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)
21F0442	N/A

Susan Dunnihoo

Digitally signed by Susan Dunnihoo
Date: 2021.10.06 13:55:15 -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

1 of 1 21F0442

CHAIN-OF-CUSTODY/TEST REQUEST FORM

№ 4043

Project/Client Name: Duwamish AOCY
Project Number: 180067-02.02
Contact Name: Amara Vandervort
Sampled By: Windward

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

Shipping Date:
Airbill Number: —
Turnaround requested: STD

Sample Collection Date (m/d/y)	Time	Sample Identification	Volume of Sample / # of Containers	Matrix	PCBs/ ~~Sediments~~	Dioxin/ Furans	TOC/ Solids	Archive				Comments / Instructions [Jar tag number(s)]
6/29/2021	13:24	LDW21-SC564A	3	Sediment	X	X	X	X				
		LDW21-SC564B	3		X	X	X	X				
		LDW21-SC564C	3		X	X	X	X				
		LDW21-SC564D	3		X	X	X	X				
		LDW21-SC564E	3		X	X	X	X				
		LDW21-SC564G	3		X	X	X	X				
		LDW21-SC564I	3		X	X	X	X				
		LDW21-SC564K	3		X	X	X	X				
		Total Number of Containers	24	Purchase Order / Statement of Work # CLF-05 2021-ARI								

1) Released by: Amara Vandervort	1) Rec'd by: Samantha Colon	2) Released by:	2) Rec'd by:
Print name:		Print name:	
Signature:	Company: ARI	Signature:	Company:
Company: Windward		Company:	
Date/Time: 6/30/21 0910	Date/Time: 6/30/21 0910	Date/Time:	Date/Time:

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

To be completed by Laboratory upon sample receipt:

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

Wind Ward environmental LLC

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

206.378.1364

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Windward/Anchor

Project Name: Duwamish AOC4

COC No(s): 4043 NA

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

Assigned ARI Job No: 21F0442

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 0930 Sig _____ _____ _____ _____ _____

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

Temp Gun ID#: DOO5206

Cooler Accepted by: SC Date: 6/30/21 Time: 0910

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: JS Date: 06/30/2021 Time: 1216 Labels checked by: JS

*** 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 13:29

ANALYTICAL REPORT FOR SAMPLES

Laboratory ID	Sample ID	Matrix	Date Sampled	Date Received
21F0442-01	LDW21-SC564A	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-02	LDW21-SC564B	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-03	LDW21-SC564C	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-04	LDW21-SC564D	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-05	LDW21-SC564E	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-06	LDW21-SC564G	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-07	LDW21-SC564I	Solid	06/29/21 13:24	06/30/21 09:10
21F0442-08	LDW21-SC564K	Solid	06/29/21 13:24	06/30/21 09:10

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 13:29

Case Narrative

Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Work Order: 21F0442

Sample receipt

Samples as listed on the preceding page were received 30-Jun-2021 09:10 under ARI work order 21F0442. 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.

Initial and continuing calibrations were within method requirements.

Labeled internal standard areas were below control limits for the TCDD/TCDF labels and cleanup standard for sample LDW21-SC564I, an issue later traced to issues with the florisil due to multiple power outages affecting the storage temperatures. After resolving the issue, the sample was re-extracted with passing tetra-labels and cleanup standard.

The cleanup surrogate percent recoveries were within control limits with the exception for LDW21-SC564I noted above.

The method blank(s) were clean at the reporting limits, with response for OCDD below the reporting limit in batch BJG0187 and response for 1,2,3,4,6,7,8-HpCDD and OCDD in batch BJH0186. Associated positive results are "J"-flagged.

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

The batch BJG0187 duplicate for sample LDW21-SC564A had response for 1,2,3,7,8-PeCDD, 2,3,4,6,7,8-HxCDF, 1,2,3,4,7,8-HxCDD and OCDF outside advisory limits.

The batch BJG0187 reference material had undetected response for 2,3,7,8-TCDF and 1,2,3,7,8,9-HxCDF, attributed to the prep lab cutting back on the sample amount used to try to save material. The batch BJH0186 had recoveries within limit, but still with 'J"-flags reported. The lab has been instructed to go back to using a 10 g sample for the reference material.

REV1 to correct TS value for LDW21-SC564 (RE)

QUALIFIERS AND NOTES

Qualifier	Definition
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
J	Estimated concentration value detected below the reporting limit.
EMPC	Estimated Maximum Possible Concentration qualifier for HRGCMS Dioxin
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-SC564A

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-01 B	File ID:	21071913
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 20:22
% Solids:	56.48	Preparation:	EPA 1613	Initial/Final:	17.72 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.598	0.999	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.397	0.999	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.413	0.999	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	1.021	1.318-1.783	0.361	0.999	0.524	ng/kg	EMPC, J
40321-76-4	1,2,3,7,8-PeCDD	1	1.406	1.318-1.783	0.284	0.999	0.558	ng/kg	J
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.317	1.054-1.426	0.216	0.999	1.36	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.417	1.054-1.426	0.226	0.999	0.869	ng/kg	J
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.906	1.054-1.426	0.204	0.999	0.608	ng/kg	EMPC, J
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.225	0.999	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.724	1.054-1.426	0.328	0.999	0.419	ng/kg	EMPC, J
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.005	1.054-1.426	0.326	0.999	2.02	ng/kg	EMPC
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.971	1.054-1.426	0.337	0.999	1.56	ng/kg	EMPC
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.022	0.893-1.208	0.188	0.999	11.8	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1		0.893-1.208	0.256	0.999	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.108	0.893-1.208	0.575	2.50	59.3	ng/kg	
39001-02-0	OCDF	1	0.960	0.757-1.024	0.267	2.50	42.8	ng/kg	
3268-87-9	OCDD	1	0.867	0.757-1.024	0.579	9.99	431	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	1.61	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	2.94	ng/kg
36088-22-9	Total PeCDD	1	0.000			0.999	1.21	ng/kg
55684-94-1	Total HxCDF	1	0.000			0.999	16.2	ng/kg
34465-46-8	Total HxCDD	1	0.000			0.999	6.09	ng/kg
38998-75-3	Total HpCDF	1	0.000			0.999	41.7	ng/kg
37871-00-4	Total HpCDD	1	0.000			0.999	133	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 2.25
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 2.50

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564A

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-01	File ID:	21071913
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 20:22
Solids Wt%:	56.48	Preparation:	EPA 1613	Initial/Final:	17.72 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.809	0.655-0.886	0.188	29.6	24 - 169 %	
13C12-2,3,7,8-TCDD		0.779	0.655-0.886	0.240	39.8	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.556	1.318-1.783	0.229	64.3	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.518	1.318-1.783	0.238	65.5	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.651	1.318-1.783	0.205	64.1	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.516	0.434-0.587	0.217	68.0	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.507	0.434-0.587	0.201	62.9	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.515	0.434-0.587	0.228	70.6	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.513	0.434-0.587	0.251	70.8	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.247	1.054-1.426	0.227	72.9	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.196	1.054-1.426	0.205	68.1	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.446	0.374-0.506	0.242	70.2	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.462	0.374-0.506	0.293	69.0	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.096	0.893-1.208	0.369	67.0	23 - 140 %	
13C12-OCDD		0.891	0.757-1.024	0.337	70.2	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.075	43.4	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:44 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-01, Name: 21071913, Date: 19-Jul-2021, Time: 20:22:13, 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					0.782		0.770	1094	1480								
12378-PeCDF	29.850	1.002	2.245e2	2.929e2	0.866	0.766	1.550	1460	1777	5.35e3	5.14e3	3.7	2.9	YES	MM	bb	0.166
23478-PeCDF	31.187	1.001	4.574e2	4.479e2	0.980	1.021	1.550	1460	1777	6.94e3	7.45e3	4.8	4.2	YES	db	MM	0.262
123478-HxCDF	34.808	1.000	1.172e3	8.903e2	1.002	1.317	1.240	933	817	2.03e4	1.32e4	21.8	16.1	NO	dd	bd	0.681
234678-HxCDF	35.822	1.000	4.514e2	4.982e2	1.043	0.906	1.240	933	817	8.17e3	5.80e3	8.8	7.1	YES	db	MM	0.304
123678-HxCDF	34.953	1.001	7.375e2	5.206e2	0.961	1.417	1.240	933	817	1.12e4	8.71e3	12.0	10.7	NO	db	db	0.435
123789-HxCDF					0.994		1.240	933	817								
1234678-HpCDF	38.707	1.001	8.971e3	8.779e3	1.058	1.022	1.050	696	866	1.48e5	1.46e5	212.2	168.0	NO	bb	bb	5.907
1234789-HpCDF					1.070		1.050	696	866								
OCDF	45.150	1.006	2.747e4	2.860e4	1.257	0.960	0.890	777	682	3.28e5	3.64e5	421.7	534.4	NO	bb	bb	21.424
2378-TCDD					1.307		0.770	1458	852								
12378-PeCDD	31.432	1.000	3.760e2	2.673e2	0.979	1.406	1.550	913	767	5.96e3	3.67e3	6.5	4.8	NO	bb	bb	0.279
123478-HxCDD	35.944	1.000	3.663e2	2.125e2	0.956	1.724	1.240	1264	1289	7.91e3	5.38e3	6.3	4.2	YES	bd	bb	0.210
123678-HxCDD	36.067	1.001	1.444e3	1.437e3	0.953	1.005	1.240	1264	1289	2.60e4	2.47e4	20.6	19.2	YES	db	bb	1.010
123789-HxCDD	36.446	1.011	1.046e3	1.077e3	0.927	0.971	1.240	1264	1289	1.73e4	1.64e4	13.7	12.7	YES	bb	bb	0.779
1234678-HpCDD	40.189	1.001	3.662e4	3.304e4	1.055	1.108	1.050	1949	1651	5.81e5	5.39e5	298.2	326.3	NO	bb	bb	29.654
OCDD	44.912	1.000	2.239e5	2.582e5	1.074	0.867	0.890	1834	865	2.85e6	3.38e6	1551.3	3910.7	NO	bb	bb	215.576
13C-2378-TCDF	25.655	1.007	9.879e4	1.221e5	1.925	0.809	0.770	2213	1420	1.48e6	1.84e6	666.6	1299.2	NO	bb	bb	29.577
13C-12378-PeCDF	29.806	1.169	2.189e5	1.407e5	1.442	1.556	1.550	1823	1484	3.31e6	2.16e6	1813.6	1458.4	NO	bb	bb	64.260
13C-23478-PeCDF	31.165	1.223	2.124e5	1.399e5	1.387	1.518	1.550	1823	1484	3.31e6	2.21e6	1816.4	1486.3	NO	bb	bb	65.468
13C-123478-HxCDF	34.797	0.955	1.029e5	1.994e5	1.053	0.516	0.510	1211	1488	1.65e6	3.20e6	1360.9	2148.4	NO	bd	bd	68.049
13C-123678-HxCDF	34.931	0.959	1.013e5	1.998e5	1.135	0.507	0.510	1211	1488	1.63e6	3.25e6	1344.1	2187.1	NO	db	db	62.883
13C-234678-HxCDF	35.811	0.983	1.016e5	1.974e5	1.004	0.515	0.510	1211	1488	1.67e6	3.20e6	1382.7	2147.8	NO	bb	bb	70.600
13C-123789-HxCDF	36.824	1.011	9.206e4	1.793e5	0.909	0.513	0.510	1211	1488	1.59e6	3.16e6	1314.2	2124.6	NO	bb	bb	70.767
13C-1234678-HpCDF	38.685	1.062	8.761e4	1.964e5	0.960	0.446	0.440	1115	1635	1.45e6	3.22e6	1300.4	1966.8	NO	bb	bb	70.156
13C-1234789-HpCDF	40.902	1.123	7.305e4	1.580e5	0.794	0.462	0.440	1115	1635	1.08e6	2.38e6	968.6	1454.5	NO	bd	bb	69.023
13C-1234-TCDD	25.489	0.000	1.697e5	2.184e5	1.000	0.777	0.770	1749	982	2.63e6	3.39e6	1503.6	3450.4	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.031	7.655e4	9.831e4	1.133	0.779	0.770	1749	982	1.17e6	1.51e6	667.9	1538.0	NO	bb	bb	39.777
13C-12378-PeCDD	31.421	1.233	1.466e5	8.882e4	0.947	1.651	1.550	934	1012	2.26e6	1.38e6	2418.7	1366.8	NO	bb	bb	64.068
13C-123478-HxCDD	35.933	0.986	1.601e5	1.284e5	0.939	1.247	1.240	1242	1278	2.71e6	2.11e6	2180.7	1649.7	NO	bd	bd	72.867
13C-123678-HxCDD	36.044	0.989	1.631e5	1.364e5	1.042	1.196	1.240	1242	1278	2.69e6	2.20e6	2163.9	1724.9	NO	db	db	68.134
13C-1234678-HpCDD	40.167	1.102	1.164e5	1.062e5	0.788	1.096	1.050	1952	1489	1.86e6	1.70e6	953.7	1138.9	NO	bd	bb	66.956
13C-OCDD	44.894	1.232	1.963e5	2.202e5	0.703	0.891	0.890	1995	807	2.45e6	2.75e6	1230.6	3412.4	NO	bb	bd	140.399
13C-123789-HxCDD	36.435	0.000	2.327e5	1.891e5	1.000	1.231	1.240	1242	1278	3.91e6	3.14e6	3147.8	2453.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	8.734e4		1.298			980		1.26e6		1283.4			bb		17.345

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:44 Pacific Daylight Time

ID: 21F0442-01, Name: 21071913, Date: 19-Jul-2021, Time: 20:22:13, 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					0.966		0.770	1094	1480								
1289-TCDF					0.736		0.770	1094	1480								
13468-PECDF					1.347		1.550	643	815								
12389-PECDF					0.867		1.550	1460	1777								
123468-HXCDF	33.137	0.952	1.463e3	1.058e3	1.036	1.383	1.240	933	817	2.13e4	1.81e4	22.8	22.2	NO	bb	bb	0.805
1368-TCDD	23.462	0.892	1.509e2	1.499e2	1.256	1.007	0.770	1458	852	3.07e3	2.17e3	2.1	2.5	YES	bb	bb	0.137
1289-TCDD					1.151		0.770	1458	852								
12479-PECDD	28.725	0.914	6.810e2	3.296e2	1.773	2.066	1.550	913	767	9.84e3	7.08e3	10.8	9.2	YES	bd	bd	0.242
12389-PECDD					1.171		1.550	913	767								
124679-HXCDD	33.928	0.944	4.323e3	3.863e3	1.034	1.119	1.240	1264	1289	6.84e4	5.48e4	54.1	42.5	NO	bb	bb	2.745
1234679-HPCDD	39.142	0.975	4.943e4	4.890e4	1.194	1.011	1.050	1949	1651	8.86e5	8.79e5	454.7	532.1	NO	bb	bb	36.980
Total-tetrafurans			6.496e2		0.828			1094		9.99e3							0.805
Total-penta1			2.915e3					643		4.36e4							1.469
Total-pentafurans			0.000e0		0.904			1460		0.00e0							
Total-hexafurans			1.327e4		1.007			933		2.18e5							8.108
Total-heptafurans			2.939e4		1.064			696		4.88e5							20.851
Total-Furans			7.369e4		0.998			1094		1.09e6							52.658
Total-tetradioxins			0.000e0		1.238			1458		0.00e0							
Total-pentadioxins			9.970e2		1.308			913		1.57e4							0.607
Total-hexadioxins			4.795e3		0.967			1264		7.60e4							3.047
Total-heptadioxins			8.605e4		1.125			1949		1.47e6							66.634
Total-Dioxins			3.158e5		1.141			1458		4.40e6							285.863
Total-TEQ			3.895e5					1458		5.49e6							338.521
FUNCTION1 PFK			6.797e6					627565		3.41e7							
FUNCTION2 PFK			6.201e6					313901		9.23e6							0.000
FUNCTION3 PFK			4.426e6					365367		1.63e7							0.000
FUNCTION4 PFK			1.938e6					308583		3.58e6							
FUNCTION5 PFK			2.152e5					183766		6.20e6							
FUNCTION1 HXCD...			9.312e2					598		1.63e4							0.000
FUNCTION1 HPCD...			2.259e3					676		3.57e4							0.000
FUNCTION2 HPCD...			1.813e2					668		1.97e3							0.000
FUNCTION3 OCDPE			7.960e1					548		1.30e3							0.000
FUNCTION4 NCDPE			1.464e3					857		2.92e4							0.000
FUNCTION5 DCDPE			0.000e0					453		0.00e0							

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:44 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-01, Name: 21071913, Date: 19-Jul-2021, Time: 20:22:13, 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	22.99	6.496e2	8.221e2	0.828	0.79	0.77	9.1	YES	NO	bb	bd	0.805

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.09	2.915e3	1.932e3		1.51	1.55	67.8	YES	NO	db	bb	1.469

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	34.20	5.429e3	4.718e3	1.007	1.15	1.24	99.1	YES	NO	bb	bb	3.433
2	Total-hexafurans	33.35	4.470e3	3.672e3	1.007	1.22	1.24	78.1	YES	NO	bb	bb	2.754
3	123468-HXCDF	33.14	1.463e3	1.058e3	1.036	1.38	1.24	22.8	YES	NO	bb	bb	0.805
4	123678-HxCDF	34.95	7.375e2	5.206e2	0.961	1.42	1.24	12.0	YES	NO	db	db	0.435
5	123478-HxCDF	34.81	1.172e3	8.903e2	1.002	1.32	1.24	21.8	YES	NO	dd	bd	0.681

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.35	2.042e4	2.053e4	1.064	0.99	1.05	489.4	YES	NO	bb	bb	14.945
2	1234678-HpCDF	38.71	8.971e3	8.779e3	1.058	1.02	1.05	212.2	YES	NO	bb	bb	5.907

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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	22.99	6.496e2	8.221e2	0.828	0.79	0.77	9.1	YES	NO	bb	bd	0.805
2	Total-hexafurans	34.20	5.429e3	4.718e3	1.007	1.15	1.24	99.1	YES	NO	bb	bb	3.433
3	Total-hexafurans	33.35	4.470e3	3.672e3	1.007	1.22	1.24	78.1	YES	NO	bb	bb	2.754
4	123468-HXCDF	33.14	1.463e3	1.058e3	1.036	1.38	1.24	22.8	YES	NO	bb	bb	0.805
5	123678-HxCDF	34.95	7.375e2	5.206e2	0.961	1.42	1.24	12.0	YES	NO	db	db	0.435
6	123478-HxCDF	34.81	1.172e3	8.903e2	1.002	1.32	1.24	21.8	YES	NO	dd	bd	0.681
7	Total-heptafurans	39.35	2.042e4	2.053e4	1.064	0.99	1.05	489.4	YES	NO	bb	bb	14.945
8	1234678-HpCDF	38.71	8.971e3	8.779e3	1.058	1.02	1.05	212.2	YES	NO	bb	bb	5.907
9	OCDF	45.15	2.747e4	2.860e4	1.257	0.96	0.89	421.7	YES	NO	bb	bb	21.424
10	Total-penta1	27.09	2.915e3	1.932e3		1.51	1.55	67.8	YES	NO	db	bb	1.469

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	30.18	3.014e2	1.865e2	1.308	1.62	1.55	5.4	YES	NO	bd	bb	0.158
2	Total-pentadioxins	29.23	3.196e2	2.016e2	1.308	1.59	1.55	5.3	YES	NO	bb	db	0.169
3	12378-PeCDD	31.43	3.760e2	2.673e2	0.979	1.41	1.55	6.5	YES	NO	bb	bb	0.279

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	35.15	4.725e2	3.844e2	0.967	1.23	1.24	6.0	YES	NO	db	db	0.301
2	124679-HXCDD	33.93	4.323e3	3.863e3	1.034	1.12	1.24	54.1	YES	NO	bb	bb	2.745

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.19	3.662e4	3.304e4	1.055	1.11	1.05	298.2	YES	NO	bb	bb	29.654
2	1234679-HPCDD	39.14	4.943e4	4.890e4	1.194	1.01	1.05	454.7	YES	NO	bb	bb	36.980

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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	30.18	3.014e2	1.865e2	1.308	1.62	1.55	5.4	YES	NO	bd	bb	0.158
2	Total-pentadioxins	29.23	3.196e2	2.016e2	1.308	1.59	1.55	5.3	YES	NO	bb	db	0.169
3	12378-PeCDD	31.43	3.760e2	2.673e2	0.979	1.41	1.55	6.5	YES	NO	bb	bb	0.279
4	Total-hexadioxins	35.15	4.725e2	3.844e2	0.967	1.23	1.24	6.0	YES	NO	db	db	0.301
5	124679-HXCDD	33.93	4.323e3	3.863e3	1.034	1.12	1.24	54.1	YES	NO	bb	bb	2.745
6	1234678-HpCDD	40.19	3.662e4	3.304e4	1.055	1.11	1.05	298.2	YES	NO	bb	bb	29.654
7	1234679-HPCDD	39.14	4.943e4	4.890e4	1.194	1.01	1.05	454.7	YES	NO	bb	bb	36.980
8	OCDD	44.91	2.239e5	2.582e5	1.074	0.87	0.89	1551.3	YES	NO	bb	bb	215.576

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	22.99	6.496e2	8.221e2	0.828	0.79	0.77	9.1	YES	NO	bb	bd	0.805
2	Total-hexafurans	34.20	5.429e3	4.718e3	1.007	1.15	1.24	99.1	YES	NO	bb	bb	3.433
3	Total-hexafurans	33.35	4.470e3	3.672e3	1.007	1.22	1.24	78.1	YES	NO	bb	bb	2.754
4	123468-HXCDF	33.14	1.463e3	1.058e3	1.036	1.38	1.24	22.8	YES	NO	bb	bb	0.805
5	123678-HxCDF	34.95	7.375e2	5.206e2	0.961	1.42	1.24	12.0	YES	NO	db	db	0.435
6	123478-HxCDF	34.81	1.172e3	8.903e2	1.002	1.32	1.24	21.8	YES	NO	dd	bd	0.681
7	Total-heptafurans	39.35	2.042e4	2.053e4	1.064	0.99	1.05	489.4	YES	NO	bb	bb	14.945
8	1234678-HpCDF	38.71	8.971e3	8.779e3	1.058	1.02	1.05	212.2	YES	NO	bb	bb	5.907
9	OCDF	45.15	2.747e4	2.860e4	1.257	0.96	0.89	421.7	YES	NO	bb	bb	21.424
10	Total-penta1	27.09	2.915e3	1.932e3		1.51	1.55	67.8	YES	NO	db	bb	1.469
11	Total-pentadioxins	30.18	3.014e2	1.865e2	1.308	1.62	1.55	5.4	YES	NO	bd	bb	0.158
12	Total-pentadioxins	29.23	3.196e2	2.016e2	1.308	1.59	1.55	5.3	YES	NO	bb	db	0.169
13	12378-PeCDD	31.43	3.760e2	2.673e2	0.979	1.41	1.55	6.5	YES	NO	bb	bb	0.279
14	Total-hexadioxins	35.15	4.725e2	3.844e2	0.967	1.23	1.24	6.0	YES	NO	db	db	0.301
15	124679-HXCDD	33.93	4.323e3	3.863e3	1.034	1.12	1.24	54.1	YES	NO	bb	bb	2.745
16	1234678-HpCDD	40.19	3.662e4	3.304e4	1.055	1.11	1.05	298.2	YES	NO	bb	bb	29.654
17	1234679-HPCDD	39.14	4.943e4	4.890e4	1.194	1.01	1.05	454.7	YES	NO	bb	bb	36.980
18	OCDD	44.91	2.239e5	2.582e5	1.074	0.87	0.89	1551.3	YES	NO	bb	bb	215.576

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.57	1.617e6					4.3	YES		bb		
2	FUNCTION1 PFK	21.16	1.856e6					18.2	YES		bb		
3	FUNCTION1 PFK	27.48	4.835e5					6.3	YES		bb		
4	FUNCTION1 PFK	25.35	9.324e4					3.5	YES		bb		
5	FUNCTION1 PFK	25.11	9.875e5					5.9	YES		bb		
6	FUNCTION1 PFK	22.59	5.503e4					1.8	NO		bb		
7	FUNCTION1 PFK	22.21	1.115e6					6.3	YES		bb		
8	FUNCTION1 PFK	21.92	5.902e5					8.0	YES		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.57	1.397e6					4.7	YES		bb		0.000
2	FUNCTION2 PFK	31.76	4.347e6					15.1	YES		bb		0.000
3	FUNCTION2 PFK	31.02	9.179e4					4.1	YES		bb		0.000
4	FUNCTION2 PFK	29.57	3.182e5					2.4	NO		bb		0.000
5	FUNCTION2 PFK	29.25	4.771e4					3.1	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.54	6.264e5					10.0	YES		bb		0.000
2	FUNCTION3 PFK	34.11	2.114e6					11.1	YES		bb		0.000
3	FUNCTION3 PFK	32.86	2.939e5					6.9	YES		bb		0.000
4	FUNCTION3 PFK	36.88	2.501e5					6.8	YES		bb		0.000
5	FUNCTION3 PFK	36.58	1.142e6					9.7	YES		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	39.46	8.714e5					4.1	YES		bb		
2	FUNCTION4 PFK	38.83	1.067e6					7.5	YES		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.56	7.550e3					1.5	NO		dd		
2	FUNCTION5 PFK	44.52	5.857e3					1.5	NO		bd		
3	FUNCTION5 PFK	44.40	8.965e3					1.4	NO		bb		
4	FUNCTION5 PFK	44.27	9.413e3					1.3	NO		bb		
5	FUNCTION5 PFK	43.74	3.448e3					1.0	NO		bb		
6	FUNCTION5 PFK	43.43	9.725e2					0.6	NO		bb		
7	FUNCTION5 PFK	43.39	3.808e3					0.7	NO		bb		
8	FUNCTION5 PFK	43.19	3.722e3					0.8	NO		bb		
9	FUNCTION5 PFK	42.96	2.041e3					0.6	NO		bb		
10	FUNCTION5 PFK	42.87	4.728e3					1.2	NO		bb		
11	FUNCTION5 PFK	45.74	1.747e4					1.9	NO		bb		
12	FUNCTION5 PFK	45.67	3.956e3					0.9	NO		db		
13	FUNCTION5 PFK	45.62	6.377e3					1.5	NO		bd		
14	FUNCTION5 PFK	45.55	7.896e2					0.5	NO		bb		
15	FUNCTION5 PFK	45.49	3.878e3					1.1	NO		bb		
16	FUNCTION5 PFK	45.30	3.315e3					1.0	NO		bb		
17	FUNCTION5 PFK	45.17	2.070e4					1.6	NO		db		
18	FUNCTION5 PFK	45.13	1.099e4					2.2	NO		dd		
19	FUNCTION5 PFK	45.09	1.245e4					2.0	NO		dd		
20	FUNCTION5 PFK	44.98	4.851e4					2.7	NO		bd		
21	FUNCTION5 PFK	44.86	8.992e3					1.5	NO		db		
22	FUNCTION5 PFK	44.79	1.448e4					1.5	NO		bd		
23	FUNCTION5 PFK	44.74	9.436e2					0.6	NO		bb		
24	FUNCTION5 PFK	44.70	8.821e2					0.5	NO		bb		
25	FUNCTION5 PFK	44.62	3.459e3					1.1	NO		db		
26	FUNCTION5 PFK	44.58	5.259e3					1.6	NO		dd		
27	FUNCTION5 PFK	45.94	7.020e2					0.4	NO		bb		
28	FUNCTION5 PFK	45.84	1.574e3					0.6	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.31	8.461e1					2.7	NO		bb		0.000
2	FUNCTION1 HXCD...	25.85	2.046e2					5.4	YES		bb		0.000
3	FUNCTION1 HXCD...	25.49	1.097e2					2.9	NO		bb		0.000
4	FUNCTION1 HXCD...	23.69	8.234e1					2.1	NO		bb		0.000
5	FUNCTION1 HXCD...	23.27	1.195e2					4.1	YES		bb		0.000
6	FUNCTION1 HXCD...	22.22	1.213e2					3.4	YES		db		0.000
7	FUNCTION1 HXCD...	22.10	9.687e1					3.0	NO		dd		0.000
8	FUNCTION1 HXCD...	22.06	1.123e2					3.7	YES		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	23.13	7.822e1					1.7	NO		bd		0.000
2	FUNCTION1 HPCD...	22.95	2.755e2					4.5	YES		bb		0.000
3	FUNCTION1 HPCD...	22.22	9.793e1					2.4	NO		bb		0.000
4	FUNCTION1 HPCD...	21.97	6.634e2					18.0	YES		bb		0.000
5	FUNCTION1 HPCD...	27.18	9.764e1					4.5	YES		bb		0.000
6	FUNCTION1 HPCD...	26.89	1.034e2					2.4	NO		bb		0.000
7	FUNCTION1 HPCD...	26.31	1.451e2					2.2	NO		db		0.000
8	FUNCTION1 HPCD...	26.05	1.322e2					2.1	NO		bd		0.000
9	FUNCTION1 HPCD...	25.76	8.567e1					2.0	NO		bb		0.000
10	FUNCTION1 HPCD...	25.29	7.722e1					1.6	NO		bb		0.000
11	FUNCTION1 HPCD...	24.58	7.263e1					1.5	NO		bb		0.000
12	FUNCTION1 HPCD...	23.28	4.296e2					9.9	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...	28.51	1.005e2					2.1	NO		bb		0.000
2	FUNCTION2 HPCD...	28.21	8.080e1					0.9	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	37.63	7.960e1					2.4	NO		bb		0.000

ID: 21F0442-01, Name: 21071913, Date: 19-Jul-2021, Time: 20:22:13, 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	38.01	9.992e1					2.7	NO		dd		0.000
2	FUNCTION4 NCDPE	37.97	8.914e1					3.0	YES		bd		0.000
3	FUNCTION4 NCDPE	41.02	7.311e1					1.6	NO		bb		0.000
4	FUNCTION4 NCDPE	40.56	1.206e2					3.3	YES		bb		0.000
5	FUNCTION4 NCDPE	38.33	9.754e2					18.9	YES		bb		0.000
6	FUNCTION4 NCDPE	38.09	1.061e2					4.6	YES		db		0.000

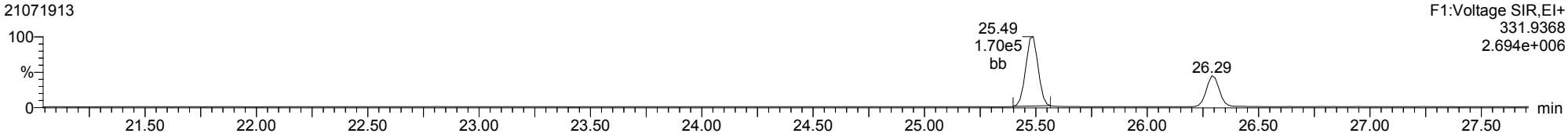
ETHERS6

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

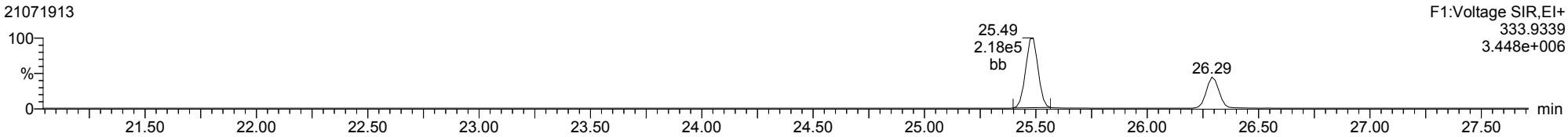
Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-01, Name: 21071913, Date: 19-Jul-2021, Time: 20:22:13, Conditions: AUTOSPEC01, User: pk

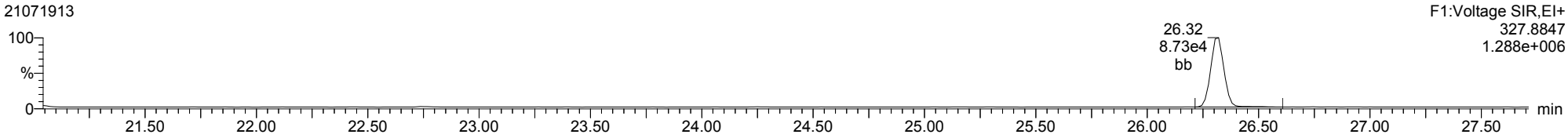
13C-1234-TCDD



13C-1234-TCDD



37CL-2378-TCDD



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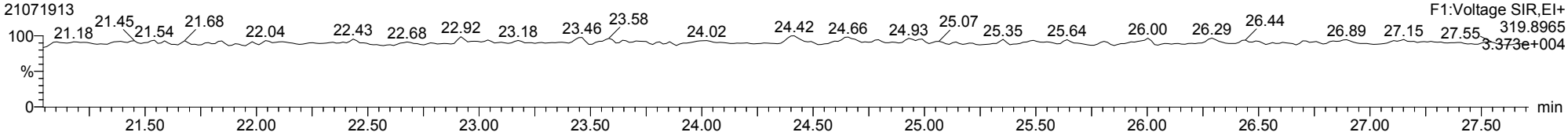
2378-TCDD



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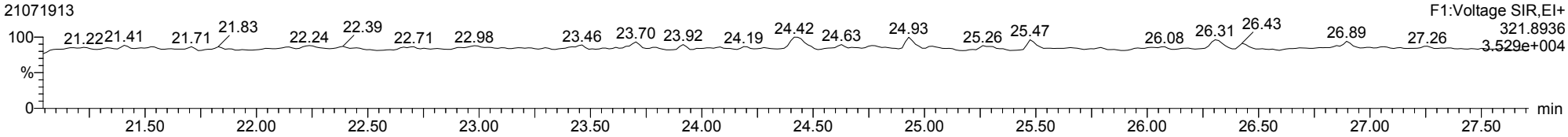

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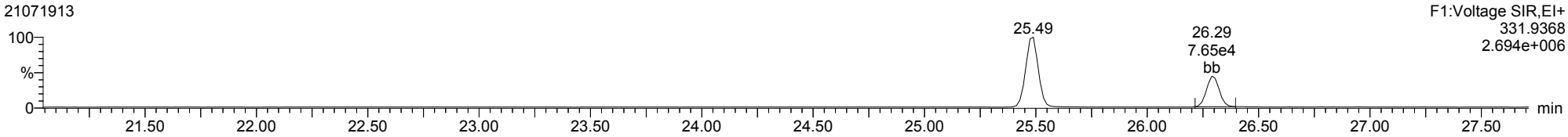

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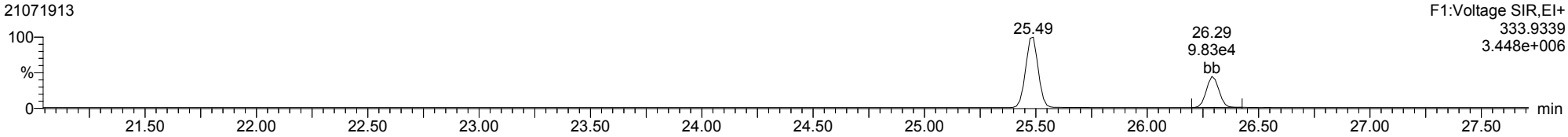

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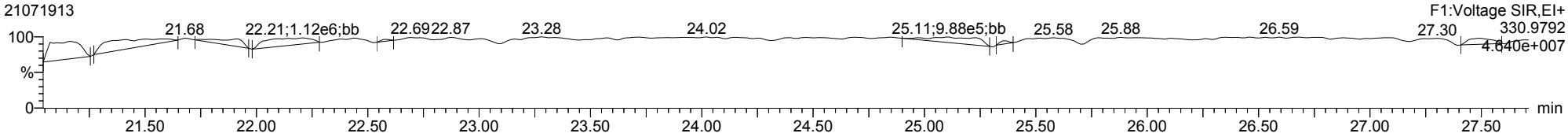

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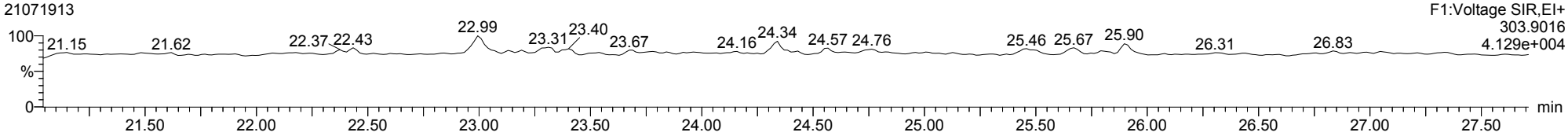

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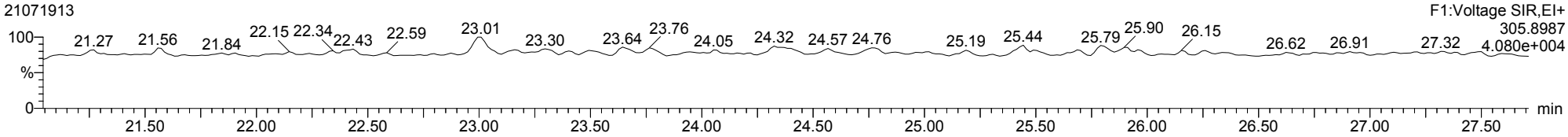

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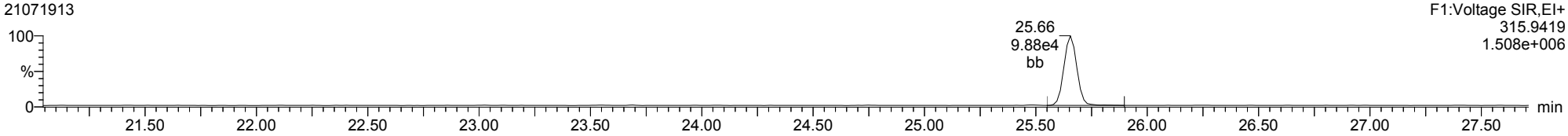

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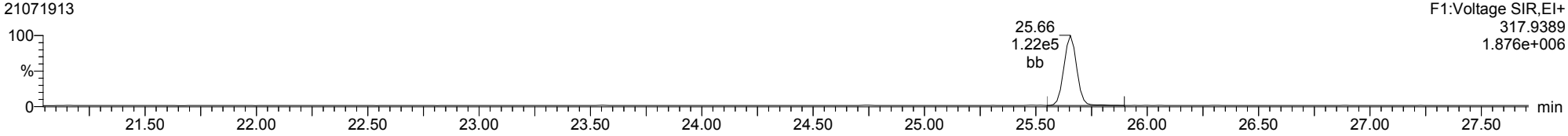
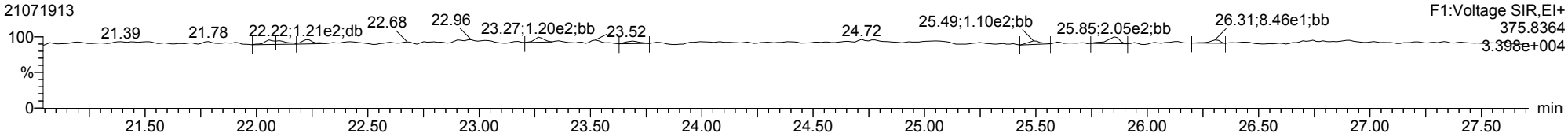


FUNCTION1 HXCDPE



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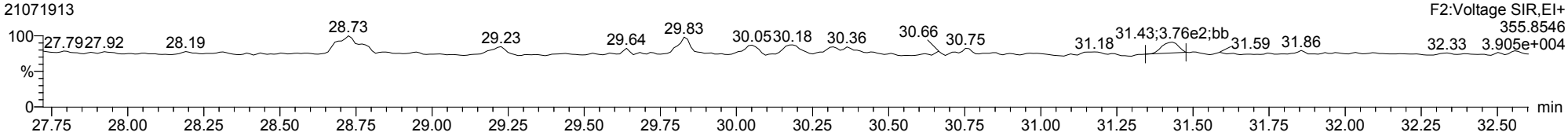
12378-PeCDD



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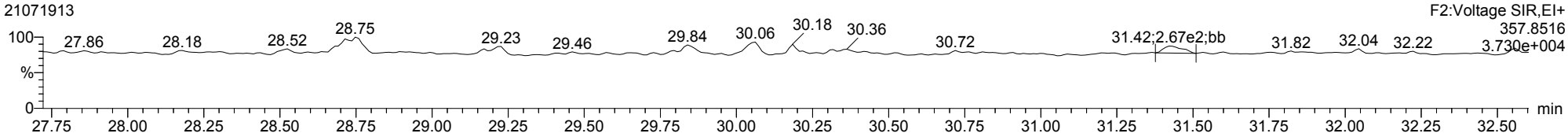

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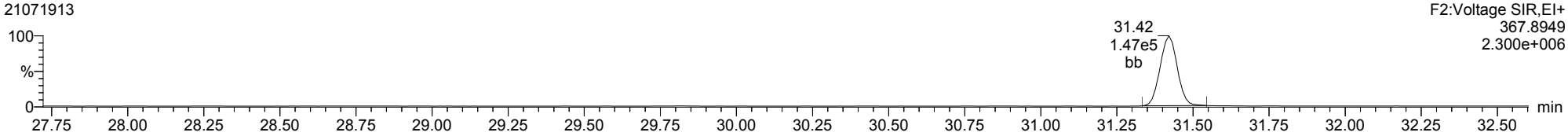

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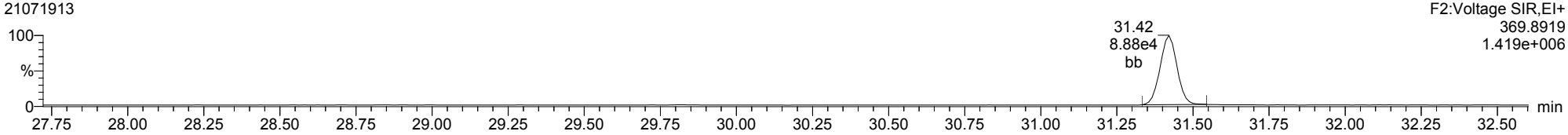
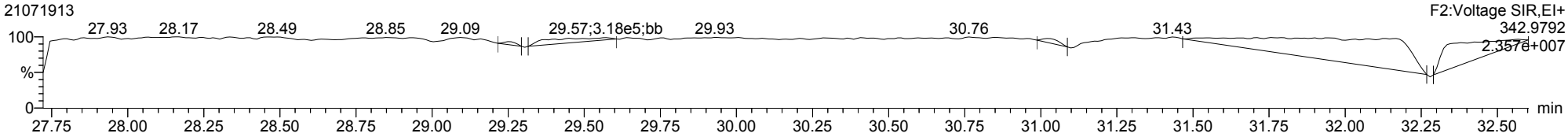


FUNCTION2 PFK



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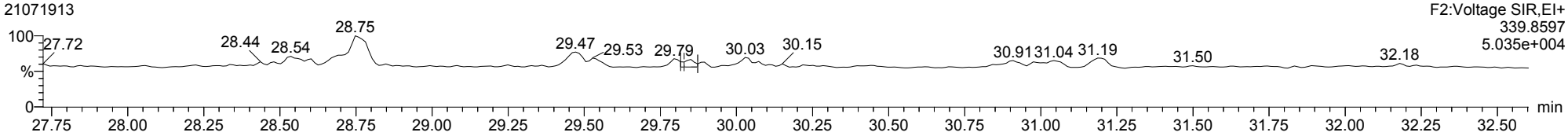

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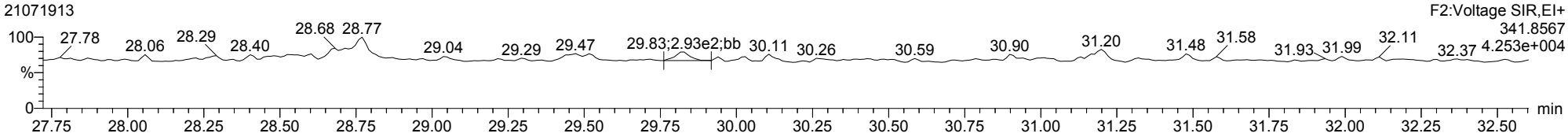

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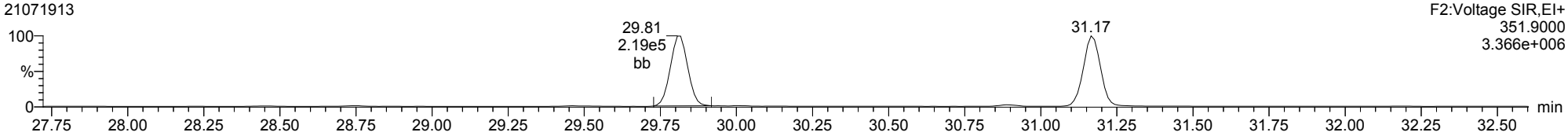

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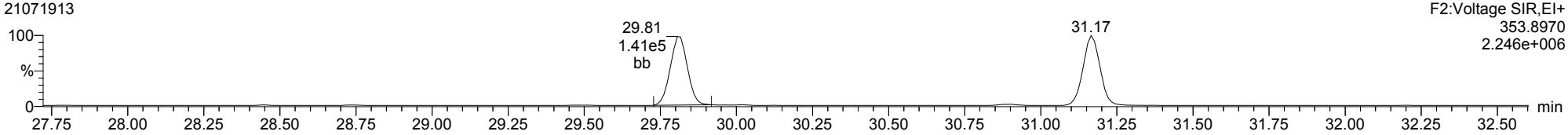
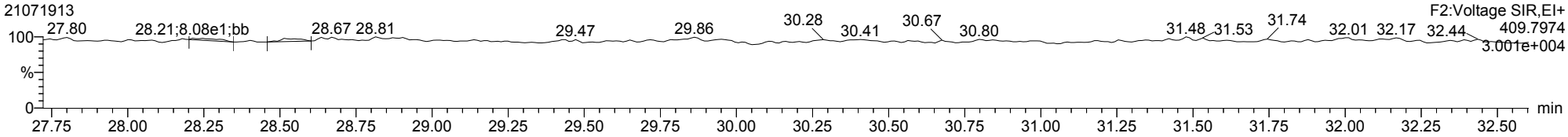


FUNCTION2 HPCDPE



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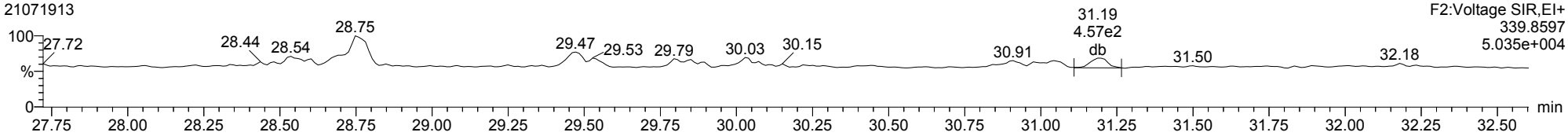
23478-PeCDF



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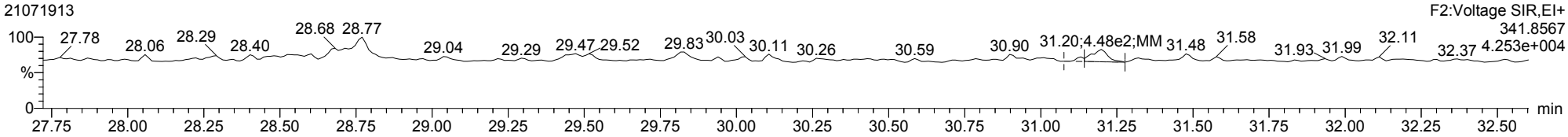

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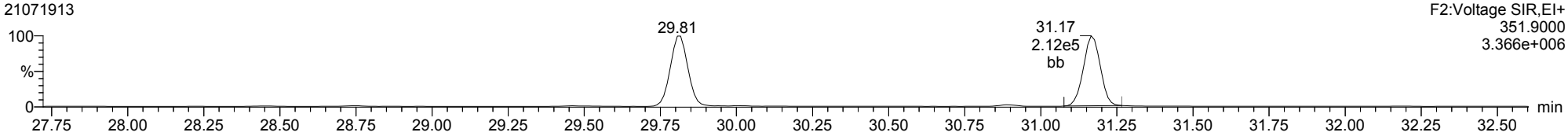

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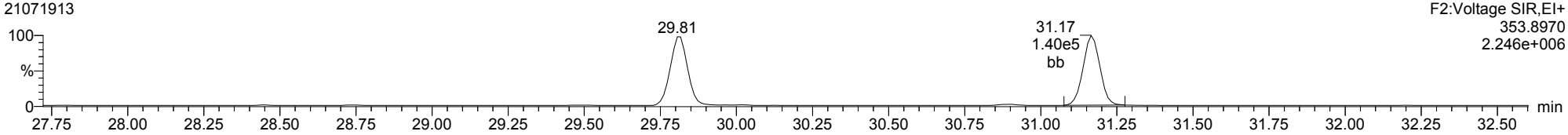

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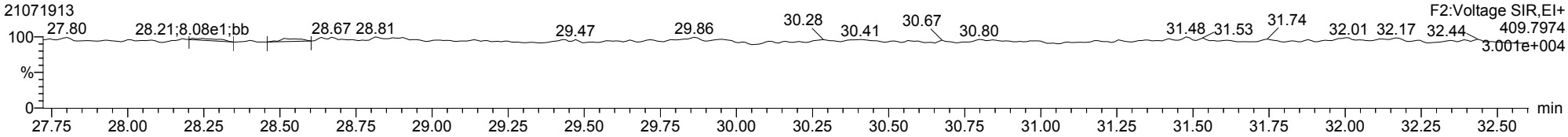

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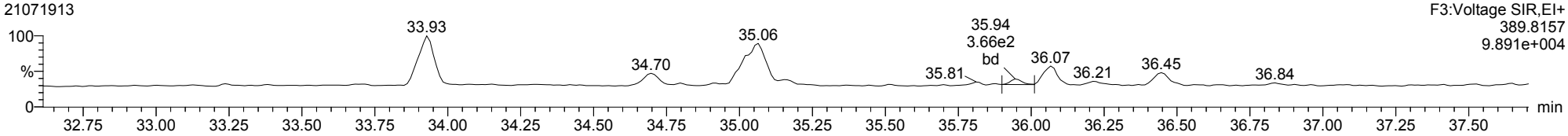
123478-HxCDD



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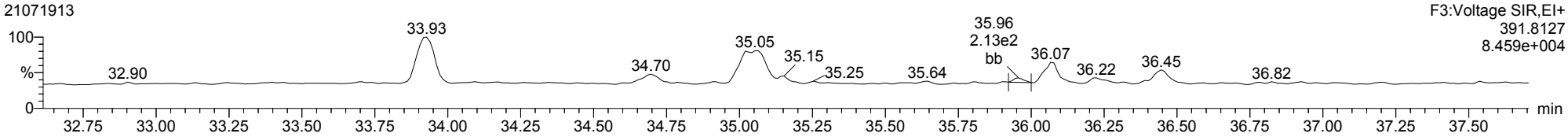

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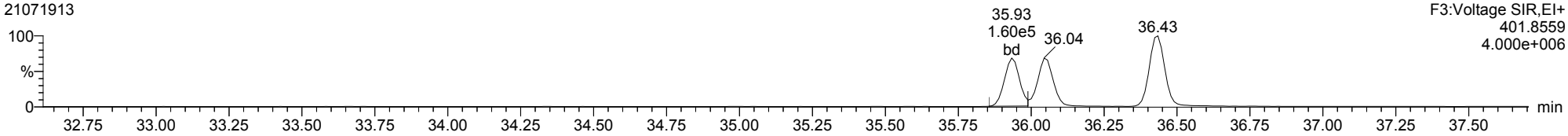

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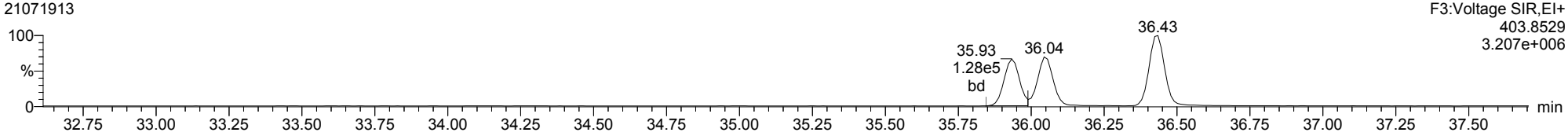

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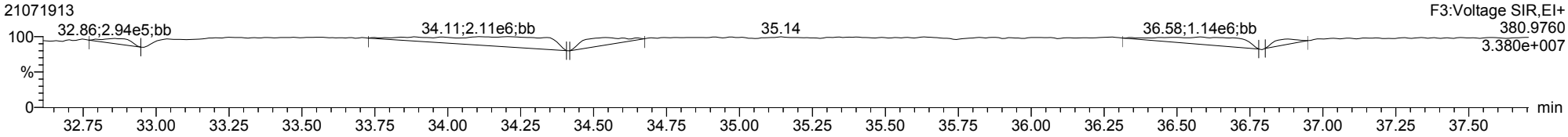

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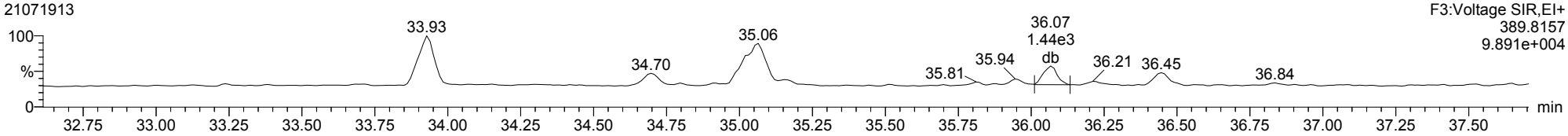

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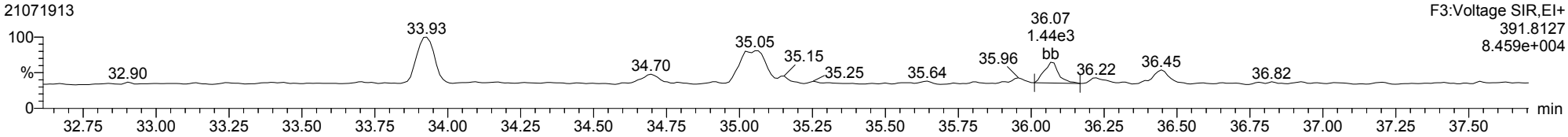

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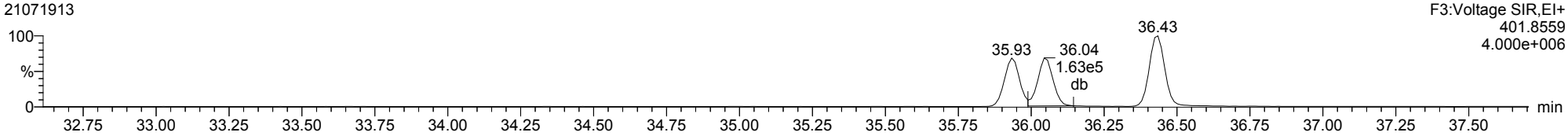

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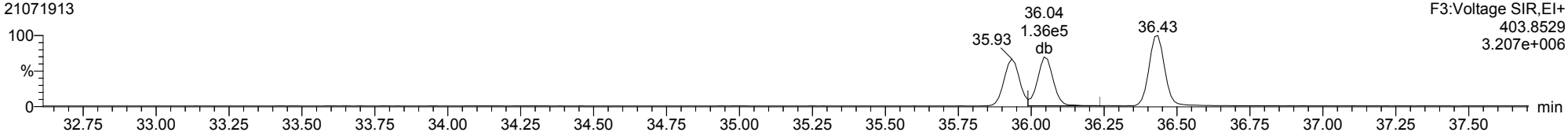

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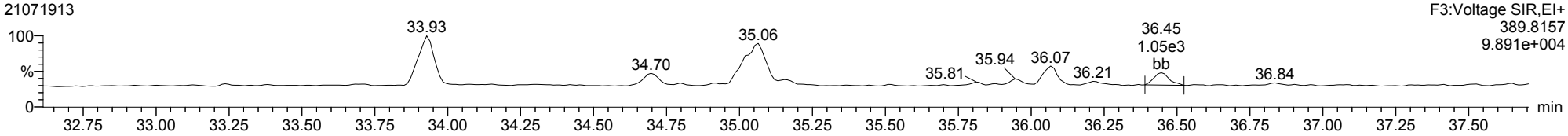

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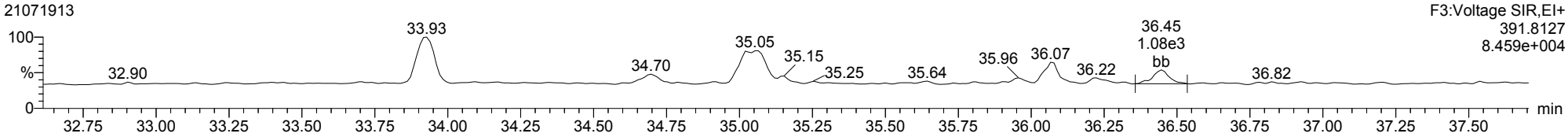

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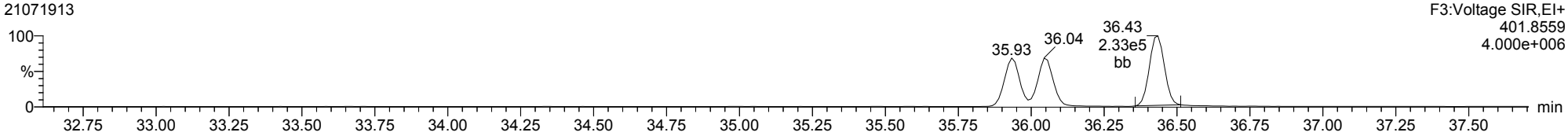

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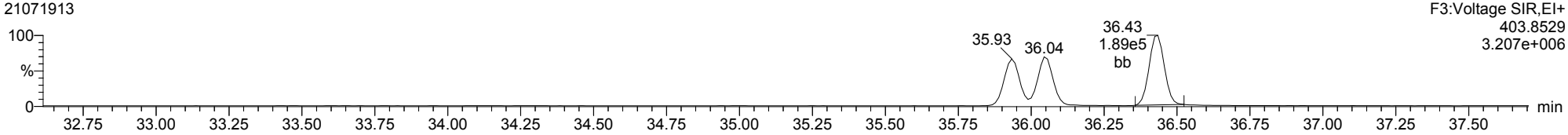

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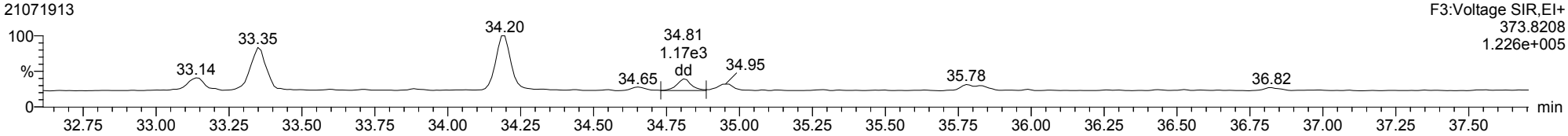

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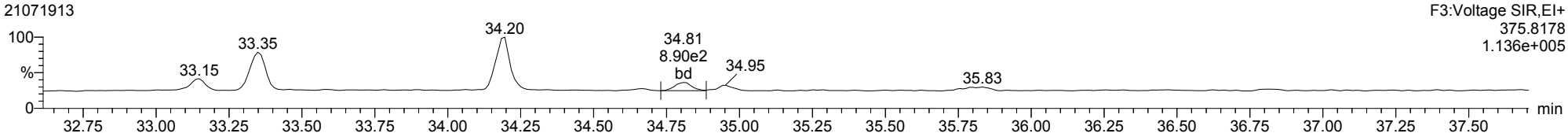

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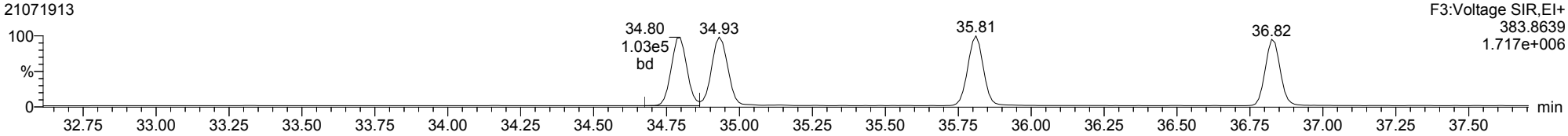

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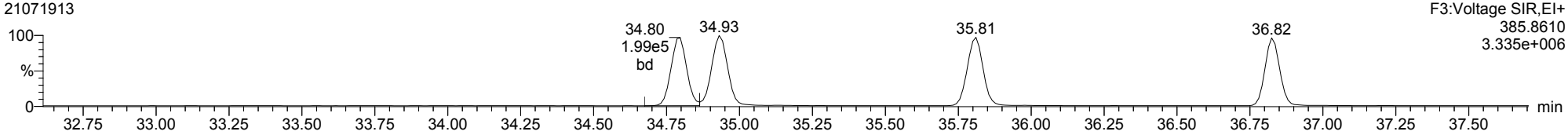
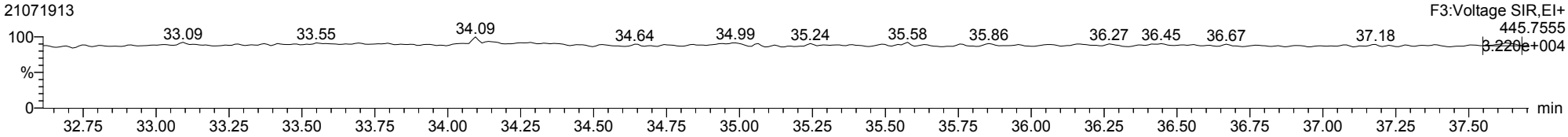


FUNCTION3 OCDPE



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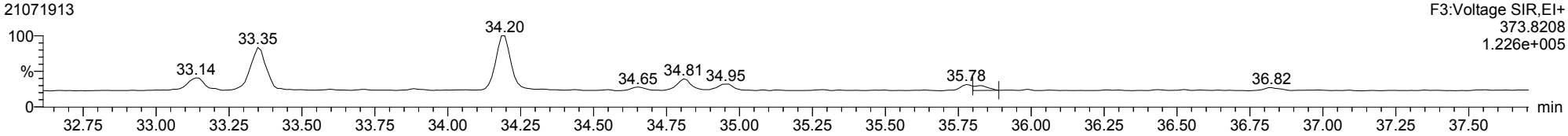
234678-HxCDF



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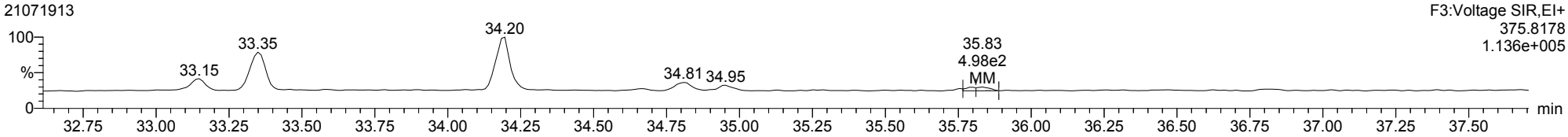

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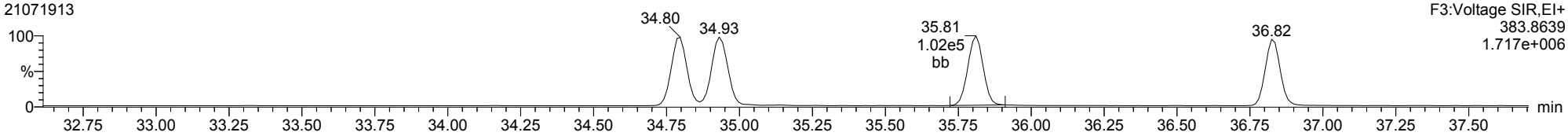

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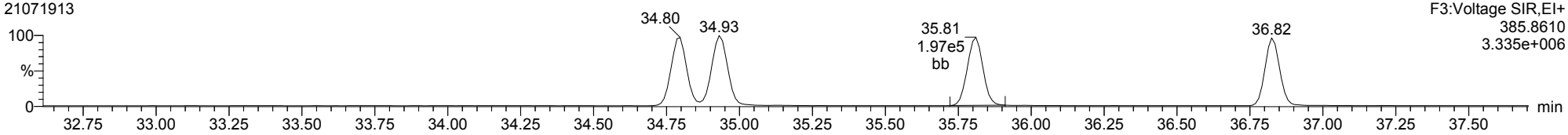

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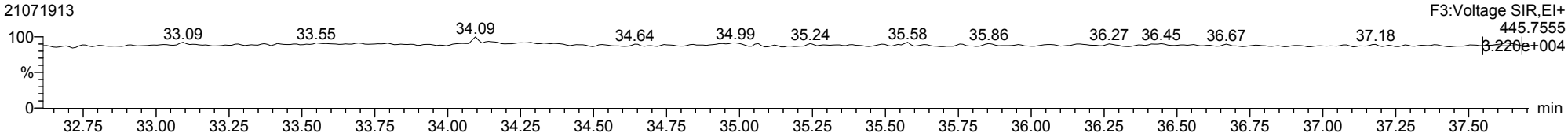

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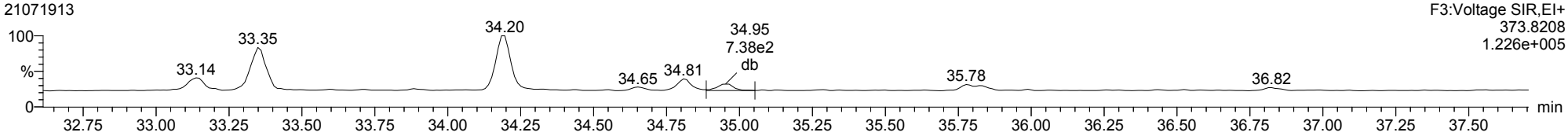

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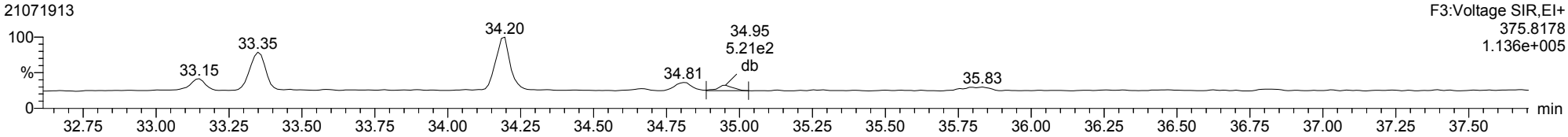

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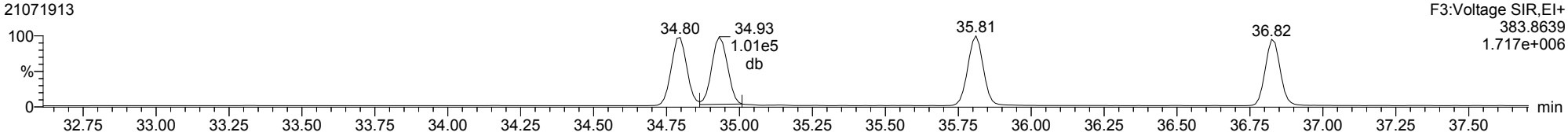

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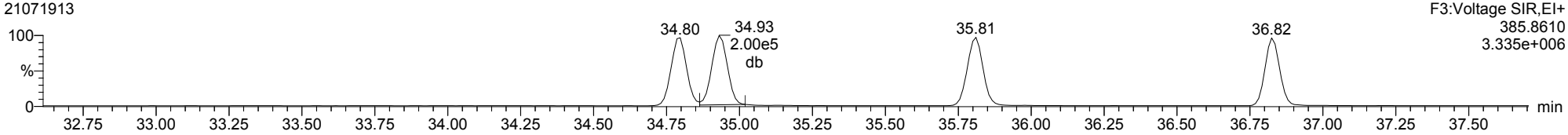

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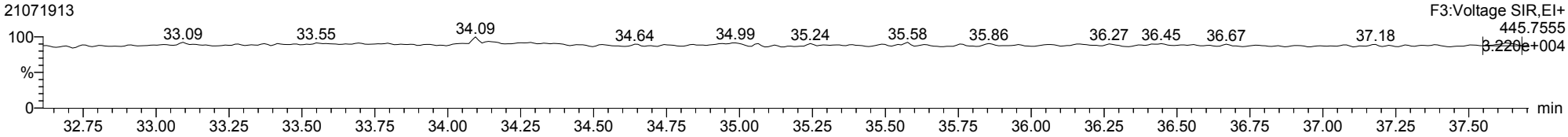

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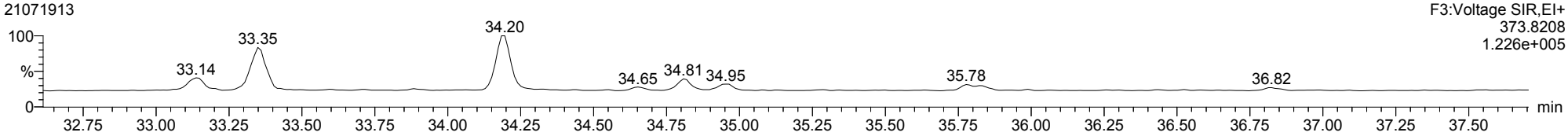

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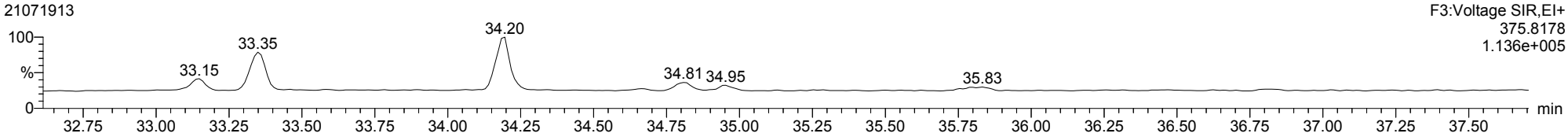

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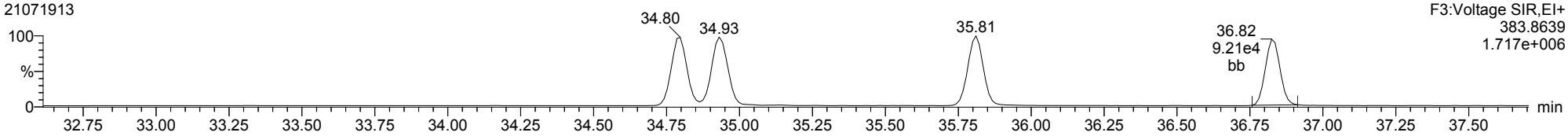

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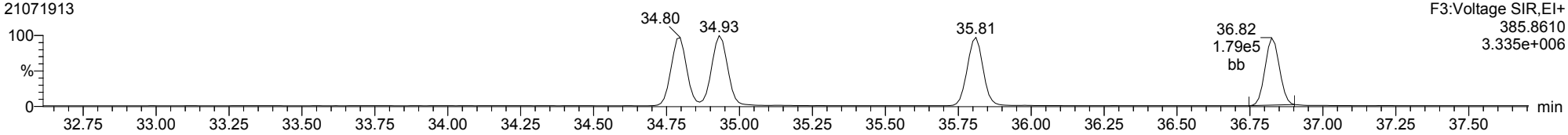

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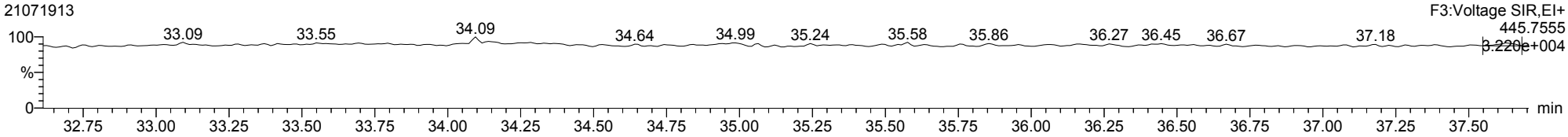

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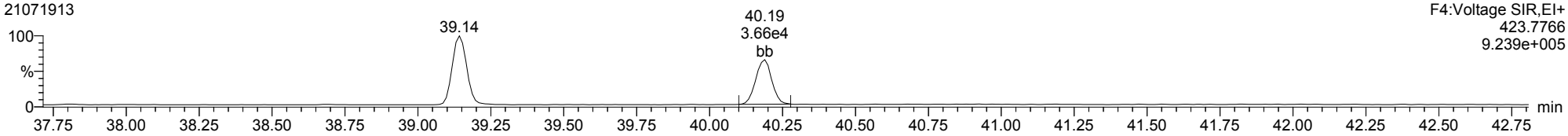

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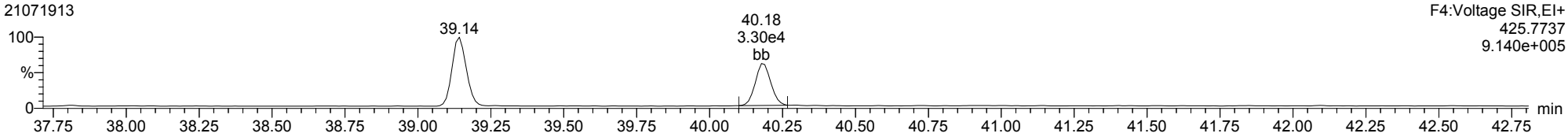

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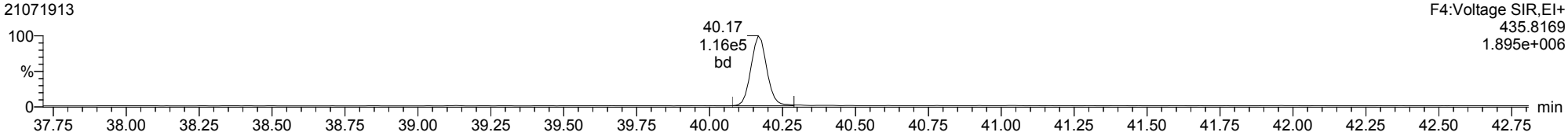

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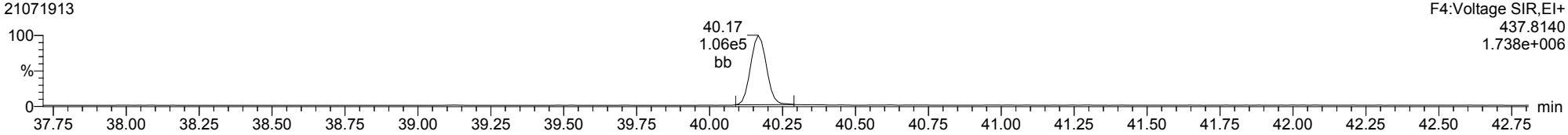

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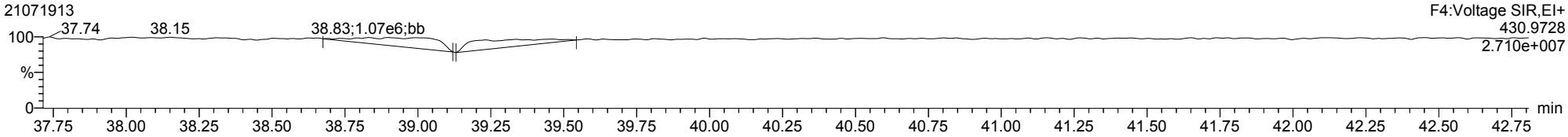

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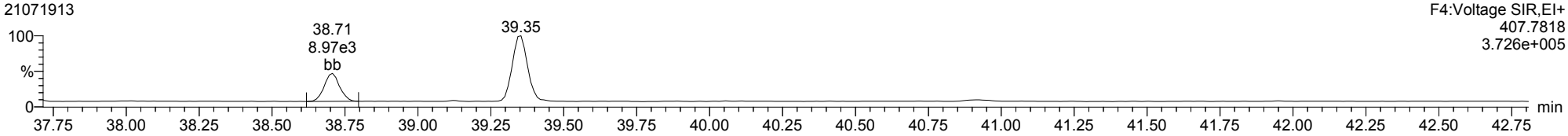

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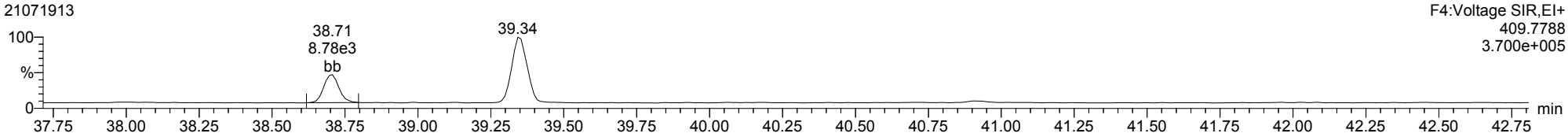

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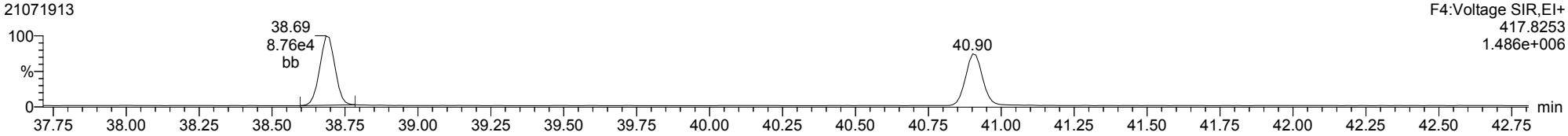

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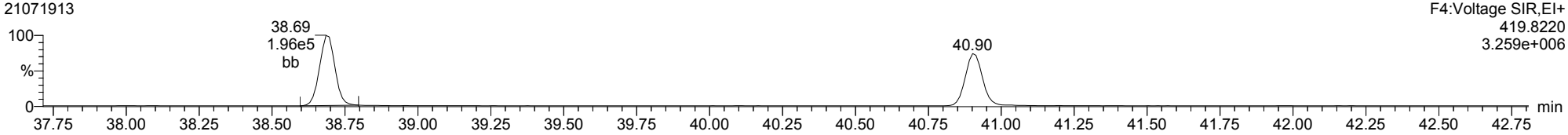

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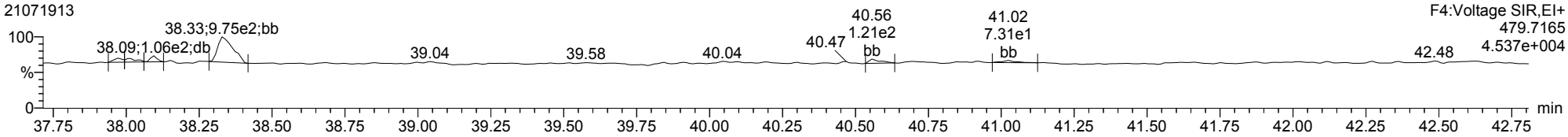

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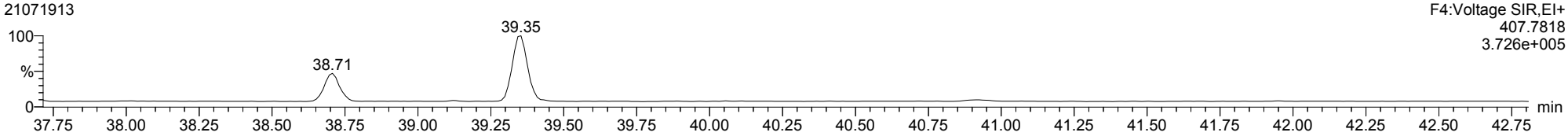

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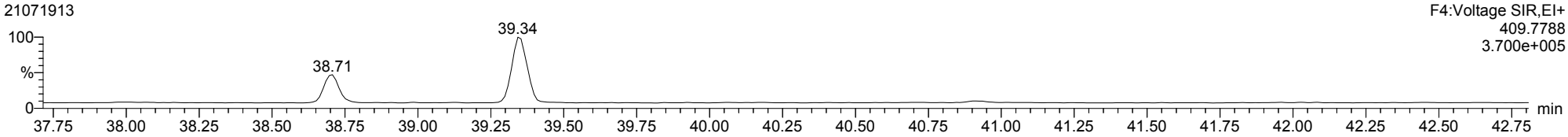

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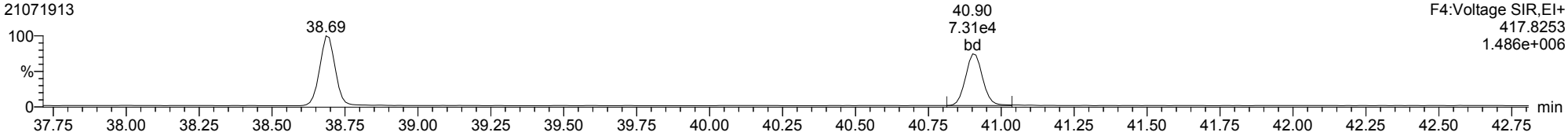

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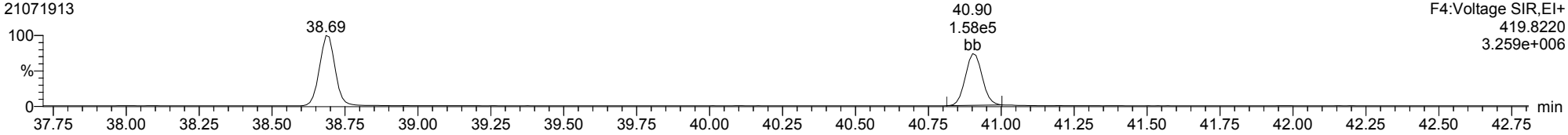

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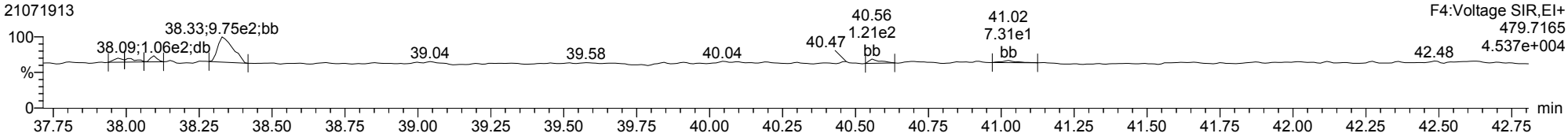

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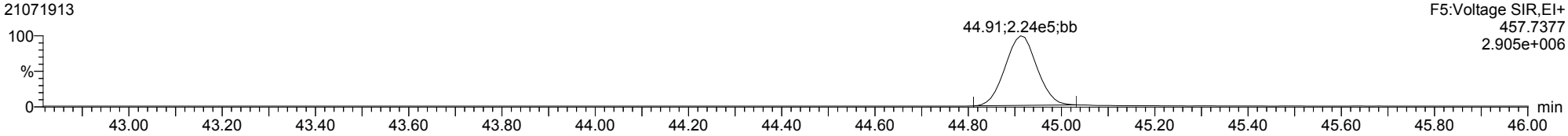

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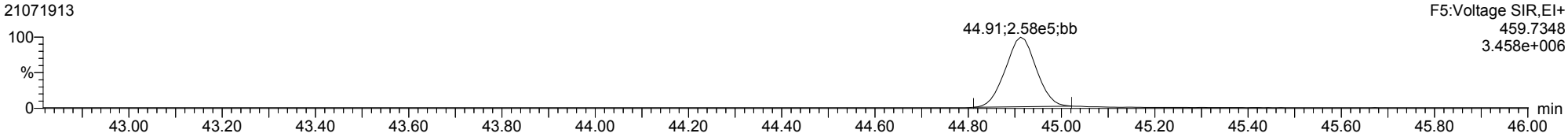

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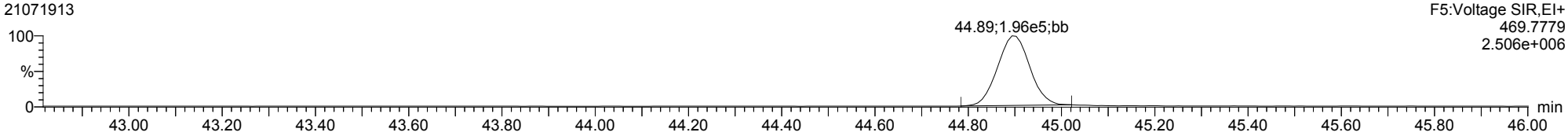

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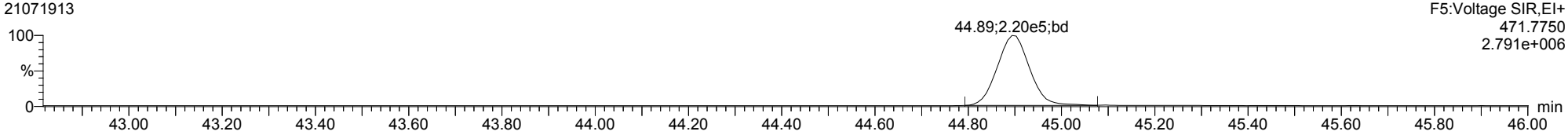

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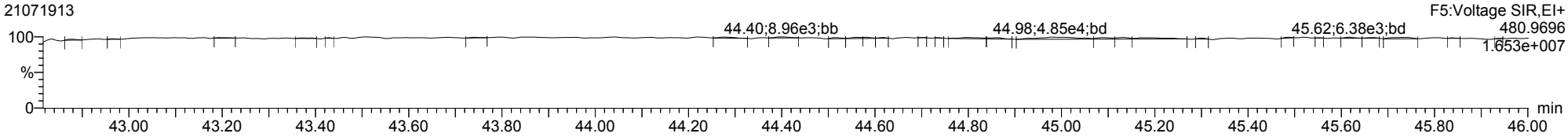

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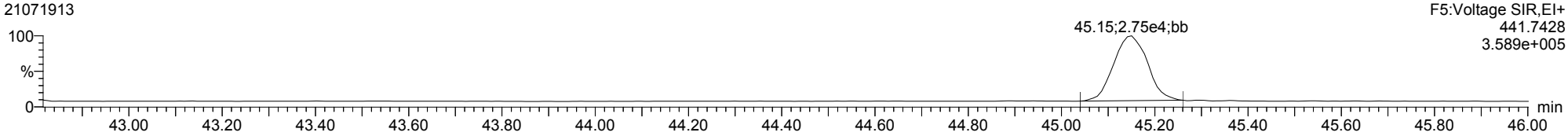

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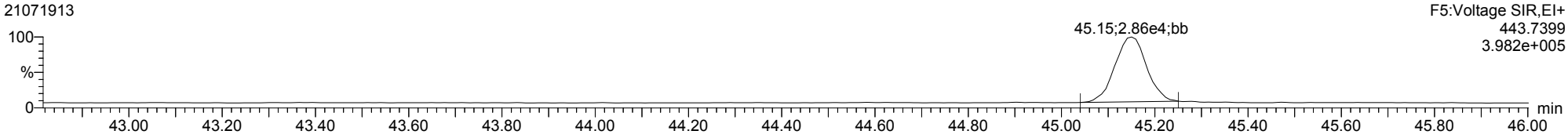

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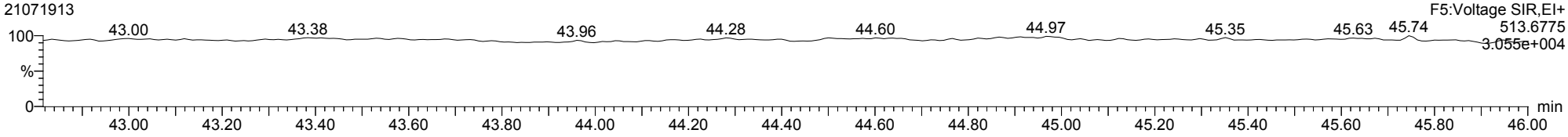

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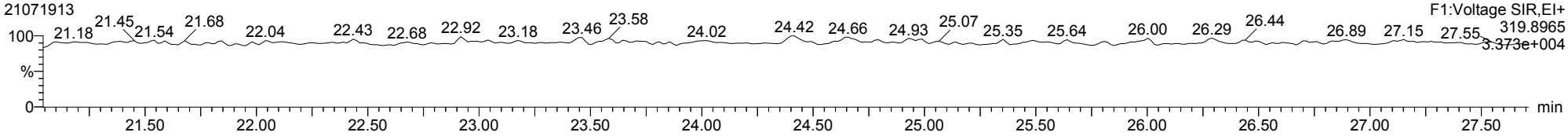

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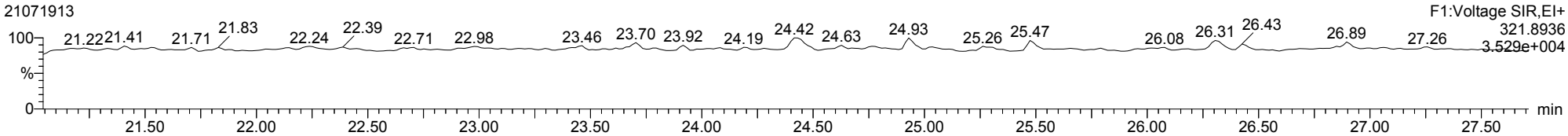

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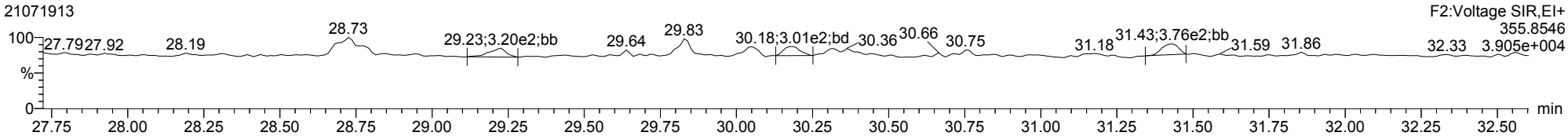

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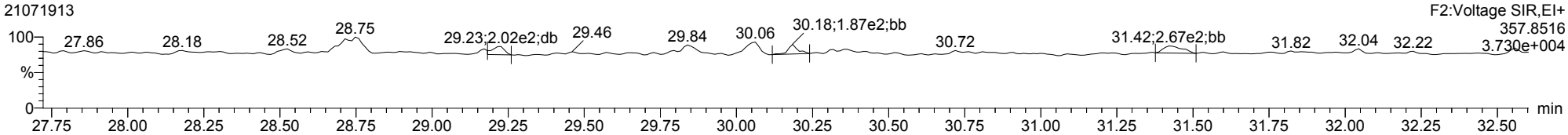

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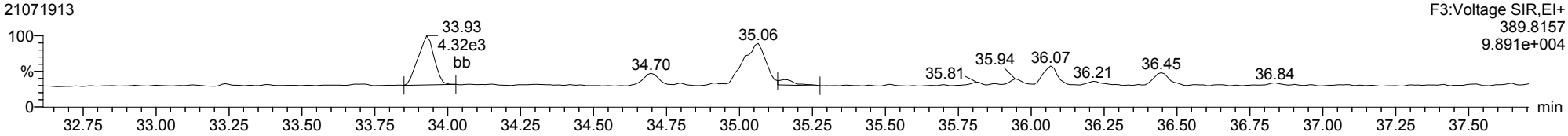

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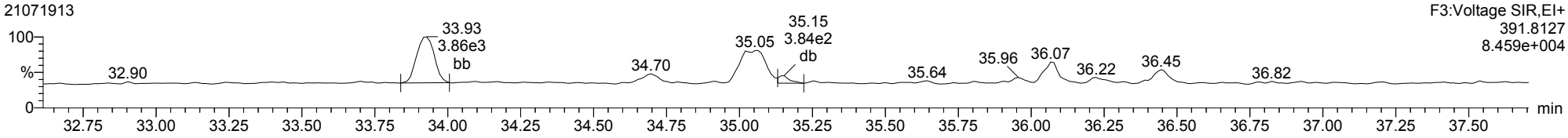

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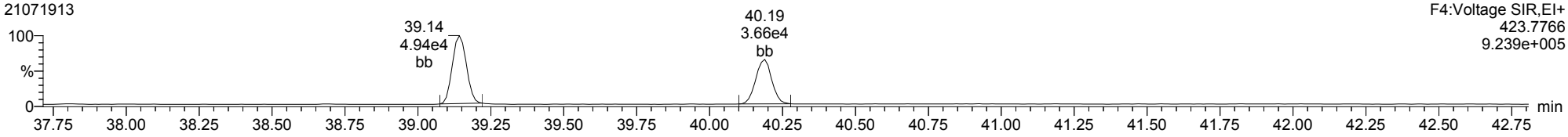

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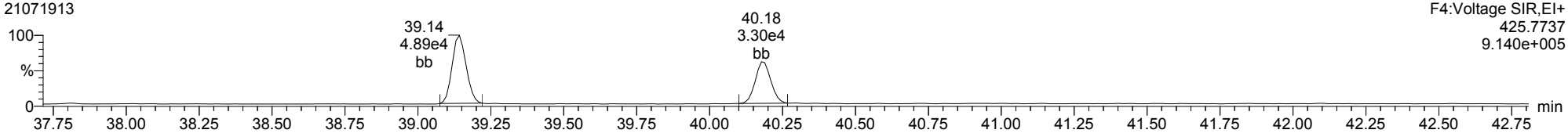

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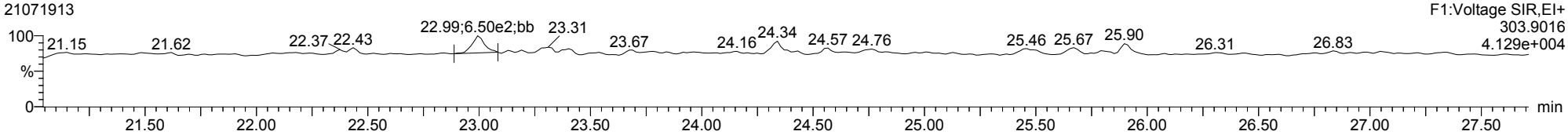

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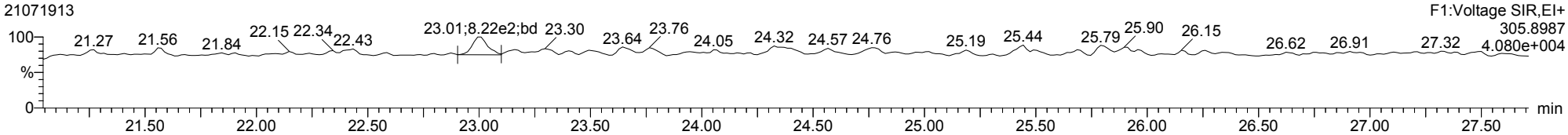

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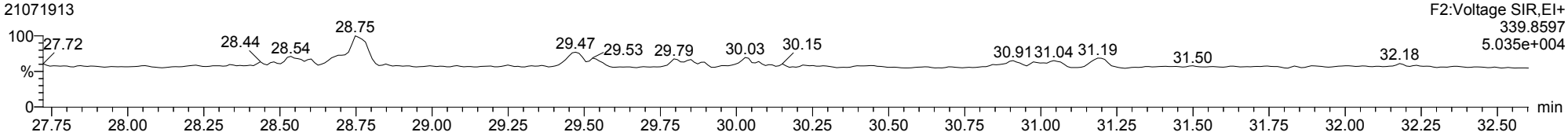

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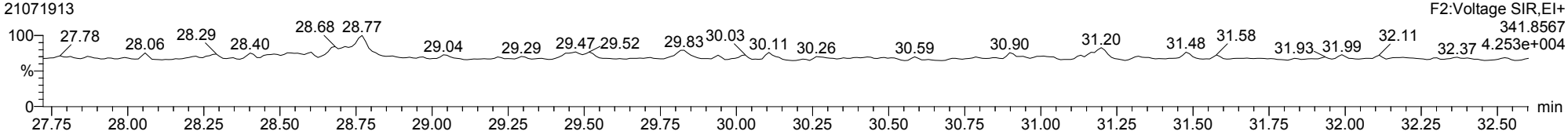

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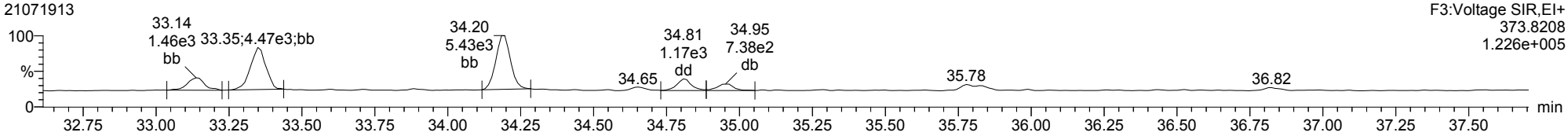
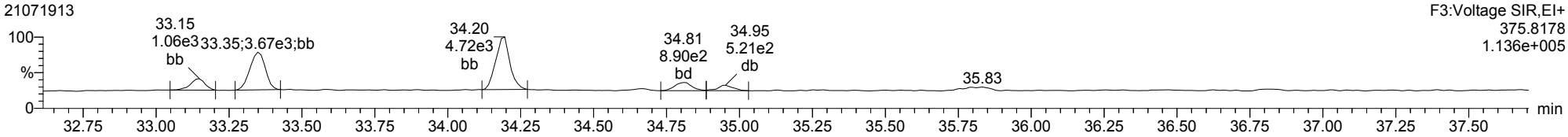
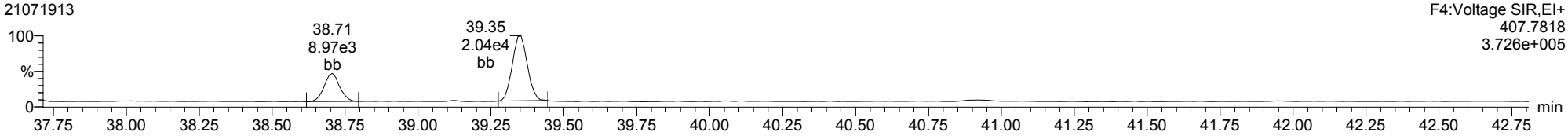


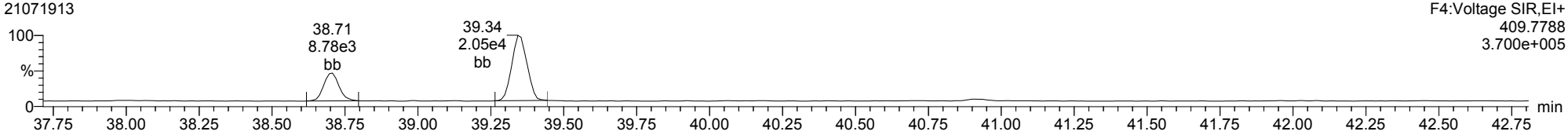
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564B

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-02 B	File ID:	21071914
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 21:11
% Solids:	64.23	Preparation:	EPA 1613	Initial/Final:	15.59 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.339	0.999	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.735	0.655-0.886	0.216	0.999	0.323	ng/kg	J
57117-41-6	1,2,3,7,8-PeCDF	1	1.704	1.318-1.783	0.319	0.999	0.254	ng/kg	J
57117-31-4	2,3,4,7,8-PeCDF	1	1.746	1.318-1.783	0.284	0.999	0.423	ng/kg	J
40321-76-4	1,2,3,7,8-PeCDD	1		1.318-1.783	0.305	0.999	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.906	1.054-1.426	0.189	0.999	0.764	ng/kg	EMPC, J
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.282	1.054-1.426	0.194	0.999	0.488	ng/kg	J
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.200	1.054-1.426	0.183	0.999	0.441	ng/kg	J
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.191	0.999	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	2.466	1.054-1.426	0.206	0.999	0.412	ng/kg	EMPC, J
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.992	1.054-1.426	0.215	0.999	1.61	ng/kg	EMPC
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.442	1.054-1.426	0.217	0.999	1.04	ng/kg	EMPC
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.151	0.893-1.208	0.164	0.999	6.76	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.303	0.893-1.208	0.230	0.999	0.699	ng/kg	EMPC, J
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.076	0.893-1.208	0.487	2.50	35.1	ng/kg	
39001-02-0	OCDF	1	0.860	0.757-1.024	0.273	2.50	19.7	ng/kg	
3268-87-9	OCDD	1	0.871	0.757-1.024	0.328	9.99	258	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	0.777	ng/kg
41903-57-5	Total TCDD	1	0.000			0.999	0.629	ng/kg
30402-15-4	Total PeCDF	1	0.000			0.999	2.72	ng/kg
36088-22-9	Total PeCDD	1	0.000			0.999	0.441	ng/kg
55684-94-1	Total HxCDF	1	0.000			0.999	4.88	ng/kg
34465-46-8	Total HxCDD	1	0.000			0.999	7.78	ng/kg
38998-75-3	Total HpCDF	1	0.000			0.999	20.8	ng/kg
37871-00-4	Total HpCDD	1	0.000			0.999	75.7	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 1.44
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 1.62

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564B

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-02	File ID:	21071914
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 21:11
Solids Wt%:	64.23	Preparation:	EPA 1613	Initial/Final:	15.59 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.791	0.655-0.886	0.204	45.9	24 - 169 %	
13C12-2,3,7,8-TCDD		0.801	0.655-0.886	0.271	58.3	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.522	1.318-1.783	0.278	82.3	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.583	1.318-1.783	0.289	82.5	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.665	1.318-1.783	0.268	78.2	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.508	0.434-0.587	0.250	81.5	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.514	0.434-0.587	0.232	75.0	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.513	0.434-0.587	0.262	82.3	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.502	0.434-0.587	0.290	82.5	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.252	1.054-1.426	0.210	88.4	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.220	1.054-1.426	0.189	80.3	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.451	0.374-0.506	0.230	79.8	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.443	0.374-0.506	0.279	79.5	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.063	0.893-1.208	0.417	74.5	23 - 140 %	
13C12-OCDD		0.909	0.757-1.024	0.276	79.4	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.071	59.6	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:54 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-02, Name: 21071914, Date: 19-Jul-2021, Time: 21:11:18, 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					0.782		0.770	1308	934								
12378-PeCDF	29.850	1.001	3.189e2	1.872e2	0.866	1.704	1.550	2034	1216	6.98e3	4.37e3	3.4	3.6	NO	bd	bb	0.127
23478-PeCDF	31.209	1.001	5.836e2	3.343e2	0.980	1.746	1.550	2034	1216	9.98e3	8.44e3	4.9	6.9	NO	bb	bd	0.212
123478-HxCDF	34.808	1.000	9.152e2	4.802e2	1.002	1.906	1.240	1154	677	1.47e4	7.69e3	12.7	11.4	YES	dd	bb	0.382
234678-HxCDF	35.799	0.999	4.408e2	3.672e2	1.043	1.200	1.240	1154	677	5.63e3	5.78e3	4.9	8.5	NO	MM	bb	0.221
123678-HxCDF	34.964	1.001	4.771e2	3.722e2	0.961	1.282	1.240	1154	677	7.59e3	6.77e3	6.6	10.0	NO	db	MM	0.244
123789-HxCDF					0.994		1.240	1154	677								
1234678-HpCDF	38.696	1.000	6.227e3	5.412e3	1.058	1.151	1.050	893	731	1.07e5	9.20e4	120.3	125.7	NO	bd	bb	3.382
1234789-HpCDF	40.913	1.000	5.672e2	4.353e2	1.070	1.303	1.050	893	731	7.25e3	5.57e3	8.1	7.6	YES	bb	bb	0.350
OCDF	45.150	1.005	1.357e4	1.578e4	1.257	0.860	0.890	876	857	1.79e5	2.09e5	203.9	243.5	NO	bd	bb	9.847
2378-TCDD	26.335	1.001	2.292e2	3.117e2	1.307	0.735	0.770	1030	854	3.27e3	4.58e3	3.2	5.4	NO	bd	bd	0.162
12378-PeCDD					0.979		1.550	1092	1047								
123478-HxCDD	35.944	1.000	4.941e2	2.004e2	0.956	2.466	1.240	938	1063	7.91e3	3.86e3	8.4	3.6	YES	dd	bd	0.206
123678-HxCDD	36.078	1.001	1.358e3	1.368e3	0.953	0.992	1.240	938	1063	2.11e4	2.54e4	22.5	23.9	YES	db	db	0.805
123789-HxCDD	36.457	1.011	1.005e3	6.969e2	0.927	1.442	1.240	938	1063	1.62e4	1.35e4	17.3	12.7	YES	bb	bb	0.519
1234678-HpCDD	40.189	1.000	2.396e4	2.227e4	1.055	1.076	1.050	1905	1583	3.89e5	3.45e5	204.3	217.8	NO	bb	bd	17.579
OCDD	44.921	1.000	1.531e5	1.757e5	1.074	0.871	0.890	811	971	2.04e6	2.32e6	2520.0	2390.4	NO	bb	bb	129.129
13C-2378-TCDF	25.670	1.007	1.508e5	1.907e5	1.925	0.791	0.770	2151	1852	2.24e6	2.85e6	1042.7	1538.1	NO	bb	db	45.863
13C-12378-PeCDF	29.828	1.170	2.773e5	1.822e5	1.442	1.522	1.550	2006	2090	4.26e6	2.81e6	2122.1	1343.0	NO	bb	bb	82.348
13C-23478-PeCDF	31.187	1.224	2.714e5	1.714e5	1.387	1.583	1.550	2006	2090	4.29e6	2.74e6	2138.3	1312.0	NO	bb	bb	82.544
13C-123478-HxCDF	34.808	0.955	1.228e5	2.414e5	1.053	0.508	0.510	1419	1756	1.95e6	3.88e6	1377.2	2208.8	NO	bd	bd	81.467
13C-123678-HxCDF	34.942	0.959	1.227e5	2.389e5	1.135	0.514	0.510	1419	1756	2.00e6	3.96e6	1407.6	2257.3	NO	db	db	75.040
13C-234678-HxCDF	35.822	0.983	1.191e5	2.319e5	1.004	0.513	0.510	1419	1756	1.95e6	3.77e6	1377.2	2144.1	NO	bb	bb	82.339
13C-123789-HxCDF	36.836	1.011	1.064e5	2.121e5	0.909	0.502	0.510	1419	1756	1.93e6	3.79e6	1360.2	2160.4	NO	bb	bb	82.524
13C-1234678-HpCDF	38.685	1.061	1.012e5	2.241e5	0.960	0.451	0.440	955	1711	1.75e6	3.83e6	1828.1	2237.0	NO	bb	bb	79.822
13C-1234789-HpCDF	40.913	1.123	8.221e4	1.855e5	0.794	0.443	0.440	955	1711	1.21e6	2.77e6	1270.1	1618.5	NO	bb	bb	79.454
13C-1234-TCDD	25.489	0.000	1.713e5	2.156e5	1.000	0.794	0.770	1971	1165	2.71e6	3.38e6	1374.2	2902.0	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	1.137e5	1.419e5	1.133	0.801	0.770	1971	1165	1.78e6	2.23e6	901.7	1918.5	NO	bb	bb	58.326
13C-12378-PeCDD	31.443	1.234	1.790e5	1.075e5	0.947	1.665	1.550	952	1639	2.68e6	1.60e6	2818.4	978.5	NO	bb	bb	78.199
13C-123478-HxCDD	35.944	0.986	1.958e5	1.564e5	0.939	1.252	1.240	1309	1065	3.38e6	2.66e6	2583.0	2494.5	NO	bd	bd	88.391
13C-123678-HxCDD	36.056	0.989	1.953e5	1.600e5	1.042	1.220	1.240	1309	1065	3.22e6	2.63e6	2461.4	2464.8	NO	db	db	80.315
13C-1234678-HpCDD	40.178	1.102	1.285e5	1.208e5	0.788	1.063	1.050	1995	1971	2.10e6	1.95e6	1051.0	990.9	NO	bb	bb	74.486
13C-OCDD	44.903	1.232	2.258e5	2.485e5	0.703	0.909	0.890	974	1368	2.88e6	3.17e6	2963.1	2315.3	NO	bb	bb	158.852
13C-123789-HxCDD	36.446	0.000	2.329e5	1.916e5	1.000	1.216	1.240	1309	1065	3.97e6	3.29e6	3030.0	3088.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	1.197e5		1.298			936		1.82e6		1946.7			bb		23.846

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:54 Pacific Daylight Time

ID: 21F0442-02, Name: 21071914, Date: 19-Jul-2021, Time: 21:11:18, 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					0.966		0.770	1308	934								
1289-TCDF					0.736		0.770	1308	934								
13468-PECDF					1.347		1.550	815	825								
12389-PECDF					0.867		1.550	2034	1216								
123468-HXCDF	33.170	0.953	9.684e2	7.372e2	1.036	1.314	1.240	1154	677	1.52e4	1.21e4	13.2	17.9	NO	bb	bd	0.452
1368-TCDD	23.462	0.892	2.078e2	2.832e2	1.256	0.734	0.770	1030	854	3.96e3	3.89e3	3.8	4.6	NO	bb	bb	0.153
1289-TCDD					1.151		0.770	1030	854								
12479-PECDD	28.725	0.914	3.789e2	4.980e2	1.773	0.761	1.550	1092	1047	6.41e3	6.19e3	5.9	5.9	YES	bd	bb	0.173
12389-PECDD					1.171		1.550	1092	1047								
124679-HXCDD	33.928	0.944	3.333e3	3.160e3	1.034	1.055	1.240	938	1063	5.61e4	4.69e4	59.8	44.1	NO	bb	bb	1.784
1234679-HPCDD	39.153	0.975	3.047e4	2.996e4	1.194	1.017	1.050	1905	1583	5.46e5	5.11e5	286.6	322.9	NO	bb	bb	20.299
Total-tetrafurans			4.398e2		0.828			1308		6.36e3							0.389
Total-penta1			2.605e3					815		3.71e4							1.024
Total-pentafurans			9.025e2		0.904			2034		1.70e4							0.339
Total-hexafurans			4.934e3		1.007			1154		7.90e4							2.445
Total-heptafurans			1.737e4		1.064			893		2.96e5							10.421
Total-Furans			3.982e4		0.998			1308		6.14e5							24.465
Total-tetradioxins			4.370e2		1.238			1030		7.23e3							0.315
Total-pentadioxins			5.161e2		1.308			1092		8.61e3							0.221
Total-hexadioxins			7.273e3		0.967			938		1.04e5							3.897
Total-heptadioxins			5.443e4		1.125			1905		9.35e5							37.879
Total-Dioxins			2.158e5		1.141			1030		3.10e6							171.503
Total-TEQ			2.557e5					1030		3.71e6							195.968
FUNCTION1 PFK			9.321e6					626987		5.05e7							
FUNCTION2 PFK			1.227e7					307929		1.85e7							0.000
FUNCTION3 PFK			7.723e6					304803		1.69e7							0.000
FUNCTION4 PFK			4.575e5					306763		1.08e7							
FUNCTION5 PFK			8.498e4					192416		2.92e6							
FUNCTION1 HXCD...			7.750e2					699		1.34e4							0.000
FUNCTION1 HPCD...			2.229e3					783		3.37e4							0.000
FUNCTION2 HPCD...			4.370e2					730		5.80e3							0.000
FUNCTION3 OCDPE			0.000e0					515		0.00e0							
FUNCTION4 NCDPE			1.258e3					560		2.93e4							0.000
FUNCTION5 DCDPE			7.680e1					499		1.64e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:54 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-02, Name: 21071914, Date: 19-Jul-2021, Time: 21:11:18, 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	23.01	4.398e2	6.595e2	0.828	0.67	0.77	4.9	YES	NO	bd	bb	0.389

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.11	2.605e3	1.711e3		1.52	1.55	45.6	YES	NO	bb	bb	1.024

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.21	5.836e2	3.343e2	0.980	1.75	1.55	4.9	YES	NO	bb	bd	0.212
2	12378-PeCDF	29.85	3.189e2	1.872e2	0.866	1.70	1.55	3.4	YES	NO	bd	bb	0.127

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.80	4.408e2	3.672e2	1.043	1.20	1.24	4.9	YES	NO	MM	bb	0.221
2	123678-HxCDF	34.96	4.771e2	3.722e2	0.961	1.28	1.24	6.6	YES	NO	db	MM	0.244
3	Total-hexafurans	33.36	3.048e3	2.319e3	1.007	1.31	1.24	43.9	YES	NO	bb	db	1.527
4	123468-HXCDF	33.17	9.684e2	7.372e2	1.036	1.31	1.24	13.2	YES	NO	bb	bd	0.452

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.70	6.227e3	5.412e3	1.058	1.15	1.05	120.3	YES	NO	bd	bb	3.382
2	Total-heptafurans	39.36	1.114e4	1.106e4	1.064	1.01	1.05	211.4	YES	NO	bb	bb	7.039

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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	23.01	4.398e2	6.595e2	0.828	0.67	0.77	4.9	YES	NO	bd	bb	0.389
2	23478-PeCDF	31.21	5.836e2	3.343e2	0.980	1.75	1.55	4.9	YES	NO	bb	bd	0.212
3	12378-PeCDF	29.85	3.189e2	1.872e2	0.866	1.70	1.55	3.4	YES	NO	bd	bb	0.127
4	234678-HxCDF	35.80	4.408e2	3.672e2	1.043	1.20	1.24	4.9	YES	NO	MM	bb	0.221
5	123678-HxCDF	34.96	4.771e2	3.722e2	0.961	1.28	1.24	6.6	YES	NO	db	MM	0.244
6	Total-hexafurans	33.36	3.048e3	2.319e3	1.007	1.31	1.24	43.9	YES	NO	bb	db	1.527
7	123468-HXCDF	33.17	9.684e2	7.372e2	1.036	1.31	1.24	13.2	YES	NO	bb	bd	0.452
8	1234678-HpCDF	38.70	6.227e3	5.412e3	1.058	1.15	1.05	120.3	YES	NO	bd	bb	3.382
9	OCDF	45.15	1.357e4	1.578e4	1.257	0.86	0.89	203.9	YES	NO	bd	bb	9.847
10	Total-heptafurans	39.36	1.114e4	1.106e4	1.064	1.01	1.05	211.4	YES	NO	bb	bb	7.039
11	Total-penta1	27.11	2.605e3	1.711e3		1.52	1.55	45.6	YES	NO	bb	bb	1.024

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.46	2.078e2	2.832e2	1.256	0.73	0.77	3.8	YES	NO	bb	bb	0.153
2	2378-TCDD	26.34	2.292e2	3.117e2	1.307	0.74	0.77	3.2	YES	NO	bd	bd	0.162

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	30.07	5.161e2	3.102e2	1.308	1.66	1.55	7.9	YES	NO	bd	bb	0.221

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.24	2.480e2	1.963e2	0.967	1.26	1.24	5.5	YES	NO	bb	bb	0.130
2	Total-hexadioxins	35.06	3.692e3	3.095e3	0.967	1.19	1.24	45.9	YES	NO	dd	bd	1.984
3	124679-HXCDD	33.93	3.333e3	3.160e3	1.034	1.05	1.24	59.8	YES	NO	bb	bb	1.784

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.19	2.396e4	2.227e4	1.055	1.08	1.05	204.3	YES	NO	bb	bd	17.579
2	1234679-HPCDD	39.15	3.047e4	2.996e4	1.194	1.02	1.05	286.6	YES	NO	bb	bb	20.299

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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	23.46	2.078e2	2.832e2	1.256	0.73	0.77	3.8	YES	NO	bb	bb	0.153
2	Total-Dioxins	22.65	7.922e1	1.043e2	1.141	0.76	0.77	1.8	NO	NO	bb	db	0.063
3	2378-TCDD	26.34	2.292e2	3.117e2	1.307	0.74	0.77	3.2	YES	NO	bd	bd	0.162
4	Total-pentadioxins	30.07	5.161e2	3.102e2	1.308	1.66	1.55	7.9	YES	NO	bd	bb	0.221
5	Total-hexadioxins	36.24	2.480e2	1.963e2	0.967	1.26	1.24	5.5	YES	NO	bb	bb	0.130
6	Total-hexadioxins	35.06	3.692e3	3.095e3	0.967	1.19	1.24	45.9	YES	NO	dd	bd	1.984
7	124679-HXCDD	33.93	3.333e3	3.160e3	1.034	1.05	1.24	59.8	YES	NO	bb	bb	1.784
8	1234678-HpCDD	40.19	2.396e4	2.227e4	1.055	1.08	1.05	204.3	YES	NO	bb	bd	17.579
9	1234679-HPCDD	39.15	3.047e4	2.996e4	1.194	1.02	1.05	286.6	YES	NO	bb	bb	20.299
10	OCDD	44.92	1.531e5	1.757e5	1.074	0.87	0.89	2520.0	YES	NO	bb	bb	129.129

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.01	4.398e2	6.595e2	0.828	0.67	0.77	4.9	YES	NO	bd	bb	0.389
2	23478-PeCDF	31.21	5.836e2	3.343e2	0.980	1.75	1.55	4.9	YES	NO	bb	bd	0.212
3	12378-PeCDF	29.85	3.189e2	1.872e2	0.866	1.70	1.55	3.4	YES	NO	bd	bb	0.127
4	234678-HxCDF	35.80	4.408e2	3.672e2	1.043	1.20	1.24	4.9	YES	NO	MM	bb	0.221
5	123678-HxCDF	34.96	4.771e2	3.722e2	0.961	1.28	1.24	6.6	YES	NO	db	MM	0.244
6	Total-hexafurans	33.36	3.048e3	2.319e3	1.007	1.31	1.24	43.9	YES	NO	bb	db	1.527
7	123468-HXCDF	33.17	9.684e2	7.372e2	1.036	1.31	1.24	13.2	YES	NO	bb	bd	0.452
8	1234678-HpCDF	38.70	6.227e3	5.412e3	1.058	1.15	1.05	120.3	YES	NO	bd	bb	3.382
9	OCDF	45.15	1.357e4	1.578e4	1.257	0.86	0.89	203.9	YES	NO	bd	bb	9.847
10	Total-heptafurans	39.36	1.114e4	1.106e4	1.064	1.01	1.05	211.4	YES	NO	bb	bb	7.039
11	Total-penta1	27.11	2.605e3	1.711e3		1.52	1.55	45.6	YES	NO	bb	bb	1.024
12	1368-TCDD	23.46	2.078e2	2.832e2	1.256	0.73	0.77	3.8	YES	NO	bb	bb	0.153
13	Total-Dioxins	22.65	7.922e1	1.043e2	1.141	0.76	0.77	1.8	NO	NO	bb	db	0.063
14	2378-TCDD	26.34	2.292e2	3.117e2	1.307	0.74	0.77	3.2	YES	NO	bd	bd	0.162
15	Total-pentadioxins	30.07	5.161e2	3.102e2	1.308	1.66	1.55	7.9	YES	NO	bd	bb	0.221
16	Total-hexadioxins	36.24	2.480e2	1.963e2	0.967	1.26	1.24	5.5	YES	NO	bb	bb	0.130
17	Total-hexadioxins	35.06	3.692e3	3.095e3	0.967	1.19	1.24	45.9	YES	NO	dd	bd	1.984
18	124679-HXCDD	33.93	3.333e3	3.160e3	1.034	1.05	1.24	59.8	YES	NO	bb	bb	1.784
19	1234678-HpCDD	40.19	2.396e4	2.227e4	1.055	1.08	1.05	204.3	YES	NO	bb	bd	17.579
20	1234679-HPCDD	39.15	3.047e4	2.996e4	1.194	1.02	1.05	286.6	YES	NO	bb	bb	20.299
21	OCDD	44.92	1.531e5	1.757e5	1.074	0.87	0.89	2520.0	YES	NO	bb	bb	129.129

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	27.51	7.764e5					10.0	YES		bb		
2	FUNCTION1 PFK	27.32	4.873e5					7.2	YES		db		
3	FUNCTION1 PFK	27.24	1.040e5					4.0	YES		bd		
4	FUNCTION1 PFK	27.12	1.167e5					2.9	NO		bb		
5	FUNCTION1 PFK	22.15	9.651e5					12.3	YES		db		
6	FUNCTION1 PFK	22.09	7.009e5					13.6	YES		bd		
7	FUNCTION1 PFK	21.59	5.256e6					15.6	YES		db		
8	FUNCTION1 PFK	21.36	7.879e5					11.5	YES		bd		
9	FUNCTION1 PFK	21.19	1.271e5					3.5	YES		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.59	1.333e6					1.8	NO		bb		0.000
2	FUNCTION2 PFK	31.74	8.816e6					30.6	YES		db		0.000
3	FUNCTION2 PFK	31.29	6.681e5					16.5	YES		bd		0.000
4	FUNCTION2 PFK	30.95	4.129e5					6.1	YES		bb		0.000
5	FUNCTION2 PFK	29.83	9.850e5					2.1	NO		bb		0.000
6	FUNCTION2 PFK	29.26	5.182e4					3.1	YES		bb		0.000

PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.00	7.974e5					8.9	YES		bb		0.000
2	FUNCTION3 PFK	36.55	9.128e5					8.0	YES		bb		0.000
3	FUNCTION3 PFK	33.66	4.029e6					8.6	YES		bb		0.000
4	FUNCTION3 PFK	32.89	1.984e6					30.1	YES		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	37.93	7.521e3					1.0	NO		bb		
2	FUNCTION4 PFK	37.80	1.157e4					1.3	NO		db		
3	FUNCTION4 PFK	37.76	3.575e3					0.9	NO		bd		
4	FUNCTION4 PFK	40.96	1.423e4					1.6	NO		db		
5	FUNCTION4 PFK	40.91	9.024e3					1.1	NO		bd		
6	FUNCTION4 PFK	40.85	4.673e3					0.8	NO		bb		
7	FUNCTION4 PFK	40.68	2.453e4					1.8	NO		db		
8	FUNCTION4 PFK	40.59	3.624e4					1.6	NO		bd		
9	FUNCTION4 PFK	40.46	2.492e4					1.2	NO		bb		
10	FUNCTION4 PFK	40.22	1.689e4					0.9	NO		bb		
11	FUNCTION4 PFK	40.04	2.125e4					0.8	NO		bb		
12	FUNCTION4 PFK	39.61	1.056e4					0.9	NO		bb		
13	FUNCTION4 PFK	39.54	9.924e3					0.9	NO		bb		
14	FUNCTION4 PFK	39.29	5.569e3					0.6	NO		bb		
15	FUNCTION4 PFK	39.05	3.828e4					3.2	YES		db		
16	FUNCTION4 PFK	39.03	6.458e4					3.7	YES		dd		
17	FUNCTION4 PFK	38.95	4.676e4					2.6	NO		bd		
18	FUNCTION4 PFK	38.80	1.449e3					0.4	NO		bb		
19	FUNCTION4 PFK	38.40	1.791e4					1.4	NO		bb		
20	FUNCTION4 PFK	42.75	1.620e4					1.3	NO		bb		
21	FUNCTION4 PFK	42.61	7.685e3					1.0	NO		bb		
22	FUNCTION4 PFK	41.98	1.745e4					1.1	NO		bb		
23	FUNCTION4 PFK	41.35	3.936e3					0.6	NO		bb		
24	FUNCTION4 PFK	41.25	1.761e4					1.5	NO		db		
25	FUNCTION4 PFK	41.17	2.129e4					2.1	NO		bd		
26	FUNCTION4 PFK	41.08	3.867e3					0.8	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.78	7.101e2					0.4	NO		bb		
2	FUNCTION5 PFK	43.53	9.098e3					1.5	NO		bb		
3	FUNCTION5 PFK	43.26	4.100e3					0.9	NO		bb		
4	FUNCTION5 PFK	43.09	2.405e3					0.7	NO		bb		
5	FUNCTION5 PFK	43.05	3.501e3					0.9	NO		db		
6	FUNCTION5 PFK	43.02	3.167e3					1.0	NO		dd		
7	FUNCTION5 PFK	42.98	1.765e4					1.9	NO		bd		
8	FUNCTION5 PFK	42.86	2.183e3					0.8	NO		bb		
9	FUNCTION5 PFK	45.56	1.072e4					1.6	NO		bb		
10	FUNCTION5 PFK	45.20	5.105e3					1.1	NO		db		
11	FUNCTION5 PFK	45.15	9.967e3					1.5	NO		bd		
12	FUNCTION5 PFK	44.48	9.483e3					1.3	NO		bb		
13	FUNCTION5 PFK	44.45	9.083e2					0.5	NO		bb		
14	FUNCTION5 PFK	44.26	5.983e3					1.2	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.87	5.038e2					10.9	YES		bb		0.000
2	FUNCTION1 HXCD...	25.14	9.144e1					2.2	NO		bb		0.000
3	FUNCTION1 HXCD...	23.70	9.372e1					2.6	NO		bb		0.000
4	FUNCTION1 HXCD...	21.18	8.604e1					3.5	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...	23.28	3.870e2					8.9	YES		bb		0.000
2	FUNCTION1 HPCD...	22.37	8.217e1					2.0	NO		bb		0.000
3	FUNCTION1 HPCD...	21.98	9.985e2					17.1	YES		db		0.000
4	FUNCTION1 HPCD...	21.84	1.116e2					2.8	NO		bd		0.000
5	FUNCTION1 HPCD...	26.47	1.296e2					2.1	NO		db		0.000
6	FUNCTION1 HPCD...	26.32	1.490e2					2.5	NO		bd		0.000
7	FUNCTION1 HPCD...	26.02	8.881e1					1.3	NO		bb		0.000
8	FUNCTION1 HPCD...	25.47	1.330e2					3.2	YES		bb		0.000
9	FUNCTION1 HPCD...	24.31	7.841e1					0.9	NO		bb		0.000
10	FUNCTION1 HPCD...	23.73	7.063e1					2.3	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.52	1.240e2					3.3	YES		bb		0.000
2	FUNCTION2 HPCD...	28.17	8.715e1					2.1	NO		bb		0.000
3	FUNCTION2 HPCD...	27.91	2.258e2					2.5	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	FUNCTION4 NCDPE	41.00	9.951e1					5.9	YES		bb		0.000
2	FUNCTION4 NCDPE	38.35	1.159e3					46.4	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	44.84	7.680e1					3.3	YES		bb		0.000

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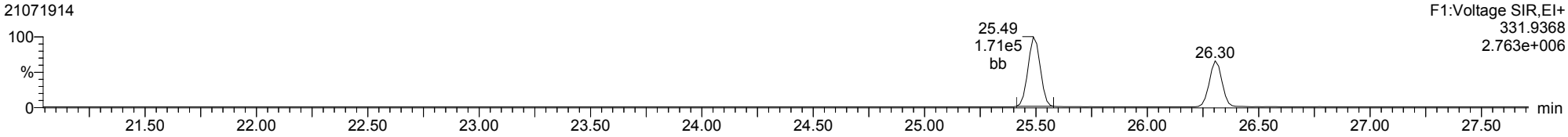

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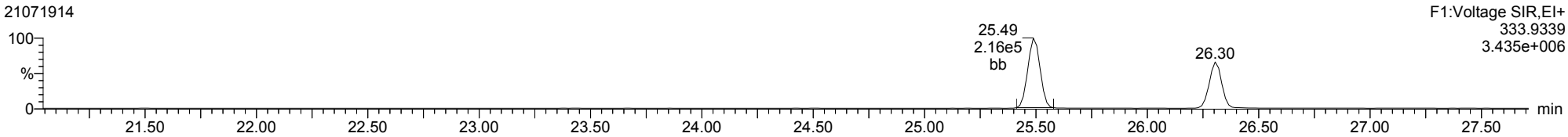

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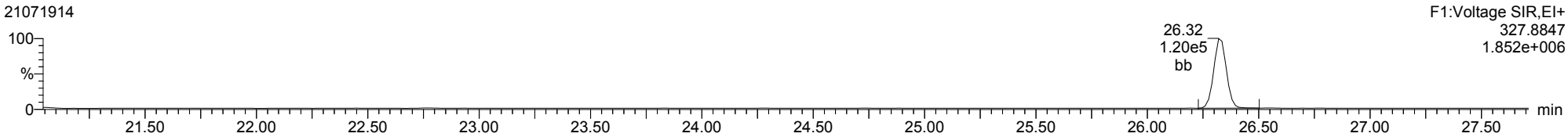

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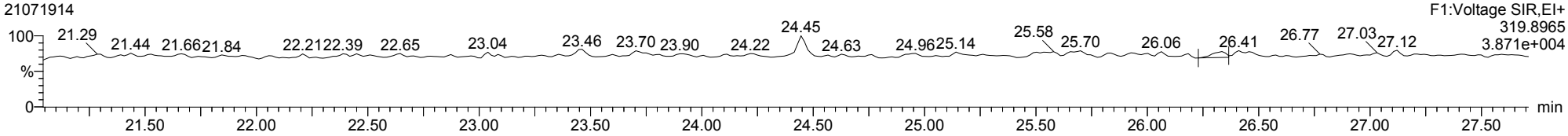

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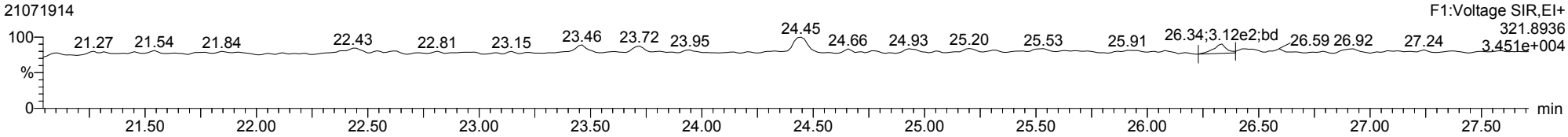

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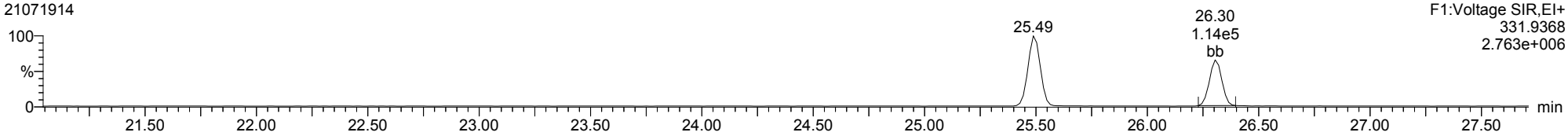

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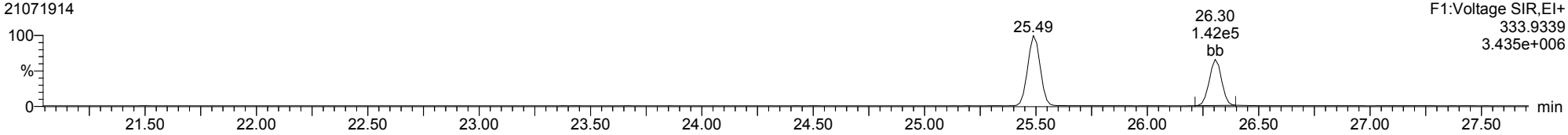

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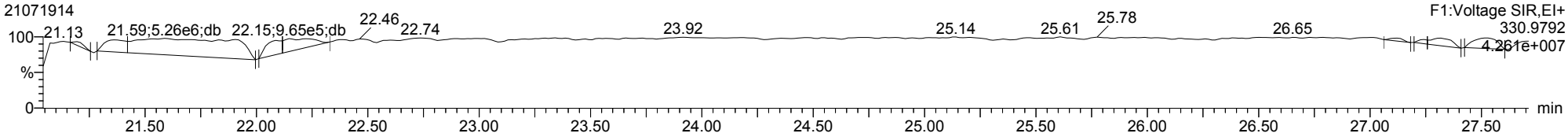

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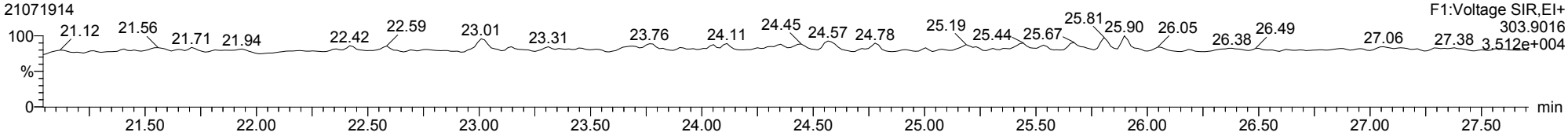
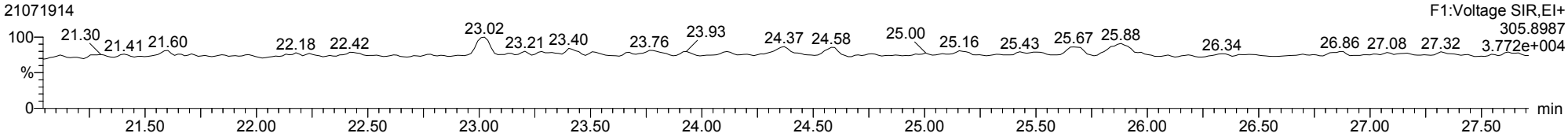
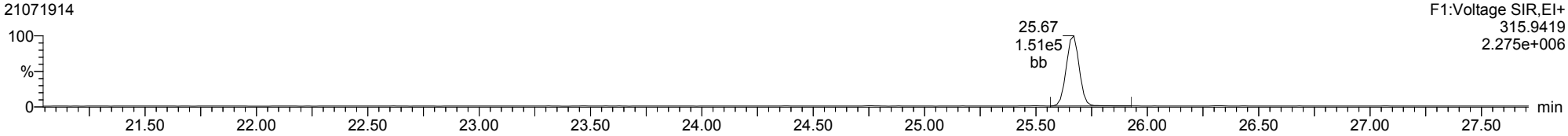
2378-TCDF



2378-TCDF



13C-2378-TCDF



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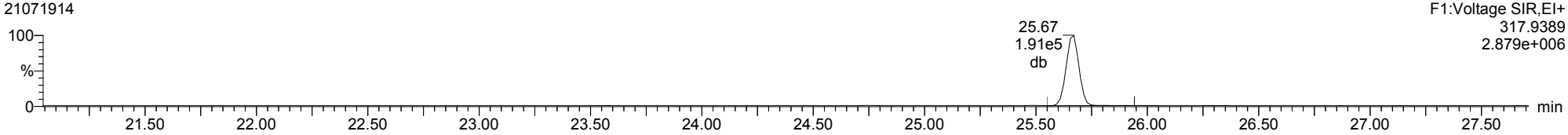

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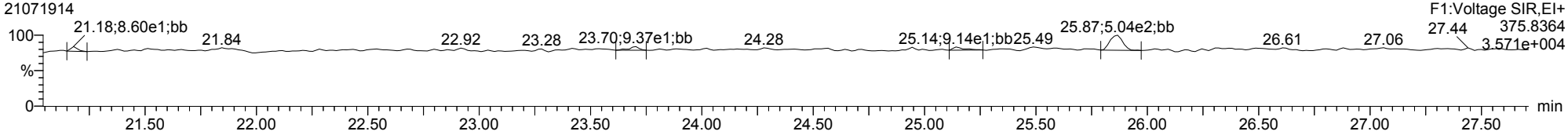

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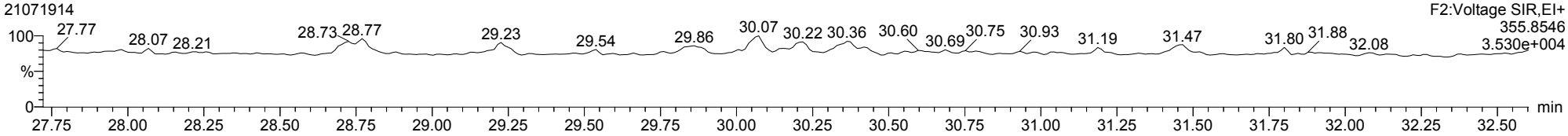
12378-PeCDD



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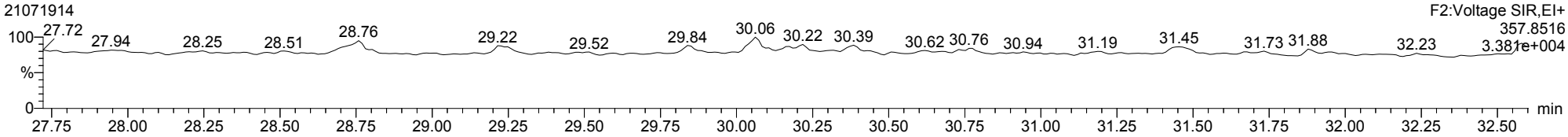

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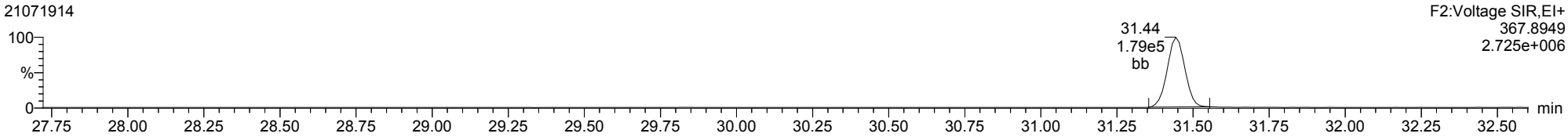

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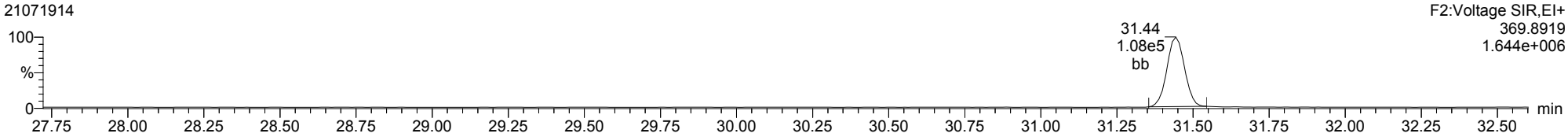
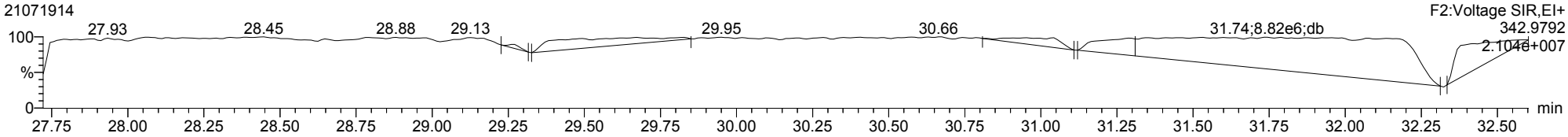


FUNCTION2 PFK



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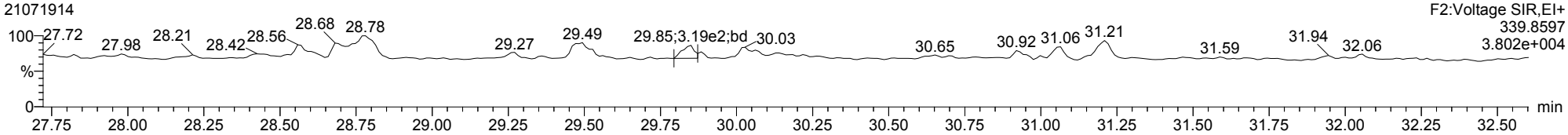
12378-PeCDF



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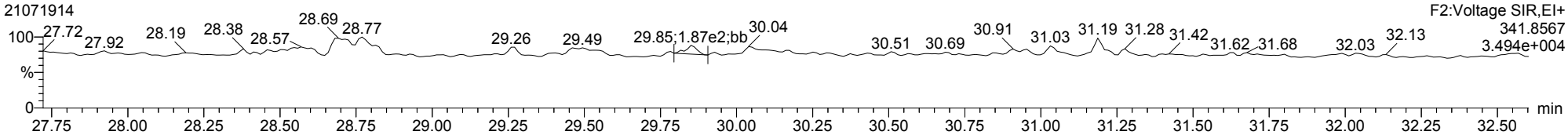

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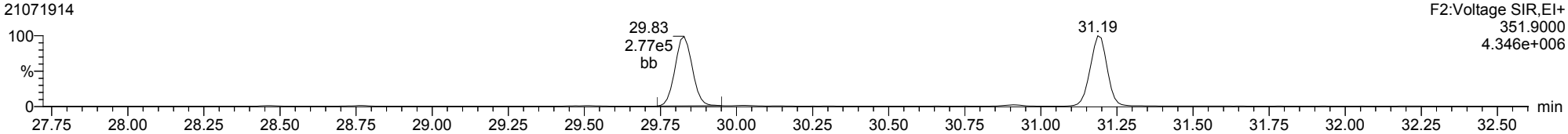

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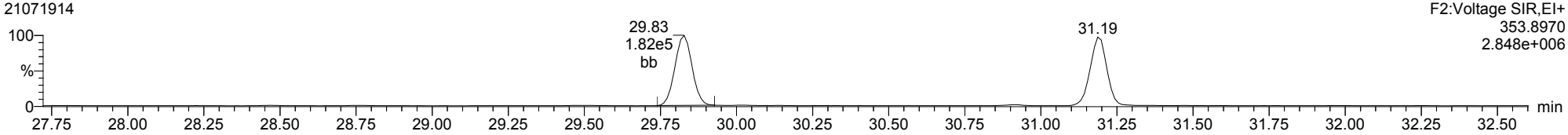
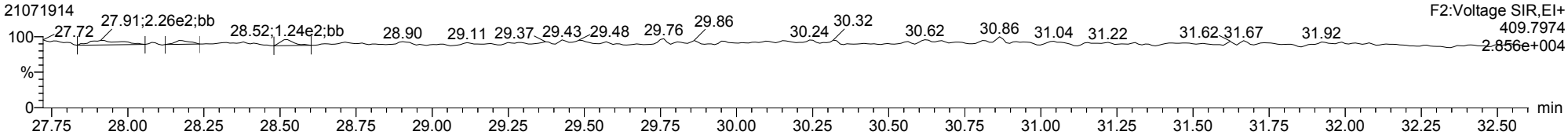


FUNCTION2 HPCDPE



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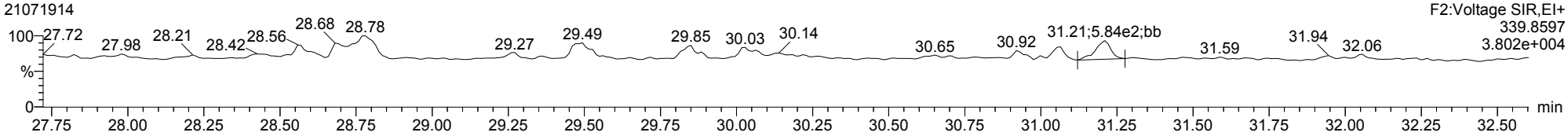

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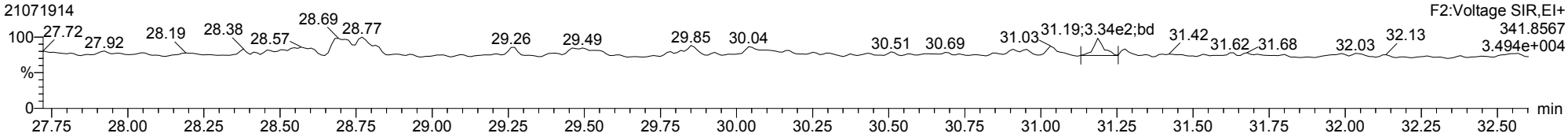

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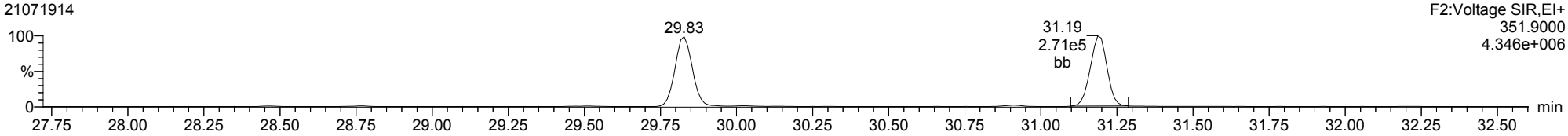

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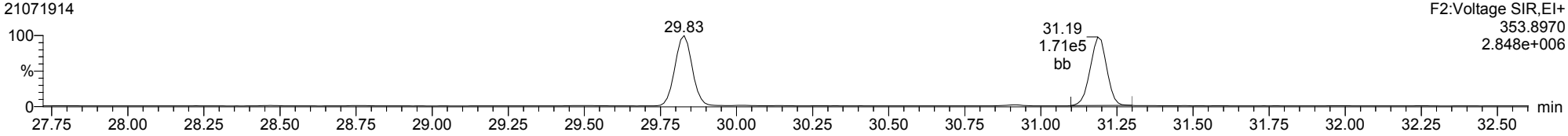
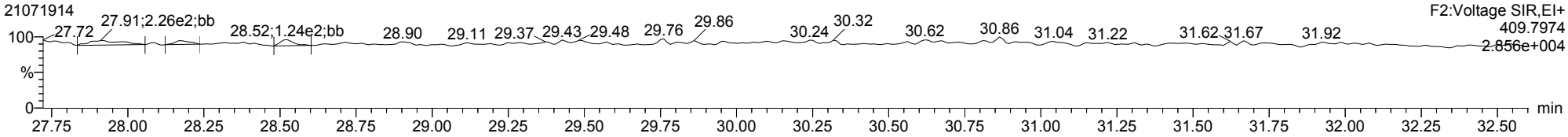


FUNCTION2 HPCDPE



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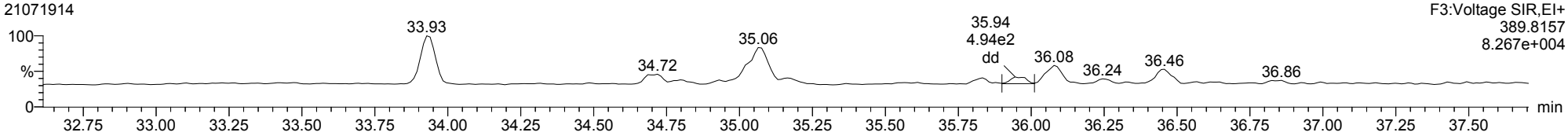
123478-HxCDD



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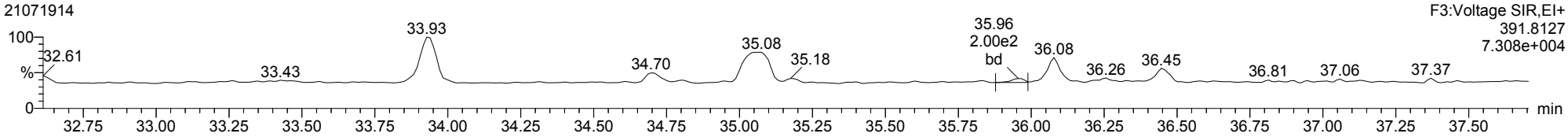

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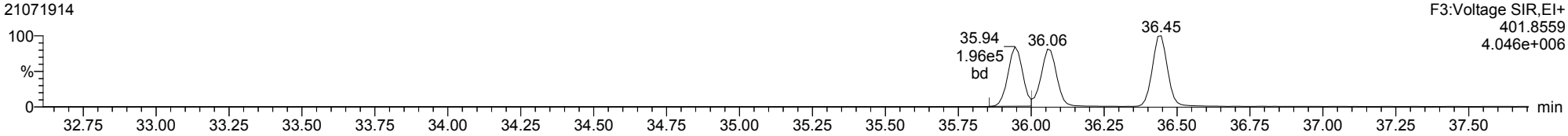

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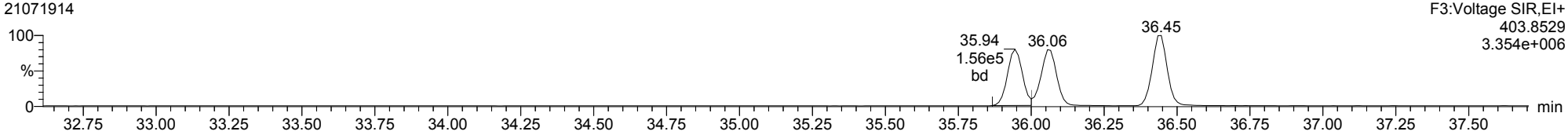
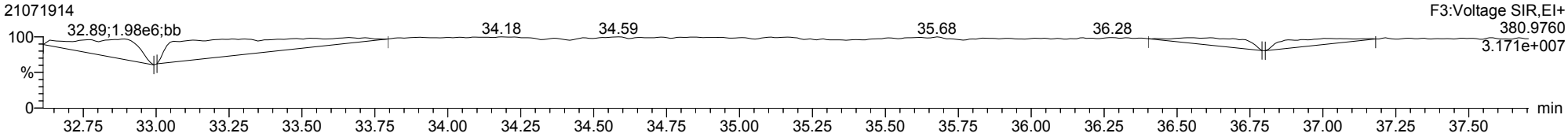


FUNCTION3 PFK



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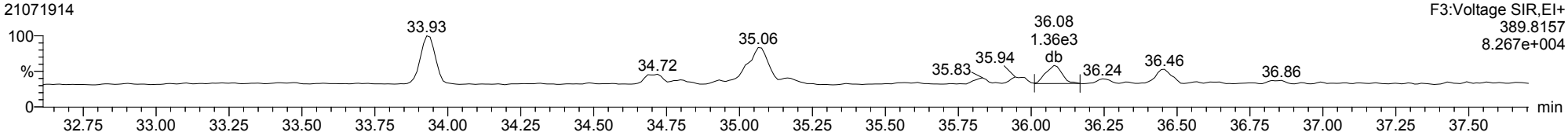
123678-HxCDD



