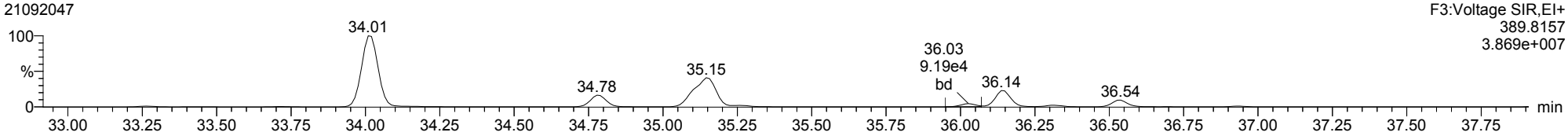


FUNCTION2 HPCDPE

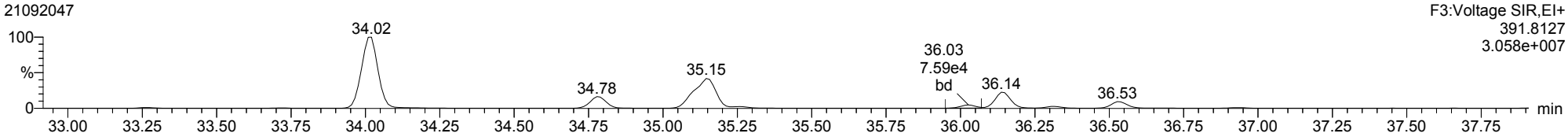


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

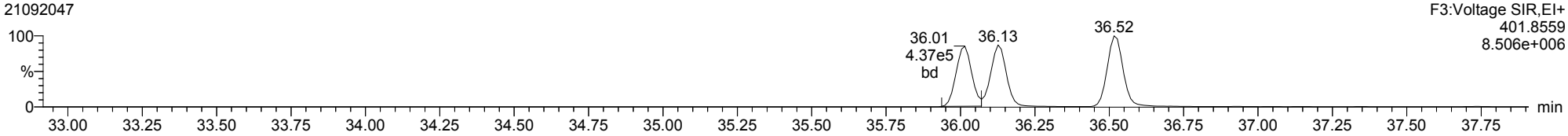
123478-HxCDD



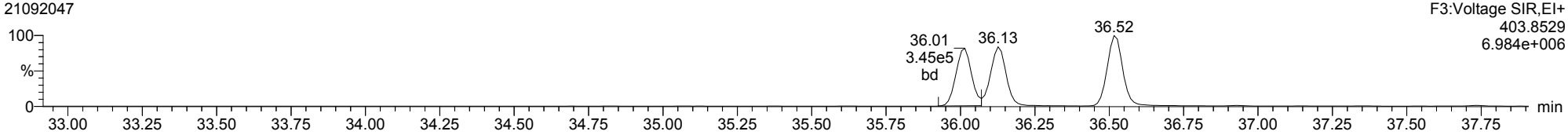
123478-HxCDD



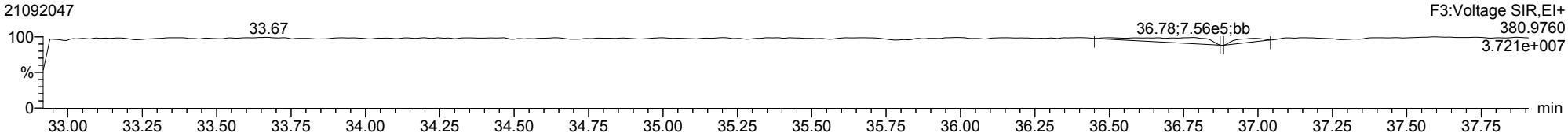
13C-123478-HxCDD



13C-123478-HxCDD

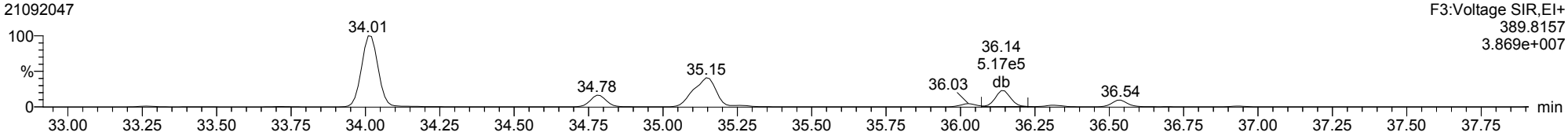


FUNCTION3 PFK

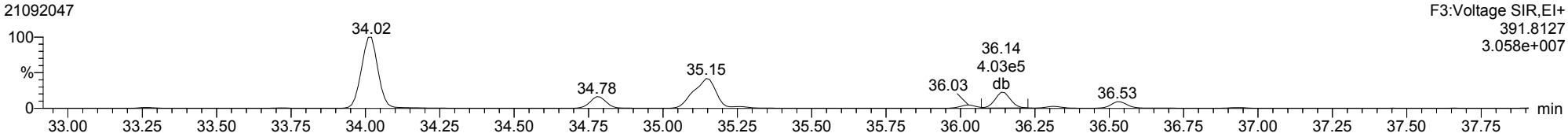


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

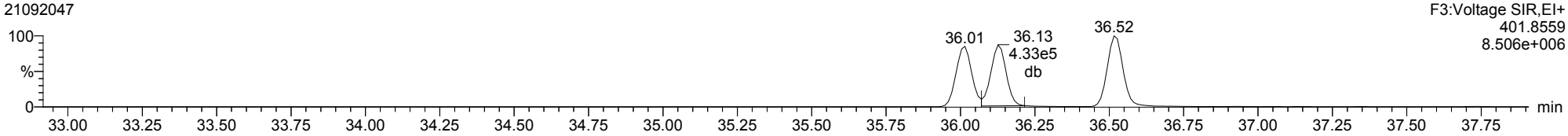
123678-HxCDD



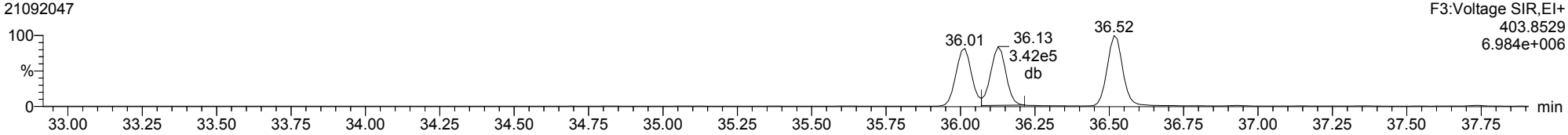
123678-HxCDD



13C-123678-HxCDD

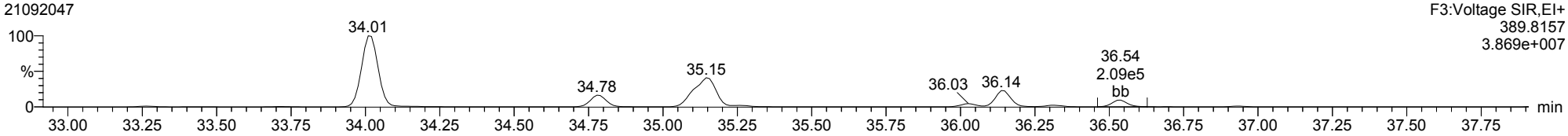


13C-123678-HxCDD

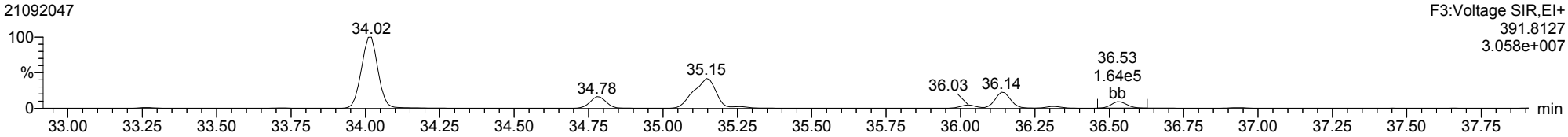


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

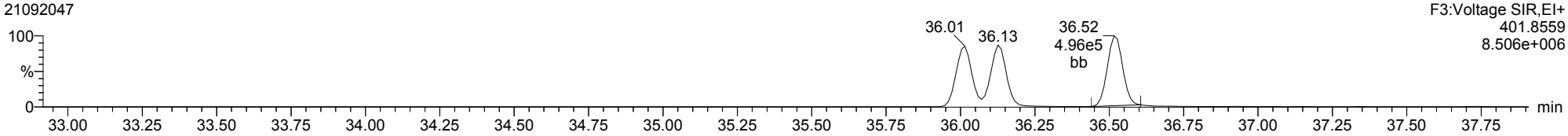
123789-HxCDD



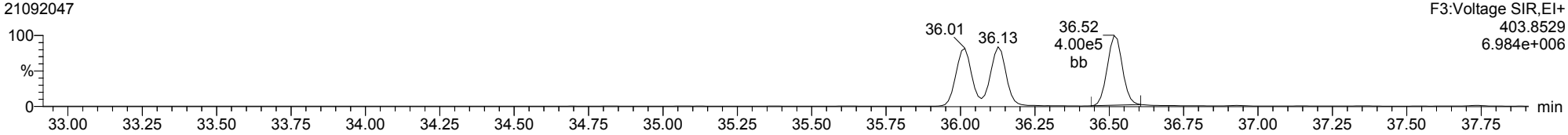
123789-HxCDD



13C-123789-HxCDD

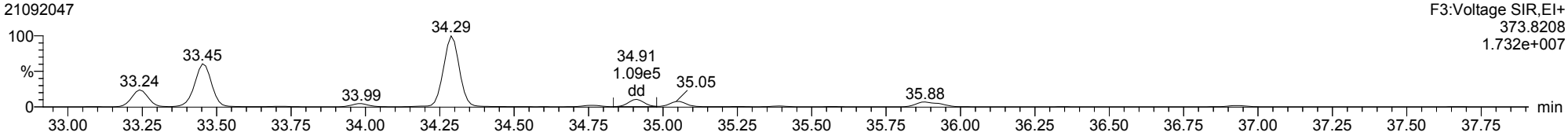


13C-123789-HxCDD

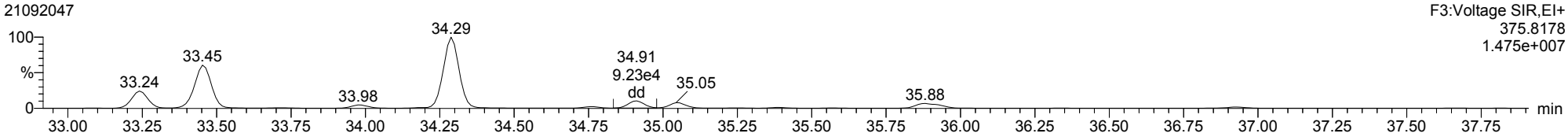


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

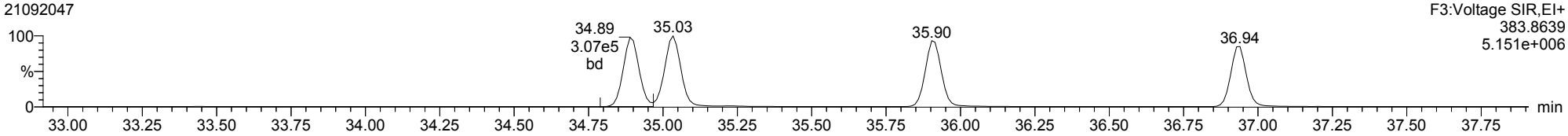
123478-HxCDF



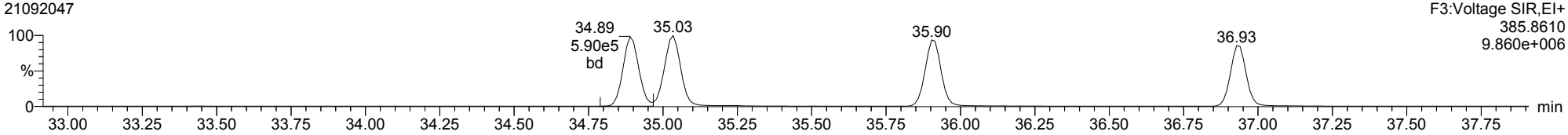
123478-HxCDF



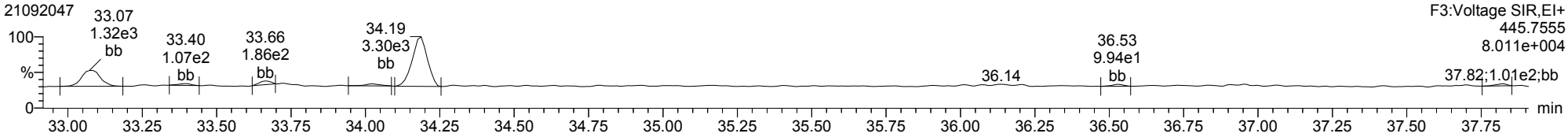
13C-123478-HxCDF



13C-123478-HxCDF

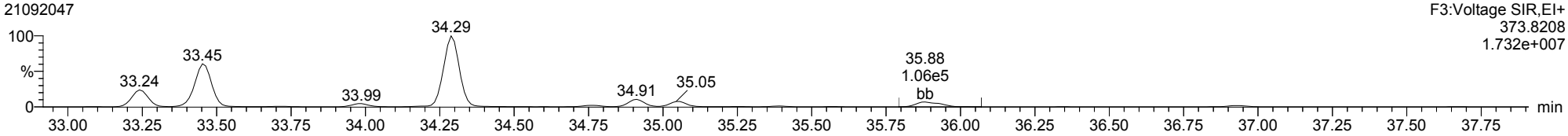


FUNCTION3 OCDPE

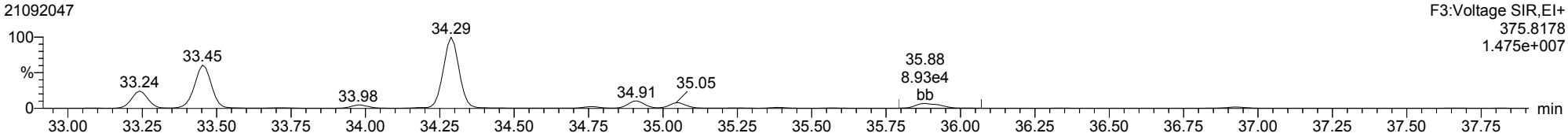


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

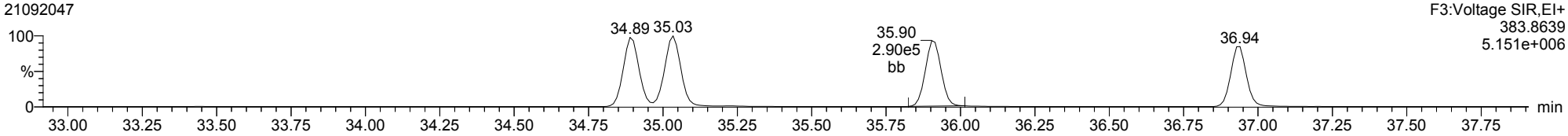
234678-HxCDF



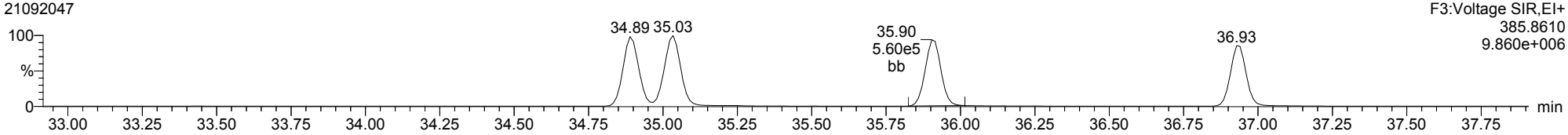
234678-HxCDF



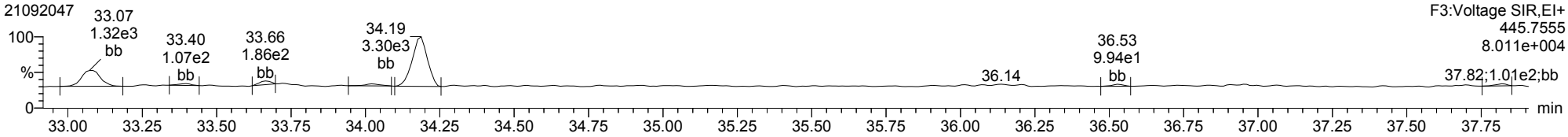
13C-234678-HxCDF



13C-234678-HxCDF

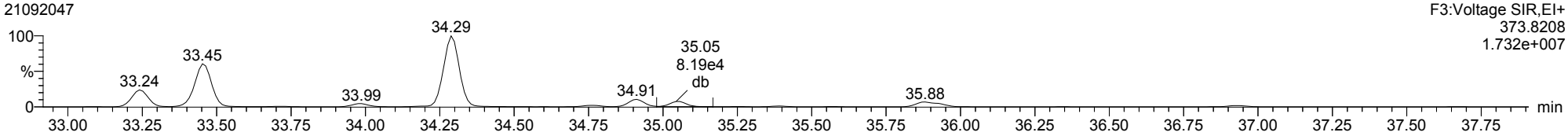


FUNCTION3 OCDPE

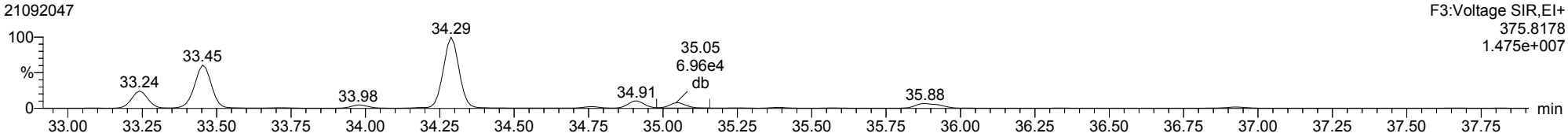


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

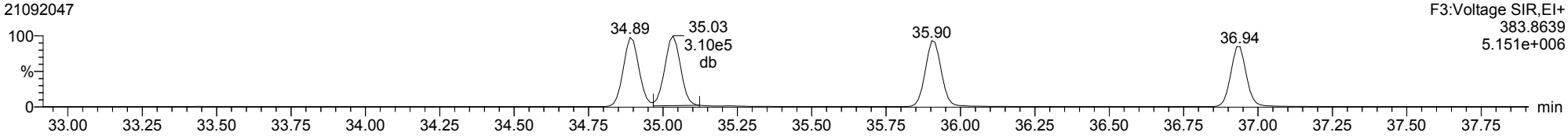
123678-HxCDF



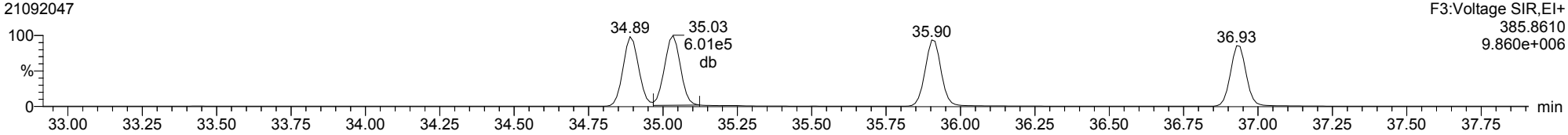
123678-HxCDF



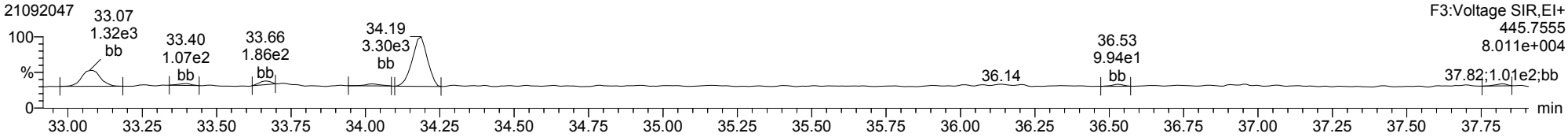
13C-123678-HxCDF



13C-123678-HxCDF

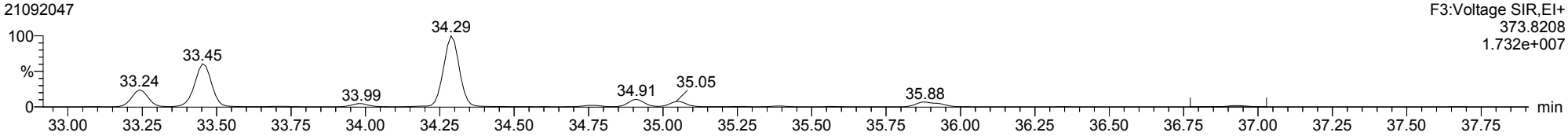


FUNCTION3 OCDPE

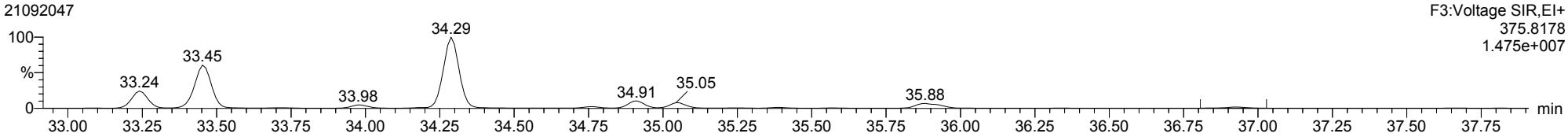


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

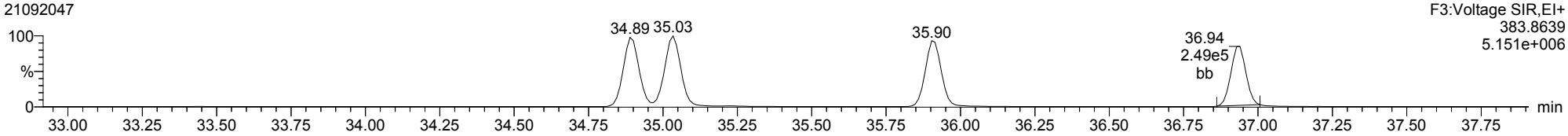
123789-HxCDF



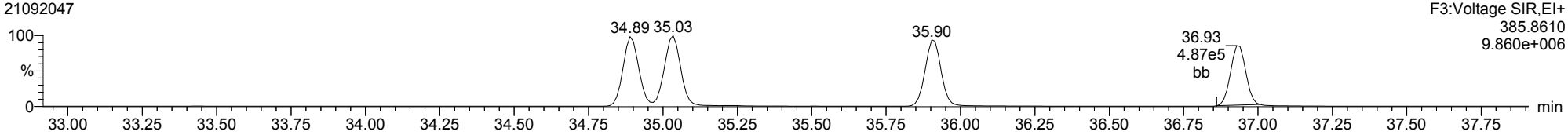
123789-HxCDF



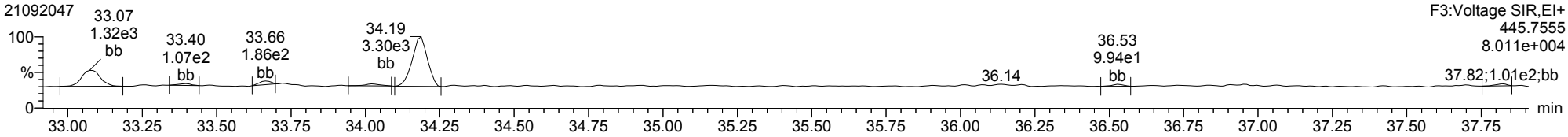
13C-123789-HxCDF



13C-123789-HxCDF

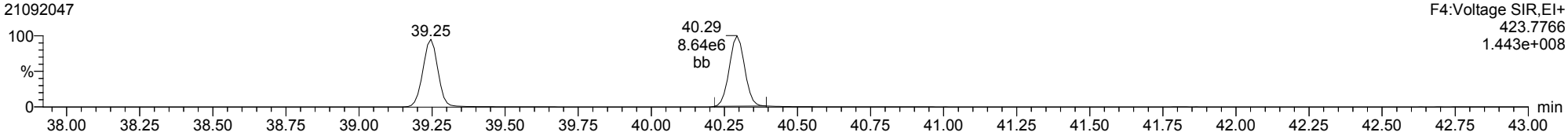


FUNCTION3 OCDPE

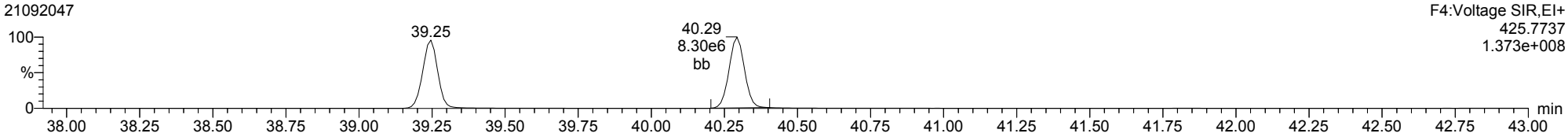


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

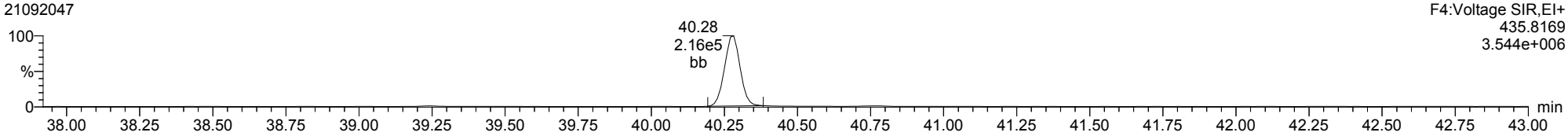
1234678-HpCDD



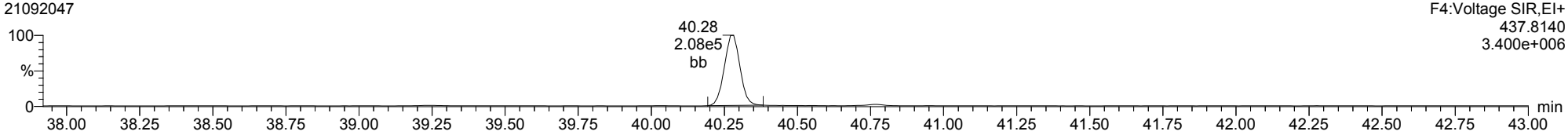
1234678-HpCDD



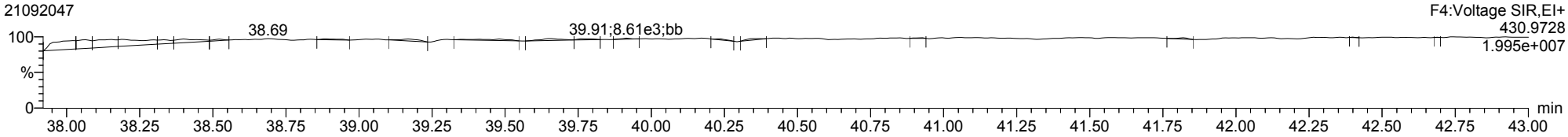
13C-1234678-HpCDD



13C-1234678-HpCDD

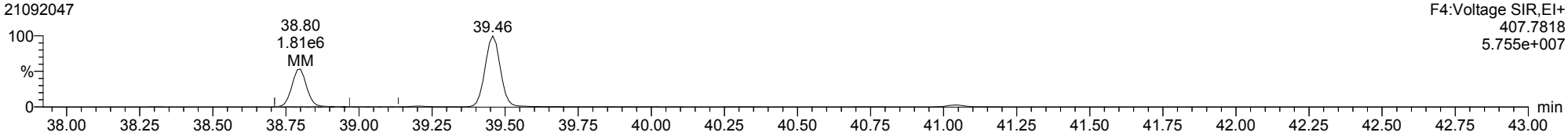


FUNCTION4 PFK

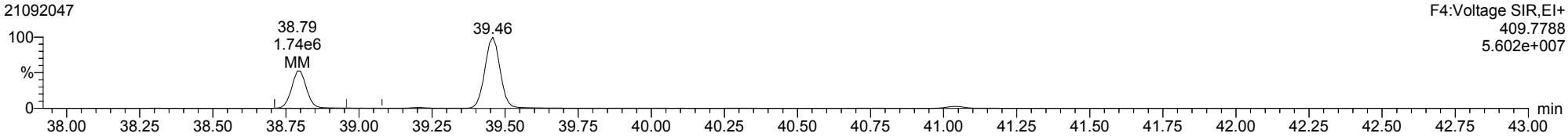


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

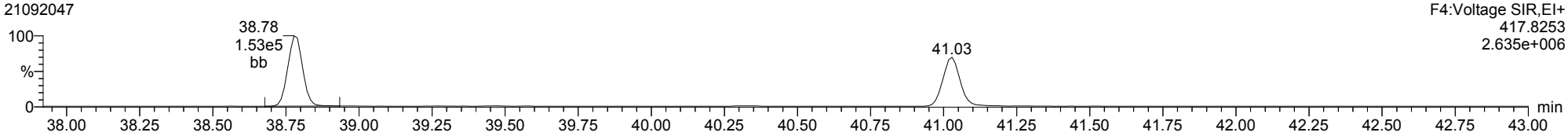
1234678-HpCDF



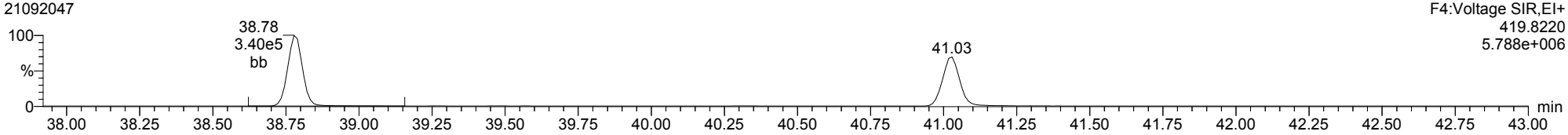
1234678-HpCDF



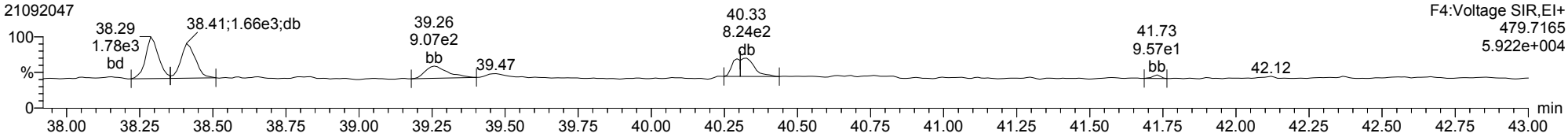
13C-1234678-HpCDF



13C-1234678-HpCDF

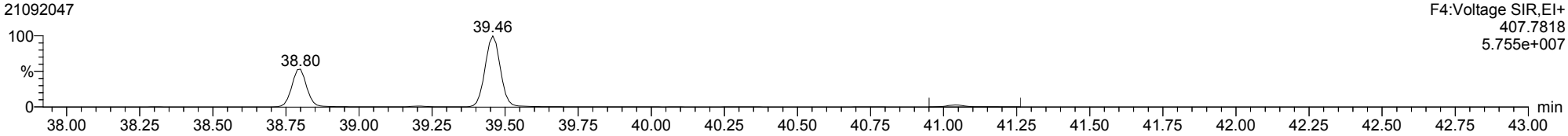


FUNCTION4 NCDPE

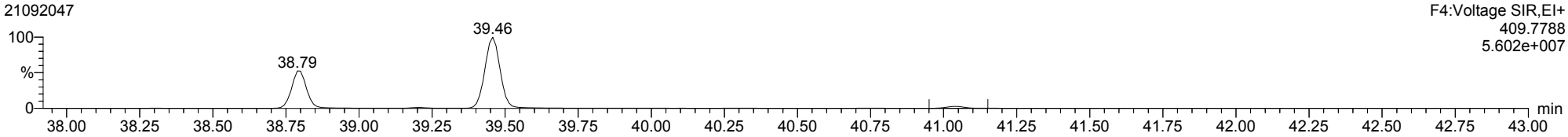


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

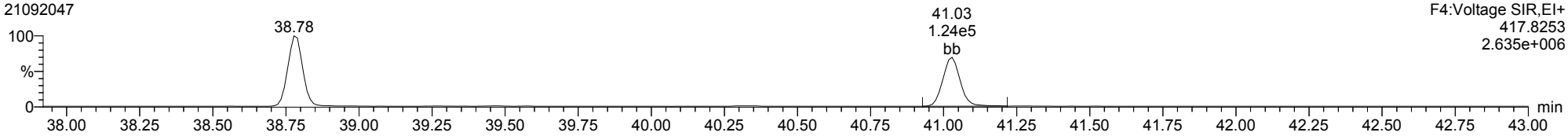
1234789-HpCDF



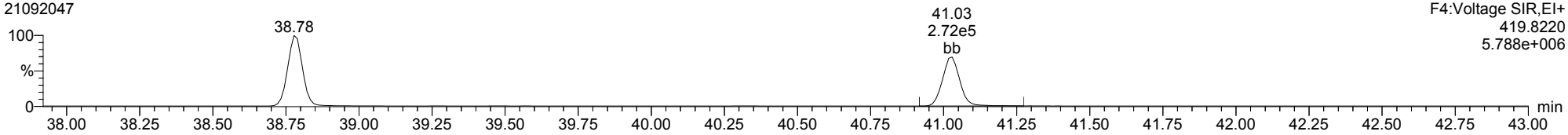
1234789-HpCDF



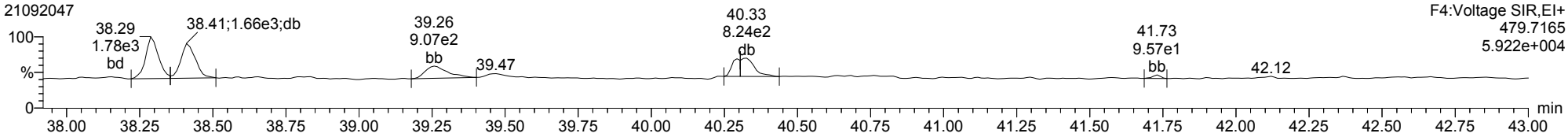
13C-1234789-HpCDF



13C-1234789-HpCDF

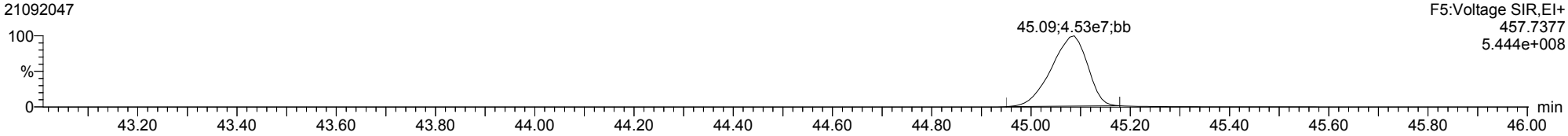


FUNCTION4 NCDPE

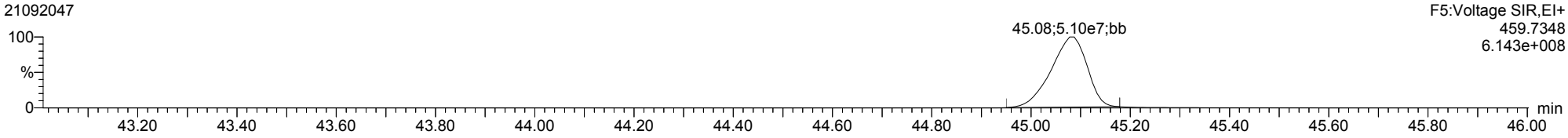


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

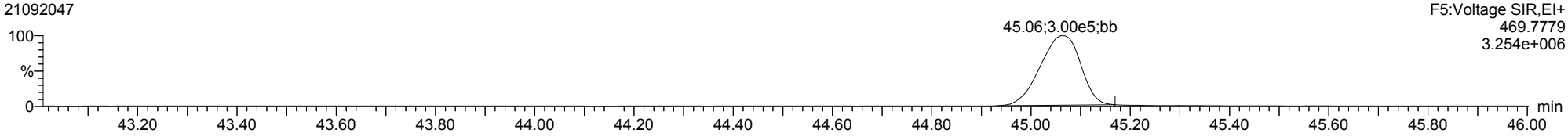
OCDD



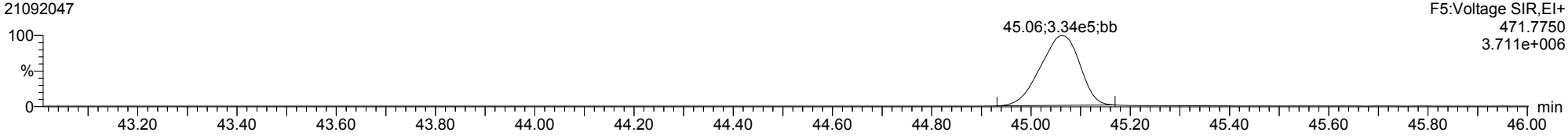
OCDD



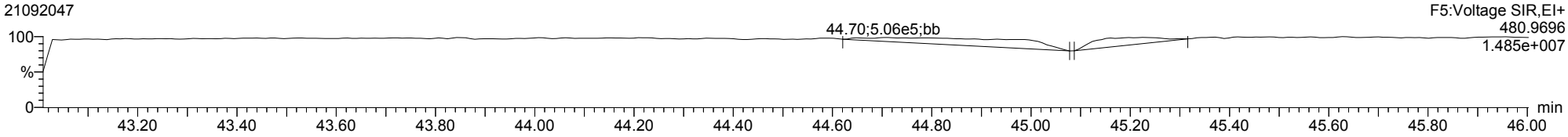
13C-OCDD



13C-OCDD

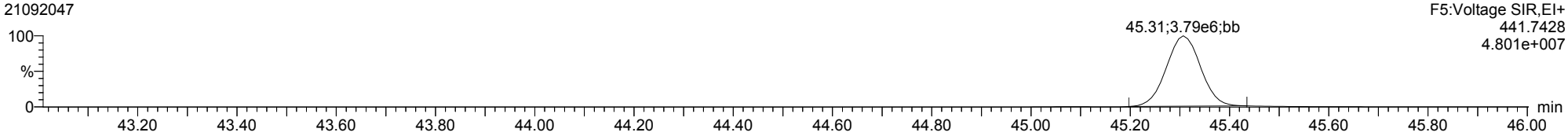


FUNCTION5 PFK

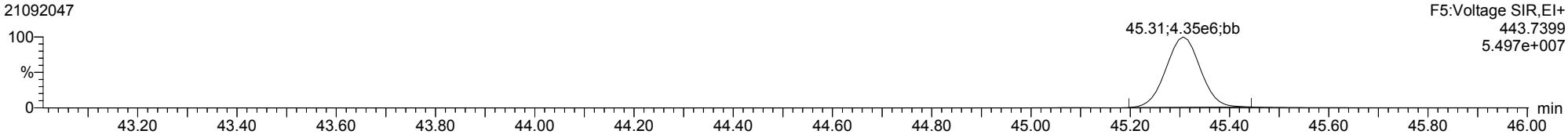


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

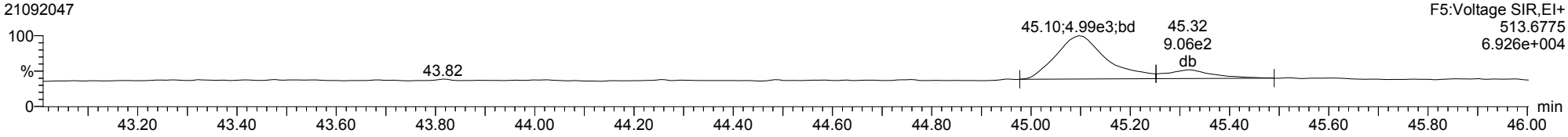
OCDF



OCDF

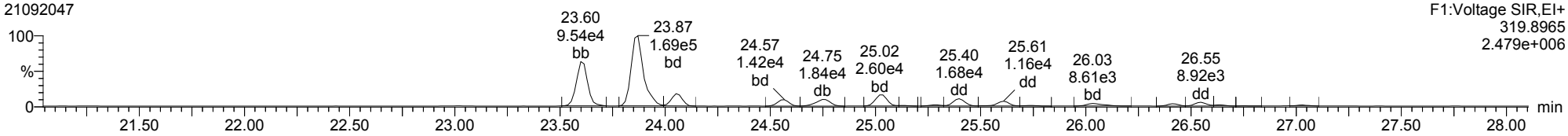


FUNCTION5 DCDPE

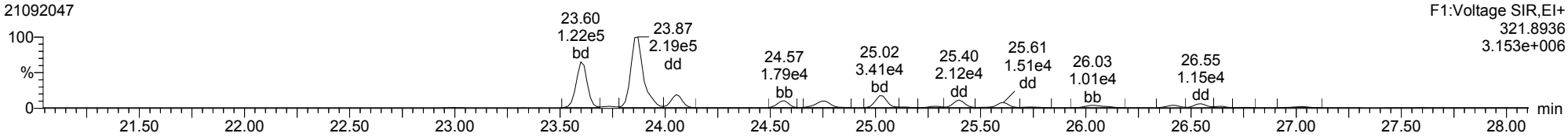


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

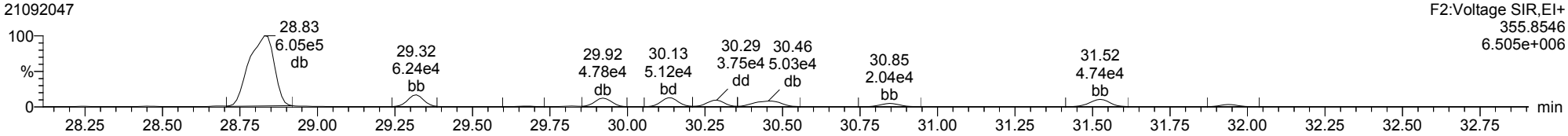
Total-tetradioxins



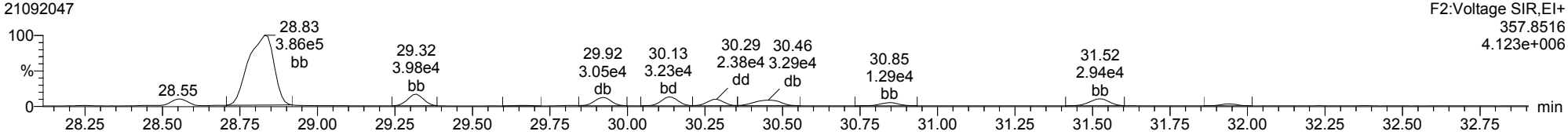
Total-tetradioxins



Total-pentadioxins

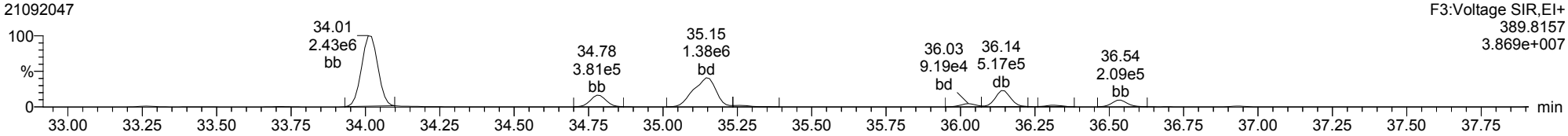


Total-pentadioxins

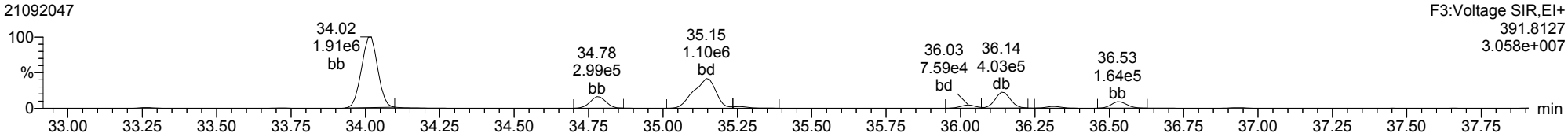


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

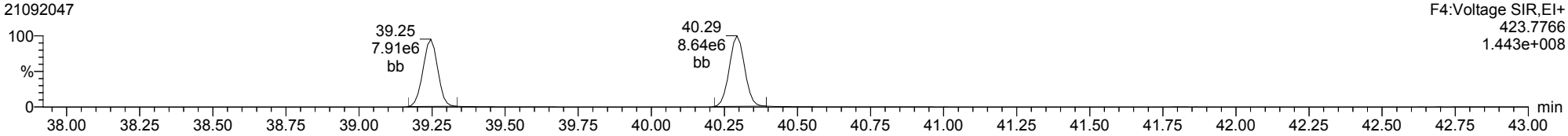
Total-hexadioxins



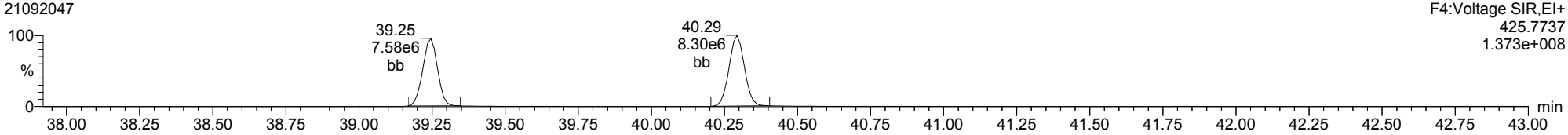
Total-hexadioxins



Total-heptadioxins

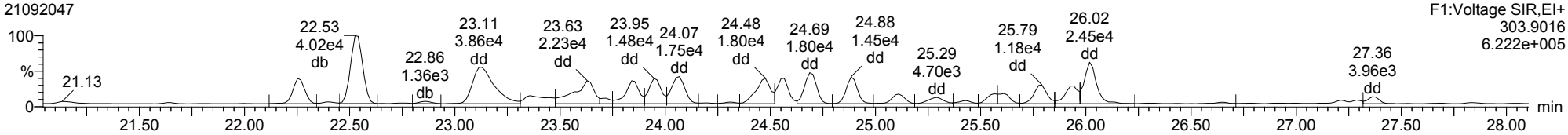


Total-heptadioxins

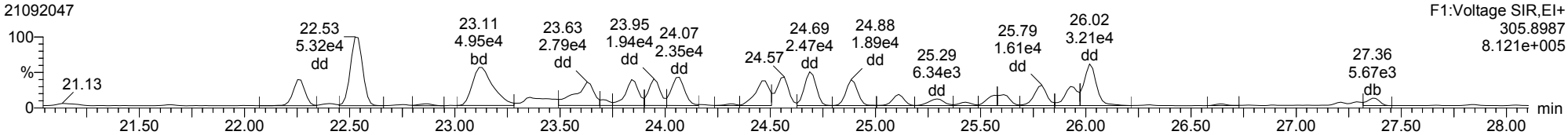


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

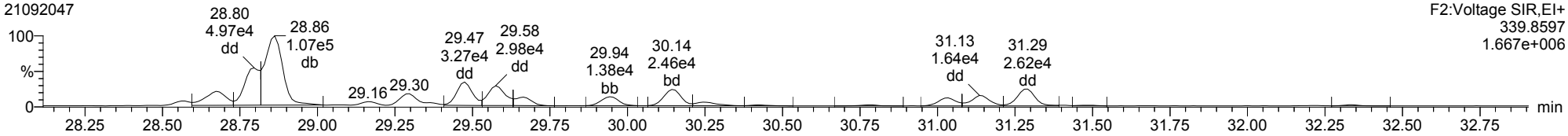
Total-tetrafurans



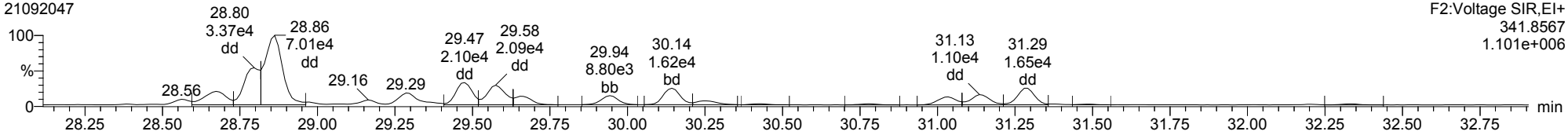
Total-tetrafurans



Total-pentafurans

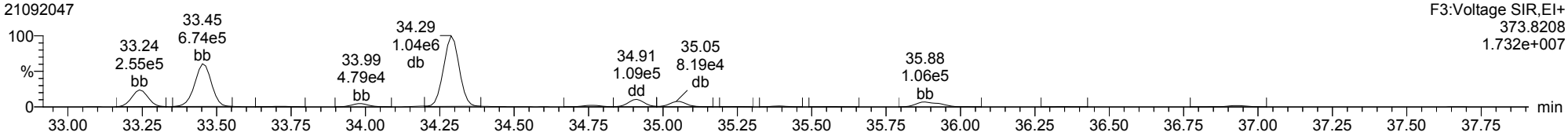


Total-pentafurans

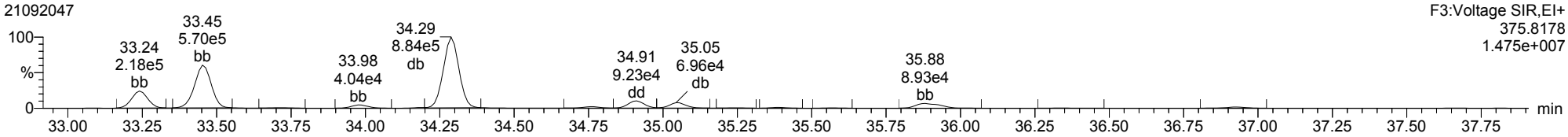


ID: 21G0213-06, Name: 21092047, Date: 22-Sep-2021, Time: 06:27:43, Conditions: AUTOSPEC01, User: pk

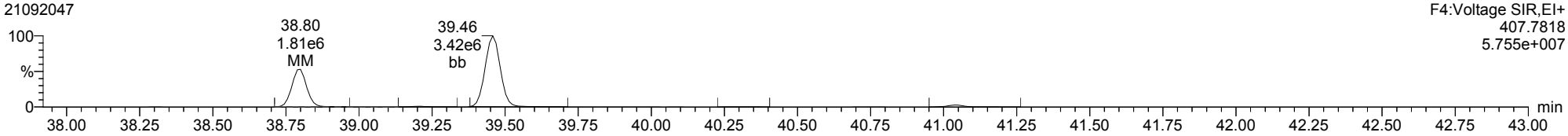
Total-hexafurans



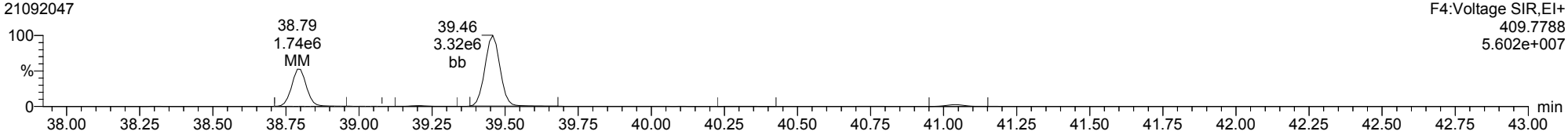
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663B

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-06RE1 C	File ID:	21092060
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 17:13
% Solids:	64.24	Preparation:	EPA 1613	Initial/Final:	15.47 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	10	0.799	0.655-0.886	1.60	10.1	6.49	ng/kg	Z, J
1746-01-6	2,3,7,8-TCDD	10	0.827	0.655-0.886	1.48	10.1	3.18	ng/kg	Z, J
57117-41-6	1,2,3,7,8-PeCDF	10	1.470	1.318-1.783	1.08	10.1	5.35	ng/kg	Z, J
57117-31-4	2,3,4,7,8-PeCDF	10	1.349	1.318-1.783	1.07	10.1	8.18	ng/kg	Z, J
40321-76-4	1,2,3,7,8-PeCDD	10	1.448	1.318-1.783	2.13	10.1	28.4	ng/kg	Z
70648-26-9	1,2,3,4,7,8-HxCDF	10	1.185	1.054-1.426	1.09	10.1	47.5	ng/kg	Z
57117-44-9	1,2,3,6,7,8-HxCDF	10	1.168	1.054-1.426	1.06	10.1	32.0	ng/kg	Z
60851-34-5	2,3,4,6,7,8-HxCDF	10	1.235	1.054-1.426	1.10	10.1	44.7	ng/kg	Z
72918-21-9	1,2,3,7,8,9-HxCDF	10	1.163	1.054-1.426	1.24	10.1	11.0	ng/kg	Z
39227-28-6	1,2,3,4,7,8-HxCDD	10	1.155	1.054-1.426	2.29	10.1	46.0	ng/kg	Z
57653-85-7	1,2,3,6,7,8-HxCDD	10	1.222	1.054-1.426	2.32	10.1	240	ng/kg	Z
19408-74-3	1,2,3,7,8,9-HxCDD	10	1.337	1.054-1.426	2.47	10.1	104	ng/kg	Z
67562-39-4	1,2,3,4,6,7,8-HpCDF	10	1.035	0.893-1.208	1.90	10.1	1070	ng/kg	Z
55673-89-7	1,2,3,4,7,8,9-HpCDF	10	0.967	0.893-1.208	3.09	10.1	74.0	ng/kg	Z
35822-46-9	1,2,3,4,6,7,8-HpCDD	10	1.063	0.893-1.208	4.73	25.2	7590	ng/kg	Z, B
39001-02-0	OCDF	10	0.885	0.757-1.024	2.35	25.2	3220	ng/kg	Z
3268-87-9	OCDD	10	0.892	0.757-1.024	10.8	101	53400	ng/kg	E, Z, B

Homologue Groups

55722-27-5	Total TCDF	10	0.000			1.01	153	ng/kg
41903-57-5	Total TCDD	10	0.000			1.01	220	ng/kg
30402-15-4	Total PeCDF	10	0.000			1.01	330	ng/kg
36088-22-9	Total PeCDD	10	0.000			1.01	336	ng/kg
55684-94-1	Total HxCDF	10	0.000			1.01	1000	ng/kg
34465-46-8	Total HxCDD	10	0.000			1.01	2280	ng/kg
38998-75-3	Total HpCDF	10	0.000			1.01	3590	ng/kg
37871-00-4	Total HpCDD	10	0.000			1.01	13900	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 191.7
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 191.7

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663B

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-06RE1	File ID:	21092060
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 17:13
Solids Wt%:	64.24	Preparation:	EPA 1613	Initial/Final:	15.47 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.772	0.655-0.886	1.20	74.8	24 - 169 %	
13C12-2,3,7,8-TCDD		0.743	0.655-0.886	1.18	90.4	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.640	1.318-1.783	0.781	90.9	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.625	1.318-1.783	0.820	86.7	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.633	1.318-1.783	1.32	93.5	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.537	0.434-0.587	1.21	101	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.522	0.434-0.587	1.12	96.8	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.506	0.434-0.587	1.24	96.2	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.520	0.434-0.587	1.49	103	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.340	1.054-1.426	1.22	105	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.228	1.054-1.426	1.13	99.1	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.429	0.374-0.506	1.01	81.3	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.456	0.374-0.506	1.23	76.8	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		0.976	0.893-1.208	1.43	101	23 - 140 %	
13C12-OCDD		0.907	0.757-1.024	1.89	104	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.551	93.8	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:15:03 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	1.048e3	1.311e3	1.108	0.799	0.770	1767	1186	1.61e4	1.85e4	9.1	15.6	NO	dd	bd	3.226
12378-PeCDF	29.931	1.001	1.171e3	7.968e2	1.015	1.470	1.550	1163	839	1.82e4	1.30e4	15.6	15.5	NO	bb	bd	2.658
23478-PeCDF	31.268	1.001	1.740e3	1.290e3	1.126	1.349	1.550	1163	839	2.60e4	1.99e4	22.3	23.7	NO	db	db	4.062
123478-HxCDF	34.901	1.001	8.697e3	7.342e3	1.017	1.185	1.240	898	1049	1.38e5	1.19e5	154.0	113.7	NO	dd	dd	23.615
234678-HxCDF	35.859	0.999	8.018e3	6.495e3	1.052	1.235	1.240	898	1049	8.52e4	6.75e4	94.9	64.3	NO	bb	bb	22.227
123678-HxCDF	35.034	1.000	6.128e3	5.246e3	1.037	1.168	1.240	898	1049	9.99e4	8.70e4	111.3	82.9	NO	db	db	15.895
123789-HxCDF	36.917	1.000	1.655e3	1.423e3	1.030	1.163	1.240	898	1049	2.22e4	1.74e4	24.7	16.6	NO	bb	bb	5.451
1234678-HpCDF	38.778	1.000	1.438e5	1.390e5	1.327	1.035	1.050	1550	1350	2.34e6	2.24e6	1507.4	1656.5	NO	bb	bd	532.689
1234789-HpCDF	41.028	1.000	7.170e3	7.415e3	1.283	0.967	1.050	1550	1350	1.12e5	1.11e5	72.5	82.0	NO	bb	bd	36.775
OCDF	45.270	1.005	3.018e5	3.411e5	1.447	0.885	0.890	994	990	3.66e6	4.22e6	3682.4	4268.3	NO	bd	bb	1600.654
2378-TCDD	26.411	1.001	4.113e2	4.972e2	0.920	0.827	0.770	1124	972	5.70e3	8.60e3	5.1	8.8	NO	bd	bd	1.581
12378-PeCDD	31.502	1.000	3.512e3	2.425e3	0.995	1.448	1.550	1103	1116	4.99e4	3.07e4	45.2	27.5	NO	bb	bb	14.098
123478-HxCDD	36.014	1.001	6.705e3	5.804e3	1.027	1.155	1.240	1859	1592	1.12e5	9.55e4	60.2	60.0	NO	bd	bd	22.857
123678-HxCDD	36.126	1.001	3.625e4	2.966e4	1.009	1.222	1.240	1859	1592	6.23e5	4.91e5	335.1	308.5	NO	db	dd	119.309
123789-HxCDD	36.516	1.011	1.511e4	1.131e4	0.950	1.337	1.240	1859	1592	2.67e5	1.94e5	143.5	121.6	NO	bb	bb	51.466
1234678-HpCDD	40.282	1.001	7.048e5	6.633e5	1.068	1.063	1.050	2486	2099	1.11e7	1.05e7	4471.8	4992.8	NO	bb	bb	3772.323
OCDD	45.032	1.000	4.101e6	4.600e6	1.181	0.892	0.890	3268	4177	5.24e7	5.84e7	16026.8	13986.0	NO	bb	bb	26543.769
13C-2378-TCDF	25.746	1.007	2.877e4	3.724e4	1.427	0.772	0.770	1711	1081	4.39e5	5.65e5	256.7	522.9	NO	bb	bb	7.481
13C-12378-PeCDF	29.909	1.170	4.532e4	2.764e4	1.297	1.640	1.550	851	807	6.85e5	4.24e5	805.0	525.9	NO	bd	bb	9.092
13C-23478-PeCDF	31.246	1.222	4.103e4	2.525e4	1.236	1.625	1.550	851	807	6.19e5	3.90e5	726.7	484.0	NO	bb	bb	8.665
13C-123478-HxCDF	34.878	0.955	2.334e4	4.345e4	1.242	0.537	0.510	852	1432	3.70e5	7.08e5	434.0	494.2	NO	bd	bd	10.126
13C-123678-HxCDF	35.023	0.959	2.366e4	4.536e4	1.343	0.522	0.510	852	1432	3.67e5	7.17e5	430.0	500.3	NO	db	db	9.677
13C-234678-HxCDF	35.892	0.983	2.086e4	4.119e4	1.215	0.506	0.510	852	1432	3.43e5	6.77e5	402.1	472.4	NO	bb	bd	9.621
13C-123789-HxCDF	36.928	1.012	1.876e4	3.607e4	1.008	0.520	0.510	852	1432	3.15e5	6.01e5	369.2	419.8	NO	bb	bb	10.250
13C-1234678-HpCDF	38.766	1.062	1.201e4	2.799e4	0.926	0.429	0.440	709	710	2.09e5	4.72e5	294.5	665.0	NO	bb	bb	8.134
13C-1234789-HpCDF	41.017	1.124	9.672e3	2.123e4	0.758	0.456	0.440	709	710	1.38e5	3.12e5	194.9	439.5	NO	bb	bd	7.681
13C-1234-TCDD	25.564	0.000	2.664e5	3.522e5	1.000	0.756	0.770	1405	743	4.25e6	5.60e6	3027.3	7533.7	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.032	2.660e4	3.582e4	1.116	0.743	0.770	1405	743	3.95e5	5.30e5	280.9	713.7	NO	bb	bb	9.039
13C-12378-PeCDD	31.491	1.232	2.624e4	1.607e4	0.732	1.633	1.550	715	866	3.91e5	2.45e5	547.1	282.7	NO	bb	bb	9.346
13C-123478-HxCDD	35.992	0.986	3.050e4	2.277e4	0.960	1.340	1.240	798	982	5.07e5	3.51e5	635.1	357.1	NO	bd	bd	10.455
13C-123678-HxCDD	36.104	0.989	3.018e4	2.458e4	1.041	1.228	1.240	798	982	4.91e5	3.90e5	614.8	397.0	NO	db	dd	9.905
13C-1234678-HpCDD	40.259	1.103	1.677e4	1.718e4	0.632	0.976	1.050	705	672	2.71e5	2.66e5	384.4	396.3	NO	bb	bd	10.114
13C-OCDD	45.023	1.233	2.641e4	2.911e4	0.504	0.907	0.890	718	723	3.35e5	3.67e5	466.7	507.7	NO	bb	bb	20.764
13C-123789-HxCDD	36.505	0.000	2.967e5	2.342e5	1.000	1.267	1.240	798	982	5.12e6	3.95e6	6414.5	4022.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.396	1.033	2.515e4		1.084			976		3.75e5		384.5			bb		3.752

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:15:03 Pacific Daylight Time

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.238	0.864	1.133e3	1.664e3	1.425	0.681	0.770	1767	1186	1.86e4	2.54e4	10.5	21.4	NO	bd	bd	2.973
1289-TCDF					1.043		0.770	1767	1186								
13468-PECDF					1.376		1.550	554	713								
12389-PECDF					1.000		1.550	1163	839								
123468-HXCDF	33.218	0.952	1.965e4	1.658e4	1.087	1.185	1.240	898	1049	3.10e5	2.54e5	344.8	242.3	NO	bb	bb	49.933
1368-TCDD	23.508	0.891	7.463e3	9.757e3	0.923	0.765	0.770	1124	972	1.21e5	1.59e5	108.0	164.1	NO	bd	bd	29.879
1289-TCDD					0.794		0.770	1124	972								
12479-PECDD	28.806	0.915	4.844e4	3.102e4	1.843	1.561	1.550	1103	1116	5.17e5	3.41e5	468.9	305.1	NO	bb	bb	101.878
12389-PECDD	31.926	1.014	9.221e2	5.609e2	1.154	1.644	1.550	1103	1116	1.47e4	1.03e4	13.4	9.2	NO	bb	bb	3.038
124679-HXCDD	33.998	0.945	1.791e5	1.377e5	1.125	1.301	1.240	1859	1592	2.95e6	2.21e6	1589.1	1386.8	NO	bb	bb	528.604
1234679-HPCDD	39.223	0.974	6.539e5	6.274e5	1.211	1.042	1.050	2486	2099	1.08e7	1.03e7	4351.9	4929.8	NO	bb	bb	3116.237
Total-tetrafurans			2.512e4		1.192			1767		3.77e5							75.884
Total-penta1			4.355e4					554		6.28e5							107.208
Total-pentafurans			2.479e4		1.047			1163		3.16e5							56.785
Total-hexafurans			1.780e5		1.045			898		2.74e6							497.121
Total-heptafurans			4.348e5		1.305			1550		6.89e6							1783.309
Total-Furans			1.008e6		1.158			1767		1.46e7							4120.962
Total-tetradioxins			2.642e4		0.879			1124		4.09e5							109.488
Total-pentadioxins			6.969e4		1.331			1103		8.36e5							167.183
Total-hexadioxins			3.651e5		1.028			1859		5.58e6							1135.244
Total-heptadioxins			1.359e6		1.140			2486		2.19e7							6888.560
Total-Dioxins			5.921e6		1.092			1124		8.11e7							34844.244
Total-TEQ			6.929e6					1124		9.57e7							38965.206
FUNCTION1 PFK			1.940e6					449270		6.42e6							
FUNCTION2 PFK			9.782e5					348891		1.03e7							0.000
FUNCTION3 PFK			3.513e5					364287		9.41e6							0.000
FUNCTION4 PFK			5.205e5					206535		1.32e7							
FUNCTION5 PFK			2.486e6					178848		1.86e7							
FUNCTION1 HXCD...			7.126e2					679		1.39e4							0.000
FUNCTION1 HPCD...			4.250e2					723		5.67e3							0.000
FUNCTION2 HPCD...			1.095e3					881		2.35e4							0.000
FUNCTION3 OCDPE			4.207e2					620		7.22e3							0.000
FUNCTION4 NCDPE			5.274e2					706		1.12e4							0.000
FUNCTION5 DCDPE			4.641e2					559		5.28e3							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.51	1.144e3	1.626e3	1.192	0.70	0.77	10.2	YES	NO	dd	dd	3.521
2	Total-tetrafurans	24.43	1.328e3	1.974e3	1.192	0.67	0.77	8.7	YES	NO	bd	bd	4.197
3	Total-tetrafurans	24.01	1.491e3	1.823e3	1.192	0.82	0.77	13.3	YES	NO	db	db	4.212
4	Total-tetrafurans	23.76	1.131e3	1.499e3	1.192	0.75	0.77	8.8	YES	NO	bd	bd	3.343
5	Total-tetrafurans	23.40	7.905e2	1.097e3	1.192	0.72	0.77	4.6	YES	NO	dd	dd	2.399
6	Total-tetrafurans	23.28	6.120e2	8.421e2	1.192	0.73	0.77	5.7	YES	NO	dd	dd	1.848
7	Total-tetrafurans	23.22	4.068e2	5.447e2	1.192	0.75	0.77	4.8	YES	NO	dd	dd	1.210
8	Total-tetrafurans	23.08	6.247e3	8.778e3	1.192	0.71	0.77	53.5	YES	NO	bd	bd	19.098
9	Total-tetrafurans	22.50	2.990e3	4.463e3	1.192	0.67	0.77	26.2	YES	NO	db	db	9.473
10	1368-TCDF	22.24	1.133e3	1.664e3	1.425	0.68	0.77	10.5	YES	NO	bd	bd	2.973
11	Total-tetrafurans	26.00	1.779e3	2.621e3	1.192	0.68	0.77	14.1	YES	NO	db	db	5.593
12	Total-tetrafurans	25.91	7.915e2	1.154e3	1.192	0.69	0.77	7.5	YES	NO	dd	dd	2.473
13	2378-TCDF	25.78	1.048e3	1.311e3	1.108	0.80	0.77	9.1	YES	NO	dd	bd	3.226
14	Total-tetrafurans	25.56	8.284e2	1.039e3	1.192	0.80	0.77	4.9	YES	NO	bd	bb	2.374
15	Total-tetrafurans	25.26	3.381e2	5.123e2	1.192	0.66	0.77	3.1	YES	NO	bb	bd	1.081
16	Total-tetrafurans	25.08	4.505e2	5.249e2	1.192	0.86	0.77	4.9	YES	NO	bb	bb	1.240
17	Total-tetrafurans	24.87	1.105e3	1.520e3	1.192	0.73	0.77	9.2	YES	NO	bb	bb	3.338
18	Total-tetrafurans	24.66	1.509e3	1.863e3	1.192	0.81	0.77	14.3	YES	NO	db	db	4.286

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.18	4.355e4	2.817e4		1.55	1.55	1134.1	YES	NO	bb	bb	107.208

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.27	1.740e3	1.290e3	1.126	1.35	1.55	22.3	YES	NO	db	db	4.062
2	Total-pentafurans	31.12	1.207e3	8.873e2	1.047	1.36	1.55	17.3	YES	NO	dd	dd	2.875
3	Total-pentafurans	31.01	1.081e3	6.681e2	1.047	1.62	1.55	12.7	YES	NO	bd	bd	2.401
4	Total-pentafurans	30.13	2.088e3	1.306e3	1.047	1.60	1.55	27.7	YES	NO	bd	dd	4.658
5	12378-PeCDF	29.93	1.171e3	7.968e2	1.015	1.47	1.55	15.6	YES	NO	bb	bd	2.658
6	Total-pentafurans	29.56	2.423e3	1.465e3	1.047	1.65	1.55	30.2	YES	NO	dd	dd	5.336
7	Total-pentafurans	29.45	2.696e3	1.647e3	1.047	1.64	1.55	36.4	YES	NO	dd	bd	5.961
8	Total-pentafurans	28.83	1.238e4	8.629e3	1.047	1.43	1.55	109.3	YES	NO	MM	MM	28.834

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.92	1.655e3	1.423e3	1.030	1.16	1.24	24.7	YES	NO	bb	bb	5.451
2	234678-HxCDF	35.86	8.018e3	6.495e3	1.052	1.23	1.24	94.9	YES	NO	bb	bb	22.227
3	123678-HxCDF	35.03	6.128e3	5.246e3	1.037	1.17	1.24	111.3	YES	NO	db	db	15.895
4	123478-HxCDF	34.90	8.697e3	7.342e3	1.017	1.18	1.24	154.0	YES	NO	dd	dd	23.615
5	Total-hexafurans	34.28	7.839e4	6.949e4	1.045	1.13	1.24	1388.1	YES	NO	bb	bb	224.110
6	Total-hexafurans	33.96	3.458e3	3.115e3	1.045	1.11	1.24	62.0	YES	NO	bb	bb	9.961
7	Total-hexafurans	33.44	5.201e4	4.428e4	1.045	1.17	1.24	872.7	YES	NO	bb	bb	145.931
8	123468-HXCDF	33.22	1.965e4	1.658e4	1.087	1.18	1.24	344.8	YES	NO	bb	bb	49.933

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.03	7.170e3	7.415e3	1.283	0.97	1.05	72.5	YES	NO	bb	bd	36.775
2	Total-heptafurans	39.45	2.809e5	2.751e5	1.305	1.02	1.05	2836.2	YES	NO	bd	bd	1201.4...
3	Total-heptafurans	39.19	2.894e3	2.852e3	1.305	1.01	1.05	27.8	YES	NO	bb	db	12.418
4	1234678-HpCDF	38.78	1.438e5	1.390e5	1.327	1.03	1.05	1507.4	YES	NO	bb	bd	532.689

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.51	1.144e3	1.626e3	1.192	0.70	0.77	10.2	YES	NO	dd	dd	3.521
2	Total-tetrafurans	24.43	1.328e3	1.974e3	1.192	0.67	0.77	8.7	YES	NO	bd	bd	4.197
3	Total-tetrafurans	24.01	1.491e3	1.823e3	1.192	0.82	0.77	13.3	YES	NO	db	db	4.212
4	Total-tetrafurans	23.76	1.131e3	1.499e3	1.192	0.75	0.77	8.8	YES	NO	bd	bd	3.343
5	Total-tetrafurans	23.40	7.905e2	1.097e3	1.192	0.72	0.77	4.6	YES	NO	dd	dd	2.399
6	Total-tetrafurans	23.28	6.120e2	8.421e2	1.192	0.73	0.77	5.7	YES	NO	dd	dd	1.848
7	Total-tetrafurans	23.22	4.068e2	5.447e2	1.192	0.75	0.77	4.8	YES	NO	dd	dd	1.210
8	Total-tetrafurans	23.08	6.247e3	8.778e3	1.192	0.71	0.77	53.5	YES	NO	bd	bd	19.098
9	Total-tetrafurans	22.50	2.990e3	4.463e3	1.192	0.67	0.77	26.2	YES	NO	db	db	9.473
10	1368-TCDF	22.24	1.133e3	1.664e3	1.425	0.68	0.77	10.5	YES	NO	bd	bd	2.973
11	Total-tetrafurans	26.00	1.779e3	2.621e3	1.192	0.68	0.77	14.1	YES	NO	db	db	5.593
12	Total-tetrafurans	25.91	7.915e2	1.154e3	1.192	0.69	0.77	7.5	YES	NO	dd	dd	2.473
13	2378-TCDF	25.78	1.048e3	1.311e3	1.108	0.80	0.77	9.1	YES	NO	dd	bd	3.226
14	Total-tetrafurans	25.56	8.284e2	1.039e3	1.192	0.80	0.77	4.9	YES	NO	bd	bb	2.374
15	Total-tetrafurans	25.26	3.381e2	5.123e2	1.192	0.66	0.77	3.1	YES	NO	bb	bd	1.081
16	Total-tetrafurans	25.08	4.505e2	5.249e2	1.192	0.86	0.77	4.9	YES	NO	bb	bb	1.240
17	Total-tetrafurans	24.87	1.105e3	1.520e3	1.192	0.73	0.77	9.2	YES	NO	bb	bb	3.338
18	Total-tetrafurans	24.66	1.509e3	1.863e3	1.192	0.81	0.77	14.3	YES	NO	db	db	4.286
19	23478-PeCDF	31.27	1.740e3	1.290e3	1.126	1.35	1.55	22.3	YES	NO	db	db	4.062
20	Total-pentafurans	31.12	1.207e3	8.873e2	1.047	1.36	1.55	17.3	YES	NO	dd	dd	2.875
21	Total-pentafurans	31.01	1.081e3	6.681e2	1.047	1.62	1.55	12.7	YES	NO	bd	bd	2.401
22	Total-pentafurans	30.13	2.088e3	1.306e3	1.047	1.60	1.55	27.7	YES	NO	bd	dd	4.658
23	12378-PeCDF	29.93	1.171e3	7.968e2	1.015	1.47	1.55	15.6	YES	NO	bb	bd	2.658
24	Total-pentafurans	29.56	2.423e3	1.465e3	1.047	1.65	1.55	30.2	YES	NO	dd	dd	5.336
25	Total-pentafurans	29.45	2.696e3	1.647e3	1.047	1.64	1.55	36.4	YES	NO	dd	bd	5.961
26	123789-HxCDF	36.92	1.655e3	1.423e3	1.030	1.16	1.24	24.7	YES	NO	bb	bb	5.451
27	234678-HxCDF	35.86	8.018e3	6.495e3	1.052	1.23	1.24	94.9	YES	NO	bb	bb	22.227
28	123678-HxCDF	35.03	6.128e3	5.246e3	1.037	1.17	1.24	111.3	YES	NO	db	db	15.895
29	123478-HxCDF	34.90	8.697e3	7.342e3	1.017	1.18	1.24	154.0	YES	NO	dd	dd	23.615
30	Total-hexafurans	34.28	7.839e4	6.949e4	1.045	1.13	1.24	1388.1	YES	NO	bb	bb	224.110
31	Total-hexafurans	33.96	3.458e3	3.115e3	1.045	1.11	1.24	62.0	YES	NO	bb	bb	9.961
32	Total-hexafurans	33.44	5.201e4	4.428e4	1.045	1.17	1.24	872.7	YES	NO	bb	bb	145.931
33	123468-HXCDF	33.22	1.965e4	1.658e4	1.087	1.18	1.24	344.8	YES	NO	bb	bb	49.933
34	1234789-HpCDF	41.03	7.170e3	7.415e3	1.283	0.97	1.05	72.5	YES	NO	bb	bd	36.775
35	Total-heptafurans	39.45	2.809e5	2.751e5	1.305	1.02	1.05	2836.2	YES	NO	bd	bd	1201.4...
36	Total-heptafurans	39.19	2.894e3	2.852e3	1.305	1.01	1.05	27.8	YES	NO	bb	db	12.418
37	1234678-HpCDF	38.78	1.438e5	1.390e5	1.327	1.03	1.05	1507.4	YES	NO	bb	bd	532.689

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	OCDF	45.27	3.018e5	3.411e5	1.447	0.88	0.89	3682.4	YES	NO	bd	bb	1600.6...
39	Total-penta1	27.18	4.355e4	2.817e4		1.55	1.55	1134.1	YES	NO	bb	bb	107.208
40	Total-pentafurans	28.83	1.238e4	8.629e3	1.047	1.43	1.55	109.3	YES	NO	MM	MM	28.834

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.51	7.463e3	9.757e3	0.923	0.76	0.77	108.0	YES	NO	bd	bd	29.879
2	Total-tetradioxins	26.52	6.087e2	9.209e2	0.879	0.66	0.77	9.1	YES	NO	dd	dd	2.787
3	2378-TCDD	26.41	4.113e2	4.972e2	0.920	0.83	0.77	5.1	YES	NO	bd	bd	1.581
4	Total-tetradioxins	26.02	5.965e2	7.637e2	0.879	0.78	0.77	6.2	YES	NO	dd	bb	2.479
5	Total-tetradioxins	25.00	2.117e3	2.553e3	0.879	0.83	0.77	26.5	YES	NO	bb	bd	8.510
6	Total-tetradioxins	24.01	2.197e3	2.699e3	0.879	0.81	0.77	28.7	YES	NO	dd	db	8.920
7	Total-tetradioxins	23.87	1.608e3	1.997e3	0.879	0.81	0.77	23.1	YES	NO	dd	dd	6.570
8	Total-tetradioxins	23.80	1.119e4	1.498e4	0.879	0.75	0.77	154.1	YES	NO	bd	dd	47.701
9	Total-tetradioxins	26.62	2.318e2	3.499e2	0.879	0.66	0.77	3.3	YES	NO	db	db	1.060

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	29.91	3.828e3	2.231e3	1.331	1.72	1.55	56.5	YES	NO	bb	bb	10.761
2	Total-pentadioxins	29.30	5.474e3	3.367e3	1.331	1.63	1.55	84.4	YES	NO	bb	bb	15.701
3	12479-PECDD	28.81	4.844e4	3.102e4	1.843	1.56	1.55	468.9	YES	NO	bb	bb	101.878
4	12389-PECDD	31.93	9.221e2	5.609e2	1.154	1.64	1.55	13.4	YES	NO	bb	bb	3.038
5	12378-PeCDD	31.50	3.512e3	2.425e3	0.995	1.45	1.55	45.2	YES	NO	bb	bb	14.098
6	Total-pentadioxins	30.44	3.578e3	2.271e3	1.331	1.58	1.55	32.7	YES	NO	db	db	10.388
7	Total-pentadioxins	30.12	3.937e3	2.437e3	1.331	1.62	1.55	56.5	YES	NO	bb	bb	11.320

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	36.13	3.625e4	2.966e4	1.009	1.22	1.24	335.1	YES	NO	db	dd	119.309
2	123478-HxCDD	36.01	6.705e3	5.804e3	1.027	1.16	1.24	60.2	YES	NO	bd	bd	22.857
3	Total-hexadioxins	35.13	1.004e5	7.996e4	1.028	1.26	1.24	637.5	YES	NO	bd	bd	324.895
4	Total-hexadioxins	34.77	2.748e4	2.144e4	1.028	1.28	1.24	239.0	YES	NO	bb	bb	88.112
5	124679-HXCDD	34.00	1.791e5	1.377e5	1.125	1.30	1.24	1589.1	YES	NO	bb	bb	528.604
6	123789-HxCDD	36.52	1.511e4	1.131e4	0.950	1.34	1.24	143.5	YES	NO	bb	bb	51.466

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.28	7.048e5	6.633e5	1.068	1.06	1.05	4471.8	YES	NO	bb	bb	3772.3...
2	1234679-HPCDD	39.22	6.539e5	6.274e5	1.211	1.04	1.05	4351.9	YES	NO	bb	bb	3116.2...

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.51	7.463e3	9.757e3	0.923	0.76	0.77	108.0	YES	NO	bd	bd	29.879
2	Total-tetradioxins	26.52	6.087e2	9.209e2	0.879	0.66	0.77	9.1	YES	NO	dd	dd	2.787
3	2378-TCDD	26.41	4.113e2	4.972e2	0.920	0.83	0.77	5.1	YES	NO	bd	bd	1.581
4	Total-tetradioxins	26.02	5.965e2	7.637e2	0.879	0.78	0.77	6.2	YES	NO	dd	bb	2.479
5	Total-tetradioxins	25.00	2.117e3	2.553e3	0.879	0.83	0.77	26.5	YES	NO	bb	bd	8.510
6	Total-tetradioxins	24.01	2.197e3	2.699e3	0.879	0.81	0.77	28.7	YES	NO	dd	db	8.920
7	Total-tetradioxins	23.87	1.608e3	1.997e3	0.879	0.81	0.77	23.1	YES	NO	dd	dd	6.570
8	Total-tetradioxins	23.80	1.119e4	1.498e4	0.879	0.75	0.77	154.1	YES	NO	bd	dd	47.701
9	Total-tetradioxins	26.62	2.318e2	3.499e2	0.879	0.66	0.77	3.3	YES	NO	db	db	1.060
10	Total-pentadioxins	29.91	3.828e3	2.231e3	1.331	1.72	1.55	56.5	YES	NO	bb	bb	10.761
11	Total-pentadioxins	29.30	5.474e3	3.367e3	1.331	1.63	1.55	84.4	YES	NO	bb	bb	15.701
12	12479-PECDD	28.81	4.844e4	3.102e4	1.843	1.56	1.55	468.9	YES	NO	bb	bb	101.878
13	12389-PECDD	31.93	9.221e2	5.609e2	1.154	1.64	1.55	13.4	YES	NO	bb	bb	3.038
14	12378-PeCDD	31.50	3.512e3	2.425e3	0.995	1.45	1.55	45.2	YES	NO	bb	bb	14.098
15	Total-pentadioxins	30.44	3.578e3	2.271e3	1.331	1.58	1.55	32.7	YES	NO	db	db	10.388
16	Total-pentadioxins	30.12	3.937e3	2.437e3	1.331	1.62	1.55	56.5	YES	NO	bb	bb	11.320
17	123678-HxCDD	36.13	3.625e4	2.966e4	1.009	1.22	1.24	335.1	YES	NO	db	dd	119.309
18	123478-HxCDD	36.01	6.705e3	5.804e3	1.027	1.16	1.24	60.2	YES	NO	bd	bd	22.857
19	Total-hexadioxins	35.13	1.004e5	7.996e4	1.028	1.26	1.24	637.5	YES	NO	bd	bd	324.895
20	Total-hexadioxins	34.77	2.748e4	2.144e4	1.028	1.28	1.24	239.0	YES	NO	bb	bb	88.112
21	124679-HXCDD	34.00	1.791e5	1.377e5	1.125	1.30	1.24	1589.1	YES	NO	bb	bb	528.604
22	123789-HxCDD	36.52	1.511e4	1.131e4	0.950	1.34	1.24	143.5	YES	NO	bb	bb	51.466
23	1234678-HpCDD	40.28	7.048e5	6.633e5	1.068	1.06	1.05	4471.8	YES	NO	bb	bb	3772.3...
24	1234679-HPCDD	39.22	6.539e5	6.274e5	1.211	1.04	1.05	4351.9	YES	NO	bb	bb	3116.2...
25	OCDD	45.03	4.101e6	4.600e6	1.181	0.89	0.89	16026.8	YES	NO	bb	bb	26543....

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.51	1.144e3	1.626e3	1.192	0.70	0.77	10.2	YES	NO	dd	dd	3.521
2	Total-tetrafurans	24.43	1.328e3	1.974e3	1.192	0.67	0.77	8.7	YES	NO	bd	bd	4.197
3	Total-tetrafurans	24.01	1.491e3	1.823e3	1.192	0.82	0.77	13.3	YES	NO	db	db	4.212
4	Total-tetrafurans	23.76	1.131e3	1.499e3	1.192	0.75	0.77	8.8	YES	NO	bd	bd	3.343
5	Total-tetrafurans	23.40	7.905e2	1.097e3	1.192	0.72	0.77	4.6	YES	NO	dd	dd	2.399
6	Total-tetrafurans	23.28	6.120e2	8.421e2	1.192	0.73	0.77	5.7	YES	NO	dd	dd	1.848
7	Total-tetrafurans	23.22	4.068e2	5.447e2	1.192	0.75	0.77	4.8	YES	NO	dd	dd	1.210
8	Total-tetrafurans	23.08	6.247e3	8.778e3	1.192	0.71	0.77	53.5	YES	NO	bd	bd	19.098
9	Total-tetrafurans	22.50	2.990e3	4.463e3	1.192	0.67	0.77	26.2	YES	NO	db	db	9.473
10	1368-TCDF	22.24	1.133e3	1.664e3	1.425	0.68	0.77	10.5	YES	NO	bd	bd	2.973
11	Total-tetrafurans	26.00	1.779e3	2.621e3	1.192	0.68	0.77	14.1	YES	NO	db	db	5.593
12	Total-tetrafurans	25.91	7.915e2	1.154e3	1.192	0.69	0.77	7.5	YES	NO	dd	dd	2.473
13	2378-TCDF	25.78	1.048e3	1.311e3	1.108	0.80	0.77	9.1	YES	NO	dd	bd	3.226
14	Total-tetrafurans	25.56	8.284e2	1.039e3	1.192	0.80	0.77	4.9	YES	NO	bd	bb	2.374
15	Total-tetrafurans	25.26	3.381e2	5.123e2	1.192	0.66	0.77	3.1	YES	NO	bb	bd	1.081
16	Total-tetrafurans	25.08	4.505e2	5.249e2	1.192	0.86	0.77	4.9	YES	NO	bb	bb	1.240
17	Total-tetrafurans	24.87	1.105e3	1.520e3	1.192	0.73	0.77	9.2	YES	NO	bb	bb	3.338
18	Total-tetrafurans	24.66	1.509e3	1.863e3	1.192	0.81	0.77	14.3	YES	NO	db	db	4.286
19	23478-PeCDF	31.27	1.740e3	1.290e3	1.126	1.35	1.55	22.3	YES	NO	db	db	4.062
20	Total-pentafurans	31.12	1.207e3	8.873e2	1.047	1.36	1.55	17.3	YES	NO	dd	dd	2.875
21	Total-pentafurans	31.01	1.081e3	6.681e2	1.047	1.62	1.55	12.7	YES	NO	bd	bd	2.401
22	Total-pentafurans	30.13	2.088e3	1.306e3	1.047	1.60	1.55	27.7	YES	NO	bd	dd	4.658
23	12378-PeCDF	29.93	1.171e3	7.968e2	1.015	1.47	1.55	15.6	YES	NO	bb	bd	2.658
24	Total-pentafurans	29.56	2.423e3	1.465e3	1.047	1.65	1.55	30.2	YES	NO	dd	dd	5.336
25	Total-pentafurans	29.45	2.696e3	1.647e3	1.047	1.64	1.55	36.4	YES	NO	dd	bd	5.961
26	123789-HxCDF	36.92	1.655e3	1.423e3	1.030	1.16	1.24	24.7	YES	NO	bb	bb	5.451
27	234678-HxCDF	35.86	8.018e3	6.495e3	1.052	1.23	1.24	94.9	YES	NO	bb	bb	22.227
28	123678-HxCDF	35.03	6.128e3	5.246e3	1.037	1.17	1.24	111.3	YES	NO	db	db	15.895
29	123478-HxCDF	34.90	8.697e3	7.342e3	1.017	1.18	1.24	154.0	YES	NO	dd	dd	23.615
30	Total-hexafurans	34.28	7.839e4	6.949e4	1.045	1.13	1.24	1388.1	YES	NO	bb	bb	224.110
31	Total-hexafurans	33.96	3.458e3	3.115e3	1.045	1.11	1.24	62.0	YES	NO	bb	bb	9.961
32	Total-hexafurans	33.44	5.201e4	4.428e4	1.045	1.17	1.24	872.7	YES	NO	bb	bb	145.931
33	123468-HXCDF	33.22	1.965e4	1.658e4	1.087	1.18	1.24	344.8	YES	NO	bb	bb	49.933
34	1234789-HpCDF	41.03	7.170e3	7.415e3	1.283	0.97	1.05	72.5	YES	NO	bb	bd	36.775
35	Total-heptafurans	39.45	2.809e5	2.751e5	1.305	1.02	1.05	2836.2	YES	NO	bd	bd	1201.4...
36	Total-heptafurans	39.19	2.894e3	2.852e3	1.305	1.01	1.05	27.8	YES	NO	bb	db	12.418
37	1234678-HpCDF	38.78	1.438e5	1.390e5	1.327	1.03	1.05	1507.4	YES	NO	bb	bd	532.689

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	OCDF	45.27	3.018e5	3.411e5	1.447	0.88	0.89	3682.4	YES	NO	bd	bb	1600.6...
39	Total-penta1	27.18	4.355e4	2.817e4		1.55	1.55	1134.1	YES	NO	bb	bb	107.208
40	Total-pentafurans	28.83	1.238e4	8.629e3	1.047	1.43	1.55	109.3	YES	NO	MM	MM	28.834
41	1368-TCDD	23.51	7.463e3	9.757e3	0.923	0.76	0.77	108.0	YES	NO	bd	bd	29.879
42	Total-tetradioxins	26.52	6.087e2	9.209e2	0.879	0.66	0.77	9.1	YES	NO	dd	dd	2.787
43	2378-TCDD	26.41	4.113e2	4.972e2	0.920	0.83	0.77	5.1	YES	NO	bd	bd	1.581
44	Total-tetradioxins	26.02	5.965e2	7.637e2	0.879	0.78	0.77	6.2	YES	NO	dd	bb	2.479
45	Total-tetradioxins	25.00	2.117e3	2.553e3	0.879	0.83	0.77	26.5	YES	NO	bb	bd	8.510
46	Total-tetradioxins	24.01	2.197e3	2.699e3	0.879	0.81	0.77	28.7	YES	NO	dd	db	8.920
47	Total-tetradioxins	23.87	1.608e3	1.997e3	0.879	0.81	0.77	23.1	YES	NO	dd	dd	6.570
48	Total-tetradioxins	23.80	1.119e4	1.498e4	0.879	0.75	0.77	154.1	YES	NO	bd	dd	47.701
49	Total-tetradioxins	26.62	2.318e2	3.499e2	0.879	0.66	0.77	3.3	YES	NO	db	db	1.060
50	Total-pentadioxins	29.91	3.828e3	2.231e3	1.331	1.72	1.55	56.5	YES	NO	bb	bb	10.761
51	Total-pentadioxins	29.30	5.474e3	3.367e3	1.331	1.63	1.55	84.4	YES	NO	bb	bb	15.701
52	12479-PECDD	28.81	4.844e4	3.102e4	1.843	1.56	1.55	468.9	YES	NO	bb	bb	101.878
53	12389-PECDD	31.93	9.221e2	5.609e2	1.154	1.64	1.55	13.4	YES	NO	bb	bb	3.038
54	12378-PeCDD	31.50	3.512e3	2.425e3	0.995	1.45	1.55	45.2	YES	NO	bb	bb	14.098
55	Total-pentadioxins	30.44	3.578e3	2.271e3	1.331	1.58	1.55	32.7	YES	NO	db	db	10.388
56	Total-pentadioxins	30.12	3.937e3	2.437e3	1.331	1.62	1.55	56.5	YES	NO	bb	bb	11.320
57	123678-HxCDD	36.13	3.625e4	2.966e4	1.009	1.22	1.24	335.1	YES	NO	db	dd	119.309
58	123478-HxCDD	36.01	6.705e3	5.804e3	1.027	1.16	1.24	60.2	YES	NO	bd	bd	22.857
59	Total-hexadioxins	35.13	1.004e5	7.996e4	1.028	1.26	1.24	637.5	YES	NO	bd	bd	324.895
60	Total-hexadioxins	34.77	2.748e4	2.144e4	1.028	1.28	1.24	239.0	YES	NO	bb	bb	88.112
61	124679-HXCDD	34.00	1.791e5	1.377e5	1.125	1.30	1.24	1589.1	YES	NO	bb	bb	528.604
62	123789-HxCDD	36.52	1.511e4	1.131e4	0.950	1.34	1.24	143.5	YES	NO	bb	bb	51.466
63	1234678-HpCDD	40.28	7.048e5	6.633e5	1.068	1.06	1.05	4471.8	YES	NO	bb	bb	3772.3...
64	1234679-HPCDD	39.22	6.539e5	6.274e5	1.211	1.04	1.05	4351.9	YES	NO	bb	bb	3116.2...
65	OCDD	45.03	4.101e6	4.600e6	1.181	0.89	0.89	16026.8	YES	NO	bb	bb	26543....

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.18	4.737e4					2.5	NO		bb		
2	FUNCTION1 PFK	23.43	1.534e6					8.5	YES		bb		
3	FUNCTION1 PFK	22.83	3.520e5					2.4	NO		bb		
4	FUNCTION1 PFK	21.24	6.142e3					0.9	NO		bb		

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.02	1.094e4					1.0	NO		bb		0.000
2	FUNCTION2 PFK	30.91	8.093e3					1.1	NO		db		0.000
3	FUNCTION2 PFK	30.88	1.245e4					1.2	NO		dd		0.000
4	FUNCTION2 PFK	30.83	5.275e3					0.7	NO		bd		0.000
5	FUNCTION2 PFK	30.50	1.439e4					1.1	NO		bb		0.000
6	FUNCTION2 PFK	30.09	3.870e3					0.6	NO		bb		0.000
7	FUNCTION2 PFK	30.04	4.159e3					0.6	NO		bb		0.000
8	FUNCTION2 PFK	29.56	4.073e3					0.6	NO		bb		0.000
9	FUNCTION2 PFK	29.34	9.777e3					1.0	NO		db		0.000
10	FUNCTION2 PFK	29.25	1.860e4					1.2	NO		bd		0.000
11	FUNCTION2 PFK	28.37	6.271e5					5.7	YES		db		0.000
12	FUNCTION2 PFK	28.17	1.854e5					9.1	YES		bd		0.000
13	FUNCTION2 PFK	32.81	1.114e4					0.8	NO		bb		0.000
14	FUNCTION2 PFK	32.18	1.540e4					1.3	NO		bb		0.000
15	FUNCTION2 PFK	31.97	1.521e4					0.9	NO		bb		0.000
16	FUNCTION2 PFK	31.65	2.237e4					1.4	NO		bb		0.000
17	FUNCTION2 PFK	31.19	9.992e3					1.3	NO		bb		0.000

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.96	5.568e3					0.9	NO		bb		0.000
2	FUNCTION3 PFK	34.91	5.674e3					0.7	NO		bb		0.000
3	FUNCTION3 PFK	34.25	2.678e4					1.9	NO		bb		0.000
4	FUNCTION3 PFK	33.62	1.982e4					1.6	NO		bb		0.000
5	FUNCTION3 PFK	33.44	2.933e4					1.6	NO		db		0.000
6	FUNCTION3 PFK	33.33	6.857e4					2.2	NO		dd		0.000
7	FUNCTION3 PFK	33.26	2.451e4					2.2	NO		dd		0.000
8	FUNCTION3 PFK	33.17	6.038e4					3.0	NO		bd		0.000
9	FUNCTION3 PFK	33.07	3.247e3					0.8	NO		bb		0.000
10	FUNCTION3 PFK	33.03	4.148e3					1.0	NO		bb		0.000
11	FUNCTION3 PFK	37.71	4.859e3					0.6	NO		bb		0.000
12	FUNCTION3 PFK	37.21	9.041e3					1.0	NO		bb		0.000
13	FUNCTION3 PFK	36.99	3.517e4					2.0	NO		bb		0.000
14	FUNCTION3 PFK	36.82	6.033e3					0.8	NO		bb		0.000
15	FUNCTION3 PFK	36.74	1.690e3					0.4	NO		bb		0.000
16	FUNCTION3 PFK	36.38	1.784e3					0.4	NO		bb		0.000
17	FUNCTION3 PFK	36.15	1.707e3					0.4	NO		bb		0.000
18	FUNCTION3 PFK	36.00	3.150e3					0.6	NO		bb		0.000
19	FUNCTION3 PFK	35.41	5.953e3					0.8	NO		bb		0.000
20	FUNCTION3 PFK	35.15	1.164e4					1.2	NO		db		0.000
21	FUNCTION3 PFK	35.10	2.227e4					1.6	NO		bd		0.000

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.25	4.063e3					0.9	NO		bb		
2	FUNCTION4 PFK	38.06	2.443e4					3.3	YES		db		
3	FUNCTION4 PFK	38.03	4.396e4					5.6	YES		dd		
4	FUNCTION4 PFK	37.95	1.031e5					8.5	YES		bd		
5	FUNCTION4 PFK	40.54	2.408e4					1.7	NO		db		
6	FUNCTION4 PFK	40.45	7.658e3					1.2	NO		bd		
7	FUNCTION4 PFK	40.13	9.725e3					1.5	NO		bb		
8	FUNCTION4 PFK	40.07	8.139e3					1.5	NO		bb		
9	FUNCTION4 PFK	39.94	1.259e3					0.5	NO		bb		
10	FUNCTION4 PFK	39.80	1.428e4					1.9	NO		db		
11	FUNCTION4 PFK	39.76	7.353e3					1.5	NO		bd		
12	FUNCTION4 PFK	39.70	3.072e3					0.8	NO		bb		
13	FUNCTION4 PFK	39.61	5.344e3					1.1	NO		bb		
14	FUNCTION4 PFK	39.41	9.009e3					1.4	NO		bb		
15	FUNCTION4 PFK	39.35	1.437e4					2.2	NO		bb		
16	FUNCTION4 PFK	39.20	7.901e3					1.4	NO		bb		
17	FUNCTION4 PFK	39.10	8.499e2					0.4	NO		bb		
18	FUNCTION4 PFK	38.97	1.075e3					0.5	NO		bb		
19	FUNCTION4 PFK	38.92	2.981e3					0.7	NO		bb		
20	FUNCTION4 PFK	38.55	3.531e3					0.8	NO		bb		
21	FUNCTION4 PFK	42.53	7.124e3					1.2	NO		bd		
22	FUNCTION4 PFK	42.24	1.068e3					0.5	NO		bb		
23	FUNCTION4 PFK	42.11	8.686e2					0.4	NO		bb		
24	FUNCTION4 PFK	42.01	3.393e3					0.6	NO		bb		
25	FUNCTION4 PFK	41.76	2.910e4					2.2	NO		bb		
26	FUNCTION4 PFK	41.65	8.606e3					1.8	NO		db		
27	FUNCTION4 PFK	41.62	1.957e4					2.3	NO		bd		
28	FUNCTION4 PFK	41.55	1.854e4					2.5	NO		db		
29	FUNCTION4 PFK	41.50	9.537e3					1.4	NO		dd		
30	FUNCTION4 PFK	41.42	1.807e4					1.4	NO		bd		
31	FUNCTION4 PFK	41.26	2.667e4					2.2	NO		bb		
32	FUNCTION4 PFK	41.16	1.660e4					2.0	NO		bb		
33	FUNCTION4 PFK	40.97	2.703e4					2.0	NO		bb		
34	FUNCTION4 PFK	40.89	7.597e3					1.1	NO		bb		
35	FUNCTION4 PFK	40.69	2.635e3					0.6	NO		bb		
36	FUNCTION4 PFK	40.64	5.989e3					1.0	NO		bb		
37	FUNCTION4 PFK	42.63	6.836e3					1.5	NO		db		

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	42.59	1.503e4					2.0	NO		dd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.44	5.093e3					0.8	NO		bb		
2	FUNCTION5 PFK	45.39	6.521e3					1.3	NO		bb		
3	FUNCTION5 PFK	45.32	2.853e3					1.0	NO		bb		
4	FUNCTION5 PFK	45.05	4.122e3					0.9	NO		db		
5	FUNCTION5 PFK	45.02	3.383e3					0.9	NO		bd		
6	FUNCTION5 PFK	44.20	3.804e3					1.1	NO		bb		
7	FUNCTION5 PFK	44.05	5.578e3					1.0	NO		bb		
8	FUNCTION5 PFK	43.88	7.229e3					1.6	NO		db		
9	FUNCTION5 PFK	43.77	7.234e4					5.5	YES		dd		
10	FUNCTION5 PFK	43.65	6.228e5					10.1	YES		dd		
11	FUNCTION5 PFK	43.39	1.022e6					18.6	YES		dd		
12	FUNCTION5 PFK	43.12	2.951e5					27.2	YES		dd		
13	FUNCTION5 PFK	43.06	4.115e5					29.2	YES		bd		
14	FUNCTION5 PFK	45.80	7.249e3					1.3	NO		bb		
15	FUNCTION5 PFK	45.73	2.856e3					0.8	NO		db		
16	FUNCTION5 PFK	45.69	3.490e3					1.0	NO		bd		
17	FUNCTION5 PFK	45.57	1.723e3					0.7	NO		bb		
18	FUNCTION5 PFK	45.54	8.146e3					1.4	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.83	7.605e1					2.2	NO		bb		0.000
2	FUNCTION1 HXCD...	25.38	1.407e2					2.0	NO		bb		0.000
3	FUNCTION1 HXCD...	23.72	1.976e2					5.5	YES		db		0.000
4	FUNCTION1 HXCD...	23.58	7.350e1					3.2	YES		bd		0.000
5	FUNCTION1 HXCD...	22.71	8.015e1					2.4	NO		bb		0.000
6	FUNCTION1 HXCD...	22.39	7.385e1					1.8	NO		bb		0.000
7	FUNCTION1 HXCD...	21.42	7.071e1					3.5	YES		bb		0.000

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	21.98	1.057e2					0.8	NO		bb		0.000
2	FUNCTION1 HPCD...	21.66	8.881e1					1.8	NO		bb		0.000
3	FUNCTION1 HPCD...	25.13	9.015e1					4.1	YES		bb		0.000
4	FUNCTION1 HPCD...	22.31	1.403e2					1.2	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.66	7.440e1					2.4	NO		bb		0.000
2	FUNCTION2 HPCD...	32.14	1.013e2					3.7	YES		bb		0.000
3	FUNCTION2 HPCD...	31.87	7.959e1					1.2	NO		bb		0.000
4	FUNCTION2 HPCD...	29.70	3.774e2					9.5	YES		db		0.000
5	FUNCTION2 HPCD...	29.64	7.842e1					1.3	NO		dd		0.000
6	FUNCTION2 HPCD...	29.53	8.042e1					1.5	NO		dd		0.000
7	FUNCTION2 HPCD...	29.47	1.150e2					2.3	NO		dd		0.000
8	FUNCTION2 HPCD...	29.35	9.666e1					1.5	NO		bd		0.000
9	FUNCTION2 HPCD...	28.92	9.230e1					3.1	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.50	1.232e2					3.5	YES		bb		0.000
2	FUNCTION3 OCDPE	34.18	1.972e2					4.9	YES		bb		0.000
3	FUNCTION3 OCDPE	33.05	1.004e2					3.3	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.78	7.452e1					2.0	NO		bb		0.000
2	FUNCTION4 NCDPE	40.26	7.591e1					1.9	NO		bb		0.000
3	FUNCTION4 NCDPE	39.77	7.381e1					3.6	YES		bb		0.000
4	FUNCTION4 NCDPE	39.23	7.222e1					1.5	NO		bb		0.000
5	FUNCTION4 NCDPE	38.42	1.274e2					3.6	YES		bb		0.000
6	FUNCTION4 NCDPE	38.28	1.035e2					3.3	YES		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:15:03 Pacific Daylight Time

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

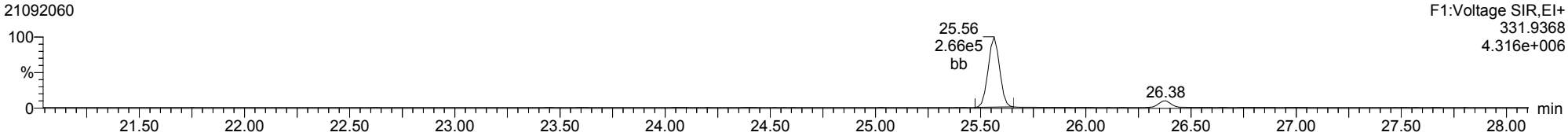
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.07	4.641e2					9.4	YES		bb		0.000

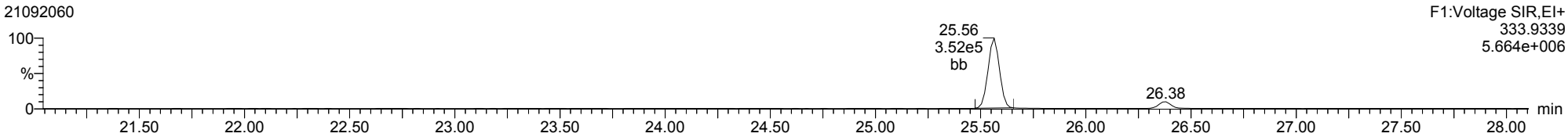
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

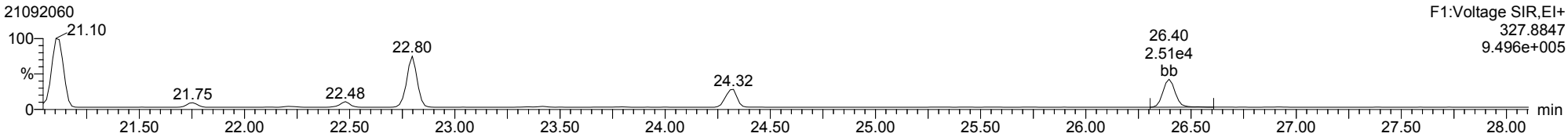
13C-1234-TCDD



13C-1234-TCDD

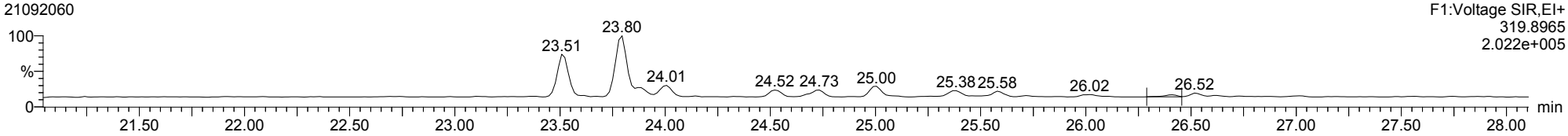


37CL-2378-TCDD

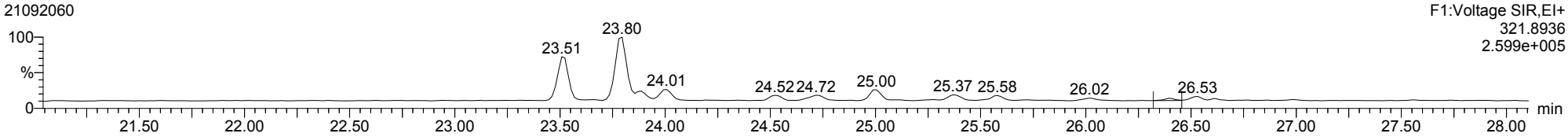


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

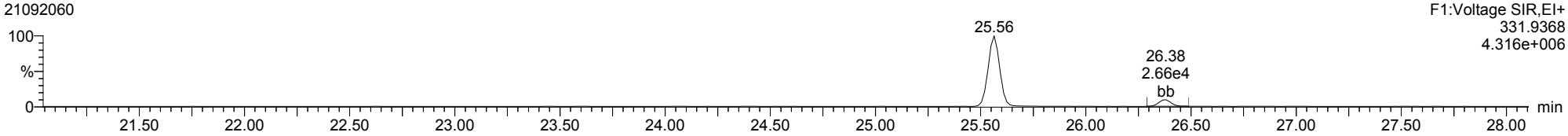
2378-TCDD



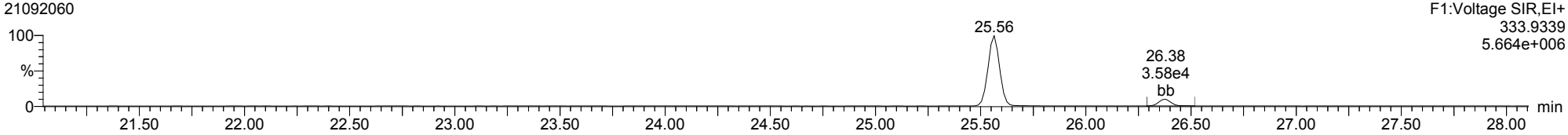
2378-TCDD



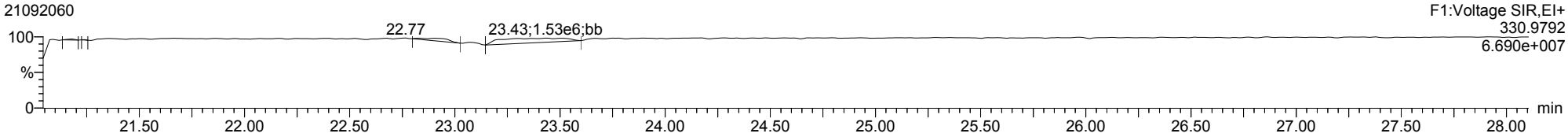
13C-2378-TCDD



13C-2378-TCDD

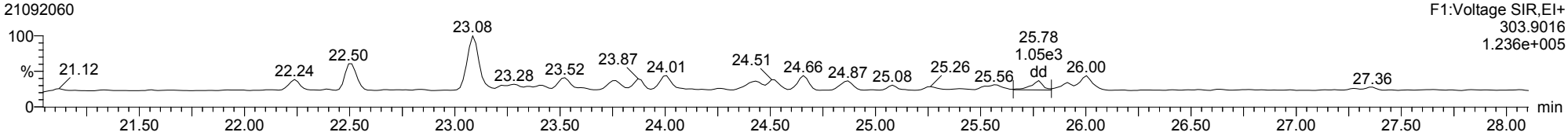


FUNCTION1 PFK

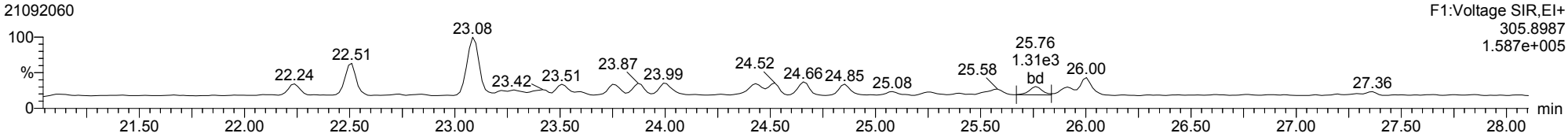


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

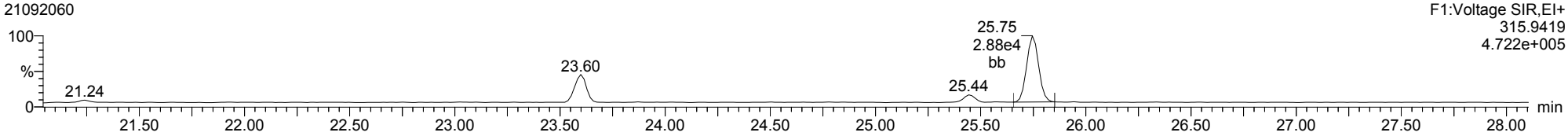
2378-TCDF



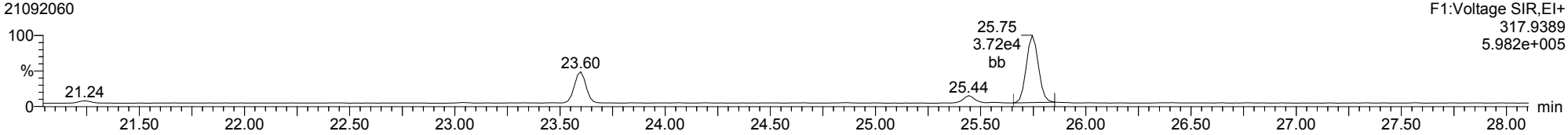
2378-TCDF



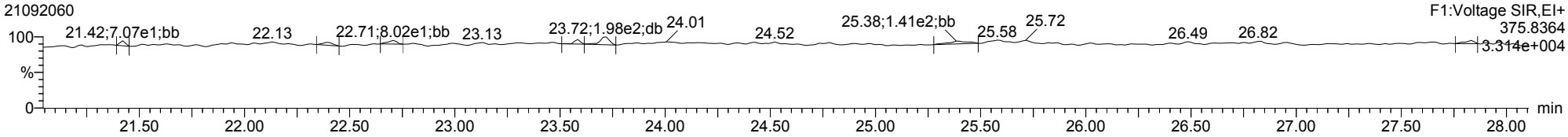
13C-2378-TCDF



13C-2378-TCDF

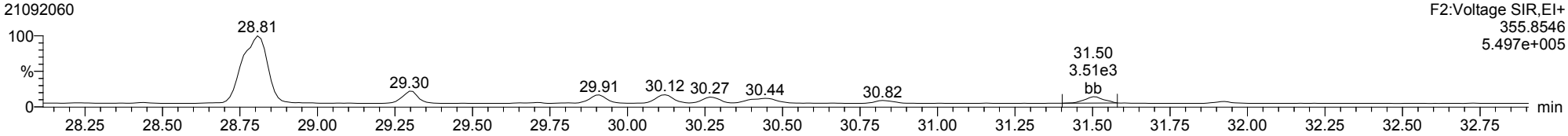


FUNCTION1 HXCDPE

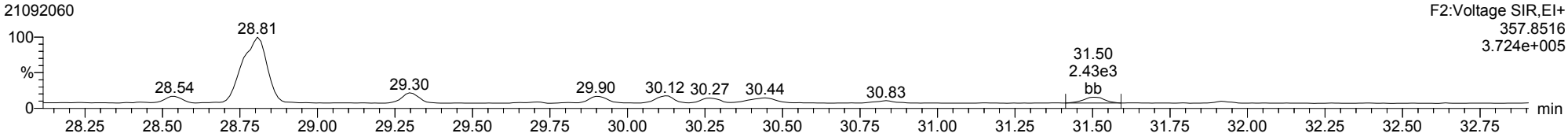


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

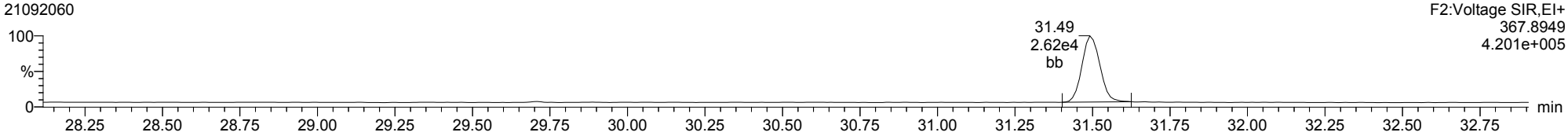
12378-PeCDD



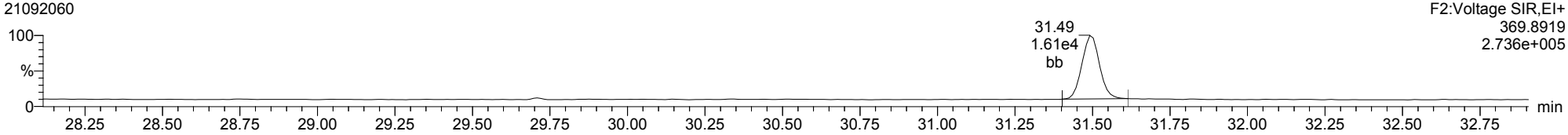
12378-PeCDD



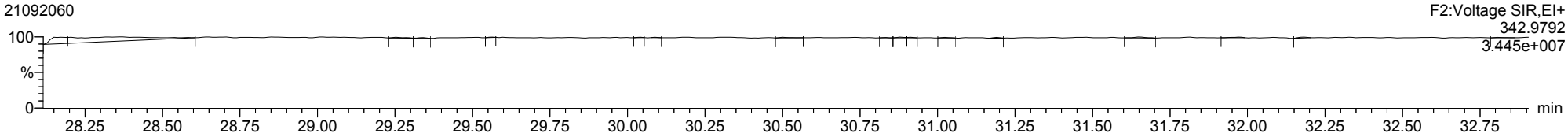
13C-12378-PeCDD



13C-12378-PeCDD

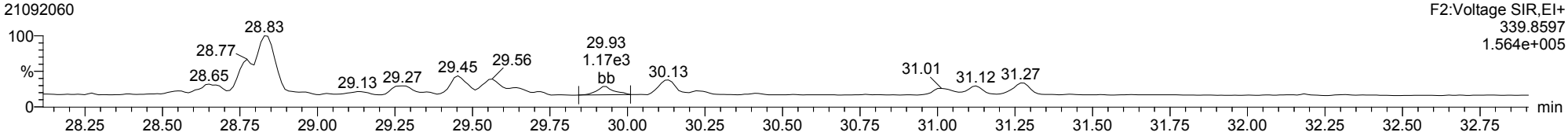


FUNCTION2 PFK

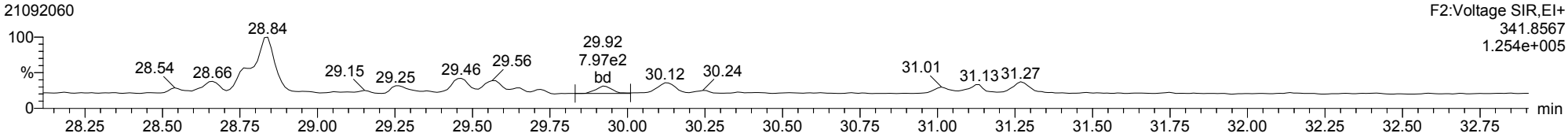


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

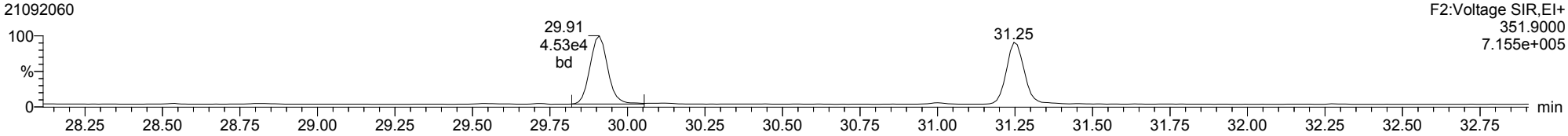
12378-PeCDF



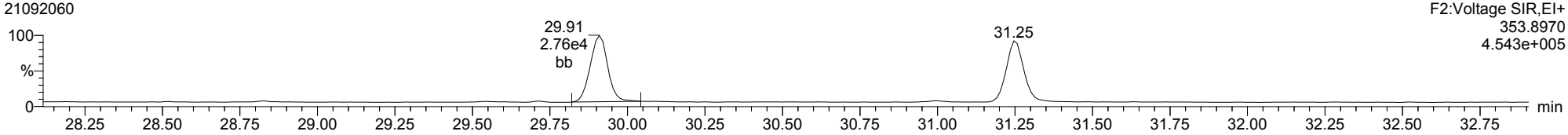
12378-PeCDF



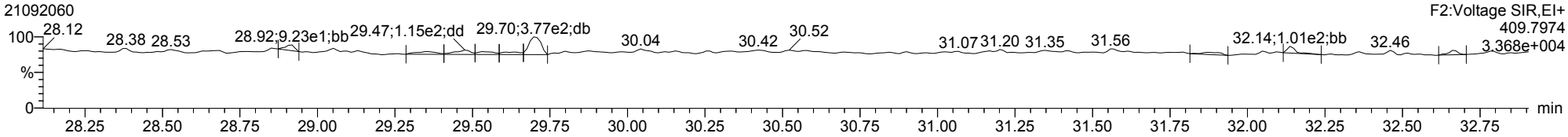
13C-12378-PeCDF



13C-12378-PeCDF

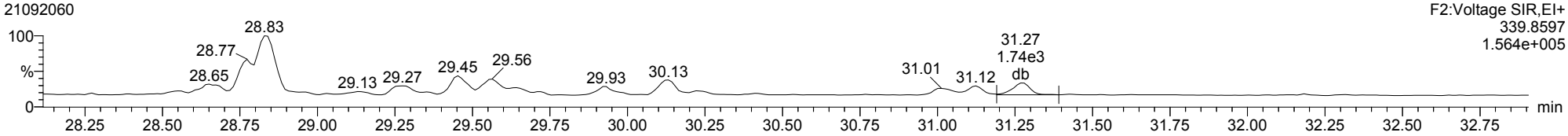


FUNCTION2 HPCDPE

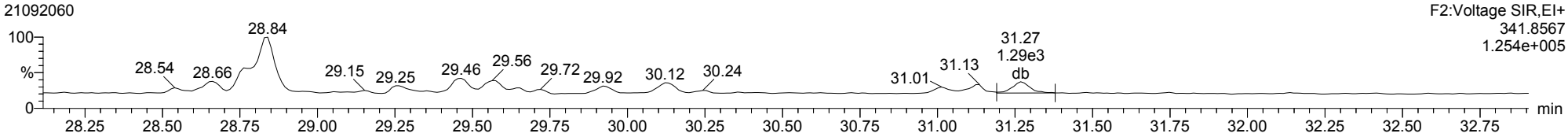


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

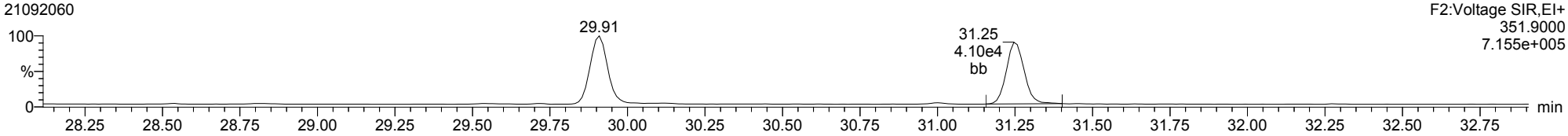
23478-PeCDF



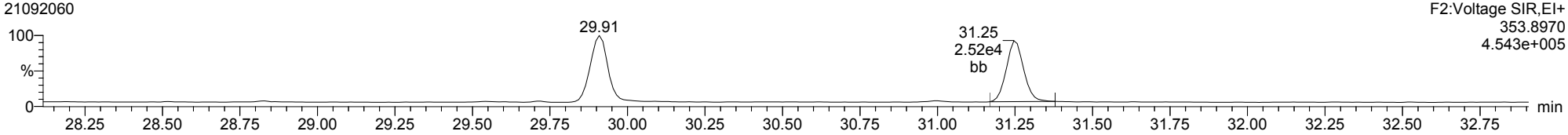
23478-PeCDF



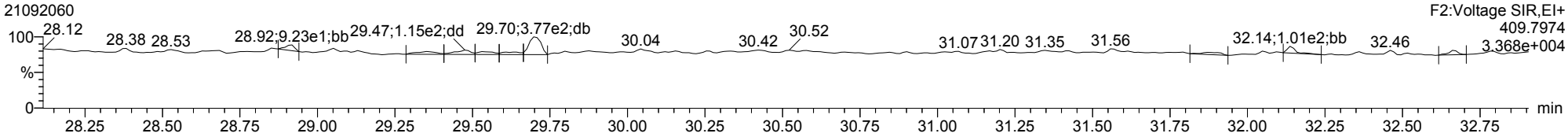
13C-23478-PeCDF



13C-23478-PeCDF

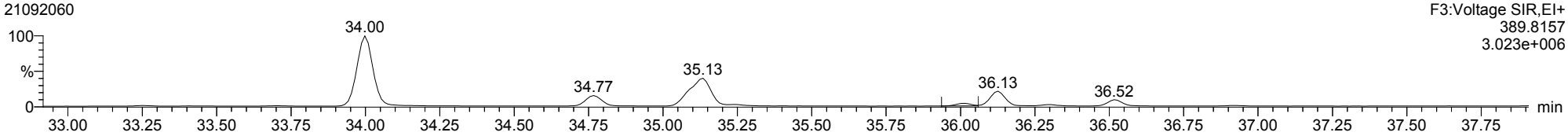


FUNCTION2 HPCDPE

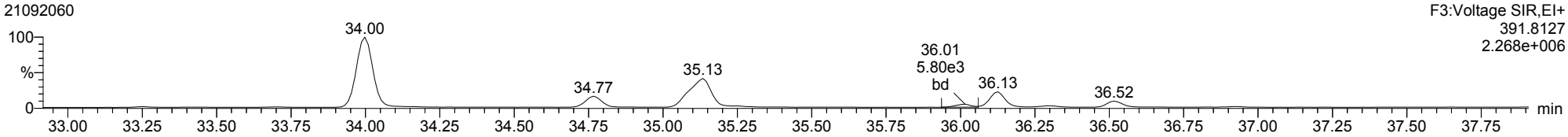


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

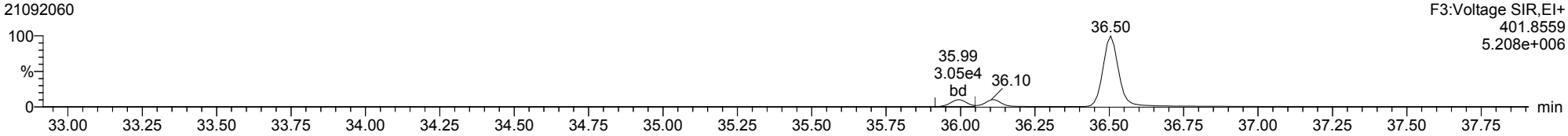
123478-HxCDD



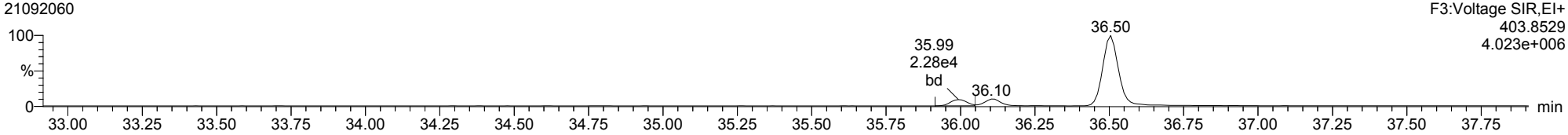
123478-HxCDD



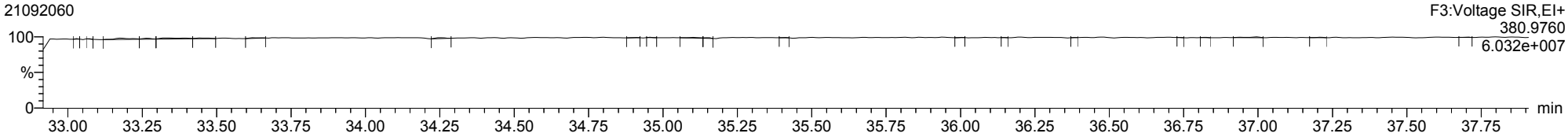
13C-123478-HxCDD



13C-123478-HxCDD

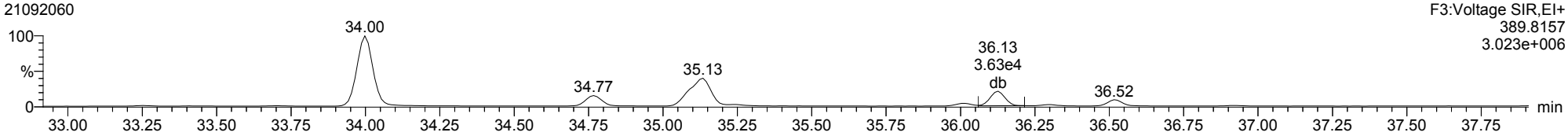


FUNCTION3 PFK

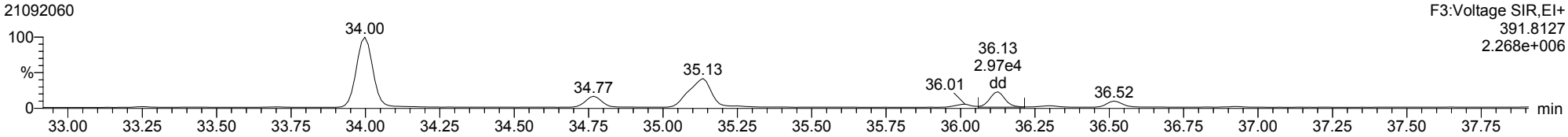


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

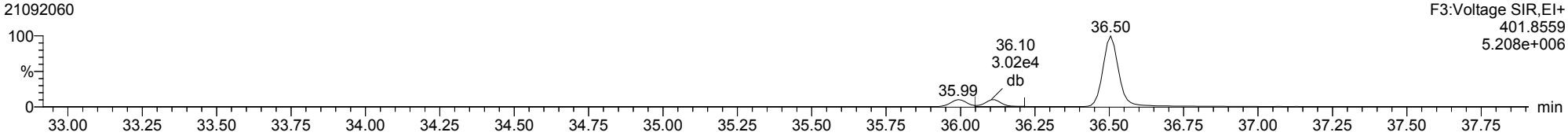
123678-HxCDD



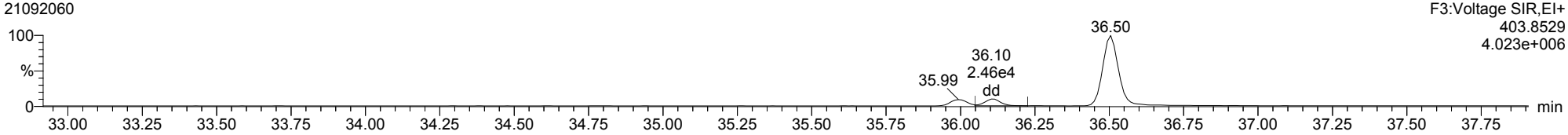
123678-HxCDD



13C-123678-HxCDD

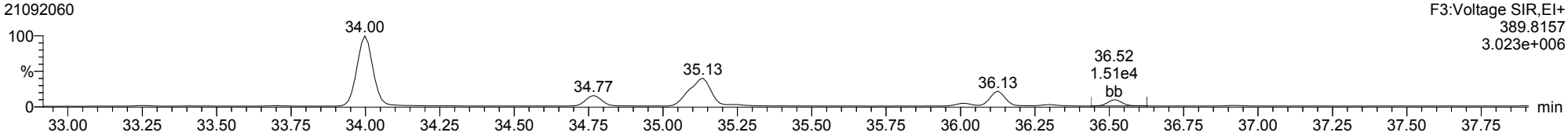


13C-123678-HxCDD

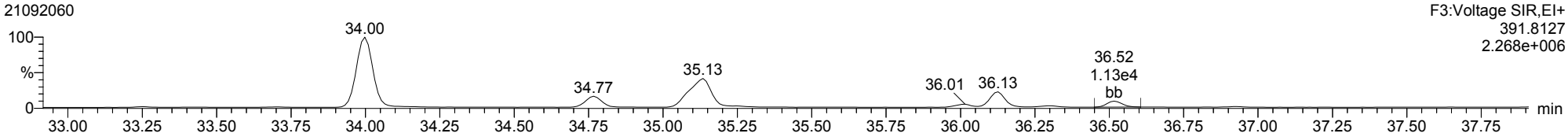


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

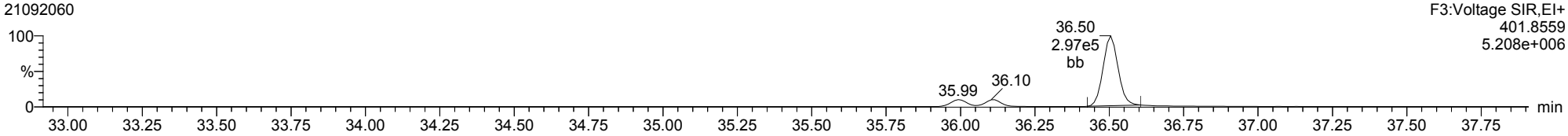
123789-HxCDD



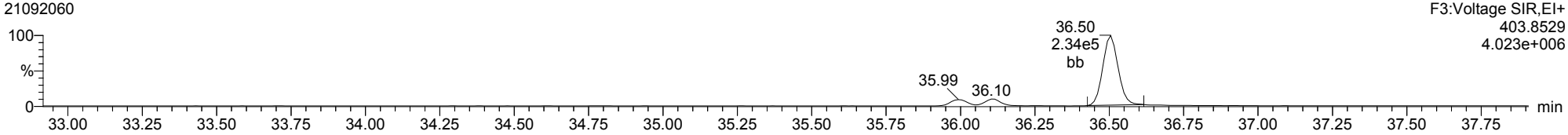
123789-HxCDD



13C-123789-HxCDD

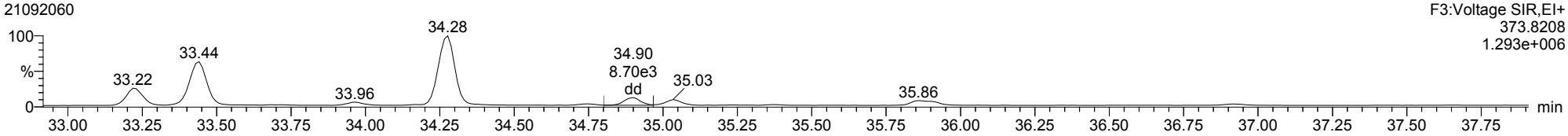


13C-123789-HxCDD

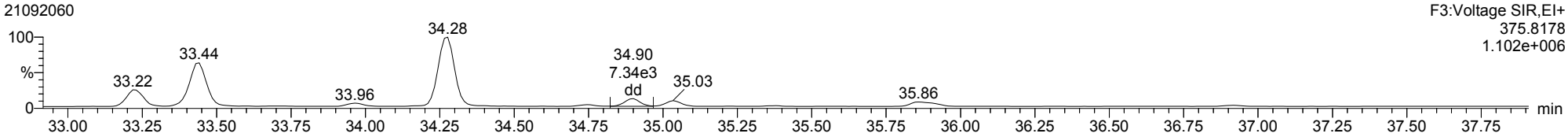


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

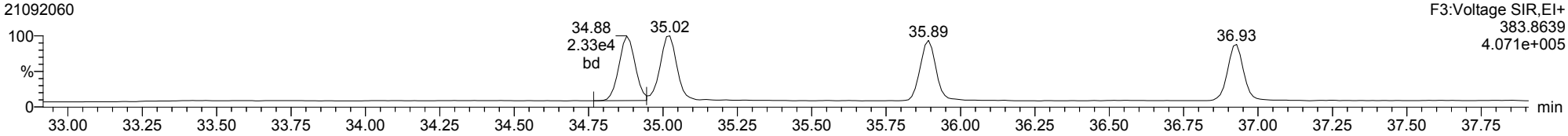
123478-HxCDF



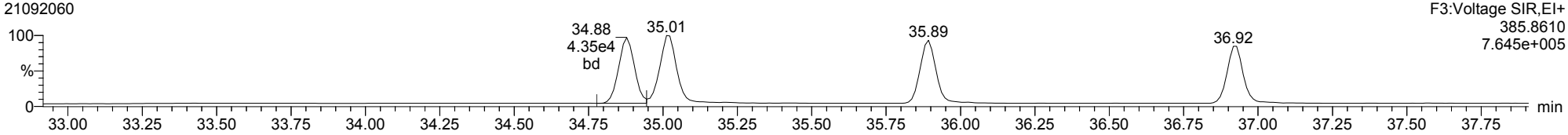
123478-HxCDF



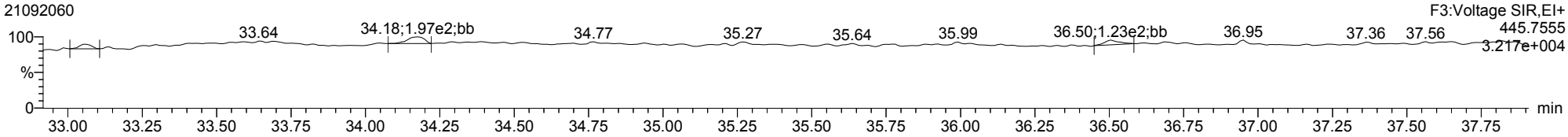
13C-123478-HxCDF



13C-123478-HxCDF

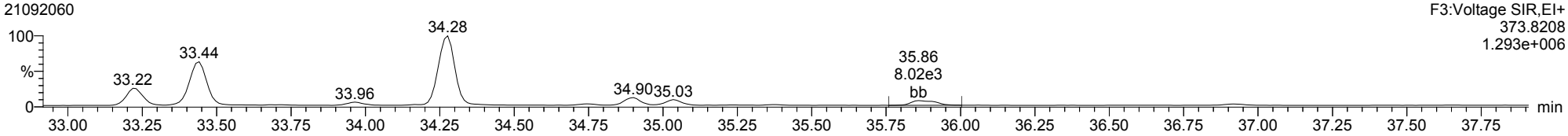


FUNCTION3 OCDPE

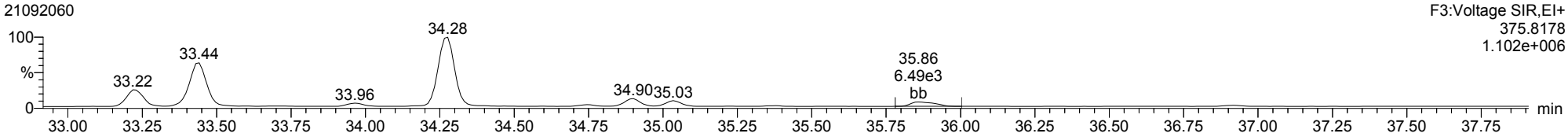


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

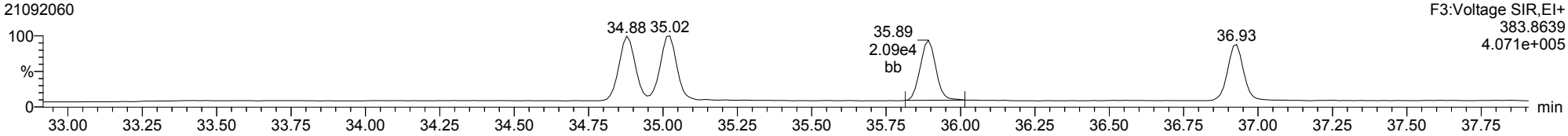
234678-HxCDF



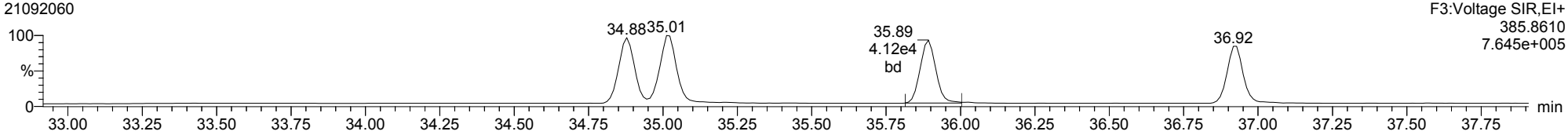
234678-HxCDF



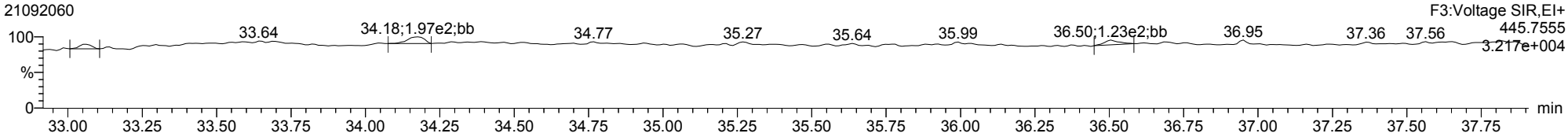
13C-234678-HxCDF



13C-234678-HxCDF

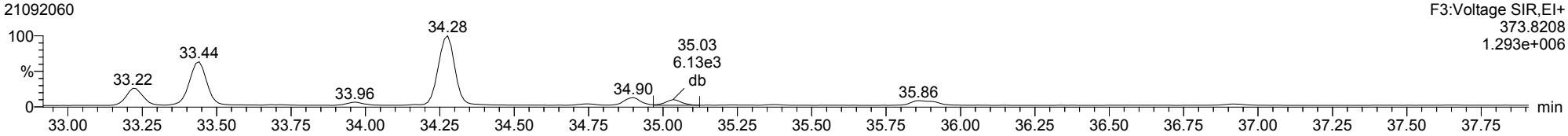


FUNCTION3 OCDPE

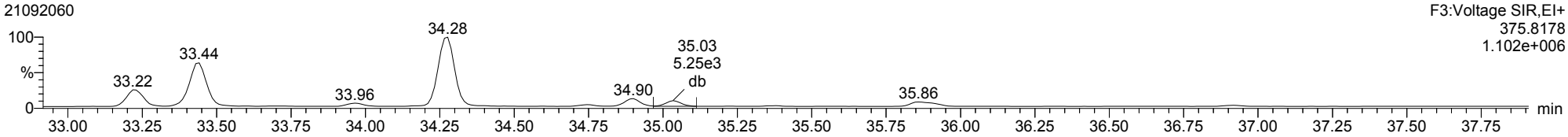


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

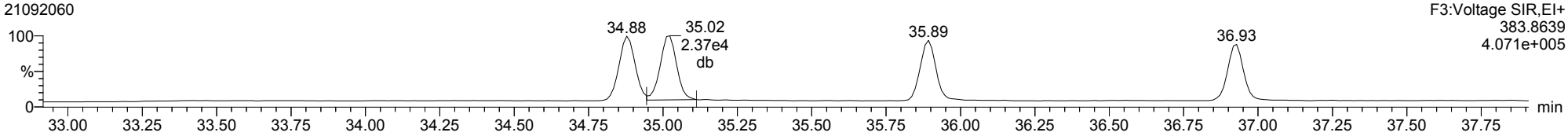
123678-HxCDF



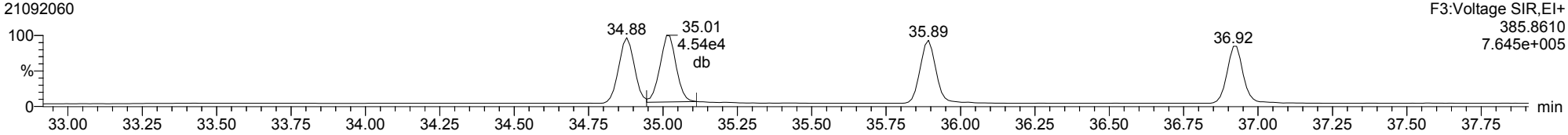
123678-HxCDF



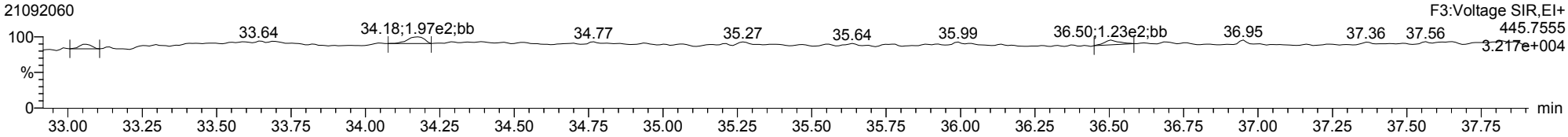
13C-123678-HxCDF



13C-123678-HxCDF

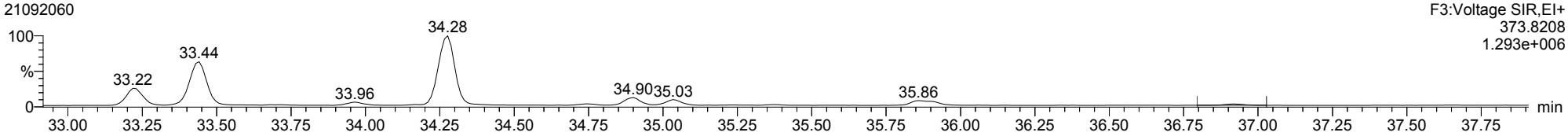


FUNCTION3 OCDPE

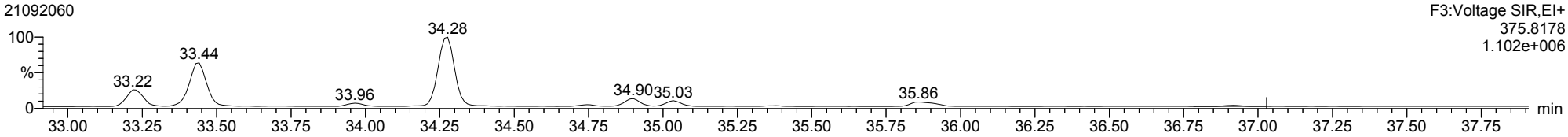


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

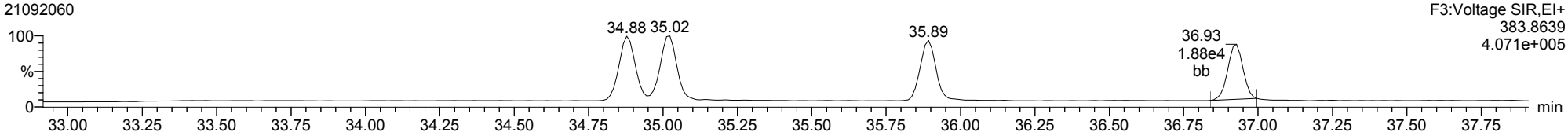
123789-HxCDF



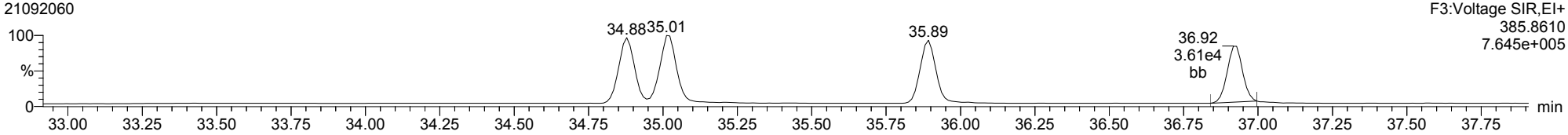
123789-HxCDF



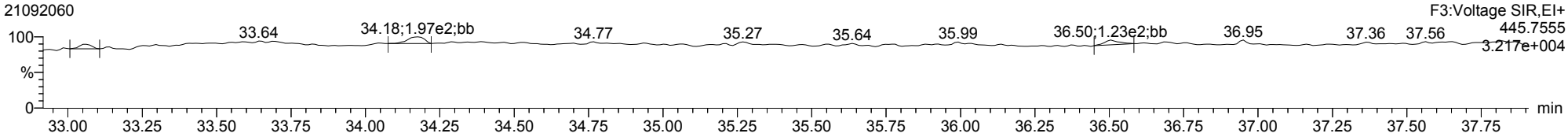
13C-123789-HxCDF



13C-123789-HxCDF

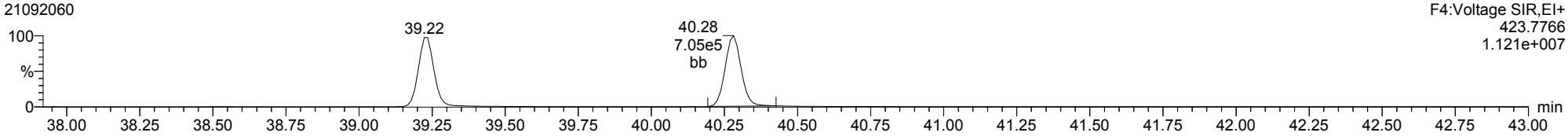


FUNCTION3 OCDPE

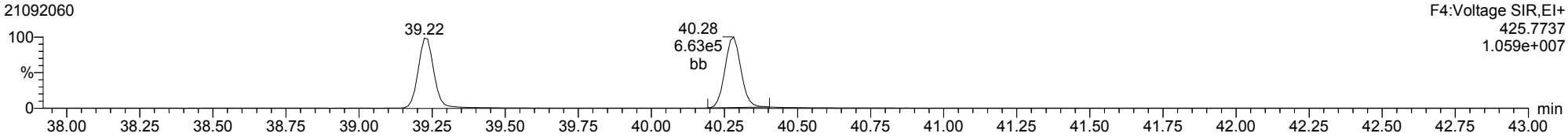


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

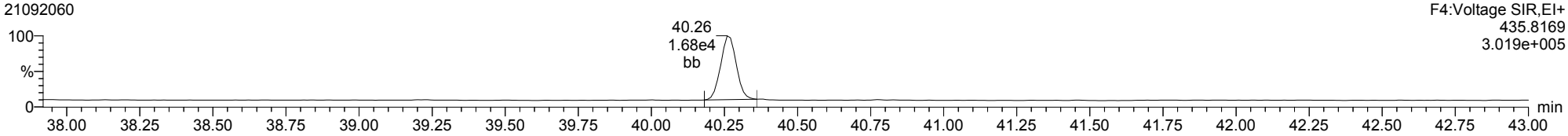
1234678-HpCDD



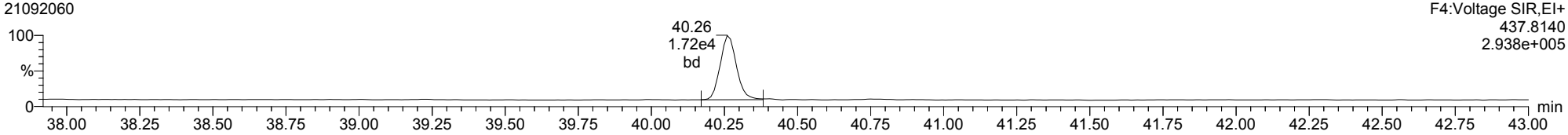
1234678-HpCDD



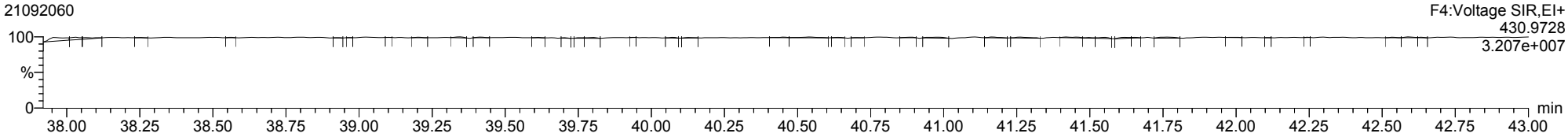
13C-1234678-HpCDD



13C-1234678-HpCDD

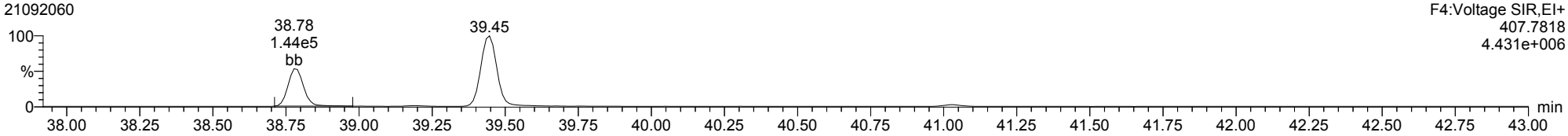


FUNCTION4 PFK

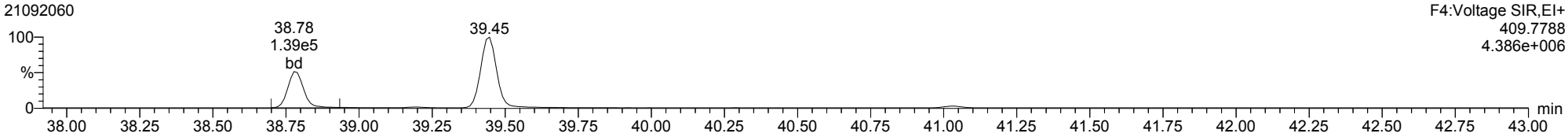


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

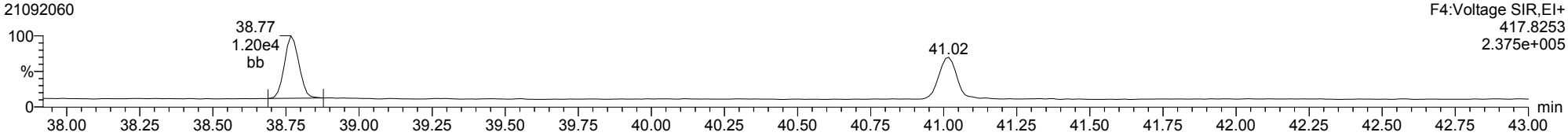
1234678-HpCDF



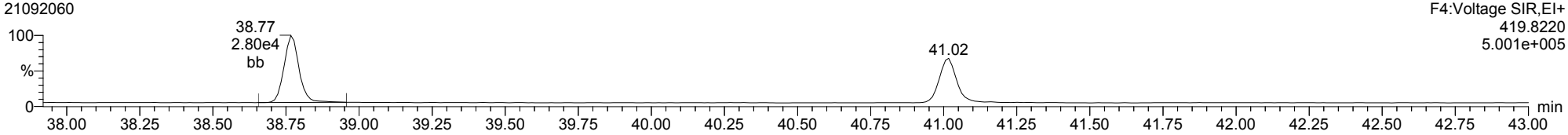
1234678-HpCDF



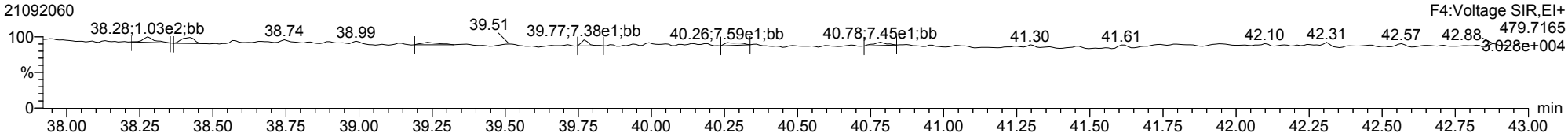
13C-1234678-HpCDF



13C-1234678-HpCDF

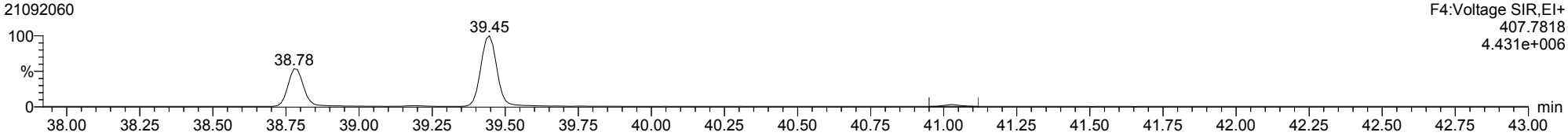


FUNCTION4 NCDPE

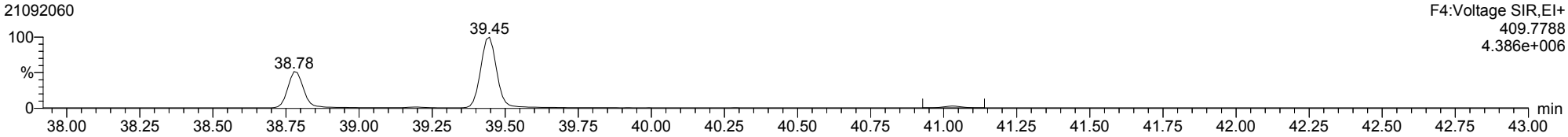


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

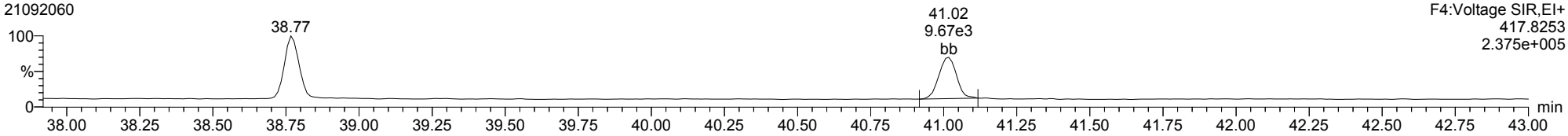
1234789-HpCDF



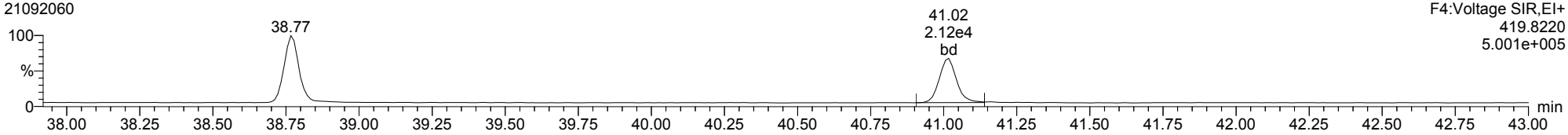
1234789-HpCDF



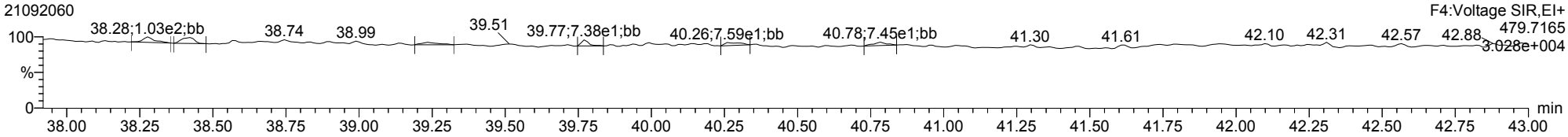
13C-1234789-HpCDF



13C-1234789-HpCDF

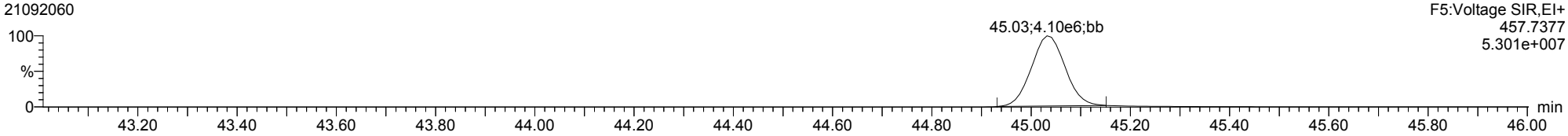


FUNCTION4 NCDPE

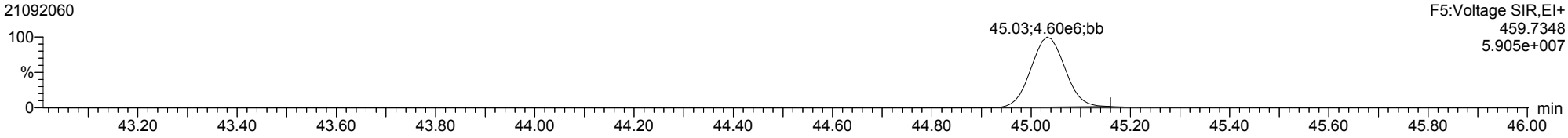


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

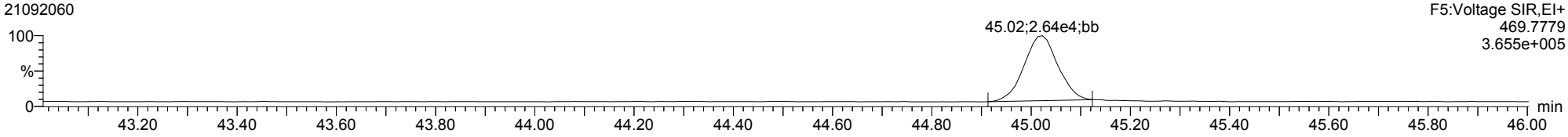
OCDD



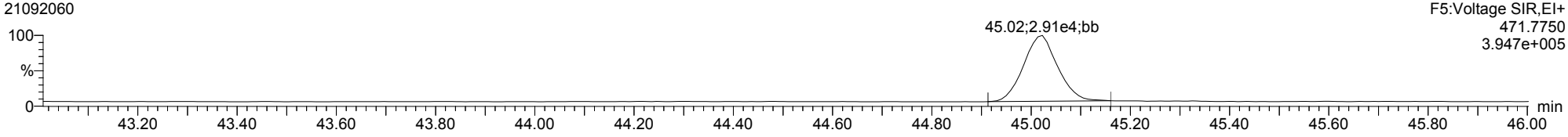
OCDD



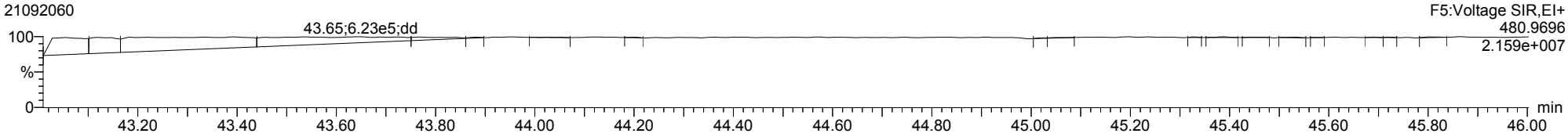
13C-OCDD



13C-OCDD

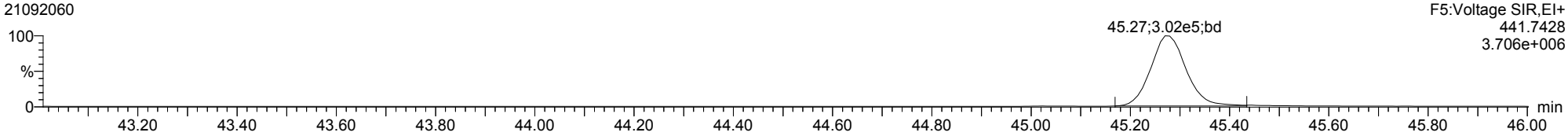


FUNCTION5 PFK

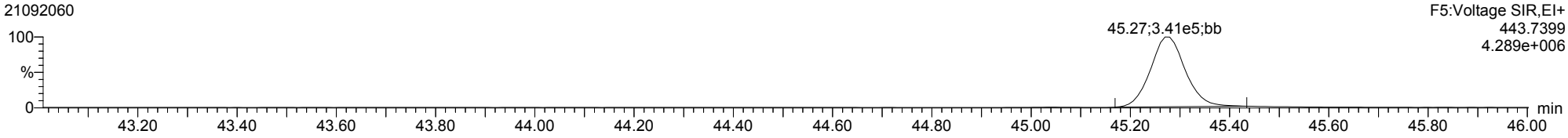


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

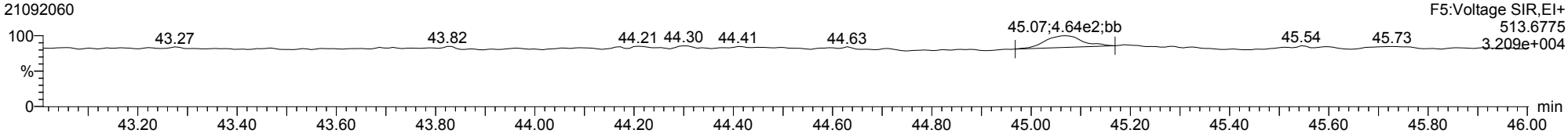
OCDF



OCDF

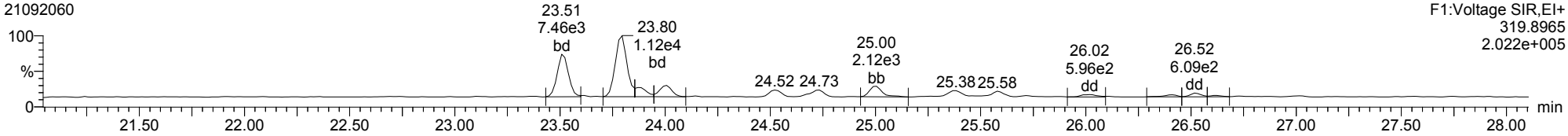


FUNCTION5 DCDPE

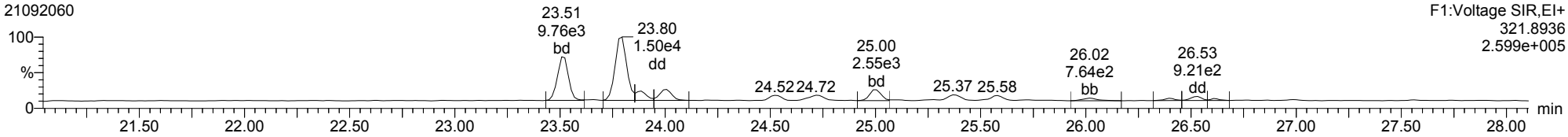


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

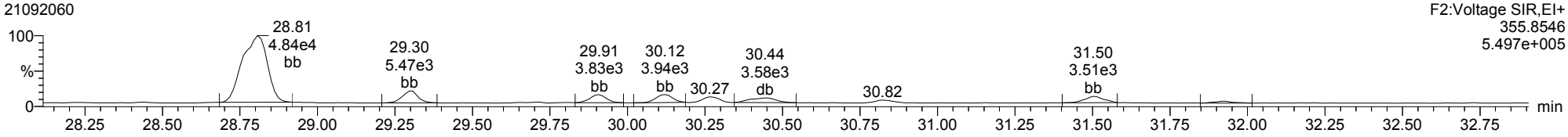
Total-tetradioxins



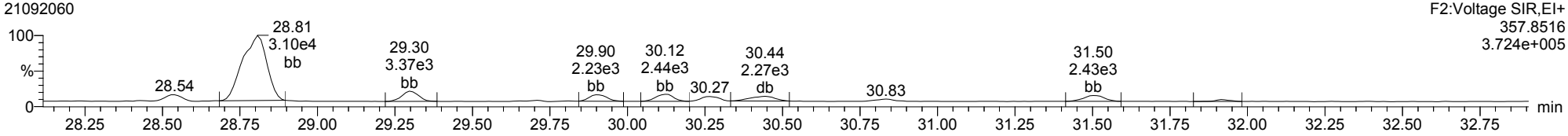
Total-tetradioxins



Total-pentadioxins

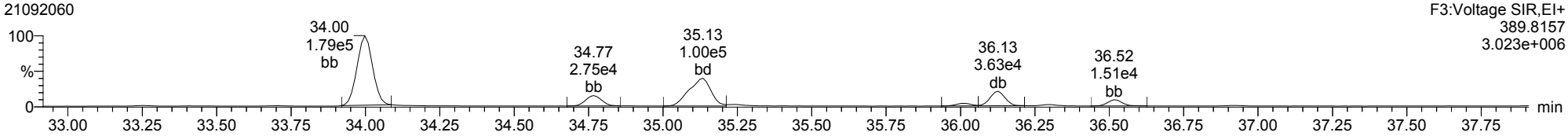


Total-pentadioxins

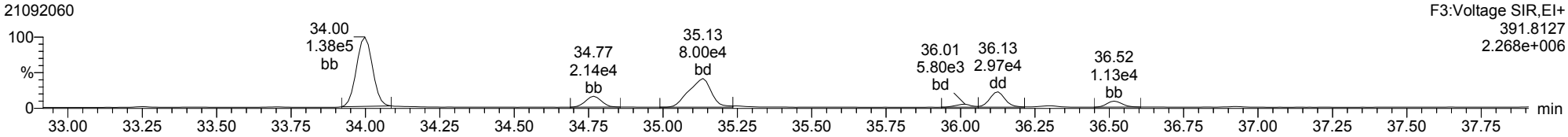


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

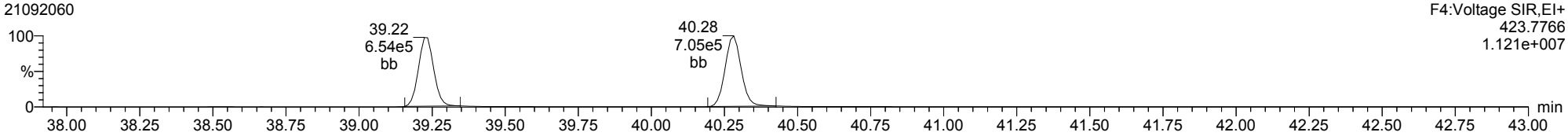
Total-hexadioxins



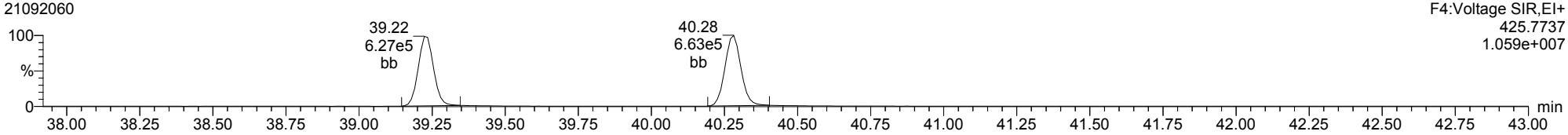
Total-hexadioxins



Total-heptadioxins

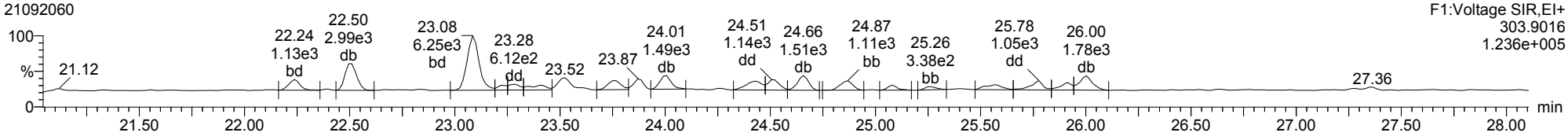


Total-heptadioxins

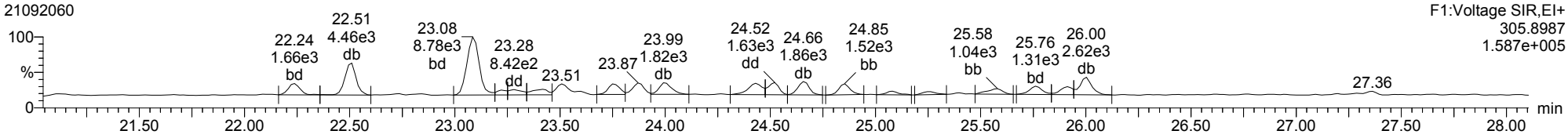


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

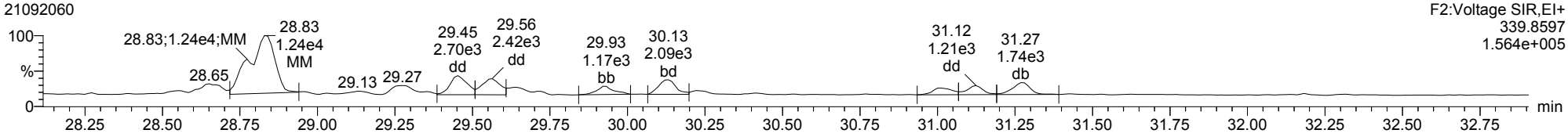
Total-tetrafurans



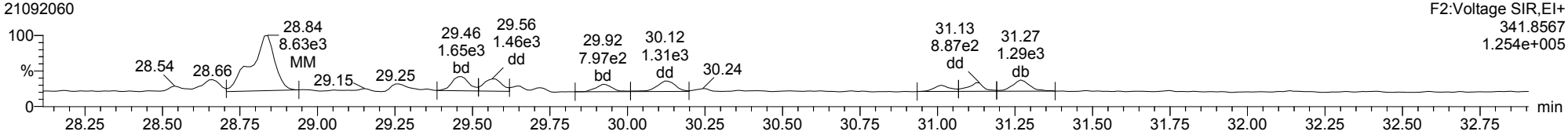
Total-tetrafurans



Total-pentafurans

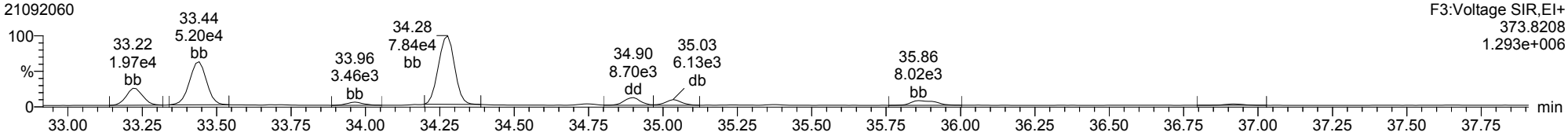


Total-pentafurans

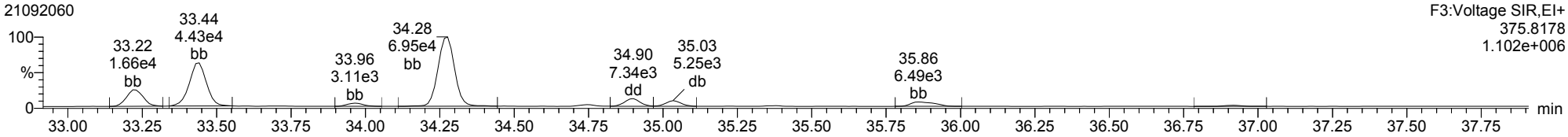


ID: 21G0213-06RE1, Name: 21092060, Date: 22-Sep-2021, Time: 17:13:07, Conditions: AUTOSPEC01, User: pk

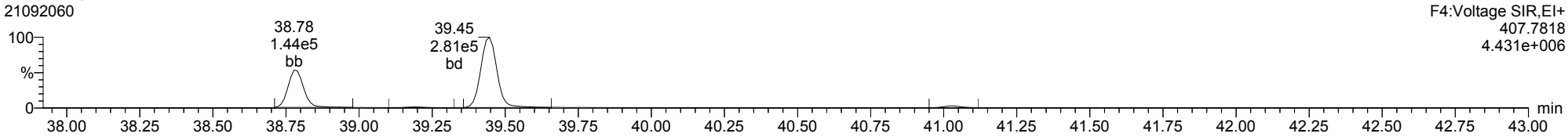
Total-hexafurans



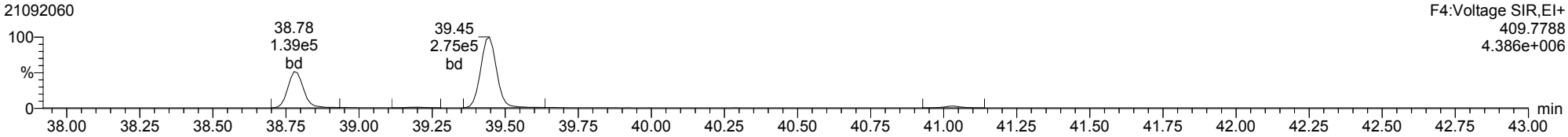
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663C

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-07 C	File ID:	21092048
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 07:16
% Solids:	75.30	Preparation:	EPA 1613	Initial/Final:	13.29 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1	0.809	0.655-0.886	0.121	0.999	2.28	ng/kg	
1746-01-6	2,3,7,8-TCDD	1	0.765	0.655-0.886	0.104	0.999	1.90	ng/kg	
57117-41-6	1,2,3,7,8-PeCDF	1	1.615	1.318-1.783	0.167	0.999	3.68	ng/kg	
57117-31-4	2,3,4,7,8-PeCDF	1	1.400	1.318-1.783	0.165	0.999	5.94	ng/kg	
40321-76-4	1,2,3,7,8-PeCDD	1	1.613	1.318-1.783	0.226	0.999	18.9	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.209	1.054-1.426	0.189	0.999	147	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.255	1.054-1.426	0.190	0.999	33.5	ng/kg	
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.189	1.054-1.426	0.191	0.999	48.6	ng/kg	
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.163	1.054-1.426	0.219	0.999	15.9	ng/kg	
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.225	1.054-1.426	0.323	0.999	27.1	ng/kg	
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.259	1.054-1.426	0.336	0.999	187	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.263	1.054-1.426	0.353	0.999	62.9	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.028	0.893-1.208	0.344	0.999	1290	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.020	0.893-1.208	0.522	0.999	95.7	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.048	0.893-1.208	1.14	2.50	5590	ng/kg	E, B
39001-02-0	OCDF	1	0.880	0.757-1.024	0.400	2.50	2850	ng/kg	
3268-87-9	OCDD	1	0.889	0.757-1.024	0.546	9.99	40600	ng/kg	E, B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	55.5	ng/kg	
41903-57-5	Total TCDD	1	0.000			0.999	131	ng/kg	
30402-15-4	Total PeCDF	1	0.000			0.999	252	ng/kg	
36088-22-9	Total PeCDD	1	0.000			0.999	229	ng/kg	
55684-94-1	Total HxCDF	1	0.000			0.999	1300	ng/kg	
34465-46-8	Total HxCDD	1	0.000			0.999	1530	ng/kg	
38998-75-3	Total HpCDF	1	0.000			0.999	4210	ng/kg	
37871-00-4	Total HpCDD	1	0.000			0.999	10100	ng/kg	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 157.9
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 157.9

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663C

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-07	File ID:	21092048
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 07:16
Solids Wt%:	75.30	Preparation:	EPA 1613	Initial/Final:	13.29 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.789	0.655-0.886	0.089	70.2	24 - 169 %	
13C12-2,3,7,8-TCDD		0.758	0.655-0.886	0.090	89.8	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.610	1.318-1.783	0.073	70.6	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.605	1.318-1.783	0.076	68.6	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.553	1.318-1.783	0.089	80.4	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.513	0.434-0.587	0.119	79.6	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.516	0.434-0.587	0.110	73.7	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.521	0.434-0.587	0.121	76.1	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.512	0.434-0.587	0.146	81.1	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.285	1.054-1.426	0.154	88.8	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.243	1.054-1.426	0.142	80.7	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.469	0.374-0.506	0.113	58.8	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.460	0.374-0.506	0.139	58.0	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.039	0.893-1.208	0.126	73.3	23 - 140 %	
13C12-OCDD		0.905	0.757-1.024	0.149	71.5	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.045	89.1	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	4.978e3	6.156e3	1.108	0.809	0.770	2133	953	6.27e4	8.04e4	29.4	84.4	NO	dd	dd	1.143
12378-PeCDF	29.942	1.001	9.282e3	5.748e3	1.015	1.615	1.550	1386	2247	1.50e5	9.53e4	108.1	42.4	NO	bb	bb	1.839
23478-PeCDF	31.279	1.000	1.454e4	1.039e4	1.126	1.400	1.550	1386	2247	2.05e5	1.60e5	148.0	71.2	NO	dd	dd	2.973
123478-HxCDF	34.912	1.001	3.207e5	2.653e5	1.017	1.209	1.240	2167	1978	5.16e6	4.33e6	2378.9	2187.8	NO	dd	bd	73.553
234678-HxCDF	35.870	0.999	1.018e5	8.561e4	1.052	1.189	1.240	2167	1978	1.19e6	1.02e6	551.1	516.2	NO	bb	bb	24.299
123678-HxCDF	35.045	1.000	7.580e4	6.039e4	1.037	1.255	1.240	2167	1978	1.21e6	9.96e5	556.2	503.8	NO	dd	db	16.753
123789-HxCDF	36.917	1.000	2.849e4	2.449e4	1.030	1.163	1.240	2167	1978	4.39e5	3.74e5	202.5	189.3	NO	bb	bb	7.938
1234678-HpCDF	38.789	1.000	1.871e6	1.819e6	1.327	1.028	1.050	2851	2821	3.23e7	3.19e7	11336.1	11294.9	NO	bb	bd	643.753
1234789-HpCDF	41.040	1.000	1.081e5	1.060e5	1.283	1.020	1.050	2851	2821	1.61e6	1.66e6	565.7	586.7	NO	bb	bb	47.870
OCDF	45.298	1.005	2.756e6	3.130e6	1.447	0.880	0.890	1752	1425	3.41e7	3.90e7	19442.2	27399.1	NO	bb	bb	1426.172
2378-TCDD	26.411	1.001	3.347e3	4.374e3	0.920	0.765	0.770	1341	820	5.23e4	6.91e4	39.0	84.3	NO	bd	bd	0.952
12378-PeCDD	31.525	1.000	3.008e4	1.864e4	0.995	1.613	1.550	1828	1143	3.99e5	2.47e5	218.3	216.4	NO	bb	bb	9.463
123478-HxCDD	36.026	1.001	5.171e4	4.222e4	1.027	1.225	1.240	3291	3148	8.89e5	7.12e5	270.1	226.0	NO	bd	bd	13.541
123678-HxCDD	36.137	1.000	3.501e5	2.781e5	1.009	1.259	1.240	3291	3148	6.12e6	4.80e6	1860.0	1525.9	NO	db	db	93.472
123789-HxCDD	36.527	1.011	1.120e5	8.864e4	0.950	1.263	1.240	3291	3148	1.88e6	1.51e6	570.2	480.7	NO	bb	bb	31.475
1234678-HpCDD	40.293	1.001	5.623e6	5.366e6	1.068	1.048	1.050	5315	6733	9.19e7	8.74e7	17283.2	12987.9	NO	bb	bb	2799.057
OCDD	45.069	1.000	3.217e7	3.621e7	1.181	0.889	0.890	1084	2451	3.90e8	4.35e8	359976.1	177437.1	NO	bb	bb	20300.902
13C-2378-TCDF	25.761	1.007	3.881e5	4.917e5	1.427	0.789	0.770	1567	1494	6.11e6	7.79e6	3899.1	5216.1	NO	bb	bb	70.166
13C-12378-PeCDF	29.920	1.170	4.968e5	3.085e5	1.297	1.610	1.550	1226	1059	7.92e6	4.97e6	6457.8	4691.4	NO	bb	bb	70.628
13C-23478-PeCDF	31.268	1.222	4.590e5	2.860e5	1.236	1.605	1.550	1226	1059	7.24e6	4.50e6	5904.4	4251.4	NO	bb	bb	68.553
13C-123478-HxCDF	34.889	0.955	2.655e5	5.179e5	1.242	0.513	0.510	1466	1836	4.38e6	8.54e6	2984.4	4652.6	NO	bd	bd	79.576
13C-123678-HxCDF	35.034	0.959	2.670e5	5.171e5	1.343	0.516	0.510	1466	1836	4.28e6	8.36e6	2922.2	4554.9	NO	db	db	73.658
13C-234678-HxCDF	35.903	0.983	2.510e5	4.816e5	1.215	0.521	0.510	1466	1836	4.23e6	8.09e6	2882.3	4408.8	NO	bb	bb	76.112
13C-123789-HxCDF	36.928	1.011	2.194e5	4.284e5	1.008	0.512	0.510	1466	1836	3.73e6	7.24e6	2542.0	3945.0	NO	bb	bb	81.138
13C-1234678-HpCDF	38.778	1.062	1.378e5	2.940e5	0.926	0.469	0.440	1065	1288	2.38e6	5.06e6	2231.6	3926.3	NO	bb	bd	58.816
13C-1234789-HpCDF	41.028	1.124	1.097e5	2.388e5	0.758	0.460	0.440	1065	1288	1.60e6	3.49e6	1500.4	2713.0	NO	bb	bb	58.027
13C-1234-TCDD	25.579	0.000	3.794e5	4.996e5	1.000	0.759	0.770	1449	991	6.27e6	8.24e6	4324.9	8313.3	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.031	3.800e5	5.014e5	1.116	0.758	0.770	1449	991	5.85e6	7.75e6	4034.4	7821.4	NO	bb	bb	89.813
13C-12378-PeCDD	31.514	1.232	3.146e5	2.026e5	0.732	1.553	1.550	832	745	4.83e6	3.09e6	5797.6	4144.4	NO	bb	bb	80.392
13C-123478-HxCDD	36.004	0.986	3.798e5	2.954e5	0.960	1.285	1.240	1878	1439	6.55e6	5.11e6	3488.1	3552.9	NO	bd	bd	88.780
13C-123678-HxCDD	36.126	0.989	3.690e5	2.970e5	1.041	1.243	1.240	1878	1439	6.31e6	4.90e6	3358.6	3407.3	NO	db	db	80.717
13C-1234678-HpCDD	40.271	1.103	1.873e5	1.802e5	0.632	1.039	1.050	942	839	3.01e6	2.93e6	3199.7	3494.9	NO	bb	bb	73.344
13C-OCDD	45.051	1.234	2.710e5	2.995e5	0.504	0.905	0.890	908	771	3.12e6	3.50e6	3438.7	4542.0	NO	bb	bb	142.937
13C-123789-HxCDD	36.516	0.000	4.461e5	3.463e5	1.000	1.288	1.240	1878	1439	7.56e6	5.82e6	4026.6	4042.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	3.395e5		1.084			1193		5.17e6		4335.6			bb		35.647

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.253	0.864	7.040e3	9.250e3	1.425	0.761	0.770	2133	953	1.09e5	1.52e5	50.9	159.4	NO	bb	bd	1.299
1289-TCDF	27.212	1.056	1.229e3	1.561e3	1.043	0.787	0.770	2133	953	1.71e4	2.03e4	8.0	21.3	NO	bd	bd	0.304
13468-PECDF					1.376		1.550	815	925								
12389-PECDF					1.000		1.550	1386	2247								
123468-HXCDF	33.241	0.953	2.234e5	1.917e5	1.087	1.165	1.240	2167	1978	3.67e6	3.15e6	1694.9	1591.8	NO	bb	bb	48.773
1368-TCDD	23.523	0.892	5.180e4	6.876e4	0.923	0.753	0.770	1341	820	7.79e5	1.05e6	581.2	1287.2	NO	bd	bd	14.815
1289-TCDD	27.015	1.024	1.719e3	2.182e3	0.794	0.788	0.770	1341	820	2.52e4	3.34e4	18.8	40.7	NO	bb	bb	0.557
12479-PECDD	28.829	0.915	3.388e5	2.149e5	1.843	1.577	1.550	1828	1143	3.54e6	2.26e6	1935.2	1976.8	NO	bb	bb	58.082
12389-PECDD	31.937	1.013	8.921e3	5.781e3	1.154	1.543	1.550	1828	1143	1.43e5	8.91e4	78.1	77.9	NO	bb	bb	2.464
124679-HXCDD	34.009	0.945	1.376e6	1.076e6	1.125	1.278	1.240	3291	3148	2.31e7	1.79e7	7031.5	5674.8	NO	bb	bb	322.865
1234679-HPCDD	39.246	0.975	5.113e6	4.842e6	1.211	1.056	1.050	5315	6733	8.42e7	7.98e7	15836.3	11854.1	NO	bb	bb	2236.664
Total-tetrafurans			1.243e5		1.192			2133		1.84e6							27.758
Total-penta1			3.496e5					815		5.35e6							78.128
Total-pentafurans			2.350e5		1.047			1386		3.12e6							47.808
Total-hexafurans			2.761e6		1.045			2167		4.46e7							652.152
Total-heptafurans			5.626e6		1.305			2851		9.50e7							2108.141
Total-Furans			1.185e7		1.158			2133		1.84e8							4340.159
Total-tetradioxins			2.230e5		0.879			1341		3.08e6							65.570
Total-pentadioxins			5.663e5		1.331			1828		6.81e6							114.444
Total-hexadioxins			3.055e6		1.028			3291		4.73e7							764.097
Total-heptadioxins			1.074e7		1.140			5315		1.76e8							5035.720
Total-Dioxins			4.675e7		1.092			1341		6.24e8							26280.772
Total-TEQ			5.861e7					1341		8.08e8							30620.931
FUNCTION1 PFK			2.273e7					279625		3.75e7							
FUNCTION2 PFK			0.000e0					106195		0.00e0							
FUNCTION3 PFK			5.319e4					254490		1.38e6							0.000
FUNCTION4 PFK			7.256e4					155289		1.41e6							
FUNCTION5 PFK			1.811e5					117446		1.01e6							
FUNCTION1 HXCD...			8.356e3					756		1.31e5							0.000
FUNCTION1 HPCD...			1.963e3					590		3.06e4							0.000
FUNCTION2 HPCD...			3.304e3					719		5.41e4							0.000
FUNCTION3 OCDPE			6.105e3					969		1.12e5							0.000
FUNCTION4 NCDPE			9.864e3					688		1.59e5							0.000
FUNCTION5 DCDPE			4.660e3					564		3.70e4							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.54	8.187e3	1.121e4	1.192	0.73	0.77	60.2	YES	NO	dd	dd	1.849
2	Total-tetrafurans	24.46	4.805e3	7.046e3	1.192	0.68	0.77	28.8	YES	NO	dd	dd	1.130
3	Total-tetrafurans	24.28	5.539e2	8.112e2	1.192	0.68	0.77	3.6	YES	NO	dd	dd	0.130
4	Total-tetrafurans	24.04	4.378e3	5.907e3	1.192	0.74	0.77	29.5	YES	NO	dd	dd	0.981
5	Total-tetrafurans	23.78	1.016e4	1.419e4	1.192	0.72	0.77	66.4	YES	NO	bd	dd	2.323
6	Total-tetrafurans	23.60	2.486e3	3.606e3	1.192	0.69	0.77	20.4	YES	NO	db	dd	0.581
7	Total-tetrafurans	23.51	6.874e3	9.609e3	1.192	0.72	0.77	48.2	YES	NO	dd	dd	1.572
8	Total-tetrafurans	23.30	7.504e3	1.006e4	1.192	0.75	0.77	32.7	YES	NO	dd	dd	1.675
9	Total-tetrafurans	23.10	2.930e4	3.875e4	1.192	0.76	0.77	215.1	YES	NO	bd	dd	6.489
10	Total-tetrafurans	22.52	1.744e4	2.362e4	1.192	0.74	0.77	131.1	YES	NO	bb	dd	3.915
11	1368-TCDF	22.25	7.040e3	9.250e3	1.425	0.76	0.77	50.9	YES	NO	bb	bd	1.299
12	1289-TCDF	27.21	1.229e3	1.561e3	1.043	0.79	0.77	8.0	YES	NO	bd	bd	0.304
13	Total-tetrafurans	25.93	1.645e3	2.329e3	1.192	0.71	0.77	12.7	YES	NO	dd	dd	0.379
14	2378-TCDF	25.78	4.978e3	6.156e3	1.108	0.81	0.77	29.4	YES	NO	dd	dd	1.143
15	Total-tetrafurans	25.53	1.098e3	1.547e3	1.192	0.71	0.77	9.1	YES	NO	dd	dd	0.252
16	Total-tetrafurans	25.25	1.863e3	2.418e3	1.192	0.77	0.77	10.0	YES	NO	dd	dd	0.408
17	Total-tetrafurans	24.87	6.016e3	7.895e3	1.192	0.76	0.77	43.3	YES	NO	bb	dd	1.327
18	Total-tetrafurans	24.67	8.738e3	1.224e4	1.192	0.71	0.77	62.9	YES	NO	db	dd	2.000

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.20	3.496e5	2.273e5		1.54	1.55	6560.4	YES	NO	bb	bb	78.128

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	29.47	2.043e4	1.293e4	1.047	1.58	1.55	234.6	YES	NO	dd	bd	4.112
2	Total-pentafurans	28.85	1.392e5	9.119e4	1.047	1.53	1.55	1215.3	YES	NO	dd	dd	28.393
3	Total-pentafurans	28.56	3.566e3	2.093e3	1.047	1.70	1.55	42.0	YES	NO	dd	bd	0.697
4	23478-PeCDF	31.28	1.454e4	1.039e4	1.126	1.40	1.55	148.0	YES	NO	dd	dd	2.973
5	Total-pentafurans	31.13	1.379e4	9.309e3	1.047	1.48	1.55	151.8	YES	NO	dd	dd	2.847
6	Total-pentafurans	31.02	2.875e3	1.791e3	1.047	1.61	1.55	33.7	YES	NO	bd	bd	0.575
7	Total-pentafurans	30.24	1.521e3	9.895e2	1.047	1.54	1.55	17.6	YES	NO	db	db	0.309
8	Total-pentafurans	30.14	1.150e4	7.584e3	1.047	1.52	1.55	130.9	YES	NO	bd	bd	2.353
9	12378-PeCDF	29.94	9.282e3	5.748e3	1.015	1.62	1.55	108.1	YES	NO	bb	bb	1.839
10	Total-pentafurans	29.58	1.834e4	1.176e4	1.047	1.56	1.55	169.5	YES	NO	dd	dd	3.709

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.29	1.261e6	1.065e6	1.045	1.18	1.24	9675.6	YES	NO	bb	bb	302.218
2	Total-hexafurans	33.98	3.128e4	2.492e4	1.045	1.25	1.24	223.8	YES	NO	bb	bb	7.300
3	Total-hexafurans	33.72	3.245e3	2.815e3	1.045	1.15	1.24	23.5	YES	NO	bb	bb	0.787
4	Total-hexafurans	33.45	6.769e5	5.676e5	1.045	1.19	1.24	4964.6	YES	NO	bb	bb	161.661
5	123468-HXCDF	33.24	2.234e5	1.917e5	1.087	1.17	1.24	1694.9	YES	NO	bb	bb	48.773
6	123789-HxCDF	36.92	2.849e4	2.449e4	1.030	1.16	1.24	202.5	YES	NO	bb	bb	7.938
7	234678-HxCDF	35.87	1.018e5	8.561e4	1.052	1.19	1.24	551.1	YES	NO	bb	bb	24.299
8	Total-hexafurans	35.56	2.459e3	1.851e3	1.045	1.33	1.24	15.6	YES	NO	db	bb	0.560
9	Total-hexafurans	35.39	6.883e3	5.606e3	1.045	1.23	1.24	49.9	YES	NO	dd	bb	1.622
10	123678-HxCDF	35.05	7.580e4	6.039e4	1.037	1.26	1.24	556.2	YES	NO	dd	db	16.753
11	123478-HxCDF	34.91	3.207e5	2.653e5	1.017	1.21	1.24	2378.9	YES	NO	dd	bd	73.553
12	Total-hexafurans	34.76	2.914e4	2.235e4	1.045	1.30	1.24	231.6	YES	NO	bd	bb	6.688

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.04	1.081e5	1.060e5	1.283	1.02	1.05	565.7	YES	NO	bb	bb	47.870
2	Total-heptafurans	40.30	2.873e3	3.098e3	1.305	0.93	1.05	15.3	YES	NO	bb	bd	1.173
3	Total-heptafurans	39.46	3.617e6	3.538e6	1.305	1.02	1.05	21265.0	YES	NO	bd	bb	1405.0...
4	Total-heptafurans	39.20	2.674e4	2.551e4	1.305	1.05	1.05	149.1	YES	NO	bb	db	10.260
5	1234678-HpCDF	38.79	1.871e6	1.819e6	1.327	1.03	1.05	11336.1	YES	NO	bb	bd	643.753

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.54	8.187e3	1.121e4	1.192	0.73	0.77	60.2	YES	NO	dd	dd	1.849
2	Total-tetrafurans	24.46	4.805e3	7.046e3	1.192	0.68	0.77	28.8	YES	NO	dd	dd	1.130
3	Total-tetrafurans	24.28	5.539e2	8.112e2	1.192	0.68	0.77	3.6	YES	NO	dd	dd	0.130
4	Total-tetrafurans	24.04	4.378e3	5.907e3	1.192	0.74	0.77	29.5	YES	NO	dd	dd	0.981
5	Total-tetrafurans	23.78	1.016e4	1.419e4	1.192	0.72	0.77	66.4	YES	NO	bd	dd	2.323
6	Total-tetrafurans	23.60	2.486e3	3.606e3	1.192	0.69	0.77	20.4	YES	NO	db	dd	0.581
7	Total-tetrafurans	23.51	6.874e3	9.609e3	1.192	0.72	0.77	48.2	YES	NO	dd	dd	1.572
8	Total-tetrafurans	23.30	7.504e3	1.006e4	1.192	0.75	0.77	32.7	YES	NO	dd	dd	1.675
9	Total-tetrafurans	23.10	2.930e4	3.875e4	1.192	0.76	0.77	215.1	YES	NO	bd	dd	6.489
10	Total-tetrafurans	22.52	1.744e4	2.362e4	1.192	0.74	0.77	131.1	YES	NO	bb	dd	3.915
11	1368-TCDF	22.25	7.040e3	9.250e3	1.425	0.76	0.77	50.9	YES	NO	bb	bd	1.299
12	1289-TCDF	27.21	1.229e3	1.561e3	1.043	0.79	0.77	8.0	YES	NO	bd	bd	0.304
13	Total-tetrafurans	25.93	1.645e3	2.329e3	1.192	0.71	0.77	12.7	YES	NO	dd	dd	0.379
14	2378-TCDF	25.78	4.978e3	6.156e3	1.108	0.81	0.77	29.4	YES	NO	dd	dd	1.143
15	Total-tetrafurans	25.53	1.098e3	1.547e3	1.192	0.71	0.77	9.1	YES	NO	dd	dd	0.252
16	Total-tetrafurans	25.25	1.863e3	2.418e3	1.192	0.77	0.77	10.0	YES	NO	dd	dd	0.408
17	Total-tetrafurans	24.87	6.016e3	7.895e3	1.192	0.76	0.77	43.3	YES	NO	bb	dd	1.327
18	Total-tetrafurans	24.67	8.738e3	1.224e4	1.192	0.71	0.77	62.9	YES	NO	db	dd	2.000
19	Total-pentafurans	29.47	2.043e4	1.293e4	1.047	1.58	1.55	234.6	YES	NO	dd	bd	4.112
20	Total-pentafurans	28.85	1.392e5	9.119e4	1.047	1.53	1.55	1215.3	YES	NO	dd	dd	28.393
21	Total-pentafurans	28.56	3.566e3	2.093e3	1.047	1.70	1.55	42.0	YES	NO	dd	bd	0.697
22	23478-PeCDF	31.28	1.454e4	1.039e4	1.126	1.40	1.55	148.0	YES	NO	dd	dd	2.973
23	Total-pentafurans	31.13	1.379e4	9.309e3	1.047	1.48	1.55	151.8	YES	NO	dd	dd	2.847
24	Total-pentafurans	31.02	2.875e3	1.791e3	1.047	1.61	1.55	33.7	YES	NO	bd	bd	0.575
25	Total-pentafurans	30.24	1.521e3	9.895e2	1.047	1.54	1.55	17.6	YES	NO	db	db	0.309
26	Total-pentafurans	30.14	1.150e4	7.584e3	1.047	1.52	1.55	130.9	YES	NO	bd	bd	2.353
27	12378-PeCDF	29.94	9.282e3	5.748e3	1.015	1.62	1.55	108.1	YES	NO	bb	bb	1.839
28	Total-pentafurans	29.58	1.834e4	1.176e4	1.047	1.56	1.55	169.5	YES	NO	dd	dd	3.709
29	Total-hexafurans	34.29	1.261e6	1.065e6	1.045	1.18	1.24	9675.6	YES	NO	bb	bb	302.218
30	Total-hexafurans	33.98	3.128e4	2.492e4	1.045	1.25	1.24	223.8	YES	NO	bb	bb	7.300
31	Total-hexafurans	33.72	3.245e3	2.815e3	1.045	1.15	1.24	23.5	YES	NO	bb	bb	0.787
32	Total-hexafurans	33.45	6.769e5	5.676e5	1.045	1.19	1.24	4964.6	YES	NO	bb	bb	161.661
33	123468-HXCDF	33.24	2.234e5	1.917e5	1.087	1.17	1.24	1694.9	YES	NO	bb	bb	48.773
34	123789-HxCDF	36.92	2.849e4	2.449e4	1.030	1.16	1.24	202.5	YES	NO	bb	bb	7.938
35	234678-HxCDF	35.87	1.018e5	8.561e4	1.052	1.19	1.24	551.1	YES	NO	bb	bb	24.299
36	Total-hexafurans	35.56	2.459e3	1.851e3	1.045	1.33	1.24	15.6	YES	NO	db	bb	0.560
37	Total-hexafurans	35.39	6.883e3	5.606e3	1.045	1.23	1.24	49.9	YES	NO	dd	bb	1.622

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	123678-HxCDF	35.05	7.580e4	6.039e4	1.037	1.26	1.24	556.2	YES	NO	dd	db	16.753
39	123478-HxCDF	34.91	3.207e5	2.653e5	1.017	1.21	1.24	2378.9	YES	NO	dd	bd	73.553
40	Total-hexafurans	34.76	2.914e4	2.235e4	1.045	1.30	1.24	231.6	YES	NO	bd	bb	6.688
41	1234789-HpCDF	41.04	1.081e5	1.060e5	1.283	1.02	1.05	565.7	YES	NO	bb	bb	47.870
42	Total-heptafurans	40.30	2.873e3	3.098e3	1.305	0.93	1.05	15.3	YES	NO	bb	bd	1.173
43	Total-heptafurans	39.46	3.617e6	3.538e6	1.305	1.02	1.05	21265.0	YES	NO	bd	bb	1405.0...
44	Total-heptafurans	39.20	2.674e4	2.551e4	1.305	1.05	1.05	149.1	YES	NO	bb	db	10.260
45	1234678-HpCDF	38.79	1.871e6	1.819e6	1.327	1.03	1.05	11336.1	YES	NO	bb	bd	643.753
46	OCDF	45.30	2.756e6	3.130e6	1.447	0.88	0.89	19442.2	YES	NO	bb	bb	1426.1...
47	Total-penta1	27.20	3.496e5	2.273e5		1.54	1.55	6560.4	YES	NO	bb	bb	78.128

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.04	1.418e4	1.814e4	0.879	0.78	0.77	185.7	YES	NO	db	db	4.171
2	Total-tetradioxins	23.84	7.876e4	1.035e5	0.879	0.76	0.77	673.8	YES	NO	bd	dd	23.518
3	1368-TCDD	23.52	5.180e4	6.876e4	0.923	0.75	0.77	581.2	YES	NO	bd	bd	14.815
4	1289-TCDD	27.02	1.719e3	2.182e3	0.794	0.79	0.77	18.8	YES	NO	bb	bb	0.557
5	Total-tetradioxins	26.62	1.051e3	1.288e3	0.879	0.82	0.77	12.0	YES	NO	db	db	0.302
6	Total-tetradioxins	26.55	6.322e3	7.974e3	0.879	0.79	0.77	69.9	YES	NO	dd	dd	1.845
7	2378-TCDD	26.41	3.347e3	4.374e3	0.920	0.77	0.77	39.0	YES	NO	bd	bd	0.952
8	Total-tetradioxins	26.03	7.663e3	9.812e3	0.879	0.78	0.77	55.9	YES	NO	bb	bd	2.255
9	Total-tetradioxins	25.59	6.278e3	7.758e3	0.879	0.81	0.77	71.3	YES	NO	dd	bd	1.811
10	Total-tetradioxins	25.38	1.073e4	1.290e4	0.879	0.83	0.77	127.0	YES	NO	dd	db	3.050
11	Total-tetradioxins	25.28	2.154e3	3.024e3	0.879	0.71	0.77	25.4	YES	NO	bd	bd	0.668
12	Total-tetradioxins	25.02	1.758e4	2.284e4	0.879	0.77	0.77	209.9	YES	NO	bd	bd	5.216
13	Total-tetradioxins	24.73	1.382e4	1.846e4	0.879	0.75	0.77	136.4	YES	NO	bb	db	4.166
14	Total-tetradioxins	24.55	7.582e3	9.786e3	0.879	0.77	0.77	92.0	YES	NO	bb	bd	2.241

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	30.28	3.059e4	1.848e4	1.331	1.66	1.55	259.5	YES	NO	dd	dd	7.129
2	Total-pentadioxins	30.13	3.329e4	2.082e4	1.331	1.60	1.55	289.7	YES	NO	bd	bd	7.863
3	Total-pentadioxins	29.92	3.477e4	2.134e4	1.331	1.63	1.55	306.1	YES	NO	db	db	8.152
4	Total-pentadioxins	29.66	3.751e3	2.325e3	1.331	1.61	1.55	34.7	YES	NO	bb	bb	0.883
5	Total-pentadioxins	29.32	3.225e4	2.114e4	1.331	1.53	1.55	280.6	YES	NO	bb	bb	7.757
6	12479-PECDD	28.83	3.388e5	2.149e5	1.843	1.58	1.55	1935.2	YES	NO	bb	bb	58.082
7	12389-PECDD	31.94	8.921e3	5.781e3	1.154	1.54	1.55	78.1	YES	NO	bb	bb	2.464
8	12378-PeCDD	31.52	3.008e4	1.864e4	0.995	1.61	1.55	218.3	YES	NO	bb	bb	9.463
9	Total-pentadioxins	30.84	1.487e4	8.865e3	1.331	1.68	1.55	109.2	YES	NO	bb	bb	3.448
10	Total-pentadioxins	30.45	3.894e4	2.441e4	1.331	1.60	1.55	215.5	YES	NO	db	db	9.204

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDD	36.03	5.171e4	4.222e4	1.027	1.22	1.24	270.1	YES	NO	bd	bd	13.541
2	Total-hexadioxins	35.26	3.829e4	2.872e4	1.028	1.33	1.24	181.6	YES	NO	dd	dd	9.721
3	Total-hexadioxins	35.15	8.391e5	6.641e5	1.028	1.26	1.24	3003.0	YES	NO	bd	bd	218.058
4	Total-hexadioxins	34.78	2.490e5	1.987e5	1.028	1.25	1.24	1250.5	YES	NO	bb	bb	64.948
5	124679-HXCDD	34.01	1.376e6	1.076e6	1.125	1.28	1.24	7031.5	YES	NO	bb	bb	322.865
6	123789-HxCDD	36.53	1.120e5	8.864e4	0.950	1.26	1.24	570.2	YES	NO	bb	bb	31.475
7	Total-hexadioxins	36.30	3.863e4	3.043e4	1.028	1.27	1.24	200.9	YES	NO	bb	bb	10.018
8	123678-HxCDD	36.14	3.501e5	2.781e5	1.009	1.26	1.24	1860.0	YES	NO	db	db	93.472

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.29	5.623e6	5.366e6	1.068	1.05	1.05	17283.2	YES	NO	bb	bb	2799.0...
2	1234679-HPCDD	39.25	5.113e6	4.842e6	1.211	1.06	1.05	15836.3	YES	NO	bb	bb	2236.6...

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.04	1.418e4	1.814e4	0.879	0.78	0.77	185.7	YES	NO	db	db	4.171
2	Total-tetradioxins	23.84	7.876e4	1.035e5	0.879	0.76	0.77	673.8	YES	NO	bd	dd	23.518
3	1368-TCDD	23.52	5.180e4	6.876e4	0.923	0.75	0.77	581.2	YES	NO	bd	bd	14.815
4	Total-Dioxins	23.08	1.509e2	2.119e2	1.092	0.71	0.77	1.7	NO	NO	db	dd	0.038
5	1289-TCDD	27.02	1.719e3	2.182e3	0.794	0.79	0.77	18.8	YES	NO	bb	bb	0.557
6	Total-tetradioxins	26.62	1.051e3	1.288e3	0.879	0.82	0.77	12.0	YES	NO	db	db	0.302
7	Total-tetradioxins	26.55	6.322e3	7.974e3	0.879	0.79	0.77	69.9	YES	NO	dd	dd	1.845
8	2378-TCDD	26.41	3.347e3	4.374e3	0.920	0.77	0.77	39.0	YES	NO	bd	bd	0.952
9	Total-tetradioxins	26.03	7.663e3	9.812e3	0.879	0.78	0.77	55.9	YES	NO	bb	bd	2.255
10	Total-tetradioxins	25.59	6.278e3	7.758e3	0.879	0.81	0.77	71.3	YES	NO	dd	bd	1.811
11	Total-tetradioxins	25.38	1.073e4	1.290e4	0.879	0.83	0.77	127.0	YES	NO	dd	db	3.050
12	Total-tetradioxins	25.28	2.154e3	3.024e3	0.879	0.71	0.77	25.4	YES	NO	bd	bd	0.668
13	Total-tetradioxins	25.02	1.758e4	2.284e4	0.879	0.77	0.77	209.9	YES	NO	bd	bd	5.216
14	Total-tetradioxins	24.73	1.382e4	1.846e4	0.879	0.75	0.77	136.4	YES	NO	bb	db	4.166
15	Total-tetradioxins	24.55	7.582e3	9.786e3	0.879	0.77	0.77	92.0	YES	NO	bb	bd	2.241
16	Total-pentadioxins	30.28	3.059e4	1.848e4	1.331	1.66	1.55	259.5	YES	NO	dd	dd	7.129
17	Total-pentadioxins	30.13	3.329e4	2.082e4	1.331	1.60	1.55	289.7	YES	NO	bd	bd	7.863
18	Total-pentadioxins	29.92	3.477e4	2.134e4	1.331	1.63	1.55	306.1	YES	NO	db	db	8.152
19	Total-pentadioxins	29.66	3.751e3	2.325e3	1.331	1.61	1.55	34.7	YES	NO	bb	bb	0.883
20	Total-pentadioxins	29.32	3.225e4	2.114e4	1.331	1.53	1.55	280.6	YES	NO	bb	bb	7.757
21	12479-PECDD	28.83	3.388e5	2.149e5	1.843	1.58	1.55	1935.2	YES	NO	bb	bb	58.082
22	12389-PECDD	31.94	8.921e3	5.781e3	1.154	1.54	1.55	78.1	YES	NO	bb	bb	2.464
23	12378-PeCDD	31.52	3.008e4	1.864e4	0.995	1.61	1.55	218.3	YES	NO	bb	bb	9.463
24	Total-pentadioxins	30.84	1.487e4	8.865e3	1.331	1.68	1.55	109.2	YES	NO	bb	bb	3.448
25	Total-pentadioxins	30.45	3.894e4	2.441e4	1.331	1.60	1.55	215.5	YES	NO	db	db	9.204
26	123478-HxCDD	36.03	5.171e4	4.222e4	1.027	1.22	1.24	270.1	YES	NO	bd	bd	13.541
27	Total-hexadioxins	35.26	3.829e4	2.872e4	1.028	1.33	1.24	181.6	YES	NO	dd	dd	9.721
28	Total-hexadioxins	35.15	8.391e5	6.641e5	1.028	1.26	1.24	3003.0	YES	NO	bd	bd	218.058
29	Total-hexadioxins	34.78	2.490e5	1.987e5	1.028	1.25	1.24	1250.5	YES	NO	bb	bb	64.948
30	124679-HXCDD	34.01	1.376e6	1.076e6	1.125	1.28	1.24	7031.5	YES	NO	bb	bb	322.865
31	123789-HxCDD	36.53	1.120e5	8.864e4	0.950	1.26	1.24	570.2	YES	NO	bb	bb	31.475
32	Total-hexadioxins	36.30	3.863e4	3.043e4	1.028	1.27	1.24	200.9	YES	NO	bb	bb	10.018
33	123678-HxCDD	36.14	3.501e5	2.781e5	1.009	1.26	1.24	1860.0	YES	NO	db	db	93.472
34	1234678-HpCDD	40.29	5.623e6	5.366e6	1.068	1.05	1.05	17283.2	YES	NO	bb	bb	2799.0...
35	1234679-HPCDD	39.25	5.113e6	4.842e6	1.211	1.06	1.05	15836.3	YES	NO	bb	bb	2236.6...
36	OCDD	45.07	3.217e7	3.621e7	1.181	0.89	0.89	35997...	YES	NO	bb	bb	20300....

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.54	8.187e3	1.121e4	1.192	0.73	0.77	60.2	YES	NO	dd	dd	1.849
2	Total-tetrafurans	24.46	4.805e3	7.046e3	1.192	0.68	0.77	28.8	YES	NO	dd	dd	1.130
3	Total-tetrafurans	24.28	5.539e2	8.112e2	1.192	0.68	0.77	3.6	YES	NO	dd	dd	0.130
4	Total-tetrafurans	24.04	4.378e3	5.907e3	1.192	0.74	0.77	29.5	YES	NO	dd	dd	0.981
5	Total-tetrafurans	23.78	1.016e4	1.419e4	1.192	0.72	0.77	66.4	YES	NO	bd	dd	2.323
6	Total-tetrafurans	23.60	2.486e3	3.606e3	1.192	0.69	0.77	20.4	YES	NO	db	dd	0.581
7	Total-tetrafurans	23.51	6.874e3	9.609e3	1.192	0.72	0.77	48.2	YES	NO	dd	dd	1.572
8	Total-tetrafurans	23.30	7.504e3	1.006e4	1.192	0.75	0.77	32.7	YES	NO	dd	dd	1.675
9	Total-tetrafurans	23.10	2.930e4	3.875e4	1.192	0.76	0.77	215.1	YES	NO	bd	dd	6.489
10	Total-tetrafurans	22.52	1.744e4	2.362e4	1.192	0.74	0.77	131.1	YES	NO	bb	dd	3.915
11	1368-TCDF	22.25	7.040e3	9.250e3	1.425	0.76	0.77	50.9	YES	NO	bb	bd	1.299
12	1289-TCDF	27.21	1.229e3	1.561e3	1.043	0.79	0.77	8.0	YES	NO	bd	bd	0.304
13	Total-tetrafurans	25.93	1.645e3	2.329e3	1.192	0.71	0.77	12.7	YES	NO	dd	dd	0.379
14	2378-TCDF	25.78	4.978e3	6.156e3	1.108	0.81	0.77	29.4	YES	NO	dd	dd	1.143
15	Total-tetrafurans	25.53	1.098e3	1.547e3	1.192	0.71	0.77	9.1	YES	NO	dd	dd	0.252
16	Total-tetrafurans	25.25	1.863e3	2.418e3	1.192	0.77	0.77	10.0	YES	NO	dd	dd	0.408
17	Total-tetrafurans	24.87	6.016e3	7.895e3	1.192	0.76	0.77	43.3	YES	NO	bb	dd	1.327
18	Total-tetrafurans	24.67	8.738e3	1.224e4	1.192	0.71	0.77	62.9	YES	NO	db	dd	2.000
19	Total-pentafurans	29.47	2.043e4	1.293e4	1.047	1.58	1.55	234.6	YES	NO	dd	bd	4.112
20	Total-pentafurans	28.85	1.392e5	9.119e4	1.047	1.53	1.55	1215.3	YES	NO	dd	dd	28.393
21	Total-pentafurans	28.56	3.566e3	2.093e3	1.047	1.70	1.55	42.0	YES	NO	dd	bd	0.697
22	23478-PeCDF	31.28	1.454e4	1.039e4	1.126	1.40	1.55	148.0	YES	NO	dd	dd	2.973
23	Total-pentafurans	31.13	1.379e4	9.309e3	1.047	1.48	1.55	151.8	YES	NO	dd	dd	2.847
24	Total-pentafurans	31.02	2.875e3	1.791e3	1.047	1.61	1.55	33.7	YES	NO	bd	bd	0.575
25	Total-pentafurans	30.24	1.521e3	9.895e2	1.047	1.54	1.55	17.6	YES	NO	db	db	0.309
26	Total-pentafurans	30.14	1.150e4	7.584e3	1.047	1.52	1.55	130.9	YES	NO	bd	bd	2.353
27	12378-PeCDF	29.94	9.282e3	5.748e3	1.015	1.62	1.55	108.1	YES	NO	bb	bb	1.839
28	Total-pentafurans	29.58	1.834e4	1.176e4	1.047	1.56	1.55	169.5	YES	NO	dd	dd	3.709
29	Total-hexafurans	34.29	1.261e6	1.065e6	1.045	1.18	1.24	9675.6	YES	NO	bb	bb	302.218
30	Total-hexafurans	33.98	3.128e4	2.492e4	1.045	1.25	1.24	223.8	YES	NO	bb	bb	7.300
31	Total-hexafurans	33.72	3.245e3	2.815e3	1.045	1.15	1.24	23.5	YES	NO	bb	bb	0.787
32	Total-hexafurans	33.45	6.769e5	5.676e5	1.045	1.19	1.24	4964.6	YES	NO	bb	bb	161.661
33	123468-HXCDF	33.24	2.234e5	1.917e5	1.087	1.17	1.24	1694.9	YES	NO	bb	bb	48.773
34	123789-HxCDF	36.92	2.849e4	2.449e4	1.030	1.16	1.24	202.5	YES	NO	bb	bb	7.938
35	234678-HxCDF	35.87	1.018e5	8.561e4	1.052	1.19	1.24	551.1	YES	NO	bb	bb	24.299
36	Total-hexafurans	35.56	2.459e3	1.851e3	1.045	1.33	1.24	15.6	YES	NO	db	bb	0.560
37	Total-hexafurans	35.39	6.883e3	5.606e3	1.045	1.23	1.24	49.9	YES	NO	dd	bb	1.622

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	123678-HxCDF	35.05	7.580e4	6.039e4	1.037	1.26	1.24	556.2	YES	NO	dd	db	16.753
39	123478-HxCDF	34.91	3.207e5	2.653e5	1.017	1.21	1.24	2378.9	YES	NO	dd	bd	73.553
40	Total-hexafurans	34.76	2.914e4	2.235e4	1.045	1.30	1.24	231.6	YES	NO	bd	bb	6.688
41	1234789-HpCDF	41.04	1.081e5	1.060e5	1.283	1.02	1.05	565.7	YES	NO	bb	bb	47.870
42	Total-heptafurans	40.30	2.873e3	3.098e3	1.305	0.93	1.05	15.3	YES	NO	bb	bd	1.173
43	Total-heptafurans	39.46	3.617e6	3.538e6	1.305	1.02	1.05	21265.0	YES	NO	bd	bb	1405.0...
44	Total-heptafurans	39.20	2.674e4	2.551e4	1.305	1.05	1.05	149.1	YES	NO	bb	db	10.260
45	1234678-HpCDF	38.79	1.871e6	1.819e6	1.327	1.03	1.05	11336.1	YES	NO	bb	bd	643.753
46	OCDF	45.30	2.756e6	3.130e6	1.447	0.88	0.89	19442.2	YES	NO	bb	bb	1426.1...
47	Total-penta1	27.20	3.496e5	2.273e5		1.54	1.55	6560.4	YES	NO	bb	bb	78.128
48	Total-tetradioxins	24.04	1.418e4	1.814e4	0.879	0.78	0.77	185.7	YES	NO	db	db	4.171
49	Total-tetradioxins	23.84	7.876e4	1.035e5	0.879	0.76	0.77	673.8	YES	NO	bd	dd	23.518
50	1368-TCDD	23.52	5.180e4	6.876e4	0.923	0.75	0.77	581.2	YES	NO	bd	bd	14.815
51	Total-Dioxins	23.08	1.509e2	2.119e2	1.092	0.71	0.77	1.7	NO	NO	db	dd	0.038
52	1289-TCDD	27.02	1.719e3	2.182e3	0.794	0.79	0.77	18.8	YES	NO	bb	bb	0.557
53	Total-tetradioxins	26.62	1.051e3	1.288e3	0.879	0.82	0.77	12.0	YES	NO	db	db	0.302
54	Total-tetradioxins	26.55	6.322e3	7.974e3	0.879	0.79	0.77	69.9	YES	NO	dd	dd	1.845
55	2378-TCDD	26.41	3.347e3	4.374e3	0.920	0.77	0.77	39.0	YES	NO	bd	bd	0.952
56	Total-tetradioxins	26.03	7.663e3	9.812e3	0.879	0.78	0.77	55.9	YES	NO	bb	bd	2.255
57	Total-tetradioxins	25.59	6.278e3	7.758e3	0.879	0.81	0.77	71.3	YES	NO	dd	bd	1.811
58	Total-tetradioxins	25.38	1.073e4	1.290e4	0.879	0.83	0.77	127.0	YES	NO	dd	db	3.050
59	Total-tetradioxins	25.28	2.154e3	3.024e3	0.879	0.71	0.77	25.4	YES	NO	bd	bd	0.668
60	Total-tetradioxins	25.02	1.758e4	2.284e4	0.879	0.77	0.77	209.9	YES	NO	bd	bd	5.216
61	Total-tetradioxins	24.73	1.382e4	1.846e4	0.879	0.75	0.77	136.4	YES	NO	bb	db	4.166
62	Total-tetradioxins	24.55	7.582e3	9.786e3	0.879	0.77	0.77	92.0	YES	NO	bb	bd	2.241
63	Total-pentadioxins	30.28	3.059e4	1.848e4	1.331	1.66	1.55	259.5	YES	NO	dd	dd	7.129
64	Total-pentadioxins	30.13	3.329e4	2.082e4	1.331	1.60	1.55	289.7	YES	NO	bd	bd	7.863
65	Total-pentadioxins	29.92	3.477e4	2.134e4	1.331	1.63	1.55	306.1	YES	NO	db	db	8.152
66	Total-pentadioxins	29.66	3.751e3	2.325e3	1.331	1.61	1.55	34.7	YES	NO	bb	bb	0.883
67	Total-pentadioxins	29.32	3.225e4	2.114e4	1.331	1.53	1.55	280.6	YES	NO	bb	bb	7.757
68	12479-PECDD	28.83	3.388e5	2.149e5	1.843	1.58	1.55	1935.2	YES	NO	bb	bb	58.082
69	12389-PECDD	31.94	8.921e3	5.781e3	1.154	1.54	1.55	78.1	YES	NO	bb	bb	2.464
70	12378-PeCDD	31.52	3.008e4	1.864e4	0.995	1.61	1.55	218.3	YES	NO	bb	bb	9.463
71	Total-pentadioxins	30.84	1.487e4	8.865e3	1.331	1.68	1.55	109.2	YES	NO	bb	bb	3.448
72	Total-pentadioxins	30.45	3.894e4	2.441e4	1.331	1.60	1.55	215.5	YES	NO	db	db	9.204
73	123478-HxCDD	36.03	5.171e4	4.222e4	1.027	1.22	1.24	270.1	YES	NO	bd	bd	13.541
74	Total-hexadioxins	35.26	3.829e4	2.872e4	1.028	1.33	1.24	181.6	YES	NO	dd	dd	9.721

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
75	Total-hexadioxins	35.15	8.391e5	6.641e5	1.028	1.26	1.24	3003.0	YES	NO	bd	bd	218.058
76	Total-hexadioxins	34.78	2.490e5	1.987e5	1.028	1.25	1.24	1250.5	YES	NO	bb	bb	64.948
77	124679-HXCDD	34.01	1.376e6	1.076e6	1.125	1.28	1.24	7031.5	YES	NO	bb	bb	322.865
78	123789-HxCDD	36.53	1.120e5	8.864e4	0.950	1.26	1.24	570.2	YES	NO	bb	bb	31.475
79	Total-hexadioxins	36.30	3.863e4	3.043e4	1.028	1.27	1.24	200.9	YES	NO	bb	bb	10.018
80	123678-HxCDD	36.14	3.501e5	2.781e5	1.009	1.26	1.24	1860.0	YES	NO	db	db	93.472
81	1234678-HpCDD	40.29	5.623e6	5.366e6	1.068	1.05	1.05	17283.2	YES	NO	bb	bb	2799.0...
82	1234679-HPCDD	39.25	5.113e6	4.842e6	1.211	1.06	1.05	15836.3	YES	NO	bb	bb	2236.6...
83	OCDD	45.07	3.217e7	3.621e7	1.181	0.89	0.89	35997...	YES	NO	bb	bb	20300....

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	24.51	4.496e6					24.2	YES		db		
2	FUNCTION1 PFK	24.05	6.285e6					44.0	YES		bd		
3	FUNCTION1 PFK	23.48	1.160e7					53.9	YES		bb		
4	FUNCTION1 PFK	21.41	2.523e5					5.3	YES		bb		
5	FUNCTION1 PFK	21.18	8.993e4					4.6	YES		db		
6	FUNCTION1 PFK	21.12	1.113e4					1.9	NO		bd		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.57	3.706e4					3.1	YES		bb		0.000
2	FUNCTION3 PFK	35.46	1.613e4					2.4	NO		bb		0.000

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	42.76	2.626e4					3.0	NO		bb		
2	FUNCTION4 PFK	42.01	1.002e4					2.2	NO		bb		
3	FUNCTION4 PFK	38.69	3.062e4					2.4	NO		bb		
4	FUNCTION4 PFK	38.30	5.671e3					1.5	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.20	1.811e5					8.6	YES		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.88	7.366e1					0.9	NO		bb		0.000
2	FUNCTION1 HXCD...	27.65	2.225e2					4.0	YES		bb		0.000
3	FUNCTION1 HXCD...	26.76	4.849e2					7.3	YES		bb		0.000
4	FUNCTION1 HXCD...	26.11	1.210e3					22.8	YES		bb		0.000
5	FUNCTION1 HXCD...	25.73	1.252e3					23.4	YES		bb		0.000
6	FUNCTION1 HXCD...	25.08	2.805e2					5.8	YES		bb		0.000
7	FUNCTION1 HXCD...	23.99	1.076e2					1.6	NO		bb		0.000
8	FUNCTION1 HXCD...	23.75	2.792e3					69.0	YES		bb		0.000
9	FUNCTION1 HXCD...	23.55	3.862e2					5.7	YES		db		0.000
10	FUNCTION1 HXCD...	23.45	9.352e1					2.0	NO		bd		0.000
11	FUNCTION1 HXCD...	22.72	8.303e2					18.2	YES		bb		0.000
12	FUNCTION1 HXCD...	22.30	2.649e2					6.7	YES		db		0.000
13	FUNCTION1 HXCD...	22.18	2.052e2					4.0	YES		bd		0.000
14	FUNCTION1 HXCD...	21.12	1.514e2					2.2	NO		bb		0.000

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	27.89	5.886e2					16.2	YES		bb		0.000
2	FUNCTION1 HPCD...	27.39	1.043e2					3.3	YES		bb		0.000
3	FUNCTION1 HPCD...	27.26	7.002e1					2.2	NO		bb		0.000
4	FUNCTION1 HPCD...	26.85	7.878e1					2.8	NO		bb		0.000
5	FUNCTION1 HPCD...	26.61	7.163e1					2.1	NO		bb		0.000
6	FUNCTION1 HPCD...	26.05	9.991e1					2.1	NO		bb		0.000
7	FUNCTION1 HPCD...	23.60	1.719e2					3.0	NO		db		0.000
8	FUNCTION1 HPCD...	23.48	9.529e1					2.7	NO		dd		0.000
9	FUNCTION1 HPCD...	23.33	3.155e2					7.6	YES		bd		0.000
10	FUNCTION1 HPCD...	22.60	7.145e1					2.3	NO		db		0.000
11	FUNCTION1 HPCD...	22.49	1.069e2					2.3	NO		bd		0.000
12	FUNCTION1 HPCD...	22.30	1.006e2					3.2	YES		bb		0.000
13	FUNCTION1 HPCD...	21.57	8.833e1					2.2	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.48	8.712e1					3.5	YES		bb		0.000
2	FUNCTION2 HPCD...	32.18	5.643e2					10.0	YES		bb		0.000
3	FUNCTION2 HPCD...	29.06	6.745e2					16.5	YES		bb		0.000
4	FUNCTION2 HPCD...	28.92	1.978e3					45.3	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.37	1.761e2					6.5	YES		bb		0.000
2	FUNCTION3 OCDPE	37.18	7.515e1					3.4	YES		bb		0.000
3	FUNCTION3 OCDPE	36.85	9.484e1					2.2	NO		bb		0.000
4	FUNCTION3 OCDPE	36.39	1.167e2					5.4	YES		bb		0.000
5	FUNCTION3 OCDPE	35.17	8.512e1					1.7	NO		bb		0.000
6	FUNCTION3 OCDPE	34.18	3.282e3					60.9	YES		bb		0.000
7	FUNCTION3 OCDPE	33.67	4.812e2					5.9	YES		bb		0.000
8	FUNCTION3 OCDPE	33.39	1.538e2					3.4	YES		bb		0.000
9	FUNCTION3 OCDPE	33.08	1.640e3					25.9	YES		bb		0.000

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.42	5.992e3					147.3	YES		db		0.000
2	FUNCTION4 NCDPE	38.29	1.840e3					43.7	YES		bd		0.000
3	FUNCTION4 NCDPE	40.78	1.791e2					6.0	YES		db		0.000
4	FUNCTION4 NCDPE	40.73	1.301e2					4.2	YES		bd		0.000
5	FUNCTION4 NCDPE	40.30	8.774e2					13.0	YES		bb		0.000
6	FUNCTION4 NCDPE	39.47	3.388e2					7.3	YES		bb		0.000
7	FUNCTION4 NCDPE	39.26	5.067e2					9.6	YES		bb		0.000

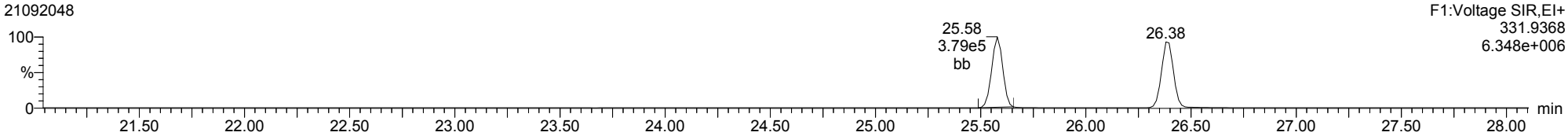
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.32	7.015e2					11.2	YES		db		0.000
2	FUNCTION5 DCDPE	45.09	3.958e3					54.3	YES		bd		0.000

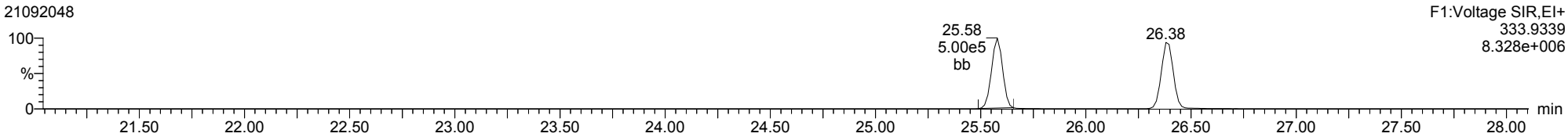
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

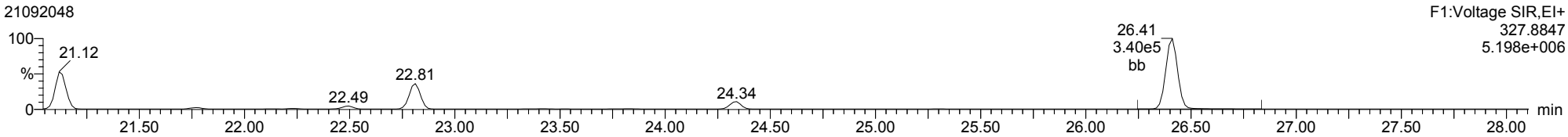
13C-1234-TCDD



13C-1234-TCDD

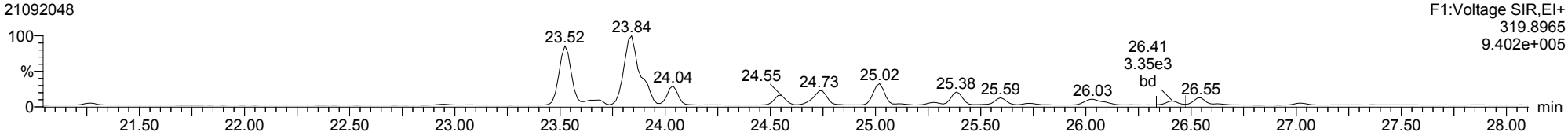


37CL-2378-TCDD

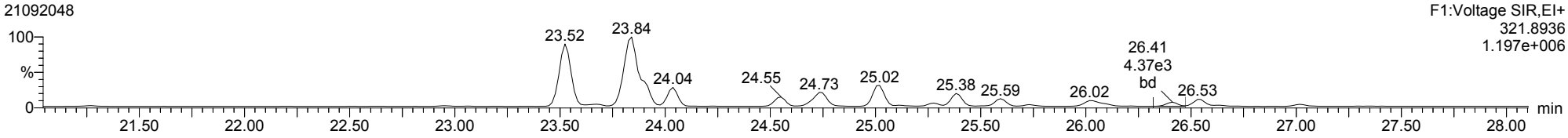


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

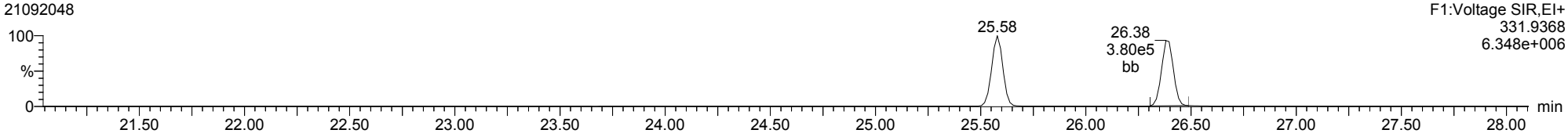
2378-TCDD



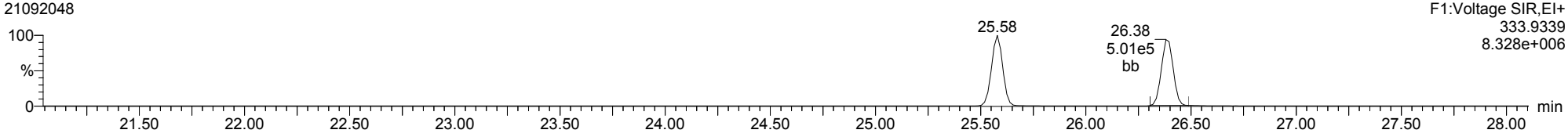
2378-TCDD



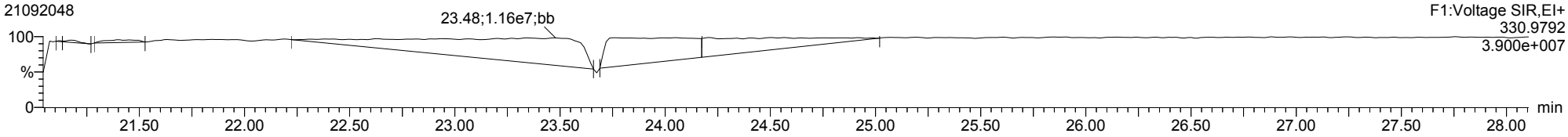
13C-2378-TCDD



13C-2378-TCDD

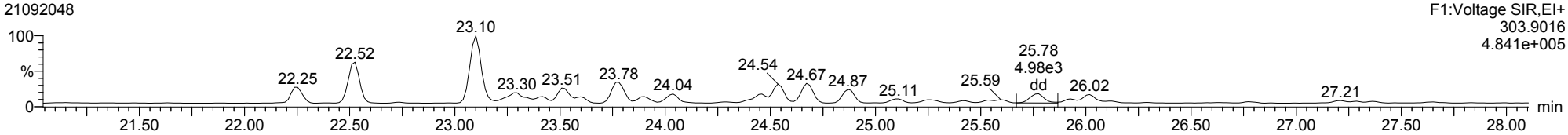


FUNCTION1 PFK

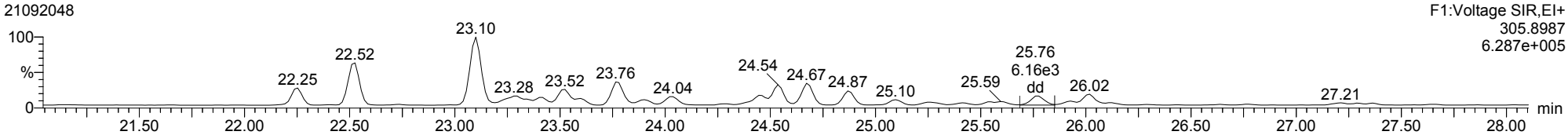


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

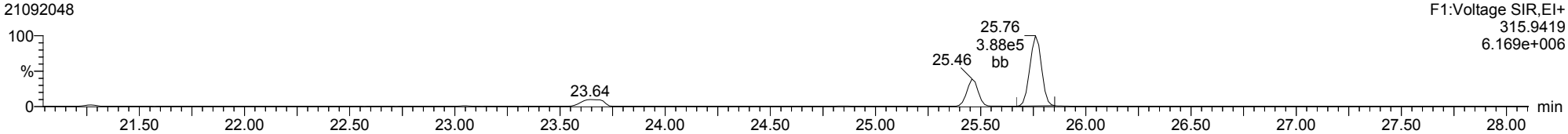
2378-TCDF



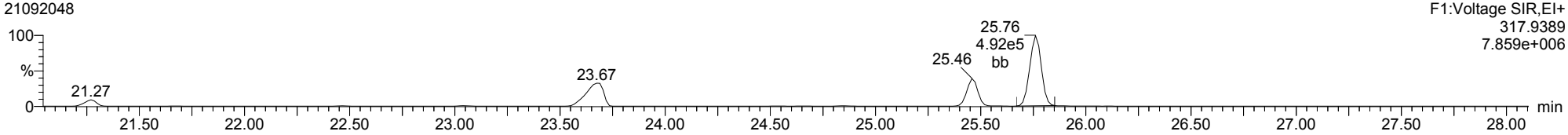
2378-TCDF



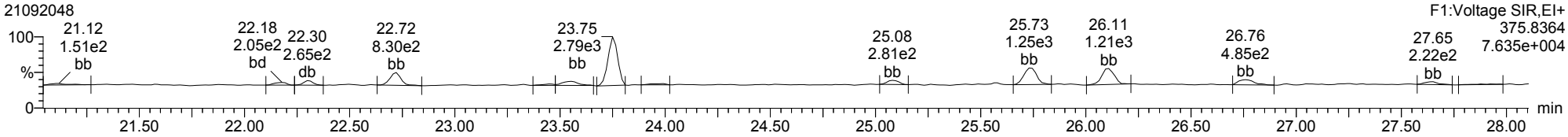
13C-2378-TCDF



13C-2378-TCDF

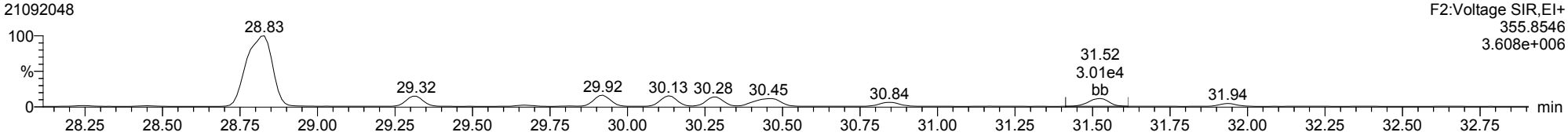


FUNCTION1 HXCDPE

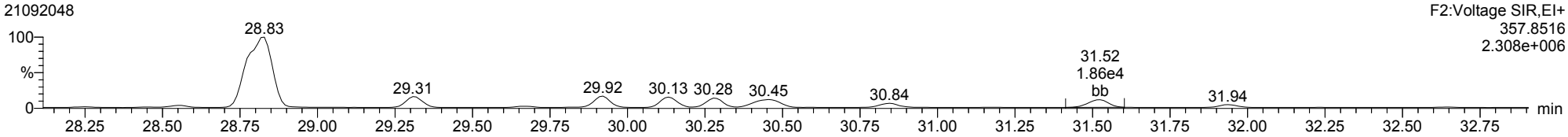


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

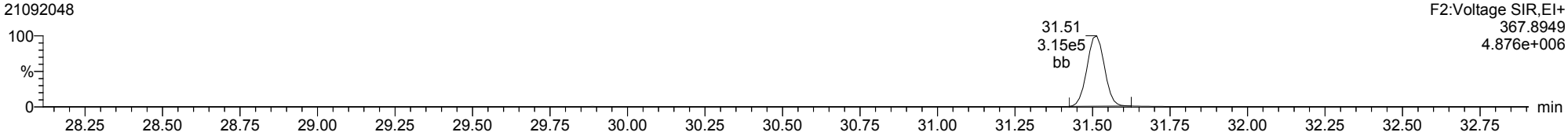
12378-PeCDD



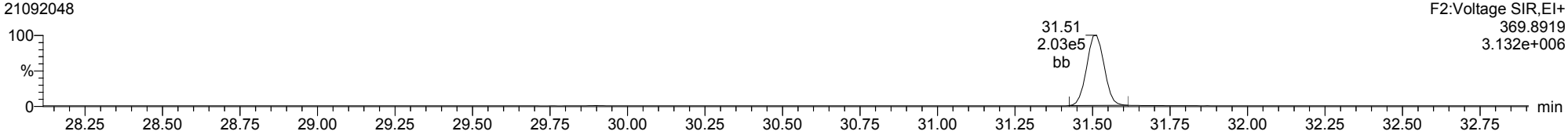
12378-PeCDD



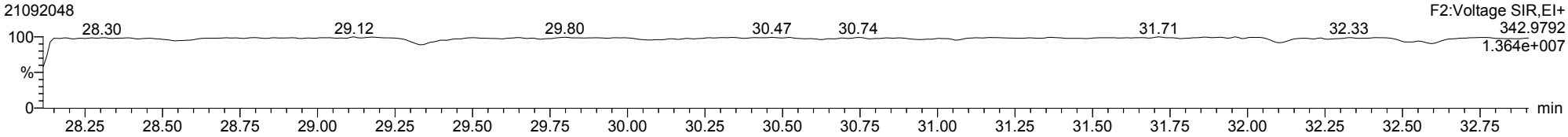
13C-12378-PeCDD



13C-12378-PeCDD

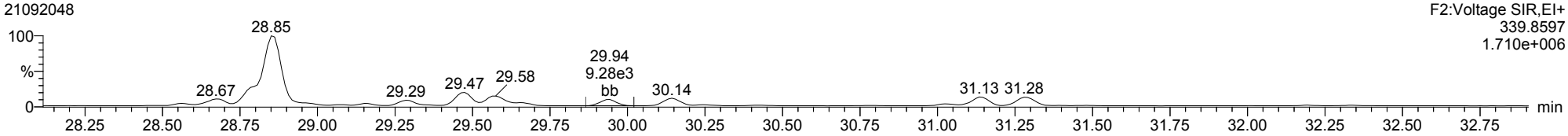


FUNCTION2 PFK

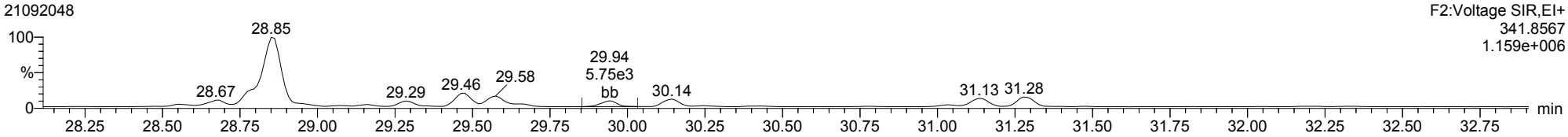


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

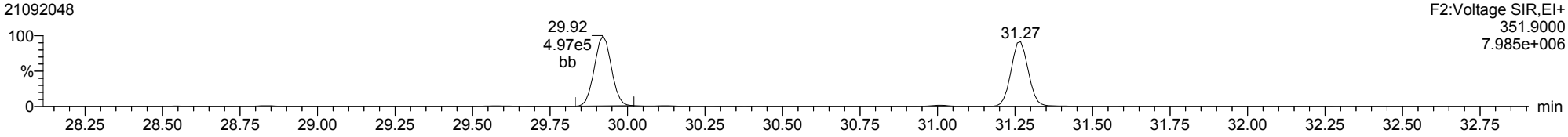
12378-PeCDF



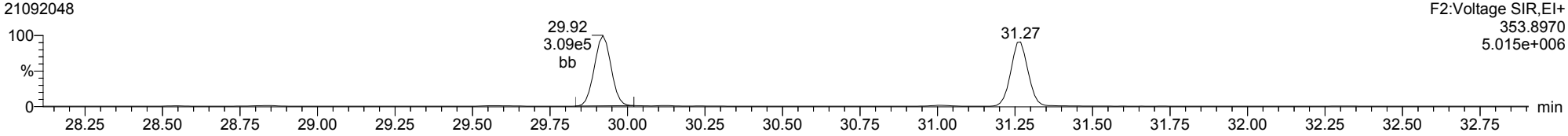
12378-PeCDF



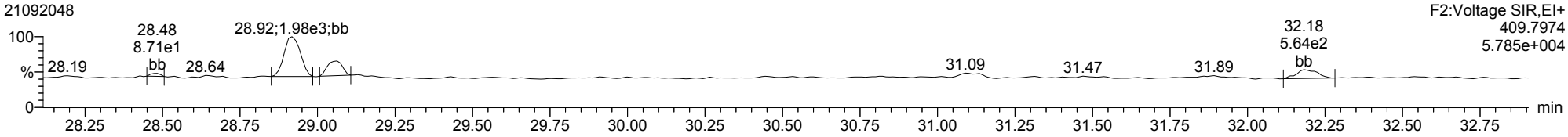
13C-12378-PeCDF



13C-12378-PeCDF

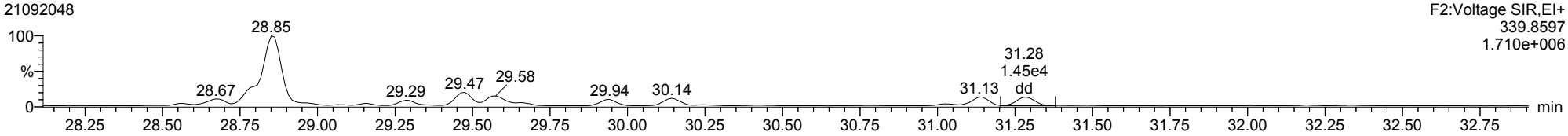


FUNCTION2 HPCDPE

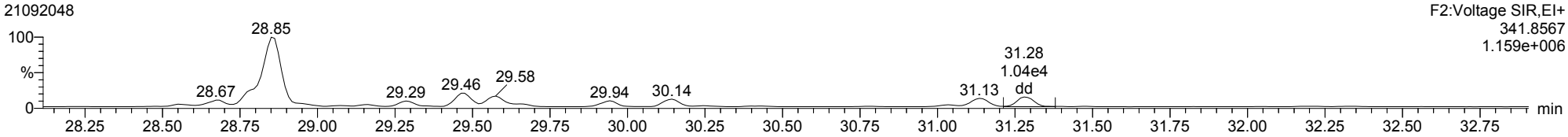


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

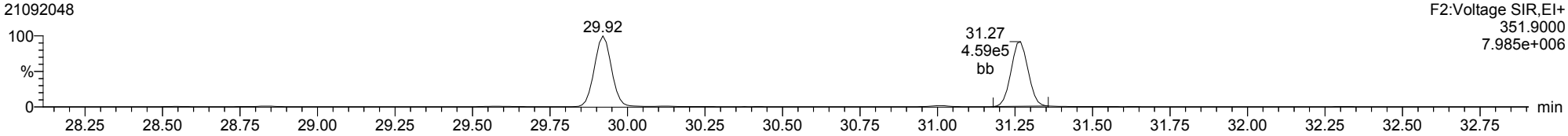
23478-PeCDF



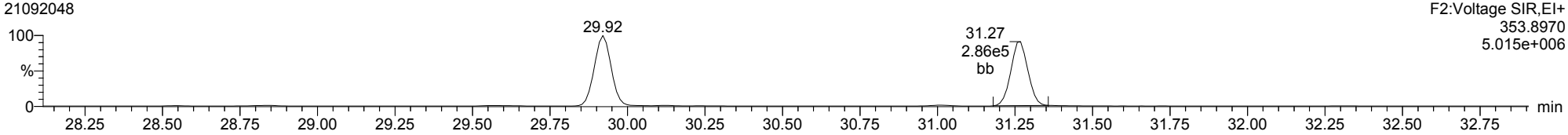
23478-PeCDF



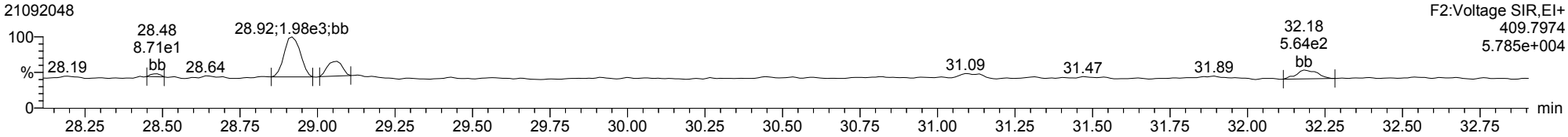
13C-23478-PeCDF



13C-23478-PeCDF

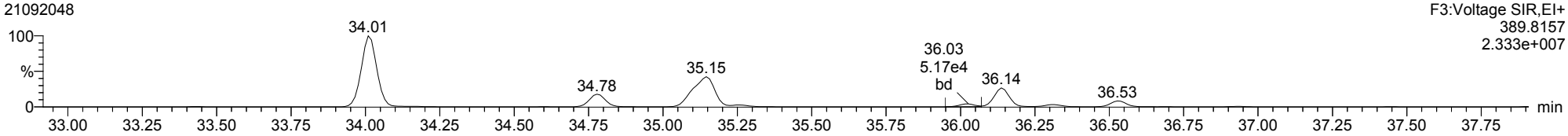


FUNCTION2 HPCDPE

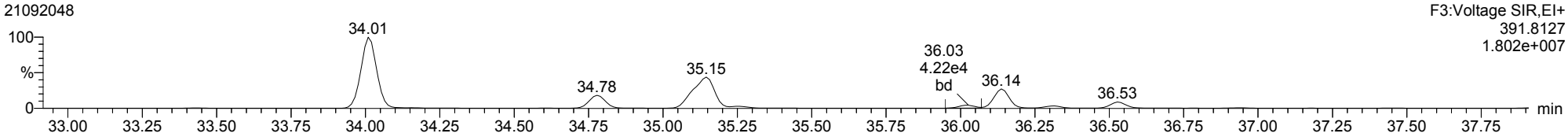


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

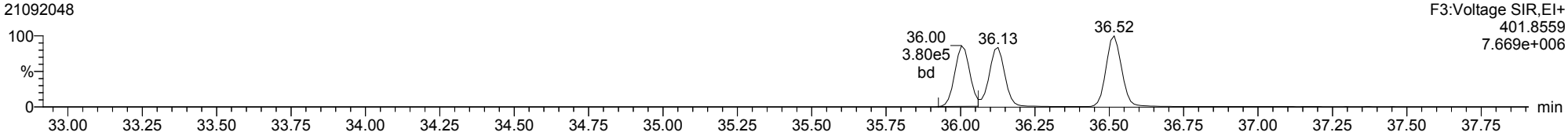
123478-HxCDD



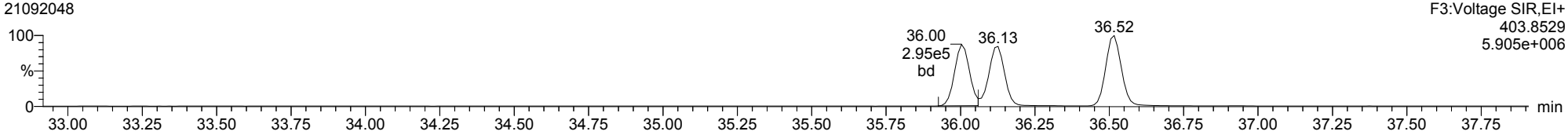
123478-HxCDD



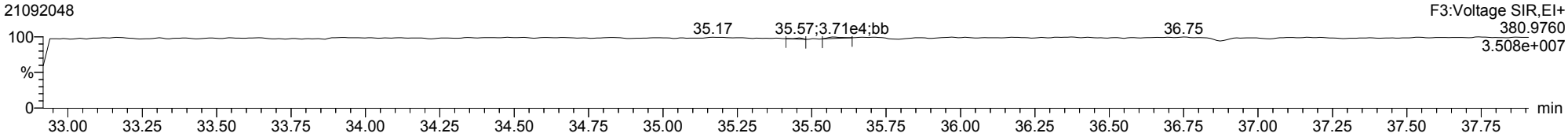
13C-123478-HxCDD



13C-123478-HxCDD

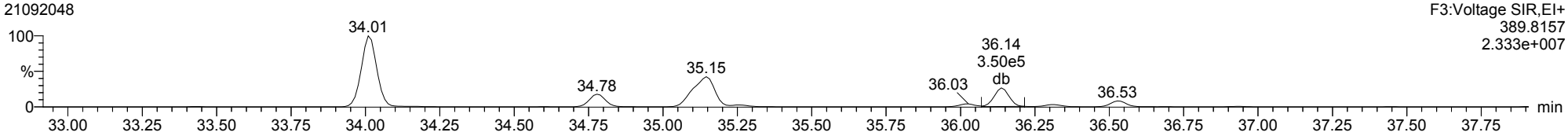


FUNCTION3 PFK

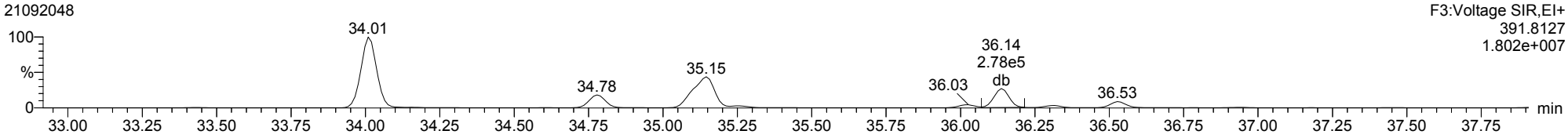


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

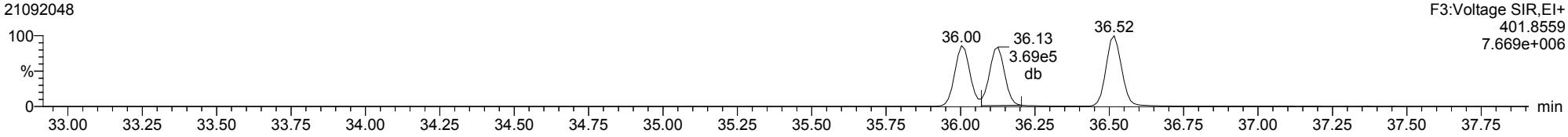
123678-HxCDD



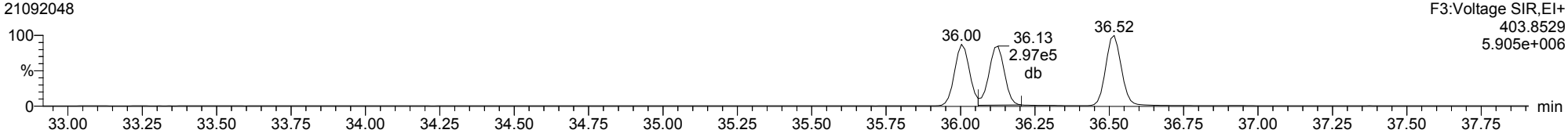
123678-HxCDD



13C-123678-HxCDD



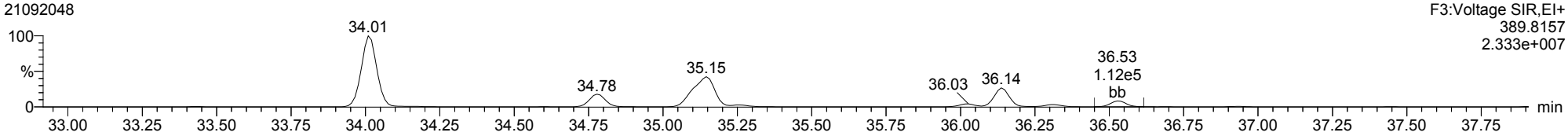
13C-123678-HxCDD



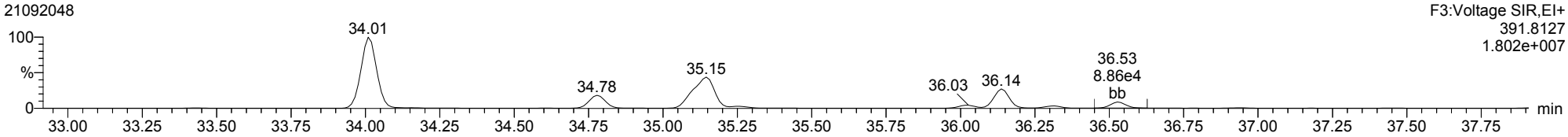
Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

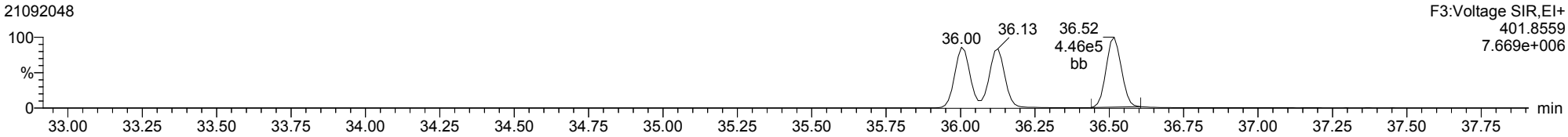
123789-HxCDD



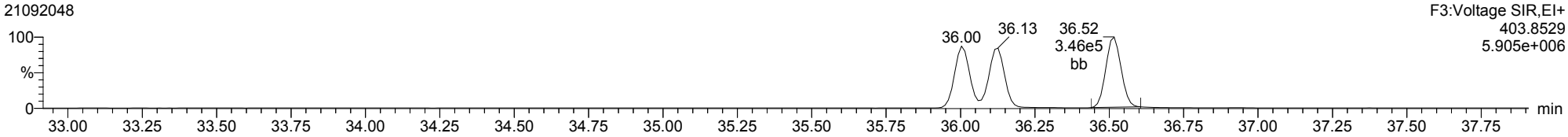
123789-HxCDD



13C-123789-HxCDD

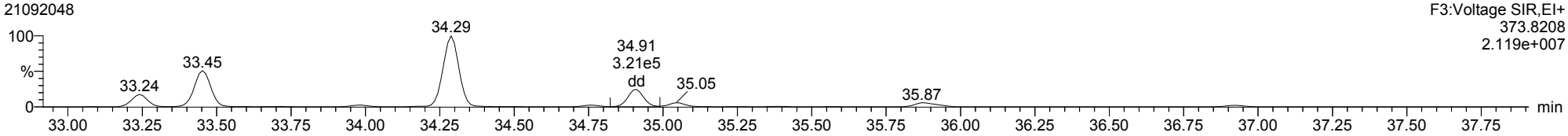


13C-123789-HxCDD

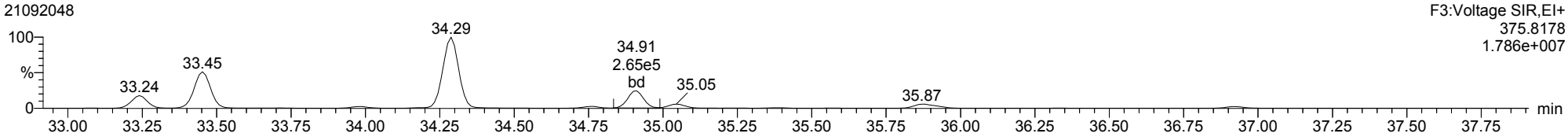


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

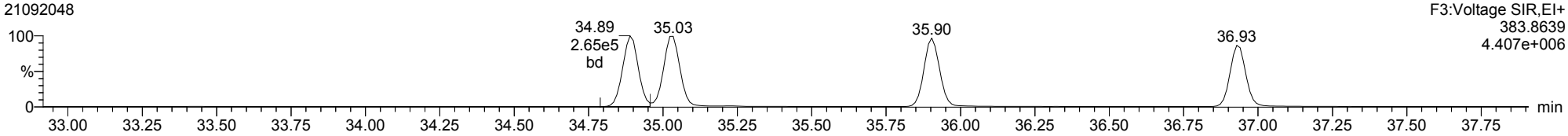
123478-HxCDF



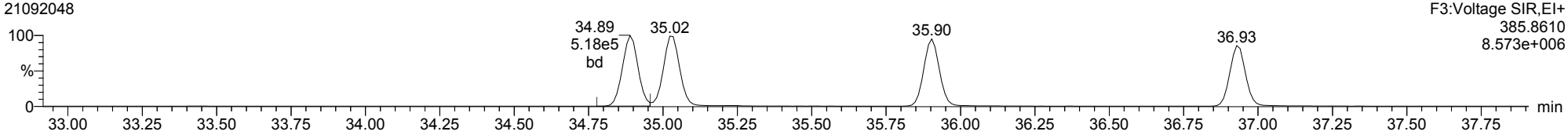
123478-HxCDF



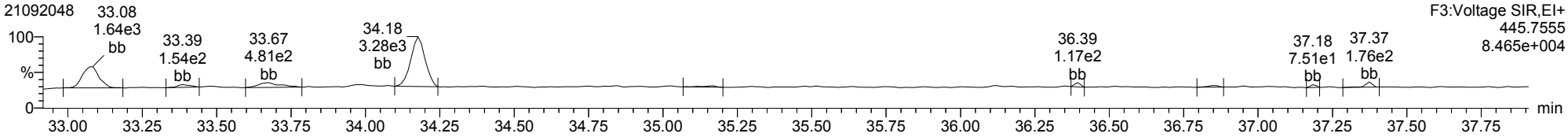
13C-123478-HxCDF



13C-123478-HxCDF

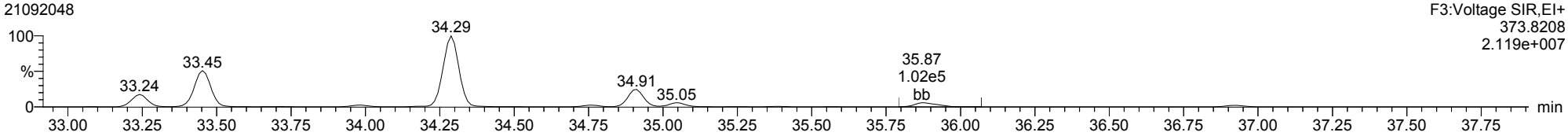


FUNCTION3 OCDPE

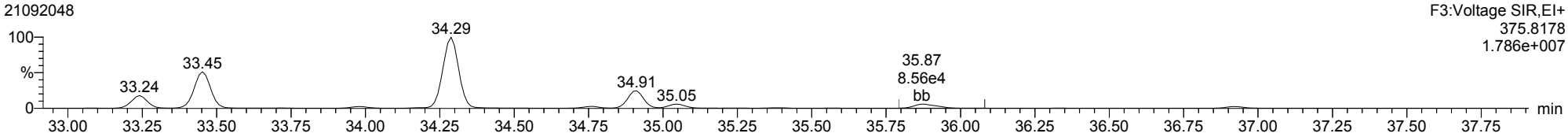


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

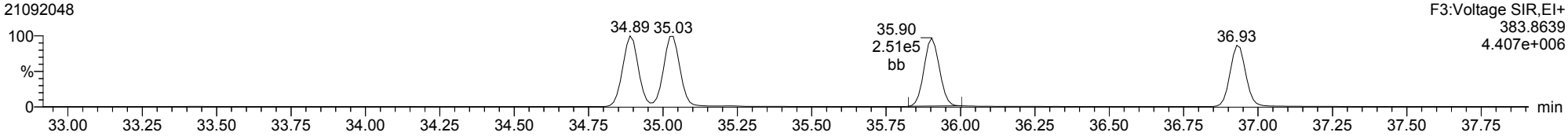
234678-HxCDF



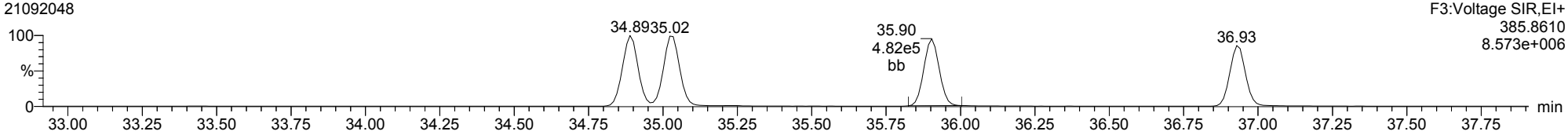
234678-HxCDF



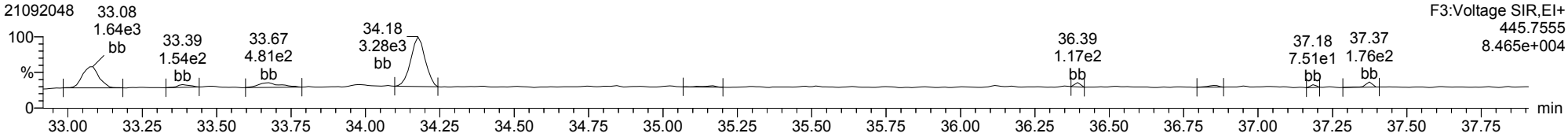
13C-234678-HxCDF



13C-234678-HxCDF

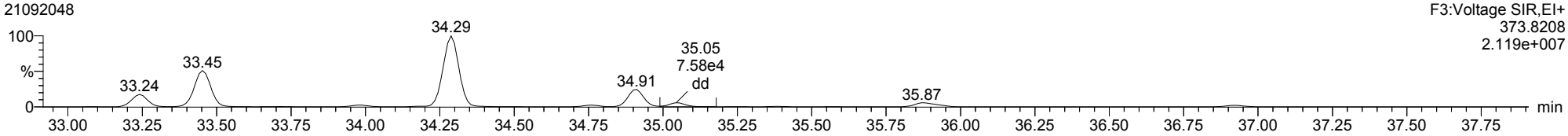


FUNCTION3 OCDPE

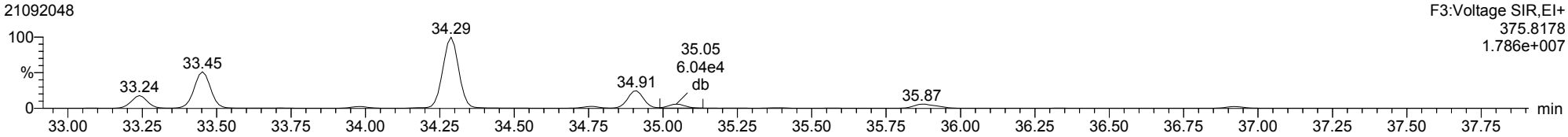


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

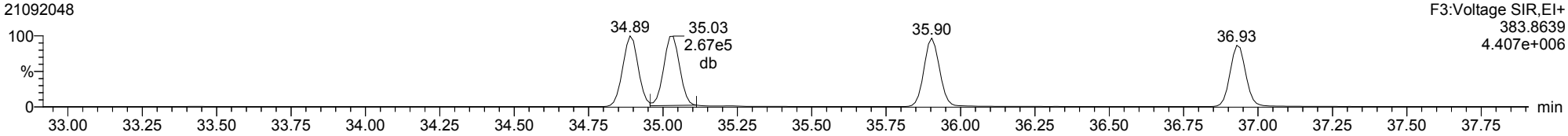
123678-HxCDF



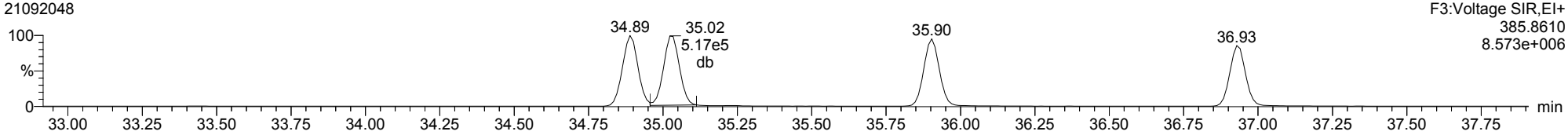
123678-HxCDF



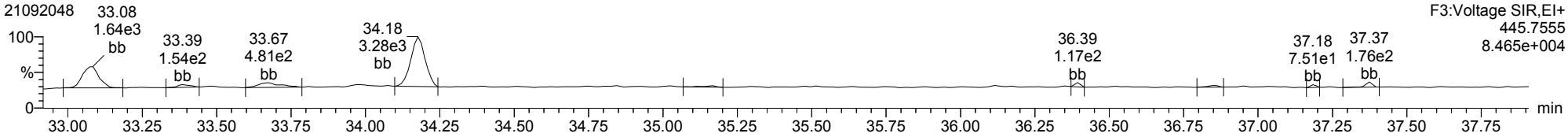
13C-123678-HxCDF



13C-123678-HxCDF

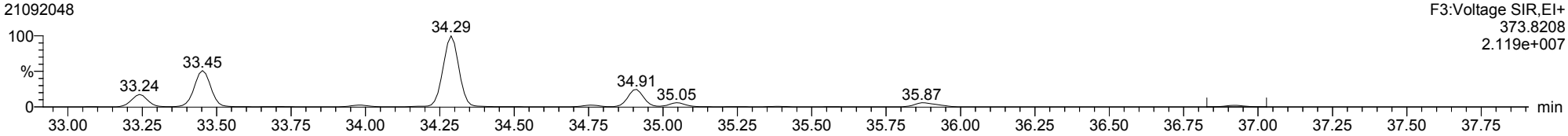


FUNCTION3 OCDPE

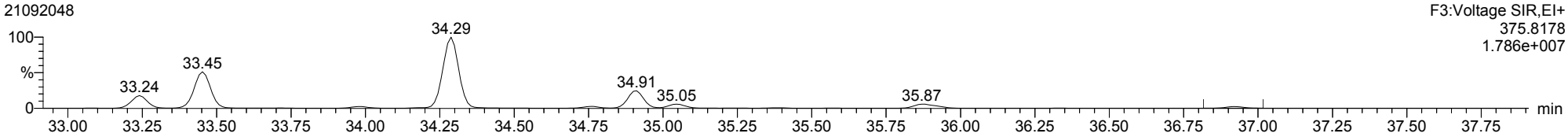


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

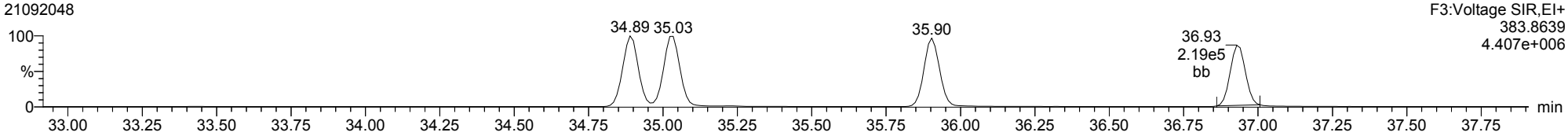
123789-HxCDF



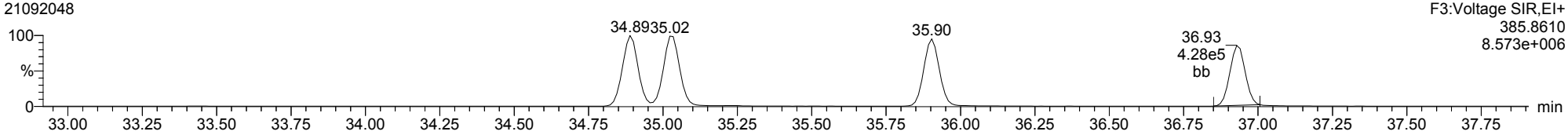
123789-HxCDF



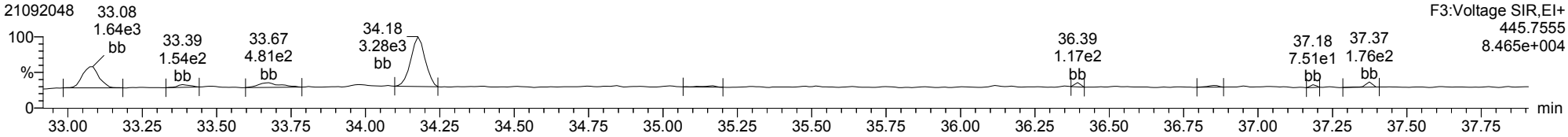
13C-123789-HxCDF



13C-123789-HxCDF

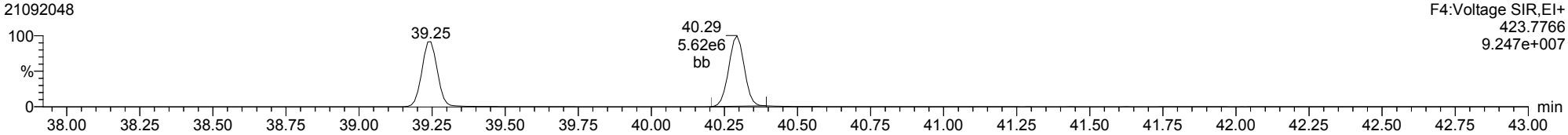


FUNCTION3 OCDPE

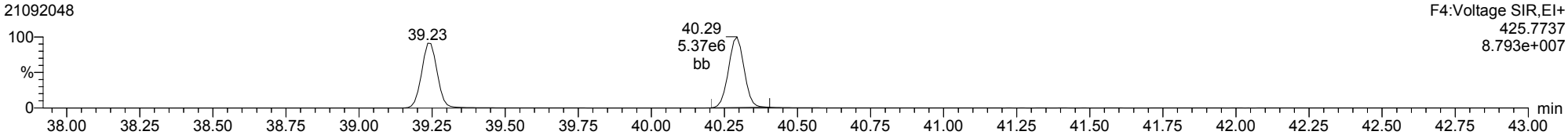


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

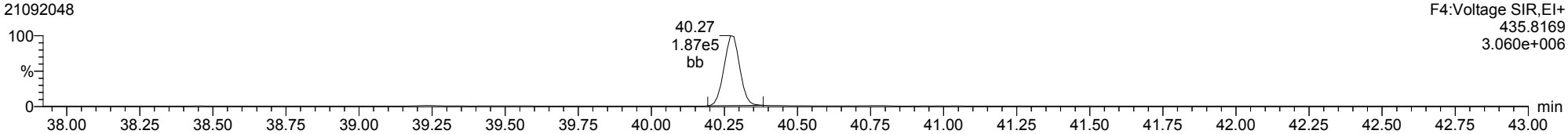
1234678-HpCDD



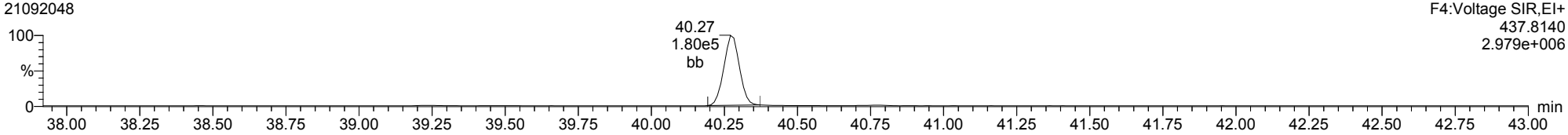
1234678-HpCDD



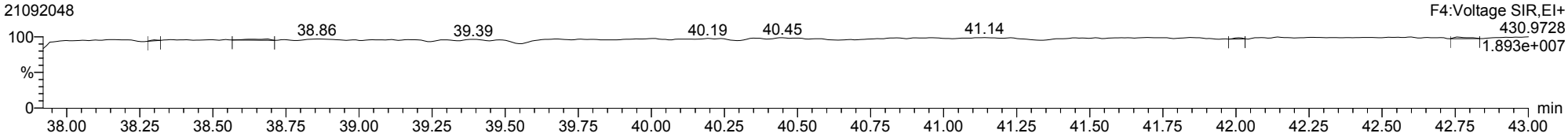
13C-1234678-HpCDD



13C-1234678-HpCDD

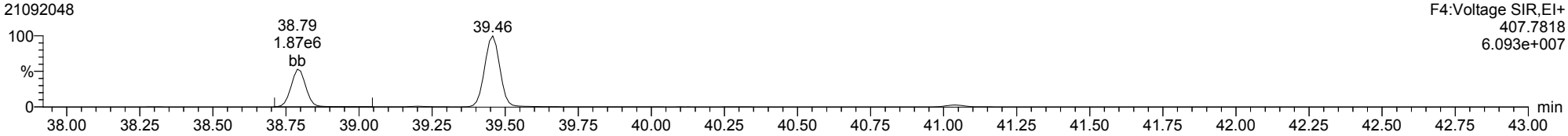


FUNCTION4 PFK

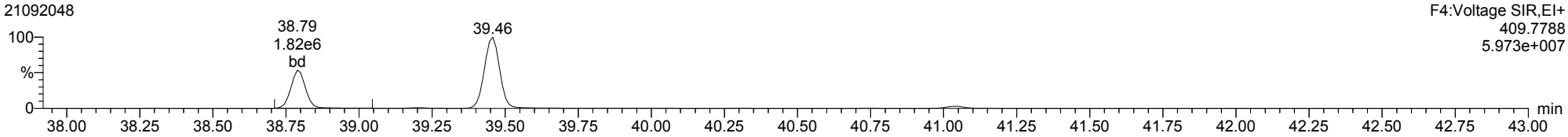


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

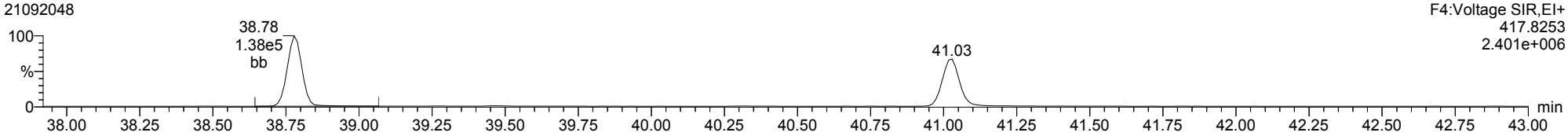
1234678-HpCDF



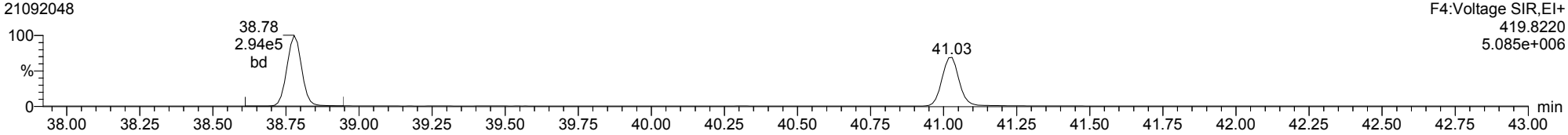
1234678-HpCDF



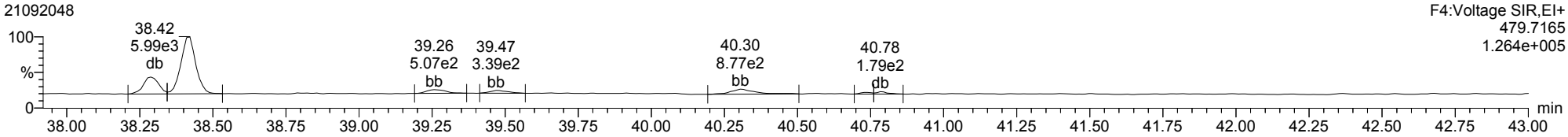
13C-1234678-HpCDF



13C-1234678-HpCDF

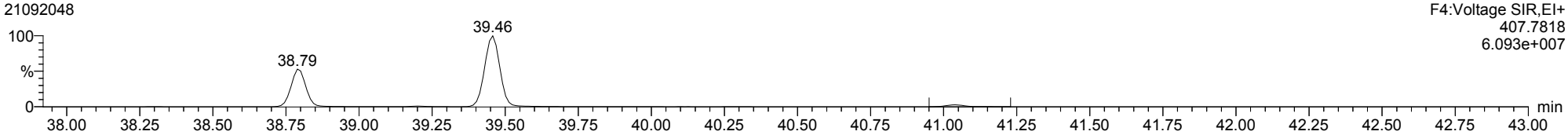


FUNCTION4 NCDPE

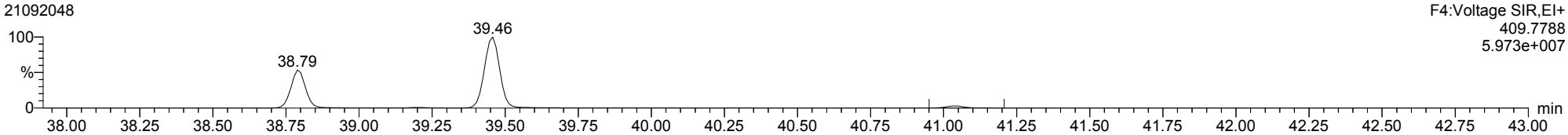


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

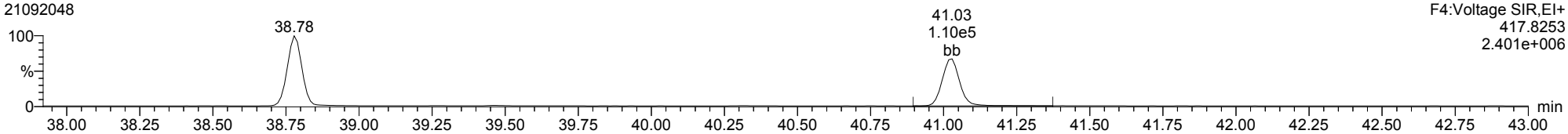
1234789-HpCDF



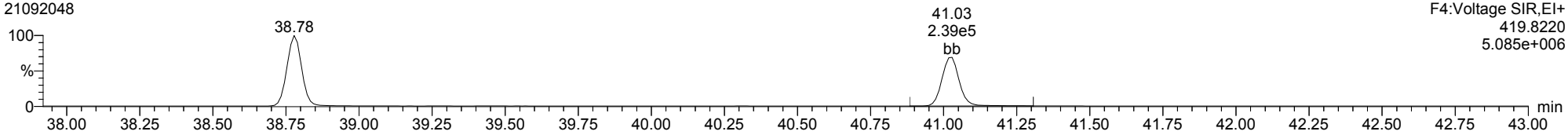
1234789-HpCDF



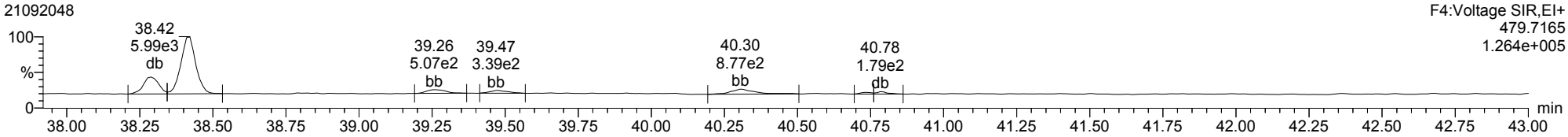
13C-1234789-HpCDF



13C-1234789-HpCDF

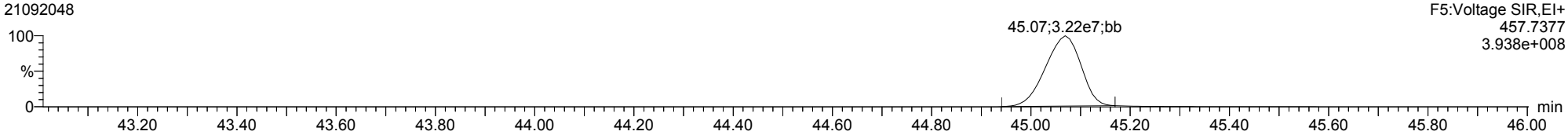


FUNCTION4 NCDPE

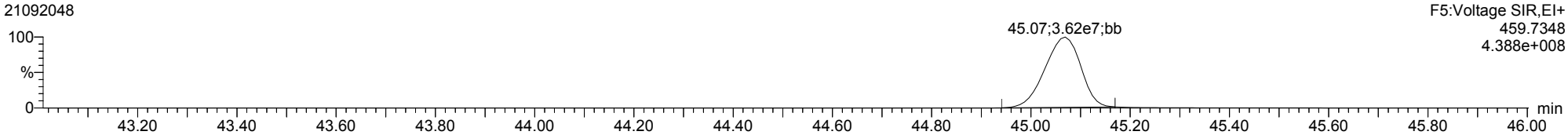


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

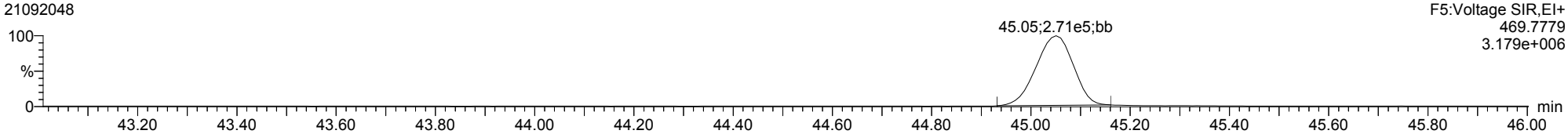
OCDD



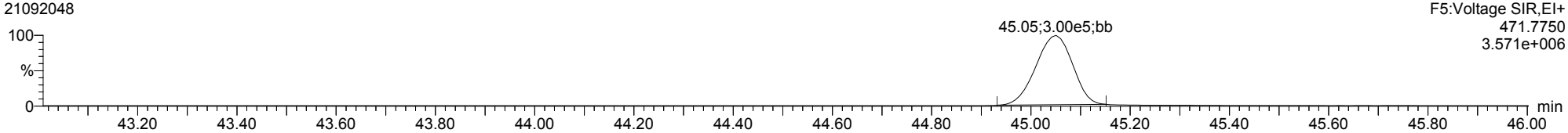
OCDD



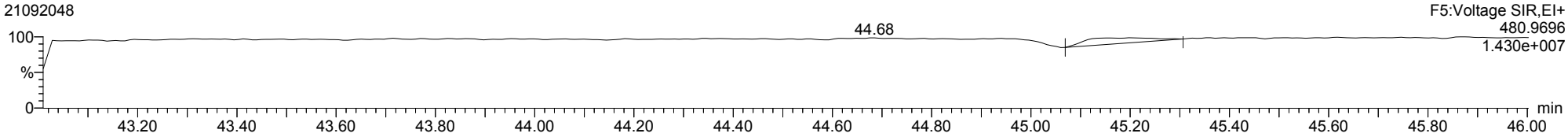
13C-OCDD



13C-OCDD

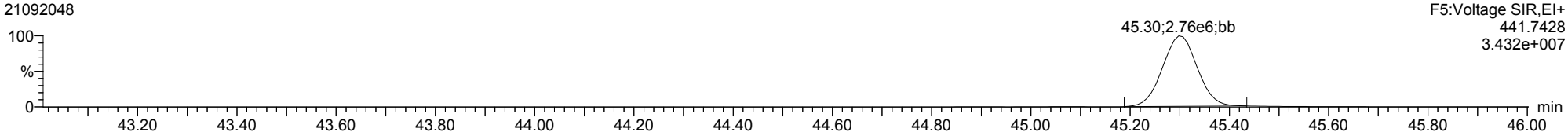


FUNCTION5 PFK

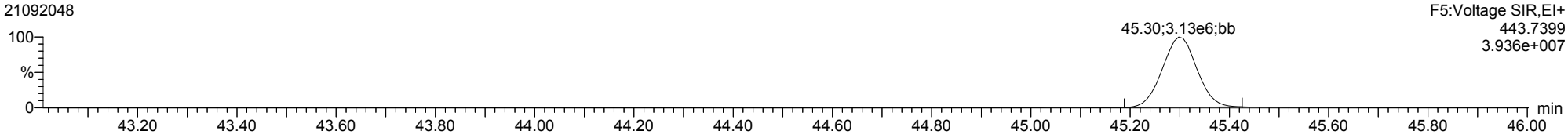


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

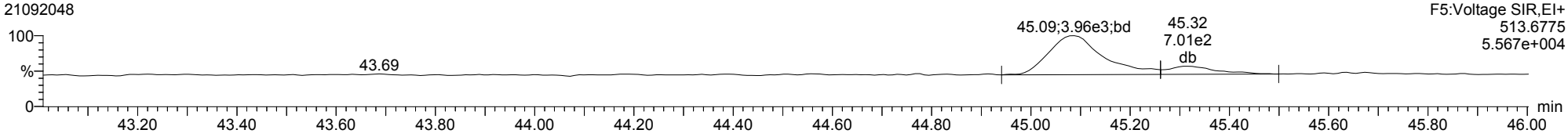
OCDF



OCDF

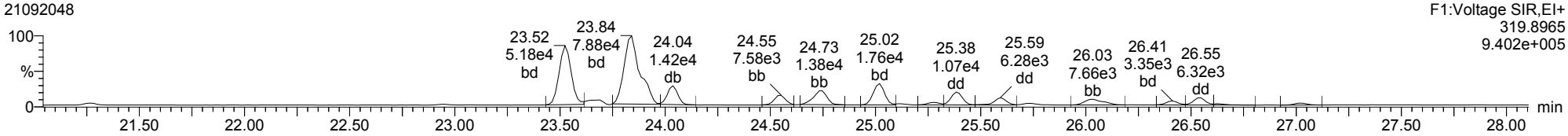


FUNCTION5 DCDPE

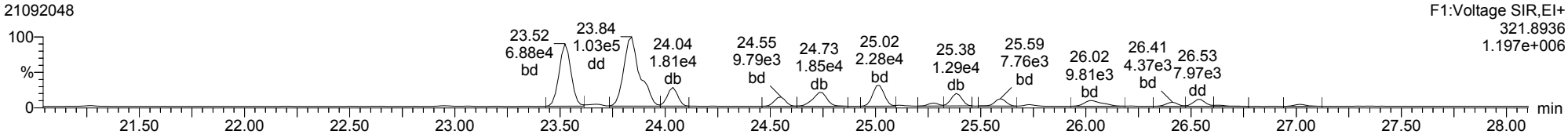


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

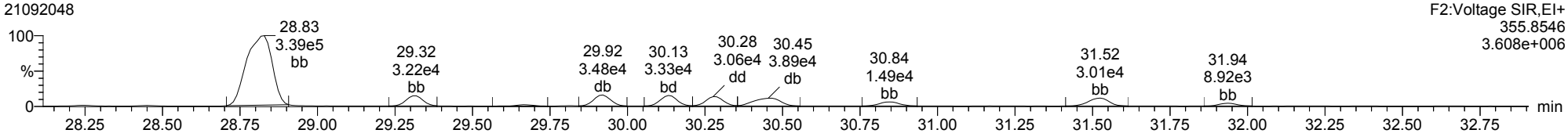
Total-tetradioxins



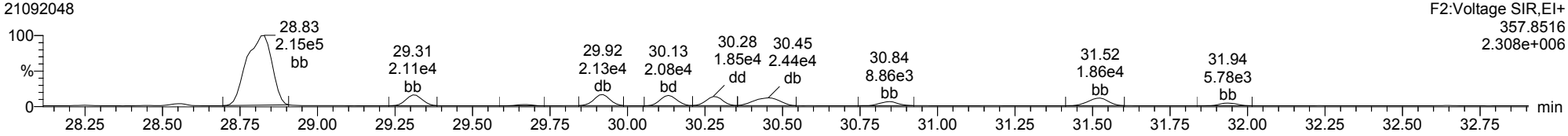
Total-tetradioxins



Total-pentadioxins

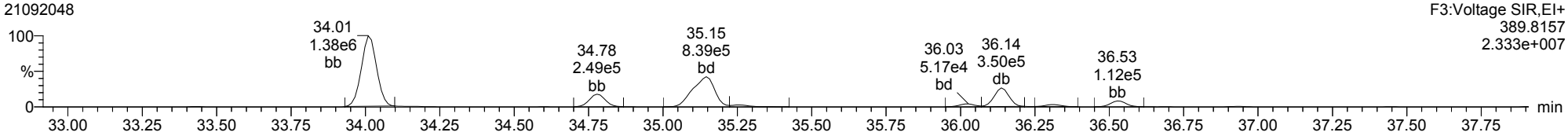


Total-pentadioxins

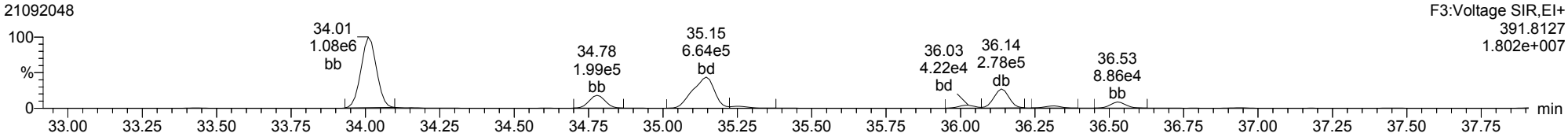


ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

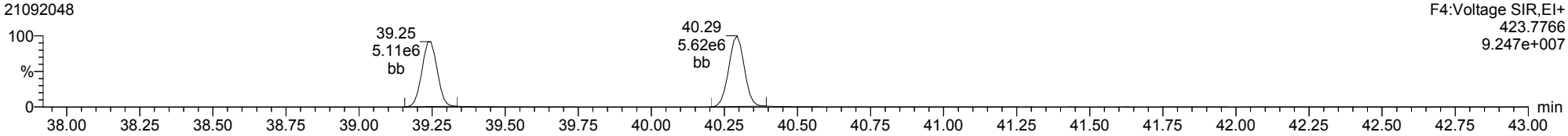
Total-hexadioxins



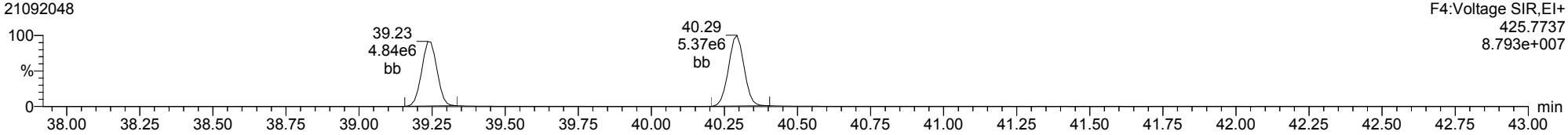
Total-hexadioxins



Total-heptadioxins



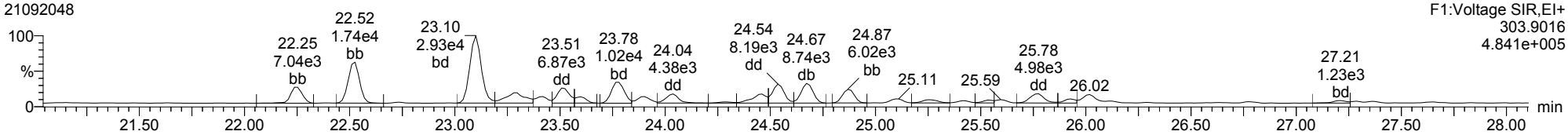
Total-heptadioxins



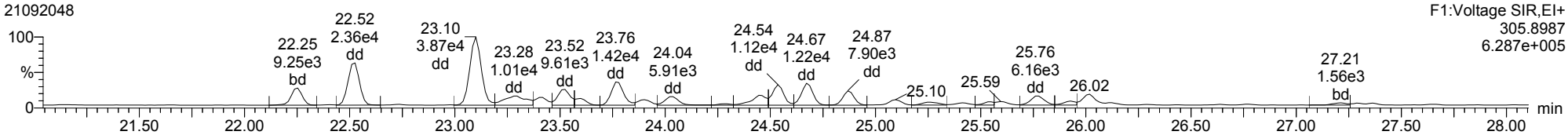
Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

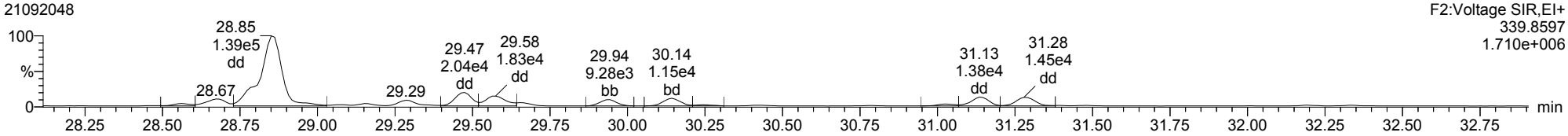
Total-tetrafurans



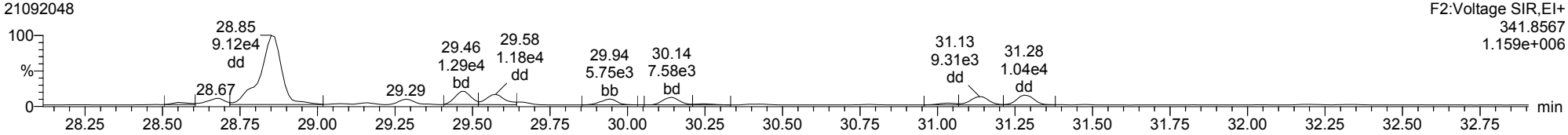
Total-tetrafurans



Total-pentafurans



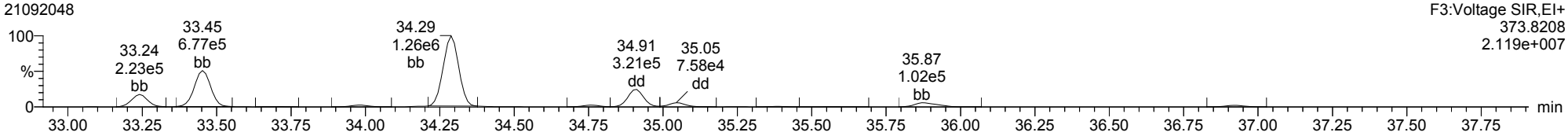
Total-pentafurans



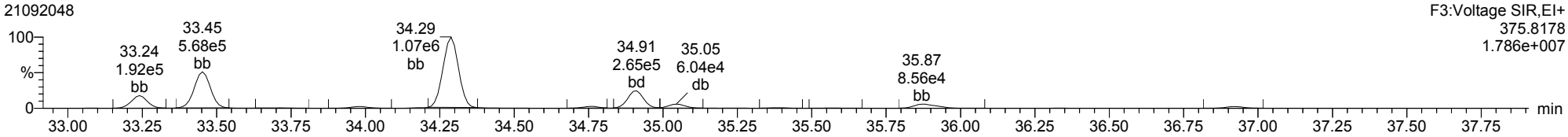
Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:38 Pacific Daylight Time

ID: 21G0213-07, Name: 21092048, Date: 22-Sep-2021, Time: 07:16:49, Conditions: AUTOSPEC01, User: pk

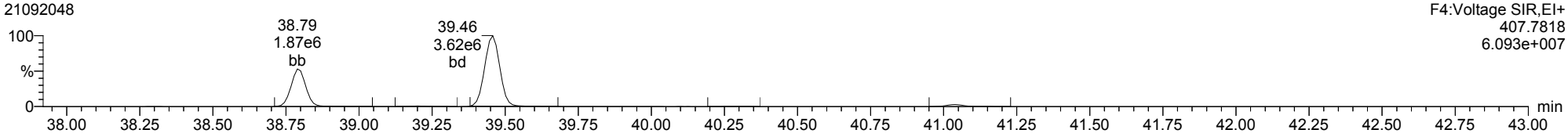
Total-hexafurans



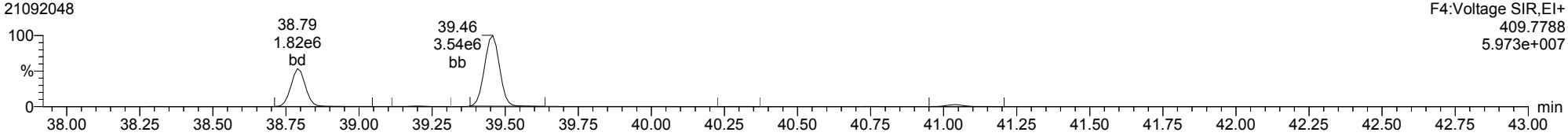
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663C

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-07RE1 C	File ID:	21092061
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 18:01
% Solids:	72.22	Preparation:	EPA 1613	Initial/Final:	13.29 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	10	0.587	0.655-0.886	0.872	10.4	2.60	ng/kg	EMPC, Z, J
1746-01-6	2,3,7,8-TCDD	10	0.896	0.655-0.886	1.07	10.4	1.90	ng/kg	EMPC, Z, J
57117-41-6	1,2,3,7,8-PeCDF	10	1.477	1.318-1.783	1.18	10.4	3.88	ng/kg	Z, J
57117-31-4	2,3,4,7,8-PeCDF	10	1.555	1.318-1.783	1.16	10.4	5.63	ng/kg	Z, J
40321-76-4	1,2,3,7,8-PeCDD	10	1.744	1.318-1.783	1.21	10.4	21.4	ng/kg	Z
70648-26-9	1,2,3,4,7,8-HxCDF	10	1.200	1.054-1.426	1.21	10.4	157	ng/kg	Z
57117-44-9	1,2,3,6,7,8-HxCDF	10	1.181	1.054-1.426	1.25	10.4	36.4	ng/kg	Z
60851-34-5	2,3,4,6,7,8-HxCDF	10	1.193	1.054-1.426	1.32	10.4	52.7	ng/kg	Z
72918-21-9	1,2,3,7,8,9-HxCDF	10	0.988	1.054-1.426	1.45	10.4	17.8	ng/kg	EMPC, Z
39227-28-6	1,2,3,4,7,8-HxCDD	10	1.170	1.054-1.426	1.72	10.4	32.0	ng/kg	Z
57653-85-7	1,2,3,6,7,8-HxCDD	10	1.269	1.054-1.426	1.62	10.4	196	ng/kg	Z
19408-74-3	1,2,3,7,8,9-HxCDD	10	1.378	1.054-1.426	1.79	10.4	67.2	ng/kg	Z
67562-39-4	1,2,3,4,6,7,8-HpCDF	10	1.015	0.893-1.208	1.64	10.4	1320	ng/kg	Z
55673-89-7	1,2,3,4,7,8,9-HpCDF	10	0.939	0.893-1.208	2.33	10.4	95.9	ng/kg	Z
35822-46-9	1,2,3,4,6,7,8-HpCDD	10	1.056	0.893-1.208	3.86	26.0	6030	ng/kg	Z, B
39001-02-0	OCDF	10	0.857	0.757-1.024	3.25	26.0	2860	ng/kg	Z
3268-87-9	OCDD	10	0.886	0.757-1.024	6.95	104	42900	ng/kg	E, Z, B

Homologue Groups

55722-27-5	Total TCDF	10	0.000			1.04	45.9	ng/kg
41903-57-5	Total TCDD	10	0.000			1.04	114	ng/kg
30402-15-4	Total PeCDF	10	0.000			1.04	243	ng/kg
36088-22-9	Total PeCDD	10	0.000			1.04	247	ng/kg
55684-94-1	Total HxCDF	10	0.000			1.04	1390	ng/kg
34465-46-8	Total HxCDD	10	0.000			1.04	1680	ng/kg
38998-75-3	Total HpCDF	10	0.000			1.04	4420	ng/kg
37871-00-4	Total HpCDD	10	0.000			1.04	11000	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 169.5
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 169.5

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663C

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-07RE1	File ID:	21092061
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 18:01
Solids Wt%:	72.22	Preparation:	EPA 1613	Initial/Final:	13.29 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.816	0.655-0.886	1.09	80.6	24 - 169 %	
13C12-2,3,7,8-TCDD		0.770	0.655-0.886	1.24	96.9	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.538	1.318-1.783	0.937	84.0	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.599	1.318-1.783	0.983	83.0	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.632	1.318-1.783	1.10	89.4	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.511	0.434-0.587	0.966	94.8	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.540	0.434-0.587	0.893	86.9	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.539	0.434-0.587	0.988	89.7	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.520	0.434-0.587	1.19	92.0	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.243	1.054-1.426	1.42	93.7	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.241	1.054-1.426	1.31	91.0	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.467	0.374-0.506	0.904	77.8	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.443	0.374-0.506	1.11	73.3	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.050	0.893-1.208	1.63	88.5	23 - 140 %	
13C12-OCDD		0.901	0.757-1.024	1.57	95.7	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.480	98.9	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:15:15 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.761	1.001	3.900e2	6.643e2	1.108	0.587	0.770	707	1054	5.79e3	7.56e3	8.2	7.2	YES	MM	bb	1.246
12378-PeCDF	29.920	1.000	8.150e2	5.519e2	1.015	1.477	1.550	819	1365	1.43e4	9.48e3	17.4	6.9	NO	bb	bb	1.860
23478-PeCDF	31.280	1.001	1.261e3	8.109e2	1.126	1.555	1.550	819	1365	1.97e4	1.48e4	24.1	10.8	NO	db	bb	2.702
123478-HxCDF	34.890	1.000	2.853e4	2.378e4	1.017	1.200	1.240	1219	1007	4.59e5	3.72e5	376.2	369.3	NO	dd	dd	75.205
234678-HxCDF	35.859	0.999	9.165e3	7.685e3	1.052	1.193	1.240	1219	1007	1.09e5	8.74e4	89.4	86.8	NO	bb	bb	25.311
123678-HxCDF	35.035	1.001	6.641e3	5.623e3	1.037	1.181	1.240	1219	1007	1.02e5	7.86e4	83.4	78.0	NO	db	db	17.453
123789-HxCDF	36.917	1.000	2.353e3	2.382e3	1.030	0.988	1.240	1219	1007	3.56e4	3.40e4	29.2	33.8	YES	bb	MM	8.538
1234678-HpCDF	38.778	1.000	1.775e5	1.750e5	1.327	1.015	1.050	1205	1077	2.93e6	2.88e6	2436.0	2674.3	NO	bb	bb	634.611
1234789-HpCDF	41.029	1.000	9.225e3	9.829e3	1.283	0.939	1.050	1205	1077	1.42e5	1.41e5	118.1	131.3	NO	bb	bd	46.032
OCDF	45.271	1.006	2.561e5	2.989e5	1.447	0.857	0.890	1164	1357	3.13e6	3.60e6	2687.0	2654.1	NO	bd	bd	1370.600
2378-TCDD	26.411	1.002	2.844e2	3.175e2	0.920	0.896	0.770	950	752	4.25e3	5.01e3	4.5	6.7	YES	bd	bd	0.910
12378-PeCDD	31.503	1.000	2.824e3	1.619e3	0.995	1.744	1.550	683	590	3.73e4	2.16e4	54.6	36.5	NO	bb	bb	10.271
123478-HxCDD	36.004	1.000	4.437e3	3.793e3	1.027	1.170	1.240	1275	1188	7.99e4	6.80e4	62.7	57.2	NO	bd	bd	15.351
123678-HxCDD	36.115	1.000	2.927e4	2.307e4	1.009	1.269	1.240	1275	1188	5.15e5	3.83e5	403.6	322.2	NO	db	dd	94.259
123789-HxCDD	36.516	1.011	9.516e3	6.905e3	0.950	1.378	1.240	1275	1188	1.54e5	1.14e5	120.7	96.1	NO	bb	bd	32.226
1234678-HpCDD	40.282	1.001	5.157e5	4.885e5	1.068	1.056	1.050	1856	1571	7.92e6	7.68e6	4267.0	4890.4	NO	bb	bb	2892.879
OCDD	45.023	1.000	3.194e6	3.606e6	1.181	0.886	0.890	2316	2081	3.92e7	4.44e7	16919.5	21321.0	NO	bb	bb	20576.383
13C-2378-TCDF	25.746	1.007	3.432e4	4.207e4	1.427	0.816	0.770	1462	1148	5.13e5	6.27e5	350.5	545.9	NO	bb	bb	8.061
13C-12378-PeCDF	29.909	1.170	4.388e4	2.853e4	1.297	1.538	1.550	1313	730	6.93e5	4.33e5	527.7	592.9	NO	bb	bd	8.402
13C-23478-PeCDF	31.246	1.222	4.192e4	2.622e4	1.236	1.599	1.550	1313	730	6.44e5	4.04e5	490.6	553.9	NO	bb	bb	8.295
13C-123478-HxCDF	34.879	0.956	2.313e4	4.527e4	1.242	0.511	0.510	885	940	3.82e5	7.24e5	431.5	770.9	NO	bd	bd	9.485
13C-123678-HxCDF	35.012	0.959	2.376e4	4.401e4	1.343	0.540	0.510	885	940	3.75e5	7.07e5	424.1	752.3	NO	dd	db	8.691
13C-234678-HxCDF	35.893	0.984	2.216e4	4.109e4	1.215	0.539	0.510	885	940	3.52e5	6.54e5	397.4	695.6	NO	bb	bb	8.970
13C-123789-HxCDF	36.917	1.012	1.842e4	3.542e4	1.008	0.520	0.510	885	940	3.18e5	5.95e5	359.8	632.7	NO	bb	bb	9.205
13C-1234678-HpCDF	38.767	1.062	1.333e4	2.852e4	0.926	0.467	0.440	565	709	2.08e5	4.62e5	368.7	650.8	NO	bd	bd	7.782
13C-1234789-HpCDF	41.007	1.124	9.895e3	2.236e4	0.758	0.443	0.440	565	709	1.46e5	3.27e5	258.8	460.7	NO	bb	bb	7.332
13C-1234-TCDD	25.564	0.000	2.875e5	3.768e5	1.000	0.763	0.770	1480	852	4.55e6	5.93e6	3071.8	6960.9	NO	bb	bb	100.000
13C-2378-TCDD	26.365	1.031	3.128e4	4.061e4	1.116	0.770	0.770	1480	852	4.68e5	6.16e5	316.4	723.8	NO	bb	bb	9.693
13C-12378-PeCDD	31.492	1.232	2.695e4	1.651e4	0.732	1.632	1.550	645	708	4.09e5	2.55e5	634.6	360.7	NO	bd	bb	8.938
13C-123478-HxCDD	35.993	0.986	2.892e4	2.327e4	0.960	1.243	1.240	1061	1009	4.82e5	3.77e5	454.8	373.9	NO	bd	bd	9.367
13C-123678-HxCDD	36.104	0.989	3.047e4	2.456e4	1.041	1.241	1.240	1061	1009	5.23e5	4.12e5	492.8	408.3	NO	db	db	9.104
13C-1234678-HpCDD	40.260	1.103	1.664e4	1.585e4	0.632	1.050	1.050	1050	519	2.66e5	2.48e5	253.3	477.4	NO	bb	bb	8.853
13C-OCDD	45.014	1.234	2.653e4	2.944e4	0.504	0.901	0.890	614	593	3.18e5	3.58e5	517.5	604.4	NO	bb	bb	19.143
13C-123789-HxCDD	36.494	0.000	3.248e5	2.556e5	1.000	1.271	1.240	1061	1009	5.32e6	4.22e6	5015.9	4178.1	NO	bb	bb	100.000
37CL-2378-TCDD	26.396	1.033	2.847e4		1.084			874		4.19e5		479.1			bd		3.955

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:15:15 Pacific Daylight Time

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.223	0.863	5.428e2	8.766e2	1.425	0.619	0.770	707	1054	7.89e3	1.19e4	11.2	11.3	YES	bb	bb	1.304
1289-TCDF					1.043		0.770	707	1054								
13468-PECDF					1.376		1.550	576	712								
12389-PECDF					1.000		1.550	819	1365								
123468-HXCDF	33.218	0.952	1.967e4	1.724e4	1.087	1.141	1.240	1219	1007	3.01e5	2.77e5	246.9	274.9	NO	bb	bb	49.664
1368-TCDD	23.508	0.892	4.530e3	6.028e3	0.923	0.751	0.770	950	752	6.70e4	9.08e4	70.6	120.8	NO	bd	bb	15.907
1289-TCDD	27.000	1.024	1.462e2	1.273e2	0.794	1.148	0.770	950	752	2.68e3	2.58e3	2.8	3.4	YES	bb	bd	0.479
12479-PECDD	28.806	0.915	2.990e4	1.865e4	1.843	1.603	1.550	683	590	3.05e5	1.93e5	446.7	327.3	NO	bb	bb	60.607
12389-PECDD	31.904	1.013	7.016e2	4.645e2	1.154	1.510	1.550	683	590	1.06e4	8.37e3	15.5	14.2	NO	bb	bb	2.326
124679-HXCDD	33.998	0.945	1.174e5	9.119e4	1.125	1.287	1.240	1275	1188	1.82e6	1.40e6	1430.5	1182.2	NO	bb	bb	355.264
1234679-HPCDD	39.224	0.974	4.838e5	4.546e5	1.211	1.064	1.050	1856	1571	8.05e6	7.61e6	4334.9	4845.0	NO	bb	bb	2384.613
Total-tetrafurans			8.360e3		1.192			707		1.22e5							22.041
Total-penta1			2.930e4					576		4.32e5							72.753
Total-pentafurans			1.959e4		1.047			819		2.51e5							43.800
Total-hexafurans			2.414e5		1.045			1219		3.82e6							664.801
Total-heptafurans			5.407e5		1.305			1205		8.60e6							2123.180
Total-Furans			1.095e6		1.158			707		1.64e7							4297.174
Total-tetradioxins			1.512e4		0.879			950		2.33e5							54.710
Total-pentadioxins			4.957e4		1.331			683		5.87e5							118.635
Total-hexadioxins			2.552e5		1.028			1275		3.76e6							805.433
Total-heptadioxins			9.995e5		1.140			1856		1.60e7							5277.492
Total-Dioxins			4.514e6		1.092			950		5.97e7							26832.653
Total-TEQ			5.609e6					950		7.61e7							31129.827
FUNCTION1 PFK			1.052e6					413238		2.47e6							
FUNCTION2 PFK			7.355e5					244467		1.84e7							0.000
FUNCTION3 PFK			5.440e6					349761		7.13e7							0.000
FUNCTION4 PFK			3.970e5					199461		9.81e6							
FUNCTION5 PFK			0.000e0					169052		0.00e0							
FUNCTION1 HXCD...			9.336e2					425		1.48e4							0.000
FUNCTION1 HPCD...			1.857e2					622		2.91e3							0.000
FUNCTION2 HPCD...			5.639e2					578		1.03e4							0.000
FUNCTION3 OCDPE			4.072e2					555		6.62e3							0.000
FUNCTION4 NCDPE			3.271e2					540		5.98e3							0.000
FUNCTION5 DCDPE			0.000e0					581		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.99	3.697e2	5.349e2	1.192	0.69	0.77	8.1	YES	NO	bd	db	0.993
2	Total-tetrafurans	23.73	9.947e2	1.381e3	1.192	0.72	0.77	19.4	YES	NO	dd	dd	2.609
3	Total-tetrafurans	23.08	2.407e3	3.550e3	1.192	0.68	0.77	50.6	YES	NO	bd	MM	6.543
4	Total-tetrafurans	22.51	1.618e3	2.396e3	1.192	0.68	0.77	37.3	YES	NO	bb	bb	4.409
5	Total-tetrafurans	25.99	3.611e2	4.115e2	1.192	0.88	0.77	6.9	YES	NO	dd	bb	0.848
6	Total-tetrafurans	25.08	1.965e2	2.912e2	1.192	0.68	0.77	6.1	YES	NO	bd	db	0.536
7	Total-tetrafurans	24.85	7.057e2	1.000e3	1.192	0.71	0.77	13.4	YES	NO	db	dd	1.873
8	Total-tetrafurans	24.66	7.800e2	1.014e3	1.192	0.77	0.77	15.2	YES	NO	dd	dd	1.970
9	Total-tetrafurans	24.51	9.276e2	1.129e3	1.192	0.82	0.77	15.7	YES	NO	dd	dd	2.259

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.18	2.930e4	1.900e4		1.54	1.55	749.8	YES	NO	bb	bb	72.753

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	30.12	8.720e2	5.665e2	1.047	1.54	1.55	19.4	YES	NO	bb	bb	1.956
2	12378-PeCDF	29.92	8.150e2	5.519e2	1.015	1.48	1.55	17.4	YES	NO	bb	bb	1.860
3	Total-pentafurans	29.56	1.588e3	1.053e3	1.047	1.51	1.55	28.3	YES	NO	dd	db	3.592
4	Total-pentafurans	29.45	1.848e3	1.204e3	1.047	1.53	1.55	38.0	YES	NO	dd	bd	4.148
5	Total-pentafurans	29.26	8.060e2	5.351e2	1.047	1.51	1.55	11.9	YES	NO	bd	bb	1.823
6	Total-pentafurans	28.83	1.240e4	7.991e3	1.047	1.55	1.55	166.7	YES	NO	db	db	27.719
7	23478-PeCDF	31.28	1.261e3	8.109e2	1.126	1.56	1.55	24.1	YES	NO	db	bb	2.702

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.86	9.165e3	7.685e3	1.052	1.19	1.24	89.4	YES	NO	bb	bb	25.311
2	Total-hexafurans	35.37	5.099e2	4.608e2	1.045	1.11	1.24	7.4	YES	NO	bb	bb	1.468
3	123678-HxCDF	35.03	6.641e3	5.623e3	1.037	1.18	1.24	83.4	YES	NO	db	db	17.453
4	123478-HxCDF	34.89	2.853e4	2.378e4	1.017	1.20	1.24	376.2	YES	NO	dd	dd	75.205
5	Total-hexafurans	34.74	2.614e3	2.111e3	1.045	1.24	1.24	35.6	YES	NO	bd	bd	7.145
6	Total-hexafurans	34.27	1.121e5	9.632e4	1.045	1.16	1.24	1507.9	YES	NO	bb	bb	315.084
7	Total-hexafurans	33.97	2.603e3	2.207e3	1.045	1.18	1.24	35.5	YES	NO	bb	bb	7.274
8	Total-hexafurans	33.43	5.964e4	5.028e4	1.045	1.19	1.24	752.4	YES	NO	bb	bb	166.197
9	123468-HXCDF	33.22	1.967e4	1.724e4	1.087	1.14	1.24	246.9	YES	NO	bb	bb	49.664

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.03	9.225e3	9.829e3	1.283	0.94	1.05	118.1	YES	NO	bb	bd	46.032
2	Total-heptafurans	39.44	3.512e5	3.412e5	1.305	1.03	1.05	4553.5	YES	NO	bd	bd	1431.5...
3	Total-heptafurans	39.19	2.800e3	2.506e3	1.305	1.12	1.05	33.7	YES	NO	bb	bb	10.970
4	1234678-HpCDF	38.78	1.775e5	1.750e5	1.327	1.01	1.05	2436.0	YES	NO	bb	bb	634.611

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.99	3.697e2	5.349e2	1.192	0.69	0.77	8.1	YES	NO	bd	db	0.993
2	Total-tetrafurans	23.73	9.947e2	1.381e3	1.192	0.72	0.77	19.4	YES	NO	dd	dd	2.609
3	Total-tetrafurans	23.08	2.407e3	3.550e3	1.192	0.68	0.77	50.6	YES	NO	bd	MM	6.543
4	Total-tetrafurans	22.51	1.618e3	2.396e3	1.192	0.68	0.77	37.3	YES	NO	bb	bb	4.409
5	Total-tetrafurans	25.99	3.611e2	4.115e2	1.192	0.88	0.77	6.9	YES	NO	dd	bb	0.848
6	Total-tetrafurans	25.08	1.965e2	2.912e2	1.192	0.68	0.77	6.1	YES	NO	bd	db	0.536
7	Total-tetrafurans	24.85	7.057e2	1.000e3	1.192	0.71	0.77	13.4	YES	NO	db	dd	1.873
8	Total-tetrafurans	24.66	7.800e2	1.014e3	1.192	0.77	0.77	15.2	YES	NO	dd	dd	1.970
9	Total-tetrafurans	24.51	9.276e2	1.129e3	1.192	0.82	0.77	15.7	YES	NO	dd	dd	2.259
10	Total-pentafurans	30.12	8.720e2	5.665e2	1.047	1.54	1.55	19.4	YES	NO	bb	bb	1.956
11	12378-PeCDF	29.92	8.150e2	5.519e2	1.015	1.48	1.55	17.4	YES	NO	bb	bb	1.860
12	Total-pentafurans	29.56	1.588e3	1.053e3	1.047	1.51	1.55	28.3	YES	NO	dd	db	3.592
13	Total-pentafurans	29.45	1.848e3	1.204e3	1.047	1.53	1.55	38.0	YES	NO	dd	bd	4.148
14	Total-pentafurans	29.26	8.060e2	5.351e2	1.047	1.51	1.55	11.9	YES	NO	bd	bb	1.823
15	Total-pentafurans	28.83	1.240e4	7.991e3	1.047	1.55	1.55	166.7	YES	NO	db	db	27.719
16	23478-PeCDF	31.28	1.261e3	8.109e2	1.126	1.56	1.55	24.1	YES	NO	db	bb	2.702
17	234678-HxCDF	35.86	9.165e3	7.685e3	1.052	1.19	1.24	89.4	YES	NO	bb	bb	25.311
18	Total-hexafurans	35.37	5.099e2	4.608e2	1.045	1.11	1.24	7.4	YES	NO	bb	bb	1.468
19	123678-HxCDF	35.03	6.641e3	5.623e3	1.037	1.18	1.24	83.4	YES	NO	db	db	17.453
20	123478-HxCDF	34.89	2.853e4	2.378e4	1.017	1.20	1.24	376.2	YES	NO	dd	dd	75.205
21	Total-hexafurans	34.74	2.614e3	2.111e3	1.045	1.24	1.24	35.6	YES	NO	bd	bd	7.145
22	Total-hexafurans	34.27	1.121e5	9.632e4	1.045	1.16	1.24	1507.9	YES	NO	bb	bb	315.084
23	Total-hexafurans	33.97	2.603e3	2.207e3	1.045	1.18	1.24	35.5	YES	NO	bb	bb	7.274
24	Total-hexafurans	33.43	5.964e4	5.028e4	1.045	1.19	1.24	752.4	YES	NO	bb	bb	166.197
25	123468-HXCDF	33.22	1.967e4	1.724e4	1.087	1.14	1.24	246.9	YES	NO	bb	bb	49.664
26	1234789-HpCDF	41.03	9.225e3	9.829e3	1.283	0.94	1.05	118.1	YES	NO	bb	bd	46.032
27	Total-heptafurans	39.44	3.512e5	3.412e5	1.305	1.03	1.05	4553.5	YES	NO	bd	bd	1431.5...
28	Total-heptafurans	39.19	2.800e3	2.506e3	1.305	1.12	1.05	33.7	YES	NO	bb	bb	10.970
29	1234678-HpCDF	38.78	1.775e5	1.750e5	1.327	1.01	1.05	2436.0	YES	NO	bb	bb	634.611
30	OCDF	45.27	2.561e5	2.989e5	1.447	0.86	0.89	2687.0	YES	NO	bd	bd	1370.6...
31	Total-penta1	27.18	2.930e4	1.900e4		1.54	1.55	749.8	YES	NO	bb	bb	72.753

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.58	6.774e2	8.260e2	0.879	0.82	0.77	11.5	YES	NO	bd	bd	2.379
2	Total-tetradioxins	25.37	9.044e2	1.201e3	0.879	0.75	0.77	13.1	YES	NO	db	db	3.331
3	Total-tetradioxins	24.72	9.472e2	1.320e3	0.879	0.72	0.77	13.5	YES	NO	bb	db	3.588
4	Total-tetradioxins	23.99	1.251e3	1.744e3	0.879	0.72	0.77	21.8	YES	NO	db	db	4.739
5	Total-tetradioxins	23.89	1.353e3	1.872e3	0.879	0.72	0.77	22.5	YES	NO	dd	dd	5.102
6	Total-tetradioxins	23.78	5.457e3	6.972e3	0.879	0.78	0.77	92.2	YES	NO	bd	bd	19.665
7	1368-TCDD	23.51	4.530e3	6.028e3	0.923	0.75	0.77	70.6	YES	NO	bd	bb	15.907

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	30.27	2.597e3	1.503e3	1.331	1.73	1.55	60.2	YES	NO	dd	bd	7.089
2	Total-pentadioxins	30.12	2.857e3	1.833e3	1.331	1.56	1.55	63.6	YES	NO	bd	bb	8.109
3	Total-pentadioxins	29.90	3.015e3	1.756e3	1.331	1.72	1.55	66.7	YES	NO	bb	bb	8.251
4	Total-pentadioxins	29.30	3.159e3	2.089e3	1.331	1.51	1.55	74.2	YES	NO	bb	bb	9.073
5	12479-PECDD	28.81	2.990e4	1.865e4	1.843	1.60	1.55	446.7	YES	NO	bb	bb	60.607
6	12389-PECDD	31.90	7.016e2	4.645e2	1.154	1.51	1.55	15.5	YES	NO	bb	bb	2.326
7	12378-PeCDD	31.50	2.824e3	1.619e3	0.995	1.74	1.55	54.6	YES	NO	bb	bb	10.271
8	Total-pentadioxins	30.82	1.286e3	9.029e2	1.331	1.42	1.55	26.2	YES	NO	bb	bb	3.784
9	Total-pentadioxins	30.44	3.229e3	2.048e3	1.331	1.58	1.55	51.1	YES	NO	db	db	9.124

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.52	9.516e3	6.905e3	0.950	1.38	1.24	120.7	YES	NO	bb	bd	32.226
2	123678-HxCDD	36.12	2.927e4	2.307e4	1.009	1.27	1.24	403.6	YES	NO	db	dd	94.259
3	123478-HxCDD	36.00	4.437e3	3.793e3	1.027	1.17	1.24	62.7	YES	NO	bd	bd	15.351
4	Total-hexadioxins	35.24	3.765e3	3.159e3	1.028	1.19	1.24	48.6	YES	NO	dd	db	12.565
5	Total-hexadioxins	35.12	7.025e4	5.589e4	1.028	1.26	1.24	628.4	YES	NO	bd	bd	228.897
6	Total-hexadioxins	34.77	2.060e4	1.625e4	1.028	1.27	1.24	249.8	YES	NO	bb	bb	66.871
7	124679-HXCDD	34.00	1.174e5	9.119e4	1.125	1.29	1.24	1430.5	YES	NO	bb	bb	355.264

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.28	5.157e5	4.885e5	1.068	1.06	1.05	4267.0	YES	NO	bb	bb	2892.8...
2	1234679-HPCDD	39.22	4.838e5	4.546e5	1.211	1.06	1.05	4334.9	YES	NO	bb	bb	2384.6...