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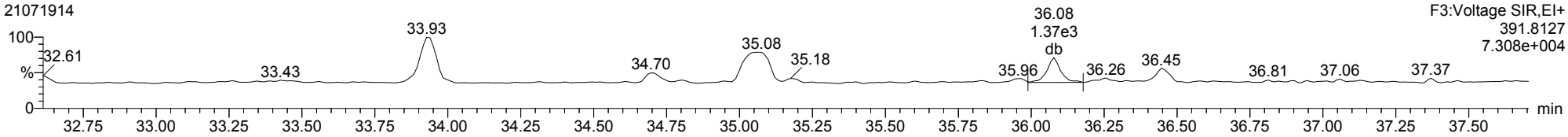

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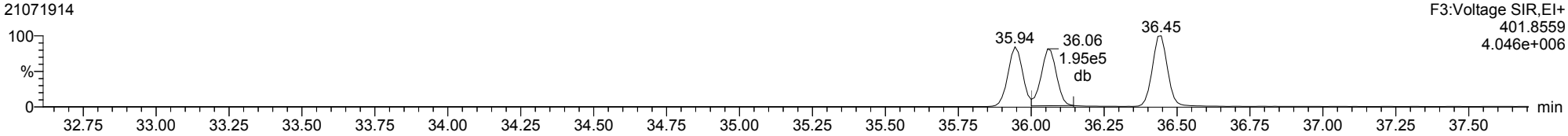

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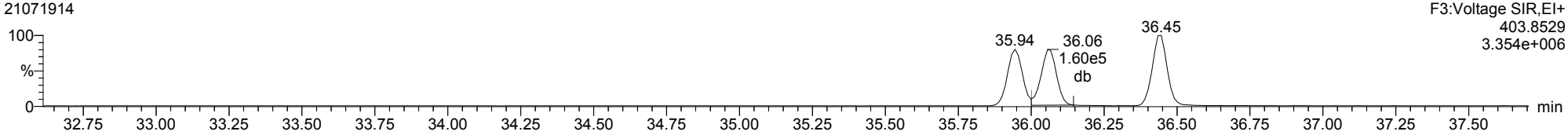

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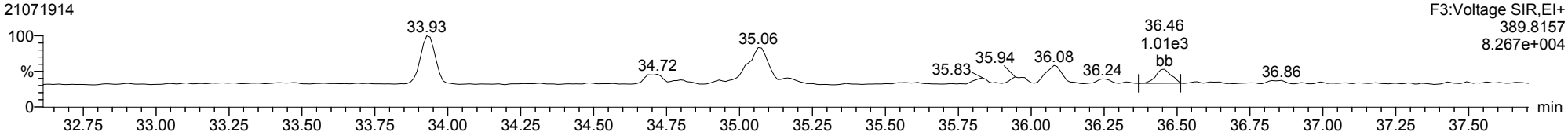
123789-HxCDD



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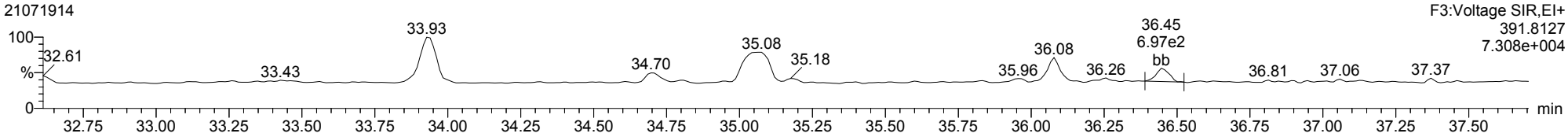

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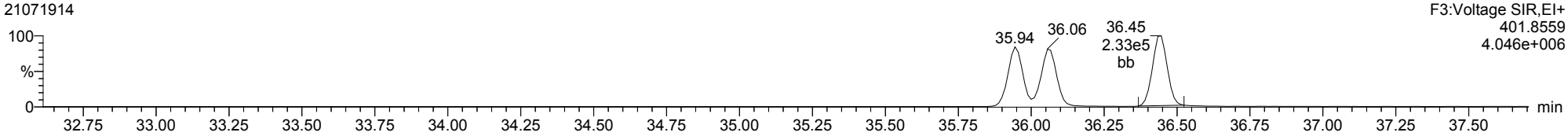

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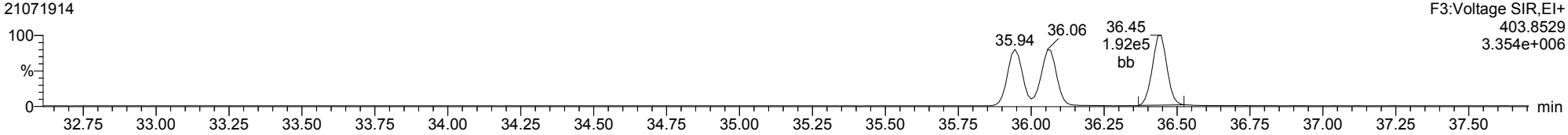

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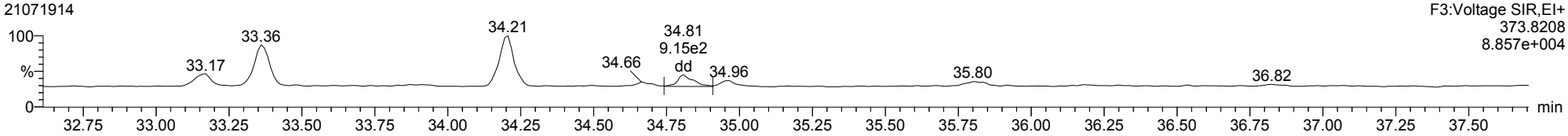

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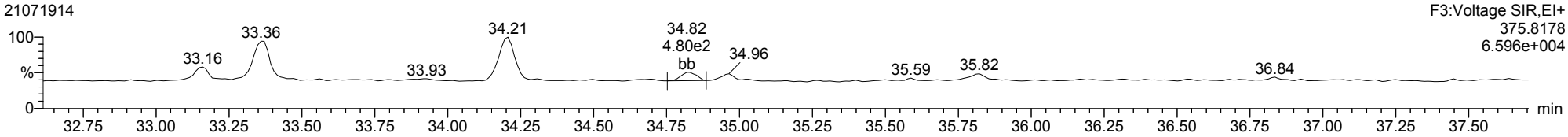

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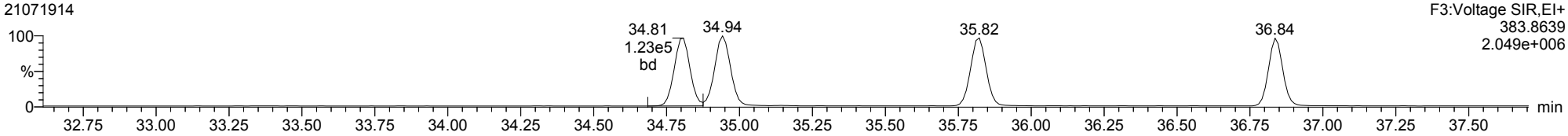

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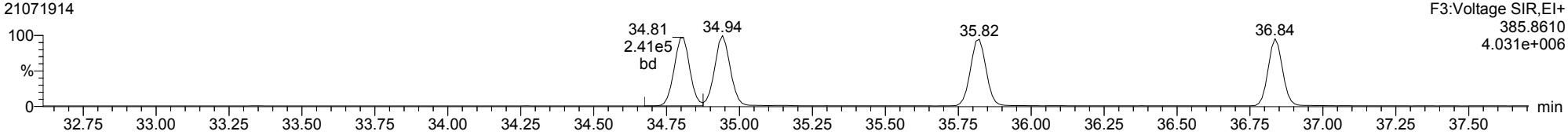
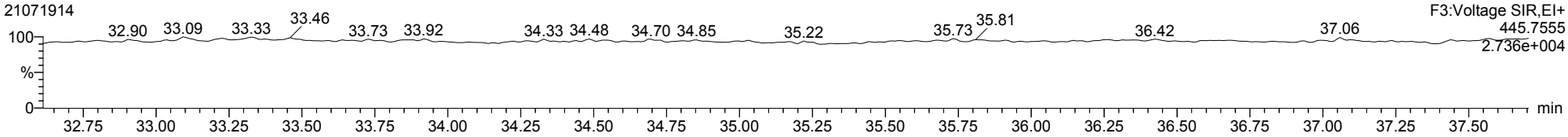


FUNCTION3 OCDPE



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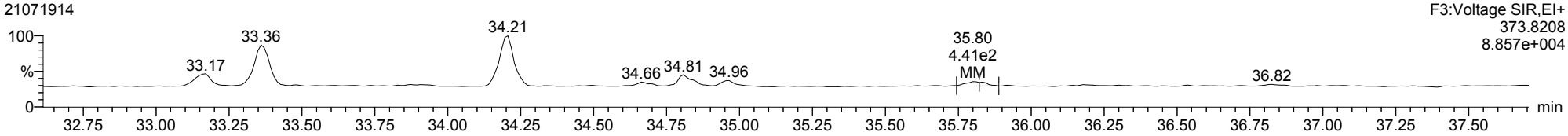
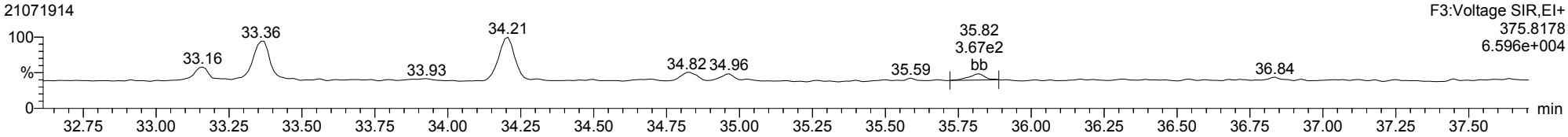
234678-HxCDF



234678-HxCDF



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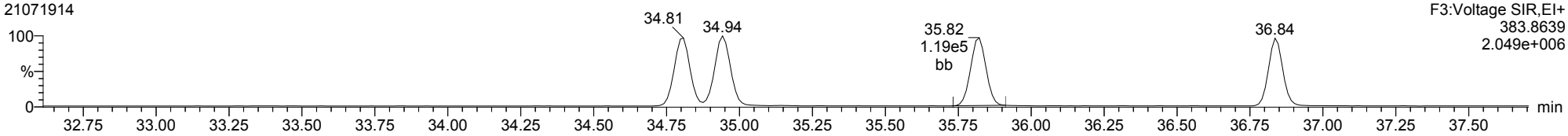

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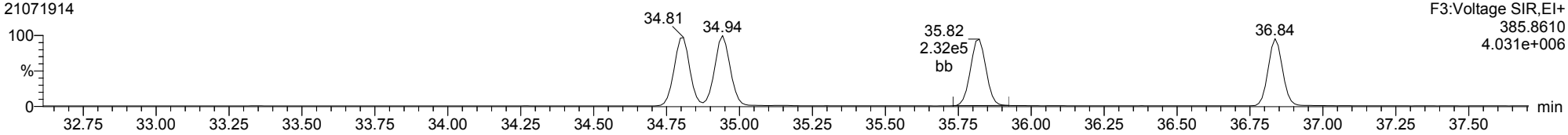
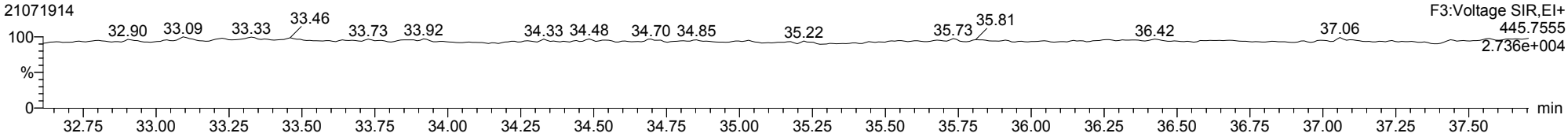


FUNCTION3 OCDPE



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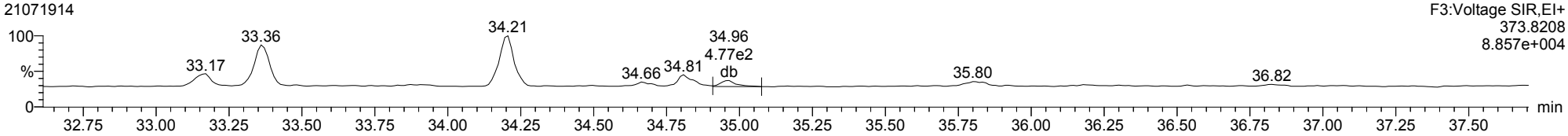
123678-HxCDF



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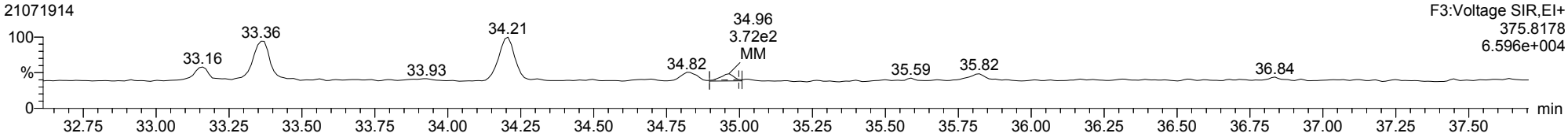

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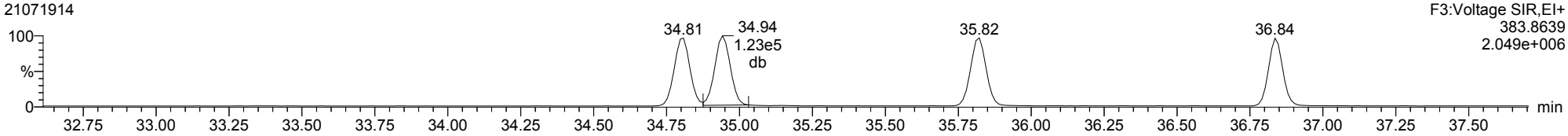

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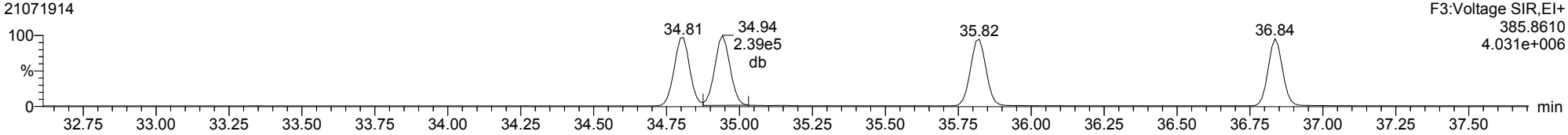
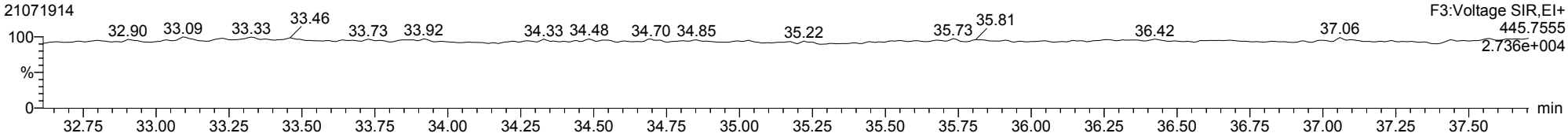


FUNCTION3 OCDPE



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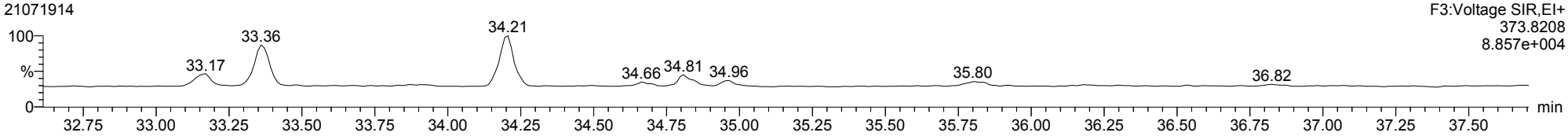
123789-HxCDF



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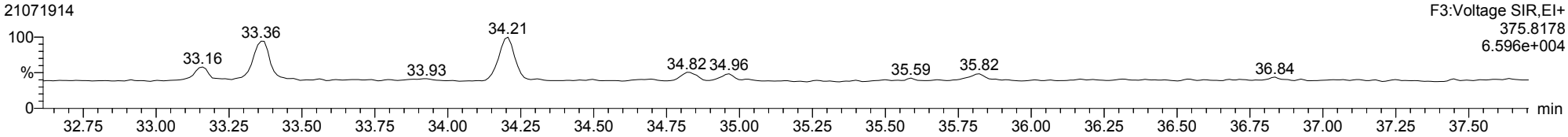

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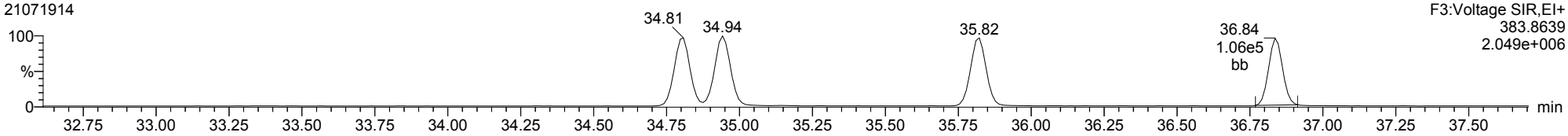

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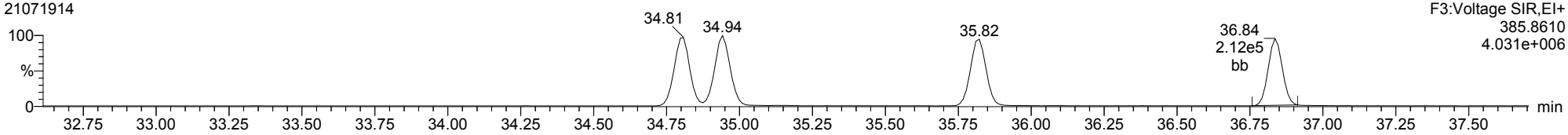

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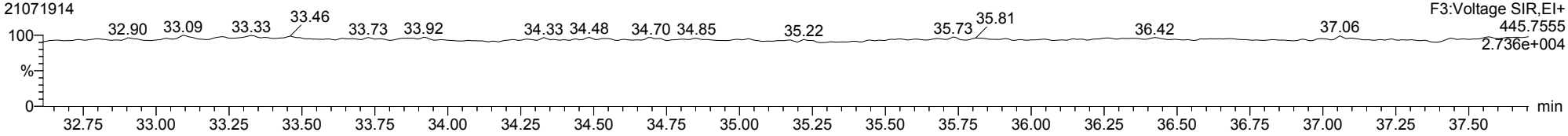
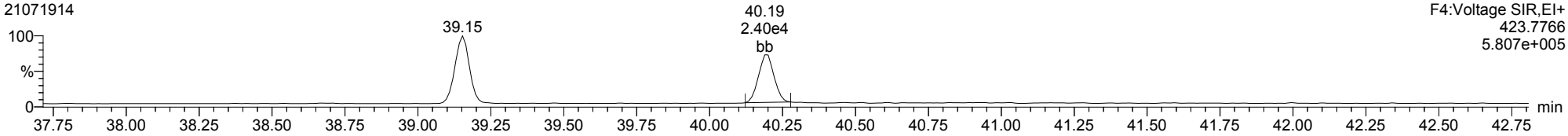


ID: 21F0442-02, Name: 21071914, Date: 19-Jul-2021, Time: 21:11:18, Conditions: AUTOSPEC01, User: pk

1234678-HpCDD



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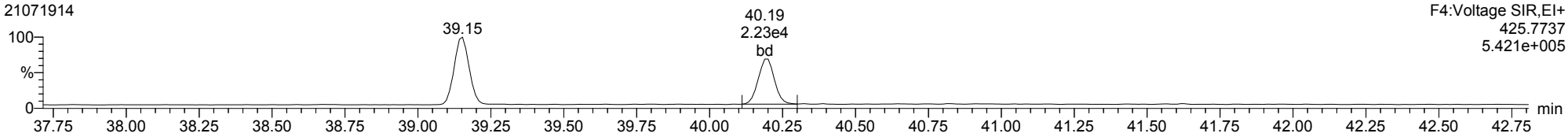

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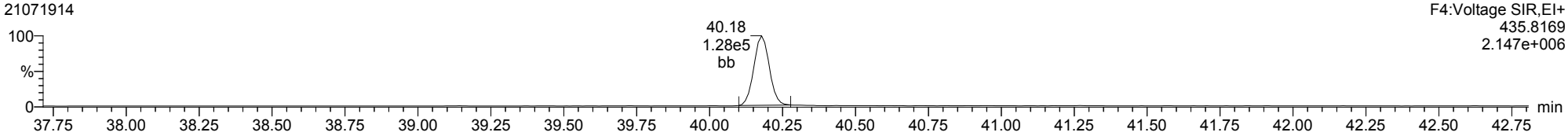

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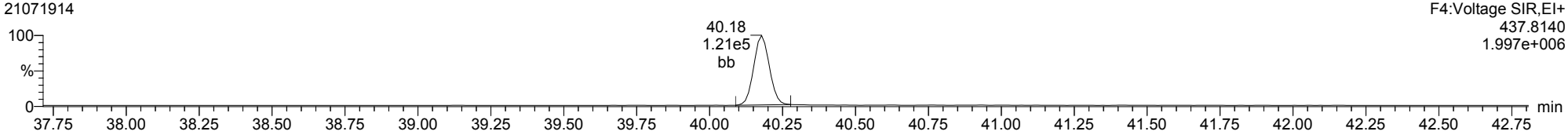

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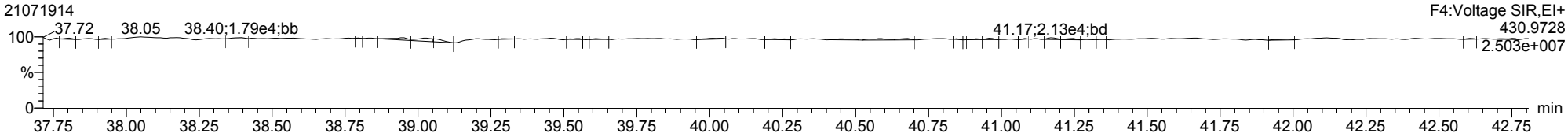

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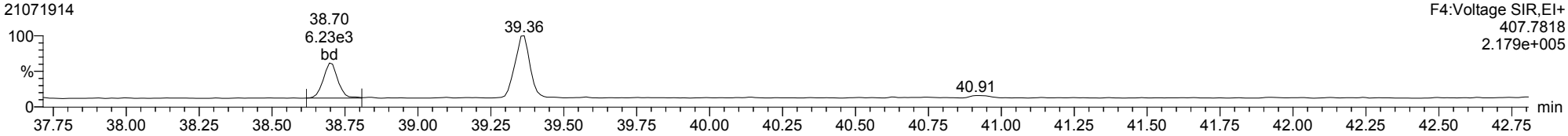

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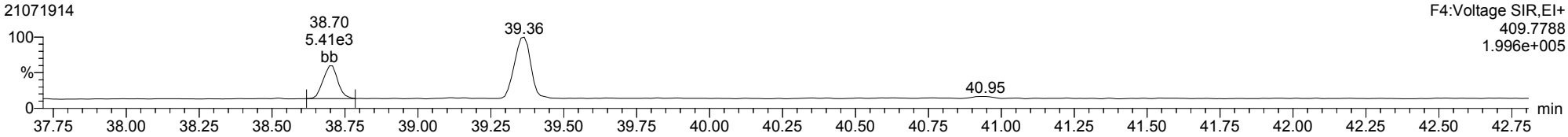

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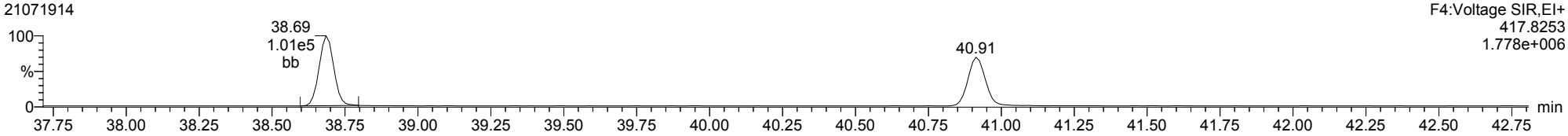

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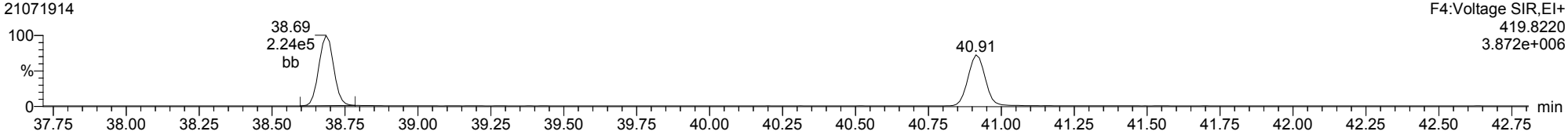

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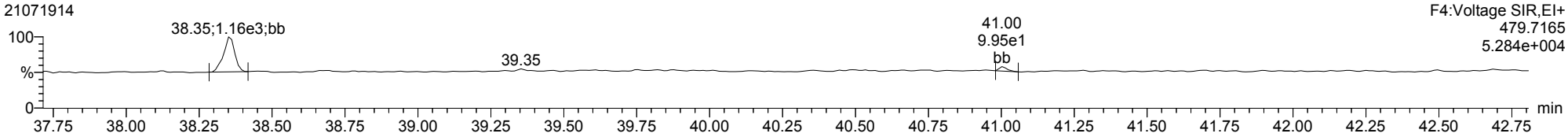

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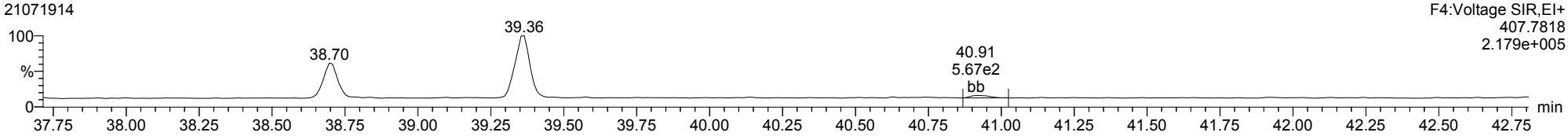
1234789-HpCDF



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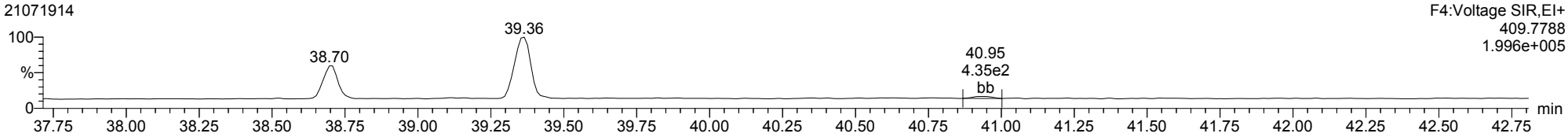

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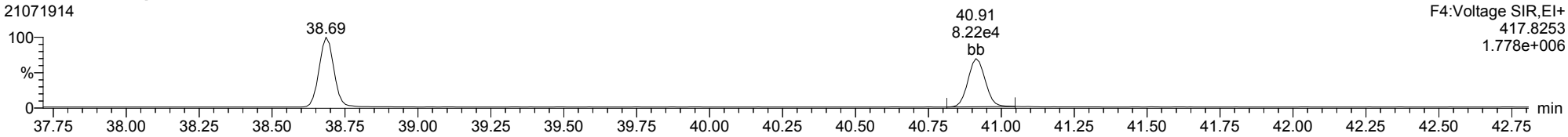

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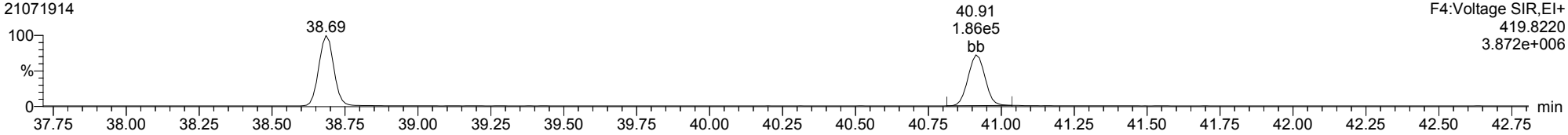
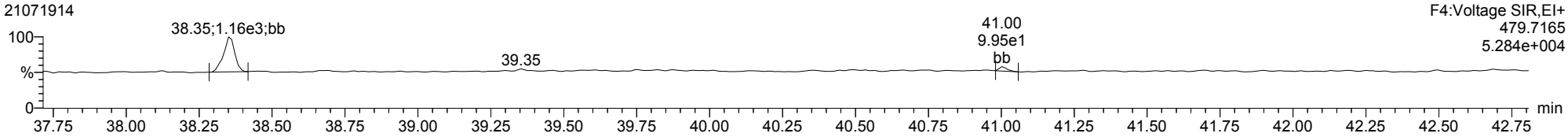


FUNCTION4 NCDPE



ID: 21F0442-02, Name: 21071914, Date: 19-Jul-2021, Time: 21:11:18, Conditions: AUTOSPEC01, User: pk

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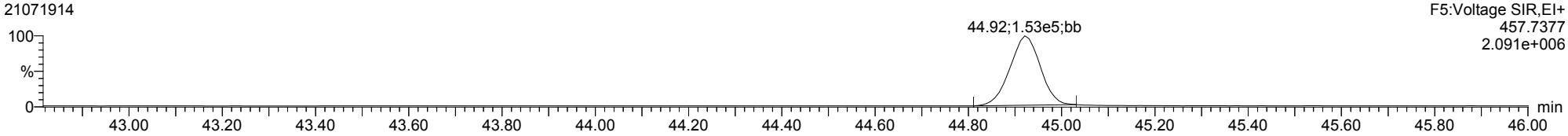

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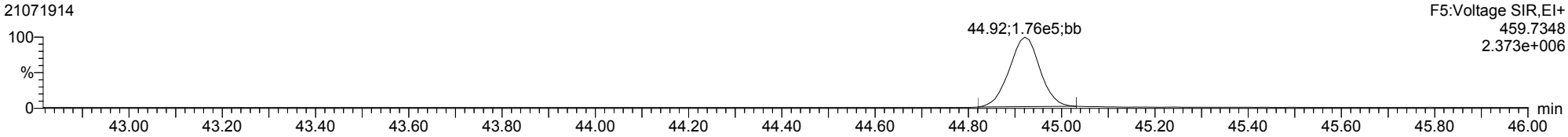

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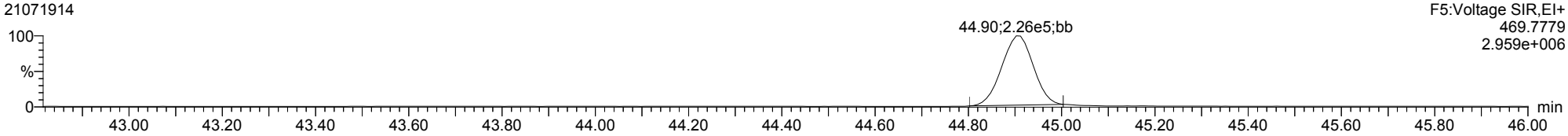

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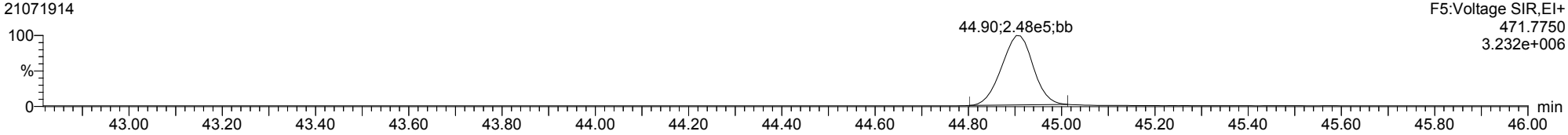

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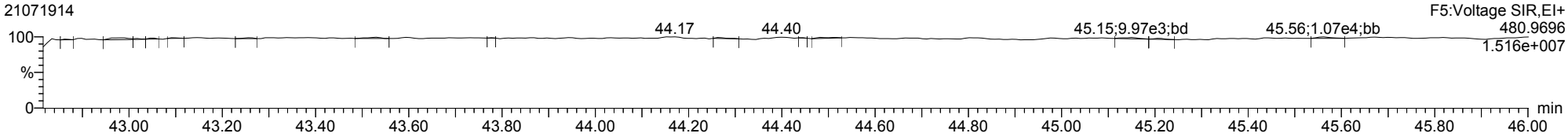

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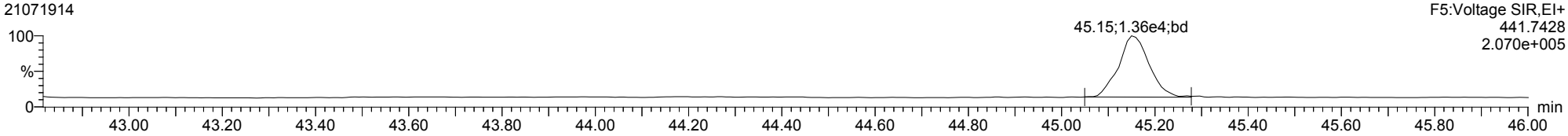

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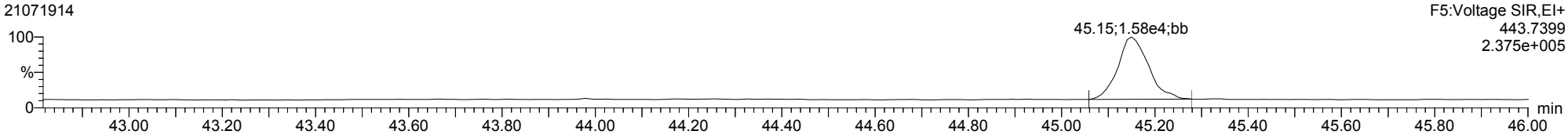
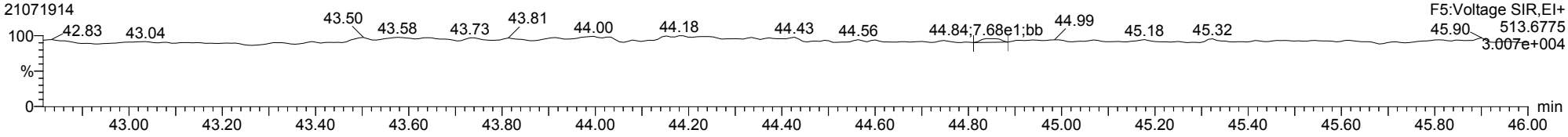


FUNCTION5 DCDPE



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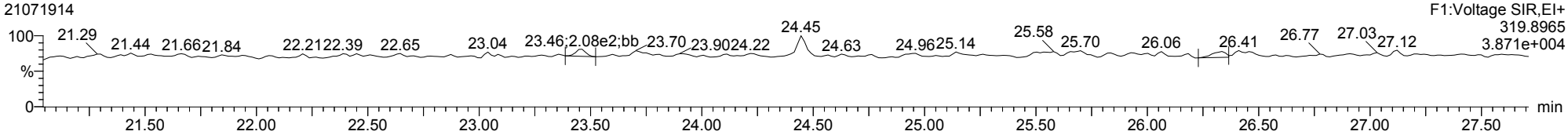
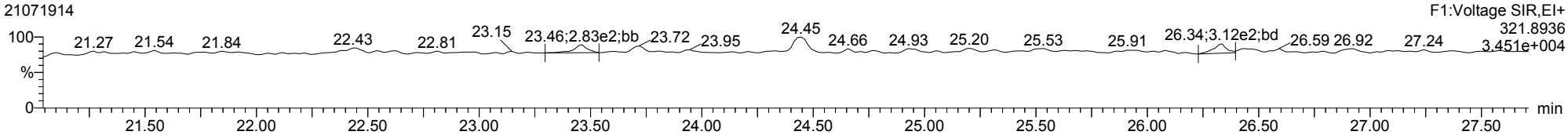
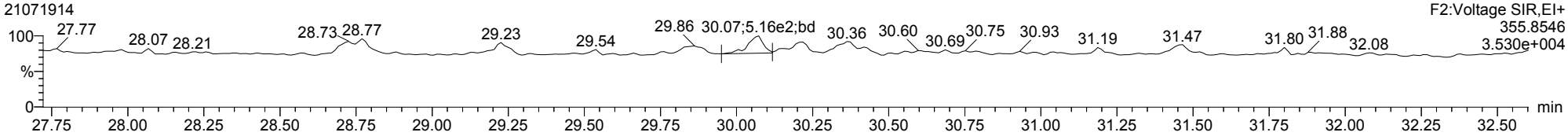


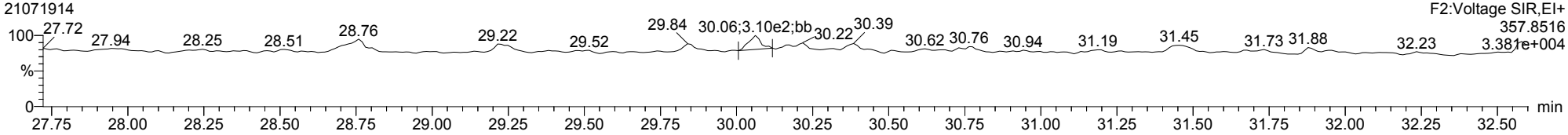
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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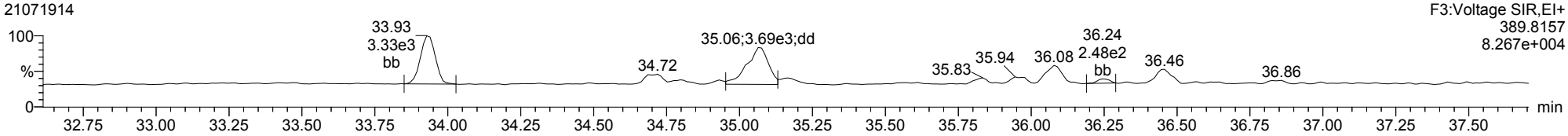

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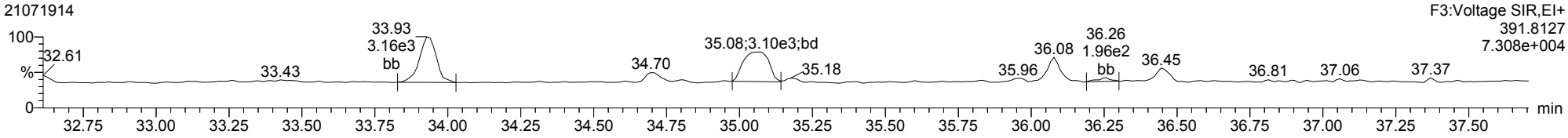

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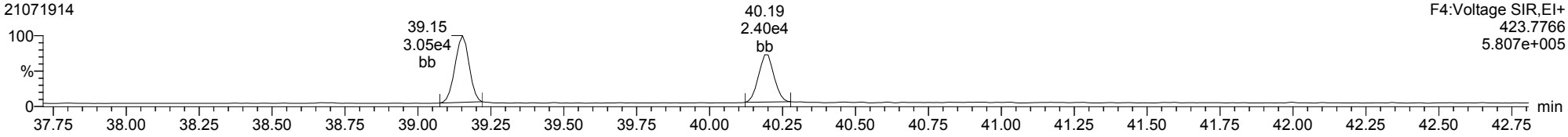

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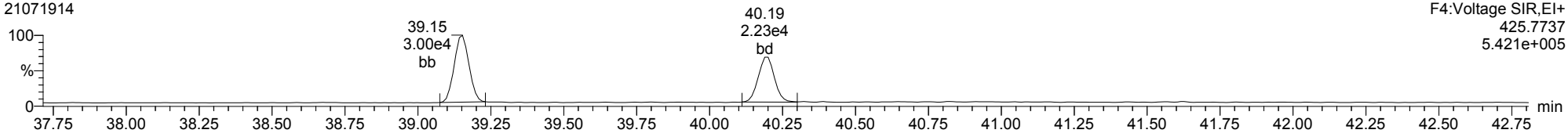

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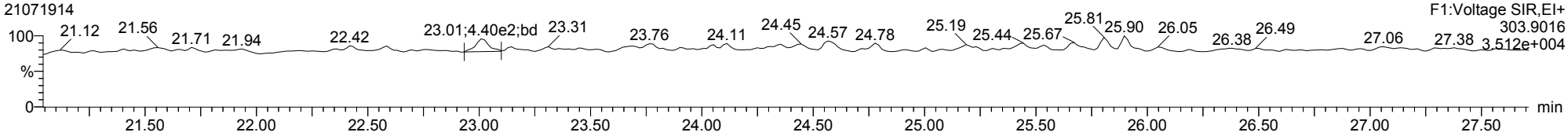
Total-tetrafurans



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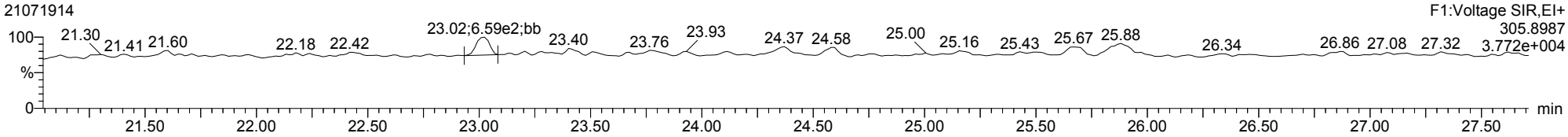

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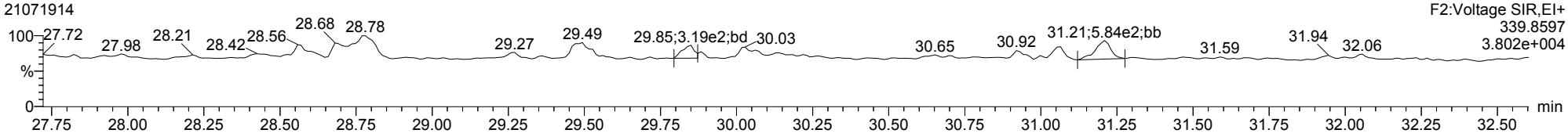

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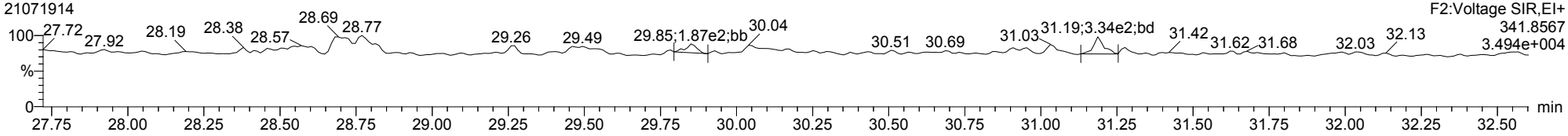

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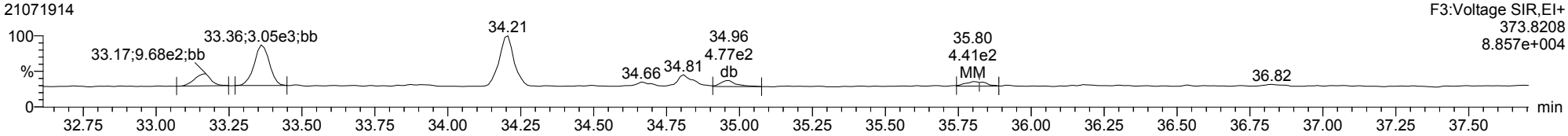
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:01:54 Pacific Daylight Time

ID: 21F0442-02, Name: 21071914, Date: 19-Jul-2021, Time: 21:11:18, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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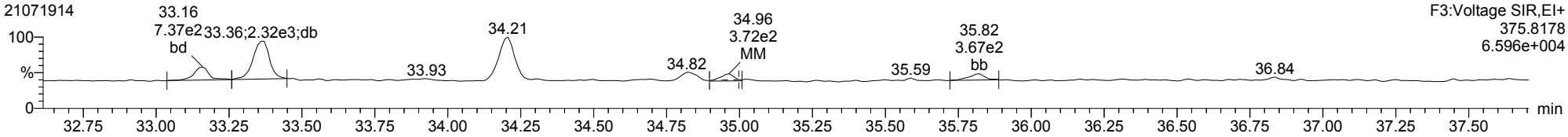

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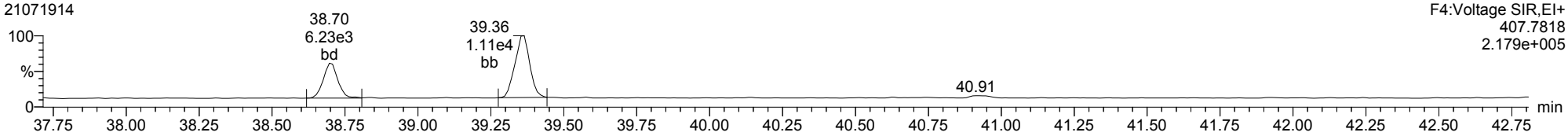

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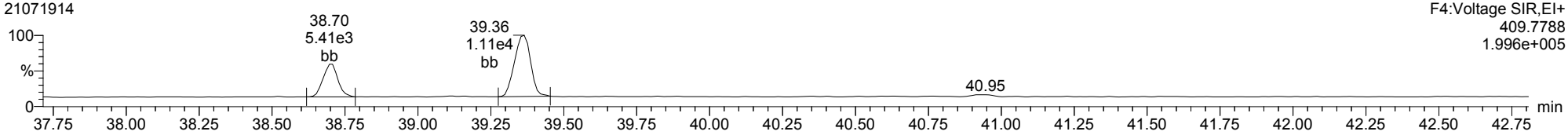

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564C

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-03 B	File ID:	21071915
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 22:00
% Solids:	62.11	Preparation:	EPA 1613	Initial/Final:	16.1 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.291	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.243	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1	1.789	1.318-1.783	0.222	1.00	0.354	ng/kg	EMPC, J
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.203	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1	1.204	1.318-1.783	0.249	1.00	0.501	ng/kg	EMPC, J
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.194	1.054-1.426	0.192	1.00	0.930	ng/kg	J
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.763	1.054-1.426	0.198	1.00	0.480	ng/kg	EMPC, J
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.872	1.054-1.426	0.192	1.00	0.616	ng/kg	EMPC, J
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.146	1.054-1.426	0.208	1.00	0.253	ng/kg	J
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.500	1.054-1.426	0.380	1.00	0.415	ng/kg	EMPC, J
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.946	1.054-1.426	0.374	1.00	1.80	ng/kg	EMPC
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.680	1.054-1.426	0.388	1.00	0.827	ng/kg	EMPC, J
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	0.971	0.893-1.208	0.301	1.00	19.3	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.885	0.893-1.208	0.408	1.00	1.48	ng/kg	EMPC
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.036	0.893-1.208	0.560	2.50	74.2	ng/kg	
39001-02-0	OCDF	1	0.998	0.757-1.024	0.389	2.50	134	ng/kg	
3268-87-9	OCDD	1	0.872	0.757-1.024	0.494	10.0	518	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	0.434	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	1.07	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	15.8	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	4.83	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	95.2	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	165	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 2.19
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 2.36

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564C

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-03	File ID:	21071915
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 22:00
Solids Wt%:	62.11	Preparation:	EPA 1613	Initial/Final:	16.1 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.790	0.655-0.886	0.161	44.1	24 - 169 %	
13C12-2,3,7,8-TCDD		0.819	0.655-0.886	0.252	55.0	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.536	1.318-1.783	0.318	75.4	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.551	1.318-1.783	0.330	76.2	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.636	1.318-1.783	0.195	69.5	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.507	0.434-0.587	0.216	66.3	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.510	0.434-0.587	0.200	62.2	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.511	0.434-0.587	0.226	66.9	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.511	0.434-0.587	0.250	63.8	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.300	1.054-1.426	0.219	72.1	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.203	1.054-1.426	0.198	64.7	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.440	0.374-0.506	0.295	66.4	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.456	0.374-0.506	0.357	66.2	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.070	0.893-1.208	0.269	60.4	23 - 140 %	
13C12-OCDD		0.941	0.757-1.024	0.295	65.3	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.071	65.1	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:03 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, 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					0.782		0.770	915	984								
12378-PeCDF	29.806	1.000	4.164e2	2.327e2	0.866	1.789	1.550	839	1301	5.20e3	5.47e3	6.2	4.2	YES	db	bb	0.177
23478-PeCDF					0.980		1.550	839	1301								
123478-HxCDF	34.808	1.001	8.253e2	6.913e2	1.002	1.194	1.240	1031	651	1.23e4	1.01e4	11.9	15.5	NO	bd	bb	0.465
234678-HxCDF	35.821	1.000	6.549e2	3.498e2	1.043	1.872	1.240	1031	651	8.55e3	5.29e3	8.3	8.1	YES	bb	MM	0.308
123678-HxCDF	34.942	1.000	3.280e2	4.301e2	0.961	0.763	1.240	1031	651	5.19e3	1.02e4	5.0	15.7	YES	db	bb	0.240
123789-HxCDF	36.824	1.000	1.812e2	1.581e2	0.994	1.146	1.240	1031	651	3.00e3	3.95e3	2.9	6.1	NO	bb	MM	0.126
1234678-HpCDF	38.685	1.001	1.493e4	1.538e4	1.058	0.971	1.050	1379	1297	2.65e5	2.66e5	192.2	204.9	NO	bb	bb	9.656
1234789-HpCDF	40.924	1.000	9.120e2	1.030e3	1.070	0.885	1.050	1379	1297	1.17e4	1.66e4	8.5	12.8	YES	bb	bb	0.741
OCDF	45.140	1.006	8.995e4	9.011e4	1.257	0.998	0.890	1272	883	1.09e6	1.16e6	857.0	1308.9	NO	bb	bb	66.986
2378-TCDD					1.307		0.770	1223	789								
12378-PeCDD	31.432	1.001	3.436e2	2.853e2	0.979	1.204	1.550	963	671	4.94e3	4.96e3	5.1	7.4	YES	bb	bb	0.251
123478-HxCDD	35.955	1.001	3.746e2	2.498e2	0.956	1.500	1.240	1757	1329	6.75e3	5.59e3	3.8	4.2	YES	bd	bd	0.207
123678-HxCDD	36.067	1.000	1.304e3	1.379e3	0.953	0.946	1.240	1757	1329	2.50e4	2.14e4	14.2	16.1	YES	db	db	0.897
123789-HxCDD	36.445	1.011	7.554e2	4.496e2	0.927	1.680	1.240	1757	1329	1.38e4	1.02e4	7.8	7.7	YES	bb	bb	0.414
1234678-HpCDD	40.178	1.001	4.420e4	4.266e4	1.055	1.036	1.050	2094	1397	7.16e5	6.83e5	342.0	488.8	NO	bb	bb	37.094
OCDD	44.902	1.000	2.772e5	3.177e5	1.074	0.872	0.890	909	1427	3.45e6	3.95e6	3801.0	2768.0	NO	bb	bb	258.994
13C-2378-TCDF	25.655	1.007	1.459e5	1.847e5	1.925	0.790	0.770	1860	1364	2.21e6	2.74e6	1187.5	2007.1	NO	bb	bb	44.055
13C-12378-PeCDF	29.806	1.170	2.568e5	1.672e5	1.442	1.536	1.550	1826	2939	4.04e6	2.62e6	2211.7	890.8	NO	bb	bb	75.412
13C-23478-PeCDF	31.153	1.223	2.505e5	1.616e5	1.387	1.551	1.550	1826	2939	3.93e6	2.54e6	2152.5	864.2	NO	bb	bb	76.243
13C-123478-HxCDF	34.785	0.955	1.094e5	2.159e5	1.053	0.507	0.510	1207	1735	1.76e6	3.44e6	1459.7	1983.0	NO	bd	bd	66.339
13C-123678-HxCDF	34.930	0.959	1.110e5	2.176e5	1.135	0.510	0.510	1207	1735	1.79e6	3.47e6	1483.7	1998.8	NO	db	db	62.166
13C-234678-HxCDF	35.810	0.983	1.059e5	2.071e5	1.004	0.511	0.510	1207	1735	1.71e6	3.34e6	1414.7	1925.9	NO	bb	bb	66.938
13C-123789-HxCDF	36.824	1.011	9.129e4	1.786e5	0.909	0.511	0.510	1207	1735	1.65e6	3.20e6	1366.4	1846.3	NO	bb	bb	63.758
13C-1234678-HpCDF	38.662	1.061	9.066e4	2.060e5	0.960	0.440	0.440	1916	1755	1.54e6	3.53e6	805.2	2011.5	NO	bb	bb	66.360
13C-1234789-HpCDF	40.902	1.123	7.672e4	1.682e5	0.794	0.456	0.440	1916	1755	1.15e6	2.55e6	601.7	1453.6	NO	bb	bb	66.249
13C-1234-TCDD	25.473	0.000	1.742e5	2.156e5	1.000	0.808	0.770	1960	1008	2.79e6	3.40e6	1423.3	3376.1	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.032	1.093e5	1.335e5	1.133	0.819	0.770	1960	1008	1.71e6	2.11e6	871.5	2087.6	NO	bb	bb	54.975
13C-12378-PeCDD	31.410	1.233	1.592e5	9.729e4	0.947	1.636	1.550	790	1135	2.50e6	1.53e6	3163.0	1345.5	NO	bb	bb	69.487
13C-123478-HxCDD	35.933	0.986	1.780e5	1.370e5	0.939	1.300	1.240	1393	1273	2.88e6	2.31e6	2070.0	1813.6	NO	bd	bd	72.064
13C-123678-HxCDD	36.056	0.990	1.713e5	1.424e5	1.042	1.203	1.240	1393	1273	2.84e6	2.35e6	2038.0	1846.3	NO	db	db	64.656
13C-1234678-HpCDD	40.155	1.102	1.147e5	1.072e5	0.788	1.070	1.050	1391	1355	1.83e6	1.70e6	1317.2	1257.4	NO	bb	bb	60.449
13C-OCDD	44.884	1.232	2.074e5	2.204e5	0.703	0.941	0.890	1307	1379	2.56e6	2.72e6	1960.2	1970.9	NO	bb	bb	130.616
13C-123789-HxCDD	36.434	0.000	2.605e5	2.052e5	1.000	1.269	1.240	1393	1273	4.34e6	3.52e6	3116.8	2764.2	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	1.317e5		1.298			953		1.95e6		2047.3			bb		26.041

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:03 Pacific Daylight Time

ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, 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					0.966		0.770	915	984								
1289-TCDF					0.736		0.770	915	984								
13468-PECDF					1.347		1.550	538	804								
12389-PECDF					0.867		1.550	839	1301								
123468-HXCDF	33.137	0.953	1.174e3	1.119e3	1.036	1.049	1.240	1031	651	2.04e4	2.06e4	19.8	31.7	YES	bb	bb	0.680
1368-TCDD					1.256		0.770	1223	789								
1289-TCDD					1.151		0.770	1223	789								
12479-PECDD	28.714	0.914	5.268e2	2.382e2	1.773	2.211	1.550	963	671	7.23e3	4.17e3	7.5	6.2	YES	bb	bd	0.168
12389-PECDD					1.171		1.550	963	671								
124679-HXCDD	33.917	0.944	4.595e3	3.262e3	1.034	1.409	1.240	1757	1329	7.44e4	4.55e4	42.3	34.2	NO	bb	bb	2.414
1234679-HPCDD	39.130	0.975	6.098e4	5.922e4	1.194	1.030	1.050	2094	1397	1.04e6	1.02e6	494.7	733.3	NO	bb	bb	45.356
Total-tetrafurans			2.378e2		0.828			915		4.21e3							0.217
Total-penta1			0.000e0					538		0.00e0							
Total-pentafurans			1.245e3		0.904			839		2.08e4							0.537
Total-hexafurans			1.405e4		1.007			1031		2.34e5							7.900
Total-heptafurans			7.101e4		1.064			1379		1.20e6							47.590
Total-Furans			1.766e5		0.998			915		2.55e6							123.290
Total-tetradioxins			0.000e0		1.238			1223		0.00e0							
Total-pentadioxins			0.000e0		1.308			963		0.00e0							
Total-hexadioxins			4.595e3		0.967			1757		7.44e4							2.414
Total-heptadioxins			1.052e5		1.125			2094		1.75e6							82.450
Total-Dioxins			3.870e5		1.141			1223		5.28e6							343.858
Total-TEQ			5.635e5					1223		7.83e6							467.148
FUNCTION1 PFK			1.207e7					1637538		4.43e7							
FUNCTION2 PFK			2.348e6					314330		7.43e6							0.000
FUNCTION3 PFK			2.004e7					291700		5.11e7							0.000
FUNCTION4 PFK			2.576e7					882887		2.36e8							
FUNCTION5 PFK			2.498e4					175305		1.06e6							
FUNCTION1 HXCD...			8.424e2					594		1.25e4							0.000
FUNCTION1 HPCD...			2.487e3					812		4.37e4							0.000
FUNCTION2 HPCD...			3.667e2					853		9.53e3							0.000
FUNCTION3 OCDPE			1.081e2					489		1.97e3							0.000
FUNCTION4 NCDPE			1.328e3					829		2.71e4							0.000
FUNCTION5 DCDPE			3.468e2					826		9.10e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:03 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.34	2.378e2	3.552e2	0.828	0.67	0.77	4.6	YES	NO	bd	bd	0.217

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	29.45	3.066e2	1.754e2	0.904	1.75	1.55	7.2	YES	NO	dd	bd	0.127
2	Total-pentafurans	28.75	9.386e2	6.084e2	0.904	1.54	1.55	17.6	YES	NO	bd	db	0.409

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.82	1.812e2	1.581e2	0.994	1.15	1.24	2.9	NO	NO	bb	MM	0.126
2	123478-HxCDF	34.81	8.253e2	6.913e2	1.002	1.19	1.24	11.9	YES	NO	bd	bb	0.465
3	Total-hexafurans	34.18	9.041e3	6.866e3	1.007	1.32	1.24	151.8	YES	NO	bb	bb	5.107
4	Total-hexafurans	33.34	4.004e3	2.851e3	1.007	1.40	1.24	60.1	YES	NO	bb	bb	2.201

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.34	5.608e4	5.318e4	1.064	1.05	1.05	678.0	YES	NO	bb	bb	37.934
2	1234678-HpCDF	38.68	1.493e4	1.538e4	1.058	0.97	1.05	192.2	YES	NO	bb	bb	9.656

ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, 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	Total-Furans	21.42	8.765e1	1.097e2	0.998	0.80	0.77	1.7	NO	NO	db	bb	0.060
2	Total-tetrafurans	24.34	2.378e2	3.552e2	0.828	0.67	0.77	4.6	YES	NO	bd	bd	0.217
3	Total-pentafurans	29.45	3.066e2	1.754e2	0.904	1.75	1.55	7.2	YES	NO	dd	bd	0.127
4	Total-pentafurans	28.75	9.386e2	6.084e2	0.904	1.54	1.55	17.6	YES	NO	bd	db	0.409
5	123789-HxCDF	36.82	1.812e2	1.581e2	0.994	1.15	1.24	2.9	NO	NO	bb	MM	0.126
6	123478-HxCDF	34.81	8.253e2	6.913e2	1.002	1.19	1.24	11.9	YES	NO	bd	bb	0.465
7	Total-hexafurans	34.18	9.041e3	6.866e3	1.007	1.32	1.24	151.8	YES	NO	bb	bb	5.107
8	Total-hexafurans	33.34	4.004e3	2.851e3	1.007	1.40	1.24	60.1	YES	NO	bb	bb	2.201
9	Total-heptafurans	39.34	5.608e4	5.318e4	1.064	1.05	1.05	678.0	YES	NO	bb	bb	37.934
10	1234678-HpCDF	38.68	1.493e4	1.538e4	1.058	0.97	1.05	192.2	YES	NO	bb	bb	9.656
11	OCDF	45.14	8.995e4	9.011e4	1.257	1.00	0.89	857.0	YES	NO	bb	bb	66.986

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	33.92	4.595e3	3.262e3	1.034	1.41	1.24	42.3	YES	NO	bb	bb	2.414

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	4.420e4	4.266e4	1.055	1.04	1.05	342.0	YES	NO	bb	bb	37.094
2	1234679-HPCDD	39.13	6.098e4	5.922e4	1.194	1.03	1.05	494.7	YES	NO	bb	bb	45.356

ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, 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	124679-HXCDD	33.92	4.595e3	3.262e3	1.034	1.41	1.24	42.3	YES	NO	bb	bb	2.414
2	1234678-HpCDD	40.18	4.420e4	4.266e4	1.055	1.04	1.05	342.0	YES	NO	bb	bb	37.094
3	1234679-HPCDD	39.13	6.098e4	5.922e4	1.194	1.03	1.05	494.7	YES	NO	bb	bb	45.356
4	OCDD	44.90	2.772e5	3.177e5	1.074	0.87	0.89	3801.0	YES	NO	bb	bb	258.994

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-Furans	21.42	8.765e1	1.097e2	0.998	0.80	0.77	1.7	NO	NO	db	bb	0.060
2	Total-tetrafurans	24.34	2.378e2	3.552e2	0.828	0.67	0.77	4.6	YES	NO	bd	bd	0.217
3	Total-pentafurans	29.45	3.066e2	1.754e2	0.904	1.75	1.55	7.2	YES	NO	dd	bd	0.127
4	Total-pentafurans	28.75	9.386e2	6.084e2	0.904	1.54	1.55	17.6	YES	NO	bd	db	0.409
5	123789-HxCDF	36.82	1.812e2	1.581e2	0.994	1.15	1.24	2.9	NO	NO	bb	MM	0.126
6	123478-HxCDF	34.81	8.253e2	6.913e2	1.002	1.19	1.24	11.9	YES	NO	bd	bb	0.465
7	Total-hexafurans	34.18	9.041e3	6.866e3	1.007	1.32	1.24	151.8	YES	NO	bb	bb	5.107
8	Total-hexafurans	33.34	4.004e3	2.851e3	1.007	1.40	1.24	60.1	YES	NO	bb	bb	2.201
9	Total-heptafurans	39.34	5.608e4	5.318e4	1.064	1.05	1.05	678.0	YES	NO	bb	bb	37.934
10	1234678-HpCDF	38.68	1.493e4	1.538e4	1.058	0.97	1.05	192.2	YES	NO	bb	bb	9.656
11	OCDF	45.14	8.995e4	9.011e4	1.257	1.00	0.89	857.0	YES	NO	bb	bb	66.986
12	124679-HXCDD	33.92	4.595e3	3.262e3	1.034	1.41	1.24	42.3	YES	NO	bb	bb	2.414
13	1234678-HpCDD	40.18	4.420e4	4.266e4	1.055	1.04	1.05	342.0	YES	NO	bb	bb	37.094
14	1234679-HPCDD	39.13	6.098e4	5.922e4	1.194	1.03	1.05	494.7	YES	NO	bb	bb	45.356
15	OCDD	44.90	2.772e5	3.177e5	1.074	0.87	0.89	3801.0	YES	NO	bb	bb	258.994

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	27.20	9.534e3					0.2	NO		bb		
2	FUNCTION1 PFK	26.89	2.778e4					0.3	NO		bb		
3	FUNCTION1 PFK	26.80	3.785e3					0.2	NO		bb		
4	FUNCTION1 PFK	26.49	7.206e6					11.3	YES		bb		
5	FUNCTION1 PFK	24.67	2.880e4					0.5	NO		bb		
6	FUNCTION1 PFK	24.42	4.235e4					0.4	NO		bb		
7	FUNCTION1 PFK	23.58	7.522e3					0.2	NO		bb		
8	FUNCTION1 PFK	22.56	3.443e4					0.6	NO		bb		
9	FUNCTION1 PFK	22.46	6.241e5					1.1	NO		db		
10	FUNCTION1 PFK	22.21	1.192e6					3.0	NO		bd		
11	FUNCTION1 PFK	21.59	1.162e6					0.5	NO		bb		
12	FUNCTION1 PFK	21.07	1.628e6					8.1	YES		bb		
13	FUNCTION1 PFK	27.29	1.080e5					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	32.58	8.609e5					2.1	NO		bb		0.000
2	FUNCTION2 PFK	32.13	6.365e5					12.8	YES		bb		0.000
3	FUNCTION2 PFK	29.65	7.707e5					3.4	YES		bb		0.000
4	FUNCTION2 PFK	29.26	7.978e4					5.4	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	37.43	6.236e6					25.1	YES		db		0.000
2	FUNCTION3 PFK	36.97	1.382e6					59.3	YES		bd		0.000
3	FUNCTION3 PFK	36.87	1.195e6					54.6	YES		db		0.000
4	FUNCTION3 PFK	35.85	8.941e6					11.8	YES		bd		0.000
5	FUNCTION3 PFK	33.44	1.262e6					2.0	NO		bb		0.000
6	FUNCTION3 PFK	32.82	9.542e5					16.1	YES		db		0.000
7	FUNCTION3 PFK	32.65	7.210e4					6.0	YES		bd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	37.82	5.092e3					0.3	NO		bb		
2	FUNCTION4 PFK	39.70	1.513e6					15.4	YES		dd		
3	FUNCTION4 PFK	39.64	5.844e5					15.1	YES		dd		
4	FUNCTION4 PFK	39.53	1.372e6					13.8	YES		dd		
5	FUNCTION4 PFK	39.50	3.917e5					13.4	YES		dd		
6	FUNCTION4 PFK	39.46	3.845e5					13.2	YES		dd		
7	FUNCTION4 PFK	39.43	7.420e5					13.0	YES		dd		
8	FUNCTION4 PFK	39.22	2.678e6					10.9	YES		dd		
9	FUNCTION4 PFK	39.03	5.460e5					9.1	YES		dd		
10	FUNCTION4 PFK	38.99	9.267e5					8.8	YES		dd		
11	FUNCTION4 PFK	38.89	5.202e5					7.9	YES		dd		
12	FUNCTION4 PFK	38.77	7.706e5					6.8	YES		dd		
13	FUNCTION4 PFK	38.55	8.310e5					4.7	YES		dd		
14	FUNCTION4 PFK	38.50	5.980e5					4.2	YES		dd		
15	FUNCTION4 PFK	38.23	6.620e4					1.5	NO		dd		
16	FUNCTION4 PFK	38.14	5.836e4					0.7	NO		bd		
17	FUNCTION4 PFK	37.98	4.022e3					0.2	NO		bb		
18	FUNCTION4 PFK	42.10	2.396e4					0.6	NO		bb		
19	FUNCTION4 PFK	41.75	8.296e3					0.3	NO		bb		
20	FUNCTION4 PFK	41.51	9.764e4					0.9	NO		db		
21	FUNCTION4 PFK	41.41	6.389e4					1.9	NO		dd		
22	FUNCTION4 PFK	41.38	5.431e4					2.0	NO		dd		
23	FUNCTION4 PFK	41.30	6.976e5					3.0	YES		dd		
24	FUNCTION4 PFK	40.97	8.642e5					6.5	YES		dd		
25	FUNCTION4 PFK	40.91	3.984e5					7.0	YES		dd		
26	FUNCTION4 PFK	40.72	1.740e6					8.7	YES		dd		
27	FUNCTION4 PFK	40.61	1.491e6					9.8	YES		dd		
28	FUNCTION4 PFK	40.43	2.978e6					11.4	YES		dd		
29	FUNCTION4 PFK	40.17	8.099e5					14.1	YES		dd		
30	FUNCTION4 PFK	40.10	8.381e5					14.4	YES		dd		
31	FUNCTION4 PFK	40.07	1.177e6					14.4	YES		bd		
32	FUNCTION4 PFK	39.84	1.877e6					16.9	YES		db		
33	FUNCTION4 PFK	39.80	6.440e5					16.5	YES		dd		
34	FUNCTION4 PFK	42.72	5.371e3					0.2	NO		bb		
35	FUNCTION4 PFK	42.19	9.539e2					0.1	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.79	1.295e4					2.2	NO		bb		
2	FUNCTION5 PFK	44.55	3.108e3					0.8	NO		bb		
3	FUNCTION5 PFK	44.52	2.874e3					1.1	NO		bb		
4	FUNCTION5 PFK	44.47	2.157e3					0.9	NO		bb		
5	FUNCTION5 PFK	43.77	3.888e3					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...	23.30	1.297e2					2.1	NO		bb		0.000
2	FUNCTION1 HXCD...	22.33	8.164e1					2.3	NO		db		0.000
3	FUNCTION1 HXCD...	22.22	1.231e2					3.0	NO		bd		0.000
4	FUNCTION1 HXCD...	22.06	7.340e1					1.8	NO		bb		0.000
5	FUNCTION1 HXCD...	21.91	8.820e1					1.8	NO		db		0.000
6	FUNCTION1 HXCD...	21.81	1.707e2					2.8	NO		bd		0.000
7	FUNCTION1 HXCD...	21.42	8.969e1					3.1	YES		bb		0.000
8	FUNCTION1 HXCD...	25.73	8.598e1					4.1	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...	27.11	1.086e2					3.6	YES		bb		0.000
2	FUNCTION1 HPCD...	26.61	7.632e1					1.7	NO		bb		0.000
3	FUNCTION1 HPCD...	26.14	7.804e1					1.7	NO		bb		0.000
4	FUNCTION1 HPCD...	25.50	8.400e1					2.4	NO		bb		0.000
5	FUNCTION1 HPCD...	24.35	9.683e1					3.0	NO		bb		0.000
6	FUNCTION1 HPCD...	23.72	9.761e1					1.2	NO		bb		0.000
7	FUNCTION1 HPCD...	23.37	1.623e2					2.5	NO		db		0.000
8	FUNCTION1 HPCD...	23.28	4.272e2					6.8	YES		dd		0.000
9	FUNCTION1 HPCD...	23.19	7.645e1					1.9	NO		bd		0.000
10	FUNCTION1 HPCD...	21.97	1.094e3					23.7	YES		db		0.000
11	FUNCTION1 HPCD...	21.77	9.019e1					2.6	NO		bd		0.000
12	FUNCTION1 HPCD...	21.39	9.538e1					2.6	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.02	8.030e1					2.3	NO		bb		0.000
2	FUNCTION2 HPCD...	32.12	1.136e2					2.3	NO		bb		0.000
3	FUNCTION2 HPCD...	30.14	7.471e1					3.3	YES		bb		0.000
4	FUNCTION2 HPCD...	28.88	9.810e1					3.3	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	35.04	1.081e2					4.0	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	42.63	1.258e2					4.5	YES		bb		0.000
2	FUNCTION4 NCDPE	41.94	9.725e1					2.2	NO		bb		0.000
3	FUNCTION4 NCDPE	40.86	1.757e2					3.2	YES		bb		0.000
4	FUNCTION4 NCDPE	40.37	8.669e1					2.1	NO		bb		0.000
5	FUNCTION4 NCDPE	39.71	1.430e2					3.3	YES		bb		0.000
6	FUNCTION4 NCDPE	38.35	6.992e2					17.3	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	43.37	7.824e1					1.7	NO		bb		0.000
2	FUNCTION5 DCDPE	43.24	7.726e1					3.3	YES		bb		0.000
3	FUNCTION5 DCDPE	42.90	9.193e1					1.9	NO		bb		0.000
4	FUNCTION5 DCDPE	44.22	9.933e1					4.1	YES		bb		0.000

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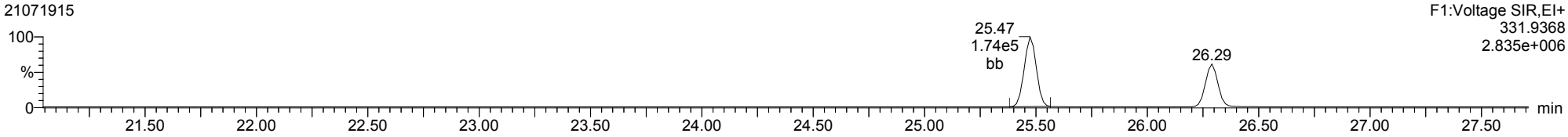

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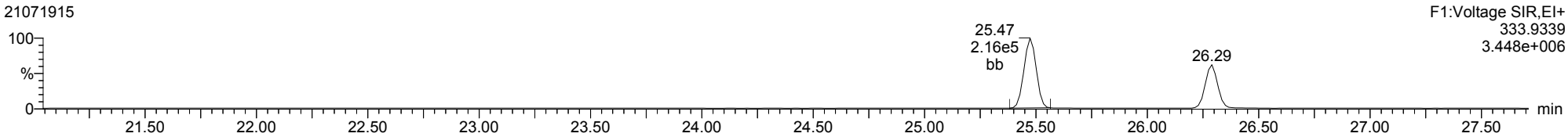

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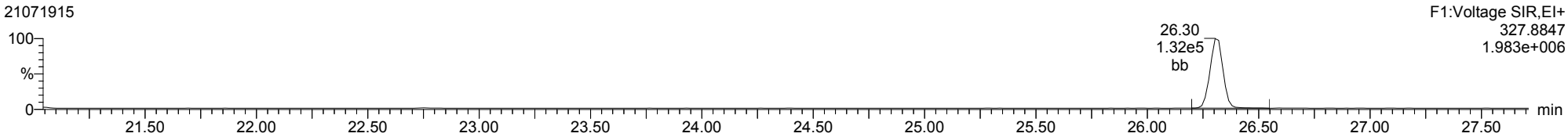

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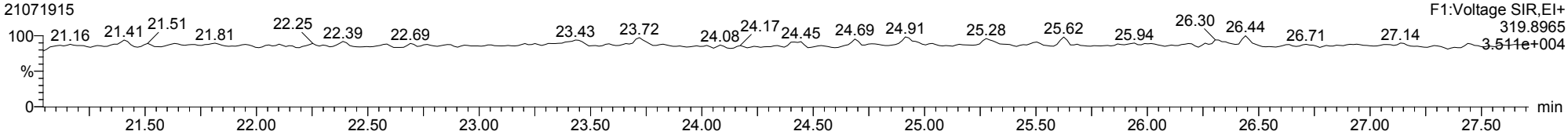

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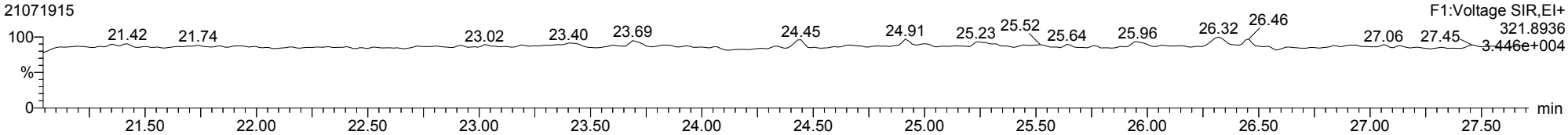

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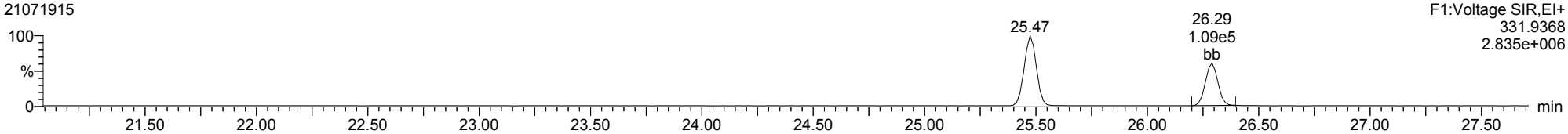

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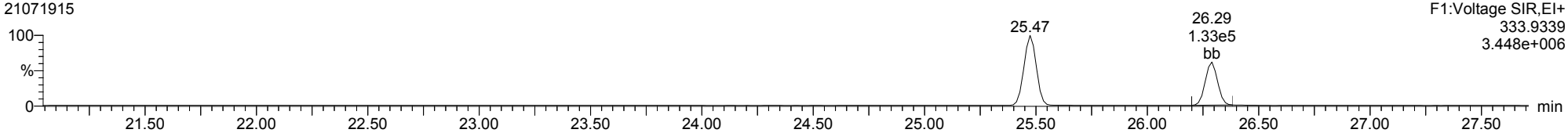

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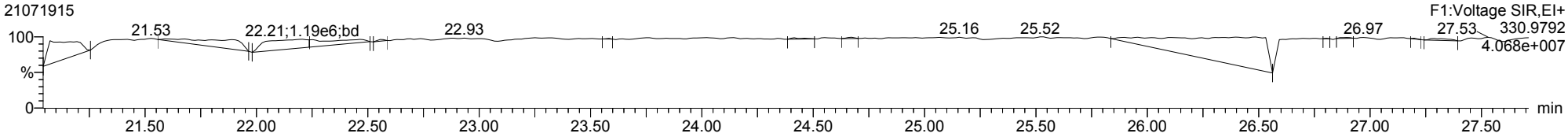

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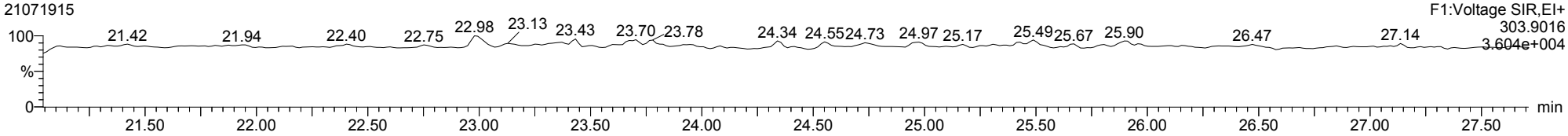
2378-TCDF



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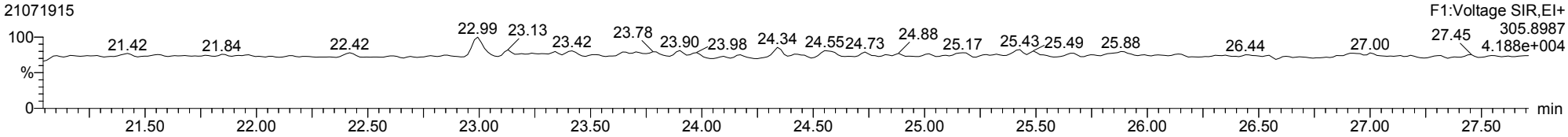

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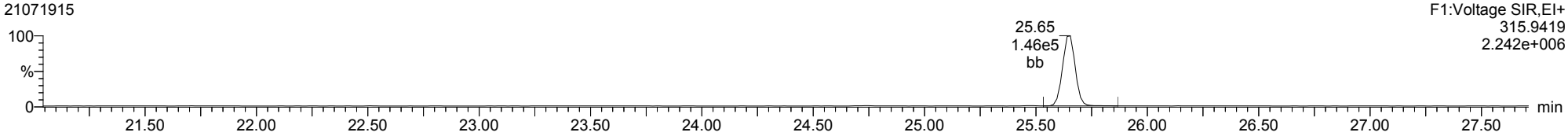

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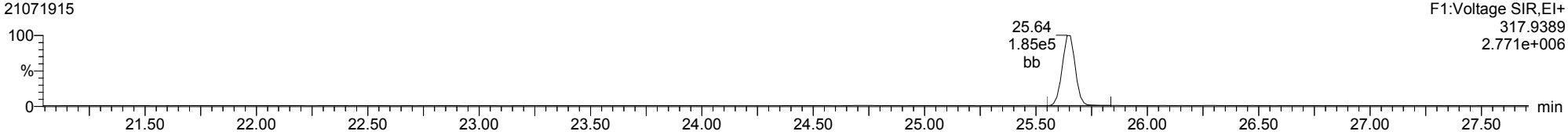
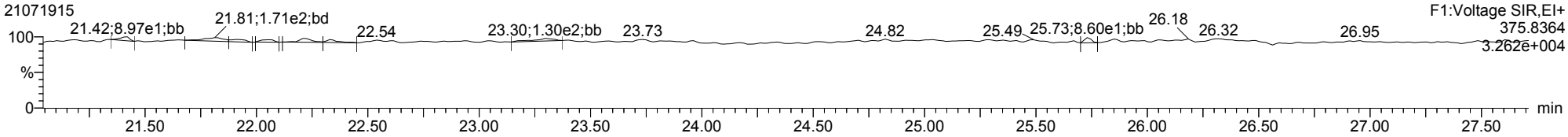


FUNCTION1 HXCDPE



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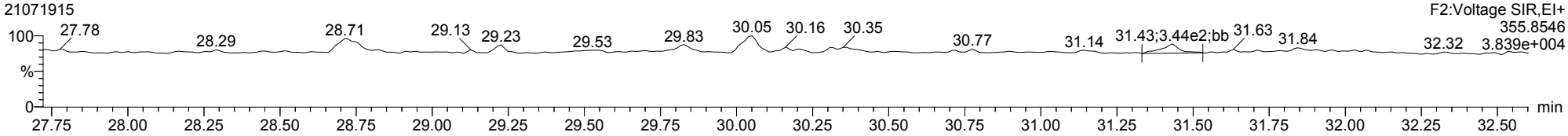
12378-PeCDD



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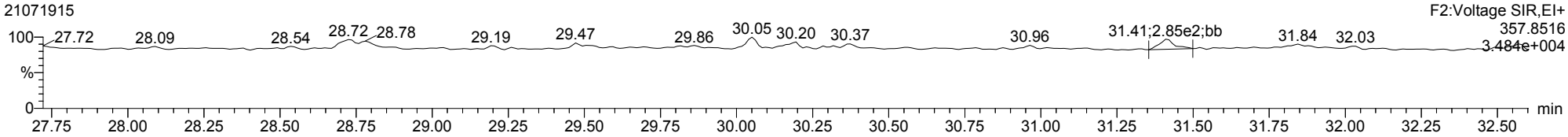

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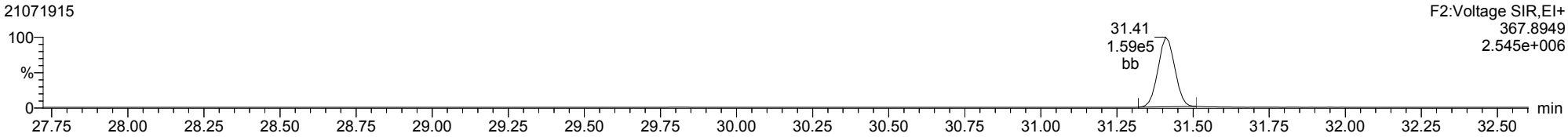

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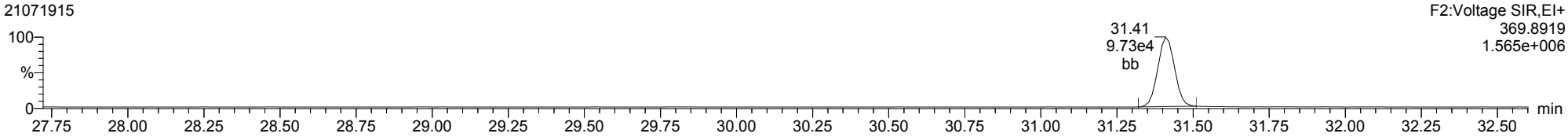

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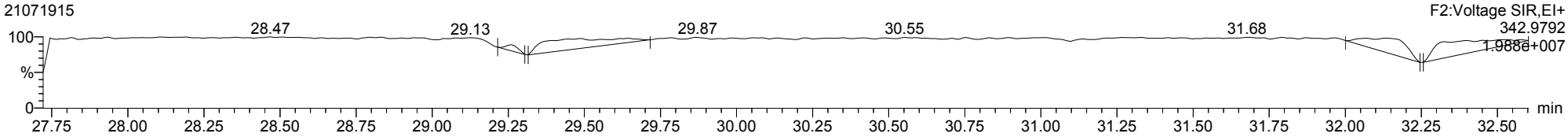

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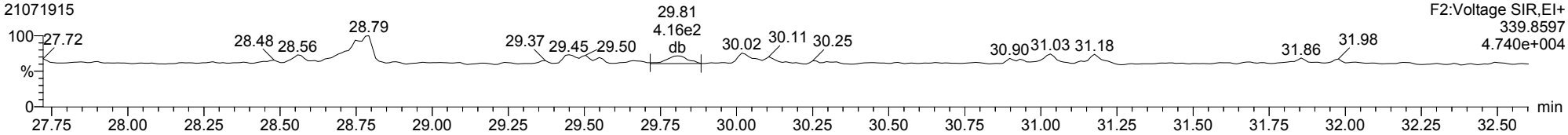
12378-PeCDF



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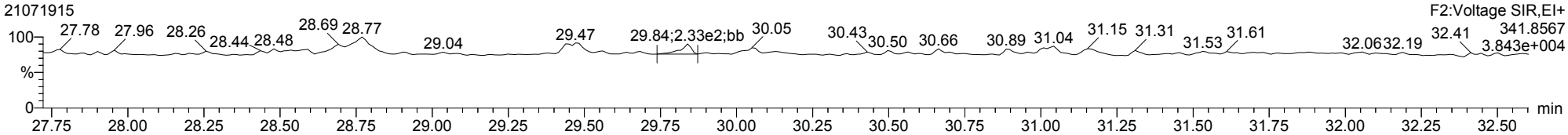

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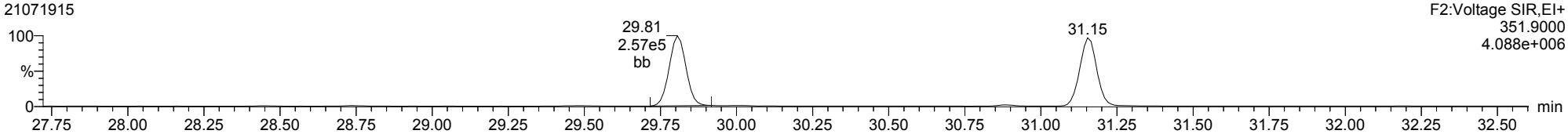

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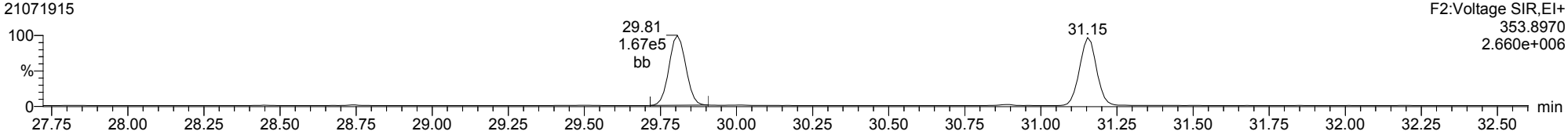
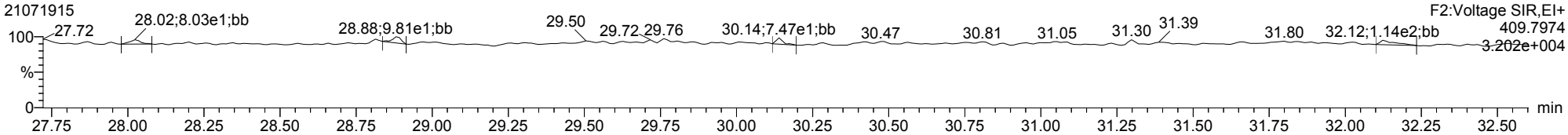


FUNCTION2 HPCDPE



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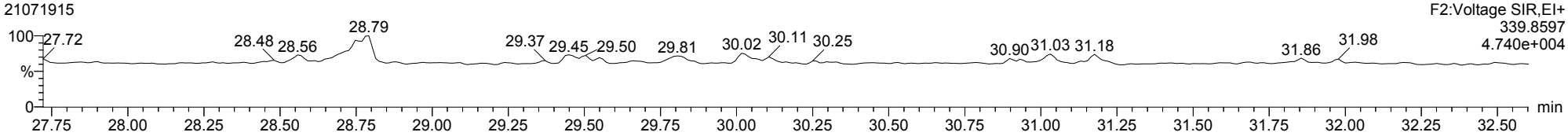
23478-PeCDF



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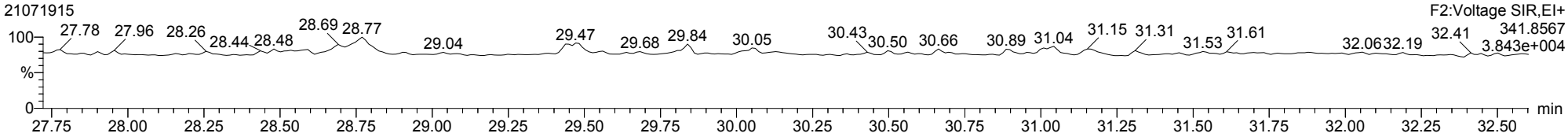

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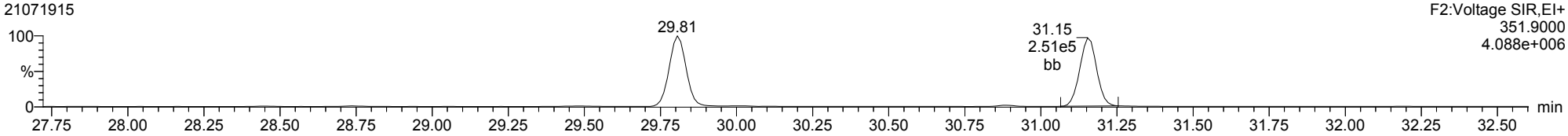

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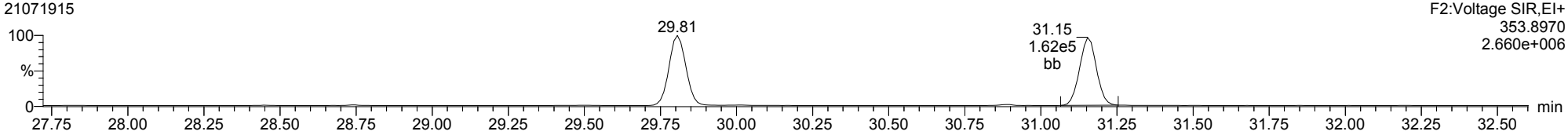

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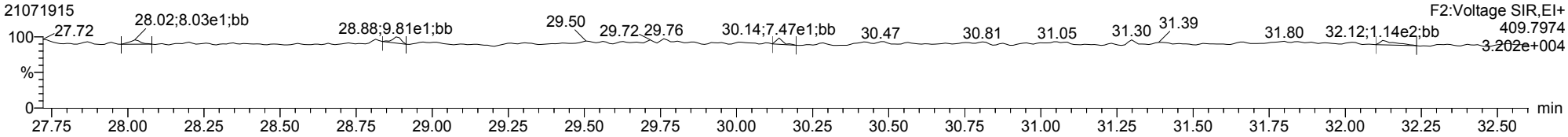

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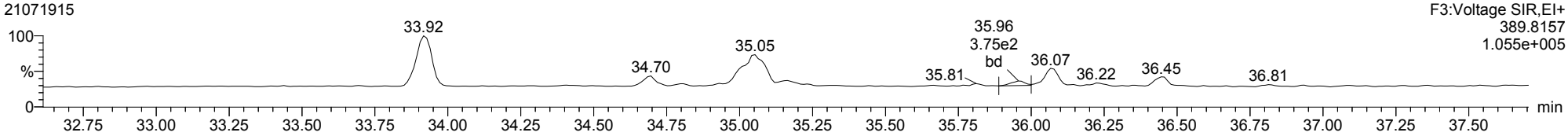

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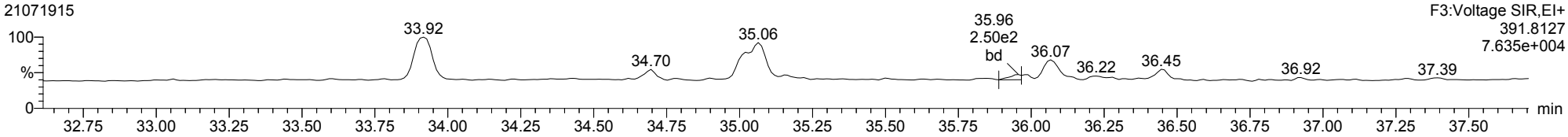

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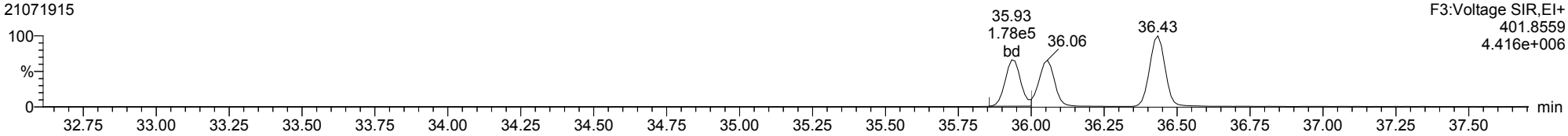

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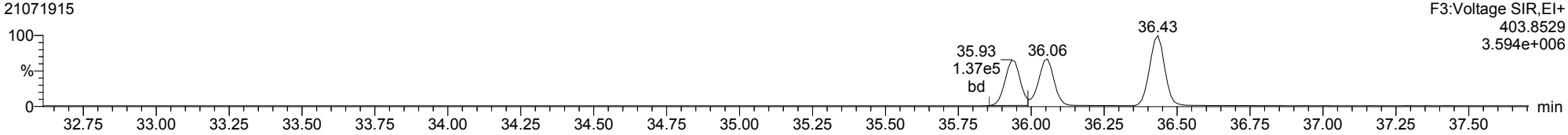

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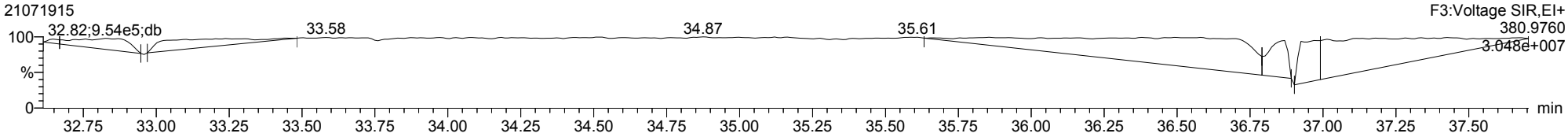

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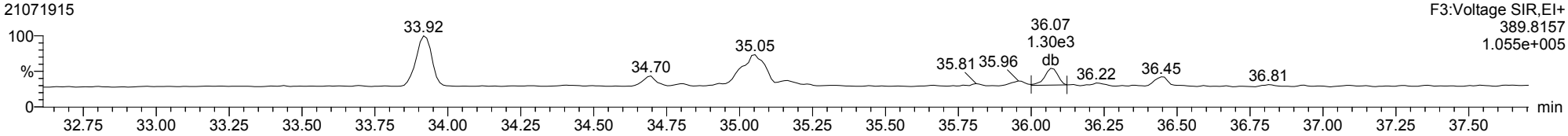

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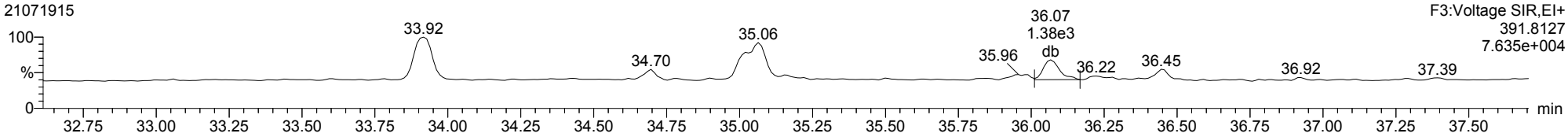

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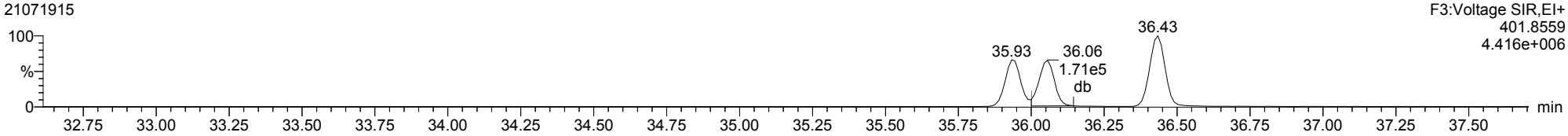

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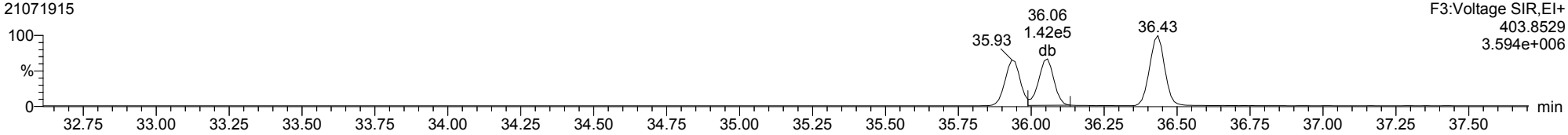

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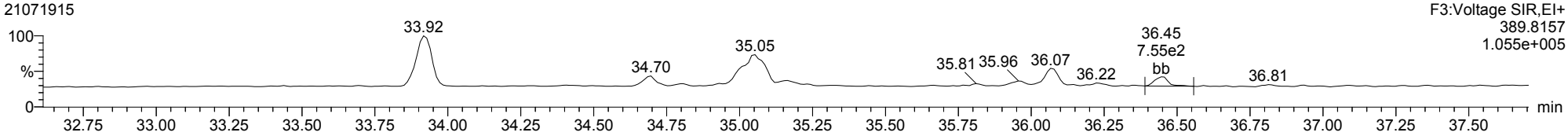

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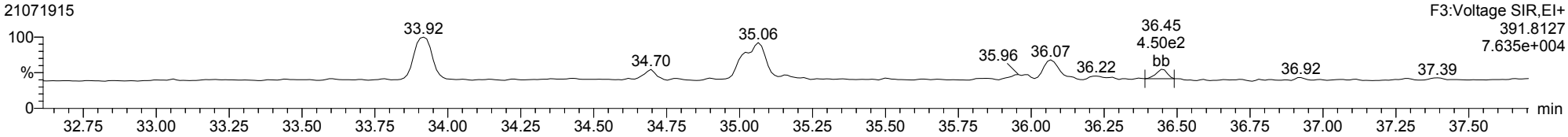

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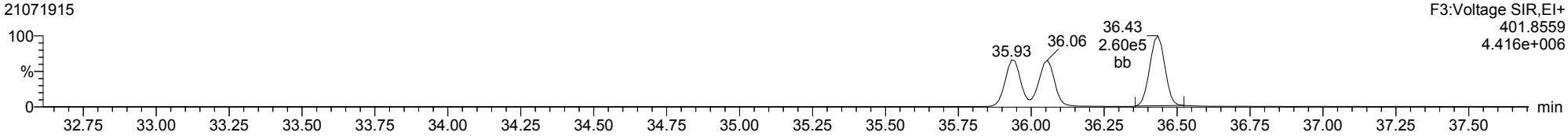

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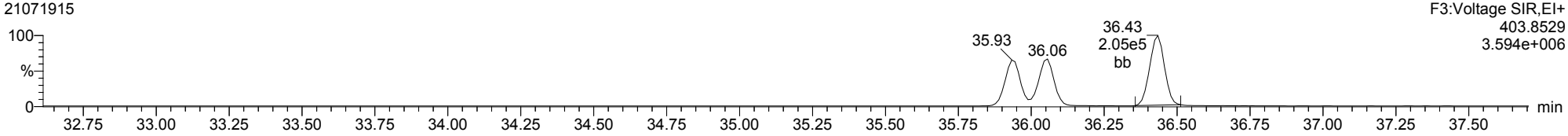

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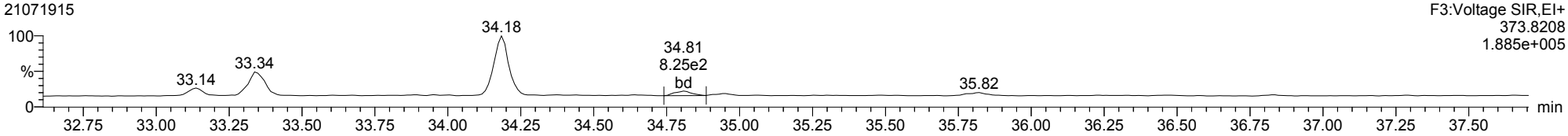

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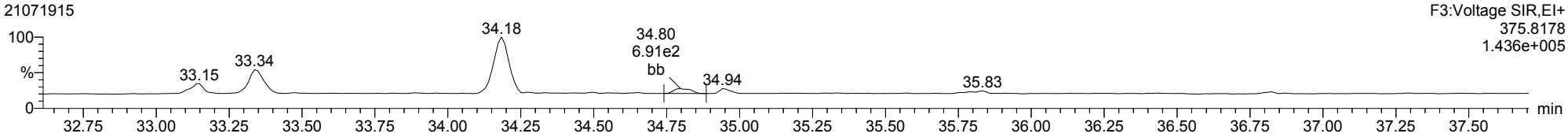

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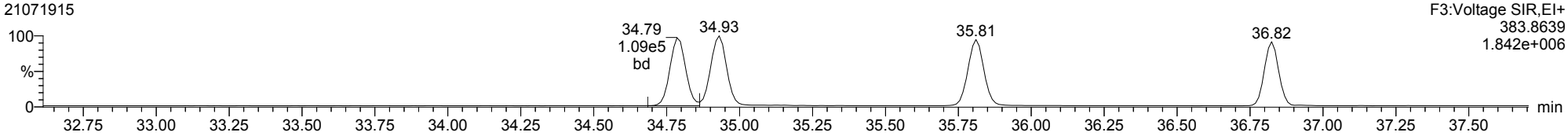

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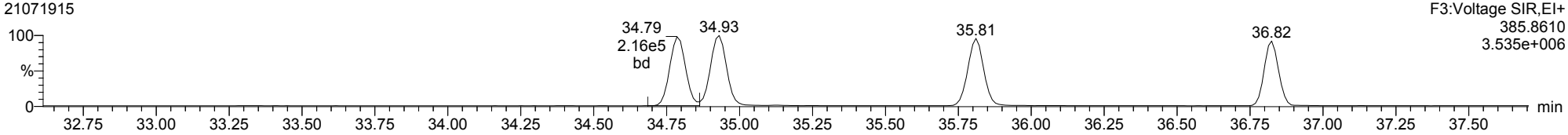

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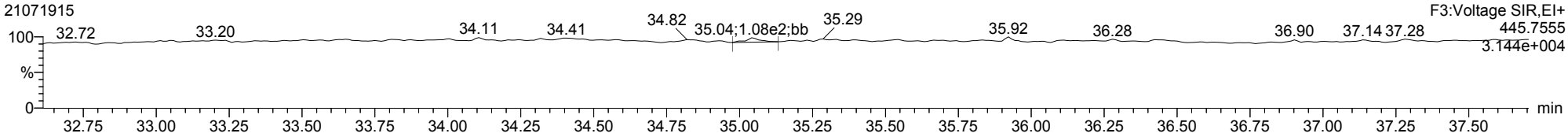

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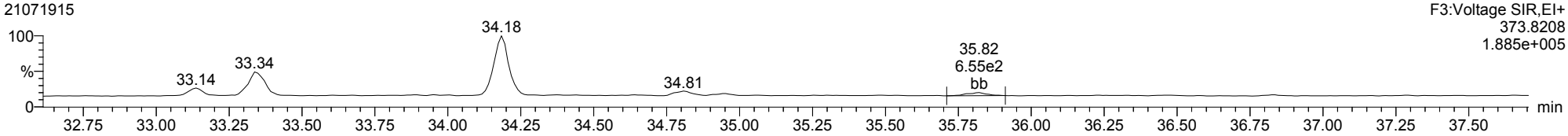

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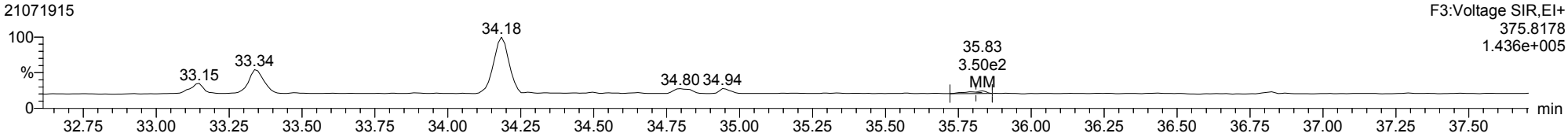

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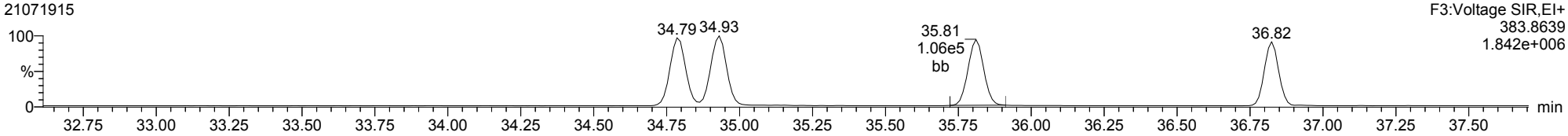

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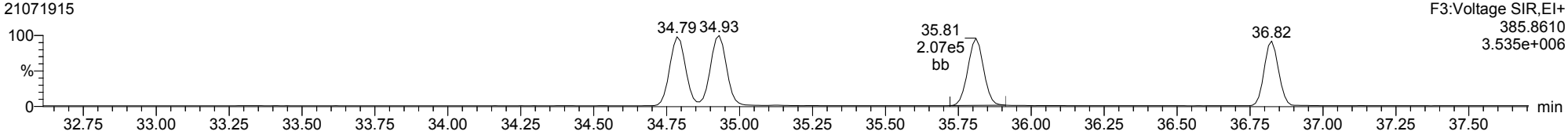

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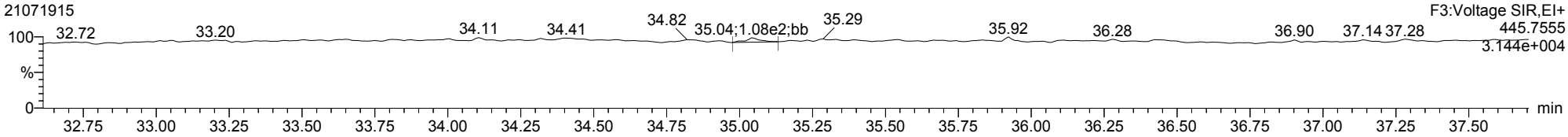

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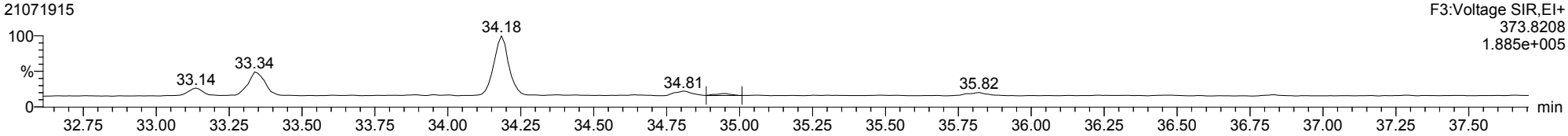

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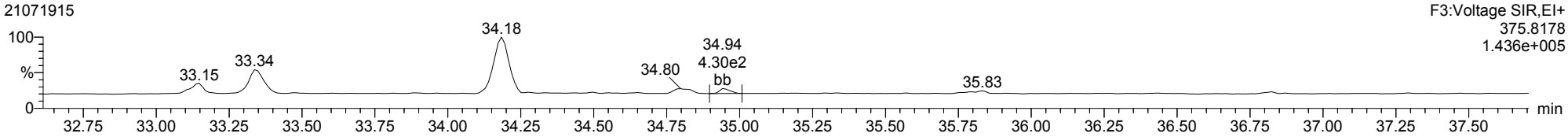

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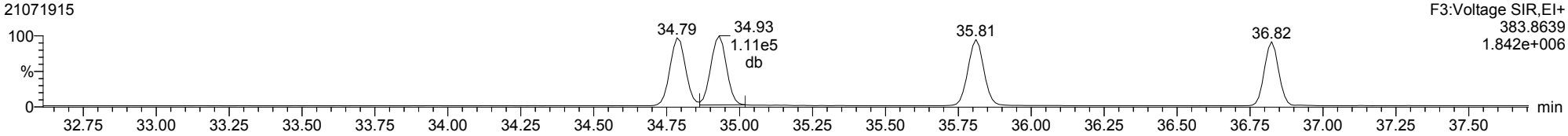

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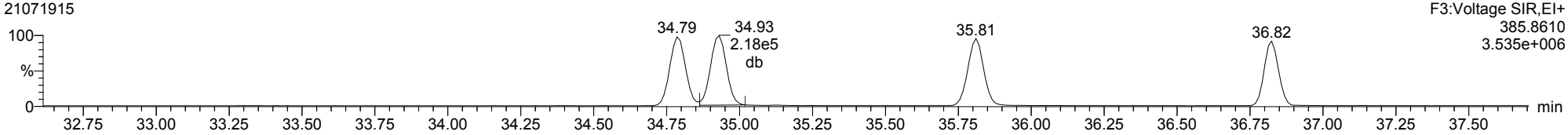

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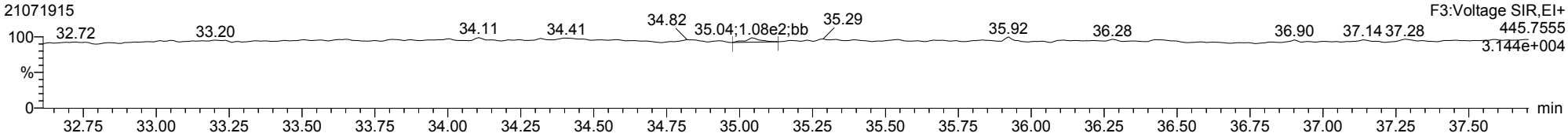

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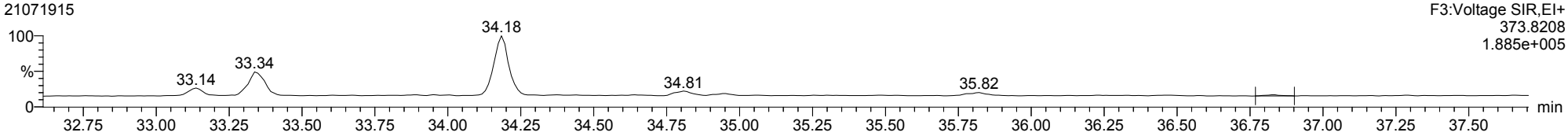
123789-HxCDF



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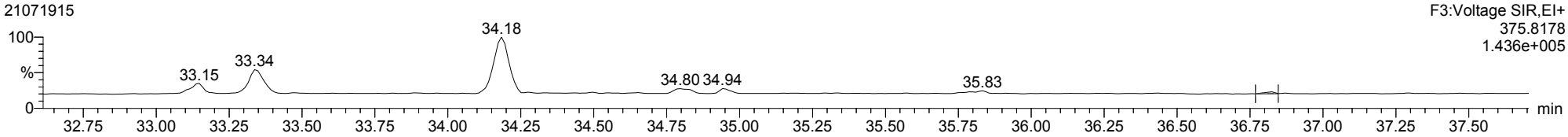

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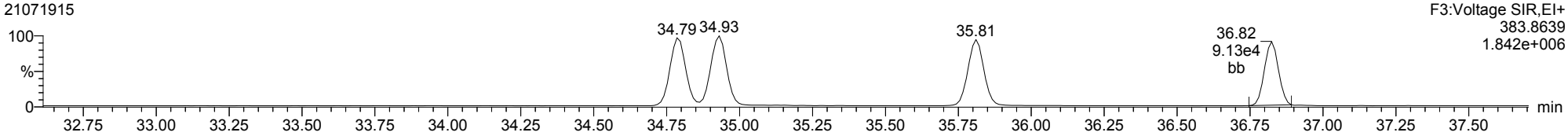

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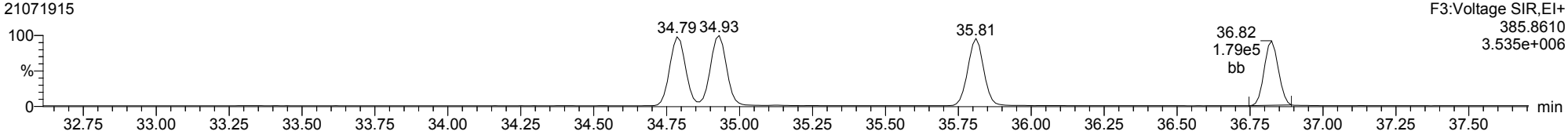

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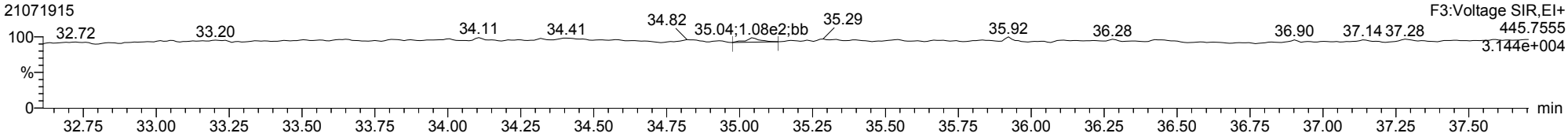

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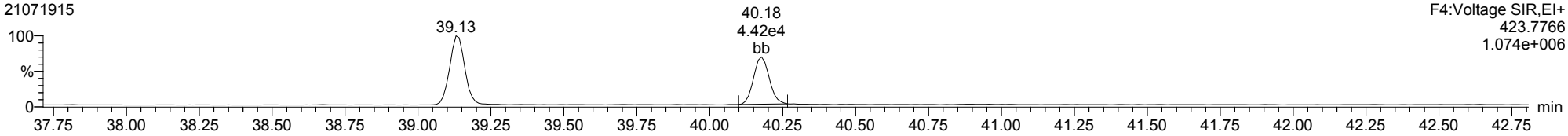

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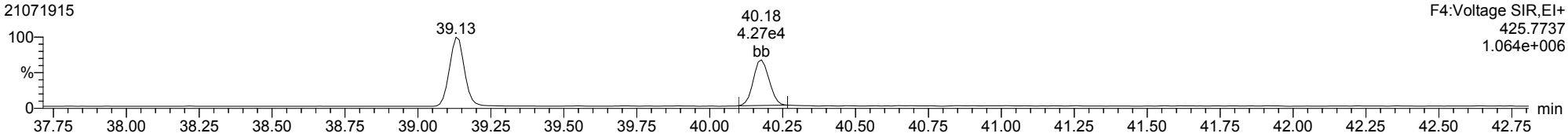

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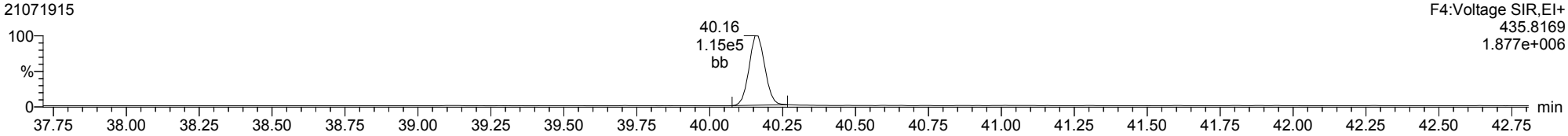

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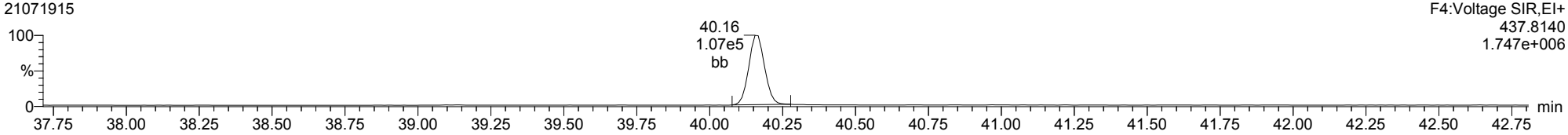

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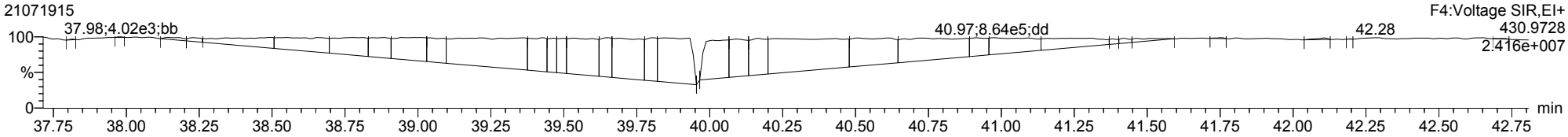

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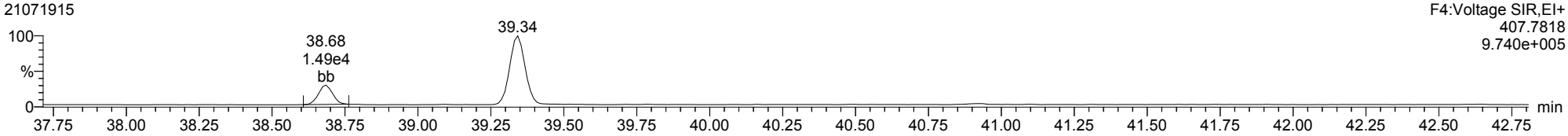

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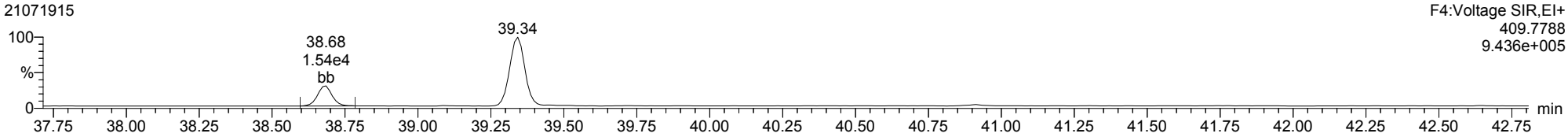

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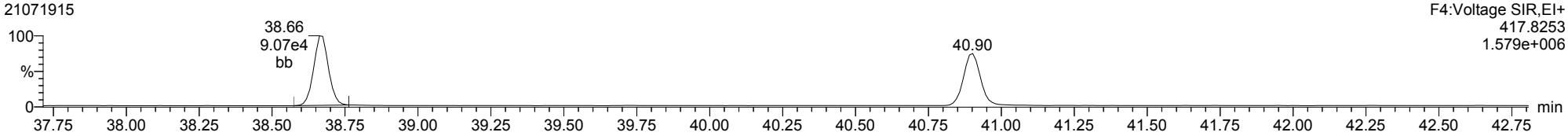

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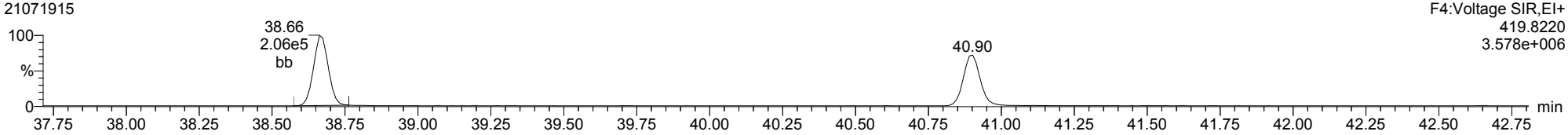

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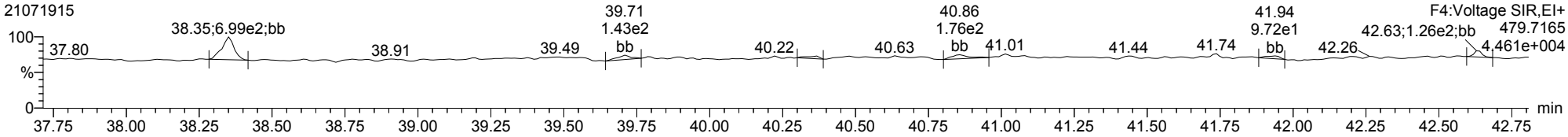

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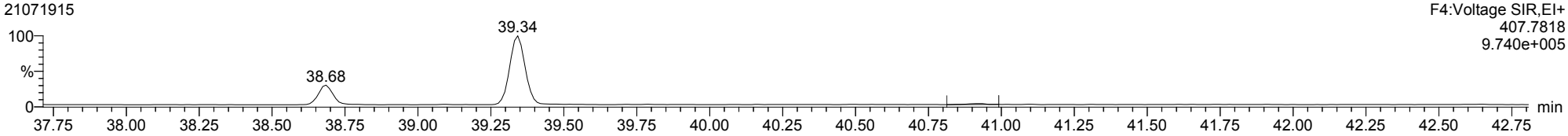
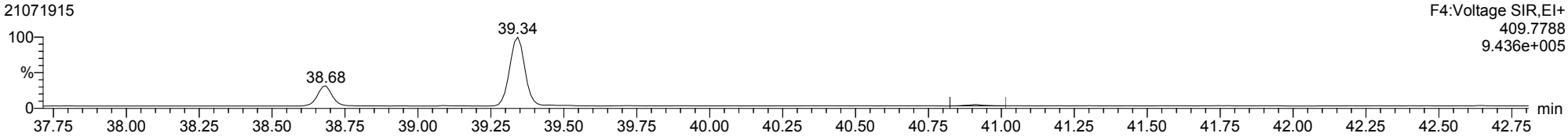
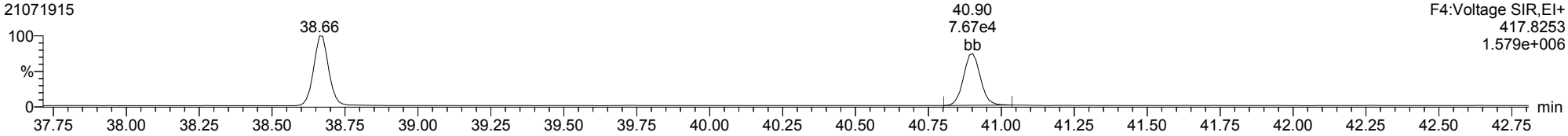
1234789-HpCDF



1234789-HpCDF



13C-1234789-HpCDF



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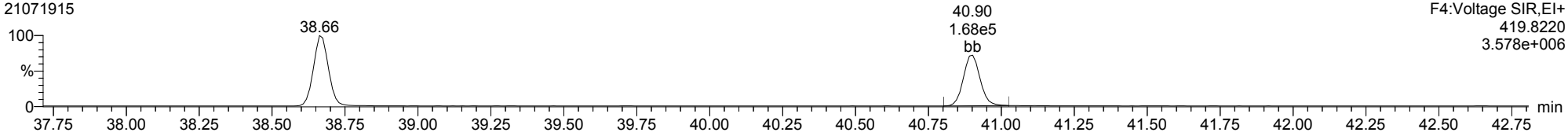
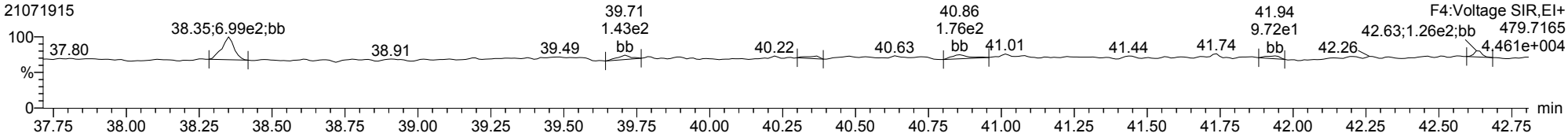
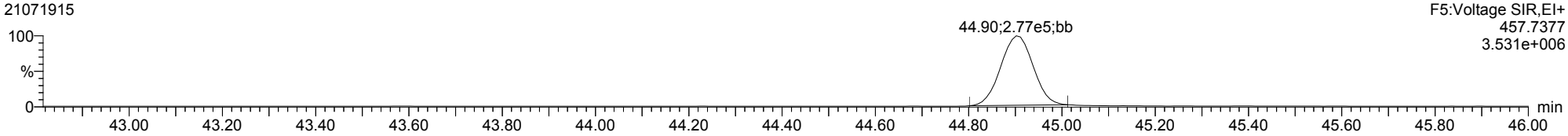


FUNCTION4 NCDPE

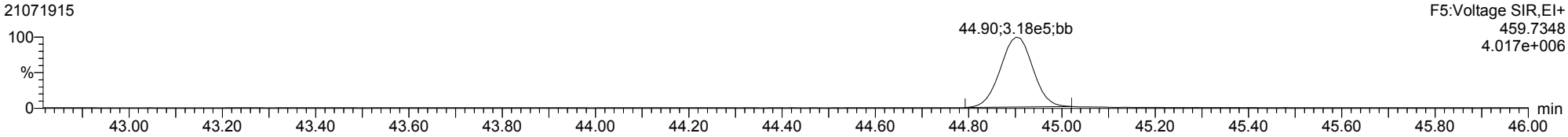


ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

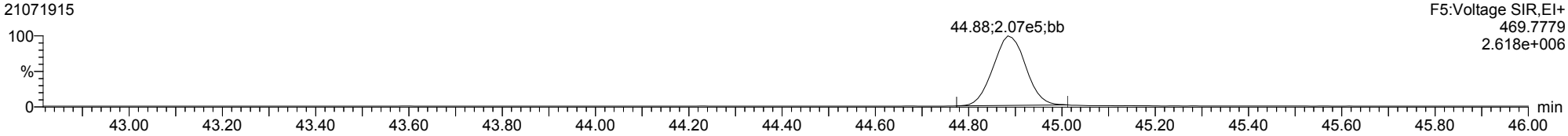
OCDD



OCDD



13C-OCDD



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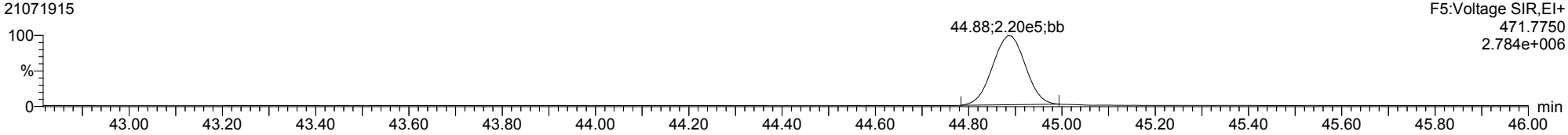
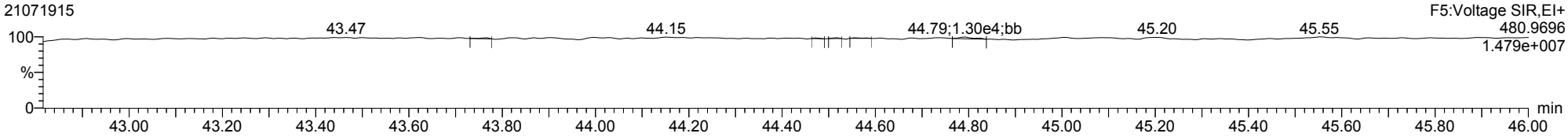
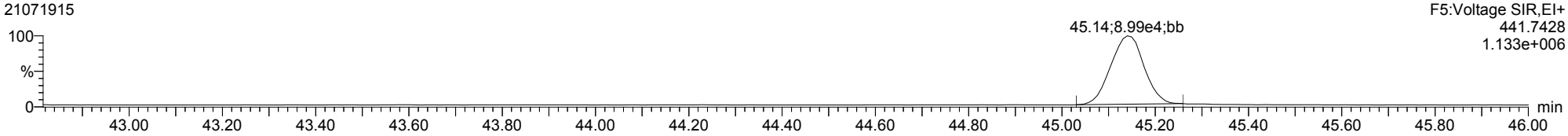


FUNCTION5 PFK

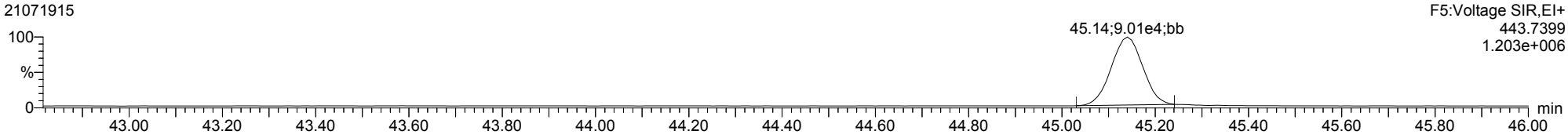


ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

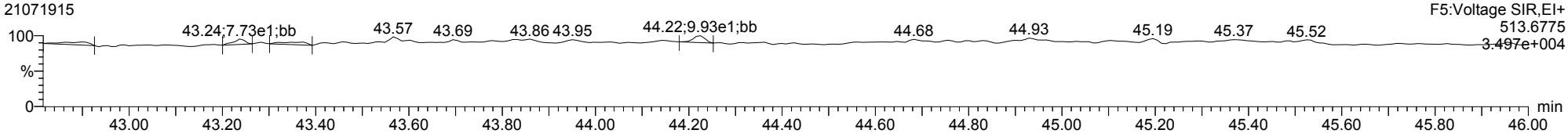
OCDF



OCDF

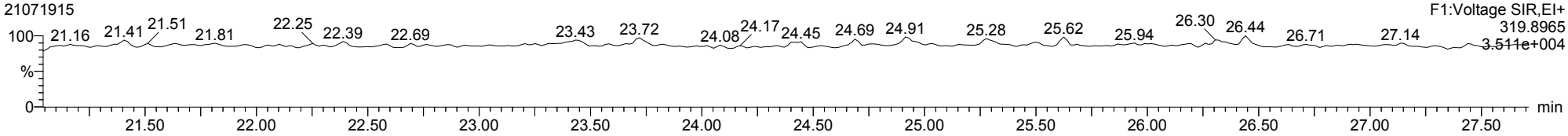


FUNCTION5 DCDPE

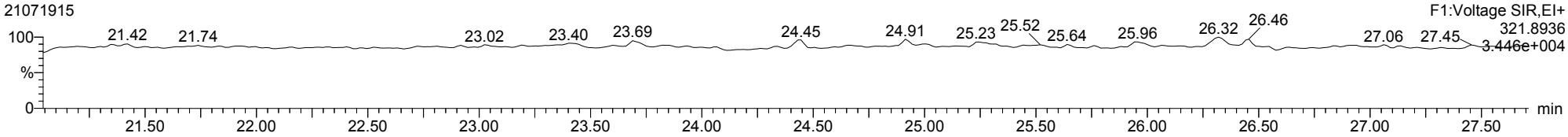


ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

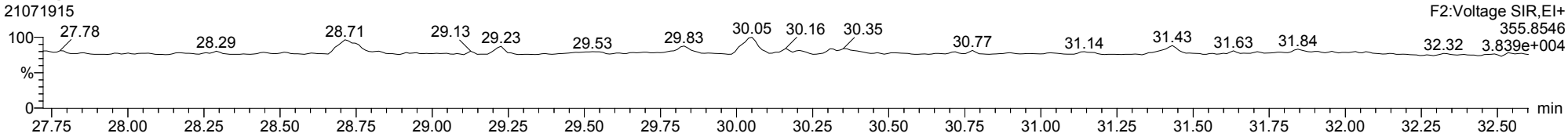
Total-tetradioxins



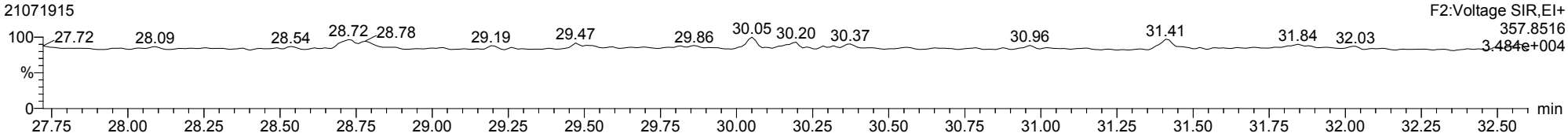
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

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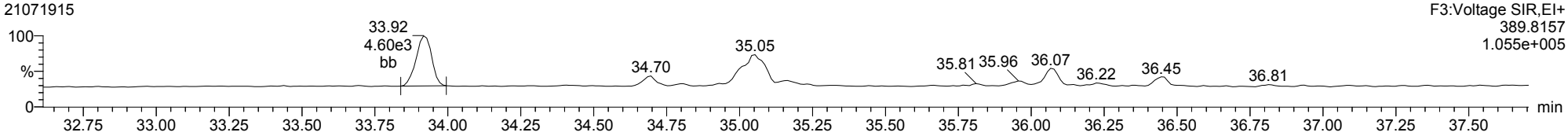
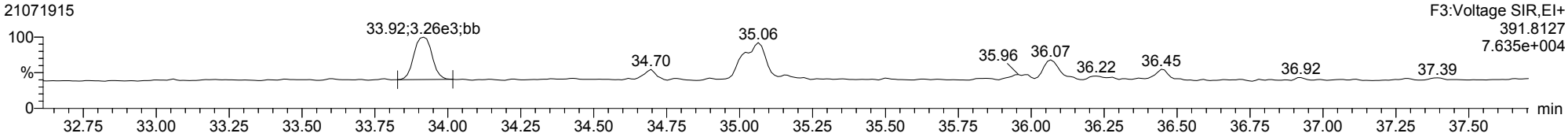
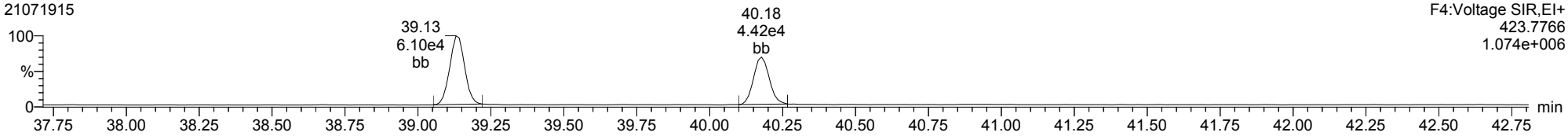


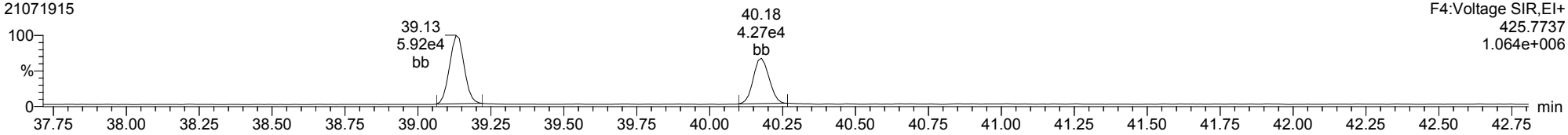
Total-hexadioxins



Total-heptadioxins

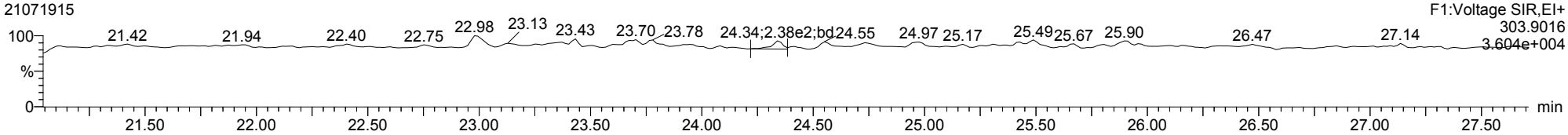


Total-heptadioxins



ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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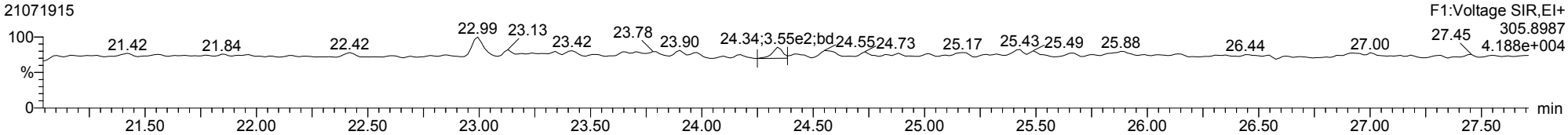

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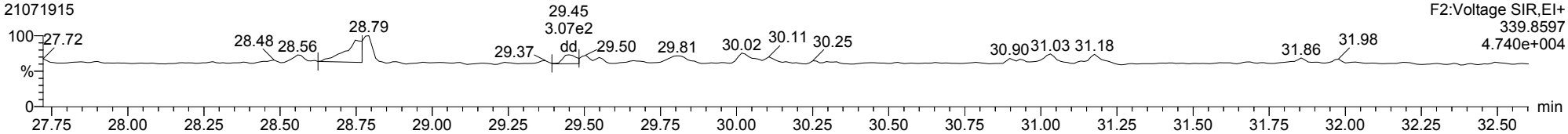

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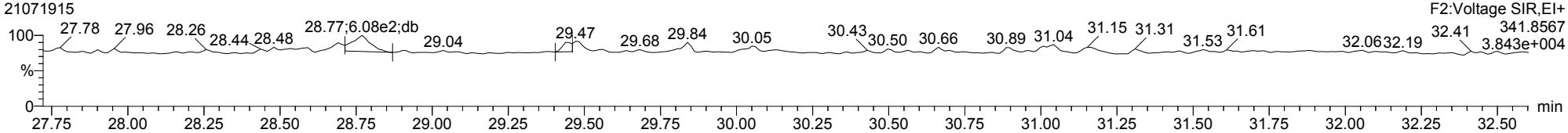
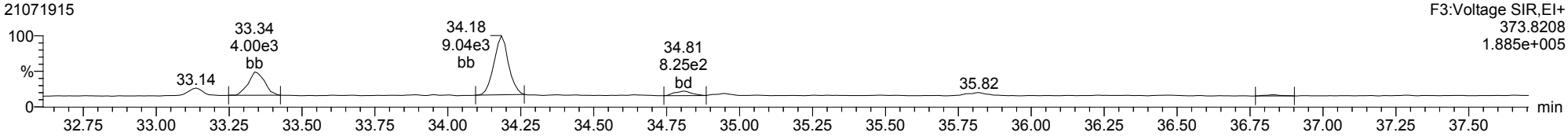


ID: 21F0442-03, Name: 21071915, Date: 19-Jul-2021, Time: 22:00:10, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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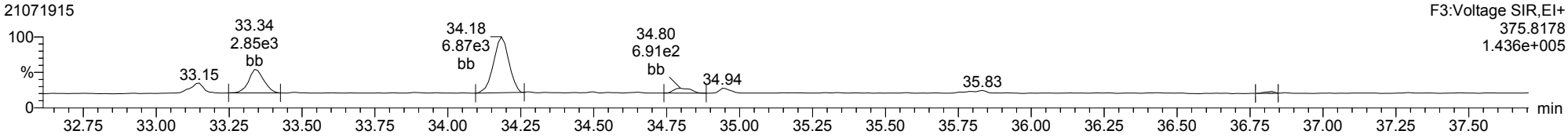

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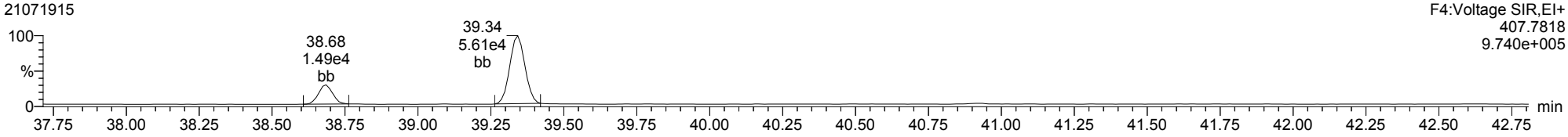

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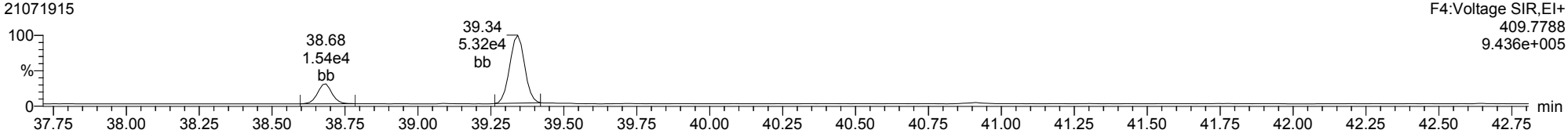

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564D

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-04 B	File ID:	21071916
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 22:49
% Solids:	58.61	Preparation:	EPA 1613	Initial/Final:	17.07 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.994	0.655-0.886	0.484	1.00	0.479	ng/kg	EMPC, J
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.429	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.400	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	1.385	1.318-1.783	0.355	1.00	0.710	ng/kg	J
40321-76-4	1,2,3,7,8-PeCDD	1	1.491	1.318-1.783	0.283	1.00	1.17	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.375	1.054-1.426	0.248	1.00	1.79	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.057	1.054-1.426	0.248	1.00	0.970	ng/kg	J
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.804	1.054-1.426	0.229	1.00	0.566	ng/kg	EMPC, J
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.262	1.00	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.874	1.054-1.426	0.341	1.00	0.802	ng/kg	EMPC, J
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.315	1.054-1.426	0.337	1.00	3.26	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.978	1.054-1.426	0.349	1.00	2.56	ng/kg	EMPC
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.021	0.893-1.208	0.228	1.00	17.9	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.095	0.893-1.208	0.291	1.00	1.44	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.052	0.893-1.208	0.883	2.50	98.8	ng/kg	
39001-02-0	OCDF	1	0.968	0.757-1.024	0.243	2.50	58.1	ng/kg	
3268-87-9	OCDD	1	0.858	0.757-1.024	0.486	10.0	718	ng/kg	B

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	7.61	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	2.60	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	24.0	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	24.8	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	64.2	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	231	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 3.84
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 4.07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564D

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-04	File ID:	21071916
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 22:49
Solids Wt%:	58.61	Preparation:	EPA 1613	Initial/Final:	17.07 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.790	0.655-0.886	0.172	28.4	24 - 169 %	
13C12-2,3,7,8-TCDD		0.771	0.655-0.886	0.230	39.2	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.543	1.318-1.783	0.314	70.9	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.535	1.318-1.783	0.327	71.5	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.594	1.318-1.783	0.233	72.1	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.509	0.434-0.587	0.315	78.0	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.503	0.434-0.587	0.292	74.6	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.521	0.434-0.587	0.330	84.4	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.491	0.434-0.587	0.365	70.6	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.268	1.054-1.426	0.289	83.8	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.226	1.054-1.426	0.261	78.5	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.451	0.374-0.506	0.201	80.6	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.438	0.374-0.506	0.243	82.4	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.044	0.893-1.208	0.486	77.6	23 - 140 %	
13C12-OCDD		0.910	0.757-1.024	0.266	75.8	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.074	40.5	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:13 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, 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	25.685	1.001	1.759e2	1.770e2	0.782	0.994	0.770	872	917	2.76e3	3.24e3	3.2	3.5	YES	MM	bb	0.240
12378-PeCDF					0.866		1.550	1777	1350								
23478-PeCDF	31.198	1.000	6.904e2	4.983e2	0.980	1.385	1.550	1777	1350	1.15e4	7.53e3	6.4	5.6	NO	db	db	0.355
123478-HxCDF	34.830	1.001	1.611e3	1.172e3	1.002	1.375	1.240	1133	877	2.75e4	1.89e4	24.3	21.6	NO	bb	bd	0.896
234678-HxCDF	35.855	1.000	4.206e2	5.231e2	1.043	0.804	1.240	1133	877	8.94e3	9.61e3	7.9	11.0	YES	db	db	0.283
123678-HxCDF	34.964	1.000	7.649e2	7.235e2	0.961	1.057	1.240	1133	877	1.38e4	1.24e4	12.2	14.1	NO	bb	db	0.485
123789-HxCDF					0.994		1.240	1133	877								
1234678-HpCDF	38.707	1.000	1.396e4	1.367e4	1.058	1.021	1.050	1125	836	2.50e5	2.35e5	222.3	280.7	NO	bb	bb	8.954
1234789-HpCDF	40.936	1.000	9.936e2	9.075e2	1.070	1.095	1.050	1125	836	1.36e4	1.31e4	12.1	15.7	NO	bb	bb	0.721
OCDF	45.178	1.006	3.608e4	3.727e4	1.257	0.968	0.890	634	706	4.77e5	4.74e5	753.2	671.3	NO	bb	bb	29.044
2378-TCDD					1.307		0.770	1160	1020								
12378-PeCDD	31.465	1.001	8.079e2	5.419e2	0.979	1.491	1.550	987	666	9.52e3	6.46e3	9.6	9.7	NO	MM	bb	0.586
123478-HxCDD	35.978	1.000	7.416e2	3.957e2	0.956	1.874	1.240	1234	1455	1.07e4	7.64e3	8.7	5.2	YES	dd	bd	0.401
123678-HxCDD	36.100	1.001	2.724e3	2.071e3	0.953	1.315	1.240	1234	1455	3.89e4	3.34e4	31.5	23.0	NO	db	db	1.631
123789-HxCDD	36.468	1.011	1.778e3	1.819e3	0.927	0.978	1.240	1234	1455	3.14e4	3.88e4	25.4	26.7	YES	bb	bb	1.283
1234678-HpCDD	40.200	1.001	6.166e4	5.863e4	1.055	1.052	1.050	2859	2694	9.71e5	9.45e5	339.7	350.8	NO	bb	bb	49.431
OCDD	44.930	1.000	3.580e5	4.172e5	1.074	0.858	0.890	1135	1155	4.65e6	5.41e6	4095.8	4681.0	NO	bb	bb	359.214
13C-2378-TCDF	25.655	1.007	8.313e4	1.052e5	1.925	0.790	0.770	1767	1166	1.25e6	1.62e6	708.6	1386.4	NO	dd	dd	28.387
13C-12378-PeCDF	29.828	1.170	2.139e5	1.386e5	1.442	1.543	1.550	2372	1651	3.28e6	2.16e6	1384.9	1310.7	NO	bb	bb	70.894
13C-23478-PeCDF	31.187	1.224	2.068e5	1.348e5	1.387	1.535	1.550	2372	1651	3.27e6	2.09e6	1377.1	1264.9	NO	bb	bb	71.465
13C-123478-HxCDF	34.808	0.955	1.045e5	2.054e5	1.053	0.509	0.510	1456	2055	1.64e6	3.23e6	1124.1	1572.2	NO	bd	bd	78.033
13C-123678-HxCDF	34.953	0.959	1.068e5	2.123e5	1.135	0.503	0.510	1456	2055	1.69e6	3.46e6	1163.6	1685.1	NO	db	db	74.561
13C-234678-HxCDF	35.844	0.983	1.095e5	2.101e5	1.004	0.521	0.510	1456	2055	1.73e6	3.35e6	1190.1	1627.9	NO	bb	bb	84.401
13C-123789-HxCDF	36.847	1.011	7.964e4	1.622e5	0.909	0.491	0.510	1456	2055	1.52e6	3.04e6	1046.7	1479.8	NO	bb	bb	70.556
13C-1234678-HpCDF	38.696	1.061	9.063e4	2.010e5	0.960	0.451	0.440	743	1296	1.52e6	3.36e6	2042.9	2591.7	NO	bb	bb	80.567
13C-1234789-HpCDF	40.924	1.122	7.512e4	1.714e5	0.794	0.438	0.440	743	1296	1.15e6	2.60e6	1550.0	2007.0	NO	bb	bb	82.358
13C-1234-TCDD	25.489	0.000	1.527e5	1.920e5	1.000	0.795	0.770	1408	903	2.36e6	3.05e6	1673.4	3378.1	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	6.670e4	8.651e4	1.133	0.771	0.770	1408	903	1.01e6	1.35e6	720.7	1491.8	NO	bb	bb	39.235
13C-12378-PeCDD	31.443	1.234	1.446e5	9.069e4	0.947	1.594	1.550	1066	888	2.20e6	1.36e6	2062.0	1525.9	NO	bb	bb	72.073
13C-123478-HxCDD	35.966	0.987	1.658e5	1.308e5	0.939	1.268	1.240	1310	1564	2.76e6	2.12e6	2109.9	1356.9	NO	bd	bd	83.794
13C-123678-HxCDD	36.078	0.990	1.700e5	1.386e5	1.042	1.226	1.240	1310	1564	2.77e6	2.24e6	2111.0	1434.8	NO	db	db	78.536
13C-1234678-HpCDD	40.178	1.102	1.178e5	1.128e5	0.788	1.044	1.050	2338	1721	1.83e6	1.73e6	780.7	1004.9	NO	bd	bd	77.594
13C-OCDD	44.921	1.232	1.915e5	2.104e5	0.703	0.910	0.890	936	1042	2.51e6	2.74e6	2677.8	2629.9	NO	bb	bb	151.562
13C-123789-HxCDD	36.457	0.000	2.062e5	1.709e5	1.000	1.207	1.240	1310	1564	3.47e6	2.89e6	2650.6	1849.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	7.252e4		1.298			855		1.10e6		1286.9			bb		16.213