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.58	6.774e2	8.260e2	0.879	0.82	0.77	11.5	YES	NO	bd	bd	2.379
2	Total-tetradioxins	25.37	9.044e2	1.201e3	0.879	0.75	0.77	13.1	YES	NO	db	db	3.331
3	Total-tetradioxins	24.72	9.472e2	1.320e3	0.879	0.72	0.77	13.5	YES	NO	bb	db	3.588
4	Total-tetradioxins	23.99	1.251e3	1.744e3	0.879	0.72	0.77	21.8	YES	NO	db	db	4.739
5	Total-tetradioxins	23.89	1.353e3	1.872e3	0.879	0.72	0.77	22.5	YES	NO	dd	dd	5.102
6	Total-tetradioxins	23.78	5.457e3	6.972e3	0.879	0.78	0.77	92.2	YES	NO	bd	bd	19.665
7	1368-TCDD	23.51	4.530e3	6.028e3	0.923	0.75	0.77	70.6	YES	NO	bd	bb	15.907
8	Total-pentadioxins	30.27	2.597e3	1.503e3	1.331	1.73	1.55	60.2	YES	NO	dd	bd	7.089
9	Total-pentadioxins	30.12	2.857e3	1.833e3	1.331	1.56	1.55	63.6	YES	NO	bd	bb	8.109
10	Total-pentadioxins	29.90	3.015e3	1.756e3	1.331	1.72	1.55	66.7	YES	NO	bb	bb	8.251
11	Total-pentadioxins	29.30	3.159e3	2.089e3	1.331	1.51	1.55	74.2	YES	NO	bb	bb	9.073
12	12479-PECDD	28.81	2.990e4	1.865e4	1.843	1.60	1.55	446.7	YES	NO	bb	bb	60.607
13	12389-PECDD	31.90	7.016e2	4.645e2	1.154	1.51	1.55	15.5	YES	NO	bb	bb	2.326
14	12378-PeCDD	31.50	2.824e3	1.619e3	0.995	1.74	1.55	54.6	YES	NO	bb	bb	10.271
15	Total-pentadioxins	30.82	1.286e3	9.029e2	1.331	1.42	1.55	26.2	YES	NO	bb	bb	3.784
16	Total-pentadioxins	30.44	3.229e3	2.048e3	1.331	1.58	1.55	51.1	YES	NO	db	db	9.124
17	123789-HxCDD	36.52	9.516e3	6.905e3	0.950	1.38	1.24	120.7	YES	NO	bb	bd	32.226
18	123678-HxCDD	36.12	2.927e4	2.307e4	1.009	1.27	1.24	403.6	YES	NO	db	dd	94.259
19	123478-HxCDD	36.00	4.437e3	3.793e3	1.027	1.17	1.24	62.7	YES	NO	bd	bd	15.351
20	Total-hexadioxins	35.24	3.765e3	3.159e3	1.028	1.19	1.24	48.6	YES	NO	dd	db	12.565
21	Total-hexadioxins	35.12	7.025e4	5.589e4	1.028	1.26	1.24	628.4	YES	NO	bd	bd	228.897
22	Total-hexadioxins	34.77	2.060e4	1.625e4	1.028	1.27	1.24	249.8	YES	NO	bb	bb	66.871
23	124679-HXCDD	34.00	1.174e5	9.119e4	1.125	1.29	1.24	1430.5	YES	NO	bb	bb	355.264
24	1234678-HpCDD	40.28	5.157e5	4.885e5	1.068	1.06	1.05	4267.0	YES	NO	bb	bb	2892.8...
25	1234679-HPCDD	39.22	4.838e5	4.546e5	1.211	1.06	1.05	4334.9	YES	NO	bb	bb	2384.6...
26	OCDD	45.02	3.194e6	3.606e6	1.181	0.89	0.89	16919.5	YES	NO	bb	bb	20576....

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.99	3.697e2	5.349e2	1.192	0.69	0.77	8.1	YES	NO	bd	db	0.993
2	Total-tetrafurans	23.73	9.947e2	1.381e3	1.192	0.72	0.77	19.4	YES	NO	dd	dd	2.609
3	Total-tetrafurans	23.08	2.407e3	3.550e3	1.192	0.68	0.77	50.6	YES	NO	bd	MM	6.543
4	Total-tetrafurans	22.51	1.618e3	2.396e3	1.192	0.68	0.77	37.3	YES	NO	bb	bb	4.409
5	Total-tetrafurans	25.99	3.611e2	4.115e2	1.192	0.88	0.77	6.9	YES	NO	dd	bb	0.848
6	Total-tetrafurans	25.08	1.965e2	2.912e2	1.192	0.68	0.77	6.1	YES	NO	bd	db	0.536
7	Total-tetrafurans	24.85	7.057e2	1.000e3	1.192	0.71	0.77	13.4	YES	NO	db	dd	1.873
8	Total-tetrafurans	24.66	7.800e2	1.014e3	1.192	0.77	0.77	15.2	YES	NO	dd	dd	1.970
9	Total-tetrafurans	24.51	9.276e2	1.129e3	1.192	0.82	0.77	15.7	YES	NO	dd	dd	2.259
10	Total-pentafurans	30.12	8.720e2	5.665e2	1.047	1.54	1.55	19.4	YES	NO	bb	bb	1.956
11	12378-PeCDF	29.92	8.150e2	5.519e2	1.015	1.48	1.55	17.4	YES	NO	bb	bb	1.860
12	Total-pentafurans	29.56	1.588e3	1.053e3	1.047	1.51	1.55	28.3	YES	NO	dd	db	3.592
13	Total-pentafurans	29.45	1.848e3	1.204e3	1.047	1.53	1.55	38.0	YES	NO	dd	bd	4.148
14	Total-pentafurans	29.26	8.060e2	5.351e2	1.047	1.51	1.55	11.9	YES	NO	bd	bb	1.823
15	Total-pentafurans	28.83	1.240e4	7.991e3	1.047	1.55	1.55	166.7	YES	NO	db	db	27.719
16	23478-PeCDF	31.28	1.261e3	8.109e2	1.126	1.56	1.55	24.1	YES	NO	db	bb	2.702
17	234678-HxCDF	35.86	9.165e3	7.685e3	1.052	1.19	1.24	89.4	YES	NO	bb	bb	25.311
18	Total-hexafurans	35.37	5.099e2	4.608e2	1.045	1.11	1.24	7.4	YES	NO	bb	bb	1.468
19	123678-HxCDF	35.03	6.641e3	5.623e3	1.037	1.18	1.24	83.4	YES	NO	db	db	17.453
20	123478-HxCDF	34.89	2.853e4	2.378e4	1.017	1.20	1.24	376.2	YES	NO	dd	dd	75.205
21	Total-hexafurans	34.74	2.614e3	2.111e3	1.045	1.24	1.24	35.6	YES	NO	bd	bd	7.145
22	Total-hexafurans	34.27	1.121e5	9.632e4	1.045	1.16	1.24	1507.9	YES	NO	bb	bb	315.084
23	Total-hexafurans	33.97	2.603e3	2.207e3	1.045	1.18	1.24	35.5	YES	NO	bb	bb	7.274
24	Total-hexafurans	33.43	5.964e4	5.028e4	1.045	1.19	1.24	752.4	YES	NO	bb	bb	166.197
25	123468-HXCDF	33.22	1.967e4	1.724e4	1.087	1.14	1.24	246.9	YES	NO	bb	bb	49.664
26	1234789-HpCDF	41.03	9.225e3	9.829e3	1.283	0.94	1.05	118.1	YES	NO	bb	bd	46.032
27	Total-heptafurans	39.44	3.512e5	3.412e5	1.305	1.03	1.05	4553.5	YES	NO	bd	bd	1431.5...
28	Total-heptafurans	39.19	2.800e3	2.506e3	1.305	1.12	1.05	33.7	YES	NO	bb	bb	10.970
29	1234678-HpCDF	38.78	1.775e5	1.750e5	1.327	1.01	1.05	2436.0	YES	NO	bb	bb	634.611
30	OCDF	45.27	2.561e5	2.989e5	1.447	0.86	0.89	2687.0	YES	NO	bd	bd	1370.6...
31	Total-penta1	27.18	2.930e4	1.900e4		1.54	1.55	749.8	YES	NO	bb	bb	72.753
32	Total-tetradioxins	25.58	6.774e2	8.260e2	0.879	0.82	0.77	11.5	YES	NO	bd	bd	2.379
33	Total-tetradioxins	25.37	9.044e2	1.201e3	0.879	0.75	0.77	13.1	YES	NO	db	db	3.331
34	Total-tetradioxins	24.72	9.472e2	1.320e3	0.879	0.72	0.77	13.5	YES	NO	bb	db	3.588
35	Total-tetradioxins	23.99	1.251e3	1.744e3	0.879	0.72	0.77	21.8	YES	NO	db	db	4.739
36	Total-tetradioxins	23.89	1.353e3	1.872e3	0.879	0.72	0.77	22.5	YES	NO	dd	dd	5.102
37	Total-tetradioxins	23.78	5.457e3	6.972e3	0.879	0.78	0.77	92.2	YES	NO	bd	bd	19.665

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1368-TCDD	23.51	4.530e3	6.028e3	0.923	0.75	0.77	70.6	YES	NO	bd	bb	15.907
39	Total-pentadioxins	30.27	2.597e3	1.503e3	1.331	1.73	1.55	60.2	YES	NO	dd	bd	7.089
40	Total-pentadioxins	30.12	2.857e3	1.833e3	1.331	1.56	1.55	63.6	YES	NO	bd	bb	8.109
41	Total-pentadioxins	29.90	3.015e3	1.756e3	1.331	1.72	1.55	66.7	YES	NO	bb	bb	8.251
42	Total-pentadioxins	29.30	3.159e3	2.089e3	1.331	1.51	1.55	74.2	YES	NO	bb	bb	9.073
43	12479-PECDD	28.81	2.990e4	1.865e4	1.843	1.60	1.55	446.7	YES	NO	bb	bb	60.607
44	12389-PECDD	31.90	7.016e2	4.645e2	1.154	1.51	1.55	15.5	YES	NO	bb	bb	2.326
45	12378-PeCDD	31.50	2.824e3	1.619e3	0.995	1.74	1.55	54.6	YES	NO	bb	bb	10.271
46	Total-pentadioxins	30.82	1.286e3	9.029e2	1.331	1.42	1.55	26.2	YES	NO	bb	bb	3.784
47	Total-pentadioxins	30.44	3.229e3	2.048e3	1.331	1.58	1.55	51.1	YES	NO	db	db	9.124
48	123789-HxCDD	36.52	9.516e3	6.905e3	0.950	1.38	1.24	120.7	YES	NO	bb	bd	32.226
49	123678-HxCDD	36.12	2.927e4	2.307e4	1.009	1.27	1.24	403.6	YES	NO	db	dd	94.259
50	123478-HxCDD	36.00	4.437e3	3.793e3	1.027	1.17	1.24	62.7	YES	NO	bd	bd	15.351
51	Total-hexadioxins	35.24	3.765e3	3.159e3	1.028	1.19	1.24	48.6	YES	NO	dd	db	12.565
52	Total-hexadioxins	35.12	7.025e4	5.589e4	1.028	1.26	1.24	628.4	YES	NO	bd	bd	228.897
53	Total-hexadioxins	34.77	2.060e4	1.625e4	1.028	1.27	1.24	249.8	YES	NO	bb	bb	66.871
54	124679-HXCDD	34.00	1.174e5	9.119e4	1.125	1.29	1.24	1430.5	YES	NO	bb	bb	355.264
55	1234678-HpCDD	40.28	5.157e5	4.885e5	1.068	1.06	1.05	4267.0	YES	NO	bb	bb	2892.8...
56	1234679-HPCDD	39.22	4.838e5	4.546e5	1.211	1.06	1.05	4334.9	YES	NO	bb	bb	2384.6...
57	OCDD	45.02	3.194e6	3.606e6	1.181	0.89	0.89	16919.5	YES	NO	bb	bb	20576....

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	23.96	1.034e6					4.7	YES		bb		
2	FUNCTION1 PFK	22.31	1.747e4					1.3	NO		bb		

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.25	3.032e3					1.1	NO		bb		0.000
2	FUNCTION2 PFK	28.19	4.726e3					0.7	NO		bb		0.000
3	FUNCTION2 PFK	29.66	4.109e3					0.7	NO		dd		0.000
4	FUNCTION2 PFK	29.62	6.991e3					1.2	NO		bd		0.000
5	FUNCTION2 PFK	29.56	1.011e4					1.5	NO		bb		0.000
6	FUNCTION2 PFK	29.51	1.453e4					1.4	NO		bb		0.000
7	FUNCTION2 PFK	29.31	6.230e3					0.8	NO		db		0.000
8	FUNCTION2 PFK	29.25	1.464e4					1.5	NO		bd		0.000
9	FUNCTION2 PFK	29.11	2.109e4					1.8	NO		db		0.000
10	FUNCTION2 PFK	29.07	7.923e3					1.5	NO		bd		0.000
11	FUNCTION2 PFK	28.97	2.408e4					1.9	NO		bb		0.000
12	FUNCTION2 PFK	28.91	6.525e3					1.1	NO		bb		0.000
13	FUNCTION2 PFK	28.68	1.474e3					0.4	NO		db		0.000
14	FUNCTION2 PFK	28.64	1.484e4					1.3	NO		dd		0.000
15	FUNCTION2 PFK	28.55	2.036e4					2.0	NO		dd		0.000
16	FUNCTION2 PFK	28.45	3.548e4					2.1	NO		dd		0.000
17	FUNCTION2 PFK	28.38	2.584e4					3.1	YES		dd		0.000
18	FUNCTION2 PFK	28.34	7.532e4					4.1	YES		bd		0.000
19	FUNCTION2 PFK	31.08	8.261e3					1.0	NO		db		0.000
20	FUNCTION2 PFK	31.01	1.163e4					1.2	NO		bd		0.000
21	FUNCTION2 PFK	30.83	1.667e3					0.4	NO		bb		0.000
22	FUNCTION2 PFK	30.73	7.812e2					0.3	NO		bb		0.000
23	FUNCTION2 PFK	30.66	9.490e3					1.3	NO		bb		0.000
24	FUNCTION2 PFK	30.59	1.224e3					0.5	NO		bb		0.000
25	FUNCTION2 PFK	30.54	9.379e3					1.1	NO		bb		0.000
26	FUNCTION2 PFK	30.41	1.139e4					0.9	NO		bb		0.000
27	FUNCTION2 PFK	30.33	1.466e3					0.5	NO		bb		0.000
28	FUNCTION2 PFK	30.20	2.908e3					0.8	NO		bb		0.000
29	FUNCTION2 PFK	30.13	5.029e3					1.1	NO		bb		0.000
30	FUNCTION2 PFK	30.07	1.460e4					1.5	NO		db		0.000
31	FUNCTION2 PFK	29.99	2.060e4					1.8	NO		bd		0.000
32	FUNCTION2 PFK	29.92	4.118e3					0.7	NO		db		0.000
33	FUNCTION2 PFK	29.88	9.800e3					1.4	NO		bd		0.000
34	FUNCTION2 PFK	29.71	1.900e4					1.5	NO		db		0.000
35	FUNCTION2 PFK	32.37	5.272e3					0.9	NO		bb		0.000
36	FUNCTION2 PFK	32.22	4.693e3					0.8	NO		bb		0.000
37	FUNCTION2 PFK	31.93	6.652e3					1.1	NO		db		0.000

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	31.86	1.831e4					1.6	NO		dd		0.000
39	FUNCTION2 PFK	31.79	1.489e4					1.5	NO		dd		0.000
40	FUNCTION2 PFK	31.75	1.811e4					2.2	NO		dd		0.000
41	FUNCTION2 PFK	31.70	2.262e4					2.4	NO		bd		0.000
42	FUNCTION2 PFK	31.64	2.450e4					2.4	NO		db		0.000
43	FUNCTION2 PFK	31.59	1.564e4					2.1	NO		dd		0.000
44	FUNCTION2 PFK	31.51	1.876e4					1.2	NO		bd		0.000
45	FUNCTION2 PFK	31.45	7.200e3					1.4	NO		bb		0.000
46	FUNCTION2 PFK	31.38	8.764e3					1.2	NO		db		0.000
47	FUNCTION2 PFK	31.34	7.501e3					1.2	NO		dd		0.000
48	FUNCTION2 PFK	31.29	2.591e4					1.8	NO		dd		0.000
49	FUNCTION2 PFK	31.24	7.673e3					1.3	NO		bd		0.000
50	FUNCTION2 PFK	31.17	1.759e4					1.4	NO		bb		0.000
51	FUNCTION2 PFK	32.82	5.479e4					2.2	NO		db		0.000
52	FUNCTION2 PFK	32.68	1.206e4					1.6	NO		bd		0.000
53	FUNCTION2 PFK	32.64	7.146e3					1.3	NO		db		0.000
54	FUNCTION2 PFK	32.59	8.789e3					1.2	NO		bd		0.000

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.79	2.167e5					6.3	YES		dd		0.000
2	FUNCTION3 PFK	33.75	7.832e4					7.1	YES		dd		0.000
3	FUNCTION3 PFK	33.70	1.834e5					8.6	YES		dd		0.000
4	FUNCTION3 PFK	33.65	1.427e5					9.7	YES		dd		0.000
5	FUNCTION3 PFK	33.63	1.513e5					9.8	YES		dd		0.000
6	FUNCTION3 PFK	33.55	6.178e5					10.9	YES		dd		0.000
7	FUNCTION3 PFK	33.41	2.158e5					14.2	YES		dd		0.000
8	FUNCTION3 PFK	33.39	1.476e6					13.9	YES		dd		0.000
9	FUNCTION3 PFK	33.10	2.741e5					18.1	YES		dd		0.000
10	FUNCTION3 PFK	33.03	4.282e5					19.2	YES		dd		0.000
11	FUNCTION3 PFK	32.97	5.595e5					21.0	YES		bd		0.000
12	FUNCTION3 PFK	35.55	4.831e4					2.7	NO		dd		0.000
13	FUNCTION3 PFK	35.48	6.936e4					3.1	YES		bd		0.000
14	FUNCTION3 PFK	35.27	9.609e3					0.9	NO		db		0.000
15	FUNCTION3 PFK	35.18	5.842e4					2.3	NO		bd		0.000
16	FUNCTION3 PFK	35.08	2.938e4					2.0	NO		db		0.000
17	FUNCTION3 PFK	35.05	1.262e4					1.5	NO		bd		0.000
18	FUNCTION3 PFK	34.90	1.545e3					0.4	NO		bb		0.000
19	FUNCTION3 PFK	34.83	1.759e4					1.1	NO		bb		0.000
20	FUNCTION3 PFK	34.70	9.816e3					0.9	NO		bb		0.000
21	FUNCTION3 PFK	34.63	1.805e4					1.7	NO		db		0.000
22	FUNCTION3 PFK	34.58	3.369e4					2.1	NO		dd		0.000
23	FUNCTION3 PFK	34.49	5.139e4					2.2	NO		dd		0.000
24	FUNCTION3 PFK	34.43	2.822e4					1.6	NO		bd		0.000
25	FUNCTION3 PFK	34.24	8.259e3					1.0	NO		bb		0.000
26	FUNCTION3 PFK	34.00	5.492e4					2.3	NO		db		0.000
27	FUNCTION3 PFK	33.93	3.999e4					2.8	NO		dd		0.000
28	FUNCTION3 PFK	36.86	1.485e4					1.7	NO		bb		0.000
29	FUNCTION3 PFK	36.81	2.476e4					2.4	NO		db		0.000
30	FUNCTION3 PFK	36.71	7.434e4					1.8	NO		dd		0.000
31	FUNCTION3 PFK	36.59	8.264e3					0.9	NO		dd		0.000
32	FUNCTION3 PFK	36.55	4.509e3					0.6	NO		bd		0.000
33	FUNCTION3 PFK	36.39	3.872e4					2.1	NO		db		0.000
34	FUNCTION3 PFK	36.29	3.798e4					2.0	NO		dd		0.000
35	FUNCTION3 PFK	36.26	3.451e4					1.9	NO		bd		0.000
36	FUNCTION3 PFK	36.17	3.969e3					1.0	NO		bb		0.000
37	FUNCTION3 PFK	35.96	1.816e3					0.5	NO		bb		0.000

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	35.91	1.624e4					1.5	NO		db		0.000
39	FUNCTION3 PFK	35.87	2.199e4					1.7	NO		dd		0.000
40	FUNCTION3 PFK	35.83	2.598e4					2.0	NO		dd		0.000
41	FUNCTION3 PFK	35.76	7.163e4					2.8	NO		dd		0.000
42	FUNCTION3 PFK	35.67	4.448e4					2.8	NO		dd		0.000
43	FUNCTION3 PFK	35.61	2.895e4					2.3	NO		dd		0.000
44	FUNCTION3 PFK	37.81	7.130e3					0.9	NO		bb		0.000
45	FUNCTION3 PFK	37.73	1.470e4					1.0	NO		db		0.000
46	FUNCTION3 PFK	37.69	1.159e4					1.1	NO		bd		0.000
47	FUNCTION3 PFK	37.54	1.039e4					0.9	NO		bb		0.000
48	FUNCTION3 PFK	37.49	4.550e3					0.6	NO		bb		0.000
49	FUNCTION3 PFK	37.37	4.729e3					0.5	NO		bb		0.000
50	FUNCTION3 PFK	37.32	3.457e3					0.6	NO		bb		0.000
51	FUNCTION3 PFK	37.21	7.274e4					0.8	NO		db		0.000
52	FUNCTION3 PFK	37.02	2.335e4					2.2	NO		bd		0.000

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.58	9.399e2					0.4	NO		bb		
2	FUNCTION4 PFK	38.53	3.165e3					0.9	NO		bb		
3	FUNCTION4 PFK	38.43	4.076e3					0.8	NO		bb		
4	FUNCTION4 PFK	38.30	1.113e3					0.5	NO		bb		
5	FUNCTION4 PFK	38.02	5.564e3					1.7	NO		bb		
6	FUNCTION4 PFK	37.95	2.719e4					3.8	YES		bb		
7	FUNCTION4 PFK	40.44	2.866e4					2.0	NO		bd		
8	FUNCTION4 PFK	40.30	8.487e3					0.9	NO		bb		
9	FUNCTION4 PFK	40.08	2.123e3					0.6	NO		bb		
10	FUNCTION4 PFK	39.98	6.458e3					1.3	NO		bb		
11	FUNCTION4 PFK	39.93	3.245e3					0.8	NO		bb		
12	FUNCTION4 PFK	39.88	2.158e3					0.6	NO		bb		
13	FUNCTION4 PFK	39.84	8.810e2					0.4	NO		bb		
14	FUNCTION4 PFK	39.40	9.117e3					0.9	NO		bb		
15	FUNCTION4 PFK	39.26	1.978e4					1.7	NO		bb		
16	FUNCTION4 PFK	39.19	1.889e4					2.0	NO		db		
17	FUNCTION4 PFK	39.12	1.075e4					1.6	NO		dd		
18	FUNCTION4 PFK	39.08	9.883e3					1.4	NO		bd		
19	FUNCTION4 PFK	39.01	1.779e4					2.5	NO		db		
20	FUNCTION4 PFK	38.97	4.989e3					1.3	NO		dd		
21	FUNCTION4 PFK	38.93	9.915e3					1.4	NO		dd		
22	FUNCTION4 PFK	38.87	1.510e4					1.5	NO		bd		
23	FUNCTION4 PFK	42.79	9.792e3					1.7	NO		db		
24	FUNCTION4 PFK	42.72	1.199e4					1.2	NO		bd		
25	FUNCTION4 PFK	42.42	1.337e4					1.4	NO		bb		
26	FUNCTION4 PFK	41.93	1.475e4					1.2	NO		bb		
27	FUNCTION4 PFK	41.46	2.040e3					0.6	NO		bb		
28	FUNCTION4 PFK	41.12	6.981e3					1.4	NO		bb		
29	FUNCTION4 PFK	41.06	5.762e3					1.1	NO		db		
30	FUNCTION4 PFK	40.95	2.440e4					2.1	NO		bd		
31	FUNCTION4 PFK	40.91	1.357e3					0.6	NO		bb		
32	FUNCTION4 PFK	40.85	3.061e3					0.7	NO		bb		
33	FUNCTION4 PFK	40.74	5.899e3					1.4	NO		db		
34	FUNCTION4 PFK	40.71	1.165e4					1.9	NO		bd		
35	FUNCTION4 PFK	40.65	1.396e4					2.5	NO		db		
36	FUNCTION4 PFK	40.55	6.173e4					2.4	NO		dd		

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.88	7.029e1					4.1	YES		db		0.000
2	FUNCTION1 HXCD...	26.82	7.188e1					3.5	YES		dd		0.000
3	FUNCTION1 HXCD...	26.74	7.775e1					2.8	NO		bd		0.000
4	FUNCTION1 HXCD...	26.09	1.030e2					4.1	YES		bb		0.000
5	FUNCTION1 HXCD...	25.72	8.523e1					3.2	YES		bb		0.000
6	FUNCTION1 HXCD...	24.07	8.573e1					2.1	NO		bb		0.000
7	FUNCTION1 HXCD...	23.69	2.748e2					10.6	YES		bb		0.000
8	FUNCTION1 HXCD...	22.43	7.797e1					2.2	NO		bb		0.000
9	FUNCTION1 HXCD...	22.16	8.702e1					2.3	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	24.51	1.145e2					3.4	YES		bb		0.000
2	FUNCTION1 HPCD...	22.53	7.114e1					1.3	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.25	8.429e1					2.5	NO		bd		0.000
2	FUNCTION2 HPCD...	29.03	8.911e1					3.6	YES		bb		0.000
3	FUNCTION2 HPCD...	28.90	1.290e2					4.5	YES		bb		0.000
4	FUNCTION2 HPCD...	31.08	8.662e1					2.4	NO		db		0.000
5	FUNCTION2 HPCD...	31.00	9.436e1					2.0	NO		bd		0.000
6	FUNCTION2 HPCD...	30.33	8.050e1					2.6	NO		db		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	34.17	4.072e2					11.9	YES		bb		0.000

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.41	3.271e2					11.1	YES		bb		0.000

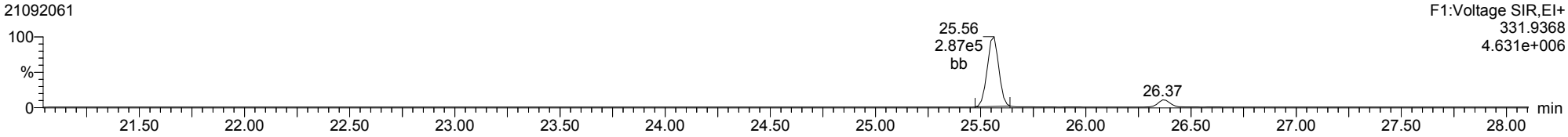
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

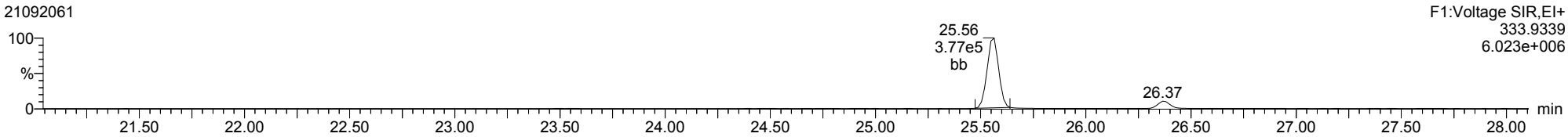
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

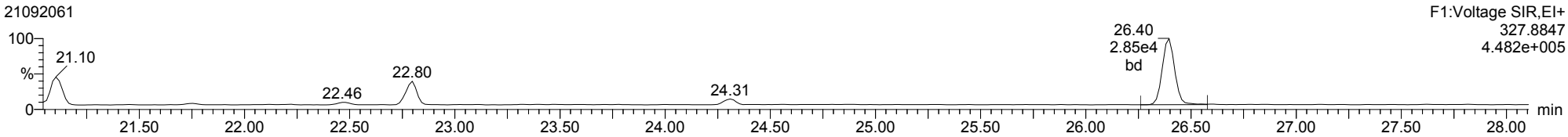
13C-1234-TCDD



13C-1234-TCDD

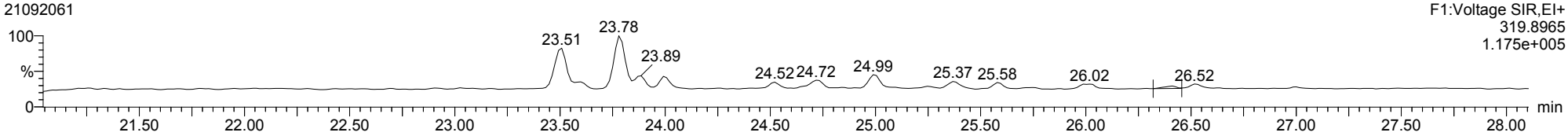


37CL-2378-TCDD

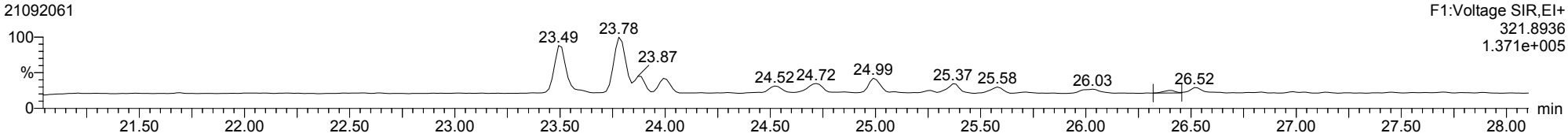


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

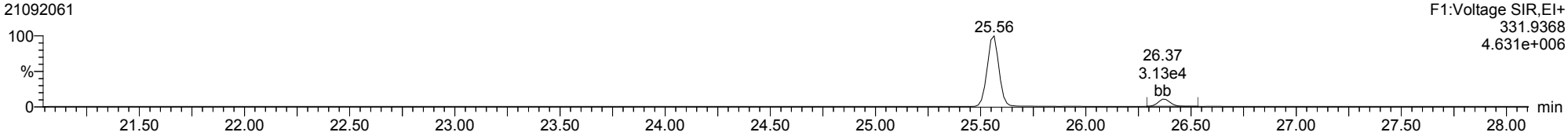
2378-TCDD



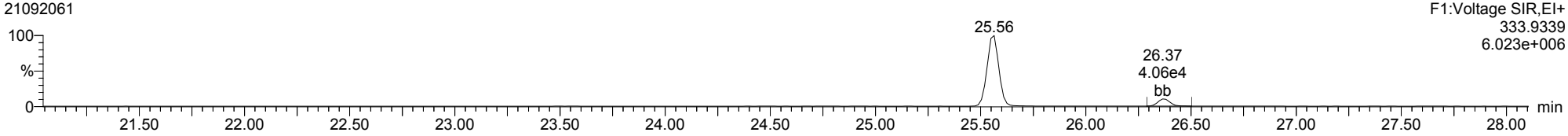
2378-TCDD



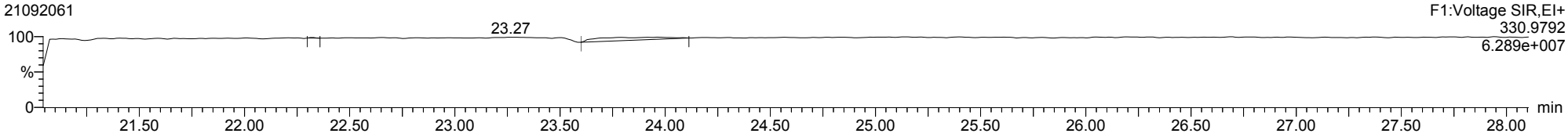
13C-2378-TCDD



13C-2378-TCDD

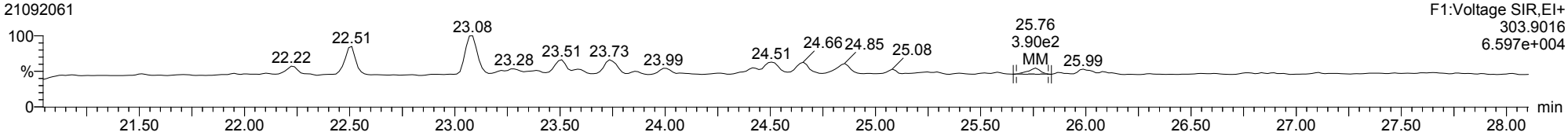


FUNCTION1 PFK

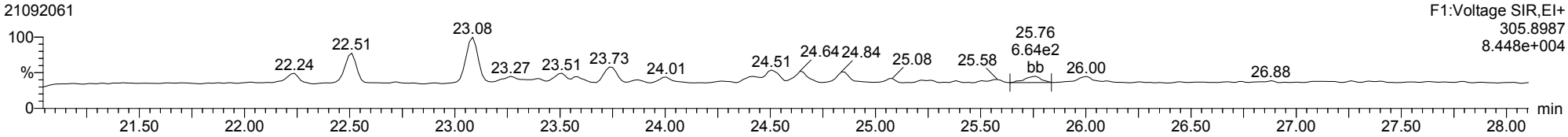


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

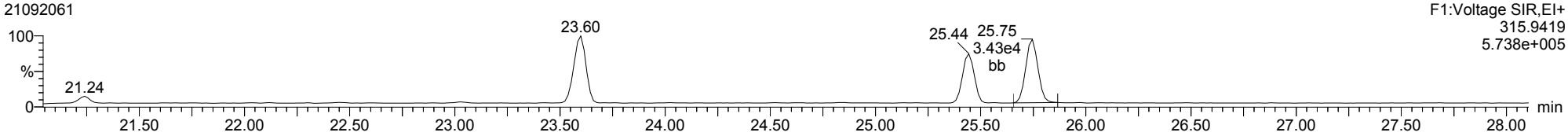
2378-TCDF



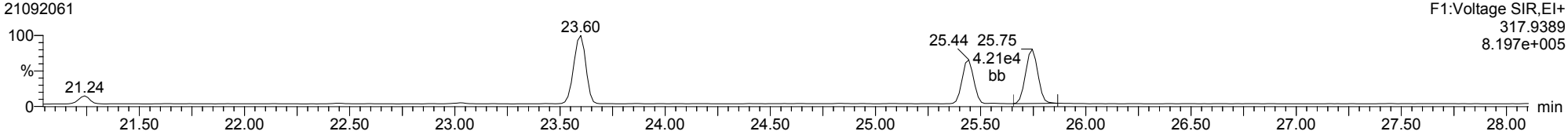
2378-TCDF



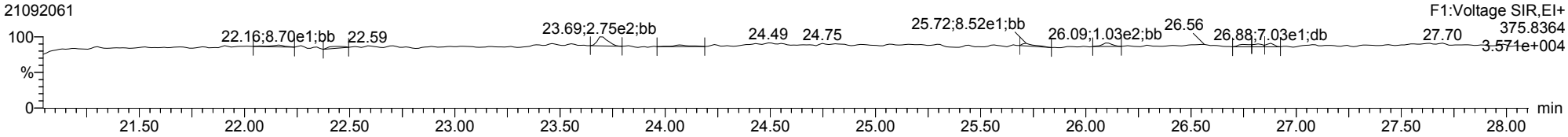
13C-2378-TCDF



13C-2378-TCDF

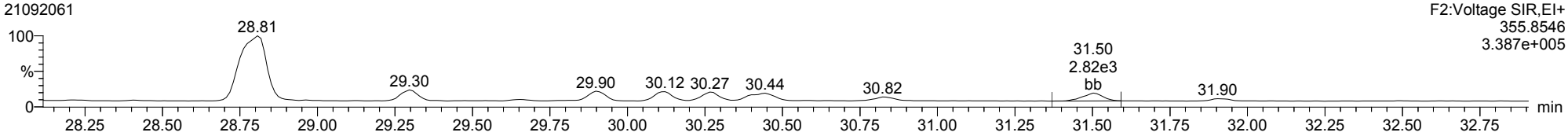


FUNCTION1 HXCDPE

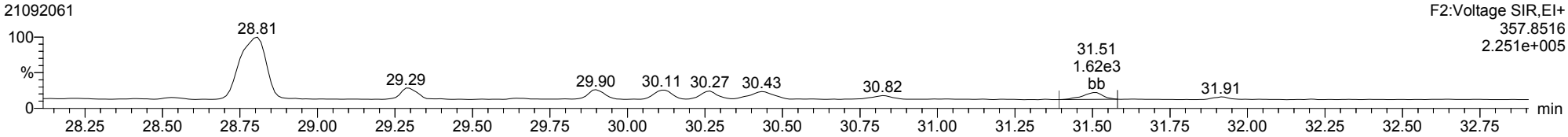


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

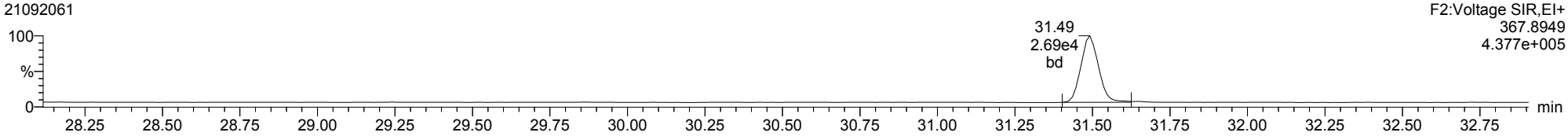
12378-PeCDD



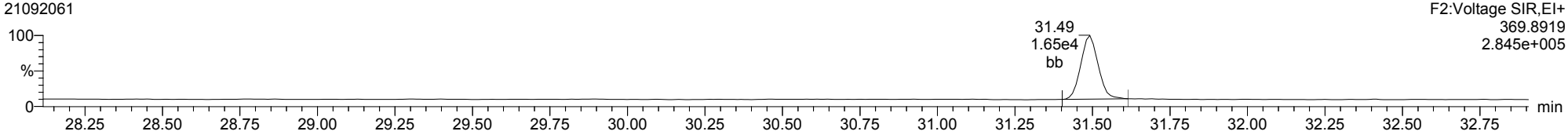
12378-PeCDD



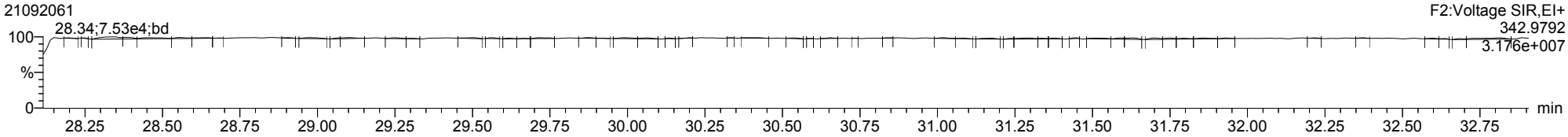
13C-12378-PeCDD



13C-12378-PeCDD

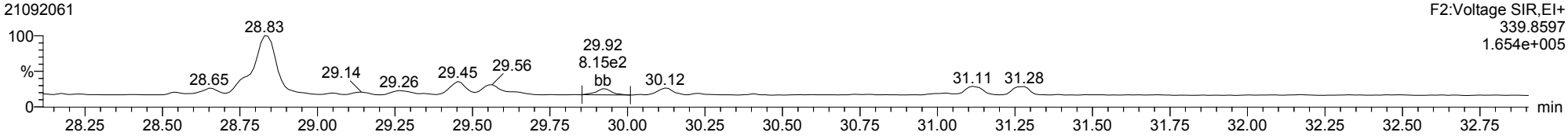


FUNCTION2 PFK

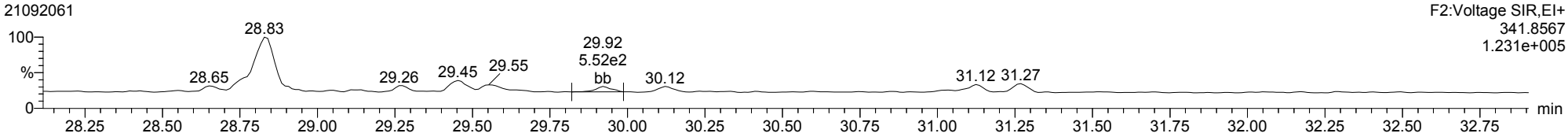


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

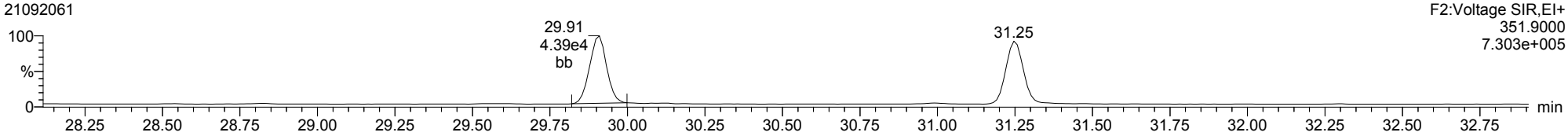
12378-PeCDF



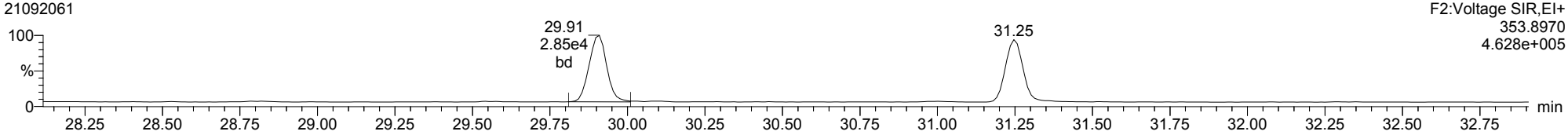
12378-PeCDF



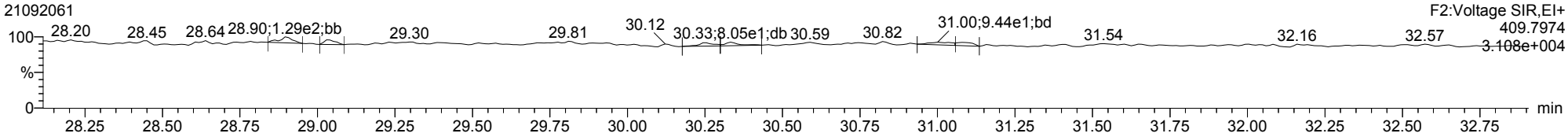
13C-12378-PeCDF



13C-12378-PeCDF

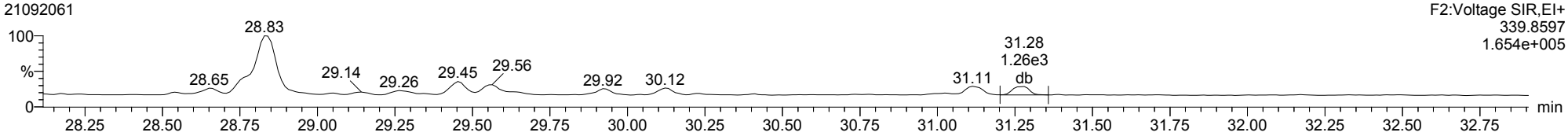


FUNCTION2 HPCDPE

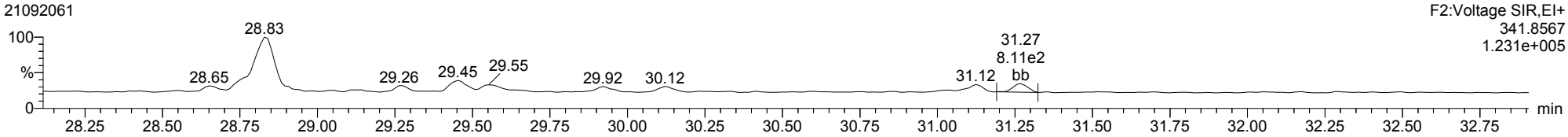


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

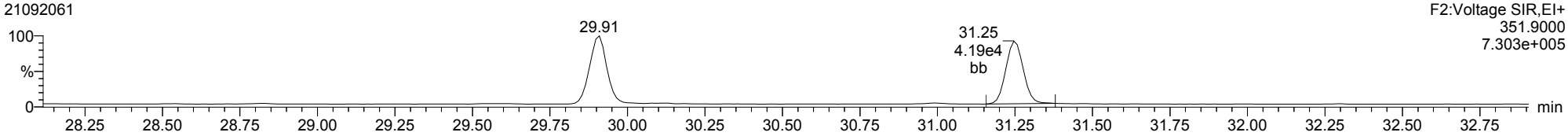
23478-PeCDF



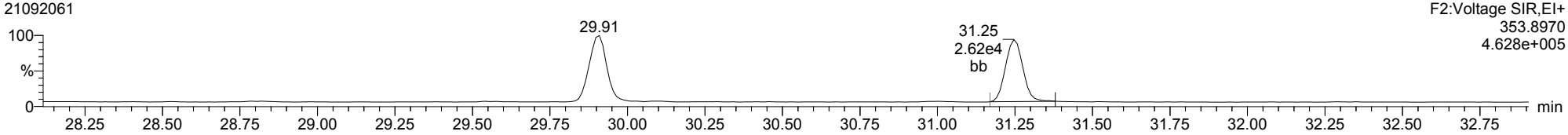
23478-PeCDF



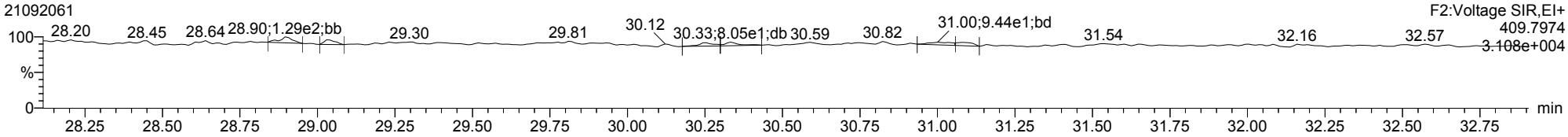
13C-23478-PeCDF



13C-23478-PeCDF

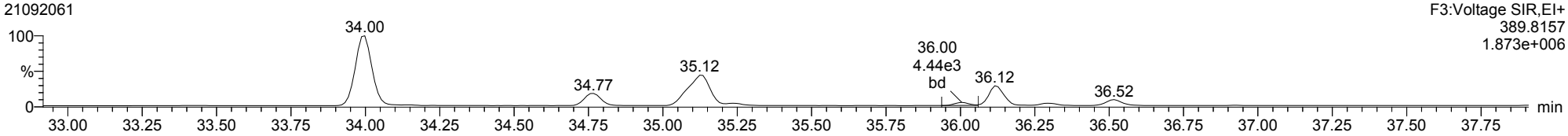


FUNCTION2 HPCDPE

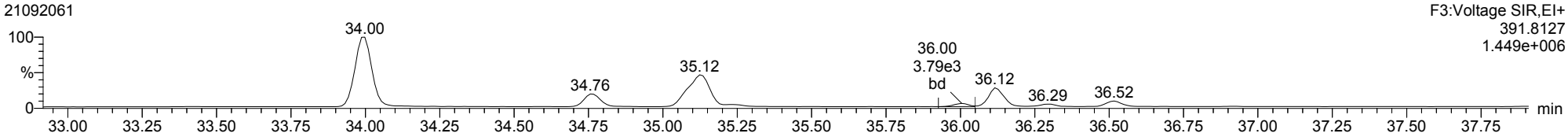


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

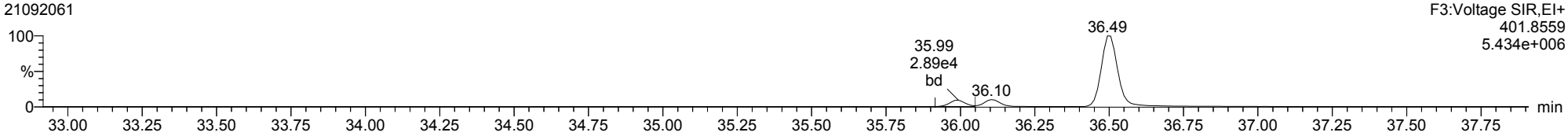
123478-HxCDD



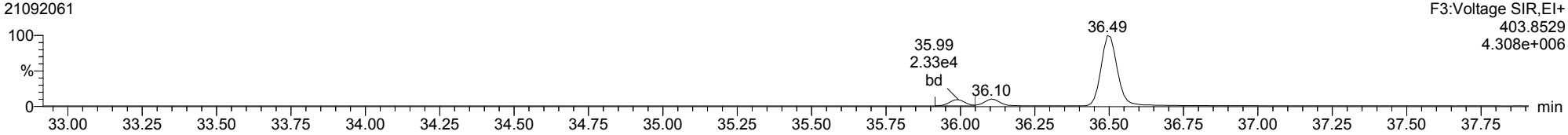
123478-HxCDD



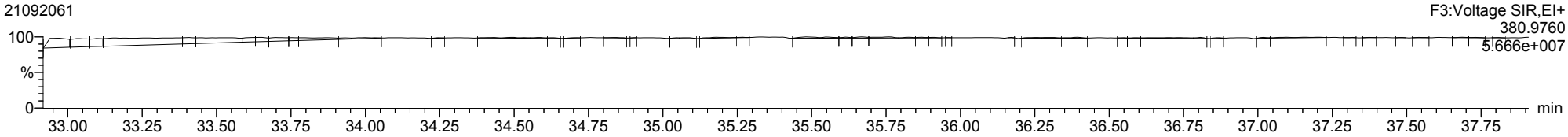
13C-123478-HxCDD



13C-123478-HxCDD

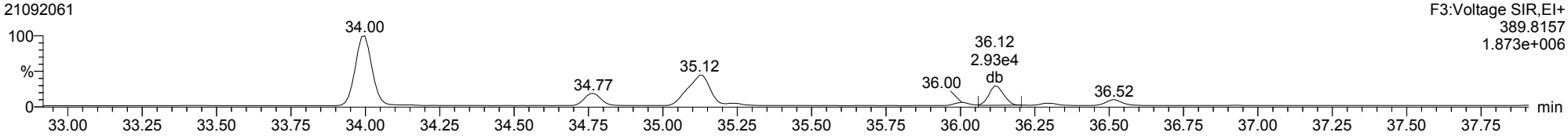


FUNCTION3 PFK

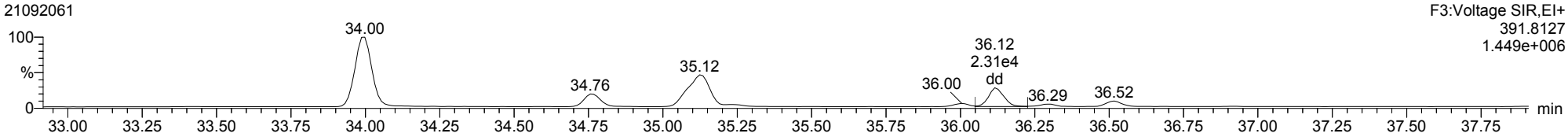


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

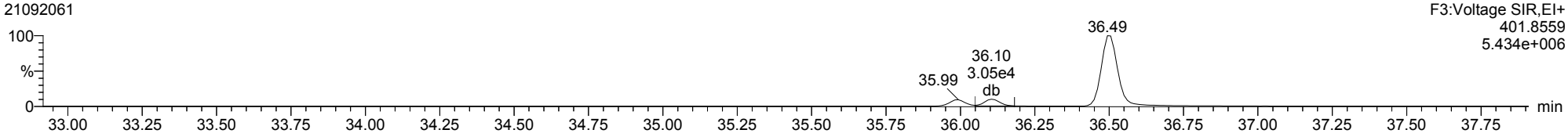
123678-HxCDD



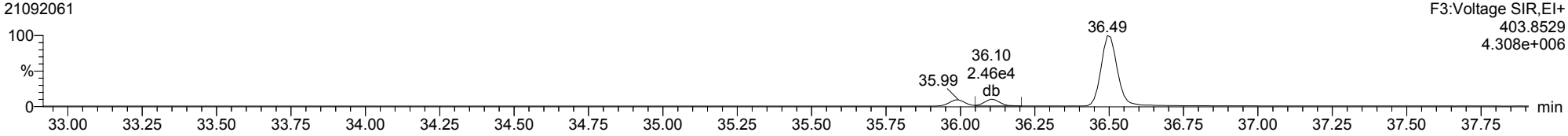
123678-HxCDD



13C-123678-HxCDD

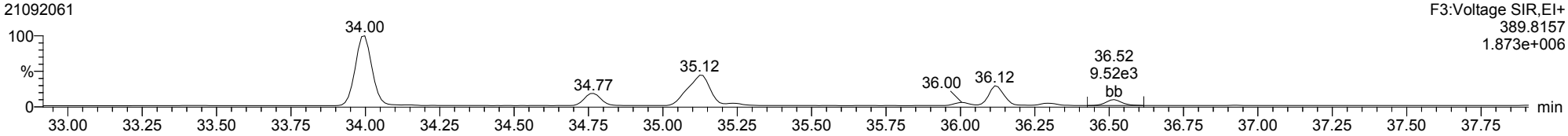


13C-123678-HxCDD

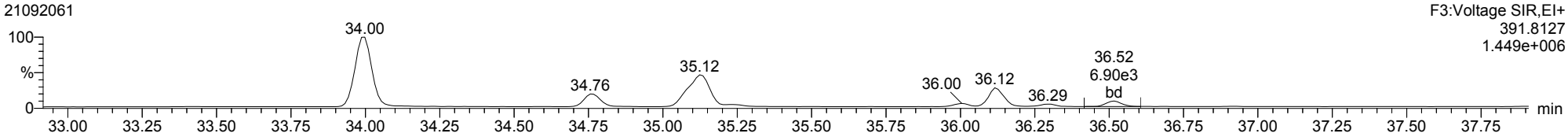


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

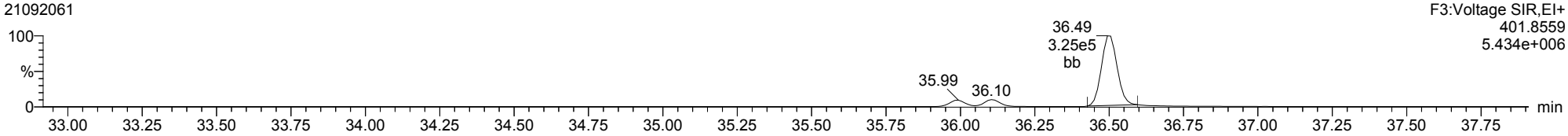
123789-HxCDD



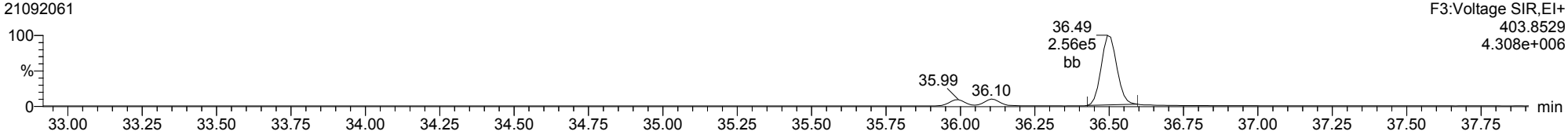
123789-HxCDD



13C-123789-HxCDD

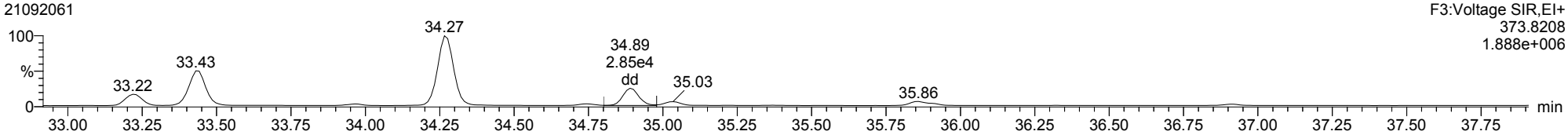


13C-123789-HxCDD

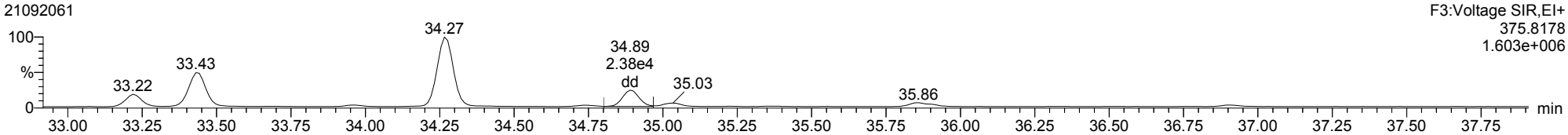


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

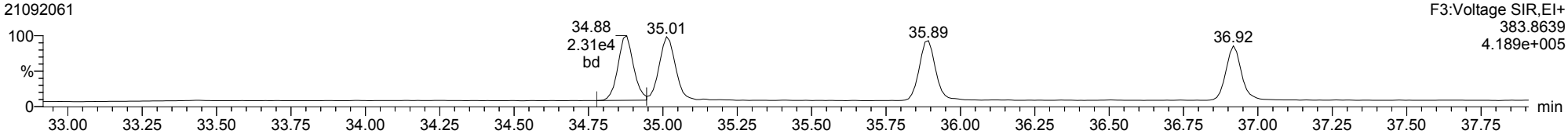
123478-HxCDF



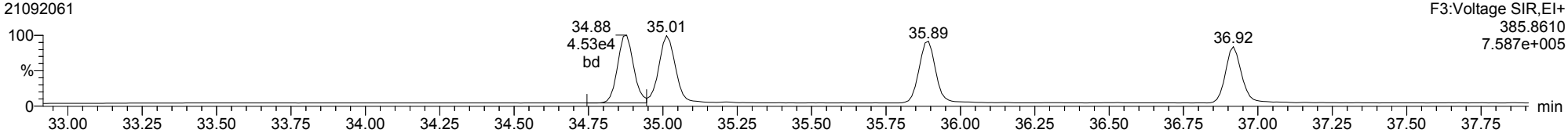
123478-HxCDF



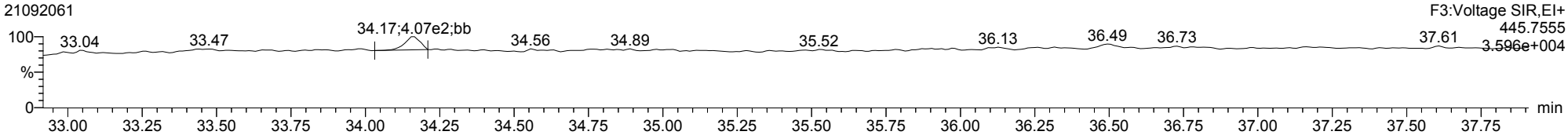
13C-123478-HxCDF



13C-123478-HxCDF

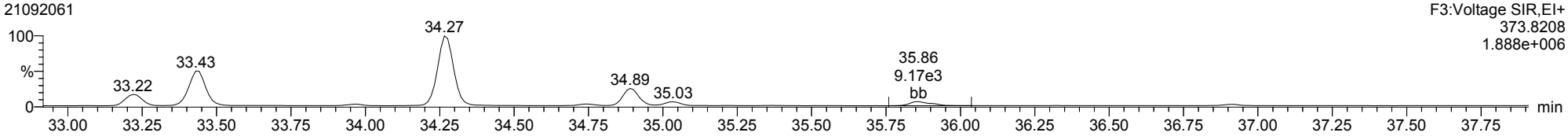


FUNCTION3 OCDPE

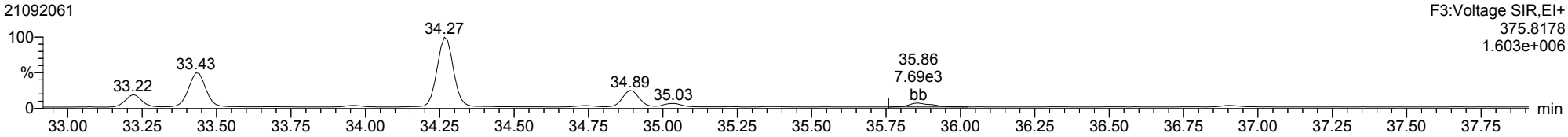


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

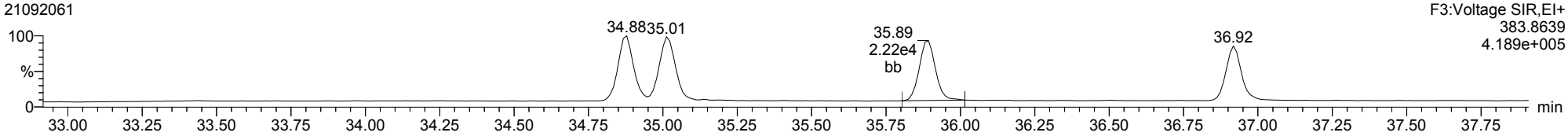
234678-HxCDF



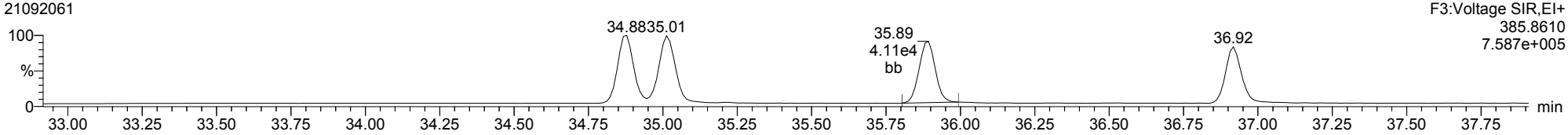
234678-HxCDF



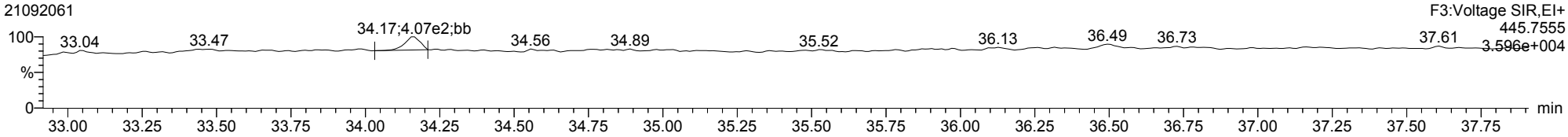
13C-234678-HxCDF



13C-234678-HxCDF

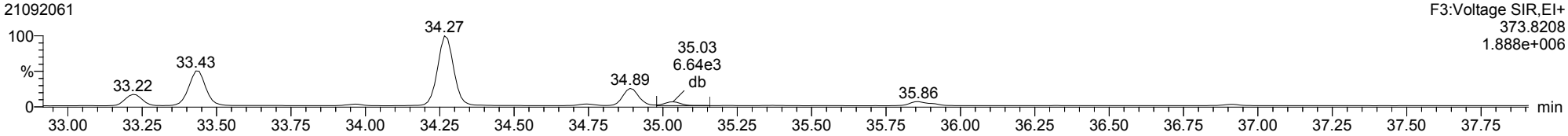


FUNCTION3 OCDPE

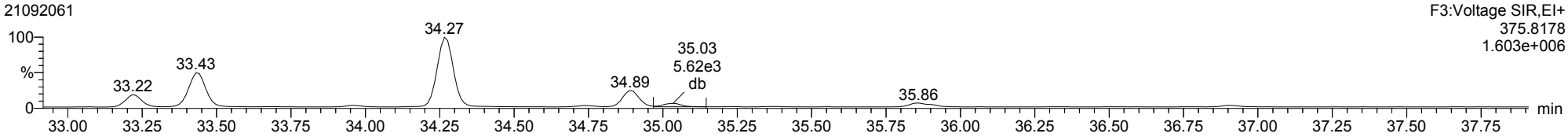


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

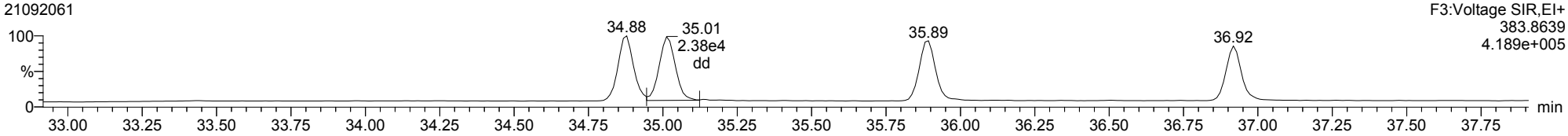
123678-HxCDF



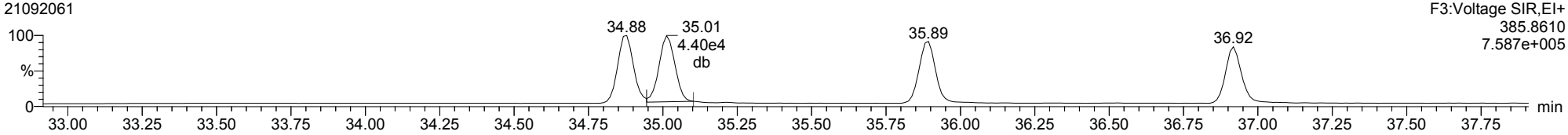
123678-HxCDF



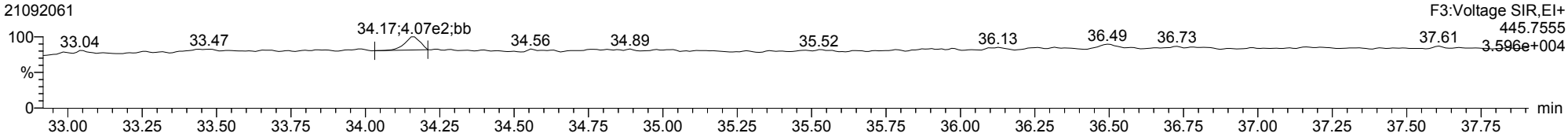
13C-123678-HxCDF



13C-123678-HxCDF

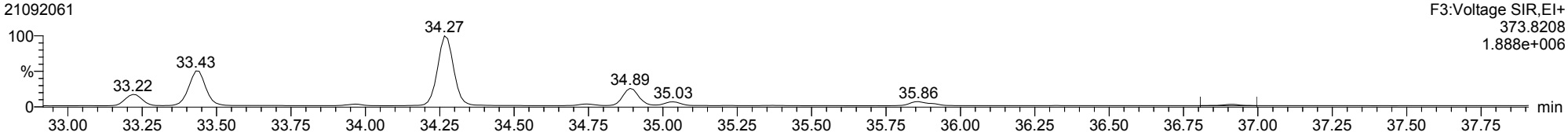


FUNCTION3 OCDPE

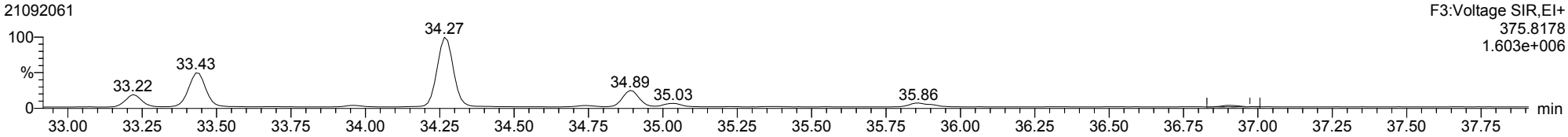


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

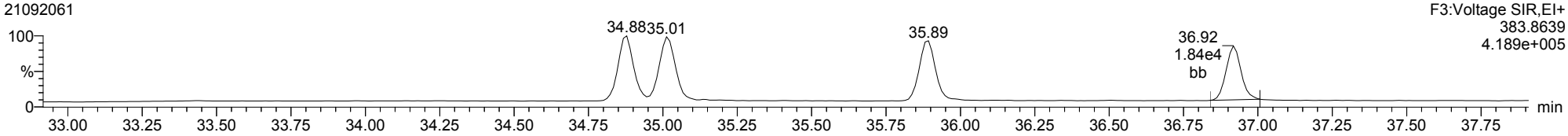
123789-HxCDF



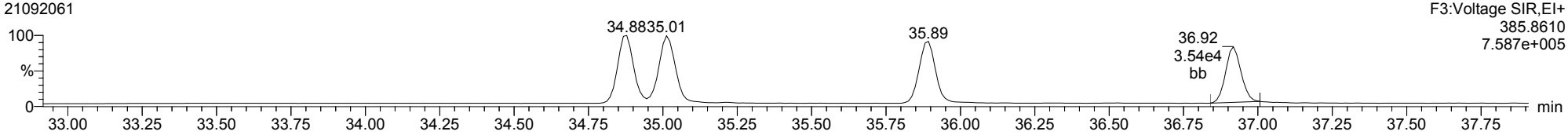
123789-HxCDF



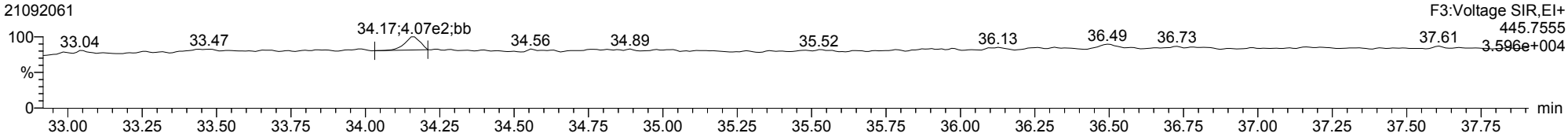
13C-123789-HxCDF



13C-123789-HxCDF

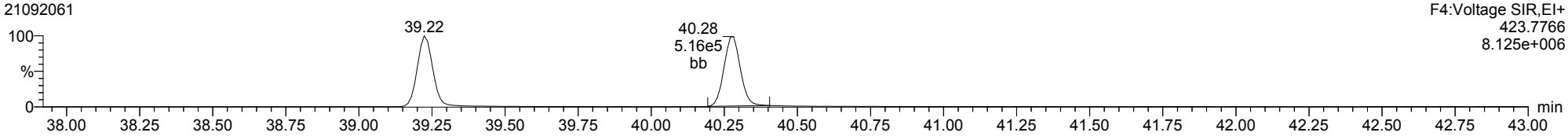


FUNCTION3 OCDPE

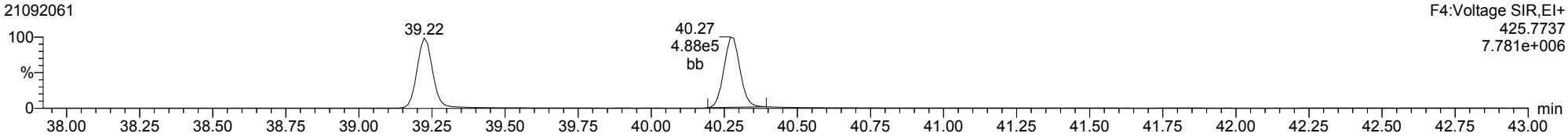


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

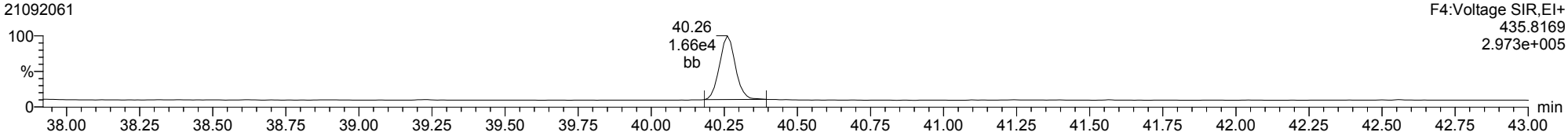
1234678-HpCDD



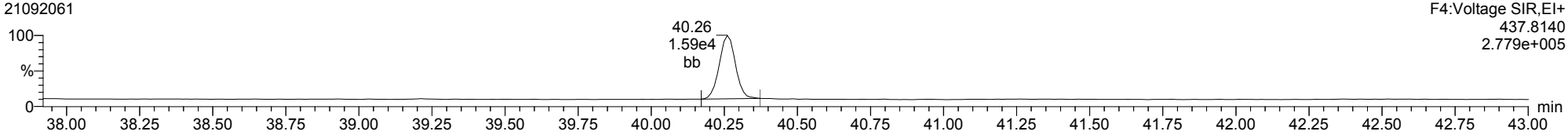
1234678-HpCDD



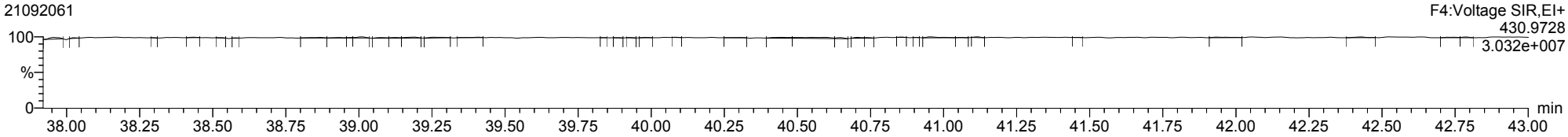
13C-1234678-HpCDD



13C-1234678-HpCDD

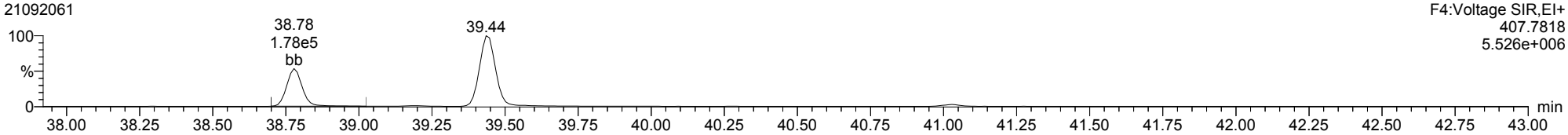


FUNCTION4 PFK

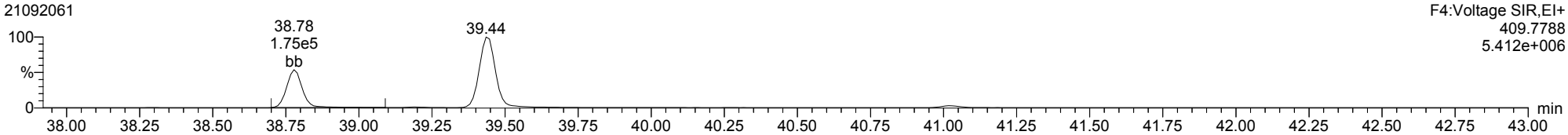


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

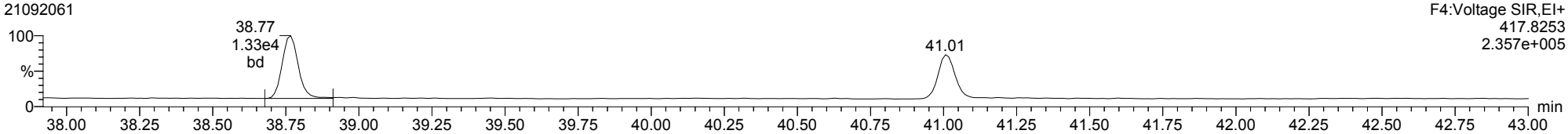
1234678-HpCDF



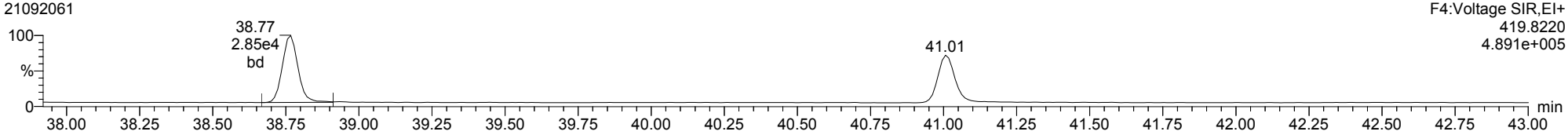
1234678-HpCDF



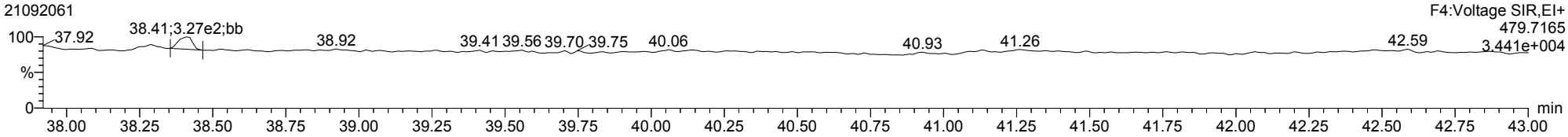
13C-1234678-HpCDF



13C-1234678-HpCDF

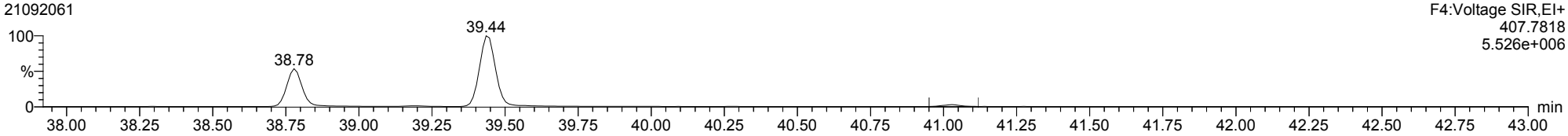


FUNCTION4 NCDPE

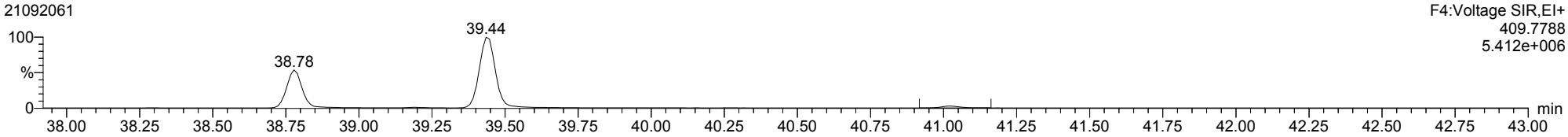


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

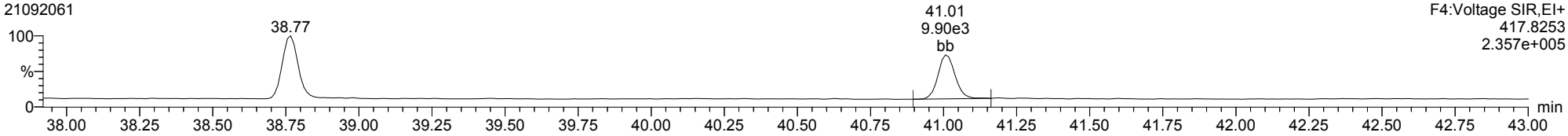
1234789-HpCDF



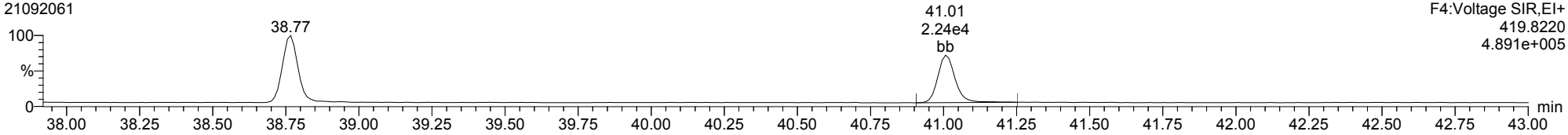
1234789-HpCDF



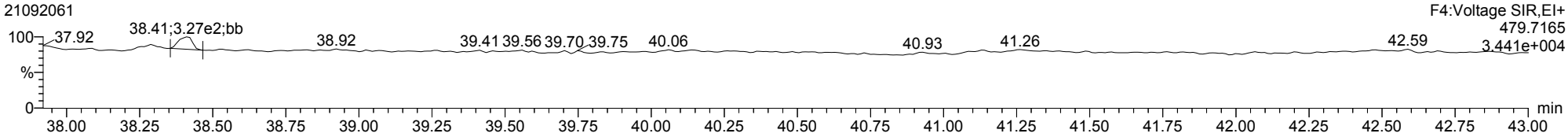
13C-1234789-HpCDF



13C-1234789-HpCDF

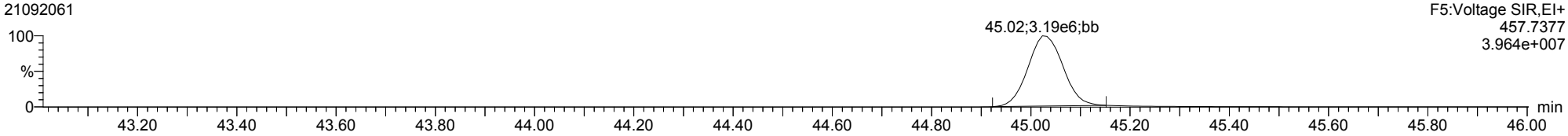


FUNCTION4 NCDPE

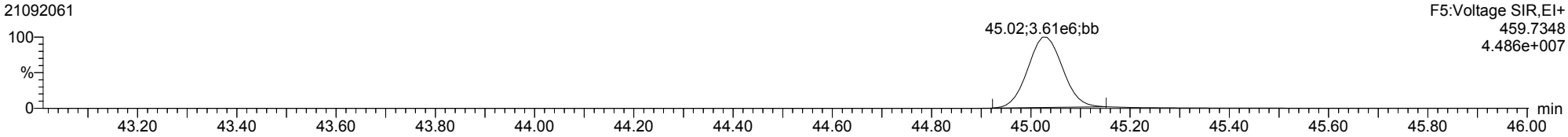


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

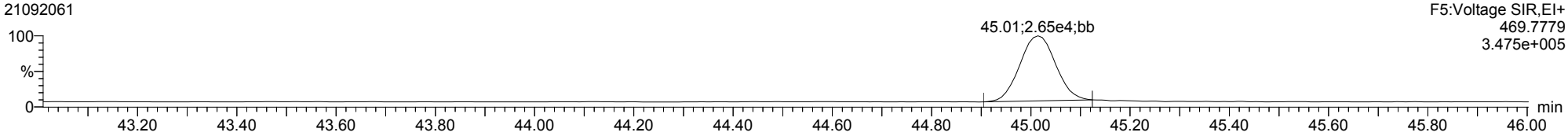
OCDD



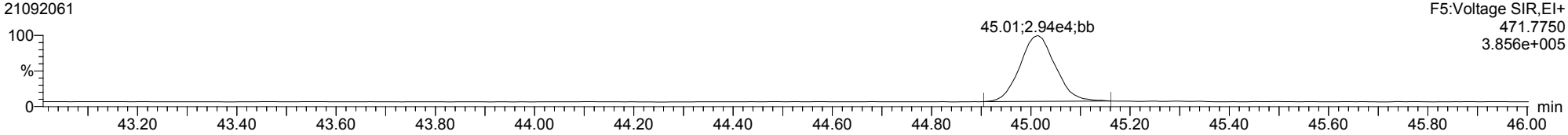
OCDD



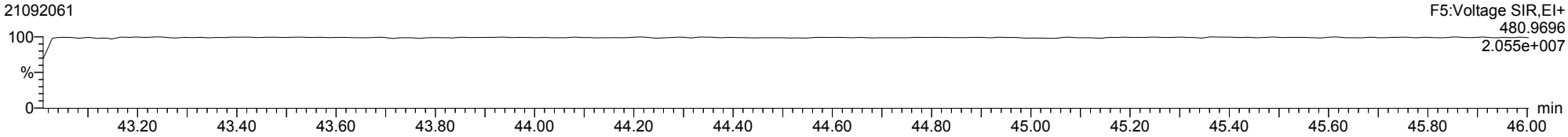
13C-OCDD



13C-OCDD

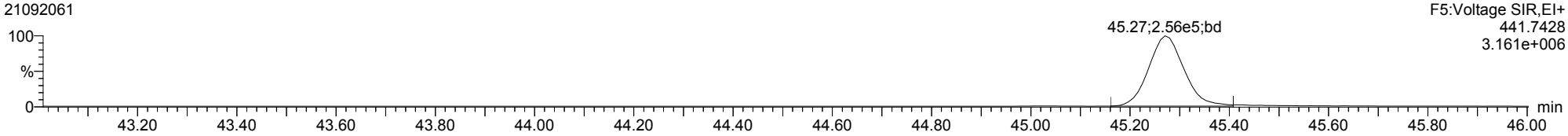


FUNCTION5 PFK

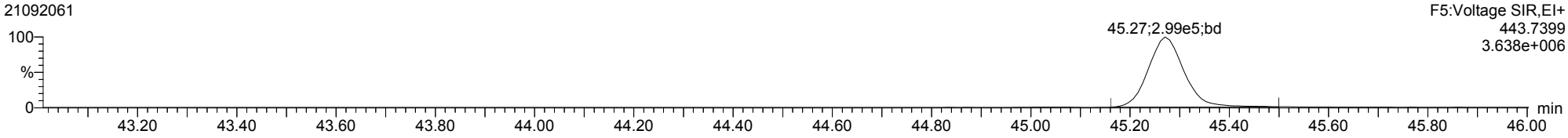


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

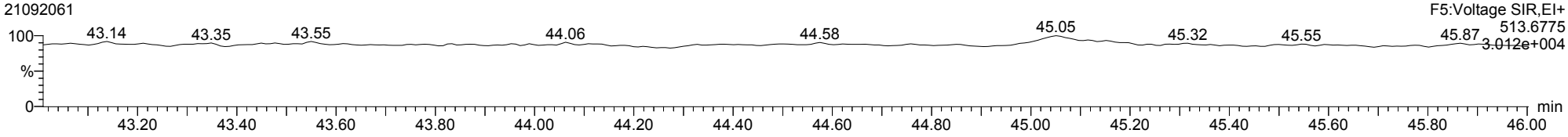
OCDF



OCDF

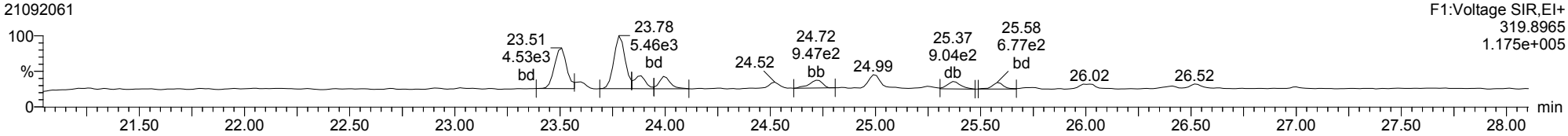


FUNCTION5 DCDPE

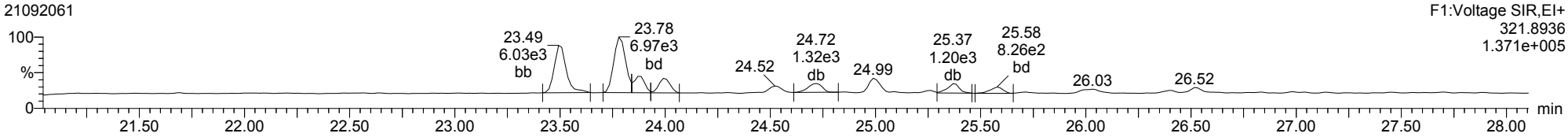


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

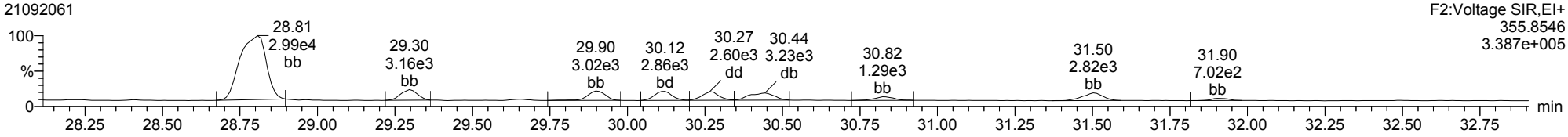
Total-tetradioxins



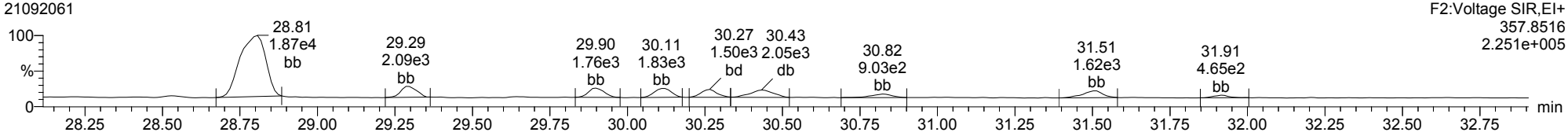
Total-tetradioxins



Total-pentadioxins

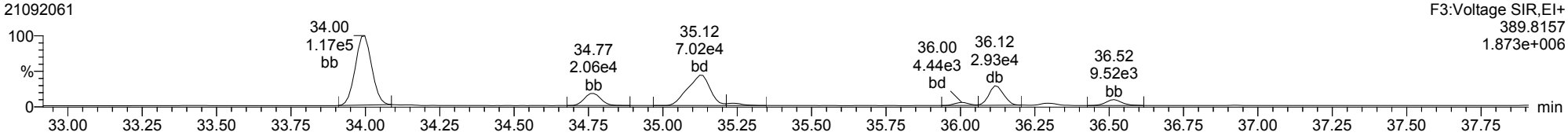


Total-pentadioxins

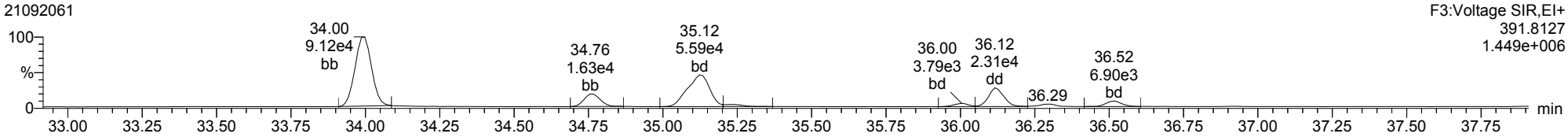


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

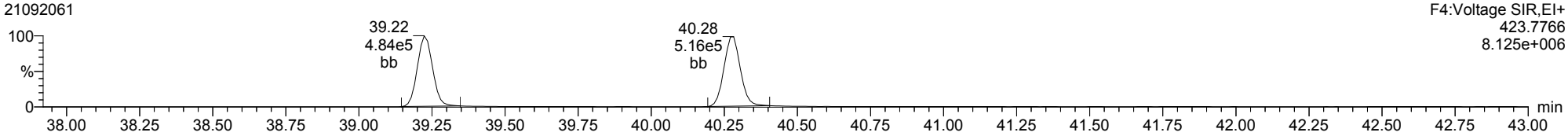
Total-hexadioxins



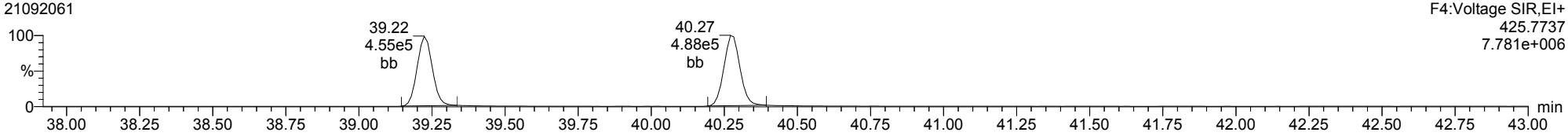
Total-hexadioxins



Total-heptadioxins



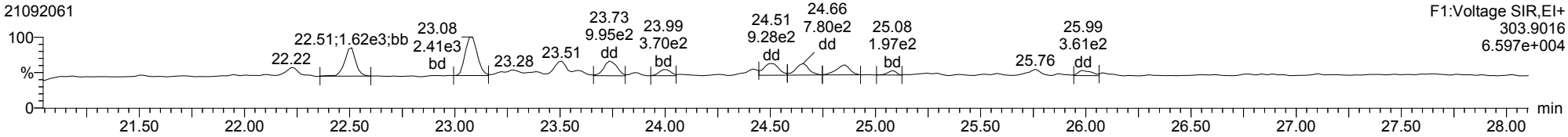
Total-heptadioxins



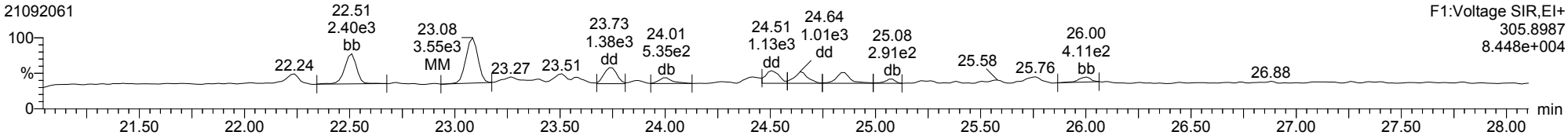
Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:15:15 Pacific Daylight Time

ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

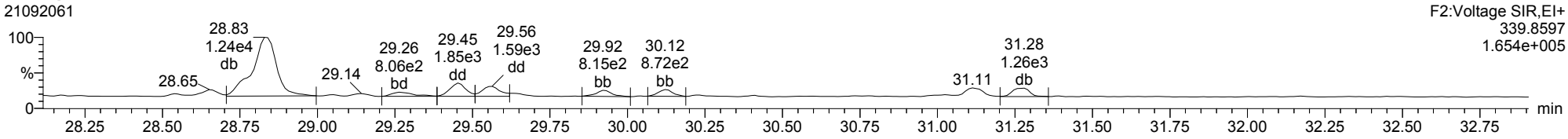
Total-tetrafurans



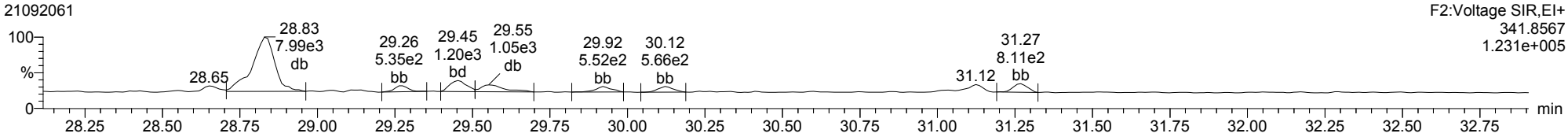
Total-tetrafurans



Total-pentafurans

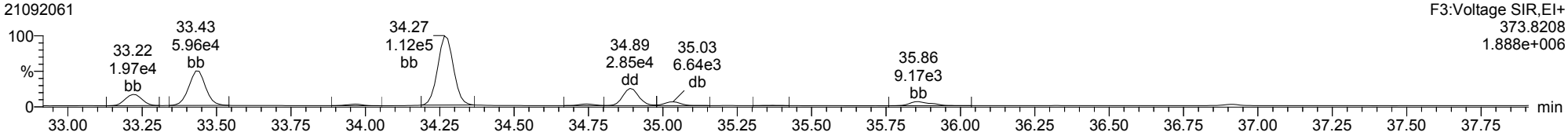


Total-pentafurans

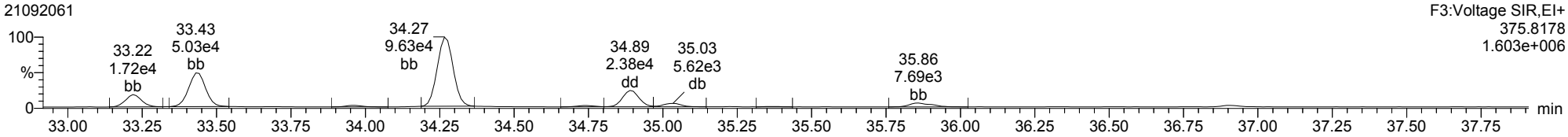


ID: 21G0213-07RE1, Name: 21092061, Date: 22-Sep-2021, Time: 18:01:59, Conditions: AUTOSPEC01, User: pk

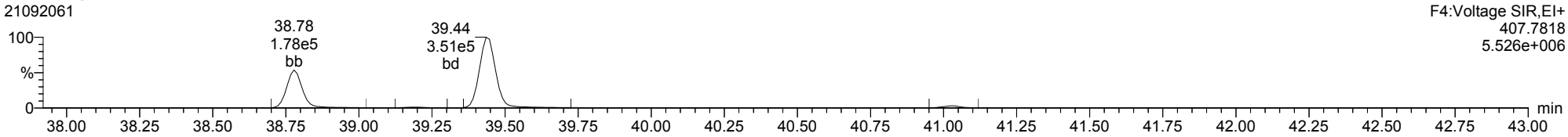
Total-hexafurans



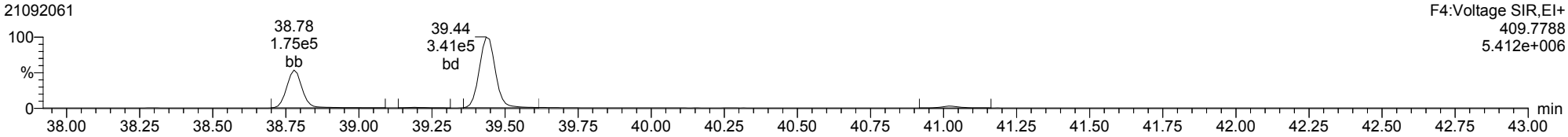
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663E

Form 1
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21G0213-08 C	File ID:	21092049
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 08:05
% Solids:	83.09	Preparation:	EPA 1613	Initial/Final:	12.05 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1		0.655-0.886	0.061	0.999	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.092	0.999	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.071	0.999	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.073	0.999	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.126	0.999	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1		1.054-1.426	0.088	0.999	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1		1.054-1.426	0.080	0.999	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1		1.054-1.426	0.085	0.999	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.113	0.999	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1		1.054-1.426	0.116	0.999	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.814	1.054-1.426	0.114	0.999	0.125	ng/kg	EMPC, J
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.767	1.054-1.426	0.123	0.999	0.161	ng/kg	EMPC, J
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.175	0.893-1.208	0.135	0.999	0.629	ng/kg	J
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.735	0.893-1.208	0.205	0.999	0.130	ng/kg	EMPC, J
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.037	0.893-1.208	0.189	2.50	3.44	ng/kg	B
39001-02-0	OCDF	1	0.936	0.757-1.024	0.240	2.50	1.31	ng/kg	J
3268-87-9	OCDD	1	0.937	0.757-1.024	0.403	9.99	31.1	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	ND	ng/kg
41903-57-5	Total TCDD	1	0.000			0.999	1.07	ng/kg
30402-15-4	Total PeCDF	1	0.000			0.999	ND	ng/kg
36088-22-9	Total PeCDD	1	0.000			0.999	ND	ng/kg
55684-94-1	Total HxCDF	1	0.000			0.999	0.191	ng/kg
34465-46-8	Total HxCDD	1	0.000			0.999	1.41	ng/kg
38998-75-3	Total HpCDF	1	0.000			0.999	1.54	ng/kg
37871-00-4	Total HpCDD	1	0.000			0.999	7.08	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.080
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.228

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-IT663E

Form 2
ORGANIC ANALYSIS DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21G0213-08	File ID:	21092049
Sampled:	07/19/21 14:44	Prepared:	09/09/21 15:30	Analyzed:	09/22/21 08:05
Solids Wt%:	83.09	Preparation:	EPA 1613	Initial/Final:	12.05 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.787	0.655-0.886	0.096	73.2	24 - 169 %	
13C12-2,3,7,8-TCDD		0.759	0.655-0.886	0.115	93.1	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.607	1.318-1.783	0.136	78.8	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.635	1.318-1.783	0.143	73.0	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.604	1.318-1.783	0.119	88.4	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.518	0.434-0.587	0.142	81.6	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.535	0.434-0.587	0.131	78.8	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.499	0.434-0.587	0.145	79.8	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.511	0.434-0.587	0.175	74.6	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.288	1.054-1.426	0.148	94.3	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.242	1.054-1.426	0.136	89.4	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.462	0.374-0.506	0.144	59.4	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.458	0.374-0.506	0.176	55.6	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.035	0.893-1.208	0.150	76.0	23 - 140 %	
13C12-OCDD		0.948	0.757-1.024	0.276	66.1	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.055	93.8	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:50 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					1.108		0.770	551	758								
12378-PeCDF					1.015		1.550	679	712								
23478-PeCDF					1.126		1.550	679	712								
123478-HxCDF					1.017		1.240	719	839								
234678-HxCDF					1.052		1.240	719	839								
123678-HxCDF					1.037		1.240	719	839								
123789-HxCDF					1.030		1.240	719	839								
1234678-HpCDF	38.777	1.000	8.086e2	6.883e2	1.327	1.175	1.050	880	813	1.26e4	1.18e4	14.3	14.6	NO	bb	bb	0.315
1234789-HpCDF	41.050	1.001	1.451e2	8.360e1	1.283	1.735	1.050	880	813	2.73e3	2.62e3	3.1	3.2	YES	MM	bb	0.065
OCDF	45.262	1.005	9.911e2	1.059e3	1.447	0.936	0.890	636	705	1.17e4	1.38e4	18.4	19.5	NO	bb	MM	0.654
2378-TCDD					0.920		0.770	925	722								
12378-PeCDD					0.995		1.550	717	771								
123478-HxCDD					1.027		1.240	1212	730								
123678-HxCDD	36.114	1.000	2.459e2	1.356e2	1.009	1.814	1.240	1212	730	4.56e3	2.97e3	3.8	4.1	YES	bb	bb	0.062
123789-HxCDD	36.527	1.011	1.980e2	2.582e2	0.950	0.767	1.240	1212	730	4.40e3	5.51e3	3.6	7.6	YES	db	bb	0.080
1234678-HpCDD	40.281	1.000	2.925e3	2.821e3	1.068	1.037	1.050	776	796	4.42e4	4.00e4	56.9	50.3	NO	bb	bb	1.722
OCDD	45.034	1.000	1.922e4	2.052e4	1.181	0.937	0.890	876	962	2.08e5	2.19e5	237.8	228.0	NO	bb	bb	15.545
13C-2378-TCDF	25.746	1.007	3.378e5	4.295e5	1.427	0.787	0.770	1507	1134	5.13e6	6.52e6	3406.8	5748.2	NO	bb	bb	73.193
13C-12378-PeCDF	29.909	1.170	4.629e5	2.880e5	1.297	1.607	1.550	2389	1014	7.09e6	4.39e6	2966.7	4334.1	NO	bb	bb	78.762
13C-23478-PeCDF	31.257	1.223	4.118e5	2.519e5	1.236	1.635	1.550	2389	1014	6.31e6	3.87e6	2643.1	3813.8	NO	bd	bb	73.034
13C-123478-HxCDF	34.878	0.955	2.248e5	4.343e5	1.242	0.518	0.510	1479	1719	3.57e6	6.96e6	2412.0	4048.1	NO	bd	bd	81.572
13C-123678-HxCDF	35.023	0.959	2.400e5	4.486e5	1.343	0.535	0.510	1479	1719	3.91e6	7.32e6	2642.4	4255.2	NO	db	db	78.812
13C-234678-HxCDF	35.892	0.983	2.099e5	4.206e5	1.215	0.499	0.510	1479	1719	3.47e6	6.78e6	2346.7	3944.0	NO	bb	bb	79.802
13C-123789-HxCDF	36.928	1.012	1.655e5	3.236e5	1.008	0.511	0.510	1479	1719	2.71e6	5.31e6	1831.0	3089.7	NO	bb	bb	74.639
13C-1234678-HpCDF	38.766	1.062	1.132e5	2.448e5	0.926	0.462	0.440	1209	1205	1.79e6	3.88e6	1478.0	3220.1	NO	bd	bb	59.426
13C-1234789-HpCDF	41.017	1.124	8.600e4	1.880e5	0.758	0.458	0.440	1209	1205	1.21e6	2.61e6	999.8	2162.3	NO	bd	bd	55.582
13C-1234-TCDD	25.564	0.000	3.174e5	4.174e5	1.000	0.760	0.770	1417	1071	5.00e6	6.60e6	3526.0	6160.0	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.032	3.295e5	4.342e5	1.116	0.759	0.770	1417	1071	5.02e6	6.71e6	3540.1	6263.0	NO	bb	bb	93.078
13C-12378-PeCDD	31.502	1.232	2.928e5	1.825e5	0.732	1.604	1.550	846	829	4.40e6	2.80e6	5197.0	3381.8	NO	bd	bb	88.371
13C-123478-HxCDD	35.992	0.986	3.315e5	2.574e5	0.960	1.288	1.240	1448	1125	5.52e6	4.33e6	3810.9	3852.5	NO	bd	bd	94.341
13C-123678-HxCDD	36.114	0.989	3.352e5	2.700e5	1.041	1.242	1.240	1448	1125	5.59e6	4.40e6	3860.9	3908.8	NO	db	db	89.373
13C-1234678-HpCDD	40.270	1.103	1.589e5	1.536e5	0.632	1.035	1.050	847	868	2.37e6	2.29e6	2800.0	2638.2	NO	bb	bb	75.972
13C-OCDD	45.024	1.233	2.107e5	2.223e5	0.504	0.948	0.890	1488	1034	2.25e6	2.50e6	1514.4	2413.2	NO	bd	bb	132.184
13C-123789-HxCDD	36.505	0.000	3.647e5	2.856e5	1.000	1.277	1.240	1448	1125	6.09e6	4.72e6	4201.6	4197.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.396	1.033	2.989e5		1.084			1157		4.46e6		3855.0			db		37.531

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:50 Pacific Daylight Time

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					1.425		0.770	551	758								
1289-TCDF					1.043		0.770	551	758								
13468-PECDF					1.376		1.550	639	775								
12389-PECDF					1.000		1.550	679	712								
123468-HXCDF	33.218	0.952	1.631e2	1.624e2	1.087	1.004	1.240	719	839	3.05e3	2.60e3	4.2	3.1	YES	bb	bd	0.045
1368-TCDD	23.523	0.892	5.580e2	5.956e2	0.923	0.937	0.770	925	722	6.52e3	7.48e3	7.0	10.4	YES	bb	bd	0.164
1289-TCDD					0.794		0.770	925	722								
12479-PECDD	28.773	0.913	1.672e3	6.277e2	1.843	2.664	1.550	717	771	1.75e4	1.07e4	24.5	13.8	YES	bb	bd	0.262
12389-PECDD					1.154		1.550	717	771								
124679-HXCDD	33.998	0.945	2.371e3	1.804e3	1.125	1.315	1.240	1212	730	3.76e4	2.95e4	31.0	40.4	NO	bb	bb	0.630
1234679-HPCDD	39.223	0.974	3.588e3	3.308e3	1.211	1.084	1.050	776	796	5.53e4	5.23e4	71.3	65.8	NO	bb	bb	1.823
Total-tetrafurans			0.000e0		1.192			551		0.00e0							
Total-penta1			0.000e0					639		0.00e0							
Total-pentafurans			0.000e0		1.047			679		0.00e0							
Total-hexafurans			3.285e2		1.045			719		5.06e3							0.096
Total-heptafurans			1.788e3		1.305			880		2.99e4							0.769
Total-Furans			3.107e3		1.158			551		4.67e4							1.519
Total-tetradioxins			1.476e3		0.879			925		2.27e4							0.534
Total-pentadioxins			0.000e0		1.331			717		0.00e0							
Total-hexadioxins			2.637e3		1.028			1212		4.35e4							0.707
Total-heptadioxins			6.513e3		1.140			776		9.95e4							3.545
Total-Dioxins			2.985e4		1.092			925		3.74e5							20.332
Total-TEQ			3.296e4					925		4.21e5							21.851
FUNCTION1 PFK			1.415e7					252374		5.31e7							
FUNCTION2 PFK			1.421e6					166033		2.79e6							0.000
FUNCTION3 PFK			2.535e5					255907		7.67e6							0.000
FUNCTION4 PFK			3.493e5					155829		8.84e6							
FUNCTION5 PFK			3.862e6					126812		2.53e7							
FUNCTION1 HXCD...			7.580e2					642		8.43e3							0.000
FUNCTION1 HPCD...			4.040e2					548		6.65e3							0.000
FUNCTION2 HPCD...			5.402e2					515		7.84e3							0.000
FUNCTION3 OCDPE			1.323e2					445		1.38e3							0.000
FUNCTION4 NCDPE			1.556e3					674		2.72e4							0.000
FUNCTION5 DCDPE			1.138e2					765		5.89e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:50 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.29	3.285e2	2.881e2	1.045	1.14	1.24	7.0	YES	NO	bb	bb	0.096

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.43	9.791e2	8.930e2	1.305	1.10	1.05	19.6	YES	NO	bb	bb	0.454
2	1234678-HpCDF	38.78	8.086e2	6.883e2	1.327	1.17	1.05	14.3	YES	NO	bb	bb	0.315

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.29	3.285e2	2.881e2	1.045	1.14	1.24	7.0	YES	NO	bb	bb	0.096
2	Total-heptafurans	39.43	9.791e2	8.930e2	1.305	1.10	1.05	19.6	YES	NO	bb	bb	0.454
3	1234678-HpCDF	38.78	8.086e2	6.883e2	1.327	1.17	1.05	14.3	YES	NO	bb	bb	0.315
4	OCDF	45.26	9.911e2	1.059e3	1.447	0.94	0.89	18.4	YES	NO	bb	MM	0.654

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	23.89	1.476e3	2.113e3	0.879	0.70	0.77	24.5	YES	NO	db	dd	0.534

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	34.76	2.651e2	2.073e2	1.028	1.28	1.24	4.9	YES	NO	bb	bb	0.077
2	124679-HXCDD	34.00	2.371e3	1.804e3	1.125	1.31	1.24	31.0	YES	NO	bb	bb	0.630

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.22	3.588e3	3.308e3	1.211	1.08	1.05	71.3	YES	NO	bb	bb	1.823
2	1234678-HpCDD	40.28	2.925e3	2.821e3	1.068	1.04	1.05	56.9	YES	NO	bb	bb	1.722

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	23.89	1.476e3	2.113e3	0.879	0.70	0.77	24.5	YES	NO	db	dd	0.534
2	Total-hexadioxins	34.76	2.651e2	2.073e2	1.028	1.28	1.24	4.9	YES	NO	bb	bb	0.077
3	124679-HXCDD	34.00	2.371e3	1.804e3	1.125	1.31	1.24	31.0	YES	NO	bb	bb	0.630
4	1234679-HPCDD	39.22	3.588e3	3.308e3	1.211	1.08	1.05	71.3	YES	NO	bb	bb	1.823
5	OCDD	45.03	1.922e4	2.052e4	1.181	0.94	0.89	237.8	YES	NO	bb	bb	15.545
6	1234678-HpCDD	40.28	2.925e3	2.821e3	1.068	1.04	1.05	56.9	YES	NO	bb	bb	1.722

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.29	3.285e2	2.881e2	1.045	1.14	1.24	7.0	YES	NO	bb	bb	0.096
2	Total-heptafurans	39.43	9.791e2	8.930e2	1.305	1.10	1.05	19.6	YES	NO	bb	bb	0.454
3	1234678-HpCDF	38.78	8.086e2	6.883e2	1.327	1.17	1.05	14.3	YES	NO	bb	bb	0.315
4	OCDF	45.26	9.911e2	1.059e3	1.447	0.94	0.89	18.4	YES	NO	bb	MM	0.654
5	Total-tetradioxins	23.89	1.476e3	2.113e3	0.879	0.70	0.77	24.5	YES	NO	db	dd	0.534
6	Total-hexadioxins	34.76	2.651e2	2.073e2	1.028	1.28	1.24	4.9	YES	NO	bb	bb	0.077
7	124679-HXCDD	34.00	2.371e3	1.804e3	1.125	1.31	1.24	31.0	YES	NO	bb	bb	0.630
8	1234679-HPCDD	39.22	3.588e3	3.308e3	1.211	1.08	1.05	71.3	YES	NO	bb	bb	1.823
9	OCDD	45.03	1.922e4	2.052e4	1.181	0.94	0.89	237.8	YES	NO	bb	bb	15.545
10	1234678-HpCDD	40.28	2.925e3	2.821e3	1.068	1.04	1.05	56.9	YES	NO	bb	bb	1.722

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.19	1.177e6					62.5	YES		dd		
2	FUNCTION1 PFK	21.12	1.492e6					65.7	YES		bd		
3	FUNCTION1 PFK	26.59	1.841e4					1.7	NO		bb		
4	FUNCTION1 PFK	26.38	1.509e4					1.5	NO		db		
5	FUNCTION1 PFK	26.32	3.043e4					2.3	NO		dd		
6	FUNCTION1 PFK	26.26	1.333e4					1.6	NO		bd		
7	FUNCTION1 PFK	25.22	2.974e4					2.1	NO		bb		
8	FUNCTION1 PFK	25.14	3.251e3					0.8	NO		bb		
9	FUNCTION1 PFK	25.05	2.534e4					1.2	NO		bb		
10	FUNCTION1 PFK	24.10	1.529e4					1.5	NO		bb		
11	FUNCTION1 PFK	23.86	1.083e4					1.3	NO		bb		
12	FUNCTION1 PFK	23.28	1.263e4					1.2	NO		db		
13	FUNCTION1 PFK	23.19	1.158e4					1.1	NO		bd		
14	FUNCTION1 PFK	23.05	2.365e3					0.6	NO		bb		
15	FUNCTION1 PFK	22.87	1.825e3					0.5	NO		bb		
16	FUNCTION1 PFK	22.77	2.204e4					1.7	NO		bb		
17	FUNCTION1 PFK	22.53	7.417e6					6.8	YES		db		
18	FUNCTION1 PFK	21.42	3.839e6					54.4	YES		dd		
19	FUNCTION1 PFK	27.86	3.528e3					0.6	NO		bb		
20	FUNCTION1 PFK	27.80	2.066e3					0.5	NO		bb		
21	FUNCTION1 PFK	27.74	3.114e3					0.6	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.41	1.421e6					16.8	YES		bb		0.000

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.42	1.616e4					2.1	NO		bb		0.000
2	FUNCTION3 PFK	34.04	1.266e4					1.2	NO		db		0.000
3	FUNCTION3 PFK	33.95	2.899e4					2.7	NO		dd		0.000
4	FUNCTION3 PFK	33.90	7.804e3					1.3	NO		bd		0.000
5	FUNCTION3 PFK	33.67	6.647e3					1.1	NO		bb		0.000
6	FUNCTION3 PFK	33.40	1.117e4					1.2	NO		bb		0.000
7	FUNCTION3 PFK	33.13	1.410e4					1.6	NO		bb		0.000
8	FUNCTION3 PFK	33.08	5.711e3					1.4	NO		db		0.000
9	FUNCTION3 PFK	33.06	1.814e4					1.5	NO		bd		0.000
10	FUNCTION3 PFK	32.98	9.991e3					1.5	NO		bb		0.000
11	FUNCTION3 PFK	37.75	2.758e4					1.2	NO		db		0.000
12	FUNCTION3 PFK	37.67	1.197e4					1.6	NO		bd		0.000
13	FUNCTION3 PFK	37.18	1.269e3					0.4	NO		bb		0.000
14	FUNCTION3 PFK	37.08	3.354e3					0.7	NO		bb		0.000
15	FUNCTION3 PFK	36.93	3.525e3					0.7	NO		bb		0.000
16	FUNCTION3 PFK	36.64	1.674e3					0.6	NO		bb		0.000
17	FUNCTION3 PFK	36.36	6.772e3					1.0	NO		bb		0.000
18	FUNCTION3 PFK	35.95	8.833e3					1.2	NO		bb		0.000
19	FUNCTION3 PFK	35.80	2.280e4					1.6	NO		bb		0.000
20	FUNCTION3 PFK	35.26	8.219e3					1.1	NO		bb		0.000
21	FUNCTION3 PFK	35.15	1.187e3					0.4	NO		bb		0.000
22	FUNCTION3 PFK	34.99	1.220e4					1.5	NO		bb		0.000
23	FUNCTION3 PFK	34.84	3.302e3					0.7	NO		bb		0.000
24	FUNCTION3 PFK	34.49	9.493e3					1.6	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:50 Pacific Daylight Time

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.01	1.018e4					2.5	NO		bd		
2	FUNCTION4 PFK	39.42	7.057e3					0.9	NO		db		
3	FUNCTION4 PFK	39.30	1.636e4					1.8	NO		dd		
4	FUNCTION4 PFK	39.26	3.632e3					0.9	NO		bd		
5	FUNCTION4 PFK	38.98	4.491e2					0.3	NO		bb		
6	FUNCTION4 PFK	38.82	7.985e3					1.2	NO		db		
7	FUNCTION4 PFK	38.72	9.662e3					1.3	NO		dd		
8	FUNCTION4 PFK	38.67	4.523e3					1.1	NO		dd		
9	FUNCTION4 PFK	38.63	9.687e2					0.4	NO		dd		
10	FUNCTION4 PFK	38.59	3.970e3					1.3	NO		bd		
11	FUNCTION4 PFK	38.54	3.441e3					0.8	NO		bb		
12	FUNCTION4 PFK	38.38	6.316e3					1.1	NO		db		
13	FUNCTION4 PFK	38.33	7.941e3					1.7	NO		bd		
14	FUNCTION4 PFK	38.28	5.236e3					1.4	NO		db		
15	FUNCTION4 PFK	38.19	2.801e4					2.4	NO		dd		
16	FUNCTION4 PFK	38.14	2.871e4					3.4	YES		dd		
17	FUNCTION4 PFK	38.08	1.131e4					1.9	NO		dd		
18	FUNCTION4 PFK	40.84	2.871e3					0.7	NO		bb		
19	FUNCTION4 PFK	40.75	9.663e3					1.2	NO		db		
20	FUNCTION4 PFK	40.70	8.957e3					1.6	NO		dd		
21	FUNCTION4 PFK	40.65	3.660e3					0.9	NO		dd		
22	FUNCTION4 PFK	40.62	2.179e3					0.8	NO		dd		
23	FUNCTION4 PFK	40.58	2.652e3					0.8	NO		bd		
24	FUNCTION4 PFK	40.53	2.735e4					1.9	NO		db		
25	FUNCTION4 PFK	40.38	5.964e3					0.8	NO		bd		
26	FUNCTION4 PFK	40.30	5.135e3					1.3	NO		bb		
27	FUNCTION4 PFK	40.17	4.487e3					0.7	NO		bb		
28	FUNCTION4 PFK	40.03	8.273e3					0.8	NO		bb		
29	FUNCTION4 PFK	39.81	8.166e2					0.5	NO		bb		
30	FUNCTION4 PFK	39.77	6.875e2					0.4	NO		bb		
31	FUNCTION4 PFK	39.72	3.838e3					1.0	NO		bb		
32	FUNCTION4 PFK	39.68	5.766e2					0.3	NO		bb		
33	FUNCTION4 PFK	39.53	1.232e4					1.5	NO		bb		
34	FUNCTION4 PFK	42.79	7.153e3					1.1	NO		db		
35	FUNCTION4 PFK	42.71	6.000e3					1.1	NO		bd		
36	FUNCTION4 PFK	42.50	1.045e4					1.5	NO		db		
37	FUNCTION4 PFK	42.45	1.460e4					1.9	NO		dd		

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	42.32	3.166e3					0.8	NO		dd		
39	FUNCTION4 PFK	42.29	5.216e3					1.3	NO		bd		
40	FUNCTION4 PFK	42.22	1.366e4					1.9	NO		db		
41	FUNCTION4 PFK	42.14	8.842e3					1.1	NO		bd		
42	FUNCTION4 PFK	41.91	9.809e2					0.4	NO		bb		
43	FUNCTION4 PFK	41.77	1.701e3					0.6	NO		bb		
44	FUNCTION4 PFK	41.66	4.665e3					0.9	NO		bb		
45	FUNCTION4 PFK	41.42	3.028e3					0.9	NO		bb		
46	FUNCTION4 PFK	41.09	1.964e3					0.6	NO		bb		
47	FUNCTION4 PFK	41.03	5.064e3					1.3	NO		db		
48	FUNCTION4 PFK	40.99	7.156e3					1.6	NO		bd		
49	FUNCTION4 PFK	40.93	4.889e2					0.3	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.24	3.041e3					1.3	NO		bd		
2	FUNCTION5 PFK	45.21	1.067e4					2.3	NO		db		
3	FUNCTION5 PFK	45.14	1.002e4					2.2	NO		dd		
4	FUNCTION5 PFK	45.09	8.919e3					2.0	NO		bd		
5	FUNCTION5 PFK	44.96	8.874e2					0.5	NO		bb		
6	FUNCTION5 PFK	44.83	4.715e3					1.0	NO		bb		
7	FUNCTION5 PFK	44.58	5.311e2					0.5	NO		bb		
8	FUNCTION5 PFK	44.39	4.484e3					1.3	NO		bb		
9	FUNCTION5 PFK	44.33	3.937e3					0.9	NO		bb		
10	FUNCTION5 PFK	44.04	6.975e4					7.1	YES		db		
11	FUNCTION5 PFK	43.98	6.188e5					10.3	YES		dd		
12	FUNCTION5 PFK	43.60	1.982e6					27.5	YES		dd		
13	FUNCTION5 PFK	43.20	2.021e5					44.1	YES		dd		
14	FUNCTION5 PFK	43.17	1.566e5					45.4	YES		dd		
15	FUNCTION5 PFK	43.09	7.730e5					48.4	YES		bd		
16	FUNCTION5 PFK	45.62	1.472e3					0.8	NO		bb		
17	FUNCTION5 PFK	45.51	5.912e3					1.5	NO		bb		
18	FUNCTION5 PFK	45.32	1.309e3					0.7	NO		bb		
19	FUNCTION5 PFK	45.27	3.620e3					1.5	NO		db		

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	28.01	8.641e1					1.2	NO		bb		0.000
2	FUNCTION1 HXCD...	27.21	1.308e2					2.2	NO		bb		0.000
3	FUNCTION1 HXCD...	25.97	9.028e1					1.6	NO		bb		0.000
4	FUNCTION1 HXCD...	24.29	1.503e2					1.7	NO		bb		0.000
5	FUNCTION1 HXCD...	23.30	8.139e1					1.8	NO		db		0.000
6	FUNCTION1 HXCD...	23.22	1.195e2					2.7	NO		bd		0.000
7	FUNCTION1 HXCD...	21.09	9.937e1					2.1	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	25.29	1.012e2					1.8	NO		bb		0.000
2	FUNCTION1 HPCD...	23.58	8.241e1					2.5	NO		bb		0.000
3	FUNCTION1 HPCD...	21.72	1.312e2					5.5	YES		bb		0.000
4	FUNCTION1 HPCD...	26.40	8.913e1					2.4	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.69	8.473e1					2.7	NO		bb		0.000
2	FUNCTION2 HPCD...	32.35	7.093e1					2.8	NO		bb		0.000
3	FUNCTION2 HPCD...	31.80	3.125e2					7.0	YES		bb		0.000
4	FUNCTION2 HPCD...	30.69	7.211e1					2.7	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.45	1.323e2					3.1	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.08	1.571e2					5.7	YES		bb		0.000
2	FUNCTION4 NCDPE	38.41	1.399e3					34.6	YES		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:50 Pacific Daylight Time

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

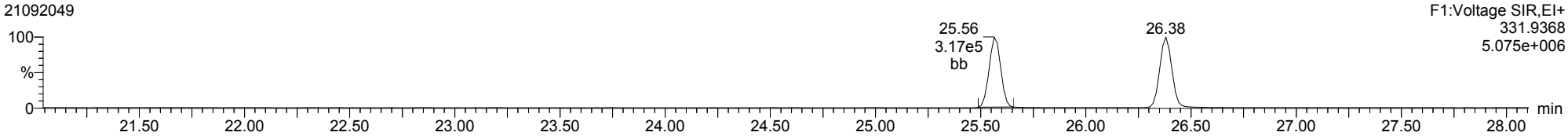
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	43.94	1.138e2					7.7	YES		bb		0.000

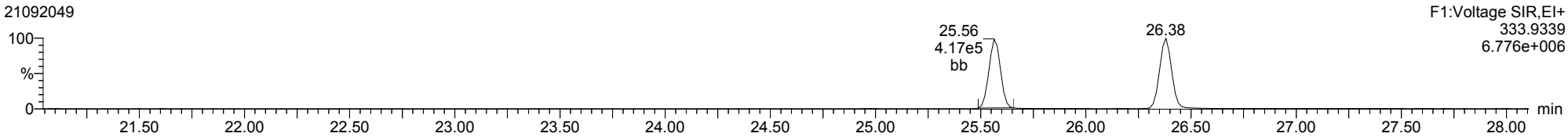
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

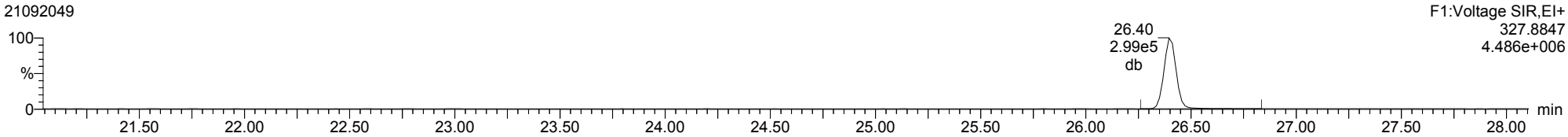
13C-1234-TCDD



13C-1234-TCDD

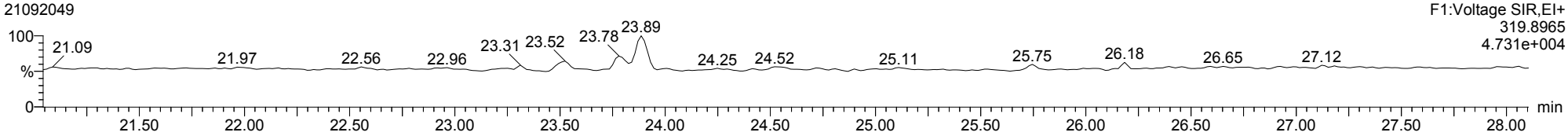


37CL-2378-TCDD

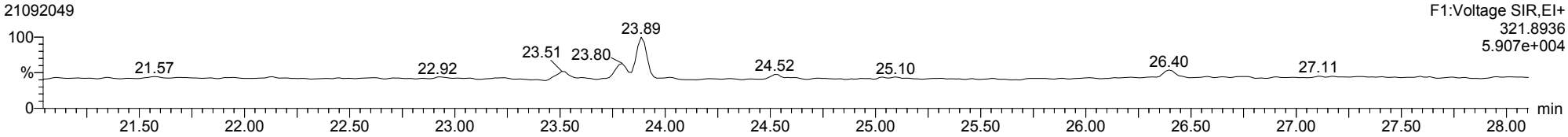


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

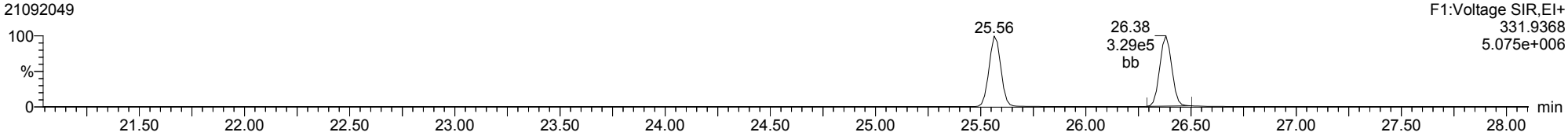
2378-TCDD



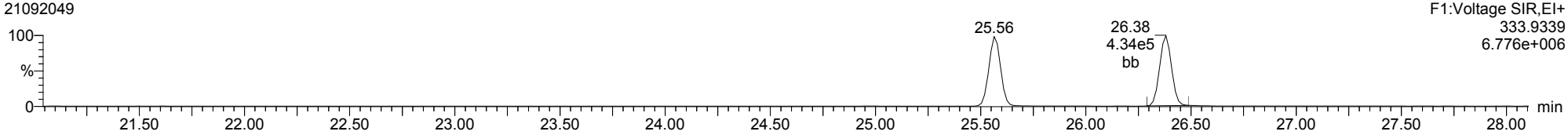
2378-TCDD



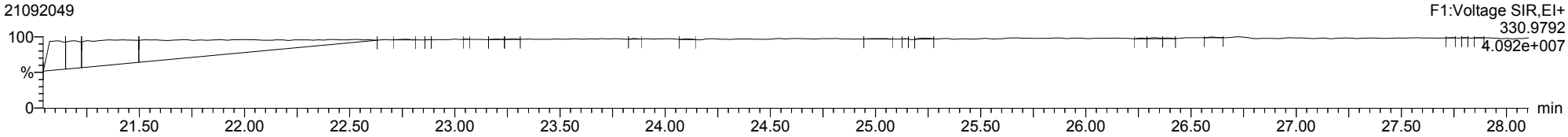
13C-2378-TCDD



13C-2378-TCDD

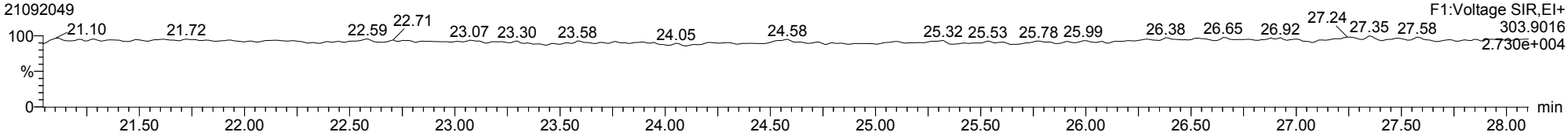


FUNCTION1 PFK

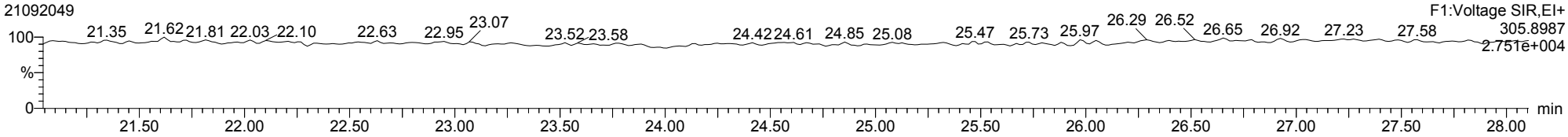


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

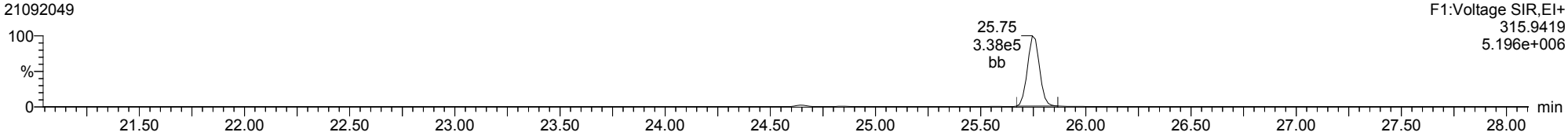
2378-TCDF



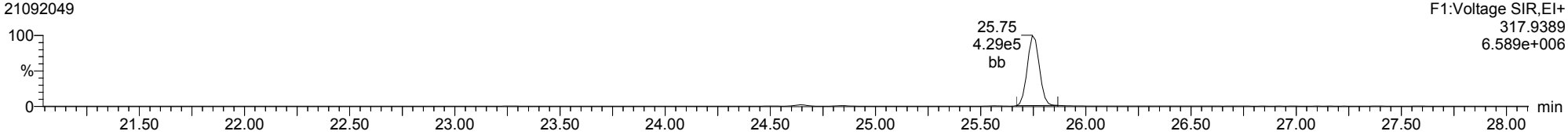
2378-TCDF



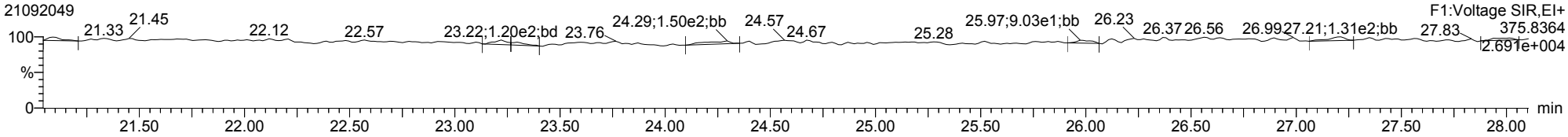
13C-2378-TCDF



13C-2378-TCDF

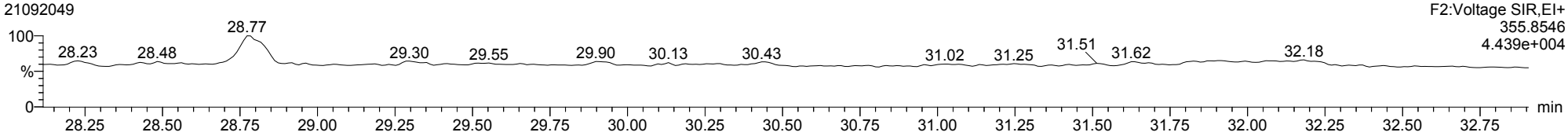


FUNCTION1 HXCDPE

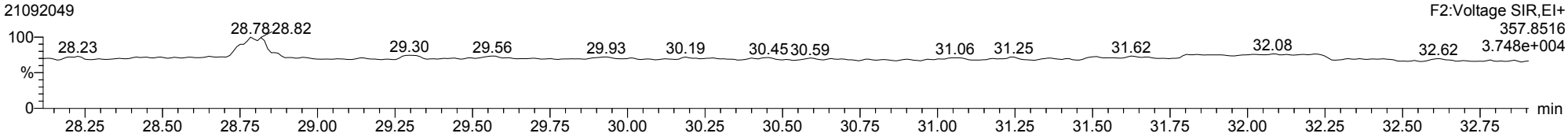


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

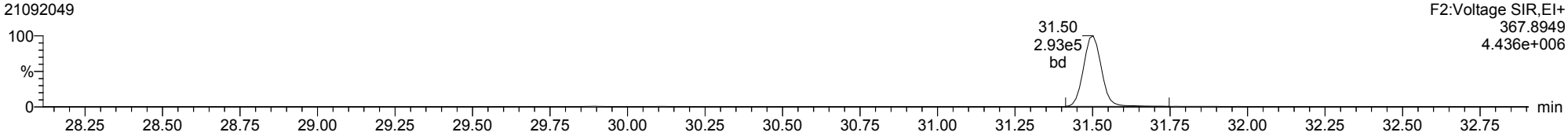
12378-PeCDD



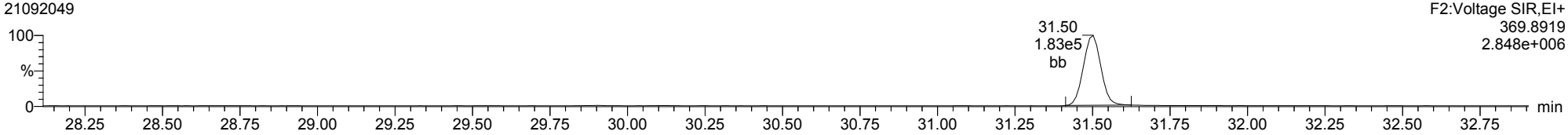
12378-PeCDD



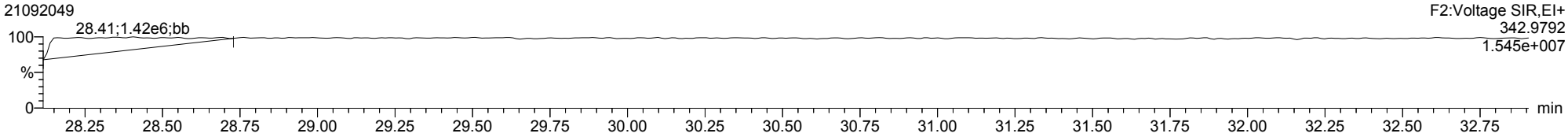
13C-12378-PeCDD



13C-12378-PeCDD

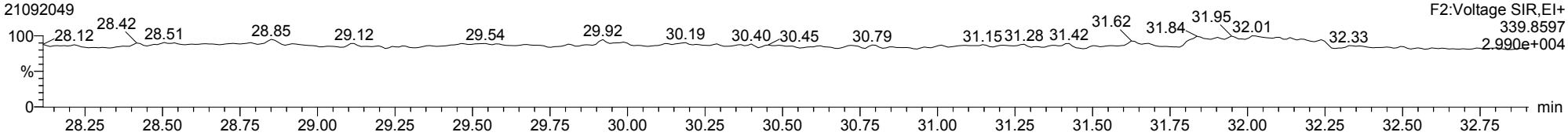


FUNCTION2 PFK

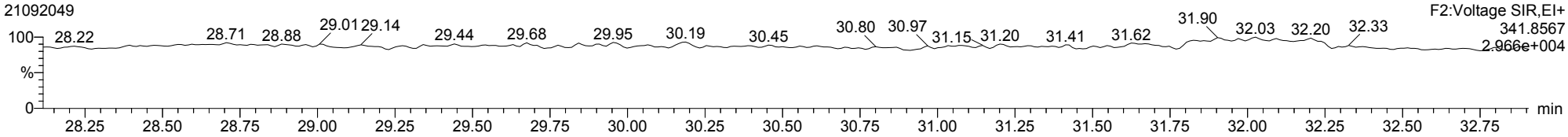


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

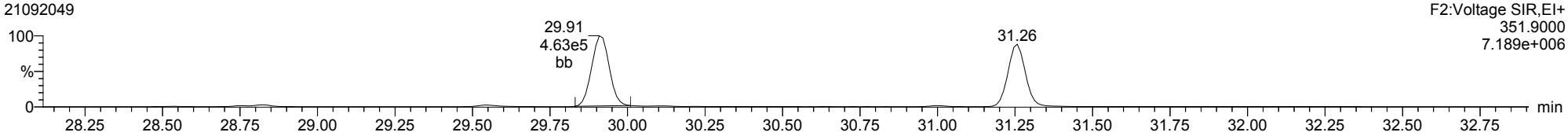
12378-PeCDF



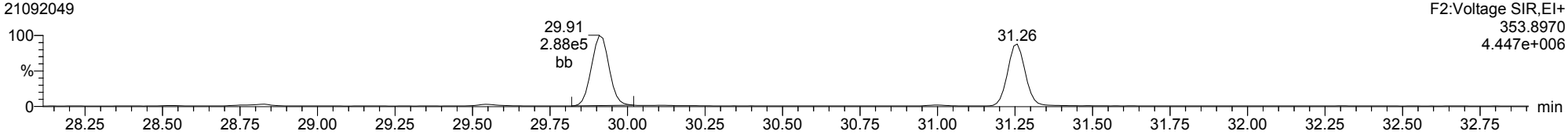
12378-PeCDF



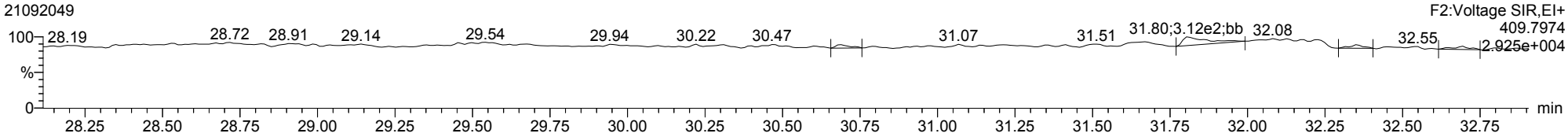
13C-12378-PeCDF



13C-12378-PeCDF

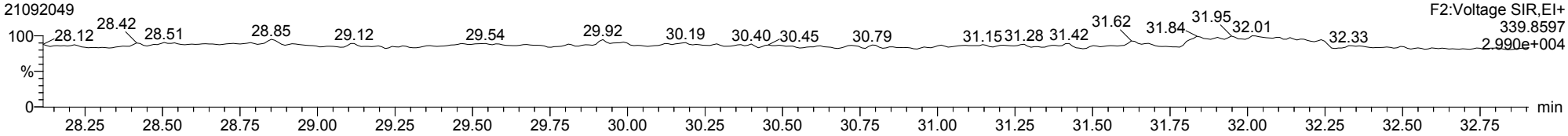


FUNCTION2 HPCDPE

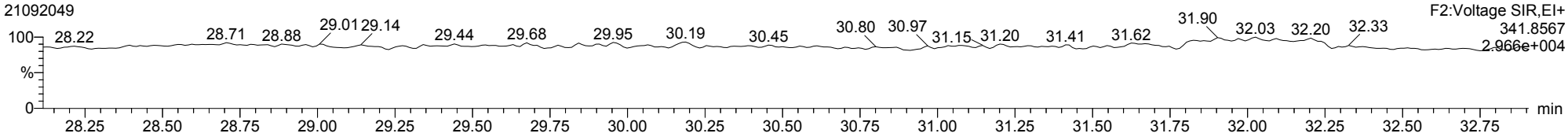


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

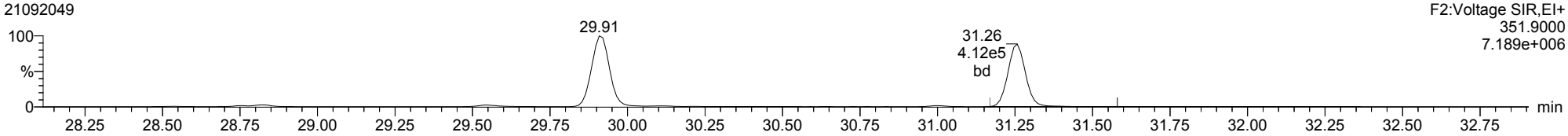
23478-PeCDF



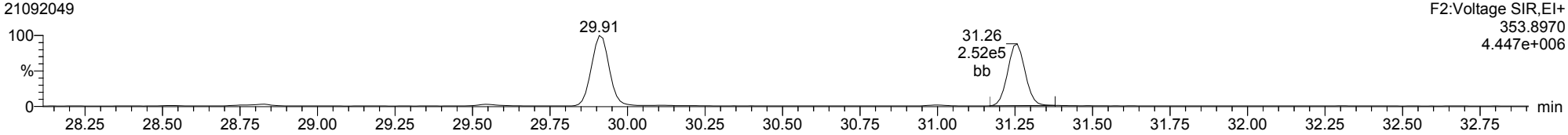
23478-PeCDF



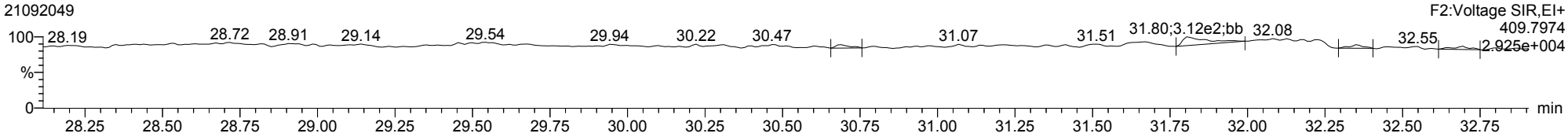
13C-23478-PeCDF



13C-23478-PeCDF

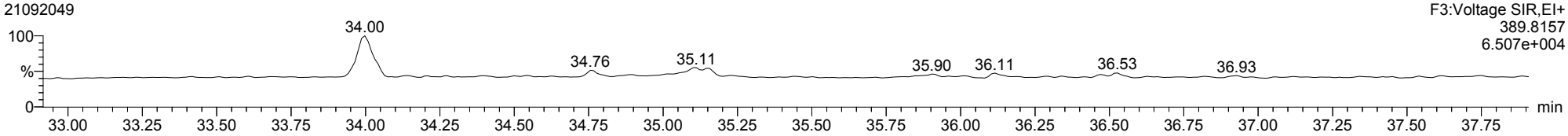


FUNCTION2 HPCDPE

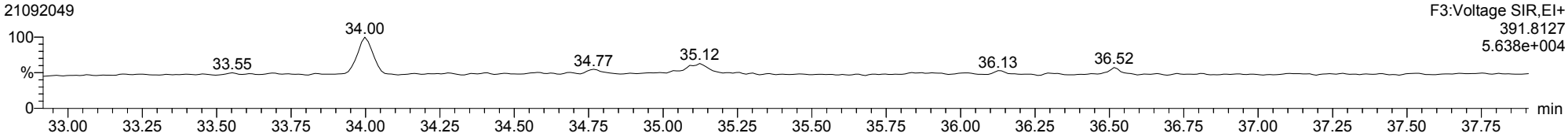


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

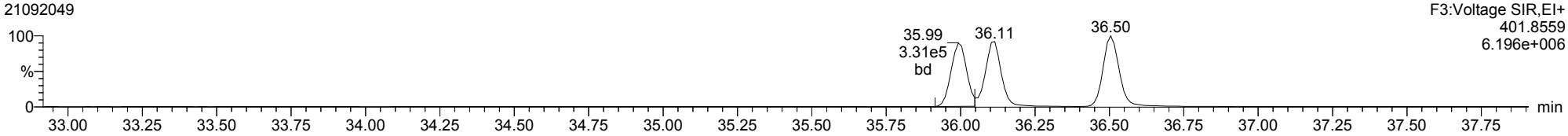
123478-HxCDD



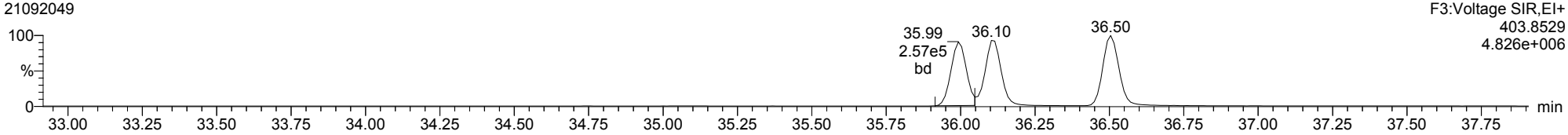
123478-HxCDD



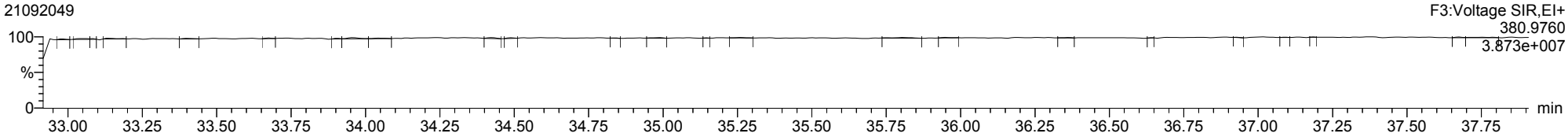
13C-123478-HxCDD



13C-123478-HxCDD

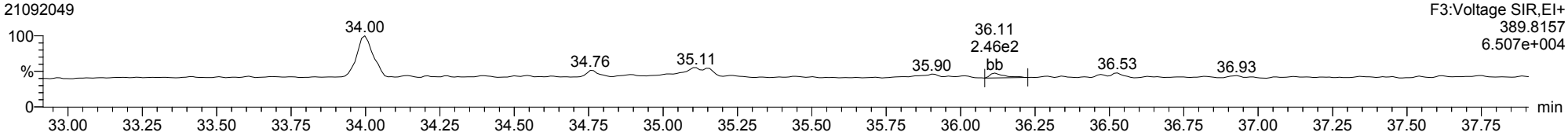


FUNCTION3 PFK

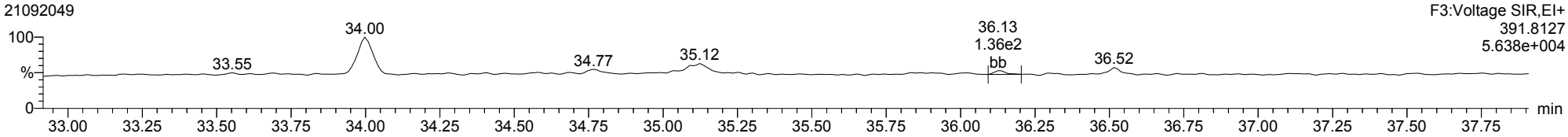


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

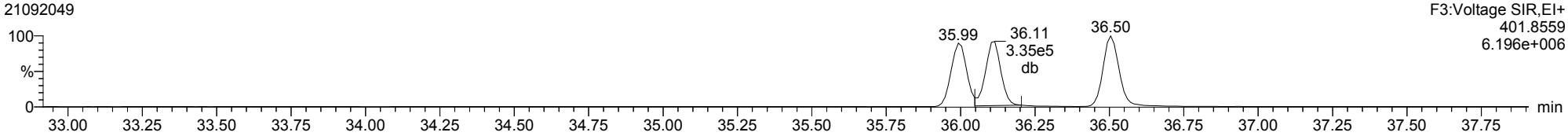
123678-HxCDD



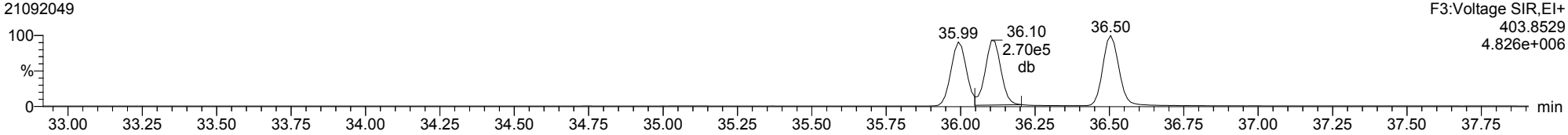
123678-HxCDD



13C-123678-HxCDD

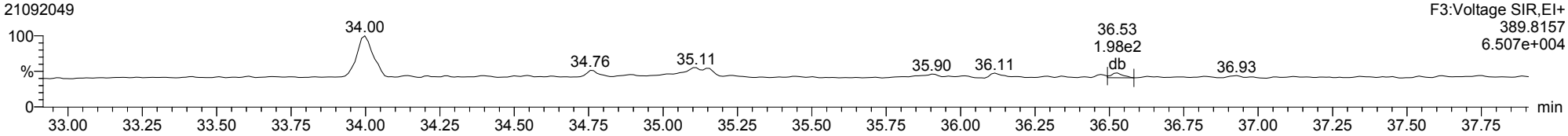


13C-123678-HxCDD

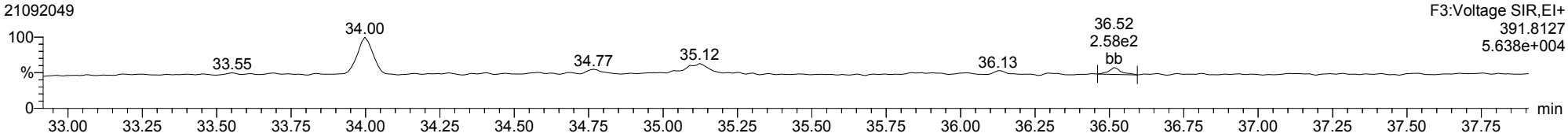


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

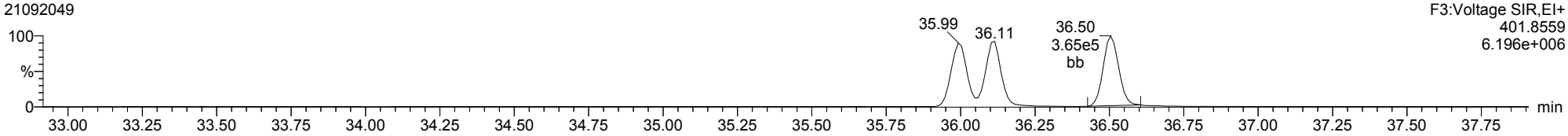
123789-HxCDD



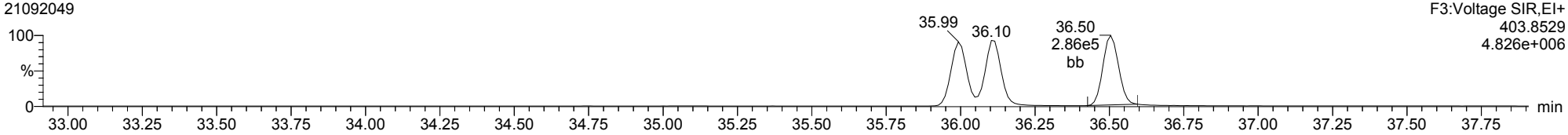
123789-HxCDD



13C-123789-HxCDD

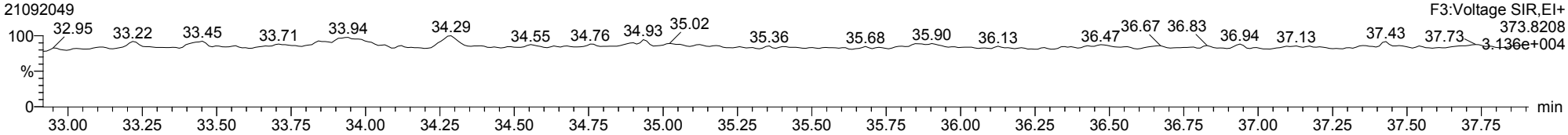


13C-123789-HxCDD

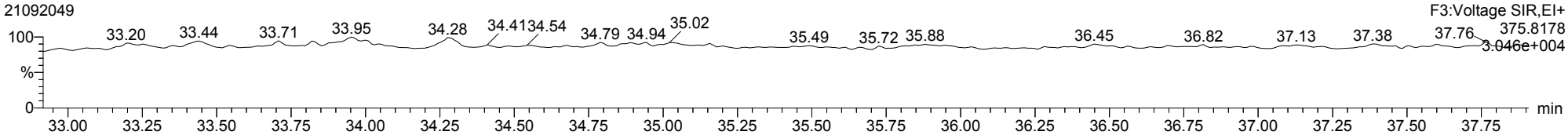


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

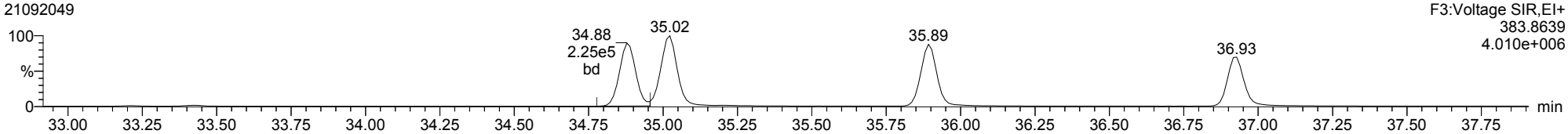
123478-HxCDF



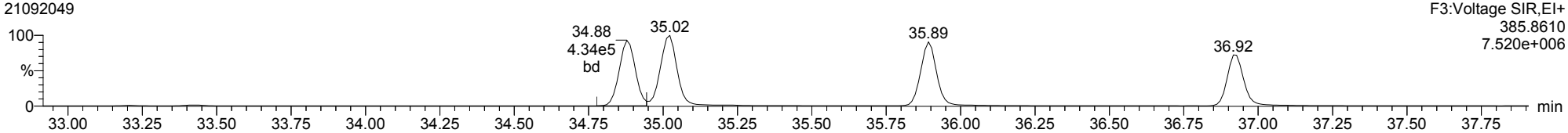
123478-HxCDF



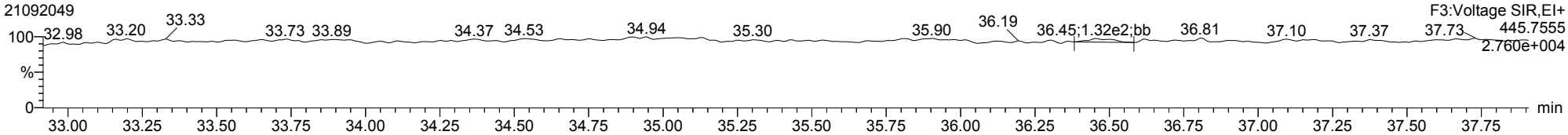
13C-123478-HxCDF



13C-123478-HxCDF

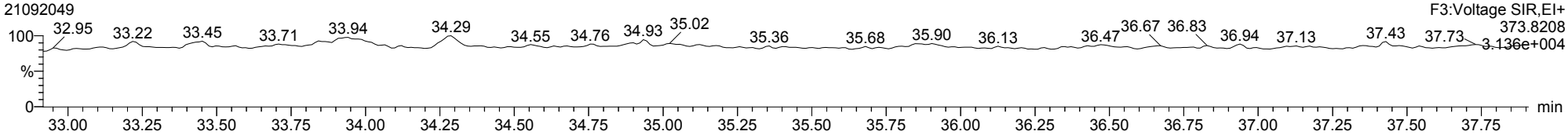


FUNCTION3 OCDPE

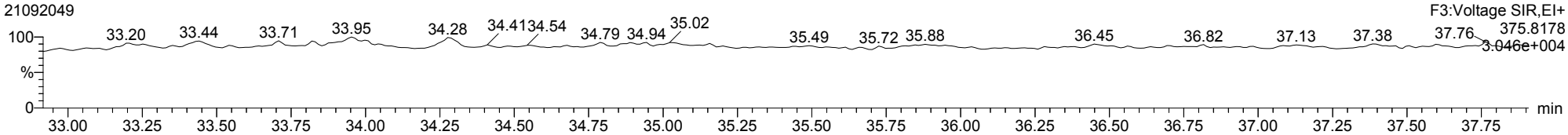


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

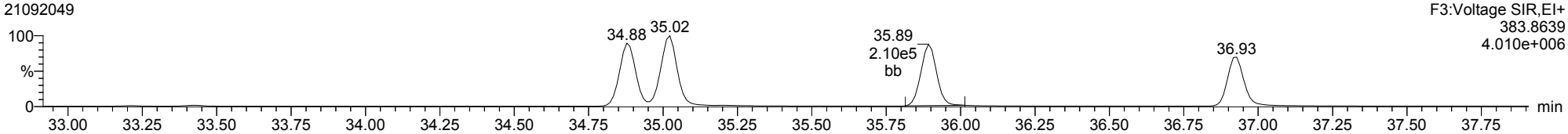
234678-HxCDF



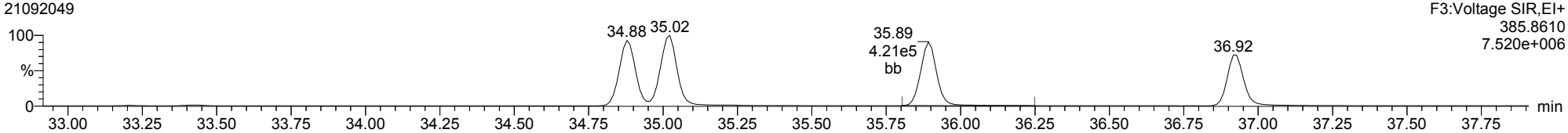
234678-HxCDF



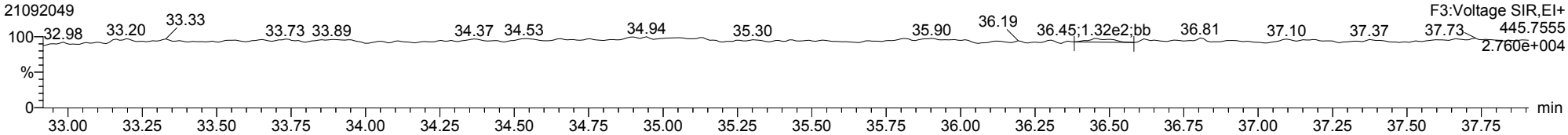
13C-234678-HxCDF



13C-234678-HxCDF

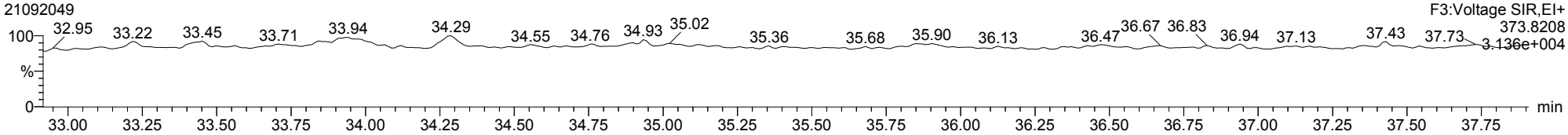


FUNCTION3 OCDPE

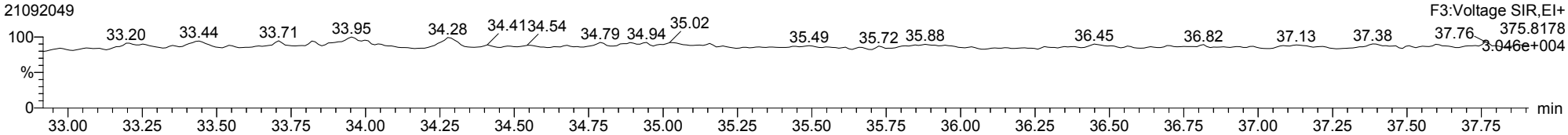


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

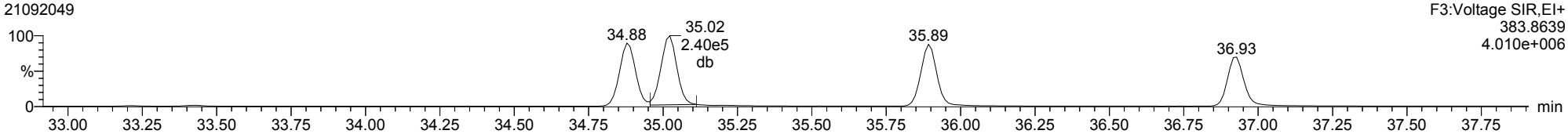
123678-HxCDF



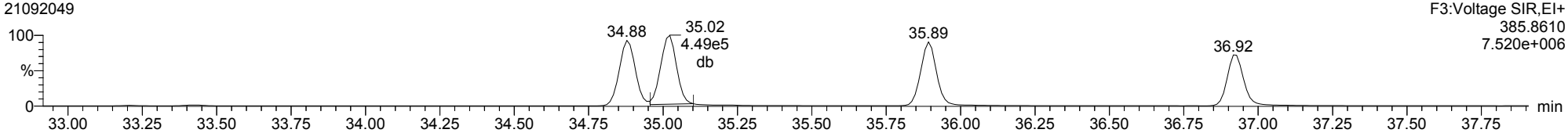
123678-HxCDF



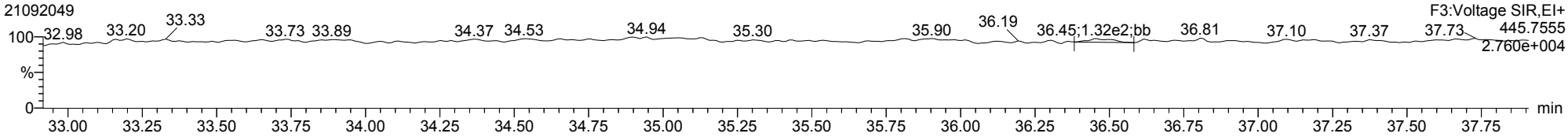
13C-123678-HxCDF



13C-123678-HxCDF

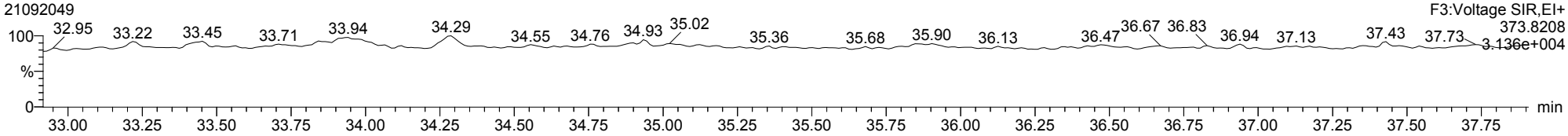


FUNCTION3 OCDPE

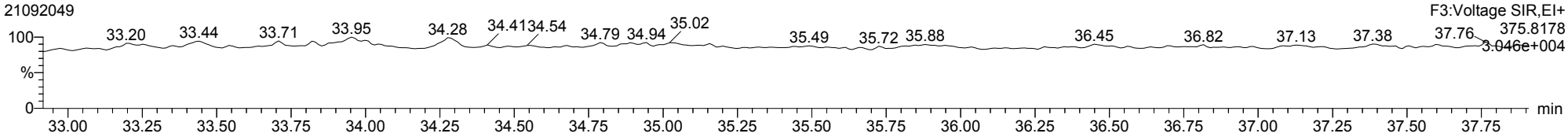


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

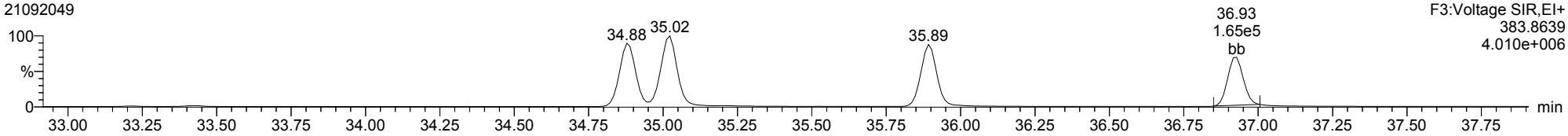
123789-HxCDF



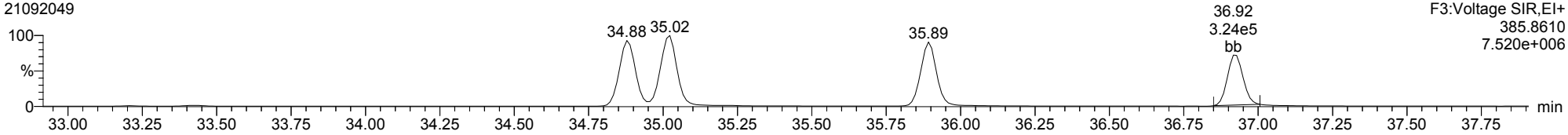
123789-HxCDF



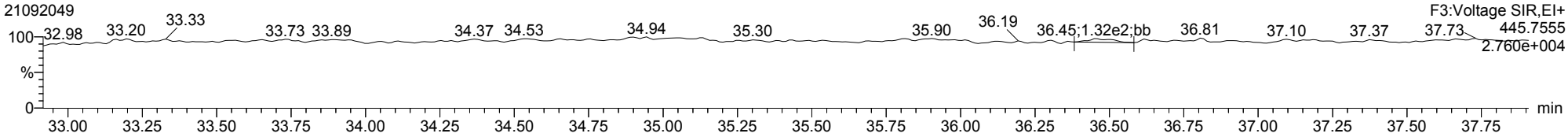
13C-123789-HxCDF



13C-123789-HxCDF

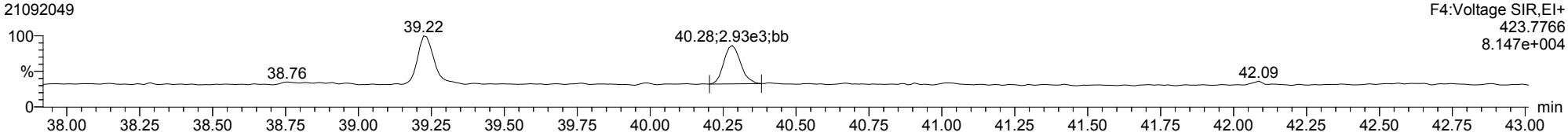


FUNCTION3 OCDPE

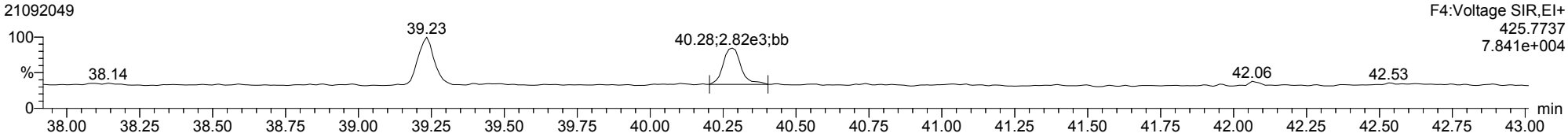


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

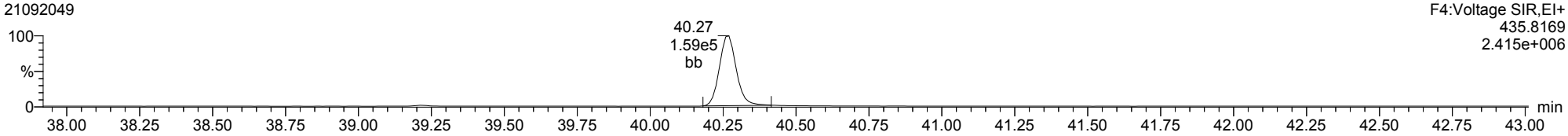
1234678-HpCDD



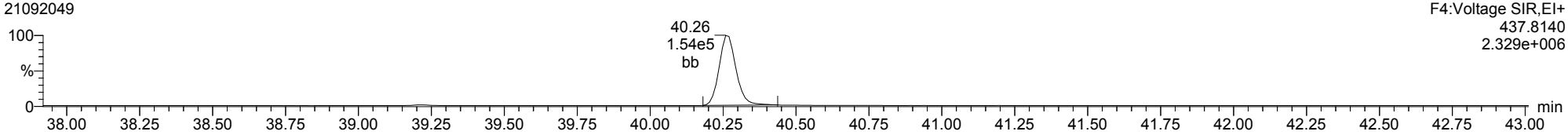
1234678-HpCDD



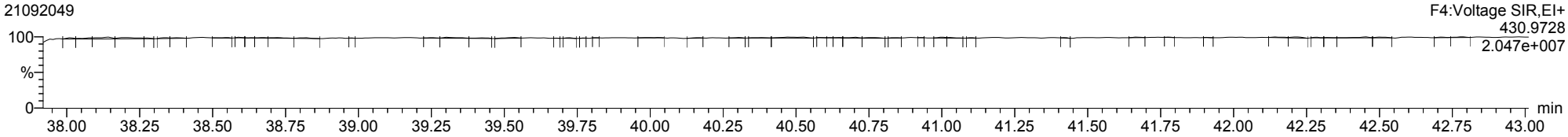
13C-1234678-HpCDD



13C-1234678-HpCDD

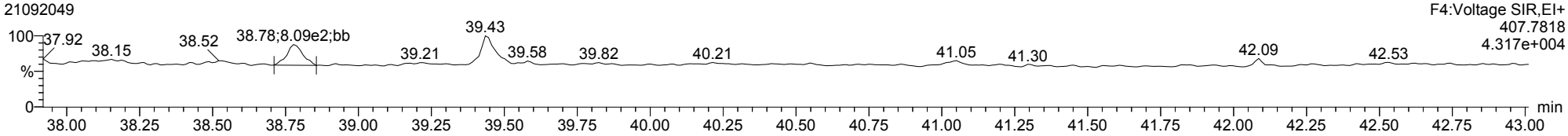


FUNCTION4 PFK

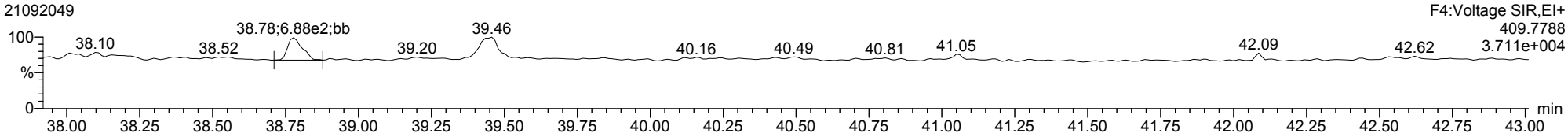


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

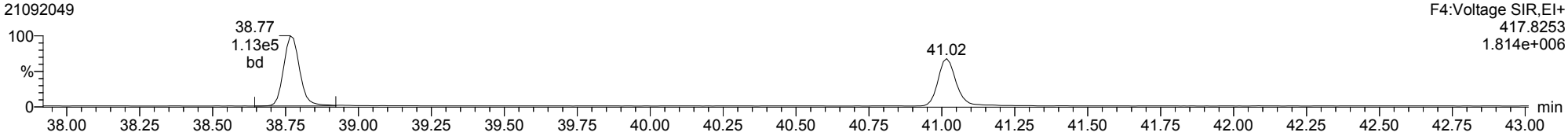
1234678-HpCDF



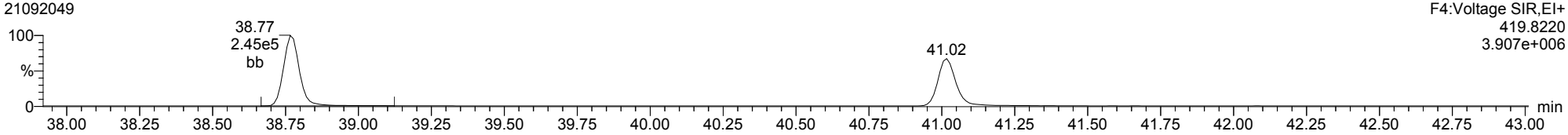
1234678-HpCDF



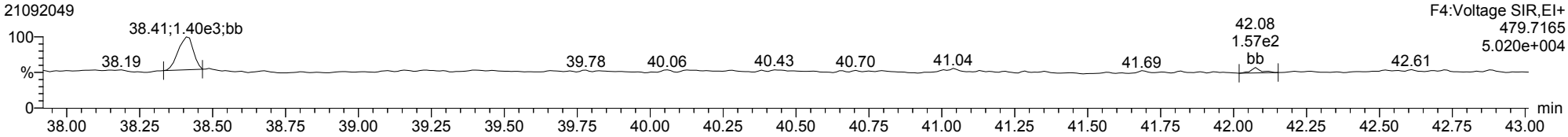
13C-1234678-HpCDF



13C-1234678-HpCDF

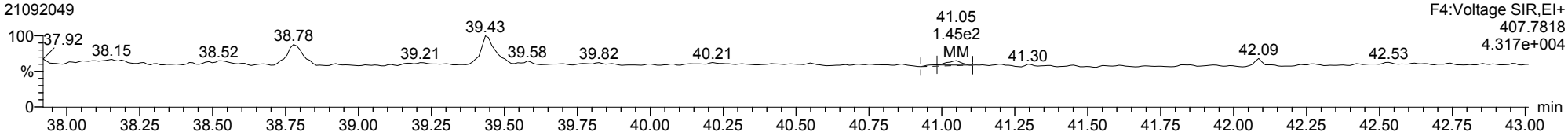


FUNCTION4 NCDPE

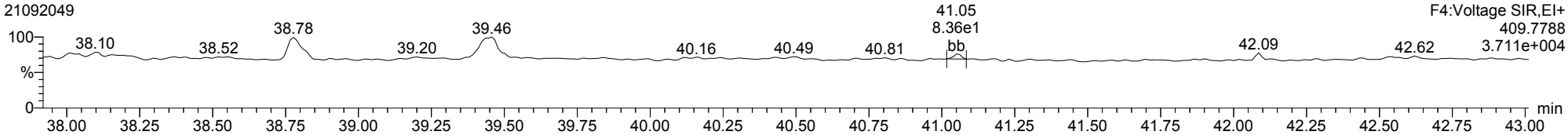


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

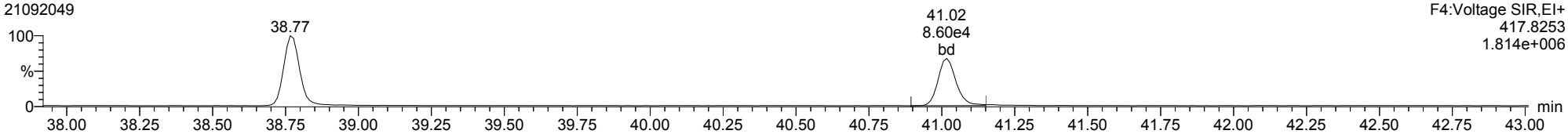
1234789-HpCDF



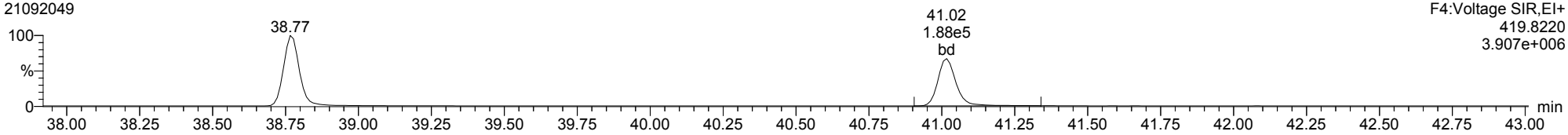
1234789-HpCDF



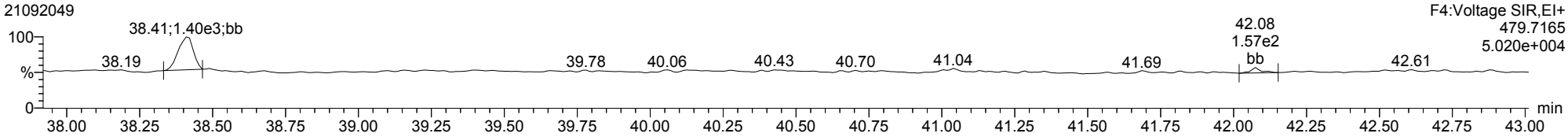
13C-1234789-HpCDF



13C-1234789-HpCDF

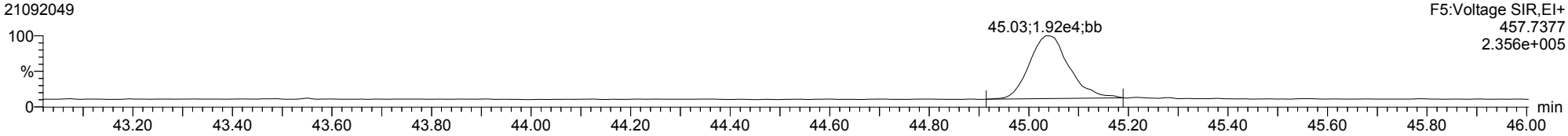


FUNCTION4 NCDPE

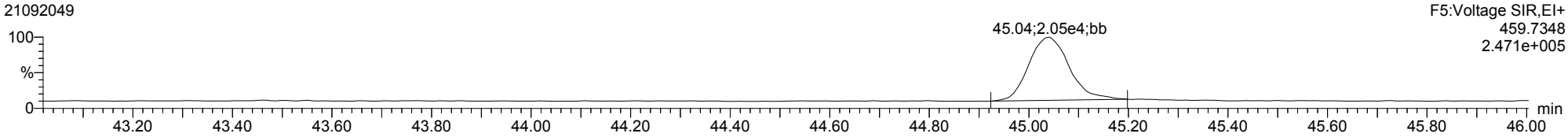


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

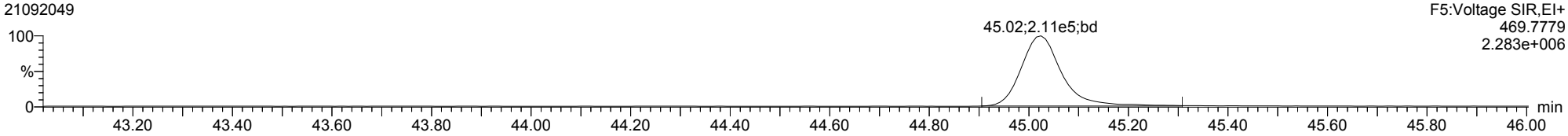
OCDD



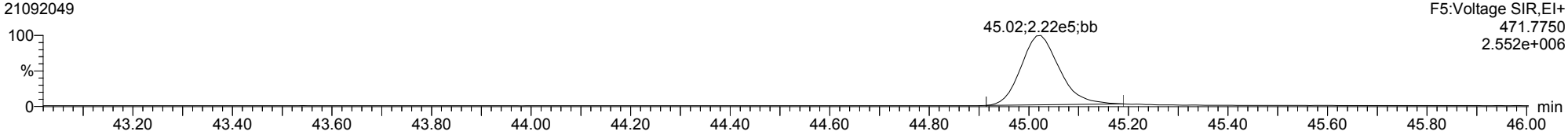
OCDD



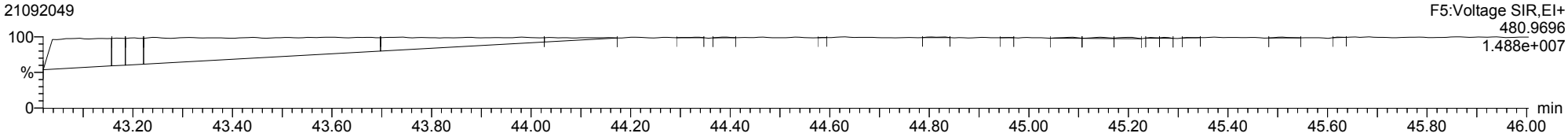
13C-OCDD



13C-OCDD

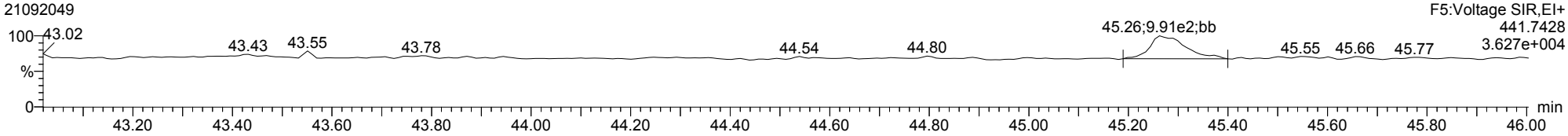


FUNCTION5 PFK

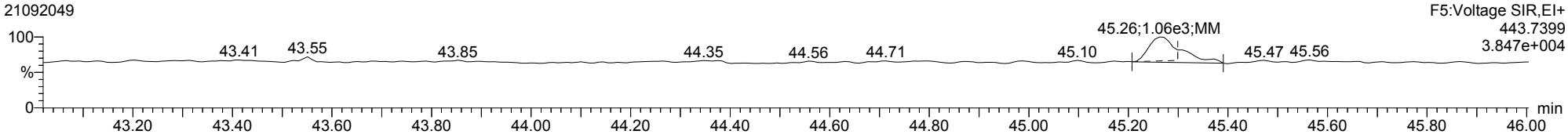


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

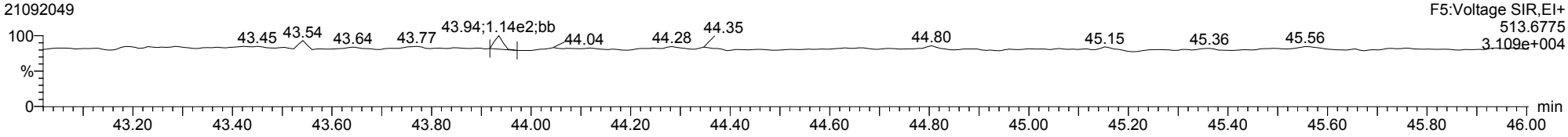
OCDF



OCDF



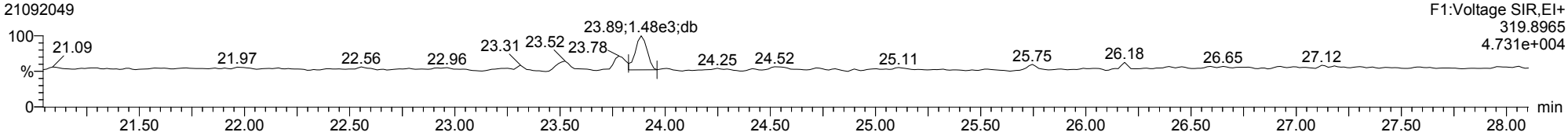
FUNCTION5 DCDPE



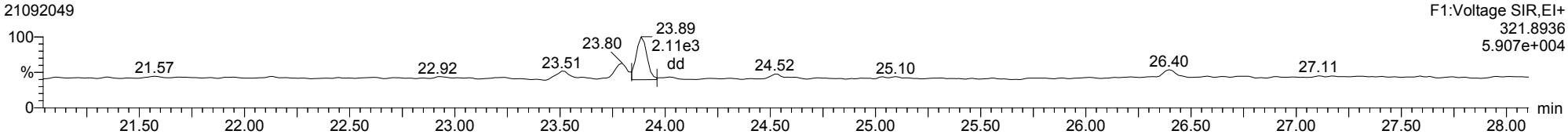
Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:09:50 Pacific Daylight Time

ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

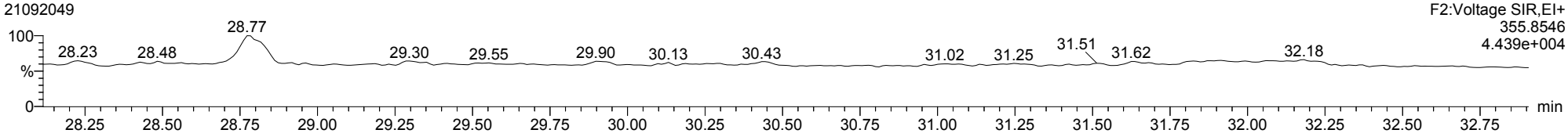
Total-tetradioxins



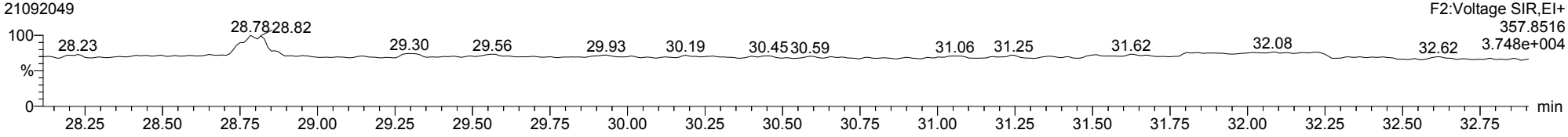
Total-tetradioxins



Total-pentadioxins

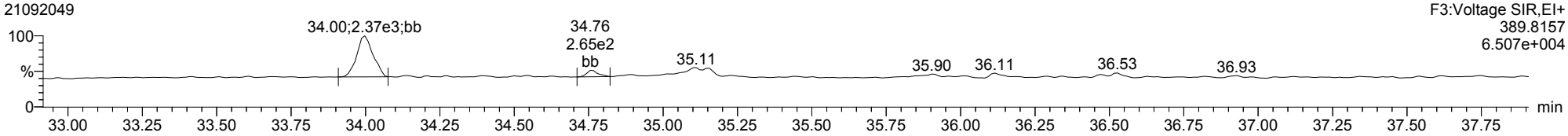


Total-pentadioxins

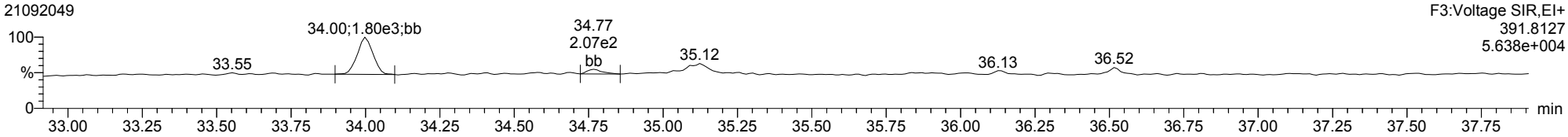


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

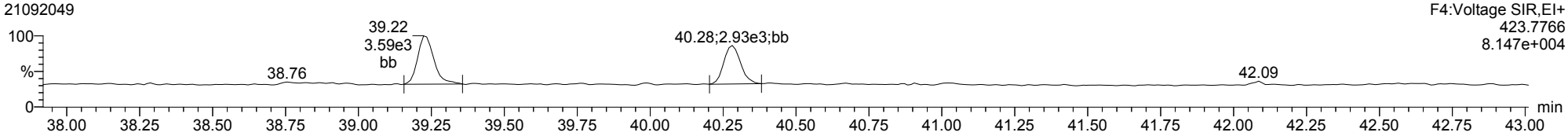
Total-hexadioxins



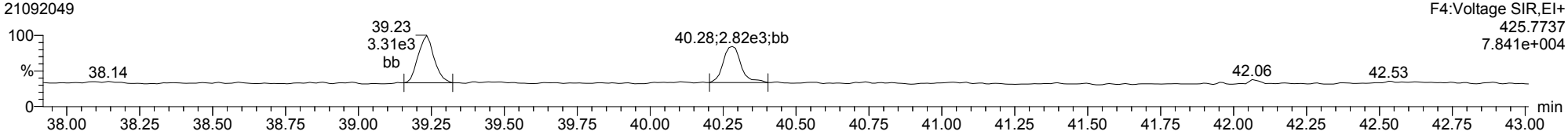
Total-hexadioxins



Total-heptadioxins

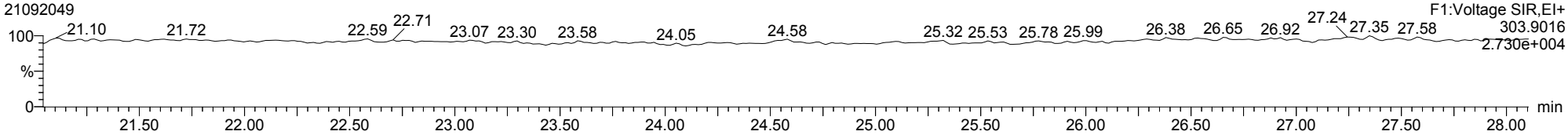


Total-heptadioxins

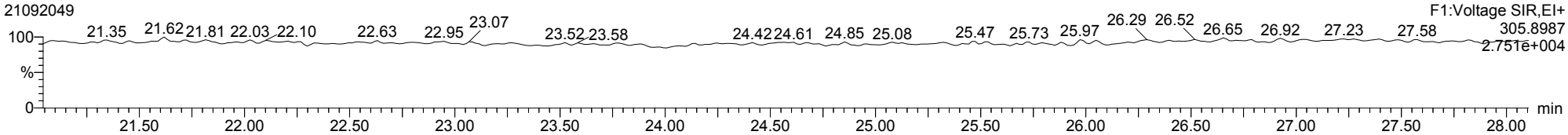


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

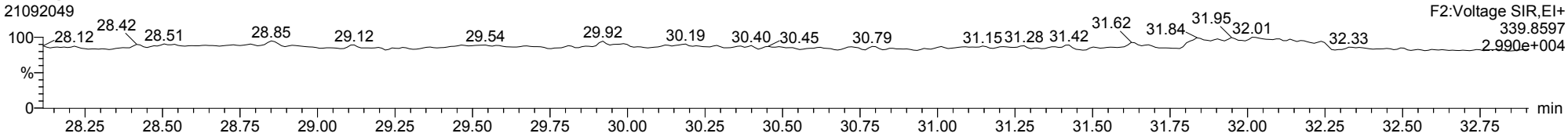
Total-tetrafurans



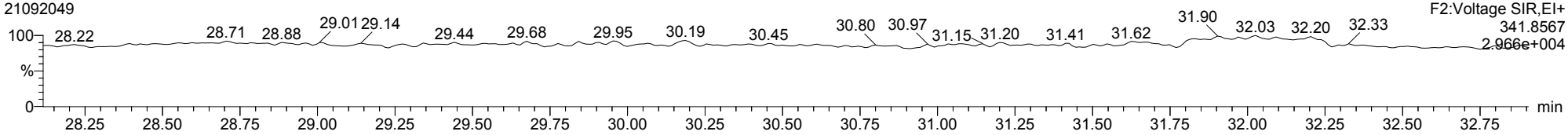
Total-tetrafurans



Total-pentafurans

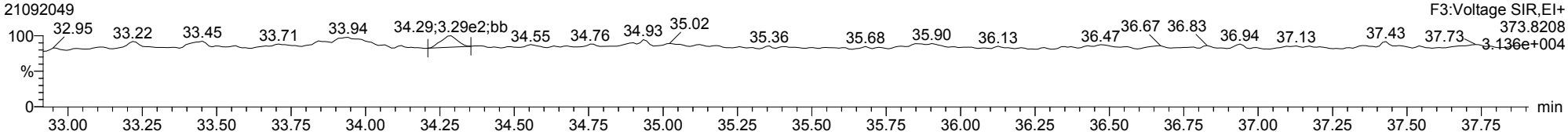


Total-pentafurans

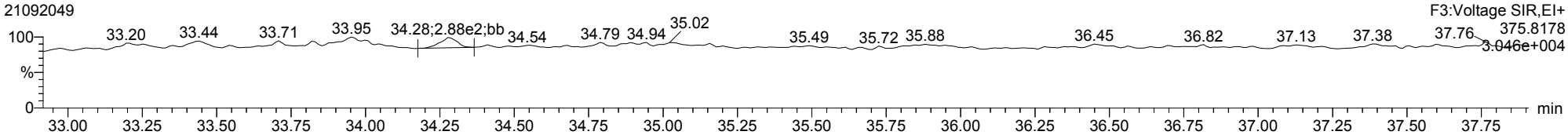


ID: 21G0213-08, Name: 21092049, Date: 22-Sep-2021, Time: 08:05:42, Conditions: AUTOSPEC01, User: pk

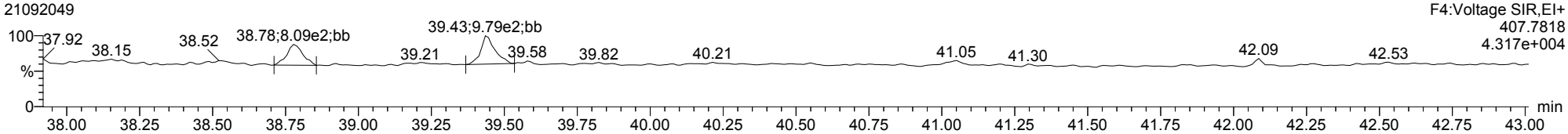
Total-hexafurans



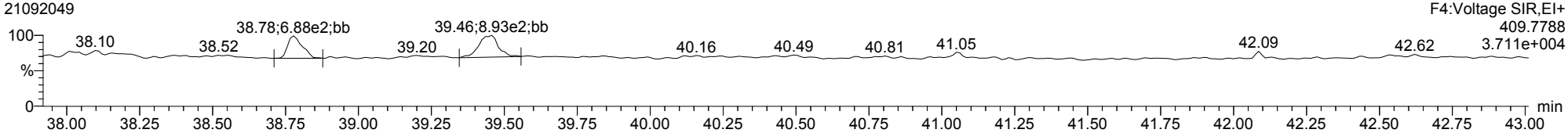
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0203	Batch Matrix:	Solid	Preparation:	EPA 1613

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT655B	21G0213-01	21092042	09/09/21 15:30	
LDW21-IT655C	21G0213-02	21092043	09/09/21 15:30	
LDW21-IT655E	21G0213-03	21092046	09/09/21 15:30	
LDW21-IT663B	21G0213-06	21092047	09/09/21 15:30	
LDW21-IT663B	21G0213-06RE1	21092060	09/09/21 15:30	Added 9/22/2021 by PK
LDW21-IT663C	21G0213-07	21092048	09/09/21 15:30	
LDW21-IT663C	21G0213-07RE1	21092061	09/09/21 15:30	Added 9/22/2021 by PK
LDW21-IT663E	21G0213-08	21092049	09/09/21 15:30	
Blank	BJH0203-BLK1	21092030	09/09/21 15:30	
LCS	BJH0203-BS1	21092031	09/09/21 15:30	
Reference	BJH0203-SRM1	21092032	09/09/21 15:30	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HRGCMS Dioxin/Furan Preparation Bench Sheet EPA Methods 8290A & 1613B

Batch: BJH0203

Solid Samples

ARI Work Orders:	21G0211,21G0213,21G0283		
Matrix (circle one)	Soil	Sediment	Oil Tissue
Extraction Method	Start Date/Time:	End Date/Time:	
Soxhlet SepF Shake out	9/9/21 15:30	9/10/21 7:30	

Reagents/Equipment Used	NA	ID / Lot Number	Initials	Date
Balance		24650344	DP	9/9/21
Toluene		J007944	NB/DP	9/9/21
Hexane		J005194	NB	9/10/21 9/13/21 9/14/21
CH2Cl2		J008966	NB	9/14/21
H2SO4		F009222	NB	9/13/21
Na2SO4		J009500	DP/NB	9/9/21/9/13/21 9/14/21
Glasswool		I006679	NB	9/14/21
Basic Silica		J007982	NB	9/14/21
Acid Silica		J007981	NB	9/14/21
0% Silica		J005622	NB	9/9/21/9/14/21
Activated Florisil		J002451	NB	9/14/21
Nonane		H006038	M	9/15/21
Other (RM)		J007936	DP	9/9/21

Lab Number & Container	Sample Name	% Solids	Sample Weight Equal to dry (g) (Target Dry)	Actual	RotoVap 45 °C	Water Trap Vol (mL)	Final Vol. (uL)
21G0211-11 C	LDW21-IT665B	53.84989	(15.66)	15.66	1 (2)	5.5	20
21G0211-12 C	LDW21-IT665C	67.85635	(14.74)	14.74	(1) 2	4.8	20
21G0211-13 C	LDW21-IT665E	67.92576	(14.72)	14.72	1 (2)	4.8	20
21G0211-14 C	LDW21-IT666B	76.7334	(13.03)	13.05	(1) 2	3.0	20
21G0211-15 C	LDW21-IT666C	75.43275	(13.26)	13.26	1 (2)	3.0	20
21G0211-16 C	LDW21-IT666E	77.51174	(12.90)	12.90	(1) 2	2.5	20
21G0213-01 C	LDW21-IT655B	76.5295	(13.07)	13.07	1 (2)	2.8	20
21G0213-02 C	LDW21-IT655C	74.45417	(13.43)	13.45	(1) 2	3.0	20
21G0213-03 C	LDW21-IT655E	76.42277	(13.09)	13.09	1 (2)	2.5	20
21G0213-06 C	LDW21-IT663B	64.68605	(15.46)	15.47	(1) 2	5.5	20
21G0213-07 C	LDW21-IT663C	75.29589	(13.28)	13.29	1 (2)	3.5	20
21G0213-08 C	LDW21-IT663E	83.09042	(12.04)	12.05	(1) 2	2.0	20
21G0283-11 C	LDW21-IT664B	66.15381	(15.12)	15.13	1 (2)	5.0	20
21G0283-12 C	LDW21-IT664C	68.94476	(14.50)	14.51	(1) 2	4.5	20
21G0283-13 C	LDW21-IT664E	72.4679	(13.80)	13.80	1 (2)	3.5	20
21G0283-14 C	LDW21-IT670B	75.61987	(13.22)	13.22	(1) 2	3.5	20
21G0283-15 C	LDW21-IT670C	70.71972	(14.14)	14.15	1 (2)	3.5	20
21G0283-16 C	LDW21-IT670E	75.92902	(13.17)	13.17	(1) 2	3.0	20
21G0283-17 C	LDW21-IT650B	78.03004	(12.82)	12.83	1 (2)	2.0	20
21G0283-18 C	LDW21-IT650C	78.65031	(12.72)	12.73	(1) 2	2.0	20
BJH0203-BLK1	Blank	100	()		1 (2)	0.0	20
BJH0203-BS1	LCS	100	()		(1) 2	0.0	20
BJH0203-DUP1	Duplicate	53.8498	(15.66)	15.66	1 (2)	5.7	20
BJH0203-SRM1	Reference	100	()	100	(1) 2	0.1	20
Prep Analyst / Date:	DP 9/9/21				NB 9/10/21 9/13/21	NB 9/10/21	MG 9/15/21

21G0211-11C

21G0213.Dioxin CLPLIKE (Rev1) - Page 312 of 1014

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HRGCMS Dioxin/Furan Preparation Bench Sheet EPA Methods 8290A & 1613B

Batch: BJH0203

Solid Samples

Standards Used	Vol	ID / Lot Number	Concentration	Expiration Date	Analyst	Witness	Date
Recovery Standard	1.0 mL	J009512	2/4 ng/mL	9/21/2022	ULB	M	9/9/21
OPR	1.0 mL	J006781	0.2/1.0/2.0 ng/mL	6/29/2022	ULB	M	9/9/21
~~QLS Standard~~	~~1.0 mL~~		~~0.01/0.05/0.1 ng/mL ng/m~~				
Cleanu-up Standard	1.0 mL	J007666 ~~3~~	0.8 ng/mL	7/27/2022 ~~3~~	ULB	M	9/14/21
		J009513		9/21/2022	ULB	M	9/14/21

Verify Client ID	
Analyst / Date:	DP 9/9/21
Acid Clean	[Y] N
Analyst / Date:	ULB 9/13/21
Silica-Florisil Clean	[Y] N
Analyst / Date:	ULB 9/14/21 9/15/21

Supervisor Review By 9/15/21 Date

Printed: 8/27/2021 11:40:27AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: Dioxin Extraction Batch BJH0203

Total Solids Batch: BJH0049 Work Order(s): 21G0211, 21G0213, 21G0282, 21G0289 ~~21G0289~~ 8/27/21

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 213-3,8	DP 8/16/21
☒ Standing Water Decanted (Not shared)= 211-16 213-2,6. 282-4B,6 289-2,5	DP ~~8/24~~ 8/16/21
☐ Standing Water Homogenized (Shared samples)=	
☒ Clay/Clumps (Difficult to homogenize)= 211-11,12,13,14,15,16, 213-1,2,7, 289-1	DP 8/16/21
☒ Rocks (%+size)? 50% 1/3" = 289-2,5	DP 8/16/21
☒ Organics (Leaves/sticks/grass)= 282-5,6 289-2,5	DP 8/16/21
☒ Oily, obvious fuel/sulfur odors= 282-4,5	DP 8/16/21
☐ 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).	
Rotaveped : BJH0203-BLK1 ~ 21G0283:12	LB 9/10/21
Rotaveped : 21G0283 ;13 ~ 16	LB 9/13/21
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: Dioxin Extraction Batch BJH0203

Total Solids Batch: BJH0056 Work Order(s): 21G0283, 21G0301

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 283-18	DLP 8/23/21
☒ Standing Water Decanted (Not shared)= 283-14,15,16, 301-1,2,3,4	DLP 8/23/21
☐ Standing Water Homogenized (Shared samples)=	
☒ Clay/Clumps (Difficult to homogenize)= 283-11,12,13,14,15,16	DLP 8/23/21
☐ Rocks (%+size)?	
☒ Organics (Leaves/sticks/grass)= 301-1,2,3,4	DLP 8/23/21
☐ 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).	
Boil out into waste collector lost ≈15mL during Rotovap: 21G0283:12	ULB 9/10/21
Silica column cleaned: 21G0283:11-18	ULB 9/15/21
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJH0049
Date:	
Analyst:	DP
Drying Oven:	018
Analytical Balance:	24650344

Instrumentation

Batch drying time			Oven Temp, C
Record times as mm/dd/yy hh:mm			
Date/time in oven:	08/16/21	12:30	108
Date/time out:	08/17/21	0520	107
Elapsed hrs:	0.0		

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	108
End Temp:	107

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21G0211-11 C	0.79	11.55	7.66			No
21G0211-12	0.80	11.48	8.30			No
21G0211-13	0.78	11.08	7.58			No
21G0211-14	0.80	11.47	8.98			No
21G0211-15	0.40	11.23	8.77			No
21G0211-16	0.79	11.31	8.95			~~No~~ yes
21G0213-01	0.79	11.76	9.16			No
21G0213-02	0.79	11.33	8.69			~~No~~ yes
21G0213-03	0.79	11.17	9.09			No
21G0213-06	0.79	11.11	7.42			~~No~~ yes
21G0213-07	0.79	11.66	8.64			No
21G0213-08	0.80	11.68	9.76			No
21G0282-04	0.80	11.08	2.85			~~No~~ yes
21G0282-05	0.79	11.99	5.34			~~No~~ yes
21G0282-06	0.79	11.70	4.62			~~No~~ yes
21G0289-01	0.79	11.44	9.33			No
21G0289-02	0.80	11.80	7.33			~~No~~ yes
21G0289-05	0.80	11.25	9.02			~~No~~ yes

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJH0049
Date:	8/17/2021 10:12
Analyst:	DXP
Drying Oven:	18
Analytical Balance:	24650344

Instrumentation

Batch drying time			
Record times as mm/dd/yy hh:mm		Oven Temp, C	TS (%) calculated as:
Date/time in oven:	8/16/2021 12:30	108	Final dry wt (g) = (Dry Wt - Tare Wt)
Date/time out:	8/17/2021 5:20	107	TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)
Elapsed hrs:	16.8		

Oven Temps, °C	
Start Temp:	108
End Temp:	107

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21G0211-11	0.7900	11.5500	7.6600	6.87	**63.85%**	No
21G0211-12	0.8000	11.4800	8.3000	7.50	**70.22%**	No
21G0211-13	0.7800	11.0800	7.5800	6.80	**66.02%**	No
21G0211-14	0.8000	11.4700	8.9800	8.18	**76.66%**	No
21G0211-15	0.8000	11.2300	8.7700	7.97	**76.41%**	No
21G0211-16	0.7900	11.3100	8.9500	8.16	**77.57%**	Yes
21G0213-01	0.7900	11.7600	9.1600	8.37	**76.30%**	No
21G0213-02	0.7900	11.3300	8.6900	7.90	**74.95%**	Yes
21G0213-03	0.7900	11.1700	9.0900	8.30	**79.96%**	No
21G0213-06	0.7900	11.1100	7.4200	6.63	**64.24%**	Yes
21G0213-07	0.7900	11.6600	8.6400	7.85	**72.22%**	No
21G0213-08	0.8000	11.6800	9.8000	9.00	**82.72%**	No
21G0282-04	0.8000	11.0800	2.8500	2.05	**19.94%**	Yes
21G0282-05	0.7900	11.9900	5.3400	4.55	**40.63%**	Yes
21G0282-06	0.7900	11.7000	4.6200	3.83	**35.11%**	Yes
21G0289-01	0.7900	11.4400	9.3300	8.54	**80.19%**	No
21G0289-02	0.8000	11.8000	7.3300	6.53	**59.36%**	Yes
21G0289-05	0.8000	11.2500	9.0200	8.22	**78.66%**	Yes

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJH0056
Date:	8/24/2021 6:47
Analyst:	DXP
Drying Oven:	18
Analytical Balance:	24650344

Instrumentation

Batch drying time		
Record times as mm/dd/yy hh:mm		Oven Temp, C
Date/time in oven:	8/23/2021 14:23	108
Date/time out:	8/24/2021 5:30	107
Elapsed hrs:	15.1	

TS (%) calculated as:

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

Oven Temps, °C	
Start Temp:	108
End Temp:	107

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21G0283-11	0.8000	11.2800	7.6600	6.86	**65.46%**	No
21G0283-12	0.8000	11.4700	8.3100	7.51	**70.38%**	No
21G0283-13	0.8000	11.4300	8.6000	7.80	**73.38%**	No
21G0283-14	0.8000	11.8600	9.2300	8.43	**76.22%**	Yes
21G0283-15	0.8100	11.1100	8.5100	7.70	**74.76%**	Yes
21G0283-16	0.8200	11.0600	8.6700	7.85	**76.66%**	Yes
21G0283-17	0.8200	11.4200	9.2700	8.45	**79.72%**	No
21G0283-18	0.8200	11.6900	9.4300	8.61	**79.21%**	No
21G0301-01	0.8100	11.2000	6.1000	5.29	**50.91%**	Yes
21G0301-02	0.8200	11.2300	4.8100	3.99	**38.33%**	Yes
21G0301-03	0.8000	11.5100	3.5200	2.72	**25.40%**	Yes
21G0301-04	0.8100	11.2500	4.3100	3.50	**33.52%**	Yes

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Instrumentation

Batch:	BJH0056
Date:	8/23
Analyst:	DP
Drying Oven:	018
Analytical Balance:	24650344

Batch drying time			
Record times as mm/dd/yy hh:mm		Oven Temp, C	TS (%) calculated as:
Date/time in oven:	08/23/21	14:23	108
Date/time out:	08/24/21	0530	107
Elapsed hrs:	0.0		

Final dry wt (g) = (Dry Wt - Tare Wt)

TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)

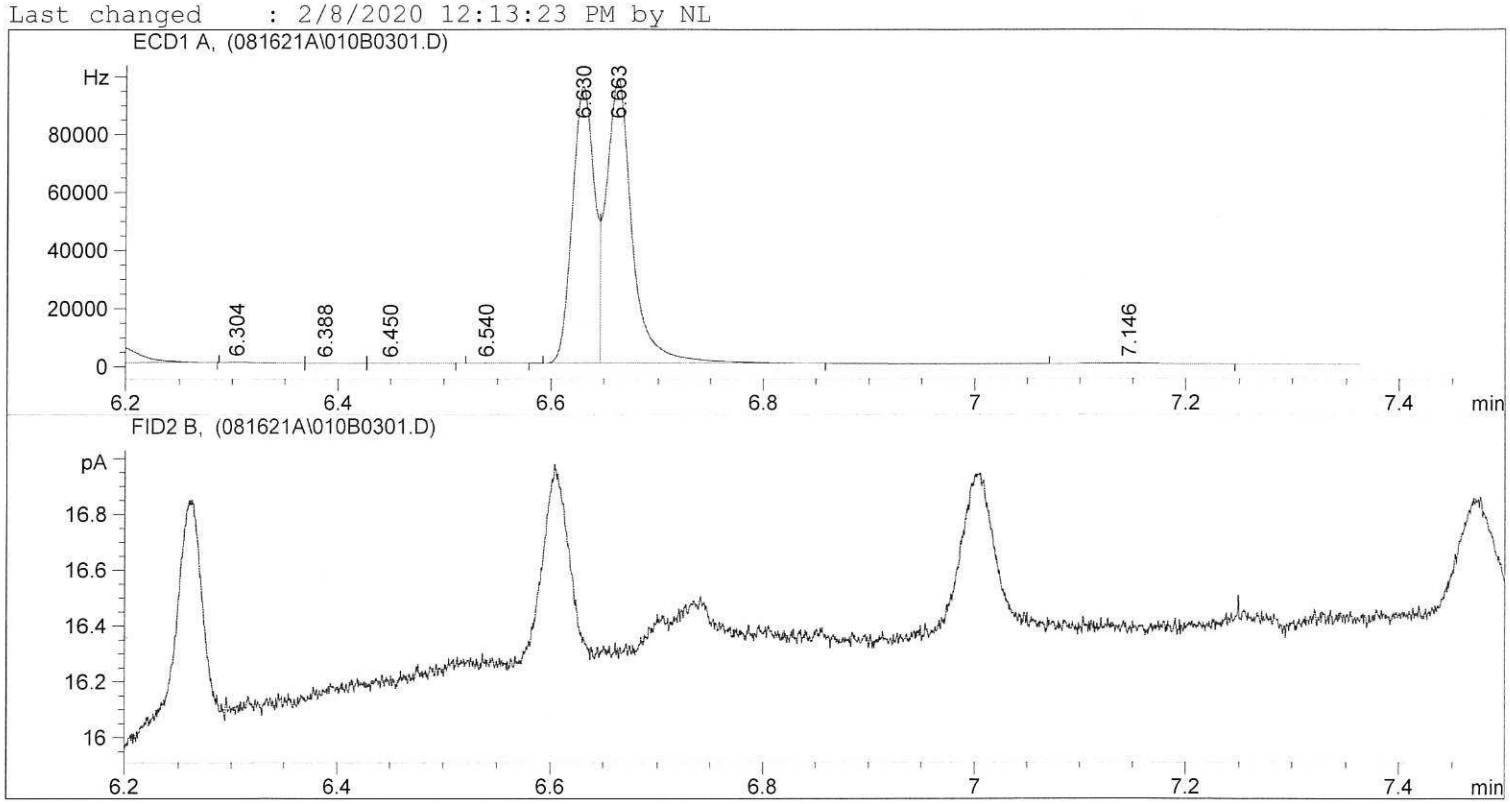
Oven Temps, °C	
Start Temp:	108
End Temp:	107

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21G0283-11	0.90	11.285	7.66			No
21G0283-12	0.80	11.47	8.31			No
21G0283-13	0.80	11.43	8.66			No
21G0283-14	0.80	11.86	9.23			~~No~~ yes
21G0283-15	0.81	11.11	8.51			~~No~~ yes
21G0283-16	0.82	11.06	8.67			~~No~~ yes
21G0283-17	0.82	11.42	9.77			No
21G0283-18	0.82	11.69	9.43			No
21G0301-01	0.81	11.20	6.16 M 8/27/21			~~No~~ yes
21G0301-02	0.82	11.23	4.8781			~~No~~ yes
21G0301-03	0.80	11.51	3.52			~~No~~ yes
21G0301-04	0.81	11.25	4.31			~~No~~ yes

==========

Injection Date : 8/16/2021 2:44:42 PM Seq. Line : 3
Sample Name : CS4 STANDARD Location : Vial 10
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.333	BP	0.0113	42.28254	51.68651	0.00353
2	5.402	PV	0.0111	32.00731	36.19876	0.00267
3	5.426	VP	7.00e-3	8.91731	16.25421	0.00074
4	5.478	VV S	0.0262	1.65152e5	8.52720e4	13.77963
5	5.580	VV S	0.0398	2.58763e5	1.08267e5	21.59013
6	5.639	VV S	0.0226	9.67790e4	7.14070e4	8.07486
7	5.686	VB S	0.0285	9.74123e4	5.69378e4	8.12770
8	5.937	PP S	0.0190	9.65539e4	7.48863e4	8.05608
9	6.087	VV S	0.0190	8.74202e4	6.69179e4	7.29399
10	6.166	VB S	0.0251	9.15690e4	6.08649e4	7.64016
11	6.304	BP	0.0149	290.28574	237.10280	0.02422
12	6.388	BP	0.0153	40.86504	32.46574	0.00341
13	6.450	VP	0.0160	75.80196	57.25101	0.00632
14	6.540	BB	0.0198	135.52065	82.53667	0.01131
15	6.630	BV S	0.0216	1.36907e5	9.53467e4	11.42301
16	6.663	VB S	0.0282	1.65510e5	9.79487e4	13.80953
17	7.146	BB	0.0509	1179.96814	280.36200	0.09845

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.680	PB	0.0283	650.21191	277.96936	0.05425

Totals : 1.19852e6 7.18919e5

Results obtained with enhanced integrator!

Signal 2: FID2 B,

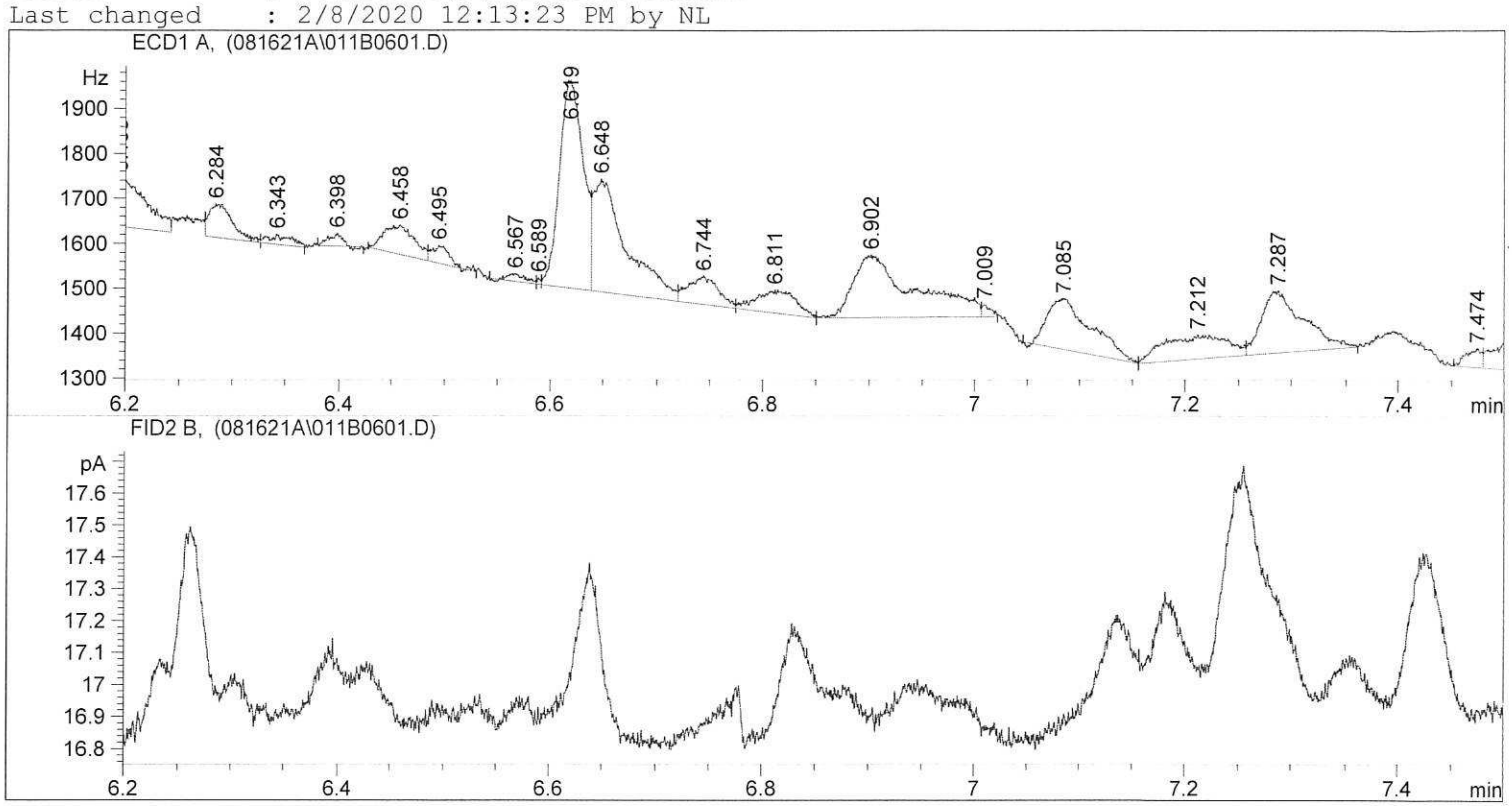
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 3:18:14 PM Seq. Line : 6
Sample Name : 21G0211 11 Location : Vial 11
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.212	BP	8.25e-3	10.96626	17.17222	0.10789
2	5.232	VV	7.88e-3	10.87220	17.42668	0.10697
3	5.261	VP	0.0160	190.08360	141.95624	1.87012
4	5.361	BV	0.0289	699.93500	288.07443	6.88626
5	5.422	VV	0.0212	358.51840	208.65468	3.52726
6	5.463	VP	0.0206	1072.51392	711.20215	10.55185
7	5.582	BP	0.0214	144.38051	84.29297	1.42048
8	5.633	VV	0.0126	50.28152	49.83515	0.49469
9	5.684	VP	0.0175	511.76511	429.53354	5.03497
10	5.749	PB	0.0152	437.57135	349.30188	4.30502
11	5.796	BP	0.0159	34.66954	26.37218	0.34109
12	5.865	BP	0.0217	613.19385	345.53580	6.03286
13	5.929	VV	0.0189	321.94241	203.03969	3.16741
14	5.984	VV	0.0326	541.84558	197.50143	5.33091
15	6.074	VV	0.0402	677.20801	198.47299	6.66266
16	6.152	VV	0.0169	136.83975	100.69720	1.34629
17	6.195	VV	0.0376	339.19507	108.14573	3.33715

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.284	BV	0.0190	117.29034	73.70972	1.15395
19	6.343	VP	0.0173	31.23156	22.38280	0.30727
20	6.398	BB	9.71e-3	22.86304	28.66142	0.22494
21	6.458	BV	0.0236	128.43600	65.62981	1.26361
22	6.495	VB	0.0142	46.81543	40.05126	0.46059
23	6.567	PV	0.0139	18.68308	17.12785	0.18381
24	6.589	VV	2.79e-3	2.72835	14.51992	0.02684
25	6.619	VV	0.0194	721.73334	461.92270	7.10072
26	6.648	VV	0.0258	545.90631	250.59569	5.37086
27	6.744	VV	0.0236	121.53487	62.23483	1.19571
28	6.811	VP	0.0319	132.16821	51.25411	1.30033
29	6.902	VV	0.0489	554.01880	139.07626	5.45068
30	7.009	VB	7.79e-3	15.25171	27.00801	0.15005
31	7.085	PP	0.0346	324.40469	111.41737	3.19163
32	7.212	VV	0.0505	219.96375	52.69460	2.16410
33	7.287	VV	0.0327	373.84320	137.73981	3.67803
34	7.474	PV	0.0128	42.09189	40.93198	0.41412
35	7.508	VP	0.0317	185.90649	70.19151	1.82903
36	7.628	BB	0.0379	407.57001	127.52931	4.00985
Totals :				1.01642e4	5271.89392	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

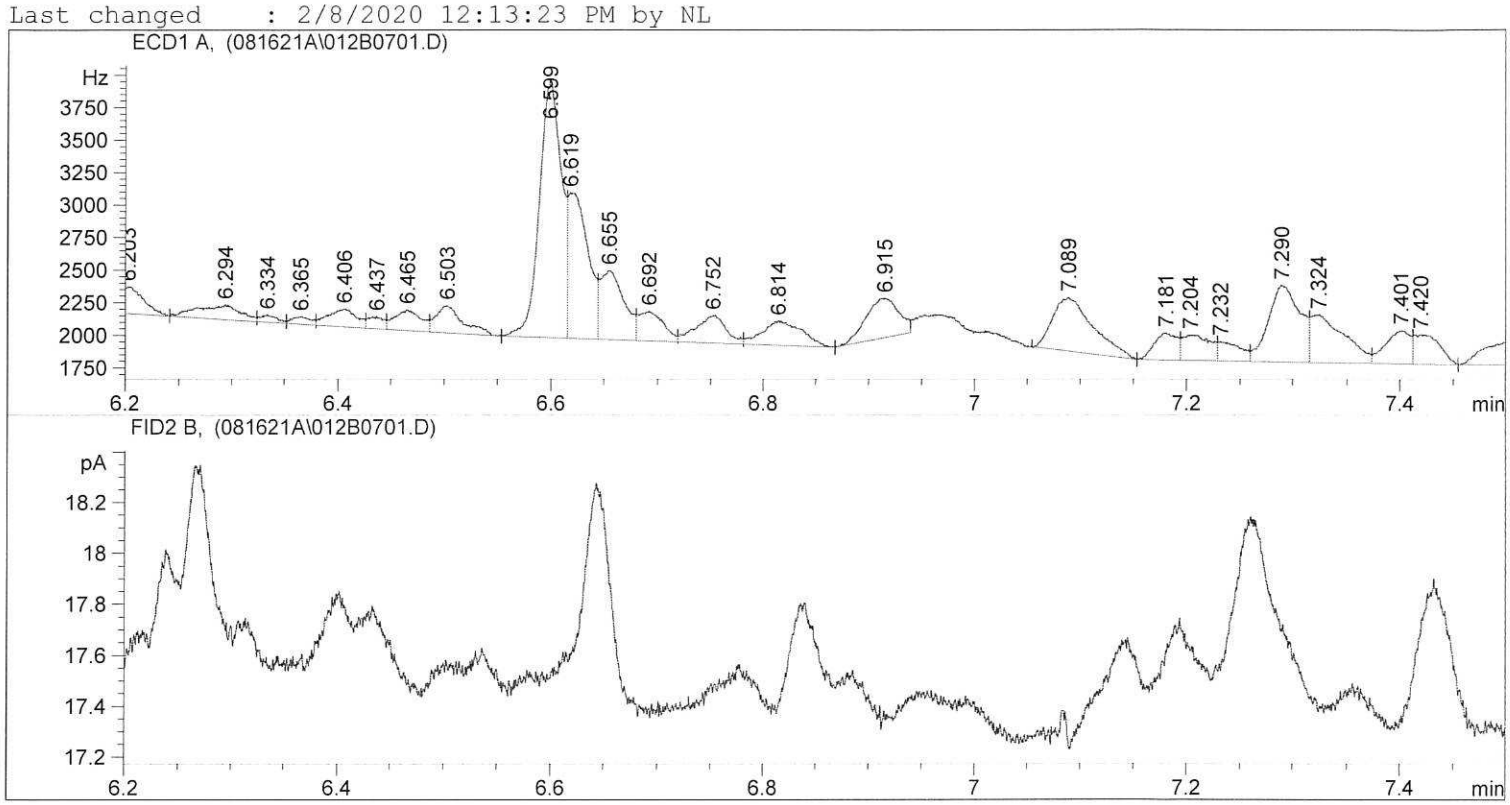
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 3:29:31 PM Seq. Line : 7
Sample Name : 21G0211 12 Location : Vial 12
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.226	BV	0.0170	78.02245	55.55360	0.31730
2	5.261	VP	0.0193	152.97911	95.37201	0.62214
3	5.364	BV	0.0317	398.75211	153.42499	1.62166
4	5.422	VV	0.0204	487.67325	296.37292	1.98329
5	5.466	VV	0.0174	753.29102	557.73615	3.06351
6	5.486	VV	0.0224	536.11676	286.59308	2.18030
7	5.544	VV	0.0111	48.14554	53.25255	0.19580
8	5.589	VV	0.0218	295.86087	161.18803	1.20322
9	5.638	VV	0.0137	31.00548	29.52435	0.12609
10	5.652	VP	7.98e-3	11.64600	18.40384	0.04736
11	5.689	BP	0.0160	263.61057	232.12897	1.07206
12	5.723	VP	3.45e-3	2.63145	11.57162	0.01070
13	5.754	VB	0.0221	1557.95740	940.53839	6.33595
14	5.872	PP	0.0237	515.75751	272.41174	2.09750
15	5.932	VV	0.0186	331.33478	214.32764	1.34748
16	5.973	VB	0.0351	1021.14685	342.96533	4.15283
17	6.078	BV	0.0330	690.55249	253.08759	2.80836

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.123	VV	0.0161	137.42126	102.29381	0.55887
19	6.154	VV	0.0138	135.01547	119.65058	0.54909
20	6.203	VV	0.0322	566.90137	207.97575	2.30549
21	6.294	VV	0.0322	311.45273	114.28229	1.26663
22	6.334	VB	0.0138	61.30061	55.21748	0.24930
23	6.365	BV	0.0141	69.11378	59.79422	0.28107
24	6.406	VV	0.0228	254.13617	135.90611	1.03353
25	6.437	VV	0.0119	92.71971	93.67887	0.37708
26	6.465	VV	0.0203	266.58167	159.20950	1.08414
27	6.503	VP	0.0224	372.03778	211.01730	1.51302
28	6.599	VV	0.0178	2894.68823	1983.43738	11.77221
29	6.619	VV	0.0158	1458.87024	1119.03455	5.93298
30	6.655	VV	0.0195	814.39459	530.42157	3.31201
31	6.692	VV	0.0205	368.45233	227.35486	1.49843
32	6.752	VV	0.0242	430.86655	212.73085	1.75226
33	6.814	VP	0.0313	494.63153	188.27330	2.01158
34	6.915	VV	0.0259	652.74249	301.08743	2.65459
35	7.089	PP	0.0314	1080.48486	411.86874	4.39415
36	7.181	VV	0.0176	309.23056	209.21332	1.25759
37	7.204	VV	0.0224	352.54724	196.30632	1.43375
38	7.232	VV	0.0243	218.48087	149.96095	0.88852
39	7.290	VV	0.0248	1220.10168	587.93274	4.96195
40	7.324	VV	0.0266	793.47974	367.24115	3.22695
41	7.401	VV	0.0196	424.79813	258.66019	1.72758
42	7.420	VP	0.0206	388.64175	228.92369	1.58054
43	7.512	VV	0.0338	672.91827	245.05428	2.73665
44	7.563	VV	0.0220	118.93603	64.81478	0.48369
45	7.628	VV	0.0394	1738.47644	523.03485	7.07009
46	7.729	VP	0.0296	705.11139	283.88614	2.86757
47	7.798	VBA	0.0151	8.14787	9.00620	0.03314
Totals :				2.45892e4	1.33317e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

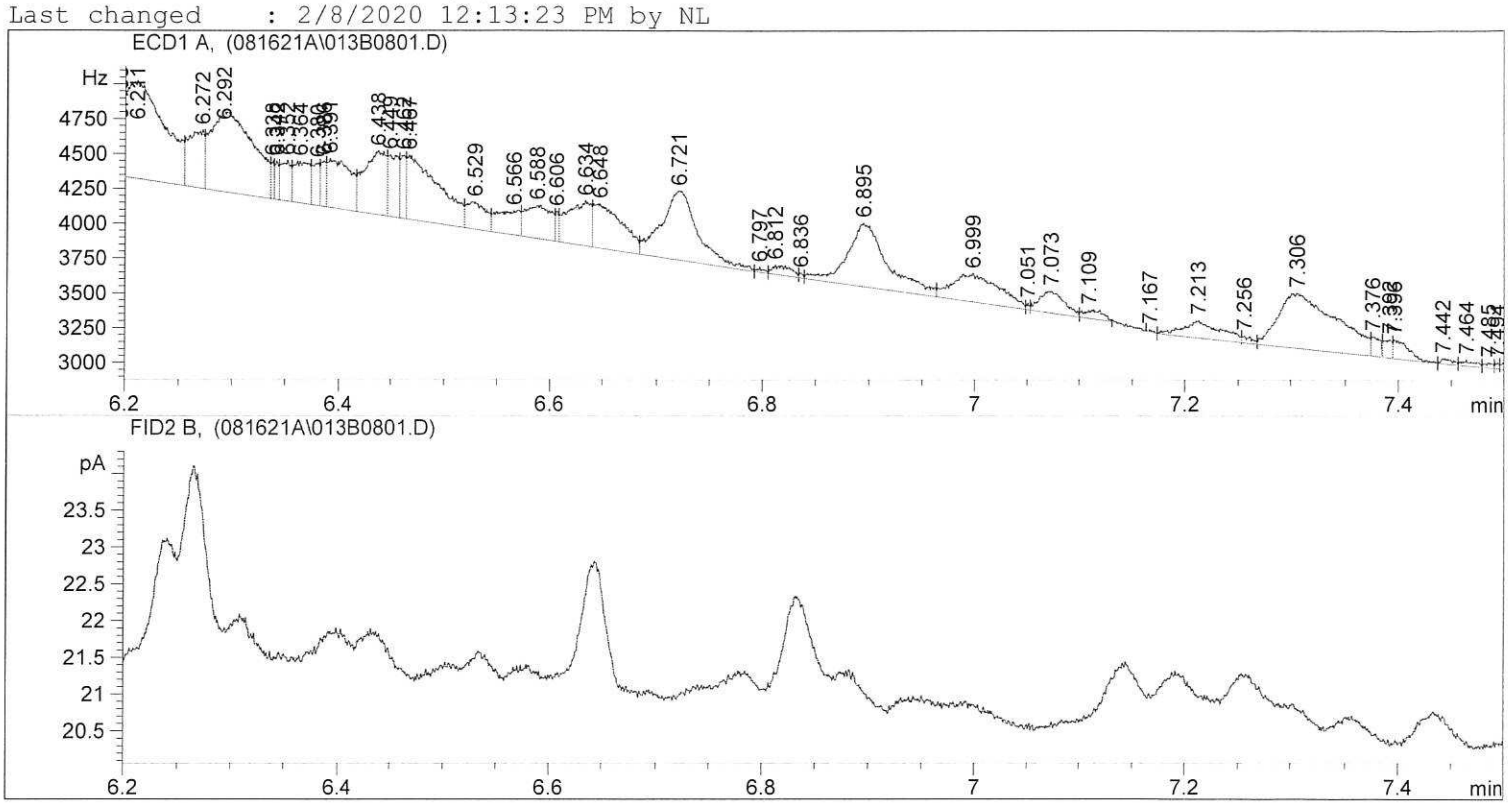
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 3:40:44 PM Seq. Line : 8
Sample Name : 21G0211 13 Location : Vial 13
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.239	PV	7.21e-3	34.93367	72.62759	0.06431
2	5.258	VV	0.0128	381.72946	360.06940	0.70270
3	5.280	VP	0.0151	383.00775	307.74118	0.70505
4	5.314	VP	3.06e-3	7.91120	37.53637	0.01456
5	5.349	VV	0.0218	1966.17029	1101.63989	3.61938
6	5.421	VV	0.0198	921.44373	576.94238	1.69622
7	5.438	VV	3.49e-3	123.12987	497.68790	0.22666
8	5.459	VV	0.0228	1281.78027	673.68787	2.35954
9	5.514	VV	0.0259	1802.24890	857.00482	3.31763
10	5.543	VV	9.92e-3	302.65866	387.23532	0.55714
11	5.587	VV	0.0322	3024.03784	1108.33801	5.56673
12	5.631	VV	3.31e-3	92.34595	397.51794	0.16999
13	5.653	VV	0.0202	1120.91870	679.82684	2.06342
14	5.689	VV	0.0240	1953.34265	973.39093	3.59577
15	5.747	VV	0.0315	2815.45605	1076.51672	5.18277
16	5.773	VV	3.32e-3	118.87049	509.21719	0.21882
17	5.796	VV	0.0191	1160.25879	747.65131	2.13584

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.819	VV	0.0182	1091.75378	725.05060	2.00973
19	5.834	VV	4.32e-3	179.52690	692.04279	0.33048
20	5.870	VV	0.0290	4568.09375	1931.48901	8.40908
21	5.953	VV	0.0305	5810.71680	2269.08887	10.69653
22	5.998	VV	7.14e-3	349.17850	622.53400	0.64278
23	6.027	VV	0.0183	2263.62305	1494.61243	4.16694
24	6.054	VV	0.0190	1580.54736	1038.18176	2.90952
25	6.073	VV	0.0174	1126.76379	794.07733	2.07418
26	6.101	VV	0.0156	701.89557	537.96655	1.29207
27	6.126	VV	0.0114	339.39859	495.98752	0.62477
28	6.144	VV	0.0167	697.54279	499.30783	1.28406
29	6.178	VV	0.0191	985.53522	649.03992	1.81420
30	6.191	VV	3.60e-3	149.60793	581.93933	0.27540
31	6.195	VV	3.31e-3	133.07779	573.04102	0.24497
32	6.211	VV	0.0301	1762.46082	696.61810	3.24439
33	6.272	VV	0.0132	421.86154	417.23126	0.77657
34	6.292	VV	0.0333	1634.09241	586.43060	3.00808
35	6.338	VV	3.04e-3	49.16954	269.21393	0.09051
36	6.342	VV	3.61e-3	71.09702	275.79840	0.13088
37	6.352	VV	8.11e-3	186.75487	290.23721	0.34378
38	6.364	VV	0.0167	299.38638	298.55173	0.55112
39	6.380	VV	6.70e-3	144.29427	306.28922	0.26562
40	6.386	VV	4.81e-3	106.91557	327.15176	0.19681
41	6.391	VV	0.0187	544.50824	346.99661	1.00235
42	6.438	VV	0.0175	657.89514	454.26367	1.21107
43	6.449	VB	8.22e-3	289.10577	442.45322	0.53219
44	6.462	BV	5.64e-3	172.42883	453.36191	0.31741
45	6.467	VV	0.0358	981.65454	457.60336	1.80706
46	6.529	VV	0.0166	248.67635	195.36934	0.45777
47	6.566	VV	0.0176	257.12280	174.54054	0.47332
48	6.588	VV	0.0202	399.07132	238.10391	0.73462
49	6.606	VV	3.22e-3	48.44828	215.77914	0.08918
50	6.634	VV	0.0190	490.16919	320.40433	0.90232
51	6.648	VV	0.0237	607.11786	317.52908	1.11760
52	6.721	VP	0.0290	1178.64600	495.08804	2.16968
53	6.797	VV	6.94e-3	14.11303	33.90224	0.02598
54	6.812	VV	0.0154	80.43694	66.18459	0.14807
55	6.836	VV	3.87e-3	8.69719	35.31104	0.01601
56	6.895	VV	0.0320	1192.83850	455.44171	2.19581
57	6.999	VV	0.0370	620.20490	201.87285	1.14169
58	7.051	VV	2.82e-3	9.20544	44.29552	0.01695
59	7.073	VV	0.0199	256.79437	155.46838	0.47271
60	7.109	VB	0.0162	76.25980	56.88168	0.14038
61	7.167	BP	3.42e-3	2.86939	12.76066	0.00528
62	7.213	VV	0.0288	300.49286	124.50662	0.55316
63	7.256	VV	8.16e-3	29.50064	46.76944	0.05431
64	7.306	VV	0.0448	1489.13770	392.86118	2.74125
65	7.376	VB	6.85e-3	77.52623	140.21498	0.14271
66	7.392	BV	7.26e-3	72.12997	134.42140	0.13278
67	7.396	VP	0.0128	141.61646	134.93335	0.26069
68	7.442	VV	9.24e-3	27.09124	37.45078	0.04987
69	7.464	VV	9.98e-3	35.44694	43.15975	0.06525
70	7.485	VV	6.57e-3	19.57711	37.04186	0.03604
71	7.494	VV	4.34e-3	11.06547	42.49794	0.02037
72	7.516	VB	0.0235	131.02704	67.25320	0.24120
73	7.634	PV	0.0397	1524.50916	467.14877	2.80636
74	7.741	VV	0.0230	168.19028	88.25833	0.30961
75	7.782	VB	5.98e-3	10.11601	21.94193	0.01862
76	7.793	BPA	5.05e-3	6.14488	16.11033	0.01131
Totals :				5.43234e4	3.37047e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

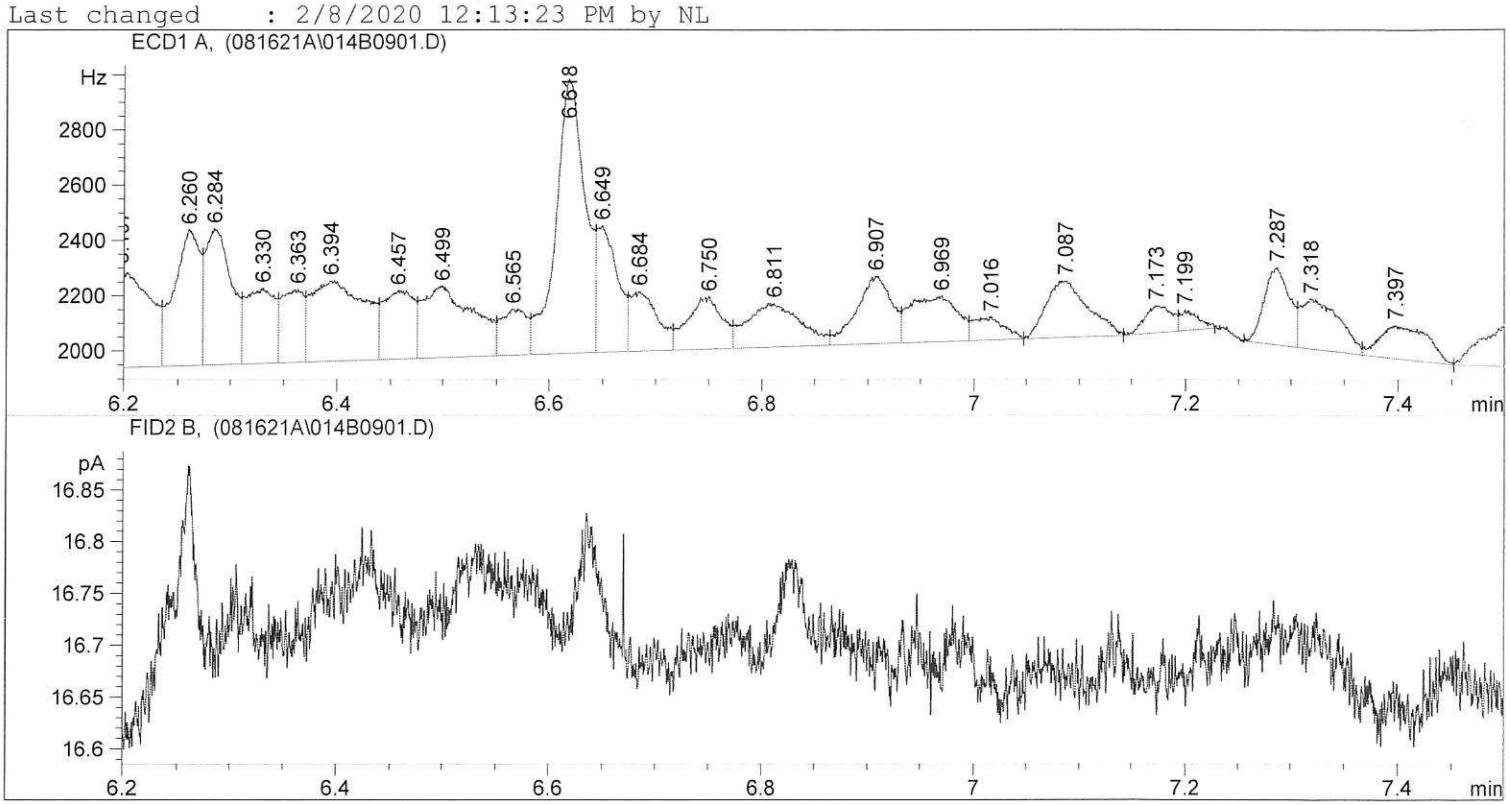
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 3:51:42 PM Seq. Line : 9
Sample Name : 21G0211 14 Location : Vial 14
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.209	BP	0.0143	111.62212	99.25995	0.33724
2	5.262	VV	0.0141	200.40782	172.69510	0.60548
3	5.307	VV	0.0159	156.50058	119.44688	0.47283
4	5.363	VV	0.0207	821.76129	482.79984	2.48276
5	5.399	VV	0.0112	122.81950	134.61639	0.37107
6	5.464	VV	0.0223	1682.89136	1037.80823	5.08446
7	5.500	VV	0.0117	165.63057	184.53796	0.50041
8	5.511	VV	7.20e-3	101.80000	180.04243	0.30756
9	5.541	VV	0.0265	632.22607	284.86411	1.91012
10	5.576	VV	0.0129	239.78793	223.71535	0.72446
11	5.610	VV	0.0324	748.43756	274.32132	2.26123
12	5.686	VV	0.0280	1126.10498	482.16162	3.40226
13	5.721	VV	0.0156	423.81436	329.60916	1.28046
14	5.752	VV	0.0265	1460.17517	712.50140	4.41158
15	5.813	VV	0.0269	947.50867	440.74976	2.86267
16	5.845	VV	0.0331	2752.78540	1045.95813	8.31689
17	5.935	VV	0.0288	1119.23254	459.63513	3.38150

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.968	VV	0.0184	750.10010	497.61664	2.26625
19	5.982	VV	0.0338	976.53528	481.21661	2.95037
20	6.024	VV	0.0136	427.80972	383.33716	1.29253
21	6.077	VV	0.0420	1604.92175	452.07501	4.84889
22	6.123	VV	0.0160	446.61606	339.25729	1.34935
23	6.152	VV	0.0169	388.40909	327.03455	1.17349
24	6.197	VV	0.0479	1443.44189	354.43832	4.36102
25	6.260	VV	0.0204	834.68707	491.34549	2.52181
26	6.284	VV	0.0209	863.73016	492.20264	2.60956
27	6.330	VV	0.0228	509.46506	272.75922	1.53923
28	6.363	VV	0.0179	391.41873	264.42130	1.18258
29	6.394	VV	0.0408	1001.90399	290.71896	3.02702
30	6.457	VV	0.0248	496.92197	247.79927	1.50133
31	6.499	VV	0.0395	851.07568	257.78857	2.57132
32	6.565	VV	0.0212	285.36755	166.48688	0.86217
33	6.618	VV	0.0237	1876.60596	991.01312	5.66972
34	6.649	VV	0.0163	618.10675	458.28052	1.86746
35	6.684	VV	0.0219	393.19571	216.97002	1.18795
36	6.750	VV	0.0265	421.06320	189.99043	1.27214
37	6.811	VV	0.0416	552.43646	158.07669	1.66906
38	6.907	VV	0.0274	561.89294	244.50520	1.69763
39	6.969	VV	0.0363	506.74677	165.61131	1.53102
40	7.016	VV	0.0250	170.18158	82.08682	0.51416
41	7.087	VP	0.0329	562.06122	204.35814	1.69814
42	7.173	VV	0.0209	168.05717	98.59528	0.50775
43	7.199	VB	0.0139	85.50190	73.68138	0.25832
44	7.287	PV	0.0203	467.25272	282.19080	1.41169
45	7.318	VV	0.0308	461.73874	180.47997	1.39503
46	7.397	VP	0.0368	374.94589	120.97527	1.13281
47	7.509	VV	0.0353	490.79315	164.91220	1.48282
48	7.624	BV	0.0372	960.44727	309.94104	2.90176
49	7.727	VP	0.0289	325.47403	133.21556	0.98334
50	7.795	VP	0.0154	16.31529	14.45991	0.04929
Totals :				3.30987e4	1.60726e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

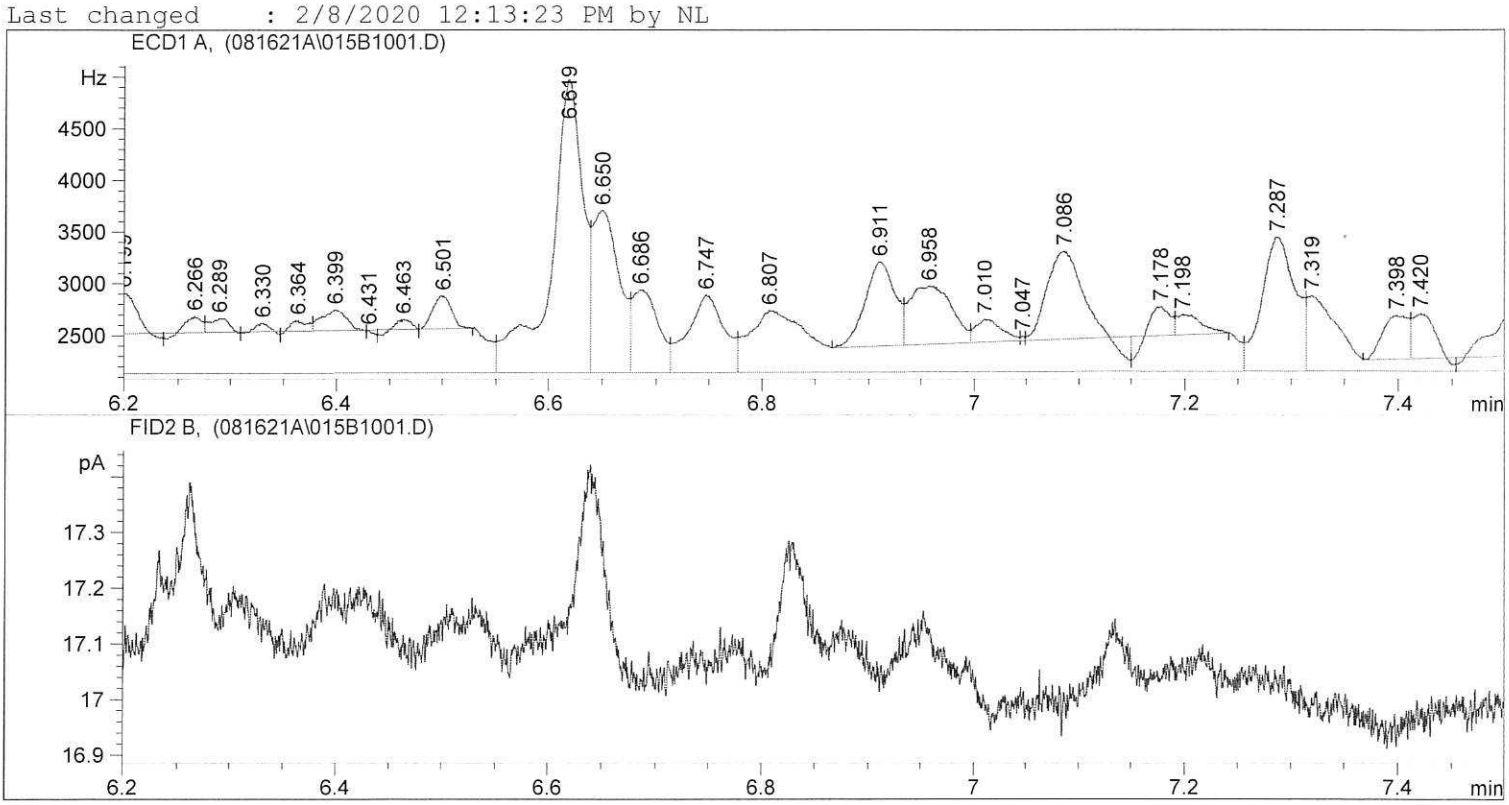
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 4:03:00 PM Seq. Line : 10
Sample Name : 21G0211 15 Location : Vial 15
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.234	PP	9.00e-3	15.40249	21.91763	0.02004
2	5.273	VV	0.0235	138.37114	71.14323	0.18003
3	5.322	VV	0.0203	152.44331	91.34633	0.19834
4	5.372	VV S	0.1492	2.68037e4	2139.17285	34.87356
5	5.419	BV T	0.0000	65.22929	28.00109	0.08487
6	5.480	VV T	0.0137	508.93808	454.36008	0.66217
7	5.521	VV T	0.0231	177.63869	92.13066	0.23112
8	5.554	VV T	0.0219	178.48540	98.69140	0.23222
9	5.576	VV T	0.0977	371.41672	44.55194	0.48324
10	5.640	VV T	0.0133	103.18419	106.28375	0.13425
11	5.687	VV T	0.0000	36.74729	152.92175	0.04781
12	5.751	VV T	0.0121	204.52086	218.98259	0.26610
13	5.797	VV T	0.0132	55.26270	51.11326	0.07190
14	5.855	VV T	0.0200	738.16144	479.04214	0.96040
15	5.889	VV T	0.0134	233.99303	213.56087	0.30444
16	5.964	VV T	0.0226	933.65137	519.26166	1.21475
17	5.984	VV T	0.0196	825.10229	518.46600	1.07352

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.028	VV T	9.22e-3	50.19678	90.76527	0.06531
19	6.076	VV T	0.0201	990.05878	630.01605	1.28814
20	6.123	VV T	0.0149	272.15955	219.68211	0.35410
21	6.158	VV T	0.0191	342.74399	218.47218	0.44594
22	6.199	VV T	0.0251	815.39917	390.94095	1.06090
23	6.266	VV T	0.0113	136.52698	157.62415	0.17763
24	6.289	VV T	0.0153	169.19966	134.12453	0.22014
25	6.330	VV T	8.85e-3	54.51534	81.06229	0.07093
26	6.364	VV T	0.0126	107.13680	104.30759	0.13939
27	6.399	VV T	0.0196	318.72739	197.71257	0.41469
28	6.431	VV T	0.1743	15.42904	1.47554	0.02007
29	6.463	VV T	8.85e-3	70.51886	97.38900	0.09175
30	6.501	VB T	0.0160	391.06168	316.73462	0.50880
31	6.619	VV S	0.0348	5890.73340	2824.94751	7.66428
32	6.650	VV S	0.0288	2703.09692	1563.13147	3.51693
33	6.686	VV S	0.0279	1330.84204	796.03333	1.73152
34	6.747	VV S	0.0393	1759.73364	747.19562	2.28954
35	6.807	VV S	0.2601	9321.81055	597.24377	12.12837
36	6.911	BV T	0.0253	1617.33203	808.21484	2.10427
37	6.958	VV T	0.0327	1550.70911	560.20062	2.01759
38	7.010	VV T	0.0208	387.90189	221.49501	0.50469
39	7.047	VV T	4.11e-3	11.02532	44.66824	0.01434
40	7.086	VV T	0.0269	1797.05566	847.92065	2.33810
41	7.178	VV T	0.0104	234.69107	279.85013	0.30535
42	7.198	VB T	0.0272	316.59320	194.26596	0.41191
43	7.287	VV S	0.0362	2811.94287	1293.22778	3.65855
44	7.319	VBAS	0.1287	5645.00684	730.77515	7.34458
45	7.398	BV T	0.0204	687.53558	422.51633	0.89454
46	7.420	VV T	0.0162	582.96094	434.73016	0.75848
47	7.512	VV T	0.0289	1079.79114	452.19510	1.40489
48	7.568	VV T	0.0152	134.81200	107.45117	0.17540
49	7.625	VV T	0.0339	2955.57764	1073.21228	3.84543
50	7.724	VV T	0.0224	674.14368	382.00391	0.87711
51	7.796	VBAT	0.0000	90.36000	24.83488	0.11757
Totals :				7.68595e4	2.23474e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

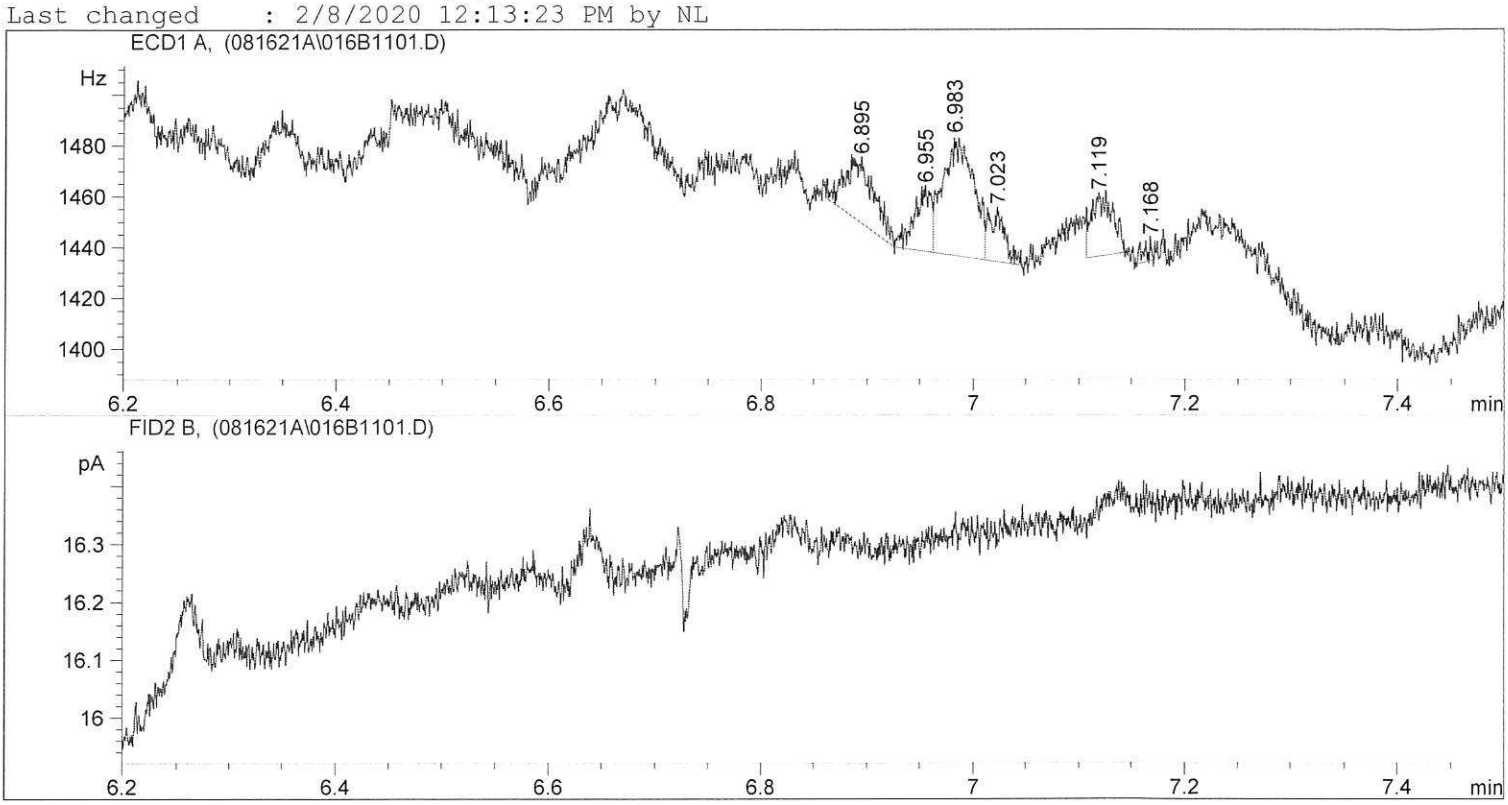
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 4:13:58 PM Seq. Line : 11
Sample Name : 21G0211 16 Location : Vial 16
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.381	PV	0.0188	150.85889	98.02295	5.21125
2	5.454	VV	0.0551	340.00046	72.82288	11.74492
3	5.582	VV	0.0366	218.96590	71.37130	7.56392
4	5.710	VV	0.0554	883.88306	187.62891	30.53272
5	5.750	VV	0.0261	426.07877	194.96951	14.71840
6	5.786	VB	0.0211	251.92842	141.93756	8.70258
7	5.940	PV	0.0278	146.60732	62.39424	5.06438
8	5.997	VB	0.0419	245.57205	69.05824	8.48300
9	6.895	BP	0.0221	46.48114	24.98483	1.60564
10	6.955	VV	0.0132	27.24001	24.75523	0.94097
11	6.983	VB	0.0242	91.40914	45.90022	3.15762
12	7.023	BP	0.0134	21.73863	20.17088	0.75094
13	7.119	BB	0.0173	33.96967	23.67589	1.17344
14	7.168	PP	5.91e-3	3.56070	7.82031	0.12300
15	7.515	BB	5.10e-3	3.64664	9.89517	0.12597
16	7.672	BP	4.65e-3	2.93118	8.44219	0.10125

Totals : 2894.87196 1063.85031

Results obtained with enhanced integrator!

Signal 2: FID2 B,

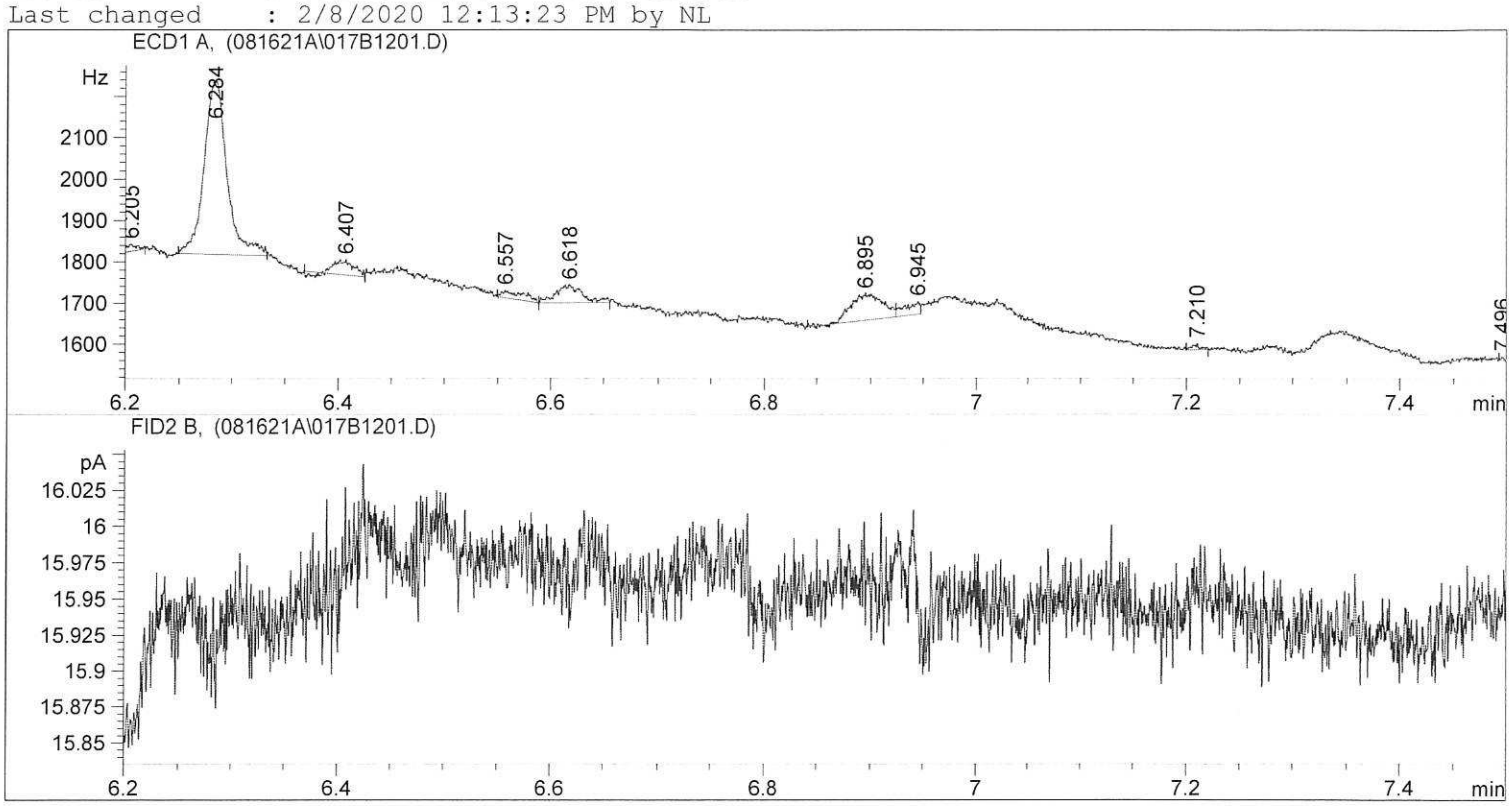
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 4:24:56 PM Seq. Line : 12
Sample Name : 21G0213 01 Location : Vial 17
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.218	BV	0.0160	205.73210	155.51630	2.52845
2	5.258	VB	0.0160	56.97937	43.13553	0.70028
3	5.313	BV	0.0178	64.50964	44.71950	0.79282
4	5.413	PV	0.0138	66.56680	63.53626	0.81811
5	5.437	VB	0.0122	41.93642	42.90457	0.51540
6	5.507	PV	0.0140	189.08459	162.59695	2.32385
7	5.535	VV	0.0292	873.24268	361.87119	10.73214
8	5.636	VV	0.0267	295.27625	133.20918	3.62894
9	5.684	VV	0.0363	564.04791	187.03505	6.93214
10	5.717	VV	0.0205	269.43997	159.88129	3.31141
11	5.760	VV	0.0286	372.59875	157.55580	4.57923
12	5.812	VV	0.0170	958.37659	724.05280	11.77844
13	5.845	VV	0.0248	1860.05676	985.54663	22.86008
14	5.926	VV	0.0166	254.78424	192.91806	3.13130
15	5.937	VV	0.0132	204.19328	192.69177	2.50953
16	5.976	VB	0.0405	773.61743	226.06139	9.50775
17	6.091	PP	5.05e-3	2.56126	7.38001	0.03148

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.205	BB	8.80e-3	11.45495	17.14299	0.14078
19	6.284	PB	0.0198	646.58960	422.76358	7.94658
20	6.407	PV	0.0133	38.28214	36.31280	0.47049
21	6.557	PP	0.0184	27.01112	17.67030	0.33197
22	6.618	VB	0.0208	74.74264	43.19617	0.91859
23	6.895	PV	0.0249	132.29596	64.04652	1.62592
24	6.945	VV	0.0118	30.33409	30.97333	0.37281
25	7.210	PP	6.21e-3	6.97615	14.50930	0.08574
26	7.496	BB	3.01e-3	1.68849	8.17283	0.02075
27	7.623	PB	0.0287	99.72289	41.45854	1.22559
28	7.748	BB	0.0138	14.60181	13.32593	0.17946

Totals : 8136.70390 4550.18458

Results obtained with enhanced integrator!

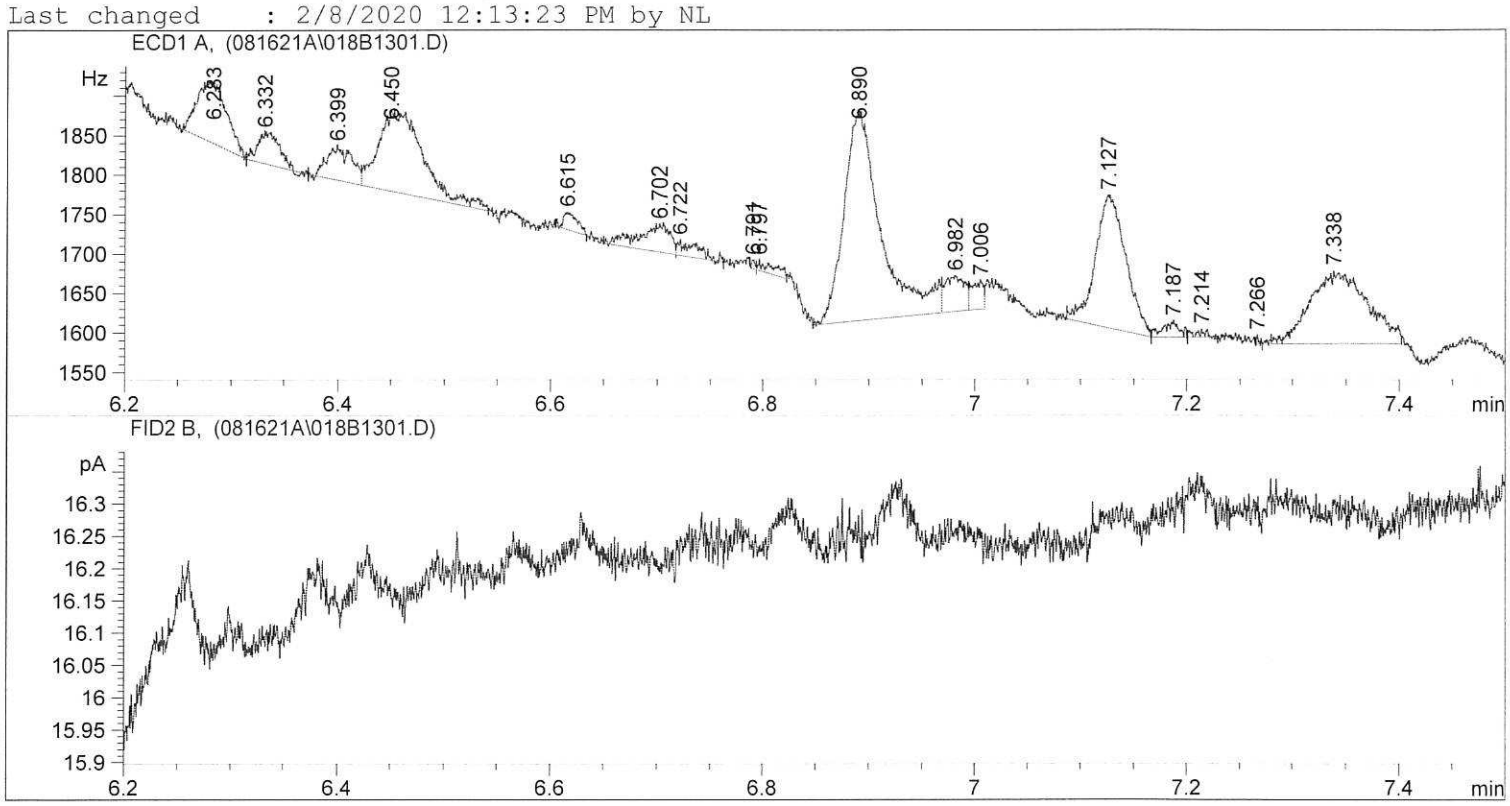
Signal 2: FID2 B,

==========

*** End of Report ***

Injection Date : 8/16/2021 4:36:07 PM Seq. Line : 13
Sample Name : 21G0213 02 Location : Vial 18
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.219	BP	0.0161	1157.16602	983.82733	4.83962
2	5.309	BV	9.84e-3	20.36056	25.17001	0.08515
3	5.331	VP	0.0108	12.26345	14.29851	0.05129
4	5.381	VV	0.0215	59.68969	32.97403	0.24964
5	5.438	VP	0.0340	163.67206	56.76722	0.68453
6	5.533	VV S	0.0261	4899.73242	2540.15259	20.49218
7	5.626	BV T	7.66e-3	33.66751	64.79018	0.14081
8	5.682	PV T	5.01e-3	36.62305	112.08379	0.15317
9	5.721	PV T	0.0376	47.78514	14.97742	0.19985
10	5.754	PV T	0.0000	15.57788	31.98955	0.06515
11	5.779	VP T	0.0712	57.87332	9.64758	0.24204
12	5.810	VV T	0.0000	1.94133	38.67386	0.00812
13	5.843	VB S	0.0199	1.49345e4	1.12110e4	62.46085
14	5.936	BB	0.0144	165.10124	143.71475	0.69050
15	6.017	PP	0.0000	4.36038e-1	7.05328	0.00182
16	6.050	PP	5.36e-3	3.19463	9.93237	0.01336
17	6.078	BV	0.0116	28.66918	33.46106	0.11990

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.104	VV	0.0223	93.85516	57.41257	0.39253
19	6.119	VB	8.16e-3	28.24647	44.75589	0.11814
20	6.283	PP	0.0231	149.47612	78.87479	0.62515
21	6.332	VP	0.0175	56.83772	38.70563	0.23771
22	6.399	BV	0.0196	69.97819	42.58013	0.29267
23	6.450	VB	0.0353	299.20697	101.31288	1.25138
24	6.615	BB	0.0123	21.29532	21.95043	0.08906
25	6.702	PV	0.0235	68.02126	34.62301	0.28449
26	6.722	VP	0.0154	24.48587	19.29089	0.10241
27	6.791	BV	3.67e-3	2.41380	10.54614	0.01010
28	6.797	VB	0.0187	14.48339	12.90909	0.06057
29	6.890	PB	0.0298	634.97009	264.57080	2.65564
30	6.982	BV	0.0161	58.44503	44.55871	0.24444
31	7.006	VV	9.67e-3	27.65025	34.81388	0.11564
32	7.127	BP	0.0234	329.80496	167.06122	1.37935
33	7.187	VP	0.0134	21.52773	19.86023	0.09004
34	7.214	VB	7.41e-3	5.79349	9.91996	0.02423
35	7.266	PB	2.07e-3	1.49954	10.45732	0.00627
36	7.338	BB	0.0452	336.13773	92.03970	1.40583
37	7.507	PB	3.09e-3	3.06561	14.33665	0.01282
38	7.558	PP	0.0166	23.24812	17.40932	0.09723
39	7.782	BB	2.50e-3	1.50836	9.24851	0.00631
Totals :				2.39103e4	1.64778e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

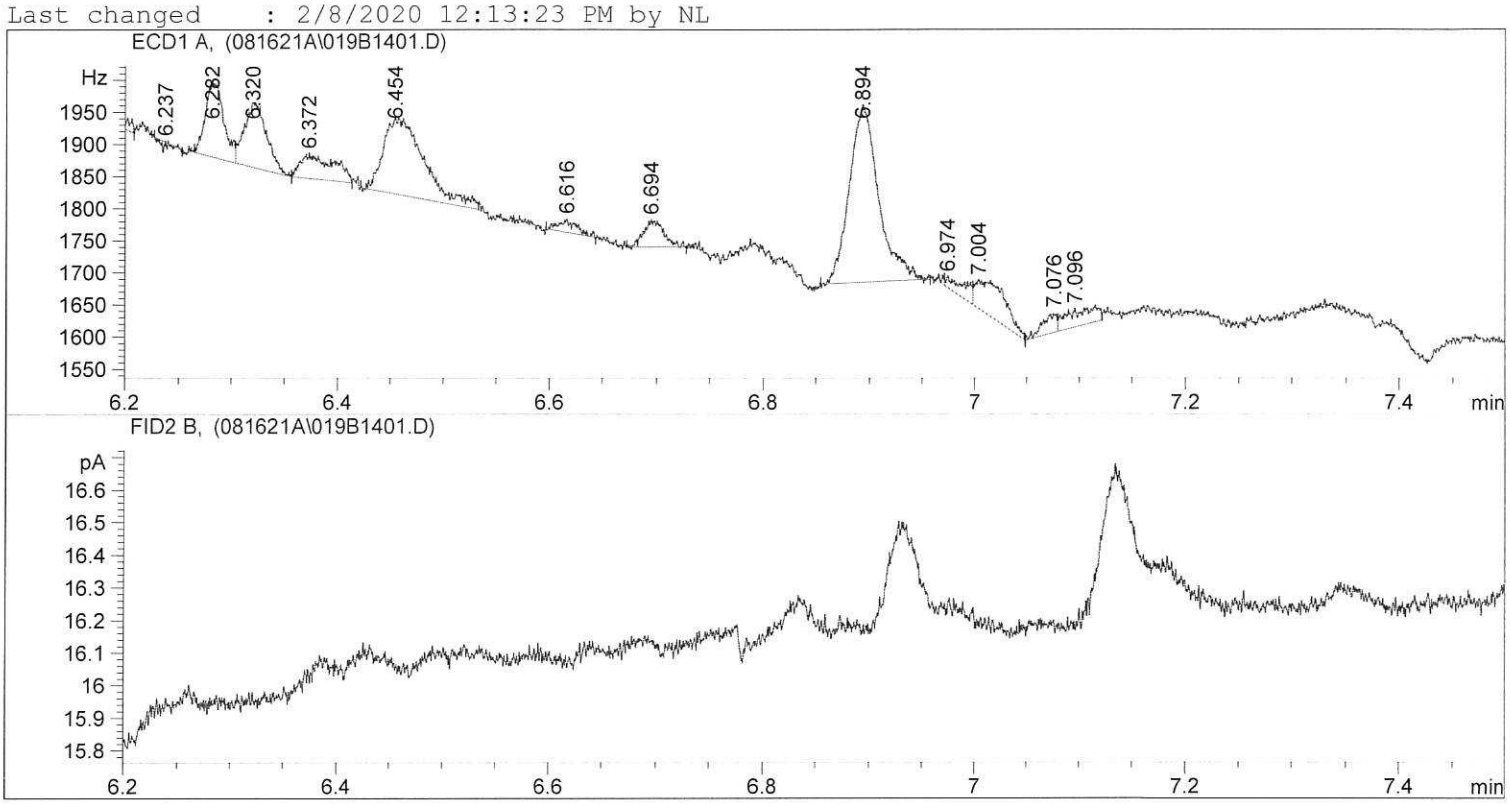
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 4:47:24 PM Seq. Line : 14
Sample Name : 21G0213 03 Location : Vial 19
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.218	BV	0.0130	182.16821	179.35579	1.42627
2	5.275	VV	0.0214	251.57515	141.31119	1.96969
3	5.304	VP	0.0141	187.92383	162.34755	1.47134
4	5.417	BP	0.0463	1033.00061	265.91220	8.08781
5	5.534	VV	0.0225	1174.45129	643.50024	9.19528
6	5.574	VV	0.0176	178.54124	124.10522	1.39788
7	5.612	VV	0.0171	150.66998	111.97705	1.17966
8	5.633	VV	7.75e-3	35.96130	57.05506	0.28156
9	5.641	VV	6.25e-3	23.90525	49.34677	0.18716
10	5.681	VV	0.0214	267.52390	153.07016	2.09456
11	5.711	VV	0.0215	1144.84766	721.56976	8.96350
12	5.754	VV	0.0149	214.14313	174.34471	1.67662
13	5.772	VB	0.0115	130.55995	139.62830	1.02221
14	5.814	BV	0.0149	315.47034	265.22626	2.46995
15	5.843	VB S	0.0218	4594.80420	2937.57788	35.97470
16	5.934	BV X	0.0229	193.94156	110.19531	1.51845
17	5.982	VV X	0.0223	604.94135	334.54022	4.73635

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.012	VB X	0.0187	257.12540	163.49596	2.01315
19	6.086	BV	0.0146	45.22735	38.75977	0.35410
20	6.097	VP	6.80e-3	22.30165	40.65989	0.17461
21	6.169	BP	0.0217	102.90672	56.41933	0.80570
22	6.237	PP	0.0000	4.03454	7.15473e-1	0.03159
23	6.282	BV	0.0148	147.96227	119.76866	1.15846
24	6.320	VP	0.0177	149.10078	100.48200	1.16737
25	6.372	VB	0.0274	84.09083	37.79628	0.65838
26	6.454	PB	0.0312	313.91577	119.80762	2.45778
27	6.616	PP	0.0144	23.87422	20.12122	0.18692
28	6.694	PP	0.0164	54.06678	41.56721	0.42331
29	6.894	PB	0.0230	522.22522	276.59579	4.08873
30	6.974	BB	0.0220	28.99618	15.80140	0.22702
31	7.004	BP	0.0300	106.76701	43.27074	0.83592
32	7.076	VV	0.0131	28.69153	29.62565	0.22464
33	7.096	VB	0.0223	50.63661	27.68415	0.39646
34	7.523	BB	6.35e-3	4.38216	8.88560	0.03431
35	7.745	PP	0.0261	141.58768	64.76530	1.10855
Totals :				1.27723e4	7777.28573	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

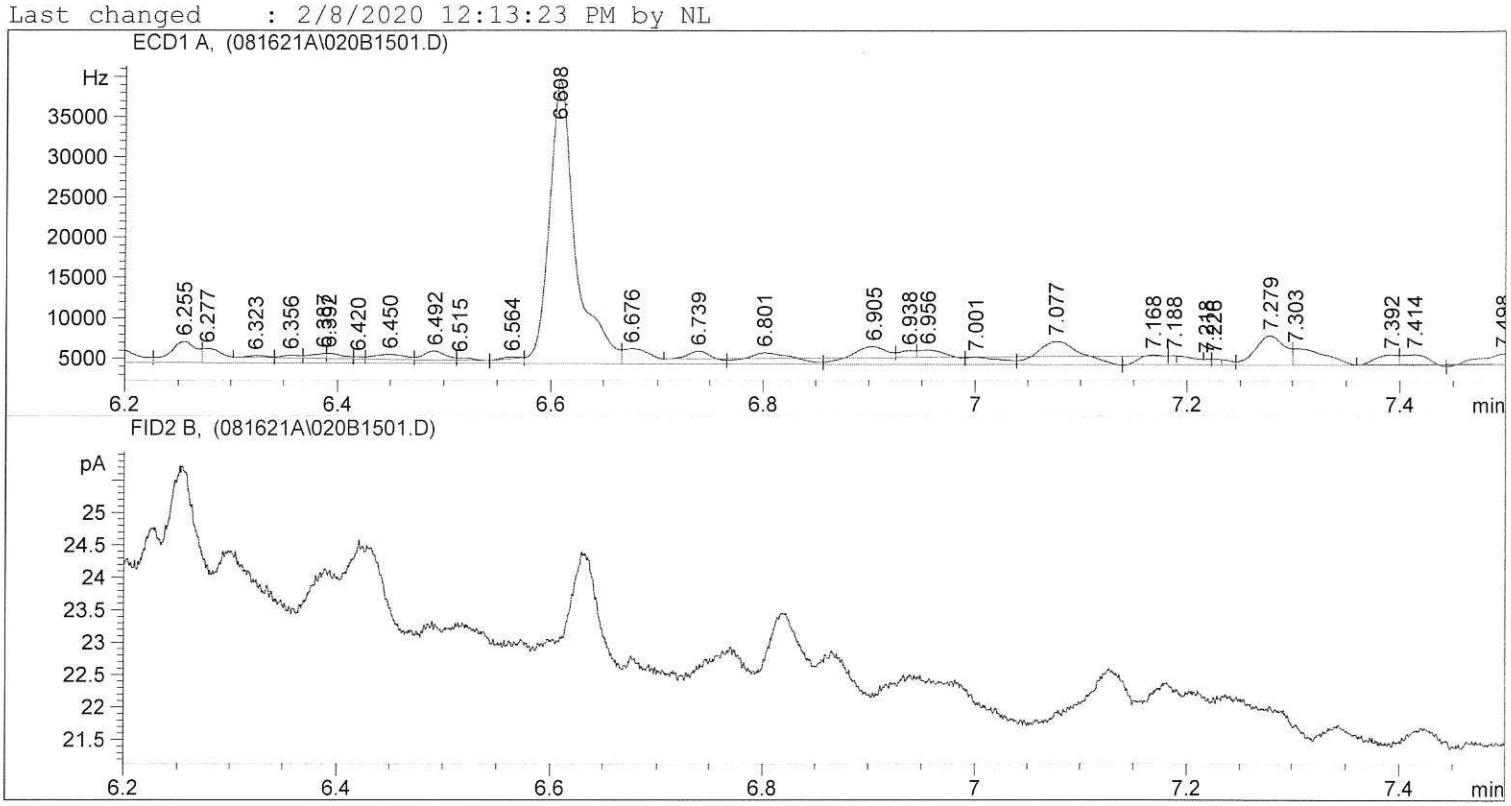
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 4:58:36 PM Seq. Line : 15
Sample Name : 21G0213 06 Location : Vial 20
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.234	BV	0.0126	461.84882	449.50949	0.15231
2	5.262	VP	0.0180	1432.99597	1097.36914	0.47257
3	5.325	VV	0.0118	373.12045	402.28287	0.12305
4	5.364	VV S	0.0238	7509.92529	3978.22925	2.47663
5	5.411	VV S	0.0282	1.40728e4	8318.47461	4.64093
6	5.452	VV S	0.0228	2.21244e4	1.22094e4	7.29619
7	5.480	VV S	0.0248	1.57752e4	1.06063e4	5.20236
8	5.538	VV S	0.0275	2556.74634	1551.25891	0.84317
9	5.581	VV S	0.0316	4075.78662	2151.21094	1.34412
10	5.682	VV S	0.0292	6111.12305	2656.34595	2.01533
11	5.745	VV S	0.0232	9527.80859	5741.54785	3.14209
12	5.851	VV S	0.0654	1.09187e4	2784.07275	3.60076
13	5.957	VV S	0.0524	2.22331e4	7070.38184	7.33204
14	6.008	VV S	0.0271	5800.88672	3573.98267	1.91302
15	6.066	VV S	0.0415	1.53057e4	6140.33057	5.04755
16	6.193	VV S	0.0734	7697.56494	1748.46240	2.53851
17	6.255	VV S	0.0219	4418.95703	2620.74561	1.45729

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.277	VV S	0.1008	1.07170e4	1771.11316	3.53426
19	6.323	BV T	0.0179	344.65277	240.80804	0.11366
20	6.356	VV T	0.0141	437.03928	376.68420	0.14413
21	6.387	VV T	0.0124	615.79724	641.61169	0.20308
22	6.392	VV T	0.0184	706.49445	640.61963	0.23299
23	6.420	VV T	8.00e-3	185.67603	292.91910	0.06123
24	6.450	VV T	0.0241	1266.83655	629.78082	0.41778
25	6.492	VV T	0.0186	1627.79724	1116.92310	0.53682
26	6.515	VV T	0.0131	332.04370	310.86707	0.10950
27	6.564	PV T	0.0143	259.61023	227.15942	0.08561
28	6.608	VV S	0.0252	6.15545e4	3.52366e4	20.29951
29	6.676	VV S	0.2676	3.05708e4	1903.70044	10.08165
30	6.739	BV T	0.0147	1151.00037	938.25024	0.37958
31	6.801	PV T	9.57e-3	557.39752	709.51764	0.18382
32	6.905	PV T	0.0187	2126.89722	1384.21069	0.70141
33	6.938	VV T	0.0137	942.47113	866.79163	0.31081
34	6.956	VV T	0.0182	1389.98352	922.37347	0.45839
35	7.001	VV T	0.0000	616.72717	11.08770	0.20338
36	7.077	PP T	0.0140	2102.99658	1882.77515	0.69353
37	7.168	PV T	0.0000	806.67371	145.34364	0.26603
38	7.188	VB T	3.74e-3	12.42274	49.24980	0.00410
39	7.218	BV T	5.34e-3	14.01820	43.73182	0.00462
40	7.226	PB T	5.00e-3	22.05748	73.49318	0.00727
41	7.279	VV S	0.0241	7204.00781	3630.81665	2.37575
42	7.303	VBAS	0.0811	9953.76367	2045.69836	3.28256
43	7.392	BV T	0.0177	1738.68958	1214.82190	0.57339
44	7.414	VV T	0.0192	1921.78857	1219.64343	0.63377
45	7.498	PV T	0.0258	2604.49121	1205.82458	0.85891
46	7.555	PV T	8.09e-3	66.10802	126.55567	0.02180
47	7.615	PV T	0.0328	8360.78320	3007.56836	2.75723
48	7.716	PV T	0.0217	2164.01172	1194.63501	0.71365
49	7.783	PBAT	0.0000	460.49347	63.77028	0.15186
Totals :				3.03231e5	1.37225e5	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

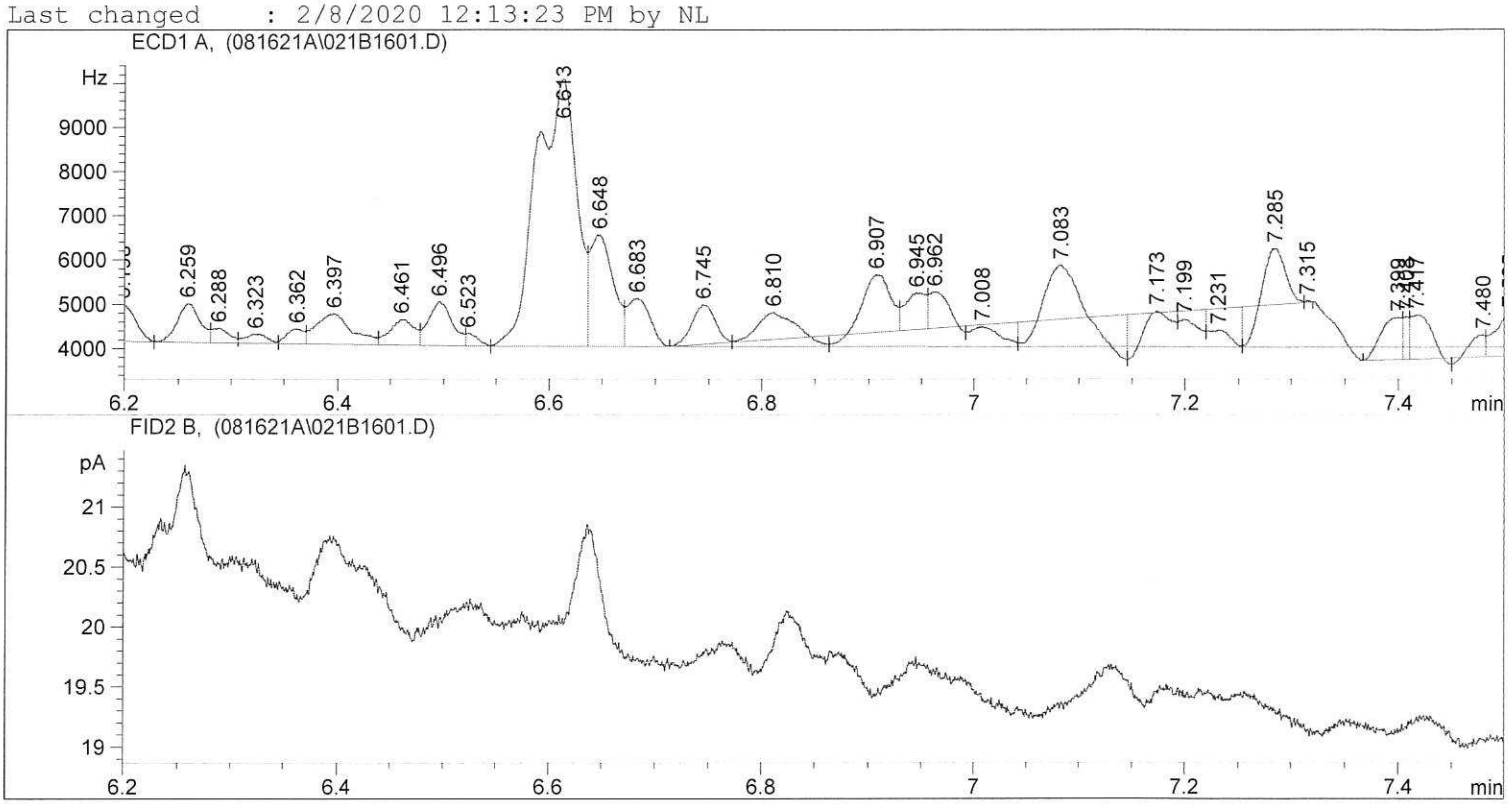
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 5:09:54 PM Seq. Line : 16
Sample Name : 21G0213 07 Location : Vial 21
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.234	BP	0.0120	97.87136	104.06638	0.09621
2	5.278	VV	0.0164	273.42404	202.46820	0.26878
3	5.292	VB	7.22e-3	29.55398	68.17547	0.02905
4	5.318	BP	0.0118	65.94949	67.40044	0.06483
5	5.379	VV	0.0184	743.90485	486.46957	0.73126
6	5.414	VV S	0.0215	4646.95654	2747.81934	4.56799
7	5.455	VV S	0.0255	4258.77246	2787.47729	4.18640
8	5.485	VB S	0.0262	5054.08643	3213.49756	4.96820
9	5.587	BP	0.0154	431.23972	353.39474	0.42391
10	5.634	VV	0.0126	186.84743	187.82108	0.18367
11	5.642	VV	3.57e-3	37.75982	162.30011	0.03712
12	5.660	VV	0.0124	258.83167	256.54999	0.25443
13	5.683	VV	0.0167	744.39496	560.88715	0.73175
14	5.748	VV S	0.0182	3887.90723	2939.17261	3.82184
15	5.793	VB S	0.0246	721.88727	489.80453	0.70962
16	5.853	BV	0.0251	968.40350	461.34692	0.95195
17	5.888	VP	0.0108	313.35510	358.18753	0.30803

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.965	VV	0.0354	6581.55225	2204.72925	6.46971
19	6.071	VV	0.0244	2480.63062	1267.43372	2.43848
20	6.121	VV	0.0160	660.78821	505.99939	0.64956
21	6.152	VV	0.0177	686.64258	480.90524	0.67497
22	6.198	VP	0.0297	2065.72510	827.58533	2.03062
23	6.259	VV	0.0183	1305.92712	880.38098	1.28374
24	6.288	VV	0.0141	386.08728	333.04047	0.37953
25	6.323	VV	0.0186	303.55844	206.00031	0.29840
26	6.362	VV	0.0136	374.14066	342.27921	0.36778
27	6.397	VV	0.0286	1642.82751	690.10291	1.61491
28	6.461	VV	0.0193	932.06104	582.37604	0.91622
29	6.496	VV	0.0201	1556.79175	983.91089	1.53034
30	6.523	VP	0.0106	222.00070	286.26257	0.21823
31	6.613	VV S	0.0441	1.59718e4	6034.61523	15.70043
32	6.648	VV S	0.0260	3925.79590	2516.21387	3.85908
33	6.683	VBAS	0.2153	1.40697e4	1088.99097	13.83063
34	6.745	BV T	0.0184	1374.37427	889.93066	1.35102
35	6.810	PV T	0.0233	1196.04163	614.45074	1.17572
36	6.907	PV T	0.0197	2131.01025	1300.73035	2.09480
37	6.945	VV T	0.0167	1154.86609	824.69916	1.13524
38	6.962	VV T	0.0144	979.49017	817.87634	0.96285
39	7.008	PV T	0.1812	618.17865	40.07161	0.60767
40	7.083	PV T	5.84e-3	503.92703	1215.59851	0.49536
41	7.173	PV T	0.0000	978.15424	38.23040	0.96153
42	7.199	VV T	0.0321	511.04565	187.86472	0.50236
43	7.231	PV T	0.0307	1245.84558	479.89594	1.22467
44	7.285	PV T	0.0114	1062.26880	1264.63354	1.04422
45	7.315	VB T	3.60e-3	9.91335	45.89565	0.00974
46	7.399	BV T	0.0171	1343.73315	952.43811	1.32090
47	7.408	VV T	4.62e-3	348.91446	963.81720	0.34299
48	7.417	VV T	0.0153	1275.69666	996.47589	1.25402
49	7.480	PV T	0.0106	429.71790	500.22794	0.42242
50	7.505	PV T	0.0236	1854.10278	957.96368	1.82260
51	7.560	PV T	0.0176	327.65167	224.23656	0.32208
52	7.621	PV T	0.0345	6740.54492	2334.66699	6.62600
53	7.724	PV T	0.0213	1561.47351	871.79236	1.53494
54	7.790	PBAT	0.0000	194.52200	71.11098	0.19122
Totals :				1.01729e5	5.02703e4	

Results obtained with enhanced integrator!

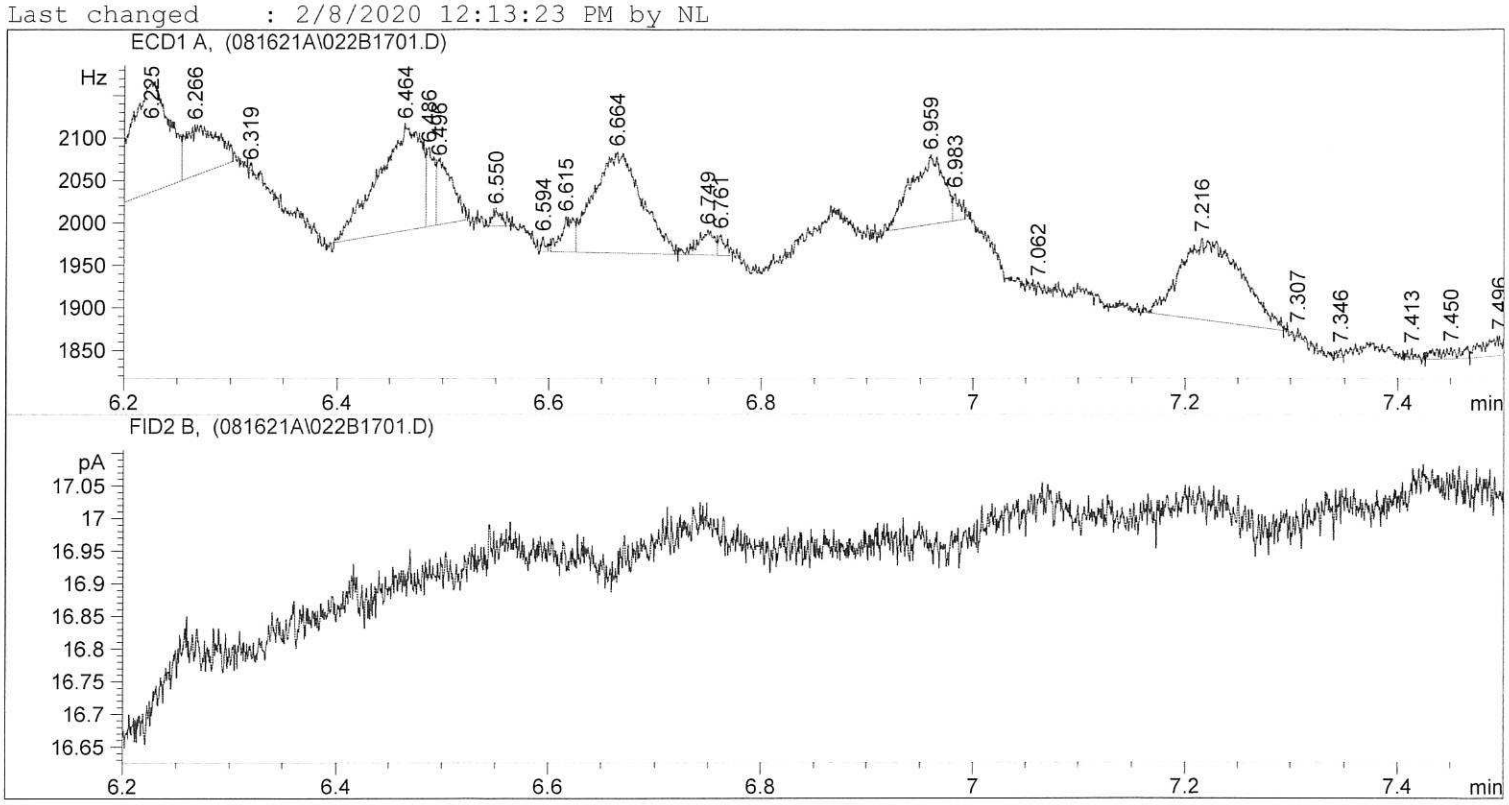
Signal 2: FID2 B,

==========

*** End of Report ***

Injection Date : 8/16/2021 5:21:06 PM Seq. Line : 17
Sample Name : 21G0213 08 Location : Vial 22
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.223	BB	0.0259	161.82204	74.55460	1.16680
2	5.266	BB	0.0144	49.34406	41.56734	0.35579
3	5.432	PV	0.0369	378.60556	123.68015	2.72990
4	5.577	VV	0.0573	1156.33203	237.27702	8.33761
5	5.699	VV	0.0469	2467.74072	629.43671	17.79339
6	5.744	VV	0.0574	3184.77734	651.59100	22.96351
7	5.839	VV	0.0135	211.28270	194.11513	1.52343
8	5.922	VV	0.0480	1535.74597	393.15054	11.07334
9	5.963	VP	0.0631	2423.15063	452.61325	17.47188
10	6.112	VV	0.0127	21.91492	21.84862	0.15802
11	6.147	VV	9.29e-3	22.45969	30.14297	0.16194
12	6.225	VV	0.0398	445.20178	131.82433	3.21008
13	6.266	VB	0.0258	116.44604	58.98611	0.83962
14	6.319	BB	6.87e-4	4.31300e-2	5.75825	0.00031
15	6.464	PV	0.0331	348.38660	125.13058	2.51201
16	6.486	VV	6.93e-3	48.34128	91.97137	0.34856
17	6.496	VB	0.0127	75.99327	74.52679	0.54794

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.550	PB	8.98e-3	13.06217	19.09508	0.09418
19	6.594	PB	3.15e-3	3.80645	17.39890	0.02745
20	6.615	BV	0.0104	35.13069	40.92509	0.25331
21	6.664	VV	0.0368	369.19916	118.97224	2.66207
22	6.749	VV	0.0132	31.64460	29.24916	0.22817
23	6.761	VB	6.20e-3	11.33091	24.46326	0.08170
24	6.959	BV	0.0264	173.13196	80.90623	1.24835
25	6.983	VB	5.82e-3	14.09018	31.48794	0.10160
26	7.062	PP	0.0000	1.47233	6.04574	0.01062
27	7.216	PP	0.0469	382.75595	96.49747	2.75982
28	7.307	BB	2.00e-3	1.34251	9.81505	0.00968
29	7.346	PV	3.75e-3	2.62502	10.37494	0.01893
30	7.413	PP	5.02e-3	4.68340	12.35895	0.03377
31	7.450	BP	0.0172	18.56418	13.02588	0.13386
32	7.496	VB	0.0255	48.30833	23.20398	0.34832
33	7.686	PP	2.71e-3	1.45906	8.93463	0.01052
34	7.723	VV	0.0179	50.50033	35.36204	0.36413
35	7.742	VV	0.0191	58.16586	37.08944	0.41940
Totals :				1.38689e4	3953.38080	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

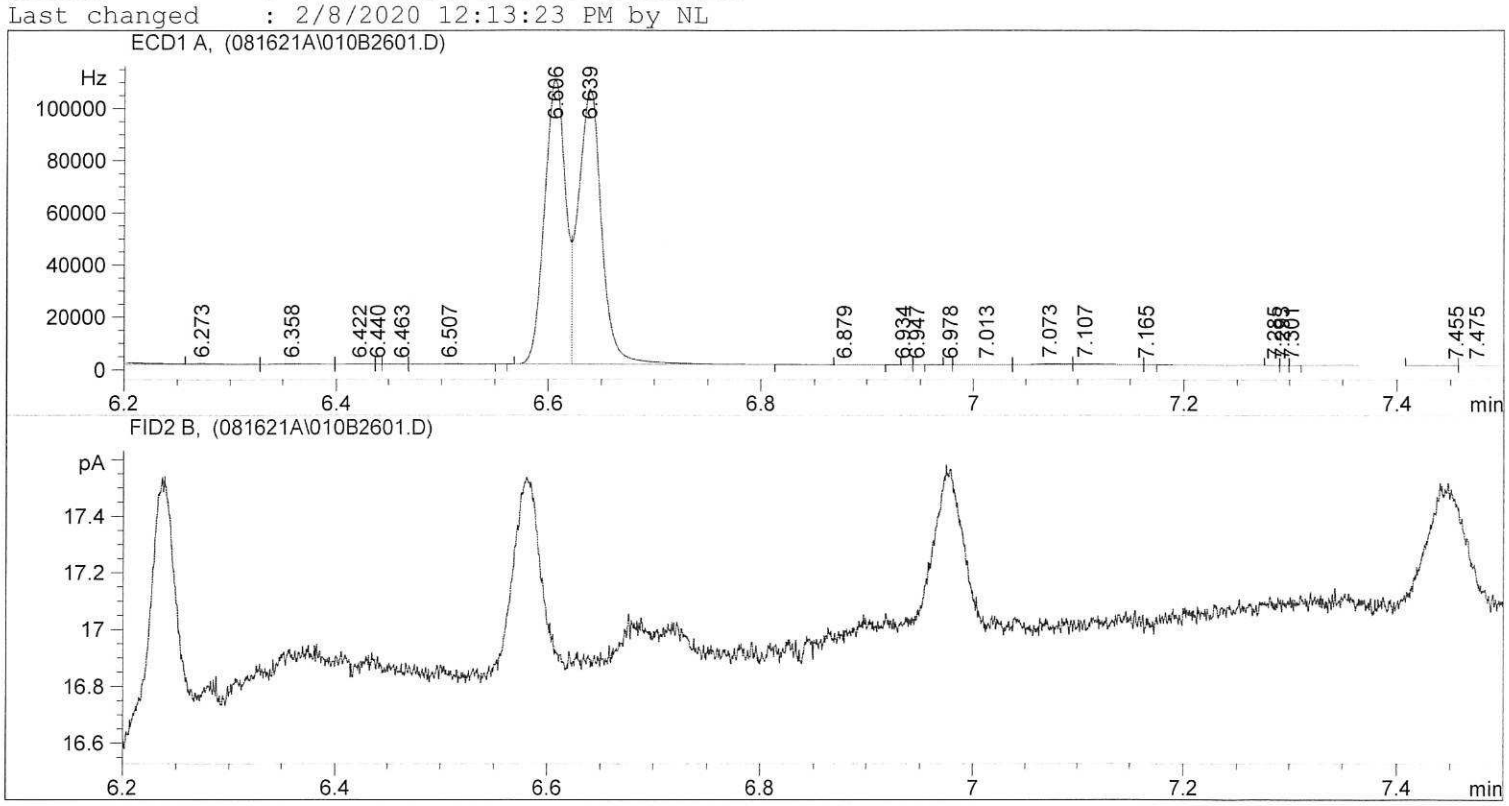
==========

*** End of Report ***

==========

Injection Date : 8/16/2021 7:00:37 PM Seq. Line : 26
Sample Name : CS4 STANDARD Location : Vial 10
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\081621A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.277	PP	9.80e-3	17.91054	23.22436	0.00146
2	5.326	VP	0.0191	80.03021	56.70521	0.00651
3	5.395	VP	0.0140	40.04385	34.98141	0.00326
4	5.468	VV S	0.0250	1.69373e5	9.24669e4	13.77087
5	5.568	VV S	0.0374	2.72214e5	1.21177e5	22.13233
6	5.625	VV S	0.0198	9.94073e4	8.36368e4	8.08229
7	5.671	VB S	0.0225	9.36300e4	6.93362e4	7.61257
8	5.826	BP	8.67e-3	49.36917	71.40943	0.00401
9	5.861	BP	8.60e-3	9.66574	18.72615	0.00079
10	5.915	VV S	0.0179	9.91163e4	8.41048e4	8.05863
11	6.063	VV S	0.0184	8.94690e4	7.45059e4	7.27426
12	6.141	VB S	0.0222	9.57863e4	7.19328e4	7.78789
13	6.273	BV T	0.0135	159.38565	151.56824	0.01296
14	6.358	PV T	0.0165	266.32184	202.79710	0.02165
15	6.422	PV T	0.0142	68.23222	57.64209	0.00555
16	6.440	PV T	4.79e-3	13.00576	45.26764	0.00106
17	6.463	PV T	0.0141	72.79458	64.04308	0.00592

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.507	VB T	0.0294	392.07391	158.89908	0.03188
19	6.606	BV S	0.0201	1.46756e5	1.08762e5	11.93193
20	6.639	VB S	0.0254	1.60565e5	1.05159e5	13.05468
21	6.879	PP	0.0168	15.38908	11.07690	0.00125
22	6.934	PP	4.27e-3	3.27302	11.01643	0.00027
23	6.947	BB	3.41e-3	2.91144	12.07775	0.00024
24	6.978	BV	4.21e-3	3.87567	12.52254	0.00032
25	7.013	VV	0.0281	96.26796	41.48849	0.00783
26	7.073	VV	0.0233	809.91125	412.97101	0.06585
27	7.107	VV	0.0268	645.07959	285.36807	0.05245
28	7.165	VB	5.58e-3	6.20918	15.14744	0.00050
29	7.285	BV	7.36e-3	7.37427	17.33267	0.00060
30	7.293	VP	4.57e-3	4.46866	13.82705	0.00036
31	7.301	VP	4.13e-3	3.44471	12.08086	0.00028
32	7.455	PV	4.25e-3	4.01730	12.83560	0.00033
33	7.475	VB	0.0252	41.76852	21.60018	0.00340
34	7.648	PV	0.0298	717.54108	290.58368	0.05834
35	7.712	VV	7.72e-3	13.02540	23.30408	0.00106
36	7.751	VV	0.0233	61.25465	31.53782	0.00498
37	7.760	VB	7.34e-3	17.97095	31.10170	0.00146
Totals :				1.22994e6	8.13223e5	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

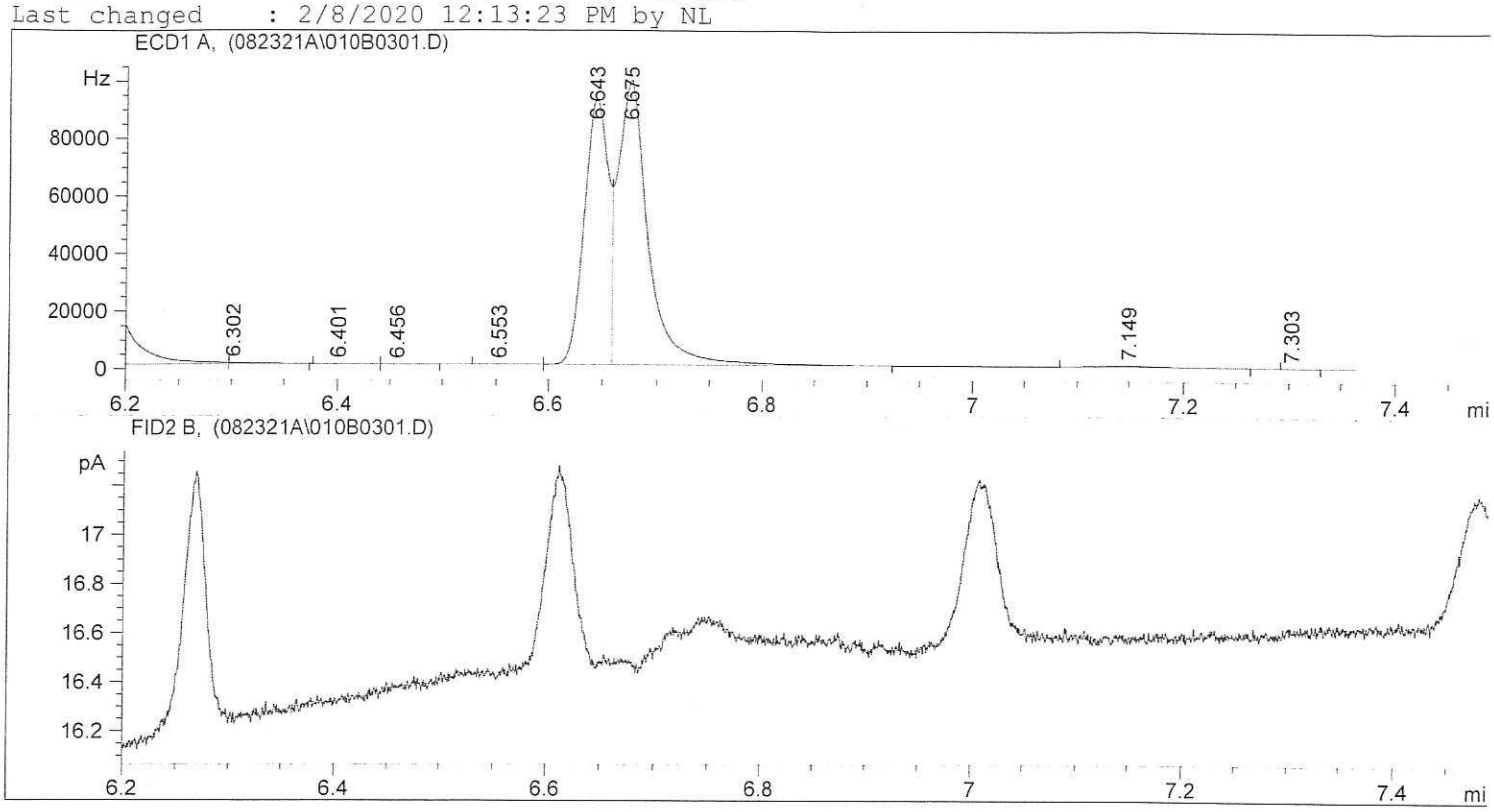
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 3:43:07 PM Seq. Line : 3
Sample Name : CS4 STANDARD Location : Vial 10
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.288	PV	0.0140	26.61545	24.30220	0.00195
2	5.335	VP	9.06e-3	49.58413	70.01193	0.00363
3	5.406	BP	0.0116	28.05824	29.65888	0.00206
4	5.482	VV S	0.0270	1.87125e5	9.09812e4	13.70629
5	5.585	VV S	0.0420	2.90215e5	1.15289e5	21.25728
6	5.644	VV S	0.0255	1.10536e5	7.23106e4	8.09640
7	5.692	VV S	0.0343	1.18065e5	5.74421e4	8.64786
8	5.849	VV S	0.0498	2520.79590	844.00739	0.18464
9	5.944	VV S	0.0254	1.12474e5	7.39233e4	8.23834
10	6.097	VV S	0.0256	9.85591e4	6.42540e4	7.21912
11	6.175	VV S	0.0303	1.06098e5	5.84458e4	7.77128
12	6.302	VB S	0.0351	937.37531	444.52301	0.06866
13	6.401	BP	0.0157	106.45741	82.06987	0.00780
14	6.456	BP	0.0146	46.75767	40.69748	0.00342
15	6.553	BV	0.0278	184.91887	79.26585	0.01354
16	6.643	VV S	0.0226	1.41915e5	9.20549e4	10.39479
17	6.675	VB S	0.0329	1.94608e5	9.85686e4	14.25434

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.931	VV	0.0225	780.82123	423.39398	3.31006
19	5.967	VV	0.0164	582.98376	458.11801	2.47139
20	5.988	VV	0.0256	988.61469	473.32150	4.19094
21	6.024	VB	0.0147	228.19341	258.32086	0.96736
22	6.076	BV	0.0385	1247.92163	387.94272	5.29020
23	6.116	VV	0.0185	383.06857	249.78935	1.62391
24	6.144	VV	0.0185	371.35483	238.91275	1.57425
25	6.196	VV	0.0419	1118.21692	320.70102	4.74035
26	6.288	VV	0.0442	897.10876	240.02618	3.80303
27	6.338	VB	0.0274	336.52908	149.58603	1.42662
28	6.373	BV	9.27e-3	97.97550	138.24380	0.41534
29	6.400	VV	0.0168	246.00902	184.30898	1.04288
30	6.404	VV	0.0122	184.01491	185.78392	0.78008
31	6.458	VV	0.0333	738.45258	264.83499	3.13045
32	6.497	VV	0.0308	530.67883	203.39244	2.24966
33	6.570	VV	0.0189	153.18011	101.89587	0.64936
34	6.621	VV	0.0333	2572.90576	965.56122	10.90708
35	6.745	VV	0.0314	397.79202	159.02448	1.68632
36	6.810	VP	0.0285	283.18100	117.44786	1.20046
37	6.903	VV	0.0256	494.15076	229.08864	2.09481
38	6.938	VB	0.0119	52.70715	54.19703	0.22344
39	6.976	BP	3.96e-3	2.04901	7.81471	0.00869
40	7.082	PP	0.0313	682.38788	259.60019	2.89278
41	7.172	VV	0.0146	107.19333	92.00883	0.45441
42	7.186	VV	7.62e-3	41.66835	69.22598	0.17664
43	7.197	VB	0.0141	80.32488	68.59093	0.34051
44	7.284	PV	0.0241	584.38782	302.64917	2.47734
45	7.311	VV	0.0203	305.81668	179.66861	1.29642
46	7.393	VV	0.0230	259.79184	135.42050	1.10131
47	7.417	VV	0.0168	157.14171	113.42056	0.66616
48	7.470	VV	9.11e-3	70.88853	97.20128	0.30051
49	7.476	VB	0.0124	108.08090	111.02148	0.45818
50	7.507	BV	0.0273	347.86920	155.29779	1.47469
51	7.554	VP	0.0116	54.16365	57.51707	0.22961
52	7.622	VV	0.0405	1101.20093	320.13046	4.66822
53	7.725	VP	0.0296	365.57553	154.46516	1.54975
54	7.792	VBA	0.0168	25.98859	18.99182	0.11017
Totals :				2.35893e4	1.17054e4	

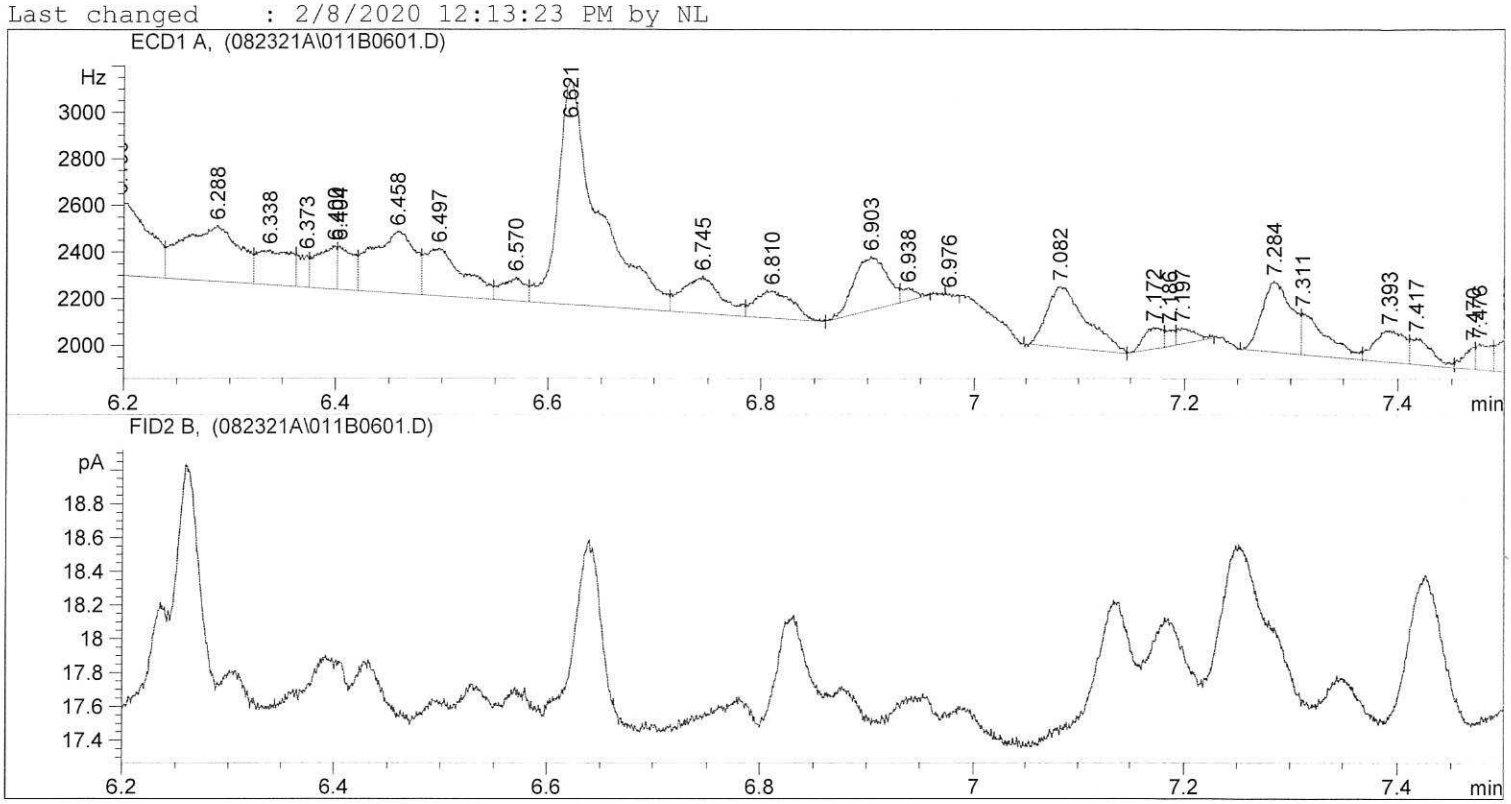
Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========

*** End of Report ***

```
==========================================================================
Injection Date  : 8/23/2021 4:16:33 PM          Seq. Line :   6
Sample Name     : 21G0283 11                     Location : Vial 11
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\082321A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
```

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.235	PV	9.96e-3	27.63074	33.71837	0.11713
2	5.261	VP	0.0229	173.25713	93.12051	0.73447
3	5.359	VV	0.0298	615.06641	244.12538	2.60739
4	5.421	VV	0.0228	803.03839	421.18854	3.40425
5	5.463	VV	0.0215	1056.45959	632.66400	4.47855
6	5.504	VV	0.0171	282.24158	204.46741	1.19648
7	5.539	VP	0.0135	52.89071	50.23809	0.22421
8	5.584	VV	0.0126	102.59161	97.93362	0.43491
9	5.591	VB	0.0107	82.89660	95.91588	0.35142
10	5.638	PB	4.73e-3	6.79830	18.29612	0.02882
11	5.656	BV	6.03e-3	17.46878	36.22737	0.07405
12	5.663	VV	3.81e-3	10.00357	38.79359	0.04241
13	5.685	VV	0.0151	392.65109	311.33282	1.66453
14	5.748	VV	0.0219	1053.10754	629.00555	4.46434
15	5.786	VV	0.0138	209.46935	190.69824	0.88798
16	5.806	VB	0.0199	373.19797	225.05568	1.58206
17	5.863	BV	0.0375	1350.15906	435.74222	5.72360

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.149	PB	0.0496	1189.75085	285.76645	0.08715
19	7.303	PB	0.0000	4.92999e-1	5.05542	3.611e-5
20	7.602	PP	2.38e-3	7.90708e-1	5.16912	5.792e-5
21	7.686	PB	0.0290	564.48633	230.39220	0.04135

Totals : 1.36525e6 7.25411e5

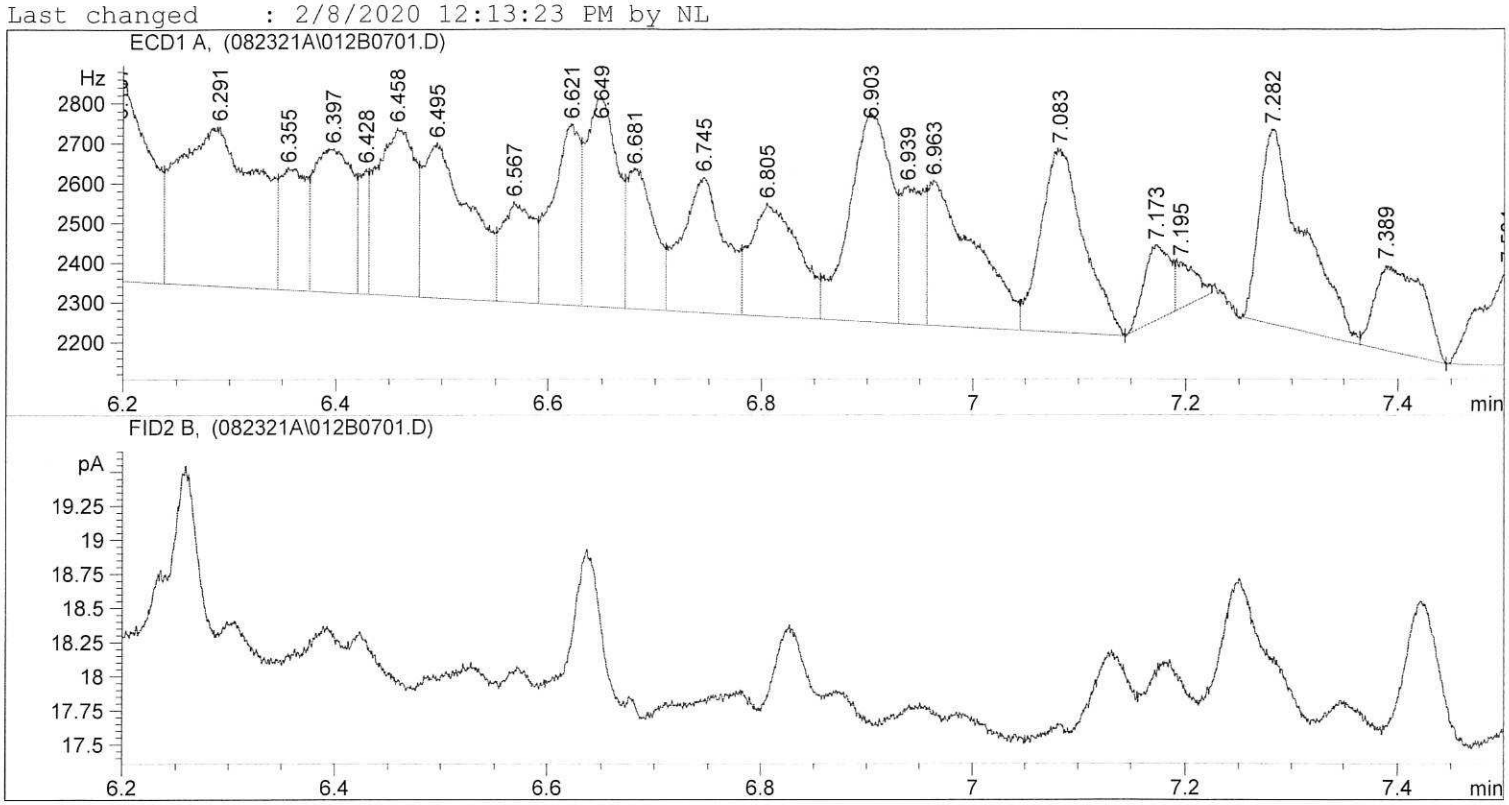
Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========

*** End of Report ***

```
==========================================================================
Injection Date  : 8/23/2021 4:27:31 PM          Seq. Line :   7
Sample Name     : 21G0283 12                     Location : Vial 12
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\082321A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
```

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.237	PV	7.42e-3	10.38424	17.75593	0.02596
2	5.259	VV	7.59e-3	48.44222	78.58952	0.12112
3	5.272	VP	0.0158	130.45110	98.90689	0.32616
4	5.318	VV	9.24e-3	39.05540	59.61161	0.09765
5	5.358	VV	0.0203	317.72495	189.62029	0.79440
6	5.373	VV	9.83e-3	137.54166	173.81369	0.34389
7	5.420	VV	0.0248	739.42187	354.13007	1.84876
8	5.462	VV	0.0201	646.17224	386.28668	1.61561
9	5.507	VV	0.0262	520.72028	237.58350	1.30194
10	5.541	VV	0.0130	185.06796	171.66995	0.46272
11	5.585	VV	0.0458	971.57568	249.55153	2.42921
12	5.684	VV	0.0384	1402.41821	444.34454	3.50643
13	5.745	VV	0.0318	1738.26489	650.66382	4.34614
14	5.797	VV	0.0260	955.96637	438.73257	2.39018
15	5.815	VV	0.0159	388.74371	407.84537	0.97197
16	5.867	VV	0.0462	2303.91333	589.81897	5.76042
17	5.931	VV	0.0261	1213.64233	565.11224	3.03444

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.967	VV	0.0200	736.70050	455.41428	1.84196
19	5.997	VV	0.0257	1096.36035	506.33585	2.74120
20	6.056	VV	0.0456	1914.51440	493.99731	4.78682
21	6.095	VB	8.18e-3	273.24783	420.76154	0.68320
22	6.120	BV	0.0197	698.17761	426.03207	1.74564
23	6.151	VV	0.0204	702.97028	418.57193	1.75762
24	6.197	VV	0.0433	1877.50195	510.20551	4.69427
25	6.291	VV	0.0636	2077.92773	401.06091	5.19539
26	6.355	VV	0.0202	520.76801	306.50317	1.30206
27	6.397	VV	0.0303	900.96893	360.92920	2.25267
28	6.428	VV	7.90e-3	186.55486	315.56021	0.46644
29	6.458	VV	0.0297	1043.49170	421.53870	2.60902
30	6.495	VV	0.0363	1193.96509	388.34409	2.98524
31	6.567	VV	0.0249	527.48505	251.60600	1.31886
32	6.621	VV	0.0216	810.44946	454.04953	2.02635
33	6.649	VV	0.0258	1076.13696	526.75238	2.69064
34	6.681	VV	0.0212	622.71887	350.02338	1.55697
35	6.745	VV	0.0333	952.90021	340.47519	2.38251
36	6.805	VV	0.0374	894.41919	282.36609	2.23630
37	6.903	VV	0.0328	1447.07275	524.54926	3.61808
38	6.939	VB	0.0184	528.87360	347.05734	1.32233
39	6.963	BV	0.0363	1118.47351	363.92981	2.79649
40	7.083	VP	0.0336	1306.84644	459.34845	3.26748
41	7.173	VV	0.0199	307.24667	187.24448	0.76820
42	7.195	VB	0.0153	147.57065	117.00968	0.36897
43	7.282	PV	0.0357	1427.66858	488.71878	3.56957
44	7.389	VP	0.0373	674.39130	214.30093	1.68616
45	7.504	VV	0.0329	677.96509	243.33154	1.69510
46	7.546	VV	0.0100	49.15562	59.68143	0.12290
47	7.554	VV	8.48e-3	39.61614	60.14784	0.09905
48	7.622	VV	0.0322	1457.62573	545.61346	3.64447
49	7.655	VB	0.0131	205.64058	192.27284	0.51416
50	7.718	BV	0.0202	435.99963	261.55591	1.09012
51	7.725	VP	0.0113	232.62535	254.06270	0.58163
52	7.788	VBA	0.0169	82.03789	63.32633	0.20512
Totals :				3.99956e4	1.71267e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

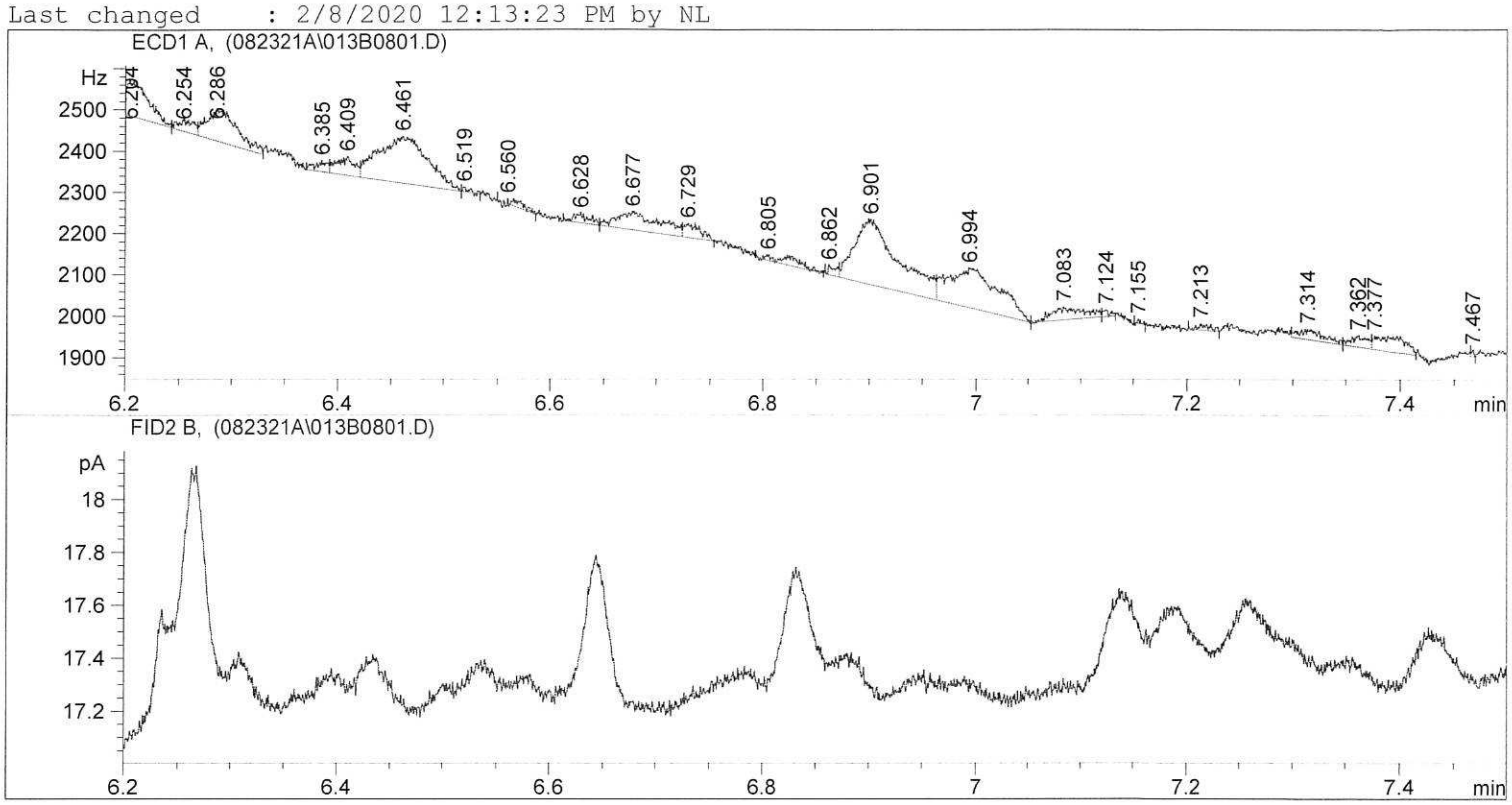
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 4:38:44 PM Seq. Line : 8
Sample Name : 21G0283 13 Location : Vial 13
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.239	PV	7.84e-3	22.55046	35.37521	0.44322
2	5.252	VB	0.0132	37.75441	36.75354	0.74205
3	5.273	BP	7.82e-3	32.93406	53.24104	0.64730
4	5.296	VP	3.46e-3	3.01113	15.51268	0.05918
5	5.378	BV	0.0165	72.70802	54.85902	1.42904
6	5.424	VV	0.0189	259.08392	164.97487	5.09218
7	5.446	VV	5.93e-3	30.08320	65.83382	0.59127
8	5.468	VV	0.0171	94.57937	67.76844	1.85892
9	5.509	VV	0.0164	127.85599	98.13779	2.51295
10	5.538	VV	0.0104	26.10848	30.47264	0.51315
11	5.579	VV	0.0121	53.43344	56.12579	1.05021
12	5.595	VV	0.0127	36.10266	34.74045	0.70958
13	5.612	VV	6.90e-3	8.30598	21.55121	0.16325
14	5.618	VP	3.38e-3	3.55312	14.93437	0.06984
15	5.689	BV	0.0230	333.62939	173.67336	6.55734
16	5.749	VV	0.0372	431.87048	137.49635	8.48822
17	5.778	VV	3.22e-3	5.08743	22.62137	0.09999

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.797	VV	8.05e-3	39.64978	62.12072	0.77930
19	5.803	VB	0.0128	64.20515	63.57893	1.26192
20	5.871	PV	0.0264	386.33060	180.60924	7.59316
21	5.936	VV	0.0197	340.44980	208.30534	6.69139
22	6.003	VV	0.0220	250.01395	136.14583	4.91391
23	6.066	VV	0.0315	261.38351	100.75327	5.13738
24	6.099	VP	8.88e-3	29.76244	44.05766	0.58497
25	6.145	PB	7.86e-3	13.16448	21.76969	0.25874
26	6.204	BV	0.0245	179.20950	86.75951	3.52228
27	6.254	VV	0.0130	29.53961	28.34204	0.58059
28	6.286	VV	0.0235	155.37254	79.27271	3.05378
29	6.385	PV	9.67e-3	20.01082	26.93743	0.39330
30	6.409	VV	0.0144	51.90141	45.11097	1.02010
31	6.461	VP	0.0382	360.01147	113.03275	7.07587
32	6.519	VB	5.08e-3	3.97637	10.84113	0.07815
33	6.560	BP	0.0135	9.83908	12.16091	0.19338
34	6.628	PV	0.0124	22.19298	23.55802	0.43619
35	6.677	VB	0.0338	122.39221	43.24936	2.40557
36	6.729	BB	0.0130	35.75097	34.06407	0.70267
37	6.805	PB	0.0288	31.08067	13.15942	0.61088
38	6.862	BB	6.85e-3	12.09751	22.57998	0.23777
39	6.901	BV	0.0340	453.22363	157.40903	8.90791
40	6.994	VP	0.0395	317.61880	95.25508	6.24266
41	7.083	BV	0.0239	60.87848	30.99241	1.19654
42	7.124	VB	5.80e-3	7.06849	16.49874	0.13893
43	7.155	PP	2.38e-3	1.66221	9.77582	0.03267
44	7.213	BP	9.34e-3	11.22659	15.34583	0.22065
45	7.314	BV	0.0209	40.27366	25.11695	0.79156
46	7.362	VV	0.0134	27.49692	26.35790	0.54044
47	7.377	VB	0.0249	67.05263	32.25100	1.31789
48	7.467	BP	2.96e-3	2.77769	14.98739	0.05459
49	7.627	PP	0.0191	46.51048	29.30412	0.91414
50	7.722	PV	6.69e-3	8.71502	20.77239	0.17129
51	7.744	VP	0.0283	46.38656	19.41420	0.91171

Totals : 5087.87759 2933.96178

Results obtained with enhanced integrator!

Signal 2: FID2 B,

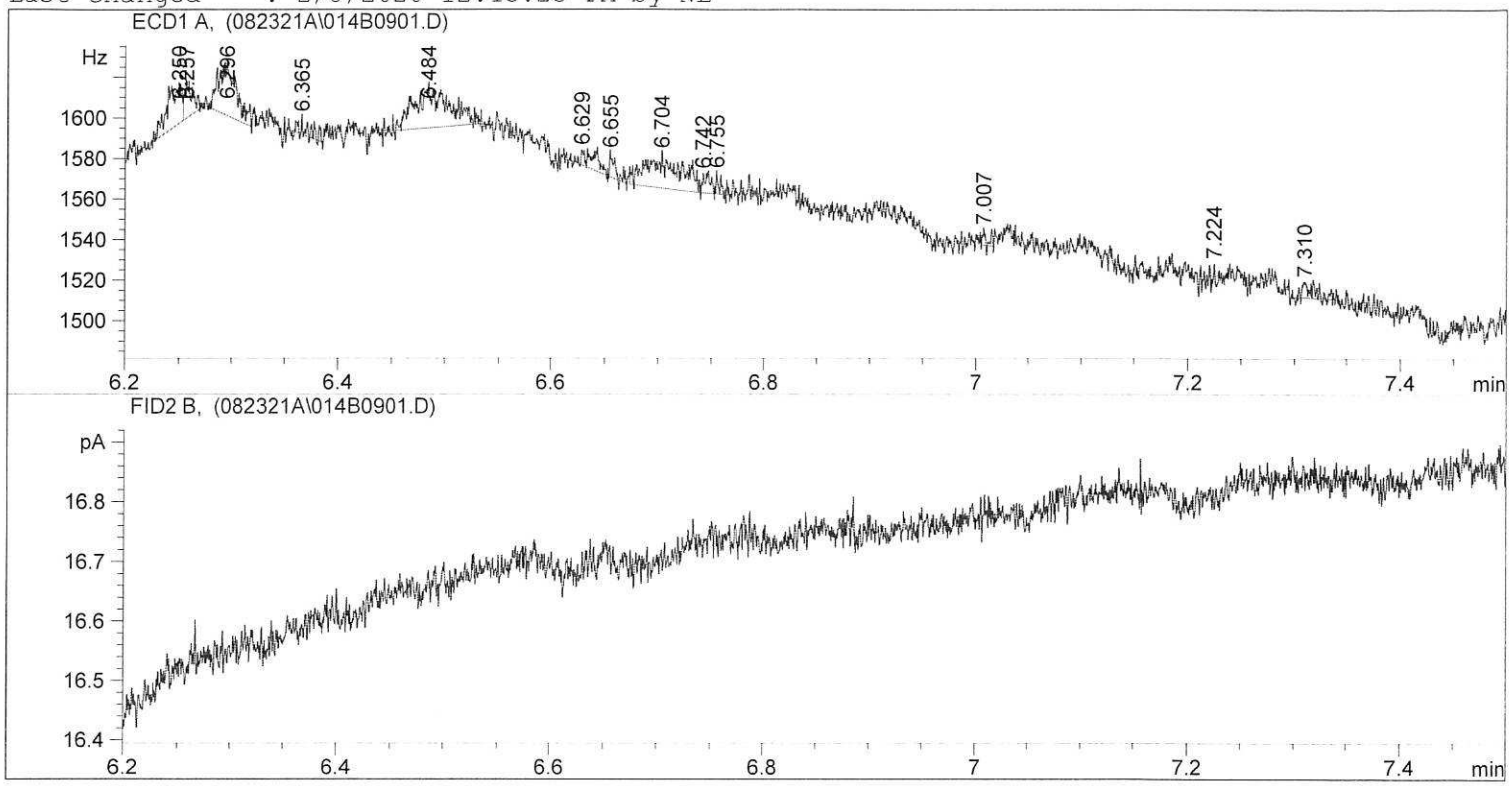
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 4:49:57 PM Seq. Line : 9
Sample Name : 21G0283 14 Location : Vial 14
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.543	PV	0.0231	270.66605	144.04753	10.09825
2	5.761	BV	0.0537	220.77789	48.71915	8.23698
3	5.821	VP	0.0146	26.69659	22.88043	0.99602
4	5.859	VB	0.0246	1840.28113	926.49994	68.65882
5	5.933	BB	0.0190	97.81716	61.87587	3.64945
6	5.985	BV	0.0150	19.28855	15.86875	0.71963
7	6.057	BB	7.03e-3	6.16945	11.19565	0.23018
8	6.250	PV	0.0118	19.54446	19.98751	0.72918
9	6.257	VB	6.59e-3	8.98920	17.50769	0.33538
10	6.296	PP	0.0144	30.74583	25.54285	1.14709
11	6.365	BP	6.41e-3	4.39137	8.52853	0.16384
12	6.484	BB	0.0261	44.65756	21.46673	1.66612
13	6.629	BV	0.0125	7.40253	7.13127	0.27618
14	6.655	VP	5.23e-3	4.44534	11.70988	0.16585
15	6.704	BP	0.0254	36.41249	16.99907	1.35851
16	6.742	VV	6.12e-3	4.43979	9.37755	0.16564
17	6.755	VP	3.47e-3	2.48958	10.11240	0.09288

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.007	BP	4.45e-3	2.04950	7.11010	0.07646
19	7.224	PB	0.0000	1.37675	5.61530	0.05136
20	7.310	PB	0.0105	5.59696	7.35453	0.20882
21	7.553	BB	0.0193	25.31833	16.27558	0.94460
22	7.677	PB	0.0000	7.70795e-1	3.11313	0.02876

Totals : 2680.32731 1418.91945

Results obtained with enhanced integrator!

Signal 2: FID2 B,

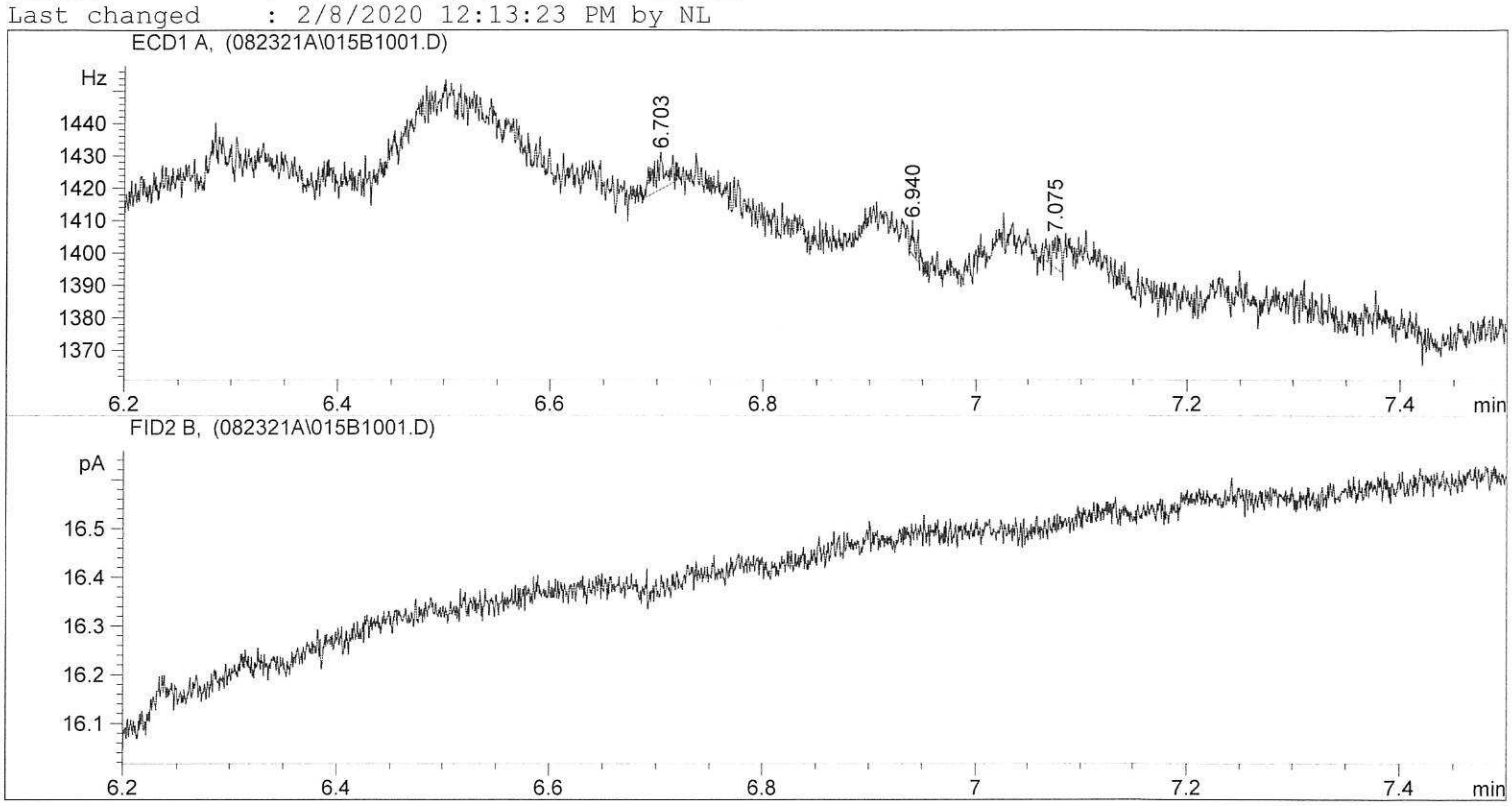
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 5:01:11 PM Seq. Line : 10
Sample Name : 21G0283 15 Location : Vial 15
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.543	PB	0.0189	93.77341	59.28402	9.40463
2	5.654	PP	2.05e-3	4.80833e-1	4.50460	0.04822
3	5.856	PB	0.0229	870.03400	490.43179	87.25655
4	6.029	BV	8.30e-3	7.24434	15.36800	0.72654
5	6.178	PB	2.57e-3	1.12120	6.64267	0.11245
6	6.703	PB	9.94e-3	8.63898	10.78701	0.86641
7	6.940	BP	3.26e-3	2.32191	9.47468	0.23287
8	7.075	BP	8.05e-3	5.30584	9.04075	0.53213
9	7.675	BP	1.81e-3	6.25481e-1	7.22736	0.06273
10	7.778	BP	8.07e-3	7.55279	11.79094	0.75748
Totals :				997.09878	624.55181	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

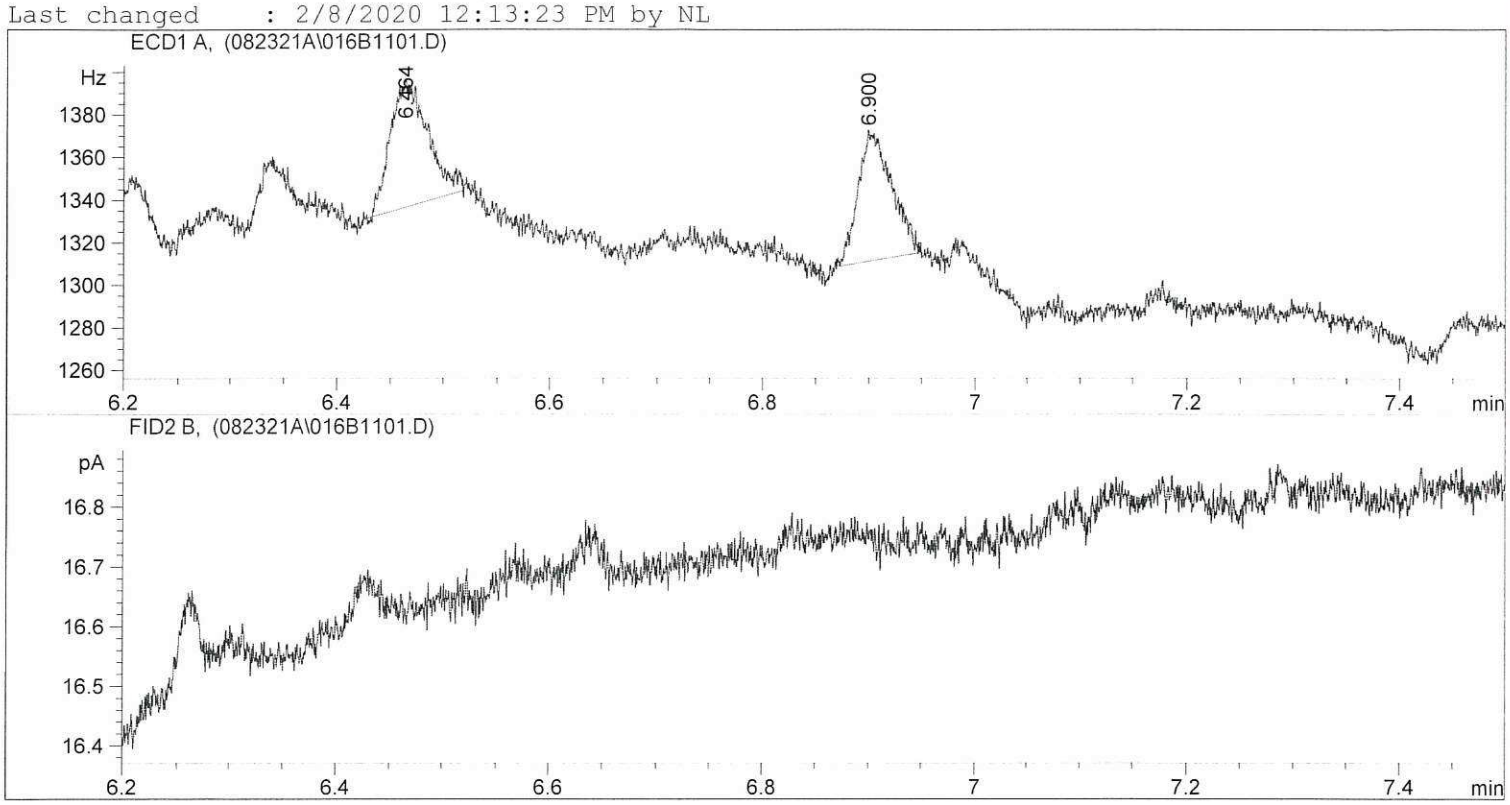
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 5:12:27 PM Seq. Line : 11
Sample Name : 21G0283 16 Location : Vial 16
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.257	BB	0.0147	36.14306	29.52902	6.06241
2	5.852	PB	0.0208	207.51895	120.96696	34.80793
3	5.936	BB	0.0141	69.68137	61.04794	11.68792
4	6.464	PP	0.0290	145.70206	59.91512	24.43915
5	6.900	BB	0.0263	135.46210	61.01574	22.72156
6	7.620	BB	4.17e-3	1.67543	5.47896	0.28103

Totals : 596.18296 337.95373

Results obtained with enhanced integrator!

Signal 2: FID2 B,

Results obtained with enhanced integrator!

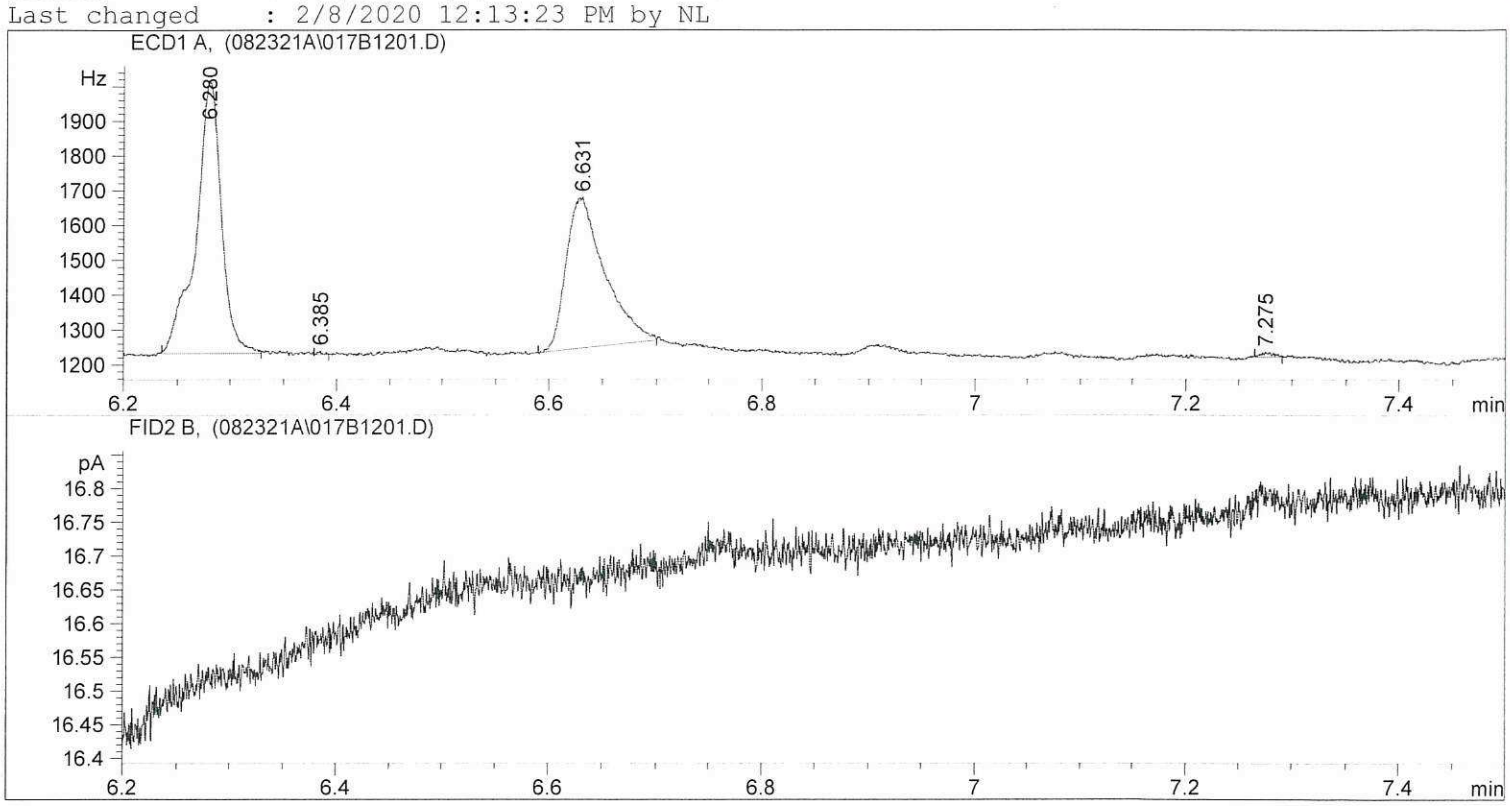
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 5:23:41 PM Seq. Line : 12
Sample Name : 21G0283 17 Location : Vial 17
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.409	PV	0.0128	35.19315	35.54500	0.69889
2	5.475	BV	0.0172	36.00252	25.33574	0.71496
3	5.503	VP	0.0122	36.19462	35.93015	0.71877
4	5.542	VB	0.0245	207.50183	100.28986	4.12070
5	5.808	BV	0.0186	838.95502	619.73535	16.66047
6	5.866	VV	0.0335	1125.04626	406.23907	22.34184
7	5.932	VV	0.0165	61.79515	47.69192	1.22717
8	5.970	VP	0.0327	199.21083	72.43104	3.95605
9	6.085	BB	0.0201	87.31987	52.74538	1.73405
10	6.280	BB	0.0225	1323.69043	785.82605	26.28664
11	6.385	PB	4.48e-3	2.78823	9.91731	0.05537
12	6.631	PB	0.0295	1070.94092	432.20145	21.26738
13	7.275	BB	9.90e-3	10.96350	13.75702	0.21772

Totals : 5035.60234 2637.64534

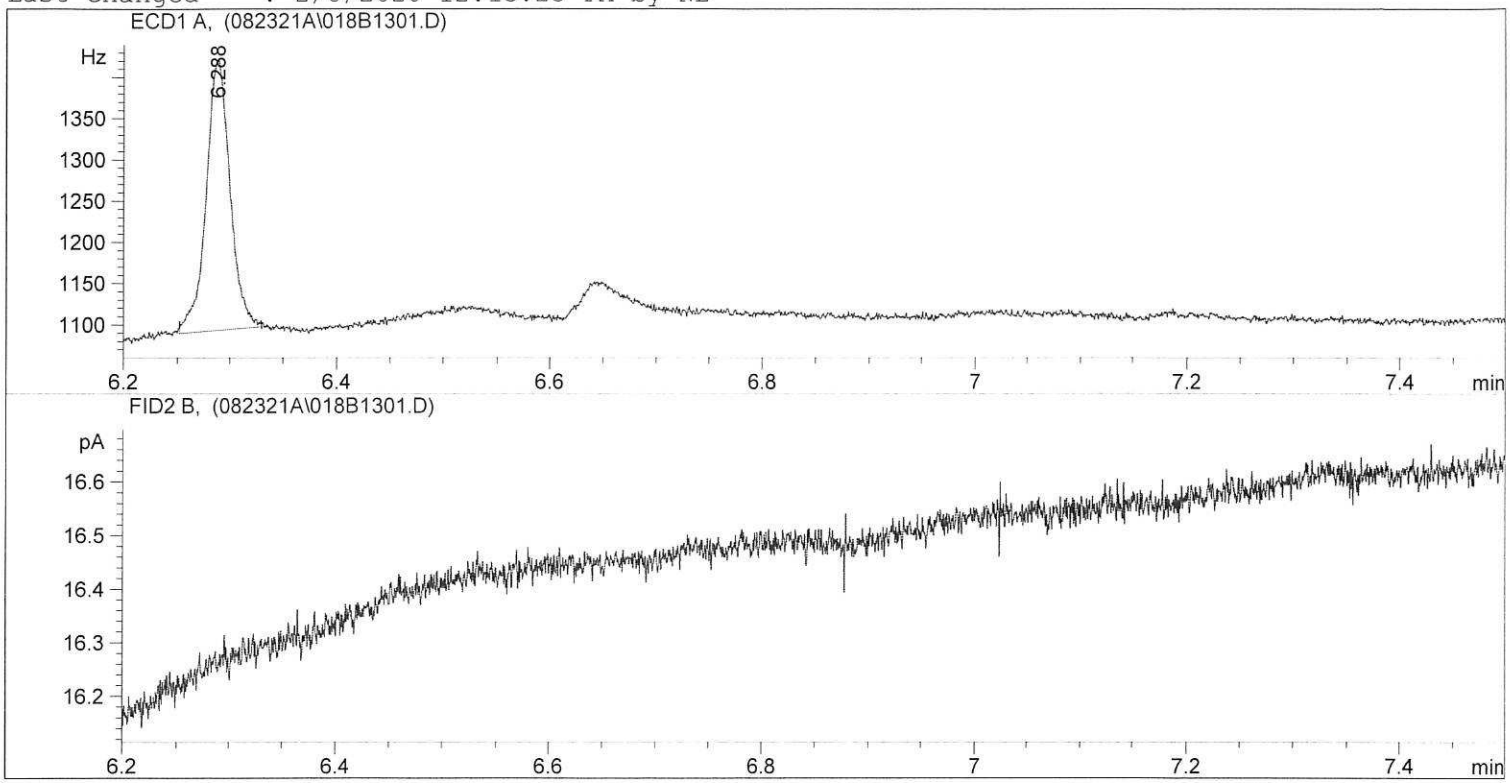
Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========

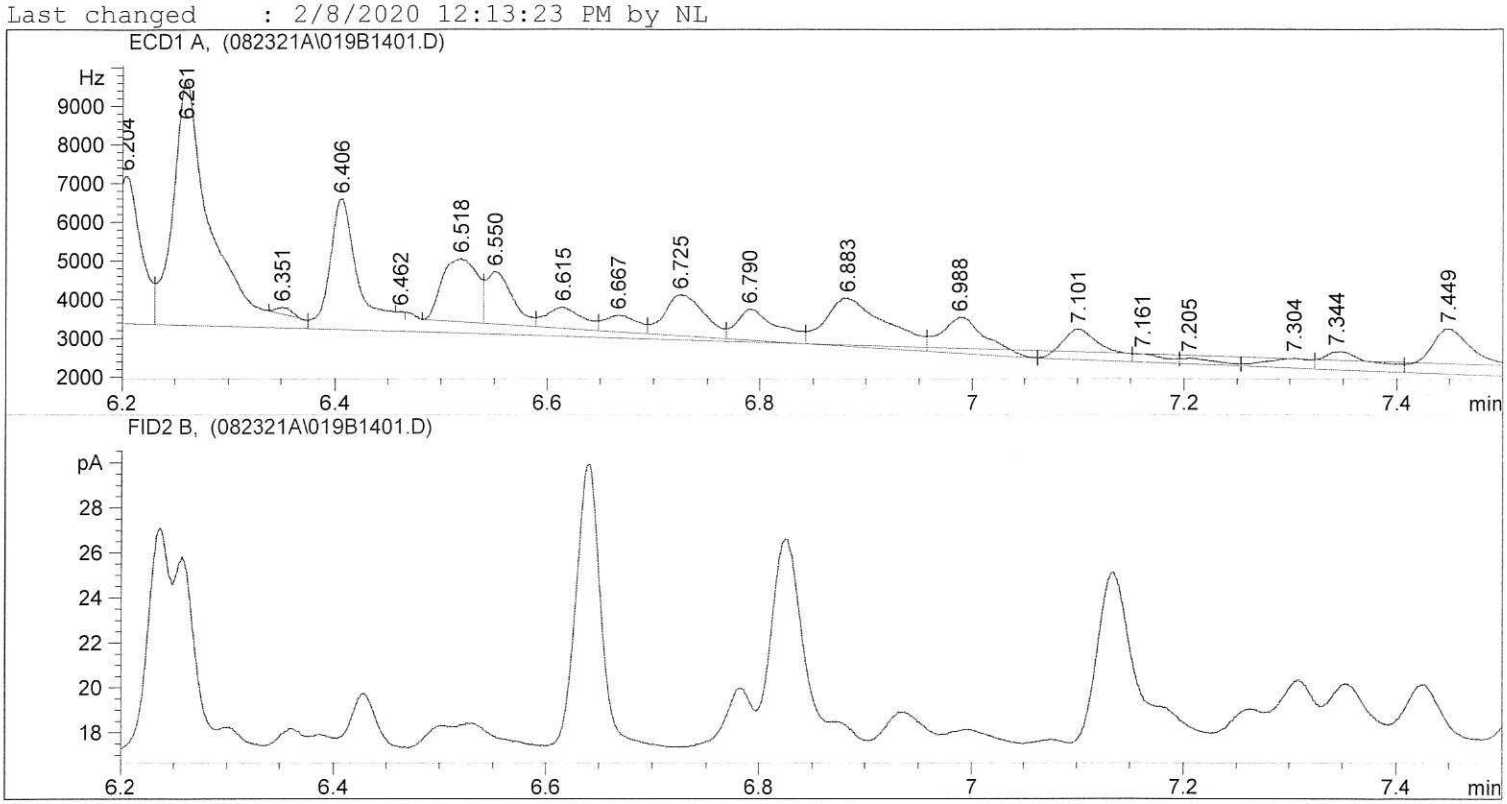
*** End of Report ***

```
==========================================================================
Injection Date  : 8/23/2021 5:34:53 PM          Seq. Line :  13
Sample Name     : 21G0283 18                     Location : Vial 18
Acq. Operator   : DXP                                 Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\082321A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000


Signal 1: ECD1 A,

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]   [Hz*s]      [Hz]        %
----|-------|----|-------|----------|----------|--------|
   1   5.505 PP    0.0125   56.91249   57.90543  4.64470
   2   5.814 BV    0.0155  346.60864  270.83685 28.28718
   3   5.875 VP    0.0276  299.70752  129.34901 24.45952
   4   6.288 BB    0.0213  522.09210  328.99313 42.60861

Totals :                   1225.32076  787.08443

 Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 8/23/2021 5:46:04 PM          Seq. Line :  14
Sample Name     : 21G0301 01                     Location : Vial 19
Acq. Operator   : DXP                                 Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\082321A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
```




```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
```

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.263	BP	0.0204	1370.06897	834.43292	1.24187
2	5.323	VV	0.0219	775.31219	449.64471	0.70277
3	5.359	VV	0.0256	673.21259	316.24988	0.61022
4	5.401	VV	0.0155	1423.07764	1099.97778	1.28992
5	5.440	VV S	0.0257	7286.00293	3409.74219	6.60427
6	5.475	VV S	0.0256	4106.58203	2670.55029	3.72234
7	5.500	VV S	0.0189	1805.40796	1592.80664	1.63648
8	5.527	VV S	0.0336	2387.98926	1183.15894	2.16455
9	5.703	VV S	0.0639	1.35036e4	3522.10962	12.24007
10	5.783	VV S	0.0354	2507.31274	1180.81165	2.27271
11	5.811	VV S	0.0198	848.87012	714.53754	0.76944
12	5.868	VV S	0.0244	3193.38916	2183.15479	2.89459
13	5.906	VB S	0.0165	136.38409	137.59543	0.12362
14	5.948	BP	0.0167	477.26382	354.05222	0.43261
15	5.990	VV S	0.0187	2393.29395	1848.84375	2.16936
16	6.037	VV S	0.0585	1.16576e4	3320.14795	10.56679
17	6.123	BV T	0.0000	85.06287	157.03416	0.07710

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.175	VV T	0.0000	252.29219	72.73569	0.22869
19	6.204	VV S	0.0241	6683.79736	3801.13818	6.05841
20	6.261	VV S	0.0414	1.57752e4	6348.09912	14.29913
21	6.351	BV T	0.0118	172.31139	179.96883	0.15619
22	6.406	VB S	0.0000	50.95840	3373.28711	0.04619
23	6.462	BB T	3.21e-3	7.47934	31.06009	0.00678
24	6.518	BV T	0.0271	3709.74219	1634.44006	3.36263
25	6.550	VV T	0.0214	2386.20557	1349.54346	2.16293
26	6.615	PV T	0.0289	1302.54846	552.92877	1.18067
27	6.667	PV T	0.0255	936.27844	439.37210	0.84867
28	6.725	PV T	0.0305	2744.08252	1062.05347	2.48732
29	6.790	PV T	0.0323	2156.40039	797.64642	1.95463
30	6.883	PV T	0.0488	5003.50146	1248.50818	4.53533
31	6.988	PV T	0.0348	2738.27075	929.92303	2.48206
32	7.101	PV T	0.0330	2090.25415	780.70563	1.89467
33	7.161	PV T	0.0324	425.22888	218.63805	0.38544
34	7.205	PV T	0.0276	355.45422	153.54782	0.32220
35	7.304	PV T	0.0334	742.52399	264.44916	0.67305
36	7.344	PV T	0.0387	1548.26685	473.80438	1.40340
37	7.449	PV T	0.0389	3848.74683	1165.53918	3.48863
38	7.533	PV T	0.0282	1181.09937	496.14240	1.07059
39	7.666	PB T	0.0478	1570.40930	388.40027	1.42347
40	7.770	BV	3.41e-3	4.47291	17.30910	0.00405
41	7.791	VP	6.44e-3	6.78822	15.12800	0.00615
Totals :				1.10323e5	5.07692e4	

Results obtained with enhanced integrator!

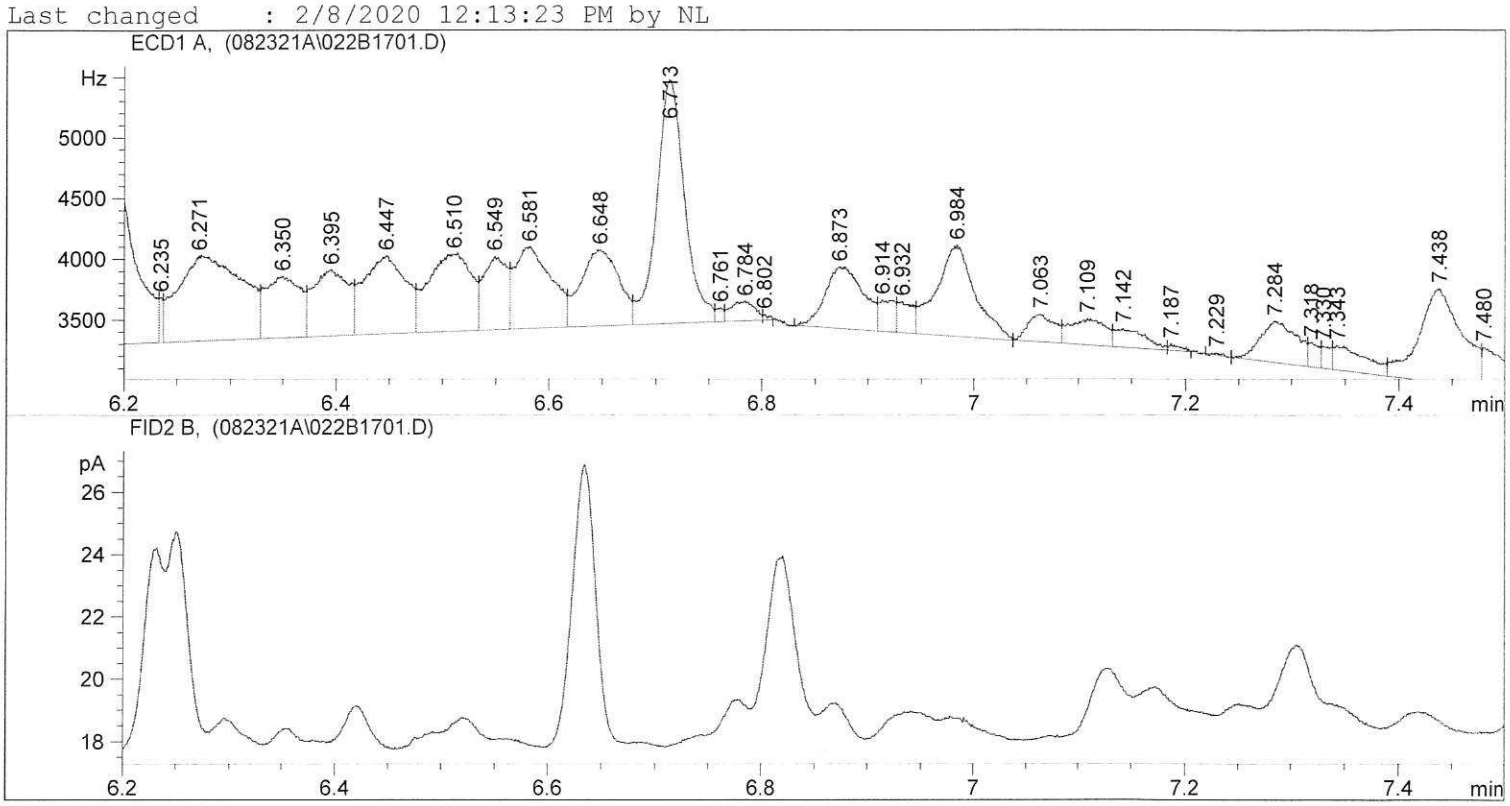
Signal 2: FID2 B,

==========

*** End of Report ***

Injection Date : 8/23/2021 6:19:29 PM Seq. Line : 17
Sample Name : 21G0301 04 Location : Vial 22
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.253	BV	0.0122	141.93031	140.07651	0.20518
2	5.271	VP	0.0119	178.64467	198.79790	0.25825
3	5.301	VP	0.0188	140.81099	92.13874	0.20356
4	5.358	VV	0.0103	140.40062	165.97324	0.20297
5	5.365	VV	5.47e-3	69.16826	165.79276	0.09999
6	5.379	VV	0.0135	202.31087	194.93631	0.29246
7	5.399	VV	0.0202	467.24200	283.71313	0.67545
8	5.436	VV	9.02e-3	137.94556	191.02638	0.19942
9	5.458	VV	0.0208	993.89874	596.20178	1.43680
10	5.505	VV	0.0159	1456.76318	1226.61926	2.10592
11	5.528	VV	0.0262	3493.62402	1683.17053	5.05044
12	5.593	VV	0.0268	1805.39453	848.14899	2.60991
13	5.647	VV	0.0228	2484.85229	1419.42053	3.59214
14	5.689	VV	0.0253	2339.79028	1225.82080	3.38244
15	5.714	VV	0.0327	3435.85498	1247.79675	4.96693
16	5.795	VV	0.0374	2866.73706	929.17670	4.14420
17	5.864	VV	0.0307	5457.14209	2155.88721	7.88894

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.932	VV	0.0329	2703.16309	987.21210	3.90774
19	5.991	VV	0.0337	2254.34814	800.27875	3.25892
20	6.036	VV	0.0335	4586.41406	1628.12329	6.63020
21	6.105	VV	8.75e-3	246.84384	470.07642	0.35684
22	6.114	VV	0.0171	688.74219	491.74243	0.99566
23	6.193	VV	0.0365	4251.05469	1406.79138	6.14540
24	6.235	VV	4.16e-3	92.99551	372.52289	0.13444
25	6.271	VV	0.0497	2921.77563	700.01862	4.22377
26	6.350	VV	0.0272	1150.17810	505.36652	1.66272
27	6.395	VV	0.0276	1235.82617	538.80182	1.78653
28	6.447	VV	0.0331	1749.96216	640.88202	2.52977
29	6.510	VV	0.0335	1789.99426	635.39410	2.58765
30	6.549	VV	0.0183	917.56854	604.43201	1.32645
31	6.581	VV	0.0285	1590.37292	669.29456	2.29907
32	6.648	VV	0.0303	1590.24341	624.05109	2.29888
33	6.713	VV	0.0248	3632.03906	2000.50842	5.25054
34	6.761	VV	6.83e-3	57.14054	114.44230	0.08260
35	6.784	VV	0.0194	253.66747	158.87961	0.36671
36	6.802	VB	5.40e-3	18.60602	47.19032	0.02690
37	6.873	PV	0.0300	1265.13879	505.76483	1.82891
38	6.914	VV	0.0127	267.95694	257.65918	0.38736
39	6.932	VV	0.0118	246.13577	256.87231	0.35582
40	6.984	VP	0.0304	1924.06763	747.98126	2.78146
41	7.063	VV	0.0217	403.92783	228.02737	0.58392
42	7.109	VV	0.0281	507.80331	215.47514	0.73409
43	7.142	VB	0.0234	304.32776	156.04738	0.43994
44	7.187	BB	9.28e-3	38.39553	52.80625	0.05551
45	7.229	PP	4.84e-3	6.24042	17.99982	0.00902
46	7.284	BV	0.0289	819.25702	340.34186	1.18433
47	7.318	VV	9.96e-3	148.07097	201.80032	0.21405
48	7.330	VB	7.44e-3	108.37174	184.86226	0.15666
49	7.343	BV	0.0259	434.42435	201.95766	0.62801
50	7.438	VV	0.0334	2166.81934	770.55756	3.13239
51	7.480	VV	0.0290	811.51880	333.05356	1.17315
52	7.543	VP	0.0107	107.38152	123.48277	0.15523
53	7.610	VV	0.0189	244.95908	157.89674	0.35412
54	7.617	VV	6.26e-3	73.74618	157.44197	0.10661
55	7.659	VV	0.0213	623.21082	354.89926	0.90092
56	7.665	VV	0.0204	593.35529	353.39810	0.85776
57	7.735	VV	0.0292	378.45587	154.35982	0.54710
58	7.754	VV	0.0102	103.02253	124.75244	0.14893
59	7.772	VV	8.08e-3	42.58125	66.42059	0.06156
60	7.790	VBA	4.80e-3	12.01647	31.89106	0.01737
Totals :				6.91746e4	3.21565e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

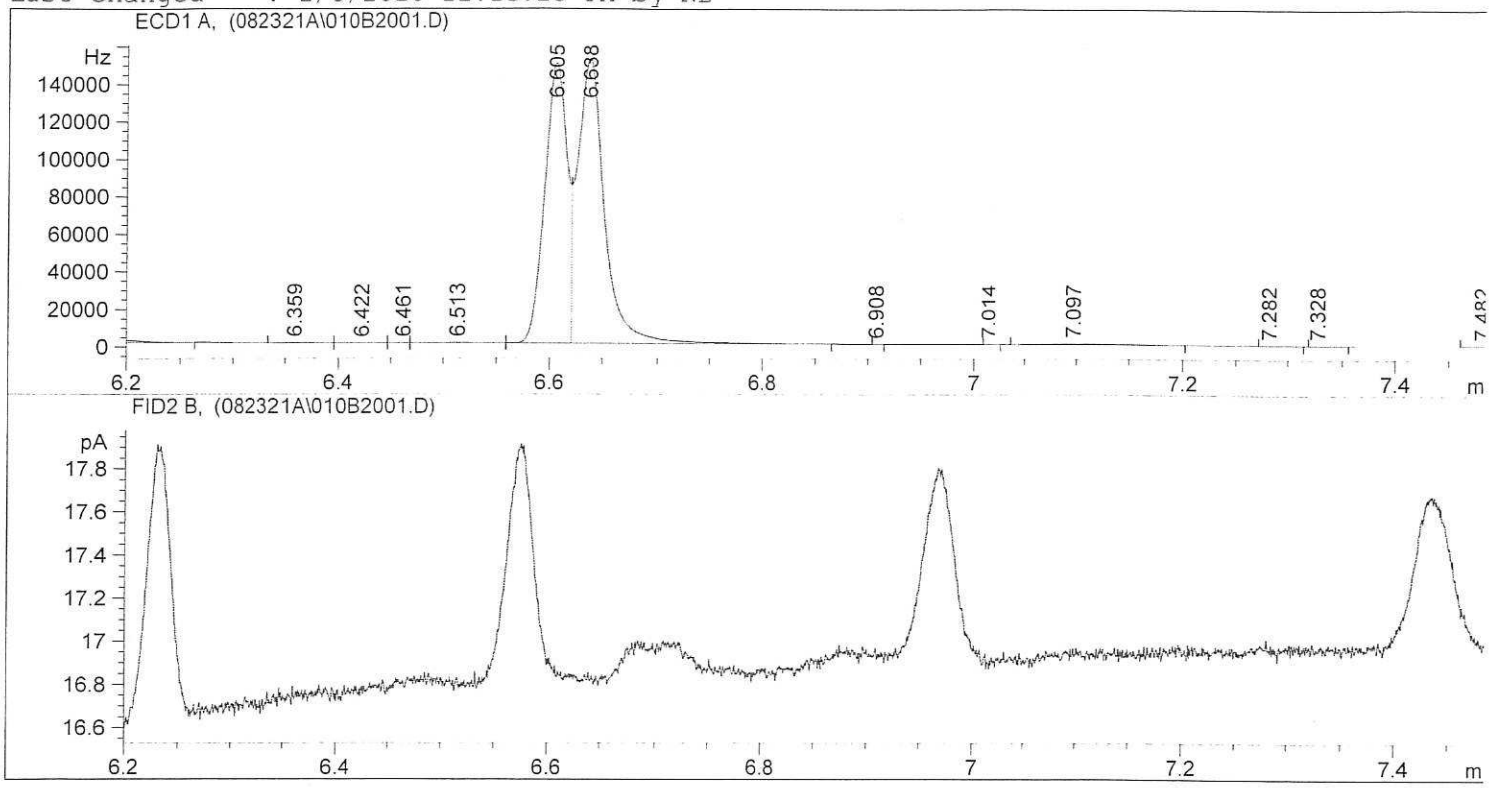
==========

*** End of Report ***

==========

Injection Date : 8/23/2021 6:52:23 PM Seq. Line : 20
Sample Name : CS4 STANDARD Location : Vial 10
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\082321A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



==========

Area Percent Report

==========

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.274	BP	9.93e-3	20.48735	29.38240	0.00106
2	5.326	VB	0.0183	188.66721	128.53477	0.00978
3	5.391	PP	0.0128	62.04951	58.54503	0.00322
4	5.466	BV S	0.0256	2.64653e5	1.43272e5	13.71647
5	5.565	VV S	0.0383	4.21908e5	1.83553e5	21.86669
6	5.623	VV S	0.0227	1.54251e5	1.13425e5	7.99452
7	5.669	VV S	0.0276	1.53449e5	9.28077e4	7.95297
8	5.824	VB S	0.0341	1023.36981	500.73782	0.05304
9	5.913	BV S	0.0200	1.55602e5	1.16106e5	8.06456
10	6.062	VV S	0.0204	1.40486e5	1.03816e5	7.28114
11	6.141	VB S	0.0262	1.46282e5	9.29904e4	7.58150
12	6.359	PV	0.0207	353.64255	209.94122	0.01833
13	6.422	VV	0.0229	222.16077	118.26600	0.01151
14	6.461	VV	0.0135	89.16703	84.60288	0.00462
15	6.513	VV	0.0404	679.95789	198.45934	0.03524
16	6.605	VV S	0.0210	2.15274e5	1.49139e5	11.15725
17	6.638	VB S	0.0299	2.71825e5	1.51671e5	14.08818

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.908	PB	2.31e-3	6.52651e-1	5.04636	3.383e-5
19	7.014	BP	6.49e-3	3.44316	8.83638	0.00018
20	7.097	PB	0.0479	1965.19348	490.72467	0.10185
21	7.282	PP	2.28e-3	1.24558	8.67550	6.456e-5
22	7.328	BP	0.0182	12.34835	11.31859	0.00064
23	7.482	BV	0.0104	13.12331	15.36418	0.00068
24	7.505	VB	9.21e-3	9.26239	12.85637	0.00048
25	7.638	PV	0.0300	1080.22180	438.12473	0.05599
Totals :				1.92946e6	1.14910e6	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========

*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dioxin Extraction Laboratory – Glasswa

Batch ID: BJH0203 Work Order: 2160211, 2160213, 2160283 Extraction Parameter: Dioxin ARI Analyst DB

ARI Sample ID	300 mL Flat Bottom	Small Soxhlet	Large Soxhlet	250 mL Beaker	Funnel	Column	Florisil Column	Turbo Tube	Sep Funnel	Erlenmeyer Flask	Centrifuge Bottle	Turbo-Vap	Vortex Mixer	Treating Minutes
BJH0203 - BLK1	60	51		067	12	161	10	72				4	4	A1
- BS1	04	89		02	88	72	166	26				4	4	A2
- DUP1	40	109		06	54	186	143	47				4	4	A3
- SRM1	31	94		11	70	143	137	18				4	4	A4
2160211 - 11C	25	111		188	14	57	113	49				4	4	A5
- 12C	03	62		260	92	21	131	22				4	4	A6
- 13C	80	69		30	44	194	101	67				4	4	B1
- 14C	07	46		18	68	220	158	15				4	4	B2
- 15C	11	107		243	69	210	4	57				4	4	B3
- 16C	68	02		201	37	96	17	4				4	4	B4
2160213 - 01C	87	105		231	07	217	110	69				4	4	B5
- 02C	77	57		14	72	227	3	23				4	4	B6
- 03C	73	56		256	08	223	86	83				4	4	C1
- 06C	18	106		16	75	172	161	62				4	4	C2
- 07C	06	77		33	51	203	44	37				4	4	C3
- 08C	82	113		257	89	185	116	75				4	4	C4
2160283 - 11C	70	67		15	38	170	164	36				4	4	C5
- 12C	53	103		19	83	17	119	84				4	4	C6
- 13C	51	83		177	87	299	2	1				4	4	D1
- 14C	9	107		194	49	228	14	8				4	4	D2
- 15C	23	46		216	46	121	89	11				4	4	D3
- 16C	44	110		259	90	222	81	14				4	4	D4
- 17C	15	104		34	45	199	17	71				4	4	D5
- 18C	16	91		199	11	175	104	37						D6

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJI0112	Cleanup Type:	Sulfuric Acid
Cleanup Method:	EPA 3665 Sulfuric Acid Cleanup - uL	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT663C	21G0213-07	21092048	09/13/2021	
LDW21-IT655C	21G0213-02	21092043	09/13/2021	
LDW21-IT655E	21G0213-03	21092046	09/13/2021	
Reference	BJH0203-SRM1	21092032	09/13/2021	
LCS	BJH0203-BS1	21092031	09/13/2021	
LDW21-IT663B	21G0213-06	21092047	09/13/2021	
LDW21-IT663E	21G0213-08	21092049	09/13/2021	
LDW21-IT655B	21G0213-01	21092042	09/13/2021	
Blank	BJH0203-BLK1	21092030	09/13/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJI0112

Matrix: Solid **Cleanup using: HRGCMS - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 9/15/2021 11:46:17AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0283-18	C	LDW21-IT650C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-17	C	LDW21-IT650B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-13	C	LDW21-IT664E	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-14	C	LDW21-IT670B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-15	C	LDW21-IT670C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-16	C	LDW21-IT670E	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0213-01	C	LDW21-IT655B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0213-02	C	LDW21-IT655C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0213-03	C	LDW21-IT655E	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0213-06	C	LDW21-IT663B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0213-07	C	LDW21-IT663C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0213-08	C	LDW21-IT663E	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-11	C	LDW21-IT664B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0283-12	C	LDW21-IT664C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0211-11	C	LDW21-IT665B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0211-12	C	LDW21-IT665C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0211-13	C	LDW21-IT665E	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0211-14	C	LDW21-IT666B	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0211-15	C	LDW21-IT666C	C 01	20	20	1613B Dioxin	9/13/2021	VB	
21G0211-16	C	LDW21-IT666E	C 01	20	20	1613B Dioxin	9/13/2021	VB	
BJH0203-SRM1	-	Reference	-	20	20	-	9/13/2021	VB	
BJH0203-DUP1	-	Duplicate	-	20	20	-	9/13/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJI0112

Matrix: Solid **Cleanup using: HRGCMS - EPA 3665 Sulfuric Acid Cleanup - uL** **Printed: 9/15/2021 11:46:17AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BJH0203-BLK1	-	Blank	-	20	20	-	9/13/2021	VB	
BJH0203-BS1	-	LCS	-	20	20	-	9/13/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJI0113	Cleanup Type:	Silica Gel
Cleanup Method:	EPA 3630C Silica Gel Cleanup	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT663B	21G0213-06	21092047	09/14/2021	
LDW21-IT663C	21G0213-07	21092048	09/14/2021	
LDW21-IT663E	21G0213-08	21092049	09/14/2021	
LDW21-IT655C	21G0213-02	21092043	09/14/2021	
LDW21-IT655B	21G0213-01	21092042	09/14/2021	
LDW21-IT655E	21G0213-03	21092046	09/14/2021	
Reference	BJH0203-SRM1	21092032	09/14/2021	
LCS	BJH0203-BS1	21092031	09/14/2021	
Blank	BJH0203-BLK1	21092030	09/14/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJI0113

Matrix: Solid **Cleanup using: HRGCMS - EPA 3630C Silica Gel Cleanup** **Printed: 9/15/2021 11:46:29AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0283-18	C	LDW21-IT650C	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-17	C	LDW21-IT650B	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-13	C	LDW21-IT664E	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-14	C	LDW21-IT670B	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-15	C	LDW21-IT670C	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-16	C	LDW21-IT670E	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0213-01	C	LDW21-IT655B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-02	C	LDW21-IT655C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-03	C	LDW21-IT655E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-06	C	LDW21-IT663B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-07	C	LDW21-IT663C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-08	C	LDW21-IT663E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0283-11	C	LDW21-IT664B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0283-12	C	LDW21-IT664C	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0211-11	C	LDW21-IT665B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-12	C	LDW21-IT665C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-13	C	LDW21-IT665E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-14	C	LDW21-IT666B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-15	C	LDW21-IT666C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-16	C	LDW21-IT666E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
BJH0203-SRM1	-	Reference	-	20	20	-	9/14/2021	VB	
BJH0203-DUP1	-	Duplicate	-	20	20	-	9/14/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJI0113

Matrix: Solid **Cleanup using: HRGCMS - EPA 3630C Silica Gel Cleanup** **Printed: 9/15/2021 11:46:29AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BJH0203-BLK1	-	Blank	-	20	20	-	9/14/2021	VB	
BJH0203-BS1	-	LCS	-	20	20	-	9/14/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJI0114	Cleanup Type:	Florisil
Cleanup Method:	EPA 3620B Florisil Cleanup (uL)	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-IT655B	21G0213-01	21092042	09/14/2021	
LCS	BJH0203-BS1	21092031	09/14/2021	
Blank	BJH0203-BLK1	21092030	09/14/2021	
LDW21-IT663E	21G0213-08	21092049	09/14/2021	
LDW21-IT663C	21G0213-07	21092048	09/14/2021	
LDW21-IT663B	21G0213-06	21092047	09/14/2021	
Reference	BJH0203-SRM1	21092032	09/14/2021	
LDW21-IT655C	21G0213-02	21092043	09/14/2021	
LDW21-IT655E	21G0213-03	21092046	09/14/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJI0114

Matrix: Solid **Cleanup using: HRGCMS - EPA 3620B Florisil Cleanup (uL)** **Printed: 9/15/2021 11:46:45AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0283-18	C	LDW21-IT650C	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-17	C	LDW21-IT650B	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-13	C	LDW21-IT664E	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-14	C	LDW21-IT670B	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-15	C	LDW21-IT670C	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0283-16	C	LDW21-IT670E	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0213-01	C	LDW21-IT655B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-02	C	LDW21-IT655C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-03	C	LDW21-IT655E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-06	C	LDW21-IT663B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-07	C	LDW21-IT663C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0213-08	C	LDW21-IT663E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0283-11	C	LDW21-IT664B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0283-12	C	LDW21-IT664C	C 01	20	20	1613B Dioxin	9/15/2021	VB	
21G0211-11	C	LDW21-IT665B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-12	C	LDW21-IT665C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-13	C	LDW21-IT665E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-14	C	LDW21-IT666B	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-15	C	LDW21-IT666C	C 01	20	20	1613B Dioxin	9/14/2021	VB	
21G0211-16	C	LDW21-IT666E	C 01	20	20	1613B Dioxin	9/14/2021	VB	
BJH0203-SRM1	-	Reference	-	20	20	-	9/14/2021	VB	
BJH0203-DUP1	-	Duplicate	-	20	20	-	9/14/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJI0114

Matrix: Solid **Cleanup using: HRGCMS - EPA 3620B Florisil Cleanup (uL)** **Printed: 9/15/2021 11:46:45AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (uL)	Final (uL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
BJH0203-BLK1	-	Blank	-	20	20	-	9/14/2021	VB	
BJH0203-BS1	-	LCS	-	20	20	-	9/14/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Blank

Form 1
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0203-BLK1	File ID:	21092030
Sampled:	N/A	Prepared:	09/09/21 15:30	Analyzed:	09/21/21 16:21
Solids Wt%:		Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

CAS NO.	COMPOUND	DF/Split	Ion Ratio	Ratio Limits	EDL	RL	Result	Units	Q
51207-31-9	2,3,7,8-TCDF	1	0.000	0.655-0.886	0.071	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.000	0.655-0.886	0.095	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1	0.000	1.318-1.783	0.089	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	0.000	1.318-1.783	0.084	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1	0.000	1.318-1.783	0.110	1.00	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	0.000	1.054-1.426	0.080	1.00	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.000	1.054-1.426	0.076	1.00	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.000	1.054-1.426	0.080	1.00	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	0.000	1.054-1.426	0.097	1.00	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	0.000	1.054-1.426	0.093	1.00	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.000	1.054-1.426	0.094	1.00	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.000	1.054-1.426	0.100	1.00	ND	ng/kg	U
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	0.000	0.893-1.208	0.085	1.00	ND	ng/kg	U
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.000	0.893-1.208	0.128	1.00	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.985	0.893-1.208	0.187	2.50	0.247	ng/kg	EMPC, J
39001-02-0	OCDF	1	0.000	0.757-1.024	0.186	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.844	0.757-1.024	0.208	10.0	4.03	ng/kg	J

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	ND	ng/kg
41903-57-5	Total TCDD	1	0.000			1.00	ND	ng/kg
30402-15-4	Total PeCDF	1	0.000			1.00	ND	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	ND	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	ND	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	ND	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	ND	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	0.266	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.004
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.156

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Blank

Form 2
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21G0213
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0203-BLK1	File ID:	21092030
Sampled:	N/A	Prepared:	09/09/21 15:30	Analyzed:	09/21/21 16:21
Solids Wt%:	0.00	Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SJI0282	Calibration:	EH00030
Batch:	BJH0203	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF	1	0.795	0.655-0.886	0.14	81.1	24 - 169 %	
13C12-2,3,7,8-TCDD	1	0.771	0.655-0.886	0.15	95.7	25 - 164 %	
13C12-1,2,3,7,8-PeCDF	1	1.608	1.318-1.783	0.12	75.5	24 - 185 %	
13C12-2,3,4,7,8-PeCDF	1	1.622	1.318-1.783	0.13	74.2	21 - 178 %	
13C12-1,2,3,7,8-PeCDD	1	1.605	1.318-1.783	0.13	81.5	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF	1	0.520	0.434-0.587	0.22	89.7	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF	1	0.514	0.434-0.587	0.21	84.6	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF	1	0.526	0.434-0.587	0.23	86.7	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF	1	0.535	0.434-0.587	0.27	86.7	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD	1	1.279	1.054-1.426	0.17	95.1	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD	1	1.303	1.054-1.426	0.15	88.9	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF	1	0.462	0.374-0.506	0.19	74.4	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF	1	0.465	0.374-0.506	0.23	71.4	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD	1	1.031	0.893-1.208	0.19	85.6	23 - 140 %	
13C12-OCDD	1	0.872	0.757-1.024	0.34	81.6	17 - 157 %	
37Cl4-2,3,7,8-TCDD	1	328.000		0.06	93.9	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF					1.108		0.770	634	809								
12378-PeCDF					1.015		1.550	631	819								
23478-PeCDF					1.126		1.550	631	819								
123478-HxCDF					1.017		1.240	594	705								
234678-HxCDF					1.052		1.240	594	705								
123678-HxCDF					1.037		1.240	594	705								
123789-HxCDF					1.030		1.240	594	705								
1234678-HpCDF					1.327		1.050	624	497								
1234789-HpCDF					1.283		1.050	624	497								
OCDF					1.447		0.890	493	662								
2378-TCDD					0.920		0.770	903	660								
12378-PeCDD					0.995		1.550	601	510								
123478-HxCDD					1.027		1.240	613	664								
123678-HxCDD					1.009		1.240	613	664								
123789-HxCDD					0.950		1.240	613	664								
1234678-HpCDD	40.292	1.001	2.582e2	1.300e2	1.068	1.985	1.050	648	783	3.18e3	3.04e3	4.9	3.9	YES	bb	bb	0.124
OCDD	45.032	1.000	2.435e3	2.884e3	1.181	0.844	0.890	517	538	3.05e4	3.58e4	58.9	66.5	NO	bb	bb	2.017
13C-2378-TCDF	25.761	1.008	3.374e5	4.243e5	1.427	0.795	0.770	2209	1311	4.88e6	6.20e6	2210.4	4727.0	NO	bb	bb	81.065
13C-12378-PeCDF	29.920	1.170	3.979e5	2.474e5	1.297	1.608	1.550	1251	1413	5.94e6	3.67e6	4750.1	2598.4	NO	bb	bb	75.518
13C-23478-PeCDF	31.257	1.223	3.739e5	2.305e5	1.236	1.622	1.550	1251	1413	5.66e6	3.50e6	4528.3	2479.9	NO	bb	bb	74.213
13C-123478-HxCDF	34.878	0.955	2.072e5	3.984e5	1.242	0.520	0.510	1306	2722	3.26e6	6.24e6	2499.9	2290.4	NO	bd	bd	89.738
13C-123678-HxCDF	35.023	0.959	2.095e5	4.076e5	1.343	0.514	0.510	1306	2722	3.35e6	6.53e6	2568.1	2400.4	NO	db	db	84.566
13C-234678-HxCDF	35.892	0.983	1.971e5	3.750e5	1.215	0.526	0.510	1306	2722	3.20e6	6.17e6	2449.2	2266.9	NO	bb	bb	86.692
13C-123789-HxCDF	36.928	1.012	1.655e5	3.092e5	1.008	0.535	0.510	1306	2722	2.71e6	5.13e6	2073.3	1883.8	NO	bb	bb	86.728
13C-1234678-HpCDF	38.766	1.062	1.184e5	2.563e5	0.926	0.462	0.440	1144	1379	1.88e6	4.01e6	1641.1	2909.2	NO	bd	bd	74.448
13C-1234789-HpCDF	41.017	1.124	9.330e4	2.008e5	0.758	0.465	0.440	1144	1379	1.30e6	2.76e6	1140.4	2003.4	NO	bd	bd	71.426
13C-1234-TCDD	25.564	0.000	2.842e5	3.744e5	1.000	0.759	0.770	1869	965	4.43e6	5.80e6	2368.4	6010.9	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.032	3.065e5	3.973e5	1.116	0.771	0.770	1869	965	4.67e6	6.02e6	2501.5	6244.1	NO	bb	bb	95.705
13C-12378-PeCDD	31.502	1.232	2.421e5	1.509e5	0.732	1.605	1.550	941	703	3.76e6	2.30e6	3996.8	3280.3	NO	bb	bb	81.528
13C-123478-HxCDD	35.992	0.986	2.782e5	2.176e5	0.960	1.279	1.240	1497	852	4.49e6	3.56e6	2997.0	4183.5	NO	bd	bd	95.094
13C-123678-HxCDD	36.115	0.989	2.845e5	2.184e5	1.041	1.303	1.240	1497	852	4.58e6	3.52e6	3061.7	4130.9	NO	db	db	88.914
13C-1234678-HpCDD	40.270	1.103	1.492e5	1.448e5	0.632	1.031	1.050	897	865	2.18e6	2.13e6	2431.5	2463.1	NO	bb	bb	85.581
13C-OCDD	45.022	1.233	2.080e5	2.386e5	0.504	0.872	0.890	1260	1208	2.40e6	2.72e6	1907.3	2249.2	NO	bb	bb	163.199
13C-123789-HxCDD	36.505	0.000	3.026e5	2.406e5	1.000	1.258	1.240	1497	852	4.88e6	3.83e6	3261.2	4500.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	2.682e5		1.084			1060		3.82e6		3602.9			bb		37.573

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					1.425		0.770	634	809								
1289-TCDF					1.043		0.770	634	809								
13468-PECDF					1.376		1.550	508	780								
12389-PECDF					1.000		1.550	631	819								
123468-HXCDF					1.087		1.240	594	705								
1368-TCDD					0.923		0.770	903	660								
1289-TCDD					0.794		0.770	903	660								
12479-PECDD					1.843		1.550	601	510								
12389-PECDD					1.154		1.550	601	510								
124679-HXCDD					1.125		1.240	613	664								
1234679-HPCDD	39.223	0.974	2.273e2	2.456e2	1.211	0.926	1.050	648	783	4.19e3	4.48e3	6.5	5.7	NO	bb	bb	0.133
Total-tetrafurans			0.000e0		1.192			634		0.00e0							
Total-penta1			0.000e0					508		0.00e0							
Total-pentafurans			0.000e0		1.047			631		0.00e0							
Total-hexafurans			0.000e0		1.045			594		0.00e0							
Total-heptafurans			0.000e0		1.305			624		0.00e0							
Total-Furans			0.000e0		1.158			634		0.00e0							
Total-tetradioxins			0.000e0		0.879			903		0.00e0							
Total-pentadioxins			0.000e0		1.331			601		0.00e0							
Total-hexadioxins			0.000e0		1.028			613		0.00e0							
Total-heptadioxins			2.273e2		1.140			648		4.19e3							0.133
Total-Dioxins			2.662e3		1.092			903		3.46e4							2.150
Total-TEQ			2.662e3					903		3.46e4							2.150
FUNCTION1 PFK			5.339e5					456309		8.98e6							
FUNCTION2 PFK			1.127e6					378357		1.88e7							0.000
FUNCTION3 PFK			2.662e5					492960		3.02e6							0.000
FUNCTION4 PFK			1.753e6					207390		2.24e7							
FUNCTION5 PFK			7.339e4					169574		2.79e6							
FUNCTION1 HXCD...			3.857e2					584		5.60e3							0.000
FUNCTION1 HPCD...			2.583e3					714		3.36e4							0.000
FUNCTION2 HPCD...			1.594e2					890		3.49e3							0.000
FUNCTION3 OCDPE			3.230e2					487		4.86e3							0.000
FUNCTION4 NCDPE			0.000e0					608		0.00e0							
FUNCTION5 DCDPE			0.000e0					549		0.00e0							

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.22	2.273e2	2.456e2	1.211	0.93	1.05	6.5	YES	NO	bb	bb	0.133

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	OCDD	45.03	2.435e3	2.884e3	1.181	0.84	0.89	58.9	YES	NO	bb	bb	2.017
2	1234679-HPCDD	39.22	2.273e2	2.456e2	1.211	0.93	1.05	6.5	YES	NO	bb	bb	0.133

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	24.23	1.638e5					7.1	YES		bd		
2	FUNCTION1 PFK	21.13	4.259e4					2.5	NO		bb		
3	FUNCTION1 PFK	27.45	9.726e4					2.9	NO		bb		
4	FUNCTION1 PFK	24.26	2.302e5					7.2	YES		db		

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.13	1.844e4					2.1	NO		bb		0.000
2	FUNCTION2 PFK	30.00	9.565e3					1.1	NO		db		0.000
3	FUNCTION2 PFK	29.95	8.538e3					1.0	NO		bd		0.000
4	FUNCTION2 PFK	29.91	2.208e3					0.5	NO		bb		0.000
5	FUNCTION2 PFK	29.63	1.881e4					1.8	NO		bb		0.000
6	FUNCTION2 PFK	29.55	1.104e5					3.2	YES		bb		0.000
7	FUNCTION2 PFK	29.39	6.109e3					0.6	NO		bb		0.000
8	FUNCTION2 PFK	29.21	2.197e4					1.5	NO		bb		0.000
9	FUNCTION2 PFK	28.73	5.441e4					3.3	YES		bb		0.000
10	FUNCTION2 PFK	28.46	3.746e4					2.3	NO		db		0.000
11	FUNCTION2 PFK	28.42	4.299e4					3.0	YES		dd		0.000
12	FUNCTION2 PFK	28.33	1.593e5					4.5	YES		dd		0.000
13	FUNCTION2 PFK	28.19	3.107e5					6.9	YES		bd		0.000
14	FUNCTION2 PFK	32.88	1.394e4					1.4	NO		bb		0.000
15	FUNCTION2 PFK	32.83	2.492e4					2.0	NO		db		0.000
16	FUNCTION2 PFK	32.76	9.539e4					2.5	NO		bd		0.000
17	FUNCTION2 PFK	32.06	4.045e3					0.6	NO		bb		0.000
18	FUNCTION2 PFK	31.40	4.276e4					1.4	NO		db		0.000
19	FUNCTION2 PFK	31.32	1.385e4					1.3	NO		bd		0.000
20	FUNCTION2 PFK	31.22	3.082e4					1.2	NO		bb		0.000
21	FUNCTION2 PFK	31.08	4.570e3					0.6	NO		bb		0.000
22	FUNCTION2 PFK	30.80	9.630e3					0.6	NO		bb		0.000
23	FUNCTION2 PFK	30.74	8.220e3					0.9	NO		bb		0.000
24	FUNCTION2 PFK	30.66	1.779e3					0.4	NO		bb		0.000
25	FUNCTION2 PFK	30.50	2.862e4					1.7	NO		db		0.000
26	FUNCTION2 PFK	30.44	3.509e4					1.9	NO		bd		0.000
27	FUNCTION2 PFK	30.34	7.438e3					0.9	NO		bb		0.000
28	FUNCTION2 PFK	30.30	4.995e3					0.7	NO		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.32	2.444e4					1.6	NO		bb		0.000
2	FUNCTION3 PFK	33.59	1.273e5					1.8	NO		bb		0.000
3	FUNCTION3 PFK	33.41	1.145e5					2.7	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.45	6.529e3					1.4	NO		db		
2	FUNCTION4 PFK	39.33	4.089e4					2.5	NO		bd		
3	FUNCTION4 PFK	39.25	7.226e3					0.6	NO		bb		
4	FUNCTION4 PFK	39.18	8.654e2					0.4	NO		bb		
5	FUNCTION4 PFK	38.98	7.152e3					1.5	NO		db		
6	FUNCTION4 PFK	38.93	2.621e4					2.3	NO		bd		
7	FUNCTION4 PFK	38.86	7.120e3					1.7	NO		bb		
8	FUNCTION4 PFK	38.58	2.438e3					0.8	NO		db		
9	FUNCTION4 PFK	38.54	5.308e3					0.9	NO		bd		
10	FUNCTION4 PFK	38.20	7.033e5					13.1	YES		db		
11	FUNCTION4 PFK	38.04	1.715e5					20.0	YES		dd		
12	FUNCTION4 PFK	37.96	4.113e5					23.7	YES		bd		
13	FUNCTION4 PFK	41.57	3.344e4					2.1	NO		bd		
14	FUNCTION4 PFK	41.46	3.289e4					2.7	NO		db		
15	FUNCTION4 PFK	41.37	3.599e3					0.8	NO		bd		
16	FUNCTION4 PFK	41.25	1.447e4					1.6	NO		bb		
17	FUNCTION4 PFK	41.09	1.172e4					1.8	NO		bb		
18	FUNCTION4 PFK	41.04	9.268e3					1.8	NO		db		
19	FUNCTION4 PFK	41.01	1.234e4					1.7	NO		bd		
20	FUNCTION4 PFK	40.76	6.554e3					1.1	NO		bb		
21	FUNCTION4 PFK	40.66	6.960e3					1.2	NO		db		
22	FUNCTION4 PFK	40.55	2.361e4					2.1	NO		bd		
23	FUNCTION4 PFK	40.38	1.530e4					2.2	NO		db		
24	FUNCTION4 PFK	40.35	4.415e4					2.9	NO		bd		
25	FUNCTION4 PFK	40.19	4.779e4					2.3	NO		bb		
26	FUNCTION4 PFK	39.94	2.982e3					0.9	NO		bb		
27	FUNCTION4 PFK	39.85	5.377e3					1.1	NO		bb		
28	FUNCTION4 PFK	39.66	2.795e4					2.5	NO		bb		
29	FUNCTION4 PFK	43.00	5.156e3					0.0	NO		bb		
30	FUNCTION4 PFK	42.70	6.223e3					1.0	NO		bb		
31	FUNCTION4 PFK	42.63	1.376e4					2.2	NO		db		
32	FUNCTION4 PFK	42.60	6.418e3					1.4	NO		bd		
33	FUNCTION4 PFK	42.34	5.776e3					1.2	NO		bb		
34	FUNCTION4 PFK	42.19	9.902e3					1.2	NO		bb		
35	FUNCTION4 PFK	41.96	2.697e3					0.5	NO		bb		
36	FUNCTION4 PFK	41.92	3.946e3					1.0	NO		bb		
37	FUNCTION4 PFK	41.66	1.044e4					1.6	NO		db		

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.41	4.919e3					1.4	NO		bb		
2	FUNCTION5 PFK	43.81	9.157e3					1.8	NO		bb		
3	FUNCTION5 PFK	43.35	7.328e3					1.2	NO		bb		
4	FUNCTION5 PFK	43.27	1.118e4					1.8	NO		db		
5	FUNCTION5 PFK	43.21	1.316e4					2.1	NO		dd		
6	FUNCTION5 PFK	43.14	5.525e3					1.4	NO		bd		
7	FUNCTION5 PFK	45.97	1.389e3					0.6	NO		bb		
8	FUNCTION5 PFK	45.93	2.628e3					0.8	NO		bb		
9	FUNCTION5 PFK	45.81	6.147e3					1.8	NO		bb		
10	FUNCTION5 PFK	45.76	2.940e3					1.0	NO		bb		
11	FUNCTION5 PFK	45.51	6.842e2					0.4	NO		bb		
12	FUNCTION5 PFK	44.89	6.632e2					0.4	NO		bb		
13	FUNCTION5 PFK	44.72	7.666e3					1.7	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.74	8.168e1					2.2	NO		bb		0.000
2	FUNCTION1 HXCD...	26.64	8.149e1					1.7	NO		bb		0.000
3	FUNCTION1 HXCD...	24.42	7.690e1					1.9	NO		bb		0.000
4	FUNCTION1 HXCD...	23.52	7.109e1					2.2	NO		bb		0.000
5	FUNCTION1 HXCD...	22.81	7.450e1					1.6	NO		bb		0.000

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	21.19	1.542e2					3.2	YES		dd		0.000
2	FUNCTION1 HPCD...	21.13	9.637e1					2.3	NO		bd		0.000
3	FUNCTION1 HPCD...	27.95	8.410e1					1.7	NO		db		0.000
4	FUNCTION1 HPCD...	27.77	1.085e2					1.7	NO		bd		0.000
5	FUNCTION1 HPCD...	27.26	8.192e1					1.8	NO		db		0.000
6	FUNCTION1 HPCD...	27.05	1.051e2					2.2	NO		bd		0.000
7	FUNCTION1 HPCD...	26.85	1.007e2					2.1	NO		bb		0.000
8	FUNCTION1 HPCD...	24.75	1.236e2					2.3	NO		db		0.000
9	FUNCTION1 HPCD...	24.63	1.959e2					3.3	YES		bd		0.000
10	FUNCTION1 HPCD...	22.36	7.031e1					2.1	NO		bb		0.000
11	FUNCTION1 HPCD...	21.98	1.570e2					2.4	NO		db		0.000
12	FUNCTION1 HPCD...	21.77	1.860e2					3.4	YES		dd		0.000
13	FUNCTION1 HPCD...	21.68	1.567e2					3.4	YES		dd		0.000
14	FUNCTION1 HPCD...	21.62	2.154e2					3.7	YES		dd		0.000
15	FUNCTION1 HPCD...	21.45	4.250e2					4.2	YES		dd		0.000
16	FUNCTION1 HPCD...	21.39	1.148e2					3.7	YES		dd		0.000
17	FUNCTION1 HPCD...	21.35	2.070e2					3.5	YES		dd		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.54	7.207e1					2.1	NO		bb		0.000
2	FUNCTION2 HPCD...	29.13	8.735e1					1.8	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.50	9.645e1					3.2	YES		bb		0.000
2	FUNCTION3 OCDPE	34.87	7.423e1					2.3	NO		db		0.000
3	FUNCTION3 OCDPE	34.81	7.833e1					2.9	NO		bd		0.000
4	FUNCTION3 OCDPE	34.12	7.397e1					1.5	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

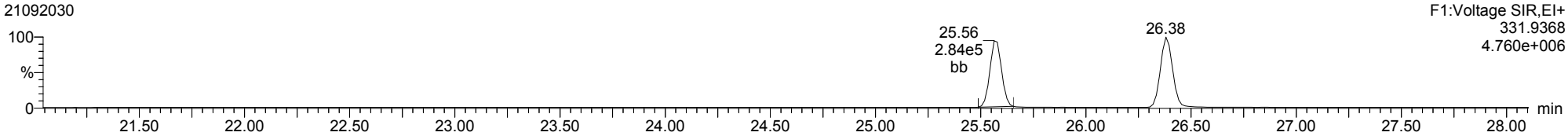
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

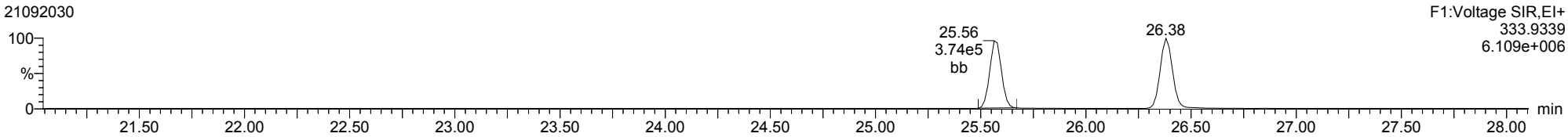
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

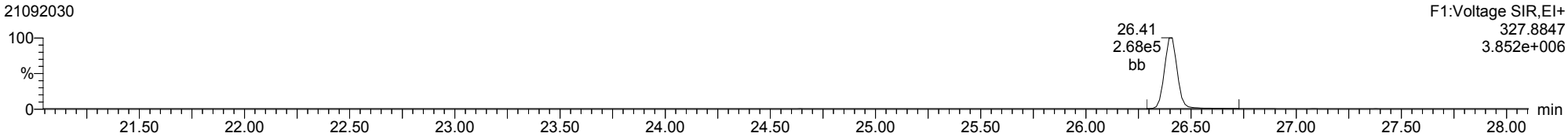
13C-1234-TCDD



13C-1234-TCDD

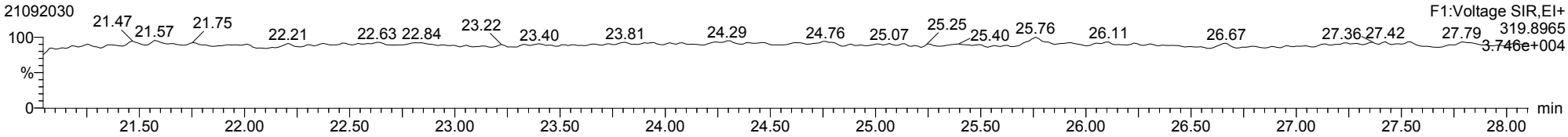


37CL-2378-TCDD

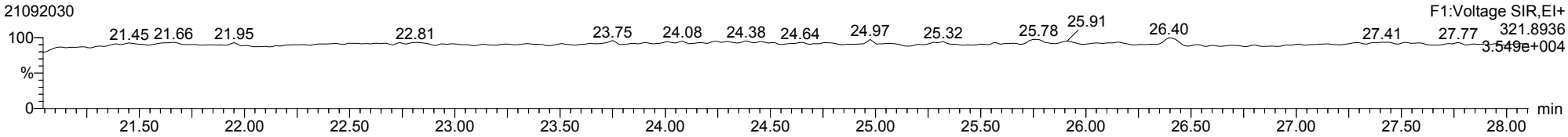


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

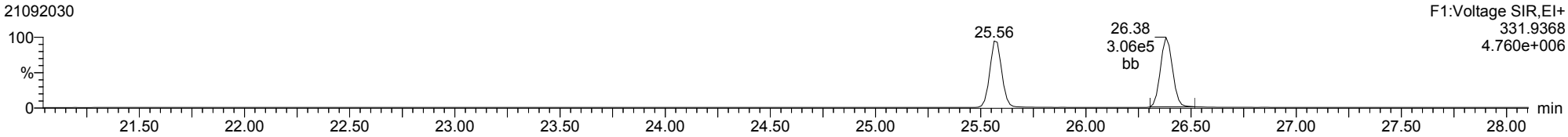
2378-TCDD



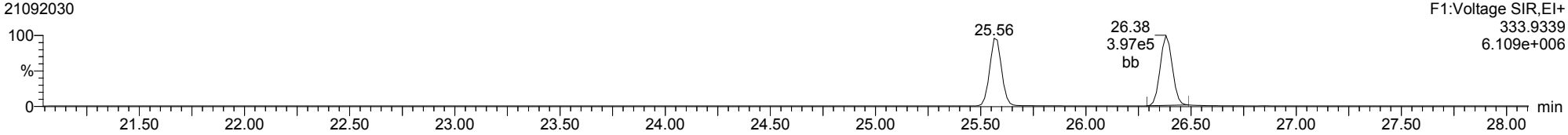
2378-TCDD



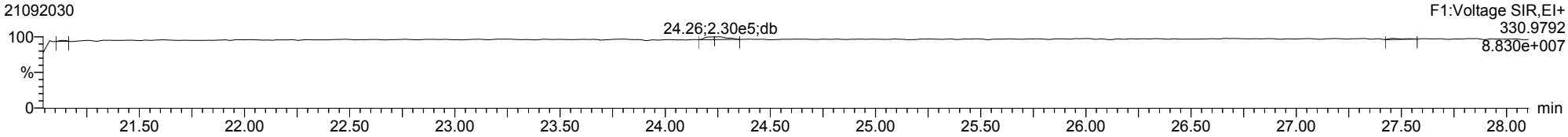
13C-2378-TCDD



13C-2378-TCDD



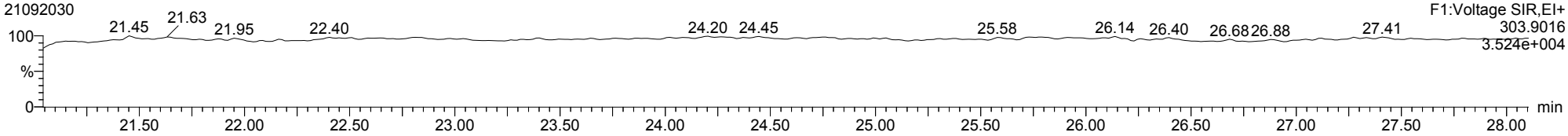
FUNCTION1 PFK



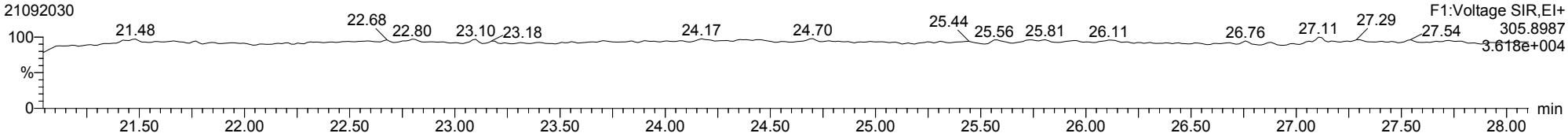
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

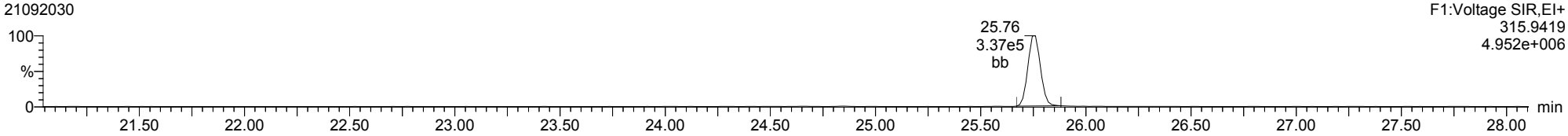
2378-TCDF



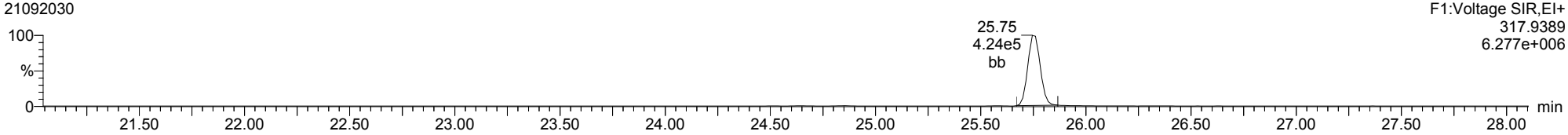
2378-TCDF



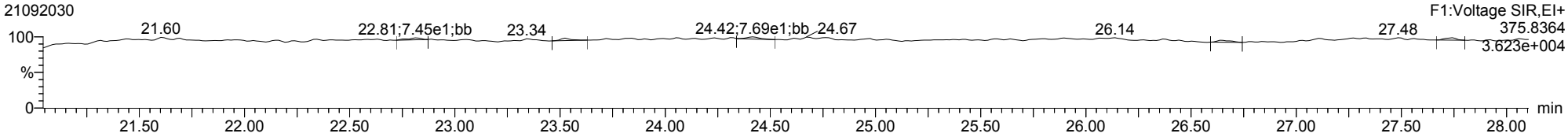
13C-2378-TCDF



13C-2378-TCDF

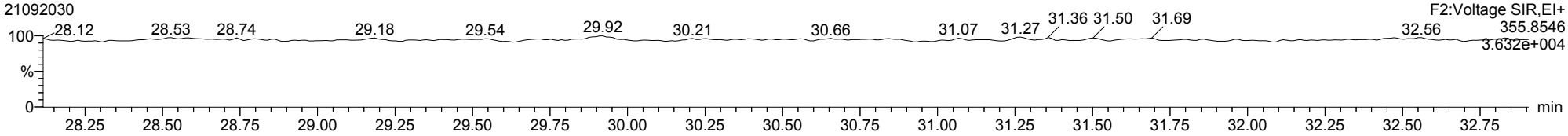


FUNCTION1 HXCDPE

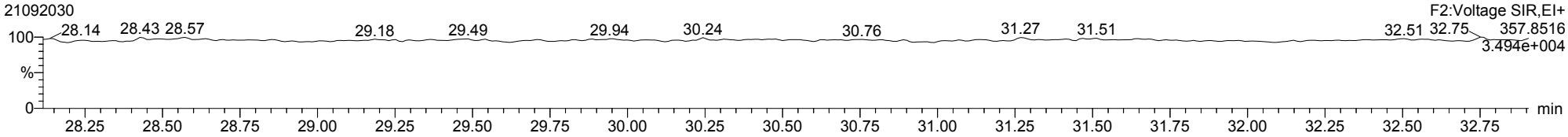


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

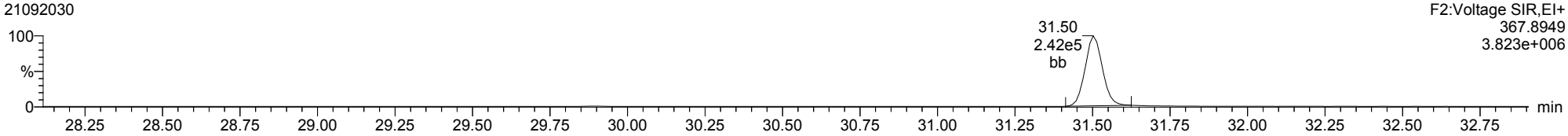
12378-PeCDD



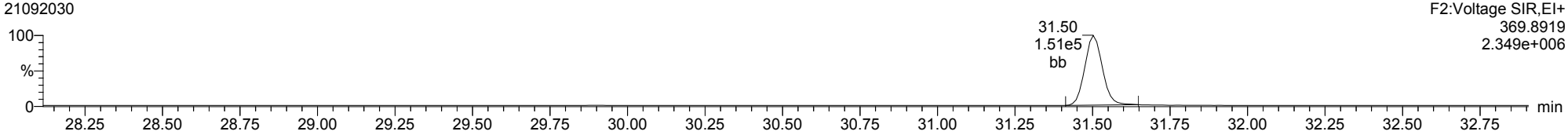
12378-PeCDD



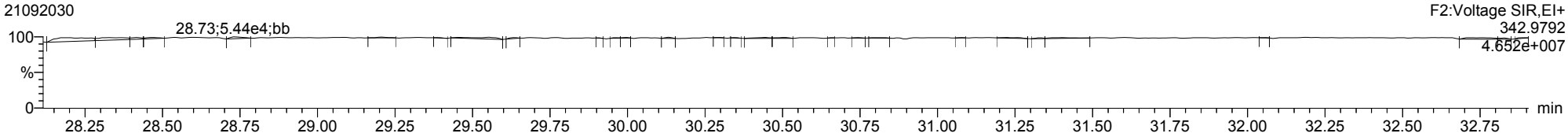
13C-12378-PeCDD



13C-12378-PeCDD

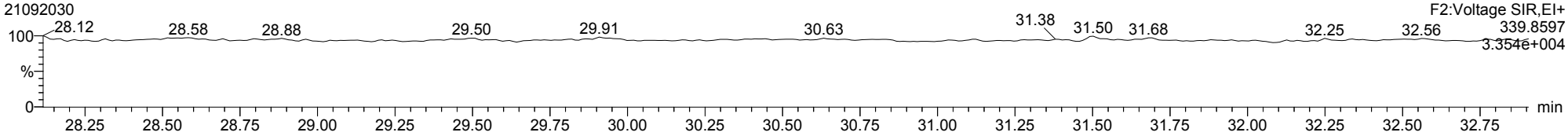


FUNCTION2 PFK

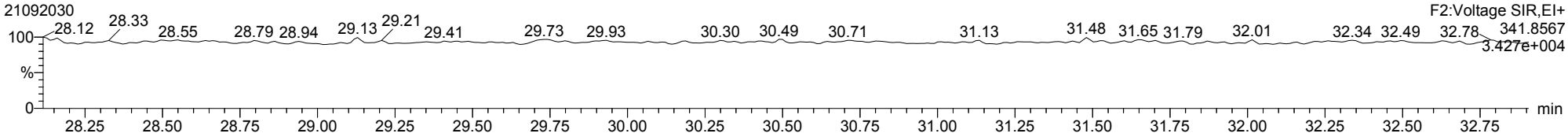


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

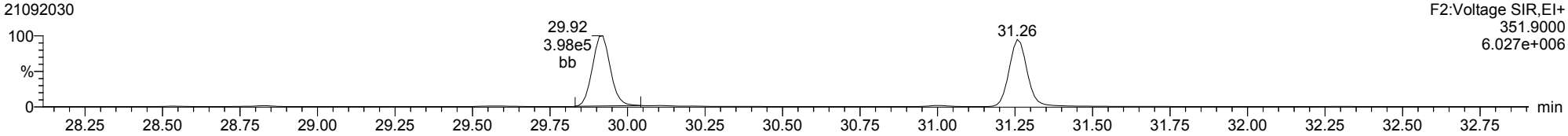
12378-PeCDF



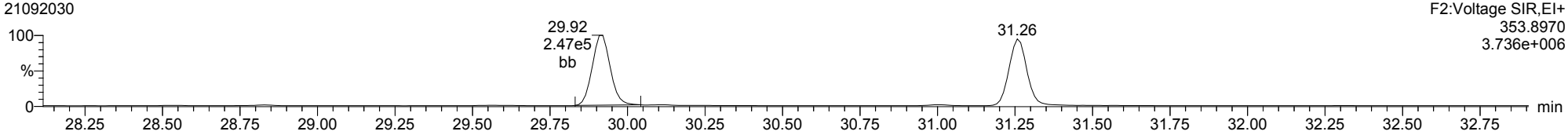
12378-PeCDF



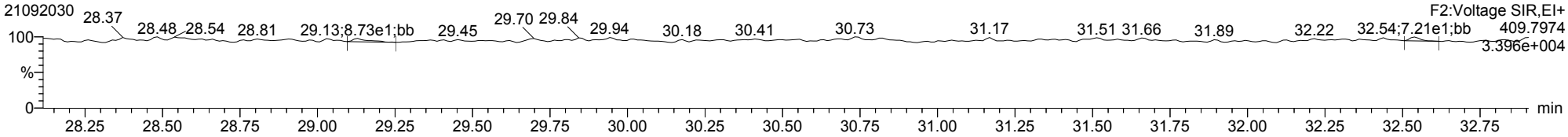
13C-12378-PeCDF



13C-12378-PeCDF

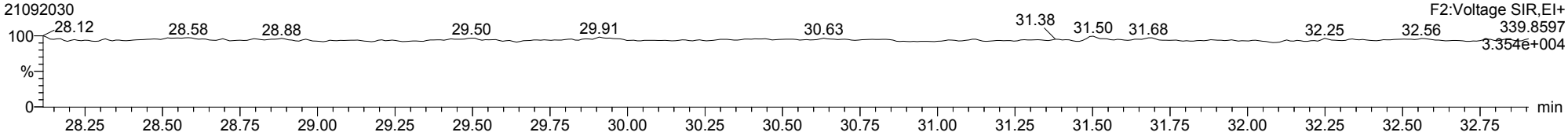


FUNCTION2 HPCDPE

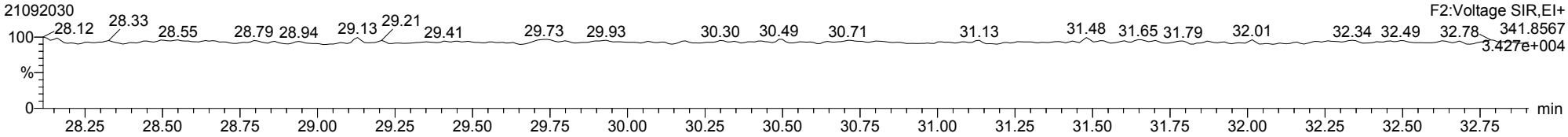


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

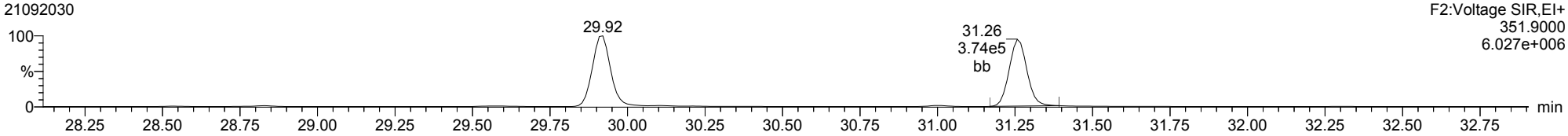
23478-PeCDF



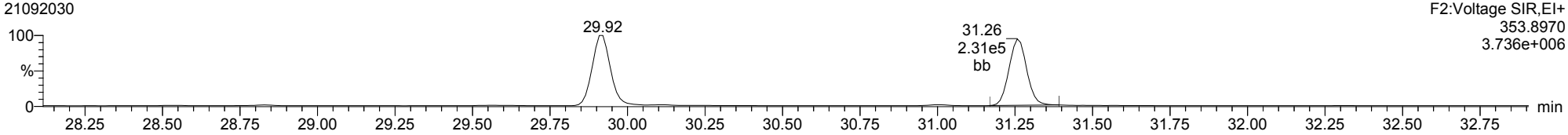
23478-PeCDF



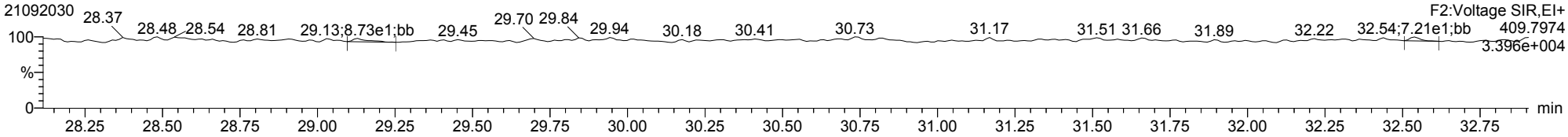
13C-23478-PeCDF



13C-23478-PeCDF

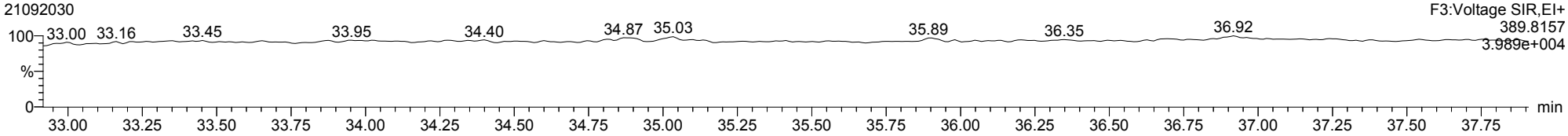


FUNCTION2 HPCDPE

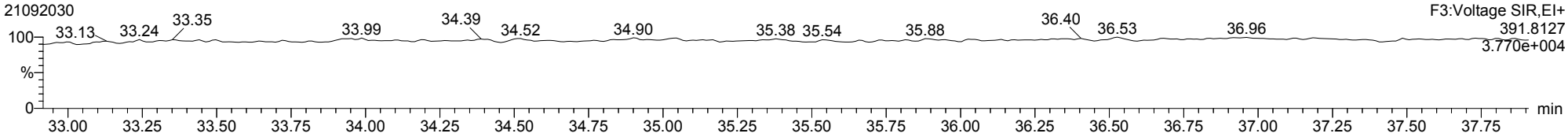


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

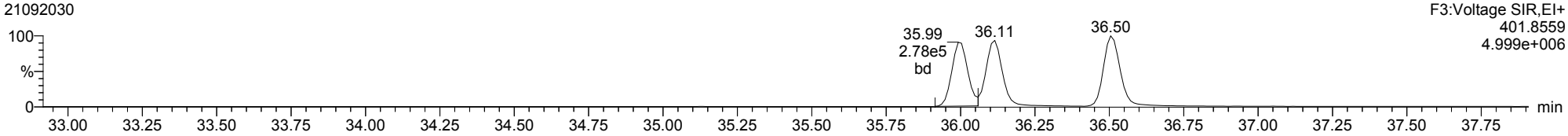
123478-HxCDD



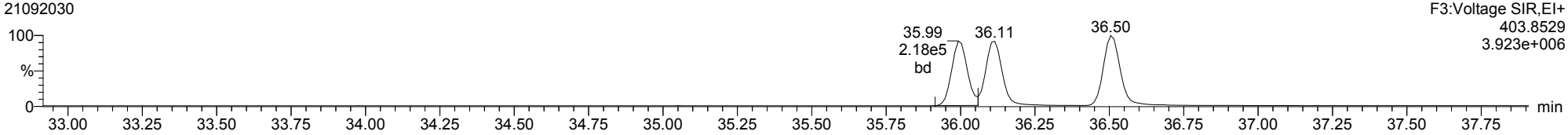
123478-HxCDD



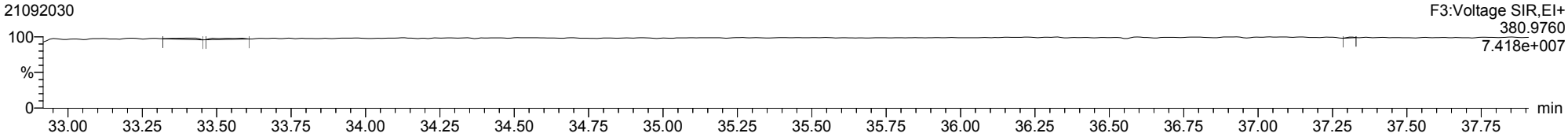
13C-123478-HxCDD



13C-123478-HxCDD

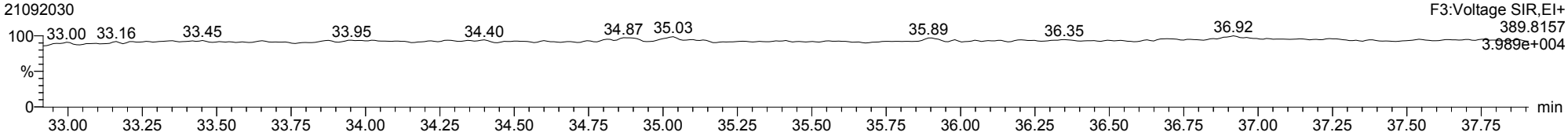


FUNCTION3 PFK

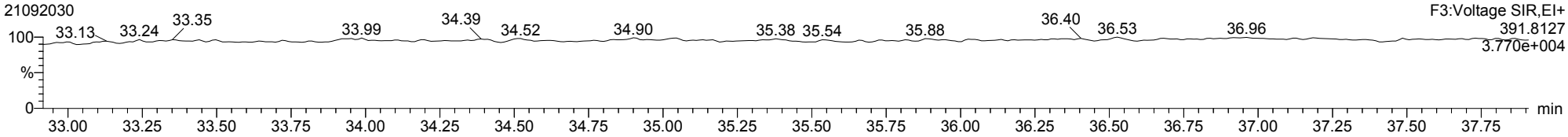


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

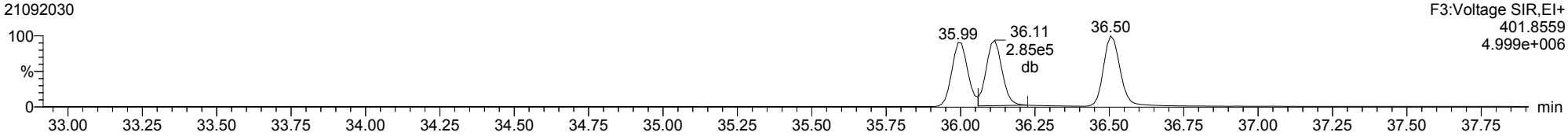
123678-HxCDD



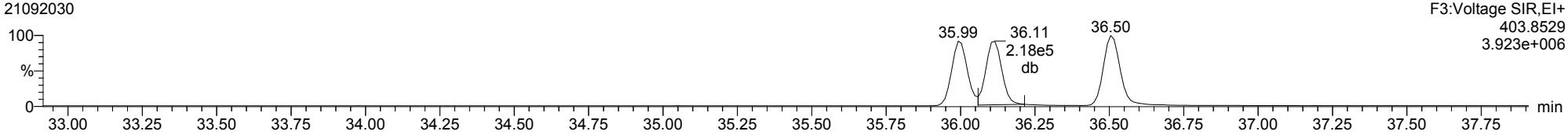
123678-HxCDD



13C-123678-HxCDD

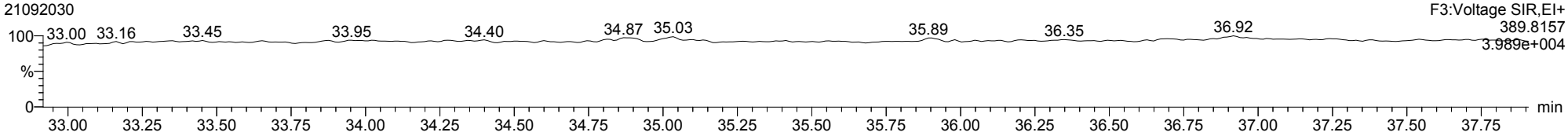


13C-123678-HxCDD

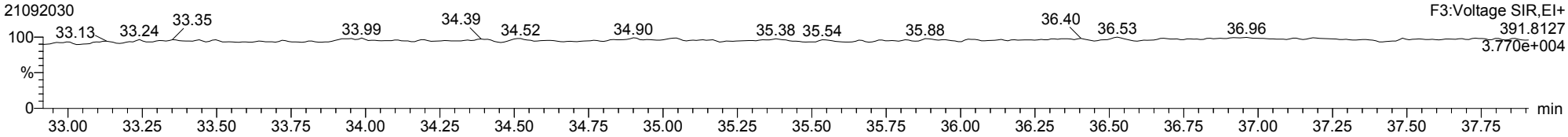


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

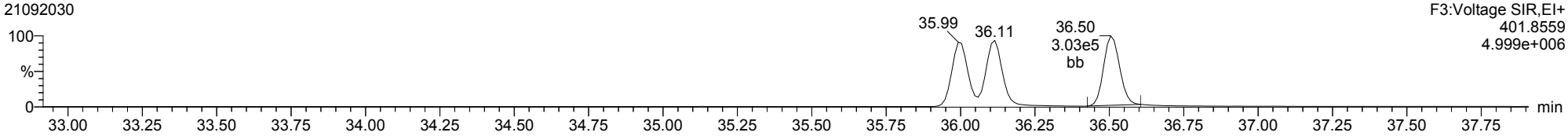
123789-HxCDD



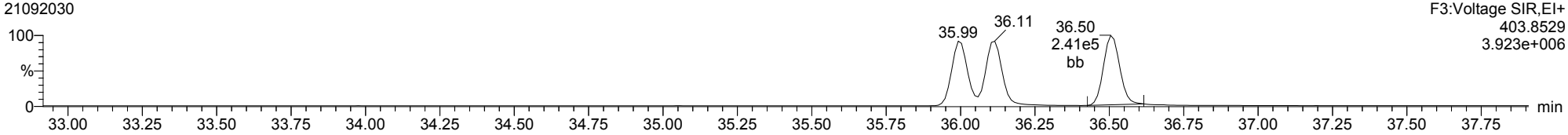
123789-HxCDD



13C-123789-HxCDD

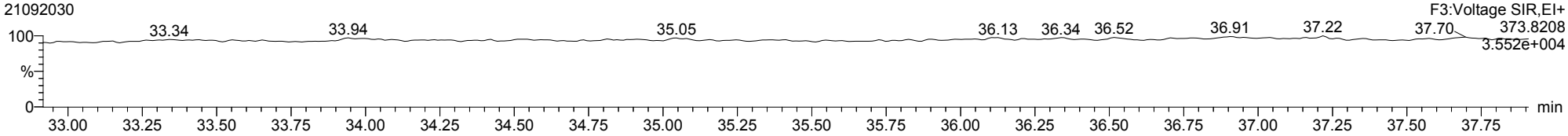


13C-123789-HxCDD

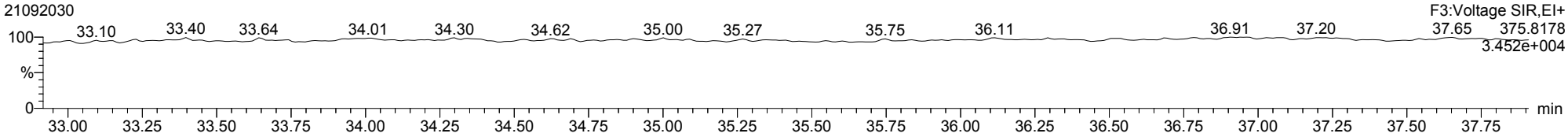


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

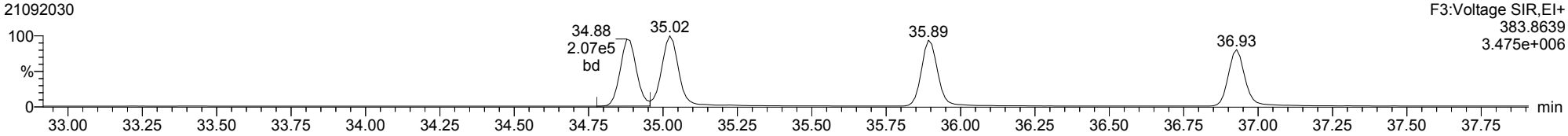
123478-HxCDF



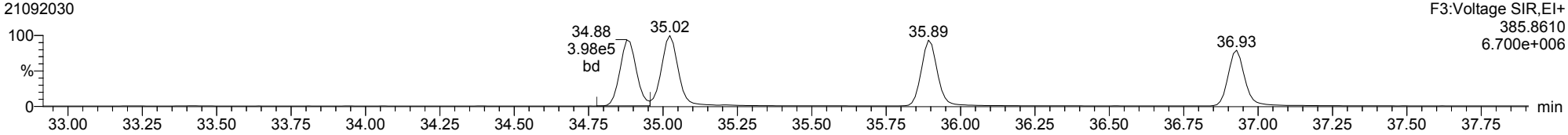
123478-HxCDF



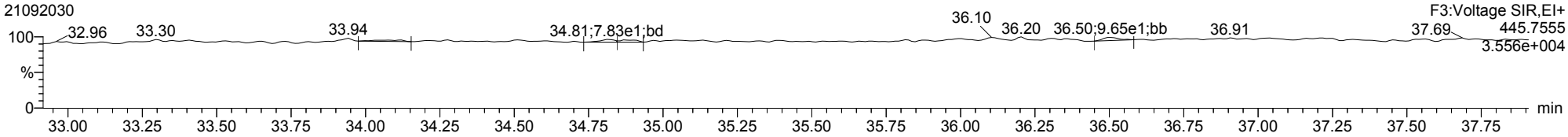
13C-123478-HxCDF



13C-123478-HxCDF

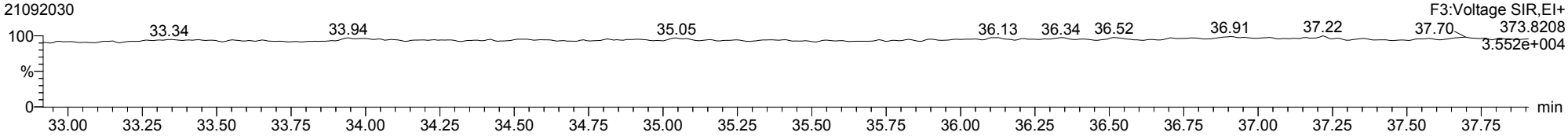


FUNCTION3 OCDPE

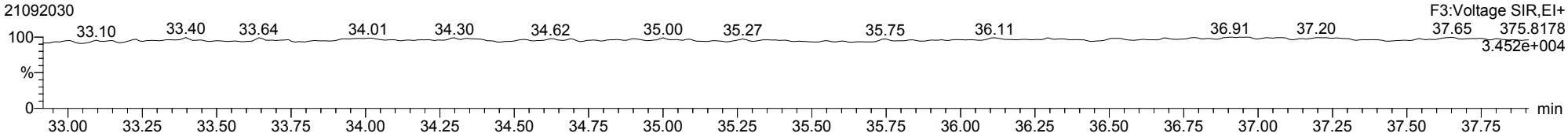


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

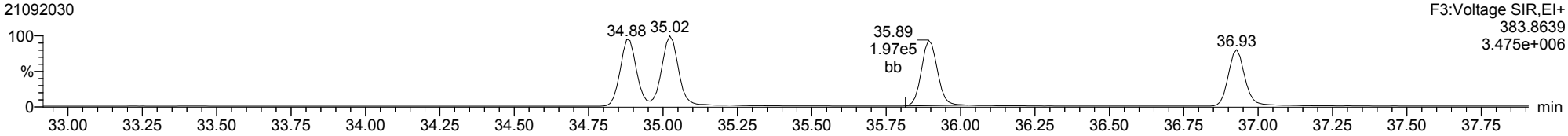
234678-HxCDF



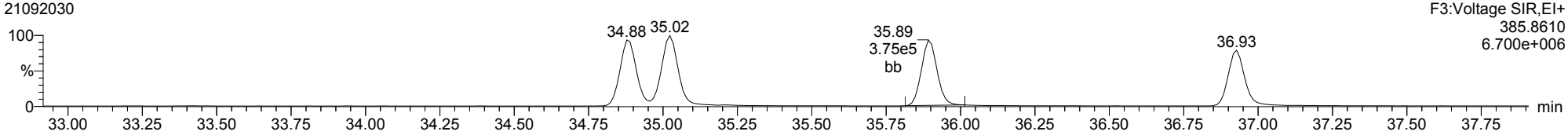
234678-HxCDF



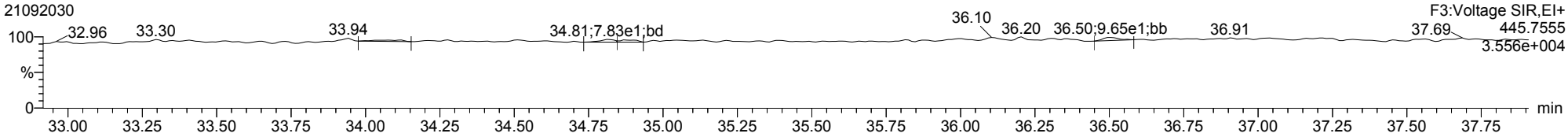
13C-234678-HxCDF



13C-234678-HxCDF

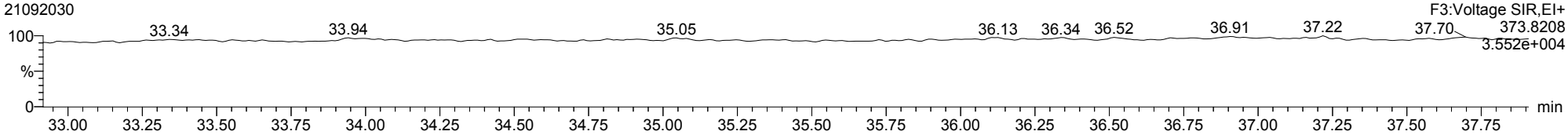


FUNCTION3 OCDPE

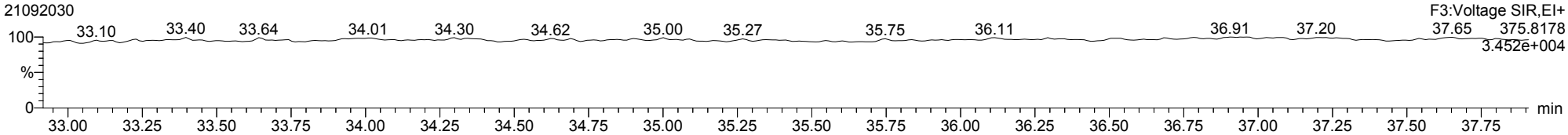


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

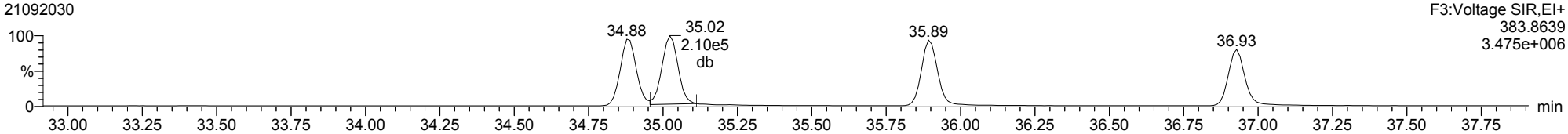
123678-HxCDF



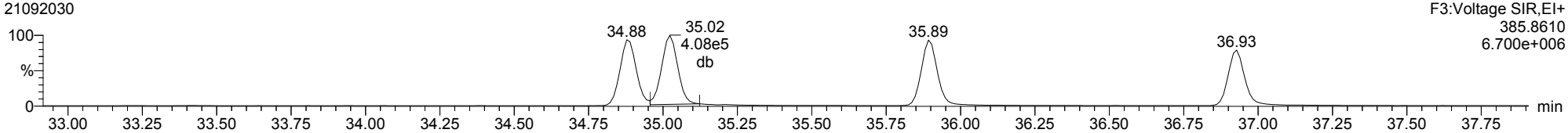
123678-HxCDF



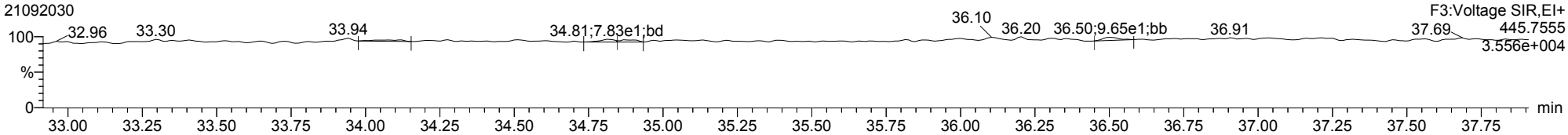
13C-123678-HxCDF



13C-123678-HxCDF

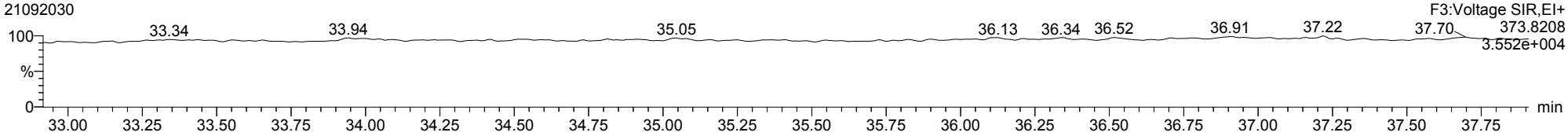


FUNCTION3 OCDPE

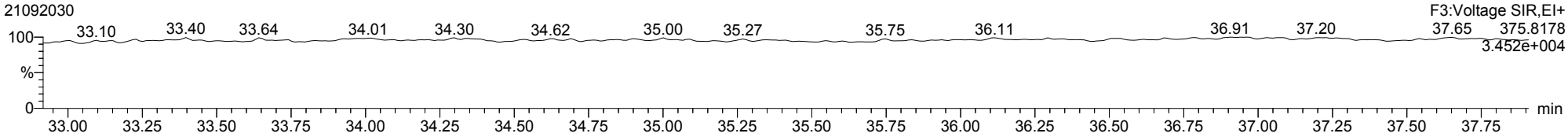


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

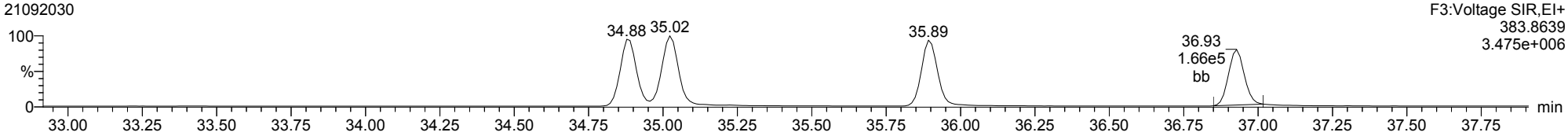
123789-HxCDF



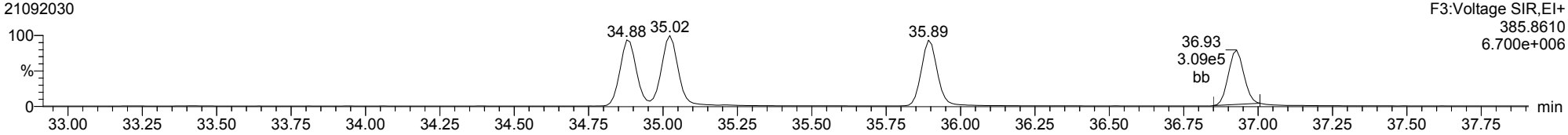
123789-HxCDF



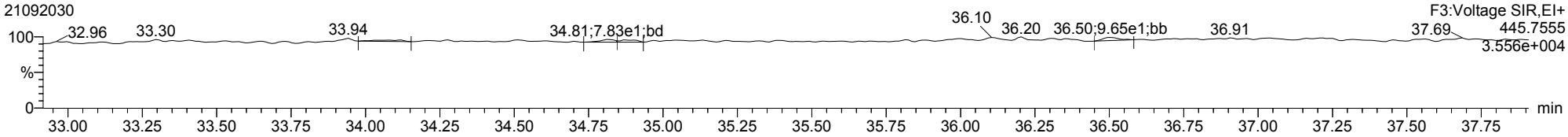
13C-123789-HxCDF



13C-123789-HxCDF

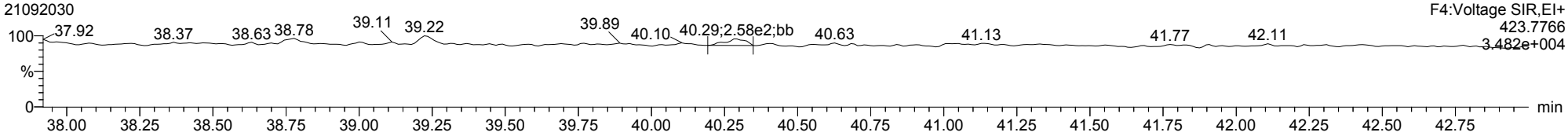


FUNCTION3 OCDPE

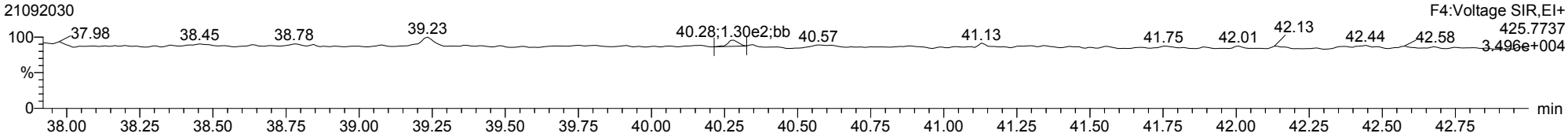


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

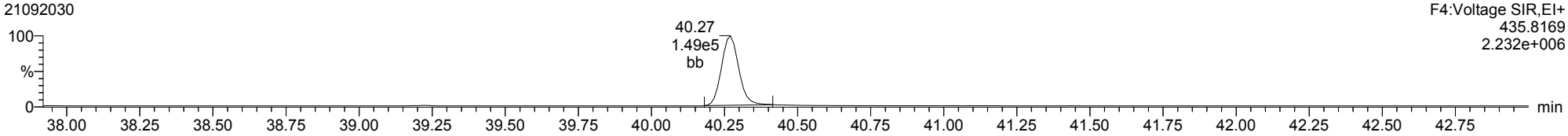
1234678-HpCDD



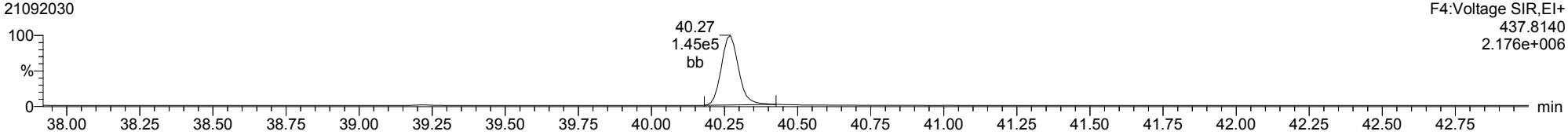
1234678-HpCDD



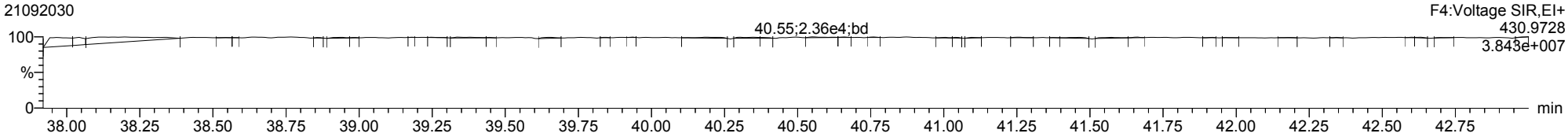
13C-1234678-HpCDD



13C-1234678-HpCDD

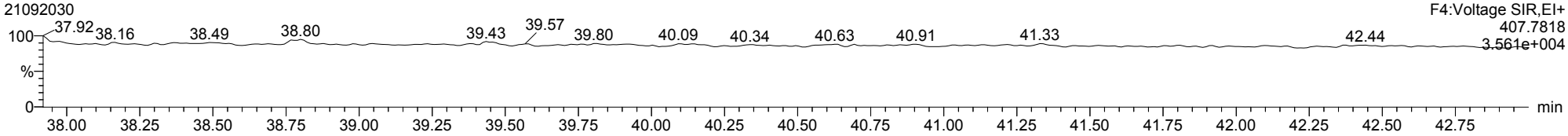


FUNCTION4 PFK

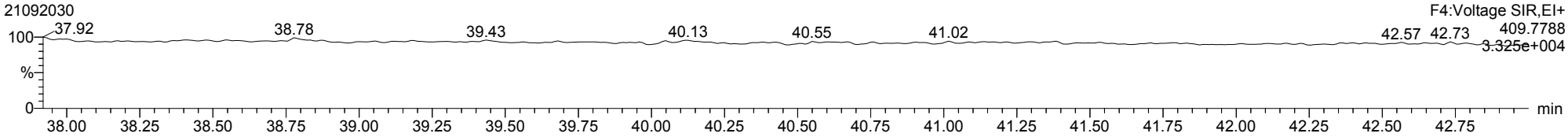


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

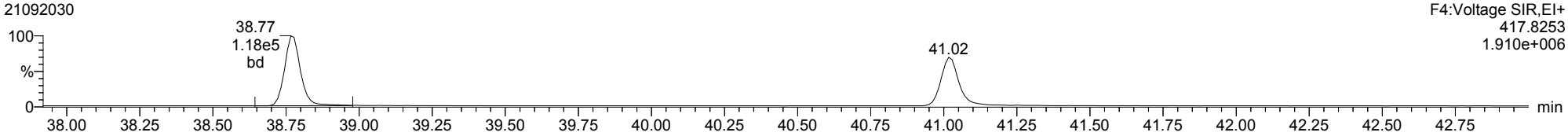
1234678-HpCDF



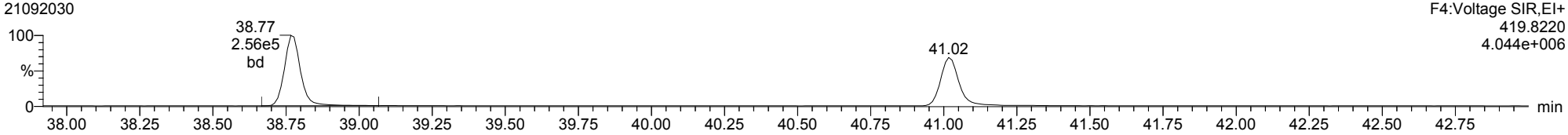
1234678-HpCDF



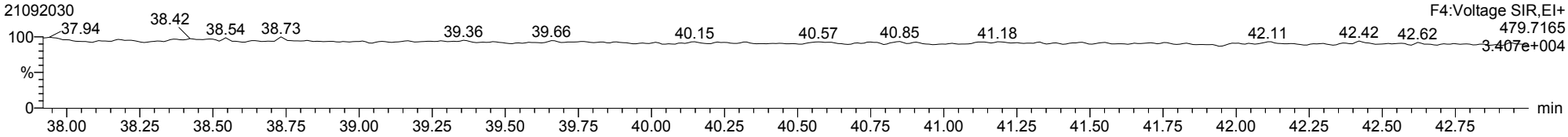
13C-1234678-HpCDF



13C-1234678-HpCDF

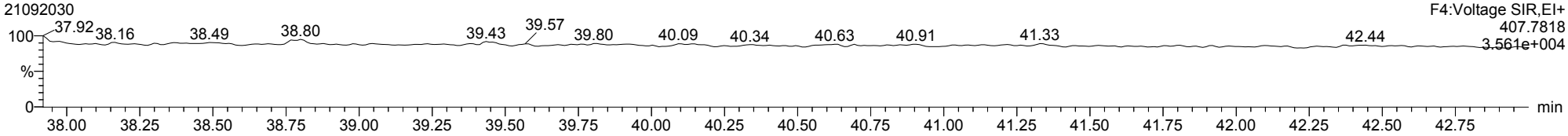


FUNCTION4 NCDPE

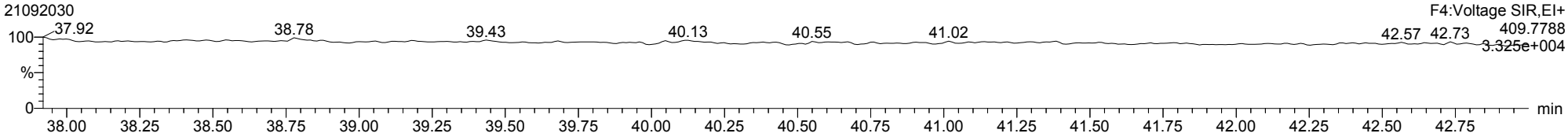


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

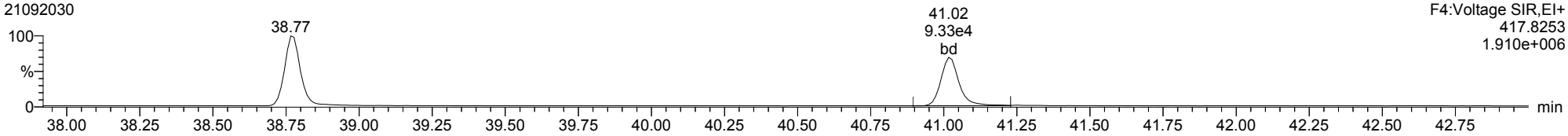
1234789-HpCDF



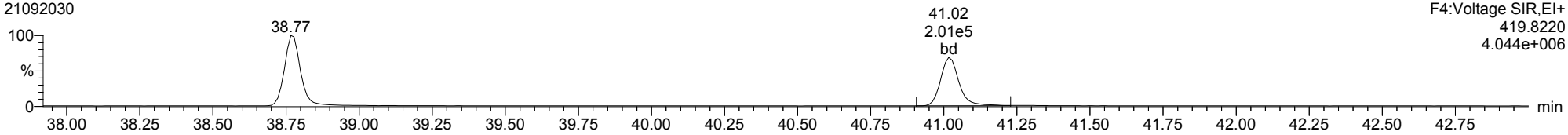
1234789-HpCDF



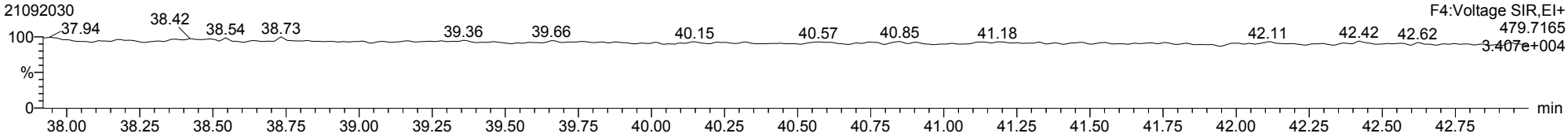
13C-1234789-HpCDF



13C-1234789-HpCDF

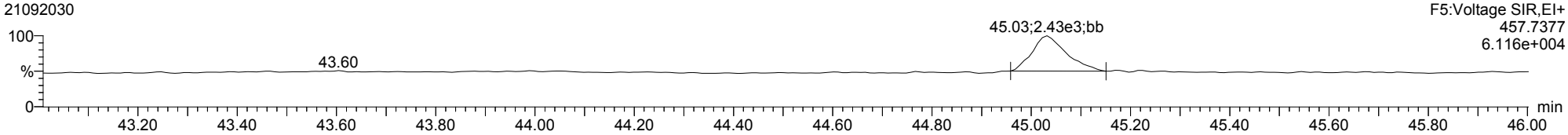


FUNCTION4 NCDPE

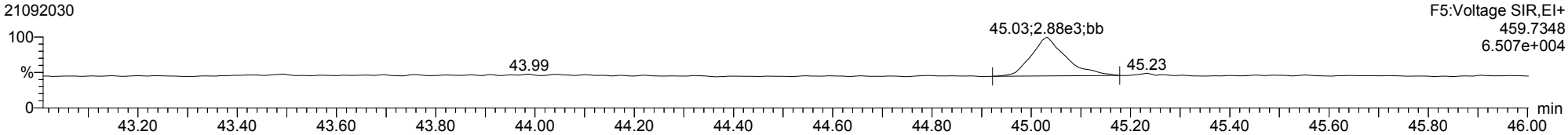


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

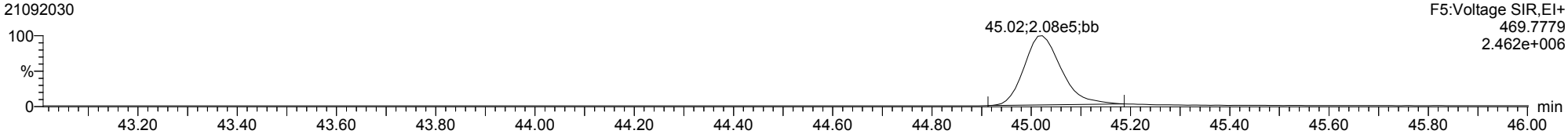
OCDD



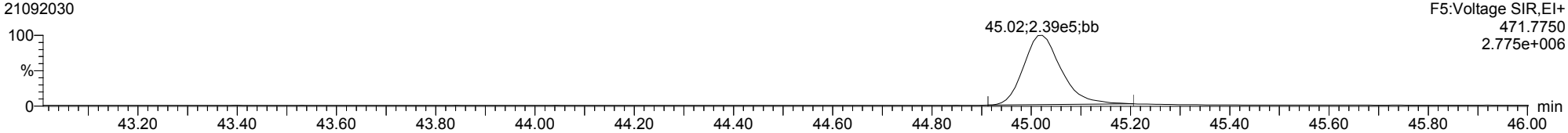
OCDD



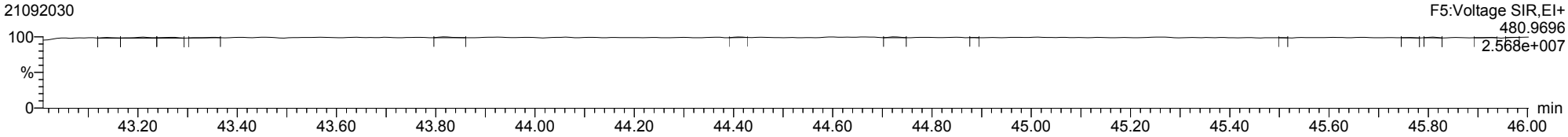
13C-OCDD



13C-OCDD

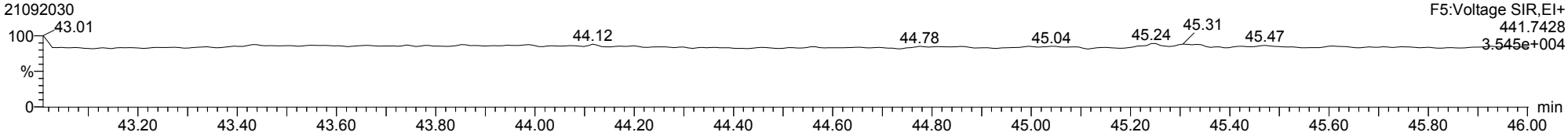


FUNCTION5 PFK

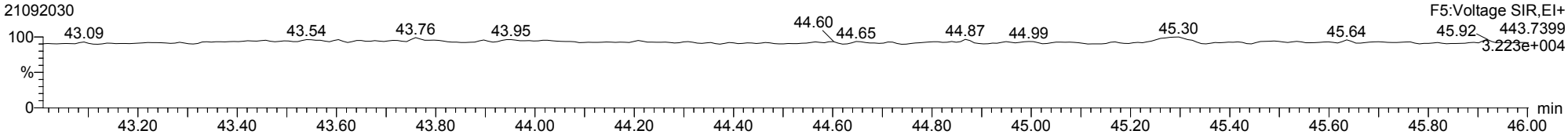


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

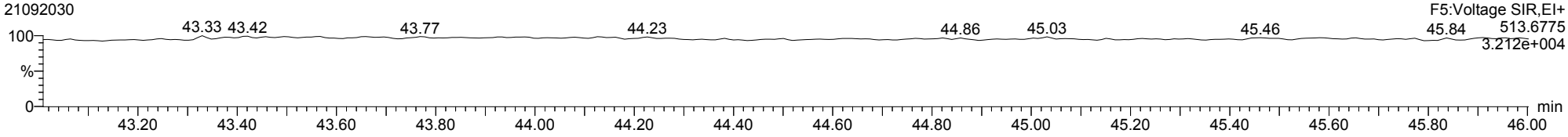
OCDF



OCDF

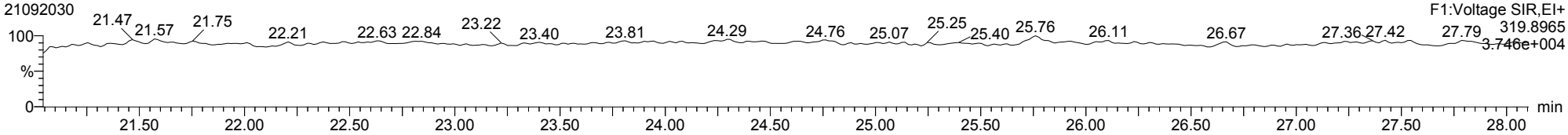


FUNCTION5 DCDPE

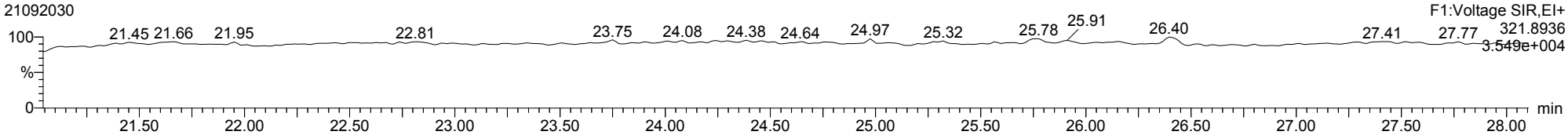


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

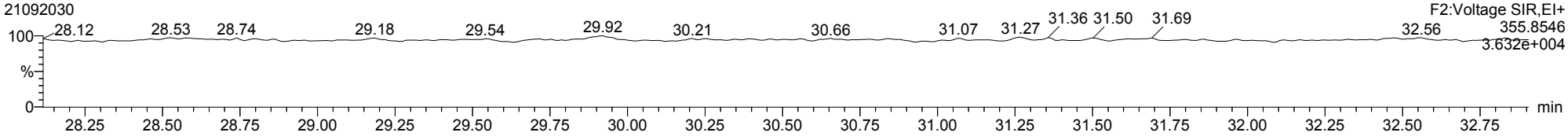
Total-tetradioxins



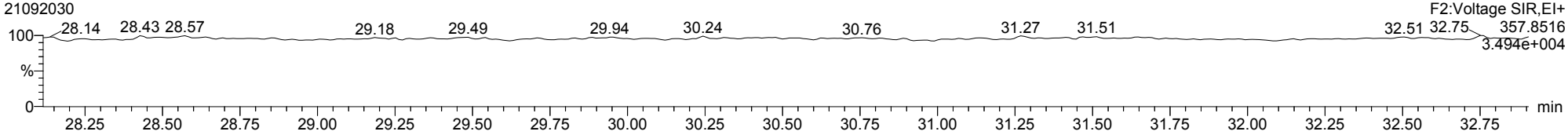
Total-tetradioxins



Total-pentadioxins

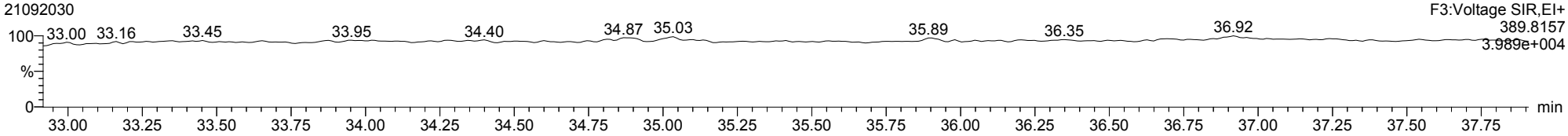


Total-pentadioxins

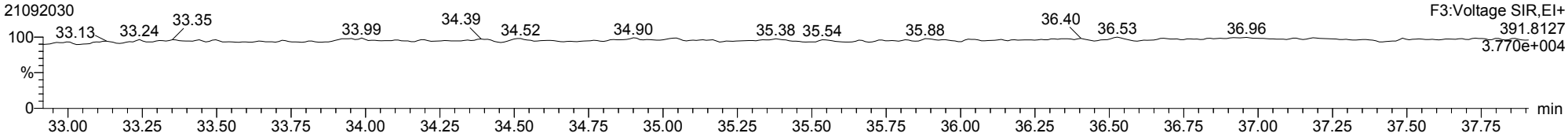


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

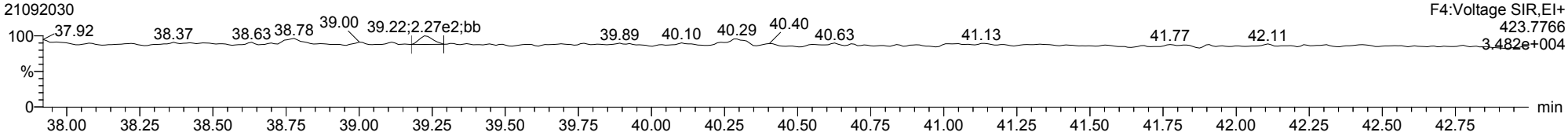
Total-hexadioxins



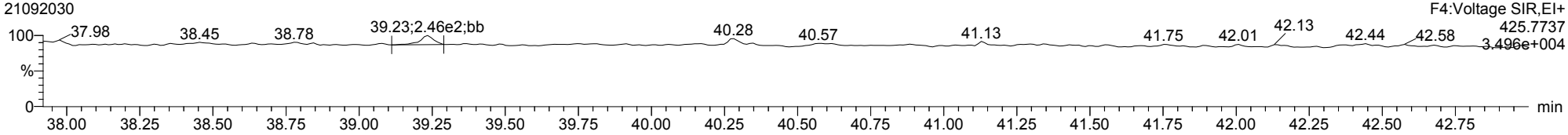
Total-hexadioxins



Total-heptadioxins



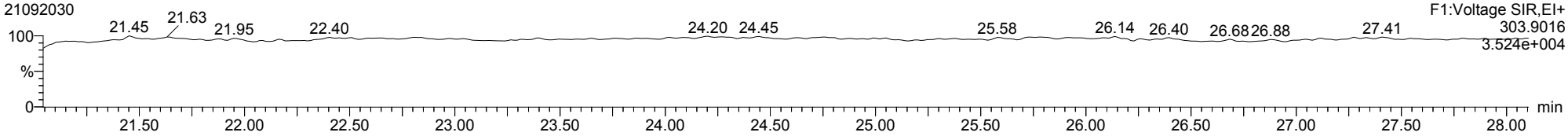
Total-heptadioxins



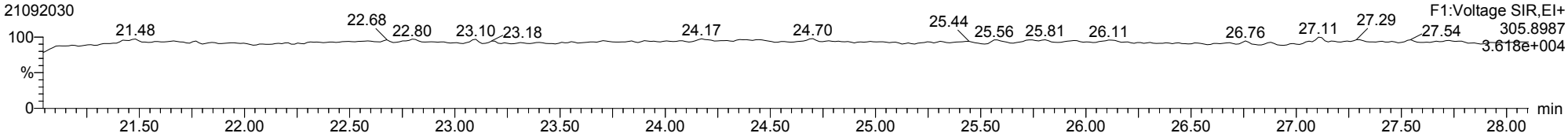
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:08 Pacific Daylight Time

ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

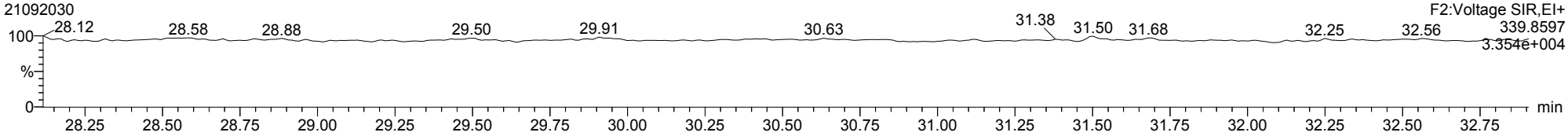
Total-tetrafurans



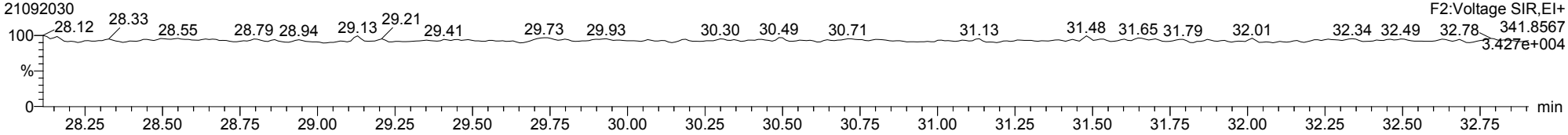
Total-tetrafurans



Total-pentafurans

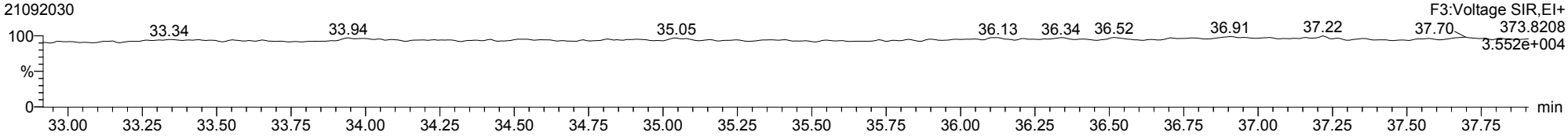


Total-pentafurans

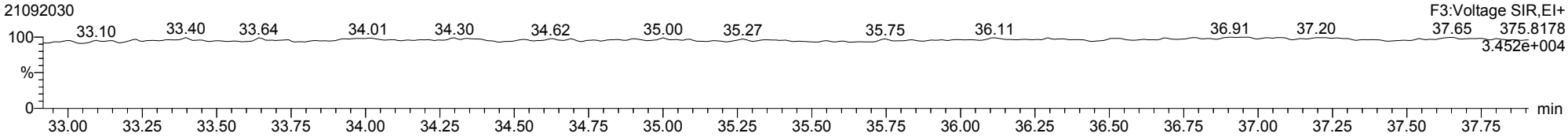


ID: BJH0203-BLK1, Name: 21092030, Date: 21-Sep-2021, Time: 16:21:22, Conditions: AUTOSPEC01, User: pk

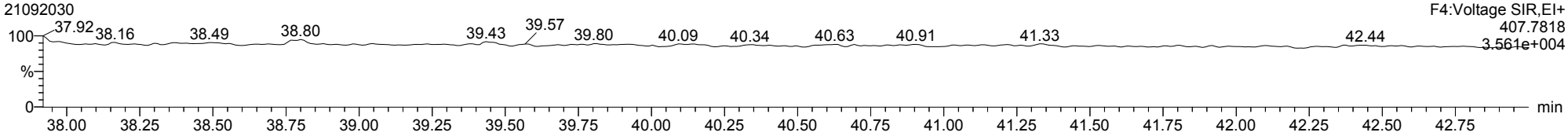
Total-hexafurans



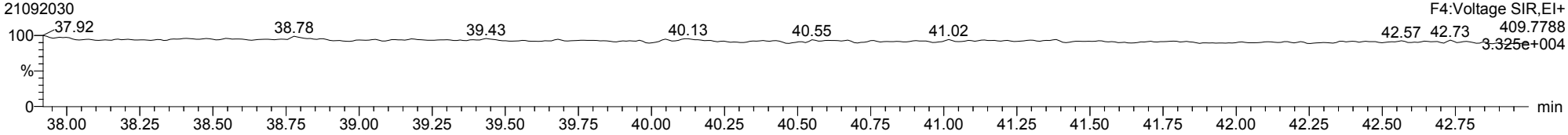
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS RECOVERY
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	09/21/21 17:10
Batch:	BJH0203	Laboratory ID:	BJH0203-BS1
Preparation:	EPA 1613	Sequence Name:	LCS
Initial/Final:	10 g / 20 uL		

COMPOUND	SPIKE ADDED (ng/kg wet)	LCS CONCENTRATION (ng/kg wet)	Q	LCS % REC. #	QC LIMITS REC.
2,3,7,8-TCDF	20.0	17.0		84.9	75 - 158
2,3,7,8-TCDD	20.0	17.9		89.7	67 - 158
1,2,3,7,8-PeCDF	100	87.7		87.7	80 - 134
2,3,4,7,8-PeCDF	100	85.2		85.2	68 - 160
1,2,3,7,8-PeCDD	100	95.0		95.0	70 - 142
1,2,3,4,7,8-HxCDF	100	91.2		91.2	72 - 134
1,2,3,6,7,8-HxCDF	100	93.0		93.0	84 - 130
2,3,4,6,7,8-HxCDF	100	92.0		92.0	70 - 156
1,2,3,7,8,9-HxCDF	100	93.7		93.7	78 - 130
1,2,3,4,7,8-HxCDD	100	92.9		92.9	70 - 164
1,2,3,6,7,8-HxCDD	100	96.7		96.7	76 - 134
1,2,3,7,8,9-HxCDD	100	97.5		97.5	64 - 162
1,2,3,4,6,7,8-HpCDF	100	93.8		93.8	82 - 122
1,2,3,4,7,8,9-HpCDF	100	90.0		90.0	78 - 138
1,2,3,4,6,7,8-HpCDD	100	93.1	B	93.1	70 - 140
OCDF	200	150		75.1	63 - 170
OCDD	200	183	B	91.5	78 - 144

* Indicates values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	3.263e4	4.448e4	1.108	0.734	0.770	566	721	4.87e5	6.51e5	859.7	903.5	NO	bb	bd	8.494
12378-PeCDF	29.942	1.001	1.858e5	1.229e5	1.015	1.512	1.550	1228	1717	2.87e6	1.88e6	2339.7	1096.8	NO	bb	bb	43.857
23478-PeCDF	31.291	1.001	1.846e5	1.244e5	1.126	1.484	1.550	1228	1717	2.80e6	1.87e6	2280.6	1089.8	NO	bb	bb	42.594
123478-HxCDF	34.911	1.001	1.552e5	1.303e5	1.017	1.191	1.240	1306	1231	2.46e6	2.06e6	1885.6	1669.3	NO	bd	bd	45.579
234678-HxCDF	35.925	1.001	1.499e5	1.279e5	1.052	1.172	1.240	1306	1231	2.38e6	2.02e6	1823.5	1640.2	NO	bb	bb	46.003
123678-HxCDF	35.045	1.000	1.632e5	1.400e5	1.037	1.166	1.240	1306	1231	2.56e6	2.18e6	1962.9	1773.3	NO	db	db	46.490
123789-HxCDF	36.950	1.000	1.234e5	1.046e5	1.030	1.180	1.240	1306	1231	1.97e6	1.66e6	1510.1	1345.2	NO	bb	bb	46.873
1234678-HpCDF	38.799	1.001	1.129e5	1.087e5	1.327	1.039	1.050	1260	1104	1.74e6	1.70e6	1379.6	1539.7	NO	bd	bd	46.905
1234789-HpCDF	41.039	1.000	8.273e4	8.123e4	1.283	1.018	1.050	1260	1104	1.18e6	1.12e6	937.1	1018.0	NO	bd	bd	44.977
OCDF	45.290	1.006	1.046e5	1.159e5	1.447	0.902	0.890	784	1190	1.13e6	1.29e6	1443.5	1081.5	NO	bd	bd	75.098
2378-TCDD	26.411	1.001	2.774e4	3.541e4	0.920	0.783	0.770	930	673	4.15e5	5.22e5	445.8	775.9	NO	bb	bb	8.966
12378-PeCDD	31.524	1.000	1.197e5	7.697e4	0.995	1.555	1.550	680	679	1.85e6	1.19e6	2725.1	1754.6	NO	bb	bb	47.504
123478-HxCDD	36.026	1.001	1.328e5	1.032e5	1.027	1.286	1.240	1215	903	2.25e6	1.72e6	1849.9	1902.8	NO	bd	bd	46.427
123678-HxCDD	36.137	1.000	1.359e5	1.063e5	1.009	1.278	1.240	1215	903	2.27e6	1.74e6	1865.2	1932.2	NO	db	db	48.355
123789-HxCDD	36.538	1.011	1.283e5	1.015e5	0.950	1.265	1.240	1215	903	2.05e6	1.64e6	1690.5	1811.5	NO	bb	bb	48.769
1234678-HpCDD	40.292	1.000	7.242e4	6.837e4	1.068	1.059	1.050	735	830	1.02e6	9.99e5	1388.8	1204.1	NO	bd	bd	46.553
OCDD	45.042	1.000	1.062e5	1.131e5	1.181	0.939	0.890	592	1393	1.17e6	1.29e6	1973.1	925.9	NO	bd	bb	91.474
13C-2378-TCDF	25.761	1.007	3.622e5	4.574e5	1.427	0.792	0.770	1682	1474	5.66e6	7.13e6	3366.4	4840.0	NO	bb	bb	78.581
13C-12378-PeCDF	29.920	1.170	4.274e5	2.661e5	1.297	1.606	1.550	1832	1196	6.38e6	4.03e6	3482.3	3367.8	NO	bb	bb	73.110
13C-23478-PeCDF	31.268	1.222	3.971e5	2.474e5	1.236	1.605	1.550	1832	1196	6.09e6	3.83e6	3325.0	3206.9	NO	bb	bb	71.280
13C-123478-HxCDF	34.889	0.955	2.112e5	4.047e5	1.242	0.522	0.510	1607	2121	3.32e6	6.38e6	2067.4	3009.5	NO	bd	bd	90.880
13C-123678-HxCDF	35.034	0.959	2.150e5	4.141e5	1.343	0.519	0.510	1607	2121	3.46e6	6.65e6	2151.4	3134.5	NO	db	db	85.837
13C-234678-HxCDF	35.903	0.983	1.979e5	3.758e5	1.215	0.527	0.510	1607	2121	3.14e6	5.97e6	1955.7	2816.1	NO	bb	bb	86.581
13C-123789-HxCDF	36.939	1.012	1.615e5	3.108e5	1.008	0.520	0.510	1607	2121	2.67e6	5.13e6	1664.1	2417.5	NO	bb	bb	85.926
13C-1234678-HpCDF	38.777	1.062	1.135e5	2.424e5	0.926	0.468	0.440	1047	1411	1.76e6	3.78e6	1676.6	2678.1	NO	bd	bd	70.426
13C-1234789-HpCDF	41.028	1.124	8.873e4	1.953e5	0.758	0.454	0.440	1047	1411	1.23e6	2.69e6	1176.6	1908.0	NO	bd	bb	68.708
13C-1234-TCDD	25.579	0.000	3.151e5	4.161e5	1.000	0.757	0.770	1631	1086	5.04e6	6.59e6	3092.6	6070.5	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.032	3.312e5	4.341e5	1.116	0.763	0.770	1631	1086	5.07e6	6.64e6	3109.5	6115.9	NO	bb	bb	93.747
13C-12378-PeCDD	31.513	1.232	2.537e5	1.622e5	0.732	1.564	1.550	1031	854	3.85e6	2.49e6	3736.8	2910.1	NO	bb	bb	77.703
13C-123478-HxCDD	36.003	0.986	2.809e5	2.139e5	0.960	1.313	1.240	1759	2544	4.71e6	3.56e6	2676.4	1400.9	NO	bd	bd	94.513
13C-123678-HxCDD	36.126	0.989	2.795e5	2.170e5	1.041	1.288	1.240	1759	2544	4.51e6	3.51e6	2562.2	1378.3	NO	db	db	87.413
13C-1234678-HpCDD	40.281	1.103	1.441e5	1.391e5	0.632	1.036	1.050	786	814	2.04e6	1.99e6	2591.4	2450.5	NO	bb	bb	82.081
13C-OCDD	45.033	1.233	1.920e5	2.139e5	0.504	0.898	0.890	915	651	2.25e6	2.52e6	2454.0	3870.3	NO	bb	bb	147.730
13C-123789-HxCDD	36.516	0.000	3.064e5	2.391e5	1.000	1.282	1.240	1759	2544	5.01e6	3.89e6	2848.5	1528.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	2.900e5		1.084			975		4.26e6		4367.2			bd		36.602

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF					1.425		0.770	566	721								
1289-TCDF					1.043		0.770	566	721								
13468-PECDF					1.376		1.550	712	780								
12389-PECDF	32.338	1.081	1.533e3	9.582e2	1.000	1.600	1.550	1228	1717	2.14e4	1.30e4	17.4	7.6	NO	bb	bb	0.359
123468-HXCDF					1.087		1.240	1306	1231								
1368-TCDD					0.923		0.770	930	673								
1289-TCDD					0.794		0.770	930	673								
12479-PECDD					1.843		1.550	680	679								
12389-PECDD	31.914	1.013	9.230e1	8.439e1	1.154	1.094	1.550	680	679	2.61e3	2.07e3	3.8	3.1	YES	bb	bb	0.037
124679-HXCDD					1.125		1.240	1215	903								
1234679-HPCDD	39.245	0.974	6.045e2	6.141e2	1.211	0.984	1.050	735	830	9.55e3	9.84e3	13.0	11.9	NO	bb	bb	0.355
Total-tetrafurans			3.421e4		1.192			566		5.12e5							8.861
Total-penta1			0.000e0					712		0.00e0							
Total-pentafurans			3.729e5		1.047			1228		5.72e6							87.073
Total-hexafurans			5.917e5		1.045			1306		9.38e6							184.945
Total-heptafurans			1.956e5		1.305			1260		2.92e6							91.882
Total-Furans			1.299e6		1.158			566		1.97e7							447.859
Total-tetradioxins			2.774e4		0.879			930		4.15e5							8.966
Total-pentadioxins			1.197e5		1.331			680		1.85e6							47.504
Total-hexadioxins			3.970e5		1.028			1215		6.57e6							143.551
Total-heptadioxins			7.302e4		1.140			735		1.03e6							46.908
Total-Dioxins			7.236e5		1.092			930		1.10e7							338.404
Total-TEQ			2.023e6					930		3.07e7							786.263
FUNCTION1 PFK			0.000e0					528368		0.00e0							
FUNCTION2 PFK			2.104e6					466348		2.83e7							0.000
FUNCTION3 PFK			1.150e6					470492		2.80e7							0.000
FUNCTION4 PFK			1.615e4					186310		4.70e5							
FUNCTION5 PFK			3.069e3					174271		1.93e5							
FUNCTION1 HXCD...			5.993e2					604		8.51e3							0.000
FUNCTION1 HPCD...			4.833e2					637		6.69e3							0.000
FUNCTION2 HPCD...			1.640e2					721		2.91e3							0.000
FUNCTION3 OCDPE			7.343e2					713		1.24e4							0.000
FUNCTION4 NCDPE			3.116e2					657		3.98e3							0.000
FUNCTION5 DCDPE			0.000e0					564		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	26.02	1.653e2	2.187e2	1.192	0.76	0.77	4.4	YES	NO	bb	db	0.039
2	2378-TCDF	25.78	3.263e4	4.448e4	1.108	0.73	0.77	859.7	YES	NO	bb	bd	8.494
3	Total-tetrafurans	24.87	3.182e2	4.382e2	1.192	0.73	0.77	9.6	YES	NO	db	bb	0.077
4	Total-tetrafurans	24.69	6.900e2	8.311e2	1.192	0.83	0.77	18.1	YES	NO	dd	db	0.156
5	Total-tetrafurans	24.55	4.066e2	5.179e2	1.192	0.79	0.77	11.9	YES	NO	bd	bd	0.095

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.29	1.846e5	1.244e5	1.126	1.48	1.55	2280.6	YES	NO	bb	bb	42.594
2	Total-pentafurans	30.13	1.044e3	7.918e2	1.047	1.32	1.55	18.0	YES	NO	bb	bb	0.262
3	12378-PeCDF	29.94	1.858e5	1.229e5	1.015	1.51	1.55	2339.7	YES	NO	bb	bb	43.857
4	12389-PECDF	32.34	1.533e3	9.582e2	1.000	1.60	1.55	17.4	YES	NO	bb	bb	0.359

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.95	1.234e5	1.046e5	1.030	1.18	1.24	1510.1	YES	NO	bb	bb	46.873
2	234678-HxCDF	35.93	1.499e5	1.279e5	1.052	1.17	1.24	1823.5	YES	NO	bb	bb	46.003
3	123678-HxCDF	35.05	1.632e5	1.400e5	1.037	1.17	1.24	1962.9	YES	NO	db	db	46.490
4	123478-HxCDF	34.91	1.552e5	1.303e5	1.017	1.19	1.24	1885.6	YES	NO	bd	bd	45.579

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.80	1.129e5	1.087e5	1.327	1.04	1.05	1379.6	YES	NO	bd	bd	46.905
2	1234789-HpCDF	41.04	8.273e4	8.123e4	1.283	1.02	1.05	937.1	YES	NO	bd	bd	44.977

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	26.02	1.653e2	2.187e2	1.192	0.76	0.77	4.4	YES	NO	bb	db	0.039
2	2378-TCDF	25.78	3.263e4	4.448e4	1.108	0.73	0.77	859.7	YES	NO	bb	bd	8.494
3	Total-tetrafurans	24.87	3.182e2	4.382e2	1.192	0.73	0.77	9.6	YES	NO	db	bb	0.077
4	Total-tetrafurans	24.69	6.900e2	8.311e2	1.192	0.83	0.77	18.1	YES	NO	dd	db	0.156
5	Total-tetrafurans	24.55	4.066e2	5.179e2	1.192	0.79	0.77	11.9	YES	NO	bd	bd	0.095
6	23478-PeCDF	31.29	1.846e5	1.244e5	1.126	1.48	1.55	2280.6	YES	NO	bb	bb	42.594
7	Total-pentafurans	30.13	1.044e3	7.918e2	1.047	1.32	1.55	18.0	YES	NO	bb	bb	0.262
8	12378-PeCDF	29.94	1.858e5	1.229e5	1.015	1.51	1.55	2339.7	YES	NO	bb	bb	43.857
9	12389-PECDF	32.34	1.533e3	9.582e2	1.000	1.60	1.55	17.4	YES	NO	bb	bb	0.359
10	123789-HxCDF	36.95	1.234e5	1.046e5	1.030	1.18	1.24	1510.1	YES	NO	bb	bb	46.873
11	234678-HxCDF	35.93	1.499e5	1.279e5	1.052	1.17	1.24	1823.5	YES	NO	bb	bb	46.003
12	123678-HxCDF	35.05	1.632e5	1.400e5	1.037	1.17	1.24	1962.9	YES	NO	db	db	46.490
13	123478-HxCDF	34.91	1.552e5	1.303e5	1.017	1.19	1.24	1885.6	YES	NO	bd	bd	45.579
14	1234678-HpCDF	38.80	1.129e5	1.087e5	1.327	1.04	1.05	1379.6	YES	NO	bd	bd	46.905
15	OCDF	45.29	1.046e5	1.159e5	1.447	0.90	0.89	1443.5	YES	NO	bd	bd	75.098
16	1234789-HpCDF	41.04	8.273e4	8.123e4	1.283	1.02	1.05	937.1	YES	NO	bd	bd	44.977

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.41	2.774e4	3.541e4	0.920	0.78	0.77	445.8	YES	NO	bb	bb	8.966

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.52	1.197e5	7.697e4	0.995	1.55	1.55	2725.1	YES	NO	bb	bb	47.504

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.54	1.283e5	1.015e5	0.950	1.26	1.24	1690.5	YES	NO	bb	bb	48.769
2	123678-HxCDD	36.14	1.359e5	1.063e5	1.009	1.28	1.24	1865.2	YES	NO	db	db	48.355
3	123478-HxCDD	36.03	1.328e5	1.032e5	1.027	1.29	1.24	1849.9	YES	NO	bd	bd	46.427

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.29	7.242e4	6.837e4	1.068	1.06	1.05	1388.8	YES	NO	bd	bd	46.553
2	1234679-HPCDD	39.25	6.045e2	6.141e2	1.211	0.98	1.05	13.0	YES	NO	bb	bb	0.355

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.41	2.774e4	3.541e4	0.920	0.78	0.77	445.8	YES	NO	bb	bb	8.966
2	123789-HxCDD	36.54	1.283e5	1.015e5	0.950	1.26	1.24	1690.5	YES	NO	bb	bb	48.769
3	123678-HxCDD	36.14	1.359e5	1.063e5	1.009	1.28	1.24	1865.2	YES	NO	db	db	48.355
4	123478-HxCDD	36.03	1.328e5	1.032e5	1.027	1.29	1.24	1849.9	YES	NO	bd	bd	46.427
5	12378-PeCDD	31.52	1.197e5	7.697e4	0.995	1.55	1.55	2725.1	YES	NO	bb	bb	47.504
6	1234678-HpCDD	40.29	7.242e4	6.837e4	1.068	1.06	1.05	1388.8	YES	NO	bd	bd	46.553
7	1234679-HPCDD	39.25	6.045e2	6.141e2	1.211	0.98	1.05	13.0	YES	NO	bb	bb	0.355
8	OCDD	45.04	1.062e5	1.131e5	1.181	0.94	0.89	1973.1	YES	NO	bd	bb	91.474

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	26.02	1.653e2	2.187e2	1.192	0.76	0.77	4.4	YES	NO	bb	db	0.039
2	2378-TCDF	25.78	3.263e4	4.448e4	1.108	0.73	0.77	859.7	YES	NO	bb	bd	8.494
3	Total-tetrafurans	24.87	3.182e2	4.382e2	1.192	0.73	0.77	9.6	YES	NO	db	bb	0.077
4	Total-tetrafurans	24.69	6.900e2	8.311e2	1.192	0.83	0.77	18.1	YES	NO	dd	db	0.156
5	Total-tetrafurans	24.55	4.066e2	5.179e2	1.192	0.79	0.77	11.9	YES	NO	bd	bd	0.095
6	23478-PeCDF	31.29	1.846e5	1.244e5	1.126	1.48	1.55	2280.6	YES	NO	bb	bb	42.594
7	Total-pentafurans	30.13	1.044e3	7.918e2	1.047	1.32	1.55	18.0	YES	NO	bb	bb	0.262
8	12378-PeCDF	29.94	1.858e5	1.229e5	1.015	1.51	1.55	2339.7	YES	NO	bb	bb	43.857
9	12389-PECDF	32.34	1.533e3	9.582e2	1.000	1.60	1.55	17.4	YES	NO	bb	bb	0.359
10	123789-HxCDF	36.95	1.234e5	1.046e5	1.030	1.18	1.24	1510.1	YES	NO	bb	bb	46.873
11	234678-HxCDF	35.93	1.499e5	1.279e5	1.052	1.17	1.24	1823.5	YES	NO	bb	bb	46.003
12	123678-HxCDF	35.05	1.632e5	1.400e5	1.037	1.17	1.24	1962.9	YES	NO	db	db	46.490
13	123478-HxCDF	34.91	1.552e5	1.303e5	1.017	1.19	1.24	1885.6	YES	NO	bd	bd	45.579
14	1234678-HpCDF	38.80	1.129e5	1.087e5	1.327	1.04	1.05	1379.6	YES	NO	bd	bd	46.905
15	OCDF	45.29	1.046e5	1.159e5	1.447	0.90	0.89	1443.5	YES	NO	bd	bd	75.098
16	1234789-HpCDF	41.04	8.273e4	8.123e4	1.283	1.02	1.05	937.1	YES	NO	bd	bd	44.977
17	2378-TCDD	26.41	2.774e4	3.541e4	0.920	0.78	0.77	445.8	YES	NO	bb	bb	8.966
18	123789-HxCDD	36.54	1.283e5	1.015e5	0.950	1.26	1.24	1690.5	YES	NO	bb	bb	48.769
19	123678-HxCDD	36.14	1.359e5	1.063e5	1.009	1.28	1.24	1865.2	YES	NO	db	db	48.355
20	123478-HxCDD	36.03	1.328e5	1.032e5	1.027	1.29	1.24	1849.9	YES	NO	bd	bd	46.427
21	12378-PeCDD	31.52	1.197e5	7.697e4	0.995	1.55	1.55	2725.1	YES	NO	bb	bb	47.504
22	1234678-HpCDD	40.29	7.242e4	6.837e4	1.068	1.06	1.05	1388.8	YES	NO	bd	bd	46.553
23	1234679-HPCDD	39.25	6.045e2	6.141e2	1.211	0.98	1.05	13.0	YES	NO	bb	bb	0.355
24	OCDD	45.04	1.062e5	1.131e5	1.181	0.94	0.89	1973.1	YES	NO	bd	bb	91.474

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.74	1.505e3					0.3	NO		bb		0.000
2	FUNCTION2 PFK	29.69	9.858e3					0.8	NO		bb		0.000
3	FUNCTION2 PFK	29.54	1.194e4					0.9	NO		db		0.000
4	FUNCTION2 PFK	29.50	2.205e4					1.1	NO		dd		0.000
5	FUNCTION2 PFK	29.43	3.418e4					1.3	NO		dd		0.000
6	FUNCTION2 PFK	29.35	1.538e4					1.0	NO		bd		0.000
7	FUNCTION2 PFK	29.25	3.908e3					0.4	NO		bb		0.000
8	FUNCTION2 PFK	29.05	2.686e4					0.8	NO		bb		0.000
9	FUNCTION2 PFK	28.93	3.246e4					1.0	NO		bb		0.000
10	FUNCTION2 PFK	28.77	1.283e4					1.2	NO		db		0.000
11	FUNCTION2 PFK	28.72	5.309e4					2.2	NO		dd		0.000
12	FUNCTION2 PFK	28.48	4.091e5					5.7	YES		dd		0.000
13	FUNCTION2 PFK	28.44	7.115e5					6.3	YES		dd		0.000
14	FUNCTION2 PFK	28.22	1.257e5					8.5	YES		dd		0.000
15	FUNCTION2 PFK	28.15	2.855e5					10.0	YES		bd		0.000
16	FUNCTION2 PFK	31.31	2.301e4					0.8	NO		db		0.000
17	FUNCTION2 PFK	31.29	3.093e3					0.4	NO		bd		0.000
18	FUNCTION2 PFK	31.23	2.033e3					0.4	NO		bb		0.000
19	FUNCTION2 PFK	31.19	1.287e4					0.7	NO		db		0.000
20	FUNCTION2 PFK	31.10	7.819e3					0.6	NO		bd		0.000
21	FUNCTION2 PFK	30.99	6.431e3					0.5	NO		bb		0.000
22	FUNCTION2 PFK	30.81	1.926e4					0.8	NO		bb		0.000
23	FUNCTION2 PFK	30.74	1.689e4					1.4	NO		bb		0.000
24	FUNCTION2 PFK	30.63	4.890e3					0.6	NO		bb		0.000
25	FUNCTION2 PFK	30.59	3.056e3					0.4	NO		bb		0.000
26	FUNCTION2 PFK	30.53	1.171e4					0.6	NO		bb		0.000
27	FUNCTION2 PFK	30.44	1.578e4					0.9	NO		bb		0.000
28	FUNCTION2 PFK	30.32	6.208e4					1.3	NO		db		0.000
29	FUNCTION2 PFK	30.21	1.183e4					1.0	NO		bd		0.000
30	FUNCTION2 PFK	30.13	1.483e3					0.3	NO		bb		0.000
31	FUNCTION2 PFK	30.03	2.353e4					1.2	NO		bb		0.000
32	FUNCTION2 PFK	32.82	4.266e4					1.5	NO		bb		0.000
33	FUNCTION2 PFK	32.76	1.079e3					0.0	NO		bb		0.000
34	FUNCTION2 PFK	32.68	1.308e3					0.3	NO		bb		0.000
35	FUNCTION2 PFK	32.61	6.442e3					0.8	NO		bb		0.000
36	FUNCTION2 PFK	32.40	4.939e3					0.5	NO		bb		0.000
37	FUNCTION2 PFK	32.25	3.658e3					0.4	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	32.19	1.412e4					0.8	NO		db		0.000
39	FUNCTION2 PFK	32.15	1.841e4					1.2	NO		bd		0.000
40	FUNCTION2 PFK	32.07	1.205e4					0.9	NO		db		0.000
41	FUNCTION2 PFK	32.04	6.776e3					0.6	NO		bd		0.000
42	FUNCTION2 PFK	31.60	1.109e4					0.5	NO		bb		0.000

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.14	5.357e4					3.0	NO		dd		0.000
2	FUNCTION3 PFK	33.11	5.529e4					3.1	YES		dd		0.000
3	FUNCTION3 PFK	33.06	4.114e4					2.9	NO		bd		0.000
4	FUNCTION3 PFK	33.01	4.832e4					2.0	NO		bb		0.000
5	FUNCTION3 PFK	34.82	7.726e4					2.5	NO		db		0.000
6	FUNCTION3 PFK	34.70	2.247e4					1.3	NO		bd		0.000
7	FUNCTION3 PFK	34.57	3.982e4					1.9	NO		db		0.000
8	FUNCTION3 PFK	34.51	5.896e4					2.0	NO		bd		0.000
9	FUNCTION3 PFK	34.33	1.156e4					0.8	NO		bb		0.000
10	FUNCTION3 PFK	34.28	2.429e4					1.3	NO		db		0.000
11	FUNCTION3 PFK	34.21	3.413e4					1.2	NO		bd		0.000
12	FUNCTION3 PFK	33.94	2.805e4					1.4	NO		bb		0.000
13	FUNCTION3 PFK	33.65	3.050e4					1.2	NO		db		0.000
14	FUNCTION3 PFK	33.61	1.350e4					0.9	NO		bd		0.000
15	FUNCTION3 PFK	33.56	7.426e3					0.8	NO		db		0.000
16	FUNCTION3 PFK	33.52	6.265e3					0.7	NO		bd		0.000
17	FUNCTION3 PFK	33.39	2.442e4					0.9	NO		db		0.000
18	FUNCTION3 PFK	33.32	3.496e4					1.2	NO		dd		0.000
19	FUNCTION3 PFK	33.25	4.617e4					2.3	NO		dd		0.000
20	FUNCTION3 PFK	33.20	3.715e4					2.1	NO		dd		0.000
21	FUNCTION3 PFK	36.54	5.244e3					0.6	NO		bb		0.000
22	FUNCTION3 PFK	36.39	1.738e4					1.4	NO		db		0.000
23	FUNCTION3 PFK	36.36	2.022e4					1.4	NO		bd		0.000
24	FUNCTION3 PFK	36.08	4.519e4					1.6	NO		bb		0.000
25	FUNCTION3 PFK	35.94	2.757e3					0.4	NO		db		0.000
26	FUNCTION3 PFK	35.89	2.102e4					1.1	NO		bd		0.000
27	FUNCTION3 PFK	35.83	1.677e3					0.3	NO		bb		0.000
28	FUNCTION3 PFK	35.77	7.239e3					0.8	NO		bb		0.000
29	FUNCTION3 PFK	35.69	1.928e3					0.4	NO		bb		0.000
30	FUNCTION3 PFK	35.59	2.466e4					1.7	NO		db		0.000
31	FUNCTION3 PFK	35.55	4.878e4					1.6	NO		dd		0.000
32	FUNCTION3 PFK	35.46	1.505e4					1.1	NO		bd		0.000
33	FUNCTION3 PFK	35.37	1.247e4					0.9	NO		bb		0.000
34	FUNCTION3 PFK	35.27	9.097e3					0.9	NO		bb		0.000
35	FUNCTION3 PFK	35.15	1.237e4					0.6	NO		bb		0.000
36	FUNCTION3 PFK	34.97	3.379e4					1.4	NO		bb		0.000
37	FUNCTION3 PFK	37.81	3.021e4					1.3	NO		db		0.000

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.76	9.089e3					0.9	NO		dd		0.000
39	FUNCTION3 PFK	37.70	2.807e4					1.7	NO		bd		0.000
40	FUNCTION3 PFK	37.38	1.655e4					1.1	NO		db		0.000
41	FUNCTION3 PFK	37.35	1.349e4					1.2	NO		bd		0.000
42	FUNCTION3 PFK	37.27	3.610e4					1.3	NO		bb		0.000
43	FUNCTION3 PFK	37.17	5.500e3					0.5	NO		bb		0.000
44	FUNCTION3 PFK	37.07	1.448e4					0.7	NO		bb		0.000
45	FUNCTION3 PFK	36.72	1.422e3					0.3	NO		bb		0.000
46	FUNCTION3 PFK	36.63	2.141e4					0.9	NO		bb		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.48	1.615e4					2.5	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.54	3.069e3					1.1	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	23.04	7.349e1					1.5	NO		bb		0.000
2	FUNCTION1 HXCD...	26.06	8.538e1					1.8	NO		bb		0.000
3	FUNCTION1 HXCD...	25.64	8.320e1					1.4	NO		bb		0.000
4	FUNCTION1 HXCD...	25.31	8.042e1					1.8	NO		bb		0.000
5	FUNCTION1 HXCD...	24.61	1.911e2					4.2	YES		bb		0.000
6	FUNCTION1 HXCD...	23.73	8.571e1					3.4	YES		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.91	9.850e1					2.0	NO		bb		0.000
2	FUNCTION1 HPCD...	26.55	8.998e1					1.9	NO		bb		0.000
3	FUNCTION1 HPCD...	25.58	8.447e1					2.0	NO		bb		0.000
4	FUNCTION1 HPCD...	22.34	1.231e2					2.4	NO		bb		0.000
5	FUNCTION1 HPCD...	22.06	8.723e1					2.2	NO		bb		0.000

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.33	8.693e1					1.7	NO		bb		0.000
2	FUNCTION2 HPCD...	28.72	7.708e1					2.3	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	34.90	1.575e2					2.6	NO		bd		0.000
2	FUNCTION3 OCDPE	37.40	8.103e1					4.0	YES		bb		0.000
3	FUNCTION3 OCDPE	36.53	1.849e2					3.4	YES		bb		0.000
4	FUNCTION3 OCDPE	36.11	1.574e2					3.3	YES		bb		0.000
5	FUNCTION3 OCDPE	36.01	7.898e1					2.5	NO		bb		0.000
6	FUNCTION3 OCDPE	35.03	7.437e1					1.6	NO		db		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.48	1.295e2					2.0	NO		bb		0.000
2	FUNCTION4 NCDPE	39.55	7.163e1					2.2	NO		db		0.000
3	FUNCTION4 NCDPE	39.41	1.104e2					1.8	NO		bd		0.000

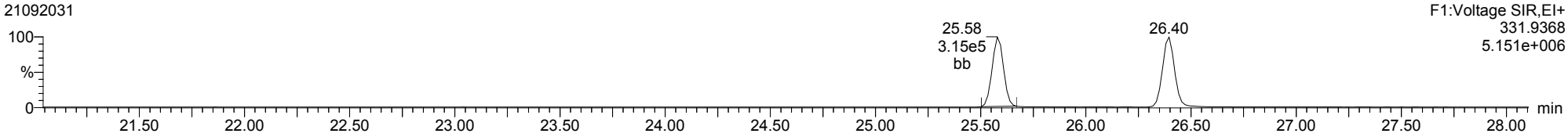
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

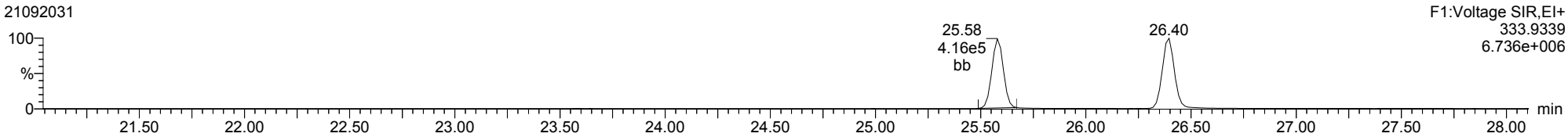
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

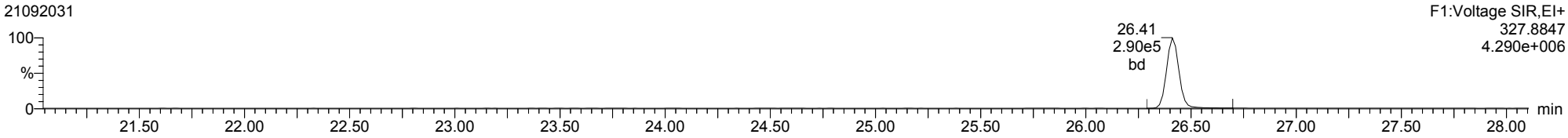
13C-1234-TCDD



13C-1234-TCDD

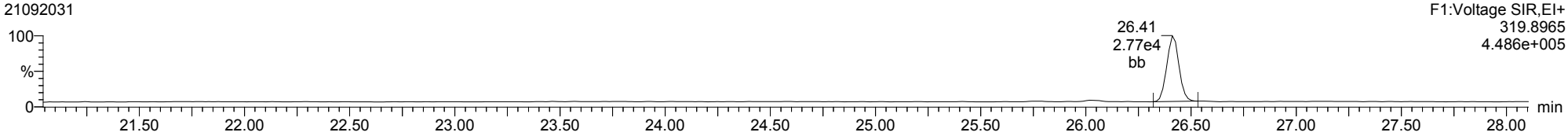


37CL-2378-TCDD

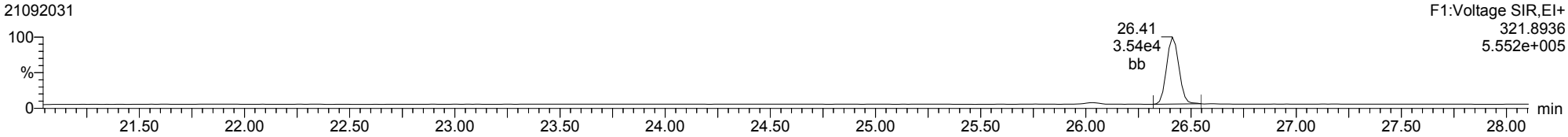


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

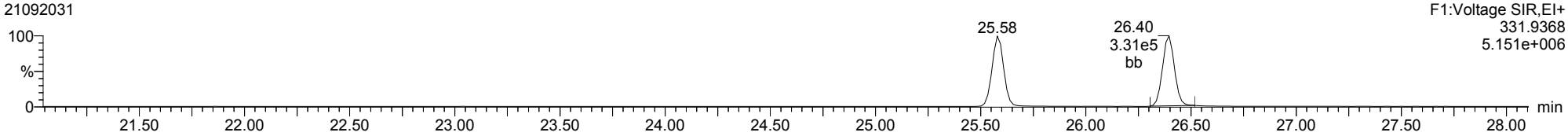
2378-TCDD



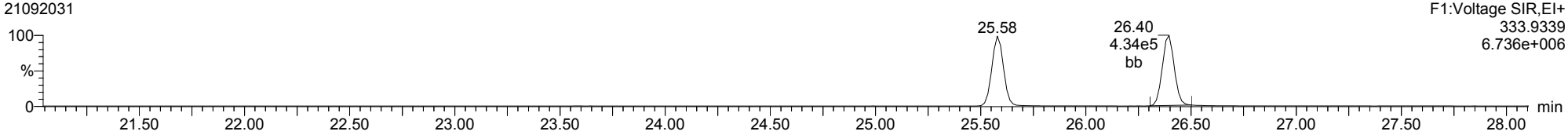
2378-TCDD



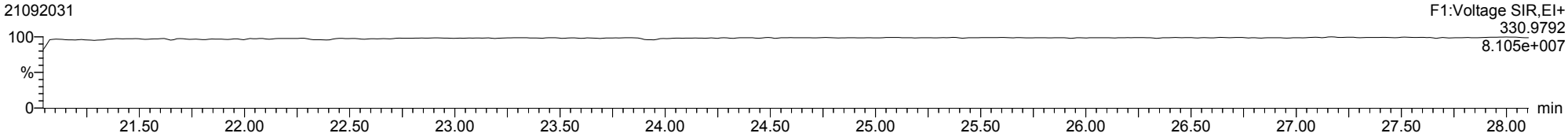
13C-2378-TCDD



13C-2378-TCDD



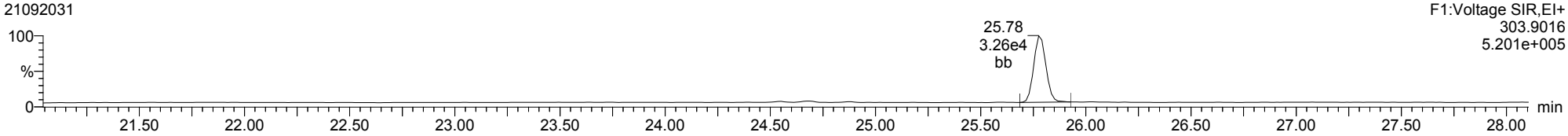
FUNCTION1 PFK



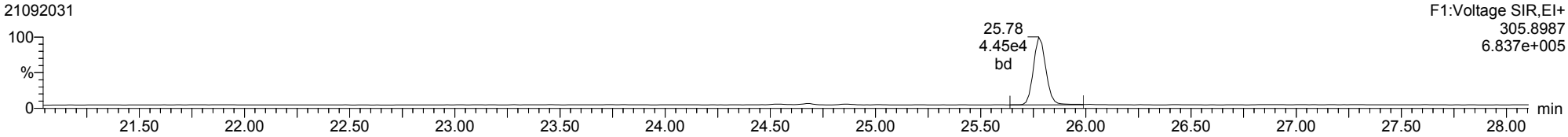
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

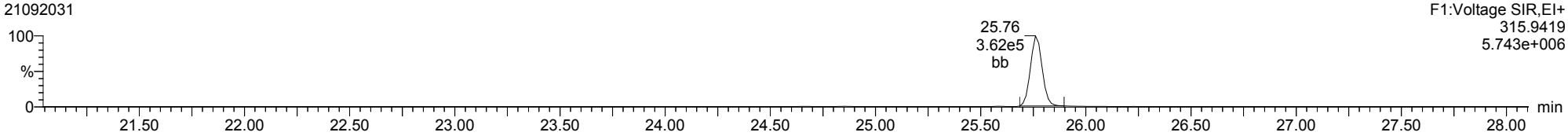
2378-TCDF



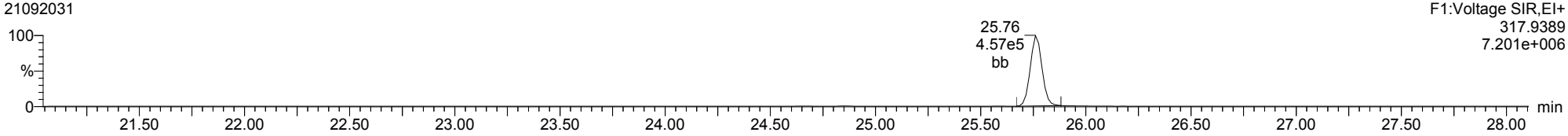
2378-TCDF



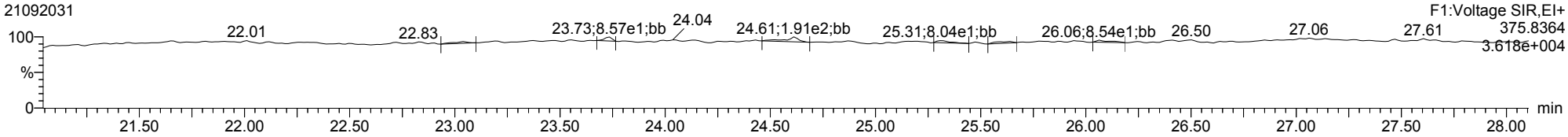
13C-2378-TCDF



13C-2378-TCDF

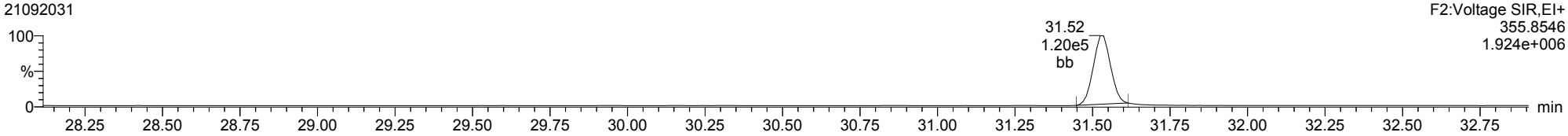


FUNCTION1 HXCDPE

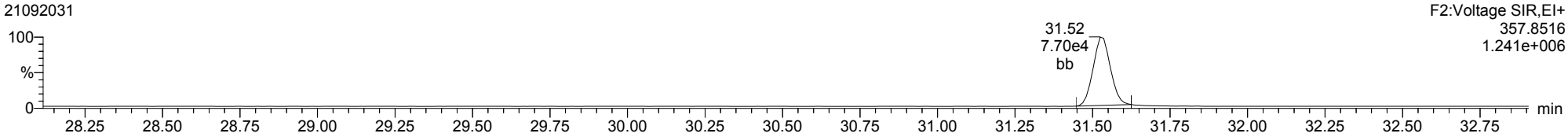


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

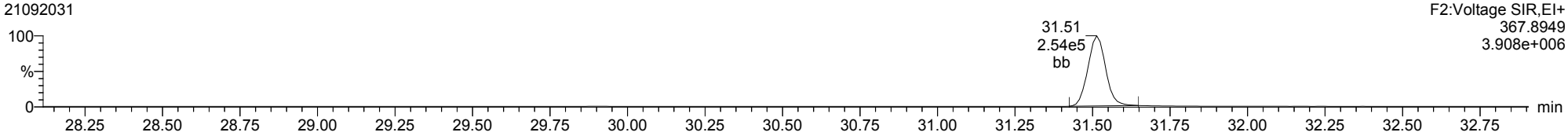
12378-PeCDD



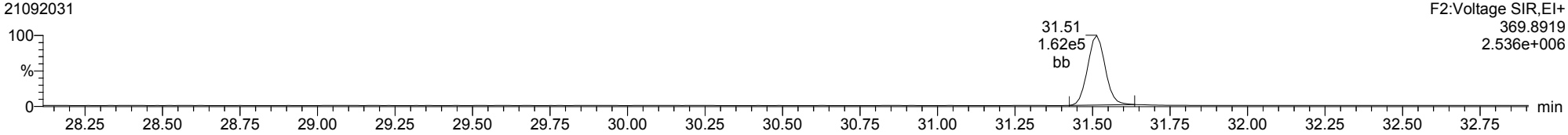
12378-PeCDD



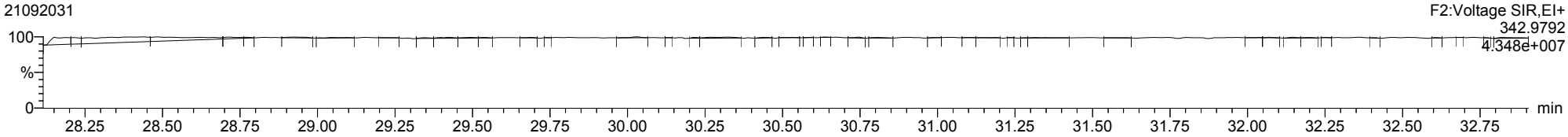
13C-12378-PeCDD



13C-12378-PeCDD

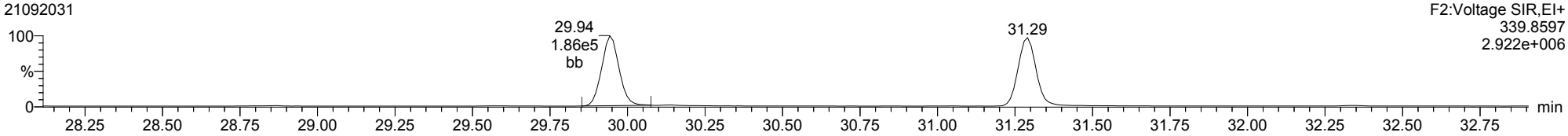


FUNCTION2 PFK

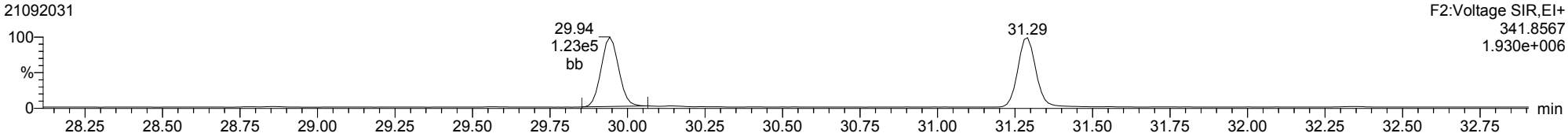


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

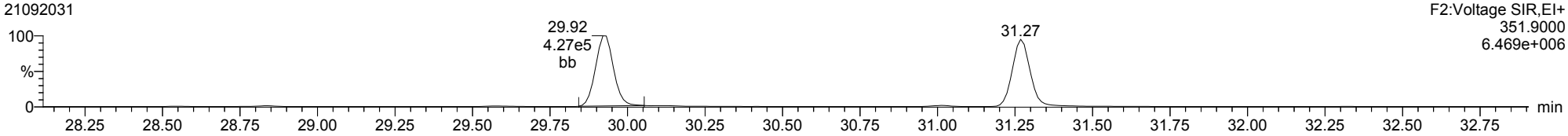
12378-PeCDF



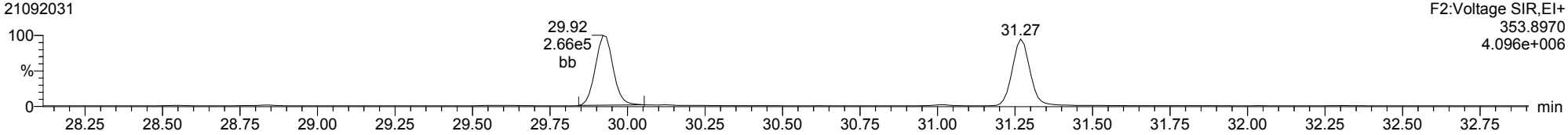
12378-PeCDF



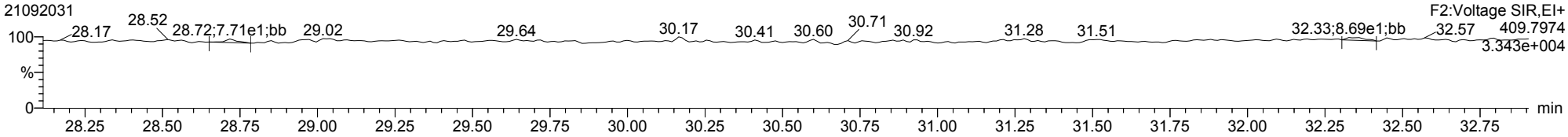
13C-12378-PeCDF



13C-12378-PeCDF

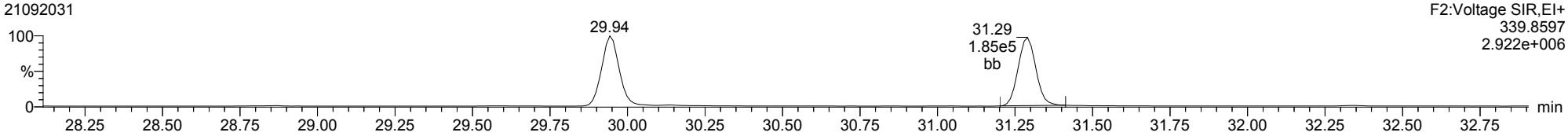


FUNCTION2 HPCDPE

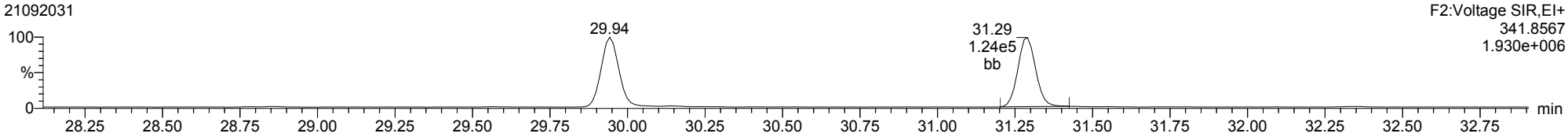


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

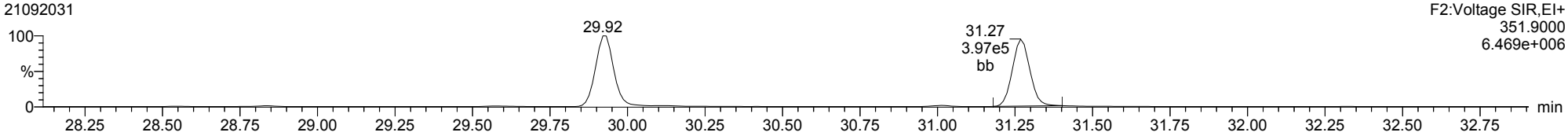
23478-PeCDF



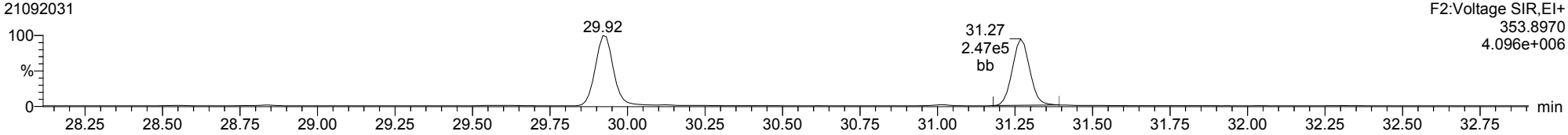
23478-PeCDF



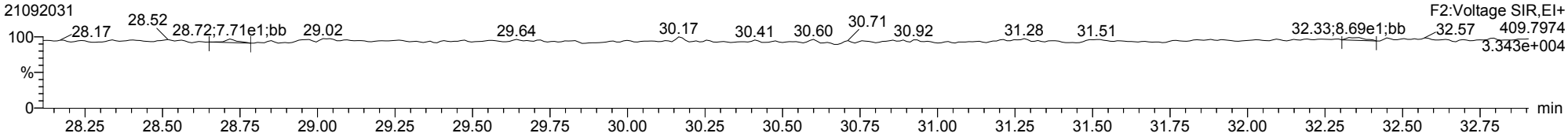
13C-23478-PeCDF



13C-23478-PeCDF

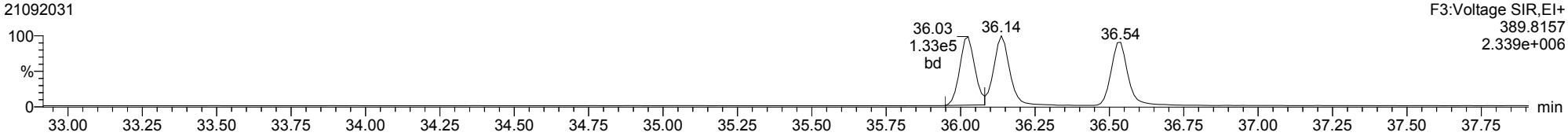


FUNCTION2 HPCDPE

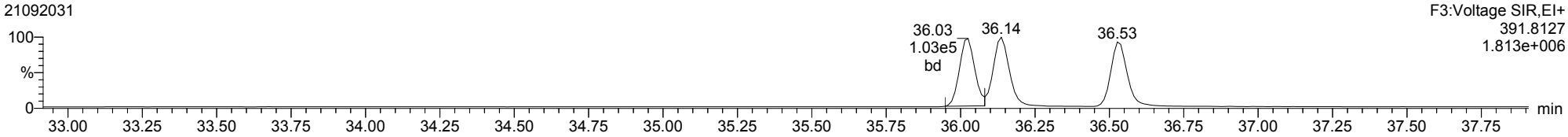


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

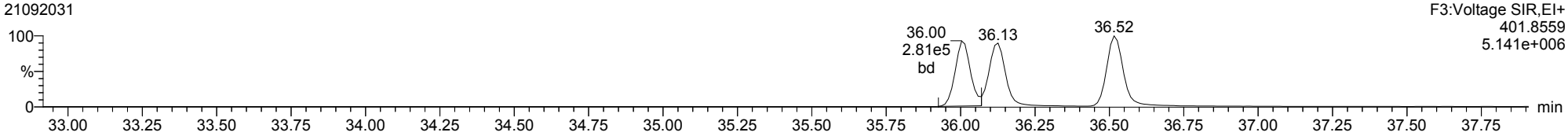
123478-HxCDD



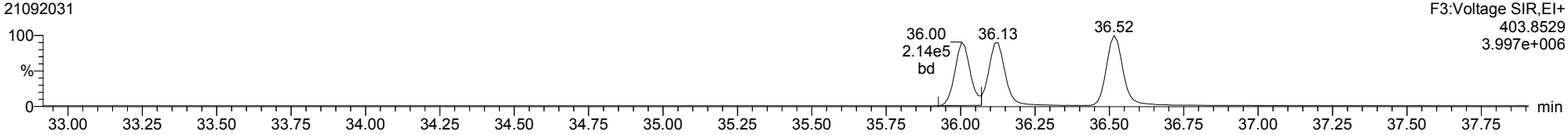
123478-HxCDD



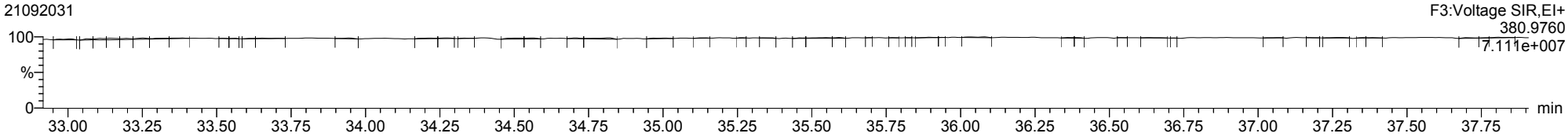
13C-123478-HxCDD



13C-123478-HxCDD

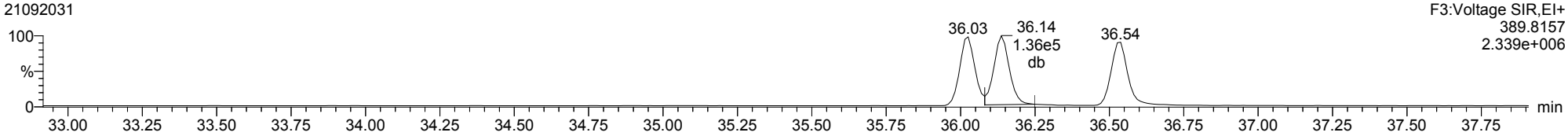


FUNCTION3 PFK

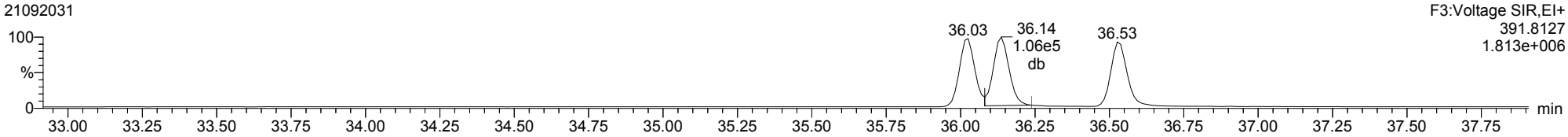


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

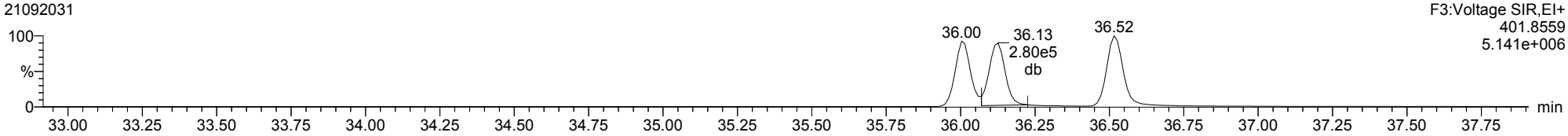
123678-HxCDD



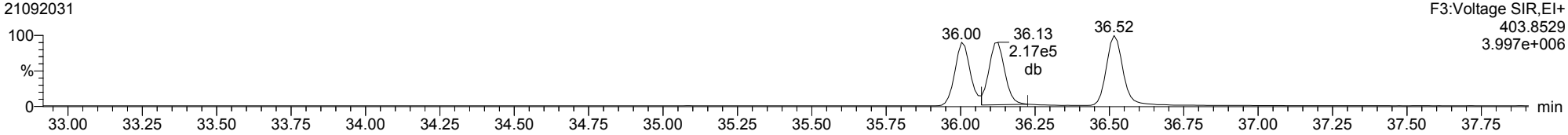
123678-HxCDD



13C-123678-HxCDD

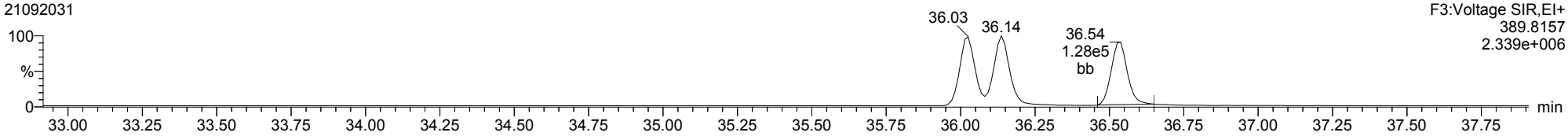


13C-123678-HxCDD

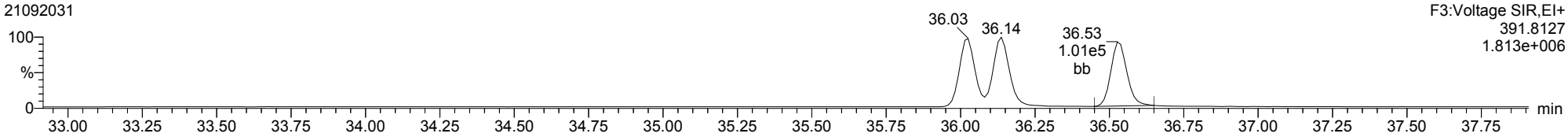


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

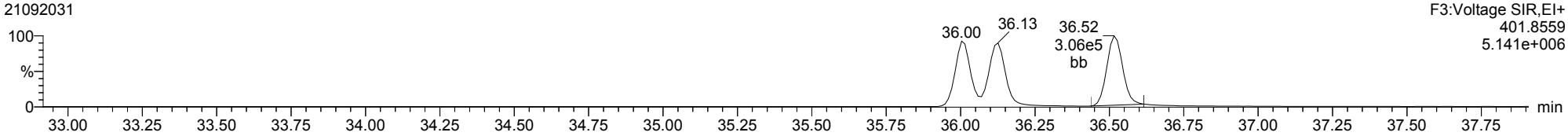
123789-HxCDD



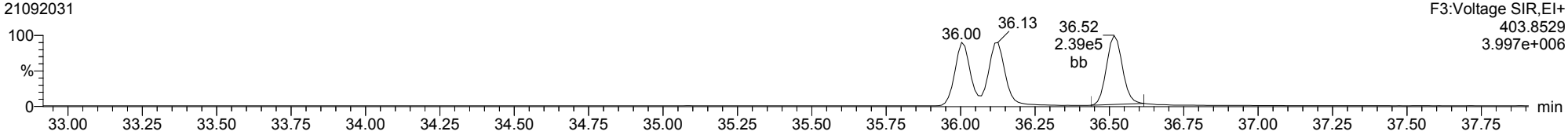
123789-HxCDD



13C-123789-HxCDD

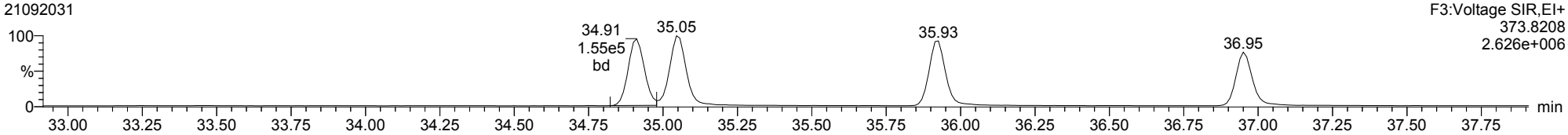


13C-123789-HxCDD

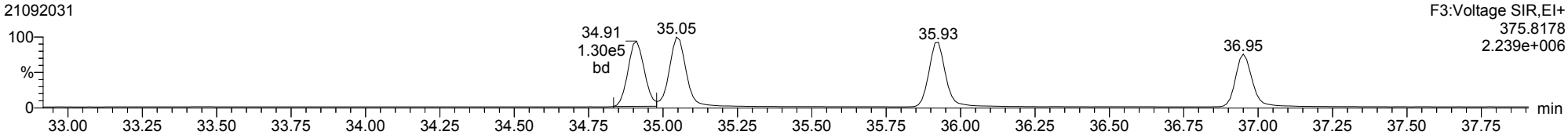


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

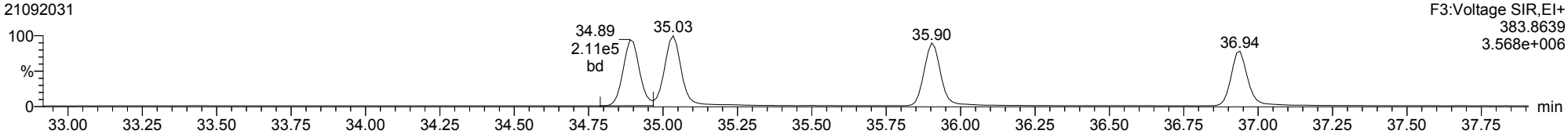
123478-HxCDF



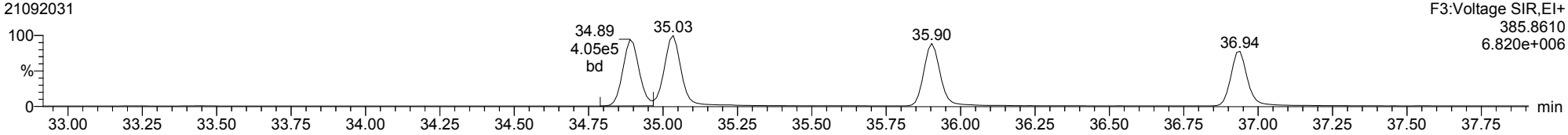
123478-HxCDF



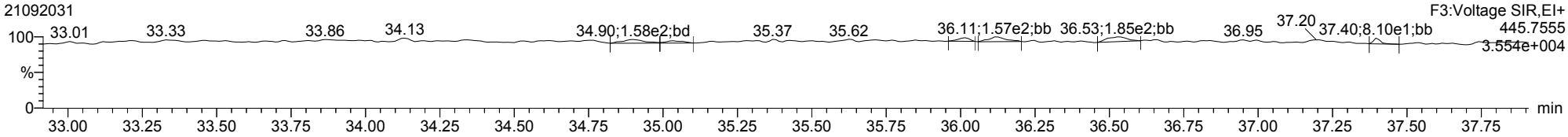
13C-123478-HxCDF



13C-123478-HxCDF

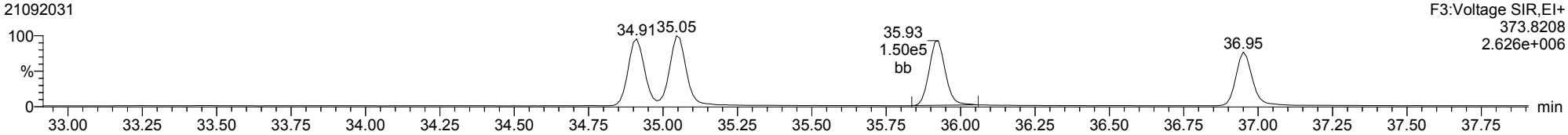


FUNCTION3 OCDPE

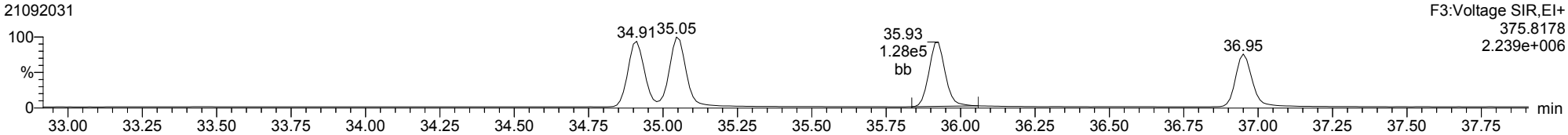


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

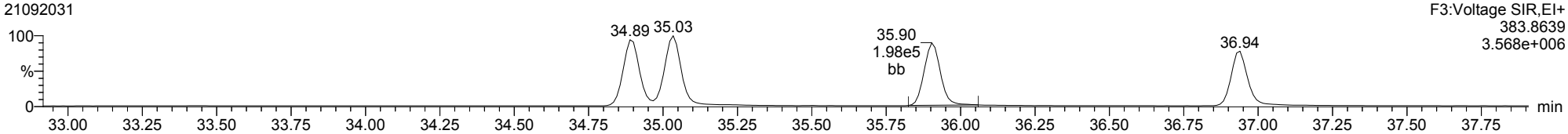
234678-HxCDF



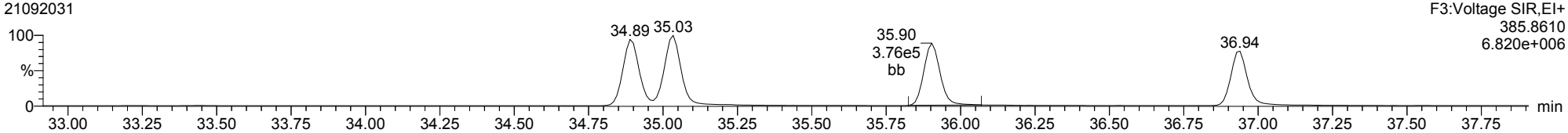
234678-HxCDF



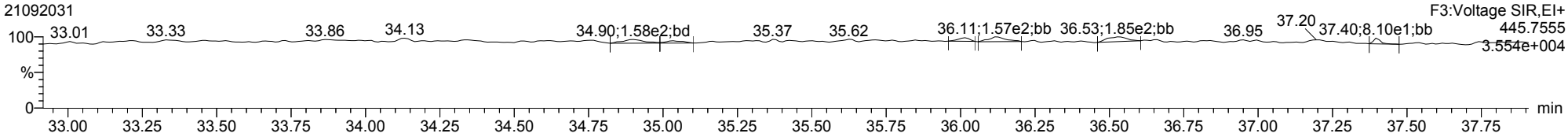
13C-234678-HxCDF



13C-234678-HxCDF

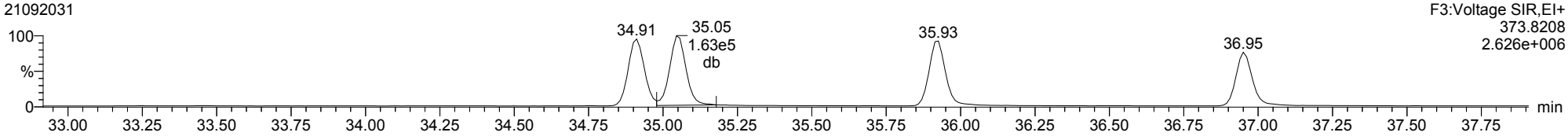


FUNCTION3 OCDPE

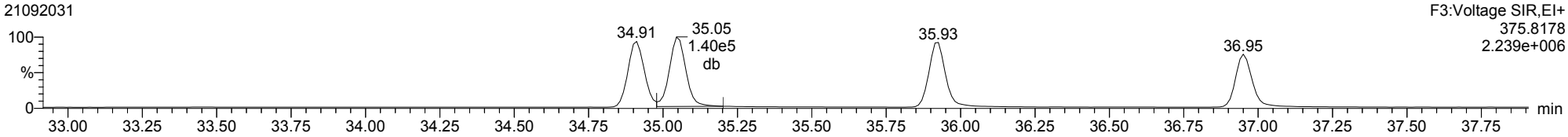


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

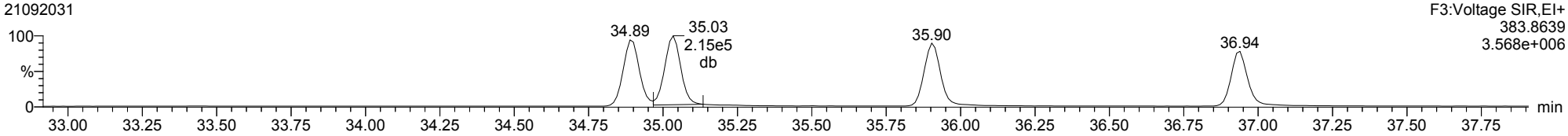
123678-HxCDF



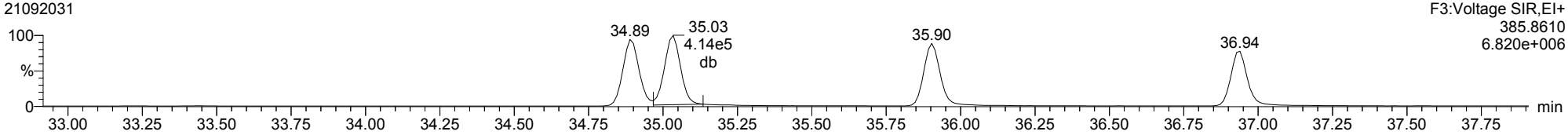
123678-HxCDF



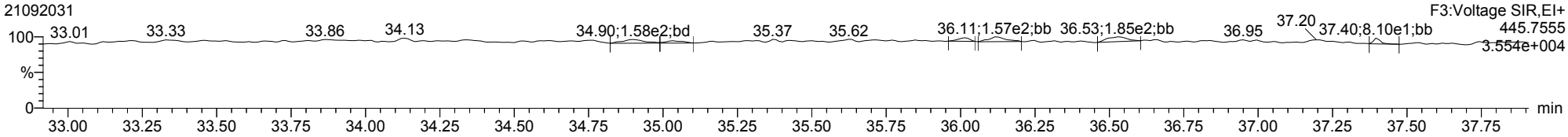
13C-123678-HxCDF



13C-123678-HxCDF

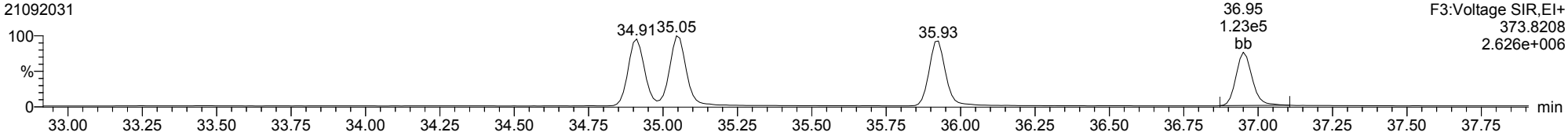


FUNCTION3 OCDPE

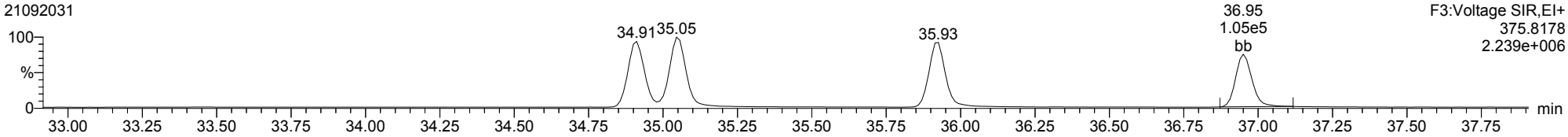


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

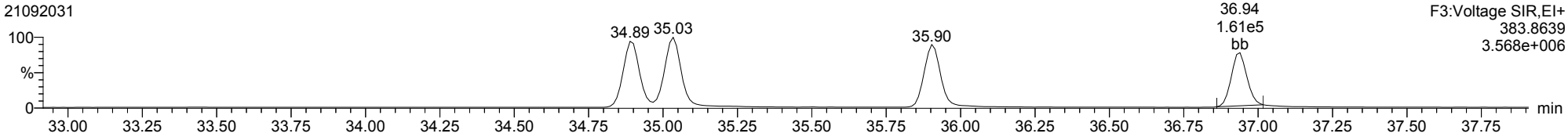
123789-HxCDF



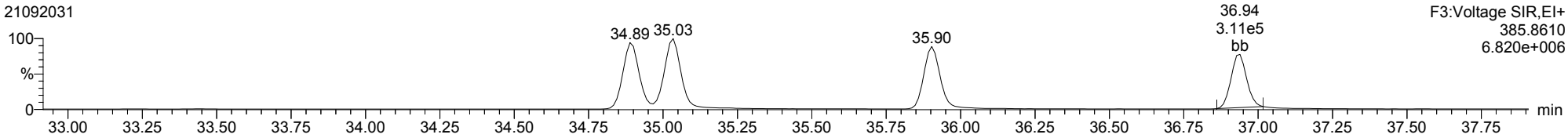
123789-HxCDF



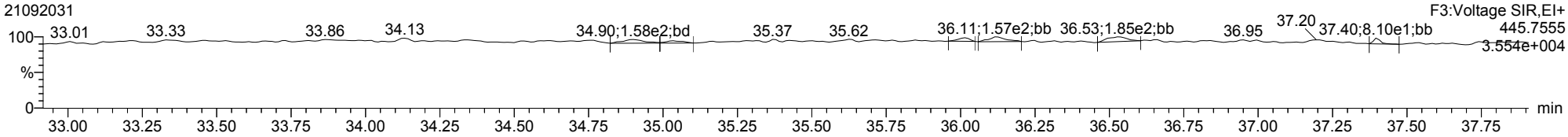
13C-123789-HxCDF



13C-123789-HxCDF

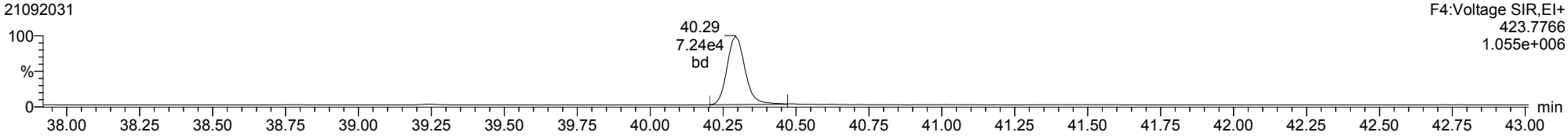


FUNCTION3 OCDPE

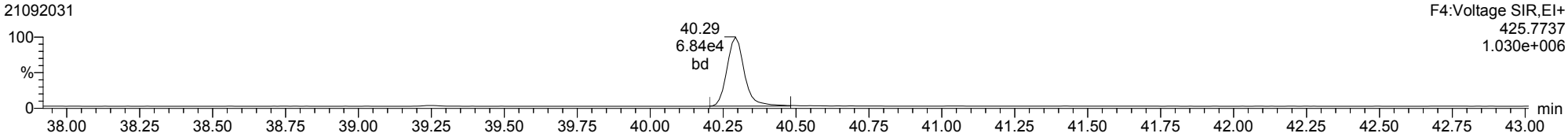


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

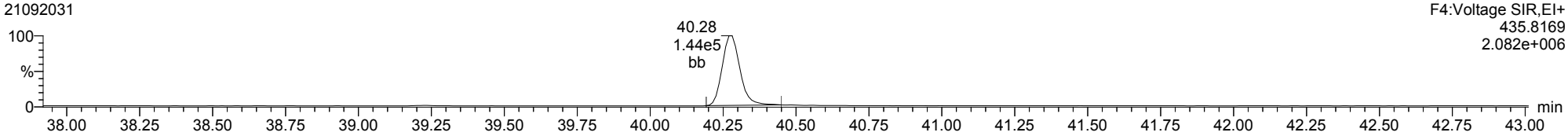
1234678-HpCDD



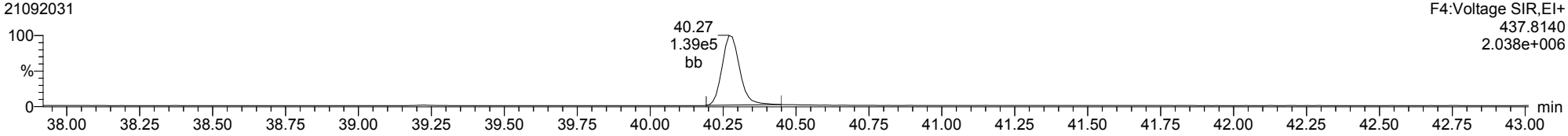
1234678-HpCDD



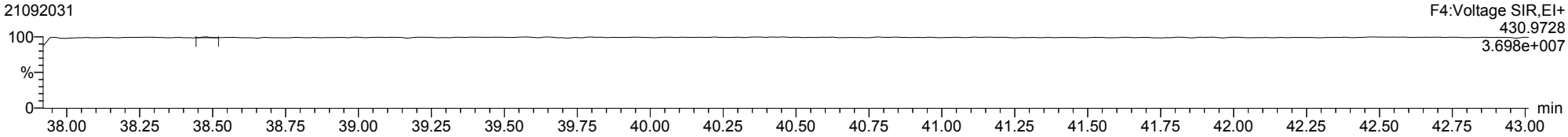
13C-1234678-HpCDD



13C-1234678-HpCDD

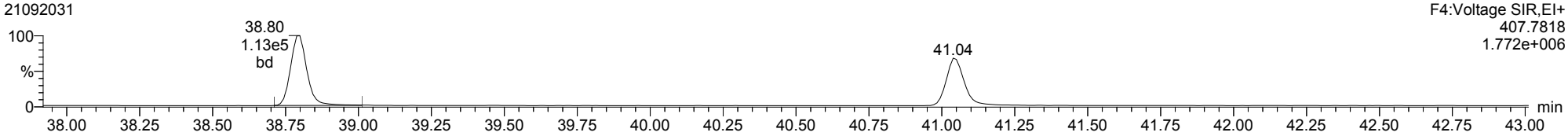


FUNCTION4 PFK

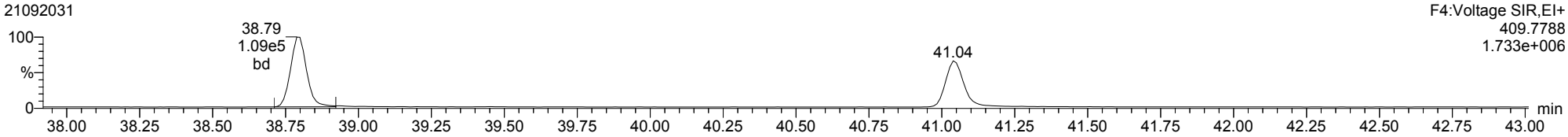


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

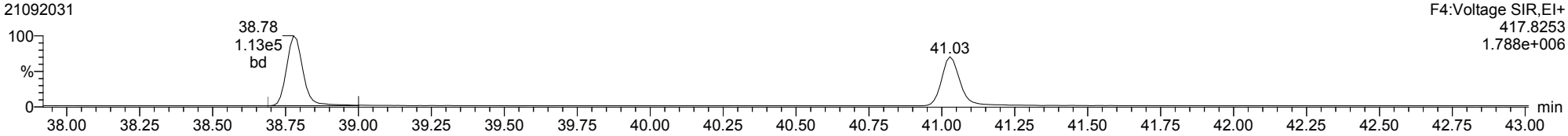
1234678-HpCDF



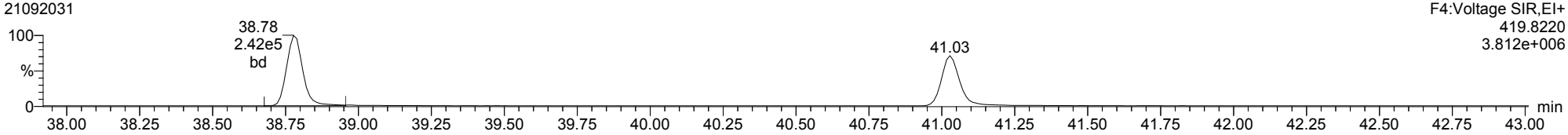
1234678-HpCDF



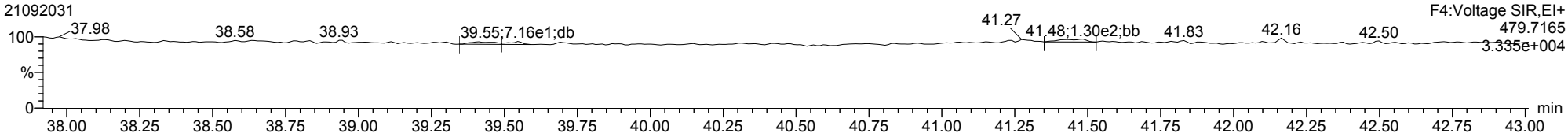
13C-1234678-HpCDF



13C-1234678-HpCDF

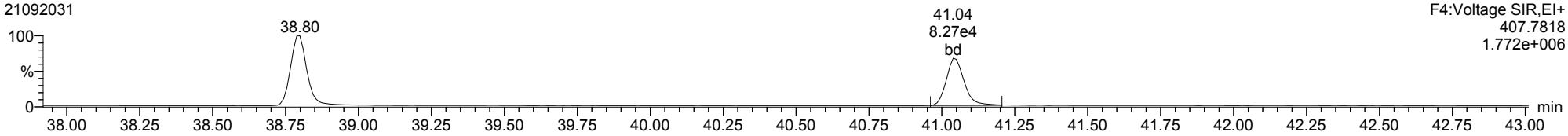


FUNCTION4 NCDPE

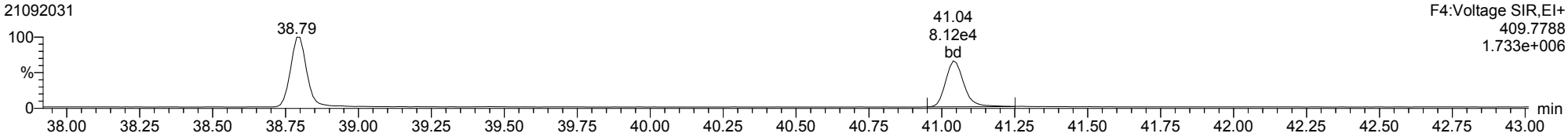


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

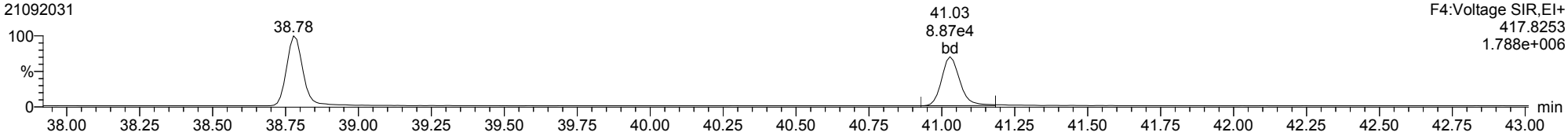
1234789-HpCDF



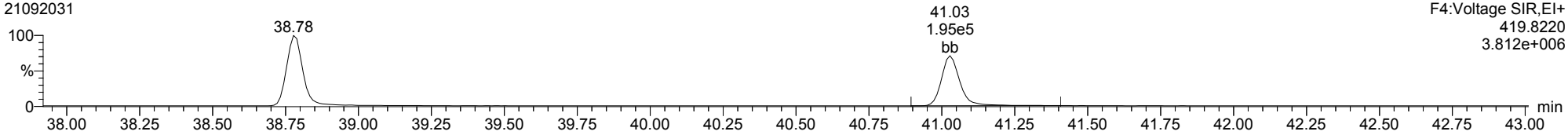
1234789-HpCDF



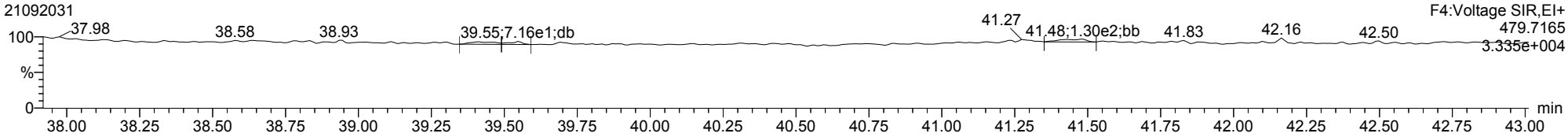
13C-1234789-HpCDF



13C-1234789-HpCDF

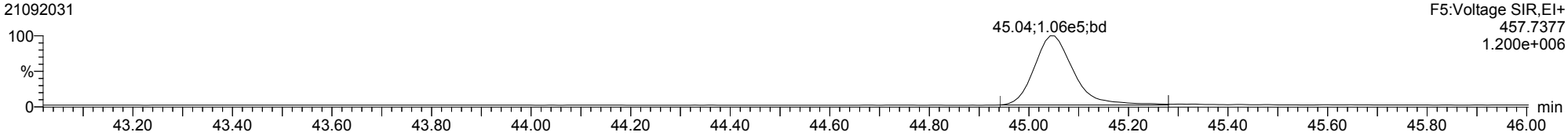


FUNCTION4 NCDPE

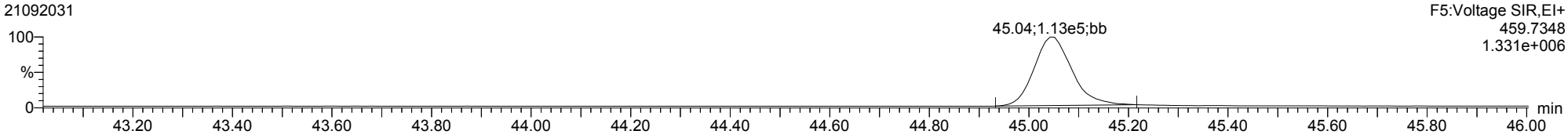


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

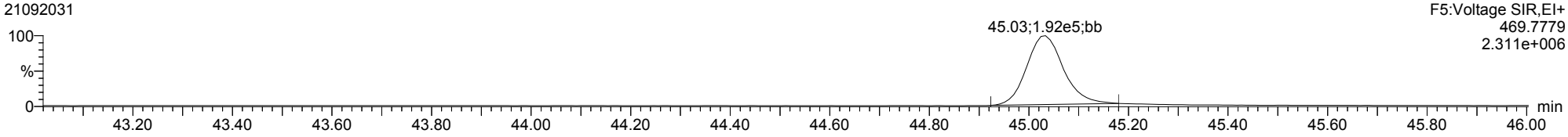
OCDD



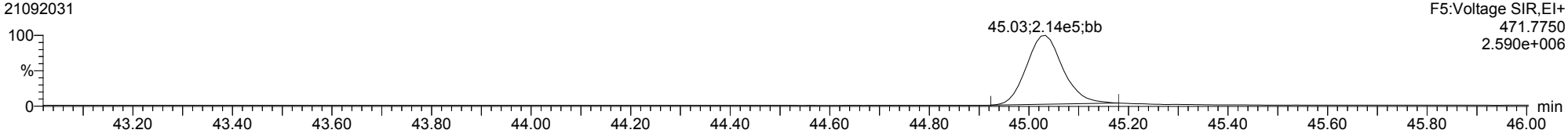
OCDD



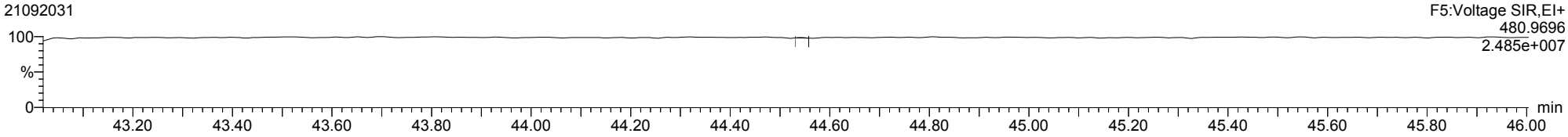
13C-OCDD



13C-OCDD

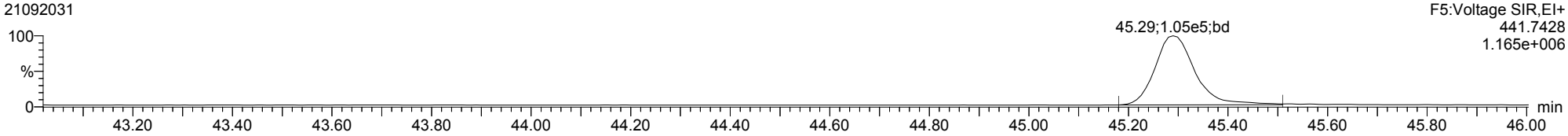


FUNCTION5 PFK

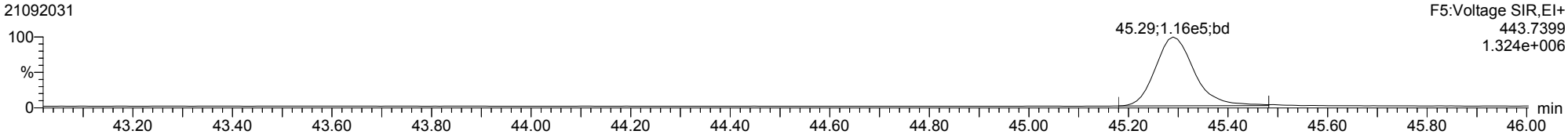


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

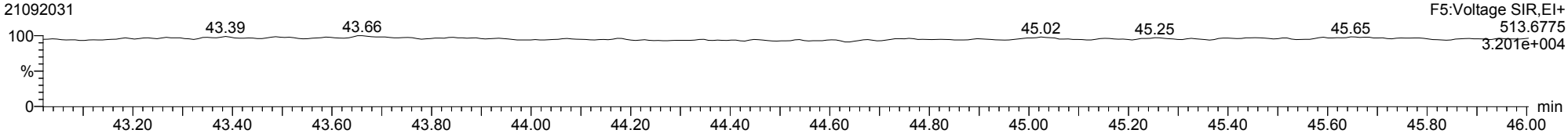
OCDF



OCDF

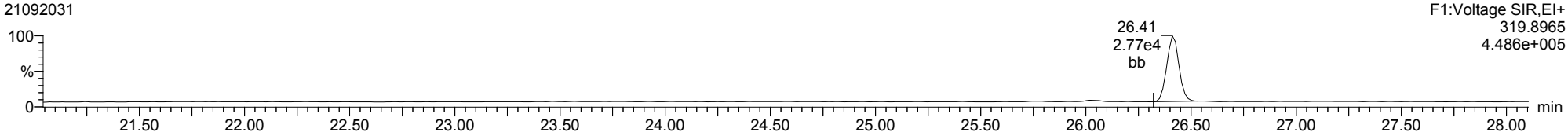


FUNCTION5 DCDPE

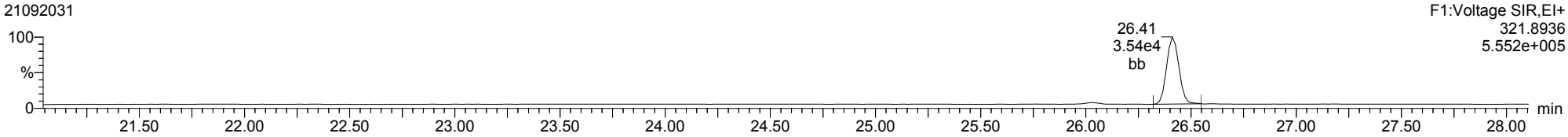


ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

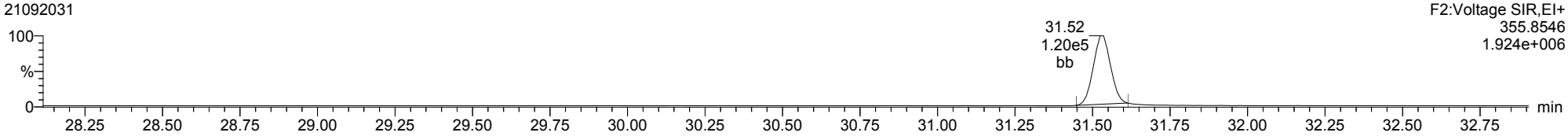
Total-tetradioxins



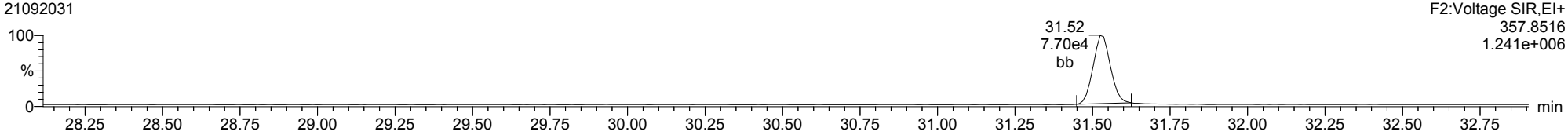
Total-tetradioxins



Total-pentadioxins



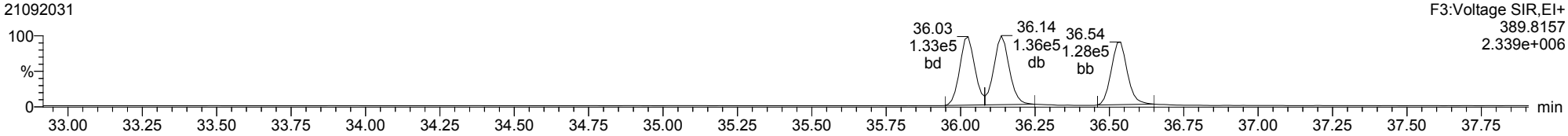
Total-pentadioxins



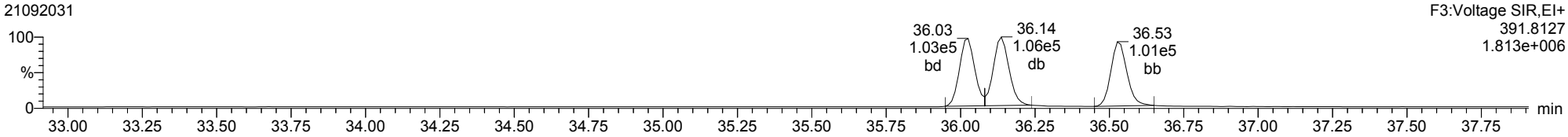
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

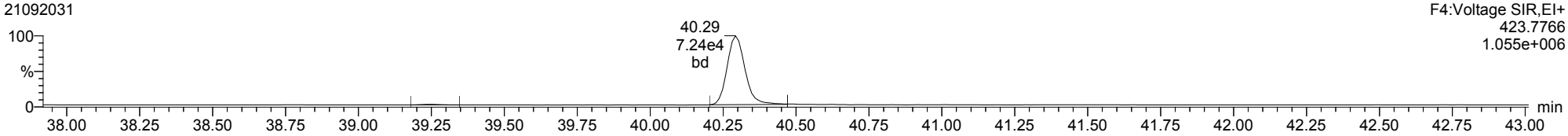
Total-hexadioxins



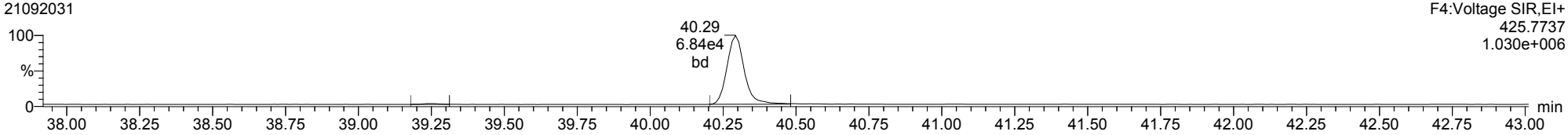
Total-hexadioxins



Total-heptadioxins



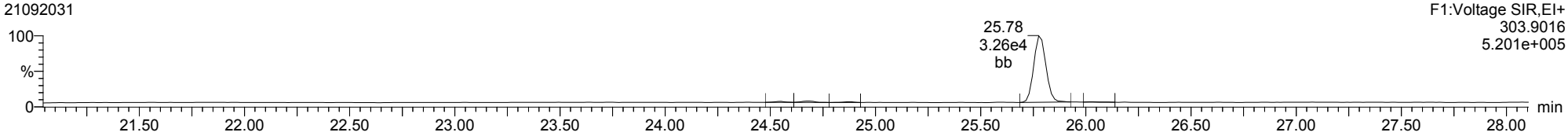
Total-heptadioxins



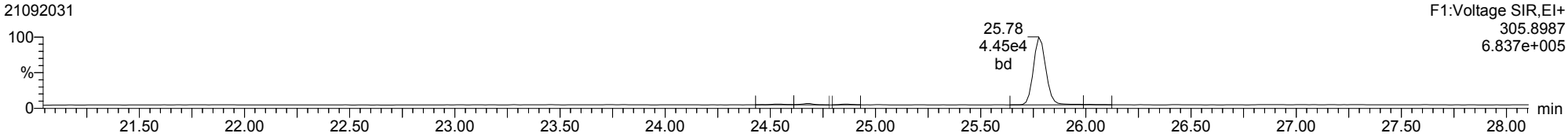
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

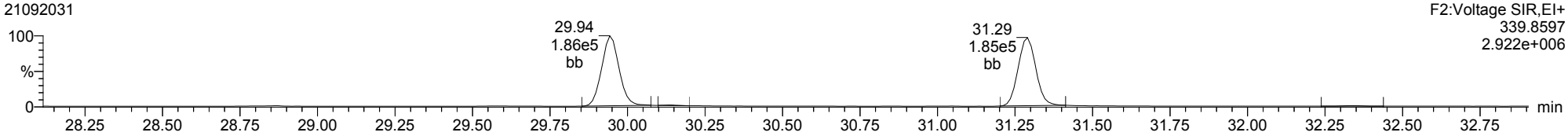
Total-tetrafurans



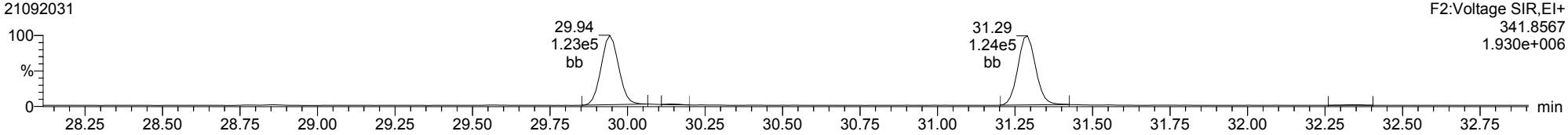
Total-tetrafurans



Total-pentafurans



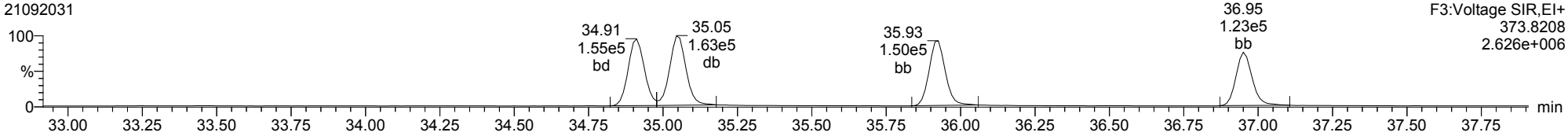
Total-pentafurans



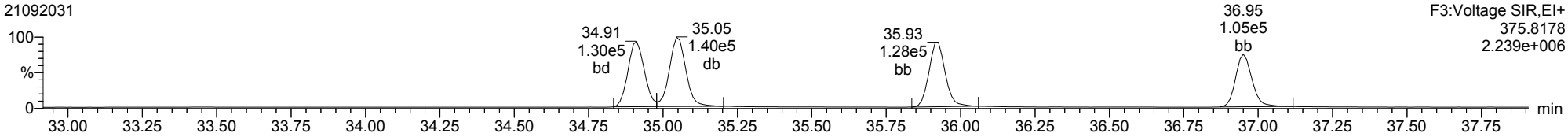
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:18 Pacific Daylight Time

ID: BJH0203-BS1, Name: 21092031, Date: 21-Sep-2021, Time: 17:10:15, Conditions: AUTOSPEC01, User: pk

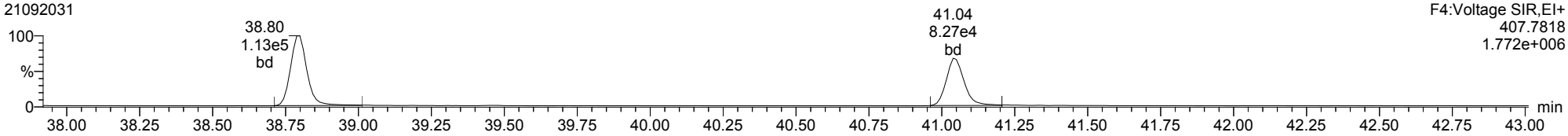
Total-hexafurans



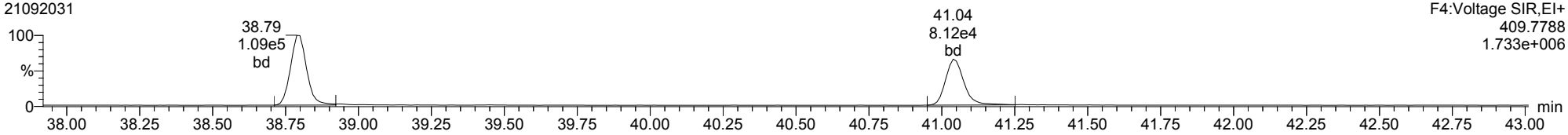
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21G0213
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0203-SRM1
Batch: BJH0203
Initial/Final: 10 g / 20 uL
Preparation: EPA 1613
Analyzed: 09/21/2021 17:59
Standard ID: J007936
Expires: 01/30/2022
Standard Lot#: PSRM0141
Description: Puget Sound reference-SRM

ANALYTE	TRUE (ng/kg wet)	FOUND (ng/kg wet)	MDL	MRL	Q	SRM % REC.	QC LIMITS REC.
2,3,7,8-TCDF	1.1100	0.835	0.088	1.00	J	75.2	50 - 150
2,3,7,8-TCDD	1.0500	0.867	0.150	1.00	EMPC, J	82.6	50 - 150
1,2,3,7,8-PeCDF	1.2300	0.913	0.240	1.00	J	74.2	50 - 150
2,3,4,7,8-PeCDF	1.0700	0.763	0.220	1.00	EMPC, J	71.3	50 - 150
1,2,3,7,8-PeCDD	1.0800	1.21	0.170	1.00		112	50 - 150
1,2,3,4,7,8-HxCDF	3.0200	2.91	0.280	1.00		96.5	50 - 150
1,2,3,6,7,8-HxCDF	1.0900	0.986	0.200	1.00	J	90.4	50 - 150
2,3,4,6,7,8-HxCDF	1.8300	1.86	0.170	1.00		102	50 - 150
1,2,3,7,8,9-HxCDF	0.51100	0.608	0.190	1.00	J	119	50 - 150
1,2,3,4,7,8-HxCDD	1.5900	1.45	0.170	1.00		91.4	50 - 150
1,2,3,6,7,8-HxCDD	3.8800	3.84	0.180	1.00		99.1	50 - 150
1,2,3,7,8,9-HxCDD	3.0400	2.90	0.220	1.00		95.3	50 - 150
1,2,3,4,6,7,8-HpCDF	18.700	19.7	0.210	1.00		105	50 - 150
1,2,3,4,7,8,9-HpCDF	1.6300	1.60	0.240	1.00	EMPC	97.9	50 - 150
1,2,3,4,6,7,8-HpCDD	90.600	104	0.560	2.50	B	114	50 - 150
OCDF	58.400	60.3	1.10	2.50		103	50 - 150
OCDD	811.00	846	4.60	10.0	B	104	50 - 150

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:28 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	1.866e3	2.247e3	1.108	0.831	0.770	1136	1182	2.13e4	3.20e4	18.7	27.0	NO	dd	dd	0.418
12378-PeCDF	29.942	1.001	2.274e3	1.654e3	1.015	1.375	1.550	786	1225	3.96e4	2.29e4	50.4	18.7	NO	bb	db	0.456
23478-PeCDF	31.291	1.001	1.902e3	1.562e3	1.126	1.217	1.550	786	1225	3.22e4	1.90e4	41.0	15.5	YES	db	db	0.381
123478-HxCDF	34.911	1.000	6.735e3	5.565e3	1.017	1.210	1.240	785	866	1.05e5	8.48e4	134.5	97.9	NO	dd	dd	1.457
234678-HxCDF	35.937	1.000	4.209e3	3.629e3	1.052	1.160	1.240	785	866	4.86e4	3.91e4	61.9	45.1	NO	bb	MM	0.929
123678-HxCDF	35.056	1.001	2.378e3	1.863e3	1.037	1.276	1.240	785	866	4.20e4	3.18e4	53.5	36.7	NO	db	db	0.493
123789-HxCDF	36.928	1.000	1.162e3	9.120e2	1.030	1.274	1.240	785	866	1.56e4	1.51e4	19.9	17.5	NO	bb	bb	0.304
1234678-HpCDF	38.800	1.001	3.265e4	3.061e4	1.327	1.067	1.050	871	952	5.65e5	5.19e5	648.8	545.4	NO	bb	bb	9.859
1234789-HpCDF	41.039	1.000	2.325e3	1.883e3	1.283	1.235	1.050	871	952	3.34e4	3.06e4	38.3	32.2	YES	bb	bb	0.798
OCDF	45.297	1.006	6.391e4	7.259e4	1.447	0.881	0.890	648	898	7.97e5	9.27e5	1229.4	1032.9	NO	bd	bb	30.153
2378-TCDD	26.411	1.001	1.372e3	2.171e3	0.920	0.632	0.770	1046	613	2.20e4	3.44e4	21.0	56.1	YES	bd	bd	0.434
12378-PeCDD	31.524	1.000	1.980e3	1.269e3	0.995	1.560	1.550	736	822	3.12e4	1.91e4	42.3	23.2	NO	bb	bb	0.603
123478-HxCDD	36.048	1.001	2.675e3	2.363e3	1.027	1.132	1.240	830	922	4.46e4	4.29e4	53.8	46.5	NO	bd	bd	0.726
123678-HxCDD	36.159	1.000	7.370e3	6.246e3	1.009	1.180	1.240	830	922	1.27e5	1.04e5	153.4	112.6	NO	db	dd	1.922
123789-HxCDD	36.549	1.011	5.237e3	4.246e3	0.950	1.234	1.240	830	922	8.43e4	7.61e4	101.7	82.5	NO	bb	bb	1.449
1234678-HpCDD	40.293	1.001	1.166e5	1.088e5	1.068	1.072	1.050	1429	1230	1.85e6	1.70e6	1290.8	1384.4	NO	bb	bb	51.842
OCDD	45.050	1.000	7.390e5	8.229e5	1.181	0.898	0.890	1503	1019	9.51e6	1.06e7	6327.7	10363.7	NO	bb	bb	422.753
13C-2378-TCDF	25.761	1.007	3.895e5	4.997e5	1.427	0.780	0.770	1882	1369	6.28e6	8.00e6	3339.0	5843.8	NO	bb	bb	68.757
13C-12378-PeCDF	29.920	1.170	5.241e5	3.240e5	1.297	1.618	1.550	1831	1511	8.19e6	5.10e6	4474.6	3377.6	NO	bb	bb	72.114
13C-23478-PeCDF	31.268	1.222	4.967e5	3.102e5	1.236	1.601	1.550	1831	1511	8.01e6	5.03e6	4375.1	3330.5	NO	bb	bb	71.981
13C-123478-HxCDF	34.900	0.955	2.808e5	5.495e5	1.242	0.511	0.510	1212	1762	4.52e6	8.72e6	3733.3	4945.8	NO	bd	bd	84.559
13C-123678-HxCDF	35.034	0.959	2.855e5	5.445e5	1.343	0.524	0.510	1212	1762	4.64e6	9.01e6	3830.2	5115.0	NO	db	db	78.161
13C-234678-HxCDF	35.925	0.983	2.748e5	5.267e5	1.215	0.522	0.510	1212	1762	4.41e6	8.39e6	3641.9	4763.0	NO	bb	bb	83.481
13C-123789-HxCDF	36.939	1.011	2.248e5	4.377e5	1.008	0.514	0.510	1212	1762	4.00e6	7.67e6	3303.3	4351.3	NO	bb	bb	83.189
13C-1234678-HpCDF	38.778	1.061	1.519e5	3.316e5	0.926	0.458	0.440	834	1022	2.56e6	5.55e6	3065.1	5428.0	NO	bb	bb	66.018
13C-1234789-HpCDF	41.028	1.123	1.317e5	2.792e5	0.758	0.472	0.440	834	1022	1.98e6	4.13e6	2374.9	4042.7	NO	bd	bd	68.604
13C-1234-TCDD	25.579	0.000	3.927e5	5.139e5	1.000	0.764	0.770	2232	1240	6.20e6	8.16e6	2778.9	6578.9	NO	bb	bb	100.000
13C-2378-TCDD	26.396	1.032	3.829e5	5.052e5	1.116	0.758	0.770	2232	1240	5.93e6	7.70e6	2655.7	6211.9	NO	bb	bb	87.732
13C-12378-PeCDD	31.513	1.232	3.313e5	2.097e5	0.732	1.579	1.550	826	927	5.15e6	3.27e6	6233.1	3530.5	NO	bb	bb	81.531
13C-123478-HxCDD	36.026	0.986	3.831e5	2.920e5	0.960	1.312	1.240	1402	1376	6.39e6	4.80e6	4560.1	3490.3	NO	bd	bd	88.989
13C-123678-HxCDD	36.148	0.989	3.930e5	3.091e5	1.041	1.271	1.240	1402	1376	6.48e6	5.01e6	4619.8	3638.2	NO	db	db	85.303
13C-1234678-HpCDD	40.270	1.102	2.071e5	2.000e5	0.632	1.036	1.050	704	917	3.33e6	3.23e6	4733.6	3517.5	NO	bb	bb	81.441
13C-OCDD	45.041	1.233	2.969e5	3.288e5	0.504	0.903	0.890	827	1007	3.72e6	4.14e6	4498.5	4105.7	NO	bb	bb	157.163
13C-123789-HxCDD	36.538	0.000	4.414e5	3.490e5	1.000	1.265	1.240	1402	1376	7.54e6	5.90e6	5375.8	4284.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	3.300e5		1.084			814		5.09e6		6256.3			db		33.590

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:28 Pacific Daylight Time

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.389	0.869	6.962e2	8.221e2	1.425	0.847	0.770	1136	1182	1.04e4	1.09e4	9.2	9.2	NO	dd	dd	0.120
1289-TCDF	27.378	1.063	9.215e2	1.027e3	1.043	0.897	0.770	1136	1182	1.26e4	1.62e4	11.1	13.7	YES	bd	bb	0.210
13468-PECDF	27.061	0.904	2.974e3	1.670e3	1.376	1.781	1.550	866	880	4.01e4	2.56e4	46.2	29.1	NO	bd	bd	0.398
12389-PECDF					1.000		1.550	786	1225								
123468-HXCDF	33.240	0.952	5.816e3	5.234e3	1.087	1.111	1.240	785	866	8.98e4	8.12e4	114.5	93.7	NO	bb	bd	1.225
1368-TCDD	23.508	0.891	8.532e2	1.266e3	0.923	0.674	0.770	1046	613	1.38e4	2.18e4	13.2	35.6	NO	bb	bb	0.258
1289-TCDD					0.794		0.770	1046	613								
12479-PECDD	28.829	0.915	2.817e3	1.397e3	1.843	2.016	1.550	736	822	2.73e4	2.14e4	37.1	26.0	YES	bb	db	0.423
12389-PECDD	31.937	1.013	5.784e2	3.915e2	1.154	1.477	1.550	736	822	8.29e3	5.87e3	11.3	7.1	NO	bb	bb	0.155
124679-HXCDD	34.020	0.944	2.049e4	1.557e4	1.125	1.316	1.240	830	922	3.21e5	2.50e5	387.5	271.0	NO	bb	bb	4.748
1234679-HPCDD	39.245	0.975	1.700e5	1.603e5	1.211	1.061	1.050	1429	1230	2.83e6	2.68e6	1980.5	2181.4	NO	bb	bb	67.004
Total-tetrafurans			2.280e4		1.192			1136		3.18e5							4.939
Total-penta1			2.165e4					866		3.05e5							4.548
Total-pentafurans			2.228e4		1.047			786		3.03e5							4.222
Total-hexafurans			6.693e4		1.045			785		1.03e6							14.962
Total-heptafurans			1.051e5		1.305			871		1.79e6							34.382
Total-Furans			3.081e5		1.158			1136		4.62e6							94.131
Total-tetradioxins			3.853e3		0.879			1046		6.00e4							1.148
Total-pentadioxins			6.634e3		1.331			736		1.00e5							1.665
Total-hexadioxins			6.283e4		1.028			830		8.86e5							15.895
Total-heptadioxins			2.866e5		1.140			1429		4.68e6							118.847
Total-Dioxins			1.099e6		1.092			1046		1.52e7							560.309
Total-TEQ			1.407e6					1046		1.98e7							654.440
FUNCTION1 PFK			4.227e5					594764		5.47e6							
FUNCTION2 PFK			1.353e7					289678		3.71e7							0.000
FUNCTION3 PFK			2.708e7					364031		1.24e8							0.000
FUNCTION4 PFK			9.166e5					200953		1.32e7							
FUNCTION5 PFK			0.000e0					182348		0.00e0							
FUNCTION1 HXCD...			1.426e3					838		2.28e4							0.000
FUNCTION1 HPCD...			5.671e3					667		9.83e4							0.000
FUNCTION2 HPCD...			4.434e2					769		8.31e3							0.000
FUNCTION3 OCDPE			3.929e2					727		6.13e3							0.000
FUNCTION4 NCDPE			1.064e4					680		1.93e5							0.000
FUNCTION5 DCDPE			1.817e2					499		3.94e3							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.42	1.120e3	1.424e3	1.192	0.79	0.77	14.2	YES	NO	dd	dd	0.240
2	Total-tetrafurans	23.10	2.204e3	3.365e3	1.192	0.65	0.77	28.2	YES	NO	bd	MM	0.525
3	1368-TCDF	22.39	6.962e2	8.221e2	1.425	0.85	0.77	9.2	YES	NO	dd	dd	0.120
4	Total-tetrafurans	25.94	1.037e3	1.200e3	1.192	0.86	0.77	11.7	YES	NO	dd	dd	0.211
5	2378-TCDF	25.78	1.866e3	2.247e3	1.108	0.83	0.77	18.7	YES	NO	dd	dd	0.418
6	Total-tetrafurans	25.44	1.228e3	1.596e3	1.192	0.77	0.77	11.4	YES	NO	dd	dd	0.266
7	Total-tetrafurans	25.28	4.738e2	6.761e2	1.192	0.70	0.77	6.0	YES	NO	bd	bd	0.108
8	Total-tetrafurans	25.10	7.191e2	9.134e2	1.192	0.79	0.77	8.1	YES	NO	db	db	0.154
9	Total-tetrafurans	24.87	2.656e3	3.493e3	1.192	0.76	0.77	33.6	YES	NO	dd	dd	0.580
10	Total-tetrafurans	24.54	2.563e3	3.704e3	1.192	0.69	0.77	35.9	YES	NO	dd	dd	0.591
11	Total-tetrafurans	24.17	2.049e3	2.419e3	1.192	0.85	0.77	26.2	YES	NO	dd	db	0.422
12	Total-tetrafurans	24.02	2.250e3	2.671e3	1.192	0.84	0.77	22.1	YES	NO	dd	dd	0.464
13	Total-tetrafurans	23.87	1.919e3	2.377e3	1.192	0.81	0.77	24.4	YES	NO	dd	dd	0.405
14	Total-tetrafurans	26.89	5.269e2	7.353e2	1.192	0.72	0.77	7.8	YES	NO	bb	bd	0.119
15	Total-tetrafurans	24.67	1.490e3	1.845e3	1.192	0.81	0.77	22.8	YES	NO	MM	MM	0.315

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.56	7.792e2	5.086e2		1.53	1.55	9.8	YES	NO	bb	bb	0.166
2	Total-penta1	27.20	2.087e4	1.321e4		1.58	1.55	342.5	YES	NO	db	db	4.382

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.47	3.655e3	2.650e3	1.047	1.38	1.55	67.3	YES	NO	dd	bb	0.728
2	Total-pentafurans	28.17	5.737e2	3.240e2	1.047	1.77	1.55	16.4	YES	NO	bb	bb	0.104
3	Total-pentafurans	30.15	3.818e3	2.267e3	1.047	1.68	1.55	69.1	YES	NO	bd	bd	0.703
4	12378-PeCDF	29.94	2.274e3	1.654e3	1.015	1.37	1.55	50.4	YES	NO	bb	db	0.456
5	Total-pentafurans	29.83	3.738e2	2.824e2	1.047	1.32	1.55	10.3	YES	NO	db	bd	0.076
6	Total-pentafurans	29.47	3.860e2	2.641e2	1.047	1.46	1.55	8.7	YES	NO	dd	dd	0.075
7	Total-pentafurans	29.39	4.481e2	2.714e2	1.047	1.65	1.55	12.5	YES	NO	bd	bd	0.083
8	Total-pentafurans	29.06	2.180e2	1.274e2	1.047	1.71	1.55	6.1	NO	NO	db	db	0.040
9	Total-pentafurans	28.87	8.975e3	5.422e3	1.047	1.66	1.55	115.8	YES	NO	MM	MM	1.662
10	Total-pentafurans	31.13	1.557e3	9.995e2	1.047	1.56	1.55	29.4	YES	NO	dd	dd	0.295

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	33.45	1.934e4	1.690e4	1.045	1.14	1.24	365.8	YES	NO	bb	db	4.442
2	123468-HXCDF	33.24	5.816e3	5.234e3	1.087	1.11	1.24	114.5	YES	NO	bb	bd	1.225
3	123789-HxCDF	36.93	1.162e3	9.120e2	1.030	1.27	1.24	19.9	YES	NO	bb	bb	0.304
4	234678-HxCDF	35.94	4.209e3	3.629e3	1.052	1.16	1.24	61.9	YES	NO	bb	MM	0.929
5	Total-hexafurans	35.40	2.230e2	1.594e2	1.045	1.40	1.24	4.6	YES	NO	bb	bb	0.047
6	123678-HxCDF	35.06	2.378e3	1.863e3	1.037	1.28	1.24	53.5	YES	NO	db	db	0.493
7	123478-HxCDF	34.91	6.735e3	5.565e3	1.017	1.21	1.24	134.5	YES	NO	dd	dd	1.457
8	Total-hexafurans	34.76	1.132e3	8.926e2	1.045	1.27	1.24	18.8	YES	NO	bd	bd	0.248
9	Total-hexafurans	34.29	2.538e4	2.105e4	1.045	1.21	1.24	529.0	YES	NO	bb	bb	5.690
10	Total-hexafurans	33.99	5.519e2	4.894e2	1.045	1.13	1.24	11.4	YES	NO	bb	bb	0.128

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.46	7.172e4	6.993e4	1.305	1.03	1.05	1395.9	YES	NO	bd	bd	24.265
2	Total-heptafurans	39.21	7.426e2	7.566e2	1.305	0.98	1.05	11.5	YES	NO	bb	bb	0.257
3	1234678-HpCDF	38.80	3.265e4	3.061e4	1.327	1.07	1.05	648.8	YES	NO	bb	bb	9.859

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.42	1.120e3	1.424e3	1.192	0.79	0.77	14.2	YES	NO	dd	dd	0.240
2	Total-tetrafurans	23.10	2.204e3	3.365e3	1.192	0.65	0.77	28.2	YES	NO	bd	MM	0.525
3	1368-TCDF	22.39	6.962e2	8.221e2	1.425	0.85	0.77	9.2	YES	NO	dd	dd	0.120
4	Total-Furans	21.66	1.385e2	1.620e2	1.158	0.86	0.77	2.1	NO	NO	bb	bb	0.029
5	Total-Furans	21.15	2.308e3	2.831e3	1.158	0.82	0.77	25.1	YES	NO	bd	bd	0.499
6	Total-tetrafurans	25.94	1.037e3	1.200e3	1.192	0.86	0.77	11.7	YES	NO	dd	dd	0.211
7	2378-TCDF	25.78	1.866e3	2.247e3	1.108	0.83	0.77	18.7	YES	NO	dd	dd	0.418
8	Total-tetrafurans	25.44	1.228e3	1.596e3	1.192	0.77	0.77	11.4	YES	NO	dd	dd	0.266
9	Total-tetrafurans	25.28	4.738e2	6.761e2	1.192	0.70	0.77	6.0	YES	NO	bd	bd	0.108
10	Total-tetrafurans	25.10	7.191e2	9.134e2	1.192	0.79	0.77	8.1	YES	NO	db	db	0.154
11	Total-tetrafurans	24.87	2.656e3	3.493e3	1.192	0.76	0.77	33.6	YES	NO	dd	dd	0.580
12	Total-tetrafurans	24.54	2.563e3	3.704e3	1.192	0.69	0.77	35.9	YES	NO	dd	dd	0.591
13	Total-tetrafurans	24.17	2.049e3	2.419e3	1.192	0.85	0.77	26.2	YES	NO	dd	db	0.422
14	Total-tetrafurans	24.02	2.250e3	2.671e3	1.192	0.84	0.77	22.1	YES	NO	dd	dd	0.464
15	Total-tetrafurans	23.87	1.919e3	2.377e3	1.192	0.81	0.77	24.4	YES	NO	dd	dd	0.405
16	Total-tetrafurans	26.89	5.269e2	7.353e2	1.192	0.72	0.77	7.8	YES	NO	bb	bd	0.119
17	Total-pentafurans	28.47	3.655e3	2.650e3	1.047	1.38	1.55	67.3	YES	NO	dd	bb	0.728
18	Total-pentafurans	28.17	5.737e2	3.240e2	1.047	1.77	1.55	16.4	YES	NO	bb	bb	0.104
19	Total-pentafurans	30.15	3.818e3	2.267e3	1.047	1.68	1.55	69.1	YES	NO	bd	bd	0.703
20	12378-PeCDF	29.94	2.274e3	1.654e3	1.015	1.37	1.55	50.4	YES	NO	bb	db	0.456
21	Total-pentafurans	29.83	3.738e2	2.824e2	1.047	1.32	1.55	10.3	YES	NO	db	bd	0.076
22	Total-pentafurans	29.47	3.860e2	2.641e2	1.047	1.46	1.55	8.7	YES	NO	dd	dd	0.075
23	Total-pentafurans	29.39	4.481e2	2.714e2	1.047	1.65	1.55	12.5	YES	NO	bd	bd	0.083
24	Total-pentafurans	29.06	2.180e2	1.274e2	1.047	1.71	1.55	6.1	NO	NO	db	db	0.040
25	Total-pentafurans	28.87	8.975e3	5.422e3	1.047	1.66	1.55	115.8	YES	NO	MM	MM	1.662
26	Total-pentafurans	31.13	1.557e3	9.995e2	1.047	1.56	1.55	29.4	YES	NO	dd	dd	0.295
27	Total-hexafurans	33.45	1.934e4	1.690e4	1.045	1.14	1.24	365.8	YES	NO	bb	db	4.442
28	123468-HXCDF	33.24	5.816e3	5.234e3	1.087	1.11	1.24	114.5	YES	NO	bb	bd	1.225
29	123789-HxCDF	36.93	1.162e3	9.120e2	1.030	1.27	1.24	19.9	YES	NO	bb	bb	0.304
30	234678-HxCDF	35.94	4.209e3	3.629e3	1.052	1.16	1.24	61.9	YES	NO	bb	MM	0.929
31	Total-hexafurans	35.40	2.230e2	1.594e2	1.045	1.40	1.24	4.6	YES	NO	bb	bb	0.047
32	123678-HxCDF	35.06	2.378e3	1.863e3	1.037	1.28	1.24	53.5	YES	NO	db	db	0.493
33	123478-HxCDF	34.91	6.735e3	5.565e3	1.017	1.21	1.24	134.5	YES	NO	dd	dd	1.457
34	Total-hexafurans	34.76	1.132e3	8.926e2	1.045	1.27	1.24	18.8	YES	NO	bd	bd	0.248
35	Total-hexafurans	34.29	2.538e4	2.105e4	1.045	1.21	1.24	529.0	YES	NO	bb	bb	5.690
36	Total-hexafurans	33.99	5.519e2	4.894e2	1.045	1.13	1.24	11.4	YES	NO	bb	bb	0.128
37	Total-heptafurans	39.46	7.172e4	6.993e4	1.305	1.03	1.05	1395.9	YES	NO	bd	bd	24.265

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-heptafurans	39.21	7.426e2	7.566e2	1.305	0.98	1.05	11.5	YES	NO	bb	bb	0.257
39	1234678-HpCDF	38.80	3.265e4	3.061e4	1.327	1.07	1.05	648.8	YES	NO	bb	bb	9.859
40	OCDF	45.30	6.391e4	7.259e4	1.447	0.88	0.89	1229.4	YES	NO	bd	bb	30.153
41	Total-penta1	27.56	7.792e2	5.086e2		1.53	1.55	9.8	YES	NO	bb	bb	0.166
42	Total-penta1	27.20	2.087e4	1.321e4		1.58	1.55	342.5	YES	NO	db	db	4.382
43	13468-PECDF	27.06	2.974e3	1.670e3	1.376	1.78	1.55	46.2	YES	NO	bd	bd	0.398
44	Total-tetrafurans	24.67	1.490e3	1.845e3	1.192	0.81	0.77	22.8	YES	NO	MM	MM	0.315

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	26.55	2.219e2	2.978e2	0.879	0.75	0.77	3.6	YES	NO	db	db	0.067
2	Total-tetradioxins	26.05	5.857e2	6.829e2	0.879	0.86	0.77	8.8	YES	NO	bb	bb	0.162
3	Total-tetradioxins	25.59	1.200e3	1.587e3	0.879	0.76	0.77	17.8	YES	NO	bb	bd	0.357
4	Total-tetradioxins	25.02	9.914e2	1.380e3	0.879	0.72	0.77	13.8	YES	NO	bb	bb	0.304
5	1368-TCDD	23.51	8.532e2	1.266e3	0.923	0.67	0.77	13.2	YES	NO	bb	bb	0.258

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.94	5.784e2	3.915e2	1.154	1.48	1.55	11.3	YES	NO	bb	bb	0.155
2	12378-PeCDD	31.52	1.980e3	1.269e3	0.995	1.56	1.55	42.3	YES	NO	bb	bb	0.603
3	Total-pentadioxins	30.86	3.448e2	2.210e2	1.331	1.56	1.55	8.6	YES	NO	bb	bb	0.079
4	Total-pentadioxins	30.45	1.157e3	7.248e2	1.331	1.60	1.55	18.5	YES	NO	db	db	0.261
5	Total-pentadioxins	30.29	1.066e3	6.522e2	1.331	1.63	1.55	24.8	YES	NO	dd	bd	0.239
6	Total-pentadioxins	30.13	1.508e3	8.520e2	1.331	1.77	1.55	31.1	YES	NO	bd	bb	0.328

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.55	5.237e3	4.246e3	0.950	1.23	1.24	101.7	YES	NO	bb	bb	1.449
2	123678-HxCDD	36.16	7.370e3	6.246e3	1.009	1.18	1.24	153.4	YES	NO	db	dd	1.922
3	123478-HxCDD	36.05	2.675e3	2.363e3	1.027	1.13	1.24	53.8	YES	NO	bd	bd	0.726
4	Total-hexadioxins	35.16	2.315e4	1.934e4	1.028	1.20	1.24	296.7	YES	NO	bd	bd	6.003
5	Total-hexadioxins	34.79	3.908e3	3.501e3	1.028	1.12	1.24	75.0	YES	NO	bb	bb	1.047
6	124679-HXCDD	34.02	2.049e4	1.557e4	1.125	1.32	1.24	387.5	YES	NO	bb	bb	4.748

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.25	1.700e5	1.603e5	1.211	1.06	1.05	1980.5	YES	NO	bb	bb	67.004
2	1234678-HpCDD	40.29	1.166e5	1.088e5	1.068	1.07	1.05	1290.8	YES	NO	bb	bb	51.842

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	26.55	2.219e2	2.978e2	0.879	0.75	0.77	3.6	YES	NO	db	db	0.067
2	Total-tetradioxins	26.05	5.857e2	6.829e2	0.879	0.86	0.77	8.8	YES	NO	bb	bb	0.162
3	Total-tetradioxins	25.59	1.200e3	1.587e3	0.879	0.76	0.77	17.8	YES	NO	bb	bd	0.357
4	Total-tetradioxins	25.02	9.914e2	1.380e3	0.879	0.72	0.77	13.8	YES	NO	bb	bb	0.304
5	1368-TCDD	23.51	8.532e2	1.266e3	0.923	0.67	0.77	13.2	YES	NO	bb	bb	0.258
6	12389-PECDD	31.94	5.784e2	3.915e2	1.154	1.48	1.55	11.3	YES	NO	bb	bb	0.155
7	12378-PeCDD	31.52	1.980e3	1.269e3	0.995	1.56	1.55	42.3	YES	NO	bb	bb	0.603
8	Total-pentadioxins	30.86	3.448e2	2.210e2	1.331	1.56	1.55	8.6	YES	NO	bb	bb	0.079
9	Total-pentadioxins	30.45	1.157e3	7.248e2	1.331	1.60	1.55	18.5	YES	NO	db	db	0.261
10	Total-pentadioxins	30.29	1.066e3	6.522e2	1.331	1.63	1.55	24.8	YES	NO	dd	bd	0.239
11	Total-pentadioxins	30.13	1.508e3	8.520e2	1.331	1.77	1.55	31.1	YES	NO	bd	bb	0.328
12	123789-HxCDD	36.55	5.237e3	4.246e3	0.950	1.23	1.24	101.7	YES	NO	bb	bb	1.449
13	123678-HxCDD	36.16	7.370e3	6.246e3	1.009	1.18	1.24	153.4	YES	NO	db	dd	1.922
14	123478-HxCDD	36.05	2.675e3	2.363e3	1.027	1.13	1.24	53.8	YES	NO	bd	bd	0.726
15	Total-hexadioxins	35.16	2.315e4	1.934e4	1.028	1.20	1.24	296.7	YES	NO	bd	bd	6.003
16	Total-hexadioxins	34.79	3.908e3	3.501e3	1.028	1.12	1.24	75.0	YES	NO	bb	bb	1.047
17	124679-HXCDD	34.02	2.049e4	1.557e4	1.125	1.32	1.24	387.5	YES	NO	bb	bb	4.748
18	1234679-HPCDD	39.25	1.700e5	1.603e5	1.211	1.06	1.05	1980.5	YES	NO	bb	bb	67.004
19	OCDD	45.05	7.390e5	8.229e5	1.181	0.90	0.89	6327.7	YES	NO	bb	bb	422.753
20	1234678-HpCDD	40.29	1.166e5	1.088e5	1.068	1.07	1.05	1290.8	YES	NO	bb	bb	51.842

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:28 Pacific Daylight Time

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.42	1.120e3	1.424e3	1.192	0.79	0.77	14.2	YES	NO	dd	dd	0.240
2	Total-tetrafurans	23.10	2.204e3	3.365e3	1.192	0.65	0.77	28.2	YES	NO	bd	MM	0.525
3	1368-TCDF	22.39	6.962e2	8.221e2	1.425	0.85	0.77	9.2	YES	NO	dd	dd	0.120
4	Total-Furans	21.66	1.385e2	1.620e2	1.158	0.86	0.77	2.1	NO	NO	bb	bb	0.029
5	Total-Furans	21.15	2.308e3	2.831e3	1.158	0.82	0.77	25.1	YES	NO	bd	bd	0.499
6	Total-tetrafurans	25.94	1.037e3	1.200e3	1.192	0.86	0.77	11.7	YES	NO	dd	dd	0.211
7	2378-TCDF	25.78	1.866e3	2.247e3	1.108	0.83	0.77	18.7	YES	NO	dd	dd	0.418
8	Total-tetrafurans	25.44	1.228e3	1.596e3	1.192	0.77	0.77	11.4	YES	NO	dd	dd	0.266
9	Total-tetrafurans	25.28	4.738e2	6.761e2	1.192	0.70	0.77	6.0	YES	NO	bd	bd	0.108
10	Total-tetrafurans	25.10	7.191e2	9.134e2	1.192	0.79	0.77	8.1	YES	NO	db	db	0.154
11	Total-tetrafurans	24.87	2.656e3	3.493e3	1.192	0.76	0.77	33.6	YES	NO	dd	dd	0.580
12	Total-tetrafurans	24.54	2.563e3	3.704e3	1.192	0.69	0.77	35.9	YES	NO	dd	dd	0.591
13	Total-tetrafurans	24.17	2.049e3	2.419e3	1.192	0.85	0.77	26.2	YES	NO	dd	db	0.422
14	Total-tetrafurans	24.02	2.250e3	2.671e3	1.192	0.84	0.77	22.1	YES	NO	dd	dd	0.464
15	Total-tetrafurans	23.87	1.919e3	2.377e3	1.192	0.81	0.77	24.4	YES	NO	dd	dd	0.405
16	Total-tetrafurans	26.89	5.269e2	7.353e2	1.192	0.72	0.77	7.8	YES	NO	bb	bd	0.119
17	Total-pentafurans	28.47	3.655e3	2.650e3	1.047	1.38	1.55	67.3	YES	NO	dd	bb	0.728
18	Total-pentafurans	28.17	5.737e2	3.240e2	1.047	1.77	1.55	16.4	YES	NO	bb	bb	0.104
19	Total-pentafurans	30.15	3.818e3	2.267e3	1.047	1.68	1.55	69.1	YES	NO	bd	bd	0.703
20	12378-PeCDF	29.94	2.274e3	1.654e3	1.015	1.37	1.55	50.4	YES	NO	bb	db	0.456
21	Total-pentafurans	29.83	3.738e2	2.824e2	1.047	1.32	1.55	10.3	YES	NO	db	bd	0.076
22	Total-pentafurans	29.47	3.860e2	2.641e2	1.047	1.46	1.55	8.7	YES	NO	dd	dd	0.075
23	Total-pentafurans	29.39	4.481e2	2.714e2	1.047	1.65	1.55	12.5	YES	NO	bd	bd	0.083
24	Total-pentafurans	29.06	2.180e2	1.274e2	1.047	1.71	1.55	6.1	NO	NO	db	db	0.040
25	Total-pentafurans	28.87	8.975e3	5.422e3	1.047	1.66	1.55	115.8	YES	NO	MM	MM	1.662
26	Total-pentafurans	31.13	1.557e3	9.995e2	1.047	1.56	1.55	29.4	YES	NO	dd	dd	0.295
27	Total-hexafurans	33.45	1.934e4	1.690e4	1.045	1.14	1.24	365.8	YES	NO	bb	db	4.442
28	123468-HXCDF	33.24	5.816e3	5.234e3	1.087	1.11	1.24	114.5	YES	NO	bb	bd	1.225
29	123789-HxCDF	36.93	1.162e3	9.120e2	1.030	1.27	1.24	19.9	YES	NO	bb	bb	0.304
30	234678-HxCDF	35.94	4.209e3	3.629e3	1.052	1.16	1.24	61.9	YES	NO	bb	MM	0.929
31	Total-hexafurans	35.40	2.230e2	1.594e2	1.045	1.40	1.24	4.6	YES	NO	bb	bb	0.047
32	123678-HxCDF	35.06	2.378e3	1.863e3	1.037	1.28	1.24	53.5	YES	NO	db	db	0.493
33	123478-HxCDF	34.91	6.735e3	5.565e3	1.017	1.21	1.24	134.5	YES	NO	dd	dd	1.457
34	Total-hexafurans	34.76	1.132e3	8.926e2	1.045	1.27	1.24	18.8	YES	NO	bd	bd	0.248
35	Total-hexafurans	34.29	2.538e4	2.105e4	1.045	1.21	1.24	529.0	YES	NO	bb	bb	5.690
36	Total-hexafurans	33.99	5.519e2	4.894e2	1.045	1.13	1.24	11.4	YES	NO	bb	bb	0.128
37	Total-heptafurans	39.46	7.172e4	6.993e4	1.305	1.03	1.05	1395.9	YES	NO	bd	bd	24.265

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-heptafurans	39.21	7.426e2	7.566e2	1.305	0.98	1.05	11.5	YES	NO	bb	bb	0.257
39	1234678-HpCDF	38.80	3.265e4	3.061e4	1.327	1.07	1.05	648.8	YES	NO	bb	bb	9.859
40	OCDF	45.30	6.391e4	7.259e4	1.447	0.88	0.89	1229.4	YES	NO	bd	bb	30.153
41	Total-penta1	27.56	7.792e2	5.086e2		1.53	1.55	9.8	YES	NO	bb	bb	0.166
42	Total-penta1	27.20	2.087e4	1.321e4		1.58	1.55	342.5	YES	NO	db	db	4.382
43	13468-PECDF	27.06	2.974e3	1.670e3	1.376	1.78	1.55	46.2	YES	NO	bd	bd	0.398
44	Total-tetrafurans	24.67	1.490e3	1.845e3	1.192	0.81	0.77	22.8	YES	NO	MM	MM	0.315
45	Total-tetradioxins	26.55	2.219e2	2.978e2	0.879	0.75	0.77	3.6	YES	NO	db	db	0.067
46	Total-tetradioxins	26.05	5.857e2	6.829e2	0.879	0.86	0.77	8.8	YES	NO	bb	bb	0.162
47	Total-tetradioxins	25.59	1.200e3	1.587e3	0.879	0.76	0.77	17.8	YES	NO	bb	bd	0.357
48	Total-tetradioxins	25.02	9.914e2	1.380e3	0.879	0.72	0.77	13.8	YES	NO	bb	bb	0.304
49	1368-TCDD	23.51	8.532e2	1.266e3	0.923	0.67	0.77	13.2	YES	NO	bb	bb	0.258
50	12389-PECDD	31.94	5.784e2	3.915e2	1.154	1.48	1.55	11.3	YES	NO	bb	bb	0.155
51	12378-PeCDD	31.52	1.980e3	1.269e3	0.995	1.56	1.55	42.3	YES	NO	bb	bb	0.603
52	Total-pentadioxins	30.86	3.448e2	2.210e2	1.331	1.56	1.55	8.6	YES	NO	bb	bb	0.079
53	Total-pentadioxins	30.45	1.157e3	7.248e2	1.331	1.60	1.55	18.5	YES	NO	db	db	0.261
54	Total-pentadioxins	30.29	1.066e3	6.522e2	1.331	1.63	1.55	24.8	YES	NO	dd	bd	0.239
55	Total-pentadioxins	30.13	1.508e3	8.520e2	1.331	1.77	1.55	31.1	YES	NO	bd	bb	0.328
56	123789-HxCDD	36.55	5.237e3	4.246e3	0.950	1.23	1.24	101.7	YES	NO	bb	bb	1.449
57	123678-HxCDD	36.16	7.370e3	6.246e3	1.009	1.18	1.24	153.4	YES	NO	db	dd	1.922
58	123478-HxCDD	36.05	2.675e3	2.363e3	1.027	1.13	1.24	53.8	YES	NO	bd	bd	0.726
59	Total-hexadioxins	35.16	2.315e4	1.934e4	1.028	1.20	1.24	296.7	YES	NO	bd	bd	6.003
60	Total-hexadioxins	34.79	3.908e3	3.501e3	1.028	1.12	1.24	75.0	YES	NO	bb	bb	1.047
61	124679-HXCDD	34.02	2.049e4	1.557e4	1.125	1.32	1.24	387.5	YES	NO	bb	bb	4.748
62	1234679-HPCDD	39.25	1.700e5	1.603e5	1.211	1.06	1.05	1980.5	YES	NO	bb	bb	67.004
63	OCDD	45.05	7.390e5	8.229e5	1.181	0.90	0.89	6327.7	YES	NO	bb	bb	422.753
64	1234678-HpCDD	40.29	1.166e5	1.088e5	1.068	1.07	1.05	1290.8	YES	NO	bb	bb	51.842

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.10	2.158e4					1.1	NO		bb		
2	FUNCTION1 PFK	21.97	8.984e4					2.1	NO		bb		
3	FUNCTION1 PFK	21.42	1.264e5					1.4	NO		bb		
4	FUNCTION1 PFK	21.15	1.342e5					2.7	NO		bb		
5	FUNCTION1 PFK	27.56	4.331e3					0.5	NO		bb		
6	FUNCTION1 PFK	25.32	4.630e4					1.4	NO		bb		

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.42	4.242e5					15.5	YES		db		0.000
2	FUNCTION2 PFK	32.37	3.361e5					14.4	YES		bd		0.000
3	FUNCTION2 PFK	32.19	3.348e5					11.2	YES		bb		0.000
4	FUNCTION2 PFK	31.01	9.379e4					6.6	YES		bb		0.000
5	FUNCTION2 PFK	30.28	4.446e6					6.6	YES		bb		0.000
6	FUNCTION2 PFK	29.40	1.634e5					12.0	YES		db		0.000
7	FUNCTION2 PFK	29.01	5.918e6					30.1	YES		dd		0.000
8	FUNCTION2 PFK	28.34	1.562e6					17.5	YES		dd		0.000
9	FUNCTION2 PFK	28.18	2.529e5					14.3	YES		bd		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.82	1.252e6					12.4	YES		bb		0.000
2	FUNCTION3 PFK	33.47	5.849e4					3.4	YES		bb		0.000
3	FUNCTION3 PFK	33.14	3.515e5					5.2	YES		bb		0.000
4	FUNCTION3 PFK	37.89	8.650e4					2.8	NO		db		0.000
5	FUNCTION3 PFK	37.71	7.967e5					15.1	YES		dd		0.000
6	FUNCTION3 PFK	37.55	3.130e6					22.4	YES		dd		0.000
7	FUNCTION3 PFK	37.24	1.977e6					35.1	YES		dd		0.000
8	FUNCTION3 PFK	37.13	8.523e5					39.0	YES		dd		0.000
9	FUNCTION3 PFK	36.98	1.883e6					45.4	YES		bd		0.000
10	FUNCTION3 PFK	36.68	4.940e6					46.7	YES		db		0.000
11	FUNCTION3 PFK	36.39	8.306e6					39.9	YES		dd		0.000
12	FUNCTION3 PFK	35.89	7.791e5					25.4	YES		bd		0.000
13	FUNCTION3 PFK	35.64	1.635e6					19.7	YES		db		0.000
14	FUNCTION3 PFK	35.47	4.069e5					11.8	YES		dd		0.000
15	FUNCTION3 PFK	35.36	3.172e5					9.3	YES		bd		0.000
16	FUNCTION3 PFK	35.03	3.085e5					7.6	YES		bb		0.000