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ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, 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					0.966		0.770	872	917								
1289-TCDF	27.243	1.062	9.749e1	7.100e1	0.736	1.373	0.770	872	917	1.86e3	1.75e3	2.1	1.9	YES	dd	dd	0.122
13468-PECDF					1.347		1.550	567	772								
12389-PECDF					0.867		1.550	1777	1350								
123468-HXCDF	33.159	0.953	2.177e3	1.707e3	1.036	1.275	1.240	1133	877	3.71e4	2.97e4	32.7	33.9	NO	bb	bb	1.210
1368-TCDD					1.256		0.770	1160	1020								
1289-TCDD	26.895	1.022	7.605e1	1.355e2	1.151	0.561	0.770	1160	1020	1.17e3	1.92e3	1.0	1.9	YES	bb	db	0.120
12479-PECDD	28.758	0.915	1.220e3	3.340e2	1.773	3.654	1.550	987	666	1.51e4	8.06e3	15.3	12.1	YES	bb	db	0.373
12389-PECDD					1.171		1.550	987	666								
124679-HXCDD	33.939	0.944	7.124e3	5.644e3	1.034	1.262	1.240	1234	1455	1.07e5	9.25e4	86.4	63.6	NO	bb	bb	4.166
1234679-HPCDD	39.153	0.975	9.363e4	8.892e4	1.194	1.053	1.050	2859	2694	1.62e6	1.52e6	566.9	565.6	NO	bb	bb	66.275
Total-tetrafurans			0.000e0		0.828			872		0.00e0							
Total-penta1			4.467e3					567		6.42e4							2.258
Total-pentafurans			2.889e3		0.904			1777		5.11e4							1.550
Total-hexafurans			2.042e4		1.007			1133		3.30e5							12.006
Total-heptafurans			4.807e4		1.064			1125		8.14e5							32.131
Total-Furans			1.119e5		0.998			872		1.74e6							76.988
Total-tetradioxins			0.000e0		1.238			1160		0.00e0							
Total-pentadioxins			2.147e3		1.308			987		3.22e4							1.303
Total-hexadioxins			2.058e4		0.967			1234		2.76e5							12.423
Total-heptadioxins			1.553e5		1.125			2859		2.59e6							115.706
Total-Dioxins			5.360e5		1.141			1160		7.55e6							488.646
Total-TEQ			6.480e5					1160		9.29e6							565.633
FUNCTION1 PFK			1.019e7					542645		5.72e7							
FUNCTION2 PFK			7.884e6					294013		1.68e7							0.000
FUNCTION3 PFK			1.739e7					289358		3.55e7							0.000
FUNCTION4 PFK			1.395e6					225718		1.98e7							
FUNCTION5 PFK			0.000e0					178065		0.00e0							
FUNCTION1 HXCD...			1.169e3					792		2.04e4							0.000
FUNCTION1 HPCD...			2.400e3					878		4.06e4							0.000
FUNCTION2 HPCD...			2.633e2					691		5.83e3							0.000
FUNCTION3 OCDPE			6.414e2					442		7.28e3							0.000
FUNCTION4 NCDPE			9.058e2					1040		2.20e4							0.000
FUNCTION5 DCDPE			7.270e1					548		2.91e3							0.000

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Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

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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	Total-penta1	27.11	4.467e3	2.831e3		1.58	1.55	113.2	YES	NO	bb	bb	2.258

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.79	1.712e3	1.202e3	0.904	1.42	1.55	14.4	YES	NO	dd	dd	0.929
2	Total-pentafurans	28.70	4.865e2	3.477e2	0.904	1.40	1.55	7.9	YES	NO	dd	dd	0.266
3	23478-PeCDF	31.20	6.904e2	4.983e2	0.980	1.39	1.55	6.4	YES	NO	db	db	0.355

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	34.96	7.649e2	7.235e2	0.961	1.06	1.24	12.2	YES	NO	bb	db	0.485
2	123478-HxCDF	34.83	1.611e3	1.172e3	1.002	1.37	1.24	24.3	YES	NO	bb	bd	0.896
3	Total-hexafurans	34.21	8.913e3	7.154e3	1.007	1.25	1.24	129.7	YES	NO	bb	bb	5.360
4	Total-hexafurans	33.37	6.955e3	5.197e3	1.007	1.34	1.24	92.6	YES	NO	bb	bb	4.054
5	123468-HXCDF	33.16	2.177e3	1.707e3	1.036	1.27	1.24	32.7	YES	NO	bb	bb	1.210

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.94	9.936e2	9.075e2	1.070	1.09	1.05	12.1	YES	NO	bb	bb	0.721
2	Total-heptafurans	39.36	3.287e4	3.090e4	1.064	1.06	1.05	485.2	YES	NO	bd	bb	22.281
3	Total-heptafurans	39.12	2.550e2	2.471e2	1.064	1.03	1.05	4.5	YES	NO	bb	bb	0.175
4	1234678-HpCDF	38.71	1.396e4	1.367e4	1.058	1.02	1.05	222.3	YES	NO	bb	bb	8.954

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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-pentafurans	28.79	1.712e3	1.202e3	0.904	1.42	1.55	14.4	YES	NO	dd	dd	0.929
2	Total-pentafurans	28.70	4.865e2	3.477e2	0.904	1.40	1.55	7.9	YES	NO	dd	dd	0.266
3	23478-PeCDF	31.20	6.904e2	4.983e2	0.980	1.39	1.55	6.4	YES	NO	db	db	0.355
4	123678-HxCDF	34.96	7.649e2	7.235e2	0.961	1.06	1.24	12.2	YES	NO	bb	db	0.485
5	123478-HxCDF	34.83	1.611e3	1.172e3	1.002	1.37	1.24	24.3	YES	NO	bb	bd	0.896
6	Total-hexafurans	34.21	8.913e3	7.154e3	1.007	1.25	1.24	129.7	YES	NO	bb	bb	5.360
7	Total-hexafurans	33.37	6.955e3	5.197e3	1.007	1.34	1.24	92.6	YES	NO	bb	bb	4.054
8	123468-HXCDF	33.16	2.177e3	1.707e3	1.036	1.27	1.24	32.7	YES	NO	bb	bb	1.210
9	1234789-HpCDF	40.94	9.936e2	9.075e2	1.070	1.09	1.05	12.1	YES	NO	bb	bb	0.721
10	Total-heptafurans	39.36	3.287e4	3.090e4	1.064	1.06	1.05	485.2	YES	NO	bd	bb	22.281
11	Total-heptafurans	39.12	2.550e2	2.471e2	1.064	1.03	1.05	4.5	YES	NO	bb	bb	0.175
12	1234678-HpCDF	38.71	1.396e4	1.367e4	1.058	1.02	1.05	222.3	YES	NO	bb	bb	8.954
13	OCDF	45.18	3.608e4	3.727e4	1.257	0.97	0.89	753.2	YES	NO	bb	bb	29.044
14	Total-penta1	27.11	4.467e3	2.831e3		1.58	1.55	113.2	YES	NO	bb	bb	2.258

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	12378-PeCDD	31.47	8.079e2	5.419e2	0.979	1.49	1.55	9.6	YES	NO	MM	bb	0.586
2	Total-pentadioxins	30.39	3.590e2	2.476e2	1.308	1.45	1.55	6.8	YES	NO	db	bb	0.197
3	Total-pentadioxins	30.06	5.511e2	3.682e2	1.308	1.50	1.55	9.8	YES	NO	bd	bb	0.299
4	Total-pentadioxins	29.86	4.285e2	2.503e2	1.308	1.71	1.55	6.4	YES	NO	bb	bb	0.221

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	36.10	2.724e3	2.071e3	0.953	1.32	1.24	31.5	YES	NO	db	db	1.631
2	Total-hexadioxins	35.18	8.054e2	6.482e2	0.967	1.24	1.24	12.6	YES	NO	db	db	0.497
3	Total-hexadioxins	35.09	8.507e3	6.924e3	0.967	1.23	1.24	72.7	YES	NO	bd	bd	5.272
4	Total-hexadioxins	34.72	1.422e3	1.084e3	0.967	1.31	1.24	20.2	YES	NO	bb	bb	0.856
5	124679-HXCDD	33.94	7.124e3	5.644e3	1.034	1.26	1.24	86.4	YES	NO	bb	bb	4.166

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HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.20	6.166e4	5.863e4	1.055	1.05	1.05	339.7	YES	NO	bb	bb	49.431
2	1234679-HPCDD	39.15	9.363e4	8.892e4	1.194	1.05	1.05	566.9	YES	NO	bb	bb	66.275

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	12378-PeCDD	31.47	8.079e2	5.419e2	0.979	1.49	1.55	9.6	YES	NO	MM	bb	0.586
2	Total-pentadioxins	30.39	3.590e2	2.476e2	1.308	1.45	1.55	6.8	YES	NO	db	bb	0.197
3	Total-pentadioxins	30.06	5.511e2	3.682e2	1.308	1.50	1.55	9.8	YES	NO	bd	bb	0.299
4	Total-pentadioxins	29.86	4.285e2	2.503e2	1.308	1.71	1.55	6.4	YES	NO	bb	bb	0.221
5	123678-HxCDD	36.10	2.724e3	2.071e3	0.953	1.32	1.24	31.5	YES	NO	db	db	1.631
6	Total-hexadioxins	35.18	8.054e2	6.482e2	0.967	1.24	1.24	12.6	YES	NO	db	db	0.497
7	Total-hexadioxins	35.09	8.507e3	6.924e3	0.967	1.23	1.24	72.7	YES	NO	bd	bd	5.272
8	Total-hexadioxins	34.72	1.422e3	1.084e3	0.967	1.31	1.24	20.2	YES	NO	bb	bb	0.856
9	124679-HXCDD	33.94	7.124e3	5.644e3	1.034	1.26	1.24	86.4	YES	NO	bb	bb	4.166
10	1234678-HpCDD	40.20	6.166e4	5.863e4	1.055	1.05	1.05	339.7	YES	NO	bb	bb	49.431
11	1234679-HPCDD	39.15	9.363e4	8.892e4	1.194	1.05	1.05	566.9	YES	NO	bb	bb	66.275
12	OCDD	44.93	3.580e5	4.172e5	1.074	0.86	0.89	4095.8	YES	NO	bb	bb	359.214

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.79	1.712e3	1.202e3	0.904	1.42	1.55	14.4	YES	NO	dd	dd	0.929
2	Total-pentafurans	28.70	4.865e2	3.477e2	0.904	1.40	1.55	7.9	YES	NO	dd	dd	0.266
3	23478-PeCDF	31.20	6.904e2	4.983e2	0.980	1.39	1.55	6.4	YES	NO	db	db	0.355
4	123678-HxCDF	34.96	7.649e2	7.235e2	0.961	1.06	1.24	12.2	YES	NO	bb	db	0.485
5	123478-HxCDF	34.83	1.611e3	1.172e3	1.002	1.37	1.24	24.3	YES	NO	bb	bd	0.896
6	Total-hexafurans	34.21	8.913e3	7.154e3	1.007	1.25	1.24	129.7	YES	NO	bb	bb	5.360
7	Total-hexafurans	33.37	6.955e3	5.197e3	1.007	1.34	1.24	92.6	YES	NO	bb	bb	4.054
8	123468-HXCDF	33.16	2.177e3	1.707e3	1.036	1.27	1.24	32.7	YES	NO	bb	bb	1.210
9	1234789-HpCDF	40.94	9.936e2	9.075e2	1.070	1.09	1.05	12.1	YES	NO	bb	bb	0.721
10	Total-heptafurans	39.36	3.287e4	3.090e4	1.064	1.06	1.05	485.2	YES	NO	bd	bb	22.281
11	Total-heptafurans	39.12	2.550e2	2.471e2	1.064	1.03	1.05	4.5	YES	NO	bb	bb	0.175
12	1234678-HpCDF	38.71	1.396e4	1.367e4	1.058	1.02	1.05	222.3	YES	NO	bb	bb	8.954
13	OCDF	45.18	3.608e4	3.727e4	1.257	0.97	0.89	753.2	YES	NO	bb	bb	29.044
14	Total-penta1	27.11	4.467e3	2.831e3		1.58	1.55	113.2	YES	NO	bb	bb	2.258
15	12378-PeCDD	31.47	8.079e2	5.419e2	0.979	1.49	1.55	9.6	YES	NO	MM	bb	0.586
16	Total-pentadioxins	30.39	3.590e2	2.476e2	1.308	1.45	1.55	6.8	YES	NO	db	bb	0.197
17	Total-pentadioxins	30.06	5.511e2	3.682e2	1.308	1.50	1.55	9.8	YES	NO	bd	bb	0.299
18	Total-pentadioxins	29.86	4.285e2	2.503e2	1.308	1.71	1.55	6.4	YES	NO	bb	bb	0.221
19	123678-HxCDD	36.10	2.724e3	2.071e3	0.953	1.32	1.24	31.5	YES	NO	db	db	1.631
20	Total-hexadioxins	35.18	8.054e2	6.482e2	0.967	1.24	1.24	12.6	YES	NO	db	db	0.497
21	Total-hexadioxins	35.09	8.507e3	6.924e3	0.967	1.23	1.24	72.7	YES	NO	bd	bd	5.272
22	Total-hexadioxins	34.72	1.422e3	1.084e3	0.967	1.31	1.24	20.2	YES	NO	bb	bb	0.856
23	124679-HXCDD	33.94	7.124e3	5.644e3	1.034	1.26	1.24	86.4	YES	NO	bb	bb	4.166
24	1234678-HpCDD	40.20	6.166e4	5.863e4	1.055	1.05	1.05	339.7	YES	NO	bb	bb	49.431
25	1234679-HPCDD	39.15	9.363e4	8.892e4	1.194	1.05	1.05	566.9	YES	NO	bb	bb	66.275
26	OCDD	44.93	3.580e5	4.172e5	1.074	0.86	0.89	4095.8	YES	NO	bb	bb	359.214

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
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Printed: Tuesday, July 20, 2021 11:02:13 Pacific Daylight Time

ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, 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	24.43	3.109e5					2.8	NO		bb		
2	FUNCTION1 PFK	23.31	7.127e5					4.8	YES		bb		
3	FUNCTION1 PFK	22.87	3.968e5					2.3	NO		bb		
4	FUNCTION1 PFK	22.57	1.530e5					4.4	YES		db		
5	FUNCTION1 PFK	22.45	7.033e5					7.2	YES		dd		
6	FUNCTION1 PFK	22.21	1.442e6					10.2	YES		bd		
7	FUNCTION1 PFK	21.54	3.178e6					10.7	YES		db		
8	FUNCTION1 PFK	21.36	3.727e5					9.5	YES		bd		
9	FUNCTION1 PFK	21.19	2.413e5					5.9	YES		bb		
10	FUNCTION1 PFK	27.51	3.895e5					8.4	YES		db		
11	FUNCTION1 PFK	27.48	2.027e5					7.4	YES		bd		
12	FUNCTION1 PFK	27.32	3.837e5					6.9	YES		db		
13	FUNCTION1 PFK	27.23	1.101e5					3.9	YES		bd		
14	FUNCTION1 PFK	27.11	7.381e4					2.3	NO		bb		
15	FUNCTION1 PFK	25.56	5.433e5					6.3	YES		db		
16	FUNCTION1 PFK	25.49	2.446e5					5.9	YES		dd		
17	FUNCTION1 PFK	25.37	1.571e5					3.8	YES		bd		
18	FUNCTION1 PFK	25.02	5.726e5					2.8	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.61	4.565e6					12.3	YES		bb		0.000
2	FUNCTION2 PFK	29.83	1.219e6					5.7	YES		db		0.000
3	FUNCTION2 PFK	29.42	3.683e5					14.5	YES		bd		0.000
4	FUNCTION2 PFK	29.27	1.557e5					8.7	YES		db		0.000
5	FUNCTION2 PFK	29.16	5.342e5					12.7	YES		bd		0.000
6	FUNCTION2 PFK	27.84	1.340e4					1.7	NO		bb		0.000
7	FUNCTION2 PFK	32.59	1.029e6					1.5	NO		bb		0.000

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Printed: Tuesday, July 20, 2021 11:02:13 Pacific Daylight Time

ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, 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	37.41	2.592e6					10.5	YES		db		0.000
2	FUNCTION3 PFK	36.90	7.247e5					26.3	YES		bd		0.000
3	FUNCTION3 PFK	36.50	5.349e6					26.0	YES		bb		0.000
4	FUNCTION3 PFK	35.68	3.119e4					2.5	NO		bb		0.000
5	FUNCTION3 PFK	34.56	1.712e5					3.3	YES		bb		0.000
6	FUNCTION3 PFK	34.24	5.199e5					7.2	YES		bb		0.000
7	FUNCTION3 PFK	33.71	5.675e6					9.0	YES		bb		0.000
8	FUNCTION3 PFK	32.88	2.324e6					37.8	YES		bb		0.000

ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, 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	2.337e4					3.1	YES		dd		
2	FUNCTION4 PFK	38.28	2.225e4					2.9	NO		bd		
3	FUNCTION4 PFK	38.16	2.500e4					1.9	NO		bb		
4	FUNCTION4 PFK	37.86	2.413e4					3.2	YES		bb		
5	FUNCTION4 PFK	37.78	1.612e3					0.6	NO		bb		
6	FUNCTION4 PFK	40.33	1.682e4					2.0	NO		db		
7	FUNCTION4 PFK	40.30	1.270e4					1.9	NO		bd		
8	FUNCTION4 PFK	40.10	6.994e3					1.4	NO		db		
9	FUNCTION4 PFK	40.07	1.610e4					1.7	NO		bd		
10	FUNCTION4 PFK	40.00	3.878e3					0.8	NO		bb		
11	FUNCTION4 PFK	39.81	2.473e4					1.8	NO		bb		
12	FUNCTION4 PFK	39.60	2.659e4					2.3	NO		db		
13	FUNCTION4 PFK	39.46	9.760e4					5.2	YES		dd		
14	FUNCTION4 PFK	39.40	1.277e5					5.8	YES		dd		
15	FUNCTION4 PFK	39.20	2.649e5					8.4	YES		bd		
16	FUNCTION4 PFK	39.06	8.932e4					7.5	YES		db		
17	FUNCTION4 PFK	39.01	2.700e5					8.4	YES		dd		
18	FUNCTION4 PFK	38.82	4.774e4					3.7	YES		bd		
19	FUNCTION4 PFK	38.63	1.221e4					1.9	NO		db		
20	FUNCTION4 PFK	38.58	6.713e4					2.4	NO		bd		
21	FUNCTION4 PFK	38.38	4.585e4					4.0	YES		db		
22	FUNCTION4 PFK	42.27	1.616e4					1.9	NO		bb		
23	FUNCTION4 PFK	42.11	5.349e3					0.7	NO		bb		
24	FUNCTION4 PFK	41.96	1.067e4					0.2	NO		bb		
25	FUNCTION4 PFK	41.83	4.137e3					0.6	NO		bb		
26	FUNCTION4 PFK	41.76	2.738e3					0.6	NO		bb		
27	FUNCTION4 PFK	41.63	2.373e4					1.8	NO		db		
28	FUNCTION4 PFK	41.50	2.708e4					2.4	NO		dd		
29	FUNCTION4 PFK	41.44	3.093e4					2.5	NO		bd		
30	FUNCTION4 PFK	41.33	7.669e3					1.2	NO		db		
31	FUNCTION4 PFK	41.25	2.742e4					2.4	NO		bd		
32	FUNCTION4 PFK	41.14	2.694e3					0.6	NO		bb		
33	FUNCTION4 PFK	40.78	7.157e3					1.4	NO		bb		
34	FUNCTION4 PFK	40.66	2.933e3					0.6	NO		bb		

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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...	22.03	1.526e2					3.4	YES		bd		0.000
2	FUNCTION1 HXCD...	26.38	1.036e2					1.5	NO		bb		0.000
3	FUNCTION1 HXCD...	25.87	2.348e2					5.5	YES		db		0.000
4	FUNCTION1 HXCD...	25.73	9.540e1					1.7	NO		bd		0.000
5	FUNCTION1 HXCD...	24.17	1.721e2					2.6	NO		db		0.000
6	FUNCTION1 HXCD...	23.98	1.323e2					2.4	NO		bd		0.000
7	FUNCTION1 HXCD...	22.68	8.996e1					3.3	YES		bb		0.000
8	FUNCTION1 HXCD...	22.22	1.100e2					2.7	NO		db		0.000
9	FUNCTION1 HXCD...	22.10	7.809e1					2.5	NO		dd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	23.30	3.967e2					6.8	YES		db		0.000
2	FUNCTION1 HPCD...	23.21	7.682e1					2.4	NO		bd		0.000
3	FUNCTION1 HPCD...	22.19	1.081e2					2.4	NO		bb		0.000
4	FUNCTION1 HPCD...	21.97	1.716e3					32.6	YES		bb		0.000
5	FUNCTION1 HPCD...	21.45	1.023e2					2.1	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...	30.53	1.051e2					2.7	NO		bb		0.000
2	FUNCTION2 HPCD...	31.62	8.759e1					2.9	NO		bb		0.000
3	FUNCTION2 HPCD...	30.84	7.063e1					2.8	NO		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.47	1.777e2					4.1	YES		bb		0.000
2	FUNCTION3 OCDPE	35.81	7.171e1					2.1	NO		bb		0.000
3	FUNCTION3 OCDPE	33.28	9.164e1					3.6	YES		bb		0.000
4	FUNCTION3 OCDPE	32.94	2.207e2					3.9	YES		bb		0.000
5	FUNCTION3 OCDPE	32.64	7.961e1					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	FUNCTION4 NCDPE	41.89	8.420e1					3.7	YES		bb		0.000
2	FUNCTION4 NCDPE	39.73	9.869e1					2.6	NO		bb		0.000
3	FUNCTION4 NCDPE	39.36	1.004e2					1.5	NO		bb		0.000
4	FUNCTION4 NCDPE	38.69	8.119e1					1.6	NO		bb		0.000
5	FUNCTION4 NCDPE	38.35	5.413e2					11.6	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	45.85	7.270e1					5.3	YES		bb		0.000

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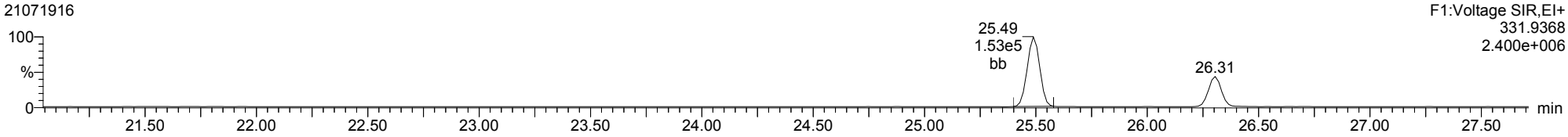
ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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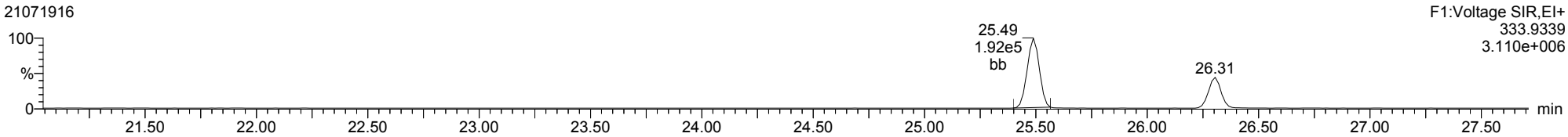

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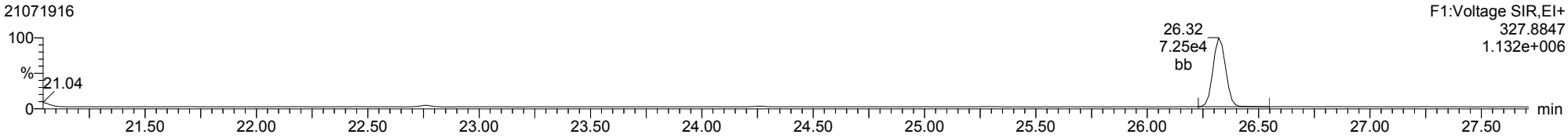

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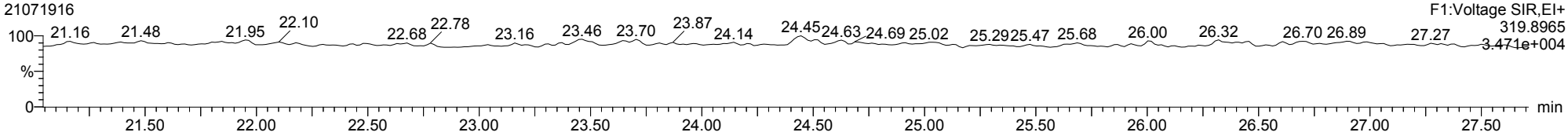
2378-TCDD



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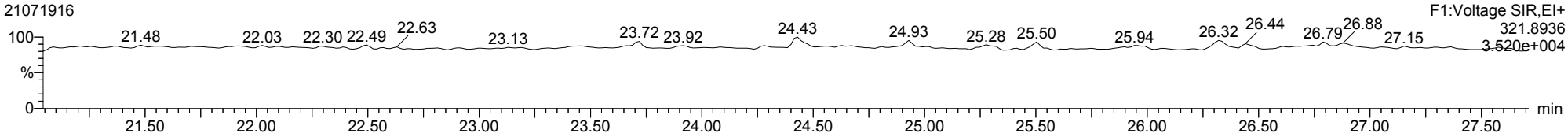

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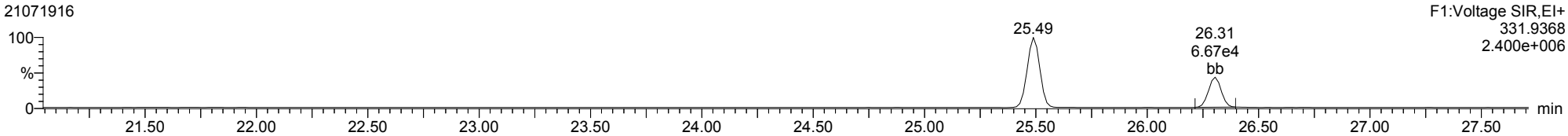

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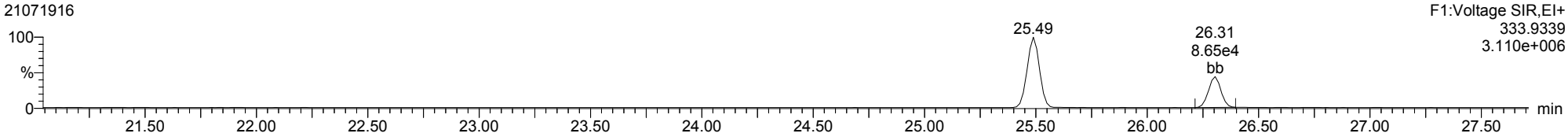

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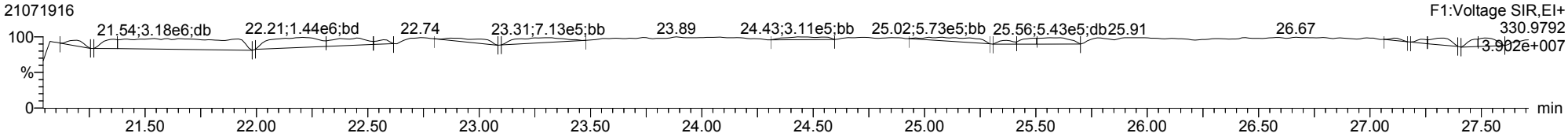

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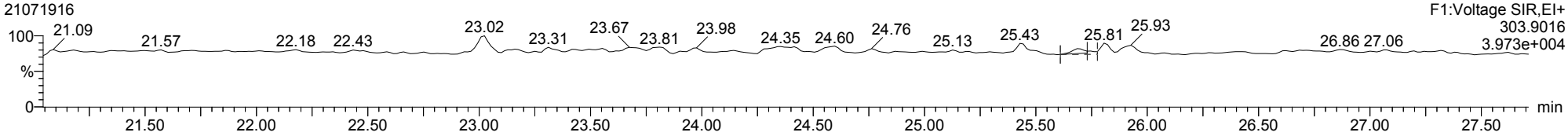
2378-TCDF



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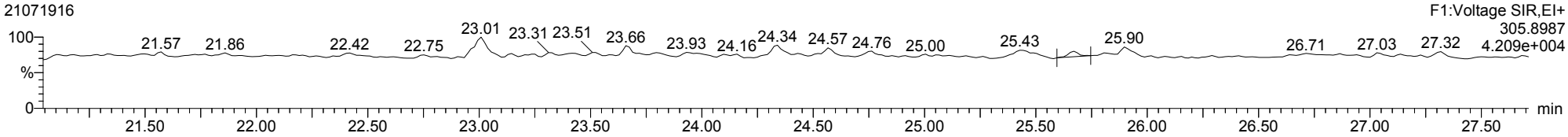

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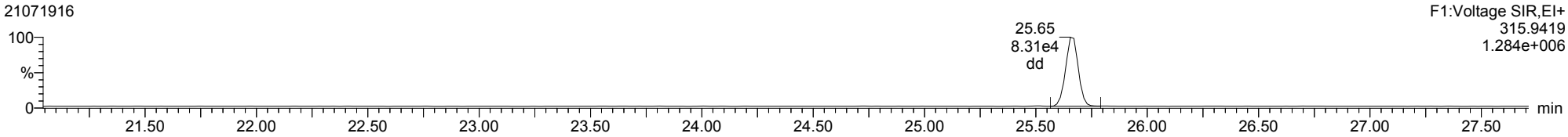

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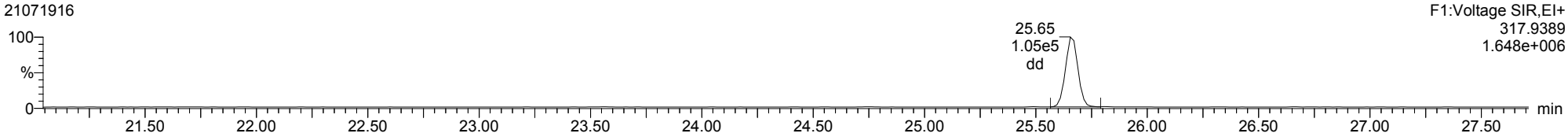

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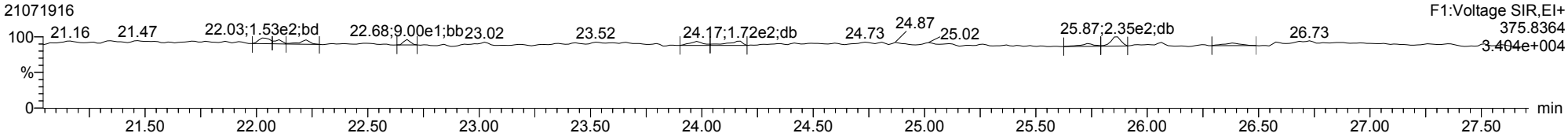

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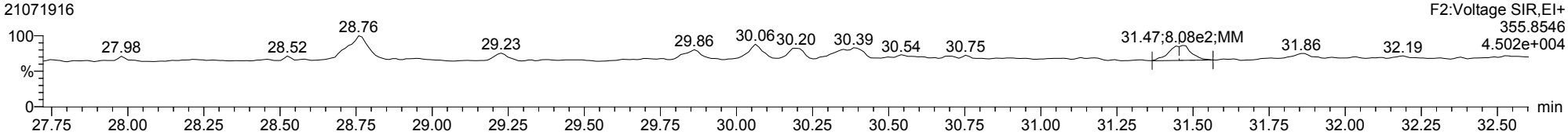
12378-PeCDD



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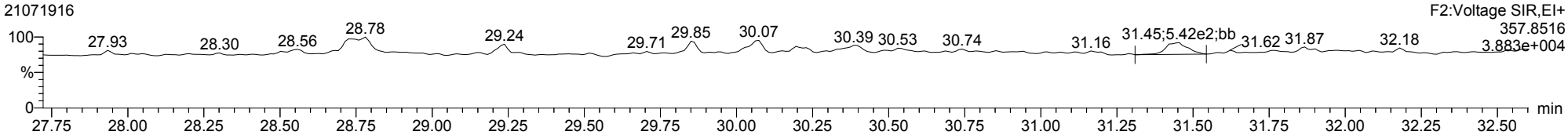

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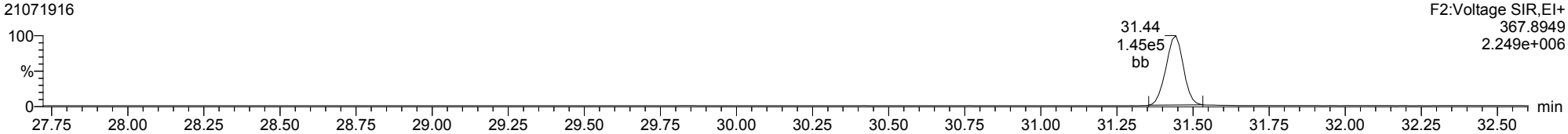

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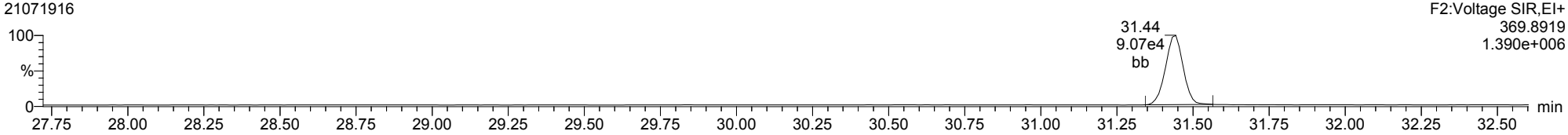
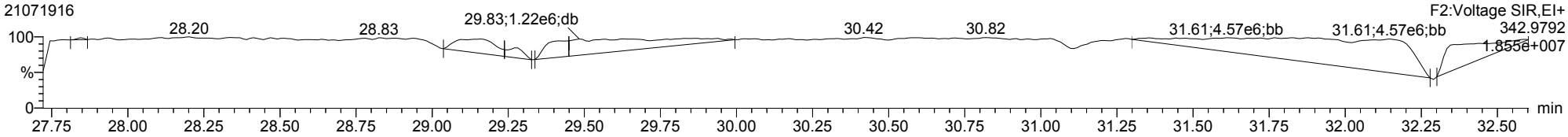


FUNCTION2 PFK



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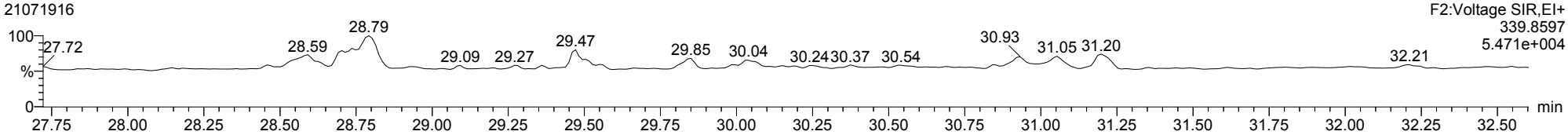
12378-PeCDF



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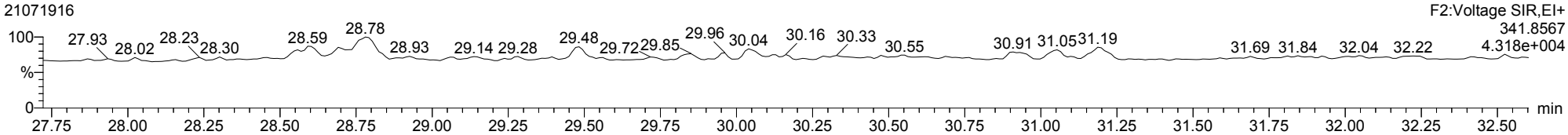

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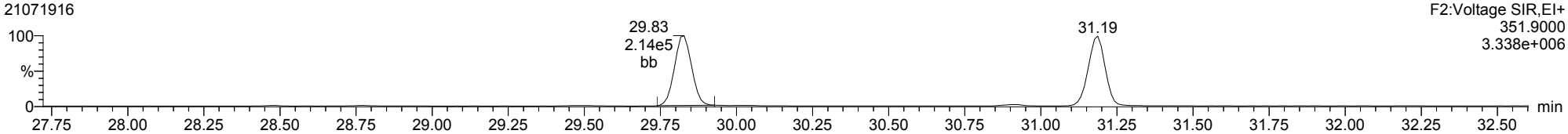

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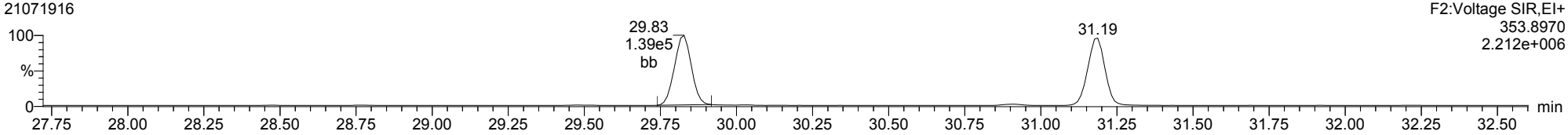

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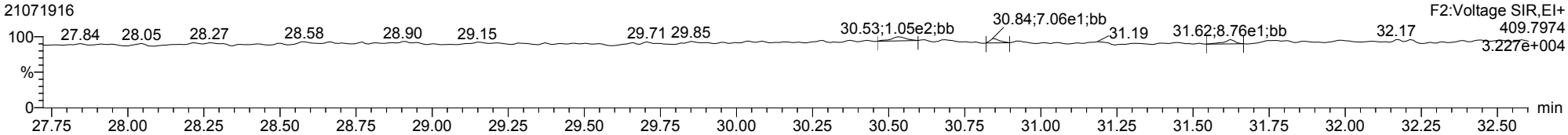

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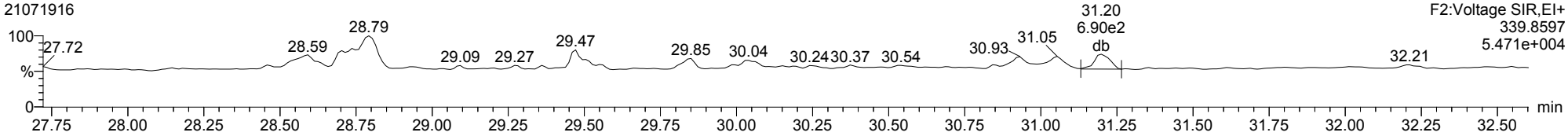
23478-PeCDF



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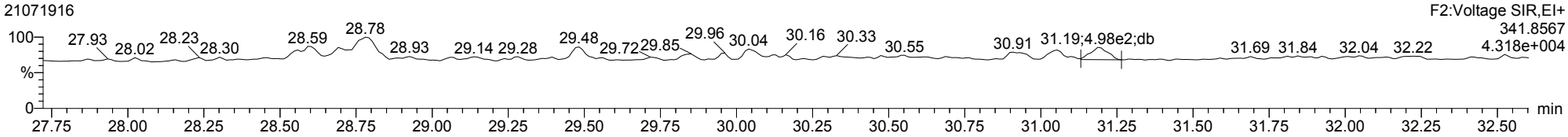

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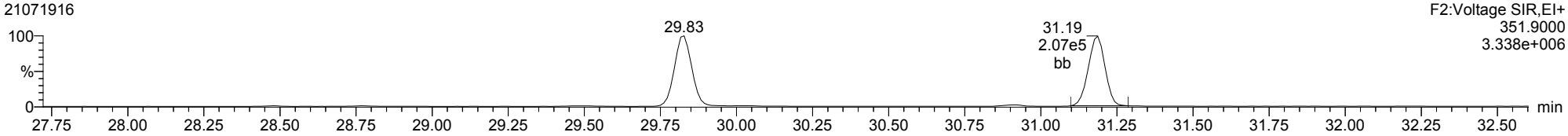

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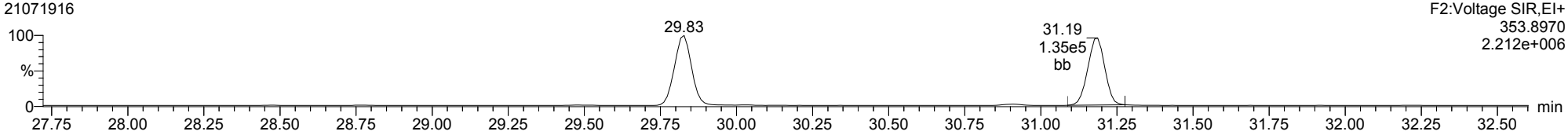

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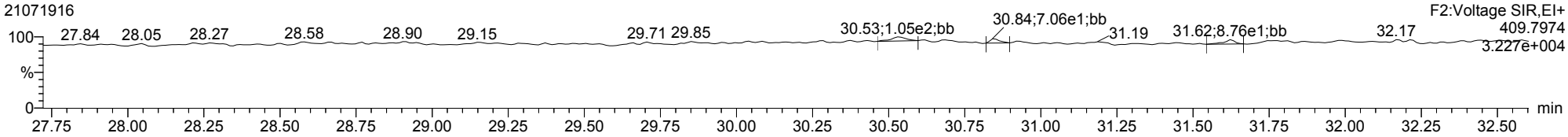

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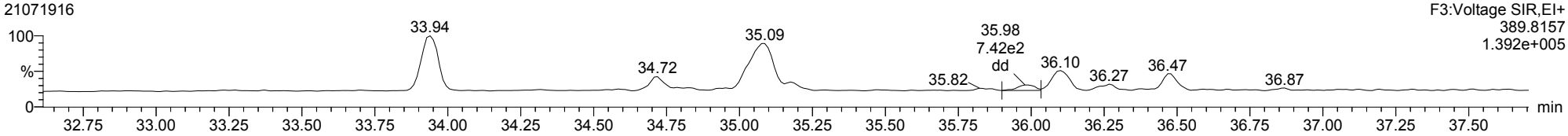

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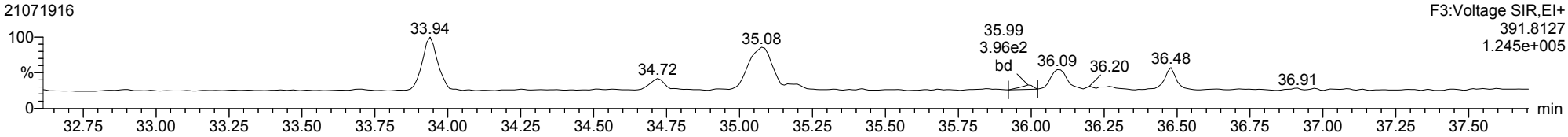

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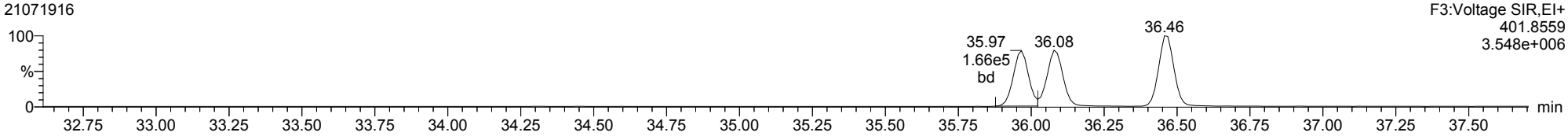

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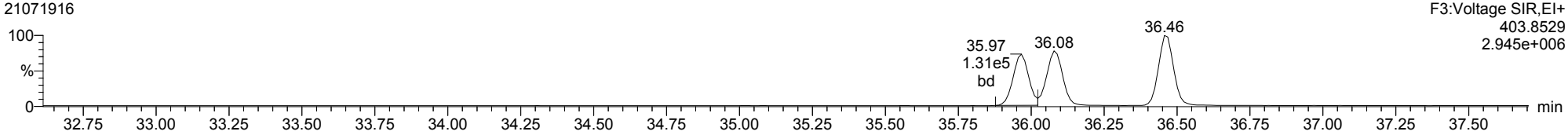

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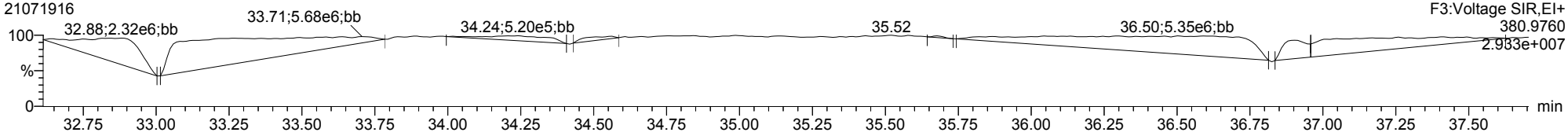

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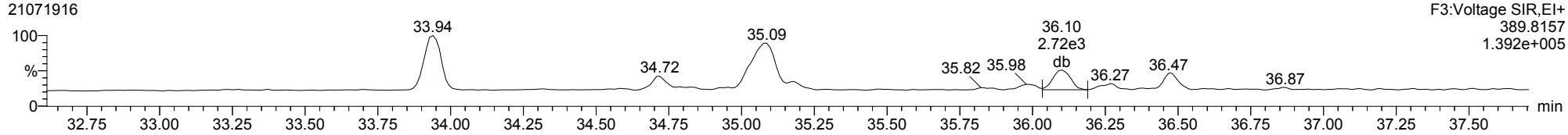

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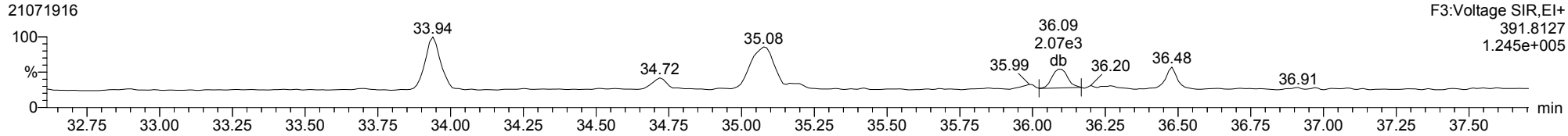

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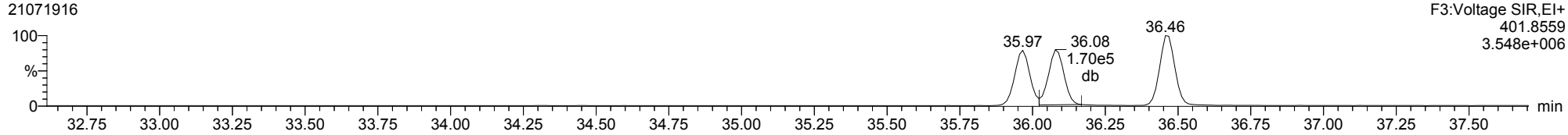

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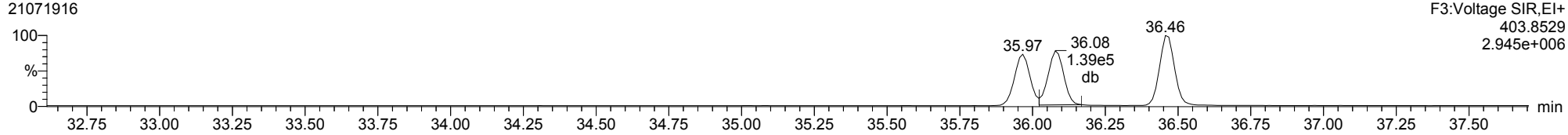

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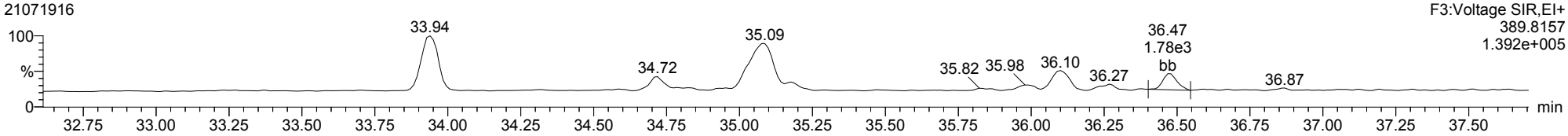

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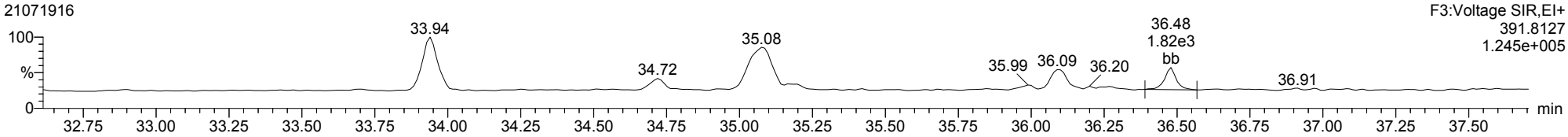

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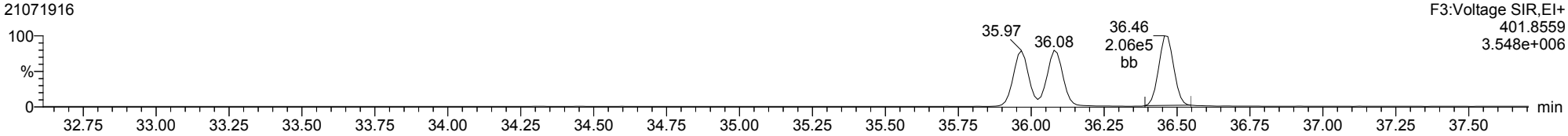

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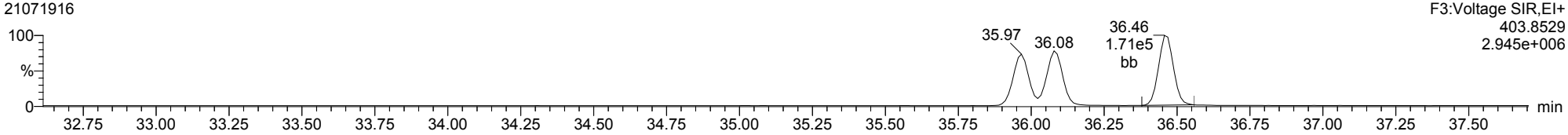

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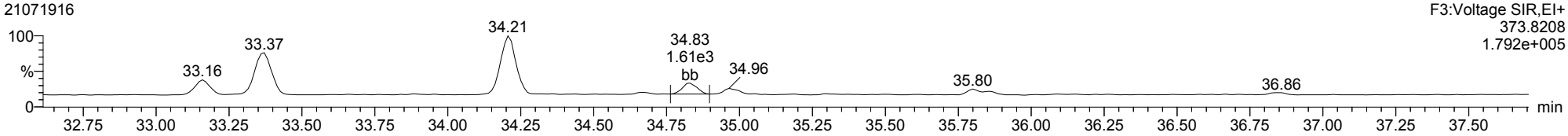

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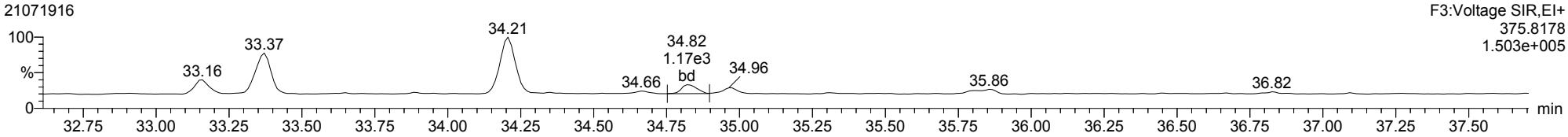

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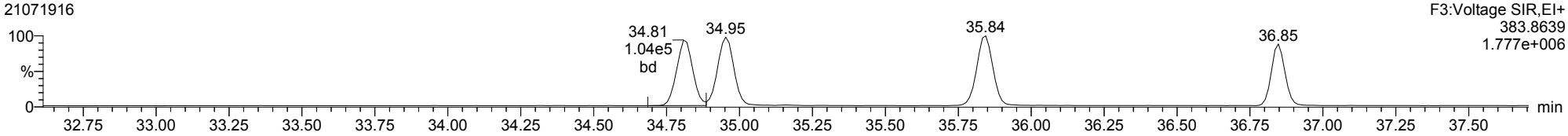

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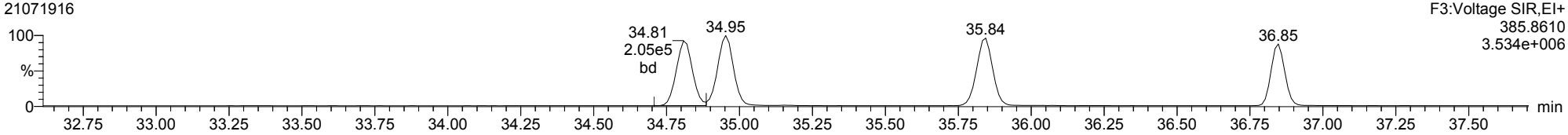

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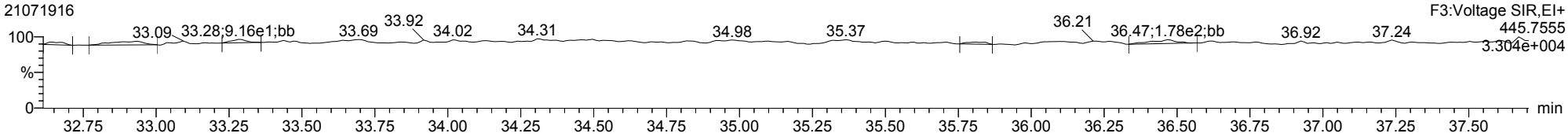

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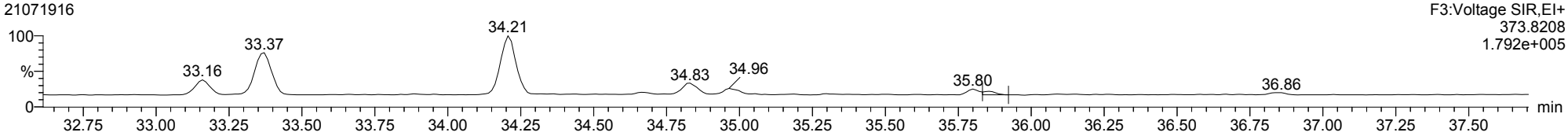
234678-HxCDF



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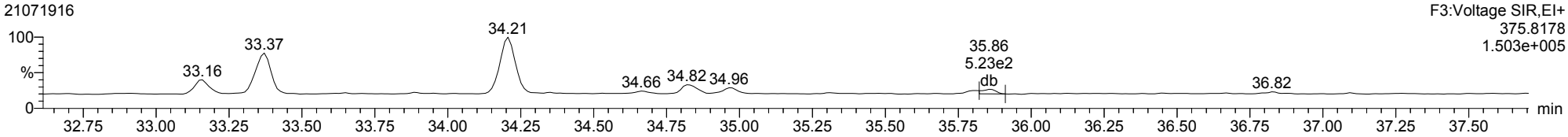

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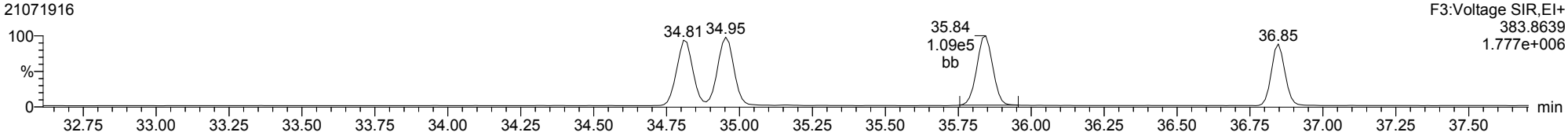

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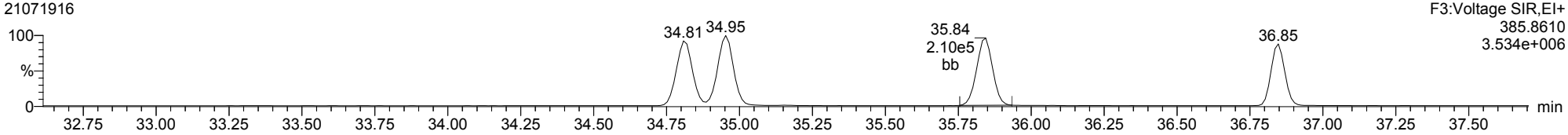

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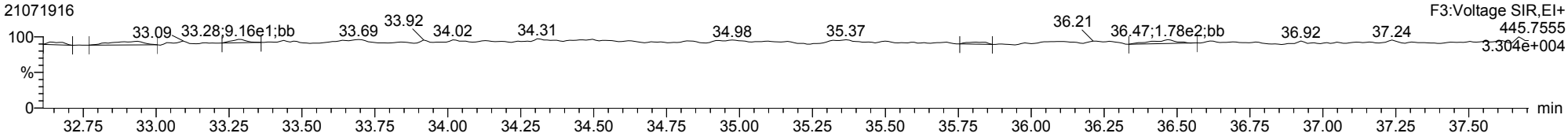

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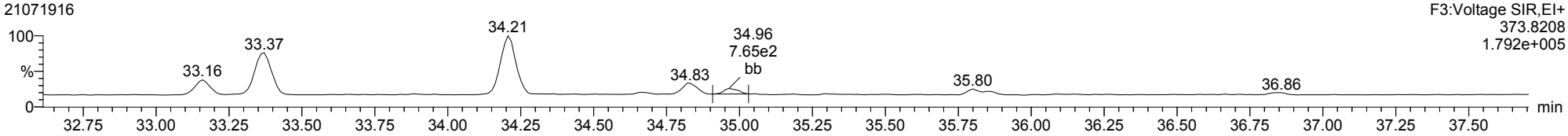

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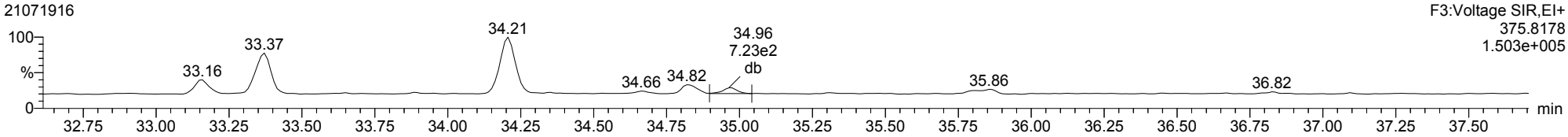

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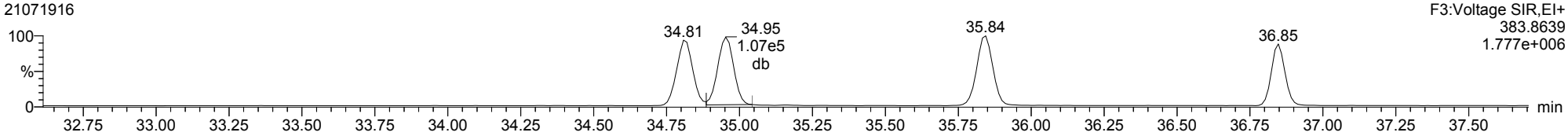

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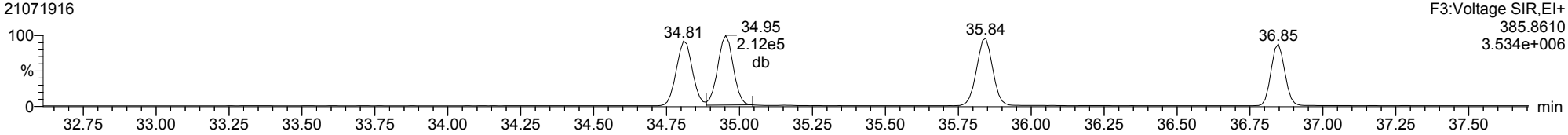

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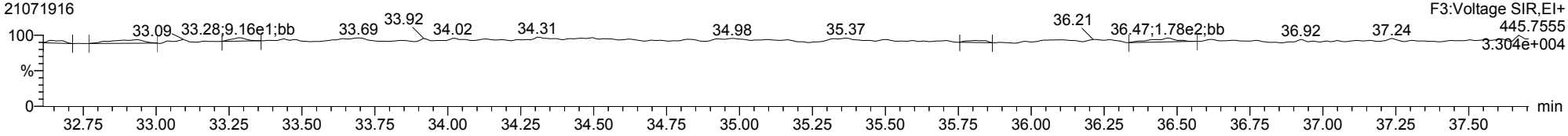

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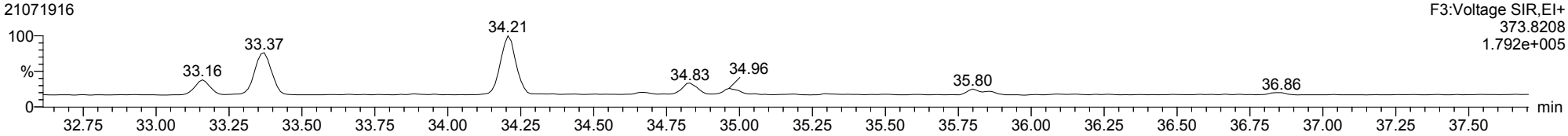

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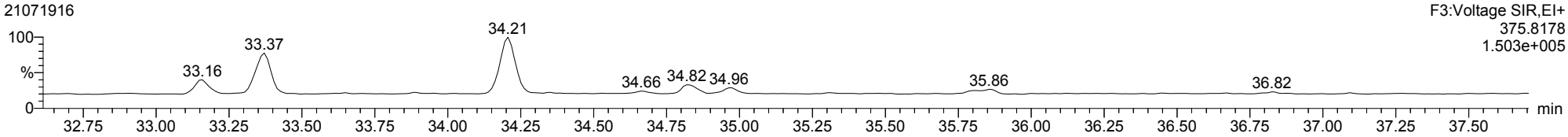

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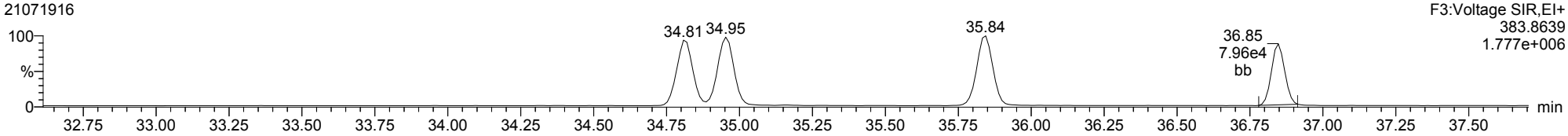

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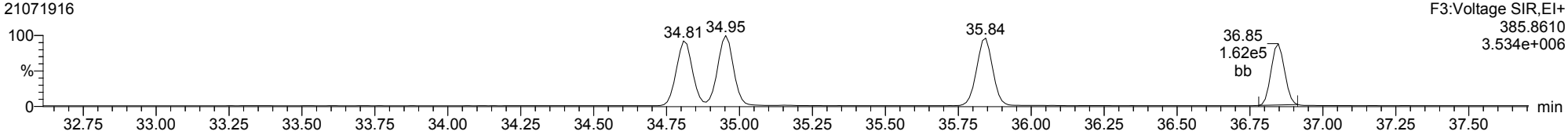
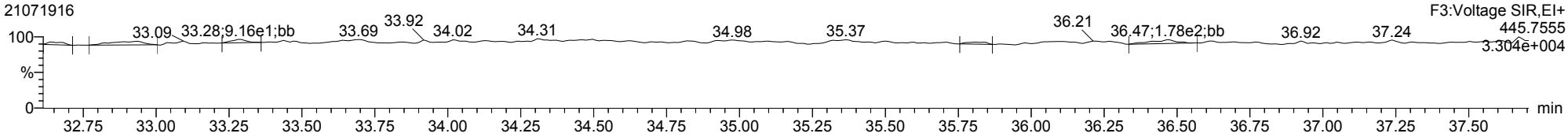


FUNCTION3 OCDPE



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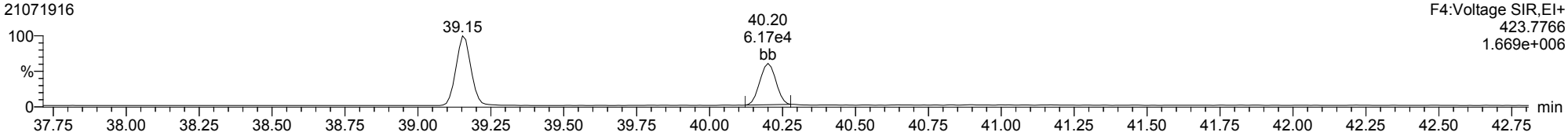
1234678-HpCDD



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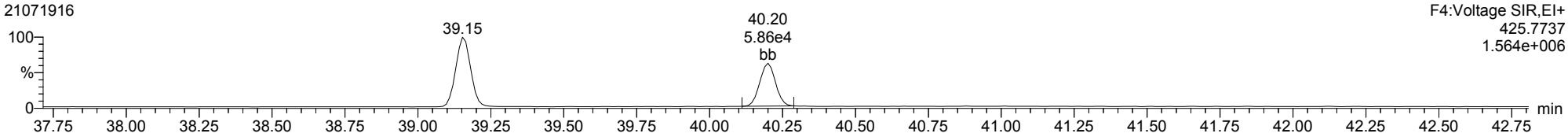

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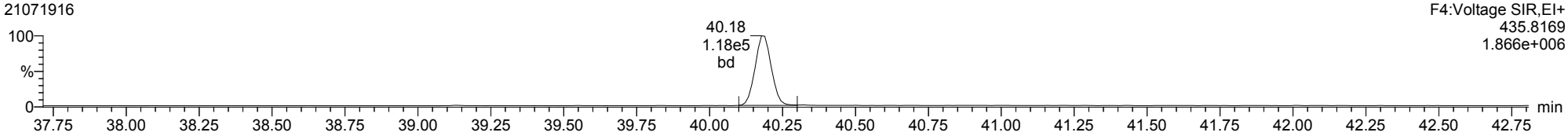

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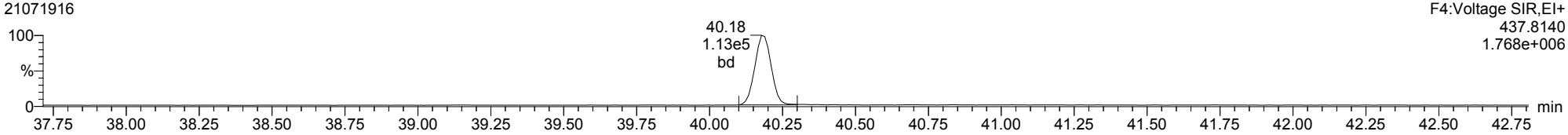
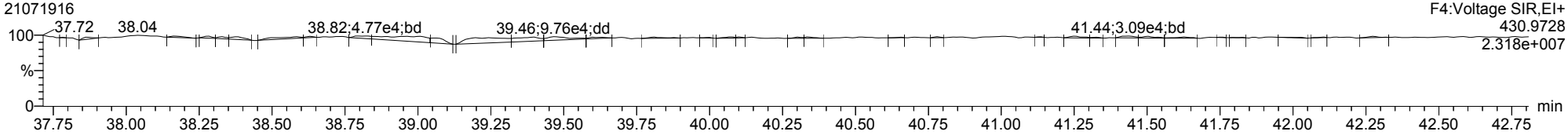


FUNCTION4 PFK



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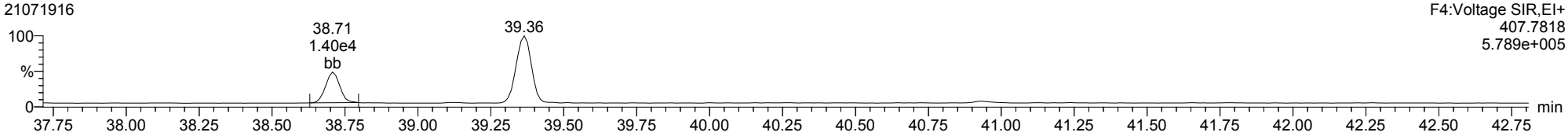

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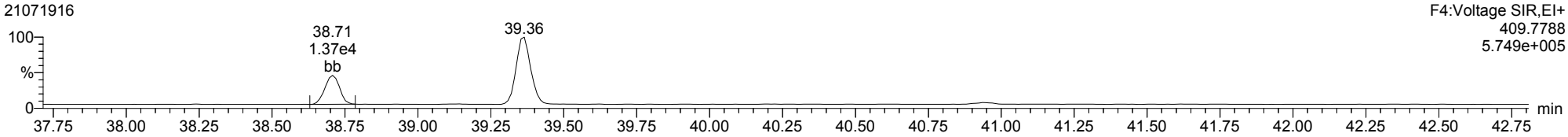

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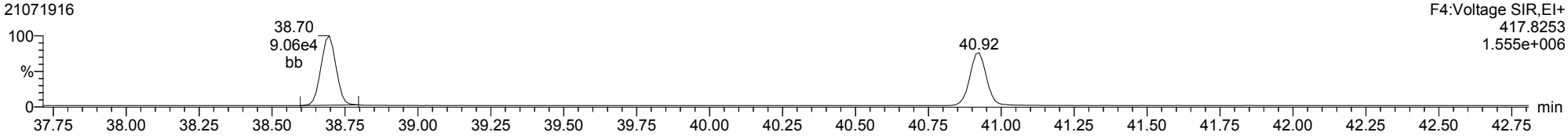

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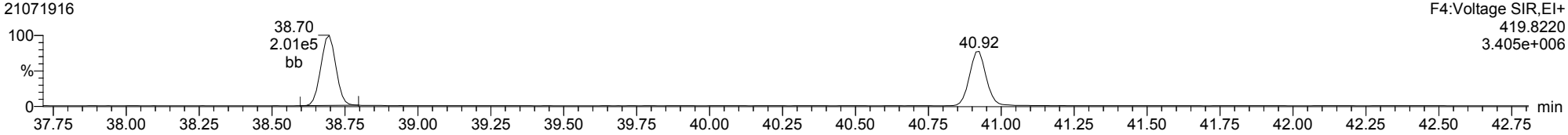
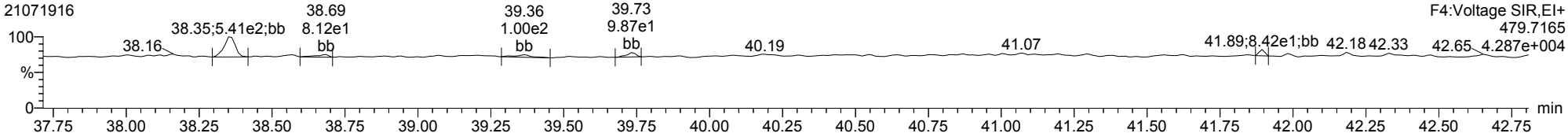


FUNCTION4 NCDPE



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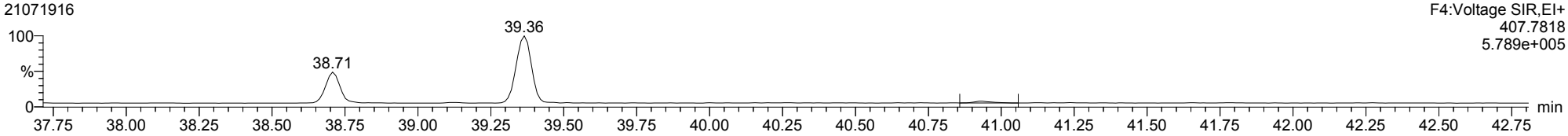
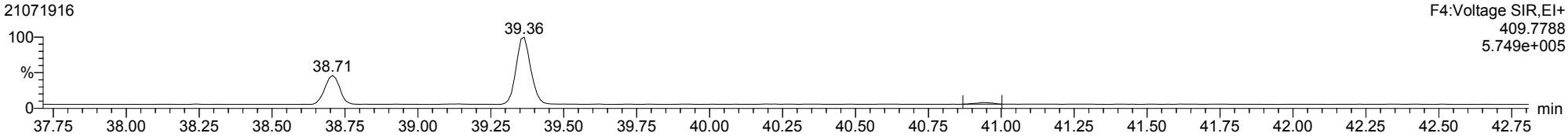
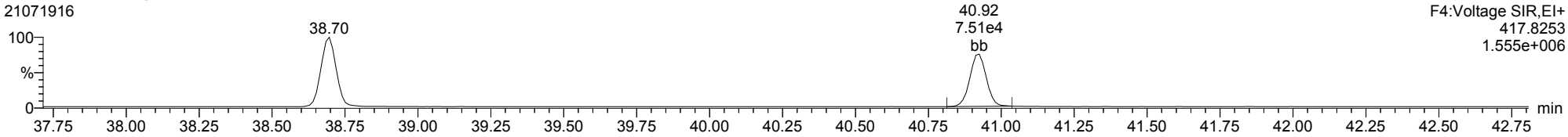
1234789-HpCDF



1234789-HpCDF



13C-1234789-HpCDF



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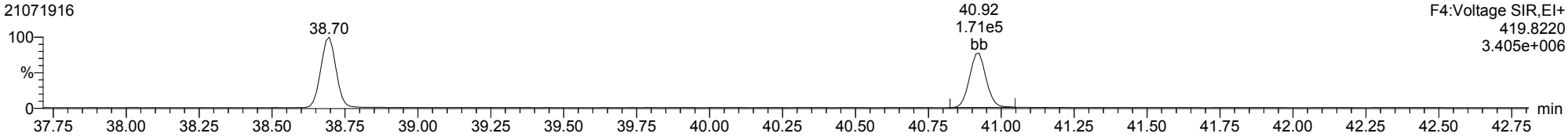
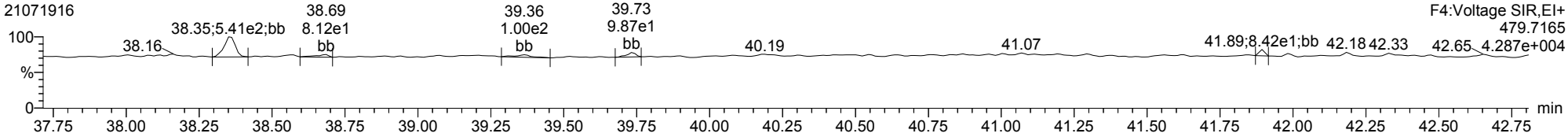
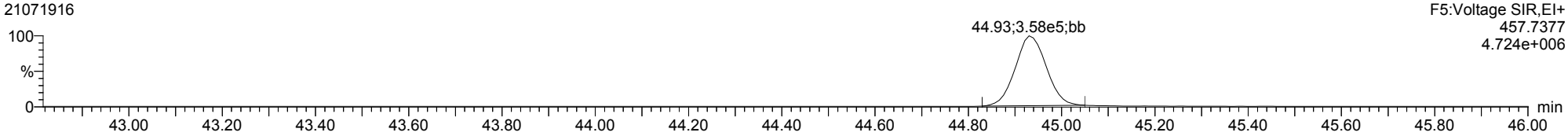


FUNCTION4 NCDPE

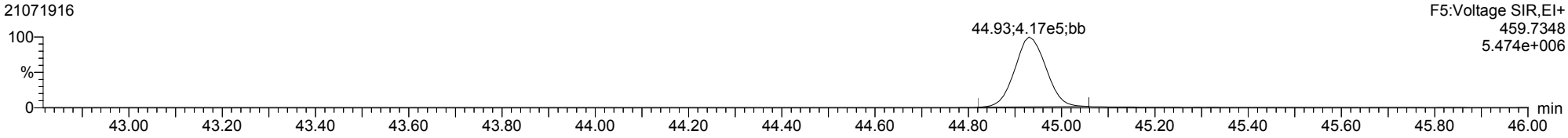


ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

OCDD



OCDD



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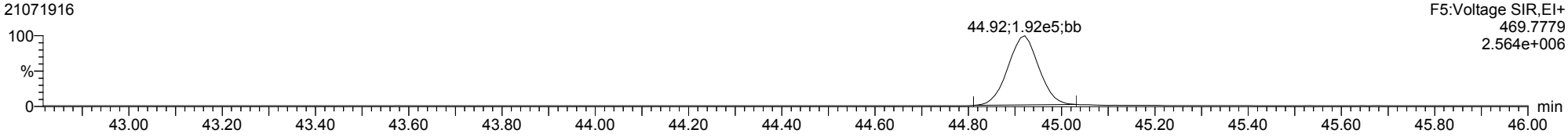

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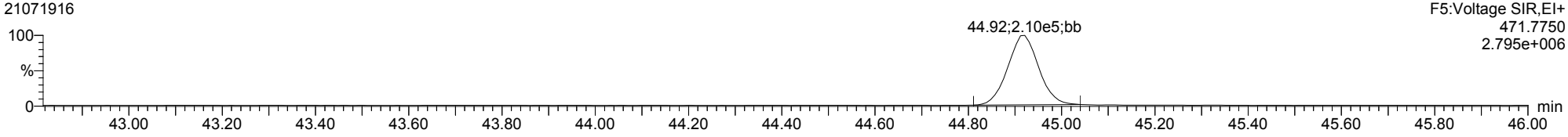
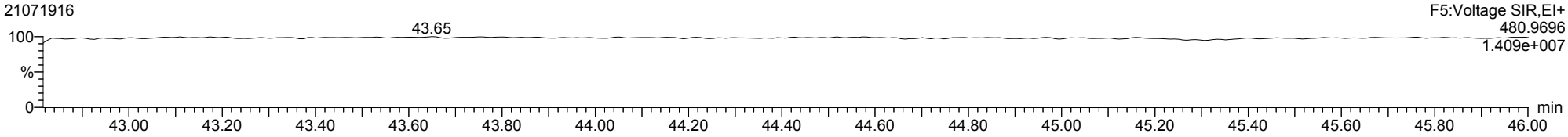
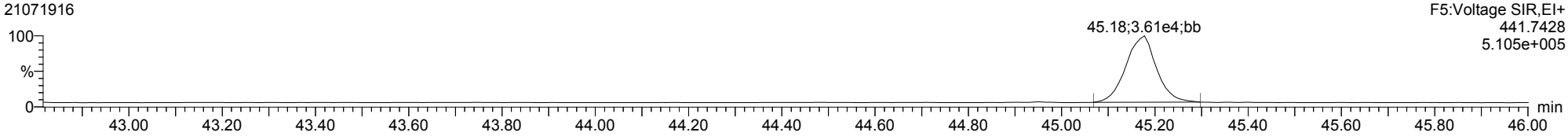


FUNCTION5 PFK

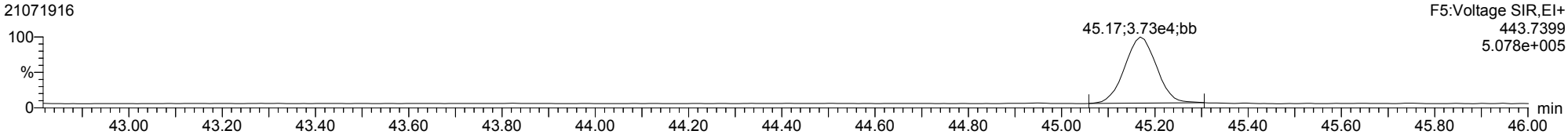


ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

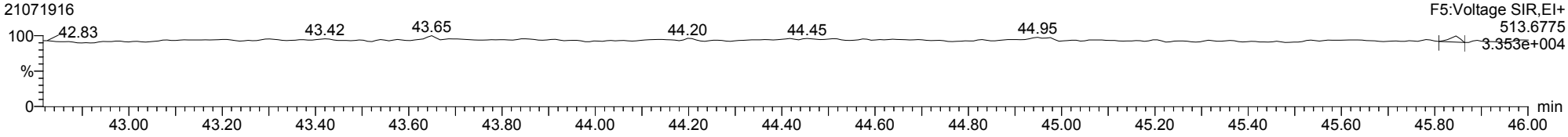
OCDF



OCDF

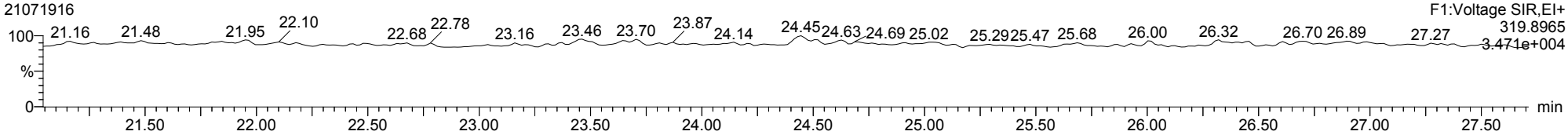


FUNCTION5 DCDPE

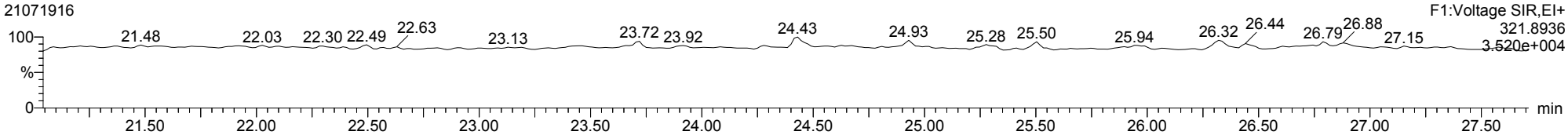


ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

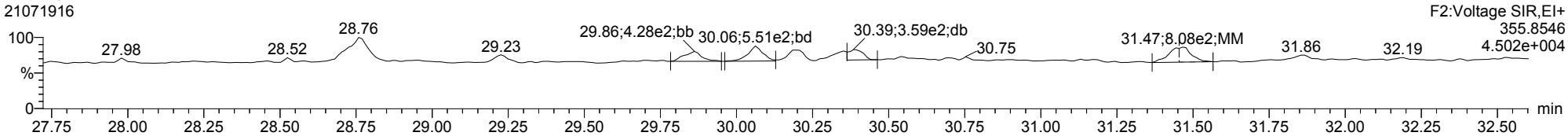
Total-tetradioxins



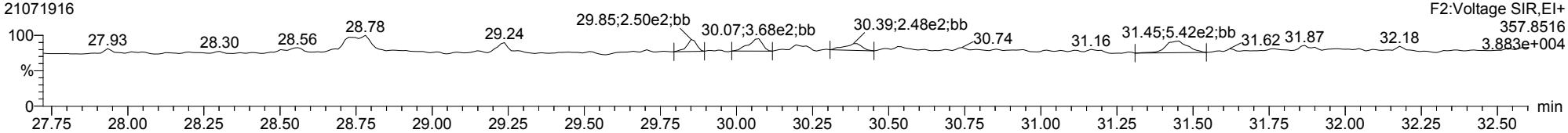
Total-tetradioxins



Total-pentadioxins

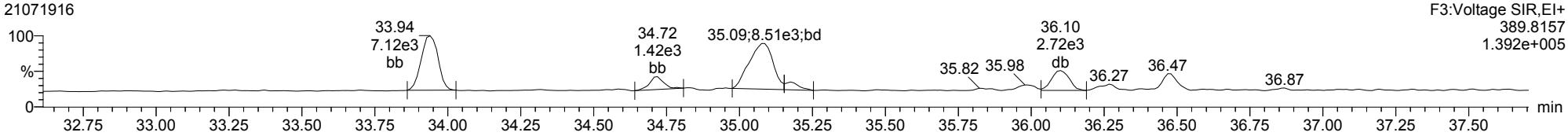


Total-pentadioxins



ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



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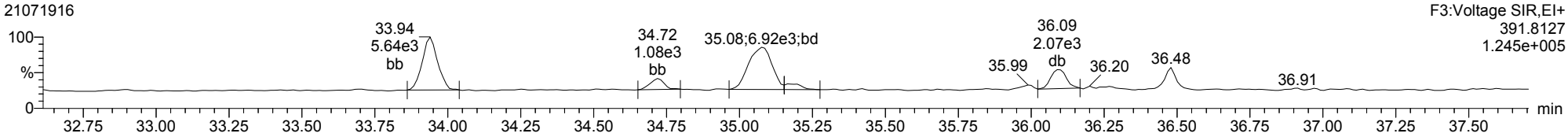

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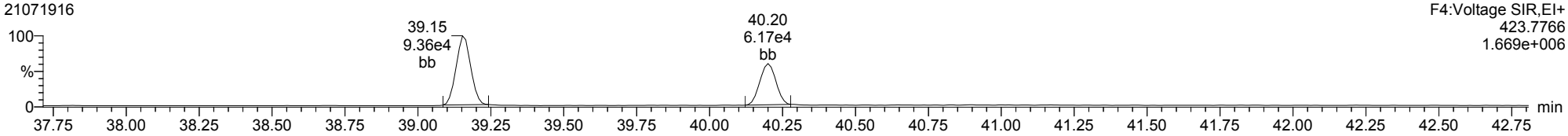
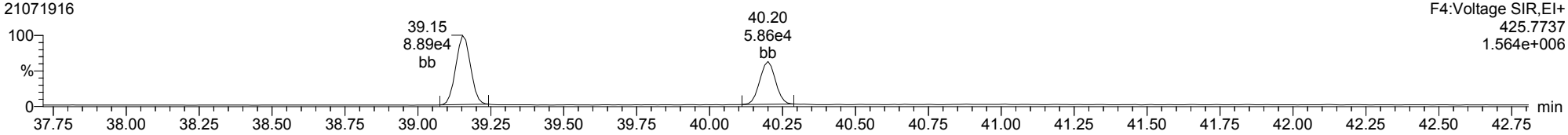
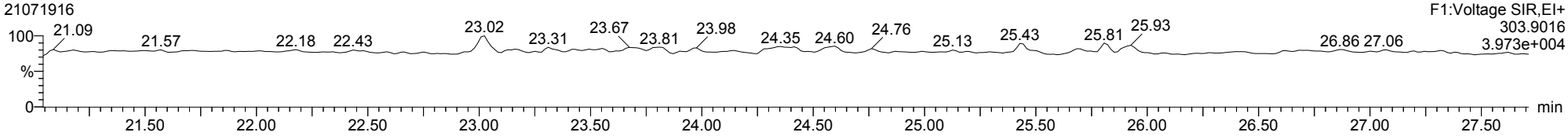


Total-heptadioxins



ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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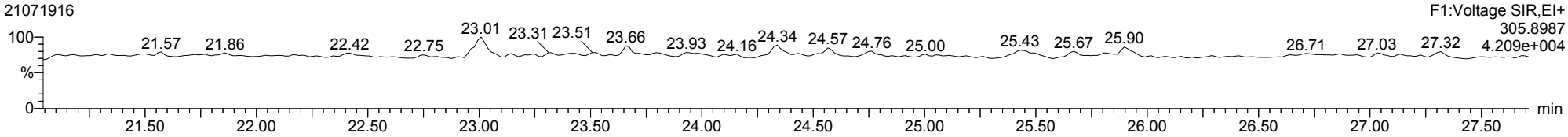

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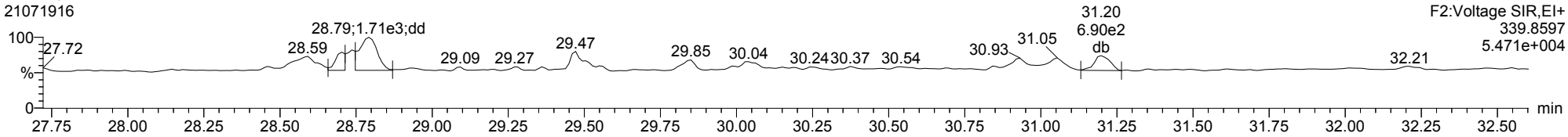

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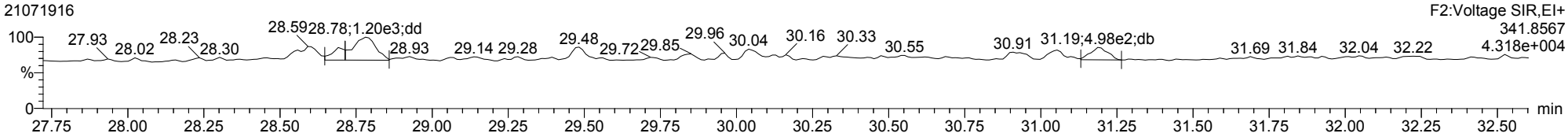

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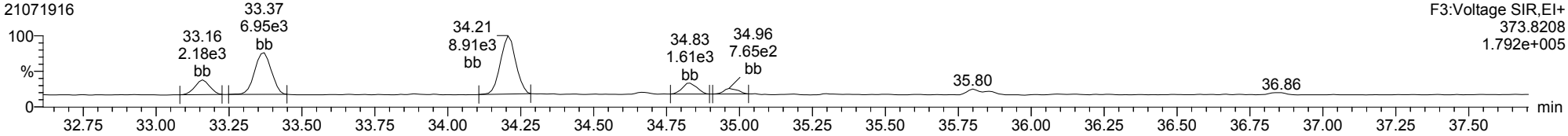
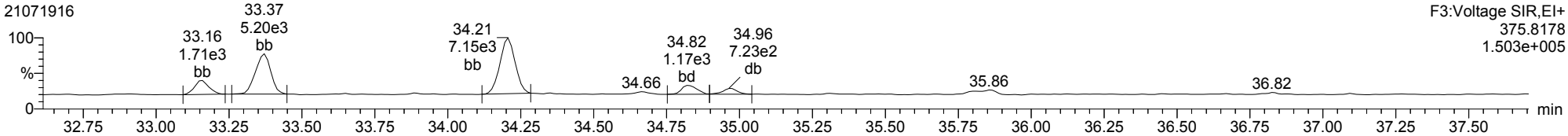
Printed: Tuesday, July 20, 2021 11:02:13 Pacific Daylight Time

ID: 21F0442-04, Name: 21071916, Date: 19-Jul-2021, Time: 22:49:24, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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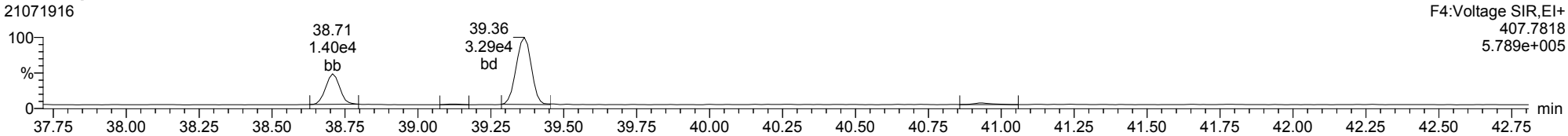

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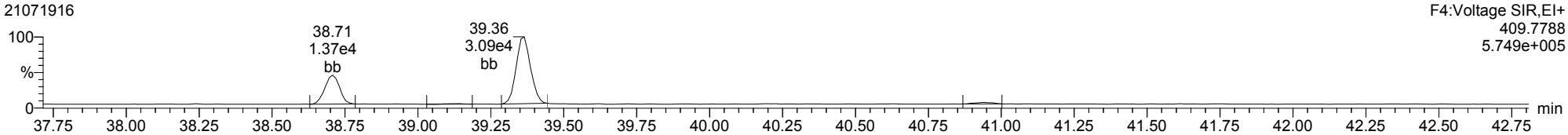

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564E

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-05 C	File ID:	21071917
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 23:38
% Solids:	68.32	Preparation:	EPA 1613	Initial/Final:	14.64 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.461	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1		0.655-0.886	0.273	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1		1.318-1.783	0.352	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1		1.318-1.783	0.332	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1	1.589	1.318-1.783	0.395	1.00	0.559	ng/kg	J
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.072	1.054-1.426	0.184	1.00	1.35	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.758	1.054-1.426	0.205	1.00	0.607	ng/kg	EMPC, J
60851-34-5	2,3,4,6,7,8-HxCDF	1	2.319	1.054-1.426	0.184	1.00	0.374	ng/kg	EMPC, J
72918-21-9	1,2,3,7,8,9-HxCDF	1		1.054-1.426	0.208	1.00	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	3.124	1.054-1.426	0.259	1.00	0.581	ng/kg	EMPC, J
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.558	1.054-1.426	0.262	1.00	1.98	ng/kg	EMPC
19408-74-3	1,2,3,7,8,9-HxCDD	1	2.217	1.054-1.426	0.269	1.00	1.61	ng/kg	EMPC
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.057	0.893-1.208	0.179	1.00	8.92	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.909	0.893-1.208	0.242	1.00	0.907	ng/kg	J
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.118	0.893-1.208	0.599	2.50	50.2	ng/kg	
39001-02-0	OCDF	1	0.921	0.757-1.024	0.332	2.50	20.8	ng/kg	
3268-87-9	OCDD	1	0.881	0.757-1.024	0.513	10.0	371	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	1.17	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	1.87	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	0.559	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	12.7	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	6.68	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	27.1	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	123	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 1.93
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 2.15

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564E

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-05	File ID:	21071917
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 23:38
Solids Wt%:	68.32	Preparation:	EPA 1613	Initial/Final:	14.64 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.790	0.655-0.886	0.220	41.2	24 - 169 %	
13C12-2,3,7,8-TCDD		0.766	0.655-0.886	0.289	59.7	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.529	1.318-1.783	0.335	87.0	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.534	1.318-1.783	0.349	86.9	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.635	1.318-1.783	0.228	81.8	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.509	0.434-0.587	0.308	88.8	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.559	0.434-0.587	0.285	78.3	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.505	0.434-0.587	0.323	88.6	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.510	0.434-0.587	0.356	82.9	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.261	1.054-1.426	0.305	95.7	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.240	1.054-1.426	0.274	84.3	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.452	0.374-0.506	0.269	83.7	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.457	0.374-0.506	0.326	84.3	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.077	0.893-1.208	0.446	78.7	23 - 140 %	
13C12-OCDD		0.914	0.757-1.024	0.248	82.1	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.119	59.2	35 - 197 %	

* Values outside of QC limits

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Printed: Tuesday, July 20, 2021 11:02:23 Pacific Daylight Time

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, 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					0.782		0.770	986	1178								
12378-PeCDF					0.866		1.550	1386	1484								
23478-PeCDF					0.980		1.550	1386	1484								
123478-HxCDF	34.808	1.000	9.815e2	9.153e2	1.002	1.072	1.240	749	655	1.68e4	1.80e4	22.5	27.5	NO	bb	bd	0.675
234678-HxCDF	35.833	1.001	3.644e2	1.571e2	1.043	2.319	1.240	749	655	9.32e3	3.80e3	12.4	5.8	YES	db	MM	0.187
123678-HxCDF	34.953	1.001	4.961e2	2.821e2	0.961	1.758	1.240	749	655	8.04e3	5.15e3	10.7	7.9	YES	bb	db	0.304
123789-HxCDF					0.994		1.240	749	655								
1234678-HpCDF	38.685	1.000	5.849e3	5.532e3	1.058	1.057	1.050	676	670	1.05e5	9.46e4	155.1	141.2	NO	bb	bb	4.463
1234789-HpCDF	40.913	1.000	4.639e2	5.103e2	1.070	0.909	1.050	676	670	7.48e3	9.31e3	11.1	13.9	NO	bb	bb	0.454
OCDF	45.150	1.006	1.084e4	1.178e4	1.257	0.921	0.890	755	793	1.47e5	1.48e5	194.9	186.2	NO	bb	bb	10.399
2378-TCDD					1.307		0.770	1039	823								
12378-PeCDD	31.444	1.001	3.756e2	2.364e2	0.979	1.589	1.550	1125	1092	4.92e3	4.41e3	4.4	4.0	NO	bb	MM	0.280
123478-HxCDD	35.956	1.000	5.668e2	1.814e2	0.956	3.124	1.240	759	1066	9.74e3	4.95e3	12.8	4.6	YES	dd	bd	0.290
123678-HxCDD	36.067	1.000	1.515e3	9.727e2	0.953	1.558	1.240	759	1066	2.18e4	1.73e4	28.7	16.2	YES	dd	db	0.991
123789-HxCDD	36.446	1.011	1.374e3	6.198e2	0.927	2.217	1.240	759	1066	2.07e4	1.24e4	27.2	11.7	YES	dd	bb	0.807
1234678-HpCDD	40.178	1.000	2.603e4	2.328e4	1.055	1.118	1.050	1706	1493	4.25e5	3.79e5	249.1	254.1	NO	bb	bb	25.115
OCDD	44.912	1.000	1.616e5	1.835e5	1.074	0.881	0.890	771	1270	2.06e6	2.36e6	2676.8	1856.7	NO	bb	bb	185.610
13C-2378-TCDF	25.655	1.007	1.010e5	1.280e5	1.925	0.790	0.770	1866	1265	1.59e6	2.01e6	851.6	1591.9	NO	bb	bb	41.202
13C-12378-PeCDF	29.817	1.171	2.190e5	1.432e5	1.442	1.529	1.550	1944	1624	3.42e6	2.24e6	1757.2	1382.4	NO	bb	bb	86.967
13C-23478-PeCDF	31.165	1.223	2.105e5	1.372e5	1.387	1.534	1.550	1944	1624	3.21e6	2.18e6	1650.7	1345.0	NO	bb	bb	86.854
13C-123478-HxCDF	34.797	0.955	9.454e4	1.859e5	1.053	0.509	0.510	1138	1626	1.54e6	2.99e6	1350.0	1840.5	NO	bd	bd	88.764
13C-123678-HxCDF	34.931	0.959	9.565e4	1.710e5	1.135	0.559	0.510	1138	1626	1.54e6	2.90e6	1349.7	1781.5	NO	db	bb	78.309
13C-234678-HxCDF	35.811	0.983	8.955e4	1.774e5	1.004	0.505	0.510	1138	1626	1.47e6	2.92e6	1291.0	1792.9	NO	bb	bb	88.637
13C-123789-HxCDF	36.825	1.011	7.636e4	1.496e5	0.909	0.510	0.510	1138	1626	1.37e6	2.62e6	1206.7	1612.9	NO	bb	bb	82.891
13C-1234678-HpCDF	38.674	1.061	7.508e4	1.659e5	0.960	0.452	0.440	1011	1195	1.33e6	2.96e6	1317.8	2478.9	NO	bb	bb	83.714
13C-1234789-HpCDF	40.902	1.123	6.297e4	1.378e5	0.794	0.457	0.440	1011	1195	9.80e5	2.10e6	969.4	1758.2	NO	bb	bb	84.325
13C-1234-TCDD	25.473	0.000	1.283e5	1.604e5	1.000	0.800	0.770	1629	785	1.97e6	2.49e6	1207.7	3176.8	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.032	8.467e4	1.105e5	1.133	0.766	0.770	1629	785	1.36e6	1.72e6	834.3	2194.1	NO	bb	bb	59.683
13C-12378-PeCDD	31.410	1.233	1.387e5	8.481e4	0.947	1.635	1.550	735	860	2.14e6	1.29e6	2905.1	1506.3	NO	bb	bb	81.755
13C-123478-HxCDD	35.944	0.987	1.503e5	1.192e5	0.939	1.261	1.240	1009	1429	2.46e6	1.97e6	2439.9	1378.3	NO	bd	bd	95.711
13C-123678-HxCDD	36.056	0.990	1.459e5	1.176e5	1.042	1.240	1.240	1009	1429	2.43e6	1.96e6	2403.1	1373.5	NO	db	db	84.317
13C-1234678-HpCDD	40.167	1.102	9.650e4	8.958e4	0.788	1.077	1.050	1480	1518	1.58e6	1.46e6	1064.6	962.1	NO	bb	bb	78.688
13C-OCDD	44.894	1.232	1.654e5	1.809e5	0.703	0.914	0.890	821	668	2.12e6	2.32e6	2585.8	3473.4	NO	bb	bb	164.120
13C-123789-HxCDD	36.435	0.000	1.648e5	1.352e5	1.000	1.219	1.240	1009	1429	2.81e6	2.33e6	2785.0	1630.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	8.878e4		1.298			1141		1.33e6		1161.8			bb		23.696

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:23 Pacific Daylight Time

ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, 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					0.966		0.770	986	1178								
1289-TCDF					0.736		0.770	986	1178								
13468-PECDF					1.347		1.550	543	728								
12389-PECDF					0.867		1.550	1386	1484								
123468-HXCDF	33.148	0.953	1.135e3	8.469e2	1.036	1.341	1.240	749	655	1.96e4	1.51e4	26.2	23.0	NO	bb	bb	0.682
1368-TCDD	23.447	0.892	2.287e2	1.776e2	1.256	1.288	0.770	1039	823	4.61e3	3.41e3	4.4	4.1	YES	bb	bb	0.166
1289-TCDD					1.151		0.770	1039	823								
12479-PECDD	28.725	0.914	7.304e2	3.865e2	1.773	1.890	1.550	1125	1092	1.20e4	7.84e3	10.7	7.2	YES	bd	db	0.282
12389-PECDD					1.171		1.550	1125	1092								
124679-HXCDD	33.917	0.944	3.847e3	3.007e3	1.034	1.279	1.240	759	1066	6.40e4	5.33e4	84.3	50.0	NO	bb	bb	2.461
1234679-HPCDD	39.142	0.975	4.106e4	3.994e4	1.194	1.028	1.050	1706	1493	7.16e5	6.82e5	419.6	456.7	NO	bb	bb	36.454
Total-tetrafurans			5.028e2		0.828			986		7.43e3							0.583
Total-penta1			0.000e0					543		0.00e0							
Total-pentafurans			1.829e3		0.904			1386		2.82e4							0.936
Total-hexafurans			9.408e3		1.007			749		1.52e5							6.347
Total-heptafurans			1.656e4		1.064			676		2.83e5							13.530
Total-Furans			3.914e4		0.998			986		6.17e5							31.795
Total-tetradioxins			0.000e0		1.238			1039		0.00e0							
Total-pentadioxins			3.756e2		1.308			1125		4.92e3							0.280
Total-hexadioxins			5.070e3		0.967			759		9.01e4							3.341
Total-heptadioxins			6.709e4		1.125			1706		1.14e6							61.569
Total-Dioxins			2.341e5		1.141			1039		3.30e6							250.800
Total-TEQ			2.733e5					1039		3.92e6							282.595
FUNCTION1 PFK			4.484e6					447458		3.13e7							
FUNCTION2 PFK			1.277e6					189621		5.22e6							0.000
FUNCTION3 PFK			4.938e6					294250		1.63e7							0.000
FUNCTION4 PFK			2.109e5					248632		6.63e6							
FUNCTION5 PFK			6.572e4					166849		3.01e6							
FUNCTION1 HXCD...			5.628e2					686		9.41e3							0.000
FUNCTION1 HPCD...			1.342e3					833		2.38e4							0.000
FUNCTION2 HPCD...			2.010e2					672		3.16e3							0.000
FUNCTION3 OCDPE			0.000e0					478		0.00e0							
FUNCTION4 NCDPE			6.491e2					483		1.45e4							0.000
FUNCTION5 DCDPE			0.000e0					595		0.00e0							

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:23 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, 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	24.57	2.822e2	3.234e2	0.828	0.87	0.77	3.8	YES	NO	bb	bb	0.320
2	Total-tetrafurans	24.34	2.206e2	2.793e2	0.828	0.79	0.77	3.7	YES	NO	bb	bd	0.264

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	28.76	1.522e3	9.696e2	0.904	1.57	1.55	15.3	YES	NO	db	db	0.776
2	Total-pentafurans	30.04	3.065e2	2.074e2	0.904	1.48	1.55	5.0	YES	NO	bb	bb	0.160

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.81	9.815e2	9.153e2	1.002	1.07	1.24	22.5	YES	NO	bb	bd	0.675
2	Total-hexafurans	34.18	3.930e3	3.052e3	1.007	1.29	1.24	80.0	YES	NO	bb	bb	2.666
3	Total-hexafurans	33.35	3.361e3	2.724e3	1.007	1.23	1.24	74.3	YES	NO	bb	bb	2.324
4	123468-HXCDF	33.15	1.135e3	8.469e2	1.036	1.34	1.24	26.2	YES	NO	bb	bb	0.682

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.91	4.639e2	5.103e2	1.070	0.91	1.05	11.1	YES	NO	bb	bb	0.454
2	Total-heptafurans	39.34	1.025e4	9.997e3	1.064	1.02	1.05	252.0	YES	NO	bb	bb	8.614
3	1234678-HpCDF	38.69	5.849e3	5.532e3	1.058	1.06	1.05	155.1	YES	NO	bb	bb	4.463

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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	24.57	2.822e2	3.234e2	0.828	0.87	0.77	3.8	YES	NO	bb	bb	0.320
2	Total-tetrafurans	24.34	2.206e2	2.793e2	0.828	0.79	0.77	3.7	YES	NO	bb	bd	0.264
3	Total-pentafurans	28.76	1.522e3	9.696e2	0.904	1.57	1.55	15.3	YES	NO	db	db	0.776
4	Total-pentafurans	30.04	3.065e2	2.074e2	0.904	1.48	1.55	5.0	YES	NO	bb	bb	0.160
5	123478-HxCDF	34.81	9.815e2	9.153e2	1.002	1.07	1.24	22.5	YES	NO	bb	bd	0.675
6	Total-hexafurans	34.18	3.930e3	3.052e3	1.007	1.29	1.24	80.0	YES	NO	bb	bb	2.666
7	Total-hexafurans	33.35	3.361e3	2.724e3	1.007	1.23	1.24	74.3	YES	NO	bb	bb	2.324
8	123468-HXCDF	33.15	1.135e3	8.469e2	1.036	1.34	1.24	26.2	YES	NO	bb	bb	0.682
9	1234789-HpCDF	40.91	4.639e2	5.103e2	1.070	0.91	1.05	11.1	YES	NO	bb	bb	0.454
10	Total-heptafurans	39.34	1.025e4	9.997e3	1.064	1.02	1.05	252.0	YES	NO	bb	bb	8.614
11	1234678-HpCDF	38.69	5.849e3	5.532e3	1.058	1.06	1.05	155.1	YES	NO	bb	bb	4.463
12	OCDF	45.15	1.084e4	1.178e4	1.257	0.92	0.89	194.9	YES	NO	bb	bb	10.399

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	12378-PeCDD	31.44	3.756e2	2.364e2	0.979	1.59	1.55	4.4	YES	NO	bb	MM	0.280

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	35.19	2.250e2	2.040e2	0.967	1.10	1.24	9.5	YES	NO	db	db	0.166
2	Total-hexadioxins	34.70	8.511e2	7.154e2	0.967	1.19	1.24	20.2	YES	NO	bd	bb	0.608
3	124679-HXCDD	33.92	3.847e3	3.007e3	1.034	1.28	1.24	84.3	YES	NO	bb	bb	2.461
4	Total-hexadioxins	36.85	1.462e2	1.263e2	0.967	1.16	1.24	4.6	NO	NO	bb	bb	0.106

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	2.603e4	2.328e4	1.055	1.12	1.05	249.1	YES	NO	bb	bb	25.115
2	1234679-HPCDD	39.14	4.106e4	3.994e4	1.194	1.03	1.05	419.6	YES	NO	bb	bb	36.454

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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	12378-PeCDD	31.44	3.756e2	2.364e2	0.979	1.59	1.55	4.4	YES	NO	bb	MM	0.280
2	Total-hexadioxins	35.19	2.250e2	2.040e2	0.967	1.10	1.24	9.5	YES	NO	db	db	0.166
3	Total-hexadioxins	34.70	8.511e2	7.154e2	0.967	1.19	1.24	20.2	YES	NO	bd	bb	0.608
4	124679-HXCDD	33.92	3.847e3	3.007e3	1.034	1.28	1.24	84.3	YES	NO	bb	bb	2.461
5	Total-hexadioxins	36.85	1.462e2	1.263e2	0.967	1.16	1.24	4.6	NO	NO	bb	bb	0.106
6	1234678-HpCDD	40.18	2.603e4	2.328e4	1.055	1.12	1.05	249.1	YES	NO	bb	bb	25.115
7	1234679-HPCDD	39.14	4.106e4	3.994e4	1.194	1.03	1.05	419.6	YES	NO	bb	bb	36.454
8	OCDD	44.91	1.616e5	1.835e5	1.074	0.88	0.89	2676.8	YES	NO	bb	bb	185.610

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.57	2.822e2	3.234e2	0.828	0.87	0.77	3.8	YES	NO	bb	bb	0.320
2	Total-tetrafurans	24.34	2.206e2	2.793e2	0.828	0.79	0.77	3.7	YES	NO	bb	bd	0.264
3	Total-pentafurans	28.76	1.522e3	9.696e2	0.904	1.57	1.55	15.3	YES	NO	db	db	0.776
4	Total-pentafurans	30.04	3.065e2	2.074e2	0.904	1.48	1.55	5.0	YES	NO	bb	bb	0.160
5	123478-HxCDF	34.81	9.815e2	9.153e2	1.002	1.07	1.24	22.5	YES	NO	bb	bd	0.675
6	Total-hexafurans	34.18	3.930e3	3.052e3	1.007	1.29	1.24	80.0	YES	NO	bb	bb	2.666
7	Total-hexafurans	33.35	3.361e3	2.724e3	1.007	1.23	1.24	74.3	YES	NO	bb	bb	2.324
8	123468-HXCDF	33.15	1.135e3	8.469e2	1.036	1.34	1.24	26.2	YES	NO	bb	bb	0.682
9	1234789-HpCDF	40.91	4.639e2	5.103e2	1.070	0.91	1.05	11.1	YES	NO	bb	bb	0.454
10	Total-heptafurans	39.34	1.025e4	9.997e3	1.064	1.02	1.05	252.0	YES	NO	bb	bb	8.614
11	1234678-HpCDF	38.69	5.849e3	5.532e3	1.058	1.06	1.05	155.1	YES	NO	bb	bb	4.463
12	OCDF	45.15	1.084e4	1.178e4	1.257	0.92	0.89	194.9	YES	NO	bb	bb	10.399
13	12378-PeCDD	31.44	3.756e2	2.364e2	0.979	1.59	1.55	4.4	YES	NO	bb	MM	0.280
14	Total-hexadioxins	35.19	2.250e2	2.040e2	0.967	1.10	1.24	9.5	YES	NO	db	db	0.166
15	Total-hexadioxins	34.70	8.511e2	7.154e2	0.967	1.19	1.24	20.2	YES	NO	bd	bb	0.608
16	124679-HXCDD	33.92	3.847e3	3.007e3	1.034	1.28	1.24	84.3	YES	NO	bb	bb	2.461
17	Total-hexadioxins	36.85	1.462e2	1.263e2	0.967	1.16	1.24	4.6	NO	NO	bb	bb	0.106
18	1234678-HpCDD	40.18	2.603e4	2.328e4	1.055	1.12	1.05	249.1	YES	NO	bb	bb	25.115
19	1234679-HPCDD	39.14	4.106e4	3.994e4	1.194	1.03	1.05	419.6	YES	NO	bb	bb	36.454
20	OCDD	44.91	1.616e5	1.835e5	1.074	0.88	0.89	2676.8	YES	NO	bb	bb	185.610

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	25.03	6.243e3					0.6	NO		bb		
2	FUNCTION1 PFK	24.69	1.589e4					1.1	NO		bb		
3	FUNCTION1 PFK	23.39	2.382e5					0.9	NO		bb		
4	FUNCTION1 PFK	22.99	9.918e4					3.4	YES		db		
5	FUNCTION1 PFK	22.93	1.406e5					3.3	YES		bd		
6	FUNCTION1 PFK	22.59	8.681e4					2.3	NO		db		
7	FUNCTION1 PFK	22.46	2.678e5					5.6	YES		dd		
8	FUNCTION1 PFK	22.25	4.956e5					8.7	YES		dd		
9	FUNCTION1 PFK	22.13	9.699e5					10.9	YES		bd		
10	FUNCTION1 PFK	21.88	4.488e5					8.7	YES		db		
11	FUNCTION1 PFK	21.75	3.287e5					4.8	YES		bd		
12	FUNCTION1 PFK	21.18	1.249e6					14.2	YES		bb		
13	FUNCTION1 PFK	26.99	1.567e4					1.2	NO		bb		
14	FUNCTION1 PFK	26.70	7.016e4					1.5	NO		bb		
15	FUNCTION1 PFK	26.58	2.823e4					0.9	NO		bb		
16	FUNCTION1 PFK	26.14	2.038e4					1.3	NO		bb		
17	FUNCTION1 PFK	25.91	3.208e3					0.5	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.08	1.935e5					5.1	YES		bb		0.000
2	FUNCTION2 PFK	29.81	7.096e5					1.5	NO		bb		0.000
3	FUNCTION2 PFK	29.26	8.336e4					8.6	YES		db		0.000
4	FUNCTION2 PFK	29.16	2.904e5					12.3	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	37.23	1.481e6					6.2	YES		bb		0.000
2	FUNCTION3 PFK	36.58	1.557e6					14.7	YES		bb		0.000
3	FUNCTION3 PFK	33.28	1.948e5					8.3	YES		db		0.000
4	FUNCTION3 PFK	33.22	9.618e5					10.3	YES		bd		0.000
5	FUNCTION3 PFK	32.87	7.430e5					16.0	YES		bb		0.000

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Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:23 Pacific Daylight Time

ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, 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	41.14	6.356e3					0.9	NO		bb		
2	FUNCTION4 PFK	41.06	2.646e4					1.5	NO		bb		
3	FUNCTION4 PFK	40.95	4.724e3					0.9	NO		bb		
4	FUNCTION4 PFK	40.90	3.454e3					0.7	NO		bb		
5	FUNCTION4 PFK	40.82	9.363e3					1.4	NO		bb		
6	FUNCTION4 PFK	40.30	5.005e3					0.8	NO		bb		
7	FUNCTION4 PFK	39.94	1.454e3					0.5	NO		bb		
8	FUNCTION4 PFK	39.62	1.081e4					1.2	NO		bb		
9	FUNCTION4 PFK	39.06	6.098e3					0.9	NO		bb		
10	FUNCTION4 PFK	38.72	1.112e3					0.4	NO		bb		
11	FUNCTION4 PFK	38.66	7.751e3					1.3	NO		bb		
12	FUNCTION4 PFK	38.48	1.330e3					0.5	NO		bb		
13	FUNCTION4 PFK	38.44	1.206e3					0.4	NO		bb		
14	FUNCTION4 PFK	37.95	5.969e3					0.9	NO		db		
15	FUNCTION4 PFK	37.87	1.098e4					1.5	NO		bd		
16	FUNCTION4 PFK	42.42	6.096e3					1.0	NO		bb		
17	FUNCTION4 PFK	42.14	1.622e4					1.7	NO		bb		
18	FUNCTION4 PFK	41.89	1.298e4					1.5	NO		db		
19	FUNCTION4 PFK	41.83	1.162e4					1.5	NO		dd		
20	FUNCTION4 PFK	41.79	1.941e4					2.0	NO		dd		
21	FUNCTION4 PFK	41.70	1.779e4					1.2	NO		bd		
22	FUNCTION4 PFK	41.60	6.845e3					1.0	NO		bb		
23	FUNCTION4 PFK	41.35	7.127e3					1.2	NO		bb		
24	FUNCTION4 PFK	41.29	1.072e4					1.6	NO		bb		

ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, 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	44.13	4.154e3					1.2	NO		bb		
2	FUNCTION5 PFK	43.92	7.653e3					1.7	NO		bb		
3	FUNCTION5 PFK	43.24	2.035e3					0.7	NO		bb		
4	FUNCTION5 PFK	42.94	1.298e4					2.4	NO		db		
5	FUNCTION5 PFK	42.90	8.776e3					1.9	NO		dd		
6	FUNCTION5 PFK	42.87	6.922e3					2.2	NO		bd		
7	FUNCTION5 PFK	45.95	3.212e3					0.9	NO		bb		
8	FUNCTION5 PFK	45.44	5.637e3					1.1	NO		bb		
9	FUNCTION5 PFK	45.07	2.993e3					1.1	NO		bb		
10	FUNCTION5 PFK	45.04	7.977e2					0.5	NO		bb		
11	FUNCTION5 PFK	45.00	1.104e3					0.7	NO		bb		
12	FUNCTION5 PFK	44.86	2.204e3					0.7	NO		bb		
13	FUNCTION5 PFK	44.73	4.255e3					1.3	NO		bb		
14	FUNCTION5 PFK	44.49	2.008e3					0.7	NO		bb		
15	FUNCTION5 PFK	44.22	9.888e2					0.6	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.27	9.157e1					1.7	NO		bb		0.000
2	FUNCTION1 HXCD...	26.97	7.371e1					2.0	NO		bb		0.000
3	FUNCTION1 HXCD...	26.23	1.235e2					4.1	YES		bb		0.000
4	FUNCTION1 HXCD...	24.16	7.856e1					2.0	NO		bb		0.000
5	FUNCTION1 HXCD...	22.07	1.955e2					4.0	YES		bb		0.000

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ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, 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...	27.00	8.909e1					2.8	NO		bb		0.000
2	FUNCTION1 HPCD...	26.52	1.553e2					1.9	NO		bb		0.000
3	FUNCTION1 HPCD...	26.02	9.014e1					3.6	YES		bb		0.000
4	FUNCTION1 HPCD...	25.90	8.075e1					1.6	NO		bb		0.000
5	FUNCTION1 HPCD...	25.26	1.550e2					2.6	NO		bb		0.000
6	FUNCTION1 HPCD...	23.58	1.310e2					2.6	NO		db		0.000
7	FUNCTION1 HPCD...	23.49	8.889e1					1.8	NO		bd		0.000
8	FUNCTION1 HPCD...	23.31	1.994e2					2.7	NO		db		0.000
9	FUNCTION1 HPCD...	23.19	8.300e1					2.8	NO		bd		0.000
10	FUNCTION1 HPCD...	22.53	1.015e2					2.5	NO		bb		0.000
11	FUNCTION1 HPCD...	21.97	1.678e2					3.7	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...	32.40	1.303e2					2.0	NO		bb		0.000
2	FUNCTION2 HPCD...	31.43	7.075e1					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													

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.04	9.807e1					4.8	YES		bb		0.000
2	FUNCTION4 NCDPE	38.35	5.511e2					25.2	YES		bb		0.000

ETHERS6

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

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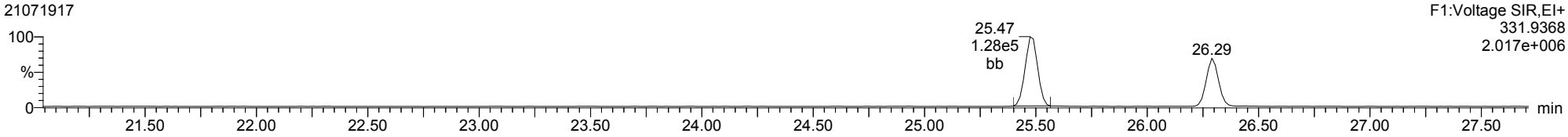

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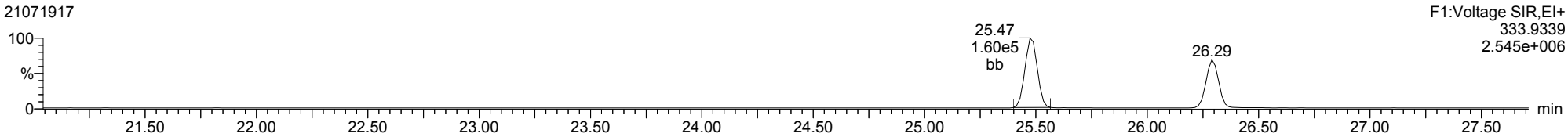

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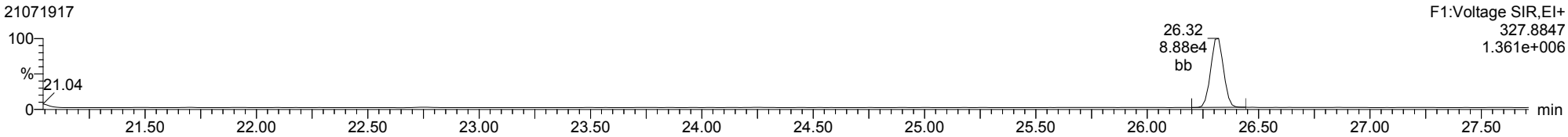

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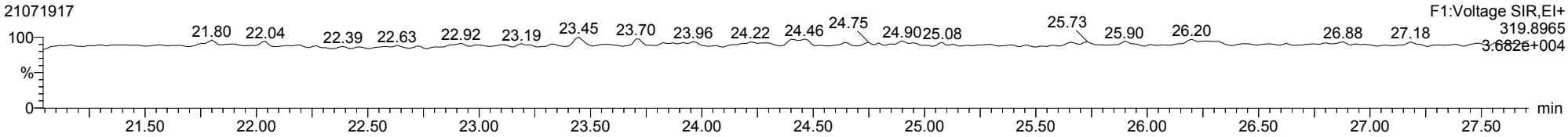

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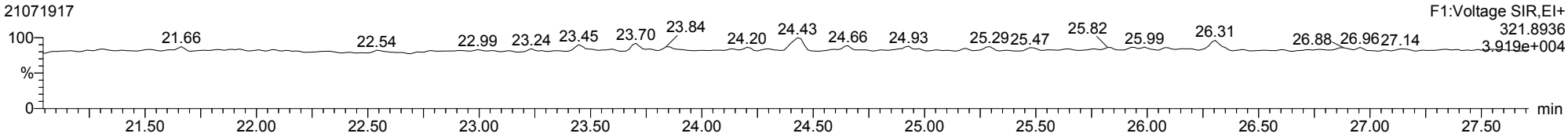

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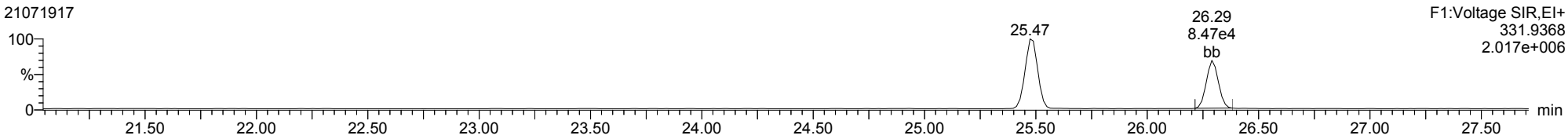

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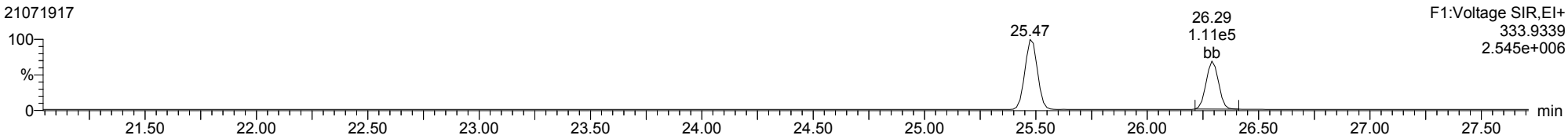

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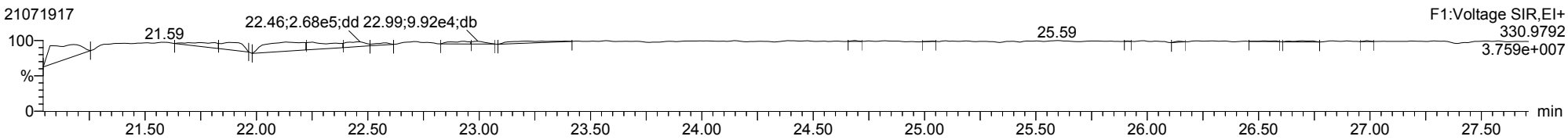

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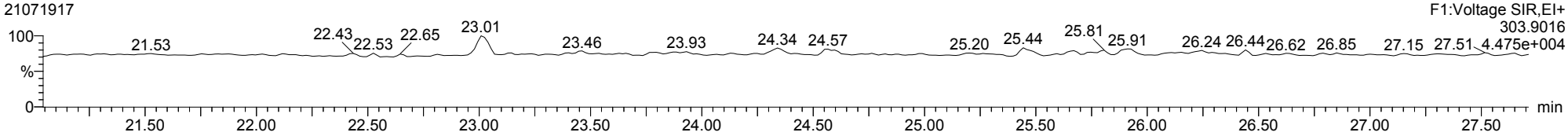

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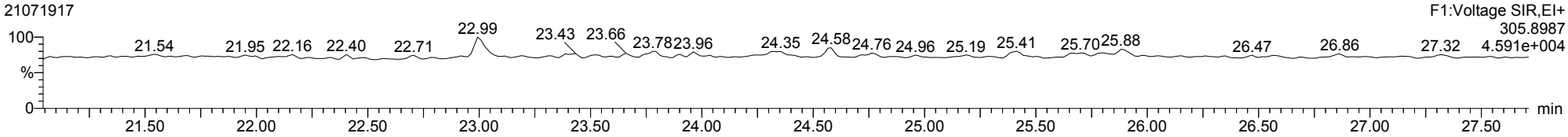

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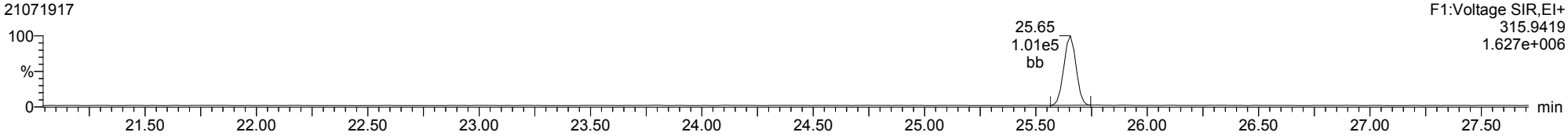

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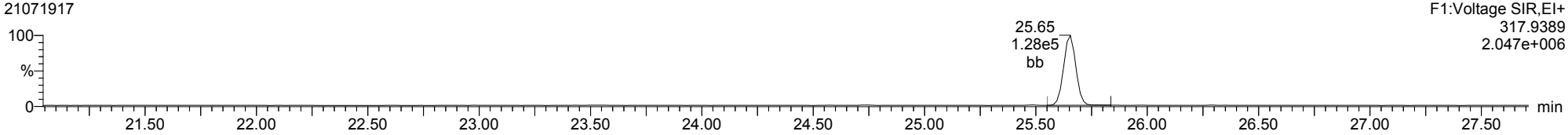

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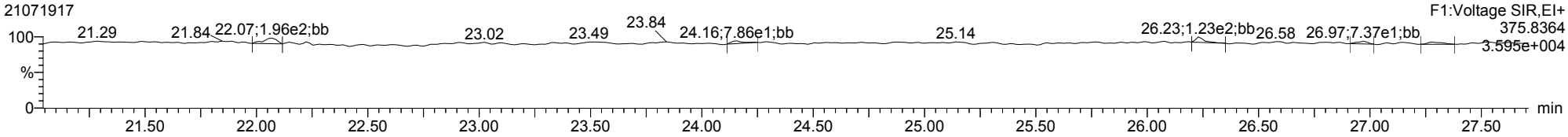

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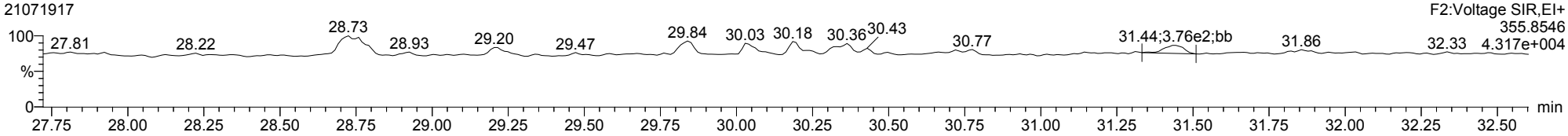

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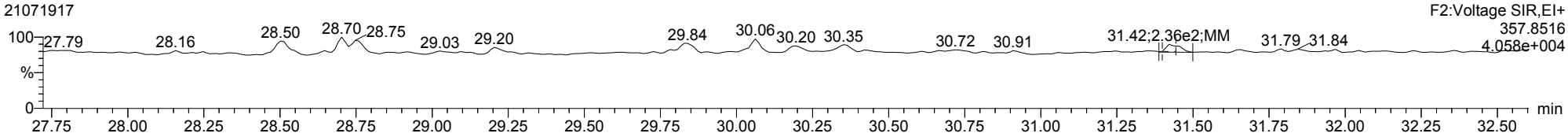

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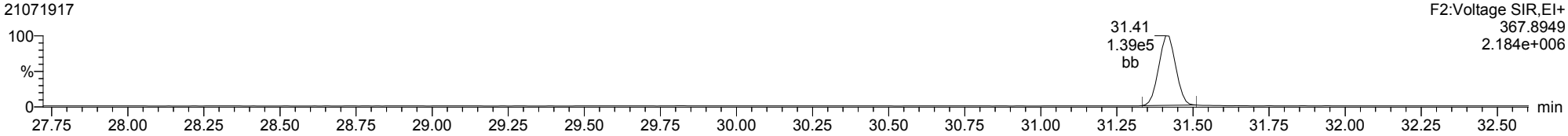

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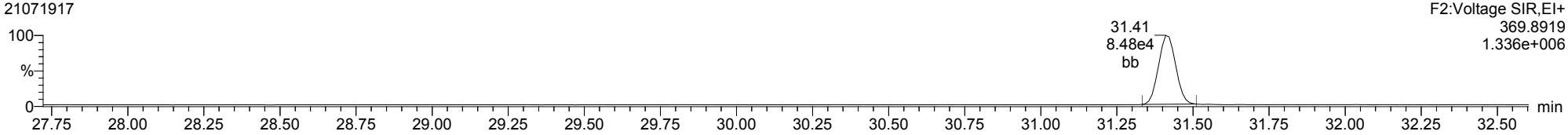

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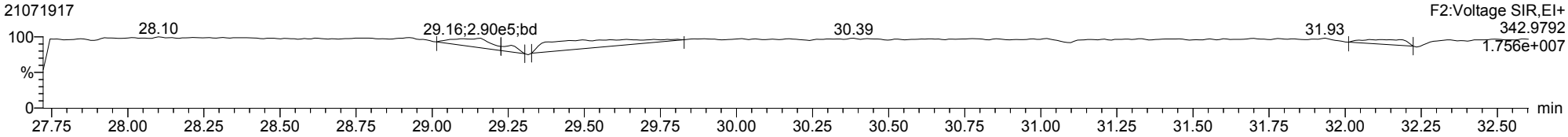

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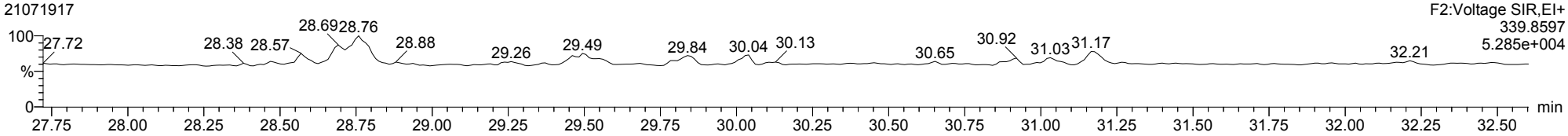

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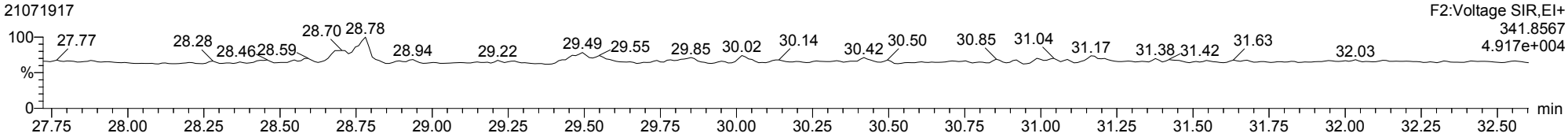

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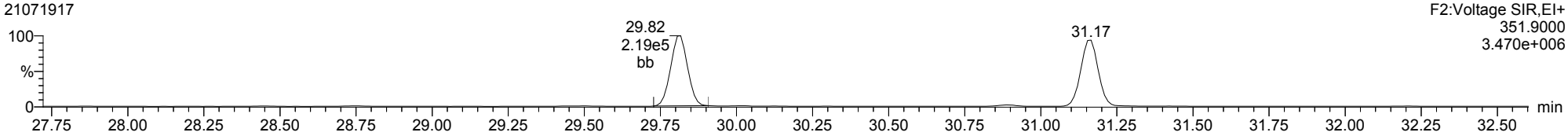

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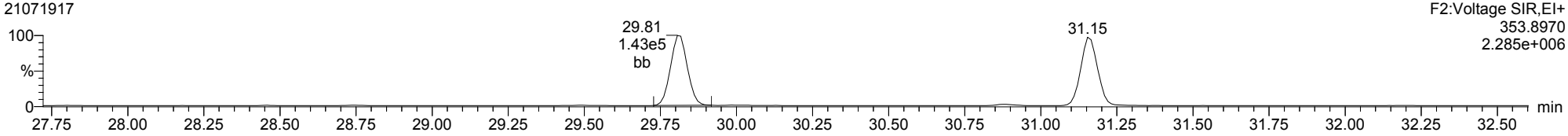
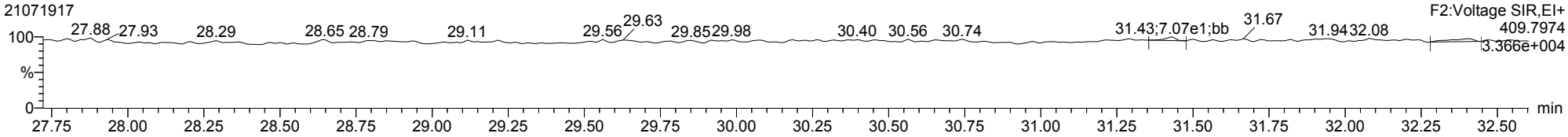


FUNCTION2 HPCDPE



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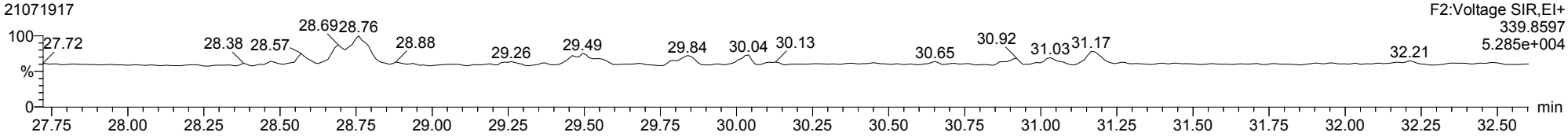
23478-PeCDF



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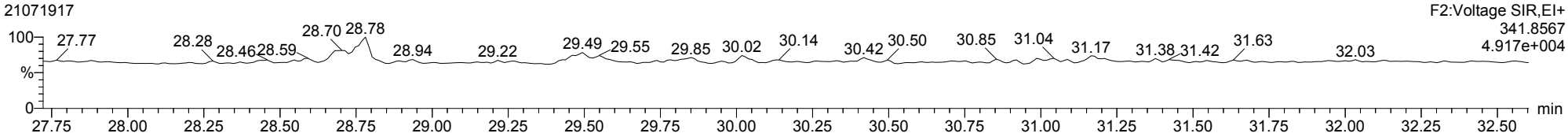

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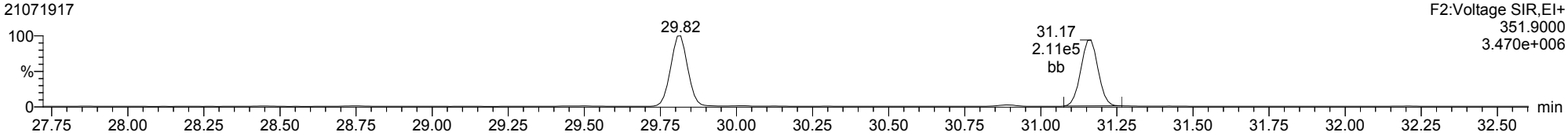

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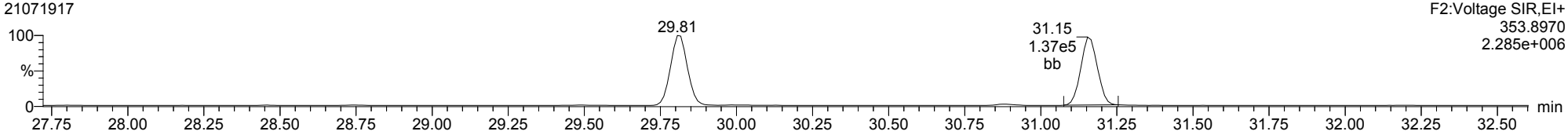

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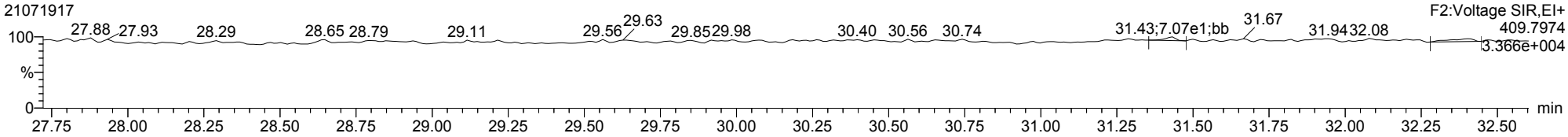

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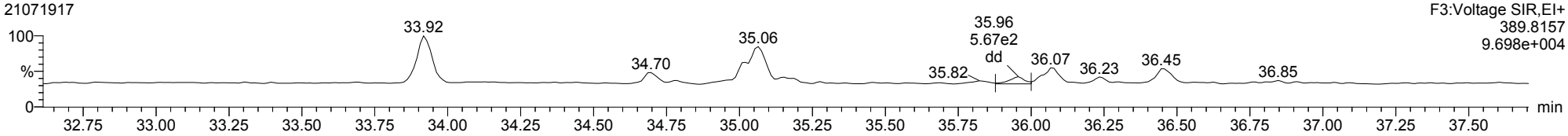
123478-HxCDD



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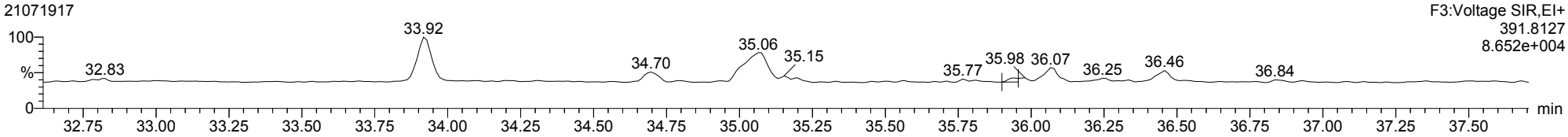

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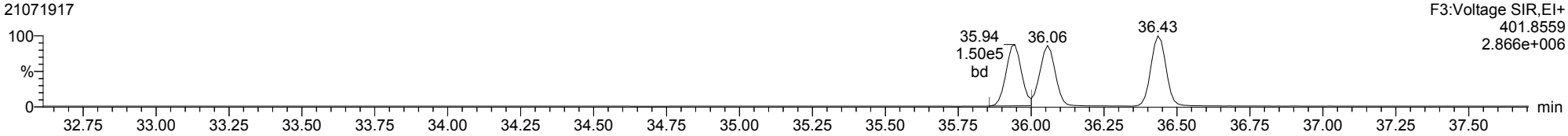

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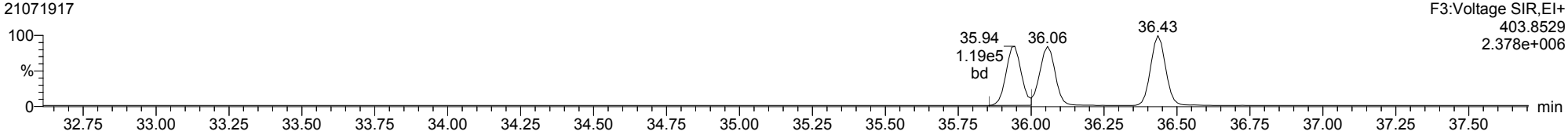

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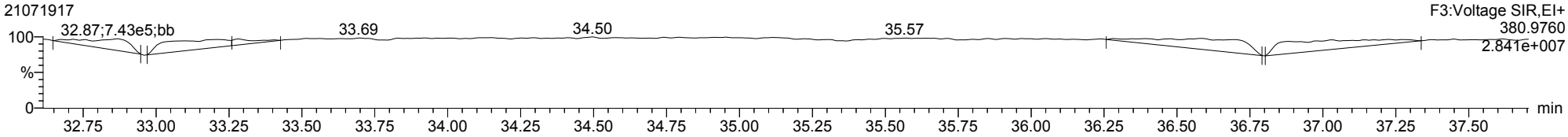

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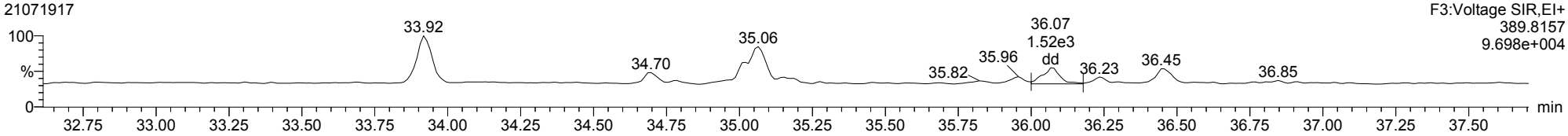

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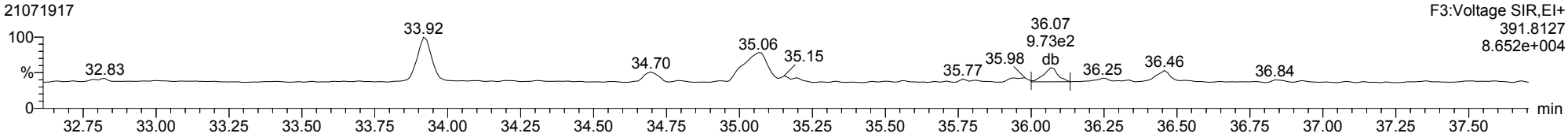

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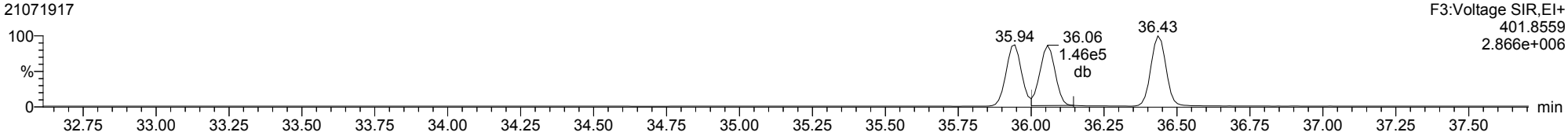

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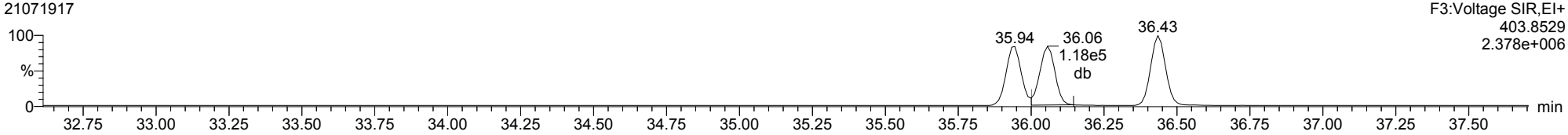

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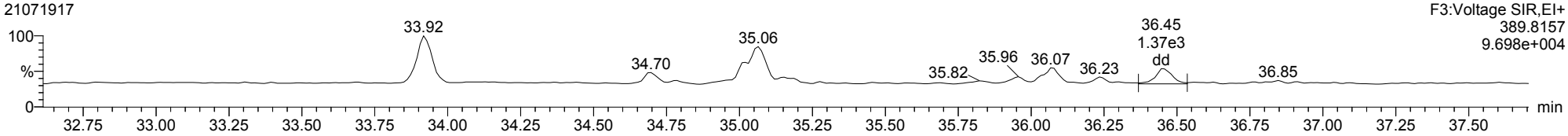

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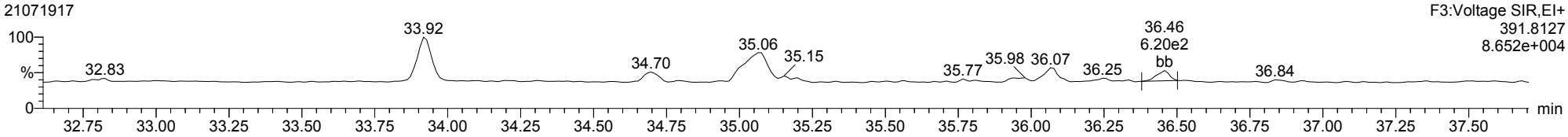

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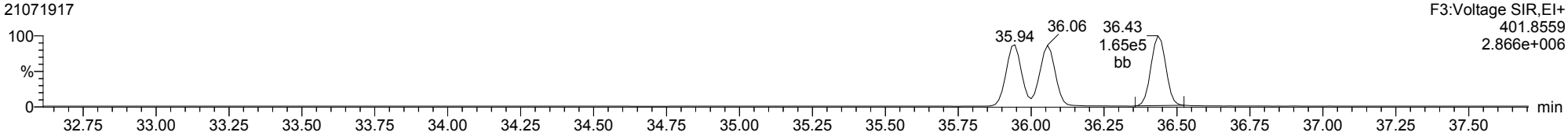

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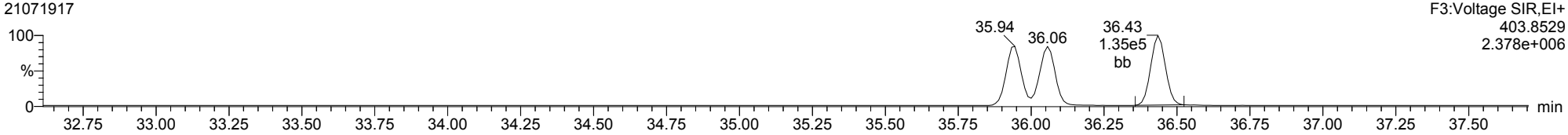

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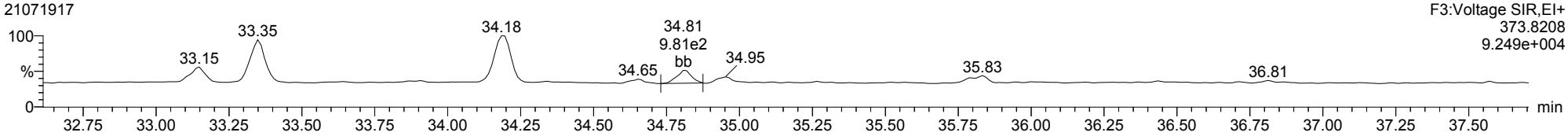

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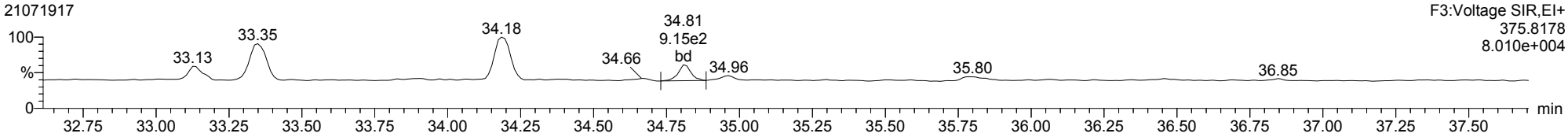

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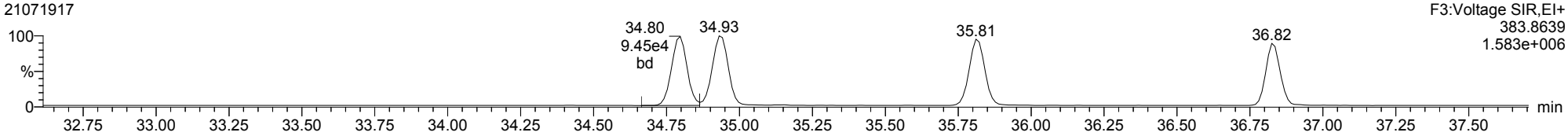

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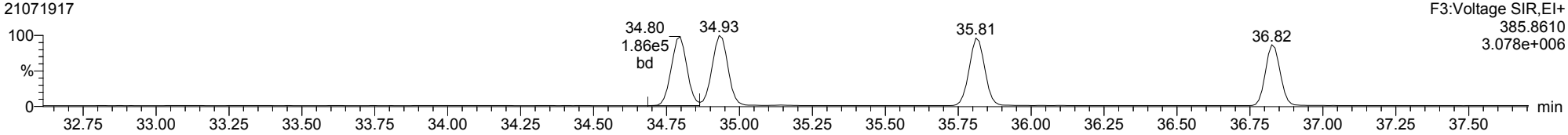

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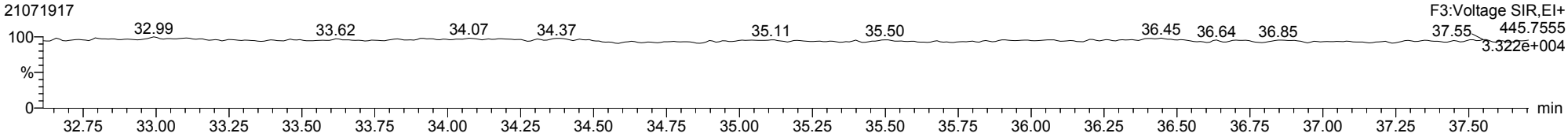

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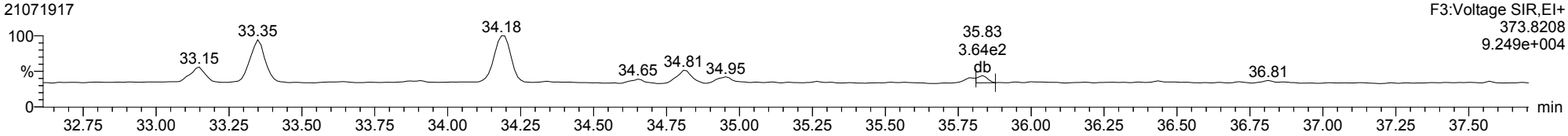

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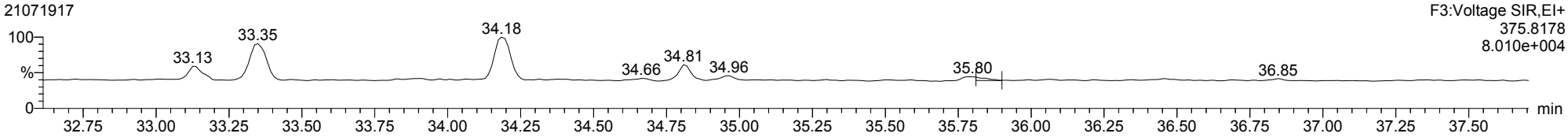

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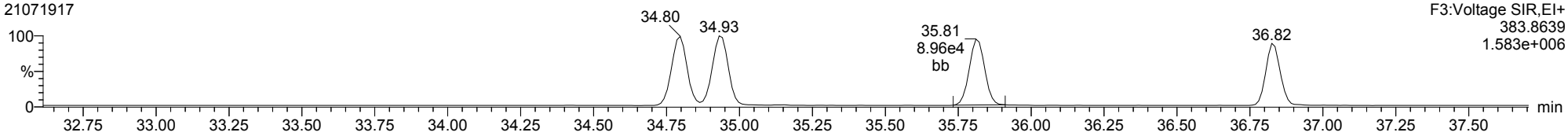

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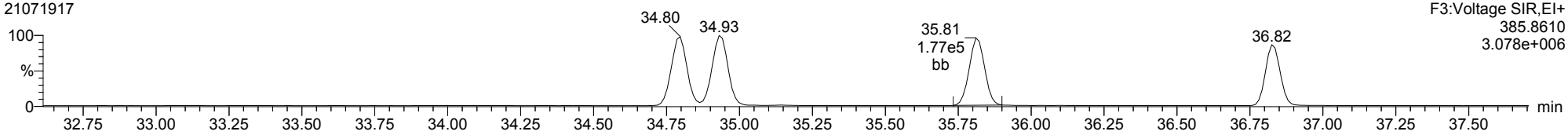

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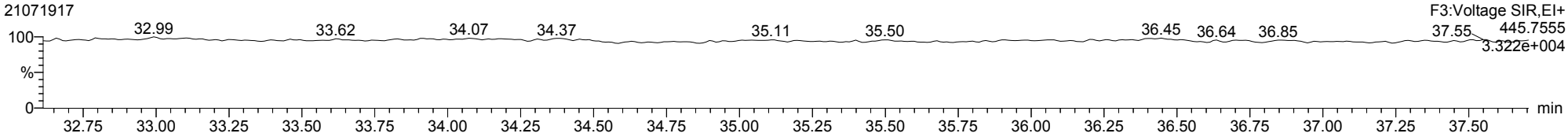

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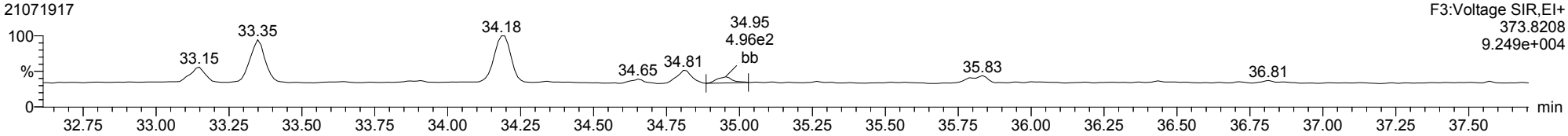

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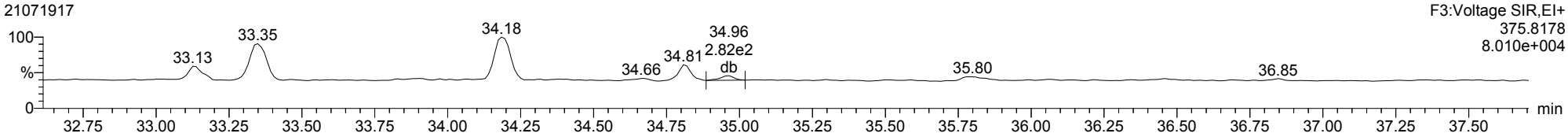

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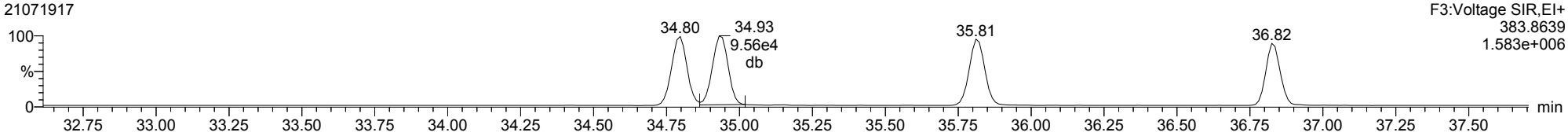

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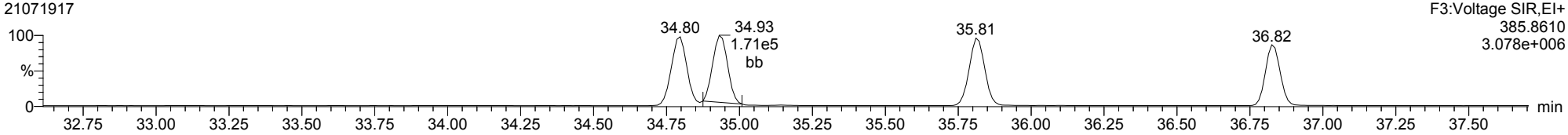

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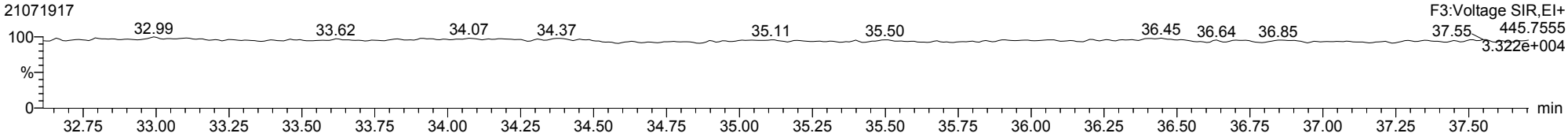

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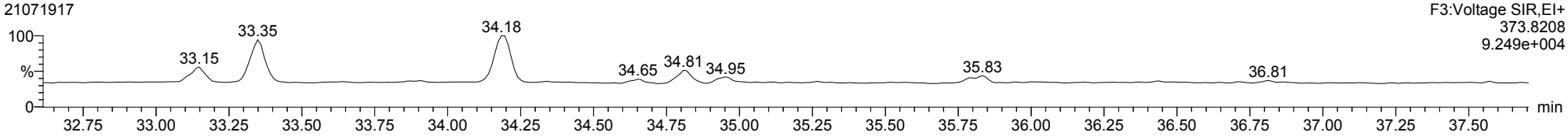

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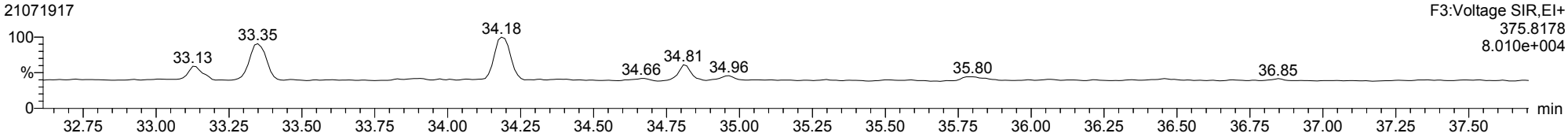

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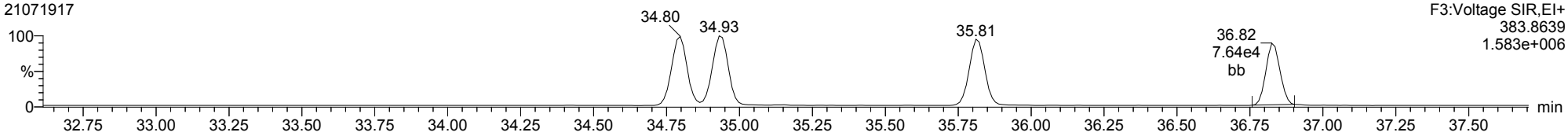

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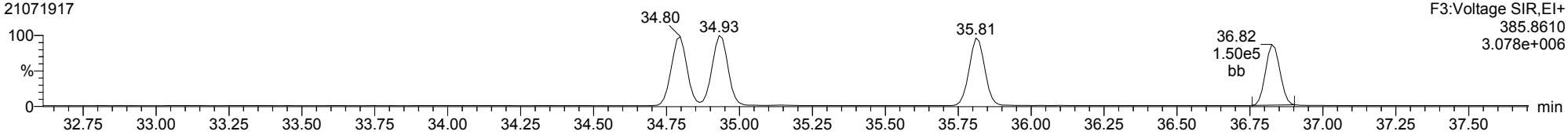

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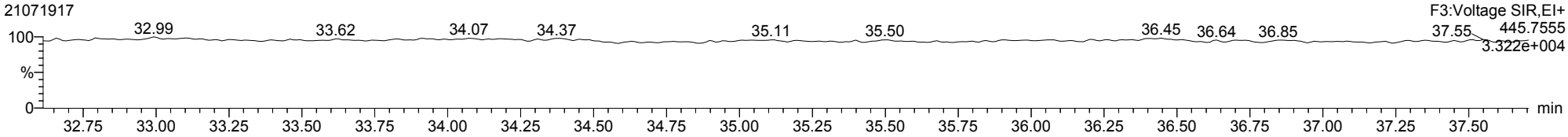

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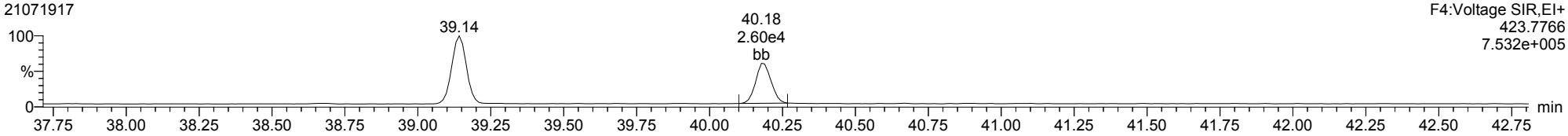

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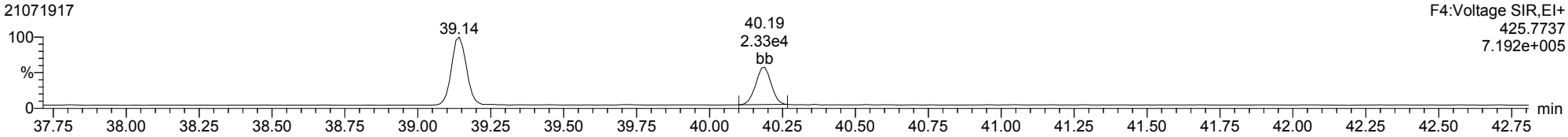

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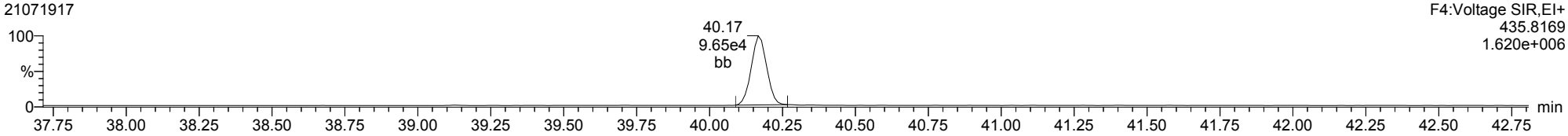

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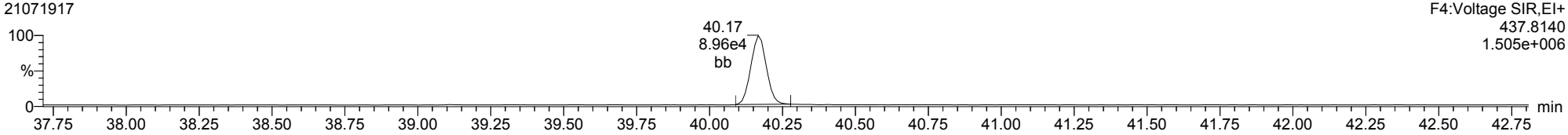
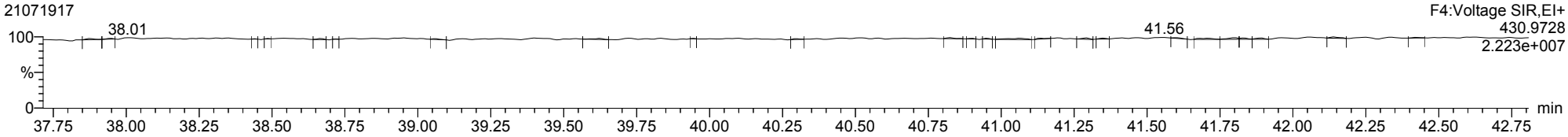


FUNCTION4 PFK



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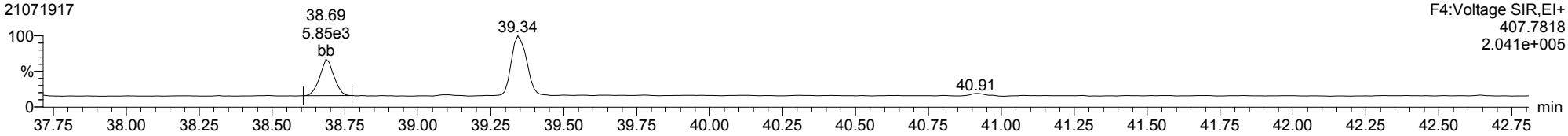

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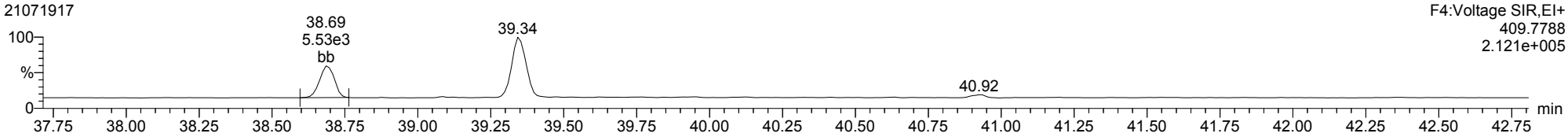

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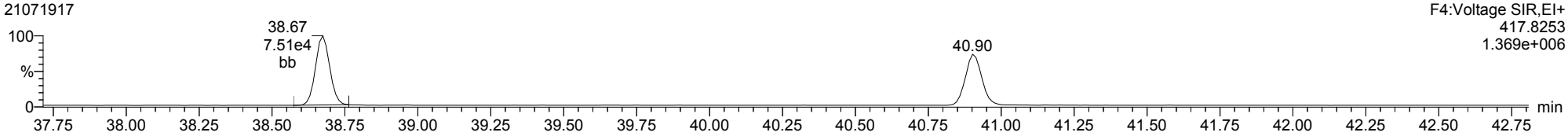

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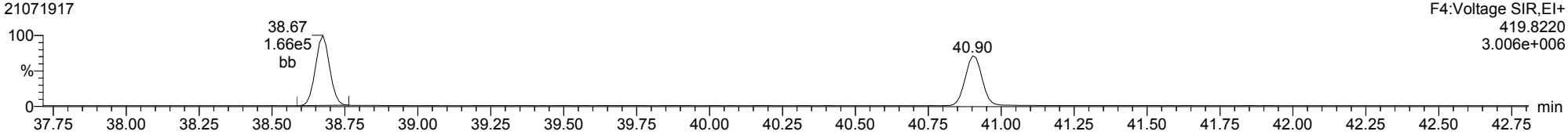

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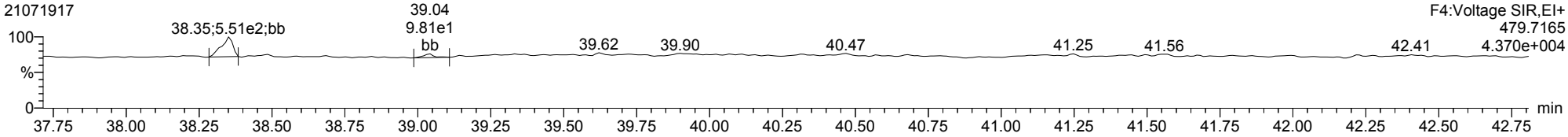

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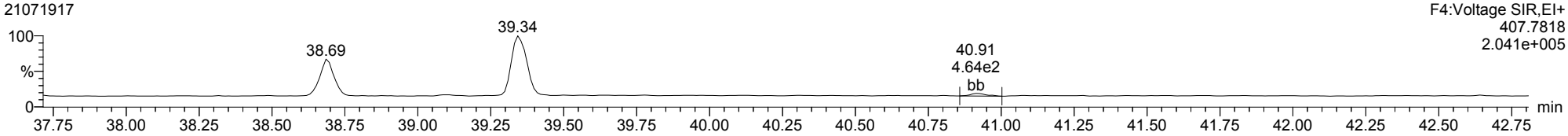

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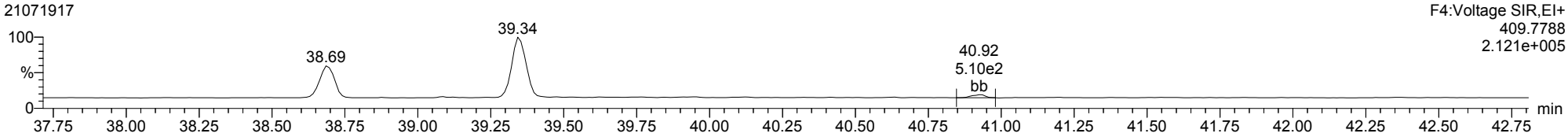

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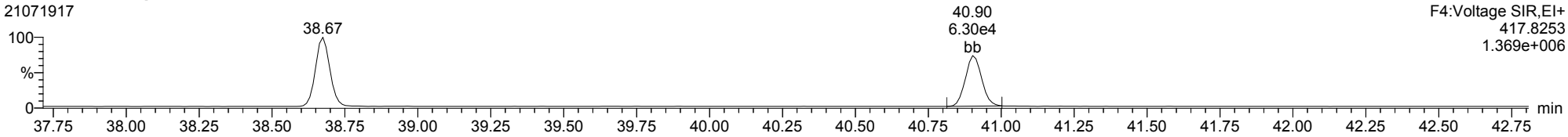

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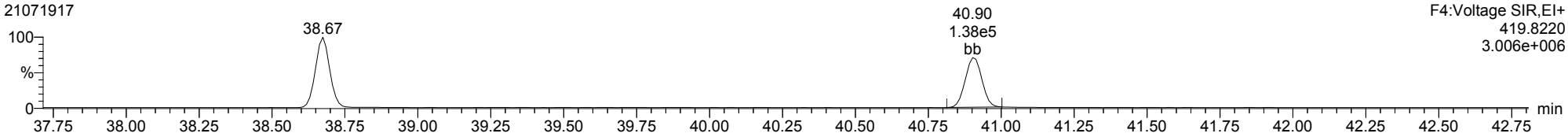

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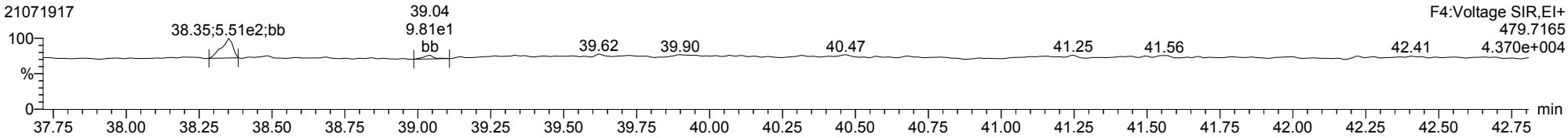

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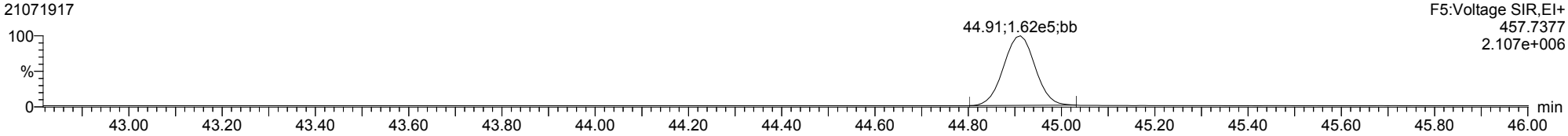
OCDD



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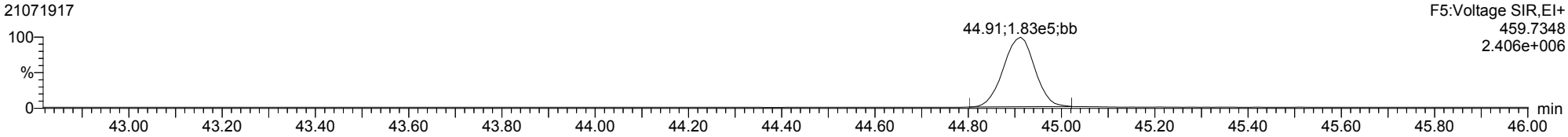

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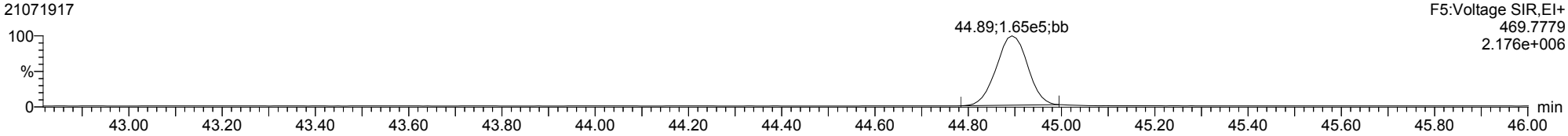

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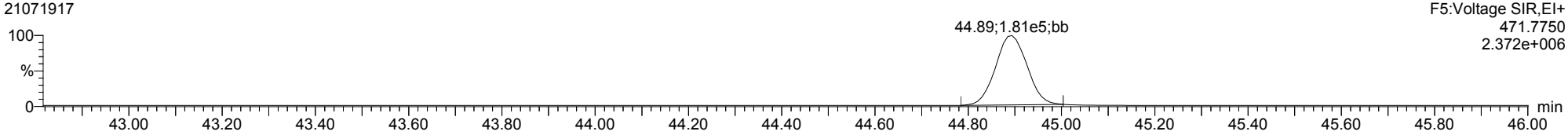

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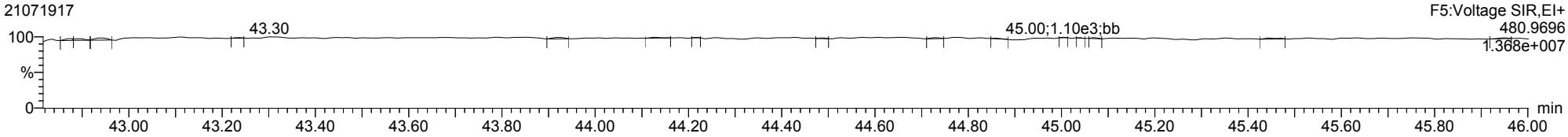

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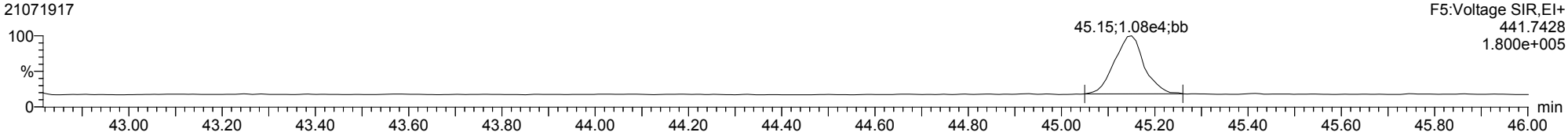

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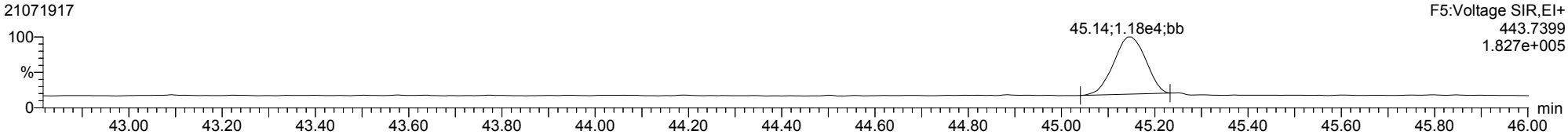
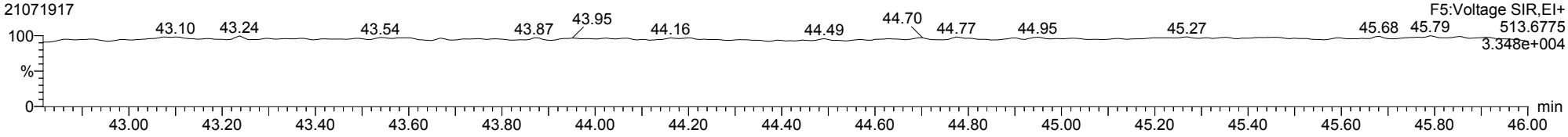
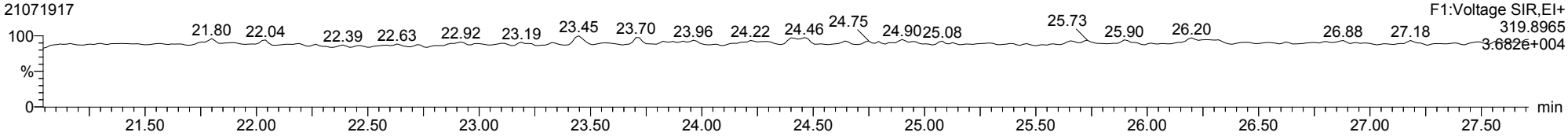


FUNCTION5 DCDPE

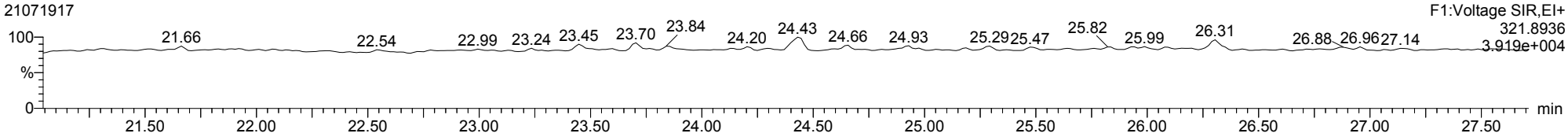


ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, Conditions: AUTOSPEC01, User: pk

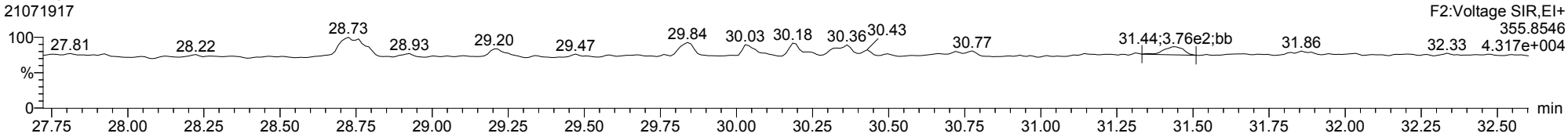
Total-tetradioxins



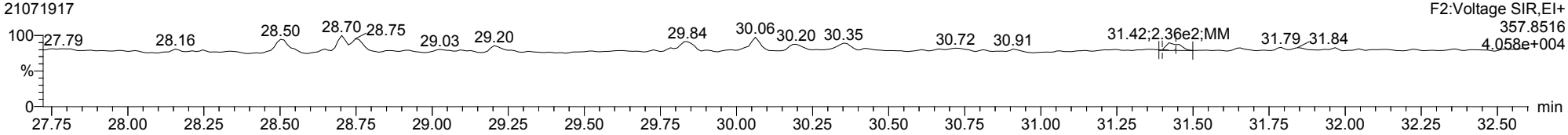
Total-tetradioxins



Total-pentadioxins

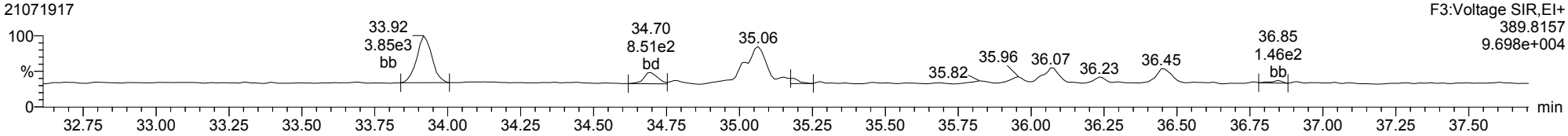


Total-pentadioxins



ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



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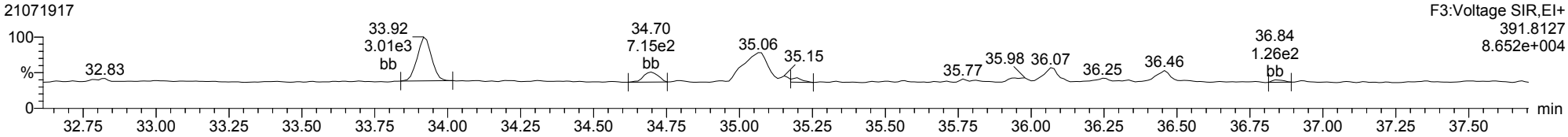

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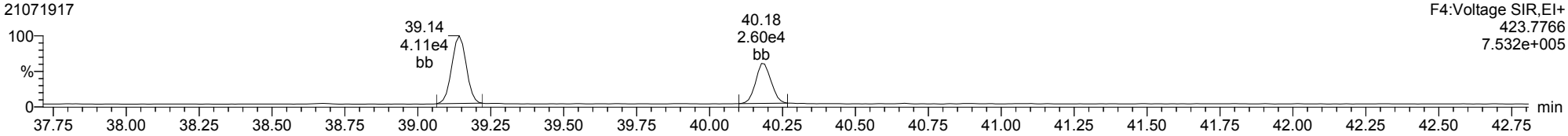
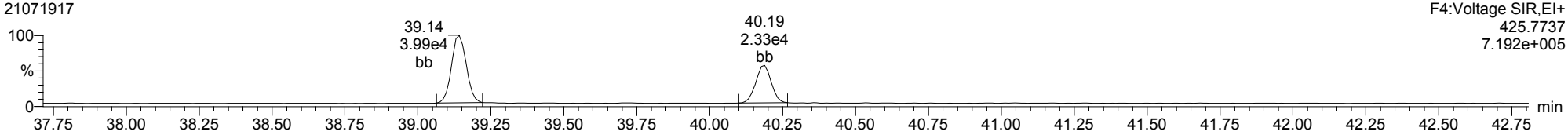
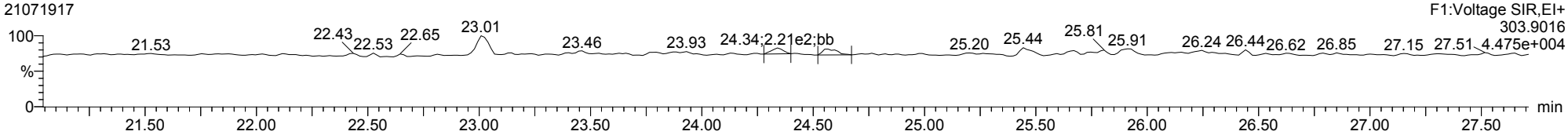


Total-heptadioxins



ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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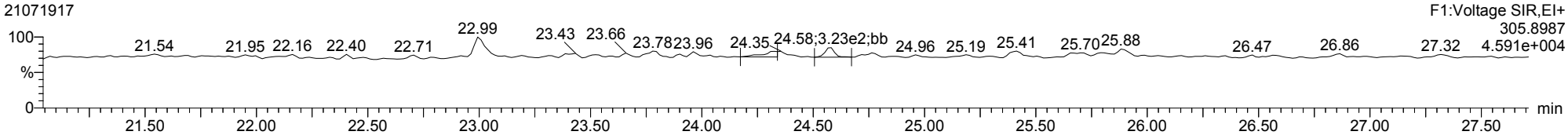
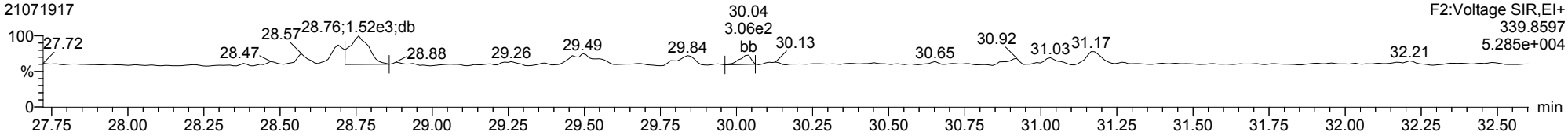
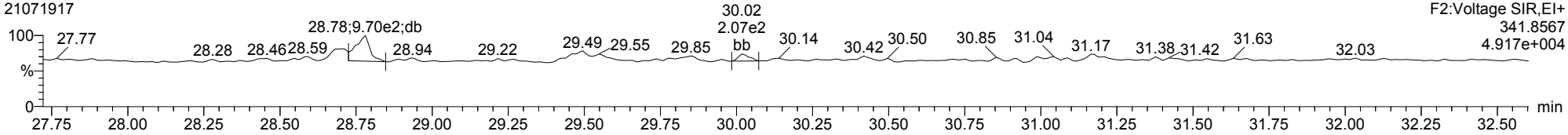


Total-pentafurans

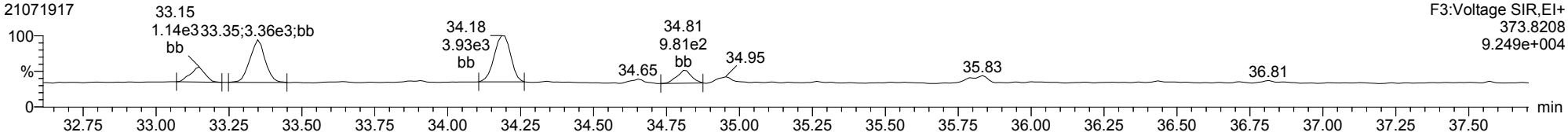


Total-pentafurans

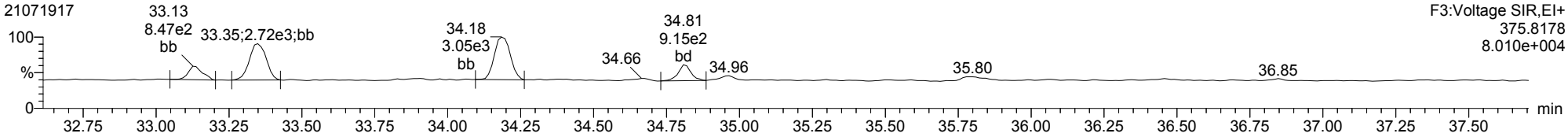


ID: 21F0442-05, Name: 21071917, Date: 19-Jul-2021, Time: 23:38:16, Conditions: AUTOSPEC01, User: pk

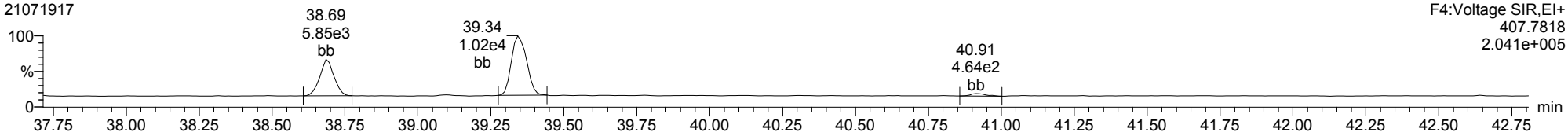
Total-hexafurans



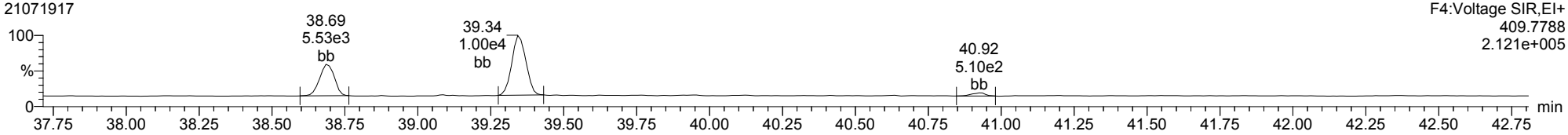
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564G

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-06 B	File ID:	21071918
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/20/21 00:27
% Solids:	61.01	Preparation:	EPA 1613	Initial/Final:	16.4 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.738	0.999	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	1.209	0.655-0.886	0.465	0.999	1.22	ng/kg	EMPC
57117-41-6	1,2,3,7,8-PeCDF	1	1.763	1.318-1.783	0.372	0.999	0.766	ng/kg	J
57117-31-4	2,3,4,7,8-PeCDF	1	3.412	1.318-1.783	0.339	0.999	0.739	ng/kg	EMPC, J
40321-76-4	1,2,3,7,8-PeCDD	1	1.562	1.318-1.783	0.483	0.999	3.22	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.288	1.054-1.426	0.311	0.999	3.42	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.987	1.054-1.426	0.325	0.999	1.59	ng/kg	EMPC
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.232	1.054-1.426	0.320	0.999	2.77	ng/kg	
72918-21-9	1,2,3,7,8,9-HxCDF	1	2.528	1.054-1.426	0.365	0.999	1.01	ng/kg	EMPC
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.235	1.054-1.426	0.564	0.999	2.09	ng/kg	
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.155	1.054-1.426	0.576	0.999	11.0	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.115	1.054-1.426	0.587	0.999	6.93	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.083	0.893-1.208	0.320	0.999	35.9	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.003	0.893-1.208	0.465	0.999	3.03	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.087	0.893-1.208	1.86	2.50	303	ng/kg	
39001-02-0	OCDF	1	0.994	0.757-1.024	0.673	2.50	90.1	ng/kg	
3268-87-9	OCDD	1	0.873	0.757-1.024	1.12	9.99	2270	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	2.75	ng/kg
41903-57-5	Total TCDD	1	0.000			0.999	3.04	ng/kg
30402-15-4	Total PeCDF	1	0.000			0.999	12.5	ng/kg
36088-22-9	Total PeCDD	1	0.000			0.999	8.15	ng/kg
55684-94-1	Total HxCDF	1	0.000			0.999	51.6	ng/kg
34465-46-8	Total HxCDD	1	0.000			0.999	86.0	ng/kg
38998-75-3	Total HpCDF	1	0.000			0.999	123	ng/kg
37871-00-4	Total HpCDD	1	0.000			0.999	596	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 11.69
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 11.73

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564G

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-06	File ID:	21071918
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/20/21 00:27
Solids Wt%:	61.01	Preparation:	EPA 1613	Initial/Final:	16.4 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.803	0.655-0.886	0.205	24.1	24 - 169 %	
13C12-2,3,7,8-TCDD		0.772	0.655-0.886	0.284	35.9	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.543	1.318-1.783	0.274	59.7	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.540	1.318-1.783	0.285	59.8	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.610	1.318-1.783	0.282	57.4	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.509	0.434-0.587	0.268	63.9	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.517	0.434-0.587	0.249	59.6	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.512	0.434-0.587	0.281	62.7	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.522	0.434-0.587	0.311	60.1	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.262	1.054-1.426	0.262	68.2	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.222	1.054-1.426	0.236	60.9	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.452	0.374-0.506	0.181	61.1	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.442	0.374-0.506	0.219	59.9	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.084	0.893-1.208	0.475	58.4	23 - 140 %	
13C12-OCDD		0.908	0.757-1.024	0.308	61.5	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.120	45.3	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:33 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, 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					0.782		0.770	1049	1098								
12378-PeCDF	29.817	1.000	5.739e2	3.256e2	0.866	1.763	1.550	1039	1202	1.05e4	6.58e3	10.1	5.5	NO	bb	bd	0.383
23478-PeCDF	31.165	1.000	7.313e2	2.143e2	0.980	3.412	1.550	1039	1202	1.18e4	4.09e3	11.4	3.4	YES	dd	bb	0.370
123478-HxCDF	34.808	1.001	2.150e3	1.669e3	1.002	1.288	1.240	872	1013	4.10e4	2.88e4	47.0	28.4	NO	bd	dd	1.711
234678-HxCDF	35.777	0.999	1.659e3	1.346e3	1.043	1.232	1.240	872	1013	1.73e4	1.52e4	19.9	15.0	NO	bb	MM	1.384
123678-HxCDF	34.942	1.001	8.471e2	8.582e2	0.961	0.987	1.240	872	1013	1.56e4	1.78e4	17.8	17.6	YES	db	db	0.793
123789-HxCDF	36.814	1.000	6.526e2	2.581e2	0.994	2.528	1.240	872	1013	1.08e4	4.53e3	12.4	4.5	YES	bb	bb	0.507
1234678-HpCDF	38.674	1.000	1.917e4	1.769e4	1.058	1.083	1.050	839	1070	3.30e5	3.13e5	392.8	292.2	NO	bb	bb	17.965
1234789-HpCDF	40.903	1.000	1.277e3	1.273e3	1.070	1.003	1.050	839	1070	2.18e4	2.03e4	26.0	18.9	NO	bb	db	1.515
OCDF	45.132	1.005	4.041e4	4.065e4	1.257	0.994	0.890	1396	1169	4.98e5	5.20e5	356.7	444.4	NO	bb	bb	45.064
2378-TCDD	26.305	1.001	5.613e2	4.643e2	1.307	1.209	0.770	1117	938	8.92e3	6.67e3	8.0	7.1	YES	bd	bd	0.613
12378-PeCDD	31.432	1.001	1.643e3	1.052e3	0.979	1.562	1.550	906	1200	2.37e4	1.60e4	26.2	13.3	NO	bb	bb	1.609
123478-HxCDD	35.944	1.001	1.168e3	9.458e2	0.956	1.235	1.240	1800	1360	1.89e4	1.73e4	10.5	12.7	NO	bd	bd	1.044
123678-HxCDD	36.056	1.001	5.883e3	5.094e3	0.953	1.155	1.240	1800	1360	9.84e4	8.25e4	54.6	60.7	NO	dd	dd	5.491
123789-HxCDD	36.435	1.011	3.573e3	3.205e3	0.927	1.115	1.240	1800	1360	5.97e4	5.45e4	33.2	40.1	NO	bb	db	3.469
1234678-HpCDD	40.178	1.001	1.269e5	1.168e5	1.055	1.087	1.050	4012	3971	2.07e6	1.89e6	515.2	476.4	NO	bb	bb	151.677
OCDD	44.894	1.000	8.152e5	9.334e5	1.074	0.873	0.890	2387	1269	1.05e7	1.18e7	4388.4	9262.7	NO	bb	bb	1137.666
13C-2378-TCDF	25.640	1.007	6.508e4	8.107e4	1.925	0.803	0.770	1774	1506	9.94e5	1.23e6	560.4	817.6	NO	bb	bb	24.114
13C-12378-PeCDF	29.806	1.170	1.644e5	1.066e5	1.442	1.543	1.550	1602	1684	2.53e6	1.69e6	1580.0	1003.1	NO	bb	bb	59.661
13C-23478-PeCDF	31.154	1.223	1.582e5	1.027e5	1.387	1.540	1.550	1602	1684	2.45e6	1.60e6	1531.2	949.7	NO	bb	bb	59.770
13C-123478-HxCDF	34.786	0.955	7.514e4	1.475e5	1.053	0.509	0.510	1404	1246	1.22e6	2.38e6	871.9	1907.2	NO	bd	bd	63.906
13C-123678-HxCDF	34.919	0.959	7.622e4	1.475e5	1.135	0.517	0.510	1404	1246	1.23e6	2.36e6	879.2	1896.8	NO	db	db	59.577
13C-234678-HxCDF	35.800	0.983	7.046e4	1.377e5	1.004	0.512	0.510	1404	1246	1.14e6	2.28e6	815.2	1826.3	NO	bb	bb	62.666
13C-123789-HxCDF	36.825	1.011	6.205e4	1.188e5	0.909	0.522	0.510	1404	1246	1.07e6	2.04e6	761.6	1638.0	NO	bb	bb	60.122
13C-1234678-HpCDF	38.663	1.061	6.034e4	1.336e5	0.960	0.452	0.440	912	719	1.05e6	2.33e6	1153.0	3245.4	NO	bb	bb	61.058
13C-1234789-HpCDF	40.903	1.123	4.820e4	1.091e5	0.794	0.442	0.440	912	719	7.05e5	1.65e6	772.9	2288.8	NO	bb	bb	59.909
13C-1234-TCDD	25.473	0.000	1.384e5	1.764e5	1.000	0.785	0.770	1749	934	2.20e6	2.79e6	1255.0	2987.8	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.032	5.579e4	7.223e4	1.133	0.772	0.770	1749	934	8.83e5	1.15e6	504.6	1230.2	NO	bb	bb	35.894
13C-12378-PeCDD	31.410	1.233	1.056e5	6.557e4	0.947	1.610	1.550	1094	1133	1.65e6	1.04e6	1507.1	914.4	NO	bb	bb	57.411
13C-123478-HxCDD	35.922	0.986	1.181e5	9.362e4	0.939	1.262	1.240	1349	954	1.96e6	1.53e6	1452.0	1603.6	NO	bd	bd	68.183
13C-123678-HxCDD	36.034	0.989	1.154e5	9.443e4	1.042	1.222	1.240	1349	954	1.90e6	1.57e6	1409.0	1643.9	NO	db	db	60.860
13C-1234678-HpCDD	40.156	1.102	7.922e4	7.305e4	0.788	1.084	1.050	1967	1542	1.27e6	1.17e6	644.5	760.2	NO	bb	bb	58.373
13C-OCDD	44.885	1.232	1.362e5	1.501e5	0.703	0.908	0.890	1325	707	1.73e6	1.88e6	1306.9	2662.6	NO	bb	bb	123.011
13C-123789-HxCDD	36.424	0.000	1.826e5	1.483e5	1.000	1.232	1.240	1349	954	3.10e6	2.50e6	2301.3	2622.1	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	7.404e4		1.298			1294		1.15e6		888.4			bb		18.124

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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					0.966		0.770	1049	1098								
1289-TCDF					0.736		0.770	1049	1098								
13468-PECDF					1.347		1.550	803	947								
12389-PECDF	32.134	1.078	9.744e1	9.586e1	0.867	1.016	1.550	1039	1202	2.89e3	2.28e3	2.8	1.9	YES	bb	db	0.082
123468-HXCDF	33.126	0.952	3.453e3	2.814e3	1.036	1.227	1.240	872	1013	4.69e4	4.01e4	53.7	39.5	NO	bb	bb	2.717
1368-TCDD	23.417	0.891	3.175e2	5.431e2	1.256	0.585	0.770	1117	938	4.54e3	6.61e3	4.1	7.0	YES	bb	bb	0.535
1289-TCDD					1.151		0.770	1117	938								
12479-PECDD	28.747	0.915	4.650e3	2.846e3	1.773	1.634	1.550	906	1200	4.79e4	3.36e4	52.9	28.0	NO	bb	bb	2.470
12389-PECDD					1.171		1.550	906	1200								
124679-HXCDD	33.906	0.944	1.562e4	1.317e4	1.034	1.186	1.240	1800	1360	2.48e5	2.15e5	137.8	157.8	NO	bb	bb	13.155
1234679-HPCDD	39.131	0.975	1.362e5	1.301e5	1.194	1.048	1.050	4012	3971	2.35e6	2.25e6	586.4	566.3	NO	bb	bb	146.449
Total-tetrafurans			7.538e2		0.828			1049		1.46e4							1.373
Total-penta1			7.088e3					803		1.07e5							4.940
Total-pentafurans			1.966e3		0.904			1039		4.00e4							1.321
Total-hexafurans			3.073e4		1.007			872		4.80e5							25.793
Total-heptafurans			6.116e4		1.064			839		1.02e6							61.659
Total-Furans			1.421e5		0.998			1049		2.16e6							140.151
Total-tetradioxins			1.055e3		1.238			1117		1.57e4							1.519
Total-pentadioxins			6.293e3		1.308			906		7.16e4							4.078
Total-hexadioxins			4.833e4		0.967			1800		6.71e5							43.042
Total-heptadioxins			2.631e5		1.125			4012		4.42e6							298.126
Total-Dioxins			1.134e6		1.141			1117		1.57e7							1484.767
Total-TEQ			1.276e6					1117		1.78e7							1624.917
FUNCTION1 PFK			1.101e6					462806		7.11e6							
FUNCTION2 PFK			3.166e4					264881		8.00e5							0.000
FUNCTION3 PFK			2.521e6					283644		5.61e6							0.000
FUNCTION4 PFK			1.617e5					288922		5.52e6							
FUNCTION5 PFK			1.540e5					143622		5.81e6							
FUNCTION1 HXCD...			1.177e3					822		2.25e4							0.000
FUNCTION1 HPCD...			1.032e3					878		2.24e4							0.000
FUNCTION2 HPCD...			5.416e2					849		1.29e4							0.000
FUNCTION3 OCDPE			3.483e2					600		8.18e3							0.000
FUNCTION4 NCDPE			5.410e2					831		1.27e4							0.000
FUNCTION5 DCDPE			0.000e0					544		0.00e0							

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Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	25.90	3.990e2	4.789e2	0.828	0.83	0.77	8.2	YES	NO	dd	dd	0.726
2	Total-tetrafurans	25.79	3.548e2	4.284e2	0.828	0.83	0.77	5.8	YES	NO	dd	bd	0.648

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.09	7.088e3	5.185e3		1.37	1.55	132.9	YES	NO	bb	bb	4.940

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	30.03	6.142e2	3.663e2	0.904	1.68	1.55	9.8	YES	NO	bb	bd	0.408
2	12378-PeCDF	29.82	5.739e2	3.256e2	0.866	1.76	1.55	10.1	YES	NO	bb	bd	0.383
3	Total-pentafurans	28.69	7.781e2	4.970e2	0.904	1.57	1.55	18.6	YES	NO	dd	bd	0.530

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	33.34	9.751e3	7.551e3	1.007	1.29	1.24	169.5	YES	NO	bb	bb	8.224
2	123468-HXCDF	33.13	3.453e3	2.814e3	1.036	1.23	1.24	53.7	YES	NO	bb	bb	2.717
3	234678-HxCDF	35.78	1.659e3	1.346e3	1.043	1.23	1.24	19.9	YES	NO	bb	MM	1.384
4	123478-HxCDF	34.81	2.150e3	1.669e3	1.002	1.29	1.24	47.0	YES	NO	bd	dd	1.711
5	Total-hexafurans	34.18	1.372e4	1.102e4	1.007	1.25	1.24	260.5	YES	NO	bb	bb	11.757

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.90	1.277e3	1.273e3	1.070	1.00	1.05	26.0	YES	NO	bb	db	1.515
2	Total-heptafurans	39.34	4.072e4	3.809e4	1.064	1.07	1.05	797.1	YES	NO	bd	bb	42.179
3	1234678-HpCDF	38.67	1.917e4	1.769e4	1.058	1.08	1.05	392.8	YES	NO	bb	bb	17.965

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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	25.90	3.990e2	4.789e2	0.828	0.83	0.77	8.2	YES	NO	dd	dd	0.726
2	Total-tetrafurans	25.79	3.548e2	4.284e2	0.828	0.83	0.77	5.8	YES	NO	dd	bd	0.648
3	Total-pentafurans	30.03	6.142e2	3.663e2	0.904	1.68	1.55	9.8	YES	NO	bb	bd	0.408
4	12378-PeCDF	29.82	5.739e2	3.256e2	0.866	1.76	1.55	10.1	YES	NO	bb	bd	0.383
5	Total-pentafurans	28.69	7.781e2	4.970e2	0.904	1.57	1.55	18.6	YES	NO	dd	bd	0.530
6	Total-hexafurans	33.34	9.751e3	7.551e3	1.007	1.29	1.24	169.5	YES	NO	bb	bb	8.224
7	123468-HXCDF	33.13	3.453e3	2.814e3	1.036	1.23	1.24	53.7	YES	NO	bb	bb	2.717
8	234678-HxCDF	35.78	1.659e3	1.346e3	1.043	1.23	1.24	19.9	YES	NO	bb	MM	1.384
9	123478-HxCDF	34.81	2.150e3	1.669e3	1.002	1.29	1.24	47.0	YES	NO	bd	dd	1.711
10	Total-hexafurans	34.18	1.372e4	1.102e4	1.007	1.25	1.24	260.5	YES	NO	bb	bb	11.757
11	1234789-HpCDF	40.90	1.277e3	1.273e3	1.070	1.00	1.05	26.0	YES	NO	bb	db	1.515
12	Total-heptafurans	39.34	4.072e4	3.809e4	1.064	1.07	1.05	797.1	YES	NO	bd	bb	42.179
13	1234678-HpCDF	38.67	1.917e4	1.769e4	1.058	1.08	1.05	392.8	YES	NO	bb	bb	17.965
14	OCDF	45.13	4.041e4	4.065e4	1.257	0.99	0.89	356.7	YES	NO	bb	bb	45.064
15	Total-penta1	27.09	7.088e3	5.185e3		1.37	1.55	132.9	YES	NO	bb	bb	4.940

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.91	6.625e2	8.163e2	1.238	0.81	0.77	9.6	YES	NO	bb	bb	0.933
2	Total-tetradioxins	23.69	3.925e2	5.360e2	1.238	0.73	0.77	4.5	YES	NO	bb	bb	0.586

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.75	4.650e3	2.846e3	1.773	1.63	1.55	52.9	YES	NO	bb	bb	2.470
2	12378-PeCDD	31.43	1.643e3	1.052e3	0.979	1.56	1.55	26.2	YES	NO	bb	bb	1.609

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	35.04	2.041e4	1.687e4	0.967	1.21	1.24	120.7	YES	NO	bd	bd	18.286
2	Total-hexadioxins	34.69	1.676e3	1.579e3	0.967	1.06	1.24	16.0	YES	NO	bb	bb	1.596
3	124679-HXCDD	33.91	1.562e4	1.317e4	1.034	1.19	1.24	137.8	YES	NO	bb	bb	13.155
4	123789-HxCDD	36.43	3.573e3	3.205e3	0.927	1.11	1.24	33.2	YES	NO	bb	db	3.469
5	123678-HxCDD	36.06	5.883e3	5.094e3	0.953	1.15	1.24	54.6	YES	NO	dd	dd	5.491
6	123478-HxCDD	35.94	1.168e3	9.458e2	0.956	1.24	1.24	10.5	YES	NO	bd	bd	1.044

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HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	1.269e5	1.168e5	1.055	1.09	1.05	515.2	YES	NO	bb	bb	151.677
2	1234679-HPCDD	39.13	1.362e5	1.301e5	1.194	1.05	1.05	586.4	YES	NO	bb	bb	146.449

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	24.91	6.625e2	8.163e2	1.238	0.81	0.77	9.6	YES	NO	bb	bb	0.933
2	Total-tetradioxins	23.69	3.925e2	5.360e2	1.238	0.73	0.77	4.5	YES	NO	bb	bb	0.586
3	Total-Dioxins	22.86	1.240e2	1.724e2	1.141	0.72	0.77	3.3	YES	NO	bd	bd	0.203
4	Total-Dioxins	21.97	8.676e1	1.065e2	1.141	0.81	0.77	2.1	NO	NO	bb	bb	0.132
5	12479-PECDD	28.75	4.650e3	2.846e3	1.773	1.63	1.55	52.9	YES	NO	bb	bb	2.470
6	Total-hexadioxins	35.04	2.041e4	1.687e4	0.967	1.21	1.24	120.7	YES	NO	bd	bd	18.286
7	Total-hexadioxins	34.69	1.676e3	1.579e3	0.967	1.06	1.24	16.0	YES	NO	bb	bb	1.596
8	124679-HXCDD	33.91	1.562e4	1.317e4	1.034	1.19	1.24	137.8	YES	NO	bb	bb	13.155
9	12378-PeCDD	31.43	1.643e3	1.052e3	0.979	1.56	1.55	26.2	YES	NO	bb	bb	1.609
10	123789-HxCDD	36.43	3.573e3	3.205e3	0.927	1.11	1.24	33.2	YES	NO	bb	db	3.469
11	123678-HxCDD	36.06	5.883e3	5.094e3	0.953	1.15	1.24	54.6	YES	NO	dd	dd	5.491
12	123478-HxCDD	35.94	1.168e3	9.458e2	0.956	1.24	1.24	10.5	YES	NO	bd	bd	1.044
13	1234678-HpCDD	40.18	1.269e5	1.168e5	1.055	1.09	1.05	515.2	YES	NO	bb	bb	151.677
14	1234679-HPCDD	39.13	1.362e5	1.301e5	1.194	1.05	1.05	586.4	YES	NO	bb	bb	146.449
15	OCDD	44.89	8.152e5	9.334e5	1.074	0.87	0.89	4388.4	YES	NO	bb	bb	1137.6...

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	25.90	3.990e2	4.789e2	0.828	0.83	0.77	8.2	YES	NO	dd	dd	0.726
2	Total-tetrafurans	25.79	3.548e2	4.284e2	0.828	0.83	0.77	5.8	YES	NO	dd	bd	0.648
3	Total-pentafurans	30.03	6.142e2	3.663e2	0.904	1.68	1.55	9.8	YES	NO	bb	bd	0.408
4	12378-PeCDF	29.82	5.739e2	3.256e2	0.866	1.76	1.55	10.1	YES	NO	bb	bd	0.383
5	Total-pentafurans	28.69	7.781e2	4.970e2	0.904	1.57	1.55	18.6	YES	NO	dd	bd	0.530
6	Total-hexafurans	33.34	9.751e3	7.551e3	1.007	1.29	1.24	169.5	YES	NO	bb	bb	8.224
7	123468-HXCDF	33.13	3.453e3	2.814e3	1.036	1.23	1.24	53.7	YES	NO	bb	bb	2.717
8	234678-HxCDF	35.78	1.659e3	1.346e3	1.043	1.23	1.24	19.9	YES	NO	bb	MM	1.384
9	123478-HxCDF	34.81	2.150e3	1.669e3	1.002	1.29	1.24	47.0	YES	NO	bd	dd	1.711
10	Total-hexafurans	34.18	1.372e4	1.102e4	1.007	1.25	1.24	260.5	YES	NO	bb	bb	11.757
11	1234789-HpCDF	40.90	1.277e3	1.273e3	1.070	1.00	1.05	26.0	YES	NO	bb	db	1.515
12	Total-heptafurans	39.34	4.072e4	3.809e4	1.064	1.07	1.05	797.1	YES	NO	bd	bb	42.179
13	1234678-HpCDF	38.67	1.917e4	1.769e4	1.058	1.08	1.05	392.8	YES	NO	bb	bb	17.965
14	OCDF	45.13	4.041e4	4.065e4	1.257	0.99	0.89	356.7	YES	NO	bb	bb	45.064
15	Total-penta1	27.09	7.088e3	5.185e3		1.37	1.55	132.9	YES	NO	bb	bb	4.940
16	Total-tetradioxins	24.91	6.625e2	8.163e2	1.238	0.81	0.77	9.6	YES	NO	bb	bb	0.933
17	Total-tetradioxins	23.69	3.925e2	5.360e2	1.238	0.73	0.77	4.5	YES	NO	bb	bb	0.586
18	Total-Dioxins	22.86	1.240e2	1.724e2	1.141	0.72	0.77	3.3	YES	NO	bd	bd	0.203
19	Total-Dioxins	21.97	8.676e1	1.065e2	1.141	0.81	0.77	2.1	NO	NO	bb	bb	0.132
20	12479-PECDD	28.75	4.650e3	2.846e3	1.773	1.63	1.55	52.9	YES	NO	bb	bb	2.470
21	Total-hexadioxins	35.04	2.041e4	1.687e4	0.967	1.21	1.24	120.7	YES	NO	bd	bd	18.286
22	Total-hexadioxins	34.69	1.676e3	1.579e3	0.967	1.06	1.24	16.0	YES	NO	bb	bb	1.596
23	124679-HXCDD	33.91	1.562e4	1.317e4	1.034	1.19	1.24	137.8	YES	NO	bb	bb	13.155
24	12378-PeCDD	31.43	1.643e3	1.052e3	0.979	1.56	1.55	26.2	YES	NO	bb	bb	1.609
25	123789-HxCDD	36.43	3.573e3	3.205e3	0.927	1.11	1.24	33.2	YES	NO	bb	db	3.469
26	123678-HxCDD	36.06	5.883e3	5.094e3	0.953	1.15	1.24	54.6	YES	NO	dd	dd	5.491
27	123478-HxCDD	35.94	1.168e3	9.458e2	0.956	1.24	1.24	10.5	YES	NO	bd	bd	1.044
28	1234678-HpCDD	40.18	1.269e5	1.168e5	1.055	1.09	1.05	515.2	YES	NO	bb	bb	151.677
29	1234679-HPCDD	39.13	1.362e5	1.301e5	1.194	1.05	1.05	586.4	YES	NO	bb	bb	146.449
30	OCDD	44.89	8.152e5	9.334e5	1.074	0.87	0.89	4388.4	YES	NO	bb	bb	1137.6...

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	26.24	1.453e4					1.1	NO		bb		
2	FUNCTION1 PFK	25.34	5.333e4					2.2	NO		bb		
3	FUNCTION1 PFK	24.70	2.306e4					1.4	NO		bb		
4	FUNCTION1 PFK	22.96	8.585e5					5.5	YES		db		
5	FUNCTION1 PFK	22.57	6.627e4					2.4	NO		bd		
6	FUNCTION1 PFK	21.89	8.562e4					2.9	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.25	3.166e4					3.0	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	37.20	1.035e6					4.4	YES		bb		0.000
2	FUNCTION3 PFK	36.51	5.448e5					4.0	YES		bb		0.000
3	FUNCTION3 PFK	33.16	5.910e5					6.5	YES		bb		0.000
4	FUNCTION3 PFK	32.77	3.508e5					4.9	YES		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.61	1.764e3					0.5	NO		bb		
2	FUNCTION4 PFK	39.69	1.079e4					1.1	NO		bb		
3	FUNCTION4 PFK	39.63	3.969e3					0.7	NO		bb		
4	FUNCTION4 PFK	39.59	2.906e3					0.5	NO		bb		
5	FUNCTION4 PFK	39.43	8.482e3					1.0	NO		bb		
6	FUNCTION4 PFK	39.32	4.915e3					0.8	NO		bb		
7	FUNCTION4 PFK	38.99	5.053e3					0.7	NO		db		
8	FUNCTION4 PFK	38.94	8.142e3					1.0	NO		bd		
9	FUNCTION4 PFK	38.83	9.310e3					1.4	NO		bb		
10	FUNCTION4 PFK	38.74	9.141e3					0.8	NO		bb		
11	FUNCTION4 PFK	38.42	1.445e4					1.5	NO		bb		
12	FUNCTION4 PFK	38.23	1.301e3					0.4	NO		bb		
13	FUNCTION4 PFK	38.20	1.155e3					0.4	NO		bb		
14	FUNCTION4 PFK	37.94	4.500e4					2.2	NO		bb		
15	FUNCTION4 PFK	37.87	8.701e3					1.1	NO		db		
16	FUNCTION4 PFK	37.83	7.322e3					1.0	NO		bd		
17	FUNCTION4 PFK	42.22	1.908e3					0.6	NO		bb		
18	FUNCTION4 PFK	42.11	2.962e3					0.6	NO		bb		
19	FUNCTION4 PFK	41.92	1.115e3					0.3	NO		bb		
20	FUNCTION4 PFK	41.29	6.639e3					1.0	NO		bb		
21	FUNCTION4 PFK	40.97	3.220e3					0.6	NO		bb		
22	FUNCTION4 PFK	40.66	3.495e3					0.7	NO		bb		

ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, 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	43.40	9.546e3					1.3	NO		db		
2	FUNCTION5 PFK	43.36	5.279e3					1.1	NO		bd		
3	FUNCTION5 PFK	43.22	3.141e3					0.9	NO		bb		
4	FUNCTION5 PFK	43.17	6.893e3					1.4	NO		db		
5	FUNCTION5 PFK	43.14	7.466e3					1.8	NO		dd		
6	FUNCTION5 PFK	43.06	4.831e3					1.2	NO		dd		
7	FUNCTION5 PFK	43.02	4.339e3					1.2	NO		dd		
8	FUNCTION5 PFK	42.99	8.720e2					0.5	NO		bd		
9	FUNCTION5 PFK	42.94	5.683e3					1.3	NO		bb		
10	FUNCTION5 PFK	44.66	2.531e3					1.0	NO		dd		
11	FUNCTION5 PFK	44.61	4.677e3					1.3	NO		bd		
12	FUNCTION5 PFK	44.46	1.801e3					0.8	NO		bb		
13	FUNCTION5 PFK	44.33	7.616e3					1.8	NO		bb		
14	FUNCTION5 PFK	44.13	4.798e3					1.5	NO		db		
15	FUNCTION5 PFK	44.10	3.729e3					1.2	NO		dd		
16	FUNCTION5 PFK	44.07	2.395e3					0.9	NO		dd		
17	FUNCTION5 PFK	44.02	6.528e3					1.5	NO		dd		
18	FUNCTION5 PFK	43.98	5.252e3					1.6	NO		bd		
19	FUNCTION5 PFK	43.91	6.440e3					2.1	NO		db		
20	FUNCTION5 PFK	43.88	3.059e3					1.0	NO		bd		
21	FUNCTION5 PFK	43.68	3.433e3					1.0	NO		bb		
22	FUNCTION5 PFK	43.61	4.521e3					1.5	NO		db		
23	FUNCTION5 PFK	43.57	3.849e3					1.0	NO		bd		
24	FUNCTION5 PFK	43.49	2.095e3					1.0	NO		db		
25	FUNCTION5 PFK	43.47	1.548e3					0.9	NO		bd		
26	FUNCTION5 PFK	45.96	3.516e3					0.8	NO		bb		
27	FUNCTION5 PFK	45.82	8.224e2					0.6	NO		bb		
28	FUNCTION5 PFK	45.50	7.162e2					0.5	NO		bb		
29	FUNCTION5 PFK	45.43	3.477e3					1.0	NO		db		
30	FUNCTION5 PFK	45.40	5.527e3					1.2	NO		dd		
31	FUNCTION5 PFK	45.32	8.723e3					1.2	NO		bd		
32	FUNCTION5 PFK	45.21	4.118e3					1.4	NO		bb		
33	FUNCTION5 PFK	45.13	6.374e3					1.0	NO		bb		
34	FUNCTION5 PFK	44.98	3.723e3					1.0	NO		bb		
35	FUNCTION5 PFK	44.68	4.691e3					1.2	NO		db		

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Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:33 Pacific Daylight Time

ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, 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...	23.72	2.688e2					5.4	YES		bb		0.000
2	FUNCTION1 HXCD...	22.92	1.534e2					2.9	NO		bb		0.000
3	FUNCTION1 HXCD...	22.06	1.433e2					5.4	YES		bb		0.000
4	FUNCTION1 HXCD...	21.68	8.207e1					1.8	NO		bb		0.000
5	FUNCTION1 HXCD...	21.12	1.931e2					3.7	YES		bb		0.000
6	FUNCTION1 HXCD...	25.70	1.613e2					4.5	YES		bb		0.000
7	FUNCTION1 HXCD...	25.07	1.011e2					2.2	NO		bb		0.000
8	FUNCTION1 HXCD...	24.82	7.387e1					1.5	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...	26.29	1.125e2					3.1	YES		bb		0.000
2	FUNCTION1 HPCD...	25.87	8.331e1					3.0	NO		bb		0.000
3	FUNCTION1 HPCD...	23.33	1.359e2					3.9	YES		db		0.000
4	FUNCTION1 HPCD...	23.27	4.038e2					8.5	YES		bd		0.000
5	FUNCTION1 HPCD...	22.90	2.240e2					4.3	YES		bb		0.000
6	FUNCTION1 HPCD...	21.41	7.267e1					2.8	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...	30.83	7.027e1					1.7	NO		bb		0.000
2	FUNCTION2 HPCD...	29.27	1.493e2					4.7	YES		bb		0.000
3	FUNCTION2 HPCD...	29.08	8.483e1					2.9	NO		db		0.000
4	FUNCTION2 HPCD...	29.00	8.711e1					2.4	NO		bd		0.000
5	FUNCTION2 HPCD...	28.77	7.566e1					1.2	NO		bb		0.000
6	FUNCTION2 HPCD...	31.18	7.441e1					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	36.42	1.289e2					3.9	YES		bb		0.000
2	FUNCTION3 OCDPE	34.13	8.878e1					4.5	YES		bb		0.000
3	FUNCTION3 OCDPE	33.04	1.306e2					5.2	YES		bb		0.000

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ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, 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	40.89	7.992e1					3.1	YES		db		0.000
2	FUNCTION4 NCDPE	40.86	9.642e1					2.9	NO		bd		0.000
3	FUNCTION4 NCDPE	38.34	3.647e2					9.2	YES		bb		0.000

ETHERS6

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

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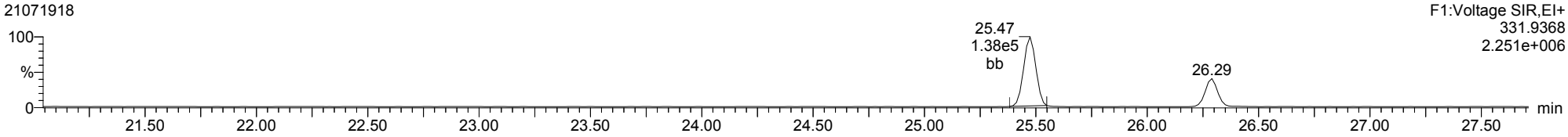

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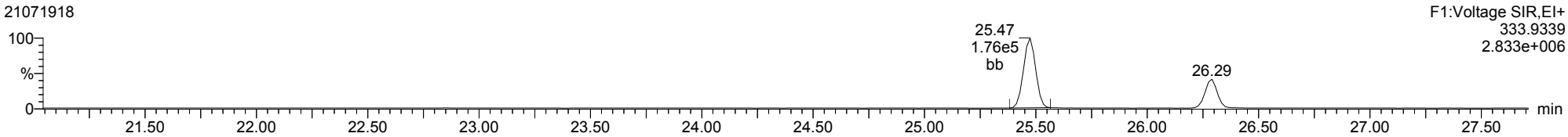

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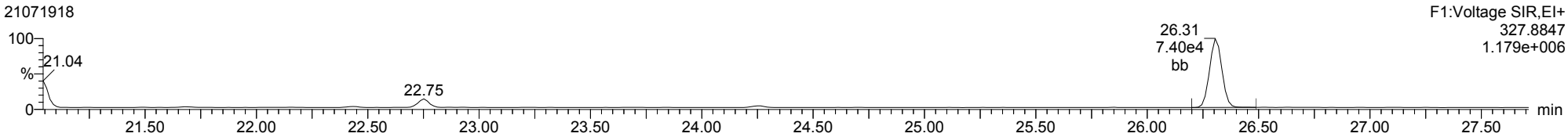

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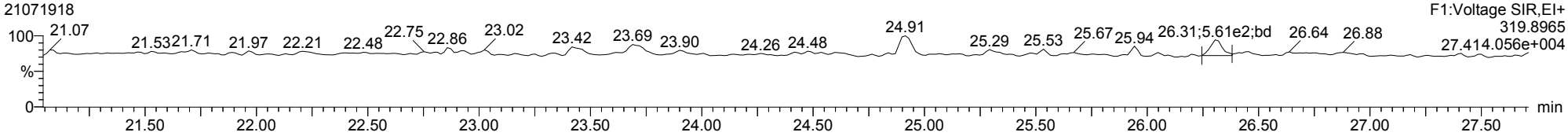

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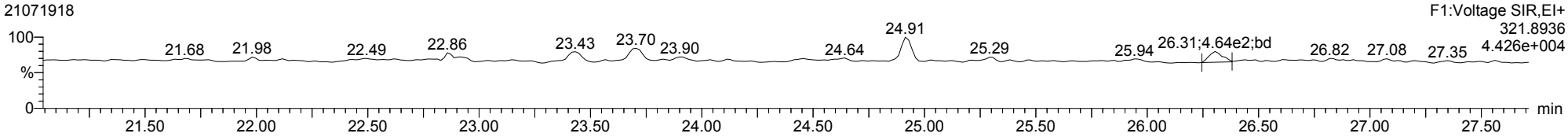

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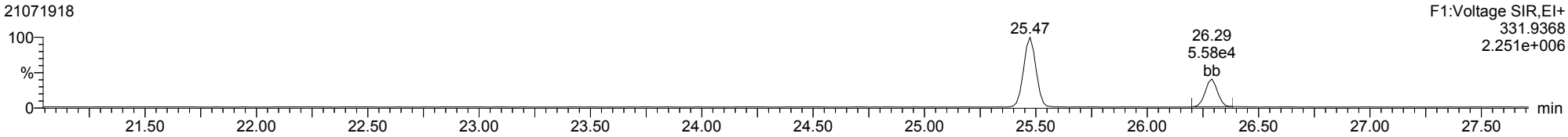

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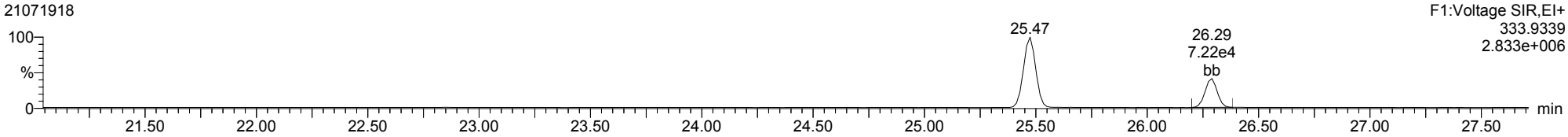

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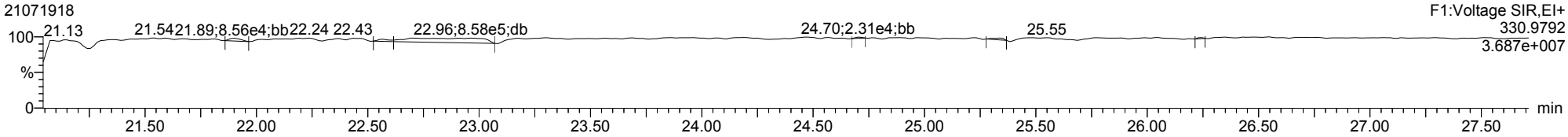

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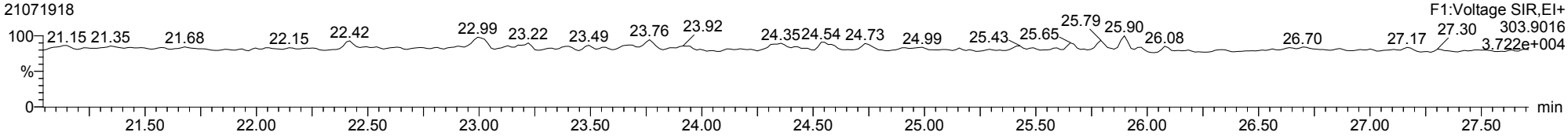

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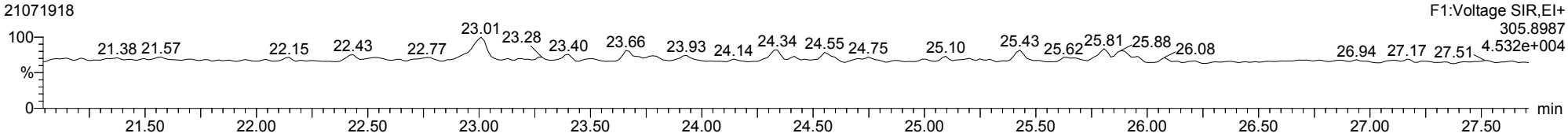

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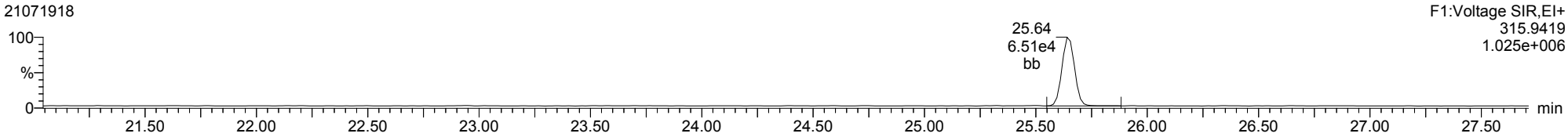

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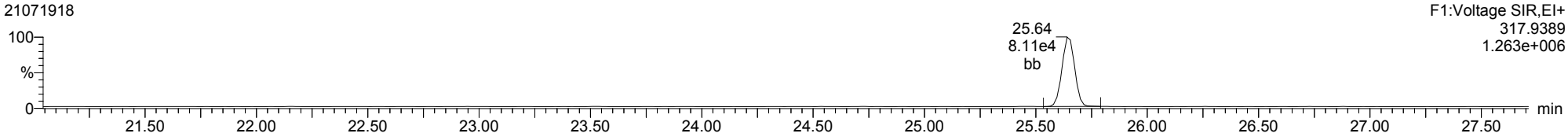

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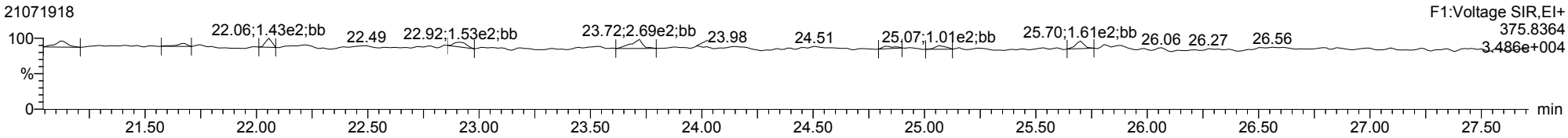

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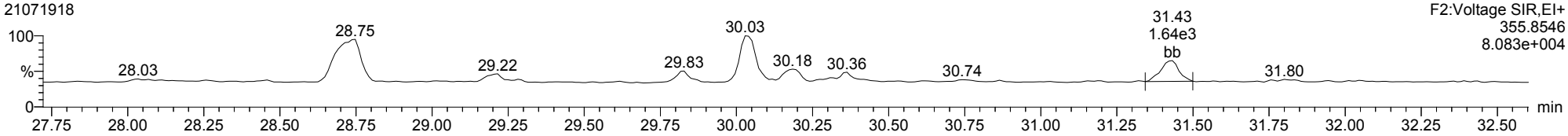

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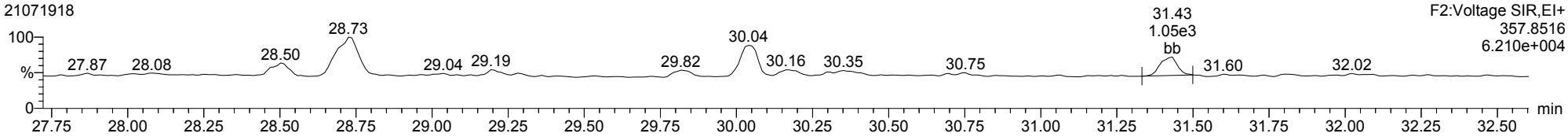

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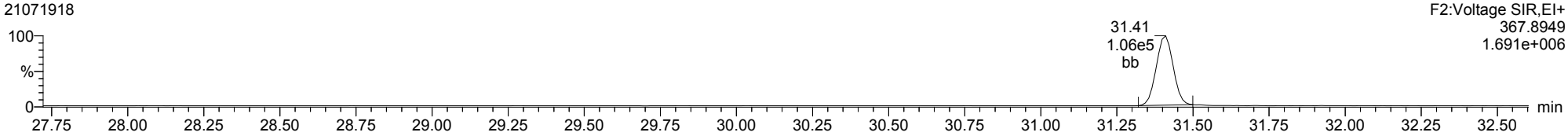

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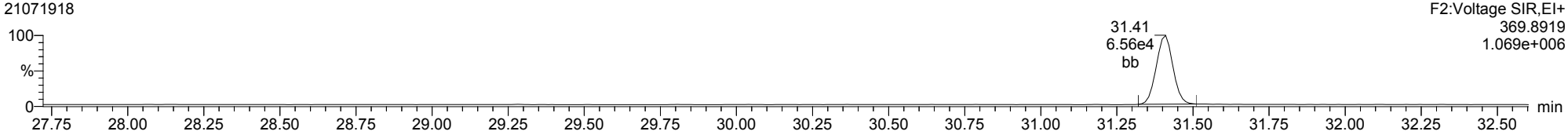
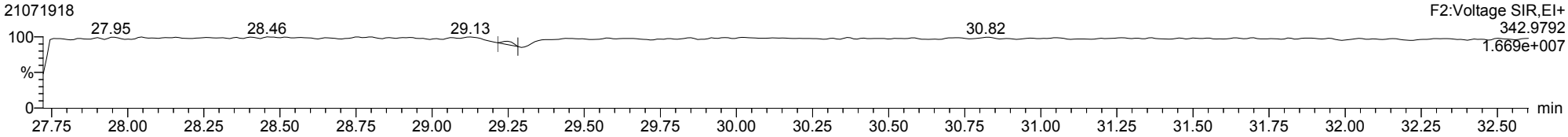


FUNCTION2 PFK



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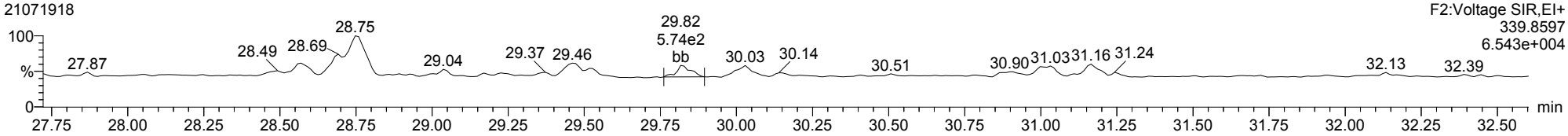
12378-PeCDF



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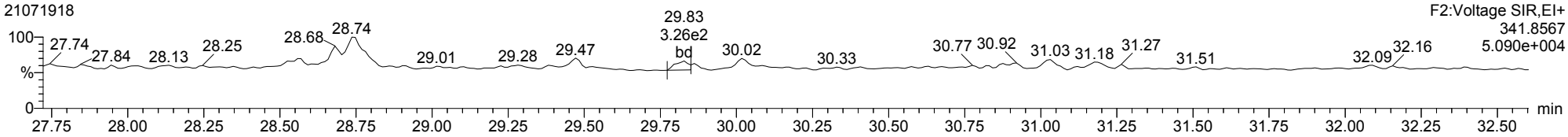

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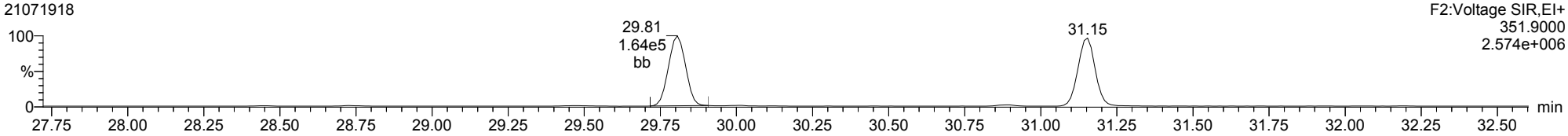

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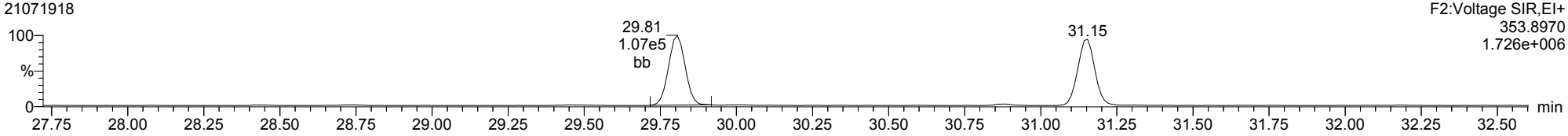
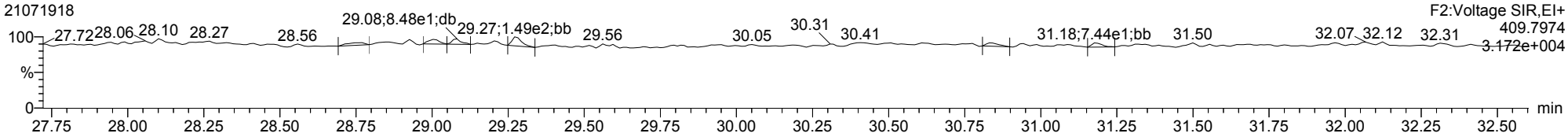


FUNCTION2 HPCDPE



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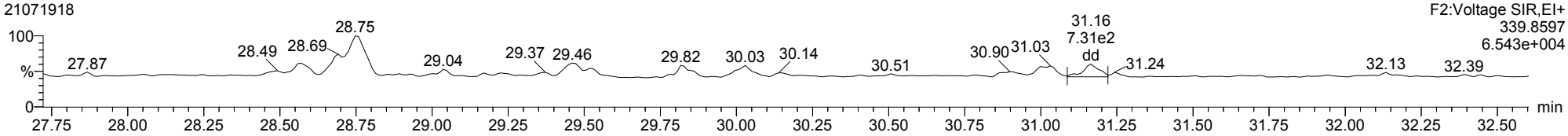
23478-PeCDF



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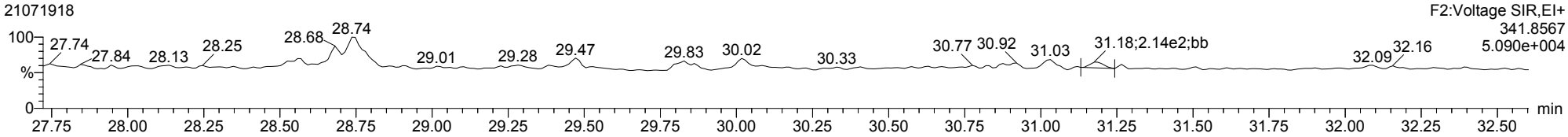

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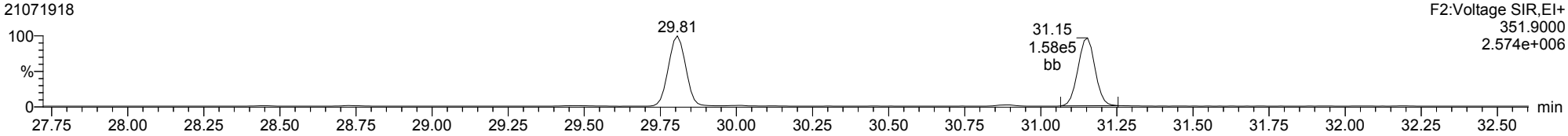

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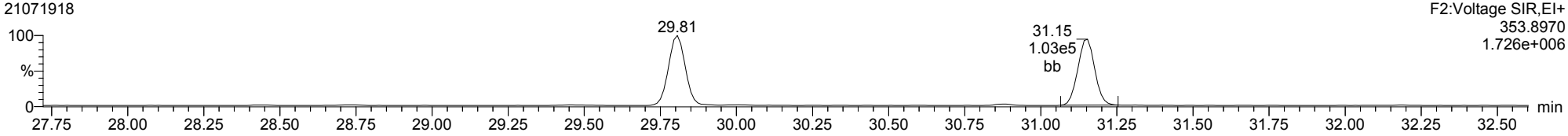
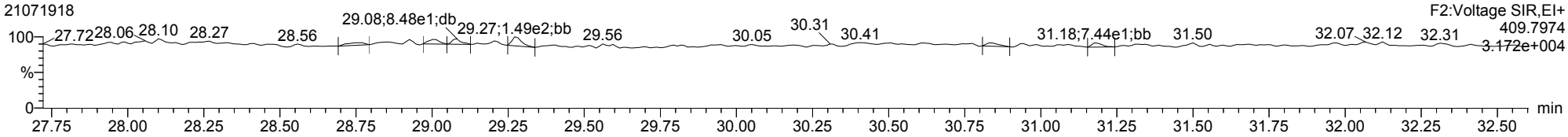


FUNCTION2 HPCDPE



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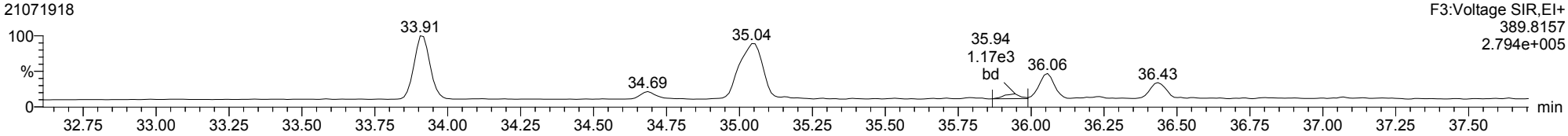

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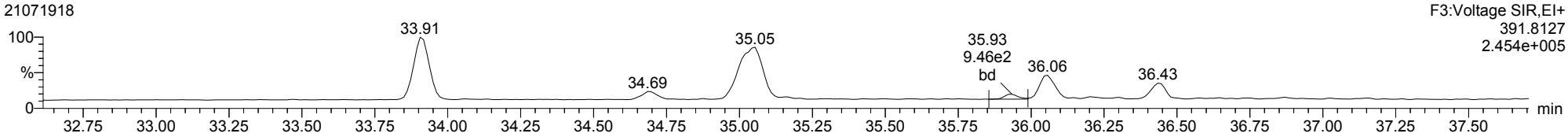

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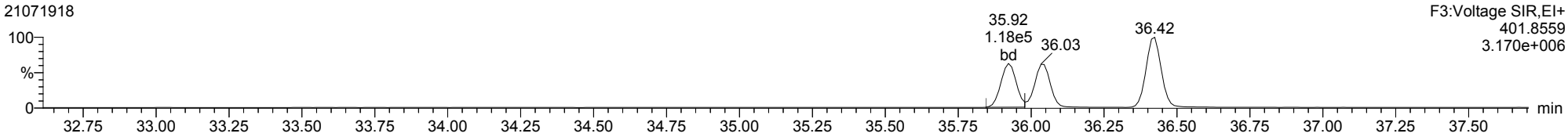

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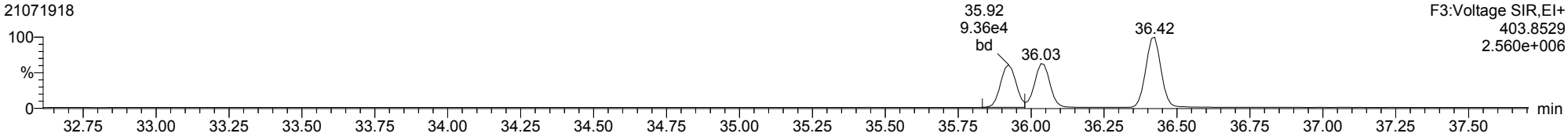

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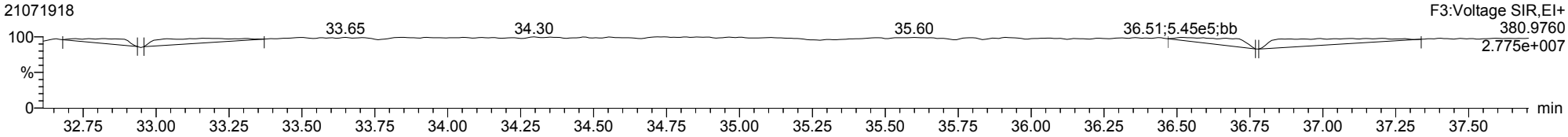

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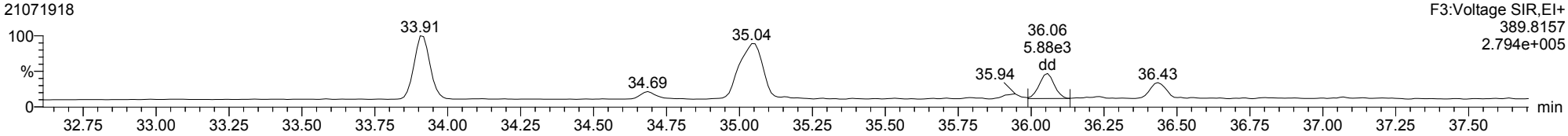

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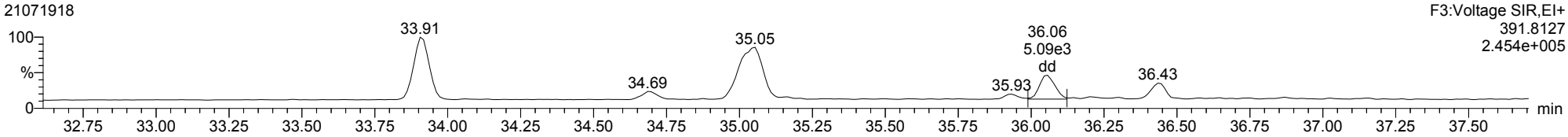

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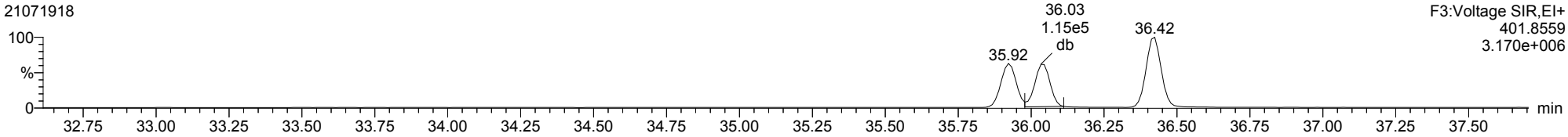

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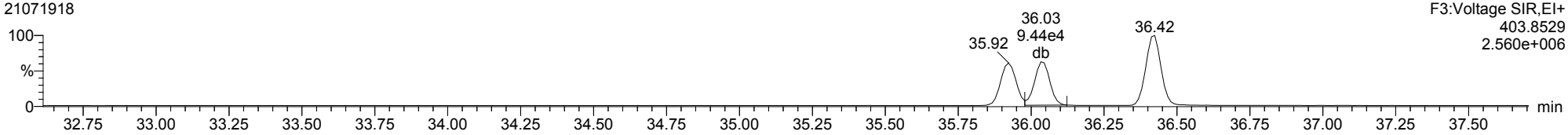

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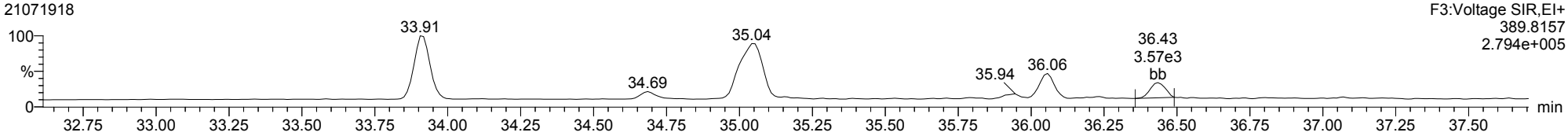

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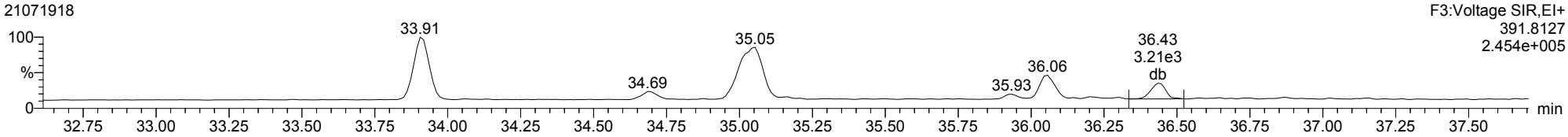

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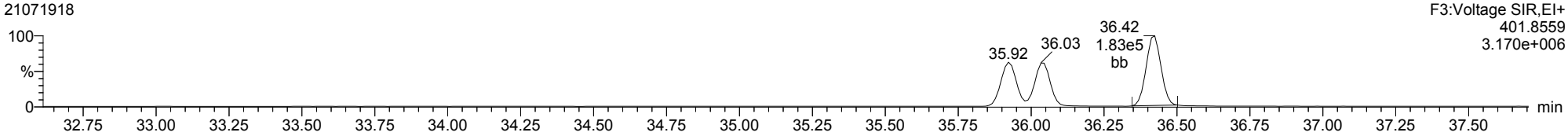

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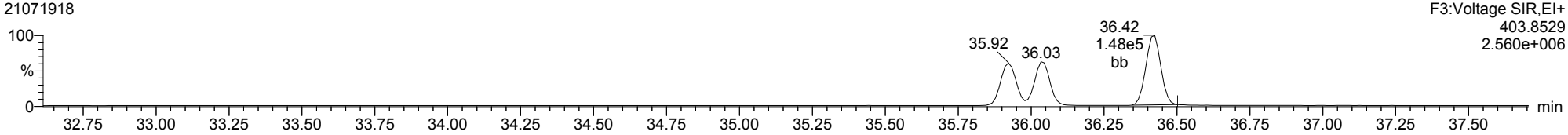

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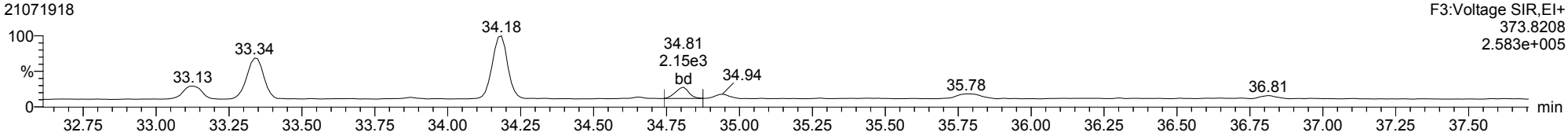

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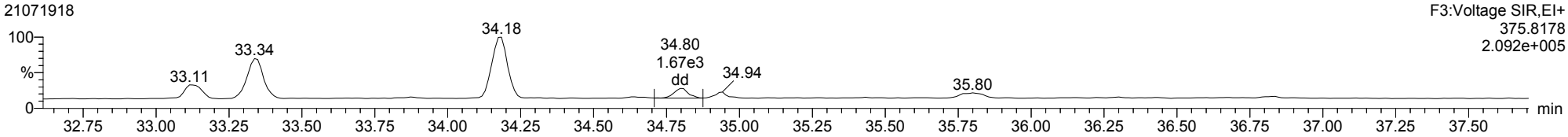

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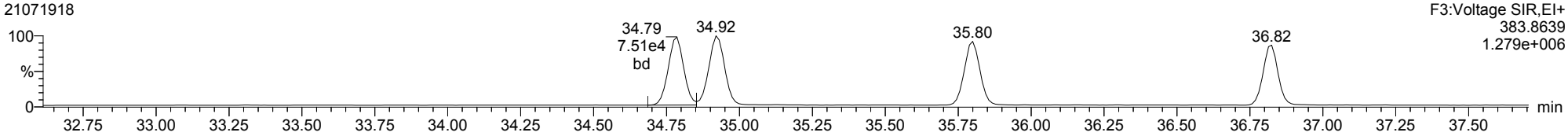

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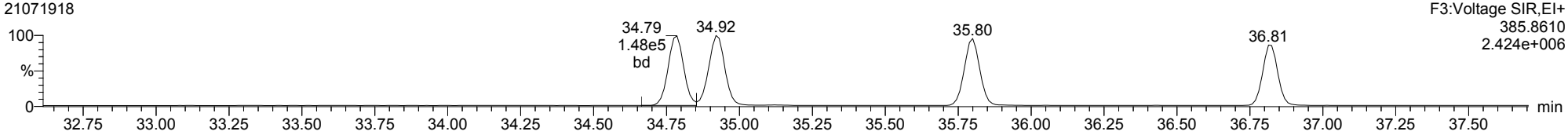

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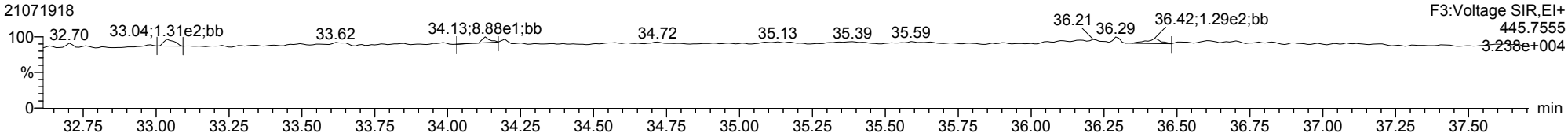

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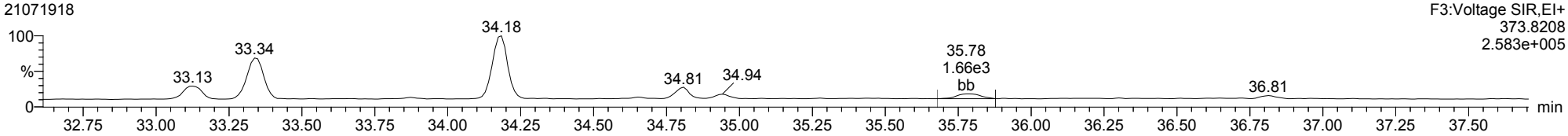

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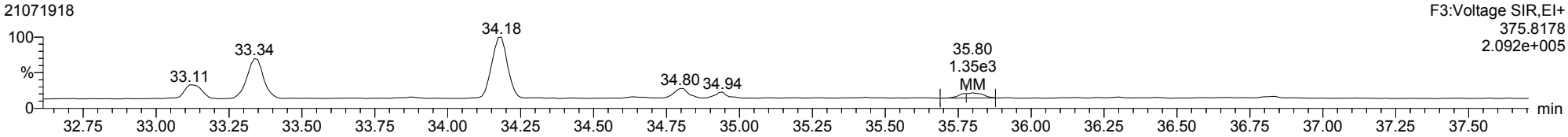

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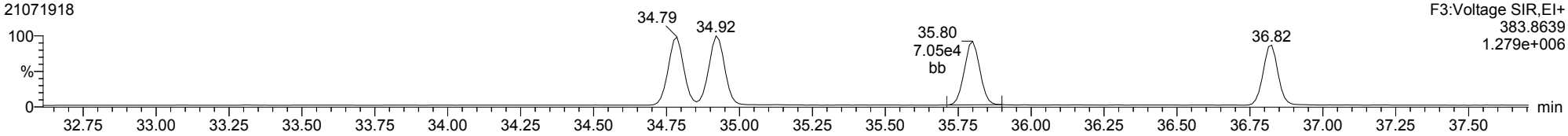

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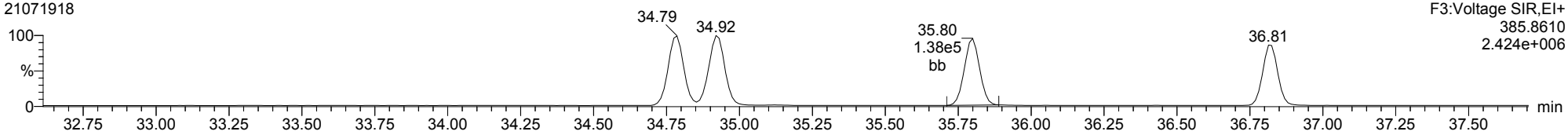

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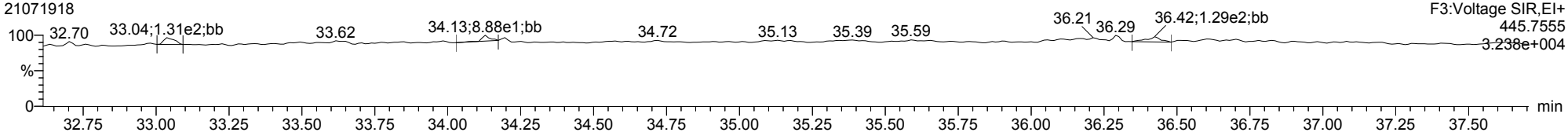

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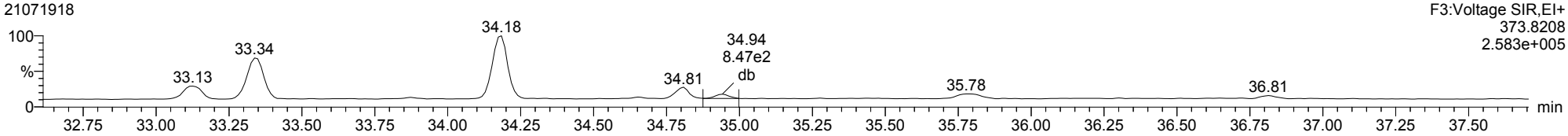

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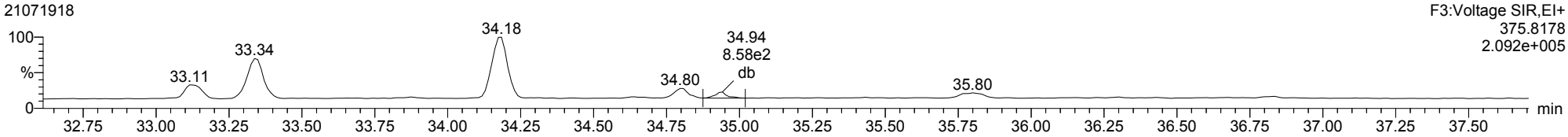

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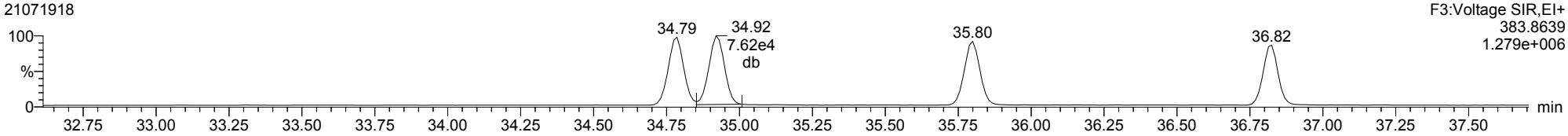

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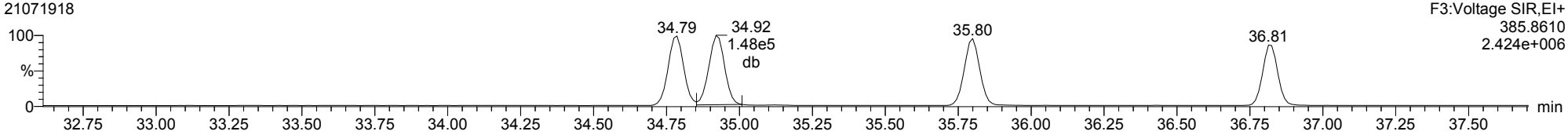

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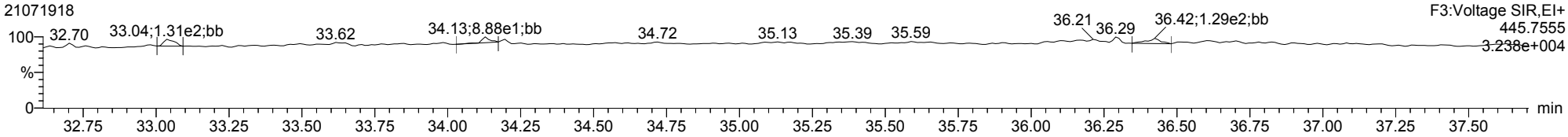

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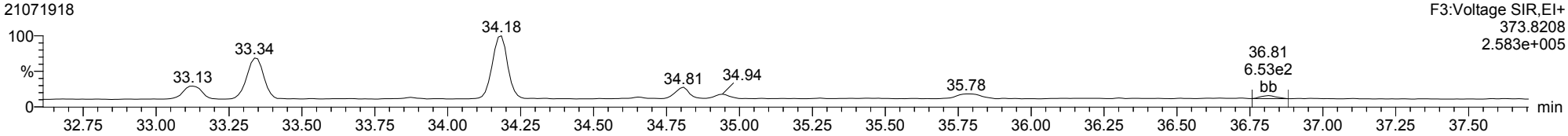

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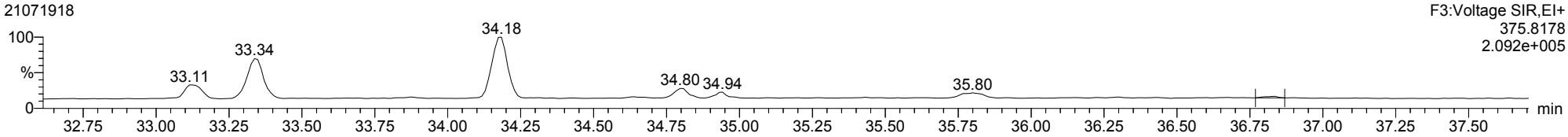

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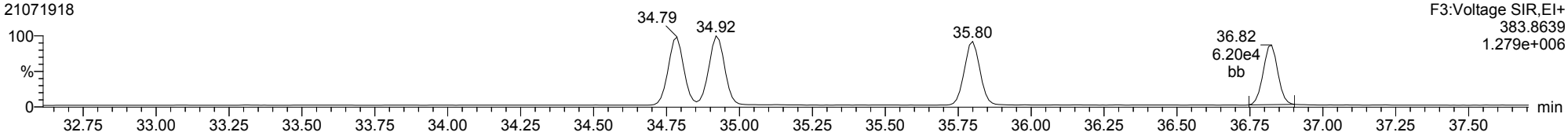

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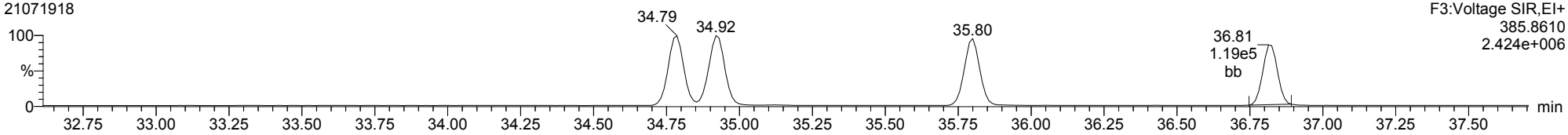
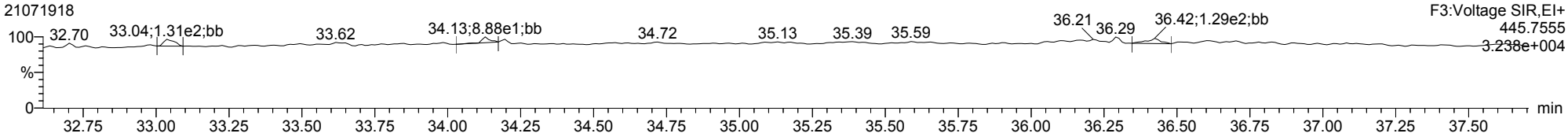


FUNCTION3 OCDPE



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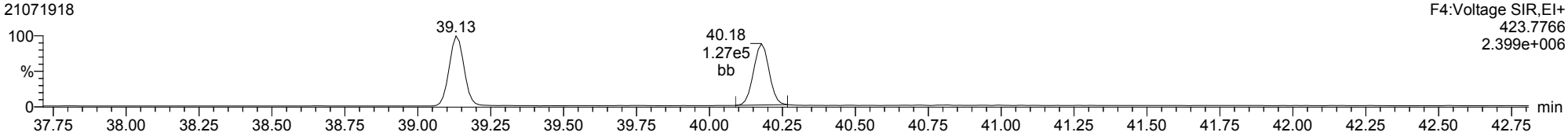

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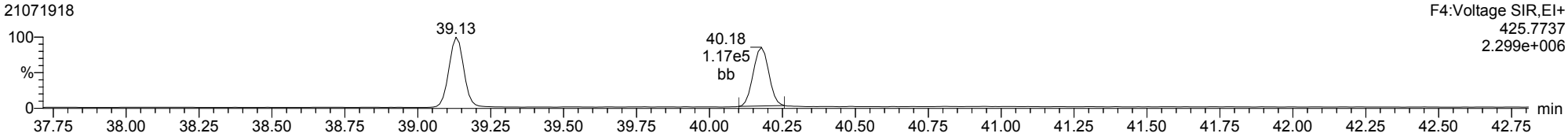

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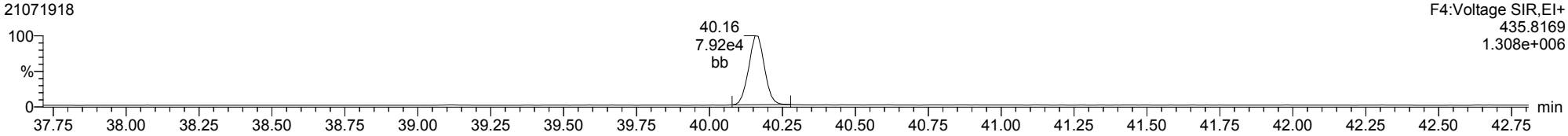

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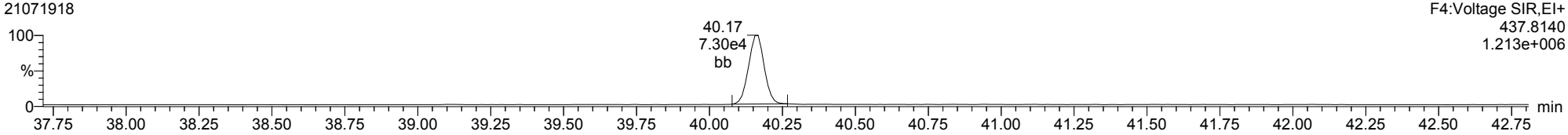
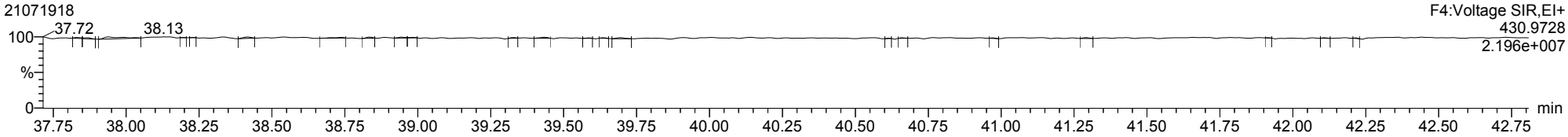


FUNCTION4 PFK



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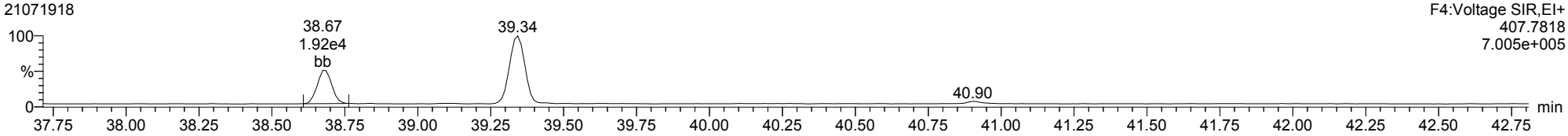

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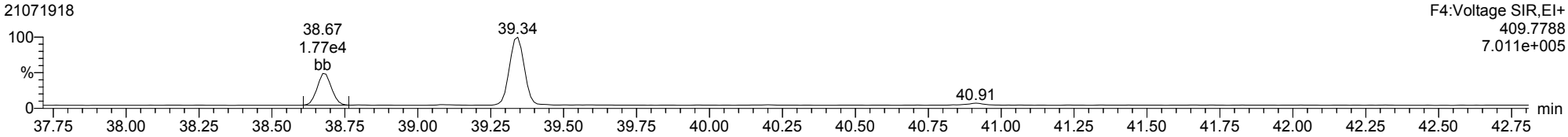

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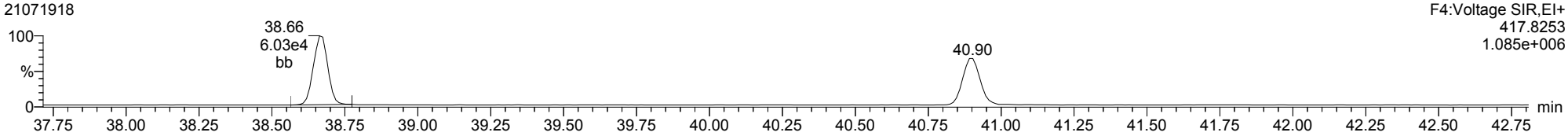

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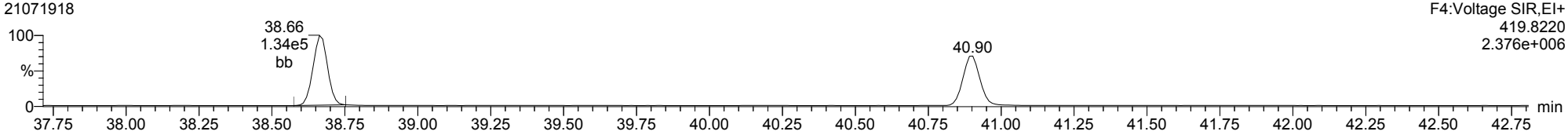
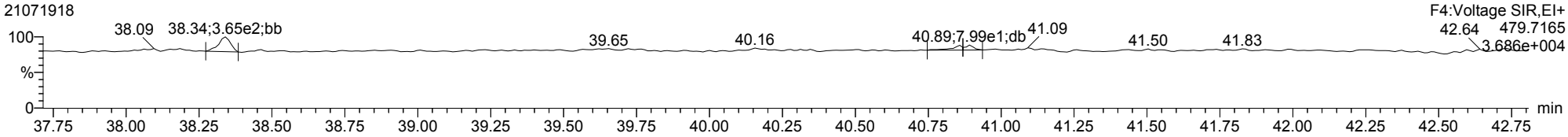


FUNCTION4 NCDPE



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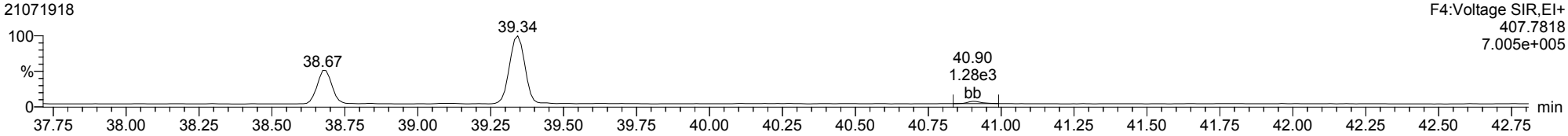
1234789-HpCDF



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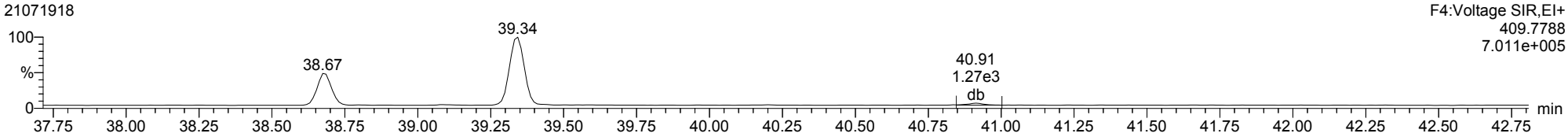

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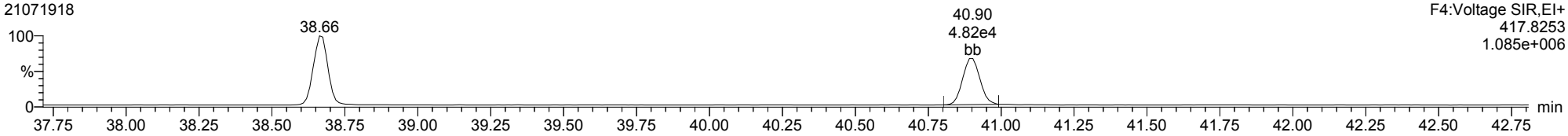

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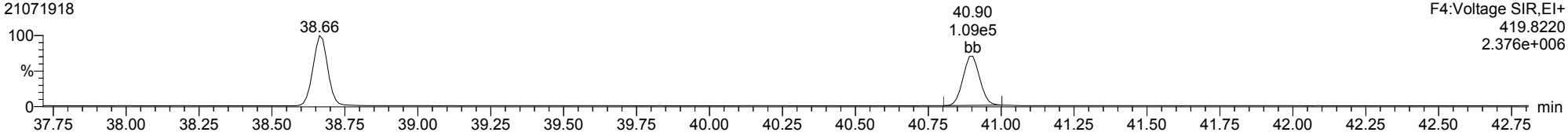

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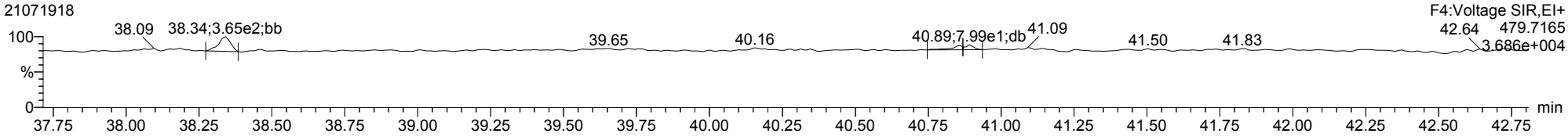

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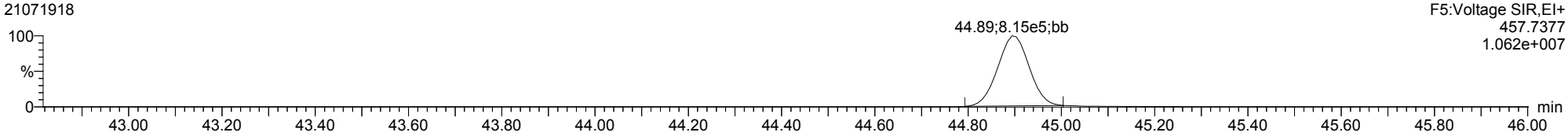

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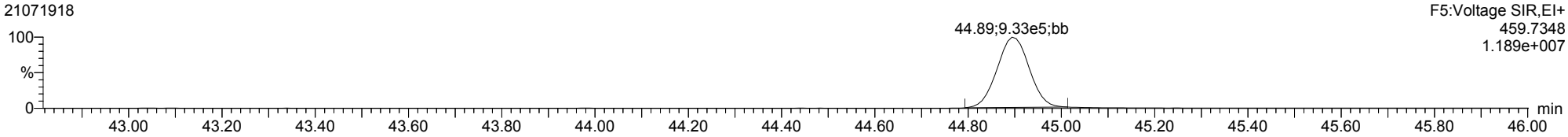

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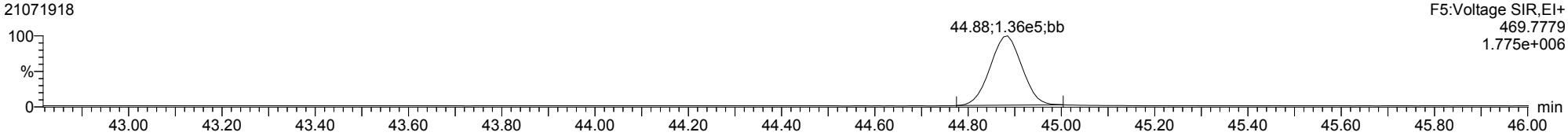
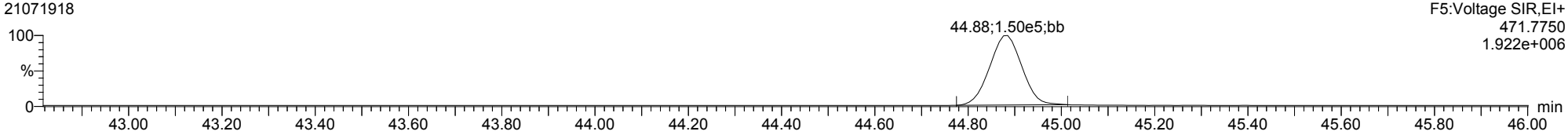
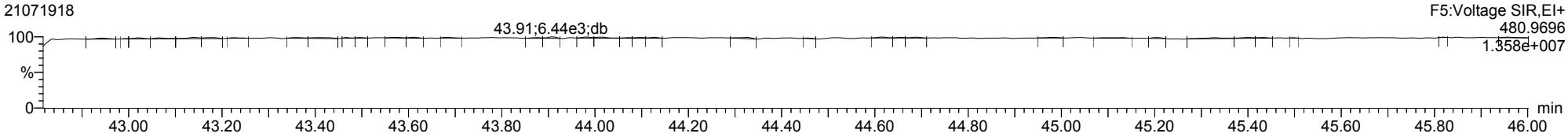


13C-OCDD



FUNCTION5 PFK



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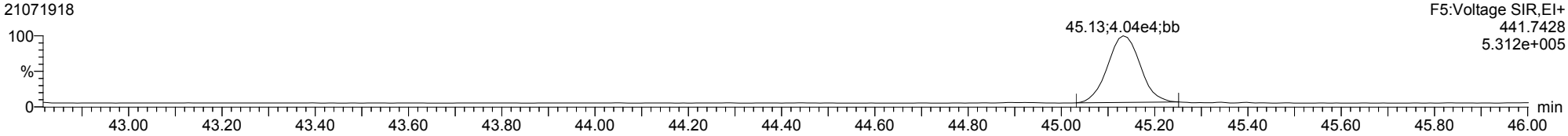
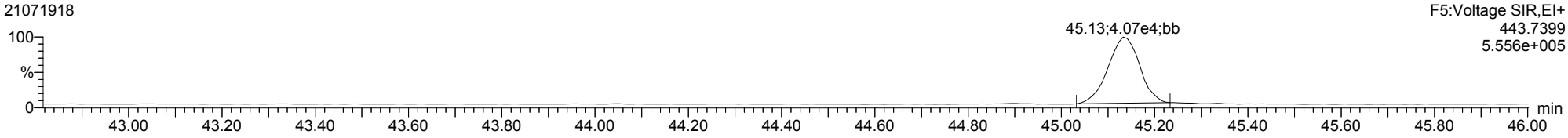
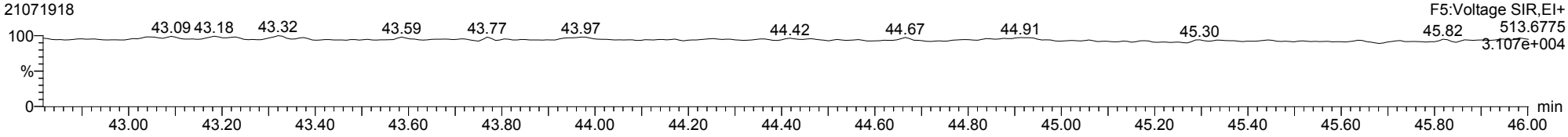
OCDF



OCDF



FUNCTION5 DCDPE



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Printed: Tuesday, July 20, 2021 11:02:33 Pacific Daylight Time

ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, Conditions: AUTOSPEC01, User: pk

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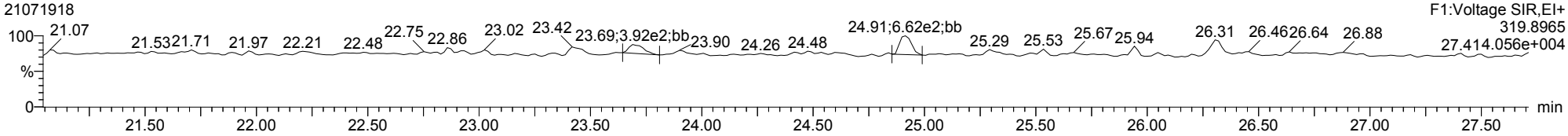

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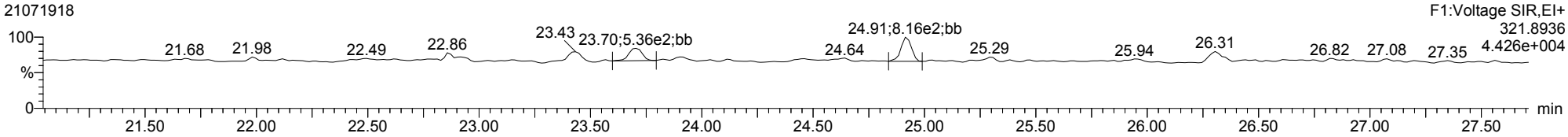

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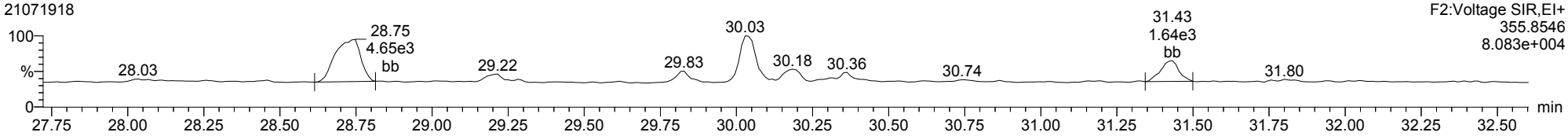
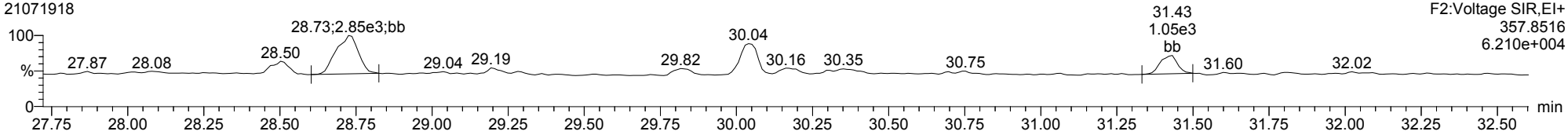


Total-pentadioxins



ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, Conditions: AUTOSPEC01, User: pk

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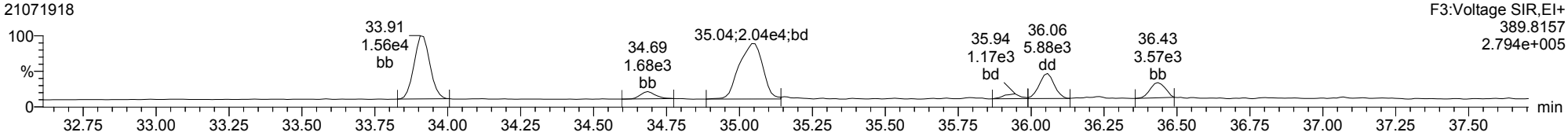

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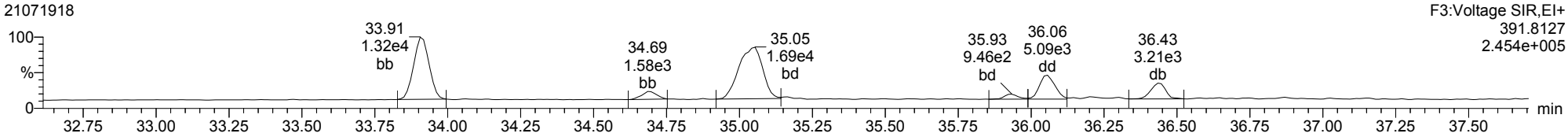

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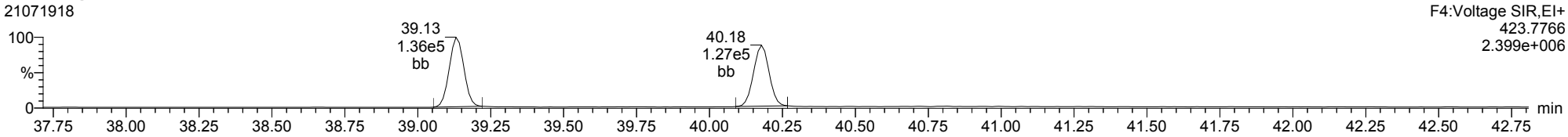

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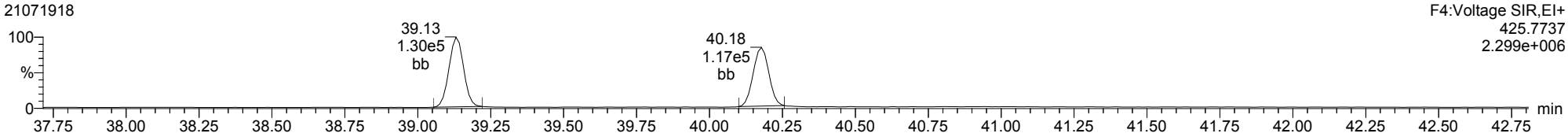
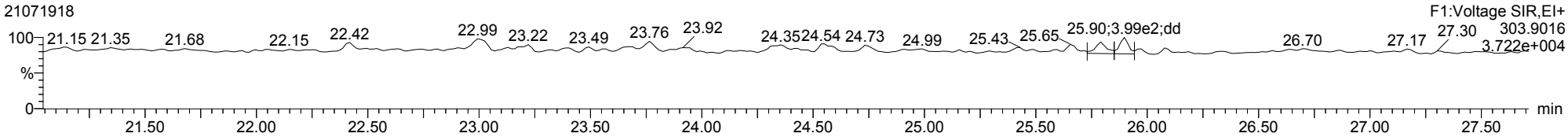


ID: 21F0442-06, Name: 21071918, Date: 20-Jul-2021, Time: 00:27:22, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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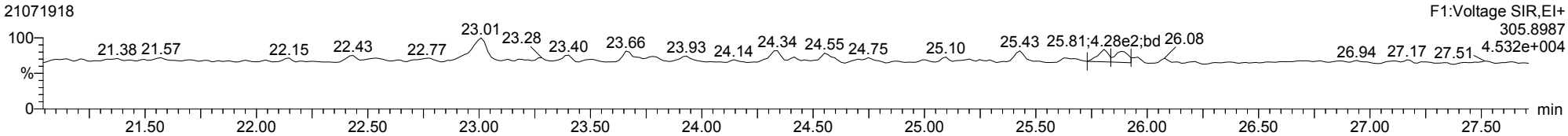

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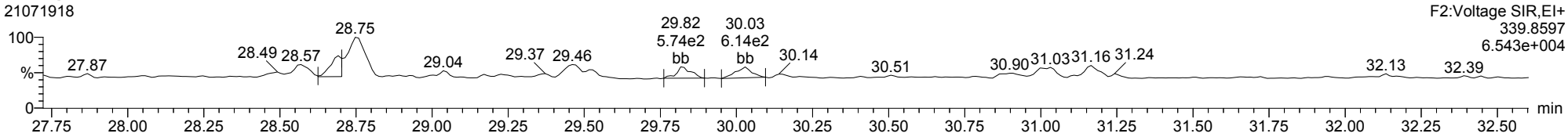

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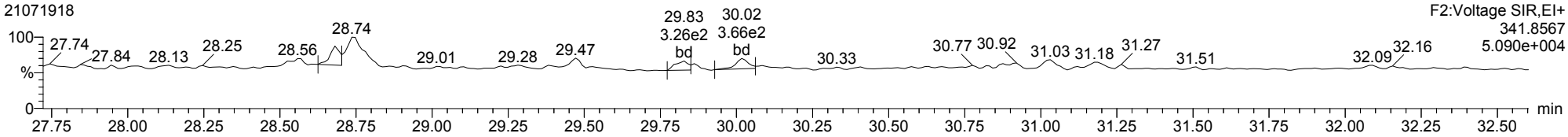

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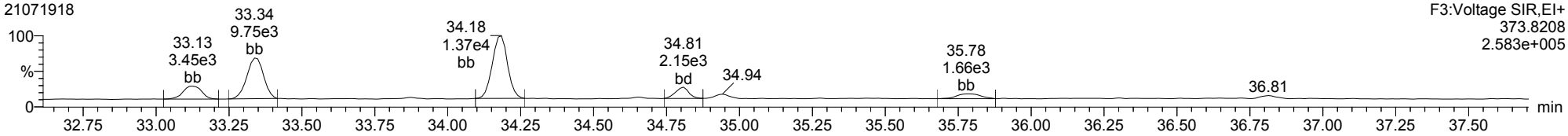

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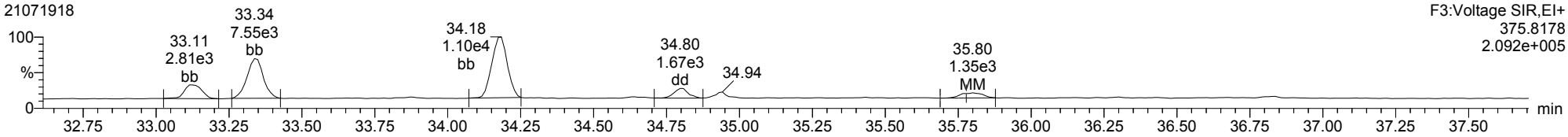

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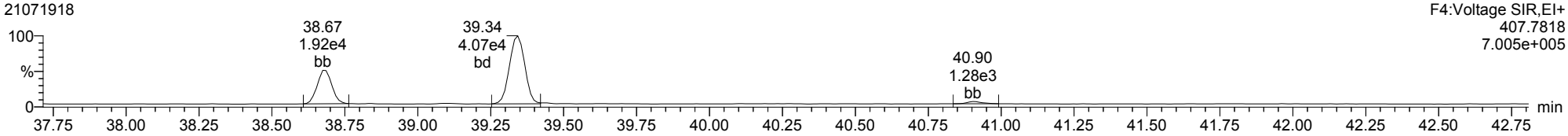

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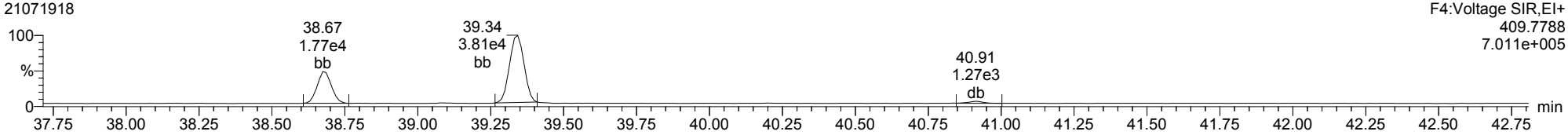

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564I

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-07 B	File ID:	21071919
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/20/21 01:16
% Solids:	63.57	Preparation:	EPA 1613	Initial/Final:	15.74 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	1.13	0.999	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.639	0.655-0.886	0.575	0.999	2.39	ng/kg	EMPC
57117-41-6	1,2,3,7,8-PeCDF	1	1.490	1.318-1.783	0.333	0.999	1.52	ng/kg	
57117-31-4	2,3,4,7,8-PeCDF	1	1.678	1.318-1.783	0.304	0.999	1.88	ng/kg	
40321-76-4	1,2,3,7,8-PeCDD	1	1.688	1.318-1.783	0.377	0.999	7.08	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.285	1.054-1.426	0.289	0.999	6.50	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.002	1.054-1.426	0.277	0.999	2.74	ng/kg	EMPC
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.324	1.054-1.426	0.256	0.999	3.43	ng/kg	
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.115	1.054-1.426	0.295	0.999	1.22	ng/kg	
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.186	1.054-1.426	0.563	0.999	3.23	ng/kg	
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.172	1.054-1.426	0.543	0.999	18.0	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.236	1.054-1.426	0.569	0.999	17.2	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.014	0.893-1.208	0.235	0.999	53.6	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.941	0.893-1.208	0.327	0.999	4.81	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.060	0.893-1.208	1.85	2.50	620	ng/kg	
39001-02-0	OCDF	1	0.907	0.757-1.024	0.246	2.50	126	ng/kg	
3268-87-9	OCDD	1	0.875	0.757-1.024	0.795	9.99	4660	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.999	3.79	ng/kg
41903-57-5	Total TCDD	1	0.000			0.999	4.07	ng/kg
30402-15-4	Total PeCDF	1	0.000			0.999	17.7	ng/kg
36088-22-9	Total PeCDD	1	0.000			0.999	26.8	ng/kg
55684-94-1	Total HxCDF	1	0.000			0.999	76.6	ng/kg
34465-46-8	Total HxCDD	1	0.000			0.999	202	ng/kg
38998-75-3	Total HpCDF	1	0.000			0.999	180	ng/kg
37871-00-4	Total HpCDD	1	0.000			0.999	1230	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 23.53
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 23.59

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564I

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-07	File ID:	21071919
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/20/21 01:16
Solids Wt%:	63.57	Preparation:	EPA 1613	Initial/Final:	15.74 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.775	0.655-0.886	0.123	13.2	24 - 169 %	*
13C12-2,3,7,8-TCDD		0.766	0.655-0.886	0.216	23.1	25 - 164 %	*
13C12-1,2,3,7,8-PeCDF		1.549	1.318-1.783	0.239	56.8	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.569	1.318-1.783	0.248	57.1	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.704	1.318-1.783	0.162	62.2	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.509	0.434-0.587	0.208	72.5	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.525	0.434-0.587	0.193	71.1	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.516	0.434-0.587	0.218	82.8	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.517	0.434-0.587	0.241	69.5	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.268	1.054-1.426	0.272	78.4	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.237	1.054-1.426	0.245	73.4	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.453	0.374-0.506	0.193	78.7	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.451	0.374-0.506	0.233	77.8	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.074	0.893-1.208	0.382	75.9	23 - 140 %	
13C12-OCDD		0.919	0.757-1.024	0.239	77.1	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.070	23.2	35 - 197 %	*

* Values outside of QC limits

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Printed: Tuesday, July 20, 2021 11:02:42 Pacific Daylight Time

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, 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					0.782		0.770	1349	1091								
12378-PeCDF	29.828	1.000	1.356e3	9.100e2	0.866	1.490	1.550	1298	1265	2.03e4	1.44e4	15.6	11.3	NO	bd	bd	0.760
23478-PeCDF	31.187	1.000	1.922e3	1.145e3	0.980	1.678	1.550	1298	1265	3.34e4	2.08e4	25.7	16.5	NO	bb	bb	0.942
123478-HxCDF	34.830	1.000	6.242e3	4.858e3	1.002	1.285	1.240	1638	978	1.10e5	6.78e4	67.3	69.3	NO	bd	dd	3.251
234678-HxCDF	35.822	0.999	3.787e3	2.860e3	1.043	1.324	1.240	1638	978	3.61e4	2.92e4	22.0	29.8	NO	bb	MM	1.718
123678-HxCDF	34.975	1.001	2.378e3	2.373e3	0.961	1.002	1.240	1638	978	4.22e4	3.65e4	25.8	37.3	YES	db	db	1.373
123789-HxCDF	36.847	1.000	9.028e2	8.095e2	0.994	1.115	1.240	1638	978	1.41e4	1.56e4	8.6	16.0	NO	bb	bb	0.611
1234678-HpCDF	38.707	1.000	4.813e4	4.746e4	1.058	1.014	1.050	1075	1351	8.44e5	8.32e5	784.9	616.1	NO	bb	bb	26.809
1234789-HpCDF	40.936	1.000	3.442e3	3.658e3	1.070	0.941	1.050	1075	1351	5.21e4	5.67e4	48.5	42.0	NO	bb	bb	2.407
OCDF	45.177	1.006	9.117e4	1.005e5	1.257	0.907	0.890	825	758	1.12e6	1.22e6	1354.3	1609.2	NO	bb	bb	63.058
2378-TCDD	26.335	1.001	6.692e2	1.047e3	1.307	0.639	0.770	1143	1061	9.26e3	1.49e4	8.1	14.1	YES	bd	bd	1.196
12378-PeCDD	31.455	1.001	5.388e3	3.192e3	0.979	1.688	1.550	1331	987	8.40e4	5.19e4	63.1	52.6	NO	bb	bb	3.542
123478-HxCDD	35.978	1.000	2.749e3	2.318e3	0.956	1.186	1.240	2533	2297	4.71e4	4.10e4	18.6	17.9	NO	bd	bd	1.614
123678-HxCDD	36.100	1.001	1.581e4	1.348e4	0.953	1.172	1.240	2533	2297	2.43e5	1.98e5	96.1	86.1	NO	db	db	9.004
123789-HxCDD	36.479	1.011	1.475e4	1.193e4	0.927	1.236	1.240	2533	2297	2.57e5	2.04e5	101.6	88.7	NO	bb	bb	8.595
1234678-HpCDD	40.200	1.000	4.496e5	4.243e5	1.055	1.060	1.050	7407	6680	7.28e6	6.92e6	982.2	1035.9	NO	bb	bb	310.381
OCDD	44.939	1.000	2.824e6	3.226e6	1.074	0.875	0.890	2388	1988	3.64e7	4.15e7	15236.1	20864.8	NO	bb	bb	2329.044
13C-2378-TCDF	25.670	1.007	4.666e4	6.024e4	1.925	0.775	0.770	1448	1203	7.20e5	9.49e5	497.5	788.8	NO	bb	db	13.215
13C-12378-PeCDF	29.828	1.170	2.091e5	1.350e5	1.442	1.549	1.550	2251	1585	3.24e6	2.08e6	1438.1	1309.6	NO	bb	bb	56.787
13C-23478-PeCDF	31.176	1.223	2.030e5	1.294e5	1.387	1.569	1.550	2251	1585	3.15e6	2.03e6	1399.4	1282.1	NO	bb	bb	57.051
13C-123478-HxCDF	34.819	0.955	1.149e5	2.259e5	1.053	0.509	0.510	1104	1652	1.82e6	3.60e6	1651.8	2178.8	NO	bd	bd	72.493
13C-123678-HxCDF	34.953	0.959	1.239e5	2.361e5	1.135	0.525	0.510	1104	1652	2.03e6	3.85e6	1839.2	2332.0	NO	db	db	71.066
13C-234678-HxCDF	35.844	0.983	1.262e5	2.448e5	1.004	0.516	0.510	1104	1652	2.00e6	3.87e6	1806.9	2340.8	NO	bb	bb	82.782
13C-123789-HxCDF	36.847	1.011	9.607e4	1.859e5	0.909	0.517	0.510	1104	1652	1.82e6	3.53e6	1648.4	2134.9	NO	bb	bb	69.494
13C-1234678-HpCDF	38.696	1.061	1.051e5	2.320e5	0.960	0.453	0.440	1024	1305	1.82e6	4.02e6	1778.6	3079.5	NO	bb	bb	78.678
13C-1234789-HpCDF	40.924	1.122	8.564e4	1.901e5	0.794	0.451	0.440	1024	1305	1.29e6	2.83e6	1262.3	2165.2	NO	bb	bb	77.844
13C-1234-TCDD	25.489	0.000	1.861e5	2.342e5	1.000	0.794	0.770	1845	877	2.96e6	3.78e6	1604.4	4306.0	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	4.760e4	6.214e4	1.133	0.766	0.770	1845	877	7.63e5	9.76e5	413.2	1112.9	NO	bb	bb	23.054
13C-12378-PeCDD	31.432	1.233	1.560e5	9.156e4	0.947	1.704	1.550	791	921	2.37e6	1.39e6	2998.9	1510.2	NO	bb	bb	62.213
13C-123478-HxCDD	35.967	0.987	1.836e5	1.448e5	0.939	1.268	1.240	1399	1816	3.01e6	2.38e6	2148.6	1312.5	NO	bd	bd	78.383
13C-123678-HxCDD	36.078	0.990	1.889e5	1.527e5	1.042	1.237	1.240	1399	1816	3.10e6	2.54e6	2215.0	1397.4	NO	db	db	73.431
13C-1234678-HpCDD	40.189	1.102	1.382e5	1.287e5	0.788	1.074	1.050	2038	1751	2.24e6	2.05e6	1101.2	1169.5	NO	bb	bb	75.851
13C-OCDD	44.921	1.232	2.317e5	2.521e5	0.703	0.919	0.890	884	1234	2.94e6	3.19e6	3329.4	2585.4	NO	bb	bb	154.126
13C-123789-HxCDD	36.457	0.000	2.467e5	1.996e5	1.000	1.236	1.240	1399	1816	4.17e6	3.38e6	2983.3	1862.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	5.060e4		1.298			1017		7.54e5		741.4			bb		9.280

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:42 Pacific Daylight Time

ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, 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					0.966		0.770	1349	1091								
1289-TCDF					0.736		0.770	1349	1091								
13468-PECDF					1.347		1.550	590	781								
12389-PECDF					0.867		1.550	1298	1265								
123468-HXCDF	33.148	0.952	7.213e3	5.579e3	1.036	1.293	1.240	1638	978	1.09e5	8.66e4	66.4	88.5	NO	bb	bb	3.624
1368-TCDD	23.447	0.891	3.152e2	4.325e2	1.256	0.729	0.770	1143	1061	4.47e3	5.29e3	3.9	5.0	NO	bd	bb	0.543
1289-TCDD	26.895	1.022	3.415e2	5.666e2	1.151	0.603	0.770	1143	1061	6.64e3	5.37e3	5.8	5.1	YES	bb	bd	0.719
12479-PECDD	28.758	0.915	8.445e3	5.725e3	1.773	1.475	1.550	1331	987	8.28e4	5.80e4	62.2	58.7	NO	bb	bb	3.228
12389-PECDD	31.833	1.013	4.829e2	5.734e2	1.171	0.842	1.550	1331	987	1.16e4	8.20e3	8.7	8.3	YES	bd	bb	0.364
124679-HXCDD	33.939	0.944	6.095e4	5.134e4	1.034	1.187	1.240	2533	2297	9.52e5	8.18e5	375.8	356.2	NO	bb	bb	33.087
1234679-HPCDD	39.164	0.975	5.007e5	4.705e5	1.194	1.064	1.050	7407	6680	8.61e6	8.11e6	1162.6	1214.0	NO	bb	bb	304.723
Total-tetrafurans			7.319e2		0.828			1349		1.24e4							1.896
Total-penta1			1.303e4					590		1.83e5							7.153
Total-pentafurans			3.278e3		0.904			1298		5.37e4							1.702
Total-hexafurans			7.402e4		1.007			1638		1.14e6							38.325
Total-heptafurans			1.533e5		1.064			1075		2.62e6							89.816
Total-Furans			3.355e5		0.998			1349		5.13e6							201.949
Total-tetradioxins			1.242e3		1.238			1143		2.01e4							2.035
Total-pentadioxins			2.711e4		1.308			1331		3.78e5							13.420
Total-hexadioxins			1.808e5		0.967			2533		2.47e6							100.891
Total-heptadioxins			9.503e5		1.125			7407		1.59e7							615.103
Total-Dioxins			3.983e6		1.141			1143		5.51e7							3060.494
Total-TEQ			4.319e6					1143		6.03e7							3262.443
FUNCTION1 PFK			5.227e6					329657		3.53e7							
FUNCTION2 PFK			4.138e5					212833		2.44e6							0.000
FUNCTION3 PFK			5.904e6					233569		1.47e7							0.000
FUNCTION4 PFK			2.467e5					227287		4.85e6							
FUNCTION5 PFK			0.000e0					157100		0.00e0							
FUNCTION1 HXCD...			2.123e3					623		2.91e4							0.000
FUNCTION1 HPCD...			1.595e3					960		2.81e4							0.000
FUNCTION2 HPCD...			4.469e2					731		9.35e3							0.000
FUNCTION3 OCDPE			0.000e0					487		0.00e0							
FUNCTION4 NCDPE			8.515e2					637		1.58e4							0.000
FUNCTION5 DCDPE			1.206e2					494		2.66e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:42 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, 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	25.91	7.319e2	9.454e2	0.828	0.77	0.77	9.2	YES	NO	db	db	1.896

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.11	1.303e4	9.549e3		1.36	1.55	309.8	YES	NO	bb	bb	7.153

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.19	1.922e3	1.145e3	0.980	1.68	1.55	25.7	YES	NO	bb	bb	0.942
2	12378-PeCDF	29.83	1.356e3	9.100e2	0.866	1.49	1.55	15.6	YES	NO	bd	bd	0.760

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexafurans	34.21	2.972e4	2.340e4	1.007	1.27	1.24	283.7	YES	NO	bb	bb	15.582
2	Total-hexafurans	33.91	8.373e2	6.479e2	1.007	1.29	1.24	8.1	YES	NO	bb	bb	0.436
3	Total-hexafurans	33.37	2.409e4	1.836e4	1.007	1.31	1.24	227.7	YES	NO	bb	bb	12.454
4	123468-HXCDF	33.15	7.213e3	5.579e3	1.036	1.29	1.24	66.4	YES	NO	bb	bb	3.624
5	123789-HxCDF	36.85	9.028e2	8.095e2	0.994	1.12	1.24	8.6	YES	NO	bb	bb	0.611
6	234678-HxCDF	35.82	3.787e3	2.860e3	1.043	1.32	1.24	22.0	YES	NO	bb	MM	1.718
7	123478-HxCDF	34.83	6.242e3	4.858e3	1.002	1.28	1.24	67.3	YES	NO	bd	dd	3.251
8	Total-hexafurans	34.67	1.231e3	9.855e2	1.007	1.25	1.24	14.7	YES	NO	bb	bd	0.650

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.94	3.442e3	3.658e3	1.070	0.94	1.05	48.5	YES	NO	bb	bb	2.407
2	Total-heptafurans	39.36	1.006e5	9.471e4	1.064	1.06	1.05	1583.2	YES	NO	bb	bb	59.912
3	Total-heptafurans	39.12	1.148e3	1.093e3	1.064	1.05	1.05	15.4	YES	NO	bb	bb	0.688
4	1234678-HpCDF	38.71	4.813e4	4.746e4	1.058	1.01	1.05	784.9	YES	NO	bb	bb	26.809

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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	25.91	7.319e2	9.454e2	0.828	0.77	0.77	9.2	YES	NO	db	db	1.896
2	23478-PeCDF	31.19	1.922e3	1.145e3	0.980	1.68	1.55	25.7	YES	NO	bb	bb	0.942
3	12378-PeCDF	29.83	1.356e3	9.100e2	0.866	1.49	1.55	15.6	YES	NO	bd	bd	0.760
4	Total-hexafurans	34.21	2.972e4	2.340e4	1.007	1.27	1.24	283.7	YES	NO	bb	bb	15.582
5	Total-hexafurans	33.91	8.373e2	6.479e2	1.007	1.29	1.24	8.1	YES	NO	bb	bb	0.436
6	Total-hexafurans	33.37	2.409e4	1.836e4	1.007	1.31	1.24	227.7	YES	NO	bb	bb	12.454
7	123468-HXCDF	33.15	7.213e3	5.579e3	1.036	1.29	1.24	66.4	YES	NO	bb	bb	3.624
8	123789-HxCDF	36.85	9.028e2	8.095e2	0.994	1.12	1.24	8.6	YES	NO	bb	bb	0.611
9	234678-HxCDF	35.82	3.787e3	2.860e3	1.043	1.32	1.24	22.0	YES	NO	bb	MM	1.718
10	123478-HxCDF	34.83	6.242e3	4.858e3	1.002	1.28	1.24	67.3	YES	NO	bd	dd	3.251
11	Total-hexafurans	34.67	1.231e3	9.855e2	1.007	1.25	1.24	14.7	YES	NO	bb	bd	0.650
12	1234789-HpCDF	40.94	3.442e3	3.658e3	1.070	0.94	1.05	48.5	YES	NO	bb	bb	2.407
13	Total-heptafurans	39.36	1.006e5	9.471e4	1.064	1.06	1.05	1583.2	YES	NO	bb	bb	59.912
14	Total-heptafurans	39.12	1.148e3	1.093e3	1.064	1.05	1.05	15.4	YES	NO	bb	bb	0.688
15	1234678-HpCDF	38.71	4.813e4	4.746e4	1.058	1.01	1.05	784.9	YES	NO	bb	bb	26.809
16	OCDF	45.18	9.117e4	1.005e5	1.257	0.91	0.89	1354.3	YES	NO	bb	bb	63.058
17	Total-penta1	27.11	1.303e4	9.549e3		1.36	1.55	309.8	YES	NO	bb	bb	7.153

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.45	2.520e2	2.969e2	1.238	0.85	0.77	4.0	YES	NO	bd	bb	0.404
2	1368-TCDD	23.45	3.152e2	4.325e2	1.256	0.73	0.77	3.9	YES	NO	bd	bb	0.543
3	Total-tetradioxins	24.94	6.748e2	8.035e2	1.238	0.84	0.77	9.7	YES	NO	db	bb	1.088

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.45	5.388e3	3.192e3	0.979	1.69	1.55	63.1	YES	NO	bb	bb	3.542
2	Total-pentadioxins	30.37	2.052e3	1.247e3	1.308	1.65	1.55	17.2	YES	NO	db	db	1.019
3	Total-pentadioxins	30.18	2.748e3	1.953e3	1.308	1.41	1.55	32.8	YES	NO	dd	dd	1.452
4	Total-pentadioxins	30.06	6.866e3	4.079e3	1.308	1.68	1.55	89.6	YES	NO	bd	bd	3.381
5	Total-pentadioxins	29.85	1.607e3	9.772e2	1.308	1.64	1.55	19.2	YES	NO	bb	bb	0.798
6	12479-PECDD	28.76	8.445e3	5.725e3	1.773	1.48	1.55	62.2	YES	NO	bb	bb	3.228

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	36.10	1.581e4	1.348e4	0.953	1.17	1.24	96.1	YES	NO	db	db	9.004
2	123478-HxCDD	35.98	2.749e3	2.318e3	0.956	1.19	1.24	18.6	YES	NO	bd	bd	1.614
3	Total-hexadioxins	35.09	8.070e4	6.635e4	0.967	1.22	1.24	345.1	YES	NO	bd	bb	45.390
4	Total-hexadioxins	34.72	5.820e3	4.554e3	0.967	1.28	1.24	37.0	YES	NO	bb	bb	3.202
5	124679-HXCDD	33.94	6.095e4	5.134e4	1.034	1.19	1.24	375.8	YES	NO	bb	bb	33.087
6	123789-HxCDD	36.48	1.475e4	1.193e4	0.927	1.24	1.24	101.6	YES	NO	bb	bb	8.595

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.20	4.496e5	4.243e5	1.055	1.06	1.05	982.2	YES	NO	bb	bb	310.381
2	1234679-HPCDD	39.16	5.007e5	4.705e5	1.194	1.06	1.05	1162.6	YES	NO	bb	bb	304.723

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	24.45	2.520e2	2.969e2	1.238	0.85	0.77	4.0	YES	NO	bd	bb	0.404
2	1368-TCDD	23.45	3.152e2	4.325e2	1.256	0.73	0.77	3.9	YES	NO	bd	bb	0.543
3	Total-tetradioxins	24.94	6.748e2	8.035e2	1.238	0.84	0.77	9.7	YES	NO	db	bb	1.088
4	12378-PeCDD	31.45	5.388e3	3.192e3	0.979	1.69	1.55	63.1	YES	NO	bb	bb	3.542
5	Total-pentadioxins	30.37	2.052e3	1.247e3	1.308	1.65	1.55	17.2	YES	NO	db	db	1.019
6	Total-pentadioxins	30.18	2.748e3	1.953e3	1.308	1.41	1.55	32.8	YES	NO	dd	dd	1.452
7	Total-pentadioxins	30.06	6.866e3	4.079e3	1.308	1.68	1.55	89.6	YES	NO	bd	bd	3.381
8	Total-pentadioxins	29.85	1.607e3	9.772e2	1.308	1.64	1.55	19.2	YES	NO	bb	bb	0.798
9	12479-PECDD	28.76	8.445e3	5.725e3	1.773	1.48	1.55	62.2	YES	NO	bb	bb	3.228
10	123678-HxCDD	36.10	1.581e4	1.348e4	0.953	1.17	1.24	96.1	YES	NO	db	db	9.004
11	123478-HxCDD	35.98	2.749e3	2.318e3	0.956	1.19	1.24	18.6	YES	NO	bd	bd	1.614
12	Total-hexadioxins	35.09	8.070e4	6.635e4	0.967	1.22	1.24	345.1	YES	NO	bd	bb	45.390
13	Total-hexadioxins	34.72	5.820e3	4.554e3	0.967	1.28	1.24	37.0	YES	NO	bb	bb	3.202
14	124679-HXCDD	33.94	6.095e4	5.134e4	1.034	1.19	1.24	375.8	YES	NO	bb	bb	33.087
15	123789-HxCDD	36.48	1.475e4	1.193e4	0.927	1.24	1.24	101.6	YES	NO	bb	bb	8.595
16	1234678-HpCDD	40.20	4.496e5	4.243e5	1.055	1.06	1.05	982.2	YES	NO	bb	bb	310.381
17	1234679-HPCDD	39.16	5.007e5	4.705e5	1.194	1.06	1.05	1162.6	YES	NO	bb	bb	304.723
18	OCDD	44.94	2.824e6	3.226e6	1.074	0.88	0.89	15236.1	YES	NO	bb	bb	2329.0...