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.05	2.175e4					3.0	YES		dd		
2	FUNCTION4 PFK	38.01	2.059e4					2.9	NO		bd		
3	FUNCTION4 PFK	40.54	6.011e3					0.8	NO		bb		
4	FUNCTION4 PFK	40.45	1.188e4					1.5	NO		bb		
5	FUNCTION4 PFK	40.34	1.134e4					1.2	NO		db		
6	FUNCTION4 PFK	40.27	1.438e4					1.5	NO		bd		
7	FUNCTION4 PFK	40.08	3.657e3					0.9	NO		db		
8	FUNCTION4 PFK	40.04	1.579e5					2.3	NO		dd		
9	FUNCTION4 PFK	39.82	8.578e4					5.4	YES		bd		
10	FUNCTION4 PFK	39.65	1.268e5					6.3	YES		bb		
11	FUNCTION4 PFK	39.18	5.391e4					2.7	NO		bb		
12	FUNCTION4 PFK	39.08	1.320e4					1.1	NO		bb		
13	FUNCTION4 PFK	38.69	8.953e3					1.4	NO		bb		
14	FUNCTION4 PFK	38.60	1.456e4					1.5	NO		db		
15	FUNCTION4 PFK	38.55	7.274e3					1.3	NO		bd		
16	FUNCTION4 PFK	38.22	3.304e4					3.2	YES		bb		
17	FUNCTION4 PFK	38.15	2.661e4					3.8	YES		db		
18	FUNCTION4 PFK	38.11	4.058e4					4.6	YES		dd		
19	FUNCTION4 PFK	42.96	6.771e3					1.0	NO		bb		
20	FUNCTION4 PFK	42.90	8.721e2					0.4	NO		bb		
21	FUNCTION4 PFK	42.75	5.870e4					3.2	YES		db		
22	FUNCTION4 PFK	42.72	1.299e4					2.2	NO		bd		
23	FUNCTION4 PFK	42.65	6.924e3					1.4	NO		bb		
24	FUNCTION4 PFK	42.36	9.324e4					2.6	NO		bb		
25	FUNCTION4 PFK	41.94	3.942e3					0.9	NO		bb		
26	FUNCTION4 PFK	41.89	4.640e3					0.8	NO		bb		
27	FUNCTION4 PFK	41.59	2.552e4					2.6	NO		db		
28	FUNCTION4 PFK	41.53	1.189e4					1.6	NO		bd		
29	FUNCTION4 PFK	41.05	7.330e3					0.6	NO		bb		
30	FUNCTION4 PFK	40.85	1.497e4					2.1	NO		db		
31	FUNCTION4 PFK	40.77	1.059e4					1.4	NO		bd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.16	8.758e1					1.2	NO		bb		0.000
2	FUNCTION1 HXCD...	27.68	7.826e1					1.3	NO		db		0.000
3	FUNCTION1 HXCD...	27.50	1.017e2					1.4	NO		bd		0.000
4	FUNCTION1 HXCD...	26.76	1.418e2					2.5	NO		bb		0.000
5	FUNCTION1 HXCD...	26.37	8.665e1					2.3	NO		db		0.000
6	FUNCTION1 HXCD...	26.31	8.962e1					2.1	NO		dd		0.000
7	FUNCTION1 HXCD...	26.24	7.474e1					1.6	NO		dd		0.000
8	FUNCTION1 HXCD...	26.12	2.046e2					3.2	YES		bd		0.000
9	FUNCTION1 HXCD...	25.73	9.954e1					2.8	NO		bb		0.000
10	FUNCTION1 HXCD...	24.78	8.634e1					2.0	NO		bb		0.000
11	FUNCTION1 HXCD...	24.07	1.471e2					2.3	NO		bb		0.000
12	FUNCTION1 HXCD...	22.16	1.442e2					3.3	YES		bb		0.000
13	FUNCTION1 HXCD...	21.84	8.358e1					1.2	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.04	5.074e3					135.6	YES		bb		0.000
2	FUNCTION1 HPCD...	21.81	8.027e1					2.0	NO		bb		0.000
3	FUNCTION1 HPCD...	21.15	1.135e2					2.2	NO		bb		0.000
4	FUNCTION1 HPCD...	26.11	1.032e2					2.3	NO		bb		0.000
5	FUNCTION1 HPCD...	25.90	1.966e2					2.2	NO		bb		0.000
6	FUNCTION1 HPCD...	23.34	1.041e2					2.9	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.66	8.796e1					3.1	YES		bb		0.000
2	FUNCTION2 HPCD...	30.81	1.035e2					1.8	NO		bb		0.000
3	FUNCTION2 HPCD...	29.88	8.852e1					2.2	NO		bb		0.000
4	FUNCTION2 HPCD...	28.94	1.634e2					3.8	YES		bb		0.000

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.82	7.382e1					1.7	NO		bb		0.000
2	FUNCTION3 OCDPE	36.55	1.444e2					2.6	NO		bb		0.000
3	FUNCTION3 OCDPE	36.17	9.039e1					2.1	NO		bb		0.000
4	FUNCTION3 OCDPE	36.01	8.421e1					2.1	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.42	1.064e4					284.3	YES		bb		0.000

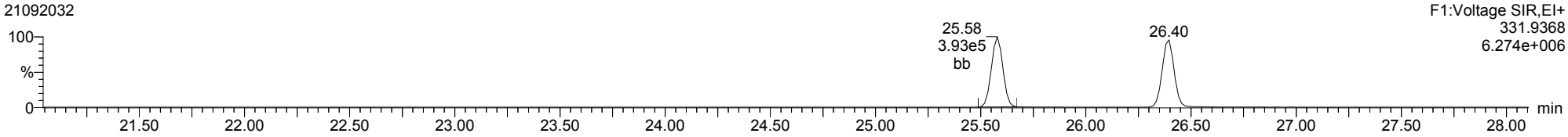
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.23	8.232e1					3.0	YES		bb		0.000
2	FUNCTION5 DCDPE	43.60	9.938e1					4.9	YES		bb		0.000

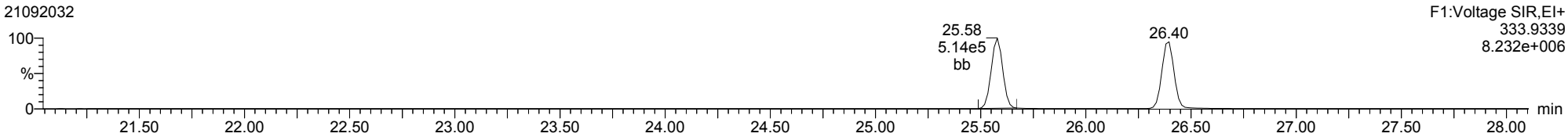
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

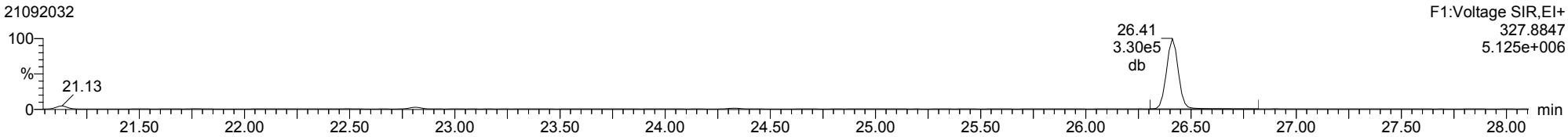
13C-1234-TCDD



13C-1234-TCDD



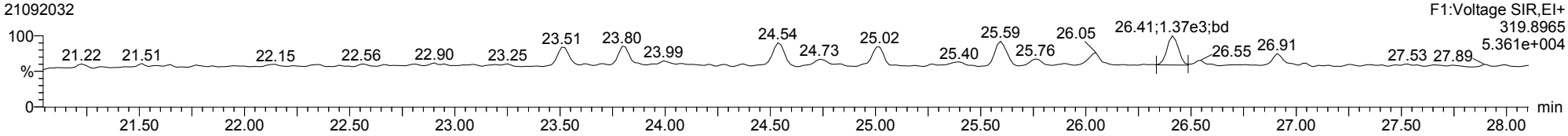
37CL-2378-TCDD



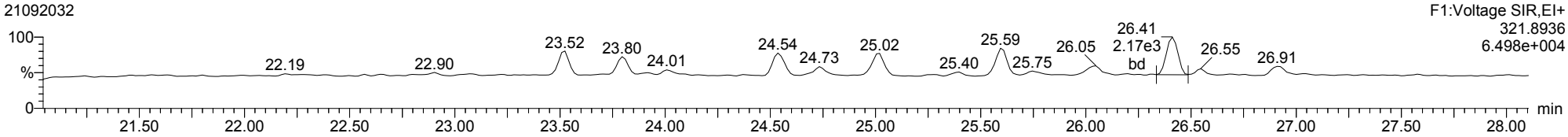
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:28 Pacific Daylight Time

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

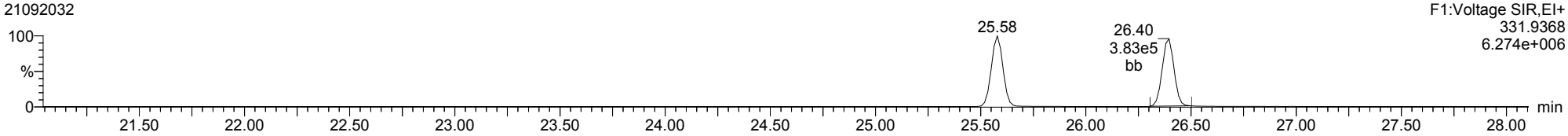
2378-TCDD



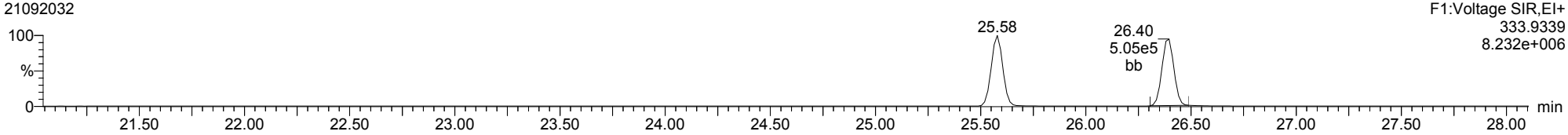
2378-TCDD



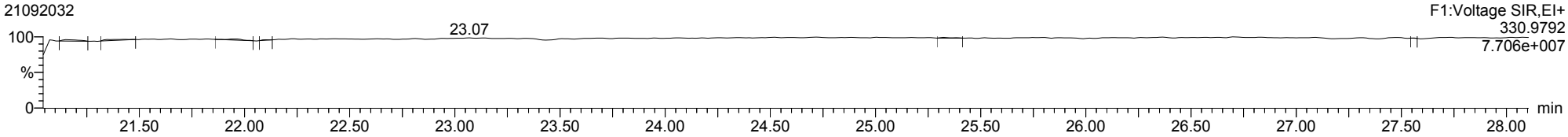
13C-2378-TCDD



13C-2378-TCDD

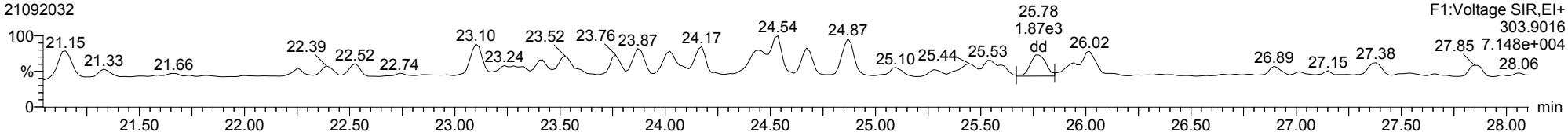


FUNCTION1 PFK

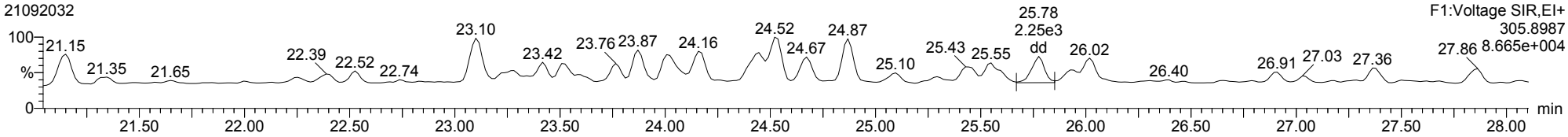


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

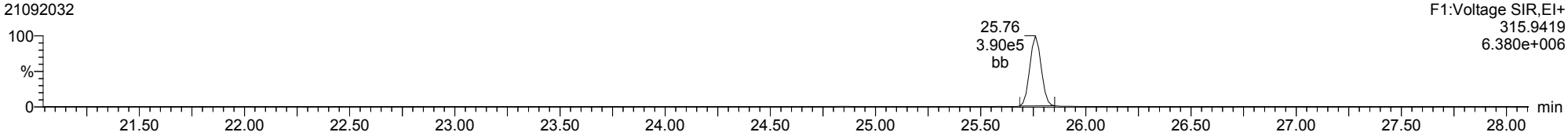
2378-TCDF



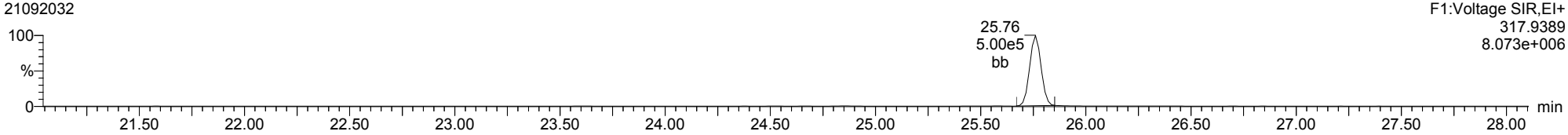
2378-TCDF



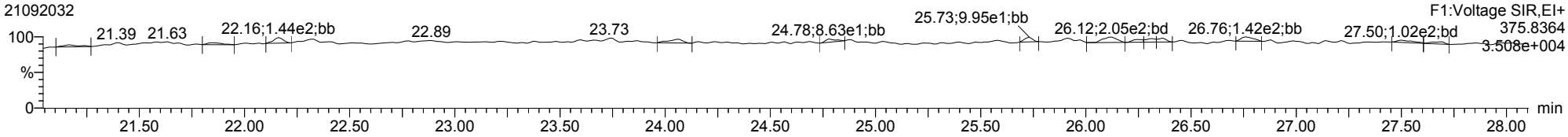
13C-2378-TCDF



13C-2378-TCDF

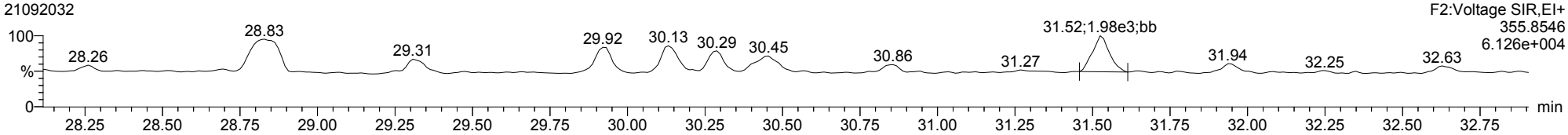


FUNCTION1 HXCDPE

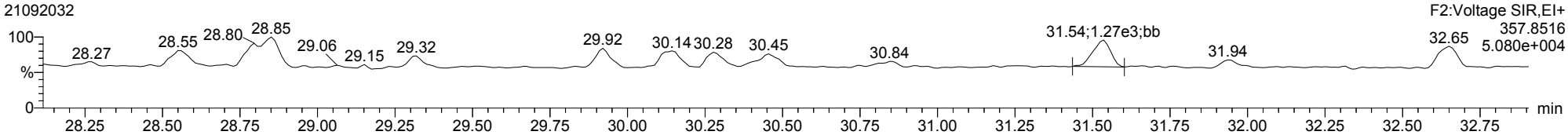


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

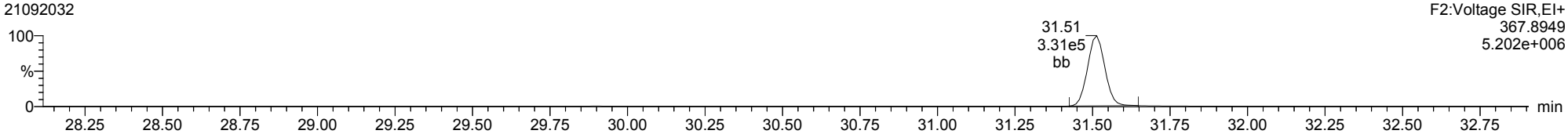
12378-PeCDD



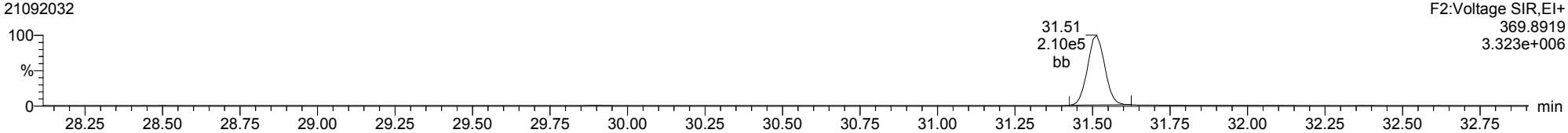
12378-PeCDD



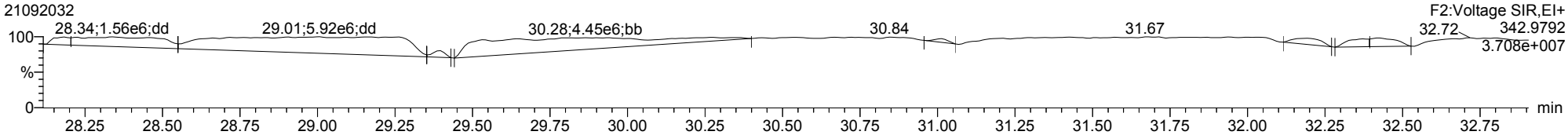
13C-12378-PeCDD



13C-12378-PeCDD

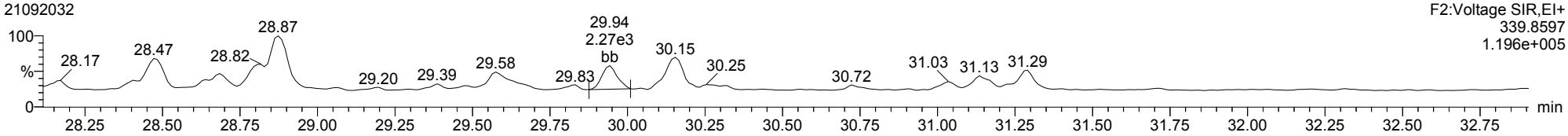


FUNCTION2 PFK

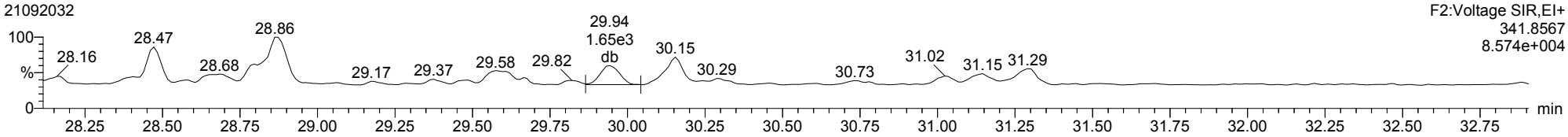


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

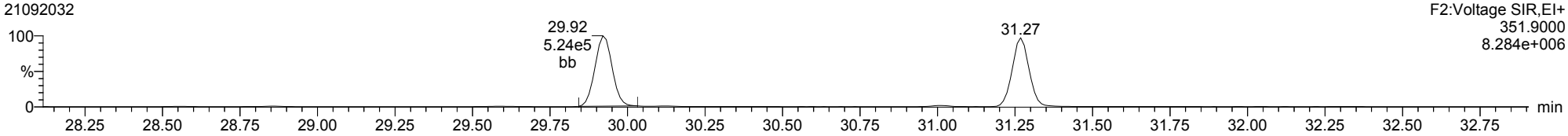
12378-PeCDF



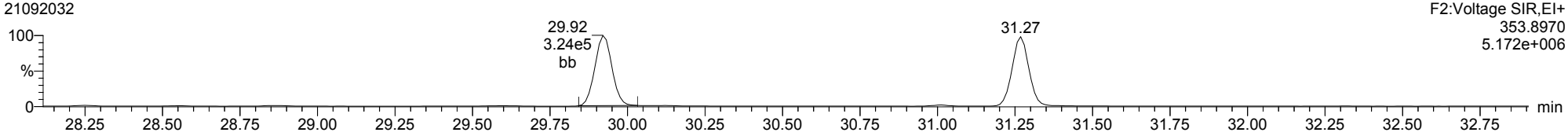
12378-PeCDF



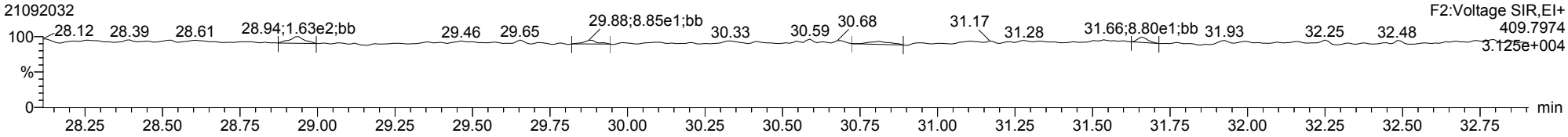
13C-12378-PeCDF



13C-12378-PeCDF

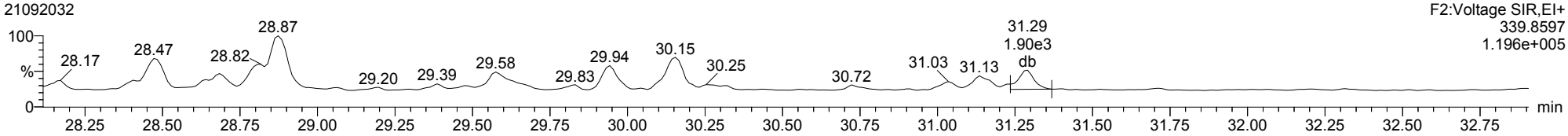


FUNCTION2 HPCDPE

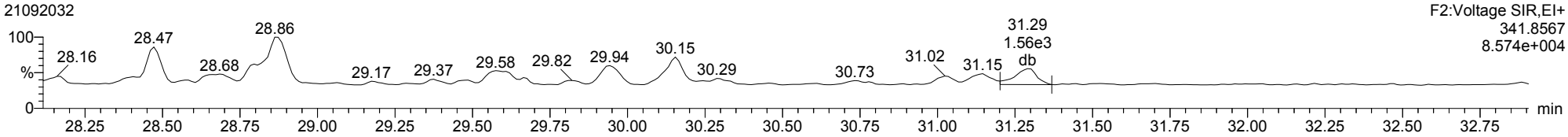


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

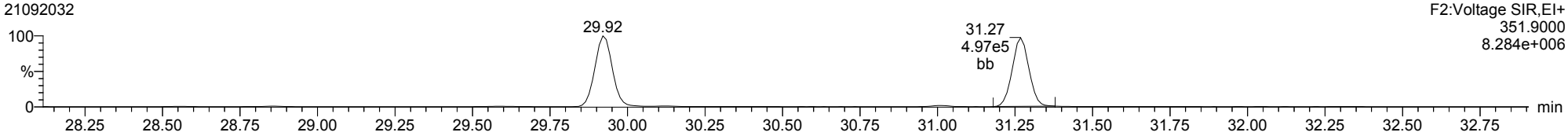
23478-PeCDF



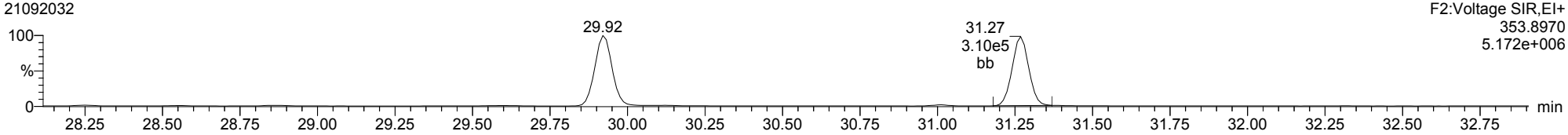
23478-PeCDF



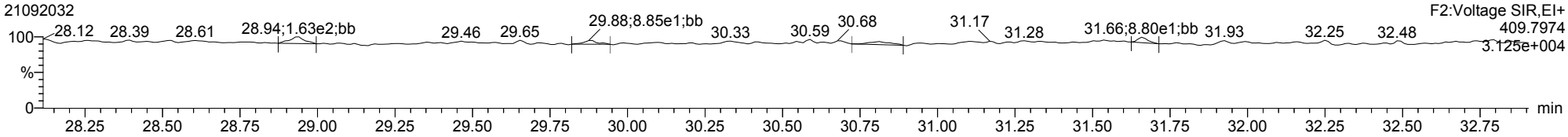
13C-23478-PeCDF



13C-23478-PeCDF

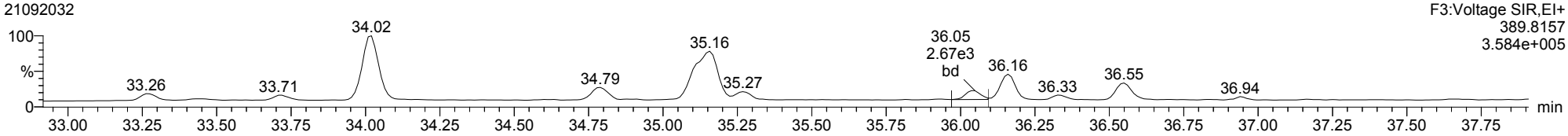


FUNCTION2 HPCDPE

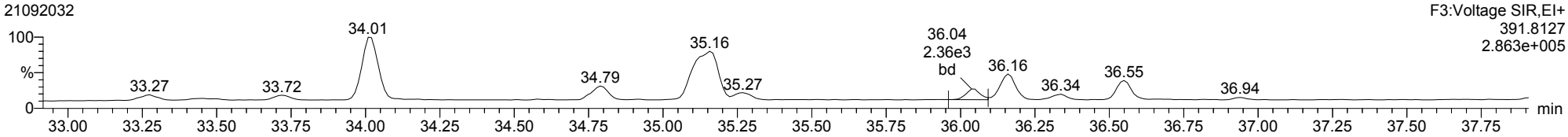


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

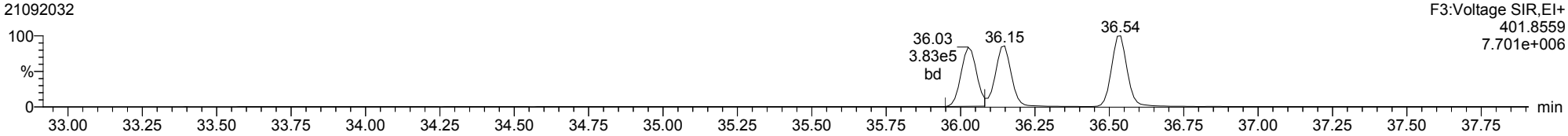
123478-HxCDD



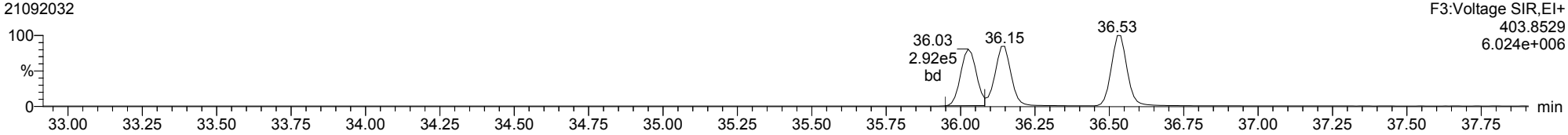
123478-HxCDD



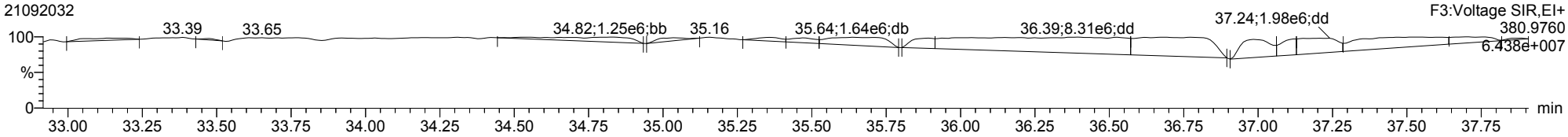
13C-123478-HxCDD



13C-123478-HxCDD

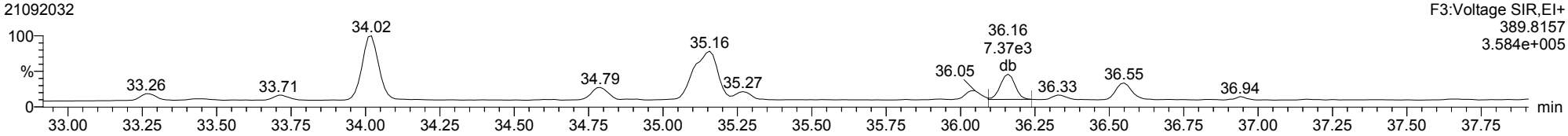


FUNCTION3 PFK

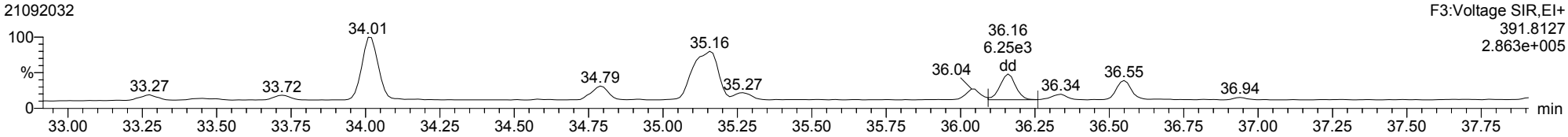


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

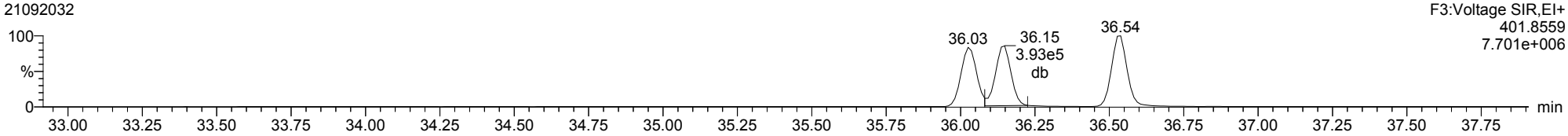
123678-HxCDD



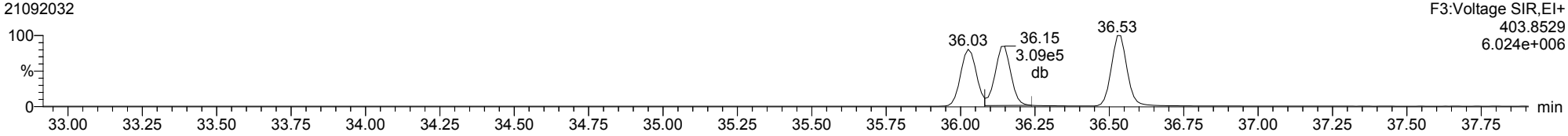
123678-HxCDD



13C-123678-HxCDD

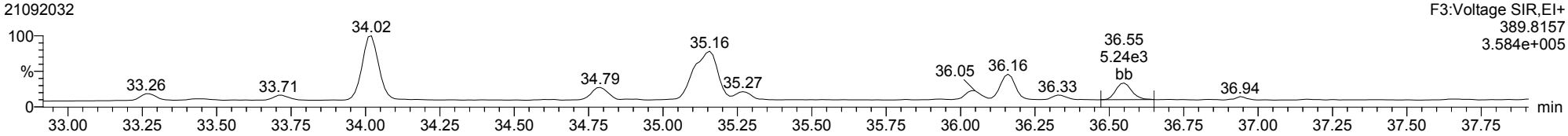


13C-123678-HxCDD

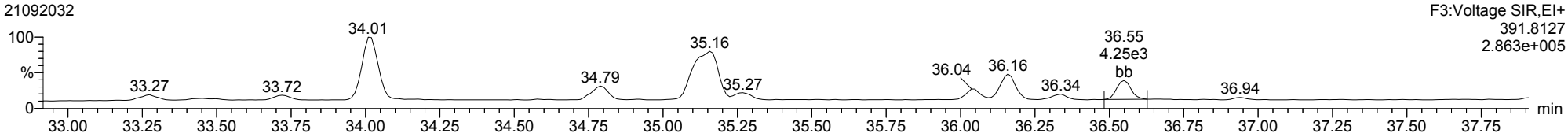


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

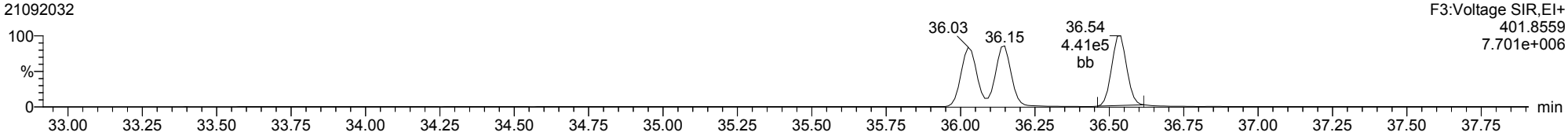
123789-HxCDD



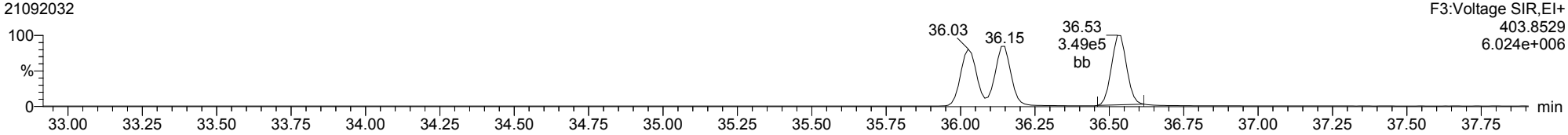
123789-HxCDD



13C-123789-HxCDD

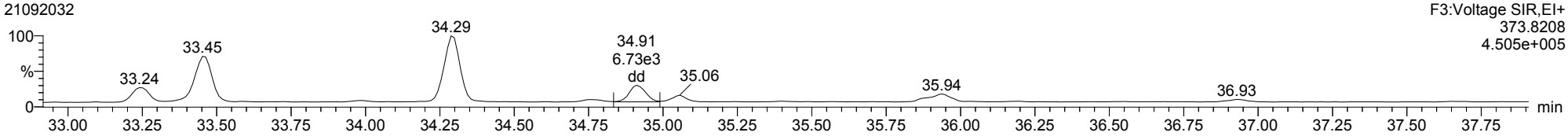


13C-123789-HxCDD

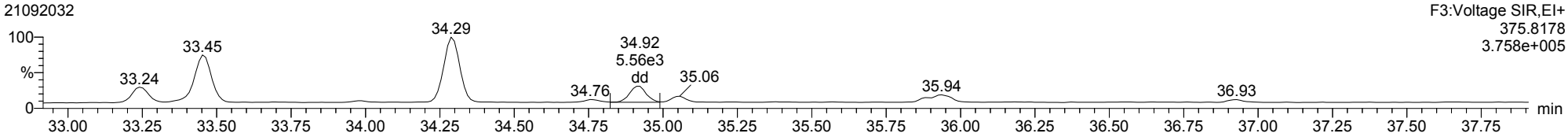


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

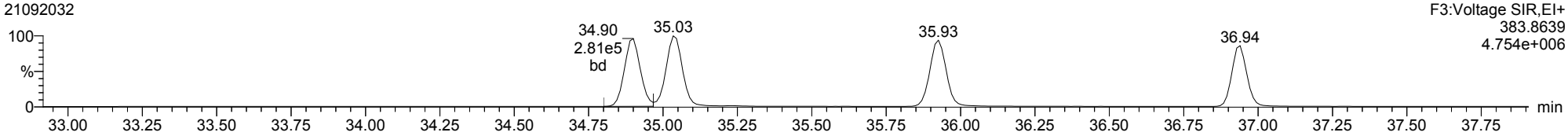
123478-HxCDF



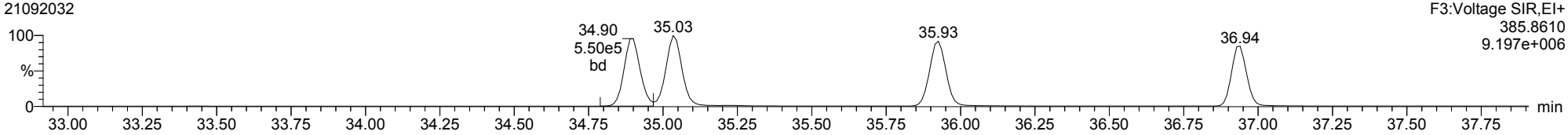
123478-HxCDF



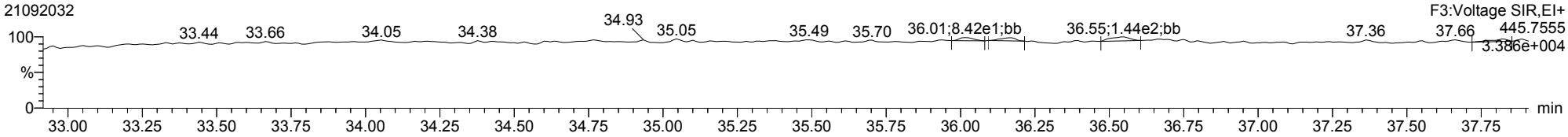
13C-123478-HxCDF



13C-123478-HxCDF

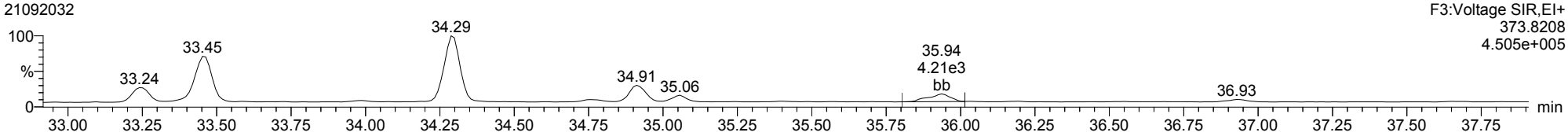


FUNCTION3 OCDPE

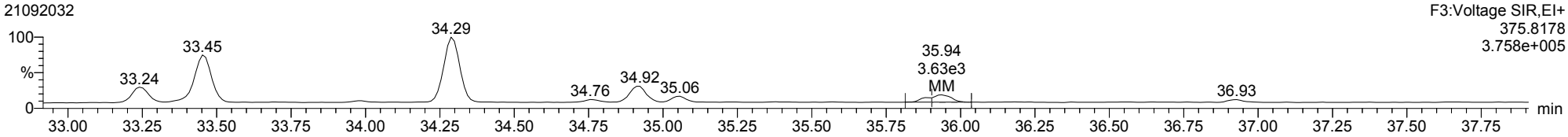


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

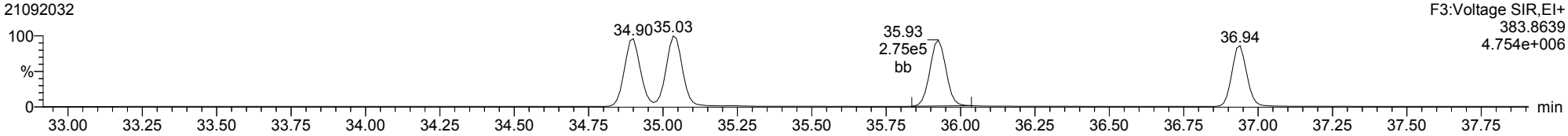
234678-HxCDF



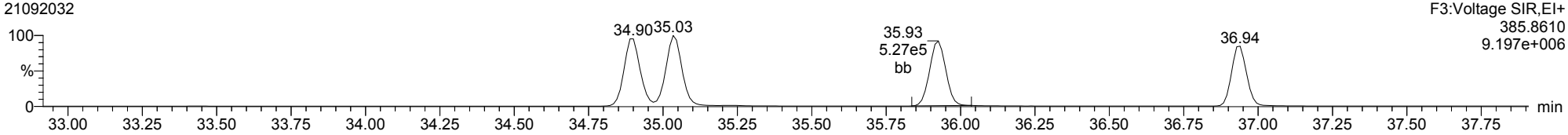
234678-HxCDF



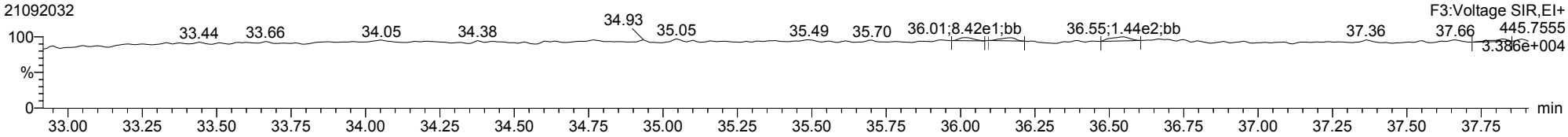
13C-234678-HxCDF



13C-234678-HxCDF

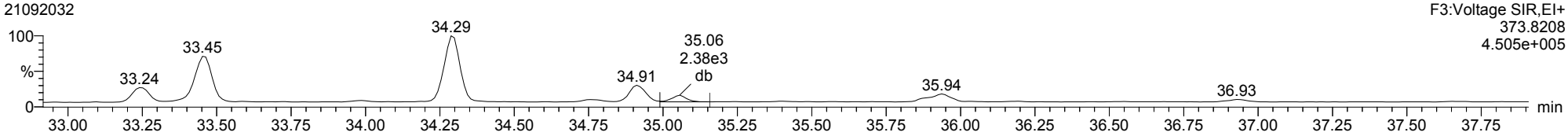


FUNCTION3 OCDPE

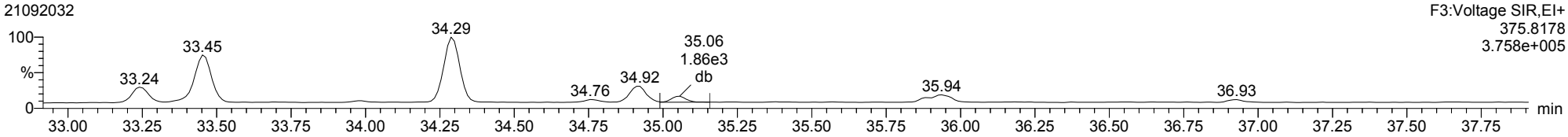


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

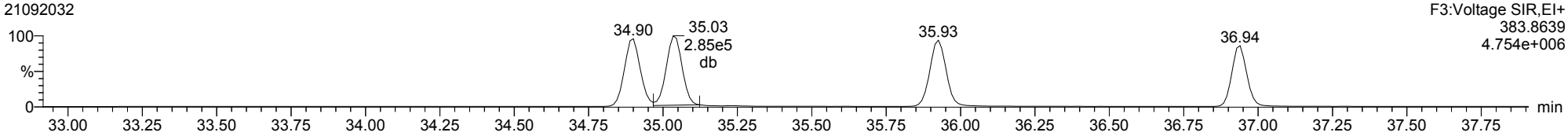
123678-HxCDF



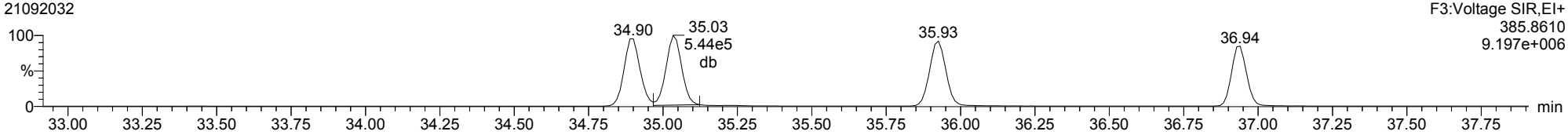
123678-HxCDF



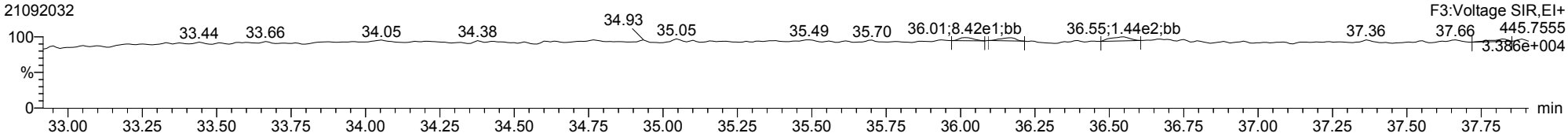
13C-123678-HxCDF



13C-123678-HxCDF

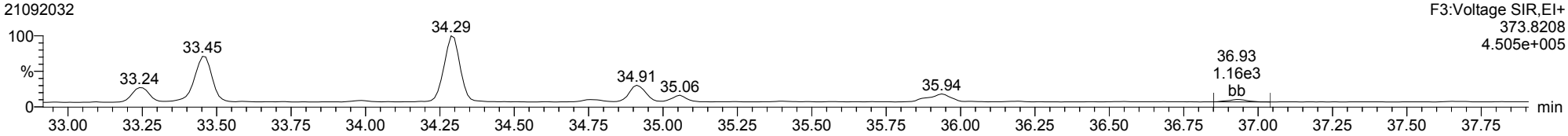


FUNCTION3 OCDPE

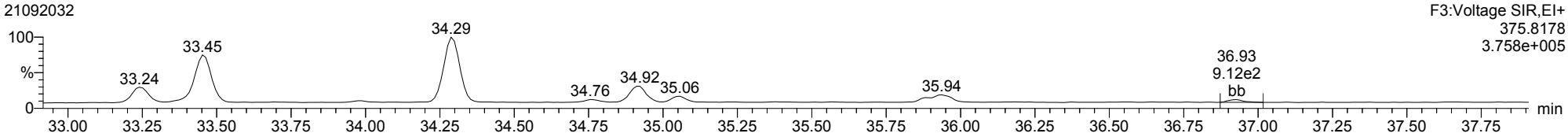


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

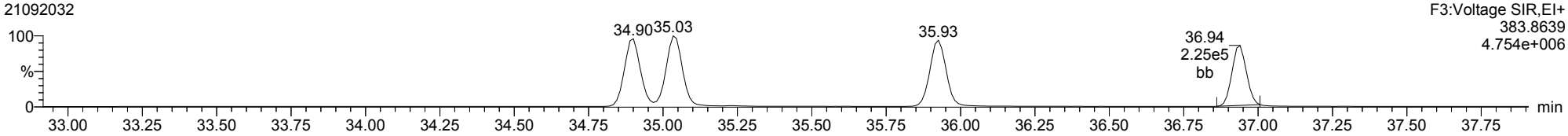
123789-HxCDF



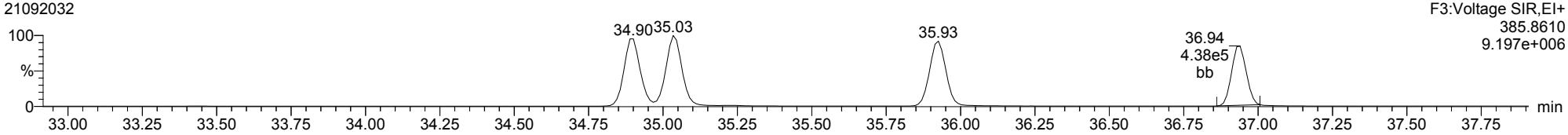
123789-HxCDF



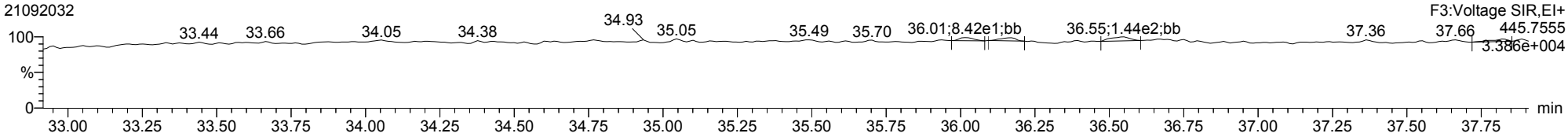
13C-123789-HxCDF



13C-123789-HxCDF

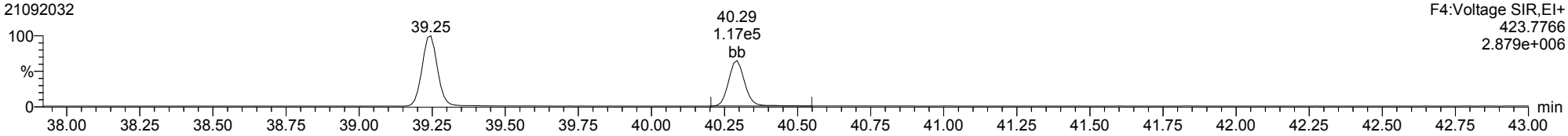


FUNCTION3 OCDPE

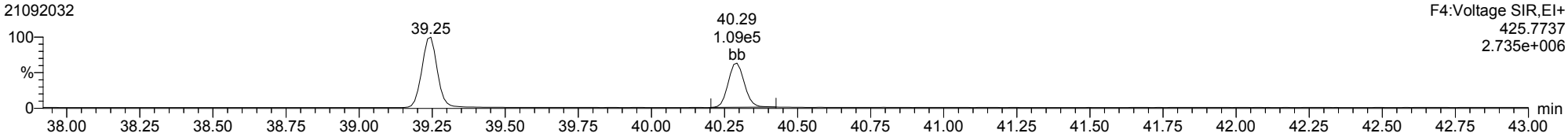


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

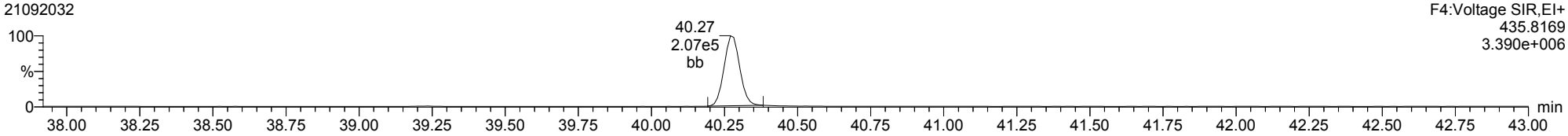
1234678-HpCDD



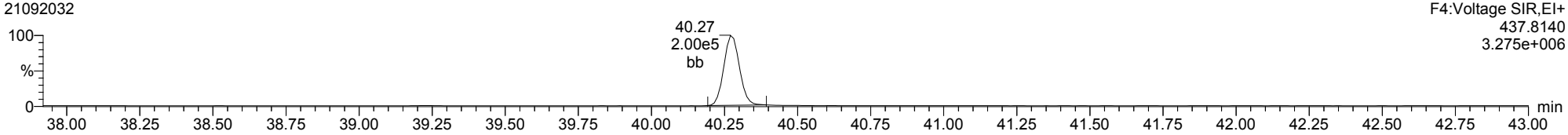
1234678-HpCDD



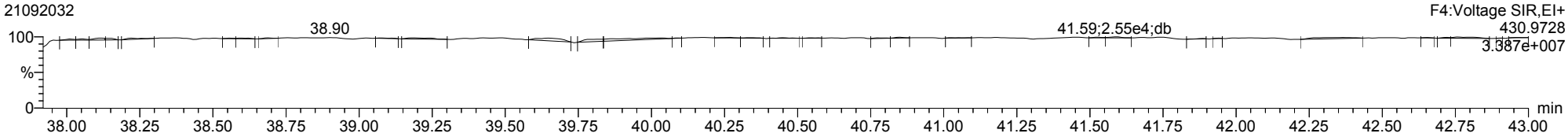
13C-1234678-HpCDD



13C-1234678-HpCDD

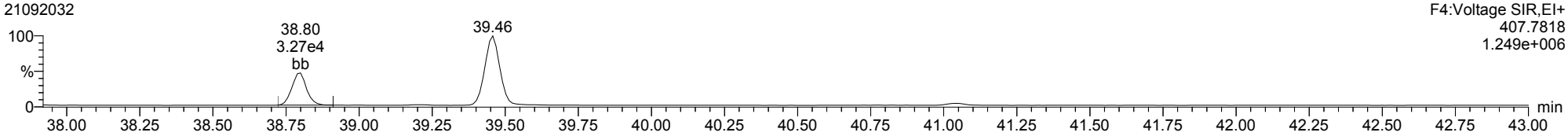


FUNCTION4 PFK

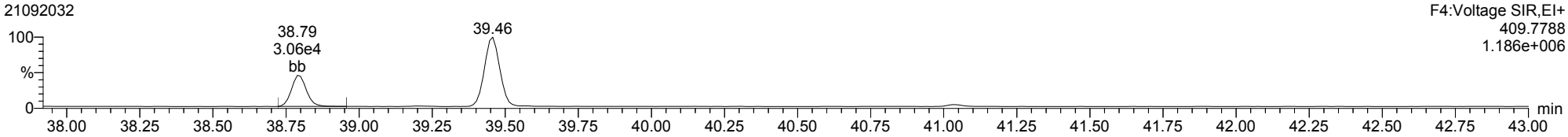


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

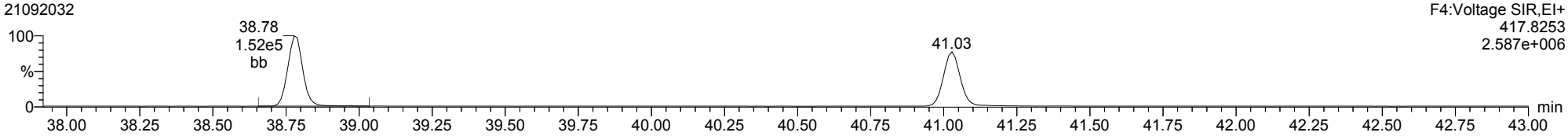
1234678-HpCDF



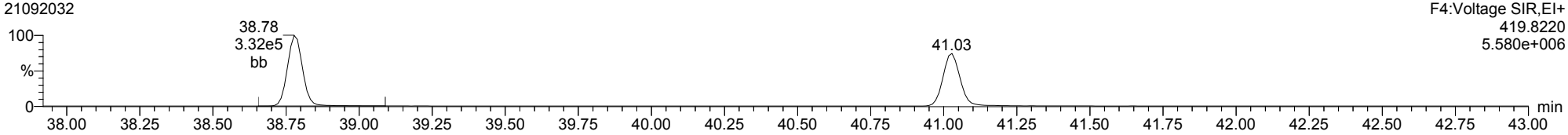
1234678-HpCDF



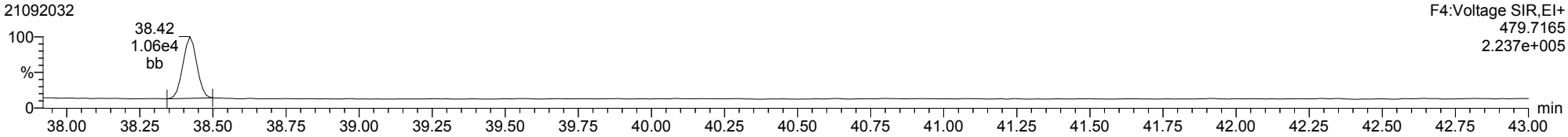
13C-1234678-HpCDF



13C-1234678-HpCDF

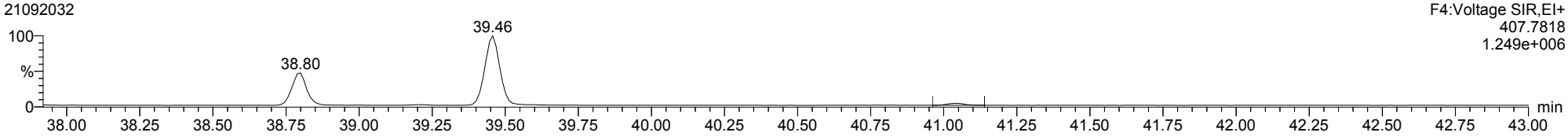


FUNCTION4 NCDPE

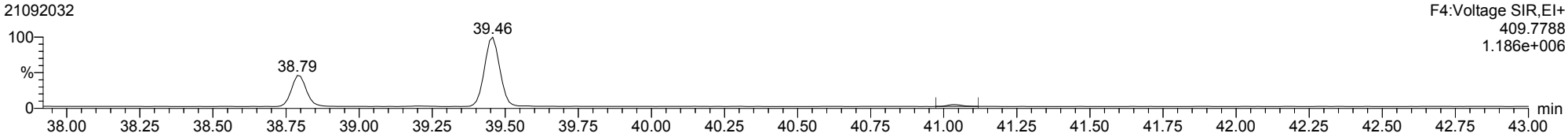


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

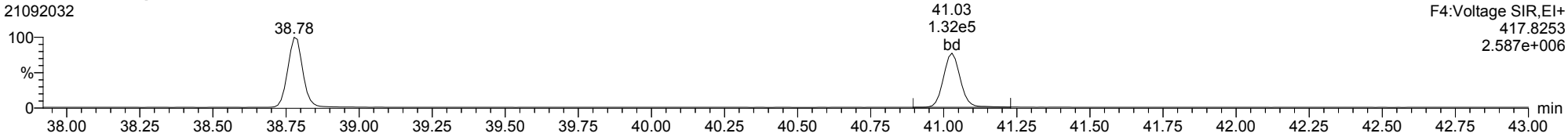
1234789-HpCDF



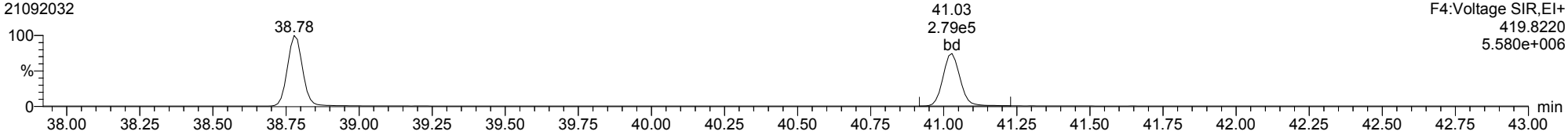
1234789-HpCDF



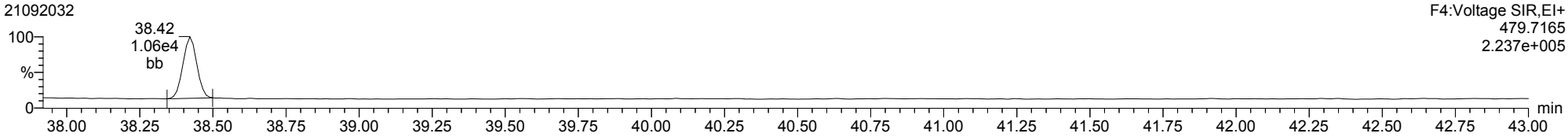
13C-1234789-HpCDF



13C-1234789-HpCDF

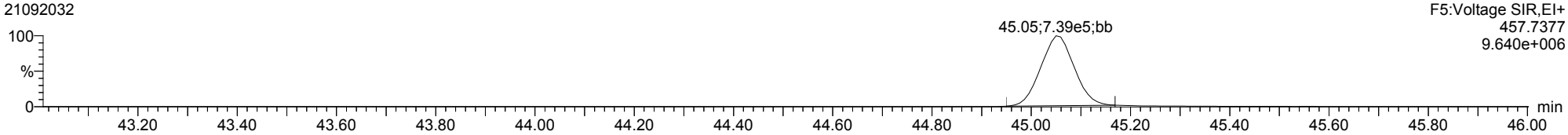


FUNCTION4 NCDPE

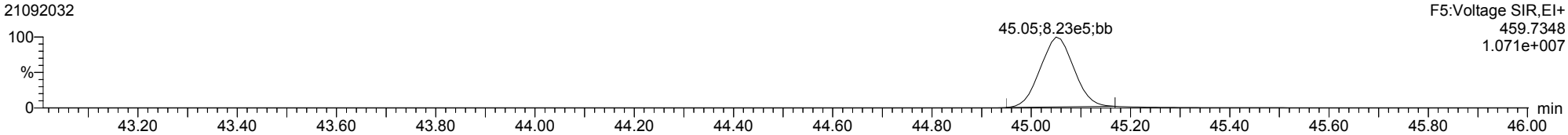


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

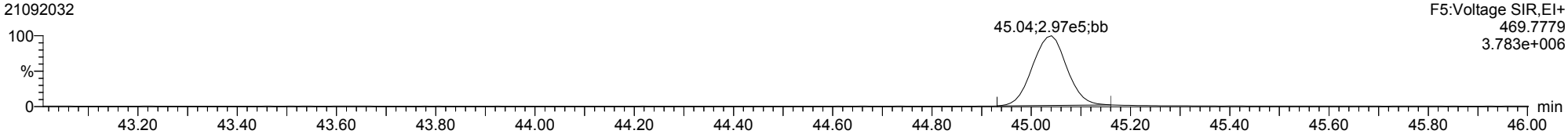
OCDD



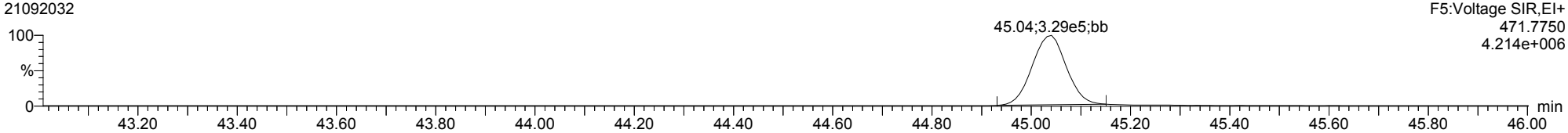
OCDD



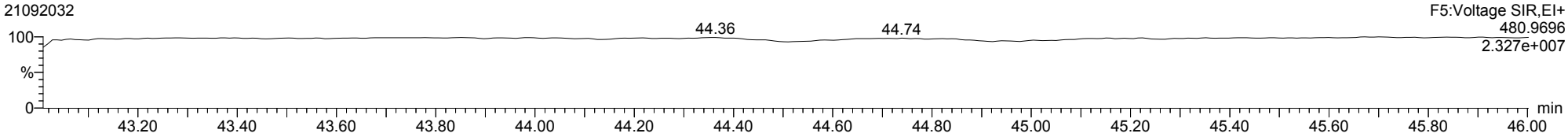
13C-OCDD



13C-OCDD

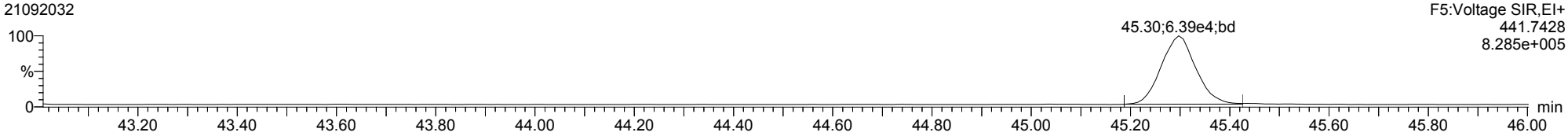


FUNCTION5 PFK

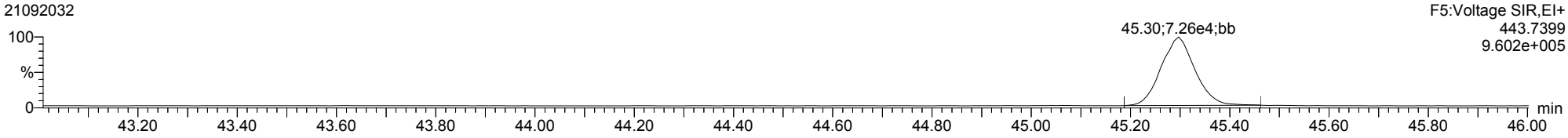


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

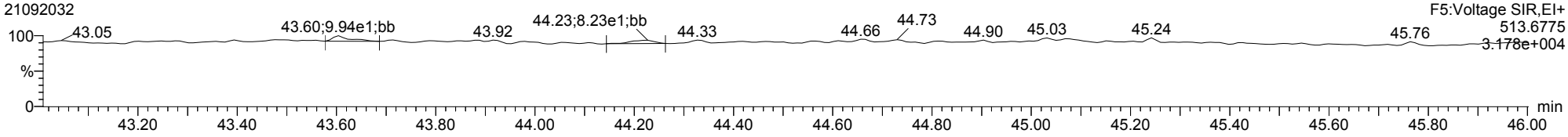
OCDF



OCDF

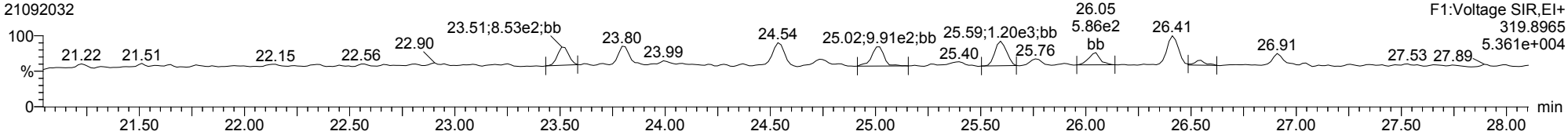


FUNCTION5 DCDPE

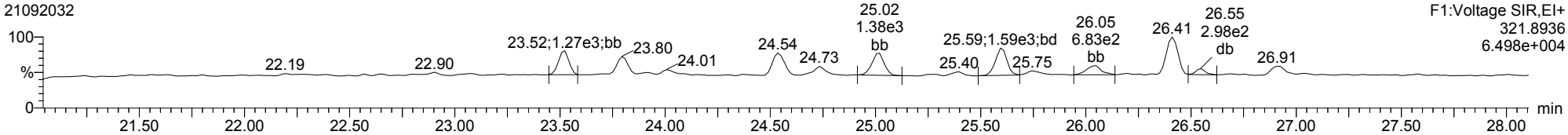


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

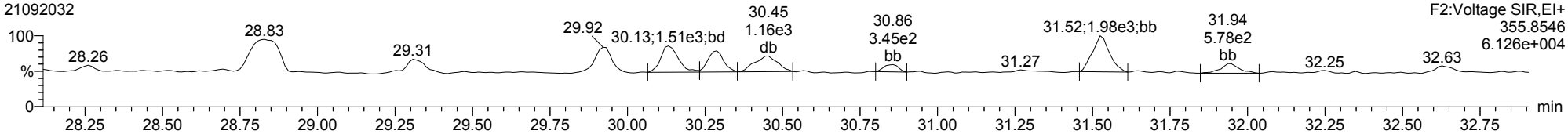
Total-tetradioxins



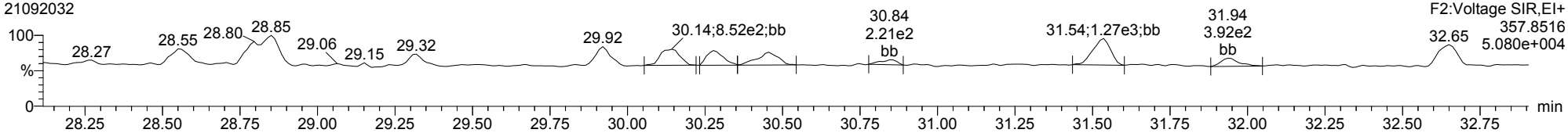
Total-tetradioxins



Total-pentadioxins

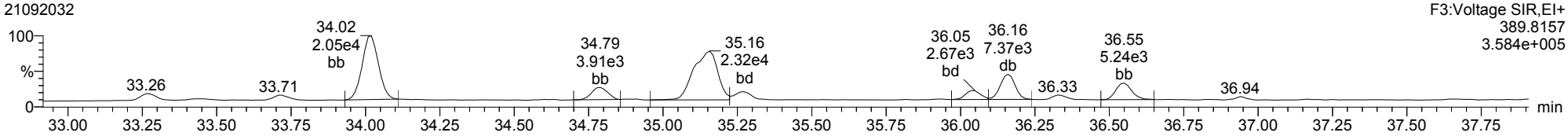


Total-pentadioxins

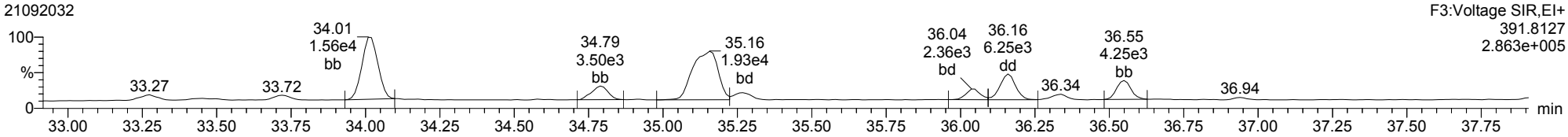


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

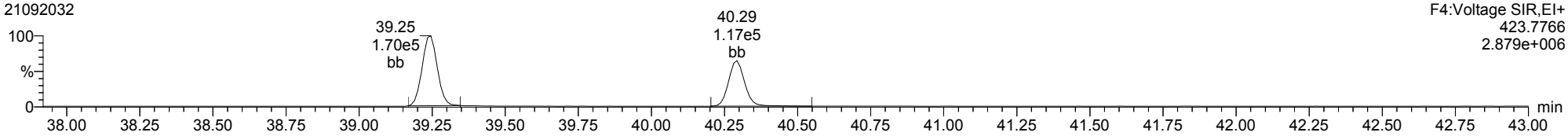
Total-hexadioxins



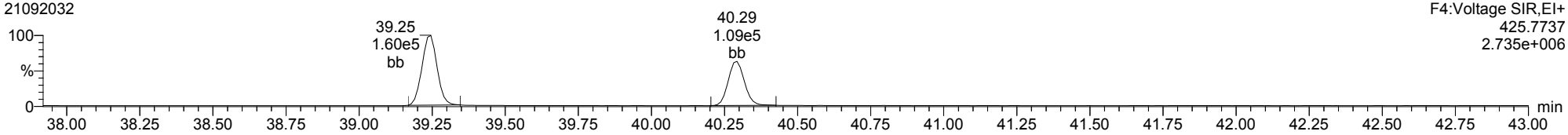
Total-hexadioxins



Total-heptadioxins



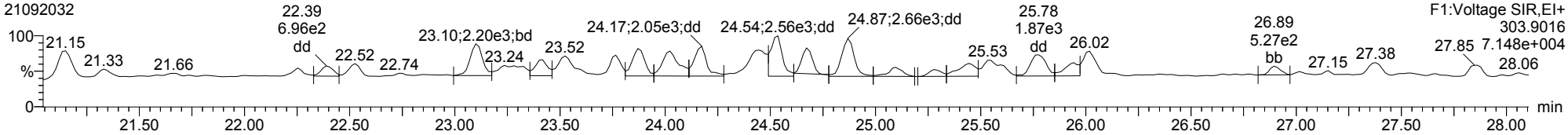
Total-heptadioxins



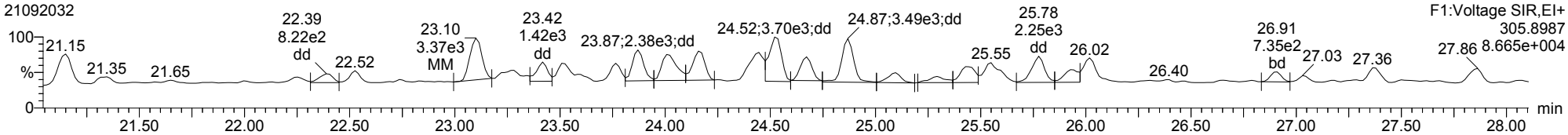
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:28 Pacific Daylight Time

ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

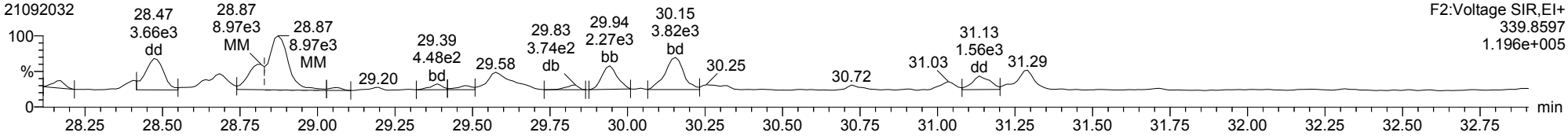
Total-tetrafurans



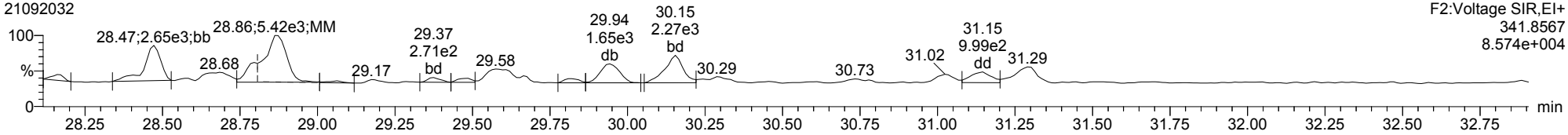
Total-tetrafurans



Total-pentafurans

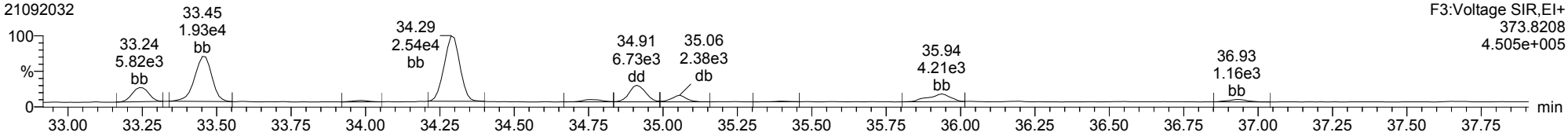


Total-pentafurans

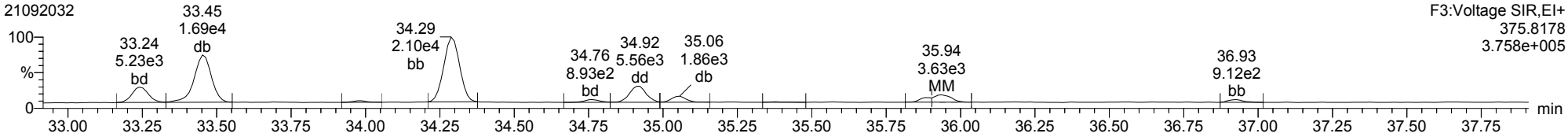


ID: BJH0203-SRM1, Name: 21092032, Date: 21-Sep-2021, Time: 17:59:21, Conditions: AUTOSPEC01, User: pk

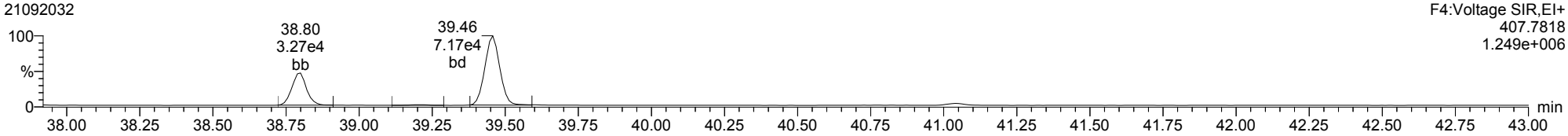
Total-hexafurans



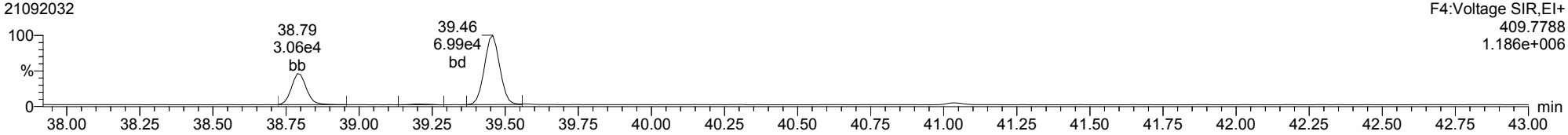
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00030	Instrument:	AUTOSPEC01
Calibration Date:	08/11/2021	Column (1):	RTX-Dioxin2

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
2,3,7,8-TCDF			0.5	1.177779	2	1.089564	10	1.083206	40	1.09573	200	1.091684
2,3,7,8-TCDD			0.5	0.9055873	2	0.9678062	10	0.9085186	40	0.8960008	200	0.9235243
1,2,3,7,8-PeCDF	0.5	1.055376	2.5	0.9749948	10	0.9890582	50	1.04064	200	1.01544	1000	1.013695
2,3,4,7,8-PeCDF	0.5	1.154709	2.5	1.162487	10	1.08879	50	1.108527	200	1.12263	1000	1.116149
1,2,3,7,8-PeCDD	0.5	1.042847	2.5	0.9347965	10	1.000426	50	1.023433	200	0.967595	1000	1.00284
1,2,3,4,7,8-HxCDF	0.5	0.9510236	2.5	1.043616	10	1.027461	50	1.004481	200	1.030496	1000	1.044283
1,2,3,6,7,8-HxCDF	0.5	1.146121	2.5	1.02211	10	1.074838	50	0.9512592	200	1.003115	1000	1.02354
2,3,4,6,7,8-HxCDF	0.5	1.127526	2.5	1.070857	10	1.079018	50	1.043215	200	1.009624	1000	0.9845533
1,2,3,7,8,9-HxCDF	0.5	1.098409	2.5	1.018068	10	1.023691	50	1.015326	200	1.012664	1000	1.012763
1,2,3,4,7,8-HxCDD	0.5	1.061437	2.5	1.066813	10	1.04129	50	0.9862893	200	0.988471	1000	1.019875
1,2,3,6,7,8-HxCDD	0.5	0.9987812	2.5	1.00345	10	1.014563	50	1.005616	200	1.025933	1000	1.005535
1,2,3,7,8,9-HxCDD	0.5	0.9340398	2.5	0.9232118	10	0.9937847	50	0.9399502	200	0.9446474	1000	0.9672851
1,2,3,4,6,7,8-HpCDF	0.5	1.389904	2.5	1.344079	10	1.329355	50	1.296772	200	1.274981	1000	1.329007
1,2,3,4,7,8,9-HpCDF	0.5	1.296099	2.5	1.298231	10	1.306049	50	1.250104	200	1.264967	1000	1.284581
1,2,3,4,6,7,8-HpCDD	0.5	1.188982	2.5	0.9715609	10	1.075415	50	1.051009	200	1.0446	1000	1.076963
OCDF	1	1.386229	5	1.321192	20	1.473428	100	1.440564	400	1.519487	2000	1.540503
OCDD			5	1.230403	20	1.209327	100	1.133227	400	1.156307	2000	1.174851
13C12-2,3,7,8-TCDF	100	1.368644	100	1.423872	100	1.423929	100	1.432983	100	1.427899	100	1.482172
13C12-2,3,7,8-TCDD	100	1.085201	100	1.102248	100	1.115748	100	1.11594	100	1.126097	100	1.153713
13C12-1,2,3,7,8-PeCDF	100	1.199089	100	1.277562	100	1.315098	100	1.301019	100	1.280476	100	1.410636
13C12-2,3,4,7,8-PeCDF	100	1.157138	100	1.217571	100	1.208288	100	1.25174	100	1.225075	100	1.35907
13C12-1,2,3,7,8-PeCDD	100	0.6771591	100	0.7210236	100	0.7142954	100	0.7228749	100	0.7511038	100	0.805443
13C12-1,2,3,4,7,8-HxCDF	100	1.286327	100	1.201751	100	1.230613	100	1.269148	100	1.245045	100	1.221854
13C12-1,2,3,6,7,8-HxCDF	100	1.339141	100	1.30779	100	1.316908	100	1.430696	100	1.354788	100	1.311536
13C12-2,3,4,6,7,8-HxCDF	100	1.24279	100	1.168157	100	1.194712	100	1.212905	100	1.242651	100	1.227916
13C12-1,2,3,7,8,9-HxCDF	100	1.031792	100	0.9827749	100	0.9825353	100	1.01982	100	0.9970797	100	1.03182
13C12-1,2,3,4,7,8-HxCDD	100	0.9931736	100	0.9197633	100	0.9354684	100	0.9847809	100	0.9652949	100	0.9604585
13C12-1,2,3,6,7,8-HxCDD	100	1.065671	100	1.027995	100	1.028764	100	1.057951	100	1.039041	100	1.028891

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00030	Instrument:	AUTOSPEC01
Calibration Date:	08/11/2021	Column (1):	RTX-Dioxin2

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
		RRF		RRF		RRF		RRF		RRF		RRF
13C12-1,2,3,4,6,7,8-HpCDF	100	0.9372866	100	0.9086205	100	0.9102718	100	0.922368	100	0.9442818	100	0.9359936
13C12-1,2,3,4,7,8,9-HpCDF	100	0.7416153	100	0.7182342	100	0.7567011	100	0.7658258	100	0.7723607	100	0.7927589
13C12-1,2,3,4,6,7,8-HpCDD	100	0.6435664	100	0.6169459	100	0.6151049	100	0.6260609	100	0.6432814	100	0.6497259
13C12-OCDD	200	0.4894078	200	0.4833068	200	0.4662427	200	0.5014182	200	0.5191023	200	0.5629814
37Cl4-2,3,7,8-TCDD	0.1	1.029849	0.5	1.178508	2	1.088624	10	1.009798	40	1.061277	200	1.133499
13C12-1,2,3,4-TCDD	100	1	100	1	100	1	100	1	100	1	100	1
13C12-1,2,3,7,8,9-HxCDD	100	1	100	1	100	1	100	1	100	1	100	1

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00030	Instrument:	AUTOSPEC01
Calibration Date:	08/11/2021	Column (1):	RTX-Dioxin2

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
2,3,7,8-TCDF	1.107593	3.6			RSD ()	
2,3,7,8-TCDD	0.9202875	3.1			RSD ()	
1,2,3,7,8-PeCDF	1.014867	3.0			RSD ()	
2,3,4,7,8-PeCDF	1.125549	2.5			RSD ()	
1,2,3,7,8-PeCDD	0.9953229	3.9			RSD ()	
1,2,3,4,7,8-HxCDF	1.016893	3.5			RSD ()	
1,2,3,6,7,8-HxCDF	1.036831	6.4			RSD ()	
2,3,4,6,7,8-HxCDF	1.052466	4.9			RSD ()	
1,2,3,7,8,9-HxCDF	1.030154	3.3			RSD ()	
1,2,3,4,7,8-HxCDD	1.027363	3.4			RSD ()	
1,2,3,6,7,8-HxCDD	1.00898	1.0			RSD ()	
1,2,3,7,8,9-HxCDD	0.9504865	2.7			RSD ()	
1,2,3,4,6,7,8-HpCDF	1.32735	3.0			RSD ()	
1,2,3,4,7,8,9-HpCDF	1.283338	1.7			RSD ()	
1,2,3,4,6,7,8-HpCDD	1.068088	6.6			RSD ()	
OCDF	1.446901	5.7			RSD ()	
OCDD	1.180823	3.3			RSD ()	
13C12-2,3,7,8-TCDF	1.426583	2.5			RSD ()	
13C12-2,3,7,8-TCDD	1.116491	2.1			RSD ()	
13C12-1,2,3,7,8-PeCDF	1.297313	5.3			RSD ()	
13C12-2,3,4,7,8-PeCDF	1.23648	5.5			RSD ()	
13C12-1,2,3,7,8-PeCDD	0.7319833	5.9			RSD ()	
13C12-1,2,3,4,7,8-HxCDF	1.242456	2.5			RSD ()	
13C12-1,2,3,6,7,8-HxCDF	1.343476	3.5			RSD ()	
13C12-2,3,4,6,7,8-HxCDF	1.214855	2.4			RSD ()	
13C12-1,2,3,7,8,9-HxCDF	1.007637	2.3			RSD ()	
13C12-1,2,3,4,7,8-HxCDD	0.9598233	2.9			RSD ()	
13C12-1,2,3,6,7,8-HxCDD	1.041385	1.6			RSD ()	
13C12-1,2,3,4,6,7,8-HpCDF	0.9264704	1.6			RSD ()	
13C12-1,2,3,4,7,8,9-HpCDF	0.757916	3.4			RSD ()	
13C12-1,2,3,4,6,7,8-HpCDD	0.6324476	2.4			RSD ()	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EH00030	Instrument:	AUTOSPEC01
Calibration Date:	08/11/2021	Column (1):	RTX-Dioxin2

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
13C12-OCDD	0.5037432	6.7			RSD ()	
37Cl4-2,3,7,8-TCDD	1.083593	5.9			RSD ()	
13C12-1,2,3,4-TCDD	1	0.0			RSD ()	
13C12-1,2,3,7,8,9-HxCDD	1	0.0			RSD ()	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00030
Sequence: SJH0117

SDG: 21G0213
Project: Lower Duwamish AOC4
Laboratory ID: SJH0117-SCV1
Sequence Name: ICVCV
Standard ID: G001361

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
2,3,7,8-TCDF	10.000	10.1	1.1	20.00
2,3,7,8-TCDD	10.000	11.1	10.6	20.00
1,2,3,7,8-PeCDF	50.000	52.8	5.7	20.00
2,3,4,7,8-PeCDF	50.000	50.7	1.4	20.00
1,2,3,7,8-PeCDD	50.000	52.2	4.4	20.00
1,2,3,4,7,8-HxCDF	50.000	54.0	8.0	20.00
1,2,3,6,7,8-HxCDF	50.000	51.5	3.0	20.00
2,3,4,6,7,8-HxCDF	50.000	55.5	11.0	20.00
1,2,3,7,8,9-HxCDF	50.000	53.6	7.2	20.00
1,2,3,4,7,8-HxCDD	50.000	54.6	9.3	20.00
1,2,3,6,7,8-HxCDD	50.000	50.6	1.1	20.00
1,2,3,7,8,9-HxCDD	50.000	52.3	4.7	20.00
1,2,3,4,6,7,8-HpCDF	50.000	54.8	9.6	20.00
1,2,3,4,7,8,9-HpCDF	50.000	59.1	18.3	20.00
1,2,3,4,6,7,8-HpCDD	50.000	51.9	3.7	20.00
OCDF	100.00	105	5.4	20.00
OCDD	100.00	105	5.0	20.00
13C12-2,3,7,8-TCDF	100.00	102	1.7	20.00
13C12-2,3,7,8-TCDD	100.00	81.6	-18.4	20.00
13C12-1,2,3,7,8-PeCDF	100.00	105	4.8	20.00
13C12-2,3,4,7,8-PeCDF	100.00	104	4.3	20.00
13C12-1,2,3,7,8-PeCDD	100.00	98.4	-1.6	20.00
13C12-1,2,3,4,7,8-HxCDF	100.00	116	15.9	20.00
13C12-1,2,3,6,7,8-HxCDF	100.00	119	19.4	20.00
13C12-2,3,4,6,7,8-HxCDF	100.00	109	8.8	20.00
13C12-1,2,3,7,8,9-HxCDF	100.00	113	13.2	20.00
13C12-1,2,3,4,7,8-HxCDD	100.00	114	14.1	20.00
13C12-1,2,3,6,7,8-HxCDD	100.00	119	19.5	20.00
13C12-1,2,3,4,6,7,8-HpCDF	100.00	114	13.7	20.00
13C12-1,2,3,4,7,8,9-HpCDF	100.00	110	9.8	20.00
13C12-1,2,3,4,6,7,8-HpCDD	100.00	110	10.5	20.00
13C12-OCDD	200.00	212	5.9	20.00
37Cl4-2,3,7,8-TCDD	10.000	10.4	4.0	20.00

* Indicates values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.655	1.001	8.598e4	1.128e5	1.108	0.762	0.770	1727	2357	1.26e6	1.68e6	728.4	713.0	NO	bb	bb	10.110
12378-PeCDF	29.816	1.000	5.436e5	3.483e5	1.015	1.561	1.550	6428	5298	7.67e6	4.88e6	1193.2	921.9	NO	bd	bd	52.831
23478-PeCDF	31.165	1.001	5.567e5	3.442e5	1.126	1.617	1.550	6428	5298	7.71e6	5.06e6	1200.0	955.7	NO	dd	bb	50.709
123478-HxCDF	34.797	1.000	3.790e5	3.119e5	1.017	1.215	1.240	6025	4489	5.81e6	4.80e6	963.5	1070.0	NO	bd	bd	54.003
234678-HxCDF	35.810	1.001	3.741e5	3.010e5	1.052	1.243	1.240	6025	4489	5.56e6	4.51e6	922.2	1004.3	NO	bb	bb	55.515
123678-HxCDF	34.941	1.001	4.107e5	3.376e5	1.037	1.217	1.240	6025	4489	5.99e6	4.89e6	994.0	1090.0	NO	db	db	51.475
123789-HxCDF	36.835	1.000	3.029e5	2.474e5	1.030	1.224	1.240	6025	4489	4.62e6	3.69e6	767.5	821.7	NO	bb	bb	53.582
1234678-HpCDF	38.685	1.000	3.428e5	3.268e5	1.327	1.049	1.050	5528	5142	5.22e6	4.97e6	945.1	966.6	NO	bb	bb	54.784
1234789-HpCDF	40.924	1.000	2.799e5	2.719e5	1.283	1.029	1.050	5528	5142	3.60e6	3.43e6	650.7	667.0	NO	bd	bd	59.145
OCDF	45.140	1.006	3.368e5	3.743e5	1.447	0.900	0.890	5198	2808	3.79e6	4.27e6	729.8	1522.4	NO	bb	bb	105.415
2378-TCDD	26.305	1.001	4.924e4	6.425e4	0.920	0.766	0.770	2440	1603	7.12e5	9.28e5	291.6	579.2	NO	bb	db	11.057
12378-PeCDD	31.421	1.001	2.834e5	1.748e5	0.995	1.621	1.550	4032	3115	4.22e6	2.62e6	1046.5	841.2	NO	bb	bb	52.211
123478-HxCDD	35.922	1.000	2.965e5	2.407e5	1.027	1.232	1.240	4241	3010	4.65e6	3.73e6	1096.7	1237.9	NO	bd	bd	54.629
123678-HxCDD	36.044	1.001	3.082e5	2.464e5	1.009	1.251	1.240	4241	3010	4.61e6	3.72e6	1085.9	1237.1	NO	db	db	50.555
123789-HxCDD	36.423	1.011	2.887e5	2.199e5	0.950	1.313	1.240	4241	3010	4.19e6	3.34e6	989.1	1108.9	NO	bd	bb	52.339
1234678-HpCDD	40.178	1.000	1.757e5	1.625e5	1.068	1.081	1.050	3111	3083	2.53e6	2.35e6	814.6	763.1	NO	bb	bb	51.865
OCDD	44.903	1.000	2.642e5	3.138e5	1.181	0.842	0.890	2972	3108	3.12e6	3.44e6	1050.3	1105.9	NO	bb	bd	104.997
13C-2378-TCDF	25.640	1.007	7.798e5	9.953e5	1.427	0.784	0.770	3469	3089	1.16e7	1.43e7	3339.4	4613.3	NO	bb	bb	101.689
13C-12378-PeCDF	29.806	1.171	1.051e6	6.125e5	1.297	1.716	1.550	4922	3645	1.42e7	8.62e6	2881.8	2364.6	NO	bd	bb	104.785
13C-23478-PeCDF	31.142	1.223	9.754e5	6.030e5	1.236	1.617	1.550	4922	3645	1.41e7	8.69e6	2860.8	2384.9	NO	bb	bb	104.321
13C-123478-HxCDF	34.785	0.955	4.274e5	8.307e5	1.242	0.514	0.510	5265	6298	6.41e6	1.24e7	1218.4	1973.2	NO	bd	bd	115.885
13C-123678-HxCDF	34.919	0.959	4.860e5	9.161e5	1.343	0.530	0.510	5265	6298	7.00e6	1.35e7	1330.1	2144.5	NO	db	db	119.442
13C-234678-HxCDF	35.788	0.983	3.967e5	7.587e5	1.215	0.523	0.510	5265	6298	5.75e6	1.13e7	1091.4	1799.0	NO	bb	bb	108.848
13C-123789-HxCDF	36.824	1.011	3.447e5	6.522e5	1.008	0.529	0.510	5265	6298	5.11e6	9.81e6	969.9	1558.1	NO	bb	bb	113.229
13C-1234678-HpCDF	38.674	1.062	3.005e5	6.203e5	0.926	0.484	0.440	3480	6125	4.35e6	9.34e6	1249.4	1525.5	NO	bd	bb	113.744
13C-1234789-HpCDF	40.902	1.123	2.223e5	5.047e5	0.758	0.440	0.440	3480	6125	2.90e6	6.30e6	833.4	1029.2	NO	bb	bb	109.773
13C-1234-TCDD	25.458	0.000	5.298e5	6.938e5	1.000	0.764	0.770	5513	2305	7.87e6	1.03e7	1428.2	4481.1	NO	bb	bb	100.000
13C-2378-TCDD	26.275	1.032	4.826e5	6.328e5	1.116	0.763	0.770	5513	2305	7.09e6	9.32e6	1285.5	4044.7	NO	bb	bb	81.637
13C-12378-PeCDD	31.399	1.233	5.423e5	3.395e5	0.732	1.598	1.550	2388	2135	7.53e6	4.95e6	3154.4	2319.5	NO	bb	bb	98.449
13C-123478-HxCDD	35.911	0.986	5.361e5	4.211e5	0.960	1.273	1.240	3574	5521	8.65e6	6.70e6	2421.3	1213.6	NO	bd	bd	114.124
13C-123678-HxCDD	36.022	0.989	6.017e5	4.857e5	1.041	1.239	1.240	3574	5521	9.06e6	7.24e6	2535.4	1311.0	NO	db	db	119.499
13C-1234678-HpCDD	40.167	1.103	3.074e5	3.031e5	0.632	1.014	1.050	3260	2760	4.30e6	4.19e6	1318.4	1519.0	NO	bb	bb	110.470
13C-OCDD	44.884	1.233	4.208e5	5.116e5	0.504	0.822	0.890	2744	3477	4.92e6	5.55e6	1792.3	1596.9	NO	bb	bd	211.835
13C-123789-HxCDD	36.412	0.000	4.843e5	3.895e5	1.000	1.243	1.240	3574	5521	7.18e6	5.79e6	2010.2	1047.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	1.379e5		1.084			1849		1.90e6		1029.2			bd		10.397

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.147	0.864	1.063e5	1.324e5	1.425	0.802	0.770	1727	2357	1.66e6	2.09e6	959.0	886.5	NO	bb	bb	9.436
1289-TCDF	27.152	1.059	5.661e4	7.137e4	1.043	0.793	0.770	1727	2357	8.15e5	1.06e6	472.0	447.8	NO	bb	bb	6.913
13468-PECDF	27.015	0.906	5.743e5	3.714e5	1.376	1.546	1.550	1557	1759	8.45e6	5.45e6	5425.9	3099.7	NO	bb	bb	41.310
12389-PECDF	32.201	1.080	4.075e5	2.638e5	1.000	1.544	1.550	6428	5298	5.63e6	3.72e6	875.5	702.7	NO	bb	bb	40.376
123468-HXCDF	33.125	0.952	4.315e5	3.546e5	1.087	1.217	1.240	6025	4489	6.40e6	5.20e6	1061.8	1158.1	NO	bb	bb	57.507
1368-TCDD	23.417	0.891	5.716e4	7.362e4	0.923	0.776	0.770	2440	1603	8.73e5	1.13e6	357.6	706.6	NO	bb	bb	12.700
1289-TCDD	26.895	1.024	4.776e4	6.026e4	0.794	0.793	0.770	2440	1603	6.91e5	8.63e5	283.1	538.1	NO	bb	bb	12.197
12479-PECDD	28.691	0.914	4.186e5	2.632e5	1.843	1.590	1.550	4032	3115	3.99e6	2.51e6	988.7	804.5	NO	bb	bb	41.945
12389-PECDD	31.822	1.013	2.780e5	1.664e5	1.154	1.671	1.550	4032	3115	4.00e6	2.46e6	992.1	791.3	NO	bb	bb	43.683
124679-HXCDD	33.905	0.944	3.632e5	2.896e5	1.125	1.254	1.240	4241	3010	5.57e6	4.44e6	1314.1	1475.1	NO	bb	bb	60.629
1234679-HPCDD	39.141	0.975	2.129e5	1.840e5	1.211	1.157	1.050	3111	3083	2.93e6	2.75e6	941.5	893.1	NO	bd	bb	53.689
Total-tetrafurans			2.574e5		1.192			1727		3.86e6							27.363
Total-penta1			5.743e5					1557		8.45e6							41.310
Total-pentafurans			1.602e6		1.047			6428		2.23e7							153.079
Total-hexafurans			1.898e6		1.045			6025		2.84e7							272.082
Total-heptafurans			6.227e5		1.305			5528		8.82e6							113.929
Total-Furans			5.291e6		1.158			1727		7.56e7							713.177
Total-tetradioxins			2.709e5		0.879			2440		3.41e6							62.800
Total-pentadioxins			9.817e5		1.331			4032		1.22e7							138.087
Total-hexadioxins			1.266e6		1.028			4241		1.92e7							219.741
Total-heptadioxins			3.886e5		1.140			3111		5.46e6							105.554
Total-Dioxins			3.171e6		1.092			2440		4.34e7							631.178
Total-TEQ			8.462e6					2440		1.19e8							1344.355
FUNCTION1 PFK			6.450e7					839971		2.37e8							
FUNCTION2 PFK			0.000e0					483349		0.00e0							
FUNCTION3 PFK			5.184e7					675979		4.54e8							0.000
FUNCTION4 PFK			3.964e5					425264		1.39e7							
FUNCTION5 PFK			3.414e4					345829		1.67e6							
FUNCTION1 HXCD...			2.903e3					1258		5.64e4							0.000
FUNCTION1 HPCD...			2.863e3					1421		5.44e4							0.000
FUNCTION2 HPCD...			2.720e3					1471		5.70e4							0.000
FUNCTION3 OCDPE			1.392e3					890		2.72e4							0.000
FUNCTION4 NCDPE			1.187e3					1520		2.23e4							0.000
FUNCTION5 DCDPE			1.665e2					1065		6.42e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
2	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
3	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
4	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
5	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
2	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
3	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
4	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
5	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
2	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020
7	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
8	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
9	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
10	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
11	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831
12	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
13	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
14	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
15	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
16	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003
17	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
18	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145
19	OCDF	45.14	3.368e5	3.743e5	1.447	0.90	0.89	729.8	YES	NO	bb	bb	105.415
20	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
2	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
3	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
4	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
5	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
6	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
2	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
3	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
4	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
2	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
3	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
4	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
5	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
6	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865
2	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
2	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
3	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
4	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
5	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
6	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057
7	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
8	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
9	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
10	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945
11	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
12	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
13	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
14	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
15	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
16	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325
17	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865
18	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689
19	OCDD	44.90	2.642e5	3.138e5	1.181	0.84	0.89	1050.3	YES	NO	bb	bd	104.997

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020
7	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
8	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
9	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
10	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
11	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831
12	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
13	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
14	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
15	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
16	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003
17	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
18	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145
19	OCDF	45.14	3.368e5	3.743e5	1.447	0.90	0.89	729.8	YES	NO	bb	bb	105.415
20	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310
21	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
22	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
23	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
24	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
25	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
26	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057
27	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
28	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
29	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
30	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945
31	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
32	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
33	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
34	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
35	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
36	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325
37	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689
39	OCDD	44.90	2.642e5	3.138e5	1.181	0.84	0.89	1050.3	YES	NO	bb	bd	104.997

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.34	1.094e7					29.2	YES		db		
2	FUNCTION1 PFK	22.07	1.938e7					38.3	YES		dd		
3	FUNCTION1 PFK	21.38	2.077e7					61.6	YES		dd		
4	FUNCTION1 PFK	21.25	7.452e6					64.7	YES		dd		
5	FUNCTION1 PFK	21.10	5.199e6					69.3	YES		bd		
6	FUNCTION1 PFK	27.62	5.202e4					1.5	NO		bb		
7	FUNCTION1 PFK	26.61	3.088e4					1.4	NO		bb		
8	FUNCTION1 PFK	26.53	3.772e4					1.3	NO		bb		
9	FUNCTION1 PFK	26.21	4.215e4					1.3	NO		bb		
10	FUNCTION1 PFK	26.14	2.091e4					0.7	NO		bb		
11	FUNCTION1 PFK	25.90	2.782e4					1.0	NO		bb		
12	FUNCTION1 PFK	25.64	2.244e4					0.9	NO		bb		
13	FUNCTION1 PFK	25.38	4.475e4					1.3	NO		bb		
14	FUNCTION1 PFK	25.32	8.085e4					1.5	NO		bb		
15	FUNCTION1 PFK	25.10	6.333e4					1.7	NO		db		
16	FUNCTION1 PFK	24.94	2.192e5					2.0	NO		dd		
17	FUNCTION1 PFK	24.82	2.857e4					1.1	NO		bd		
18	FUNCTION1 PFK	24.63	2.787e4					1.0	NO		bb		
19	FUNCTION1 PFK	24.35	1.463e4					0.7	NO		bb		
20	FUNCTION1 PFK	23.43	4.951e4					1.7	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.47	2.892e5					8.3	YES		dd		0.000
2	FUNCTION3 PFK	34.42	3.441e5					9.9	YES		dd		0.000
3	FUNCTION3 PFK	34.30	9.123e5					14.6	YES		dd		0.000
4	FUNCTION3 PFK	33.96	4.870e6					27.1	YES		dd		0.000
5	FUNCTION3 PFK	33.92	6.208e5					27.9	YES		dd		0.000
6	FUNCTION3 PFK	33.75	6.775e6					34.2	YES		dd		0.000
7	FUNCTION3 PFK	33.58	8.843e5					39.8	YES		dd		0.000
8	FUNCTION3 PFK	33.52	4.828e6					42.2	YES		dd		0.000
9	FUNCTION3 PFK	33.37	2.844e6					47.3	YES		dd		0.000
10	FUNCTION3 PFK	33.18	5.432e6					54.3	YES		dd		0.000
11	FUNCTION3 PFK	33.04	5.575e6					59.2	YES		dd		0.000
12	FUNCTION3 PFK	32.95	3.680e6					62.9	YES		dd		0.000
13	FUNCTION3 PFK	32.86	7.904e6					65.6	YES		dd		0.000
14	FUNCTION3 PFK	32.74	1.549e6					69.1	YES		dd		0.000
15	FUNCTION3 PFK	32.67	4.268e6					72.4	YES		bd		0.000
16	FUNCTION3 PFK	36.86	8.449e3					0.3	NO		bb		0.000
17	FUNCTION3 PFK	36.72	6.925e4					2.0	NO		bb		0.000
18	FUNCTION3 PFK	36.59	5.799e4					1.2	NO		bb		0.000
19	FUNCTION3 PFK	36.30	7.563e3					0.7	NO		bb		0.000
20	FUNCTION3 PFK	36.04	6.922e3					0.5	NO		bb		0.000
21	FUNCTION3 PFK	35.83	2.532e4					1.1	NO		bb		0.000
22	FUNCTION3 PFK	35.75	1.516e4					0.9	NO		bb		0.000
23	FUNCTION3 PFK	35.63	1.004e4					0.7	NO		bb		0.000
24	FUNCTION3 PFK	35.33	1.433e4					0.8	NO		bb		0.000
25	FUNCTION3 PFK	35.04	1.089e4					0.6	NO		bb		0.000
26	FUNCTION3 PFK	34.97	5.517e3					0.7	NO		bb		0.000
27	FUNCTION3 PFK	34.89	3.001e4					1.0	NO		bb		0.000
28	FUNCTION3 PFK	34.81	1.594e4					1.0	NO		db		0.000
29	FUNCTION3 PFK	34.76	3.092e4					1.3	NO		bd		0.000
30	FUNCTION3 PFK	34.60	1.659e5					4.5	YES		db		0.000
31	FUNCTION3 PFK	34.53	2.985e5					6.7	YES		dd		0.000
32	FUNCTION3 PFK	37.64	2.742e4					1.1	NO		bb		0.000
33	FUNCTION3 PFK	37.58	2.711e4					1.4	NO		db		0.000
34	FUNCTION3 PFK	37.54	1.758e4					0.9	NO		dd		0.000
35	FUNCTION3 PFK	37.49	3.447e4					1.6	NO		dd		0.000
36	FUNCTION3 PFK	37.45	2.646e4					1.5	NO		dd		0.000
37	FUNCTION3 PFK	37.38	4.745e4					1.5	NO		dd		0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.34	2.452e4					1.6	NO		bd		0.000
39	FUNCTION3 PFK	37.29	9.653e3					0.8	NO		bb		0.000
40	FUNCTION3 PFK	37.08	5.064e3					0.5	NO		bb		0.000
41	FUNCTION3 PFK	36.98	6.612e4					1.7	NO		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.42	2.469e3					0.5	NO		bb		
2	FUNCTION4 PFK	38.08	2.954e4					1.7	NO		bb		
3	FUNCTION4 PFK	37.98	4.856e4					2.3	NO		db		
4	FUNCTION4 PFK	37.94	3.614e4					2.6	NO		bd		
5	FUNCTION4 PFK	37.85	8.390e3					1.0	NO		bb		
6	FUNCTION4 PFK	40.91	1.035e4					1.0	NO		bb		
7	FUNCTION4 PFK	40.71	1.742e3					0.4	NO		bb		
8	FUNCTION4 PFK	40.68	3.176e3					0.5	NO		bb		
9	FUNCTION4 PFK	40.61	6.362e3					0.7	NO		bb		
10	FUNCTION4 PFK	40.38	7.075e3					0.8	NO		bb		
11	FUNCTION4 PFK	40.32	3.115e4					1.2	NO		bb		
12	FUNCTION4 PFK	39.94	4.461e3					0.6	NO		bb		
13	FUNCTION4 PFK	39.80	5.746e3					0.6	NO		bb		
14	FUNCTION4 PFK	39.51	2.799e3					0.4	NO		bb		
15	FUNCTION4 PFK	39.43	1.949e3					0.4	NO		bb		
16	FUNCTION4 PFK	39.36	2.879e3					0.6	NO		bb		
17	FUNCTION4 PFK	39.32	5.365e3					1.1	NO		bb		
18	FUNCTION4 PFK	39.28	3.621e3					0.8	NO		bb		
19	FUNCTION4 PFK	39.21	1.666e4					1.0	NO		bb		
20	FUNCTION4 PFK	39.07	6.512e3					0.8	NO		bb		
21	FUNCTION4 PFK	38.46	1.263e4					1.2	NO		bb		
22	FUNCTION4 PFK	42.68	1.445e4					0.9	NO		bb		
23	FUNCTION4 PFK	42.62	2.052e4					1.7	NO		bb		
24	FUNCTION4 PFK	42.51	2.321e3					0.5	NO		bb		
25	FUNCTION4 PFK	42.43	3.121e4					1.9	NO		bb		
26	FUNCTION4 PFK	42.18	7.742e3					0.8	NO		bb		
27	FUNCTION4 PFK	42.05	1.748e4					1.2	NO		db		
28	FUNCTION4 PFK	41.97	1.470e4					1.2	NO		bd		
29	FUNCTION4 PFK	41.63	2.487e3					0.5	NO		bb		
30	FUNCTION4 PFK	41.48	1.442e4					1.2	NO		bb		
31	FUNCTION4 PFK	41.24	1.211e4					1.0	NO		bb		
32	FUNCTION4 PFK	41.17	1.136e4					1.2	NO		bb		

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.97	5.710e3					1.0	NO		bb		
2	FUNCTION5 PFK	45.74	1.859e3					0.6	NO		bb		
3	FUNCTION5 PFK	43.26	1.526e4					1.8	NO		bb		
4	FUNCTION5 PFK	42.93	1.131e4					1.5	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.35	1.892e2					4.2	YES		db		0.000
2	FUNCTION1 HXCD...	25.23	1.187e2					1.3	NO		bd		0.000
3	FUNCTION1 HXCD...	24.87	7.961e1					1.9	NO		db		0.000
4	FUNCTION1 HXCD...	24.81	1.259e2					2.7	NO		bd		0.000
5	FUNCTION1 HXCD...	24.72	1.584e2					1.4	NO		bb		0.000
6	FUNCTION1 HXCD...	24.40	9.113e1					1.6	NO		bb		0.000
7	FUNCTION1 HXCD...	23.72	7.480e1					1.5	NO		bb		0.000
8	FUNCTION1 HXCD...	23.61	1.381e2					2.9	NO		bb		0.000
9	FUNCTION1 HXCD...	23.11	9.740e1					2.5	NO		bb		0.000
10	FUNCTION1 HXCD...	22.43	1.791e2					2.1	NO		db		0.000
11	FUNCTION1 HXCD...	22.30	7.125e1					1.5	NO		bd		0.000
12	FUNCTION1 HXCD...	22.19	7.195e1					1.3	NO		bb		0.000
13	FUNCTION1 HXCD...	21.98	1.102e2					1.5	NO		db		0.000
14	FUNCTION1 HXCD...	21.89	2.251e2					4.2	YES		bd		0.000
15	FUNCTION1 HXCD...	21.80	1.414e2					2.0	NO		bb		0.000
16	FUNCTION1 HXCD...	27.03	2.453e2					2.4	NO		bb		0.000
17	FUNCTION1 HXCD...	26.29	2.686e2					2.1	NO		db		0.000
18	FUNCTION1 HXCD...	26.12	1.763e2					2.9	NO		dd		0.000
19	FUNCTION1 HXCD...	26.03	9.387e1					1.2	NO		bd		0.000
20	FUNCTION1 HXCD...	25.82	1.399e2					2.0	NO		bb		0.000
21	FUNCTION1 HXCD...	25.46	1.064e2					1.7	NO		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.51	7.992e1					1.4	NO		bb		0.000
2	FUNCTION1 HPCD...	22.07	1.029e2					2.1	NO		bb		0.000
3	FUNCTION1 HPCD...	21.98	1.510e2					1.6	NO		db		0.000
4	FUNCTION1 HPCD...	21.88	1.949e2					3.5	YES		bd		0.000
5	FUNCTION1 HPCD...	21.75	2.528e2					1.8	NO		bb		0.000
6	FUNCTION1 HPCD...	21.47	1.508e2					2.1	NO		bb		0.000
7	FUNCTION1 HPCD...	21.25	1.018e2					1.3	NO		db		0.000
8	FUNCTION1 HPCD...	21.16	1.149e2					1.6	NO		dd		0.000
9	FUNCTION1 HPCD...	21.09	2.200e2					3.0	NO		bd		0.000
10	FUNCTION1 HPCD...	27.00	1.586e2					1.8	NO		bb		0.000
11	FUNCTION1 HPCD...	26.83	9.159e1					0.8	NO		bb		0.000
12	FUNCTION1 HPCD...	26.59	1.663e2					2.5	NO		bb		0.000
13	FUNCTION1 HPCD...	26.32	1.753e2					1.6	NO		db		0.000
14	FUNCTION1 HPCD...	26.14	2.616e2					2.2	NO		bd		0.000
15	FUNCTION1 HPCD...	25.59	8.230e1					1.9	NO		bb		0.000
16	FUNCTION1 HPCD...	25.44	8.713e1					1.0	NO		bb		0.000
17	FUNCTION1 HPCD...	25.16	7.125e1					1.1	NO		db		0.000
18	FUNCTION1 HPCD...	25.05	1.030e2					1.1	NO		bd		0.000
19	FUNCTION1 HPCD...	24.07	1.494e2					2.5	NO		bb		0.000
20	FUNCTION1 HPCD...	23.83	1.478e2					3.3	YES		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.48	1.146e2					2.7	NO		bb		0.000
2	FUNCTION2 HPCD...	28.07	8.040e1					1.2	NO		db		0.000
3	FUNCTION2 HPCD...	27.98	1.117e2					1.5	NO		bd		0.000
4	FUNCTION2 HPCD...	27.82	9.308e1					2.0	NO		bb		0.000
5	FUNCTION2 HPCD...	31.82	1.073e2					1.6	NO		bb		0.000
6	FUNCTION2 HPCD...	31.41	3.440e2					4.0	YES		bb		0.000
7	FUNCTION2 HPCD...	31.18	9.044e1					1.2	NO		db		0.000
8	FUNCTION2 HPCD...	31.11	9.781e1					2.1	NO		dd		0.000
9	FUNCTION2 HPCD...	31.03	7.279e2					8.6	YES		bd		0.000
10	FUNCTION2 HPCD...	30.26	7.257e1					1.3	NO		bb		0.000
11	FUNCTION2 HPCD...	30.21	7.122e1					1.7	NO		db		0.000
12	FUNCTION2 HPCD...	30.14	1.157e2					1.5	NO		dd		0.000
13	FUNCTION2 HPCD...	30.06	7.412e1					1.1	NO		dd		0.000
14	FUNCTION2 HPCD...	29.98	7.219e1					1.2	NO		dd		0.000
15	FUNCTION2 HPCD...	29.91	9.212e1					2.0	NO		bd		0.000
16	FUNCTION2 HPCD...	29.69	7.977e1					1.3	NO		bb		0.000
17	FUNCTION2 HPCD...	29.08	1.408e2					1.5	NO		db		0.000
18	FUNCTION2 HPCD...	28.96	1.497e2					1.4	NO		bd		0.000
19	FUNCTION2 HPCD...	28.71	8.490e1					1.0	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.65	1.580e2					2.6	NO		db		0.000
2	FUNCTION3 OCDPE	37.55	1.150e2					2.8	NO		bd		0.000
3	FUNCTION3 OCDPE	36.42	1.835e2					2.9	NO		bb		0.000
4	FUNCTION3 OCDPE	36.04	2.520e2					4.7	YES		db		0.000
5	FUNCTION3 OCDPE	35.93	1.106e2					3.8	YES		dd		0.000
6	FUNCTION3 OCDPE	35.90	1.018e2					3.4	YES		bd		0.000
7	FUNCTION3 OCDPE	34.40	1.321e2					5.0	YES		bb		0.000
8	FUNCTION3 OCDPE	33.58	1.010e2					2.3	NO		bb		0.000
9	FUNCTION3 OCDPE	32.70	2.382e2					3.1	YES		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.42	7.136e1					0.9	NO		bb		0.000
2	FUNCTION4 NCDPE	40.16	1.641e2					1.6	NO		bb		0.000
3	FUNCTION4 NCDPE	39.69	1.182e2					1.5	NO		bb		0.000
4	FUNCTION4 NCDPE	38.52	1.487e2					1.6	NO		db		0.000
5	FUNCTION4 NCDPE	38.34	2.790e2					2.3	NO		dd		0.000
6	FUNCTION4 NCDPE	38.26	1.556e2					2.2	NO		bd		0.000
7	FUNCTION4 NCDPE	41.34	1.448e2					1.6	NO		bb		0.000
8	FUNCTION4 NCDPE	40.81	1.056e2					2.8	NO		bb		0.000

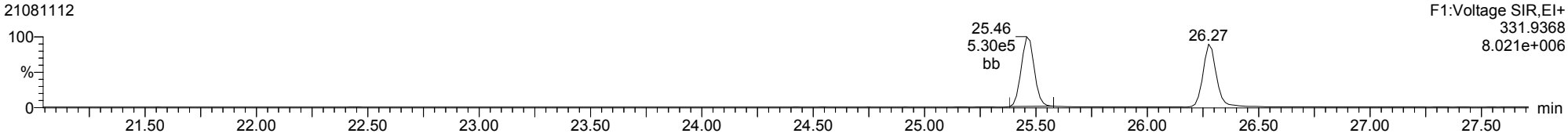
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.58	7.112e1					3.0	NO		bb		0.000
2	FUNCTION5 DCDPE	43.59	9.542e1					3.1	YES		bb		0.000

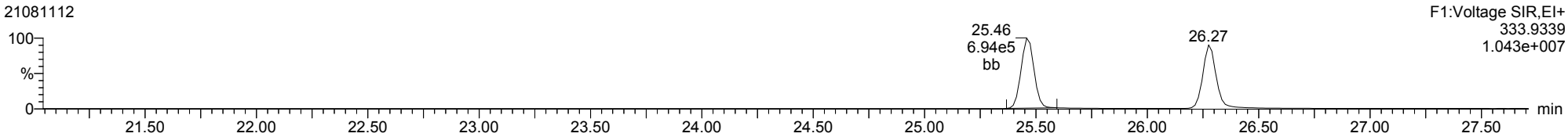
Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

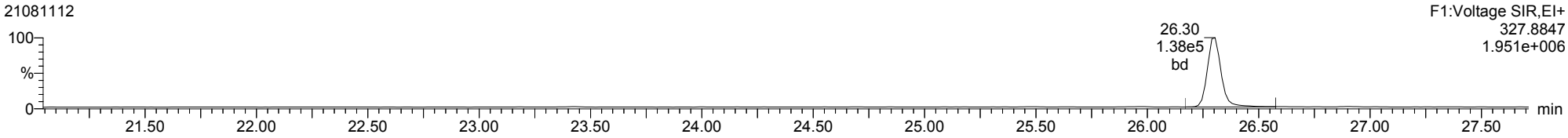
13C-1234-TCDD



13C-1234-TCDD

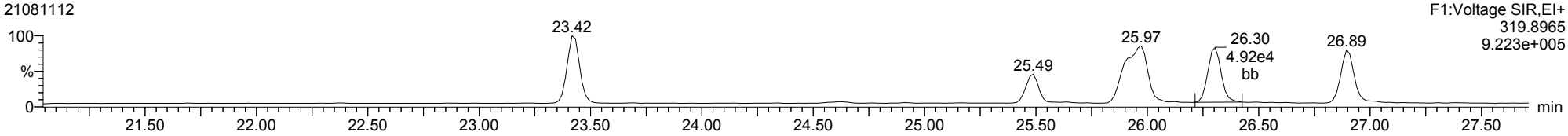


37CL-2378-TCDD

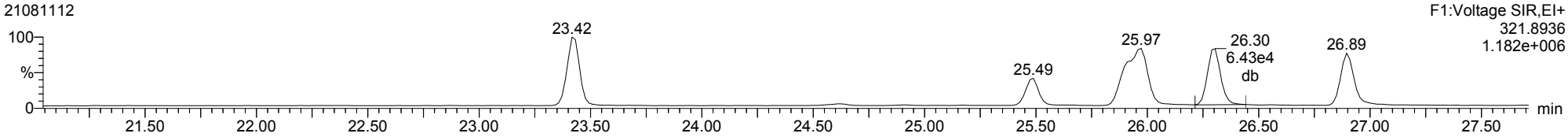


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

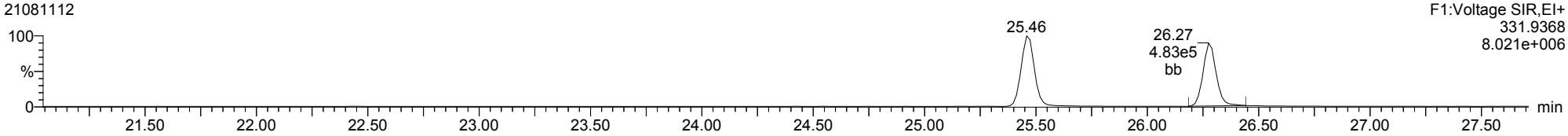
2378-TCDD



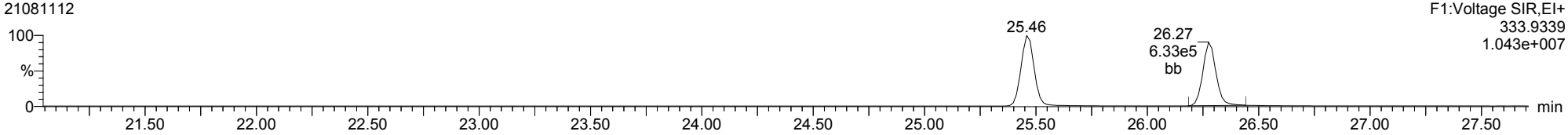
2378-TCDD



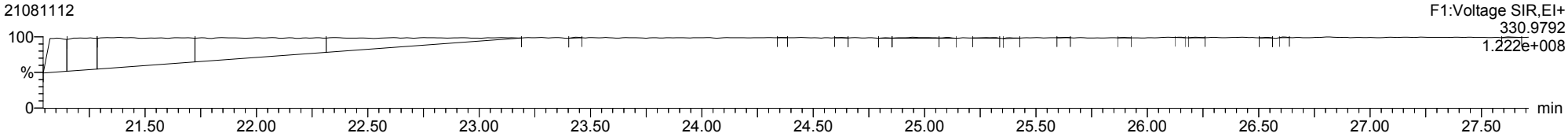
13C-2378-TCDD



13C-2378-TCDD

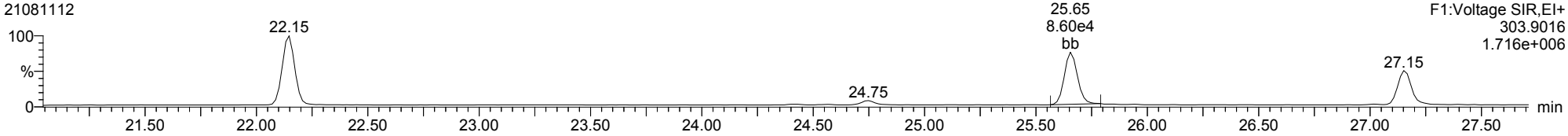


FUNCTION1 PFK

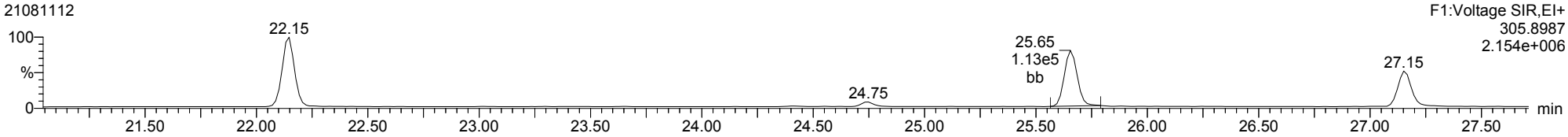


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

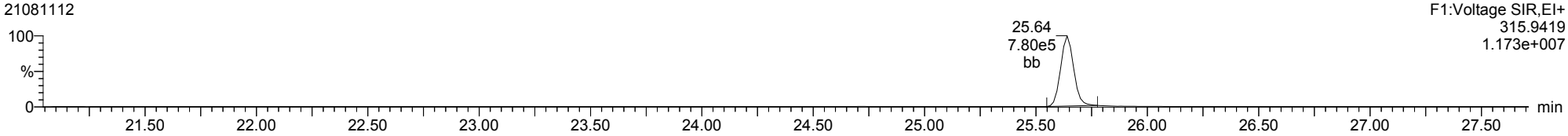
2378-TCDF



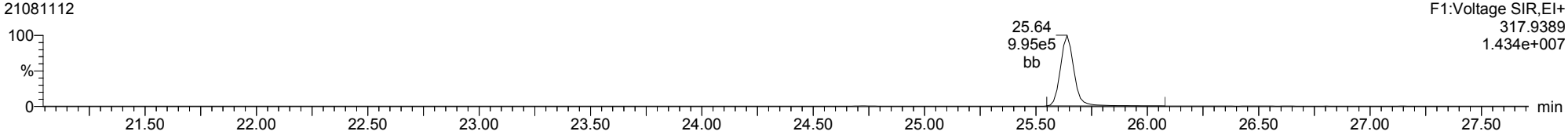
2378-TCDF



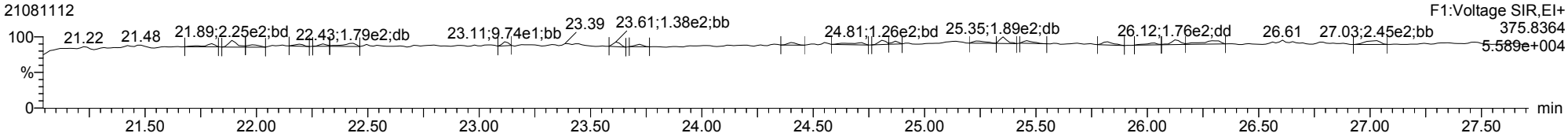
13C-2378-TCDF



13C-2378-TCDF

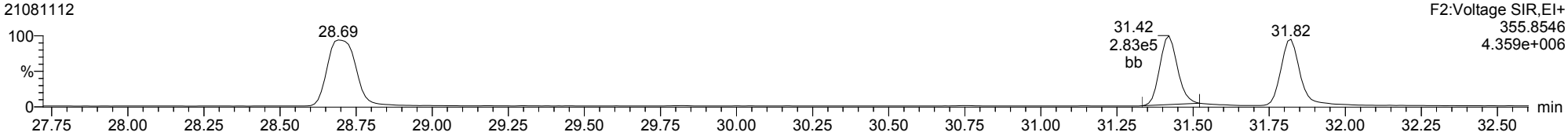


FUNCTION1 HXCDPE

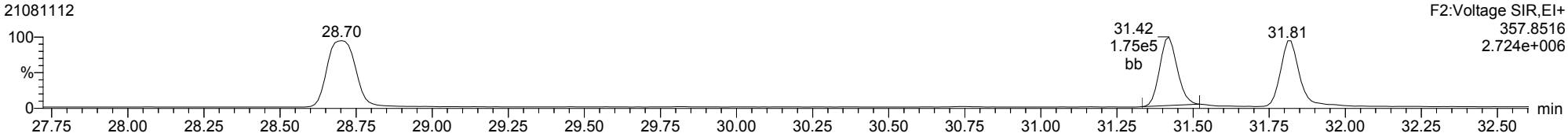


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

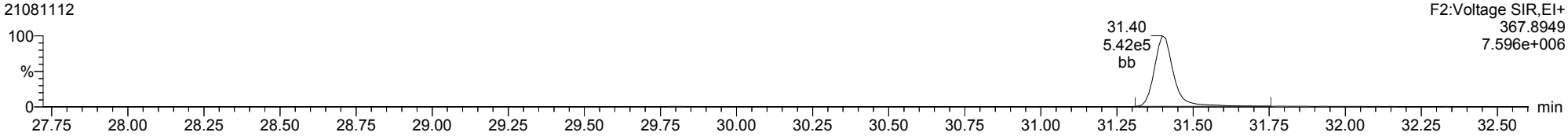
12378-PeCDD



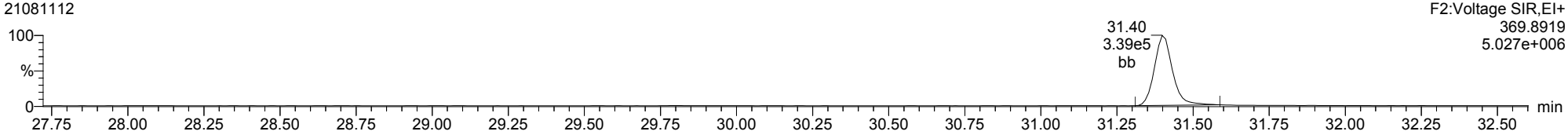
12378-PeCDD



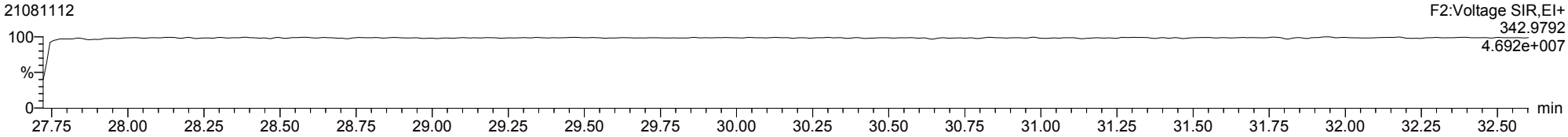
13C-12378-PeCDD



13C-12378-PeCDD

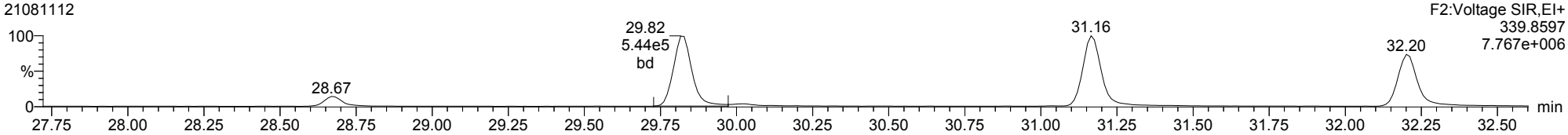


FUNCTION2 PFK

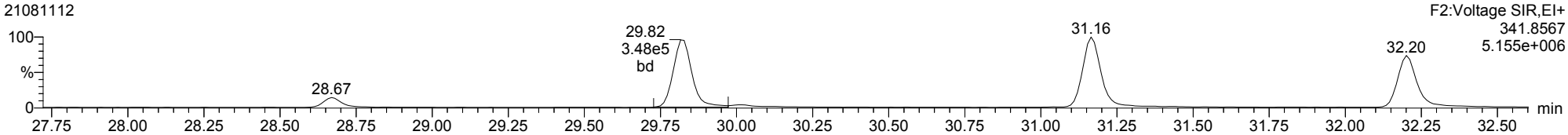


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

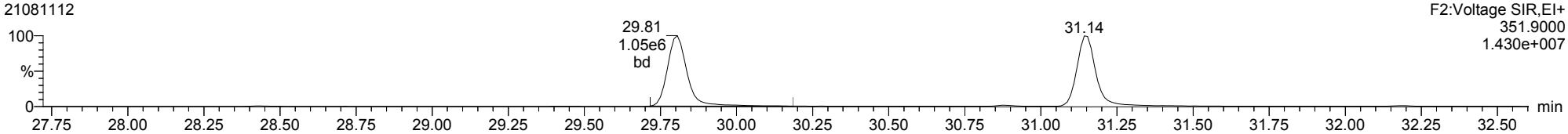
12378-PeCDF



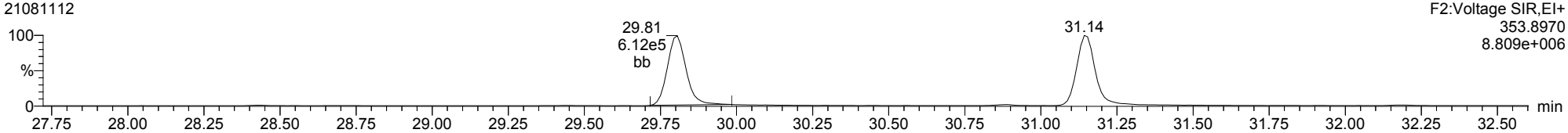
12378-PeCDF



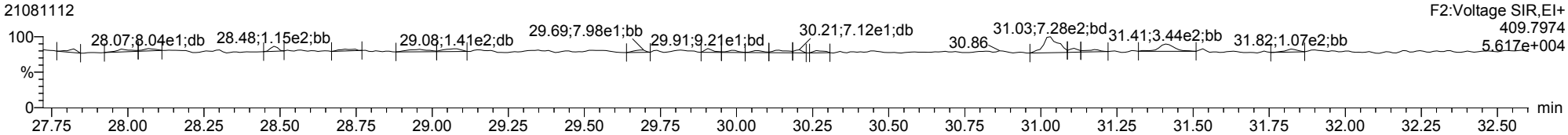
13C-12378-PeCDF



13C-12378-PeCDF

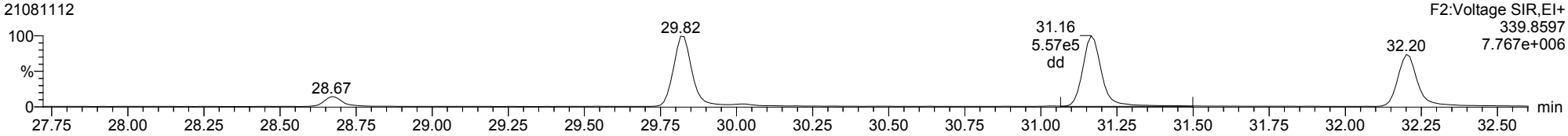


FUNCTION2 HPCDPE

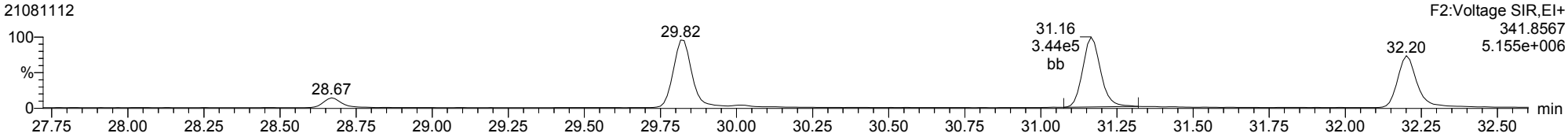


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

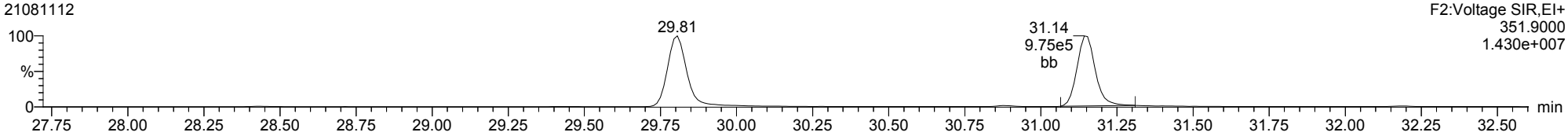
23478-PeCDF



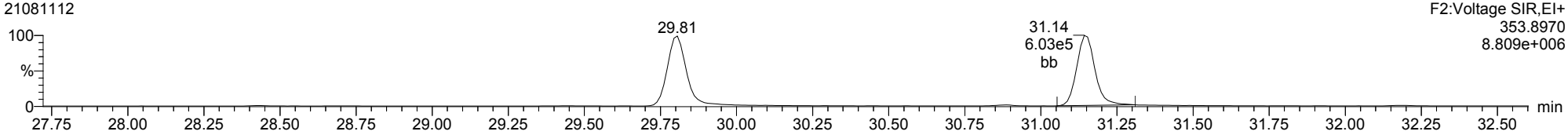
23478-PeCDF



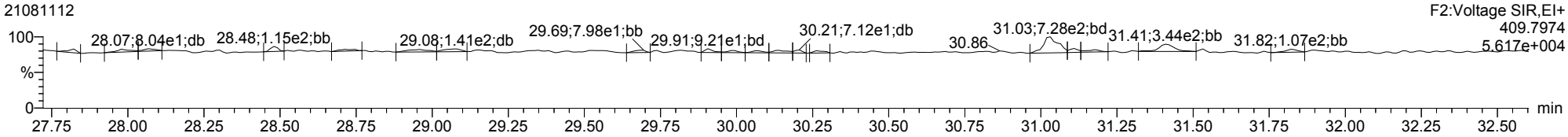
13C-23478-PeCDF



13C-23478-PeCDF

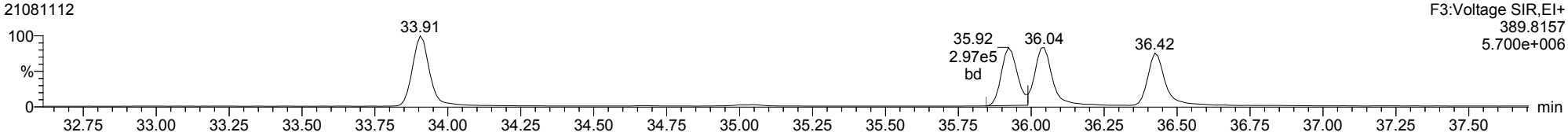


FUNCTION2 HPCDPE

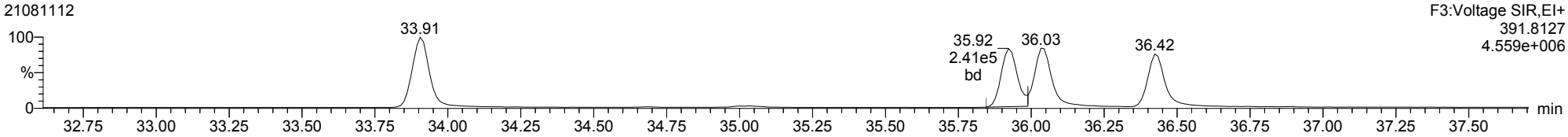


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

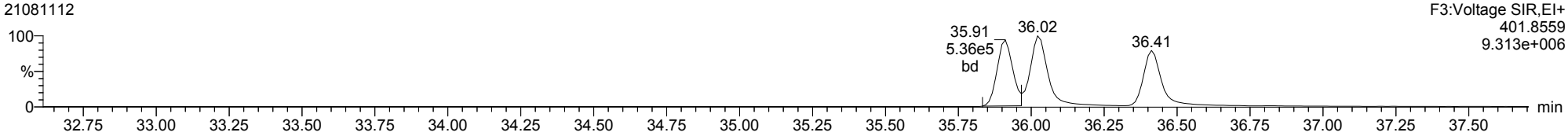
123478-HxCDD



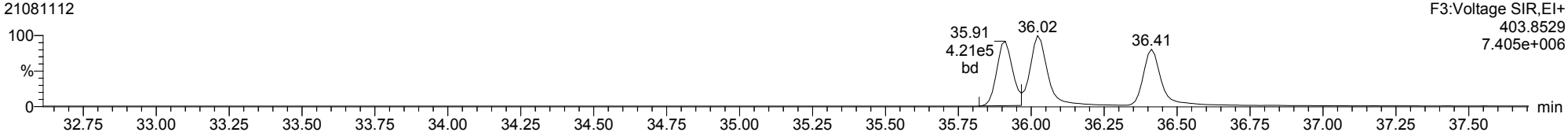
123478-HxCDD



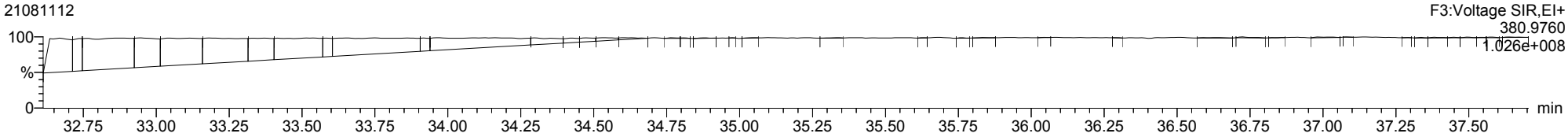
13C-123478-HxCDD



13C-123478-HxCDD

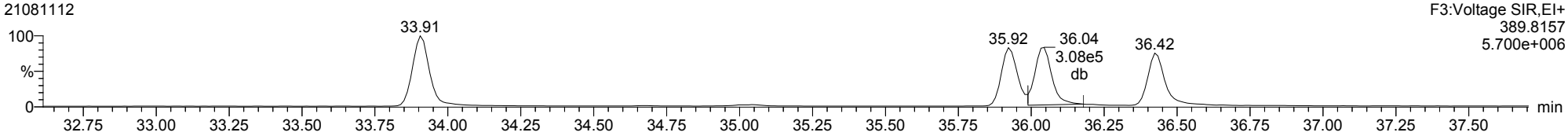


FUNCTION3 PFK

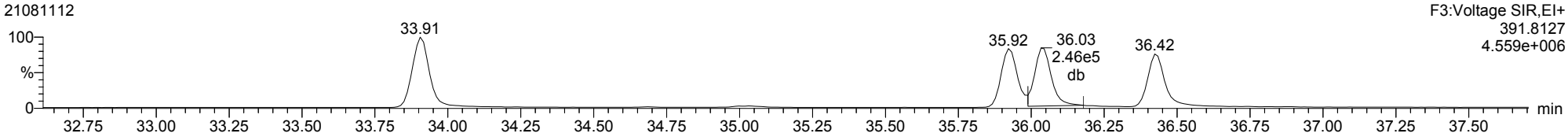


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

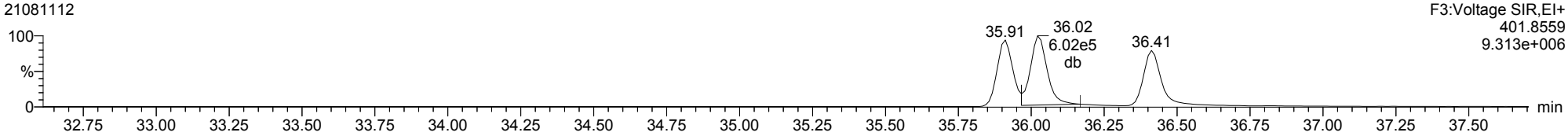
123678-HxCDD



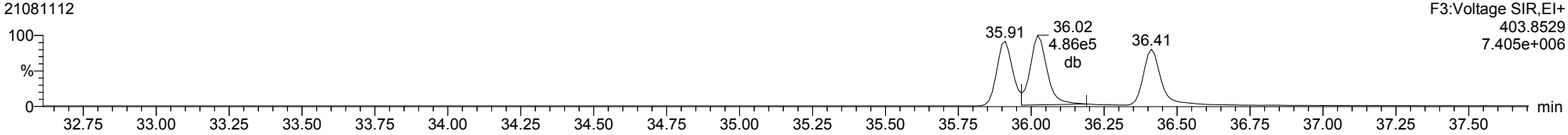
123678-HxCDD



13C-123678-HxCDD

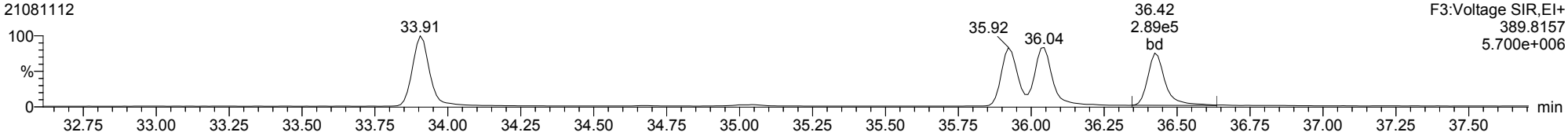


13C-123678-HxCDD

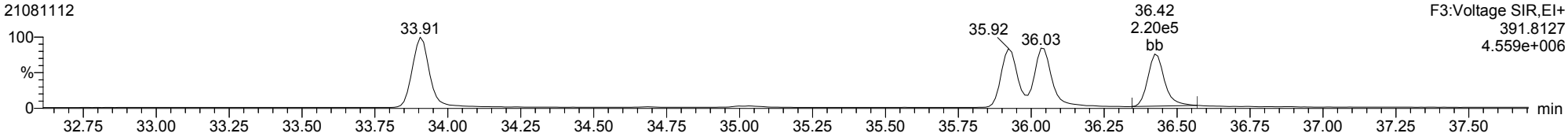


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

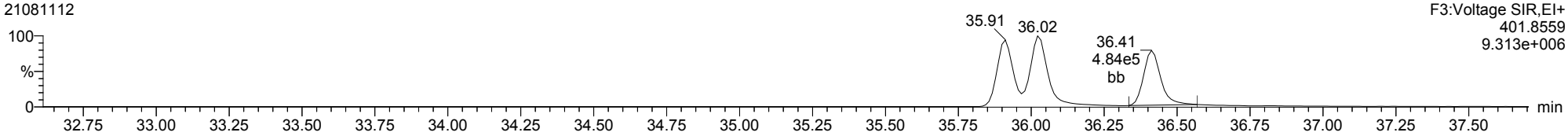
123789-HxCDD



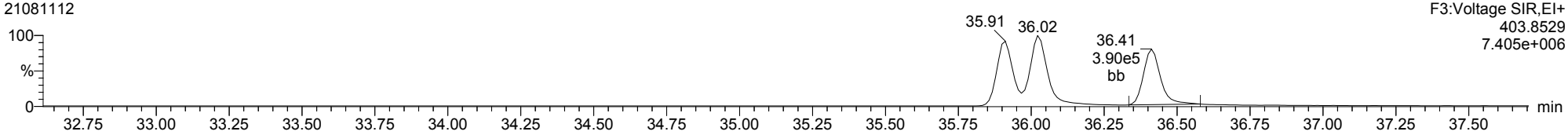
123789-HxCDD



13C-123789-HxCDD

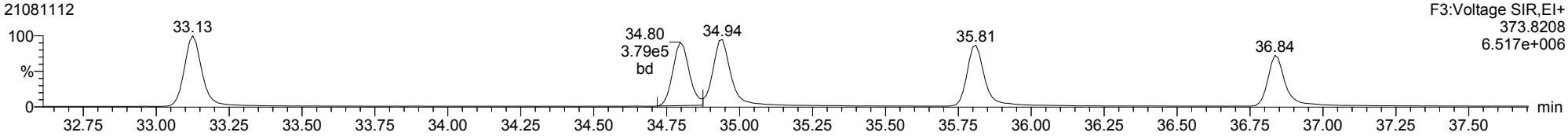


13C-123789-HxCDD

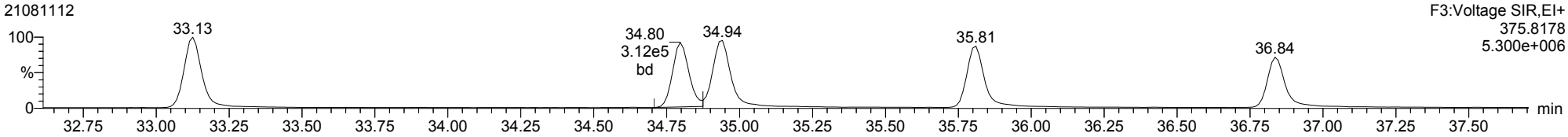


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

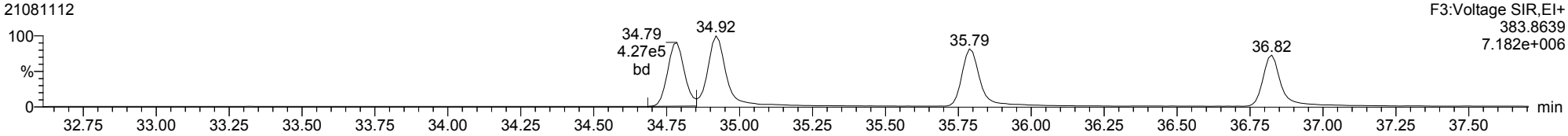
123478-HxCDF



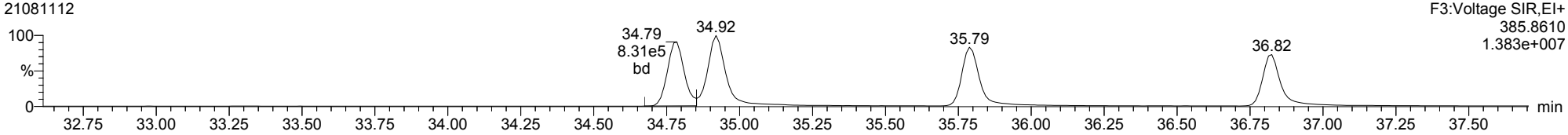
123478-HxCDF



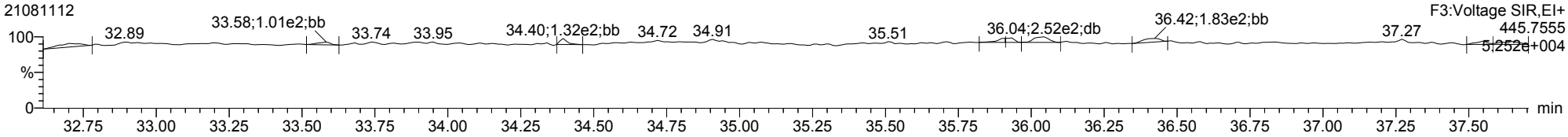
13C-123478-HxCDF



13C-123478-HxCDF

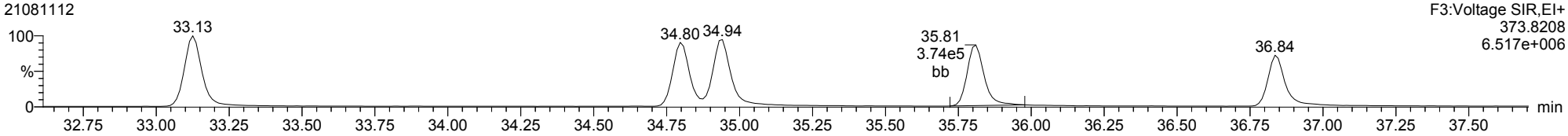


FUNCTION3 OCDPE

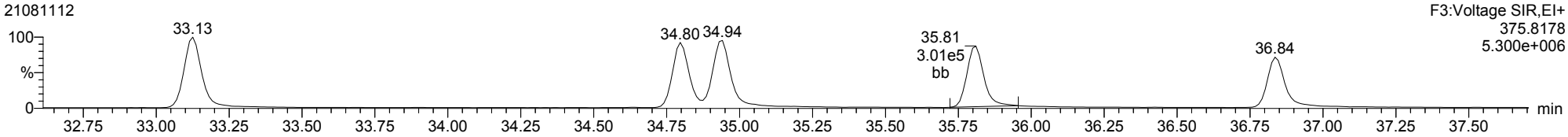


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

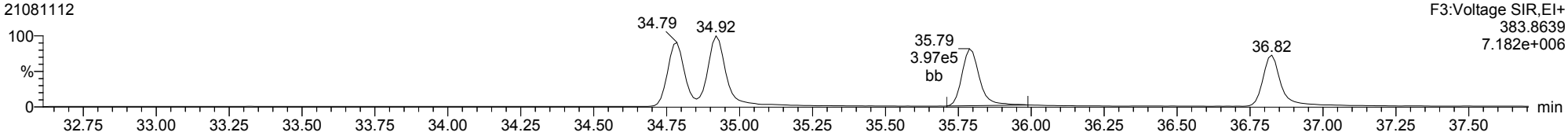
234678-HxCDF



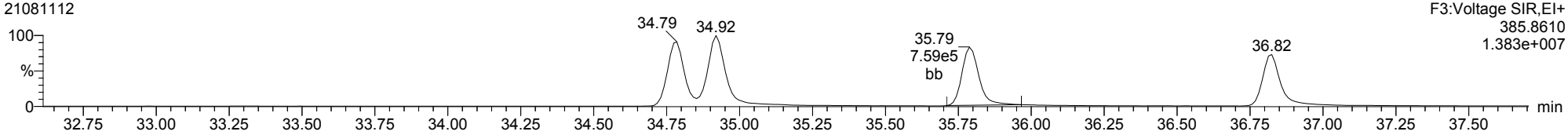
234678-HxCDF



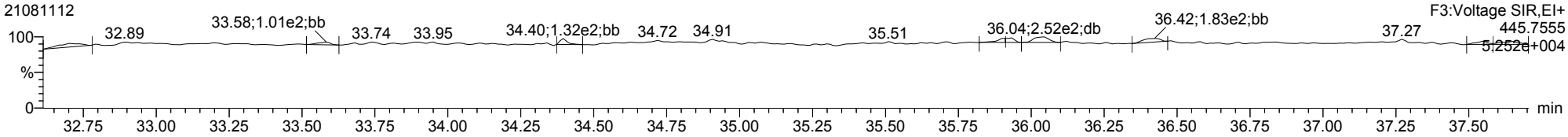
13C-234678-HxCDF



13C-234678-HxCDF



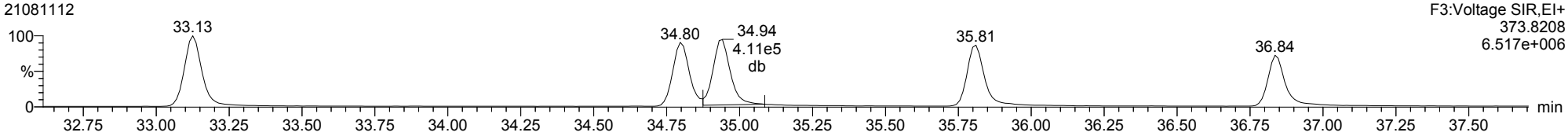
FUNCTION3 OCDPE



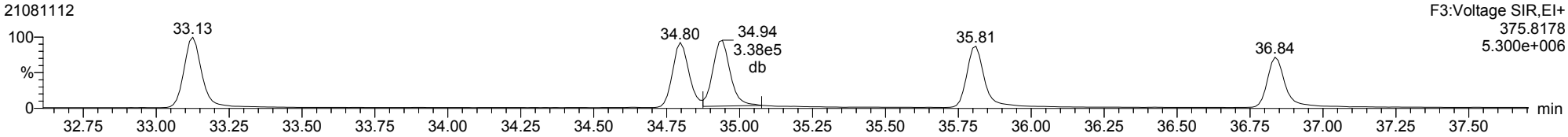
Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

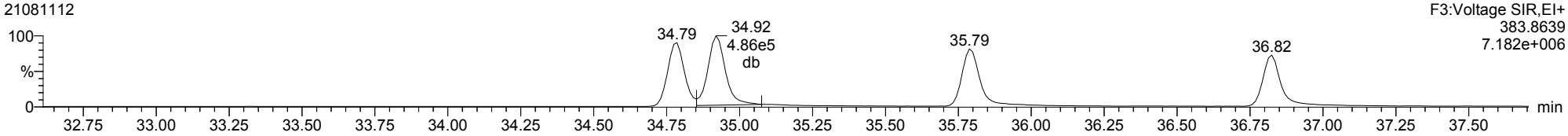
123678-HxCDF



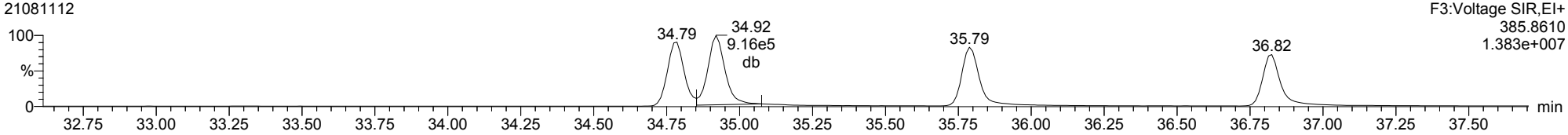
123678-HxCDF



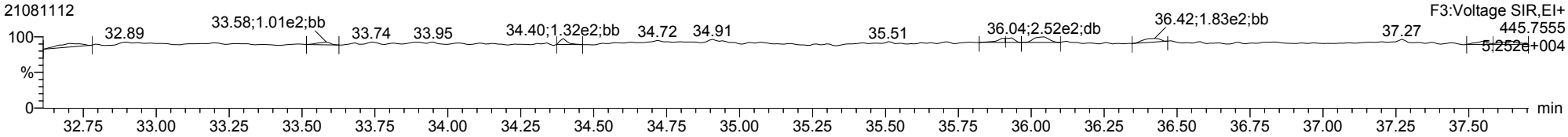
13C-123678-HxCDF



13C-123678-HxCDF

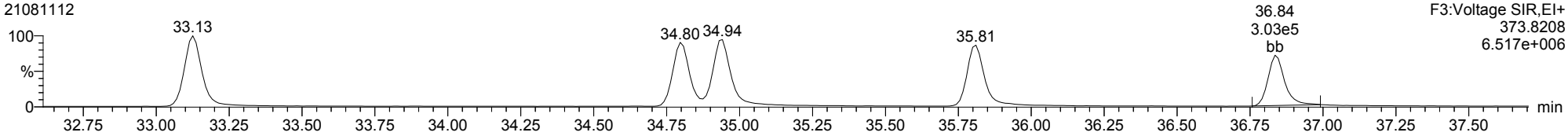


FUNCTION3 OCDPE

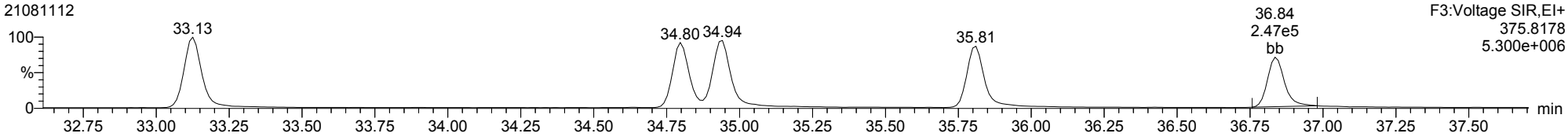


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

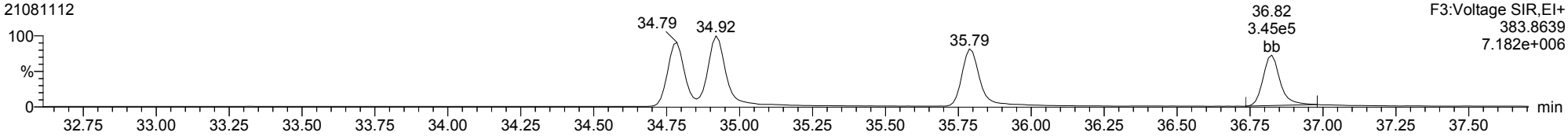
123789-HxCDF



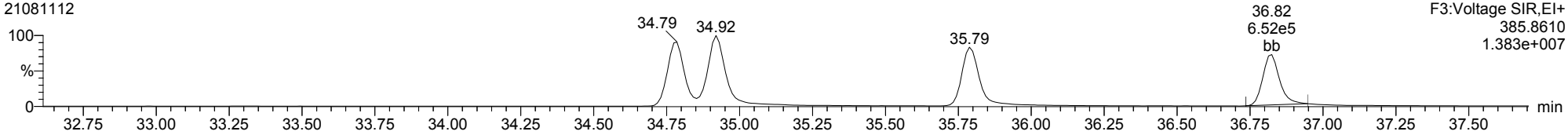
123789-HxCDF



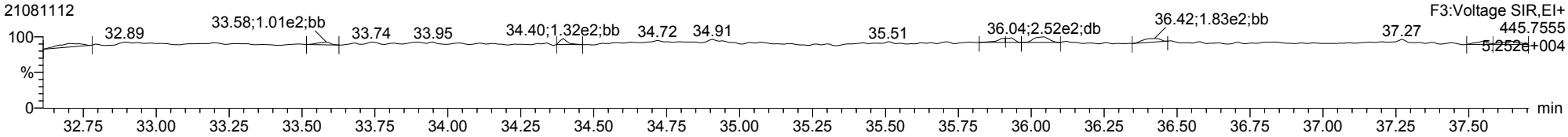
13C-123789-HxCDF



13C-123789-HxCDF

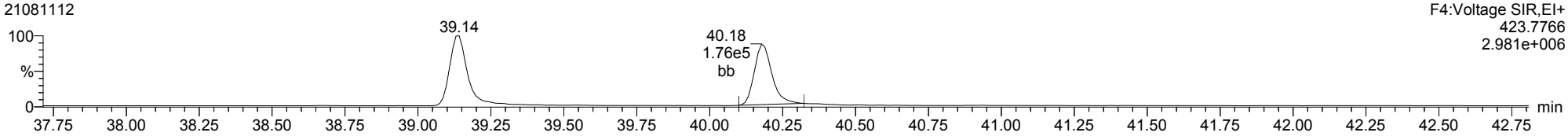


FUNCTION3 OCDPE

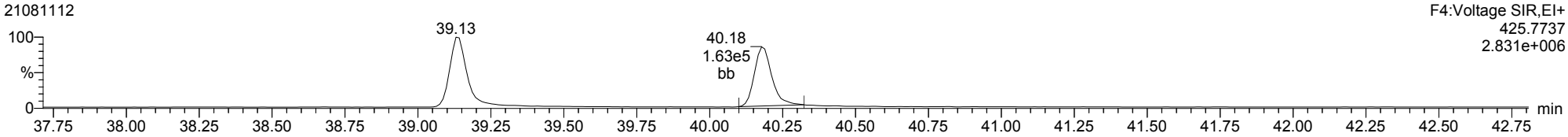


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

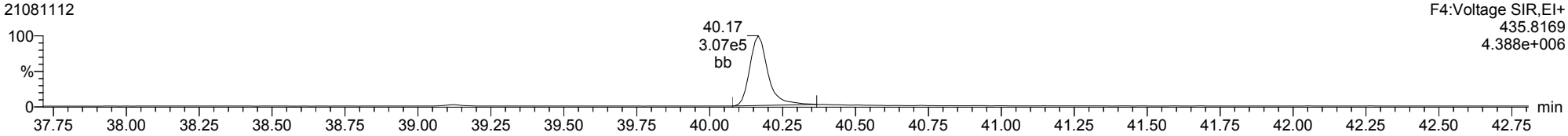
1234678-HpCDD



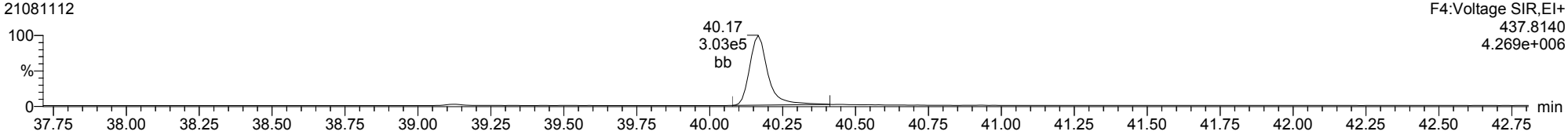
1234678-HpCDD



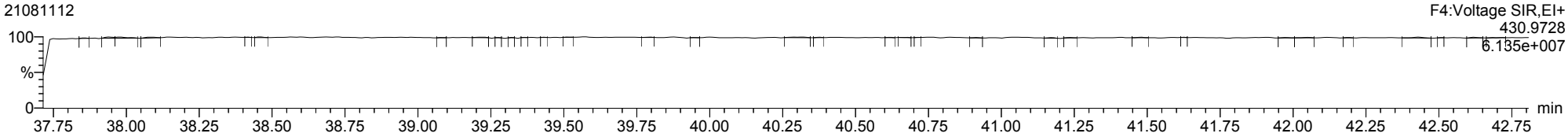
13C-1234678-HpCDD



13C-1234678-HpCDD

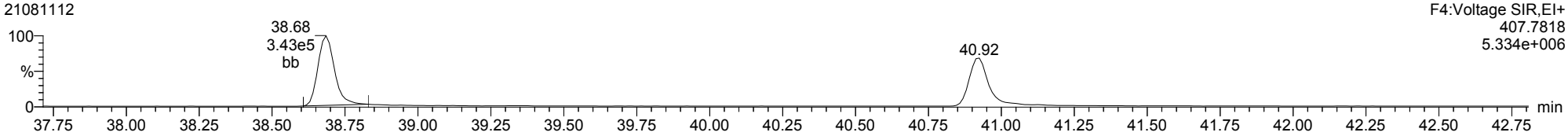


FUNCTION4 PFK

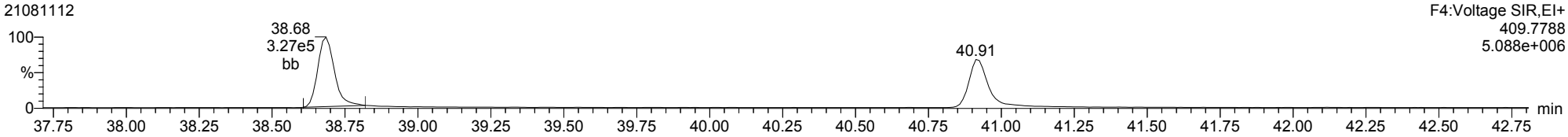


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

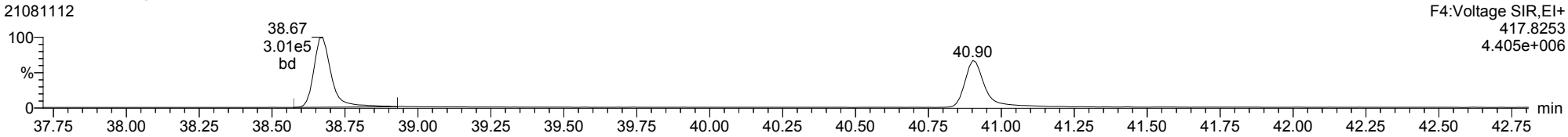
1234678-HpCDF



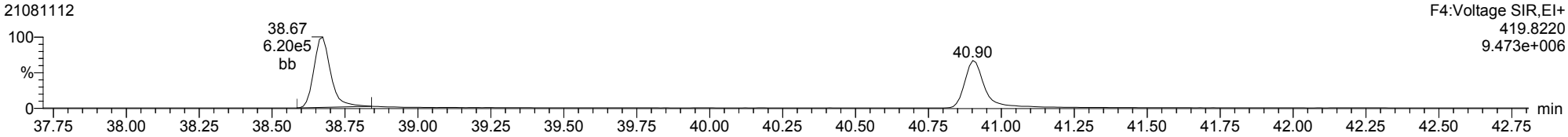
1234678-HpCDF



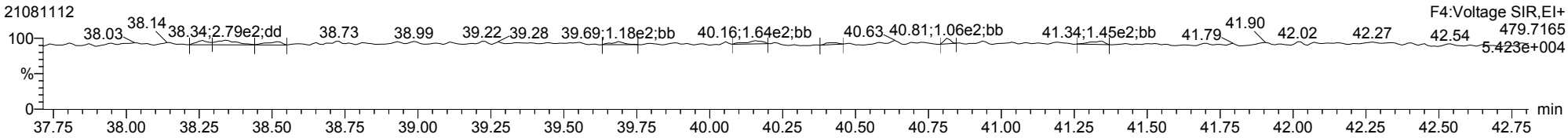
13C-1234678-HpCDF



13C-1234678-HpCDF

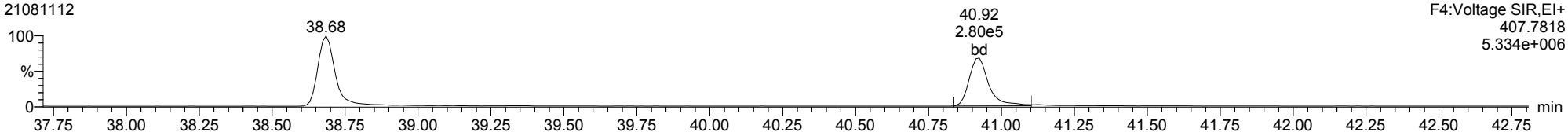


FUNCTION4 NCDPE

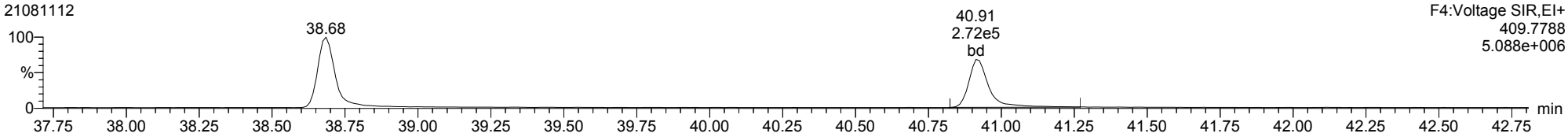


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

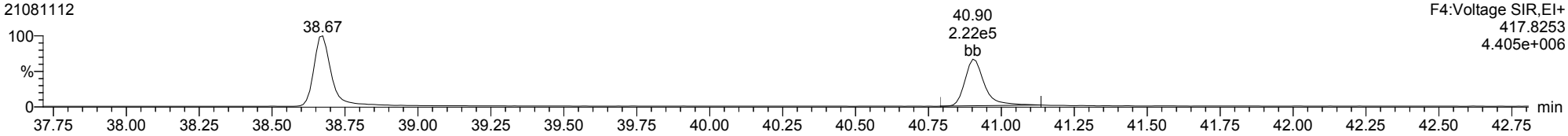
1234789-HpCDF



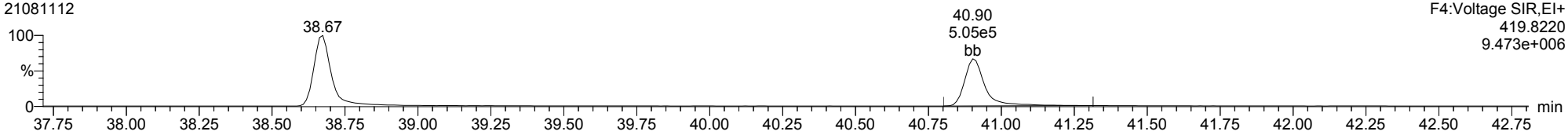
1234789-HpCDF



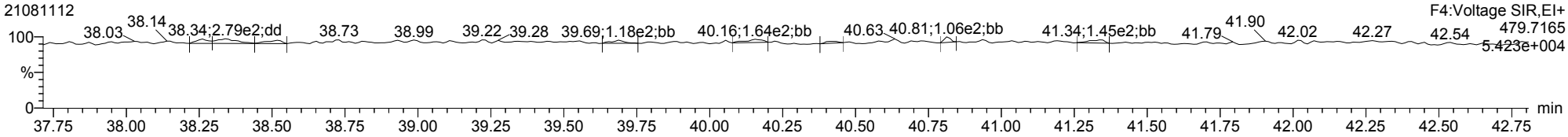
13C-1234789-HpCDF



13C-1234789-HpCDF

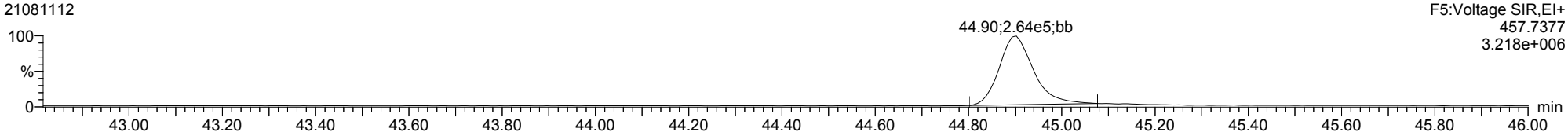


FUNCTION4 NCDPE

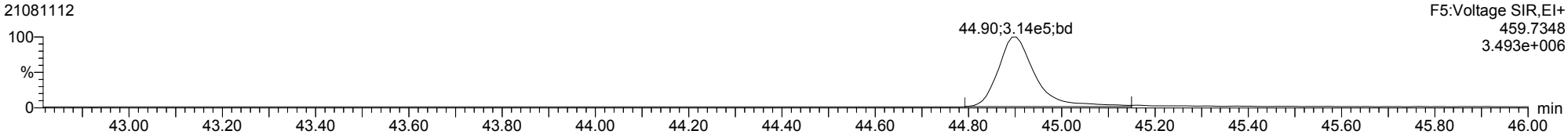


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

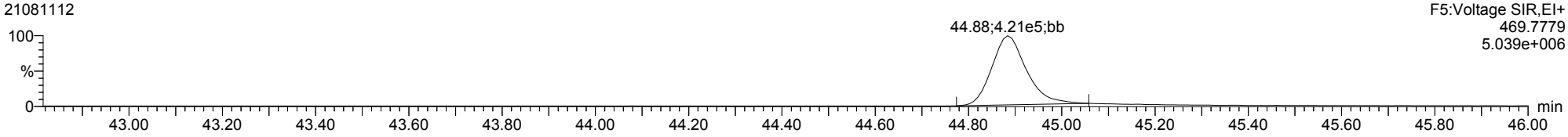
OCDD



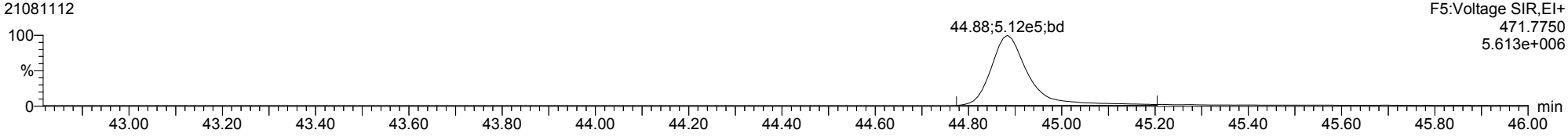
OCDD



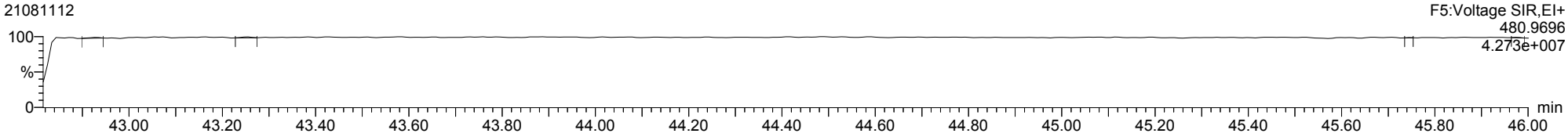
13C-OCDD



13C-OCDD

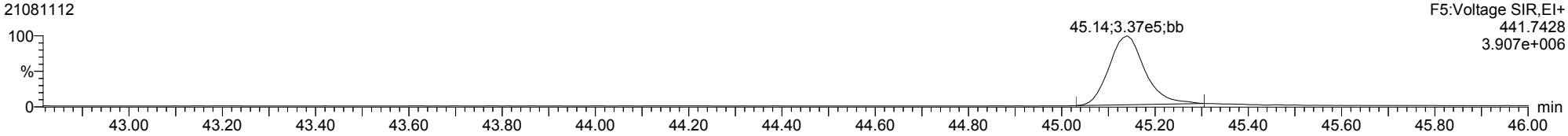


FUNCTION5 PFK

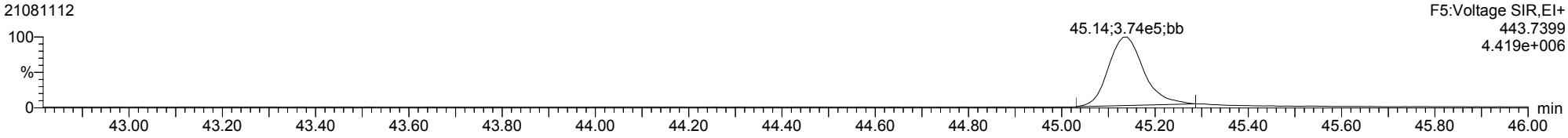


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

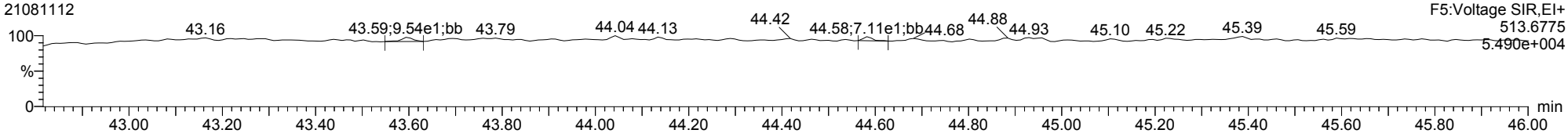
OCDF



OCDF

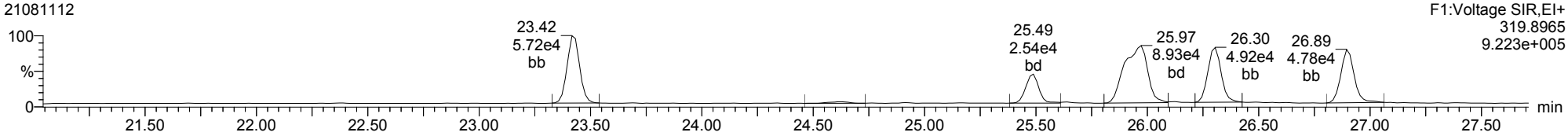


FUNCTION5 DCDPE

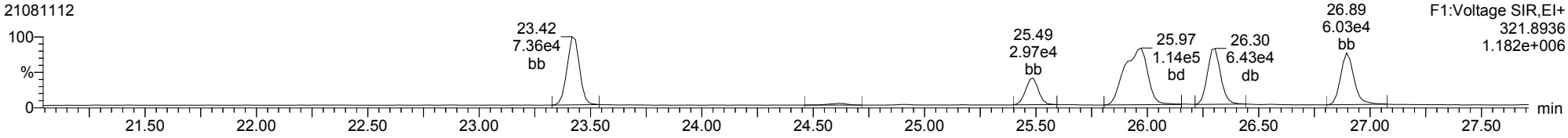


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

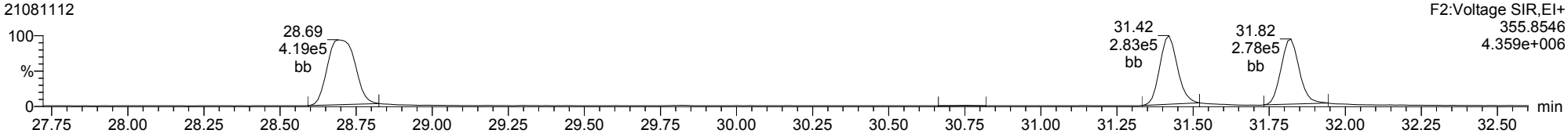
Total-tetradioxins



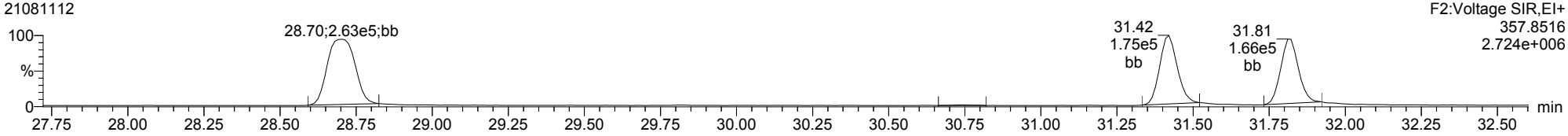
Total-tetradioxins



Total-pentadioxins

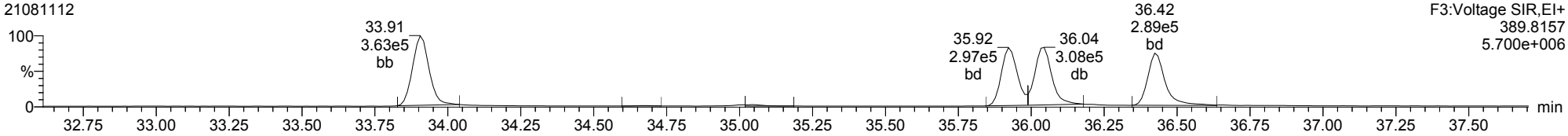


Total-pentadioxins

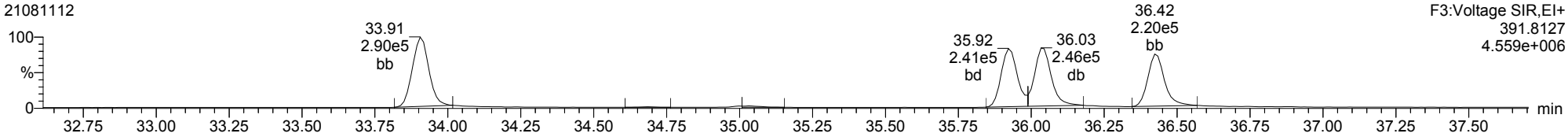


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

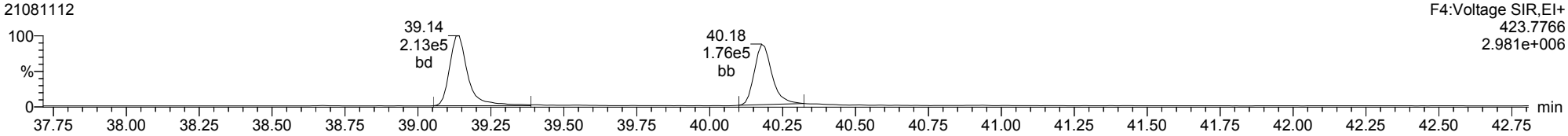
Total-hexadioxins



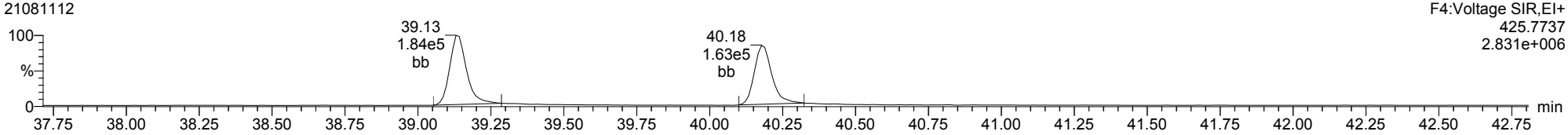
Total-hexadioxins



Total-heptadioxins

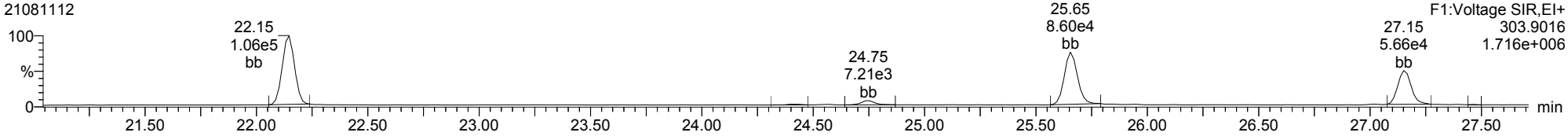


Total-heptadioxins

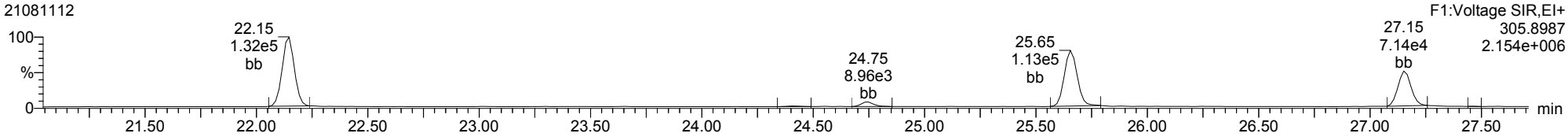


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

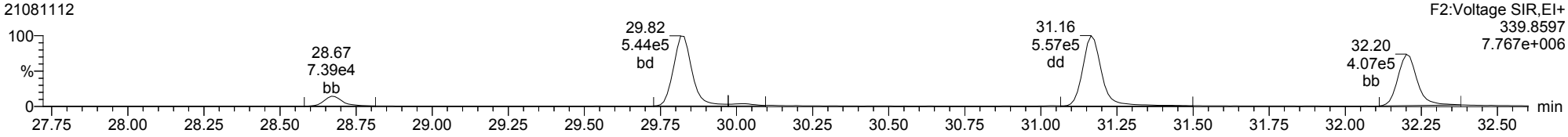
Total-tetrafurans



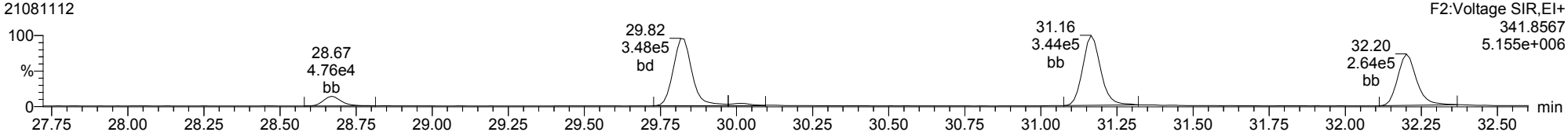
Total-tetrafurans



Total-pentafurans

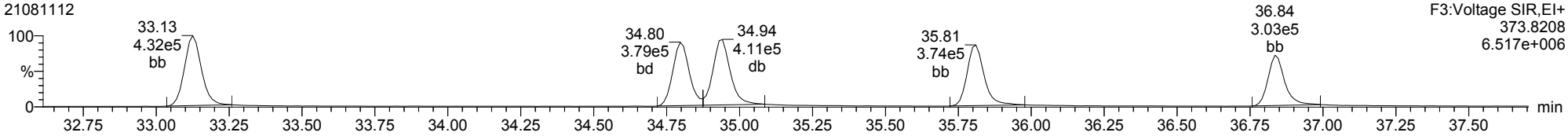


Total-pentafurans

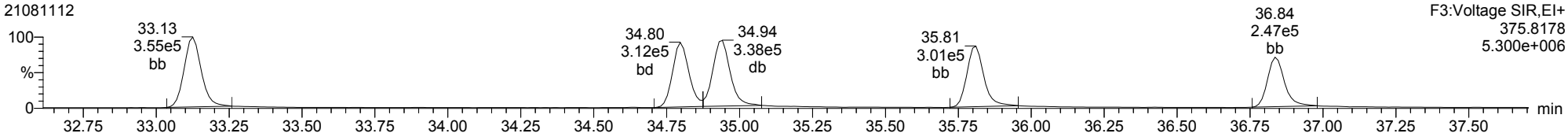


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

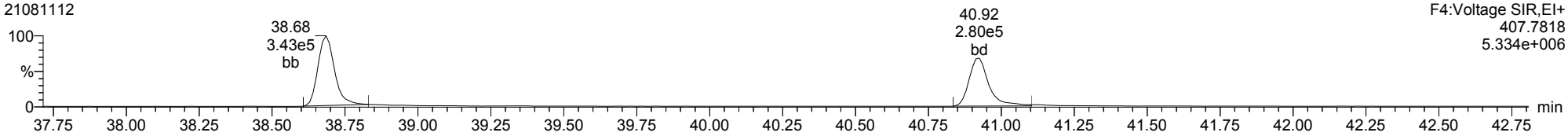
Total-hexafurans



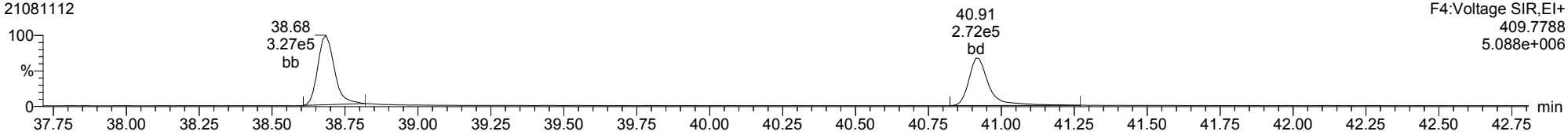
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21G0213
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EH00030
Laboratory ID: SJH0117-SCV1
Sequence: SJH0117
Standard ID: G001361

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
OCDF	100.00	105	5.4	20.00
OCDD	100.00	105	5.0	20.00
13C12-2,3,7,8-TCDF	100.00	102	1.7	20.00
13C12-2,3,7,8-TCDD	100.00	81.6	-18.4	20.00
13C12-1,2,3,7,8-PeCDF	100.00	105	4.8	20.00
13C12-2,3,4,7,8-PeCDF	100.00	104	4.3	20.00
13C12-1,2,3,7,8-PeCDD	100.00	98.4	-1.6	20.00
13C12-1,2,3,4,7,8-HxCDF	100.00	116	15.9	20.00
13C12-1,2,3,6,7,8-HxCDF	100.00	119	19.4	20.00
13C12-2,3,4,6,7,8-HxCDF	100.00	109	8.8	20.00
13C12-1,2,3,7,8,9-HxCDF	100.00	113	13.2	20.00
13C12-1,2,3,4,7,8-HxCDD	100.00	114	14.1	20.00
13C12-1,2,3,6,7,8-HxCDD	100.00	119	19.5	20.00
13C12-1,2,3,4,6,7,8-HpCDF	100.00	114	13.7	20.00
13C12-1,2,3,4,7,8,9-HpCDF	100.00	110	9.8	20.00
13C12-1,2,3,4,6,7,8-HpCDD	100.00	110	10.5	20.00
13C12-OCDD	200.00	212	5.9	20.00
37Cl4-2,3,7,8-TCDD	10.000	10.4	4.0	20.00

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.655	1.001	8.598e4	1.128e5	1.108	0.762	0.770	1727	2357	1.26e6	1.68e6	728.4	713.0	NO	bb	bb	10.110
12378-PeCDF	29.816	1.000	5.436e5	3.483e5	1.015	1.561	1.550	6428	5298	7.67e6	4.88e6	1193.2	921.9	NO	bd	bd	52.831
23478-PeCDF	31.165	1.001	5.567e5	3.442e5	1.126	1.617	1.550	6428	5298	7.71e6	5.06e6	1200.0	955.7	NO	dd	bb	50.709
123478-HxCDF	34.797	1.000	3.790e5	3.119e5	1.017	1.215	1.240	6025	4489	5.81e6	4.80e6	963.5	1070.0	NO	bd	bd	54.003
234678-HxCDF	35.810	1.001	3.741e5	3.010e5	1.052	1.243	1.240	6025	4489	5.56e6	4.51e6	922.2	1004.3	NO	bb	bb	55.515
123678-HxCDF	34.941	1.001	4.107e5	3.376e5	1.037	1.217	1.240	6025	4489	5.99e6	4.89e6	994.0	1090.0	NO	db	db	51.475
123789-HxCDF	36.835	1.000	3.029e5	2.474e5	1.030	1.224	1.240	6025	4489	4.62e6	3.69e6	767.5	821.7	NO	bb	bb	53.582
1234678-HpCDF	38.685	1.000	3.428e5	3.268e5	1.327	1.049	1.050	5528	5142	5.22e6	4.97e6	945.1	966.6	NO	bb	bb	54.784
1234789-HpCDF	40.924	1.000	2.799e5	2.719e5	1.283	1.029	1.050	5528	5142	3.60e6	3.43e6	650.7	667.0	NO	bd	bd	59.145
OCDF	45.140	1.006	3.368e5	3.743e5	1.447	0.900	0.890	5198	2808	3.79e6	4.27e6	729.8	1522.4	NO	bb	bb	105.415
2378-TCDD	26.305	1.001	4.924e4	6.425e4	0.920	0.766	0.770	2440	1603	7.12e5	9.28e5	291.6	579.2	NO	bb	db	11.057
12378-PeCDD	31.421	1.001	2.834e5	1.748e5	0.995	1.621	1.550	4032	3115	4.22e6	2.62e6	1046.5	841.2	NO	bb	bb	52.211
123478-HxCDD	35.922	1.000	2.965e5	2.407e5	1.027	1.232	1.240	4241	3010	4.65e6	3.73e6	1096.7	1237.9	NO	bd	bd	54.629
123678-HxCDD	36.044	1.001	3.082e5	2.464e5	1.009	1.251	1.240	4241	3010	4.61e6	3.72e6	1085.9	1237.1	NO	db	db	50.555
123789-HxCDD	36.423	1.011	2.887e5	2.199e5	0.950	1.313	1.240	4241	3010	4.19e6	3.34e6	989.1	1108.9	NO	bd	bb	52.339
1234678-HpCDD	40.178	1.000	1.757e5	1.625e5	1.068	1.081	1.050	3111	3083	2.53e6	2.35e6	814.6	763.1	NO	bb	bb	51.865
OCDD	44.903	1.000	2.642e5	3.138e5	1.181	0.842	0.890	2972	3108	3.12e6	3.44e6	1050.3	1105.9	NO	bb	bd	104.997
13C-2378-TCDF	25.640	1.007	7.798e5	9.953e5	1.427	0.784	0.770	3469	3089	1.16e7	1.43e7	3339.4	4613.3	NO	bb	bb	101.689
13C-12378-PeCDF	29.806	1.171	1.051e6	6.125e5	1.297	1.716	1.550	4922	3645	1.42e7	8.62e6	2881.8	2364.6	NO	bd	bb	104.785
13C-23478-PeCDF	31.142	1.223	9.754e5	6.030e5	1.236	1.617	1.550	4922	3645	1.41e7	8.69e6	2860.8	2384.9	NO	bb	bb	104.321
13C-123478-HxCDF	34.785	0.955	4.274e5	8.307e5	1.242	0.514	0.510	5265	6298	6.41e6	1.24e7	1218.4	1973.2	NO	bd	bd	115.885
13C-123678-HxCDF	34.919	0.959	4.860e5	9.161e5	1.343	0.530	0.510	5265	6298	7.00e6	1.35e7	1330.1	2144.5	NO	db	db	119.442
13C-234678-HxCDF	35.788	0.983	3.967e5	7.587e5	1.215	0.523	0.510	5265	6298	5.75e6	1.13e7	1091.4	1799.0	NO	bb	bb	108.848
13C-123789-HxCDF	36.824	1.011	3.447e5	6.522e5	1.008	0.529	0.510	5265	6298	5.11e6	9.81e6	969.9	1558.1	NO	bb	bb	113.229
13C-1234678-HpCDF	38.674	1.062	3.005e5	6.203e5	0.926	0.484	0.440	3480	6125	4.35e6	9.34e6	1249.4	1525.5	NO	bd	bb	113.744
13C-1234789-HpCDF	40.902	1.123	2.223e5	5.047e5	0.758	0.440	0.440	3480	6125	2.90e6	6.30e6	833.4	1029.2	NO	bb	bb	109.773
13C-1234-TCDD	25.458	0.000	5.298e5	6.938e5	1.000	0.764	0.770	5513	2305	7.87e6	1.03e7	1428.2	4481.1	NO	bb	bb	100.000
13C-2378-TCDD	26.275	1.032	4.826e5	6.328e5	1.116	0.763	0.770	5513	2305	7.09e6	9.32e6	1285.5	4044.7	NO	bb	bb	81.637
13C-12378-PeCDD	31.399	1.233	5.423e5	3.395e5	0.732	1.598	1.550	2388	2135	7.53e6	4.95e6	3154.4	2319.5	NO	bb	bb	98.449
13C-123478-HxCDD	35.911	0.986	5.361e5	4.211e5	0.960	1.273	1.240	3574	5521	8.65e6	6.70e6	2421.3	1213.6	NO	bd	bd	114.124
13C-123678-HxCDD	36.022	0.989	6.017e5	4.857e5	1.041	1.239	1.240	3574	5521	9.06e6	7.24e6	2535.4	1311.0	NO	db	db	119.499
13C-1234678-HpCDD	40.167	1.103	3.074e5	3.031e5	0.632	1.014	1.050	3260	2760	4.30e6	4.19e6	1318.4	1519.0	NO	bb	bb	110.470
13C-OCDD	44.884	1.233	4.208e5	5.116e5	0.504	0.822	0.890	2744	3477	4.92e6	5.55e6	1792.3	1596.9	NO	bb	bd	211.835
13C-123789-HxCDD	36.412	0.000	4.843e5	3.895e5	1.000	1.243	1.240	3574	5521	7.18e6	5.79e6	2010.2	1047.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	1.379e5		1.084			1849		1.90e6		1029.2			bd		10.397

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.147	0.864	1.063e5	1.324e5	1.425	0.802	0.770	1727	2357	1.66e6	2.09e6	959.0	886.5	NO	bb	bb	9.436
1289-TCDF	27.152	1.059	5.661e4	7.137e4	1.043	0.793	0.770	1727	2357	8.15e5	1.06e6	472.0	447.8	NO	bb	bb	6.913
13468-PECDF	27.015	0.906	5.743e5	3.714e5	1.376	1.546	1.550	1557	1759	8.45e6	5.45e6	5425.9	3099.7	NO	bb	bb	41.310
12389-PECDF	32.201	1.080	4.075e5	2.638e5	1.000	1.544	1.550	6428	5298	5.63e6	3.72e6	875.5	702.7	NO	bb	bb	40.376
123468-HXCDF	33.125	0.952	4.315e5	3.546e5	1.087	1.217	1.240	6025	4489	6.40e6	5.20e6	1061.8	1158.1	NO	bb	bb	57.507
1368-TCDD	23.417	0.891	5.716e4	7.362e4	0.923	0.776	0.770	2440	1603	8.73e5	1.13e6	357.6	706.6	NO	bb	bb	12.700
1289-TCDD	26.895	1.024	4.776e4	6.026e4	0.794	0.793	0.770	2440	1603	6.91e5	8.63e5	283.1	538.1	NO	bb	bb	12.197
12479-PECDD	28.691	0.914	4.186e5	2.632e5	1.843	1.590	1.550	4032	3115	3.99e6	2.51e6	988.7	804.5	NO	bb	bb	41.945
12389-PECDD	31.822	1.013	2.780e5	1.664e5	1.154	1.671	1.550	4032	3115	4.00e6	2.46e6	992.1	791.3	NO	bb	bb	43.683
124679-HXCDD	33.905	0.944	3.632e5	2.896e5	1.125	1.254	1.240	4241	3010	5.57e6	4.44e6	1314.1	1475.1	NO	bb	bb	60.629
1234679-HPCDD	39.141	0.975	2.129e5	1.840e5	1.211	1.157	1.050	3111	3083	2.93e6	2.75e6	941.5	893.1	NO	bd	bb	53.689
Total-tetrafurans			2.574e5		1.192			1727		3.86e6							27.363
Total-penta1			5.743e5					1557		8.45e6							41.310
Total-pentafurans			1.602e6		1.047			6428		2.23e7							153.079
Total-hexafurans			1.898e6		1.045			6025		2.84e7							272.082
Total-heptafurans			6.227e5		1.305			5528		8.82e6							113.929
Total-Furans			5.291e6		1.158			1727		7.56e7							713.177
Total-tetradioxins			2.709e5		0.879			2440		3.41e6							62.800
Total-pentadioxins			9.817e5		1.331			4032		1.22e7							138.087
Total-hexadioxins			1.266e6		1.028			4241		1.92e7							219.741
Total-heptadioxins			3.886e5		1.140			3111		5.46e6							105.554
Total-Dioxins			3.171e6		1.092			2440		4.34e7							631.178
Total-TEQ			8.462e6					2440		1.19e8							1344.355
FUNCTION1 PFK			6.450e7					839971		2.37e8							
FUNCTION2 PFK			0.000e0					483349		0.00e0							
FUNCTION3 PFK			5.184e7					675979		4.54e8							0.000
FUNCTION4 PFK			3.964e5					425264		1.39e7							
FUNCTION5 PFK			3.414e4					345829		1.67e6							
FUNCTION1 HXCD...			2.903e3					1258		5.64e4							0.000
FUNCTION1 HPCD...			2.863e3					1421		5.44e4							0.000
FUNCTION2 HPCD...			2.720e3					1471		5.70e4							0.000
FUNCTION3 OCDPE			1.392e3					890		2.72e4							0.000
FUNCTION4 NCDPE			1.187e3					1520		2.23e4							0.000
FUNCTION5 DCDPE			1.665e2					1065		6.42e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
2	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
3	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
4	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
5	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
2	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
3	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
4	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
5	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
2	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020
7	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
8	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
9	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
10	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
11	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831
12	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
13	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
14	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
15	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
16	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003
17	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
18	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145
19	OCDF	45.14	3.368e5	3.743e5	1.447	0.90	0.89	729.8	YES	NO	bb	bb	105.415
20	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
2	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
3	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
4	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
5	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
6	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
2	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
3	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
4	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
2	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
3	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
4	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
5	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
6	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865
2	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
2	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
3	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
4	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
5	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
6	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057
7	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
8	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
9	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
10	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945
11	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
12	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
13	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
14	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
15	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
16	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325
17	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865
18	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689
19	OCDD	44.90	2.642e5	3.138e5	1.181	0.84	0.89	1050.3	YES	NO	bb	bd	104.997

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020
7	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
8	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
9	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
10	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
11	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831
12	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
13	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
14	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
15	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
16	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003
17	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
18	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145
19	OCDF	45.14	3.368e5	3.743e5	1.447	0.90	0.89	729.8	YES	NO	bb	bb	105.415
20	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310
21	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
22	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
23	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
24	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
25	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
26	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057
27	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
28	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
29	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
30	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945
31	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
32	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
33	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
34	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
35	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
36	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325
37	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689
39	OCDD	44.90	2.642e5	3.138e5	1.181	0.84	0.89	1050.3	YES	NO	bb	bd	104.997

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.34	1.094e7					29.2	YES		db		
2	FUNCTION1 PFK	22.07	1.938e7					38.3	YES		dd		
3	FUNCTION1 PFK	21.38	2.077e7					61.6	YES		dd		
4	FUNCTION1 PFK	21.25	7.452e6					64.7	YES		dd		
5	FUNCTION1 PFK	21.10	5.199e6					69.3	YES		bd		
6	FUNCTION1 PFK	27.62	5.202e4					1.5	NO		bb		
7	FUNCTION1 PFK	26.61	3.088e4					1.4	NO		bb		
8	FUNCTION1 PFK	26.53	3.772e4					1.3	NO		bb		
9	FUNCTION1 PFK	26.21	4.215e4					1.3	NO		bb		
10	FUNCTION1 PFK	26.14	2.091e4					0.7	NO		bb		
11	FUNCTION1 PFK	25.90	2.782e4					1.0	NO		bb		
12	FUNCTION1 PFK	25.64	2.244e4					0.9	NO		bb		
13	FUNCTION1 PFK	25.38	4.475e4					1.3	NO		bb		
14	FUNCTION1 PFK	25.32	8.085e4					1.5	NO		bb		
15	FUNCTION1 PFK	25.10	6.333e4					1.7	NO		db		
16	FUNCTION1 PFK	24.94	2.192e5					2.0	NO		dd		
17	FUNCTION1 PFK	24.82	2.857e4					1.1	NO		bd		
18	FUNCTION1 PFK	24.63	2.787e4					1.0	NO		bb		
19	FUNCTION1 PFK	24.35	1.463e4					0.7	NO		bb		
20	FUNCTION1 PFK	23.43	4.951e4					1.7	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.47	2.892e5					8.3	YES		dd		0.000
2	FUNCTION3 PFK	34.42	3.441e5					9.9	YES		dd		0.000
3	FUNCTION3 PFK	34.30	9.123e5					14.6	YES		dd		0.000
4	FUNCTION3 PFK	33.96	4.870e6					27.1	YES		dd		0.000
5	FUNCTION3 PFK	33.92	6.208e5					27.9	YES		dd		0.000
6	FUNCTION3 PFK	33.75	6.775e6					34.2	YES		dd		0.000
7	FUNCTION3 PFK	33.58	8.843e5					39.8	YES		dd		0.000
8	FUNCTION3 PFK	33.52	4.828e6					42.2	YES		dd		0.000
9	FUNCTION3 PFK	33.37	2.844e6					47.3	YES		dd		0.000
10	FUNCTION3 PFK	33.18	5.432e6					54.3	YES		dd		0.000
11	FUNCTION3 PFK	33.04	5.575e6					59.2	YES		dd		0.000
12	FUNCTION3 PFK	32.95	3.680e6					62.9	YES		dd		0.000
13	FUNCTION3 PFK	32.86	7.904e6					65.6	YES		dd		0.000
14	FUNCTION3 PFK	32.74	1.549e6					69.1	YES		dd		0.000
15	FUNCTION3 PFK	32.67	4.268e6					72.4	YES		bd		0.000
16	FUNCTION3 PFK	36.86	8.449e3					0.3	NO		bb		0.000
17	FUNCTION3 PFK	36.72	6.925e4					2.0	NO		bb		0.000
18	FUNCTION3 PFK	36.59	5.799e4					1.2	NO		bb		0.000
19	FUNCTION3 PFK	36.30	7.563e3					0.7	NO		bb		0.000
20	FUNCTION3 PFK	36.04	6.922e3					0.5	NO		bb		0.000
21	FUNCTION3 PFK	35.83	2.532e4					1.1	NO		bb		0.000
22	FUNCTION3 PFK	35.75	1.516e4					0.9	NO		bb		0.000
23	FUNCTION3 PFK	35.63	1.004e4					0.7	NO		bb		0.000
24	FUNCTION3 PFK	35.33	1.433e4					0.8	NO		bb		0.000
25	FUNCTION3 PFK	35.04	1.089e4					0.6	NO		bb		0.000
26	FUNCTION3 PFK	34.97	5.517e3					0.7	NO		bb		0.000
27	FUNCTION3 PFK	34.89	3.001e4					1.0	NO		bb		0.000
28	FUNCTION3 PFK	34.81	1.594e4					1.0	NO		db		0.000
29	FUNCTION3 PFK	34.76	3.092e4					1.3	NO		bd		0.000
30	FUNCTION3 PFK	34.60	1.659e5					4.5	YES		db		0.000
31	FUNCTION3 PFK	34.53	2.985e5					6.7	YES		dd		0.000
32	FUNCTION3 PFK	37.64	2.742e4					1.1	NO		bb		0.000
33	FUNCTION3 PFK	37.58	2.711e4					1.4	NO		db		0.000
34	FUNCTION3 PFK	37.54	1.758e4					0.9	NO		dd		0.000
35	FUNCTION3 PFK	37.49	3.447e4					1.6	NO		dd		0.000
36	FUNCTION3 PFK	37.45	2.646e4					1.5	NO		dd		0.000
37	FUNCTION3 PFK	37.38	4.745e4					1.5	NO		dd		0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.34	2.452e4					1.6	NO		bd		0.000
39	FUNCTION3 PFK	37.29	9.653e3					0.8	NO		bb		0.000
40	FUNCTION3 PFK	37.08	5.064e3					0.5	NO		bb		0.000
41	FUNCTION3 PFK	36.98	6.612e4					1.7	NO		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.42	2.469e3					0.5	NO		bb		
2	FUNCTION4 PFK	38.08	2.954e4					1.7	NO		bb		
3	FUNCTION4 PFK	37.98	4.856e4					2.3	NO		db		
4	FUNCTION4 PFK	37.94	3.614e4					2.6	NO		bd		
5	FUNCTION4 PFK	37.85	8.390e3					1.0	NO		bb		
6	FUNCTION4 PFK	40.91	1.035e4					1.0	NO		bb		
7	FUNCTION4 PFK	40.71	1.742e3					0.4	NO		bb		
8	FUNCTION4 PFK	40.68	3.176e3					0.5	NO		bb		
9	FUNCTION4 PFK	40.61	6.362e3					0.7	NO		bb		
10	FUNCTION4 PFK	40.38	7.075e3					0.8	NO		bb		
11	FUNCTION4 PFK	40.32	3.115e4					1.2	NO		bb		
12	FUNCTION4 PFK	39.94	4.461e3					0.6	NO		bb		
13	FUNCTION4 PFK	39.80	5.746e3					0.6	NO		bb		
14	FUNCTION4 PFK	39.51	2.799e3					0.4	NO		bb		
15	FUNCTION4 PFK	39.43	1.949e3					0.4	NO		bb		
16	FUNCTION4 PFK	39.36	2.879e3					0.6	NO		bb		
17	FUNCTION4 PFK	39.32	5.365e3					1.1	NO		bb		
18	FUNCTION4 PFK	39.28	3.621e3					0.8	NO		bb		
19	FUNCTION4 PFK	39.21	1.666e4					1.0	NO		bb		
20	FUNCTION4 PFK	39.07	6.512e3					0.8	NO		bb		
21	FUNCTION4 PFK	38.46	1.263e4					1.2	NO		bb		
22	FUNCTION4 PFK	42.68	1.445e4					0.9	NO		bb		
23	FUNCTION4 PFK	42.62	2.052e4					1.7	NO		bb		
24	FUNCTION4 PFK	42.51	2.321e3					0.5	NO		bb		
25	FUNCTION4 PFK	42.43	3.121e4					1.9	NO		bb		
26	FUNCTION4 PFK	42.18	7.742e3					0.8	NO		bb		
27	FUNCTION4 PFK	42.05	1.748e4					1.2	NO		db		
28	FUNCTION4 PFK	41.97	1.470e4					1.2	NO		bd		
29	FUNCTION4 PFK	41.63	2.487e3					0.5	NO		bb		
30	FUNCTION4 PFK	41.48	1.442e4					1.2	NO		bb		
31	FUNCTION4 PFK	41.24	1.211e4					1.0	NO		bb		
32	FUNCTION4 PFK	41.17	1.136e4					1.2	NO		bb		

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.97	5.710e3					1.0	NO		bb		
2	FUNCTION5 PFK	45.74	1.859e3					0.6	NO		bb		
3	FUNCTION5 PFK	43.26	1.526e4					1.8	NO		bb		
4	FUNCTION5 PFK	42.93	1.131e4					1.5	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.35	1.892e2					4.2	YES		db		0.000
2	FUNCTION1 HXCD...	25.23	1.187e2					1.3	NO		bd		0.000
3	FUNCTION1 HXCD...	24.87	7.961e1					1.9	NO		db		0.000
4	FUNCTION1 HXCD...	24.81	1.259e2					2.7	NO		bd		0.000
5	FUNCTION1 HXCD...	24.72	1.584e2					1.4	NO		bb		0.000
6	FUNCTION1 HXCD...	24.40	9.113e1					1.6	NO		bb		0.000
7	FUNCTION1 HXCD...	23.72	7.480e1					1.5	NO		bb		0.000
8	FUNCTION1 HXCD...	23.61	1.381e2					2.9	NO		bb		0.000
9	FUNCTION1 HXCD...	23.11	9.740e1					2.5	NO		bb		0.000
10	FUNCTION1 HXCD...	22.43	1.791e2					2.1	NO		db		0.000
11	FUNCTION1 HXCD...	22.30	7.125e1					1.5	NO		bd		0.000
12	FUNCTION1 HXCD...	22.19	7.195e1					1.3	NO		bb		0.000
13	FUNCTION1 HXCD...	21.98	1.102e2					1.5	NO		db		0.000
14	FUNCTION1 HXCD...	21.89	2.251e2					4.2	YES		bd		0.000
15	FUNCTION1 HXCD...	21.80	1.414e2					2.0	NO		bb		0.000
16	FUNCTION1 HXCD...	27.03	2.453e2					2.4	NO		bb		0.000
17	FUNCTION1 HXCD...	26.29	2.686e2					2.1	NO		db		0.000
18	FUNCTION1 HXCD...	26.12	1.763e2					2.9	NO		dd		0.000
19	FUNCTION1 HXCD...	26.03	9.387e1					1.2	NO		bd		0.000
20	FUNCTION1 HXCD...	25.82	1.399e2					2.0	NO		bb		0.000
21	FUNCTION1 HXCD...	25.46	1.064e2					1.7	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.51	7.992e1					1.4	NO		bb		0.000
2	FUNCTION1 HPCD...	22.07	1.029e2					2.1	NO		bb		0.000
3	FUNCTION1 HPCD...	21.98	1.510e2					1.6	NO		db		0.000
4	FUNCTION1 HPCD...	21.88	1.949e2					3.5	YES		bd		0.000
5	FUNCTION1 HPCD...	21.75	2.528e2					1.8	NO		bb		0.000
6	FUNCTION1 HPCD...	21.47	1.508e2					2.1	NO		bb		0.000
7	FUNCTION1 HPCD...	21.25	1.018e2					1.3	NO		db		0.000
8	FUNCTION1 HPCD...	21.16	1.149e2					1.6	NO		dd		0.000
9	FUNCTION1 HPCD...	21.09	2.200e2					3.0	NO		bd		0.000
10	FUNCTION1 HPCD...	27.00	1.586e2					1.8	NO		bb		0.000
11	FUNCTION1 HPCD...	26.83	9.159e1					0.8	NO		bb		0.000
12	FUNCTION1 HPCD...	26.59	1.663e2					2.5	NO		bb		0.000
13	FUNCTION1 HPCD...	26.32	1.753e2					1.6	NO		db		0.000
14	FUNCTION1 HPCD...	26.14	2.616e2					2.2	NO		bd		0.000
15	FUNCTION1 HPCD...	25.59	8.230e1					1.9	NO		bb		0.000
16	FUNCTION1 HPCD...	25.44	8.713e1					1.0	NO		bb		0.000
17	FUNCTION1 HPCD...	25.16	7.125e1					1.1	NO		db		0.000
18	FUNCTION1 HPCD...	25.05	1.030e2					1.1	NO		bd		0.000
19	FUNCTION1 HPCD...	24.07	1.494e2					2.5	NO		bb		0.000
20	FUNCTION1 HPCD...	23.83	1.478e2					3.3	YES		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.48	1.146e2					2.7	NO		bb		0.000
2	FUNCTION2 HPCD...	28.07	8.040e1					1.2	NO		db		0.000
3	FUNCTION2 HPCD...	27.98	1.117e2					1.5	NO		bd		0.000
4	FUNCTION2 HPCD...	27.82	9.308e1					2.0	NO		bb		0.000
5	FUNCTION2 HPCD...	31.82	1.073e2					1.6	NO		bb		0.000
6	FUNCTION2 HPCD...	31.41	3.440e2					4.0	YES		bb		0.000
7	FUNCTION2 HPCD...	31.18	9.044e1					1.2	NO		db		0.000
8	FUNCTION2 HPCD...	31.11	9.781e1					2.1	NO		dd		0.000
9	FUNCTION2 HPCD...	31.03	7.279e2					8.6	YES		bd		0.000
10	FUNCTION2 HPCD...	30.26	7.257e1					1.3	NO		bb		0.000
11	FUNCTION2 HPCD...	30.21	7.122e1					1.7	NO		db		0.000
12	FUNCTION2 HPCD...	30.14	1.157e2					1.5	NO		dd		0.000
13	FUNCTION2 HPCD...	30.06	7.412e1					1.1	NO		dd		0.000
14	FUNCTION2 HPCD...	29.98	7.219e1					1.2	NO		dd		0.000
15	FUNCTION2 HPCD...	29.91	9.212e1					2.0	NO		bd		0.000
16	FUNCTION2 HPCD...	29.69	7.977e1					1.3	NO		bb		0.000
17	FUNCTION2 HPCD...	29.08	1.408e2					1.5	NO		db		0.000
18	FUNCTION2 HPCD...	28.96	1.497e2					1.4	NO		bd		0.000
19	FUNCTION2 HPCD...	28.71	8.490e1					1.0	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.65	1.580e2					2.6	NO		db		0.000
2	FUNCTION3 OCDPE	37.55	1.150e2					2.8	NO		bd		0.000
3	FUNCTION3 OCDPE	36.42	1.835e2					2.9	NO		bb		0.000
4	FUNCTION3 OCDPE	36.04	2.520e2					4.7	YES		db		0.000
5	FUNCTION3 OCDPE	35.93	1.106e2					3.8	YES		dd		0.000
6	FUNCTION3 OCDPE	35.90	1.018e2					3.4	YES		bd		0.000
7	FUNCTION3 OCDPE	34.40	1.321e2					5.0	YES		bb		0.000
8	FUNCTION3 OCDPE	33.58	1.010e2					2.3	NO		bb		0.000
9	FUNCTION3 OCDPE	32.70	2.382e2					3.1	YES		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.42	7.136e1					0.9	NO		bb		0.000
2	FUNCTION4 NCDPE	40.16	1.641e2					1.6	NO		bb		0.000
3	FUNCTION4 NCDPE	39.69	1.182e2					1.5	NO		bb		0.000
4	FUNCTION4 NCDPE	38.52	1.487e2					1.6	NO		db		0.000
5	FUNCTION4 NCDPE	38.34	2.790e2					2.3	NO		dd		0.000
6	FUNCTION4 NCDPE	38.26	1.556e2					2.2	NO		bd		0.000
7	FUNCTION4 NCDPE	41.34	1.448e2					1.6	NO		bb		0.000
8	FUNCTION4 NCDPE	40.81	1.056e2					2.8	NO		bb		0.000

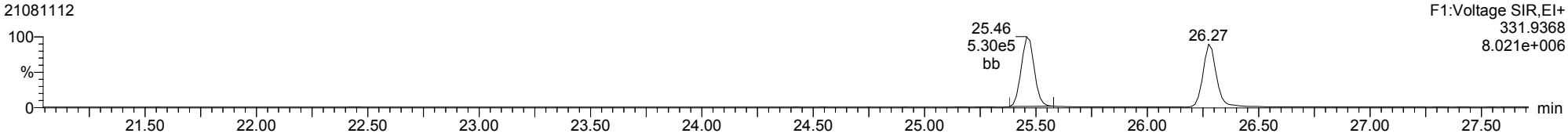
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.58	7.112e1					3.0	NO		bb		0.000
2	FUNCTION5 DCDPE	43.59	9.542e1					3.1	YES		bb		0.000

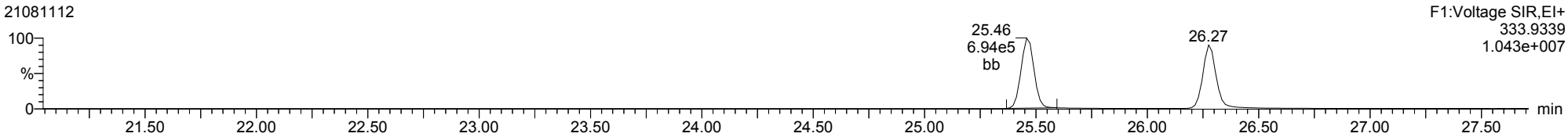
Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

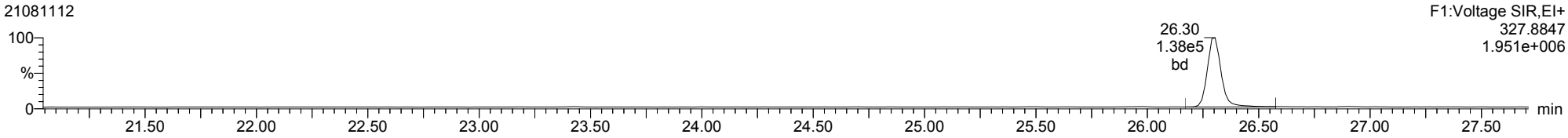
13C-1234-TCDD



13C-1234-TCDD

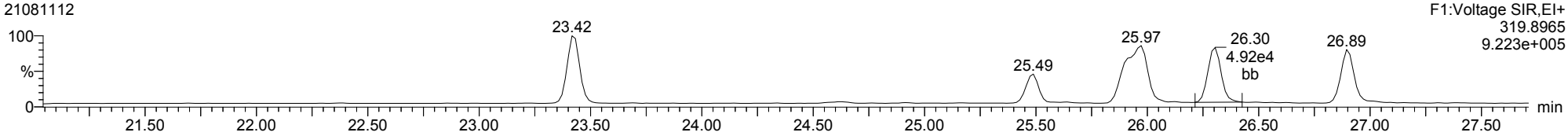


37CL-2378-TCDD

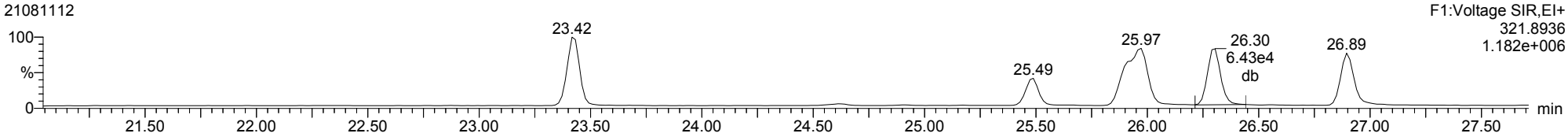


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

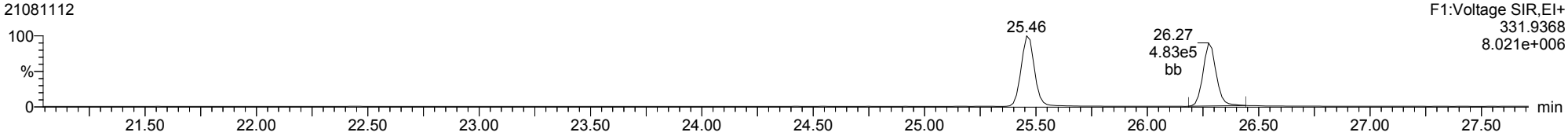
2378-TCDD



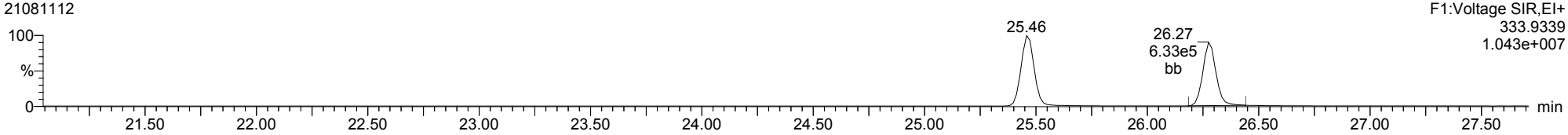
2378-TCDD



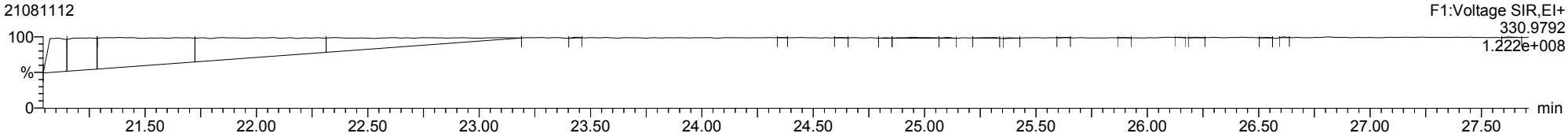
13C-2378-TCDD



13C-2378-TCDD

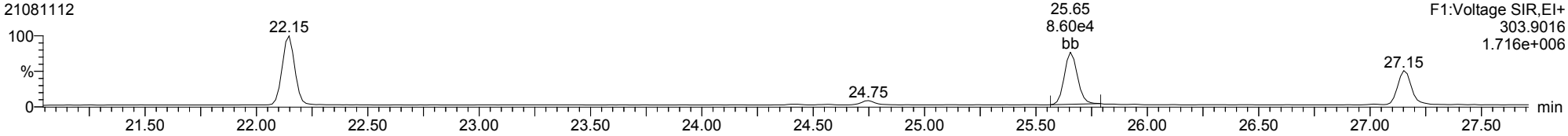


FUNCTION1 PFK

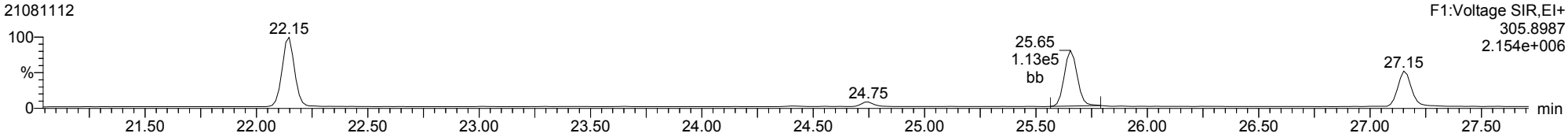


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

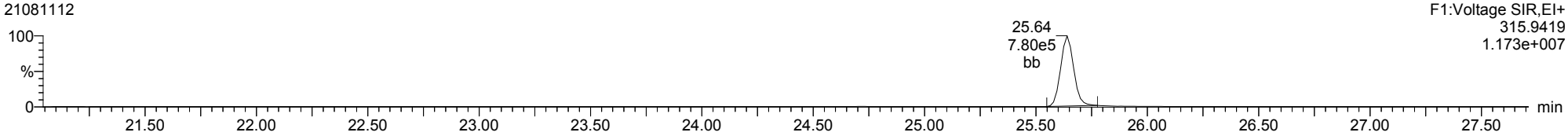
2378-TCDF



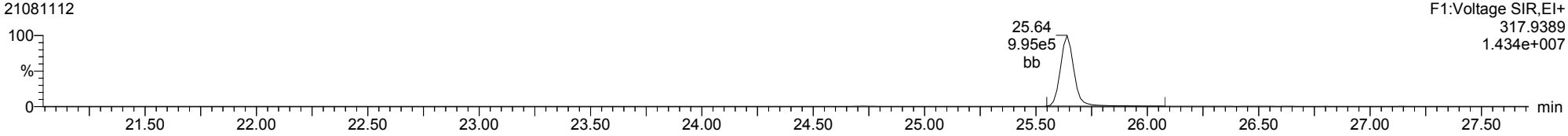
2378-TCDF



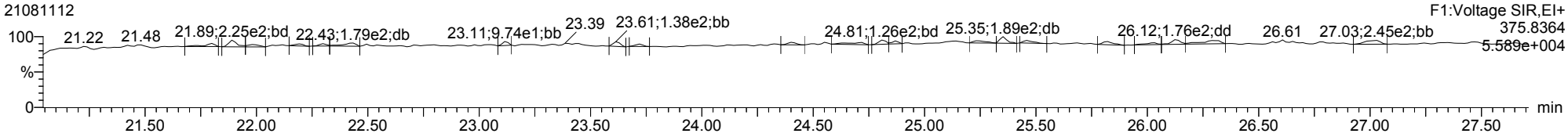
13C-2378-TCDF



13C-2378-TCDF

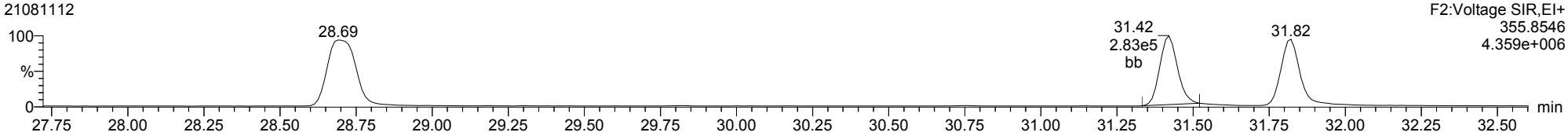


FUNCTION1 HXCDPE

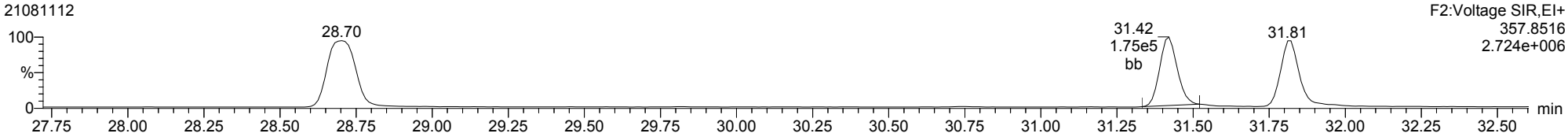


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

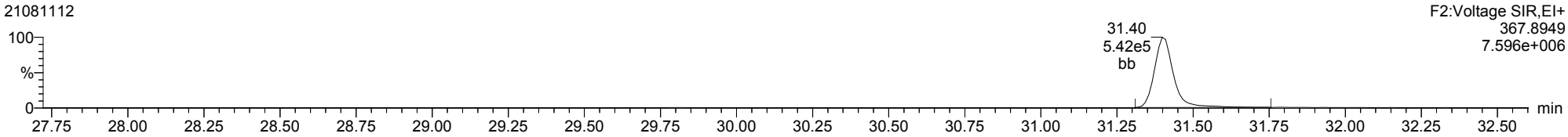
12378-PeCDD



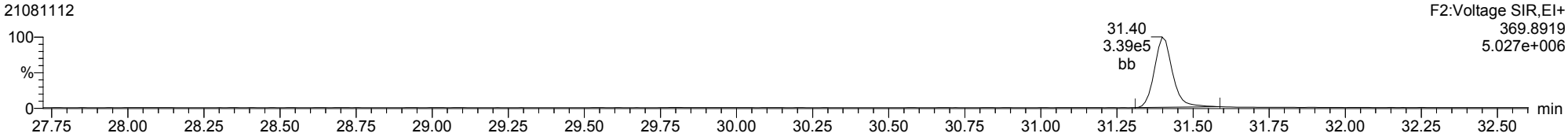
12378-PeCDD



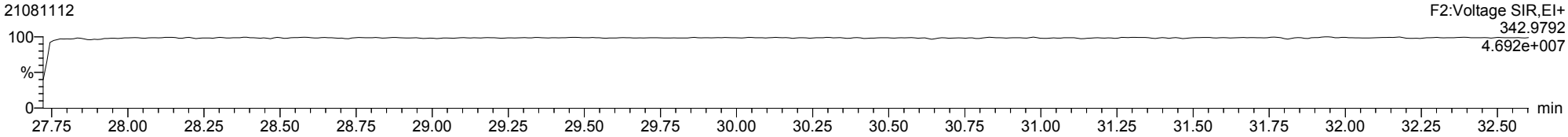
13C-12378-PeCDD



13C-12378-PeCDD

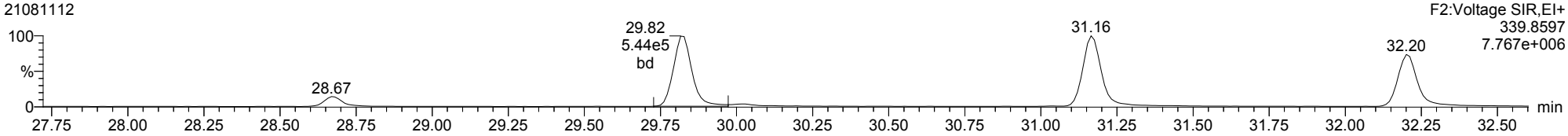


FUNCTION2 PFK

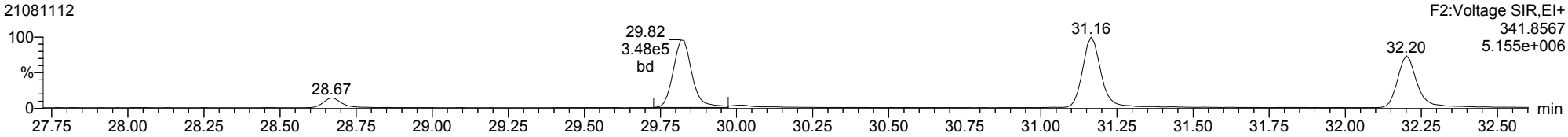


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

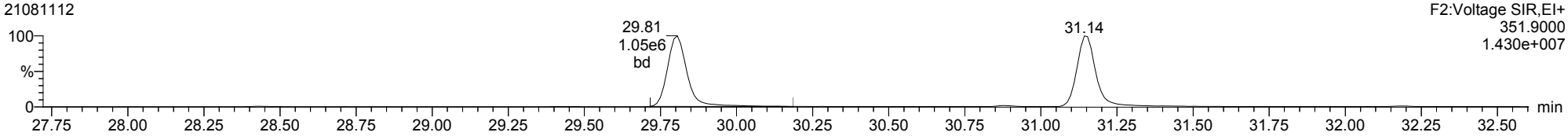
12378-PeCDF



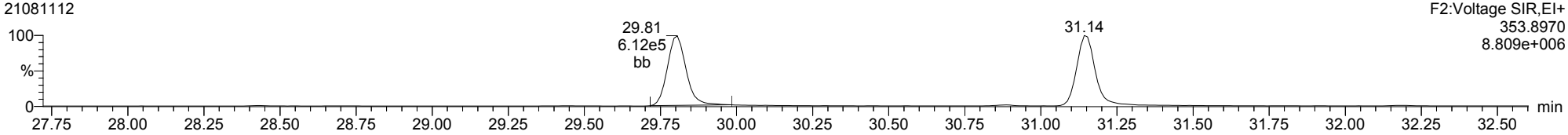
12378-PeCDF



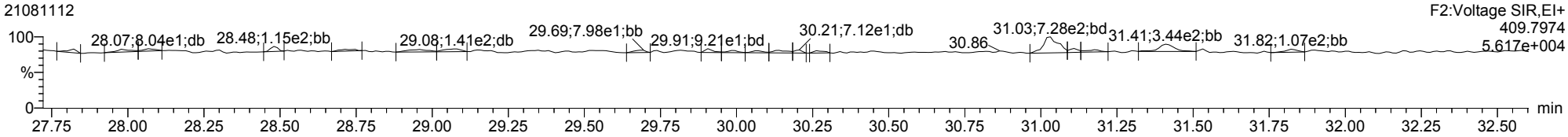
13C-12378-PeCDF



13C-12378-PeCDF

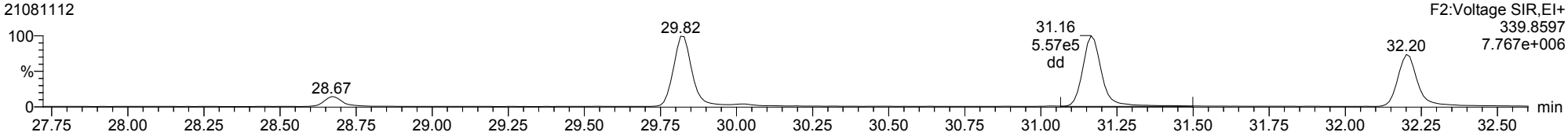


FUNCTION2 HPCDPE

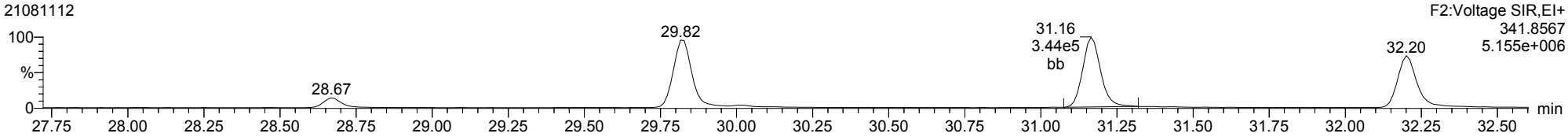


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

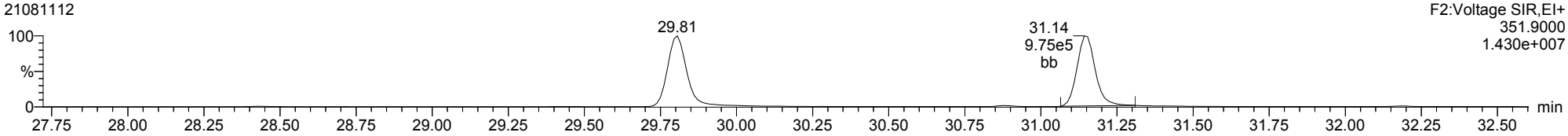
23478-PeCDF



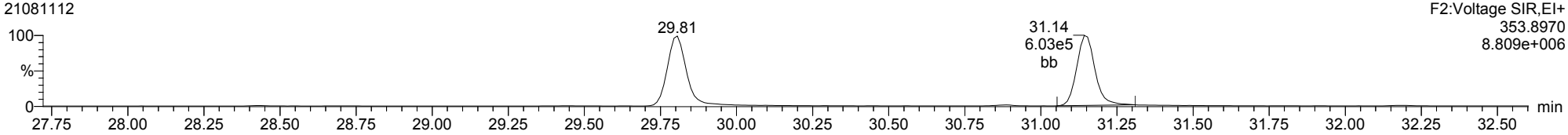
23478-PeCDF



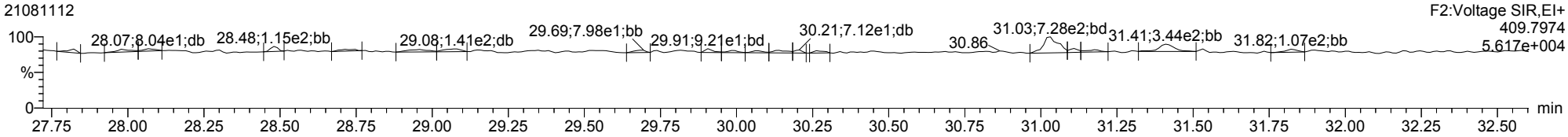
13C-23478-PeCDF



13C-23478-PeCDF

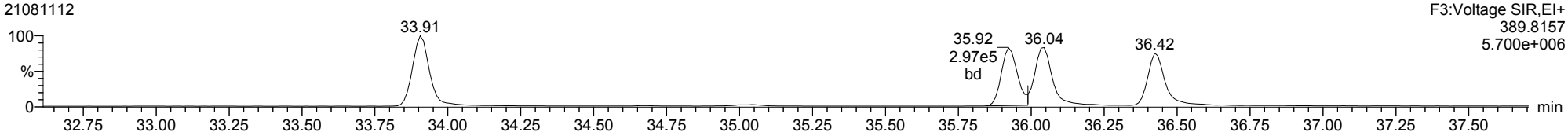


FUNCTION2 HPCDPE

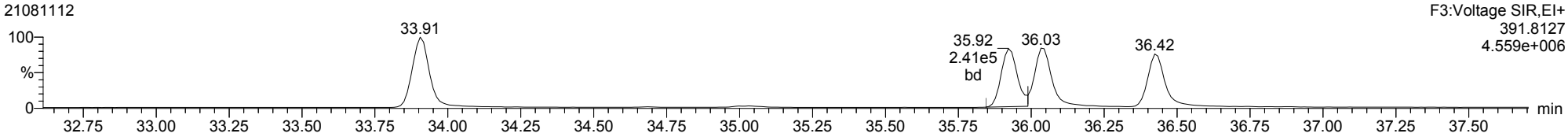


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

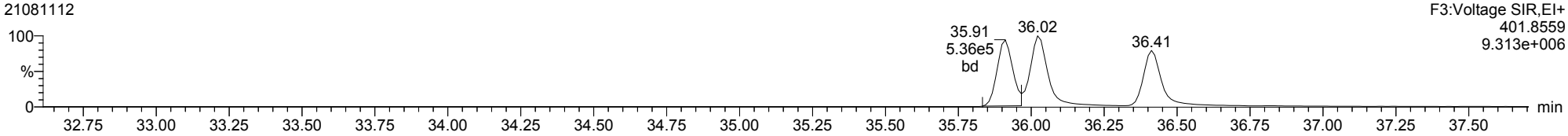
123478-HxCDD



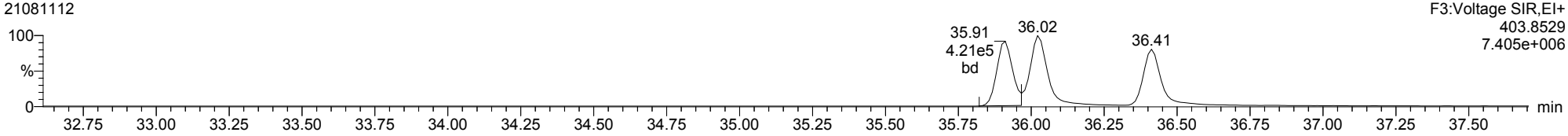
123478-HxCDD



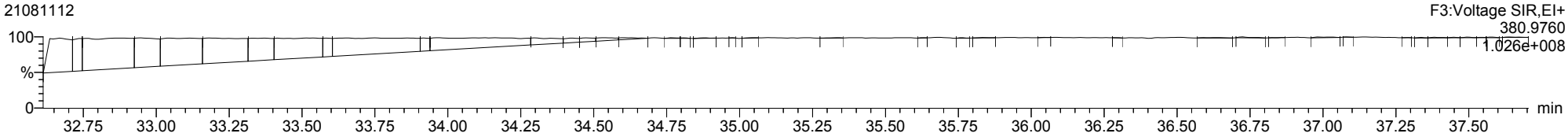
13C-123478-HxCDD



13C-123478-HxCDD

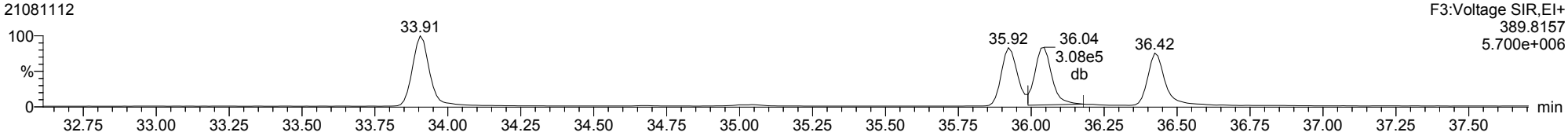


FUNCTION3 PFK

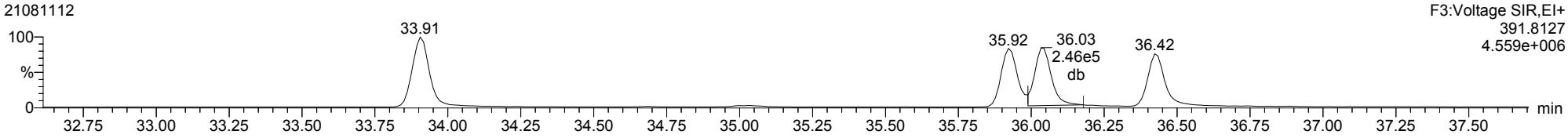


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

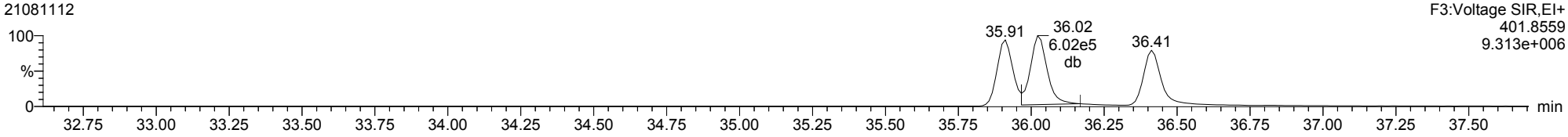
123678-HxCDD



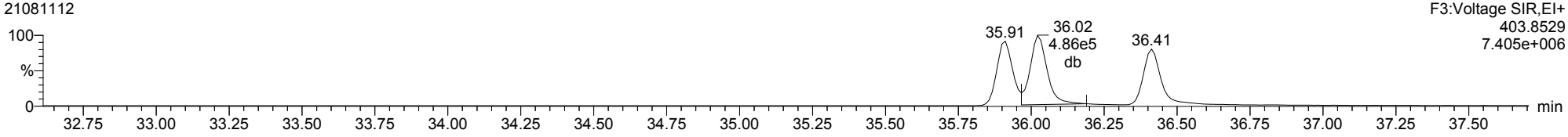
123678-HxCDD



13C-123678-HxCDD

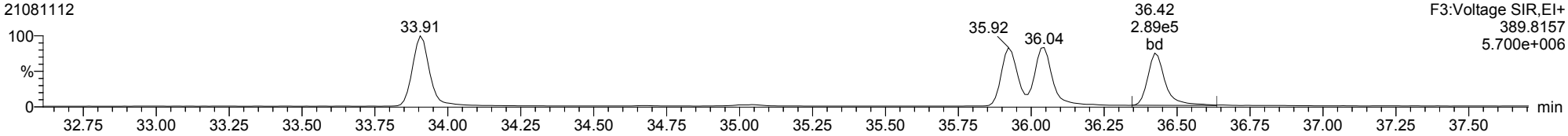


13C-123678-HxCDD

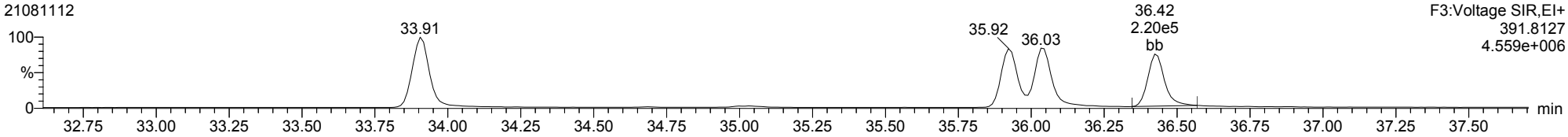


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

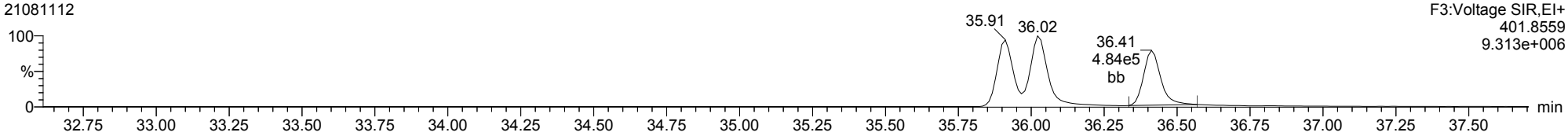
123789-HxCDD



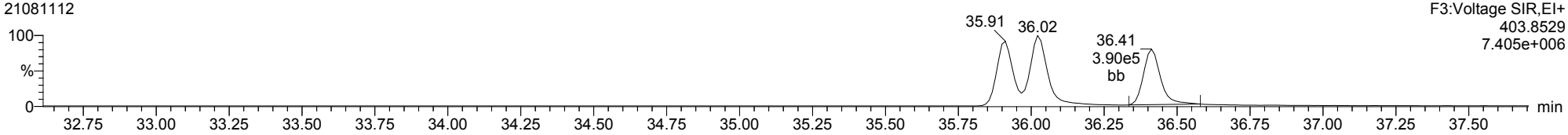
123789-HxCDD



13C-123789-HxCDD

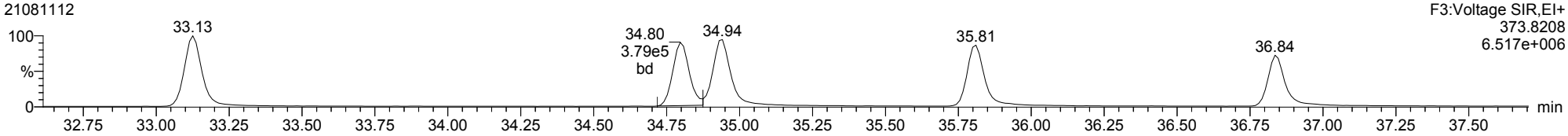


13C-123789-HxCDD

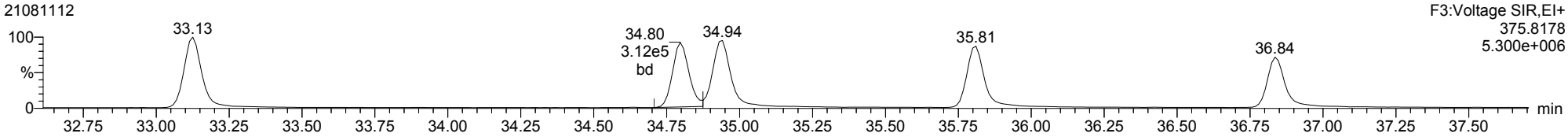


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

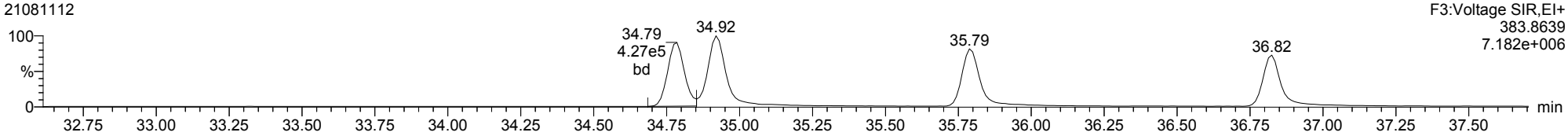
123478-HxCDF



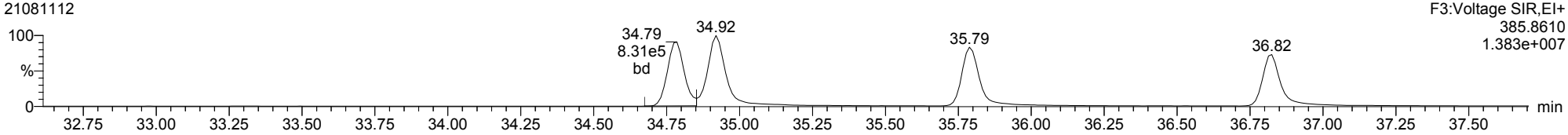
123478-HxCDF



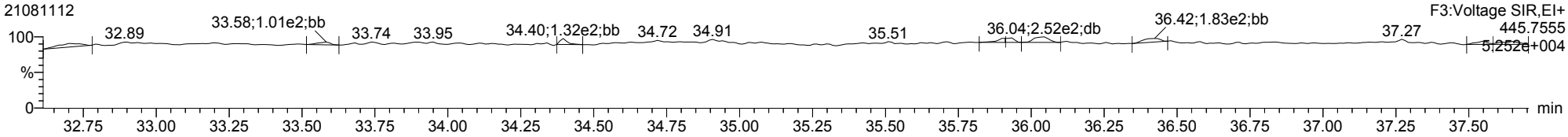
13C-123478-HxCDF



13C-123478-HxCDF

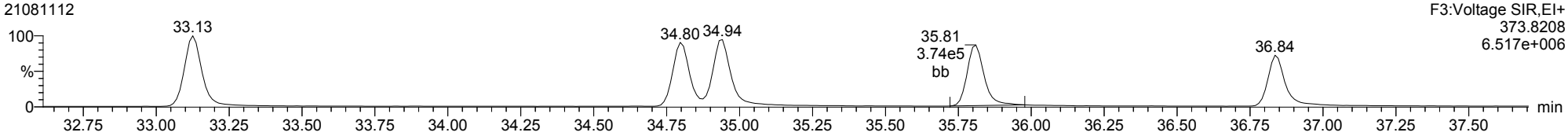


FUNCTION3 OCDPE

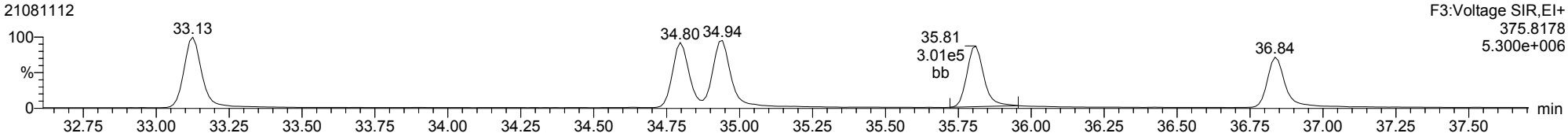


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

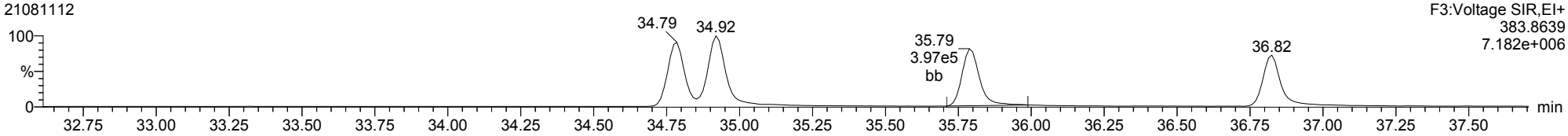
234678-HxCDF



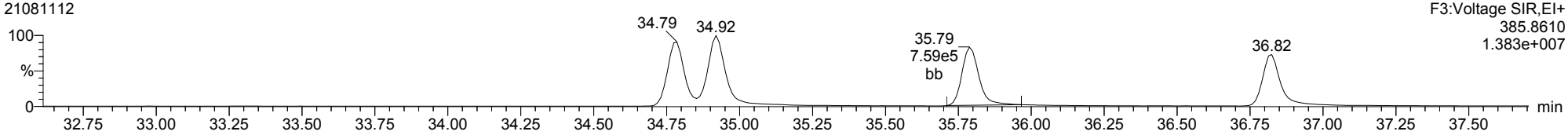
234678-HxCDF



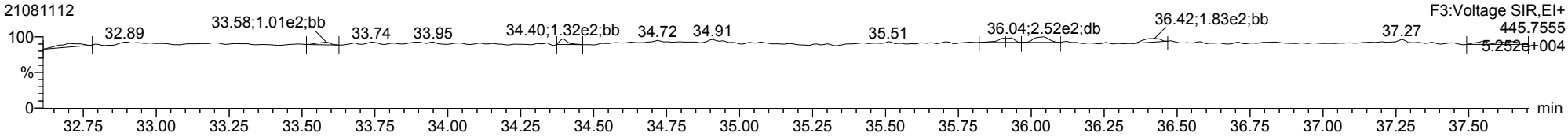
13C-234678-HxCDF



13C-234678-HxCDF

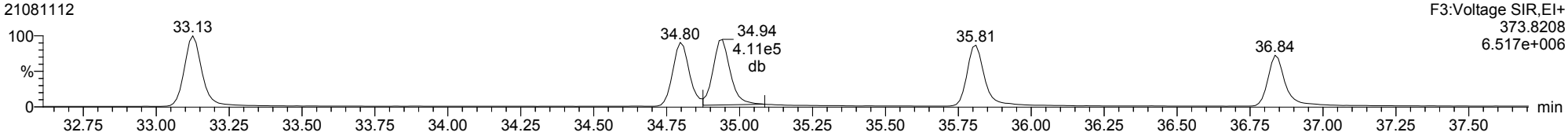


FUNCTION3 OCDPE

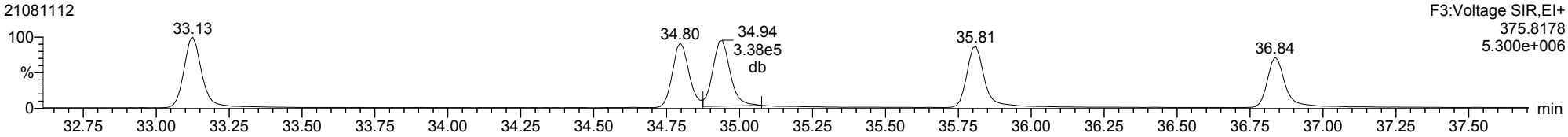


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

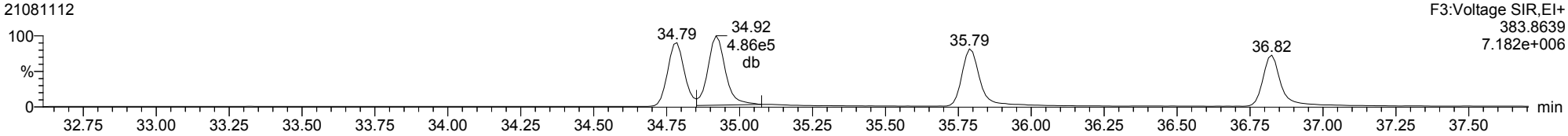
123678-HxCDF



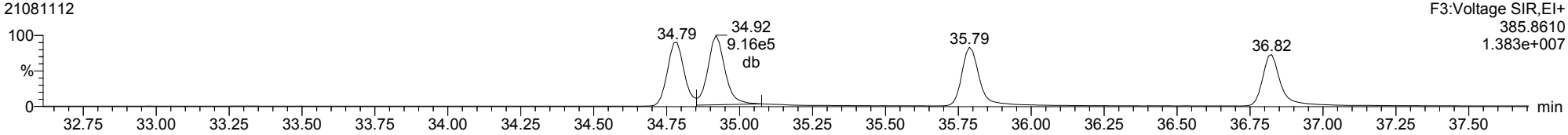
123678-HxCDF



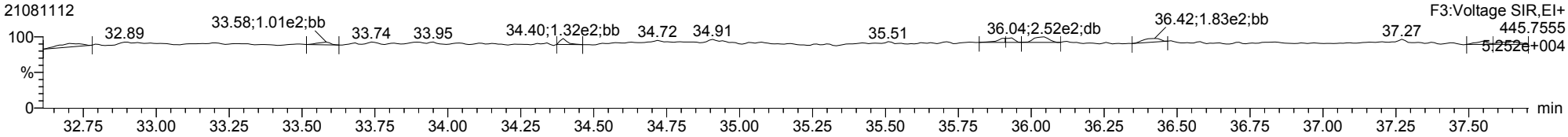
13C-123678-HxCDF



13C-123678-HxCDF

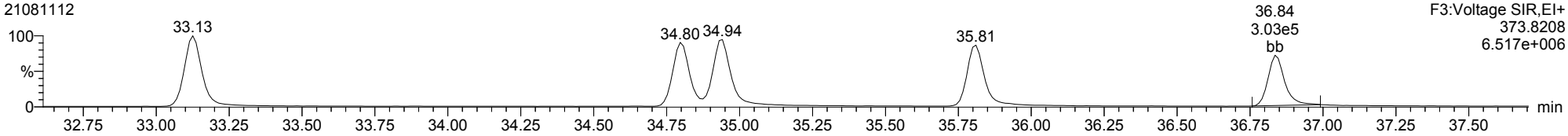


FUNCTION3 OCDPE

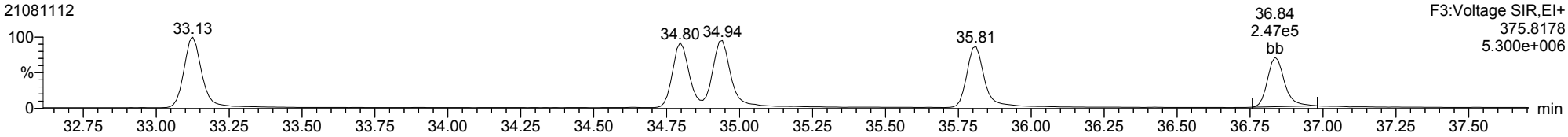


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

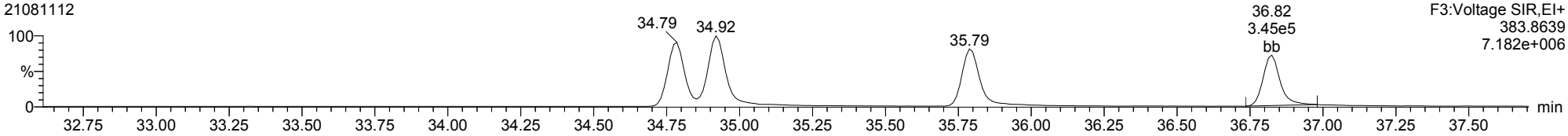
123789-HxCDF



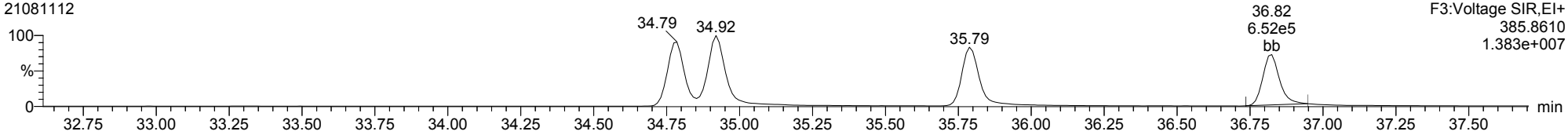
123789-HxCDF



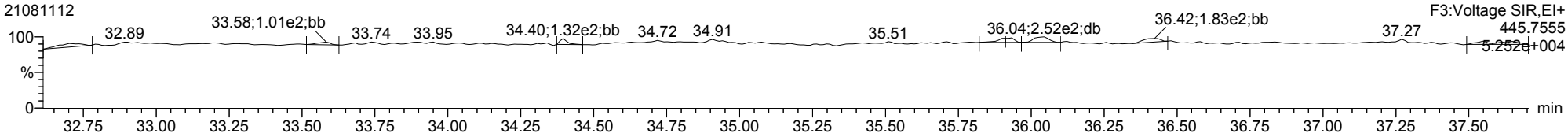
13C-123789-HxCDF



13C-123789-HxCDF

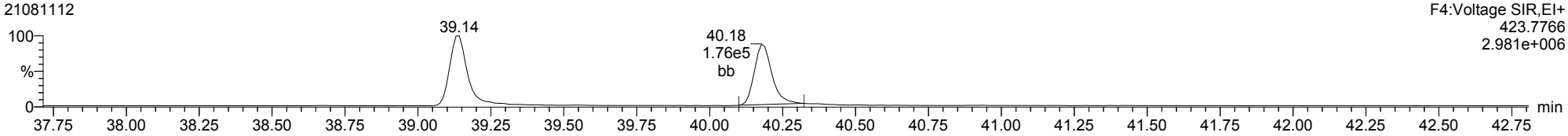


FUNCTION3 OCDPE

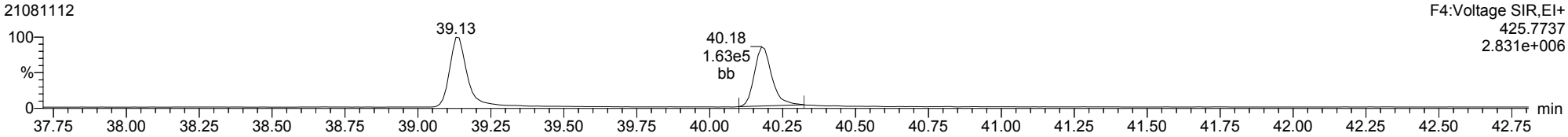


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

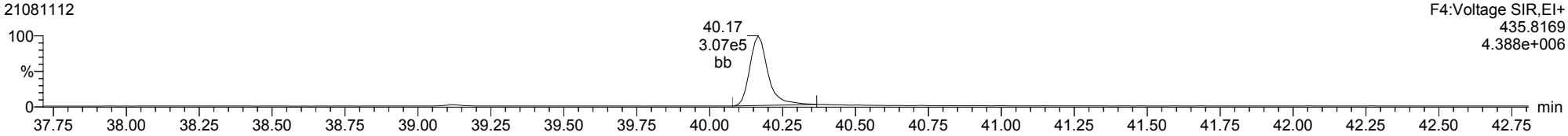
1234678-HpCDD



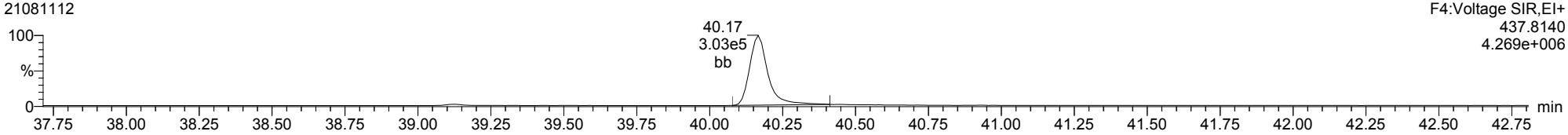
1234678-HpCDD



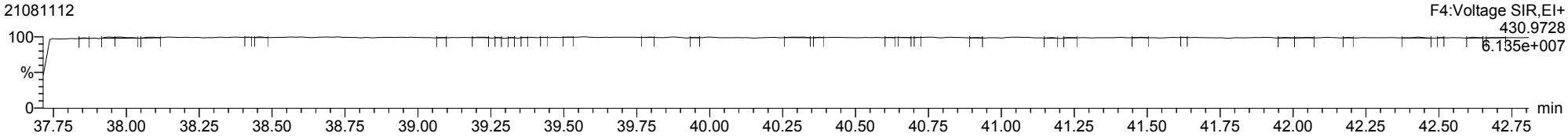
13C-1234678-HpCDD



13C-1234678-HpCDD

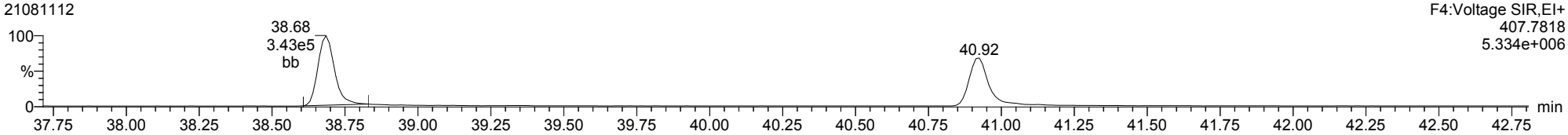


FUNCTION4 PFK

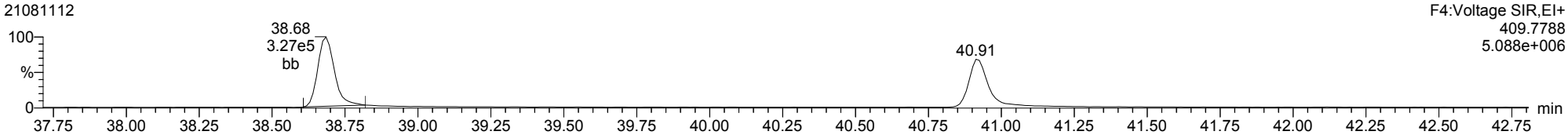


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

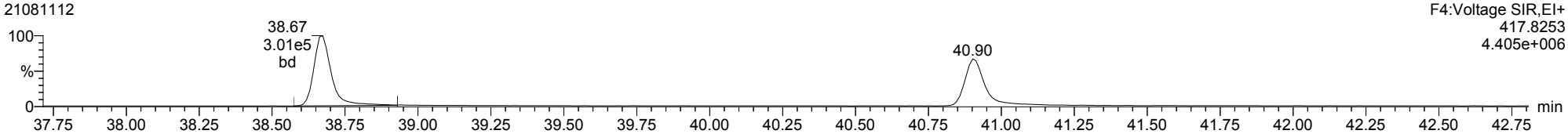
1234678-HpCDF



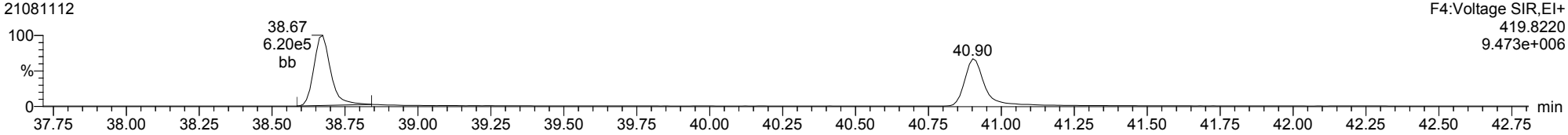
1234678-HpCDF



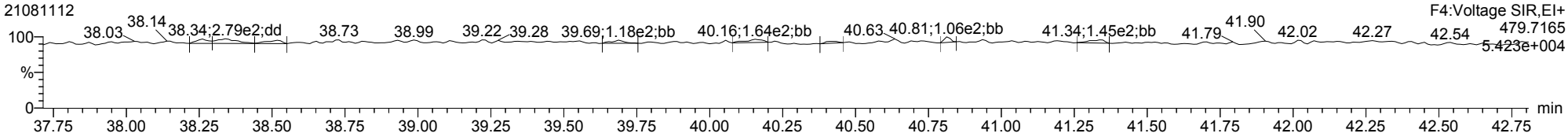
13C-1234678-HpCDF



13C-1234678-HpCDF

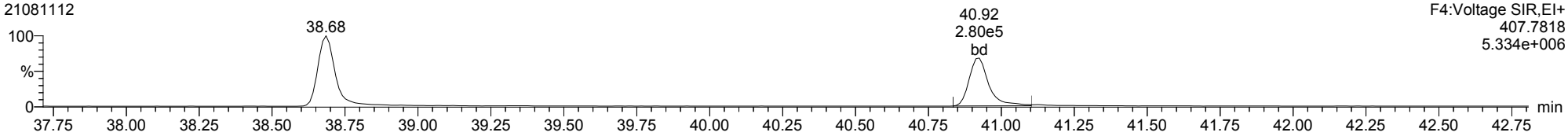


FUNCTION4 NCDPE

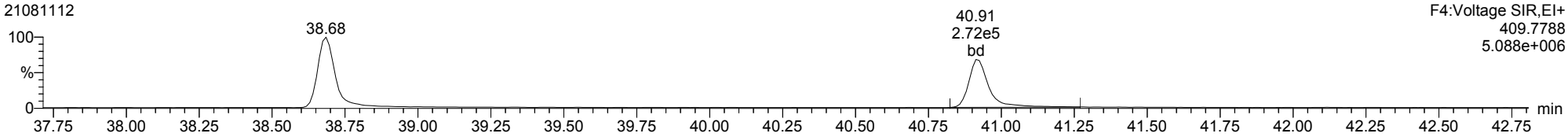


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

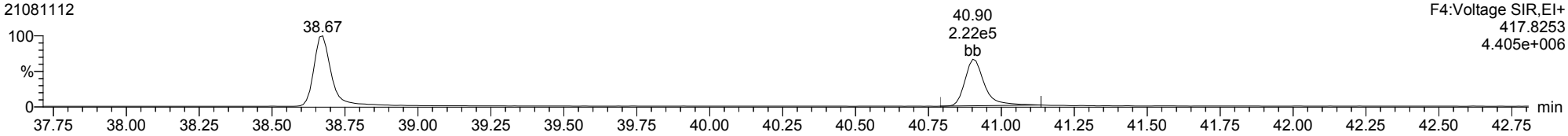
1234789-HpCDF



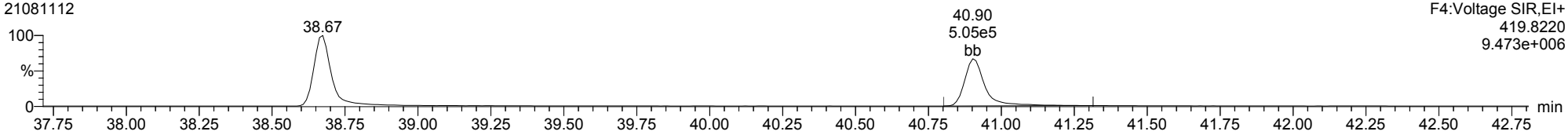
1234789-HpCDF



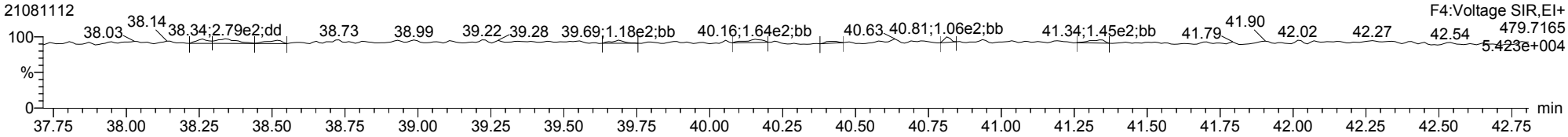
13C-1234789-HpCDF



13C-1234789-HpCDF

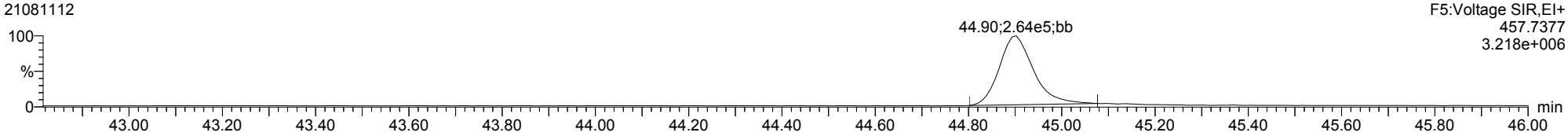


FUNCTION4 NCDPE

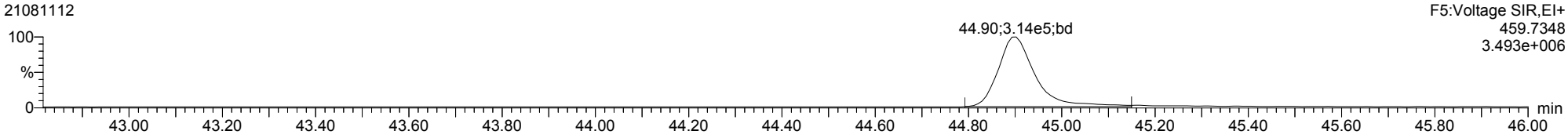


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

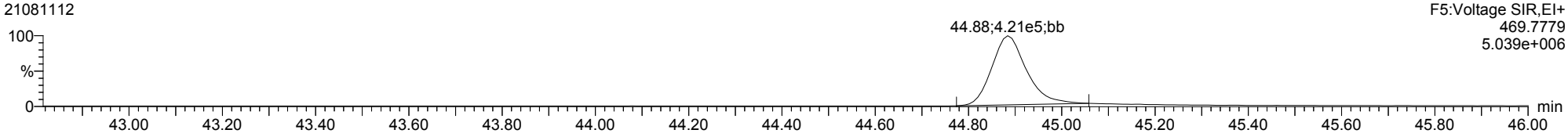
OCDD



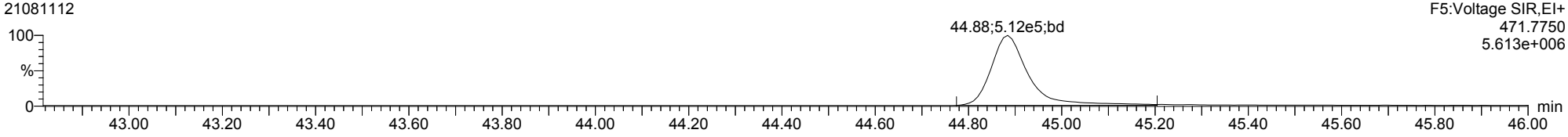
OCDD



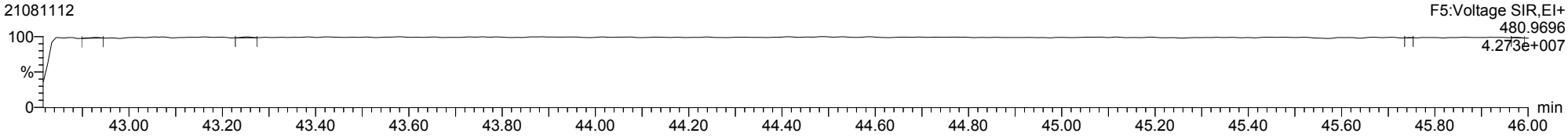
13C-OCDD



13C-OCDD

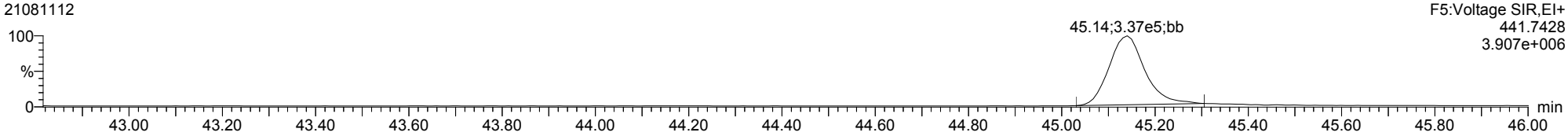


FUNCTION5 PFK

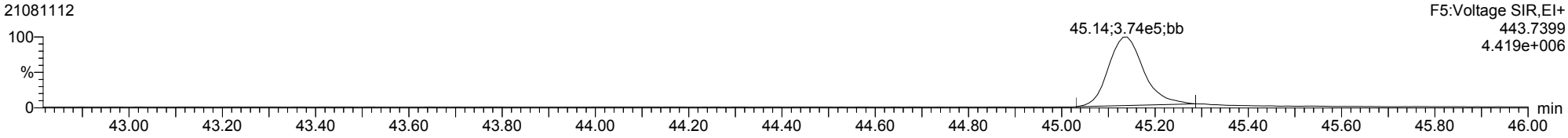


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

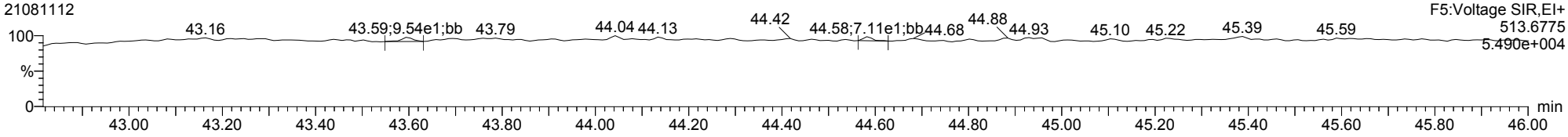
OCDF



OCDF



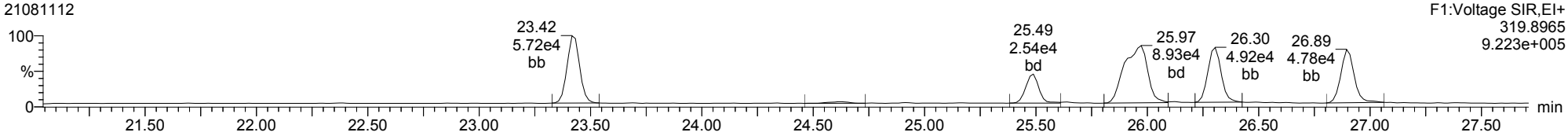
FUNCTION5 DCDPE



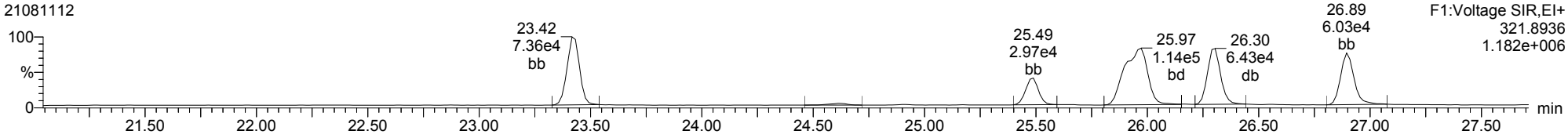
Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

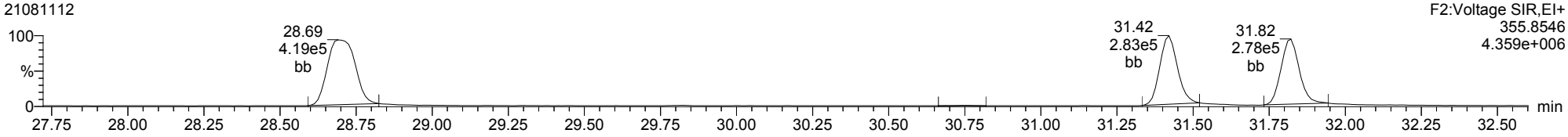
Total-tetradioxins



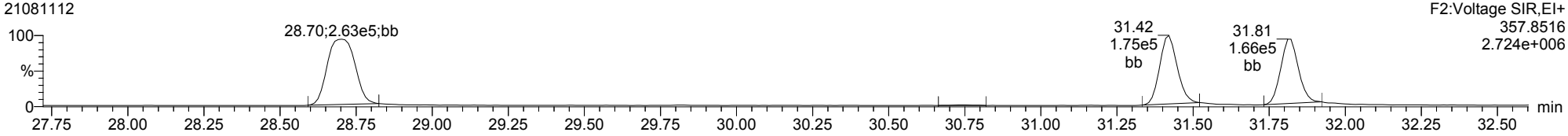
Total-tetradioxins



Total-pentadioxins

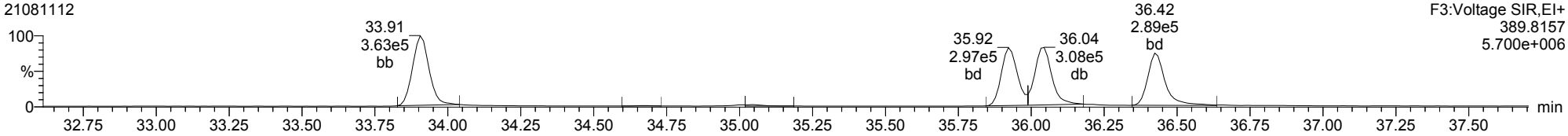


Total-pentadioxins

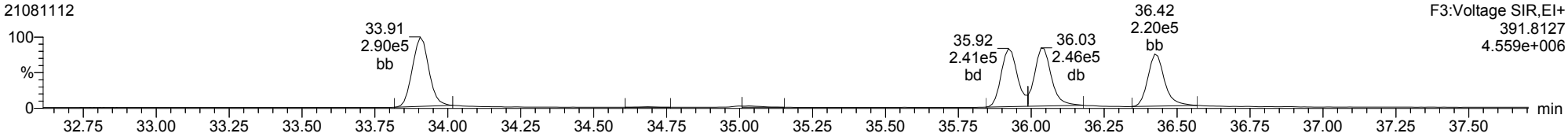


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

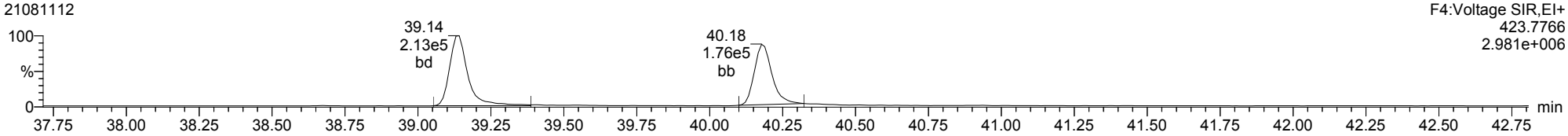
Total-hexadioxins



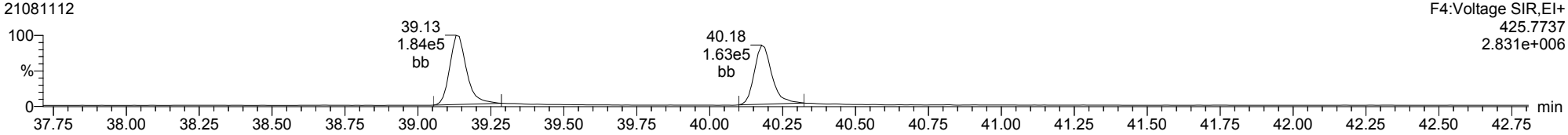
Total-hexadioxins



Total-heptadioxins

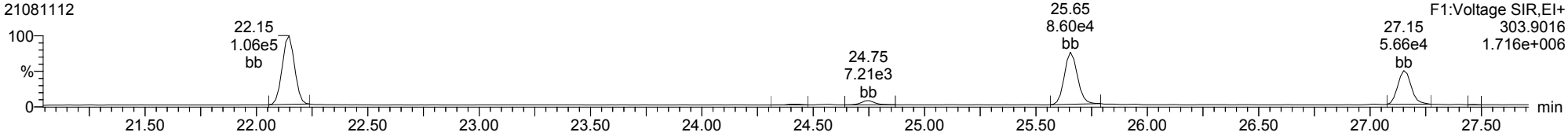


Total-heptadioxins

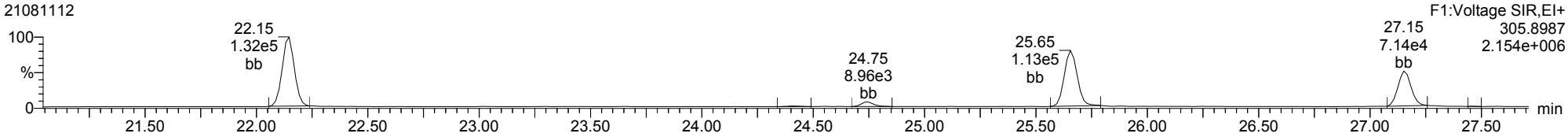


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

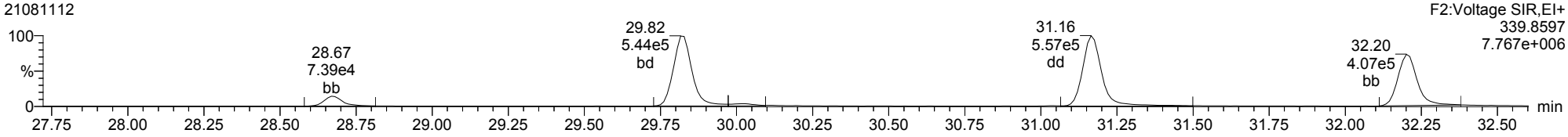
Total-tetrafurans



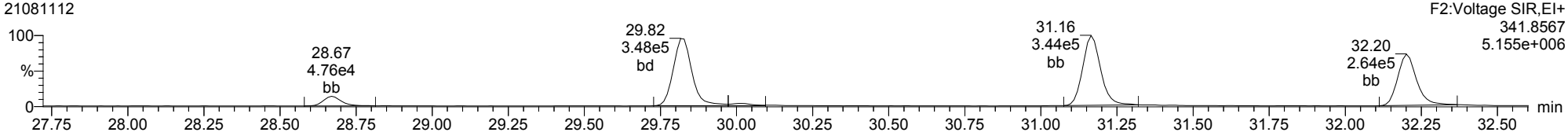
Total-tetrafurans



Total-pentafurans

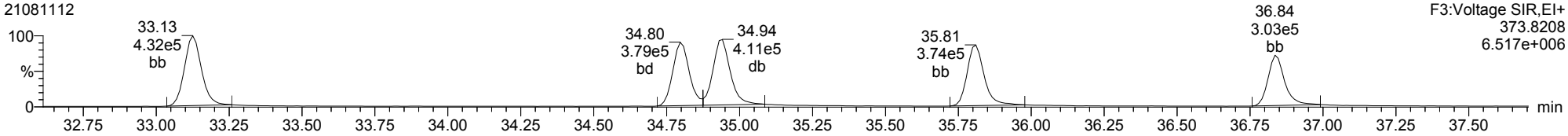


Total-pentafurans

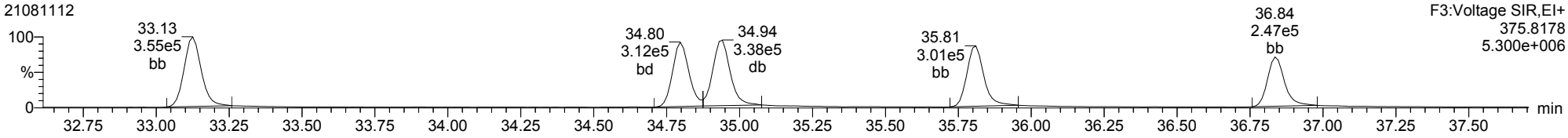


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

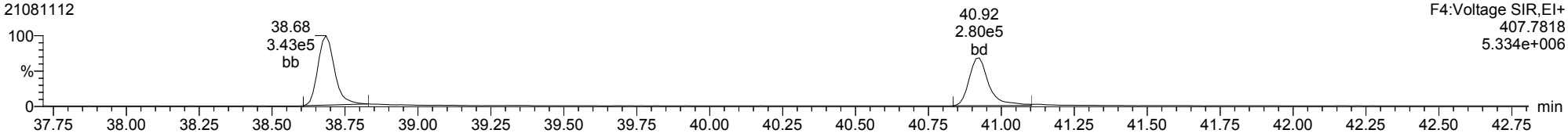
Total-hexafurans



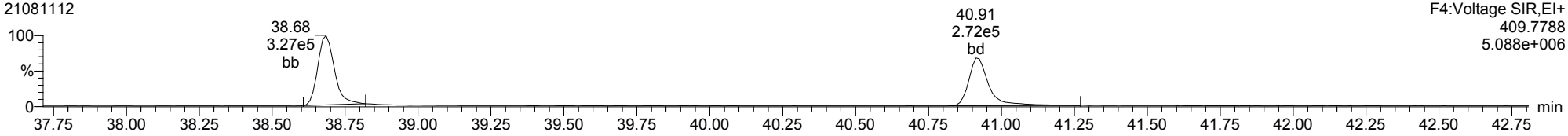
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21081102A	Calibration Date:	08/11/2021
Sequence:	SJH0117	Injection Date:	08/11/21
Lab Sample ID:	SJH0117-ICV1	Injection Time:	15:52
Sequence Name:	CS3Z1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	10.0	1.1075930	1.1077110		0.01	+/-16
2,3,7,8-TCDD	A	10.000	10.1	0.9202875	0.9284105		0.9	+/-22
1,2,3,7,8-PeCDF	A	50.000	49.2	1.0148670	0.9995080		-1.5	+/-18
2,3,4,7,8-PeCDF	A	50.000	48.7	1.1255490	1.0954980		-2.7	+/-18
1,2,3,7,8-PeCDD	A	50.000	50.2	0.9953229	0.9990428		0.4	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	50.2	1.0168930	1.0212530		0.4	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	47.8	1.0368310	0.9915618		-4.4	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	50.4	1.0524660	1.0603150		0.7	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	48.8	1.0301540	1.0057070		-2.4	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	47.3	1.0273630	0.9722491		-5.4	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	50.0	1.0089800	1.0086830		-0.03	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.4	0.9504865	0.9588368		0.9	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	47.0	1.3273500	1.2489740		-5.9	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	49.8	1.2833380	1.2794880		-0.3	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	49.1	1.0680880	1.0488330		-1.8	+/-14
OCDF	A	100.00	102	1.4469010	1.4716110		1.7	+/-37
OCDD	A	100.00	101	1.1808230	1.1910740		0.9	+/-21
13C12-2,3,7,8-TCDF	A	100.00	97.0	1.4265830	1.3833974		-3.0	+/-29
13C12-2,3,7,8-TCDD	A	100.00	98.2	1.1164910	1.0967480		-1.8	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	101	1.2973130	1.3060196		0.7	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	98.5	1.2364800	1.2175454		-1.5	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	97.6	0.7319833	0.7145332		-2.4	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	100	1.2424560	1.2464182		0.3	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	97.8	1.3434760	1.3144117		-2.2	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	97.5	1.2148550	1.1850193		-2.5	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	101	1.0076370	1.0160317		0.8	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	102	0.9598233	0.9797140		2.1	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	98.4	1.0413850	1.0245183		-1.6	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	104	0.9264704	0.9662886		4.3	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	98.3	0.7579160	0.7446856		-1.7	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	100	0.6324476	0.6342498		0.3	+/-18

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21081102A	Calibration Date:	08/11/2021
Sequence:	SJH0117	Injection Date:	08/11/21
Lab Sample ID:	SJH0117-ICV1	Injection Time:	15:52
Sequence Name:	CS3Z1		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-OCDD	A	200.00	192	0.5037432	0.4842057		-3.9	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.10	1.0835930	0.9862871		-9.0	+/-21

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.670	1.001	8.902e4	1.133e5	1.108	0.786	0.770	1958	2663	1.32e6	1.68e6	673.9	629.8	NO	bb	bb	10.001
12378-PeCDF	29.839	1.001	5.239e5	3.377e5	1.015	1.551	1.550	4825	3545	7.60e6	4.90e6	1575.8	1380.8	NO	bd	bd	49.243
23478-PeCDF	31.176	1.000	5.339e5	3.465e5	1.126	1.541	1.550	4825	3545	7.99e6	5.23e6	1655.4	1475.6	NO	bb	bb	48.665
123478-HxCDF	34.808	1.001	3.922e5	3.304e5	1.017	1.187	1.240	5108	3767	6.13e6	5.10e6	1199.4	1354.2	NO	bd	bd	50.214
234678-HxCDF	35.811	1.000	3.798e5	3.334e5	1.052	1.139	1.240	5108	3767	5.91e6	5.06e6	1156.4	1342.6	NO	bb	bd	50.373
123678-HxCDF	34.953	1.001	3.986e5	3.412e5	1.037	1.168	1.240	5108	3767	6.15e6	5.27e6	1203.5	1400.2	NO	db	db	47.817
123789-HxCDF	36.847	1.001	3.213e5	2.587e5	1.030	1.242	1.240	5108	3767	5.03e6	4.09e6	985.1	1084.6	NO	bb	bb	48.813
1234678-HpCDF	38.686	1.000	3.490e5	3.361e5	1.327	1.039	1.050	3058	3315	5.66e6	5.48e6	1851.1	1652.8	NO	bb	bb	47.048
1234789-HpCDF	40.925	1.000	2.753e5	2.656e5	1.283	1.037	1.050	3058	3315	3.99e6	3.76e6	1303.3	1135.6	NO	bb	bb	49.850
OCDF	45.151	1.006	3.754e5	4.336e5	1.447	0.866	0.890	3320	3912	4.43e6	4.94e6	1334.9	1262.9	NO	bb	bd	101.708
2378-TCDD	26.320	1.001	5.926e4	7.515e4	0.920	0.789	0.770	1939	1555	8.85e5	1.10e6	456.4	706.1	NO	bd	bd	10.088
12378-PeCDD	31.433	1.000	2.927e5	1.785e5	0.995	1.640	1.550	3470	2936	4.58e6	2.76e6	1321.1	939.4	NO	bb	bb	50.187
123478-HxCDD	35.934	1.000	2.991e5	2.416e5	1.027	1.238	1.240	3219	3115	4.94e6	3.87e6	1534.6	1241.1	NO	bd	bd	47.318
123678-HxCDD	36.045	1.000	3.233e5	2.634e5	1.009	1.227	1.240	3219	3115	5.00e6	4.08e6	1551.8	1310.0	NO	db	db	49.985
123789-HxCDD	36.435	1.011	3.026e5	2.429e5	0.950	1.246	1.240	3219	3115	4.82e6	3.92e6	1498.5	1258.1	NO	bb	bb	50.439
1234678-HpCDD	40.190	1.001	1.957e5	1.819e5	1.068	1.076	1.050	2559	2522	3.01e6	2.73e6	1176.5	1082.4	NO	bb	bb	49.099
OCDD	44.913	1.000	3.198e5	3.350e5	1.181	0.955	0.890	4357	2991	3.74e6	3.99e6	858.0	1332.5	NO	bd	bb	100.868
13C-2378-TCDF	25.655	1.007	8.206e5	1.006e6	1.427	0.816	0.770	4075	2692	1.20e7	1.49e7	2955.7	5529.6	NO	bb	bb	96.973
13C-12378-PeCDF	29.817	1.170	1.070e6	6.544e5	1.297	1.635	1.550	4411	4646	1.56e7	9.58e6	3543.1	2061.5	NO	bd	bd	100.671
13C-23478-PeCDF	31.165	1.223	9.932e5	6.141e5	1.236	1.617	1.550	4411	4646	1.50e7	9.23e6	3411.4	1986.3	NO	bb	bb	98.469
13C-123478-HxCDF	34.786	0.955	4.832e5	9.318e5	1.242	0.519	0.510	4989	3890	7.30e6	1.43e7	1462.4	3668.4	NO	bd	bd	100.319
13C-123678-HxCDF	34.931	0.959	5.150e5	9.773e5	1.343	0.527	0.510	4989	3890	7.77e6	1.50e7	1557.9	3855.7	NO	db	db	97.837
13C-234678-HxCDF	35.800	0.983	4.651e5	8.803e5	1.215	0.528	0.510	4989	3890	7.33e6	1.38e7	1468.6	3541.1	NO	bb	bb	97.544
13C-123789-HxCDF	36.825	1.011	3.927e5	7.608e5	1.008	0.516	0.510	4989	3890	6.26e6	1.20e7	1253.7	3088.4	NO	bb	bb	100.833
13C-1234678-HpCDF	38.674	1.062	3.449e5	7.522e5	0.926	0.458	0.440	3145	4311	5.29e6	1.14e7	1682.9	2655.1	NO	bb	bb	104.298
13C-1234789-HpCDF	40.914	1.123	2.744e5	5.710e5	0.758	0.481	0.440	3145	4311	3.76e6	8.07e6	1195.1	1872.2	NO	bd	bb	98.254
13C-1234-TCDD	25.489	0.000	5.718e5	7.482e5	1.000	0.764	0.770	4151	2043	8.73e6	1.13e7	2103.4	5543.5	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	6.240e5	8.238e5	1.116	0.757	0.770	4151	2043	9.25e6	1.20e7	2227.1	5882.2	NO	bb	bb	98.232
13C-12378-PeCDD	31.421	1.233	5.778e5	3.654e5	0.732	1.581	1.550	1938	1666	8.67e6	5.50e6	4471.7	3304.0	NO	bb	bb	97.616
13C-123478-HxCDD	35.923	0.986	6.206e5	4.917e5	0.960	1.262	1.240	3942	2807	1.00e7	7.88e6	2545.3	2806.9	NO	bd	bd	102.072
13C-123678-HxCDD	36.034	0.989	6.519e5	5.112e5	1.041	1.275	1.240	3942	2807	1.04e7	8.03e6	2629.6	2860.2	NO	db	db	98.380
13C-1234678-HpCDD	40.167	1.103	3.581e5	3.620e5	0.632	0.989	1.050	2149	2958	5.25e6	5.15e6	2444.3	1742.2	NO	bb	bd	100.285
13C-OCDD	44.895	1.233	5.278e5	5.716e5	0.504	0.923	0.890	3201	2192	6.40e6	6.96e6	2000.9	3177.8	NO	bb	bb	192.243
13C-123789-HxCDD	36.424	0.000	6.319e5	5.034e5	1.000	1.255	1.240	3942	2807	1.01e7	7.97e6	2559.4	2838.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	1.302e5		1.084			2110		1.92e6		908.2			bb		9.102

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.162	0.864	1.165e5	1.476e5	1.425	0.789	0.770	1958	2663	1.81e6	2.35e6	924.6	882.7	NO	bb	bb	10.147
1289-TCDF	27.167	1.059	8.551e4	1.118e5	1.043	0.765	0.770	1958	2663	1.20e6	1.60e6	613.2	599.1	NO	bd	bb	10.361
13468-PECDF	27.031	0.907	7.097e5	4.633e5	1.376	1.532	1.550	1203	1679	1.10e7	7.18e6	9107.9	4274.2	NO	bb	bb	49.438
12389-PECDF	32.223	1.081	5.049e5	3.400e5	1.000	1.485	1.550	4825	3545	7.23e6	4.67e6	1498.0	1315.9	NO	bb	bb	49.030
123468-HXCDF	33.137	0.953	4.194e5	3.428e5	1.087	1.224	1.240	5108	3767	6.33e6	5.17e6	1238.3	1372.7	NO	bb	bb	49.568
1368-TCDD	23.447	0.891	6.078e4	7.571e4	0.923	0.803	0.770	1939	1555	9.27e5	1.19e6	478.0	768.3	NO	bb	bb	10.211
1289-TCDD	26.910	1.023	4.979e4	6.423e4	0.794	0.775	0.770	1939	1555	6.99e5	9.07e5	360.5	583.0	NO	bb	bb	9.919
12479-PECDD	28.703	0.914	5.225e5	3.218e5	1.843	1.624	1.550	3470	2936	5.14e6	3.13e6	1480.8	1067.3	NO	bb	bb	48.556
12389-PECDD	31.834	1.013	3.395e5	2.081e5	1.154	1.631	1.550	3470	2936	5.21e6	3.19e6	1502.4	1086.5	NO	bb	bb	50.328
124679-HXCDD	33.917	0.944	3.417e5	2.767e5	1.125	1.235	1.240	3219	3115	5.35e6	4.35e6	1662.2	1396.7	NO	bb	bb	49.416
1234679-HPCDD	39.143	0.975	2.374e5	2.053e5	1.211	1.156	1.050	2559	2522	3.59e6	3.25e6	1401.9	1288.3	NO	bd	bb	50.762
Total-tetrafurans			2.912e5		1.192			1958		4.34e6							30.532
Total-penta1			7.097e5					1203		1.10e7							49.438
Total-pentafurans			1.650e6		1.047			4825		2.41e7							155.272
Total-hexafurans			1.912e6		1.045			5108		2.95e7							246.824
Total-heptafurans			6.258e5		1.305			3058		9.68e6							97.121
Total-Furans			5.564e6		1.158			1958		8.31e7							680.896
Total-tetradioxins			2.884e5		0.879			1939		3.90e6							51.498
Total-pentadioxins			1.155e6		1.331			3470		1.49e7							149.072
Total-hexadioxins			1.267e6		1.028			3219		2.01e7							197.158
Total-heptadioxins			4.333e5		1.140			2559		6.61e6							99.909
Total-Dioxins			3.463e6		1.092			1939		4.93e7							598.505
Total-TEQ			9.027e6					1939		1.32e8							1279.400
FUNCTION1 PFK			7.497e7					931555		7.57e8							
FUNCTION2 PFK			1.403e4					495160		7.03e5							0.000
FUNCTION3 PFK			1.559e7					777216		1.63e8							0.000
FUNCTION4 PFK			9.472e5					399457		2.55e7							
FUNCTION5 PFK			1.427e5					401172		4.69e6							
FUNCTION1 HXCD...			2.128e3					1303		3.87e4							0.000
FUNCTION1 HPCD...			2.207e3					986		4.23e4							0.000
FUNCTION2 HPCD...			1.749e3					1290		3.83e4							0.000
FUNCTION3 OCDPE			2.044e3					954		3.94e4							0.000
FUNCTION4 NCDPE			1.068e3					1777		2.89e4							0.000
FUNCTION5 DCDPE			3.560e2					996		9.06e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.67	8.902e4	1.133e5	1.108	0.79	0.77	673.9	YES	NO	bb	bb	10.001
2	1368-TCDF	22.16	1.165e5	1.476e5	1.425	0.79	0.77	924.6	YES	NO	bb	bb	10.147
3	1289-TCDF	27.17	8.551e4	1.118e5	1.043	0.76	0.77	613.2	YES	NO	bd	bb	10.361
4	Total-tetrafurans	27.03	1.982e2	3.027e2	1.192	0.65	0.77	2.7	NO	NO	bb	bb	0.023

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.03	7.097e5	4.633e5	1.376	1.53	1.55	9107.9	YES	NO	bb	bb	49.438

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.18	5.339e5	3.465e5	1.126	1.54	1.55	1655.4	YES	NO	bb	bb	48.665
2	Total-pentafurans	30.31	2.312e2	1.330e2	1.047	1.74	1.55	1.5	NO	NO	db	bb	0.021
3	12378-PeCDF	29.84	5.239e5	3.377e5	1.015	1.55	1.55	1575.8	YES	NO	bd	bd	49.243
4	Total-pentafurans	28.69	8.724e4	5.768e4	1.047	1.51	1.55	273.5	YES	NO	bb	bb	8.313
5	12389-PECDF	32.22	5.049e5	3.400e5	1.000	1.48	1.55	1498.0	YES	NO	bb	bb	49.030

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.81	3.922e5	3.304e5	1.017	1.19	1.24	1199.4	YES	NO	bd	bd	50.214
2	Total-hexafurans	33.61	2.863e2	2.564e2	1.045	1.12	1.24	2.0	NO	NO	db	bb	0.038
3	123468-HXCDF	33.14	4.194e5	3.428e5	1.087	1.22	1.24	1238.3	YES	NO	bb	bb	49.568
4	123789-HxCDF	36.85	3.213e5	2.587e5	1.030	1.24	1.24	985.1	YES	NO	bb	bb	48.813
5	234678-HxCDF	35.81	3.798e5	3.334e5	1.052	1.14	1.24	1156.4	YES	NO	bb	bd	50.373
6	123678-HxCDF	34.95	3.986e5	3.412e5	1.037	1.17	1.24	1203.5	YES	NO	db	db	47.817

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.69	3.490e5	3.361e5	1.327	1.04	1.05	1851.1	YES	NO	bb	bb	47.048
2	Total-heptafurans	41.42	4.189e2	4.634e2	1.305	0.90	1.05	5.0	NO	NO	bd	bd	0.070
3	1234789-HpCDF	40.93	2.753e5	2.656e5	1.283	1.04	1.05	1303.3	YES	NO	bb	bb	49.850
4	Total-heptafurans	39.35	1.023e3	9.285e2	1.305	1.10	1.05	6.8	YES	NO	db	bb	0.154

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.67	8.902e4	1.133e5	1.108	0.79	0.77	673.9	YES	NO	bb	bb	10.001
2	1368-TCDF	22.16	1.165e5	1.476e5	1.425	0.79	0.77	924.6	YES	NO	bb	bb	10.147
3	1289-TCDF	27.17	8.551e4	1.118e5	1.043	0.76	0.77	613.2	YES	NO	bd	bb	10.361
4	Total-tetrafurans	27.03	1.982e2	3.027e2	1.192	0.65	0.77	2.7	NO	NO	bb	bb	0.023
5	23478-PeCDF	31.18	5.339e5	3.465e5	1.126	1.54	1.55	1655.4	YES	NO	bb	bb	48.665
6	Total-pentafurans	30.31	2.312e2	1.330e2	1.047	1.74	1.55	1.5	NO	NO	db	bb	0.021
7	12378-PeCDF	29.84	5.239e5	3.377e5	1.015	1.55	1.55	1575.8	YES	NO	bd	bd	49.243
8	Total-pentafurans	28.69	8.724e4	5.768e4	1.047	1.51	1.55	273.5	YES	NO	bb	bb	8.313
9	12389-PECDF	32.22	5.049e5	3.400e5	1.000	1.48	1.55	1498.0	YES	NO	bb	bb	49.030
10	123478-HxCDF	34.81	3.922e5	3.304e5	1.017	1.19	1.24	1199.4	YES	NO	bd	bd	50.214
11	Total-hexafurans	33.61	2.863e2	2.564e2	1.045	1.12	1.24	2.0	NO	NO	db	bb	0.038
12	123468-HXCDF	33.14	4.194e5	3.428e5	1.087	1.22	1.24	1238.3	YES	NO	bb	bb	49.568
13	123789-HxCDF	36.85	3.213e5	2.587e5	1.030	1.24	1.24	985.1	YES	NO	bb	bb	48.813
14	234678-HxCDF	35.81	3.798e5	3.334e5	1.052	1.14	1.24	1156.4	YES	NO	bb	bd	50.373
15	123678-HxCDF	34.95	3.986e5	3.412e5	1.037	1.17	1.24	1203.5	YES	NO	db	db	47.817
16	1234678-HpCDF	38.69	3.490e5	3.361e5	1.327	1.04	1.05	1851.1	YES	NO	bb	bb	47.048
17	Total-heptafurans	41.42	4.189e2	4.634e2	1.305	0.90	1.05	5.0	NO	NO	bd	bd	0.070
18	1234789-HpCDF	40.93	2.753e5	2.656e5	1.283	1.04	1.05	1303.3	YES	NO	bb	bb	49.850
19	Total-heptafurans	39.35	1.023e3	9.285e2	1.305	1.10	1.05	6.8	YES	NO	db	bb	0.154
20	OCDF	45.15	3.754e5	4.336e5	1.447	0.87	0.89	1334.9	YES	NO	bb	bd	101.708
21	13468-PECDF	27.03	7.097e5	4.633e5	1.376	1.53	1.55	9107.9	YES	NO	bb	bb	49.438

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.50	2.869e4	3.525e4	0.879	0.81	0.77	221.4	YES	NO	bd	bb	5.023
2	Total-tetradioxins	24.64	1.460e3	1.658e3	0.879	0.88	0.77	11.7	YES	NO	db	db	0.245
3	1368-TCDD	23.45	6.078e4	7.571e4	0.923	0.80	0.77	478.0	YES	NO	bb	bb	10.211
4	1289-TCDD	26.91	4.979e4	6.423e4	0.794	0.78	0.77	360.5	YES	NO	bb	bb	9.919
5	2378-TCDD	26.32	5.926e4	7.515e4	0.920	0.79	0.77	456.4	YES	NO	bd	bd	10.088
6	Total-tetradioxins	25.99	8.845e4	1.153e5	0.879	0.77	0.77	484.2	YES	NO	bb	bb	16.011

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.70	5.225e5	3.218e5	1.843	1.62	1.55	1480.8	YES	NO	bb	bb	48.556
2	12389-PECDD	31.83	3.395e5	2.081e5	1.154	1.63	1.55	1502.4	YES	NO	bb	bb	50.328
3	12378-PeCDD	31.43	2.927e5	1.785e5	0.995	1.64	1.55	1321.1	YES	NO	bb	bb	50.187

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.92	3.417e5	2.767e5	1.125	1.23	1.24	1662.2	YES	NO	bb	bb	49.416
2	123789-HxCDD	36.44	3.026e5	2.429e5	0.950	1.25	1.24	1498.5	YES	NO	bb	bb	50.439
3	123678-HxCDD	36.04	3.233e5	2.634e5	1.009	1.23	1.24	1551.8	YES	NO	db	db	49.985
4	123478-HxCDD	35.93	2.991e5	2.416e5	1.027	1.24	1.24	1534.6	YES	NO	bd	bd	47.318

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.19	1.957e5	1.819e5	1.068	1.08	1.05	1176.5	YES	NO	bb	bb	49.099
2	Total-heptadioxins	39.60	2.092e2	1.843e2	1.140	1.14	1.05	3.3	NO	NO	bb	bb	0.048
3	1234679-HPCDD	39.14	2.374e5	2.053e5	1.211	1.16	1.05	1401.9	YES	NO	bd	bb	50.762

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.50	2.869e4	3.525e4	0.879	0.81	0.77	221.4	YES	NO	bd	bb	5.023
2	Total-tetradioxins	24.64	1.460e3	1.658e3	0.879	0.88	0.77	11.7	YES	NO	db	db	0.245
3	1368-TCDD	23.45	6.078e4	7.571e4	0.923	0.80	0.77	478.0	YES	NO	bb	bb	10.211
4	1289-TCDD	26.91	4.979e4	6.423e4	0.794	0.78	0.77	360.5	YES	NO	bb	bb	9.919
5	2378-TCDD	26.32	5.926e4	7.515e4	0.920	0.79	0.77	456.4	YES	NO	bd	bd	10.088
6	Total-tetradioxins	25.99	8.845e4	1.153e5	0.879	0.77	0.77	484.2	YES	NO	bb	bb	16.011
7	12479-PECDD	28.70	5.225e5	3.218e5	1.843	1.62	1.55	1480.8	YES	NO	bb	bb	48.556
8	12389-PECDD	31.83	3.395e5	2.081e5	1.154	1.63	1.55	1502.4	YES	NO	bb	bb	50.328
9	12378-PeCDD	31.43	2.927e5	1.785e5	0.995	1.64	1.55	1321.1	YES	NO	bb	bb	50.187
10	124679-HXCDD	33.92	3.417e5	2.767e5	1.125	1.23	1.24	1662.2	YES	NO	bb	bb	49.416
11	123789-HxCDD	36.44	3.026e5	2.429e5	0.950	1.25	1.24	1498.5	YES	NO	bb	bb	50.439
12	123678-HxCDD	36.04	3.233e5	2.634e5	1.009	1.23	1.24	1551.8	YES	NO	db	db	49.985
13	123478-HxCDD	35.93	2.991e5	2.416e5	1.027	1.24	1.24	1534.6	YES	NO	bd	bd	47.318
14	1234678-HpCDD	40.19	1.957e5	1.819e5	1.068	1.08	1.05	1176.5	YES	NO	bb	bb	49.099
15	Total-heptadioxins	39.60	2.092e2	1.843e2	1.140	1.14	1.05	3.3	NO	NO	bb	bb	0.048
16	1234679-HPCDD	39.14	2.374e5	2.053e5	1.211	1.16	1.05	1401.9	YES	NO	bd	bb	50.762
17	OCDD	44.91	3.198e5	3.350e5	1.181	0.95	0.89	858.0	YES	NO	bd	bb	100.868

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.67	8.902e4	1.133e5	1.108	0.79	0.77	673.9	YES	NO	bb	bb	10.001
2	1368-TCDF	22.16	1.165e5	1.476e5	1.425	0.79	0.77	924.6	YES	NO	bb	bb	10.147
3	1289-TCDF	27.17	8.551e4	1.118e5	1.043	0.76	0.77	613.2	YES	NO	bd	bb	10.361
4	Total-tetrafurans	27.03	1.982e2	3.027e2	1.192	0.65	0.77	2.7	NO	NO	bb	bb	0.023
5	23478-PeCDF	31.18	5.339e5	3.465e5	1.126	1.54	1.55	1655.4	YES	NO	bb	bb	48.665
6	Total-pentafurans	30.31	2.312e2	1.330e2	1.047	1.74	1.55	1.5	NO	NO	db	bb	0.021
7	12378-PeCDF	29.84	5.239e5	3.377e5	1.015	1.55	1.55	1575.8	YES	NO	bd	bd	49.243
8	Total-pentafurans	28.69	8.724e4	5.768e4	1.047	1.51	1.55	273.5	YES	NO	bb	bb	8.313
9	12389-PECDF	32.22	5.049e5	3.400e5	1.000	1.48	1.55	1498.0	YES	NO	bb	bb	49.030
10	123478-HxCDF	34.81	3.922e5	3.304e5	1.017	1.19	1.24	1199.4	YES	NO	bd	bd	50.214
11	Total-hexafurans	33.61	2.863e2	2.564e2	1.045	1.12	1.24	2.0	NO	NO	db	bb	0.038
12	123468-HXCDF	33.14	4.194e5	3.428e5	1.087	1.22	1.24	1238.3	YES	NO	bb	bb	49.568
13	123789-HxCDF	36.85	3.213e5	2.587e5	1.030	1.24	1.24	985.1	YES	NO	bb	bb	48.813
14	234678-HxCDF	35.81	3.798e5	3.334e5	1.052	1.14	1.24	1156.4	YES	NO	bb	bd	50.373
15	123678-HxCDF	34.95	3.986e5	3.412e5	1.037	1.17	1.24	1203.5	YES	NO	db	db	47.817
16	1234678-HpCDF	38.69	3.490e5	3.361e5	1.327	1.04	1.05	1851.1	YES	NO	bb	bb	47.048
17	Total-heptafurans	41.42	4.189e2	4.634e2	1.305	0.90	1.05	5.0	NO	NO	bd	bd	0.070
18	1234789-HpCDF	40.93	2.753e5	2.656e5	1.283	1.04	1.05	1303.3	YES	NO	bb	bb	49.850
19	Total-heptafurans	39.35	1.023e3	9.285e2	1.305	1.10	1.05	6.8	YES	NO	db	bb	0.154
20	OCDF	45.15	3.754e5	4.336e5	1.447	0.87	0.89	1334.9	YES	NO	bb	bd	101.708
21	13468-PECDF	27.03	7.097e5	4.633e5	1.376	1.53	1.55	9107.9	YES	NO	bb	bb	49.438
22	Total-tetradioxins	25.50	2.869e4	3.525e4	0.879	0.81	0.77	221.4	YES	NO	bd	bb	5.023
23	Total-tetradioxins	24.64	1.460e3	1.658e3	0.879	0.88	0.77	11.7	YES	NO	db	db	0.245
24	1368-TCDD	23.45	6.078e4	7.571e4	0.923	0.80	0.77	478.0	YES	NO	bb	bb	10.211
25	1289-TCDD	26.91	4.979e4	6.423e4	0.794	0.78	0.77	360.5	YES	NO	bb	bb	9.919
26	2378-TCDD	26.32	5.926e4	7.515e4	0.920	0.79	0.77	456.4	YES	NO	bd	bd	10.088
27	Total-tetradioxins	25.99	8.845e4	1.153e5	0.879	0.77	0.77	484.2	YES	NO	bb	bb	16.011
28	12479-PECDD	28.70	5.225e5	3.218e5	1.843	1.62	1.55	1480.8	YES	NO	bb	bb	48.556
29	12389-PECDD	31.83	3.395e5	2.081e5	1.154	1.63	1.55	1502.4	YES	NO	bb	bb	50.328
30	12378-PeCDD	31.43	2.927e5	1.785e5	0.995	1.64	1.55	1321.1	YES	NO	bb	bb	50.187
31	124679-HXCDD	33.92	3.417e5	2.767e5	1.125	1.23	1.24	1662.2	YES	NO	bb	bb	49.416
32	123789-HxCDD	36.44	3.026e5	2.429e5	0.950	1.25	1.24	1498.5	YES	NO	bb	bb	50.439
33	123678-HxCDD	36.04	3.233e5	2.634e5	1.009	1.23	1.24	1551.8	YES	NO	db	db	49.985
34	123478-HxCDD	35.93	2.991e5	2.416e5	1.027	1.24	1.24	1534.6	YES	NO	bd	bd	47.318
35	1234678-HpCDD	40.19	1.957e5	1.819e5	1.068	1.08	1.05	1176.5	YES	NO	bb	bb	49.099
36	Total-heptadioxins	39.60	2.092e2	1.843e2	1.140	1.14	1.05	3.3	NO	NO	bb	bb	0.048
37	1234679-HPCDD	39.14	2.374e5	2.053e5	1.211	1.16	1.05	1401.9	YES	NO	bd	bb	50.762

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	OCDD	44.91	3.198e5	3.350e5	1.181	0.95	0.89	858.0	YES	NO	bd	bb	100.868