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	25.91	7.319e2	9.454e2	0.828	0.77	0.77	9.2	YES	NO	db	db	1.896
2	23478-PeCDF	31.19	1.922e3	1.145e3	0.980	1.68	1.55	25.7	YES	NO	bb	bb	0.942
3	12378-PeCDF	29.83	1.356e3	9.100e2	0.866	1.49	1.55	15.6	YES	NO	bd	bd	0.760
4	Total-hexafurans	34.21	2.972e4	2.340e4	1.007	1.27	1.24	283.7	YES	NO	bb	bb	15.582
5	Total-hexafurans	33.91	8.373e2	6.479e2	1.007	1.29	1.24	8.1	YES	NO	bb	bb	0.436
6	Total-hexafurans	33.37	2.409e4	1.836e4	1.007	1.31	1.24	227.7	YES	NO	bb	bb	12.454
7	123468-HXCDF	33.15	7.213e3	5.579e3	1.036	1.29	1.24	66.4	YES	NO	bb	bb	3.624
8	123789-HxCDF	36.85	9.028e2	8.095e2	0.994	1.12	1.24	8.6	YES	NO	bb	bb	0.611
9	234678-HxCDF	35.82	3.787e3	2.860e3	1.043	1.32	1.24	22.0	YES	NO	bb	MM	1.718
10	123478-HxCDF	34.83	6.242e3	4.858e3	1.002	1.28	1.24	67.3	YES	NO	bd	dd	3.251
11	Total-hexafurans	34.67	1.231e3	9.855e2	1.007	1.25	1.24	14.7	YES	NO	bb	bd	0.650
12	1234789-HpCDF	40.94	3.442e3	3.658e3	1.070	0.94	1.05	48.5	YES	NO	bb	bb	2.407
13	Total-heptafurans	39.36	1.006e5	9.471e4	1.064	1.06	1.05	1583.2	YES	NO	bb	bb	59.912
14	Total-heptafurans	39.12	1.148e3	1.093e3	1.064	1.05	1.05	15.4	YES	NO	bb	bb	0.688
15	1234678-HpCDF	38.71	4.813e4	4.746e4	1.058	1.01	1.05	784.9	YES	NO	bb	bb	26.809
16	OCDF	45.18	9.117e4	1.005e5	1.257	0.91	0.89	1354.3	YES	NO	bb	bb	63.058
17	Total-penta1	27.11	1.303e4	9.549e3		1.36	1.55	309.8	YES	NO	bb	bb	7.153
18	Total-tetradioxins	24.45	2.520e2	2.969e2	1.238	0.85	0.77	4.0	YES	NO	bd	bb	0.404
19	1368-TCDD	23.45	3.152e2	4.325e2	1.256	0.73	0.77	3.9	YES	NO	bd	bb	0.543
20	Total-tetradioxins	24.94	6.748e2	8.035e2	1.238	0.84	0.77	9.7	YES	NO	db	bb	1.088
21	12378-PeCDD	31.45	5.388e3	3.192e3	0.979	1.69	1.55	63.1	YES	NO	bb	bb	3.542
22	Total-pentadioxins	30.37	2.052e3	1.247e3	1.308	1.65	1.55	17.2	YES	NO	db	db	1.019
23	Total-pentadioxins	30.18	2.748e3	1.953e3	1.308	1.41	1.55	32.8	YES	NO	dd	dd	1.452
24	Total-pentadioxins	30.06	6.866e3	4.079e3	1.308	1.68	1.55	89.6	YES	NO	bd	bd	3.381
25	Total-pentadioxins	29.85	1.607e3	9.772e2	1.308	1.64	1.55	19.2	YES	NO	bb	bb	0.798
26	12479-PECDD	28.76	8.445e3	5.725e3	1.773	1.48	1.55	62.2	YES	NO	bb	bb	3.228
27	123678-HxCDD	36.10	1.581e4	1.348e4	0.953	1.17	1.24	96.1	YES	NO	db	db	9.004
28	123478-HxCDD	35.98	2.749e3	2.318e3	0.956	1.19	1.24	18.6	YES	NO	bd	bd	1.614
29	Total-hexadioxins	35.09	8.070e4	6.635e4	0.967	1.22	1.24	345.1	YES	NO	bd	bb	45.390
30	Total-hexadioxins	34.72	5.820e3	4.554e3	0.967	1.28	1.24	37.0	YES	NO	bb	bb	3.202
31	124679-HXCDD	33.94	6.095e4	5.134e4	1.034	1.19	1.24	375.8	YES	NO	bb	bb	33.087
32	123789-HxCDD	36.48	1.475e4	1.193e4	0.927	1.24	1.24	101.6	YES	NO	bb	bb	8.595
33	1234678-HpCDD	40.20	4.496e5	4.243e5	1.055	1.06	1.05	982.2	YES	NO	bb	bb	310.381
34	1234679-HPCDD	39.16	5.007e5	4.705e5	1.194	1.06	1.05	1162.6	YES	NO	bb	bb	304.723
35	OCDD	44.94	2.824e6	3.226e6	1.074	0.88	0.89	15236.1	YES	NO	bb	bb	2329.0...

ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, 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	26.00	1.096e6					7.6	YES		bb		
2	FUNCTION1 PFK	25.53	8.386e5					12.0	YES		bb		
3	FUNCTION1 PFK	25.23	4.645e5					5.9	YES		bb		
4	FUNCTION1 PFK	23.33	2.584e5					9.0	YES		db		
5	FUNCTION1 PFK	23.25	5.658e5					10.9	YES		bd		
6	FUNCTION1 PFK	22.99	2.068e5					6.6	YES		bb		
7	FUNCTION1 PFK	22.75	2.380e5					5.3	YES		bb		
8	FUNCTION1 PFK	22.59	8.877e4					4.4	YES		db		
9	FUNCTION1 PFK	22.46	1.736e5					6.6	YES		dd		
10	FUNCTION1 PFK	22.37	1.553e5					6.6	YES		dd		
11	FUNCTION1 PFK	22.16	4.986e5					6.3	YES		bd		
12	FUNCTION1 PFK	21.92	1.213e5					5.1	YES		bb		
13	FUNCTION1 PFK	21.33	2.427e5					9.7	YES		bb		
14	FUNCTION1 PFK	21.19	2.791e5					11.0	YES		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.50	3.712e5					6.8	YES		bb		0.000
2	FUNCTION2 PFK	29.26	4.258e4					4.7	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	36.89	3.686e5					20.1	YES		bb		0.000
2	FUNCTION3 PFK	36.57	3.388e6					28.4	YES		bb		0.000
3	FUNCTION3 PFK	33.42	1.215e6					2.7	NO		bb		0.000
4	FUNCTION3 PFK	32.75	9.320e5					11.8	YES		bb		0.000

ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, 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	39.21	3.228e4					2.6	NO		bb		
2	FUNCTION4 PFK	39.08	1.538e4					2.0	NO		db		
3	FUNCTION4 PFK	39.02	8.579e3					1.5	NO		bd		
4	FUNCTION4 PFK	38.85	2.779e3					0.7	NO		bb		
5	FUNCTION4 PFK	38.30	9.848e4					1.9	NO		bb		
6	FUNCTION4 PFK	37.87	8.237e3					1.6	NO		db		
7	FUNCTION4 PFK	37.78	1.314e4					1.8	NO		bd		
8	FUNCTION4 PFK	42.64	1.078e4					1.3	NO		bb		
9	FUNCTION4 PFK	41.30	2.333e4					2.6	NO		bb		
10	FUNCTION4 PFK	40.98	7.064e3					1.3	NO		bb		
11	FUNCTION4 PFK	40.89	4.649e3					1.0	NO		bb		
12	FUNCTION4 PFK	40.72	1.547e4					1.8	NO		bb		
13	FUNCTION4 PFK	40.40	5.387e3					0.8	NO		bb		
14	FUNCTION4 PFK	39.78	1.175e3					0.5	NO		bb		

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...	24.11	1.470e2					2.4	NO		bb		0.000
2	FUNCTION1 HXCD...	23.52	6.870e2					12.9	YES		bb		0.000
3	FUNCTION1 HXCD...	22.98	9.180e1					1.5	NO		bb		0.000
4	FUNCTION1 HXCD...	22.54	7.371e1					1.7	NO		bb		0.000
5	FUNCTION1 HXCD...	22.22	1.279e2					2.6	NO		bb		0.000
6	FUNCTION1 HXCD...	22.07	3.119e2					7.6	YES		bb		0.000
7	FUNCTION1 HXCD...	21.12	8.158e1					2.0	NO		bb		0.000
8	FUNCTION1 HXCD...	27.53	1.196e2					1.7	NO		bb		0.000
9	FUNCTION1 HXCD...	27.11	1.160e2					5.4	YES		bb		0.000
10	FUNCTION1 HXCD...	26.35	9.683e1					1.5	NO		bb		0.000
11	FUNCTION1 HXCD...	25.53	8.532e1					1.9	NO		bb		0.000
12	FUNCTION1 HXCD...	24.73	1.010e2					3.1	YES		bb		0.000
13	FUNCTION1 HXCD...	24.42	8.346e1					2.5	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	23.31	1.951e2					3.5	YES		bb		0.000
2	FUNCTION1 HPCD...	22.86	1.248e2					1.2	NO		db		0.000
3	FUNCTION1 HPCD...	22.69	1.465e2					3.0	YES		dd		0.000
4	FUNCTION1 HPCD...	22.56	1.387e2					1.6	NO		dd		0.000
5	FUNCTION1 HPCD...	22.49	1.082e2					2.0	NO		bd		0.000
6	FUNCTION1 HPCD...	22.24	7.152e1					1.3	NO		bb		0.000
7	FUNCTION1 HPCD...	22.04	7.676e1					2.0	NO		bb		0.000
8	FUNCTION1 HPCD...	21.68	7.103e1					1.1	NO		bb		0.000
9	FUNCTION1 HPCD...	21.25	7.508e1					2.4	NO		bb		0.000
10	FUNCTION1 HPCD...	27.67	8.664e1					2.4	NO		bb		0.000
11	FUNCTION1 HPCD...	27.56	1.398e2					3.2	YES		bb		0.000
12	FUNCTION1 HPCD...	25.53	8.681e1					1.7	NO		bb		0.000
13	FUNCTION1 HPCD...	24.94	1.511e2					1.6	NO		bb		0.000
14	FUNCTION1 HPCD...	23.48	1.226e2					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...	32.02	8.379e1					1.6	NO		bb		0.000
2	FUNCTION2 HPCD...	30.49	7.740e1					2.1	NO		bb		0.000
3	FUNCTION2 HPCD...	29.20	8.588e1					5.1	YES		bb		0.000
4	FUNCTION2 HPCD...	28.89	1.221e2					2.6	NO		bb		0.000
5	FUNCTION2 HPCD...	27.87	7.779e1					1.4	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	FUNCTION4 NCDPE	39.51	8.472e1					2.9	NO		bb		0.000
2	FUNCTION4 NCDPE	38.77	9.622e1					5.2	YES		bb		0.000
3	FUNCTION4 NCDPE	38.35	4.953e2					11.9	YES		bb		0.000
4	FUNCTION4 NCDPE	40.38	9.835e1					1.4	NO		bb		0.000
5	FUNCTION4 NCDPE	39.99	7.692e1					3.5	YES		bb		0.000

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ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, 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	43.12	1.206e2					5.4	YES		bb		0.000

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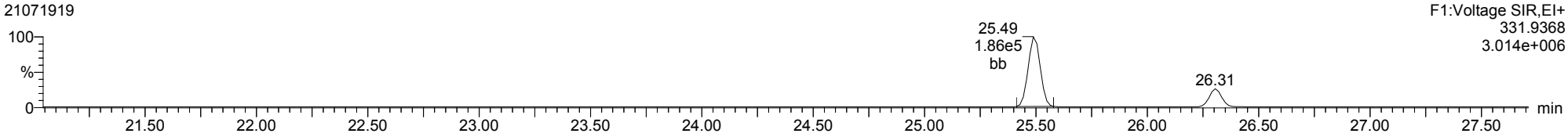

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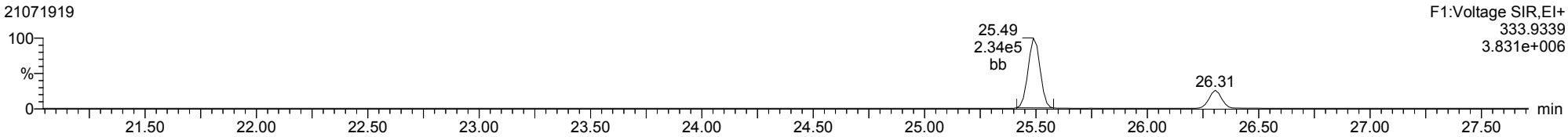

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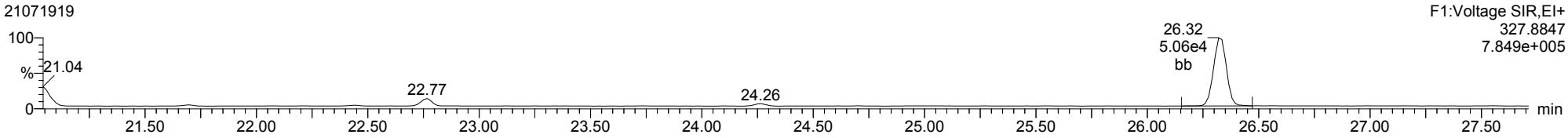

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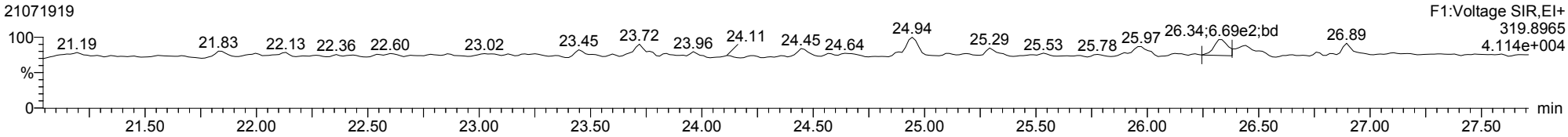
2378-TCDD



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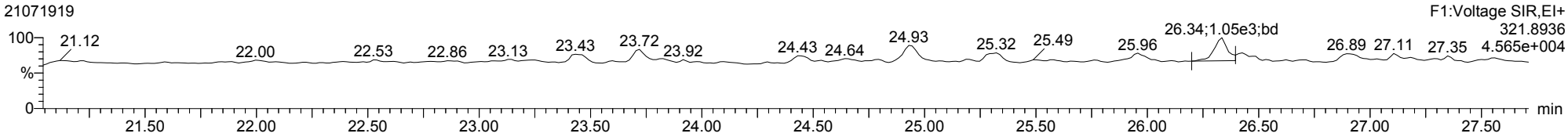

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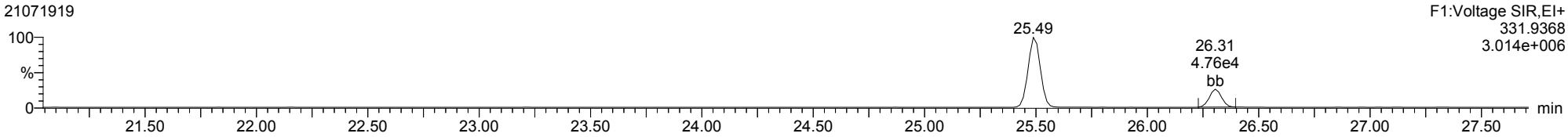

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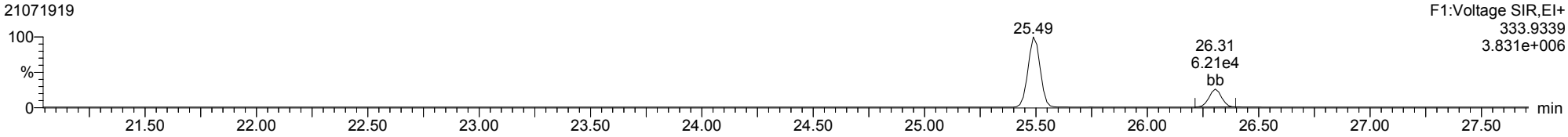

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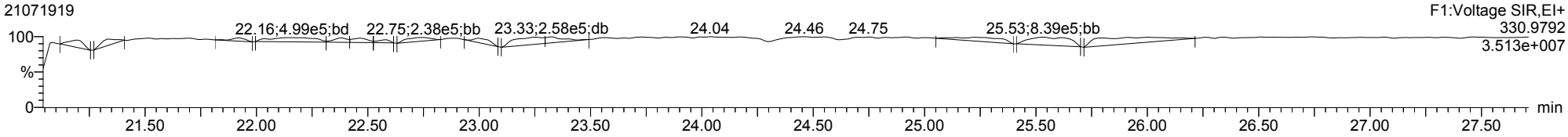

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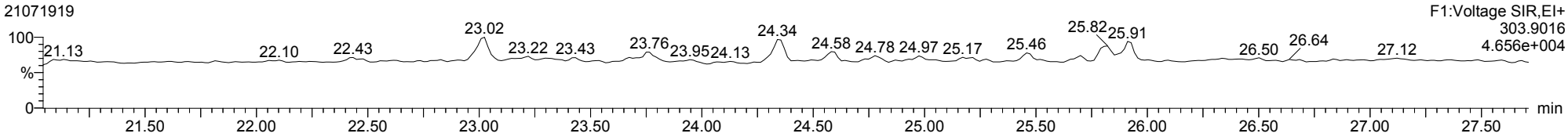

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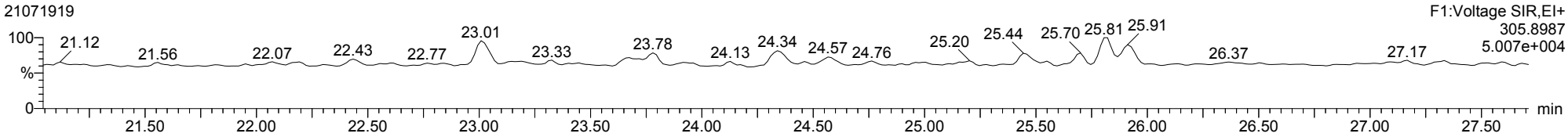

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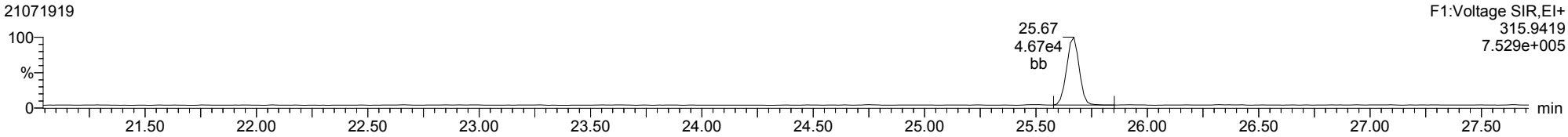

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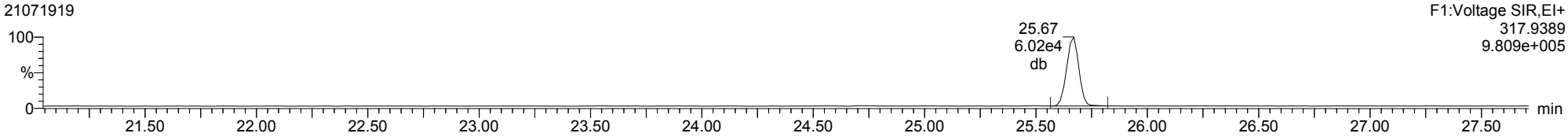

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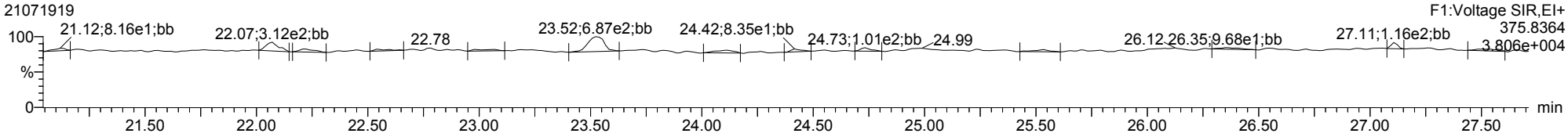

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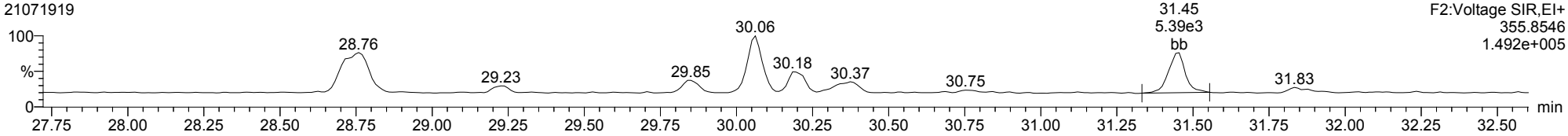
12378-PeCDD



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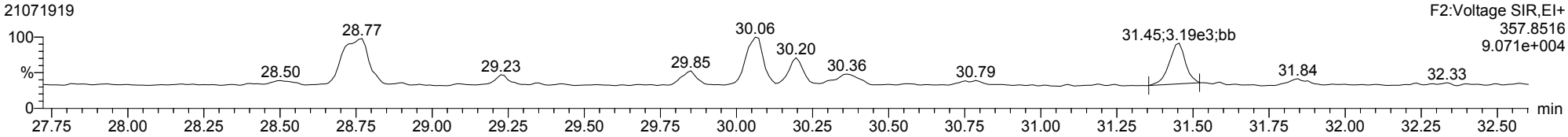

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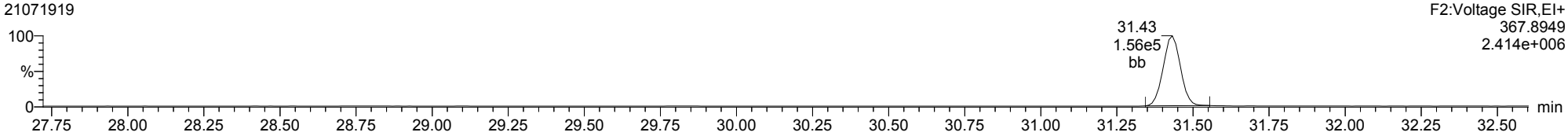

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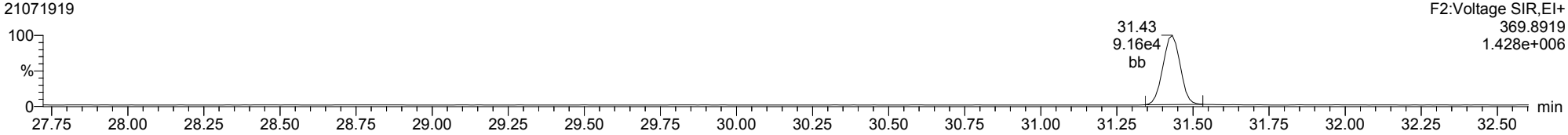

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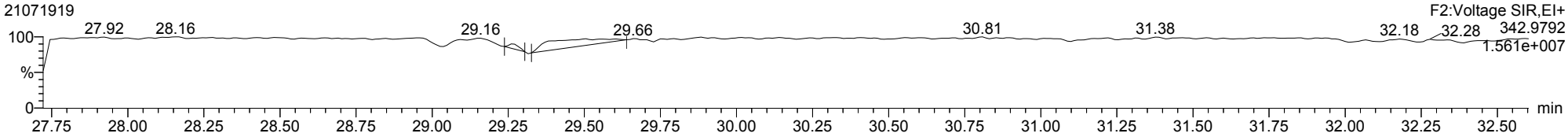

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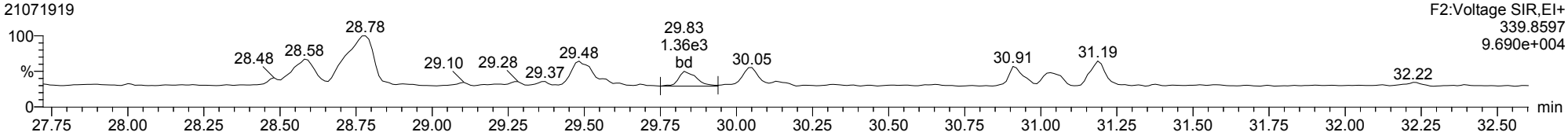
12378-PeCDF



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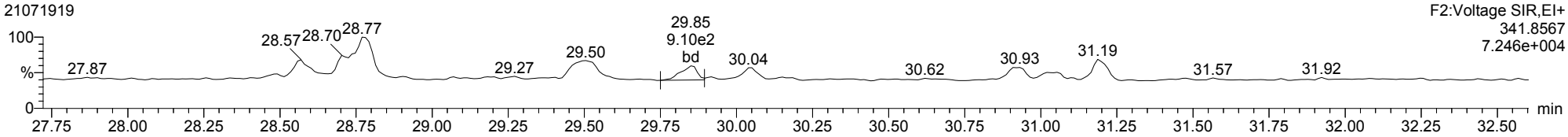

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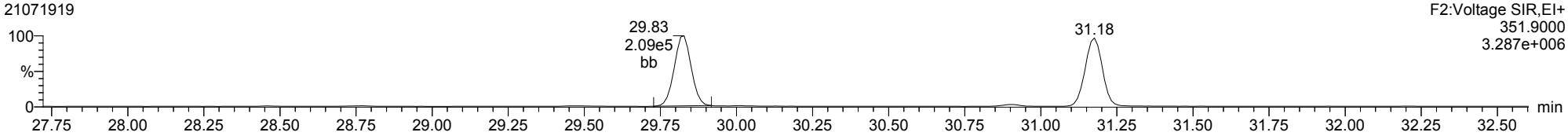

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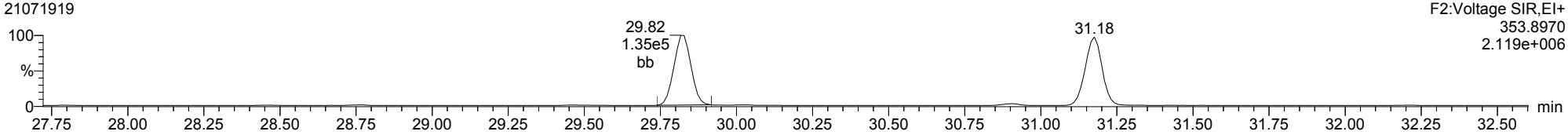

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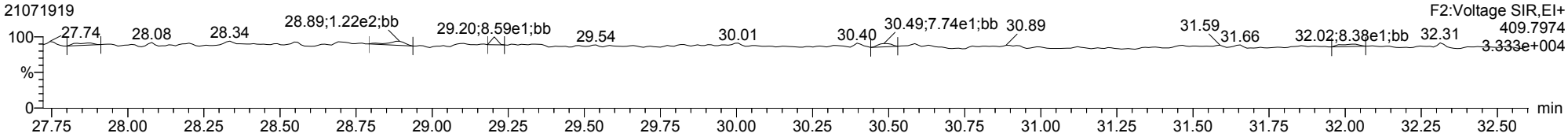

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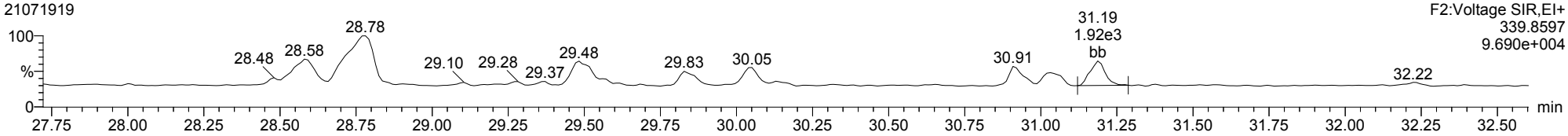
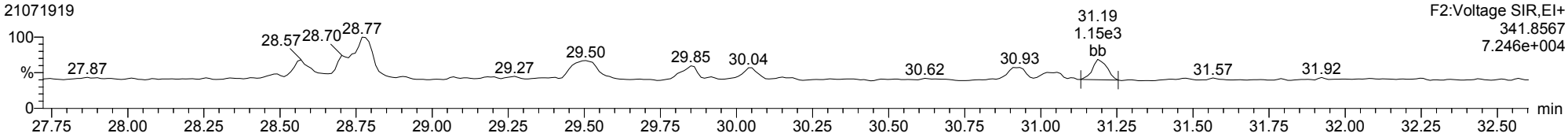
23478-PeCDF



23478-PeCDF



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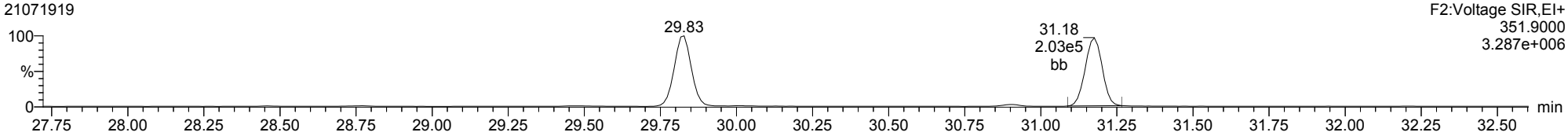

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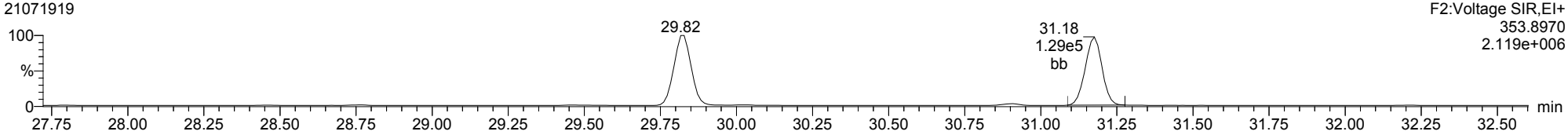

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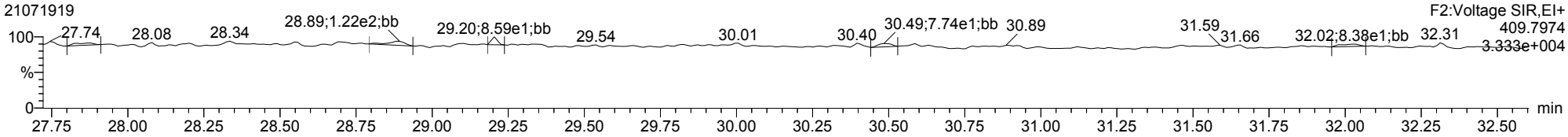

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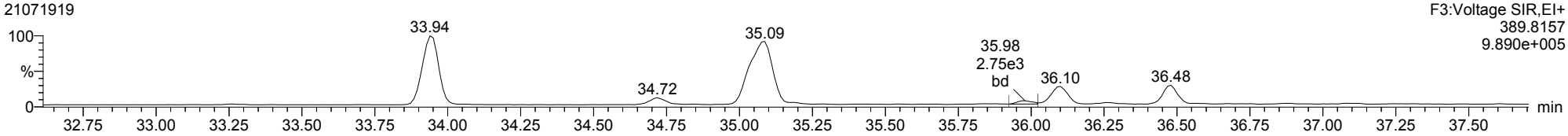

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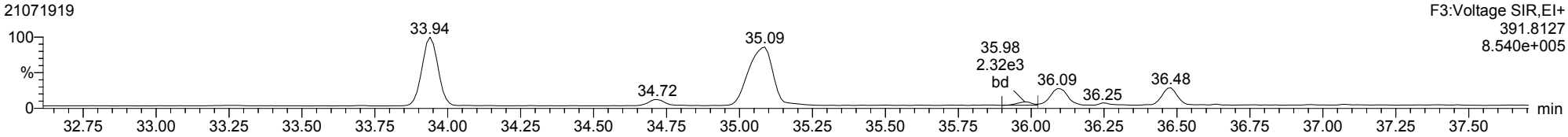

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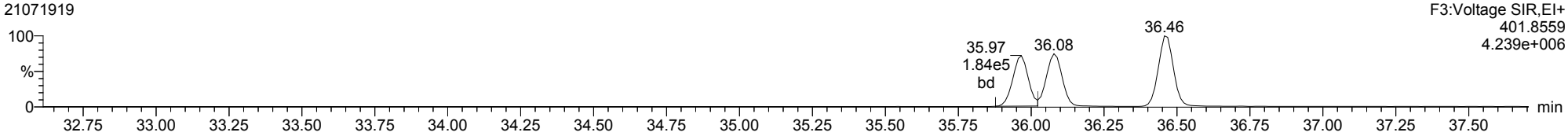

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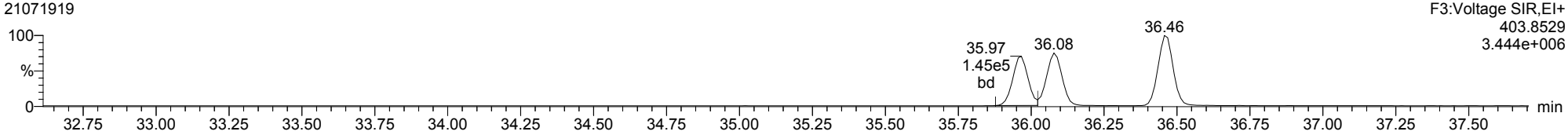

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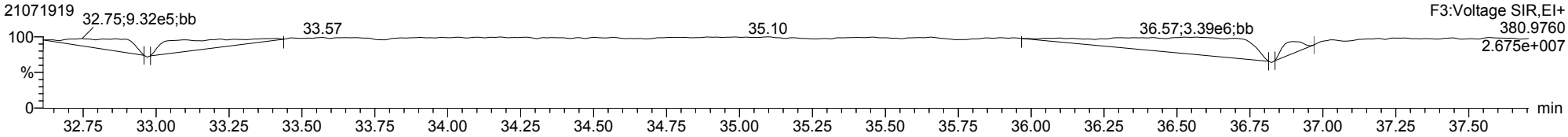

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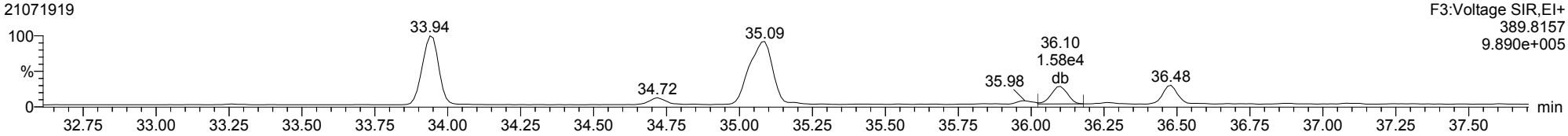

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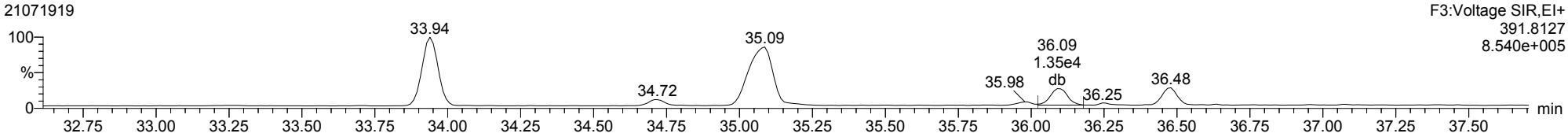

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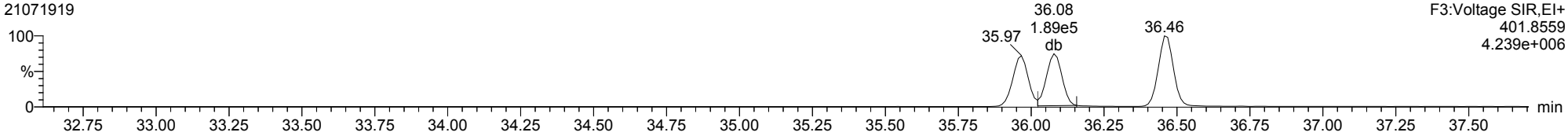

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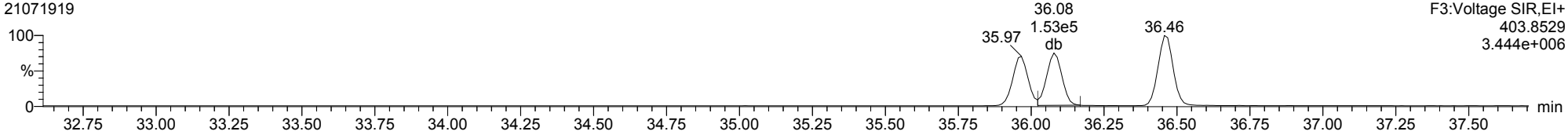

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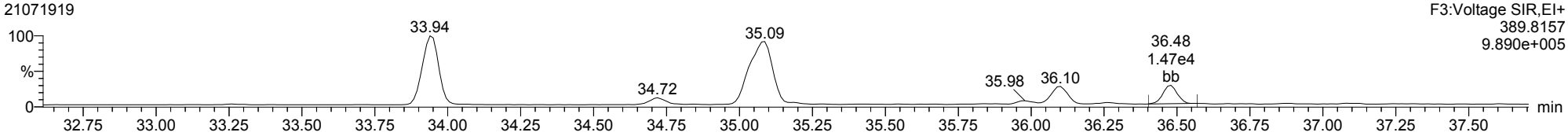

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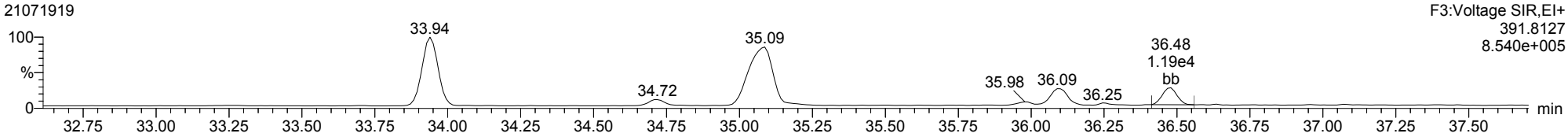

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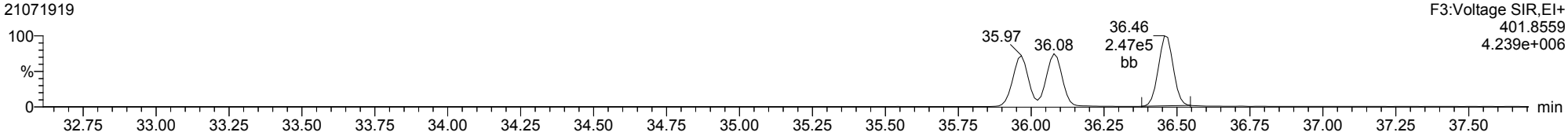

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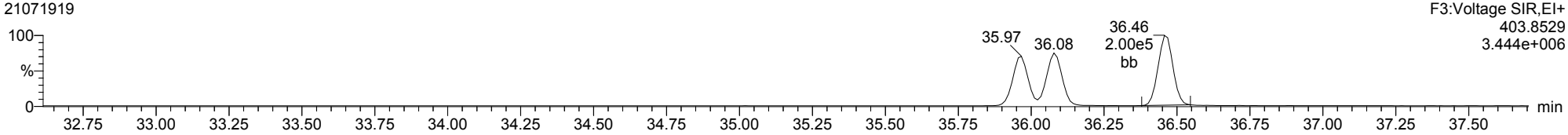

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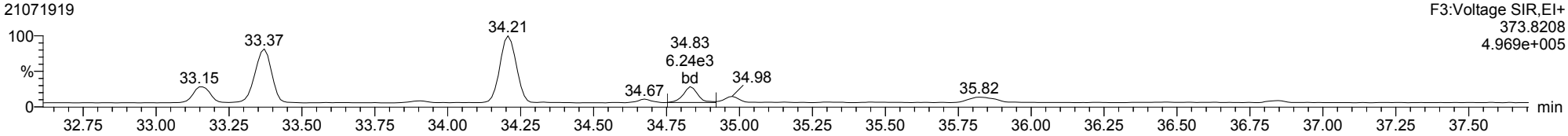

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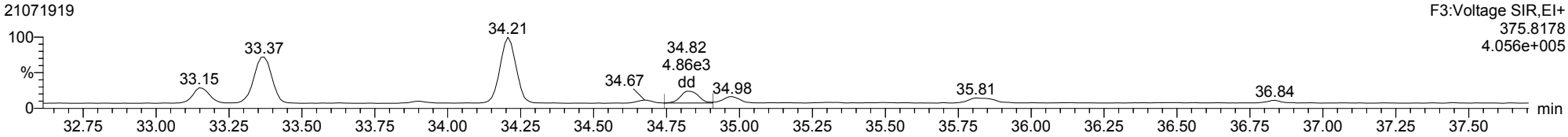

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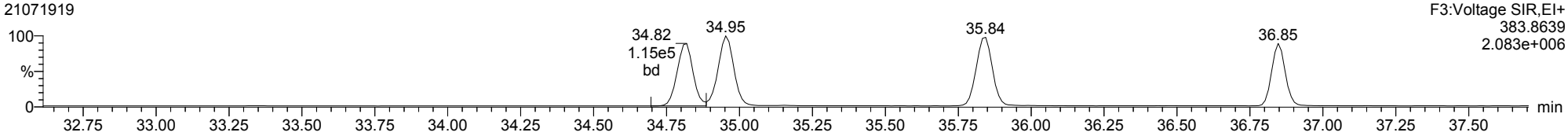

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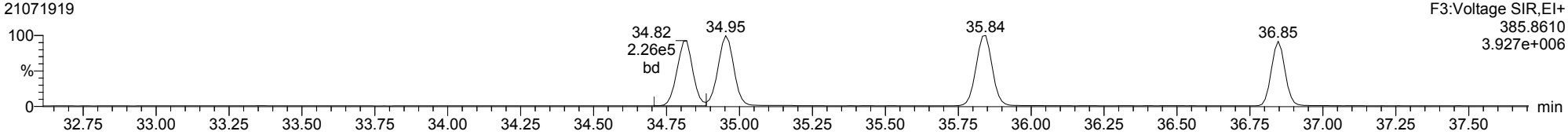
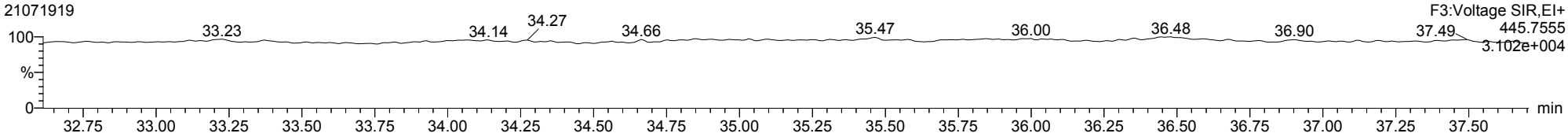


FUNCTION3 OCDPE



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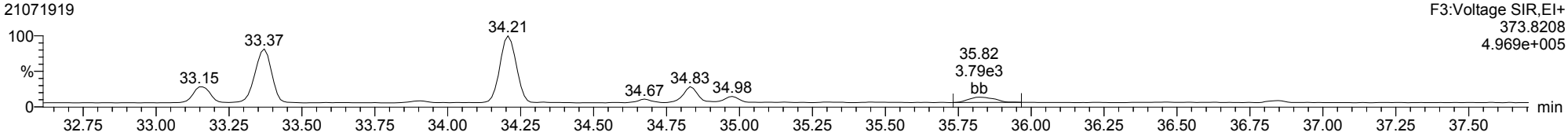
234678-HxCDF



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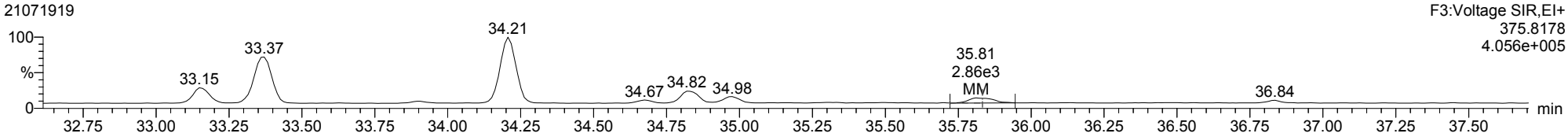

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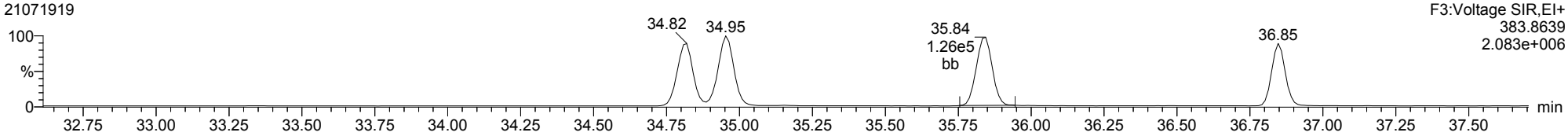

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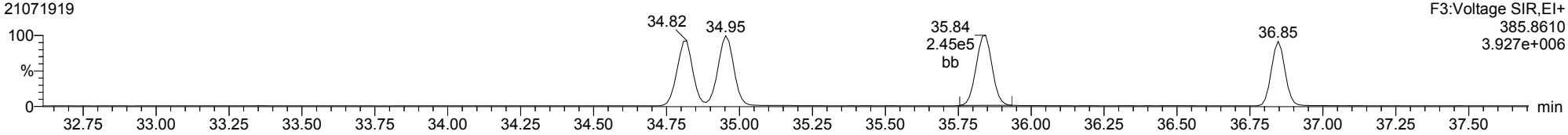

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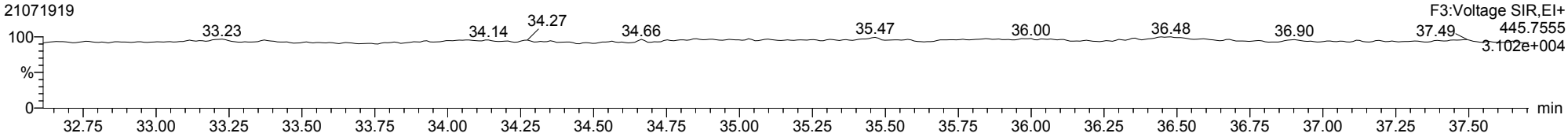

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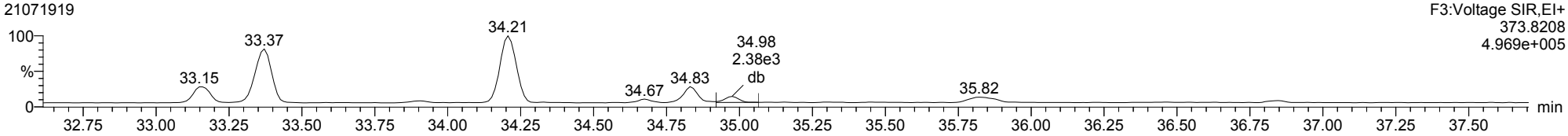

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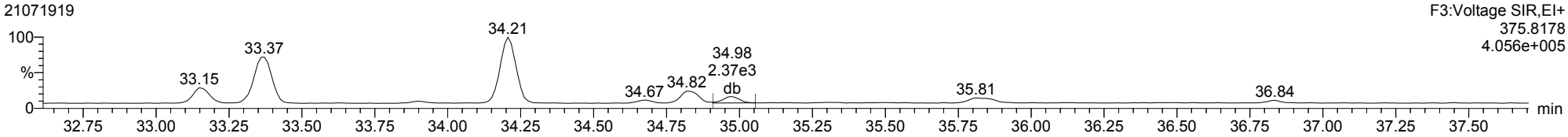

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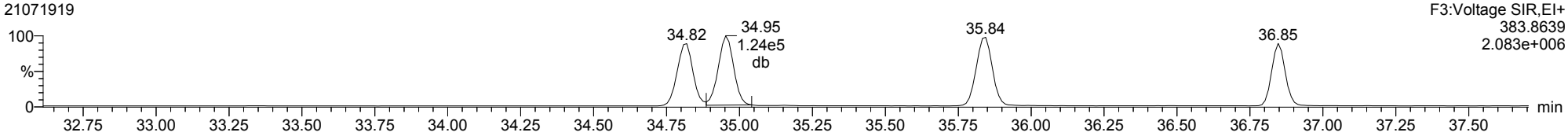

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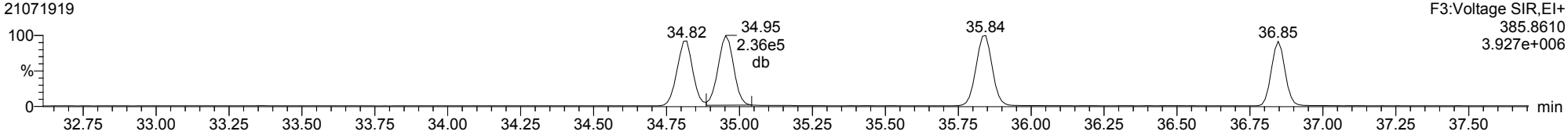

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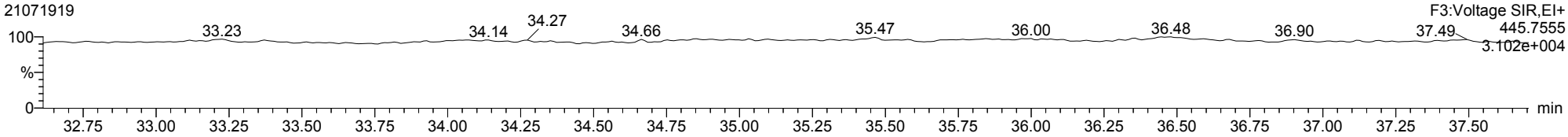

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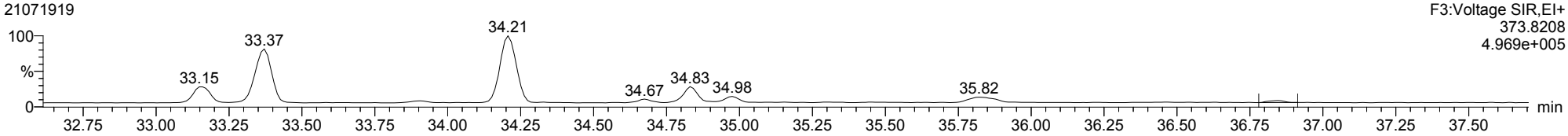

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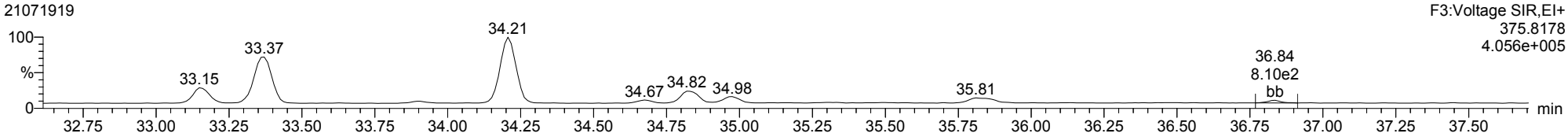

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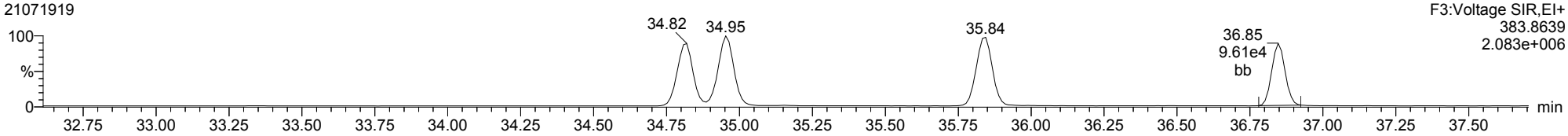

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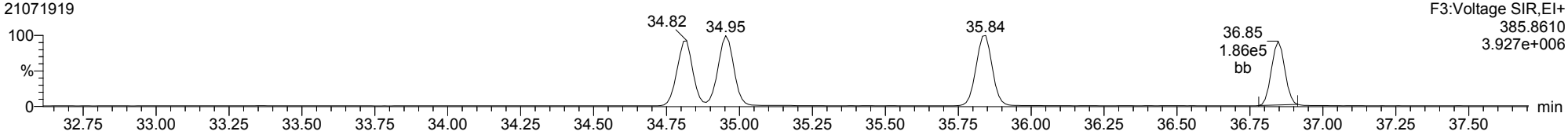
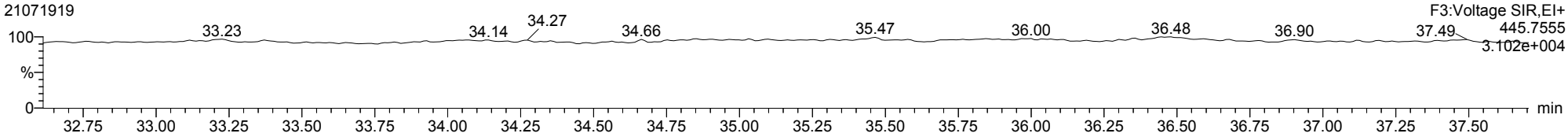


FUNCTION3 OCDPE



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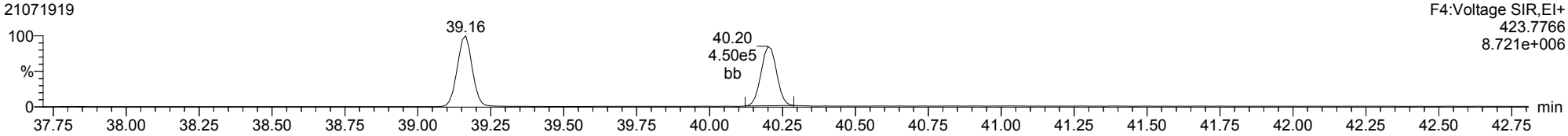

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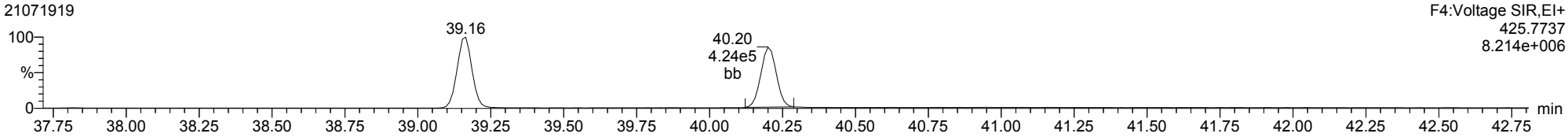

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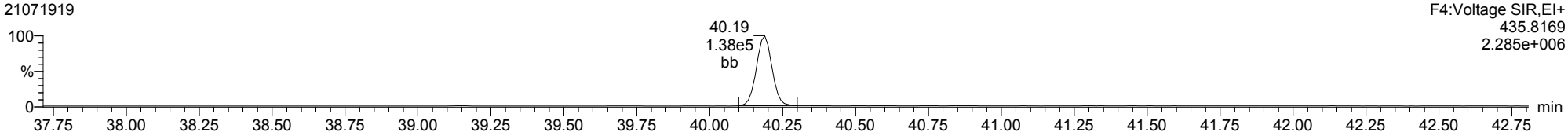

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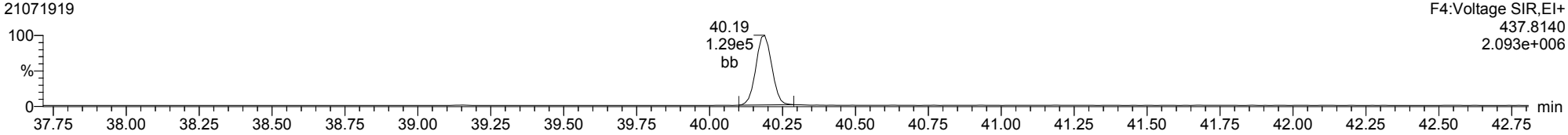
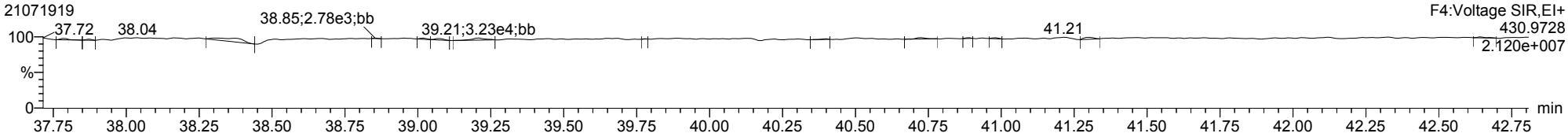


FUNCTION4 PFK



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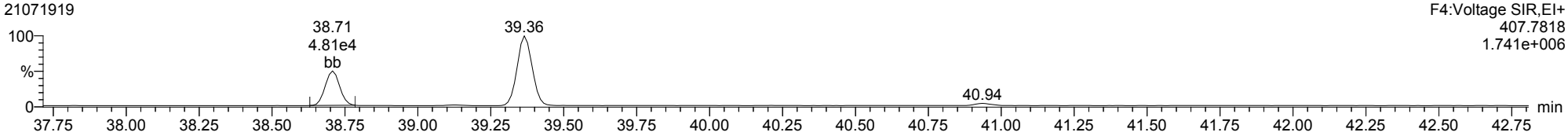

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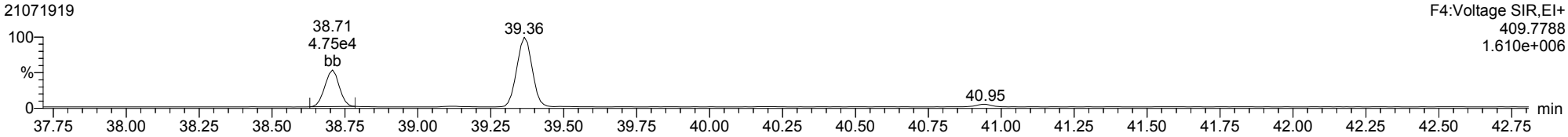

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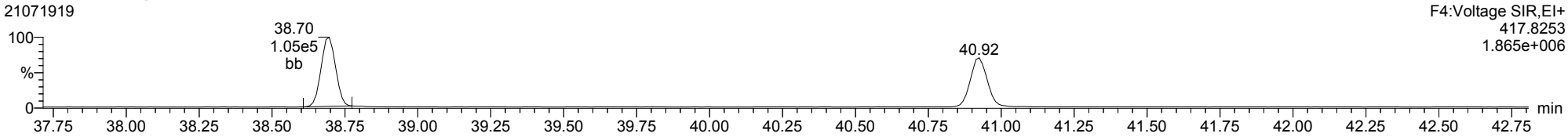

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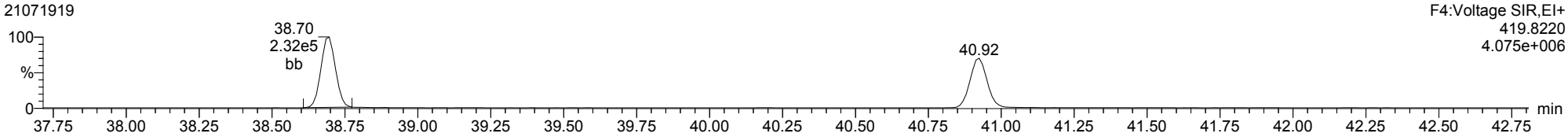
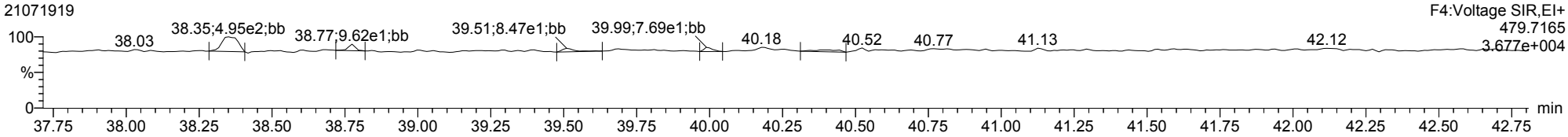


FUNCTION4 NCDPE



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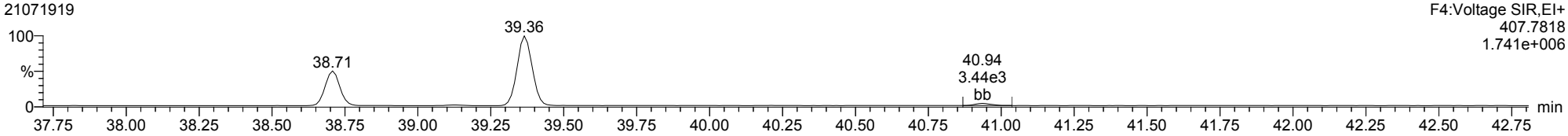

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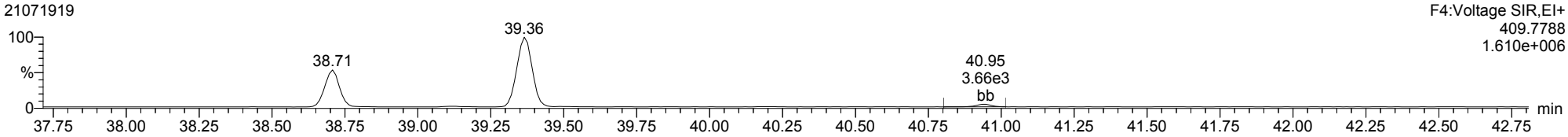

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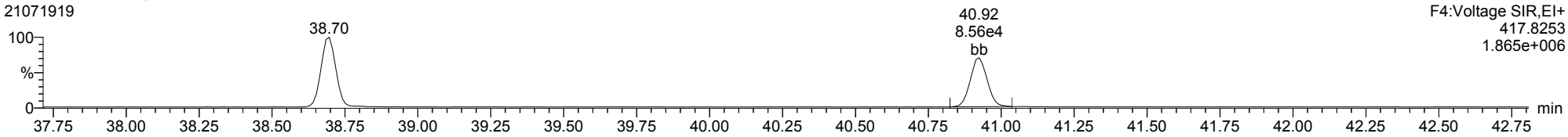

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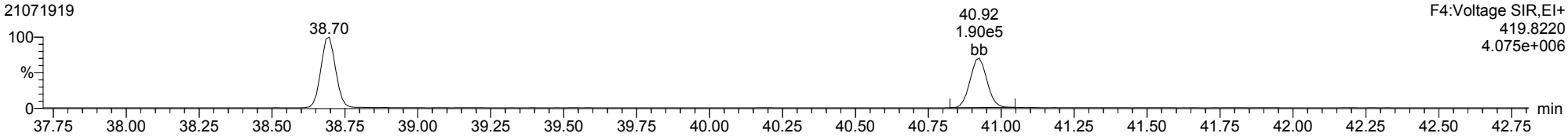
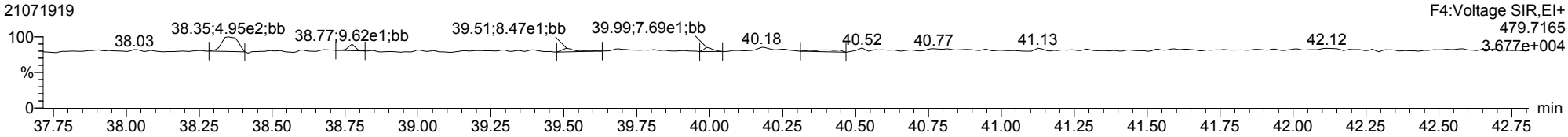
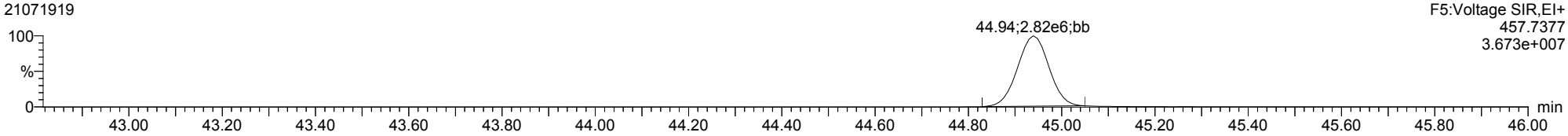


FUNCTION4 NCDPE



ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, Conditions: AUTOSPEC01, User: pk

OCDD



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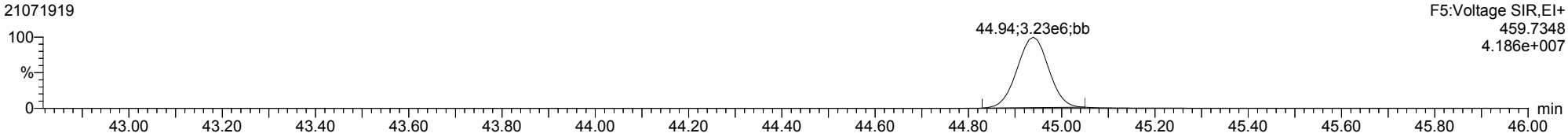
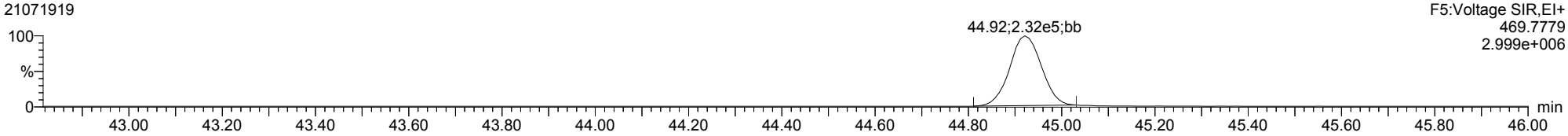


13C-OCDD



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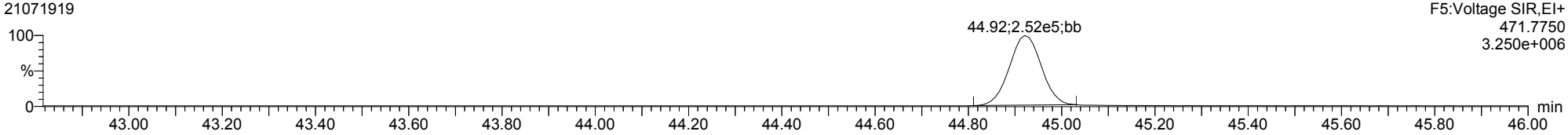
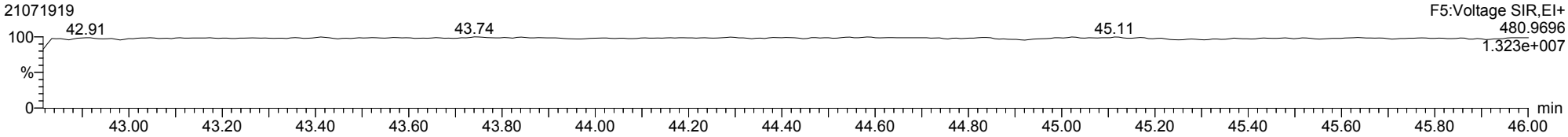
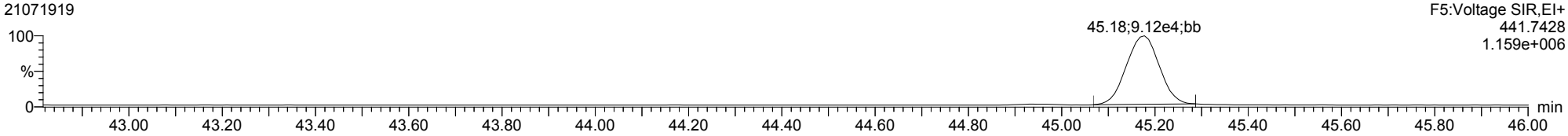


FUNCTION5 PFK

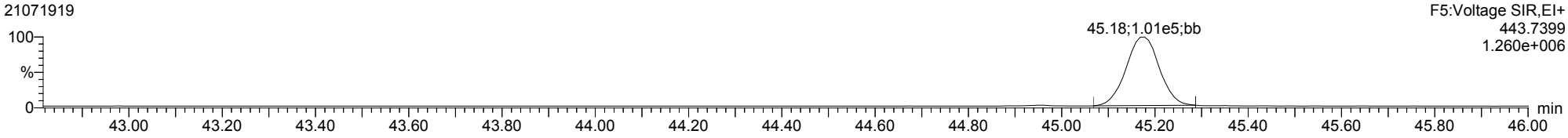


ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, Conditions: AUTOSPEC01, User: pk

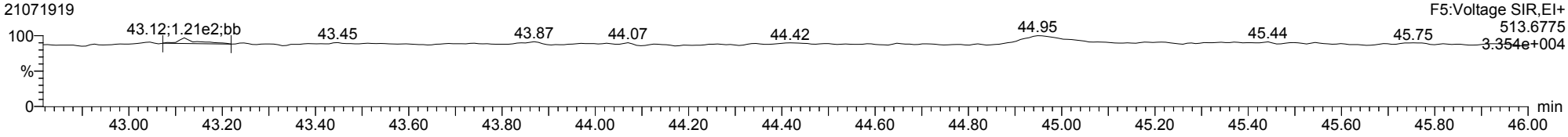
OCDF



OCDF



FUNCTION5 DCDPE



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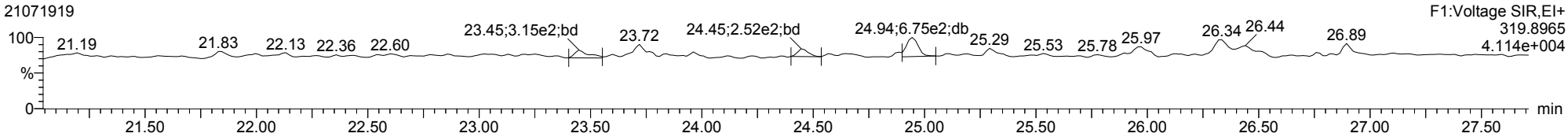
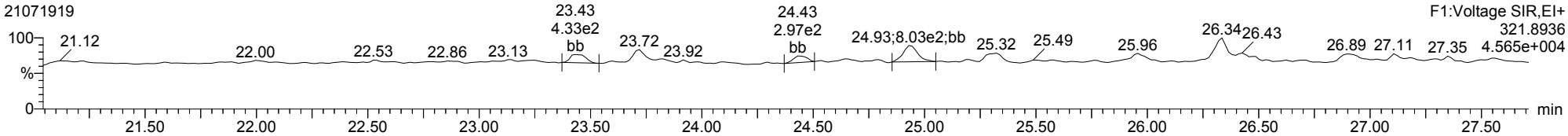
Total-tetradioxins



Total-tetradioxins



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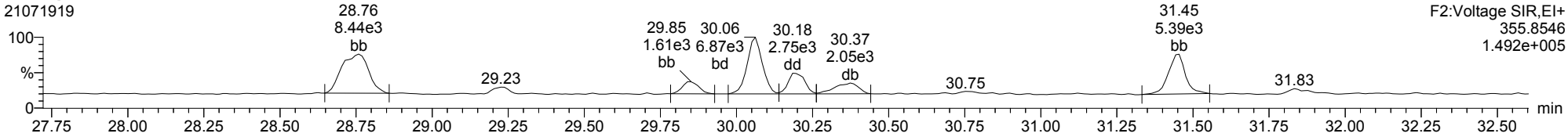
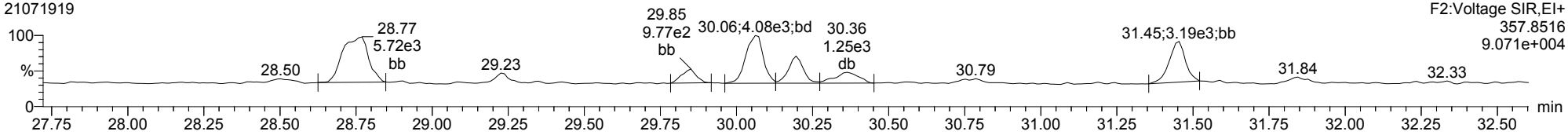
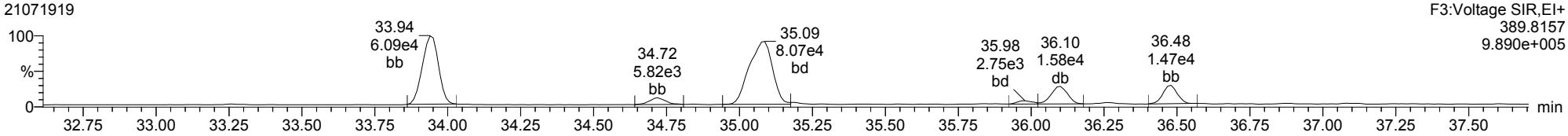


Total-pentadioxins



ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



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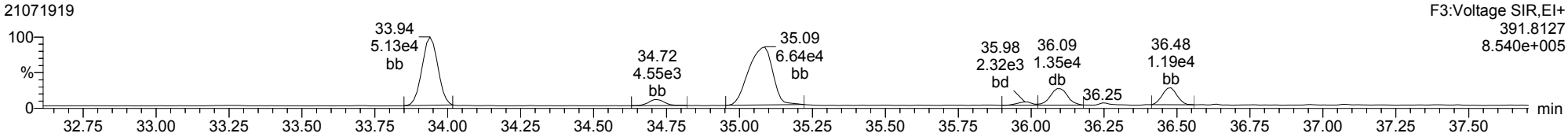

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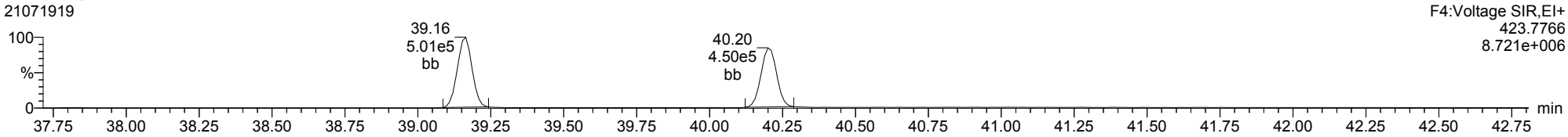
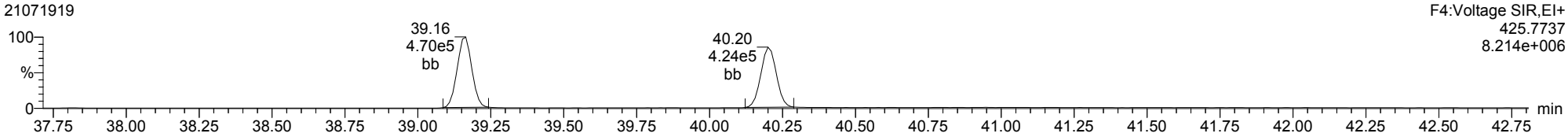
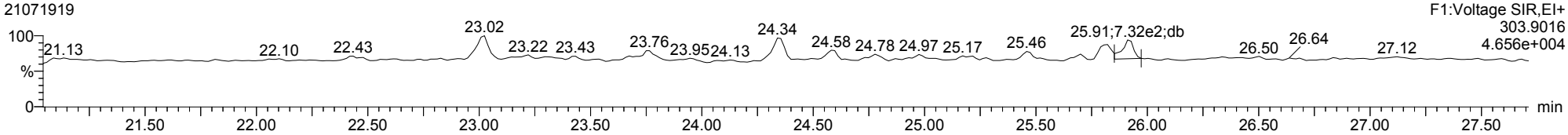


Total-heptadioxins

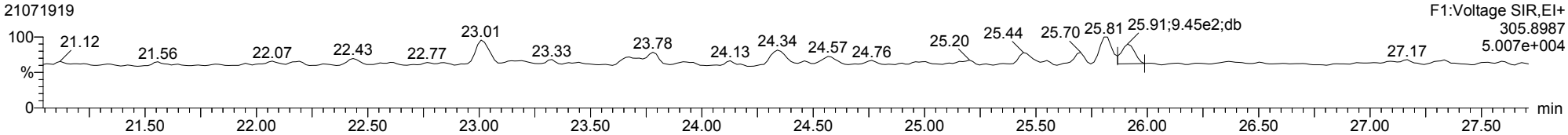


ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



Total-tetrafurans



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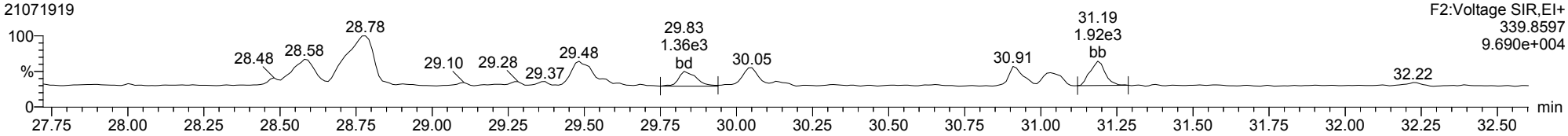
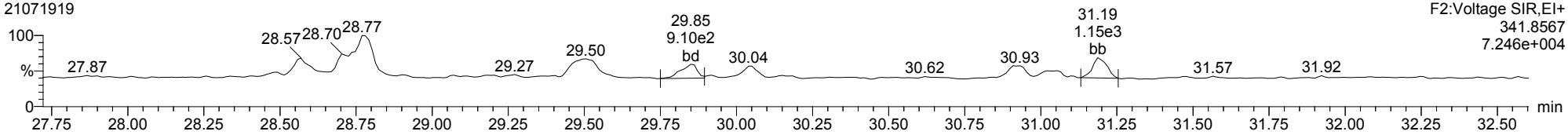


Total-pentafurans



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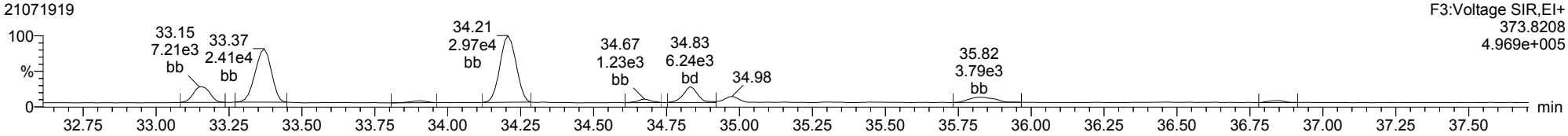
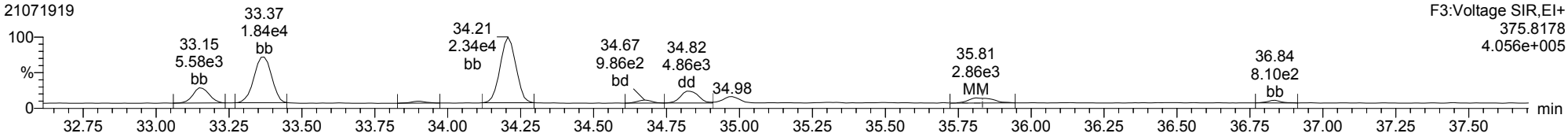
Printed: Tuesday, July 20, 2021 11:02:42 Pacific Daylight Time

ID: 21F0442-07, Name: 21071919, Date: 20-Jul-2021, Time: 01:16:15, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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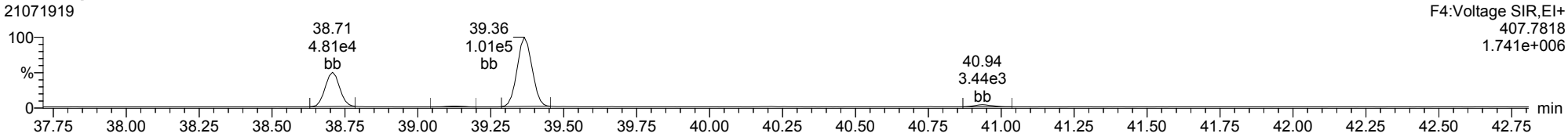

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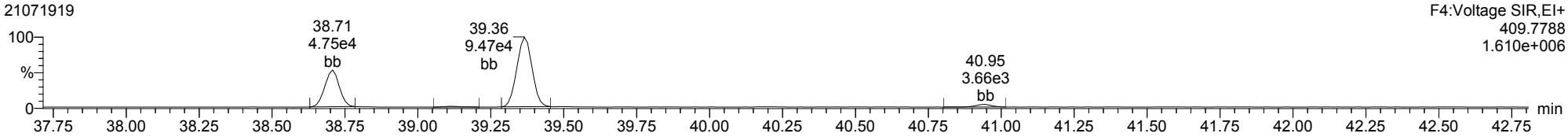

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564I

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-07RE1 B	File ID:	21082414
Sampled:	06/29/21 13:24	Prepared:	08/09/21 16:30	Analyzed:	08/24/21 22:45
% Solids:	63.57	Preparation:	EPA 1613	Initial/Final:	15.89 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJH0304	Calibration:	EH00030
Batch:	BJH0186	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	0.760	0.655-0.886	0.313	0.990	1.34	ng/kg	
1746-01-6	2,3,7,8-TCDD	1	0.793	0.655-0.886	0.225	0.990	2.19	ng/kg	
57117-41-6	1,2,3,7,8-PeCDF	1	1.670	1.318-1.783	0.177	0.990	0.950	ng/kg	J
57117-31-4	2,3,4,7,8-PeCDF	1	1.438	1.318-1.783	0.171	0.990	1.81	ng/kg	
40321-76-4	1,2,3,7,8-PeCDD	1	1.527	1.318-1.783	0.406	0.990	7.57	ng/kg	
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.298	1.054-1.426	0.124	0.990	6.17	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.268	1.054-1.426	0.123	0.990	2.54	ng/kg	
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.951	1.054-1.426	0.127	0.990	1.99	ng/kg	EMPC
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.283	1.054-1.426	0.142	0.990	1.40	ng/kg	
39227-28-6	1,2,3,4,7,8-HxCDD	1	1.140	1.054-1.426	0.276	0.990	3.12	ng/kg	
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.245	1.054-1.426	0.277	0.990	18.3	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.206	1.054-1.426	0.296	0.990	15.9	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.046	0.893-1.208	0.196	0.990	49.2	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.063	0.893-1.208	0.273	0.990	4.11	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.072	0.893-1.208	0.898	2.47	526	ng/kg	B
39001-02-0	OCDF	1	0.880	0.757-1.024	0.330	2.47	144	ng/kg	
3268-87-9	OCDD	1	0.903	0.757-1.024	0.651	9.90	3860	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			0.990	22.8	ng/kg	
41903-57-5	Total TCDD	1	0.000			0.990	11.8	ng/kg	
30402-15-4	Total PeCDF	1	0.000			0.990	30.9	ng/kg	
36088-22-9	Total PeCDD	1	0.000			0.990	38.2	ng/kg	
55684-94-1	Total HxCDF	1	0.000			0.990	78.7	ng/kg	
34465-46-8	Total HxCDD	1	0.000			0.990	198	ng/kg	
38998-75-3	Total HpCDF	1	0.000			0.990	179	ng/kg	
37871-00-4	Total HpCDD	1	0.000			0.990	1090	ng/kg	

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 22.40
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 22.40

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564I

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-07RE1	File ID:	21082414
Sampled:	06/29/21 13:24	Prepared:	08/09/21 16:30	Analyzed:	08/24/21 22:45
Solids Wt%:	63.57	Preparation:	EPA 1613	Initial/Final:	15.89 g / 20 uL
Result Basis:	Dry	Sequence:	SJH0304	Calibration:	EH00030
Batch:	BJH0186	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	0.184	70.5	24 - 169 %	
13C12-2,3,7,8-TCDD		0.758	0.655-0.886	0.242	78.9	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.593	1.318-1.783	0.145	85.3	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.606	1.318-1.783	0.153	83.7	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.567	1.318-1.783	0.148	83.9	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.513	0.434-0.587	0.184	72.7	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.525	0.434-0.587	0.170	69.6	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.510	0.434-0.587	0.188	70.6	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.515	0.434-0.587	0.227	77.3	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.261	1.054-1.426	0.236	78.9	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.253	1.054-1.426	0.217	75.5	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.456	0.374-0.506	0.195	74.5	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.456	0.374-0.506	0.239	78.0	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.053	0.893-1.208	0.241	78.4	23 - 140 %	
13C12-OCDD		0.933	0.757-1.024	0.315	89.8	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.072	80.7	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
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Printed: Wednesday, August 25, 2021 09:23:22 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, 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	25.277	1.001	2.285e3	3.007e3	1.108	0.760	0.770	4322	1898	3.04e4	4.63e4	7.0	24.4	NO	bd	bd	0.675
12378-PeCDF	29.436	1.000	2.371e3	1.420e3	1.015	1.670	1.550	1676	1854	3.65e4	2.21e4	21.8	11.9	NO	MM	db	0.480
23478-PeCDF	30.795	1.001	4.419e3	3.074e3	1.126	1.438	1.550	1676	1854	6.58e4	4.75e4	39.3	25.6	NO	MM	db	0.914
123478-HxCDF	34.439	1.000	1.085e4	8.357e3	1.017	1.298	1.240	1146	848	1.69e5	1.32e5	147.8	156.0	NO	bd	bd	3.116
234678-HxCDF	35.442	1.000	2.964e3	3.117e3	1.052	0.951	1.240	1146	848	5.62e4	4.88e4	49.0	57.5	YES	MM	db	1.004
123678-HxCDF	34.583	1.001	4.666e3	3.679e3	1.037	1.268	1.240	1146	848	7.11e4	5.45e4	62.0	64.3	NO	db	db	1.284
123789-HxCDF	36.466	1.000	2.140e3	1.668e3	1.030	1.283	1.240	1146	848	2.62e4	2.42e4	22.8	28.5	NO	bb	bb	0.708
1234678-HpCDF	38.371	1.000	7.807e4	7.467e4	1.327	1.046	1.050	1397	1948	1.31e6	1.25e6	937.8	639.1	NO	bb	bb	24.869
1234789-HpCDF	40.555	1.000	5.446e3	5.122e3	1.283	1.063	1.050	1397	1948	7.00e4	7.86e4	50.1	40.4	NO	bb	bb	2.077
OCDF	44.692	1.005	1.495e5	1.698e5	1.447	0.880	0.890	1313	1764	1.85e6	2.09e6	1406.7	1186.7	NO	bb	bb	72.763
2378-TCDD	25.927	1.001	2.784e3	3.512e3	0.920	0.793	0.770	2070	1124	3.52e4	4.98e4	17.0	44.3	NO	bd	bd	1.104
12378-PeCDD	31.041	1.001	9.933e3	6.507e3	0.995	1.527	1.550	1923	2320	1.50e5	9.57e4	78.0	41.2	NO	bb	bb	3.824
123478-HxCDD	35.586	1.000	4.386e3	3.847e3	1.027	1.140	1.240	2111	1780	7.41e4	6.74e4	35.1	37.9	NO	bd	bd	1.578
123678-HxCDD	35.709	1.001	2.720e4	2.185e4	1.009	1.245	1.240	2111	1780	4.28e5	3.32e5	202.6	186.4	NO	db	db	9.221
123789-HxCDD	36.099	1.012	2.162e4	1.793e4	0.950	1.206	1.240	2111	1780	3.47e5	2.82e5	164.3	158.2	NO	bb	bb	8.039
1234678-HpCDD	39.842	1.001	4.884e5	4.556e5	1.068	1.072	1.050	3929	4144	7.58e6	7.05e6	1929.6	1701.1	NO	bb	bb	265.704
OCDD	44.473	1.000	3.314e6	3.669e6	1.181	0.903	0.890	2871	2082	4.16e7	4.59e7	14493.9	22060.2	NO	bb	bb	1950.034
13C-2378-TCDF	25.262	1.007	3.172e5	3.905e5	1.427	0.812	0.770	2925	1882	4.78e6	5.98e6	1633.7	3176.4	NO	bb	bb	70.510
13C-12378-PeCDF	29.425	1.173	4.782e5	3.001e5	1.297	1.593	1.550	1900	1556	7.17e6	4.48e6	3771.5	2879.0	NO	bb	bb	85.268
13C-23478-PeCDF	30.762	1.227	4.487e5	2.794e5	1.236	1.606	1.550	1900	1556	6.72e6	4.20e6	3536.0	2696.4	NO	bb	bb	83.690
13C-123478-HxCDF	34.428	0.954	2.056e5	4.005e5	1.242	0.513	0.510	1411	2779	3.19e6	6.21e6	2262.8	2234.7	NO	bd	bd	72.746
13C-123678-HxCDF	34.561	0.958	2.157e5	4.110e5	1.343	0.525	0.510	1411	2779	3.19e6	6.04e6	2257.4	2173.4	NO	db	db	69.568
13C-234678-HxCDF	35.453	0.983	1.943e5	3.810e5	1.215	0.510	0.510	1411	2779	2.99e6	5.85e6	2117.4	2103.9	NO	bb	bb	70.621
13C-123789-HxCDF	36.478	1.011	1.776e5	3.447e5	1.008	0.515	0.510	1411	2779	2.76e6	5.35e6	1954.9	1924.1	NO	bb	bb	77.295
13C-1234678-HpCDF	38.360	1.063	1.450e5	3.177e5	0.926	0.456	0.440	1535	1776	2.39e6	5.21e6	1559.4	2931.2	NO	bb	bb	74.476
13C-1234789-HpCDF	40.544	1.124	1.241e5	2.723e5	0.758	0.456	0.440	1535	1776	1.77e6	3.94e6	1156.1	2220.5	NO	bb	bb	78.000
13C-1234-TCDD	25.080	0.000	3.039e5	3.997e5	1.000	0.760	0.770	2815	2137	4.70e6	6.14e6	1669.1	2872.8	NO	bb	bb	100.000
13C-2378-TCDD	25.897	1.033	2.672e5	3.526e5	1.116	0.758	0.770	2815	2137	3.96e6	5.29e6	1405.3	2474.1	NO	bb	bb	78.887
13C-12378-PeCDD	31.018	1.237	2.637e5	1.682e5	0.732	1.567	1.550	968	1011	3.81e6	2.45e6	3934.1	2421.5	NO	bb	bb	83.857
13C-123478-HxCDD	35.575	0.986	2.833e5	2.247e5	0.960	1.261	1.240	2237	1901	4.54e6	3.61e6	2031.8	1900.5	NO	bd	bd	78.923
13C-123678-HxCDD	35.687	0.989	2.932e5	2.340e5	1.041	1.253	1.240	2237	1901	4.60e6	3.66e6	2055.0	1926.4	NO	db	db	75.494
13C-1234678-HpCDD	39.820	1.104	1.706e5	1.620e5	0.632	1.053	1.050	1573	1222	2.56e6	2.44e6	1630.6	1993.3	NO	bb	bb	78.433
13C-OCDD	44.454	1.232	2.928e5	3.138e5	0.504	0.933	0.890	1261	1640	3.70e6	3.94e6	2932.2	2400.3	NO	bb	bb	179.572
13C-123789-HxCDD	36.076	0.000	3.709e5	2.996e5	1.000	1.238	1.240	2237	1901	6.01e6	4.86e6	2688.6	2555.8	NO	bb	bb	100.000
37CL-2378-TCDD	25.927	1.034	2.463e5		1.084			1421		3.62e6		2543.4			bd		32.300

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
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ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, 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	21.784	0.862	1.281e3	1.613e3	1.425	0.794	0.770	4322	1898	1.89e4	2.34e4	4.4	12.3	NO	db	db	0.287
1289-TCDF					1.043		0.770	4322	1898								
13468-PECDF	26.713	0.908	4.277e4	2.725e4	1.376	1.569	1.550	1086	1873	6.27e5	3.91e5	576.8	208.9	NO	bb	bb	6.537
12389-PECDF					1.000		1.550	1676	1854								
123468-HXCDF	32.757	0.951	1.270e4	9.332e3	1.087	1.361	1.240	1146	848	1.94e5	1.43e5	169.1	168.8	NO	bb	bb	3.346
1368-TCDD	23.054	0.890	2.498e3	3.881e3	0.923	0.644	0.770	2070	1124	3.55e4	5.79e4	17.2	51.5	YES	bb	bb	1.115
1289-TCDD	26.501	1.023	1.075e2	2.419e2	0.794	0.444	0.770	2070	1124	2.72e3	4.20e3	1.3	3.7	YES	bb	bb	0.071
12479-PECDD	28.356	0.914	2.427e4	1.519e4	1.843	1.598	1.550	1923	2320	2.58e5	1.61e5	134.3	69.3	NO	bb	bb	4.957
12389-PECDD	31.431	1.013	1.144e3	8.197e2	1.154	1.395	1.550	1923	2320	2.08e4	1.33e4	10.8	5.7	NO	bb	bb	0.394
124679-HXCDD	33.548	0.943	1.026e5	8.245e4	1.125	1.244	1.240	2111	1780	1.49e6	1.22e6	704.3	687.9	NO	bb	bb	32.384
1234679-HPCDD	38.817	0.975	5.940e5	5.513e5	1.211	1.077	1.050	3929	4144	9.76e6	9.09e6	2483.3	2194.2	NO	bb	bb	284.352
Total-tetrafurans			4.178e4		1.192			4322		5.77e5							11.502
Total-penta1			4.277e4					1086		6.27e5							6.537
Total-pentafurans			4.393e4		1.047			1676		5.34e5							9.065
Total-hexafurans			1.358e5		1.045			1146		2.00e6							39.758
Total-heptafurans			2.631e5		1.305			1397		4.26e6							90.257
Total-Furans			6.769e5		1.158			4322		9.85e6							229.881
Total-tetradioxins			1.465e4		0.879			2070		2.01e5							5.943
Total-pentadioxins			7.123e4		1.331			1923		9.54e5							19.286
Total-hexadioxins			2.977e5		1.028			2111		3.81e6							100.004
Total-heptadioxins			1.082e6		1.140			3929		1.73e7							550.056
Total-Dioxins			4.781e6		1.092			2070		6.39e7							2625.454
Total-TEQ			5.458e6					2070		7.38e7							2855.335
FUNCTION1 PFK			7.046e6					776617		8.45e7							
FUNCTION2 PFK			6.773e4					388682		1.72e6							0.000
FUNCTION3 PFK			1.923e6					499361		8.62e6							0.000
FUNCTION4 PFK			6.987e5					317838		1.66e7							
FUNCTION5 PFK			1.285e5					220043		4.82e6							
FUNCTION1 HXCD...			4.838e3					1416		8.71e4							0.000
FUNCTION1 HPCD...			6.138e3					1022		9.22e4							0.000
FUNCTION2 HPCD...			7.869e2					767		1.43e4							0.000
FUNCTION3 OCDPE			9.290e2					945		2.09e4							0.000
FUNCTION4 NCDPE			4.417e3					890		7.21e4							0.000
FUNCTION5 DCDPE			0.000e0					872		0.00e0							

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Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, 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	24.04	1.195e3	1.356e3	1.192	0.88	0.77	4.7	YES	NO	dd	dd	0.302
2	Total-tetrafurans	23.95	3.172e3	4.504e3	1.192	0.70	0.77	10.1	YES	NO	bd	MM	0.910
3	Total-tetrafurans	23.54	2.563e3	3.837e3	1.192	0.67	0.77	8.5	YES	NO	db	db	0.759
4	Total-tetrafurans	23.02	3.032e3	3.848e3	1.192	0.79	0.77	8.3	YES	NO	db	dd	0.816
5	Total-tetrafurans	22.93	3.423e3	5.088e3	1.192	0.67	0.77	10.5	YES	NO	dd	dd	1.009
6	Total-tetrafurans	22.63	6.567e3	9.151e3	1.192	0.72	0.77	20.1	YES	NO	bd	bd	1.863
7	Total-tetrafurans	22.04	2.204e3	2.750e3	1.192	0.80	0.77	8.1	YES	NO	bd	bd	0.587
8	1368-TCDF	21.78	1.281e3	1.613e3	1.425	0.79	0.77	4.4	YES	NO	db	db	0.287
9	Total-tetrafurans	25.52	3.207e3	3.983e3	1.192	0.81	0.77	9.5	YES	NO	db	db	0.852
10	Total-tetrafurans	25.41	1.249e3	1.881e3	1.192	0.66	0.77	4.9	YES	NO	dd	dd	0.371
11	2378-TCDF	25.28	2.285e3	3.007e3	1.108	0.76	0.77	7.0	YES	NO	bd	bd	0.675
12	Total-tetrafurans	25.03	3.747e3	4.818e3	1.192	0.78	0.77	8.6	YES	NO	bb	bb	1.015
13	Total-tetrafurans	24.60	1.059e3	1.495e3	1.192	0.71	0.77	4.5	YES	NO	bb	bb	0.303
14	Total-tetrafurans	24.37	2.201e3	2.770e3	1.192	0.79	0.77	8.3	YES	NO	bb	bb	0.589
15	Total-tetrafurans	24.19	4.599e3	5.211e3	1.192	0.88	0.77	16.2	YES	NO	db	db	1.163

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.71	4.277e4	2.725e4	1.376	1.57	1.55	576.8	YES	NO	bb	bb	6.537

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.44	2.371e3	1.420e3	1.015	1.67	1.55	21.8	YES	NO	MM	db	0.480
2	Total-pentafurans	28.65	4.519e2	3.241e2	1.047	1.39	1.55	3.8	NO	NO	bb	bb	0.098
3	Total-pentafurans	28.38	2.450e4	1.542e4	1.047	1.59	1.55	149.6	YES	NO	dd	MM	5.064
4	Total-pentafurans	28.19	5.637e3	3.239e3	1.047	1.74	1.55	43.8	YES	NO	dd	dd	1.126
5	Total-pentafurans	28.07	7.198e2	4.891e2	1.047	1.47	1.55	9.4	YES	NO	bd	bd	0.153
6	23478-PeCDF	30.80	4.419e3	3.074e3	1.126	1.44	1.55	39.3	YES	NO	MM	db	0.914
7	Total-pentafurans	30.63	3.823e3	2.379e3	1.047	1.61	1.55	33.0	YES	NO	db	dd	0.787
8	Total-pentafurans	30.52	2.008e3	1.480e3	1.047	1.36	1.55	17.8	YES	NO	bd	bd	0.443

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HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	34.58	4.666e3	3.679e3	1.037	1.27	1.24	62.0	YES	NO	db	db	1.284
2	123478-HxCDF	34.44	1.085e4	8.357e3	1.017	1.30	1.24	147.8	YES	NO	bd	bd	3.116
3	Total-hexafurans	34.28	2.063e3	1.616e3	1.045	1.28	1.24	25.9	YES	NO	bb	bb	0.605
4	Total-hexafurans	33.81	6.162e4	4.893e4	1.045	1.26	1.24	790.4	YES	NO	bb	bb	18.164
5	Total-hexafurans	33.50	2.037e3	1.432e3	1.045	1.42	1.24	24.8	YES	NO	bb	bb	0.570
6	Total-hexafurans	32.97	3.974e4	3.308e4	1.045	1.20	1.24	504.0	YES	NO	bb	bb	11.965
7	123468-HXCDF	32.76	1.270e4	9.332e3	1.087	1.36	1.24	169.1	YES	NO	bb	bb	3.346
8	123789-HxCDF	36.47	2.140e3	1.668e3	1.030	1.28	1.24	22.8	YES	NO	bb	bb	0.708

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.02	1.796e5	1.754e5	1.305	1.02	1.05	2065.0	YES	NO	bb	bb	63.311
2	1234678-HpCDF	38.37	7.807e4	7.467e4	1.327	1.05	1.05	937.8	YES	NO	bb	bb	24.869
3	1234789-HpCDF	40.56	5.446e3	5.122e3	1.283	1.06	1.05	50.1	YES	NO	bb	bb	2.077

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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	1.195e3	1.356e3	1.192	0.88	0.77	4.7	YES	NO	dd	dd	0.302
2	Total-tetrafurans	23.95	3.172e3	4.504e3	1.192	0.70	0.77	10.1	YES	NO	bd	MM	0.910
3	Total-tetrafurans	23.54	2.563e3	3.837e3	1.192	0.67	0.77	8.5	YES	NO	db	db	0.759
4	Total-tetrafurans	23.02	3.032e3	3.848e3	1.192	0.79	0.77	8.3	YES	NO	db	dd	0.816
5	Total-tetrafurans	22.93	3.423e3	5.088e3	1.192	0.67	0.77	10.5	YES	NO	dd	dd	1.009
6	Total-tetrafurans	22.63	6.567e3	9.151e3	1.192	0.72	0.77	20.1	YES	NO	bd	bd	1.863
7	Total-tetrafurans	22.04	2.204e3	2.750e3	1.192	0.80	0.77	8.1	YES	NO	bd	bd	0.587
8	1368-TCDF	21.78	1.281e3	1.613e3	1.425	0.79	0.77	4.4	YES	NO	db	db	0.287
9	Total-tetrafurans	25.52	3.207e3	3.983e3	1.192	0.81	0.77	9.5	YES	NO	db	db	0.852
10	Total-tetrafurans	25.41	1.249e3	1.881e3	1.192	0.66	0.77	4.9	YES	NO	dd	dd	0.371
11	2378-TCDF	25.28	2.285e3	3.007e3	1.108	0.76	0.77	7.0	YES	NO	bd	bd	0.675
12	Total-tetrafurans	25.03	3.747e3	4.818e3	1.192	0.78	0.77	8.6	YES	NO	bb	bb	1.015
13	Total-tetrafurans	24.60	1.059e3	1.495e3	1.192	0.71	0.77	4.5	YES	NO	bb	bb	0.303
14	Total-tetrafurans	24.37	2.201e3	2.770e3	1.192	0.79	0.77	8.3	YES	NO	bb	bb	0.589
15	Total-tetrafurans	24.19	4.599e3	5.211e3	1.192	0.88	0.77	16.2	YES	NO	db	db	1.163
16	12378-PeCDF	29.44	2.371e3	1.420e3	1.015	1.67	1.55	21.8	YES	NO	MM	db	0.480
17	Total-pentafurans	28.65	4.519e2	3.241e2	1.047	1.39	1.55	3.8	NO	NO	bb	bb	0.098
18	Total-pentafurans	28.38	2.450e4	1.542e4	1.047	1.59	1.55	149.6	YES	NO	dd	MM	5.064
19	Total-pentafurans	28.19	5.637e3	3.239e3	1.047	1.74	1.55	43.8	YES	NO	dd	dd	1.126
20	Total-pentafurans	28.07	7.198e2	4.891e2	1.047	1.47	1.55	9.4	YES	NO	bd	bd	0.153
21	23478-PeCDF	30.80	4.419e3	3.074e3	1.126	1.44	1.55	39.3	YES	NO	MM	db	0.914
22	Total-pentafurans	30.63	3.823e3	2.379e3	1.047	1.61	1.55	33.0	YES	NO	db	dd	0.787
23	Total-pentafurans	30.52	2.008e3	1.480e3	1.047	1.36	1.55	17.8	YES	NO	bd	bd	0.443
24	123678-HxCDF	34.58	4.666e3	3.679e3	1.037	1.27	1.24	62.0	YES	NO	db	db	1.284
25	123478-HxCDF	34.44	1.085e4	8.357e3	1.017	1.30	1.24	147.8	YES	NO	bd	bd	3.116
26	Total-hexafurans	34.28	2.063e3	1.616e3	1.045	1.28	1.24	25.9	YES	NO	bb	bb	0.605
27	Total-hexafurans	33.81	6.162e4	4.893e4	1.045	1.26	1.24	790.4	YES	NO	bb	bb	18.164
28	Total-hexafurans	33.50	2.037e3	1.432e3	1.045	1.42	1.24	24.8	YES	NO	bb	bb	0.570
29	Total-hexafurans	32.97	3.974e4	3.308e4	1.045	1.20	1.24	504.0	YES	NO	bb	bb	11.965
30	123468-HXCDF	32.76	1.270e4	9.332e3	1.087	1.36	1.24	169.1	YES	NO	bb	bb	3.346
31	123789-HxCDF	36.47	2.140e3	1.668e3	1.030	1.28	1.24	22.8	YES	NO	bb	bb	0.708
32	Total-heptafurans	39.02	1.796e5	1.754e5	1.305	1.02	1.05	2065.0	YES	NO	bb	bb	63.311
33	1234678-HpCDF	38.37	7.807e4	7.467e4	1.327	1.05	1.05	937.8	YES	NO	bb	bb	24.869
34	1234789-HpCDF	40.56	5.446e3	5.122e3	1.283	1.06	1.05	50.1	YES	NO	bb	bb	2.077
35	OCDF	44.69	1.495e5	1.698e5	1.447	0.88	0.89	1406.7	YES	NO	bb	bb	72.763
36	13468-PECDF	26.71	4.277e4	2.725e4	1.376	1.57	1.55	576.8	YES	NO	bb	bb	6.537

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	26.05	8.780e2	1.031e3	0.879	0.85	0.77	6.1	YES	NO	db	db	0.350
2	2378-TCDD	25.93	2.784e3	3.512e3	0.920	0.79	0.77	17.0	YES	NO	bd	bd	1.104
3	Total-tetradioxins	25.55	1.199e3	1.380e3	0.879	0.87	0.77	7.4	YES	NO	bb	bb	0.473
4	Total-tetradioxins	24.54	4.331e3	5.221e3	0.879	0.83	0.77	29.7	YES	NO	bb	bb	1.753
5	Total-tetradioxins	24.25	1.017e3	1.168e3	0.879	0.87	0.77	5.7	YES	NO	bb	db	0.401
6	Total-tetradioxins	24.07	7.042e2	9.102e2	0.879	0.77	0.77	5.3	YES	NO	bb	bd	0.296
7	Total-tetradioxins	23.54	9.283e2	1.261e3	0.879	0.74	0.77	5.7	YES	NO	db	bb	0.402
8	Total-tetradioxins	23.33	2.803e3	3.535e3	0.879	0.79	0.77	20.0	YES	NO	bd	bb	1.163

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.43	1.144e3	8.197e2	1.154	1.40	1.55	10.8	YES	NO	bb	bb	0.394
2	12378-PeCDD	31.04	9.933e3	6.507e3	0.995	1.53	1.55	78.0	YES	NO	bb	bb	3.824
3	Total-pentadioxins	29.97	4.537e3	2.995e3	1.331	1.51	1.55	24.2	YES	NO	db	db	1.311
4	Total-pentadioxins	29.79	5.084e3	3.128e3	1.331	1.63	1.55	40.1	YES	NO	dd	dd	1.429
5	Total-pentadioxins	29.65	1.938e4	1.188e4	1.331	1.63	1.55	149.4	YES	NO	bd	bd	5.439
6	Total-pentadioxins	29.44	4.664e3	2.651e3	1.331	1.76	1.55	37.8	YES	NO	bb	bb	1.273
7	Total-pentadioxins	28.82	2.218e3	1.576e3	1.331	1.41	1.55	21.4	YES	NO	bb	bb	0.660
8	12479-PECDD	28.36	2.427e4	1.519e4	1.843	1.60	1.55	134.3	YES	NO	bb	bb	4.957

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.10	2.162e4	1.793e4	0.950	1.21	1.24	164.3	YES	NO	bb	bb	8.039
2	Total-hexadioxins	35.88	1.821e3	1.567e3	1.028	1.16	1.24	15.9	YES	NO	bb	bb	0.637
3	123678-HxCDD	35.71	2.720e4	2.185e4	1.009	1.24	1.24	202.6	YES	NO	db	db	9.221
4	123478-HxCDD	35.59	4.386e3	3.847e3	1.027	1.14	1.24	35.1	YES	NO	bd	bd	1.578
5	Total-hexadioxins	34.69	1.307e5	1.078e5	1.028	1.21	1.24	614.3	YES	NO	bb	bb	44.821
6	Total-hexadioxins	34.33	9.372e3	8.317e3	1.028	1.13	1.24	67.7	YES	NO	bb	bb	3.325
7	124679-HXCDD	33.55	1.026e5	8.245e4	1.125	1.24	1.24	704.3	YES	NO	bb	bb	32.384

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.84	4.884e5	4.556e5	1.068	1.07	1.05	1929.6	YES	NO	bb	bb	265.704
2	1234679-HPCDD	38.82	5.940e5	5.513e5	1.211	1.08	1.05	2483.3	YES	NO	bb	bb	284.352

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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-Dioxins	21.60	3.888e2	4.903e2	1.092	0.79	0.77	3.9	YES	NO	bb	bb	0.130
2	Total-tetradioxins	26.05	8.780e2	1.031e3	0.879	0.85	0.77	6.1	YES	NO	db	db	0.350
3	2378-TCDD	25.93	2.784e3	3.512e3	0.920	0.79	0.77	17.0	YES	NO	bd	bd	1.104
4	Total-tetradioxins	25.55	1.199e3	1.380e3	0.879	0.87	0.77	7.4	YES	NO	bb	bb	0.473
5	Total-tetradioxins	24.54	4.331e3	5.221e3	0.879	0.83	0.77	29.7	YES	NO	bb	bb	1.753
6	Total-tetradioxins	24.25	1.017e3	1.168e3	0.879	0.87	0.77	5.7	YES	NO	bb	db	0.401
7	Total-tetradioxins	24.07	7.042e2	9.102e2	0.879	0.77	0.77	5.3	YES	NO	bb	bd	0.296
8	Total-tetradioxins	23.54	9.283e2	1.261e3	0.879	0.74	0.77	5.7	YES	NO	db	bb	0.402
9	Total-tetradioxins	23.33	2.803e3	3.535e3	0.879	0.79	0.77	20.0	YES	NO	bd	bb	1.163
10	12389-PECDD	31.43	1.144e3	8.197e2	1.154	1.40	1.55	10.8	YES	NO	bb	bb	0.394
11	12378-PeCDD	31.04	9.933e3	6.507e3	0.995	1.53	1.55	78.0	YES	NO	bb	bb	3.824
12	Total-pentadioxins	29.97	4.537e3	2.995e3	1.331	1.51	1.55	24.2	YES	NO	db	db	1.311
13	Total-pentadioxins	29.79	5.084e3	3.128e3	1.331	1.63	1.55	40.1	YES	NO	dd	dd	1.429
14	Total-pentadioxins	29.65	1.938e4	1.188e4	1.331	1.63	1.55	149.4	YES	NO	bd	bd	5.439
15	Total-pentadioxins	29.44	4.664e3	2.651e3	1.331	1.76	1.55	37.8	YES	NO	bb	bb	1.273
16	Total-pentadioxins	28.82	2.218e3	1.576e3	1.331	1.41	1.55	21.4	YES	NO	bb	bb	0.660
17	12479-PECDD	28.36	2.427e4	1.519e4	1.843	1.60	1.55	134.3	YES	NO	bb	bb	4.957
18	123789-HxCDD	36.10	2.162e4	1.793e4	0.950	1.21	1.24	164.3	YES	NO	bb	bb	8.039
19	Total-hexadioxins	35.88	1.821e3	1.567e3	1.028	1.16	1.24	15.9	YES	NO	bb	bb	0.637
20	123678-HxCDD	35.71	2.720e4	2.185e4	1.009	1.24	1.24	202.6	YES	NO	db	db	9.221
21	123478-HxCDD	35.59	4.386e3	3.847e3	1.027	1.14	1.24	35.1	YES	NO	bd	bd	1.578
22	Total-hexadioxins	34.69	1.307e5	1.078e5	1.028	1.21	1.24	614.3	YES	NO	bb	bb	44.821
23	Total-hexadioxins	34.33	9.372e3	8.317e3	1.028	1.13	1.24	67.7	YES	NO	bb	bb	3.325
24	124679-HXCDD	33.55	1.026e5	8.245e4	1.125	1.24	1.24	704.3	YES	NO	bb	bb	32.384
25	OCDD	44.47	3.314e6	3.669e6	1.181	0.90	0.89	14493.9	YES	NO	bb	bb	1950.0...
26	1234678-HpCDD	39.84	4.884e5	4.556e5	1.068	1.07	1.05	1929.6	YES	NO	bb	bb	265.704
27	1234679-HPCDD	38.82	5.940e5	5.513e5	1.211	1.08	1.05	2483.3	YES	NO	bb	bb	284.352

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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	1.195e3	1.356e3	1.192	0.88	0.77	4.7	YES	NO	dd	dd	0.302
2	Total-tetrafurans	23.95	3.172e3	4.504e3	1.192	0.70	0.77	10.1	YES	NO	bd	MM	0.910
3	Total-tetrafurans	23.54	2.563e3	3.837e3	1.192	0.67	0.77	8.5	YES	NO	db	db	0.759
4	Total-tetrafurans	23.02	3.032e3	3.848e3	1.192	0.79	0.77	8.3	YES	NO	db	dd	0.816
5	Total-tetrafurans	22.93	3.423e3	5.088e3	1.192	0.67	0.77	10.5	YES	NO	dd	dd	1.009
6	Total-tetrafurans	22.63	6.567e3	9.151e3	1.192	0.72	0.77	20.1	YES	NO	bd	bd	1.863
7	Total-tetrafurans	22.04	2.204e3	2.750e3	1.192	0.80	0.77	8.1	YES	NO	bd	bd	0.587
8	1368-TCDF	21.78	1.281e3	1.613e3	1.425	0.79	0.77	4.4	YES	NO	db	db	0.287
9	Total-tetrafurans	25.52	3.207e3	3.983e3	1.192	0.81	0.77	9.5	YES	NO	db	db	0.852
10	Total-tetrafurans	25.41	1.249e3	1.881e3	1.192	0.66	0.77	4.9	YES	NO	dd	dd	0.371
11	2378-TCDF	25.28	2.285e3	3.007e3	1.108	0.76	0.77	7.0	YES	NO	bd	bd	0.675
12	Total-tetrafurans	25.03	3.747e3	4.818e3	1.192	0.78	0.77	8.6	YES	NO	bb	bb	1.015
13	Total-tetrafurans	24.60	1.059e3	1.495e3	1.192	0.71	0.77	4.5	YES	NO	bb	bb	0.303
14	Total-tetrafurans	24.37	2.201e3	2.770e3	1.192	0.79	0.77	8.3	YES	NO	bb	bb	0.589
15	Total-tetrafurans	24.19	4.599e3	5.211e3	1.192	0.88	0.77	16.2	YES	NO	db	db	1.163
16	12378-PeCDF	29.44	2.371e3	1.420e3	1.015	1.67	1.55	21.8	YES	NO	MM	db	0.480
17	Total-pentafurans	28.65	4.519e2	3.241e2	1.047	1.39	1.55	3.8	NO	NO	bb	bb	0.098
18	Total-pentafurans	28.38	2.450e4	1.542e4	1.047	1.59	1.55	149.6	YES	NO	dd	MM	5.064
19	Total-pentafurans	28.19	5.637e3	3.239e3	1.047	1.74	1.55	43.8	YES	NO	dd	dd	1.126
20	Total-pentafurans	28.07	7.198e2	4.891e2	1.047	1.47	1.55	9.4	YES	NO	bd	bd	0.153
21	23478-PeCDF	30.80	4.419e3	3.074e3	1.126	1.44	1.55	39.3	YES	NO	MM	db	0.914
22	Total-pentafurans	30.63	3.823e3	2.379e3	1.047	1.61	1.55	33.0	YES	NO	db	dd	0.787
23	Total-pentafurans	30.52	2.008e3	1.480e3	1.047	1.36	1.55	17.8	YES	NO	bd	bd	0.443
24	123678-HxCDF	34.58	4.666e3	3.679e3	1.037	1.27	1.24	62.0	YES	NO	db	db	1.284
25	123478-HxCDF	34.44	1.085e4	8.357e3	1.017	1.30	1.24	147.8	YES	NO	bd	bd	3.116
26	Total-hexafurans	34.28	2.063e3	1.616e3	1.045	1.28	1.24	25.9	YES	NO	bb	bb	0.605
27	Total-hexafurans	33.81	6.162e4	4.893e4	1.045	1.26	1.24	790.4	YES	NO	bb	bb	18.164
28	Total-hexafurans	33.50	2.037e3	1.432e3	1.045	1.42	1.24	24.8	YES	NO	bb	bb	0.570
29	Total-hexafurans	32.97	3.974e4	3.308e4	1.045	1.20	1.24	504.0	YES	NO	bb	bb	11.965
30	123468-HXCDF	32.76	1.270e4	9.332e3	1.087	1.36	1.24	169.1	YES	NO	bb	bb	3.346
31	123789-HxCDF	36.47	2.140e3	1.668e3	1.030	1.28	1.24	22.8	YES	NO	bb	bb	0.708
32	Total-heptafurans	39.02	1.796e5	1.754e5	1.305	1.02	1.05	2065.0	YES	NO	bb	bb	63.311
33	1234678-HpCDF	38.37	7.807e4	7.467e4	1.327	1.05	1.05	937.8	YES	NO	bb	bb	24.869
34	1234789-HpCDF	40.56	5.446e3	5.122e3	1.283	1.06	1.05	50.1	YES	NO	bb	bb	2.077
35	OCDF	44.69	1.495e5	1.698e5	1.447	0.88	0.89	1406.7	YES	NO	bb	bb	72.763
36	13468-PECDF	26.71	4.277e4	2.725e4	1.376	1.57	1.55	576.8	YES	NO	bb	bb	6.537
37	Total-Dioxins	21.60	3.888e2	4.903e2	1.092	0.79	0.77	3.9	YES	NO	bb	bb	0.130

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	Total-tetradioxins	26.05	8.780e2	1.031e3	0.879	0.85	0.77	6.1	YES	NO	db	db	0.350
39	2378-TCDD	25.93	2.784e3	3.512e3	0.920	0.79	0.77	17.0	YES	NO	bd	bd	1.104
40	Total-tetradioxins	25.55	1.199e3	1.380e3	0.879	0.87	0.77	7.4	YES	NO	bb	bb	0.473
41	Total-tetradioxins	24.54	4.331e3	5.221e3	0.879	0.83	0.77	29.7	YES	NO	bb	bb	1.753
42	Total-tetradioxins	24.25	1.017e3	1.168e3	0.879	0.87	0.77	5.7	YES	NO	bb	db	0.401
43	Total-tetradioxins	24.07	7.042e2	9.102e2	0.879	0.77	0.77	5.3	YES	NO	bb	bd	0.296
44	Total-tetradioxins	23.54	9.283e2	1.261e3	0.879	0.74	0.77	5.7	YES	NO	db	bb	0.402
45	Total-tetradioxins	23.33	2.803e3	3.535e3	0.879	0.79	0.77	20.0	YES	NO	bd	bb	1.163
46	12389-PECDD	31.43	1.144e3	8.197e2	1.154	1.40	1.55	10.8	YES	NO	bb	bb	0.394
47	12378-PeCDD	31.04	9.933e3	6.507e3	0.995	1.53	1.55	78.0	YES	NO	bb	bb	3.824
48	Total-pentadioxins	29.97	4.537e3	2.995e3	1.331	1.51	1.55	24.2	YES	NO	db	db	1.311
49	Total-pentadioxins	29.79	5.084e3	3.128e3	1.331	1.63	1.55	40.1	YES	NO	dd	dd	1.429
50	Total-pentadioxins	29.65	1.938e4	1.188e4	1.331	1.63	1.55	149.4	YES	NO	bd	bd	5.439
51	Total-pentadioxins	29.44	4.664e3	2.651e3	1.331	1.76	1.55	37.8	YES	NO	bb	bb	1.273
52	Total-pentadioxins	28.82	2.218e3	1.576e3	1.331	1.41	1.55	21.4	YES	NO	bb	bb	0.660
53	12479-PECDD	28.36	2.427e4	1.519e4	1.843	1.60	1.55	134.3	YES	NO	bb	bb	4.957
54	123789-HxCDD	36.10	2.162e4	1.793e4	0.950	1.21	1.24	164.3	YES	NO	bb	bb	8.039
55	Total-hexadioxins	35.88	1.821e3	1.567e3	1.028	1.16	1.24	15.9	YES	NO	bb	bb	0.637
56	123678-HxCDD	35.71	2.720e4	2.185e4	1.009	1.24	1.24	202.6	YES	NO	db	db	9.221
57	123478-HxCDD	35.59	4.386e3	3.847e3	1.027	1.14	1.24	35.1	YES	NO	bd	bd	1.578
58	Total-hexadioxins	34.69	1.307e5	1.078e5	1.028	1.21	1.24	614.3	YES	NO	bb	bb	44.821
59	Total-hexadioxins	34.33	9.372e3	8.317e3	1.028	1.13	1.24	67.7	YES	NO	bb	bb	3.325
60	124679-HXCDD	33.55	1.026e5	8.245e4	1.125	1.24	1.24	704.3	YES	NO	bb	bb	32.384
61	OCDD	44.47	3.314e6	3.669e6	1.181	0.90	0.89	14493.9	YES	NO	bb	bb	1950.0...
62	1234678-HpCDD	39.84	4.884e5	4.556e5	1.068	1.07	1.05	1929.6	YES	NO	bb	bb	265.704
63	1234679-HPCDD	38.82	5.940e5	5.513e5	1.211	1.08	1.05	2483.3	YES	NO	bb	bb	284.352

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.86	3.688e5					8.5	YES		dd		
2	FUNCTION1 PFK	21.80	8.927e5					9.4	YES		dd		
3	FUNCTION1 PFK	21.68	4.789e5					10.7	YES		dd		
4	FUNCTION1 PFK	21.63	3.267e5					10.0	YES		bd		
5	FUNCTION1 PFK	21.41	1.510e6					9.6	YES		db		
6	FUNCTION1 PFK	21.35	3.212e5					8.1	YES		dd		
7	FUNCTION1 PFK	21.29	2.270e5					5.3	YES		dd		
8	FUNCTION1 PFK	21.19	1.133e5					2.6	NO		bd		
9	FUNCTION1 PFK	24.20	2.031e4					0.6	NO		bb		
10	FUNCTION1 PFK	24.05	3.262e4					1.3	NO		bb		
11	FUNCTION1 PFK	23.80	4.371e3					0.4	NO		bb		
12	FUNCTION1 PFK	23.73	3.180e4					1.3	NO		db		
13	FUNCTION1 PFK	23.69	5.029e4					1.5	NO		bd		
14	FUNCTION1 PFK	23.63	4.172e4					0.8	NO		bb		
15	FUNCTION1 PFK	22.99	2.552e4					1.0	NO		db		
16	FUNCTION1 PFK	22.90	1.391e5					2.2	NO		dd		
17	FUNCTION1 PFK	22.86	1.608e5					2.5	NO		dd		
18	FUNCTION1 PFK	22.74	4.620e4					1.6	NO		bd		
19	FUNCTION1 PFK	22.65	4.033e4					1.1	NO		bb		
20	FUNCTION1 PFK	22.34	6.239e4					2.0	NO		db		
21	FUNCTION1 PFK	22.27	1.049e5					2.8	NO		dd		
22	FUNCTION1 PFK	22.21	1.420e5					3.7	YES		dd		
23	FUNCTION1 PFK	22.15	2.168e5					4.6	YES		dd		
24	FUNCTION1 PFK	22.03	1.107e6					6.7	YES		dd		
25	FUNCTION1 PFK	27.35	4.518e4					0.7	NO		bb		
26	FUNCTION1 PFK	27.24	4.895e4					0.8	NO		bb		
27	FUNCTION1 PFK	26.91	2.257e5					0.8	NO		db		
28	FUNCTION1 PFK	26.88	3.840e4					1.1	NO		bd		
29	FUNCTION1 PFK	26.43	9.837e3					0.5	NO		bb		
30	FUNCTION1 PFK	26.23	3.800e3					0.3	NO		bb		
31	FUNCTION1 PFK	25.37	4.647e4					1.4	NO		db		
32	FUNCTION1 PFK	25.31	1.602e4					0.6	NO		bd		
33	FUNCTION1 PFK	25.19	1.931e4					0.8	NO		bb		
34	FUNCTION1 PFK	24.63	4.905e4					1.5	NO		bb		
35	FUNCTION1 PFK	24.55	7.480e4					1.6	NO		bb		
36	FUNCTION1 PFK	24.35	3.150e3					0.3	NO		bb		

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Printed: Wednesday, August 25, 2021 09:23:22 Pacific Daylight Time

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.86	6.773e4					4.4	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	34.17	1.956e5					2.6	NO		bb		0.000
2	FUNCTION3 PFK	36.58	4.629e4					4.0	YES		db		0.000
3	FUNCTION3 PFK	36.54	3.976e5					5.3	YES		bd		0.000
4	FUNCTION3 PFK	36.10	1.283e6					5.3	YES		bb		0.000

ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, 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	38.20	6.362e3					0.9	NO		db		
2	FUNCTION4 PFK	38.16	1.843e4					1.8	NO		bd		
3	FUNCTION4 PFK	38.06	3.608e4					1.6	NO		db		
4	FUNCTION4 PFK	38.01	1.109e4					1.4	NO		bd		
5	FUNCTION4 PFK	37.96	3.150e3					0.5	NO		db		
6	FUNCTION4 PFK	37.93	1.230e3					0.3	NO		bd		
7	FUNCTION4 PFK	37.86	3.091e4					2.1	NO		bb		
8	FUNCTION4 PFK	37.76	2.050e4					1.6	NO		db		
9	FUNCTION4 PFK	37.68	7.564e3					1.0	NO		bd		
10	FUNCTION4 PFK	37.57	2.428e3					0.7	NO		bb		
11	FUNCTION4 PFK	37.52	6.723e3					1.0	NO		bb		
12	FUNCTION4 PFK	37.48	5.127e3					0.9	NO		bb		
13	FUNCTION4 PFK	40.10	1.037e4					1.2	NO		bb		
14	FUNCTION4 PFK	40.02	3.092e4					2.0	NO		bb		
15	FUNCTION4 PFK	39.92	2.189e4					1.5	NO		db		
16	FUNCTION4 PFK	39.85	1.089e4					1.4	NO		dd		
17	FUNCTION4 PFK	39.82	1.015e4					1.1	NO		bd		
18	FUNCTION4 PFK	39.34	1.025e5					2.9	NO		db		
19	FUNCTION4 PFK	39.30	2.840e4					2.3	NO		dd		
20	FUNCTION4 PFK	39.23	1.959e4					1.8	NO		bd		
21	FUNCTION4 PFK	38.96	1.276e4					1.2	NO		db		
22	FUNCTION4 PFK	38.93	1.161e4					1.5	NO		dd		
23	FUNCTION4 PFK	38.88	1.942e4					1.4	NO		dd		
24	FUNCTION4 PFK	38.79	4.720e4					1.8	NO		bd		
25	FUNCTION4 PFK	38.64	2.504e4					1.2	NO		db		
26	FUNCTION4 PFK	38.57	1.790e4					1.5	NO		bd		
27	FUNCTION4 PFK	38.53	2.187e3					0.6	NO		bb		
28	FUNCTION4 PFK	38.37	1.550e3					0.4	NO		bb		
29	FUNCTION4 PFK	42.16	1.287e4					0.8	NO		bb		
30	FUNCTION4 PFK	42.04	3.589e3					0.6	NO		bb		
31	FUNCTION4 PFK	41.79	3.919e3					0.6	NO		bb		
32	FUNCTION4 PFK	41.60	6.477e3					0.7	NO		bb		
33	FUNCTION4 PFK	41.46	3.592e4					1.6	NO		db		
34	FUNCTION4 PFK	41.32	2.778e4					1.7	NO		bd		
35	FUNCTION4 PFK	41.12	9.484e3					0.7	NO		bb		
36	FUNCTION4 PFK	41.03	7.668e3					1.0	NO		bb		
37	FUNCTION4 PFK	40.96	1.417e3					0.4	NO		bb		

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	40.74	6.251e3					0.9	NO		bb		
39	FUNCTION4 PFK	40.61	1.779e4					1.2	NO		db		
40	FUNCTION4 PFK	40.54	1.234e4					1.4	NO		dd		
41	FUNCTION4 PFK	40.51	9.396e3					1.1	NO		bd		
42	FUNCTION4 PFK	40.22	2.512e3					0.5	NO		bb		
43	FUNCTION4 PFK	40.18	1.936e4					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	45.05	1.108e3					0.5	NO		bb		
2	FUNCTION5 PFK	44.96	1.062e3					0.5	NO		db		
3	FUNCTION5 PFK	44.93	2.932e3					0.7	NO		bd		
4	FUNCTION5 PFK	44.55	5.803e3					0.9	NO		bb		
5	FUNCTION5 PFK	44.50	1.646e3					0.8	NO		bb		
6	FUNCTION5 PFK	44.42	9.927e3					1.3	NO		bb		
7	FUNCTION5 PFK	44.22	1.107e4					1.5	NO		bb		
8	FUNCTION5 PFK	44.02	2.358e3					0.8	NO		db		
9	FUNCTION5 PFK	43.97	8.198e3					1.6	NO		bd		
10	FUNCTION5 PFK	43.93	8.415e2					0.4	NO		bb		
11	FUNCTION5 PFK	43.82	4.523e3					1.0	NO		bb		
12	FUNCTION5 PFK	43.69	4.683e3					0.9	NO		bb		
13	FUNCTION5 PFK	43.52	4.618e3					1.1	NO		bb		
14	FUNCTION5 PFK	42.68	1.089e4					2.2	NO		db		
15	FUNCTION5 PFK	42.64	1.157e4					1.7	NO		dd		
16	FUNCTION5 PFK	42.59	8.564e3					1.2	NO		bd		
17	FUNCTION5 PFK	45.76	2.753e3					0.7	NO		bb		
18	FUNCTION5 PFK	45.60	1.999e4					1.2	NO		db		
19	FUNCTION5 PFK	45.48	8.981e3					1.4	NO		bd		
20	FUNCTION5 PFK	45.37	6.092e3					1.2	NO		bb		
21	FUNCTION5 PFK	45.09	9.018e2					0.5	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	22.98	1.156e2					1.5	NO		bd		0.000
2	FUNCTION1 HXCD...	22.59	1.075e2					2.4	NO		db		0.000
3	FUNCTION1 HXCD...	22.51	1.875e2					3.1	YES		dd		0.000
4	FUNCTION1 HXCD...	22.46	1.375e2					2.4	NO		dd		0.000
5	FUNCTION1 HXCD...	22.36	2.207e2					3.8	YES		bd		0.000
6	FUNCTION1 HXCD...	22.16	1.730e2					3.5	YES		bb		0.000
7	FUNCTION1 HXCD...	21.91	8.308e1					1.5	NO		db		0.000
8	FUNCTION1 HXCD...	21.81	7.896e2					9.3	YES		bd		0.000
9	FUNCTION1 HXCD...	21.68	1.095e3					12.8	YES		bb		0.000
10	FUNCTION1 HXCD...	21.32	9.740e1					1.7	NO		bb		0.000
11	FUNCTION1 HXCD...	27.33	1.443e2					1.1	NO		db		0.000
12	FUNCTION1 HXCD...	27.20	7.261e1					0.9	NO		bd		0.000
13	FUNCTION1 HXCD...	26.82	1.341e2					0.8	NO		bb		0.000
14	FUNCTION1 HXCD...	25.64	1.096e2					1.4	NO		bb		0.000
15	FUNCTION1 HXCD...	25.31	1.599e2					1.8	NO		db		0.000
16	FUNCTION1 HXCD...	25.25	7.441e1					1.4	NO		bd		0.000
17	FUNCTION1 HXCD...	25.08	1.908e2					1.4	NO		bb		0.000
18	FUNCTION1 HXCD...	24.49	7.795e1					0.6	NO		bb		0.000
19	FUNCTION1 HXCD...	23.84	1.407e2					1.3	NO		bb		0.000
20	FUNCTION1 HXCD...	23.61	1.260e2					0.8	NO		bb		0.000
21	FUNCTION1 HXCD...	23.15	2.021e2					3.5	YES		db		0.000
22	FUNCTION1 HXCD...	23.10	3.988e2					4.8	YES		dd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	21.62	6.535e2					6.7	YES		db		0.000
2	FUNCTION1 HPCD...	21.45	2.611e2					4.1	YES		dd		0.000
3	FUNCTION1 HPCD...	21.33	3.062e2					5.1	YES		bd		0.000
4	FUNCTION1 HPCD...	23.51	1.668e2					3.9	YES		bb		0.000
5	FUNCTION1 HPCD...	22.86	3.589e3					51.8	YES		bb		0.000
6	FUNCTION1 HPCD...	22.59	1.378e2					4.1	YES		db		0.000
7	FUNCTION1 HPCD...	22.53	1.966e2					4.7	YES		bd		0.000
8	FUNCTION1 HPCD...	21.81	8.263e2					9.8	YES		bb		0.000

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Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:23:22 Pacific Daylight Time

ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, 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...	31.94	9.890e1					2.1	NO		bb		0.000
2	FUNCTION2 HPCD...	31.44	9.279e1					2.1	NO		bb		0.000
3	FUNCTION2 HPCD...	29.01	8.581e1					2.3	NO		bb		0.000
4	FUNCTION2 HPCD...	28.60	1.272e2					3.6	YES		db		0.000
5	FUNCTION2 HPCD...	28.47	2.064e2					4.0	YES		bd		0.000
6	FUNCTION2 HPCD...	28.38	9.204e1					1.7	NO		bb		0.000
7	FUNCTION2 HPCD...	27.99	8.380e1					2.8	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	33.19	1.196e2					2.2	NO		db		0.000
2	FUNCTION3 OCDPE	33.10	1.476e2					2.4	NO		bd		0.000
3	FUNCTION3 OCDPE	36.09	9.487e1					2.0	NO		bb		0.000
4	FUNCTION3 OCDPE	35.43	1.580e2					4.5	YES		bb		0.000
5	FUNCTION3 OCDPE	35.15	7.430e1					2.5	NO		bb		0.000
6	FUNCTION3 OCDPE	34.41	8.905e1					1.8	NO		bb		0.000
7	FUNCTION3 OCDPE	34.33	9.118e1					1.8	NO		bb		0.000
8	FUNCTION3 OCDPE	33.73	1.544e2					4.9	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	41.85	7.838e1					3.4	YES		bb		0.000
2	FUNCTION4 NCDPE	39.83	1.493e2					3.3	YES		bb		0.000
3	FUNCTION4 NCDPE	39.51	7.979e1					2.7	NO		bb		0.000
4	FUNCTION4 NCDPE	38.93	1.331e2					2.6	NO		bb		0.000
5	FUNCTION4 NCDPE	38.43	2.475e2					2.1	NO		bb		0.000
6	FUNCTION4 NCDPE	37.99	3.729e3					67.0	YES		bb		0.000

ETHERS6

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

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ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, Conditions: AUTOSPEC01, User: pk

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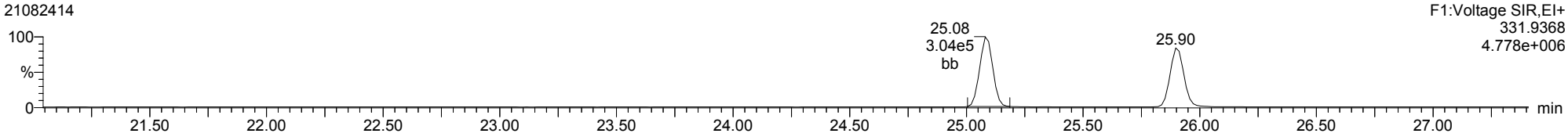

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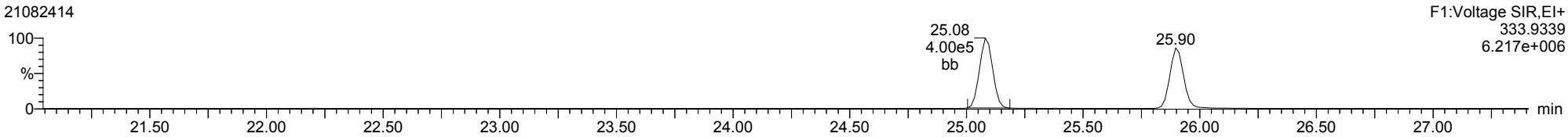

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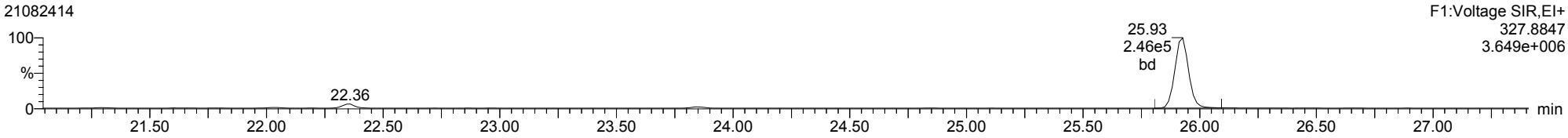

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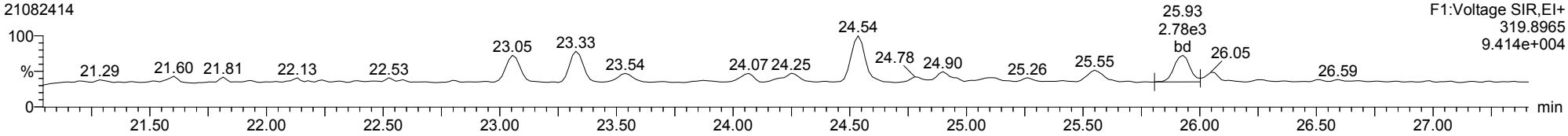

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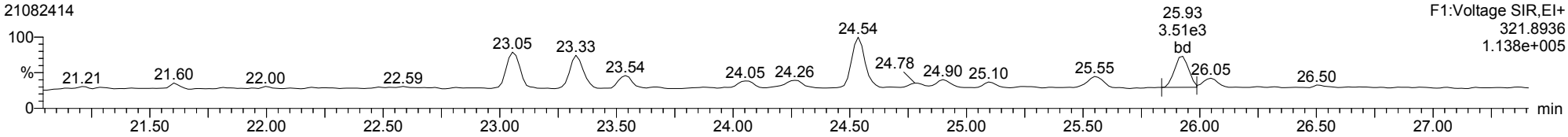

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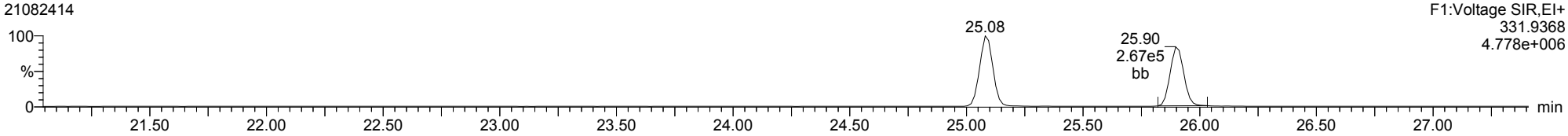