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.09	3.173e6					32.9	YES		dd		
2	FUNCTION1 PFK	21.95	4.338e6					35.4	YES		dd		
3	FUNCTION1 PFK	21.89	1.994e6					35.6	YES		dd		
4	FUNCTION1 PFK	21.78	3.620e6					37.5	YES		dd		
5	FUNCTION1 PFK	21.72	1.602e6					38.4	YES		dd		
6	FUNCTION1 PFK	21.47	9.633e6					42.3	YES		dd		
7	FUNCTION1 PFK	21.42	1.809e6					43.0	YES		dd		
8	FUNCTION1 PFK	21.36	3.029e6					43.7	YES		dd		
9	FUNCTION1 PFK	21.30	2.466e6					44.4	YES		dd		
10	FUNCTION1 PFK	21.24	2.474e6					44.4	YES		dd		
11	FUNCTION1 PFK	21.19	2.531e6					45.0	YES		dd		
12	FUNCTION1 PFK	21.10	3.864e6					46.5	YES		bd		
13	FUNCTION1 PFK	24.14	6.769e5					4.7	YES		dd		
14	FUNCTION1 PFK	24.02	3.800e5					6.1	YES		dd		
15	FUNCTION1 PFK	23.92	2.778e6					7.7	YES		dd		
16	FUNCTION1 PFK	23.58	1.868e6					12.1	YES		dd		
17	FUNCTION1 PFK	23.37	1.553e6					14.8	YES		dd		
18	FUNCTION1 PFK	23.33	1.032e6					15.4	YES		dd		
19	FUNCTION1 PFK	23.25	1.094e6					16.3	YES		dd		
20	FUNCTION1 PFK	23.18	9.303e5					17.1	YES		dd		
21	FUNCTION1 PFK	23.10	9.838e5					18.2	YES		dd		
22	FUNCTION1 PFK	23.04	1.325e6					19.7	YES		dd		
23	FUNCTION1 PFK	22.98	8.500e5					20.6	YES		dd		
24	FUNCTION1 PFK	22.72	1.033e7					24.4	YES		dd		
25	FUNCTION1 PFK	22.46	1.941e6					28.2	YES		dd		
26	FUNCTION1 PFK	22.39	2.401e6					28.6	YES		dd		
27	FUNCTION1 PFK	22.25	2.940e6					30.7	YES		dd		
28	FUNCTION1 PFK	22.19	1.738e6					31.2	YES		dd		
29	FUNCTION1 PFK	26.47	3.766e4					1.0	NO		bd		
30	FUNCTION1 PFK	26.32	5.897e4					1.5	NO		bb		
31	FUNCTION1 PFK	26.20	1.093e5					1.6	NO		db		
32	FUNCTION1 PFK	26.06	5.774e4					1.0	NO		bd		
33	FUNCTION1 PFK	25.94	4.523e4					1.0	NO		db		
34	FUNCTION1 PFK	25.87	9.264e3					0.4	NO		bd		
35	FUNCTION1 PFK	25.56	1.026e5					1.4	NO		db		
36	FUNCTION1 PFK	25.37	1.980e5					1.7	NO		bd		
37	FUNCTION1 PFK	25.25	9.606e4					2.0	NO		db		

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	25.19	4.790e4					1.1	NO		bd		
39	FUNCTION1 PFK	25.11	3.360e4					1.3	NO		bb		
40	FUNCTION1 PFK	24.96	1.063e5					1.2	NO		db		
41	FUNCTION1 PFK	24.84	4.838e4					1.2	NO		bd		
42	FUNCTION1 PFK	24.64	1.224e5					1.3	NO		bb		
43	FUNCTION1 PFK	24.57	1.472e4					0.4	NO		bb		
44	FUNCTION1 PFK	24.34	1.687e5					1.6	NO		db		
45	FUNCTION1 PFK	27.42	6.094e4					1.0	NO		bb		
46	FUNCTION1 PFK	27.29	2.824e4					0.9	NO		bb		
47	FUNCTION1 PFK	27.09	6.781e4					1.1	NO		bb		
48	FUNCTION1 PFK	26.89	6.876e4					1.6	NO		bb		
49	FUNCTION1 PFK	26.80	5.058e4					1.6	NO		bb		
50	FUNCTION1 PFK	26.62	7.413e3					0.5	NO		db		
51	FUNCTION1 PFK	26.53	7.589e4					1.4	NO		dd		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.85	1.403e4					1.4	NO		bb		0.000

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.01	7.783e6					23.7	YES		dd		0.000
2	FUNCTION3 PFK	32.88	9.169e5					27.5	YES		dd		0.000
3	FUNCTION3 PFK	32.85	9.863e5					28.8	YES		dd		0.000
4	FUNCTION3 PFK	32.81	1.264e6					29.5	YES		dd		0.000
5	FUNCTION3 PFK	32.75	7.788e5					30.7	YES		dd		0.000
6	FUNCTION3 PFK	32.67	2.840e6					34.0	YES		bd		0.000
7	FUNCTION3 PFK	35.59	6.449e4					2.1	NO		dd		0.000
8	FUNCTION3 PFK	35.53	1.779e4					1.0	NO		bd		0.000
9	FUNCTION3 PFK	35.48	2.087e4					1.2	NO		bb		0.000
10	FUNCTION3 PFK	35.41	1.092e4					0.7	NO		bb		0.000
11	FUNCTION3 PFK	35.37	1.064e4					0.7	NO		bb		0.000
12	FUNCTION3 PFK	35.29	8.205e4					2.0	NO		bb		0.000
13	FUNCTION3 PFK	35.21	3.975e3					0.5	NO		bb		0.000
14	FUNCTION3 PFK	35.00	2.888e4					1.4	NO		db		0.000
15	FUNCTION3 PFK	34.96	1.601e4					0.8	NO		bd		0.000
16	FUNCTION3 PFK	34.89	7.327e4					1.5	NO		bb		0.000
17	FUNCTION3 PFK	34.45	1.429e4					0.9	NO		bb		0.000
18	FUNCTION3 PFK	34.37	8.429e4					1.7	NO		bb		0.000
19	FUNCTION3 PFK	34.21	2.012e4					1.0	NO		db		0.000
20	FUNCTION3 PFK	34.16	1.256e4					0.7	NO		bd		0.000
21	FUNCTION3 PFK	33.79	2.693e4					0.9	NO		bb		0.000
22	FUNCTION3 PFK	33.65	1.251e5					2.0	NO		db		0.000
23	FUNCTION3 PFK	37.46	4.002e4					1.5	NO		dd		0.000
24	FUNCTION3 PFK	37.43	1.823e4					1.2	NO		bd		0.000
25	FUNCTION3 PFK	37.20	1.493e4					0.7	NO		bb		0.000
26	FUNCTION3 PFK	37.08	5.227e3					0.6	NO		bb		0.000
27	FUNCTION3 PFK	37.04	4.983e3					0.5	NO		db		0.000
28	FUNCTION3 PFK	36.95	9.875e4					2.1	NO		bd		0.000
29	FUNCTION3 PFK	36.89	7.600e3					0.9	NO		bb		0.000
30	FUNCTION3 PFK	36.85	1.525e4					0.8	NO		db		0.000
31	FUNCTION3 PFK	36.77	1.939e4					0.9	NO		bd		0.000
32	FUNCTION3 PFK	36.70	1.915e4					1.1	NO		bb		0.000
33	FUNCTION3 PFK	36.57	4.814e3					0.4	NO		bb		0.000
34	FUNCTION3 PFK	36.37	3.520e3					0.4	NO		bb		0.000
35	FUNCTION3 PFK	35.89	9.707e3					0.6	NO		bb		0.000
36	FUNCTION3 PFK	35.77	2.145e4					1.1	NO		db		0.000
37	FUNCTION3 PFK	35.71	4.477e4					1.4	NO		bd		0.000

Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	35.63	2.324e4					1.4	NO		db		0.000
39	FUNCTION3 PFK	37.49	5.980e4					1.5	NO		db		0.000

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.76	8.996e3					0.9	NO		bb		
2	FUNCTION4 PFK	39.19	4.206e3					0.6	NO		db		
3	FUNCTION4 PFK	39.12	2.936e4					1.3	NO		bd		
4	FUNCTION4 PFK	38.99	1.486e4					1.1	NO		bb		
5	FUNCTION4 PFK	38.79	2.766e3					0.5	NO		bb		
6	FUNCTION4 PFK	38.65	3.231e4					1.7	NO		db		
7	FUNCTION4 PFK	38.61	1.927e4					1.5	NO		bd		
8	FUNCTION4 PFK	38.53	3.522e4					1.5	NO		bb		
9	FUNCTION4 PFK	38.23	1.012e4					0.7	NO		db		
10	FUNCTION4 PFK	38.12	5.430e4					2.0	NO		bd		
11	FUNCTION4 PFK	38.04	5.219e4					2.1	NO		db		
12	FUNCTION4 PFK	37.95	4.466e4					2.6	NO		dd		
13	FUNCTION4 PFK	37.91	2.126e4					1.9	NO		bd		
14	FUNCTION4 PFK	37.85	1.298e4					1.0	NO		bb		
15	FUNCTION4 PFK	40.78	4.265e4					2.7	NO		db		
16	FUNCTION4 PFK	40.72	2.035e4					1.3	NO		dd		
17	FUNCTION4 PFK	40.67	8.429e3					1.0	NO		bd		
18	FUNCTION4 PFK	40.57	1.661e4					1.8	NO		db		
19	FUNCTION4 PFK	40.54	4.509e4					2.4	NO		bd		
20	FUNCTION4 PFK	40.47	3.385e3					0.8	NO		bb		
21	FUNCTION4 PFK	40.39	6.137e3					0.6	NO		bb		
22	FUNCTION4 PFK	40.28	2.283e4					1.9	NO		bb		
23	FUNCTION4 PFK	40.20	8.726e3					0.8	NO		bb		
24	FUNCTION4 PFK	40.13	6.294e3					0.8	NO		bb		
25	FUNCTION4 PFK	40.09	8.720e3					0.8	NO		db		
26	FUNCTION4 PFK	40.03	2.220e4					1.4	NO		bd		
27	FUNCTION4 PFK	39.99	5.215e3					0.8	NO		db		
28	FUNCTION4 PFK	39.96	2.681e4					1.7	NO		dd		
29	FUNCTION4 PFK	39.89	2.427e4					1.4	NO		dd		
30	FUNCTION4 PFK	39.81	2.079e4					1.6	NO		bd		
31	FUNCTION4 PFK	42.31	1.016e4					1.0	NO		bb		
32	FUNCTION4 PFK	42.17	7.068e3					0.7	NO		bb		
33	FUNCTION4 PFK	42.02	2.868e4					1.4	NO		bb		
34	FUNCTION4 PFK	41.92	3.621e4					1.9	NO		bb		
35	FUNCTION4 PFK	41.77	1.967e3					0.4	NO		bb		
36	FUNCTION4 PFK	41.52	2.070e3					0.5	NO		bb		
37	FUNCTION4 PFK	41.47	2.761e4					1.4	NO		db		

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	41.40	1.729e4					1.4	NO		bd		
39	FUNCTION4 PFK	41.34	2.985e4					1.8	NO		db		
40	FUNCTION4 PFK	41.26	2.077e4					1.6	NO		dd		
41	FUNCTION4 PFK	41.21	3.432e4					1.9	NO		dd		
42	FUNCTION4 PFK	41.17	9.450e3					1.0	NO		dd		
43	FUNCTION4 PFK	41.11	1.268e4					1.4	NO		bd		
44	FUNCTION4 PFK	40.97	2.039e3					0.5	NO		bb		
45	FUNCTION4 PFK	40.93	1.121e4					1.6	NO		bb		
46	FUNCTION4 PFK	40.84	2.327e3					0.5	NO		bb		
47	FUNCTION4 PFK	42.70	1.335e3					0.3	NO		bb		
48	FUNCTION4 PFK	42.52	3.683e4					1.5	NO		bb		
49	FUNCTION4 PFK	42.43	2.432e4					1.7	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.68	2.713e4					2.3	NO		bb		
2	FUNCTION5 PFK	44.63	3.894e4					2.3	NO		bb		
3	FUNCTION5 PFK	44.13	7.444e3					0.7	NO		db		
4	FUNCTION5 PFK	44.04	3.156e4					2.0	NO		bd		
5	FUNCTION5 PFK	43.68	2.182e3					0.6	NO		bb		
6	FUNCTION5 PFK	42.95	7.553e3					1.2	NO		db		
7	FUNCTION5 PFK	42.92	6.122e3					0.9	NO		bd		
8	FUNCTION5 PFK	42.88	2.178e4					1.7	NO		bb		

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.59	7.138e1					1.4	NO		bb		0.000
2	FUNCTION1 HXCD...	21.33	1.000e2					1.3	NO		db		0.000
3	FUNCTION1 HXCD...	21.10	4.139e2					3.5	YES		bd		0.000
4	FUNCTION1 HXCD...	27.58	1.695e2					3.0	YES		bb		0.000
5	FUNCTION1 HXCD...	27.03	3.219e2					3.2	YES		bb		0.000
6	FUNCTION1 HXCD...	25.65	2.069e2					3.0	NO		bb		0.000
7	FUNCTION1 HXCD...	24.79	1.674e2					3.2	YES		db		0.000
8	FUNCTION1 HXCD...	24.73	2.092e2					3.6	YES		bd		0.000
9	FUNCTION1 HXCD...	23.93	9.598e1					1.7	NO		bb		0.000
10	FUNCTION1 HXCD...	22.87	7.158e1					1.5	NO		bb		0.000
11	FUNCTION1 HXCD...	22.43	1.167e2					1.9	NO		db		0.000
12	FUNCTION1 HXCD...	22.36	8.047e1					1.5	NO		bd		0.000
13	FUNCTION1 HXCD...	21.97	1.028e2					0.8	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.98	1.022e2					2.1	NO		bb		0.000
2	FUNCTION1 HPCD...	22.59	8.983e1					1.5	NO		bb		0.000
3	FUNCTION1 HPCD...	22.36	8.747e1					2.0	NO		bb		0.000
4	FUNCTION1 HPCD...	21.53	7.248e1					1.3	NO		bb		0.000
5	FUNCTION1 HPCD...	21.13	8.355e1					1.4	NO		bb		0.000
6	FUNCTION1 HPCD...	27.51	1.422e2					3.6	YES		bb		0.000
7	FUNCTION1 HPCD...	27.02	8.162e1					1.5	NO		bb		0.000
8	FUNCTION1 HPCD...	26.44	1.173e2					2.5	NO		db		0.000
9	FUNCTION1 HPCD...	26.40	7.265e1					2.1	NO		dd		0.000
10	FUNCTION1 HPCD...	26.34	1.188e2					2.4	NO		dd		0.000
11	FUNCTION1 HPCD...	26.29	1.274e2					2.4	NO		bd		0.000
12	FUNCTION1 HPCD...	25.73	7.017e1					1.4	NO		db		0.000
13	FUNCTION1 HPCD...	25.64	8.937e1					1.9	NO		bd		0.000
14	FUNCTION1 HPCD...	25.47	1.517e2					2.6	NO		db		0.000
15	FUNCTION1 HPCD...	25.35	1.256e2					1.7	NO		bd		0.000
16	FUNCTION1 HPCD...	24.43	1.810e2					3.6	YES		db		0.000
17	FUNCTION1 HPCD...	24.29	2.180e2					4.2	YES		bd		0.000
18	FUNCTION1 HPCD...	23.75	1.061e2					1.8	NO		db		0.000
19	FUNCTION1 HPCD...	23.64	9.229e1					1.2	NO		bd		0.000
20	FUNCTION1 HPCD...	23.24	7.719e1					1.6	NO		bb		0.000

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.94	8.628e1					2.0	NO		db		0.000
2	FUNCTION2 HPCD...	31.83	1.344e2					1.6	NO		bd		0.000
3	FUNCTION2 HPCD...	31.41	2.117e2					3.2	YES		bb		0.000
4	FUNCTION2 HPCD...	31.17	1.613e2					2.6	NO		db		0.000
5	FUNCTION2 HPCD...	31.08	2.279e2					6.5	YES		dd		0.000
6	FUNCTION2 HPCD...	31.04	3.363e2					6.2	YES		bd		0.000
7	FUNCTION2 HPCD...	29.94	9.143e1					1.8	NO		bb		0.000
8	FUNCTION2 HPCD...	29.84	2.839e2					3.8	YES		bb		0.000
9	FUNCTION2 HPCD...	28.51	2.158e2					2.0	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	35.23	1.310e2					2.6	NO		db		0.000
2	FUNCTION3 OCDPE	35.12	7.107e1					1.5	NO		bd		0.000
3	FUNCTION3 OCDPE	34.95	1.507e2					4.9	YES		bb		0.000
4	FUNCTION3 OCDPE	33.33	1.299e2					2.4	NO		bb		0.000
5	FUNCTION3 OCDPE	32.80	1.182e2					2.0	NO		db		0.000
6	FUNCTION3 OCDPE	32.68	1.291e2					2.2	NO		bd		0.000
7	FUNCTION3 OCDPE	37.09	1.175e2					2.2	NO		bb		0.000
8	FUNCTION3 OCDPE	37.00	1.454e2					5.6	YES		bb		0.000
9	FUNCTION3 OCDPE	36.87	1.897e2					2.2	NO		bb		0.000
10	FUNCTION3 OCDPE	36.42	2.617e2					4.4	YES		bb		0.000
11	FUNCTION3 OCDPE	36.03	2.699e2					4.4	YES		db		0.000
12	FUNCTION3 OCDPE	35.98	8.747e1					2.8	NO		dd		0.000
13	FUNCTION3 OCDPE	35.92	2.421e2					4.1	YES		bd		0.000

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.10	1.342e2					2.3	NO		db		0.000
2	FUNCTION4 NCDPE	41.98	1.389e2					1.8	NO		bd		0.000
3	FUNCTION4 NCDPE	41.62	7.171e1					1.6	NO		bb		0.000
4	FUNCTION4 NCDPE	41.16	1.127e2					1.2	NO		bb		0.000
5	FUNCTION4 NCDPE	40.50	1.801e2					3.0	NO		bb		0.000
6	FUNCTION4 NCDPE	40.30	7.660e1					1.3	NO		bb		0.000
7	FUNCTION4 NCDPE	39.49	7.809e1					1.2	NO		bb		0.000
8	FUNCTION4 NCDPE	38.49	1.017e2					1.0	NO		bb		0.000
9	FUNCTION4 NCDPE	42.59	1.744e2					2.8	NO		bb		0.000

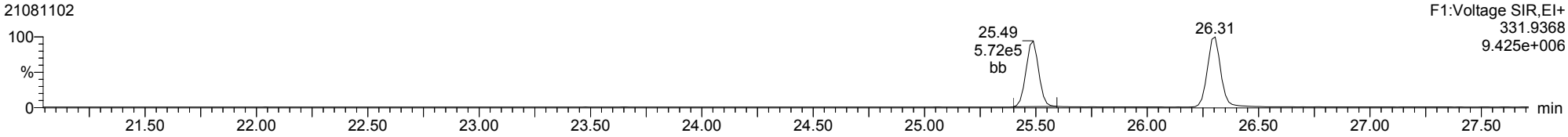
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.94	7.613e1					1.8	NO		bb		0.000
2	FUNCTION5 DCDPE	44.94	7.585e1					2.3	NO		db		0.000
3	FUNCTION5 DCDPE	44.89	9.293e1					2.2	NO		bd		0.000
4	FUNCTION5 DCDPE	43.04	1.111e2					2.7	NO		bb		0.000

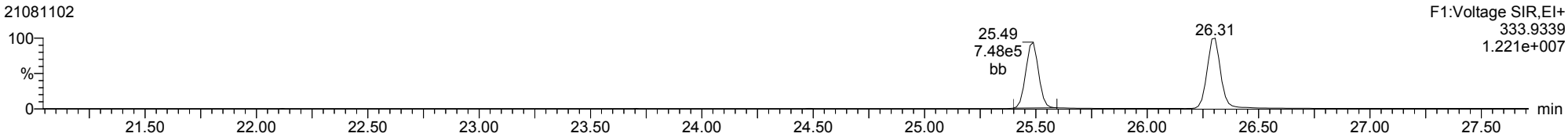
Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

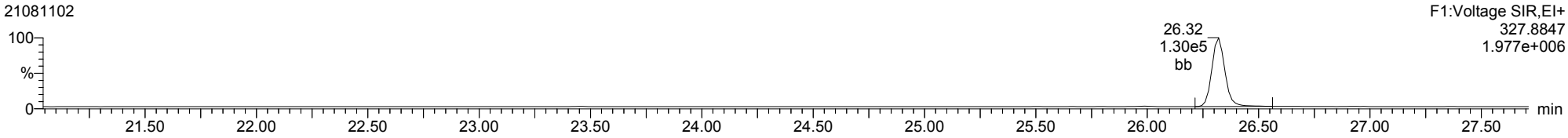
13C-1234-TCDD



13C-1234-TCDD

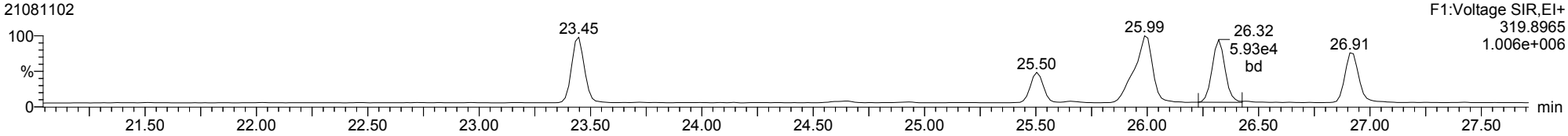


37CL-2378-TCDD

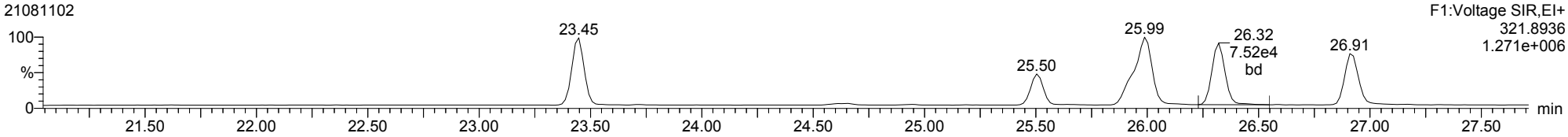


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

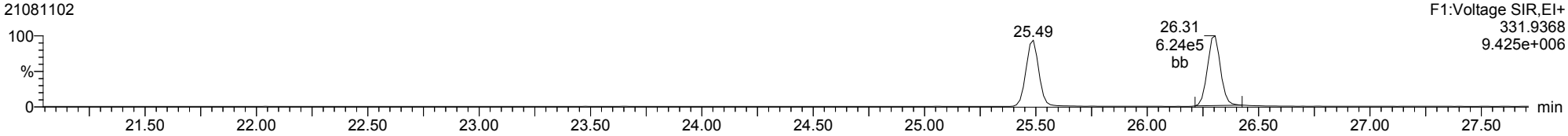
2378-TCDD



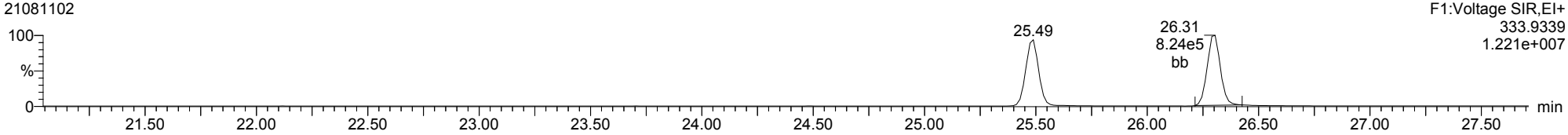
2378-TCDD



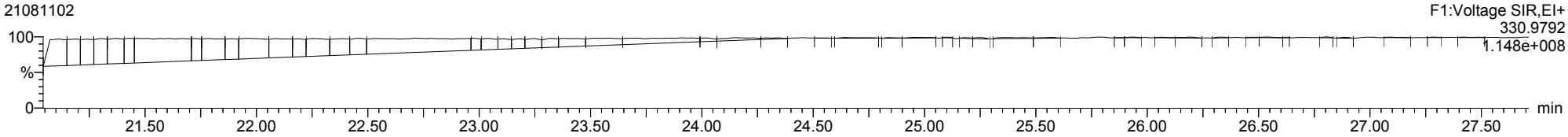
13C-2378-TCDD



13C-2378-TCDD

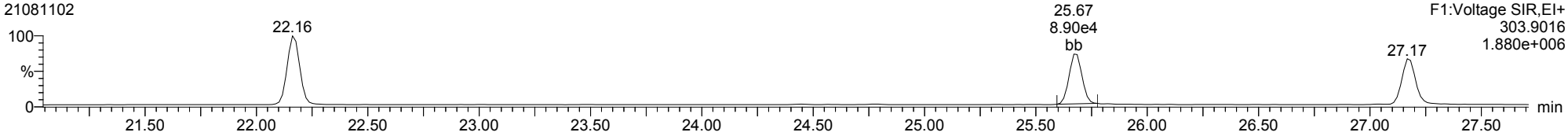


FUNCTION1 PFK

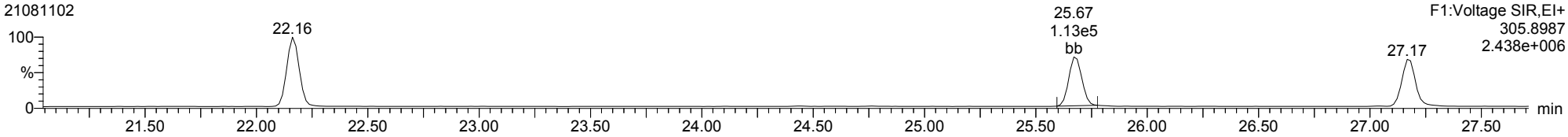


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

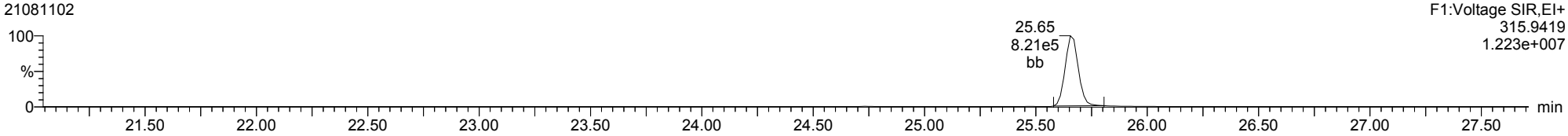
2378-TCDF



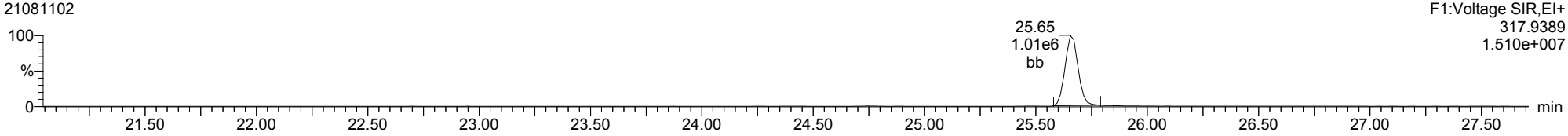
2378-TCDF



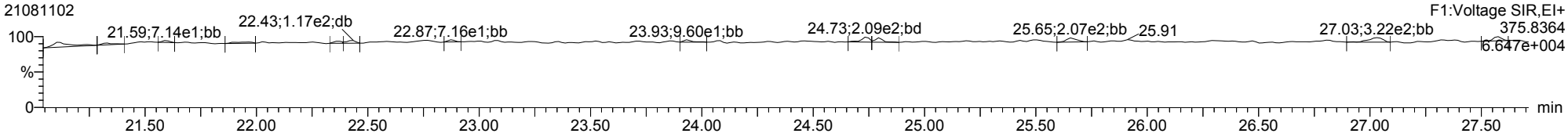
13C-2378-TCDF



13C-2378-TCDF

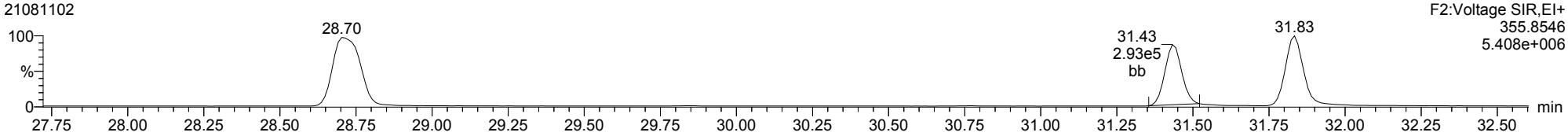


FUNCTION1 HXCDPE

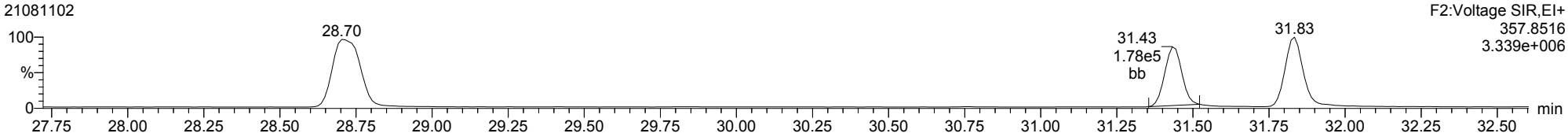


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

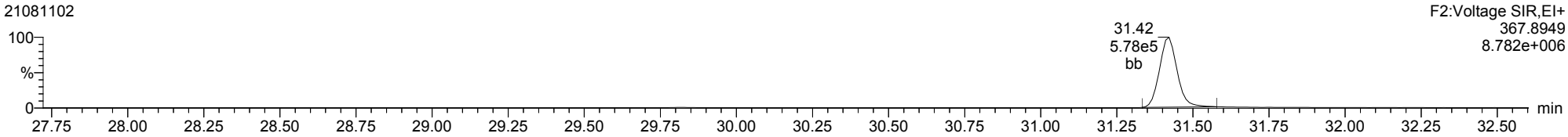
12378-PeCDD



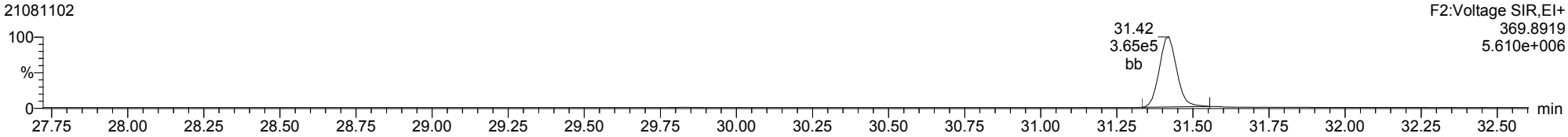
12378-PeCDD



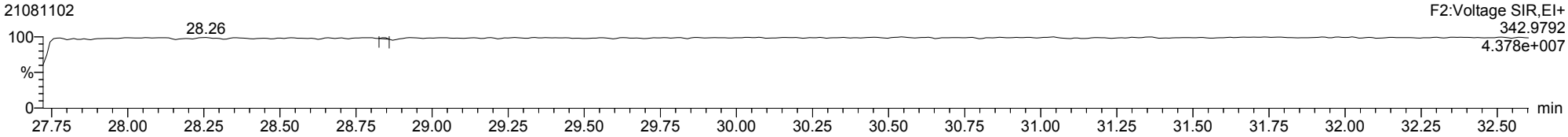
13C-12378-PeCDD



13C-12378-PeCDD

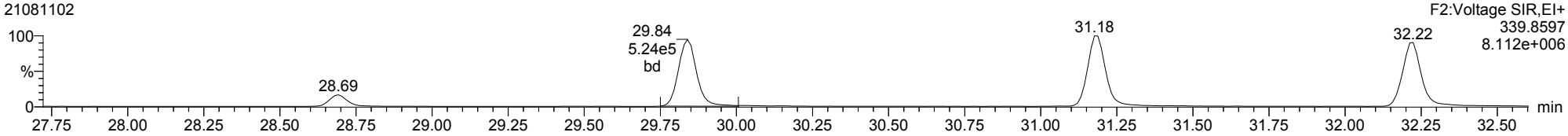


FUNCTION2 PFK

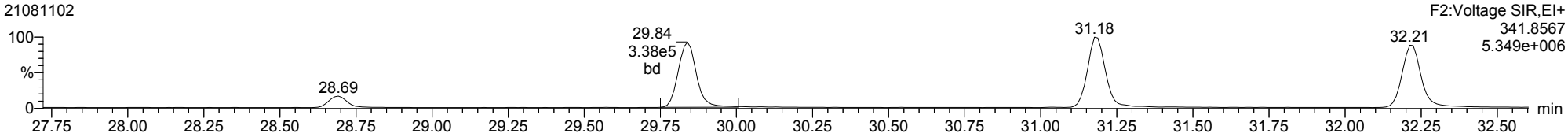


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

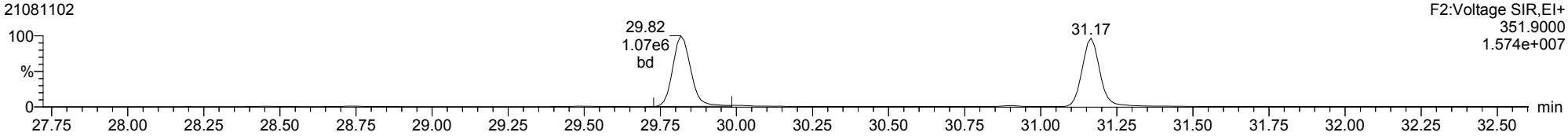
12378-PeCDF



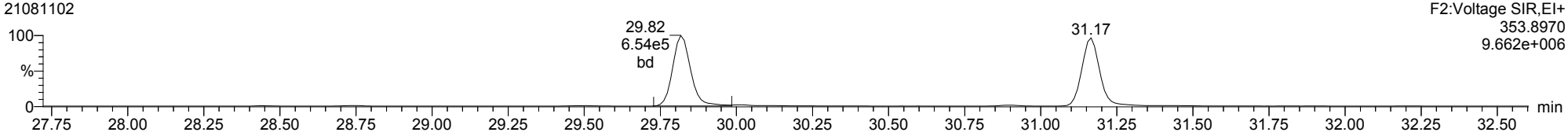
12378-PeCDF



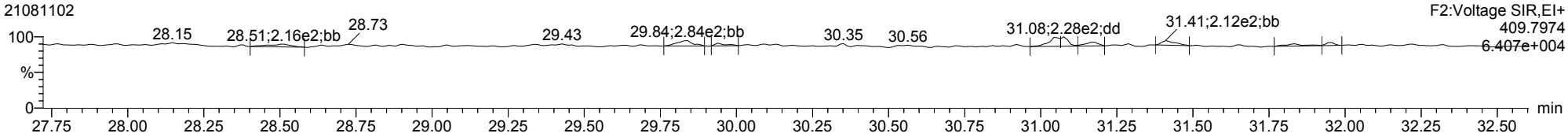
13C-12378-PeCDF



13C-12378-PeCDF

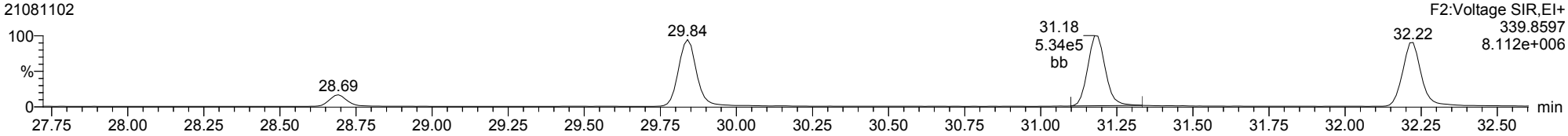


FUNCTION2 HPCDPE

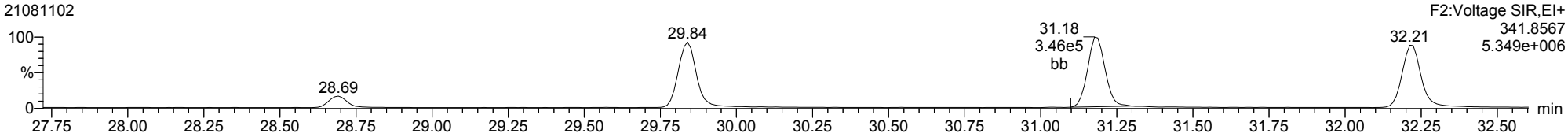


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

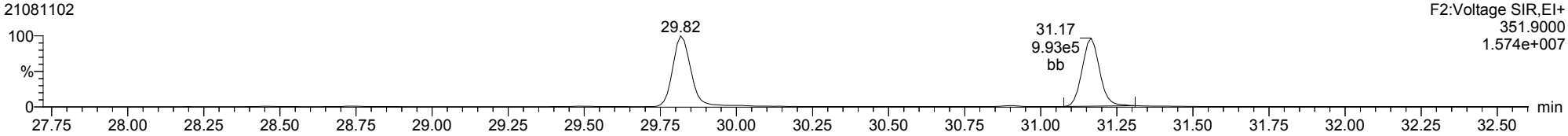
23478-PeCDF



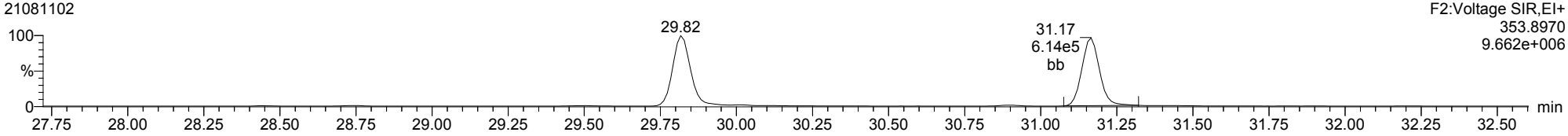
23478-PeCDF



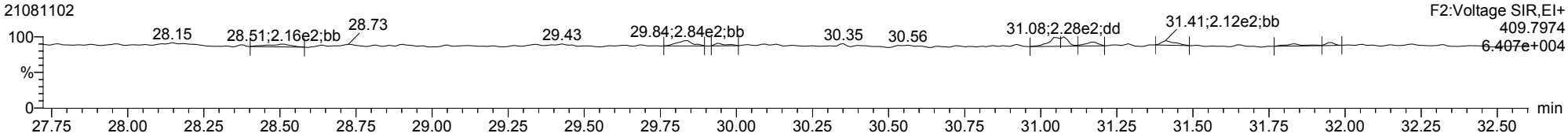
13C-23478-PeCDF



13C-23478-PeCDF

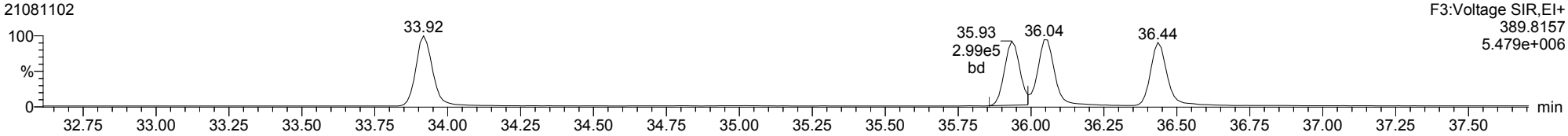


FUNCTION2 HPCDPE

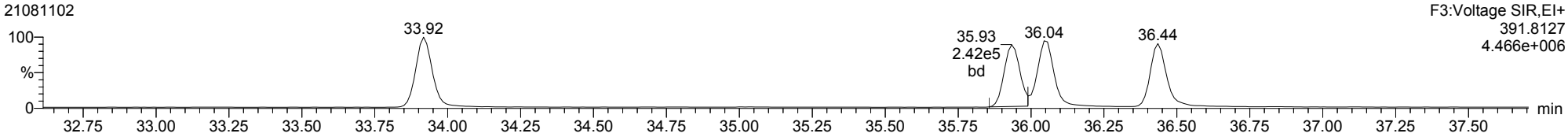


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

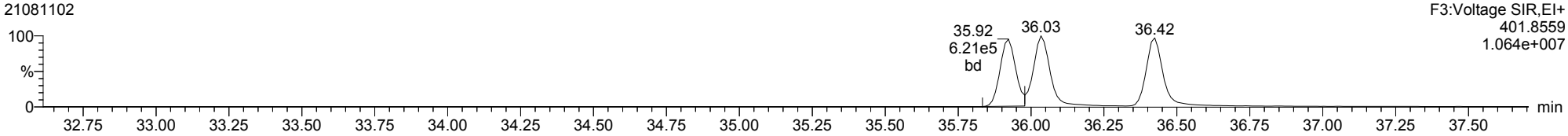
123478-HxCDD



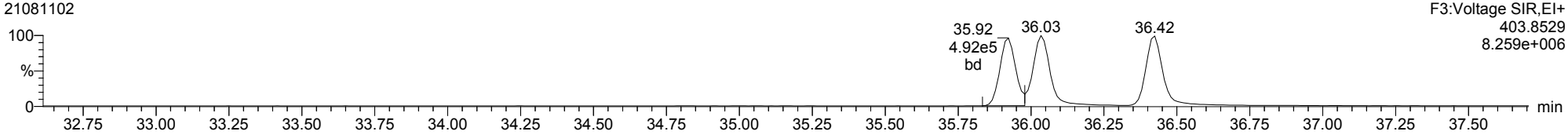
123478-HxCDD



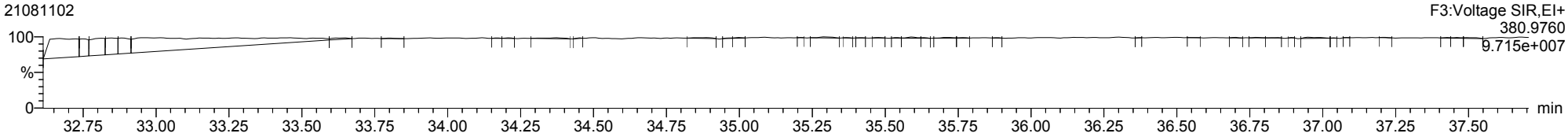
13C-123478-HxCDD



13C-123478-HxCDD

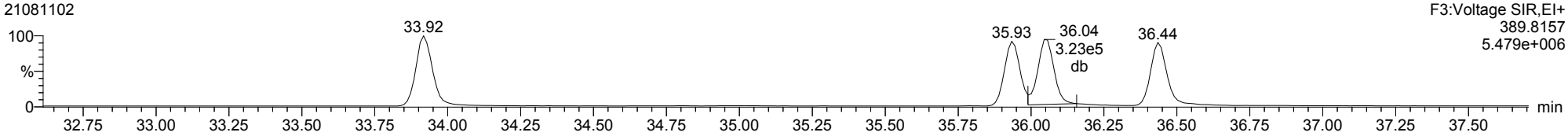


FUNCTION3 PFK

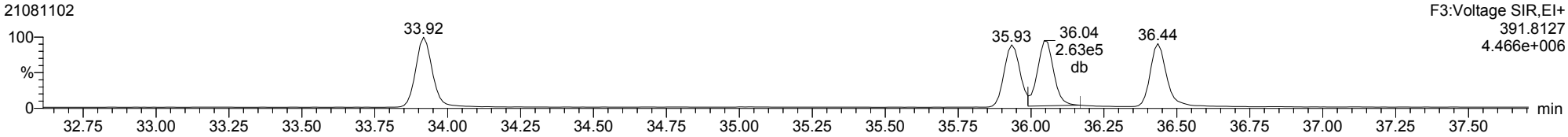


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

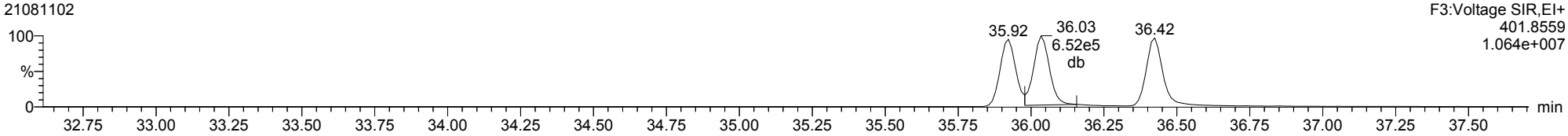
123678-HxCDD



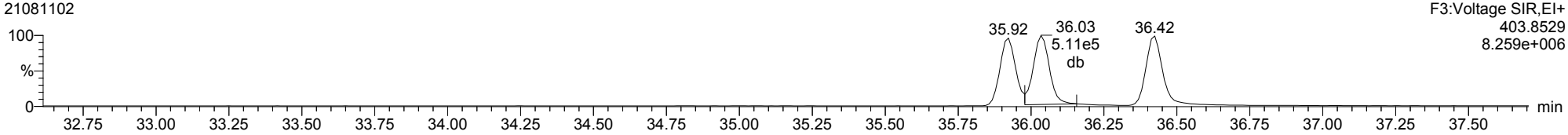
123678-HxCDD



13C-123678-HxCDD

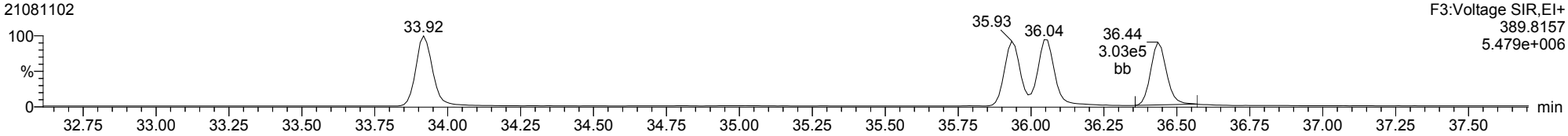


13C-123678-HxCDD

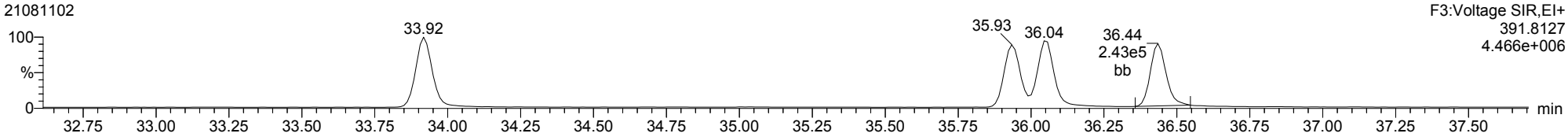


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

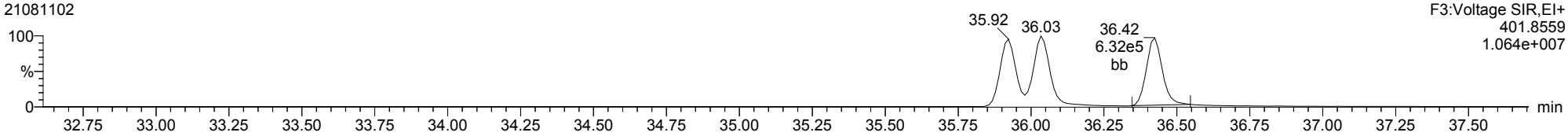
123789-HxCDD



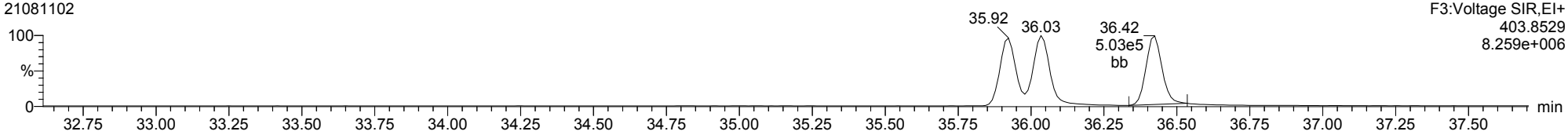
123789-HxCDD



13C-123789-HxCDD



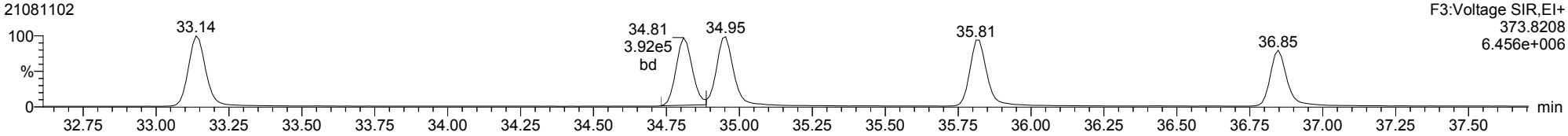
13C-123789-HxCDD



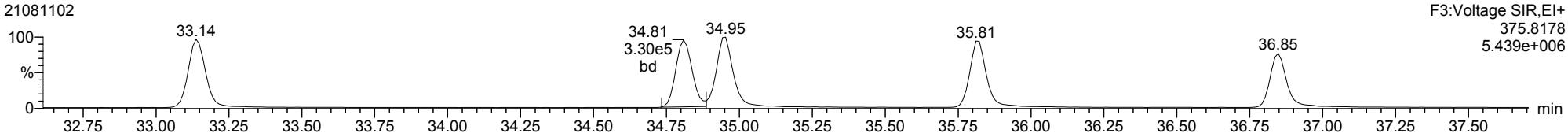
Dataset: T:\Autospec\Processed Data Batch\210811OPIH.qld
Last Altered: Friday, August 13, 2021 13:46:19 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:18 Pacific Daylight Time

ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

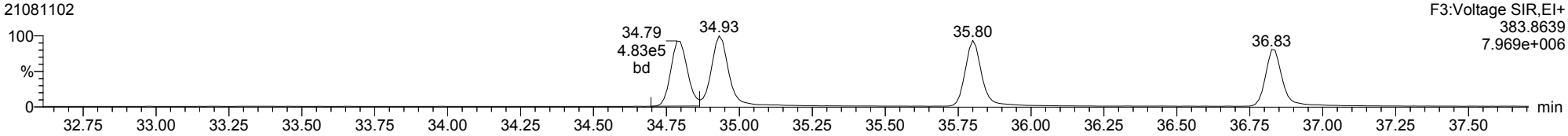
123478-HxCDF



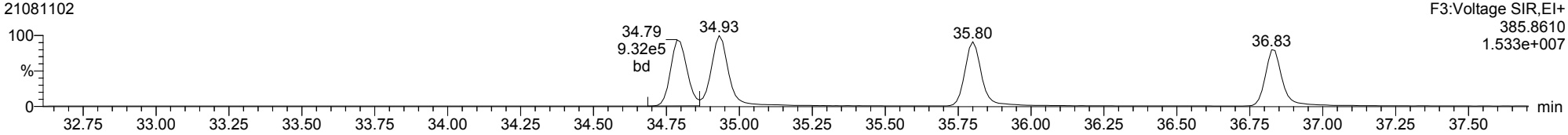
123478-HxCDF



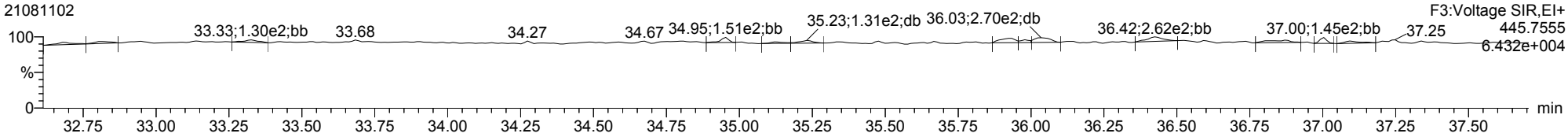
13C-123478-HxCDF



13C-123478-HxCDF

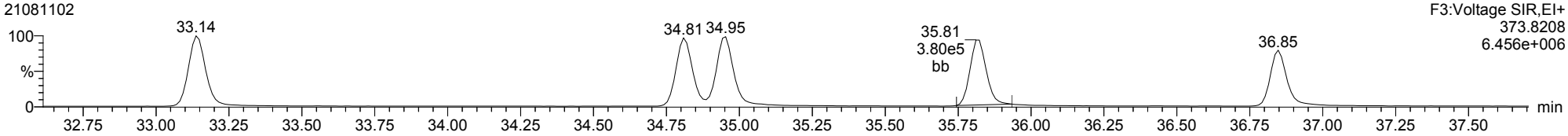


FUNCTION3 OCDPE

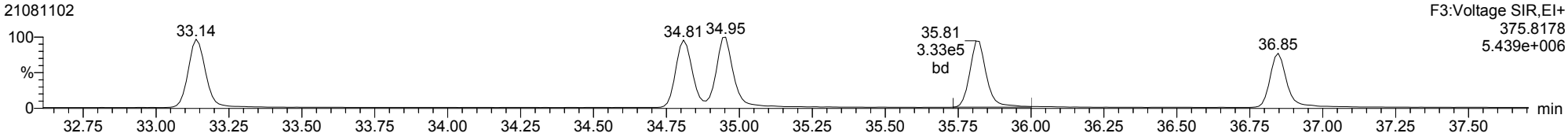


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

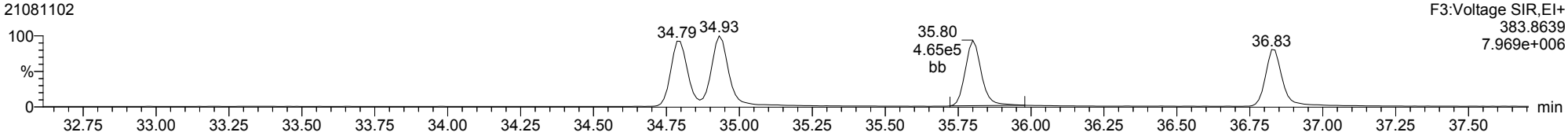
234678-HxCDF



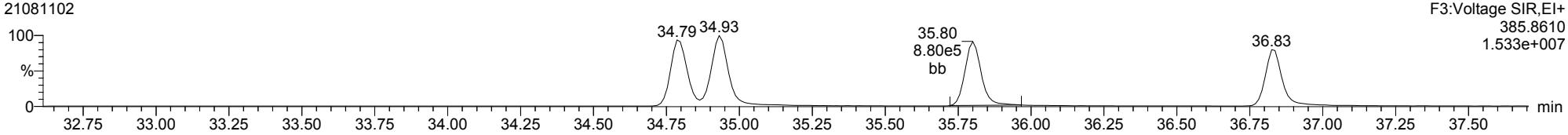
234678-HxCDF



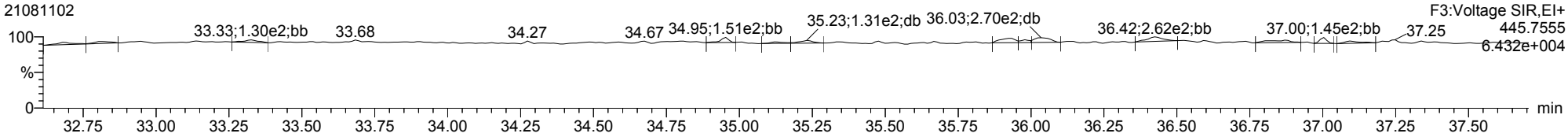
13C-234678-HxCDF



13C-234678-HxCDF

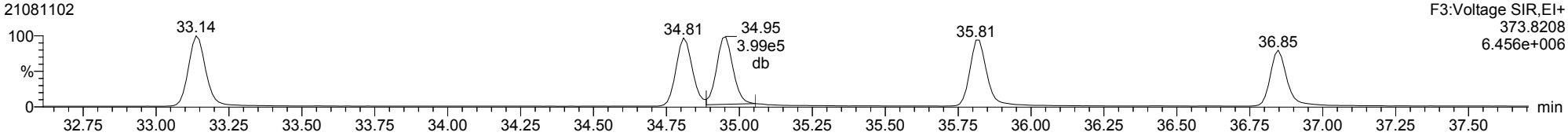


FUNCTION3 OCDPE

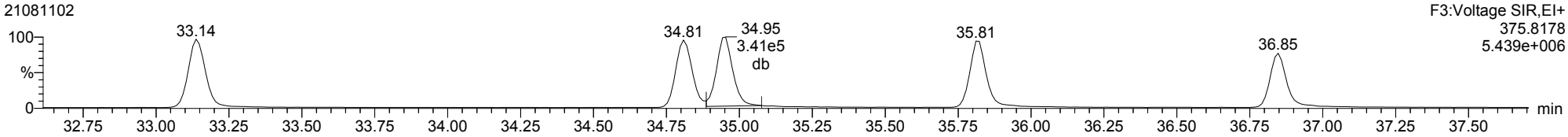


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

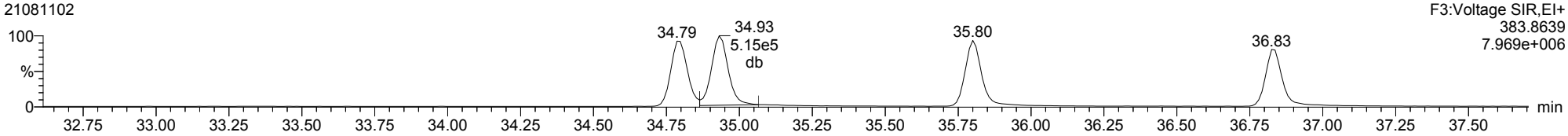
123678-HxCDF



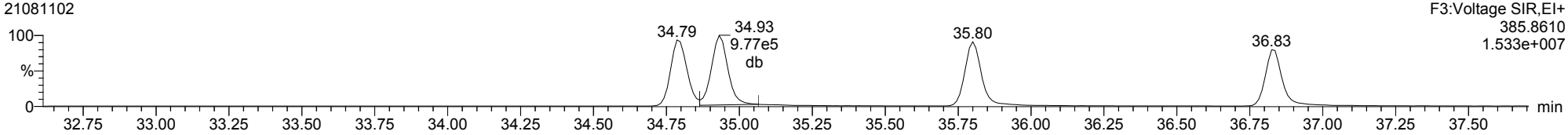
123678-HxCDF



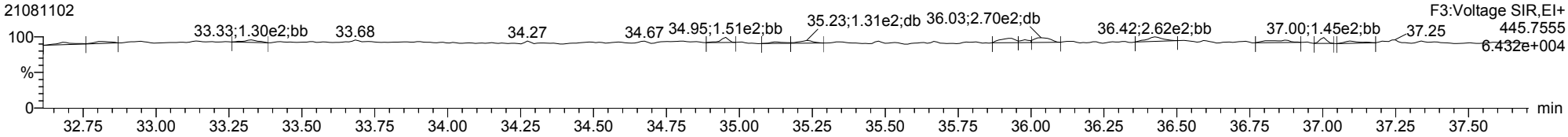
13C-123678-HxCDF



13C-123678-HxCDF

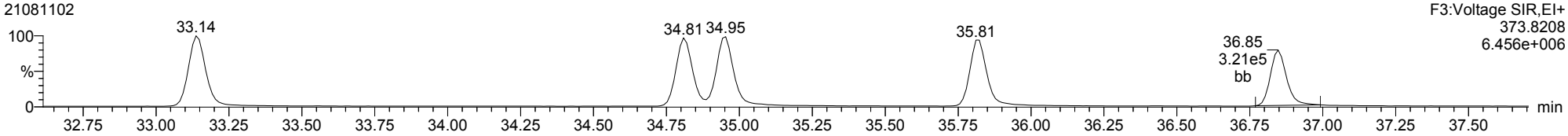


FUNCTION3 OCDPE

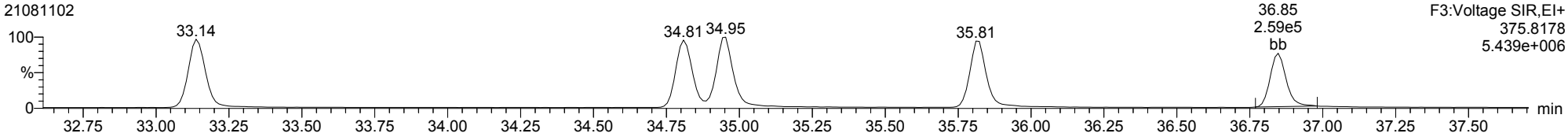


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

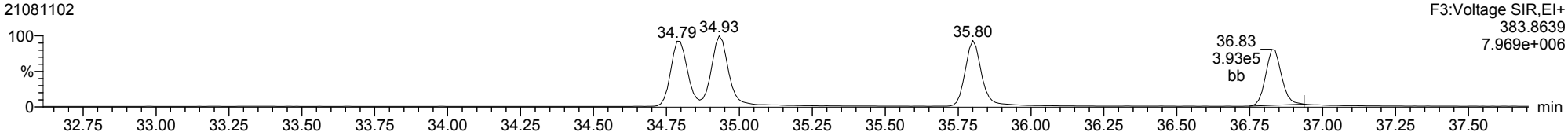
123789-HxCDF



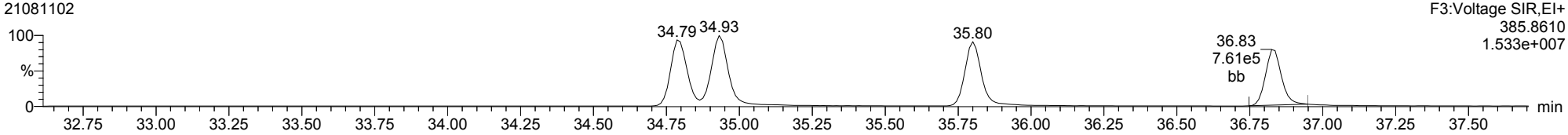
123789-HxCDF



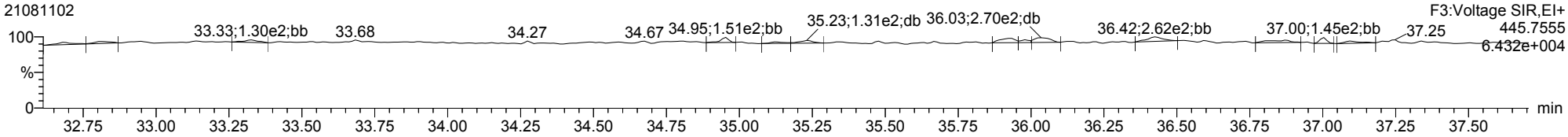
13C-123789-HxCDF



13C-123789-HxCDF

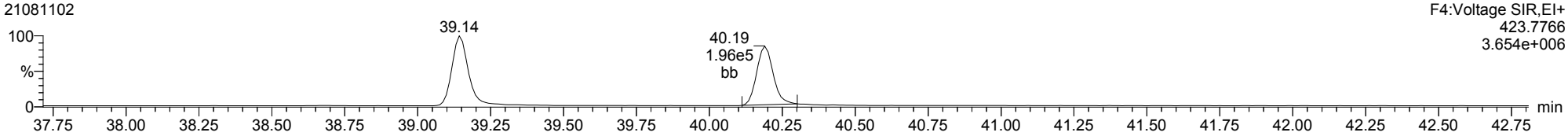


FUNCTION3 OCDPE

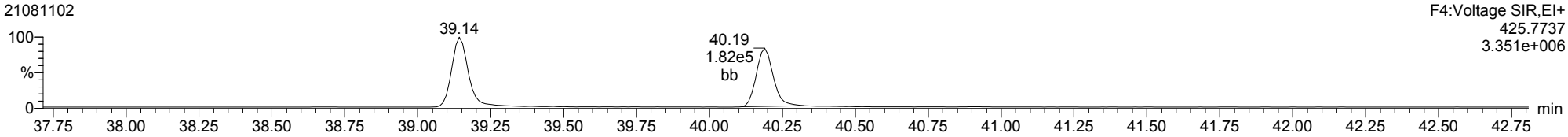


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

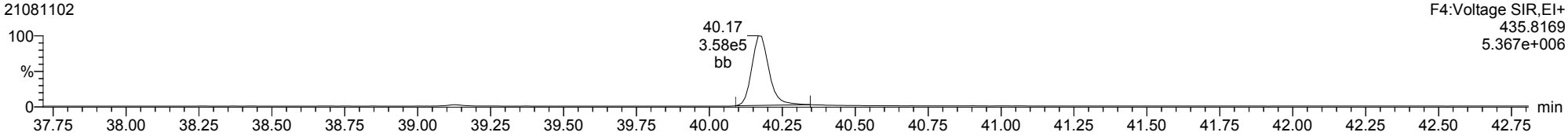
1234678-HpCDD



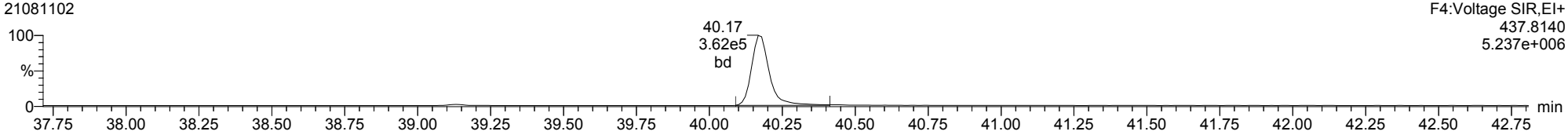
1234678-HpCDD



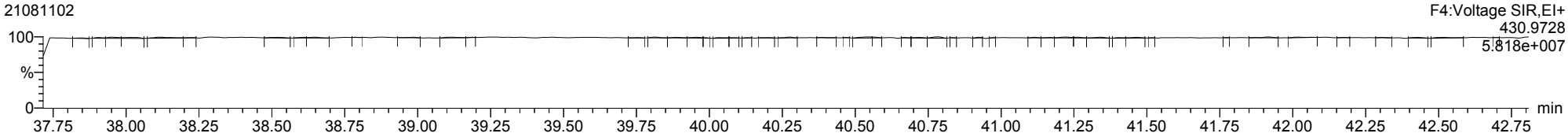
13C-1234678-HpCDD



13C-1234678-HpCDD

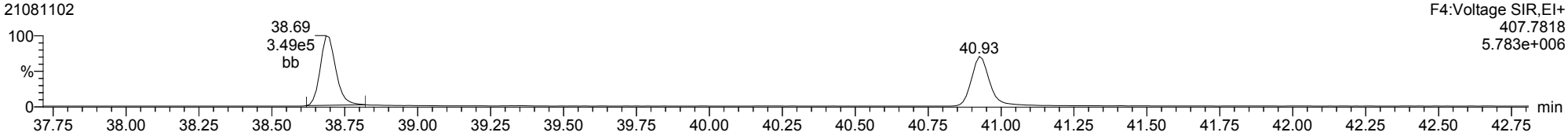


FUNCTION4 PFK

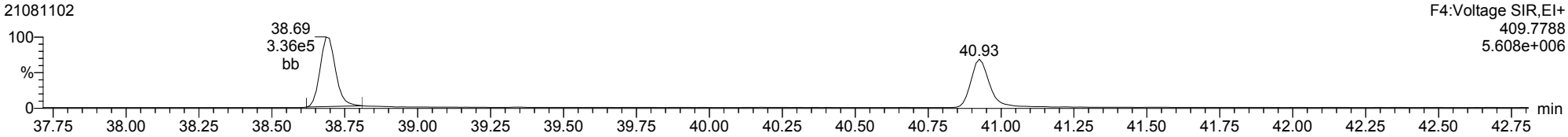


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

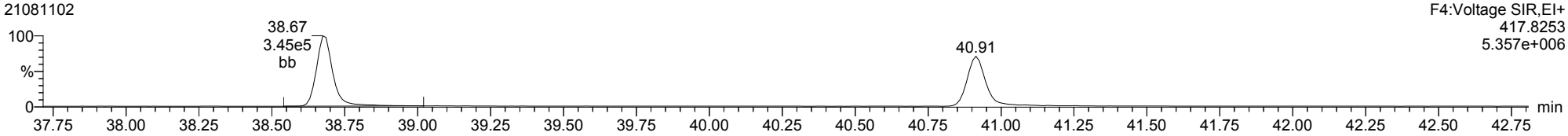
1234678-HpCDF



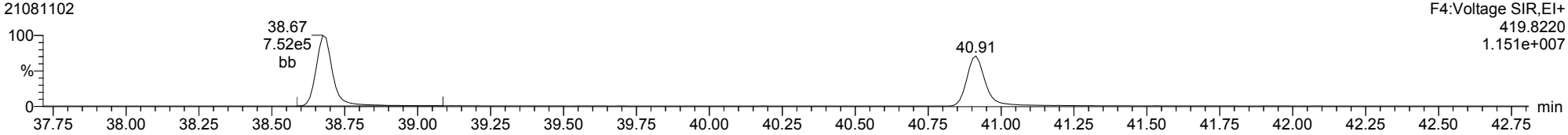
1234678-HpCDF



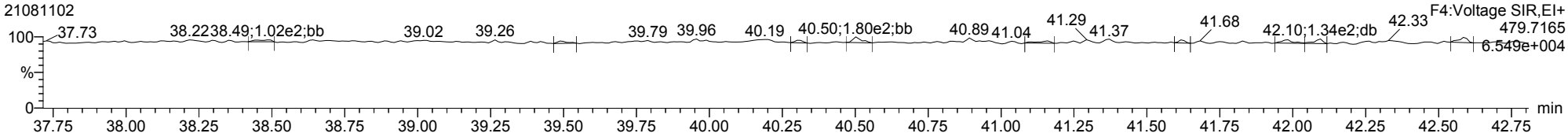
13C-1234678-HpCDF



13C-1234678-HpCDF

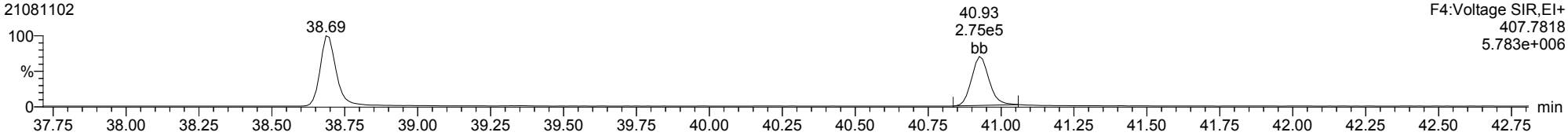


FUNCTION4 NCDPE

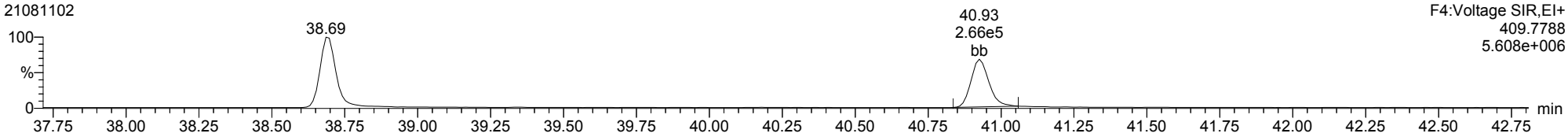


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

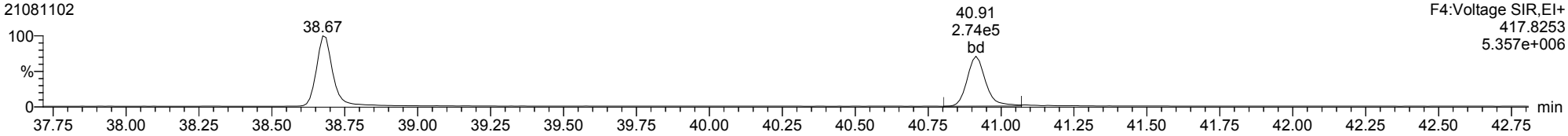
1234789-HpCDF



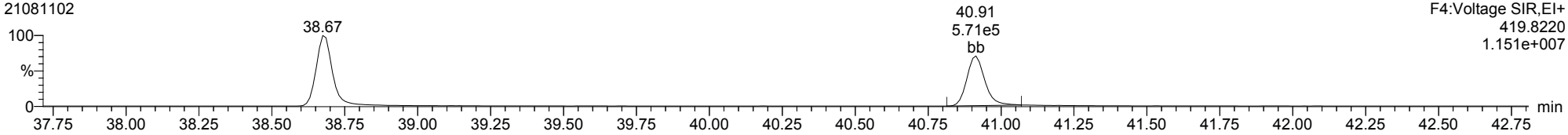
1234789-HpCDF



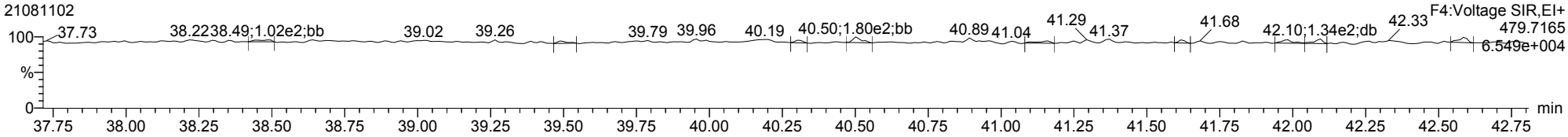
13C-1234789-HpCDF



13C-1234789-HpCDF

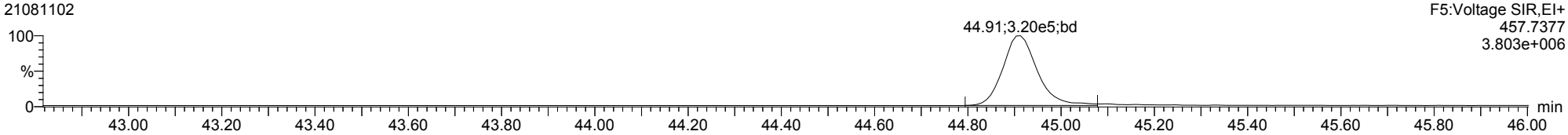


FUNCTION4 NCDPE

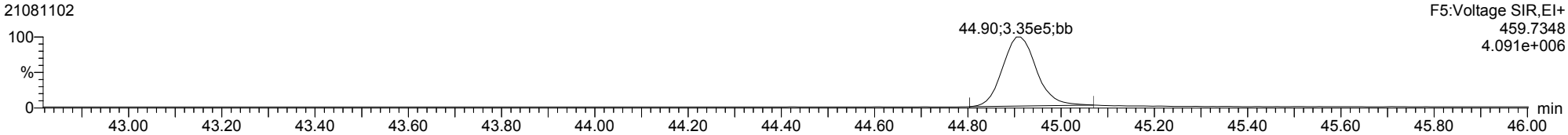


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

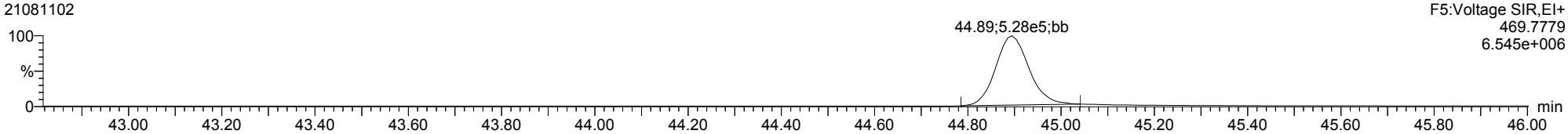
OCDD



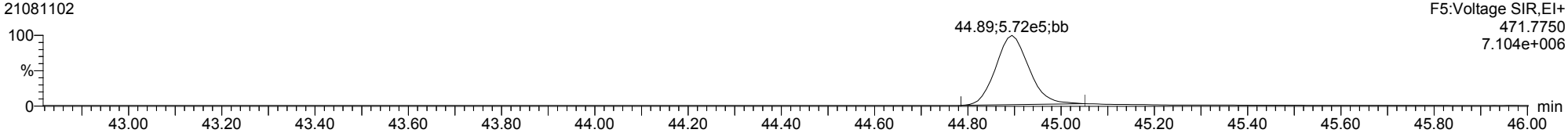
OCDD



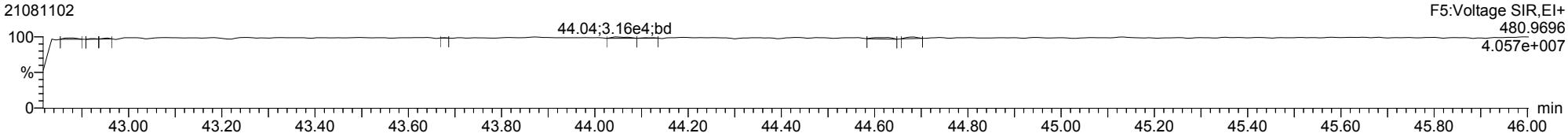
13C-OCDD



13C-OCDD

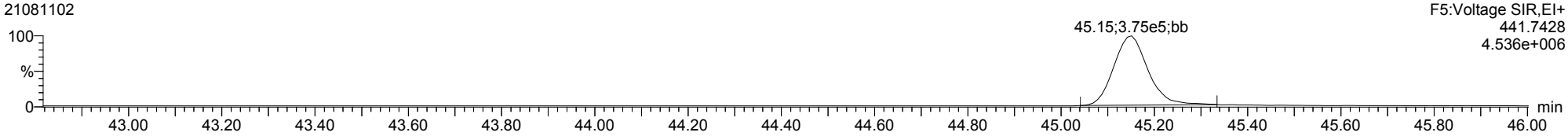


FUNCTION5 PFK

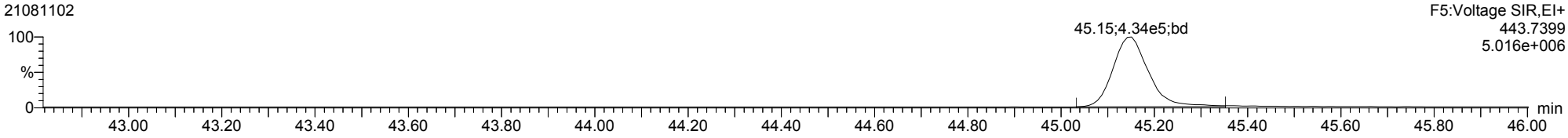


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

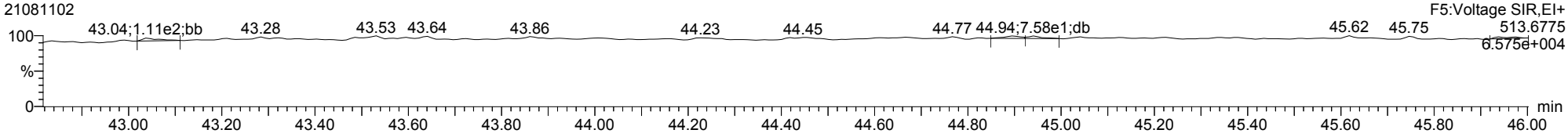
OCDF



OCDF

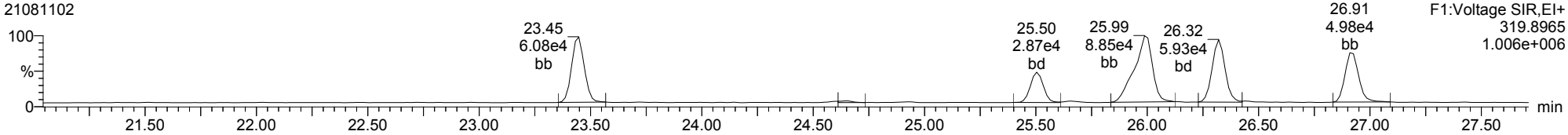


FUNCTION5 DCDPE

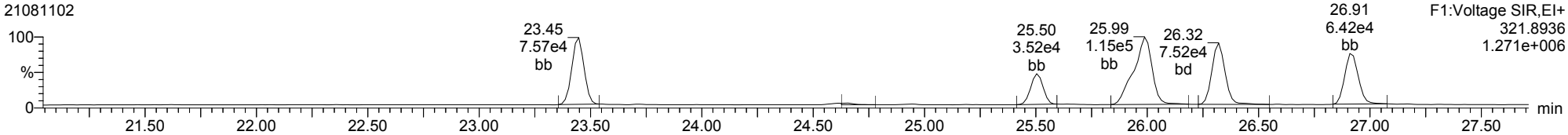


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

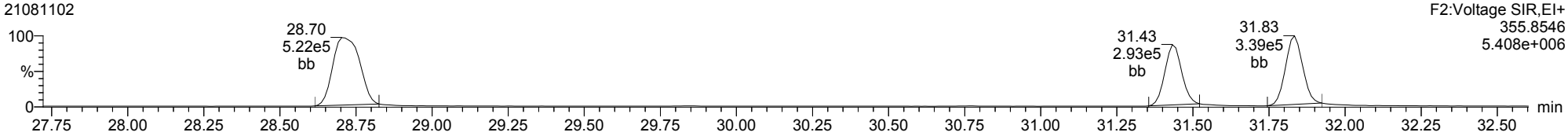
Total-tetradioxins



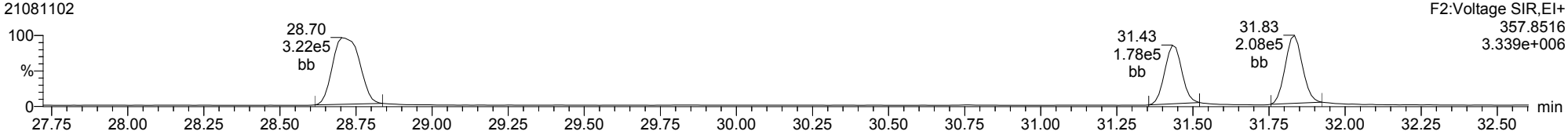
Total-tetradioxins



Total-pentadioxins

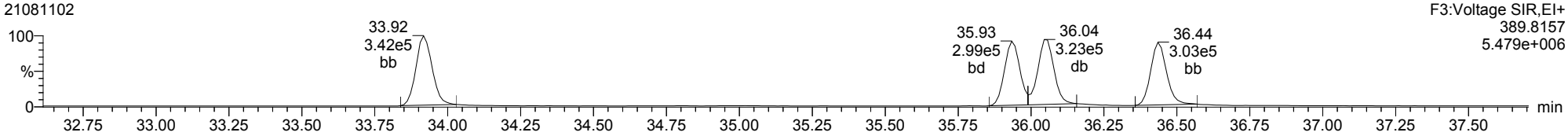


Total-pentadioxins

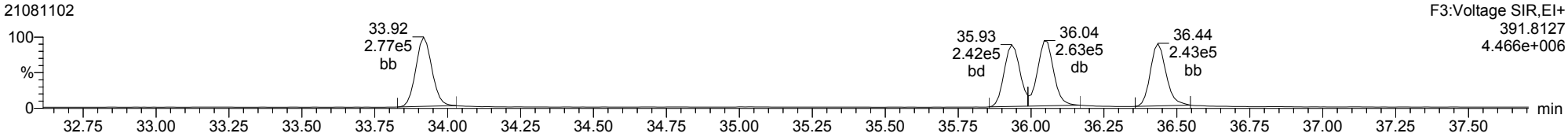


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

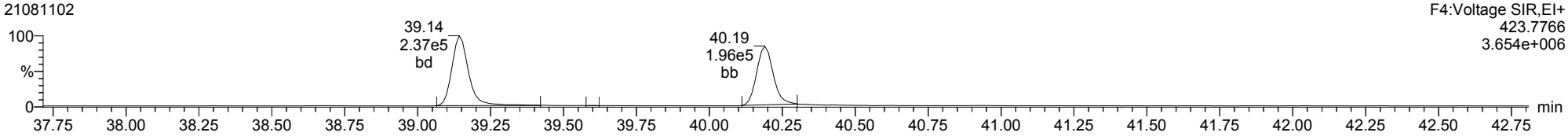
Total-hexadioxins



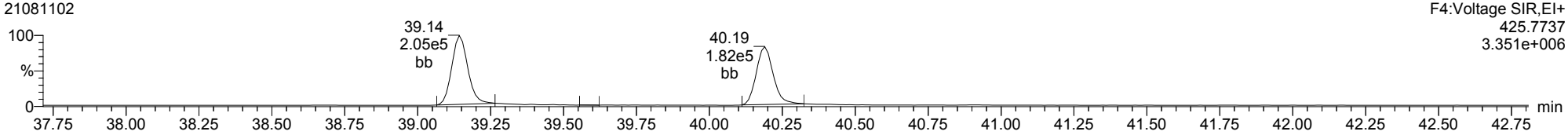
Total-hexadioxins



Total-heptadioxins

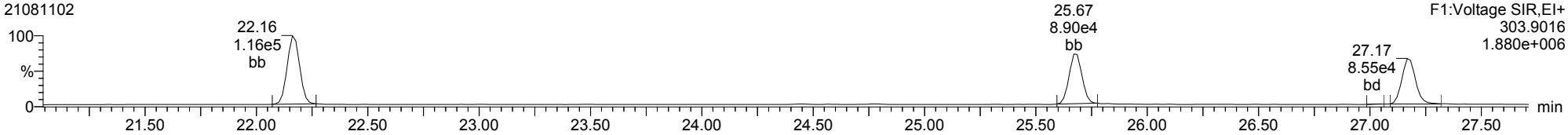


Total-heptadioxins

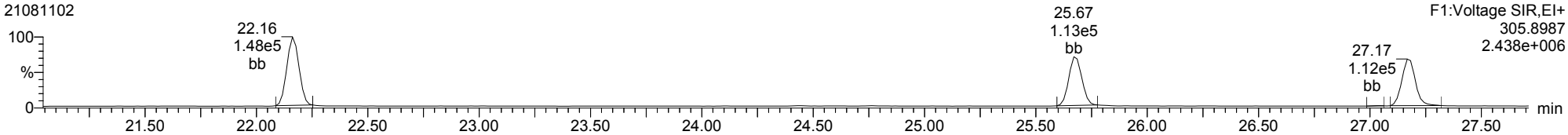


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

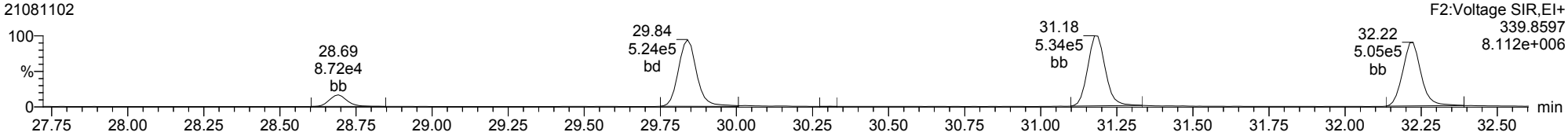
Total-tetrafurans



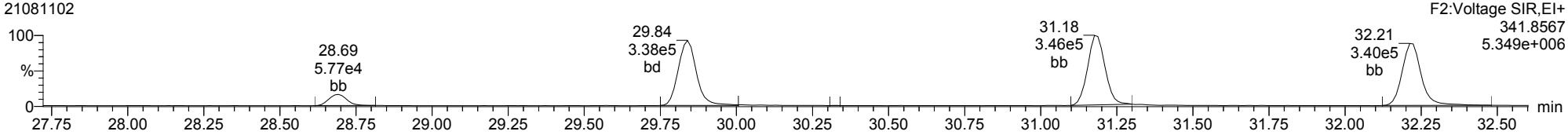
Total-tetrafurans



Total-pentafurans

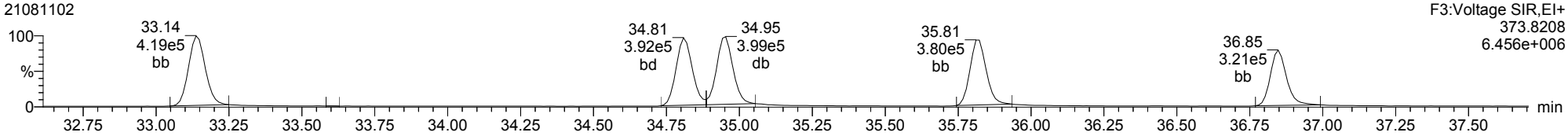


Total-pentafurans

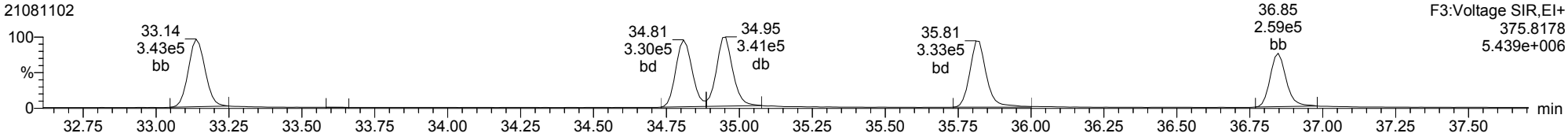


ID: CS3Z1, Name: 21081102, Date: 11-Aug-2021, Time: 15:52:29, Conditions: AUTOSPEC01, User: pk

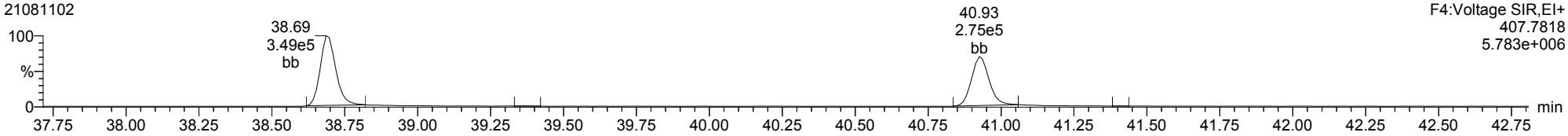
Total-hexafurans



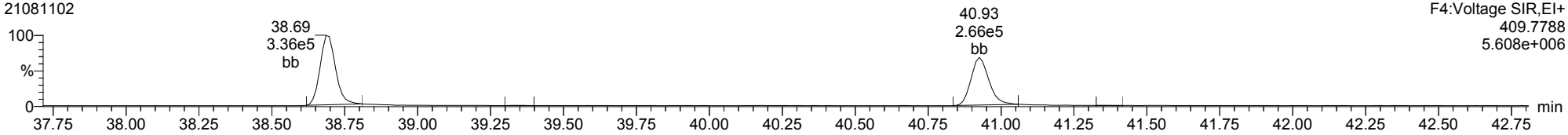
Total-hexafurans



Total-heptafurans

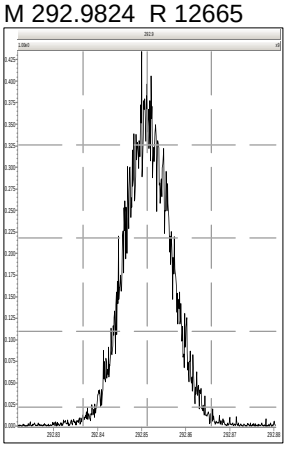


Total-heptafurans

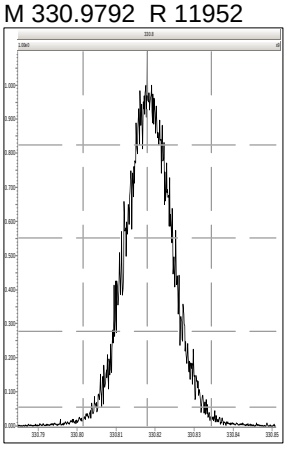


Printed: Wednesday, August 11, 2021 15:47:11 Pacific Daylight Time

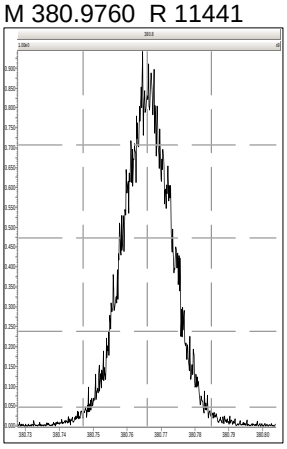
M 292.9824 R 12665



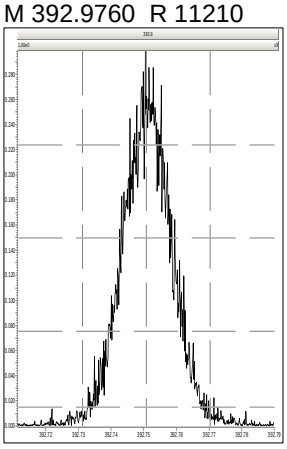
M 330.9792 R 11952



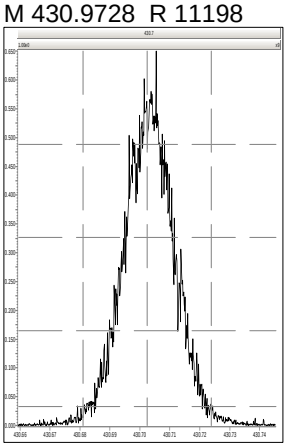
M 380.9760 R 11441



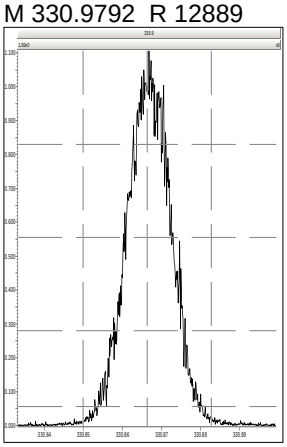
M 392.9760 R 11210



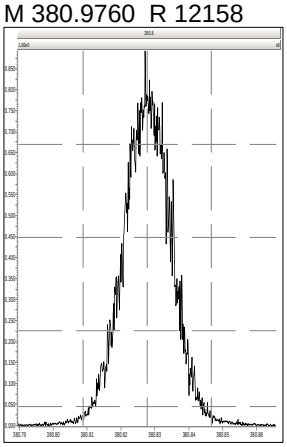
M 430.9728 R 11198



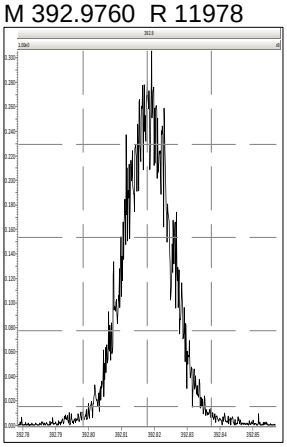
M 330.9792 R 12889



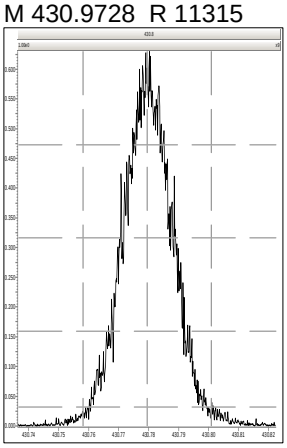
M 380.9760 R 12158



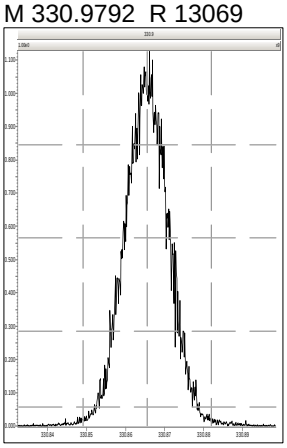
M 392.9760 R 11978



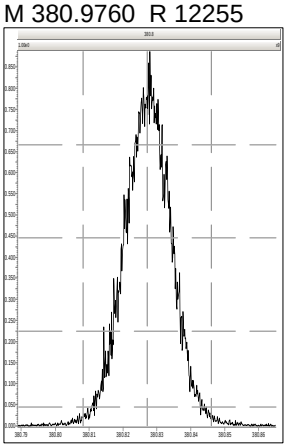
M 430.9728 R 11315



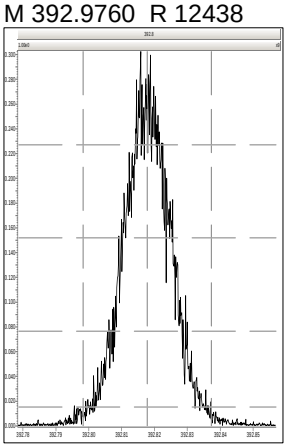
M 330.9792 R 13069



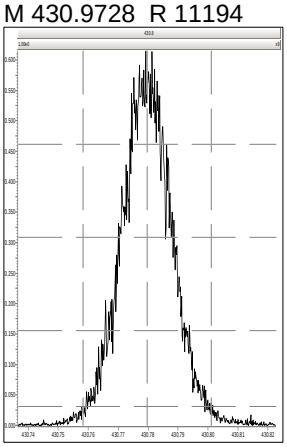
M 380.9760 R 12255



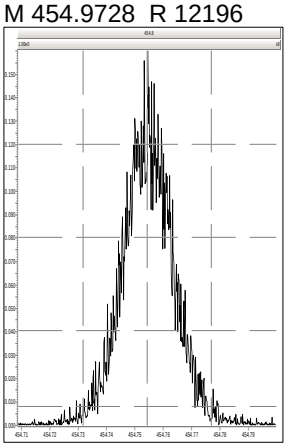
M 392.9760 R 12438



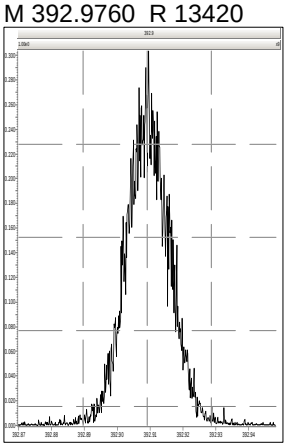
M 430.9728 R 11194



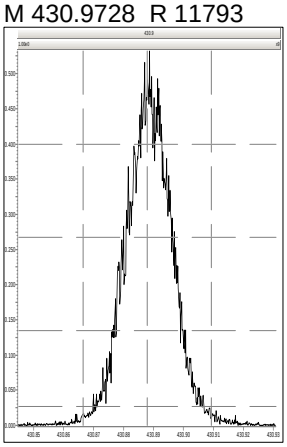
M 454.9728 R 12196



M 392.9760 R 13420

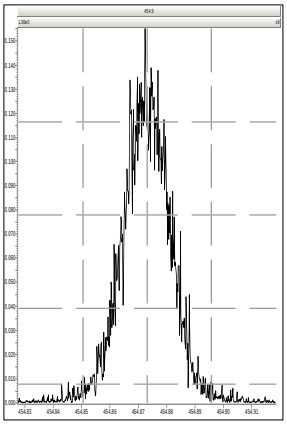


M 430.9728 R 11793

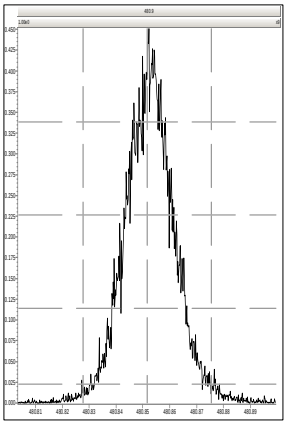


Printed: Wednesday, August 11, 2021 15:47:11 Pacific Daylight Time

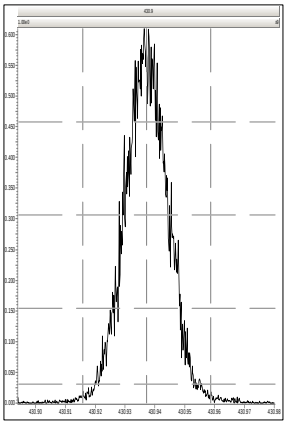
M 454.9728 R 12079



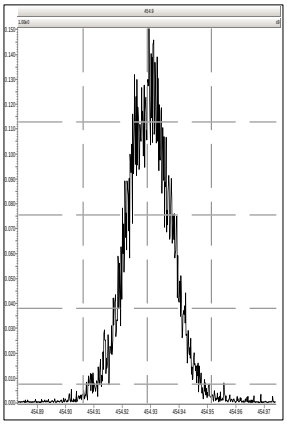
M 480.9696 R 11585



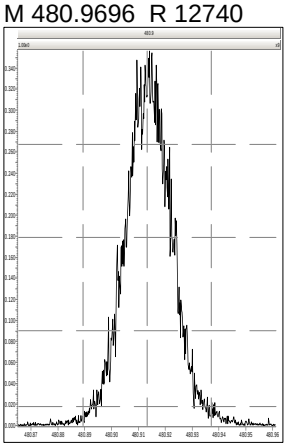
M 430.9728 R 13662



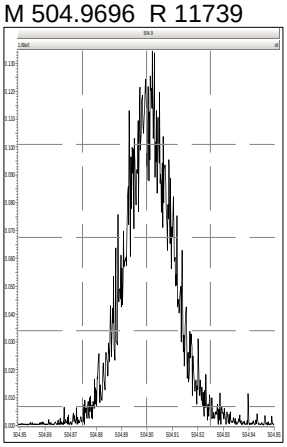
M 454.9728 R 13234



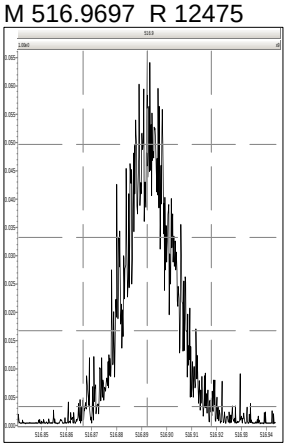
M 480.9696 R 12740

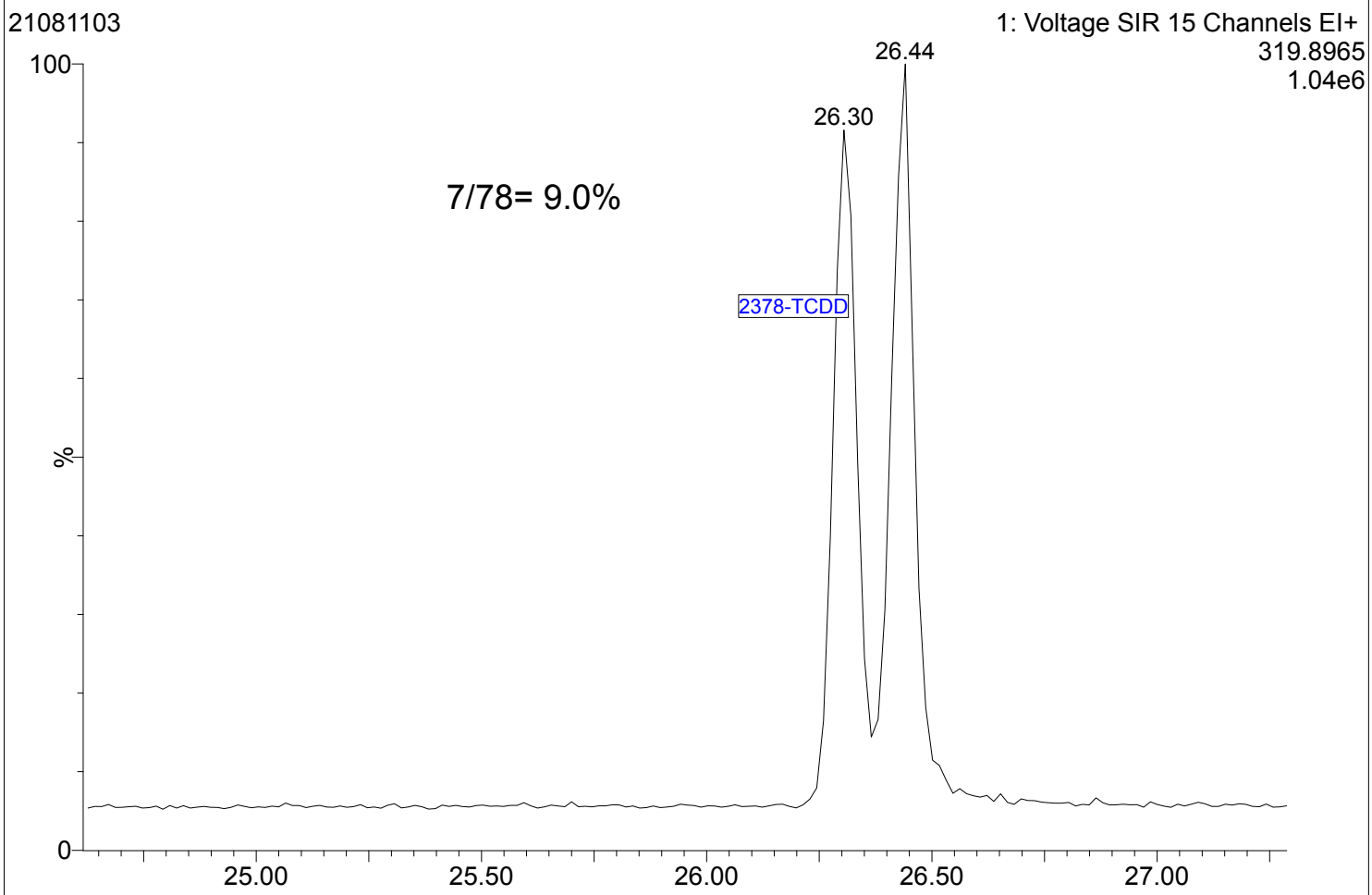


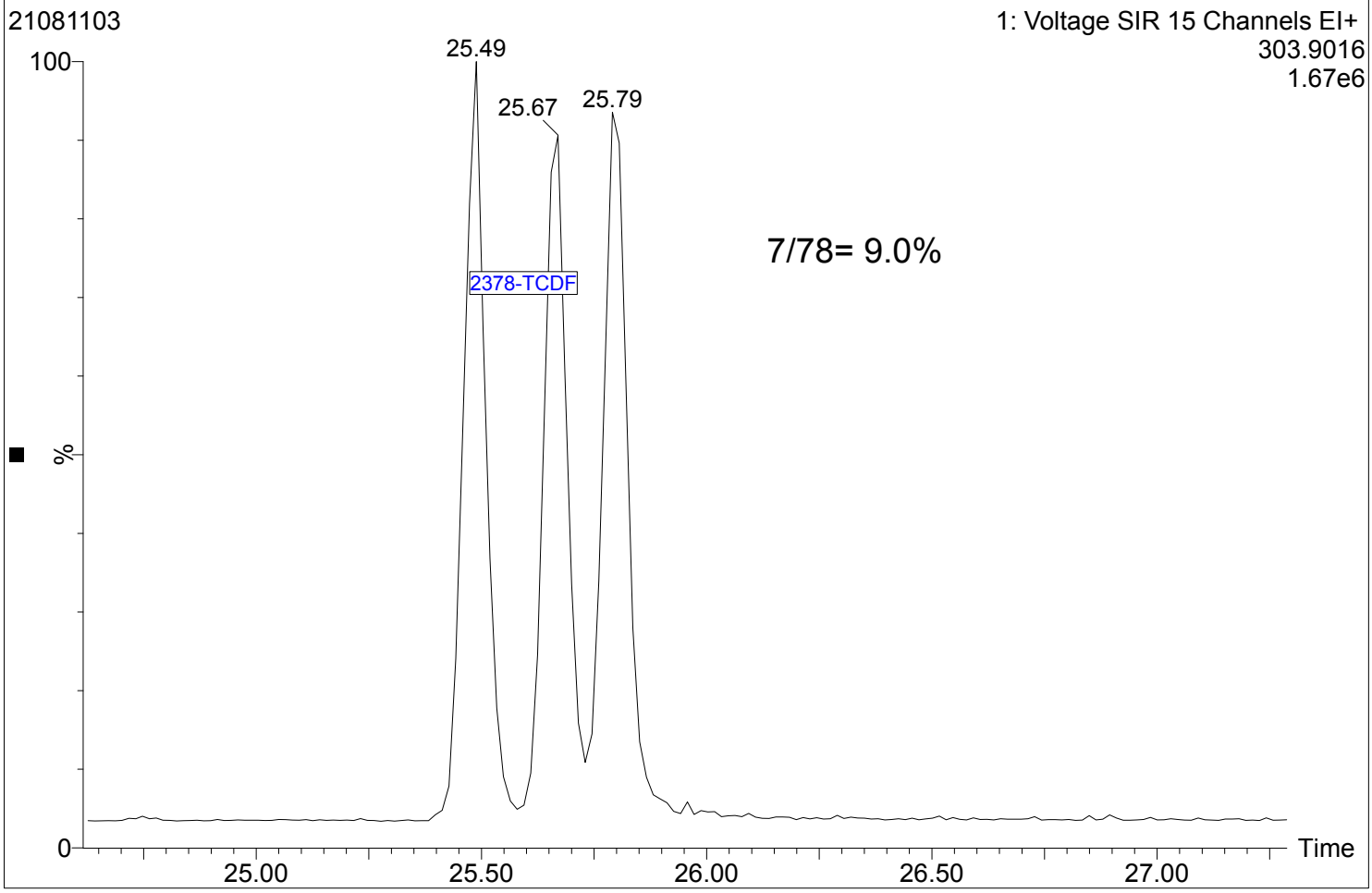
M 504.9696 R 11739



M 516.9697 R 12475




21081103
1: Voltage SIR 15 Channels EI+
319.8965
1.04e6
26.44
26.30
7/78= 9.0%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21081103
1: Voltage SIR 15 Channels EI+
303.9016
1.67e6
25.49
25.67
25.79
7/78= 9.0%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21092022A	Calibration Date:	08/11/2021
Sequence:	SJI0282	Injection Date:	09/21/21
Lab Sample ID:	SJI0282-ICV1	Injection Time:	09:36
Sequence Name:	CS3S3		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	9.00	1.1075930	0.9971538		-10.0	+/-16
2,3,7,8-TCDD	A	10.000	9.81	0.9202875	0.9030215		-1.9	+/-22
1,2,3,7,8-PeCDF	A	50.000	44.1	1.0148670	0.8955406		-11.8	+/-18
2,3,4,7,8-PeCDF	A	50.000	44.5	1.1255490	1.0023210		-10.9	+/-18
1,2,3,7,8-PeCDD	A	50.000	48.9	0.9953229	0.9742293		-2.1	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	47.6	1.0168930	0.9675911		-4.8	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	47.8	1.0368310	0.9902760		-4.5	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	47.0	1.0524660	0.9898356		-6.0	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	46.7	1.0301540	0.9630725		-6.5	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	47.3	1.0273630	0.9713503		-5.5	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	47.7	1.0089800	0.9634866		-4.5	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.2	0.9504865	0.9552367		0.5	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	45.1	1.3273500	1.1979120		-9.8	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	45.9	1.2833380	1.1774090		-8.3	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	46.7	1.0680880	0.9968081		-6.7	+/-14
OCDF	A	100.00	74.1	1.4469010	1.0728520		-25.9	+/-37
OCDD	A	100.00	89.1	1.1808230	1.0526300		-10.9	+/-21
13C12-2,3,7,8-TCDF	A	100.00	95.2	1.4265830	1.3582032		-4.8	+/-29
13C12-2,3,7,8-TCDD	A	100.00	105	1.1164910	1.1764820		5.4	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	85.2	1.2973130	1.1049153		-14.8	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	83.1	1.2364800	1.0280804		-16.9	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	93.3	0.7319833	0.6825818		-6.7	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	93.6	1.2424560	1.1634992		-6.4	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	85.9	1.3434760	1.1547172		-14.1	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	88.2	1.2148550	1.0712828		-11.8	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	91.2	1.0076370	0.9187089		-8.8	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	98.4	0.9598233	0.9445651		-1.6	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	93.9	1.0413850	0.9777363		-6.1	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	72.7	0.9264704	0.6734246		-27.3	+/-22 *
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	69.9	0.7579160	0.5298441		-30.1	+/-23 *
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	83.9	0.6324476	0.5303382		-16.1	+/-28

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21092022A	Calibration Date:	08/11/2021
Sequence:	SJI0282	Injection Date:	09/21/21
Lab Sample ID:	SJI0282-ICV1	Injection Time:	09:36
Sequence Name:	CS3S3		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-OCDD	A	200.00	154	0.5037432	0.3866381		-23.2	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.85	1.0835930	1.0676427		-1.5	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	4.116e4	5.541e4	1.108	0.743	0.770	615	853	6.04e5	8.02e5	982.7	940.7	NO	bb	bb	9.003
12378-PeCDF	29.931	1.001	2.132e5	1.396e5	1.015	1.528	1.550	1437	966	3.27e6	2.11e6	2275.2	2184.4	NO	bb	bb	44.121
23478-PeCDF	31.268	1.000	2.231e5	1.442e5	1.126	1.547	1.550	1437	966	3.49e6	2.24e6	2430.3	2319.9	NO	bb	bb	44.526
123478-HxCDF	34.889	1.000	1.998e5	1.706e5	1.017	1.171	1.240	1571	1394	3.22e6	2.75e6	2051.7	1972.4	NO	bd	bd	47.576
234678-HxCDF	35.903	1.001	1.895e5	1.593e5	1.052	1.189	1.240	1571	1394	3.15e6	2.61e6	2006.3	1872.8	NO	bb	bb	47.025
123678-HxCDF	35.034	1.001	2.041e5	1.721e5	1.037	1.186	1.240	1571	1394	3.28e6	2.74e6	2089.7	1969.2	NO	db	db	47.755
123789-HxCDF	36.939	1.001	1.584e5	1.327e5	1.030	1.194	1.240	1571	1394	2.54e6	2.14e6	1615.9	1535.2	NO	bb	bb	46.744
1234678-HpCDF	38.778	1.001	1.351e5	1.303e5	1.327	1.036	1.050	1192	1017	2.24e6	2.13e6	1876.7	2091.9	NO	bd	bd	45.124
1234789-HpCDF	41.017	1.000	1.034e5	1.018e5	1.283	1.015	1.050	1192	1017	1.43e6	1.41e6	1196.9	1385.6	NO	bd	bd	45.873
OCDF	45.270	1.006	1.282e5	1.447e5	1.447	0.886	0.890	510	1903	1.51e6	1.70e6	2952.5	892.7	NO	bb	bb	74.148
2378-TCDD	26.396	1.001	3.420e4	4.155e4	0.920	0.823	0.770	737	709	4.98e5	6.24e5	675.0	879.8	NO	bb	bb	9.812
12378-PeCDD	31.514	1.001	1.462e5	9.086e4	0.995	1.609	1.550	922	820	2.25e6	1.40e6	2439.2	1711.9	NO	bb	bb	48.940
123478-HxCDD	36.003	1.000	1.668e5	1.350e5	1.027	1.235	1.240	1533	1287	2.84e6	2.29e6	1854.2	1782.4	NO	bd	bd	47.274
123678-HxCDD	36.115	1.000	1.709e5	1.390e5	1.009	1.230	1.240	1533	1287	2.78e6	2.29e6	1812.4	1781.2	NO	db	db	47.746
123789-HxCDD	36.516	1.011	1.680e5	1.341e5	0.950	1.253	1.240	1533	1287	2.83e6	2.24e6	1842.5	1736.2	NO	bb	bb	50.250
1234678-HpCDD	40.271	1.000	8.969e4	8.422e4	1.068	1.065	1.050	846	822	1.41e6	1.33e6	1668.6	1611.4	NO	bb	bb	46.663
OCDD	45.023	1.000	1.263e5	1.414e5	1.181	0.893	0.890	1236	769	1.45e6	1.62e6	1172.2	2102.9	NO	bb	bb	89.144
13C-2378-TCDF	25.746	1.007	4.289e5	5.396e5	1.427	0.795	0.770	1252	916	6.50e6	8.17e6	5197.6	8916.7	NO	bb	bb	95.207
13C-12378-PeCDF	29.909	1.170	4.858e5	3.020e5	1.297	1.608	1.550	1753	1179	7.35e6	4.56e6	4191.7	3868.5	NO	bb	bb	85.169
13C-23478-PeCDF	31.257	1.223	4.515e5	2.816e5	1.236	1.603	1.550	1753	1179	6.91e6	4.31e6	3941.6	3657.2	NO	bb	bb	83.146
13C-123478-HxCDF	34.878	0.956	2.594e5	5.061e5	1.242	0.512	0.510	1872	3320	4.16e6	8.01e6	2219.5	2413.3	NO	bd	bd	93.645
13C-123678-HxCDF	35.012	0.959	2.606e5	4.992e5	1.343	0.522	0.510	1872	3320	4.29e6	8.16e6	2289.0	2457.9	NO	db	db	85.950
13C-234678-HxCDF	35.881	0.983	2.402e5	4.647e5	1.215	0.517	0.510	1872	3320	3.84e6	7.40e6	2053.5	2230.6	NO	bb	bb	88.182
13C-123789-HxCDF	36.917	1.012	2.052e5	3.992e5	1.008	0.514	0.510	1872	3320	3.48e6	6.83e6	1857.6	2058.0	NO	bb	bb	91.175
13C-1234678-HpCDF	38.755	1.062	1.405e5	3.026e5	0.926	0.464	0.440	1091	1131	2.26e6	4.87e6	2072.4	4304.2	NO	bd	bd	72.687
13C-1234789-HpCDF	41.006	1.124	1.101e5	2.385e5	0.758	0.461	0.440	1091	1131	1.57e6	3.34e6	1436.5	2955.8	NO	bd	bb	69.908
13C-1234-TCDD	25.564	0.000	3.066e5	4.064e5	1.000	0.754	0.770	1115	853	4.84e6	6.44e6	4340.0	7556.5	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.032	3.624e5	4.765e5	1.116	0.761	0.770	1115	853	5.46e6	7.19e6	4897.3	8429.8	NO	bb	bb	105.373
13C-12378-PeCDD	31.491	1.232	2.987e5	1.880e5	0.732	1.589	1.550	590	1078	4.63e6	2.90e6	7843.6	2689.9	NO	bb	bb	93.251
13C-123478-HxCDD	35.992	0.986	3.480e5	2.735e5	0.960	1.273	1.240	1004	1727	5.75e6	4.44e6	5727.9	2571.9	NO	bd	bd	98.410
13C-123678-HxCDD	36.104	0.989	3.587e5	2.846e5	1.041	1.260	1.240	1004	1727	5.97e6	4.75e6	5947.0	2751.7	NO	db	db	93.888
13C-1234678-HpCDD	40.259	1.103	1.777e5	1.713e5	0.632	1.037	1.050	1062	907	2.74e6	2.62e6	2583.2	2891.2	NO	bb	bb	83.855
13C-OCDD	45.004	1.233	2.417e5	2.671e5	0.504	0.905	0.890	975	1165	2.70e6	3.05e6	2765.8	2613.9	NO	bb	bb	153.506
13C-123789-HxCDD	36.494	0.000	3.664e5	2.916e5	1.000	1.256	1.240	1004	1727	5.94e6	4.80e6	5913.1	2777.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.396	1.033	7.613e4		1.084			1208		1.12e6		923.5			bb		9.853

Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.238	0.864	5.174e4	6.945e4	1.425	0.745	0.770	615	853	7.84e5	1.05e6	1275.8	1231.5	NO	bb	bb	8.781
1289-TCDF	27.272	1.059	3.864e4	5.261e4	1.043	0.734	0.770	615	853	5.64e5	7.61e5	918.1	892.2	NO	db	dd	9.035
13468-PECDF	27.106	0.906	3.651e5	2.378e5	1.376	1.535	1.550	685	550	5.58e6	3.64e6	8140.0	6611.6	NO	bb	bb	55.604
12389-PECDF	32.316	1.081	2.092e5	1.375e5	1.000	1.521	1.550	1437	966	3.14e6	2.07e6	2187.2	2139.4	NO	bb	bb	44.031
123468-HXCDF	33.218	0.952	2.116e5	1.798e5	1.087	1.177	1.240	1571	1394	3.29e6	2.82e6	2093.1	2021.2	NO	bb	bb	47.056
1368-TCDD	23.508	0.891	3.317e4	4.163e4	0.923	0.797	0.770	737	709	5.05e5	6.53e5	685.6	920.4	NO	bb	bb	9.658
1289-TCDD	27.015	1.024	2.887e4	3.611e4	0.794	0.800	0.770	737	709	4.16e5	5.13e5	564.1	723.5	NO	bb	bb	9.756
12479-PECDD	28.773	0.914	2.579e5	1.647e5	1.843	1.566	1.550	922	820	2.49e6	1.58e6	2695.7	1923.4	NO	bb	bb	47.113
12389-PECDD	31.926	1.014	1.723e5	1.064e5	1.154	1.619	1.550	922	820	2.67e6	1.67e6	2892.3	2035.6	NO	bb	bb	49.631
124679-HXCDD	33.998	0.945	1.899e5	1.502e5	1.125	1.265	1.240	1533	1287	2.99e6	2.36e6	1947.7	1829.4	NO	bb	bb	48.652
1234679-HPCDD	39.223	0.974	1.024e5	9.586e4	1.211	1.069	1.050	846	822	1.71e6	1.59e6	2024.4	1935.7	NO	bb	bb	46.930
Total-tetrafurans			1.322e5		1.192			615		1.96e6							26.966
Total-penta1			3.651e5					685		5.58e6							55.604
Total-pentafurans			6.819e5		1.047			1437		1.05e7							140.286
Total-hexafurans			9.634e5		1.045			1571		1.55e7							236.155
Total-heptafurans			2.385e5		1.305			1192		3.66e6							90.997
Total-Furans			2.509e6		1.158			615		3.87e7							624.157
Total-tetradioxins			1.631e5		0.879			737		2.19e6							49.922
Total-pentadioxins			5.764e5		1.331			922		7.40e6							145.684
Total-hexadioxins			6.957e5		1.028			1533		1.14e7							193.921
Total-heptadioxins			1.921e5		1.140			846		3.12e6							93.593
Total-Dioxins			1.754e6		1.092			737		2.56e7							572.265
Total-TEQ			4.263e6					737		6.43e7							1196.422
FUNCTION1 PFK			2.073e5					263896		5.77e6							
FUNCTION2 PFK			9.201e4					155296		3.06e6							0.000
FUNCTION3 PFK			2.209e5					192669		6.19e6							0.000
FUNCTION4 PFK			1.221e5					133682		3.65e6							
FUNCTION5 PFK			5.656e5					100519		9.64e6							
FUNCTION1 HXCD...			6.565e2					472		5.98e3							0.000
FUNCTION1 HPCD...			5.265e2					501		6.49e3							0.000
FUNCTION2 HPCD...			4.031e2					518		6.43e3							0.000
FUNCTION3 OCDPE			1.837e2					408		3.08e3							0.000
FUNCTION4 NCDPE			8.073e1					600		1.27e3							0.000
FUNCTION5 DCDPE			0.000e0					467		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.864e4	5.261e4	1.043	0.73	0.77	918.1	YES	NO	db	dd	9.035
2	Total-tetrafurans	27.12	6.860e2	1.014e3	1.192	0.68	0.77	15.0	YES	NO	bd	bd	0.147
3	2378-TCDF	25.78	4.116e4	5.541e4	1.108	0.74	0.77	982.7	YES	NO	bb	bb	9.003
4	1368-TCDF	22.24	5.174e4	6.945e4	1.425	0.75	0.77	1275.8	YES	NO	bb	bb	8.781

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.11	3.651e5	2.378e5	1.376	1.54	1.55	8140.0	YES	NO	bb	bb	55.604

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.32	2.092e5	1.375e5	1.000	1.52	1.55	2187.2	YES	NO	bb	bb	44.031
2	23478-PeCDF	31.27	2.231e5	1.442e5	1.126	1.55	1.55	2430.3	YES	NO	bb	bb	44.526
3	12378-PeCDF	29.93	2.132e5	1.396e5	1.015	1.53	1.55	2275.2	YES	NO	bb	bb	44.121
4	Total-pentafurans	28.77	3.637e4	2.419e4	1.047	1.50	1.55	398.2	YES	NO	bb	bb	7.608

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.94	1.584e5	1.327e5	1.030	1.19	1.24	1615.9	YES	NO	bb	bb	46.744
2	234678-HxCDF	35.90	1.895e5	1.593e5	1.052	1.19	1.24	2006.3	YES	NO	bb	bb	47.025
3	123678-HxCDF	35.03	2.041e5	1.721e5	1.037	1.19	1.24	2089.7	YES	NO	db	db	47.755
4	123478-HxCDF	34.89	1.998e5	1.706e5	1.017	1.17	1.24	2051.7	YES	NO	bd	bd	47.576
5	123468-HXCDF	33.22	2.116e5	1.798e5	1.087	1.18	1.24	2093.1	YES	NO	bb	bb	47.056

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.78	1.351e5	1.303e5	1.327	1.04	1.05	1876.7	YES	NO	bd	bd	45.124
2	1234789-HpCDF	41.02	1.034e5	1.018e5	1.283	1.02	1.05	1196.9	YES	NO	bd	bd	45.873

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.864e4	5.261e4	1.043	0.73	0.77	918.1	YES	NO	db	dd	9.035
2	Total-tetrafurans	27.12	6.860e2	1.014e3	1.192	0.68	0.77	15.0	YES	NO	bd	bd	0.147
3	2378-TCDF	25.78	4.116e4	5.541e4	1.108	0.74	0.77	982.7	YES	NO	bb	bb	9.003
4	1368-TCDF	22.24	5.174e4	6.945e4	1.425	0.75	0.77	1275.8	YES	NO	bb	bb	8.781
5	12389-PECDF	32.32	2.092e5	1.375e5	1.000	1.52	1.55	2187.2	YES	NO	bb	bb	44.031
6	23478-PeCDF	31.27	2.231e5	1.442e5	1.126	1.55	1.55	2430.3	YES	NO	bb	bb	44.526
7	12378-PeCDF	29.93	2.132e5	1.396e5	1.015	1.53	1.55	2275.2	YES	NO	bb	bb	44.121
8	Total-pentafurans	28.77	3.637e4	2.419e4	1.047	1.50	1.55	398.2	YES	NO	bb	bb	7.608
9	123789-HxCDF	36.94	1.584e5	1.327e5	1.030	1.19	1.24	1615.9	YES	NO	bb	bb	46.744
10	234678-HxCDF	35.90	1.895e5	1.593e5	1.052	1.19	1.24	2006.3	YES	NO	bb	bb	47.025
11	123678-HxCDF	35.03	2.041e5	1.721e5	1.037	1.19	1.24	2089.7	YES	NO	db	db	47.755
12	123478-HxCDF	34.89	1.998e5	1.706e5	1.017	1.17	1.24	2051.7	YES	NO	bd	bd	47.576
13	123468-HXCDF	33.22	2.116e5	1.798e5	1.087	1.18	1.24	2093.1	YES	NO	bb	bb	47.056
14	1234678-HpCDF	38.78	1.351e5	1.303e5	1.327	1.04	1.05	1876.7	YES	NO	bd	bd	45.124
15	1234789-HpCDF	41.02	1.034e5	1.018e5	1.283	1.02	1.05	1196.9	YES	NO	bd	bd	45.873
16	OCDF	45.27	1.282e5	1.447e5	1.447	0.89	0.89	2952.5	YES	NO	bb	bb	74.148
17	13468-PECDF	27.11	3.651e5	2.378e5	1.376	1.54	1.55	8140.0	YES	NO	bb	bb	55.604

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.51	3.317e4	4.163e4	0.923	0.80	0.77	685.6	YES	NO	bb	bb	9.658
2	1289-TCDD	27.02	2.887e4	3.611e4	0.794	0.80	0.77	564.1	YES	NO	bb	bb	9.756
3	2378-TCDD	26.40	3.420e4	4.155e4	0.920	0.82	0.77	675.0	YES	NO	bb	bb	9.812
4	Total-tetradioxins	26.08	4.935e4	6.332e4	0.879	0.78	0.77	690.0	YES	NO	bb	bb	15.277
5	Total-tetradioxins	25.59	1.586e4	2.014e4	0.879	0.79	0.77	329.3	YES	NO	bb	bb	4.880
6	Total-tetradioxins	24.99	3.778e2	5.081e2	0.879	0.74	0.77	8.2	YES	NO	bb	bb	0.120
7	Total-tetradioxins	24.72	1.264e3	1.828e3	0.879	0.69	0.77	19.4	YES	NO	bb	bb	0.419

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.93	1.723e5	1.064e5	1.154	1.62	1.55	2892.3	YES	NO	bb	bb	49.631
2	12378-PeCDD	31.51	1.462e5	9.086e4	0.995	1.61	1.55	2439.2	YES	NO	bb	bb	48.940
3	12479-PECDD	28.77	2.579e5	1.647e5	1.843	1.57	1.55	2695.7	YES	NO	bb	bb	47.113

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.52	1.680e5	1.341e5	0.950	1.25	1.24	1842.5	YES	NO	bb	bb	50.250
2	123678-HxCDD	36.11	1.709e5	1.390e5	1.009	1.23	1.24	1812.4	YES	NO	db	db	47.746
3	123478-HxCDD	36.00	1.668e5	1.350e5	1.027	1.24	1.24	1854.2	YES	NO	bd	bd	47.274
4	124679-HXCDD	34.00	1.899e5	1.502e5	1.125	1.26	1.24	1947.7	YES	NO	bb	bb	48.652

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.27	8.969e4	8.422e4	1.068	1.06	1.05	1668.6	YES	NO	bb	bb	46.663
2	1234679-HPCDD	39.22	1.024e5	9.586e4	1.211	1.07	1.05	2024.4	YES	NO	bb	bb	46.930

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.51	3.317e4	4.163e4	0.923	0.80	0.77	685.6	YES	NO	bb	bb	9.658
2	1289-TCDD	27.02	2.887e4	3.611e4	0.794	0.80	0.77	564.1	YES	NO	bb	bb	9.756
3	2378-TCDD	26.40	3.420e4	4.155e4	0.920	0.82	0.77	675.0	YES	NO	bb	bb	9.812
4	Total-tetradioxins	26.08	4.935e4	6.332e4	0.879	0.78	0.77	690.0	YES	NO	bb	bb	15.277
5	Total-tetradioxins	25.59	1.586e4	2.014e4	0.879	0.79	0.77	329.3	YES	NO	bb	bb	4.880
6	Total-tetradioxins	24.99	3.778e2	5.081e2	0.879	0.74	0.77	8.2	YES	NO	bb	bb	0.120
7	Total-tetradioxins	24.72	1.264e3	1.828e3	0.879	0.69	0.77	19.4	YES	NO	bb	bb	0.419
8	12389-PECDD	31.93	1.723e5	1.064e5	1.154	1.62	1.55	2892.3	YES	NO	bb	bb	49.631
9	12378-PeCDD	31.51	1.462e5	9.086e4	0.995	1.61	1.55	2439.2	YES	NO	bb	bb	48.940
10	12479-PECDD	28.77	2.579e5	1.647e5	1.843	1.57	1.55	2695.7	YES	NO	bb	bb	47.113
11	123789-HxCDD	36.52	1.680e5	1.341e5	0.950	1.25	1.24	1842.5	YES	NO	bb	bb	50.250
12	123678-HxCDD	36.11	1.709e5	1.390e5	1.009	1.23	1.24	1812.4	YES	NO	db	db	47.746
13	123478-HxCDD	36.00	1.668e5	1.350e5	1.027	1.24	1.24	1854.2	YES	NO	bd	bd	47.274
14	124679-HXCDD	34.00	1.899e5	1.502e5	1.125	1.26	1.24	1947.7	YES	NO	bb	bb	48.652
15	OCDD	45.02	1.263e5	1.414e5	1.181	0.89	0.89	1172.2	YES	NO	bb	bb	89.144
16	1234678-HpCDD	40.27	8.969e4	8.422e4	1.068	1.06	1.05	1668.6	YES	NO	bb	bb	46.663
17	1234679-HPCDD	39.22	1.024e5	9.586e4	1.211	1.07	1.05	2024.4	YES	NO	bb	bb	46.930

Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.864e4	5.261e4	1.043	0.73	0.77	918.1	YES	NO	db	dd	9.035
2	Total-tetrafurans	27.12	6.860e2	1.014e3	1.192	0.68	0.77	15.0	YES	NO	bd	bd	0.147
3	2378-TCDF	25.78	4.116e4	5.541e4	1.108	0.74	0.77	982.7	YES	NO	bb	bb	9.003
4	1368-TCDF	22.24	5.174e4	6.945e4	1.425	0.75	0.77	1275.8	YES	NO	bb	bb	8.781
5	12389-PECDF	32.32	2.092e5	1.375e5	1.000	1.52	1.55	2187.2	YES	NO	bb	bb	44.031
6	23478-PeCDF	31.27	2.231e5	1.442e5	1.126	1.55	1.55	2430.3	YES	NO	bb	bb	44.526
7	12378-PeCDF	29.93	2.132e5	1.396e5	1.015	1.53	1.55	2275.2	YES	NO	bb	bb	44.121
8	Total-pentafurans	28.77	3.637e4	2.419e4	1.047	1.50	1.55	398.2	YES	NO	bb	bb	7.608
9	123789-HxCDF	36.94	1.584e5	1.327e5	1.030	1.19	1.24	1615.9	YES	NO	bb	bb	46.744
10	234678-HxCDF	35.90	1.895e5	1.593e5	1.052	1.19	1.24	2006.3	YES	NO	bb	bb	47.025
11	123678-HxCDF	35.03	2.041e5	1.721e5	1.037	1.19	1.24	2089.7	YES	NO	db	db	47.755
12	123478-HxCDF	34.89	1.998e5	1.706e5	1.017	1.17	1.24	2051.7	YES	NO	bd	bd	47.576
13	123468-HXCDF	33.22	2.116e5	1.798e5	1.087	1.18	1.24	2093.1	YES	NO	bb	bb	47.056
14	1234678-HpCDF	38.78	1.351e5	1.303e5	1.327	1.04	1.05	1876.7	YES	NO	bd	bd	45.124
15	1234789-HpCDF	41.02	1.034e5	1.018e5	1.283	1.02	1.05	1196.9	YES	NO	bd	bd	45.873
16	OCDF	45.27	1.282e5	1.447e5	1.447	0.89	0.89	2952.5	YES	NO	bb	bb	74.148
17	13468-PECDF	27.11	3.651e5	2.378e5	1.376	1.54	1.55	8140.0	YES	NO	bb	bb	55.604
18	1368-TCDD	23.51	3.317e4	4.163e4	0.923	0.80	0.77	685.6	YES	NO	bb	bb	9.658
19	1289-TCDD	27.02	2.887e4	3.611e4	0.794	0.80	0.77	564.1	YES	NO	bb	bb	9.756
20	2378-TCDD	26.40	3.420e4	4.155e4	0.920	0.82	0.77	675.0	YES	NO	bb	bb	9.812
21	Total-tetradioxins	26.08	4.935e4	6.332e4	0.879	0.78	0.77	690.0	YES	NO	bb	bb	15.277
22	Total-tetradioxins	25.59	1.586e4	2.014e4	0.879	0.79	0.77	329.3	YES	NO	bb	bb	4.880
23	Total-tetradioxins	24.99	3.778e2	5.081e2	0.879	0.74	0.77	8.2	YES	NO	bb	bb	0.120
24	Total-tetradioxins	24.72	1.264e3	1.828e3	0.879	0.69	0.77	19.4	YES	NO	bb	bb	0.419
25	12389-PECDD	31.93	1.723e5	1.064e5	1.154	1.62	1.55	2892.3	YES	NO	bb	bb	49.631
26	12378-PeCDD	31.51	1.462e5	9.086e4	0.995	1.61	1.55	2439.2	YES	NO	bb	bb	48.940
27	12479-PECDD	28.77	2.579e5	1.647e5	1.843	1.57	1.55	2695.7	YES	NO	bb	bb	47.113
28	123789-HxCDD	36.52	1.680e5	1.341e5	0.950	1.25	1.24	1842.5	YES	NO	bb	bb	50.250
29	123678-HxCDD	36.11	1.709e5	1.390e5	1.009	1.23	1.24	1812.4	YES	NO	db	db	47.746
30	123478-HxCDD	36.00	1.668e5	1.350e5	1.027	1.24	1.24	1854.2	YES	NO	bd	bd	47.274
31	124679-HXCDD	34.00	1.899e5	1.502e5	1.125	1.26	1.24	1947.7	YES	NO	bb	bb	48.652
32	OCDD	45.02	1.263e5	1.414e5	1.181	0.89	0.89	1172.2	YES	NO	bb	bb	89.144
33	1234678-HpCDD	40.27	8.969e4	8.422e4	1.068	1.06	1.05	1668.6	YES	NO	bb	bb	46.663
34	1234679-HPCDD	39.22	1.024e5	9.586e4	1.211	1.07	1.05	2024.4	YES	NO	bb	bb	46.930

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	24.69	9.215e3					0.9	NO		bb		
2	FUNCTION1 PFK	24.48	5.666e3					0.9	NO		bb		
3	FUNCTION1 PFK	24.17	1.394e4					1.5	NO		bb		
4	FUNCTION1 PFK	23.36	9.190e3					1.1	NO		bb		
5	FUNCTION1 PFK	22.16	1.118e4					1.3	NO		bb		
6	FUNCTION1 PFK	21.60	2.300e3					0.5	NO		db		
7	FUNCTION1 PFK	21.53	1.838e4					1.6	NO		bd		
8	FUNCTION1 PFK	21.33	8.220e3					1.3	NO		bb		
9	FUNCTION1 PFK	21.27	9.109e3					1.1	NO		bb		
10	FUNCTION1 PFK	21.21	1.268e4					1.8	NO		bb		
11	FUNCTION1 PFK	27.73	1.969e4					1.8	NO		db		
12	FUNCTION1 PFK	27.65	2.934e4					2.1	NO		bd		
13	FUNCTION1 PFK	27.18	4.123e3					0.7	NO		bb		
14	FUNCTION1 PFK	26.20	2.136e4					1.7	NO		bb		
15	FUNCTION1 PFK	26.12	2.672e3					0.7	NO		bb		
16	FUNCTION1 PFK	25.72	2.260e4					1.4	NO		bb		
17	FUNCTION1 PFK	25.53	4.058e3					0.7	NO		bb		
18	FUNCTION1 PFK	25.34	1.900e3					0.5	NO		bb		
19	FUNCTION1 PFK	25.00	1.731e3					0.4	NO		bb		

Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.80	5.340e3					1.2	NO		bb		0.000
2	FUNCTION2 PFK	28.65	4.843e3					1.3	NO		bb		0.000
3	FUNCTION2 PFK	28.51	4.870e3					1.3	NO		bb		0.000
4	FUNCTION2 PFK	28.34	1.859e3					0.7	NO		bb		0.000
5	FUNCTION2 PFK	28.27	8.371e3					1.9	NO		bb		0.000
6	FUNCTION2 PFK	28.23	5.283e3					1.3	NO		bb		0.000
7	FUNCTION2 PFK	32.67	6.547e3					1.3	NO		bb		0.000
8	FUNCTION2 PFK	32.04	5.229e3					1.1	NO		bb		0.000
9	FUNCTION2 PFK	31.74	8.063e2					0.5	NO		bb		0.000
10	FUNCTION2 PFK	31.65	3.658e3					0.8	NO		bb		0.000
11	FUNCTION2 PFK	31.05	1.268e4					1.5	NO		bb		0.000
12	FUNCTION2 PFK	30.20	1.055e4					1.6	NO		bb		0.000
13	FUNCTION2 PFK	29.41	7.220e3					1.3	NO		db		0.000
14	FUNCTION2 PFK	29.37	2.991e3					0.9	NO		bd		0.000
15	FUNCTION2 PFK	29.29	4.047e3					1.0	NO		bb		0.000
16	FUNCTION2 PFK	28.90	1.628e3					0.6	NO		db		0.000
17	FUNCTION2 PFK	28.85	6.091e3					1.5	NO		bd		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.98	7.733e3					1.5	NO		bb		0.000
2	FUNCTION3 PFK	33.72	1.198e4					1.6	NO		bb		0.000
3	FUNCTION3 PFK	33.45	5.862e3					1.2	NO		bb		0.000
4	FUNCTION3 PFK	33.41	2.375e3					0.7	NO		bb		0.000
5	FUNCTION3 PFK	37.82	2.907e3					0.8	NO		bb		0.000
6	FUNCTION3 PFK	37.76	1.846e4					1.6	NO		bb		0.000
7	FUNCTION3 PFK	37.54	1.890e4					2.1	NO		bb		0.000
8	FUNCTION3 PFK	36.91	5.557e3					1.5	NO		bb		0.000
9	FUNCTION3 PFK	36.76	8.221e3					1.8	NO		db		0.000
10	FUNCTION3 PFK	36.72	1.471e4					1.6	NO		bd		0.000
11	FUNCTION3 PFK	36.54	7.534e3					1.7	NO		db		0.000
12	FUNCTION3 PFK	36.53	7.376e3					1.2	NO		bd		0.000
13	FUNCTION3 PFK	36.40	4.701e4					3.9	YES		bb		0.000
14	FUNCTION3 PFK	36.36	6.801e3					2.0	NO		bb		0.000
15	FUNCTION3 PFK	36.26	9.644e2					0.4	NO		bb		0.000
16	FUNCTION3 PFK	35.86	8.710e3					1.8	NO		bb		0.000
17	FUNCTION3 PFK	35.68	6.610e3					1.3	NO		bb		0.000
18	FUNCTION3 PFK	35.35	1.115e3					0.5	NO		bb		0.000
19	FUNCTION3 PFK	34.73	1.154e4					2.0	NO		bb		0.000
20	FUNCTION3 PFK	34.41	2.655e4					2.9	NO		bb		0.000

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	41.17	4.850e3					1.3	NO		db		
2	FUNCTION4 PFK	41.14	3.994e3					1.0	NO		bd		
3	FUNCTION4 PFK	40.89	1.535e3					0.7	NO		bb		
4	FUNCTION4 PFK	40.58	5.300e3					1.1	NO		bb		
5	FUNCTION4 PFK	40.08	2.606e3					0.8	NO		db		
6	FUNCTION4 PFK	40.04	4.409e3					1.2	NO		bd		
7	FUNCTION4 PFK	39.47	1.652e3					0.7	NO		bb		
8	FUNCTION4 PFK	39.18	4.056e3					1.0	NO		bb		
9	FUNCTION4 PFK	39.04	6.700e2					0.4	NO		bb		
10	FUNCTION4 PFK	38.98	5.033e3					1.4	NO		db		
11	FUNCTION4 PFK	38.93	5.054e3					1.3	NO		bd		
12	FUNCTION4 PFK	38.88	5.318e3					1.3	NO		bb		
13	FUNCTION4 PFK	38.73	5.917e2					0.4	NO		bb		
14	FUNCTION4 PFK	38.57	1.631e4					1.4	NO		bb		
15	FUNCTION4 PFK	38.03	9.334e3					1.8	NO		bb		
16	FUNCTION4 PFK	42.53	1.247e4					2.6	NO		bb		
17	FUNCTION4 PFK	42.35	2.016e4					2.8	NO		bb		
18	FUNCTION4 PFK	41.92	8.142e2					0.5	NO		bb		
19	FUNCTION4 PFK	41.82	1.476e3					0.6	NO		bb		
20	FUNCTION4 PFK	41.77	8.480e3					1.6	NO		bb		
21	FUNCTION4 PFK	41.60	1.937e3					0.7	NO		bb		
22	FUNCTION4 PFK	41.45	1.991e3					0.7	NO		bb		
23	FUNCTION4 PFK	41.28	2.348e3					0.9	NO		bb		
24	FUNCTION4 PFK	41.24	1.750e3					0.8	NO		bb		

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.62	2.771e3					0.9	NO		bb		
2	FUNCTION5 PFK	43.36	1.159e4					3.5	YES		db		
3	FUNCTION5 PFK	43.32	4.810e4					6.2	YES		dd		
4	FUNCTION5 PFK	43.24	1.028e5					10.6	YES		dd		
5	FUNCTION5 PFK	43.13	8.104e4					16.7	YES		dd		
6	FUNCTION5 PFK	43.05	2.004e5					22.0	YES		bd		
7	FUNCTION5 PFK	45.39	1.619e3					0.9	NO		bb		
8	FUNCTION5 PFK	45.26	2.110e3					0.9	NO		bb		
9	FUNCTION5 PFK	45.10	1.608e4					2.3	NO		bb		
10	FUNCTION5 PFK	44.98	2.484e3					1.4	NO		db		
11	FUNCTION5 PFK	44.95	6.624e3					2.3	NO		dd		
12	FUNCTION5 PFK	44.91	1.604e4					3.5	YES		dd		
13	FUNCTION5 PFK	44.86	1.476e4					2.9	NO		bd		
14	FUNCTION5 PFK	44.78	9.261e3					2.3	NO		db		
15	FUNCTION5 PFK	44.73	9.014e3					2.5	NO		bd		
16	FUNCTION5 PFK	44.43	2.533e3					1.4	NO		db		
17	FUNCTION5 PFK	44.40	4.565e3					1.5	NO		bd		
18	FUNCTION5 PFK	44.07	1.006e3					0.7	NO		bb		
19	FUNCTION5 PFK	43.92	7.783e3					2.3	NO		bb		
20	FUNCTION5 PFK	43.82	7.392e3					2.4	NO		db		
21	FUNCTION5 PFK	43.80	3.417e3					1.9	NO		bd		
22	FUNCTION5 PFK	43.72	4.416e2					0.5	NO		bb		
23	FUNCTION5 PFK	45.88	7.009e2					0.8	NO		bb		
24	FUNCTION5 PFK	45.79	3.639e3					1.6	NO		bb		
25	FUNCTION5 PFK	45.70	8.478e2					0.7	NO		db		
26	FUNCTION5 PFK	45.67	4.758e2					0.5	NO		bd		
27	FUNCTION5 PFK	45.49	3.967e3					1.3	NO		db		
28	FUNCTION5 PFK	45.44	4.113e3					1.5	NO		bd		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.86	7.614e1					2.2	NO		db		0.000
2	FUNCTION1 HXCD...	27.64	2.304e2					4.5	YES		bd		0.000
3	FUNCTION1 HXCD...	27.12	1.416e2					3.4	YES		bb		0.000
4	FUNCTION1 HXCD...	24.11	2.084e2					2.6	NO		bb		0.000

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.79	7.226e1					3.8	YES		bb		0.000
2	FUNCTION1 HPCD...	26.12	1.169e2					2.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.13	1.398e2					2.0	NO		bb		0.000
4	FUNCTION1 HPCD...	23.15	8.494e1					2.4	NO		bb		0.000
5	FUNCTION1 HPCD...	27.14	1.125e2					2.3	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.61	7.335e1					3.3	YES		bb		0.000
2	FUNCTION2 HPCD...	31.09	3.298e2					9.1	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.13	7.636e1					4.1	YES		db		0.000
2	FUNCTION3 OCDPE	35.99	1.074e2					3.4	YES		bd		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.62	8.073e1					2.1	NO		bb		0.000

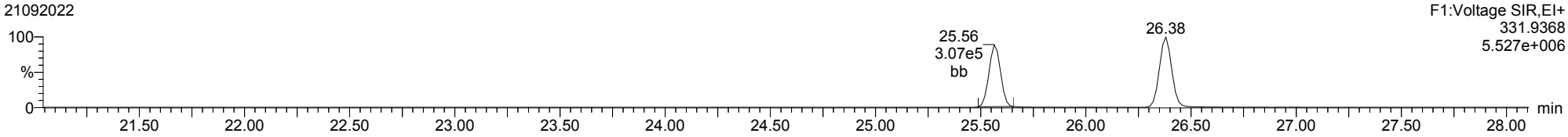
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

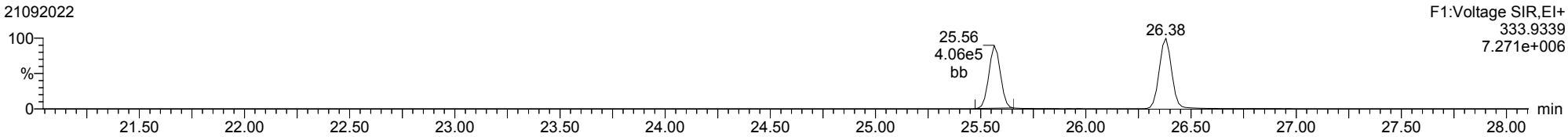
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

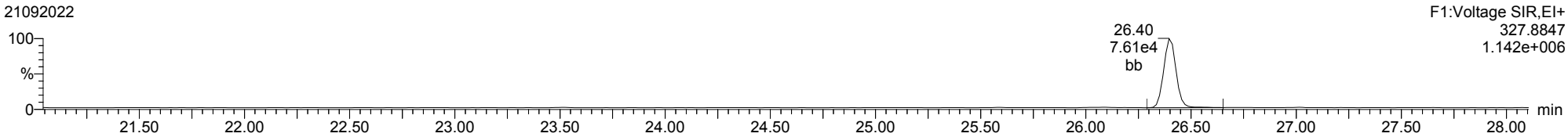
13C-1234-TCDD



13C-1234-TCDD

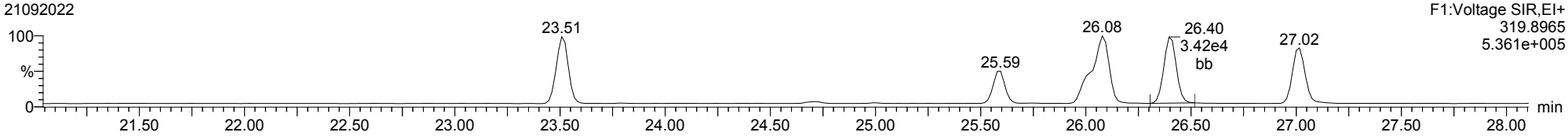


37CL-2378-TCDD

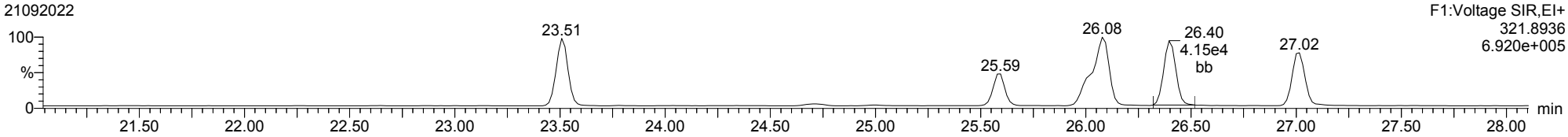


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

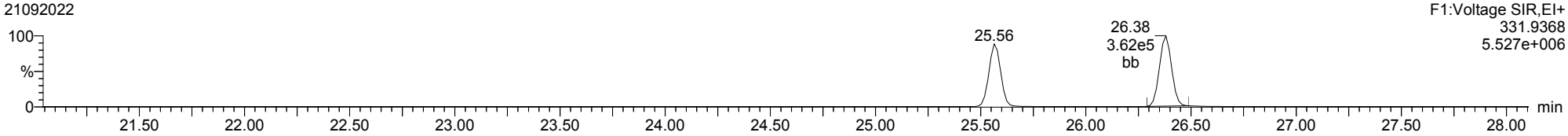
2378-TCDD



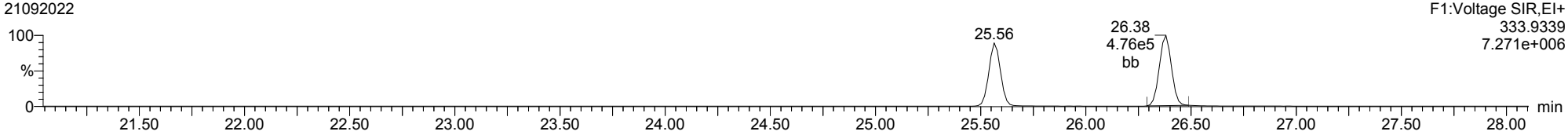
2378-TCDD



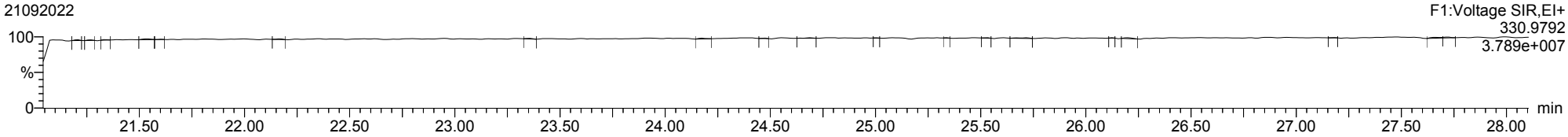
13C-2378-TCDD



13C-2378-TCDD

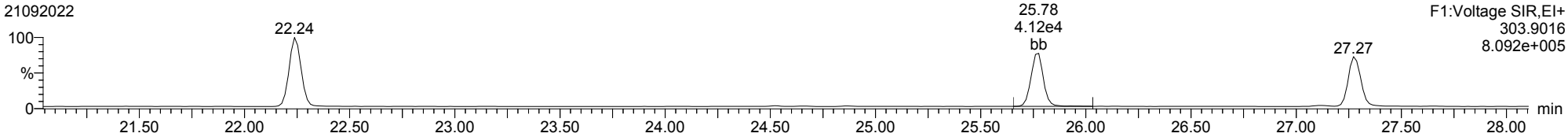


FUNCTION1 PFK

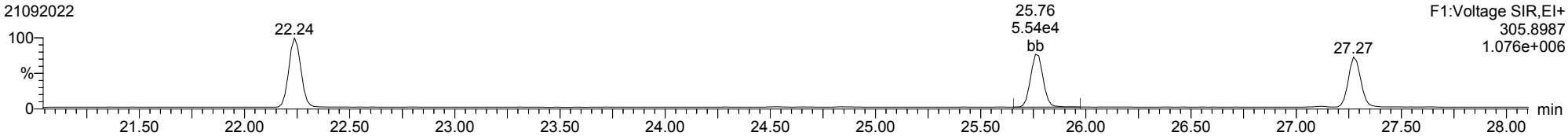


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

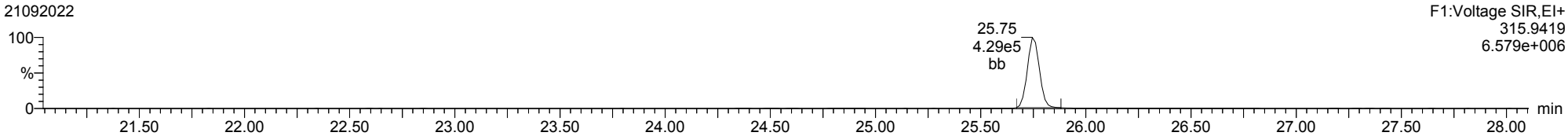
2378-TCDF



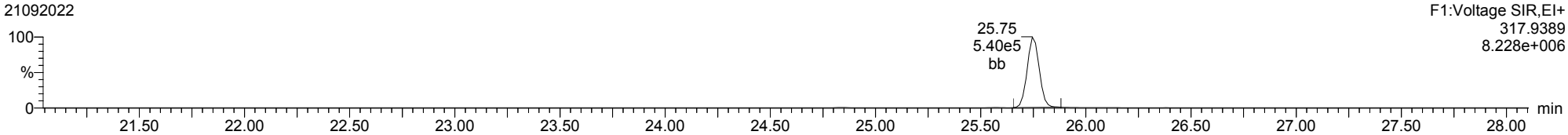
2378-TCDF



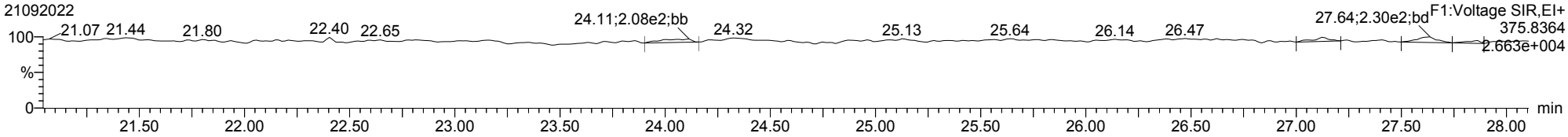
13C-2378-TCDF



13C-2378-TCDF

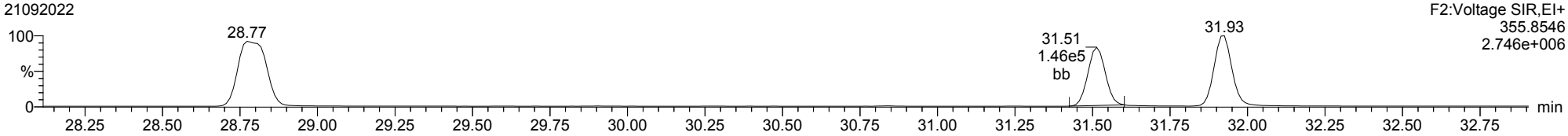


FUNCTION1 HXCDPE

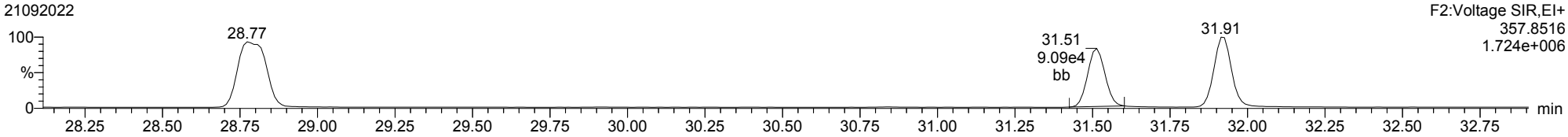


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

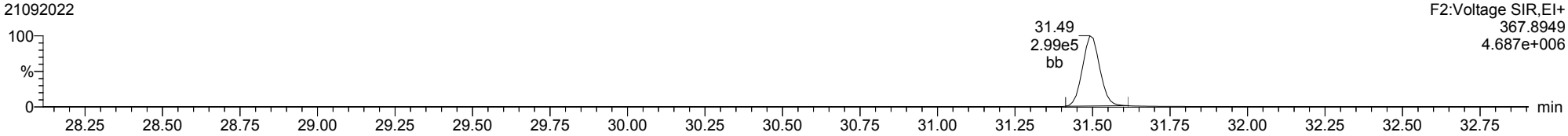
12378-PeCDD



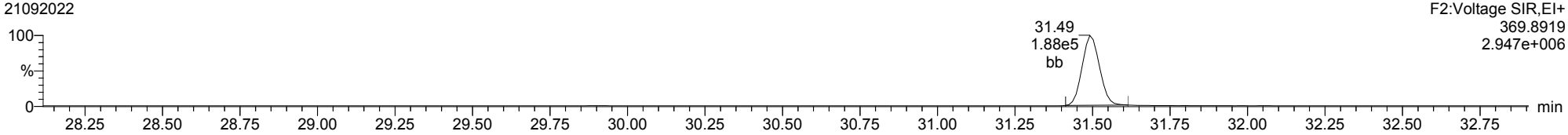
12378-PeCDD



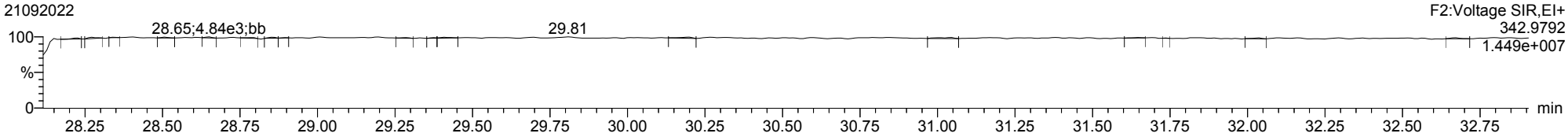
13C-12378-PeCDD



13C-12378-PeCDD

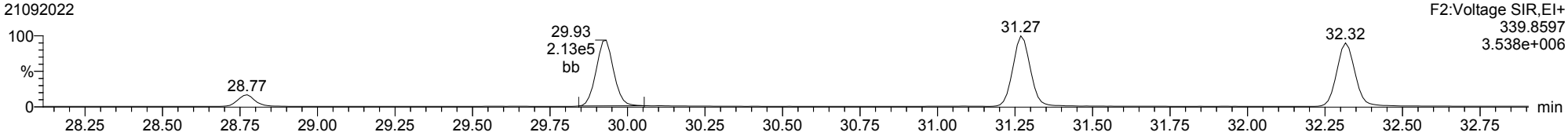


FUNCTION2 PFK

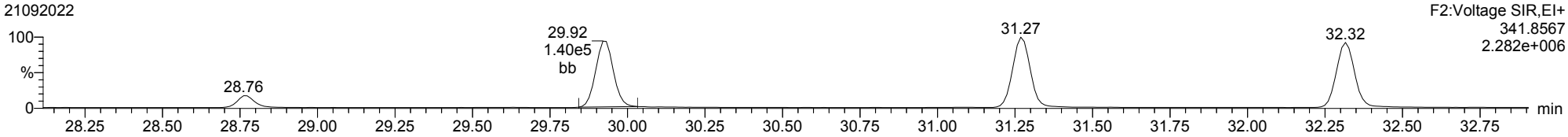


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

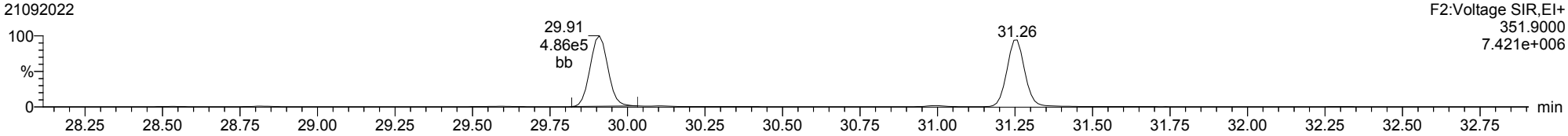
12378-PeCDF



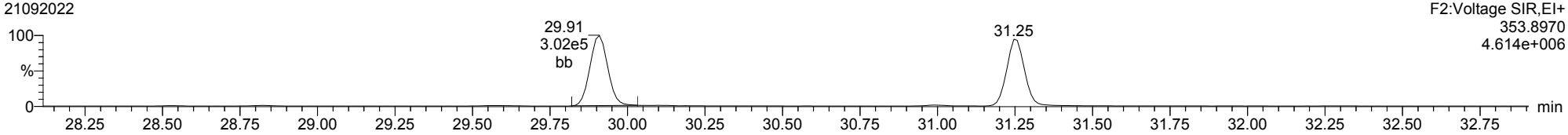
12378-PeCDF



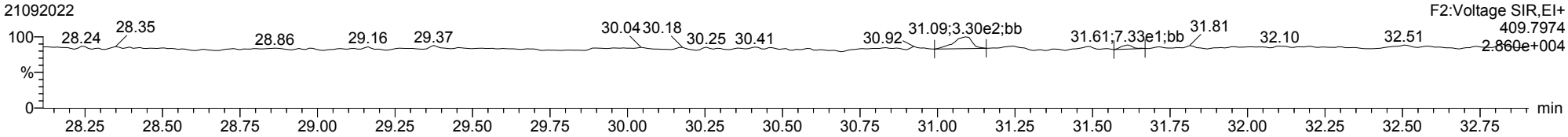
13C-12378-PeCDF



13C-12378-PeCDF

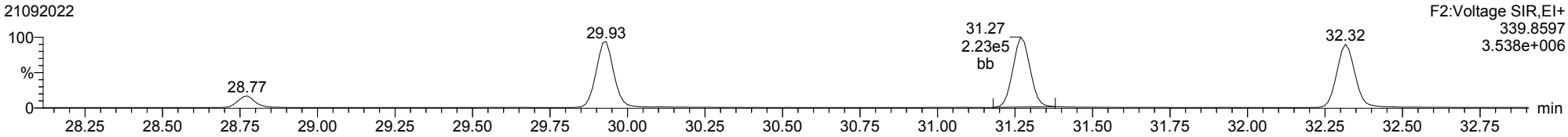


FUNCTION2 HPCDPE

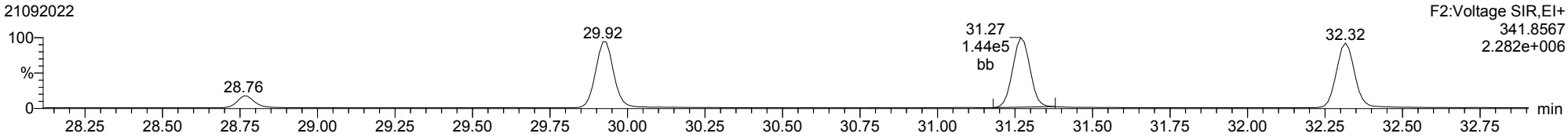


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

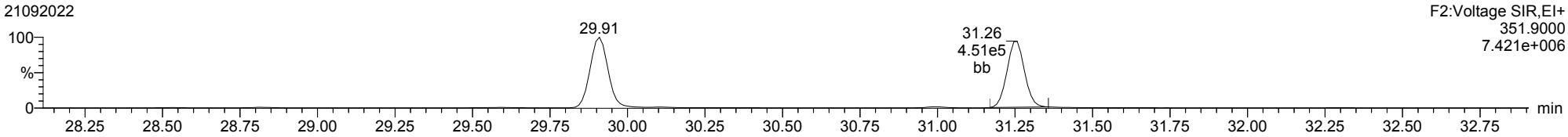
23478-PeCDF



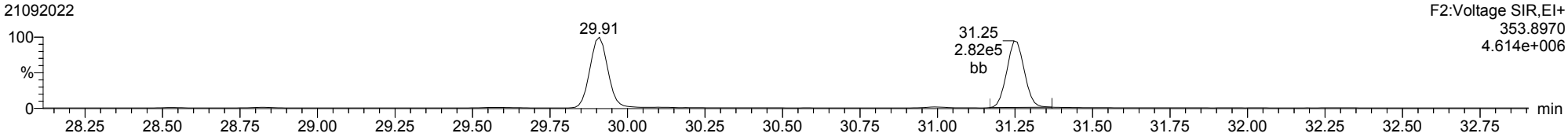
23478-PeCDF



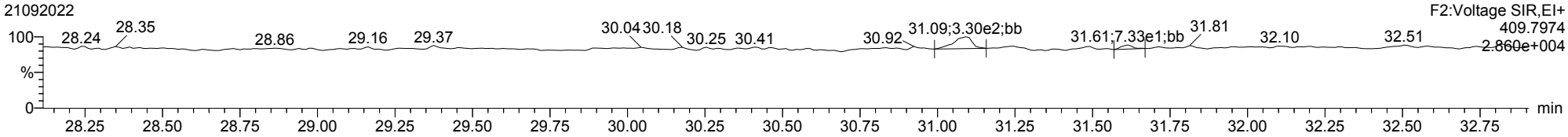
13C-23478-PeCDF



13C-23478-PeCDF

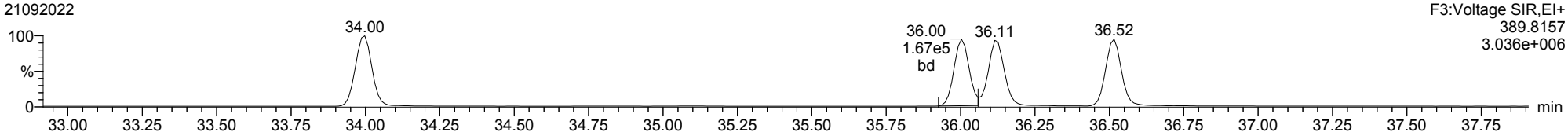


FUNCTION2 HPCDPE

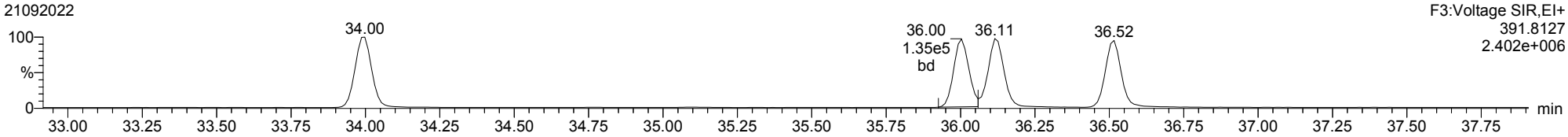


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

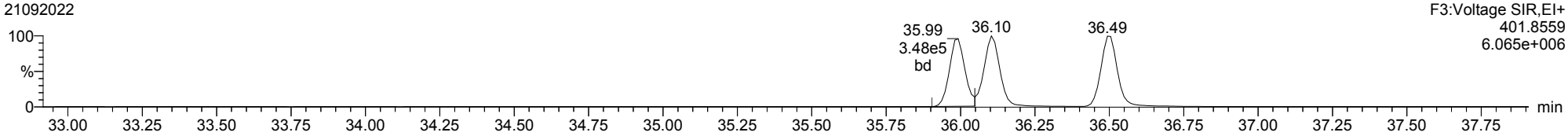
123478-HxCDD



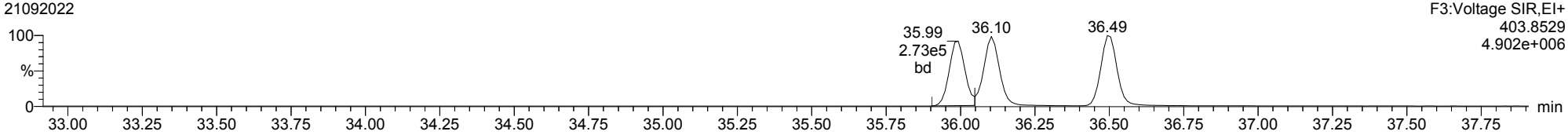
123478-HxCDD



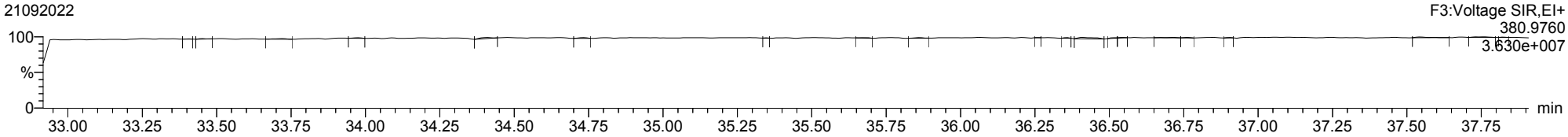
13C-123478-HxCDD



13C-123478-HxCDD

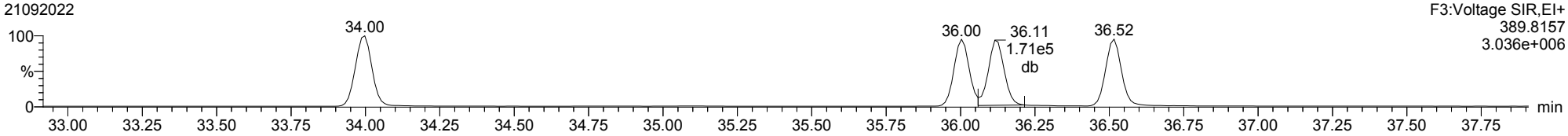


FUNCTION3 PFK

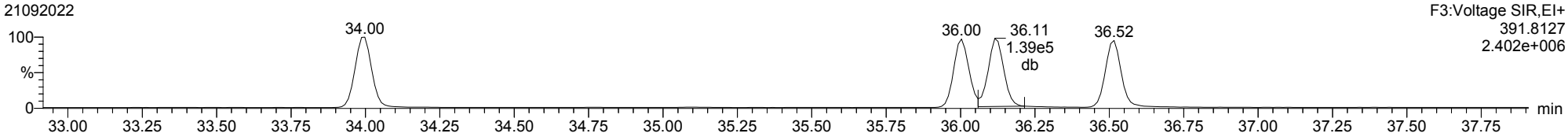


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

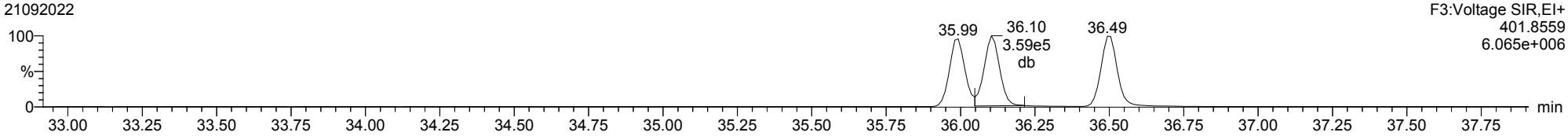
123678-HxCDD



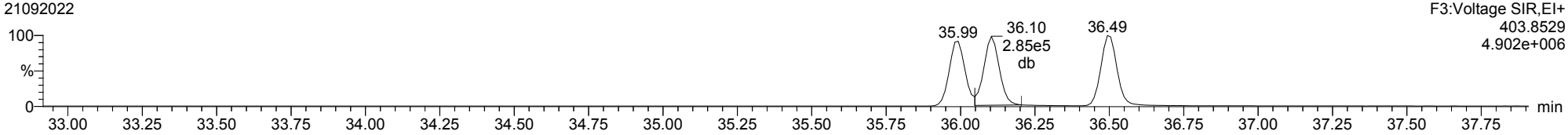
123678-HxCDD



13C-123678-HxCDD

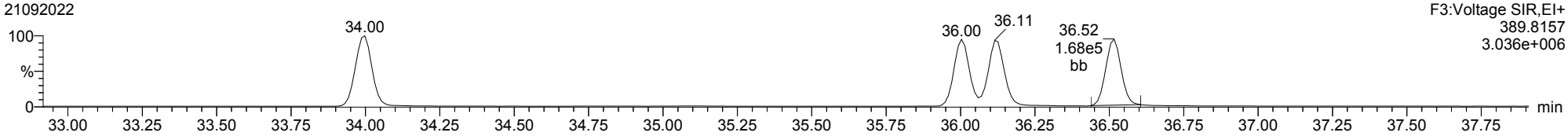


13C-123678-HxCDD

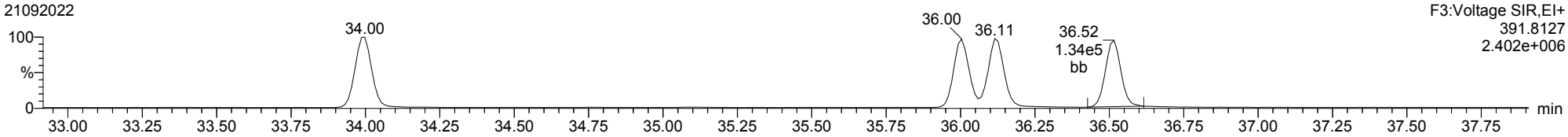


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

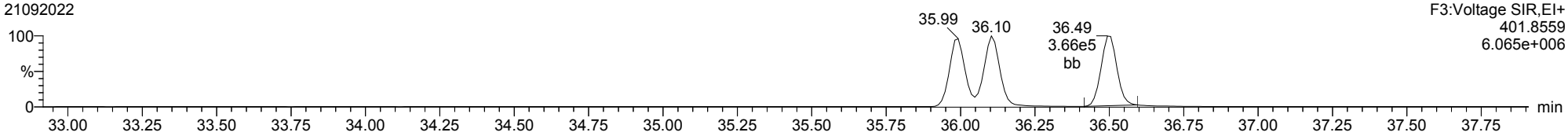
123789-HxCDD



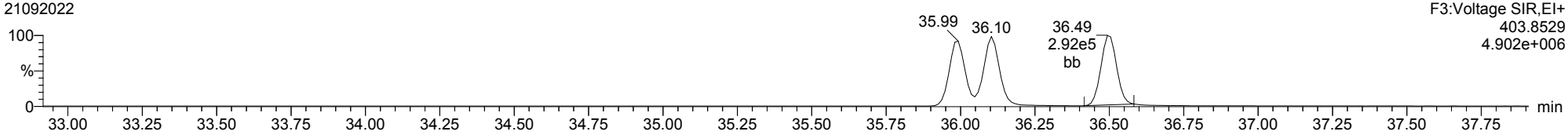
123789-HxCDD



13C-123789-HxCDD

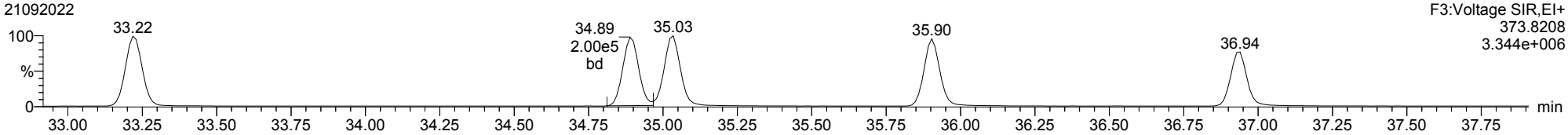


13C-123789-HxCDD

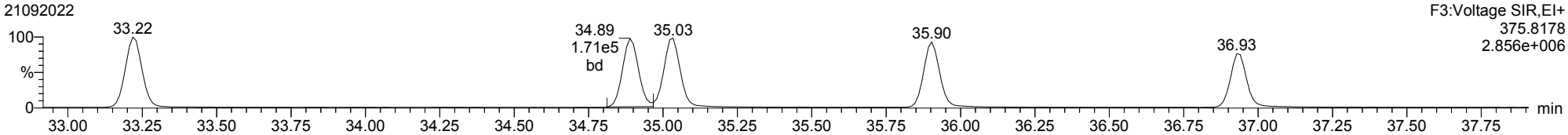


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

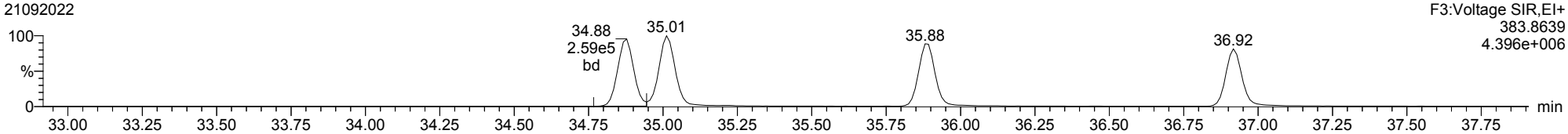
123478-HxCDF



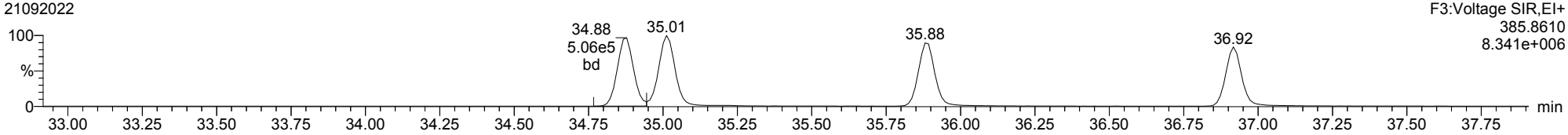
123478-HxCDF



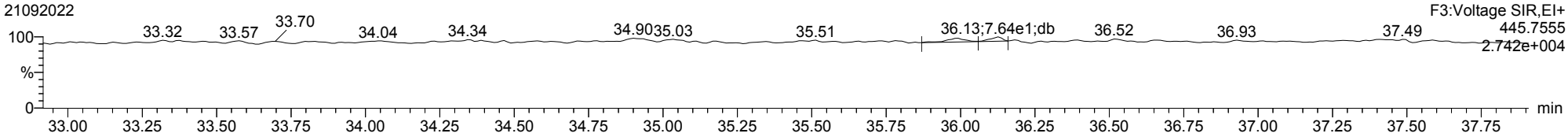
13C-123478-HxCDF



13C-123478-HxCDF

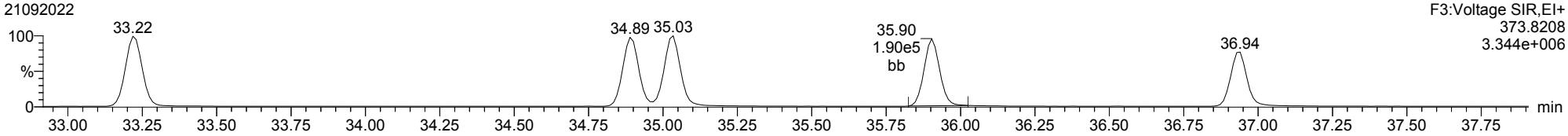


FUNCTION3 OCDPE

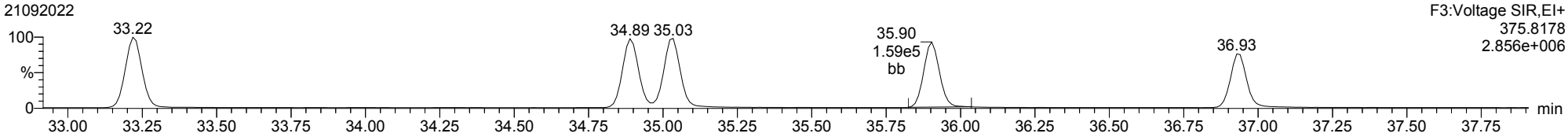


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

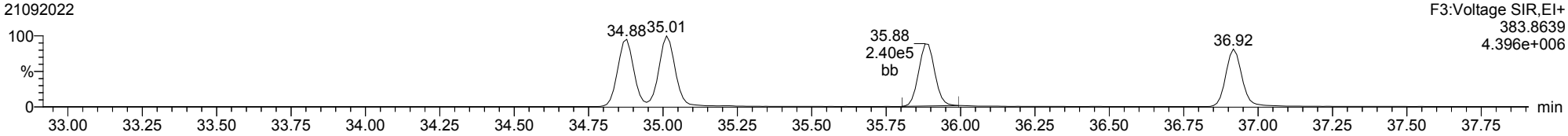
234678-HxCDF



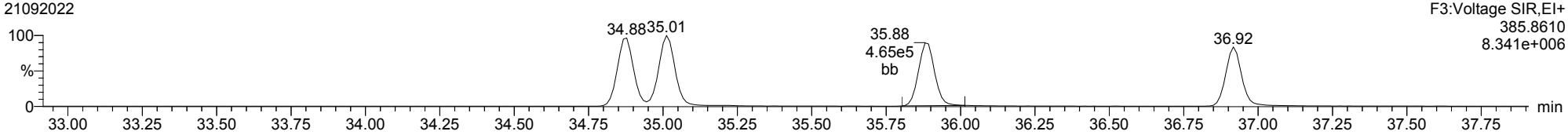
234678-HxCDF



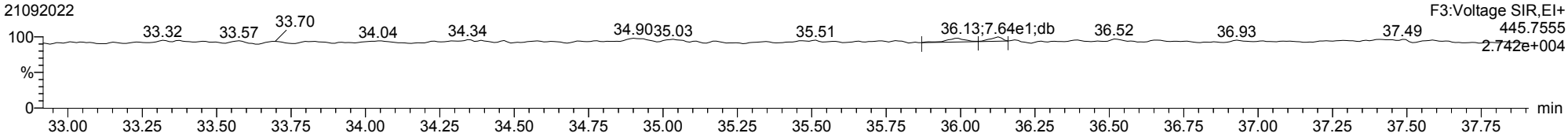
13C-234678-HxCDF



13C-234678-HxCDF

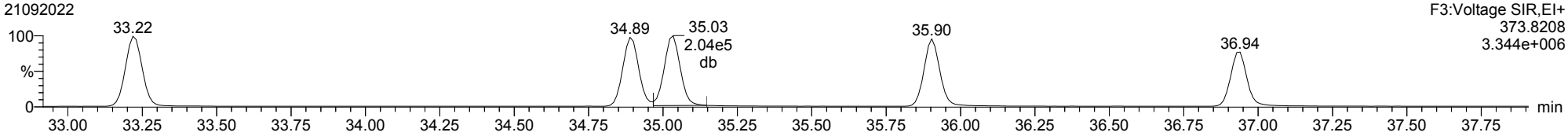


FUNCTION3 OCDPE

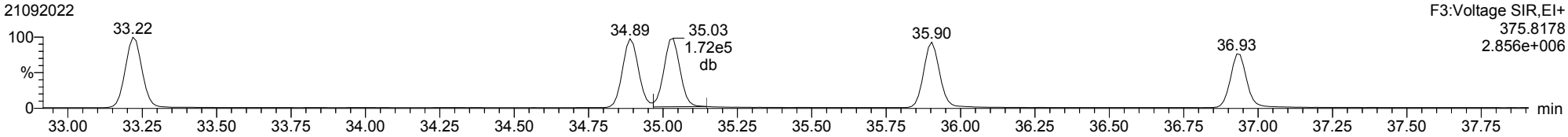


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

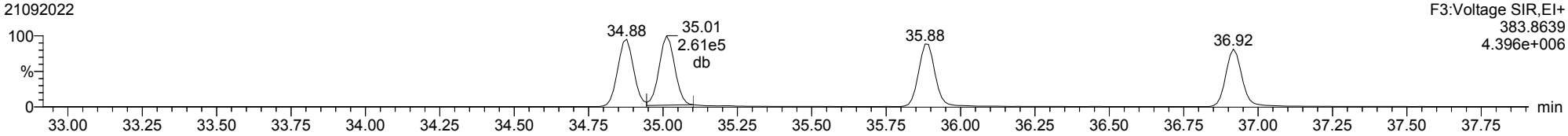
123678-HxCDF



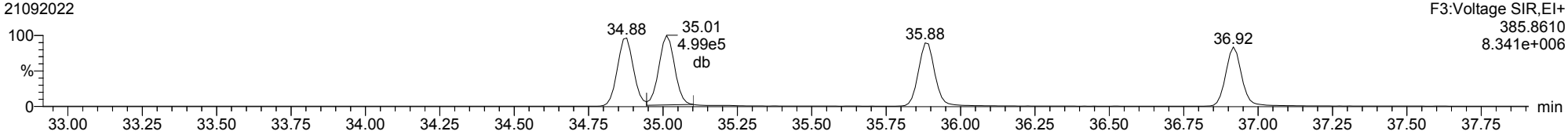
123678-HxCDF



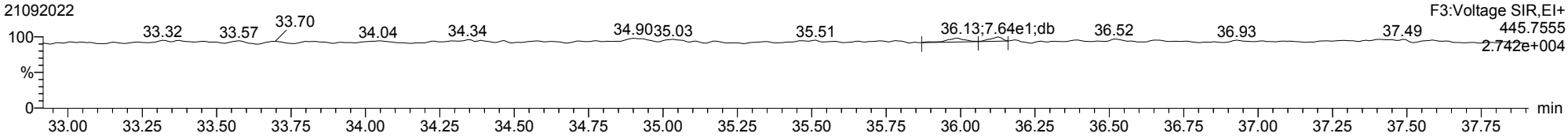
13C-123678-HxCDF



13C-123678-HxCDF

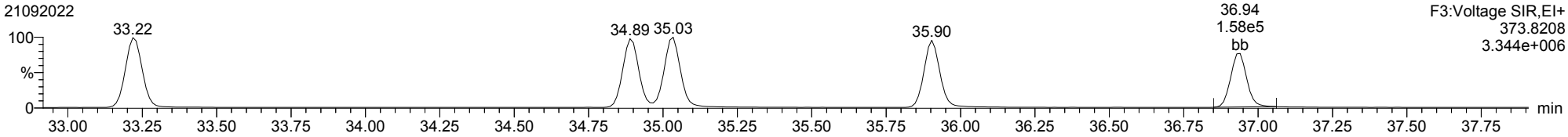


FUNCTION3 OCDPE

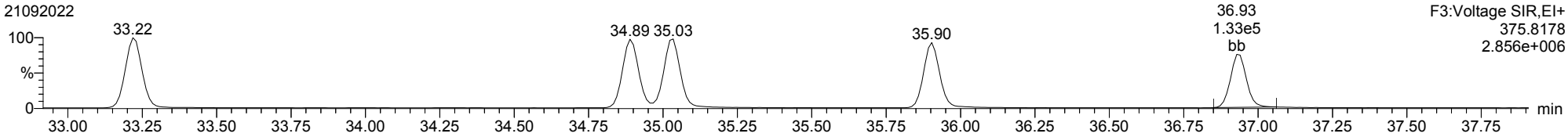


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

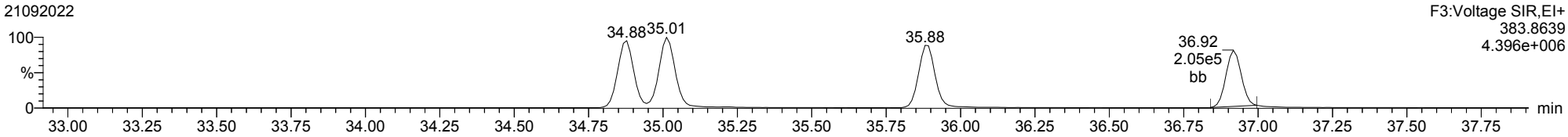
123789-HxCDF



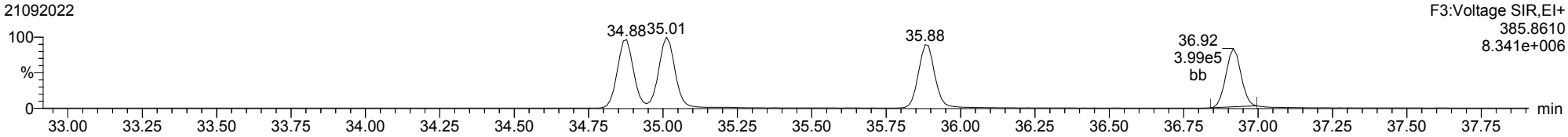
123789-HxCDF



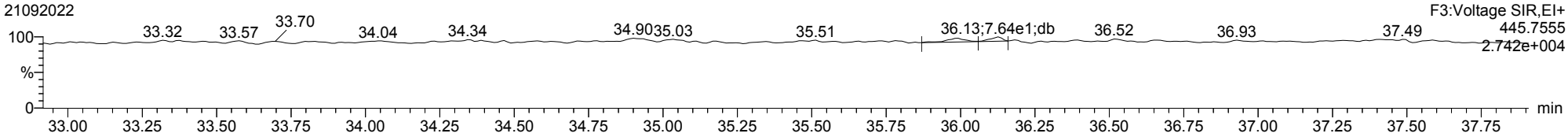
13C-123789-HxCDF



13C-123789-HxCDF

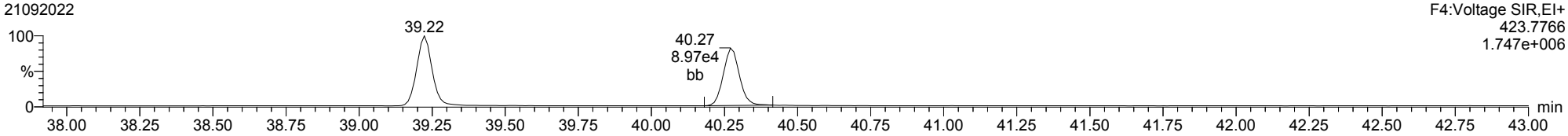


FUNCTION3 OCDPE

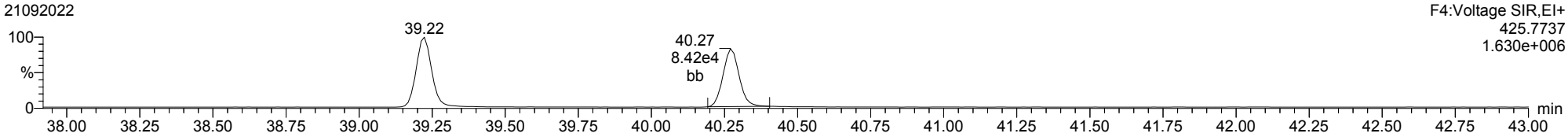


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

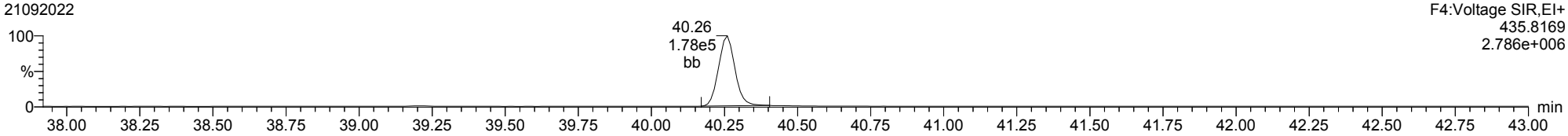
1234678-HpCDD



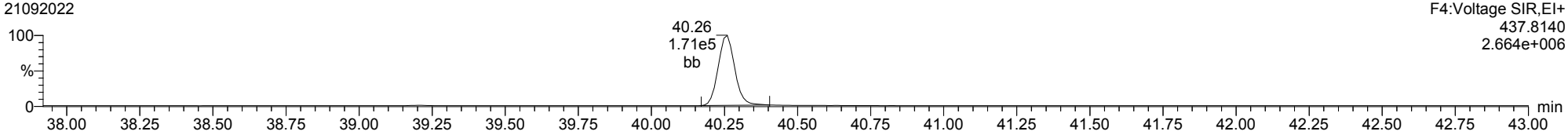
1234678-HpCDD



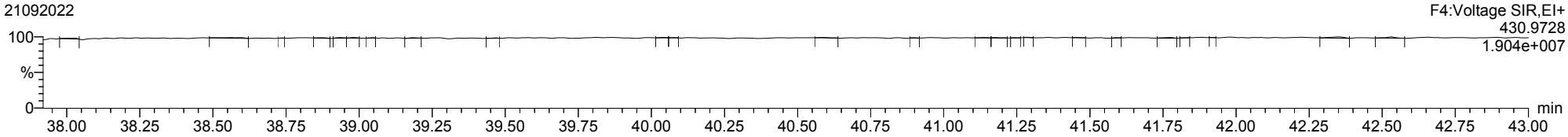
13C-1234678-HpCDD



13C-1234678-HpCDD

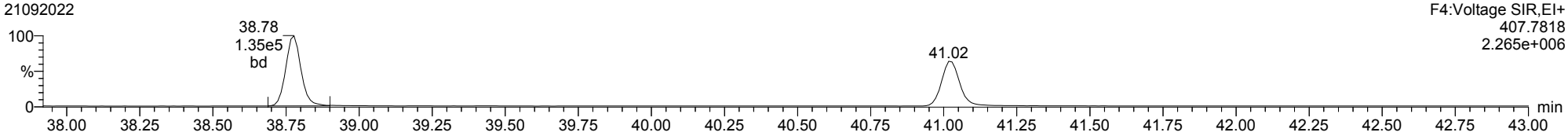


FUNCTION4 PFK

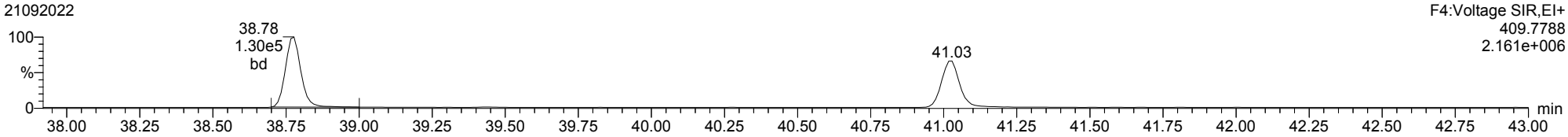


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

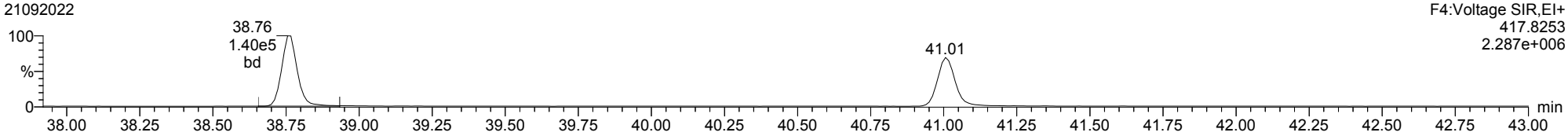
1234678-HpCDF



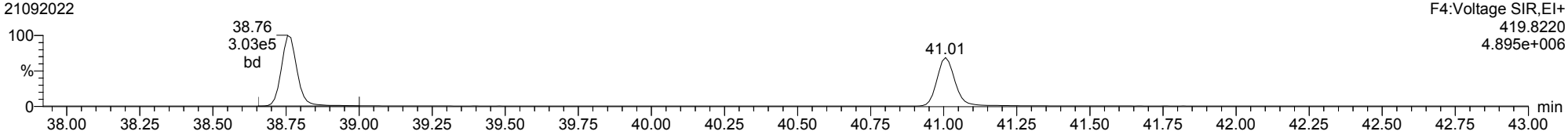
1234678-HpCDF



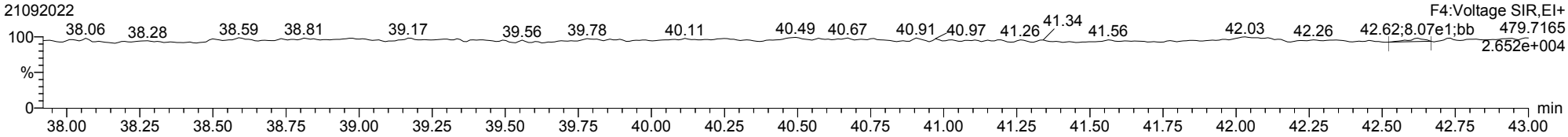
13C-1234678-HpCDF



13C-1234678-HpCDF

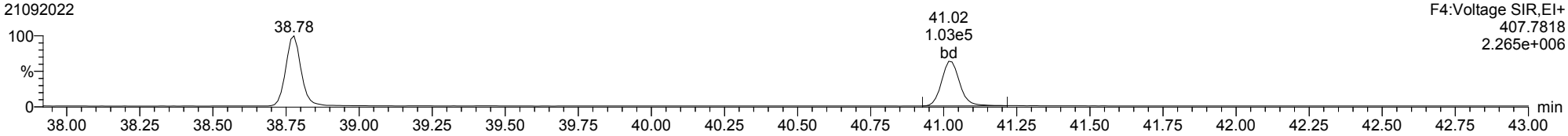


FUNCTION4 NCDPE

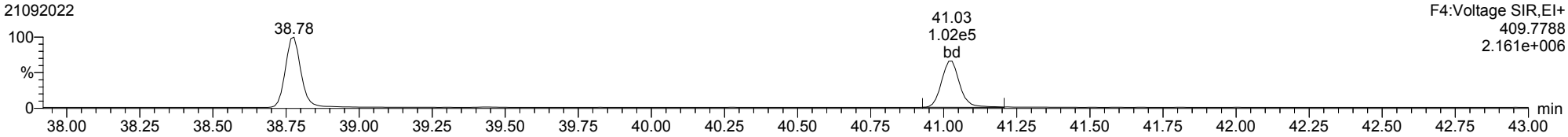


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

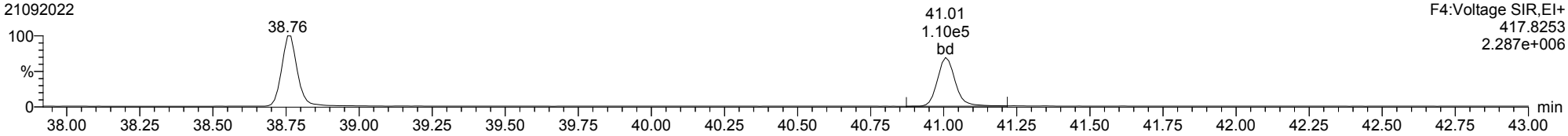
1234789-HpCDF



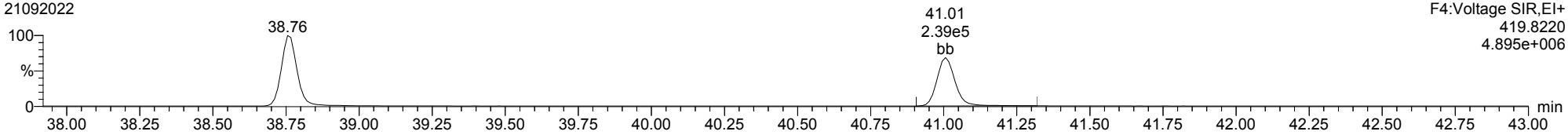
1234789-HpCDF



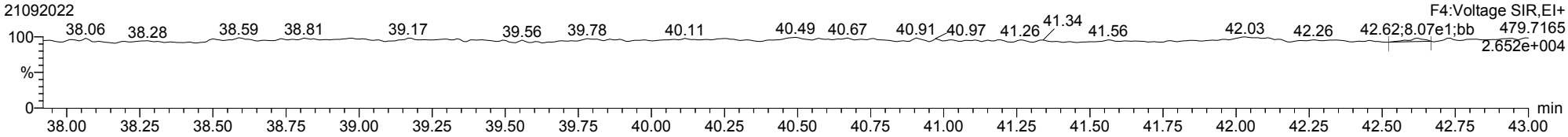
13C-1234789-HpCDF



13C-1234789-HpCDF

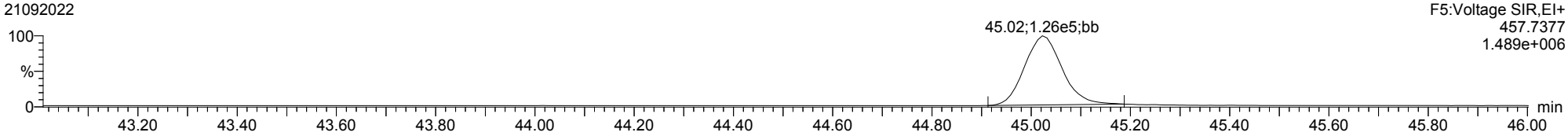


FUNCTION4 NCDPE

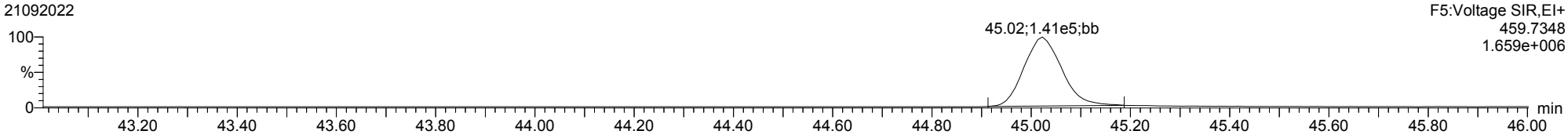


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

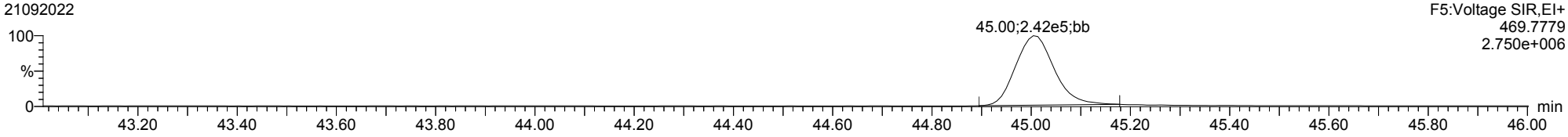
OCDD



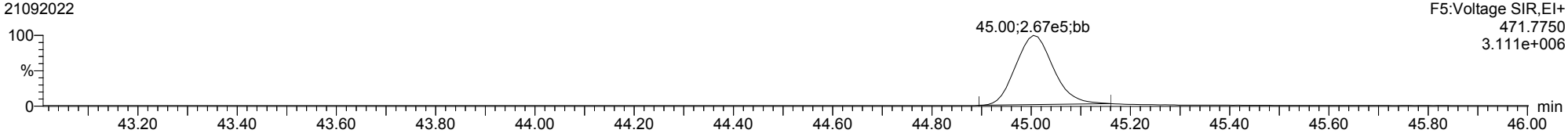
OCDD



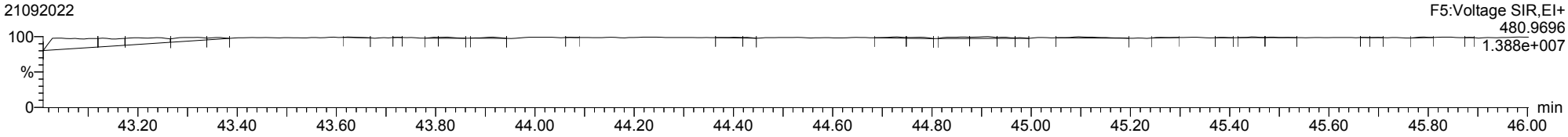
13C-OCDD



13C-OCDD

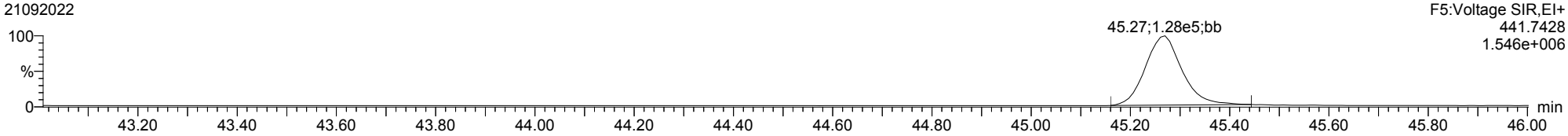


FUNCTION5 PFK

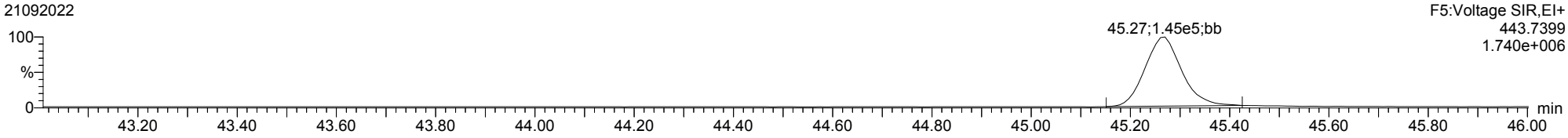


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

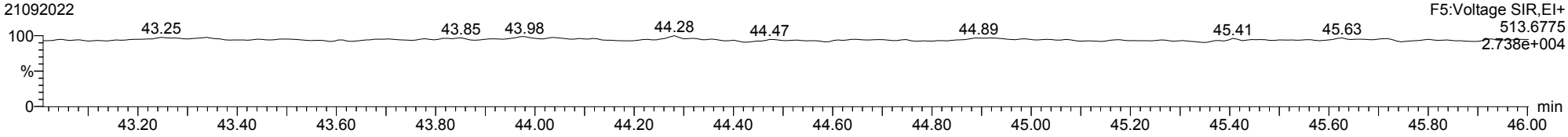
OCDF



OCDF



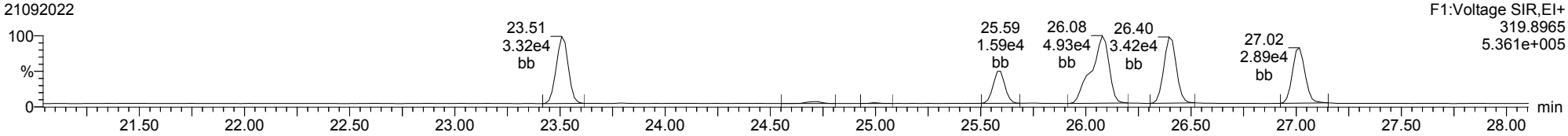
FUNCTION5 DCDPE



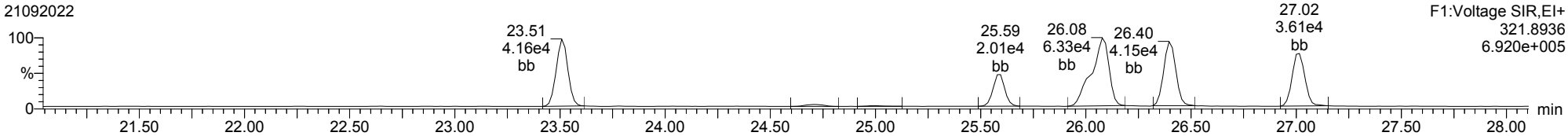
Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

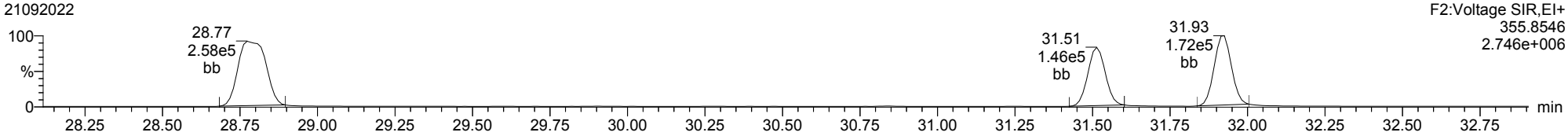
Total-tetradioxins



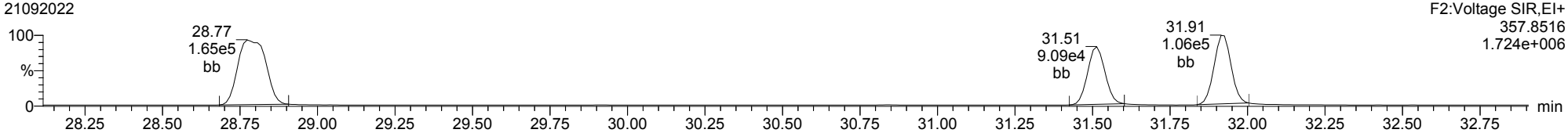
Total-tetradioxins



Total-pentadioxins

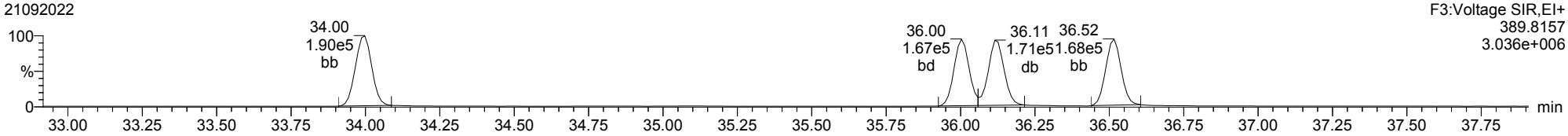


Total-pentadioxins

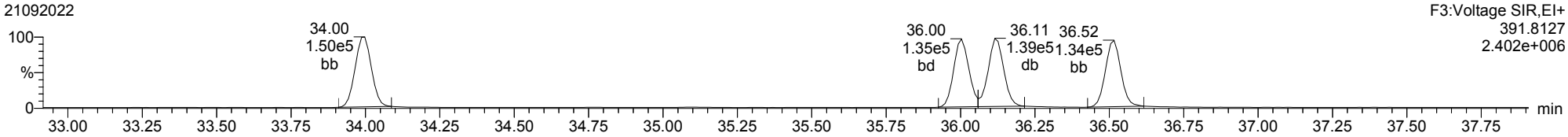


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

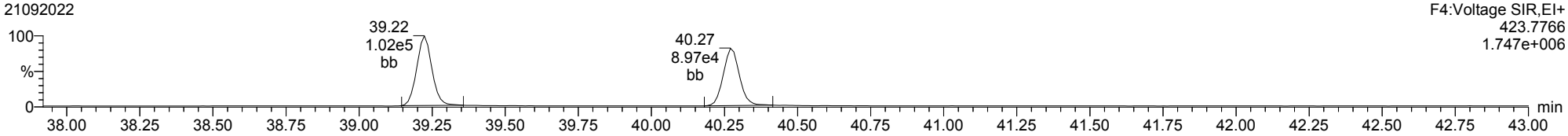
Total-hexadioxins



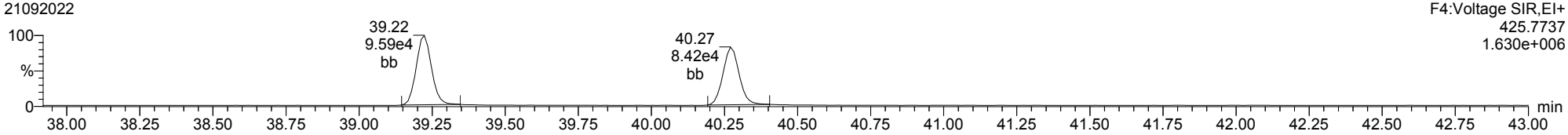
Total-hexadioxins



Total-heptadioxins

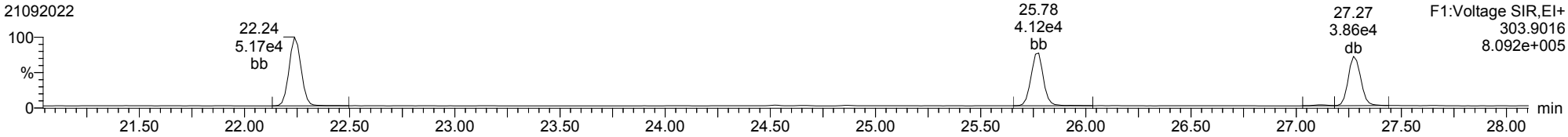


Total-heptadioxins

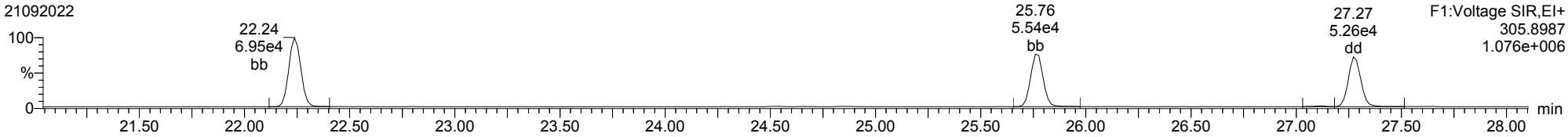


ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

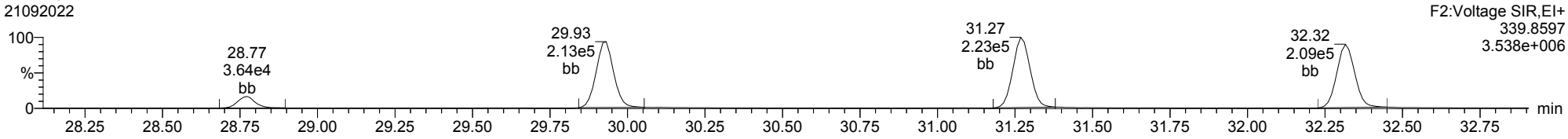
Total-tetrafurans



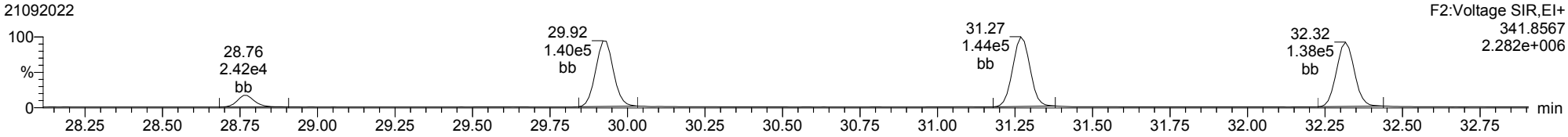
Total-tetrafurans



Total-pentafurans



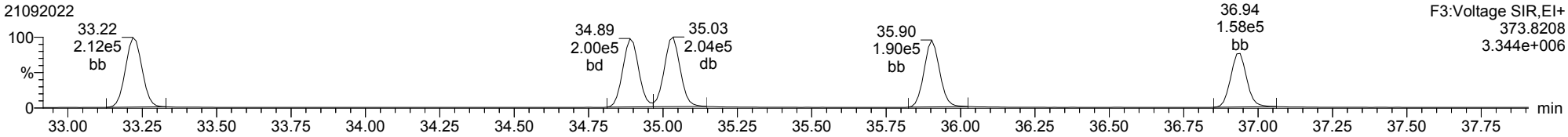
Total-pentafurans



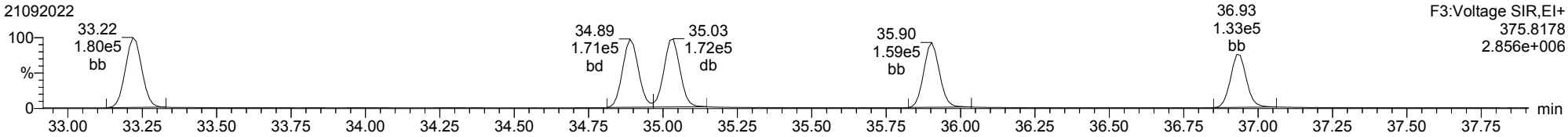
Dataset: T:\Autospec\Processed Data Batch\210920D2.qld
Last Altered: Tuesday, September 21, 2021 13:21:12 Pacific Daylight Time
Printed: Tuesday, September 21, 2021 13:29:48 Pacific Daylight Time

ID: CS3S3, Name: 21092022, Date: 21-Sep-2021, Time: 09:36:53, Conditions: AUTOSPEC01, User: pk

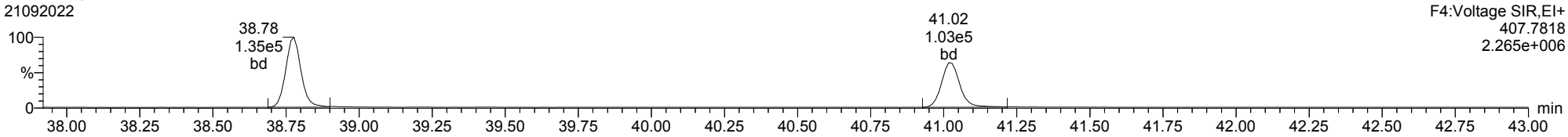
Total-hexafurans



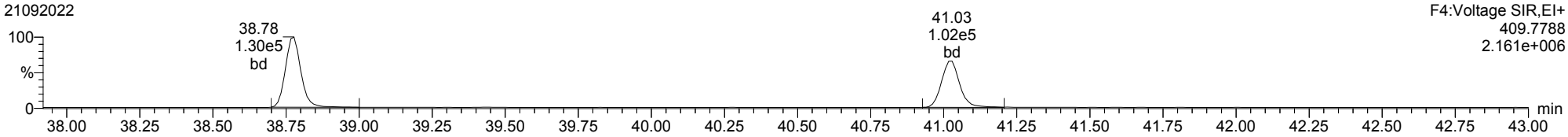
Total-hexafurans



Total-heptafurans

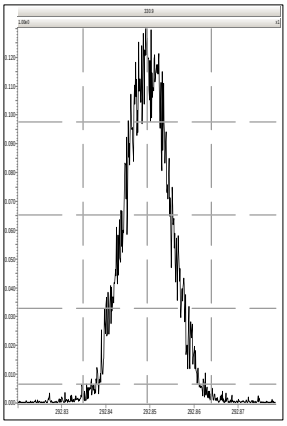


Total-heptafurans

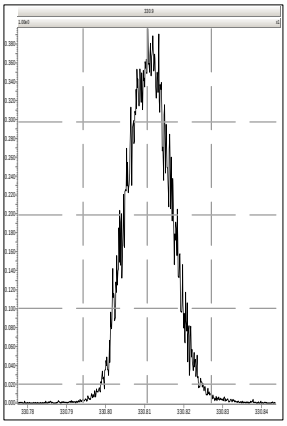


Printed: Tuesday, September 21, 2021 10:37:38 Pacific Daylight Time

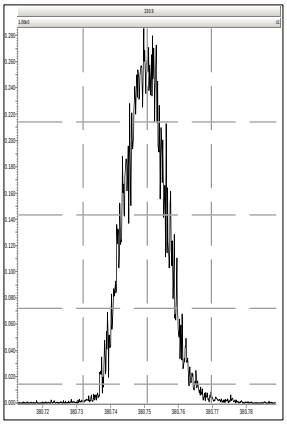
M 292.9824 R 12953



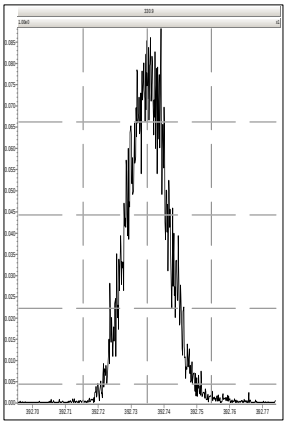
M 330.9792 R 13736



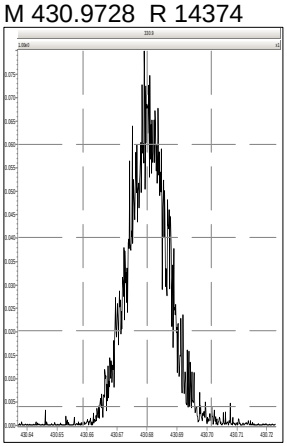
M 380.9760 R 14450



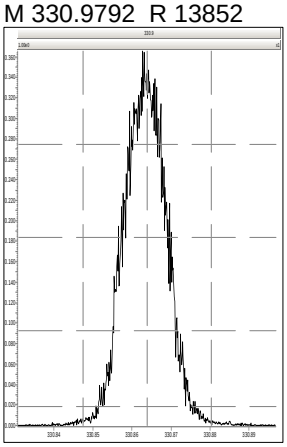
M 392.9760 R 14208



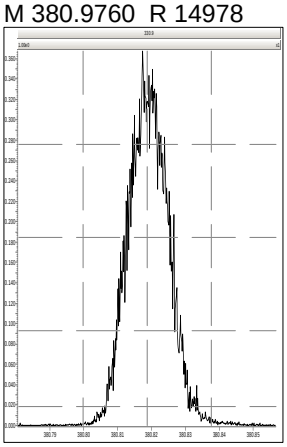
M 430.9728 R 14374



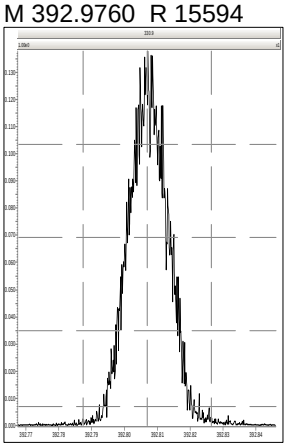
M 330.9792 R 13852



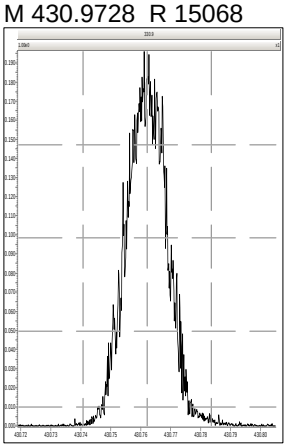
M 380.9760 R 14978



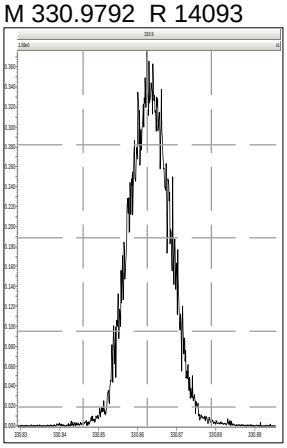
M 392.9760 R 15594



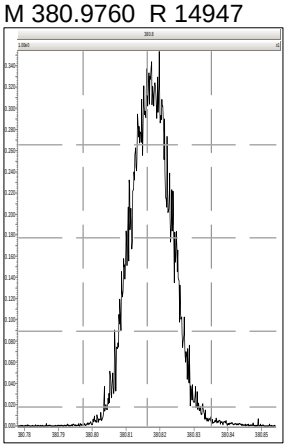
M 430.9728 R 15068



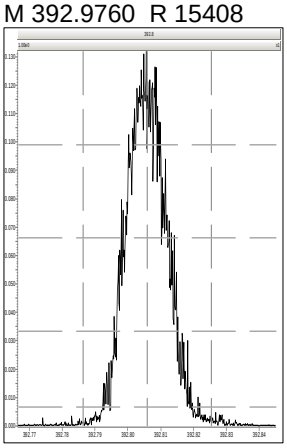
M 330.9792 R 14093



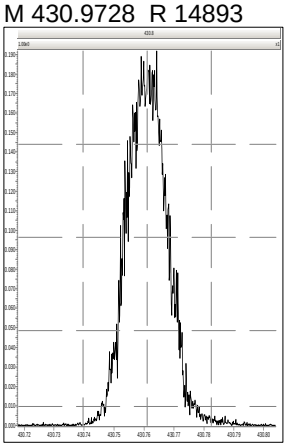
M 380.9760 R 14947



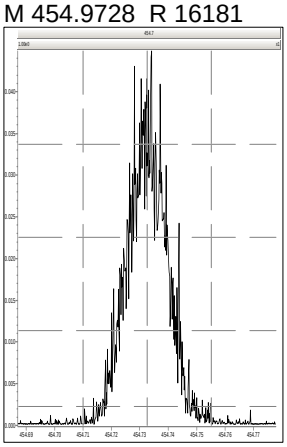
M 392.9760 R 15408



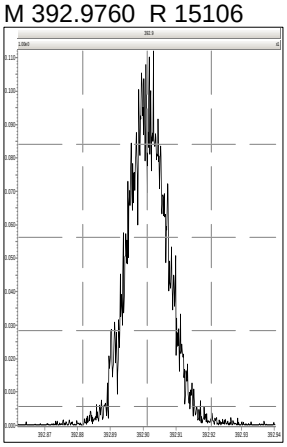
M 430.9728 R 14893



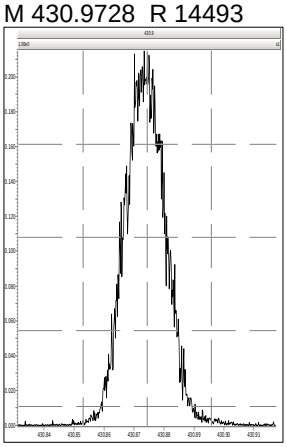
M 454.9728 R 16181



M 392.9760 R 15106

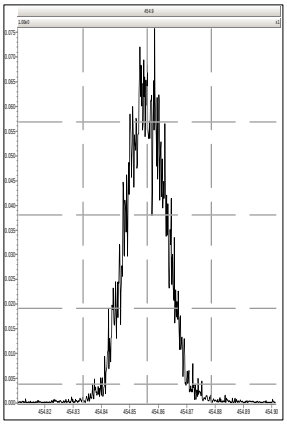


M 430.9728 R 14493

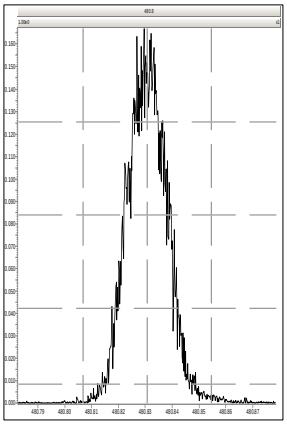


Printed: Tuesday, September 21, 2021 10:37:38 Pacific Daylight Time

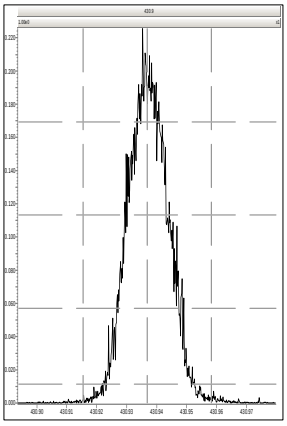
M 454.9728 R 15832



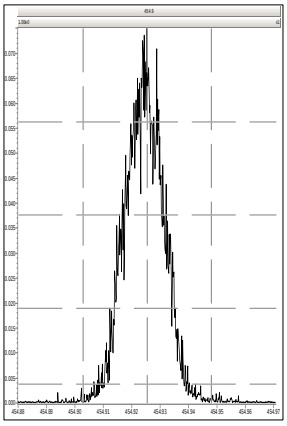
M 480.9696 R 14941



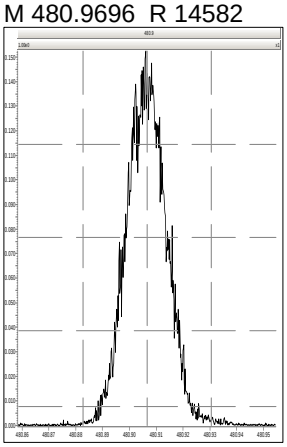
M 430.9728 R 15353



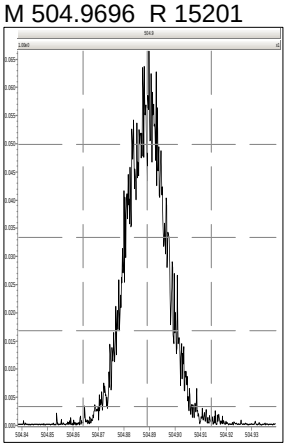
M 454.9728 R 15452



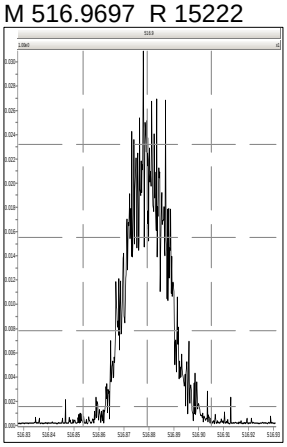
M 480.9696 R 14582

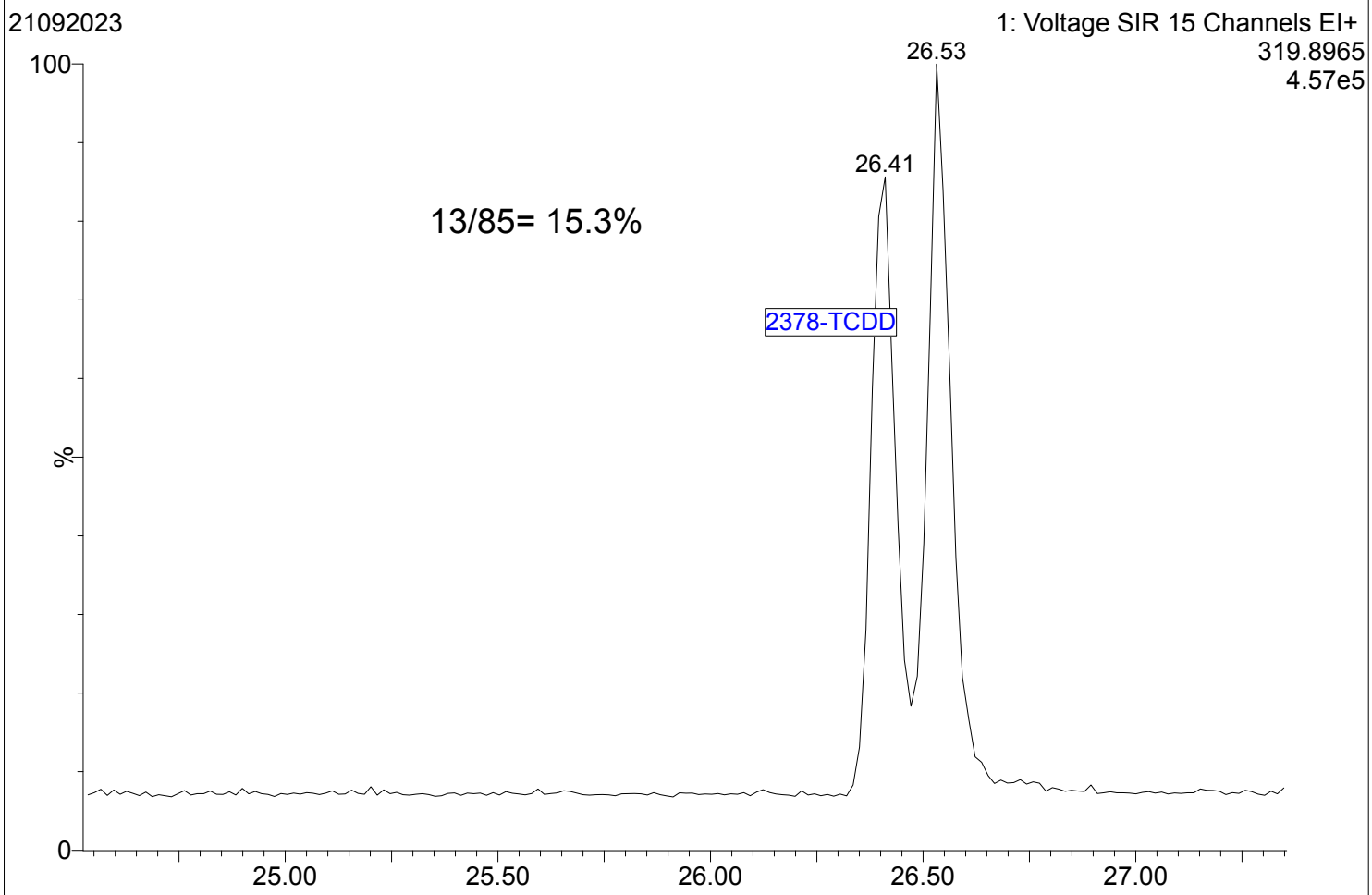


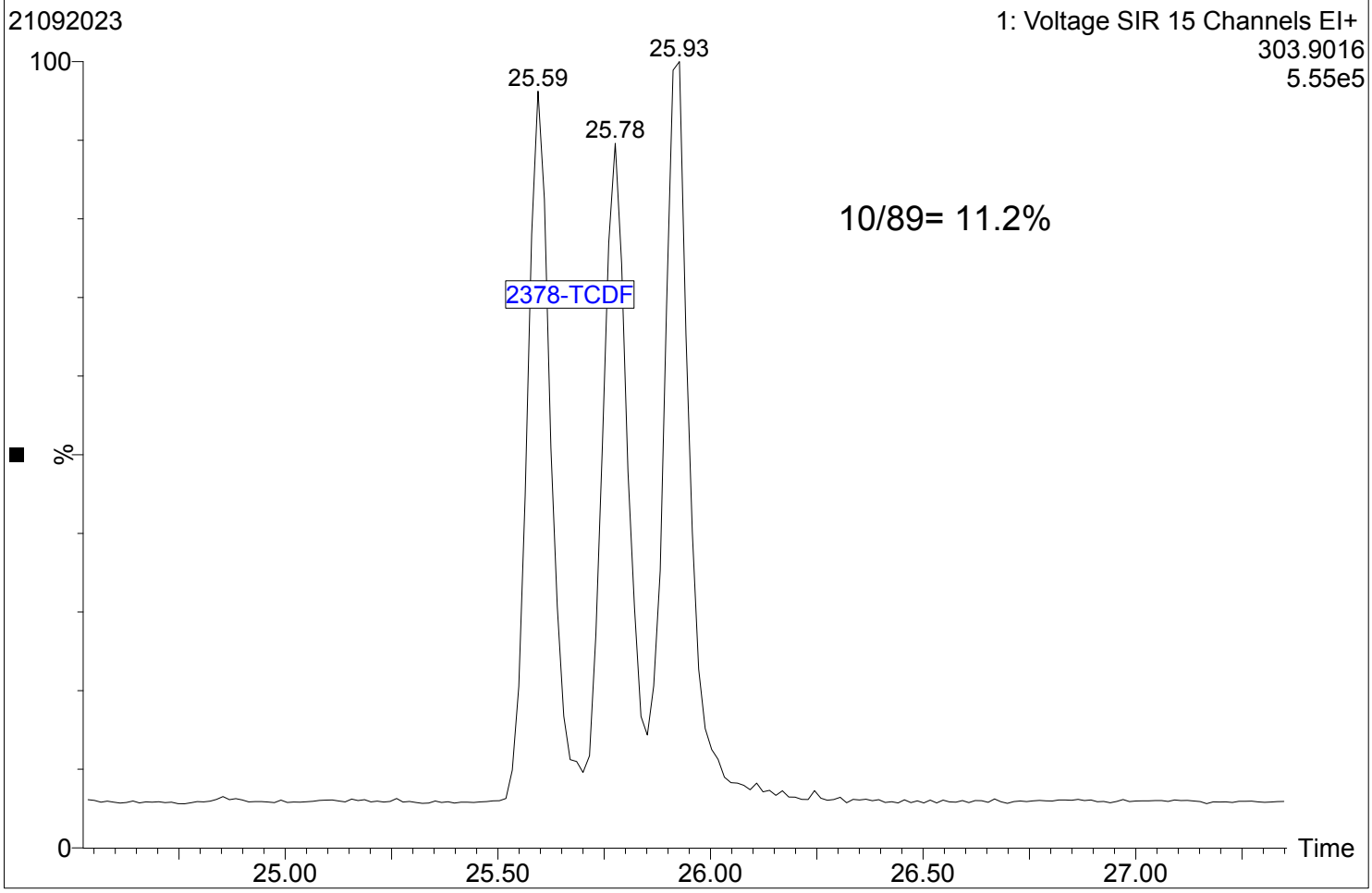
M 504.9696 R 15201



M 516.9697 R 15222




21092023
1: Voltage SIR 15 Channels EI+
319.8965
4.57e5
26.53
26.41
13/85= 15.3%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21092023
1: Voltage SIR 15 Channels EI+
303.9016
5.55e5
25.93
25.59
25.78
10/89= 11.2%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21081113B	Calibration Date:	08/11/2021
Sequence:	SJH0117	Injection Date:	08/12/21
Lab Sample ID:	SJH0117-CCV1	Injection Time:	00:48
Sequence Name:	CS3Z2		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	10.1	1.1075930	1.1191730		1.0	+/-16
2,3,7,8-TCDD	A	10.000	9.75	0.9202875	0.8973066		-2.5	+/-22
1,2,3,7,8-PeCDF	A	50.000	50.7	1.0148670	1.0281610		1.3	+/-18
2,3,4,7,8-PeCDF	A	50.000	50.4	1.1255490	1.1349300		0.8	+/-18
1,2,3,7,8-PeCDD	A	50.000	49.1	0.9953229	0.9769075		-1.9	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	51.8	1.0168930	1.0538730		3.6	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	51.8	1.0368310	1.0732520		3.5	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	49.7	1.0524660	1.0469350		-0.5	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	49.7	1.0301540	1.0235190		-0.6	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.5	1.0273630	0.9967018		-3.0	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	51.5	1.0089800	1.0398750		3.1	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.7	0.9504865	0.9630587		1.3	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	48.9	1.3273500	1.2991490		-2.1	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	51.5	1.2833380	1.3216770		3.0	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	48.0	1.0680880	1.0247400		-4.1	+/-14
OCDF	A	100.00	107	1.4469010	1.5539920		7.4	+/-37
OCDD	A	100.00	107	1.1808230	1.2619610		6.9	+/-21
13C12-2,3,7,8-TCDF	A	100.00	98.0	1.4265830	1.3974584		-2.0	+/-29
13C12-2,3,7,8-TCDD	A	100.00	97.1	1.1164910	1.0836404		-2.9	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	97.5	1.2973130	1.2648460		-2.5	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	97.1	1.2364800	1.2008975		-2.9	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	98.0	0.7319833	0.7176249		-2.0	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	101	1.2424560	1.2494697		0.6	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	102	1.3434760	1.3642310		1.5	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	101	1.2148550	1.2212500		0.5	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	102	1.0076370	1.0247334		1.7	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	100	0.9598233	0.9598120		-0.001	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	99.6	1.0413850	1.0375413		-0.4	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	105	0.9264704	0.9757178		5.3	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	102	0.7579160	0.7727519		2.0	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	106	0.6324476	0.6702170		6.0	+/-18
13C12-OCDD	A	200.00	201	0.5037432	0.5068327		0.6	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.13	1.0835930	0.9890047		-8.7	+/-21

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:52:07 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.655	1.001	1.143e5	1.396e5	1.108	0.819	0.770	2209	2380	1.71e6	2.07e6	776.0	867.8	NO	bb	bb	10.105
12378-PeCDF	29.817	1.000	6.180e5	4.376e5	1.015	1.413	1.550	6418	4382	8.92e6	5.95e6	1389.5	1358.9	NO	bb	bb	50.655
23478-PeCDF	31.165	1.001	6.708e5	4.355e5	1.126	1.540	1.550	6418	4382	9.69e6	6.27e6	1509.6	1430.5	NO	bd	bd	50.417
123478-HxCDF	34.797	1.000	4.932e5	3.999e5	1.017	1.233	1.240	5850	4867	7.49e6	6.12e6	1280.5	1258.5	NO	bd	bd	51.818
234678-HxCDF	35.811	1.001	4.741e5	3.931e5	1.052	1.206	1.240	5850	4867	7.32e6	5.96e6	1251.7	1223.7	NO	bb	bb	49.737
123678-HxCDF	34.942	1.001	5.746e5	4.185e5	1.037	1.373	1.240	5850	4867	7.73e6	6.23e6	1320.9	1280.9	NO	dd	db	51.756
123789-HxCDF	36.835	1.000	3.899e5	3.214e5	1.030	1.213	1.240	5850	4867	5.82e6	4.79e6	994.6	984.8	NO	bb	bb	49.678
1234678-HpCDF	38.685	1.000	4.539e5	4.058e5	1.327	1.118	1.050	5381	5066	6.60e6	6.39e6	1226.2	1261.9	NO	bd	bb	48.938
1234789-HpCDF	40.924	1.000	3.429e5	3.497e5	1.283	0.981	1.050	5381	5066	4.67e6	4.55e6	867.9	898.7	NO	bb	bd	51.494
OCDF	45.140	1.006	5.034e5	5.649e5	1.447	0.891	0.890	4470	4598	5.39e6	5.90e6	1206.0	1283.8	NO	bd	bd	107.401
2378-TCDD	26.305	1.001	6.930e4	8.856e4	0.920	0.783	0.770	2202	2331	1.00e6	1.30e6	455.2	559.0	NO	bb	bb	9.750
12378-PeCDD	31.421	1.001	3.542e5	2.148e5	0.995	1.649	1.550	4399	2303	5.26e6	3.29e6	1196.1	1426.7	NO	bb	bb	49.075
123478-HxCDD	35.922	1.000	3.564e5	2.924e5	1.027	1.219	1.240	6435	4536	5.90e6	4.75e6	916.5	1047.8	NO	bd	bd	48.508
123678-HxCDD	36.044	1.001	4.055e5	3.262e5	1.009	1.243	1.240	6435	4536	5.93e6	4.74e6	922.2	1045.0	NO	db	db	51.531
123789-HxCDD	36.423	1.011	3.629e5	2.894e5	0.950	1.254	1.240	6435	4536	5.40e6	4.41e6	838.4	972.5	NO	bb	bb	50.661
1234678-HpCDD	40.178	1.000	2.336e5	2.322e5	1.068	1.006	1.050	3232	2806	3.31e6	3.23e6	1025.7	1152.0	NO	bb	bb	47.971
OCDD	44.902	1.000	4.051e5	4.625e5	1.181	0.876	0.890	3821	3323	4.65e6	5.25e6	1217.2	1581.4	NO	bd	bd	106.871
13C-2378-TCDF	25.640	1.007	1.023e6	1.246e6	1.427	0.821	0.770	4222	3419	1.50e7	1.84e7	3559.1	5386.6	NO	bb	bb	97.958
13C-12378-PeCDF	29.806	1.171	1.249e6	8.041e5	1.297	1.554	1.550	5206	4735	1.83e7	1.13e7	3520.2	2396.2	NO	bb	bd	97.497
13C-23478-PeCDF	31.142	1.223	1.204e6	7.457e5	1.236	1.614	1.550	5206	4735	1.76e7	1.10e7	3379.0	2313.4	NO	bb	bb	97.122
13C-123478-HxCDF	34.786	0.955	5.756e5	1.119e6	1.242	0.514	0.510	4837	7694	8.67e6	1.70e7	1792.8	2206.6	NO	bd	bd	100.564
13C-123678-HxCDF	34.919	0.959	6.397e5	1.211e6	1.343	0.528	0.510	4837	7694	9.26e6	1.76e7	1914.7	2293.8	NO	db	db	101.545
13C-234678-HxCDF	35.788	0.983	5.662e5	1.090e6	1.215	0.519	0.510	4837	7694	8.44e6	1.64e7	1744.6	2133.4	NO	bb	bb	100.526
13C-123789-HxCDF	36.824	1.011	4.764e5	9.136e5	1.008	0.521	0.510	4837	7694	7.17e6	1.38e7	1481.6	1789.5	NO	bb	bb	101.697
13C-1234678-HpCDF	38.674	1.062	4.025e5	9.210e5	0.926	0.437	0.440	4919	5787	6.00e6	1.33e7	1219.4	2291.3	NO	bb	bb	105.316
13C-1234789-HpCDF	40.902	1.123	3.390e5	7.092e5	0.758	0.478	0.440	4919	5787	4.33e6	9.36e6	880.8	1618.0	NO	bd	bb	101.957
13C-1234-TCDD	25.458	0.000	7.107e5	9.127e5	1.000	0.779	0.770	4322	2655	1.07e7	1.38e7	2477.2	5211.8	NO	bb	bb	100.000
13C-2378-TCDD	26.275	1.032	7.572e5	1.002e6	1.116	0.756	0.770	4322	2655	1.10e7	1.47e7	2555.0	5537.6	NO	bb	bb	97.058
13C-12378-PeCDD	31.399	1.233	7.083e5	4.567e5	0.732	1.551	1.550	2197	2256	1.02e7	6.60e6	4656.5	2924.7	NO	bb	bb	98.038
13C-123478-HxCDD	35.911	0.986	7.278e5	5.741e5	0.960	1.268	1.240	5339	3457	1.18e7	9.21e6	2205.2	2664.1	NO	bd	bd	99.999
13C-123678-HxCDD	36.022	0.989	7.868e5	6.206e5	1.041	1.268	1.240	5339	3457	1.16e7	9.23e6	2175.2	2669.6	NO	db	db	99.631
13C-1234678-HpCDD	40.167	1.103	4.698e5	4.393e5	0.632	1.069	1.050	3318	4839	6.24e6	5.99e6	1881.1	1238.3	NO	bb	bd	105.972
13C-OCDD	44.884	1.233	6.557e5	7.193e5	0.504	0.912	0.890	3766	2994	7.78e6	8.50e6	2067.0	2839.7	NO	bb	bb	201.227
13C-123789-HxCDD	36.412	0.000	7.565e5	5.999e5	1.000	1.261	1.240	5339	3457	1.16e7	9.02e6	2168.1	2609.1	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	1.606e5		1.084			2435		2.31e6		947.5			bb		9.127

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:52:07 Pacific Daylight Time

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.147	0.864	1.386e5	1.842e5	1.425	0.753	0.770	2209	2380	2.22e6	2.90e6	1005.2	1218.6	NO	bb	bb	9.983
1289-TCDF	27.152	1.059	1.091e5	1.321e5	1.043	0.826	0.770	2209	2380	1.55e6	1.91e6	700.5	802.7	NO	bb	bb	10.192
13468-PECDF	27.015	0.906	8.873e5	5.695e5	1.376	1.558	1.550	1007	1724	1.34e7	8.46e6	13289.5	4908.8	NO	bb	bb	51.550
12389-PECDF	32.201	1.080	6.289e5	4.043e5	1.000	1.555	1.550	6418	4382	8.60e6	5.59e6	1339.2	1276.7	NO	bb	bb	50.341
123468-HXCDF	33.125	0.952	5.139e5	4.526e5	1.087	1.135	1.240	5850	4867	7.68e6	6.45e6	1313.5	1325.0	NO	bb	bb	52.485
1368-TCDD	23.417	0.891	7.327e4	9.470e4	0.923	0.774	0.770	2202	2331	1.11e6	1.48e6	505.2	634.7	NO	bb	bb	10.342
1289-TCDD	26.895	1.024	6.177e4	8.189e4	0.794	0.754	0.770	2202	2331	9.09e5	1.13e6	412.8	484.6	NO	bb	bd	10.285
12479-PECDD	28.703	0.914	6.697e5	3.948e5	1.843	1.696	1.550	4399	2303	6.19e6	3.79e6	1407.8	1645.8	NO	bb	bb	49.573
12389-PECDD	31.822	1.013	4.131e5	2.464e5	1.154	1.676	1.550	4399	2303	5.91e6	3.60e6	1344.5	1564.4	NO	bb	bb	49.074
124679-HXCDD	33.905	0.944	4.106e5	3.389e5	1.125	1.212	1.240	6435	4536	6.29e6	5.14e6	976.7	1133.8	NO	bb	bb	51.172
1234679-HPCDD	39.131	0.974	2.687e5	2.465e5	1.211	1.090	1.050	3232	2806	4.00e6	3.69e6	1238.7	1316.6	NO	bb	bb	46.792
Total-tetrafurans			3.644e5		1.192			2209		5.52e6							30.479
Total-penta1			8.873e5					1007		1.34e7							51.550
Total-pentafurans			2.025e6		1.047			6418		2.88e7							159.979
Total-hexafurans			2.446e6		1.045			5850		3.60e7							255.475
Total-heptafurans			7.968e5		1.305			5381		1.13e7							100.431
Total-Furans			7.022e6		1.158			2209		1.00e8							705.315
Total-tetradioxins			3.479e5		0.879			2202		4.65e6							51.451
Total-pentadioxins			1.437e6		1.331			4399		1.74e7							147.722
Total-hexadioxins			1.535e6		1.028			6435		2.35e7							201.873
Total-heptadioxins			5.022e5		1.140			3232		7.32e6							94.763
Total-Dioxins			4.228e6		1.092			2202		5.75e7							602.679
Total-TEQ			1.125e7					2202		1.58e8							1307.995
FUNCTION1 PFK			0.000e0					865360		0.00e0							
FUNCTION2 PFK			1.459e7					431624		6.40e7							0.000
FUNCTION3 PFK			6.237e3					742709		5.59e5							0.000
FUNCTION4 PFK			2.072e7					486680		6.95e7							
FUNCTION5 PFK			1.478e5					389285		5.03e6							
FUNCTION1 HXCD...			2.806e3					1089		4.50e4							0.000
FUNCTION1 HPCD...			2.562e3					1259		3.84e4							0.000
FUNCTION2 HPCD...			7.358e2					1046		1.36e4							0.000
FUNCTION3 OCDPE			1.483e3					1595		2.46e4							0.000
FUNCTION4 NCDPE			2.553e3					2345		6.96e4							0.000
FUNCTION5 DCDPE			2.445e2					1300		9.17e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:52:07 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	1.091e5	1.321e5	1.043	0.83	0.77	700.5	YES	NO	bb	bb	10.192
2	2378-TCDF	25.65	1.143e5	1.396e5	1.108	0.82	0.77	776.0	YES	NO	bb	bb	10.105
3	Total-tetrafurans	24.75	9.308e2	1.284e3	1.192	0.72	0.77	6.1	YES	NO	bb	bb	0.082
4	Total-tetrafurans	24.42	1.425e3	1.742e3	1.192	0.82	0.77	10.8	YES	NO	bd	bd	0.117
5	1368-TCDF	22.15	1.386e5	1.842e5	1.425	0.75	0.77	1005.2	YES	NO	bb	bb	9.983

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.02	8.873e5	5.695e5	1.376	1.56	1.55	13289.5	YES	NO	bb	bb	51.550

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.16	6.708e5	4.355e5	1.126	1.54	1.55	1509.6	YES	NO	bd	bd	50.417
2	12378-PeCDF	29.82	6.180e5	4.376e5	1.015	1.41	1.55	1389.5	YES	NO	bb	bb	50.655
3	Total-pentafurans	28.67	1.069e5	7.257e4	1.047	1.47	1.55	243.1	YES	NO	bb	bb	8.567
4	12389-PECDF	32.20	6.289e5	4.043e5	1.000	1.56	1.55	1339.2	YES	NO	bb	bb	50.341

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	34.94	5.746e5	4.185e5	1.037	1.37	1.24	1320.9	YES	NO	dd	db	51.756
2	123478-HxCDF	34.80	4.932e5	3.999e5	1.017	1.23	1.24	1280.5	YES	NO	bd	bd	51.818
3	123468-HXCDF	33.13	5.139e5	4.526e5	1.087	1.14	1.24	1313.5	YES	NO	bb	bb	52.485
4	123789-HxCDF	36.84	3.899e5	3.214e5	1.030	1.21	1.24	994.6	YES	NO	bb	bb	49.678
5	234678-HxCDF	35.81	4.741e5	3.931e5	1.052	1.21	1.24	1251.7	YES	NO	bb	bb	49.737

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.68	4.539e5	4.058e5	1.327	1.12	1.05	1226.2	YES	NO	bd	bb	48.938
2	1234789-HpCDF	40.92	3.429e5	3.497e5	1.283	0.98	1.05	867.9	YES	NO	bb	bd	51.494

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	1.091e5	1.321e5	1.043	0.83	0.77	700.5	YES	NO	bb	bb	10.192
2	2378-TCDF	25.65	1.143e5	1.396e5	1.108	0.82	0.77	776.0	YES	NO	bb	bb	10.105
3	Total-tetrafurans	24.75	9.308e2	1.284e3	1.192	0.72	0.77	6.1	YES	NO	bb	bb	0.082
4	Total-tetrafurans	24.42	1.425e3	1.742e3	1.192	0.82	0.77	10.8	YES	NO	bd	bd	0.117
5	1368-TCDF	22.15	1.386e5	1.842e5	1.425	0.75	0.77	1005.2	YES	NO	bb	bb	9.983
6	23478-PeCDF	31.16	6.708e5	4.355e5	1.126	1.54	1.55	1509.6	YES	NO	bd	bd	50.417
7	12378-PeCDF	29.82	6.180e5	4.376e5	1.015	1.41	1.55	1389.5	YES	NO	bb	bb	50.655
8	Total-pentafurans	28.67	1.069e5	7.257e4	1.047	1.47	1.55	243.1	YES	NO	bb	bb	8.567
9	123678-HxCDF	34.94	5.746e5	4.185e5	1.037	1.37	1.24	1320.9	YES	NO	dd	db	51.756
10	123478-HxCDF	34.80	4.932e5	3.999e5	1.017	1.23	1.24	1280.5	YES	NO	bd	bd	51.818
11	123468-HXCDF	33.13	5.139e5	4.526e5	1.087	1.14	1.24	1313.5	YES	NO	bb	bb	52.485
12	12389-PECDF	32.20	6.289e5	4.043e5	1.000	1.56	1.55	1339.2	YES	NO	bb	bb	50.341
13	123789-HxCDF	36.84	3.899e5	3.214e5	1.030	1.21	1.24	994.6	YES	NO	bb	bb	49.678
14	234678-HxCDF	35.81	4.741e5	3.931e5	1.052	1.21	1.24	1251.7	YES	NO	bb	bb	49.737
15	1234678-HpCDF	38.68	4.539e5	4.058e5	1.327	1.12	1.05	1226.2	YES	NO	bd	bb	48.938
16	1234789-HpCDF	40.92	3.429e5	3.497e5	1.283	0.98	1.05	867.9	YES	NO	bb	bd	51.494
17	OCDF	45.14	5.034e5	5.649e5	1.447	0.89	0.89	1206.0	YES	NO	bd	bd	107.401
18	13468-PECDF	27.02	8.873e5	5.695e5	1.376	1.56	1.55	13289.5	YES	NO	bb	bb	51.550

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.31	6.930e4	8.856e4	0.920	0.78	0.77	455.2	YES	NO	bb	bb	9.750
2	Total-tetradioxins	25.97	1.082e5	1.379e5	0.879	0.78	0.77	507.6	YES	NO	bb	bb	15.916
3	Total-tetradioxins	25.49	3.533e4	4.445e4	0.879	0.79	0.77	232.0	YES	NO	bd	bb	5.158
4	1368-TCDD	23.42	7.327e4	9.470e4	0.923	0.77	0.77	505.2	YES	NO	bb	bb	10.342
5	1289-TCDD	26.89	6.177e4	8.189e4	0.794	0.75	0.77	412.8	YES	NO	bb	bd	10.285

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.82	4.131e5	2.464e5	1.154	1.68	1.55	1344.5	YES	NO	bb	bb	49.074
2	12378-PeCDD	31.42	3.542e5	2.148e5	0.995	1.65	1.55	1196.1	YES	NO	bb	bb	49.075
3	12479-PECDD	28.70	6.697e5	3.948e5	1.843	1.70	1.55	1407.8	YES	NO	bb	bb	49.573

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:52:07 Pacific Daylight Time

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.91	4.106e5	3.389e5	1.125	1.21	1.24	976.7	YES	NO	bb	bb	51.172
2	123789-HxCDD	36.42	3.629e5	2.894e5	0.950	1.25	1.24	838.4	YES	NO	bb	bb	50.661
3	123678-HxCDD	36.04	4.055e5	3.262e5	1.009	1.24	1.24	922.2	YES	NO	db	db	51.531
4	123478-HxCDD	35.92	3.564e5	2.924e5	1.027	1.22	1.24	916.5	YES	NO	bd	bd	48.508

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.13	2.687e5	2.465e5	1.211	1.09	1.05	1238.7	YES	NO	bb	bb	46.792
2	1234678-HpCDD	40.18	2.336e5	2.322e5	1.068	1.01	1.05	1025.7	YES	NO	bb	bb	47.971

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.31	6.930e4	8.856e4	0.920	0.78	0.77	455.2	YES	NO	bb	bb	9.750
2	Total-tetradioxins	25.97	1.082e5	1.379e5	0.879	0.78	0.77	507.6	YES	NO	bb	bb	15.916
3	Total-tetradioxins	25.49	3.533e4	4.445e4	0.879	0.79	0.77	232.0	YES	NO	bd	bb	5.158
4	1368-TCDD	23.42	7.327e4	9.470e4	0.923	0.77	0.77	505.2	YES	NO	bb	bb	10.342
5	1289-TCDD	26.89	6.177e4	8.189e4	0.794	0.75	0.77	412.8	YES	NO	bb	bd	10.285
6	12389-PECDD	31.82	4.131e5	2.464e5	1.154	1.68	1.55	1344.5	YES	NO	bb	bb	49.074
7	12378-PeCDD	31.42	3.542e5	2.148e5	0.995	1.65	1.55	1196.1	YES	NO	bb	bb	49.075
8	12479-PECDD	28.70	6.697e5	3.948e5	1.843	1.70	1.55	1407.8	YES	NO	bb	bb	49.573
9	124679-HXCDD	33.91	4.106e5	3.389e5	1.125	1.21	1.24	976.7	YES	NO	bb	bb	51.172
10	123789-HxCDD	36.42	3.629e5	2.894e5	0.950	1.25	1.24	838.4	YES	NO	bb	bb	50.661
11	123678-HxCDD	36.04	4.055e5	3.262e5	1.009	1.24	1.24	922.2	YES	NO	db	db	51.531
12	123478-HxCDD	35.92	3.564e5	2.924e5	1.027	1.22	1.24	916.5	YES	NO	bd	bd	48.508
13	1234679-HPCDD	39.13	2.687e5	2.465e5	1.211	1.09	1.05	1238.7	YES	NO	bb	bb	46.792
14	1234678-HpCDD	40.18	2.336e5	2.322e5	1.068	1.01	1.05	1025.7	YES	NO	bb	bb	47.971
15	OCDD	44.90	4.051e5	4.625e5	1.181	0.88	0.89	1217.2	YES	NO	bd	bd	106.871

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:52:07 Pacific Daylight Time

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	1.091e5	1.321e5	1.043	0.83	0.77	700.5	YES	NO	bb	bb	10.192
2	2378-TCDF	25.65	1.143e5	1.396e5	1.108	0.82	0.77	776.0	YES	NO	bb	bb	10.105
3	Total-tetrafurans	24.75	9.308e2	1.284e3	1.192	0.72	0.77	6.1	YES	NO	bb	bb	0.082
4	Total-tetrafurans	24.42	1.425e3	1.742e3	1.192	0.82	0.77	10.8	YES	NO	bd	bd	0.117
5	1368-TCDF	22.15	1.386e5	1.842e5	1.425	0.75	0.77	1005.2	YES	NO	bb	bb	9.983
6	23478-PeCDF	31.16	6.708e5	4.355e5	1.126	1.54	1.55	1509.6	YES	NO	bd	bd	50.417
7	12378-PeCDF	29.82	6.180e5	4.376e5	1.015	1.41	1.55	1389.5	YES	NO	bb	bb	50.655
8	Total-pentafurans	28.67	1.069e5	7.257e4	1.047	1.47	1.55	243.1	YES	NO	bb	bb	8.567
9	123678-HxCDF	34.94	5.746e5	4.185e5	1.037	1.37	1.24	1320.9	YES	NO	dd	db	51.756
10	123478-HxCDF	34.80	4.932e5	3.999e5	1.017	1.23	1.24	1280.5	YES	NO	bd	bd	51.818
11	123468-HXCDF	33.13	5.139e5	4.526e5	1.087	1.14	1.24	1313.5	YES	NO	bb	bb	52.485
12	12389-PECDF	32.20	6.289e5	4.043e5	1.000	1.56	1.55	1339.2	YES	NO	bb	bb	50.341
13	123789-HxCDF	36.84	3.899e5	3.214e5	1.030	1.21	1.24	994.6	YES	NO	bb	bb	49.678
14	234678-HxCDF	35.81	4.741e5	3.931e5	1.052	1.21	1.24	1251.7	YES	NO	bb	bb	49.737
15	1234678-HpCDF	38.68	4.539e5	4.058e5	1.327	1.12	1.05	1226.2	YES	NO	bd	bb	48.938
16	1234789-HpCDF	40.92	3.429e5	3.497e5	1.283	0.98	1.05	867.9	YES	NO	bb	bd	51.494
17	OCDF	45.14	5.034e5	5.649e5	1.447	0.89	0.89	1206.0	YES	NO	bd	bd	107.401
18	13468-PECDF	27.02	8.873e5	5.695e5	1.376	1.56	1.55	13289.5	YES	NO	bb	bb	51.550
19	2378-TCDD	26.31	6.930e4	8.856e4	0.920	0.78	0.77	455.2	YES	NO	bb	bb	9.750
20	Total-tetradioxins	25.97	1.082e5	1.379e5	0.879	0.78	0.77	507.6	YES	NO	bb	bb	15.916
21	Total-tetradioxins	25.49	3.533e4	4.445e4	0.879	0.79	0.77	232.0	YES	NO	bd	bb	5.158
22	1368-TCDD	23.42	7.327e4	9.470e4	0.923	0.77	0.77	505.2	YES	NO	bb	bb	10.342
23	1289-TCDD	26.89	6.177e4	8.189e4	0.794	0.75	0.77	412.8	YES	NO	bb	bd	10.285
24	12389-PECDD	31.82	4.131e5	2.464e5	1.154	1.68	1.55	1344.5	YES	NO	bb	bb	49.074
25	12378-PeCDD	31.42	3.542e5	2.148e5	0.995	1.65	1.55	1196.1	YES	NO	bb	bb	49.075
26	12479-PECDD	28.70	6.697e5	3.948e5	1.843	1.70	1.55	1407.8	YES	NO	bb	bb	49.573
27	124679-HXCDD	33.91	4.106e5	3.389e5	1.125	1.21	1.24	976.7	YES	NO	bb	bb	51.172
28	123789-HxCDD	36.42	3.629e5	2.894e5	0.950	1.25	1.24	838.4	YES	NO	bb	bb	50.661
29	123678-HxCDD	36.04	4.055e5	3.262e5	1.009	1.24	1.24	922.2	YES	NO	db	db	51.531
30	123478-HxCDD	35.92	3.564e5	2.924e5	1.027	1.22	1.24	916.5	YES	NO	bd	bd	48.508
31	1234679-HPCDD	39.13	2.687e5	2.465e5	1.211	1.09	1.05	1238.7	YES	NO	bb	bb	46.792
32	1234678-HpCDD	40.18	2.336e5	2.322e5	1.068	1.01	1.05	1025.7	YES	NO	bb	bb	47.971
33	OCDD	44.90	4.051e5	4.625e5	1.181	0.88	0.89	1217.2	YES	NO	bd	bd	106.871

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.39	2.895e3					0.6	NO		bb		0.000
2	FUNCTION2 PFK	28.85	2.487e4					2.5	NO		db		0.000
3	FUNCTION2 PFK	28.58	1.343e6					16.6	YES		dd		0.000
4	FUNCTION2 PFK	28.33	2.274e6					29.0	YES		dd		0.000
5	FUNCTION2 PFK	28.13	6.635e6					39.5	YES		dd		0.000
6	FUNCTION2 PFK	27.79	4.279e6					55.8	YES		bd		0.000
7	FUNCTION2 PFK	31.74	1.004e4					1.2	NO		bb		0.000
8	FUNCTION2 PFK	30.63	2.885e3					0.6	NO		bb		0.000
9	FUNCTION2 PFK	30.23	2.949e3					0.6	NO		bb		0.000
10	FUNCTION2 PFK	30.08	2.943e3					0.6	NO		bb		0.000
11	FUNCTION2 PFK	29.83	1.536e4					1.4	NO		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.28	6.237e3					0.8	NO		bb		0.000

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.82	2.033e4					1.1	NO		bb		
2	FUNCTION4 PFK	39.62	4.056e4					1.5	NO		bb		
3	FUNCTION4 PFK	39.35	1.980e4					1.5	NO		bb		
4	FUNCTION4 PFK	39.21	2.037e4					1.4	NO		bb		
5	FUNCTION4 PFK	39.03	4.794e4					2.6	NO		db		
6	FUNCTION4 PFK	38.75	8.537e6					16.0	YES		dd		
7	FUNCTION4 PFK	37.97	5.778e6					52.0	YES		dd		
8	FUNCTION4 PFK	37.92	6.084e6					53.6	YES		bd		
9	FUNCTION4 PFK	42.65	2.056e4					1.3	NO		bb		
10	FUNCTION4 PFK	42.58	1.133e4					1.1	NO		bb		
11	FUNCTION4 PFK	42.14	7.557e3					0.8	NO		bb		
12	FUNCTION4 PFK	42.07	1.006e4					0.8	NO		bb		
13	FUNCTION4 PFK	41.76	7.549e3					0.7	NO		db		
14	FUNCTION4 PFK	41.72	1.871e4					1.6	NO		bd		
15	FUNCTION4 PFK	40.49	2.445e4					1.7	NO		bb		
16	FUNCTION4 PFK	40.42	1.433e4					1.3	NO		bb		
17	FUNCTION4 PFK	40.23	2.637e4					1.6	NO		db		
18	FUNCTION4 PFK	40.19	2.658e4					1.7	NO		bd		
19	FUNCTION4 PFK	39.89	2.148e3					0.4	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.17	1.193e4					1.2	NO		db		
2	FUNCTION5 PFK	43.10	3.092e4					1.8	NO		dd		
3	FUNCTION5 PFK	43.05	2.764e4					2.4	NO		dd		
4	FUNCTION5 PFK	43.00	3.445e4					2.2	NO		bd		
5	FUNCTION5 PFK	45.83	1.434e3					0.4	NO		bb		
6	FUNCTION5 PFK	45.09	1.567e4					1.3	NO		bb		
7	FUNCTION5 PFK	44.85	5.916e3					0.9	NO		bb		
8	FUNCTION5 PFK	44.62	9.368e3					1.0	NO		bb		
9	FUNCTION5 PFK	44.26	3.829e3					0.6	NO		bb		
10	FUNCTION5 PFK	43.60	6.655e3					1.1	NO		bb		

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:52:07 Pacific Daylight Time

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	23.11	8.152e1					1.6	NO		bb		0.000
2	FUNCTION1 HXCD...	22.49	8.369e1					1.6	NO		db		0.000
3	FUNCTION1 HXCD...	22.42	1.074e2					1.6	NO		dd		0.000
4	FUNCTION1 HXCD...	22.36	7.314e1					1.6	NO		bd		0.000
5	FUNCTION1 HXCD...	21.86	1.206e2					2.7	NO		db		0.000
6	FUNCTION1 HXCD...	21.78	2.833e2					2.3	NO		dd		0.000
7	FUNCTION1 HXCD...	21.63	1.903e2					2.2	NO		dd		0.000
8	FUNCTION1 HXCD...	21.53	3.613e2					3.4	YES		dd		0.000
9	FUNCTION1 HXCD...	21.42	1.668e2					2.0	NO		bd		0.000
10	FUNCTION1 HXCD...	27.54	1.572e2					3.6	YES		bb		0.000
11	FUNCTION1 HXCD...	27.00	2.520e2					4.0	YES		bb		0.000
12	FUNCTION1 HXCD...	26.56	7.654e1					1.7	NO		bb		0.000
13	FUNCTION1 HXCD...	26.18	9.145e1					1.9	NO		bb		0.000
14	FUNCTION1 HXCD...	26.00	7.975e1					1.5	NO		bb		0.000
15	FUNCTION1 HXCD...	25.85	2.987e2					3.3	YES		db		0.000
16	FUNCTION1 HXCD...	25.65	1.079e2					1.8	NO		bd		0.000
17	FUNCTION1 HXCD...	23.99	1.000e2					1.3	NO		db		0.000
18	FUNCTION1 HXCD...	23.93	8.334e1					1.5	NO		dd		0.000
19	FUNCTION1 HXCD...	23.89	9.074e1					1.5	NO		bd		0.000

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.92	2.932e2					2.3	NO		bb		0.000
2	FUNCTION1 HPCD...	22.48	2.115e2					1.5	NO		bb		0.000
3	FUNCTION1 HPCD...	21.71	9.450e1					1.5	NO		bb		0.000
4	FUNCTION1 HPCD...	21.51	1.451e2					2.0	NO		bb		0.000
5	FUNCTION1 HPCD...	21.35	1.250e2					2.2	NO		bb		0.000
6	FUNCTION1 HPCD...	27.11	1.107e2					1.7	NO		db		0.000
7	FUNCTION1 HPCD...	27.02	4.708e2					4.5	YES		bd		0.000
8	FUNCTION1 HPCD...	26.77	8.229e1					1.8	NO		bb		0.000
9	FUNCTION1 HPCD...	26.49	9.232e1					2.4	NO		db		0.000
10	FUNCTION1 HPCD...	26.40	1.770e2					1.9	NO		dd		0.000
11	FUNCTION1 HPCD...	26.23	2.956e2					2.1	NO		bd		0.000
12	FUNCTION1 HPCD...	26.09	1.643e2					1.3	NO		bb		0.000
13	FUNCTION1 HPCD...	25.38	9.651e1					1.8	NO		bb		0.000
14	FUNCTION1 HPCD...	24.73	8.972e1					2.1	NO		bb		0.000
15	FUNCTION1 HPCD...	23.18	1.136e2					1.5	NO		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.84	1.576e2					3.2	YES		bb		0.000
2	FUNCTION2 HPCD...	31.04	5.782e2					9.8	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	34.77	1.414e2					1.2	NO		bb		0.000
2	FUNCTION3 OCDPE	33.14	7.121e1					1.0	NO		bb		0.000
3	FUNCTION3 OCDPE	37.24	1.535e2					4.2	YES		bb		0.000
4	FUNCTION3 OCDPE	36.41	3.713e2					3.0	NO		bb		0.000
5	FUNCTION3 OCDPE	36.02	3.616e2					3.0	YES		db		0.000
6	FUNCTION3 OCDPE	35.92	3.839e2					3.0	YES		bd		0.000

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	41.37	8.051e1					1.2	NO		bb		0.000
2	FUNCTION4 NCDPE	41.21	1.795e2					2.8	NO		bb		0.000
3	FUNCTION4 NCDPE	41.09	9.960e1					0.9	NO		bb		0.000
4	FUNCTION4 NCDPE	40.60	9.690e1					1.7	NO		bb		0.000
5	FUNCTION4 NCDPE	39.97	7.551e1					1.0	NO		bb		0.000
6	FUNCTION4 NCDPE	39.90	8.451e1					1.4	NO		bb		0.000
7	FUNCTION4 NCDPE	39.20	3.095e2					1.9	NO		bb		0.000
8	FUNCTION4 NCDPE	38.53	7.115e1					1.2	NO		bb		0.000
9	FUNCTION4 NCDPE	38.12	3.682e2					5.5	YES		db		0.000
10	FUNCTION4 NCDPE	38.07	4.730e2					4.2	YES		dd		0.000
11	FUNCTION4 NCDPE	37.93	1.789e2					1.3	NO		bd		0.000
12	FUNCTION4 NCDPE	42.55	9.015e1					1.0	NO		db		0.000
13	FUNCTION4 NCDPE	42.49	1.336e2					1.7	NO		bd		0.000
14	FUNCTION4 NCDPE	42.35	1.573e2					1.7	NO		bb		0.000
15	FUNCTION4 NCDPE	42.19	8.291e1					1.5	NO		bb		0.000
16	FUNCTION4 NCDPE	41.48	7.166e1					0.7	NO		bb		0.000

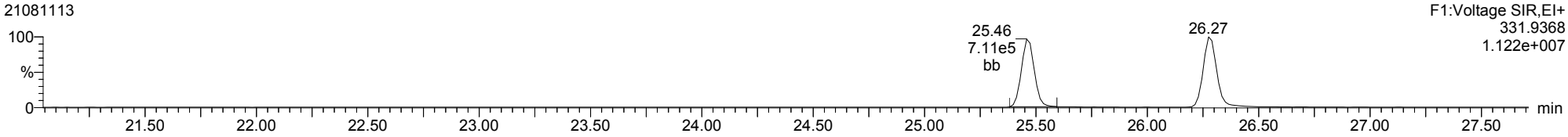
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.88	7.929e1					1.8	NO		db		0.000
2	FUNCTION5 DCDPE	45.81	8.579e1					2.8	NO		bd		0.000
3	FUNCTION5 DCDPE	44.54	7.945e1					2.4	NO		bb		0.000

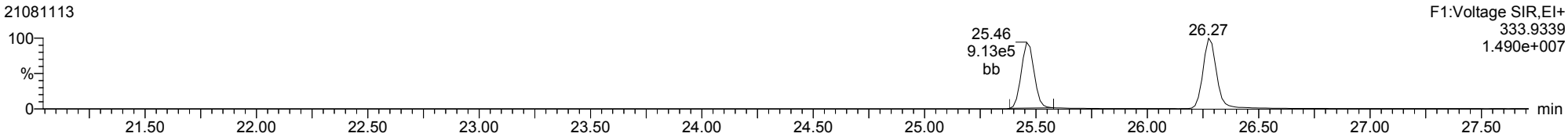
Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

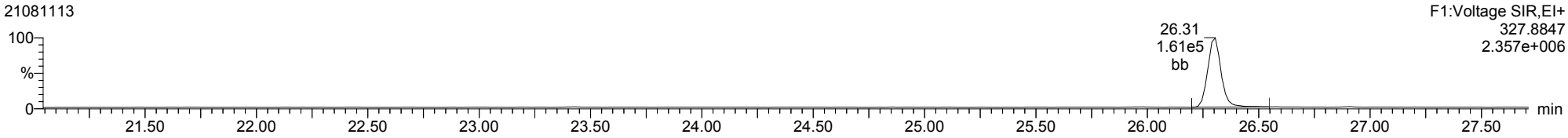
13C-1234-TCDD



13C-1234-TCDD

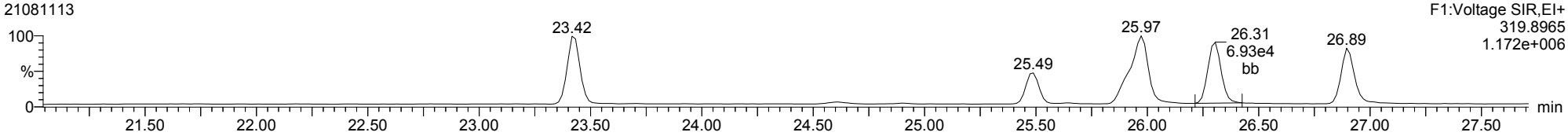


37CL-2378-TCDD

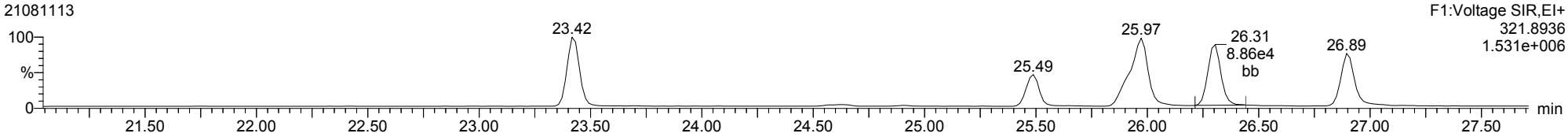


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

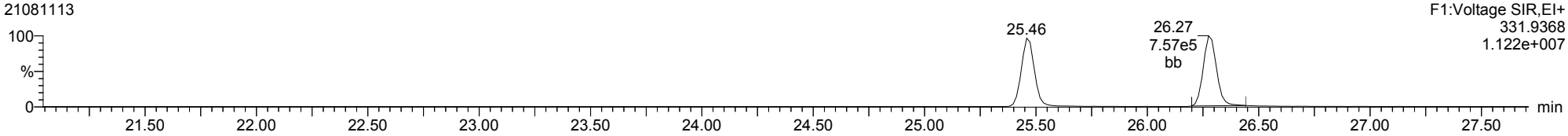
2378-TCDD



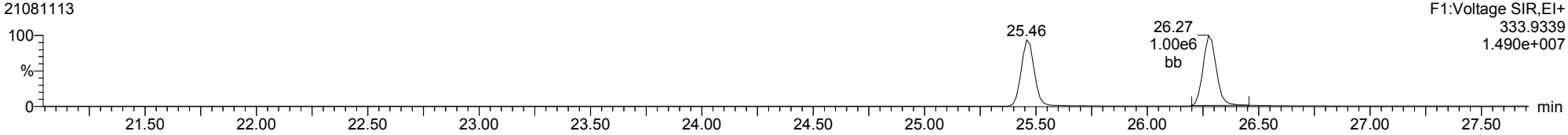
2378-TCDD



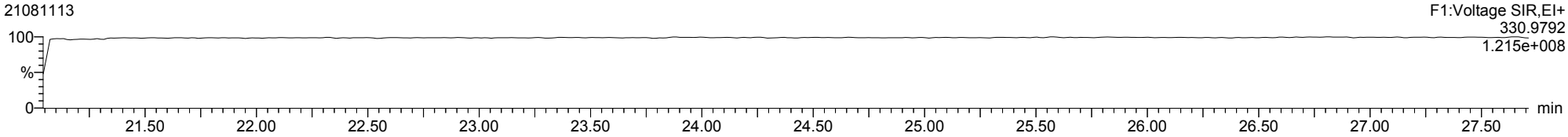
13C-2378-TCDD



13C-2378-TCDD

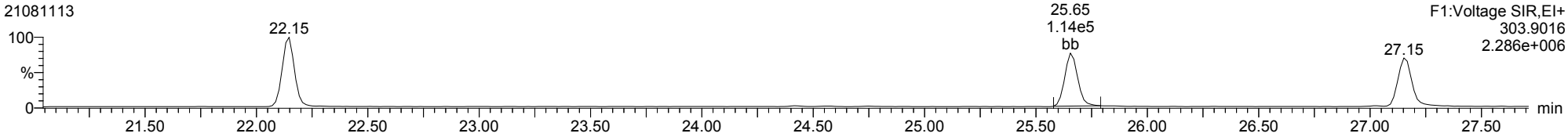


FUNCTION1 PFK

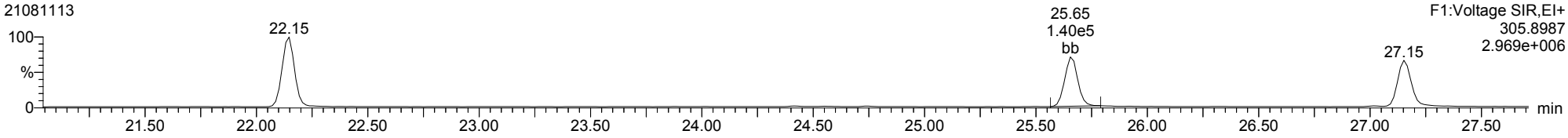


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

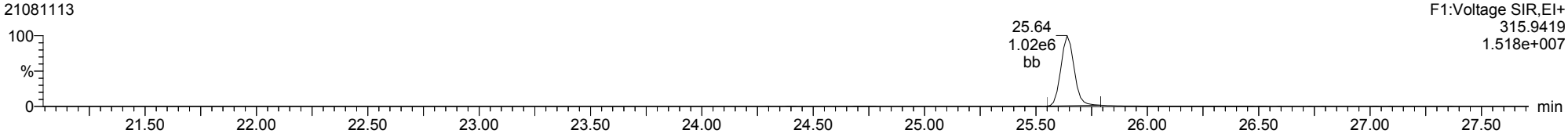
2378-TCDF



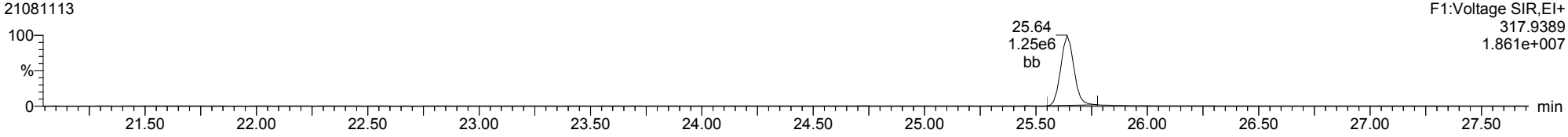
2378-TCDF



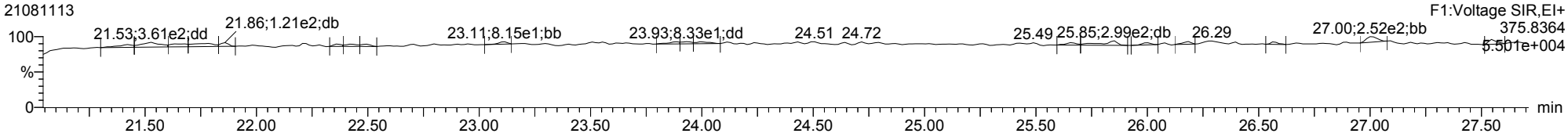
13C-2378-TCDF



13C-2378-TCDF

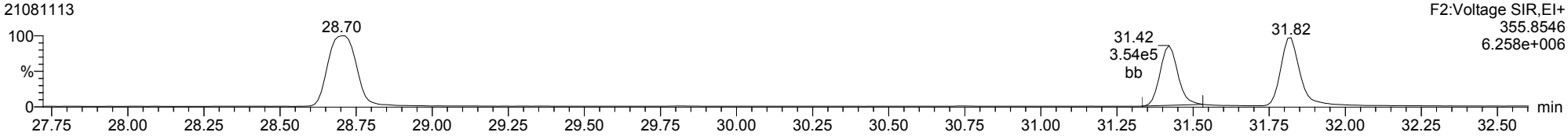


FUNCTION1 HXCDPE

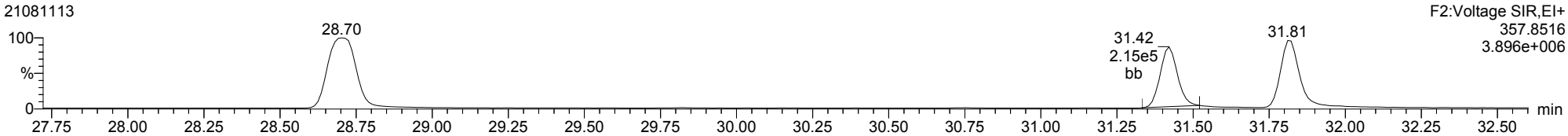


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

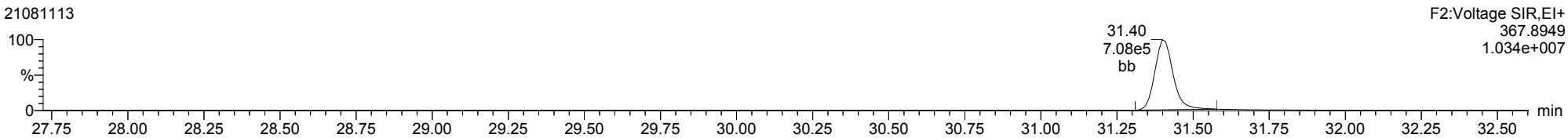
12378-PeCDD



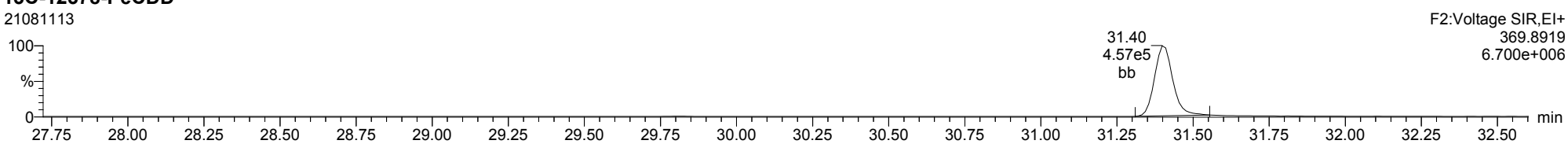
12378-PeCDD



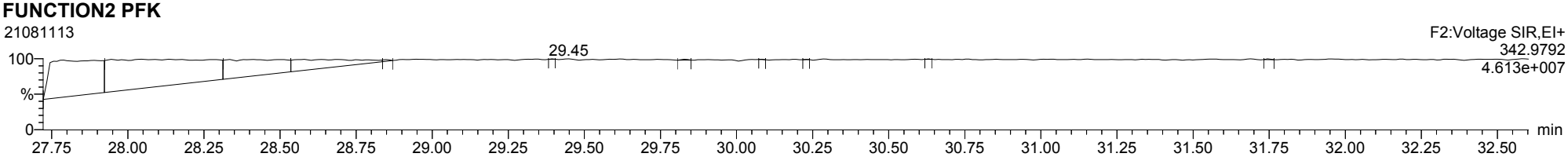
13C-12378-PeCDD



13C-12378-PeCDD

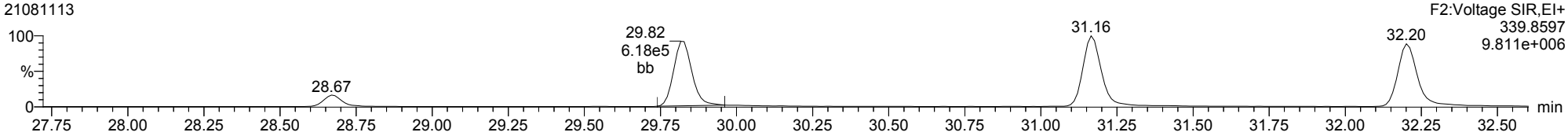


FUNCTION2 PFK

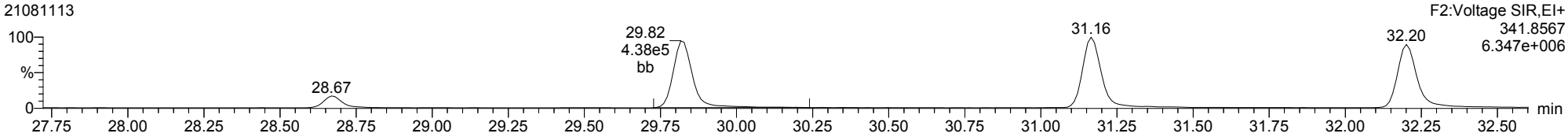


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

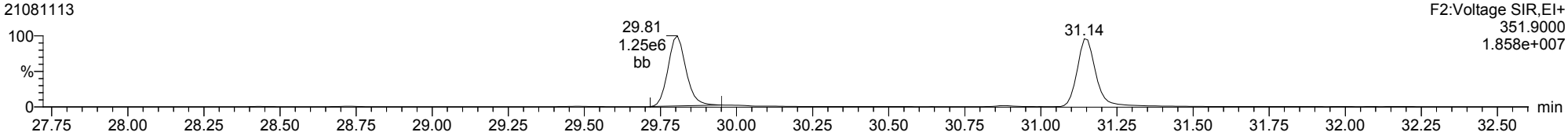
12378-PeCDF



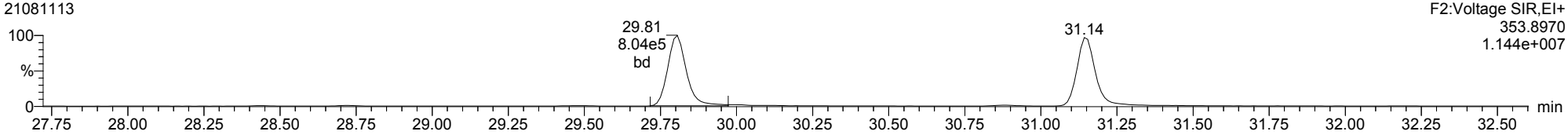
12378-PeCDF



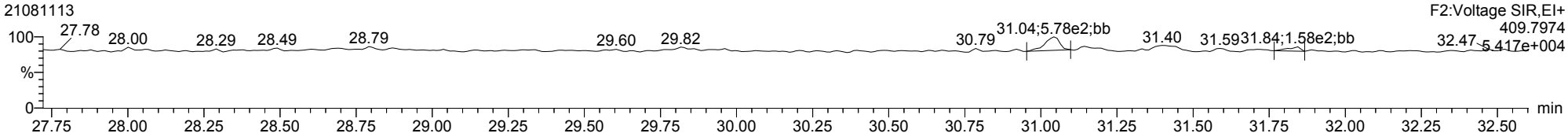
13C-12378-PeCDF



13C-12378-PeCDF

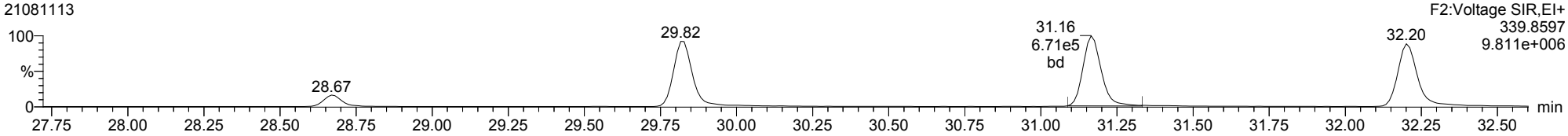


FUNCTION2 HPCDPE

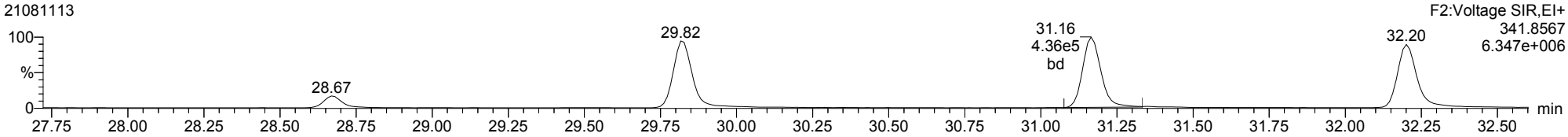


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

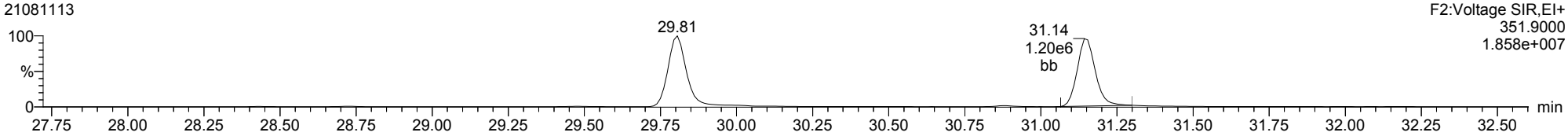
23478-PeCDF



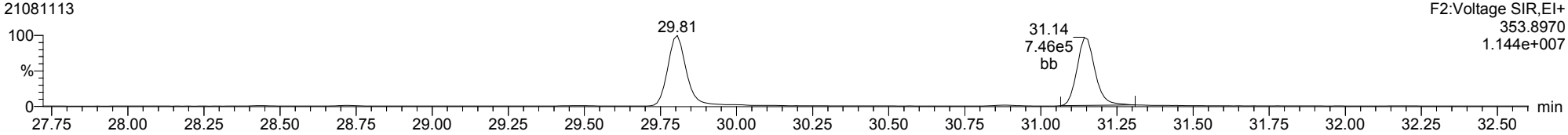
23478-PeCDF



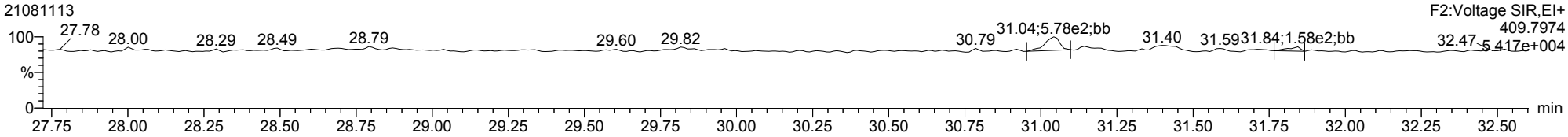
13C-23478-PeCDF



13C-23478-PeCDF

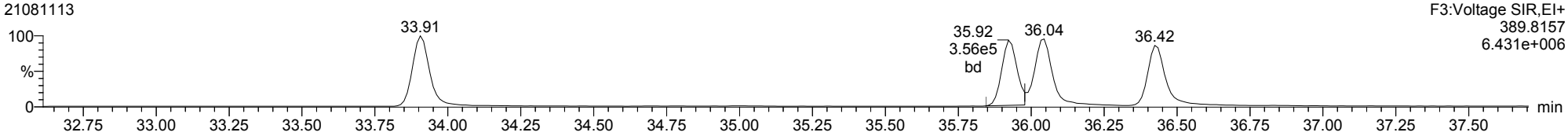


FUNCTION2 HPCDPE

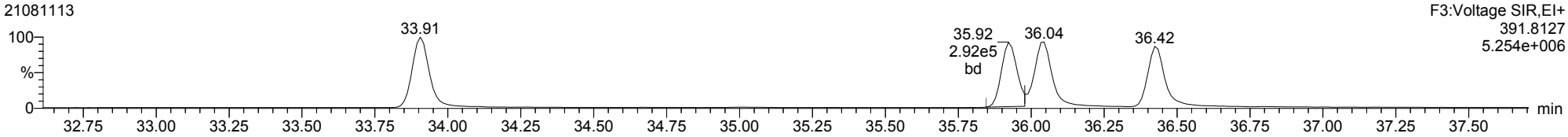


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

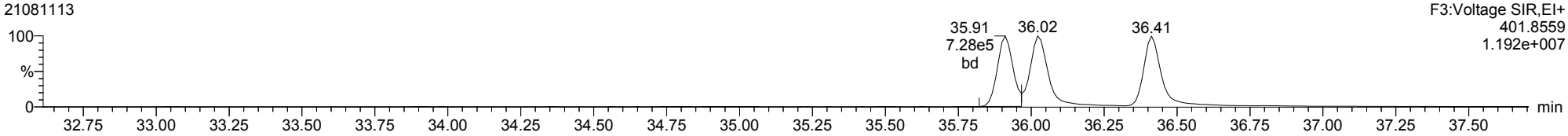
123478-HxCDD



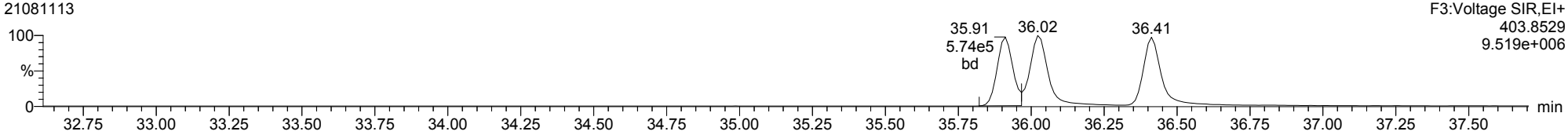
123478-HxCDD



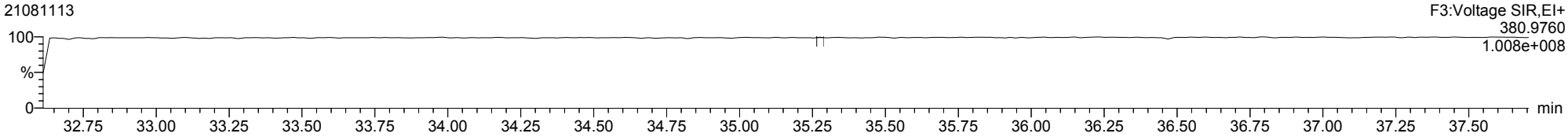
13C-123478-HxCDD



13C-123478-HxCDD

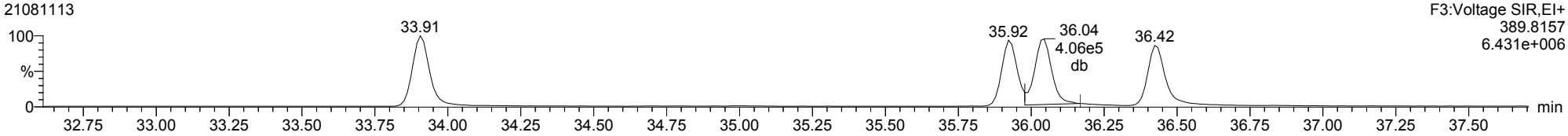


FUNCTION3 PFK

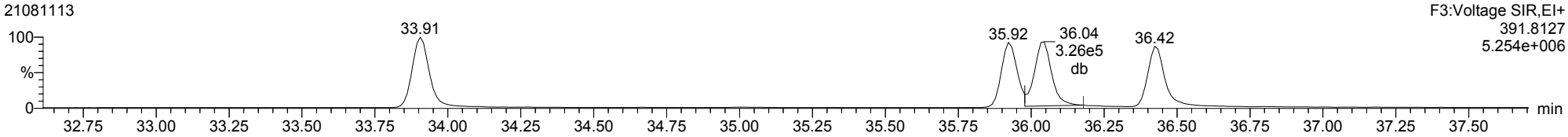


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

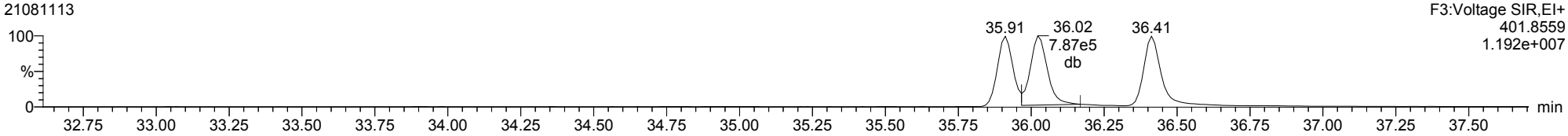
123678-HxCDD



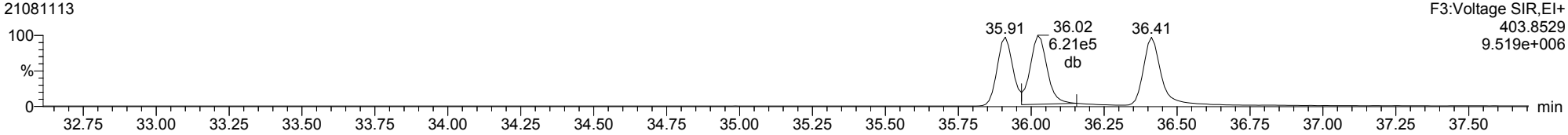
123678-HxCDD



13C-123678-HxCDD

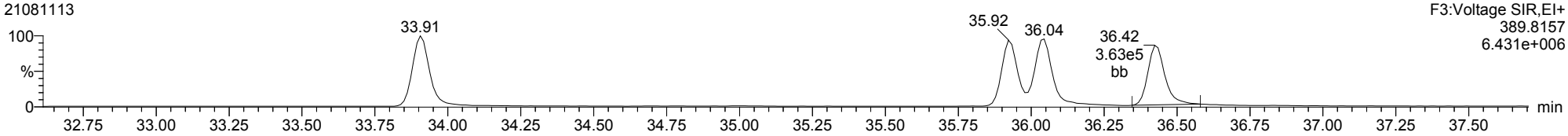


13C-123678-HxCDD

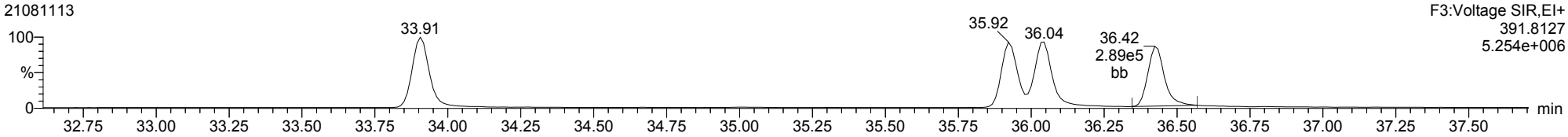


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

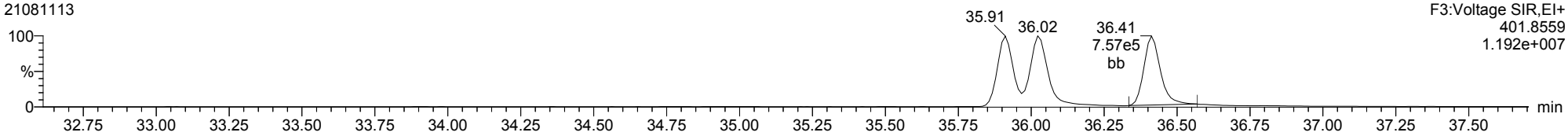
123789-HxCDD



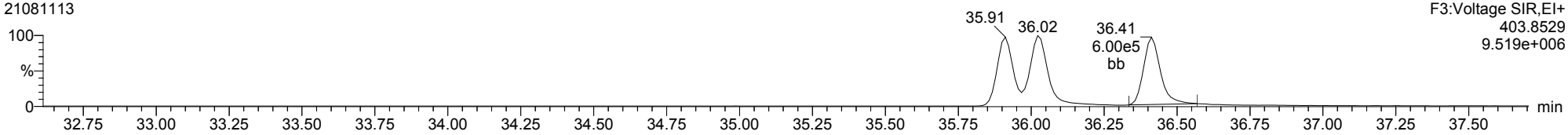
123789-HxCDD



13C-123789-HxCDD

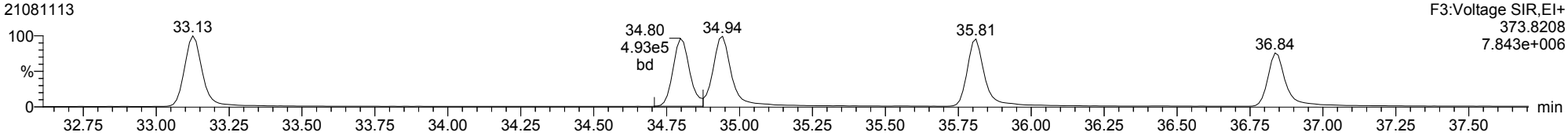


13C-123789-HxCDD

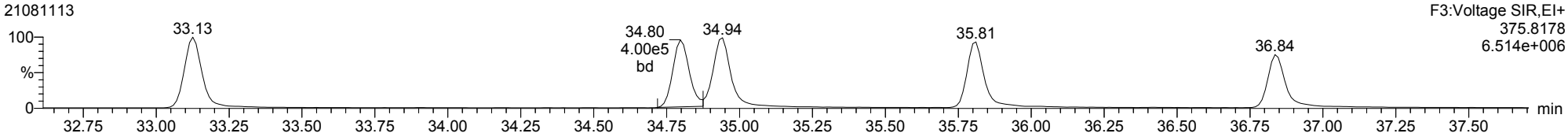


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

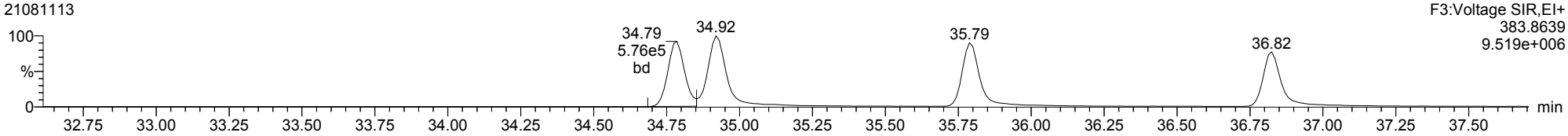
123478-HxCDF



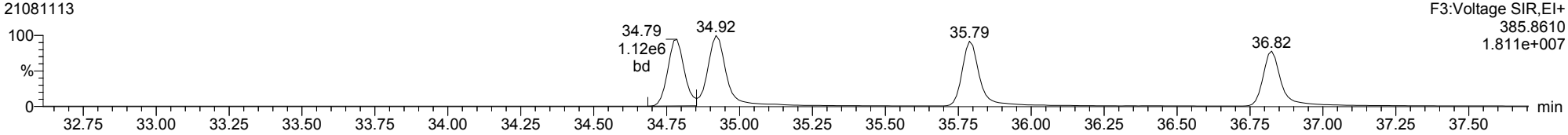
123478-HxCDF



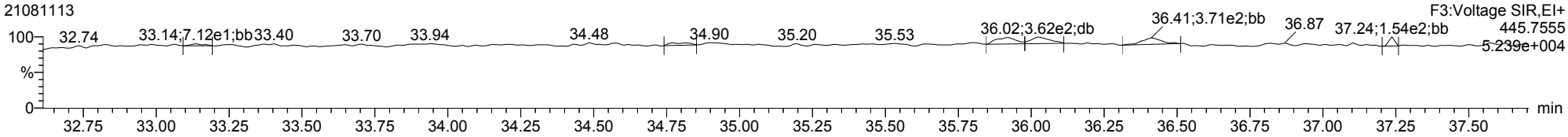
13C-123478-HxCDF



13C-123478-HxCDF

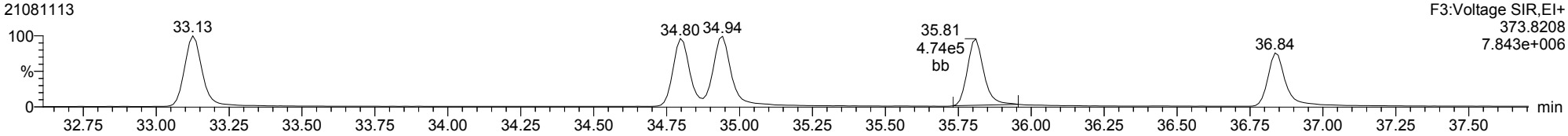


FUNCTION3 OCDPE

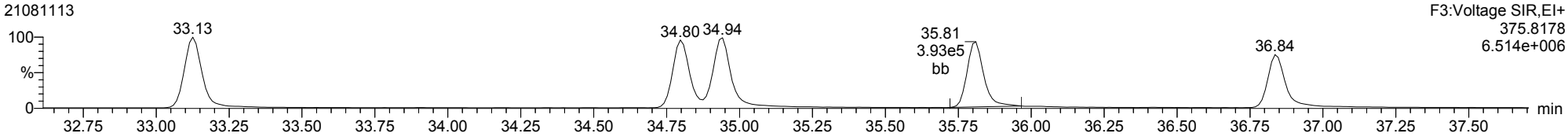


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

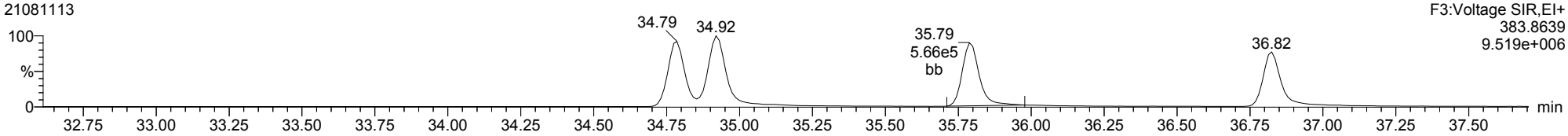
234678-HxCDF



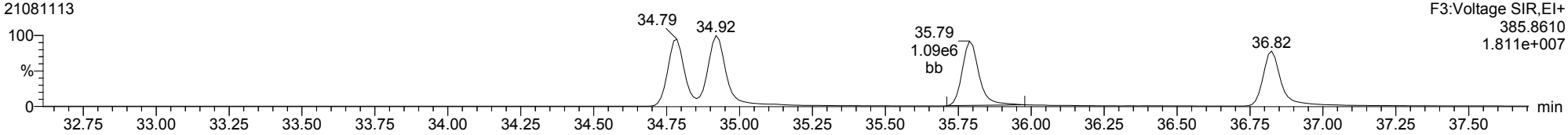
234678-HxCDF



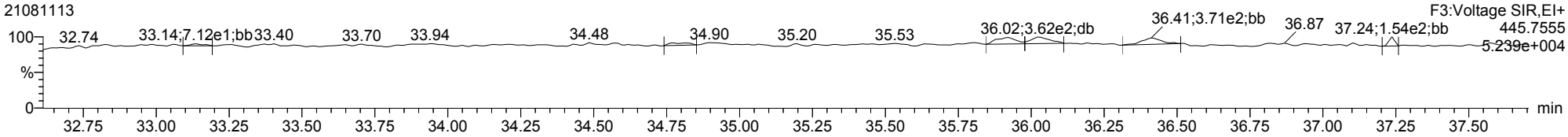
13C-234678-HxCDF



13C-234678-HxCDF

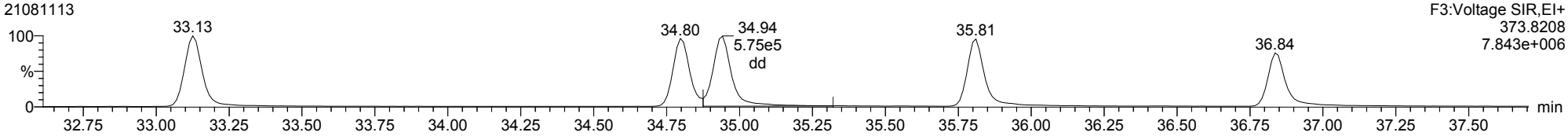


FUNCTION3 OCDPE

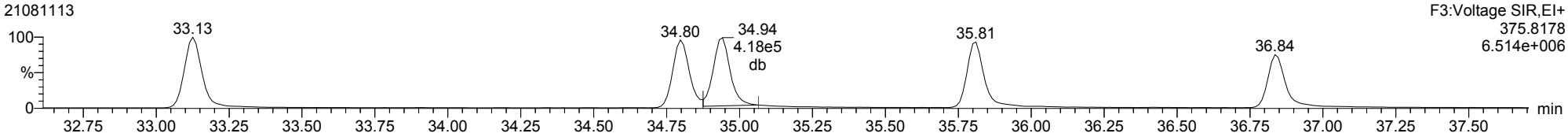


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

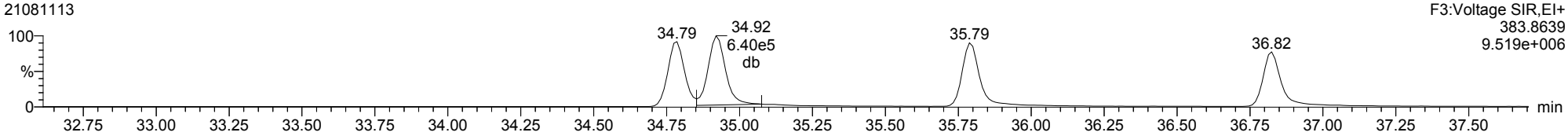
123678-HxCDF



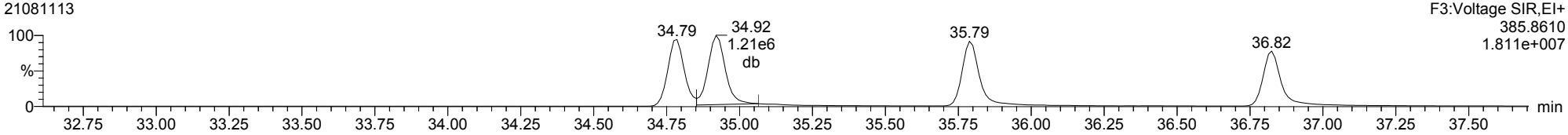
123678-HxCDF



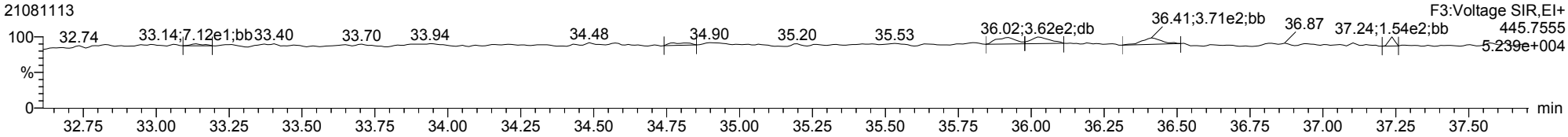
13C-123678-HxCDF



13C-123678-HxCDF

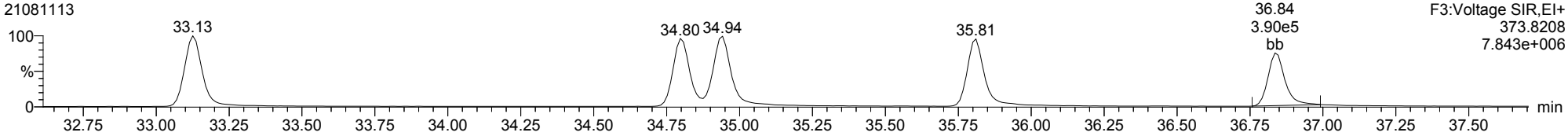


FUNCTION3 OCDPE

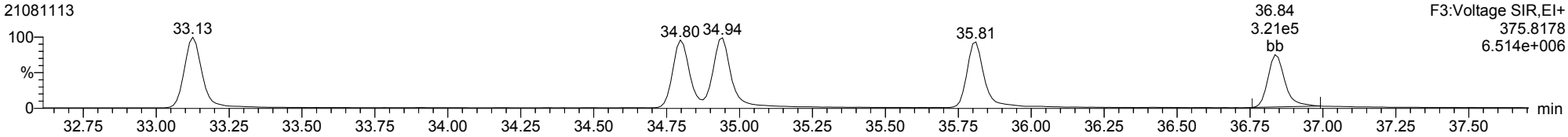


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

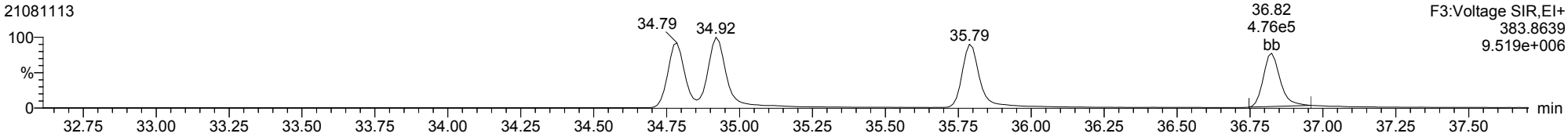
123789-HxCDF



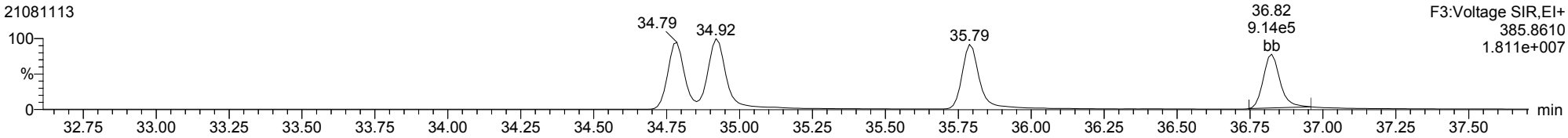
123789-HxCDF



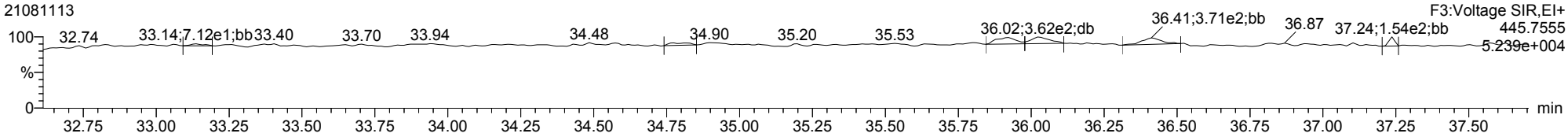
13C-123789-HxCDF



13C-123789-HxCDF

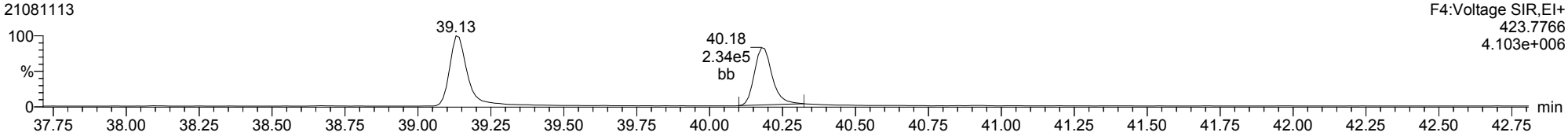


FUNCTION3 OCDPE

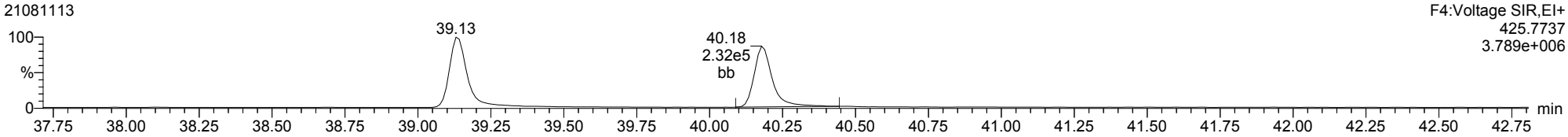


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

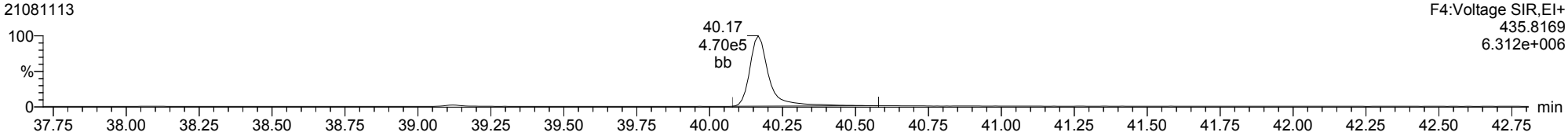
1234678-HpCDD



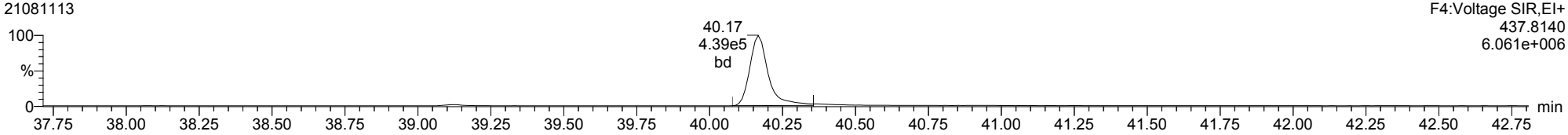
1234678-HpCDD



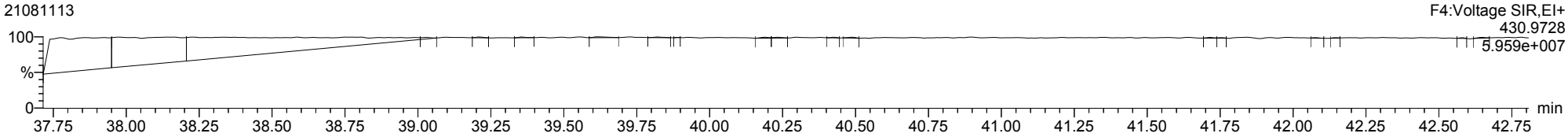
13C-1234678-HpCDD



13C-1234678-HpCDD

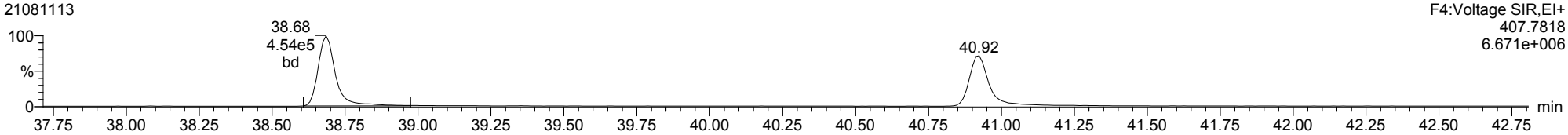


FUNCTION4 PFK

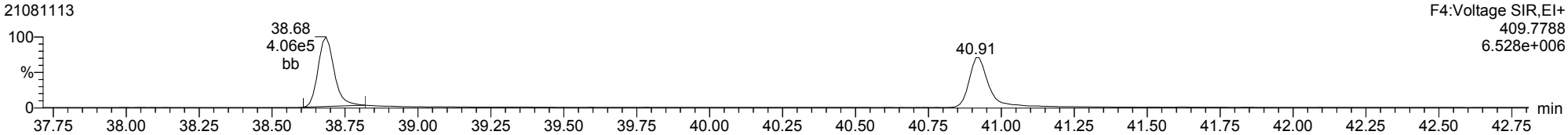


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

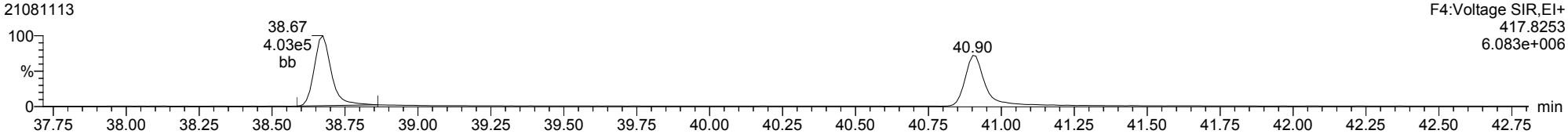
1234678-HpCDF



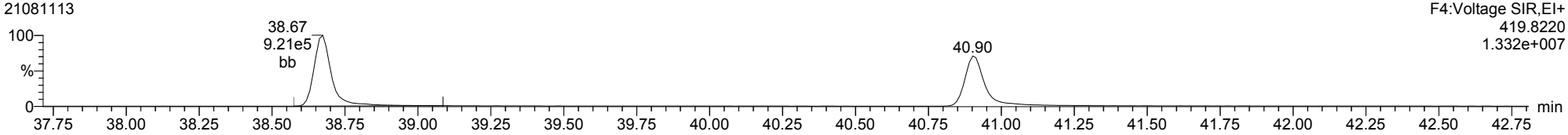
1234678-HpCDF



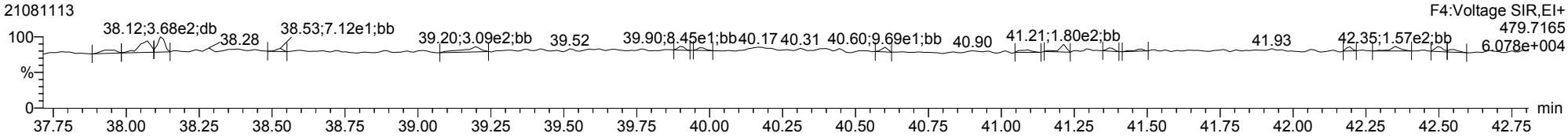
13C-1234678-HpCDF



13C-1234678-HpCDF

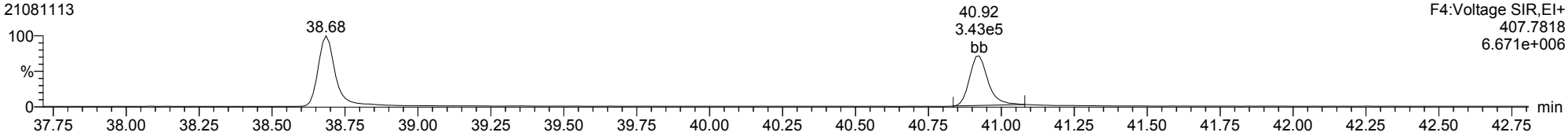


FUNCTION4 NCDPE

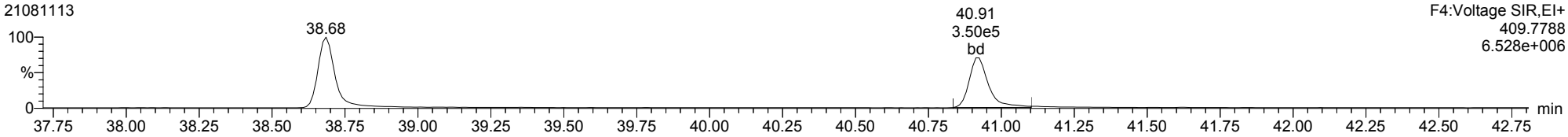


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

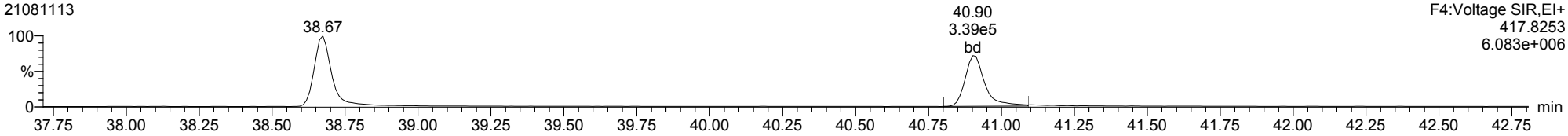
1234789-HpCDF



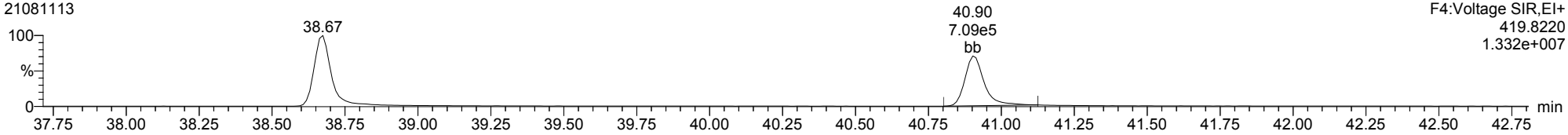
1234789-HpCDF



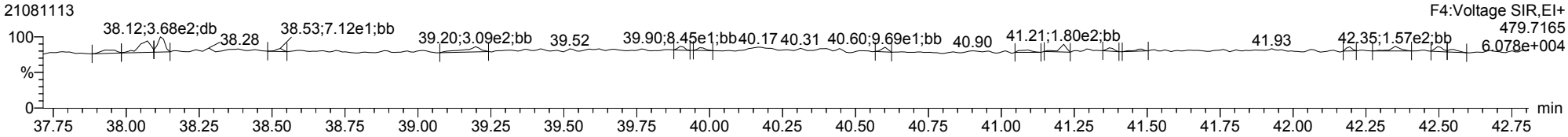
13C-1234789-HpCDF



13C-1234789-HpCDF

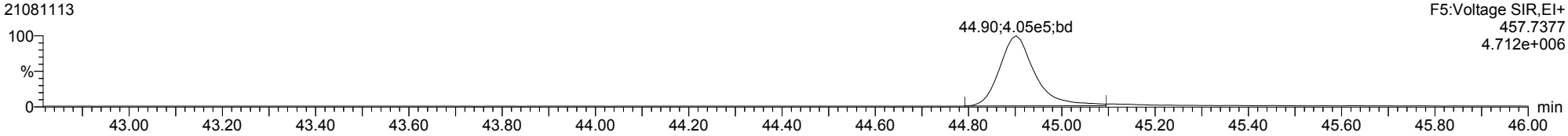


FUNCTION4 NCDPE

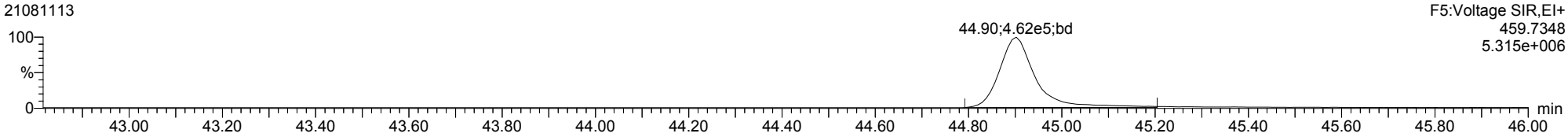


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

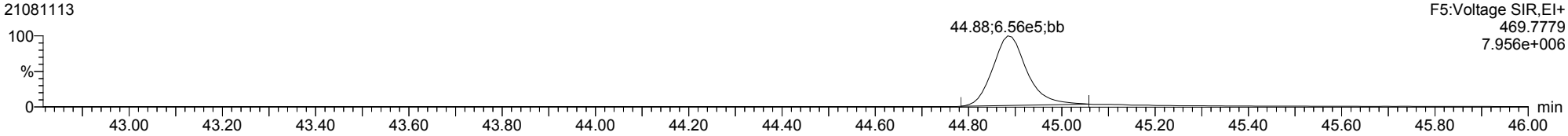
OCDD



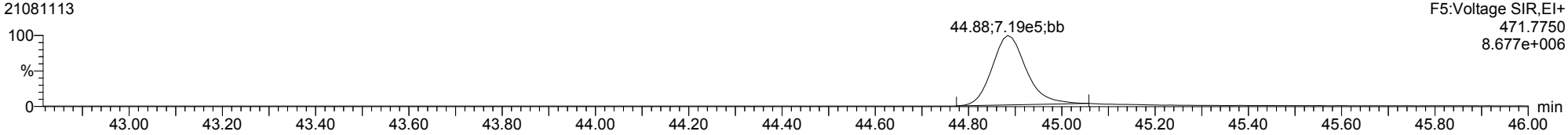
OCDD



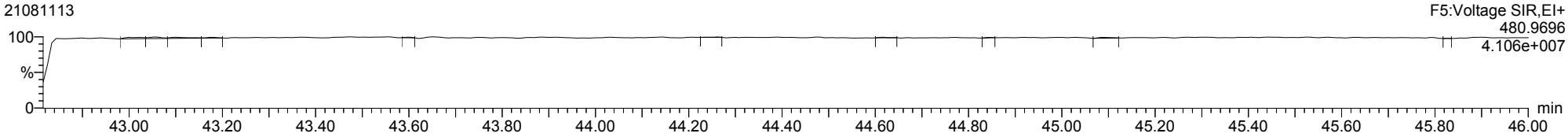
13C-OCDD



13C-OCDD

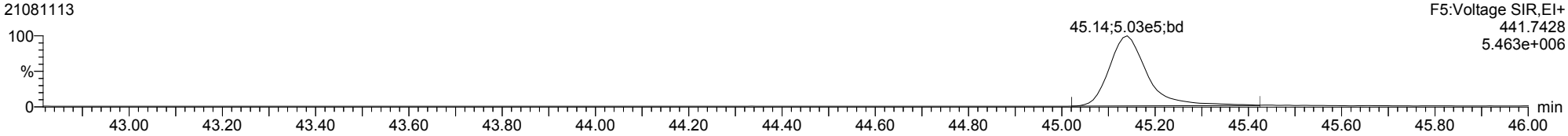


FUNCTION5 PFK

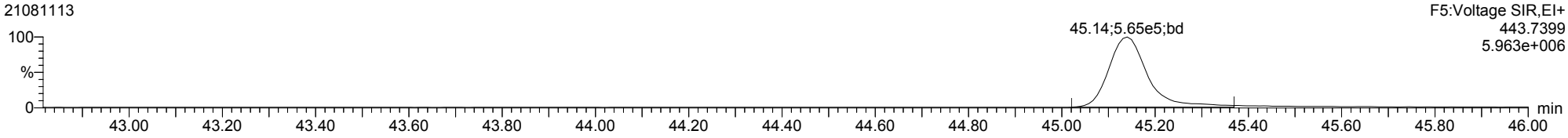


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

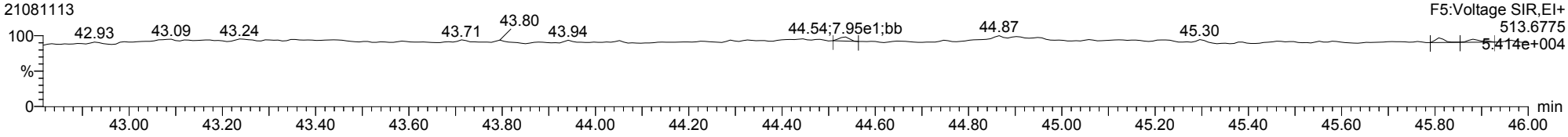
OCDF



OCDF

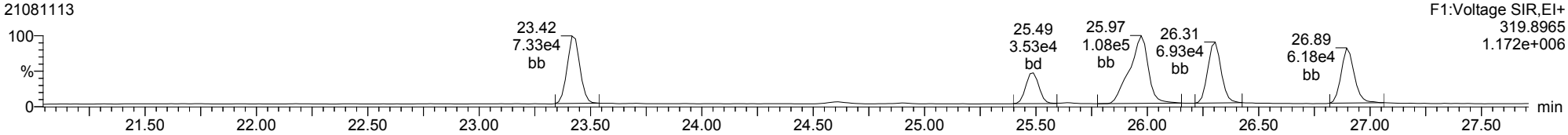


FUNCTION5 DCDPE

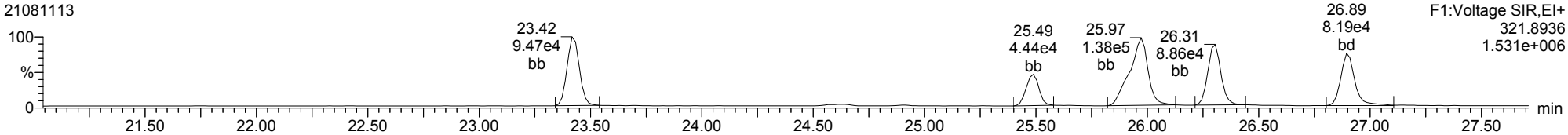


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

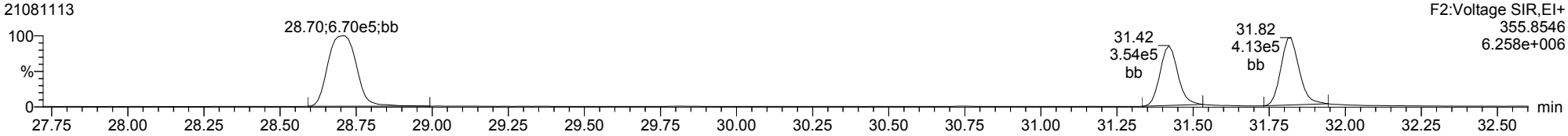
Total-tetradioxins



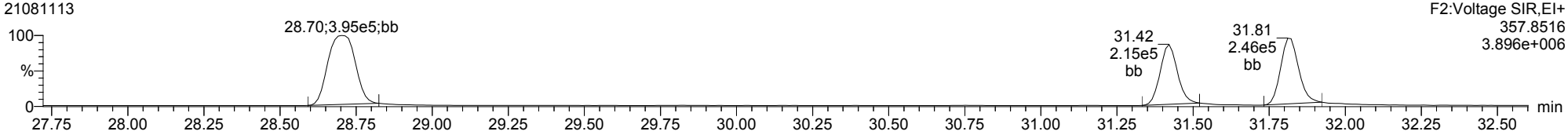
Total-tetradioxins



Total-pentadioxins

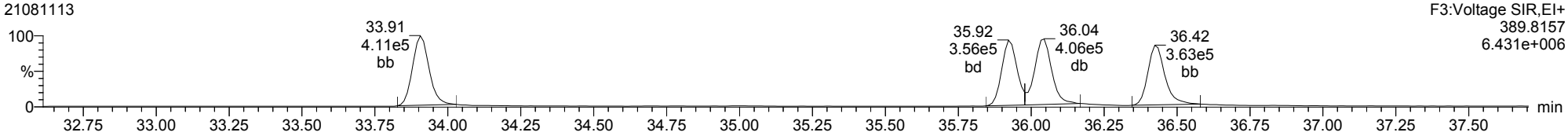


Total-pentadioxins

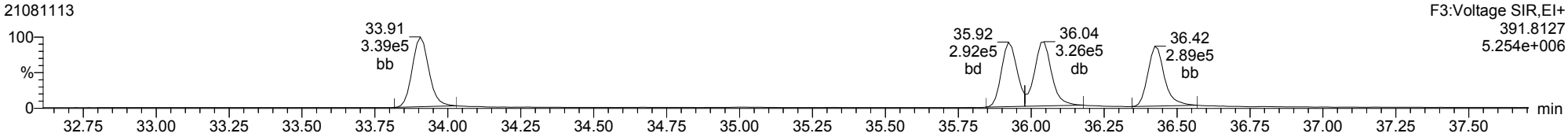


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

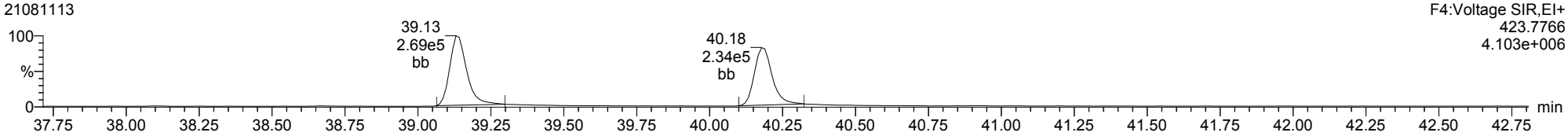
Total-hexadioxins



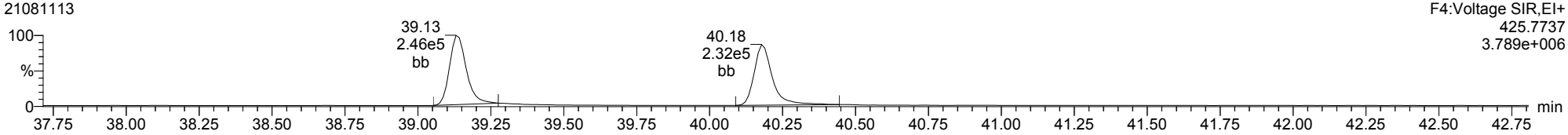
Total-hexadioxins



Total-heptadioxins

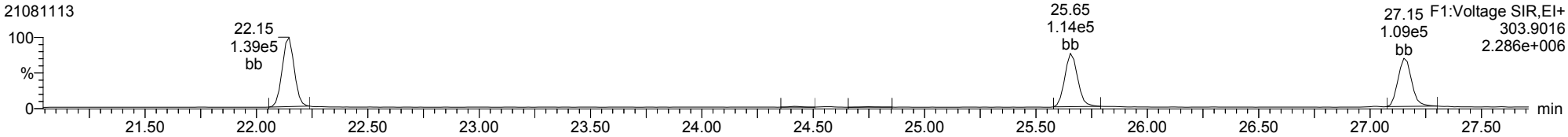


Total-heptadioxins

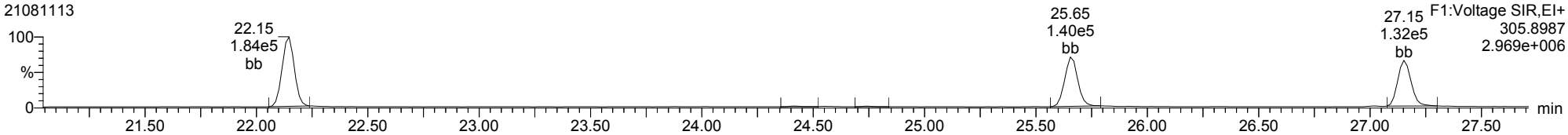


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

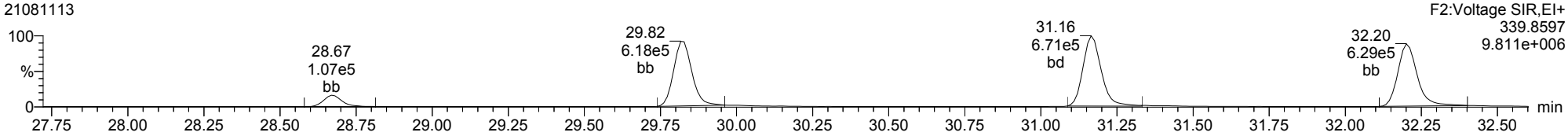
Total-tetrafurans



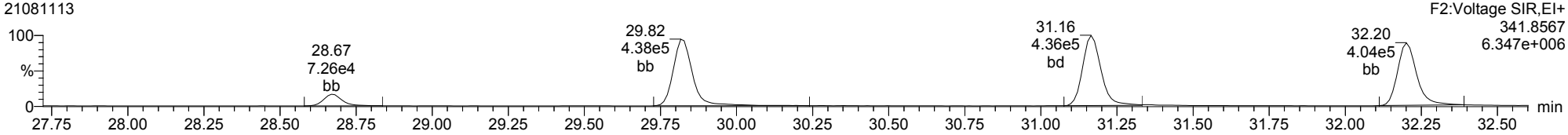
Total-tetrafurans



Total-pentafurans

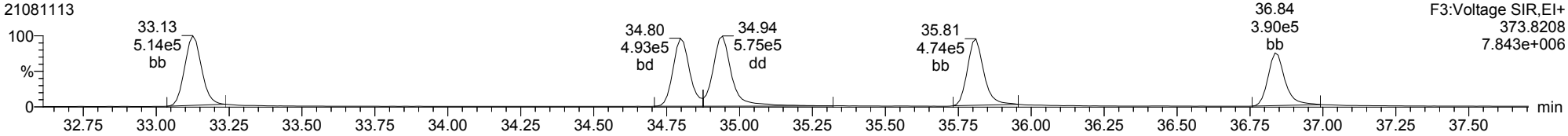


Total-pentafurans

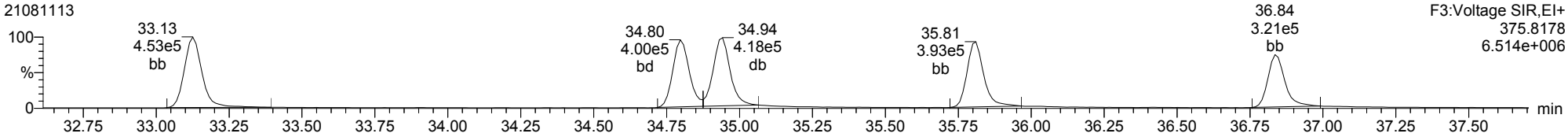


ID: CS3Z2, Name: 21081113, Date: 12-Aug-2021, Time: 00:48:45, Conditions: AUTOSPEC01, User: pk