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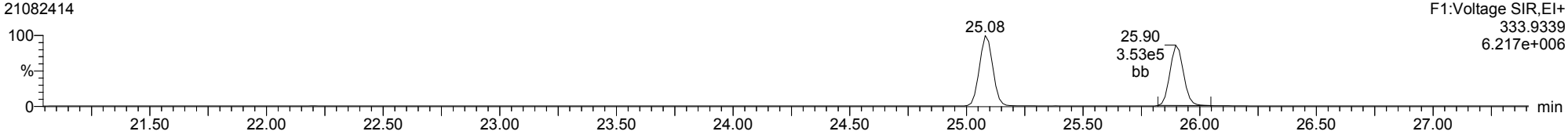

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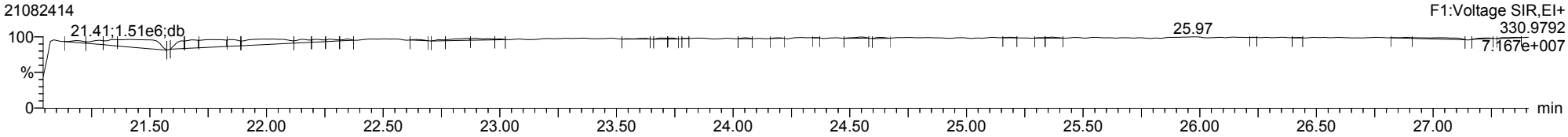

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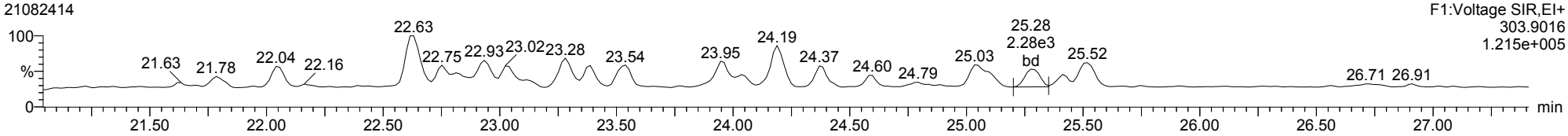

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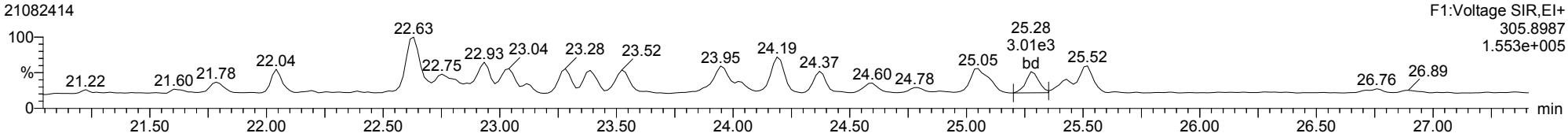

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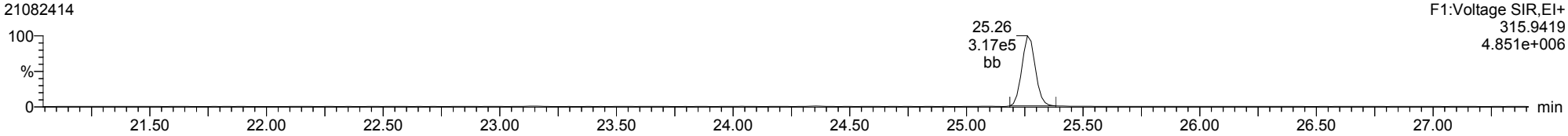

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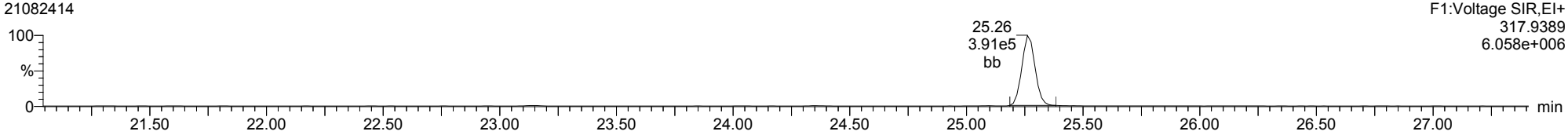

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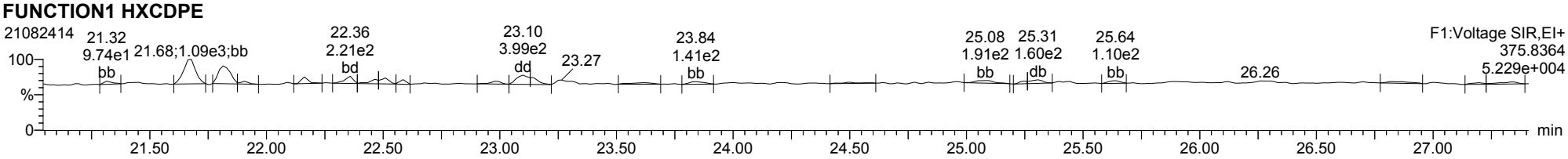

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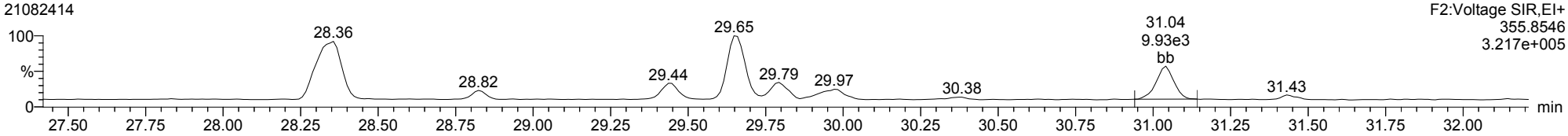
12378-PeCDD



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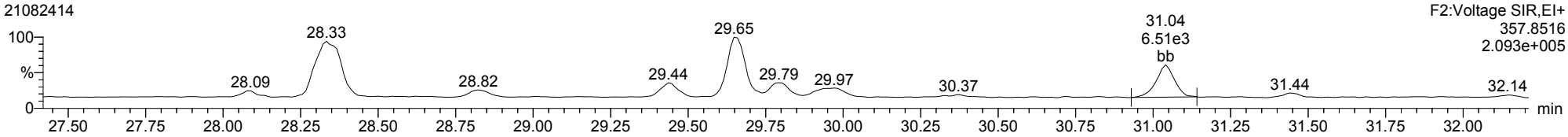

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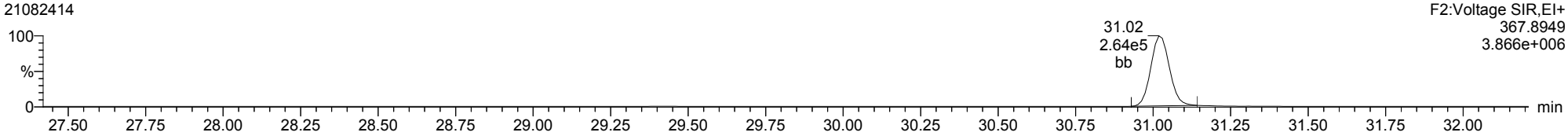

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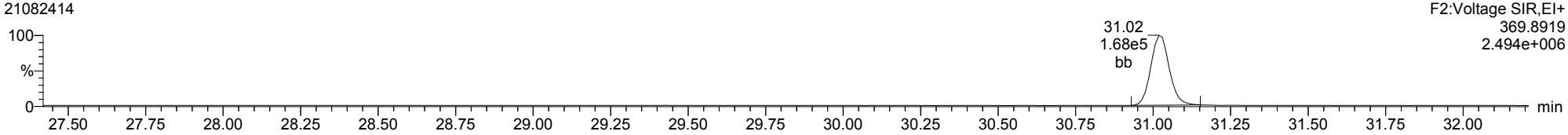

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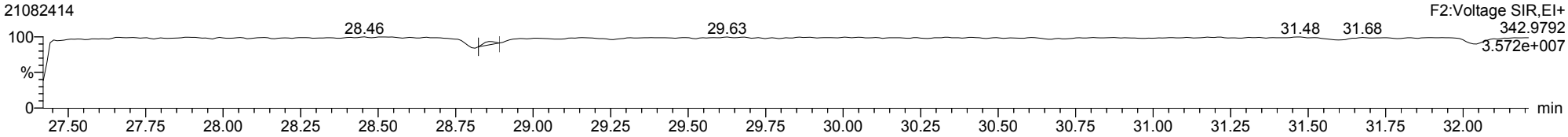

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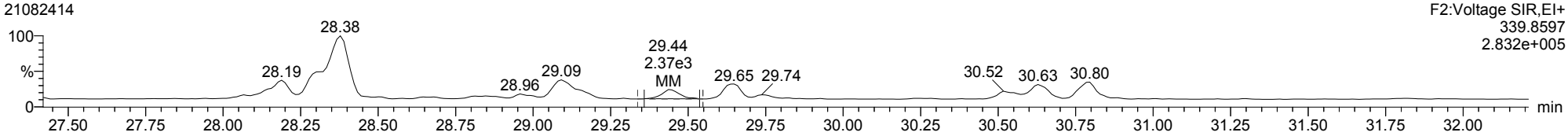
12378-PeCDF



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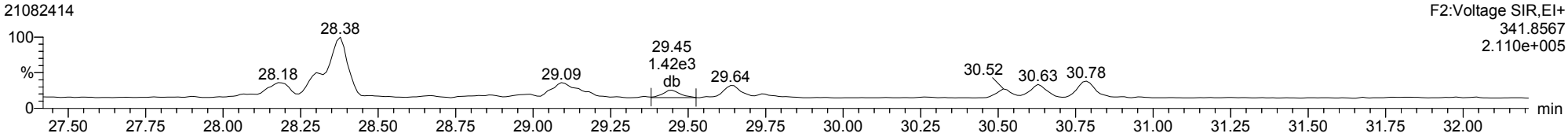

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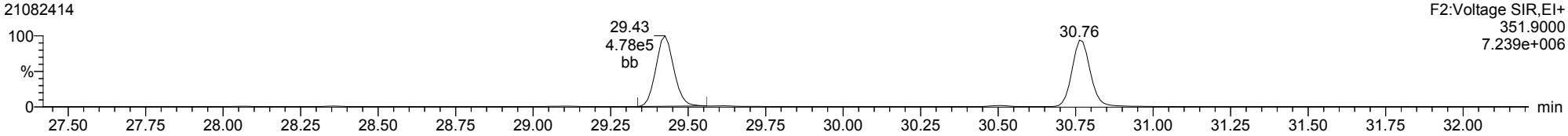

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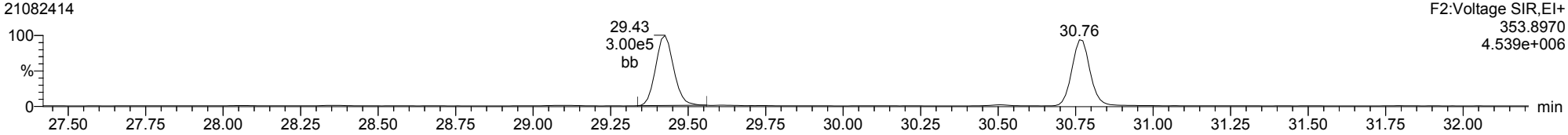
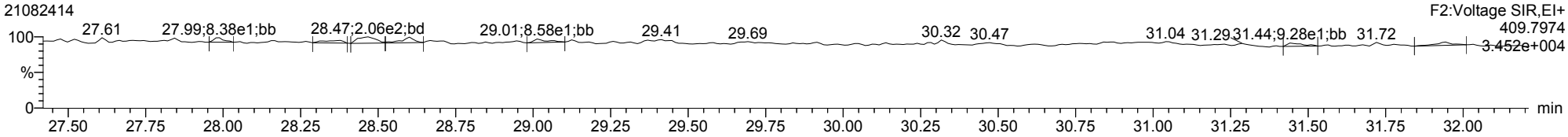


FUNCTION2 HPCDPE



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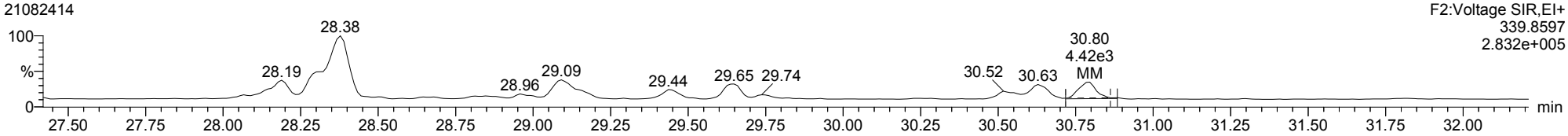
23478-PeCDF



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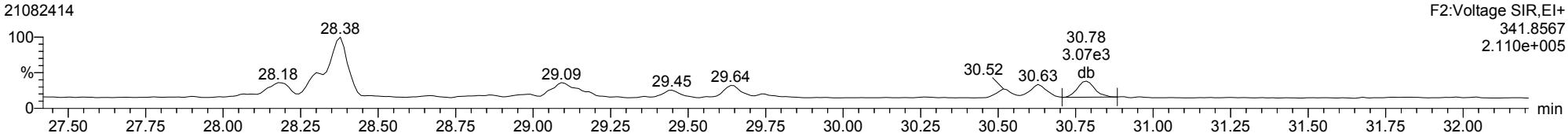

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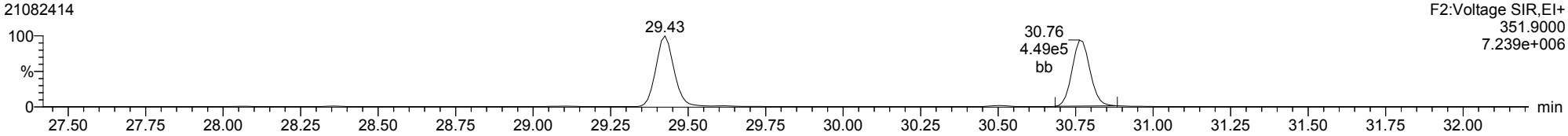

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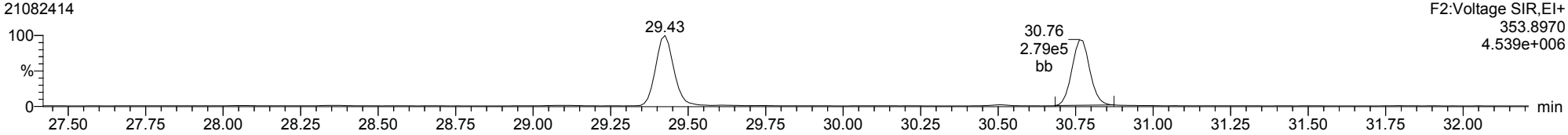

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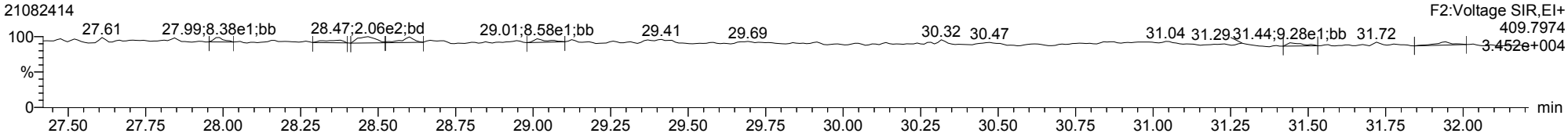

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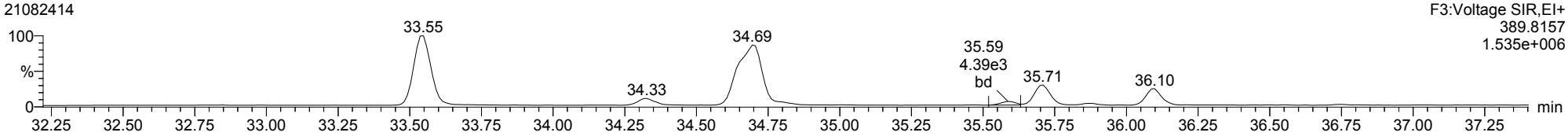

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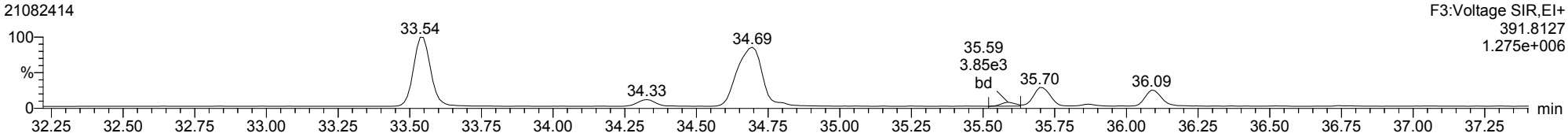

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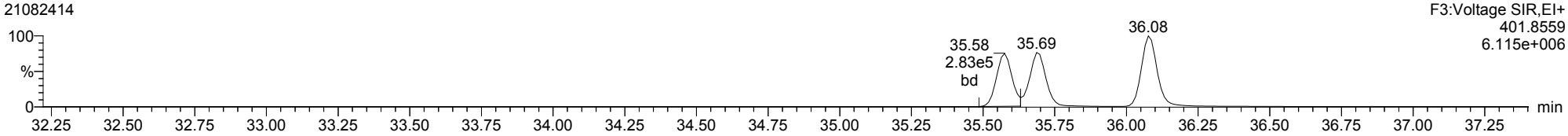

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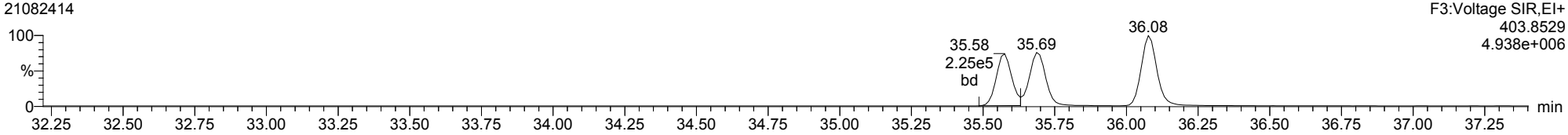

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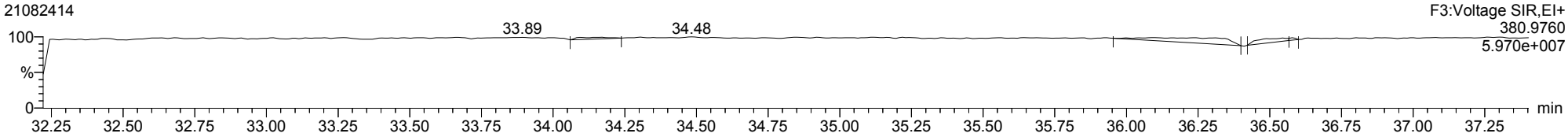

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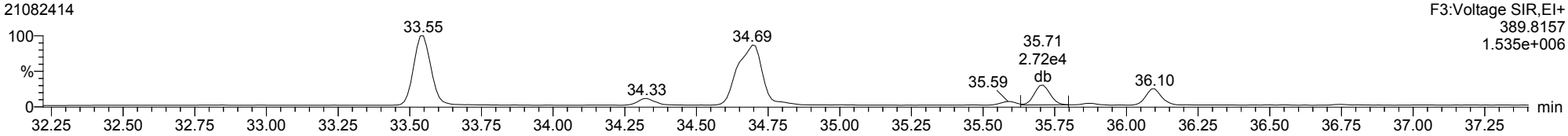

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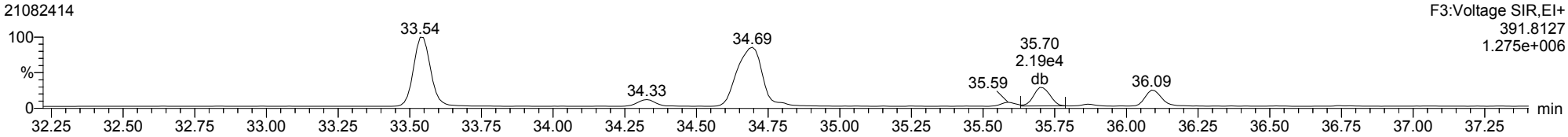

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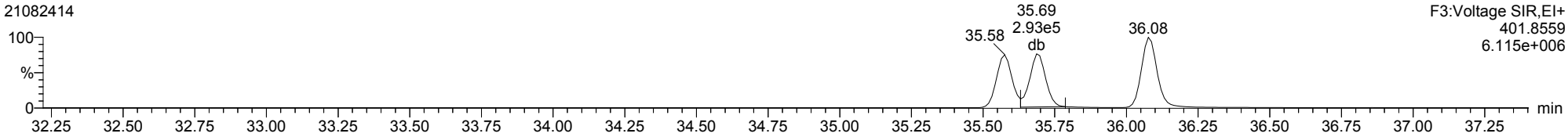

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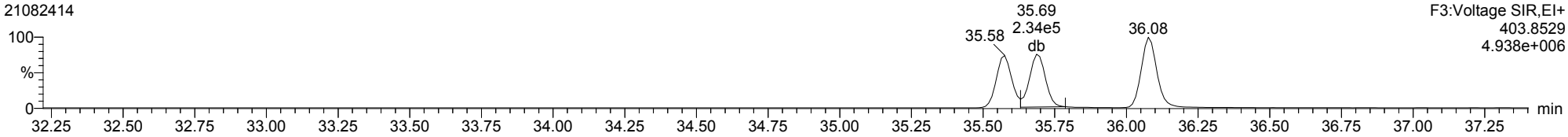

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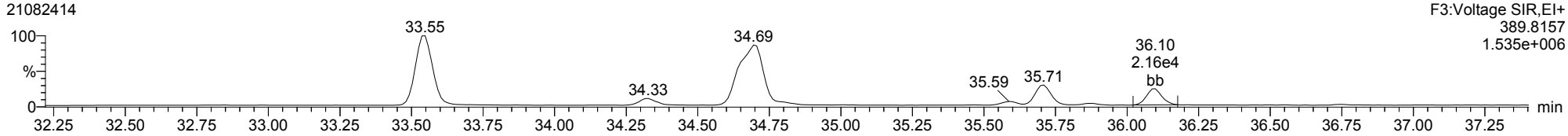
123789-HxCDD



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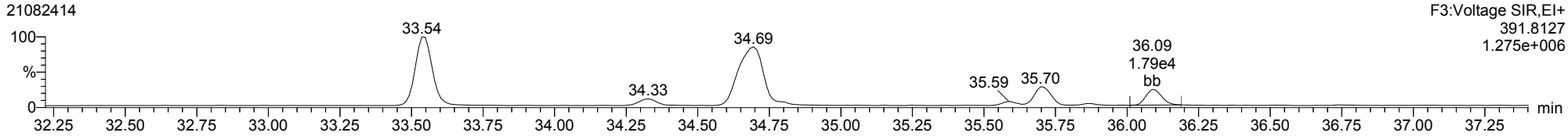

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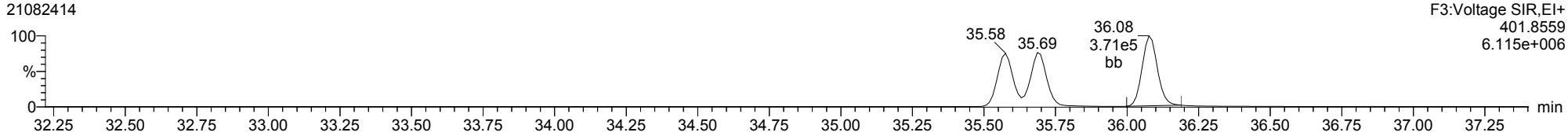

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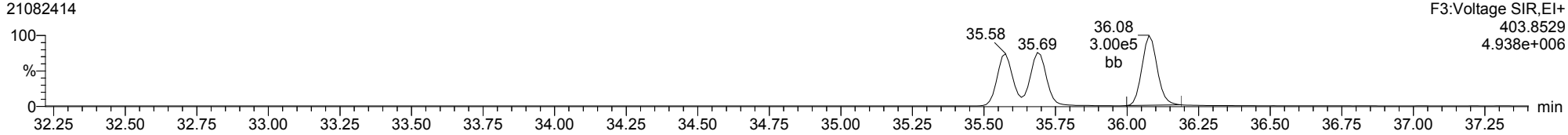

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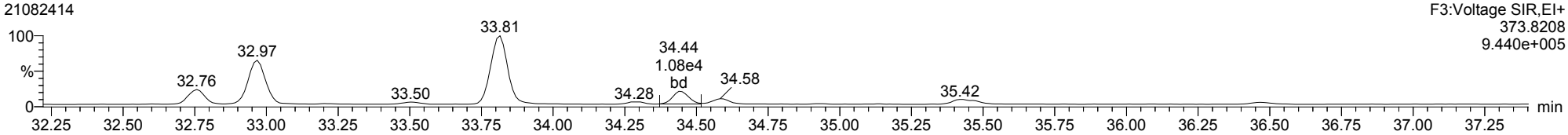

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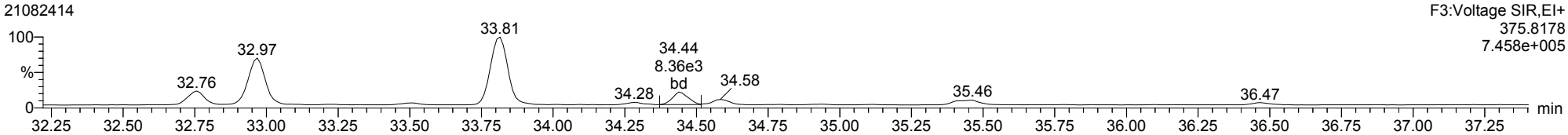

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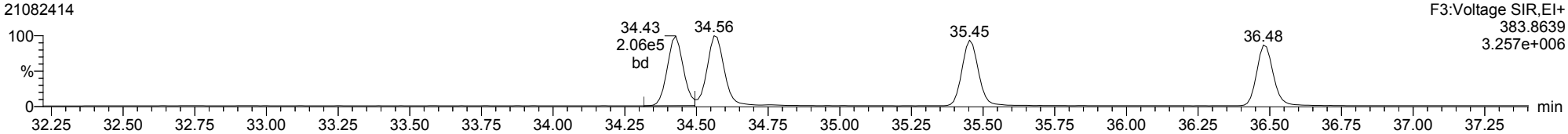

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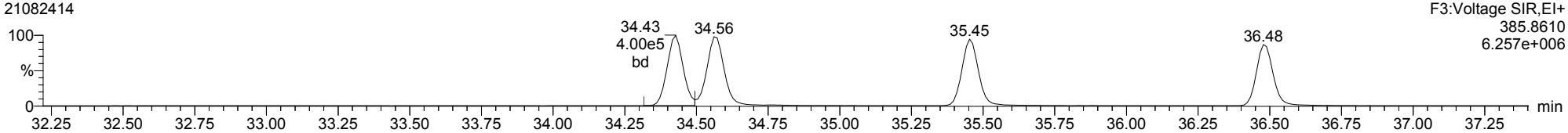
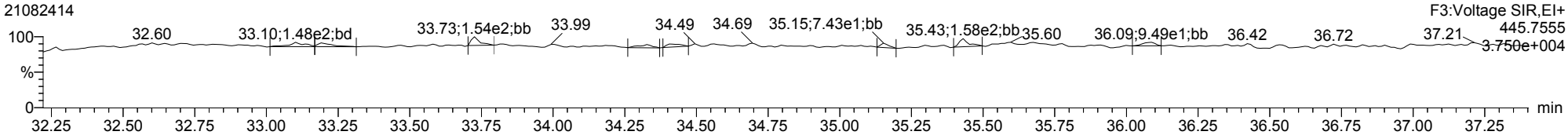


FUNCTION3 OCDPE



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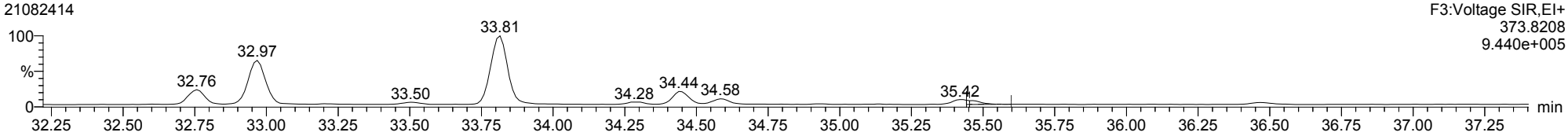
234678-HxCDF



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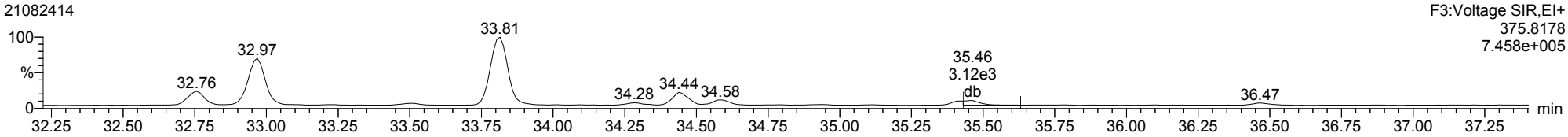

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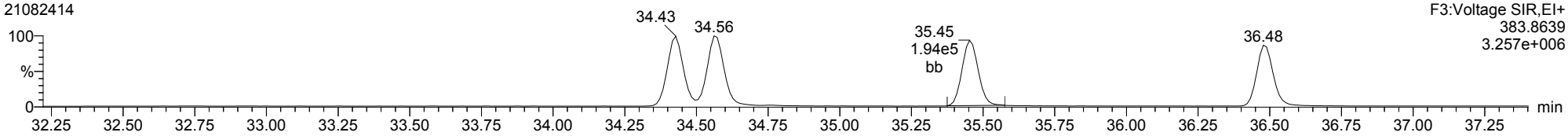

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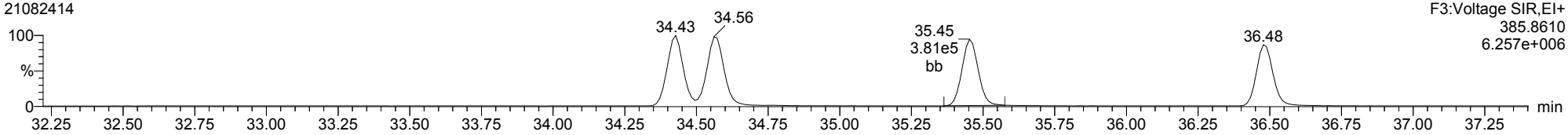

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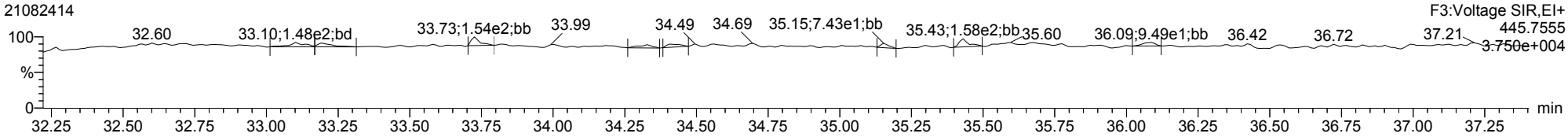

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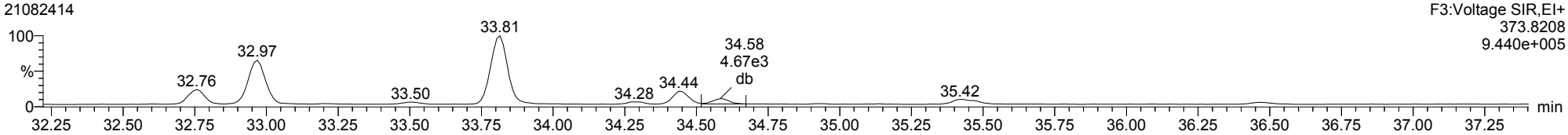
123678-HxCDF



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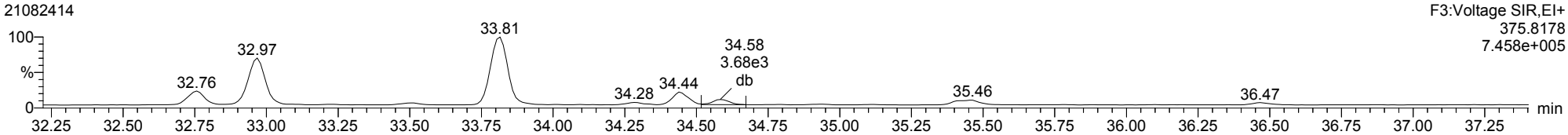

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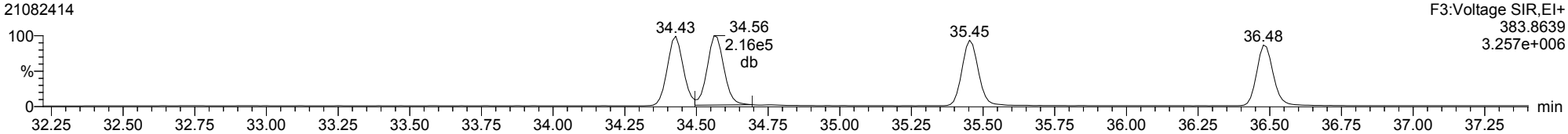

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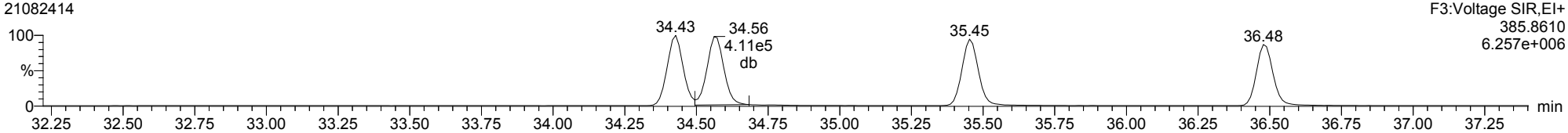

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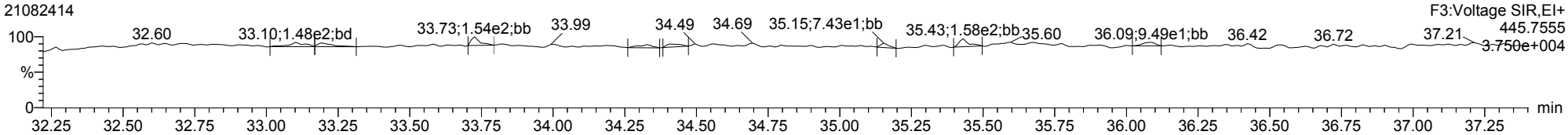

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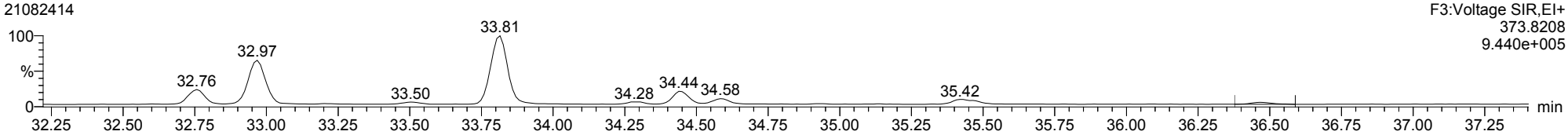
123789-HxCDF



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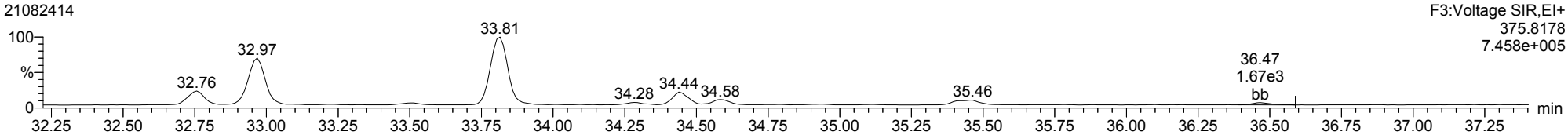

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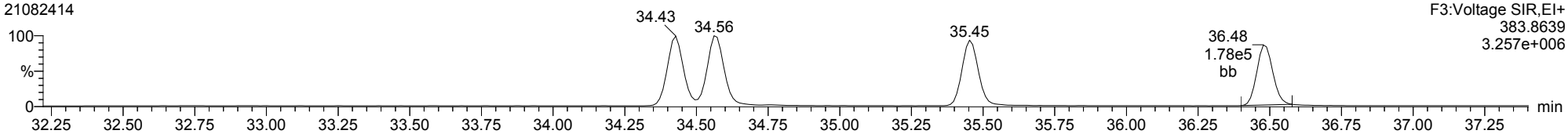

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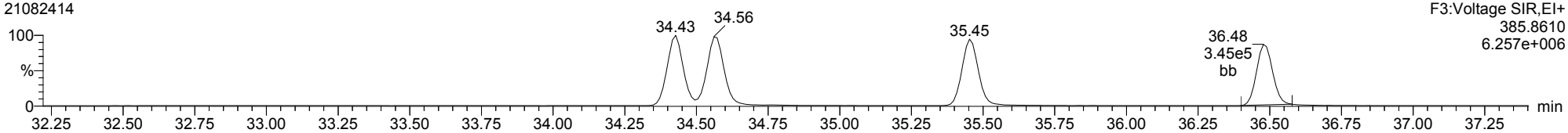
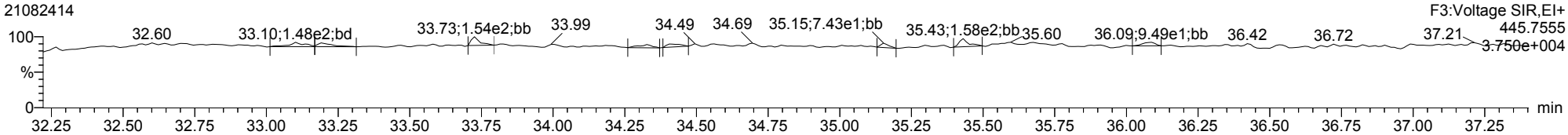


FUNCTION3 OCDPE



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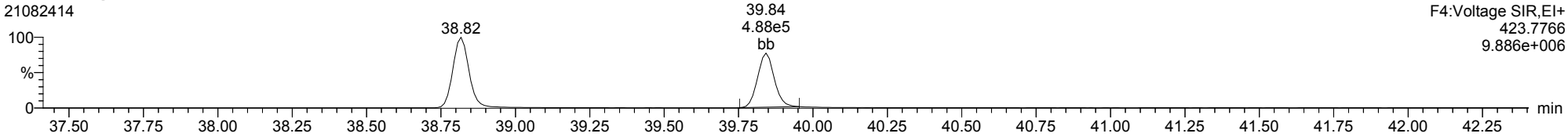
1234678-HpCDD



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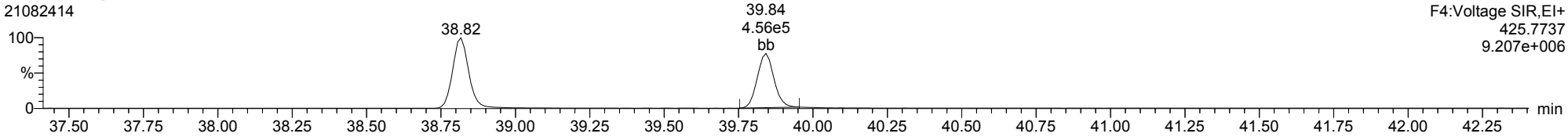

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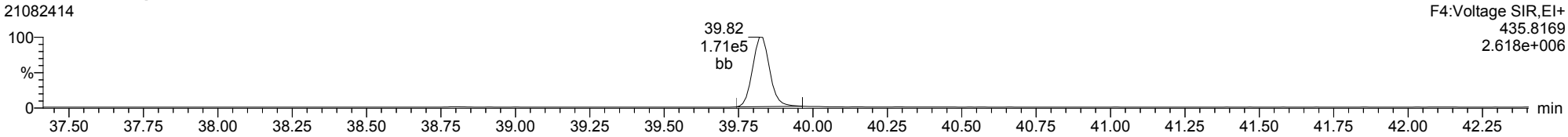

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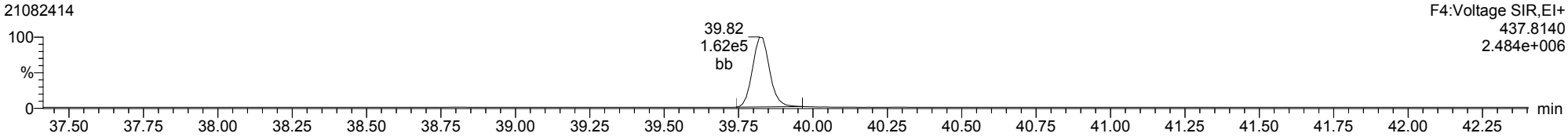
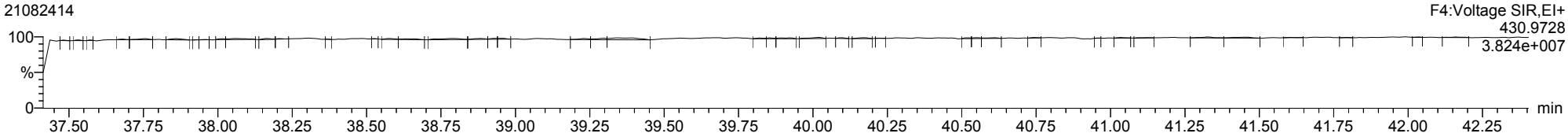


FUNCTION4 PFK



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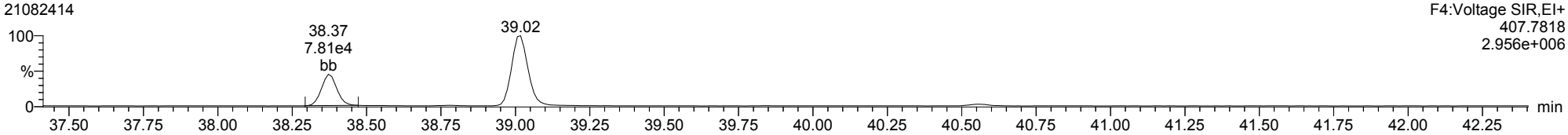
1234678-HpCDF



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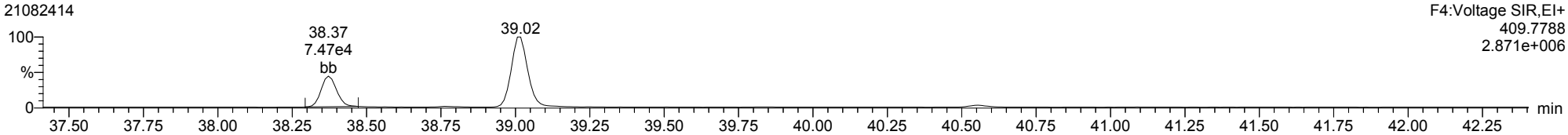

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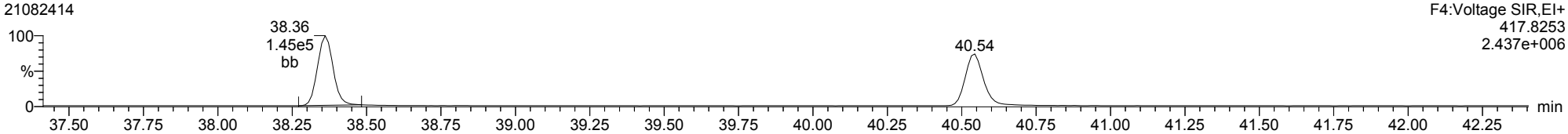

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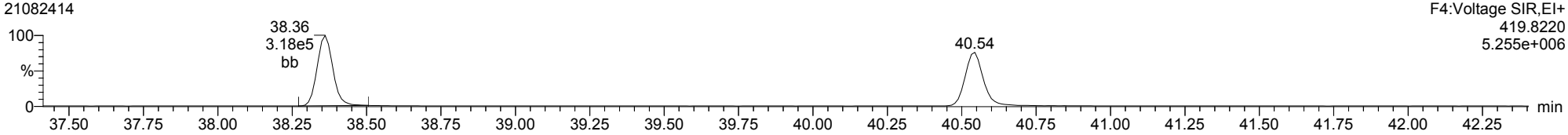
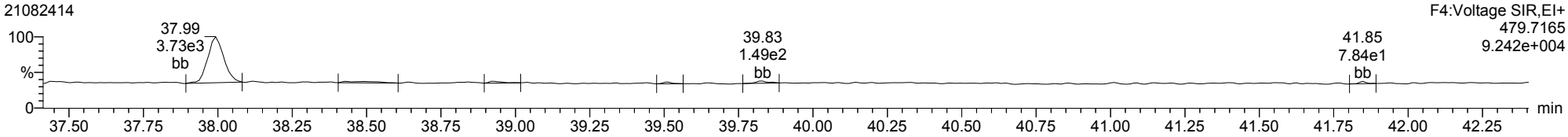


FUNCTION4 NCDPE



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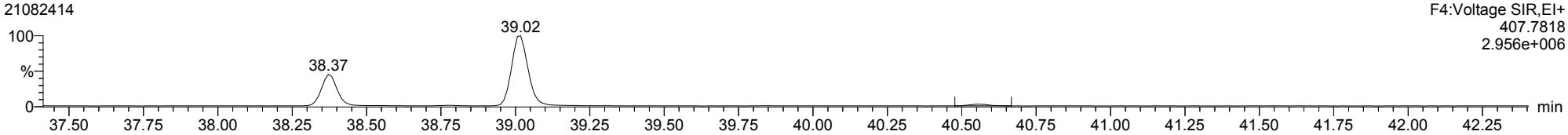
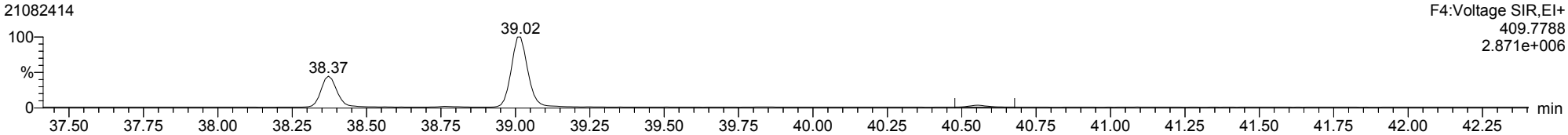
1234789-HpCDF



1234789-HpCDF



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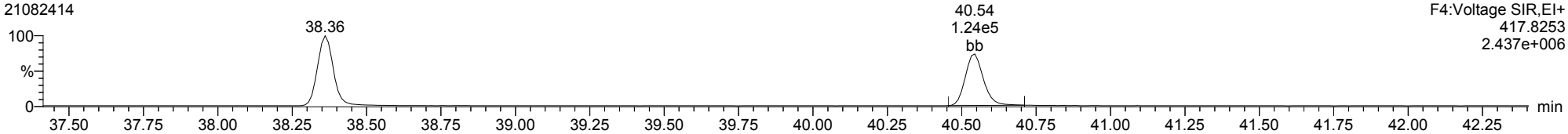

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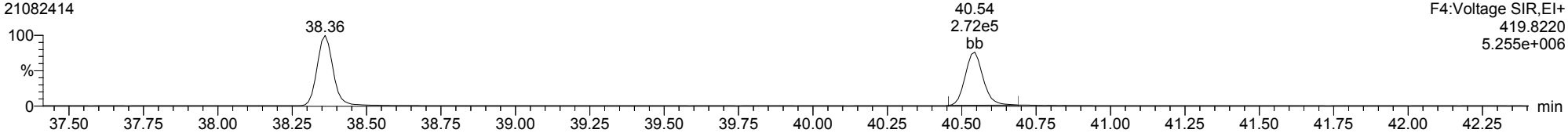
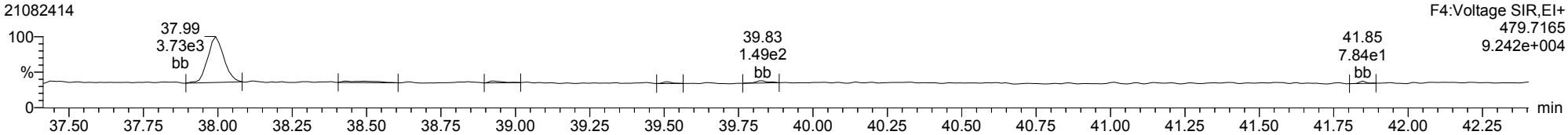
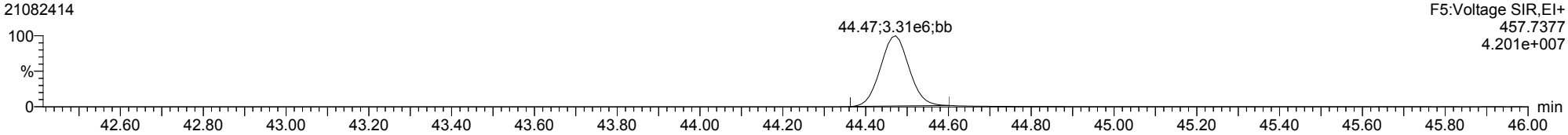


FUNCTION4 NCDPE



ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, Conditions: AUTOSPEC01, User: pk

OCDD



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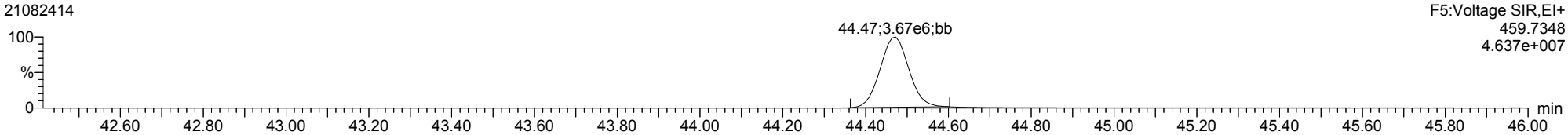

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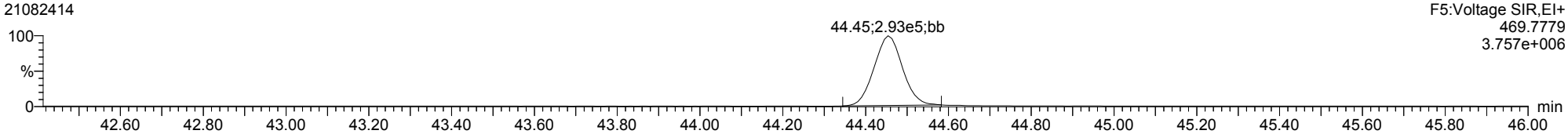

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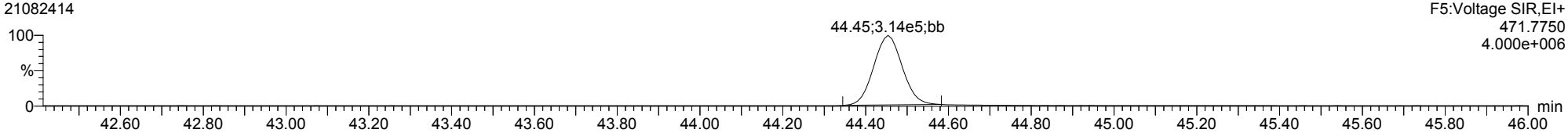
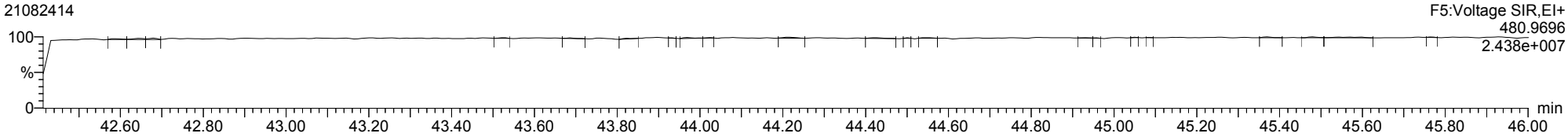


FUNCTION5 PFK



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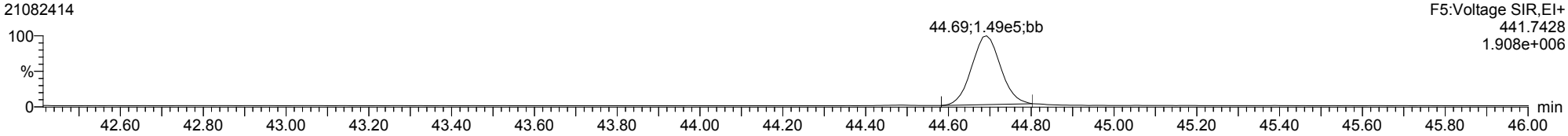
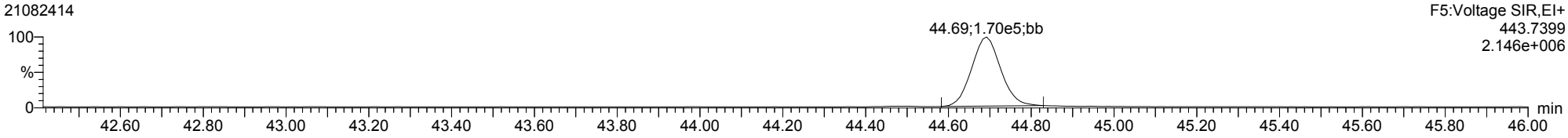
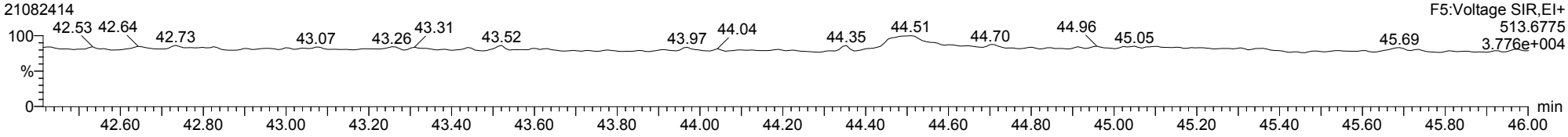
OCDF



OCDF



FUNCTION5 DCDPE



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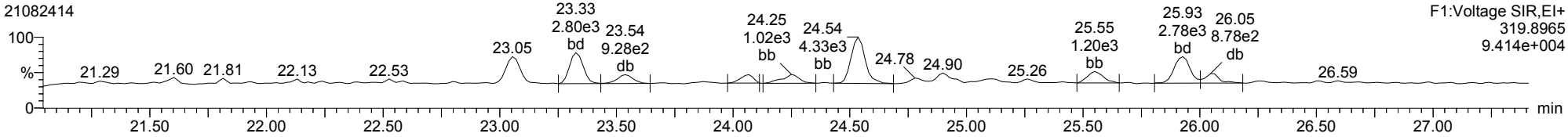
ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, Conditions: AUTOSPEC01, User: pk

Total-tetradioxins



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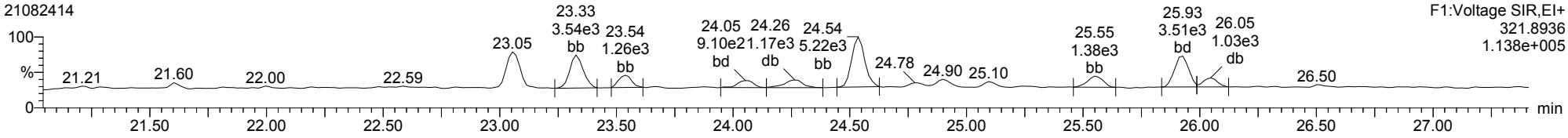
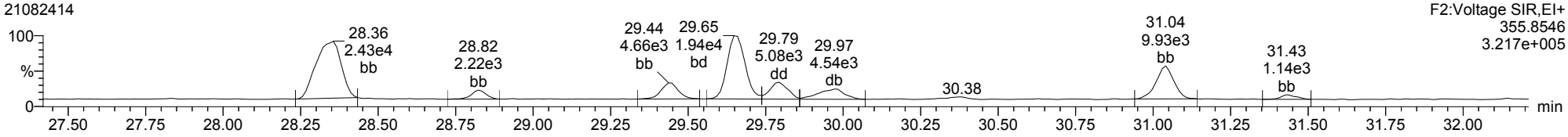
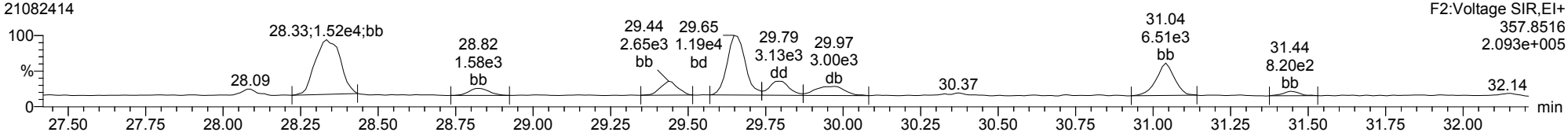


Total-pentadioxins



Total-pentadioxins



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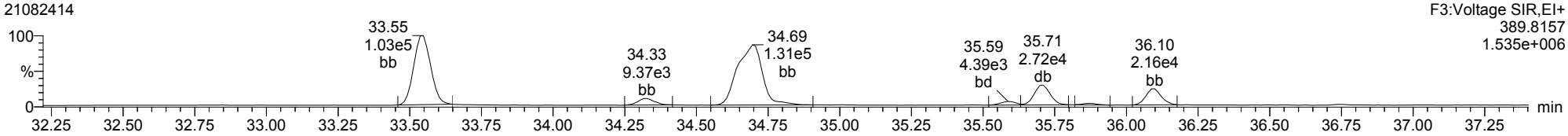
Total-hexadioxins



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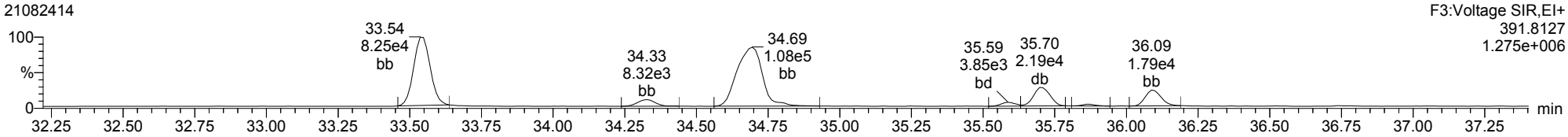

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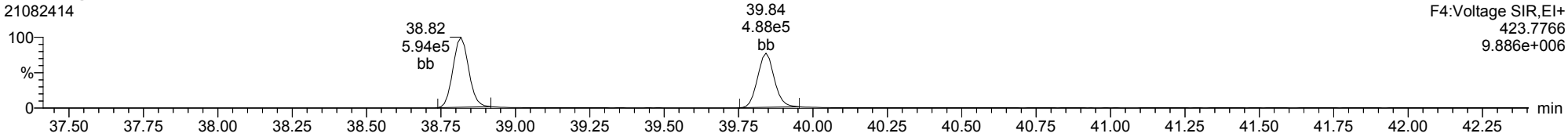
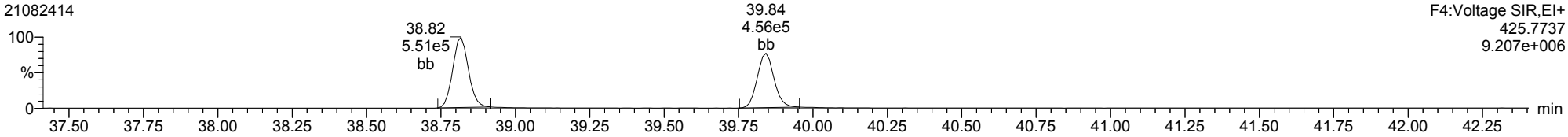


Total-heptadioxins



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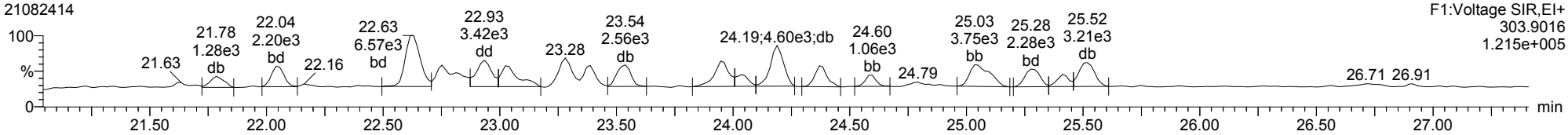

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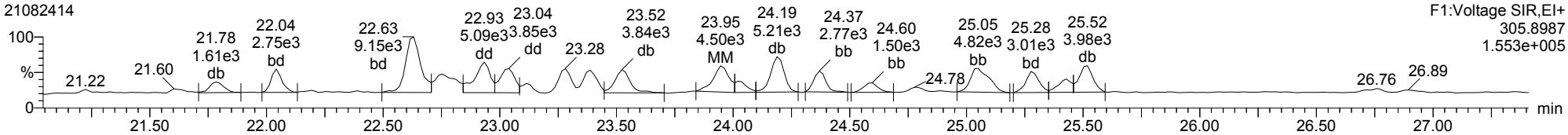

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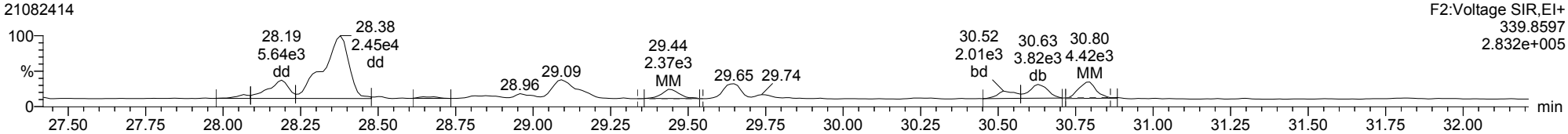

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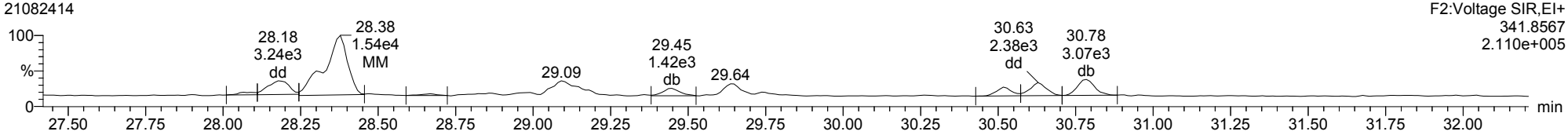

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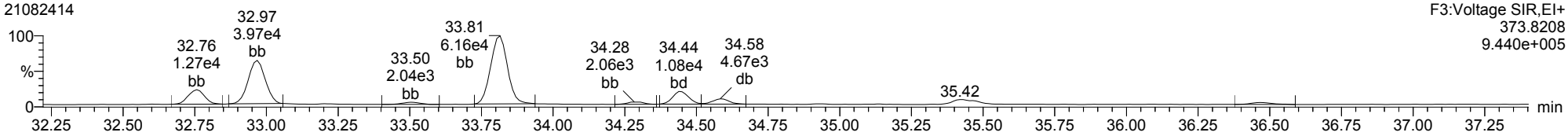
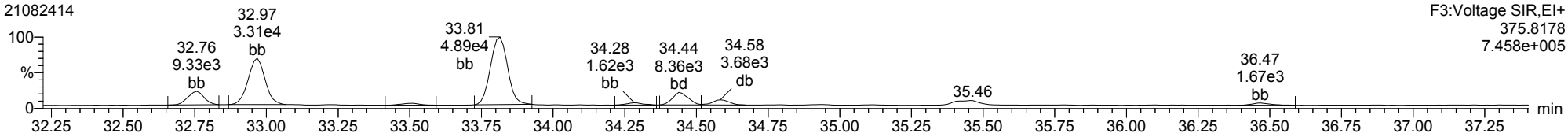
ID: 21F0442-07RE1, Name: 21082414, Date: 24-Aug-2021, Time: 22:45:15, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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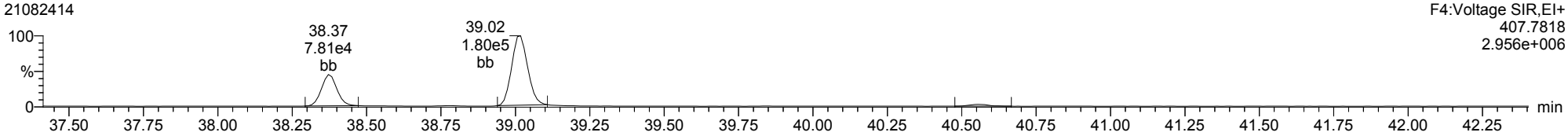

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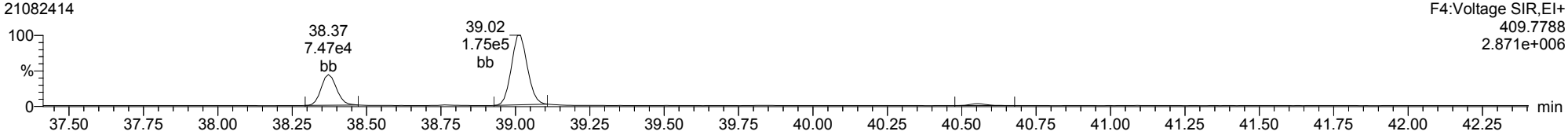

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564K

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC				
Project:	Lower Duwamish AOC4				
Matrix:	Sediment	Laboratory ID:	21F0442-08 B	File ID:	21071920
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/20/21 02:05
% Solids:	65.47	Preparation:	EPA 1613	Initial/Final:	15.28 g Wet / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.605	0.655-0.886	0.542	1.00	1.80	ng/kg	EMPC
1746-01-6	2,3,7,8-TCDD	1	0.618	0.655-0.886	0.720	1.00	1.71	ng/kg	EMPC
57117-41-6	1,2,3,7,8-PeCDF	1	1.846	1.318-1.783	0.237	1.00	1.29	ng/kg	EMPC
57117-31-4	2,3,4,7,8-PeCDF	1	1.446	1.318-1.783	0.216	1.00	2.23	ng/kg	
40321-76-4	1,2,3,7,8-PeCDD	1	1.241	1.318-1.783	0.552	1.00	4.29	ng/kg	EMPC
70648-26-9	1,2,3,4,7,8-HxCDF	1	1.353	1.054-1.426	0.303	1.00	8.70	ng/kg	
57117-44-9	1,2,3,6,7,8-HxCDF	1	1.625	1.054-1.426	0.310	1.00	2.75	ng/kg	EMPC
60851-34-5	2,3,4,6,7,8-HxCDF	1	1.263	1.054-1.426	0.284	1.00	3.75	ng/kg	
72918-21-9	1,2,3,7,8,9-HxCDF	1	1.061	1.054-1.426	0.340	1.00	1.56	ng/kg	
39227-28-6	1,2,3,4,7,8-HxCDD	1	0.986	1.054-1.426	0.498	1.00	2.66	ng/kg	EMPC
57653-85-7	1,2,3,6,7,8-HxCDD	1	1.092	1.054-1.426	0.497	1.00	12.6	ng/kg	
19408-74-3	1,2,3,7,8,9-HxCDD	1	1.311	1.054-1.426	0.512	1.00	9.63	ng/kg	
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	1.081	0.893-1.208	0.317	1.00	59.4	ng/kg	
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	1.079	0.893-1.208	0.433	1.00	5.62	ng/kg	
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	1.076	0.893-1.208	1.73	2.50	333	ng/kg	
39001-02-0	OCDF	1	0.923	0.757-1.024	0.426	2.50	136	ng/kg	
3268-87-9	OCDD	1	0.880	0.757-1.024	0.723	10.0	2650	ng/kg	B

Homologue Groups

55722-27-5	Total TCDF	1	0.000			1.00	22.2	ng/kg
41903-57-5	Total TCDD	1	0.000			1.00	1.43	ng/kg
30402-15-4	Total PeCDF	1	0.000			1.00	32.9	ng/kg
36088-22-9	Total PeCDD	1	0.000			1.00	7.51	ng/kg
55684-94-1	Total HxCDF	1	0.000			1.00	92.6	ng/kg
34465-46-8	Total HxCDD	1	0.000			1.00	110	ng/kg
38998-75-3	Total HpCDF	1	0.000			1.00	213	ng/kg
37871-00-4	Total HpCDD	1	0.000			1.00	642	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 15.87
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 15.87

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564K

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

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Sediment	Laboratory ID:	21F0442-08	File ID:	21071920
Sampled:	06/29/21 13:24	Prepared:	07/08/21 18:05	Analyzed:	07/20/21 02:05
Solids Wt%:	65.47	Preparation:	EPA 1613	Initial/Final:	15.28 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF		0.798	0.655-0.886	0.195	25.9	24 - 169 %	
13C12-2,3,7,8-TCDD		0.776	0.655-0.886	0.253	36.1	25 - 164 %	
13C12-1,2,3,7,8-PeCDF		1.569	1.318-1.783	0.256	65.0	24 - 185 %	
13C12-2,3,4,7,8-PeCDF		1.552	1.318-1.783	0.266	63.7	21 - 178 %	
13C12-1,2,3,7,8-PeCDD		1.589	1.318-1.783	0.289	67.1	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF		0.520	0.434-0.587	0.298	74.2	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF		0.515	0.434-0.587	0.276	69.8	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF		0.508	0.434-0.587	0.312	78.7	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF		0.507	0.434-0.587	0.345	75.5	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD		1.257	1.054-1.426	0.317	79.6	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD		1.240	1.054-1.426	0.286	72.5	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF		0.458	0.374-0.506	0.229	75.8	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF		0.450	0.374-0.506	0.277	75.7	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD		1.065	0.893-1.208	0.347	70.8	23 - 140 %	
13C12-OCDD		0.907	0.757-1.024	0.198	70.8	17 - 157 %	
37Cl4-2,3,7,8-TCDD		328.000		0.076	35.3	35 - 197 %	

* Values outside of QC limits

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Printed: Tuesday, July 20, 2021 11:02:52 Pacific Daylight Time

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, 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	25.685	1.001	4.843e2	8.008e2	0.782	0.605	0.770	908	1170	8.58e3	1.03e4	9.5	8.8	YES	bd	dd	0.899
12378-PeCDF	29.828	1.000	1.251e3	6.777e2	0.866	1.846	1.550	761	1037	2.29e4	1.13e4	30.1	10.9	YES	bb	bb	0.647
23478-PeCDF	31.187	1.000	2.096e3	1.449e3	0.980	1.446	1.550	761	1037	3.23e4	2.13e4	42.5	20.5	NO	db	db	1.115
123478-HxCDF	34.819	1.001	7.325e3	5.414e3	1.002	1.353	1.240	1355	1105	1.17e5	9.58e4	86.0	86.8	NO	dd	bb	4.351
234678-HxCDF	35.789	0.999	3.230e3	2.557e3	1.043	1.263	1.240	1355	1105	4.16e4	3.06e4	30.7	27.7	NO	bb	bb	1.878
123678-HxCDF	34.953	1.000	2.426e3	1.493e3	0.961	1.625	1.240	1355	1105	3.34e4	2.57e4	24.7	23.3	YES	db	bb	1.376
123789-HxCDF	36.825	1.000	1.026e3	9.671e2	0.994	1.061	1.240	1355	1105	1.90e4	1.63e4	14.0	14.8	NO	bb	bb	0.781
1234678-HpCDF	38.696	1.000	4.446e4	4.111e4	1.058	1.081	1.050	1328	1272	7.75e5	7.12e5	583.4	559.8	NO	bb	bb	29.719
1234789-HpCDF	40.925	1.000	3.505e3	3.247e3	1.070	1.079	1.050	1328	1272	5.08e4	5.43e4	38.3	42.7	NO	bb	bb	2.811
OCDF	45.160	1.006	7.622e4	8.260e4	1.257	0.923	0.890	969	1137	9.67e5	1.02e6	997.3	898.2	NO	bb	bb	67.876
2378-TCDD	26.320	1.001	6.402e2	1.036e3	1.307	0.618	0.770	1656	2012	9.61e3	1.42e4	5.8	7.0	YES	bd	bd	0.855
12378-PeCDD	31.455	1.001	2.711e3	2.185e3	0.979	1.241	1.550	1306	1837	3.97e4	2.76e4	30.4	15.0	YES	bb	bb	2.145
123478-HxCDD	35.956	1.001	1.765e3	1.789e3	0.956	0.986	1.240	1586	2180	3.28e4	3.39e4	20.7	15.6	YES	MM	bd	1.330
123678-HxCDD	36.067	1.000	8.828e3	8.082e3	0.953	1.092	1.240	1586	2180	1.55e5	1.31e5	97.8	59.9	NO	db	db	6.286
123789-HxCDD	36.446	1.011	7.111e3	5.424e3	0.927	1.311	1.240	1586	2180	1.27e5	9.76e4	80.3	44.8	NO	bb	bb	4.814
1234678-HpCDD	40.189	1.000	1.904e5	1.769e5	1.055	1.076	1.050	5030	5295	3.14e6	2.91e6	624.8	549.6	NO	bb	bb	166.760
OCDD	44.922	1.000	1.239e6	1.407e6	1.074	0.880	0.890	1313	1740	1.58e7	1.82e7	12058.6	10480.3	NO	bb	bb	1323.426
13C-2378-TCDF	25.670	1.007	8.113e4	1.017e5	1.925	0.798	0.770	1858	1827	1.31e6	1.60e6	702.3	872.9	NO	bb	bb	25.870
13C-12378-PeCDF	29.828	1.170	2.101e5	1.339e5	1.442	1.569	1.550	2210	1422	3.21e6	2.06e6	1451.5	1447.8	NO	bb	bb	64.965
13C-23478-PeCDF	31.176	1.223	1.973e5	1.271e5	1.387	1.552	1.550	2210	1422	3.09e6	2.04e6	1399.2	1437.7	NO	bb	bb	63.723
13C-123478-HxCDF	34.797	0.955	9.987e4	1.922e5	1.053	0.520	0.510	1491	1871	1.66e6	3.16e6	1115.3	1686.3	NO	bd	bd	74.182
13C-123678-HxCDF	34.942	0.959	1.007e5	1.956e5	1.135	0.515	0.510	1491	1871	1.68e6	3.25e6	1128.2	1737.0	NO	db	db	69.822
13C-234678-HxCDF	35.811	0.983	9.950e4	1.960e5	1.004	0.508	0.510	1491	1871	1.68e6	3.34e6	1126.8	1784.6	NO	bb	bb	78.692
13C-123789-HxCDF	36.836	1.011	8.628e4	1.703e5	0.909	0.507	0.510	1491	1871	1.47e6	2.89e6	984.9	1546.9	NO	bb	bb	75.482
13C-1234678-HpCDF	38.685	1.062	8.554e4	1.866e5	0.960	0.458	0.440	1008	1350	1.46e6	3.26e6	1451.7	2412.8	NO	bd	bb	75.830
13C-1234789-HpCDF	40.914	1.123	6.974e4	1.549e5	0.794	0.450	0.440	1008	1350	1.05e6	2.34e6	1037.6	1733.7	NO	bb	bb	75.675
13C-1234-TCDD	25.489	0.000	1.611e5	2.061e5	1.000	0.782	0.770	1927	891	2.59e6	3.35e6	1344.3	3752.8	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	6.553e4	8.449e4	1.133	0.776	0.770	1927	891	1.02e6	1.34e6	529.6	1499.9	NO	bb	bb	36.071
13C-12378-PeCDD	31.432	1.233	1.431e5	9.009e4	0.947	1.589	1.550	1760	934	2.14e6	1.35e6	1215.6	1446.0	NO	bb	bb	67.082
13C-123478-HxCDD	35.933	0.986	1.556e5	1.238e5	0.939	1.257	1.240	1762	1431	2.64e6	2.12e6	1498.6	1478.9	NO	bd	bd	79.611
13C-123678-HxCDD	36.056	0.990	1.563e5	1.261e5	1.042	1.240	1.240	1762	1431	2.64e6	2.08e6	1498.2	1453.9	NO	db	db	72.474
13C-1234678-HpCDD	40.178	1.103	1.077e5	1.011e5	0.788	1.065	1.050	1593	1337	1.75e6	1.66e6	1101.1	1241.1	NO	bb	bb	70.805
13C-OCDD	44.903	1.232	1.771e5	1.952e5	0.703	0.907	0.890	703	787	2.24e6	2.43e6	3192.1	3090.8	NO	bb	bb	141.592
13C-123789-HxCDD	36.435	0.000	2.089e5	1.651e5	1.000	1.265	1.240	1762	1431	3.59e6	2.83e6	2039.4	1974.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	6.723e4		1.298			968		1.04e6		1072.8			bb		14.113

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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	22.177	0.864	2.465e2	5.277e2	0.966	0.467	0.770	908	1170	4.13e3	6.92e3	4.6	5.9	YES	db	bb	0.439
1289-TCDF					0.736		0.770	908	1170								
13468-PECDF					1.347		1.550	637	768								
12389-PECDF					0.867		1.550	761	1037								
123468-HXCDF	33.159	0.953	7.089e3	5.310e3	1.036	1.335	1.240	1355	1105	1.23e5	9.49e4	90.8	86.0	NO	bb	bb	4.098
1368-TCDD	23.447	0.891	4.308e2	8.021e2	1.256	0.537	0.770	1656	2012	4.92e3	8.50e3	3.0	4.2	YES	bb	bd	0.655
1289-TCDD					1.151		0.770	1656	2012								
12479-PECDD	28.758	0.915	6.184e3	3.185e3	1.773	1.942	1.550	1306	1837	6.69e4	4.67e4	51.2	25.4	YES	bb	db	2.265
12389-PECDD					1.171		1.550	1306	1837								
124679-HXCDD	33.928	0.944	2.778e4	2.322e4	1.034	1.196	1.240	1586	2180	4.39e5	3.62e5	276.9	165.9	NO	bb	bb	17.659
1234679-HPCDD	39.153	0.975	1.967e5	1.884e5	1.194	1.044	1.050	5030	5295	3.38e6	3.21e6	673.0	605.4	NO	bb	bb	154.502
Total-tetrafurans			7.246e3		0.828			908		1.03e5							11.103
Total-penta1			1.487e4					637		2.23e5							7.955
Total-pentafurans			1.615e4		0.904			761		2.37e5							8.506
Total-hexafurans			7.529e4		1.007			1355		1.19e6							46.316
Total-heptafurans			1.486e5		1.064			1328		2.59e6							106.472
Total-Furans			3.384e5		0.998			908		5.31e6							248.228
Total-tetradioxins			5.388e2		1.238			1656		7.40e3							0.715
Total-pentadioxins			6.875e3		1.308			1306		1.03e5							3.757
Total-hexadioxins			8.321e4		0.967			1586		1.18e6							55.182
Total-heptadioxins			3.871e5		1.125			5030		6.53e6							321.262
Total-Dioxins			1.716e6		1.141			1656		2.36e7							1704.342
Total-TEQ			2.055e6					1656		2.90e7							1952.570
FUNCTION1 PFK			9.714e6					380313		3.27e7							
FUNCTION2 PFK			7.613e5					232435		4.93e6							0.000
FUNCTION3 PFK			1.457e7					292770		1.71e7							0.000
FUNCTION4 PFK			5.357e5					183104		2.88e6							
FUNCTION5 PFK			0.000e0					145126		0.00e0							
FUNCTION1 HXCD...			2.338e3					690		3.80e4							0.000
FUNCTION1 HPCD...			2.611e3					790		4.00e4							0.000
FUNCTION2 HPCD...			7.341e1					721		2.39e3							0.000
FUNCTION3 OCDPE			1.384e2					589		1.12e3							0.000
FUNCTION4 NCDPE			5.600e2					583		1.02e4							0.000
FUNCTION5 DCDPE			0.000e0					429		0.00e0							

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Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	23.78	7.078e2	9.291e2	0.828	0.76	0.77	11.9	YES	NO	dd	dd	1.082
2	Total-tetrafurans	23.67	4.265e2	6.485e2	0.828	0.66	0.77	8.6	YES	NO	dd	dd	0.710
3	Total-tetrafurans	23.16	4.890e2	7.101e2	0.828	0.69	0.77	6.6	YES	NO	dd	dd	0.792
4	Total-tetrafurans	23.01	1.749e3	2.225e3	0.828	0.79	0.77	29.7	YES	NO	bd	bd	2.627
5	Total-tetrafurans	22.43	6.365e2	7.717e2	0.828	0.82	0.77	8.5	YES	NO	bb	bb	0.931
6	Total-tetrafurans	25.44	1.265e3	1.855e3	0.828	0.68	0.77	16.6	YES	NO	bb	bd	2.062
7	Total-tetrafurans	25.20	3.947e2	4.758e2	0.828	0.83	0.77	7.5	YES	NO	db	bb	0.575
8	Total-tetrafurans	24.99	3.058e2	4.454e2	0.828	0.69	0.77	5.6	YES	NO	bd	bb	0.496
9	Total-tetrafurans	24.57	1.272e3	1.494e3	0.828	0.85	0.77	18.6	YES	NO	dd	db	1.828

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.11	1.487e4	1.023e4		1.45	1.55	349.9	YES	NO	bb	bb	7.955

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	30.05	1.627e3	9.601e2	0.904	1.69	1.55	35.2	YES	NO	bd	bd	0.856
2	Total-pentafurans	28.77	6.984e3	3.980e3	0.904	1.75	1.55	121.8	YES	NO	db	db	3.628
3	Total-pentafurans	28.70	2.304e3	1.522e3	0.904	1.51	1.55	65.8	YES	NO	dd	dd	1.266
4	Total-pentafurans	28.58	3.136e3	1.823e3	0.904	1.72	1.55	46.7	YES	NO	bd	dd	1.641
5	23478-PeCDF	31.19	2.096e3	1.449e3	0.980	1.45	1.55	42.5	YES	NO	db	db	1.115

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.82	1.026e3	9.671e2	0.994	1.06	1.24	14.0	YES	NO	bb	bb	0.781
2	234678-HxCDF	35.79	3.230e3	2.557e3	1.043	1.26	1.24	30.7	YES	NO	bb	bb	1.878
3	123478-HxCDF	34.82	7.325e3	5.414e3	1.002	1.35	1.24	86.0	YES	NO	dd	bb	4.351
4	Total-hexafurans	34.66	9.295e2	7.484e2	1.007	1.24	1.24	11.3	YES	NO	bd	bb	0.584
5	Total-hexafurans	34.21	3.329e4	2.639e4	1.007	1.26	1.24	384.5	YES	NO	bb	bb	20.781
6	Total-hexafurans	33.88	9.307e2	7.237e2	1.007	1.29	1.24	10.6	YES	NO	bb	bb	0.576
7	Total-hexafurans	33.36	2.147e4	1.663e4	1.007	1.29	1.24	248.9	YES	NO	bb	bb	13.266
8	123468-HXCDF	33.16	7.089e3	5.310e3	1.036	1.34	1.24	90.8	YES	NO	bb	bb	4.098

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HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.92	3.505e3	3.247e3	1.070	1.08	1.05	38.3	YES	NO	bb	bb	2.811
2	Total-heptafurans	39.35	9.982e4	9.393e4	1.064	1.06	1.05	1314.9	YES	NO	bb	bb	73.322
3	Total-heptafurans	39.12	8.386e2	8.005e2	1.064	1.05	1.05	13.1	YES	NO	bb	bb	0.620
4	1234678-HpCDF	38.70	4.446e4	4.111e4	1.058	1.08	1.05	583.4	YES	NO	bb	bb	29.719

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	23.78	7.078e2	9.291e2	0.828	0.76	0.77	11.9	YES	NO	dd	dd	1.082
2	Total-tetrafurans	23.67	4.265e2	6.485e2	0.828	0.66	0.77	8.6	YES	NO	dd	dd	0.710
3	Total-tetrafurans	23.16	4.890e2	7.101e2	0.828	0.69	0.77	6.6	YES	NO	dd	dd	0.792
4	Total-tetrafurans	23.01	1.749e3	2.225e3	0.828	0.79	0.77	29.7	YES	NO	bd	bd	2.627
5	Total-tetrafurans	22.43	6.365e2	7.717e2	0.828	0.82	0.77	8.5	YES	NO	bb	bb	0.931
6	Total-tetrafurans	25.44	1.265e3	1.855e3	0.828	0.68	0.77	16.6	YES	NO	bb	bd	2.062
7	Total-tetrafurans	25.20	3.947e2	4.758e2	0.828	0.83	0.77	7.5	YES	NO	db	bb	0.575
8	Total-tetrafurans	24.99	3.058e2	4.454e2	0.828	0.69	0.77	5.6	YES	NO	bd	bb	0.496
9	Total-tetrafurans	24.57	1.272e3	1.494e3	0.828	0.85	0.77	18.6	YES	NO	dd	db	1.828
10	Total-pentafurans	30.05	1.627e3	9.601e2	0.904	1.69	1.55	35.2	YES	NO	bd	bd	0.856
11	Total-pentafurans	28.77	6.984e3	3.980e3	0.904	1.75	1.55	121.8	YES	NO	db	db	3.628
12	Total-pentafurans	28.70	2.304e3	1.522e3	0.904	1.51	1.55	65.8	YES	NO	dd	dd	1.266
13	Total-pentafurans	28.58	3.136e3	1.823e3	0.904	1.72	1.55	46.7	YES	NO	bd	dd	1.641
14	23478-PeCDF	31.19	2.096e3	1.449e3	0.980	1.45	1.55	42.5	YES	NO	db	db	1.115
15	123789-HxCDF	36.82	1.026e3	9.671e2	0.994	1.06	1.24	14.0	YES	NO	bb	bb	0.781
16	234678-HxCDF	35.79	3.230e3	2.557e3	1.043	1.26	1.24	30.7	YES	NO	bb	bb	1.878
17	123478-HxCDF	34.82	7.325e3	5.414e3	1.002	1.35	1.24	86.0	YES	NO	dd	bb	4.351
18	Total-hexafurans	34.66	9.295e2	7.484e2	1.007	1.24	1.24	11.3	YES	NO	bd	bb	0.584
19	Total-hexafurans	34.21	3.329e4	2.639e4	1.007	1.26	1.24	384.5	YES	NO	bb	bb	20.781
20	Total-hexafurans	33.88	9.307e2	7.237e2	1.007	1.29	1.24	10.6	YES	NO	bb	bb	0.576
21	Total-hexafurans	33.36	2.147e4	1.663e4	1.007	1.29	1.24	248.9	YES	NO	bb	bb	13.266
22	123468-HXCDF	33.16	7.089e3	5.310e3	1.036	1.34	1.24	90.8	YES	NO	bb	bb	4.098
23	1234789-HpCDF	40.92	3.505e3	3.247e3	1.070	1.08	1.05	38.3	YES	NO	bb	bb	2.811
24	Total-heptafurans	39.35	9.982e4	9.393e4	1.064	1.06	1.05	1314.9	YES	NO	bb	bb	73.322
25	Total-heptafurans	39.12	8.386e2	8.005e2	1.064	1.05	1.05	13.1	YES	NO	bb	bb	0.620
26	1234678-HpCDF	38.70	4.446e4	4.111e4	1.058	1.08	1.05	583.4	YES	NO	bb	bb	29.719
27	OCDF	45.16	7.622e4	8.260e4	1.257	0.92	0.89	997.3	YES	NO	bb	bb	67.876
28	Total-penta1	27.11	1.487e4	1.023e4		1.45	1.55	349.9	YES	NO	bb	bb	7.955

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.94	5.388e2	7.887e2	1.238	0.68	0.77	4.5	YES	NO	bb	bd	0.715

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	30.21	1.843e3	1.265e3	1.308	1.46	1.55	23.3	YES	NO	dd	dd	1.019
2	Total-pentadioxins	30.06	3.727e3	2.448e3	1.308	1.52	1.55	40.4	YES	NO	bd	bd	2.025
3	Total-pentadioxins	29.84	1.305e3	8.685e2	1.308	1.50	1.55	15.0	YES	NO	bb	bb	0.713

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	35.06	3.580e4	2.897e4	0.967	1.24	1.24	250.0	YES	NO	bd	bb	23.834
2	Total-hexadioxins	34.71	3.695e3	3.338e3	0.967	1.11	1.24	40.2	YES	NO	bb	bb	2.589
3	124679-HXCDD	33.93	2.778e4	2.322e4	1.034	1.20	1.24	276.9	YES	NO	bb	bb	17.659
4	123789-HxCDD	36.45	7.111e3	5.424e3	0.927	1.31	1.24	80.3	YES	NO	bb	bb	4.814
5	123678-HxCDD	36.07	8.828e3	8.082e3	0.953	1.09	1.24	97.8	YES	NO	db	db	6.286

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.19	1.904e5	1.769e5	1.055	1.08	1.05	624.8	YES	NO	bb	bb	166.760
2	1234679-HPCDD	39.15	1.967e5	1.884e5	1.194	1.04	1.05	673.0	YES	NO	bb	bb	154.502

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:02:52 Pacific Daylight Time

ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, 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	24.94	5.388e2	7.887e2	1.238	0.68	0.77	4.5	YES	NO	bb	bd	0.715
2	Total-pentadioxins	30.21	1.843e3	1.265e3	1.308	1.46	1.55	23.3	YES	NO	dd	dd	1.019
3	Total-pentadioxins	30.06	3.727e3	2.448e3	1.308	1.52	1.55	40.4	YES	NO	bd	bd	2.025
4	Total-pentadioxins	29.84	1.305e3	8.685e2	1.308	1.50	1.55	15.0	YES	NO	bb	bb	0.713
5	Total-hexadioxins	35.06	3.580e4	2.897e4	0.967	1.24	1.24	250.0	YES	NO	bd	bb	23.834
6	Total-hexadioxins	34.71	3.695e3	3.338e3	0.967	1.11	1.24	40.2	YES	NO	bb	bb	2.589
7	124679-HXCDD	33.93	2.778e4	2.322e4	1.034	1.20	1.24	276.9	YES	NO	bb	bb	17.659
8	123789-HxCDD	36.45	7.111e3	5.424e3	0.927	1.31	1.24	80.3	YES	NO	bb	bb	4.814
9	123678-HxCDD	36.07	8.828e3	8.082e3	0.953	1.09	1.24	97.8	YES	NO	db	db	6.286
10	1234678-HpCDD	40.19	1.904e5	1.769e5	1.055	1.08	1.05	624.8	YES	NO	bb	bb	166.760
11	1234679-HPCDD	39.15	1.967e5	1.884e5	1.194	1.04	1.05	673.0	YES	NO	bb	bb	154.502
12	OCDD	44.92	1.239e6	1.407e6	1.074	0.88	0.89	12058.6	YES	NO	bb	bb	1323.4...

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ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, 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	23.78	7.078e2	9.291e2	0.828	0.76	0.77	11.9	YES	NO	dd	dd	1.082
2	Total-tetrafurans	23.67	4.265e2	6.485e2	0.828	0.66	0.77	8.6	YES	NO	dd	dd	0.710
3	Total-tetrafurans	23.16	4.890e2	7.101e2	0.828	0.69	0.77	6.6	YES	NO	dd	dd	0.792
4	Total-tetrafurans	23.01	1.749e3	2.225e3	0.828	0.79	0.77	29.7	YES	NO	bd	bd	2.627
5	Total-tetrafurans	22.43	6.365e2	7.717e2	0.828	0.82	0.77	8.5	YES	NO	bb	bb	0.931
6	Total-tetrafurans	25.44	1.265e3	1.855e3	0.828	0.68	0.77	16.6	YES	NO	bb	bd	2.062
7	Total-tetrafurans	25.20	3.947e2	4.758e2	0.828	0.83	0.77	7.5	YES	NO	db	bb	0.575
8	Total-tetrafurans	24.99	3.058e2	4.454e2	0.828	0.69	0.77	5.6	YES	NO	bd	bb	0.496
9	Total-tetrafurans	24.57	1.272e3	1.494e3	0.828	0.85	0.77	18.6	YES	NO	dd	db	1.828
10	Total-pentafurans	30.05	1.627e3	9.601e2	0.904	1.69	1.55	35.2	YES	NO	bd	bd	0.856
11	Total-pentafurans	28.77	6.984e3	3.980e3	0.904	1.75	1.55	121.8	YES	NO	db	db	3.628
12	Total-pentafurans	28.70	2.304e3	1.522e3	0.904	1.51	1.55	65.8	YES	NO	dd	dd	1.266
13	Total-pentafurans	28.58	3.136e3	1.823e3	0.904	1.72	1.55	46.7	YES	NO	bd	dd	1.641
14	23478-PeCDF	31.19	2.096e3	1.449e3	0.980	1.45	1.55	42.5	YES	NO	db	db	1.115
15	123789-HxCDF	36.82	1.026e3	9.671e2	0.994	1.06	1.24	14.0	YES	NO	bb	bb	0.781
16	234678-HxCDF	35.79	3.230e3	2.557e3	1.043	1.26	1.24	30.7	YES	NO	bb	bb	1.878
17	123478-HxCDF	34.82	7.325e3	5.414e3	1.002	1.35	1.24	86.0	YES	NO	dd	bb	4.351
18	Total-hexafurans	34.66	9.295e2	7.484e2	1.007	1.24	1.24	11.3	YES	NO	bd	bb	0.584
19	Total-hexafurans	34.21	3.329e4	2.639e4	1.007	1.26	1.24	384.5	YES	NO	bb	bb	20.781
20	Total-hexafurans	33.88	9.307e2	7.237e2	1.007	1.29	1.24	10.6	YES	NO	bb	bb	0.576
21	Total-hexafurans	33.36	2.147e4	1.663e4	1.007	1.29	1.24	248.9	YES	NO	bb	bb	13.266
22	123468-HXCDF	33.16	7.089e3	5.310e3	1.036	1.34	1.24	90.8	YES	NO	bb	bb	4.098
23	1234789-HpCDF	40.92	3.505e3	3.247e3	1.070	1.08	1.05	38.3	YES	NO	bb	bb	2.811
24	Total-heptafurans	39.35	9.982e4	9.393e4	1.064	1.06	1.05	1314.9	YES	NO	bb	bb	73.322
25	Total-heptafurans	39.12	8.386e2	8.005e2	1.064	1.05	1.05	13.1	YES	NO	bb	bb	0.620
26	1234678-HpCDF	38.70	4.446e4	4.111e4	1.058	1.08	1.05	583.4	YES	NO	bb	bb	29.719
27	OCDF	45.16	7.622e4	8.260e4	1.257	0.92	0.89	997.3	YES	NO	bb	bb	67.876
28	Total-penta1	27.11	1.487e4	1.023e4		1.45	1.55	349.9	YES	NO	bb	bb	7.955
29	Total-tetradioxins	24.94	5.388e2	7.887e2	1.238	0.68	0.77	4.5	YES	NO	bb	bd	0.715
30	Total-pentadioxins	30.21	1.843e3	1.265e3	1.308	1.46	1.55	23.3	YES	NO	dd	dd	1.019
31	Total-pentadioxins	30.06	3.727e3	2.448e3	1.308	1.52	1.55	40.4	YES	NO	bd	bd	2.025
32	Total-pentadioxins	29.84	1.305e3	8.685e2	1.308	1.50	1.55	15.0	YES	NO	bb	bb	0.713
33	Total-hexadioxins	35.06	3.580e4	2.897e4	0.967	1.24	1.24	250.0	YES	NO	bd	bb	23.834
34	Total-hexadioxins	34.71	3.695e3	3.338e3	0.967	1.11	1.24	40.2	YES	NO	bb	bb	2.589
35	124679-HXCDD	33.93	2.778e4	2.322e4	1.034	1.20	1.24	276.9	YES	NO	bb	bb	17.659
36	123789-HxCDD	36.45	7.111e3	5.424e3	0.927	1.31	1.24	80.3	YES	NO	bb	bb	4.814
37	123678-HxCDD	36.07	8.828e3	8.082e3	0.953	1.09	1.24	97.8	YES	NO	db	db	6.286

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234678-HpCDD	40.19	1.904e5	1.769e5	1.055	1.08	1.05	624.8	YES	NO	bb	bb	166.760
39	1234679-HPCDD	39.15	1.967e5	1.884e5	1.194	1.04	1.05	673.0	YES	NO	bb	bb	154.502
40	OCDD	44.92	1.239e6	1.407e6	1.074	0.88	0.89	12058.6	YES	NO	bb	bb	1323.4...

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	25.35	8.450e4					4.7	YES		bb		
2	FUNCTION1 PFK	25.19	6.636e5					8.3	YES		bb		
3	FUNCTION1 PFK	22.57	6.425e4					3.3	YES		bb		
4	FUNCTION1 PFK	22.21	1.641e6					14.5	YES		bb		
5	FUNCTION1 PFK	21.57	6.249e6					29.8	YES		db		
6	FUNCTION1 PFK	21.38	1.011e6					25.4	YES		bd		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	32.44	3.253e5					4.9	YES		bb		0.000
2	FUNCTION2 PFK	32.16	4.003e5					12.4	YES		bb		0.000
3	FUNCTION2 PFK	29.27	3.576e4					3.9	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	36.90	1.697e5					4.4	YES		bb		0.000
2	FUNCTION3 PFK	36.53	3.715e5					2.3	NO		bb		0.000
3	FUNCTION3 PFK	34.54	1.434e5					3.2	YES		bb		0.000
4	FUNCTION3 PFK	34.35	1.500e5					10.5	YES		db		0.000
5	FUNCTION3 PFK	33.69	1.162e7					33.5	YES		bd		0.000
6	FUNCTION3 PFK	32.64	2.110e6					4.3	YES		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	42.22	7.482e3					1.7	NO		bb		
2	FUNCTION4 PFK	41.25	3.561e3					1.0	NO		bb		
3	FUNCTION4 PFK	39.94	4.428e3					1.1	NO		bb		
4	FUNCTION4 PFK	39.79	1.188e4					1.7	NO		bb		
5	FUNCTION4 PFK	38.86	4.993e5					7.2	YES		bb		
6	FUNCTION4 PFK	38.08	1.391e3					0.7	NO		bb		
7	FUNCTION4 PFK	37.87	5.143e3					1.5	NO		bb		
8	FUNCTION4 PFK	37.83	2.511e3					0.9	NO		bb		

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...	26.79	9.418e1					1.6	NO		db		0.000
2	FUNCTION1 HXCD...	26.71	1.462e2					2.9	NO		bd		0.000
3	FUNCTION1 HXCD...	26.08	8.843e1					1.9	NO		bb		0.000
4	FUNCTION1 HXCD...	25.85	1.155e2					3.3	YES		db		0.000
5	FUNCTION1 HXCD...	25.82	7.377e1					3.4	YES		dd		0.000
6	FUNCTION1 HXCD...	25.72	1.121e2					2.3	NO		bd		0.000
7	FUNCTION1 HXCD...	23.70	7.845e1					2.8	NO		db		0.000
8	FUNCTION1 HXCD...	23.67	7.620e1					3.0	NO		bd		0.000
9	FUNCTION1 HXCD...	22.22	4.804e2					9.1	YES		db		0.000
10	FUNCTION1 HXCD...	22.09	1.073e3					24.8	YES		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	23.28	1.675e3					28.2	YES		bb		0.000
2	FUNCTION1 HPCD...	22.25	6.129e2					12.4	YES		db		0.000
3	FUNCTION1 HPCD...	22.06	9.114e1					2.7	NO		bd		0.000
4	FUNCTION1 HPCD...	21.71	7.528e1					2.5	NO		bb		0.000
5	FUNCTION1 HPCD...	24.78	8.184e1					2.6	NO		bb		0.000
6	FUNCTION1 HPCD...	24.10	7.533e1					2.1	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.20	7.341e1					3.3	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	33.07	1.384e2					1.9	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	38.34	5.600e2					17.5	YES		bb		0.000

ETHERS6

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

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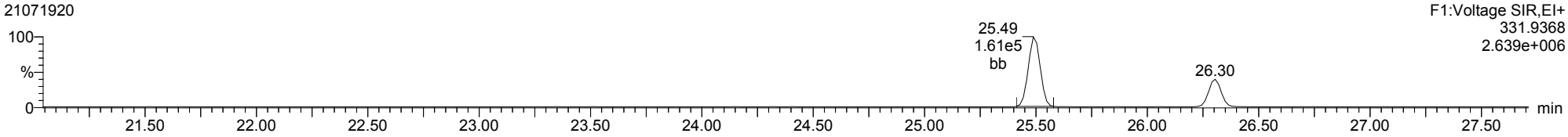
13C-1234-TCDD



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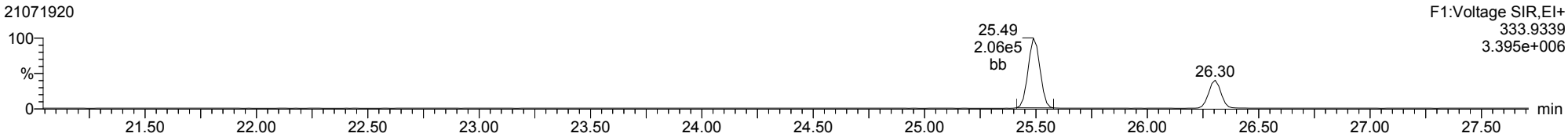

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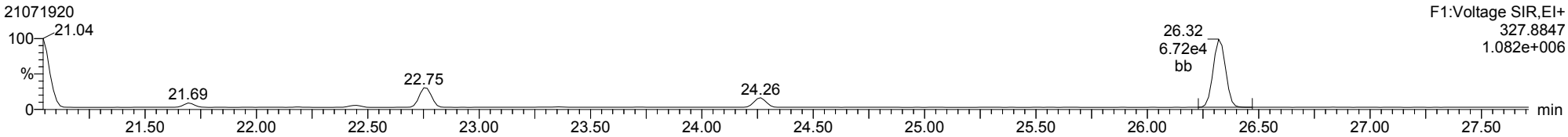

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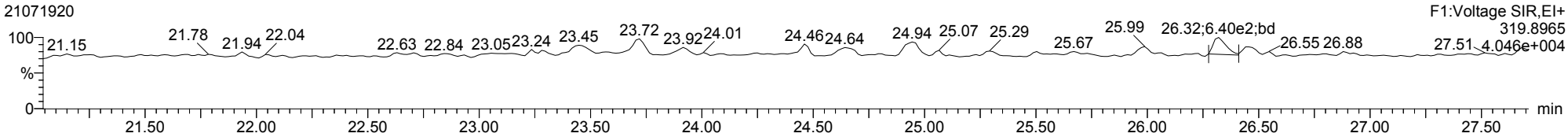

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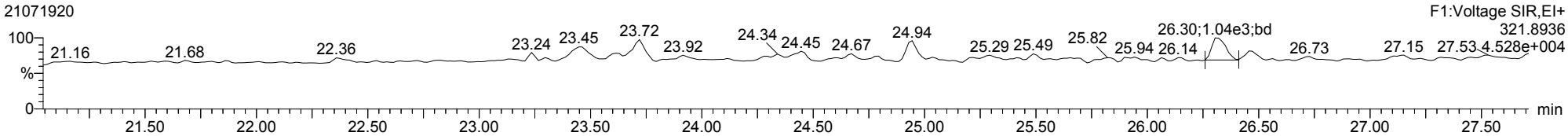

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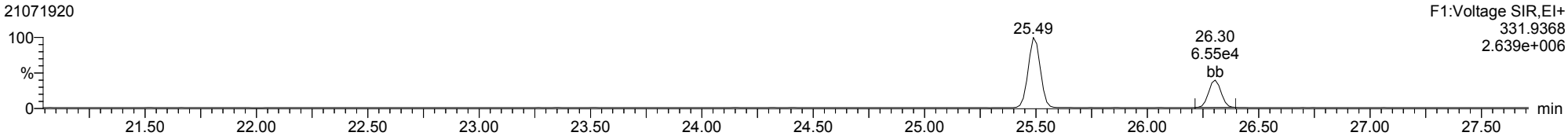

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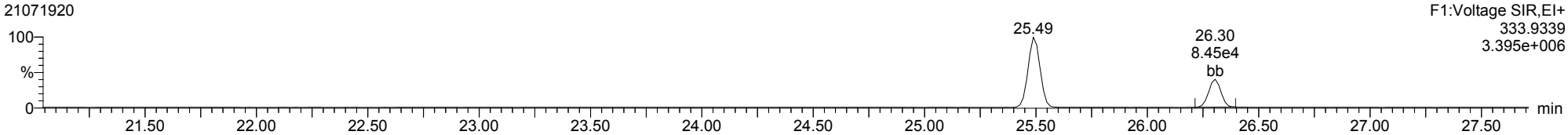

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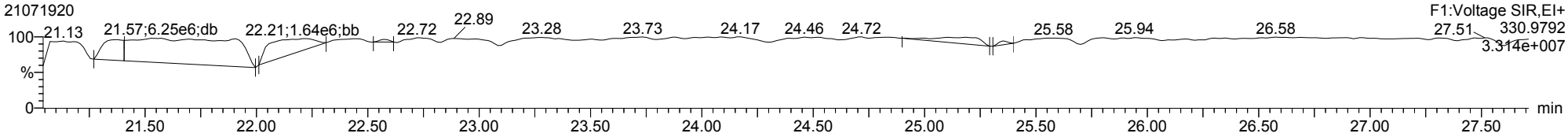

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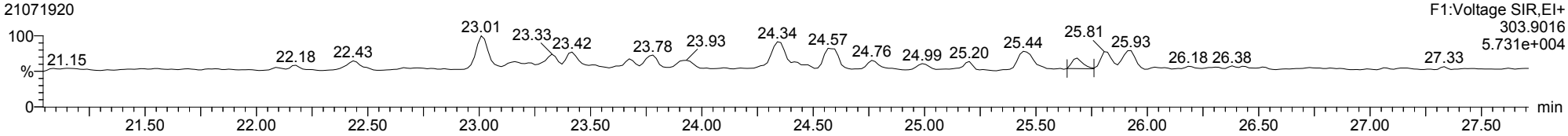

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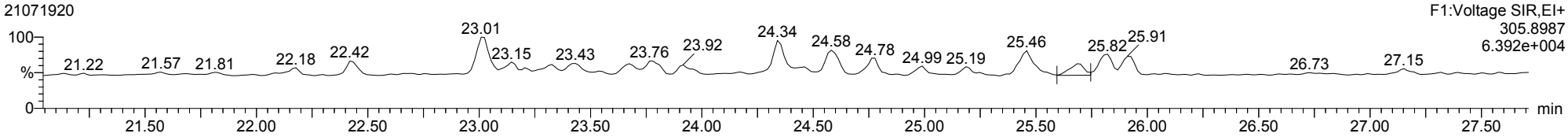

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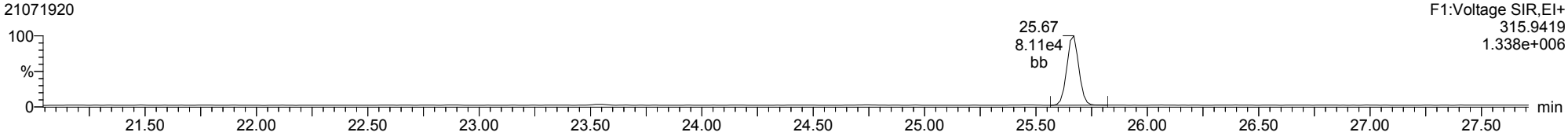

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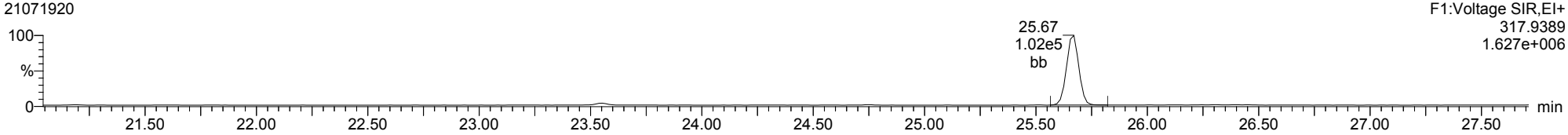

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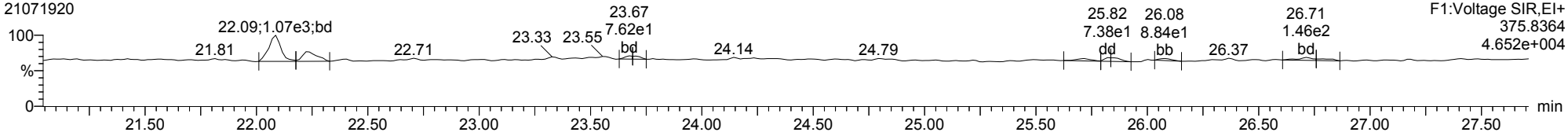

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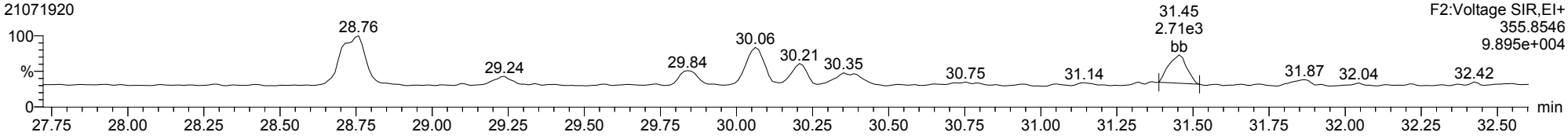
Printed: Tuesday, July 20, 2021 11:02:52 Pacific Daylight Time

ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, Conditions: AUTOSPEC01, User: pk

12378-PeCDD



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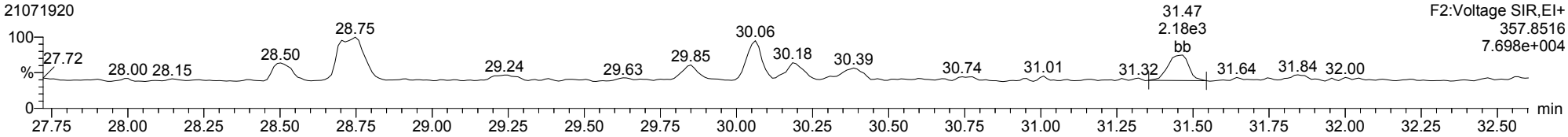

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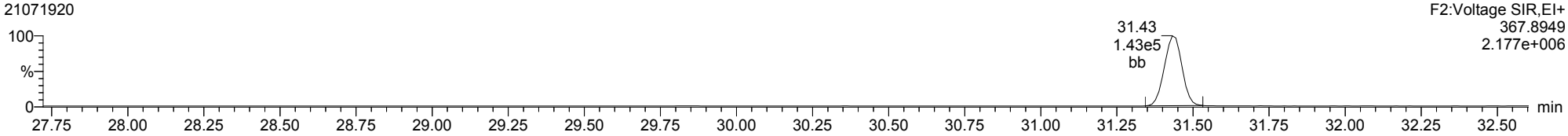

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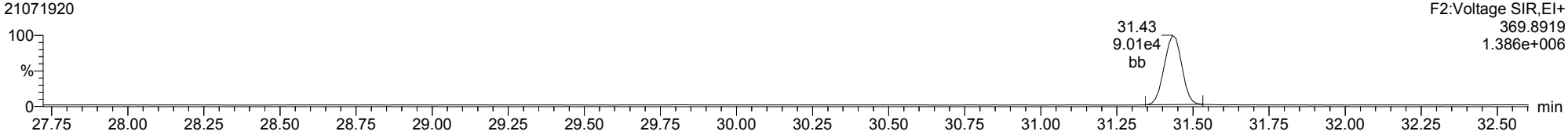

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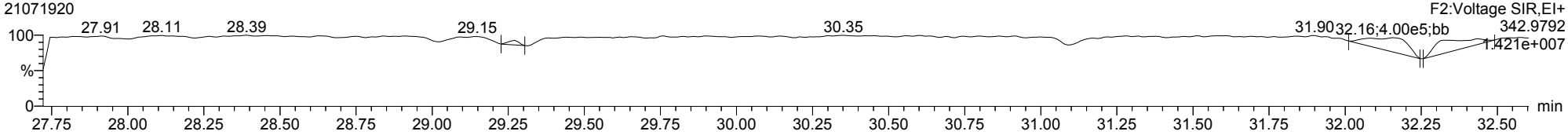

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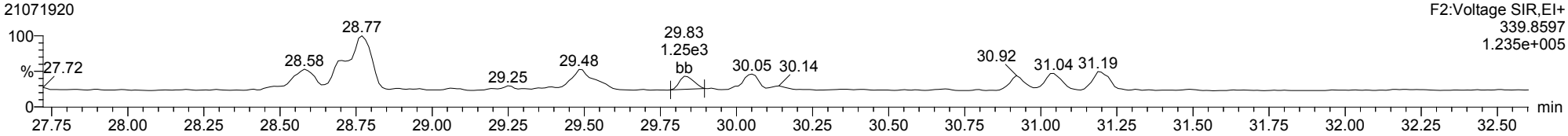

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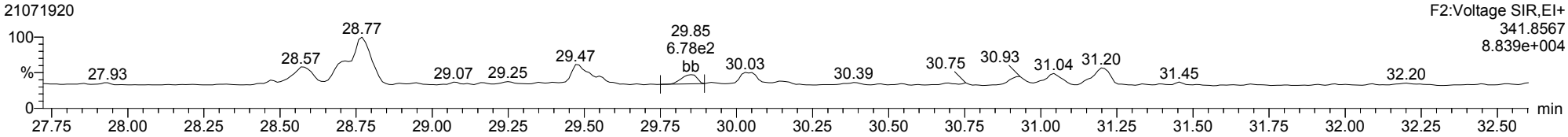

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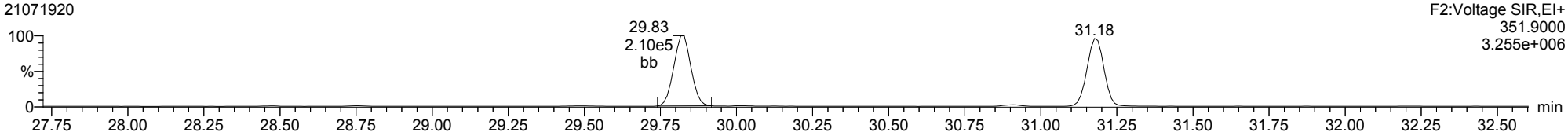

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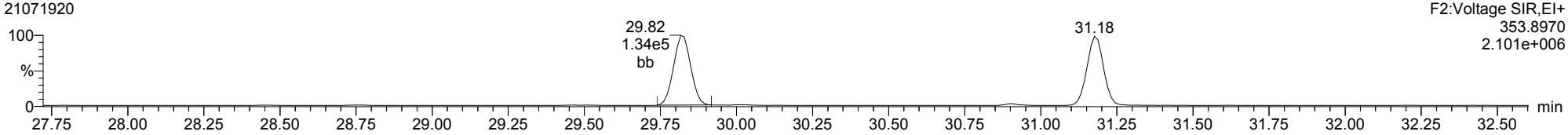

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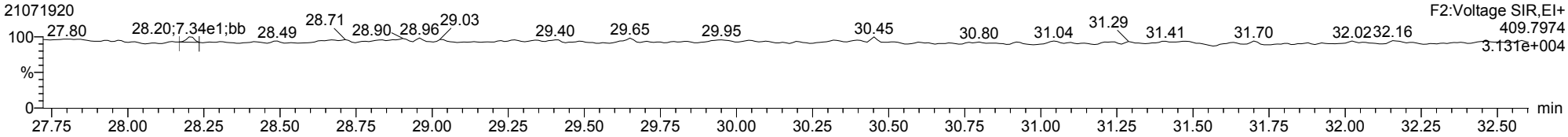

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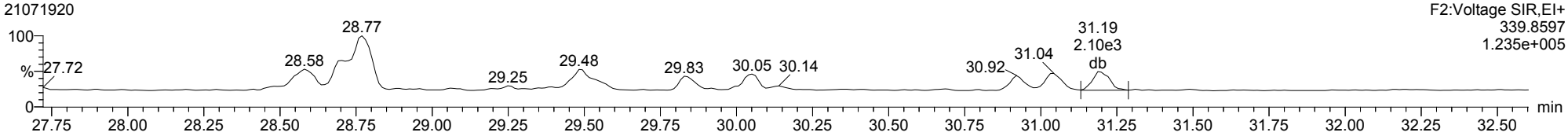

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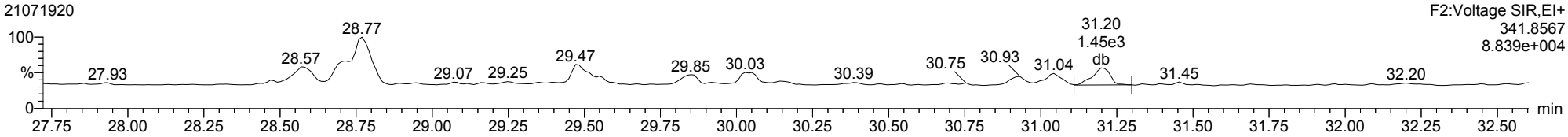

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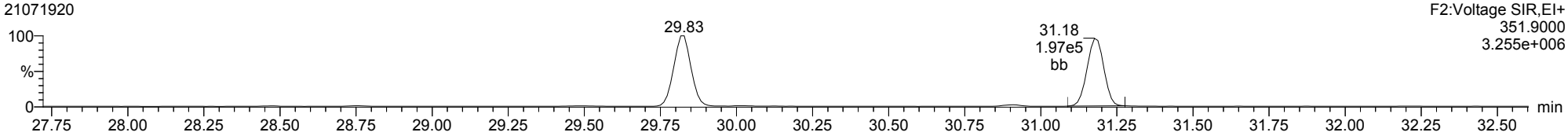

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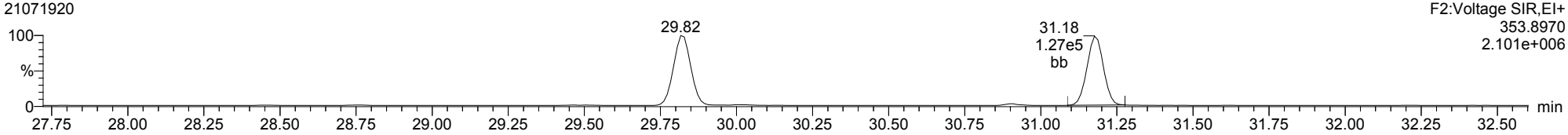

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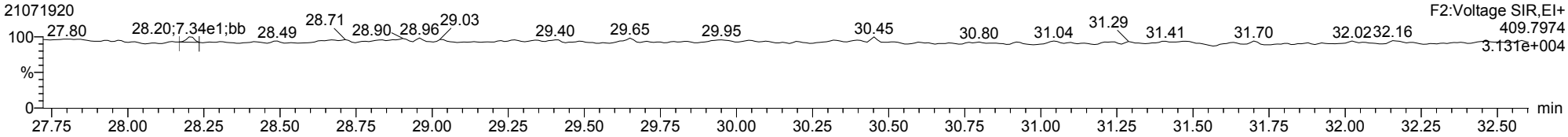

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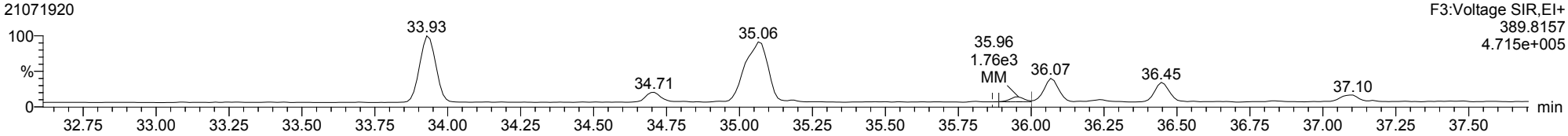

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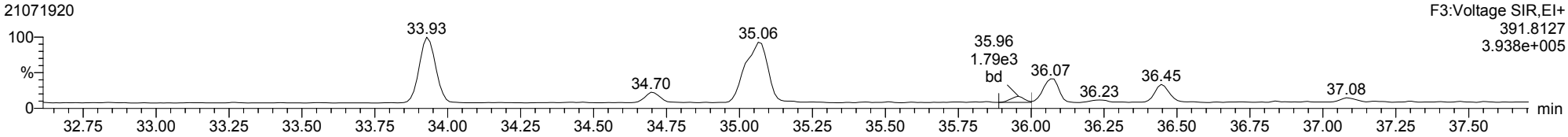

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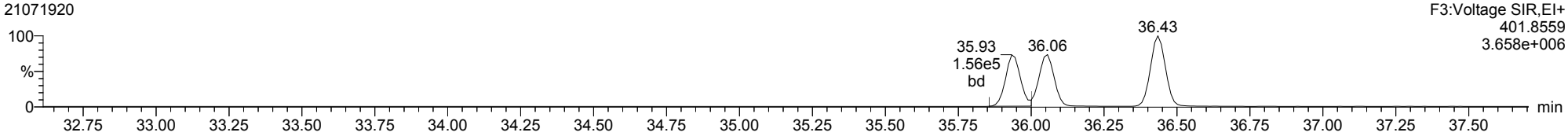

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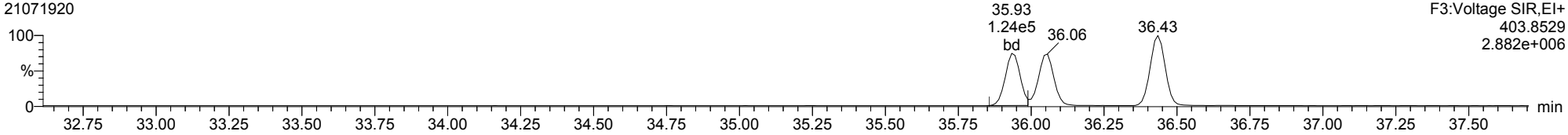

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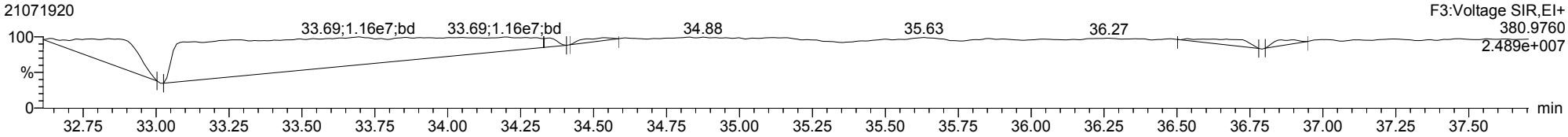

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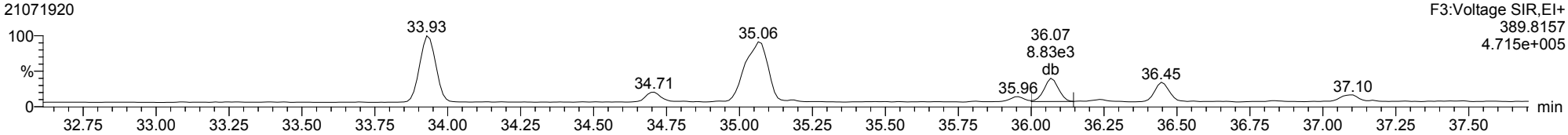

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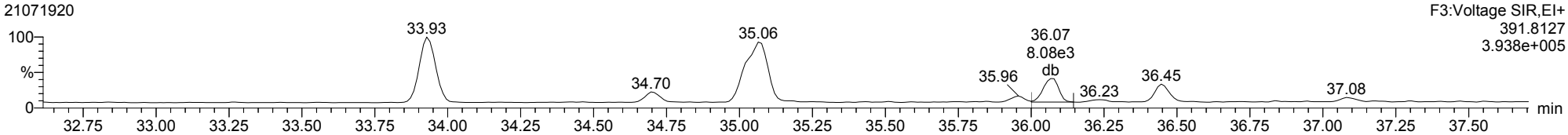

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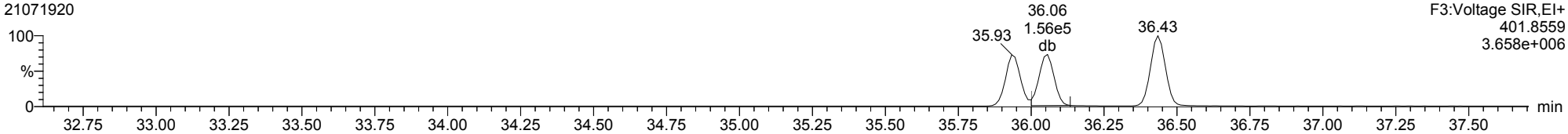

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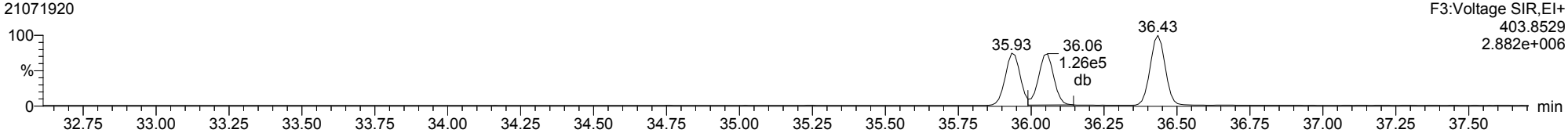

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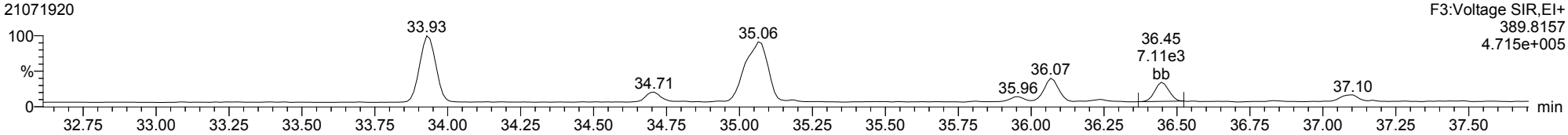

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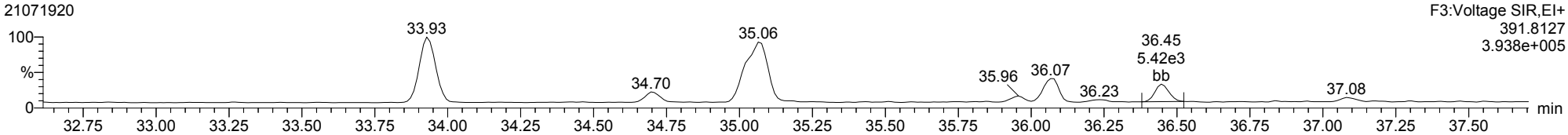

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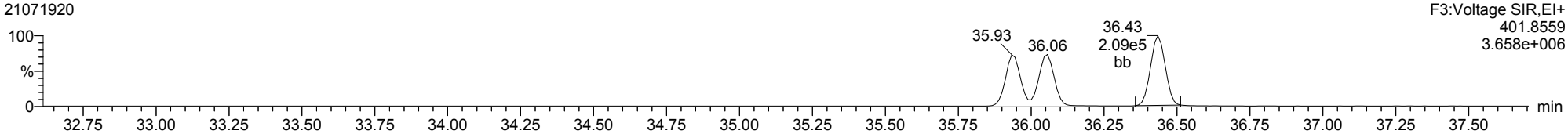

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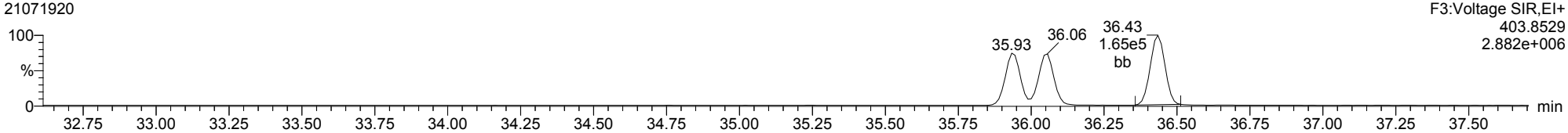

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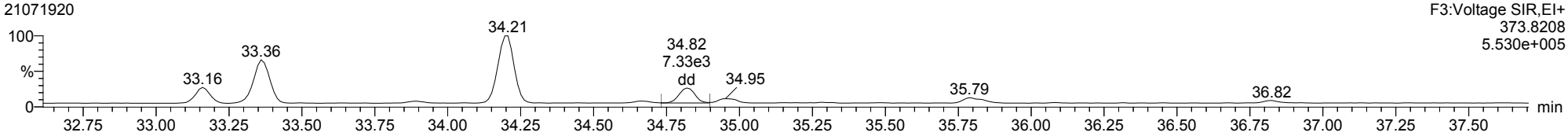

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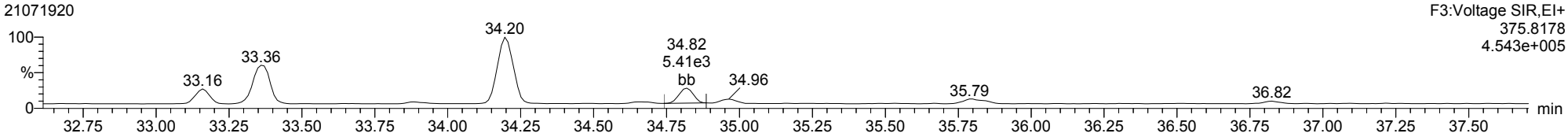

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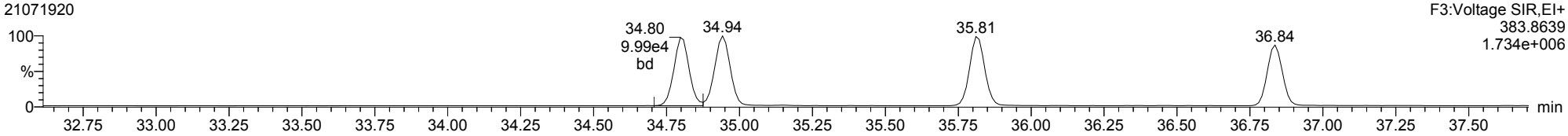

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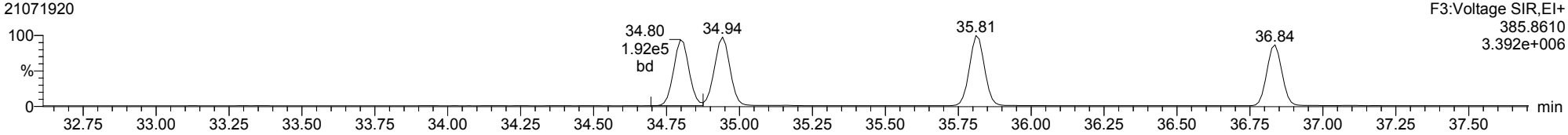

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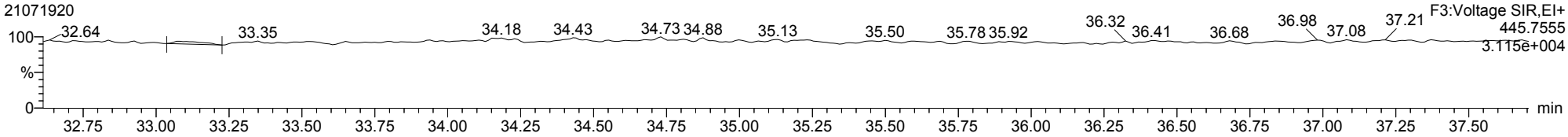

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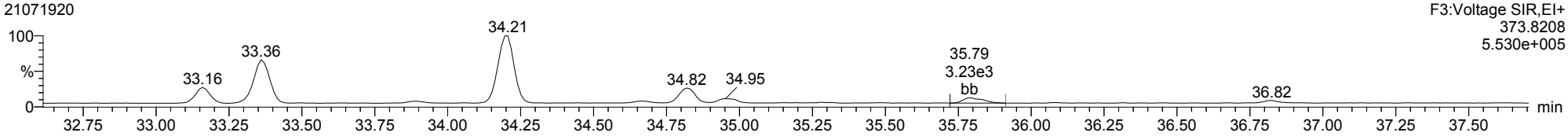

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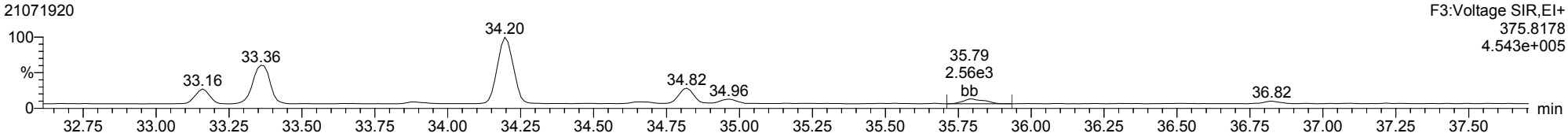

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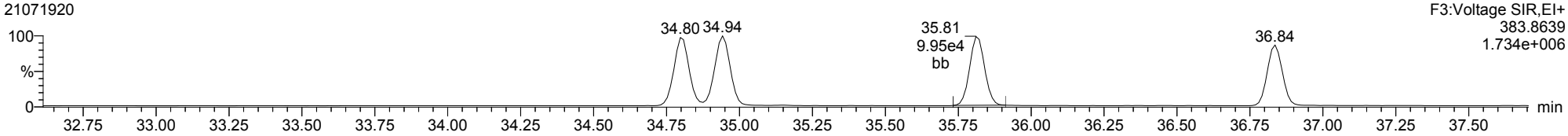

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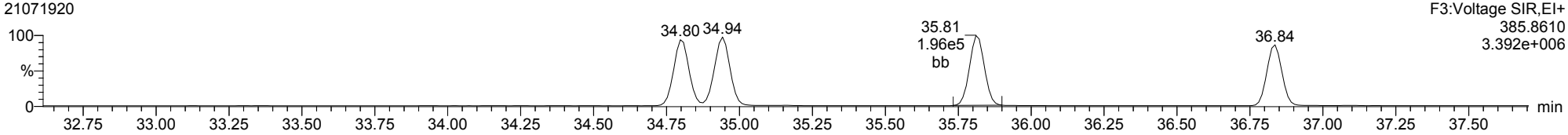

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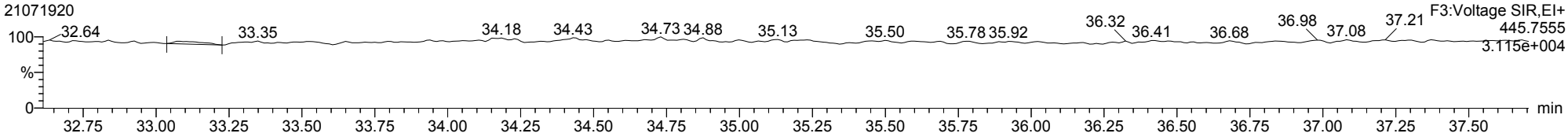

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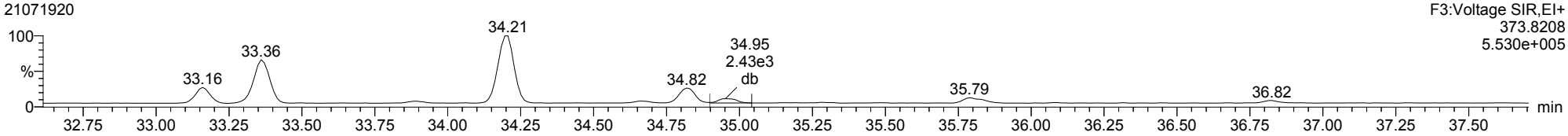

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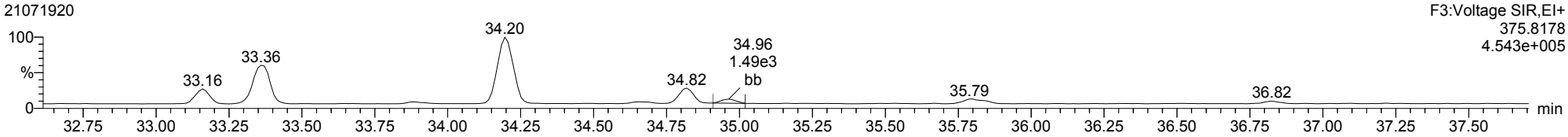

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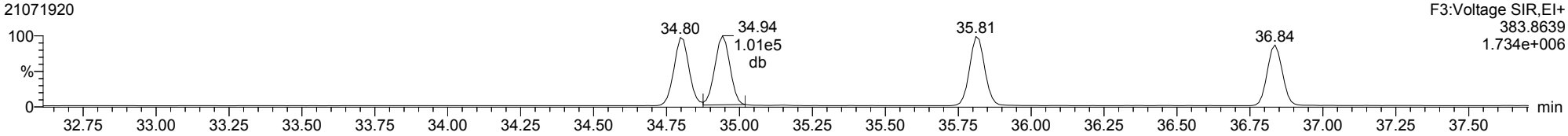

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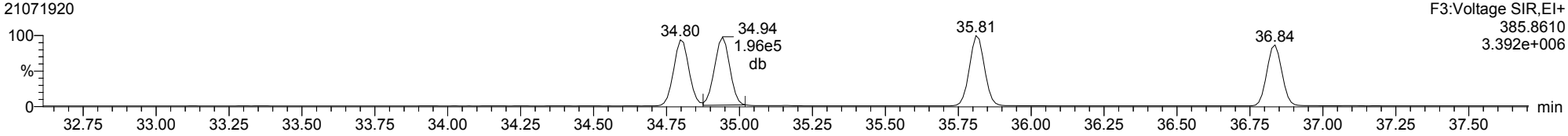

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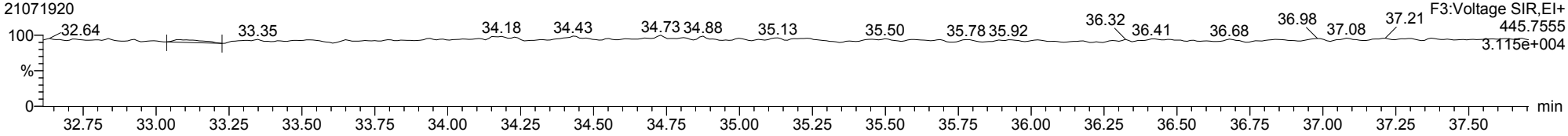

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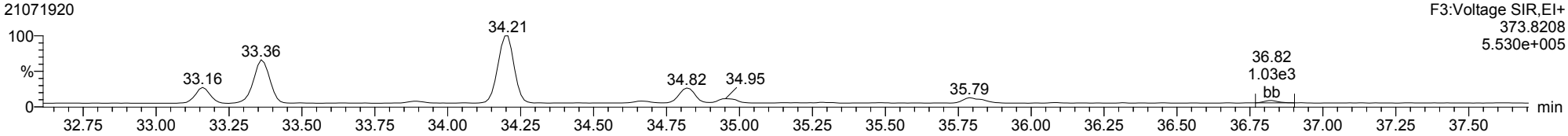

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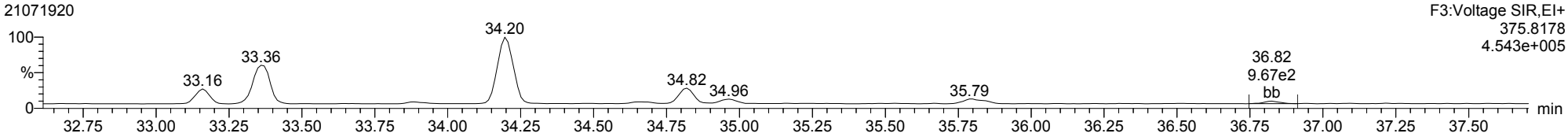

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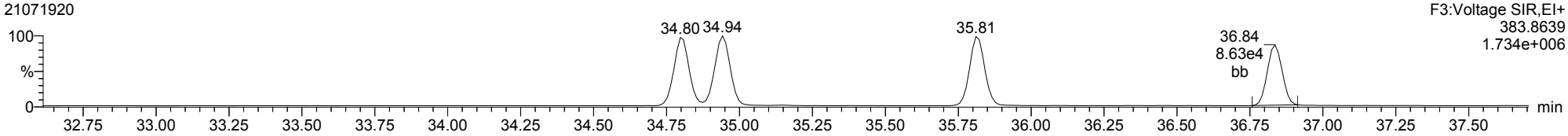

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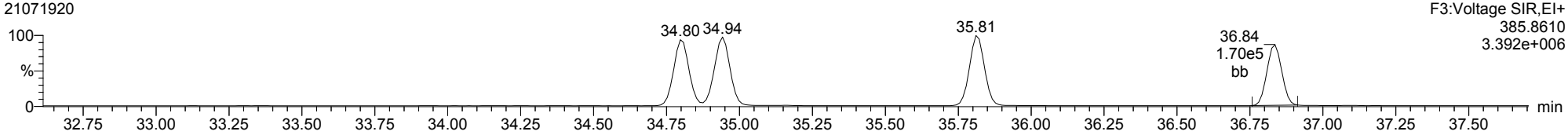

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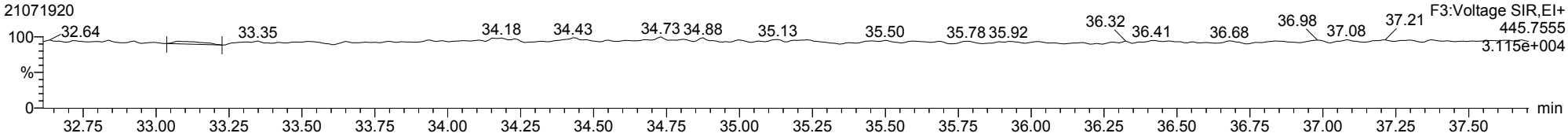

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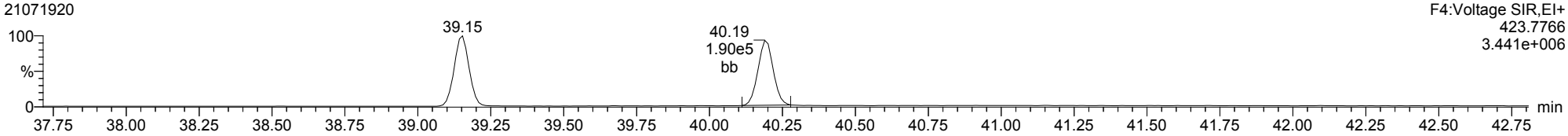

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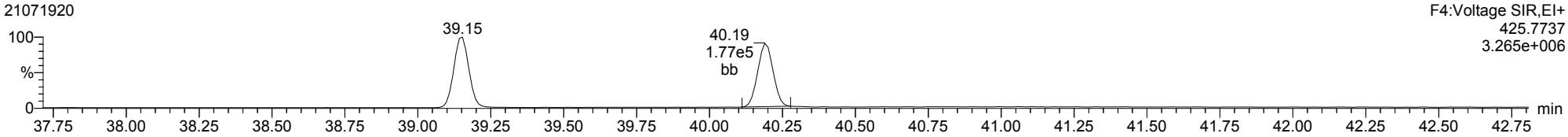

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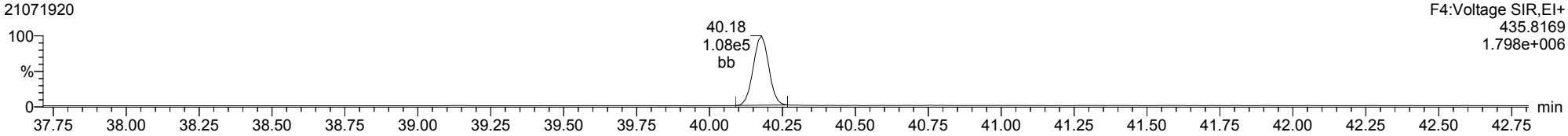

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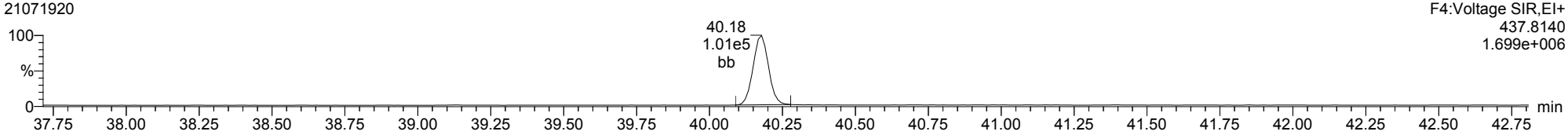

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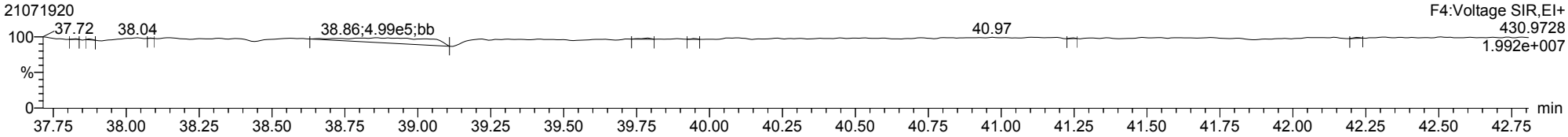

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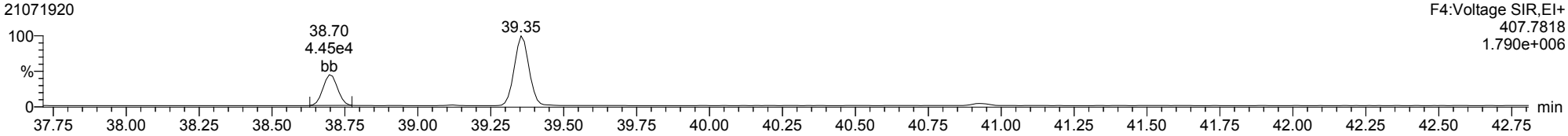

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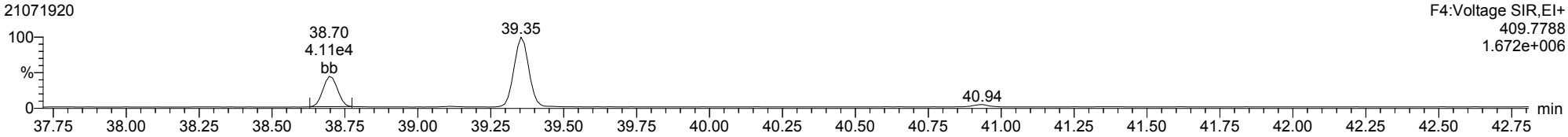

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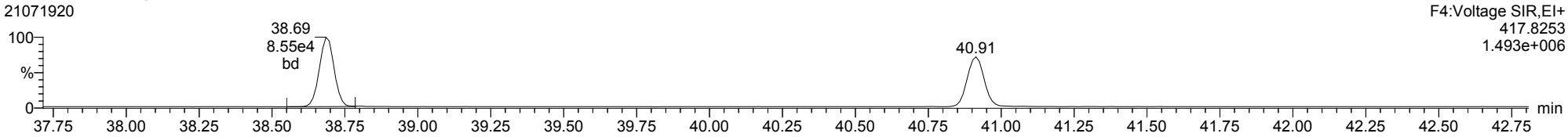

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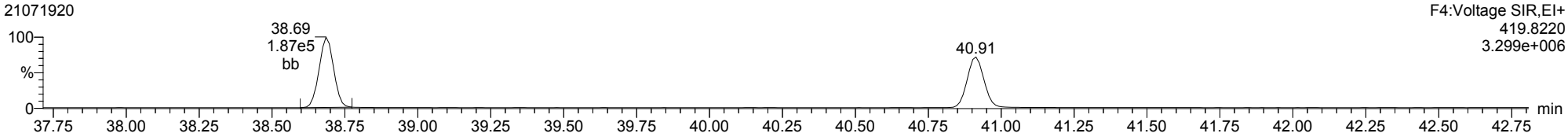

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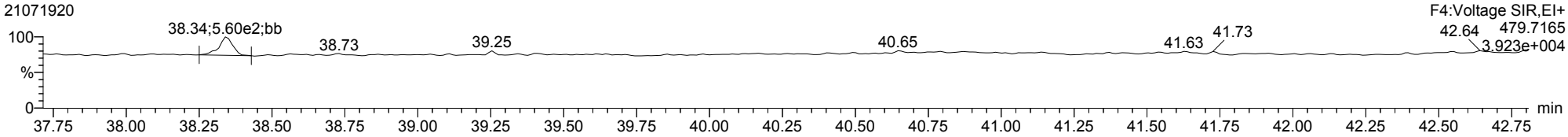

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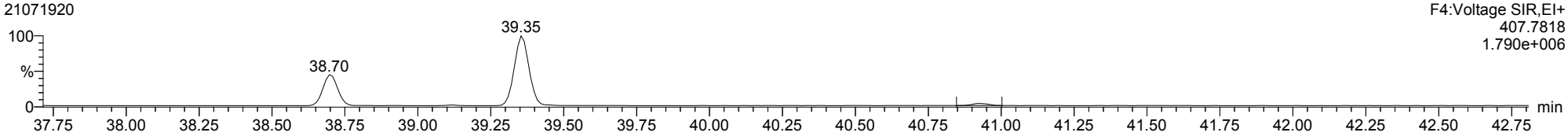