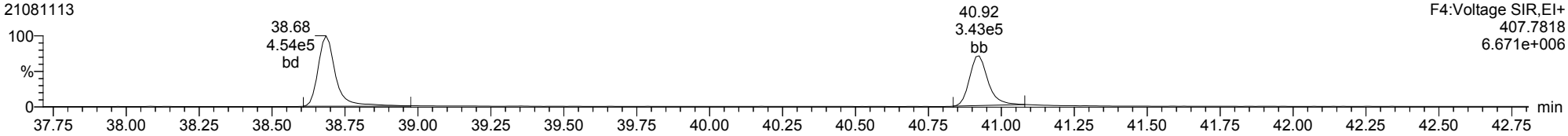
Total-hexafurans



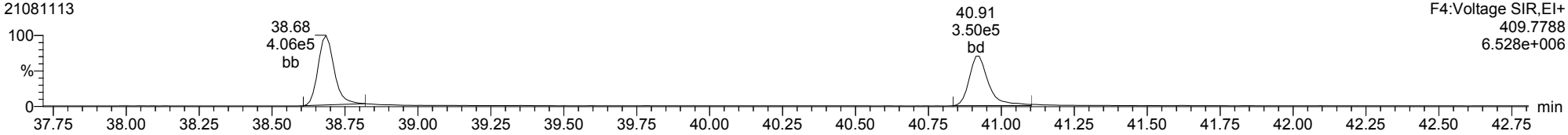
Total-hexafurans



Total-heptafurans

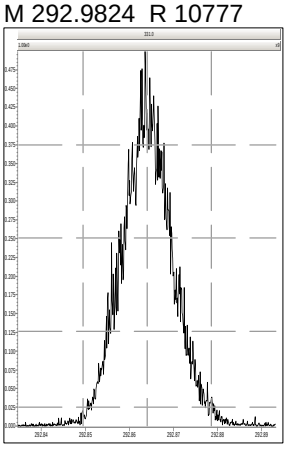


Total-heptafurans

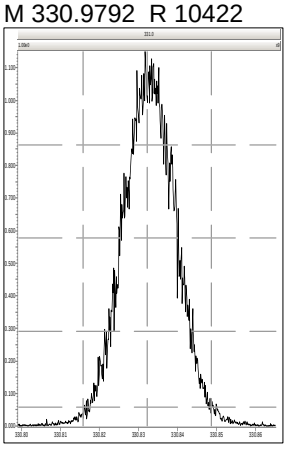


Printed: Thursday, August 12, 2021 01:42:05 Pacific Daylight Time

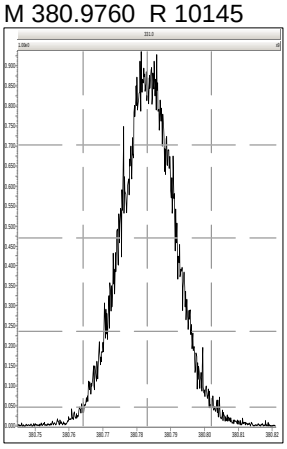
M 292.9824 R 10777



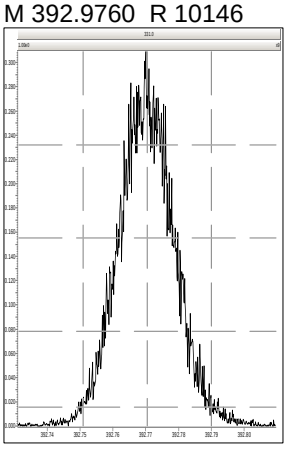
M 330.9792 R 10422



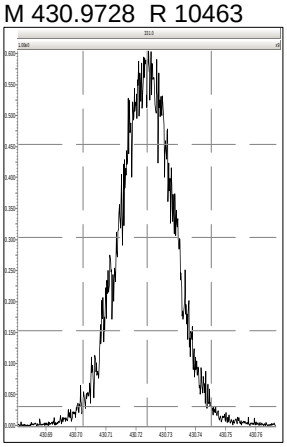
M 380.9760 R 10145



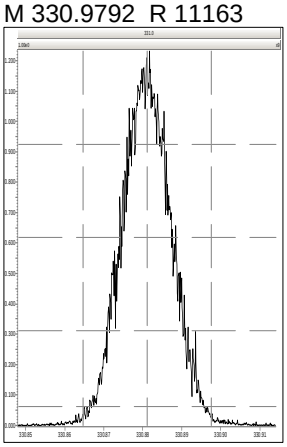
M 392.9760 R 10146



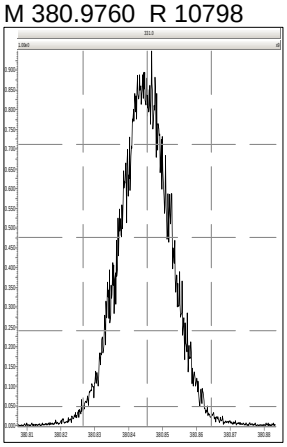
M 430.9728 R 10463



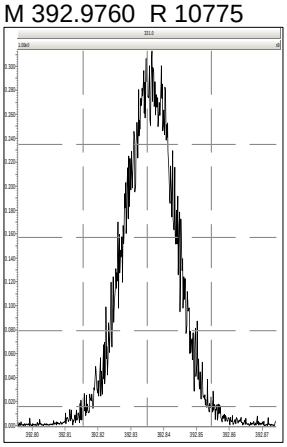
M 330.9792 R 11163



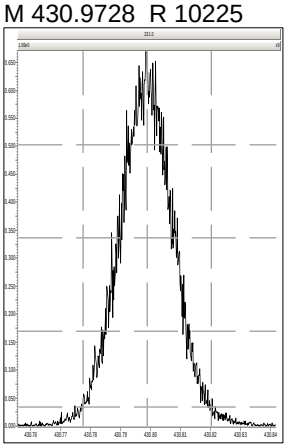
M 380.9760 R 10798



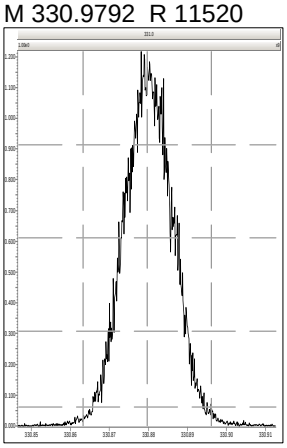
M 392.9760 R 10775



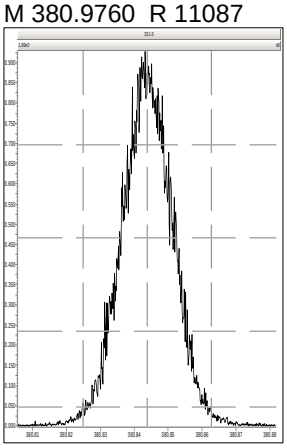
M 430.9728 R 10225



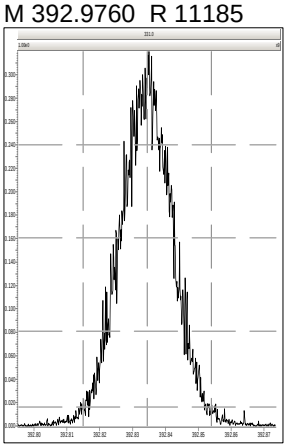
M 330.9792 R 11520



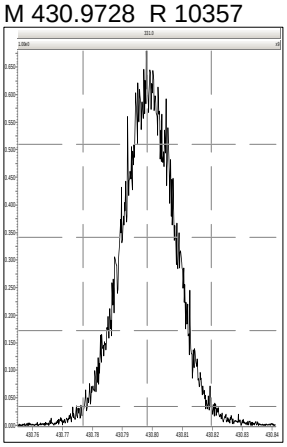
M 380.9760 R 11087



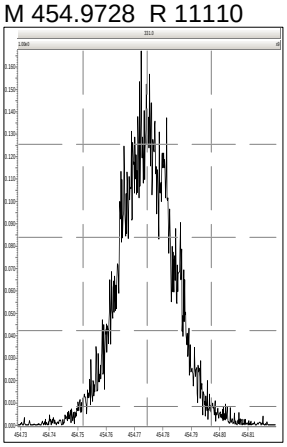
M 392.9760 R 11185



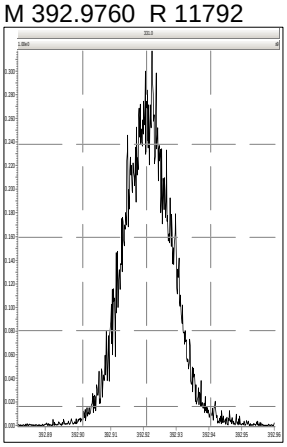
M 430.9728 R 10357



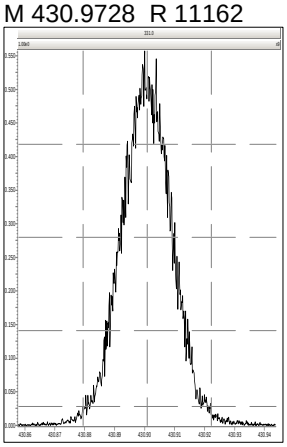
M 454.9728 R 11110



M 392.9760 R 11792

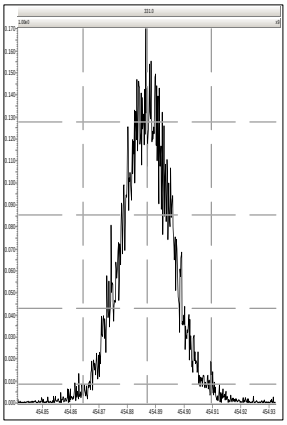


M 430.9728 R 11162

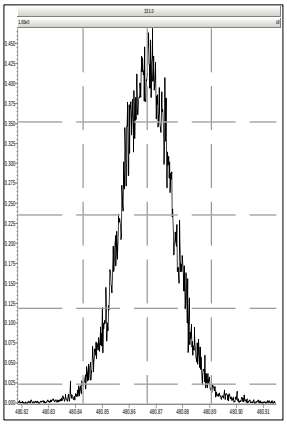


Printed: Thursday, August 12, 2021 01:42:05 Pacific Daylight Time

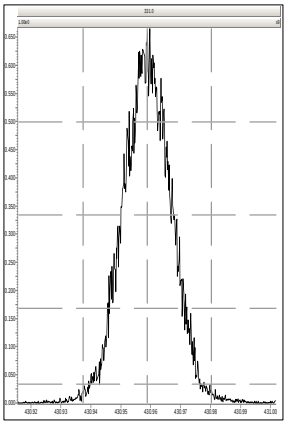
M 454.9728 R 11214



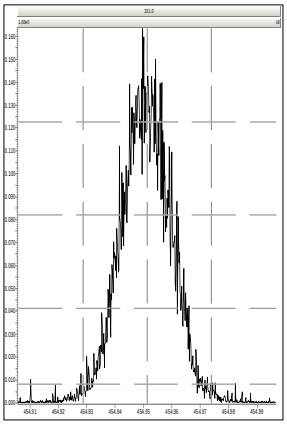
M 480.9696 R 10729



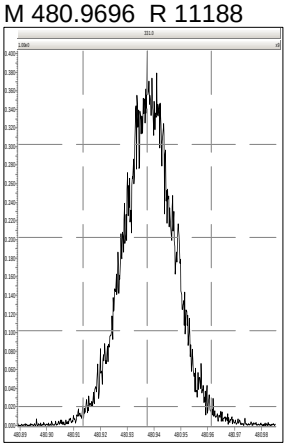
M 430.9728 R 12149



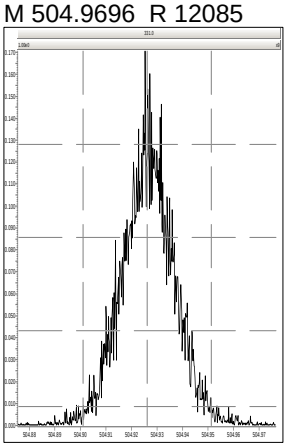
M 454.9728 R 11631



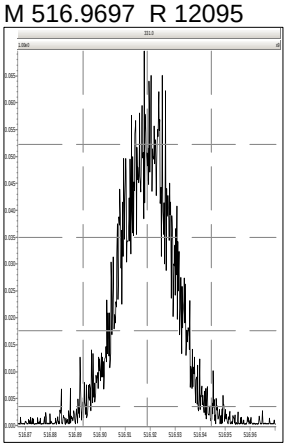
M 480.9696 R 11188

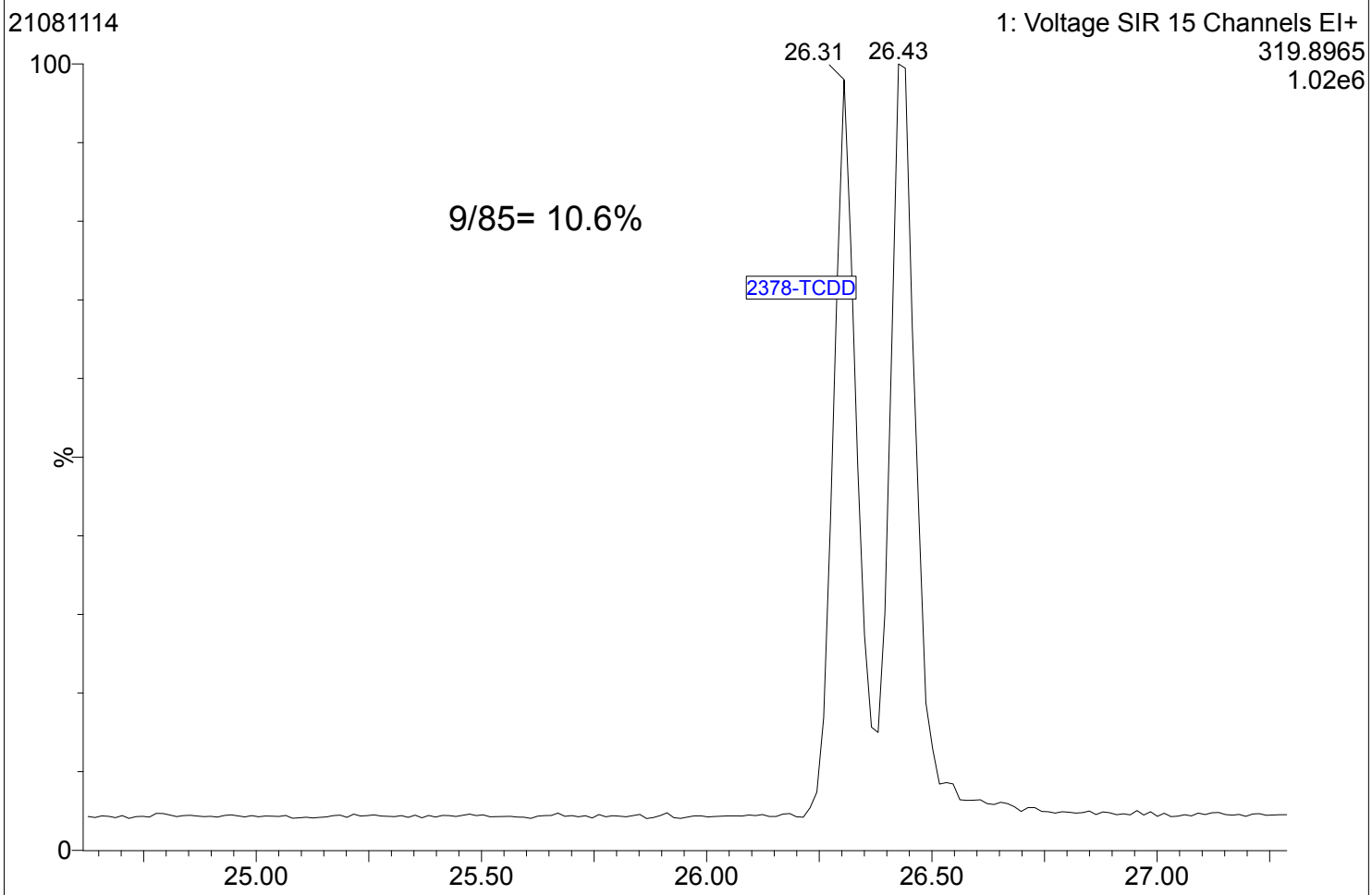


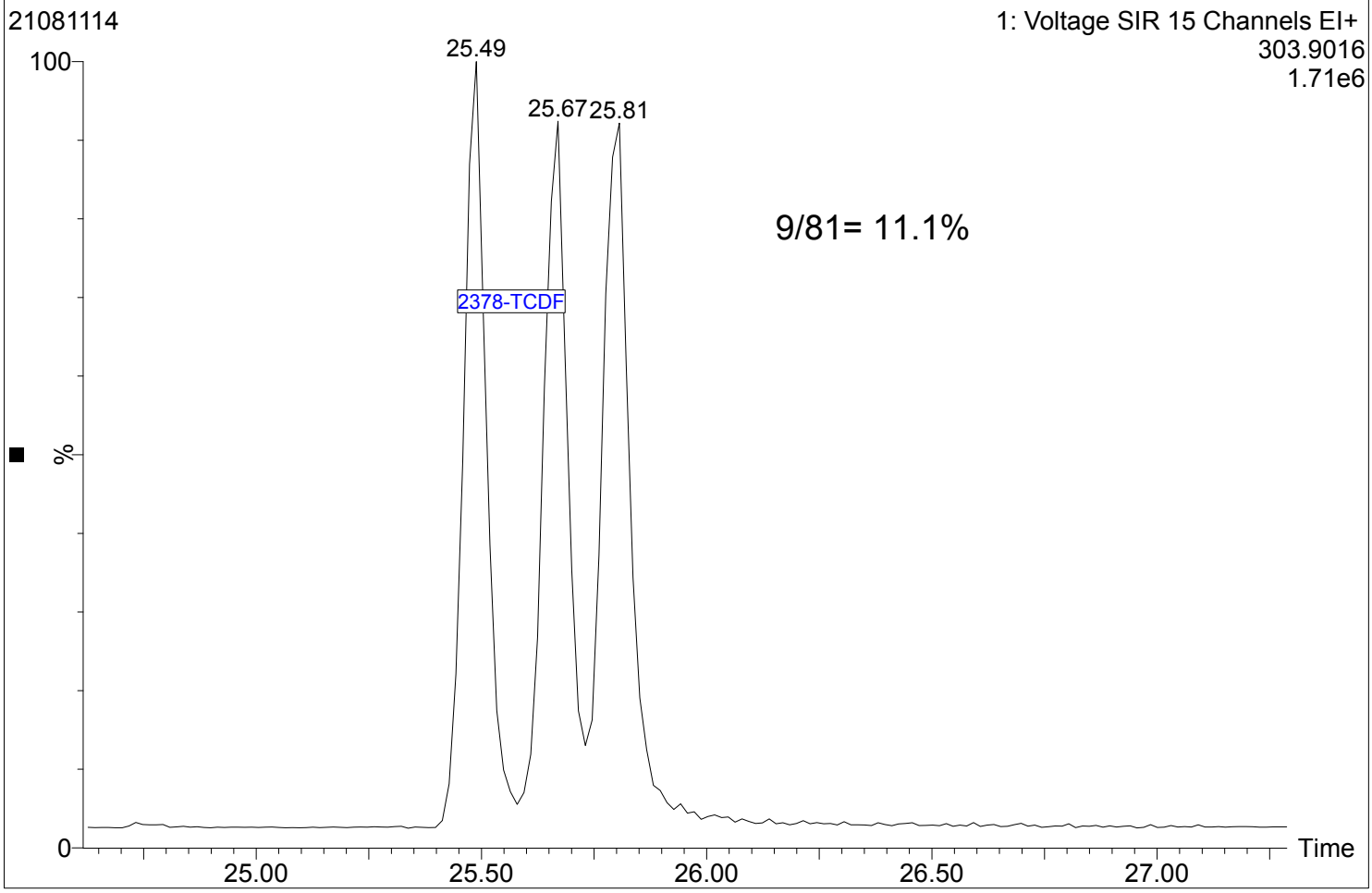
M 504.9696 R 12085



M 516.9697 R 12095




21081114
1: Voltage SIR 15 Channels EI+
319.8965
1.02e6
26.31
26.43
9/85= 10.6%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21081114
1: Voltage SIR 15 Channels EI+
303.9016
1.71e6
25.49
25.67
25.81
9/81= 11.1%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE
CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21081112A	Calibration Date:	08/11/2021
Sequence:	SJH0117	Injection Date:	08/12/21
Lab Sample ID:	SJH0117-SCV1	Injection Time:	00:00
Sequence Name:	ICVCV		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	10.1	1.1075930	1.1198230		1.1	+/-20
2,3,7,8-TCDD	A	10.000	11.1	0.9202875	1.0175630		10.6	+/-20
1,2,3,7,8-PeCDF	A	50.000	52.8	1.0148670	1.0723200		5.7	+/-20
2,3,4,7,8-PeCDF	A	50.000	50.7	1.1255490	1.1415120		1.4	+/-20
1,2,3,7,8-PeCDD	A	50.000	52.2	0.9953229	1.0393270		4.4	+/-20
1,2,3,4,7,8-HxCDF	A	50.000	54.0	1.0168930	1.0983010		8.0	+/-20
1,2,3,6,7,8-HxCDF	A	50.000	51.5	1.0368310	1.0674180		3.0	+/-20
2,3,4,6,7,8-HxCDF	A	50.000	55.5	1.0524660	1.1685470		11.0	+/-20
1,2,3,7,8,9-HxCDF	A	50.000	53.6	1.0301540	1.1039620		7.2	+/-20
1,2,3,4,7,8-HxCDD	A	50.000	54.6	1.0273630	1.1224820		9.3	+/-20
1,2,3,6,7,8-HxCDD	A	50.000	50.6	1.0089800	1.0201760		1.1	+/-20
1,2,3,7,8,9-HxCDD	A	50.000	52.3	0.9504865	10170.72		4.7	+/-20
1,2,3,4,6,7,8-HpCDF	A	50.000	54.8	1.3273500	1.4543500		9.6	+/-20
1,2,3,4,7,8,9-HpCDF	A	50.000	59.1	1.2833380	1.5180640		18.3	+/-20
1,2,3,4,6,7,8-HpCDD	A	50.000	51.9	1.0680880	1.1079280		3.7	+/-20
OCDF	A	100.00	105	1.4469010	1.5252490		5.4	+/-20
OCDD	A	100.00	105	1.1808230	1.2398230		5.0	+/-20
13C12-2,3,7,8-TCDF	A	100.00	102	1.4265830	1.4506733		1.7	+/-20
13C12-2,3,7,8-TCDD	A	100.00	81.6	1.1164910	0.9114735		-18.4	+/-20
13C12-1,2,3,7,8-PeCDF	A	100.00	105	1.2973130	1.3593960		4.8	+/-20
13C12-2,3,4,7,8-PeCDF	A	100.00	104	1.2364800	1.2899065		4.3	+/-20
13C12-1,2,3,7,8-PeCDD	A	100.00	98.4	0.7319833	0.7206311		-1.6	+/-20
13C12-1,2,3,4,7,8-HxCDF	A	100.00	116	1.2424560	1.4398252		15.9	+/-20
13C12-1,2,3,6,7,8-HxCDF	A	100.00	119	1.3434760	1.6046805		19.4	+/-20
13C12-2,3,4,6,7,8-HxCDF	A	100.00	109	1.2148550	1.3223469		8.8	+/-20
13C12-1,2,3,7,8,9-HxCDF	A	100.00	113	1.0076370	1.1409347		13.2	+/-20
13C12-1,2,3,4,7,8-HxCDD	A	100.00	114	0.9598233	1.0953859		14.1	+/-20
13C12-1,2,3,6,7,8-HxCDD	A	100.00	119	1.0413850	1.2444404		19.5	+/-20
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	114	0.9264704	1.0538048		13.7	+/-20
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	110	0.7579160	0.8319903		9.8	+/-20
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	110	0.6324476	0.6986661		10.5	+/-20
13C12-OCDD	A	200.00	212	0.5037432	0.5335530		5.9	+/-20
37Cl4-2,3,7,8-TCDD	A	10.000	10.4	1.0835930	1.1266521		4.0	+/-20

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.655	1.001	8.598e4	1.128e5	1.108	0.762	0.770	1727	2357	1.26e6	1.68e6	728.4	713.0	NO	bb	bb	10.110
12378-PeCDF	29.816	1.000	5.436e5	3.483e5	1.015	1.561	1.550	6428	5298	7.67e6	4.88e6	1193.2	921.9	NO	bd	bd	52.831
23478-PeCDF	31.165	1.001	5.567e5	3.442e5	1.126	1.617	1.550	6428	5298	7.71e6	5.06e6	1200.0	955.7	NO	dd	bb	50.709
123478-HxCDF	34.797	1.000	3.790e5	3.119e5	1.017	1.215	1.240	6025	4489	5.81e6	4.80e6	963.5	1070.0	NO	bd	bd	54.003
234678-HxCDF	35.810	1.001	3.741e5	3.010e5	1.052	1.243	1.240	6025	4489	5.56e6	4.51e6	922.2	1004.3	NO	bb	bb	55.515
123678-HxCDF	34.941	1.001	4.107e5	3.376e5	1.037	1.217	1.240	6025	4489	5.99e6	4.89e6	994.0	1090.0	NO	db	db	51.475
123789-HxCDF	36.835	1.000	3.029e5	2.474e5	1.030	1.224	1.240	6025	4489	4.62e6	3.69e6	767.5	821.7	NO	bb	bb	53.582
1234678-HpCDF	38.685	1.000	3.428e5	3.268e5	1.327	1.049	1.050	5528	5142	5.22e6	4.97e6	945.1	966.6	NO	bb	bb	54.784
1234789-HpCDF	40.924	1.000	2.799e5	2.719e5	1.283	1.029	1.050	5528	5142	3.60e6	3.43e6	650.7	667.0	NO	bd	bd	59.145
OCDF	45.140	1.006	3.368e5	3.743e5	1.447	0.900	0.890	5198	2808	3.79e6	4.27e6	729.8	1522.4	NO	bb	bb	105.415
2378-TCDD	26.305	1.001	4.924e4	6.425e4	0.920	0.766	0.770	2440	1603	7.12e5	9.28e5	291.6	579.2	NO	bb	db	11.057
12378-PeCDD	31.421	1.001	2.834e5	1.748e5	0.995	1.621	1.550	4032	3115	4.22e6	2.62e6	1046.5	841.2	NO	bb	bb	52.211
123478-HxCDD	35.922	1.000	2.965e5	2.407e5	1.027	1.232	1.240	4241	3010	4.65e6	3.73e6	1096.7	1237.9	NO	bd	bd	54.629
123678-HxCDD	36.044	1.001	3.082e5	2.464e5	1.009	1.251	1.240	4241	3010	4.61e6	3.72e6	1085.9	1237.1	NO	db	db	50.555
123789-HxCDD	36.423	1.011	2.887e5	2.199e5	0.950	1.313	1.240	4241	3010	4.19e6	3.34e6	989.1	1108.9	NO	bd	bb	52.339
1234678-HpCDD	40.178	1.000	1.757e5	1.625e5	1.068	1.081	1.050	3111	3083	2.53e6	2.35e6	814.6	763.1	NO	bb	bb	51.865
OCDD	44.903	1.000	2.642e5	3.138e5	1.181	0.842	0.890	2972	3108	3.12e6	3.44e6	1050.3	1105.9	NO	bb	bd	104.997
13C-2378-TCDF	25.640	1.007	7.798e5	9.953e5	1.427	0.784	0.770	3469	3089	1.16e7	1.43e7	3339.4	4613.3	NO	bb	bb	101.689
13C-12378-PeCDF	29.806	1.171	1.051e6	6.125e5	1.297	1.716	1.550	4922	3645	1.42e7	8.62e6	2881.8	2364.6	NO	bd	bb	104.785
13C-23478-PeCDF	31.142	1.223	9.754e5	6.030e5	1.236	1.617	1.550	4922	3645	1.41e7	8.69e6	2860.8	2384.9	NO	bb	bb	104.321
13C-123478-HxCDF	34.785	0.955	4.274e5	8.307e5	1.242	0.514	0.510	5265	6298	6.41e6	1.24e7	1218.4	1973.2	NO	bd	bd	115.885
13C-123678-HxCDF	34.919	0.959	4.860e5	9.161e5	1.343	0.530	0.510	5265	6298	7.00e6	1.35e7	1330.1	2144.5	NO	db	db	119.442
13C-234678-HxCDF	35.788	0.983	3.967e5	7.587e5	1.215	0.523	0.510	5265	6298	5.75e6	1.13e7	1091.4	1799.0	NO	bb	bb	108.848
13C-123789-HxCDF	36.824	1.011	3.447e5	6.522e5	1.008	0.529	0.510	5265	6298	5.11e6	9.81e6	969.9	1558.1	NO	bb	bb	113.229
13C-1234678-HpCDF	38.674	1.062	3.005e5	6.203e5	0.926	0.484	0.440	3480	6125	4.35e6	9.34e6	1249.4	1525.5	NO	bd	bb	113.744
13C-1234789-HpCDF	40.902	1.123	2.223e5	5.047e5	0.758	0.440	0.440	3480	6125	2.90e6	6.30e6	833.4	1029.2	NO	bb	bb	109.773
13C-1234-TCDD	25.458	0.000	5.298e5	6.938e5	1.000	0.764	0.770	5513	2305	7.87e6	1.03e7	1428.2	4481.1	NO	bb	bb	100.000
13C-2378-TCDD	26.275	1.032	4.826e5	6.328e5	1.116	0.763	0.770	5513	2305	7.09e6	9.32e6	1285.5	4044.7	NO	bb	bb	81.637
13C-12378-PeCDD	31.399	1.233	5.423e5	3.395e5	0.732	1.598	1.550	2388	2135	7.53e6	4.95e6	3154.4	2319.5	NO	bb	bb	98.449
13C-123478-HxCDD	35.911	0.986	5.361e5	4.211e5	0.960	1.273	1.240	3574	5521	8.65e6	6.70e6	2421.3	1213.6	NO	bd	bd	114.124
13C-123678-HxCDD	36.022	0.989	6.017e5	4.857e5	1.041	1.239	1.240	3574	5521	9.06e6	7.24e6	2535.4	1311.0	NO	db	db	119.499
13C-1234678-HpCDD	40.167	1.103	3.074e5	3.031e5	0.632	1.014	1.050	3260	2760	4.30e6	4.19e6	1318.4	1519.0	NO	bb	bb	110.470
13C-OCDD	44.884	1.233	4.208e5	5.116e5	0.504	0.822	0.890	2744	3477	4.92e6	5.55e6	1792.3	1596.9	NO	bb	bd	211.835
13C-123789-HxCDD	36.412	0.000	4.843e5	3.895e5	1.000	1.243	1.240	3574	5521	7.18e6	5.79e6	2010.2	1047.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	1.379e5		1.084			1849		1.90e6		1029.2			bd		10.397

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.147	0.864	1.063e5	1.324e5	1.425	0.802	0.770	1727	2357	1.66e6	2.09e6	959.0	886.5	NO	bb	bb	9.436
1289-TCDF	27.152	1.059	5.661e4	7.137e4	1.043	0.793	0.770	1727	2357	8.15e5	1.06e6	472.0	447.8	NO	bb	bb	6.913
13468-PECDF	27.015	0.906	5.743e5	3.714e5	1.376	1.546	1.550	1557	1759	8.45e6	5.45e6	5425.9	3099.7	NO	bb	bb	41.310
12389-PECDF	32.201	1.080	4.075e5	2.638e5	1.000	1.544	1.550	6428	5298	5.63e6	3.72e6	875.5	702.7	NO	bb	bb	40.376
123468-HXCDF	33.125	0.952	4.315e5	3.546e5	1.087	1.217	1.240	6025	4489	6.40e6	5.20e6	1061.8	1158.1	NO	bb	bb	57.507
1368-TCDD	23.417	0.891	5.716e4	7.362e4	0.923	0.776	0.770	2440	1603	8.73e5	1.13e6	357.6	706.6	NO	bb	bb	12.700
1289-TCDD	26.895	1.024	4.776e4	6.026e4	0.794	0.793	0.770	2440	1603	6.91e5	8.63e5	283.1	538.1	NO	bb	bb	12.197
12479-PECDD	28.691	0.914	4.186e5	2.632e5	1.843	1.590	1.550	4032	3115	3.99e6	2.51e6	988.7	804.5	NO	bb	bb	41.945
12389-PECDD	31.822	1.013	2.780e5	1.664e5	1.154	1.671	1.550	4032	3115	4.00e6	2.46e6	992.1	791.3	NO	bb	bb	43.683
124679-HXCDD	33.905	0.944	3.632e5	2.896e5	1.125	1.254	1.240	4241	3010	5.57e6	4.44e6	1314.1	1475.1	NO	bb	bb	60.629
1234679-HPCDD	39.141	0.975	2.129e5	1.840e5	1.211	1.157	1.050	3111	3083	2.93e6	2.75e6	941.5	893.1	NO	bd	bb	53.689
Total-tetrafurans			2.574e5		1.192			1727		3.86e6							27.363
Total-penta1			5.743e5					1557		8.45e6							41.310
Total-pentafurans			1.602e6		1.047			6428		2.23e7							153.079
Total-hexafurans			1.898e6		1.045			6025		2.84e7							272.082
Total-heptafurans			6.227e5		1.305			5528		8.82e6							113.929
Total-Furans			5.291e6		1.158			1727		7.56e7							713.177
Total-tetradioxins			2.709e5		0.879			2440		3.41e6							62.800
Total-pentadioxins			9.817e5		1.331			4032		1.22e7							138.087
Total-hexadioxins			1.266e6		1.028			4241		1.92e7							219.741
Total-heptadioxins			3.886e5		1.140			3111		5.46e6							105.554
Total-Dioxins			3.171e6		1.092			2440		4.34e7							631.178
Total-TEQ			8.462e6					2440		1.19e8							1344.355
FUNCTION1 PFK			6.450e7					839971		2.37e8							
FUNCTION2 PFK			0.000e0					483349		0.00e0							
FUNCTION3 PFK			5.184e7					675979		4.54e8							0.000
FUNCTION4 PFK			3.964e5					425264		1.39e7							
FUNCTION5 PFK			3.414e4					345829		1.67e6							
FUNCTION1 HXCD...			2.903e3					1258		5.64e4							0.000
FUNCTION1 HPCD...			2.863e3					1421		5.44e4							0.000
FUNCTION2 HPCD...			2.720e3					1471		5.70e4							0.000
FUNCTION3 OCDPE			1.392e3					890		2.72e4							0.000
FUNCTION4 NCDPE			1.187e3					1520		2.23e4							0.000
FUNCTION5 DCDPE			1.665e2					1065		6.42e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
2	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
3	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
4	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
5	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
2	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
3	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
4	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
5	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
2	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020
7	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
8	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
9	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
10	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
11	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831
12	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
13	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
14	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
15	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
16	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003
17	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
18	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145
19	OCDF	45.14	3.368e5	3.743e5	1.447	0.90	0.89	729.8	YES	NO	bb	bb	105.415
20	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
2	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
3	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
4	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
5	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
6	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
2	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
3	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
4	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
2	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
3	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
4	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
5	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
6	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865
2	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
2	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
3	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
4	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
5	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
6	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057
7	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
8	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
9	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
10	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945
11	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
12	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
13	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
14	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
15	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
16	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325
17	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865
18	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689
19	OCDD	44.90	2.642e5	3.138e5	1.181	0.84	0.89	1050.3	YES	NO	bb	bd	104.997

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.15	5.661e4	7.137e4	1.043	0.79	0.77	472.0	YES	NO	bb	bb	6.913
2	2378-TCDF	25.65	8.598e4	1.128e5	1.108	0.76	0.77	728.4	YES	NO	bb	bb	10.110
3	Total-tetrafurans	24.75	7.210e3	8.958e3	1.192	0.80	0.77	60.0	YES	NO	bb	bb	0.764
4	Total-tetrafurans	24.42	1.138e3	1.365e3	1.192	0.83	0.77	9.8	YES	NO	bb	bb	0.118
5	1368-TCDF	22.15	1.063e5	1.324e5	1.425	0.80	0.77	959.0	YES	NO	bb	bb	9.436
6	Total-tetrafurans	27.47	1.965e2	2.354e2	1.192	0.83	0.77	3.7	YES	NO	db	bb	0.020
7	Total-pentafurans	28.67	7.393e4	4.763e4	1.047	1.55	1.55	167.4	YES	NO	bb	bb	7.165
8	12389-PECDF	32.20	4.075e5	2.638e5	1.000	1.54	1.55	875.5	YES	NO	bb	bb	40.376
9	23478-PeCDF	31.16	5.567e5	3.442e5	1.126	1.62	1.55	1200.0	YES	NO	dd	bb	50.709
10	Total-pentafurans	30.02	2.035e4	1.353e4	1.047	1.50	1.55	37.7	YES	NO	dd	dd	1.997
11	12378-PeCDF	29.82	5.436e5	3.483e5	1.015	1.56	1.55	1193.2	YES	NO	bd	bd	52.831
12	123468-HXCDF	33.13	4.315e5	3.546e5	1.087	1.22	1.24	1061.8	YES	NO	bb	bb	57.507
13	123789-HxCDF	36.84	3.029e5	2.474e5	1.030	1.22	1.24	767.5	YES	NO	bb	bb	53.582
14	234678-HxCDF	35.81	3.741e5	3.010e5	1.052	1.24	1.24	922.2	YES	NO	bb	bb	55.515
15	123678-HxCDF	34.94	4.107e5	3.376e5	1.037	1.22	1.24	994.0	YES	NO	db	db	51.475
16	123478-HxCDF	34.80	3.790e5	3.119e5	1.017	1.22	1.24	963.5	YES	NO	bd	bd	54.003
17	1234678-HpCDF	38.68	3.428e5	3.268e5	1.327	1.05	1.05	945.1	YES	NO	bb	bb	54.784
18	1234789-HpCDF	40.92	2.799e5	2.719e5	1.283	1.03	1.05	650.7	YES	NO	bd	bd	59.145
19	OCDF	45.14	3.368e5	3.743e5	1.447	0.90	0.89	729.8	YES	NO	bb	bb	105.415
20	13468-PECDF	27.02	5.743e5	3.714e5	1.376	1.55	1.55	5425.9	YES	NO	bb	bb	41.310
21	Total-tetradioxins	25.97	8.932e4	1.141e5	0.879	0.78	0.77	303.9	YES	NO	bd	bd	20.744
22	Total-tetradioxins	25.49	2.543e4	2.972e4	0.879	0.86	0.77	154.2	YES	NO	bd	bb	5.625
23	Total-tetradioxins	24.63	2.020e3	2.647e3	0.879	0.76	0.77	8.0	YES	NO	bd	bb	0.476
24	1368-TCDD	23.42	5.716e4	7.362e4	0.923	0.78	0.77	357.6	YES	NO	bb	bb	12.700
25	1289-TCDD	26.89	4.776e4	6.026e4	0.794	0.79	0.77	283.1	YES	NO	bb	bb	12.197
26	2378-TCDD	26.30	4.924e4	6.425e4	0.920	0.77	0.77	291.6	YES	NO	bb	db	11.057
27	12389-PECDD	31.82	2.780e5	1.664e5	1.154	1.67	1.55	992.1	YES	NO	bb	bb	43.683
28	12378-PeCDD	31.42	2.834e5	1.748e5	0.995	1.62	1.55	1046.5	YES	NO	bb	bb	52.211
29	Total-pentadioxins	30.75	1.739e3	1.177e3	1.331	1.48	1.55	6.0	YES	NO	bb	bb	0.249
30	12479-PECDD	28.69	4.186e5	2.632e5	1.843	1.59	1.55	988.7	YES	NO	bb	bb	41.945
31	124679-HXCDD	33.91	3.632e5	2.896e5	1.125	1.25	1.24	1314.1	YES	NO	bb	bb	60.629
32	123789-HxCDD	36.42	2.887e5	2.199e5	0.950	1.31	1.24	989.1	YES	NO	bd	bb	52.339
33	123678-HxCDD	36.04	3.082e5	2.464e5	1.009	1.25	1.24	1085.9	YES	NO	db	db	50.555
34	123478-HxCDD	35.92	2.965e5	2.407e5	1.027	1.23	1.24	1096.7	YES	NO	bd	bd	54.629
35	Total-hexadioxins	35.04	7.156e3	6.136e3	1.028	1.17	1.24	26.9	YES	NO	db	db	1.265
36	Total-hexadioxins	34.67	1.781e3	1.631e3	1.028	1.09	1.24	7.7	YES	NO	bb	bb	0.325
37	1234678-HpCDD	40.18	1.757e5	1.625e5	1.068	1.08	1.05	814.6	YES	NO	bb	bb	51.865

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	39.14	2.129e5	1.840e5	1.211	1.16	1.05	941.5	YES	NO	bd	bb	53.689
39	OCDD	44.90	2.642e5	3.138e5	1.181	0.84	0.89	1050.3	YES	NO	bb	bd	104.997

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.34	1.094e7					29.2	YES		db		
2	FUNCTION1 PFK	22.07	1.938e7					38.3	YES		dd		
3	FUNCTION1 PFK	21.38	2.077e7					61.6	YES		dd		
4	FUNCTION1 PFK	21.25	7.452e6					64.7	YES		dd		
5	FUNCTION1 PFK	21.10	5.199e6					69.3	YES		bd		
6	FUNCTION1 PFK	27.62	5.202e4					1.5	NO		bb		
7	FUNCTION1 PFK	26.61	3.088e4					1.4	NO		bb		
8	FUNCTION1 PFK	26.53	3.772e4					1.3	NO		bb		
9	FUNCTION1 PFK	26.21	4.215e4					1.3	NO		bb		
10	FUNCTION1 PFK	26.14	2.091e4					0.7	NO		bb		
11	FUNCTION1 PFK	25.90	2.782e4					1.0	NO		bb		
12	FUNCTION1 PFK	25.64	2.244e4					0.9	NO		bb		
13	FUNCTION1 PFK	25.38	4.475e4					1.3	NO		bb		
14	FUNCTION1 PFK	25.32	8.085e4					1.5	NO		bb		
15	FUNCTION1 PFK	25.10	6.333e4					1.7	NO		db		
16	FUNCTION1 PFK	24.94	2.192e5					2.0	NO		dd		
17	FUNCTION1 PFK	24.82	2.857e4					1.1	NO		bd		
18	FUNCTION1 PFK	24.63	2.787e4					1.0	NO		bb		
19	FUNCTION1 PFK	24.35	1.463e4					0.7	NO		bb		
20	FUNCTION1 PFK	23.43	4.951e4					1.7	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.47	2.892e5					8.3	YES		dd		0.000
2	FUNCTION3 PFK	34.42	3.441e5					9.9	YES		dd		0.000
3	FUNCTION3 PFK	34.30	9.123e5					14.6	YES		dd		0.000
4	FUNCTION3 PFK	33.96	4.870e6					27.1	YES		dd		0.000
5	FUNCTION3 PFK	33.92	6.208e5					27.9	YES		dd		0.000
6	FUNCTION3 PFK	33.75	6.775e6					34.2	YES		dd		0.000
7	FUNCTION3 PFK	33.58	8.843e5					39.8	YES		dd		0.000
8	FUNCTION3 PFK	33.52	4.828e6					42.2	YES		dd		0.000
9	FUNCTION3 PFK	33.37	2.844e6					47.3	YES		dd		0.000
10	FUNCTION3 PFK	33.18	5.432e6					54.3	YES		dd		0.000
11	FUNCTION3 PFK	33.04	5.575e6					59.2	YES		dd		0.000
12	FUNCTION3 PFK	32.95	3.680e6					62.9	YES		dd		0.000
13	FUNCTION3 PFK	32.86	7.904e6					65.6	YES		dd		0.000
14	FUNCTION3 PFK	32.74	1.549e6					69.1	YES		dd		0.000
15	FUNCTION3 PFK	32.67	4.268e6					72.4	YES		bd		0.000
16	FUNCTION3 PFK	36.86	8.449e3					0.3	NO		bb		0.000
17	FUNCTION3 PFK	36.72	6.925e4					2.0	NO		bb		0.000
18	FUNCTION3 PFK	36.59	5.799e4					1.2	NO		bb		0.000
19	FUNCTION3 PFK	36.30	7.563e3					0.7	NO		bb		0.000
20	FUNCTION3 PFK	36.04	6.922e3					0.5	NO		bb		0.000
21	FUNCTION3 PFK	35.83	2.532e4					1.1	NO		bb		0.000
22	FUNCTION3 PFK	35.75	1.516e4					0.9	NO		bb		0.000
23	FUNCTION3 PFK	35.63	1.004e4					0.7	NO		bb		0.000
24	FUNCTION3 PFK	35.33	1.433e4					0.8	NO		bb		0.000
25	FUNCTION3 PFK	35.04	1.089e4					0.6	NO		bb		0.000
26	FUNCTION3 PFK	34.97	5.517e3					0.7	NO		bb		0.000
27	FUNCTION3 PFK	34.89	3.001e4					1.0	NO		bb		0.000
28	FUNCTION3 PFK	34.81	1.594e4					1.0	NO		db		0.000
29	FUNCTION3 PFK	34.76	3.092e4					1.3	NO		bd		0.000
30	FUNCTION3 PFK	34.60	1.659e5					4.5	YES		db		0.000
31	FUNCTION3 PFK	34.53	2.985e5					6.7	YES		dd		0.000
32	FUNCTION3 PFK	37.64	2.742e4					1.1	NO		bb		0.000
33	FUNCTION3 PFK	37.58	2.711e4					1.4	NO		db		0.000
34	FUNCTION3 PFK	37.54	1.758e4					0.9	NO		dd		0.000
35	FUNCTION3 PFK	37.49	3.447e4					1.6	NO		dd		0.000
36	FUNCTION3 PFK	37.45	2.646e4					1.5	NO		dd		0.000
37	FUNCTION3 PFK	37.38	4.745e4					1.5	NO		dd		0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.34	2.452e4					1.6	NO		bd		0.000
39	FUNCTION3 PFK	37.29	9.653e3					0.8	NO		bb		0.000
40	FUNCTION3 PFK	37.08	5.064e3					0.5	NO		bb		0.000
41	FUNCTION3 PFK	36.98	6.612e4					1.7	NO		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.42	2.469e3					0.5	NO		bb		
2	FUNCTION4 PFK	38.08	2.954e4					1.7	NO		bb		
3	FUNCTION4 PFK	37.98	4.856e4					2.3	NO		db		
4	FUNCTION4 PFK	37.94	3.614e4					2.6	NO		bd		
5	FUNCTION4 PFK	37.85	8.390e3					1.0	NO		bb		
6	FUNCTION4 PFK	40.91	1.035e4					1.0	NO		bb		
7	FUNCTION4 PFK	40.71	1.742e3					0.4	NO		bb		
8	FUNCTION4 PFK	40.68	3.176e3					0.5	NO		bb		
9	FUNCTION4 PFK	40.61	6.362e3					0.7	NO		bb		
10	FUNCTION4 PFK	40.38	7.075e3					0.8	NO		bb		
11	FUNCTION4 PFK	40.32	3.115e4					1.2	NO		bb		
12	FUNCTION4 PFK	39.94	4.461e3					0.6	NO		bb		
13	FUNCTION4 PFK	39.80	5.746e3					0.6	NO		bb		
14	FUNCTION4 PFK	39.51	2.799e3					0.4	NO		bb		
15	FUNCTION4 PFK	39.43	1.949e3					0.4	NO		bb		
16	FUNCTION4 PFK	39.36	2.879e3					0.6	NO		bb		
17	FUNCTION4 PFK	39.32	5.365e3					1.1	NO		bb		
18	FUNCTION4 PFK	39.28	3.621e3					0.8	NO		bb		
19	FUNCTION4 PFK	39.21	1.666e4					1.0	NO		bb		
20	FUNCTION4 PFK	39.07	6.512e3					0.8	NO		bb		
21	FUNCTION4 PFK	38.46	1.263e4					1.2	NO		bb		
22	FUNCTION4 PFK	42.68	1.445e4					0.9	NO		bb		
23	FUNCTION4 PFK	42.62	2.052e4					1.7	NO		bb		
24	FUNCTION4 PFK	42.51	2.321e3					0.5	NO		bb		
25	FUNCTION4 PFK	42.43	3.121e4					1.9	NO		bb		
26	FUNCTION4 PFK	42.18	7.742e3					0.8	NO		bb		
27	FUNCTION4 PFK	42.05	1.748e4					1.2	NO		db		
28	FUNCTION4 PFK	41.97	1.470e4					1.2	NO		bd		
29	FUNCTION4 PFK	41.63	2.487e3					0.5	NO		bb		
30	FUNCTION4 PFK	41.48	1.442e4					1.2	NO		bb		
31	FUNCTION4 PFK	41.24	1.211e4					1.0	NO		bb		
32	FUNCTION4 PFK	41.17	1.136e4					1.2	NO		bb		

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.97	5.710e3					1.0	NO		bb		
2	FUNCTION5 PFK	45.74	1.859e3					0.6	NO		bb		
3	FUNCTION5 PFK	43.26	1.526e4					1.8	NO		bb		
4	FUNCTION5 PFK	42.93	1.131e4					1.5	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.35	1.892e2					4.2	YES		db		0.000
2	FUNCTION1 HXCD...	25.23	1.187e2					1.3	NO		bd		0.000
3	FUNCTION1 HXCD...	24.87	7.961e1					1.9	NO		db		0.000
4	FUNCTION1 HXCD...	24.81	1.259e2					2.7	NO		bd		0.000
5	FUNCTION1 HXCD...	24.72	1.584e2					1.4	NO		bb		0.000
6	FUNCTION1 HXCD...	24.40	9.113e1					1.6	NO		bb		0.000
7	FUNCTION1 HXCD...	23.72	7.480e1					1.5	NO		bb		0.000
8	FUNCTION1 HXCD...	23.61	1.381e2					2.9	NO		bb		0.000
9	FUNCTION1 HXCD...	23.11	9.740e1					2.5	NO		bb		0.000
10	FUNCTION1 HXCD...	22.43	1.791e2					2.1	NO		db		0.000
11	FUNCTION1 HXCD...	22.30	7.125e1					1.5	NO		bd		0.000
12	FUNCTION1 HXCD...	22.19	7.195e1					1.3	NO		bb		0.000
13	FUNCTION1 HXCD...	21.98	1.102e2					1.5	NO		db		0.000
14	FUNCTION1 HXCD...	21.89	2.251e2					4.2	YES		bd		0.000
15	FUNCTION1 HXCD...	21.80	1.414e2					2.0	NO		bb		0.000
16	FUNCTION1 HXCD...	27.03	2.453e2					2.4	NO		bb		0.000
17	FUNCTION1 HXCD...	26.29	2.686e2					2.1	NO		db		0.000
18	FUNCTION1 HXCD...	26.12	1.763e2					2.9	NO		dd		0.000
19	FUNCTION1 HXCD...	26.03	9.387e1					1.2	NO		bd		0.000
20	FUNCTION1 HXCD...	25.82	1.399e2					2.0	NO		bb		0.000
21	FUNCTION1 HXCD...	25.46	1.064e2					1.7	NO		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.51	7.992e1					1.4	NO		bb		0.000
2	FUNCTION1 HPCD...	22.07	1.029e2					2.1	NO		bb		0.000
3	FUNCTION1 HPCD...	21.98	1.510e2					1.6	NO		db		0.000
4	FUNCTION1 HPCD...	21.88	1.949e2					3.5	YES		bd		0.000
5	FUNCTION1 HPCD...	21.75	2.528e2					1.8	NO		bb		0.000
6	FUNCTION1 HPCD...	21.47	1.508e2					2.1	NO		bb		0.000
7	FUNCTION1 HPCD...	21.25	1.018e2					1.3	NO		db		0.000
8	FUNCTION1 HPCD...	21.16	1.149e2					1.6	NO		dd		0.000
9	FUNCTION1 HPCD...	21.09	2.200e2					3.0	NO		bd		0.000
10	FUNCTION1 HPCD...	27.00	1.586e2					1.8	NO		bb		0.000
11	FUNCTION1 HPCD...	26.83	9.159e1					0.8	NO		bb		0.000
12	FUNCTION1 HPCD...	26.59	1.663e2					2.5	NO		bb		0.000
13	FUNCTION1 HPCD...	26.32	1.753e2					1.6	NO		db		0.000
14	FUNCTION1 HPCD...	26.14	2.616e2					2.2	NO		bd		0.000
15	FUNCTION1 HPCD...	25.59	8.230e1					1.9	NO		bb		0.000
16	FUNCTION1 HPCD...	25.44	8.713e1					1.0	NO		bb		0.000
17	FUNCTION1 HPCD...	25.16	7.125e1					1.1	NO		db		0.000
18	FUNCTION1 HPCD...	25.05	1.030e2					1.1	NO		bd		0.000
19	FUNCTION1 HPCD...	24.07	1.494e2					2.5	NO		bb		0.000
20	FUNCTION1 HPCD...	23.83	1.478e2					3.3	YES		bb		0.000

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.48	1.146e2					2.7	NO		bb		0.000
2	FUNCTION2 HPCD...	28.07	8.040e1					1.2	NO		db		0.000
3	FUNCTION2 HPCD...	27.98	1.117e2					1.5	NO		bd		0.000
4	FUNCTION2 HPCD...	27.82	9.308e1					2.0	NO		bb		0.000
5	FUNCTION2 HPCD...	31.82	1.073e2					1.6	NO		bb		0.000
6	FUNCTION2 HPCD...	31.41	3.440e2					4.0	YES		bb		0.000
7	FUNCTION2 HPCD...	31.18	9.044e1					1.2	NO		db		0.000
8	FUNCTION2 HPCD...	31.11	9.781e1					2.1	NO		dd		0.000
9	FUNCTION2 HPCD...	31.03	7.279e2					8.6	YES		bd		0.000
10	FUNCTION2 HPCD...	30.26	7.257e1					1.3	NO		bb		0.000
11	FUNCTION2 HPCD...	30.21	7.122e1					1.7	NO		db		0.000
12	FUNCTION2 HPCD...	30.14	1.157e2					1.5	NO		dd		0.000
13	FUNCTION2 HPCD...	30.06	7.412e1					1.1	NO		dd		0.000
14	FUNCTION2 HPCD...	29.98	7.219e1					1.2	NO		dd		0.000
15	FUNCTION2 HPCD...	29.91	9.212e1					2.0	NO		bd		0.000
16	FUNCTION2 HPCD...	29.69	7.977e1					1.3	NO		bb		0.000
17	FUNCTION2 HPCD...	29.08	1.408e2					1.5	NO		db		0.000
18	FUNCTION2 HPCD...	28.96	1.497e2					1.4	NO		bd		0.000
19	FUNCTION2 HPCD...	28.71	8.490e1					1.0	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	37.65	1.580e2					2.6	NO		db		0.000
2	FUNCTION3 OCDPE	37.55	1.150e2					2.8	NO		bd		0.000
3	FUNCTION3 OCDPE	36.42	1.835e2					2.9	NO		bb		0.000
4	FUNCTION3 OCDPE	36.04	2.520e2					4.7	YES		db		0.000
5	FUNCTION3 OCDPE	35.93	1.106e2					3.8	YES		dd		0.000
6	FUNCTION3 OCDPE	35.90	1.018e2					3.4	YES		bd		0.000
7	FUNCTION3 OCDPE	34.40	1.321e2					5.0	YES		bb		0.000
8	FUNCTION3 OCDPE	33.58	1.010e2					2.3	NO		bb		0.000
9	FUNCTION3 OCDPE	32.70	2.382e2					3.1	YES		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210811ICVIH.qld
Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	40.42	7.136e1					0.9	NO		bb		0.000
2	FUNCTION4 NCDPE	40.16	1.641e2					1.6	NO		bb		0.000
3	FUNCTION4 NCDPE	39.69	1.182e2					1.5	NO		bb		0.000
4	FUNCTION4 NCDPE	38.52	1.487e2					1.6	NO		db		0.000
5	FUNCTION4 NCDPE	38.34	2.790e2					2.3	NO		dd		0.000
6	FUNCTION4 NCDPE	38.26	1.556e2					2.2	NO		bd		0.000
7	FUNCTION4 NCDPE	41.34	1.448e2					1.6	NO		bb		0.000
8	FUNCTION4 NCDPE	40.81	1.056e2					2.8	NO		bb		0.000

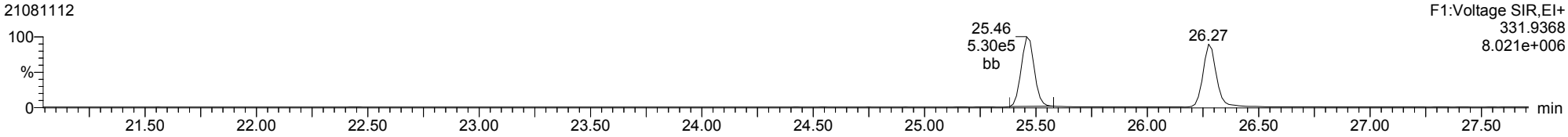
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	44.58	7.112e1					3.0	NO		bb		0.000
2	FUNCTION5 DCDPE	43.59	9.542e1					3.1	YES		bb		0.000

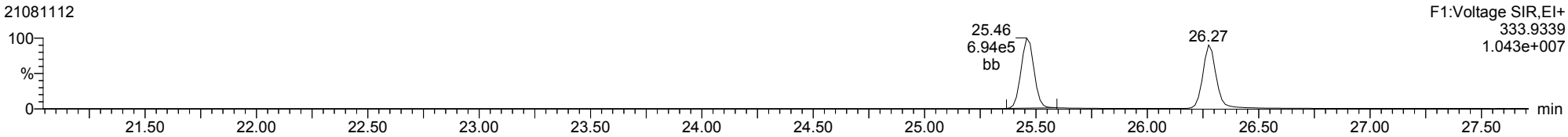
Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

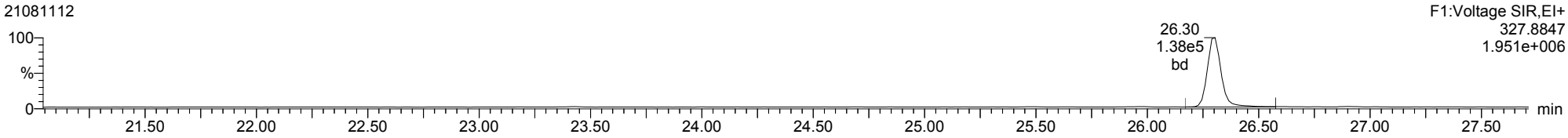
13C-1234-TCDD



13C-1234-TCDD

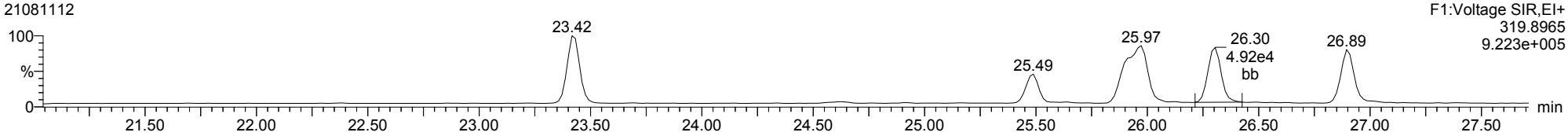


37CL-2378-TCDD

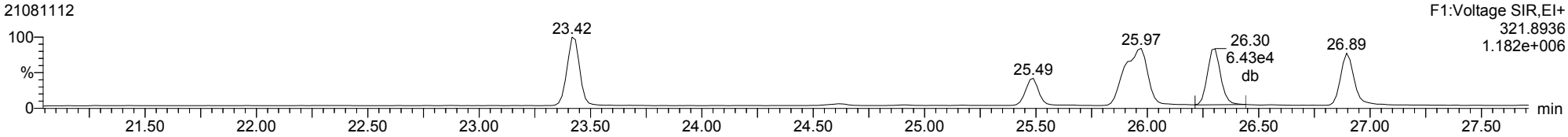


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

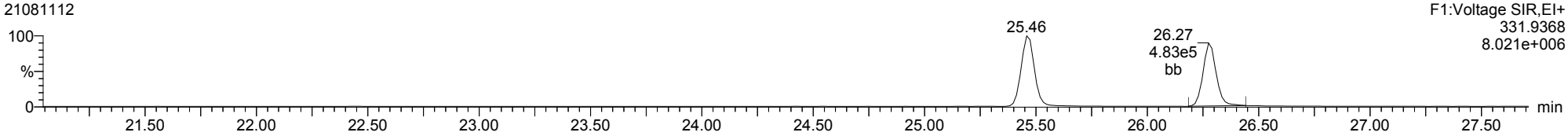
2378-TCDD



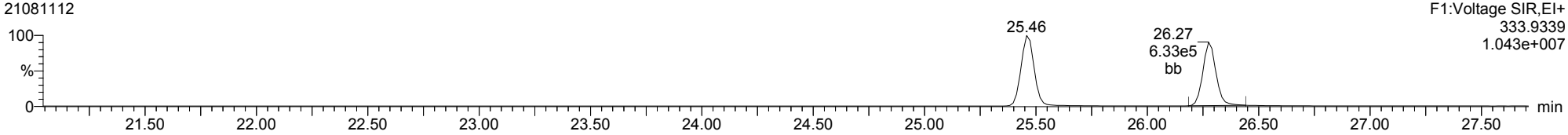
2378-TCDD



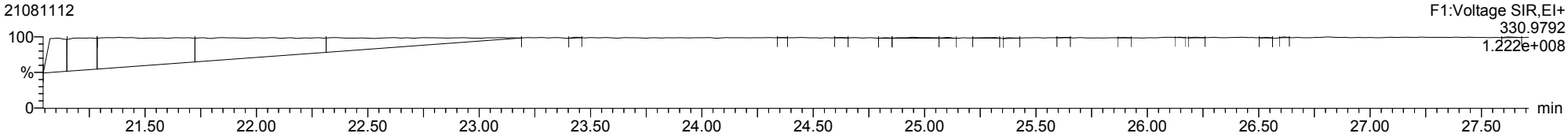
13C-2378-TCDD



13C-2378-TCDD

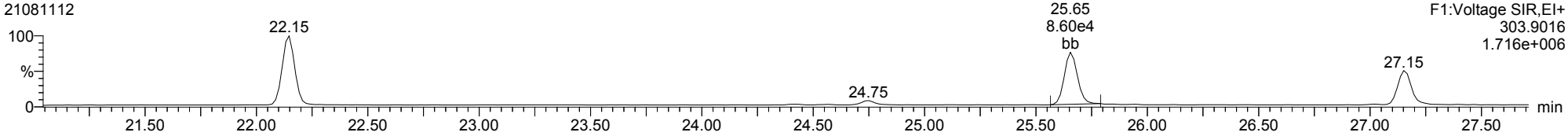


FUNCTION1 PFK

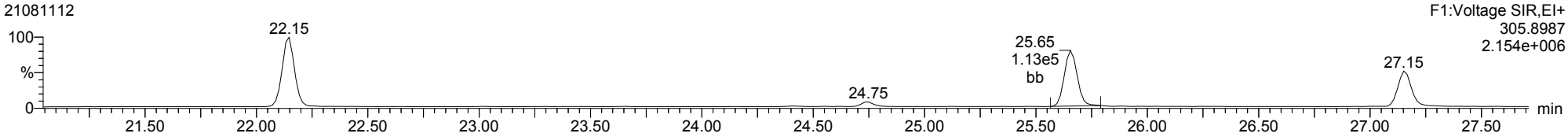


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

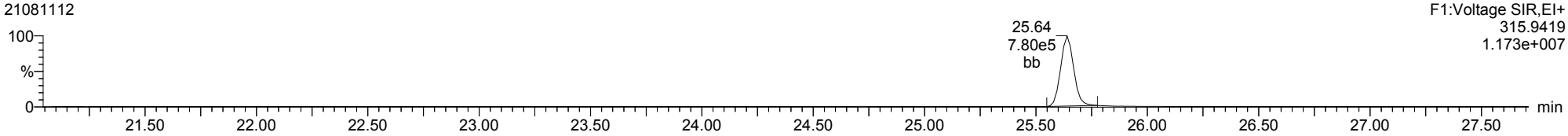
2378-TCDF



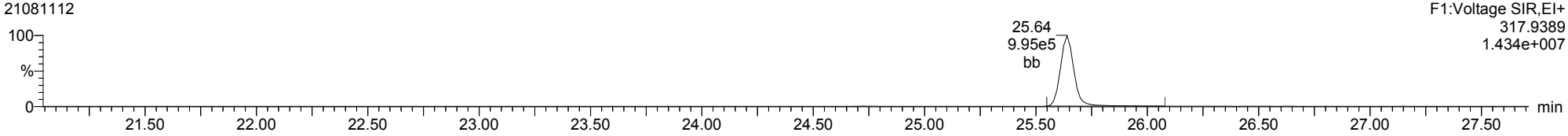
2378-TCDF



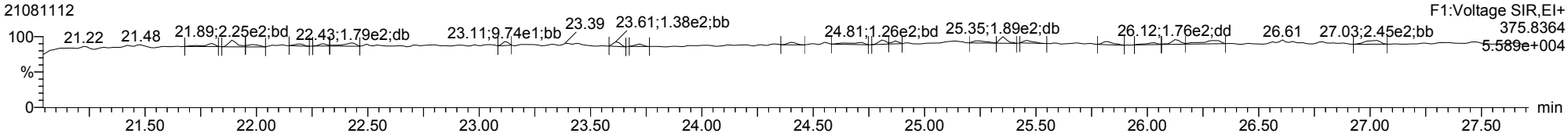
13C-2378-TCDF



13C-2378-TCDF

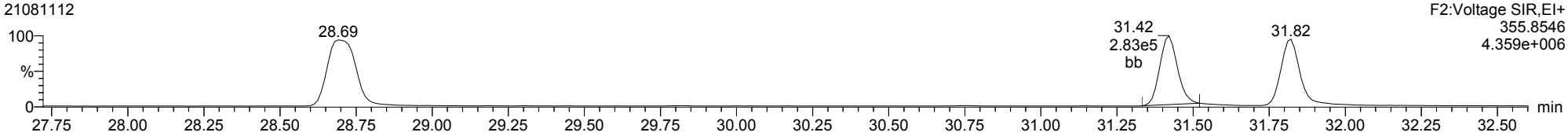


FUNCTION1 HXCDPE

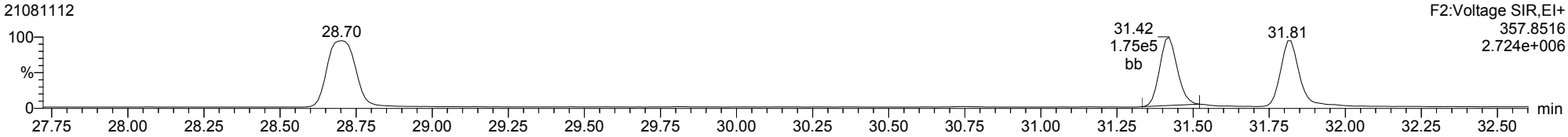


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

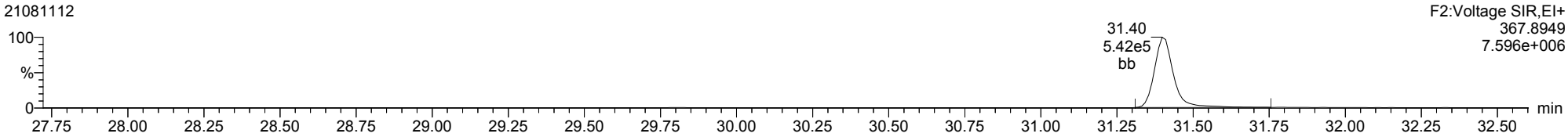
12378-PeCDD



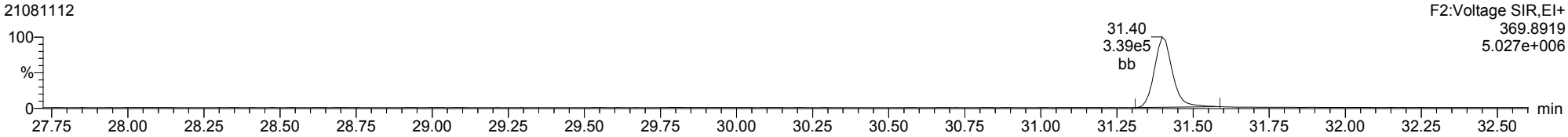
12378-PeCDD



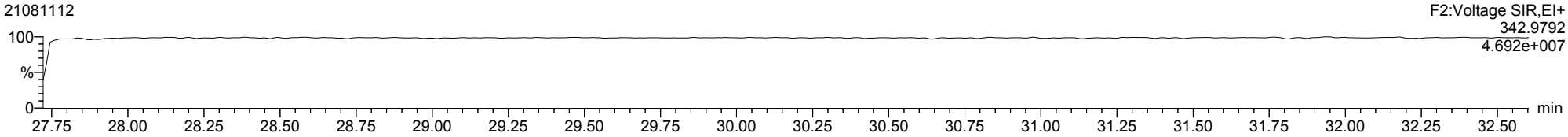
13C-12378-PeCDD



13C-12378-PeCDD

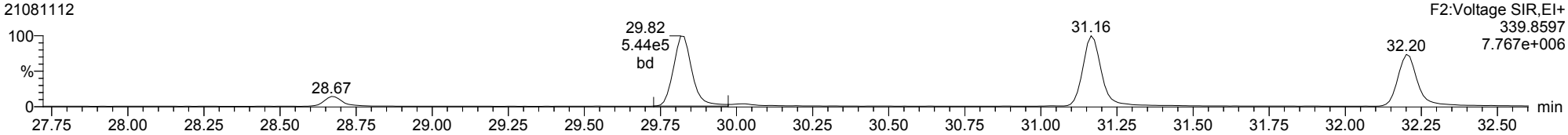


FUNCTION2 PFK

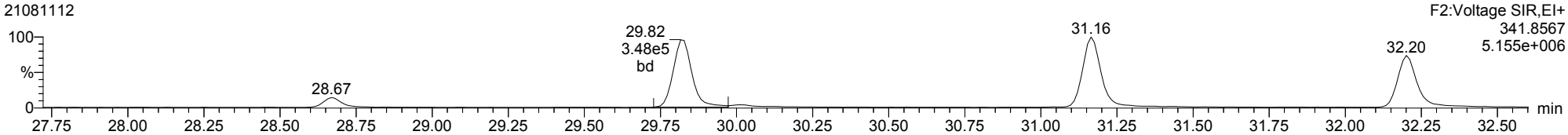


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

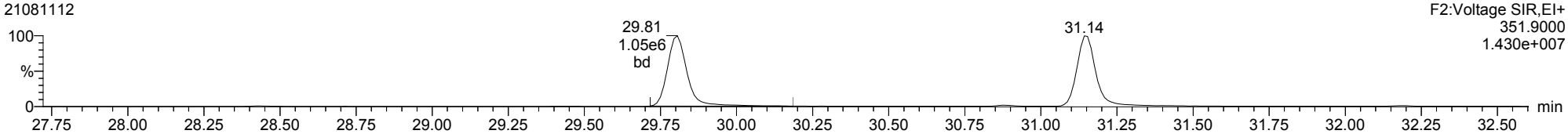
12378-PeCDF



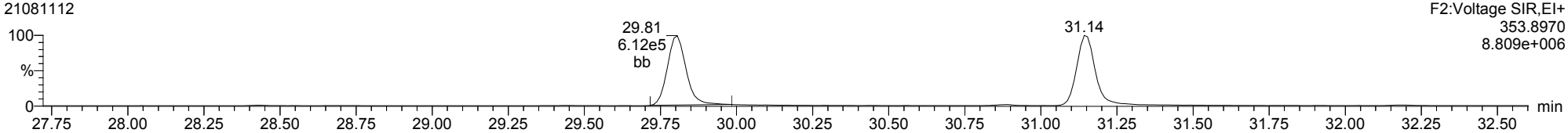
12378-PeCDF



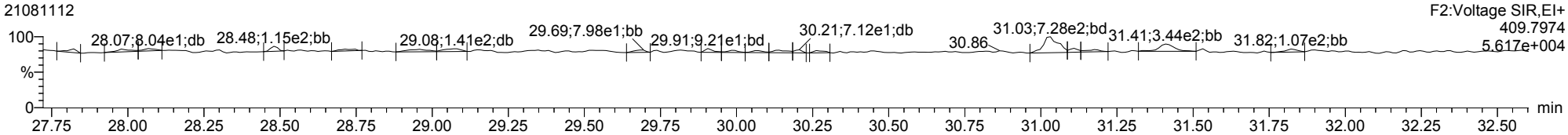
13C-12378-PeCDF



13C-12378-PeCDF

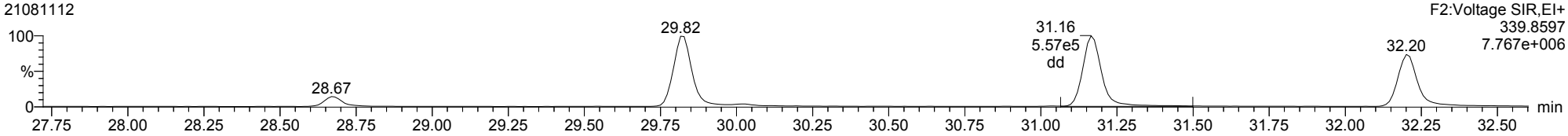


FUNCTION2 HPCDPE

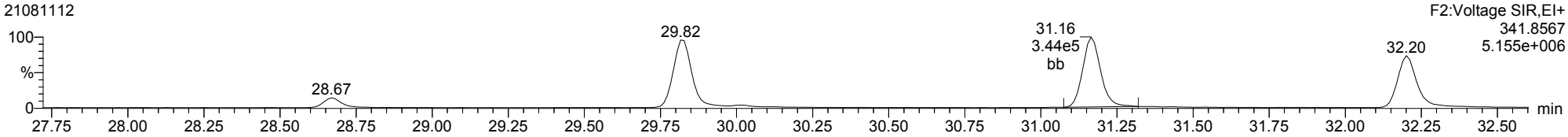


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

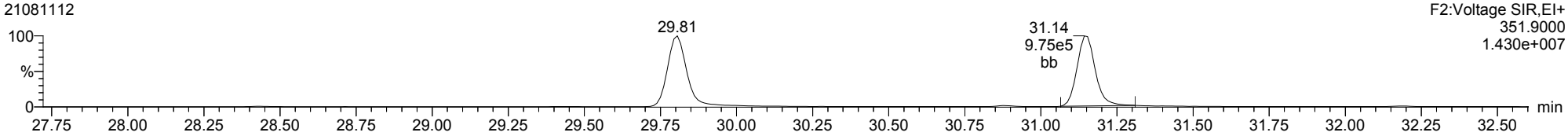
23478-PeCDF



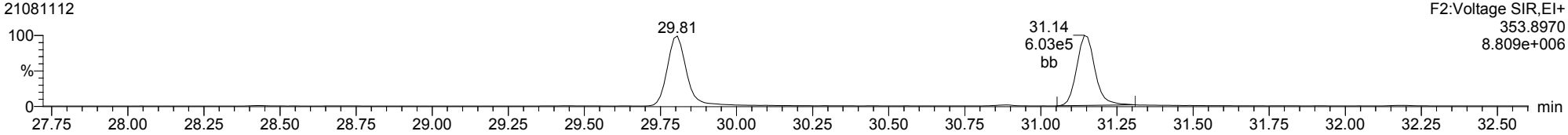
23478-PeCDF



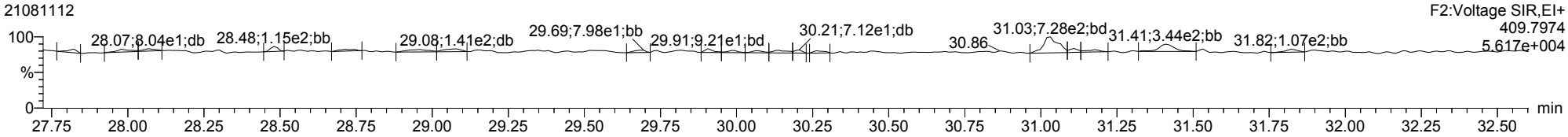
13C-23478-PeCDF



13C-23478-PeCDF

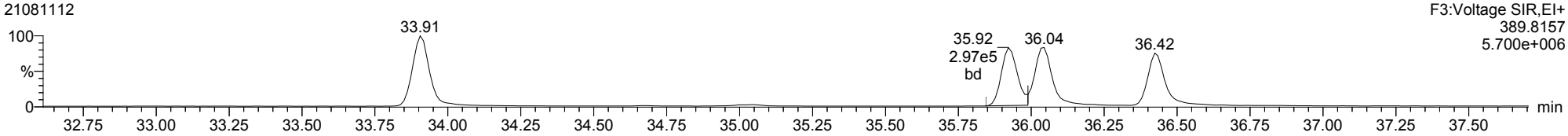


FUNCTION2 HPCDPE

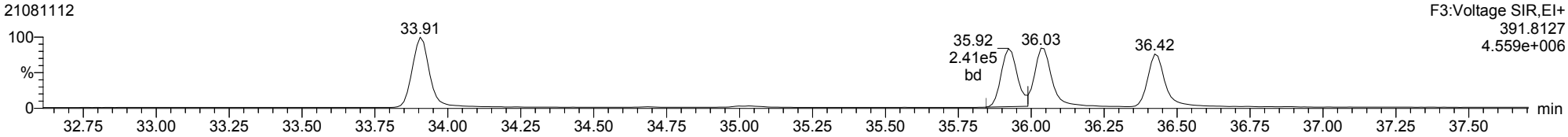


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

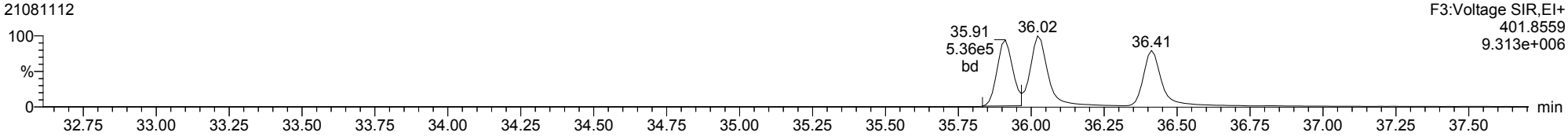
123478-HxCDD



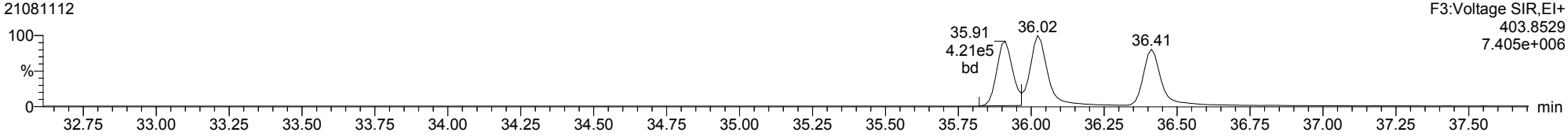
123478-HxCDD



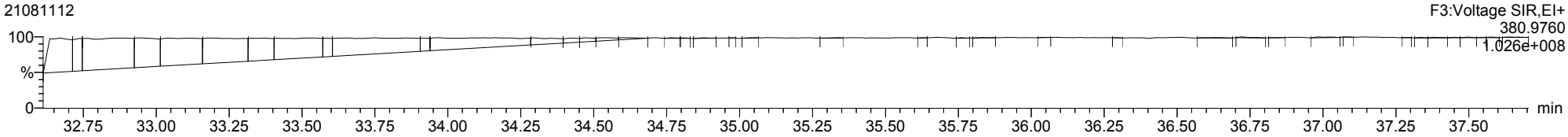
13C-123478-HxCDD



13C-123478-HxCDD

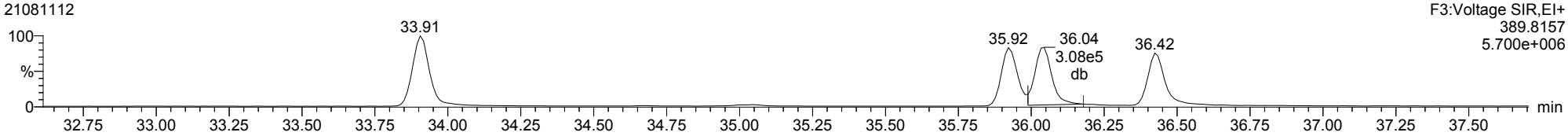


FUNCTION3 PFK

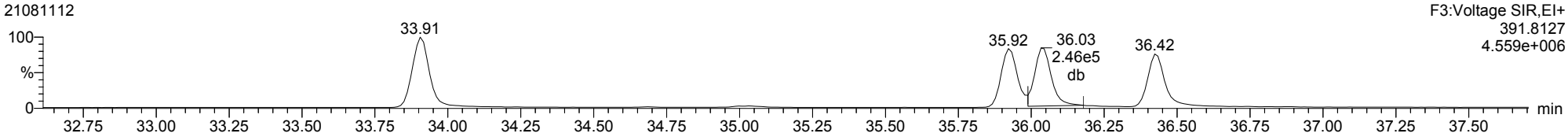


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

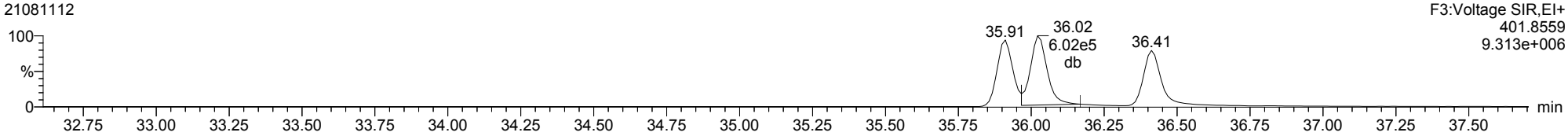
123678-HxCDD



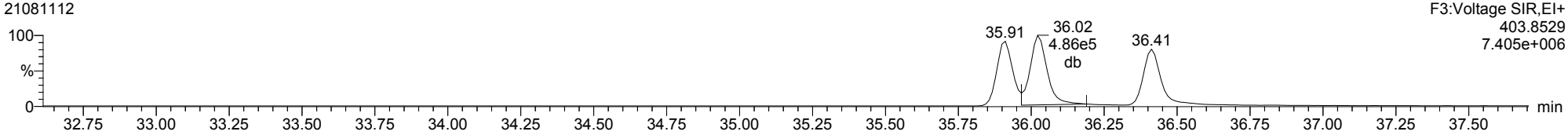
123678-HxCDD



13C-123678-HxCDD

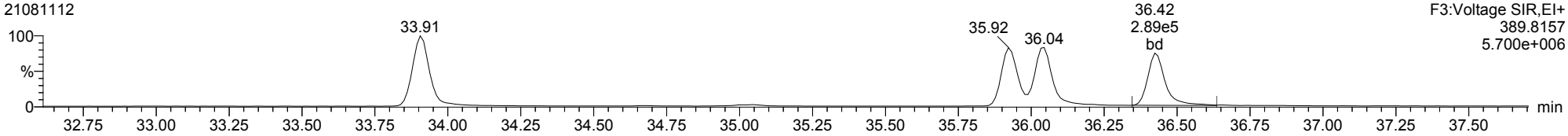


13C-123678-HxCDD

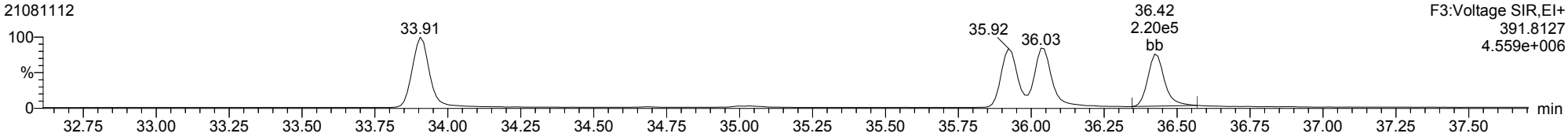


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

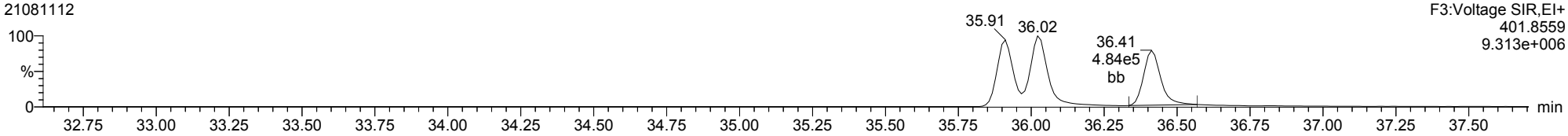
123789-HxCDD



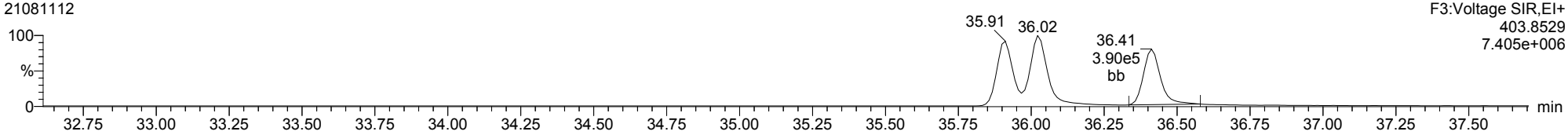
123789-HxCDD



13C-123789-HxCDD

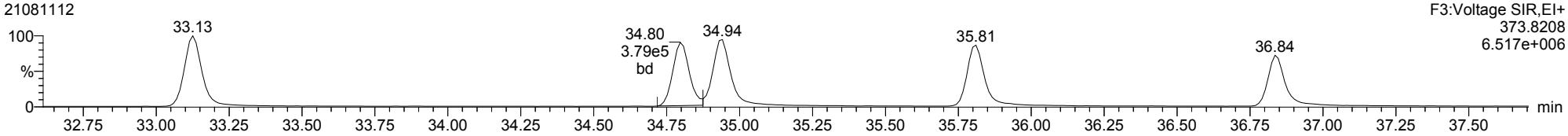


13C-123789-HxCDD

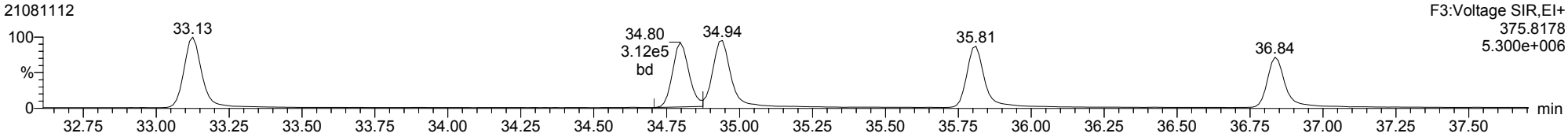


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

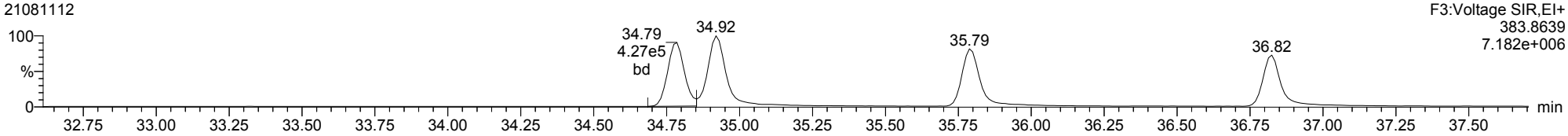
123478-HxCDF



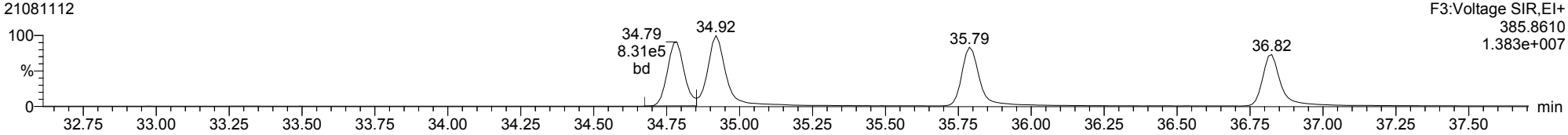
123478-HxCDF



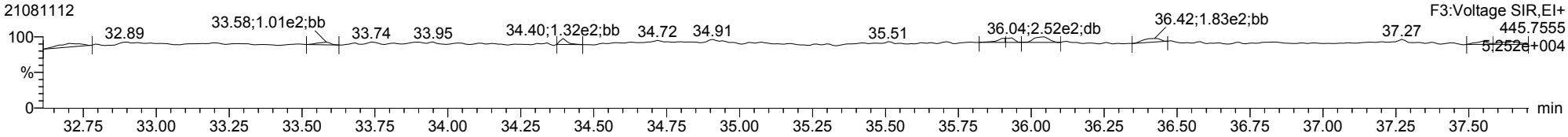
13C-123478-HxCDF



13C-123478-HxCDF

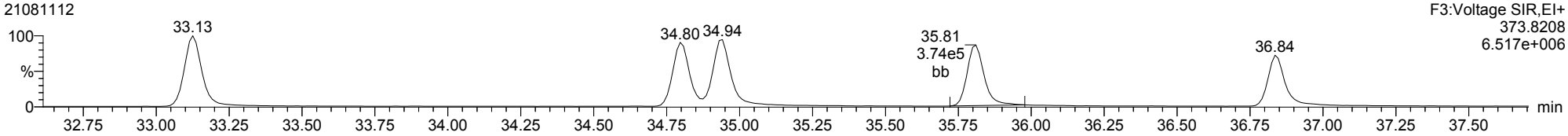


FUNCTION3 OCDPE

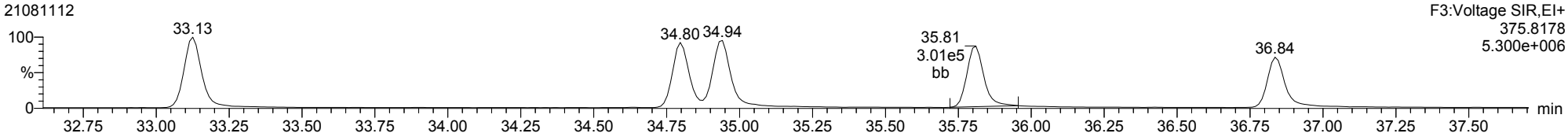


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

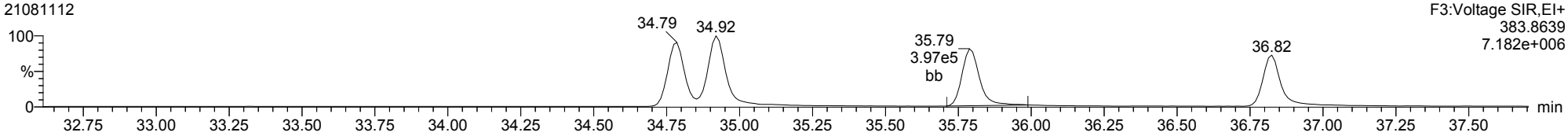
234678-HxCDF



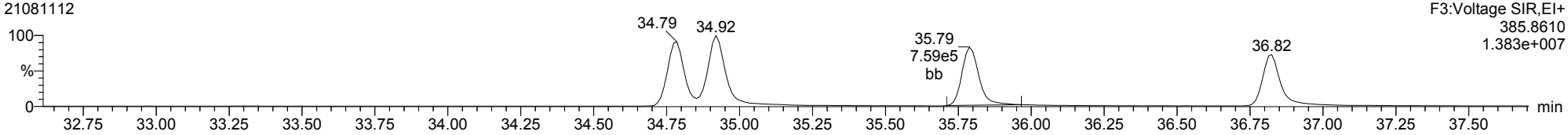
234678-HxCDF



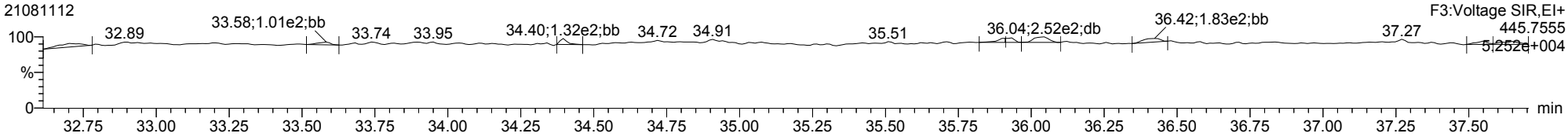
13C-234678-HxCDF



13C-234678-HxCDF

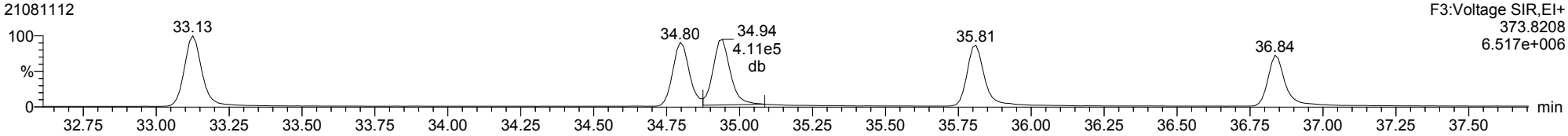


FUNCTION3 OCDPE

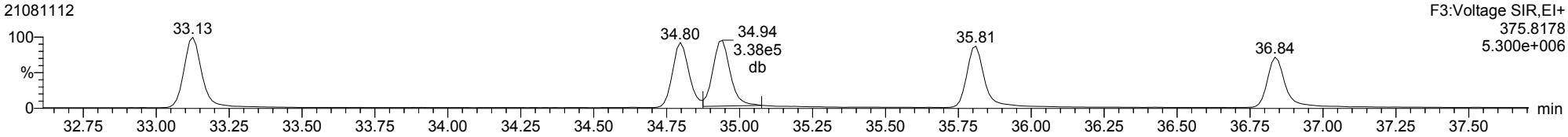


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

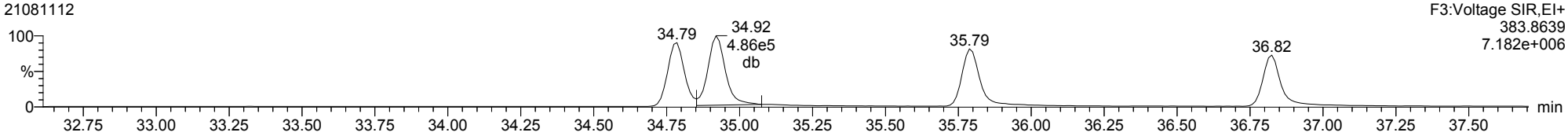
123678-HxCDF



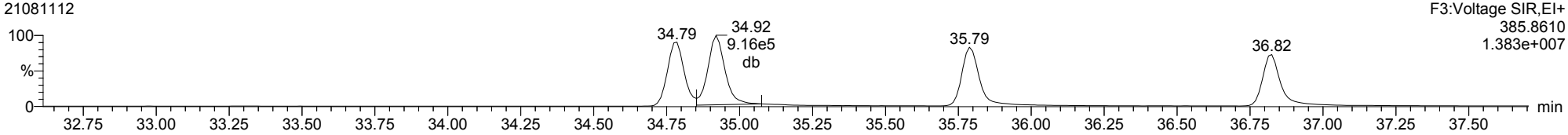
123678-HxCDF



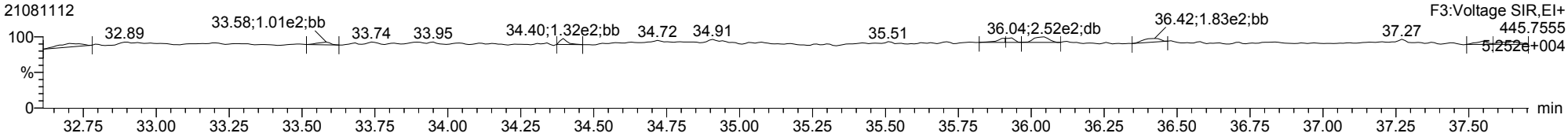
13C-123678-HxCDF



13C-123678-HxCDF

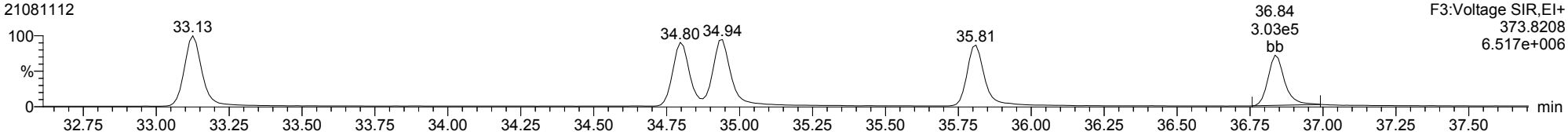


FUNCTION3 OCDPE

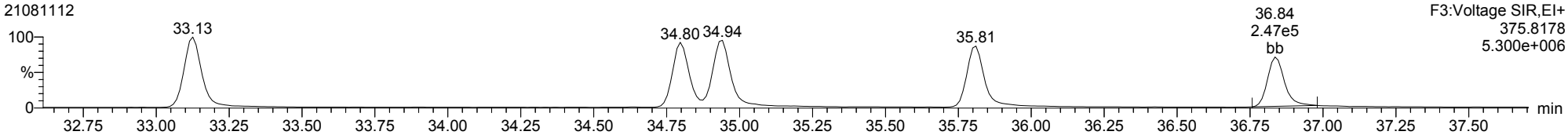


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

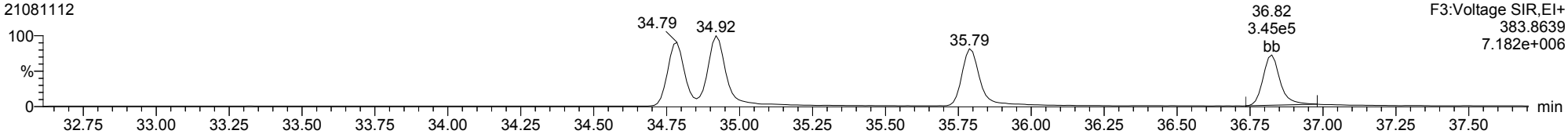
123789-HxCDF



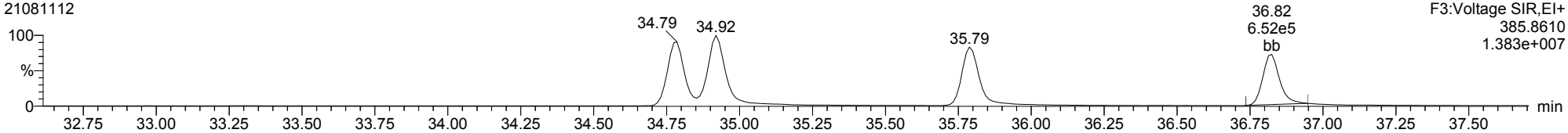
123789-HxCDF



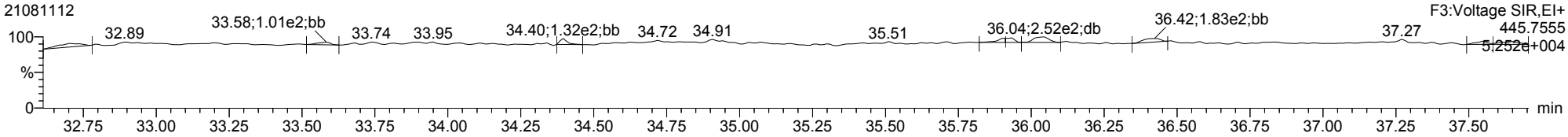
13C-123789-HxCDF



13C-123789-HxCDF

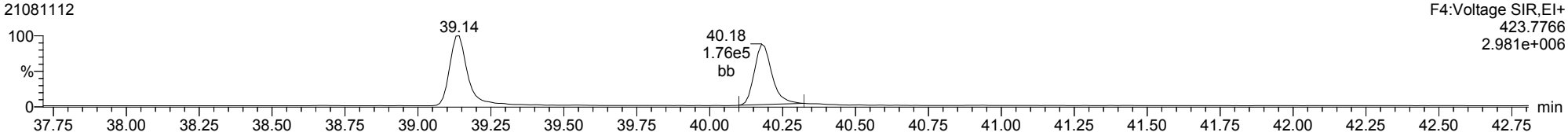


FUNCTION3 OCDPE

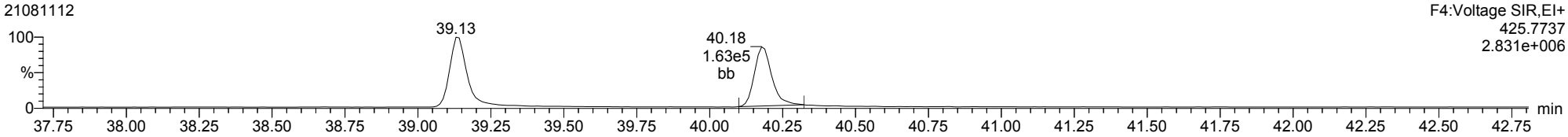


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

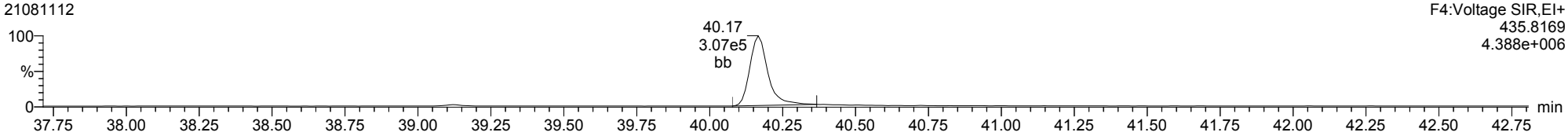
1234678-HpCDD



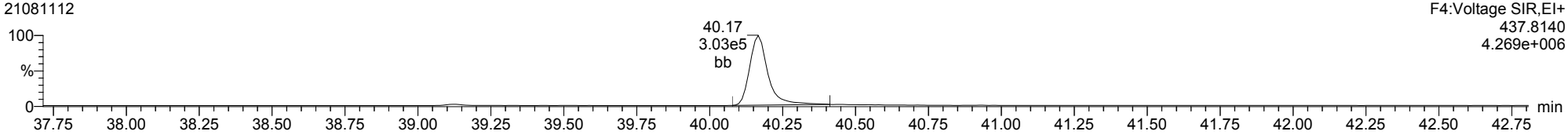
1234678-HpCDD



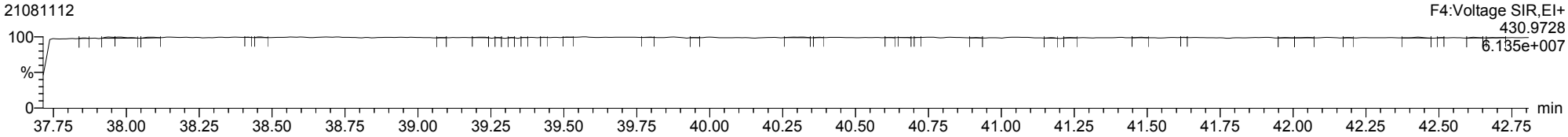
13C-1234678-HpCDD



13C-1234678-HpCDD

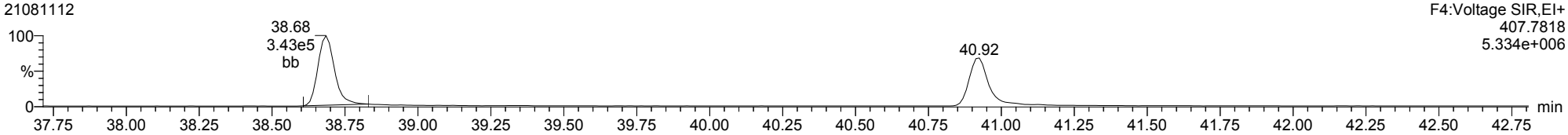


FUNCTION4 PFK

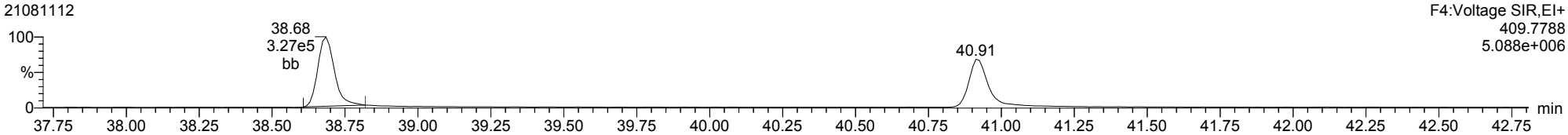


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

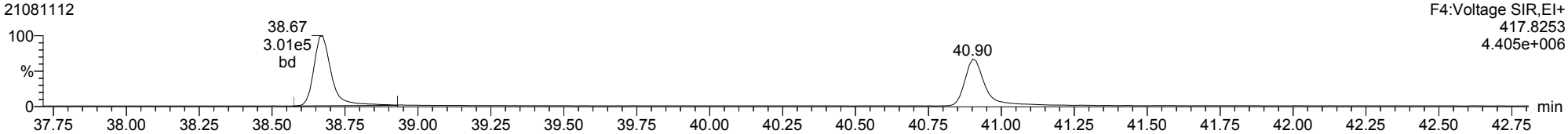
1234678-HpCDF



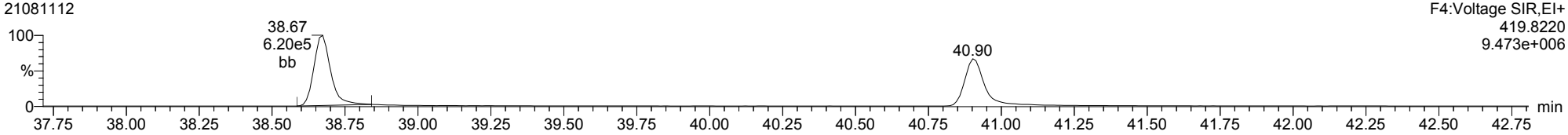
1234678-HpCDF



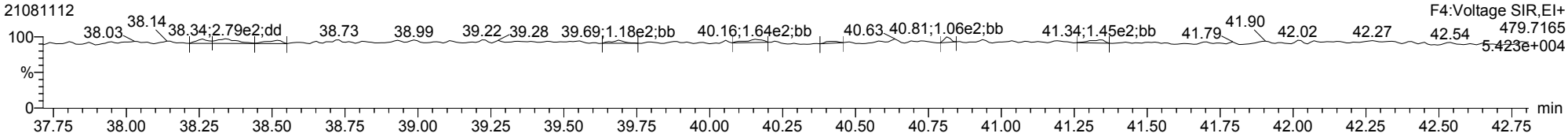
13C-1234678-HpCDF



13C-1234678-HpCDF

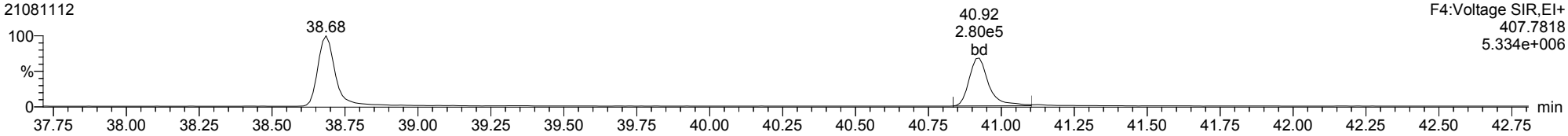


FUNCTION4 NCDPE

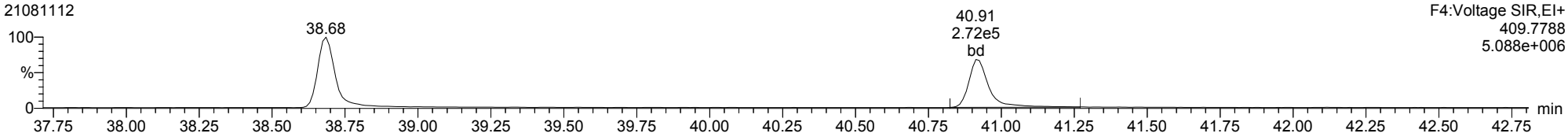


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

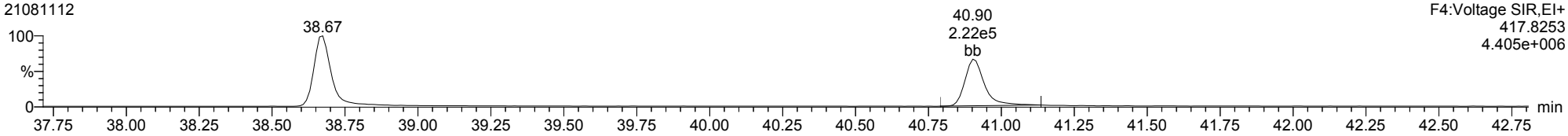
1234789-HpCDF



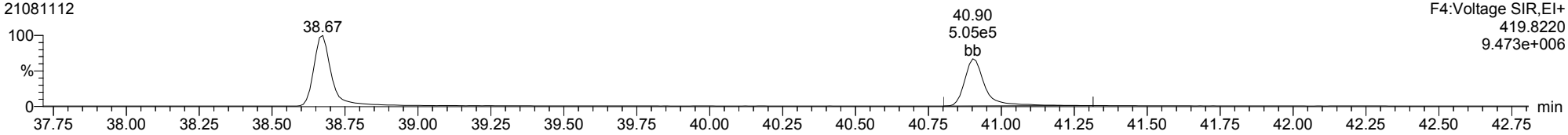
1234789-HpCDF



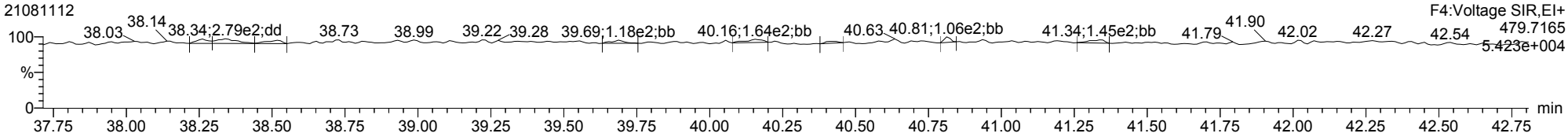
13C-1234789-HpCDF



13C-1234789-HpCDF

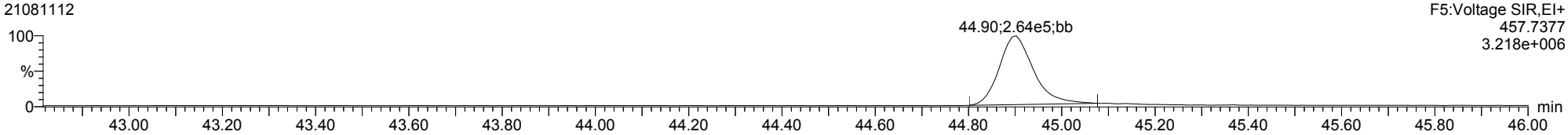


FUNCTION4 NCDPE

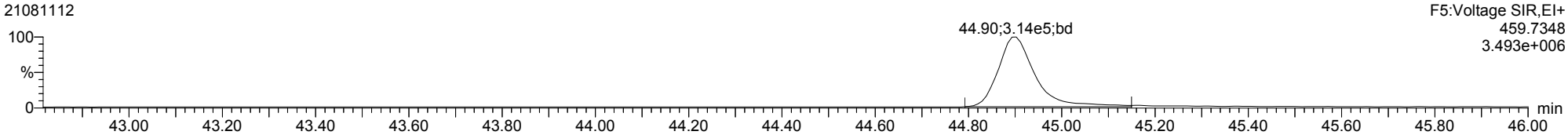


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

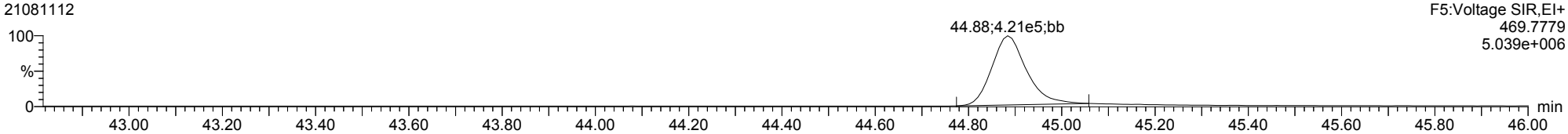
OCDD



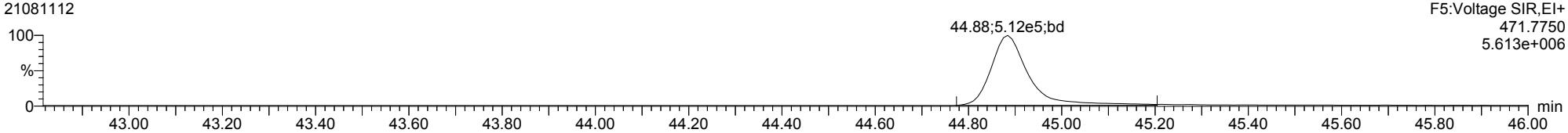
OCDD



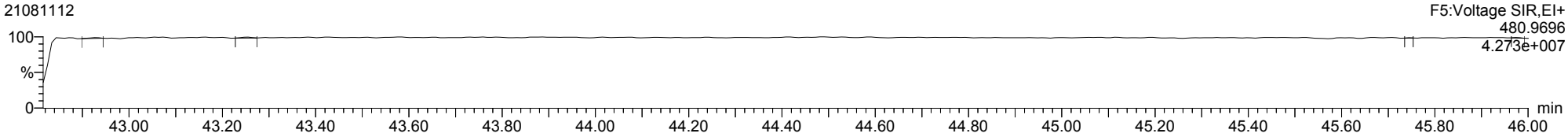
13C-OCDD



13C-OCDD

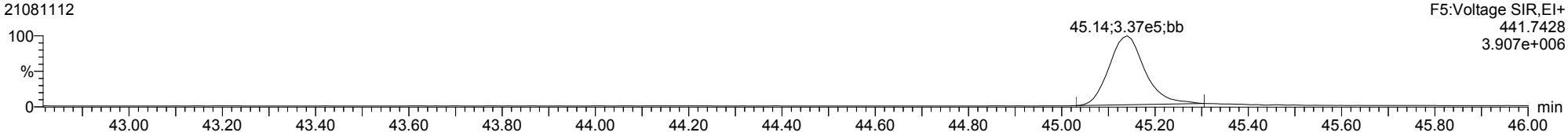


FUNCTION5 PFK

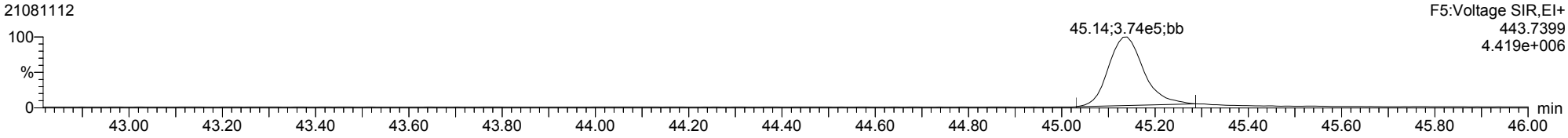


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

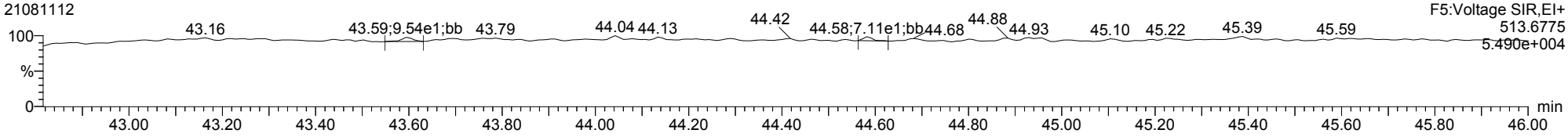
OCDF



OCDF

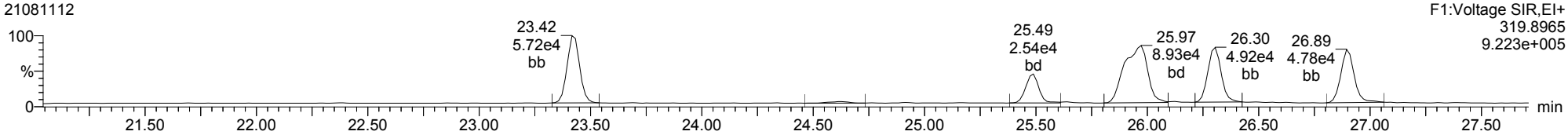


FUNCTION5 DCDPE

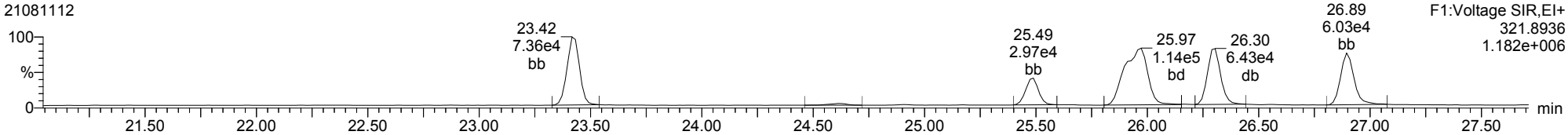


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

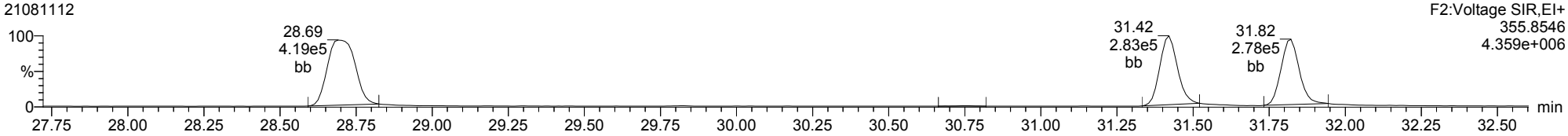
Total-tetradioxins



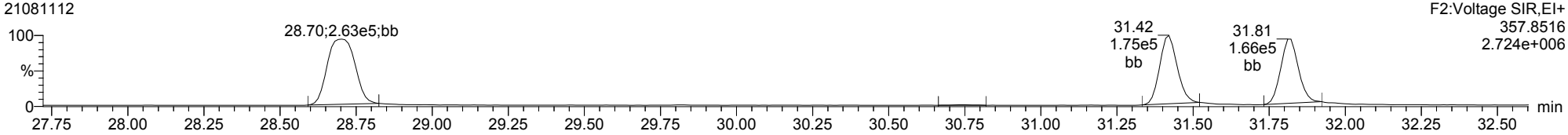
Total-tetradioxins



Total-pentadioxins

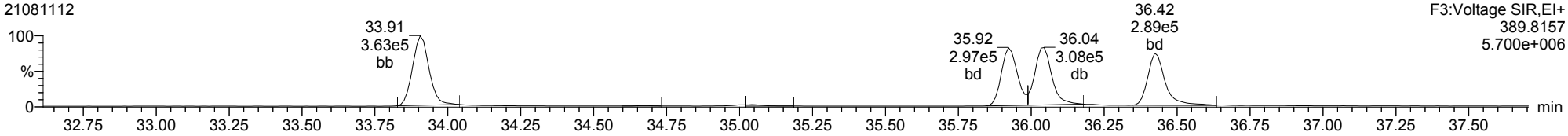


Total-pentadioxins

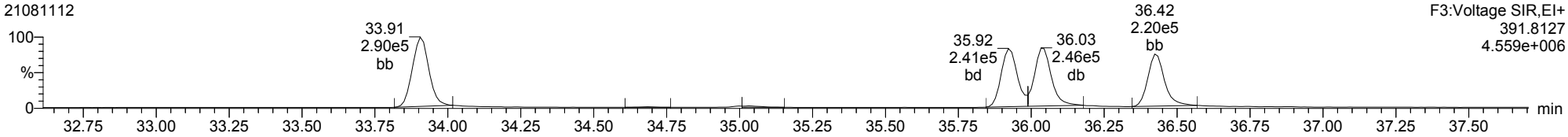


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

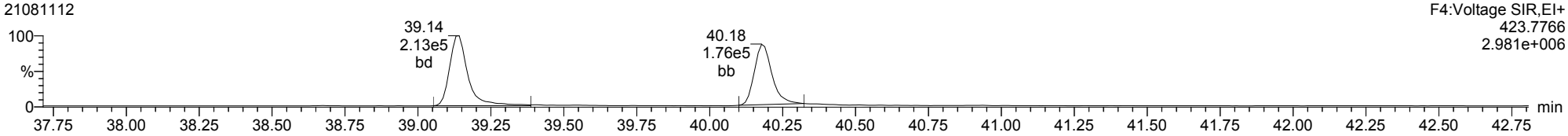
Total-hexadioxins



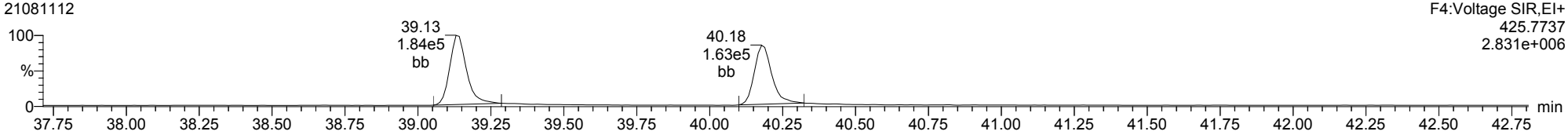
Total-hexadioxins



Total-heptadioxins

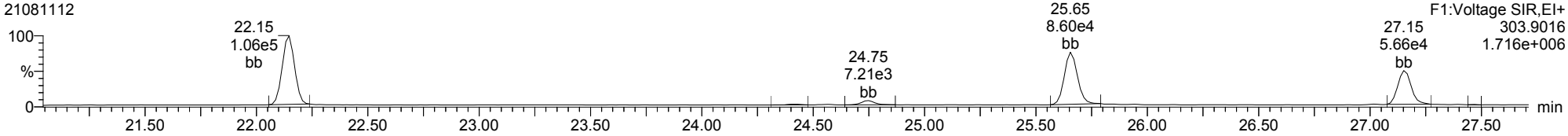


Total-heptadioxins

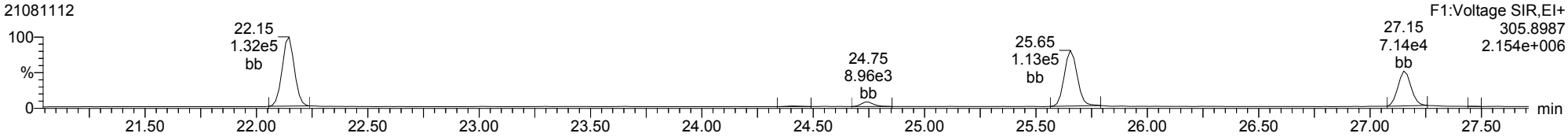


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

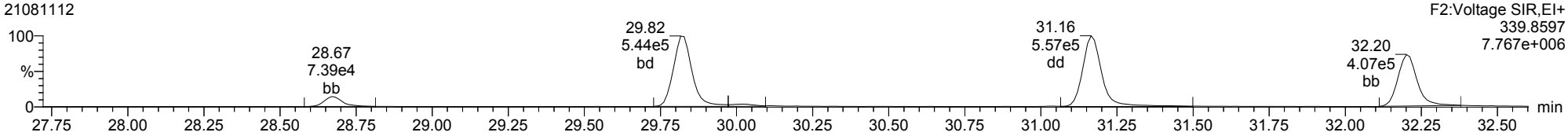
Total-tetrafurans



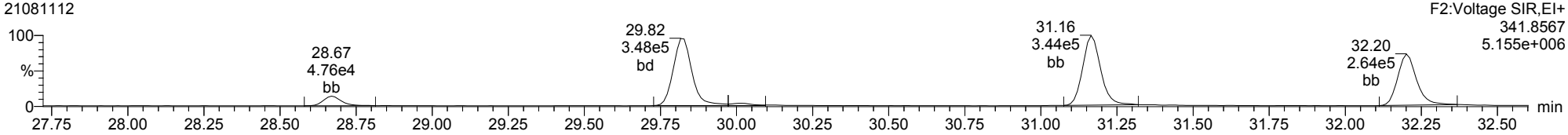
Total-tetrafurans



Total-pentafurans

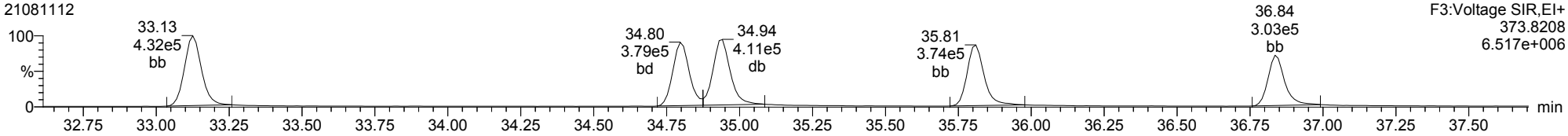


Total-pentafurans

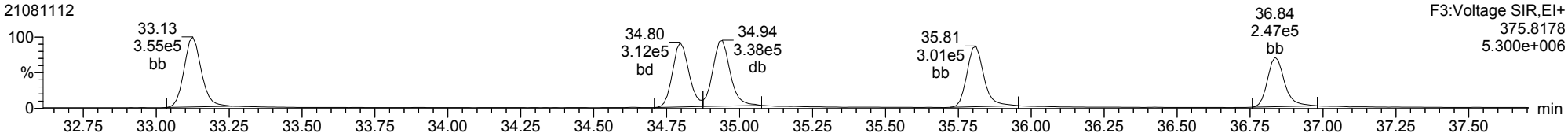


ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

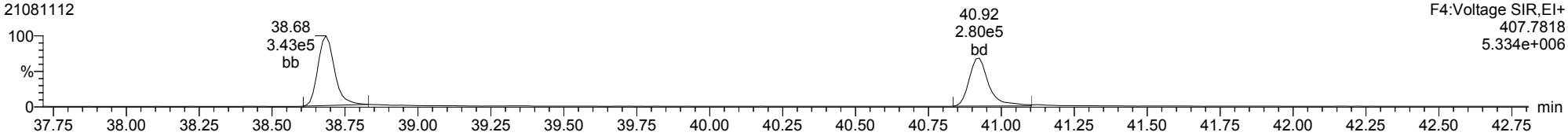
Total-hexafurans



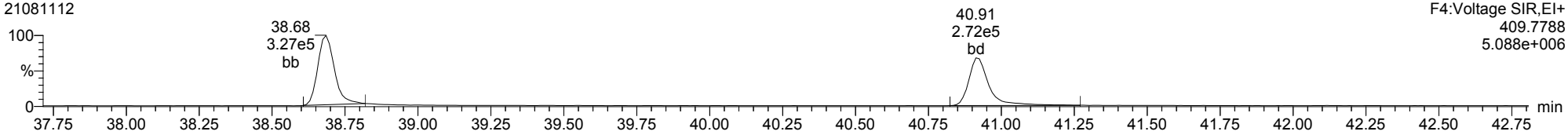
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21092034A	Calibration Date:	08/11/2021
Sequence:	SJI0282	Injection Date:	09/21/21
Lab Sample ID:	SJI0282-CCV1	Injection Time:	19:37
Sequence Name:	CS3S4		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	8.98	1.1075930	0.9949200		-10.2	+/-16
2,3,7,8-TCDD	A	10.000	9.62	0.9202875	0.8850186		-3.8	+/-22
1,2,3,7,8-PeCDF	A	50.000	44.5	1.0148670	0.9036635		-11.0	+/-18
2,3,4,7,8-PeCDF	A	50.000	43.8	1.1255490	0.9851844		-12.5	+/-18
1,2,3,7,8-PeCDD	A	50.000	49.5	0.9953229	0.9863302		-0.9	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	47.4	1.0168930	0.9630273		-5.3	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	47.2	1.0368310	0.9784772		-5.6	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	47.3	1.0524660	0.9956772		-5.4	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	47.0	1.0301540	0.9691928		-5.9	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	47.4	1.0273630	0.9729998		-5.3	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	49.7	1.0089800	1.0038010		-0.5	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.8	0.9504865	0.9653490		1.6	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	45.0	1.3273500	1.1951880		-10.0	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	45.4	1.2833380	1.1658060		-9.2	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	47.4	1.0680880	1.0126890		-5.2	+/-14
OCDF	A	100.00	76.1	1.4469010	1.1011330		-23.9	+/-37
OCDD	A	100.00	91.3	1.1808230	1.0777590		-8.7	+/-21
13C12-2,3,7,8-TCDF	A	100.00	90.2	1.4265830	1.2866258		-9.8	+/-29
13C12-2,3,7,8-TCDD	A	100.00	104	1.1164910	1.1556000		3.5	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	79.4	1.2973130	1.0299390		-20.6	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	79.0	1.2364800	0.9768381		-21.0	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	86.4	0.7319833	0.6323505		-13.6	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	96.7	1.2424560	1.2011834		-3.3	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	89.0	1.3434760	1.1959137		-11.0	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	92.3	1.2148550	1.1214778		-7.7	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	94.1	1.0076370	0.9481570		-5.9	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	103	0.9598233	0.9848137		2.6	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	92.6	1.0413850	0.9647198		-7.4	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	76.2	0.9264704	0.7057658		-23.8	+/-22 *
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	72.9	0.7579160	0.5527332		-27.1	+/-23 *
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	88.0	0.6324476	0.5568552		-12.0	+/-28
13C12-OCDD	A	200.00	157	0.5037432	0.3957951		-21.4	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.82	1.0835930	1.0642593		-1.8	

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.775	1.001	4.039e4	5.658e4	1.108	0.714	0.770	728	1029	6.00e5	8.49e5	824.6	825.6	NO	bb	bb	8.983
12378-PeCDF	29.931	1.000	2.130e5	1.396e5	1.015	1.526	1.550	2171	1680	3.28e6	2.15e6	1512.8	1281.6	NO	bb	bb	44.521
23478-PeCDF	31.279	1.001	2.201e5	1.444e5	1.126	1.524	1.550	2171	1680	3.33e6	2.21e6	1533.1	1315.3	NO	bb	bb	43.765
123478-HxCDF	34.900	1.001	1.939e5	1.653e5	1.017	1.173	1.240	1557	1541	3.13e6	2.69e6	2010.7	1743.9	NO	bd	bd	47.351
234678-HxCDF	35.914	1.001	1.871e5	1.596e5	1.052	1.172	1.240	1557	1541	3.03e6	2.59e6	1944.5	1679.9	NO	bb	bb	47.302
123678-HxCDF	35.034	1.000	1.964e5	1.669e5	1.037	1.177	1.240	1557	1541	3.07e6	2.65e6	1974.5	1717.8	NO	db	db	47.186
123789-HxCDF	36.939	1.000	1.542e5	1.311e5	1.030	1.176	1.240	1557	1541	2.45e6	2.09e6	1574.4	1356.8	NO	bb	bb	47.041
1234678-HpCDF	38.788	1.001	1.324e5	1.294e5	1.327	1.023	1.050	1364	1498	2.16e6	2.07e6	1586.9	1380.2	NO	bd	bd	45.022
1234789-HpCDF	41.039	1.001	1.030e5	9.704e4	1.283	1.062	1.050	1364	1498	1.44e6	1.31e6	1054.5	874.2	NO	bd	bb	45.421
OCDF	45.280	1.006	1.277e5	1.429e5	1.447	0.893	0.890	747	938	1.44e6	1.62e6	1924.0	1732.5	NO	bd	bb	76.103
2378-TCDD	26.410	1.001	3.413e4	4.334e4	0.920	0.788	0.770	1153	680	5.12e5	6.55e5	444.5	962.4	NO	bb	bb	9.617
12378-PeCDD	31.524	1.001	1.454e5	9.087e4	0.995	1.600	1.550	957	960	2.29e6	1.43e6	2388.7	1491.7	NO	bb	bb	49.548
123478-HxCDD	36.014	1.001	1.673e5	1.302e5	1.027	1.285	1.240	1248	1658	2.74e6	2.17e6	2196.6	1309.2	NO	bd	bd	47.354
123678-HxCDD	36.125	1.000	1.676e5	1.331e5	1.009	1.260	1.240	1248	1658	2.79e6	2.24e6	2238.9	1349.5	NO	db	db	49.743
123789-HxCDD	36.527	1.011	1.623e5	1.298e5	0.950	1.250	1.240	1248	1658	2.72e6	2.16e6	2180.2	1302.0	NO	bb	bb	50.782
1234678-HpCDD	40.281	1.000	9.127e4	8.380e4	1.068	1.089	1.050	1017	771	1.36e6	1.25e6	1340.6	1626.9	NO	bb	bb	47.407
OCDD	45.033	1.000	1.241e5	1.407e5	1.181	0.882	0.890	1304	1545	1.42e6	1.58e6	1085.4	1020.7	NO	bb	bb	91.272
13C-2378-TCDF	25.760	1.007	4.301e5	5.446e5	1.427	0.790	0.770	1501	1379	6.31e6	7.95e6	4204.9	5765.1	NO	bb	bb	90.189
13C-12378-PeCDF	29.920	1.170	4.830e5	2.973e5	1.297	1.625	1.550	1437	1138	7.38e6	4.43e6	5138.6	3889.3	NO	bb	bb	79.390
13C-23478-PeCDF	31.257	1.222	4.567e5	2.833e5	1.236	1.612	1.550	1437	1138	7.05e6	4.43e6	4906.3	3892.3	NO	bb	bb	79.002
13C-123478-HxCDF	34.878	0.955	2.534e5	4.924e5	1.242	0.515	0.510	2086	2300	3.92e6	7.77e6	1878.0	3376.8	NO	bd	bd	96.678
13C-123678-HxCDF	35.022	0.959	2.534e5	4.892e5	1.343	0.518	0.510	2086	2300	4.20e6	8.14e6	2014.4	3539.8	NO	db	db	89.016
13C-234678-HxCDF	35.892	0.983	2.382e5	4.581e5	1.215	0.520	0.510	2086	2300	3.86e6	7.40e6	1851.6	3218.7	NO	bb	bb	92.314
13C-123789-HxCDF	36.928	1.012	2.014e5	3.873e5	1.008	0.520	0.510	2086	2300	3.28e6	6.34e6	1570.1	2755.5	NO	bb	bb	94.097
13C-1234678-HpCDF	38.766	1.062	1.379e5	3.003e5	0.926	0.459	0.440	907	1206	2.23e6	4.86e6	2462.9	4025.8	NO	bb	bd	76.178
13C-1234789-HpCDF	41.016	1.124	1.082e5	2.350e5	0.758	0.460	0.440	907	1206	1.50e6	3.28e6	1654.4	2718.2	NO	bb	bd	72.928
13C-1234-TCDD	25.579	0.000	3.268e5	4.308e5	1.000	0.759	0.770	1636	888	4.96e6	6.51e6	3029.9	7331.8	NO	bb	bb	100.000
13C-2378-TCDD	26.380	1.031	3.730e5	5.024e5	1.116	0.743	0.770	1636	888	5.62e6	7.55e6	3439.0	8503.2	NO	bb	bb	103.503
13C-12378-PeCDD	31.502	1.232	2.922e5	1.869e5	0.732	1.564	1.550	884	839	4.57e6	2.95e6	5174.2	3516.2	NO	bb	bb	86.389
13C-123478-HxCDD	35.992	0.986	3.451e5	2.664e5	0.960	1.295	1.240	1427	1226	5.70e6	4.47e6	3990.0	3643.0	NO	bd	bd	102.604
13C-123678-HxCDD	36.114	0.989	3.352e5	2.638e5	1.041	1.270	1.240	1427	1226	5.64e6	4.40e6	3950.3	3588.7	NO	db	db	92.638
13C-1234678-HpCDD	40.270	1.103	1.755e5	1.702e5	0.632	1.031	1.050	1071	805	2.63e6	2.53e6	2458.9	3147.8	NO	bb	bb	88.048
13C-OCDD	45.024	1.233	2.308e5	2.607e5	0.504	0.886	0.890	1796	844	2.68e6	2.99e6	1491.3	3543.5	NO	bb	bb	157.142
13C-123789-HxCDD	36.504	0.000	3.505e5	2.704e5	1.000	1.296	1.240	1427	1226	5.75e6	4.50e6	4024.9	3667.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.410	1.033	8.063e4		1.084			1036		1.18e6		1138.7			bb		9.822

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.238	0.863	5.192e4	7.051e4	1.425	0.736	0.770	728	1029	7.82e5	1.06e6	1074.6	1028.6	NO	bb	bb	8.814
1289-TCDF	27.287	1.059	3.965e4	5.221e4	1.043	0.759	0.770	728	1029	5.76e5	7.51e5	790.6	729.8	NO	db	dd	9.036
13468-PECDF	27.106	0.906	3.785e5	2.461e5	1.376	1.538	1.550	539	729	5.62e6	3.69e6	10417.7	5053.2	NO	bb	bb	58.165
12389-PECDF	32.326	1.080	2.081e5	1.375e5	1.000	1.513	1.550	2171	1680	3.08e6	2.03e6	1420.7	1210.1	NO	bb	bb	44.309
123468-HXCDF	33.229	0.953	2.064e5	1.718e5	1.087	1.201	1.240	1557	1541	3.24e6	2.69e6	2078.6	1744.4	NO	bb	bb	46.664
1368-TCDD	23.508	0.891	3.489e4	4.464e4	0.923	0.781	0.770	1153	680	5.52e5	7.05e5	479.0	1036.0	NO	bb	bb	9.839
1289-TCDD	27.015	1.024	2.941e4	3.912e4	0.794	0.752	0.770	1153	680	4.39e5	5.78e5	381.0	849.0	NO	bd	bb	9.860
12479-PECDD	28.784	0.914	2.614e5	1.653e5	1.843	1.582	1.550	957	960	2.63e6	1.62e6	2742.5	1687.1	NO	bb	bb	48.322
12389-PECDD	31.925	1.013	1.735e5	1.087e5	1.154	1.597	1.550	957	960	2.70e6	1.68e6	2823.0	1754.7	NO	bb	bb	51.065
124679-HXCDD	33.998	0.945	1.842e5	1.449e5	1.125	1.271	1.240	1248	1658	2.87e6	2.25e6	2302.8	1358.7	NO	bb	bb	47.852
1234679-HPCDD	39.234	0.974	1.040e5	9.520e4	1.211	1.092	1.050	1017	771	1.70e6	1.56e6	1674.5	2027.2	NO	bb	bb	47.575
Total-tetrafurans			1.337e5		1.192			728		1.98e6							27.194
Total-penta1			3.785e5					539		5.62e6							58.165
Total-pentafurans			6.776e5		1.047			2171		1.03e7							140.267
Total-hexafurans			9.379e5		1.045			1557		1.49e7							235.544
Total-heptafurans			2.354e5		1.305			1364		3.60e6							90.442
Total-Furans			2.491e6		1.158			728		3.78e7							627.716
Total-tetradioxins			1.708e5		0.879			1153		2.33e6							50.538
Total-pentadioxins			5.815e5		1.331			957		7.63e6							149.245
Total-hexadioxins			6.819e5		1.028			1248		1.11e7							195.877
Total-heptadioxins			1.953e5		1.140			1017		3.07e6							94.981
Total-Dioxins			1.754e6		1.092			1153		2.56e7							581.912
Total-TEQ			4.244e6					1153		6.34e7							1209.628
FUNCTION1 PFK			8.599e4					375963		2.34e6							
FUNCTION2 PFK			7.787e5					382994		9.44e6							0.000
FUNCTION3 PFK			1.110e6					386864		2.11e7							0.000
FUNCTION4 PFK			3.038e6					200132		2.33e7							
FUNCTION5 PFK			1.062e5					142793		3.61e6							
FUNCTION1 HXCD...			5.739e2					482		6.39e3							0.000
FUNCTION1 HPCD...			0.000e0					567		0.00e0							
FUNCTION2 HPCD...			3.345e2					1052		6.43e3							0.000
FUNCTION3 OCDPE			0.000e0					721		0.00e0							
FUNCTION4 NCDPE			0.000e0					480		0.00e0							
FUNCTION5 DCDPE			1.630e2					496		2.46e3							0.000

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	3.965e4	5.221e4	1.043	0.76	0.77	790.6	YES	NO	db	dd	9.036
2	Total-tetrafurans	27.12	8.125e2	1.147e3	1.192	0.71	0.77	14.8	YES	NO	bd	bd	0.169
3	2378-TCDF	25.78	4.039e4	5.658e4	1.108	0.71	0.77	824.6	YES	NO	bb	bb	8.983
4	Total-tetrafurans	24.87	3.941e2	5.857e2	1.192	0.67	0.77	6.8	YES	NO	db	db	0.084
5	Total-tetrafurans	24.54	5.352e2	7.325e2	1.192	0.73	0.77	9.5	YES	NO	bd	bd	0.109
6	1368-TCDF	22.24	5.192e4	7.051e4	1.425	0.74	0.77	1074.6	YES	NO	bb	bb	8.814

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.11	3.785e5	2.461e5	1.376	1.54	1.55	10417.7	YES	NO	bb	bb	58.165

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.28	2.201e5	1.444e5	1.126	1.52	1.55	1533.1	YES	NO	bb	bb	43.765
2	Total-pentafurans	30.13	3.694e2	2.742e2	1.047	1.35	1.55	5.1	YES	NO	bb	bb	0.081
3	12378-PeCDF	29.93	2.130e5	1.396e5	1.015	1.53	1.55	1512.8	YES	NO	bb	bb	44.521
4	Total-pentafurans	28.77	3.610e4	2.430e4	1.047	1.49	1.55	251.1	YES	NO	bb	bb	7.591
5	12389-PECDF	32.33	2.081e5	1.375e5	1.000	1.51	1.55	1420.7	YES	NO	bb	bb	44.309

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	35.03	1.964e5	1.669e5	1.037	1.18	1.24	1974.5	YES	NO	db	db	47.186
2	123478-HxCDF	34.90	1.939e5	1.653e5	1.017	1.17	1.24	2010.7	YES	NO	bd	bd	47.351
3	123468-HXCDF	33.23	2.064e5	1.718e5	1.087	1.20	1.24	2078.6	YES	NO	bb	bb	46.664
4	123789-HxCDF	36.94	1.542e5	1.311e5	1.030	1.18	1.24	1574.4	YES	NO	bb	bb	47.041
5	234678-HxCDF	35.91	1.871e5	1.596e5	1.052	1.17	1.24	1944.5	YES	NO	bb	bb	47.302

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.04	1.030e5	9.704e4	1.283	1.06	1.05	1054.5	YES	NO	bd	bb	45.421
2	1234678-HpCDF	38.79	1.324e5	1.294e5	1.327	1.02	1.05	1586.9	YES	NO	bd	bd	45.022

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	3.965e4	5.221e4	1.043	0.76	0.77	790.6	YES	NO	db	dd	9.036
2	Total-tetrafurans	27.12	8.125e2	1.147e3	1.192	0.71	0.77	14.8	YES	NO	bd	bd	0.169
3	2378-TCDF	25.78	4.039e4	5.658e4	1.108	0.71	0.77	824.6	YES	NO	bb	bb	8.983
4	Total-tetrafurans	24.87	3.941e2	5.857e2	1.192	0.67	0.77	6.8	YES	NO	db	db	0.084
5	Total-tetrafurans	24.54	5.352e2	7.325e2	1.192	0.73	0.77	9.5	YES	NO	bd	bd	0.109
6	1368-TCDF	22.24	5.192e4	7.051e4	1.425	0.74	0.77	1074.6	YES	NO	bb	bb	8.814
7	23478-PeCDF	31.28	2.201e5	1.444e5	1.126	1.52	1.55	1533.1	YES	NO	bb	bb	43.765
8	Total-pentafurans	30.13	3.694e2	2.742e2	1.047	1.35	1.55	5.1	YES	NO	bb	bb	0.081
9	12378-PeCDF	29.93	2.130e5	1.396e5	1.015	1.53	1.55	1512.8	YES	NO	bb	bb	44.521
10	Total-pentafurans	28.77	3.610e4	2.430e4	1.047	1.49	1.55	251.1	YES	NO	bb	bb	7.591
11	123678-HxCDF	35.03	1.964e5	1.669e5	1.037	1.18	1.24	1974.5	YES	NO	db	db	47.186
12	123478-HxCDF	34.90	1.939e5	1.653e5	1.017	1.17	1.24	2010.7	YES	NO	bd	bd	47.351
13	123468-HXCDF	33.23	2.064e5	1.718e5	1.087	1.20	1.24	2078.6	YES	NO	bb	bb	46.664
14	12389-PECDF	32.33	2.081e5	1.375e5	1.000	1.51	1.55	1420.7	YES	NO	bb	bb	44.309
15	123789-HxCDF	36.94	1.542e5	1.311e5	1.030	1.18	1.24	1574.4	YES	NO	bb	bb	47.041
16	234678-HxCDF	35.91	1.871e5	1.596e5	1.052	1.17	1.24	1944.5	YES	NO	bb	bb	47.302
17	1234789-HpCDF	41.04	1.030e5	9.704e4	1.283	1.06	1.05	1054.5	YES	NO	bd	bb	45.421
18	1234678-HpCDF	38.79	1.324e5	1.294e5	1.327	1.02	1.05	1586.9	YES	NO	bd	bd	45.022
19	OCDF	45.28	1.277e5	1.429e5	1.447	0.89	0.89	1924.0	YES	NO	bd	bb	76.103
20	13468-PECDF	27.11	3.785e5	2.461e5	1.376	1.54	1.55	10417.7	YES	NO	bb	bb	58.165

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.00	3.572e2	4.669e2	0.879	0.77	0.77	4.2	YES	NO	bb	bb	0.107
2	Total-tetradioxins	24.70	1.455e3	1.738e3	0.879	0.84	0.77	11.9	YES	NO	bb	bb	0.415
3	1368-TCDD	23.51	3.489e4	4.464e4	0.923	0.78	0.77	479.0	YES	NO	bb	bb	9.839
4	1289-TCDD	27.02	2.941e4	3.912e4	0.794	0.75	0.77	381.0	YES	NO	bd	bb	9.860
5	2378-TCDD	26.41	3.413e4	4.334e4	0.920	0.79	0.77	444.5	YES	NO	bb	bb	9.617
6	Total-tetradioxins	26.08	5.348e4	6.736e4	0.879	0.79	0.77	461.9	YES	NO	bb	bb	15.700
7	Total-tetradioxins	25.59	1.706e4	2.143e4	0.879	0.80	0.77	235.3	YES	NO	bb	bb	5.001

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.93	1.735e5	1.087e5	1.154	1.60	1.55	2823.0	YES	NO	bb	bb	51.065
2	12378-PeCDD	31.52	1.454e5	9.087e4	0.995	1.60	1.55	2388.7	YES	NO	bb	bb	49.548
3	Total-pentadioxins	30.86	6.021e2	4.143e2	1.331	1.45	1.55	7.9	YES	NO	bb	bb	0.159
4	Total-pentadioxins	29.91	5.567e2	3.998e2	1.331	1.39	1.55	9.0	YES	NO	bb	bb	0.150
5	12479-PECDD	28.78	2.614e5	1.653e5	1.843	1.58	1.55	2742.5	YES	NO	bb	bb	48.322

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.00	1.842e5	1.449e5	1.125	1.27	1.24	2302.8	YES	NO	bb	bb	47.852
2	123789-HxCDD	36.53	1.623e5	1.298e5	0.950	1.25	1.24	2180.2	YES	NO	bb	bb	50.782
3	123678-HxCDD	36.13	1.676e5	1.331e5	1.009	1.26	1.24	2238.9	YES	NO	db	db	49.743
4	123478-HxCDD	36.01	1.673e5	1.302e5	1.027	1.28	1.24	2196.6	YES	NO	bd	bd	47.354
5	Total-hexadioxins	34.77	4.766e2	4.246e2	1.028	1.12	1.24	7.9	YES	NO	bd	bb	0.145

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.28	9.127e4	8.380e4	1.068	1.09	1.05	1340.6	YES	NO	bb	bb	47.407
2	1234679-HPCDD	39.23	1.040e5	9.520e4	1.211	1.09	1.05	1674.5	YES	NO	bb	bb	47.575

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.00	3.572e2	4.669e2	0.879	0.77	0.77	4.2	YES	NO	bb	bb	0.107
2	Total-tetradioxins	24.70	1.455e3	1.738e3	0.879	0.84	0.77	11.9	YES	NO	bb	bb	0.415
3	1368-TCDD	23.51	3.489e4	4.464e4	0.923	0.78	0.77	479.0	YES	NO	bb	bb	9.839
4	1289-TCDD	27.02	2.941e4	3.912e4	0.794	0.75	0.77	381.0	YES	NO	bd	bb	9.860
5	2378-TCDD	26.41	3.413e4	4.334e4	0.920	0.79	0.77	444.5	YES	NO	bb	bb	9.617
6	Total-tetradioxins	26.08	5.348e4	6.736e4	0.879	0.79	0.77	461.9	YES	NO	bb	bb	15.700
7	Total-tetradioxins	25.59	1.706e4	2.143e4	0.879	0.80	0.77	235.3	YES	NO	bb	bb	5.001
8	124679-HXCDD	34.00	1.842e5	1.449e5	1.125	1.27	1.24	2302.8	YES	NO	bb	bb	47.852
9	12389-PECDD	31.93	1.735e5	1.087e5	1.154	1.60	1.55	2823.0	YES	NO	bb	bb	51.065
10	12378-PeCDD	31.52	1.454e5	9.087e4	0.995	1.60	1.55	2388.7	YES	NO	bb	bb	49.548
11	Total-pentadioxins	30.86	6.021e2	4.143e2	1.331	1.45	1.55	7.9	YES	NO	bb	bb	0.159
12	Total-pentadioxins	29.91	5.567e2	3.998e2	1.331	1.39	1.55	9.0	YES	NO	bb	bb	0.150
13	12479-PECDD	28.78	2.614e5	1.653e5	1.843	1.58	1.55	2742.5	YES	NO	bb	bb	48.322
14	123789-HxCDD	36.53	1.623e5	1.298e5	0.950	1.25	1.24	2180.2	YES	NO	bb	bb	50.782
15	123678-HxCDD	36.13	1.676e5	1.331e5	1.009	1.26	1.24	2238.9	YES	NO	db	db	49.743
16	123478-HxCDD	36.01	1.673e5	1.302e5	1.027	1.28	1.24	2196.6	YES	NO	bd	bd	47.354
17	Total-hexadioxins	34.77	4.766e2	4.246e2	1.028	1.12	1.24	7.9	YES	NO	bd	bb	0.145
18	1234678-HpCDD	40.28	9.127e4	8.380e4	1.068	1.09	1.05	1340.6	YES	NO	bb	bb	47.407
19	1234679-HPCDD	39.23	1.040e5	9.520e4	1.211	1.09	1.05	1674.5	YES	NO	bb	bb	47.575
20	OCDD	45.03	1.241e5	1.407e5	1.181	0.88	0.89	1085.4	YES	NO	bb	bb	91.272

Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	3.965e4	5.221e4	1.043	0.76	0.77	790.6	YES	NO	db	dd	9.036
2	Total-tetrafurans	27.12	8.125e2	1.147e3	1.192	0.71	0.77	14.8	YES	NO	bd	bd	0.169
3	2378-TCDF	25.78	4.039e4	5.658e4	1.108	0.71	0.77	824.6	YES	NO	bb	bb	8.983
4	Total-tetrafurans	24.87	3.941e2	5.857e2	1.192	0.67	0.77	6.8	YES	NO	db	db	0.084
5	Total-tetrafurans	24.54	5.352e2	7.325e2	1.192	0.73	0.77	9.5	YES	NO	bd	bd	0.109
6	1368-TCDF	22.24	5.192e4	7.051e4	1.425	0.74	0.77	1074.6	YES	NO	bb	bb	8.814
7	23478-PeCDF	31.28	2.201e5	1.444e5	1.126	1.52	1.55	1533.1	YES	NO	bb	bb	43.765
8	Total-pentafurans	30.13	3.694e2	2.742e2	1.047	1.35	1.55	5.1	YES	NO	bb	bb	0.081
9	12378-PeCDF	29.93	2.130e5	1.396e5	1.015	1.53	1.55	1512.8	YES	NO	bb	bb	44.521
10	Total-pentafurans	28.77	3.610e4	2.430e4	1.047	1.49	1.55	251.1	YES	NO	bb	bb	7.591
11	123678-HxCDF	35.03	1.964e5	1.669e5	1.037	1.18	1.24	1974.5	YES	NO	db	db	47.186
12	123478-HxCDF	34.90	1.939e5	1.653e5	1.017	1.17	1.24	2010.7	YES	NO	bd	bd	47.351
13	123468-HXCDF	33.23	2.064e5	1.718e5	1.087	1.20	1.24	2078.6	YES	NO	bb	bb	46.664
14	12389-PECDF	32.33	2.081e5	1.375e5	1.000	1.51	1.55	1420.7	YES	NO	bb	bb	44.309
15	123789-HxCDF	36.94	1.542e5	1.311e5	1.030	1.18	1.24	1574.4	YES	NO	bb	bb	47.041
16	234678-HxCDF	35.91	1.871e5	1.596e5	1.052	1.17	1.24	1944.5	YES	NO	bb	bb	47.302
17	1234789-HpCDF	41.04	1.030e5	9.704e4	1.283	1.06	1.05	1054.5	YES	NO	bd	bb	45.421
18	1234678-HpCDF	38.79	1.324e5	1.294e5	1.327	1.02	1.05	1586.9	YES	NO	bd	bd	45.022
19	OCDF	45.28	1.277e5	1.429e5	1.447	0.89	0.89	1924.0	YES	NO	bd	bb	76.103
20	13468-PECDF	27.11	3.785e5	2.461e5	1.376	1.54	1.55	10417.7	YES	NO	bb	bb	58.165
21	Total-tetradioxins	25.00	3.572e2	4.669e2	0.879	0.77	0.77	4.2	YES	NO	bb	bb	0.107
22	Total-tetradioxins	24.70	1.455e3	1.738e3	0.879	0.84	0.77	11.9	YES	NO	bb	bb	0.415
23	1368-TCDD	23.51	3.489e4	4.464e4	0.923	0.78	0.77	479.0	YES	NO	bb	bb	9.839
24	1289-TCDD	27.02	2.941e4	3.912e4	0.794	0.75	0.77	381.0	YES	NO	bd	bb	9.860
25	2378-TCDD	26.41	3.413e4	4.334e4	0.920	0.79	0.77	444.5	YES	NO	bb	bb	9.617
26	Total-tetradioxins	26.08	5.348e4	6.736e4	0.879	0.79	0.77	461.9	YES	NO	bb	bb	15.700
27	Total-tetradioxins	25.59	1.706e4	2.143e4	0.879	0.80	0.77	235.3	YES	NO	bb	bb	5.001
28	124679-HXCDD	34.00	1.842e5	1.449e5	1.125	1.27	1.24	2302.8	YES	NO	bb	bb	47.852
29	12389-PECDD	31.93	1.735e5	1.087e5	1.154	1.60	1.55	2823.0	YES	NO	bb	bb	51.065
30	12378-PeCDD	31.52	1.454e5	9.087e4	0.995	1.60	1.55	2388.7	YES	NO	bb	bb	49.548
31	Total-pentadioxins	30.86	6.021e2	4.143e2	1.331	1.45	1.55	7.9	YES	NO	bb	bb	0.159
32	Total-pentadioxins	29.91	5.567e2	3.998e2	1.331	1.39	1.55	9.0	YES	NO	bb	bb	0.150
33	12479-PECDD	28.78	2.614e5	1.653e5	1.843	1.58	1.55	2742.5	YES	NO	bb	bb	48.322
34	123789-HxCDD	36.53	1.623e5	1.298e5	0.950	1.25	1.24	2180.2	YES	NO	bb	bb	50.782
35	123678-HxCDD	36.13	1.676e5	1.331e5	1.009	1.26	1.24	2238.9	YES	NO	db	db	49.743
36	123478-HxCDD	36.01	1.673e5	1.302e5	1.027	1.28	1.24	2196.6	YES	NO	bd	bd	47.354
37	Total-hexadioxins	34.77	4.766e2	4.246e2	1.028	1.12	1.24	7.9	YES	NO	bd	bb	0.145

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234678-HpCDD	40.28	9.127e4	8.380e4	1.068	1.09	1.05	1340.6	YES	NO	bb	bb	47.407
39	1234679-HPCDD	39.23	1.040e5	9.520e4	1.211	1.09	1.05	1674.5	YES	NO	bb	bb	47.575
40	OCDD	45.03	1.241e5	1.407e5	1.181	0.88	0.89	1085.4	YES	NO	bb	bb	91.272

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.30	1.134e4					1.3	NO		bb		
2	FUNCTION1 PFK	21.24	2.335e4					2.0	NO		db		
3	FUNCTION1 PFK	21.18	5.129e4					2.9	NO		bd		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.90	5.920e3					0.7	NO		bb		0.000
2	FUNCTION2 PFK	29.41	5.416e3					0.6	NO		bb		0.000
3	FUNCTION2 PFK	28.84	1.223e4					1.0	NO		bb		0.000
4	FUNCTION2 PFK	28.69	1.417e3					0.3	NO		bb		0.000
5	FUNCTION2 PFK	28.56	8.849e3					1.0	NO		bb		0.000
6	FUNCTION2 PFK	28.23	5.700e5					8.3	YES		bb		0.000
7	FUNCTION2 PFK	32.72	1.786e3					0.4	NO		bb		0.000
8	FUNCTION2 PFK	32.55	1.529e4					0.9	NO		bb		0.000
9	FUNCTION2 PFK	32.14	3.893e3					0.6	NO		bb		0.000
10	FUNCTION2 PFK	31.97	1.109e4					1.2	NO		db		0.000
11	FUNCTION2 PFK	31.87	3.145e4					1.3	NO		bd		0.000
12	FUNCTION2 PFK	31.79	3.369e4					1.6	NO		bb		0.000
13	FUNCTION2 PFK	31.49	8.047e3					0.8	NO		bb		0.000
14	FUNCTION2 PFK	31.33	3.367e3					0.5	NO		bb		0.000
15	FUNCTION2 PFK	31.12	1.733e4					0.9	NO		bb		0.000
16	FUNCTION2 PFK	30.90	1.110e4					1.1	NO		bb		0.000
17	FUNCTION2 PFK	30.84	1.096e4					1.2	NO		db		0.000
18	FUNCTION2 PFK	30.80	8.958e3					1.0	NO		bd		0.000
19	FUNCTION2 PFK	29.94	1.790e4					1.2	NO		bb		0.000

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.14	9.515e4					4.7	YES		bd		0.000
2	FUNCTION3 PFK	33.05	8.497e4					3.1	YES		bb		0.000
3	FUNCTION3 PFK	34.63	1.777e4					1.5	NO		dd		0.000
4	FUNCTION3 PFK	34.58	1.295e4					1.5	NO		dd		0.000
5	FUNCTION3 PFK	34.53	3.941e4					2.1	NO		dd		0.000
6	FUNCTION3 PFK	34.48	6.031e4					2.3	NO		dd		0.000
7	FUNCTION3 PFK	34.40	5.087e4					2.6	NO		bd		0.000
8	FUNCTION3 PFK	34.29	5.777e4					2.5	NO		db		0.000
9	FUNCTION3 PFK	34.21	1.101e4					1.0	NO		bd		0.000
10	FUNCTION3 PFK	33.98	5.834e3					0.9	NO		bb		0.000
11	FUNCTION3 PFK	33.88	3.220e3					0.7	NO		bb		0.000
12	FUNCTION3 PFK	33.83	2.698e4					1.4	NO		db		0.000
13	FUNCTION3 PFK	33.75	3.759e3					0.5	NO		bd		0.000
14	FUNCTION3 PFK	33.63	1.391e4					1.4	NO		bb		0.000
15	FUNCTION3 PFK	33.49	3.577e4					1.8	NO		db		0.000
16	FUNCTION3 PFK	33.43	1.281e4					1.2	NO		bd		0.000
17	FUNCTION3 PFK	33.33	2.748e4					2.4	NO		db		0.000
18	FUNCTION3 PFK	33.24	1.831e5					4.2	YES		dd		0.000
19	FUNCTION3 PFK	37.38	3.173e4					0.9	NO		bb		0.000
20	FUNCTION3 PFK	37.30	1.323e4					1.5	NO		db		0.000
21	FUNCTION3 PFK	37.26	3.255e4					1.7	NO		bd		0.000
22	FUNCTION3 PFK	36.88	2.589e4					1.5	NO		db		0.000
23	FUNCTION3 PFK	36.82	7.160e3					0.7	NO		bd		0.000
24	FUNCTION3 PFK	36.69	4.349e3					0.6	NO		bb		0.000
25	FUNCTION3 PFK	36.56	2.484e3					0.6	NO		bb		0.000
26	FUNCTION3 PFK	36.37	6.493e3					0.7	NO		bb		0.000
27	FUNCTION3 PFK	36.28	4.865e3					0.6	NO		bb		0.000
28	FUNCTION3 PFK	36.11	3.208e3					0.3	NO		bb		0.000
29	FUNCTION3 PFK	35.72	6.678e4					2.1	NO		db		0.000
30	FUNCTION3 PFK	35.64	8.841e4					2.1	NO		dd		0.000
31	FUNCTION3 PFK	35.50	3.472e4					1.9	NO		bd		0.000
32	FUNCTION3 PFK	34.87	4.841e3					0.7	NO		bb		0.000
33	FUNCTION3 PFK	34.77	1.603e3					0.4	NO		bb		0.000
34	FUNCTION3 PFK	34.68	4.657e3					0.6	NO		db		0.000
35	FUNCTION3 PFK	37.80	5.835e3					0.7	NO		bb		0.000
36	FUNCTION3 PFK	37.54	2.824e4					1.4	NO		bb		0.000

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.58	6.354e3					1.2	NO		bb		
2	FUNCTION4 PFK	40.17	4.901e3					1.0	NO		bb		
3	FUNCTION4 PFK	39.84	3.538e3					0.8	NO		bb		
4	FUNCTION4 PFK	39.68	4.077e3					0.9	NO		bb		
5	FUNCTION4 PFK	39.48	3.279e3					0.8	NO		bb		
6	FUNCTION4 PFK	39.39	6.026e3					1.2	NO		bb		
7	FUNCTION4 PFK	39.19	9.173e2					0.4	NO		bb		
8	FUNCTION4 PFK	38.92	5.050e3					0.9	NO		bb		
9	FUNCTION4 PFK	38.78	1.451e4					2.4	NO		db		
10	FUNCTION4 PFK	38.54	1.561e6					11.6	YES		dd		
11	FUNCTION4 PFK	38.14	3.994e5					26.0	YES		dd		
12	FUNCTION4 PFK	38.08	2.475e5					28.5	YES		dd		
13	FUNCTION4 PFK	37.99	7.284e5					31.9	YES		bd		
14	FUNCTION4 PFK	42.92	8.073e3					1.6	NO		bb		
15	FUNCTION4 PFK	42.42	1.987e3					0.6	NO		bb		
16	FUNCTION4 PFK	42.10	1.746e3					0.6	NO		bb		
17	FUNCTION4 PFK	41.99	9.772e2					0.4	NO		bb		
18	FUNCTION4 PFK	41.94	1.556e3					0.7	NO		bb		
19	FUNCTION4 PFK	41.84	1.321e3					0.6	NO		bb		
20	FUNCTION4 PFK	41.80	5.071e3					1.2	NO		bb		
21	FUNCTION4 PFK	40.94	2.294e4					1.8	NO		bb		
22	FUNCTION4 PFK	40.65	9.789e3					1.3	NO		bb		

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.73	8.251e2					0.6	NO		bb		
2	FUNCTION5 PFK	43.69	7.819e3					1.4	NO		bb		
3	FUNCTION5 PFK	43.57	3.794e3					0.9	NO		bb		
4	FUNCTION5 PFK	43.35	3.428e3					1.2	NO		bb		
5	FUNCTION5 PFK	43.25	5.614e3					1.4	NO		bb		
6	FUNCTION5 PFK	43.07	1.786e3					1.1	NO		bb		
7	FUNCTION5 PFK	45.94	1.888e3					0.8	NO		bb		
8	FUNCTION5 PFK	45.66	7.132e3					1.0	NO		bb		
9	FUNCTION5 PFK	45.57	2.994e3					1.0	NO		bb		
10	FUNCTION5 PFK	45.53	2.148e3					0.6	NO		bb		
11	FUNCTION5 PFK	45.43	2.990e3					1.1	NO		bb		
12	FUNCTION5 PFK	44.97	4.710e3					1.5	NO		bb		
13	FUNCTION5 PFK	44.92	1.019e4					1.9	NO		bb		
14	FUNCTION5 PFK	44.76	1.003e4					1.5	NO		db		
15	FUNCTION5 PFK	44.66	7.554e3					1.3	NO		bd		
16	FUNCTION5 PFK	44.18	2.048e3					0.9	NO		bb		
17	FUNCTION5 PFK	44.08	7.452e3					1.6	NO		db		
18	FUNCTION5 PFK	44.04	5.205e3					1.5	NO		bd		
19	FUNCTION5 PFK	43.89	8.228e3					1.6	NO		bb		
20	FUNCTION5 PFK	43.79	1.039e4					2.5	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.68	8.044e1					1.4	NO		bb		0.000
2	FUNCTION1 HXCD...	27.12	2.249e2					4.8	YES		db		0.000
3	FUNCTION1 HXCD...	27.02	1.053e2					2.6	NO		bd		0.000
4	FUNCTION1 HXCD...	25.58	8.429e1					2.3	NO		bb		0.000
5	FUNCTION1 HXCD...	23.17	7.895e1					2.2	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.51	7.024e1					1.3	NO		bb		0.000
2	FUNCTION2 HPCD...	31.08	1.739e2					3.2	YES		bb		0.000
3	FUNCTION2 HPCD...	28.83	9.031e1					1.5	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

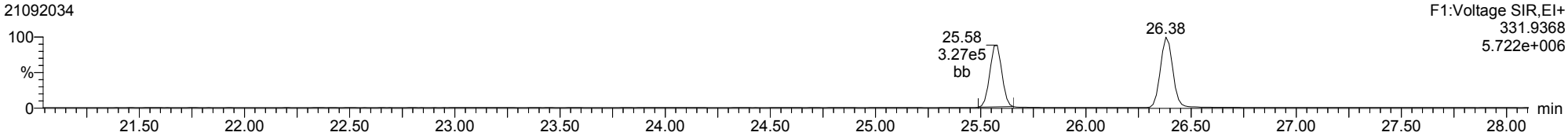
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.02	8.571e1					3.1	YES		bb		0.000
2	FUNCTION5 DCDPE	44.47	7.733e1					1.8	NO		bb		0.000

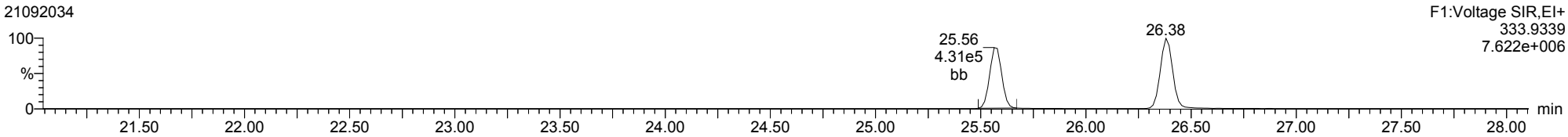
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

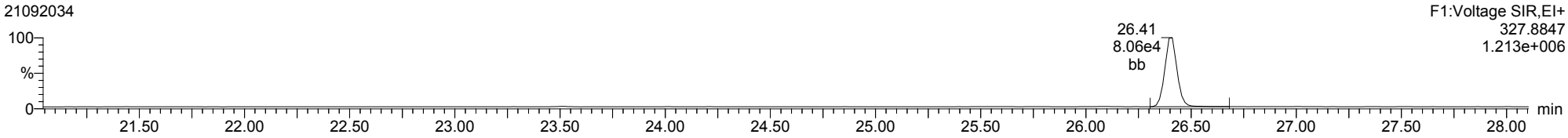
13C-1234-TCDD



13C-1234-TCDD



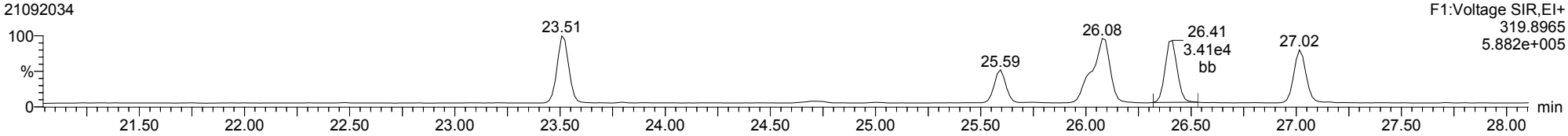
37CL-2378-TCDD



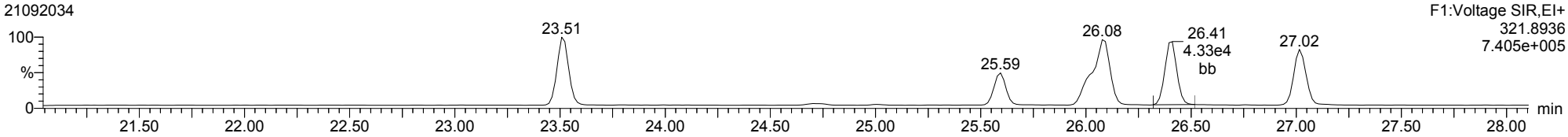
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

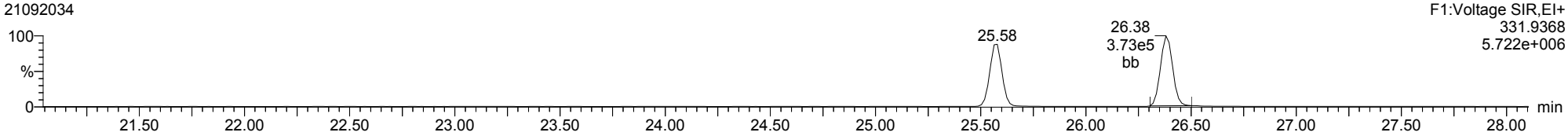
2378-TCDD



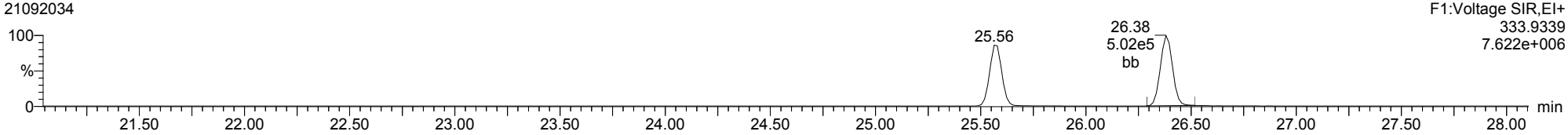
2378-TCDD



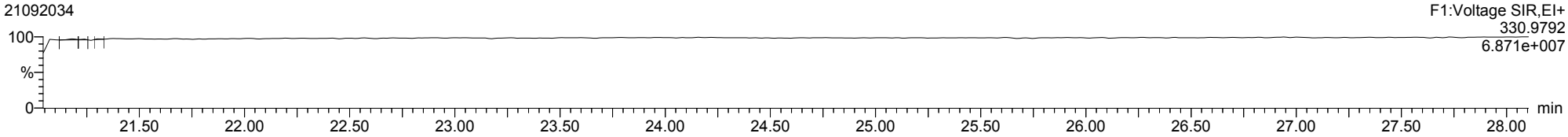
13C-2378-TCDD



13C-2378-TCDD

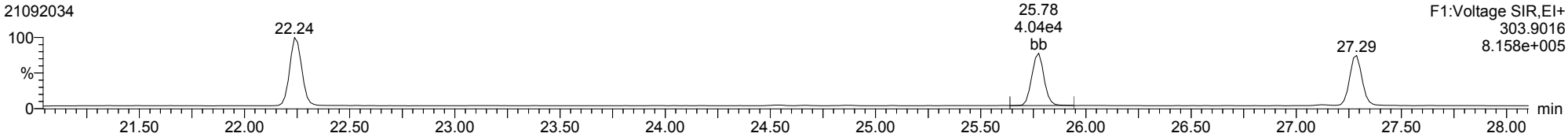


FUNCTION1 PFK

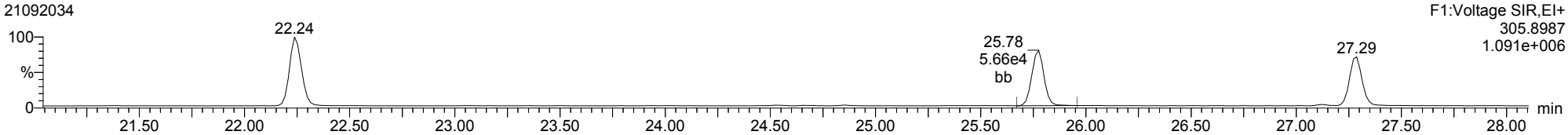


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

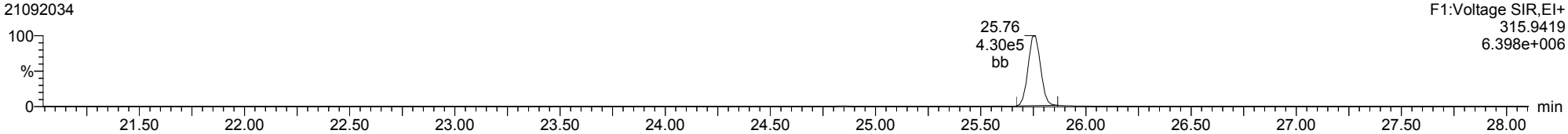
2378-TCDF



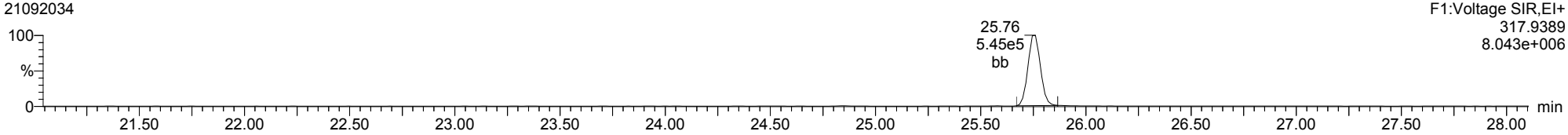
2378-TCDF



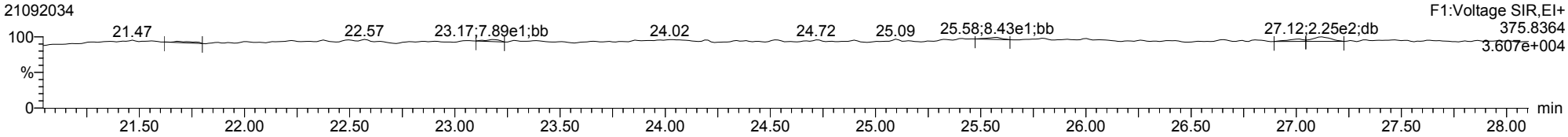
13C-2378-TCDF



13C-2378-TCDF

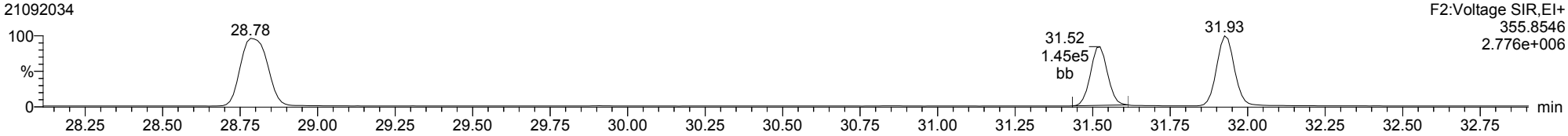


FUNCTION1 HXCDPE

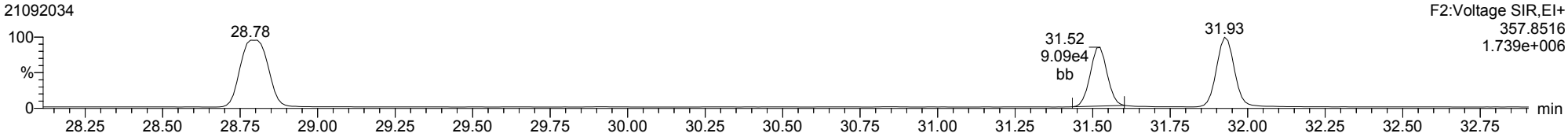


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

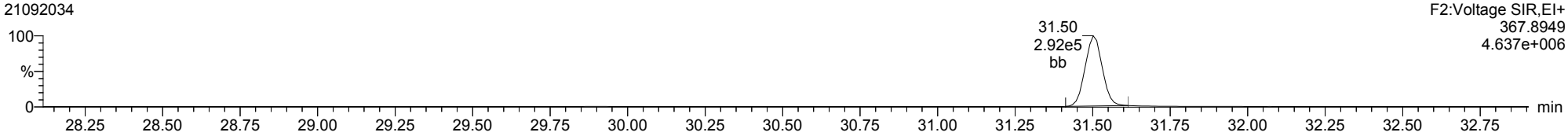
12378-PeCDD



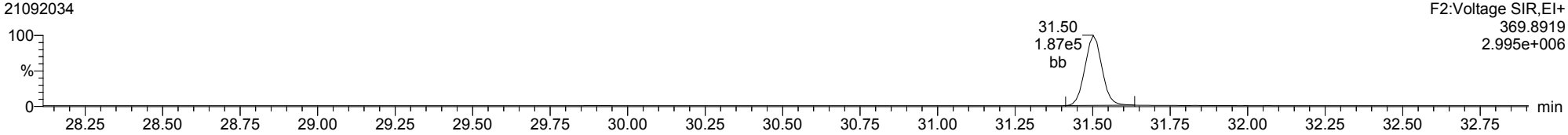
12378-PeCDD



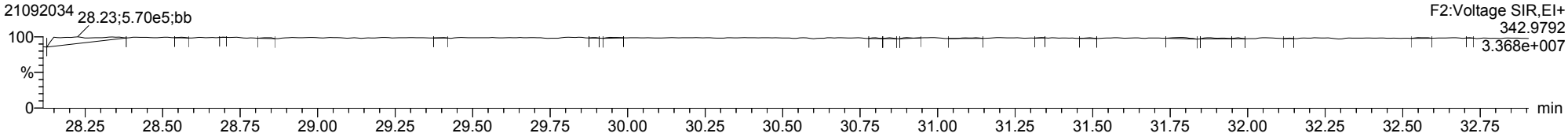
13C-12378-PeCDD



13C-12378-PeCDD

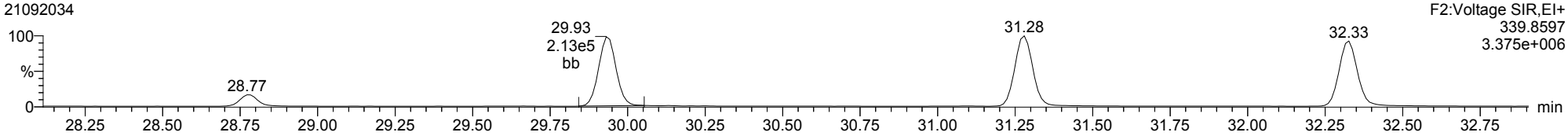


FUNCTION2 PFK

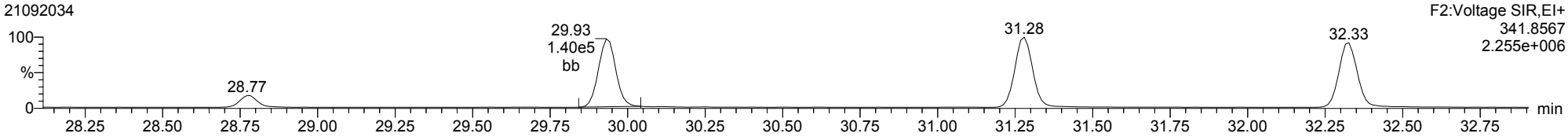


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

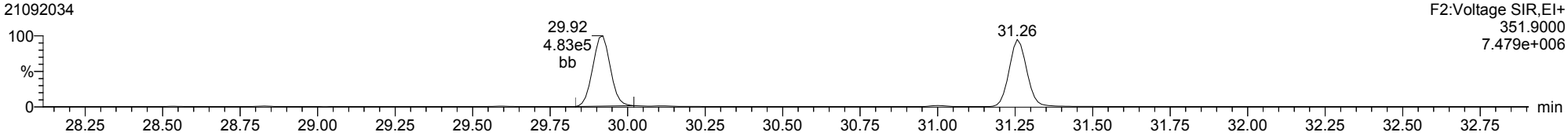
12378-PeCDF



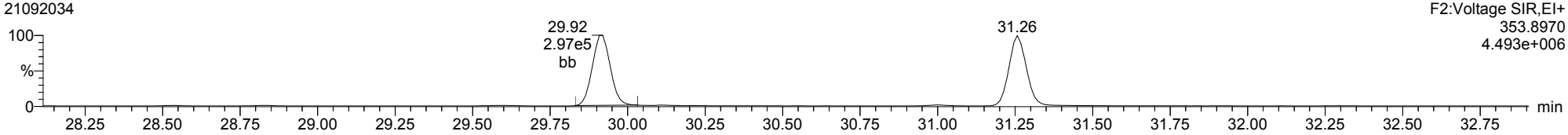
12378-PeCDF



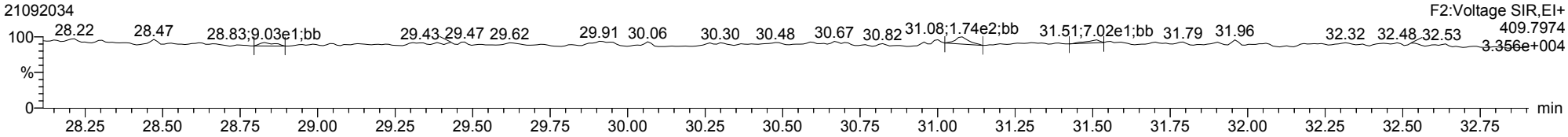
13C-12378-PeCDF



13C-12378-PeCDF

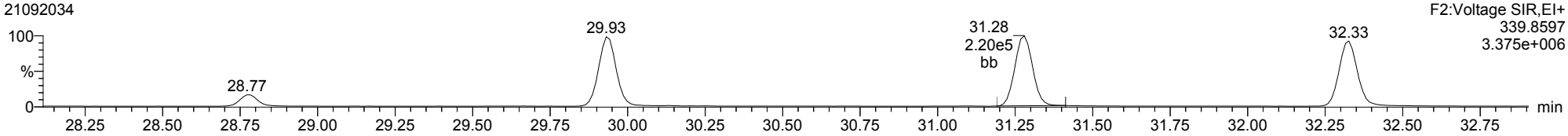


FUNCTION2 HPCDPE

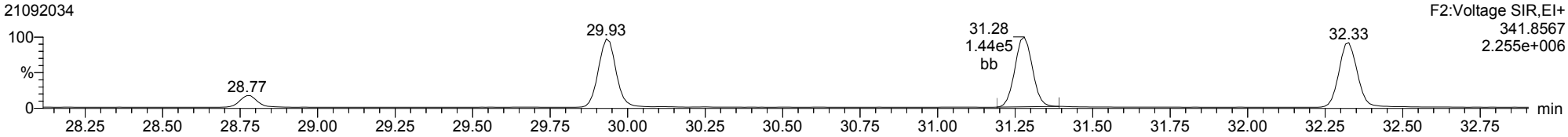


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

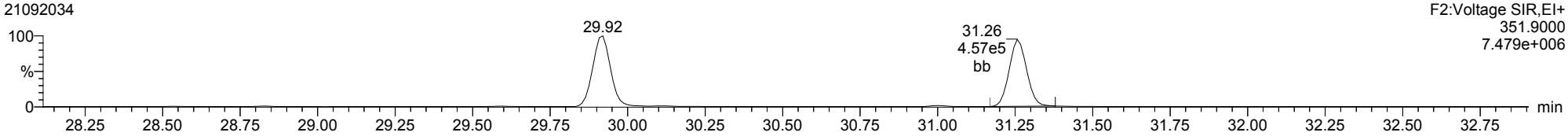
23478-PeCDF



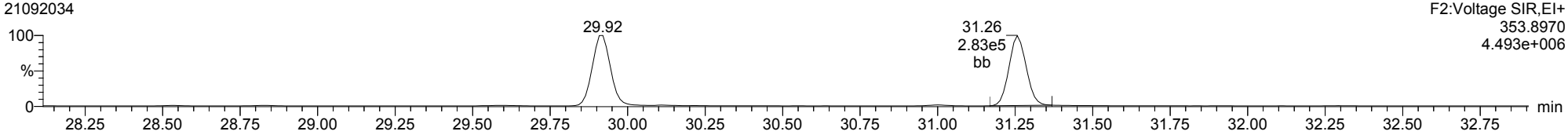
23478-PeCDF



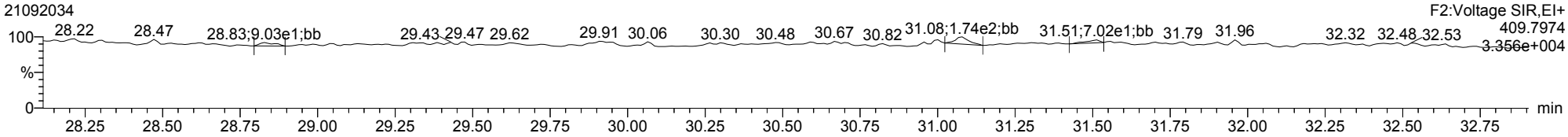
13C-23478-PeCDF



13C-23478-PeCDF

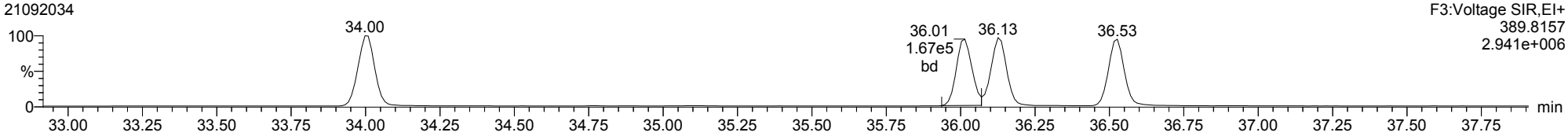


FUNCTION2 HPCDPE

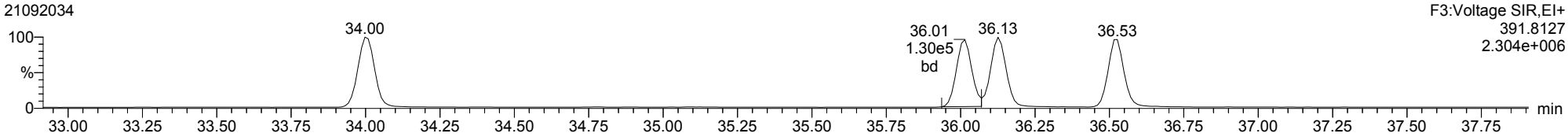


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

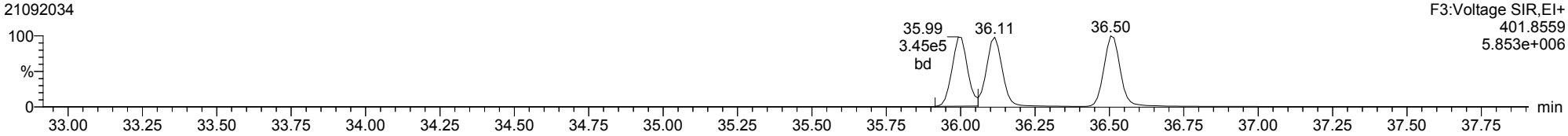
123478-HxCDD



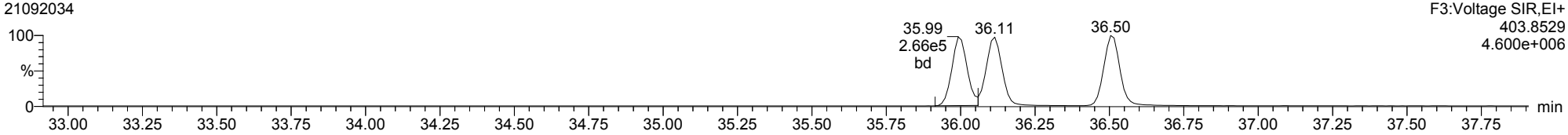
123478-HxCDD



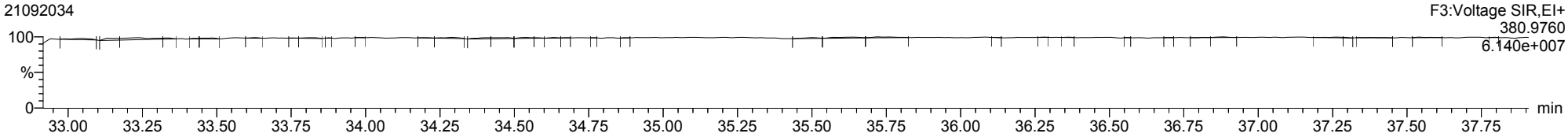
13C-123478-HxCDD



13C-123478-HxCDD

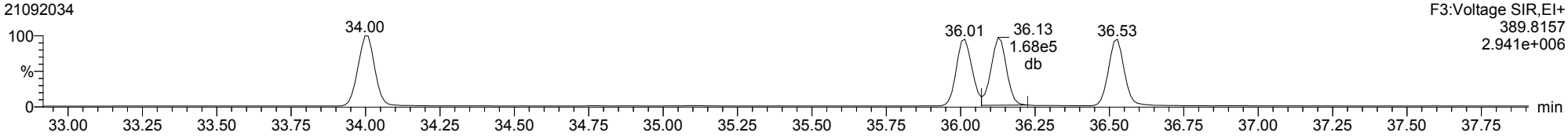


FUNCTION3 PFK

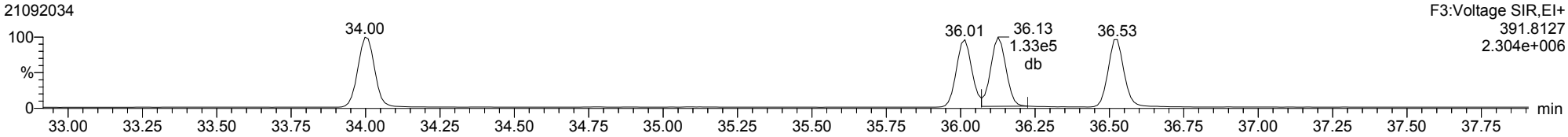


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

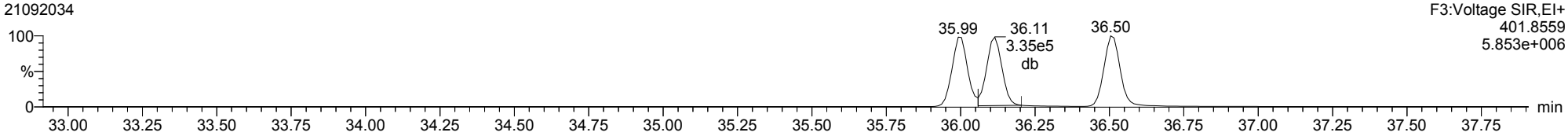
123678-HxCDD



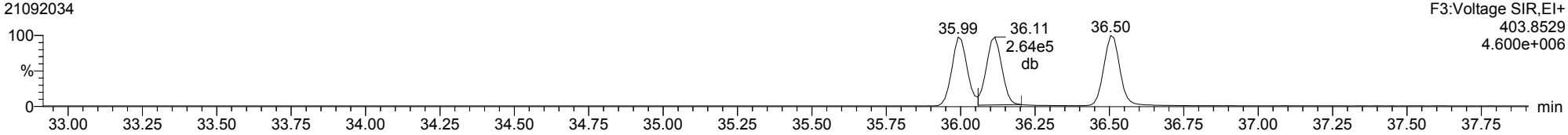
123678-HxCDD



13C-123678-HxCDD

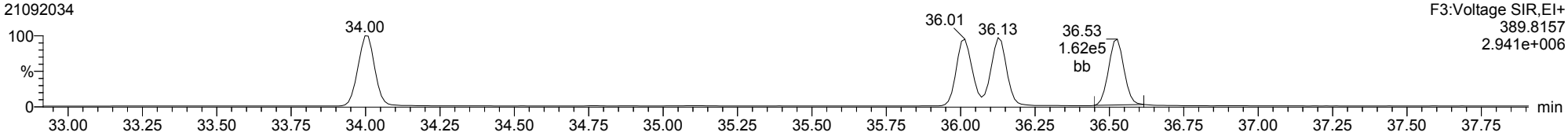


13C-123678-HxCDD

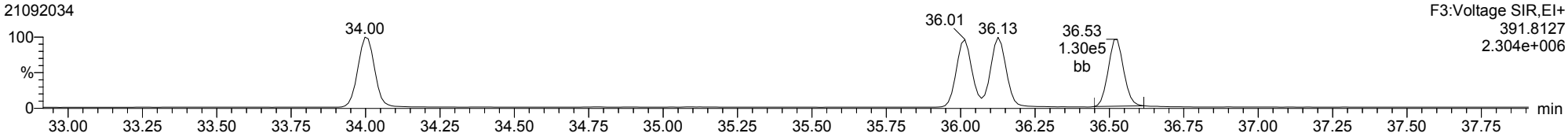


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

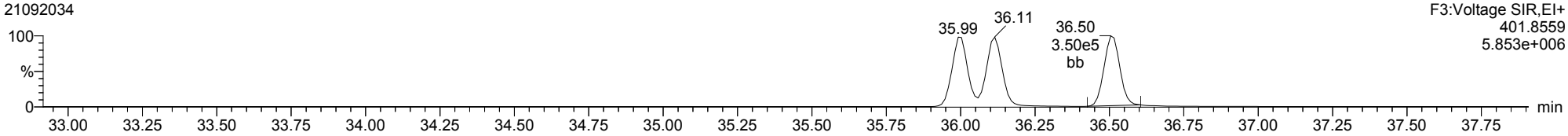
123789-HxCDD



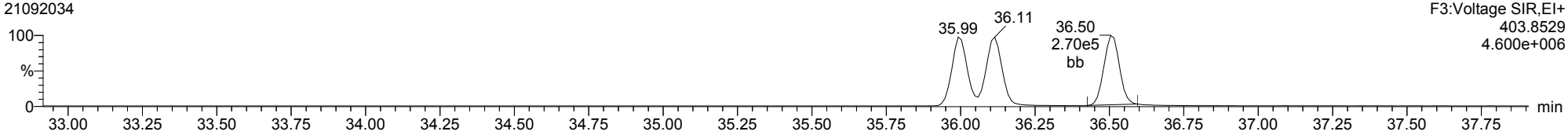
123789-HxCDD



13C-123789-HxCDD

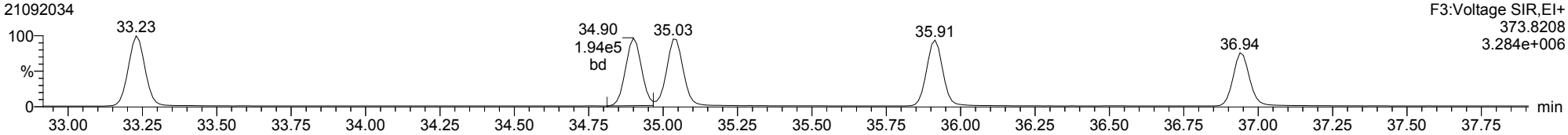


13C-123789-HxCDD

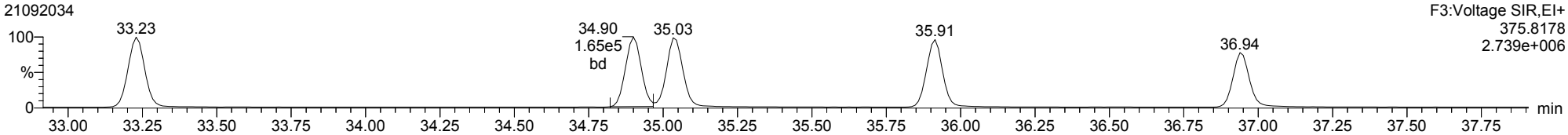


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

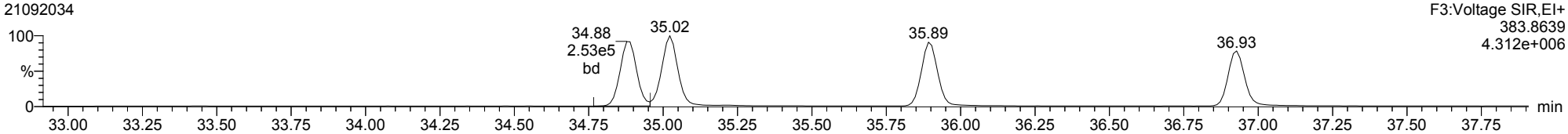
123478-HxCDF



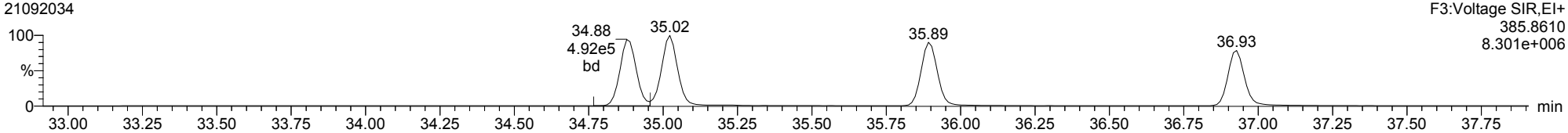
123478-HxCDF



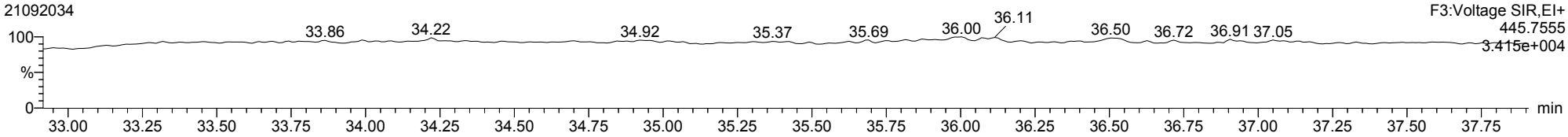
13C-123478-HxCDF



13C-123478-HxCDF

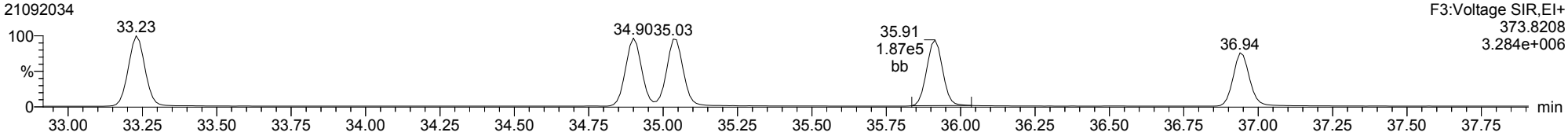


FUNCTION3 OCDPE

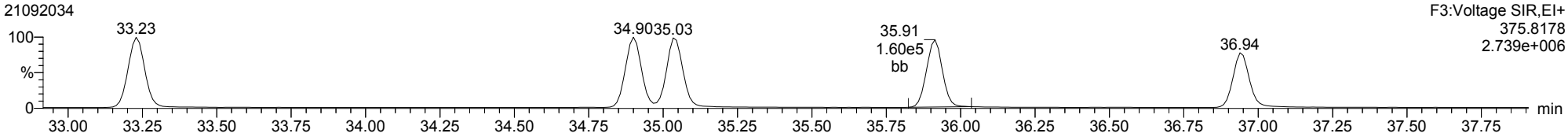


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

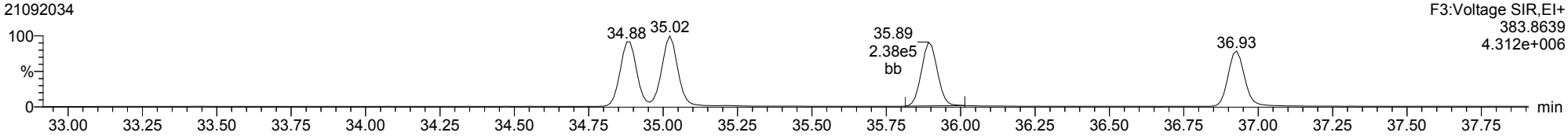
234678-HxCDF



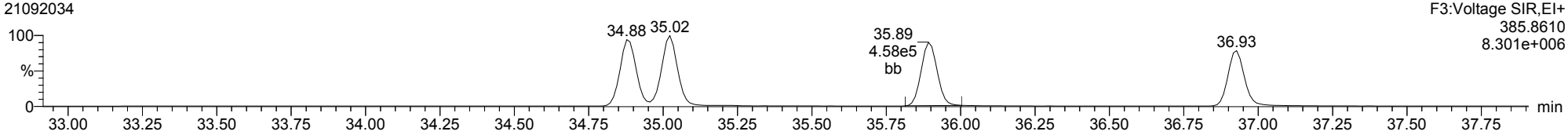
234678-HxCDF



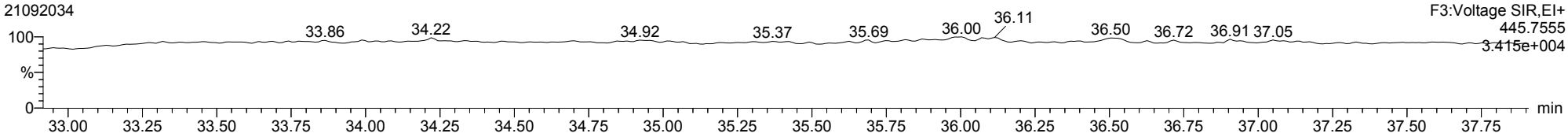
13C-234678-HxCDF



13C-234678-HxCDF

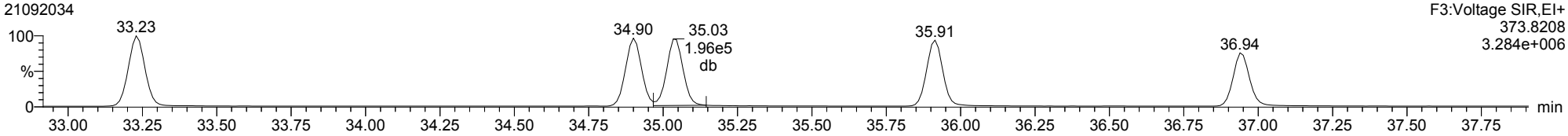


FUNCTION3 OCDPE

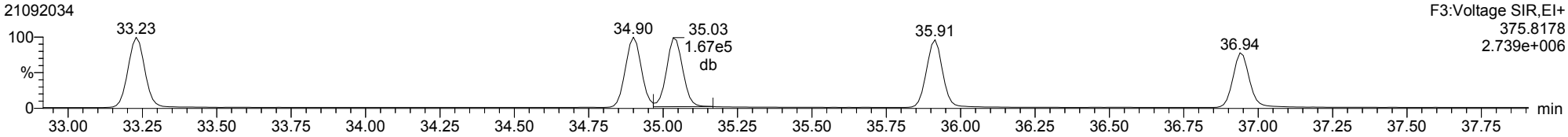


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

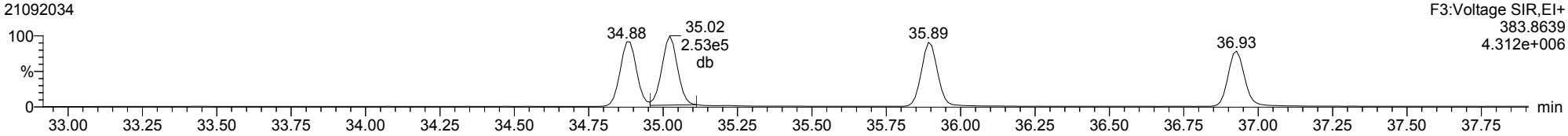
123678-HxCDF



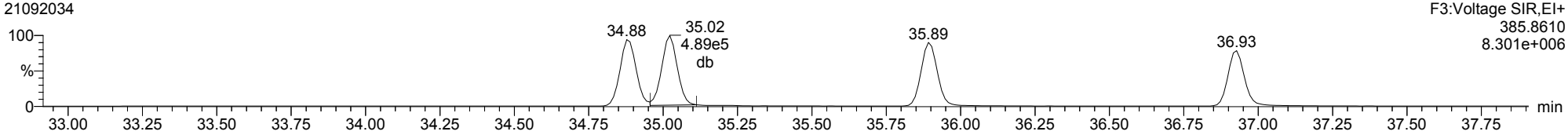
123678-HxCDF



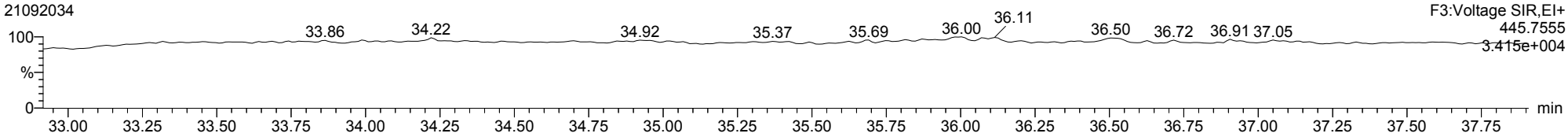
13C-123678-HxCDF



13C-123678-HxCDF

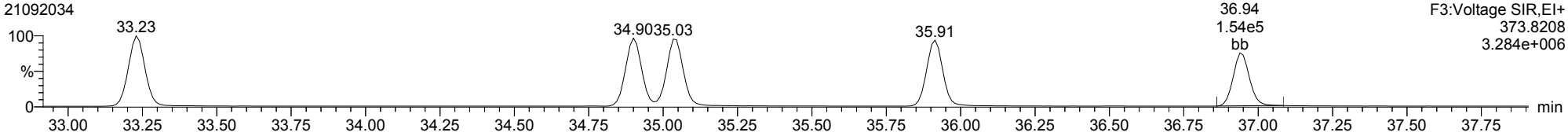


FUNCTION3 OCDPE

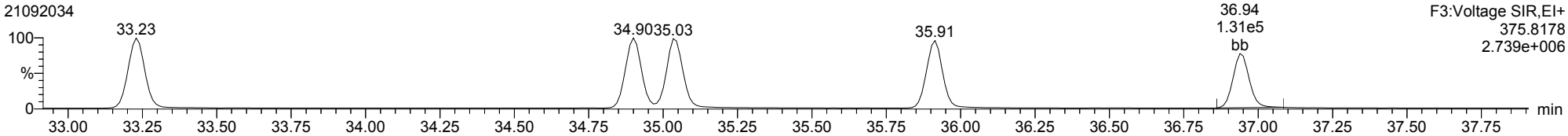


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

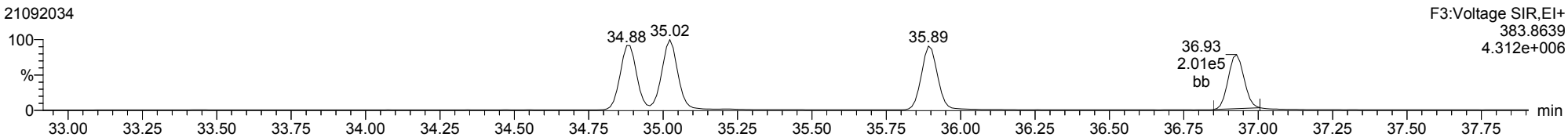
123789-HxCDF



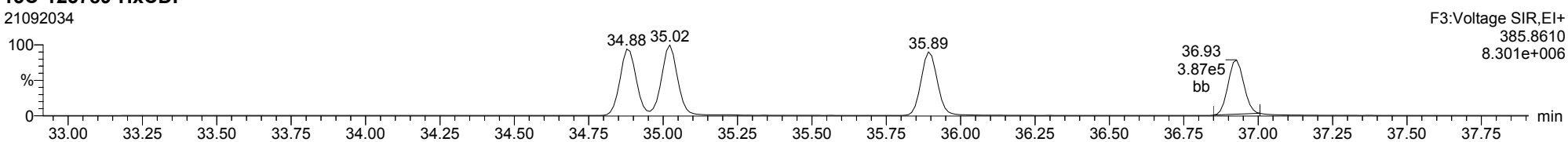
123789-HxCDF



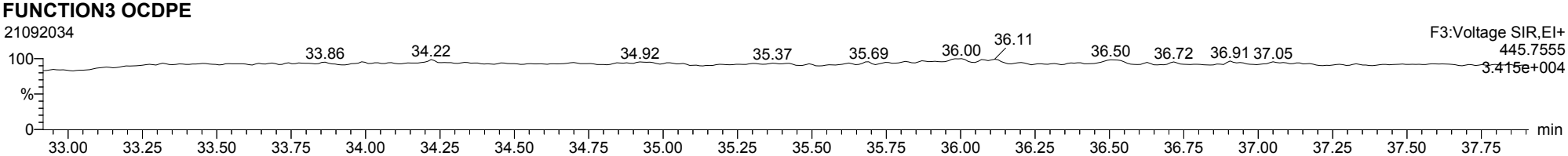
13C-123789-HxCDF



13C-123789-HxCDF

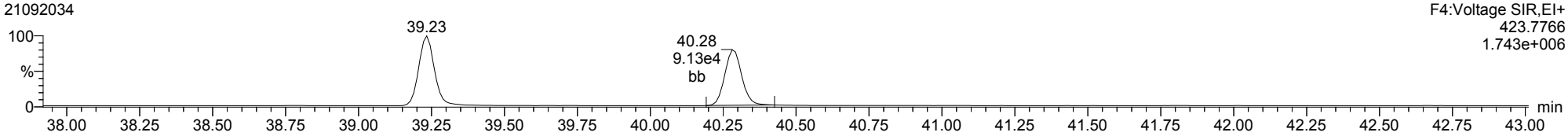


FUNCTION3 OCDPE

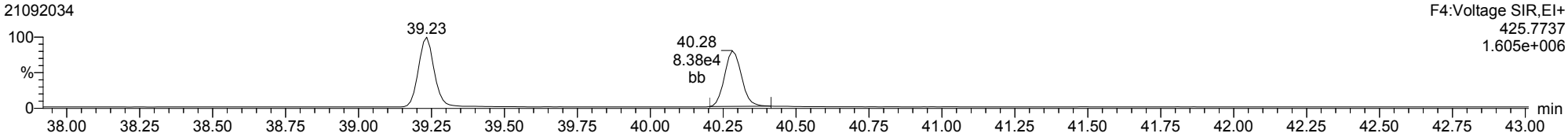


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

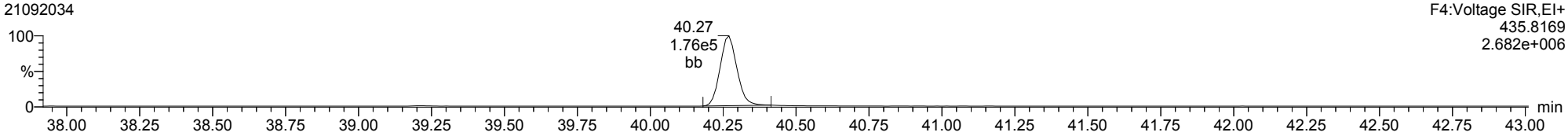
1234678-HpCDD



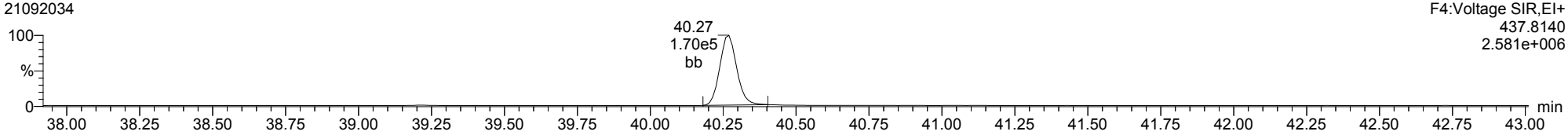
1234678-HpCDD



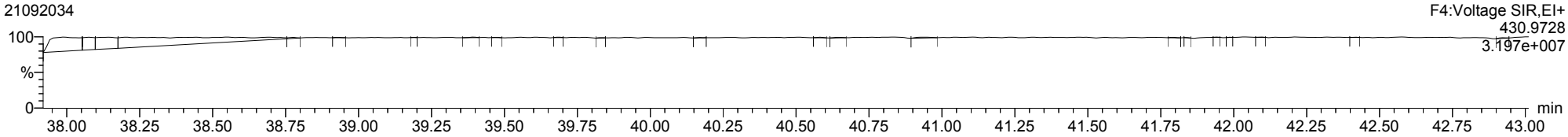
13C-1234678-HpCDD



13C-1234678-HpCDD

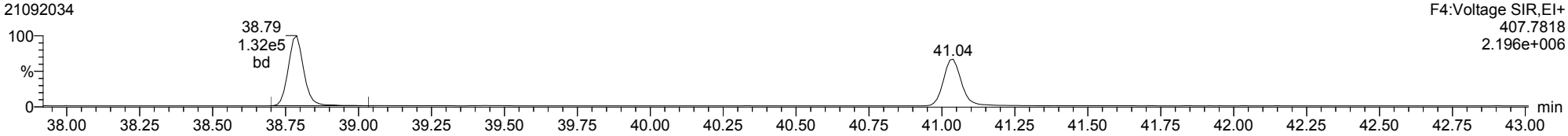


FUNCTION4 PFK

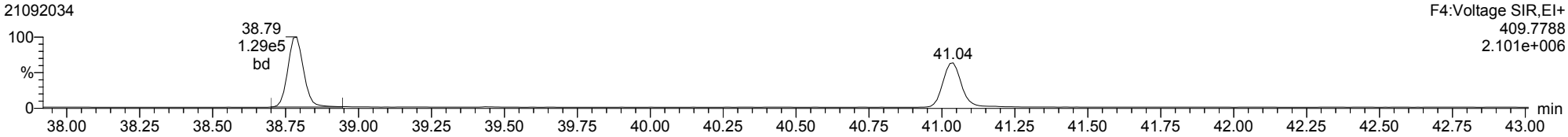


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

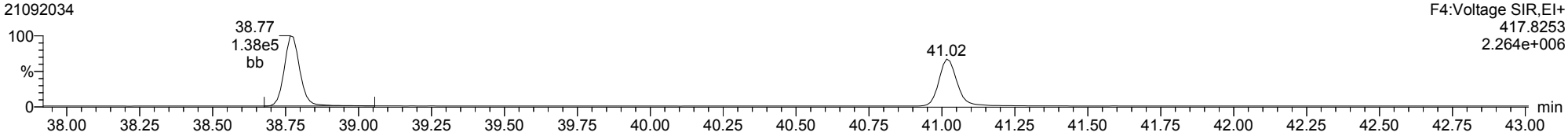
1234678-HpCDF



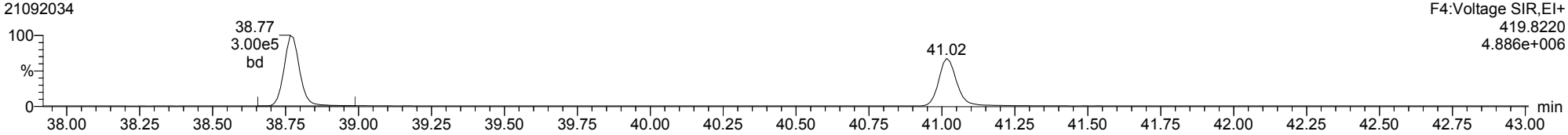
1234678-HpCDF



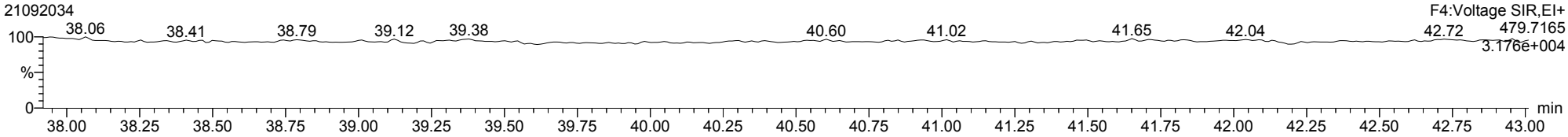
13C-1234678-HpCDF



13C-1234678-HpCDF

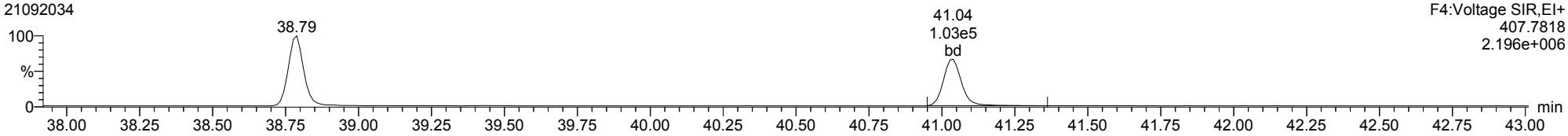


FUNCTION4 NCDPE

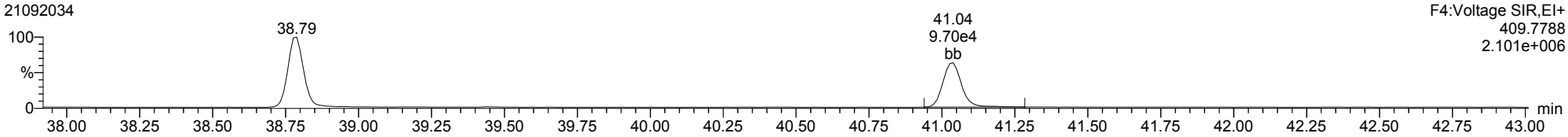


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

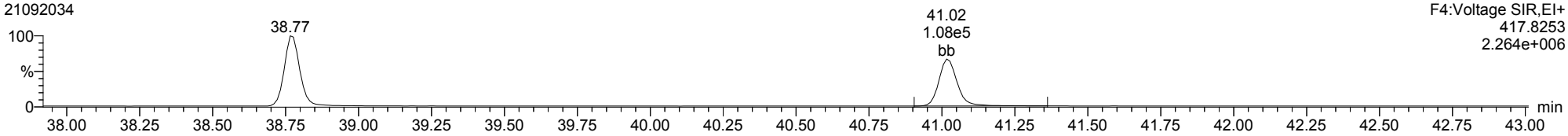
1234789-HpCDF



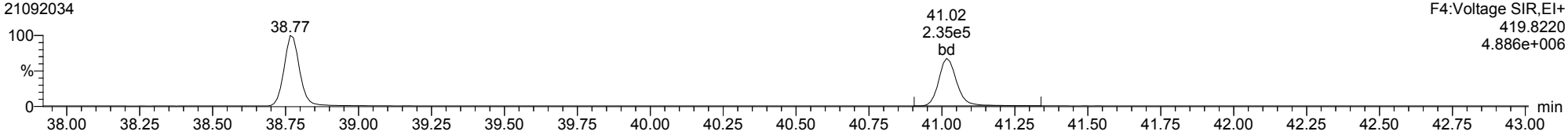
1234789-HpCDF



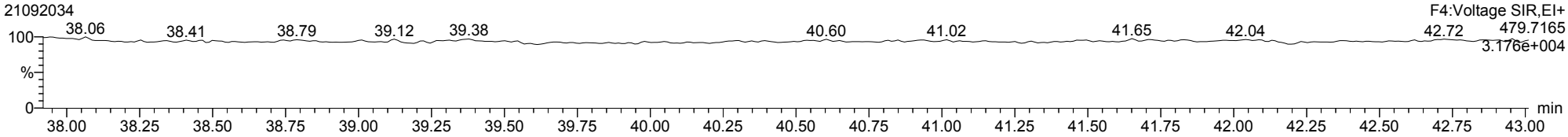
13C-1234789-HpCDF



13C-1234789-HpCDF

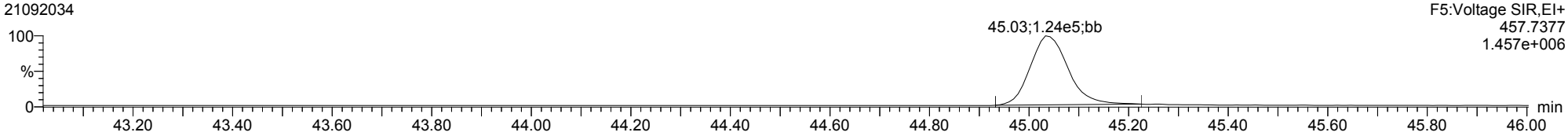


FUNCTION4 NCDPE

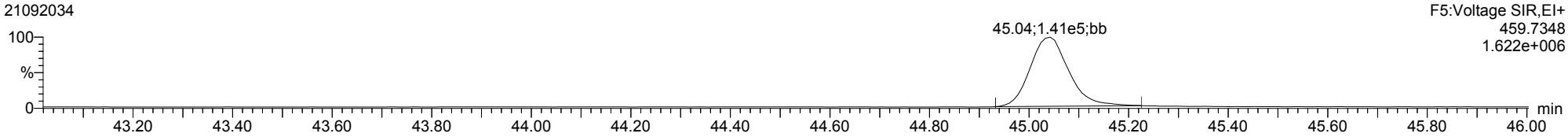


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

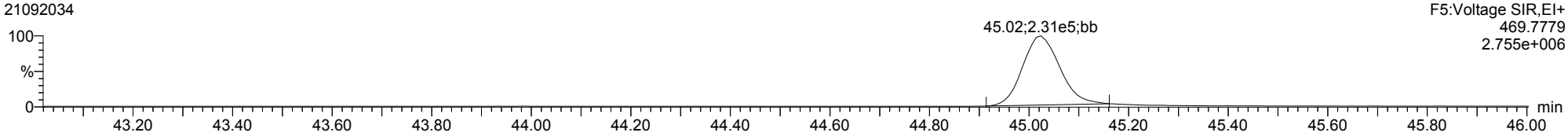
OCDD



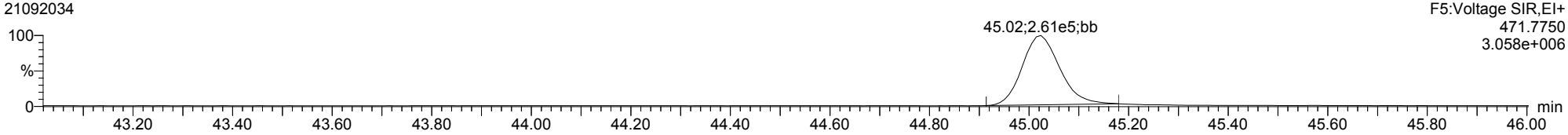
OCDD



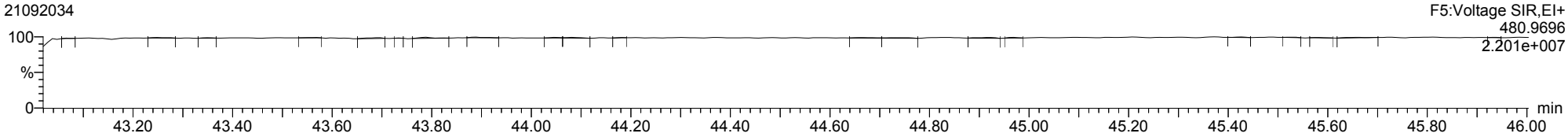
13C-OCDD



13C-OCDD

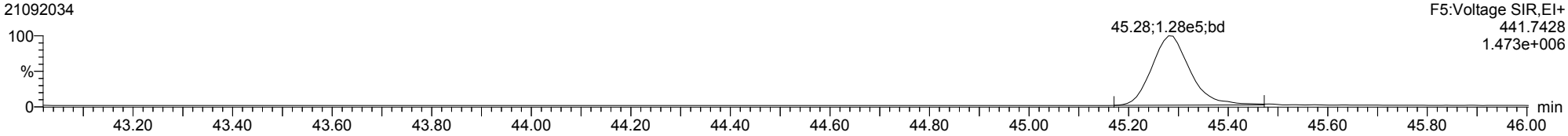


FUNCTION5 PFK

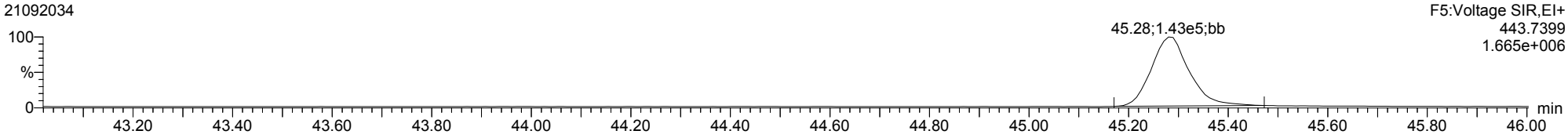


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

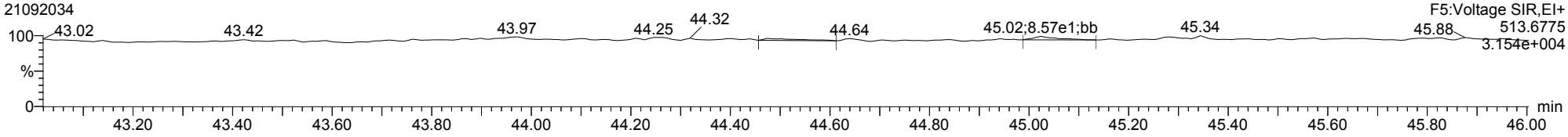
OCDF



OCDF



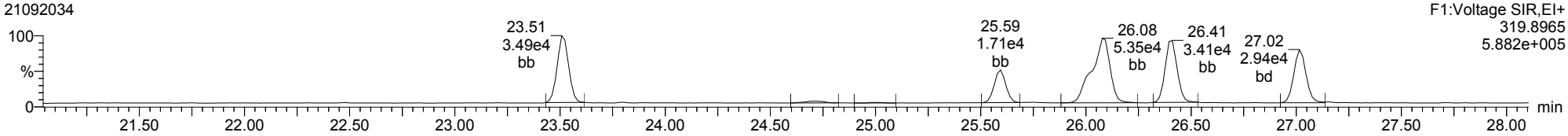
FUNCTION5 DCDPE



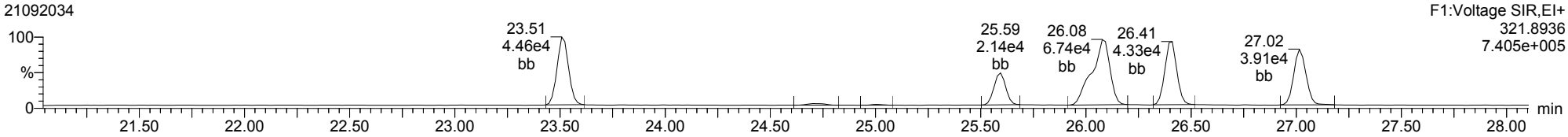
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

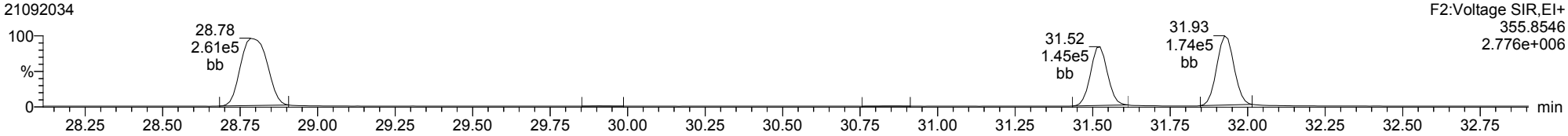
Total-tetradioxins



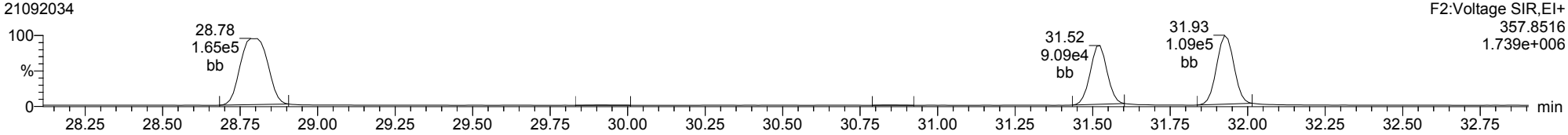
Total-tetradioxins



Total-pentadioxins

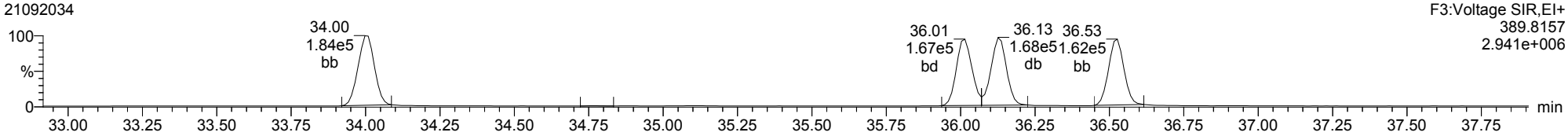


Total-pentadioxins

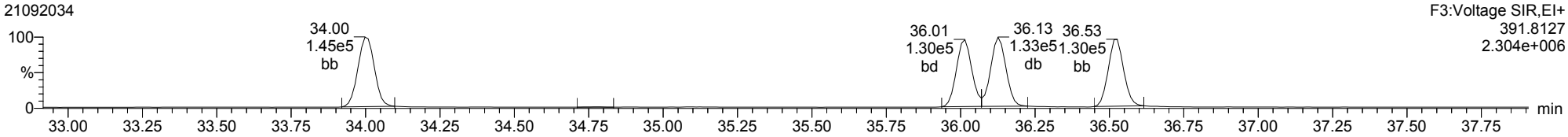


ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

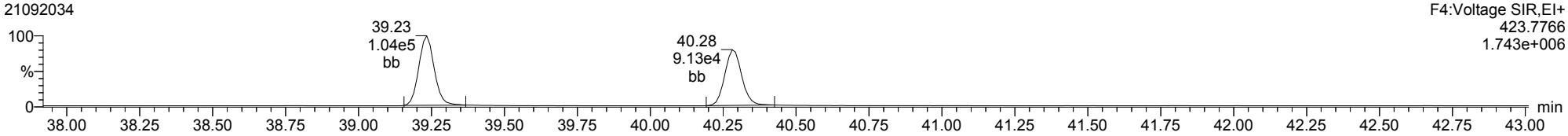
Total-hexadioxins



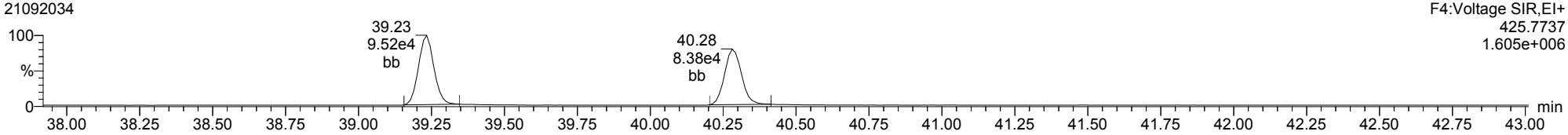
Total-hexadioxins



Total-heptadioxins



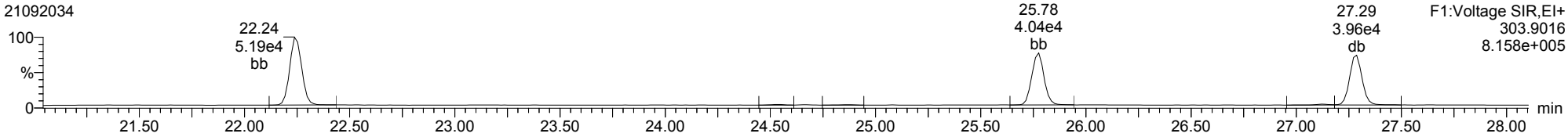
Total-heptadioxins



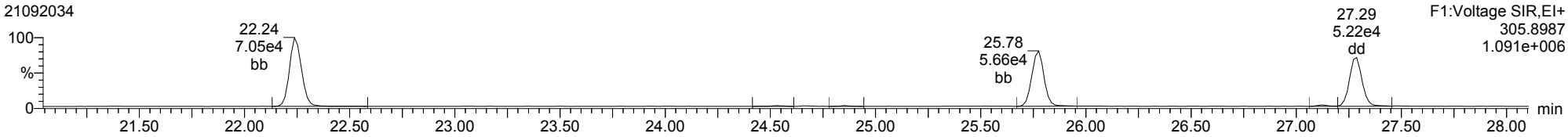
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

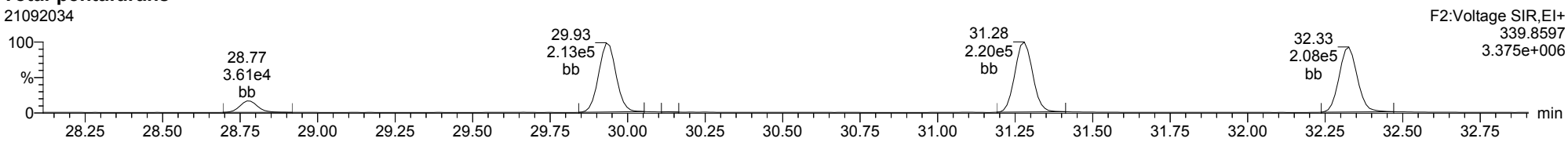
Total-tetrafurans



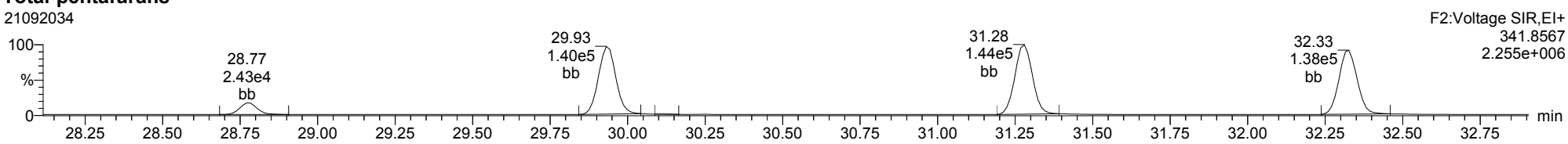
Total-tetrafurans



Total-pentafurans



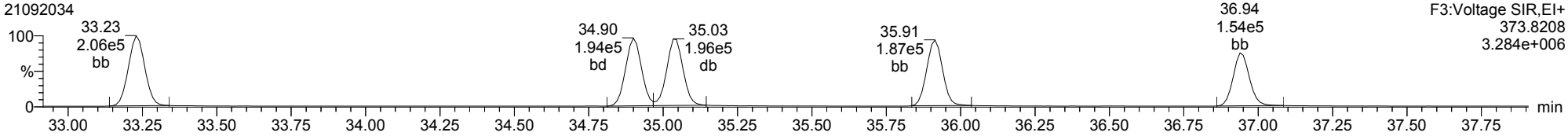
Total-pentafurans



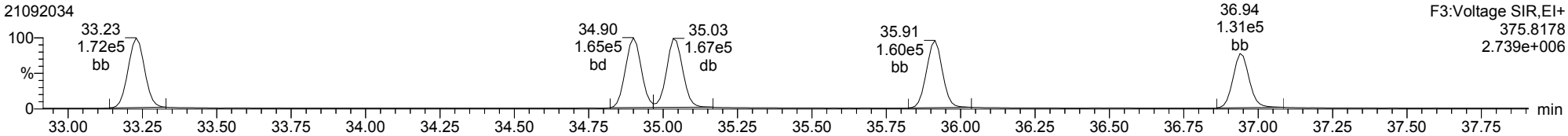
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:38:52 Pacific Daylight Time

ID: CS3S4, Name: 21092034, Date: 21-Sep-2021, Time: 19:37:20, Conditions: AUTOSPEC01, User: pk

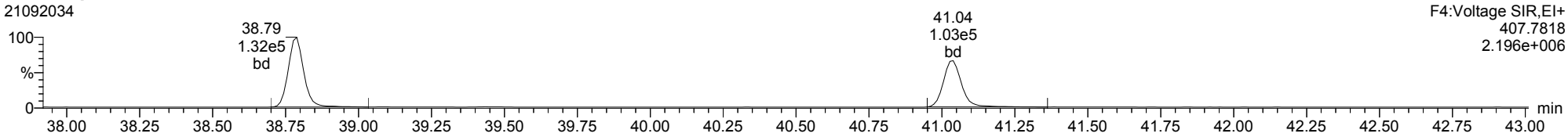
Total-hexafurans



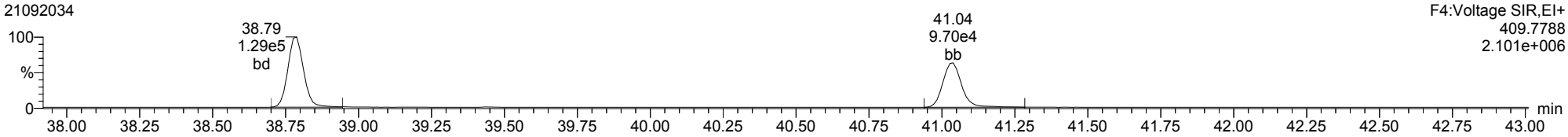
Total-hexafurans



Total-heptafurans

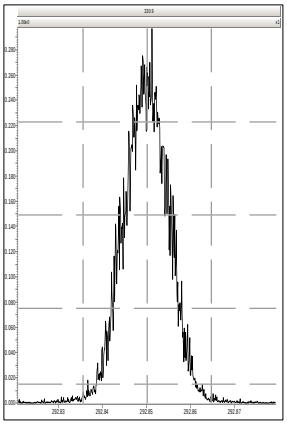


Total-heptafurans

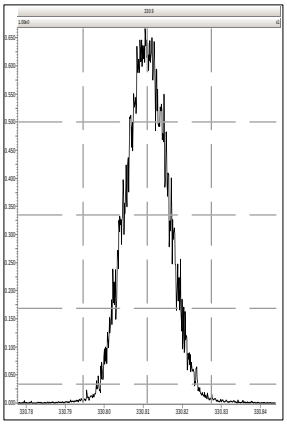


Printed: Tuesday, September 21, 2021 20:30:42 Pacific Daylight Time

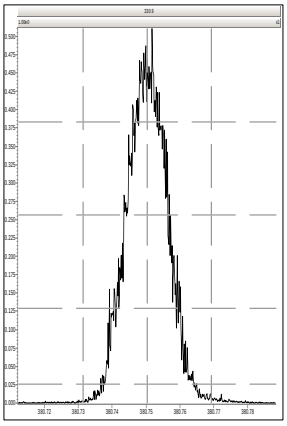
M 292.9824 R 13069



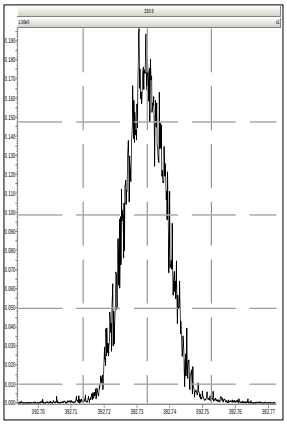
M 330.9792 R 13890



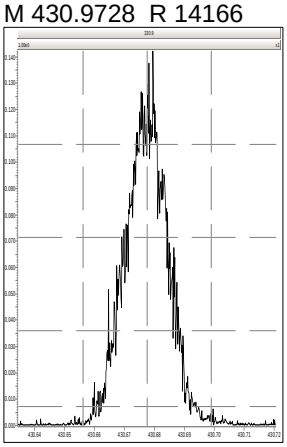
M 380.9760 R 14643



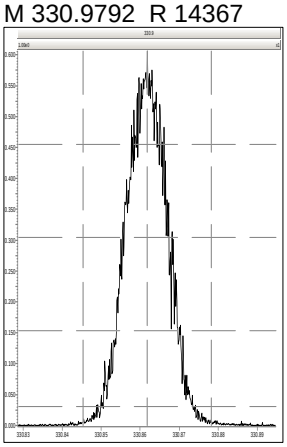
M 392.9760 R 15872



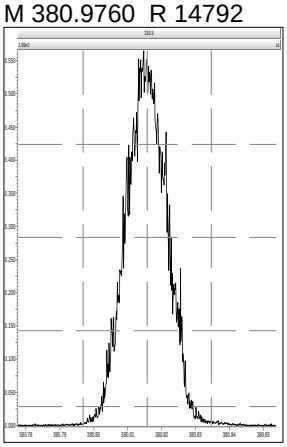
M 430.9728 R 14166



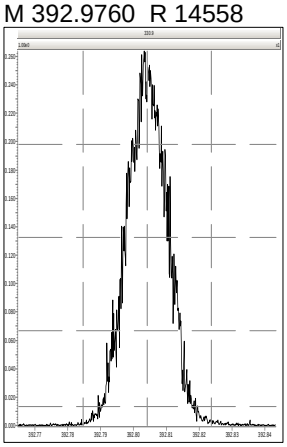
M 330.9792 R 14367



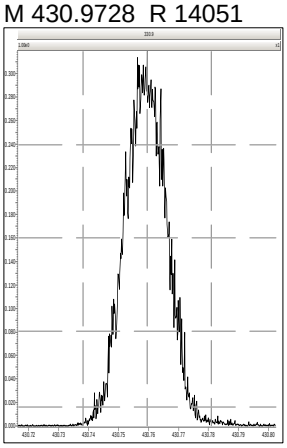
M 380.9760 R 14792



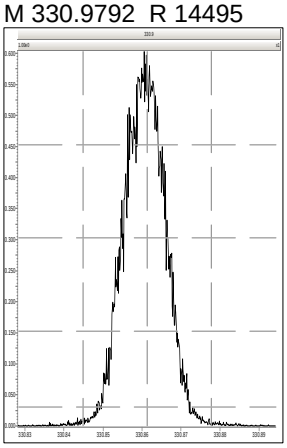
M 392.9760 R 14558



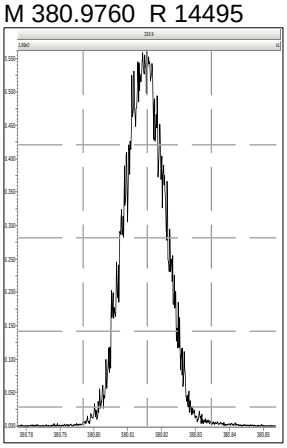
M 430.9728 R 14051



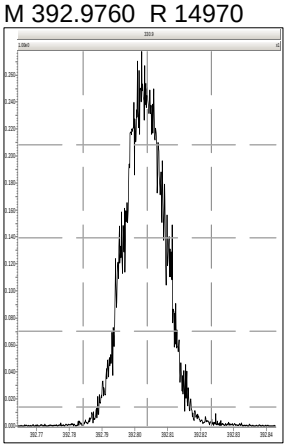
M 330.9792 R 14495



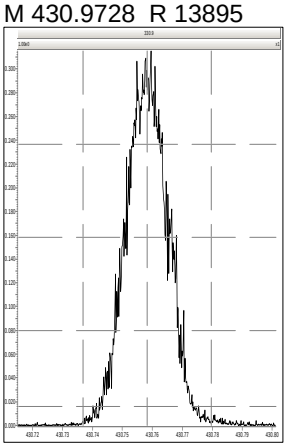
M 380.9760 R 14495



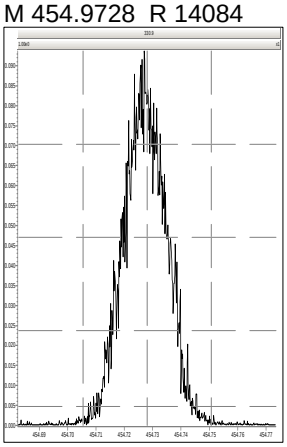
M 392.9760 R 14970



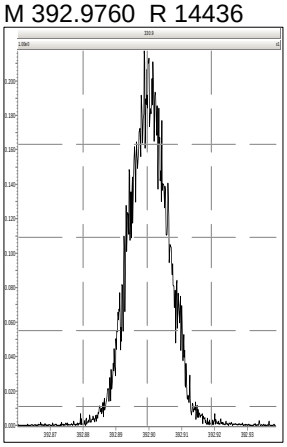
M 430.9728 R 13895



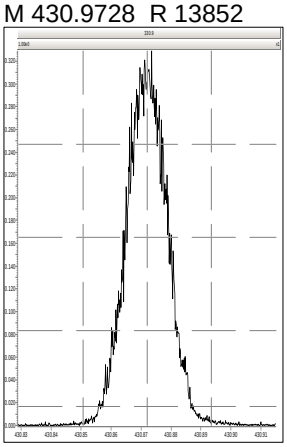
M 454.9728 R 14084



M 392.9760 R 14436

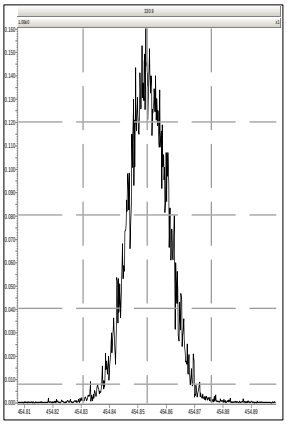


M 430.9728 R 13852

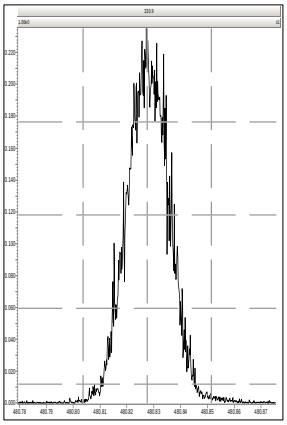


Printed: Tuesday, September 21, 2021 20:30:42 Pacific Daylight Time

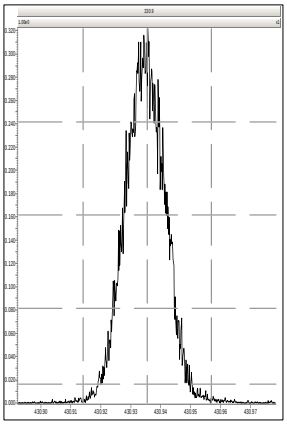
M 454.9728 R 13968



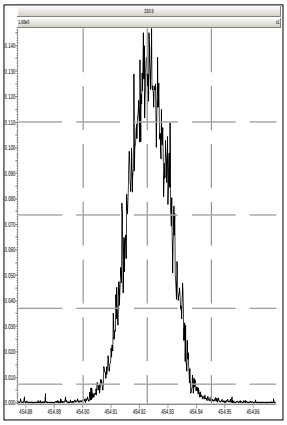
M 480.9696 R 14006



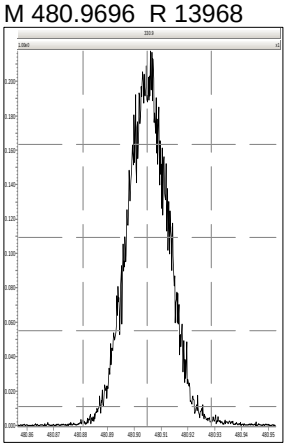
M 430.9728 R 14124



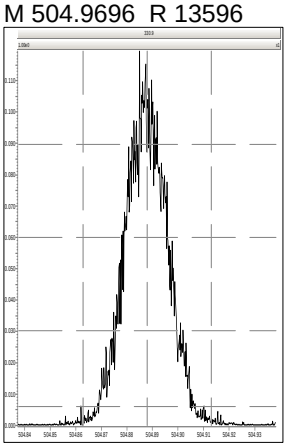
M 454.9728 R 14619



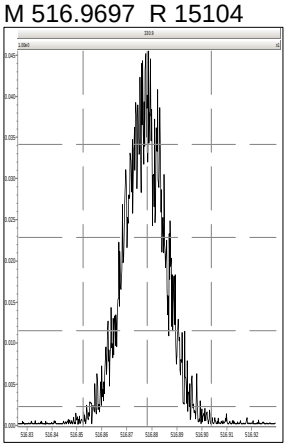
M 480.9696 R 13968

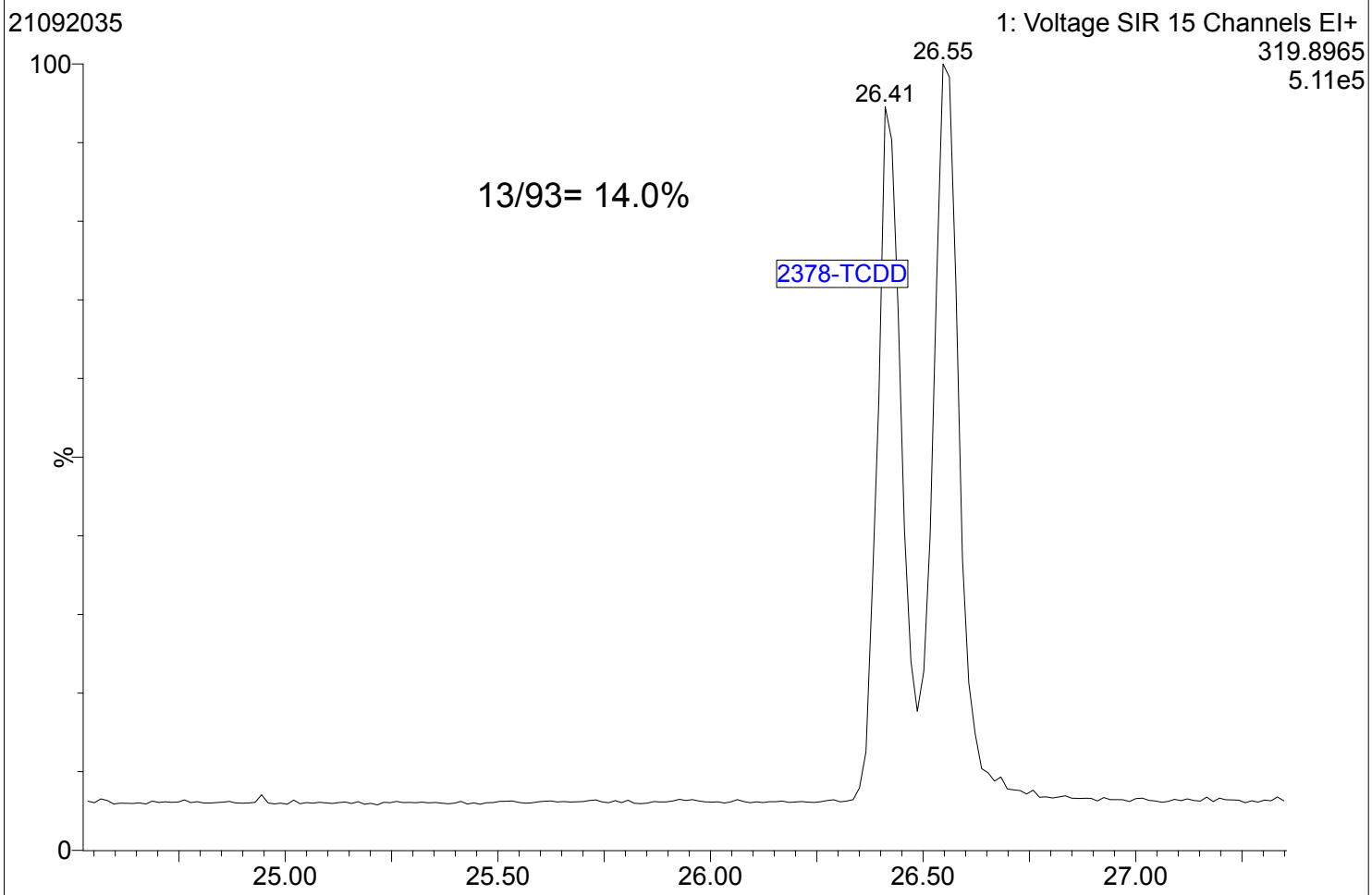


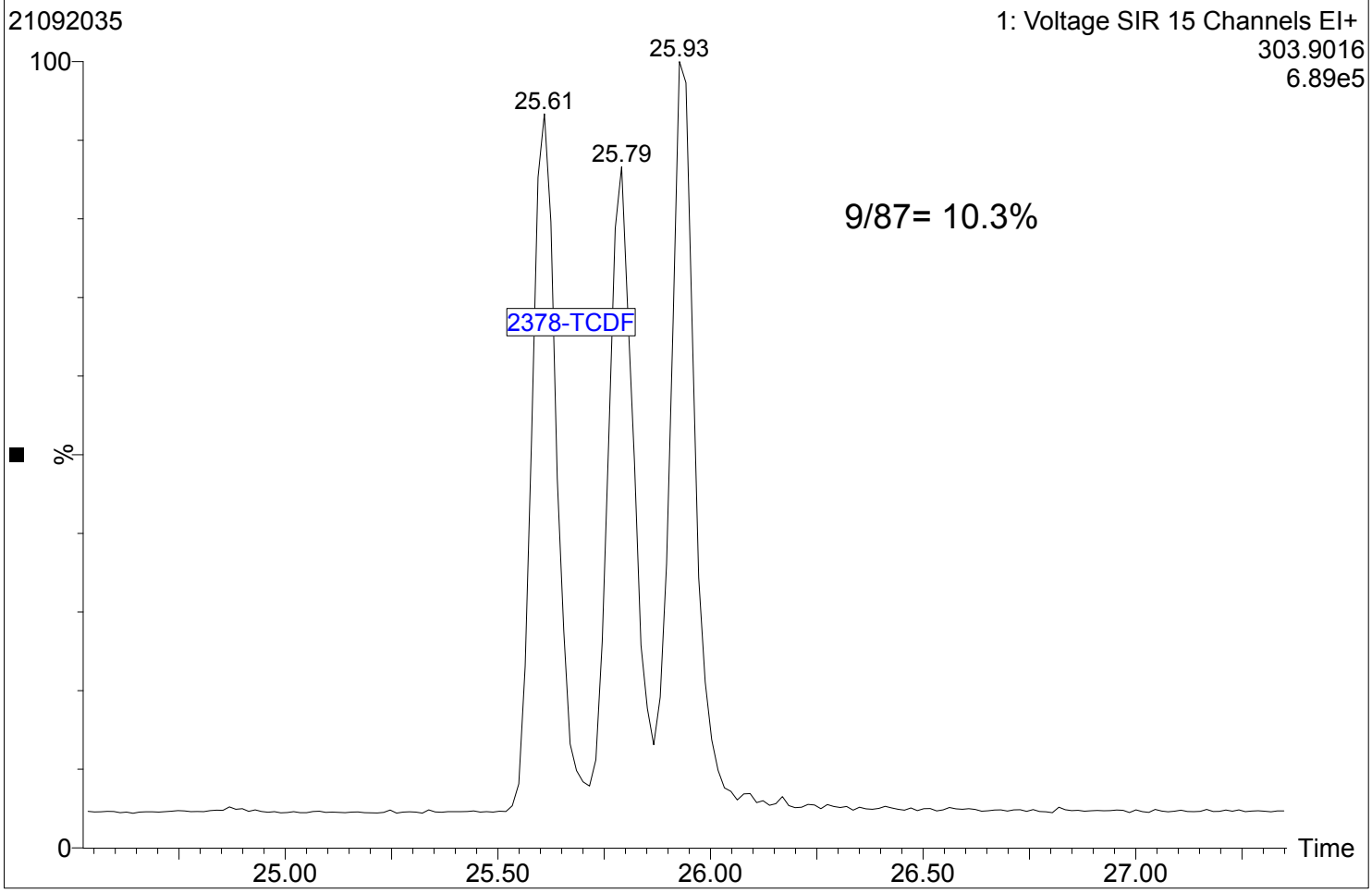
M 504.9696 R 13596



M 516.9697 R 15104




21092035
1: Voltage SIR 15 Channels EI+
319.8965
5.11e5
26.55
26.41
13/93= 14.0%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21092035
1: Voltage SIR 15 Channels EI+
303.9016
6.89e5
25.93
25.61
25.79
9/87= 10.3%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21092044	Calibration Date:	08/11/2021
Sequence:	SJI0282	Injection Date:	09/22/21
Lab Sample ID:	SJI0282-CCV2	Injection Time:	03:54
Sequence Name:	CS3S5		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	8.83	1.1075930	0.9785076		-11.7	+/-16
2,3,7,8-TCDD	A	10.000	9.65	0.9202875	0.8884601		-3.5	+/-22
1,2,3,7,8-PeCDF	A	50.000	44.4	1.0148670	0.9007923		-11.2	+/-18
2,3,4,7,8-PeCDF	A	50.000	43.7	1.1255490	0.9848090		-12.5	+/-18
1,2,3,7,8-PeCDD	A	50.000	48.8	0.9953229	0.9707953		-2.5	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	48.3	1.0168930	0.9826078		-3.4	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	49.3	1.0368310	1.0215980		-1.5	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	47.3	1.0524660	0.9956335		-5.4	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	47.6	1.0301540	0.9815508		-4.7	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.4	1.0273630	0.9952445		-3.1	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	48.4	1.0089800	0.9760038		-3.3	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	51.1	0.9504865	0.9711059		2.2	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	45.3	1.3273500	1.2037180		-9.3	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	46.5	1.2833380	1.1936170		-7.0	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	48.1	1.0680880	1.0282730		-3.7	+/-14
OCDF	A	100.00	77.9	1.4469010	1.1269290		-22.1	+/-37
OCDD	A	100.00	90.2	1.1808230	1.0655700		-9.8	+/-21
13C12-2,3,7,8-TCDF	A	100.00	95.3	1.4265830	1.3590244		-4.7	+/-29
13C12-2,3,7,8-TCDD	A	100.00	106	1.1164910	1.1792700		5.6	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	85.8	1.2973130	1.1136862		-14.2	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	85.3	1.2364800	1.0544192		-14.7	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	92.8	0.7319833	0.6794128		-7.2	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	97.3	1.2424560	1.2087779		-2.7	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	92.1	1.3434760	1.2371866		-7.9	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	93.8	1.2148550	1.1390795		-6.2	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	93.6	1.0076370	0.9426664		-6.4	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	98.6	0.9598233	0.9464983		-1.4	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	97.4	1.0413850	1.0148223		-2.6	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	77.3	0.9264704	0.7161001		-22.7	+/-22 *
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	72.5	0.7579160	0.5493963		-27.5	+/-23 *
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	86.1	0.6324476	0.5443574		-13.9	+/-28
13C12-OCDD	A	200.00	155	0.5037432	0.3898782		-22.6	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	10.0	1.0835930	1.0846295		0.1	

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	4.130e4	5.767e4	1.108	0.716	0.770	696	956	6.11e5	8.63e5	876.7	902.9	NO	bd	bd	8.835
12378-PeCDF	29.943	1.001	2.238e5	1.495e5	1.015	1.497	1.550	1967	1623	3.34e6	2.20e6	1698.1	1356.1	NO	bb	bb	44.380
23478-PeCDF	31.279	1.000	2.334e5	1.530e5	1.126	1.526	1.550	1967	1623	3.49e6	2.34e6	1772.8	1440.1	NO	bb	bb	43.748
123478-HxCDF	34.900	1.000	2.057e5	1.736e5	1.017	1.185	1.240	1863	2181	3.18e6	2.71e6	1706.8	1241.2	NO	bd	bd	48.314
234678-HxCDF	35.914	1.000	1.959e5	1.662e5	1.052	1.179	1.240	1863	2181	3.12e6	2.63e6	1676.6	1208.3	NO	bb	bb	47.300
123678-HxCDF	35.045	1.001	2.232e5	1.804e5	1.037	1.237	1.240	1863	2181	3.37e6	2.79e6	1806.6	1280.1	NO	db	db	49.265
123789-HxCDF	36.950	1.001	1.626e5	1.328e5	1.030	1.224	1.240	1863	2181	2.53e6	2.09e6	1357.6	957.8	NO	bb	bb	47.641
1234678-HpCDF	38.788	1.000	1.402e5	1.350e5	1.327	1.038	1.050	1486	1771	2.28e6	2.16e6	1532.1	1222.2	NO	bd	bd	45.343
1234789-HpCDF	41.039	1.000	1.060e5	1.034e5	1.283	1.025	1.050	1486	1771	1.45e6	1.46e6	978.2	822.6	NO	bd	bd	46.504
OCDF	45.289	1.006	1.336e5	1.470e5	1.447	0.909	0.890	886	1528	1.41e6	1.55e6	1594.2	1013.0	NO	bd	bd	77.886
2378-TCDD	26.411	1.001	3.387e4	4.411e4	0.920	0.768	0.770	804	952	5.27e5	6.77e5	655.9	711.4	NO	bb	bb	9.654
12378-PeCDD	31.524	1.001	1.510e5	9.449e4	0.995	1.597	1.550	1772	1718	2.38e6	1.48e6	1342.5	860.5	NO	bb	bb	48.768
123478-HxCDD	36.014	1.000	1.699e5	1.309e5	1.027	1.298	1.240	1709	963	2.73e6	2.20e6	1599.7	2287.0	NO	bd	bd	48.437
123678-HxCDD	36.137	1.001	1.732e5	1.431e5	1.009	1.211	1.240	1709	963	2.80e6	2.25e6	1639.5	2341.0	NO	db	db	48.366
123789-HxCDD	36.527	1.011	1.684e5	1.358e5	0.950	1.240	1.240	1709	963	2.72e6	2.19e6	1591.7	2275.4	NO	bb	bb	51.085
1234678-HpCDD	40.292	1.001	9.139e4	8.736e4	1.068	1.046	1.050	1177	1235	1.31e6	1.22e6	1112.0	989.6	NO	bd	bd	48.136
OCDD	45.042	1.000	1.259e5	1.394e5	1.181	0.903	0.890	1016	710	1.39e6	1.54e6	1370.9	2162.9	NO	bb	bb	90.240
13C-2378-TCDF	25.761	1.007	4.513e5	5.601e5	1.427	0.806	0.770	1902	1136	6.77e6	8.43e6	3562.5	7426.6	NO	bb	bb	95.264
13C-12378-PeCDF	29.920	1.170	5.105e5	3.183e5	1.297	1.604	1.550	2151	1517	7.74e6	4.84e6	3600.0	3187.7	NO	bb	bb	85.846
13C-23478-PeCDF	31.268	1.222	4.842e5	3.006e5	1.236	1.611	1.550	2151	1517	7.14e6	4.47e6	3317.2	2947.4	NO	bb	bb	85.276
13C-123478-HxCDF	34.889	0.955	2.632e5	5.088e5	1.242	0.517	0.510	1312	2555	4.08e6	7.91e6	3107.3	3097.5	NO	bd	bd	97.289
13C-123678-HxCDF	35.023	0.959	2.718e5	5.184e5	1.343	0.524	0.510	1312	2555	4.24e6	8.18e6	3233.4	3200.2	NO	db	db	92.088
13C-234678-HxCDF	35.903	0.983	2.482e5	4.793e5	1.215	0.518	0.510	1312	2555	3.93e6	7.66e6	2992.8	2999.4	NO	bb	bb	93.763
13C-123789-HxCDF	36.928	1.011	2.045e5	3.976e5	1.008	0.514	0.510	1312	2555	3.30e6	6.43e6	2518.1	2516.6	NO	bb	bb	93.552
13C-1234678-HpCDF	38.777	1.062	1.429e5	3.145e5	0.926	0.454	0.440	1308	1998	2.32e6	5.08e6	1775.9	2540.1	NO	bb	bd	77.293
13C-1234789-HpCDF	41.028	1.124	1.092e5	2.417e5	0.758	0.452	0.440	1308	1998	1.49e6	3.24e6	1139.5	1623.5	NO	bb	bd	72.488
13C-1234-TCDD	25.579	0.000	3.231e5	4.211e5	1.000	0.767	0.770	1755	1127	5.01e6	6.48e6	2857.0	5748.5	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.031	3.778e5	4.999e5	1.116	0.756	0.770	1755	1127	5.50e6	7.30e6	3132.6	6473.4	NO	bb	bb	105.623
13C-12378-PeCDD	31.502	1.232	3.085e5	1.972e5	0.732	1.564	1.550	1188	1293	4.69e6	3.01e6	3945.3	2331.3	NO	bb	bb	92.818
13C-123478-HxCDD	36.003	0.986	3.383e5	2.663e5	0.960	1.270	1.240	1506	939	5.54e6	4.44e6	3678.6	4732.5	NO	bd	bd	98.612
13C-123678-HxCDD	36.114	0.989	3.653e5	2.828e5	1.041	1.292	1.240	1506	939	5.76e6	4.49e6	3824.0	4781.1	NO	db	db	97.449
13C-1234678-HpCDD	40.270	1.103	1.783e5	1.693e5	0.632	1.053	1.050	1286	936	2.66e6	2.53e6	2065.8	2706.3	NO	bb	bb	86.072
13C-OCDD	45.024	1.233	2.357e5	2.623e5	0.504	0.899	0.890	1022	972	2.66e6	2.98e6	2603.9	3070.4	NO	bb	bb	154.792
13C-123789-HxCDD	36.515	0.000	3.588e5	2.799e5	1.000	1.282	1.240	1506	939	5.88e6	4.58e6	3905.1	4874.2	NO	bb	bb	100.000
37CL-2378-TCDD	26.411	1.033	8.072e4		1.084			1303		1.19e6		911.1			bb		10.010

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.253	0.864	5.337e4	7.265e4	1.425	0.735	0.770	696	956	7.77e5	1.06e6	1116.0	1109.3	NO	bb	bb	8.742
1289-TCDF	27.288	1.059	4.022e4	5.349e4	1.043	0.752	0.770	696	956	5.86e5	7.58e5	841.5	793.0	NO	dd	dd	8.883
13468-PECDF	27.122	0.906	3.828e5	2.481e5	1.376	1.543	1.550	816	813	5.64e6	3.67e6	6914.2	4512.4	NO	bb	bb	55.302
12389-PECDF	32.327	1.080	2.226e5	1.419e5	1.000	1.569	1.550	1967	1623	3.19e6	2.11e6	1622.7	1300.9	NO	bb	bb	43.995
123468-HXCDF	33.240	0.953	2.153e5	1.845e5	1.087	1.167	1.240	1863	2181	3.23e6	2.76e6	1731.3	1265.8	NO	bb	bd	47.666
1368-TCDD	23.523	0.892	3.507e4	4.511e4	0.923	0.777	0.770	804	952	5.41e5	6.89e5	672.1	723.8	NO	bb	bb	9.894
1289-TCDD	27.016	1.024	2.994e4	3.721e4	0.794	0.804	0.770	804	952	4.40e5	5.60e5	547.1	588.2	NO	bb	bb	9.636
12479-PECDD	28.784	0.914	2.737e5	1.694e5	1.843	1.616	1.550	1772	1718	2.68e6	1.66e6	1513.4	964.3	NO	bb	bb	47.538
12389-PECDD	31.937	1.014	1.778e5	1.123e5	1.154	1.583	1.550	1772	1718	2.71e6	1.73e6	1531.1	1004.8	NO	bb	bb	49.721
124679-HXCDD	34.009	0.945	1.927e5	1.511e5	1.125	1.275	1.240	1709	963	3.02e6	2.37e6	1768.5	2461.4	NO	bb	bb	50.559
1234679-HPCDD	39.234	0.974	1.035e5	1.024e5	1.211	1.010	1.050	1177	1235	1.61e6	1.56e6	1367.5	1260.8	NO	bb	bd	48.901
Total-tetrafurans			1.358e5		1.192			696		1.99e6							26.636
Total-penta1			3.828e5					816		5.64e6							55.302
Total-pentafurans			7.181e5		1.047			1967		1.06e7							139.692
Total-hexafurans			1.003e6		1.045			1863		1.54e7							240.187
Total-heptafurans			2.468e5		1.305			1486		3.74e6							92.050
Total-Furans			2.620e6		1.158			696		3.88e7							631.752
Total-tetradioxins			1.689e5		0.879			804		2.31e6							50.013
Total-pentadioxins			6.024e5		1.331			1772		7.78e6							146.027
Total-hexadioxins			7.042e5		1.028			1709		1.13e7							198.447
Total-heptadioxins			1.950e5		1.140			1177		2.92e6							97.104
Total-Dioxins			1.797e6		1.092			804		2.57e7							581.830
Total-TEQ			4.416e6					804		6.45e7							1213.582
FUNCTION1 PFK			0.000e0					327917		0.00e0							
FUNCTION2 PFK			1.296e5					185702		3.92e6							0.000
FUNCTION3 PFK			1.253e6					330664		2.32e7							0.000
FUNCTION4 PFK			2.073e6					132087		2.74e7							
FUNCTION5 PFK			2.569e5					130152		7.77e6							
FUNCTION1 HXCD...			2.624e2					728		5.10e3							0.000
FUNCTION1 HPCD...			3.679e2					788		6.52e3							0.000
FUNCTION2 HPCD...			2.367e3					1285		6.42e4							0.000
FUNCTION3 OCDPE			6.580e2					416		1.11e4							0.000
FUNCTION4 NCDPE			1.975e2					653		4.16e3							0.000
FUNCTION5 DCDPE			0.000e0					706		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.022e4	5.349e4	1.043	0.75	0.77	841.5	YES	NO	dd	dd	8.883
2	2378-TCDF	25.78	4.130e4	5.767e4	1.108	0.72	0.77	876.7	YES	NO	bd	bd	8.835
3	Total-tetrafurans	24.88	4.269e2	6.310e2	1.192	0.68	0.77	7.0	YES	NO	bb	bb	0.088
4	Total-tetrafurans	24.52	4.820e2	5.791e2	1.192	0.83	0.77	10.8	YES	NO	bb	bd	0.088
5	1368-TCDF	22.25	5.337e4	7.265e4	1.425	0.73	0.77	1116.0	YES	NO	bb	bb	8.742

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.12	3.828e5	2.481e5	1.376	1.54	1.55	6914.2	YES	NO	bb	bb	55.302

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.33	2.226e5	1.419e5	1.000	1.57	1.55	1622.7	YES	NO	bb	bb	43.995
2	23478-PeCDF	31.28	2.334e5	1.530e5	1.126	1.53	1.55	1772.8	YES	NO	bb	bb	43.748
3	12378-PeCDF	29.94	2.238e5	1.495e5	1.015	1.50	1.55	1698.1	YES	NO	bb	bb	44.380
4	Total-pentafurans	28.78	3.817e4	2.574e4	1.047	1.48	1.55	289.3	YES	NO	bb	bb	7.569

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.95	1.626e5	1.328e5	1.030	1.22	1.24	1357.6	YES	NO	bb	bb	47.641
2	234678-HxCDF	35.91	1.959e5	1.662e5	1.052	1.18	1.24	1676.6	YES	NO	bb	bb	47.300
3	123678-HxCDF	35.04	2.232e5	1.804e5	1.037	1.24	1.24	1806.6	YES	NO	db	db	49.265
4	123478-HxCDF	34.90	2.057e5	1.736e5	1.017	1.19	1.24	1706.8	YES	NO	bd	bd	48.314
5	123468-HXCDF	33.24	2.153e5	1.845e5	1.087	1.17	1.24	1731.3	YES	NO	bb	bd	47.666

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.04	1.060e5	1.034e5	1.283	1.03	1.05	978.2	YES	NO	bd	bd	46.504
2	Total-heptafurans	39.43	5.317e2	5.367e2	1.305	0.99	1.05	8.2	YES	NO	db	bb	0.203
3	1234678-HpCDF	38.79	1.402e5	1.350e5	1.327	1.04	1.05	1532.1	YES	NO	bd	bd	45.343

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.022e4	5.349e4	1.043	0.75	0.77	841.5	YES	NO	dd	dd	8.883
2	2378-TCDF	25.78	4.130e4	5.767e4	1.108	0.72	0.77	876.7	YES	NO	bd	bd	8.835
3	Total-tetrafurans	24.88	4.269e2	6.310e2	1.192	0.68	0.77	7.0	YES	NO	bb	bb	0.088
4	Total-tetrafurans	24.52	4.820e2	5.791e2	1.192	0.83	0.77	10.8	YES	NO	bb	bd	0.088
5	1368-TCDF	22.25	5.337e4	7.265e4	1.425	0.73	0.77	1116.0	YES	NO	bb	bb	8.742
6	12389-PECDF	32.33	2.226e5	1.419e5	1.000	1.57	1.55	1622.7	YES	NO	bb	bb	43.995
7	23478-PeCDF	31.28	2.334e5	1.530e5	1.126	1.53	1.55	1772.8	YES	NO	bb	bb	43.748
8	12378-PeCDF	29.94	2.238e5	1.495e5	1.015	1.50	1.55	1698.1	YES	NO	bb	bb	44.380
9	Total-pentafurans	28.78	3.817e4	2.574e4	1.047	1.48	1.55	289.3	YES	NO	bb	bb	7.569
10	123789-HxCDF	36.95	1.626e5	1.328e5	1.030	1.22	1.24	1357.6	YES	NO	bb	bb	47.641
11	234678-HxCDF	35.91	1.959e5	1.662e5	1.052	1.18	1.24	1676.6	YES	NO	bb	bb	47.300
12	123678-HxCDF	35.04	2.232e5	1.804e5	1.037	1.24	1.24	1806.6	YES	NO	db	db	49.265
13	123478-HxCDF	34.90	2.057e5	1.736e5	1.017	1.19	1.24	1706.8	YES	NO	bd	bd	48.314
14	123468-HXCDF	33.24	2.153e5	1.845e5	1.087	1.17	1.24	1731.3	YES	NO	bb	bd	47.666
15	1234789-HpCDF	41.04	1.060e5	1.034e5	1.283	1.03	1.05	978.2	YES	NO	bd	bd	46.504
16	Total-heptafurans	39.43	5.317e2	5.367e2	1.305	0.99	1.05	8.2	YES	NO	db	bb	0.203
17	1234678-HpCDF	38.79	1.402e5	1.350e5	1.327	1.04	1.05	1532.1	YES	NO	bd	bd	45.343
18	OCDF	45.29	1.336e5	1.470e5	1.447	0.91	0.89	1594.2	YES	NO	bd	bd	77.886
19	13468-PECDF	27.12	3.828e5	2.481e5	1.376	1.54	1.55	6914.2	YES	NO	bb	bb	55.302

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	27.33	7.291e1	8.851e1	0.879	0.82	0.77	2.5	NO	NO	bb	bb	0.021
2	1289-TCDD	27.02	2.994e4	3.721e4	0.794	0.80	0.77	547.1	YES	NO	bb	bb	9.636
3	2378-TCDD	26.41	3.387e4	4.411e4	0.920	0.77	0.77	655.9	YES	NO	bb	bb	9.654
4	Total-tetradioxins	26.09	5.226e4	6.707e4	0.879	0.78	0.77	666.0	YES	NO	bb	bb	15.463
5	Total-tetradioxins	25.59	1.594e4	2.116e4	0.879	0.75	0.77	308.0	YES	NO	bb	bb	4.807
6	Total-tetradioxins	25.02	3.662e2	5.348e2	0.879	0.68	0.77	7.0	YES	NO	bb	bb	0.117
7	Total-tetradioxins	24.70	1.442e3	1.805e3	0.879	0.80	0.77	19.0	YES	NO	bb	bb	0.421
8	1368-TCDD	23.52	3.507e4	4.511e4	0.923	0.78	0.77	672.1	YES	NO	bb	bb	9.894

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.78	2.737e5	1.694e5	1.843	1.62	1.55	1513.4	YES	NO	bb	bb	47.538
2	12389-PECDD	31.94	1.778e5	1.123e5	1.154	1.58	1.55	1531.1	YES	NO	bb	bb	49.721
3	12378-PeCDD	31.52	1.510e5	9.449e4	0.995	1.60	1.55	1342.5	YES	NO	bb	bb	48.768

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.01	1.927e5	1.511e5	1.125	1.27	1.24	1768.5	YES	NO	bb	bb	50.559
2	123789-HxCDD	36.53	1.684e5	1.358e5	0.950	1.24	1.24	1591.7	YES	NO	bb	bb	51.085
3	123678-HxCDD	36.14	1.732e5	1.431e5	1.009	1.21	1.24	1639.5	YES	NO	db	db	48.366
4	123478-HxCDD	36.01	1.699e5	1.309e5	1.027	1.30	1.24	1599.7	YES	NO	bd	bd	48.437

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.29	9.139e4	8.736e4	1.068	1.05	1.05	1112.0	YES	NO	bd	bd	48.136
2	Total-heptadioxins	39.60	1.399e2	1.233e2	1.140	1.13	1.05	2.6	NO	NO	bb	db	0.066
3	1234679-HPCDD	39.23	1.035e5	1.024e5	1.211	1.01	1.05	1367.5	YES	NO	bb	bd	48.901

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	27.33	7.291e1	8.851e1	0.879	0.82	0.77	2.5	NO	NO	bb	bb	0.021
2	1289-TCDD	27.02	2.994e4	3.721e4	0.794	0.80	0.77	547.1	YES	NO	bb	bb	9.636
3	2378-TCDD	26.41	3.387e4	4.411e4	0.920	0.77	0.77	655.9	YES	NO	bb	bb	9.654
4	Total-tetradioxins	26.09	5.226e4	6.707e4	0.879	0.78	0.77	666.0	YES	NO	bb	bb	15.463
5	Total-tetradioxins	25.59	1.594e4	2.116e4	0.879	0.75	0.77	308.0	YES	NO	bb	bb	4.807
6	Total-tetradioxins	25.02	3.662e2	5.348e2	0.879	0.68	0.77	7.0	YES	NO	bb	bb	0.117
7	Total-tetradioxins	24.70	1.442e3	1.805e3	0.879	0.80	0.77	19.0	YES	NO	bb	bb	0.421
8	1368-TCDD	23.52	3.507e4	4.511e4	0.923	0.78	0.77	672.1	YES	NO	bb	bb	9.894
9	12479-PECDD	28.78	2.737e5	1.694e5	1.843	1.62	1.55	1513.4	YES	NO	bb	bb	47.538
10	124679-HXCDD	34.01	1.927e5	1.511e5	1.125	1.27	1.24	1768.5	YES	NO	bb	bb	50.559
11	12389-PECDD	31.94	1.778e5	1.123e5	1.154	1.58	1.55	1531.1	YES	NO	bb	bb	49.721
12	12378-PeCDD	31.52	1.510e5	9.449e4	0.995	1.60	1.55	1342.5	YES	NO	bb	bb	48.768
13	123789-HxCDD	36.53	1.684e5	1.358e5	0.950	1.24	1.24	1591.7	YES	NO	bb	bb	51.085
14	123678-HxCDD	36.14	1.732e5	1.431e5	1.009	1.21	1.24	1639.5	YES	NO	db	db	48.366
15	123478-HxCDD	36.01	1.699e5	1.309e5	1.027	1.30	1.24	1599.7	YES	NO	bd	bd	48.437
16	1234678-HpCDD	40.29	9.139e4	8.736e4	1.068	1.05	1.05	1112.0	YES	NO	bd	bd	48.136
17	Total-heptadioxins	39.60	1.399e2	1.233e2	1.140	1.13	1.05	2.6	NO	NO	bb	db	0.066
18	1234679-HPCDD	39.23	1.035e5	1.024e5	1.211	1.01	1.05	1367.5	YES	NO	bb	bd	48.901
19	OCDD	45.04	1.259e5	1.394e5	1.181	0.90	0.89	1370.9	YES	NO	bb	bb	90.240

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.29	4.022e4	5.349e4	1.043	0.75	0.77	841.5	YES	NO	dd	dd	8.883
2	2378-TCDF	25.78	4.130e4	5.767e4	1.108	0.72	0.77	876.7	YES	NO	bd	bd	8.835
3	Total-tetrafurans	24.88	4.269e2	6.310e2	1.192	0.68	0.77	7.0	YES	NO	bb	bb	0.088
4	Total-tetrafurans	24.52	4.820e2	5.791e2	1.192	0.83	0.77	10.8	YES	NO	bb	bd	0.088
5	1368-TCDF	22.25	5.337e4	7.265e4	1.425	0.73	0.77	1116.0	YES	NO	bb	bb	8.742
6	12389-PECDF	32.33	2.226e5	1.419e5	1.000	1.57	1.55	1622.7	YES	NO	bb	bb	43.995
7	23478-PeCDF	31.28	2.334e5	1.530e5	1.126	1.53	1.55	1772.8	YES	NO	bb	bb	43.748
8	12378-PeCDF	29.94	2.238e5	1.495e5	1.015	1.50	1.55	1698.1	YES	NO	bb	bb	44.380
9	Total-pentafurans	28.78	3.817e4	2.574e4	1.047	1.48	1.55	289.3	YES	NO	bb	bb	7.569
10	123789-HxCDF	36.95	1.626e5	1.328e5	1.030	1.22	1.24	1357.6	YES	NO	bb	bb	47.641
11	234678-HxCDF	35.91	1.959e5	1.662e5	1.052	1.18	1.24	1676.6	YES	NO	bb	bb	47.300
12	123678-HxCDF	35.04	2.232e5	1.804e5	1.037	1.24	1.24	1806.6	YES	NO	db	db	49.265
13	123478-HxCDF	34.90	2.057e5	1.736e5	1.017	1.19	1.24	1706.8	YES	NO	bd	bd	48.314
14	123468-HXCDF	33.24	2.153e5	1.845e5	1.087	1.17	1.24	1731.3	YES	NO	bb	bd	47.666
15	1234789-HpCDF	41.04	1.060e5	1.034e5	1.283	1.03	1.05	978.2	YES	NO	bd	bd	46.504
16	Total-heptafurans	39.43	5.317e2	5.367e2	1.305	0.99	1.05	8.2	YES	NO	db	bb	0.203
17	1234678-HpCDF	38.79	1.402e5	1.350e5	1.327	1.04	1.05	1532.1	YES	NO	bd	bd	45.343
18	OCDF	45.29	1.336e5	1.470e5	1.447	0.91	0.89	1594.2	YES	NO	bd	bd	77.886
19	13468-PECDF	27.12	3.828e5	2.481e5	1.376	1.54	1.55	6914.2	YES	NO	bb	bb	55.302
20	Total-tetradioxins	27.33	7.291e1	8.851e1	0.879	0.82	0.77	2.5	NO	NO	bb	bb	0.021
21	1289-TCDD	27.02	2.994e4	3.721e4	0.794	0.80	0.77	547.1	YES	NO	bb	bb	9.636
22	2378-TCDD	26.41	3.387e4	4.411e4	0.920	0.77	0.77	655.9	YES	NO	bb	bb	9.654
23	Total-tetradioxins	26.09	5.226e4	6.707e4	0.879	0.78	0.77	666.0	YES	NO	bb	bb	15.463
24	Total-tetradioxins	25.59	1.594e4	2.116e4	0.879	0.75	0.77	308.0	YES	NO	bb	bb	4.807
25	Total-tetradioxins	25.02	3.662e2	5.348e2	0.879	0.68	0.77	7.0	YES	NO	bb	bb	0.117
26	Total-tetradioxins	24.70	1.442e3	1.805e3	0.879	0.80	0.77	19.0	YES	NO	bb	bb	0.421
27	1368-TCDD	23.52	3.507e4	4.511e4	0.923	0.78	0.77	672.1	YES	NO	bb	bb	9.894
28	12479-PECDD	28.78	2.737e5	1.694e5	1.843	1.62	1.55	1513.4	YES	NO	bb	bb	47.538
29	124679-HXCDD	34.01	1.927e5	1.511e5	1.125	1.27	1.24	1768.5	YES	NO	bb	bb	50.559
30	12389-PECDD	31.94	1.778e5	1.123e5	1.154	1.58	1.55	1531.1	YES	NO	bb	bb	49.721
31	12378-PeCDD	31.52	1.510e5	9.449e4	0.995	1.60	1.55	1342.5	YES	NO	bb	bb	48.768
32	123789-HxCDD	36.53	1.684e5	1.358e5	0.950	1.24	1.24	1591.7	YES	NO	bb	bb	51.085
33	123678-HxCDD	36.14	1.732e5	1.431e5	1.009	1.21	1.24	1639.5	YES	NO	db	db	48.366
34	123478-HxCDD	36.01	1.699e5	1.309e5	1.027	1.30	1.24	1599.7	YES	NO	bd	bd	48.437
35	1234678-HpCDD	40.29	9.139e4	8.736e4	1.068	1.05	1.05	1112.0	YES	NO	bd	bd	48.136
36	Total-heptadioxins	39.60	1.399e2	1.233e2	1.140	1.13	1.05	2.6	NO	NO	bb	db	0.066
37	1234679-HPCDD	39.23	1.035e5	1.024e5	1.211	1.01	1.05	1367.5	YES	NO	bb	bd	48.901

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	OCDD	45.04	1.259e5	1.394e5	1.181	0.90	0.89	1370.9	YES	NO	bb	bb	90.240

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.85	2.677e3					0.8	NO		bb		0.000
2	FUNCTION2 PFK	31.61	1.679e4					1.3	NO		bb		0.000
3	FUNCTION2 PFK	31.37	2.309e4					2.5	NO		db		0.000
4	FUNCTION2 PFK	31.30	9.269e3					1.8	NO		bd		0.000
5	FUNCTION2 PFK	31.03	6.768e3					1.3	NO		bb		0.000
6	FUNCTION2 PFK	30.90	1.056e4					1.8	NO		bb		0.000
7	FUNCTION2 PFK	30.60	4.644e3					1.1	NO		bb		0.000
8	FUNCTION2 PFK	29.55	5.825e3					0.9	NO		bb		0.000
9	FUNCTION2 PFK	29.24	6.977e3					1.7	NO		db		0.000
10	FUNCTION2 PFK	29.20	1.252e4					1.8	NO		bd		0.000
11	FUNCTION2 PFK	28.93	6.910e3					1.2	NO		bb		0.000
12	FUNCTION2 PFK	28.84	1.194e4					1.3	NO		bb		0.000
13	FUNCTION2 PFK	28.43	1.061e3					0.5	NO		bb		0.000
14	FUNCTION2 PFK	28.26	1.322e3					0.6	NO		bb		0.000
15	FUNCTION2 PFK	32.69	4.142e3					1.0	NO		bb		0.000
16	FUNCTION2 PFK	32.65	1.112e3					0.5	NO		bb		0.000
17	FUNCTION2 PFK	32.42	3.968e3					0.9	NO		bb		0.000

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.01	3.447e3					0.5	NO		bb		0.000
2	FUNCTION3 PFK	33.95	7.471e3					1.0	NO		bb		0.000
3	FUNCTION3 PFK	33.88	7.179e3					0.8	NO		db		0.000
4	FUNCTION3 PFK	33.84	8.774e3					0.9	NO		bd		0.000
5	FUNCTION3 PFK	33.72	1.314e4					1.1	NO		bb		0.000
6	FUNCTION3 PFK	33.66	2.500e4					1.4	NO		bb		0.000
7	FUNCTION3 PFK	33.43	6.487e3					0.8	NO		bb		0.000
8	FUNCTION3 PFK	33.34	1.045e4					0.9	NO		db		0.000
9	FUNCTION3 PFK	33.25	1.749e4					0.9	NO		bd		0.000
10	FUNCTION3 PFK	33.20	7.280e3					0.9	NO		bb		0.000
11	FUNCTION3 PFK	33.05	1.310e4					1.6	NO		db		0.000
12	FUNCTION3 PFK	33.01	2.184e4					2.0	NO		bd		0.000
13	FUNCTION3 PFK	35.46	6.212e3					0.7	NO		bb		0.000
14	FUNCTION3 PFK	35.31	7.761e3					0.7	NO		bb		0.000
15	FUNCTION3 PFK	35.26	6.809e3					0.8	NO		db		0.000
16	FUNCTION3 PFK	35.21	1.432e4					0.8	NO		dd		0.000
17	FUNCTION3 PFK	35.12	1.283e5					1.8	NO		bd		0.000
18	FUNCTION3 PFK	34.88	3.188e4					2.5	NO		db		0.000
19	FUNCTION3 PFK	34.81	7.787e4					3.0	YES		dd		0.000
20	FUNCTION3 PFK	34.76	3.466e4					2.7	NO		dd		0.000
21	FUNCTION3 PFK	34.72	2.314e4					2.5	NO		dd		0.000
22	FUNCTION3 PFK	34.64	5.410e4					2.4	NO		dd		0.000
23	FUNCTION3 PFK	34.60	4.143e4					2.8	NO		dd		0.000
24	FUNCTION3 PFK	34.43	1.745e5					2.9	NO		dd		0.000
25	FUNCTION3 PFK	34.32	1.091e4					2.0	NO		bd		0.000
26	FUNCTION3 PFK	34.28	8.169e3					1.6	NO		db		0.000
27	FUNCTION3 PFK	34.24	1.417e4					1.2	NO		bd		0.000
28	FUNCTION3 PFK	34.15	8.984e2					0.2	NO		bb		0.000
29	FUNCTION3 PFK	37.46	1.559e4					1.1	NO		bd		0.000
30	FUNCTION3 PFK	37.28	6.969e3					0.9	NO		bb		0.000
31	FUNCTION3 PFK	37.01	1.026e4					1.0	NO		bb		0.000
32	FUNCTION3 PFK	36.96	5.565e3					0.6	NO		bb		0.000
33	FUNCTION3 PFK	36.86	6.252e3					0.8	NO		db		0.000
34	FUNCTION3 PFK	36.83	1.918e4					1.1	NO		bd		0.000
35	FUNCTION3 PFK	36.70	3.951e4					1.2	NO		db		0.000
36	FUNCTION3 PFK	36.59	5.172e3					0.7	NO		bd		0.000
37	FUNCTION3 PFK	36.50	2.874e4					2.0	NO		db		0.000

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	36.45	1.933e4					1.6	NO		dd		0.000
39	FUNCTION3 PFK	36.40	1.250e4					1.4	NO		dd		0.000
40	FUNCTION3 PFK	36.36	3.778e3					0.5	NO		bd		0.000
41	FUNCTION3 PFK	35.80	7.944e4					2.5	NO		bb		0.000
42	FUNCTION3 PFK	35.71	2.276e4					1.4	NO		db		0.000
43	FUNCTION3 PFK	35.65	2.046e4					1.3	NO		dd		0.000
44	FUNCTION3 PFK	35.58	2.066e4					1.3	NO		bd		0.000
45	FUNCTION3 PFK	37.91	3.119e4					0.0	NO		bb		0.000
46	FUNCTION3 PFK	37.71	3.671e4					2.2	NO		db		0.000
47	FUNCTION3 PFK	37.66	2.392e4					2.0	NO		dd		0.000
48	FUNCTION3 PFK	37.61	2.798e4					2.0	NO		dd		0.000
49	FUNCTION3 PFK	37.55	2.981e4					2.0	NO		dd		0.000
50	FUNCTION3 PFK	37.50	1.072e4					1.0	NO		dd		0.000

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.79	1.071e4					1.7	NO		db		
2	FUNCTION4 PFK	38.72	2.489e4					4.5	YES		dd		
3	FUNCTION4 PFK	38.59	1.182e5					9.1	YES		dd		
4	FUNCTION4 PFK	38.39	3.195e5					15.6	YES		dd		
5	FUNCTION4 PFK	38.28	2.543e5					19.6	YES		dd		
6	FUNCTION4 PFK	38.20	2.121e5					21.7	YES		dd		
7	FUNCTION4 PFK	38.15	3.060e5					23.2	YES		dd		
8	FUNCTION4 PFK	38.03	2.225e5					26.3	YES		dd		
9	FUNCTION4 PFK	37.95	2.973e5					30.4	YES		bd		
10	FUNCTION4 PFK	40.70	2.575e3					0.7	NO		db		
11	FUNCTION4 PFK	40.65	6.644e3					1.3	NO		dd		
12	FUNCTION4 PFK	40.60	1.422e4					1.3	NO		dd		
13	FUNCTION4 PFK	40.48	7.833e3					1.6	NO		bd		
14	FUNCTION4 PFK	40.38	1.228e3					0.6	NO		bb		
15	FUNCTION4 PFK	40.04	5.686e3					1.5	NO		bb		
16	FUNCTION4 PFK	39.79	5.052e3					1.7	NO		bb		
17	FUNCTION4 PFK	39.71	1.077e4					2.1	NO		db		
18	FUNCTION4 PFK	39.67	5.112e3					1.4	NO		dd		
19	FUNCTION4 PFK	39.57	1.182e4					1.2	NO		bd		
20	FUNCTION4 PFK	39.51	5.649e3					1.5	NO		bb		
21	FUNCTION4 PFK	39.37	4.537e3					0.9	NO		bb		
22	FUNCTION4 PFK	39.31	2.317e3					0.9	NO		db		
23	FUNCTION4 PFK	39.26	2.577e3					0.7	NO		bd		
24	FUNCTION4 PFK	39.07	7.007e3					1.4	NO		bb		
25	FUNCTION4 PFK	38.93	1.585e3					0.6	NO		bb		
26	FUNCTION4 PFK	41.84	1.917e4					2.0	NO		bb		
27	FUNCTION4 PFK	41.75	5.656e3					1.5	NO		db		
28	FUNCTION4 PFK	41.68	1.971e4					2.6	NO		dd		
29	FUNCTION4 PFK	41.58	5.643e3					1.1	NO		dd		
30	FUNCTION4 PFK	41.55	2.857e3					1.0	NO		bd		
31	FUNCTION4 PFK	41.50	1.002e4					2.3	NO		db		
32	FUNCTION4 PFK	41.43	1.295e4					1.8	NO		bd		
33	FUNCTION4 PFK	41.31	9.714e3					1.1	NO		bb		
34	FUNCTION4 PFK	41.19	1.824e3					0.6	NO		bb		
35	FUNCTION4 PFK	41.14	1.661e3					0.4	NO		bb		
36	FUNCTION4 PFK	41.02	7.795e3					1.4	NO		bb		
37	FUNCTION4 PFK	40.93	6.589e3					1.5	NO		db		

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	40.88	8.392e3					1.8	NO		dd		
39	FUNCTION4 PFK	40.84	5.748e3					1.3	NO		dd		
40	FUNCTION4 PFK	40.79	4.941e3					1.0	NO		dd		
41	FUNCTION4 PFK	40.75	8.215e2					0.4	NO		bd		
42	FUNCTION4 PFK	42.90	2.248e4					2.0	NO		bb		
43	FUNCTION4 PFK	42.71	1.753e3					0.7	NO		db		
44	FUNCTION4 PFK	42.68	3.799e3					1.0	NO		bd		
45	FUNCTION4 PFK	42.60	6.399e3					1.5	NO		db		
46	FUNCTION4 PFK	42.56	1.849e4					1.9	NO		bd		
47	FUNCTION4 PFK	42.36	6.435e3					1.4	NO		db		
48	FUNCTION4 PFK	42.30	1.245e4					2.1	NO		bd		
49	FUNCTION4 PFK	42.20	4.725e3					1.2	NO		bb		
50	FUNCTION4 PFK	42.13	6.588e3					1.0	NO		bb		
51	FUNCTION4 PFK	41.95	6.656e3					1.1	NO		bb		

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.35	2.680e3					0.9	NO		bb		
2	FUNCTION5 PFK	43.27	3.931e3					1.4	NO		db		
3	FUNCTION5 PFK	43.19	1.580e4					2.5	NO		bd		
4	FUNCTION5 PFK	43.14	7.313e2					0.6	NO		bb		
5	FUNCTION5 PFK	43.10	3.406e3					1.0	NO		bb		
6	FUNCTION5 PFK	44.48	7.443e3					1.9	NO		db		
7	FUNCTION5 PFK	44.43	6.456e3					1.6	NO		dd		
8	FUNCTION5 PFK	44.37	4.440e3					1.0	NO		bd		
9	FUNCTION5 PFK	44.23	4.370e3					1.5	NO		db		
10	FUNCTION5 PFK	44.19	3.532e3					1.1	NO		dd		
11	FUNCTION5 PFK	44.10	1.332e4					1.9	NO		bd		
12	FUNCTION5 PFK	44.04	6.536e3					1.2	NO		db		
13	FUNCTION5 PFK	43.96	8.317e3					1.5	NO		dd		
14	FUNCTION5 PFK	43.91	9.078e3					1.8	NO		bd		
15	FUNCTION5 PFK	43.84	9.040e3					1.2	NO		bb		
16	FUNCTION5 PFK	43.71	1.069e3					0.5	NO		bb		
17	FUNCTION5 PFK	43.66	3.897e3					1.5	NO		db		
18	FUNCTION5 PFK	43.64	5.838e3					1.5	NO		bd		
19	FUNCTION5 PFK	43.57	7.632e3					1.4	NO		bb		
20	FUNCTION5 PFK	43.48	5.636e3					1.7	NO		db		
21	FUNCTION5 PFK	43.44	2.952e3					0.9	NO		bd		
22	FUNCTION5 PFK	45.57	4.596e3					1.3	NO		db		
23	FUNCTION5 PFK	45.55	3.024e3					1.2	NO		bd		
24	FUNCTION5 PFK	45.48	5.582e3					1.2	NO		bb		
25	FUNCTION5 PFK	45.42	1.293e4					1.9	NO		db		
26	FUNCTION5 PFK	45.36	5.793e3					1.7	NO		dd		
27	FUNCTION5 PFK	45.30	4.757e3					1.0	NO		bd		
28	FUNCTION5 PFK	45.25	1.727e3					0.7	NO		bb		
29	FUNCTION5 PFK	45.13	2.836e2					0.2	NO		bb		
30	FUNCTION5 PFK	45.01	2.059e3					0.7	NO		bb		
31	FUNCTION5 PFK	44.93	1.388e3					0.7	NO		bb		
32	FUNCTION5 PFK	44.89	9.509e3					1.6	NO		db		
33	FUNCTION5 PFK	44.81	8.077e3					2.0	NO		bd		
34	FUNCTION5 PFK	44.77	9.591e3					3.0	YES		db		
35	FUNCTION5 PFK	44.72	1.777e4					3.2	YES		dd		
36	FUNCTION5 PFK	44.68	1.491e4					2.3	NO		dd		
37	FUNCTION5 PFK	44.62	3.792e3					1.6	NO		bd		

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION5 PFK	45.95	1.546e3					0.6	NO		db		
39	FUNCTION5 PFK	45.89	6.364e3					1.4	NO		bd		
40	FUNCTION5 PFK	45.80	9.329e3					1.6	NO		bb		
41	FUNCTION5 PFK	45.73	3.987e3					1.3	NO		bb		
42	FUNCTION5 PFK	45.67	1.565e3					0.8	NO		bb		
43	FUNCTION5 PFK	45.63	2.220e3					0.8	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.72	9.833e1					1.5	NO		bb		0.000
2	FUNCTION1 HXCD...	23.83	8.554e1					3.4	YES		bb		0.000
3	FUNCTION1 HXCD...	22.40	7.852e1					2.1	NO		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	27.82	1.086e2					3.7	YES		bb		0.000
2	FUNCTION1 HPCD...	26.99	9.066e1					2.2	NO		bb		0.000
3	FUNCTION1 HPCD...	26.73	7.686e1					1.1	NO		bb		0.000
4	FUNCTION1 HPCD...	25.61	9.182e1					1.2	NO		bb		0.000

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.04	1.851e2					2.6	NO		bb		0.000
2	FUNCTION2 HPCD...	31.52	1.092e2					2.6	NO		bb		0.000
3	FUNCTION2 HPCD...	31.18	1.468e2					3.9	YES		bb		0.000
4	FUNCTION2 HPCD...	31.09	2.008e2					3.4	YES		db		0.000
5	FUNCTION2 HPCD...	31.00	2.034e2					4.4	YES		dd		0.000
6	FUNCTION2 HPCD...	30.97	1.106e2					3.2	YES		bd		0.000
7	FUNCTION2 HPCD...	30.59	3.120e2					7.4	YES		bb		0.000
8	FUNCTION2 HPCD...	30.14	1.626e2					3.2	YES		db		0.000
9	FUNCTION2 HPCD...	30.11	1.874e2					4.2	YES		dd		0.000
10	FUNCTION2 HPCD...	30.08	1.177e2					4.5	YES		bd		0.000
11	FUNCTION2 HPCD...	29.79	9.068e1					1.4	NO		bb		0.000
12	FUNCTION2 HPCD...	29.64	7.787e1					1.4	NO		bb		0.000
13	FUNCTION2 HPCD...	29.05	1.099e2					2.1	NO		bb		0.000
14	FUNCTION2 HPCD...	28.90	1.051e2					1.1	NO		bb		0.000
15	FUNCTION2 HPCD...	28.66	1.253e2					2.7	NO		bb		0.000
16	FUNCTION2 HPCD...	28.22	1.224e2					1.9	NO		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.13	8.541e1					3.6	YES		db		0.000
2	FUNCTION3 OCDPE	35.99	3.886e2					15.6	YES		bd		0.000
3	FUNCTION3 OCDPE	33.66	9.622e1					2.8	NO		bb		0.000
4	FUNCTION3 OCDPE	32.98	8.768e1					4.8	YES		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.21	7.125e1					2.5	NO		bb		0.000
2	FUNCTION4 NCDPE	39.39	1.263e2					3.9	YES		bb		0.000

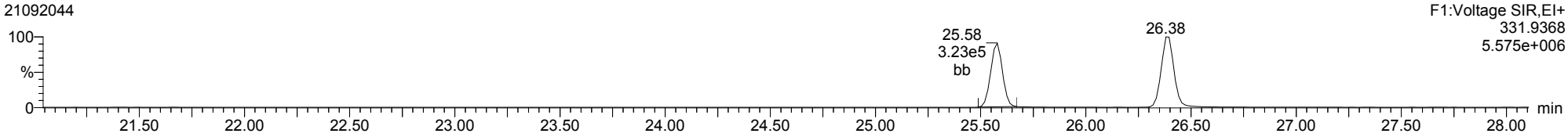
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

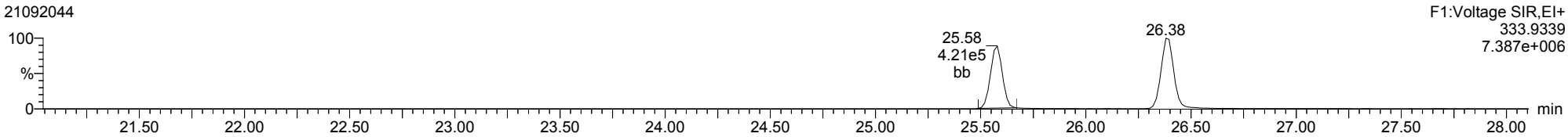
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

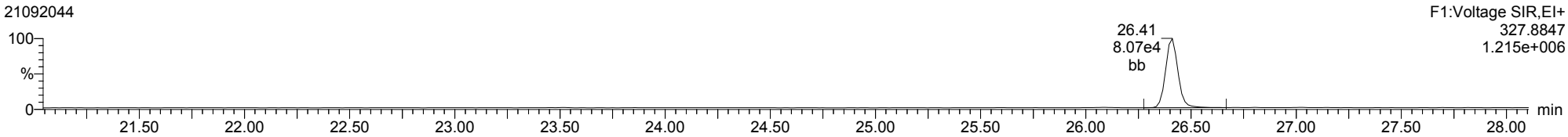
13C-1234-TCDD



13C-1234-TCDD

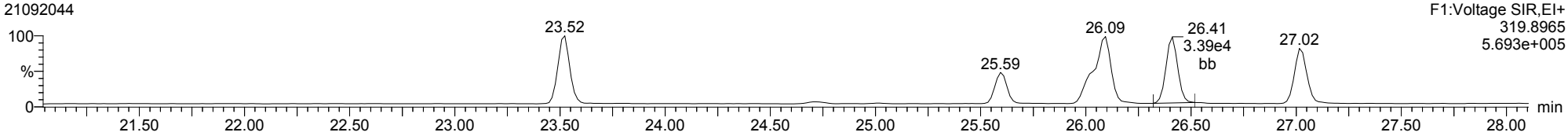


37CL-2378-TCDD

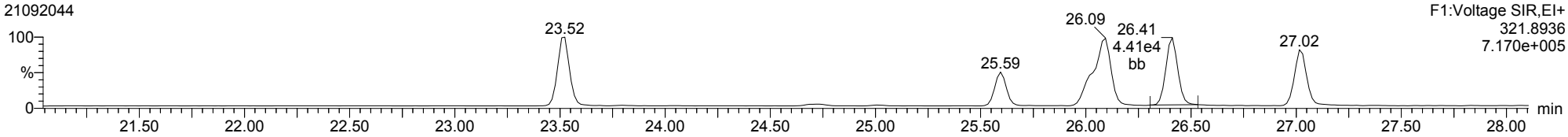


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

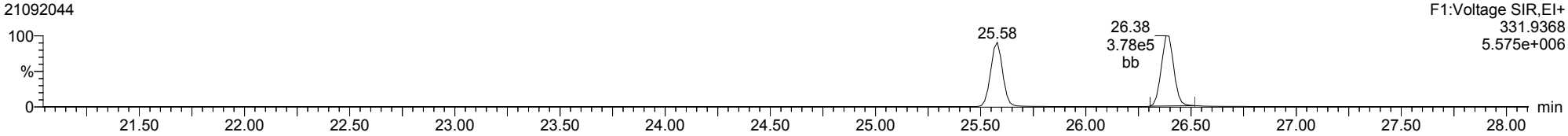
2378-TCDD



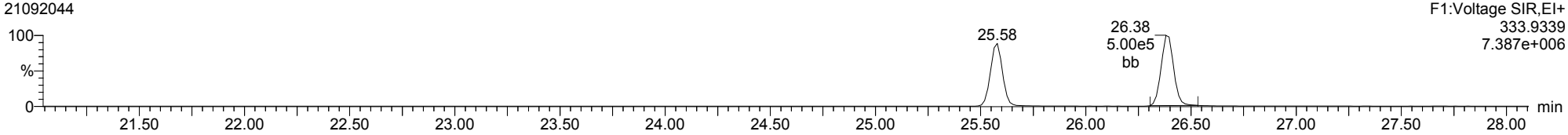
2378-TCDD



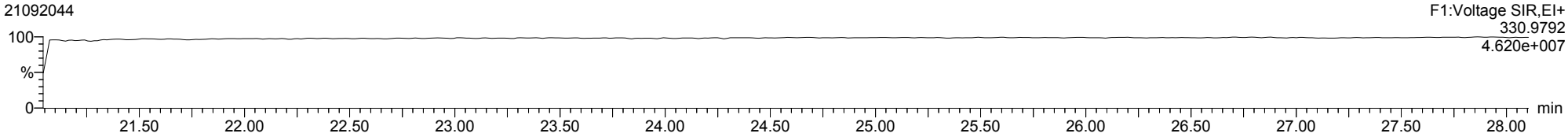
13C-2378-TCDD



13C-2378-TCDD

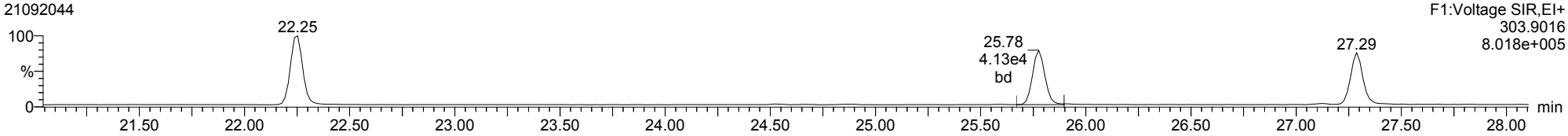


FUNCTION1 PFK

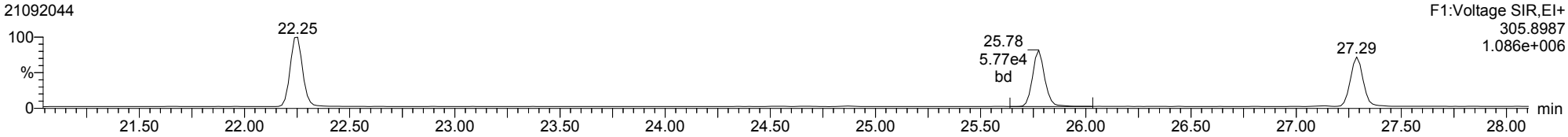


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

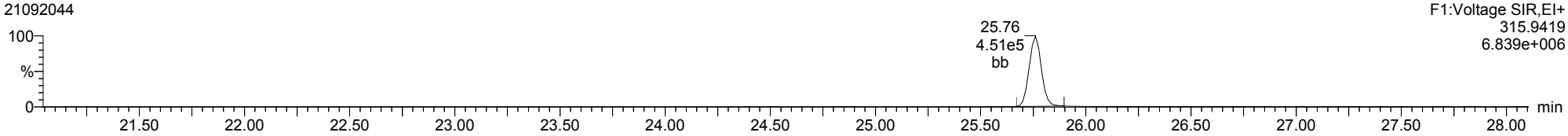
2378-TCDF



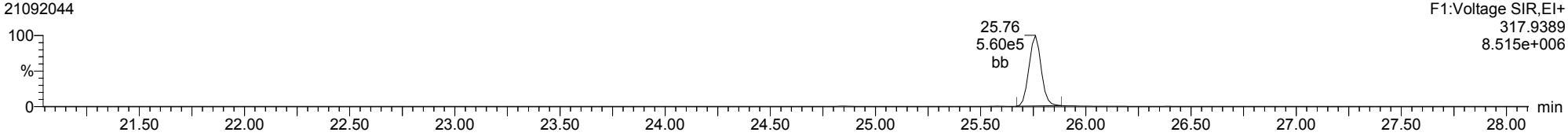
2378-TCDF



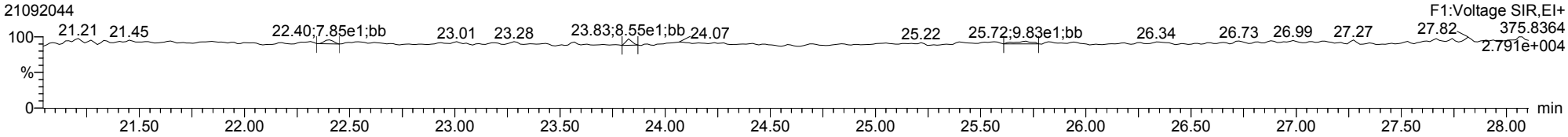
13C-2378-TCDF



13C-2378-TCDF

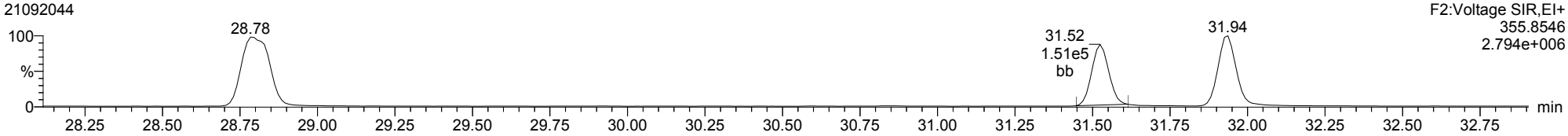


FUNCTION1 HXCDPE

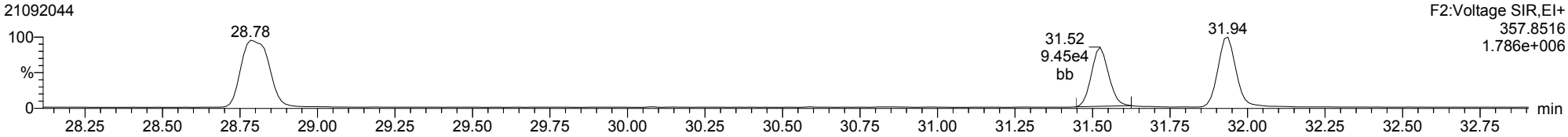


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

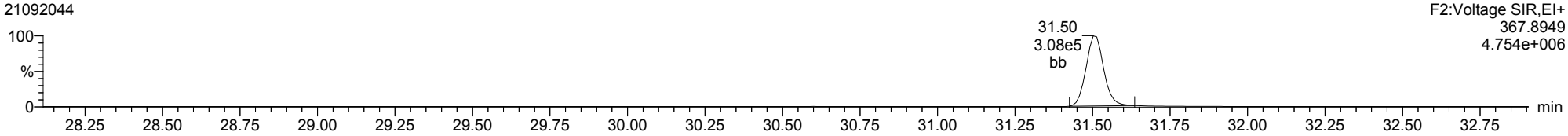
12378-PeCDD



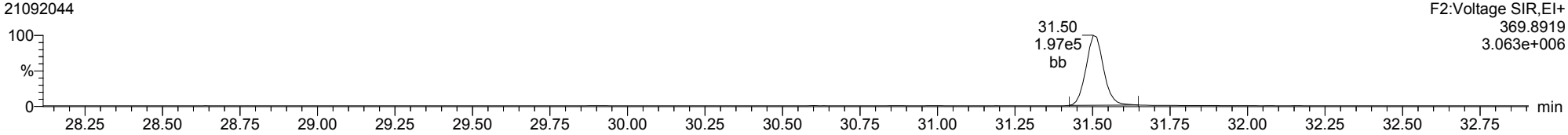
12378-PeCDD



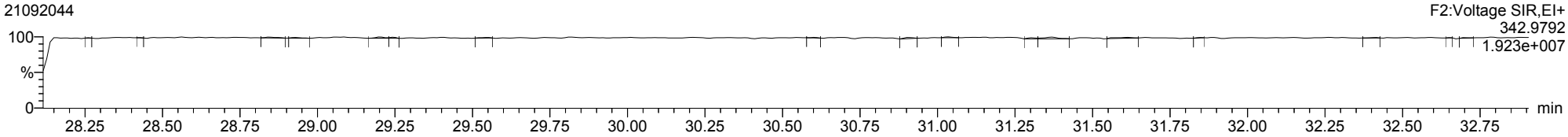
13C-12378-PeCDD



13C-12378-PeCDD

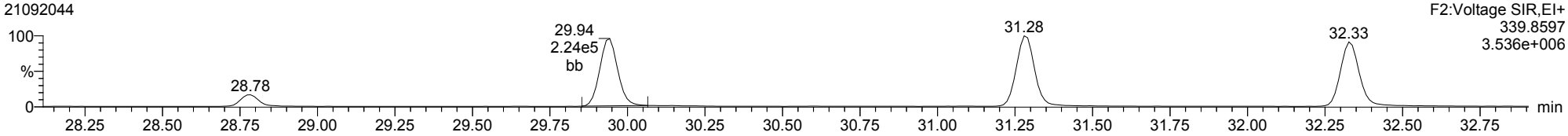


FUNCTION2 PFK

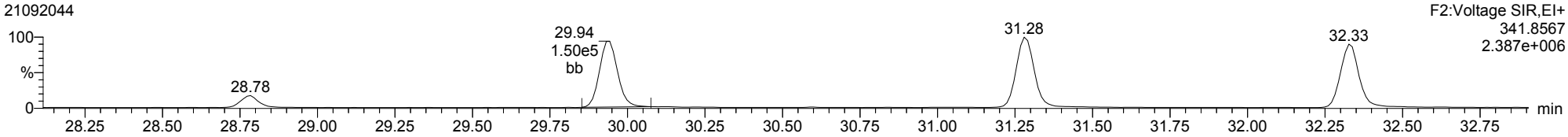


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

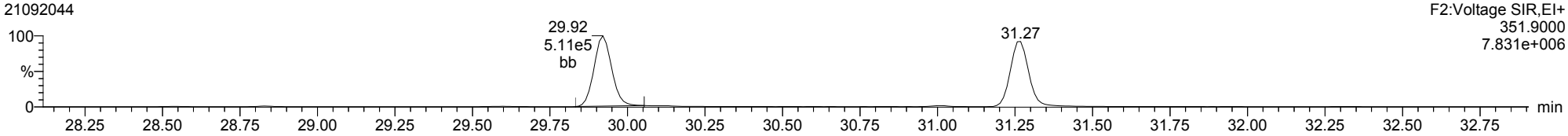
12378-PeCDF



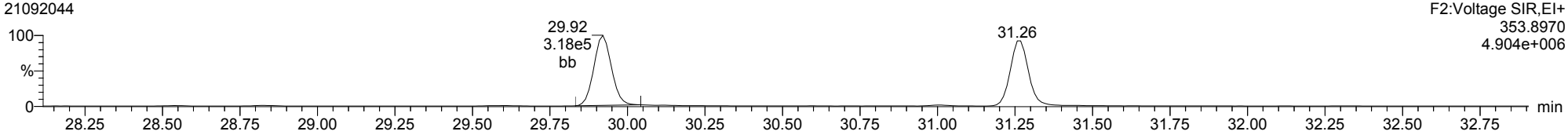
12378-PeCDF



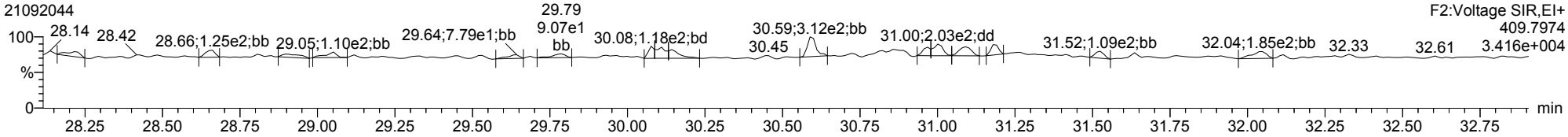
13C-12378-PeCDF



13C-12378-PeCDF

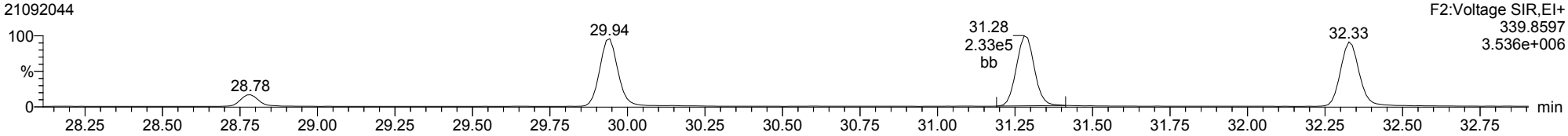


FUNCTION2 HPCDPE

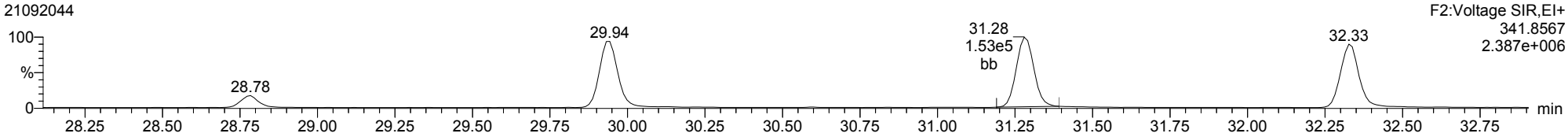


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

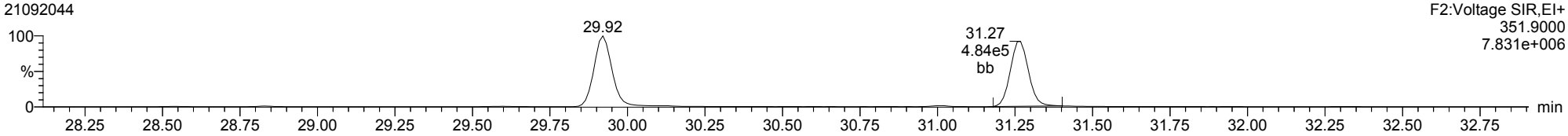
23478-PeCDF



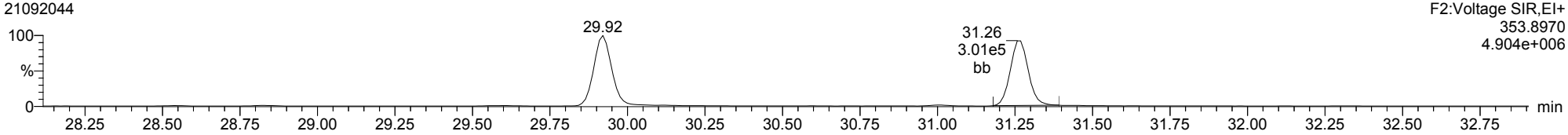
23478-PeCDF



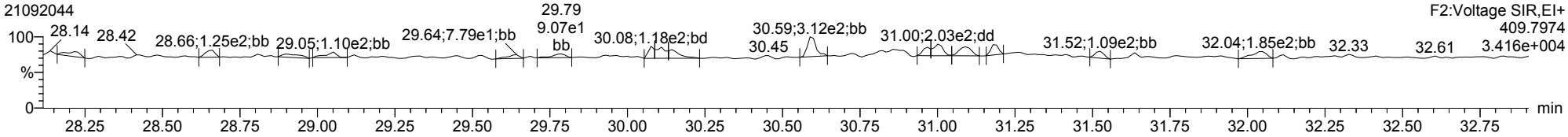
13C-23478-PeCDF



13C-23478-PeCDF



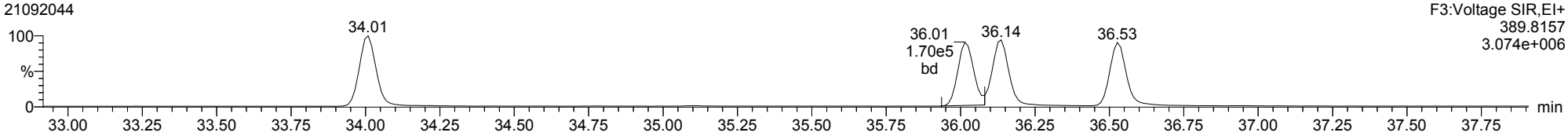
FUNCTION2 HPCDPE



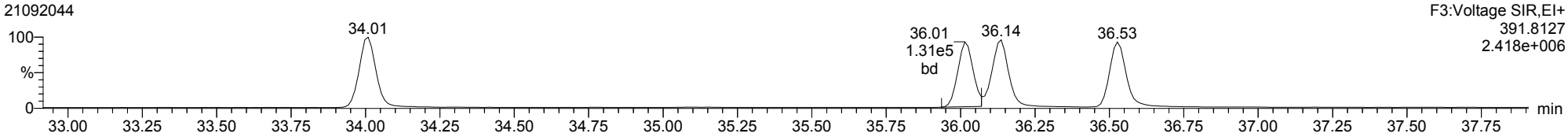
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

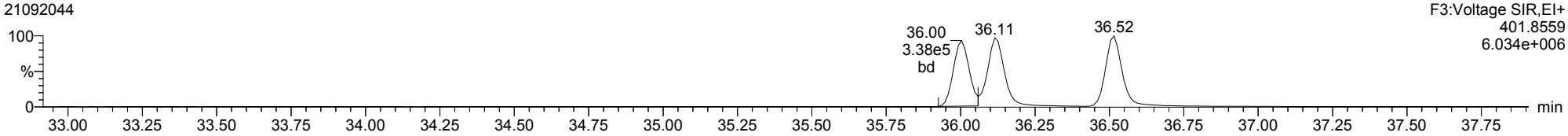
123478-HxCDD



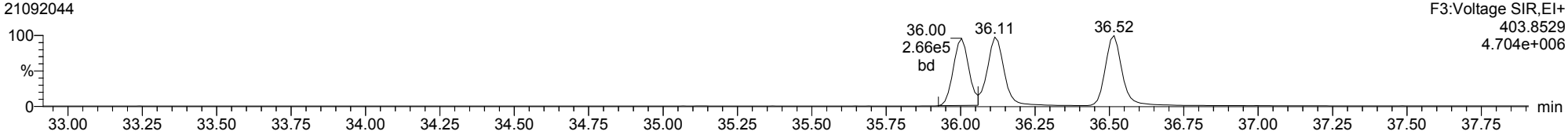
123478-HxCDD



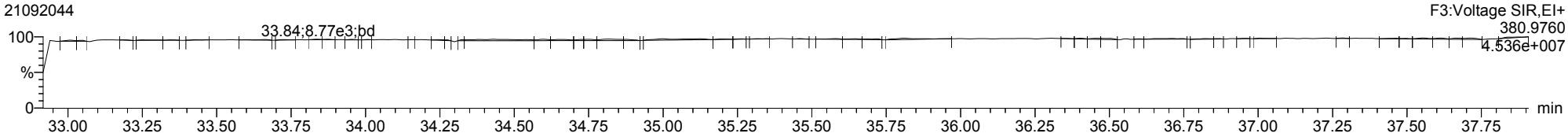
13C-123478-HxCDD



13C-123478-HxCDD

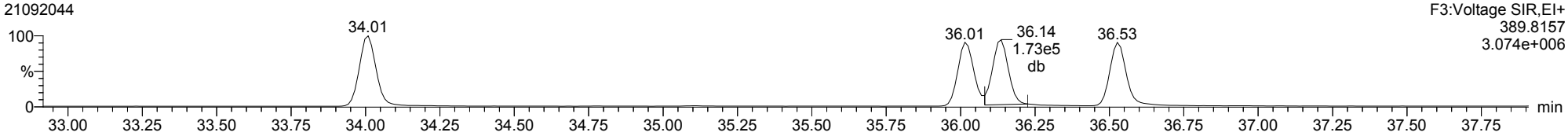


FUNCTION3 PFK

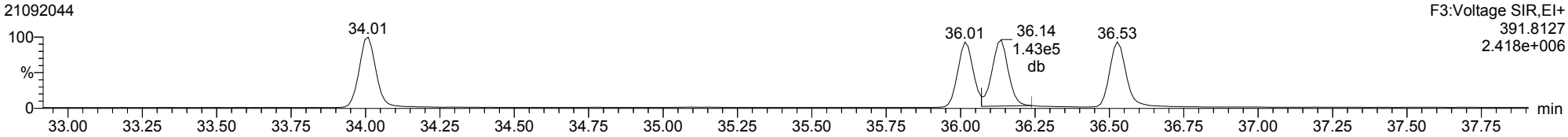


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

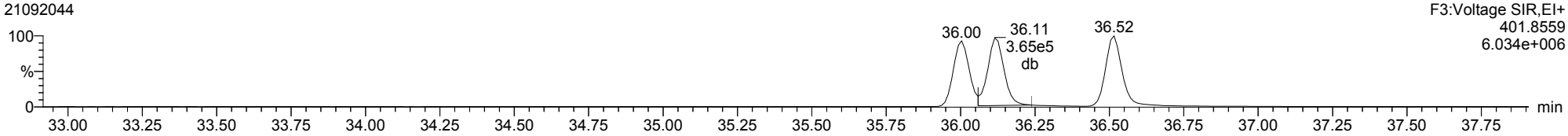
123678-HxCDD



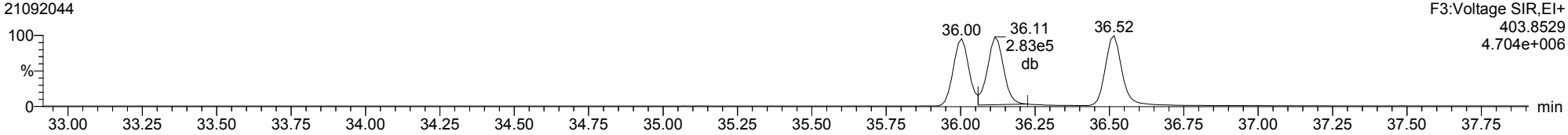
123678-HxCDD



13C-123678-HxCDD

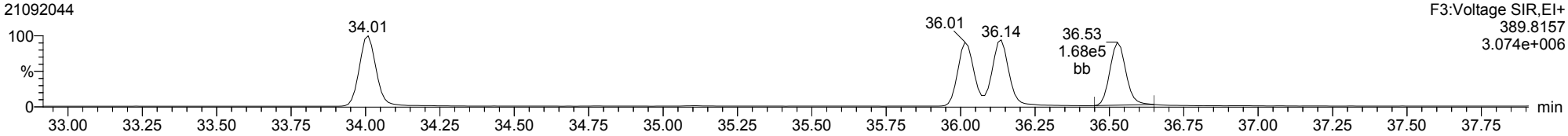


13C-123678-HxCDD

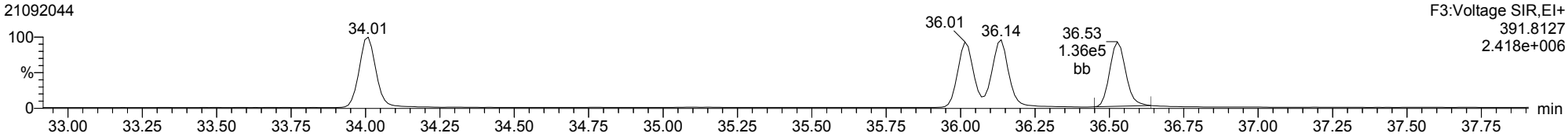


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

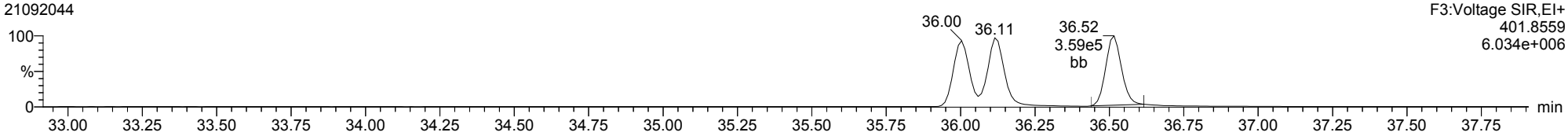
123789-HxCDD



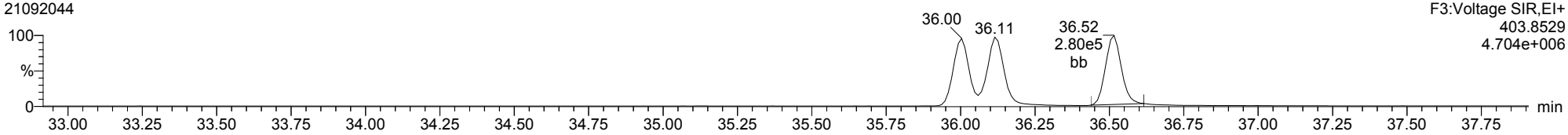
123789-HxCDD



13C-123789-HxCDD

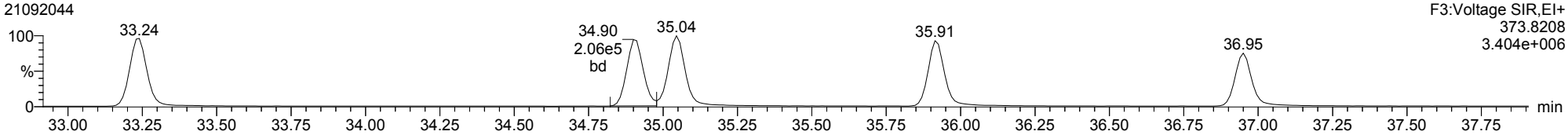


13C-123789-HxCDD

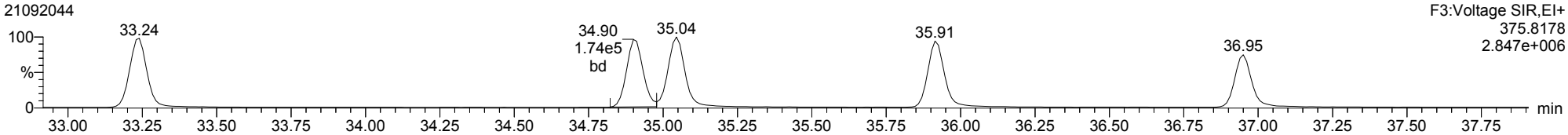


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

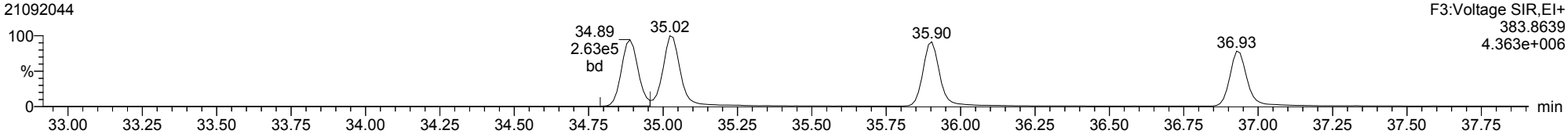
123478-HxCDF



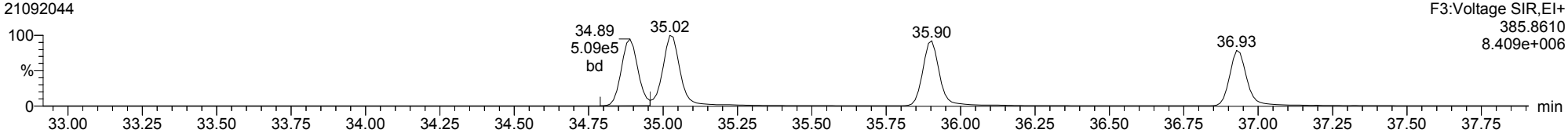
123478-HxCDF



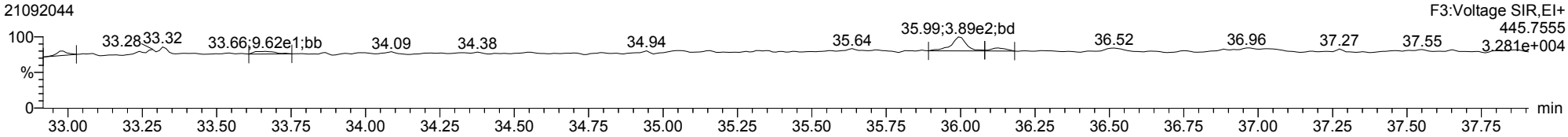
13C-123478-HxCDF



13C-123478-HxCDF

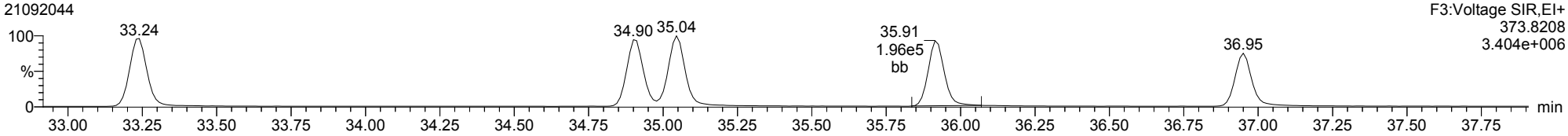


FUNCTION3 OCDPE

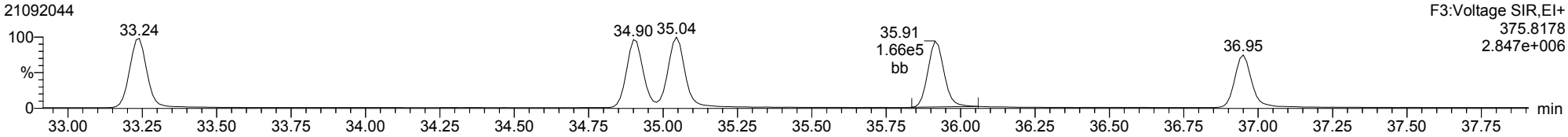


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

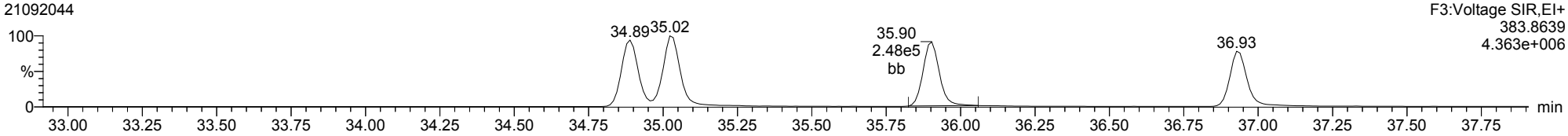
234678-HxCDF



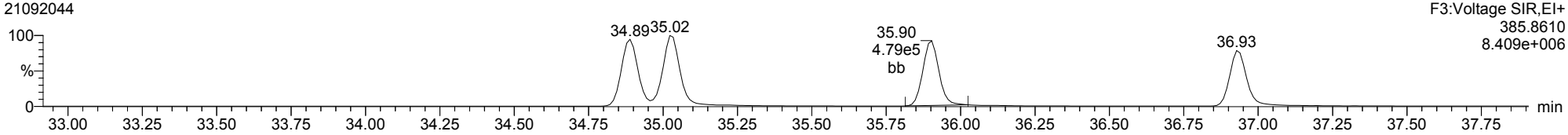
234678-HxCDF



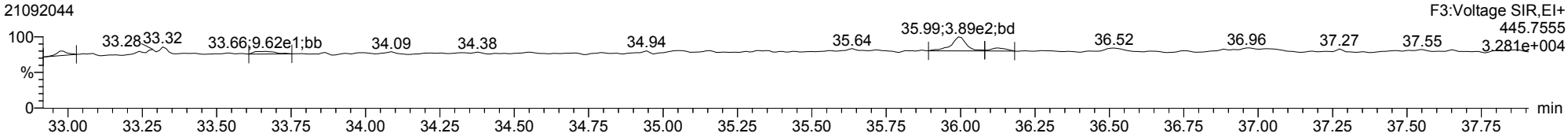
13C-234678-HxCDF



13C-234678-HxCDF

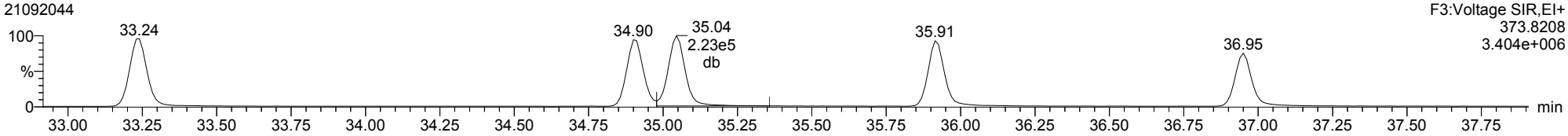


FUNCTION3 OCDPE

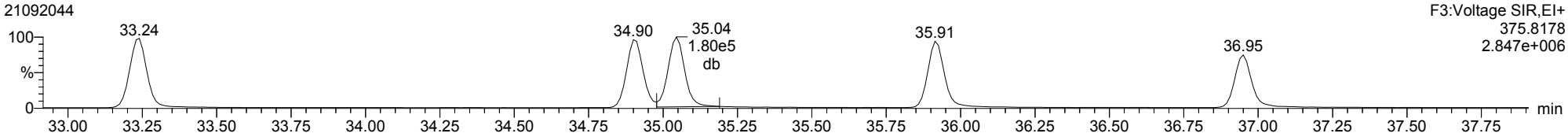


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

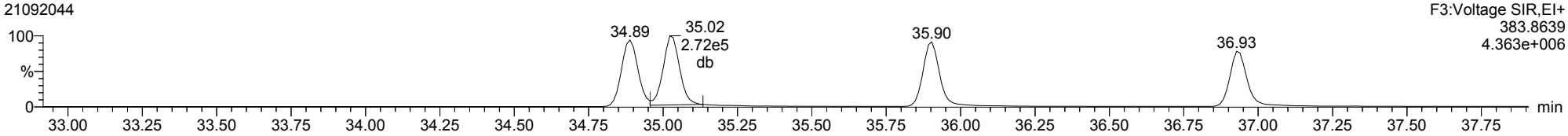
123678-HxCDF



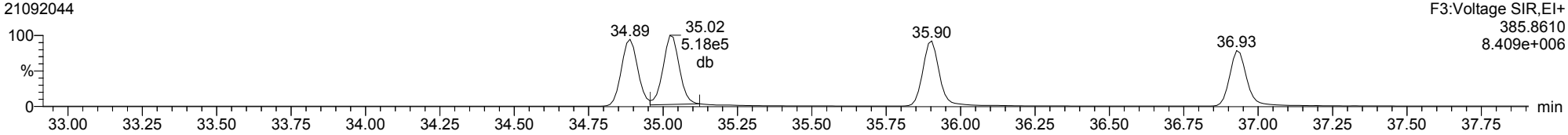
123678-HxCDF



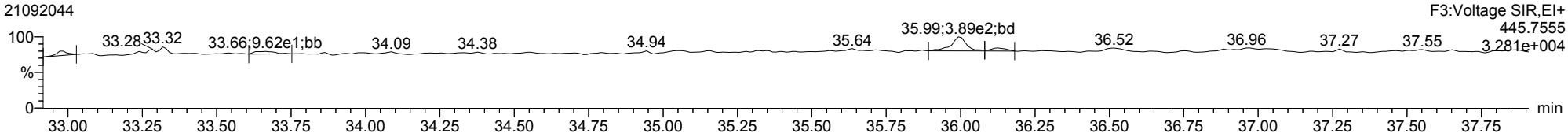
13C-123678-HxCDF



13C-123678-HxCDF

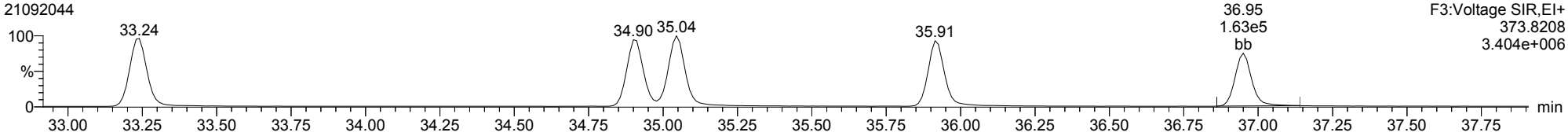


FUNCTION3 OCDPE

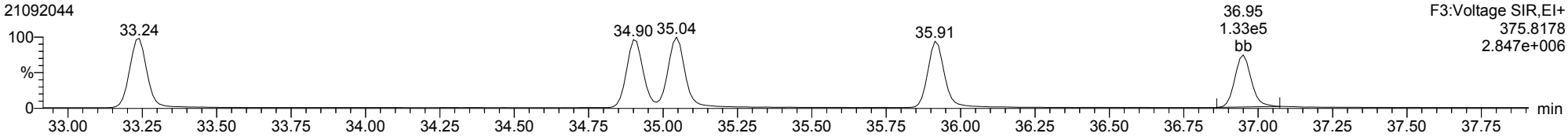


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

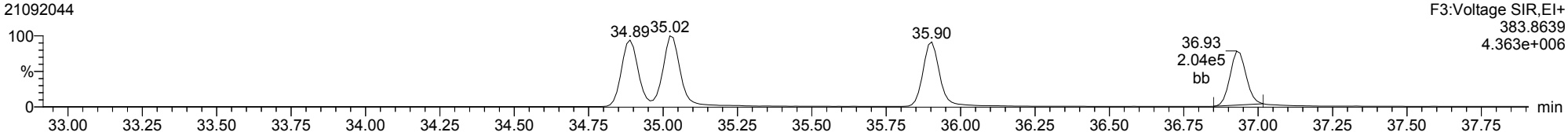
123789-HxCDF



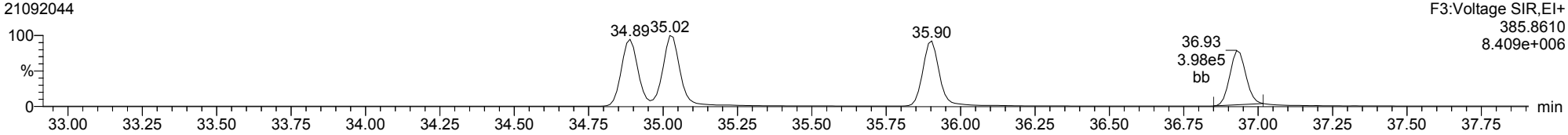
123789-HxCDF



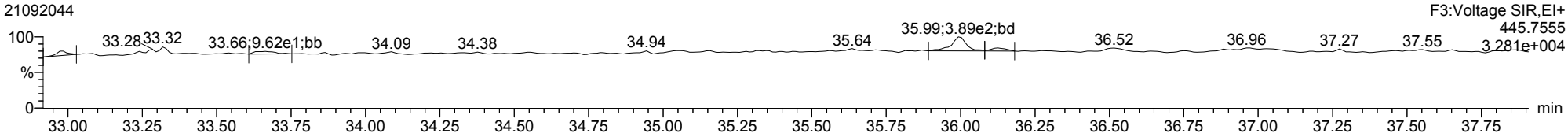
13C-123789-HxCDF



13C-123789-HxCDF

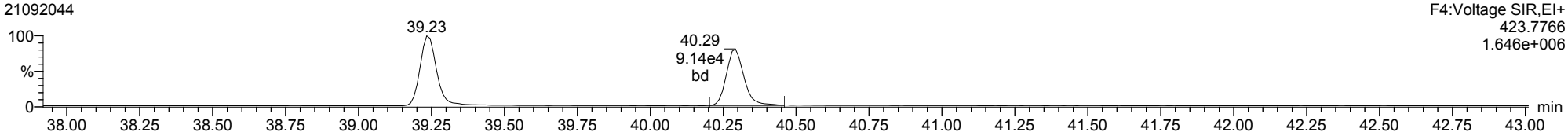


FUNCTION3 OCDPE

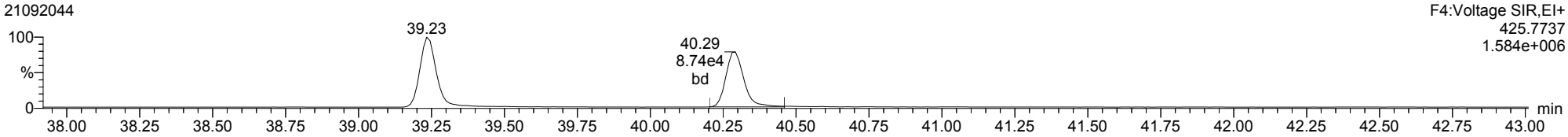


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

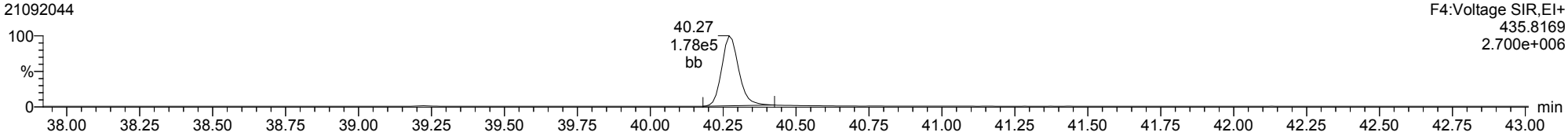
1234678-HpCDD



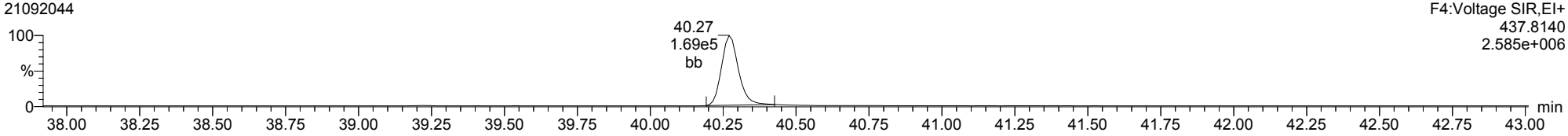
1234678-HpCDD



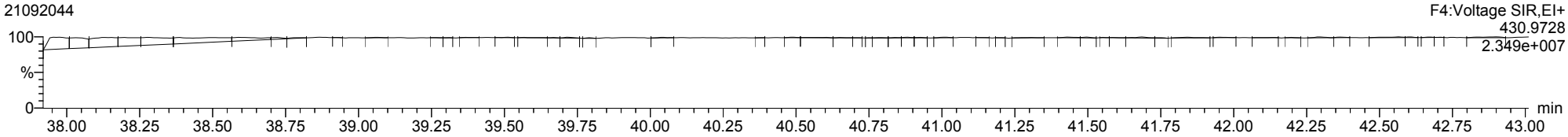
13C-1234678-HpCDD



13C-1234678-HpCDD

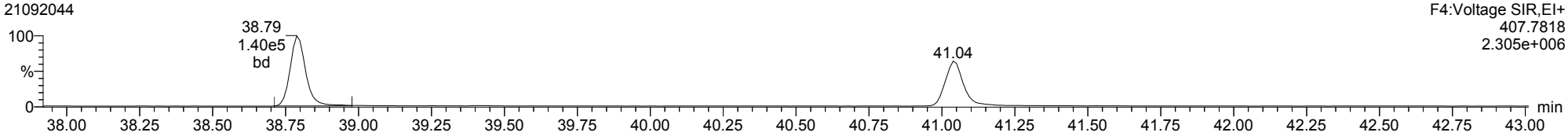


FUNCTION4 PFK

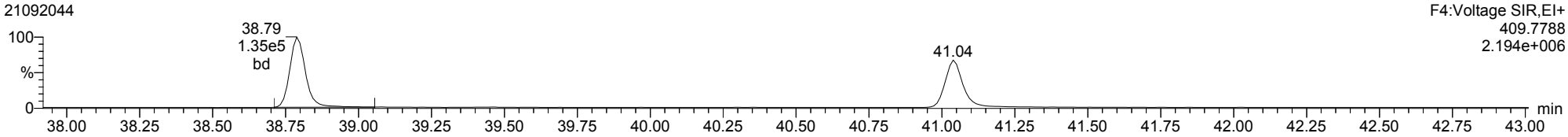


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

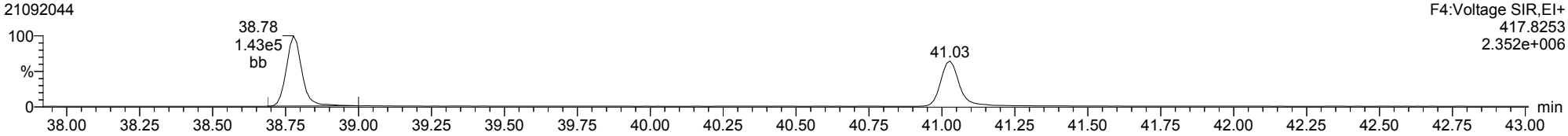
1234678-HpCDF



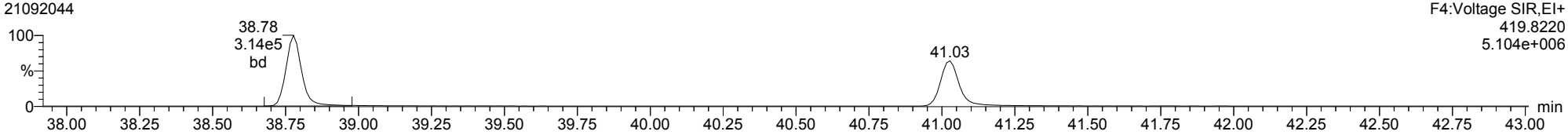
1234678-HpCDF



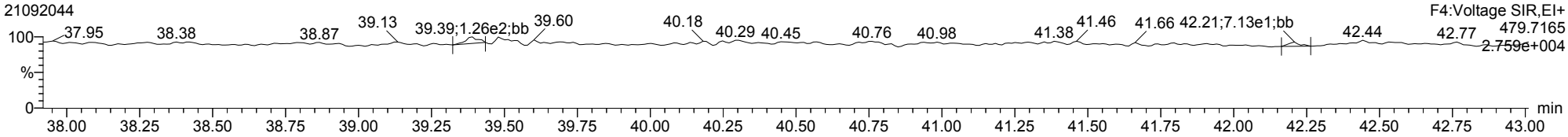
13C-1234678-HpCDF



13C-1234678-HpCDF

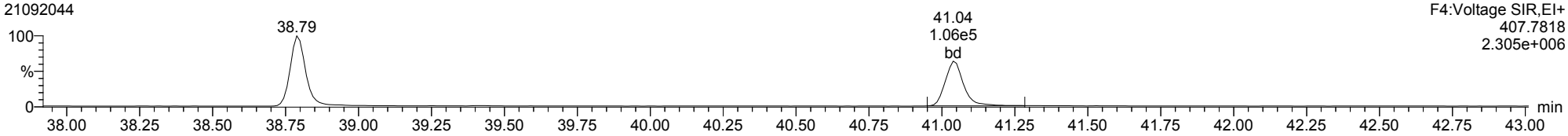


FUNCTION4 NCDPE

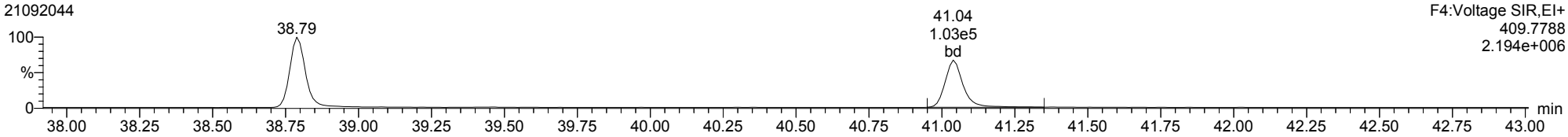


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

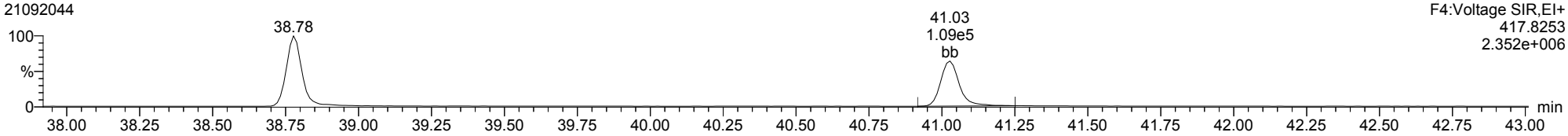
1234789-HpCDF



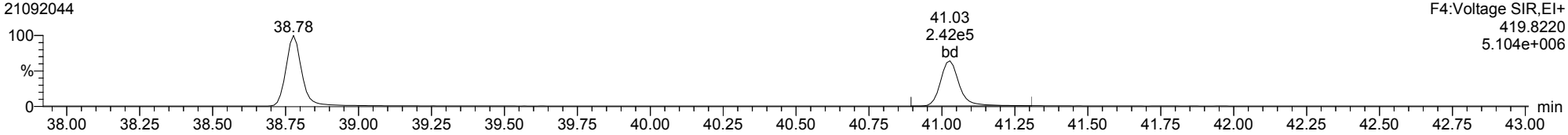
1234789-HpCDF



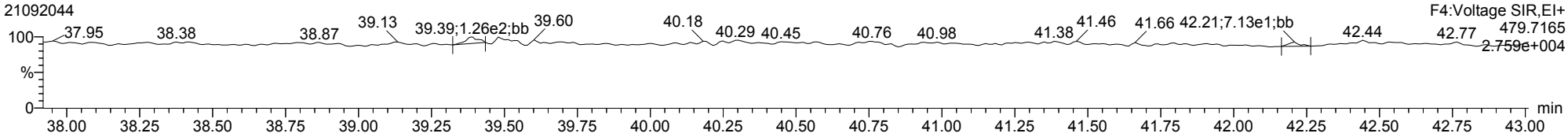
13C-1234789-HpCDF



13C-1234789-HpCDF

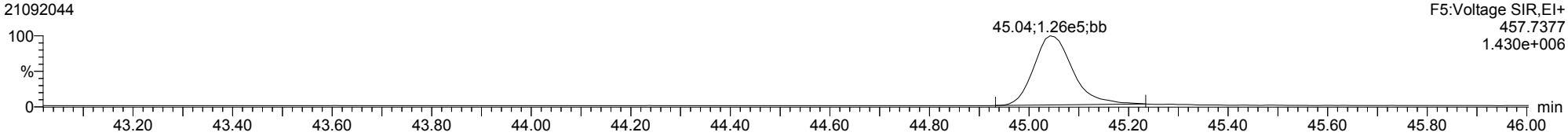


FUNCTION4 NCDPE

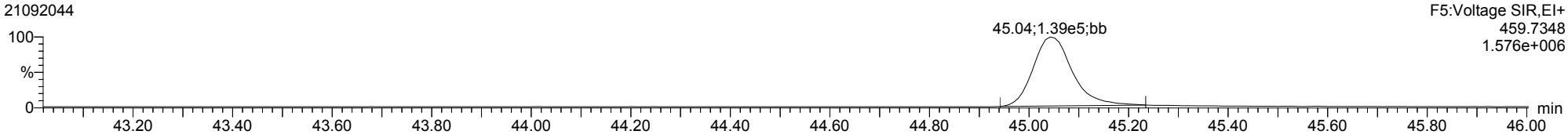


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

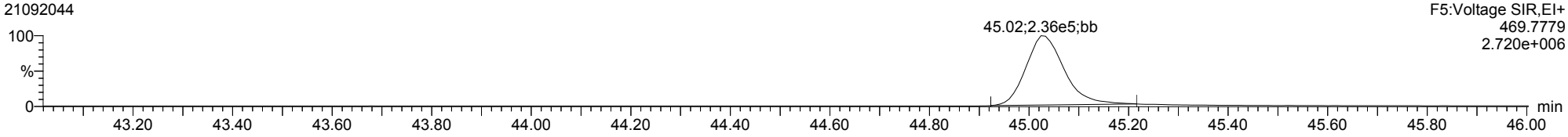
OCDD



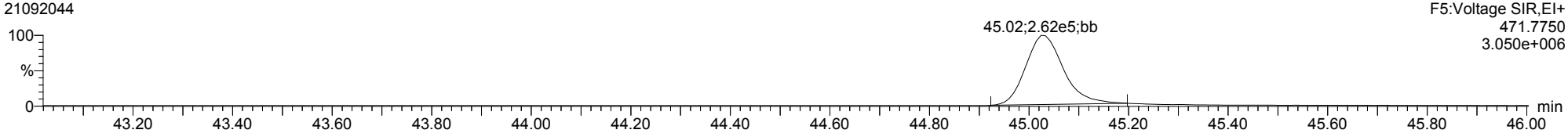
OCDD



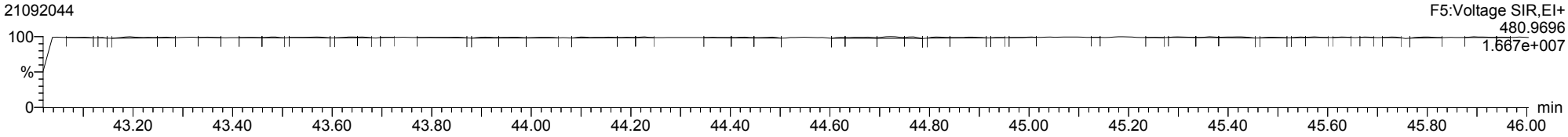
13C-OCDD



13C-OCDD

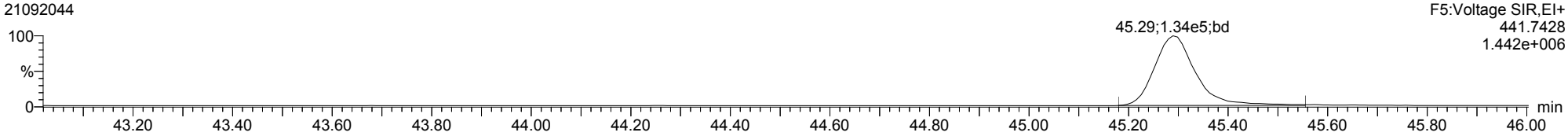


FUNCTION5 PFK

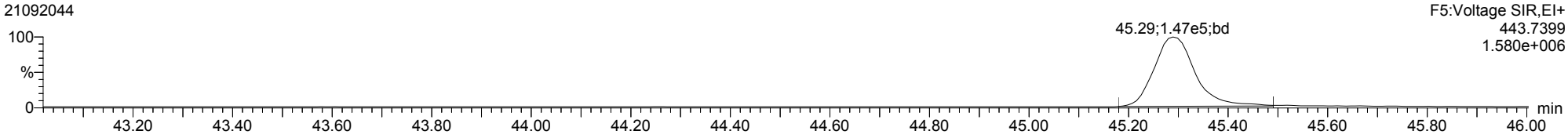


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

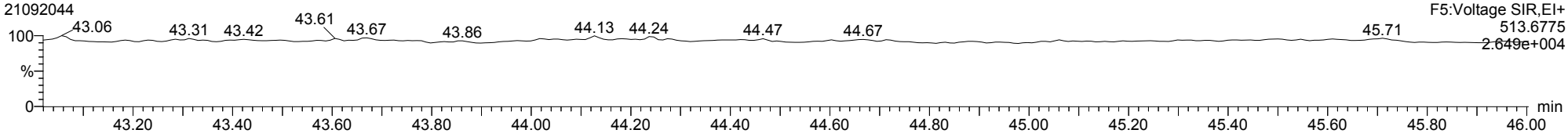
OCDF



OCDF



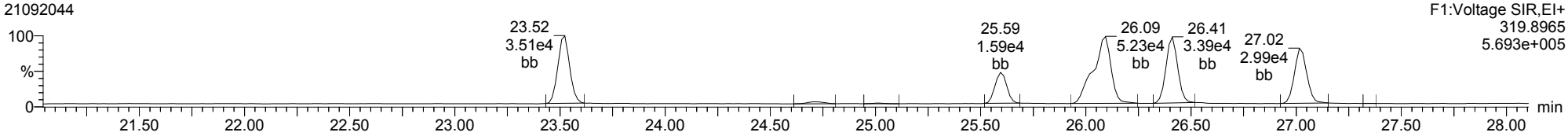
FUNCTION5 DCDPE



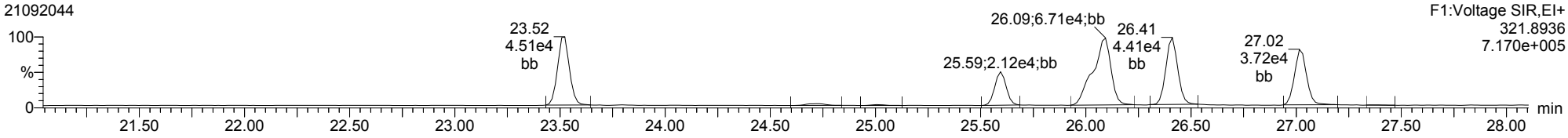
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

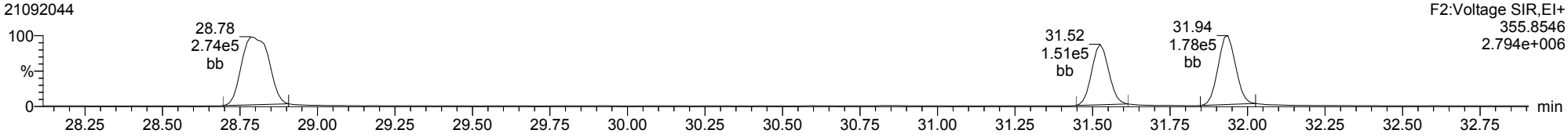
Total-tetradioxins



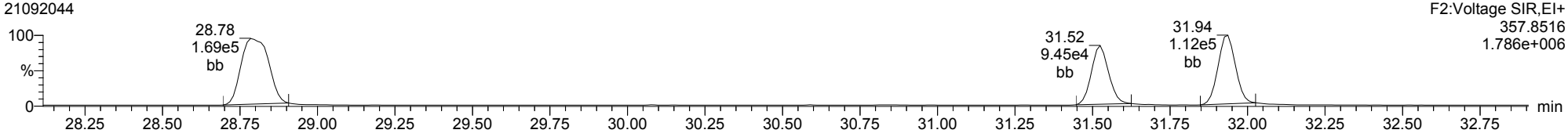
Total-tetradioxins



Total-pentadioxins

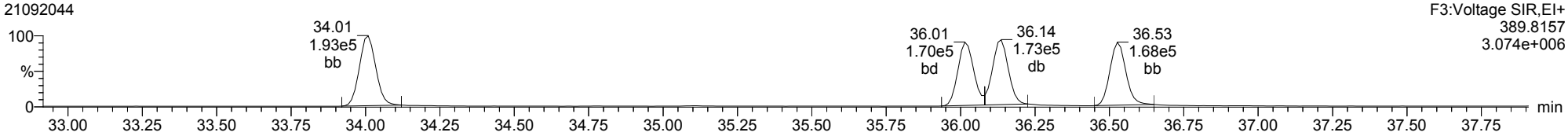


Total-pentadioxins

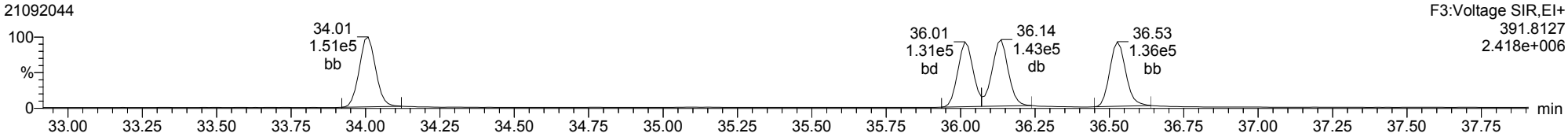


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

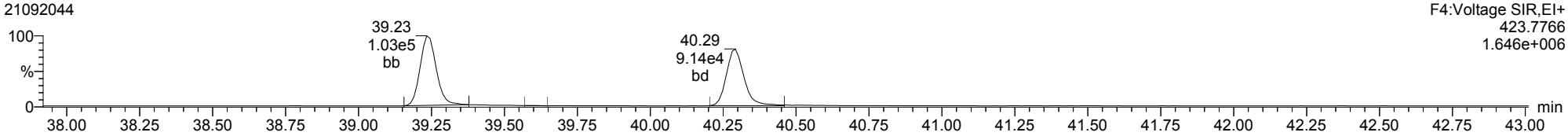
Total-hexadioxins



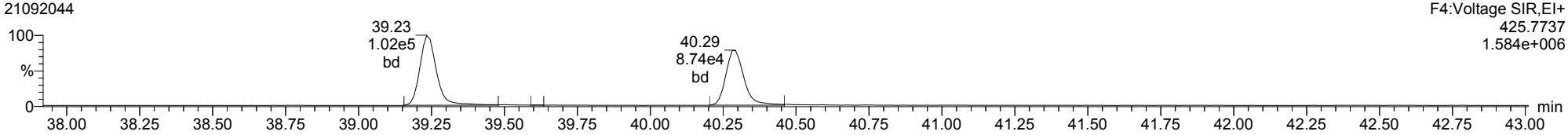
Total-hexadioxins



Total-heptadioxins

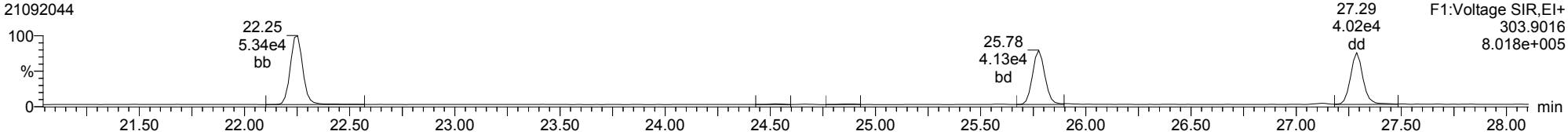


Total-heptadioxins

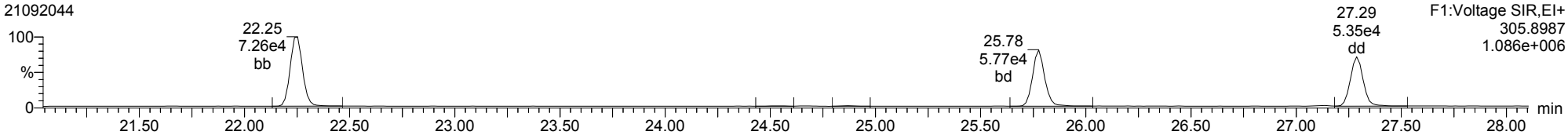


ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

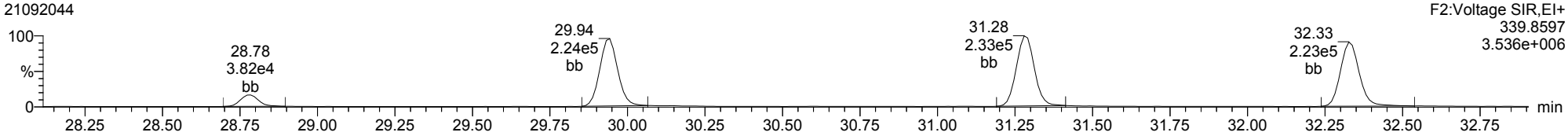
Total-tetrafurans



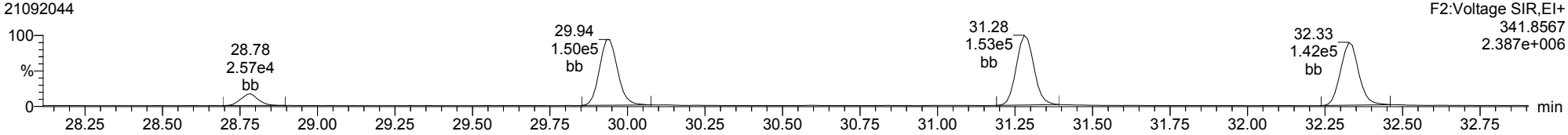
Total-tetrafurans



Total-pentafurans



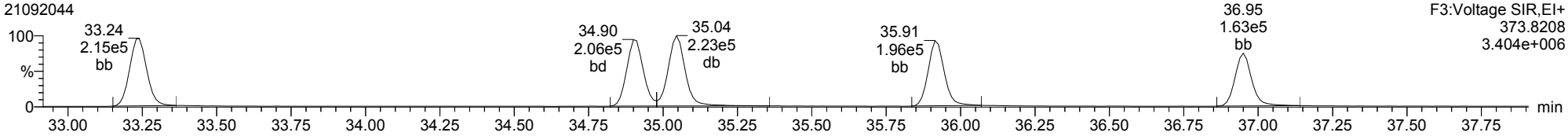
Total-pentafurans



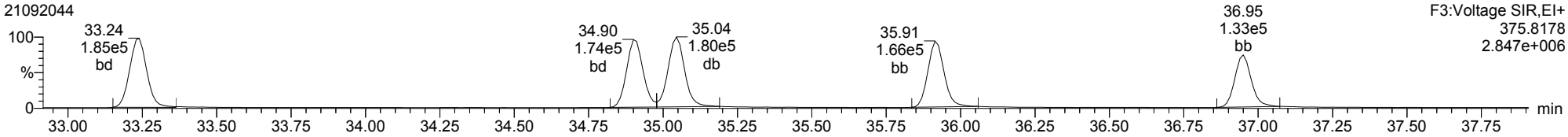
Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:32:41 Pacific Daylight Time

ID: CS3S5, Name: 21092044, Date: 22-Sep-2021, Time: 03:54:10, Conditions: AUTOSPEC01, User: pk

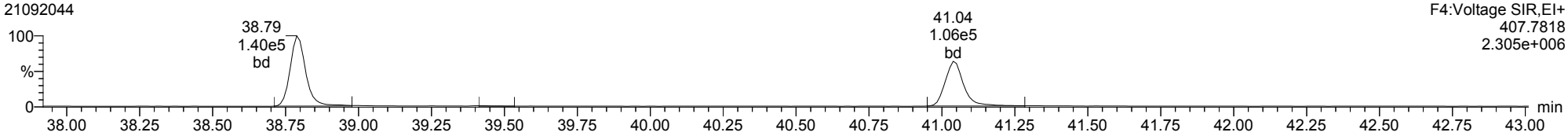
Total-hexafurans



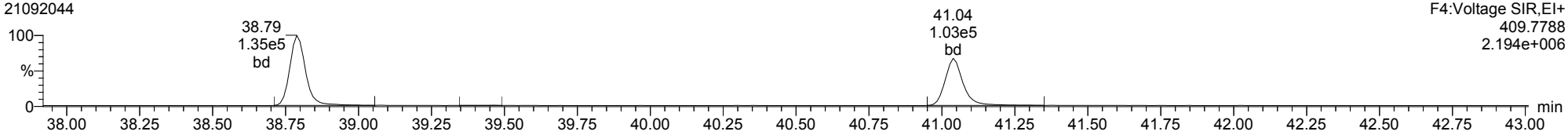
Total-hexafurans



Total-heptafurans

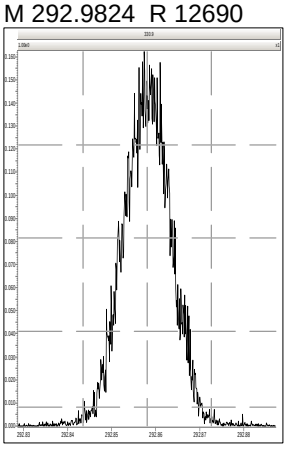


Total-heptafurans

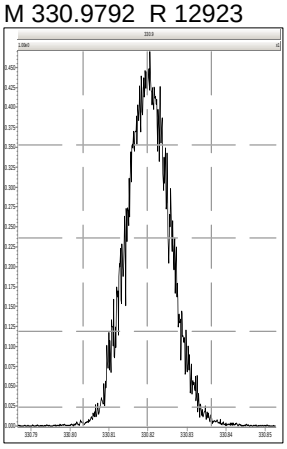


Printed: Wednesday, September 22, 2021 04:47:32 Pacific Daylight Time

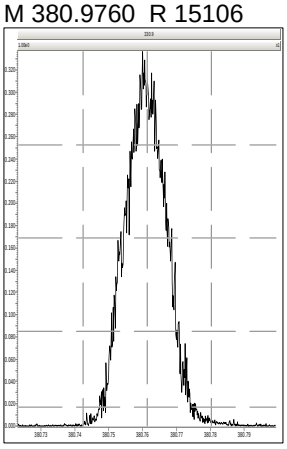
M 292.9824 R 12690



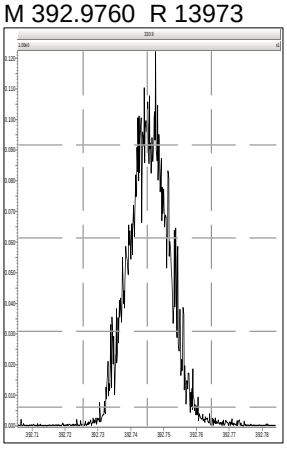
M 330.9792 R 12923



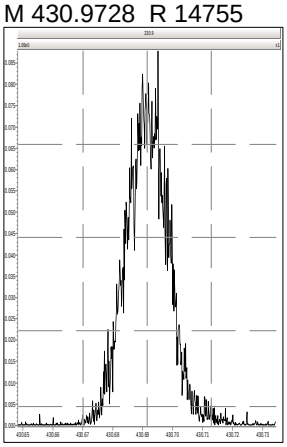
M 380.9760 R 15106



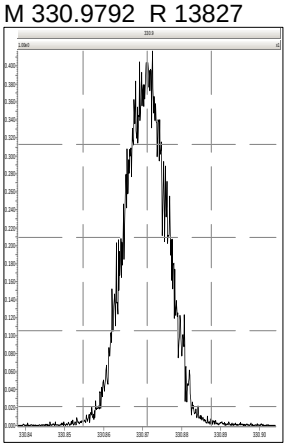
M 392.9760 R 13973



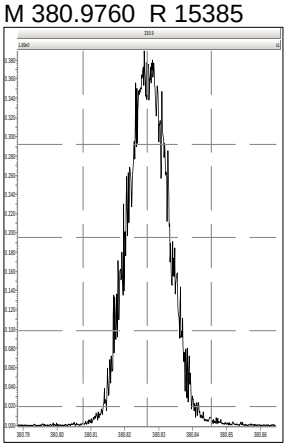
M 430.9728 R 14755



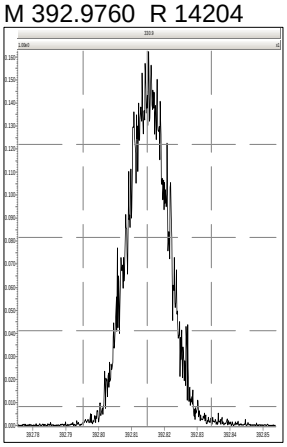
M 330.9792 R 13827



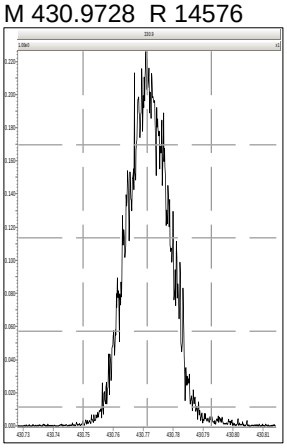
M 380.9760 R 15385



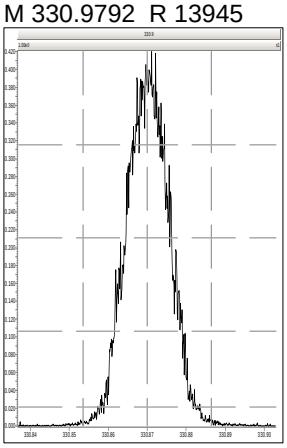
M 392.9760 R 14204



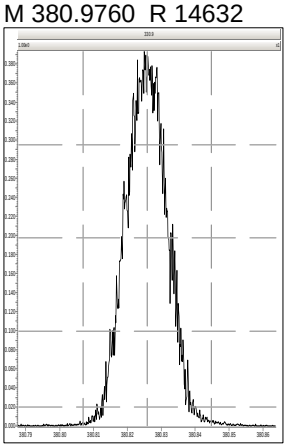
M 430.9728 R 14576



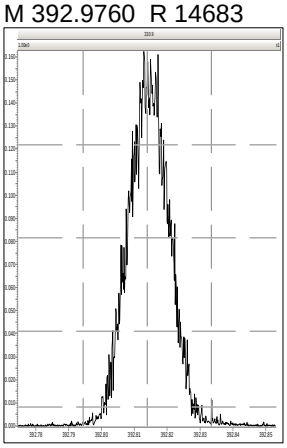
M 330.9792 R 13945



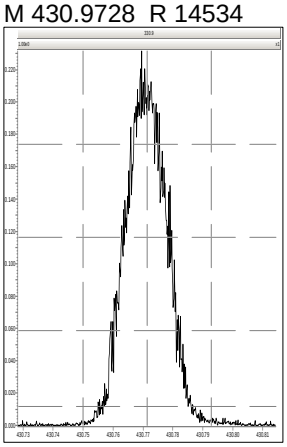
M 380.9760 R 14632



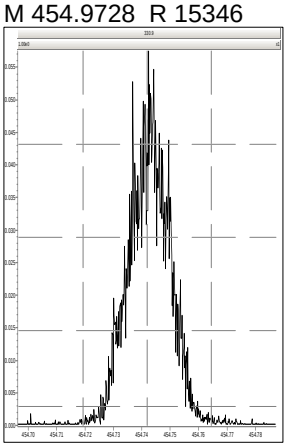
M 392.9760 R 14683



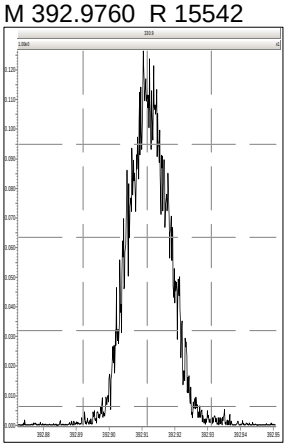
M 430.9728 R 14534



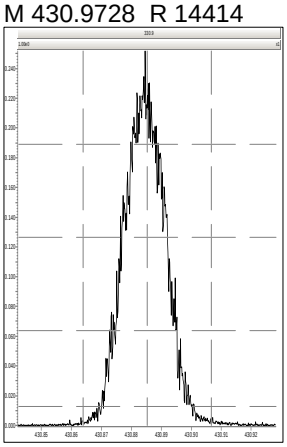
M 454.9728 R 15346



M 392.9760 R 15542

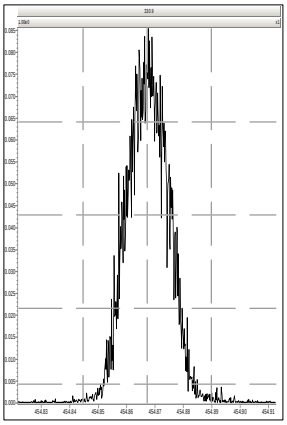


M 430.9728 R 14414

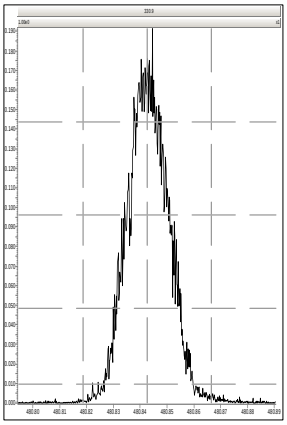


Printed: Wednesday, September 22, 2021 04:47:32 Pacific Daylight Time

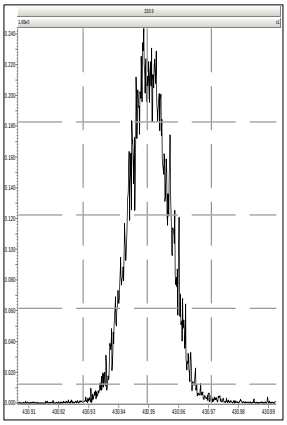
M 454.9728 R 14481



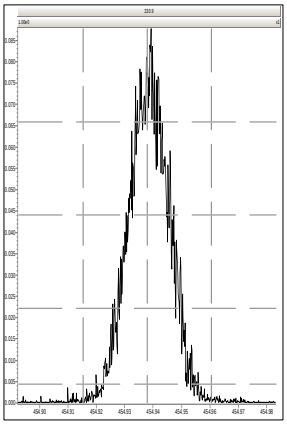
M 480.9696 R 14534



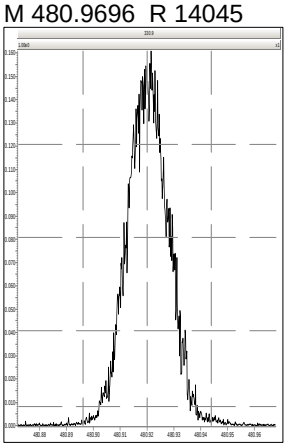
M 430.9728 R 15385



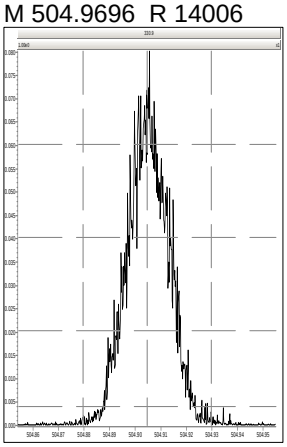
M 454.9728 R 15017



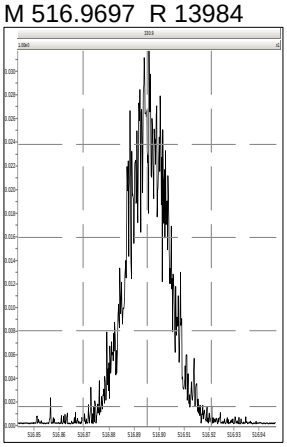
M 480.9696 R 14045

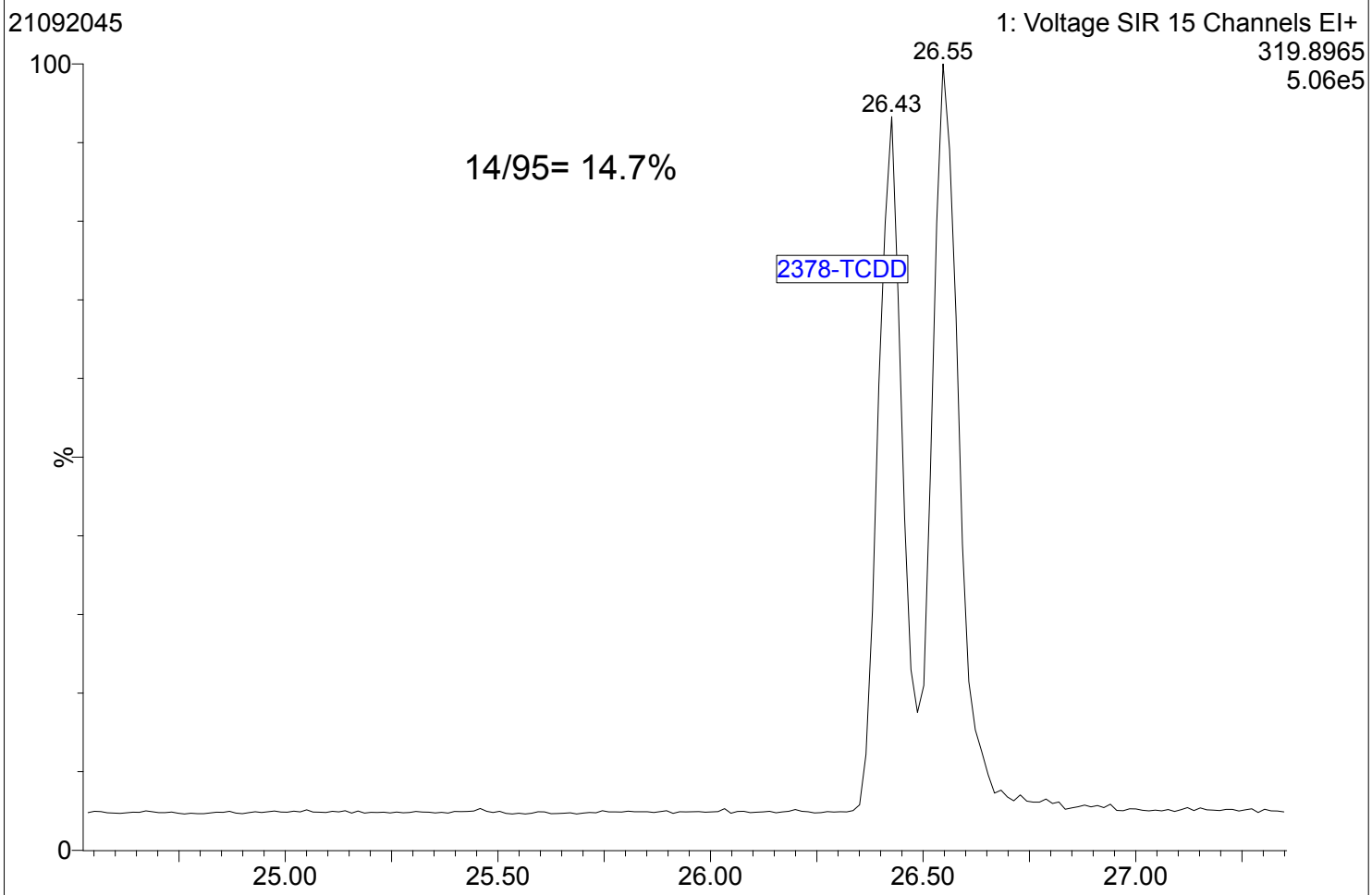


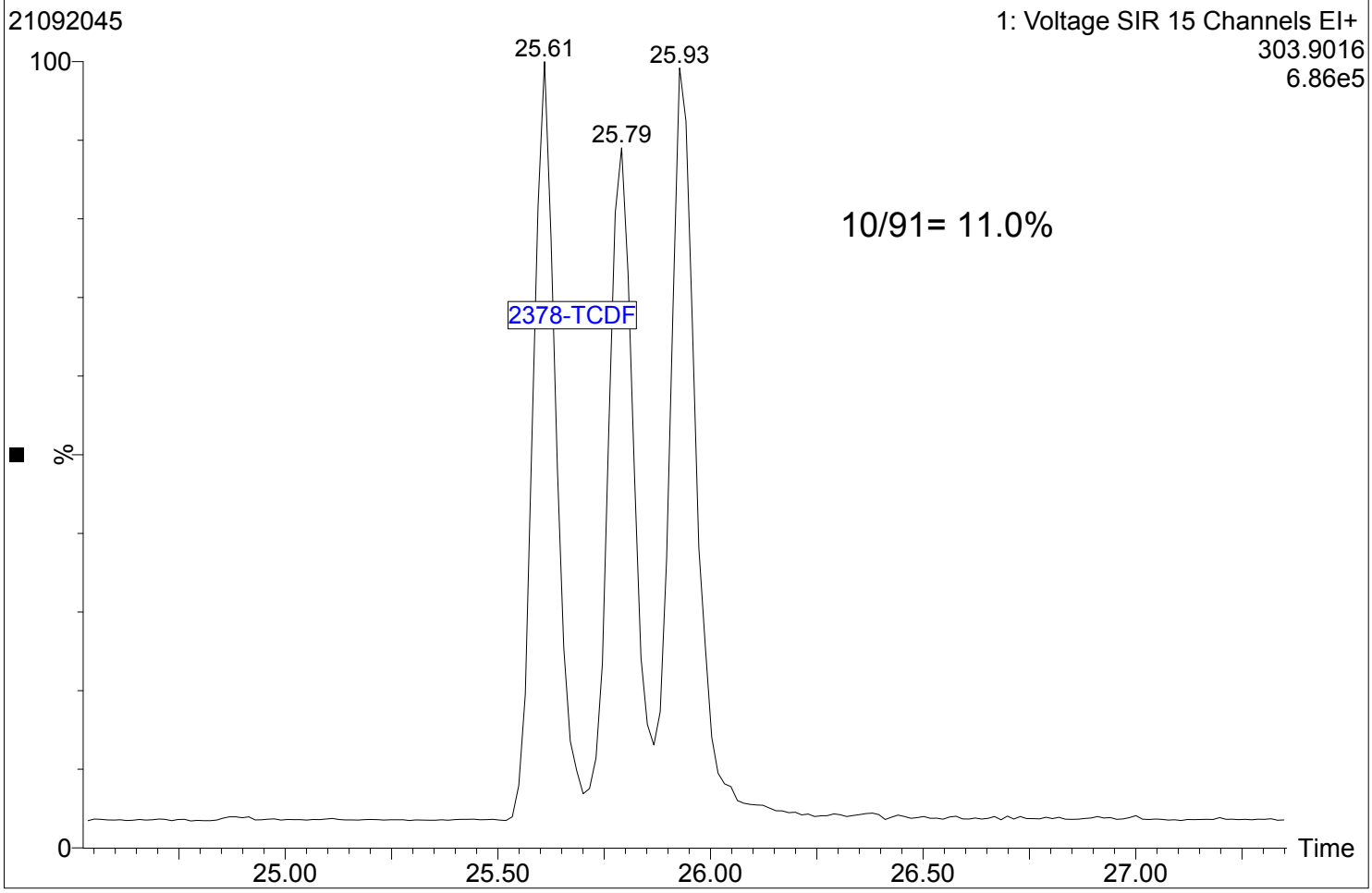
M 504.9696 R 14006



M 516.9697 R 13984




21092045
1: Voltage SIR 15 Channels EI+
319.8965
5.06e5
26.55
26.43
14/95= 14.7%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21092045
1: Voltage SIR 15 Channels EI+
303.9016
6.86e5
25.61
25.93
25.79
10/91= 11.0%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21092054	Calibration Date:	08/11/2021
Sequence:	SJI0282	Injection Date:	09/22/21
Lab Sample ID:	SJI0282-CCV3	Injection Time:	12:11
Sequence Name:	CS3S6		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	8.53	1.1075930	0.9446037		-14.7	+/-16
2,3,7,8-TCDD	A	10.000	9.89	0.9202875	0.9102800		-1.1	+/-22
1,2,3,7,8-PeCDF	A	50.000	45.1	1.0148670	0.9163551		-9.7	+/-18
2,3,4,7,8-PeCDF	A	50.000	43.1	1.1255490	0.9701167		-13.8	+/-18
1,2,3,7,8-PeCDD	A	50.000	48.6	0.9953229	0.9682660		-2.7	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	47.7	1.0168930	0.9708959		-4.5	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	48.1	1.0368310	0.9969185		-3.8	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	47.8	1.0524660	1.0070310		-4.3	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	48.1	1.0301540	0.9900357		-3.9	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.4	1.0273630	0.9935481		-3.3	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	49.5	1.0089800	0.9996812		-0.9	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	51.1	0.9504865	0.8939381		2.2	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	45.0	1.3273500	1.1952090		-10.0	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	45.5	1.2833380	1.1682710		-9.0	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	47.9	1.0680880	1.0238150		-4.1	+/-14
OCDF	A	100.00	75.9	1.4469010	1.0977710		-24.1	+/-37
OCDD	A	100.00	96.2	1.1808230	1.1358240		-3.8	+/-21
13C12-2,3,7,8-TCDF	A	100.00	93.4	1.4265830	1.3325658		-6.6	+/-29
13C12-2,3,7,8-TCDD	A	100.00	105	1.1164910	1.1668230		4.5	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	76.6	1.2973130	0.9942700		-23.4	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	76.4	1.2364800	0.9443796		-23.6	+/-23 *
13C12-1,2,3,7,8-PeCDD	A	100.00	81.4	0.7319833	0.5959225		-18.6	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	101	1.2424560	1.2517250		0.7	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	95.2	1.3434760	1.2783967		-4.8	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	95.2	1.2148550	1.1563595		-4.8	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	92.8	1.0076370	0.9345957		-7.2	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	101	0.9598233	0.9662140		0.7	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	97.3	1.0413850	1.0127737		-2.7	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	82.5	0.9264704	0.7642663		-17.5	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	76.0	0.7579160	0.5757043		-24.0	+/-23 *
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	90.0	0.6324476	0.5688940		-10.0	+/-28
13C12-OCDD	A	200.00	162	0.5037432	0.4089740		-18.8	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.93	1.0835930	1.0761041		-0.7	

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.776	1.001	3.728e4	5.342e4	1.108	0.698	0.770	1065	1227	5.27e5	7.72e5	495.3	628.9	NO	bb	bb	8.528
12378-PeCDF	29.931	1.001	1.951e5	1.331e5	1.015	1.466	1.550	1497	1612	2.92e6	1.98e6	1953.8	1230.1	NO	bb	bd	45.147
23478-PeCDF	31.280	1.001	1.986e5	1.315e5	1.126	1.510	1.550	1497	1612	2.93e6	1.94e6	1960.3	1205.5	NO	bb	bb	43.095
123478-HxCDF	34.901	1.001	1.718e5	1.463e5	1.017	1.174	1.240	1836	1543	2.72e6	2.31e6	1479.1	1496.1	NO	bd	bd	47.738
234678-HxCDF	35.914	1.001	1.647e5	1.400e5	1.052	1.176	1.240	1836	1543	2.56e6	2.19e6	1396.5	1420.3	NO	bb	bb	47.842
123678-HxCDF	35.034	1.000	1.803e5	1.532e5	1.037	1.177	1.240	1836	1543	2.70e6	2.31e6	1470.4	1498.3	NO	db	db	48.075
123789-HxCDF	36.939	1.000	1.308e5	1.114e5	1.030	1.174	1.240	1836	1543	2.01e6	1.76e6	1097.1	1141.0	NO	bb	bb	48.053
1234678-HpCDF	38.789	1.001	1.208e5	1.182e5	1.327	1.022	1.050	1388	1238	1.83e6	1.81e6	1321.4	1459.5	NO	bd	bd	45.022
1234789-HpCDF	41.028	1.000	8.861e4	8.741e4	1.283	1.014	1.050	1388	1238	1.21e6	1.14e6	870.6	923.4	NO	bd	bd	45.517
OCDF	45.279	1.006	1.113e5	1.237e5	1.447	0.899	0.890	1542	711	1.16e6	1.32e6	753.7	1853.6	NO	bd	bd	75.871
2378-TCDD	26.396	1.001	3.373e4	4.280e4	0.920	0.788	0.770	1044	1085	4.99e5	6.30e5	478.5	580.6	NO	bd	bb	9.891
12378-PeCDD	31.514	1.000	1.276e5	8.031e4	0.995	1.589	1.550	1934	1151	1.98e6	1.26e6	1025.9	1097.6	NO	bb	bb	48.641
123478-HxCDD	36.014	1.001	1.395e5	1.118e5	1.027	1.248	1.240	1560	1352	2.27e6	1.79e6	1458.0	1324.6	NO	bd	bd	48.354
123678-HxCDD	36.126	1.000	1.474e5	1.175e5	1.009	1.254	1.240	1560	1352	2.39e6	1.88e6	1532.9	1387.5	NO	db	db	49.539
123789-HxCDD	36.516	1.011	1.416e5	1.100e5	0.950	1.287	1.240	1560	1352	2.26e6	1.80e6	1447.6	1328.3	NO	bb	bb	51.111
1234678-HpCDD	40.282	1.000	7.881e4	7.363e4	1.068	1.070	1.050	1188	1090	1.13e6	1.09e6	950.9	997.2	NO	bb	bb	47.927
OCDD	45.041	1.000	1.160e5	1.272e5	1.181	0.912	0.890	848	1070	1.20e6	1.32e6	1414.9	1235.4	NO	bd	bd	96.189
13C-2378-TCDF	25.746	1.007	4.208e5	5.393e5	1.427	0.780	0.770	2136	1423	6.18e6	7.98e6	2892.3	5605.3	NO	bb	bb	93.410
13C-12378-PeCDF	29.909	1.170	4.408e5	2.756e5	1.297	1.599	1.550	1574	2033	6.62e6	4.14e6	4203.3	2035.3	NO	bb	bb	76.641
13C-23478-PeCDF	31.257	1.223	4.188e5	2.617e5	1.236	1.601	1.550	1574	2033	6.21e6	3.78e6	3945.2	1861.8	NO	bb	bb	76.376
13C-123478-HxCDF	34.878	0.955	2.217e5	4.335e5	1.242	0.512	0.510	1867	2625	3.39e6	6.74e6	1818.1	2569.8	NO	bd	bd	100.746
13C-123678-HxCDF	35.023	0.959	2.317e5	4.375e5	1.343	0.530	0.510	1867	2625	3.55e6	6.70e6	1898.6	2552.5	NO	db	db	95.156
13C-234678-HxCDF	35.892	0.983	2.082e5	3.971e5	1.215	0.524	0.510	1867	2625	3.22e6	6.26e6	1724.6	2383.8	NO	bb	bb	95.185
13C-123789-HxCDF	36.928	1.012	1.682e5	3.210e5	1.008	0.524	0.510	1867	2625	2.71e6	5.27e6	1451.1	2009.0	NO	bb	bb	92.751
13C-1234678-HpCDF	38.766	1.062	1.233e5	2.768e5	0.926	0.445	0.440	1305	1217	1.87e6	4.21e6	1432.6	3461.7	NO	bd	bd	82.492
13C-1234789-HpCDF	41.017	1.124	9.290e4	2.084e5	0.758	0.446	0.440	1305	1217	1.28e6	2.84e6	981.7	2332.9	NO	bd	bb	75.959
13C-1234-TCDD	25.564	0.000	3.115e5	4.090e5	1.000	0.762	0.770	1970	928	4.87e6	6.38e6	2469.6	6877.9	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.032	3.626e5	4.781e5	1.116	0.758	0.770	1970	928	5.43e6	7.15e6	2756.8	7706.5	NO	bb	bb	104.508
13C-12378-PeCDD	31.502	1.232	2.595e5	1.699e5	0.732	1.528	1.550	949	764	3.87e6	2.48e6	4079.1	3238.7	NO	bb	bd	81.412
13C-123478-HxCDD	35.992	0.986	2.808e5	2.249e5	0.960	1.249	1.240	1736	1332	4.81e6	3.76e6	2770.6	2820.3	NO	bd	bd	100.666
13C-123678-HxCDD	36.115	0.989	2.990e5	2.311e5	1.041	1.294	1.240	1736	1332	4.70e6	3.61e6	2704.9	2710.6	NO	db	db	97.253
13C-1234678-HpCDD	40.270	1.103	1.527e5	1.451e5	0.632	1.052	1.050	1082	1086	2.18e6	2.10e6	2011.0	1929.4	NO	bb	bb	89.951
13C-OCDD	45.022	1.233	2.034e5	2.248e5	0.504	0.905	0.890	1066	1154	2.22e6	2.46e6	2082.2	2135.4	NO	bb	bb	162.374
13C-123789-HxCDD	36.505	0.000	2.910e5	2.325e5	1.000	1.252	1.240	1736	1332	4.73e6	3.86e6	2725.1	2896.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.396	1.033	7.754e4		1.084			1358		1.14e6		841.6			bb		9.931

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.238	0.864	5.051e4	6.758e4	1.425	0.748	0.770	1065	1227	7.52e5	1.02e6	706.2	834.6	NO	bb	bd	8.630
1289-TCDF	27.273	1.059	3.651e4	5.118e4	1.043	0.713	0.770	1065	1227	4.97e5	7.11e5	466.5	579.4	NO	dd	db	8.756
13468-PECDF	27.106	0.906	3.738e5	2.421e5	1.376	1.544	1.550	657	1080	5.62e6	3.63e6	8554.1	3356.2	NO	bb	bb	62.468
12389-PECDF	32.315	1.080	1.860e5	1.285e5	1.000	1.447	1.550	1497	1612	2.66e6	1.80e6	1774.1	1113.6	NO	bb	bb	43.931
123468-HXCDF	33.229	0.953	1.846e5	1.543e5	1.087	1.197	1.240	1836	1543	2.83e6	2.34e6	1540.7	1515.4	NO	bb	bb	47.602
1368-TCDD	23.508	0.891	3.366e4	4.395e4	0.923	0.766	0.770	1044	1085	5.19e5	6.89e5	497.4	634.9	NO	bb	bb	9.998
1289-TCDD	27.016	1.024	2.965e4	3.640e4	0.794	0.814	0.770	1044	1085	4.34e5	5.28e5	416.3	486.1	NO	bd	bb	9.895
12479-PECDD	28.784	0.914	2.413e5	1.476e5	1.843	1.634	1.550	1934	1151	2.35e6	1.43e6	1215.9	1240.6	NO	bb	bb	49.135
12389-PECDD	31.926	1.013	1.511e5	9.465e4	1.154	1.597	1.550	1934	1151	2.36e6	1.45e6	1218.5	1258.5	NO	bb	bb	49.620
124679-HXCDD	33.998	0.945	1.604e5	1.272e5	1.125	1.261	1.240	1560	1352	2.50e6	1.92e6	1602.1	1420.5	NO	bb	bb	50.538
1234679-HPCDD	39.234	0.974	8.942e4	8.423e4	1.211	1.062	1.050	1188	1090	1.38e6	1.31e6	1162.7	1202.5	NO	bb	bb	48.157
Total-tetrafurans			1.250e5		1.192			1065		1.78e6							26.066
Total-penta1			3.738e5					657		5.62e6							62.468
Total-pentafurans			6.128e5		1.047			1497		9.01e6							139.794
Total-hexafurans			8.322e5		1.045			1836		1.28e7							239.310
Total-heptafurans			2.101e5		1.305			1388		3.05e6							90.816
Total-Furans			2.265e6		1.158			1065		3.35e7							634.325
Total-tetradioxins			1.644e5		0.879			1044		2.21e6							50.824
Total-pentadioxins			5.206e5		1.331			1934		6.70e6							147.578
Total-hexadioxins			5.894e5		1.028			1560		9.43e6							199.709
Total-heptadioxins			1.682e5		1.140			1188		2.51e6							96.084
Total-Dioxins			1.559e6		1.092			1044		2.21e7							590.384
Total-TEQ			3.824e6					1044		5.55e7							1224.709
FUNCTION1 PFK			1.964e6					596506		3.93e7							
FUNCTION2 PFK			5.135e6					407960		1.66e7							0.000
FUNCTION3 PFK			5.952e4					439457		6.90e5							0.000
FUNCTION4 PFK			2.141e5					255541		5.67e6							
FUNCTION5 PFK			3.449e6					196586		2.23e7							
FUNCTION1 HXCD...			1.200e3					562		1.80e4							0.000
FUNCTION1 HPCD...			1.635e3					703		2.34e4							0.000
FUNCTION2 HPCD...			3.725e2					1126		8.48e3							0.000
FUNCTION3 OCDPE			6.548e2					830		1.36e4							0.000
FUNCTION4 NCDPE			9.860e1					603		2.93e3							0.000
FUNCTION5 DCDPE			0.000e0					546		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.651e4	5.118e4	1.043	0.71	0.77	466.5	YES	NO	dd	db	8.756
2	2378-TCDF	25.78	3.728e4	5.342e4	1.108	0.70	0.77	495.3	YES	NO	bb	bb	8.528
3	Total-tetrafurans	24.67	2.933e2	4.394e2	1.192	0.67	0.77	3.9	YES	NO	db	db	0.064
4	Total-tetrafurans	24.54	4.214e2	5.672e2	1.192	0.74	0.77	4.8	YES	NO	bd	bd	0.086
5	1368-TCDF	22.24	5.051e4	6.758e4	1.425	0.75	0.77	706.2	YES	NO	bb	bd	8.630

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.11	3.738e5	2.421e5	1.376	1.54	1.55	8554.1	YES	NO	bb	bb	62.468

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.28	1.986e5	1.315e5	1.126	1.51	1.55	1960.3	YES	NO	bb	bb	43.095
2	12378-PeCDF	29.93	1.951e5	1.331e5	1.015	1.47	1.55	1953.8	YES	NO	bb	bd	45.147
3	Total-pentafurans	28.77	3.311e4	2.260e4	1.047	1.47	1.55	334.1	YES	NO	bb	bb	7.621
4	12389-PECDF	32.32	1.860e5	1.285e5	1.000	1.45	1.55	1774.1	YES	NO	bb	bb	43.931

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	35.03	1.803e5	1.532e5	1.037	1.18	1.24	1470.4	YES	NO	db	db	48.075
2	123478-HxCDF	34.90	1.718e5	1.463e5	1.017	1.17	1.24	1479.1	YES	NO	bd	bd	47.738
3	123468-HXCDF	33.23	1.846e5	1.543e5	1.087	1.20	1.24	1540.7	YES	NO	bb	bb	47.602
4	123789-HxCDF	36.94	1.308e5	1.114e5	1.030	1.17	1.24	1097.1	YES	NO	bb	bb	48.053
5	234678-HxCDF	35.91	1.647e5	1.400e5	1.052	1.18	1.24	1396.5	YES	NO	bb	bb	47.842

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	41.30	6.303e2	6.380e2	1.305	0.99	1.05	6.1	YES	NO	db	dd	0.277
2	1234789-HpCDF	41.03	8.861e4	8.741e4	1.283	1.01	1.05	870.6	YES	NO	bd	bd	45.517
3	1234678-HpCDF	38.79	1.208e5	1.182e5	1.327	1.02	1.05	1321.4	YES	NO	bd	bd	45.022

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.651e4	5.118e4	1.043	0.71	0.77	466.5	YES	NO	dd	db	8.756
2	2378-TCDF	25.78	3.728e4	5.342e4	1.108	0.70	0.77	495.3	YES	NO	bb	bb	8.528
3	Total-tetrafurans	24.67	2.933e2	4.394e2	1.192	0.67	0.77	3.9	YES	NO	db	db	0.064
4	Total-tetrafurans	24.54	4.214e2	5.672e2	1.192	0.74	0.77	4.8	YES	NO	bd	bd	0.086
5	1368-TCDF	22.24	5.051e4	6.758e4	1.425	0.75	0.77	706.2	YES	NO	bb	bd	8.630
6	23478-PeCDF	31.28	1.986e5	1.315e5	1.126	1.51	1.55	1960.3	YES	NO	bb	bb	43.095
7	12378-PeCDF	29.93	1.951e5	1.331e5	1.015	1.47	1.55	1953.8	YES	NO	bb	bd	45.147
8	Total-pentafurans	28.77	3.311e4	2.260e4	1.047	1.47	1.55	334.1	YES	NO	bb	bb	7.621
9	123678-HxCDF	35.03	1.803e5	1.532e5	1.037	1.18	1.24	1470.4	YES	NO	db	db	48.075
10	123478-HxCDF	34.90	1.718e5	1.463e5	1.017	1.17	1.24	1479.1	YES	NO	bd	bd	47.738
11	123468-HXCDF	33.23	1.846e5	1.543e5	1.087	1.20	1.24	1540.7	YES	NO	bb	bb	47.602
12	12389-PECDF	32.32	1.860e5	1.285e5	1.000	1.45	1.55	1774.1	YES	NO	bb	bb	43.931
13	123789-HxCDF	36.94	1.308e5	1.114e5	1.030	1.17	1.24	1097.1	YES	NO	bb	bb	48.053
14	234678-HxCDF	35.91	1.647e5	1.400e5	1.052	1.18	1.24	1396.5	YES	NO	bb	bb	47.842
15	Total-heptafurans	41.30	6.303e2	6.380e2	1.305	0.99	1.05	6.1	YES	NO	db	dd	0.277
16	1234789-HpCDF	41.03	8.861e4	8.741e4	1.283	1.01	1.05	870.6	YES	NO	bd	bd	45.517
17	1234678-HpCDF	38.79	1.208e5	1.182e5	1.327	1.02	1.05	1321.4	YES	NO	bd	bd	45.022
18	OCDF	45.28	1.113e5	1.237e5	1.447	0.90	0.89	753.7	YES	NO	bd	bd	75.871
19	13468-PECDF	27.11	3.738e5	2.421e5	1.376	1.54	1.55	8554.1	YES	NO	bb	bb	62.468

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	27.02	2.965e4	3.640e4	0.794	0.81	0.77	416.3	YES	NO	bd	bb	9.895
2	2378-TCDD	26.40	3.373e4	4.280e4	0.920	0.79	0.77	478.5	YES	NO	bd	bb	9.891
3	Total-tetradioxins	26.08	5.004e4	6.537e4	0.879	0.77	0.77	486.1	YES	NO	bb	bb	15.614
4	Total-tetradioxins	25.58	1.536e4	2.027e4	0.879	0.76	0.77	221.4	YES	NO	bb	bb	4.820
5	Total-tetradioxins	24.99	4.331e2	5.548e2	0.879	0.78	0.77	5.2	YES	NO	bb	bb	0.134
6	Total-tetradioxins	24.72	1.571e3	1.923e3	0.879	0.82	0.77	13.7	YES	NO	bb	bb	0.473
7	1368-TCDD	23.51	3.366e4	4.395e4	0.923	0.77	0.77	497.4	YES	NO	bb	bb	9.998

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.93	1.511e5	9.465e4	1.154	1.60	1.55	1218.5	YES	NO	bb	bb	49.620
2	12378-PeCDD	31.51	1.276e5	8.031e4	0.995	1.59	1.55	1025.9	YES	NO	bb	bb	48.641
3	Total-pentadioxins	30.83	6.270e2	4.115e2	1.331	1.52	1.55	5.7	YES	NO	bb	bb	0.182
4	12479-PECDD	28.78	2.413e5	1.476e5	1.843	1.63	1.55	1215.9	YES	NO	bb	bb	49.135

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.52	1.416e5	1.100e5	0.950	1.29	1.24	1447.6	YES	NO	bb	bb	51.111
2	123678-HxCDD	36.13	1.474e5	1.175e5	1.009	1.25	1.24	1532.9	YES	NO	db	db	49.539
3	123478-HxCDD	36.01	1.395e5	1.118e5	1.027	1.25	1.24	1458.0	YES	NO	bd	bd	48.354
4	Total-hexadioxins	35.15	4.690e2	4.183e2	1.028	1.12	1.24	6.3	YES	NO	db	db	0.167
5	124679-HXCDD	34.00	1.604e5	1.272e5	1.125	1.26	1.24	1602.1	YES	NO	bb	bb	50.538

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	39.23	8.942e4	8.423e4	1.211	1.06	1.05	1162.7	YES	NO	bb	bb	48.157
2	1234678-HpCDD	40.28	7.881e4	7.363e4	1.068	1.07	1.05	950.9	YES	NO	bb	bb	47.927

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	27.02	2.965e4	3.640e4	0.794	0.81	0.77	416.3	YES	NO	bd	bb	9.895
2	2378-TCDD	26.40	3.373e4	4.280e4	0.920	0.79	0.77	478.5	YES	NO	bd	bb	9.891
3	Total-tetradioxins	26.08	5.004e4	6.537e4	0.879	0.77	0.77	486.1	YES	NO	bb	bb	15.614
4	Total-tetradioxins	25.58	1.536e4	2.027e4	0.879	0.76	0.77	221.4	YES	NO	bb	bb	4.820
5	Total-tetradioxins	24.99	4.331e2	5.548e2	0.879	0.78	0.77	5.2	YES	NO	bb	bb	0.134
6	Total-tetradioxins	24.72	1.571e3	1.923e3	0.879	0.82	0.77	13.7	YES	NO	bb	bb	0.473
7	1368-TCDD	23.51	3.366e4	4.395e4	0.923	0.77	0.77	497.4	YES	NO	bb	bb	9.998
8	12389-PECDD	31.93	1.511e5	9.465e4	1.154	1.60	1.55	1218.5	YES	NO	bb	bb	49.620
9	12378-PeCDD	31.51	1.276e5	8.031e4	0.995	1.59	1.55	1025.9	YES	NO	bb	bb	48.641
10	Total-pentadioxins	30.83	6.270e2	4.115e2	1.331	1.52	1.55	5.7	YES	NO	bb	bb	0.182
11	12479-PECDD	28.78	2.413e5	1.476e5	1.843	1.63	1.55	1215.9	YES	NO	bb	bb	49.135
12	123789-HxCDD	36.52	1.416e5	1.100e5	0.950	1.29	1.24	1447.6	YES	NO	bb	bb	51.111
13	123678-HxCDD	36.13	1.474e5	1.175e5	1.009	1.25	1.24	1532.9	YES	NO	db	db	49.539
14	123478-HxCDD	36.01	1.395e5	1.118e5	1.027	1.25	1.24	1458.0	YES	NO	bd	bd	48.354
15	Total-hexadioxins	35.15	4.690e2	4.183e2	1.028	1.12	1.24	6.3	YES	NO	db	db	0.167
16	124679-HXCDD	34.00	1.604e5	1.272e5	1.125	1.26	1.24	1602.1	YES	NO	bb	bb	50.538
17	1234679-HPCDD	39.23	8.942e4	8.423e4	1.211	1.06	1.05	1162.7	YES	NO	bb	bb	48.157
18	OCDD	45.04	1.160e5	1.272e5	1.181	0.91	0.89	1414.9	YES	NO	bd	bd	96.189
19	1234678-HpCDD	40.28	7.881e4	7.363e4	1.068	1.07	1.05	950.9	YES	NO	bb	bb	47.927

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.651e4	5.118e4	1.043	0.71	0.77	466.5	YES	NO	dd	db	8.756
2	2378-TCDF	25.78	3.728e4	5.342e4	1.108	0.70	0.77	495.3	YES	NO	bb	bb	8.528
3	Total-tetrafurans	24.67	2.933e2	4.394e2	1.192	0.67	0.77	3.9	YES	NO	db	db	0.064
4	Total-tetrafurans	24.54	4.214e2	5.672e2	1.192	0.74	0.77	4.8	YES	NO	bd	bd	0.086
5	1368-TCDF	22.24	5.051e4	6.758e4	1.425	0.75	0.77	706.2	YES	NO	bb	bd	8.630
6	23478-PeCDF	31.28	1.986e5	1.315e5	1.126	1.51	1.55	1960.3	YES	NO	bb	bb	43.095
7	12378-PeCDF	29.93	1.951e5	1.331e5	1.015	1.47	1.55	1953.8	YES	NO	bb	bd	45.147
8	Total-pentafurans	28.77	3.311e4	2.260e4	1.047	1.47	1.55	334.1	YES	NO	bb	bb	7.621
9	123678-HxCDF	35.03	1.803e5	1.532e5	1.037	1.18	1.24	1470.4	YES	NO	db	db	48.075
10	123478-HxCDF	34.90	1.718e5	1.463e5	1.017	1.17	1.24	1479.1	YES	NO	bd	bd	47.738
11	123468-HXCDF	33.23	1.846e5	1.543e5	1.087	1.20	1.24	1540.7	YES	NO	bb	bb	47.602
12	12389-PECDF	32.32	1.860e5	1.285e5	1.000	1.45	1.55	1774.1	YES	NO	bb	bb	43.931
13	123789-HxCDF	36.94	1.308e5	1.114e5	1.030	1.17	1.24	1097.1	YES	NO	bb	bb	48.053
14	234678-HxCDF	35.91	1.647e5	1.400e5	1.052	1.18	1.24	1396.5	YES	NO	bb	bb	47.842
15	Total-heptafurans	41.30	6.303e2	6.380e2	1.305	0.99	1.05	6.1	YES	NO	db	dd	0.277
16	1234789-HpCDF	41.03	8.861e4	8.741e4	1.283	1.01	1.05	870.6	YES	NO	bd	bd	45.517
17	1234678-HpCDF	38.79	1.208e5	1.182e5	1.327	1.02	1.05	1321.4	YES	NO	bd	bd	45.022
18	OCDF	45.28	1.113e5	1.237e5	1.447	0.90	0.89	753.7	YES	NO	bd	bd	75.871
19	13468-PECDF	27.11	3.738e5	2.421e5	1.376	1.54	1.55	8554.1	YES	NO	bb	bb	62.468
20	1289-TCDD	27.02	2.965e4	3.640e4	0.794	0.81	0.77	416.3	YES	NO	bd	bb	9.895
21	2378-TCDD	26.40	3.373e4	4.280e4	0.920	0.79	0.77	478.5	YES	NO	bd	bb	9.891
22	Total-tetradioxins	26.08	5.004e4	6.537e4	0.879	0.77	0.77	486.1	YES	NO	bb	bb	15.614
23	Total-tetradioxins	25.58	1.536e4	2.027e4	0.879	0.76	0.77	221.4	YES	NO	bb	bb	4.820
24	Total-tetradioxins	24.99	4.331e2	5.548e2	0.879	0.78	0.77	5.2	YES	NO	bb	bb	0.134
25	Total-tetradioxins	24.72	1.571e3	1.923e3	0.879	0.82	0.77	13.7	YES	NO	bb	bb	0.473
26	1368-TCDD	23.51	3.366e4	4.395e4	0.923	0.77	0.77	497.4	YES	NO	bb	bb	9.998
27	12389-PECDD	31.93	1.511e5	9.465e4	1.154	1.60	1.55	1218.5	YES	NO	bb	bb	49.620
28	12378-PeCDD	31.51	1.276e5	8.031e4	0.995	1.59	1.55	1025.9	YES	NO	bb	bb	48.641
29	Total-pentadioxins	30.83	6.270e2	4.115e2	1.331	1.52	1.55	5.7	YES	NO	bb	bb	0.182
30	12479-PECDD	28.78	2.413e5	1.476e5	1.843	1.63	1.55	1215.9	YES	NO	bb	bb	49.135
31	123789-HxCDD	36.52	1.416e5	1.100e5	0.950	1.29	1.24	1447.6	YES	NO	bb	bb	51.111
32	123678-HxCDD	36.13	1.474e5	1.175e5	1.009	1.25	1.24	1532.9	YES	NO	db	db	49.539
33	123478-HxCDD	36.01	1.395e5	1.118e5	1.027	1.25	1.24	1458.0	YES	NO	bd	bd	48.354
34	Total-hexadioxins	35.15	4.690e2	4.183e2	1.028	1.12	1.24	6.3	YES	NO	db	db	0.167
35	124679-HXCDD	34.00	1.604e5	1.272e5	1.125	1.26	1.24	1602.1	YES	NO	bb	bb	50.538
36	1234679-HPCDD	39.23	8.942e4	8.423e4	1.211	1.06	1.05	1162.7	YES	NO	bb	bb	48.157
37	OCDD	45.04	1.160e5	1.272e5	1.181	0.91	0.89	1414.9	YES	NO	bd	bd	96.189

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234678-HpCDD	40.28	7.881e4	7.363e4	1.068	1.07	1.05	950.9	YES	NO	bb	bb	47.927

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.71	5.909e3					0.7	NO		bb		
2	FUNCTION1 PFK	21.60	7.036e4					2.0	NO		db		
3	FUNCTION1 PFK	21.44	2.420e5					2.9	NO		dd		
4	FUNCTION1 PFK	21.36	1.171e5					2.9	NO		dd		
5	FUNCTION1 PFK	21.25	4.631e4					2.4	NO		bd		
6	FUNCTION1 PFK	21.18	1.924e4					1.2	NO		bb		
7	FUNCTION1 PFK	23.60	2.515e4					1.1	NO		db		
8	FUNCTION1 PFK	23.52	3.014e4					1.1	NO		dd		
9	FUNCTION1 PFK	23.45	5.424e4					1.7	NO		bd		
10	FUNCTION1 PFK	23.39	2.418e4					1.1	NO		db		
11	FUNCTION1 PFK	23.33	4.482e4					1.4	NO		bd		
12	FUNCTION1 PFK	23.24	1.074e4					0.7	NO		bb		
13	FUNCTION1 PFK	23.10	1.476e4					0.8	NO		bb		
14	FUNCTION1 PFK	23.02	6.056e4					2.2	NO		bb		
15	FUNCTION1 PFK	22.93	3.367e4					1.6	NO		db		
16	FUNCTION1 PFK	22.84	2.827e4					1.1	NO		bd		
17	FUNCTION1 PFK	22.62	2.091e4					1.0	NO		bb		
18	FUNCTION1 PFK	22.54	1.969e4					1.0	NO		bb		
19	FUNCTION1 PFK	22.43	4.396e3					0.5	NO		bb		
20	FUNCTION1 PFK	22.33	2.081e4					0.8	NO		bb		
21	FUNCTION1 PFK	22.12	1.407e4					1.0	NO		bb		
22	FUNCTION1 PFK	21.77	3.155e3					0.4	NO		bb		
23	FUNCTION1 PFK	26.27	1.272e5					2.4	NO		bb		
24	FUNCTION1 PFK	26.21	2.439e4					1.1	NO		db		
25	FUNCTION1 PFK	26.15	3.643e4					1.4	NO		bd		
26	FUNCTION1 PFK	26.02	7.860e3					0.4	NO		bb		
27	FUNCTION1 PFK	25.91	9.254e4					2.0	NO		bb		
28	FUNCTION1 PFK	25.73	1.969e4					0.8	NO		bb		
29	FUNCTION1 PFK	25.53	4.999e4					1.2	NO		bb		
30	FUNCTION1 PFK	25.10	3.899e3					0.4	NO		bb		
31	FUNCTION1 PFK	24.72	4.628e3					0.4	NO		db		
32	FUNCTION1 PFK	24.67	7.678e3					0.5	NO		bd		
33	FUNCTION1 PFK	24.25	2.518e4					1.1	NO		db		
34	FUNCTION1 PFK	24.19	2.208e4					1.1	NO		dd		
35	FUNCTION1 PFK	24.13	2.379e4					1.0	NO		bd		
36	FUNCTION1 PFK	24.04	4.210e4					1.5	NO		bb		
37	FUNCTION1 PFK	23.84	1.362e4					0.8	NO		bb		

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	23.76	2.079e4					1.0	NO		bb		
39	FUNCTION1 PFK	27.56	1.821e4					0.8	NO		bb		
40	FUNCTION1 PFK	27.27	2.526e4					1.3	NO		db		
41	FUNCTION1 PFK	27.21	7.032e4					2.6	NO		dd		
42	FUNCTION1 PFK	27.18	5.534e4					2.9	NO		bd		
43	FUNCTION1 PFK	27.11	4.686e4					2.2	NO		db		
44	FUNCTION1 PFK	27.06	6.705e4					2.2	NO		dd		
45	FUNCTION1 PFK	27.00	4.542e4					2.0	NO		dd		
46	FUNCTION1 PFK	26.94	7.080e4					2.2	NO		bd		
47	FUNCTION1 PFK	26.77	4.083e4					0.5	NO		bb		
48	FUNCTION1 PFK	26.62	4.326e4					0.9	NO		bb		
49	FUNCTION1 PFK	26.49	4.839e4					1.8	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	30.40	1.835e4					1.9	NO		bb		0.000
2	FUNCTION2 PFK	28.16	5.117e6					38.8	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.01	1.181e4					1.6	NO		bb		0.000
2	FUNCTION3 PFK	33.15	4.771e4					0.0	NO		bb		0.000

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	41.28	1.519e4					1.6	NO		bb		
2	FUNCTION4 PFK	41.09	1.305e3					0.5	NO		bb		
3	FUNCTION4 PFK	40.70	1.634e3					0.6	NO		bb		
4	FUNCTION4 PFK	40.60	3.083e3					0.6	NO		bb		
5	FUNCTION4 PFK	40.28	8.235e3					0.8	NO		bb		
6	FUNCTION4 PFK	39.87	1.078e4					1.3	NO		bb		
7	FUNCTION4 PFK	39.32	3.124e3					0.6	NO		bb		
8	FUNCTION4 PFK	38.88	3.374e3					0.7	NO		bb		
9	FUNCTION4 PFK	38.59	4.362e3					0.8	NO		db		
10	FUNCTION4 PFK	38.53	1.128e4					1.5	NO		dd		
11	FUNCTION4 PFK	38.48	9.814e3					1.6	NO		dd		
12	FUNCTION4 PFK	38.43	2.038e4					2.0	NO		bd		
13	FUNCTION4 PFK	38.16	5.663e4					1.9	NO		bb		
14	FUNCTION4 PFK	37.95	3.207e4					3.9	YES		bb		
15	FUNCTION4 PFK	42.79	9.369e3					0.9	NO		bb		
16	FUNCTION4 PFK	42.47	2.661e3					0.6	NO		bb		
17	FUNCTION4 PFK	42.08	3.458e3					0.7	NO		bb		
18	FUNCTION4 PFK	41.43	1.733e4					1.6	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.65	3.908e5					8.2	YES		db		
2	FUNCTION5 PFK	43.49	2.060e6					18.0	YES		dd		
3	FUNCTION5 PFK	43.10	4.369e5					42.0	YES		dd		
4	FUNCTION5 PFK	43.06	5.619e5					45.1	YES		bd		

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.41	1.306e2					4.7	YES		bb		0.000
2	FUNCTION1 HXCD...	26.17	2.387e2					6.8	YES		bb		0.000
3	FUNCTION1 HXCD...	25.84	7.748e1					1.6	NO		bb		0.000
4	FUNCTION1 HXCD...	25.17	8.379e1					3.3	YES		bb		0.000
5	FUNCTION1 HXCD...	24.17	1.486e2					3.1	YES		bb		0.000
6	FUNCTION1 HXCD...	22.83	8.442e1					2.3	NO		bb		0.000
7	FUNCTION1 HXCD...	27.95	7.050e1					2.0	NO		bb		0.000
8	FUNCTION1 HXCD...	27.11	2.031e2					4.0	YES		bb		0.000
9	FUNCTION1 HXCD...	26.73	1.629e2					4.4	YES		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.82	7.489e1					3.2	YES		db		0.000
2	FUNCTION1 HPCD...	26.73	1.898e2					4.3	YES		bd		0.000
3	FUNCTION1 HPCD...	26.17	1.715e2					5.8	YES		bb		0.000
4	FUNCTION1 HPCD...	25.53	9.104e1					1.3	NO		bb		0.000
5	FUNCTION1 HPCD...	25.16	8.403e1					1.2	NO		bb		0.000
6	FUNCTION1 HPCD...	24.61	9.508e1					2.0	NO		bb		0.000
7	FUNCTION1 HPCD...	24.25	8.682e1					1.7	NO		db		0.000
8	FUNCTION1 HPCD...	24.08	9.542e1					1.4	NO		bd		0.000
9	FUNCTION1 HPCD...	22.30	1.142e2					1.7	NO		bb		0.000
10	FUNCTION1 HPCD...	21.74	1.438e2					2.5	NO		db		0.000
11	FUNCTION1 HPCD...	21.60	1.225e2					1.9	NO		bd		0.000
12	FUNCTION1 HPCD...	21.16	2.416e2					3.3	YES		bb		0.000
13	FUNCTION1 HPCD...	27.27	1.239e2					3.1	YES		bb		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.08	1.800e2					3.0	NO		bb		0.000
2	FUNCTION2 HPCD...	28.98	1.100e2					2.6	NO		bb		0.000
3	FUNCTION2 HPCD...	28.73	8.245e1					1.9	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.96	8.170e1					2.0	NO		bb		0.000
2	FUNCTION3 OCDPE	36.58	8.961e1					2.9	NO		db		0.000
3	FUNCTION3 OCDPE	36.50	1.704e2					2.7	NO		bd		0.000
4	FUNCTION3 OCDPE	36.01	1.185e2					2.5	NO		bb		0.000
5	FUNCTION3 OCDPE	35.79	1.234e2					4.7	YES		bb		0.000
6	FUNCTION3 OCDPE	33.15	7.111e1					1.6	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.40	9.860e1					4.9	YES		bb		0.000

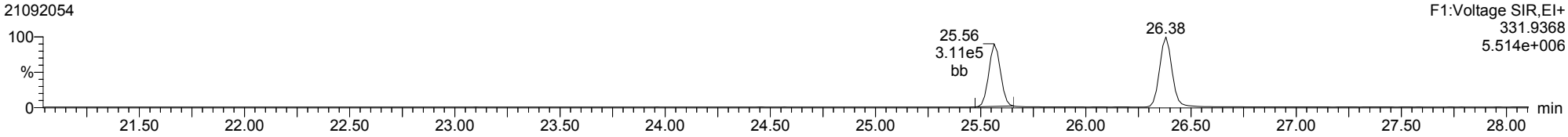
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

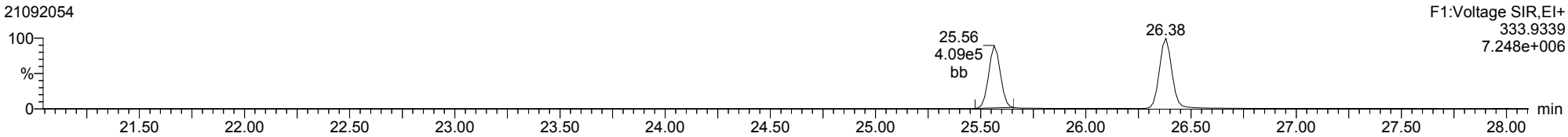
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

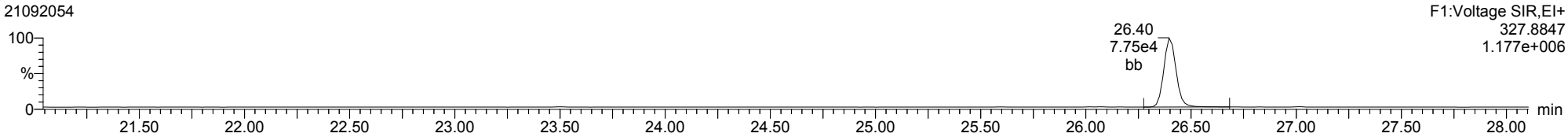
13C-1234-TCDD



13C-1234-TCDD



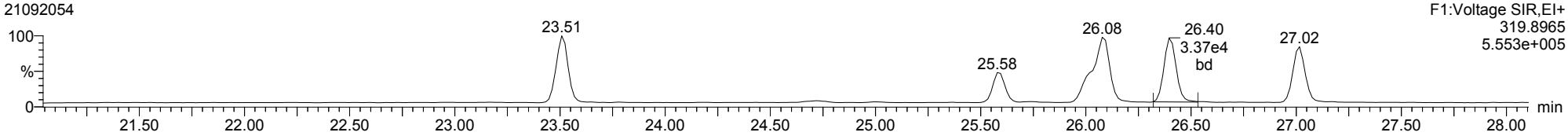
37CL-2378-TCDD



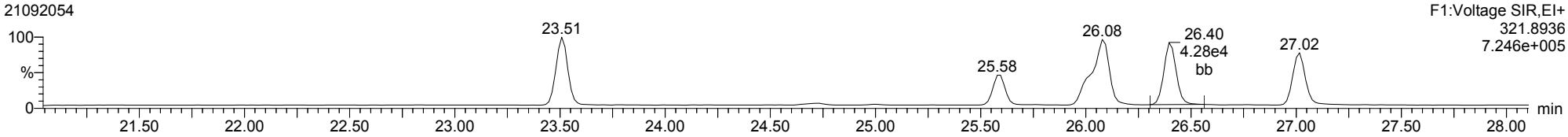
Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

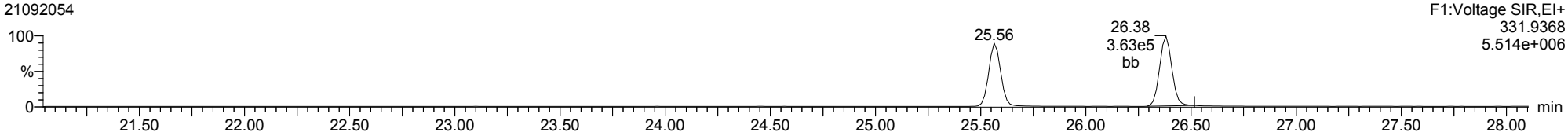
2378-TCDD



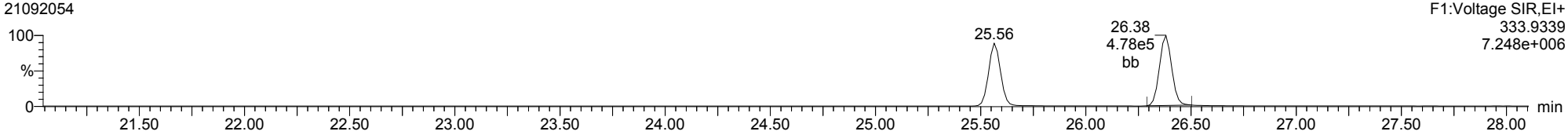
2378-TCDD



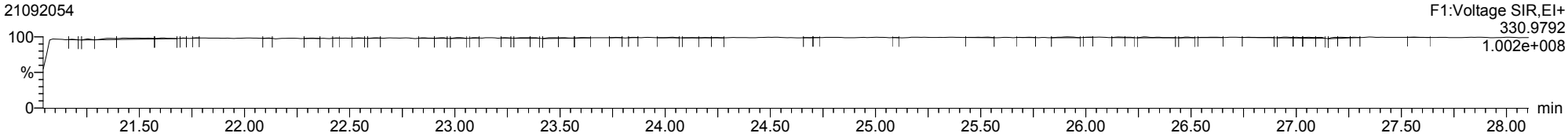
13C-2378-TCDD



13C-2378-TCDD

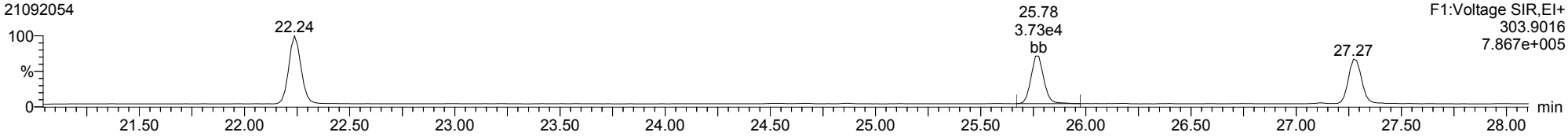


FUNCTION1 PFK

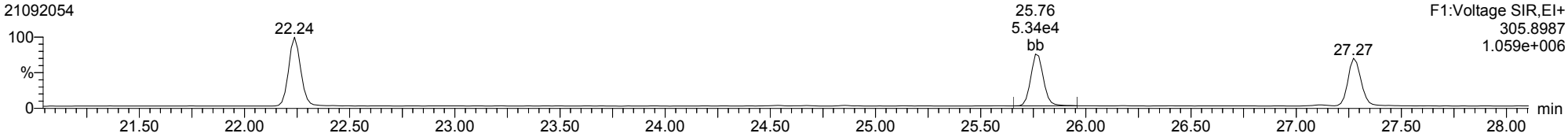


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

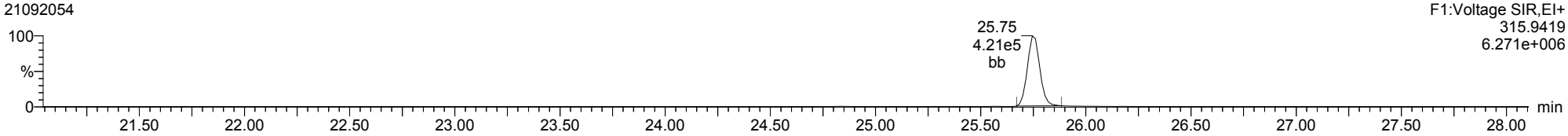
2378-TCDF



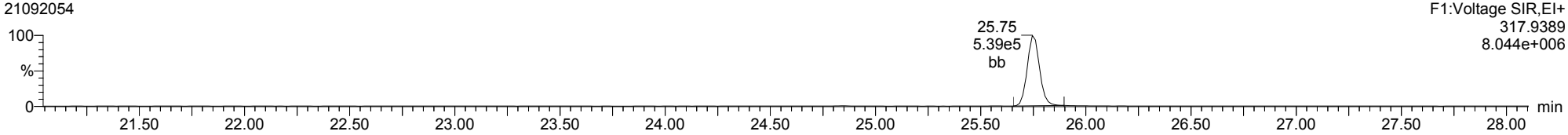
2378-TCDF



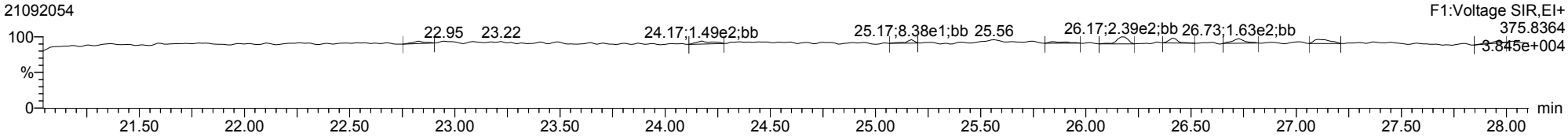
13C-2378-TCDF



13C-2378-TCDF

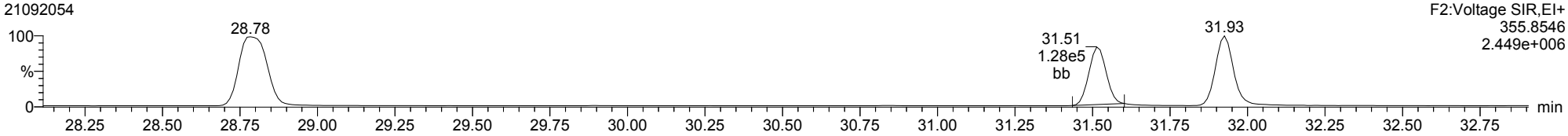


FUNCTION1 HXCDPE

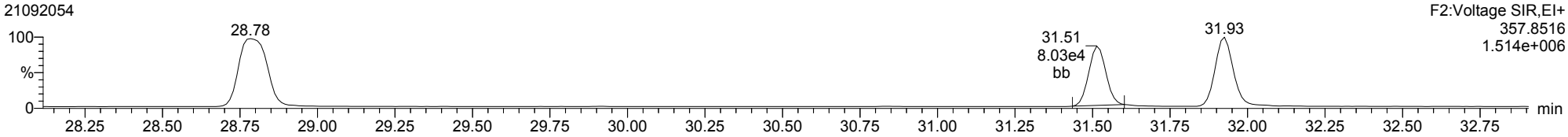


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

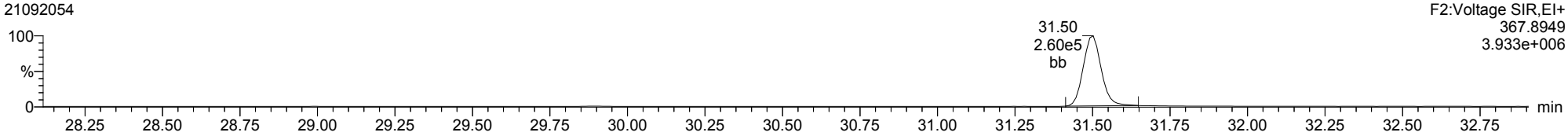
12378-PeCDD



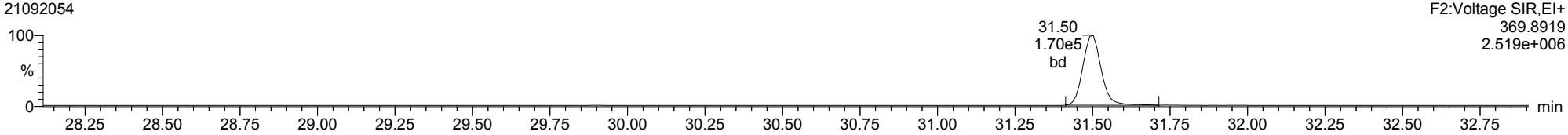
12378-PeCDD



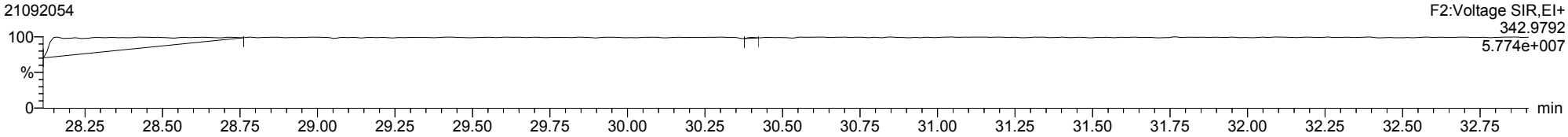
13C-12378-PeCDD



13C-12378-PeCDD

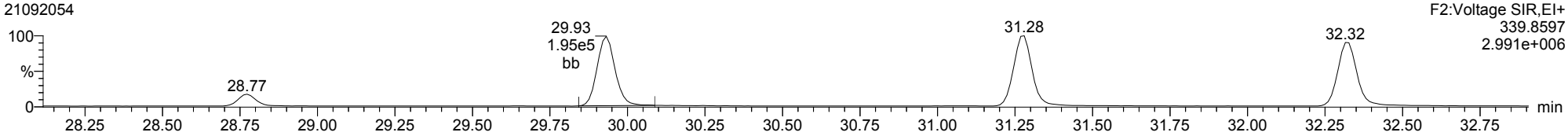


FUNCTION2 PFK

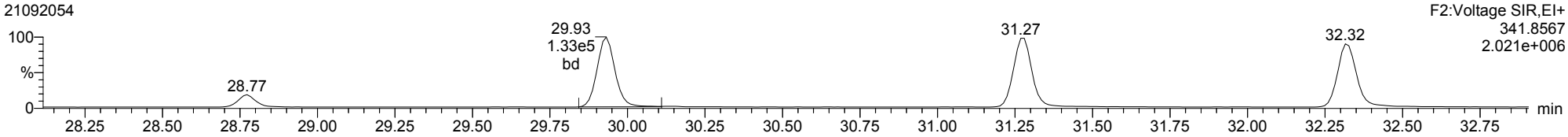


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

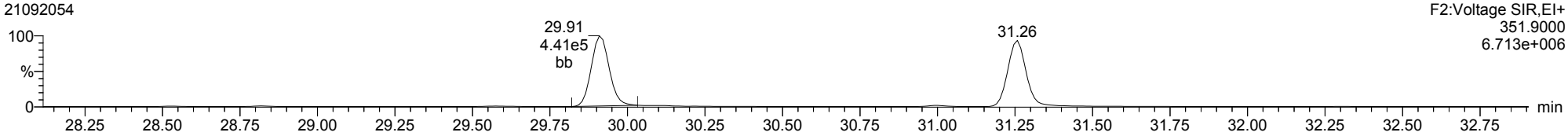
12378-PeCDF



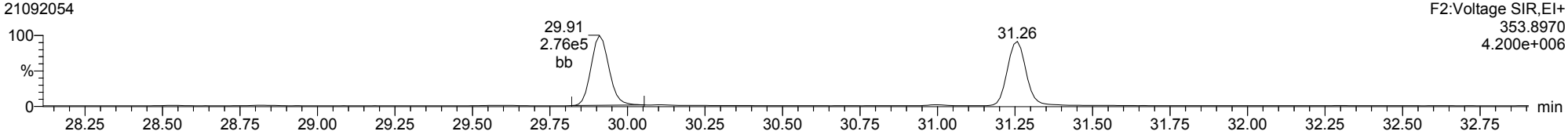
12378-PeCDF



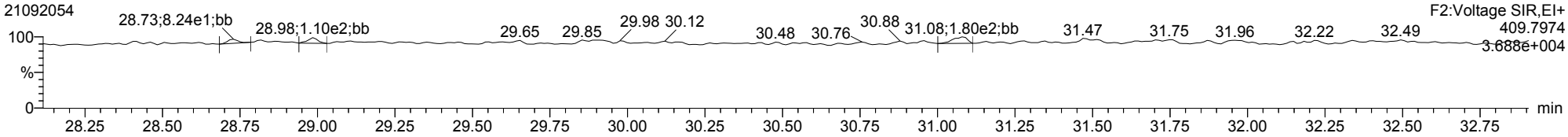
13C-12378-PeCDF



13C-12378-PeCDF

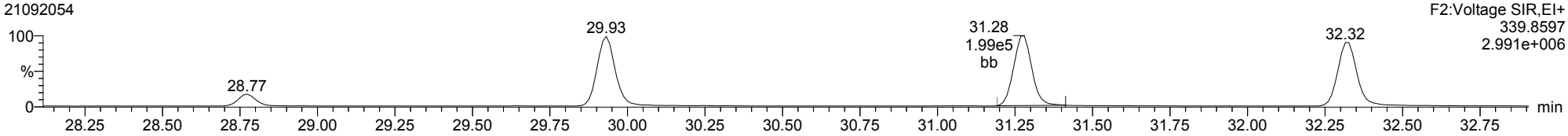


FUNCTION2 HPCDPE

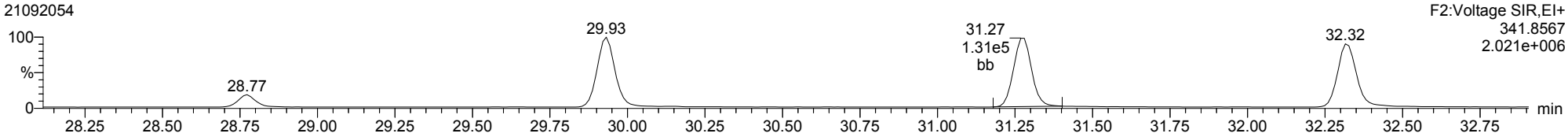


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

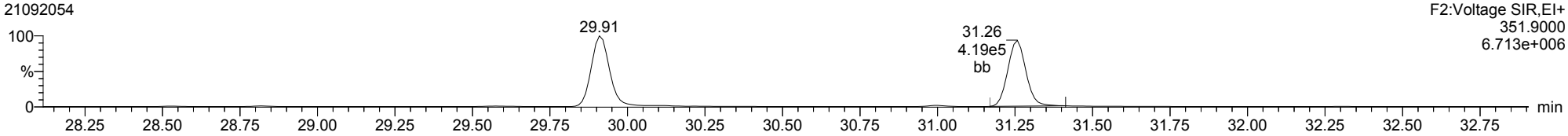
23478-PeCDF



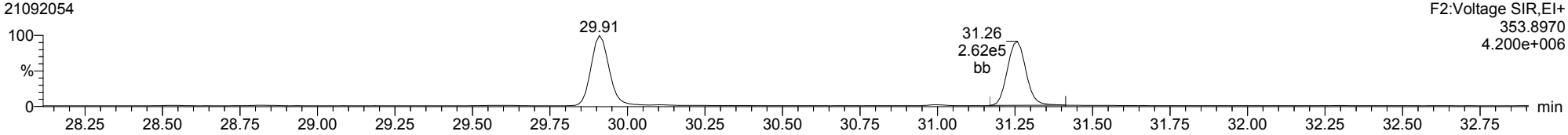
23478-PeCDF



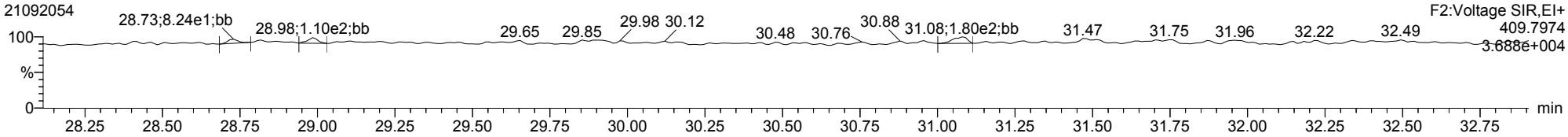
13C-23478-PeCDF



13C-23478-PeCDF

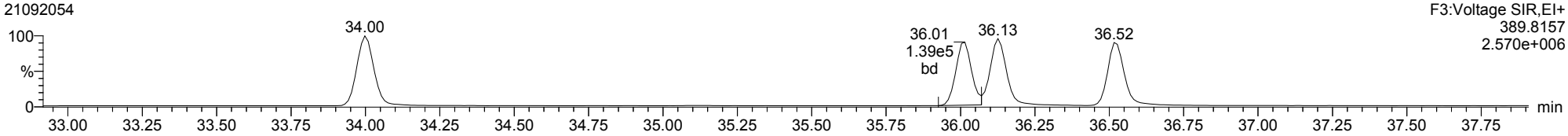


FUNCTION2 HPCDPE

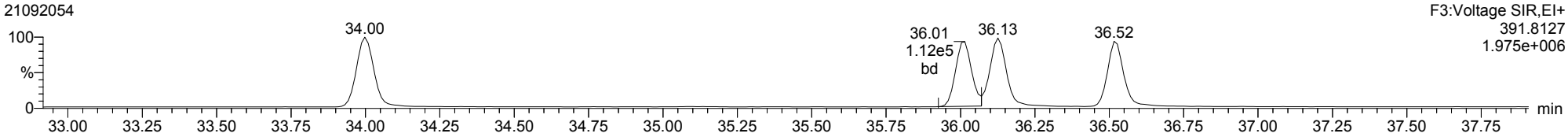


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

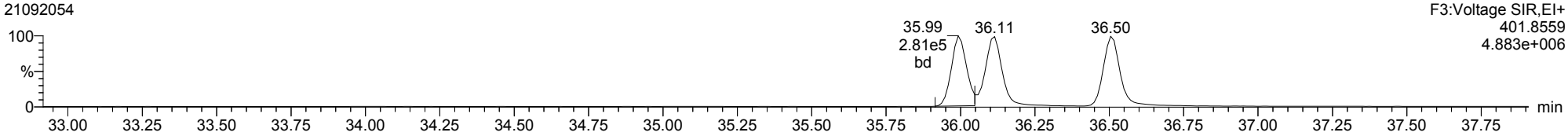
123478-HxCDD



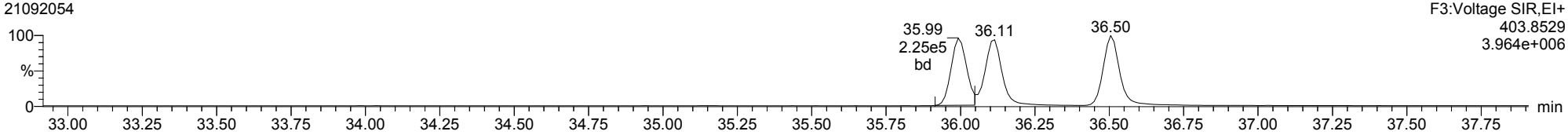
123478-HxCDD



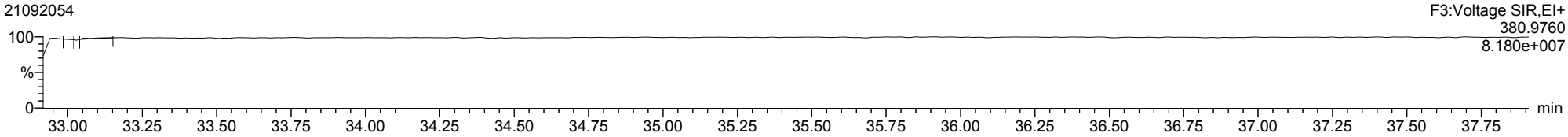
13C-123478-HxCDD



13C-123478-HxCDD

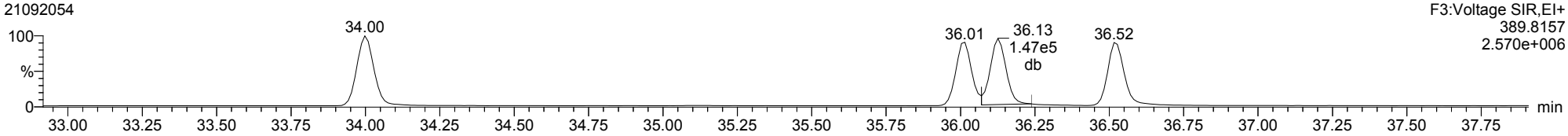


FUNCTION3 PFK

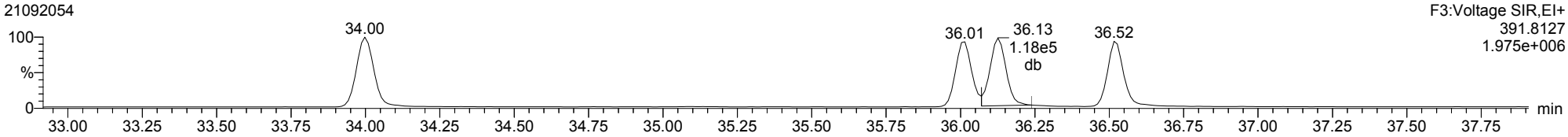


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

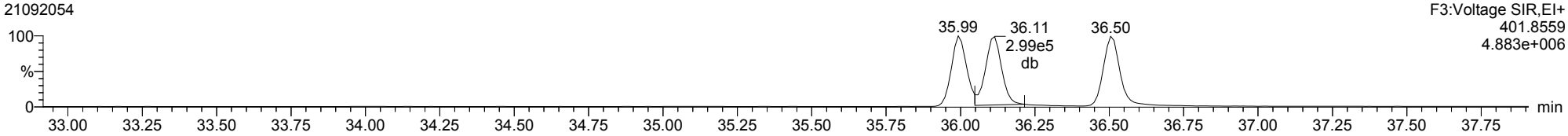
123678-HxCDD



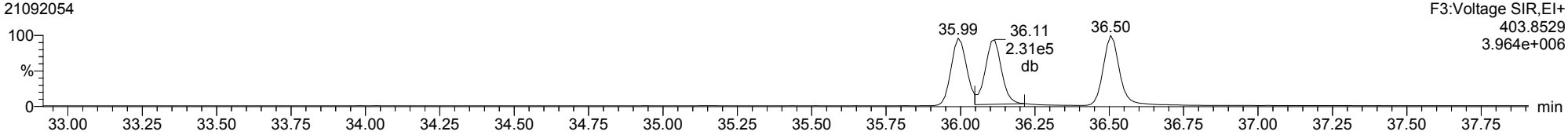
123678-HxCDD



13C-123678-HxCDD

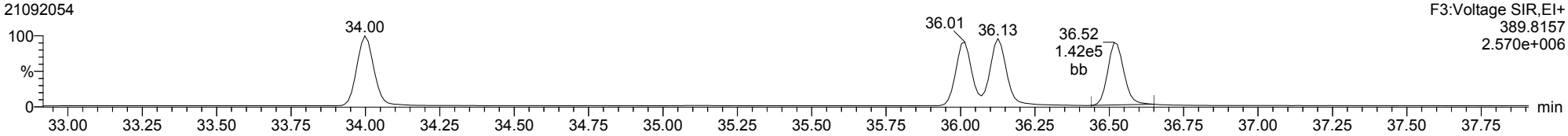


13C-123678-HxCDD

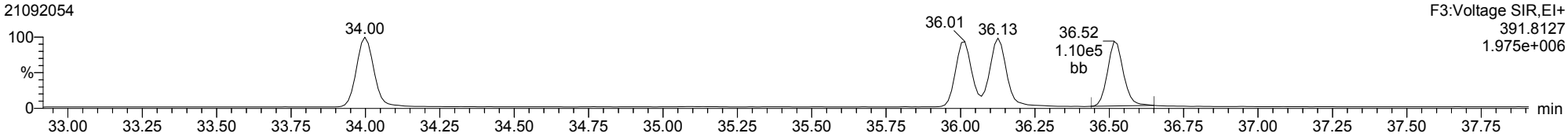


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

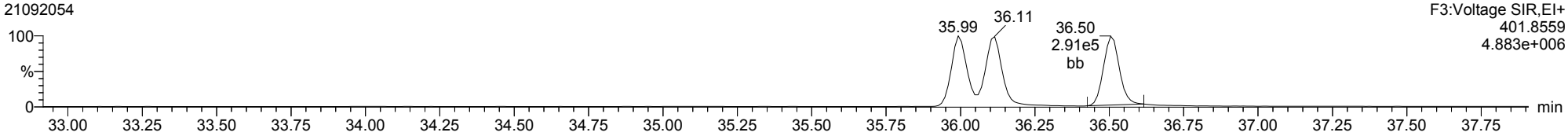
123789-HxCDD



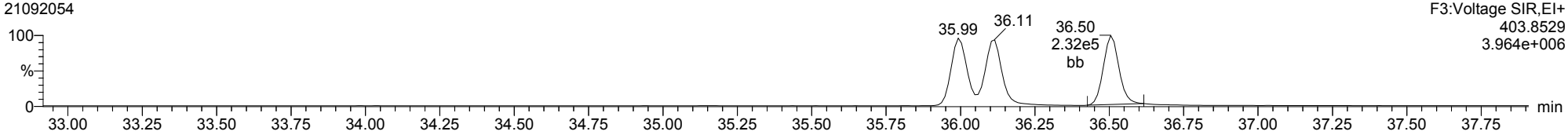
123789-HxCDD



13C-123789-HxCDD

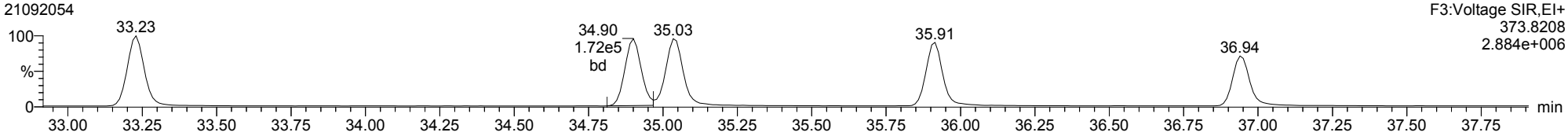


13C-123789-HxCDD

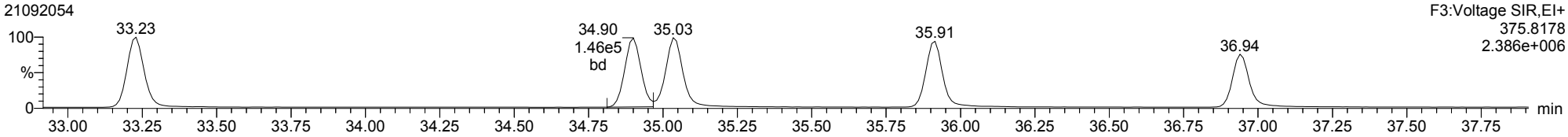


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

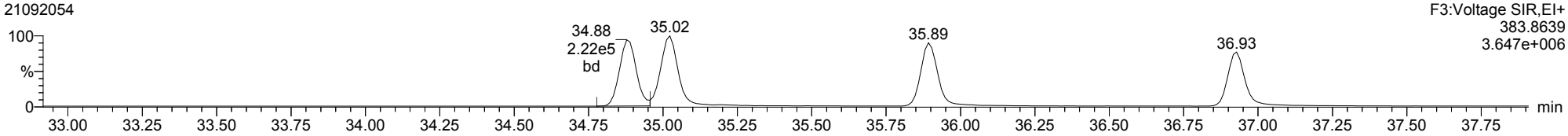
123478-HxCDF



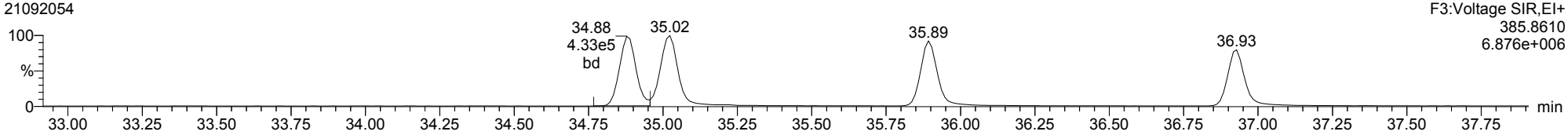
123478-HxCDF



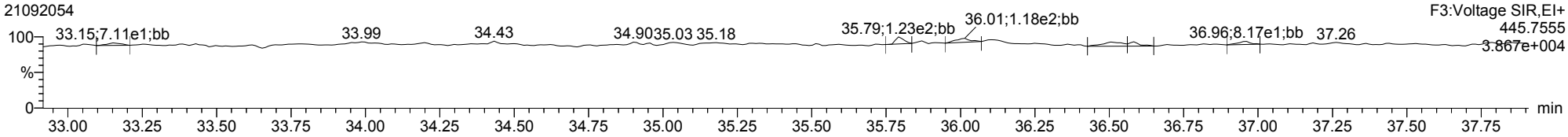
13C-123478-HxCDF



13C-123478-HxCDF

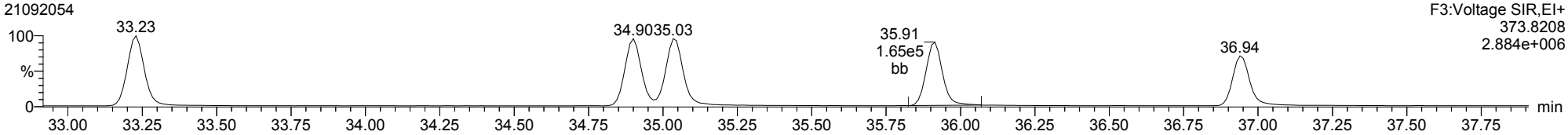


FUNCTION3 OCDPE

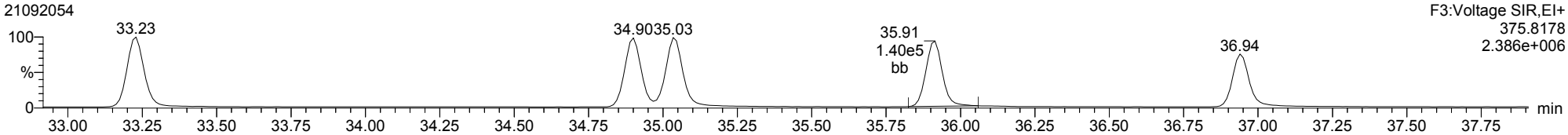


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

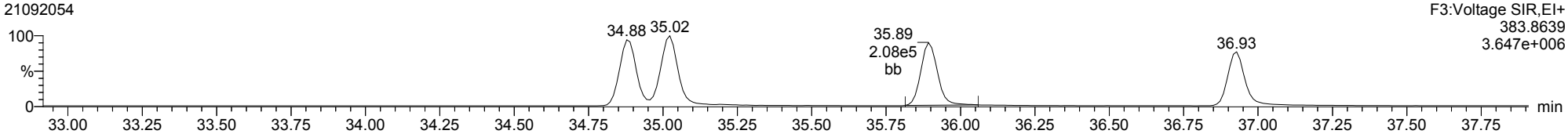
234678-HxCDF



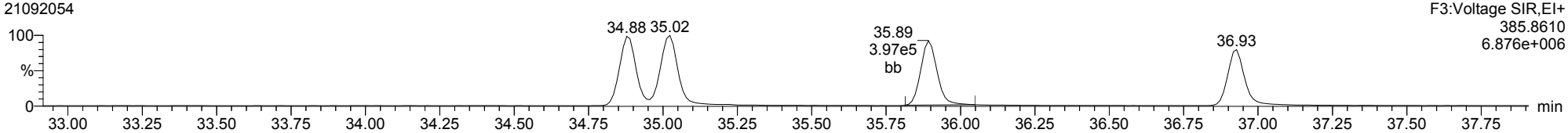
234678-HxCDF



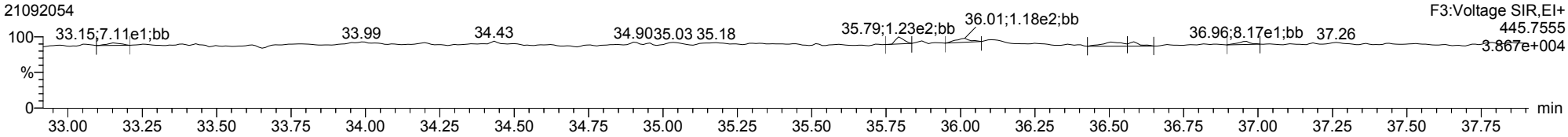
13C-234678-HxCDF



13C-234678-HxCDF

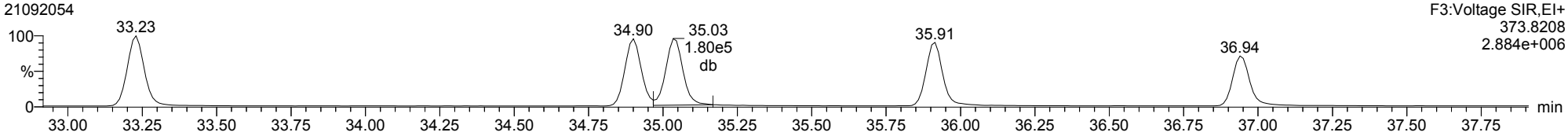


FUNCTION3 OCDPE

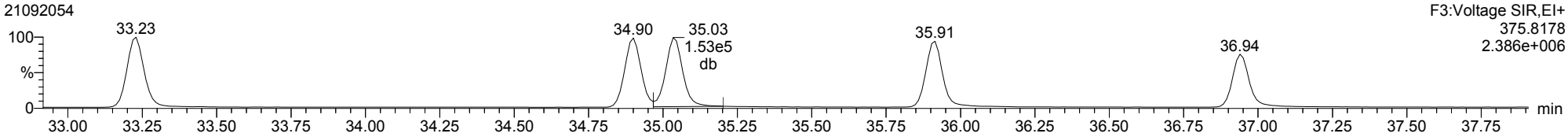


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

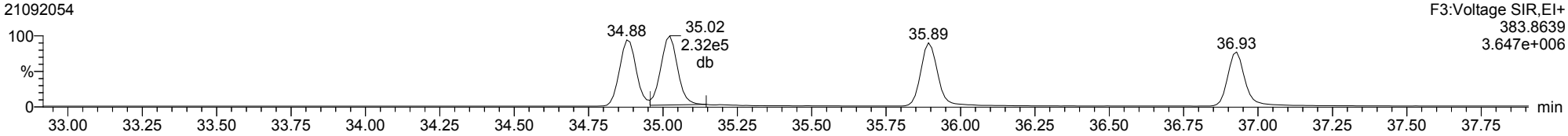
123678-HxCDF



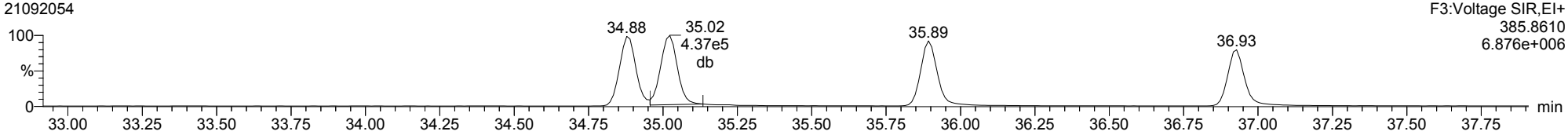
123678-HxCDF



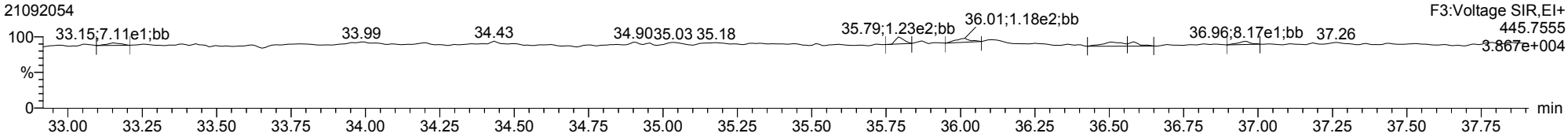
13C-123678-HxCDF



13C-123678-HxCDF

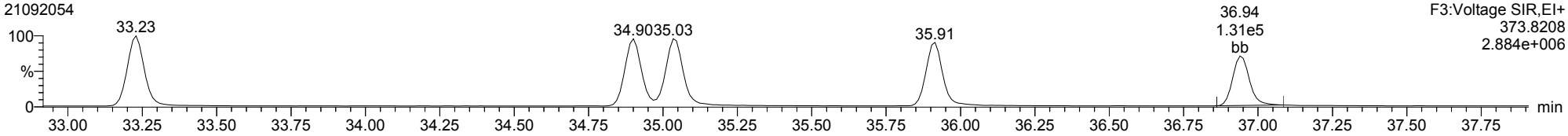


FUNCTION3 OCDPE

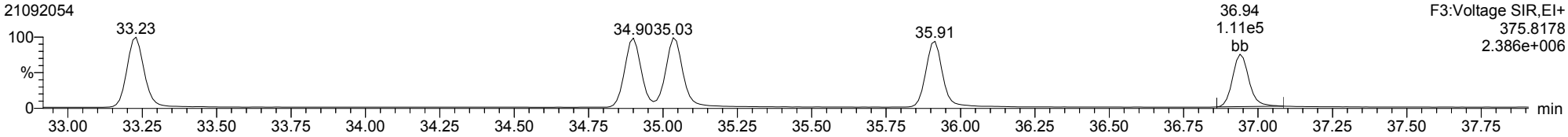


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

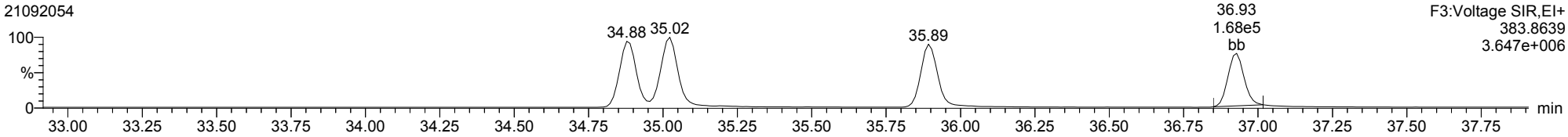
123789-HxCDF



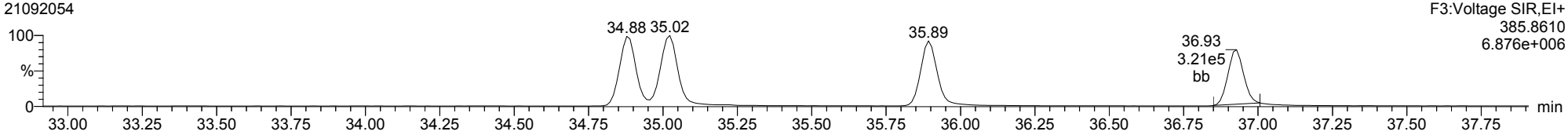
123789-HxCDF



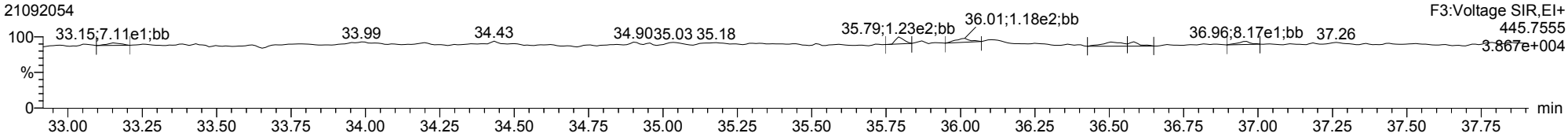
13C-123789-HxCDF



13C-123789-HxCDF

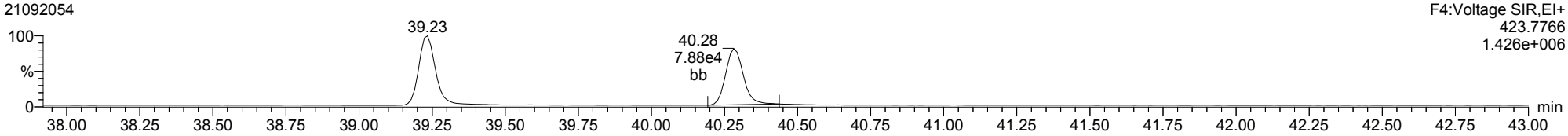


FUNCTION3 OCDPE

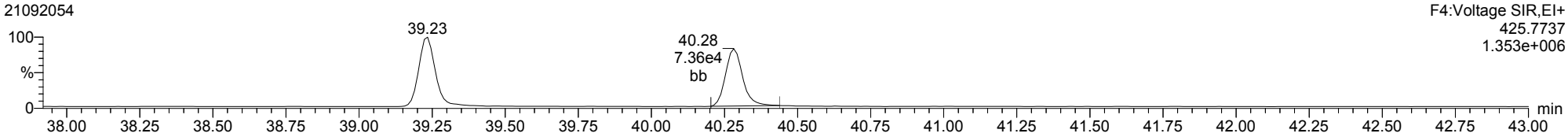


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

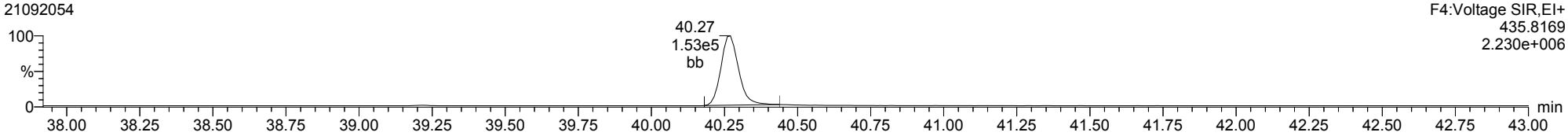
1234678-HpCDD



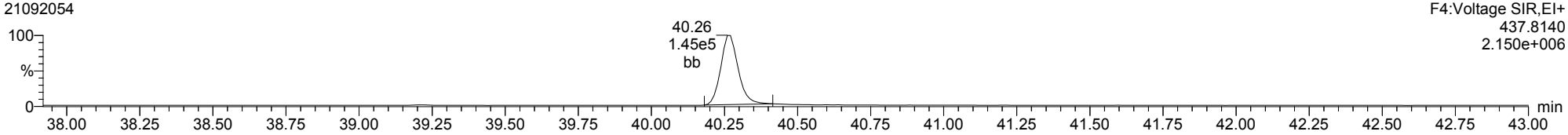
1234678-HpCDD



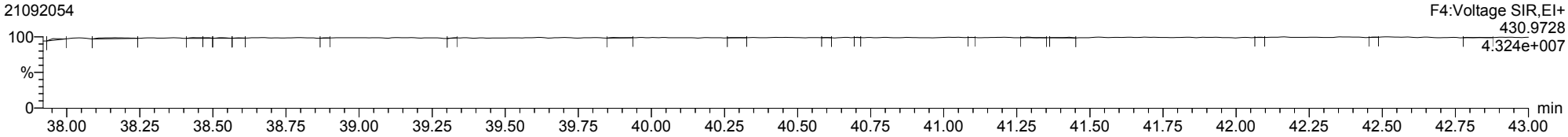
13C-1234678-HpCDD



13C-1234678-HpCDD

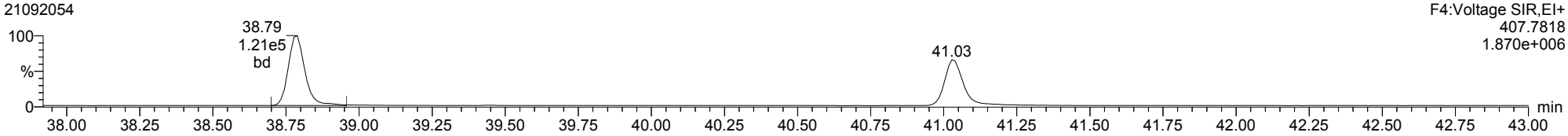


FUNCTION4 PFK

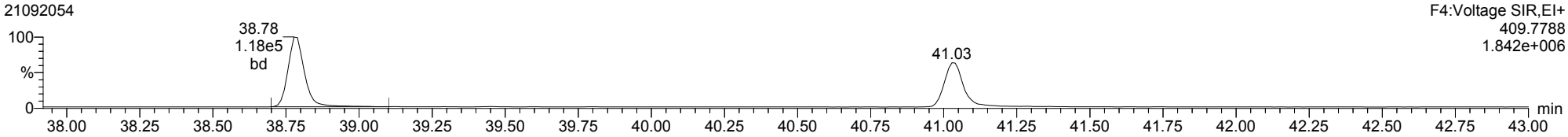


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

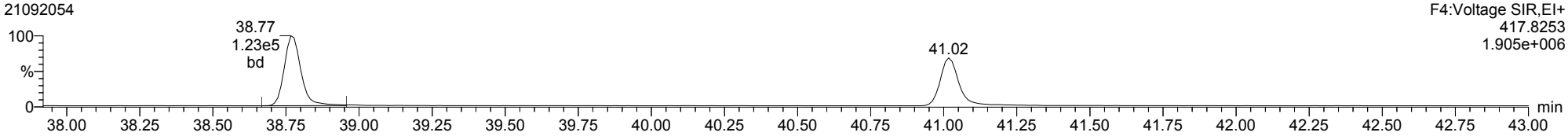
1234678-HpCDF



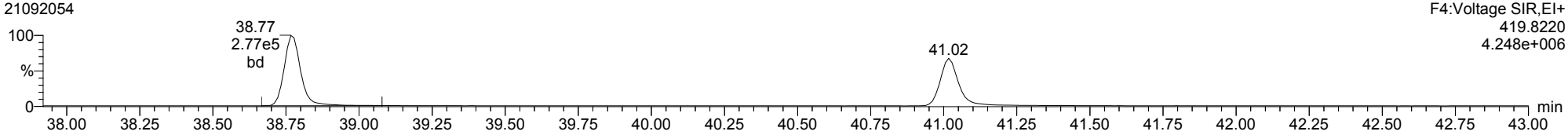
1234678-HpCDF



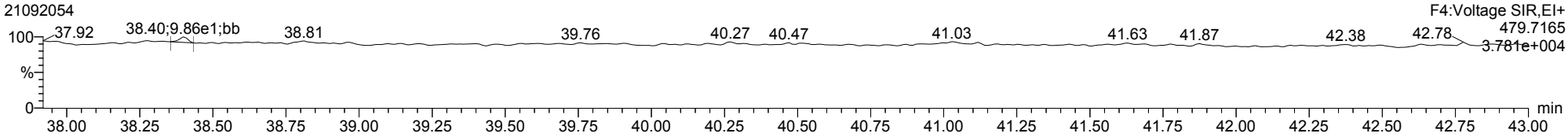
13C-1234678-HpCDF



13C-1234678-HpCDF

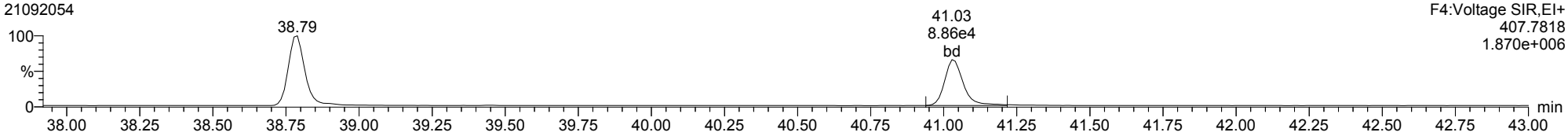


FUNCTION4 NCDPE

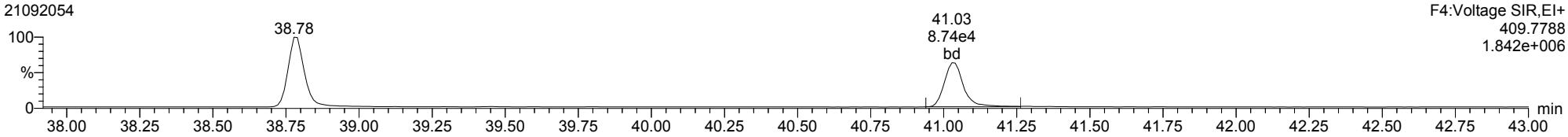


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

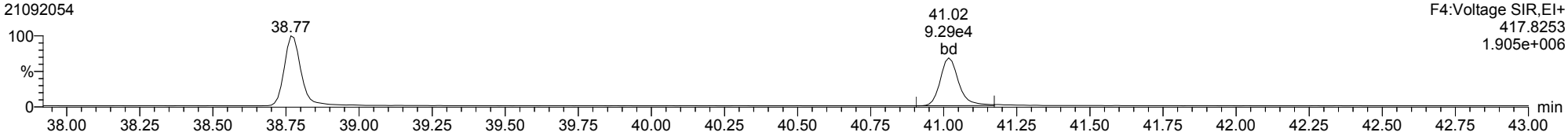
1234789-HpCDF



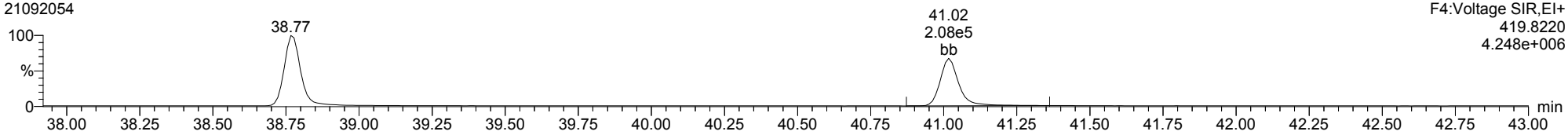
1234789-HpCDF



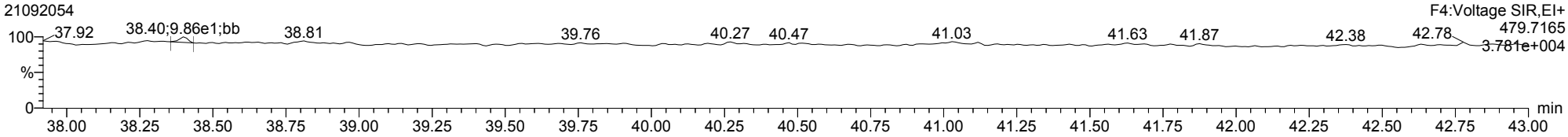
13C-1234789-HpCDF



13C-1234789-HpCDF

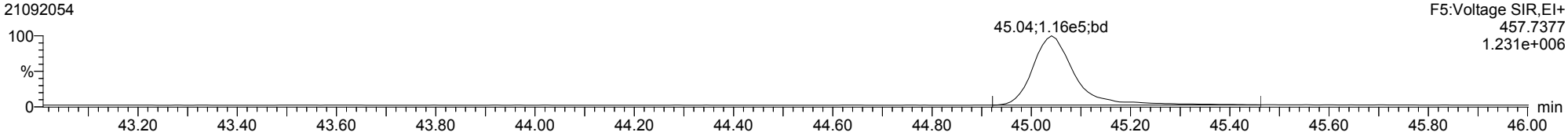


FUNCTION4 NCDPE

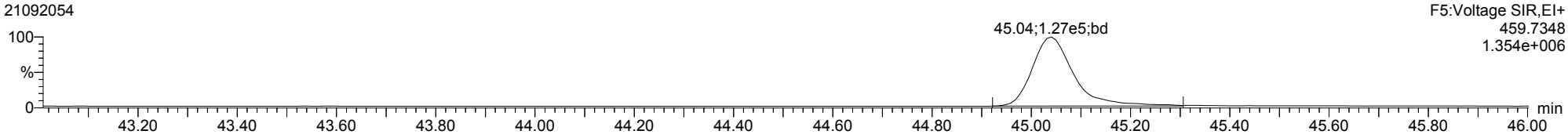


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

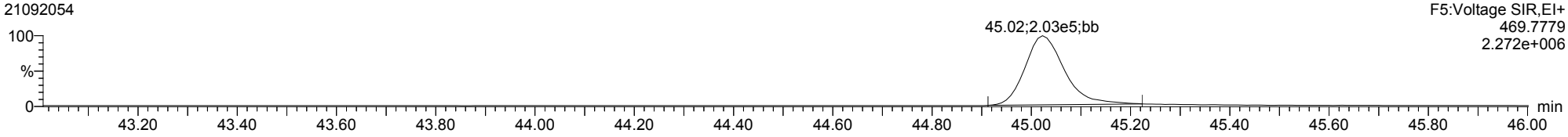
OCDD



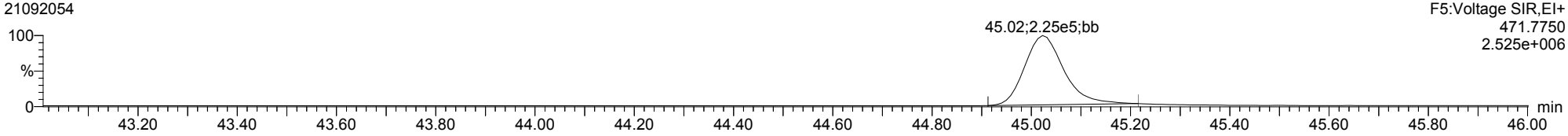
OCDD



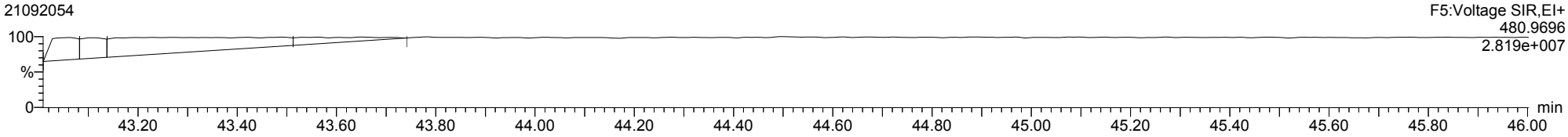
13C-OCDD



13C-OCDD

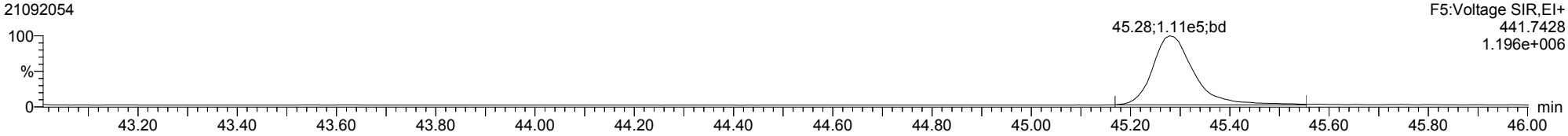


FUNCTION5 PFK

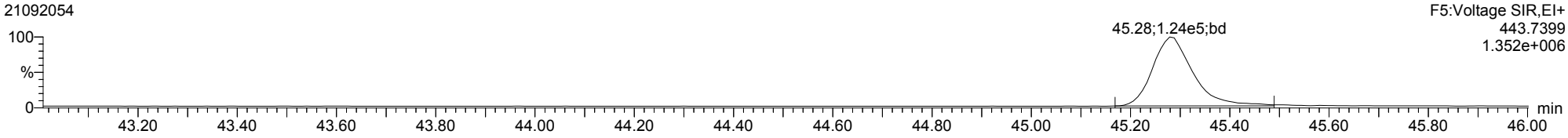


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

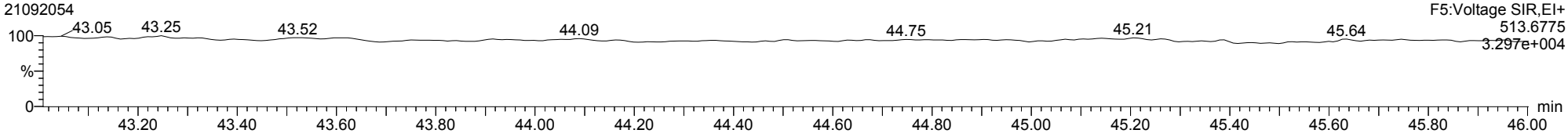
OCDF



OCDF

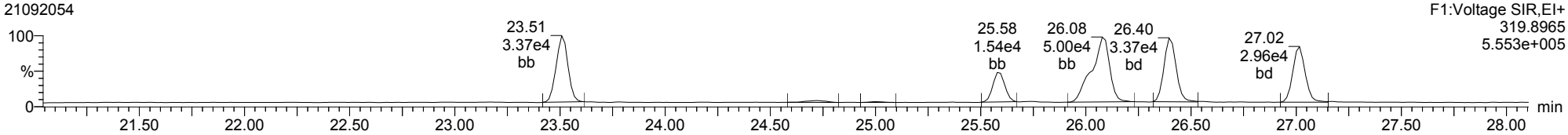


FUNCTION5 DCDPE

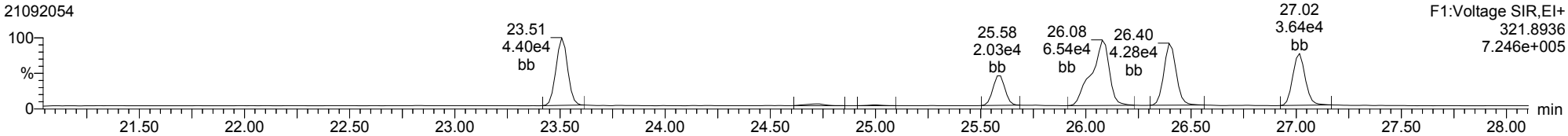


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

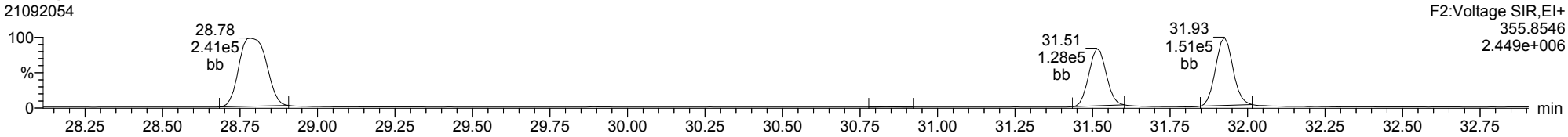
Total-tetradioxins



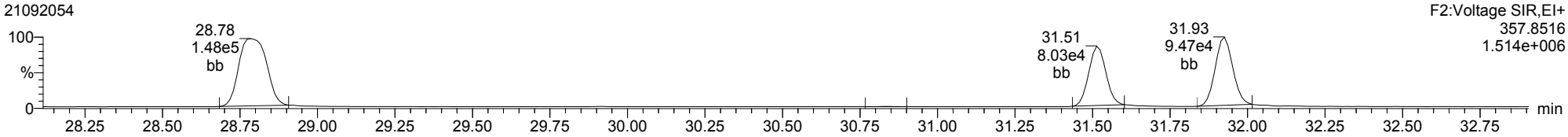
Total-tetradioxins



Total-pentadioxins

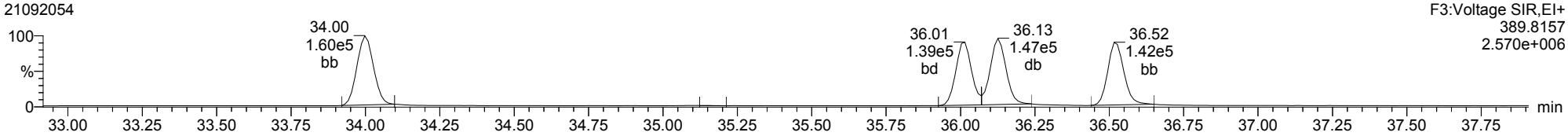


Total-pentadioxins

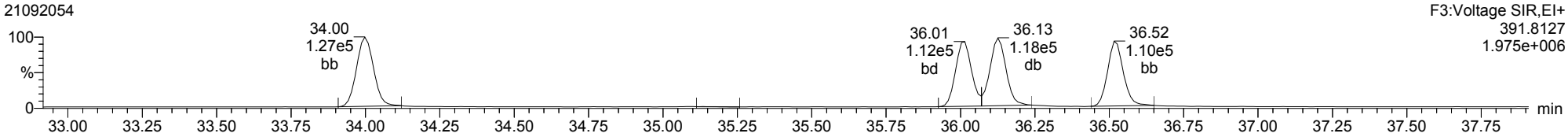


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

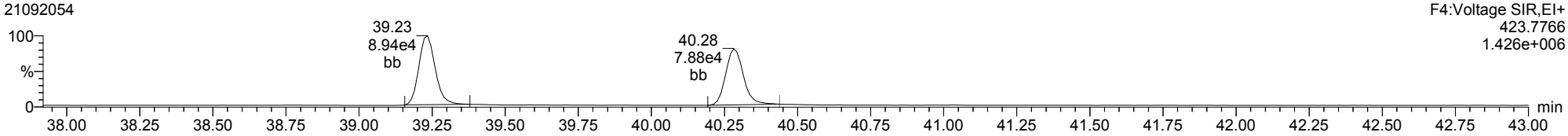
Total-hexadioxins



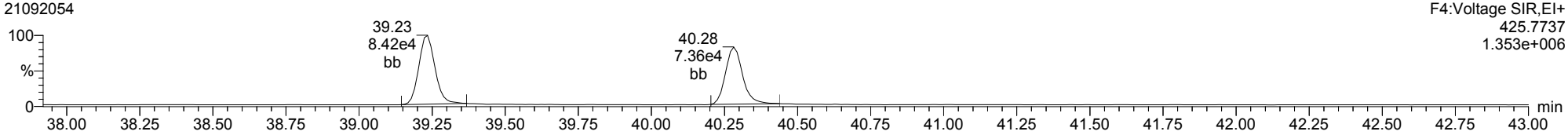
Total-hexadioxins



Total-heptadioxins



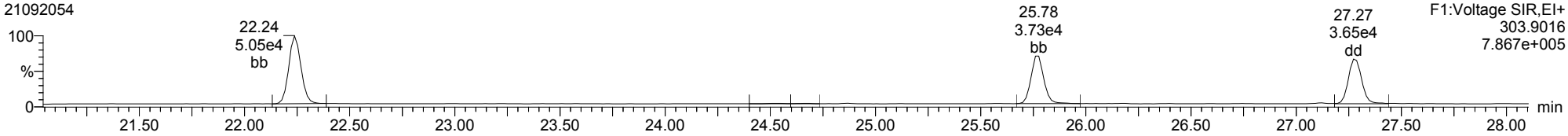
Total-heptadioxins



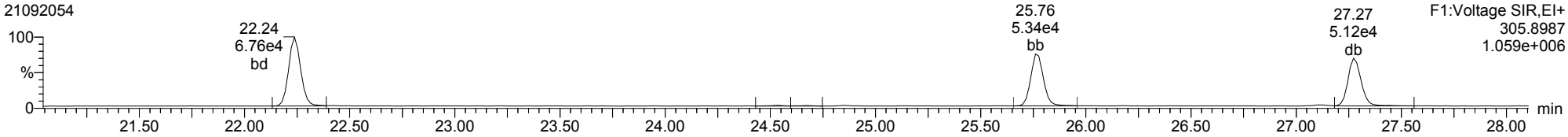
Dataset: T:\Autospec\Processed Data Batch\210920D6CL.qld
Last Altered: Wednesday, September 22, 2021 14:15:04 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:37:10 Pacific Daylight Time

ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

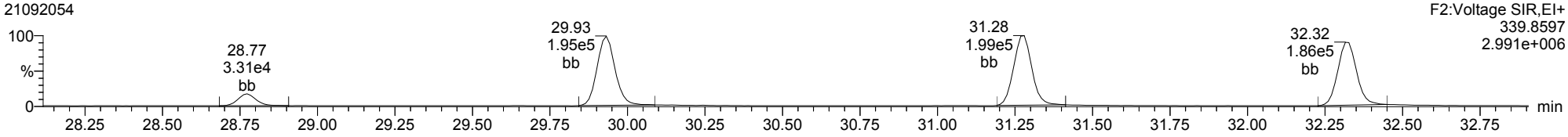
Total-tetrafurans



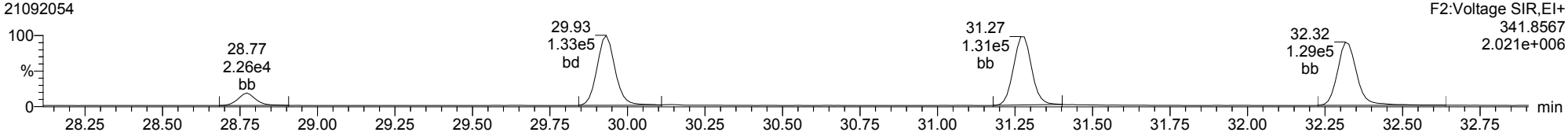
Total-tetrafurans



Total-pentafurans

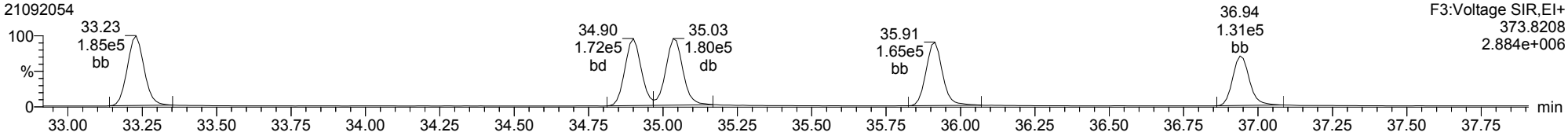


Total-pentafurans

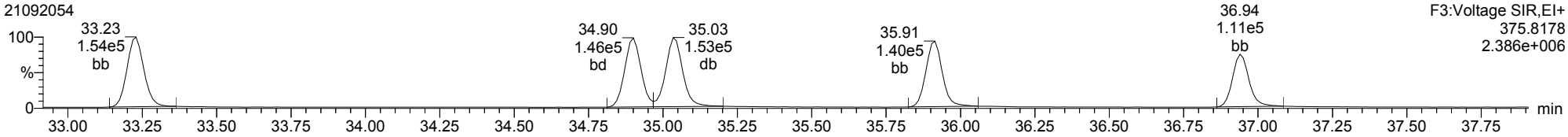


ID: CS3S6, Name: 21092054, Date: 22-Sep-2021, Time: 12:11:56, Conditions: AUTOSPEC01, User: pk

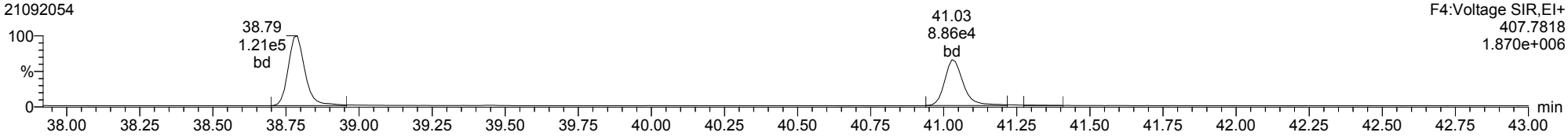
Total-hexafurans



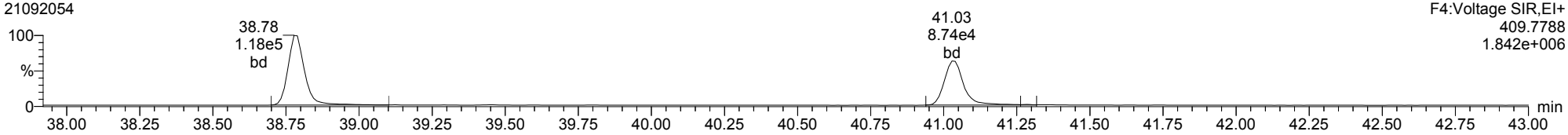
Total-hexafurans



Total-heptafurans

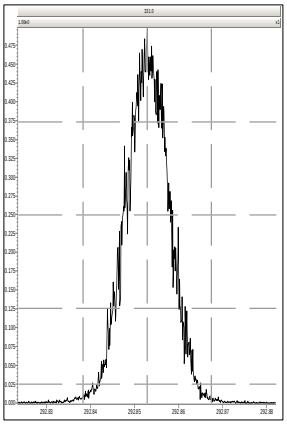


Total-heptafurans

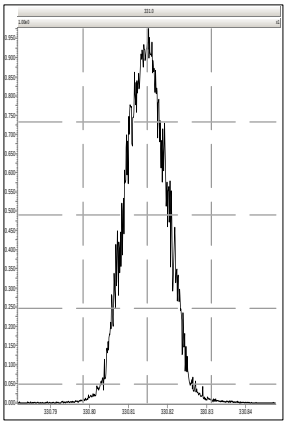


Printed: Wednesday, September 22, 2021 13:05:25 Pacific Daylight Time

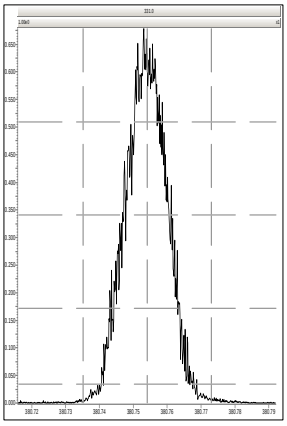
M 292.9824 R 13158



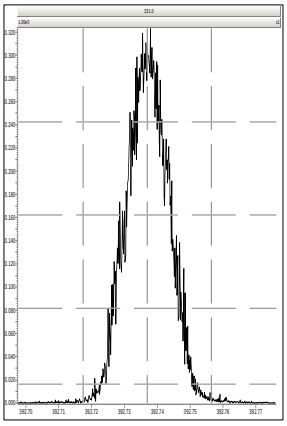
M 330.9792 R 14060



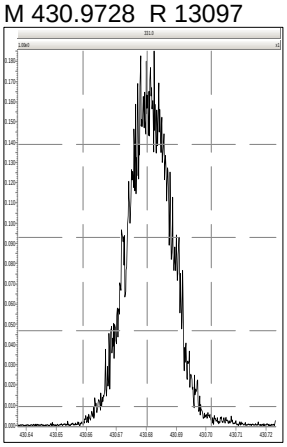
M 380.9760 R 13966



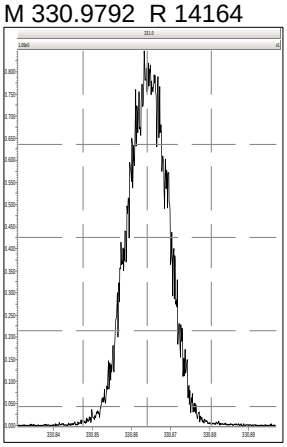
M 392.9760 R 14164



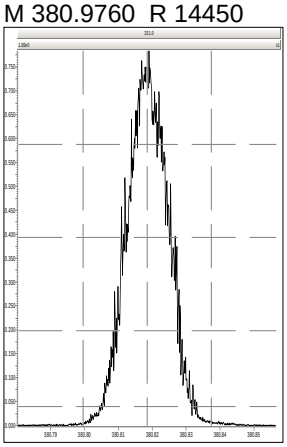
M 430.9728 R 13097



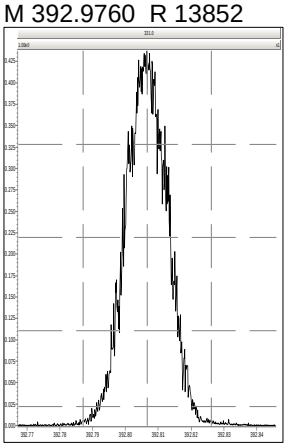
M 330.9792 R 14164



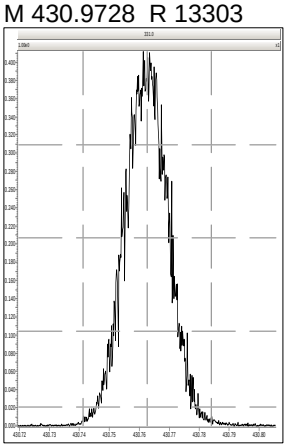
M 380.9760 R 14450



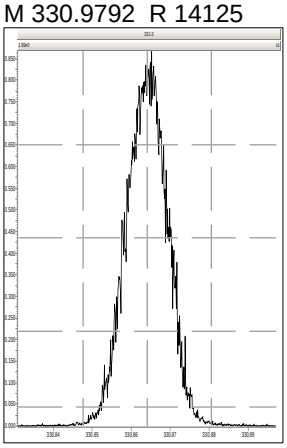
M 392.9760 R 13852



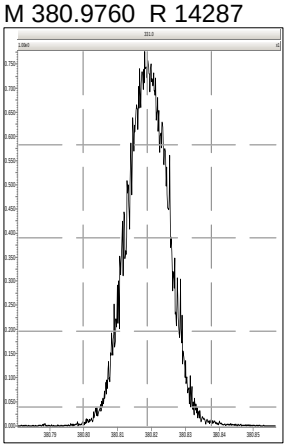
M 430.9728 R 13303



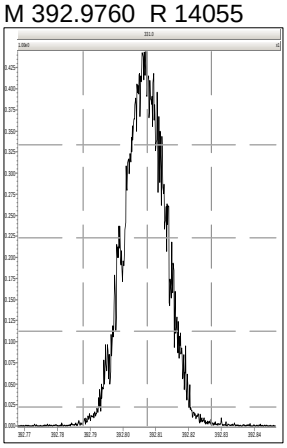
M 330.9792 R 14125



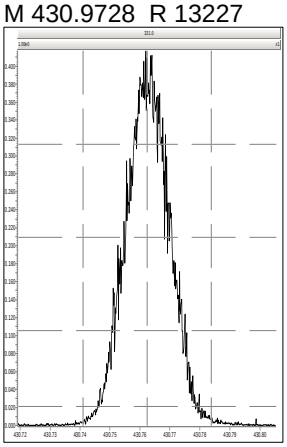
M 380.9760 R 14287



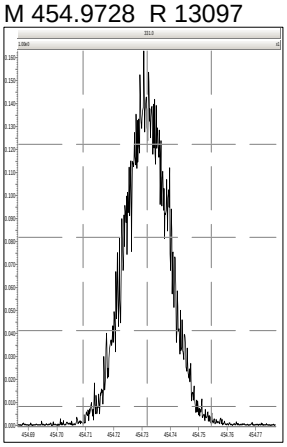
M 392.9760 R 14055



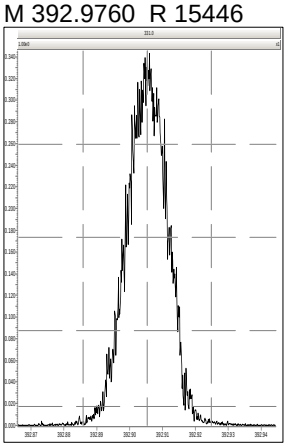
M 430.9728 R 13227



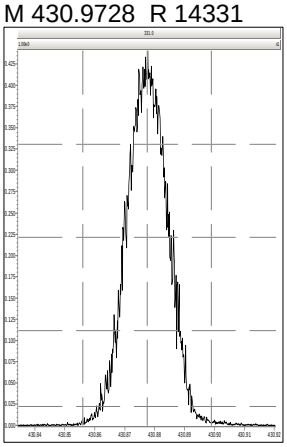
M 454.9728 R 13097



M 392.9760 R 15446

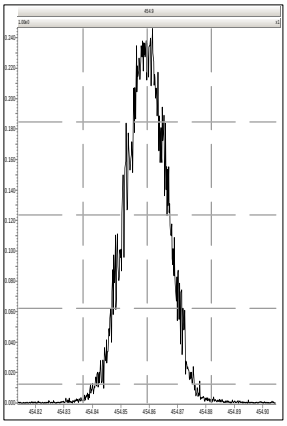


M 430.9728 R 14331

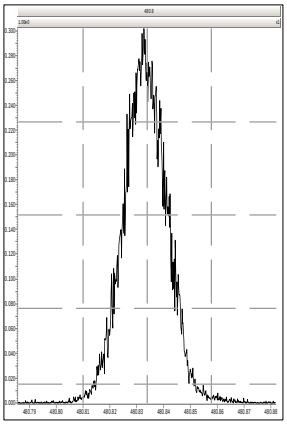


Printed: Wednesday, September 22, 2021 13:05:25 Pacific Daylight Time

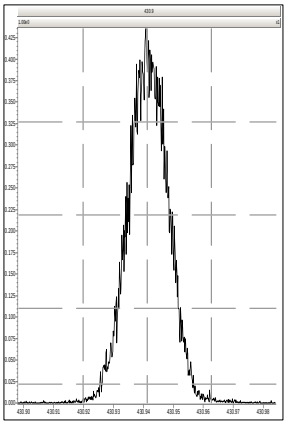
M 454.9728 R 14086



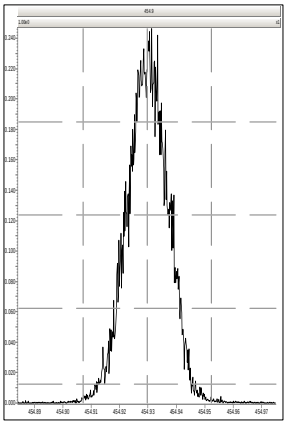
M 480.9696 R 13088



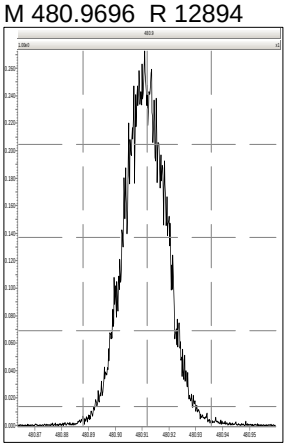
M 430.9728 R 14327



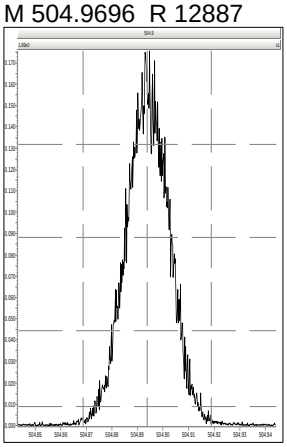
M 454.9728 R 13930



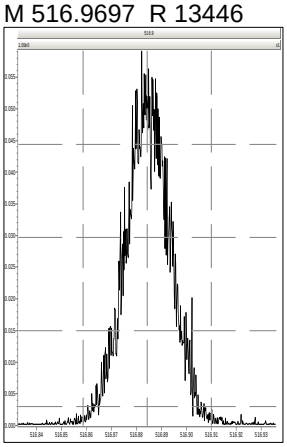
M 480.9696 R 12894

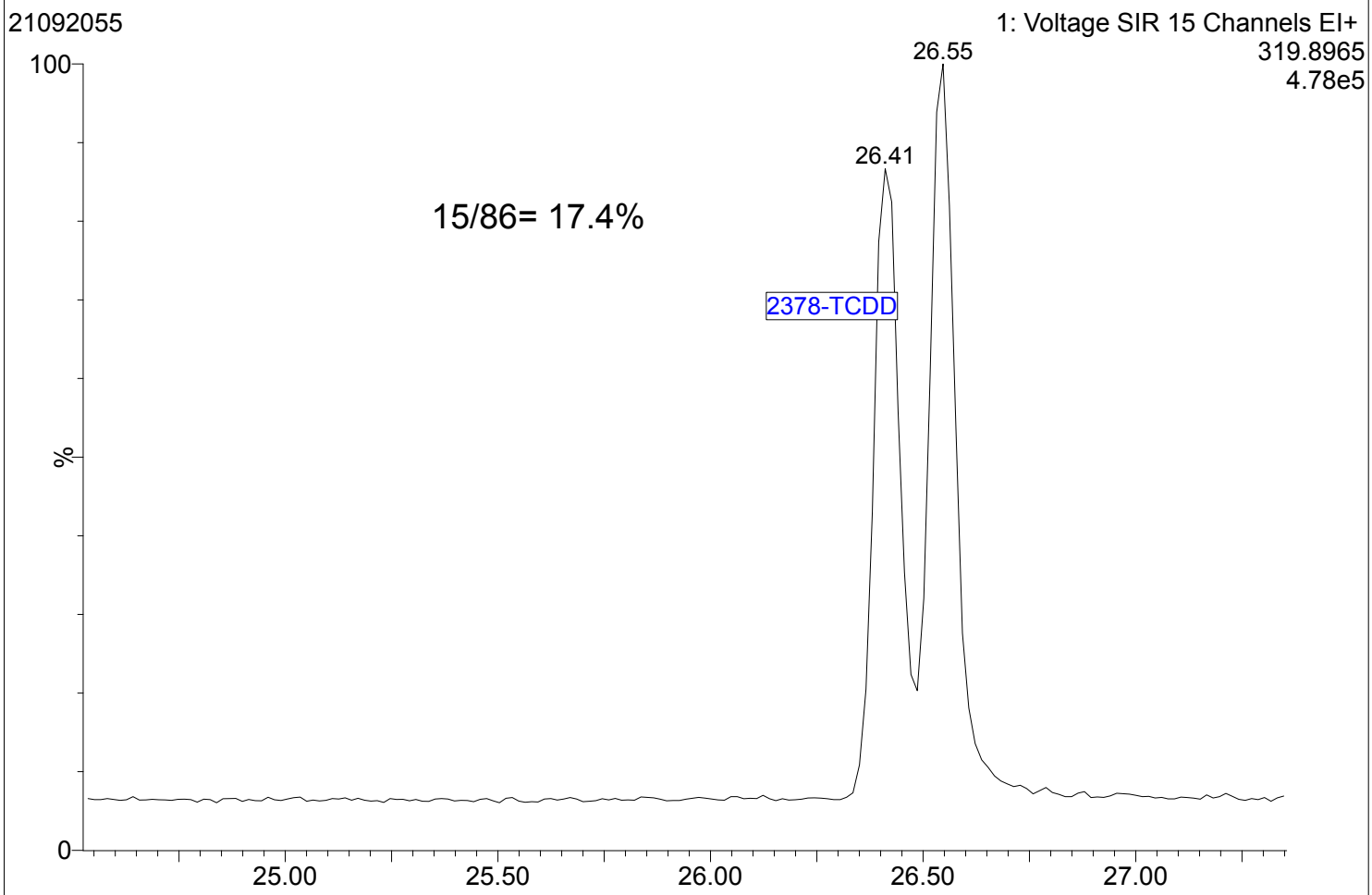


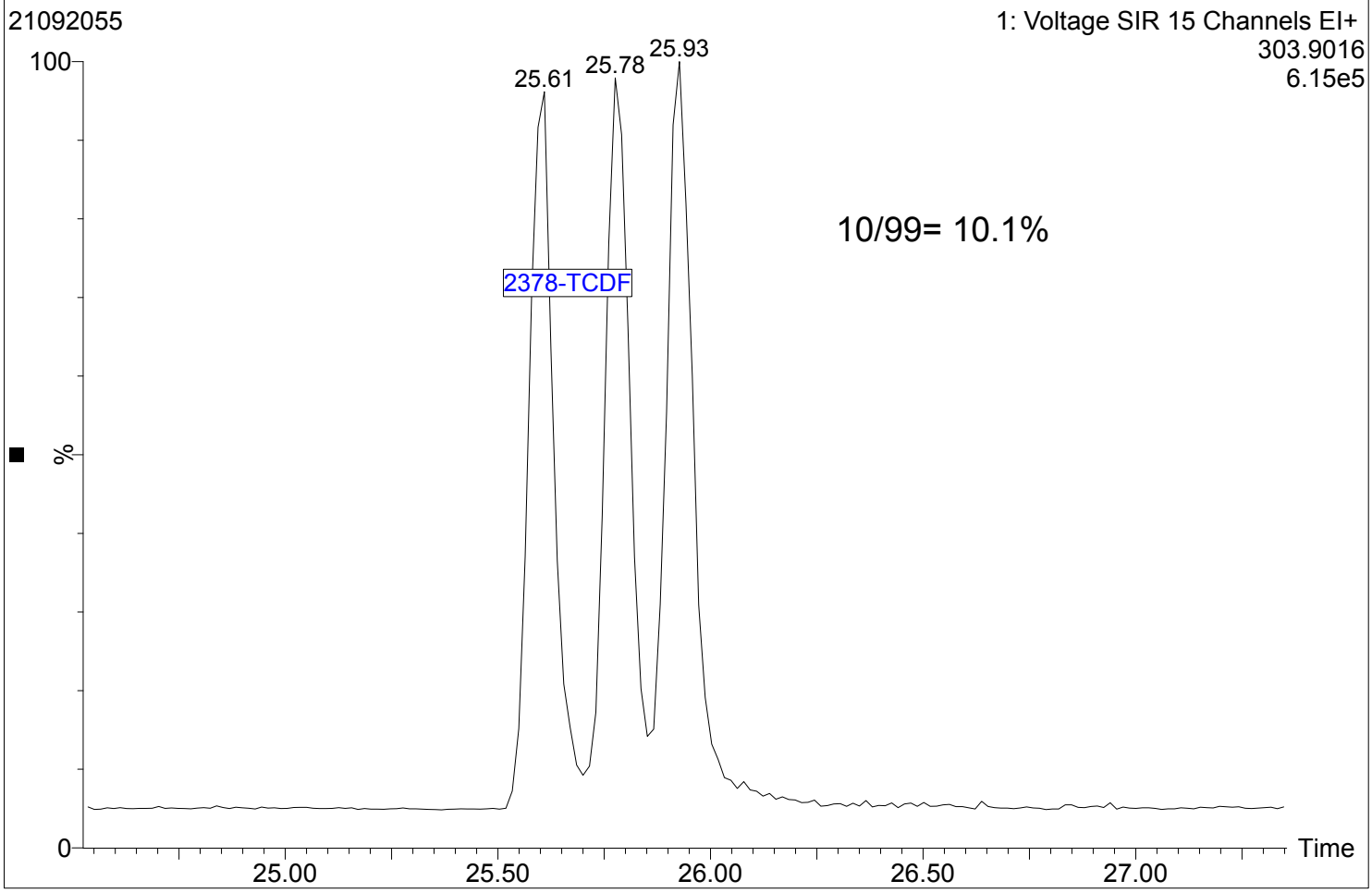
M 504.9696 R 12887



M 516.9697 R 13446




21092055
1: Voltage SIR 15 Channels EI+
319.8965
4.78e5
26.55
26.41
15/86= 17.4%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21092055
1: Voltage SIR 15 Channels EI+
303.9016
6.15e5
25.61
25.78
25.93
10/99= 10.1%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21092062	Calibration Date:	08/11/2021
Sequence:	SJI0282	Injection Date:	09/22/21
Lab Sample ID:	SJI0282-CCV4	Injection Time:	18:51
Sequence Name:	CS3S7		

		CONC. (ng/mL)		RESPONSE FACTOR (RRF)			% DRIFT/DIFF	
COMPOUND	TYPE	STD	CCV	ICAL	CCV	MIN	CCV	LIMIT
2,3,7,8-TCDF	A	10.000	8.96	1.1075930	0.9919824		-10.4	+/-16
2,3,7,8-TCDD	A	10.000	9.80	0.9202875	0.9017222		-2.0	+/-22
1,2,3,7,8-PeCDF	A	50.000	44.3	1.0148670	0.8990036		-11.4	+/-18
2,3,4,7,8-PeCDF	A	50.000	43.4	1.1255490	0.9777972		-13.1	+/-18
1,2,3,7,8-PeCDD	A	50.000	49.5	0.9953229	0.9861581		-0.9	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	48.0	1.0168930	0.9759387		-4.0	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	48.6	1.0368310	1.0068160		-2.9	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	48.1	1.0524660	1.0128560		-3.8	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	48.8	1.0301540	1.0060420		-2.3	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	49.2	1.0273630	1.0116690		-1.5	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	48.0	1.0089800	0.9690244		-4.0	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	51.5	0.9504865	0.9793020		3.0	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	45.0	1.3273500	1.1918580		-9.9	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	46.4	1.2833380	1.1920080		-7.1	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	48.4	1.0680880	1.0337480		-3.2	+/-14
OCDF	A	100.00	78.6	1.4469010	1.1375370		-21.4	+/-37
OCDD	A	100.00	90.3	1.1808230	1.0657670		-9.7	+/-21
13C12-2,3,7,8-TCDF	A	100.00	95.6	1.4265830	1.3635514		-4.4	+/-29
13C12-2,3,7,8-TCDD	A	100.00	105	1.1164910	1.1676742		4.6	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	85.2	1.2973130	1.1047272		-14.8	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	83.9	1.2364800	1.0370790		-16.1	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	88.0	0.7319833	0.6444908		-12.0	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	102	1.2424560	1.2630096		1.7	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	95.2	1.3434760	1.2790349		-4.8	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	97.3	1.2148550	1.1814580		-2.7	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	97.3	1.0076370	0.9803563		-2.7	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	102	0.9598233	0.9817154		2.3	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	101	1.0413850	1.0509981		0.9	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	83.8	0.9264704	0.7762433		-16.2	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	77.7	0.7579160	0.5888015		-22.3	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	91.8	0.6324476	0.5804457		-8.2	+/-28
13C12-OCDD	A	200.00	165	0.5037432	0.4151966		-17.6	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.99	1.0835930	1.0826417		-0.09	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
2378-TCDF	25.761	1.001	3.887e4	5.437e4	1.108	0.715	0.770	779	924	5.52e5	7.68e5	707.9	831.0	NO	bd	bd	8.956
12378-PeCDF	29.931	1.001	2.039e5	1.383e5	1.015	1.474	1.550	2345	1178	3.03e6	2.05e6	1291.8	1736.8	NO	bb	bd	44.292
23478-PeCDF	31.268	1.000	2.103e5	1.392e5	1.126	1.511	1.550	2345	1178	3.14e6	2.08e6	1338.5	1763.3	NO	bb	bb	43.436
123478-HxCDF	34.900	1.001	1.797e5	1.533e5	1.017	1.173	1.240	1502	1586	2.83e6	2.39e6	1883.4	1505.9	NO	bd	bd	47.986
234678-HxCDF	35.903	1.000	1.724e5	1.509e5	1.052	1.142	1.240	1502	1586	2.69e6	2.34e6	1789.9	1476.3	NO	bb	bd	48.118
123678-HxCDF	35.034	1.000	1.880e5	1.599e5	1.037	1.176	1.240	1502	1586	2.87e6	2.46e6	1911.5	1550.2	NO	db	db	48.553
123789-HxCDF	36.939	1.000	1.464e5	1.201e5	1.030	1.219	1.240	1502	1586	2.17e6	1.84e6	1443.2	1159.7	NO	bd	bb	48.830
1234678-HpCDF	38.788	1.001	1.263e5	1.244e5	1.327	1.016	1.050	1481	1453	1.93e6	1.90e6	1304.8	1306.4	NO	MM	MM	45.033
1234789-HpCDF	41.028	1.000	9.678e4	9.284e4	1.283	1.042	1.050	1481	1453	1.30e6	1.22e6	877.5	837.8	NO	bd	bd	46.442
OCDF	45.280	1.006	1.173e5	1.379e5	1.447	0.850	0.890	842	789	1.20e6	1.41e6	1430.2	1781.9	NO	bb	bd	78.619
2378-TCDD	26.396	1.001	3.160e4	4.097e4	0.920	0.771	0.770	1010	680	4.74e5	5.97e5	469.1	877.6	NO	bb	bb	9.798
12378-PeCDD	31.513	1.000	1.343e5	8.470e4	0.995	1.586	1.550	1548	1015	2.13e6	1.33e6	1373.6	1315.0	NO	bb	bb	49.540
123478-HxCDD	36.003	1.000	1.500e5	1.183e5	1.027	1.268	1.240	1867	1526	2.36e6	1.89e6	1263.1	1238.6	NO	bd	bd	49.236
123678-HxCDD	36.126	1.000	1.531e5	1.221e5	1.009	1.254	1.240	1867	1526	2.49e6	1.99e6	1333.7	1301.0	NO	db	db	48.020
123789-HxCDD	36.515	1.011	1.524e5	1.165e5	0.950	1.308	1.240	1867	1526	2.35e6	1.82e6	1258.6	1193.1	NO	bd	bb	51.516
1234678-HpCDD	40.281	1.000	8.473e4	7.738e4	1.068	1.095	1.050	1862	1204	1.19e6	1.13e6	640.7	938.4	NO	bd	bb	48.392
OCDD	45.033	1.000	1.105e5	1.286e5	1.181	0.860	0.890	1134	1701	1.21e6	1.36e6	1070.8	798.0	NO	bb	bb	90.256
13C-2378-TCDF	25.746	1.007	4.157e5	5.242e5	1.427	0.793	0.770	1345	1137	5.97e6	7.49e6	4439.0	6584.0	NO	bb	bb	95.582
13C-12378-PeCDF	29.909	1.170	4.679e5	2.936e5	1.297	1.594	1.550	1839	1512	6.99e6	4.39e6	3801.2	2902.0	NO	bb	bb	85.155
13C-23478-PeCDF	31.257	1.223	4.382e5	2.766e5	1.236	1.584	1.550	1839	1512	6.46e6	4.03e6	3510.1	2667.5	NO	bb	bd	83.873
13C-123478-HxCDF	34.878	0.955	2.345e5	4.480e5	1.242	0.523	0.510	2103	2279	3.61e6	7.10e6	1715.4	3113.6	NO	bd	bd	101.654
13C-123678-HxCDF	35.023	0.959	2.348e5	4.563e5	1.343	0.515	0.510	2103	2279	3.67e6	7.05e6	1745.0	3093.0	NO	db	db	95.203
13C-234678-HxCDF	35.892	0.983	2.182e5	4.202e5	1.215	0.519	0.510	2103	2279	3.44e6	6.67e6	1636.3	2926.7	NO	bb	bb	97.251
13C-123789-HxCDF	36.928	1.012	1.814e5	3.483e5	1.008	0.521	0.510	2103	2279	2.81e6	5.33e6	1337.7	2341.2	NO	bb	bb	97.293
13C-1234678-HpCDF	38.766	1.062	1.351e5	2.843e5	0.926	0.475	0.440	1228	1628	2.01e6	4.27e6	1640.4	2619.4	NO	bb	bb	83.785
13C-1234789-HpCDF	41.016	1.124	9.912e4	2.190e5	0.758	0.452	0.440	1228	1628	1.38e6	2.92e6	1123.2	1792.2	NO	bb	bd	77.687
13C-1234-TCDD	25.564	0.000	2.994e5	3.899e5	1.000	0.768	0.770	1416	1031	4.65e6	6.02e6	3287.5	5838.5	NO	bb	bb	100.000
13C-2378-TCDD	26.381	1.032	3.494e5	4.554e5	1.116	0.767	0.770	1416	1031	5.17e6	6.77e6	3653.7	6570.6	NO	bb	bb	104.584
13C-12378-PeCDD	31.502	1.232	2.747e5	1.696e5	0.732	1.620	1.550	1137	798	4.04e6	2.55e6	3554.3	3200.8	NO	bb	bb	88.047
13C-123478-HxCDD	35.992	0.986	3.006e5	2.299e5	0.960	1.308	1.240	1489	1207	4.98e6	3.78e6	3346.4	3135.2	NO	bd	bd	102.281
13C-123678-HxCDD	36.114	0.989	3.194e5	2.485e5	1.041	1.285	1.240	1489	1207	4.93e6	3.80e6	3311.4	3150.5	NO	db	db	100.923
13C-1234678-HpCDD	40.270	1.103	1.595e5	1.541e5	0.632	1.035	1.050	949	1049	2.24e6	2.13e6	2362.7	2027.7	NO	bb	bb	91.778
13C-OCDD	45.024	1.233	2.098e5	2.389e5	0.504	0.878	0.890	679	1377	2.22e6	2.54e6	3272.6	1842.8	NO	bb	bb	164.845
13C-123789-HxCDD	36.504	0.000	2.998e5	2.406e5	1.000	1.246	1.240	1489	1207	4.64e6	3.70e6	3114.9	3062.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.396	1.033	7.462e4		1.084			1017		1.09e6		1070.1			bb		9.991

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

Compound	RT	RRT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	Noise 1	Noise 2	Height 1	Height 2	S/N 1	S/N 2	EMPC	Int.1	Int.2	pg
1368-TCDF	22.238	0.864	4.890e4	6.882e4	1.425	0.711	0.770	779	924	7.19e5	1.02e6	922.3	1107.6	NO	bd	bd	8.789
1289-TCDF	27.273	1.059	3.659e4	4.944e4	1.043	0.740	0.770	779	924	4.81e5	6.60e5	617.4	714.3	NO	db	dd	8.777
13468-PECDF	27.106	0.906	3.547e5	2.277e5	1.376	1.558	1.550	526	704	5.32e6	3.43e6	10098.6	4876.3	NO	bb	bb	55.575
12389-PECDF	32.315	1.081	1.967e5	1.322e5	1.000	1.488	1.550	2345	1178	2.86e6	1.95e6	1220.5	1653.5	NO	bb	bb	43.220
123468-HXCDF	33.229	0.953	1.907e5	1.638e5	1.087	1.164	1.240	1502	1586	2.87e6	2.42e6	1912.0	1527.1	NO	bb	bb	47.813
1368-TCDD	23.508	0.891	3.242e4	4.158e4	0.923	0.780	0.770	1010	680	4.95e5	6.37e5	490.8	936.6	NO	bb	bb	9.958
1289-TCDD	27.015	1.024	2.725e4	3.557e4	0.794	0.766	0.770	1010	680	3.93e5	4.97e5	389.6	729.9	NO	bb	bd	9.829
12479-PECDD	28.773	0.913	2.507e5	1.571e5	1.843	1.596	1.550	1548	1015	2.44e6	1.53e6	1573.0	1505.7	NO	bb	bb	49.794
12389-PECDD	31.926	1.013	1.612e5	1.011e5	1.154	1.594	1.550	1548	1015	2.50e6	1.55e6	1615.0	1526.4	NO	bb	bb	51.180
124679-HXCDD	33.998	0.945	1.700e5	1.339e5	1.125	1.270	1.240	1867	1526	2.60e6	2.05e6	1395.1	1345.7	NO	bb	bb	50.932
1234679-HPCDD	39.234	0.974	9.364e4	8.881e4	1.211	1.054	1.050	1862	1204	1.44e6	1.36e6	772.0	1127.7	NO	bb	bb	48.040
Total-tetrafurans			1.260e5		1.192			779		1.77e6							26.864
Total-penta1			3.547e5					526		5.32e6							55.575
Total-pentafurans			6.465e5		1.047			2345		9.57e6							138.540
Total-hexafurans			8.773e5		1.045			1502		1.34e7							241.299
Total-heptafurans			2.233e5		1.305			1481		3.24e6							91.538
Total-Furans			2.345e6		1.158			779		3.45e7							632.435
Total-tetradioxins			1.561e5		0.879			1010		2.10e6							50.474
Total-pentadioxins			5.469e5		1.331			1548		7.07e6							150.717
Total-hexadioxins			6.257e5		1.028			1867		9.81e6							199.773
Total-heptadioxins			1.784e5		1.140			1862		2.63e6							96.432
Total-Dioxins			1.618e6		1.092			1010		2.28e7							587.652
Total-TEQ			3.963e6					1010		5.73e7							1220.088
FUNCTION1 PFK			0.000e0					403141		0.00e0							
FUNCTION2 PFK			1.406e6					242107		7.78e6							0.000
FUNCTION3 PFK			0.000e0					322070		0.00e0							
FUNCTION4 PFK			2.608e5					171244		6.46e6							
FUNCTION5 PFK			1.982e4					157809		5.73e5							
FUNCTION1 HXCD...			2.495e2					472		2.21e3							0.000
FUNCTION1 HPCD...			3.345e2					457		4.94e3							0.000
FUNCTION2 HPCD...			4.384e2					429		8.41e3							0.000
FUNCTION3 OCDPE			1.920e2					459		3.38e3							0.000
FUNCTION4 NCDPE			0.000e0					507		0.00e0							
FUNCTION5 DCDPE			0.000e0					429		0.00e0							

Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.659e4	4.944e4	1.043	0.74	0.77	617.4	YES	NO	db	dd	8.777
2	Total-tetrafurans	27.11	8.178e2	1.006e3	1.192	0.81	0.77	13.4	YES	NO	bd	bd	0.163
3	2378-TCDF	25.76	3.887e4	5.437e4	1.108	0.71	0.77	707.9	YES	NO	bd	bd	8.956
4	Total-tetrafurans	24.67	4.194e2	6.153e2	1.192	0.68	0.77	7.2	YES	NO	db	db	0.092
5	Total-tetrafurans	24.54	4.380e2	5.344e2	1.192	0.82	0.77	7.4	YES	NO	bd	bd	0.087
6	1368-TCDF	22.24	4.890e4	6.882e4	1.425	0.71	0.77	922.3	YES	NO	bd	bd	8.789

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.11	3.547e5	2.277e5	1.376	1.56	1.55	10098.6	YES	NO	bb	bb	55.575

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.93	2.039e5	1.383e5	1.015	1.47	1.55	1291.8	YES	NO	bb	bd	44.292
2	Total-pentafurans	28.77	3.547e4	2.318e4	1.047	1.53	1.55	229.2	YES	NO	bb	bb	7.592
3	12389-PECDF	32.32	1.967e5	1.322e5	1.000	1.49	1.55	1220.5	YES	NO	bb	bb	43.220
4	23478-PeCDF	31.27	2.103e5	1.392e5	1.126	1.51	1.55	1338.5	YES	NO	bb	bb	43.436

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123468-HXCDF	33.23	1.907e5	1.638e5	1.087	1.16	1.24	1912.0	YES	NO	bb	bb	47.813
2	123789-HxCDF	36.94	1.464e5	1.201e5	1.030	1.22	1.24	1443.2	YES	NO	bd	bb	48.830
3	234678-HxCDF	35.90	1.724e5	1.509e5	1.052	1.14	1.24	1789.9	YES	NO	bb	bd	48.118
4	123678-HxCDF	35.03	1.880e5	1.599e5	1.037	1.18	1.24	1911.5	YES	NO	db	db	48.553
5	123478-HxCDF	34.90	1.797e5	1.533e5	1.017	1.17	1.24	1883.4	YES	NO	bd	bd	47.986

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	41.03	9.678e4	9.284e4	1.283	1.04	1.05	877.5	YES	NO	bd	bd	46.442
2	Total-heptafurans	39.23	1.656e2	1.404e2	1.305	1.18	1.05	2.5	NO	NO	bb	bb	0.064
3	1234678-HpCDF	38.79	1.263e5	1.244e5	1.327	1.02	1.05	1304.8	YES	NO	MM	MM	45.033

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

Furans,TF,PP,PF,HF,HPF,OF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.659e4	4.944e4	1.043	0.74	0.77	617.4	YES	NO	db	dd	8.777
2	Total-tetrafurans	27.11	8.178e2	1.006e3	1.192	0.81	0.77	13.4	YES	NO	bd	bd	0.163
3	2378-TCDF	25.76	3.887e4	5.437e4	1.108	0.71	0.77	707.9	YES	NO	bd	bd	8.956
4	Total-tetrafurans	24.67	4.194e2	6.153e2	1.192	0.68	0.77	7.2	YES	NO	db	db	0.092
5	Total-tetrafurans	24.54	4.380e2	5.344e2	1.192	0.82	0.77	7.4	YES	NO	bd	bd	0.087
6	1368-TCDF	22.24	4.890e4	6.882e4	1.425	0.71	0.77	922.3	YES	NO	bd	bd	8.789
7	12378-PeCDF	29.93	2.039e5	1.383e5	1.015	1.47	1.55	1291.8	YES	NO	bb	bd	44.292
8	Total-pentafurans	28.77	3.547e4	2.318e4	1.047	1.53	1.55	229.2	YES	NO	bb	bb	7.592
9	123468-HXCDF	33.23	1.907e5	1.638e5	1.087	1.16	1.24	1912.0	YES	NO	bb	bb	47.813
10	12389-PECDF	32.32	1.967e5	1.322e5	1.000	1.49	1.55	1220.5	YES	NO	bb	bb	43.220
11	23478-PeCDF	31.27	2.103e5	1.392e5	1.126	1.51	1.55	1338.5	YES	NO	bb	bb	43.436
12	123789-HxCDF	36.94	1.464e5	1.201e5	1.030	1.22	1.24	1443.2	YES	NO	bd	bb	48.830
13	234678-HxCDF	35.90	1.724e5	1.509e5	1.052	1.14	1.24	1789.9	YES	NO	bb	bd	48.118
14	123678-HxCDF	35.03	1.880e5	1.599e5	1.037	1.18	1.24	1911.5	YES	NO	db	db	48.553
15	123478-HxCDF	34.90	1.797e5	1.533e5	1.017	1.17	1.24	1883.4	YES	NO	bd	bd	47.986
16	1234789-HpCDF	41.03	9.678e4	9.284e4	1.283	1.04	1.05	877.5	YES	NO	bd	bd	46.442
17	Total-heptafurans	39.23	1.656e2	1.404e2	1.305	1.18	1.05	2.5	NO	NO	bb	bb	0.064
18	1234678-HpCDF	38.79	1.263e5	1.244e5	1.327	1.02	1.05	1304.8	YES	NO	MM	MM	45.033
19	OCDF	45.28	1.173e5	1.379e5	1.447	0.85	0.89	1430.2	YES	NO	bb	bd	78.619
20	13468-PECDF	27.11	3.547e5	2.277e5	1.376	1.56	1.55	10098.6	YES	NO	bb	bb	55.575

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.40	3.160e4	4.097e4	0.920	0.77	0.77	469.1	YES	NO	bb	bb	9.798
2	Total-tetradioxins	26.08	4.747e4	6.093e4	0.879	0.78	0.77	483.7	YES	NO	bb	bb	15.319
3	Total-tetradioxins	25.58	1.560e4	1.949e4	0.879	0.80	0.77	226.5	YES	NO	bd	bb	4.959
4	Total-tetradioxins	25.00	3.393e2	4.636e2	0.879	0.73	0.77	4.9	YES	NO	bb	bb	0.113
5	Total-tetradioxins	24.70	1.303e3	1.789e3	0.879	0.73	0.77	12.4	YES	NO	bb	bb	0.437
6	Total-tetradioxins	23.80	1.688e2	2.523e2	0.879	0.67	0.77	3.0	NO	NO	bb	bb	0.060
7	1368-TCDD	23.51	3.242e4	4.158e4	0.923	0.78	0.77	490.8	YES	NO	bb	bb	9.958
8	1289-TCDD	27.02	2.725e4	3.557e4	0.794	0.77	0.77	389.6	YES	NO	bb	bd	9.829

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.77	2.507e5	1.571e5	1.843	1.60	1.55	1573.0	YES	NO	bb	bb	49.794
2	12389-PECDD	31.93	1.612e5	1.011e5	1.154	1.59	1.55	1615.0	YES	NO	bb	bb	51.180
3	12378-PeCDD	31.51	1.343e5	8.470e4	0.995	1.59	1.55	1373.6	YES	NO	bb	bb	49.540
4	Total-pentadioxins	30.84	7.486e2	4.573e2	1.331	1.64	1.55	7.1	YES	NO	bb	bb	0.204

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	34.00	1.700e5	1.339e5	1.125	1.27	1.24	1395.1	YES	NO	bb	bb	50.932
2	Total-hexadioxins	36.77	2.075e2	1.770e2	1.028	1.17	1.24	3.0	YES	NO	dd	bb	0.068
3	123789-HxCDD	36.52	1.524e5	1.165e5	0.950	1.31	1.24	1258.6	YES	NO	bd	bb	51.516
4	123678-HxCDD	36.13	1.531e5	1.221e5	1.009	1.25	1.24	1333.7	YES	NO	db	db	48.020
5	123478-HxCDD	36.00	1.500e5	1.183e5	1.027	1.27	1.24	1263.1	YES	NO	bd	bd	49.236

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.28	8.473e4	7.738e4	1.068	1.10	1.05	640.7	YES	NO	bd	bb	48.392
2	1234679-HPCDD	39.23	9.364e4	8.881e4	1.211	1.05	1.05	772.0	YES	NO	bb	bb	48.040

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

Dioxins,TD,PD,HD,HPD,OD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.40	3.160e4	4.097e4	0.920	0.77	0.77	469.1	YES	NO	bb	bb	9.798
2	Total-tetradioxins	26.08	4.747e4	6.093e4	0.879	0.78	0.77	483.7	YES	NO	bb	bb	15.319
3	Total-tetradioxins	25.58	1.560e4	1.949e4	0.879	0.80	0.77	226.5	YES	NO	bd	bb	4.959
4	Total-tetradioxins	25.00	3.393e2	4.636e2	0.879	0.73	0.77	4.9	YES	NO	bb	bb	0.113
5	Total-tetradioxins	24.70	1.303e3	1.789e3	0.879	0.73	0.77	12.4	YES	NO	bb	bb	0.437
6	Total-tetradioxins	23.80	1.688e2	2.523e2	0.879	0.67	0.77	3.0	NO	NO	bb	bb	0.060
7	1368-TCDD	23.51	3.242e4	4.158e4	0.923	0.78	0.77	490.8	YES	NO	bb	bb	9.958
8	12479-PECDD	28.77	2.507e5	1.571e5	1.843	1.60	1.55	1573.0	YES	NO	bb	bb	49.794
9	1289-TCDD	27.02	2.725e4	3.557e4	0.794	0.77	0.77	389.6	YES	NO	bb	bd	9.829
10	124679-HXCDD	34.00	1.700e5	1.339e5	1.125	1.27	1.24	1395.1	YES	NO	bb	bb	50.932
11	12389-PECDD	31.93	1.612e5	1.011e5	1.154	1.59	1.55	1615.0	YES	NO	bb	bb	51.180
12	12378-PeCDD	31.51	1.343e5	8.470e4	0.995	1.59	1.55	1373.6	YES	NO	bb	bb	49.540
13	Total-pentadioxins	30.84	7.486e2	4.573e2	1.331	1.64	1.55	7.1	YES	NO	bb	bb	0.204
14	Total-hexadioxins	36.77	2.075e2	1.770e2	1.028	1.17	1.24	3.0	YES	NO	dd	bb	0.068
15	123789-HxCDD	36.52	1.524e5	1.165e5	0.950	1.31	1.24	1258.6	YES	NO	bd	bb	51.516
16	123678-HxCDD	36.13	1.531e5	1.221e5	1.009	1.25	1.24	1333.7	YES	NO	db	db	48.020
17	123478-HxCDD	36.00	1.500e5	1.183e5	1.027	1.27	1.24	1263.1	YES	NO	bd	bd	49.236
18	1234678-HpCDD	40.28	8.473e4	7.738e4	1.068	1.10	1.05	640.7	YES	NO	bd	bb	48.392
19	1234679-HPCDD	39.23	9.364e4	8.881e4	1.211	1.05	1.05	772.0	YES	NO	bb	bb	48.040
20	OCDD	45.03	1.105e5	1.286e5	1.181	0.86	0.89	1070.8	YES	NO	bb	bb	90.256

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.27	3.659e4	4.944e4	1.043	0.74	0.77	617.4	YES	NO	db	dd	8.777
2	Total-tetrafurans	27.11	8.178e2	1.006e3	1.192	0.81	0.77	13.4	YES	NO	bd	bd	0.163
3	2378-TCDF	25.76	3.887e4	5.437e4	1.108	0.71	0.77	707.9	YES	NO	bd	bd	8.956
4	Total-tetrafurans	24.67	4.194e2	6.153e2	1.192	0.68	0.77	7.2	YES	NO	db	db	0.092
5	Total-tetrafurans	24.54	4.380e2	5.344e2	1.192	0.82	0.77	7.4	YES	NO	bd	bd	0.087
6	1368-TCDF	22.24	4.890e4	6.882e4	1.425	0.71	0.77	922.3	YES	NO	bd	bd	8.789
7	12378-PeCDF	29.93	2.039e5	1.383e5	1.015	1.47	1.55	1291.8	YES	NO	bb	bd	44.292
8	Total-pentafurans	28.77	3.547e4	2.318e4	1.047	1.53	1.55	229.2	YES	NO	bb	bb	7.592
9	123468-HXCDF	33.23	1.907e5	1.638e5	1.087	1.16	1.24	1912.0	YES	NO	bb	bb	47.813
10	12389-PECDF	32.32	1.967e5	1.322e5	1.000	1.49	1.55	1220.5	YES	NO	bb	bb	43.220
11	23478-PeCDF	31.27	2.103e5	1.392e5	1.126	1.51	1.55	1338.5	YES	NO	bb	bb	43.436
12	123789-HxCDF	36.94	1.464e5	1.201e5	1.030	1.22	1.24	1443.2	YES	NO	bd	bb	48.830
13	234678-HxCDF	35.90	1.724e5	1.509e5	1.052	1.14	1.24	1789.9	YES	NO	bb	bd	48.118
14	123678-HxCDF	35.03	1.880e5	1.599e5	1.037	1.18	1.24	1911.5	YES	NO	db	db	48.553
15	123478-HxCDF	34.90	1.797e5	1.533e5	1.017	1.17	1.24	1883.4	YES	NO	bd	bd	47.986
16	1234789-HpCDF	41.03	9.678e4	9.284e4	1.283	1.04	1.05	877.5	YES	NO	bd	bd	46.442
17	Total-heptafurans	39.23	1.656e2	1.404e2	1.305	1.18	1.05	2.5	NO	NO	bb	bb	0.064
18	1234678-HpCDF	38.79	1.263e5	1.244e5	1.327	1.02	1.05	1304.8	YES	NO	MM	MM	45.033
19	OCDF	45.28	1.173e5	1.379e5	1.447	0.85	0.89	1430.2	YES	NO	bb	bd	78.619
20	13468-PECDF	27.11	3.547e5	2.277e5	1.376	1.56	1.55	10098.6	YES	NO	bb	bb	55.575
21	2378-TCDD	26.40	3.160e4	4.097e4	0.920	0.77	0.77	469.1	YES	NO	bb	bb	9.798
22	Total-tetradioxins	26.08	4.747e4	6.093e4	0.879	0.78	0.77	483.7	YES	NO	bb	bb	15.319
23	Total-tetradioxins	25.58	1.560e4	1.949e4	0.879	0.80	0.77	226.5	YES	NO	bd	bb	4.959
24	Total-tetradioxins	25.00	3.393e2	4.636e2	0.879	0.73	0.77	4.9	YES	NO	bb	bb	0.113
25	Total-tetradioxins	24.70	1.303e3	1.789e3	0.879	0.73	0.77	12.4	YES	NO	bb	bb	0.437
26	Total-tetradioxins	23.80	1.688e2	2.523e2	0.879	0.67	0.77	3.0	NO	NO	bb	bb	0.060
27	1368-TCDD	23.51	3.242e4	4.158e4	0.923	0.78	0.77	490.8	YES	NO	bb	bb	9.958
28	12479-PECDD	28.77	2.507e5	1.571e5	1.843	1.60	1.55	1573.0	YES	NO	bb	bb	49.794
29	1289-TCDD	27.02	2.725e4	3.557e4	0.794	0.77	0.77	389.6	YES	NO	bb	bd	9.829
30	124679-HXCDD	34.00	1.700e5	1.339e5	1.125	1.27	1.24	1395.1	YES	NO	bb	bb	50.932
31	12389-PECDD	31.93	1.612e5	1.011e5	1.154	1.59	1.55	1615.0	YES	NO	bb	bb	51.180
32	12378-PeCDD	31.51	1.343e5	8.470e4	0.995	1.59	1.55	1373.6	YES	NO	bb	bb	49.540
33	Total-pentadioxins	30.84	7.486e2	4.573e2	1.331	1.64	1.55	7.1	YES	NO	bb	bb	0.204
34	Total-hexadioxins	36.77	2.075e2	1.770e2	1.028	1.17	1.24	3.0	YES	NO	dd	bb	0.068
35	123789-HxCDD	36.52	1.524e5	1.165e5	0.950	1.31	1.24	1258.6	YES	NO	bd	bb	51.516
36	123678-HxCDD	36.13	1.531e5	1.221e5	1.009	1.25	1.24	1333.7	YES	NO	db	db	48.020
37	123478-HxCDD	36.00	1.500e5	1.183e5	1.027	1.27	1.24	1263.1	YES	NO	bd	bd	49.236

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234678-HpCDD	40.28	8.473e4	7.738e4	1.068	1.10	1.05	640.7	YES	NO	bd	bb	48.392
39	1234679-HPCDD	39.23	9.364e4	8.881e4	1.211	1.05	1.05	772.0	YES	NO	bb	bb	48.040
40	OCDD	45.03	1.105e5	1.286e5	1.181	0.86	0.89	1070.8	YES	NO	bb	bb	90.256

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.17	1.406e6					32.1	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.53	5.536e3					1.3	NO		bb		
2	FUNCTION4 PFK	38.48	2.182e3					0.7	NO		bb		
3	FUNCTION4 PFK	38.13	7.707e3					1.3	NO		bb		
4	FUNCTION4 PFK	38.09	3.031e3					1.6	NO		bb		
5	FUNCTION4 PFK	38.04	1.435e3					0.8	NO		bb		
6	FUNCTION4 PFK	38.00	1.762e4					3.0	NO		bb		
7	FUNCTION4 PFK	42.25	1.941e4					2.0	NO		bd		
8	FUNCTION4 PFK	41.95	2.722e3					1.0	NO		bb		
9	FUNCTION4 PFK	41.60	9.023e2					0.5	NO		bb		
10	FUNCTION4 PFK	41.46	8.690e3					1.6	NO		bb		
11	FUNCTION4 PFK	41.29	9.452e2					0.5	NO		bb		
12	FUNCTION4 PFK	41.25	4.852e3					1.4	NO		bb		
13	FUNCTION4 PFK	41.06	7.940e2					0.4	NO		bb		
14	FUNCTION4 PFK	41.02	8.896e2					0.5	NO		bb		
15	FUNCTION4 PFK	40.83	7.466e3					1.4	NO		bb		
16	FUNCTION4 PFK	39.82	4.716e3					1.1	NO		bb		
17	FUNCTION4 PFK	39.31	3.110e3					0.9	NO		bb		
18	FUNCTION4 PFK	39.19	1.860e4					1.9	NO		db		
19	FUNCTION4 PFK	39.01	1.229e4					1.4	NO		bd		
20	FUNCTION4 PFK	38.87	5.627e4					3.6	YES		bb		
21	FUNCTION4 PFK	38.80	9.305e3					1.8	NO		db		
22	FUNCTION4 PFK	38.75	1.157e4					1.7	NO		bd		
23	FUNCTION4 PFK	42.90	1.898e3					0.6	NO		bb		
24	FUNCTION4 PFK	42.71	9.581e3					1.5	NO		bb		
25	FUNCTION4 PFK	42.61	7.828e3					1.4	NO		db		
26	FUNCTION4 PFK	42.56	3.021e3					0.7	NO		bd		
27	FUNCTION4 PFK	42.46	8.134e3					1.7	NO		db		
28	FUNCTION4 PFK	42.34	3.031e4					1.7	NO		dd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.36	3.022e3					0.9	NO		bb		
2	FUNCTION5 PFK	43.71	7.084e3					1.1	NO		bb		
3	FUNCTION5 PFK	43.11	9.716e3					1.6	NO		bb		

Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.12	2.495e2					4.7	YES		bb		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	27.12	1.069e2					3.1	YES		bd		0.000
2	FUNCTION1 HPCD...	26.40	7.300e1					2.5	NO		bb		0.000
3	FUNCTION1 HPCD...	24.91	7.651e1					1.9	NO		bb		0.000
4	FUNCTION1 HPCD...	27.18	7.813e1					3.3	YES		db		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.86	7.762e1					4.3	YES		bb		0.000
2	FUNCTION2 HPCD...	31.70	1.392e2					4.9	YES		bb		0.000
3	FUNCTION2 HPCD...	31.07	2.215e2					10.4	YES		bb		0.000

ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.11	1.047e2					4.6	YES		bb		0.000
2	FUNCTION3 OCDPE	35.10	8.735e1					2.8	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

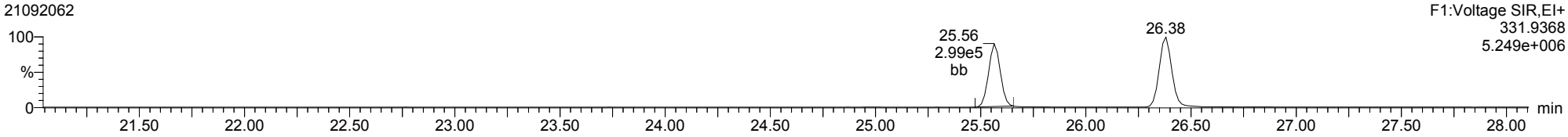
ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1													

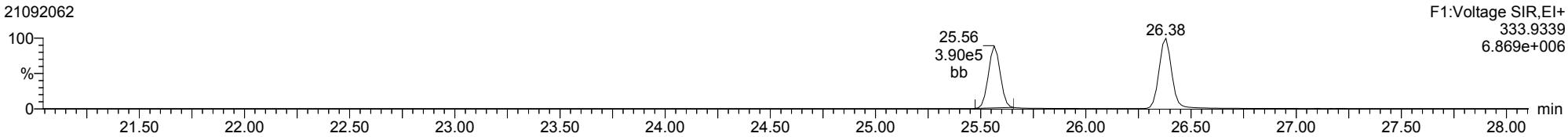
Method: T:\Autospec\Methods\Dioxin210920.mdb 21 Sep 2021 09:52:17
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

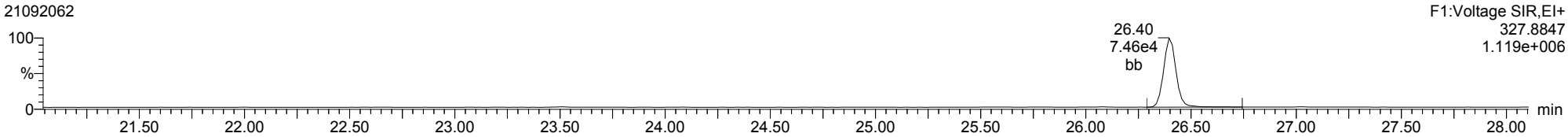
13C-1234-TCDD



13C-1234-TCDD

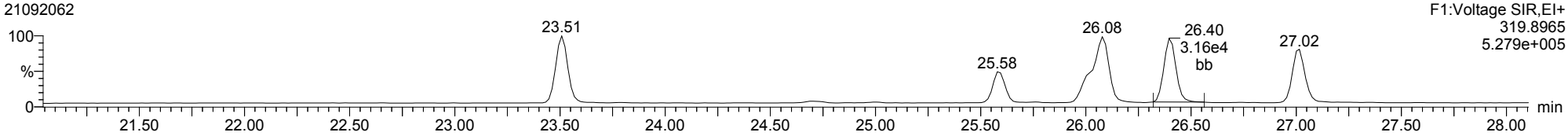


37CL-2378-TCDD

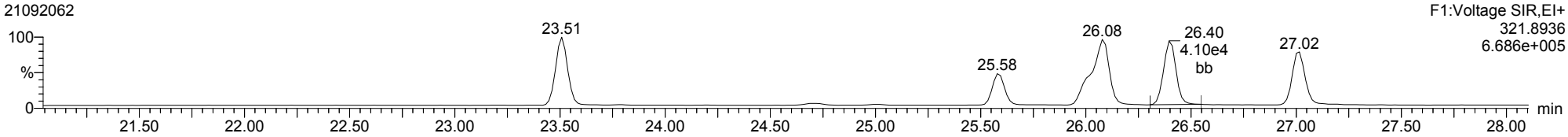


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

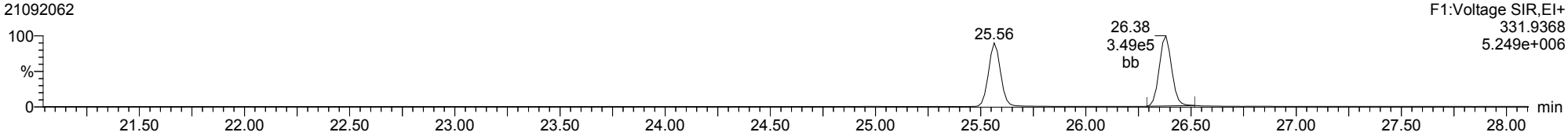
2378-TCDD



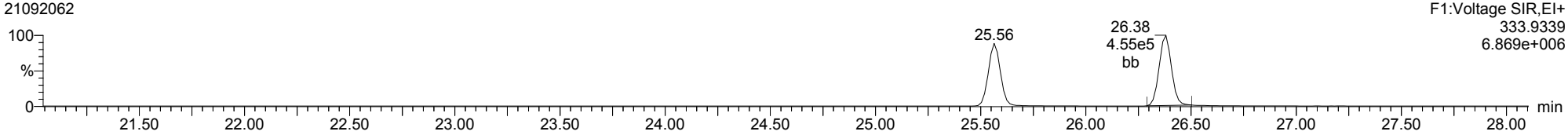
2378-TCDD



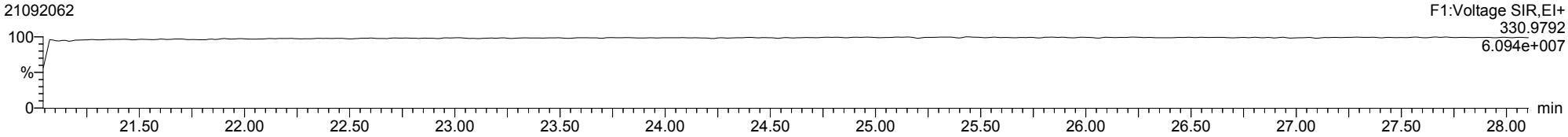
13C-2378-TCDD



13C-2378-TCDD

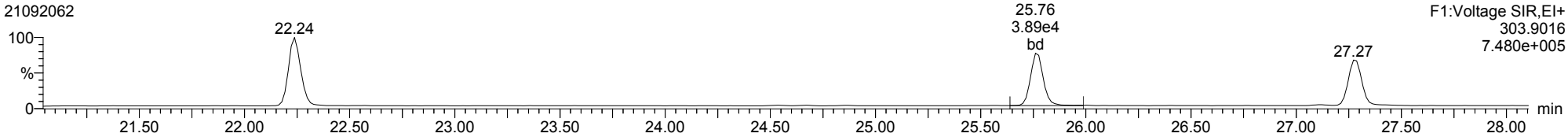


FUNCTION1 PFK

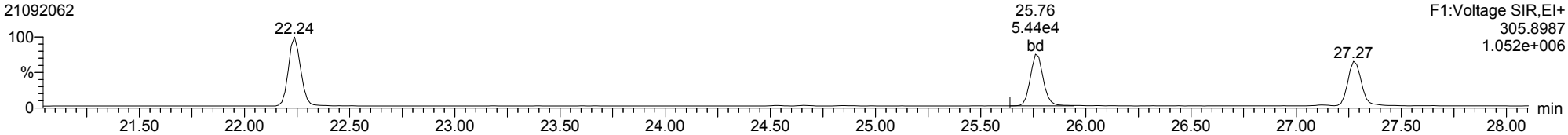


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

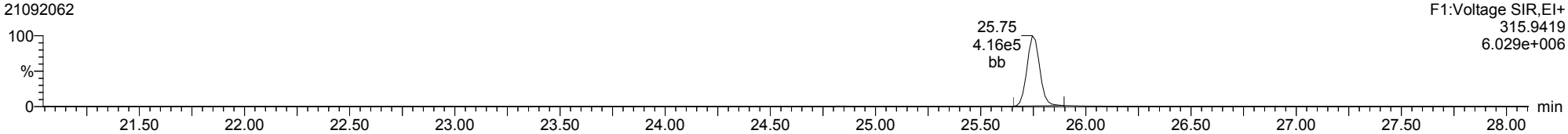
2378-TCDF



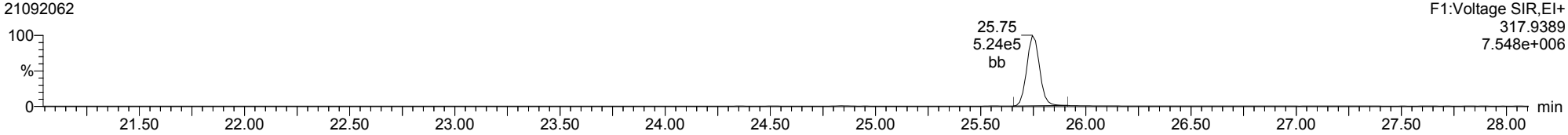
2378-TCDF



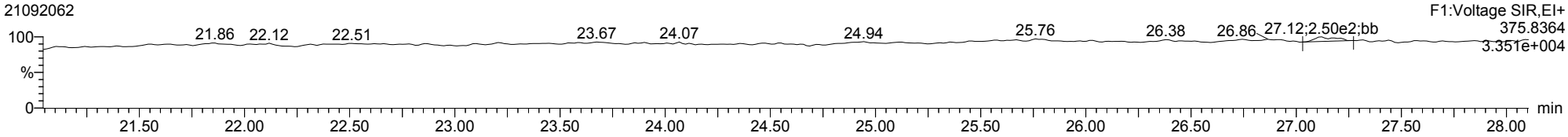
13C-2378-TCDF



13C-2378-TCDF

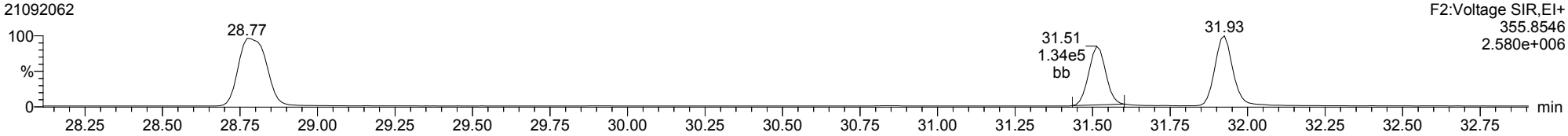


FUNCTION1 HXCDPE

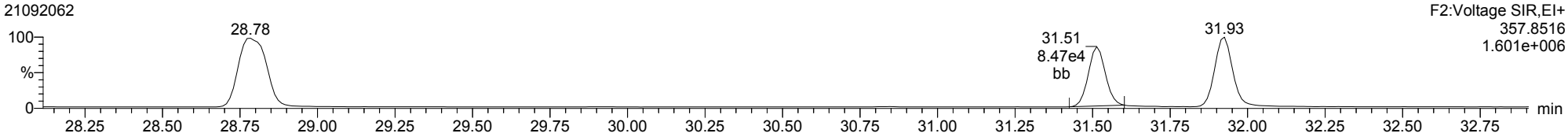


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

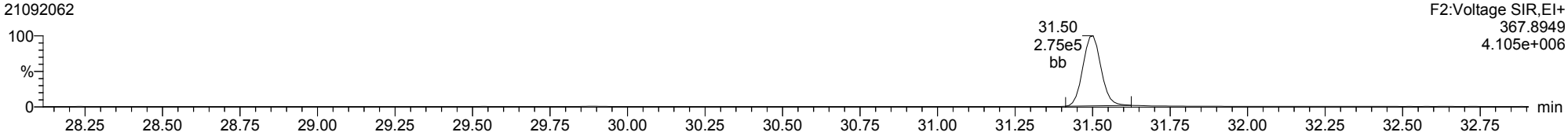
12378-PeCDD



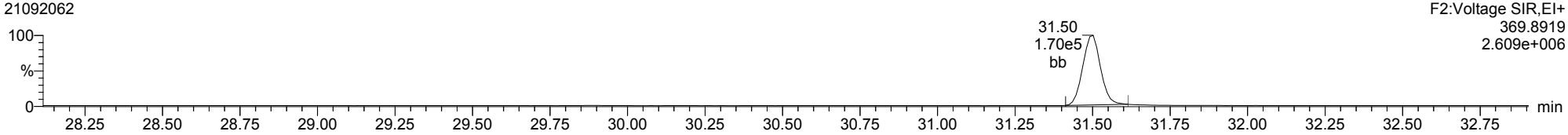
12378-PeCDD



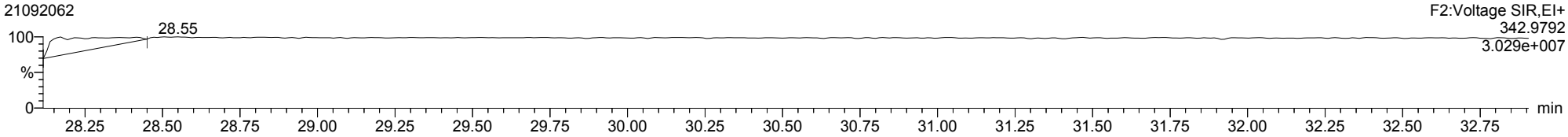
13C-12378-PeCDD



13C-12378-PeCDD

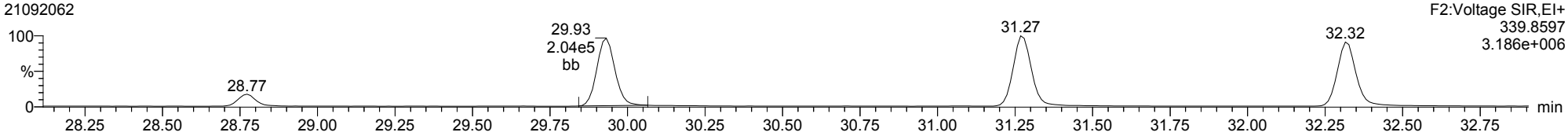


FUNCTION2 PFK

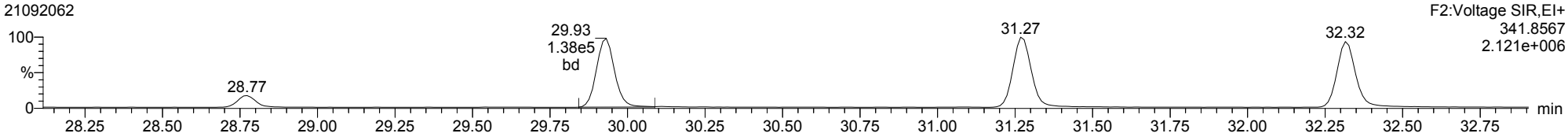


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

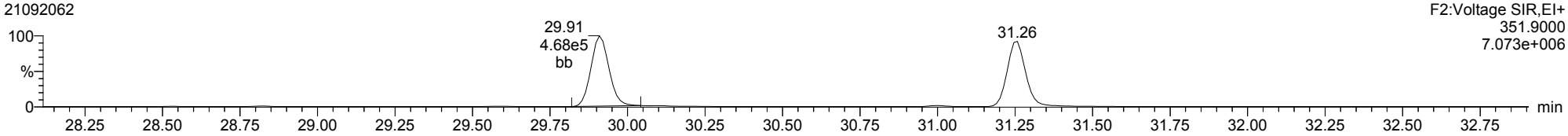
12378-PeCDF



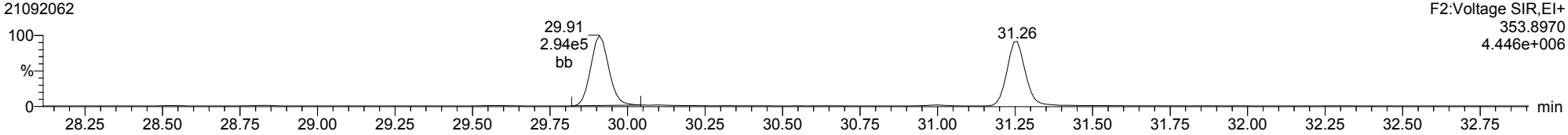
12378-PeCDF



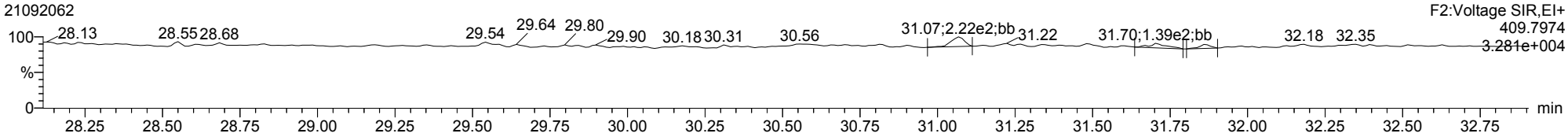
13C-12378-PeCDF



13C-12378-PeCDF

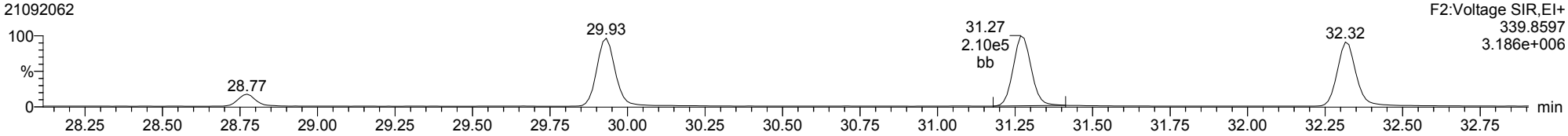


FUNCTION2 HPCDPE

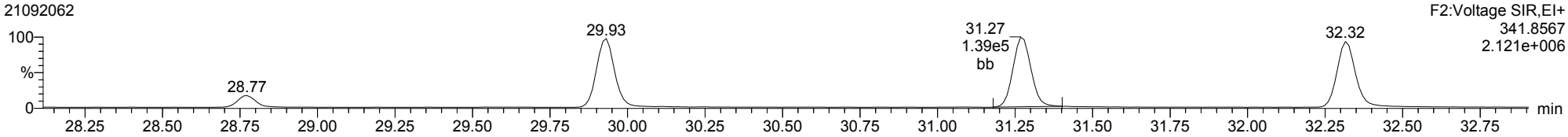


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

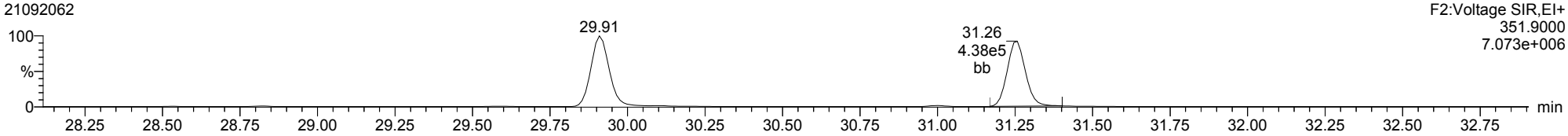
23478-PeCDF



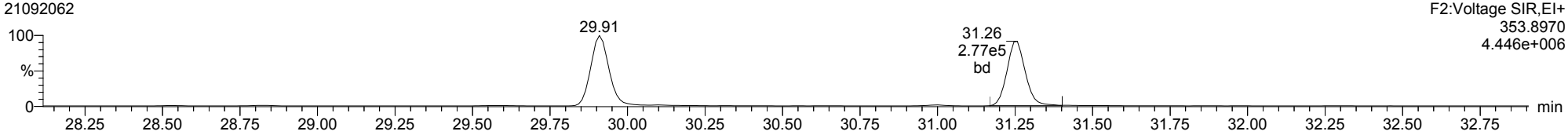
23478-PeCDF



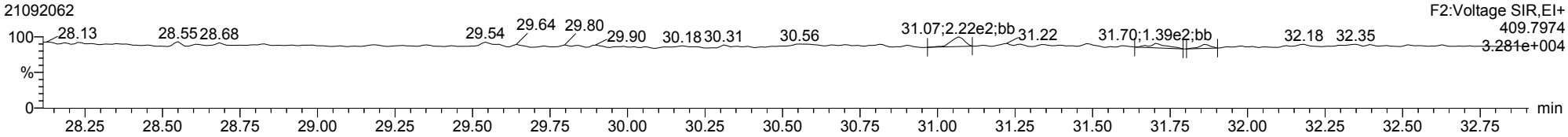
13C-23478-PeCDF



13C-23478-PeCDF

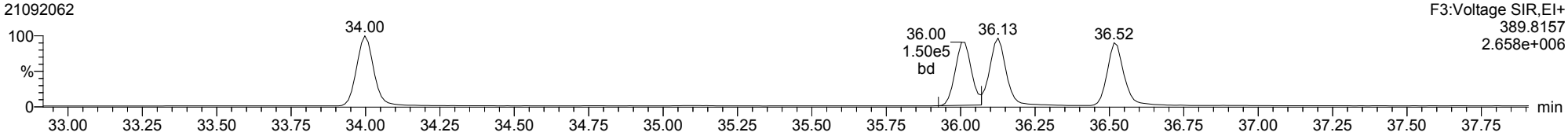


FUNCTION2 HPCDPE

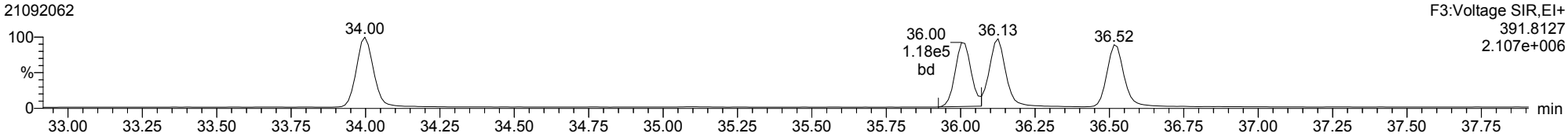


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

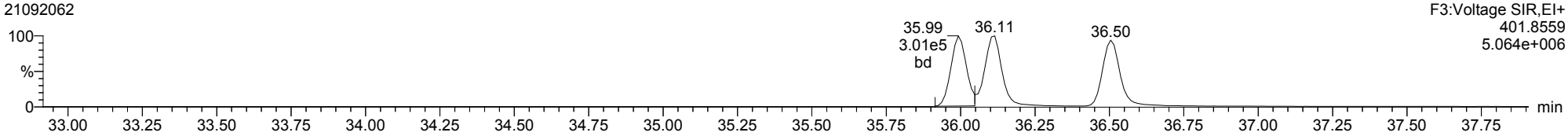
123478-HxCDD



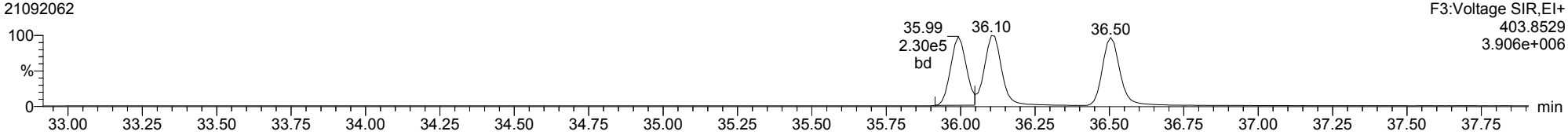
123478-HxCDD



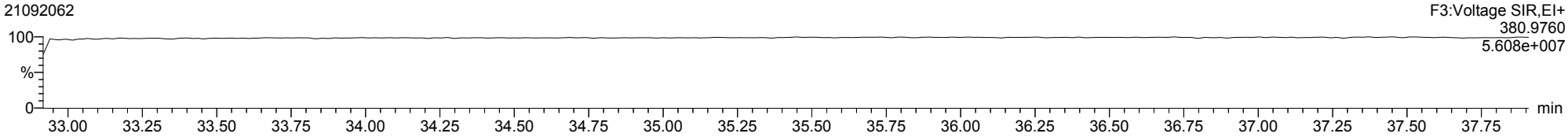
13C-123478-HxCDD



13C-123478-HxCDD

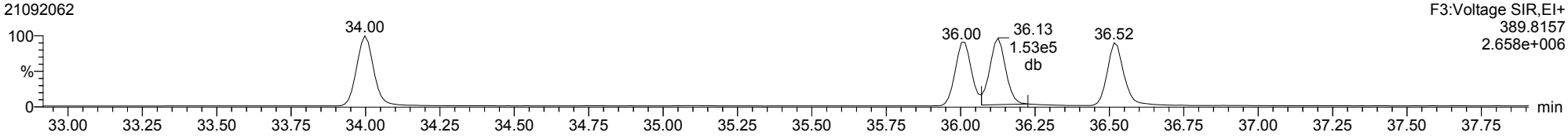


FUNCTION3 PFK

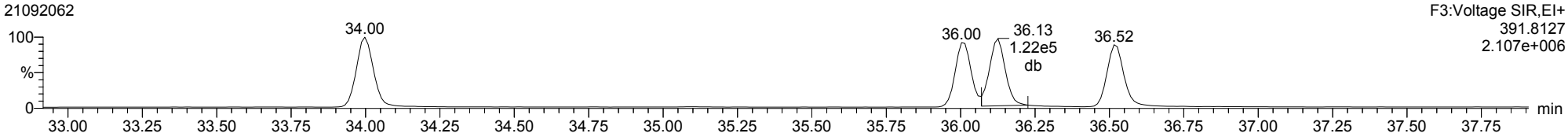


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

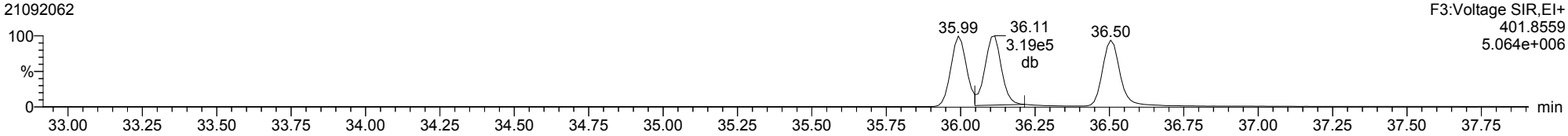
123678-HxCDD



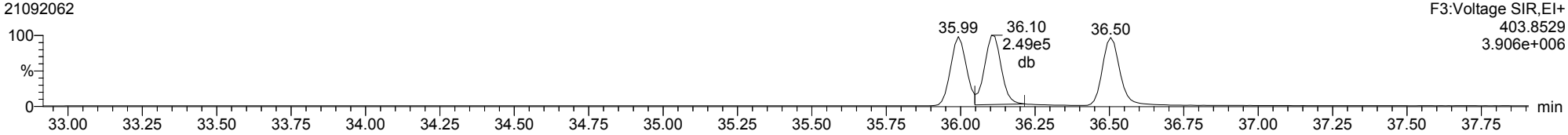
123678-HxCDD



13C-123678-HxCDD

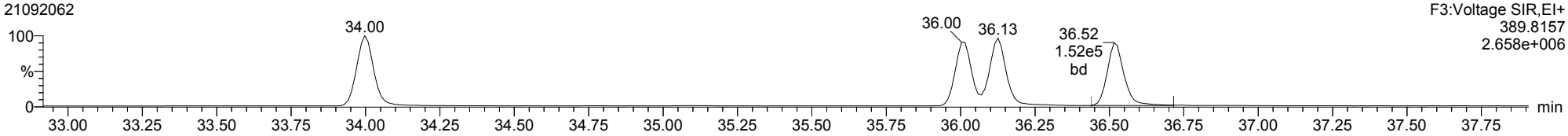


13C-123678-HxCDD

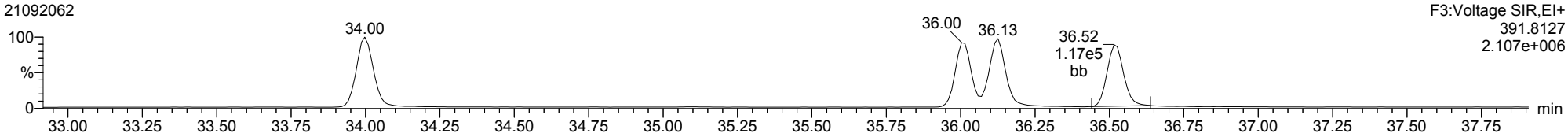


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

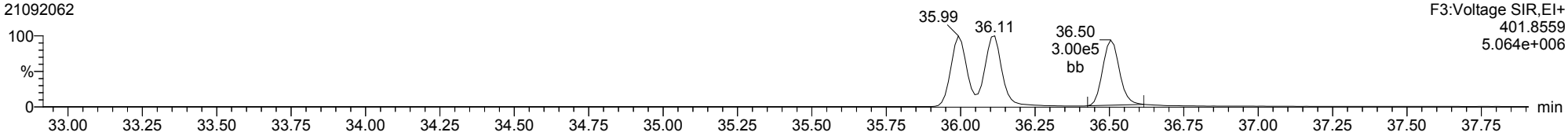
123789-HxCDD



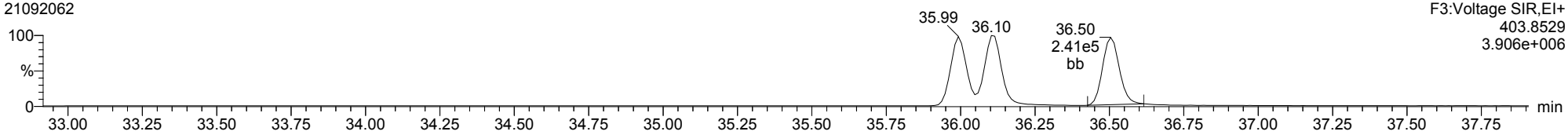
123789-HxCDD



13C-123789-HxCDD

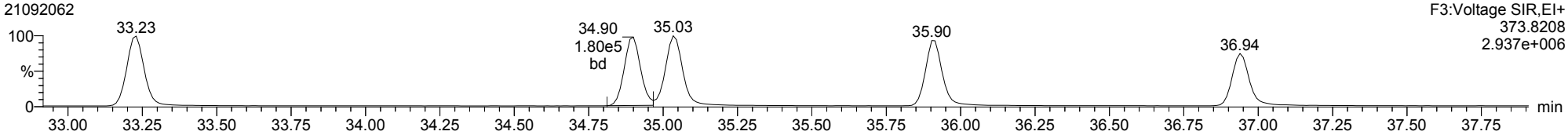


13C-123789-HxCDD

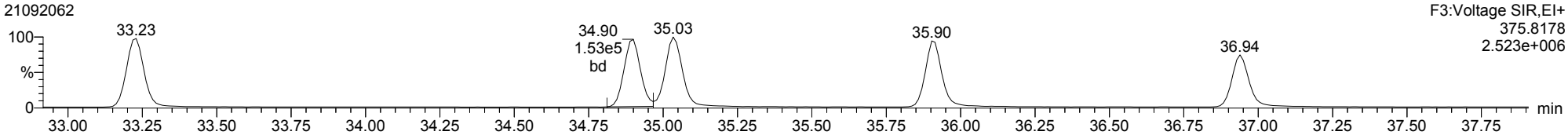


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

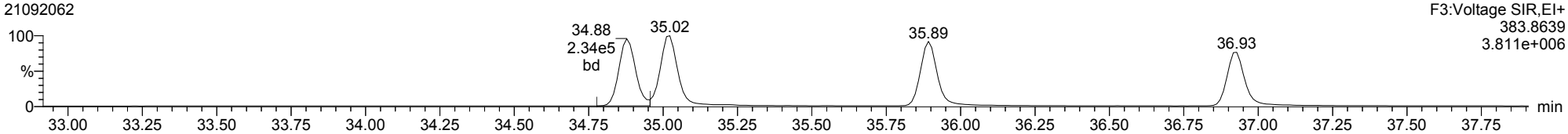
123478-HxCDF



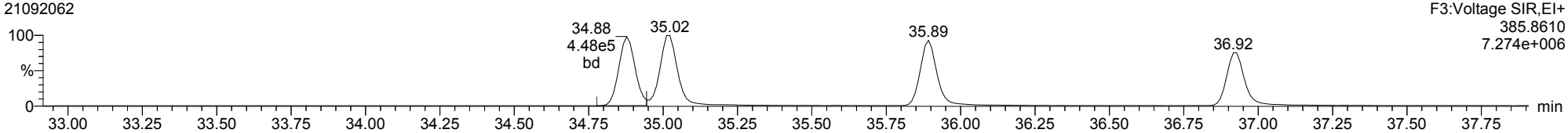
123478-HxCDF



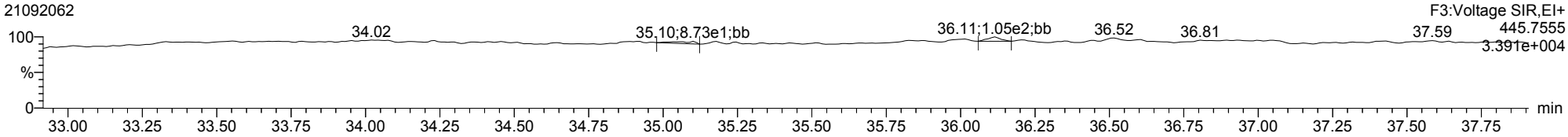
13C-123478-HxCDF



13C-123478-HxCDF

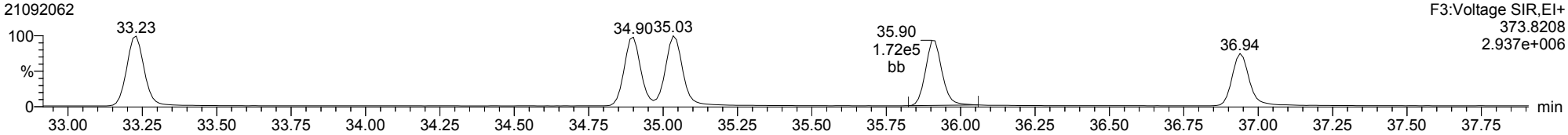


FUNCTION3 OCDPE

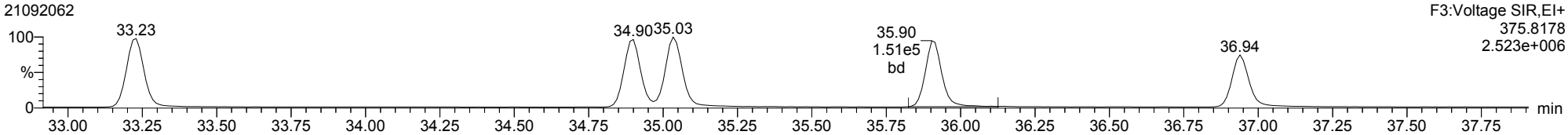


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

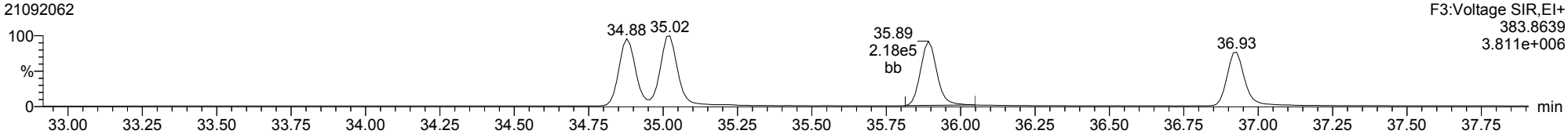
234678-HxCDF



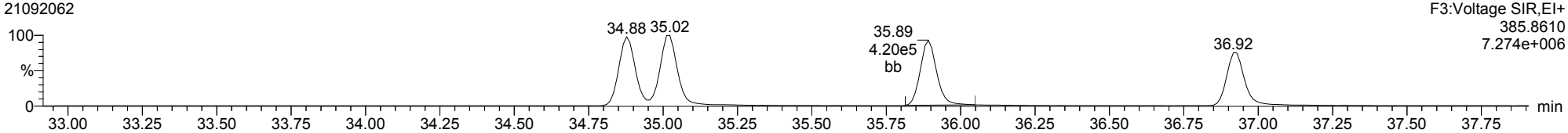
234678-HxCDF



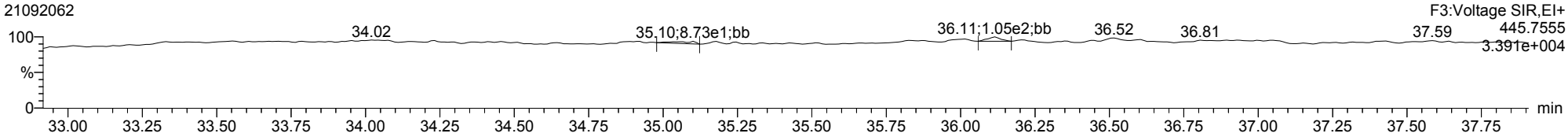
13C-234678-HxCDF



13C-234678-HxCDF

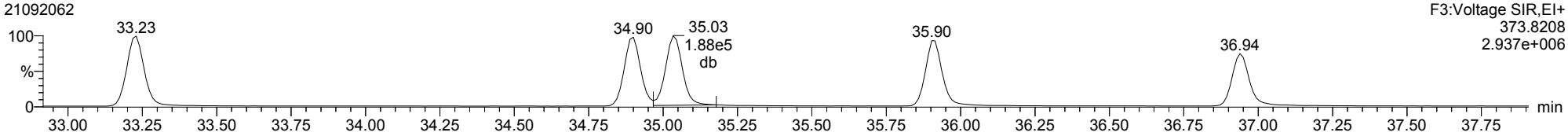


FUNCTION3 OCDPE

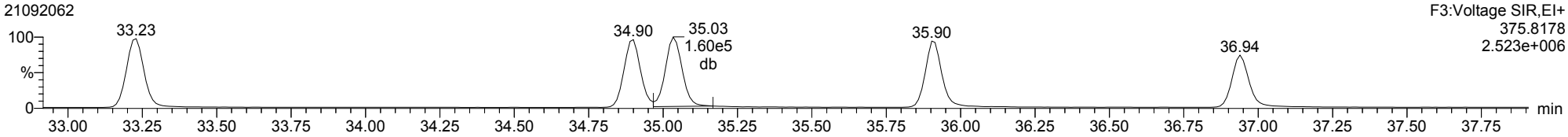


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

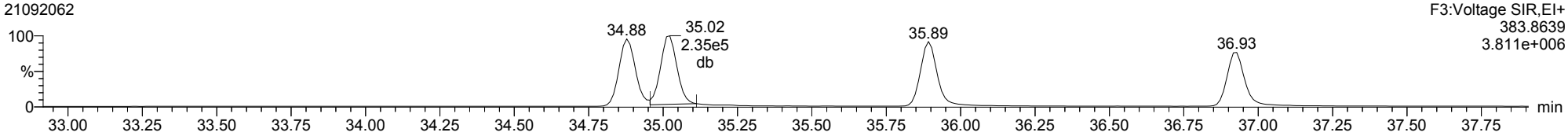
123678-HxCDF



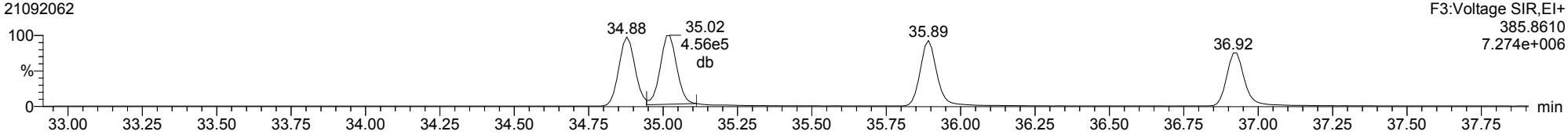
123678-HxCDF



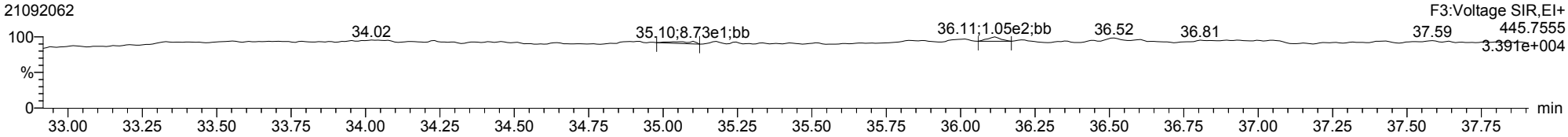
13C-123678-HxCDF



13C-123678-HxCDF

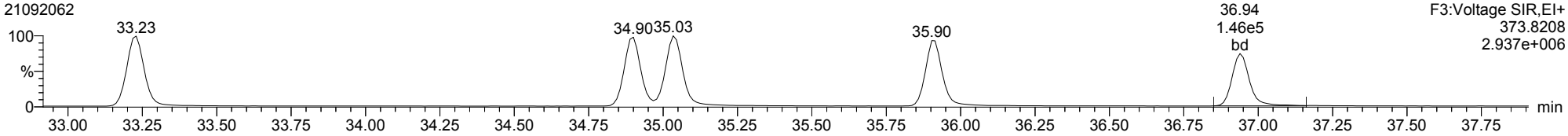


FUNCTION3 OCDPE

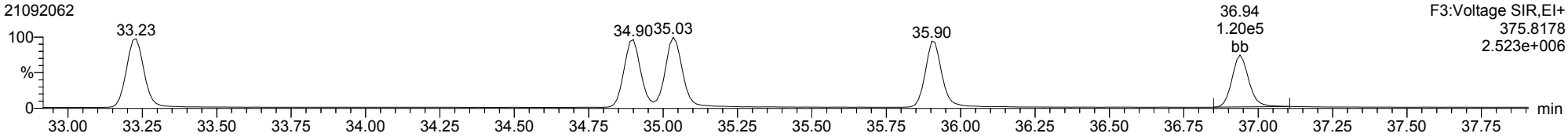


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

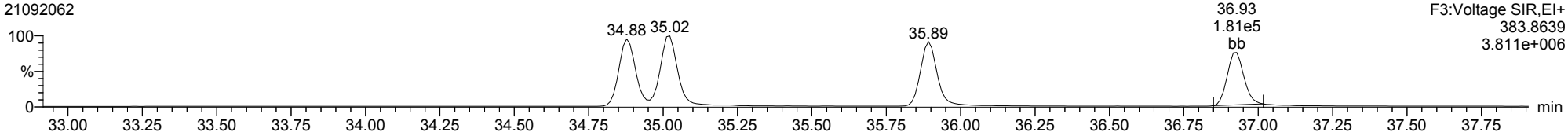
123789-HxCDF



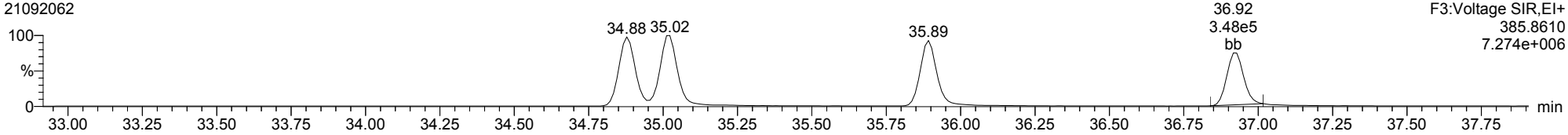
123789-HxCDF



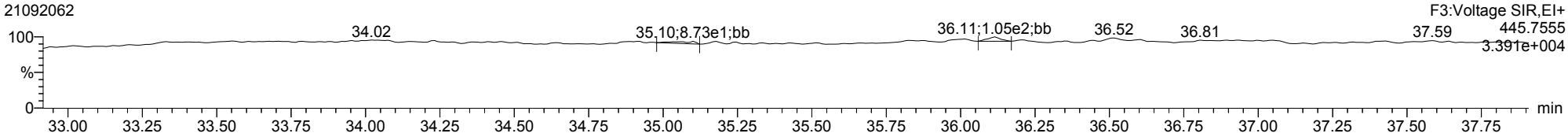
13C-123789-HxCDF



13C-123789-HxCDF

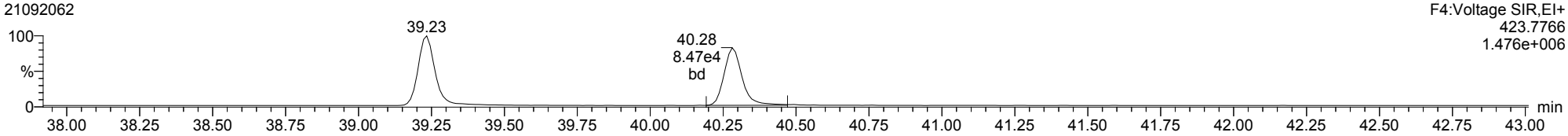


FUNCTION3 OCDPE

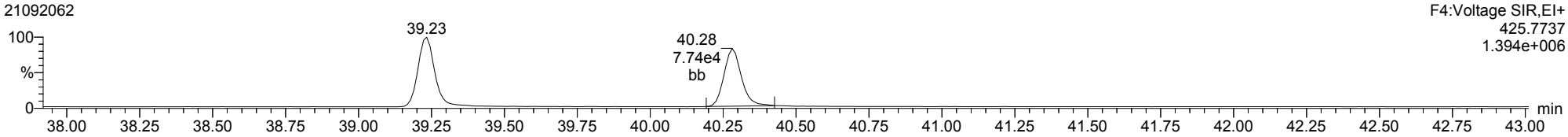


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

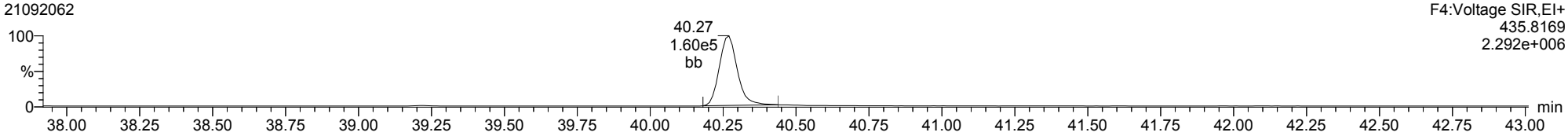
1234678-HpCDD



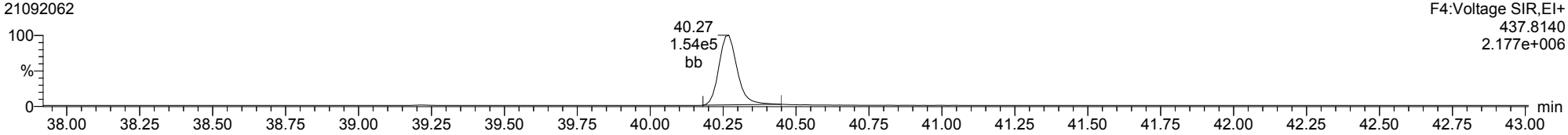
1234678-HpCDD



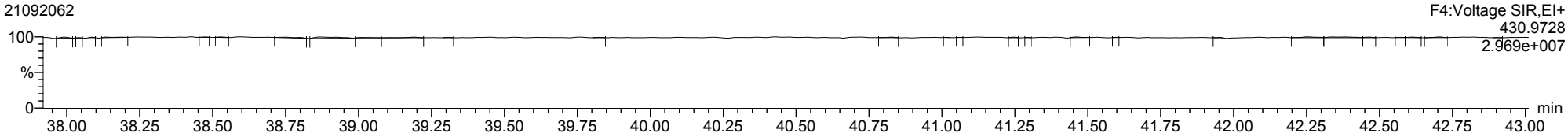
13C-1234678-HpCDD



13C-1234678-HpCDD

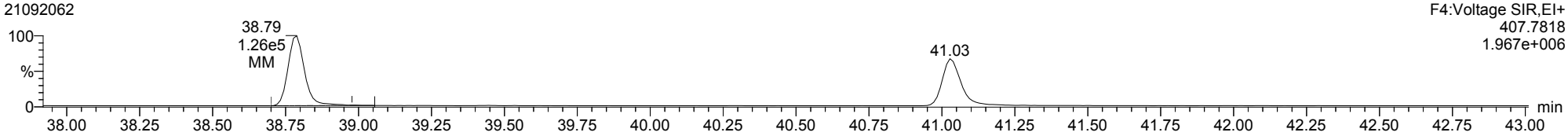


FUNCTION4 PFK

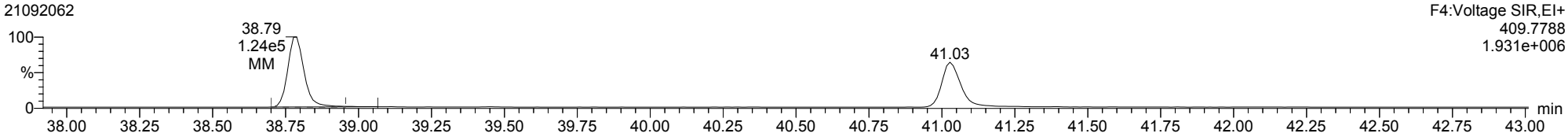


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

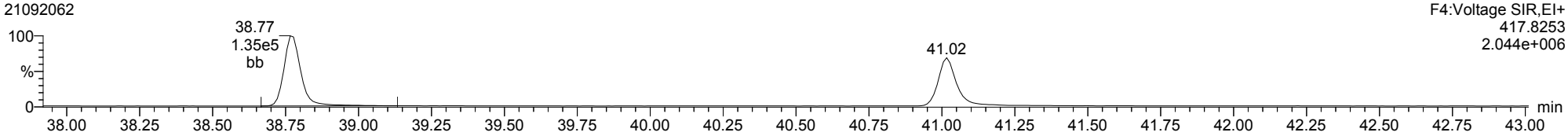
1234678-HpCDF



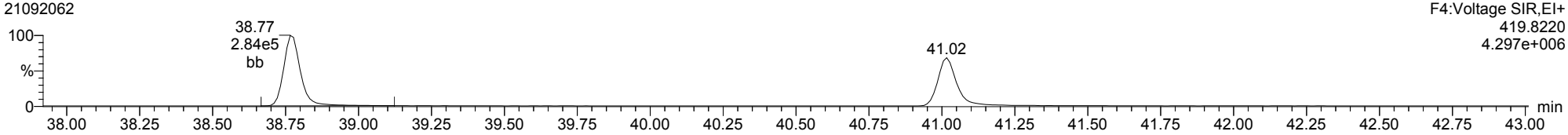
1234678-HpCDF



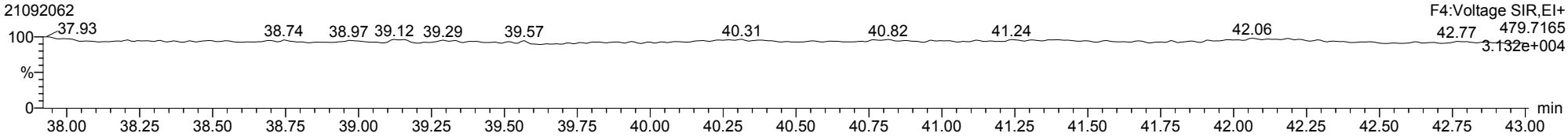
13C-1234678-HpCDF



13C-1234678-HpCDF

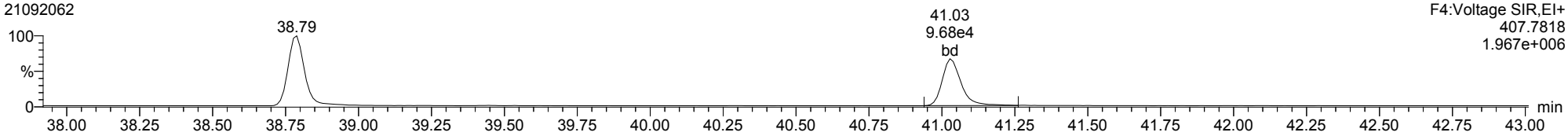


FUNCTION4 NCDPE

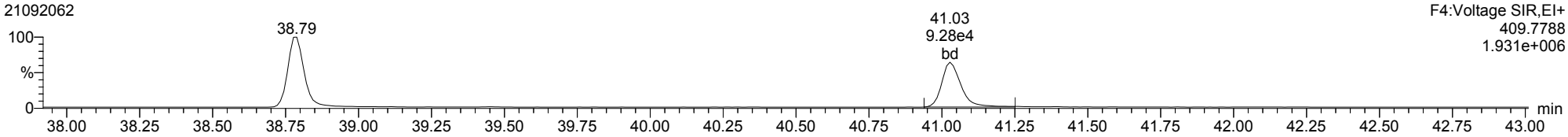


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

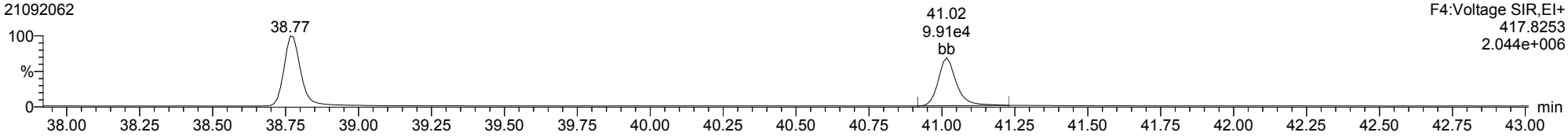
1234789-HpCDF



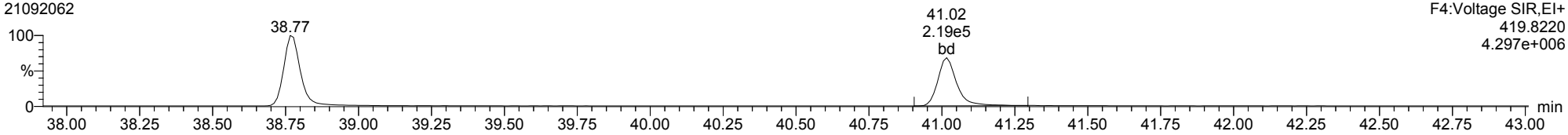
1234789-HpCDF



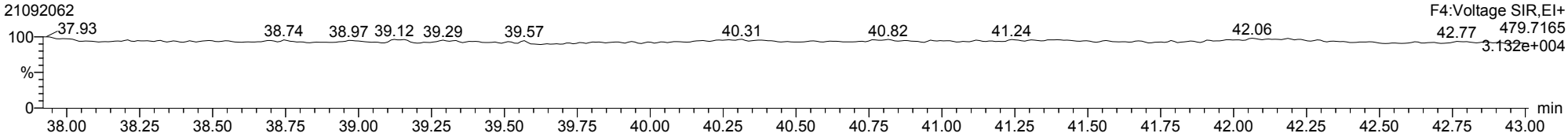
13C-1234789-HpCDF



13C-1234789-HpCDF

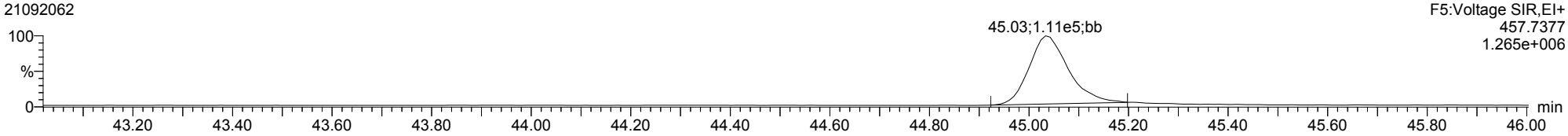


FUNCTION4 NCDPE

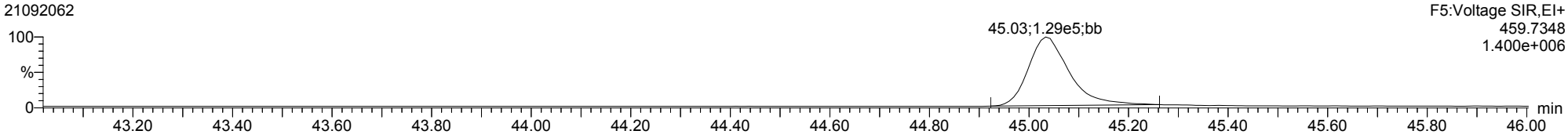


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

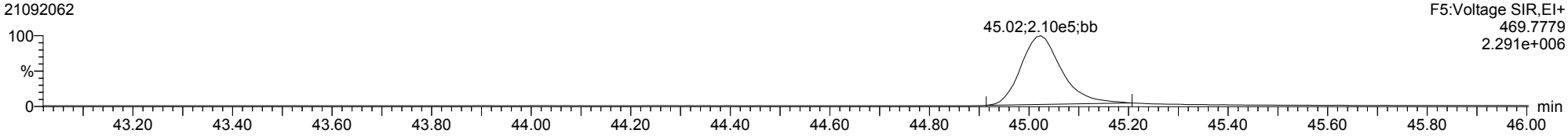
OCDD



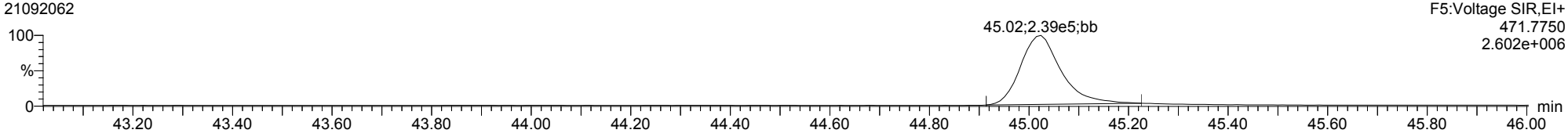
OCDD



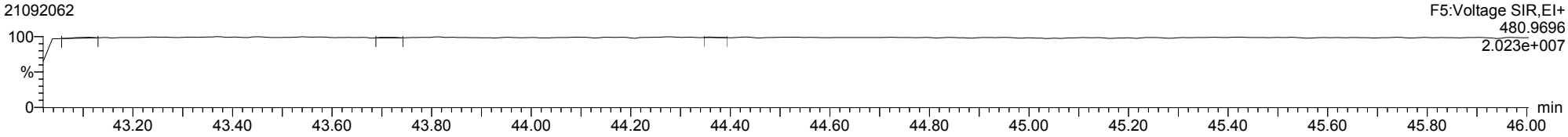
13C-OCDD



13C-OCDD

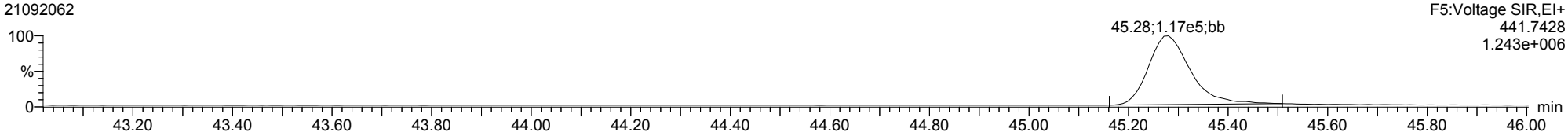


FUNCTION5 PFK

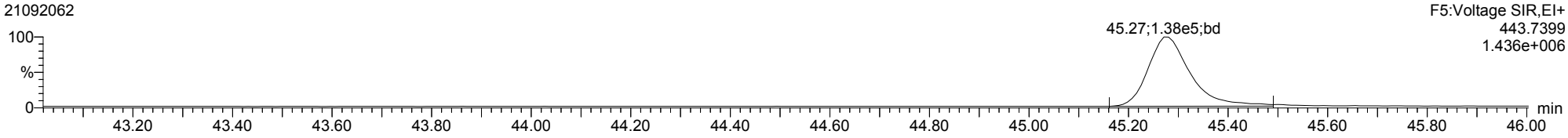


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

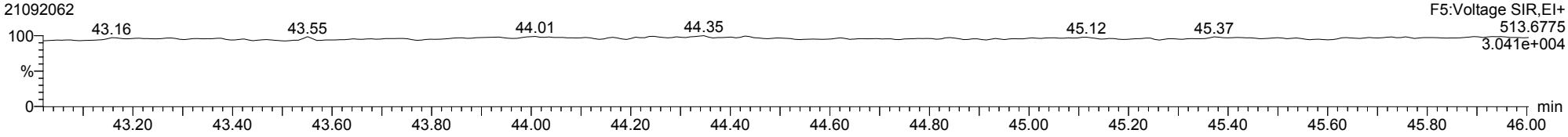
OCDF



OCDF



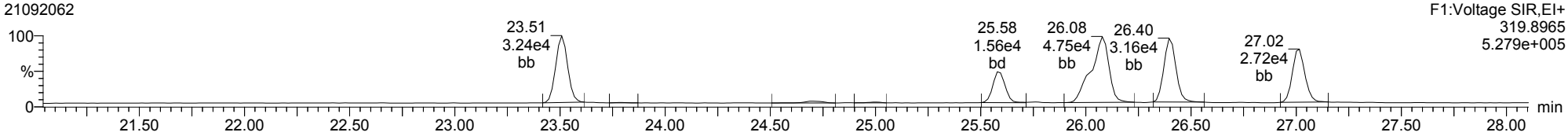
FUNCTION5 DCDPE



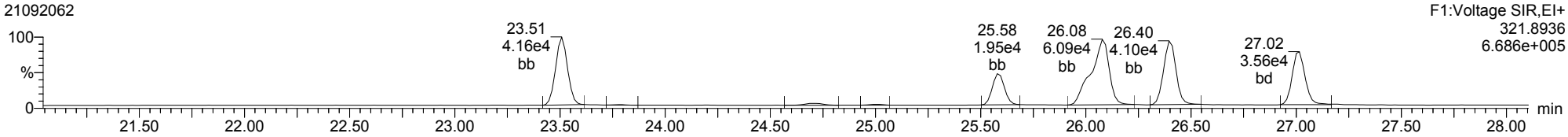
Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