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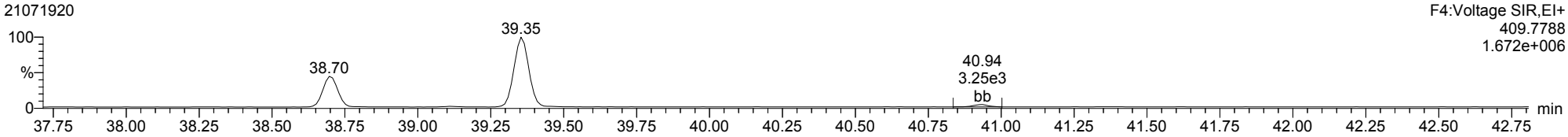

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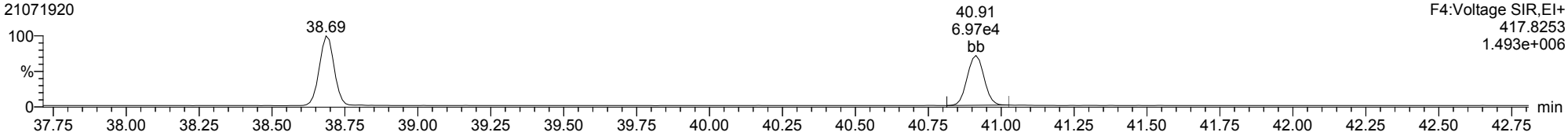

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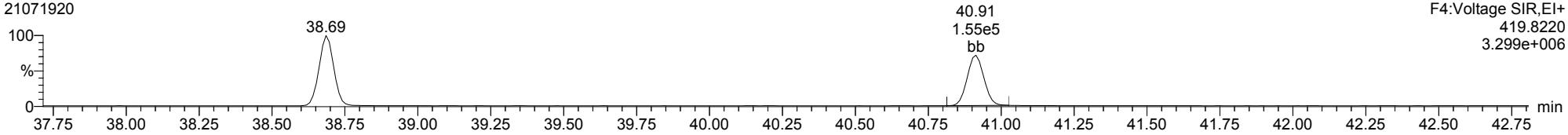

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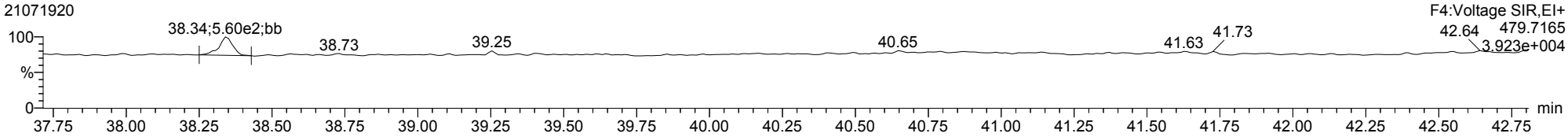

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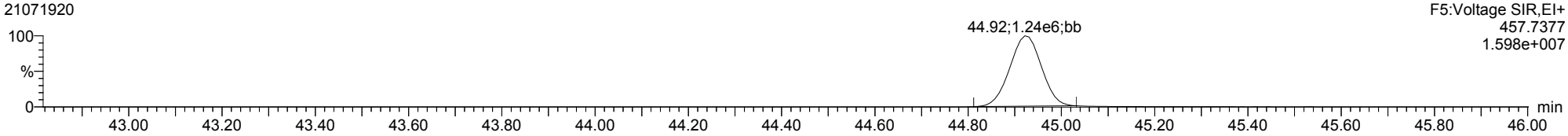

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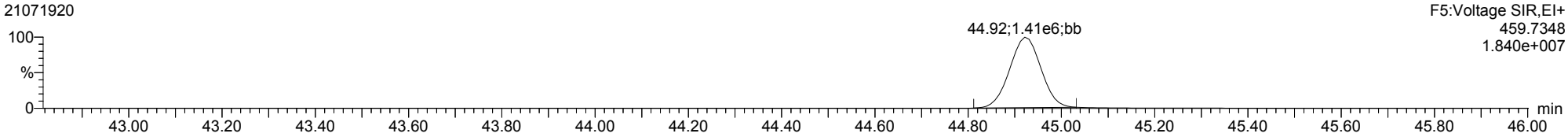

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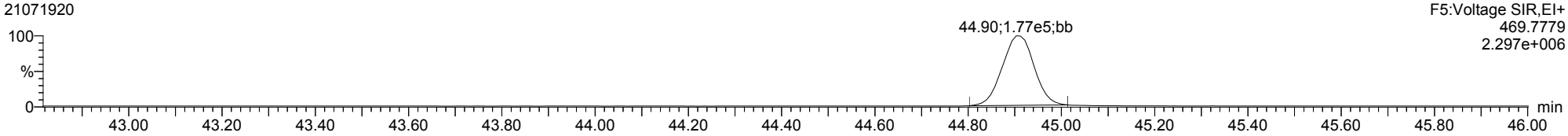

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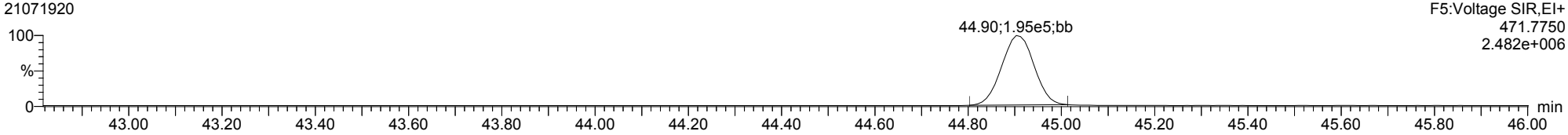

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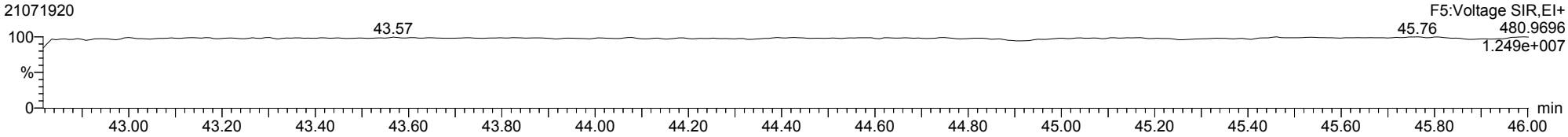

ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, Conditions: AUTOSPEC01, User: pk

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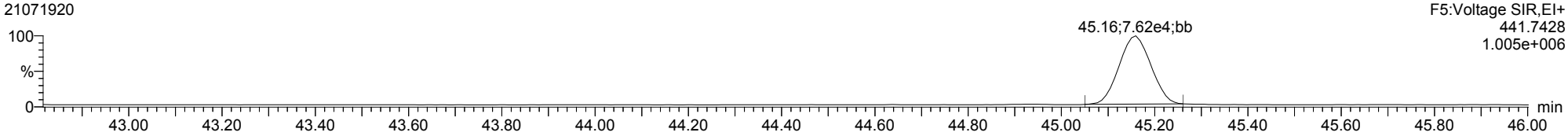

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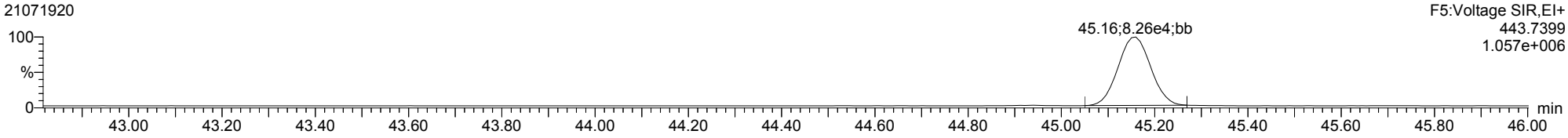

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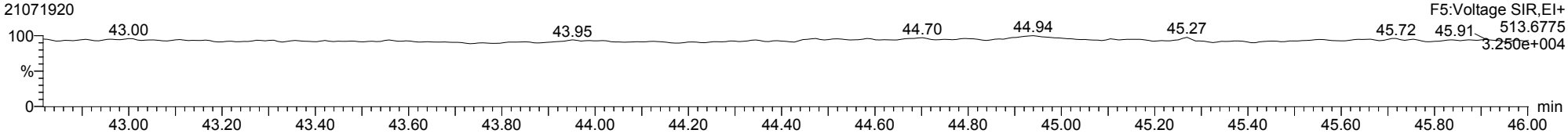
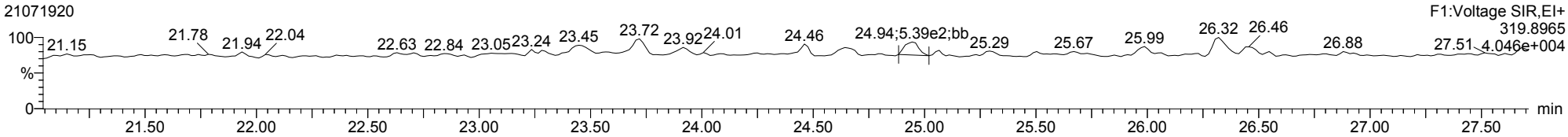
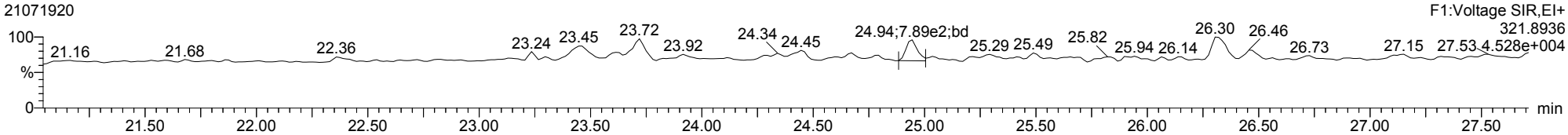


ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, Conditions: AUTOSPEC01, User: pk

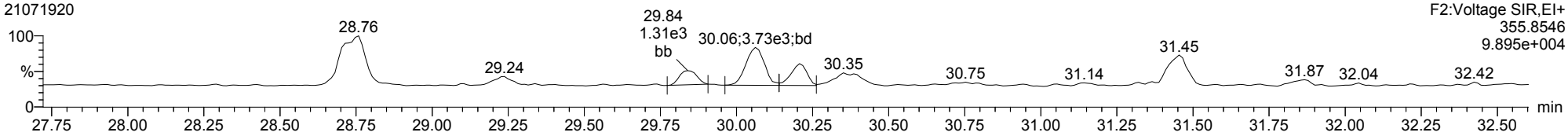
Total-tetradioxins



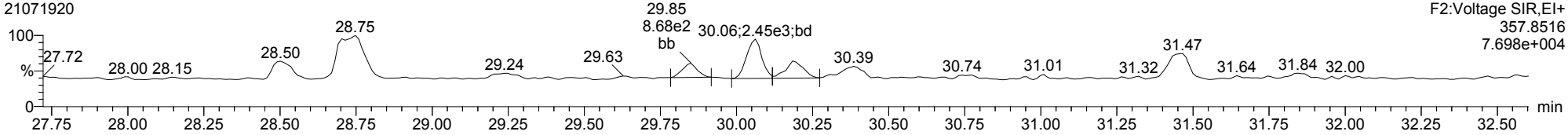
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, Conditions: AUTOSPEC01, User: pk

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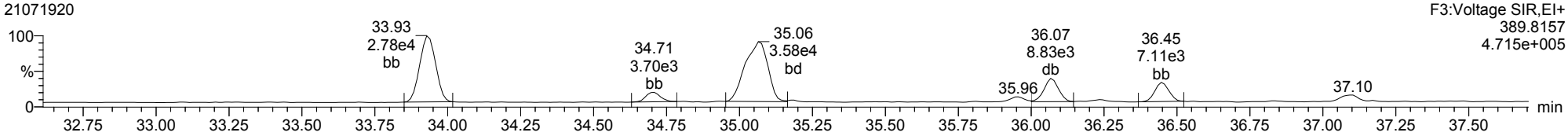
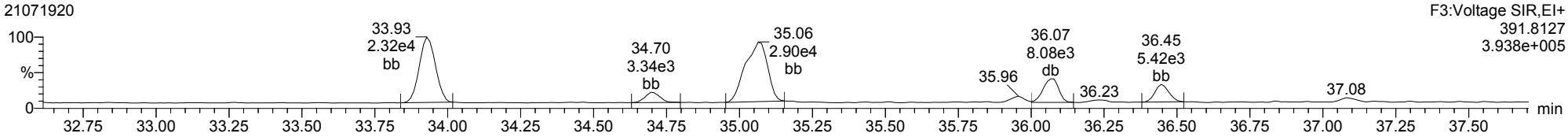


Total-hexadioxins



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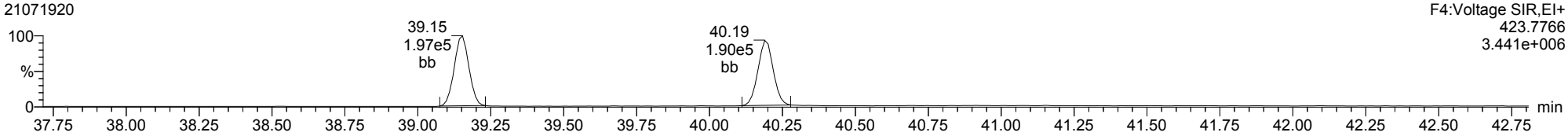

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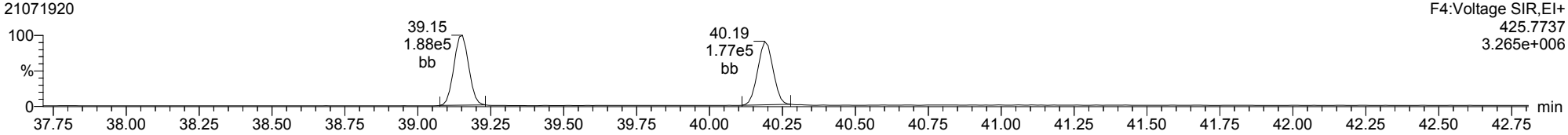

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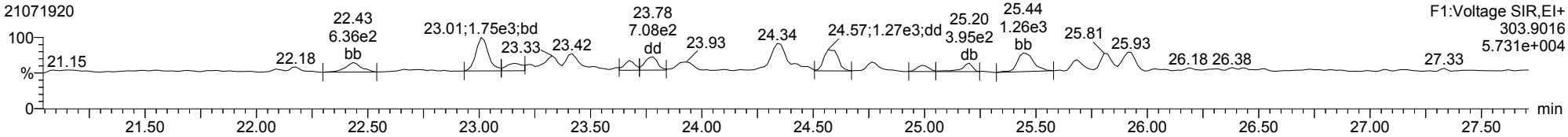
Printed: Tuesday, July 20, 2021 11:02:52 Pacific Daylight Time

ID: 21F0442-08, Name: 21071920, Date: 20-Jul-2021, Time: 02:05:11, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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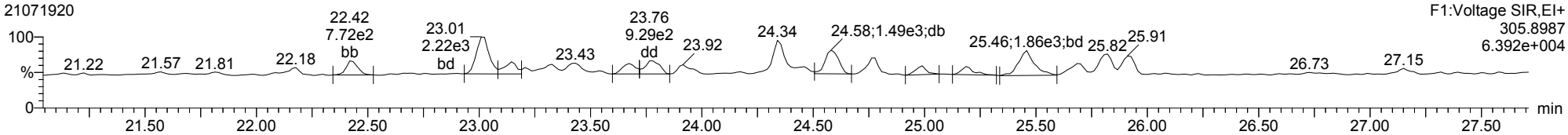

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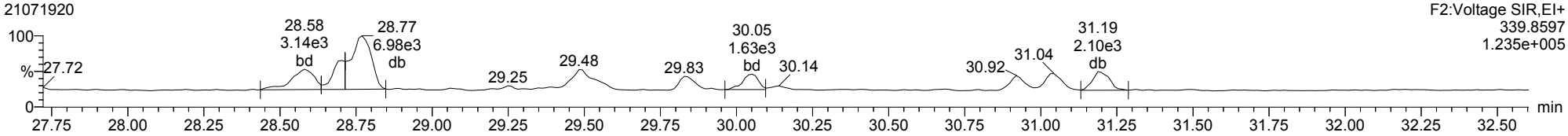

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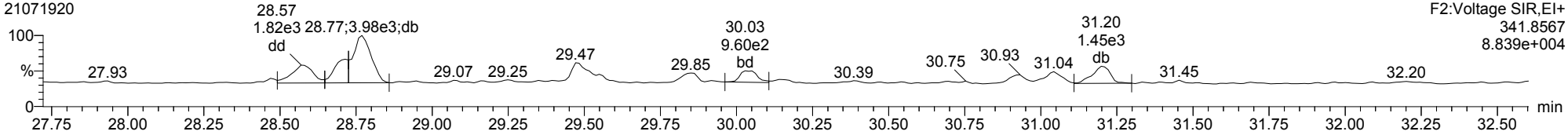

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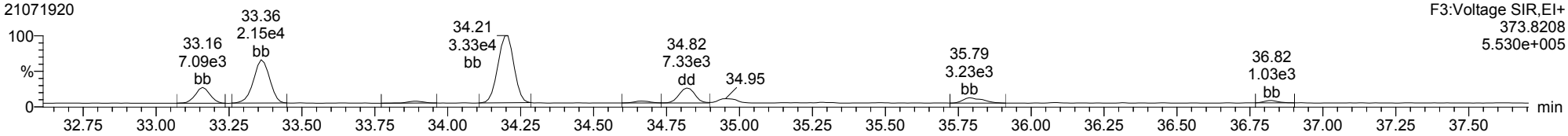

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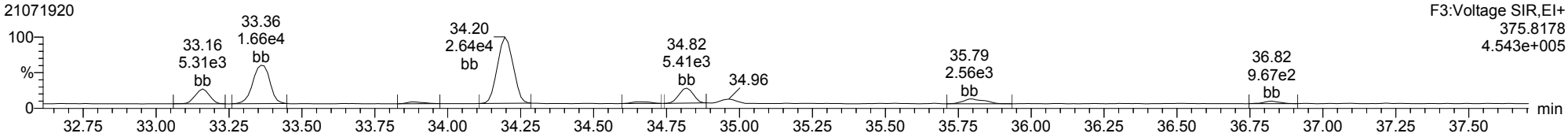
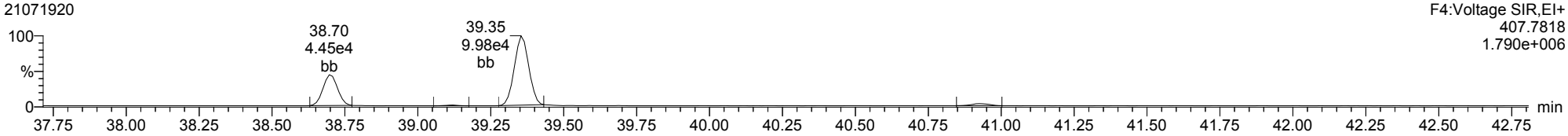


Total-heptafurans



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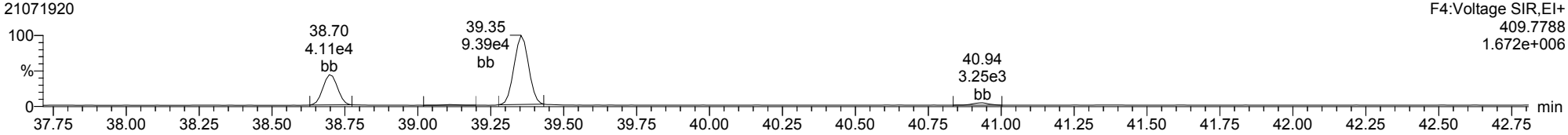

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJG0187	Batch Matrix:	Solid	Preparation:	EPA 1613

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC564A	21F0442-01	21071913	07/08/21 18:05	
LDW21-SC564B	21F0442-02	21071914	07/08/21 18:05	
LDW21-SC564C	21F0442-03	21071915	07/08/21 18:05	
LDW21-SC564D	21F0442-04	21071916	07/08/21 18:05	
LDW21-SC564E	21F0442-05	21071917	07/08/21 18:05	
LDW21-SC564G	21F0442-06	21071918	07/08/21 18:05	
LDW21-SC564I	21F0442-07	21071919	07/08/21 18:05	
LDW21-SC564K	21F0442-08	21071920	07/08/21 18:05	
Blank	BJG0187-BLK1	21071904	07/08/21 18:05	
LCS	BJG0187-BS1	21071905	07/08/21 18:05	
LDW21-SC564A	BJG0187-DUP1	21071907	07/08/21 18:05	
Reference	BJG0187-SRM1	21071906	07/08/21 18:05	

Analytical Resources, Incorporated
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HRGCMS Dioxin/Furan Preparation Bench Sheet EPA Methods 8290A & 1613B

Batch: BJG0187

Solid Samples

ARI Work Orders:		
Matrix (circle one)	[Soil] Sediment Oil Tissue	
Extraction Method	Start Date/Time:	End Date/Time:
[Soxhlet] SepF Shake out	18:05 7/8/21	10:05 7/9/21

Reagents/Equipment Used	NA	ID / Lot Number	Initials	Date
Balance		24650344	DP	7/8/21
Toluene		J005597	DP	7/8/21
Hexane		J006422 / J006933	DP/M	7/8/21 / 7/13/21 / 7/14/21
CH2Cl2		J005998	M	7/14/21
H2SO4		J003137	M	7/13/21
Na2SO4		J006540	DP/M	7/8/21 / 7/13/21 / 7/14/21
Glasswool		I006679	M	7/14/21
~~(98:2) Hex/DCM~~				
Basic Silica		J002641	M	7/14/21
Acid Silica		J005573	M	7/14/21
0% Silica		J000893	DP / ML	7/8/21 / 7/14/21
Activated Florisil		J002451	M	7/14/21
Nonane		H000038	M	7/15/21
Other (RM)		J006840	DP	7/8/21

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)
21F0392-25 A	T91-R1-ITESSComp2	78.14	(12.80)	12.82	(1)/2	2.0	20
21F0392-26 A	T91-R1-ITWSSComp1	78.26	(12.78)	12.78	(1)/2	2.0	20
21F0442-01 B	LDW21-SC564A	56.48	(17.71)	17.72	(1)/2	7.0	20
21F0442-02 B	LDW21-SC564B	64.23	(15.57)	15.59	(1)/2	5.2	20
21F0442-03 B	LDW21-SC564C	62.11	(16.10)	16.10	(1)/2	1.9	20
21F0442-04 B	LDW21-SC564D	58.61	(17.06)	17.07	1/(2)	5.4	20
21F0442-05 C	LDW21-SC564E	68.32	(14.64)	14.64	(1)/2	4.5	20
21F0442-06 B	LDW21-SC564G	61.01	(16.39)	16.40	1/(2)	1.5	20
21F0442-07 B	LDW21-SC564I	63.57	(15.73)	15.74	(1)/2	5.5	20
21F0442-08 B	LDW21-SC564K	65.47	(15.27)	15.28	1/(2)	5.4	20
BJG0187-BLK1	Blank	100	()		(1)/2		20
BJG0187-BS1	LCS	100	()		1/(2)		20
BJG0187-DUP1	21F0442-01 Duplicate		() ~~17.89~~	17.72	(1)/2	6.0	20
BJG0187-DUP2	21F0392-25 Duplicate		() 12.80	12.82	(1)/2	2.5	20
BJG0187-SRM1	Reference	100	() 5.00	5.00	(1)/2		20
Prep Analyst / Date:	DP 7/8/21			DP 7/9/21 M 7/13/21			M 7/8/21

Standards Used	Vol	ID / Lot Number	Concentration	Expiration Date	Analyst	Witness	Date
Recovery Standard	1.0 mL	J006146	2/4 ng/mL	6/10/2022	DP	NB	7/8/21
OPR	1.0 mL	J001260	0.2/1.0/2.0 ng/mL	2/3/2022	DP	NB	7/8/21
~~QLS Standard~~	~~1.0 mL~~		~~0.01/0.05/0.1 ng/mL~~				
Cleanu-up Standard	1.0 mL	J006147	0.8 ng/mL	6/1/22			

Verify Client ID
Analyst / Date: DP 7/8/21

Acid Clean
[Y] N
Analyst / Date: M 7/13/21

Silica-Florisil Clean
[Y] N
Analyst / Date: M 7/14/21

Supervisor Review By 7/15/21 Date

Printed: 7/8/2021 10:53:23AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dioxin Extraction Laboratory – Glasswa

Batch ID: BJGØ187 Work Order: 21FØ392, 21FØ442 Extraction Parameter: Dioxin ARI Analyst DJ

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	Heating Mantle
BJGØ187 - BLK1	46	L9		15	89	18	119	75				4	4	A1
- BS1	39	83		194	69	221	139	63				4	4	A2
- DUP1	17		62	232	68	161	132	15				4	4	A3
- DUP2	22	46		254	Ø4	21	104	6				4	4	A4
- SRM1	77	L1Ø		25	83	23Ø	149	21				4	4	A5
21FØ392 - 25A	82	Ø5		1Ø	84	2	101	26				4	4	A6
- 26A	Ø6	89		31	2Ø	146	127	81				4	4	B1
21FØ442 - Ø1B	L1Ø		73	243	78	119	128	48				4	4	B2
- Ø2B	87	56		5Ø	38	117	143	56				4	4	B3
- Ø3B	12		61	163	76	57	138	58				4	4	B4
- Ø4B	4Ø		28	2Ø5	3Ø	189	67	69				4	4	B5
- Ø5C	L8	86		34	96	217	81	12				4	4	B6
- Ø6B	25		66	32	Ø3	224	59	66				4	4	C1
- Ø7B	48	Ø2		259	81	226	88	18				4	4	C2
- Ø8B	23	84		39	9Ø	128	159	44				4	4	C3
												4	4	
												4	4	
												4	4	
												4	4	
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												4	4	
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												4	4	

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Organic Extractions Laboratory Analyst Notes

Extraction Parameter: Dioxin Extraction Batch BJG0187

Total Solids Batch: BJG0145 Work Order(s): 21F0442

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 1,7	DP 7/7/21
☐ Standing Water Decanted (Not shared)=	
☒ Standing Water Homogenized (Shared samples)= 1	DP 7/7/21
☒ Clay/Clumps (Difficult to homogenize)= 3,4,5,6	DP 7/7/21
☐ Rocks (%+size)?	
☒ Organics (Leaves/sticks/grass)= 2,3,8	DP 7/7/21
☐ 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).	DP 7/9/21
7/9/21 = Roto-vaped Samples BLK, BS, DUP1, DUP2, SRM1,	
392-25,26, 442-1,2.	
21F0442-03B-08B: Rotavaped on 7/13/21	M 7/13/21
☒ Share Samples Y / N 442-1-8	DP 7/7/21
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

3056F

Revision 15
07/01/19

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: Dioxin Extraction Batch ~~BJG0039~~ BJG0187 M 7/15/21

Total Solids Batch: BJG0031 Work Order(s): 21F0352, 21F0392, 21F0399, 21F0410

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 392-25,26, 410-1,2	DP 7/1/21
☒ Standing Water Decanted (Not shared)= 352-1,2,3, 392-25,26, 399-2,7,3,4	DP 7/1/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☒ Rocks (%+size)? 95% ½" = 352-1 90% ¼" = 399-5,6	DP 7/1/21
☒ Organics (Leaves/sticks/grass)= 352-2,3, 399-1,2,3,4,7	DP 7/1/21
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☒ Other (Details)= Also Standing water Decanted = 410-1,3	DP 7/1/21
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

3056F

Revision 15
07/01/19

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJG0031
Date:	7/2/2021 9:40
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:	7/1/2021 16:13	
Date/time out:	7/2/2021 9:40	
Elapsed hrs:	17.5	

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:	109
End Temp:	107

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21F0352-01	0.8000	11.0500	9.1300	8.33	**81.27%**	Yes
21F0352-02	0.8000	11.0500	5.3400	4.54	**44.29%**	Yes
21F0352-03	0.7900	11.6600	3.9100	3.12	**28.70%**	Yes
21F0392-25	0.8000	11.9600	9.5200	8.72	**78.14%**	Yes
21F0392-26	0.8000	11.5200	9.1900	8.39	**78.26%**	Yes
21F0399-01	0.8100	11.5100	4.7700	3.96	**37.01%**	No
21F0399-02	0.8100	11.2300	7.1900	6.38	**61.23%**	Yes
21F0399-03	0.8200	11.1400	5.8300	5.01	**48.55%**	Yes
21F0399-04	0.7700	11.2000	3.6100	2.84	**27.23%**	Yes
21F0399-05	0.7900	11.0100	9.9600	9.17	**89.73%**	No
21F0399-06	0.7900	11.7200	9.7900	9.00	**82.34%**	No
21F0399-07	0.7900	11.9500	8.3600	7.57	**67.83%**	Yes
21F0410-01	0.8000	11.4300	9.2300	8.43	**79.30%**	Yes
21F0410-02	0.8000	11.5000	8.0600	7.26	**67.85%**	No
21F0410-03	0.8000	11.3600	4.5900	3.79	**35.89%**	Yes

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJG0031
Date:	7/2/21
Analyst:	DP
Drying Oven:	Ø18
Analytical Balance:	2465Ø344

Instrumentation

Batch drying time			
Record times as mm/dd/yy hh:mm		Oven Temp, C	TS (%) calculated as:
Date/time in oven:	7/1/21 16:13	1Ø9	Final dry wt (g) = (Dry Wt - Tare Wt)
Date/time out:	7/2/21 Ø9:4Ø	1Ø7	TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)
Elapsed hrs:	0.0		

Oven Temps, °C	
Start Temp:	1Ø9
End Temp:	1Ø7

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21F0352-01	Ø.8Ø	11.Ø5	9.13			~~No~~ yes
21F0352-02	Ø.8Ø	11.Ø5	5.34			~~No~~ yes
21F0352-03	Ø.79	11.66	3.91			~~No~~ yes
21F0392-25	Ø.8Ø	11.96	9.52			~~No~~ yes
21F0392-26	Ø.8Ø	11.52	9.19			~~No~~ yes
21F0399-01	Ø.81	11.51	4.77			No
21F0399-02	Ø.81	11.23	7.19			~~No~~ yes
21F0399-03	Ø.82	11.14	5.83			~~No~~ yes
21F0399-04	Ø.77	11.2Ø	3.61			~~No~~ yes
21F0399-05	Ø.79	11.Ø1	9.96			No
21F0399-06	Ø.79	11.72	9.79			No
21F0399-07	Ø.79	11.95	8.36			~~No~~ yes
21F0410-01	Ø.8Ø	11.43	9.23			~~No~~ yes
21F0410-02	Ø.8Ø	11.5Ø	8.Ø6			No
21F0410-03	Ø.8Ø	11.36	4.59			~~No~~ yes

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJG0145
Date:	7/8/2021 5:30
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:	7/7/2021 12:27	108	Final dry wt (g) = (Dry Wt - Tare Wt)
Date/time out:	7/8/2021 5:30	108	TS = (Final Dry Wt X 100)/ (sample & dish -dish tare)
Elapsed hrs:	17.0		

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

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21F0442-01	0.7900	11.3600	6.7600	5.97	**56.48%**	No
21F0442-02	0.8000	11.4800	7.6600	6.86	**64.23%**	No
21F0442-03	0.8000	11.1200	7.2100	6.41	**62.11%**	No
21F0442-04	0.8000	11.1400	6.8600	6.06	**58.61%**	No
21F0442-05	0.8000	11.5000	8.1100	7.31	**68.32%**	No
21F0442-06	0.8100	11.1200	7.1000	6.29	**61.01%**	No
21F0442-07	0.7900	11.0300	7.3000	6.51	**63.57%**	No
21F0442-08	0.8100	11.6700	7.9200	7.11	**65.47%**	No

TOTAL SOLIDS BENCHSHEET

Method HRSM01.2

(dry at 110 C)

Batch:	BJG0145
Date:	
Analyst:	DS
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:	7/7/21	12:27	108
Date/time out:	7/8/21	~~0580530~~ 7/8/21	
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:	108

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21F0442-01	0.79	11.36	6.76			No
21F0442-02	0.80	11.48	7.66			No
21F0442-03	0.80	11.12	7.21			No
21F0442-04	0.80	11.44	6.86			No
21F0442-05	0.80	11.50	8.11			No
21F0442-06	0.81	11.12	7.10			No
21F0442-07	0.79	11.03	7.30			No
21F0442-08	0.81	11.67	7.92			No

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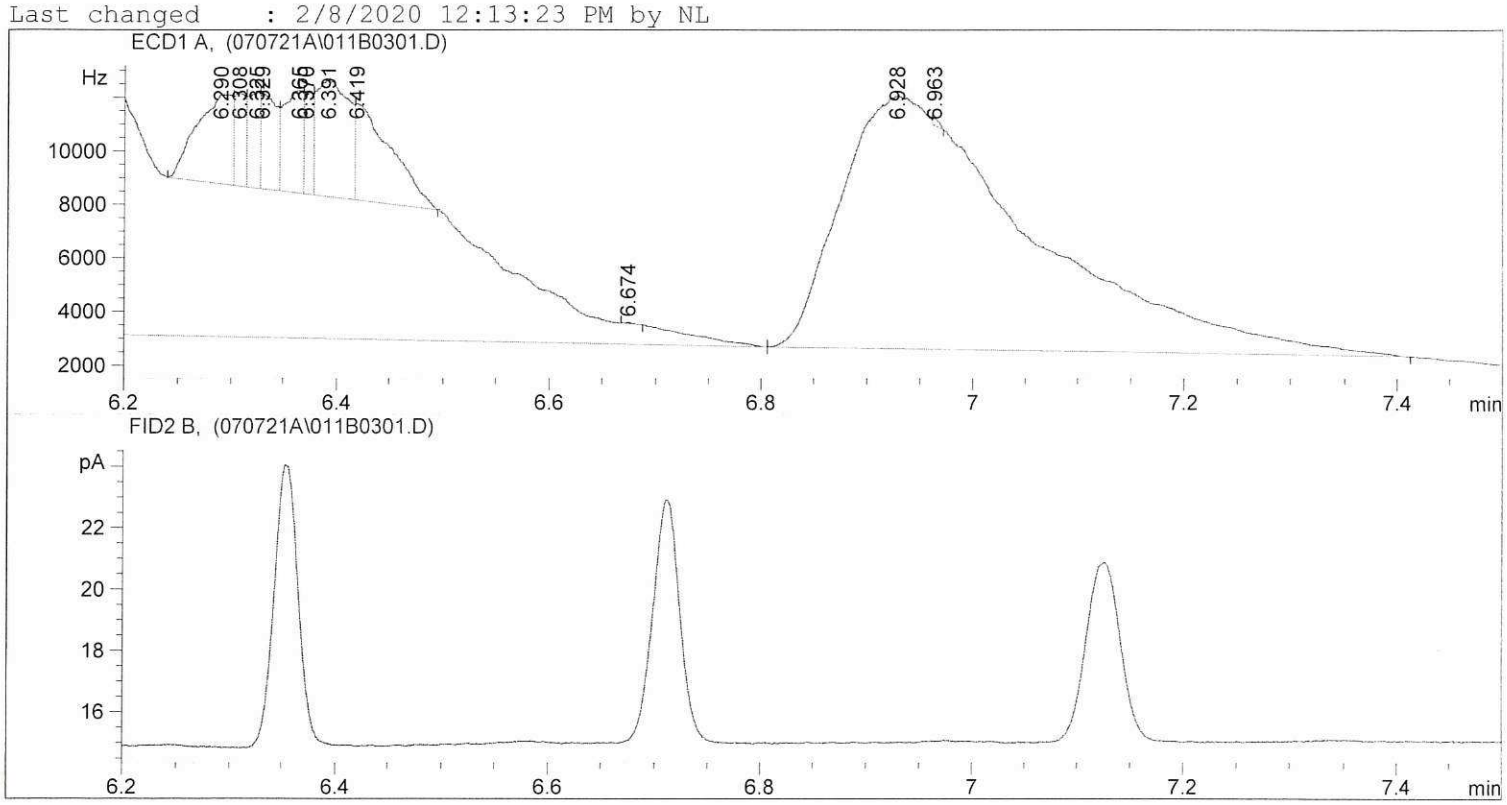
Injection Date : 7/7/2021 6:04:49 AM
Sample Name : CS4 STANDARD
Acq. Operator : DXP

Seq. Line : 3
Location : Vial 11
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070721.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.282	PP S	0.0872	9.14267e4	1.74651e4	7.72426
2	5.664	PV S	0.0494	1.28174e5	3.13133e4	10.82890
3	5.762	VV S	0.1705	5.74955e5	5.62162e4	48.57559
4	6.005	BB T	0.0100	539.24774	898.70032	0.04556
5	6.125	PP S	0.1482	2.28790e5	1.81532e4	19.32953
6	6.290	BV T	0.0271	7665.29688	3370.03223	0.64761
7	6.308	PV T	0.0100	2700.49854	3498.40039	0.22815
8	6.325	PV T	9.35e-3	2729.53906	3638.98730	0.23061
9	6.329	PV T	0.0166	3644.83276	3649.62500	0.30794
10	6.365	PV T	0.0161	4772.93896	3851.51025	0.40325
11	6.370	PV T	9.10e-3	2085.25586	3818.47607	0.17617
12	6.391	PV T	0.0258	9401.87891	4358.91113	0.79433
13	6.419	PB T	0.0389	8424.05176	3606.56299	0.71171
14	6.674	BB T	6.13e-3	22.99051	52.26019	0.00194
15	6.928	PB S	0.1469	1.18141e5	9448.20117	9.98125
16	6.963	BB T	6.80e-3	120.00103	294.06558	0.01014
17	7.659	PP	0.0116	19.08950	21.35854	0.00161

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.735	PB	1.11e-3	3.96481e-1	9.13607	3.350e-5
19	7.757	PP	0.0219	14.48192	7.84036	0.00122
20	7.786	VV	2.84e-3	2.26943	11.79917	0.00019

Totals : 1.18363e6 1.63684e5

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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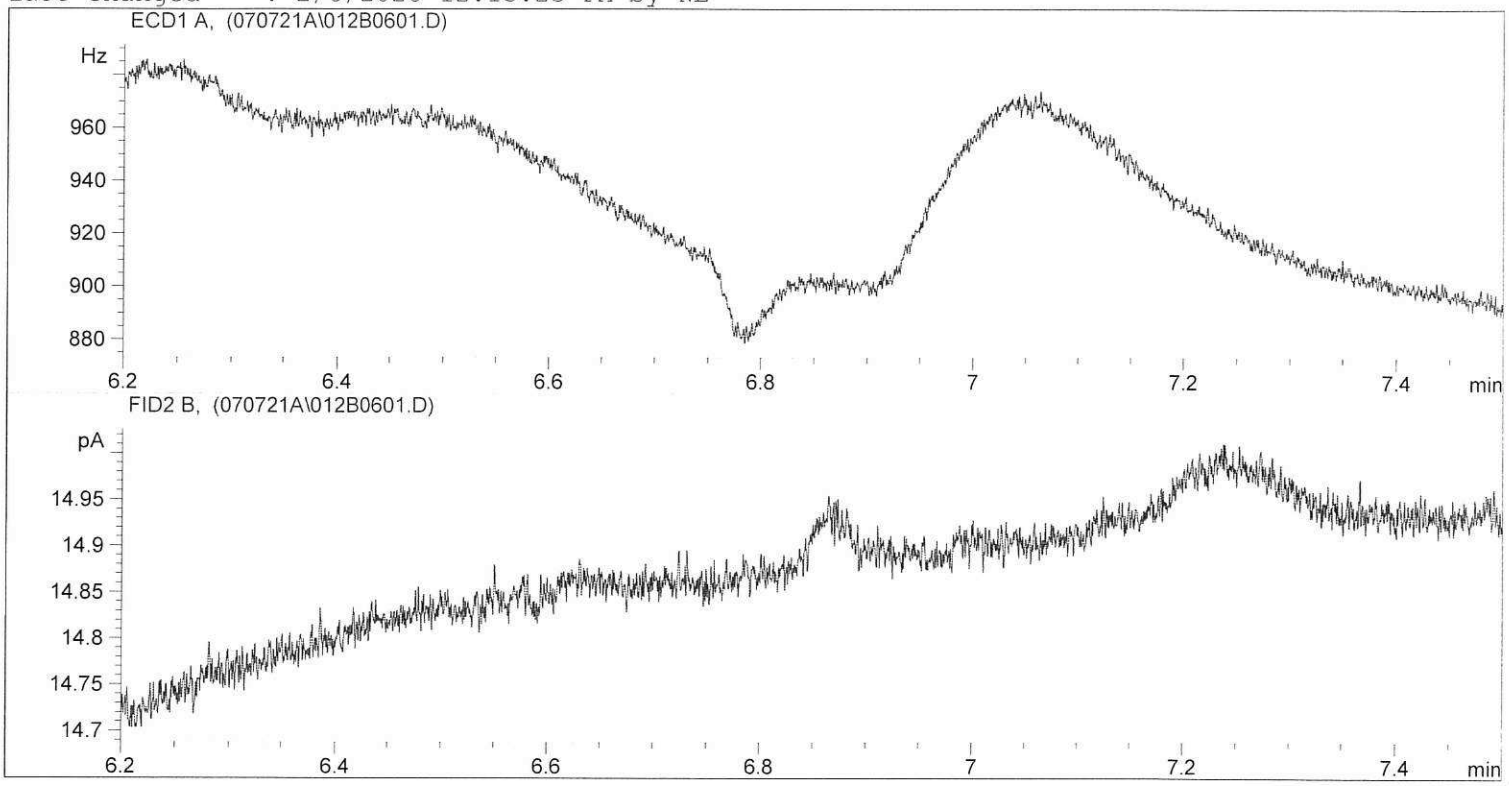
Injection Date : 7/7/2021 6:38:14 AM
Sample Name : 21F0432 01
Acq. Operator : DXP

Seq. Line : 6
Location : Vial 12
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070721.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

No peaks found

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*** End of Report ***

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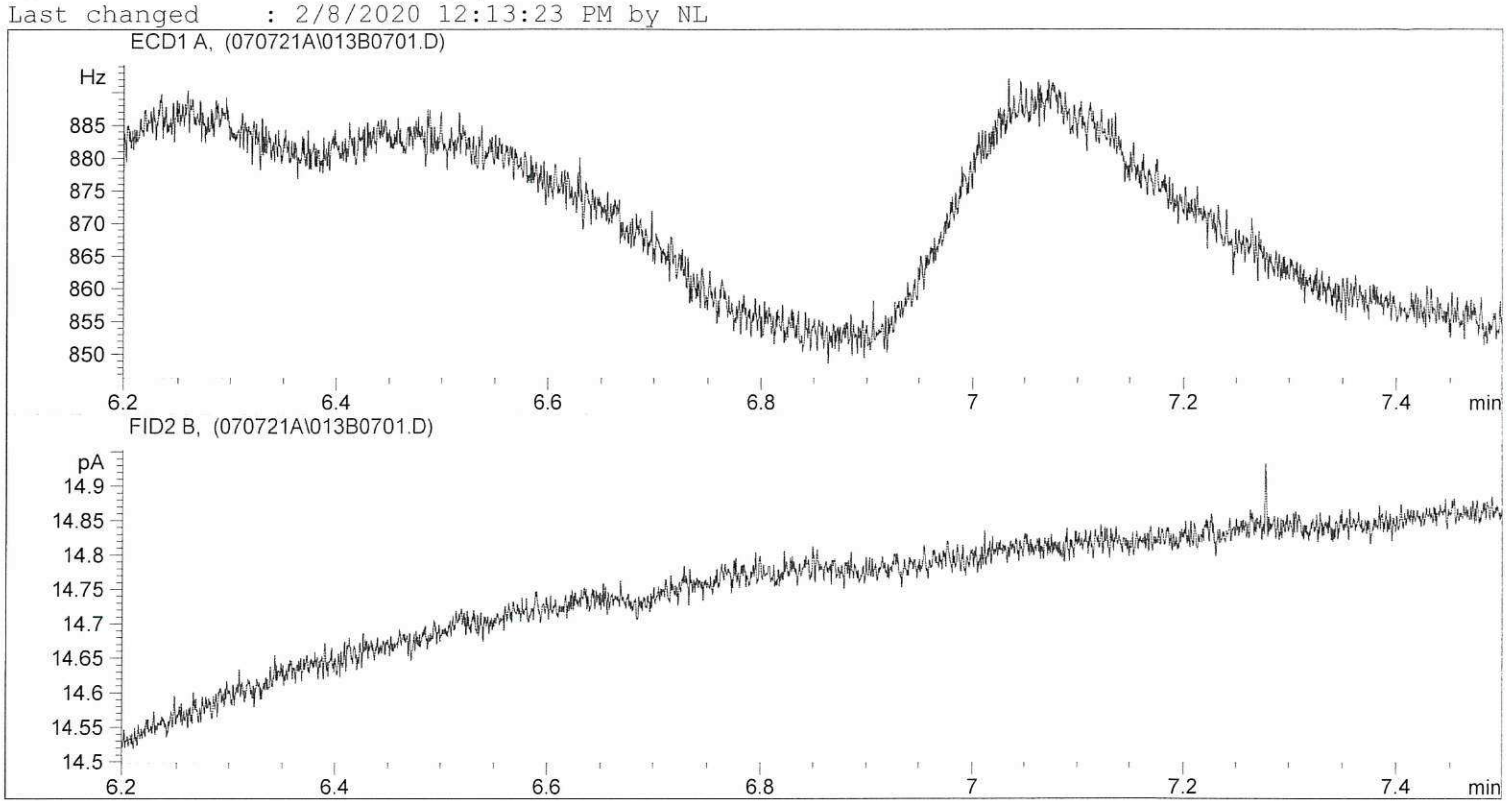
Injection Date : 7/7/2021 6:49:30 AM
Sample Name : 21F0448 01
Acq. Operator : DXP

Seq. Line : 7
Location : Vial 13
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070721.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000

No peaks found

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*** End of Report ***

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==========================================================================
Injection Date  : 7/7/2021 7:00:45 AM          Seq. Line :   8
Sample Name     : 21F0442 01                    Location : Vial 14
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070721.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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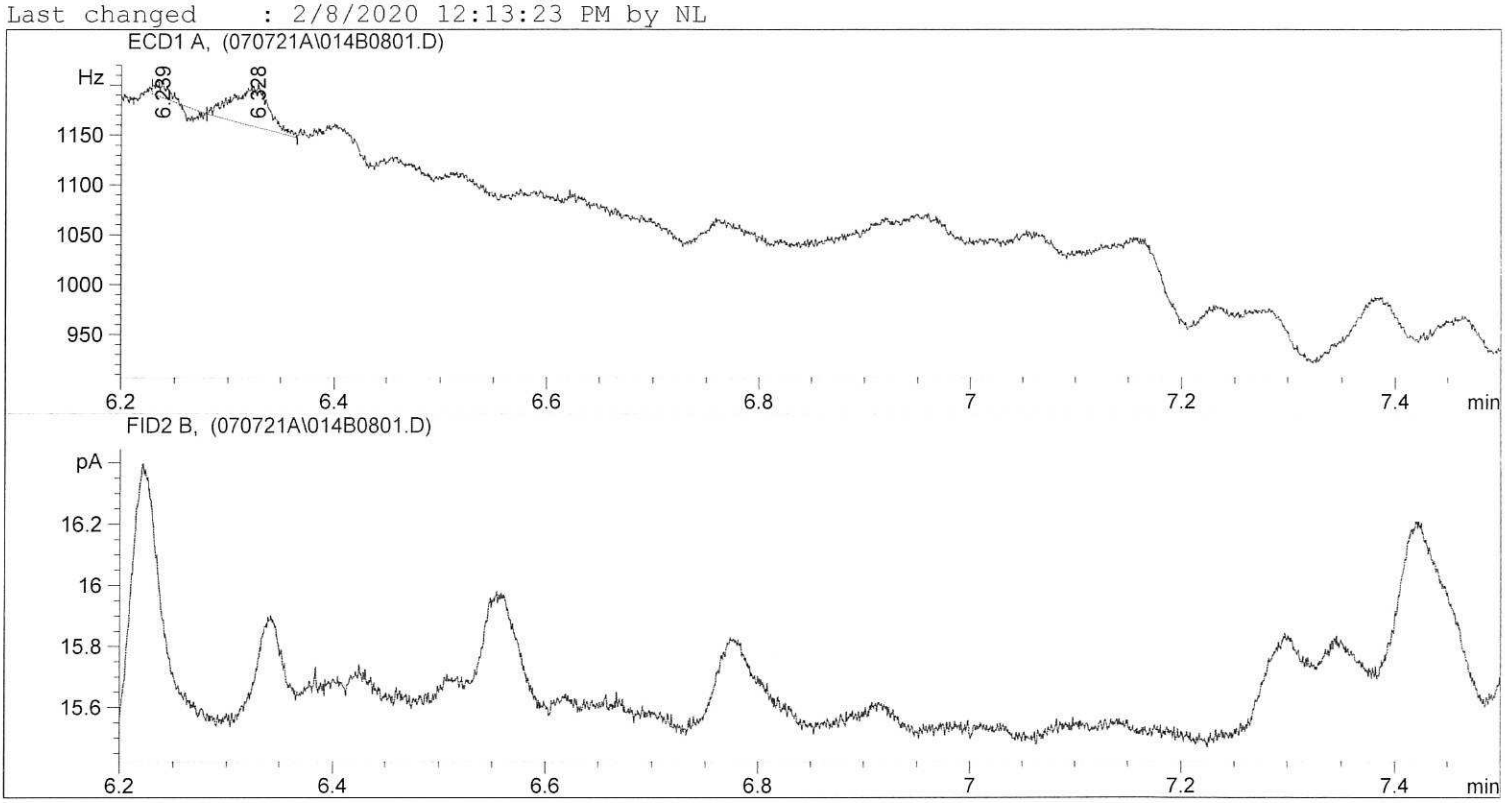


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.233	PP	0.0116	63.39948	67.54268	2.22526
2	5.270	VP	0.0223	218.02740	119.66058	7.65257
3	5.362	VP	0.0378	116.95801	36.64285	4.10512
4	5.562	PV	0.0173	124.39771	86.86125	4.36625
5	5.596	VP	0.0225	219.50581	118.12669	7.70446
6	5.780	BV	0.0258	358.07318	171.43744	12.56805
7	5.826	VV	0.0355	520.87933	173.31050	18.28239
8	5.905	VV	0.0298	366.43411	146.41664	12.86151
9	5.962	VV	0.0246	241.53705	119.59430	8.47773
10	5.989	VB	0.0189	132.43344	83.65835	4.64829
11	6.033	BV	0.0231	129.03448	66.79607	4.52899
12	6.108	BV	0.0164	81.67730	63.63811	2.86680
13	6.146	VP	0.0285	178.85612	75.46257	6.27769
14	6.239	BP	3.09e-3	3.79500	17.79198	0.13320
15	6.328	BP	0.0262	94.06763	43.26619	3.30169

Totals : 2849.07607 1390.20619

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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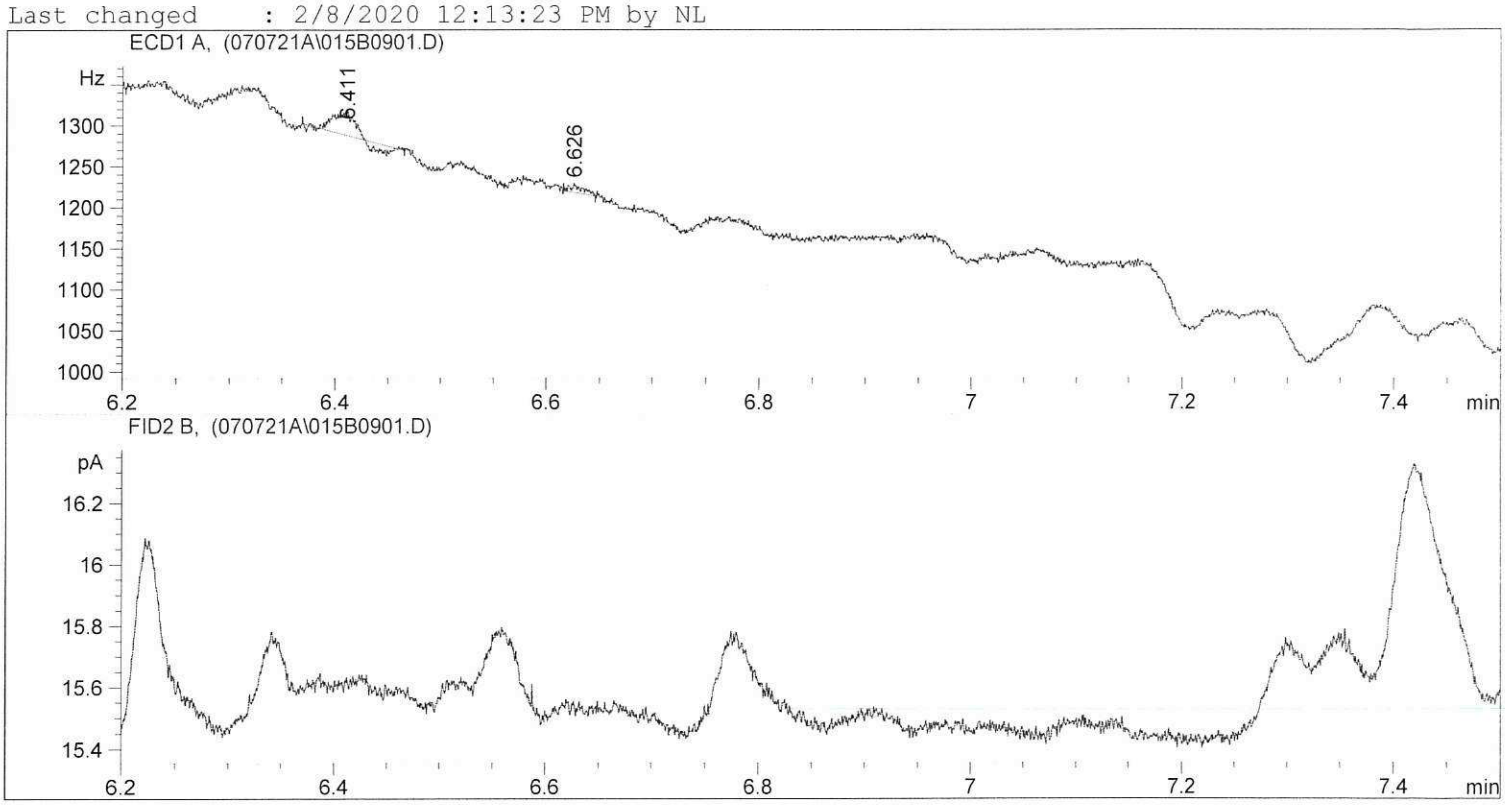
Injection Date : 7/7/2021 7:12:00 AM Seq. Line : 9
Sample Name : 21F0442 02 Location : Vial 15
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070721.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.233	PP	0.0105	27.75075	32.17145	1.09583
2	5.273	BP	0.0236	200.34651	101.48460	7.91132
3	5.561	BV	0.0184	99.16991	65.83248	3.91604
4	5.596	VP	0.0233	233.27998	126.64828	9.21181
5	5.781	BV	0.0280	277.98633	123.58251	10.97718
6	5.825	VV	0.0339	428.56186	152.69029	16.92314
7	5.907	VV	0.0305	328.93427	128.54901	12.98902
8	5.959	VV	0.0374	361.25693	116.33956	14.26539
9	6.039	VB	0.0324	191.79022	73.21335	7.57345
10	6.107	BV	0.0239	163.39334	81.09097	6.45211
11	6.146	VP	0.0301	186.03189	76.24929	7.34607
12	6.411	PB	0.0109	25.66981	29.14556	1.01365
13	6.626	PB	9.58e-3	8.22987	10.94010	0.32498

Totals : 2532.40167 1117.93744

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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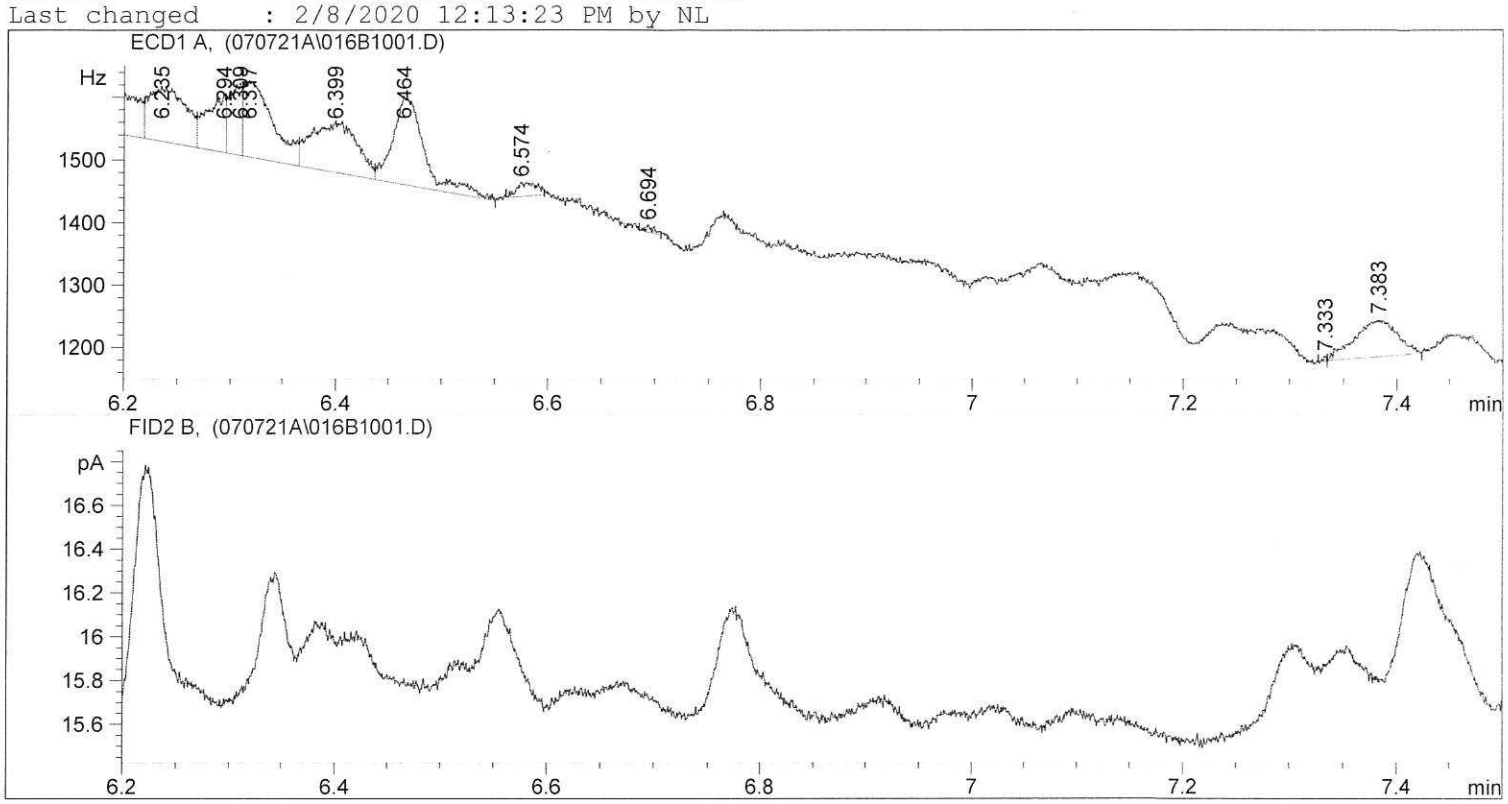
Injection Date : 7/7/2021 7:23:10 AM Seq. Line : 10
Sample Name : 21F0442 03 Location : Vial 16
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070721.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	BV	0.0131	94.33790	89.56001	1.30783
2	5.274	VP	0.0189	312.41049	203.57005	4.33102
3	5.348	BV	0.0144	76.31524	64.56297	1.05798
4	5.363	VP	0.0174	98.70016	68.67405	1.36830
5	5.455	VV	0.0285	184.14894	78.07304	2.55290
6	5.561	BV	0.0191	242.91174	154.94261	3.36754
7	5.593	VP	0.0223	428.08160	245.59706	5.93459
8	5.733	PV	0.0174	779.26306	604.88550	10.80310
9	5.779	VV	0.0239	465.48764	239.44421	6.45316
10	5.830	VV	0.0333	602.56470	220.51663	8.35349
11	5.907	VV	0.0363	578.18689	193.32167	8.01554
12	5.963	VV	0.0276	473.97882	206.42412	6.57088
13	6.003	VB	0.0151	114.80414	91.33169	1.59156
14	6.035	BV	0.0271	306.47256	135.88492	4.24870
15	6.081	VV	0.0151	143.61270	114.29025	1.99094
16	6.109	VV	0.0229	316.57977	165.77449	4.38882
17	6.145	VV	0.0404	618.19012	189.63512	8.57011

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.235	VV	0.0283	209.42549	88.13239	2.90331
19	6.294	VV	0.0148	111.23206	91.63920	1.54204
20	6.309	VV	0.0101	92.51699	113.96703	1.28258
21	6.317	VB	0.0245	238.81273	122.67284	3.31072
22	6.399	BV	0.0344	237.95903	82.58537	3.29888
23	6.464	VP	0.0247	292.99710	140.82138	4.06189
24	6.574	BB	0.0158	28.17164	22.16937	0.39055
25	6.694	PB	6.55e-3	5.31781	10.43539	0.07372
26	7.333	PP	2.04e-3	8.10841e-1	6.57413	0.01124
27	7.383	VP	0.0328	160.03641	59.14682	2.21862

Totals : 7213.32658 3804.63231

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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Injection Date  : 7/7/2021 7:34:08 AM          Seq. Line :  11
Sample Name     : 21F0442 04                    Location : Vial 17
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070721.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
```

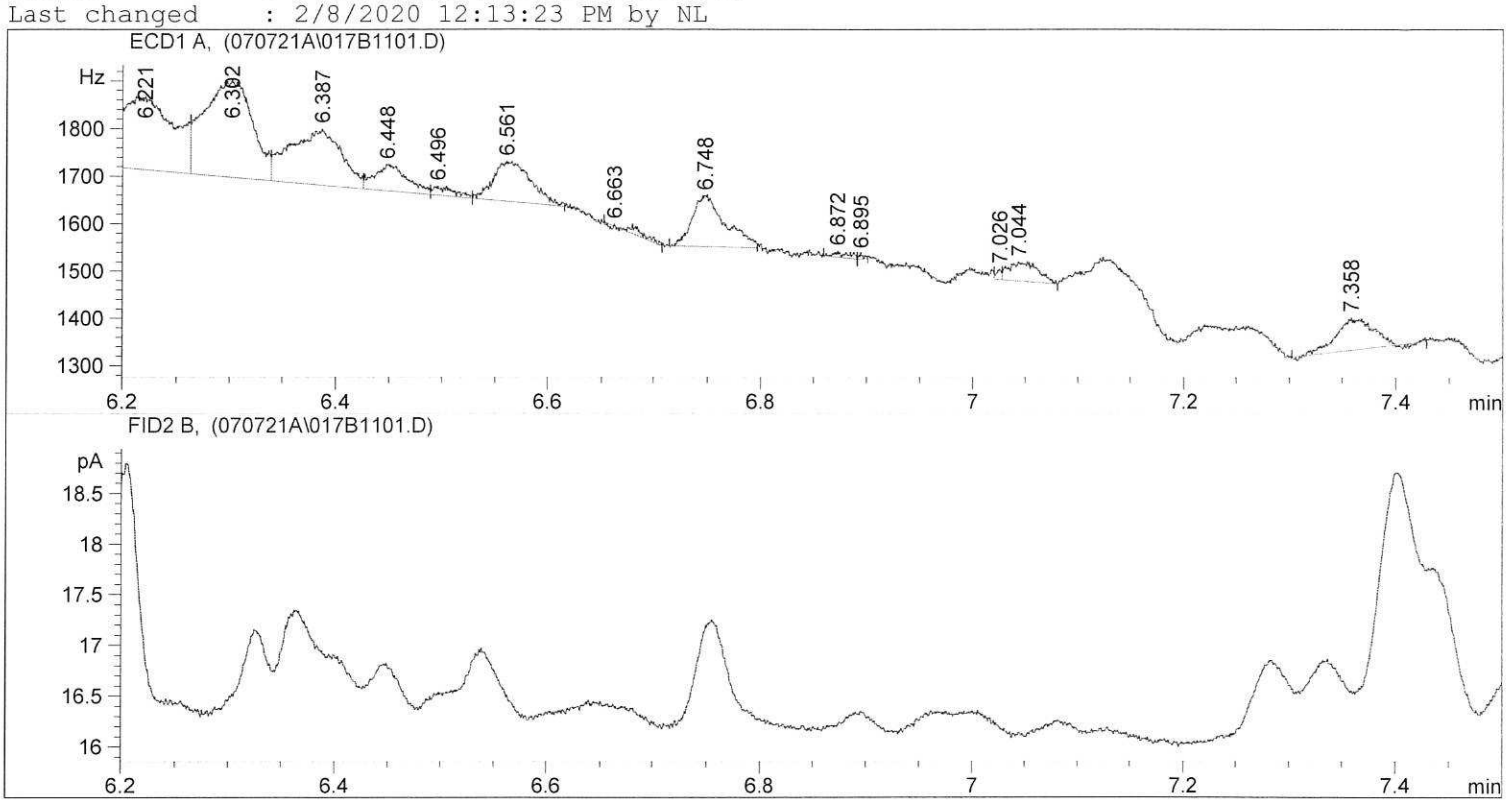


```
==========================================================================
                          Area Percent Report
==========================================================================

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	5.231	PP	0.0117	92.65628	101.03160	0.71813
2	5.270	VP	0.0185	434.05951	289.78461	3.36419
3	5.361	VP	0.0266	215.40712	99.73115	1.66952
4	5.447	VV	0.0293	352.66385	145.37863	2.73333
5	5.520	BV	0.0121	161.12596	163.32928	1.24881
6	5.551	VV	0.0275	612.93506	277.84842	4.75056
7	5.584	VV	0.0278	865.01019	377.08676	6.70428
8	5.672	VV	0.0335	358.77246	134.56915	2.78067
9	5.726	VV	0.0303	444.31299	174.41446	3.44366
10	5.769	VV	0.0268	873.31934	394.70624	6.76868
11	5.813	VV	0.0360	1143.30212	377.06952	8.86118
12	5.866	VV	0.0149	295.06732	259.52643	2.28692
13	5.894	VV	0.0261	758.57916	352.12463	5.87938
14	5.948	VV	0.0390	1292.53979	397.23590	10.01785
15	6.021	VV	0.0294	691.30981	279.75119	5.35801
16	6.068	VV	0.0195	256.60913	219.23949	1.98885
17	6.093	VV	0.0222	572.98010	306.45038	4.44089

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.129	VV	0.0403	1031.18542	312.38889	7.99222
19	6.221	VB	0.0371	483.76968	153.92505	3.74947
20	6.302	BV	0.0370	640.75751	204.32642	4.96620
21	6.387	VV	0.0399	391.63770	118.64793	3.03540
22	6.448	VV	0.0262	119.50568	54.88306	0.92623
23	6.496	VB	0.0162	25.78350	19.33411	0.19984
24	6.561	BB	0.0292	207.37086	84.10075	1.60723
25	6.663	BP	0.0360	13.01362	4.26746	0.10086
26	6.748	PB	0.0252	226.79047	106.69400	1.75774
27	6.872	BP	0.0131	12.39695	12.84475	0.09608
28	6.895	VB	4.55e-3	3.32780	10.35621	0.02579
29	7.026	BV	4.66e-3	6.95249	22.15287	0.05389
30	7.044	VP	0.0235	79.16451	40.02455	0.61357
31	7.358	PP	0.0272	153.74538	68.44031	1.19161
32	7.792	PBA	0.0193	86.31077	53.90771	0.66895
Totals :				1.29024e4	5615.57189	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/7/2021 7:45:06 AM          Seq. Line :  12
Sample Name     : 21F0442 05                    Location : Vial 18
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070721.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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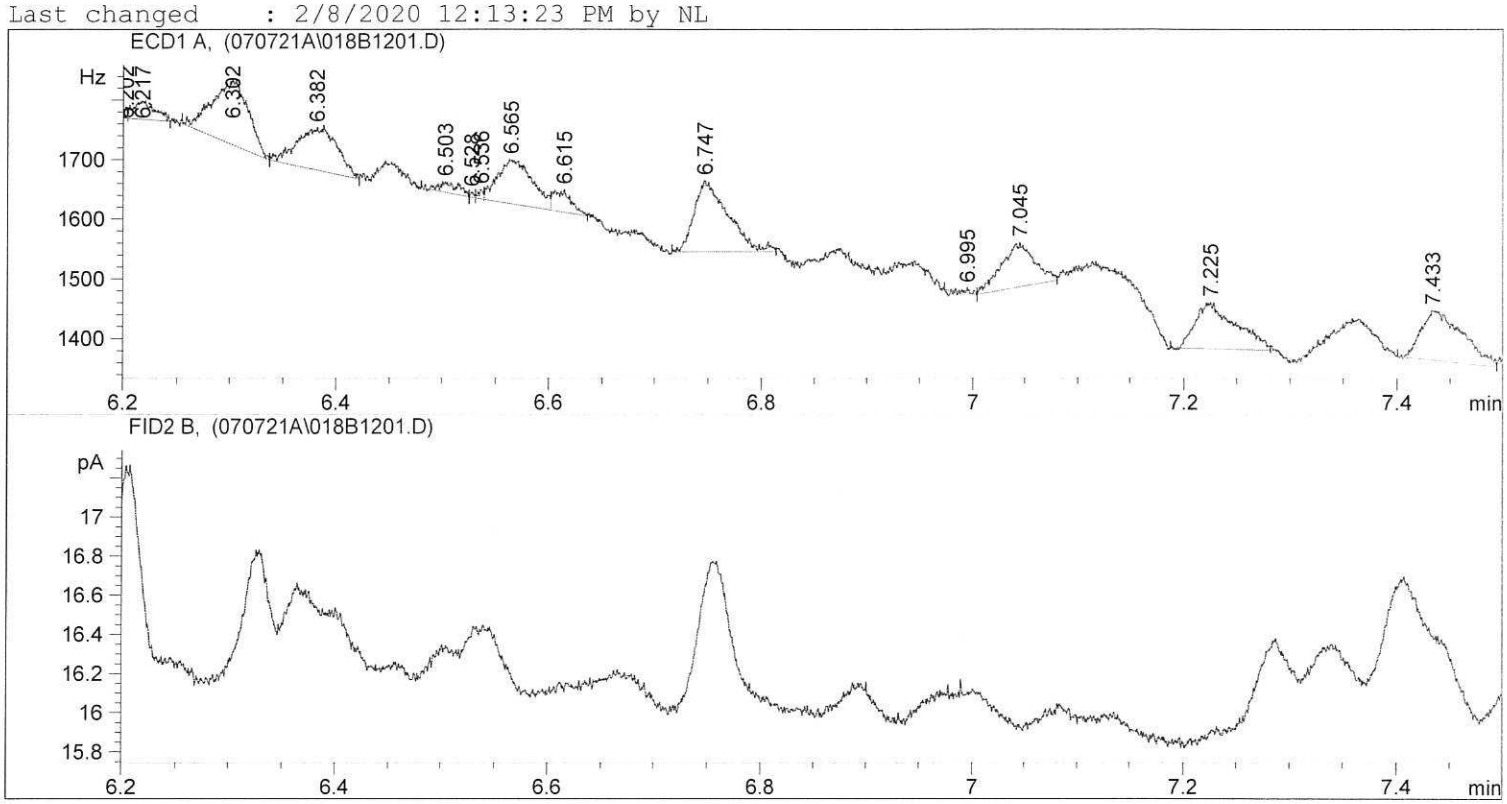


```
==========================================================================
                          Area Percent Report
==========================================================================

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	5.229	BP	0.0132	147.44322	146.33687	2.11314
2	5.267	VP	0.0156	366.26996	284.76282	5.24933
3	5.320	PV	0.0114	9.43730	10.41650	0.13525
4	5.359	VP	0.0203	97.76186	60.40060	1.40111
5	5.414	VV	9.41e-3	36.57488	48.46127	0.52419
6	5.448	VV	0.0219	232.36789	127.01967	3.33027
7	5.478	VV	0.0188	121.94273	78.05920	1.74767
8	5.554	VV	0.0258	554.06165	264.72635	7.94074
9	5.585	VV	0.0203	421.60330	260.65826	6.04236
10	5.635	VB	4.93e-3	2.91338	9.63028	0.04175
11	5.663	PB	0.0113	20.68422	22.16274	0.29644
12	5.727	BV	0.0197	98.74658	60.95786	1.41522
13	5.770	VV	0.0233	431.01083	219.11232	6.17719
14	5.816	VV	0.0157	225.23805	174.32526	3.22808
15	5.833	VV	0.0197	299.90808	189.05864	4.29824
16	5.873	VV	0.0137	126.59055	112.75050	1.81428
17	5.893	VV	0.0214	347.66537	201.09372	4.98269

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.951	VV	0.0362	616.28278	204.16403	8.83248
19	6.018	VV	0.0229	277.47989	145.17435	3.97680
20	6.091	VV	0.0318	482.42859	182.75206	6.91410
21	6.128	VB	0.0284	351.82553	148.76755	5.04232
22	6.202	BV	2.94e-3	3.74167	18.69027	0.05363
23	6.217	VP	0.0165	40.31546	30.36691	0.57780
24	6.302	BP	0.0279	252.60402	109.62638	3.62029
25	6.382	VP	0.0321	187.70113	71.33665	2.69011
26	6.503	PP	0.0160	22.52827	17.52417	0.32287
27	6.528	VV	3.42e-3	1.97359	8.78832	0.02829
28	6.536	VV	3.96e-3	4.31221	15.91736	0.06180
29	6.565	VV	0.0270	168.78929	74.02907	2.41907
30	6.615	VB	0.0134	42.03419	38.37290	0.60243
31	6.747	PB	0.0258	257.77643	119.22536	3.69442
32	6.995	PP	9.90e-4	1.30522e-1	8.00327	0.00187
33	7.045	VV	0.0261	160.64809	73.49532	2.30239
34	7.225	PB	0.0323	201.80141	77.13663	2.89219
35	7.433	PB	0.0330	228.97491	82.39614	3.28164
36	7.549	BP	0.0322	123.14967	45.98386	1.76496
37	7.707	PB	0.0160	12.74117	9.90336	0.18260
Totals :				6977.45867	3751.58679	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/7/2021 7:56:03 AM          Seq. Line :  13
Sample Name     : 21F0442 06                    Location : Vial 19
Acq. Operator   : DXP                                Inj :   1
                                              Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070721.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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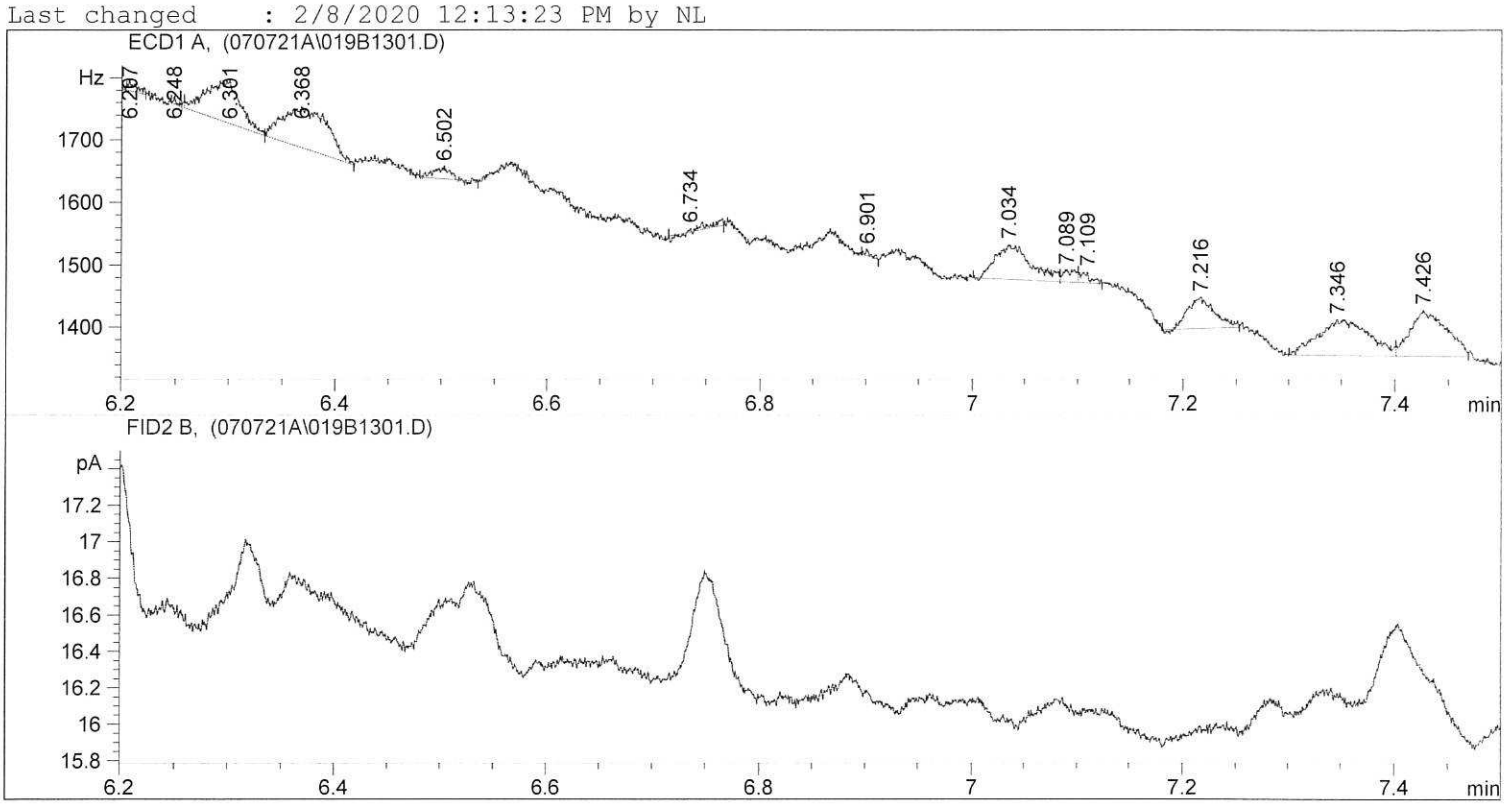


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==========================================================================
                              Area Percent Report
==========================================================================

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	5.228	BV	0.0126	356.71732	348.12161	5.42100
2	5.263	VP	0.0180	659.56104	534.39288	10.02328
3	5.313	VP	8.29e-3	21.69528	36.74940	0.32970
4	5.356	BP	0.0101	28.60832	35.27481	0.43476
5	5.400	BV	3.33e-3	4.51963	18.00765	0.06868
6	5.443	VB	0.0220	392.01233	214.00946	5.95737
7	5.549	BV	0.0247	1068.45886	526.04706	16.23726
8	5.582	VB	0.0178	392.06244	266.60754	5.95813
9	5.657	PV	5.96e-3	13.10600	27.52000	0.19917
10	5.723	BV	0.0222	136.12860	75.00225	2.06873
11	5.769	VV	0.0181	366.34488	241.45618	5.56730
12	5.831	VV	0.0199	942.61932	589.45874	14.32489
13	5.888	VV	0.0174	178.82066	124.36733	2.71752
14	5.941	VV	0.0202	319.83411	193.95030	4.86049
15	5.978	VB	9.44e-3	20.49330	29.00437	0.31143
16	6.019	PB	0.0183	66.16721	44.74332	1.00554
17	6.048	BV	0.0146	38.66027	32.14021	0.58752

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.088	VV	0.0221	222.64618	122.17808	3.38353
19	6.112	VV	4.63e-3	31.37877	95.53836	0.47686
20	6.123	VB	0.0197	164.92845	103.76829	2.50640
21	6.207	PB	7.46e-3	11.09195	18.34135	0.16856
22	6.248	BB	3.50e-3	2.92972	11.79246	0.04452
23	6.301	BP	0.0252	146.00574	69.12796	2.21883
24	6.368	VP	0.0348	192.99080	66.13402	2.93286
25	6.502	PP	0.0118	18.18133	19.65784	0.27630
26	6.734	PP	0.0110	5.25782	5.89786	0.07990
27	6.901	PP	4.90e-3	3.38511	9.63870	0.05144
28	7.034	BB	0.0281	129.11745	55.56813	1.96218
29	7.089	BB	0.0108	15.36072	18.35777	0.23344
30	7.109	BB	8.30e-3	11.41249	17.29600	0.17343
31	7.216	PB	0.0207	86.20959	50.02306	1.31012
32	7.346	PB	0.0389	186.74391	56.95266	2.83793
33	7.426	BB	0.0277	169.72437	72.96857	2.57928
34	7.658	BB	0.0263	88.17802	39.75399	1.34003
35	7.696	BP	0.0295	30.24617	17.07524	0.45965
36	7.784	PV	0.0221	58.69349	32.50766	0.89196
Totals :				6580.29163	4219.43113	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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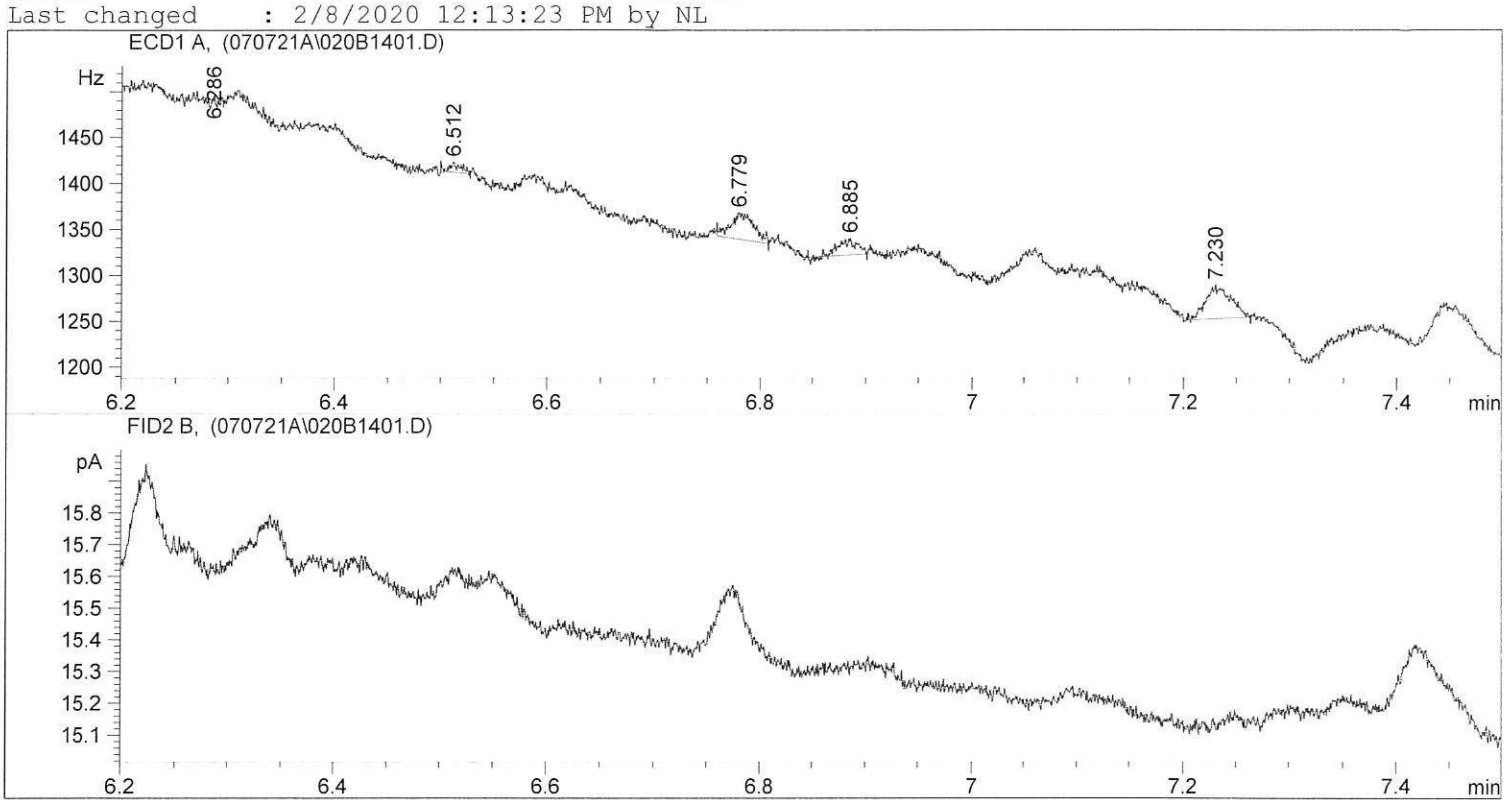
*** End of Report ***

Injection Date : 7/7/2021 8:07:17 AM
Sample Name : 21F0442 07
Acq. Operator : DXP

Seq. Line : 14
Location : Vial 20
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070721.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	5.233	BV	0.0127	200.57210	200.22128	6.82938
2	5.268	VP	0.0149	361.14706	299.31522	12.29688
3	5.316	BP	9.43e-3	10.71492	13.83935	0.36484
4	5.367	PB	9.07e-3	11.79565	16.25389	0.40164
5	5.453	PV	0.0233	272.45035	141.51955	9.27680
6	5.527	VV	0.0158	45.85701	36.08155	1.56141
7	5.560	VV	0.0284	674.06818	281.29129	22.95169
8	5.724	BV	3.70e-3	3.34774	14.47415	0.11399
9	5.782	BV	0.0217	211.55846	118.20269	7.20346
10	5.845	VV	0.0199	616.64404	373.22235	20.99642
11	5.903	VP	0.0209	115.59161	67.00953	3.93584
12	5.957	VB	0.0200	117.86022	70.88583	4.01308
13	6.038	BV	0.0197	37.29760	23.06693	1.26996
14	6.103	VV	0.0240	81.85696	43.02735	2.78719
15	6.139	VB	0.0169	45.20575	35.98130	1.53923
16	6.286	PP	0.0000	4.61558e-1	4.64872	0.01572
17	6.512	BB	9.36e-3	8.08936	11.01889	0.27544

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.779	BP	0.0184	44.09336	28.94243	1.50136
19	6.885	PV	0.0139	19.96074	18.05894	0.67965
20	7.230	PB	0.0192	58.32761	36.28283	1.98603

Totals : 2936.90028 1833.34407

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/7/2021 8:18:14 AM          Seq. Line :  15
Sample Name     : 21F0442 08                    Location : Vial 21
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070721.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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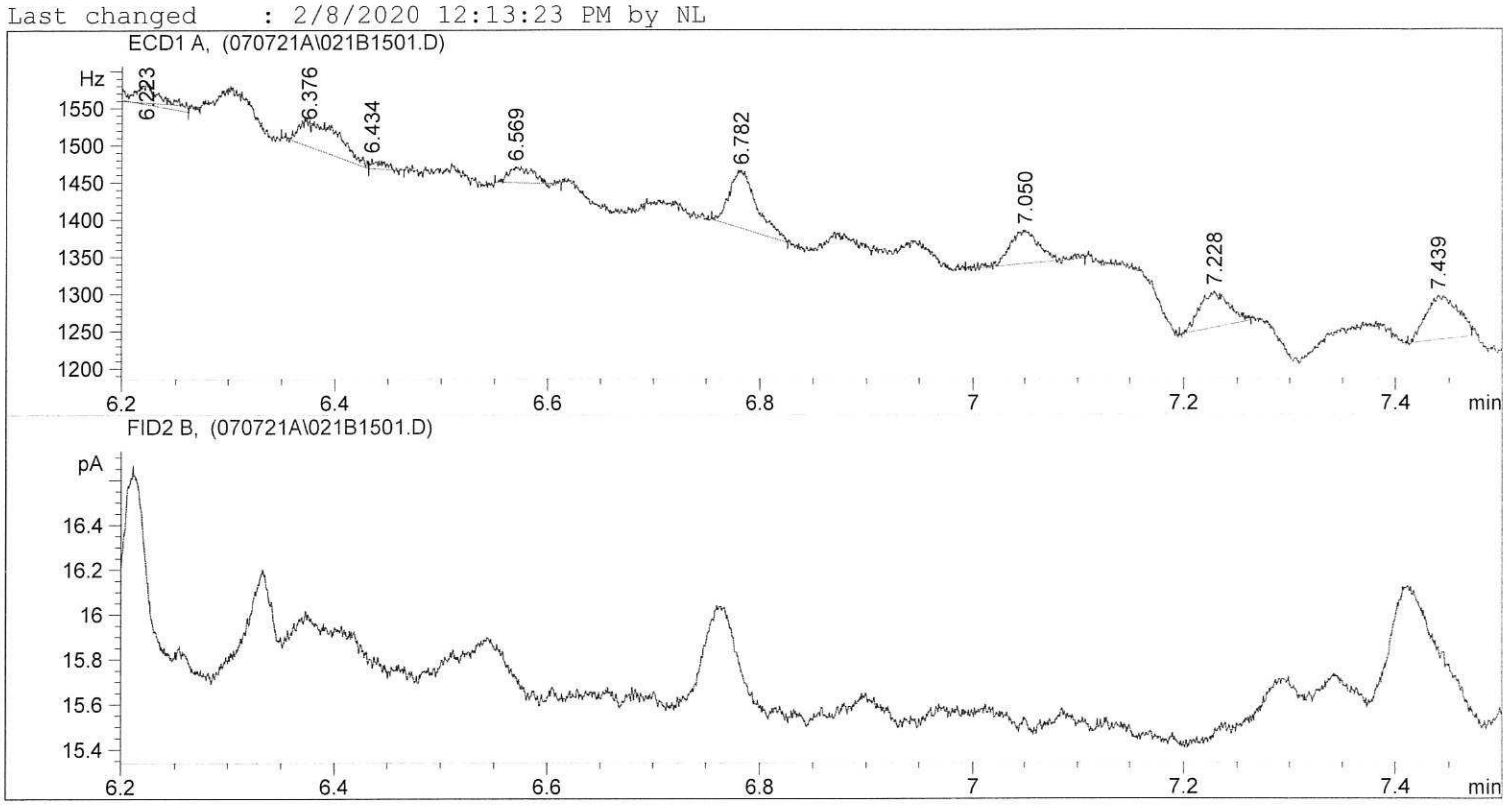


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.231	BV	0.0128	187.18393	184.70291	2.48064
2	5.267	VP	0.0157	336.21701	270.56311	4.45569
3	5.446	PV	0.0240	329.18369	162.98672	4.36248
4	5.526	BV	0.0156	93.38403	75.43015	1.23756
5	5.555	VV	0.0207	441.32974	258.31732	5.84869
6	5.590	VB	0.0225	282.28180	148.73958	3.74092
7	5.777	BV	0.0280	423.86172	180.77437	5.61719
8	5.840	VB S	0.0280	4099.43945	2008.75757	54.32748
9	5.897	BV X	0.0161	121.08296	96.18694	1.60464
10	5.950	VV T	0.0192	141.94168	92.00359	1.88107
11	5.983	VV T	0.0132	16.25102	20.46330	0.21537
12	6.025	VV T	0.0210	81.13350	46.38132	1.07522
13	6.095	VV T	0.0227	188.60748	98.71709	2.49951
14	6.132	VV T	0.0267	161.15569	71.35590	2.13570
15	6.223	PB T	0.0193	51.94429	32.12637	0.68839
16	6.376	PP	0.0346	99.28200	35.12494	1.31573
17	6.434	VP	8.43e-3	8.86215	13.20884	0.11744

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.569	PP	0.0192	32.11838	21.52925	0.42565
19	6.782	BB	0.0217	138.17052	77.30470	1.83109
20	7.050	PP	0.0241	87.87666	44.73262	1.16458
21	7.228	PB	0.0225	89.38458	48.51078	1.18456
22	7.439	PB	0.0248	121.32431	58.93204	1.60784
23	7.789	PBA	7.60e-3	13.77630	23.63923	0.18257

Totals : 7545.79289 4070.48864

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/7/2021 8:51:21 AM          Seq. Line :  18
Sample Name     : CS4 STANDARD                  Location : Vial 11
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070721.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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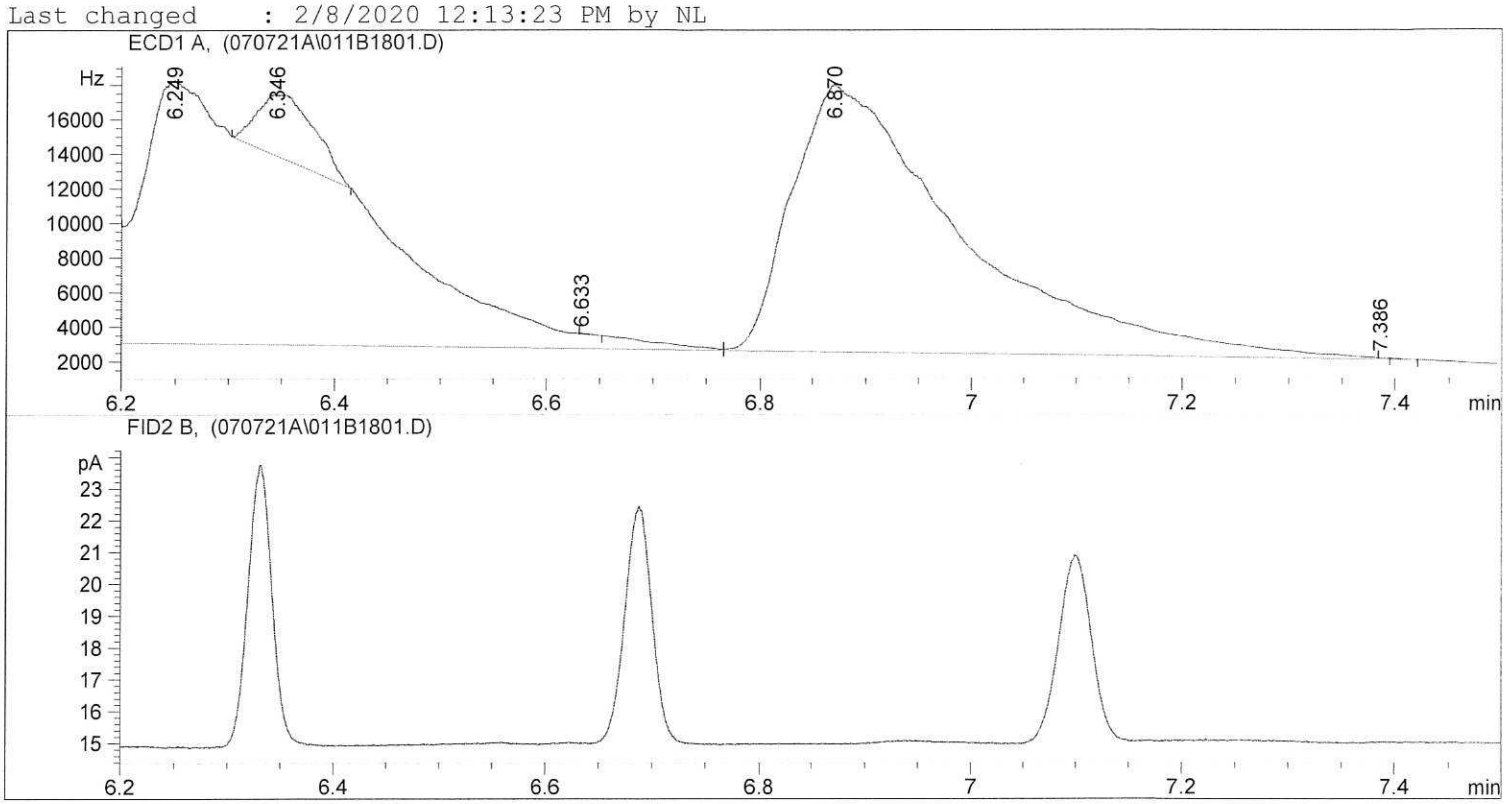


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.255	BP S	6.07e-3	6980.38037	1.91564e4	0.43715
2	5.627	PV S	0.0419	2.12120e5	6.42345e4	13.28422
3	5.729	VV S	0.1374	8.31284e5	1.00814e5	52.06000
4	6.085	PV S	0.0650	1.62488e5	2.95060e4	10.17596
5	6.249	PV S	0.1522	1.98125e5	1.52497e4	12.40781
6	6.346	BB T	0.0458	1.39318e4	3579.36792	0.87250
7	6.633	BB T	9.67e-3	46.64553	80.36334	0.00292
8	6.870	PB S	0.1298	1.71788e5	1.55129e4	10.75837
9	7.386	BB T	6.20e-3	8.13579	21.87020	0.00051
10	7.585	PP	0.0104	8.61045	13.78897	0.00054
11	7.800	PBA	9.90e-4	4.01868e-1	6.76498	2.517e-5

Totals : 1.59678e6 2.48176e5

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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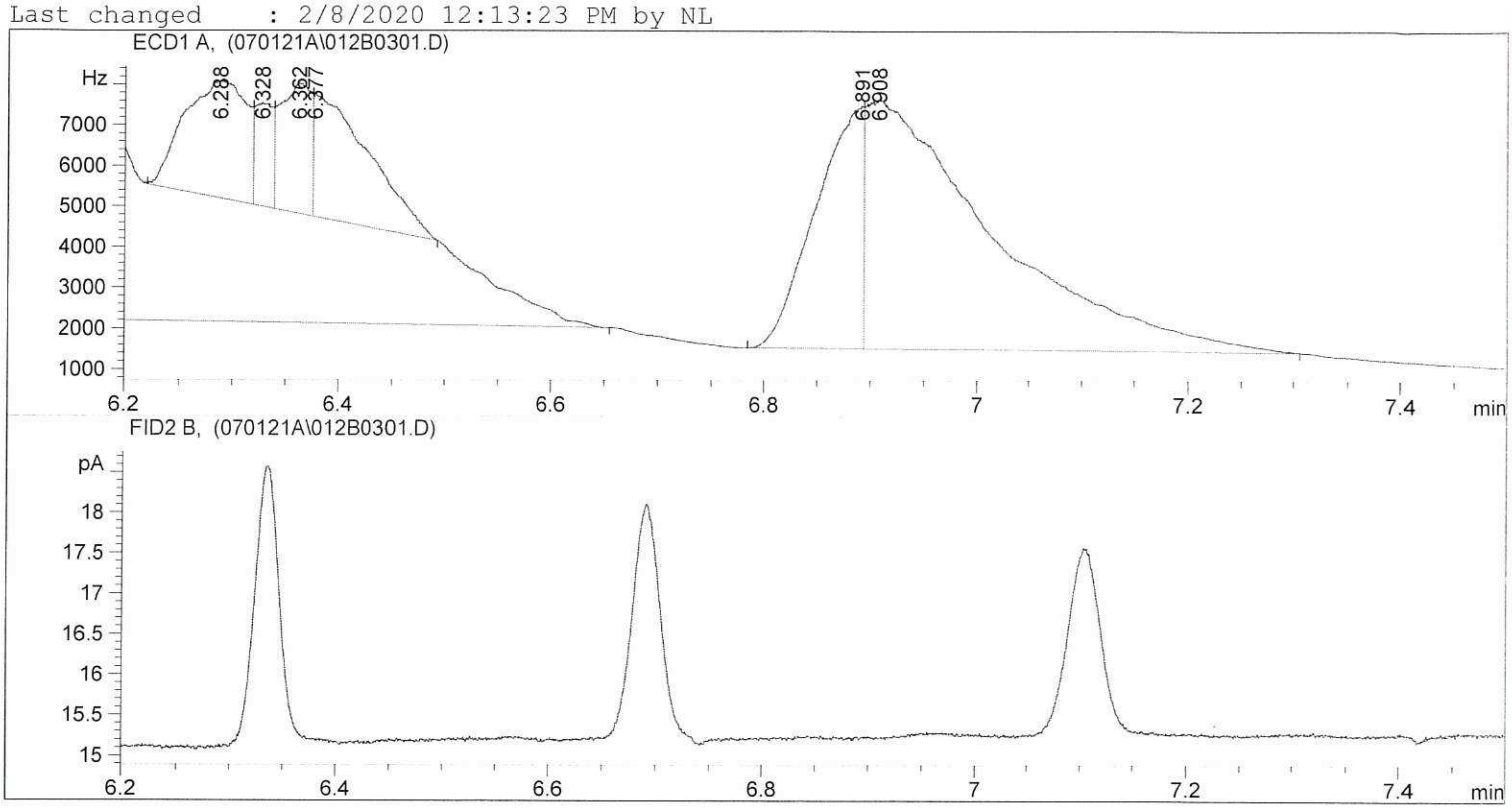
Injection Date : 7/1/2021 9:50:22 AM
Sample Name : CS4 STANDARD
Acq. Operator : DXP

Seq. Line : 3
Location : Vial 12
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.284	BP S	0.0626	6.34538e4	1.19730e4	8.40923
2	5.664	PV S	0.0494	8.16582e4	2.09321e4	10.82177
3	5.753	VV S	0.1245	2.92262e5	3.91135e4	38.73214
4	5.883	VV S	0.0907	9.41940e4	1.73145e4	12.48308
5	5.979	BB T	0.0121	168.95735	171.20346	0.02239
6	6.109	PB S	0.1304	1.21850e5	1.09656e4	16.14824
7	6.288	BV T	0.0482	1.17066e4	2903.17554	1.55142
8	6.328	PV T	0.0138	2871.41406	2545.48193	0.38053
9	6.362	PV T	0.0237	6410.19336	3203.34204	0.84951
10	6.377	PB T	0.0607	1.11083e4	3048.35889	1.47213
11	6.891	PV	0.0362	1.82465e4	5953.24805	2.41812
12	6.908	VB	0.0972	5.06427e4	6119.39600	6.71143
Totals :				7.54573e5	1.24243e5	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 10:23:35 AM          Seq. Line :   6
Sample Name     : 21F0352 01                     Location : Vial 13
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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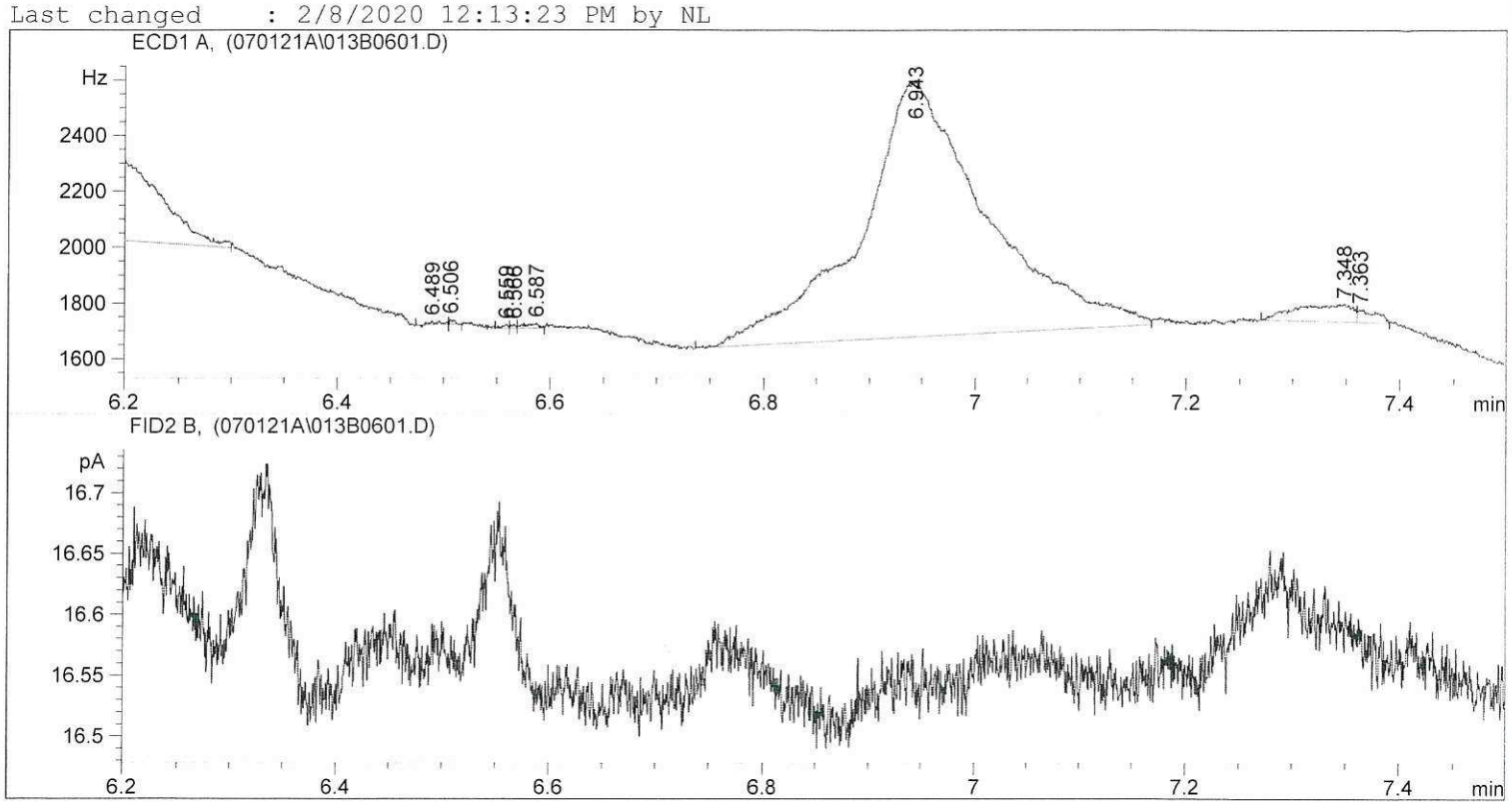


```
==========================================================================
                          Area Percent Report
==========================================================================

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	2.49e-3	2.93911	18.09838	0.00756
2	5.231	VB	7.74e-3	12.63601	20.63885	0.03251
3	5.258	PP	0.0132	28.88980	36.41683	0.07433
4	5.334	VV	0.0248	748.46350	370.75262	1.92573
5	5.353	VV	4.14e-3	93.41098	326.67148	0.24034
6	5.391	VV	0.0299	1529.38501	621.92078	3.93497
7	5.410	VV	0.0271	1357.56067	598.01025	3.49288
8	5.481	VB	9.91e-3	39.47780	49.46479	0.10157
9	5.543	PV	0.0208	148.59528	87.62865	0.38232
10	5.583	VP	0.0272	429.39349	197.61247	1.10479
11	5.662	VV	0.0361	2959.65845	995.31549	7.61493
12	5.710	VV	0.0213	1200.68738	675.25543	3.08926
13	5.766	VV	0.0323	5946.43408	2245.97070	15.29963
14	5.829	VV	0.0458	5822.41846	1508.30798	14.98055
15	5.945	VV	0.0252	595.28558	282.20535	1.53162
16	6.035	VV	0.0349	3637.06274	1231.45667	9.35783
17	6.048	VV	0.0522	5333.11377	1209.83362	13.72161

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.181	VB	0.0388	1094.91467	336.42053	2.81712
19	6.489	PP	7.53e-3	7.96021	13.39828	0.02048
20	6.506	VP	3.58e-3	4.32419	16.93362	0.01113
21	6.559	PV	5.72e-3	5.47989	13.54648	0.01410
22	6.566	VV	4.16e-3	3.82374	13.29339	0.00984
23	6.587	VV	0.0106	15.07166	18.50433	0.03878
24	6.943	PV	0.0964	7563.05029	921.11877	19.45904
25	7.348	BV	0.0427	229.14384	63.49520	0.58957
26	7.363	VB	0.0146	55.17593	45.94962	0.14196
27	7.591	PB	2.37e-3	9.92844e-1	6.54126	0.00255
28	7.754	PP	0.0000	8.12542e-1	3.22618	0.00209
29	7.800	BBA	1.12e-3	3.56500e-1	5.28426	0.00092
Totals :				3.88665e4	1.19333e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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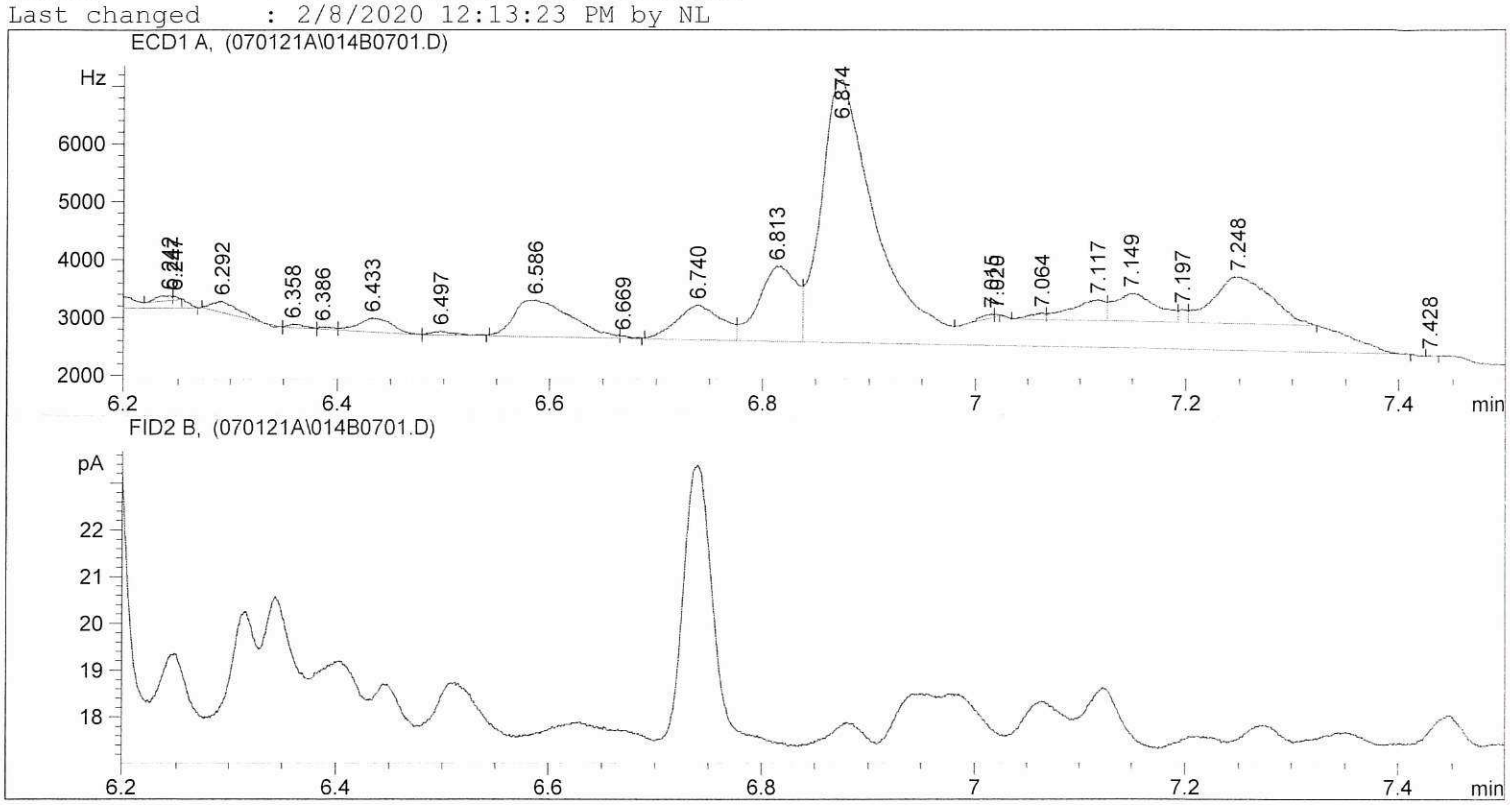
Injection Date : 7/1/2021 10:34:49 AM Seq. Line : 7
Sample Name : 21F0352 02 Location : Vial 14
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	0.0160	1708.26208	1386.61548	1.25978
2	5.258	VV	0.0152	1191.94397	940.29614	0.87901
3	5.296	VV	0.0225	2791.09351	1486.37146	2.05832
4	5.353	VV	0.0250	3939.47021	1982.60852	2.90521
5	5.375	VV	0.0244	3219.71631	1593.36328	2.37442
6	5.430	VV	0.0161	1989.11523	1496.68811	1.46690
7	5.468	VV	0.0189	746.16638	476.55701	0.55027
8	5.517	VV	0.0175	899.80621	614.76007	0.66357
9	5.560	VV	0.0196	779.94995	500.79153	0.57518
10	5.573	VP	0.0112	394.83478	426.25284	0.29118
11	5.636	VV S	0.0270	5915.52393	3074.48071	4.36247
12	5.696	VV S	0.0311	2594.36548	1389.59631	1.91324
13	5.747	VV S	0.0274	1.88577e4	9310.25879	13.90680
14	5.812	VV S	0.0401	1.76804e4	7346.72852	13.03864
15	5.888	BV X	0.0111	150.36452	171.06059	0.11089
16	5.986	VB S	0.0840	2.95189e4	5855.41504	21.76905
17	6.131	BB T	0.0323	2235.94214	823.24005	1.64892

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.242	BV T	0.0130	92.11773	88.24139	0.06793
19	6.247	PB T	4.82e-3	20.47056	70.71953	0.01510
20	6.292	BP	0.0204	335.35236	197.47704	0.24731
21	6.358	VV	0.0128	66.91224	64.21480	0.04935
22	6.386	VV	0.0107	41.33083	47.61495	0.03048
23	6.433	VP	0.0262	531.10095	249.63654	0.39167
24	6.497	VB	0.0174	108.33338	75.33480	0.07989
25	6.586	BV	0.0457	2385.37012	639.43951	1.75912
26	6.669	VB	9.21e-3	34.81036	49.47441	0.02567
27	6.740	BV	0.0350	1771.10095	607.77740	1.30612
28	6.813	VV	0.0296	3254.38232	1308.38757	2.39998
29	6.874	VB S	0.0698	2.66788e4	4549.63037	19.67459
30	7.015	BV T	0.0124	64.88124	64.34296	0.04785
31	7.020	PB T	3.90e-3	8.79810	37.59265	0.00649
32	7.064	BV T	0.0137	127.39376	114.82334	0.09395
33	7.117	PV T	0.0275	819.36951	360.36053	0.60425
34	7.149	VV T	0.0337	1375.42188	484.77905	1.01432
35	7.197	PV T	6.80e-3	122.78421	231.07338	0.09055
36	7.248	PB T	0.0444	3048.86450	812.02185	2.24842
37	7.428	PP	1.21e-3	1.10028	15.15013	0.00081
38	7.509	PV	4.05e-3	4.97405	16.83617	0.00367
39	7.527	VV	5.77e-3	11.21687	25.31396	0.00827
40	7.533	VB	4.91e-3	3.53958	12.00348	0.00261
41	7.593	PP	6.11e-4	8.11856e-3	8.42480	5.987e-6
42	7.629	BP	0.0213	42.24113	24.00313	0.03115
43	7.695	BV	3.85e-3	5.21088	19.91513	0.00384
44	7.702	VP	0.0103	19.82965	24.32330	0.01462
45	7.798	PBA	0.0000	11.02835	10.26603	0.00813
Totals :				1.35600e5	4.90843e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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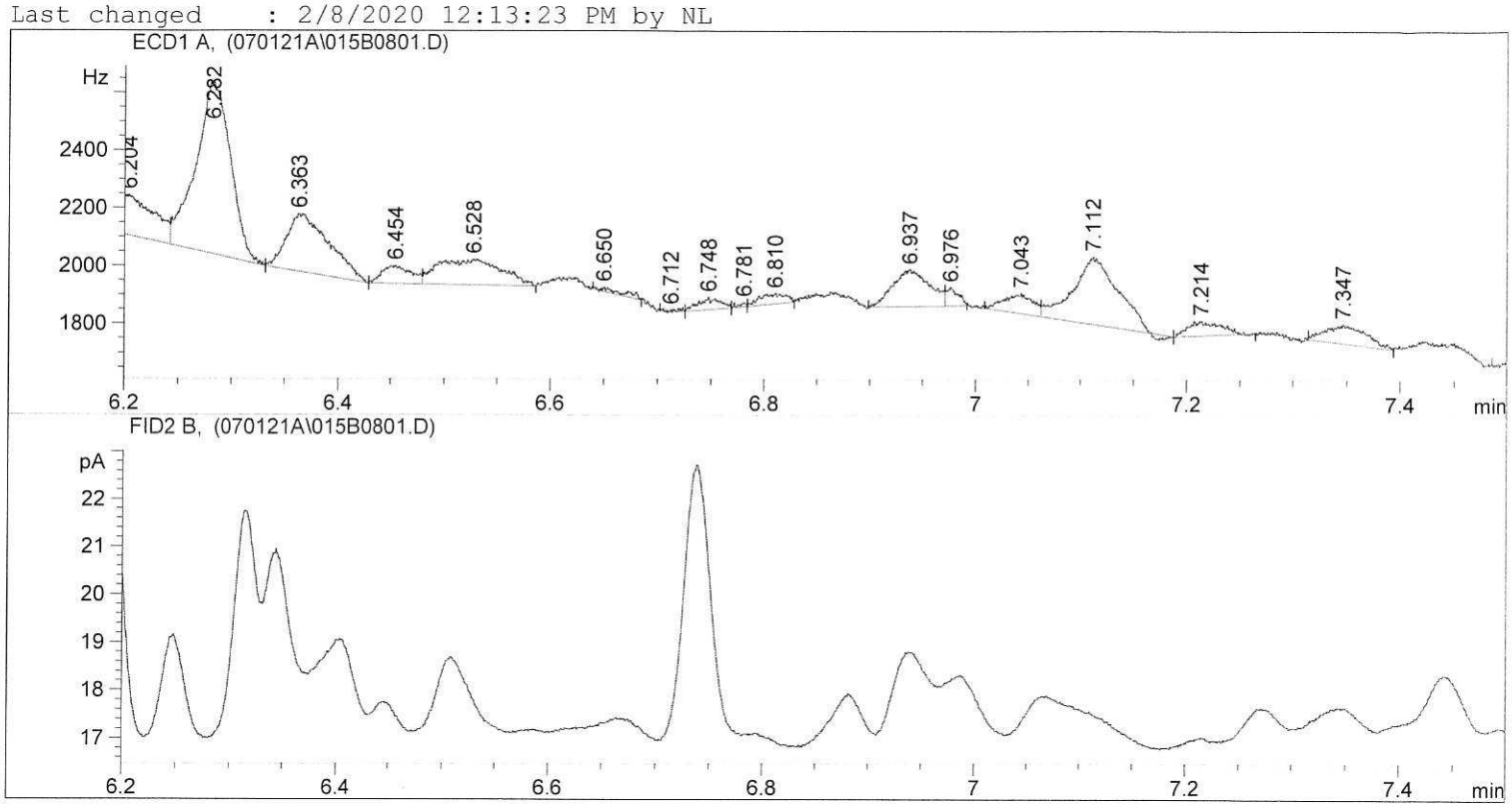
*** End of Report ***

Injection Date	: 7/1/2021 10:45:50 AM	Seq. Line :	8
Sample Name	: 21F0352 03	Location :	Vial 15
Acq. Operator	: DXP	Inj :	1
		Inj Volume :	1 µl
Sequence File	: C:\HPCHEM\2\SEQUENCE\070121.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	5.225	BP	0.0183	140.80583	91.58002	0.74532
2	5.272	VV	0.0170	295.18649	226.44672	1.56249
3	5.294	VV	0.0146	186.89751	155.48674	0.98929
4	5.352	VV	0.0349	1222.62573	433.18002	6.47164
5	5.390	VB	0.0218	525.45148	288.97348	2.78133
6	5.435	BV	0.0242	695.67731	343.56738	3.68238
7	5.469	VP	0.0173	413.49863	293.20435	2.18874
8	5.540	VV	0.0261	662.45453	307.99585	3.50652
9	5.580	VV	0.0192	1566.63000	1115.12793	8.29253
10	5.608	VV	0.0181	512.68805	342.51373	2.71377
11	5.678	VV	0.0278	1292.51782	554.10315	6.84159
12	5.763	VV	0.0246	1564.35706	754.57562	8.28050
13	5.795	VV	0.0304	1939.94897	758.73279	10.26859
14	5.853	VV	0.0155	439.73541	339.36111	2.32762
15	5.888	VV	0.0200	423.70847	260.07391	2.24278
16	5.939	VP	0.0209	632.36792	398.88629	3.34727
17	5.975	VV	8.11e-3	16.64909	28.11359	0.08813

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.009	VV	0.0194	332.11856	203.53127	1.75798
19	6.050	VV	0.0111	42.03471	46.51591	0.22250
20	6.055	VB	7.08e-3	24.54508	45.56686	0.12992
21	6.120	PP	0.0265	1246.19128	570.22272	6.59637
22	6.204	VV	0.0301	336.34070	139.47664	1.78033
23	6.282	VP	0.0271	1366.69604	600.83057	7.23423
24	6.363	VP	0.0328	551.04065	199.47690	2.91678
25	6.454	VV	0.0220	116.55691	63.04476	0.61696
26	6.528	VP	0.0484	366.18054	89.35757	1.93828
27	6.650	PB	0.0193	24.30583	15.19416	0.12866
28	6.712	PP	8.30e-3	2.52094	3.72315	0.01334
29	6.748	VP	0.0160	56.53053	42.80957	0.29923
30	6.781	VV	6.54e-3	6.82170	15.73253	0.03611
31	6.810	VV	0.0212	61.27800	34.96487	0.32436
32	6.937	PV	0.0290	308.01602	127.28614	1.63040
33	6.976	VB	0.0104	51.08097	64.61763	0.27038
34	7.043	PV	0.0224	129.46568	68.75751	0.68529
35	7.112	VP	0.0348	671.32727	232.97174	3.55349
36	7.214	BB	0.0248	102.31878	50.11017	0.54160
37	7.347	BP	0.0315	168.82481	65.04794	0.89363
38	7.586	PV	0.0392	311.51999	94.12026	1.64895
39	7.695	BP	0.0188	41.91208	27.39527	0.22185
40	7.777	PV	0.0150	43.24096	35.62100	0.22888
Totals :				1.88921e4	9528.29782	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 10:56:50 AM          Seq. Line :   9
Sample Name     : 21F0392 25                     Location : Vial 16
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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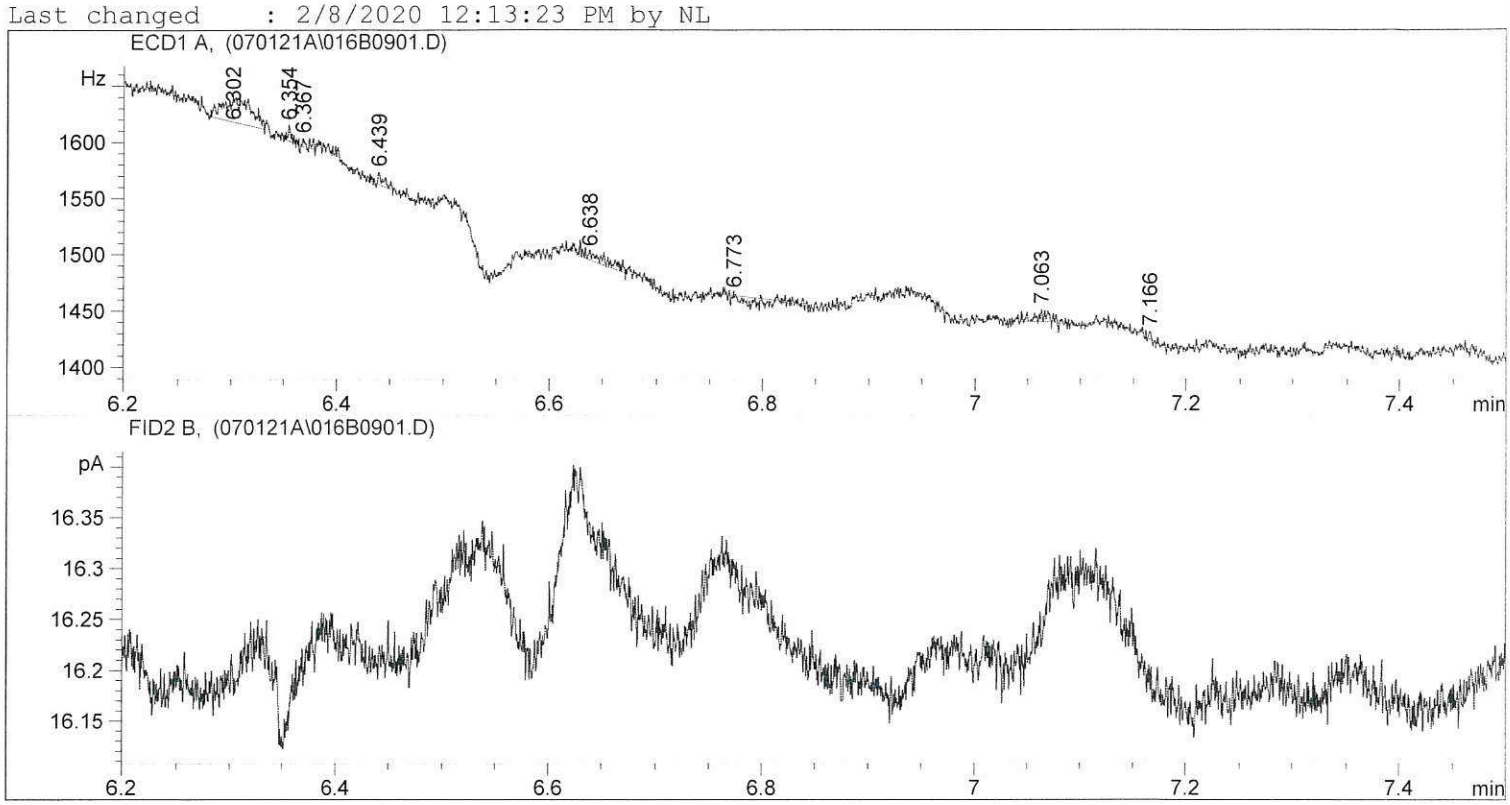


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==========================================================================
                          Area Percent Report
==========================================================================

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	PP	3.93e-3	2.42750	8.49653	0.57264
2	5.287	PB	0.0180	48.33524	32.46531	11.40216
3	5.327	BP	4.53e-3	2.57771	7.64589	0.60807
4	5.455	BB	0.0106	17.56120	20.56652	4.14264
5	5.549	PV	0.0118	13.50098	15.72760	3.18485
6	5.562	VV	4.84e-3	5.87000	18.83718	1.38472
7	5.567	VV	3.69e-3	4.08123	16.48316	0.96275
8	5.654	PB	2.50e-3	1.68650	10.34773	0.39784
9	5.709	BV	0.0344	183.01639	63.25835	43.17310
10	5.835	BP	0.0170	42.98363	30.61480	10.13973
11	5.950	BB	0.0125	20.83539	20.51251	4.91502
12	6.302	PB	0.0217	39.63206	21.73530	9.34910
13	6.354	PB	2.75e-3	2.52698	13.72314	0.59611
14	6.367	PP	4.13e-3	2.05636	7.19818	0.48509
15	6.439	PB	5.39e-3	4.57121	11.13032	1.07834
16	6.638	BP	0.0204	12.28223	7.24783	2.89735
17	6.773	PB	0.0000	8.56543	2.06216	2.02056

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.063	BP	7.65e-3	6.70125	10.78302	1.58081
19	7.166	BB	1.58e-3	4.36808e-1	6.53160	0.10304
20	7.646	BP	3.09e-3	1.98622	9.31007	0.46854
21	7.719	BP	0.0000	2.27865	4.83864	0.53753
Totals :				423.91297	339.51584	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 11:08:02 AM          Seq. Line :  10
Sample Name     : 21F0392 26                     Location : Vial 17
Acq. Operator   : DXP                                 Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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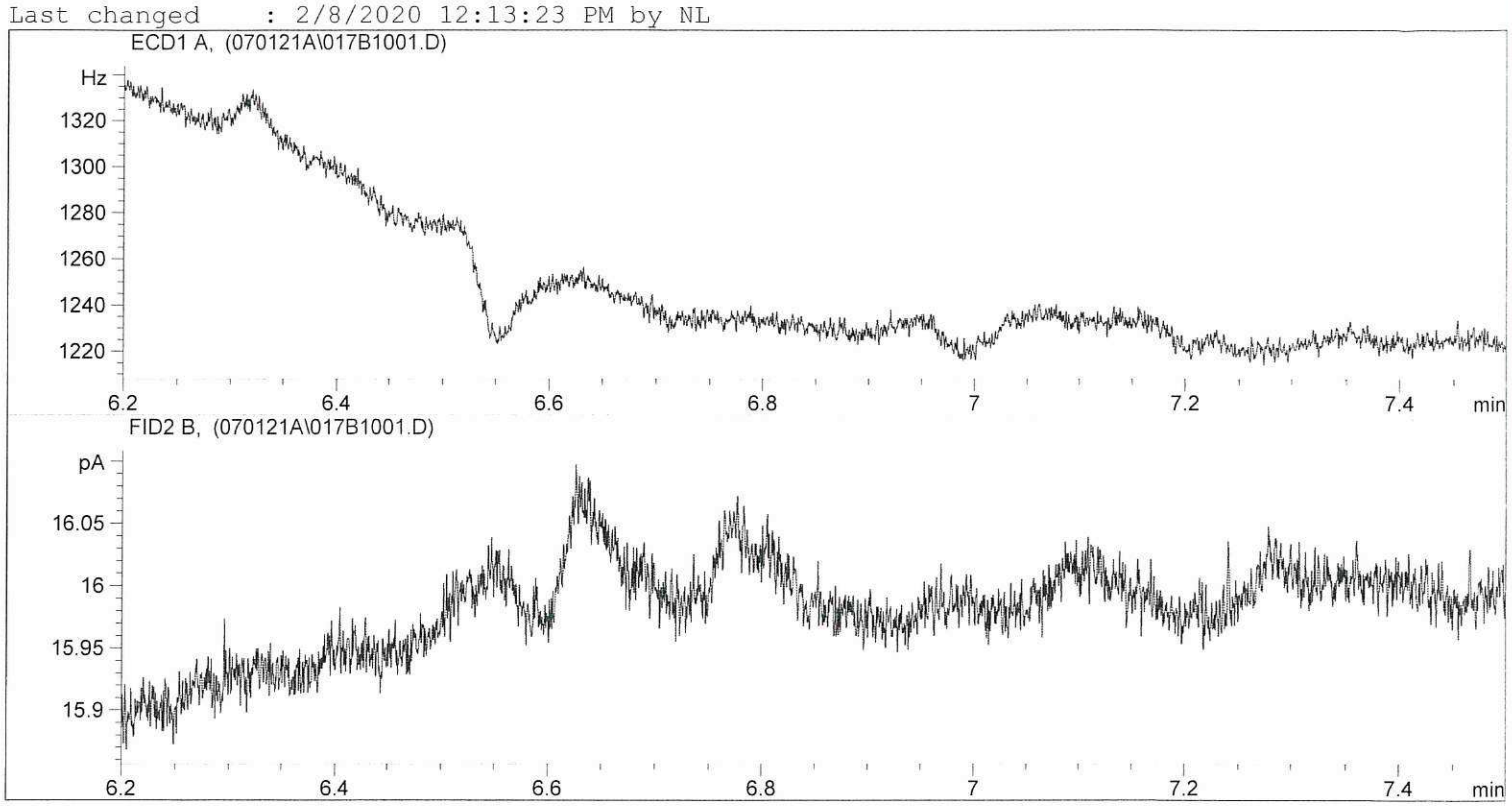


```
==========================================================================
                          Area Percent Report
==========================================================================

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   6.018 BV   2.21e-3    1.80727   11.67239 36.62164
   2   6.024 VB   3.70e-3    3.12770   11.75482 63.37836

Totals :                     4.93497   23.42722

 Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========================================================================
                          *** End of Report ***
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==========================================================================
Injection Date  : 7/1/2021 11:19:02 AM          Seq. Line :  11
Sample Name     : 21F0399 01                     Location : Vial 18
Acq. Operator   : DXP                                 Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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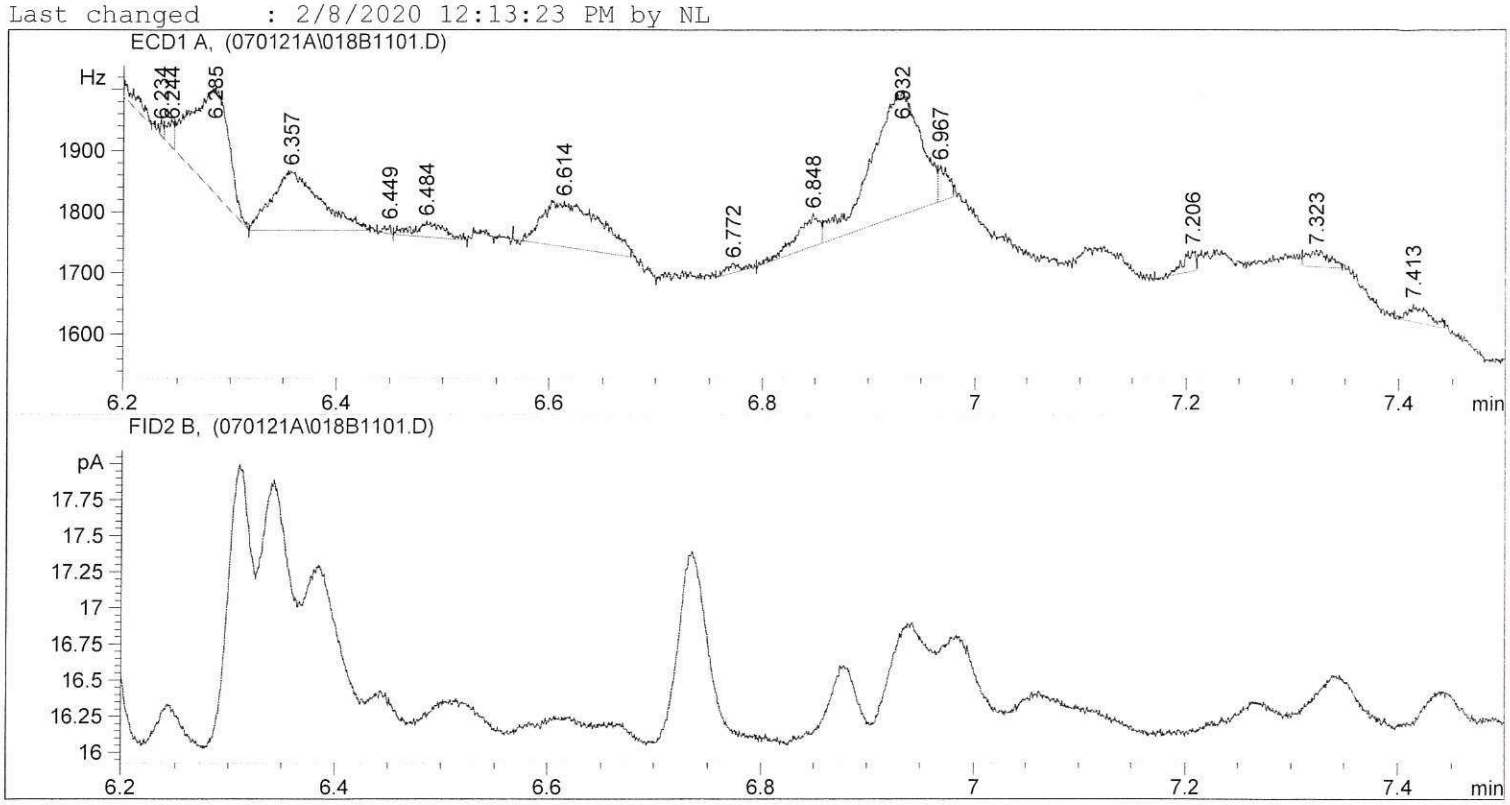


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.233	PV	0.0173	78.03256	54.60213	0.54664
2	5.263	VP	0.0175	71.13528	67.74026	0.49833
3	5.390	VV	0.0545	1910.59619	413.57654	13.38436
4	5.424	VV	0.0269	834.62695	375.91418	5.84684
5	5.479	VV	0.0168	211.20526	151.82545	1.47956
6	5.539	VV	0.0307	469.64224	183.01581	3.29000
7	5.577	VP	0.0235	446.82809	235.49554	3.13018
8	5.660	VV	0.0301	795.78735	326.19211	5.57476
9	5.698	VB	0.0153	239.77420	189.94969	1.67970
10	5.762	BV	0.0284	1844.19397	840.51953	12.91919
11	5.823	VV	0.0221	914.03809	504.95865	6.40314
12	5.846	VV	0.0170	480.19800	349.05496	3.36395
13	5.877	VB	7.69e-3	57.67634	92.26588	0.40404
14	5.936	BP	0.0122	125.20969	126.03048	0.87714
15	6.032	VV	0.0316	1750.20593	667.28619	12.26078
16	6.040	VB	0.0353	2016.98108	678.02875	14.12963
17	6.191	PB	0.0181	49.26217	32.91338	0.34510

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.234	BV	3.49e-3	6.42794	25.94736	0.04503
19	6.244	VV	5.96e-3	19.32376	44.45487	0.13537
20	6.285	VP	0.0285	398.93335	171.48819	2.79466
21	6.357	VB	0.0381	306.81198	97.07677	2.14932
22	6.449	PP	4.32e-3	4.57719	14.37085	0.03206
23	6.484	VP	0.0237	47.38592	25.24680	0.33195
24	6.614	BB	0.0447	279.06931	73.88802	1.95497
25	6.772	PP	0.0115	13.48043	14.75083	0.09443
26	6.848	BV	0.0179	78.16963	52.68031	0.54760
27	6.932	VV	0.0394	655.10461	200.04250	4.58923
28	6.967	VB	7.69e-3	34.37854	58.17772	0.24083
29	7.206	PV	9.51e-3	25.90641	33.17277	0.18148
30	7.323	BB	0.0176	38.15364	25.94863	0.26728
31	7.413	PB	0.0174	36.06617	28.75913	0.25266
32	7.557	BP	6.62e-3	3.60843	7.23703	0.02528
33	7.600	PP	4.91e-3	3.31878	8.97462	0.02325
34	7.704	BB	0.0166	28.72847	23.20319	0.20125
Totals :				1.42748e4	6194.78913	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 11:30:16 AM          Seq. Line :  12
Sample Name     : 21F0399 02                     Location : Vial 19
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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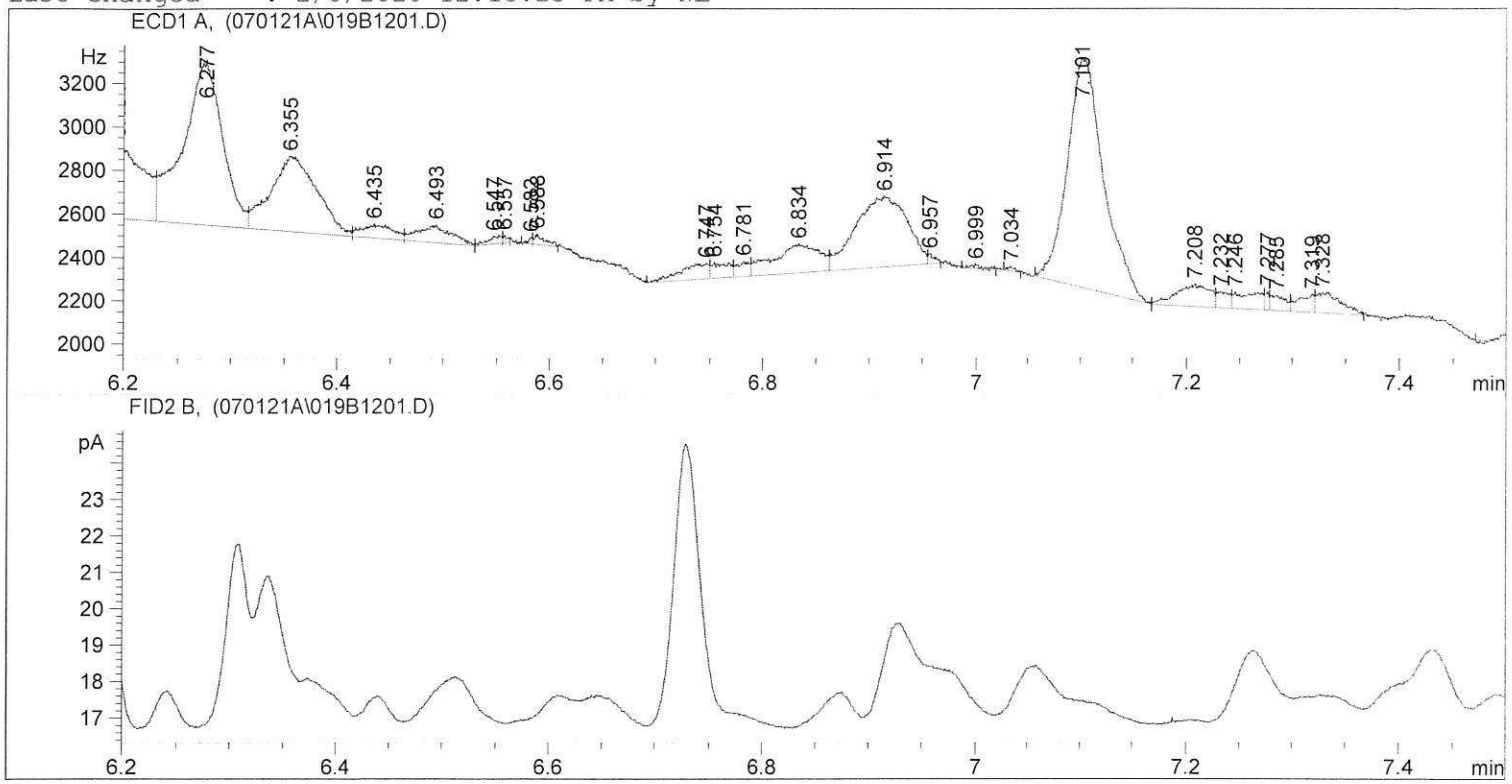


```
==========================================================================
                          Area Percent Report
==========================================================================

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	5.233	BV	0.0179	282.76120	188.17342	0.56864
2	5.296	VV	0.0168	845.71722	624.25342	1.70075
3	5.327	VV	0.0436	3696.64551	997.51178	7.43403
4	5.373	VV	4.17e-3	251.65471	779.66144	0.50608
5	5.403	VV	0.0345	2863.34521	1008.18292	5.75824
6	5.461	VP	0.0173	464.17285	321.18768	0.93346
7	5.537	VV	0.0275	832.89294	358.17422	1.67496
8	5.596	VV	0.0367	3380.70752	1129.65381	6.79867
9	5.648	VV	0.0312	2115.32788	832.62653	4.25397
10	5.702	VV	0.0225	1371.05798	744.09253	2.75722
11	5.754	VV	0.0294	4919.09326	1989.66040	9.89239
12	5.784	VV	0.0101	858.55121	1076.27075	1.72656
13	5.815	VV	0.0275	2715.41772	1225.25012	5.46076
14	5.850	VV	0.0193	1511.31616	986.75690	3.03929
15	5.879	VV	0.0216	1207.76526	703.89954	2.42884
16	5.931	VV	0.0269	2889.84595	1299.38623	5.81154
17	6.003	VV	0.0346	3070.78516	1047.92749	6.17541

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.035	VV	0.0388	2876.97070	893.55536	5.78564
19	6.111	VV	0.0286	2743.78418	1134.56787	5.51780
20	6.156	VV	0.0229	1064.73743	567.60571	2.14121
21	6.186	VV	8.46e-3	229.20901	340.09396	0.46094
22	6.194	VV	0.0214	595.85529	341.56744	1.19828
23	6.277	VV	0.0315	1954.33936	752.72766	3.93021
24	6.355	VV	0.0361	1039.26306	343.59045	2.08998
25	6.435	VV	0.0236	123.80355	62.22532	0.24897
26	6.493	VP	0.0273	173.67108	80.85699	0.34926
27	6.547	VV	0.0105	29.21827	35.12216	0.05876
28	6.557	VB	4.05e-3	9.71684	32.90613	0.01954
29	6.582	PV	3.70e-3	6.96065	30.06833	0.01400
30	6.588	VB	8.79e-3	32.95745	46.94262	0.06628
31	6.747	PV	0.0223	131.14265	71.01665	0.26373
32	6.754	VV	0.0134	79.03829	72.04597	0.15895
33	6.781	VV	0.0101	54.48916	69.72075	0.10958
34	6.834	VV	0.0356	397.78534	131.97194	0.79995
35	6.914	VV	0.0402	1101.57336	322.63351	2.21529
36	6.957	VB	5.67e-3	19.63091	45.18108	0.03948
37	6.999	PP	7.04e-3	10.00283	17.56240	0.02012
38	7.034	BB	7.64e-3	9.53908	20.82020	0.01918
39	7.101	BP	0.0288	2545.06445	1051.70679	5.11817
40	7.208	VV	0.0251	218.25113	103.75777	0.43891
41	7.232	VB	0.0106	61.69807	73.29778	0.12408
42	7.246	BV	0.0201	125.28487	74.85374	0.25195
43	7.277	VV	3.65e-3	22.57103	86.24045	0.04539
44	7.285	VB	0.0121	67.23067	69.30033	0.13520
45	7.319	BV	0.0129	83.81841	81.84656	0.16856
46	7.328	VB	0.0193	151.09076	94.02258	0.30385
47	7.527	PP	0.0383	285.15750	87.76045	0.57346
48	7.680	BP	0.0263	146.21671	67.39345	0.29404
49	7.766	VV	0.0178	58.89275	42.87407	0.11843
Totals :				4.97260e4	2.25585e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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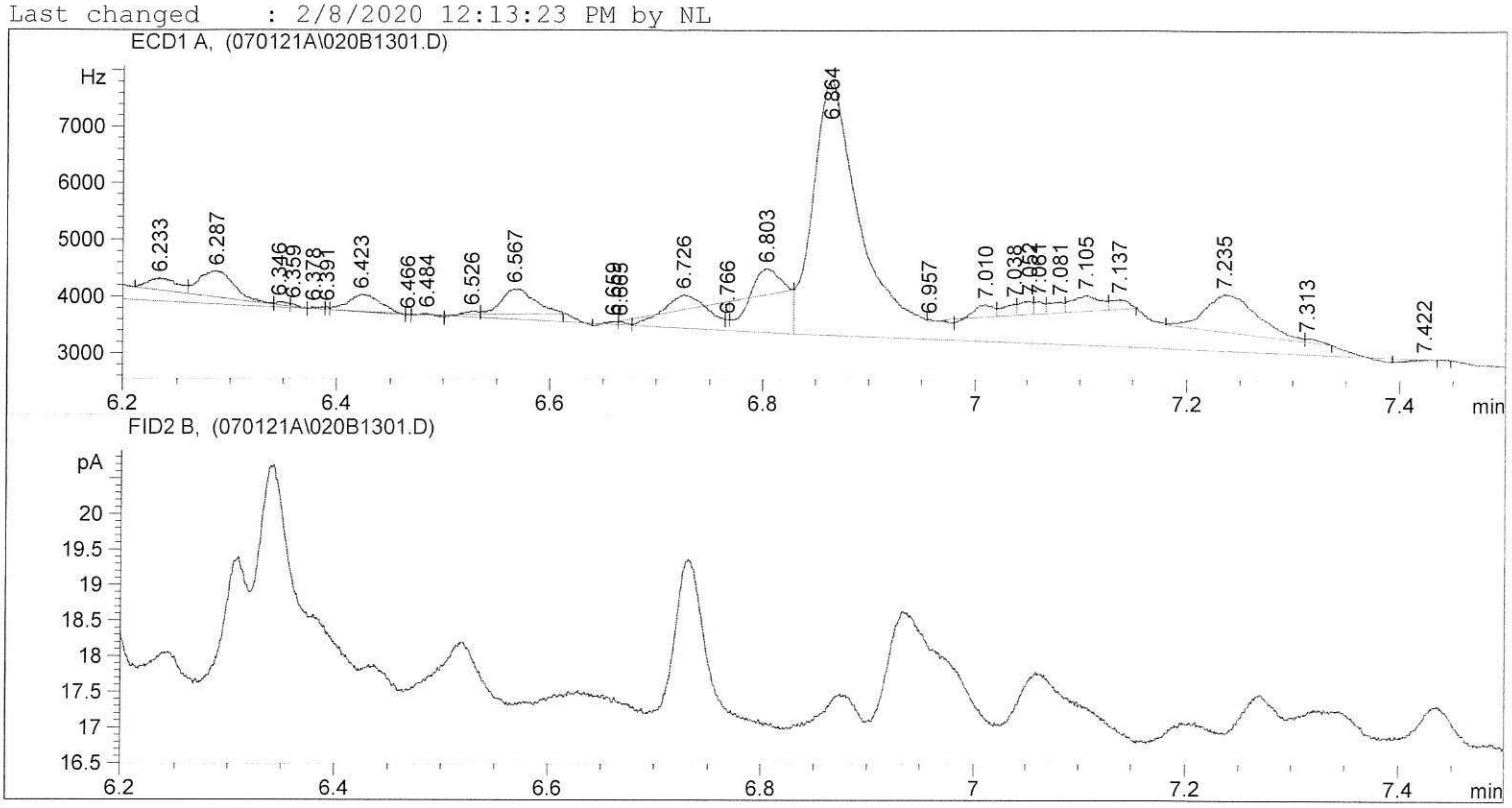
*** End of Report ***