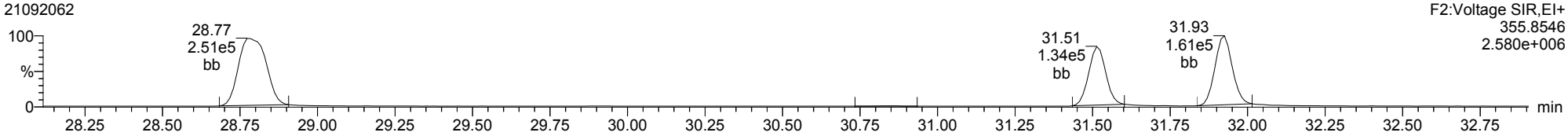
Total-tetradioxins



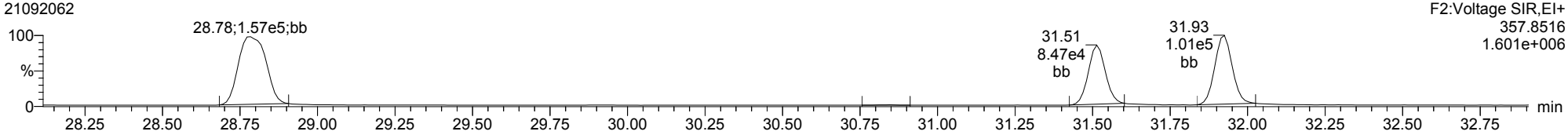
Total-tetradioxins



Total-pentadioxins

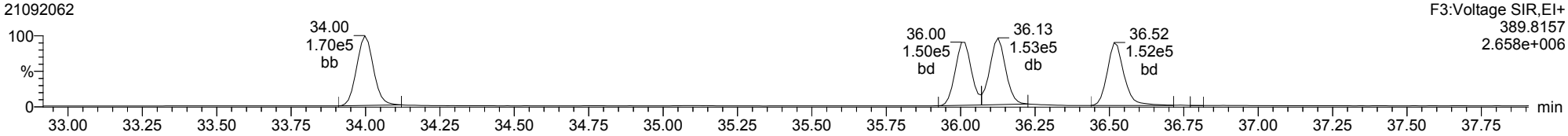


Total-pentadioxins

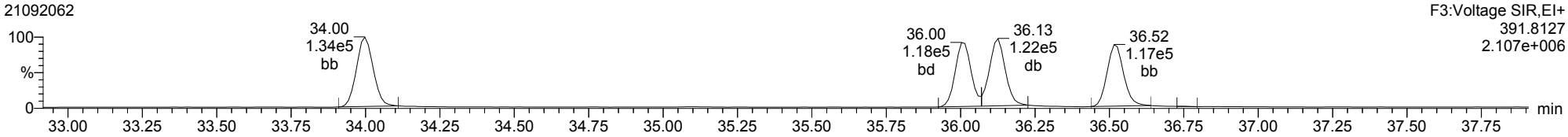


ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

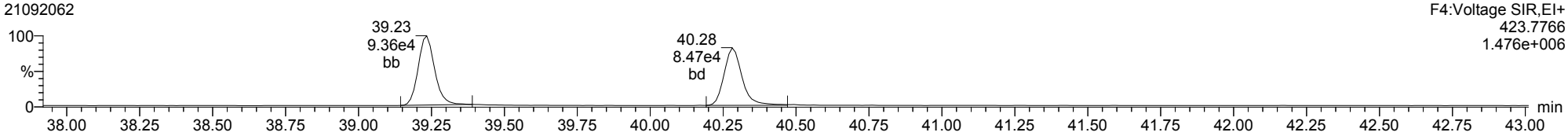
Total-hexadioxins



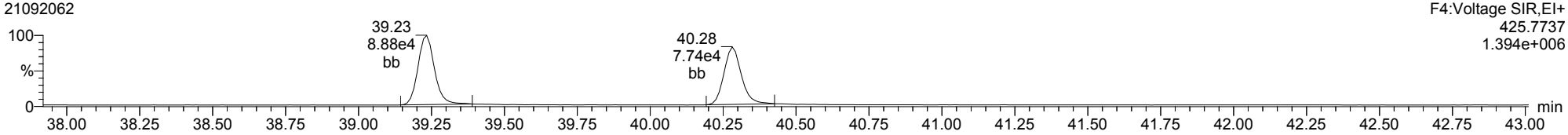
Total-hexadioxins



Total-heptadioxins



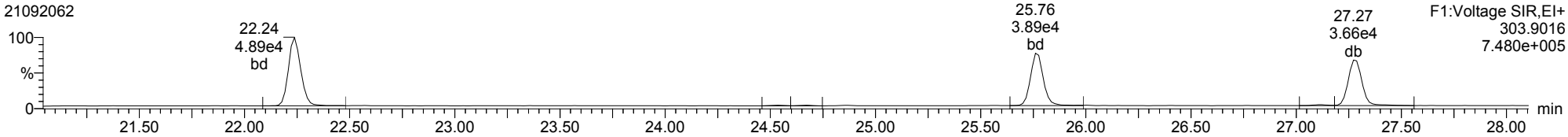
Total-heptadioxins



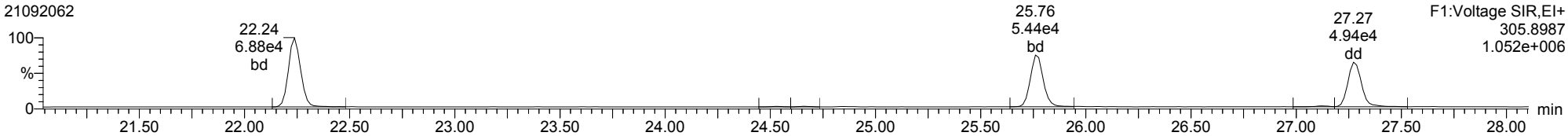
Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

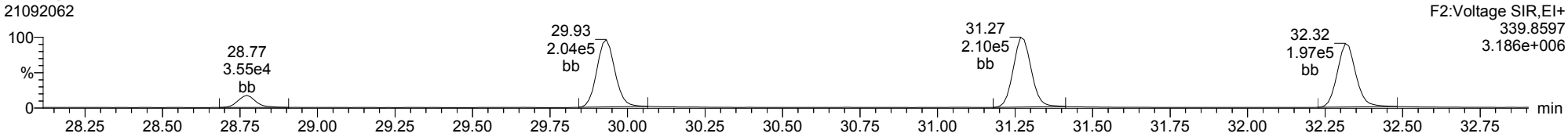
Total-tetrafurans



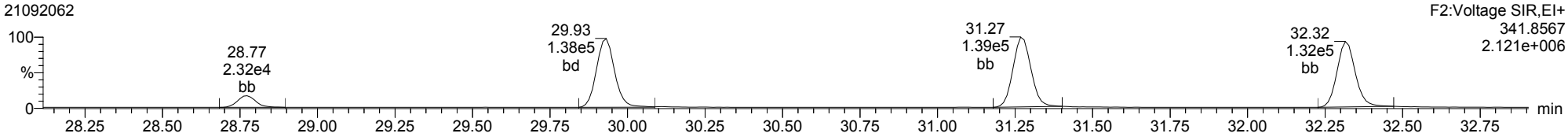
Total-tetrafurans



Total-pentafurans



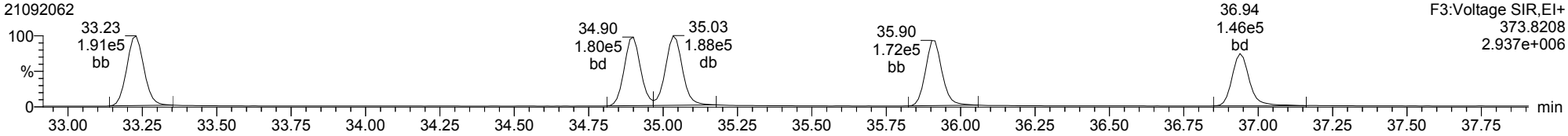
Total-pentafurans



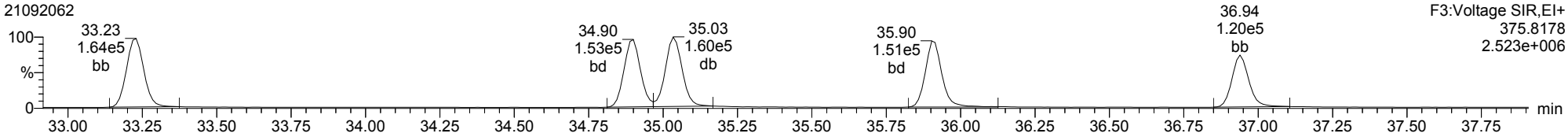
Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:03:02 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:04:42 Pacific Daylight Time

ID: CS3S7, Name: 21092062, Date: 22-Sep-2021, Time: 18:51:05, Conditions: AUTOSPEC01, User: pk

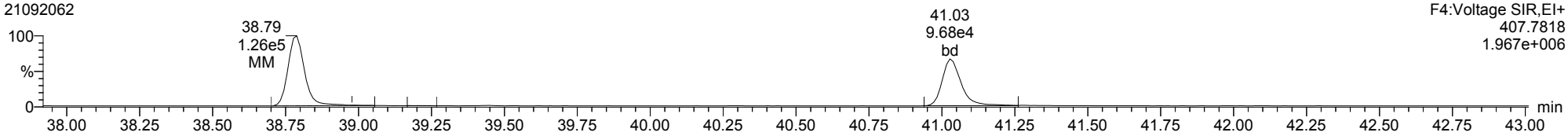
Total-hexafurans



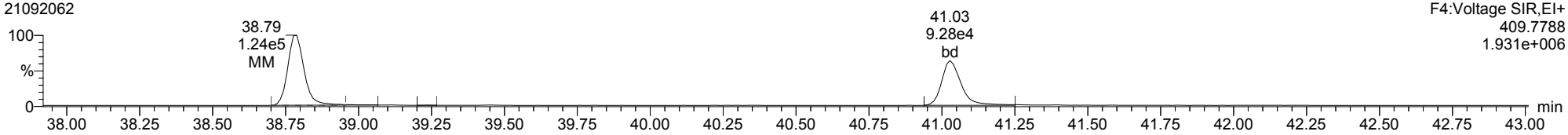
Total-hexafurans



Total-heptafurans

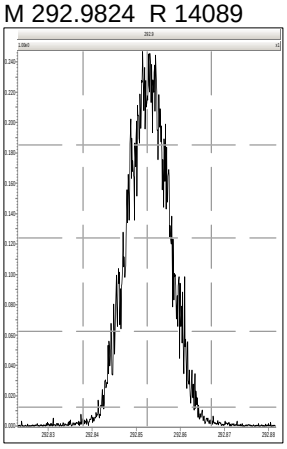


Total-heptafurans

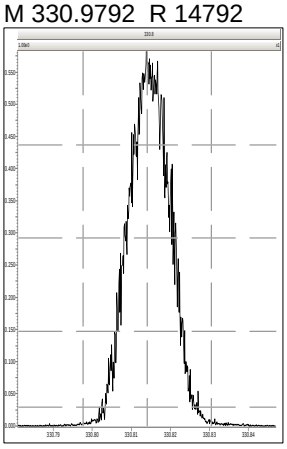


Printed: Wednesday, September 22, 2021 19:44:26 Pacific Daylight Time

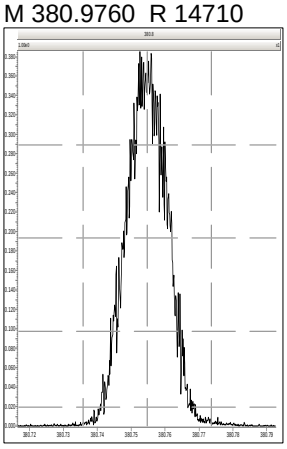
M 292.9824 R 14089



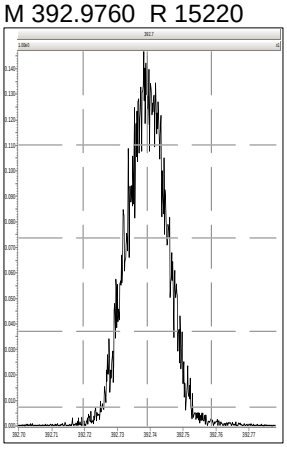
M 330.9792 R 14792



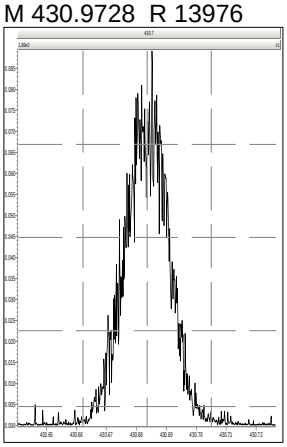
M 380.9760 R 14710



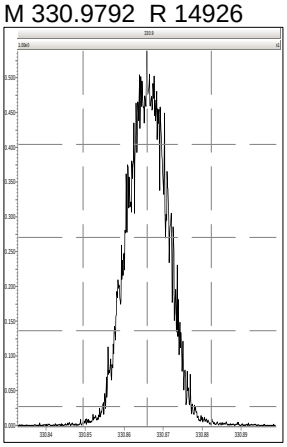
M 392.9760 R 15220



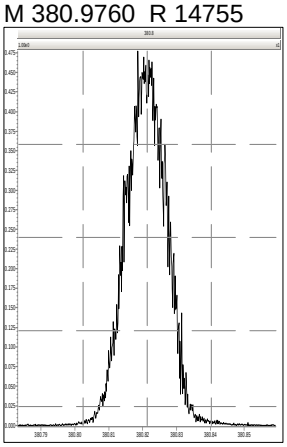
M 430.9728 R 13976



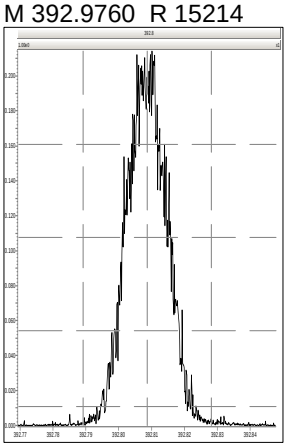
M 330.9792 R 14926



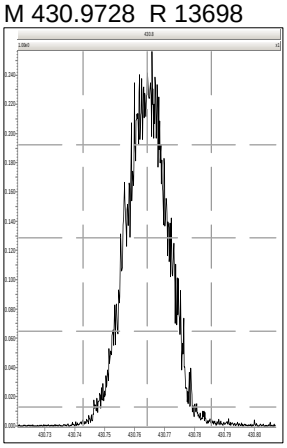
M 380.9760 R 14755



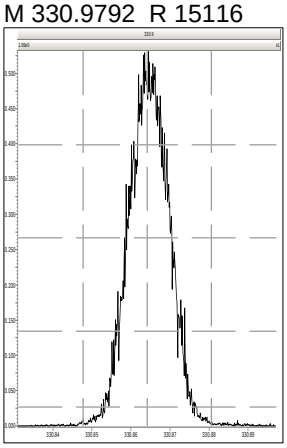
M 392.9760 R 15214



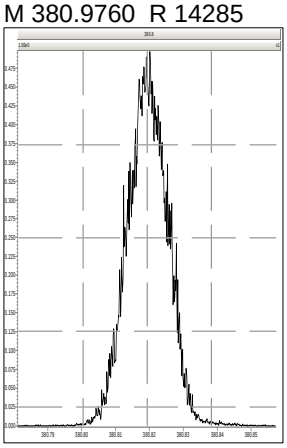
M 430.9728 R 13698



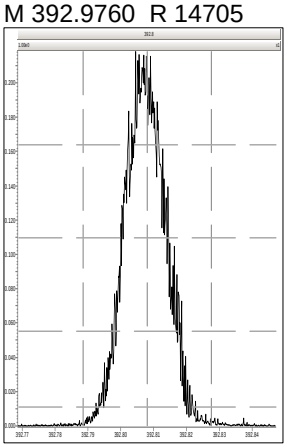
M 330.9792 R 15116



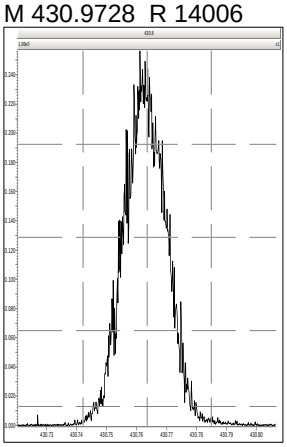
M 380.9760 R 14285



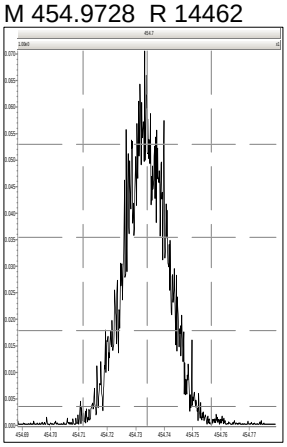
M 392.9760 R 14705



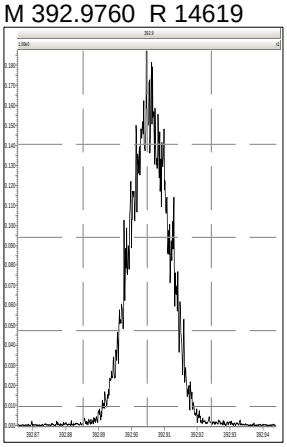
M 430.9728 R 14006



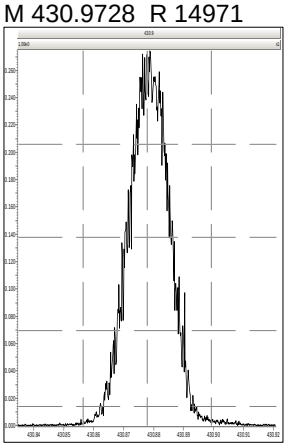
M 454.9728 R 14462



M 392.9760 R 14619

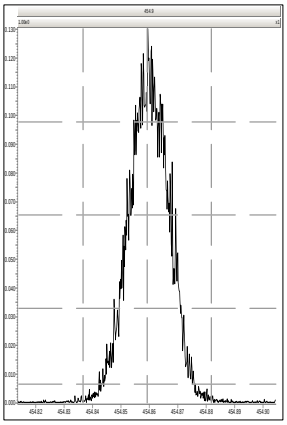


M 430.9728 R 14971

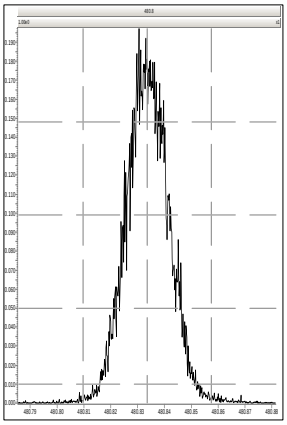


Printed: Wednesday, September 22, 2021 19:44:26 Pacific Daylight Time

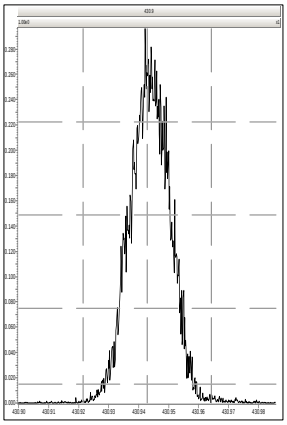
M 454.9728 R 14498



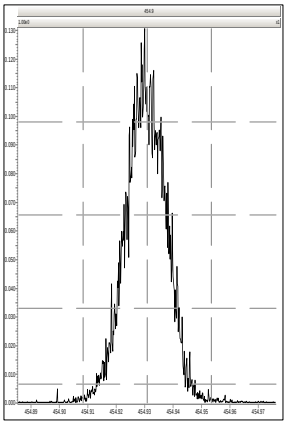
M 480.9696 R 13909



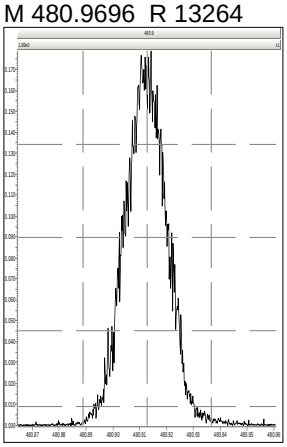
M 430.9728 R 14619



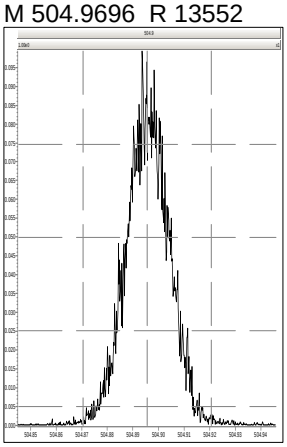
M 454.9728 R 14124



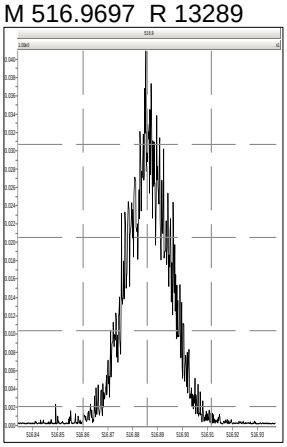
M 480.9696 R 13264

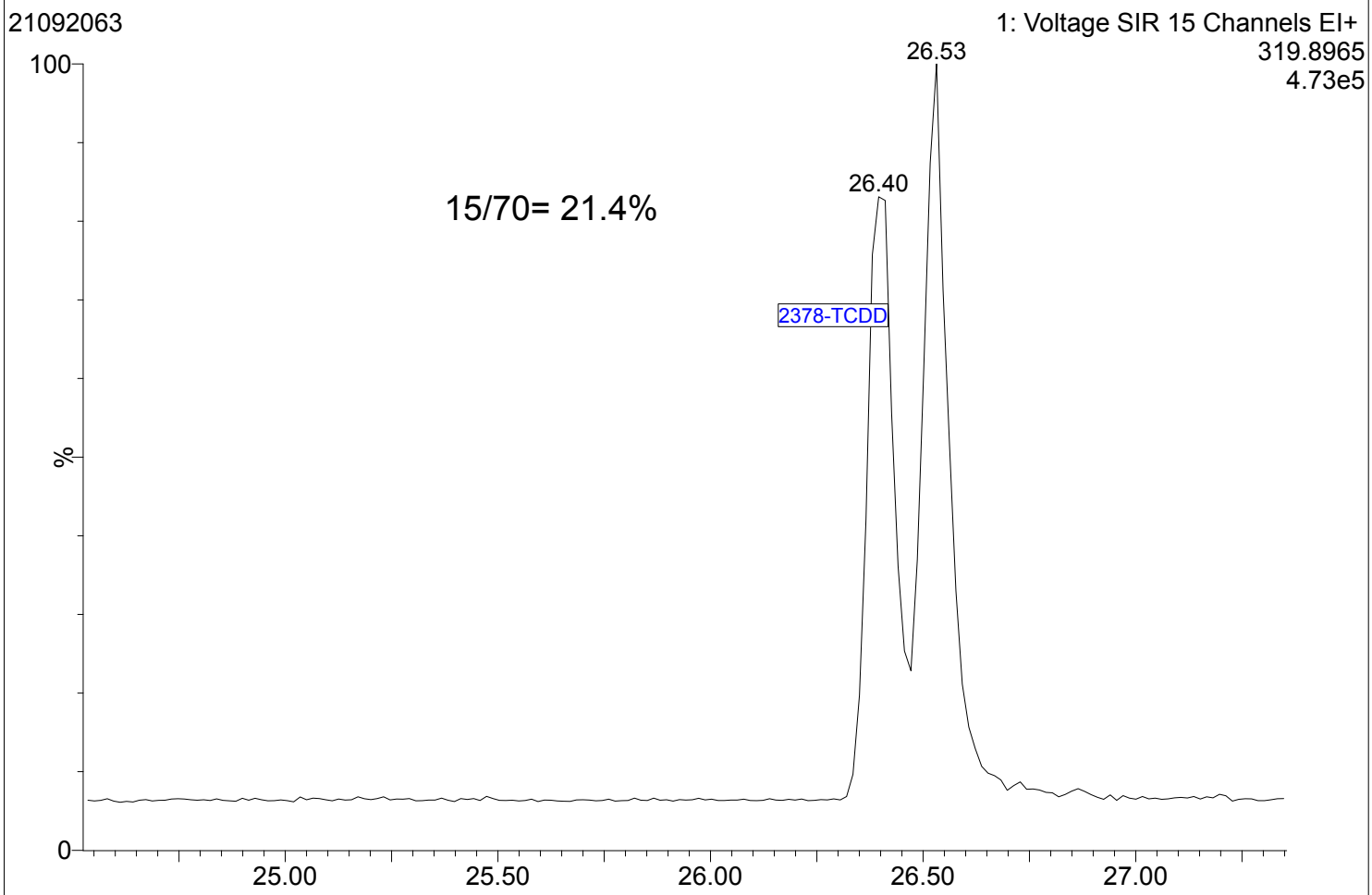


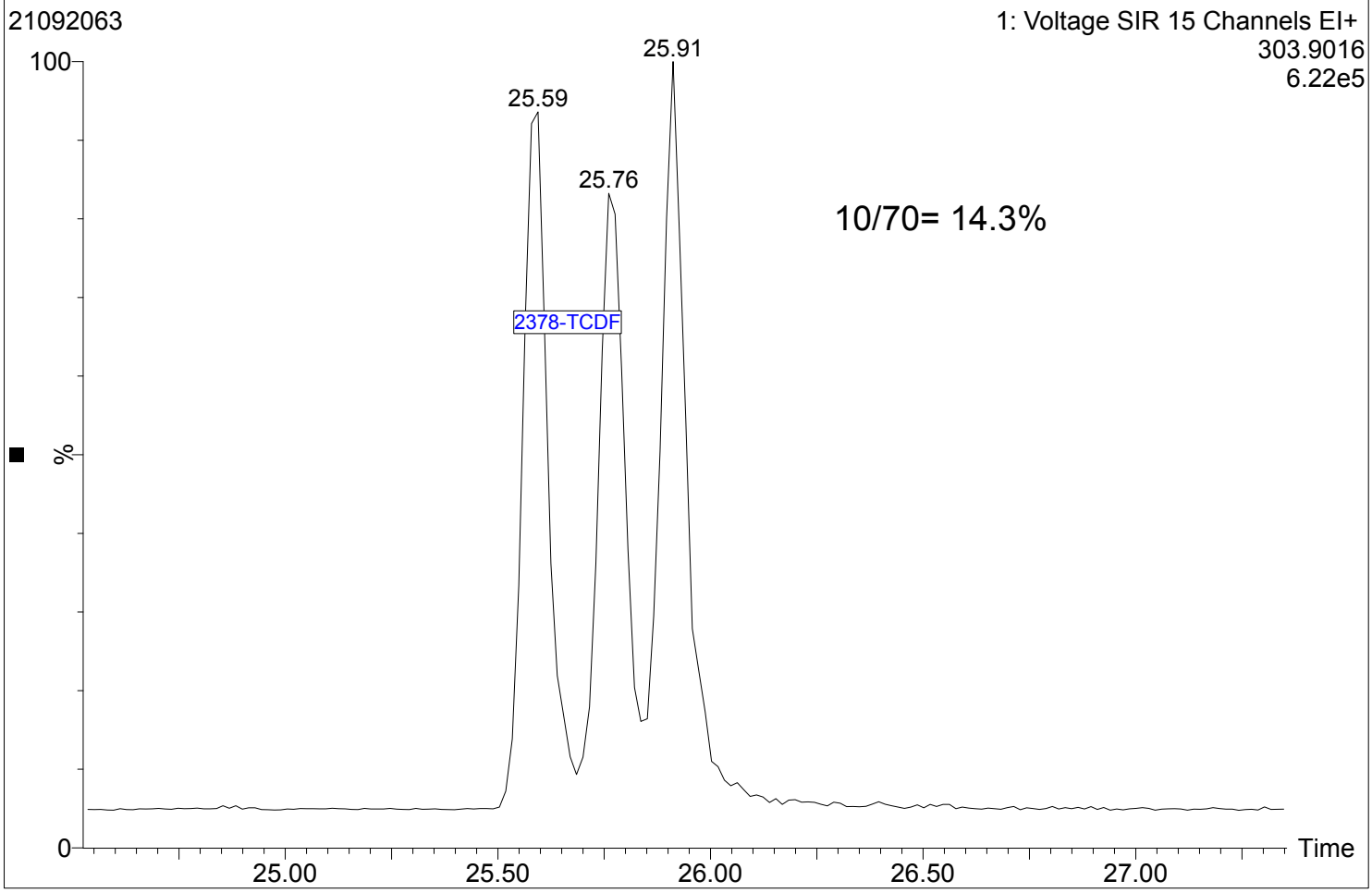
M 504.9696 R 13552



M 516.9697 R 13289




21092063
1: Voltage SIR 15 Channels EI+
319.8965
4.73e5
26.53
26.40
15/70= 21.4%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21092063
1: Voltage SIR 15 Channels EI+
303.9016
6.22e5
25.91
25.59
25.76
10/70= 14.3%
2378-TCDF
100
%
0
Time
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21081103
Date Analyzed: 08/11/21
Time Analyzed: 16:41
Lab Sample ID: SJH0117-RES1
Sequence: SJH0117

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 9

3467-TCDF/2378-TCDF: 9

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJH0117-ICV1	CS3Z1	21081102A	08/11/2021	15:52
SJH0117-RES1	ISCZ1	21081103	08/11/2021	16:41
SJH0117-CAL1	CSLCV	21081104A	08/11/2021	17:30
SJH0117-CAL2	CS1CV	21081107A	08/11/2021	19:56
SJH0117-CAL3	CS2CV	21081108A	08/11/2021	20:45
SJH0117-CAL4	CS3CV	21081109A	08/11/2021	21:34
SJH0117-CAL5	CS4CV	21081110A	08/11/2021	22:22
SJH0117-CAL6	CS5CV	21081111A	08/11/2021	23:11
SJH0117-SCV1	ICVCV	21081112A	08/12/2021	00:00
SJH0117-CCV1	CS3Z2	21081113B	08/12/2021	00:48
SJH0117-RES2	ISCZ2	21081114	08/12/2021	01:42

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21081114
Date Analyzed: 08/12/21
Time Analyzed: 01:42
Lab Sample ID: SJH0117-RES2
Sequence: SJH0117

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 10.6

3467-TCDF/2378-TCDF: 11.1

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJH0117-ICV1	CS3Z1	21081102A	08/11/2021	15:52
SJH0117-RES1	ISCZ1	21081103	08/11/2021	16:41
SJH0117-CAL1	CSLCV	21081104A	08/11/2021	17:30
SJH0117-CAL2	CS1CV	21081107A	08/11/2021	19:56
SJH0117-CAL3	CS2CV	21081108A	08/11/2021	20:45
SJH0117-CAL4	CS3CV	21081109A	08/11/2021	21:34
SJH0117-CAL5	CS4CV	21081110A	08/11/2021	22:22
SJH0117-CAL6	CS5CV	21081111A	08/11/2021	23:11
SJH0117-SCV1	ICVCV	21081112A	08/12/2021	00:00
SJH0117-CCV1	CS3Z2	21081113B	08/12/2021	00:48
SJH0117-RES2	ISCZ2	21081114	08/12/2021	01:42

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21092023
Date Analyzed: 09/21/21
Time Analyzed: 10:38
Lab Sample ID: SJI0282-RES1
Sequence: SJI0282

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 15.3

3467-TCDF/2378-TCDF: 11.2

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJI0282-ICV1	CS3S3	21092022A	09/21/2021	09:36
SJI0282-RES1	ISCS3	21092023	09/21/2021	10:38
BJH0203-BLK1	Blank	21092030	09/21/2021	16:21
BJH0203-BS1	LCS	21092031	09/21/2021	17:10
BJH0203-SRM1	Reference	21092032	09/21/2021	17:59
SJI0282-CCV1	CS3S4	21092034A	09/21/2021	19:37
SJI0282-RES2	ISCS4	21092035	09/21/2021	20:30
21G0213-01	LDW21-IT655B	21092042	09/22/2021	02:16
21G0213-02	LDW21-IT655C	21092043	09/22/2021	03:05
SJI0282-CCV2	CS3S5	21092044	09/22/2021	03:54
SJI0282-RES3	ISCS5	21092045	09/22/2021	04:47
21G0213-03	LDW21-IT655E	21092046	09/22/2021	05:38
21G0213-06	LDW21-IT663B	21092047	09/22/2021	06:27
21G0213-07	LDW21-IT663C	21092048	09/22/2021	07:16
21G0213-08	LDW21-IT663E	21092049	09/22/2021	08:05
SJI0282-CCV3	CS3S6	21092054	09/22/2021	12:11
SJI0282-RES4	ISCS6	21092055	09/22/2021	13:05
21G0213-06RE1	LDW21-IT663BDL	21092060	09/22/2021	17:13
21G0213-07RE1	LDW21-IT663CDL	21092061	09/22/2021	18:01
SJI0282-CCV4	CS3S7	21092062	09/22/2021	18:51
SJI0282-RES5	ISCS7	21092063	09/22/2021	19:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21092035
Date Analyzed: 09/21/21
Time Analyzed: 20:30
Lab Sample ID: SJI0282-RES2
Sequence: SJI0282

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 14

3467-TCDF/2378-TCDF: 10.3

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJI0282-ICV1	CS3S3	21092022A	09/21/2021	09:36
SJI0282-RES1	ISCS3	21092023	09/21/2021	10:38
BJH0203-BLK1	Blank	21092030	09/21/2021	16:21
BJH0203-BS1	LCS	21092031	09/21/2021	17:10
BJH0203-SRM1	Reference	21092032	09/21/2021	17:59
SJI0282-CCV1	CS3S4	21092034A	09/21/2021	19:37
SJI0282-RES2	ISCS4	21092035	09/21/2021	20:30
21G0213-01	LDW21-IT655B	21092042	09/22/2021	02:16
21G0213-02	LDW21-IT655C	21092043	09/22/2021	03:05
SJI0282-CCV2	CS3S5	21092044	09/22/2021	03:54
SJI0282-RES3	ISCS5	21092045	09/22/2021	04:47
21G0213-03	LDW21-IT655E	21092046	09/22/2021	05:38
21G0213-06	LDW21-IT663B	21092047	09/22/2021	06:27
21G0213-07	LDW21-IT663C	21092048	09/22/2021	07:16
21G0213-08	LDW21-IT663E	21092049	09/22/2021	08:05
SJI0282-CCV3	CS3S6	21092054	09/22/2021	12:11
SJI0282-RES4	ISCS6	21092055	09/22/2021	13:05
21G0213-06RE1	LDW21-IT663BDL	21092060	09/22/2021	17:13
21G0213-07RE1	LDW21-IT663CDL	21092061	09/22/2021	18:01
SJI0282-CCV4	CS3S7	21092062	09/22/2021	18:51
SJI0282-RES5	ISCS7	21092063	09/22/2021	19:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21092045
Date Analyzed: 09/22/21
Time Analyzed: 04:47
Lab Sample ID: SJI0282-RES3
Sequence: SJI0282

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 14.7

3467-TCDF/2378-TCDF: 11

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJI0282-ICV1	CS3S3	21092022A	09/21/2021	09:36
SJI0282-RES1	ISCS3	21092023	09/21/2021	10:38
BJH0203-BLK1	Blank	21092030	09/21/2021	16:21
BJH0203-BS1	LCS	21092031	09/21/2021	17:10
BJH0203-SRM1	Reference	21092032	09/21/2021	17:59
SJI0282-CCV1	CS3S4	21092034A	09/21/2021	19:37
SJI0282-RES2	ISCS4	21092035	09/21/2021	20:30
21G0213-01	LDW21-IT655B	21092042	09/22/2021	02:16
21G0213-02	LDW21-IT655C	21092043	09/22/2021	03:05
SJI0282-CCV2	CS3S5	21092044	09/22/2021	03:54
SJI0282-RES3	ISCS5	21092045	09/22/2021	04:47
21G0213-03	LDW21-IT655E	21092046	09/22/2021	05:38
21G0213-06	LDW21-IT663B	21092047	09/22/2021	06:27
21G0213-07	LDW21-IT663C	21092048	09/22/2021	07:16
21G0213-08	LDW21-IT663E	21092049	09/22/2021	08:05
SJI0282-CCV3	CS3S6	21092054	09/22/2021	12:11
SJI0282-RES4	ISCS6	21092055	09/22/2021	13:05
21G0213-06RE1	LDW21-IT663BDL	21092060	09/22/2021	17:13
21G0213-07RE1	LDW21-IT663CDL	21092061	09/22/2021	18:01
SJI0282-CCV4	CS3S7	21092062	09/22/2021	18:51
SJI0282-RES5	ISCS7	21092063	09/22/2021	19:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21092055
Date Analyzed: 09/22/21
Time Analyzed: 13:05
Lab Sample ID: SJI0282-RES4
Sequence: SJI0282

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 17.4

3467-TCDF/2378-TCDF: 10.1

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJI0282-ICV1	CS3S3	21092022A	09/21/2021	09:36
SJI0282-RES1	ISCS3	21092023	09/21/2021	10:38
BJH0203-BLK1	Blank	21092030	09/21/2021	16:21
BJH0203-BS1	LCS	21092031	09/21/2021	17:10
BJH0203-SRM1	Reference	21092032	09/21/2021	17:59
SJI0282-CCV1	CS3S4	21092034A	09/21/2021	19:37
SJI0282-RES2	ISCS4	21092035	09/21/2021	20:30
21G0213-01	LDW21-IT655B	21092042	09/22/2021	02:16
21G0213-02	LDW21-IT655C	21092043	09/22/2021	03:05
SJI0282-CCV2	CS3S5	21092044	09/22/2021	03:54
SJI0282-RES3	ISCS5	21092045	09/22/2021	04:47
21G0213-03	LDW21-IT655E	21092046	09/22/2021	05:38
21G0213-06	LDW21-IT663B	21092047	09/22/2021	06:27
21G0213-07	LDW21-IT663C	21092048	09/22/2021	07:16
21G0213-08	LDW21-IT663E	21092049	09/22/2021	08:05
SJI0282-CCV3	CS3S6	21092054	09/22/2021	12:11
SJI0282-RES4	ISCS6	21092055	09/22/2021	13:05
21G0213-06RE1	LDW21-IT663BDL	21092060	09/22/2021	17:13
21G0213-07RE1	LDW21-IT663CDL	21092061	09/22/2021	18:01
SJI0282-CCV4	CS3S7	21092062	09/22/2021	18:51
SJI0282-RES5	ISCS7	21092063	09/22/2021	19:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21G0213
Instrument .ID: AUTOSPEC01
Lab File ID: 21092063
Date Analyzed: 09/22/21
Time Analyzed: 19:44
Lab Sample ID: SJI0282-RES5
Sequence: SJI0282

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 21.4

3467-TCDF/2378-TCDF: 14.3

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJI0282-ICV1	CS3S3	21092022A	09/21/2021	09:36
SJI0282-RES1	ISCS3	21092023	09/21/2021	10:38
BJH0203-BLK1	Blank	21092030	09/21/2021	16:21
BJH0203-BS1	LCS	21092031	09/21/2021	17:10
BJH0203-SRM1	Reference	21092032	09/21/2021	17:59
SJI0282-CCV1	CS3S4	21092034A	09/21/2021	19:37
SJI0282-RES2	ISCS4	21092035	09/21/2021	20:30
21G0213-01	LDW21-IT655B	21092042	09/22/2021	02:16
21G0213-02	LDW21-IT655C	21092043	09/22/2021	03:05
SJI0282-CCV2	CS3S5	21092044	09/22/2021	03:54
SJI0282-RES3	ISCS5	21092045	09/22/2021	04:47
21G0213-03	LDW21-IT655E	21092046	09/22/2021	05:38
21G0213-06	LDW21-IT663B	21092047	09/22/2021	06:27
21G0213-07	LDW21-IT663C	21092048	09/22/2021	07:16
21G0213-08	LDW21-IT663E	21092049	09/22/2021	08:05
SJI0282-CCV3	CS3S6	21092054	09/22/2021	12:11
SJI0282-RES4	ISCS6	21092055	09/22/2021	13:05
21G0213-06RE1	LDW21-IT663BDL	21092060	09/22/2021	17:13
21G0213-07RE1	LDW21-IT663CDL	21092061	09/22/2021	18:01
SJI0282-CCV4	CS3S7	21092062	09/22/2021	18:51
SJI0282-RES5	ISCS7	21092063	09/22/2021	19:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0117	Instrument:	AUTOSPEC01
		Calibration:	EH00030

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3Z1	SJH0117-ICV1	21081102A	NA	08/11/21 15:52
ISCZ1	SJH0117-RES1	21081103	NA	08/11/21 16:41
CSLCV	SJH0117-CAL1	21081104A	NA	08/11/21 17:30
CS1CV	SJH0117-CAL2	21081107A	NA	08/11/21 19:56
CS2CV	SJH0117-CAL3	21081108A	NA	08/11/21 20:45
CS3CV	SJH0117-CAL4	21081109A	NA	08/11/21 21:34
CS4CV	SJH0117-CAL5	21081110A	NA	08/11/21 22:22
CS5CV	SJH0117-CAL6	21081111A	NA	08/11/21 23:11
ICVCV	SJH0117-SCV1	21081112A	NA	08/12/21 00:00
CS3Z2	SJH0117-CCV1	21081113B	NA	08/12/21 00:48
ISCZ2	SJH0117-RES2	21081114	NA	08/12/21 01:42

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
		Calibration:	EH00030

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3S3	SJI0282-ICV1	21092022A	NA	09/21/21 09:36
ISCS3	SJI0282-RES1	21092023	NA	09/21/21 10:38
Blank	BJH0203-BLK1	21092030	Solid	09/21/21 16:21
LCS	BJH0203-BS1	21092031	Solid	09/21/21 17:10
Reference	BJH0203-SRM1	21092032	Solid	09/21/21 17:59
CS3S4	SJI0282-CCV1	21092034A	NA	09/21/21 19:37
ISCS4	SJI0282-RES2	21092035	NA	09/21/21 20:30
LDW21-IT655B	21G0213-01	21092042	Solid	09/22/21 02:16
LDW21-IT655C	21G0213-02	21092043	Solid	09/22/21 03:05
CS3S5	SJI0282-CCV2	21092044	NA	09/22/21 03:54
ISCS5	SJI0282-RES3	21092045	NA	09/22/21 04:47
LDW21-IT655E	21G0213-03	21092046	Solid	09/22/21 05:38
LDW21-IT663B	21G0213-06	21092047	Solid	09/22/21 06:27
LDW21-IT663C	21G0213-07	21092048	Solid	09/22/21 07:16
LDW21-IT663E	21G0213-08	21092049	Solid	09/22/21 08:05
CS3S6	SJI0282-CCV3	21092054	NA	09/22/21 12:11
ISCS6	SJI0282-RES4	21092055	NA	09/22/21 13:05
LDW21-IT663B	21G0213-06RE1	21092060	Solid	09/22/21 17:13
LDW21-IT663C	21G0213-07RE1	21092061	Solid	09/22/21 18:01
CS3S7	SJI0282-CCV4	21092062	NA	09/22/21 18:51
ISCS7	SJI0282-RES5	21092063	NA	09/22/21 19:44

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 9/23/2021 9:58:06AM

ANALYSIS SEQUENCE

SJI0282

Instrument: AUTOSPEC01 Element Column ID: J6460
Calibration ID: EH00030 Tune File: SEP0321_1-5
EM Voltage: 350 Resolution check times : 10:37, 20:30, 04:47, 13:05, 19:4

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SJI0282-ICV1	CS3S3	QC		1	J001522		09/21/2021 09:36	21092022A	PK	
SJI0282-RES1	ISCS3	QC		2	J005595		09/21/2021 10:38	21092023	PK	
BJH0203-BLK1	Blank	QC		3		J005741	09/21/2021 16:21	21092030	PK	
BJH0203-BS1	LCS	QC		4		J005741	09/21/2021 17:10	21092031	PK	
BJH0203-SRM1	Reference	QC		5		J005741	09/21/2021 17:59	21092032	PK	
BJH0203-DUP1	Duplicate	QC		6		J005741	09/21/2021 18:48	21092033	PK	
SJI0282-CCV1	CS3S4	QC		7	J001522		09/21/2021 19:37	21092034A	PK	
SJI0282-RES2	ISCS4	QC		8	J005595		09/21/2021 20:30	21092035	PK	
21G0211-11	LDW21-IT665B	1613B Dioxin	C 01	9		J005741	09/21/2021 21:22	21092036	PK	
21G0211-12	LDW21-IT665C	1613B Dioxin	C 01	10		J005741	09/21/2021 22:10	21092037	PK	
21G0211-13	LDW21-IT665E	1613B Dioxin	C 01	11		J005741	09/21/2021 22:59	21092038	PK	
21G0211-14	LDW21-IT666B	1613B Dioxin	C 01	12		J005741	09/21/2021 23:48	21092039	PK	
21G0211-15	LDW21-IT666C	1613B Dioxin	C 01	13		J005741	09/22/2021 00:38	21092040	PK	
21G0211-16	LDW21-IT666E	1613B Dioxin	C 01	14		J005741	09/22/2021 01:27	21092041	PK	
21G0213-01	LDW21-IT655B	1613B Dioxin	C 01	15		J005741	09/22/2021 02:16	21092042	PK	
21G0213-02	LDW21-IT655C	1613B Dioxin	C 01	16		J005741	09/22/2021 03:05	21092043	PK	
SJI0282-CCV2	CS3S5	QC		17	J001522		09/22/2021 03:54	21092044	PK	
SJI0282-RES3	ISCS5	QC		18	J005595		09/22/2021 04:47	21092045	PK	
21G0213-03	LDW21-IT655E	1613B Dioxin	C 01	19		J005741	09/22/2021 05:38	21092046	PK	
21G0213-06	LDW21-IT663B	1613B Dioxin	C 01	20		J005741	09/22/2021 06:27	21092047	PK	
21G0213-07	LDW21-IT663C	1613B Dioxin	C 01	21		J005741	09/22/2021 07:16	21092048	PK	
21G0213-08	LDW21-IT663E	1613B Dioxin	C 01	22		J005741	09/22/2021 08:05	21092049	PK	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 9/23/2021 9:58:06AM

ANALYSIS SEQUENCE

SJI0282

Instrument: AUTOSPEC01 Element Column ID: J6460
Calibration ID: EH00030 Tune File: SEP0321_1-5
EM Voltage: 350 Resolution check times : 10:37, 20:30, 04:47, 13:05, 19:4

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
21G0283-11	LDW21-IT664B	1613B Dioxin	C 01	23		J005741	09/22/2021 08:54	21092050	PK	
21G0283-12	LDW21-IT664C	1613B Dioxin	C 01	24		J005741	09/22/2021 09:43	21092051	PK	
21G0283-13	LDW21-IT664E	1613B Dioxin	C 01	25		J005741	09/22/2021 10:34	21092052	PK	
21G0283-14	LDW21-IT670B	1613B Dioxin	C 01	26		J005741	09/22/2021 11:22	21092053	PK	
SJI0282-CCV3	CS3S6	QC		27	J001522		09/22/2021 12:11	21092054	PK	
SJI0282-RES4	ISCS6	QC		28	J005595		09/22/2021 13:05	21092055	PK	
21G0283-15	LDW21-IT670C	1613B Dioxin	C 01	29		J005741	09/22/2021 13:56	21092056	PK	
21G0283-16	LDW21-IT670E	1613B Dioxin	C 01	30		J005741	09/22/2021 14:46	21092057	PK	
21G0283-17	LDW21-IT650B	1613B Dioxin	C 01	31		J005741	09/22/2021 15:35	21092058	PK	
21G0283-18	LDW21-IT650C	1613B Dioxin	C 01	32		J005741	09/22/2021 16:24	21092059	PK	
21G0213-06RE1	LDW21-IT663BDL	1613B Dioxin	C 01	33		J005741	09/22/2021 17:13	21092060	PK	Added 9/22/2021 by PK
21G0213-07RE1	LDW21-IT663CDL	1613B Dioxin	C 01	34		J005741	09/22/2021 18:01	21092061	PK	Added 9/22/2021 by PK
SJI0282-CCV4	CS3S7	QC		35	J001522		09/22/2021 18:51	21092062	PK	
SJI0282-RES5	ISCS7	QC		36	J005595		09/22/2021 19:44	21092063	PK	

Quantify Audit Report MassLynx MassLynx V4.1 SCN909
Dataset: T:\Autospec\Processed Data Batch\210920D4.qld
Last Altered: Wednesday, September 22, 2021 09:29:09 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 09:30:11 Pacific Daylight Time 9/22/21 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:21092027, Compound:HF, RT:34.276	1
Peak deleted	Sample:21092027, Compound:PP, RT:27.182	1
Peak deleted	Sample:21092027, Compound:TF, RT:24.158	1
Peak deleted	Sample:21092028, Compound:HD, RT:36.293	2
Pre modification peak	Sample:21092029, Compound:HF, RT:35.045	3
Peak modified	Sample:21092029, Compound:HF, RT:35.045	3
Pre modification peak	Sample:21092029, Compound:HF, RT:35.903	3
Peak modified	Sample:21092029, Compound:HF, RT:35.903	3
Peak added	Sample:21092029, Compound:PF, RT:28.851	3
Peak added	Sample:21092029, Compound:PF, RT:28.851	3
Pre modification peak	Sample:21092029, Compound:PF, RT:29.575	3
Peak modified	Sample:21092029, Compound:PF, RT:29.575	3
Pre modification peak	Sample:21092029, Compound:PF, RT:29.575	3
Peak modified	Sample:21092029, Compound:PF, RT:29.575	3
Pre modification peak	Sample:21092029, Compound:TD, RT:26.411	3
Peak modified	Sample:21092029, Compound:TD, RT:26.411	3
Peak deleted	Sample:21092029, Compound:TD, RT:26.759	3
Peak deleted	Sample:21092029, Compound:TD, RT:27.031	3
Peak deleted	Sample:21092029, Compound:TF, RT:22.752	3
Peak deleted	Sample:21092030, Compound:HF, RT:36.527	4
Peak deleted	Sample:21092030, Compound:HF, RT:36.906	4
Peak deleted	Sample:21092030, Compound:OF, RT:45.297	4
Peak deleted	Sample:21092030, Compound:TF, RT:25.564	4
Peak deleted	Sample:21092031, Compound:HPD, RT:40.493	5
Pre modification peak	Sample:21092032, Compound:HF, RT:35.937	6
Peak modified	Sample:21092032, Compound:HF, RT:35.937	6
Peak deleted	Sample:21092032, Compound:HPD, RT:39.869	6
Peak added	Sample:21092032, Compound:PD, RT:29.920	6
Peak added	Sample:21092032, Compound:PD, RT:29.920	6
Pre modification peak	Sample:21092032, Compound:PF, RT:28.862	6
Peak modified	Sample:21092032, Compound:PF, RT:28.862	6
Pre modification peak	Sample:21092032, Compound:PF, RT:28.873	6
Peak modified	Sample:21092032, Compound:PF, RT:28.873	6
Peak deleted	Sample:21092032, Compound:TF, RT:22.737	6
Peak added	Sample:21092032, Compound:TF, RT:23.100	6
Peak added	Sample:21092032, Compound:TF, RT:23.100	6
Peak added	Sample:21092032, Compound:TF, RT:24.672	6
Peak added	Sample:21092032, Compound:TF, RT:24.672	6
Peak deleted	Sample:21092033, Compound:HD, RT:36.950	7
Peak deleted	Sample:21092033, Compound:HF, RT:33.107	7
Peak deleted	Sample:21092033, Compound:HPD, RT:40.783	7
Peak added	Sample:21092033, Compound:PD, RT:28.829	7
Peak added	Sample:21092033, Compound:PD, RT:28.829	7
Peak added	Sample:21092033, Compound:PD, RT:29.931	7
Peak added	Sample:21092033, Compound:PD, RT:29.931	7
Pre modification peak	Sample:21092033, Compound:PF, RT:31.302	7
Peak modified	Sample:21092033, Compound:PF, RT:31.302	7
Peak deleted	Sample:21092033, Compound:TF, RT:26.335	7
Peak deleted	Sample:21092033, Compound:TF, RT:27.378	7
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D4.qld'	

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:02:35 Pacific Daylight Time 9/22/21 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:21092036, Compound:HF, RT:33.095	1
Peak deleted	Sample:21092036, Compound:HF, RT:34.566	1
Peak added	Sample:21092036, Compound:PD, RT:28.795	1
Peak added	Sample:21092036, Compound:PD, RT:28.828	1
Peak added	Sample:21092036, Compound:PF, RT:28.862	1
Peak added	Sample:21092036, Compound:PF, RT:28.862	1
Peak deleted	Sample:21092036, Compound:PF, RT:32.204	1
Peak added	Sample:21092036, Compound:TF, RT:23.553	1
Peak added	Sample:21092036, Compound:TF, RT:23.553	1
Pre modification peak	Sample:21092036, Compound:TF, RT:23.553	1
Peak modified	Sample:21092036, Compound:TF, RT:23.553	1
Peak deleted	Sample:21092036, Compound:TF, RT:24.173	1
Peak deleted	Sample:21092036, Compound:TF, RT:24.279	1
Peak added	Sample:21092036, Compound:TF, RT:25.292	1
Peak added	Sample:21092036, Compound:TF, RT:25.307	1
Peak deleted	Sample:21092036, Compound:TF, RT:27.288	1
Peak deleted	Sample:21092037, Compound:HD, RT:36.939	2
Pre modification peak	Sample:21092037, Compound:PF, RT:28.873	2
Peak modified	Sample:21092037, Compound:PF, RT:28.873	2
Pre modification peak	Sample:21092037, Compound:PF, RT:28.873	2
Peak modified	Sample:21092037, Compound:PF, RT:28.873	2
Peak deleted	Sample:21092038, Compound:HF, RT:35.569	3
Peak added	Sample:21092038, Compound:PF, RT:28.873	3
Peak added	Sample:21092038, Compound:PF, RT:28.873	3
Pre modification peak	Sample:21092039, Compound:HD, RT:36.015	4
Peak modified	Sample:21092039, Compound:HD, RT:36.015	4
Peak deleted	Sample:21092039, Compound:HD, RT:36.939	4
Peak added	Sample:21092039, Compound:HF, RT:35.870	4
Peak added	Sample:21092039, Compound:HF, RT:35.881	4
Peak added	Sample:21092039, Compound:HF, RT:35.892	4
Pre modification peak	Sample:21092039, Compound:HF, RT:35.903	4
Peak modified	Sample:21092039, Compound:HF, RT:35.903	4
Peak added	Sample:21092039, Compound:HF, RT:35.903	4
Pre modification peak	Sample:21092039, Compound:HF, RT:36.939	4
Peak modified	Sample:21092039, Compound:HF, RT:36.939	4
Peak deleted	Sample:21092039, Compound:HPD, RT:40.783	4
Peak deleted	Sample:21092039, Compound:PD, RT:32.227	4
Peak added	Sample:21092039, Compound:PF, RT:28.851	4
Peak added	Sample:21092039, Compound:PF, RT:28.851	4
Peak added	Sample:21092039, Compound:TD, RT:26.033	4
Peak added	Sample:21092039, Compound:TD, RT:26.033	4
Peak added	Sample:21092039, Compound:TD, RT:26.547	4
Peak added	Sample:21092039, Compound:TD, RT:26.547	4
Peak deleted	Sample:21092039, Compound:TF, RT:27.500	4
Peak deleted	Sample:21092039, Compound:TF, RT:27.681	4
Peak deleted	Sample:21092040, Compound:HD, RT:36.939	5
Pre modification peak	Sample:21092040, Compound:HF, RT:35.915	5
Peak modified	Sample:21092040, Compound:HF, RT:35.915	5
Pre modification peak	Sample:21092040, Compound:HF, RT:36.928	5
Peak modified	Sample:21092040, Compound:HF, RT:36.928	5
Peak deleted	Sample:21092040, Compound:PF, RT:30.433	5

Dataset: T:\Autospec\Processed Data Batch\210920D5.qld
Last Altered: Wednesday, September 22, 2021 11:00:57 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 11:02:35 Pacific Daylight Time

Event	Details	Sample ID
Peak added	Sample:21092040, Compound:TF, RT:25.096	5
Peak added	Sample:21092040, Compound:TF, RT:25.096	5
Peak deleted	Sample:21092040, Compound:TF, RT:27.500	5
Peak deleted	Sample:21092041, Compound:HD, RT:35.045	6
Pre modification peak	Sample:21092041, Compound:OF, RT:45.306	6
Peak modified	Sample:21092041, Compound:OF, RT:45.306	6
Peak deleted	Sample:21092041, Compound:PD, RT:29.319	6
Peak deleted	Sample:21092041, Compound:PD, RT:29.931	6
Peak deleted	Sample:21092041, Compound:PF, RT:31.279	6
Peak deleted	Sample:21092041, Compound:TD, RT:25.579	6
Peak deleted	Sample:21092041, Compound:TF, RT:23.084	6
Peak deleted	Sample:21092041, Compound:TF, RT:24.445	6
Peak deleted	Sample:21092042, Compound:HD, RT:36.939	7
Peak deleted	Sample:21092042, Compound:HPD, RT:40.761	7
Peak deleted	Sample:21092042, Compound:OF, RT:45.050	7
Peak deleted	Sample:21092042, Compound:OF, RT:45.078	7
Peak deleted	Sample:21092042, Compound:OF, RT:45.114	7
Peak deleted	Sample:21092042, Compound:OF, RT:45.151	7
Peak deleted	Sample:21092042, Compound:OF, RT:45.234	7
Peak deleted	Sample:21092042, Compound:OF, RT:45.279	7
Peak added	Sample:21092042, Compound:PF, RT:29.809	7
Peak added	Sample:21092042, Compound:PF, RT:29.809	7
Peak added	Sample:21092042, Compound:PF, RT:30.154	7
Peak added	Sample:21092042, Compound:PF, RT:30.166	7
Peak deleted	Sample:21092042, Compound:TF, RT:25.730	7
Peak deleted	Sample:21092042, Compound:TF, RT:27.500	7
Peak deleted	Sample:21092042, Compound:TF, RT:27.681	7
Pre modification peak	Sample:21092043, Compound:HD, RT:36.527	8
Peak modified	Sample:21092043, Compound:HD, RT:36.527	8
Peak deleted	Sample:21092043, Compound:HF, RT:34.912	8
Peak deleted	Sample:21092043, Compound:HF, RT:35.057	8
Peak deleted	Sample:21092043, Compound:OF, RT:45.298	8
Peak deleted	Sample:21092043, Compound:PF, RT:28.383	8
Peak deleted	Sample:21092043, Compound:PF, RT:29.954	8
Peak deleted	Sample:21092043, Compound:TD, RT:24.173	8
Peak deleted	Sample:21092043, Compound:TD, RT:25.096	8
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D5.qld'	

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:05:37 Pacific Daylight Time 9/22/21 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:21092046, Compound:HF, RT:34.299	1
Peak deleted	Sample:21092046, Compound:OF, RT:45.316	1
Peak deleted	Sample:21092046, Compound:TF, RT:22.752	1
Peak added	Sample:21092046, Compound:TF, RT:25.942	1
Peak added	Sample:21092046, Compound:TF, RT:25.942	1
Peak deleted	Sample:21092046, Compound:TF, RT:27.500	1
Peak deleted	Sample:21092046, Compound:TF, RT:27.681	1
Peak deleted	Sample:21092047, Compound:HD, RT:36.928	2
Peak deleted	Sample:21092047, Compound:HF, RT:33.084	2
Pre modification peak	Sample:21092047, Compound:HPF, RT:38.789	2
Peak modified	Sample:21092047, Compound:HPF, RT:38.789	2
Pre modification peak	Sample:21092047, Compound:HPF, RT:38.800	2
Peak modified	Sample:21092047, Compound:HPF, RT:38.800	2
Peak deleted	Sample:21092048, Compound:HD, RT:36.706	3
Peak deleted	Sample:21092048, Compound:HD, RT:36.784	3
Peak deleted	Sample:21092048, Compound:TF, RT:26.290	3
Peak deleted	Sample:21092048, Compound:TF, RT:27.363	3
Peak deleted	Sample:21092049, Compound:HF, RT:33.953	4
Pre modification peak	Sample:21092049, Compound:HPF, RT:41.050	4
Peak modified	Sample:21092049, Compound:HPF, RT:41.050	4
Pre modification peak	Sample:21092049, Compound:OF, RT:45.262	4
Peak modified	Sample:21092049, Compound:OF, RT:45.262	4
Peak deleted	Sample:21092050, Compound:HPD, RT:40.794	5
Peak added	Sample:21092050, Compound:PD, RT:30.288	5
Peak added	Sample:21092050, Compound:PD, RT:30.299	5
Peak added	Sample:21092050, Compound:TD, RT:24.748	5
Peak added	Sample:21092050, Compound:TD, RT:24.748	5
Peak added	Sample:21092050, Compound:TD, RT:24.748	5
Peak added	Sample:21092050, Compound:TD, RT:24.748	5
Pre modification peak	Sample:21092051, Compound:HF, RT:35.045	6
Peak modified	Sample:21092051, Compound:HF, RT:35.045	6
Pre modification peak	Sample:21092051, Compound:HPF, RT:41.050	6
Peak modified	Sample:21092051, Compound:HPF, RT:41.050	6
Pre modification peak	Sample:21092051, Compound:PF, RT:28.862	6
Peak modified	Sample:21092051, Compound:PF, RT:28.862	6
Pre modification peak	Sample:21092051, Compound:PF, RT:28.862	6
Peak modified	Sample:21092051, Compound:PF, RT:28.862	6
Peak added	Sample:21092051, Compound:TD, RT:23.795	6
Peak added	Sample:21092051, Compound:TD, RT:23.795	6
Peak added	Sample:21092051, Compound:TD, RT:24.551	6
Peak added	Sample:21092051, Compound:TD, RT:24.551	6
Peak deleted	Sample:21092051, Compound:TF, RT:27.273	6
Peak added	Sample:21092052, Compound:HD, RT:33.998	7
Peak added	Sample:21092052, Compound:HD, RT:33.998	7
Pre modification peak	Sample:21092052, Compound:HF, RT:35.903	7
Peak modified	Sample:21092052, Compound:HF, RT:35.903	7
Pre modification peak	Sample:21092052, Compound:PF, RT:29.931	7
Peak modified	Sample:21092052, Compound:PF, RT:29.931	7
Peak added	Sample:21092052, Compound:TD, RT:23.795	7
Peak added	Sample:21092052, Compound:TD, RT:23.795	7
Pre modification peak	Sample:21092052, Compound:TD, RT:26.411	7

Dataset: T:\Autospec\Processed Data Batch\210920D6.qld
Last Altered: Wednesday, September 22, 2021 14:04:48 Pacific Daylight Time
Printed: Wednesday, September 22, 2021 14:05:37 Pacific Daylight Time

Event	Details	Sample ID
Peak modified	Sample:21092052, Compound:TD, RT:26.411	7
Peak deleted	Sample:21092052, Compound:TD, RT:27.000	7
Peak deleted	Sample:21092053, Compound:HD, RT:36.528	8
Peak deleted	Sample:21092053, Compound:HPD, RT:40.772	8
Peak deleted	Sample:21092053, Compound:TD, RT:26.396	8
Pre modification peak	Sample:21092053, Compound:TF, RT:25.050	8
Peak modified	Sample:21092053, Compound:TF, RT:25.050	8
Pre modification peak	Sample:21092053, Compound:TF, RT:25.065	8
Peak modified	Sample:21092053, Compound:TF, RT:25.065	8
Peak added	Sample:21092053, Compound:TF, RT:25.564	8
Peak added	Sample:21092053, Compound:TF, RT:25.580	8
Peak added	Sample:21092053, Compound:TF, RT:25.927	8
Peak added	Sample:21092053, Compound:TF, RT:25.927	8
Peak deleted	Sample:21092053, Compound:TF, RT:27.469	8
Peak deleted	Sample:21092053, Compound:TF, RT:27.651	8
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D6.qld'	
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D6.qld'	

Quantify Audit Report MassLynx MassLynx V4.1 SCN909
Dataset: T:\Autospec\Processed Data Batch\210920D7.qld
Last Altered: Thursday, September 23, 2021 09:24:11 Pacific Daylight Time
Printed: Thursday, September 23, 2021 09:25:21 Pacific Daylight Time 9/23/21 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:21092056, Compound:HPF, RT:38.778	1
Peak deleted	Sample:21092056, Compound:HPF, RT:41.195	1
Peak deleted	Sample:21092056, Compound:TF, RT:25.897	1
Peak deleted	Sample:21092056, Compound:TF, RT:26.169	1
Peak deleted	Sample:21092057, Compound:HF, RT:36.794	2
Peak deleted	Sample:21092057, Compound:PF, RT:30.143	2
Peak deleted	Sample:21092058, Compound:HD, RT:36.683	3
Peak deleted	Sample:21092058, Compound:HD, RT:36.917	3
Pre modification peak	Sample:21092058, Compound:HF, RT:35.892	3
Peak modified	Sample:21092058, Compound:HF, RT:35.892	3
Peak deleted	Sample:21092058, Compound:HPD, RT:40.761	3
Peak added	Sample:21092058, Compound:PD, RT:30.110	3
Peak added	Sample:21092058, Compound:PD, RT:30.121	3
Peak deleted	Sample:21092058, Compound:PF, RT:29.909	3
Pre modification peak	Sample:21092059, Compound:HD, RT:36.493	4
Peak modified	Sample:21092059, Compound:HD, RT:36.493	4
Peak deleted	Sample:21092059, Compound:HD, RT:36.682	4
Peak deleted	Sample:21092059, Compound:HD, RT:36.917	4
Pre modification peak	Sample:21092059, Compound:HF, RT:36.917	4
Peak modified	Sample:21092059, Compound:HF, RT:36.917	4
Peak deleted	Sample:21092059, Compound:PD, RT:31.491	4
Peak deleted	Sample:21092059, Compound:TF, RT:23.493	4
Pre modification peak	Sample:21092059, Compound:TF, RT:25.700	4
Peak modified	Sample:21092059, Compound:TF, RT:25.700	4
Peak deleted	Sample:21092059, Compound:TF, RT:27.469	4
Peak deleted	Sample:21092059, Compound:TF, RT:27.650	4
Peak added	Sample:21092060, Compound:PF, RT:28.829	5
Peak added	Sample:21092060, Compound:PF, RT:28.840	5
Peak deleted	Sample:21092060, Compound:TD, RT:25.277	5
Peak deleted	Sample:21092060, Compound:TD, RT:26.986	5
Peak deleted	Sample:21092061, Compound:HD, RT:36.917	6
Peak deleted	Sample:21092061, Compound:HF, RT:33.074	6
Pre modification peak	Sample:21092061, Compound:HF, RT:36.906	6
Peak modified	Sample:21092061, Compound:HF, RT:36.906	6
Peak deleted	Sample:21092061, Compound:HPD, RT:40.761	6
Peak added	Sample:21092061, Compound:TF, RT:23.084	6
Peak added	Sample:21092061, Compound:TF, RT:23.084	6
Peak deleted	Sample:21092061, Compound:TF, RT:23.402	6
Peak deleted	Sample:21092061, Compound:TF, RT:25.216	6
Pre modification peak	Sample:21092061, Compound:TF, RT:25.761	6
Peak modified	Sample:21092061, Compound:TF, RT:25.761	6
Pre modification peak	Sample:21092062, Compound:HPF, RT:38.788	7
Peak modified	Sample:21092062, Compound:HPF, RT:38.788	7
Pre modification peak	Sample:21092062, Compound:HPF, RT:38.788	7
Peak modified	Sample:21092062, Compound:HPF, RT:38.788	7
Peak deleted	Sample:21092063, Compound:13C-123789-HxCDD, RT:36.482	8
Peak deleted	Sample:21092063, Compound:13C-123789-HxCDD, RT:36.538	8
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D7.qld'	
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D7.qld'	
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D7.qld'	
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210920D7.qld'	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0117	Instrument:	AUTOSPEC01
Sample ID:	SJH0117-ICV1	Calibration:	EH00030
File ID:	21081102A	Analyzed:	08/11/21 15:52

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	97.0	71 - 129	25.6548	25.63973	0.0151	N/A	
13C12-2,3,7,8-TCDD	100.00	98.2	82 - 118	26.305	26.27478	0.0302	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	101	76 - 124	29.817	29.80383	0.0132	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	98.5	77 - 123	31.1652	31.14815	0.0170	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	97.6	62 - 138	31.4215	31.40067	0.0208	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	100	76 - 124	34.7862	34.782	0.0042	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	97.8	70 - 130	34.931	34.91943	0.0116	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	97.5	73 - 127	35.8	35.7884	0.0116	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	101	74 - 126	36.825	36.8227	0.0023	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	102	85 - 115	35.9225	35.90912	0.0134	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	98.4	85 - 115	36.0338	36.0242	0.0096	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	104	78 - 122	38.6745	38.67025	0.0042	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	98.3	77 - 123	40.914	40.90587	0.0081	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	100	72 - 128	40.1675	40.16678	0.0007	N/A	
13C12-OCDD	200.00	96.1	48 - 152	44.8948	44.88763	0.0072	N/A	
37Cl4-2,3,7,8-TCDD	10.000	91.0	0 - 200	26.3202	26.30253	0.0177	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0117	Instrument:	AUTOSPEC01
Sample ID:	SJH0117-SCV1	Calibration:	EH00030
File ID:	21081112A	Analyzed:	08/12/21 00:00

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	102	0 - 200	25.6397	25.63973	0.0000	N/A	
13C12-2,3,7,8-TCDD	100.00	81.6	0 - 200	26.2747	26.27478	-0.0001	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	105	0 - 200	29.8055	29.80383	0.0017	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	104	0 - 200	31.1423	31.14815	-0.0059	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	98.4	0 - 200	31.3985	31.40067	-0.0022	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	116	0 - 200	34.7853	34.782	0.0033	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	119	0 - 200	34.9192	34.91943	-0.0002	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	109	0 - 200	35.7882	35.7884	-0.0002	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	113	0 - 200	36.8243	36.8227	0.0016	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	114	0 - 200	35.9107	35.90912	0.0016	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	119	0 - 200	36.022	36.0242	-0.0022	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	114	0 - 200	38.6735	38.67025	0.0032	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	110	0 - 200	40.9018	40.90587	-0.0041	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	110	0 - 200	40.1665	40.16678	-0.0003	N/A	
13C12-OCDD	200.00	106	0 - 200	44.8842	44.88763	-0.0034	N/A	
37Cl4-2,3,7,8-TCDD	10.000	104	0 - 200	26.3048	26.30253	0.0023	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0117	Instrument:	AUTOSPEC01
Sample ID:	SJH0117-CCV1	Calibration:	EH00030
File ID:	21081113B	Analyzed:	08/12/21 00:48

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	98.0	71 - 129	25.6397	25.63973	0.0000	N/A	
13C12-2,3,7,8-TCDD	100.00	97.1	82 - 118	26.2747	26.27478	-0.0001	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	97.5	76 - 124	29.8055	29.80383	0.0017	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	97.1	77 - 123	31.1425	31.14815	-0.0057	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	98.0	62 - 138	31.3987	31.40067	-0.0020	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	101	76 - 124	34.7857	34.782	0.0037	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	102	70 - 130	34.9193	34.91943	-0.0001	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	101	73 - 127	35.7883	35.7884	-0.0001	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	102	74 - 126	36.8243	36.8227	0.0016	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	100	85 - 115	35.9108	35.90912	0.0017	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	99.6	85 - 115	36.0223	36.0242	-0.0019	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	105	78 - 122	38.6738	38.67025	0.0035	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	102	77 - 123	40.9018	40.90587	-0.0041	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	106	72 - 128	40.1667	40.16678	-0.0001	N/A	
13C12-OCDD	200.00	101	48 - 152	44.884	44.88763	-0.0036	N/A	
37Cl4-2,3,7,8-TCDD	10.000	91.3	0 - 200	26.305	26.30253	0.0025	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	SJI0282-ICV1	Calibration:	EH00030
File ID:	21092022A	Analyzed:	09/21/21 09:36

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	95.2	71 - 129	25.7455	25.63973	0.1058	N/A	
13C12-2,3,7,8-TCDD	100.00	105	82 - 118	26.3805	26.27478	0.1057	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	85.2	76 - 124	29.9092	29.80383	0.1054	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	83.1	77 - 123	31.2573	31.14815	0.1092	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	93.3	62 - 138	31.4913	31.40067	0.0906	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	93.6	76 - 124	34.8782	34.782	0.0962	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	85.9	70 - 130	35.0118	34.91943	0.0924	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	88.2	73 - 127	35.8808	35.7884	0.0924	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	91.2	74 - 126	36.917	36.8227	0.0943	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	98.4	85 - 115	35.9922	35.90912	0.0831	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	93.9	85 - 115	36.1037	36.0242	0.0795	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	72.7	78 - 122	38.7553	38.67025	0.0850	N/A	*
13C12-1,2,3,4,7,8,9-HpCDF	100.00	69.9	77 - 123	41.0058	40.90587	0.0999	N/A	*
13C12-1,2,3,4,6,7,8-HpCDD	100.00	83.9	72 - 128	40.2593	40.16678	0.0925	N/A	
13C12-OCDD	200.00	76.8	48 - 152	45.0043	44.88763	0.1167	N/A	
37Cl4-2,3,7,8-TCDD	10.000	98.5	0 - 200	26.3957	26.30253	0.0932	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	BJH0203-BLK1	Calibration:	EH00030
File ID:	21092030	Analyzed:	09/21/21 16:21

Surrogate Compound	Spike Level ng/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	81.1	24 - 169	25.7607	25.63973	0.1210	N/A	
13C12-2,3,7,8-TCDD	200.00	95.7	25 - 164	26.3805	26.27478	0.1057	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	75.5	24 - 185	29.9202	29.80383	0.1164	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	74.2	21 - 178	31.2572	31.14815	0.1091	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	81.5	25 - 181	31.5023	31.40067	0.1016	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	89.7	26 - 152	34.878	34.782	0.0960	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	84.6	26 - 123	35.0228	34.91943	0.1034	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	86.7	28 - 136	35.8918	35.7884	0.1034	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	86.7	29 - 147	36.928	36.8227	0.1053	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	95.1	32 - 141	35.9922	35.90912	0.0831	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	88.9	28 - 130	36.1147	36.0242	0.0905	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	74.4	28 - 143	38.7663	38.67025	0.0960	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	71.4	26 - 138	41.0168	40.90587	0.1109	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	85.6	23 - 140	40.2703	40.16678	0.1035	N/A	
13C12-OCDD	400.00	81.6	17 - 157	45.0225	44.88763	0.1349	N/A	
37Cl4-2,3,7,8-TCDD	80.000	93.9	35 - 197	26.4107	26.30253	0.1082	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	BJH0203-BS1	Calibration:	EH00030
File ID:	21092031	Analyzed:	09/21/21 17:10

Surrogate Compound	Spike Level ng/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	78.6	24 - 169	25.7607	25.63973	0.1210	N/A	
13C12-2,3,7,8-TCDD	200.00	93.7	25 - 164	26.3957	26.27478	0.1209	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	73.1	24 - 185	29.9202	29.80383	0.1164	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	71.3	21 - 178	31.2682	31.14815	0.1200	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	77.7	25 - 181	31.5133	31.40067	0.1126	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	90.9	26 - 152	34.8892	34.782	0.1072	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	85.8	26 - 123	35.034	34.91943	0.1146	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	86.6	28 - 136	35.903	35.7884	0.1146	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	85.9	29 - 147	36.939	36.8227	0.1163	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	94.5	32 - 141	36.0033	35.90912	0.0942	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	87.4	28 - 130	36.1258	36.0242	0.1016	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	70.4	28 - 143	38.7773	38.67025	0.1070	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	68.7	26 - 138	41.0278	40.90587	0.1219	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	82.1	23 - 140	40.2813	40.16678	0.1145	N/A	
13C12-OCDD	400.00	73.9	17 - 157	45.0333	44.88763	0.1457	N/A	
37Cl4-2,3,7,8-TCDD	80.000	91.5	35 - 197	26.4108	26.30253	0.1083	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	BJH0203-SRM1	Calibration:	EH00030
File ID:	21092032	Analyzed:	09/21/21 17:59

Surrogate Compound	Spike Level ng/kg wet	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	200.00	68.8	24 - 169	25.7607	25.63973	0.1210	N/A	
13C12-2,3,7,8-TCDD	200.00	87.7	25 - 164	26.3957	26.27478	0.1209	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	72.1	24 - 185	29.9202	29.80383	0.1164	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	72.0	21 - 178	31.2683	31.14815	0.1201	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	81.5	25 - 181	31.5133	31.40067	0.1126	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	84.6	26 - 152	34.9003	34.782	0.1183	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	78.2	26 - 123	35.034	34.91943	0.1146	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	83.5	28 - 136	35.9253	35.7884	0.1369	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	83.2	29 - 147	36.9393	36.8227	0.1166	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	89.0	32 - 141	36.0255	35.90912	0.1164	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	85.3	28 - 130	36.1482	36.0242	0.1240	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	66.0	28 - 143	38.7777	38.67025	0.1075	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	68.6	26 - 138	41.028	40.90587	0.1221	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	81.4	23 - 140	40.2703	40.16678	0.1035	N/A	
13C12-OCDD	400.00	78.6	17 - 157	45.0408	44.88763	0.1532	N/A	
37Cl4-2,3,7,8-TCDD	80.000	84.0	35 - 197	26.4108	26.30253	0.1083	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	SJI0282-CCV1	Calibration:	EH00030
File ID:	21092034A	Analyzed:	09/21/21 19:37

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	90.2	71 - 129	25.7603	25.63973	0.1206	N/A	
13C12-2,3,7,8-TCDD	100.00	104	82 - 118	26.3802	26.27478	0.1054	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	79.4	76 - 124	29.9198	29.80383	0.1160	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	79.0	77 - 123	31.2568	31.14815	0.1086	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	86.4	62 - 138	31.502	31.40067	0.1013	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	96.7	76 - 124	34.8777	34.782	0.0957	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	89.0	70 - 130	35.0225	34.91943	0.1031	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	92.3	73 - 127	35.8917	35.7884	0.1033	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	94.1	74 - 126	36.9277	36.8227	0.1050	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	103	85 - 115	35.9918	35.90912	0.0827	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	92.6	85 - 115	36.1145	36.0242	0.0903	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	76.2	78 - 122	38.766	38.67025	0.0957	N/A	*
13C12-1,2,3,4,7,8,9-HpCDF	100.00	72.9	77 - 123	41.0163	40.90587	0.1104	N/A	*
13C12-1,2,3,4,6,7,8-HpCDD	100.00	88.0	72 - 128	40.2698	40.16678	0.1030	N/A	
13C12-OCDD	200.00	78.6	48 - 152	45.0238	44.88763	0.1362	N/A	
37Cl4-2,3,7,8-TCDD	10.000	98.2	0 - 200	26.4103	26.30253	0.1078	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-01	Calibration:	EH00030
File ID:	21092042	Analyzed:	09/22/21 02:16

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.95	78.3	24 - 169	25.7608	25.63973	0.1211	N/A	
13C12-2,3,7,8-TCDD	199.95	90.8	25 - 164	26.3958	26.27478	0.1210	N/A	
13C12-1,2,3,7,8-PeCDF	199.95	73.9	24 - 185	29.9205	29.80383	0.1167	N/A	
13C12-2,3,4,7,8-PeCDF	199.95	73.6	21 - 178	31.2687	31.14815	0.1205	N/A	
13C12-1,2,3,7,8-PeCDD	199.95	79.8	25 - 181	31.5137	31.40067	0.1130	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.95	82.7	26 - 152	34.8895	34.782	0.1075	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.95	76.6	26 - 123	35.0343	34.91943	0.1149	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.95	78.6	28 - 136	35.9033	35.7884	0.1149	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.95	80.3	29 - 147	36.9395	36.8227	0.1168	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.95	86.8	32 - 141	36.0037	35.90912	0.0946	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.95	82.9	28 - 130	36.1262	36.0242	0.1020	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.95	63.7	28 - 143	38.7778	38.67025	0.1075	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.95	61.2	26 - 138	41.0285	40.90587	0.1226	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.95	72.7	23 - 140	40.282	40.16678	0.1152	N/A	
13C12-OCDD	399.90	64.3	17 - 157	45.0322	44.88763	0.1446	N/A	
37Cl4-2,3,7,8-TCDD	79.981	93.3	35 - 197	26.4108	26.30253	0.1083	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-02	Calibration:	EH00030
File ID:	21092043	Analyzed:	09/22/21 03:05

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.72	82.3	24 - 169	25.7608	25.63973	0.1211	N/A	
13C12-2,3,7,8-TCDD	199.72	95.7	25 - 164	26.396	26.27478	0.1212	N/A	
13C12-1,2,3,7,8-PeCDF	199.72	77.2	24 - 185	29.9317	29.80383	0.1279	N/A	
13C12-2,3,4,7,8-PeCDF	199.72	75.5	21 - 178	31.2687	31.14815	0.1205	N/A	
13C12-1,2,3,7,8-PeCDD	199.72	84.2	25 - 181	31.5137	31.40067	0.1130	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.72	85.6	26 - 152	34.9007	34.782	0.1187	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.72	78.7	26 - 123	35.0343	34.91943	0.1149	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.72	82.8	28 - 136	35.9033	35.7884	0.1149	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.72	82.4	29 - 147	36.9395	36.8227	0.1168	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.72	90.9	32 - 141	36.0148	35.90912	0.1057	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.72	86.3	28 - 130	36.1262	36.0242	0.1020	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.72	63.8	28 - 143	38.789	38.67025	0.1187	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.72	62.1	26 - 138	41.0395	40.90587	0.1336	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.72	73.4	23 - 140	40.2818	40.16678	0.1150	N/A	
13C12-OCDD	399.44	62.9	17 - 157	45.0415	44.88763	0.1539	N/A	
37Cl4-2,3,7,8-TCDD	79.887	96.6	35 - 197	26.411	26.30253	0.1085	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	SJI0282-CCV2	Calibration:	EH00030
File ID:	21092044	Analyzed:	09/22/21 03:54

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	95.3	71 - 129	25.7608	25.63973	0.1211	N/A	
13C12-2,3,7,8-TCDD	100.00	106	82 - 118	26.3807	26.27478	0.1059	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	85.8	76 - 124	29.9203	29.80383	0.1165	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	85.3	77 - 123	31.2683	31.14815	0.1201	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	92.8	62 - 138	31.5022	31.40067	0.1015	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	97.3	76 - 124	34.889	34.782	0.1070	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	92.1	70 - 130	35.0227	34.91943	0.1033	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.8	73 - 127	35.9028	35.7884	0.1144	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	93.6	74 - 126	36.9278	36.8227	0.1051	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	98.6	85 - 115	36.0032	35.90912	0.0941	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	97.4	85 - 115	36.1145	36.0242	0.0903	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	77.3	78 - 122	38.7772	38.67025	0.1069	N/A	*
13C12-1,2,3,4,7,8,9-HpCDF	100.00	72.5	77 - 123	41.0275	40.90587	0.1216	N/A	*
13C12-1,2,3,4,6,7,8-HpCDD	100.00	86.1	72 - 128	40.27	40.16678	0.1032	N/A	
13C12-OCDD	200.00	77.4	48 - 152	45.024	44.88763	0.1364	N/A	
37Cl4-2,3,7,8-TCDD	10.000	100	0 - 200	26.411	26.30253	0.1085	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-03	Calibration:	EH00030
File ID:	21092046	Analyzed:	09/22/21 05:38

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.93	64.2	24 - 169	25.7608	25.63973	0.1211	N/A	
13C12-2,3,7,8-TCDD	199.93	81.1	25 - 164	26.3958	26.27478	0.1210	N/A	
13C12-1,2,3,7,8-PeCDF	199.93	77.5	24 - 185	29.9205	29.80383	0.1167	N/A	
13C12-2,3,4,7,8-PeCDF	199.93	72.0	21 - 178	31.2687	31.14815	0.1205	N/A	
13C12-1,2,3,7,8-PeCDD	199.93	82.6	25 - 181	31.5138	31.40067	0.1131	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.93	83.9	26 - 152	34.8895	34.782	0.1075	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.93	80.3	26 - 123	35.0343	34.91943	0.1149	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.93	80.2	28 - 136	35.9033	35.7884	0.1149	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.93	79.6	29 - 147	36.9395	36.8227	0.1168	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.93	91.6	32 - 141	36.0037	35.90912	0.0946	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.93	85.8	28 - 130	36.1262	36.0242	0.1020	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.93	63.7	28 - 143	38.7778	38.67025	0.1075	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.93	59.0	26 - 138	41.0283	40.90587	0.1224	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.93	75.6	23 - 140	40.2818	40.16678	0.1150	N/A	
13C12-OCDD	399.85	65.9	17 - 157	45.032	44.88763	0.1444	N/A	
37Cl4-2,3,7,8-TCDD	79.970	81.6	35 - 197	26.411	26.30253	0.1085	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-06	Calibration:	EH00030
File ID:	21092047	Analyzed:	09/22/21 06:27

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.86	59.6	24 - 169	25.7758	25.63973	0.1361	N/A	
13C12-2,3,7,8-TCDD	199.86	78.1	25 - 164	26.3958	26.27478	0.1210	N/A	
13C12-1,2,3,7,8-PeCDF	199.86	70.1	24 - 185	29.9205	29.80383	0.1167	N/A	
13C12-2,3,4,7,8-PeCDF	199.86	69.4	21 - 178	31.2685	31.14815	0.1203	N/A	
13C12-1,2,3,7,8-PeCDD	199.86	81.2	25 - 181	31.5137	31.40067	0.1130	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.86	80.6	26 - 152	34.8893	34.782	0.1073	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.86	75.7	26 - 123	35.0342	34.91943	0.1148	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.86	78.1	28 - 136	35.9033	35.7884	0.1149	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.86	81.6	29 - 147	36.9395	36.8227	0.1168	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.86	91.0	32 - 141	36.0148	35.90912	0.1057	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.86	83.1	28 - 130	36.1262	36.0242	0.1020	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.86	59.4	28 - 143	38.7778	38.67025	0.1075	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.86	58.3	26 - 138	41.0285	40.90587	0.1226	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.86	74.9	23 - 140	40.2818	40.16678	0.1150	N/A	
13C12-OCDD	399.72	70.3	17 - 157	45.0597	44.88763	0.1721	N/A	
37Cl4-2,3,7,8-TCDD	79.945	76.3	35 - 197	26.4108	26.30253	0.1083	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-07	Calibration:	EH00030
File ID:	21092048	Analyzed:	09/22/21 07:16

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.86	70.2	24 - 169	25.7607	25.63973	0.1210	N/A	
13C12-2,3,7,8-TCDD	199.86	89.8	25 - 164	26.3805	26.27478	0.1057	N/A	
13C12-1,2,3,7,8-PeCDF	199.86	70.6	24 - 185	29.9203	29.80383	0.1165	N/A	
13C12-2,3,4,7,8-PeCDF	199.86	68.6	21 - 178	31.2683	31.14815	0.1201	N/A	
13C12-1,2,3,7,8-PeCDD	199.86	80.4	25 - 181	31.5135	31.40067	0.1128	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.86	79.6	26 - 152	34.8893	34.782	0.1073	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.86	73.7	26 - 123	35.0343	34.91943	0.1149	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.86	76.1	28 - 136	35.9032	35.7884	0.1148	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.86	81.1	29 - 147	36.9283	36.8227	0.1056	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.86	88.8	32 - 141	36.0035	35.90912	0.0944	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.86	80.7	28 - 130	36.1262	36.0242	0.1020	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.86	58.8	28 - 143	38.7778	38.67025	0.1075	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.86	58.0	26 - 138	41.0285	40.90587	0.1226	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.86	73.3	23 - 140	40.2708	40.16678	0.1040	N/A	
13C12-OCDD	399.73	71.5	17 - 157	45.0507	44.88763	0.1631	N/A	
37Cl4-2,3,7,8-TCDD	79.945	89.1	35 - 197	26.4108	26.30253	0.1083	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-08	Calibration:	EH00030
File ID:	21092049	Analyzed:	09/22/21 08:05

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	199.75	73.2	24 - 169	25.7455	25.63973	0.1058	N/A	
13C12-2,3,7,8-TCDD	199.75	93.1	25 - 164	26.3805	26.27478	0.1057	N/A	
13C12-1,2,3,7,8-PeCDF	199.75	78.8	24 - 185	29.909	29.80383	0.1052	N/A	
13C12-2,3,4,7,8-PeCDF	199.75	73.0	21 - 178	31.257	31.14815	0.1089	N/A	
13C12-1,2,3,7,8-PeCDD	199.75	88.4	25 - 181	31.5022	31.40067	0.1015	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.75	81.6	26 - 152	34.878	34.782	0.0960	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.75	78.8	26 - 123	35.0228	34.91943	0.1034	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.75	79.8	28 - 136	35.8918	35.7884	0.1034	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.75	74.6	29 - 147	36.9278	36.8227	0.1051	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.75	94.3	32 - 141	35.992	35.90912	0.0829	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.75	89.4	28 - 130	36.1145	36.0242	0.0903	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.75	59.4	28 - 143	38.7662	38.67025	0.0959	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.75	55.6	26 - 138	41.0167	40.90587	0.1108	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.75	76.0	23 - 140	40.2702	40.16678	0.1034	N/A	
13C12-OCDD	399.50	66.1	17 - 157	45.0243	44.88763	0.1367	N/A	
37Cl4-2,3,7,8-TCDD	79.901	93.8	35 - 197	26.3957	26.30253	0.0932	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	SJI0282-CCV3	Calibration:	EH00030
File ID:	21092054	Analyzed:	09/22/21 12:11

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	93.4	71 - 129	25.7455	25.63973	0.1058	N/A	
13C12-2,3,7,8-TCDD	100.00	105	82 - 118	26.3807	26.27478	0.1059	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	76.6	76 - 124	29.9092	29.80383	0.1054	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	76.4	77 - 123	31.2573	31.14815	0.1092	N/A	*
13C12-1,2,3,7,8-PeCDD	100.00	81.4	62 - 138	31.5023	31.40067	0.1016	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	101	76 - 124	34.8782	34.782	0.0962	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	95.2	70 - 130	35.023	34.91943	0.1036	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	95.2	73 - 127	35.892	35.7884	0.1036	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	92.8	74 - 126	36.9282	36.8227	0.1055	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	101	85 - 115	35.9923	35.90912	0.0832	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	97.3	85 - 115	36.1147	36.0242	0.0905	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	82.5	78 - 122	38.7663	38.67025	0.0960	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	76.0	77 - 123	41.0168	40.90587	0.1109	N/A	*
13C12-1,2,3,4,6,7,8-HpCDD	100.00	90.0	72 - 128	40.2703	40.16678	0.1035	N/A	
13C12-OCDD	200.00	81.2	48 - 152	45.0225	44.88763	0.1349	N/A	
37Cl4-2,3,7,8-TCDD	10.000	99.3	0 - 200	26.3957	26.30253	0.0932	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-06RE1	Calibration:	EH00030
File ID:	21092060	Analyzed:	09/22/21 17:13

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	201.25	74.8	24 - 169	25.7457	25.63973	0.1060	N/A	
13C12-2,3,7,8-TCDD	201.25	90.4	25 - 164	26.3807	26.27478	0.1059	N/A	
13C12-1,2,3,7,8-PeCDF	201.25	90.9	24 - 185	29.9092	29.80383	0.1054	N/A	
13C12-2,3,4,7,8-PeCDF	201.25	86.7	21 - 178	31.2462	31.14815	0.0981	N/A	
13C12-1,2,3,7,8-PeCDD	201.25	93.5	25 - 181	31.4913	31.40067	0.0906	N/A	
13C12-1,2,3,4,7,8-HxCDF	201.25	101	26 - 152	34.8782	34.782	0.0962	N/A	
13C12-1,2,3,6,7,8-HxCDF	201.25	96.8	26 - 123	35.023	34.91943	0.1036	N/A	
13C12-2,3,4,6,7,8-HxCDF	201.25	96.2	28 - 136	35.892	35.7884	0.1036	N/A	
13C12-1,2,3,7,8,9-HxCDF	201.25	103	29 - 147	36.9282	36.8227	0.1055	N/A	
13C12-1,2,3,4,7,8-HxCDD	201.25	105	32 - 141	35.9922	35.90912	0.0831	N/A	
13C12-1,2,3,6,7,8-HxCDD	201.25	99.1	28 - 130	36.1037	36.0242	0.0795	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	201.25	81.3	28 - 143	38.7665	38.67025	0.0962	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	201.25	76.8	26 - 138	41.0172	40.90587	0.1113	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	201.25	101	23 - 140	40.2593	40.16678	0.0925	N/A	
13C12-OCDD	402.50	104	17 - 157	45.0228	44.88763	0.1352	N/A	
37Cl4-2,3,7,8-TCDD	80.500	93.8	35 - 197	26.3958	26.30253	0.0933	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	21G0213-07RE1	Calibration:	EH00030
File ID:	21092061	Analyzed:	09/22/21 18:01

Surrogate Compound	Spike Level ng/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	208.38	80.6	24 - 169	25.7457	25.63973	0.1060	N/A	
13C12-2,3,7,8-TCDD	208.38	96.9	25 - 164	26.3655	26.27478	0.0907	N/A	
13C12-1,2,3,7,8-PeCDF	208.38	84.0	24 - 185	29.9093	29.80383	0.1055	N/A	
13C12-2,3,4,7,8-PeCDF	208.38	83.0	21 - 178	31.2463	31.14815	0.0982	N/A	
13C12-1,2,3,7,8-PeCDD	208.38	89.4	25 - 181	31.4915	31.40067	0.0908	N/A	
13C12-1,2,3,4,7,8-HxCDF	208.38	94.8	26 - 152	34.8785	34.782	0.0965	N/A	
13C12-1,2,3,6,7,8-HxCDF	208.38	86.9	26 - 123	35.0122	34.91943	0.0928	N/A	
13C12-2,3,4,6,7,8-HxCDF	208.38	89.7	28 - 136	35.8925	35.7884	0.1041	N/A	
13C12-1,2,3,7,8,9-HxCDF	208.38	92.0	29 - 147	36.9173	36.8227	0.0946	N/A	
13C12-1,2,3,4,7,8-HxCDD	208.38	93.7	32 - 141	35.9927	35.90912	0.0836	N/A	
13C12-1,2,3,6,7,8-HxCDD	208.38	91.0	28 - 130	36.1042	36.0242	0.0800	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	208.38	77.8	28 - 143	38.7668	38.67025	0.0966	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	208.38	73.3	26 - 138	41.0065	40.90587	0.1006	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	208.38	88.5	23 - 140	40.26	40.16678	0.0932	N/A	
13C12-OCDD	416.75	95.7	17 - 157	45.0143	44.88763	0.1267	N/A	
37Cl4-2,3,7,8-TCDD	83.350	98.9	35 - 197	26.3958	26.30253	0.0933	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21G0213
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJI0282	Instrument:	AUTOSPEC01
Sample ID:	SJI0282-CCV4	Calibration:	EH00030
File ID:	21092062	Analyzed:	09/22/21 18:51

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
13C12-2,3,7,8-TCDF	100.00	95.6	71 - 129	25.7455	25.63973	0.1058	N/A	
13C12-2,3,7,8-TCDD	100.00	105	82 - 118	26.3805	26.27478	0.1057	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	85.2	76 - 124	29.909	29.80383	0.1052	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	83.9	77 - 123	31.2572	31.14815	0.1091	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	88.0	62 - 138	31.5022	31.40067	0.1015	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	102	76 - 124	34.8778	34.782	0.0958	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	95.2	70 - 130	35.0227	34.91943	0.1033	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	97.3	73 - 127	35.8917	35.7884	0.1033	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	97.3	74 - 126	36.9278	36.8227	0.1051	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	102	85 - 115	35.992	35.90912	0.0829	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	101	85 - 115	36.1145	36.0242	0.0903	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	83.8	78 - 122	38.766	38.67025	0.0957	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	77.7	77 - 123	41.0165	40.90587	0.1106	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	91.8	72 - 128	40.27	40.16678	0.1032	N/A	
13C12-OCDD	200.00	82.4	48 - 152	45.0242	44.88763	0.1366	N/A	
37Cl4-2,3,7,8-TCDD	10.000	99.9	0 - 200	26.3957	26.30253	0.0932	N/A	

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

HOLDING TIME SUMMARY

Analysis: EPA 1613B

Laboratory: Analytical Resources, Inc. SDG: 21G0213

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-IT655B 21G0213-01	07/19/21 15:40	07/20/21 08:00	09/09/21 15:30	51	365	09/22/21 02:16	12	365	
LDW21-IT655C 21G0213-02	07/19/21 15:40	07/20/21 08:00	09/09/21 15:30	51	365	09/22/21 03:05	12	365	
LDW21-IT655E 21G0213-03	07/19/21 15:40	07/20/21 08:00	09/09/21 15:30	51	365	09/22/21 05:38	13	365	
LDW21-IT663B 21G0213-06	07/19/21 14:44	07/20/21 08:00	09/09/21 15:30	52	365	09/22/21 06:27	13	365	
LDW21-IT663B 21G0213-06RE1	07/19/21 14:44	07/20/21 08:00	09/09/21 15:30	52	365	09/22/21 17:13	13	365	
LDW21-IT663C 21G0213-07	07/19/21 14:44	07/20/21 08:00	09/09/21 15:30	52	365	09/22/21 07:16	13	365	
LDW21-IT663C 21G0213-07RE1	07/19/21 14:44	07/20/21 08:00	09/09/21 15:30	52	365	09/22/21 18:01	13	365	
LDW21-IT663E 21G0213-08	07/19/21 14:44	07/20/21 08:00	09/09/21 15:30	52	365	09/22/21 08:05	13	365	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21G0213
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Instrument: AUTOSPEC01

Analyte	MDL	RL	Units
2,3,7,8-TCDF	0.058	1.00	ng/kg
2,3,7,8-TCDD	0.150	1.00	ng/kg
1,2,3,7,8-PeCDF	0.240	1.00	ng/kg
2,3,4,7,8-PeCDF	0.220	1.00	ng/kg
1,2,3,7,8-PeCDD	0.170	1.00	ng/kg
1,2,3,4,7,8-HxCDF	0.280	1.00	ng/kg
1,2,3,6,7,8-HxCDF	0.200	1.00	ng/kg
2,3,4,6,7,8-HxCDF	0.170	1.00	ng/kg
1,2,3,7,8,9-HxCDF	0.190	1.00	ng/kg
1,2,3,4,7,8-HxCDD	0.170	1.00	ng/kg
1,2,3,6,7,8-HxCDD	0.180	1.00	ng/kg
1,2,3,7,8,9-HxCDD	0.220	1.00	ng/kg
1,2,3,4,6,7,8-HpCDF	0.210	1.00	ng/kg
1,2,3,4,7,8,9-HpCDF	0.240	1.00	ng/kg
1,2,3,4,6,7,8-HpCDD	0.560	2.50	ng/kg
OCDF	1.10	2.50	ng/kg
OCDD	4.60	10.0	ng/kg
Total TCDF		1.00	ng/kg
Total TCDD		1.00	ng/kg
Total PeCDF		1.00	ng/kg
Total PeCDD		1.00	ng/kg
Total HxCDF		1.00	ng/kg
Total HxCDD		1.00	ng/kg
Total HpCDF		1.00	ng/kg
Total HpCDD		1.00	ng/kg

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21G0213
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Water
Instrument: AUTOSPEC01

Analyte	MDL	RL	Units
2,3,7,8-TCDF	1.20	10.0	pg/L
2,3,7,8-TCDD	1.30	10.0	pg/L
1,2,3,7,8-PeCDF	4.20	10.0	pg/L
2,3,4,7,8-PeCDF	4.00	10.0	pg/L
1,2,3,7,8-PeCDD	4.00	10.0	pg/L
1,2,3,4,7,8-HxCDF	3.80	10.0	pg/L
1,2,3,6,7,8-HxCDF	3.90	10.0	pg/L
2,3,4,6,7,8-HxCDF	3.50	10.0	pg/L
1,2,3,7,8,9-HxCDF	3.60	10.0	pg/L
1,2,3,4,7,8-HxCDD	4.10	10.0	pg/L
1,2,3,6,7,8-HxCDD	3.80	10.0	pg/L
1,2,3,7,8,9-HxCDD	3.40	10.0	pg/L
1,2,3,4,6,7,8-HpCDF	11.0	20.0	pg/L
1,2,3,4,7,8,9-HpCDF	3.60	10.0	pg/L
1,2,3,4,6,7,8-HpCDD	6.00	10.0	pg/L
OCDF	16.0	20.0	pg/L
OCDD	39.0	50.0	pg/L

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

CS3WT

Calibration and Verification Solution (EPA-1613CS3) combined with Window Defining and 2,3,7,8-TCDD Resolution Testing Congeners

PRODUCT CODE:	CS3WT
LOT NUMBER:	CS3WT0617
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	06/27/2017
LAST TESTED: (mm/dd/yyyy)	06/27/2017
EXPIRY DATE: (mm/dd/yyyy)	06/27/2024
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

G001361

1613 CS3WT CCAL STD
Expires 6/27/2024
Prepared By Joshua Rains 2/13/2018

DESCRIPTION:

CS3WT is a solution/mixture of native and $^{13}C_{12}$-labelled chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

CS3WT was designed and prepared to be used as a HRMS calibration standard according to U.S. EPA Method 1613B.

It is to be used for calibration verification in place of EPA-1613CS3 (Lot: 13CS30617). It also contains the PCDD and PCDF window defining congeners for a DB-5 (or equivalent) capillary column as well as the TCDD isomers required to test and confirm the resolution of 2,3,7,8-TCDD.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%. The individual native 2,3,7,8-substituted PCDD and PCDF congeners all have chemical purities of >98%; the other congeners (window defining and resolution testing) should only be considered semi-quantitative.

This current lot of CS3WT (CS3WT0617) is to be used with the 1613 calibration solutions having the following lot numbers:

PRODUCT CODE	LOT NUMBER
EPA-1613CS1	13CS10617
EPA-1613CS2	13CS20617
EPA-1613CS3	13CS30617
EPA-1613CS4	13CS40617
EPA-1613CS5	13CS50617
EPA-1613CSL	13CSL0617
EPA-1613CS0.5	13CS0.50617

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.
- Only the 2,3,7,8-substituted PCDDs and PCDFs should be used for quantitation. The other congeners (window defining and 2378-TCDD resolution testing) should be considered semi-quantitative (within ±20% of their design value). Impurities have been identified where possible.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) has been assigned to the quantitative analytes in this mixture. Conversely, semi-quantitative analytes have been assigned an uncertainty of ±20%.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **CS3WT; Components and Concentrations (ng/ml, in nonane/4.5% toluene)**

QUANTITATIVE ANALYTES (ng/ml, ±5%)

Native PCDDs & PCDFs:	
2,3,7,8-TCDD	10
2,3,7,8-TCDF	10
1,2,3,7,8-PeCDD	50
1,2,3,7,8-PeCDF	50
2,3,4,7,8-PeCDF	50
1,2,3,4,7,8-HxCDD	50
1,2,3,6,7,8-HxCDD	50
1,2,3,7,8,9-HxCDD	50
1,2,3,4,7,8-HxCDF	50
1,2,3,6,7,8-HxCDF	50
1,2,3,7,8,9-HxCDF	50
2,3,4,6,7,8-HxCDF	50
1,2,3,4,6,7,8-HpCDD *(WD)*	50
1,2,3,4,6,7,8-HpCDF *(WD)*	50
1,2,3,4,7,8,9-HpCDF *(WD)*	50
OCDD	100
OCDF	100
Labelled PCDDs & PCDFs:	
$^{13}C_{12}$-2,3,7,8-TCDD	100
$^{13}C_{12}$-2,3,7,8-TCDF	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100
$^{13}C_{12}$-OCDD	200
Cleanup Standard:	
$^{37}Cl_4$-2,3,7,8-TCDD	10
Internal Standards:	
$^{13}C_{12}$-1,2,3,4-TCDD	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100

WD – Window Definer

SEMI-QUANTITATIVE ANALYTES (ng/ml, ±20%)

Window Definers:*	
1,3,6,8-TCDD	10
1,2,8,9-TCDD	10
1,3,6,8-TCDF	10
1,2,8,9-TCDF	10
1,2,4,6,8/1,2,4,7,9-PeCDD	50
1,2,3,8,9-PeCDD	50
1,3,4,6,8-PeCDF	50
1,2,3,8,9-PeCDF	50
1,2,4,6,7,9-HxCDD	50
1,2,3,4,6,8-HxCDF	50
1,2,3,4,6,7,9-HpCDD	50
2378-TCDD Resolution Testing Isomers:	
1,2,3,4-TCDD	5
1,2,3,7/1,2,3,8-TCDD	5
1,2,3,9-TCDD	10

** 1,2,3,4,6,7-HxCDD (last eluting HxCDD) not included; coelutes with 1,2,3,7,8,9-HxCDD. Use 1,2,3,4,6,7,9-HpCDD to set window.*

** 1,2,3,4,8,9-HxCDF (last eluting HxCDF) not included; can interfere with 1,2,3,7,8,9-HxCDF. Use 1,2,3,4,6,7,8-HpCDF to set window.*

Certified By: _____ **Date:** 07/19/2017 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

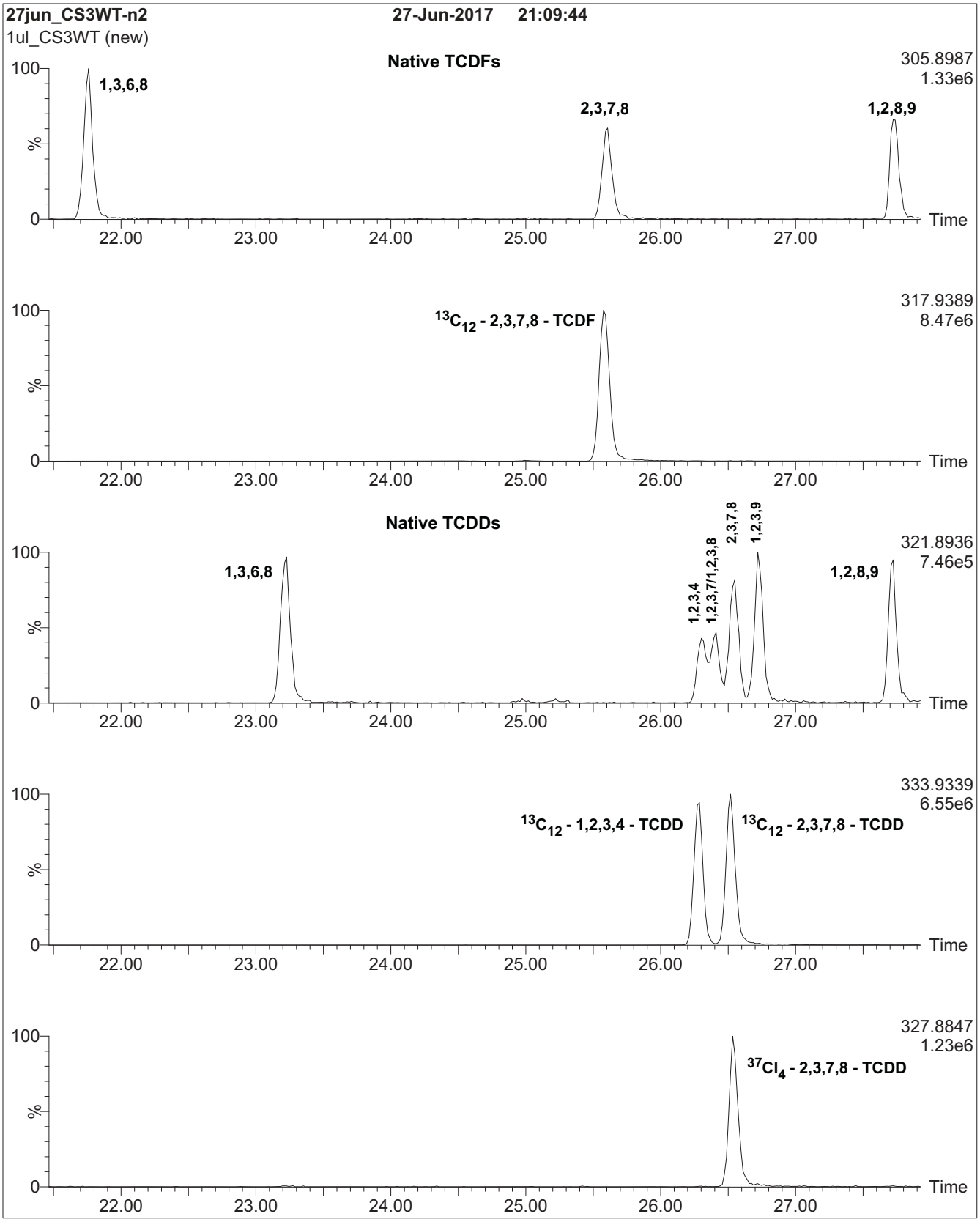


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

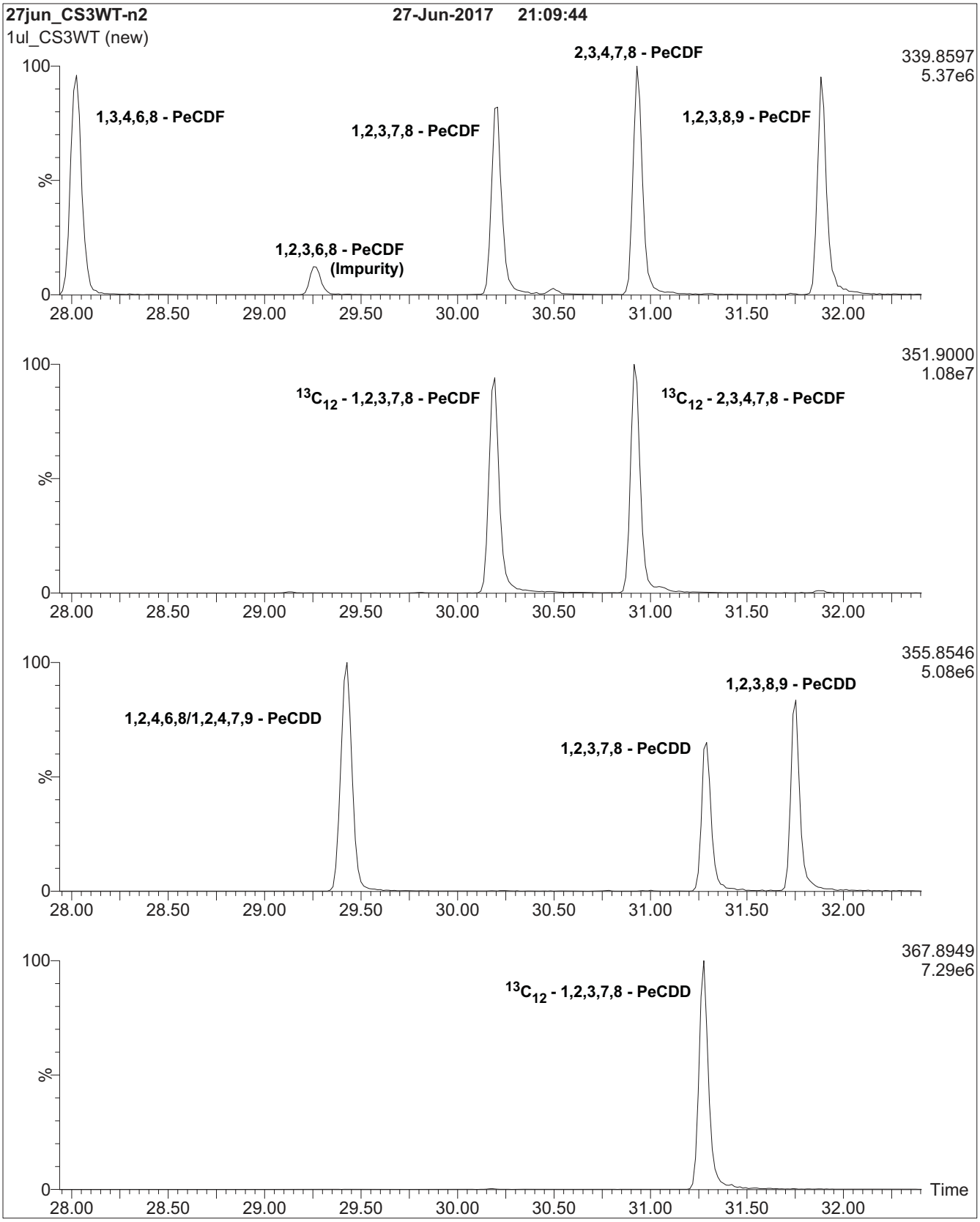


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

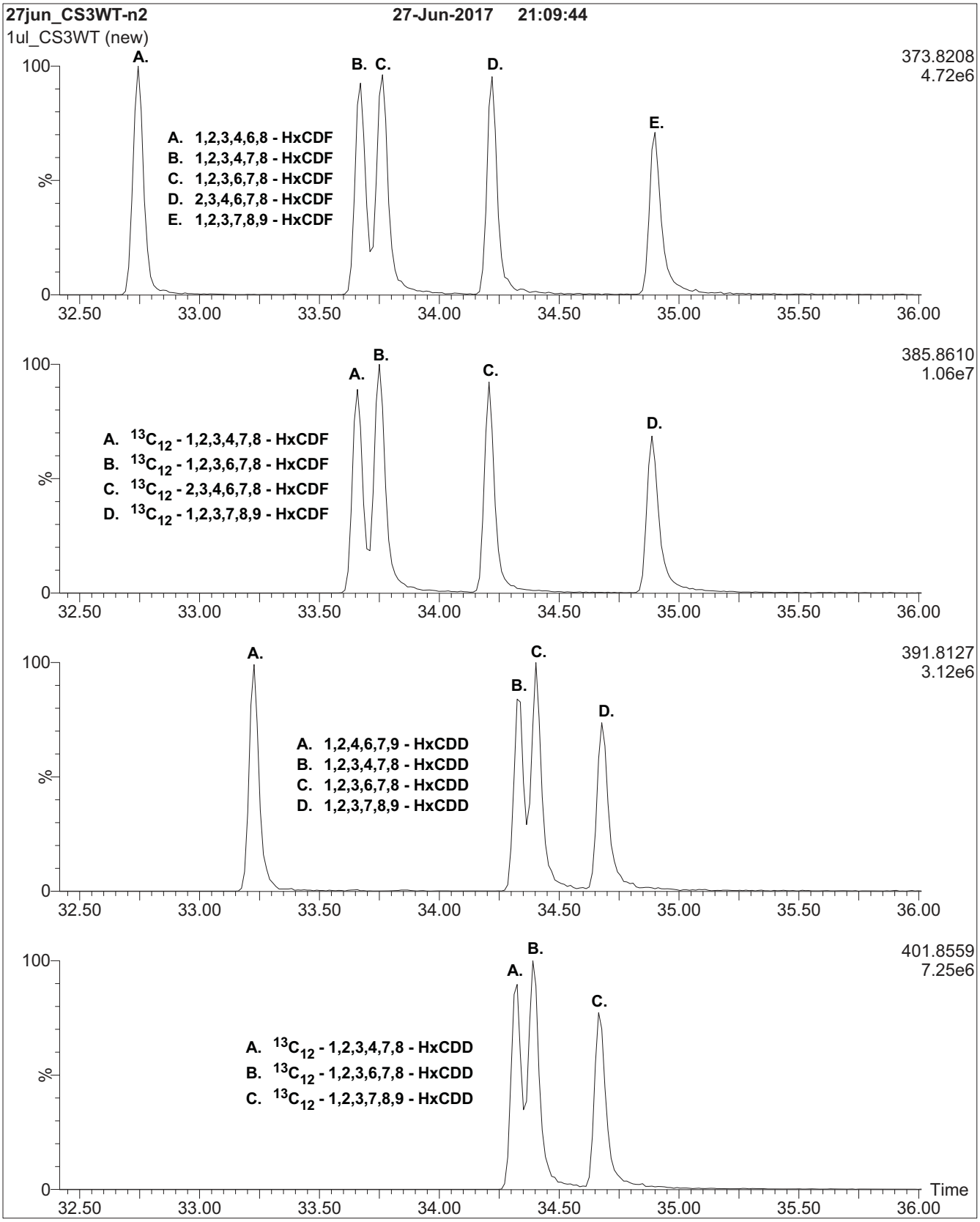


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

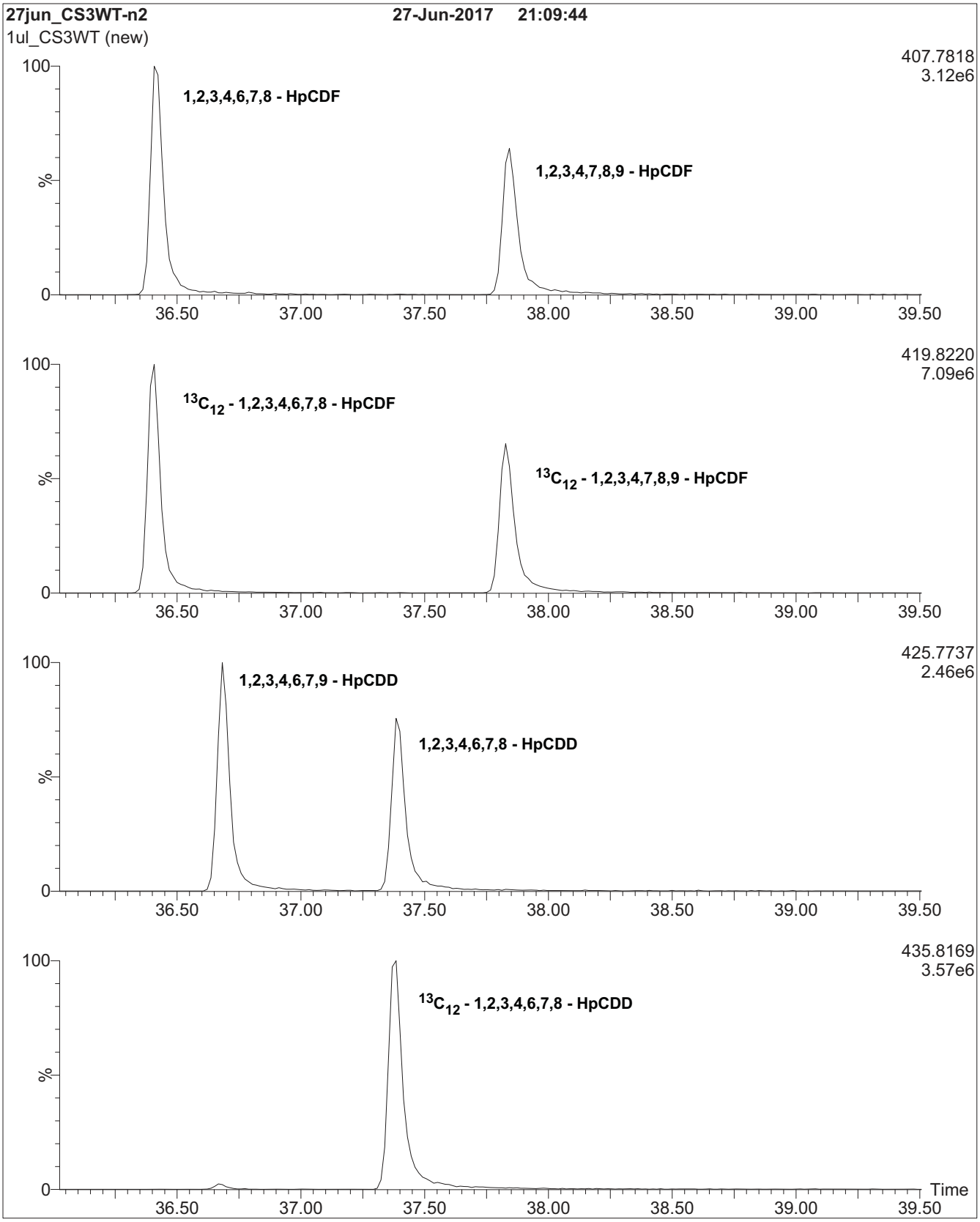
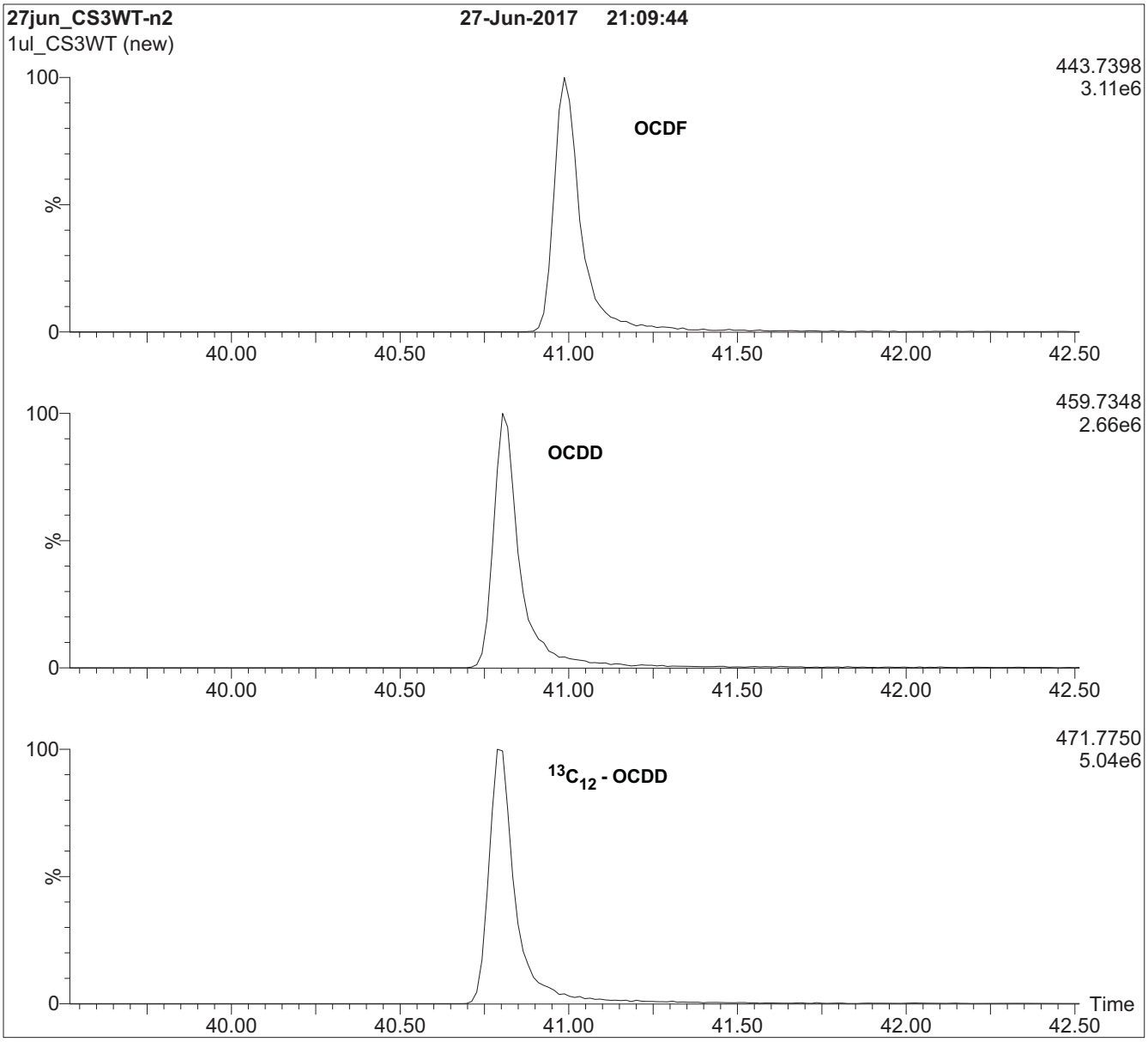


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613PAR

U.S. EPA Method 1613 Native PCDD/PCDF
Precision and Recovery Stock Solution

PRODUCT CODE:	EPA-1613PAR
LOT NUMBER:	13PAR1019
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/16/2019
LAST TESTED: (mm/dd/yyyy)	10/17/2019
EXPIRY DATE: (mm/dd/yyyy)	10/17/2026
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

I000197
1613B Stock OPR Std-40/200/400ng/mL
Expires 10/17/2026
Prepared By Joshua Rains 1/8/2020

DESCRIPTION:

EPA-1613PAR is a solution/mixture of all the 2,3,7,8-substituted chlorinated dibenzo-p-dioxins (PCDDs) and 2,3,7,8-substituted dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613PAR was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual PCDDs and PCDFs all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

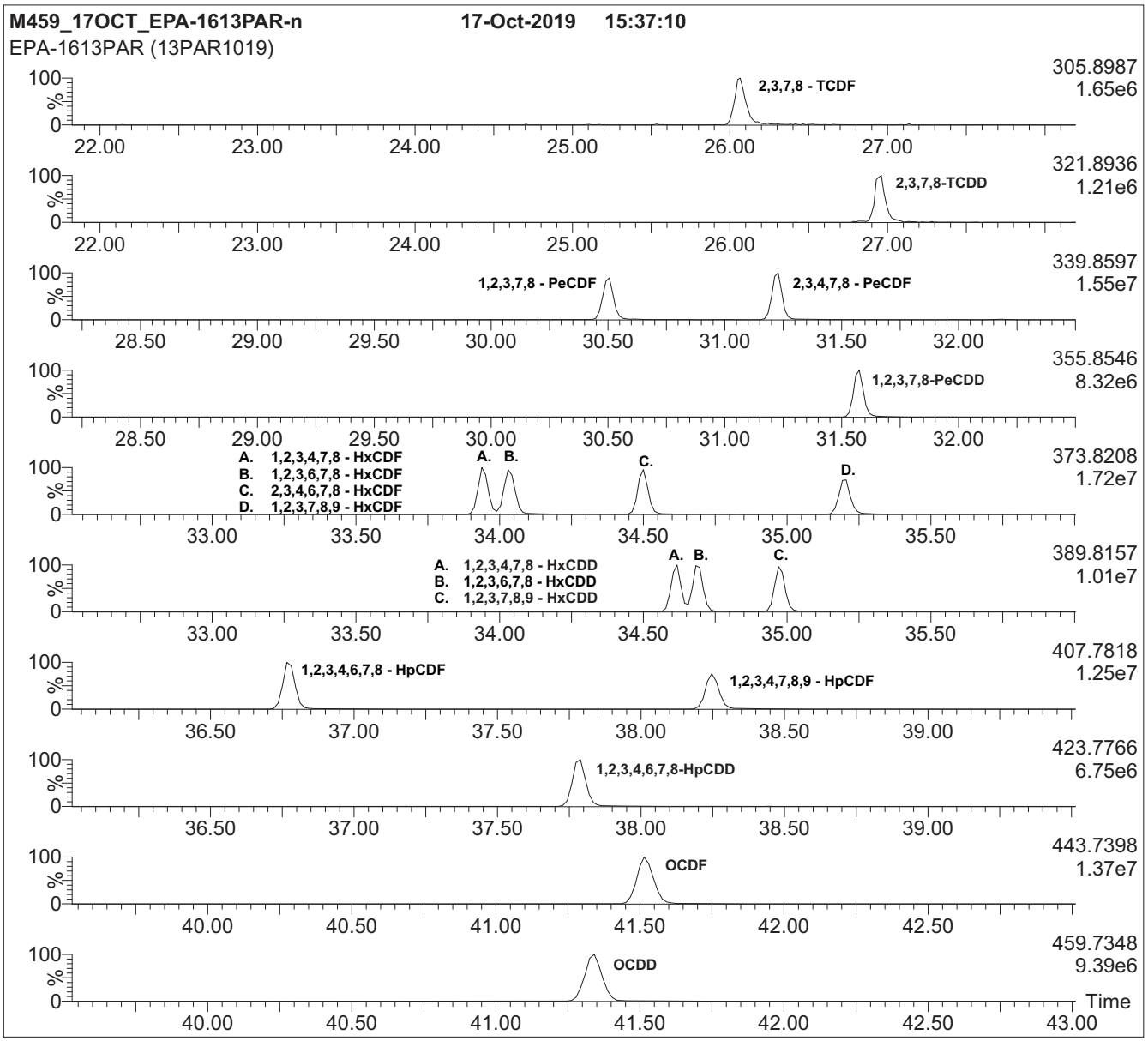
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613PAR; Components and Concentrations (ng/ml, ± 5% in nonane/ 2.4% toluene)**

Component	Concentration (ng/ml)
PCDDs:	
2,3,7,8-Tetrachlorodibenzo-p-dioxin	40
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	200
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	200
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	200
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	200
Octachlorodibenzo-p-dioxin	400
PCDFs:	
2,3,7,8-Tetrachlorodibenzofuran	40
1,2,3,7,8-Pentachlorodibenzofuran	200
2,3,4,7,8-Pentachlorodibenzofuran	200
1,2,3,4,7,8-Hexachlorodibenzofuran	200
1,2,3,6,7,8-Hexachlorodibenzofuran	200
1,2,3,7,8,9-Hexachlorodibenzofuran	200
2,3,4,6,7,8-Hexachlorodibenzofuran	200
1,2,3,4,6,7,8-Heptachlorodibenzofuran	200
1,2,3,4,7,8,9-Heptachlorodibenzofuran	200
Octachlorodibenzofuran	400

Certified By: _____ **Date:** 11/07/2019
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613PAR; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS
U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005456
1613 CS1 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

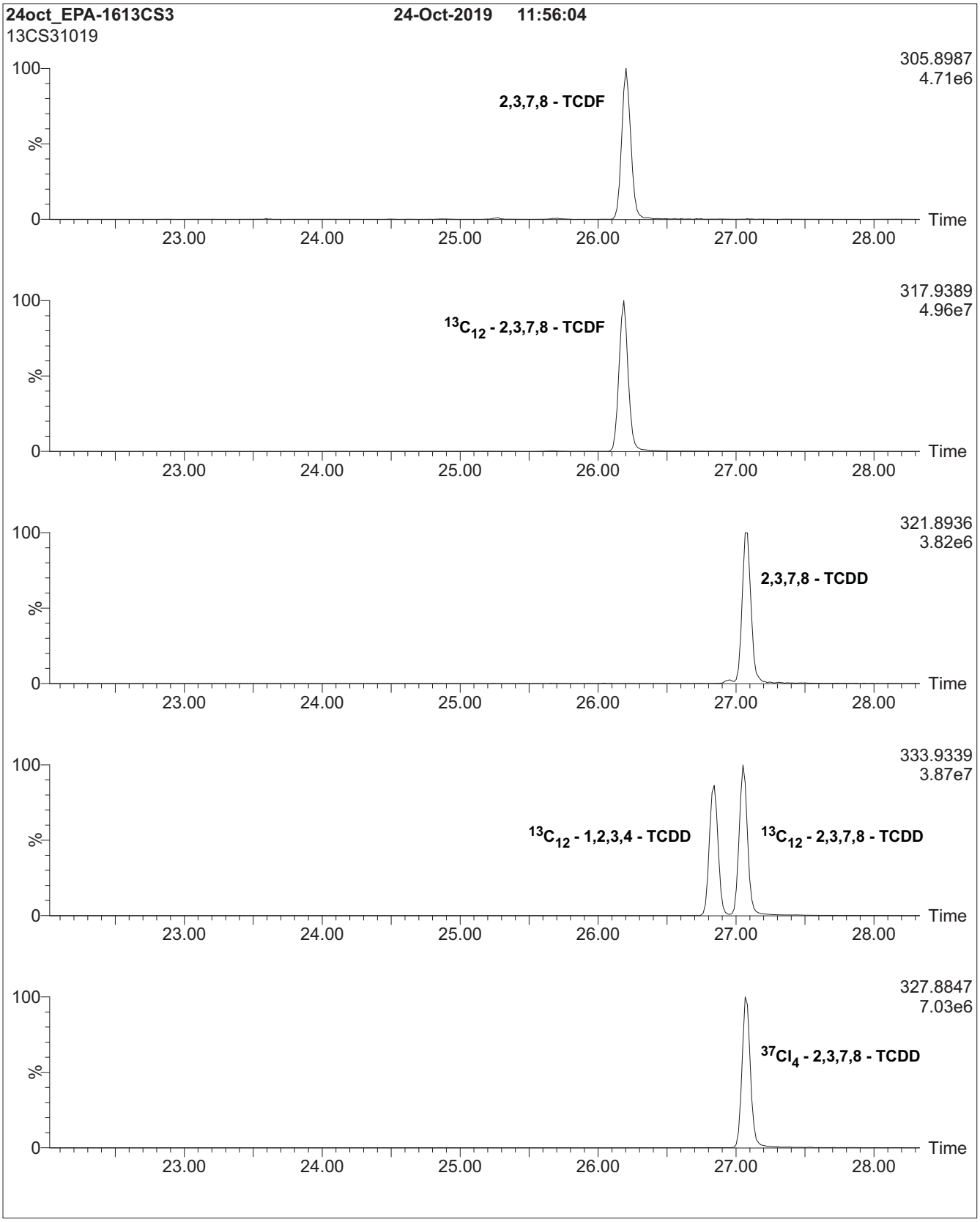


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

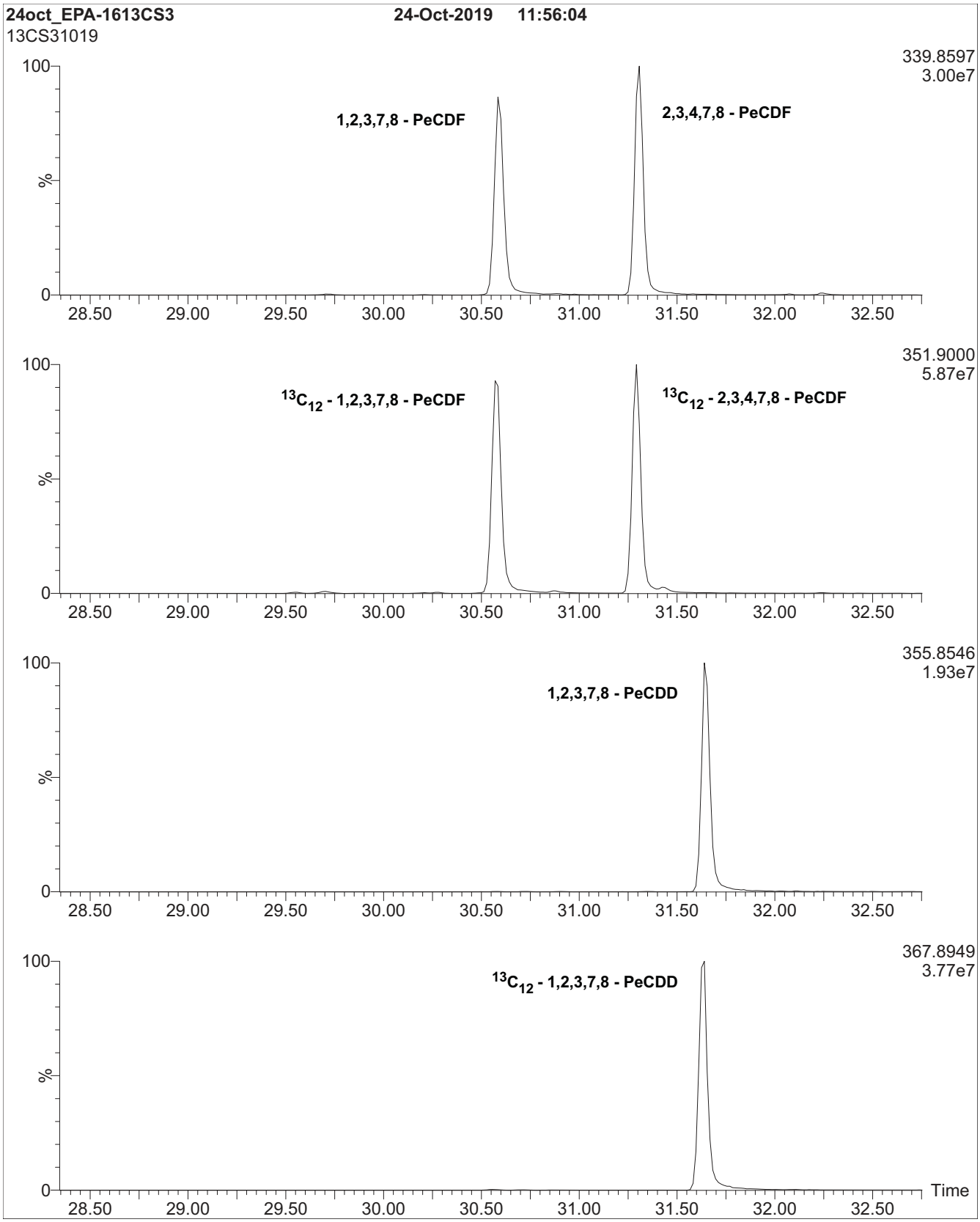


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

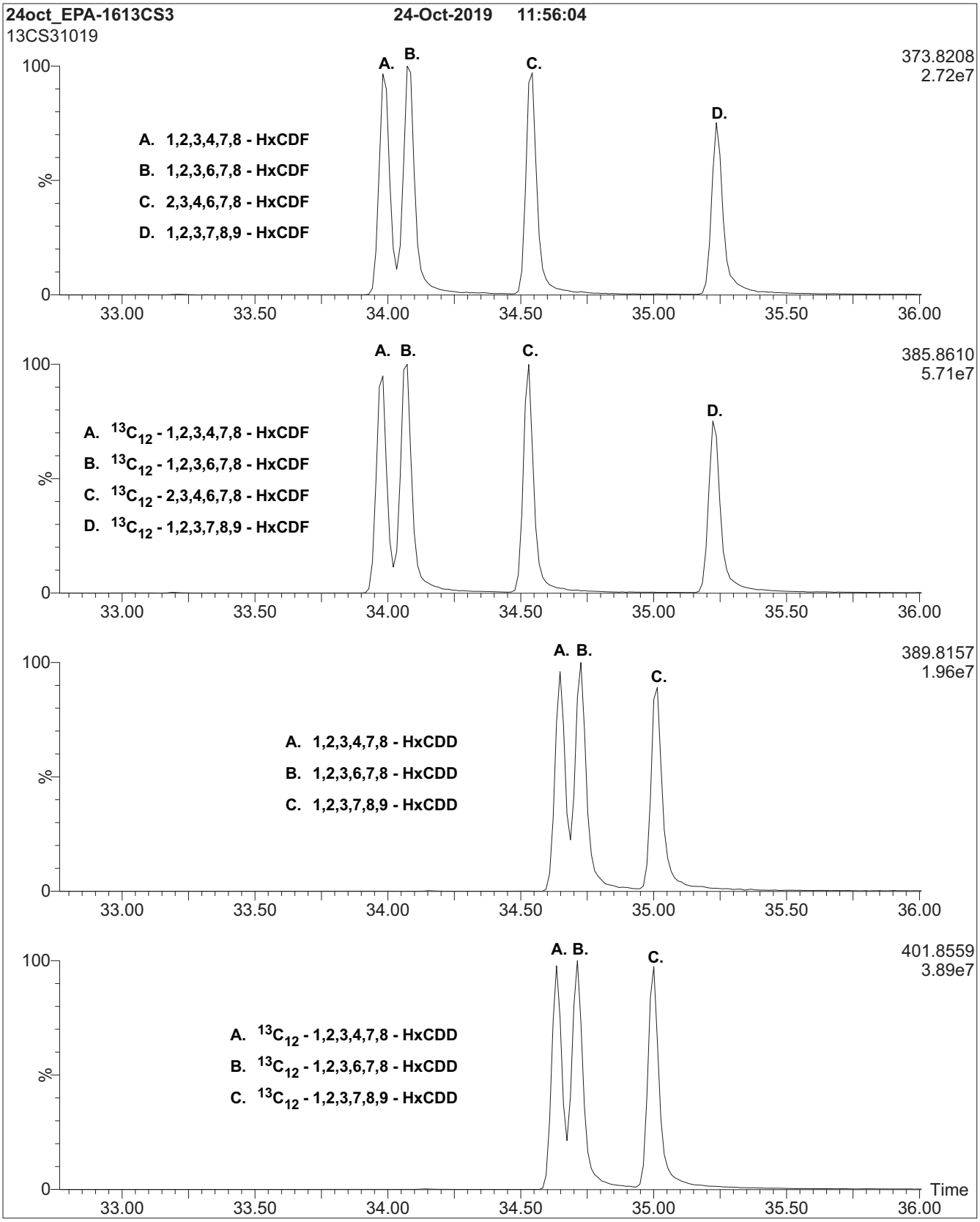


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

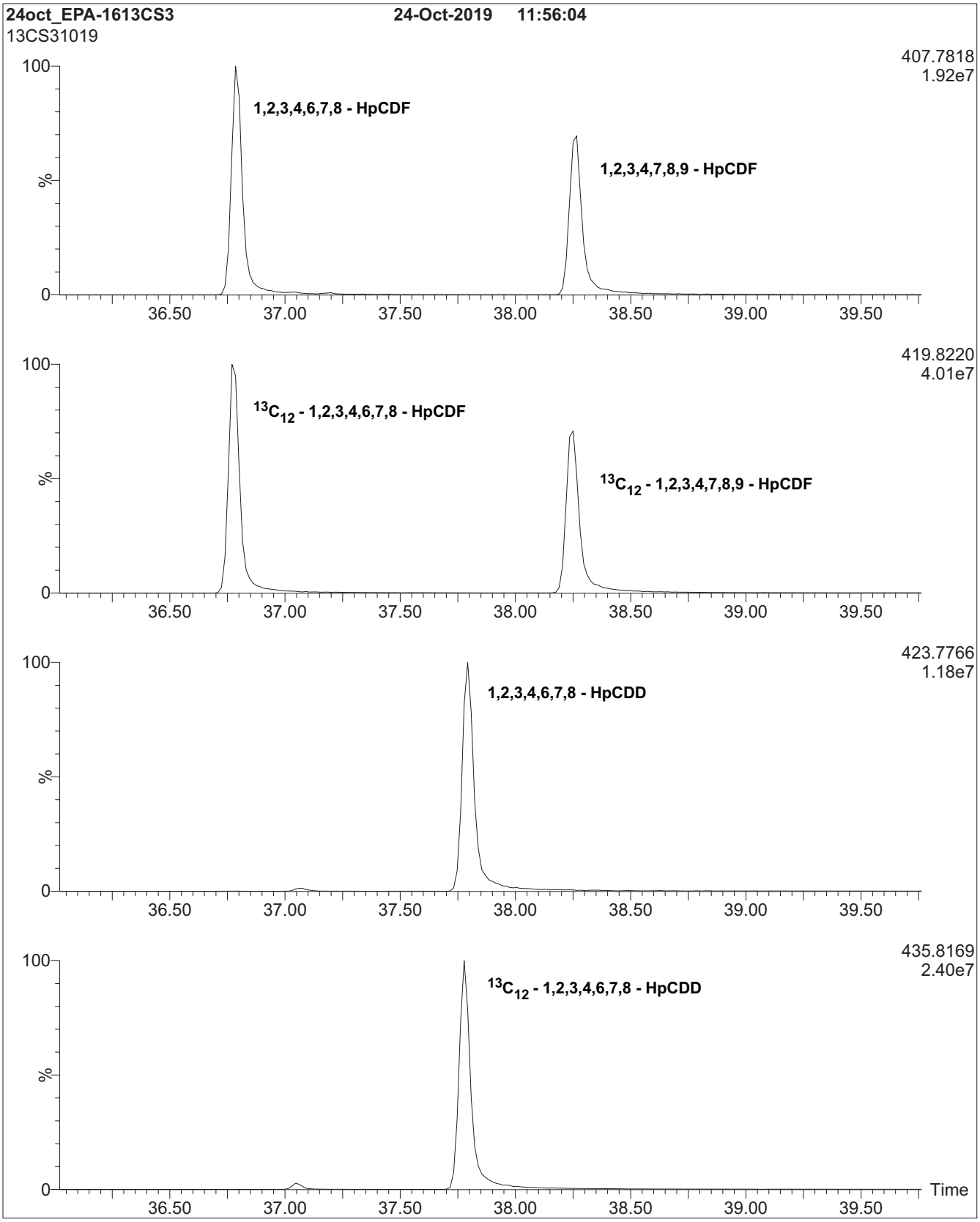
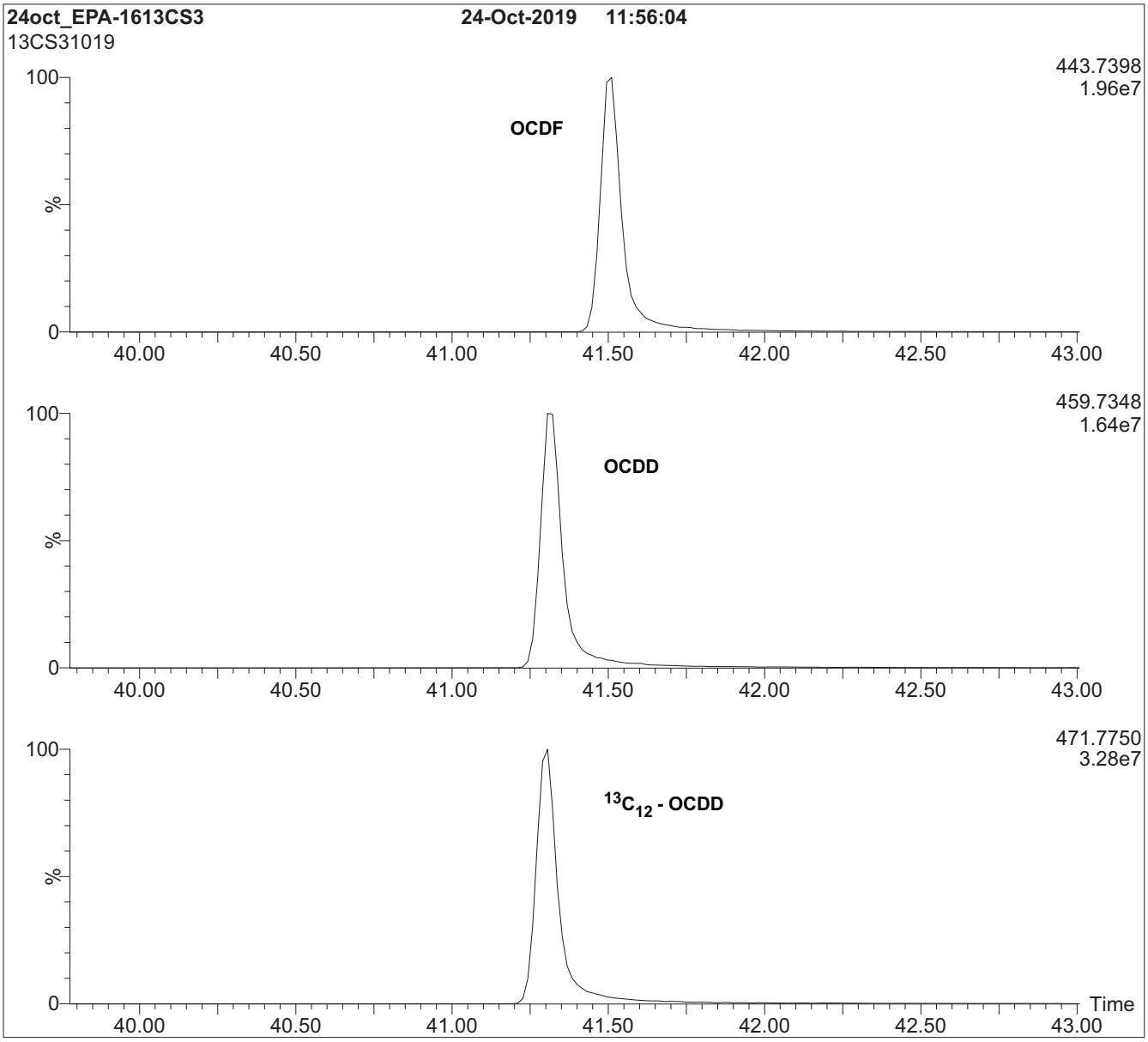


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS
U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005457
1613 CS2 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

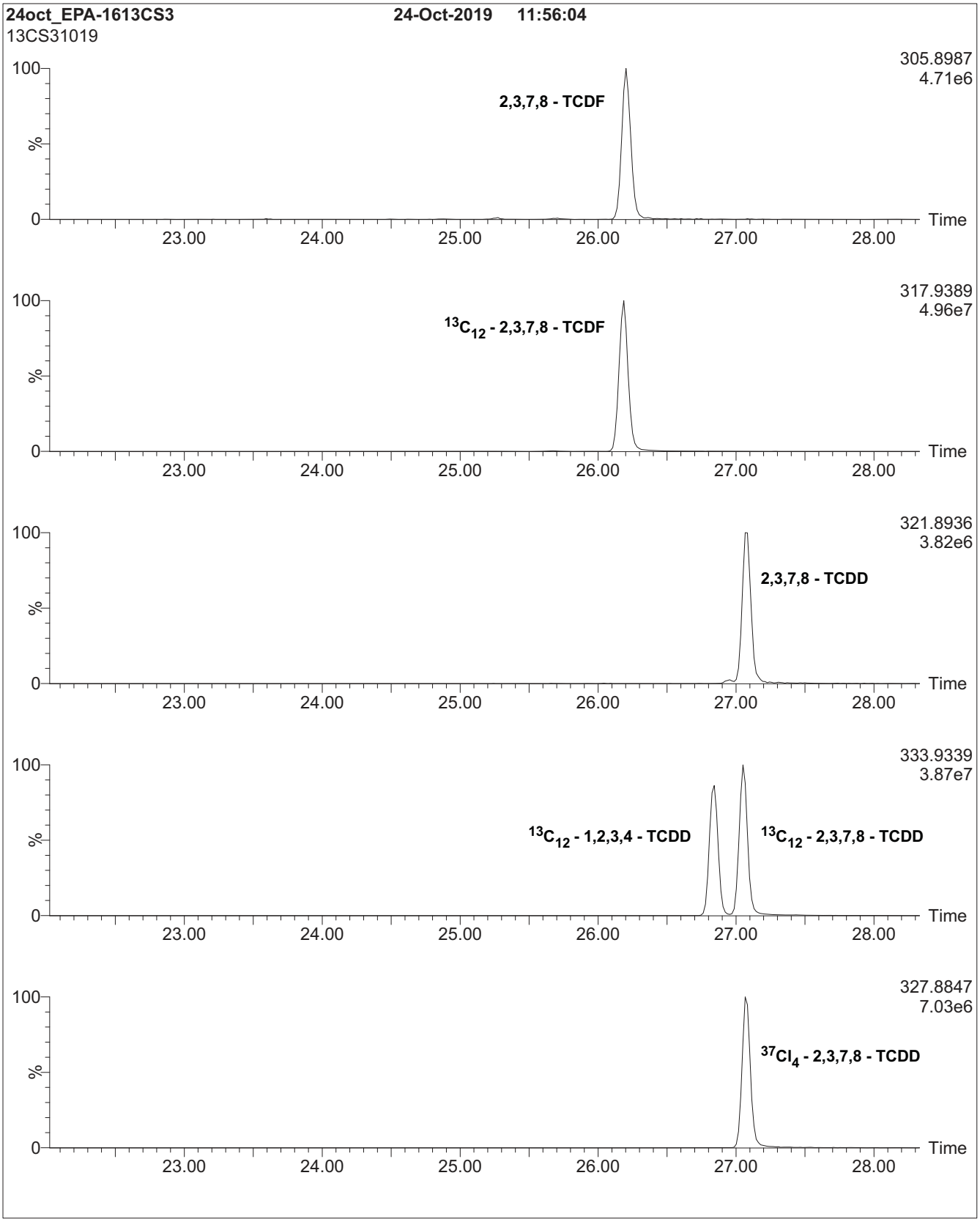


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

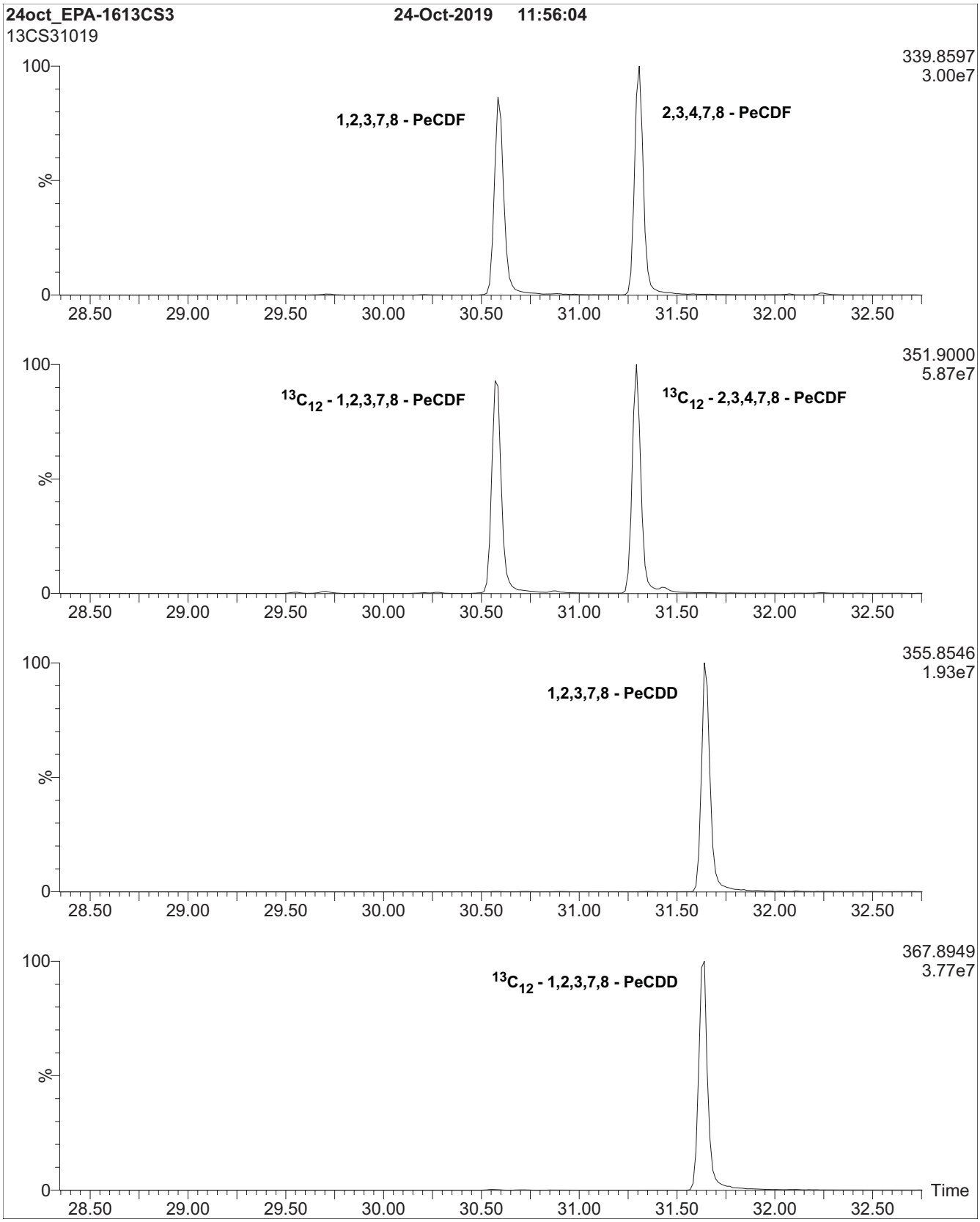


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

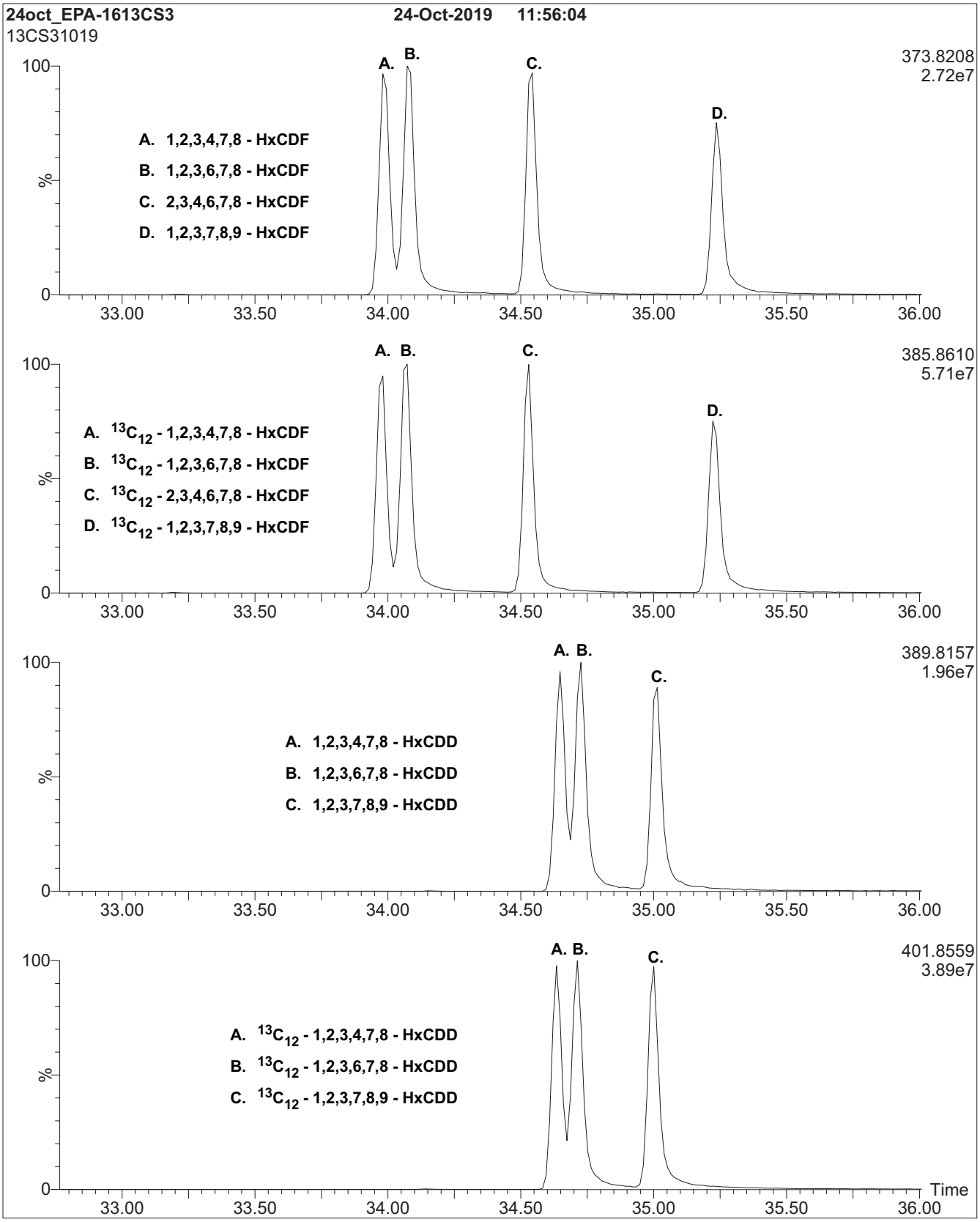


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

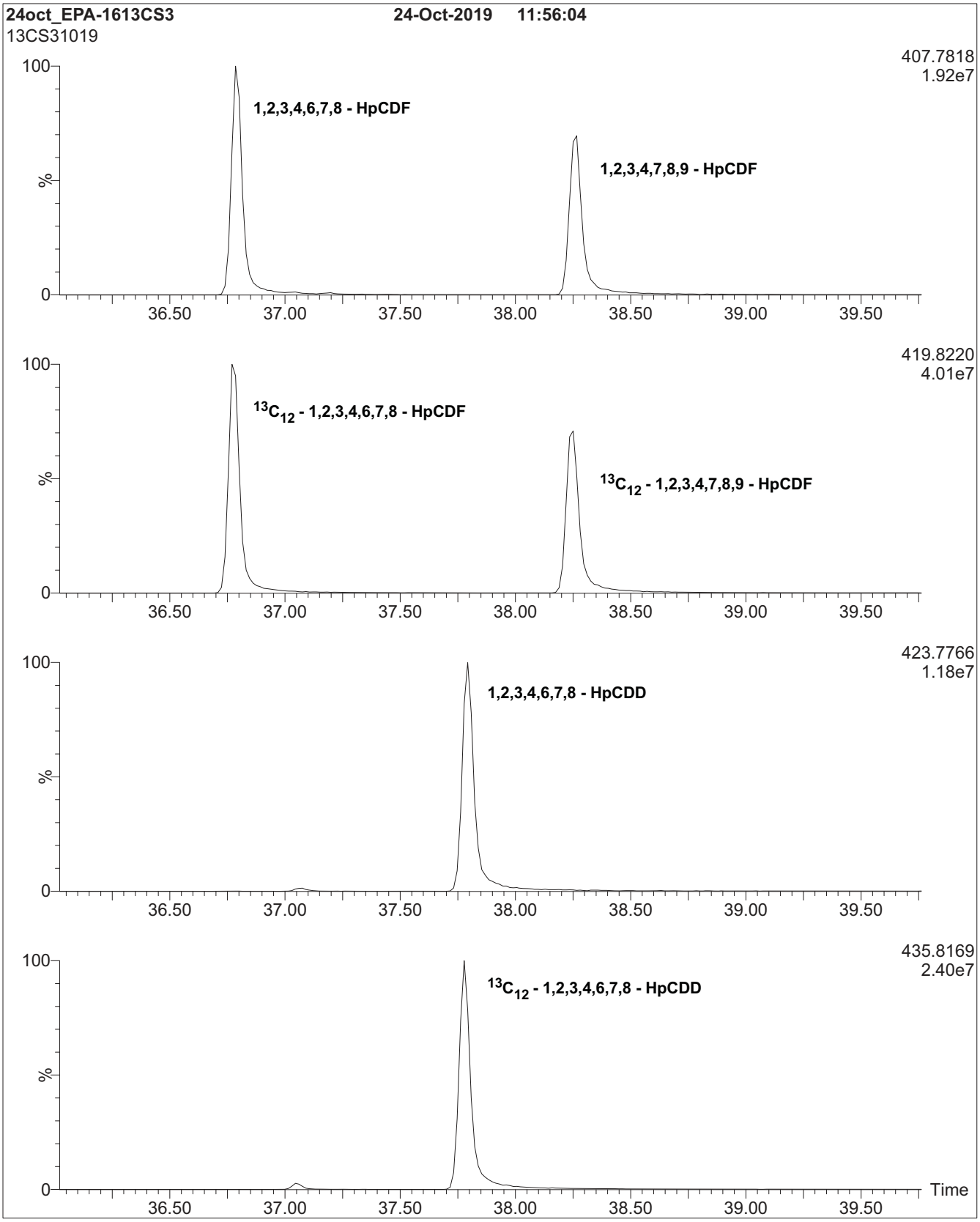
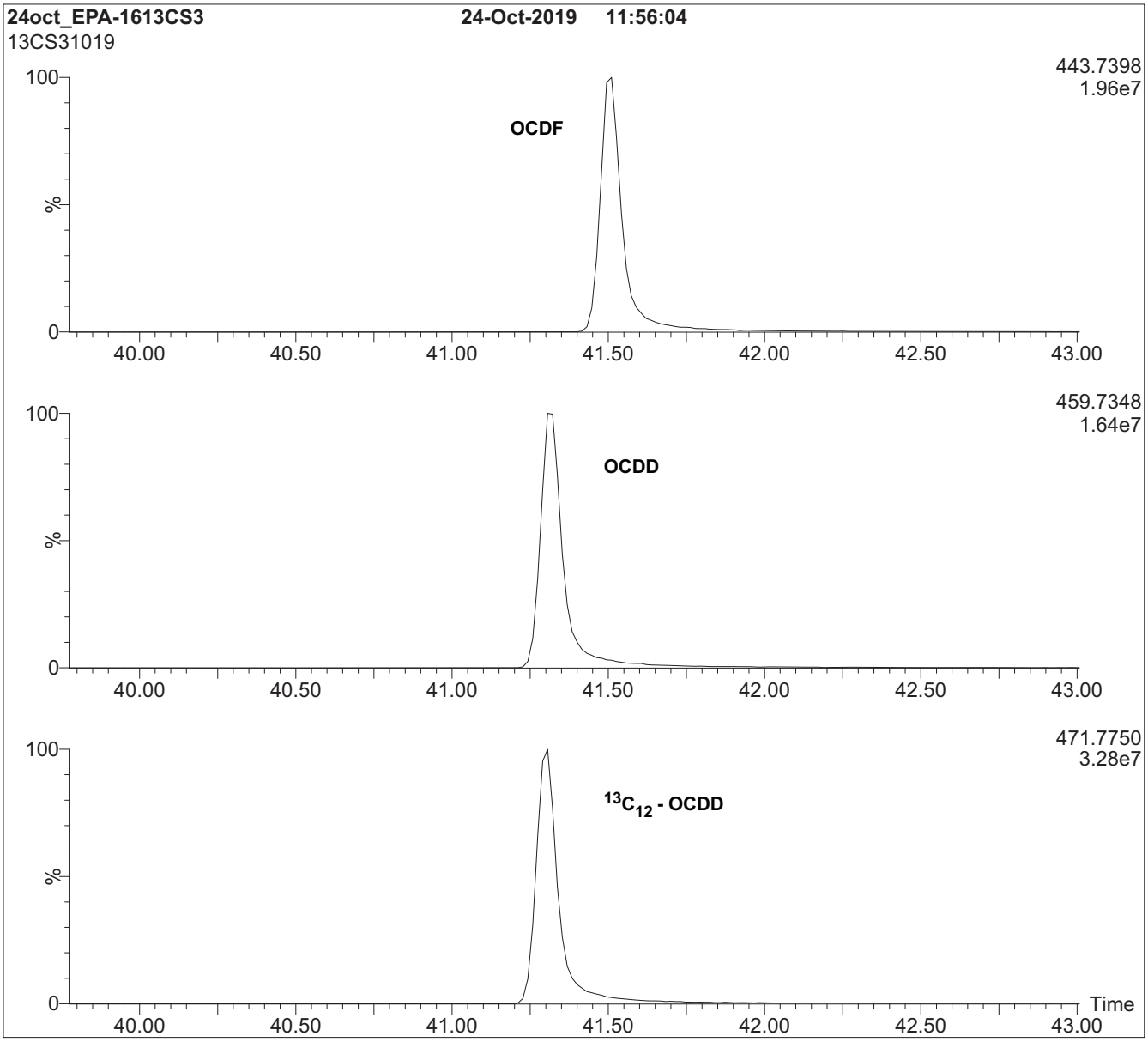


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS
U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005458
1613 CS4 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

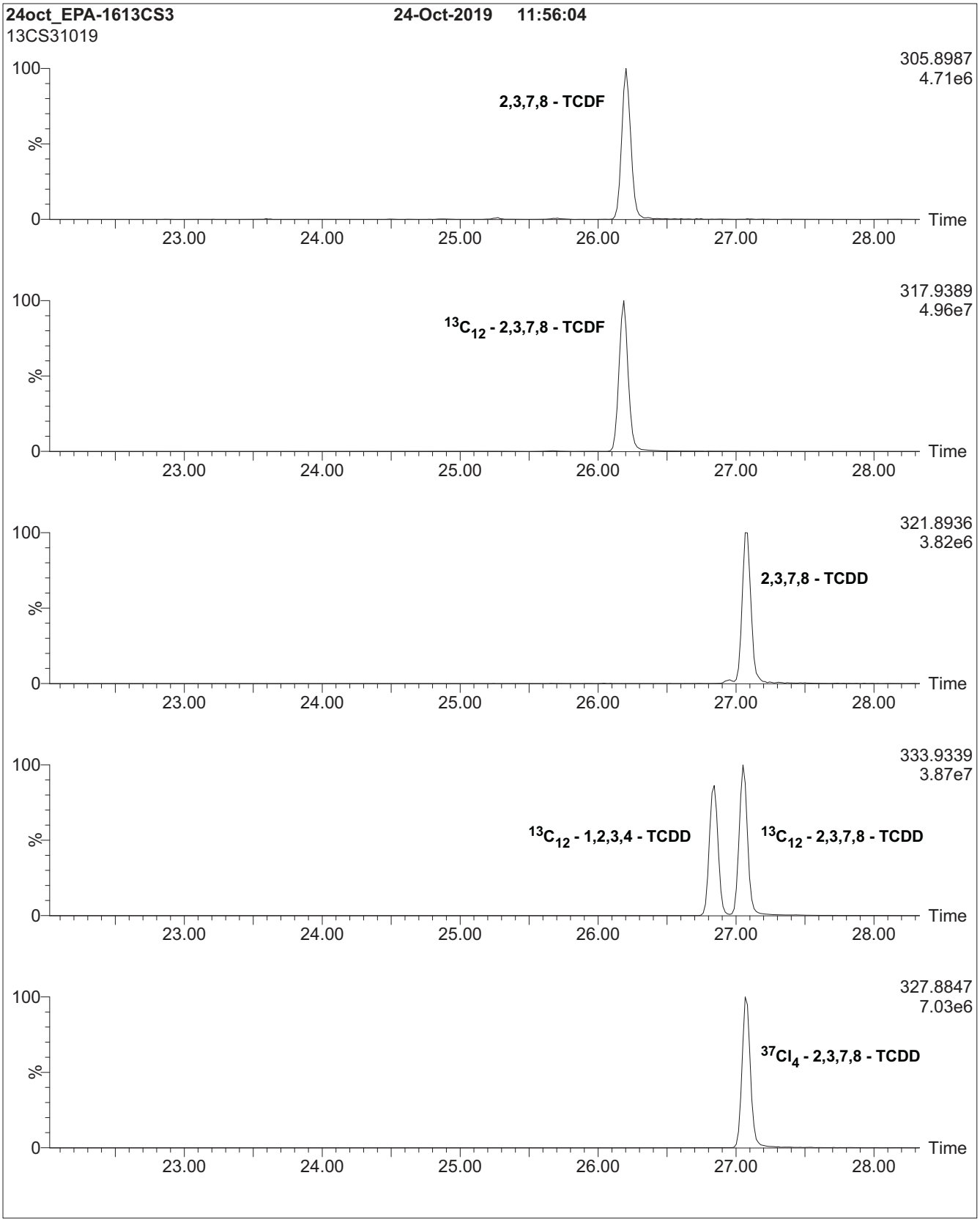


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

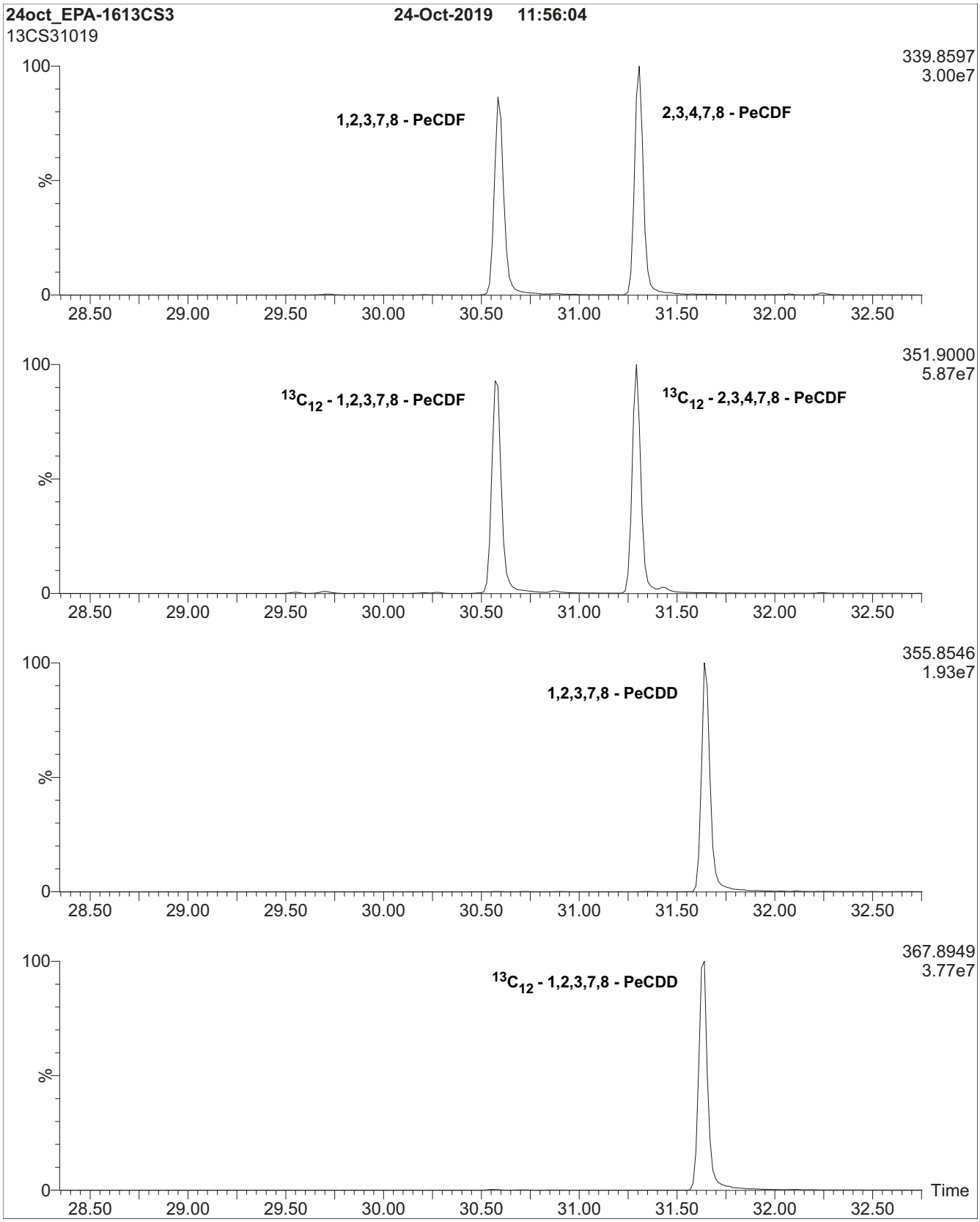


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

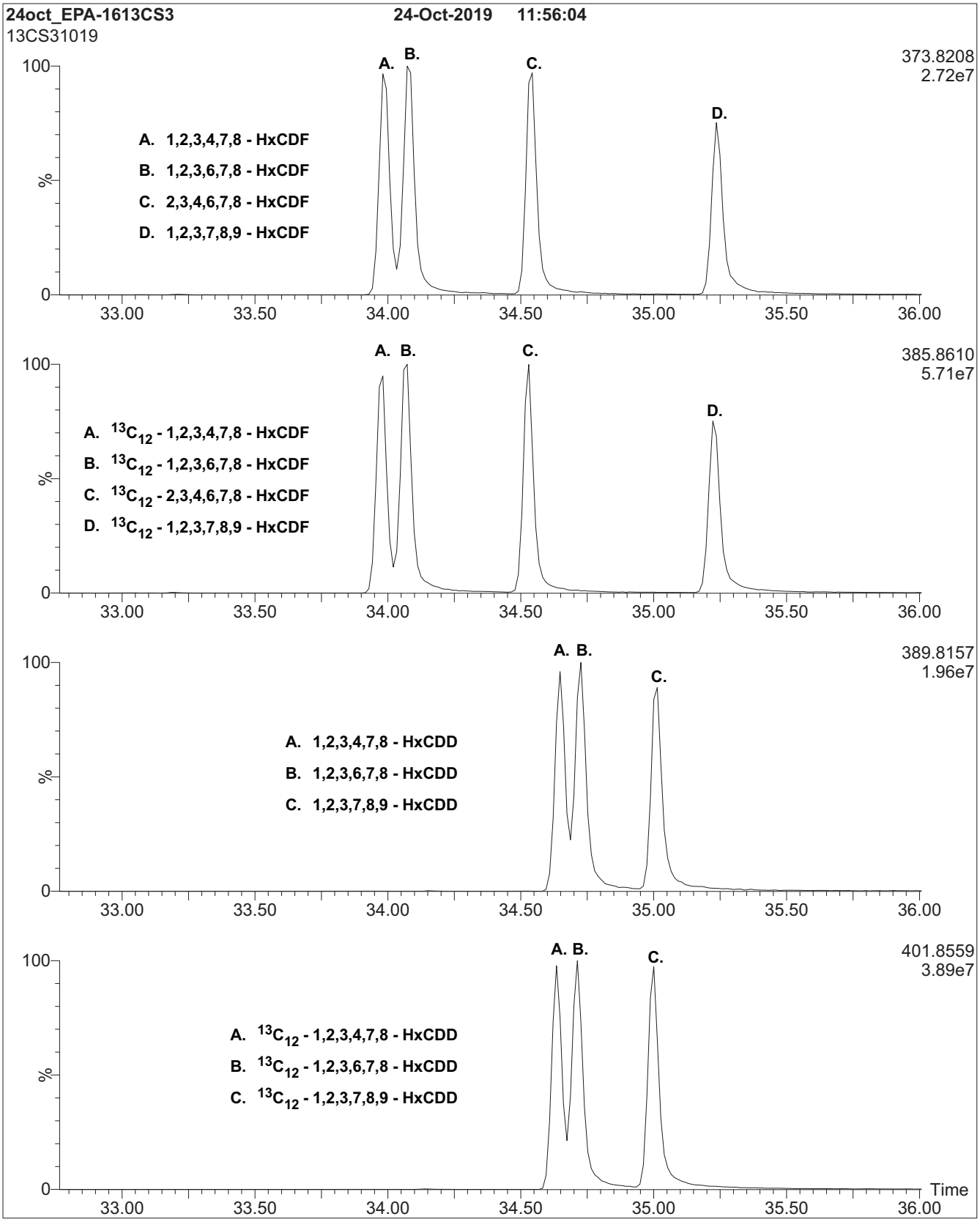


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

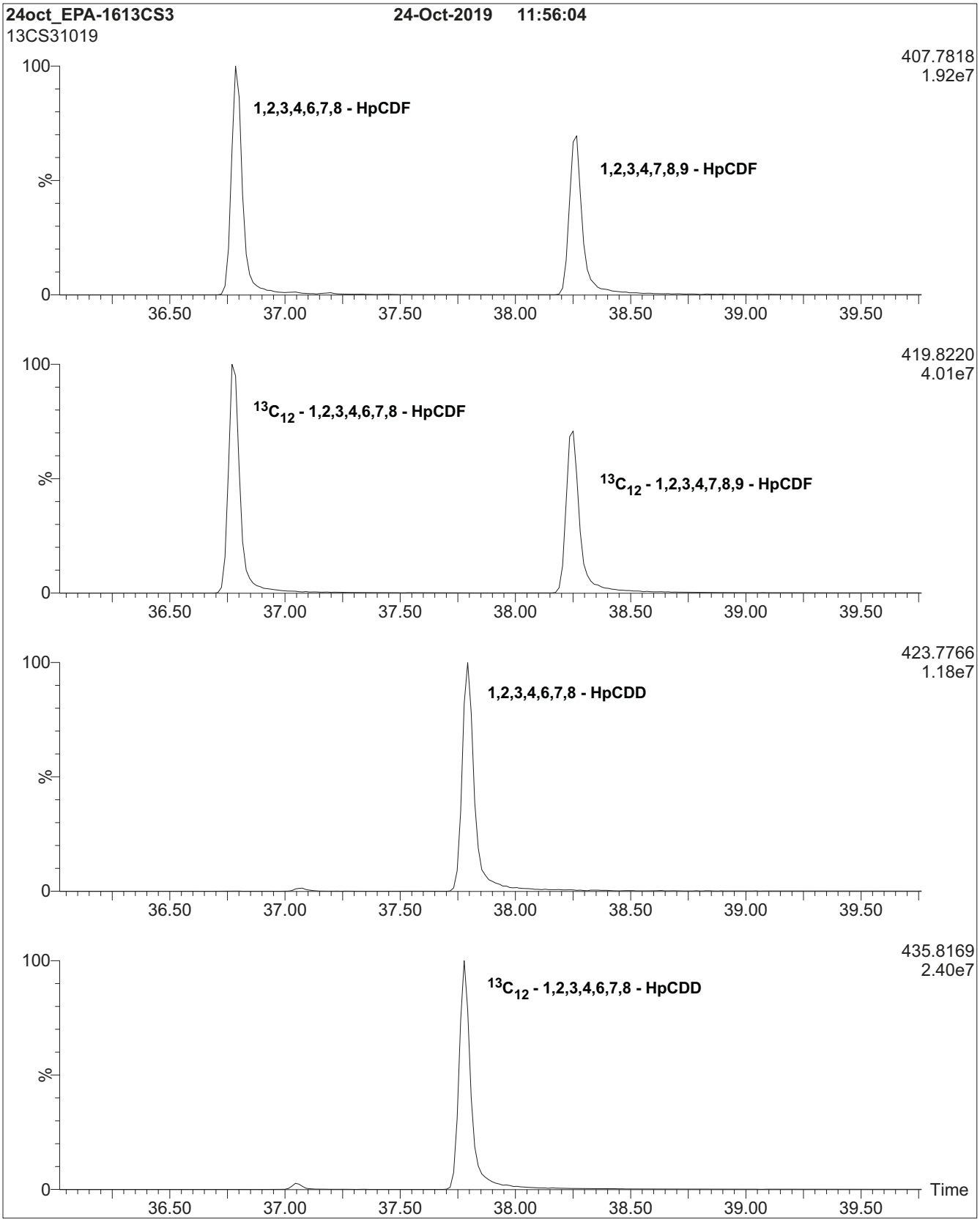
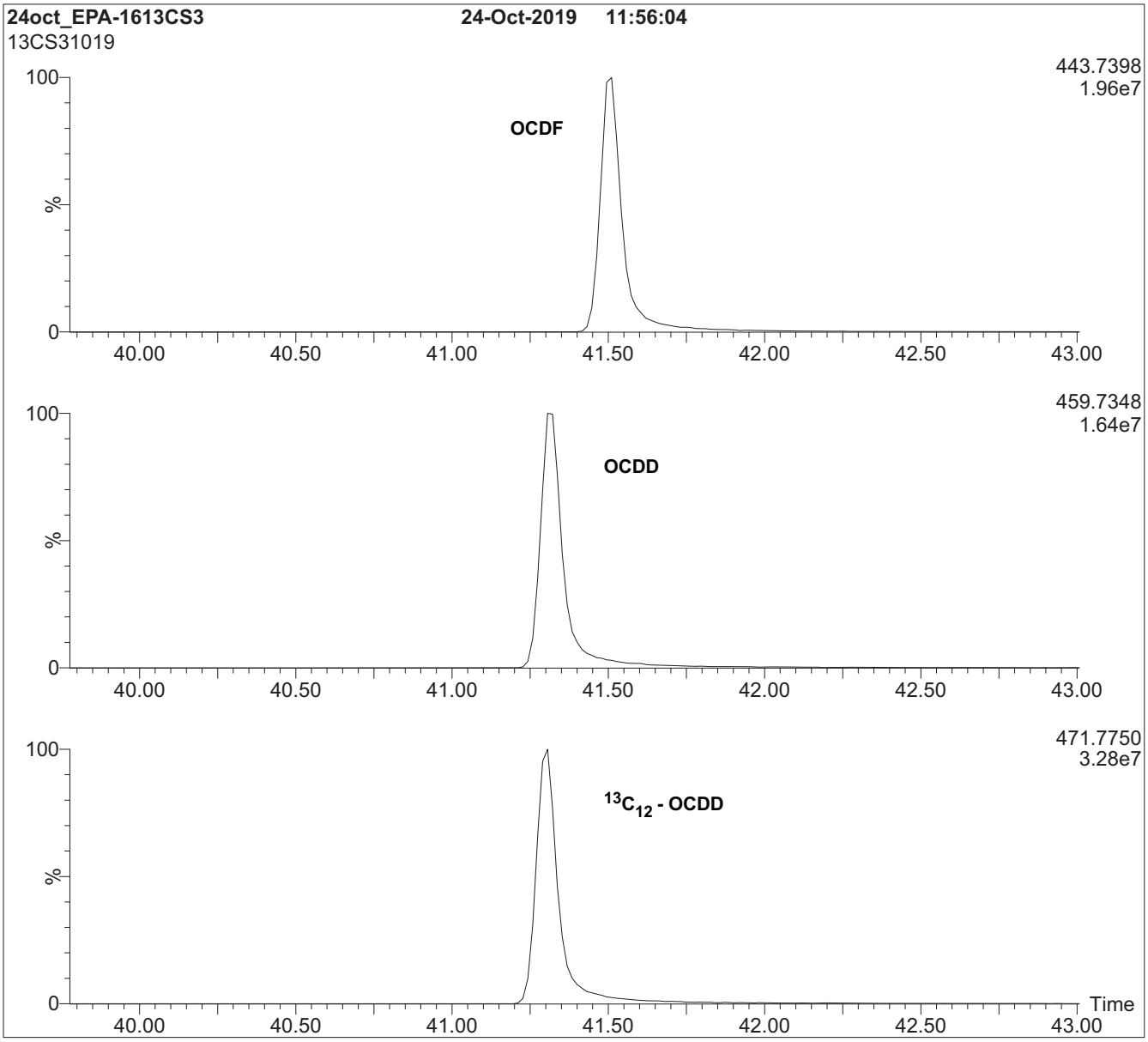


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS
U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005459
1613 CS5 CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

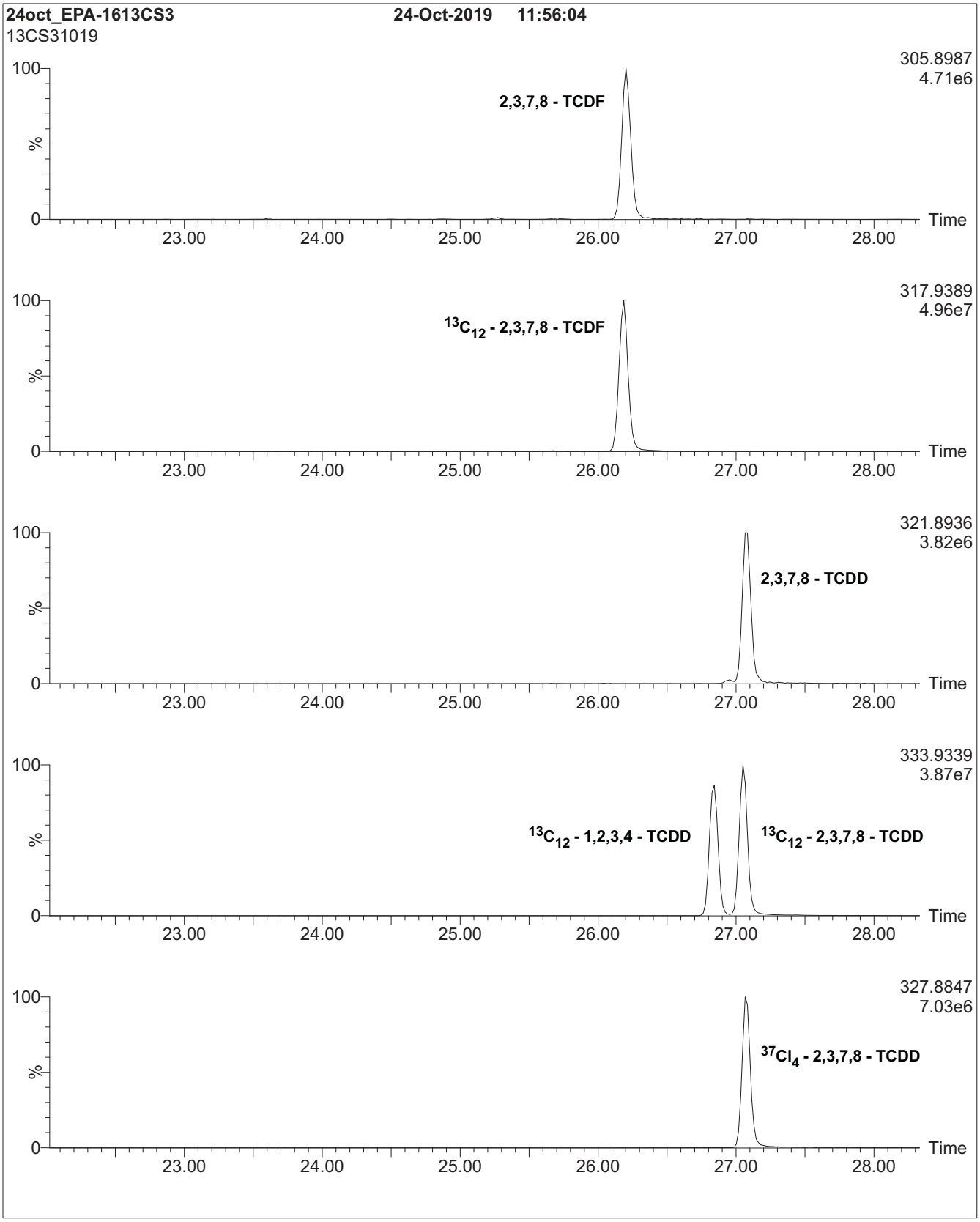


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

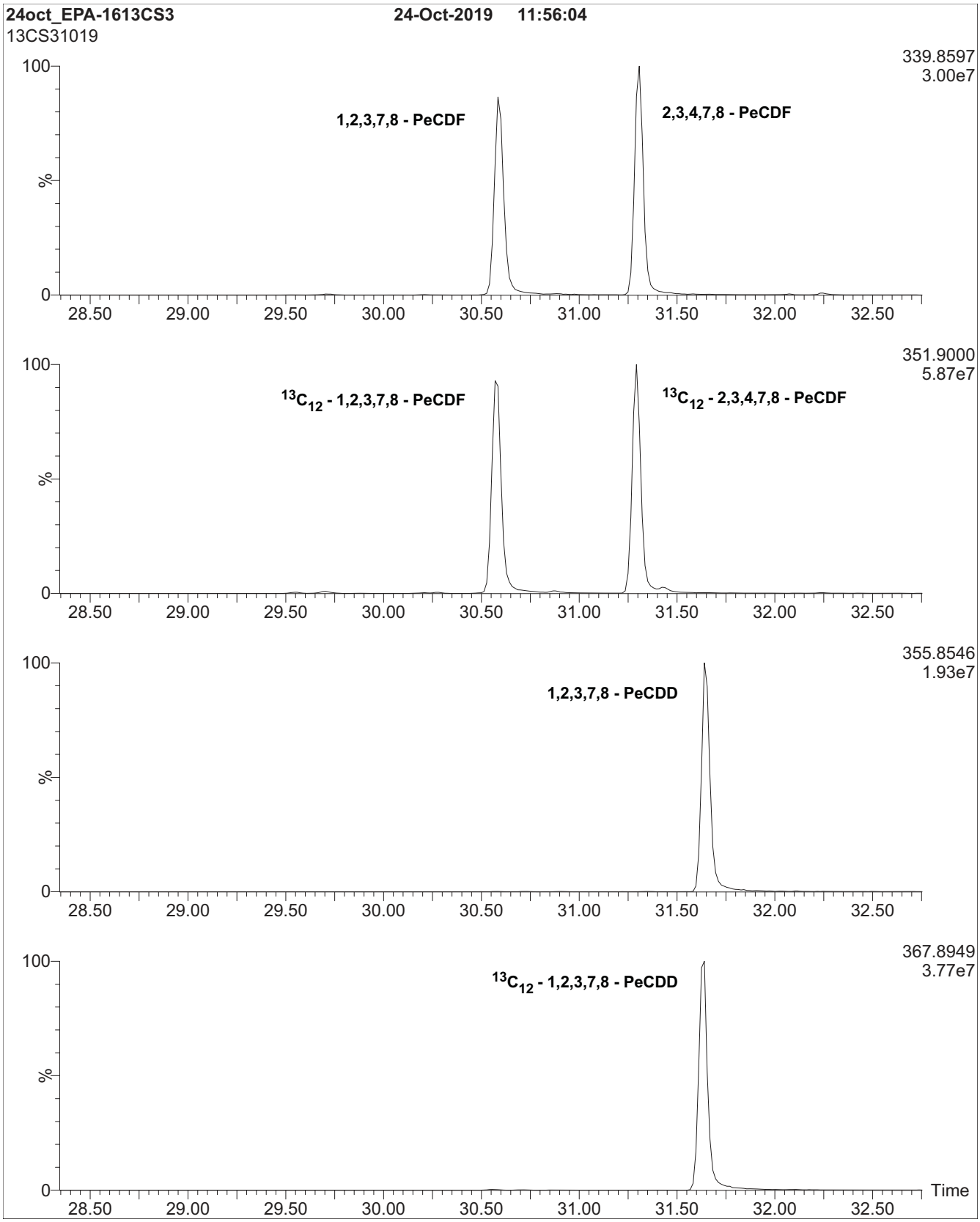


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

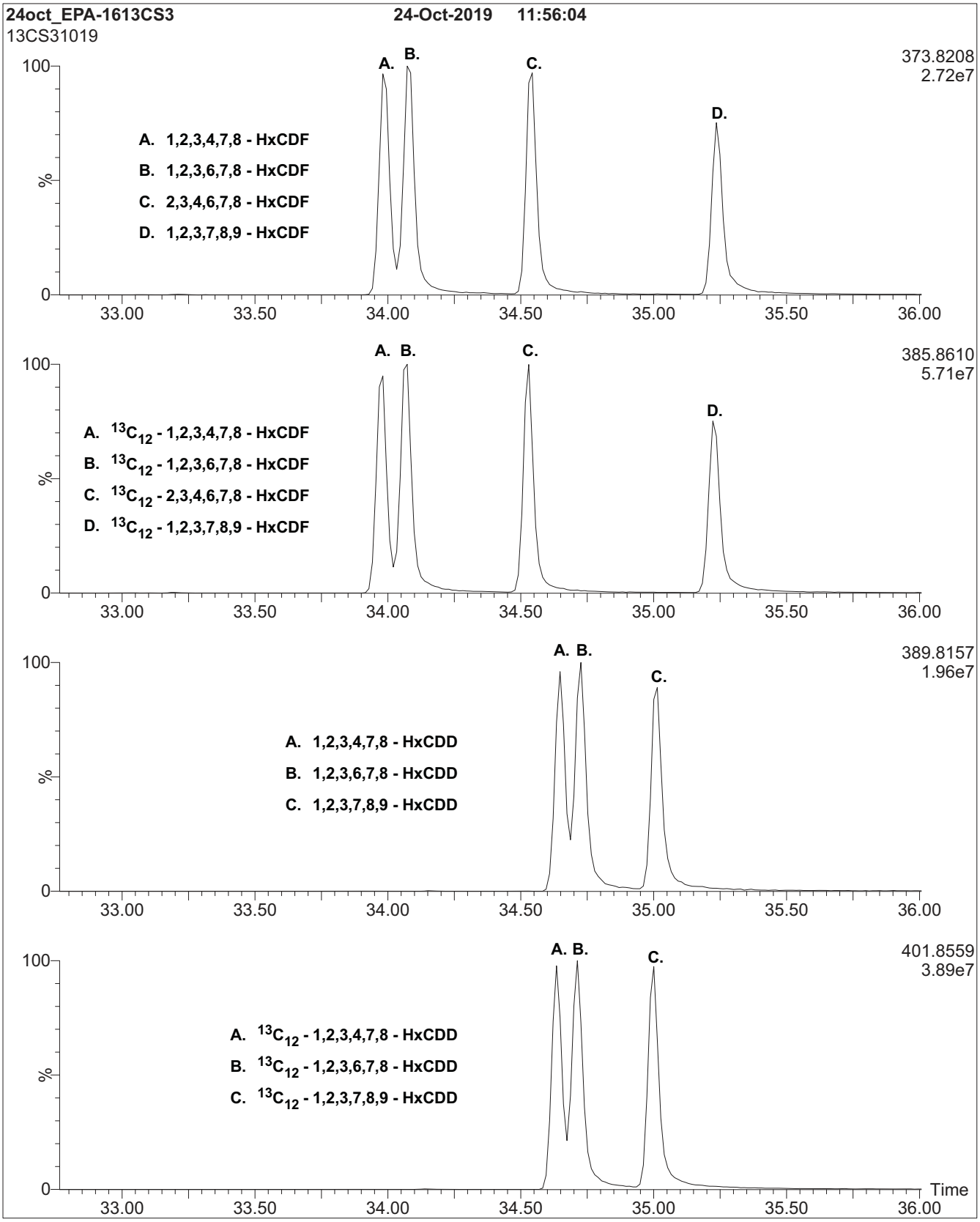


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

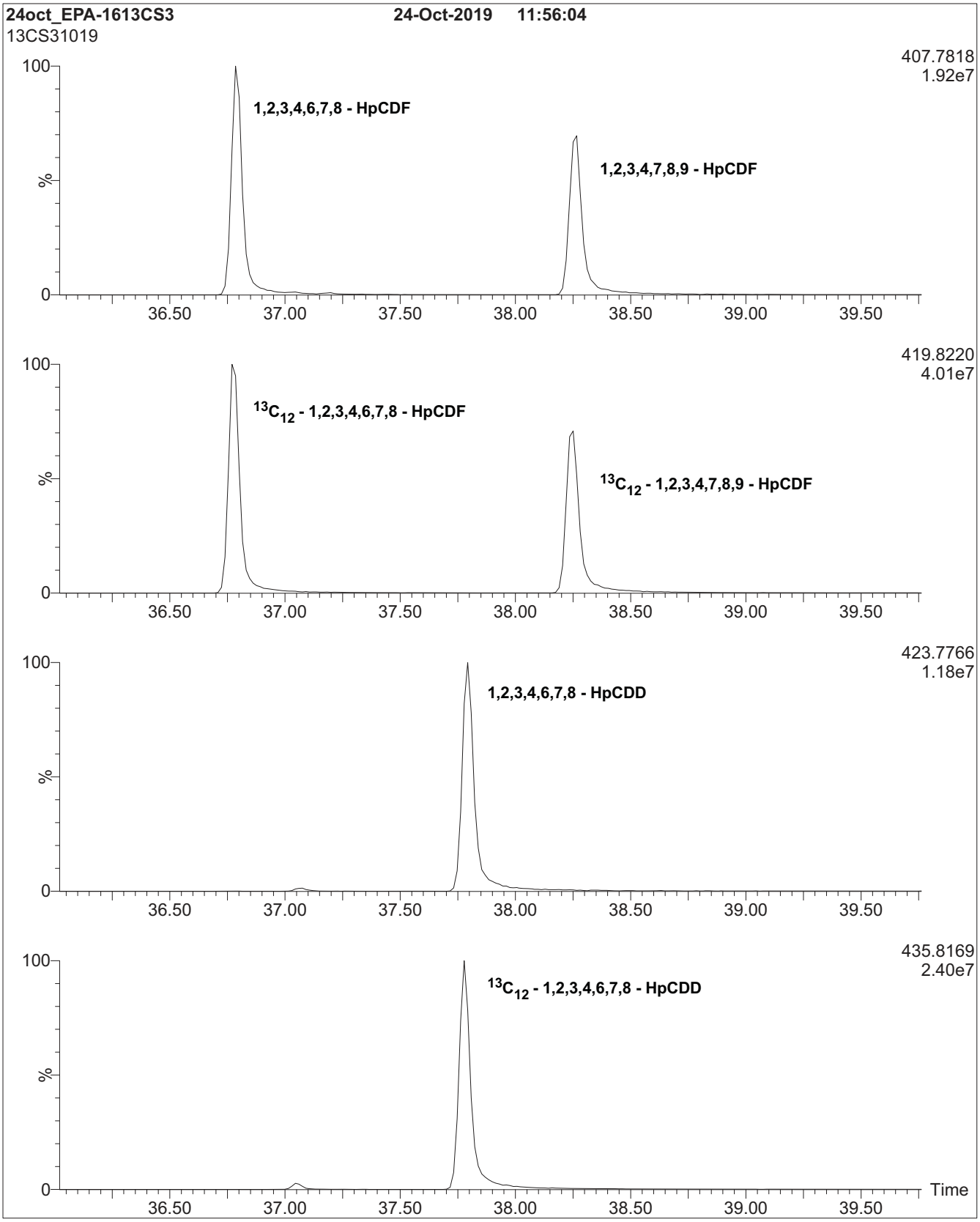
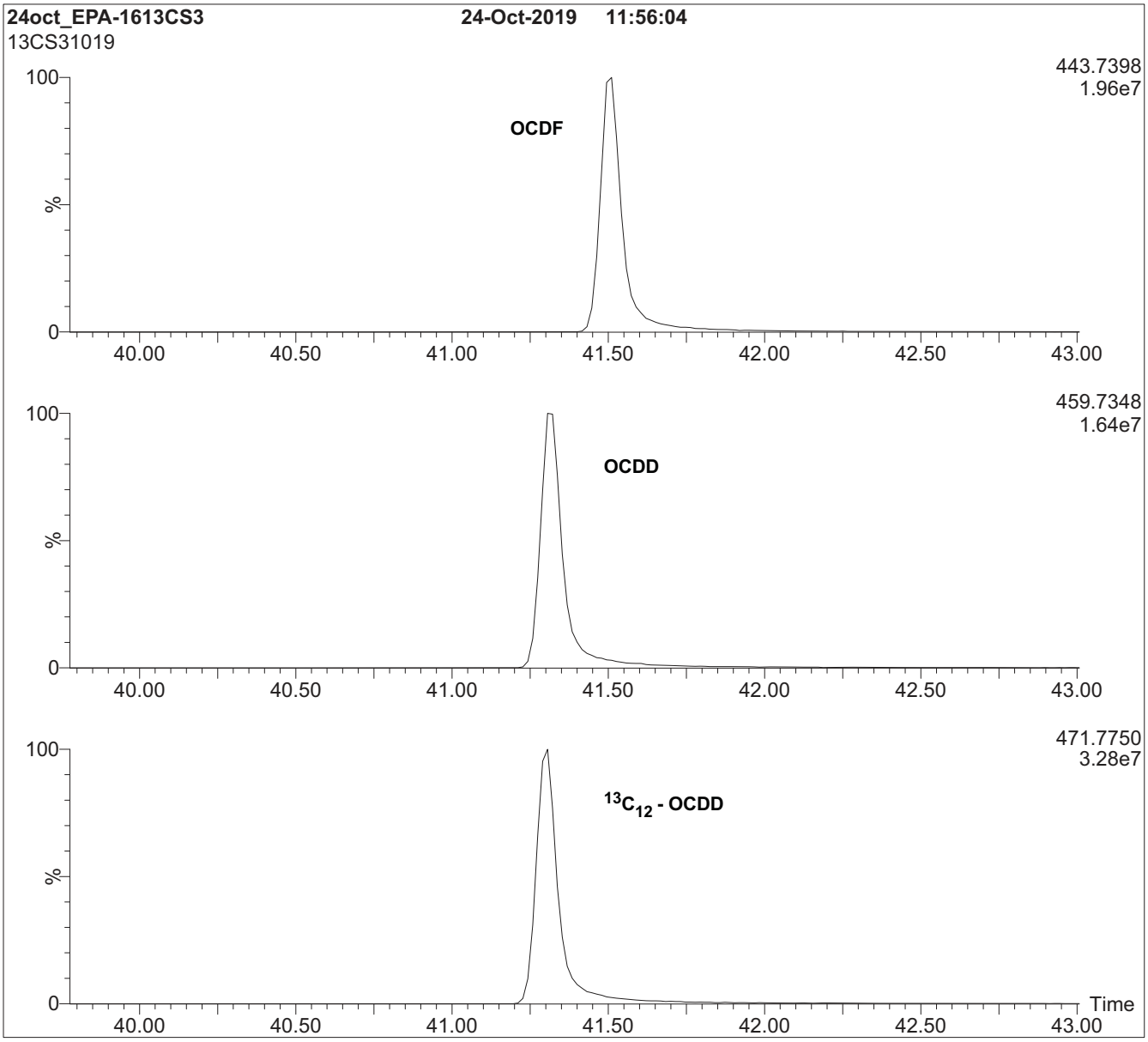


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613CVS
U.S. EPA Method 1613 Calibration and Verification Solutions
plus Supplemental Calibration Solutions EPA-1613CSL & EPA-1613CS0.5

PRODUCT CODES:	EPA-1613CVS	**LOT NUMBERS:**	(see below)
	EPA-1613CS1		13CS11019
	EPA-1613CS2		13CS21019
	EPA-1613CS3		13CS31019
	EPA-1613CS4		13CS41019
	EPA-1613CS5		13CS51019

Note: EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to this calibration set that must be ordered separately.

EPA-1613CS0.5	13CS0.51019
EPA-1613CSL	13CSL1019

SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/22/2019
LAST TESTED: (mm/dd/yyyy)	10/24/2019
EXPIRY DATE: (mm/dd/yyyy)	10/24/2026
RECOMMENDED STORAGE:	Store ampoules in a cool, dark place

I005460
1613 CSL CAL STD
Expires 10/24/2026
Prepared By Joshua Rains 6/23/2020

DESCRIPTION:

EPA-1613CVS is a series of 5 calibration solutions containing native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$ and $^{37}Cl_4$) chlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs). The components of each solution, and their concentrations, are given in Table A.

They were designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B). They are to be used as received.

EPA-1613CSL and EPA-1613CS0.5 are lower level extensions to EPA-1613CVS. Neither is required by the method, but either or both can be used to extend the calibration to lower levels.

The individual native PCDDs and PCDFs all have chemical purities of >98%. The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-$^{37}Cl_4$-Tetrachlorodibenzo-p-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Table B: 5-point HRGC/HRMS Calibration and RRF Summary
Table C: 7-point HRGC/HRMS Calibration and RRF Summary
Figure 1: HRGC/HRMS Data for EPA-1613CS3 (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a series of standards for the identification and quantification of specific chemical compounds.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned values, and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analytes is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); Components and Concentrations (ng/ml, ± 5% in nonane/toluene)**

Compound	Concentration (ng/ml)						
Native PCDDs and PCDFs:	**CS1**	**CS2**	**CS3**	**CS4**	**CS5**	**CSL**	**CS0.5**
2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
2,3,7,8-TCDF	0.5	2	10	40	200	0.1	0.25
1,2,3,7,8-PeCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,7,8-PeCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,7,8,9-HxCDF	2.5	10	50	200	1000	0.5	1.25
2,3,4,6,7,8-HxCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDD	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,6,7,8-HpCDF	2.5	10	50	200	1000	0.5	1.25
1,2,3,4,7,8,9-HpCDF	2.5	10	50	200	1000	0.5	1.25
OCDD	5.0	20	100	400	2000	1.0	2.5
OCDF	5.0	20	100	400	2000	1.0	2.5
Labelled PCDDs and PCDFs:							
$^{13}C_{12}$-2,3,7,8-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,7,8-TCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100	100	100	100	100	100	100
$^{13}C_{12}$-OCDD	200	200	200	200	200	200	200
Cleanup Standard:							
$^{37}Cl_4$-2,3,7,8-TCDD	0.5	2	10	40	200	0.1	0.25
Internal Standards:							
$^{13}C_{12}$-1,2,3,4-TCDD	100	100	100	100	100	100	100
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	100	100	100	100	100	100	100
Percent toluene (v/v)	3.6%	3.7%	4.2%	6.1%	16.2%	3.6%	3.6%

Certified By: _____ **Date:** 10/25/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Table B: **EPA-1613CVS; 5-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard				
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5
2,3,7,8-TCDF	0.93	0.013	1.4	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.015	1.6	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.04	0.019	1.8	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.035	3.7	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.93	0.013	1.4	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.96	0.022	2.3	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.89	0.021	2.4	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.91	0.011	1.2	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.010	1.1	0.90	0.90	0.92	0.91	0.92
OCDF	1.19	0.056	4.7	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.05	0.023	2.2	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.97	0.018	1.9	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	1.00	0.019	1.9	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.98	0.032	3.2	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.97	0.016	1.6	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.025	2.5	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.013	1.3	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.57	0.047	3.0	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.21	0.078	6.5	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.17	0.081	6.9	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.020	1.5	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.51	0.034	2.2	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.38	0.012	0.9	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.014	1.2	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.033	2.5	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.08	0.046	4.3	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.13	0.036	3.2	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.79	0.047	5.9	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.027	3.1	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.04	0.010	1.0	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.017	2.1	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.74	0.055	7.4	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.026	2.6	0.95	0.94	0.99	0.99	0.99

Table C: **EPA-1613CVS (with EPA-1613CSL and EPA-1613CS0.5); 7-point HRGC/HRMS Calibration and RRF Summary**

Calibration RRF Summary				Calibration Standard						
Calibration Filename: 24oct_EPA1613CVS-CAL.QLD				CSL	CS0.5	CS1	CS2	CS3	CS4	CS5
Name	Mean	S. D.	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6	RRF#7
2,3,7,8-TCDF	0.92	0.045	4.8	0.96	0.83	0.92	0.95	0.93	0.92	0.95
1,2,3,7,8-PeCDF	0.93	0.013	1.4	0.94	0.92	0.92	0.92	0.93	0.93	0.95
2,3,4,7,8-PeCDF	1.02	0.058	5.7	0.90	1.00	1.03	1.02	1.05	1.05	1.07
1,2,3,4,7,8-HxCDF	0.96	0.029	3.0	0.96	0.97	0.94	0.92	0.98	0.99	1.00
1,2,3,6,7,8-HxCDF	0.92	0.030	3.3	0.90	0.86	0.92	0.94	0.94	0.91	0.94
2,3,4,6,7,8-HxCDF	0.94	0.047	5.0	0.87	0.89	0.95	0.94	0.97	0.97	0.99
1,2,3,7,8,9-HxCDF	0.88	0.029	3.3	0.83	0.88	0.87	0.88	0.90	0.90	0.92
1,2,3,4,6,7,8-HpCDF	0.90	0.033	3.7	0.83	0.93	0.90	0.90	0.90	0.92	0.92
1,2,3,4,7,8,9-HpCDF	0.91	0.018	1.9	0.89	0.94	0.90	0.90	0.92	0.91	0.92
OCDF	1.18	0.052	4.4	1.15	1.14	1.11	1.17	1.19	1.23	1.26
2,3,7,8-TCDD	1.03	0.051	5.0	1.03	0.92	1.01	1.06	1.05	1.05	1.07
1,2,3,7,8-PeCDD	0.95	0.042	4.4	0.87	0.98	0.95	0.95	0.98	0.97	0.99
1,2,3,4,7,8-HxCDD	0.97	0.066	6.8	0.83	0.98	1.01	1.00	1.00	0.96	1.01
1,2,3,6,7,8-HxCDD	0.96	0.044	4.5	0.90	0.92	0.93	0.98	0.99	1.01	1.01
1,2,3,7,8,9-HxCDD	0.94	0.054	5.7	0.83	0.92	0.95	0.96	0.98	0.99	0.98
1,2,3,4,6,7,8-HpCDD	1.01	0.033	3.3	0.95	1.03	1.01	0.97	1.02	1.03	1.04
OCDD	1.00	0.023	2.3	0.95	1.00	1.00	0.99	1.02	1.02	1.00
$^{13}C_{12}$-2,3,7,8-TCDF	1.56	0.042	2.7	1.52	1.54	1.52	1.55	1.55	1.57	1.65
$^{13}C_{12}$-1,2,3,7,8-PeCDF	1.20	0.066	5.5	1.18	1.17	1.13	1.20	1.17	1.20	1.34
$^{13}C_{12}$-2,3,4,7,8-PeCDF	1.16	0.071	6.1	1.12	1.13	1.09	1.15	1.13	1.17	1.31
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	1.33	0.018	1.4	1.32	1.35	1.35	1.33	1.33	1.32	1.30
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	1.53	0.045	3.0	1.60	1.56	1.47	1.48	1.53	1.53	1.54
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	1.39	0.019	1.4	1.39	1.42	1.38	1.38	1.40	1.37	1.36
$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	1.19	0.012	1.0	1.19	1.19	1.18	1.16	1.20	1.19	1.20
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	1.31	0.028	2.2	1.30	1.33	1.31	1.26	1.33	1.31	1.35
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	1.07	0.045	4.2	1.02	1.08	1.06	1.03	1.09	1.08	1.15
$^{13}C_{12}$-2,3,7,8-TCDD	1.12	0.033	3.0	1.09	1.11	1.10	1.11	1.11	1.13	1.19
$^{13}C_{12}$-1,2,3,7,8-PeCDD	0.78	0.040	5.1	0.75	0.78	0.74	0.78	0.75	0.79	0.86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	0.87	0.025	2.9	0.86	0.90	0.85	0.83	0.89	0.88	0.89
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	1.05	0.015	1.5	1.08	1.06	1.05	1.05	1.04	1.05	1.03
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	0.81	0.016	2.0	0.79	0.81	0.81	0.80	0.80	0.81	0.84
$^{13}C_{12}$-OCDD	0.73	0.046	6.3	0.71	0.72	0.70	0.70	0.73	0.72	0.83
$^{13}C_{12}$-1,2,3,4-TCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.00	0.000	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
$^{37}Cl_4$-2,3,7,8-TCDD	0.97	0.053	5.4	0.90	1.07	0.95	0.94	0.99	0.99	0.99

Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

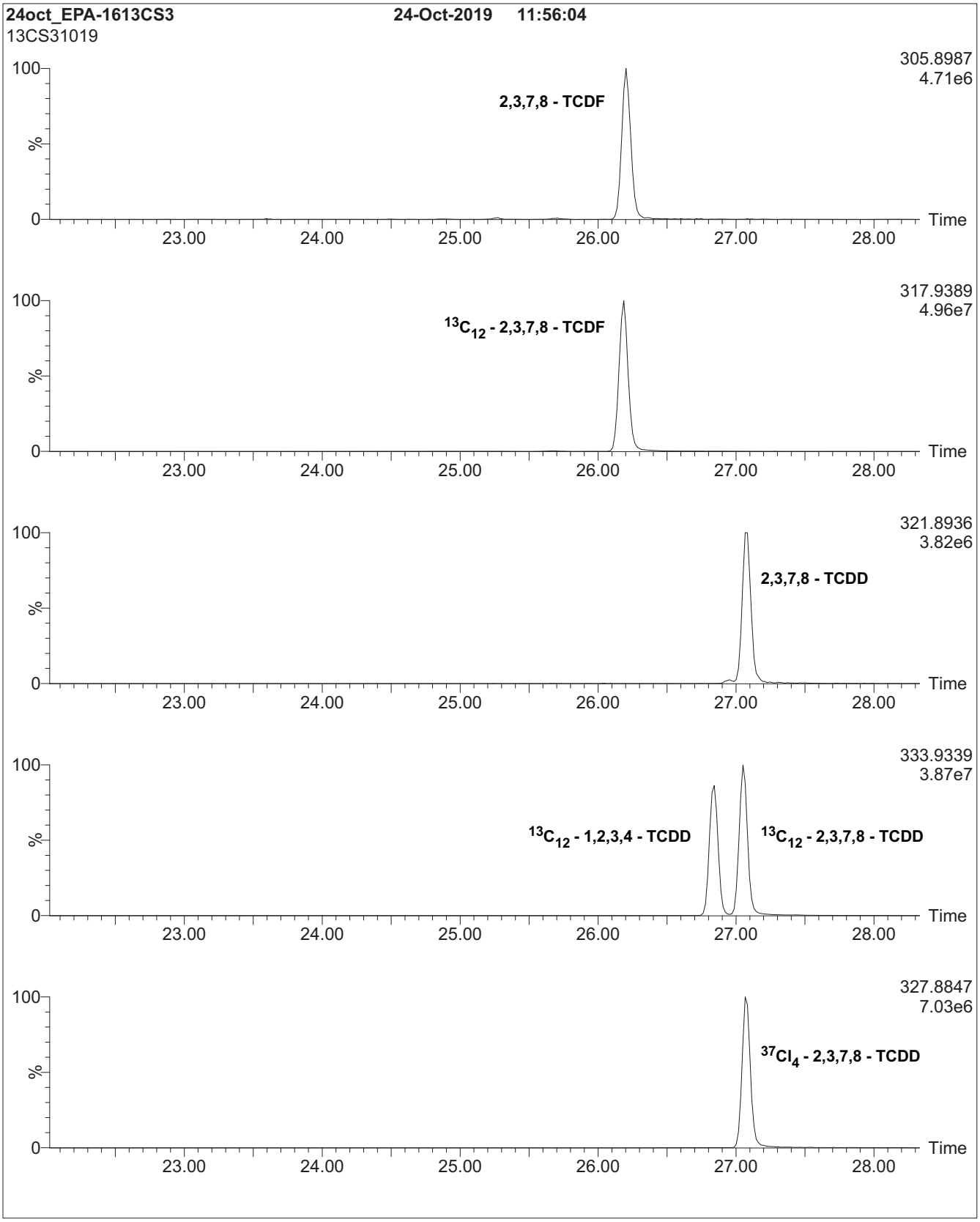


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

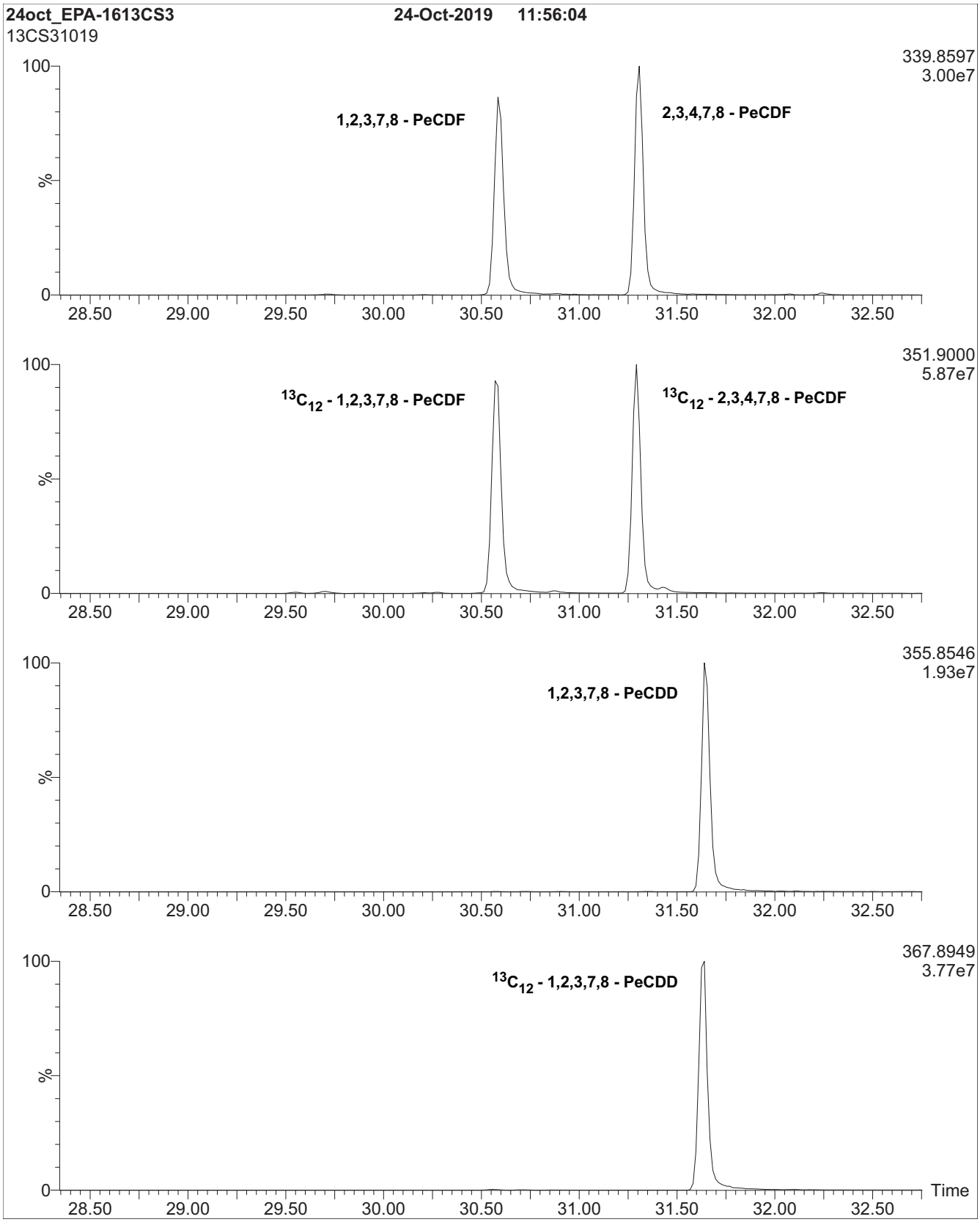


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

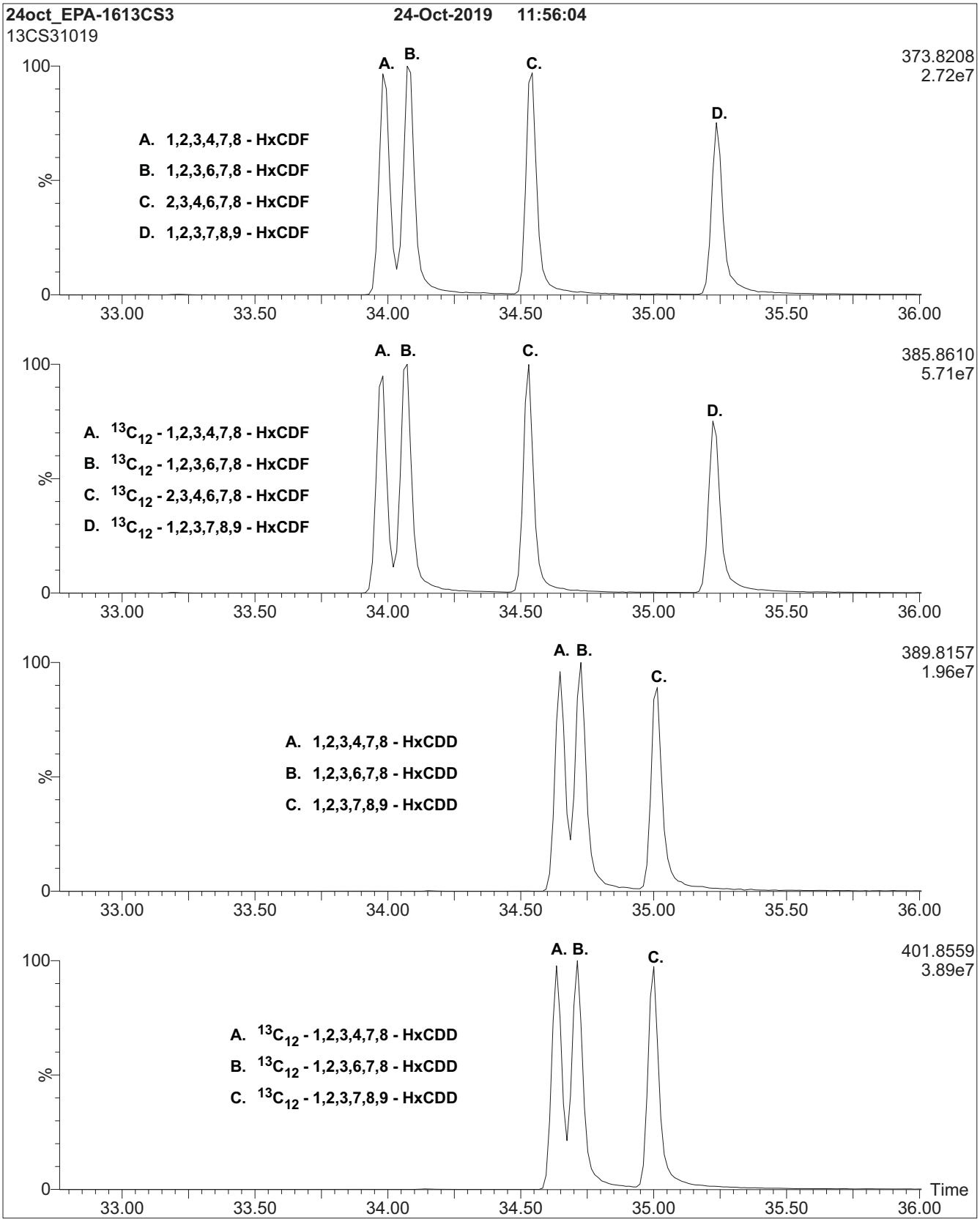


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

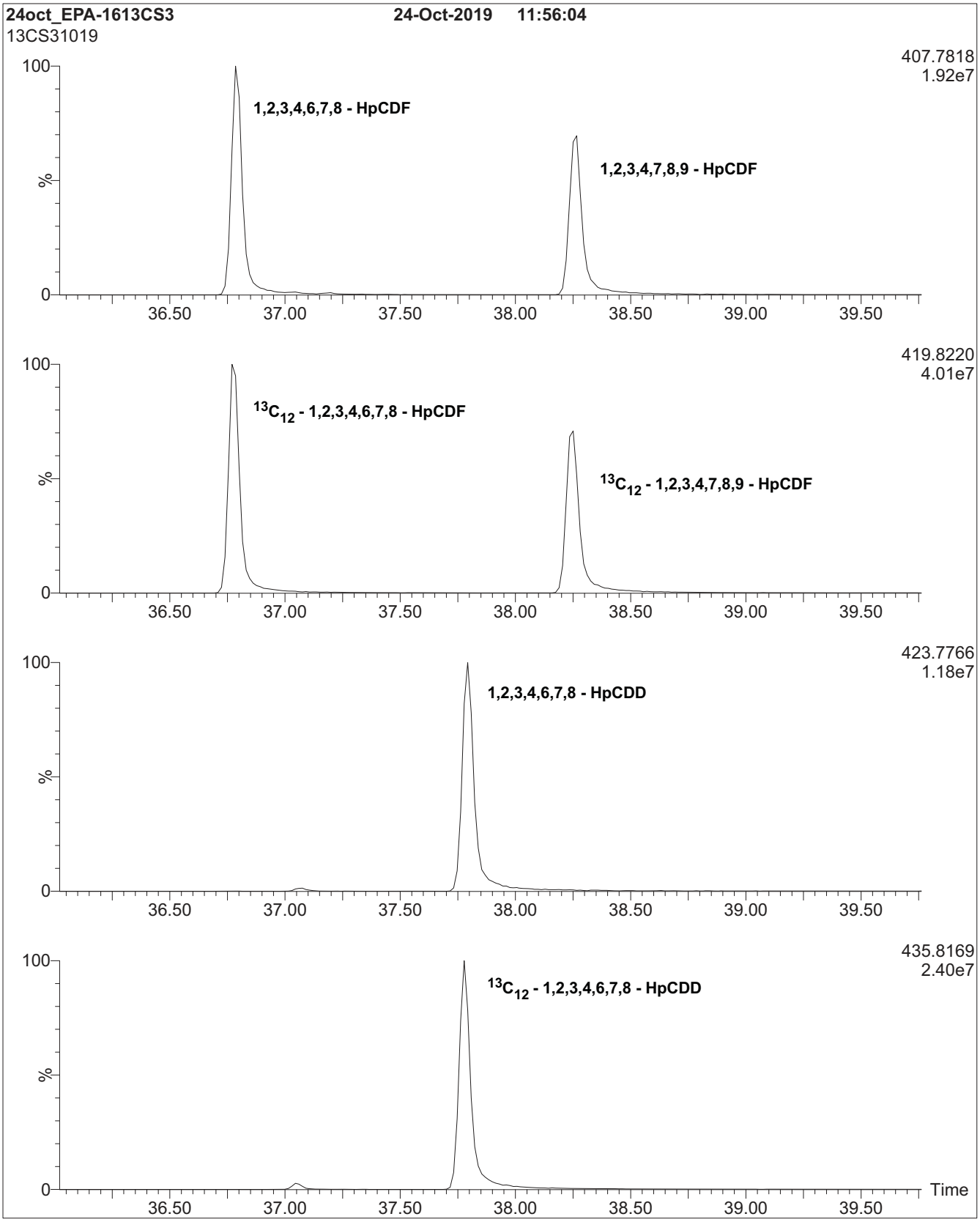
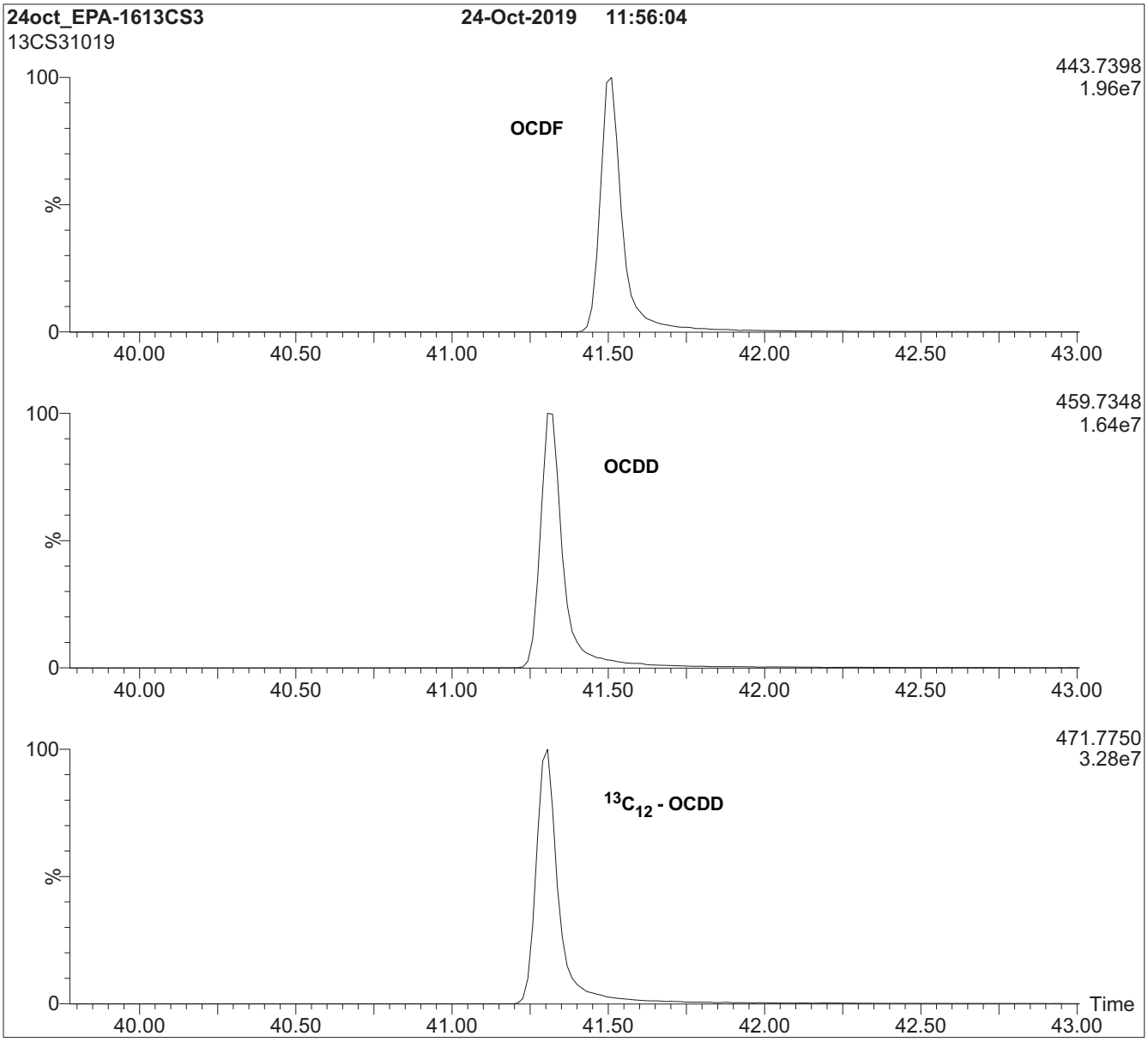


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



HRGC/HRMS:

Agilent 6890N (HRGC)
Autospec Ultima (HRMS)

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 ml/min	Oven:	150 °C (1 min)
Injector:	280 °C (Splitless Injection)		12 °C/min to 200 °C
Ionization:	EI+		3 °C/min to 235 °C
Detector:	280 °C		235 °C (8 min)
	SIR at 10,000 mass resolving power		8 °C/min to 310 °C
			310 °C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

CS3WT

Calibration and Verification Solution (EPA-1613CS3) combined with Window Defining and 2,3,7,8-TCDD Resolution Testing Congeners

PRODUCT CODE:	CS3WT
LOT NUMBER:	CS3WT1020
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	12/02/2020
LAST TESTED: (mm/dd/yyyy)	12/10/2020
EXPIRY DATE: (mm/dd/yyyy)	12/10/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

J001522

1613 CS3WT CCAL STD
Expires 12/10/2027
Prepared By Joshua Rains 2/10/2021

DESCRIPTION:

CS3WT is a solution/mixture of native ($^{12}C_{12}$) and mass-labelled ($^{13}C_{12}$) polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Tables A and B.

CS3WT is an HRGC/HRMS calibration solution that was designed and prepared to be used according to U.S. EPA Method 1613, Revision B, in place of EPA-1613CS3 (lot: 13CS31020). Additionally, it contains the PCDD and PCDF isomers required to set retention time windows as well as test and establish isomer specificity for 2,3,7,8-TCDD on a DB-5 (or equivalent) capillary column.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%. The 2,3,7,8-($^{37}Cl_4$)tetrachlorodibenzo-*p*-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%. The individual native 2,3,7,8-substituted PCDD and PCDF congeners all have chemical purities of >98%; the other congeners (window defining and resolution testing) should only be considered semi-quantitative.

This current lot of CS3WT is to be used with the 1613 calibration solutions having the following lot numbers:

PRODUCT CODE	LOT NUMBER
EPA-1613CS1	13CS11020
EPA-1613CS2	13CS21020
EPA-1613CS3	13CS31020
EPA-1613CS4	13CS41020
EPA-1613CS5	13CS51020
EPA-1613CSL	13CSL1020
EPA-1613CS0.5	13CS0.51020

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

DOCUMENTATION/ DATA ATTACHED:

Table A: Quantitative Components and Concentrations of the Solution/Mixture
Table B: Semi-Quantitative Components and Concentrations of the Solution/Mixture
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 3 for further details.
- Only the 2,3,7,8-substituted PCDDs and PCDFs should be used for quantitation. The other congeners (window defining and 2,3,7,8-TCDD resolution testing) should be considered semi-quantitative (within ±20% of their design value). Impurities have been identified where possible.

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) has been assigned to the quantitative components in this product. A maximum combined percent relative uncertainty of ±20% has been assigned to the semi-quantitative components in this product.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **CS3WT; Quantitative Components and Concentrations (ng/mL, ± 5%, in nonane/4.5% toluene)**

Compound		Acronym	CAS #	Concentration (ng/mL)
Native PCDDs:	**Designation[a]**			
2,3,7,8-Tetrachlorodibenzo-*p*-dioxin		2,3,7,8-TCDD	1746-01-6	10.0
1,2,3,7,8-Pentachlorodibenzo-*p*-dioxin		1,2,3,7,8-PeCDD	40321-76-4	50.0
1,2,3,4,7,8-Hexachlorodibenzo-*p*-dioxin		1,2,3,4,7,8-HxCDD	39227-28-6	50.0
1,2,3,6,7,8-Hexachlorodibenzo-*p*-dioxin		1,2,3,6,7,8-HxCDD	57653-85-7	50.0
1,2,3,7,8,9-Hexachlorodibenzo-*p*-dioxin	Last HxCDD[b]	1,2,3,7,8,9-HxCDD	19408-74-3	50.0
1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin	Last HpCDD	1,2,3,4,6,7,8-HpCDD	35822-46-9	50.0
Octachlorodibenzo-*p*-dioxin		OCDD	3268-87-9	100
Native PCDFs:	**Designation[a]**			
2,3,7,8-Tetrachlorodibenzofuran		2,3,7,8-TCDF	51207-31-9	10.0
1,2,3,7,8-Pentachlorodibenzofuran		1,2,3,7,8-PeCDF	57117-41-6	50.0
2,3,4,7,8-Pentachlorodibenzofuran		2,3,4,7,8-PeCDF	57117-31-4	50.0
1,2,3,4,7,8-Hexachlorodibenzofuran		1,2,3,4,7,8-HxCDF	70648-26-9	50.0
1,2,3,6,7,8-Hexachlorodibenzofuran		1,2,3,6,7,8-HxCDF	57117-44-9	50.0
1,2,3,7,8,9-Hexachlorodibenzofuran		1,2,3,7,8,9-HxCDF	72918-21-9	50.0
2,3,4,6,7,8-Hexachlorodibenzofuran		2,3,4,6,7,8-HxCDF	60851-34-5	50.0
1,2,3,4,6,7,8-Heptachlorodibenzofuran	First HpCDF[c]	1,2,3,4,6,7,8-HpCDF	67562-39-4	50.0
1,2,3,4,7,8,9-Heptachlorodibenzofuran	Last HpCDF	1,2,3,4,7,8,9-HpCDF	55673-89-7	50.0
Octachlorodibenzofuran		OCDF	39001-02-0	100
Mass-Labelled PCDDs:				
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-2,3,7,8-TCDD	76523-40-5	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,7,8-PeCDD	109719-79-1	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109719-80-4	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	109719-81-5	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	109719-83-7	100
Octachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-OCDD	114423-97-1	200
Mass-Labelled PCDFs:				
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-2,3,7,8-TCDF	89059-46-1	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,7,8-PeCDF	109719-77-9	100
2,3,4,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-2,3,4,7,8-PeCDF	116843-02-8	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	114423-98-2	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	116843-03-9	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	116843-04-0	100
2,3,4,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	116843-05-1	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109719-84-8	100
1,2,3,4,7,8,9-Heptachloro($^{13}C_{12}$)dibenzofuran		$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	109719-94-0	100
Cleanup Standard:				
2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin		$^{37}Cl_4$-2,3,7,8-TCDD	85508-50-5	10.0
Internal Standards:				
1,2,3,4-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,4-TCDD	114423-99-3	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin		$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	109719-82-6	100

[a] First/Last eluting isomer for the specified homologue group (see Table B for additional Window Definers).
[b, c] – see Table B for footnote.

Table B: **CS3WT; Semi-Quantitative Components and Concentrations (ng/mL, ± 20%, in nonane/4.5% toluene)**

Compound		Acronym	CAS #	Concentration (ng/mL)
PCDD Window Definers:	**Designation[a]**			
1,3,6,8-Tetrachlorodibenzo-*p*-dioxin	First TCDD	1,3,6,8-TCDD	33423-92-6	10.0
1,2,8,9-Tetrachlorodibenzo-*p*-dioxin	Last TCDD	1,2,8,9-TCDD	62470-54-6	10.0
1,2,4,6,8-/1,2,4,7,9-Pentachlorodibenzo-*p*-dioxin	First PeCDD	1,2,4,6,8-PeCDD 1,2,4,7,9-PeCDD	71998-76-0 82291-37-0	50.0[d]
1,2,3,8,9-Pentachlorodibenzo-*p*-dioxin	Last PeCDD	1,2,3,8,9-PeCDD	71925-18-3	50.0
1,2,4,6,7,9-Hexachlorodibenzo-*p*-dioxin	First HxCDD	1,2,4,6,7,9-HxCDD	39227-62-8	50.0
1,2,3,4,6,7,9-Heptachlorodibenzo-*p*-dioxin	First HpCDD	1,2,3,4,6,7,9-HpCDD	58200-70-7	50.0
PCDF Window Definers:	**Designation[a]**			
1,3,6,8-Tetrachlorodibenzofuran	First TCDF	1,3,6,8-TCDF	71998-72-6	10.0
1,2,8,9-Tetrachlorodibenzofuran	Last TCDF	1,2,8,9-TCDF	70648-22-5	10.0
1,3,4,6,8-Pentachlorodibenzofuran	First PeCDF	1,3,4,6,8-PeCDF	83704-55-6	50.0
1,2,3,8,9-Pentachlorodibenzofuran	Last PeCDF	1,2,3,8,9-PeCDF	83704-54-5	50.0
1,2,3,4,6,8-Hexachlorodibenzofuran	First HxCDF	1,2,3,4,6,8-HxCDF	69698-60-8	50.0
2,3,7,8-TCDD Resolution Testing Isomers:				
1,2,3,4-Tetrachlorodibenzo-*p*-dioxin		1,2,3,4-TCDD	30746-58-8	5.00
1,2,3,7-/1,2,3,8-Tetrachlorodibenzo-*p*-dioxin		1,2,3,7-TCDD 1,2,3,8-TCDD	67028-18-6 53555-02-5	5.00[d]
1,2,3,9-Tetrachlorodibenzo-*p*-dioxin		1,2,3,9-TCDD	71669-26-6	10.0

[a] First/Last eluting isomer for the specified homologue group (see Table A for additional Window Definers).

[b] 1,2,3,4,6,7-HxCDD (last eluting HxCDD) not included; coelutes with 1,2,3,7,8,9-HxCDD on a 60 m DB-5 column. Use 1,2,3,7,8,9-HxCDD (see Table A) and 1,2,3,4,6,7,9-HpCDD to approximate the end of the HxCDD window.

[c] 1,2,3,4,8,9-HxCDF (last eluting HxCDF) not included; can interfere with 1,2,3,7,8,9-HxCDF on a 60 m DB-5 column. Use 1,2,3,4,6,7,8-HpCDF (see Table A) to approximate the end of the HxCDF window.

[d] Total concentration of isomers.

Certified By: _____ **Date:** 09/17/2021 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

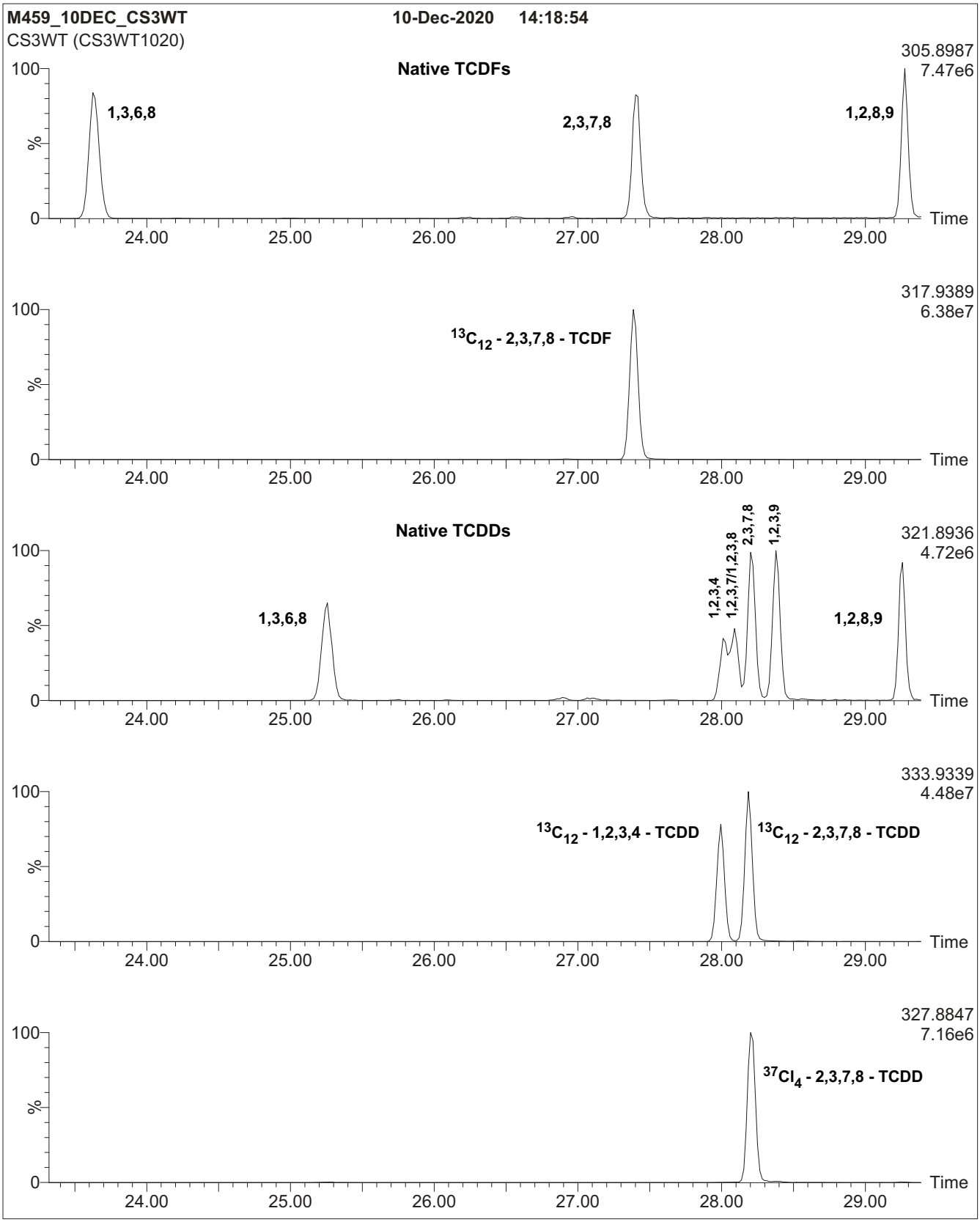


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

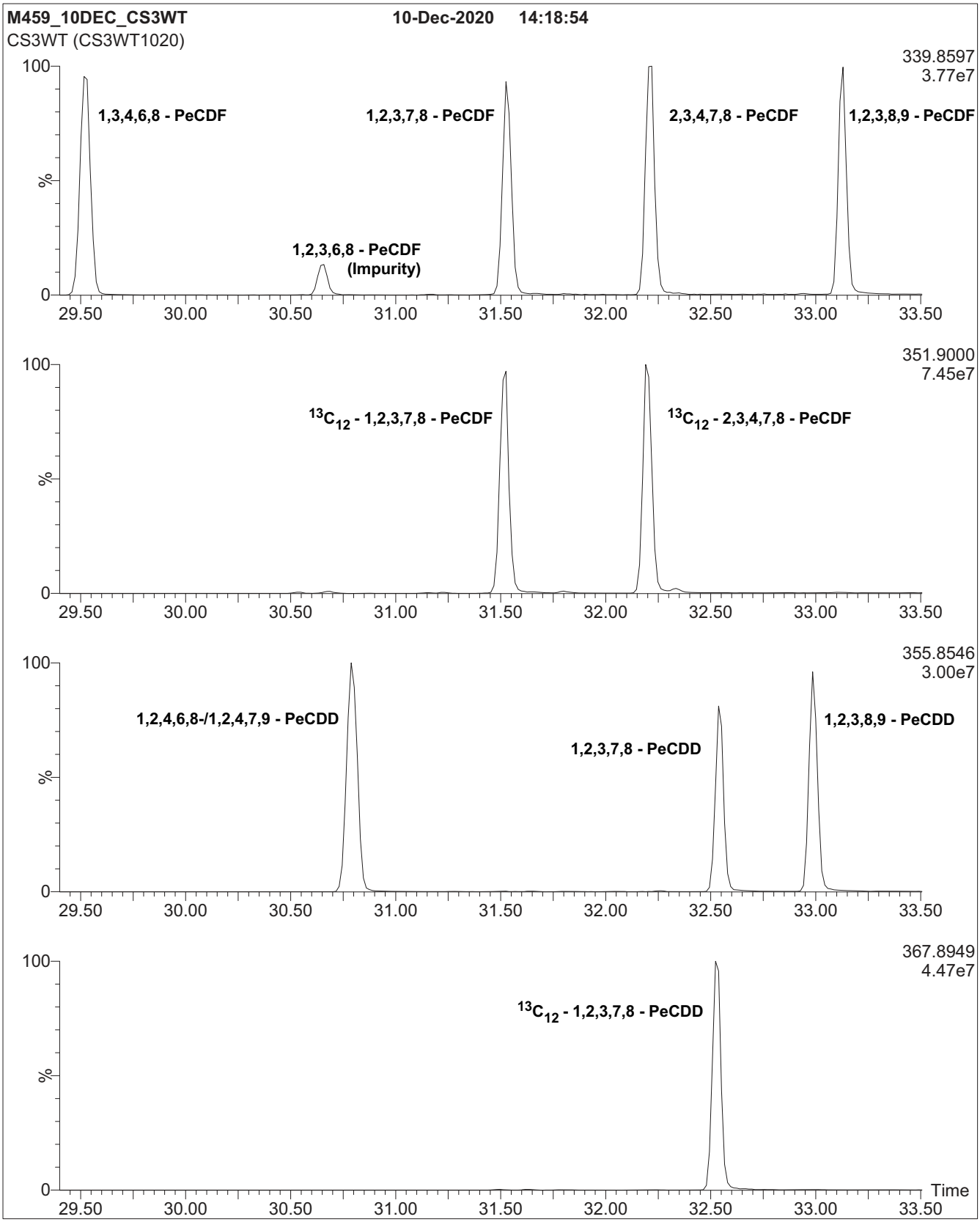


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

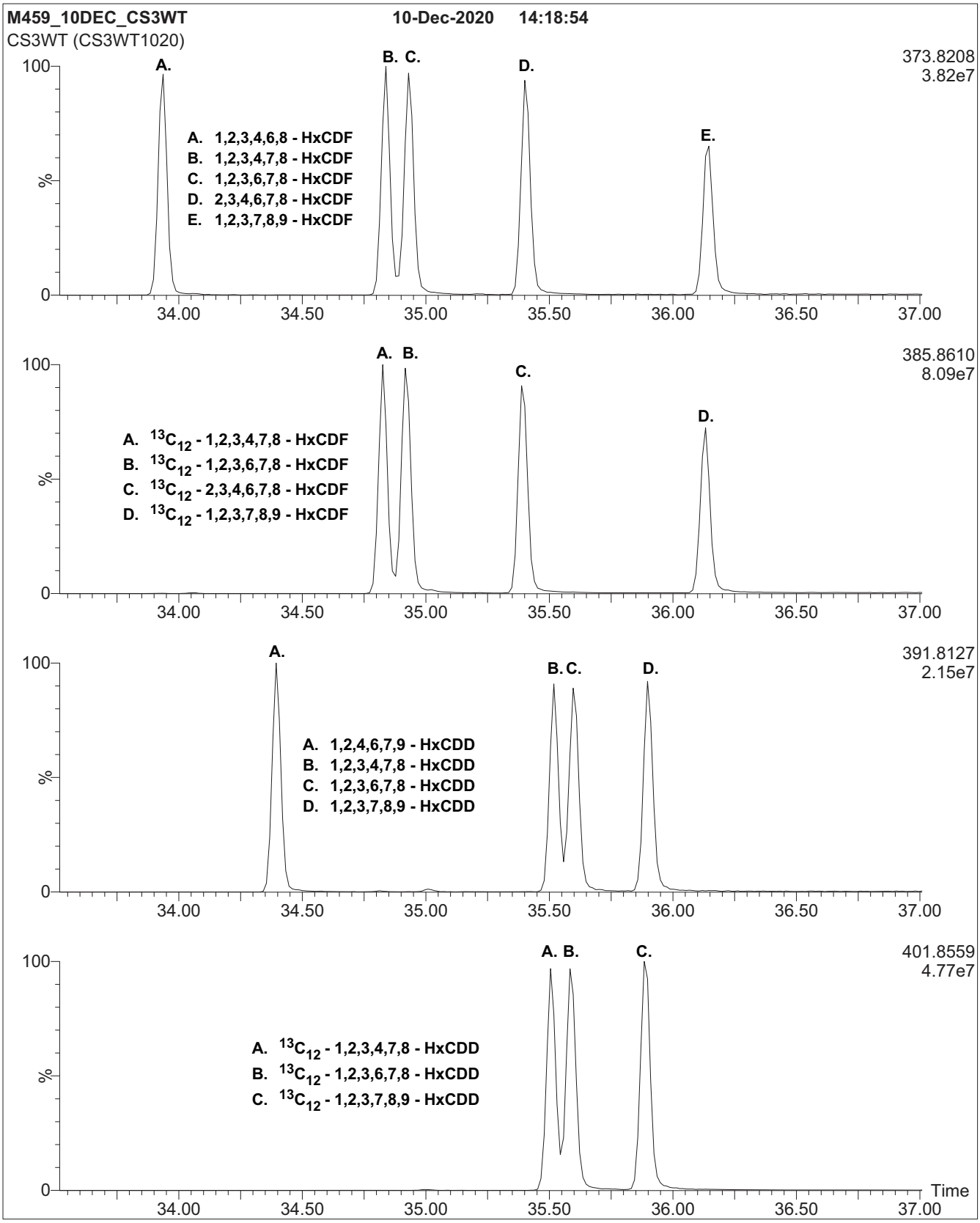


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

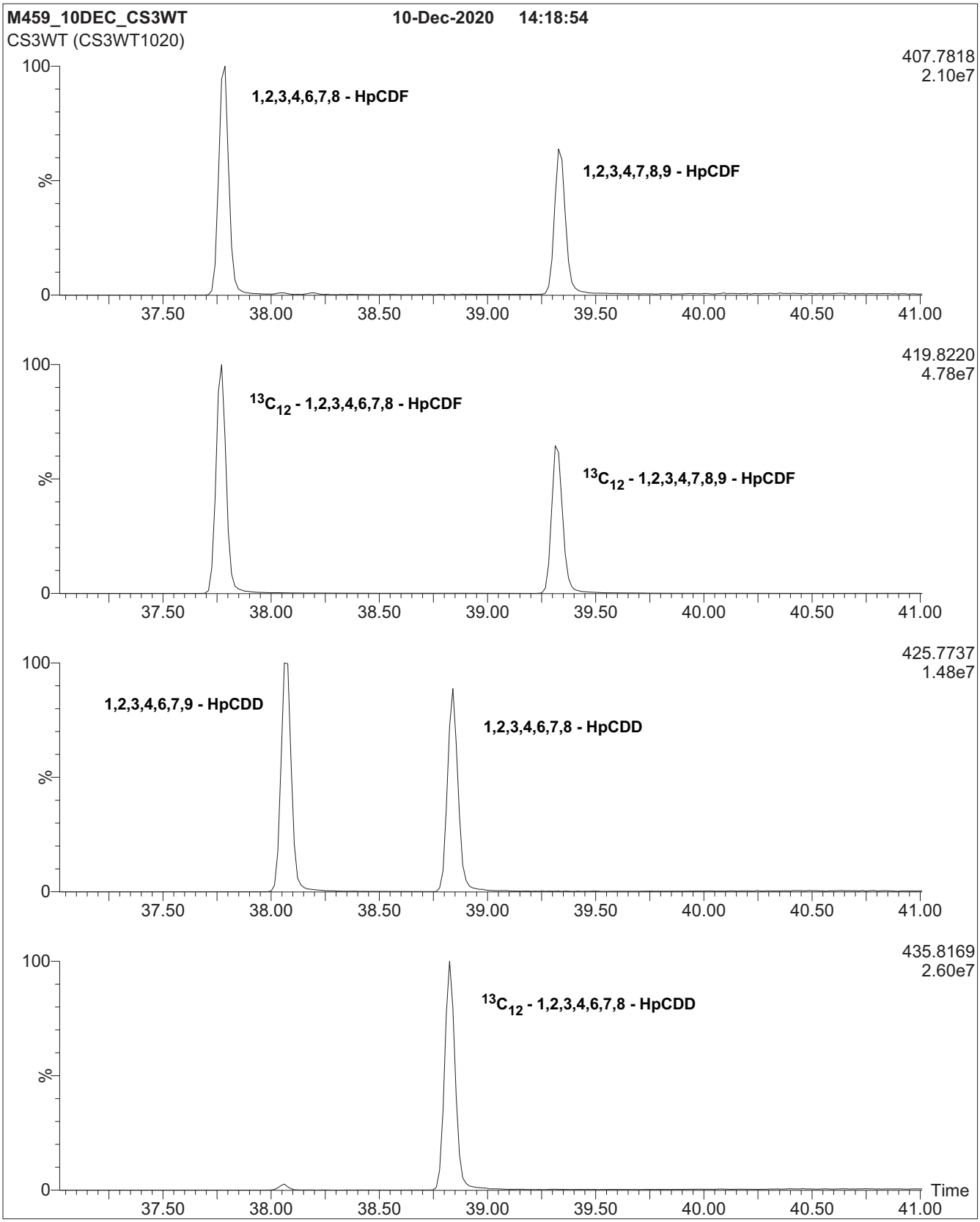
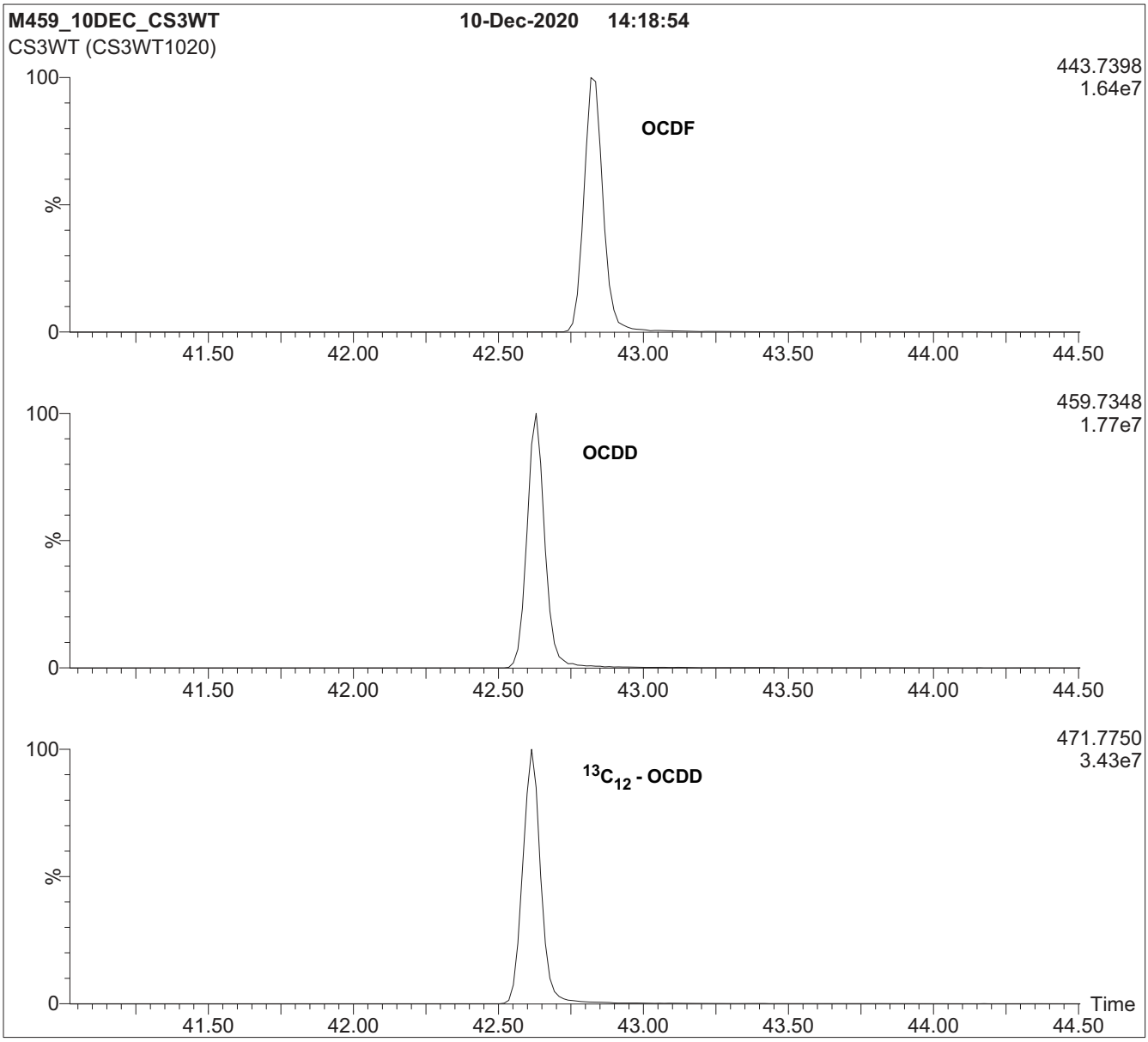


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

EPA-1613CSS

U.S. EPA Method 1613 Cleanup Standard Spiking Solution

PRODUCT CODE:	EPA-1613CSS
LOT NUMBER:	13CSS1020
SOLVENT(S):	Nonane
DATE PREPARED: (mm/dd/yyyy)	11/12/2020
LAST TESTED: (mm/dd/yyyy)	01/30/2021
EXPIRY DATE: (mm/dd/yyyy)	11/19/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

J004693
1613B Stock Cleanup Std
Expires 11/19/2027
Prepared By Joshua Rains 4/30/2021

DESCRIPTION:

EPA-1613CSS contains 2,3,7,8-($^{37}Cl_4$)tetrachlorodibenzo-*p*-dioxin at the concentration given in Table A.

EPA-1613CSS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin has a chemical purity of >98% and an isotopic (^{37}Cl) purity of ≥95%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

Table A: **EPA-1613CSS; Components and Concentrations (ng/mL, ± 5% in nonane)**

Compound	Acronym	CAS #	Concentration (ng/mL)
2,3,7,8-($^{37}Cl_4$)Tetrachlorodibenzo-*p*-dioxin	$^{37}Cl_4$-2,3,7,8-TCDD	85508-50-5	40.0

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/20/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

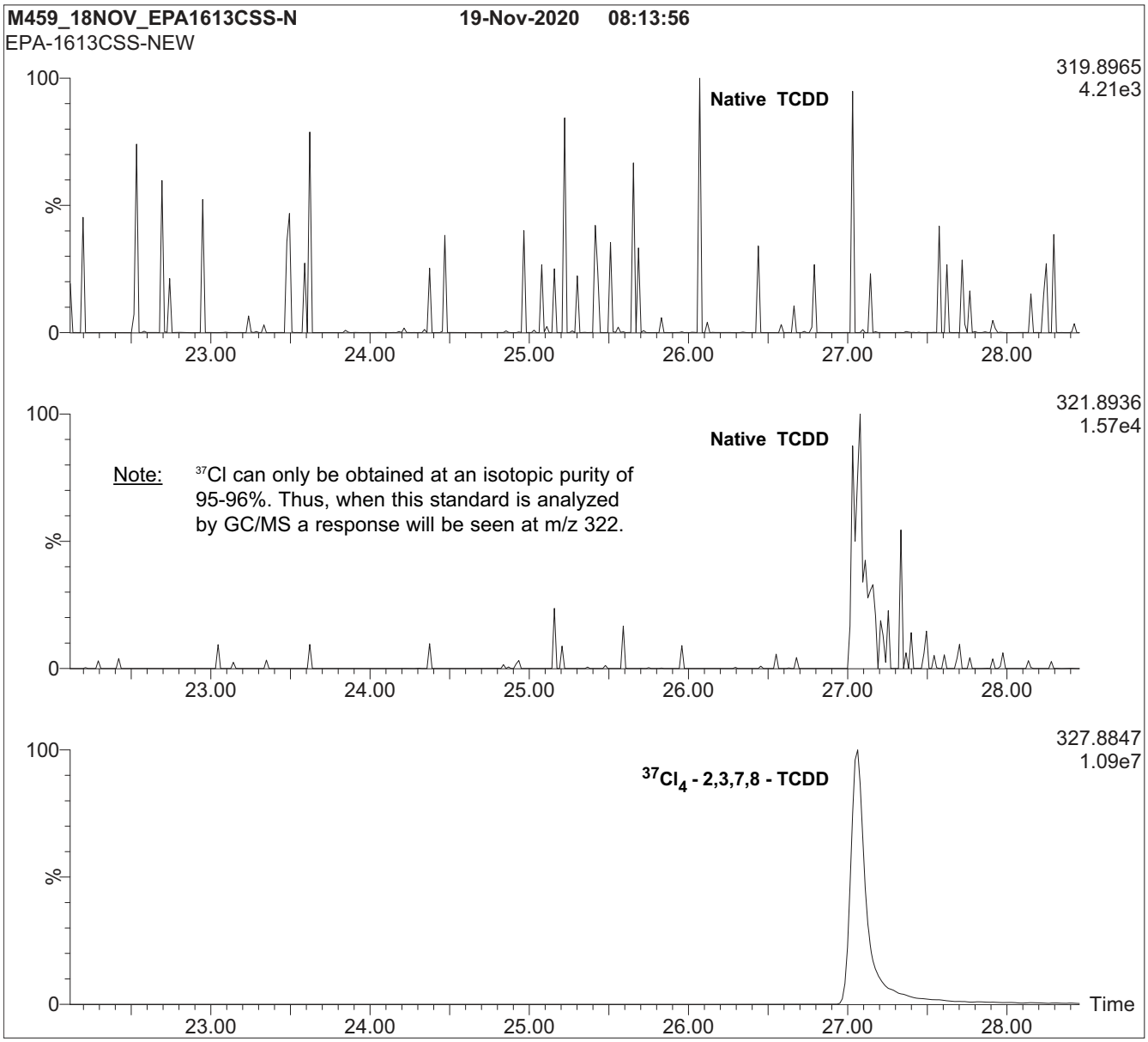
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **EPA-1613CSS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	280°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613LCS

U.S. EPA Method 1613
Labelled Compound Stock Solution

PRODUCT CODE:	EPA-1613LCS
LOT NUMBER:	13LCS1020
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/16/2020
LAST TESTED: (mm/dd/yyyy)	01/30/2021
EXPIRY DATE: (mm/dd/yyyy)	10/21/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

J004694
1613B Stock Surr Std
Expires 10/21/2027
Prepared By Joshua Rains 4/30/2021

DESCRIPTION:

EPA-1613LCS is a solution/mixture of mass-labelled ($^{13}C_{12}$) polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613LCS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613LCS; Components and Concentrations (ng/mL, ± 5% in nonane/3.2% toluene)**

Compound	Acronym	CAS #	Concentration (ng/mL)
Mass-Labelled PCDDs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-2,3,7,8-TCDD	76523-40-5	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,7,8-PeCDD	109719-79-1	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109719-80-4	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	109719-81-5	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	109719-83-7	100
Octachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-OCDD	114423-97-1	200
Mass-Labelled PCDFs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,7,8-TCDF	89059-46-1	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8-PeCDF	109719-77-9	100
2,3,4,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,7,8-PeCDF	116843-02-8	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	114423-98-2	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	116843-03-9	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	116843-04-0	100
2,3,4,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	116843-05-1	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109719-84-8	100
1,2,3,4,7,8,9-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	109719-94-0	100

Certified By: _____ **Date:** 04/19/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

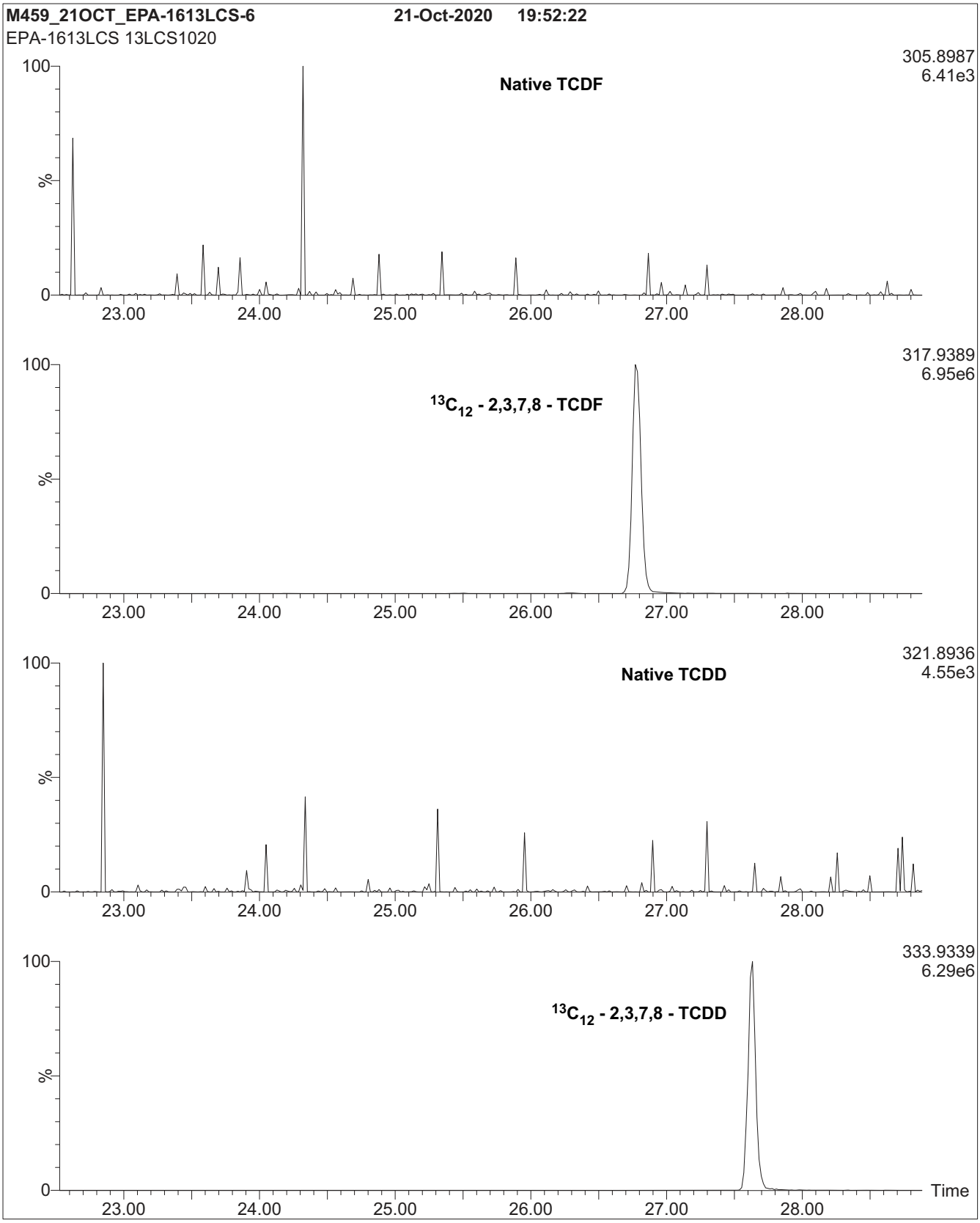


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

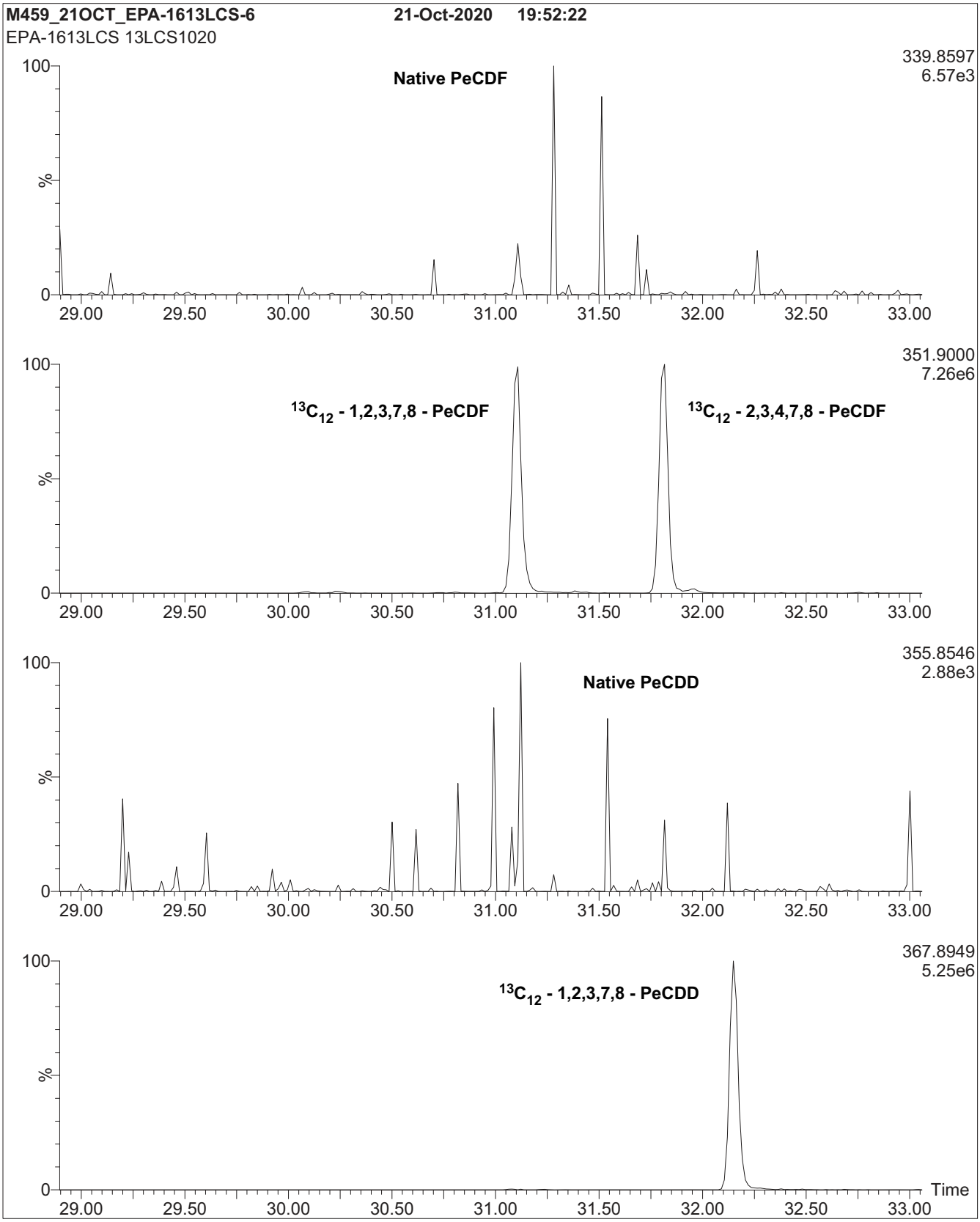


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

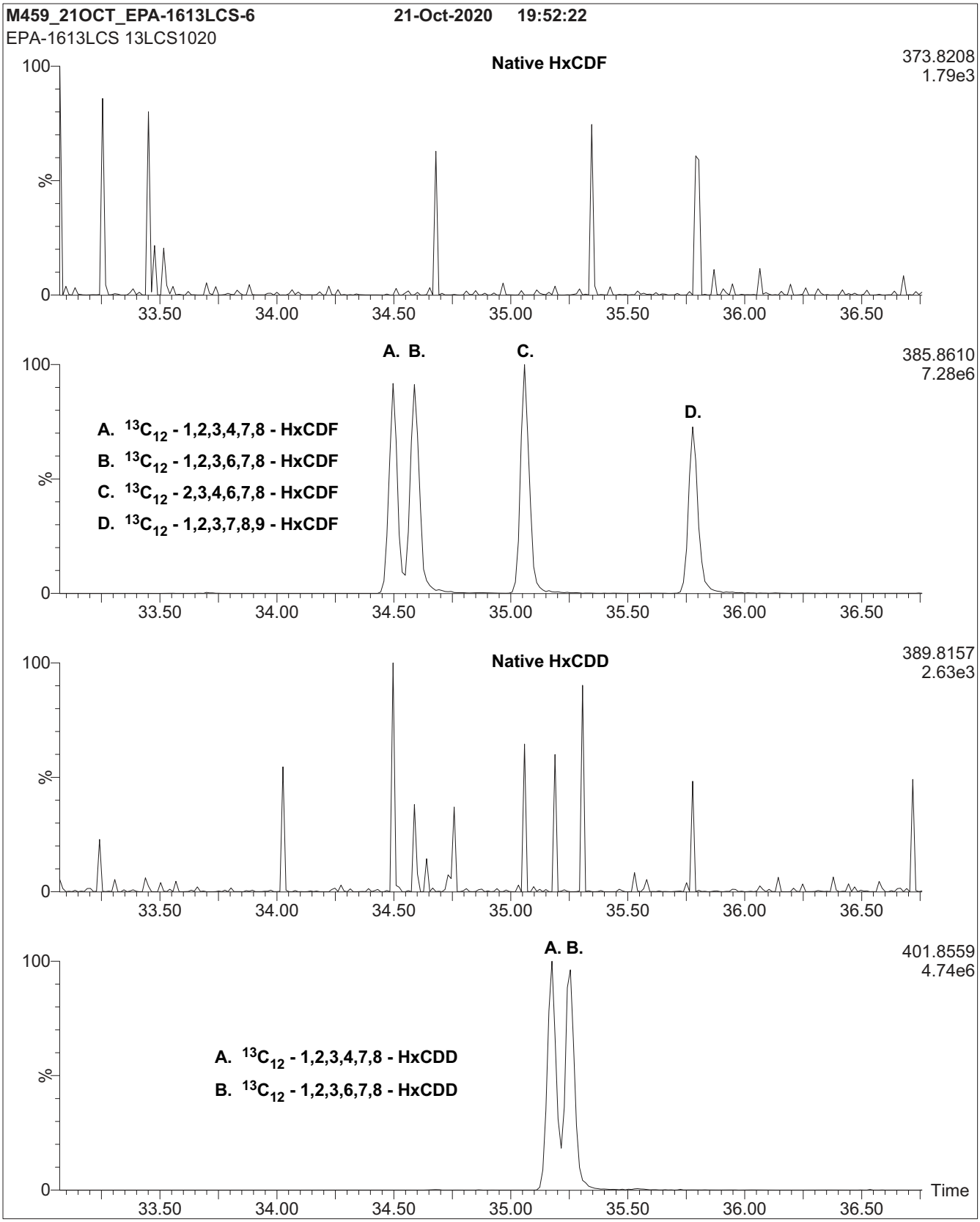


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

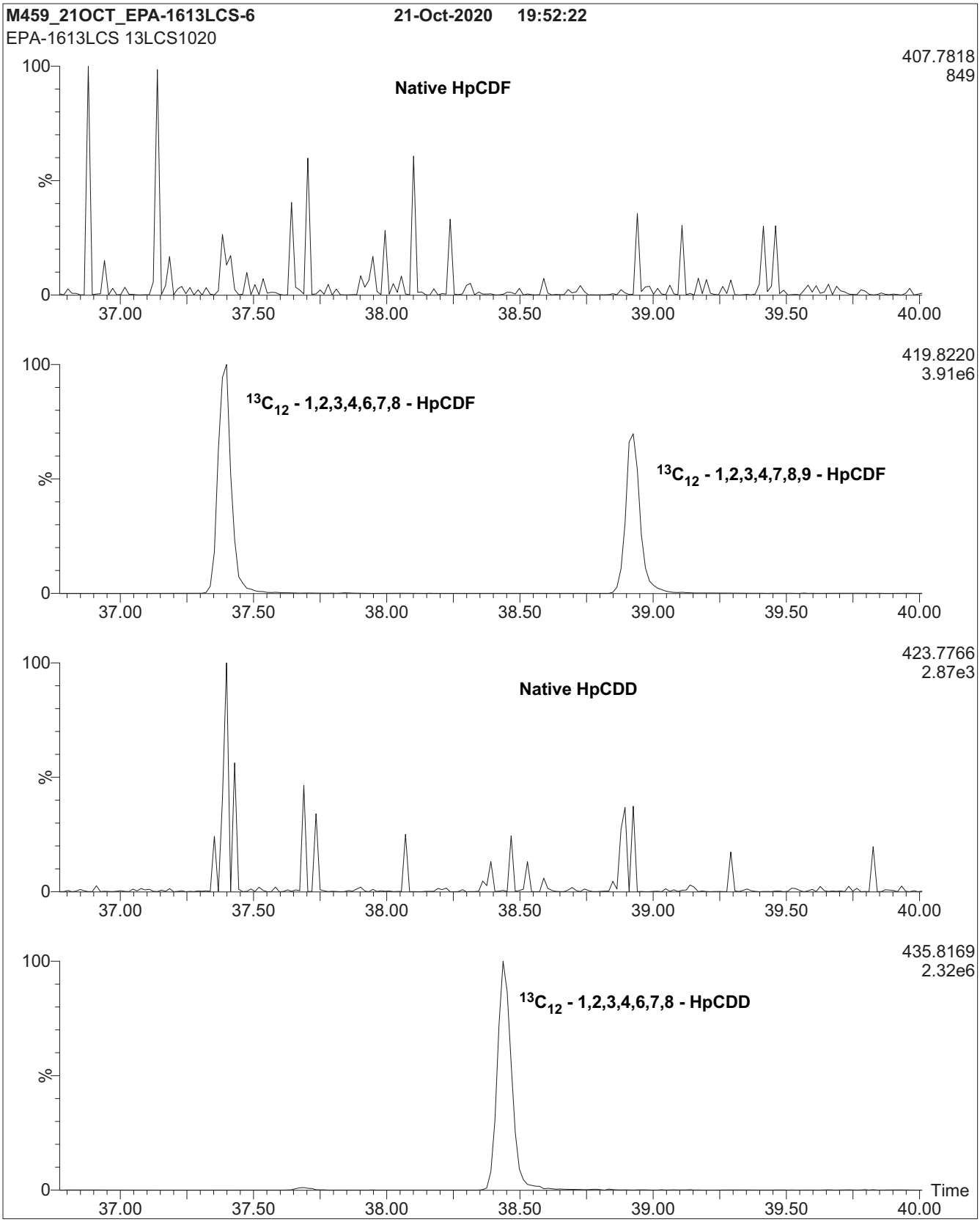
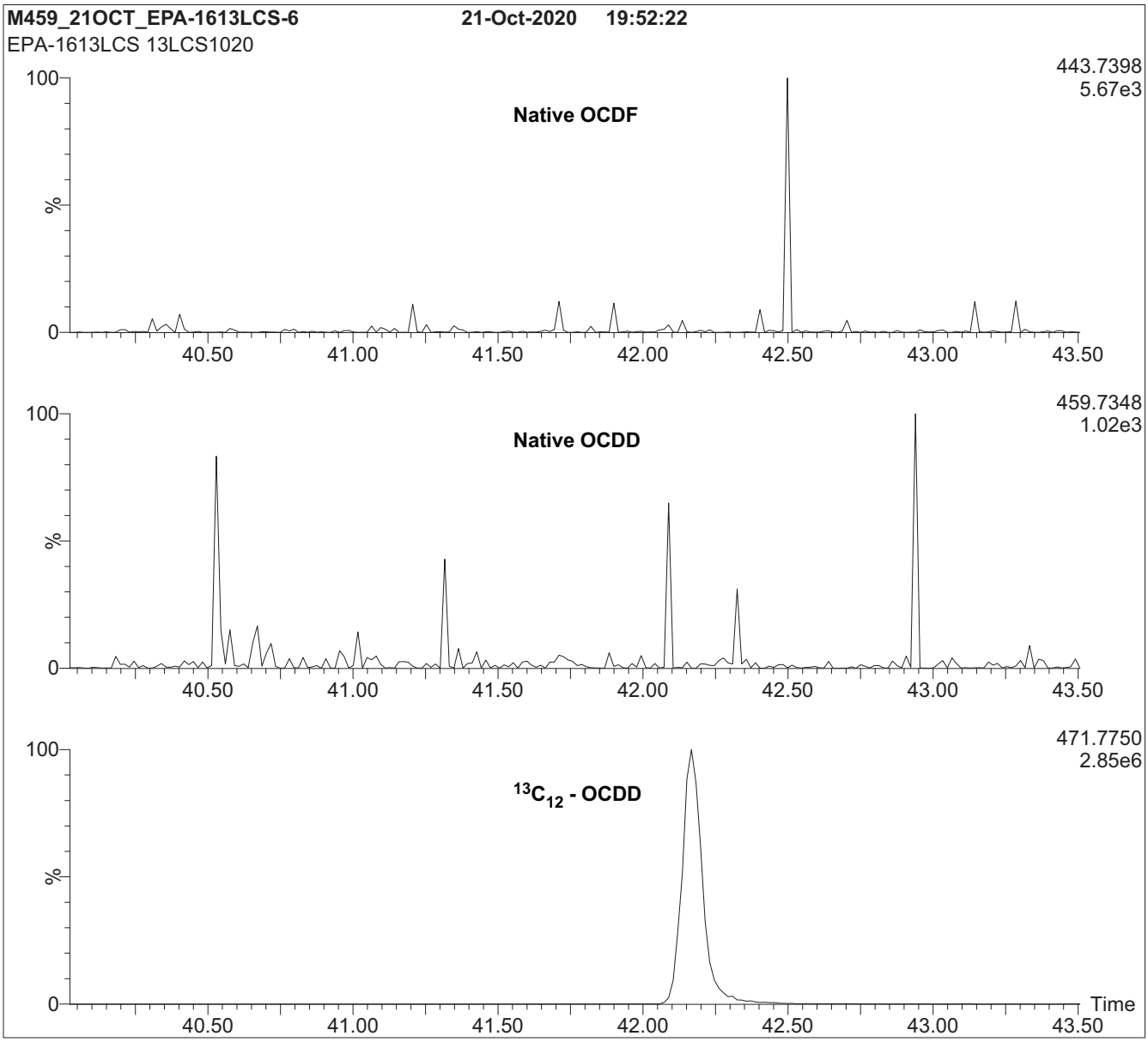


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	300°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Analytical Standard Record

Standard ID: J005595 **Printed: 5/26/2021 2:15:33PM**

Description:	Dioxin ISC Mix	Expires:	26-May-2022
Standard Type:	Other	Prepared:	26-May-2021
Solvent:	Nonane	Prepared By:	Peter Kepler
Final Volume (mls):	1	Department:	HRGCMS
Vials:	1	Last Edit:	26-May-2021 14:05 by PK
Vendor:		Lot #:	1234
Vendor Catalog #:			

Comments

Stock: H9902: 2378-TCDF, 3467-TCDF, 2348-TCDF, 1278-TCDD, 2378-TCDD. each @ 1000 ng/mL

10 ul to 1 mL FV in Nonane. Final Conc = 10 ng/mL. Analytes and units not available in Element.

Reviewed By Date

Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 15155

Order Number: CB014575

Date Shipped: 8/2/2021

AirBill No(s): 460843970024

From: QATS LABORATORY
2700 CHANDLER AVENUE, BLDG. B
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
PSRM0140 J007935	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0141 J007936	1	PUGET SOUND SEDIMENT RM	PS-SRM
		DUWAMISH AOC4	

8/2/2021

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 8/2/2021	Received by: Jacob Leitte (Signature)	Date/Time 08/03/2021 1138
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

EPA-1613LCS

U.S. EPA Method 1613
Labelled Compound Stock Solution

PRODUCT CODE:	EPA-1613LCS
LOT NUMBER:	13LCS1020
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/16/2020
LAST TESTED: (mm/dd/yyyy)	01/30/2021
EXPIRY DATE: (mm/dd/yyyy)	10/21/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

J009511
1613B Stock Surr Std
Solvent / Lot: Nonane
Prep: 9/2/2021 by JR
Exp: 10/10/2027
Location: Dioxin Lab

DESCRIPTION:

EPA-1613LCS is a solution/mixture of mass-labelled ($^{13}C_{12}$) polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs). The components and their concentrations are given in Table A.

EPA-1613LCS was designed and prepared to be used according to U.S. EPA Method 1613, Revision B.

The individual ^{13}C-labelled PCDDs and PCDFs all have chemical purities of >98% and isotopic purities of ≥99%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations
Figure 1: HRGC/HRMS Data (SIR; 10,000 mass resolving power)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Table A: **EPA-1613LCS; Components and Concentrations (ng/mL, ± 5% in nonane/3.2% toluene)**

Compound	Acronym	CAS #	Concentration (ng/mL)
Mass-Labelled PCDDs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-2,3,7,8-TCDD	76523-40-5	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,7,8-PeCDD	109719-79-1	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109719-80-4	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	109719-81-5	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	109719-83-7	100
Octachloro($^{13}C_{12}$)dibenzo-*p*-dioxin	$^{13}C_{12}$-OCDD	114423-97-1	200
Mass-Labelled PCDFs:			
2,3,7,8-Tetrachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,7,8-TCDF	89059-46-1	100
1,2,3,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8-PeCDF	109719-77-9	100
2,3,4,7,8-Pentachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,7,8-PeCDF	116843-02-8	100
1,2,3,4,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	114423-98-2	100
1,2,3,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	116843-03-9	100
1,2,3,7,8,9-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,7,8,9-HxCDF	116843-04-0	100
2,3,4,6,7,8-Hexachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	116843-05-1	100
1,2,3,4,6,7,8-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109719-84-8	100
1,2,3,4,7,8,9-Heptachloro($^{13}C_{12}$)dibenzofuran	$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	109719-94-0	100

Certified By: _____ **Date:** 04/19/2021
(mm/dd/yyyy)
B.G. Chittim, General Manager

Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

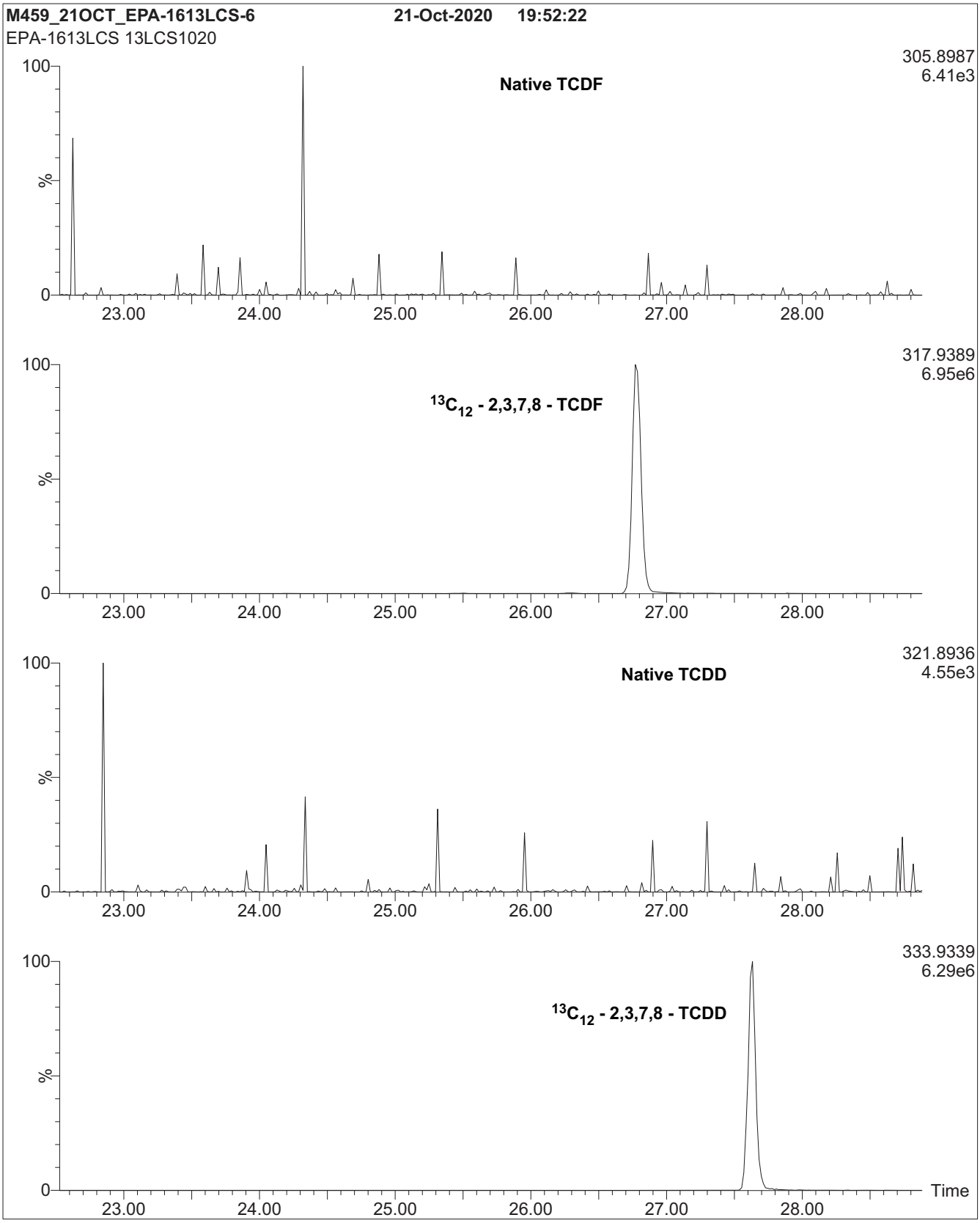


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

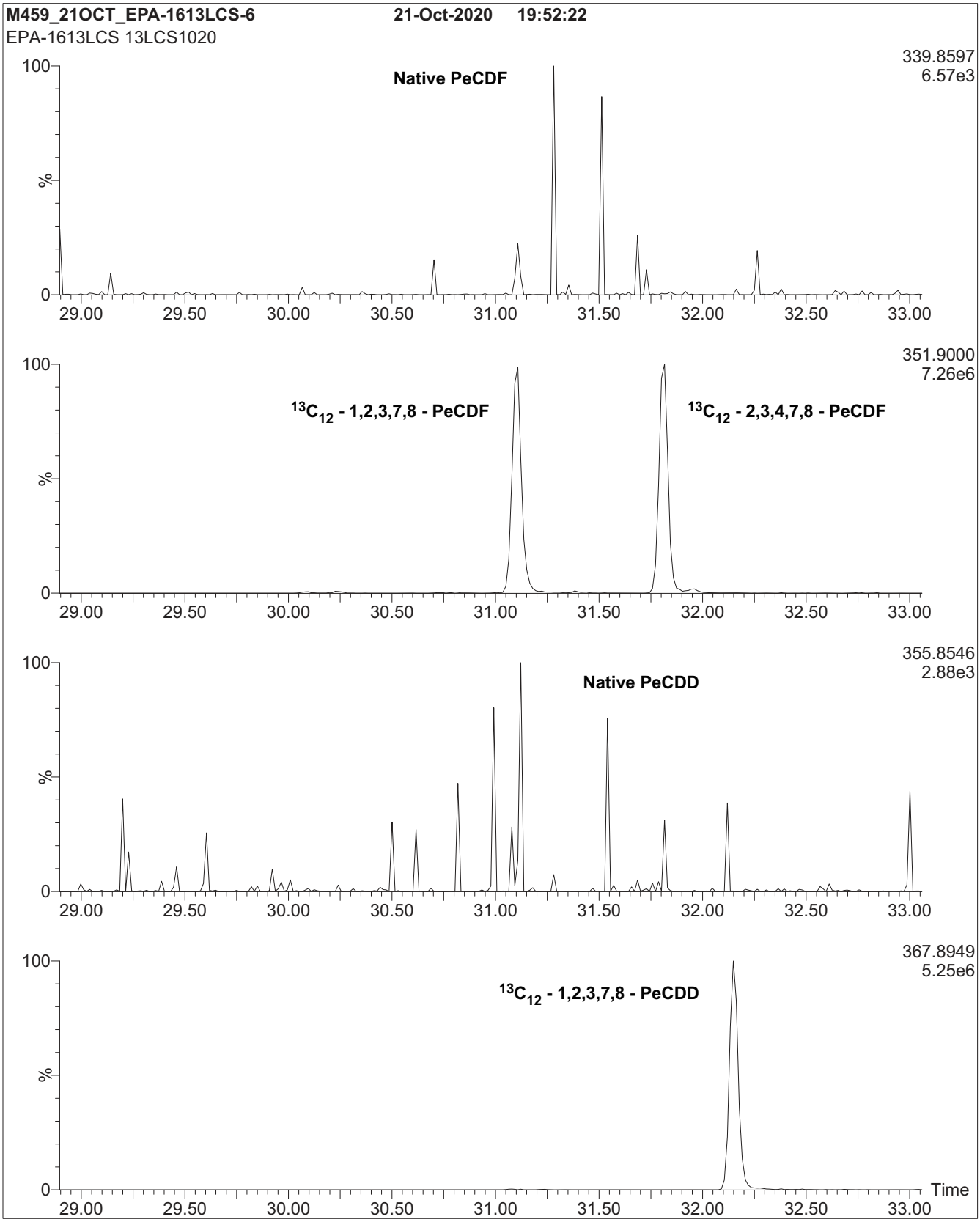


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

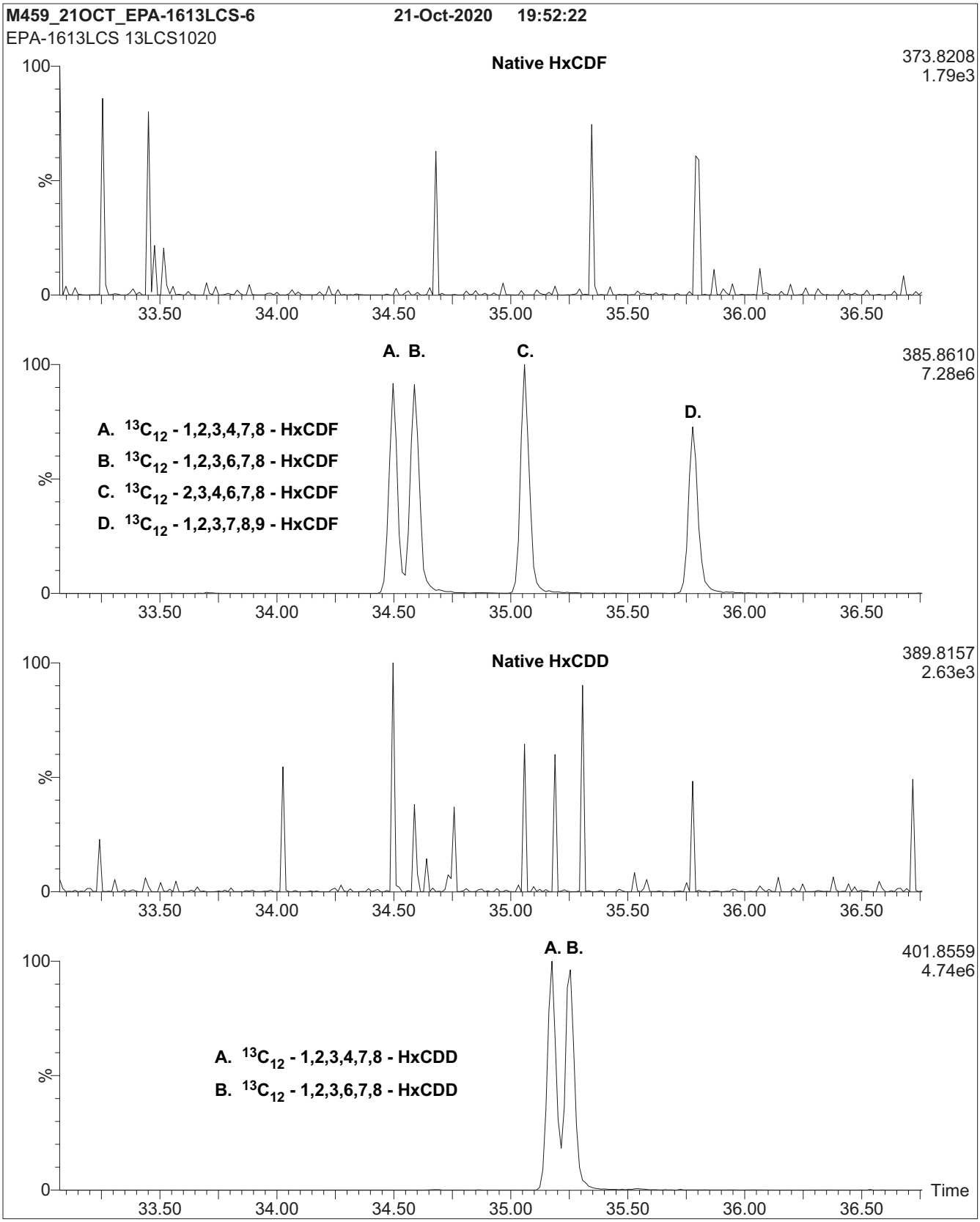


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

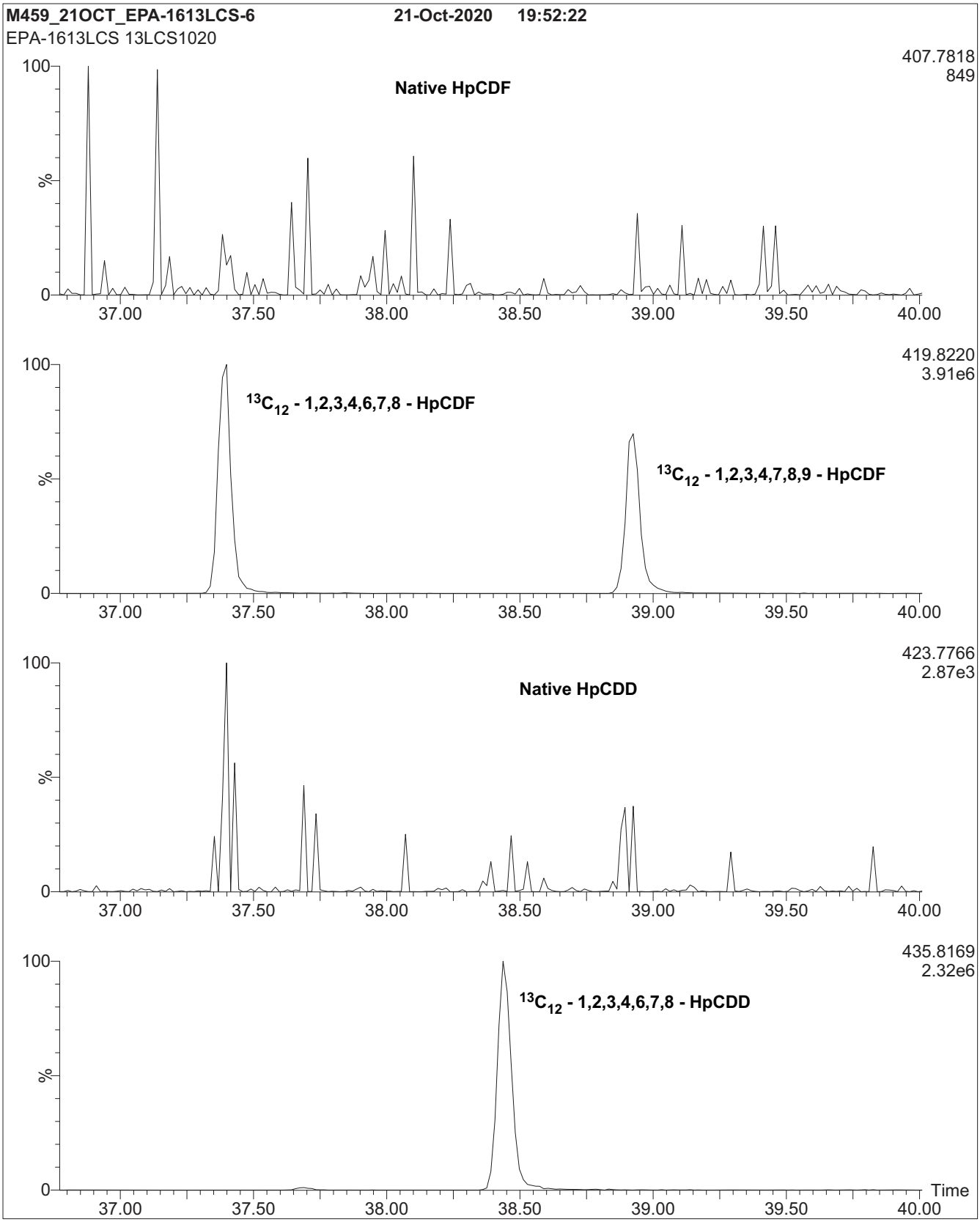
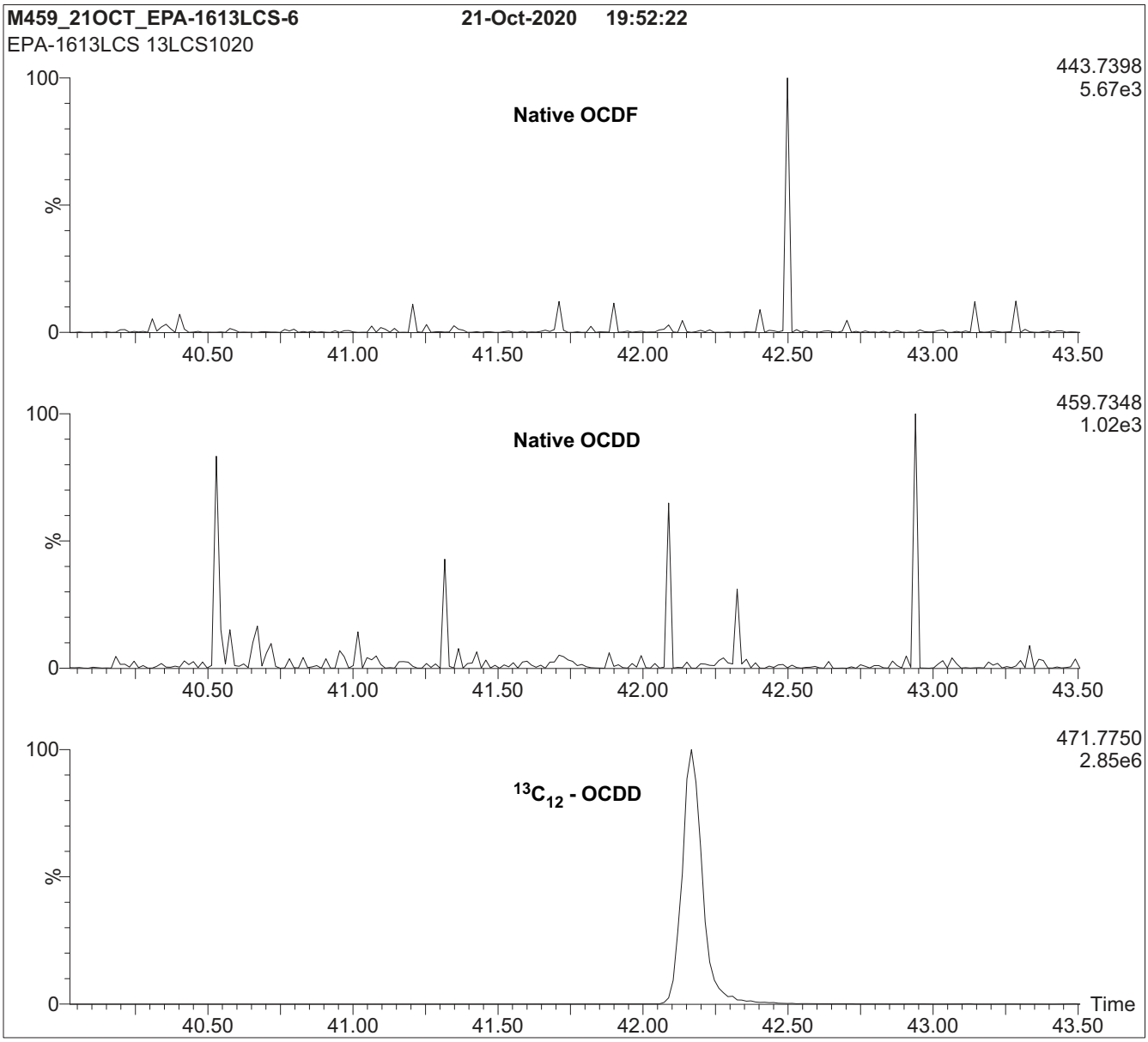


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**



Conditions for Figure 1:

Agilent 6890N HRGC
Autospec Ultima HRMS

Chromatographic Conditions:

Column: 60 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W

Flow:	Constant at 1 mL/min	Oven:	150°C (1 min)
Injector:	280°C (Splitless Injection)		12°C/min to 200°C
Ionization:	EI+		3°C/min to 235°C
Detector:	300°C		235°C (8 min)
	SIR at 10,000 mass resolving power		8°C/min to 310°C
			310°C (8 min)