Injection Date : 7/1/2021 11:41:31 AM
Sample Name : 21F0399 03
Acq. Operator : DXP

Seq. Line : 13
Location : Vial 20
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.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	0.0155	973.23328	774.18311	0.72567
2	5.263	VV	0.0175	763.04858	546.92401	0.56895
3	5.294	VV	0.0246	3531.91211	1757.46448	2.63351
4	5.348	VV	0.0233	4755.90479	2467.10303	3.54616
5	5.377	VV	0.0317	5510.69092	2109.07422	4.10895
6	5.469	VV	0.0188	517.26245	331.28619	0.38569
7	5.515	VV	0.0190	1040.70935	721.33429	0.77599
8	5.559	VV	0.0141	542.35162	470.08514	0.40439
9	5.574	VP	0.0132	537.34753	495.83316	0.40066
10	5.633	VV S	0.0249	6141.29639	3079.26489	4.57915
11	5.692	VV S	0.0332	2983.36108	1497.90198	2.22449
12	5.743	VV S	0.0250	1.51420e4	8581.21777	11.29036
13	5.807	VV S	0.0515	1.88010e4	6079.66016	14.01866
14	5.886	BV T	0.0000	78.48212	39.79588	0.05852
15	5.939	VV T	0.0000	768.07959	60.74978	0.57270
16	5.977	VV S	0.0581	3.86451e4	7845.83301	28.81500
17	6.124	BB T	0.0323	1618.92676	611.16827	1.20712

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.233	BV T	0.0235	411.21329	216.63535	0.30661
19	6.287	PV T	0.0276	1035.26660	460.67838	0.77193
20	6.346	PV T	0.0133	42.31988	53.15942	0.03156
21	6.359	PV T	7.37e-3	21.22446	48.01394	0.01583
22	6.378	PV T	7.87e-3	26.26365	40.99620	0.01958
23	6.391	PV T	3.33e-3	11.08384	55.41674	0.00826
24	6.423	PV T	0.0258	663.28455	309.46988	0.49457
25	6.466	PV T	9.94e-4	6.38427e-1	10.70142	0.00048
26	6.484	PV T	0.0000	2.85274	28.42084	0.00213
27	6.526	PV T	6.36e-3	29.70809	60.18150	0.02215
28	6.567	PB T	0.0263	962.06128	442.99011	0.71734
29	6.659	PV T	9.40e-3	13.15416	17.43198	0.00981
30	6.665	PV T	0.0994	37.89329	6.35388	0.02825
31	6.726	PV T	5.86e-3	114.82291	264.52563	0.08562
32	6.766	PV T	4.12e-3	76.05676	307.72281	0.05671
33	6.803	PV T	0.0104	373.98544	464.69766	0.27886
34	6.864	VB S	0.0623	2.35577e4	4499.53516	17.56534
35	6.957	BV T	0.0000	18.11413	50.01809	0.01351
36	7.010	PV T	0.0137	240.16533	216.55408	0.17908
37	7.038	PV T	0.0115	194.26797	207.39984	0.14485
38	7.052	PV T	0.0105	199.08606	230.56554	0.14844
39	7.061	PV T	8.16e-3	143.51711	221.56874	0.10701
40	7.081	PV T	0.0119	192.40881	194.45619	0.14347
41	7.105	PV T	0.0225	529.76746	279.68219	0.39501
42	7.137	PB T	0.0139	202.47408	175.59665	0.15097
43	7.235	BV T	0.0420	2316.83032	655.57397	1.72750
44	7.313	PB T	0.0175	68.55433	65.17006	0.05112
45	7.422	BB T	0.0178	44.16840	31.45919	0.03293
46	7.521	BV	0.0107	33.20055	37.43616	0.02476
47	7.540	VB	5.39e-3	8.54928	21.72253	0.00637
48	7.562	BP	0.0122	23.82429	25.30937	0.01776
49	7.632	BB	0.0117	33.18896	36.93035	0.02475
50	7.672	PP	7.96e-3	13.62104	21.59800	0.01016
51	7.764	PV	0.0111	32.69945	41.23220	0.02438
52	7.789	VBA	0.0180	89.74802	59.58129	0.06692
Totals :				1.34114e5	4.73277e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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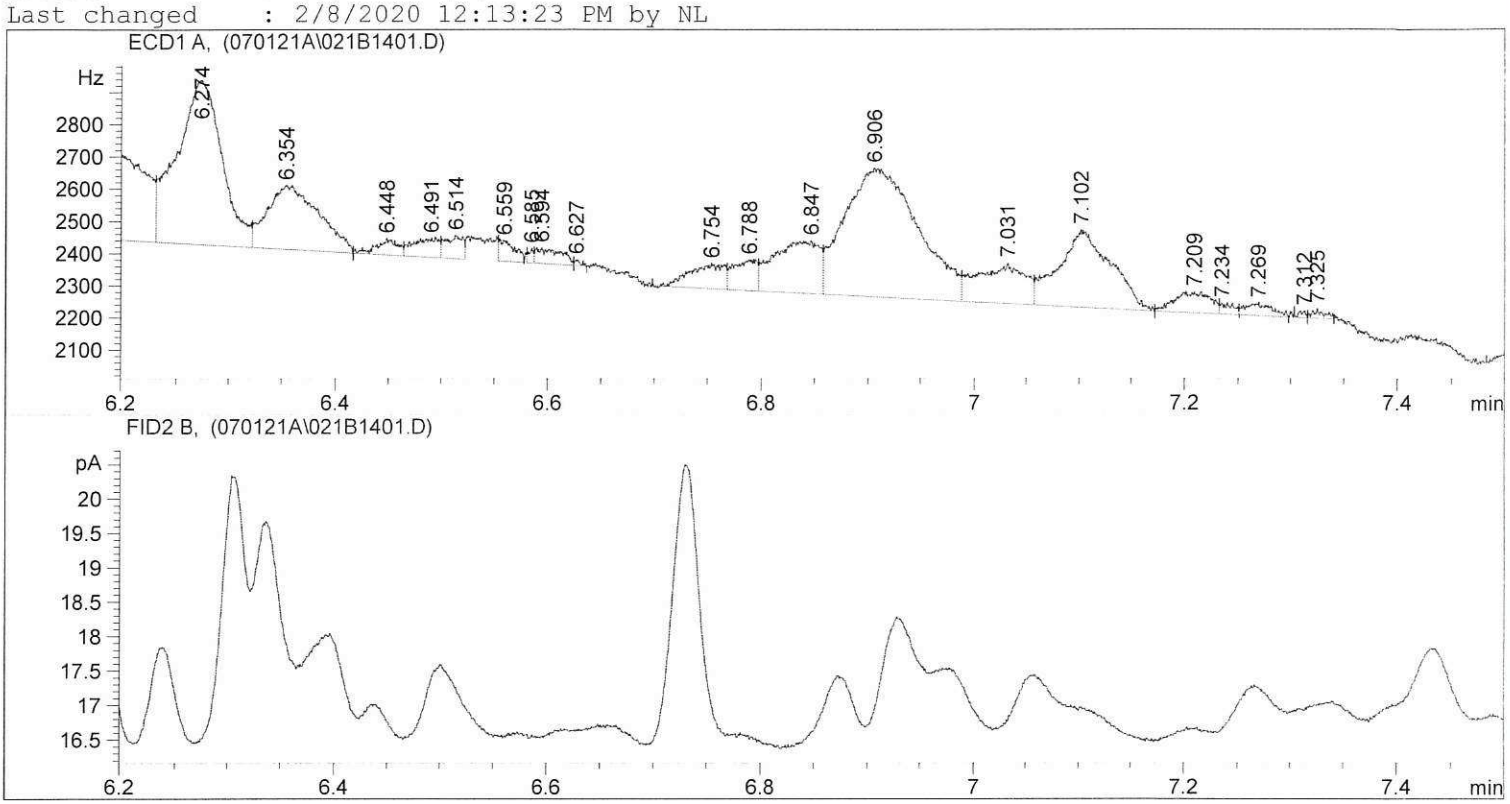
Injection Date : 7/1/2021 11:52:34 AM
Sample Name : 21F039904
Acq. Operator : DXP

Seq. Line : 14
Location : Vial 21
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.232	BP	0.0137	124.42408	110.81778	0.35672
2	5.270	VV	0.0128	170.10606	165.51588	0.48768
3	5.326	VV	0.0497	2374.15869	566.41943	6.80656
4	5.385	VV	0.0209	761.95251	475.64990	2.18447
5	5.434	VV	0.0302	973.58832	381.00244	2.79121
6	5.467	VP	0.0109	222.11630	261.17990	0.63679
7	5.536	VV	0.0252	725.26935	349.00912	2.07930
8	5.552	VV	3.35e-3	68.40411	290.67584	0.19611
9	5.576	VV	0.0271	1660.07117	765.84357	4.75932
10	5.652	VV	0.0206	990.52454	590.46808	2.83977
11	5.668	VV	0.0328	1479.87854	533.46442	4.24271
12	5.755	VV	0.0272	2820.04272	1276.54895	8.08488
13	5.787	VV	0.0169	1178.56348	865.25842	3.37886
14	5.817	VV	0.0332	2651.06567	953.34863	7.60043
15	5.879	VV	0.0243	1043.55493	509.43344	2.99180
16	5.905	VV	4.20e-3	139.75508	452.59549	0.40067
17	5.929	VV	0.0256	1251.27881	587.75818	3.58733

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.001	VV	0.0398	3465.42212	1031.52039	9.93514
19	6.034	VV	0.0323	2344.33105	858.27356	6.72104
20	6.109	VV	0.0408	2458.97534	716.97986	7.04972
21	6.191	VV	0.0348	870.95905	296.77924	2.49698
22	6.274	VV	0.0356	1520.62146	510.07959	4.35952
23	6.354	VP	0.0397	658.35272	197.43272	1.88745
24	6.448	VV	0.0171	67.42942	49.50040	0.19332
25	6.491	VV	0.0208	98.98065	58.90016	0.28377
26	6.514	VV	0.0139	81.72400	71.46294	0.23430
27	6.559	BB	0.0124	65.03072	64.23118	0.18644
28	6.585	BV	4.39e-3	13.85676	45.06401	0.03973
29	6.594	VV	0.0196	78.08875	48.00060	0.22388
30	6.627	VP	4.69e-3	6.29316	17.12397	0.01804
31	6.754	PV	0.0259	168.39987	76.90020	0.48279
32	6.788	VV	0.0178	142.20143	95.58040	0.40768
33	6.847	VV	0.0348	483.08350	164.71214	1.38497
34	6.906	VV	0.0577	1934.65149	399.33688	5.54652
35	7.031	VV	0.0363	384.24603	125.74400	1.10161
36	7.102	VP	0.0405	830.20380	241.32056	2.38014
37	7.209	VV	0.0272	145.84500	65.41061	0.41813
38	7.234	VV	0.0103	28.16754	33.91886	0.08075
39	7.269	VB	0.0215	66.46040	38.13568	0.19054
40	7.312	BV	5.40e-3	8.20096	19.94253	0.02351
41	7.325	VB	9.34e-3	21.39043	28.56579	0.06132
42	7.507	PV	9.68e-3	31.33375	43.10568	0.08983
43	7.520	VV	0.0134	47.01666	48.19124	0.13479
44	7.540	VV	7.50e-3	28.06540	47.45568	0.08046
45	7.548	VB	0.0105	40.93134	48.45497	0.11735
46	7.634	BB	5.60e-3	8.00664	19.45881	0.02295
47	7.689	BP	0.0244	82.32902	40.08128	0.23603
48	7.798	VBA	0.0612	65.10828	12.58463	0.18666
Totals :				3.48805e4	1.46492e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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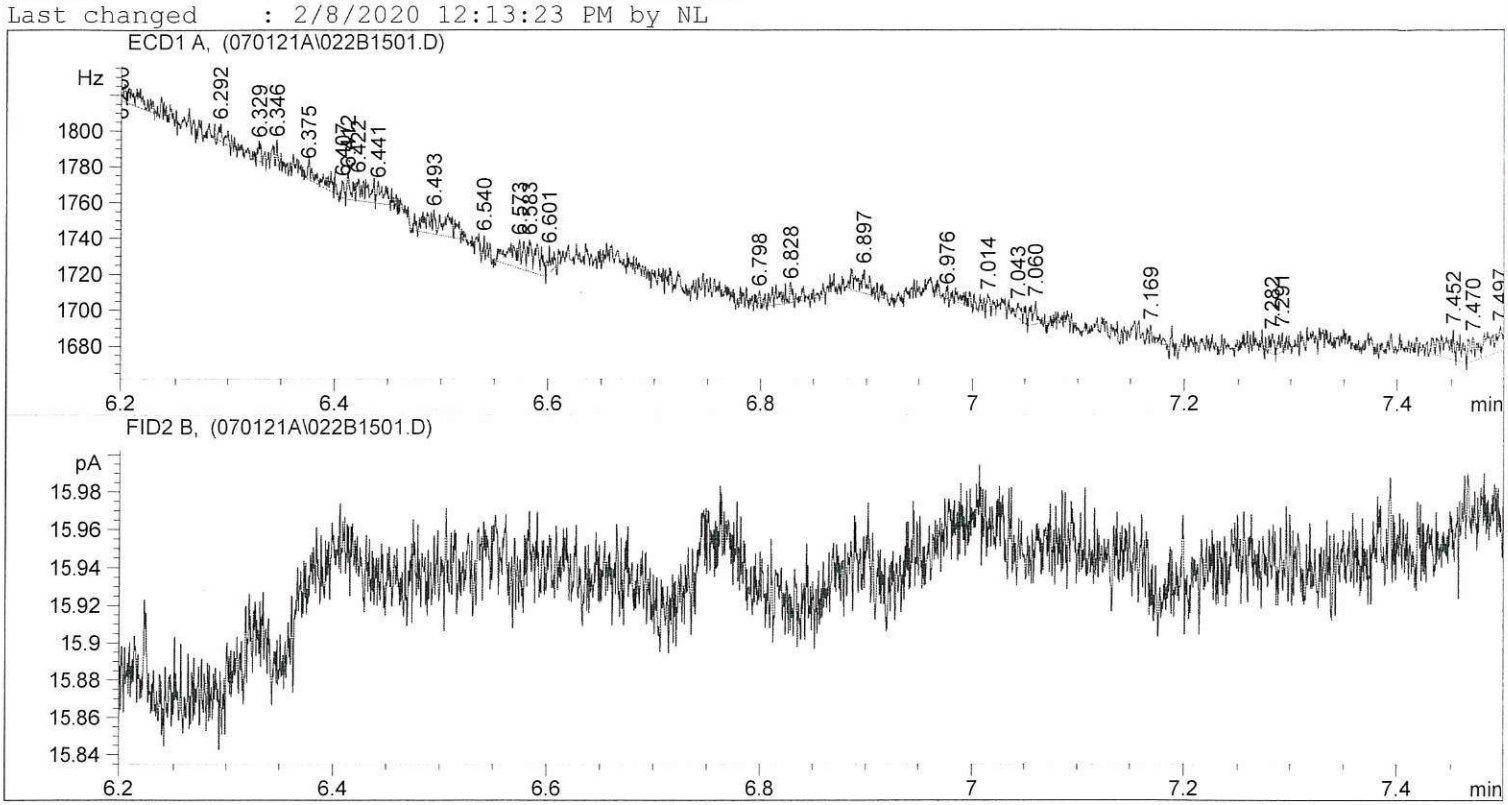
*** End of Report ***

==========

Injection Date : 7/1/2021 12:03:35 PM
Sample Name : 21F0399 05
Acq. Operator : DXP

Seq. Line : 15
Location : Vial 22
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.251	BV	0.0182	33.97732	23.30497	5.93413
2	5.347	BP	8.65e-3	9.73003	14.83639	1.69935
3	5.481	PV	6.42e-3	5.04903	13.10017	0.88181
4	5.536	BB	6.27e-3	4.50341	9.26504	0.78652
5	5.673	BP	8.27e-3	9.63337	14.65174	1.68246
6	5.773	PB	0.0218	88.73866	48.88026	15.49817
7	5.838	PP	0.0237	67.92950	34.58561	11.86386
8	5.940	BV	0.0277	48.03937	20.80098	8.39006
9	6.015	PP	3.47e-3	2.35658	11.14172	0.41158
10	6.047	BP	9.15e-3	6.28693	8.57588	1.09801
11	6.135	BP	7.05e-3	10.17429	18.39954	1.77694
12	6.147	VB	0.0118	9.70506	10.07199	1.69499
13	6.200	BP	0.0122	14.95395	15.07036	2.61170
14	6.292	BP	5.63e-3	3.59075	9.45321	0.62712
15	6.329	PP	3.61e-3	2.44453	10.14647	0.42694
16	6.346	BB	2.03e-3	1.57250	12.81511	0.27464
17	6.375	PB	9.70e-3	6.73901	8.64357	1.17696

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.407	BP	3.24e-3	1.86111	8.91411	0.32504
19	6.412	VB	3.33e-3	3.38742	14.50222	0.59161
20	6.422	BV	8.35e-3	8.00535	12.36982	1.39813
21	6.441	VB	6.49e-3	5.61170	11.10796	0.98008
22	6.493	PB	0.0179	18.20329	12.45442	3.17920
23	6.540	PP	2.04e-3	1.16883	9.44564	0.20414
24	6.573	BV	0.0103	12.84555	15.50254	2.24347
25	6.583	VP	0.0110	11.39646	17.33388	1.99039
26	6.601	VB	5.24e-3	4.18628	13.31833	0.73113
27	6.798	BB	1.94e-3	7.53028e-1	6.54636	0.13152
28	6.828	PP	0.0129	10.61895	9.90968	1.85460
29	6.897	BB	8.80e-3	9.05896	13.21199	1.58214
30	6.976	BP	0.0186	7.31293	4.74963	1.27720
31	7.014	VP	4.14e-3	2.26453	8.42620	0.39550
32	7.043	BP	6.94e-3	3.85459	7.09316	0.67320
33	7.060	VB	5.76e-3	3.60947	11.82410	0.63039
34	7.169	BP	4.76e-3	2.88968	8.10809	0.50468
35	7.282	BP	2.85e-3	1.78875	10.17876	0.31240
36	7.291	VB	4.14e-3	3.38101	10.56073	0.59049
37	7.452	BP	0.0112	14.81020	16.28288	2.58659
38	7.470	VB	6.00e-3	6.01420	12.99524	1.05038
39	7.497	BP	0.0161	17.24557	13.13427	3.01193
40	7.521	BB	5.80e-3	5.90438	14.35229	1.03120
41	7.570	PB	6.21e-3	4.63783	9.65214	0.81000
42	7.666	BP	8.89e-3	9.05956	12.44911	1.58225
43	7.688	VB	0.0133	19.40506	17.80121	3.38909
44	7.733	BV	0.0179	24.06812	16.63354	4.20349
45	7.772	VP	0.0197	28.84058	17.61322	5.03700
46	7.796	VBA	8.87e-3	4.96734	6.84024	0.86754
Totals :				572.57503	627.05477	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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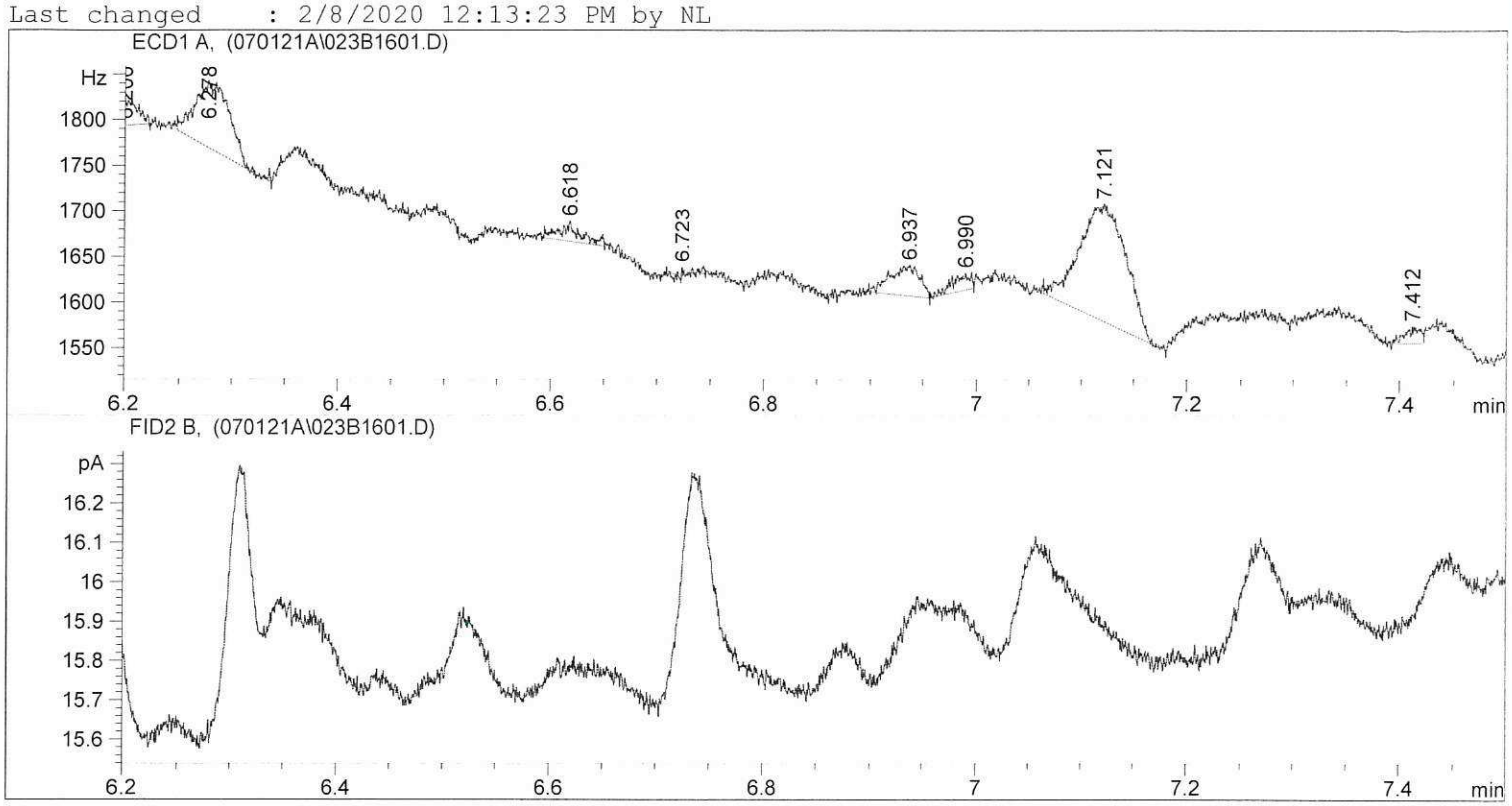
Injection Date : 7/1/2021 12:14:47 PM Seq. Line : 16
Sample Name : 21F0399 06 Location : Vial 23
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.222	PP	0.0117	6.64804	7.09150	0.12914
2	5.278	PB	0.0169	80.92796	57.26324	1.57199
3	5.360	BB	0.0138	29.36849	29.95180	0.57047
4	5.438	PP	0.0451	326.75644	85.68832	6.34711
5	5.532	BV	8.84e-3	14.19518	20.10602	0.27574
6	5.581	VB	0.0218	166.49426	93.28590	3.23408
7	5.800	PV	0.0711	1109.41296	185.05934	21.54988
8	5.855	VV	0.0180	242.41522	166.37601	4.70881
9	5.880	VV	0.0233	309.45990	157.41196	6.01113
10	5.936	VV	0.0311	561.99420	214.97983	10.91650
11	6.001	VV	0.0315	432.89963	163.63350	8.40889
12	6.052	VV	0.0208	250.93950	144.62018	4.87439
13	6.071	VB	0.0222	246.83397	136.27333	4.79465
14	6.113	BV	0.0373	568.47644	182.74950	11.04242
15	6.190	VB	4.91e-3	14.22382	38.54148	0.27629
16	6.200	BB	0.0109	25.82557	29.36825	0.50165
17	6.278	BP	0.0276	167.73969	71.98685	3.25827

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.618	BB	0.0167	28.88858	21.71388	0.56115
19	6.723	PB	0.0000	8.81625e-1	6.33771	0.01713
20	6.937	BP	0.0232	62.88282	32.80689	1.22147
21	6.990	VV	0.0166	21.20274	17.94274	0.41185
22	7.121	BP	0.0369	394.69617	127.39006	7.66681
23	7.412	PV	0.0117	17.09829	17.66804	0.33213
24	7.692	BP	0.0243	67.85544	33.40788	1.31806

Totals : 5148.11696 2041.65419

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 12:26:00 PM          Seq. Line :  17
Sample Name     : 21F0399 07                     Location : Vial 24
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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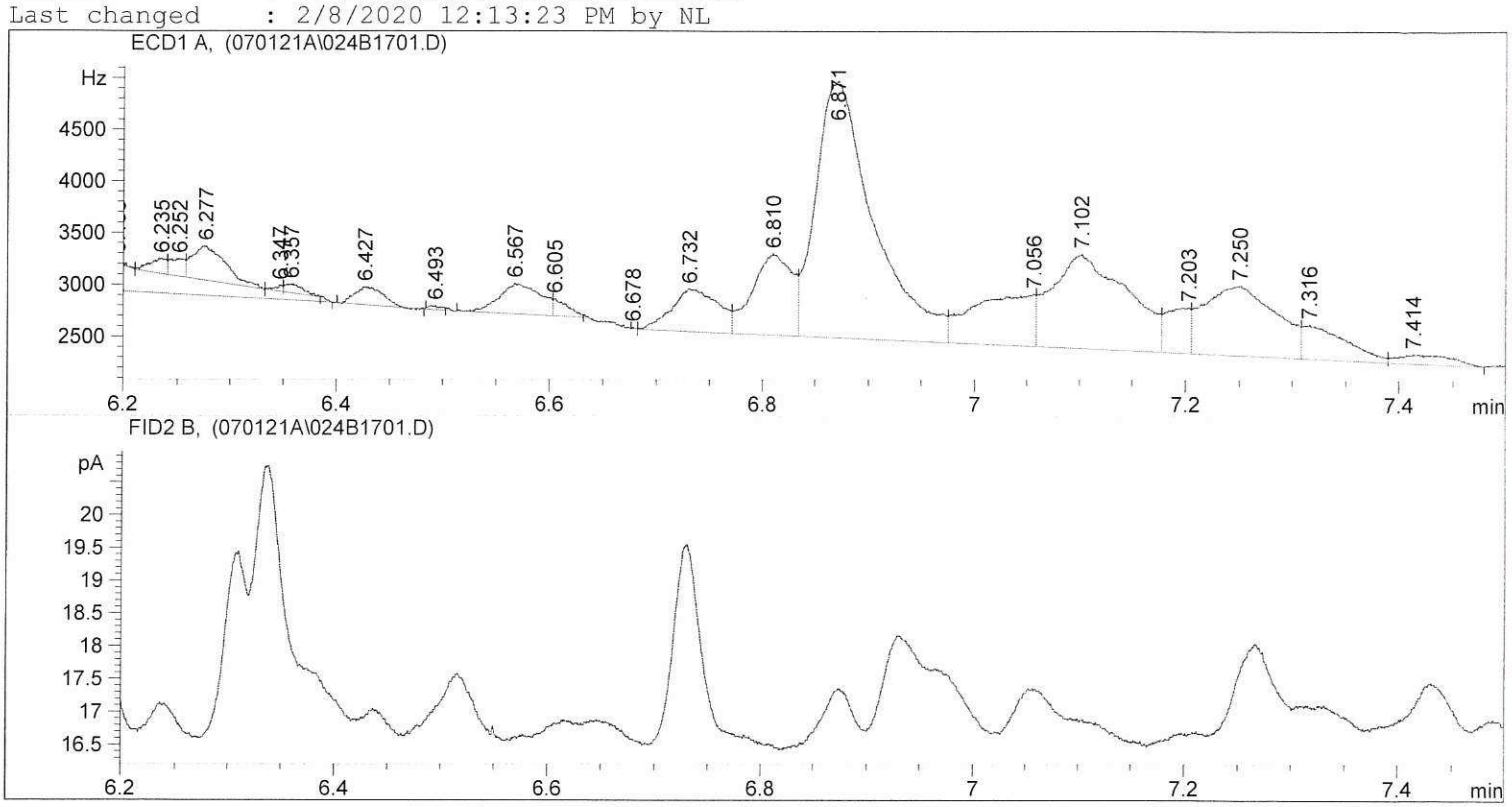


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.228	PV	0.0157	468.56046	382.92984	0.50942
2	5.267	VV	0.0164	514.81927	374.32971	0.55971
3	5.298	VV	0.0220	2162.17920	1165.23254	2.35074
4	5.354	VV	0.0254	3350.12085	1627.72656	3.64227
5	5.373	VV	0.0335	3962.55371	1405.98108	4.30811
6	5.467	VP	0.0163	433.03775	326.62439	0.47080
7	5.518	VV	0.0198	786.62408	484.28677	0.85522
8	5.574	VP	0.0252	886.23694	441.17026	0.96352
9	5.635	VV	0.0264	3537.40796	1761.67187	3.84589
10	5.692	VV	0.0237	2104.19458	1064.00513	2.28769
11	5.744	VV S	0.0260	9629.59863	5054.07031	10.46936
12	5.807	VV S	0.0553	1.32907e4	4002.50317	14.44972
13	5.876	BV T	0.0000	162.40338	73.15173	0.17657
14	5.934	PV T	0.0000	43.96034	166.83972	0.04779
15	5.982	VB S	0.0607	2.22002e4	4310.27832	24.13624
16	6.121	BV T	0.0337	1416.98083	514.97485	1.54055
17	6.195	PV T	8.88e-3	25.52397	47.88256	0.02775

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.235	PV T	0.0128	155.81950	147.01108	0.16941
19	6.252	PV T	0.0118	155.94141	171.37341	0.16954
20	6.277	PV T	0.0269	739.27240	329.84344	0.80374
21	6.347	PV T	6.08e-3	27.01228	59.67347	0.02937
22	6.357	PB T	0.0149	98.52244	86.14602	0.10711
23	6.427	BP	0.0226	317.45291	173.32220	0.34514
24	6.493	BB	9.47e-3	32.26414	41.49598	0.03508
25	6.567	BV	0.0318	789.42230	295.47934	0.85827
26	6.605	VB	0.0121	160.79251	166.27359	0.17481
27	6.678	PB	1.85e-3	1.98227	15.93468	0.00216
28	6.732	BV	0.0366	1270.68433	411.48184	1.38150
29	6.810	VV	0.0309	2045.54272	781.91565	2.22393
30	6.871	VV	0.0445	9354.91699	2484.41479	10.17073
31	7.056	VV	0.0476	2016.54749	503.90952	2.19240
32	7.102	VV	0.0586	4508.18164	906.48584	4.90132
33	7.203	VV	0.0187	687.63000	442.17010	0.74760
34	7.250	VV	0.0552	3148.22705	672.53979	3.42277
35	7.316	VV	0.0340	941.86786	328.99054	1.02400
36	7.414	VV	0.0432	328.97504	89.72396	0.35766
37	7.528	BB	0.0162	67.34156	49.76820	0.07321
38	7.616	BP	5.93e-3	13.74134	28.98735	0.01494
39	7.640	VB	0.0118	17.48788	18.24873	0.01901
40	7.678	PP	5.86e-3	11.36739	26.21756	0.01236
41	7.764	PV	0.0135	112.72953	100.45577	0.12256
Totals :				9.19788e4	3.15355e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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Injection Date  : 7/1/2021 12:37:14 PM          Seq. Line :  18
Sample Name     : 21F0410 01                     Location : Vial 25
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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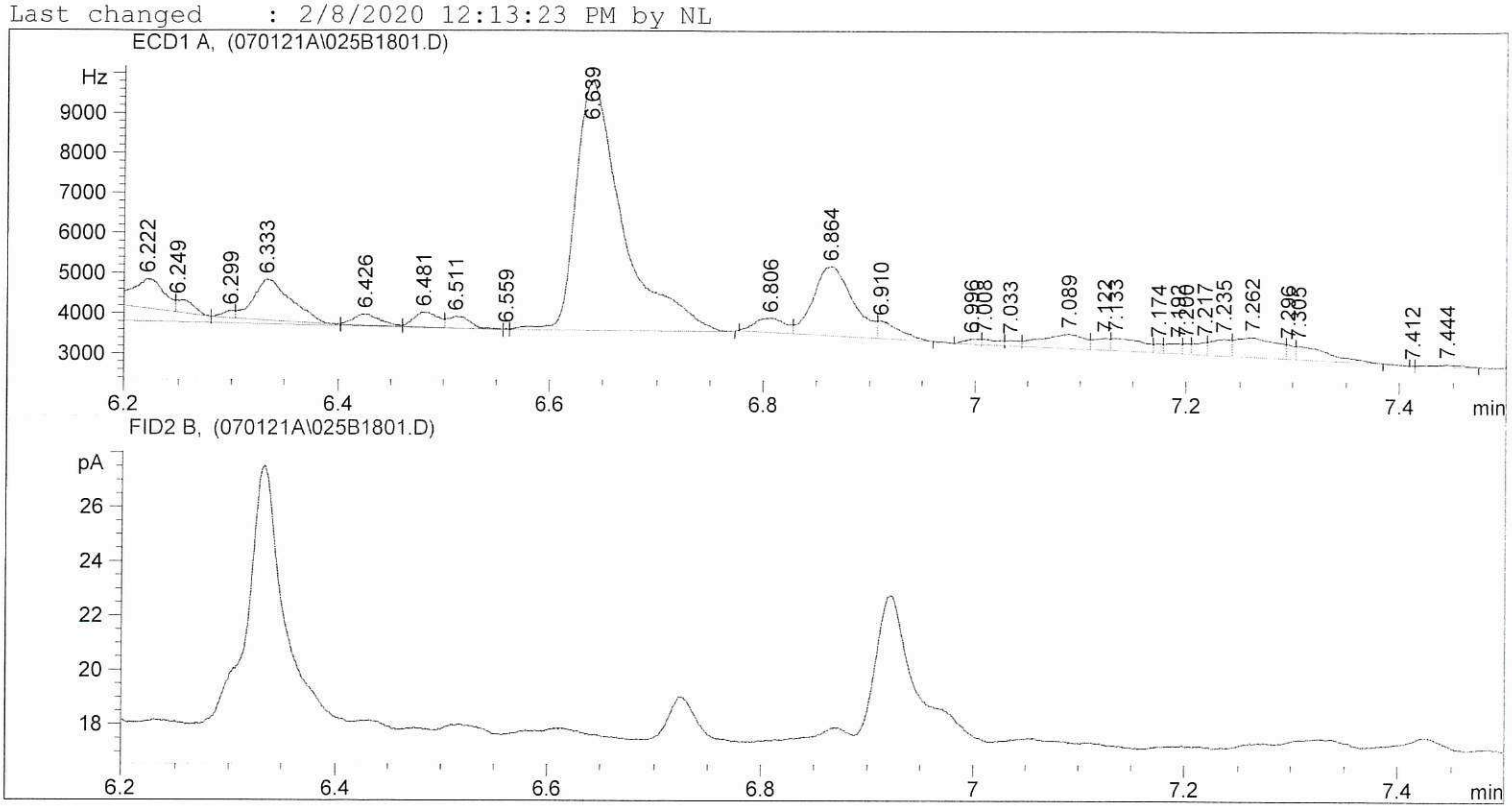


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.225	BV	0.0161	559.50153	420.32999	0.41231
2	5.252	VV	0.0172	477.84937	335.85681	0.35214
3	5.295	VV	0.0217	2360.36841	1291.67554	1.73941
4	5.352	VV	0.0285	5299.20605	2463.51001	3.90510
5	5.383	VV	0.0325	3888.12134	1458.59937	2.86524
6	5.439	VV	7.36e-3	202.43330	349.11090	0.14918
7	5.447	VV	4.05e-3	94.72213	320.29013	0.06980
8	5.469	VV	0.0204	790.97260	471.70880	0.58288
9	5.514	VV	0.0278	1671.58899	744.63153	1.23183
10	5.556	VV	0.0128	811.96130	777.35931	0.59835
11	5.562	VV	0.0211	1380.55090	776.88330	1.01736
12	5.632	VV	0.0267	3925.55322	1794.60706	2.89283
13	5.685	VV	0.0348	3358.05078	1167.05481	2.47462
14	5.742	VV S	0.0264	9552.66406	4355.22266	7.03956
15	5.808	VV S	0.0515	9946.27441	3221.14429	7.32962
16	5.911	VV S	0.0339	1.97033e4	9672.88281	14.51977
17	5.979	VV S	0.0635	2.59148e4	6801.61035	19.09718

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.091	VV S	0.1223	6849.76172	933.23871	5.04774
19	6.182	BV T	3.22e-3	6.03110	31.24816	0.00444
20	6.222	PV T	0.0256	1595.69885	743.88208	1.17590
21	6.249	PV T	0.0188	355.60474	314.73480	0.26205
22	6.299	PV T	9.69e-3	135.52330	181.93198	0.09987
23	6.333	PV T	0.0298	2482.40552	1012.88043	1.82934
24	6.426	PV T	0.0215	488.36865	285.95908	0.35989
25	6.481	PV T	0.0192	599.55328	372.61316	0.44182
26	6.511	PP T	0.0179	443.49509	295.52969	0.32682
27	6.559	PV T	2.33e-3	4.64396	31.29832	0.00342
28	6.639	PB S	0.0362	1.88053e4	6241.19287	13.85803
29	6.806	BV	0.0242	716.53265	357.77292	0.52803
30	6.864	VV	0.0313	4443.30908	1709.76343	3.27437
31	6.910	VB	0.0246	641.86987	434.93121	0.47301
32	6.996	PV	0.0123	131.64349	130.85033	0.09701
33	7.008	VV	0.0131	156.09943	146.17091	0.11503
34	7.033	VB	0.0117	132.66830	141.65820	0.09777
35	7.089	BV	0.0331	1006.96600	363.50137	0.74206
36	7.122	VV	0.0132	318.54745	295.04816	0.23474
37	7.133	VV	0.0253	668.09125	315.02780	0.49233
38	7.174	VV	7.39e-3	118.73826	223.79695	0.08750
39	7.192	VV	0.0131	266.48587	257.14261	0.19638
40	7.200	VV	6.31e-3	127.56379	270.19662	0.09400
41	7.217	VV	9.79e-3	263.62338	327.45685	0.19427
42	7.235	VV	0.0152	531.32990	424.67664	0.39155
43	7.262	VV	0.0320	1335.35144	496.59152	0.98405
44	7.296	VV	6.86e-3	190.39778	366.63577	0.14031
45	7.305	VB	0.0261	757.96106	346.10602	0.55856
46	7.412	PV	2.08e-3	1.66575	13.12261	0.00123
47	7.444	VB	0.0225	102.41486	56.16387	0.07547
48	7.511	PB	1.41e-3	5.18863e-1	7.47918	0.00038
49	7.615	PV	0.0258	113.66141	52.64775	0.08376
50	7.681	VV	0.0391	1224.03259	371.09280	0.90202
51	7.735	VV	0.0292	719.17035	297.38309	0.52997
52	7.781	VV	4.67e-3	13.18050	36.00365	0.00971
53	7.787	VBA	5.74e-3	13.53764	30.71620	0.00998
Totals :				1.35700e5	5.43389e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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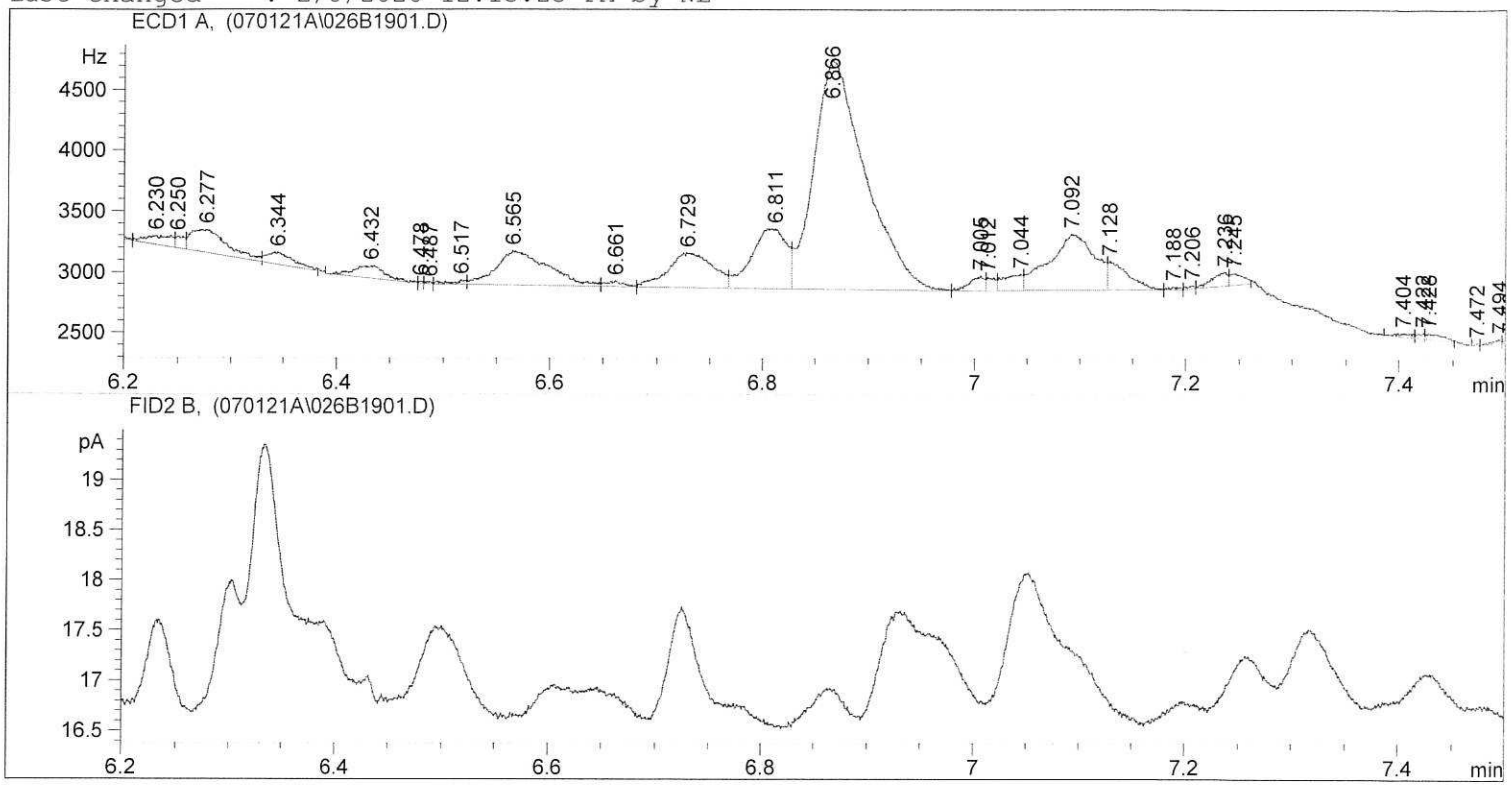
Injection Date : 7/1/2021 12:48:29 PM
Sample Name : 21F0410 02
Acq. Operator : DXP

Seq. Line : 19
Location : Vial 26
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.227	PV	0.0140	353.28882	303.38208	0.62801
2	5.264	VV	0.0137	274.74762	248.97054	0.48840
3	5.299	VV	0.0257	3874.60791	1879.35205	6.88756
4	5.353	VV	0.0246	2590.36060	1258.65869	4.60467
5	5.380	VV	0.0280	2406.13062	1049.27600	4.27717
6	5.422	VV	0.0199	885.65143	541.95587	1.57435
7	5.458	VV	5.90e-3	144.28813	329.88144	0.25649
8	5.467	VV	0.0138	388.95966	347.79727	0.69142
9	5.518	VV	0.0233	638.47784	340.47818	1.13497
10	5.571	VP	0.0217	844.02588	486.05029	1.50035
11	5.635	VV	0.0278	3989.66479	1712.64978	7.09209
12	5.693	VV	0.0224	1499.09045	801.38855	2.66481
13	5.743	VV S	0.0255	6810.25439	3587.62695	12.10601
14	5.807	VP S	0.0384	5050.05127	2193.38843	8.97705
15	5.876	VB S	9.25e-3	25.43920	45.83638	0.04522
16	5.905	PP	3.97e-3	8.58723	33.75211	0.01526
17	5.930	VV	0.0140	281.70462	241.25583	0.50076

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.980	VV	0.0446	1.10494e4	3043.02344	19.64162
19	6.074	VV	5.60e-3	165.42259	438.57709	0.29406
20	6.080	VV	0.0130	352.74527	452.29968	0.62705
21	6.105	VP	0.0389	1582.90576	485.27945	2.81380
22	6.230	VV	0.0203	126.61793	74.93768	0.22508
23	6.250	VV	7.76e-3	56.67927	97.84675	0.10075
24	6.277	VV	0.0296	448.35410	191.10045	0.79700
25	6.344	VB	0.0221	169.97534	101.52985	0.30215
26	6.432	PP	0.0240	212.18022	104.98125	0.37717
27	6.478	VV	3.48e-3	4.16547	19.57841	0.00740
28	6.487	VP	5.89e-3	6.42594	14.71498	0.01142
29	6.517	VV	0.0105	33.43419	39.40797	0.05943
30	6.565	VV	0.0400	958.63837	282.71045	1.70409
31	6.661	VP	0.0127	47.18774	46.23548	0.08388
32	6.729	VV	0.0351	843.84155	284.05859	1.50003
33	6.811	VV	0.0276	1143.69055	490.80542	2.03304
34	6.866	VP	0.0408	6326.65479	1893.66113	11.24636
35	7.005	VV	0.0112	111.25607	120.44949	0.19777
36	7.012	VV	7.11e-3	62.85134	109.35535	0.11173
37	7.044	VV	0.0156	169.47697	133.64131	0.30126
38	7.092	VV	0.0351	1364.36853	458.45071	2.42532
39	7.128	VP	0.0225	316.52005	233.99261	0.56265
40	7.188	VP	8.07e-3	14.36971	23.82932	0.02554
41	7.206	VV	6.22e-3	12.18659	27.23235	0.02166
42	7.236	VV	0.0125	114.63483	111.96887	0.20378
43	7.245	VB	0.0125	88.55640	93.44967	0.15742
44	7.404	PV	0.0115	28.75064	31.41217	0.05111
45	7.422	VV	5.52e-3	18.91055	46.70295	0.03362
46	7.428	VB	0.0140	56.29089	49.04230	0.10006
47	7.472	PP	2.19e-3	1.52540	15.01157	0.00271
48	7.494	VV	7.57e-3	21.34982	35.71141	0.03795
49	7.504	VB	0.0197	33.93333	28.68077	0.06032
50	7.569	PB	8.18e-3	10.42367	19.05886	0.01853
51	7.607	PV	5.67e-3	10.17885	22.55395	0.01809
52	7.620	VB	0.0103	23.32825	27.51964	0.04147
53	7.655	PB	4.25e-3	2.68892	10.53547	0.00478
54	7.676	PB	0.0112	24.61654	27.02093	0.04376
55	7.786	PV	0.0301	175.24754	70.31538	0.31152
Totals :				5.62551e4	2.51584e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 12:59:42 PM          Seq. Line :  20
Sample Name     : 21F0410 03                     Location : Vial 27
Acq. Operator   : DXP                                 Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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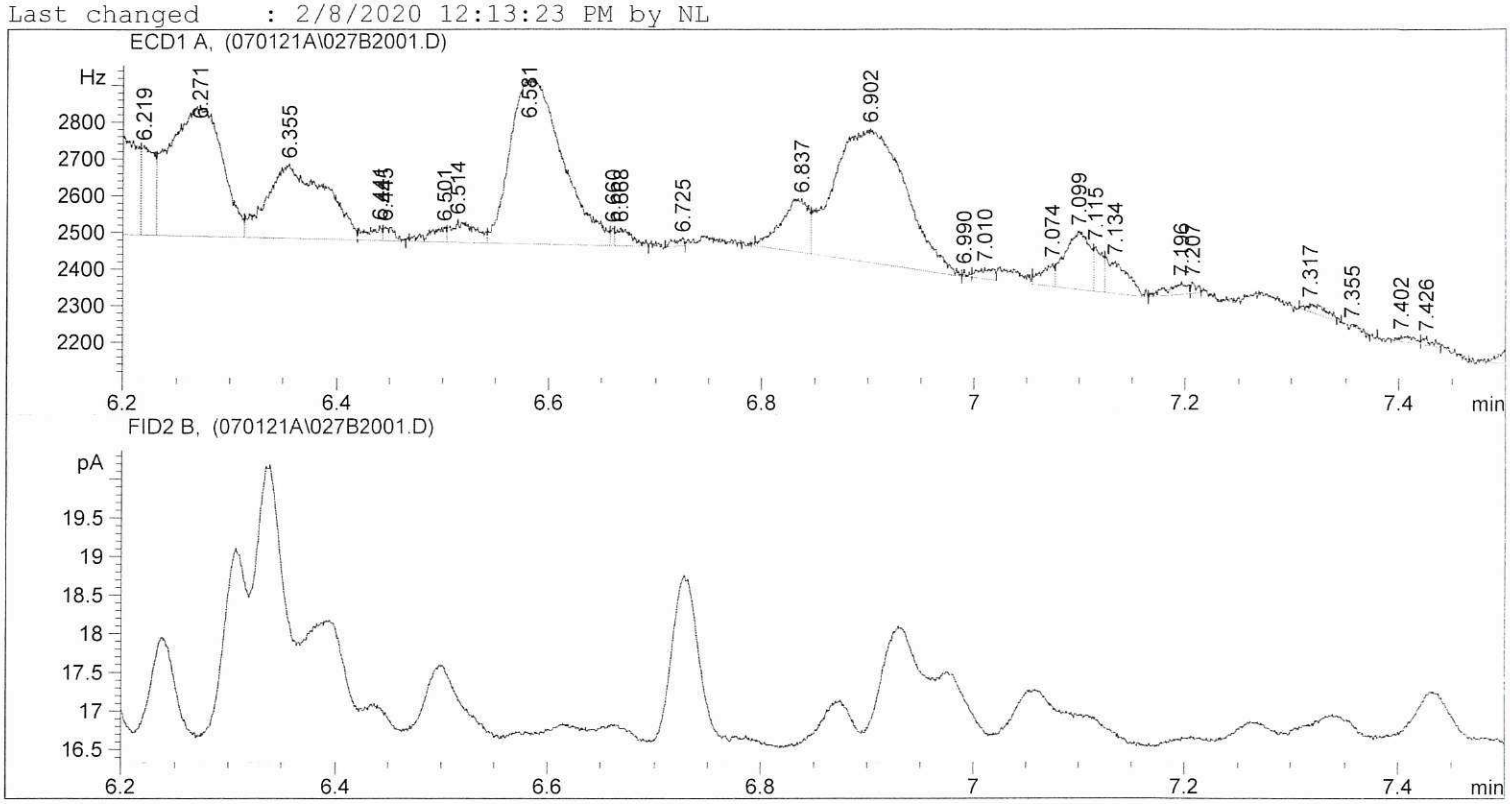


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==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: ECD1 A,
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Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.225	PV	6.03e-3	47.97141	103.11655	0.13843
2	5.233	VP	9.64e-3	80.07100	110.66063	0.23107
3	5.268	VV	0.0122	193.07887	193.59891	0.55718
4	5.332	VV	0.0218	817.81299	454.23169	2.36002
5	5.357	VV	0.0262	1188.38220	546.05695	3.42940
6	5.384	VV	0.0235	870.83301	447.74466	2.51303
7	5.424	VV	0.0239	690.88800	343.02908	1.99375
8	5.460	VV	5.03e-3	69.44569	182.72353	0.20040
9	5.469	VP	0.0137	222.40277	200.39386	0.64180
10	5.537	VV	0.0297	709.70746	288.87708	2.04805
11	5.576	VV	0.0276	1100.79712	497.40427	3.17665
12	5.650	VV	0.0219	924.66046	501.79108	2.66836
13	5.671	VV	0.0132	465.07642	437.88898	1.34211
14	5.691	VV	5.53e-3	148.79747	401.16599	0.42940
15	5.696	VV	0.0155	506.52808	397.73694	1.46173
16	5.755	VV	0.0256	2692.08374	1258.67346	7.76874
17	5.788	VV	0.0132	740.51324	709.62671	2.13695

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.818	VV	0.0354	3014.70483	1028.41064	8.69975
19	5.897	VV	0.0229	1096.78613	585.59381	3.16508
20	5.927	VV	0.0276	1945.70642	846.53265	5.61487
21	6.000	VV	0.0647	7363.31250	1335.70898	21.24885
22	6.108	VV	0.0426	2138.72485	594.27332	6.17188
23	6.193	VV	0.0293	705.17523	290.66467	2.03498
24	6.219	VV	0.0133	192.66466	241.35927	0.55599
25	6.271	VV	0.0398	1201.48657	357.74057	3.46722
26	6.355	VV	0.0452	763.77393	201.54816	2.20408
27	6.441	VV	0.0112	35.77720	40.13084	0.10324
28	6.445	VP	8.83e-3	25.39009	37.82269	0.07327
29	6.501	BV	0.0133	44.44374	40.93629	0.12825
30	6.514	VV	0.0179	89.19235	60.29677	0.25739
31	6.581	VV	0.0405	1527.99756	447.27374	4.40945
32	6.660	VV	3.21e-3	10.49913	46.99169	0.03030
33	6.668	VP	0.0120	48.17492	48.38916	0.13902
34	6.725	PV	7.73e-3	13.09330	21.42105	0.03778
35	6.837	BV	0.0208	254.28139	146.97354	0.73380
36	6.902	VP	0.0553	1684.70386	364.53201	4.86167
37	6.990	VB	3.09e-3	4.02077	18.84488	0.01160
38	7.010	BV	0.0119	29.75360	30.72020	0.08586
39	7.074	BV	0.0101	51.87249	62.64342	0.14969
40	7.099	VV	0.0193	253.14572	157.71240	0.73052
41	7.115	VB	7.31e-3	67.95213	121.84605	0.19609
42	7.134	BP	0.0176	127.83672	87.77593	0.36891
43	7.196	VV	0.0144	40.41176	34.17631	0.11662
44	7.207	VB	5.51e-3	11.09215	30.05836	0.03201
45	7.317	BB	0.0230	31.62867	22.95704	0.09127
46	7.355	BP	0.0000	2.85758e-1	5.76005	0.00082
47	7.402	BV	0.0116	14.00420	15.44617	0.04041
48	7.426	VB	7.42e-3	12.74906	21.82450	0.03679
49	7.510	PV	0.0181	68.10235	45.87914	0.19653
50	7.536	VP	0.0184	66.97987	47.57322	0.19329
51	7.622	PV	0.0153	35.77800	27.96386	0.10325
52	7.631	VB	5.89e-3	11.15779	27.74413	0.03220
53	7.649	BP	7.45e-3	4.77789	8.14096	0.01379
54	7.687	VV	0.0231	110.22253	57.15277	0.31808
55	7.750	VV	0.0169	86.04591	60.68148	0.24831
Totals :				3.46528e4	1.46962e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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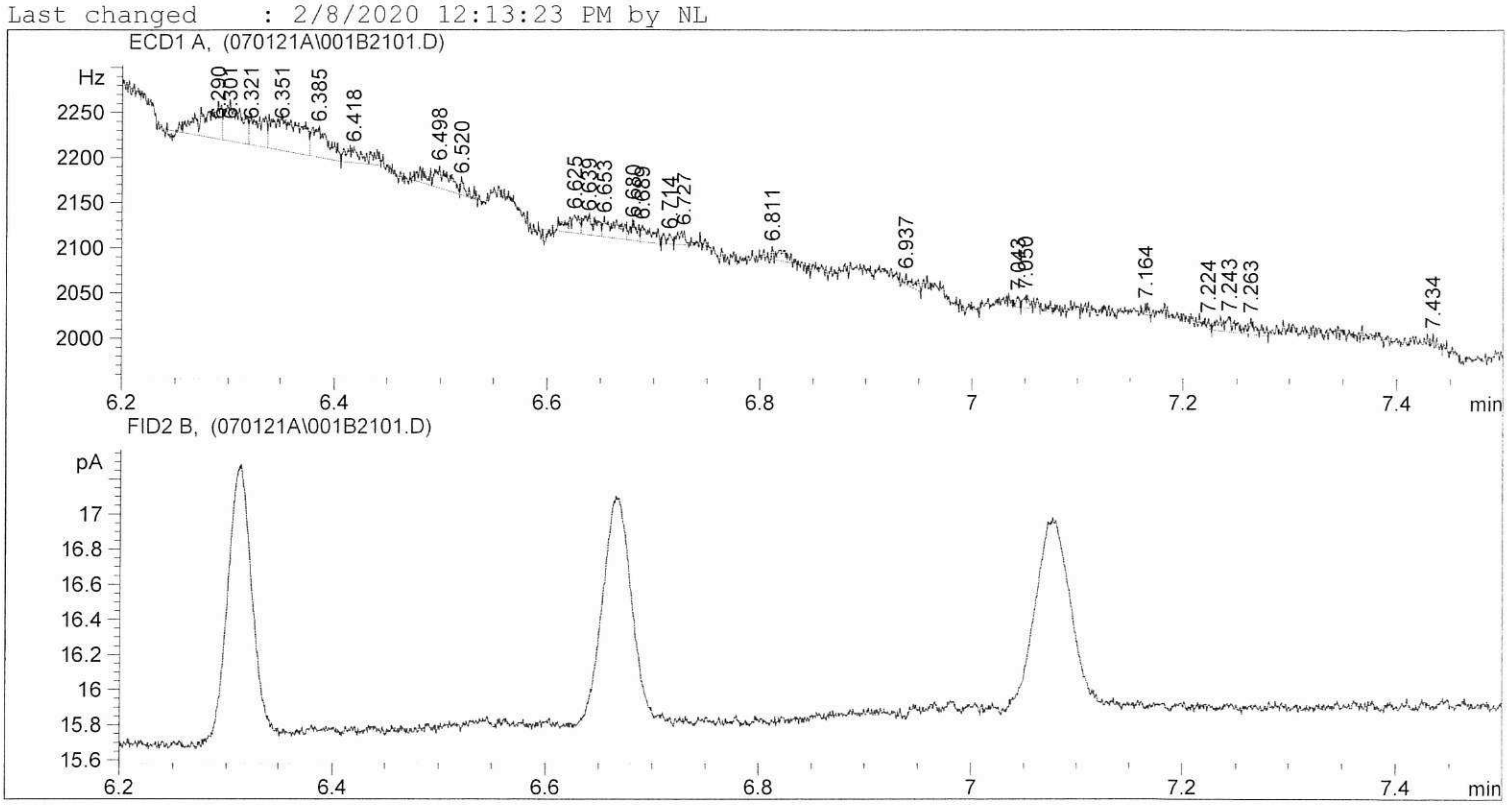
*** End of Report ***

```
==========================================================================
Injection Date  : 7/1/2021 1:10:42 PM          Seq. Line :  21
Sample Name     : DCM                           Location : Vial 1
Acq. Operator   : DXP                                Inj :  1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.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	5.265	BB	0.0212	69.00090	39.03693	1.95089
2	5.292	BB	0.0107	46.76632	53.92122	1.32224
3	5.359	PV	0.0132	107.06563	100.60516	3.02711
4	5.399	VV	0.0317	292.82315	109.75020	8.27910
5	5.415	VV	5.92e-3	43.22766	102.54822	1.22219
6	5.441	VV	0.0176	143.61740	100.90867	4.06055
7	5.484	VV	0.0322	303.58264	113.60043	8.58331
8	5.516	VV	0.0290	247.89124	101.17612	7.00872
9	5.552	VV	0.0150	109.87164	91.63100	3.10644
10	5.568	VV	0.0103	81.43356	96.16821	2.30240
11	5.610	BB	0.0135	92.44734	83.67290	2.61380
12	5.716	PV	0.0416	279.52020	79.91043	7.90298
13	5.726	VV	7.67e-3	46.98702	77.54762	1.32848
14	5.735	VB	0.0178	109.26738	74.14672	3.08936
15	5.784	BV	0.0209	120.75152	70.00307	3.41405
16	5.801	VV	0.0112	64.58942	71.37630	1.82616
17	5.840	VV	0.0368	357.83328	122.12275	10.11716

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.901	VV	0.0337	236.13461	83.30305	6.67632
19	5.935	VP	2.93e-3	4.81364	24.08566	0.13610
20	5.986	VV	0.0298	145.66606	58.57626	4.11847
21	5.998	VV	6.16e-3	17.40024	47.07510	0.49196
22	6.007	VV	9.97e-3	26.01262	36.26693	0.73546
23	6.022	VB	5.83e-3	9.85835	22.00836	0.27873
24	6.070	PP	2.36e-3	2.07518	13.78371	0.05867
25	6.102	PV	0.0264	16.11175	7.52291	0.45553
26	6.142	VP	4.78e-3	3.02509	9.86412	0.08553
27	6.171	PB	4.30e-3	3.23397	10.20814	0.09144
28	6.190	BB	6.97e-3	4.86724	8.64689	0.13761
29	6.290	PV	0.0134	46.02538	41.36314	1.30129
30	6.301	VB	0.0140	46.96381	45.64392	1.32783
31	6.321	BV	0.0102	29.08136	34.74607	0.82223
32	6.351	VV	0.0314	71.62850	37.98677	2.02518
33	6.385	VP	0.0134	36.65117	33.37510	1.03625
34	6.418	VB	0.0167	22.35432	16.57877	0.63203
35	6.498	PV	0.0161	31.12441	24.39661	0.87999
36	6.520	VP	4.67e-3	6.43605	17.56508	0.18197
37	6.625	PV	7.71e-3	11.76534	20.45355	0.33265
38	6.639	VV	0.0121	17.60553	20.33931	0.49777
39	6.653	VB	0.0122	20.34857	20.46155	0.57532
40	6.680	BV	6.32e-3	9.84846	19.39477	0.27845
41	6.689	VP	8.30e-3	12.45594	18.38581	0.35217
42	6.714	VV	5.76e-3	4.40345	10.79676	0.12450
43	6.727	VB	8.36e-3	10.36010	15.58270	0.29291
44	6.811	BB	9.49e-3	10.69531	14.04349	0.30239
45	6.937	BP	8.77e-3	5.76271	10.95328	0.16293
46	7.043	PP	3.69e-3	2.77372	12.01294	0.07842
47	7.050	VB	6.90e-3	6.98916	14.29287	0.19761
48	7.164	BP	3.45e-3	2.96790	11.34133	0.08391
49	7.224	BP	2.42e-3	1.62157	10.36770	0.04585
50	7.243	VB	0.0129	16.72602	16.11476	0.47290
51	7.263	BP	8.48e-3	8.52392	16.74711	0.24100
52	7.434	BP	2.86e-3	2.58524	13.33875	0.07309
53	7.539	BB	4.57e-3	4.70200	13.83254	0.13294
54	7.736	BV	7.57e-3	22.68143	39.10731	0.64128
55	7.744	VV	9.03e-3	30.05679	41.58216	0.84981
56	7.763	VV	0.0169	57.88304	43.55435	1.63655
Totals :				3536.89624	2443.82560	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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==========================================================================
Injection Date  : 7/1/2021 1:21:42 PM          Seq. Line :  22
Sample Name     : HEXANE                        Location : Vial 2
Acq. Operator   : DXP                                Inj :  1
                                              Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\070121.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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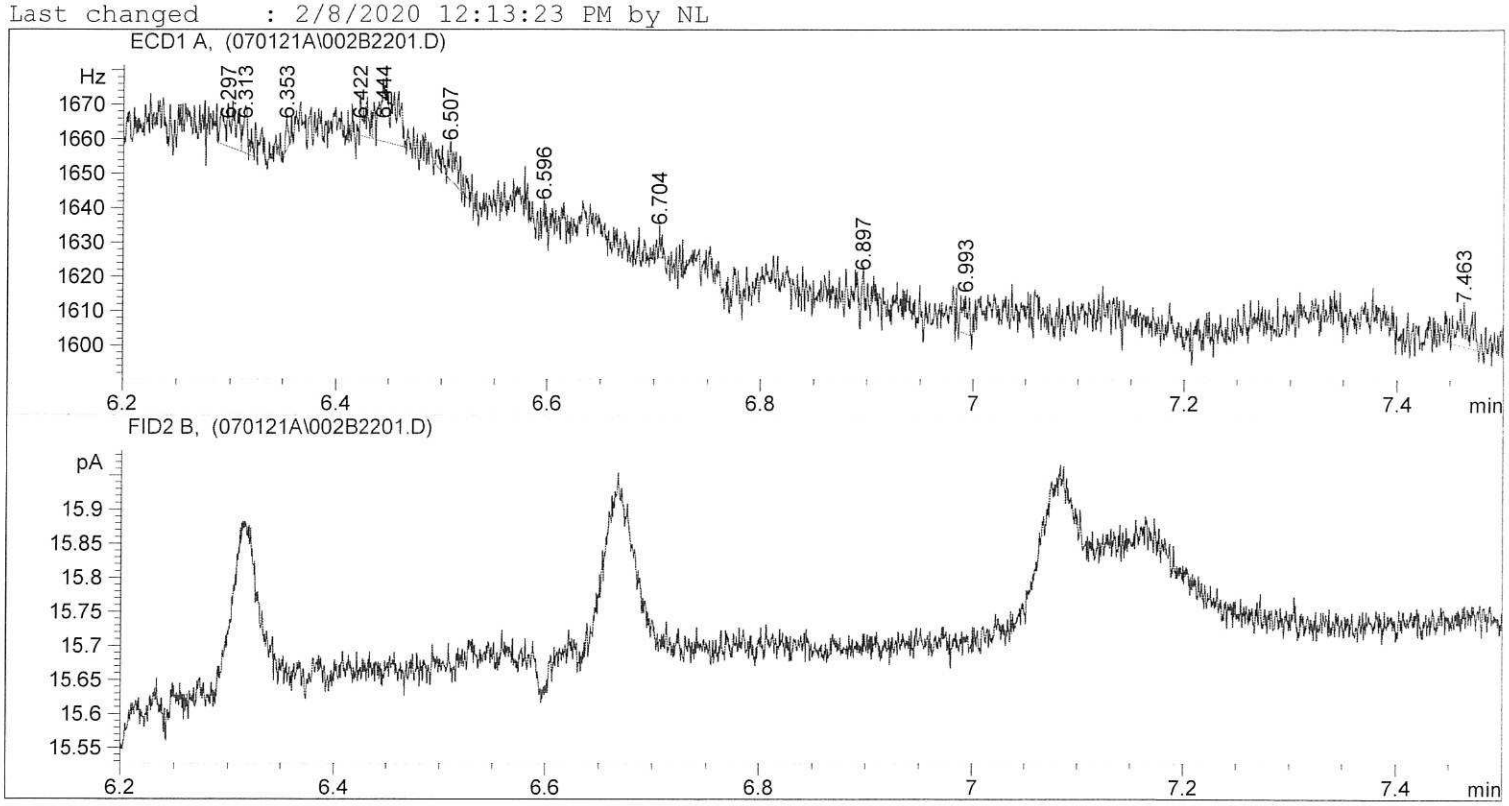


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.430	PV	9.42e-3	8.14663	11.02177	3.15813
2	5.509	PB	1.81e-3	6.07908e-1	7.05415	0.23566
3	5.852	BV	0.0261	75.32433	34.45738	29.20027
4	6.009	BB	0.0223	104.01205	55.44320	40.32137
5	6.145	BP	2.29e-3	2.36472	16.34627	0.91671
6	6.297	BV	9.79e-3	9.74019	12.36653	3.77589
7	6.313	VP	5.73e-3	5.56221	13.73144	2.15625
8	6.353	PP	3.22e-3	1.96026	9.43743	0.75991
9	6.422	BB	5.26e-3	4.47437	10.73963	1.73454
10	6.444	BP	0.0134	18.31526	16.43753	7.10011
11	6.507	BP	9.50e-3	7.70609	9.87928	2.98735
12	6.596	PB	0.0000	3.55394e-1	4.03124	0.13777
13	6.704	BP	0.0000	4.60504e-2	7.81435	0.01785
14	6.897	PB	1.76e-3	6.49634e-1	7.92047	0.25184
15	6.993	BP	7.47e-3	4.82083	10.27930	1.86884
16	7.463	BP	0.0121	9.92822	11.07178	3.84878
17	7.634	PB	2.45e-3	7.46637e-1	6.00161	0.28944

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	7.659	PB	0.0000	7.73081e-2	3.64379	0.02997
19	7.728	BB	3.45e-3	1.56020	8.08627	0.60483
20	7.798	BBA	3.83e-3	1.55936	8.16197	0.60450

Totals : 257.95762 263.92539

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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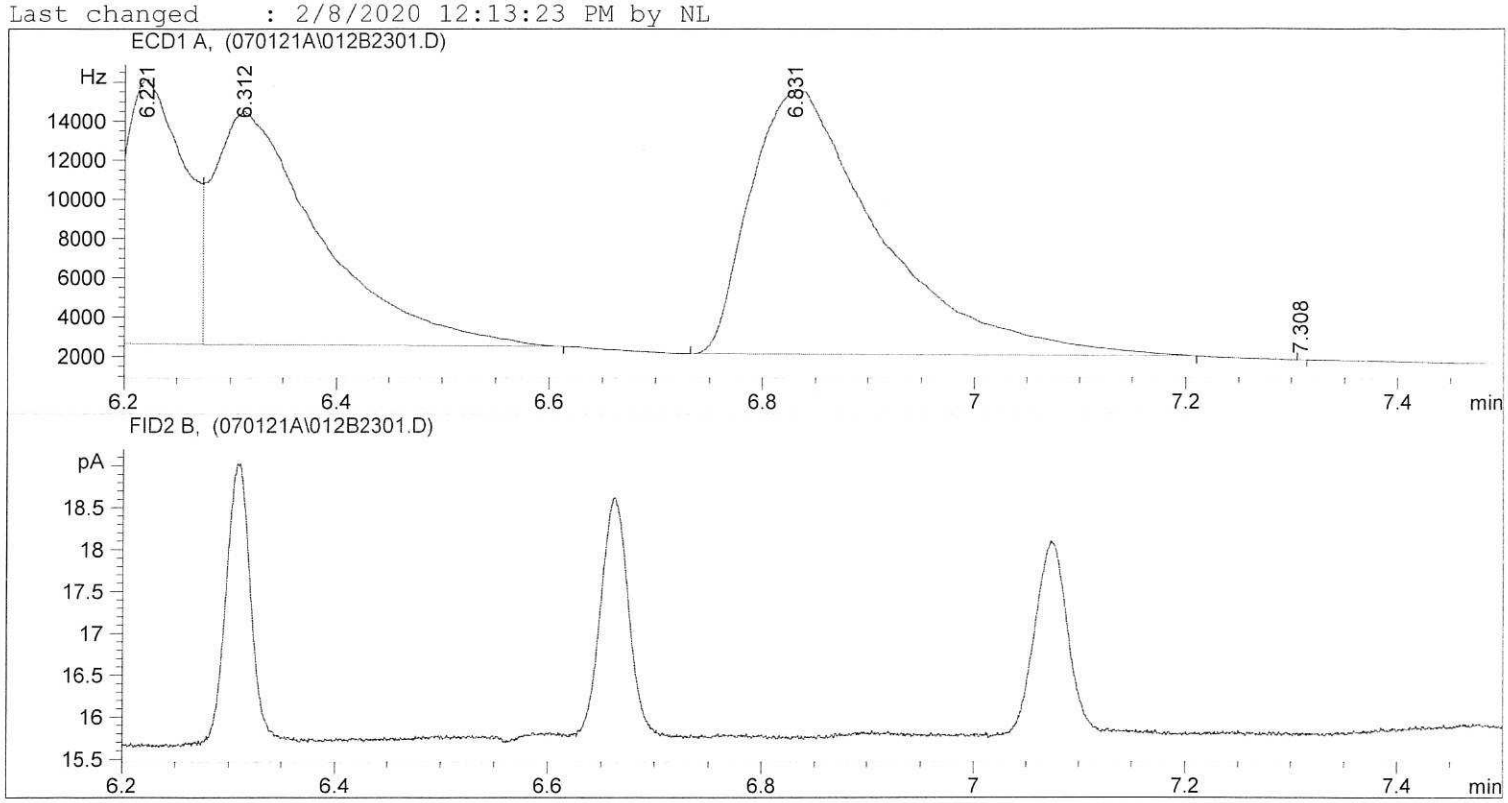
Injection Date : 7/1/2021 1:32:42 PM
Sample Name : CS4 STANDARD
Acq. Operator : DXP

Seq. Line : 23
Location : Vial 12
Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\070121.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.247	BP S	0.0000	5.56760e4	9823.45801	4.72223
2	5.616	PV S	0.0408	1.60466e5	5.05334e4	13.61016
3	5.709	PV S	0.0634	2.96922e5	7.80593e4	25.18377
4	5.757	VV S	0.1129	3.06002e5	4.51928e4	25.95396
5	6.056	PV S	0.0584	1.04454e5	2.14372e4	8.85936
6	6.221	PV S	0.0515	5.79243e4	1.35492e4	4.91292
7	6.312	PB S	0.0819	8.31211e4	1.19230e4	7.05002
8	6.831	PB S	0.0996	1.14450e5	1.35197e4	9.70723
9	7.308	PP	1.28e-3	3.52040e-1	6.03764	2.986e-5
10	7.519	BP	3.42e-3	1.71011	7.07449	0.00015
11	7.528	BB	3.18e-3	2.04948	10.02846	0.00017

Totals : 1.17902e6 2.44061e5

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

PREPARATION BATCH SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Batch:	BJH0186	Batch Matrix:	Solid	Preparation:	EPA 1613

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC564I	21F0442-07RE1	21082414	08/09/21 16:30	From BJG0187 by VTS on 06-Aug-2021
Blank	BJH0186-BLK1	21082409	08/09/21 16:30	
LCS	BJH0186-BS1	21082410	08/09/21 16:30	
Reference	BJH0186-SRM1	21082411	08/09/21 16:30	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

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

Batch: BJH0186

Solid Samples

From BJG0187 on 8/6/2021 by VTS

ARI Work Orders:	21F0392,21F0442,21G0127		
Matrix (circle one)	[Soil] Sediment Oil Tissue		
Extraction Method	Start Date/Time:	End Date/Time:	
[Soxhlet] SepF Shake out	8/9/21 ~~PM~~ 16:30	8/10/21	8:34

Reagents/Equipment Used	NA	ID / Lot Number	Initials	Date
Balance		24650344	VLB	8/9/21
Toluene		J005999/J005998	DAP	8/9/21
Hexane		J005194/J002562	VLB	8/10/21/8/17/21
CH2Cl2		J007004	VLB	8/17/21
H2SO4		~~J006679~~ F009222	VLB	~~8/17/21~~ VLB 8/13/21
Na2SO4		J008034/J008126	DAP/VLB	8/9/21/8/13/21
Glasswool		J006679	VLB	8/17/21
~~(98:2) Hex/DCM~~				
Basic Silica		J002641	VLB	8/17/21
Acid Silica		J007981	VLB	8/17/21
0% Silica		J005622	VLB	8/9/21/8/17/21
Activated Florisil		J002451	VLB	8/17/21
Nonane		H006038	M	8/18/21
Other (RM)		J006843	VLB	8/9/21

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)
21F0392-25RE1 A	T91-R1-ITESSComp2	74.60835	(13.40)	13.40	1/2	3.0	20
21F0442-07RE1 B	LDW21-SC564I	53.00846	(15.87)	15.89	1/2	6.0	20
21G0127-01 A	LDW21-SS668	53.74016	(18.61)	18.66	1/2	6.0	20
21G0127-02 A	LDW21-SS667	51.20834	(16.34)	16.38	1/2	5.5	20
21G0127-03 A	LDW21-SS651	54.77323	(18.26)	18.26	1/2	7.0	20
21G0127-05 A	LDW21-SS633	47.72995	(20.95)	21.05	1/2	5.5	20
21G0127-08 A	LDW21-SS645	53.60698	(18.65)	18.65	1/2	6.0	20
21G0127-10 A	LDW21-SS656	52.46374	(19.06)	19.03	1/2	8.0	20
21G0127-11 A	LDW21-SS647	48.94527	(20.43)	20.43	1/2	0.0	20
21G0127-12 A	LDW21-SS634	42.71331	(23.41)	23.41	1/2	2.0	20
BJH0186-BLK1	Blank	100	()		1/2	0.0	20
BJH0186-BS1	LCS	100	()		1/2	0.0	20
BJH0186-DUP1	21G0127-01A Duplicate	53.7401	(18.61)	18.60	1/2	7.5	20
BJH0186-SRM1	Reference	100	(5)	5.05	1/2	0.0	20
Prep Analyst / Date:	VLB 8/9/21				VLB 8/10/21	VLB 8/10/21	M 8/18/21

Standards Used	Vol	ID / Lot Number	Concentration	Expiration Date	Analyst	Witness	Date
Recovery Standard	1.0 mL	J007665	2/4 ng/mL	7/27/22	VLB	DAP	8/9/21
OPR	1.0 mL	J001260	0.2/1.0/2.0 ng/mL	2/3/22	VLB	DAP	8/9/21
~~QLS Standard~~	~~1.0 mL~~		~~0.01/0.05/0.1 ng/mL ng/L~~				
Cleanu-up Standard	1.0 mL	J007666	0.8 ng/mL	7/27/22	VLB	M	8/17/21

Verify Client ID
Analyst / Date: VLB 8/9/21

Acid Clean
[Y] / N
Analyst / Date: VLB 8/13/21

Silica-Florisil Clean
[Y] / N
Analyst / Date: VLB 8/17/21

Supervisor Review By — Date: 8/18/21

Printed: 8/9/2021 8:51:56AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Dioxin Extraction Laboratory – Glasswa

Batch ID: BJM0186 Work Order: 21F0392, 21F0442, 21G0127 Extraction Parameter: Dioxin ARI Analyst

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	Heating
BJM0186 - BLK1	39	100		40	23	204	6	6				4	4	A
- BS1	84	104		24	19	207	77	81				4	4	A
- DUP1	43	79		28	27	199	67	14				4	4	A
- SRM1	14	83		20	82	128	157	78				4	4	A
21F0392 - 25REI A	56	103		16	96	213	84	67				4	4	A
21F0442 - 07REI B	60	62		29	30	212	15	57				4	4	B
21G0127 - 01A	83		35	5	11	72	119	38				4	4	A6
- 02A	01		52	30	08	162	127	13				4	4	B2
- 03A	07		66	243	04	96	159	71				4	4	B3
- 05A	59		24	232	76	230	101	83				4	4	B4
- 08A	31		25	205	20	189	143	49				4	4	B5
- 10A	22		65	33	81	208	121	21				4	4	B6
- 11 A	42		63	37	12	225	141	26				4	4	C1
- 12A	16		59	116	01	142	59	47				4	4	C2
												4	4	
												4	4	
												4	4	
												4	4	
												4	4	
												4	4	
												4	4	
												4	4	

TOTAL SOLIDS BENCHSHEET

Method: PSEP 1986

(dry at 103-105 C)

Batch:	BJG0383
Date:	7/16/2021 13:12
Analyst:	JL
Drying Oven:	15
Analytical Balance:	B334705934

Instrumentation

Batch drying time		
Record times as mm/dd/yy hh:mm		Oven Temp, C
Date/time in oven:	7/20/2021 13:21	
Date/time out:	7/21/2021 7:50	
Elapsed hrs:	18.5	

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:	104
End Temp:	105

SAMPLE ID	Dish Tare Wt (g)	Dish with Sample (g)	Dry Wt (g)	Solids Wt (g)	TS (%)	Sample Decanted
21G0127-01	0.8100	16.6300	9.3400	8.53	**53.92%**	No
21G0127-02	0.8100	12.2200	7.8900	7.08	**62.05%**	No
21G0127-03	0.8100	12.1400	6.8400	6.03	**53.22%**	No
21G0127-04	0.8100	16.9600	11.2200	10.41	**64.46%**	No
21G0127-05	0.8100	15.1400	7.6500	6.84	**47.73%**	No
21G0127-06	0.9300	11.7800	6.2700	5.34	**49.22%**	No
21G0127-07	0.8200	13.6100	7.0200	6.20	**48.48%**	No
21G0127-08	0.8200	12.0200	7.0500	6.23	**55.63%**	No
21G0127-09	0.8200	14.8800	10.4300	9.61	**68.35%**	No
21G0127-10	0.8300	17.1400	8.2000	7.37	**45.19%**	No
21G0127-11	0.8200	12.8100	6.7200	5.90	**49.21%**	No
21G0127-12	0.8300	16.2100	8.2900	7.46	**48.50%**	No
21G0127-13	0.8100	10.8600	5.7700	4.96	**49.35%**	No
21G0127-14	0.8100	15.7400	8.6800	7.87	**52.71%**	No
21G0127-15	0.8100	12.5200	6.9600	6.15	**52.52%**	No
21G0127-16	0.8100	16.7800	9.2700	8.46	**52.97%**	No
21G0127-17	0.8000	15.3800	12.1500	11.35	**77.85%**	No
21G0127-18	0.8000	14.3900	10.4200	9.62	**70.79%**	No
21G0127-19	0.8000	13.7500	9.9300	9.13	**70.50%**	No
21G0127-20	0.8000	14.3000	10.2800	9.48	**70.22%**	No

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: ~~PCST~~ Dioxin M 8/9/21 Extraction Batch ~~BJG0491~~ BJH0181 NL 8/9/21

Total Solids Batch: BJG0383 Work Order(s): 21G0129

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☐ No Anomalies (standard soil/wet sediment/sand/gravel)=	
☑ Standing Water Decanted (Not shared)= 02-08, 10-16, 18, 01	LB 8/9/21
☑ Standing Water Homogenized (Shared samples)=	07/20/21
☐ Clay/Clumps (Difficult to homogenize)=	
☐ Rocks (%+size)?	
☑ Organics (Leaves/sticks/grass)= 05, 06, 11, 18, 19	07/20/21
☐ 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).	
Low solvent level after extraction: BLK1	LB 8/10/21
Sharpie ink inside florisil column: HF0392-25	LB 8/17/21
☑ Share Samples Y / N	07/20/21
☑ Multiple Jars Y / N	07/20/21
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

07/20/2021

3056F

Revision 15
07/01/19

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: Dioxin

Extraction Batch ~~BJG0187~~ BJH0186 M 8/9/21

Total Solids Batch: BJG0145

Work Order(s): 21F0442

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 1, 7	DP 7/7/21
☐ Standing Water Decanted (Not shared)=	
☒ Standing Water Homogenized (Shared samples)= 1	DP 7/7/21
☒ Clay/Clumps (Difficult to homogenize)= 3, 4, 5, 6	DP 7/7/21
☐ Rocks (%+size)?	
☒ Organics (Leaves/sticks/grass)= 2, 3, 8	DP 7/7/21
☐ 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).	DP 7/9/21
7/9/21 = Roto-vaped Samples BLK, BS1, DUP1, DUP2, SRM1,	
392-25,26, 442-1,2.	
21F0442-03B-08B: Roto vaped on 7/13/21	M 7/13/21
☒ Share Samples Y / N 442-1-8	DP 7/7/21
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

3056F

Revision 15
07/01/19

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Organic Extractions Laboratory Analyst Notes

Extraction Parameter: Dioxin Extraction Batch ~~BJG0038~~ ~~BJG0187~~ BJH0186 M 7/18/21 M 8/9/21

Total Solids Batch: BJG0031 Work Order(s): 21F0352, 21F0392, 21F0399, 21F0410

Screens: Soil/Sediment/Solid/Other:	Analyst/Date
☒ No Anomalies (standard soil/wet sediment/sand/gravel)= 392-25,26, 410-1,2	DP 7/1/21
☒ Standing Water Decanted (Not shared)= 352-1,2,3, 392-25,26, 399-2,7,3,4	DP 7/1/21
☐ Standing Water Homogenized (Shared samples)=	
☐ Clay/Clumps (Difficult to homogenize)=	
☒ Rocks (%+size)? 95% ½" = 352-1 90% ¼" = 399-5,6	DP 7/1/21
☒ Organics (Leaves/sticks/grass)= 352-2,3, 399-1,2,3,4,7	DP 7/1/21
☐ Oily, obvious fuel/sulfur odors=	
☐ Received in 32oz jar(s)=Homogenized in Pyrex dish=	
☐ Previously Frozen =	
☒ Other (Details)= Also Standing water Decanted = 410-1,3	DP 7/1/21
Aqueous:	
☐ No Anomalies	
☐ Turbid/Color=	
☐ Particulates(%)=(Note: >5%=Notify Supervisor/Lead)	
☐ Emulsions (%)=	
☐ Oily, obvious fuel/sulfur odors=	
☐ Other (Details)=	
☐ Received in 1.0L Bottle(s)=No Bottle Rinse=	
☐ Other Notes/Comments= (Note problems, concerns, corrective actions).	
☐ Share Samples Y / N	
☐ Multiple Jars Y / N	
☐ Sample Pre-Screens indicate analyte activity=	
☐ Sample weights/volumes reduced based on Pre-Screen=	

3056F

Revision 15
07/01/19

```
==========================================================================
Injection Date  : 7/29/2021 12:49:06 AM          Seq. Line :  39
Sample Name     : CS4 STANDARD                    Location : Vial 27
Acq. Operator   : DXP                                 Inj :   1
                                                Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\072821A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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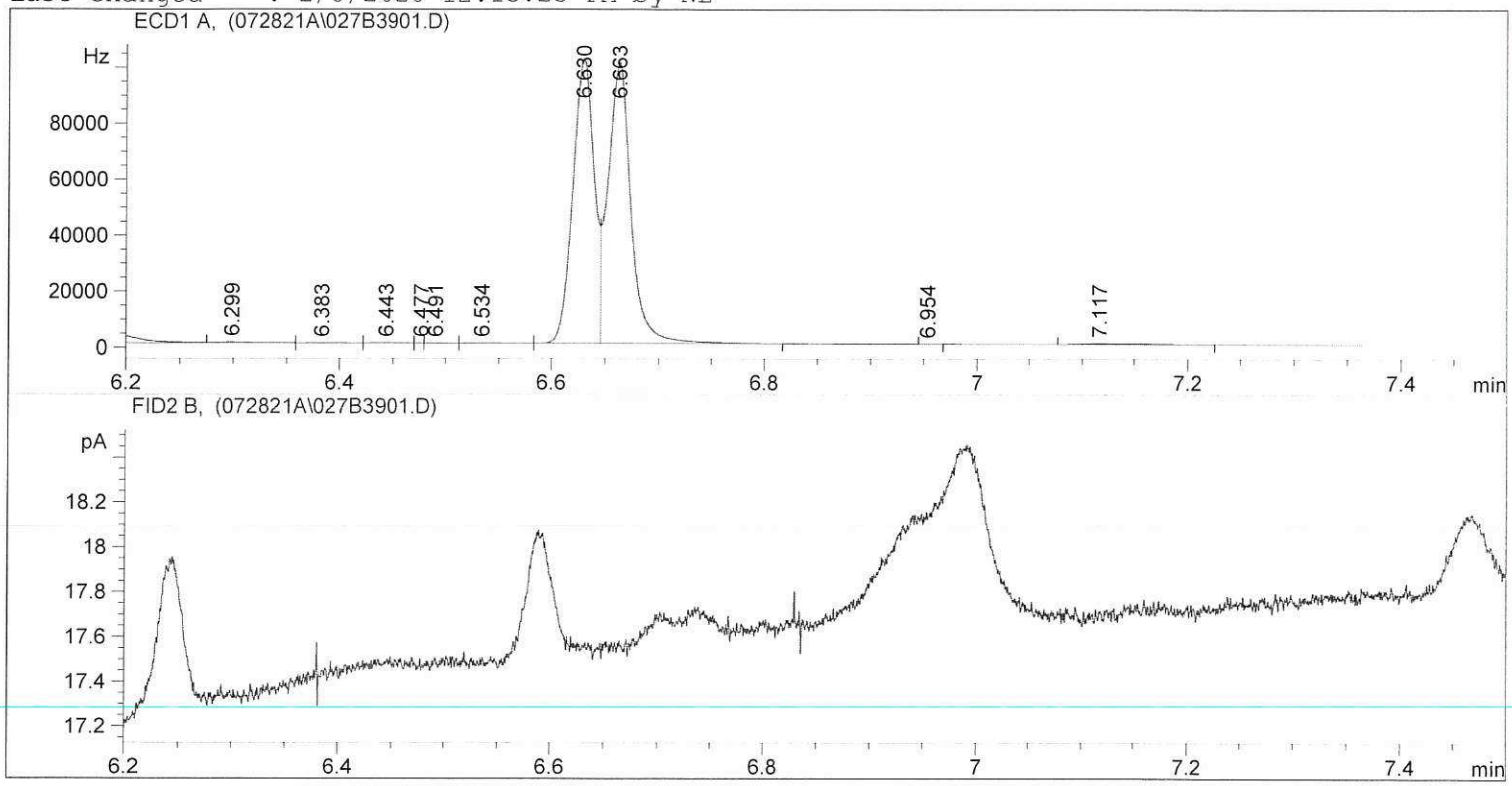


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.211	BP	2.33e-3	6.52106	233.04259	0.00054
2	5.296	VP	0.0101	13.39620	19.18247	0.00111
3	5.348	BP	0.0165	74.13450	57.28374	0.00615
4	5.489	BV S	0.0248	1.68213e5	9.09618e4	13.95832
5	5.589	VV S	0.0384	2.69147e5	1.16810e5	22.33389
6	5.644	VV S	0.0202	9.78482e4	8.05816e4	8.11946
7	5.690	VV S	0.0239	9.36114e4	6.53610e4	7.76789
8	5.794	VV S	0.0305	858.57306	469.83682	0.07124
9	5.844	VB S	0.0279	373.49060	209.49670	0.03099
10	5.930	BB S	0.0176	9.86317e4	8.36811e4	8.18448
11	6.080	BV S	0.0189	8.85062e4	7.10608e4	7.34426
12	6.160	VV S	0.0236	9.36595e4	6.62017e4	7.77189
13	6.299	BP T	0.0163	214.28192	167.87729	0.01778
14	6.383	PV T	0.0200	202.31474	122.89642	0.01679
15	6.443	PV T	0.0218	163.35081	89.88388	0.01355
16	6.477	VV T	6.42e-3	22.35113	44.78091	0.00185
17	6.491	VV T	0.0178	90.67920	61.58273	0.00752

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.534	VP T	0.0215	208.35390	115.38617	0.01729
19	6.630	VV S	0.0207	1.40023e5	1.01517e5	11.61910
20	6.663	VB S	0.0252	1.51486e5	1.00201e5	12.57031
21	6.954	BP	3.50e-3	1.42287	5.71885	0.00012
22	7.117	PB	0.0463	1095.11194	284.67529	0.09087
23	7.682	BP	0.0287	657.45093	276.68359	0.05456
Totals :				1.20511e6	7.78535e5	

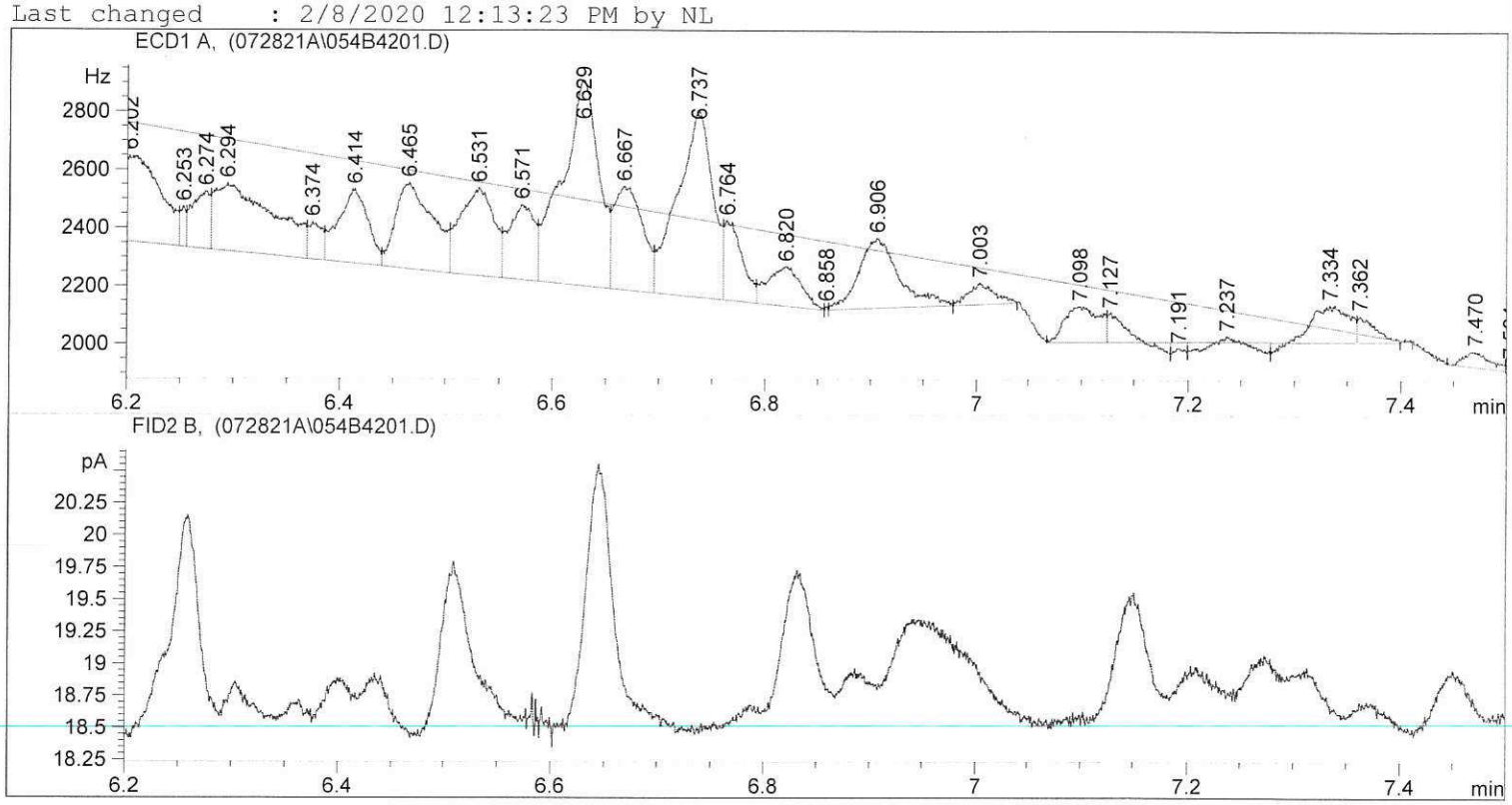
Results obtained with enhanced integrator!

Signal 2: FID2 B,

==========

*** End of Report ***

```
==========================================================================
Injection Date  : 7/29/2021 1:22:00 AM          Seq. Line :  42
Sample Name     : 21G0127 01                     Location : Vial 54
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\072821A.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	5.216	BB S	0.0000	4.28062e4	3601.85669	54.33081
2	5.276	BV T	0.0119	71.13066	72.25880	0.09028
3	5.300	PB T	0.0122	38.49535	52.45333	0.04886
4	5.376	BV T	0.0315	966.42285	370.03018	1.22661
5	5.419	PV T	0.0128	272.09042	265.06058	0.34534
6	5.440	PV T	0.0168	519.32434	374.27258	0.65914
7	5.479	PV T	0.0222	1313.06982	822.54413	1.66659
8	5.530	PV T	0.0149	1269.16797	1017.72229	1.61086
9	5.550	VV T	0.0223	2148.44702	1153.23730	2.72687
10	5.582	PV T	0.0141	714.42072	619.13849	0.90676
11	5.608	PV T	0.0228	1662.39966	864.52203	2.10997
12	5.666	PV T	0.0227	2144.88428	1186.74219	2.72235
13	5.691	PV T	0.0256	816.32770	532.33215	1.03611
14	5.734	PV T	0.0132	404.88779	387.39990	0.51390
15	5.757	PV T	0.0196	1215.40576	752.97198	1.54263
16	5.810	PV T	0.0277	2043.01733	914.36316	2.59306
17	5.859	PV T	0.0210	1612.79211	921.62970	2.04700

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.878	PV T	0.0209	1594.68408	908.44360	2.02402
19	5.940	PV T	0.0255	1819.47644	874.78778	2.30933
20	5.966	PV T	0.0180	1010.27771	676.90887	1.28227
21	5.988	PV T	4.57e-3	123.01094	448.46936	0.15613
22	6.003	PV T	0.0236	1068.99463	551.82117	1.35680
23	6.056	PV T	0.0193	487.02457	304.17477	0.61815
24	6.079	PV T	0.0306	885.85724	346.44803	1.12436
25	6.126	PV T	5.02e-3	62.39923	207.06546	0.07920
26	6.132	PV T	4.59e-3	56.44998	205.00287	0.07165
27	6.152	PV T	0.0230	529.86346	286.45825	0.67252
28	6.183	PV T	0.0143	325.92865	273.63538	0.41368
29	6.202	PV T	0.0306	759.57538	293.66260	0.96407
30	6.253	PV T	4.85e-3	49.97126	137.15591	0.06342
31	6.274	PV T	0.0146	230.72652	198.12325	0.29284
32	6.294	PV T	0.0451	891.92480	232.85397	1.13206
33	6.374	PV T	0.0149	114.15178	127.78437	0.14488
34	6.414	PV T	0.0237	493.52332	254.14983	0.62639
35	6.465	PV T	0.0299	746.46552	297.23285	0.94744
36	6.531	PV T	0.0268	650.24823	303.39145	0.82531
37	6.571	PV T	0.0204	429.29260	258.09882	0.54487
38	6.629	PV T	0.0291	1684.22192	709.78119	2.13766
39	6.667	PV T	0.0236	693.46552	355.60309	0.88017
40	6.737	PV T	0.0285	1467.29199	641.57941	1.86233
41	6.764	PV T	0.0195	320.59024	274.03989	0.40690
42	6.820	PV T	0.0266	298.50165	136.00027	0.37887
43	6.858	PV T	2.42e-3	1.56387	10.77477	0.00198
44	6.906	PV T	0.0317	634.37665	241.22208	0.80517
45	7.003	PB T	0.0216	126.72816	72.32510	0.16085
46	7.098	BV T	0.0275	279.81012	123.09705	0.35514
47	7.127	PV T	0.0103	81.55148	98.43873	0.10351
48	7.191	PV T	0.0159	26.34374	20.67439	0.03344
49	7.237	PV T	0.0000	54.37795	19.48532	0.06902
50	7.334	PV T	0.0271	289.55872	127.55962	0.36752
51	7.362	PB T	0.0195	105.95787	90.58880	0.13448
52	7.470	PB	0.0220	91.84303	54.08557	0.11657
53	7.504	BP	0.0259	50.89060	23.48088	0.06459
54	7.666	PV	0.0305	151.39285	59.44659	0.19215
55	7.686	VB	0.0197	75.67902	46.82417	0.09605
56	7.765	PB	5.67e-3	5.56402	12.79690	0.00706

Totals : 7.87880e4 2.42120e4

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

```
==========================================================================
Injection Date  : 7/29/2021 1:33:11 AM          Seq. Line :  43
Sample Name     : 21G0127 02                     Location : Vial 55
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\072821A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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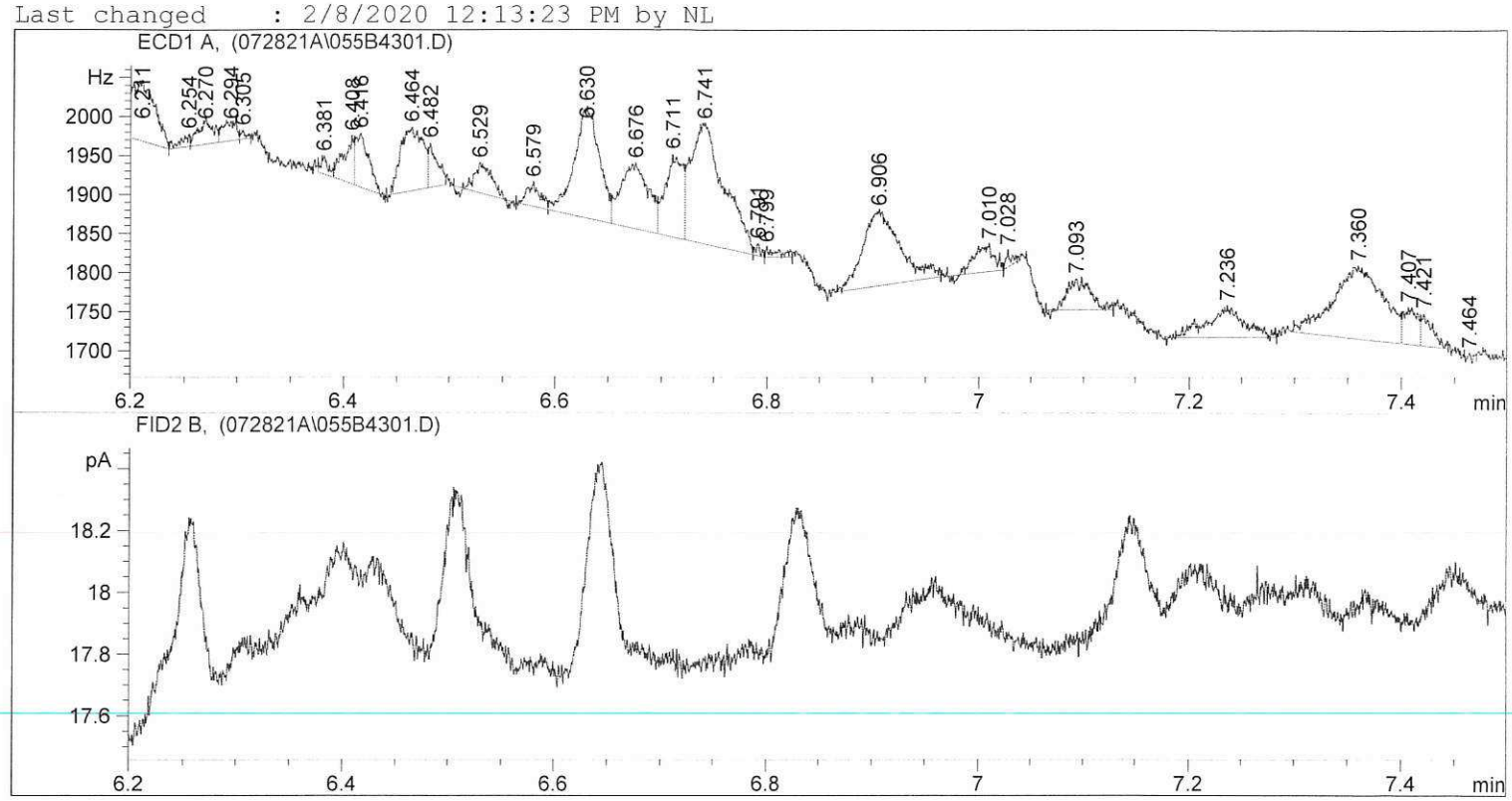


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==========================================================================
                          Area Percent Report
==========================================================================

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	5.220	BP	0.0181	507.39127	366.92151	4.81149
2	5.276	VP	0.0106	40.13202	47.76245	0.38056
3	5.309	VV	7.63e-3	14.71674	24.42883	0.13956
4	5.325	VP	0.0106	18.68335	21.74662	0.17717
5	5.358	VV	0.0141	187.38803	166.69350	1.77696
6	5.378	VB	0.0158	197.37360	149.30136	1.87166
7	5.413	BV	0.0150	83.91405	68.97599	0.79574
8	5.444	VV	0.0166	118.95152	92.52080	1.12799
9	5.480	VV	0.0192	610.74884	382.36710	5.79161
10	5.556	VV	0.0313	661.00348	252.79425	6.26817
11	5.584	VB	0.0139	182.43367	162.33678	1.72998
12	5.612	BV	0.0233	376.88678	198.59673	3.57394
13	5.669	VV	0.0266	530.50769	251.94121	5.03070
14	5.692	VV	0.0164	269.41592	201.84219	2.55482
15	5.757	VV	0.0234	754.47308	385.39957	7.15452
16	5.809	VV	0.0256	624.78339	300.81271	5.92470
17	5.879	VV	0.0401	1193.79944	358.22260	11.32057

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.937	VV	0.0248	520.08984	253.28270	4.93191
19	5.969	VV	0.0143	198.45441	166.48460	1.88190
20	6.022	VV	0.0240	1004.50214	499.84644	9.52550
21	6.057	VB	0.0101	51.54132	64.77500	0.48876
22	6.080	BP	0.0117	46.93446	51.91486	0.44507
23	6.155	PV	0.0190	95.62948	62.69624	0.90684
24	6.185	VV	0.0114	47.88835	52.72702	0.45412
25	6.211	VP	0.0216	136.10641	78.51997	1.29067
26	6.254	VV	8.66e-3	9.44090	15.59964	0.08953
27	6.270	VV	0.0110	30.57682	33.68162	0.28995
28	6.294	VV	0.0111	22.80125	24.84967	0.21622
29	6.305	VB	4.45e-3	3.42599	10.39033	0.03249
30	6.381	BB	6.54e-3	10.58795	22.30678	0.10040
31	6.408	BV	8.16e-3	40.89937	61.45673	0.38784
32	6.416	VP	0.0107	59.64007	68.78895	0.56556
33	6.464	BV	0.0180	121.66421	81.48641	1.15372
34	6.482	VB	7.33e-3	32.89724	57.05972	0.31196
35	6.529	BP	0.0120	38.26770	38.39935	0.36289
36	6.579	BV	0.0106	26.27127	30.65271	0.24913
37	6.630	VV	0.0211	234.50180	142.88524	2.22373
38	6.676	VV	0.0217	151.95242	84.02941	1.44094
39	6.711	VV	0.0143	124.90764	105.99936	1.18447
40	6.741	VV	0.0266	337.83292	155.40138	3.20360
41	6.791	VP	4.41e-3	4.60372	14.87248	0.04366
42	6.799	VP	9.24e-3	8.99452	12.15095	0.08529
43	6.906	PB	0.0293	233.29362	95.65994	2.21228
44	7.010	BP	0.0160	43.97088	34.28135	0.41697
45	7.028	VB	4.55e-3	7.13065	21.08218	0.06762
46	7.093	PP	0.0177	56.82148	39.25572	0.53883
47	7.236	PP	0.0284	94.41081	39.38100	0.89528
48	7.360	BV	0.0397	301.82907	92.99243	2.86219
49	7.407	VV	0.0150	41.93327	46.68696	0.39765
50	7.421	VB	9.04e-3	29.57154	40.86757	0.28042
51	7.464	PP	0.0000	1.59728	1.88045	0.01515
52	7.751	PP	3.26e-3	1.82970	8.02093	0.01735
Totals :				1.05454e4	6043.03030	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

```
==========================================================================
Injection Date  : 7/29/2021 1:44:25 AM          Seq. Line :  44
Sample Name     : 21G0127 03                     Location : Vial 56
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\072821A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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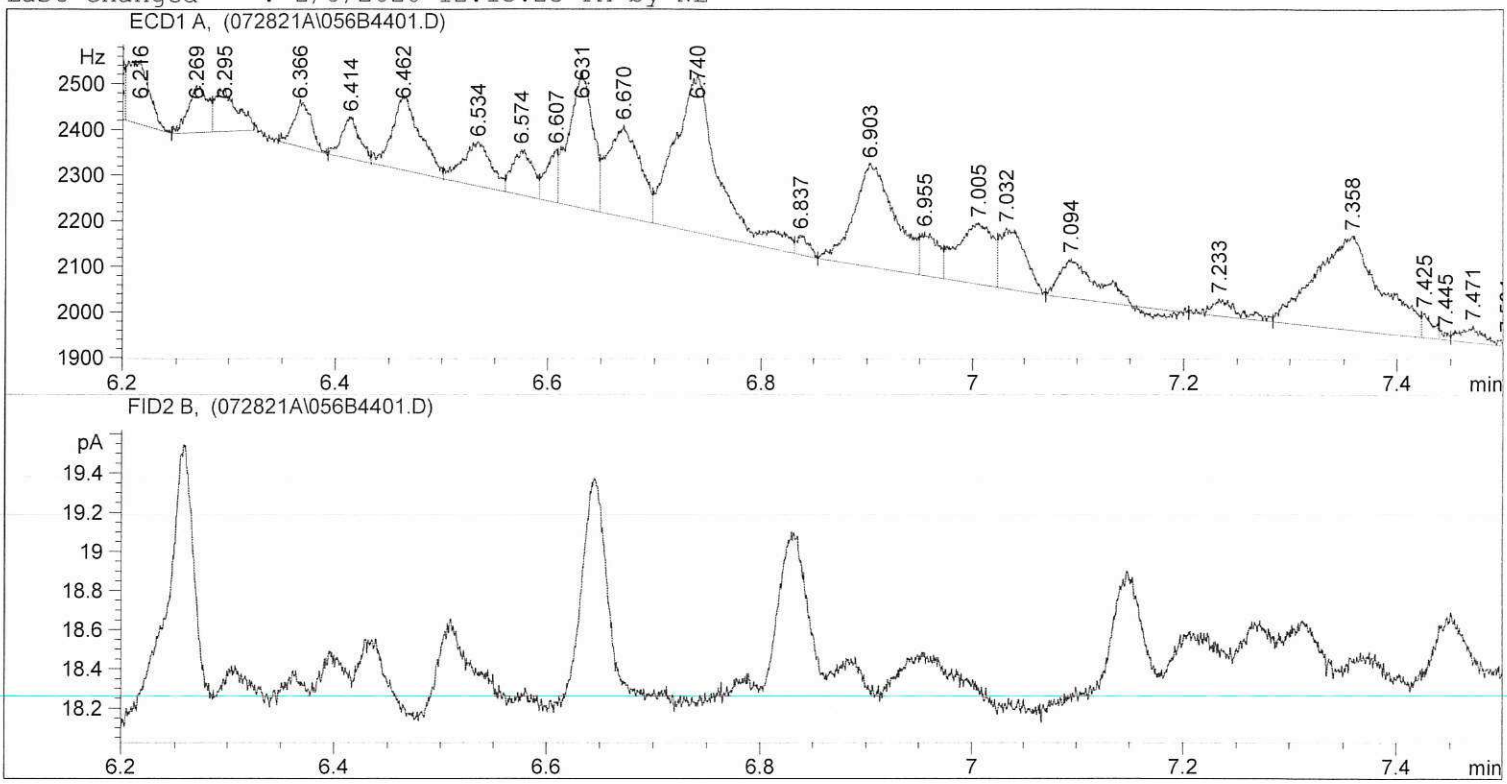


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==========================================================================
                          Area Percent Report
==========================================================================

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	0.0174	1049.83289	836.89758	4.88949
2	5.277	VV	4.19e-3	6.15495	19.98064	0.02867
3	5.281	VV	5.99e-3	15.70666	32.75909	0.07315
4	5.315	VP	0.0208	105.59883	60.84299	0.49182
5	5.360	VV	0.0243	1062.21411	532.93146	4.94716
6	5.394	VV	3.93e-3	82.12074	287.44965	0.38247
7	5.409	VV	0.0186	498.84634	323.19489	2.32333
8	5.440	VV	0.0177	370.11493	262.09314	1.72377
9	5.480	VV	0.0194	958.03534	600.57343	4.46195
10	5.554	VV	0.0325	1352.81018	504.28931	6.30058
11	5.585	VB	0.0129	371.53790	345.83676	1.73040
12	5.610	BV	0.0226	775.87030	414.38431	3.61354
13	5.668	VV	0.0214	864.95129	489.29321	4.02842
14	5.695	VV	0.0147	387.13196	321.24307	1.80303
15	5.726	VV	0.0177	300.84808	204.96161	1.40117
16	5.758	VV	0.0183	854.65887	581.59473	3.98049
17	5.788	VV	0.0102	181.54068	225.78925	0.84551

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.812	VV	0.0188	714.90228	458.58508	3.32959
19	5.861	VV	0.0222	995.85364	553.68219	4.63809
20	5.880	VV	0.0203	1085.71704	656.54755	5.05662
21	5.936	VV	0.0223	792.65417	427.07245	3.69171
22	5.970	VV	0.0188	458.73111	294.68118	2.13649
23	6.022	VB	0.0191	1856.49280	1221.40515	8.64643
24	6.082	PV	5.88e-3	24.08768	60.10739	0.11219
25	6.087	VV	4.14e-3	15.27417	53.40310	0.07114
26	6.101	VP	0.0132	70.26363	66.01726	0.32725
27	6.152	VV	0.0161	101.85265	78.62401	0.47437
28	6.194	VV	0.0163	158.12401	119.06929	0.73645
29	6.216	VP	0.0160	186.67241	141.09979	0.86941
30	6.269	VV	0.0162	131.27382	101.89396	0.61139
31	6.295	VB	0.0172	134.35486	94.41644	0.62574
32	6.366	PP	0.0141	119.92416	103.37560	0.55853
33	6.414	VV	0.0147	109.45399	91.78704	0.50977
34	6.462	VV	0.0224	304.06445	162.41608	1.41615
35	6.534	VV	0.0228	181.39813	96.23962	0.84484
36	6.574	VV	0.0165	135.80368	99.81183	0.63249
37	6.607	VV	9.31e-3	83.41534	117.14509	0.38850
38	6.631	VV	0.0187	461.26865	297.20148	2.14831
39	6.670	VV	0.0250	419.40729	200.44199	1.95335
40	6.740	VV	0.0344	976.84283	341.06409	4.54955
41	6.837	VP	0.0102	35.52945	44.06515	0.16547
42	6.903	BV	0.0329	621.54706	226.04834	2.89479
43	6.955	VV	0.0153	112.88345	94.86193	0.52574
44	7.005	VV	0.0284	307.16257	133.51561	1.43058
45	7.032	VP	0.0207	226.74728	131.84637	1.05605
46	7.094	VP	0.0255	180.12459	85.94889	0.83891
47	7.233	BV	0.0216	67.33710	37.43080	0.31362
48	7.358	VV	0.0504	874.31543	205.52756	4.07204
49	7.425	VB	8.74e-3	35.67494	52.39357	0.16615
50	7.445	BV	7.15e-3	8.93334	15.91393	0.04161
51	7.471	VP	0.0177	53.48577	36.56632	0.24910
52	7.504	VP	0.0107	15.05415	17.47322	0.07011
53	7.569	BB	0.0122	16.14725	17.79864	0.07520
54	7.631	PV	7.89e-3	32.29365	53.11519	0.15040
55	7.649	VV	0.0213	119.31233	67.14929	0.55569
56	7.746	BP	7.17e-3	8.84829	16.74399	0.04121
Totals :				2.14712e4	1.31166e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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Injection Date  : 7/29/2021 1:55:34 AM          Seq. Line :  45
Sample Name     : 21G0127 05                     Location : Vial 57
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\072821A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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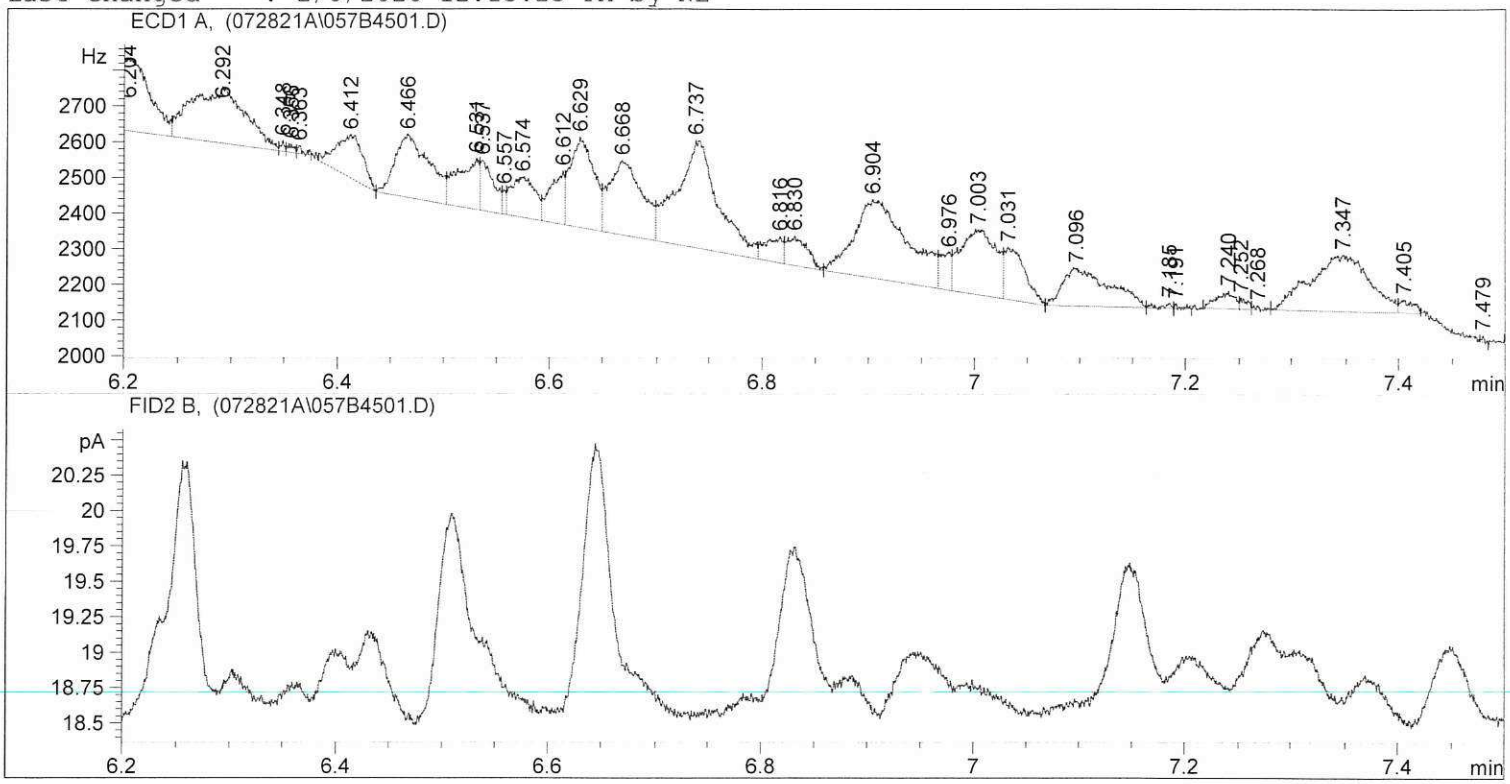


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==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
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Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.218	BP	0.0164	1138.11023	921.20825	4.49308
2	5.275	VP	7.78e-3	34.49306	54.52570	0.13617
3	5.302	VV	0.0221	578.22534	316.44016	2.28274
4	5.376	VV	0.0305	791.38000	308.75723	3.12424
5	5.409	VV	6.10e-3	64.01852	130.97401	0.25273
6	5.439	VV	0.0239	450.46185	240.31683	1.77835
7	5.480	VV	0.0210	1048.49915	630.65900	4.13931
8	5.535	VV	0.0169	658.71558	489.31241	2.60050
9	5.553	VV	0.0240	1115.82153	581.41968	4.40509
10	5.585	VV	0.0153	515.76978	414.18558	2.03618
11	5.614	VV	0.0259	1020.27472	470.02835	4.02788
12	5.668	VV	0.0206	869.53516	512.39276	3.43279
13	5.696	VV	0.0200	750.40820	451.34467	2.96249
14	5.733	VV	0.0187	455.63977	318.27969	1.79879
15	5.758	VV	0.0203	1106.51526	670.29254	4.36835
16	5.783	VV	5.39e-3	125.96497	335.08112	0.49729
17	5.810	VV	0.0257	1187.25183	579.62103	4.68708

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.834	VV	3.59e-3	81.09380	316.22284	0.32015
19	5.879	VV	0.0414	2150.73462	615.66681	8.49076
20	5.940	VV	0.0273	1119.28308	508.88916	4.41875
21	5.966	VV	0.0178	591.84314	395.91748	2.33650
22	6.002	VV	0.0231	688.47784	373.14093	2.71800
23	6.046	VV	0.0292	611.41748	249.70070	2.41378
24	6.075	VV	7.20e-3	82.77128	191.47644	0.32677
25	6.082	VB	0.0162	242.77031	185.92331	0.95842
26	6.154	BV	0.0348	522.63940	177.47858	2.06330
27	6.204	VV	0.0362	613.19092	200.05075	2.42078
28	6.292	VV	0.0414	544.76654	157.37343	2.15065
29	6.348	VV	3.20e-3	6.36586	28.53413	0.02513
30	6.356	VV	5.06e-3	8.34435	23.97352	0.03294
31	6.363	VB	5.00e-3	7.20611	21.01389	0.02845
32	6.412	BP	0.0213	212.99072	120.09959	0.84085
33	6.466	VV	0.0273	397.38498	174.98944	1.56881
34	6.531	VV	0.0164	195.94865	142.88718	0.77357
35	6.537	VV	0.0111	121.75472	140.52411	0.48067
36	6.557	VV	3.33e-3	15.92036	68.11989	0.06285
37	6.574	VV	0.0191	176.88783	112.85483	0.69832
38	6.612	VV	0.0121	137.50864	149.55399	0.54286
39	6.629	VV	0.0188	394.14532	252.11407	1.55602
40	6.668	VV	0.0257	437.54257	208.41313	1.72735
41	6.737	VV	0.0328	824.14447	300.56766	3.25359
42	6.816	VV	0.0133	80.43849	73.78619	0.31756
43	6.830	VP	0.0160	108.95512	82.34574	0.43014
44	6.904	VV	0.0418	777.52802	220.01103	3.06956
45	6.976	VV	9.38e-3	75.37581	104.97358	0.29757
46	7.003	VV	0.0281	418.10651	181.47226	1.65062
47	7.031	VP	0.0172	201.61012	145.45906	0.79592
48	7.096	VV	0.0372	325.06332	105.86873	1.28330
49	7.185	VP	7.01e-3	8.28644	15.08053	0.03271
50	7.191	VP	4.25e-3	3.75907	12.01280	0.01484
51	7.240	BV	0.0145	54.79556	47.41376	0.21632
52	7.252	VB	5.99e-3	14.79037	30.84802	0.05839
53	7.268	BB	4.95e-3	3.53911	9.95103	0.01397
54	7.347	BV	0.0457	603.21216	157.54964	2.38139
55	7.405	VB	0.0117	32.27562	36.40150	0.12742
56	7.479	PP	2.31e-3	2.50727	17.10738	0.00990
57	7.528	BB	0.0274	100.01238	44.16502	0.39483
58	7.650	PV	0.0341	297.68704	103.13354	1.17522
59	7.693	VV	0.0133	75.86741	70.66257	0.29951
60	7.712	VV	0.0106	40.67001	47.37388	0.16056
61	7.751	VV	5.80e-3	5.67190	13.23518	0.02239
62	7.756	VP	4.70e-3	3.93399	13.96081	0.01553
Totals :				2.53303e4	1.40731e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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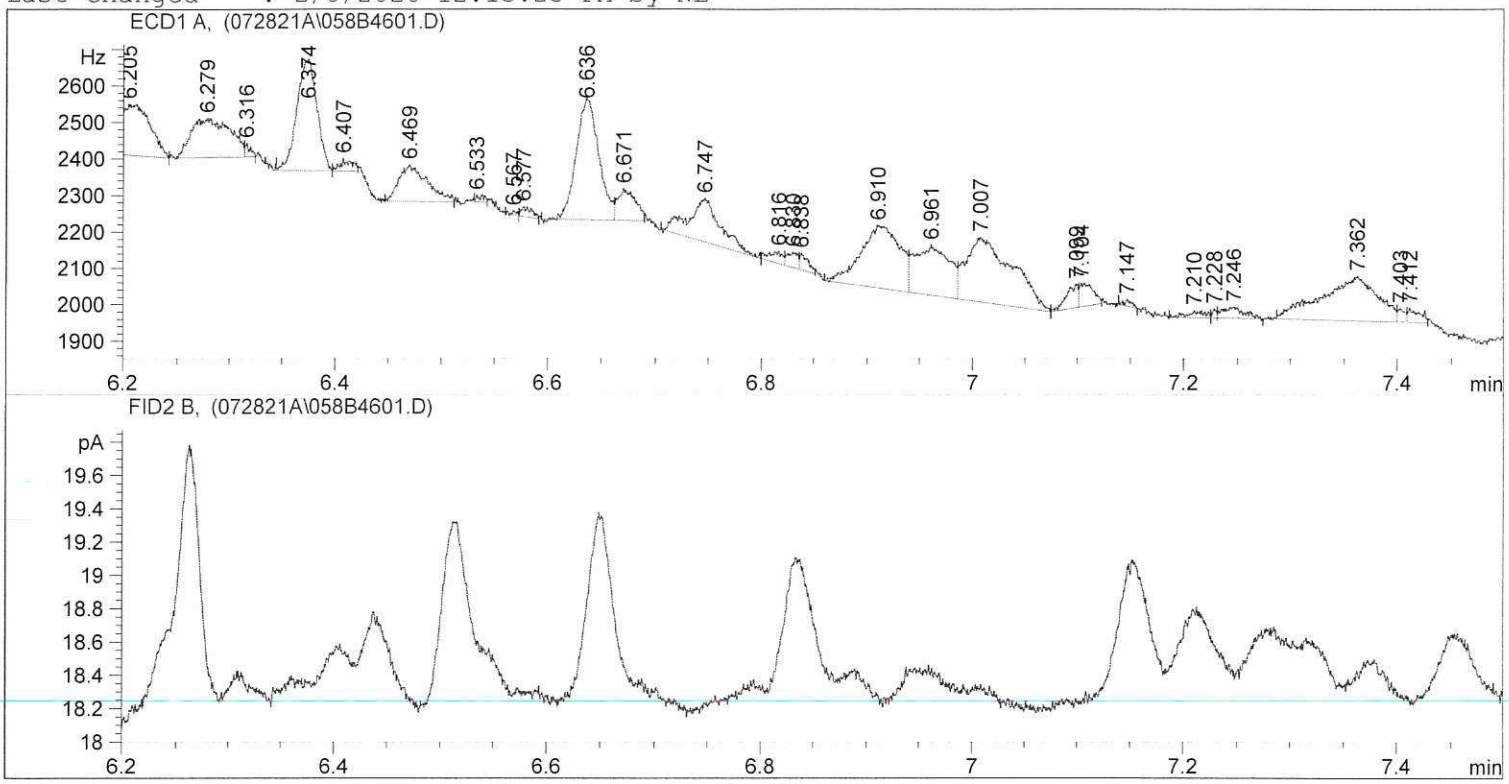
Injection Date : 7/29/2021 2:06:46 AM Seq. Line : 46
Sample Name : 21G0127 08 Location : Vial 58
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\072821A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	BP	0.0112	221.14769	253.03638	1.18889
2	5.277	VP	7.09e-3	22.38619	39.03817	0.12035
3	5.307	VV	0.0210	181.17065	102.80422	0.97397
4	5.380	VV	0.0344	761.43811	262.65833	4.09350
5	5.417	VV	3.55e-3	36.03571	142.63013	0.19373
6	5.437	VV	0.0209	544.28149	323.11844	2.92606
7	5.484	VV	0.0237	965.77325	496.09518	5.19200
8	5.527	VV	9.17e-3	136.27495	185.60112	0.73262
9	5.556	VV	0.0242	491.18631	248.78731	2.64062
10	5.587	VV	0.0186	433.27417	281.41675	2.32929
11	5.623	VV	0.0275	596.51001	274.65573	3.20684
12	5.670	VV	0.0214	504.29318	288.38193	2.71108
13	5.698	VV	0.0223	663.64331	353.10458	3.56775
14	5.761	VV	0.0235	1723.05432	959.70575	9.26315
15	5.814	VV	0.0256	872.42194	414.56985	4.69015
16	5.872	VV	0.0352	1870.17432	629.72290	10.05407
17	5.939	VV	0.0238	1126.86292	582.14685	6.05802

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.973	VV	0.0206	928.01086	564.47870	4.98899
19	6.008	VV	0.0306	971.59344	377.94397	5.22329
20	6.061	VV	0.0192	233.06372	202.39661	1.25295
21	6.086	VV	0.0135	209.18939	192.25693	1.12460
22	6.105	VV	0.0213	395.16708	222.74606	2.12442
23	6.139	VV	9.25e-3	52.55861	94.74705	0.28256
24	6.161	VV	0.0206	179.05649	111.05105	0.96261
25	6.205	VP	0.0306	364.06461	140.72028	1.95721
26	6.279	VV	0.0308	279.70764	107.19036	1.50371
27	6.316	VP	5.77e-3	12.65417	36.52513	0.06803
28	6.374	BV	0.0166	405.57370	303.91742	2.18037
29	6.407	VB	9.44e-3	26.10901	33.70380	0.14036
30	6.469	PB	0.0219	183.55533	100.75275	0.98679
31	6.533	BB	6.17e-3	8.79523	17.77312	0.04728
32	6.567	PV	4.98e-3	4.06252	10.81713	0.02184
33	6.577	VB	8.81e-3	18.83348	26.75988	0.10125
34	6.636	PV	0.0175	482.92172	333.18298	2.59619
35	6.671	VB	0.0137	97.30437	86.45722	0.52311
36	6.747	PP	0.0260	247.93567	118.58765	1.33290
37	6.816	VV	0.0103	28.14812	33.70677	0.15132
38	6.830	VV	7.99e-3	27.79927	42.73620	0.14945
39	6.838	VB	7.45e-3	25.94274	45.52396	0.13947
40	6.910	PV	0.0309	444.76126	171.07712	2.39104
41	6.961	VV	0.0265	307.08472	137.50844	1.65089
42	7.007	VP	0.0370	541.10352	177.31145	2.90898
43	7.099	VV	9.75e-3	48.18654	62.82295	0.25905
44	7.104	VB	0.0105	55.45407	65.35081	0.29812
45	7.147	BB	6.71e-3	9.35940	17.86847	0.05032
46	7.210	PV	0.0129	20.00112	18.97019	0.10753
47	7.228	VV	3.80e-3	5.54648	23.13101	0.02982
48	7.246	VP	0.0172	42.22283	30.09620	0.22699
49	7.362	BV	0.0425	437.48611	122.45169	2.35193
50	7.403	VV	6.11e-3	17.11866	36.26723	0.09203
51	7.412	VB	0.0129	28.54770	36.81472	0.15347
52	7.523	BV	3.78e-3	6.53351	23.97131	0.03512
53	7.541	VB	0.0192	49.73678	33.74616	0.26739
54	7.659	PV	0.0284	151.99765	65.11317	0.81714
55	7.705	VV	0.0193	80.17500	49.89646	0.43102
56	7.720	VB	8.17e-3	23.87113	35.86177	0.12833
Totals :				1.86012e4	1.01497e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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Injection Date  : 7/29/2021 2:17:44 AM          Seq. Line :  47
Sample Name     : 21G0127 10                     Location : Vial 59
Acq. Operator   : DXP                                Inj :   1
                                               Inj Volume : 1 µl
Sequence File   : C:\HPCHEM\2\SEQUENCE\072821A.S
Method          : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed    : 2/8/2020 12:13:23 PM by NL
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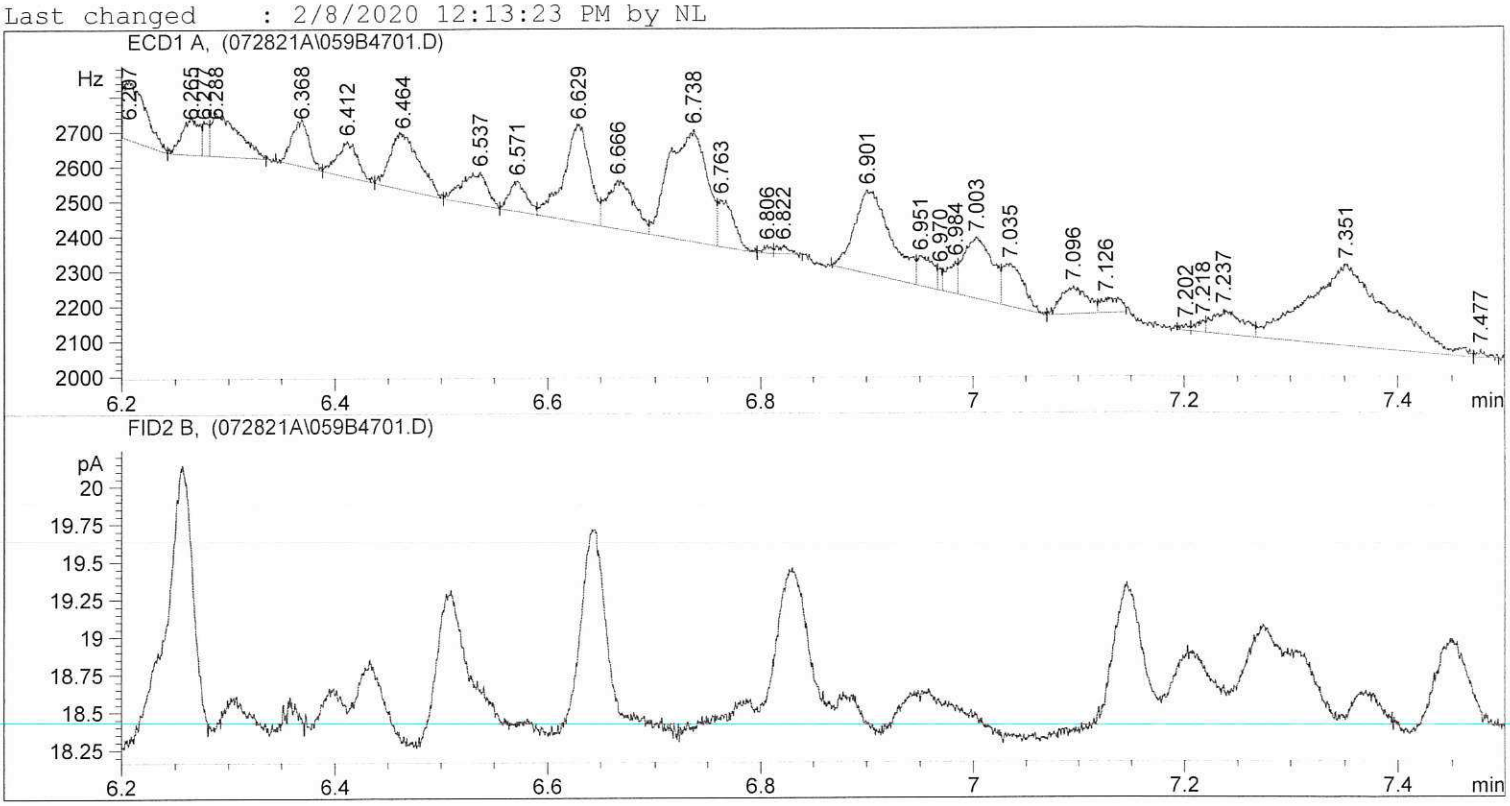


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==========================================================================
                          Area Percent Report
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Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
```

Signal 1: ECD1 A,

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
1	5.217	BP	0.0158	866.48828	692.02704	4.68539
2	5.276	VP	0.0108	50.21575	59.67216	0.27153
3	5.301	VV	6.36e-3	27.93255	58.59783	0.15104
4	5.306	VB	4.60e-3	17.12451	49.89257	0.09260
5	5.359	PV	0.0124	295.48785	352.82553	1.59780
6	5.371	VV	0.0188	526.16614	348.71313	2.84515
7	5.404	VV	4.01e-3	28.54020	103.67246	0.15433
8	5.411	VV	9.46e-3	87.03890	114.56770	0.47065
9	5.439	VV	0.0149	279.49744	233.92978	1.51133
10	5.480	VV	0.0171	701.57214	495.65646	3.79363
11	5.550	VV	0.0279	972.72516	422.27856	5.25984
12	5.586	VV	0.0171	318.14468	239.66116	1.72031
13	5.609	VV	0.0225	612.72784	325.68219	3.31322
14	5.666	VV	0.0202	757.85315	465.56976	4.09796
15	5.695	VV	0.0161	401.64044	299.00311	2.17180
16	5.735	VV	0.0172	282.95120	196.54790	1.53001
17	5.757	VV	0.0179	732.06915	529.81476	3.95854

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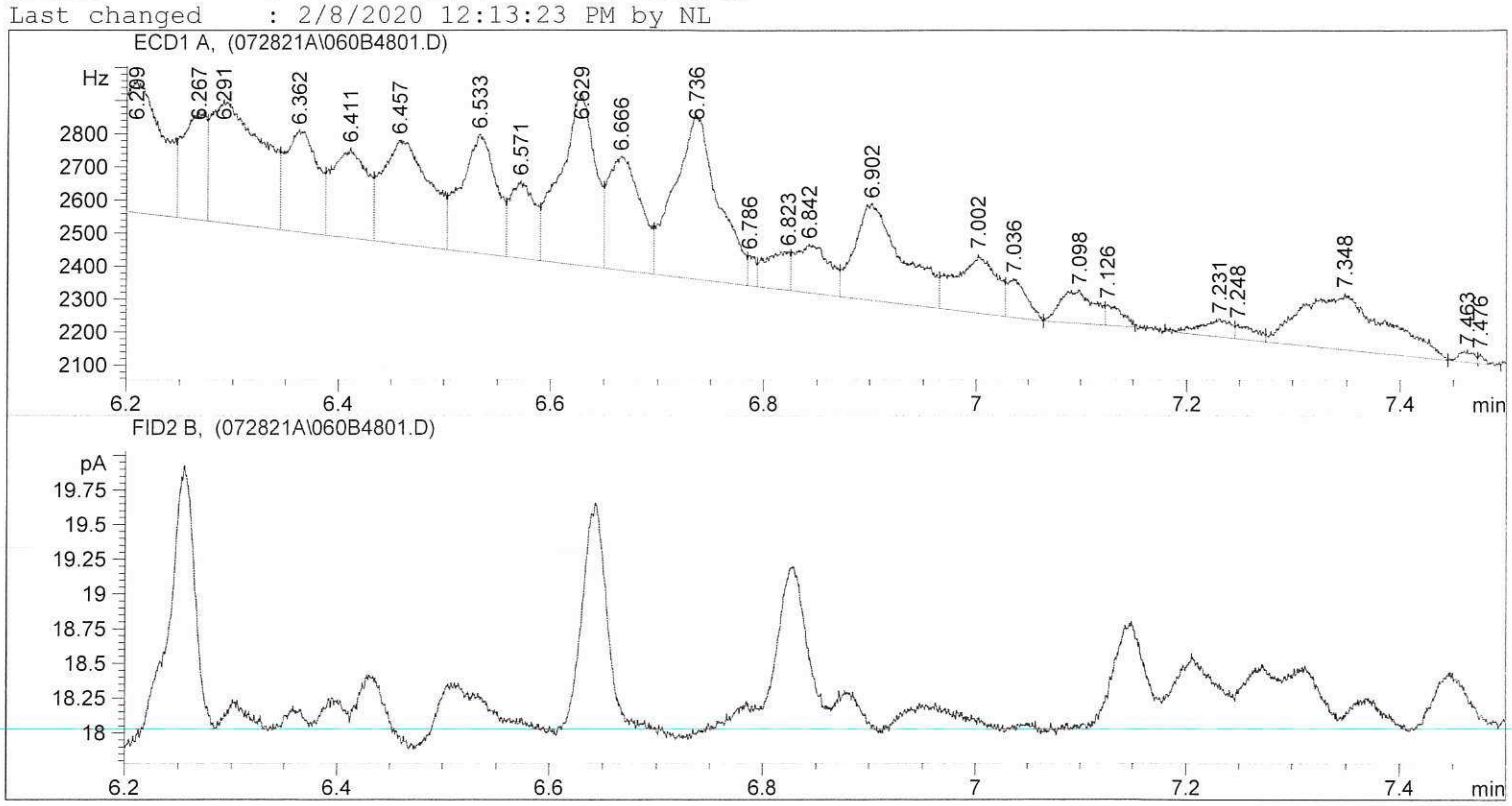
Injection Date : 7/29/2021 2:28:41 AM Seq. Line : 48
Sample Name : 21G0127 11 Location : Vial 60
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\072821A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.217	BP	0.0199	1657.37952	1283.03711	4.42211
2	5.302	PV	0.0108	58.87839	69.85458	0.15710
3	5.371	VV	0.0274	980.09967	426.01785	2.61504
4	5.411	VV	0.0191	558.95709	360.94727	1.49137
5	5.438	VV	0.0196	379.90384	251.83524	1.01363
6	5.479	VV	0.0198	1039.65405	667.60999	2.77394
7	5.531	VV	0.0127	637.13550	605.73407	1.69996
8	5.546	VV	0.0228	1276.05786	676.10004	3.40469
9	5.584	VV	0.0148	469.87354	390.75992	1.25369
10	5.610	VV	0.0265	1159.37146	538.33337	3.09336
11	5.666	VV	0.0229	1371.04028	717.54016	3.65812
12	5.693	VV	0.0157	576.33362	469.02704	1.53774
13	5.720	VV	0.0182	635.55469	422.04077	1.69575
14	5.755	VV	0.0213	1348.53857	815.51813	3.59808
15	5.810	VV	0.0272	1431.58105	662.71643	3.81965
16	5.861	VV	0.0224	1381.39380	753.62689	3.68574
17	5.880	VV	0.0278	1962.28613	868.38910	5.23564

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	5.939	VV	0.0228	1314.49487	683.38104	3.50725
19	5.965	VV	0.0198	882.21948	564.96393	2.35388
20	6.021	VV	0.0310	1809.30896	712.22101	4.82748
21	6.054	VV	0.0158	455.18091	344.28555	1.21448
22	6.078	VV	0.0122	333.60175	329.65881	0.89009
23	6.094	VV	7.94e-3	190.86377	311.93149	0.50925
24	6.100	VB	0.0182	461.12067	312.15094	1.23033
25	6.138	BV	0.0111	242.24080	273.94662	0.64633
26	6.154	VV	0.0197	508.11093	309.80484	1.35571
27	6.181	VV	9.08e-3	209.87474	295.81647	0.55997
28	6.209	VV	0.0352	1183.39587	398.66245	3.15746
29	6.267	VV	0.0187	495.84082	326.74899	1.32297
30	6.291	VV	0.0401	1226.79810	367.99469	3.27326
31	6.362	VV	0.0253	654.63397	306.42853	1.74665
32	6.411	VV	0.0265	605.97668	271.19339	1.61683
33	6.457	VV	0.0380	980.59491	314.02536	2.61636
34	6.533	VV	0.0275	814.74805	359.20245	2.17386
35	6.571	VV	0.0203	380.41797	232.61444	1.01501
36	6.629	VV	0.0274	1171.45789	518.23743	3.12561
37	6.666	VV	0.0251	723.71490	344.33221	1.93097
38	6.736	VV	0.0348	1427.98010	495.17767	3.81004
39	6.786	VV	6.33e-3	45.88836	93.36441	0.12244
40	6.823	VV	0.0198	184.49344	118.53725	0.49225
41	6.842	VV	0.0268	327.24884	147.84866	0.87314
42	6.902	VV	0.0374	925.59650	293.50327	2.46962
43	7.002	VV	0.0330	475.66010	176.60100	1.26913
44	7.036	VP	0.0151	148.03621	117.38870	0.39498
45	7.098	VV	0.0270	221.14795	98.61355	0.59005
46	7.126	VB	0.0134	67.41344	62.30084	0.17987
47	7.231	PV	0.0237	107.36301	54.29638	0.28646
48	7.248	VB	0.0153	56.20536	45.33806	0.14996
49	7.348	BP	0.0645	929.85938	169.29755	2.48099
50	7.463	VV	0.0126	33.02276	34.46041	0.08811
51	7.476	VB	5.89e-3	11.98629	27.45181	0.03198
52	7.528	BV	0.0118	46.60944	48.63976	0.12436
53	7.534	VP	8.73e-3	30.46054	43.73042	0.08127
54	7.569	PP	0.0197	44.72374	27.32366	0.11933
55	7.673	VV	0.0443	784.08344	211.47079	2.09204
56	7.756	VP	0.0120	26.58414	27.58147	0.07093
57	7.800	BBA	0.0105	16.36734	18.87569	0.04367
Totals :				3.74794e4	1.98685e4	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

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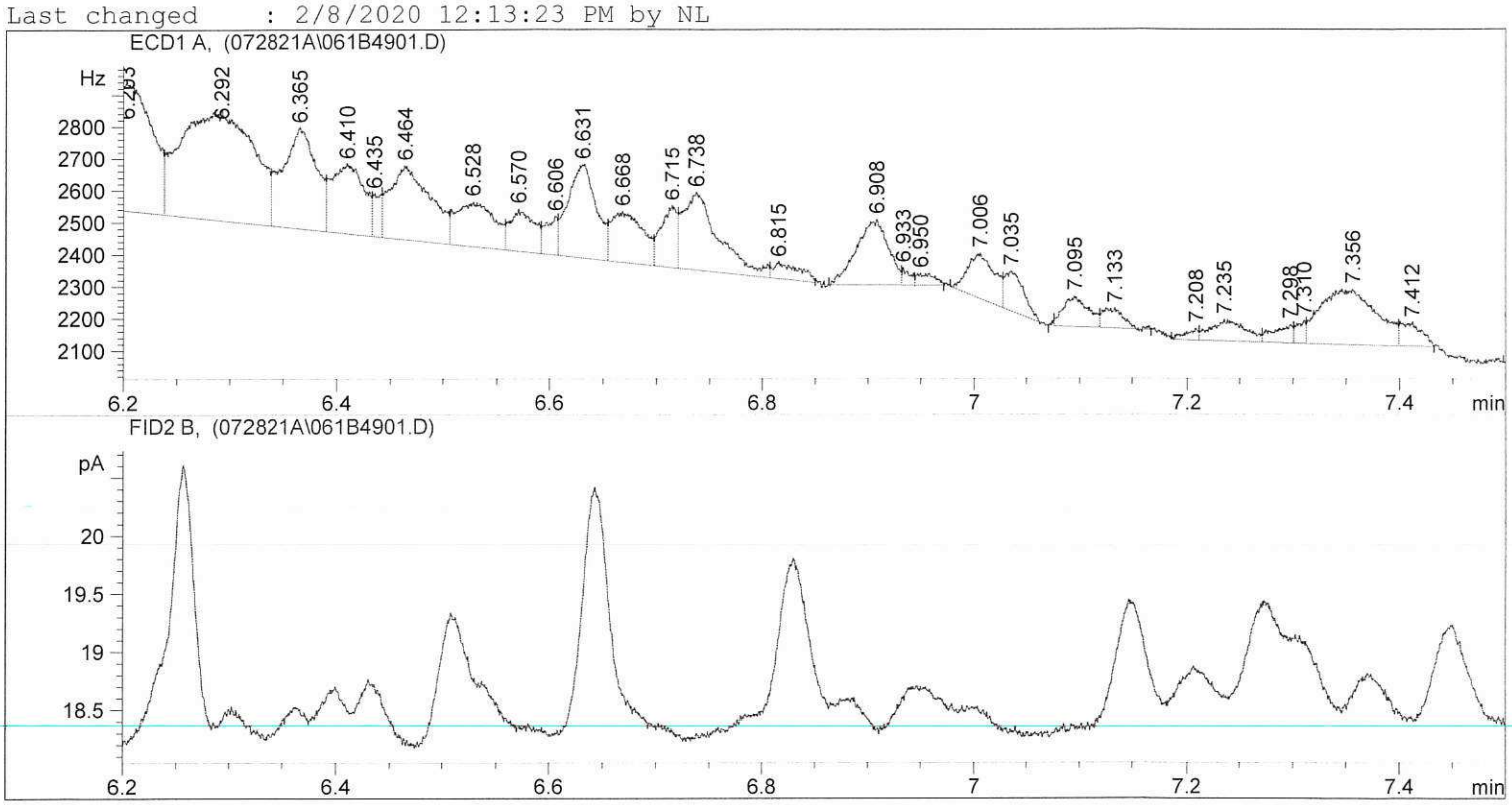
Injection Date : 7/29/2021 2:39:44 AM Seq. Line : 49
Sample Name : 21G0127 12 Location : Vial 61
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\072821A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.217	BP	0.0160	689.89746	536.13043	2.21868
2	5.260	VP	2.70e-3	3.59725	19.99217	0.01157
3	5.275	VV	8.29e-3	31.52715	49.11454	0.10139
4	5.305	VV	0.0233	408.24094	227.85458	1.31289
5	5.370	VV	0.0286	1094.09070	462.66702	3.51855
6	5.408	VV	0.0121	118.29422	163.34015	0.38043
7	5.417	VV	4.02e-3	50.73726	163.69614	0.16317
8	5.438	VV	0.0199	502.99496	314.38882	1.61761
9	5.479	VV	0.0238	952.37463	478.76199	3.06280
10	5.528	VV	0.0165	416.89310	330.48724	1.34071
11	5.550	VV	0.0222	897.00269	489.13986	2.88472
12	5.585	VV	0.0180	581.79211	404.09702	1.87102
13	5.623	VV	0.0263	1224.19629	573.05811	3.93697
14	5.667	VV	0.0210	863.62158	499.98318	2.77737
15	5.696	VV	0.0234	982.54803	512.71173	3.15984
16	5.758	VV	0.0279	1990.86633	918.45905	6.40255
17	5.810	VV	0.0290	1683.16016	710.57092	5.41298

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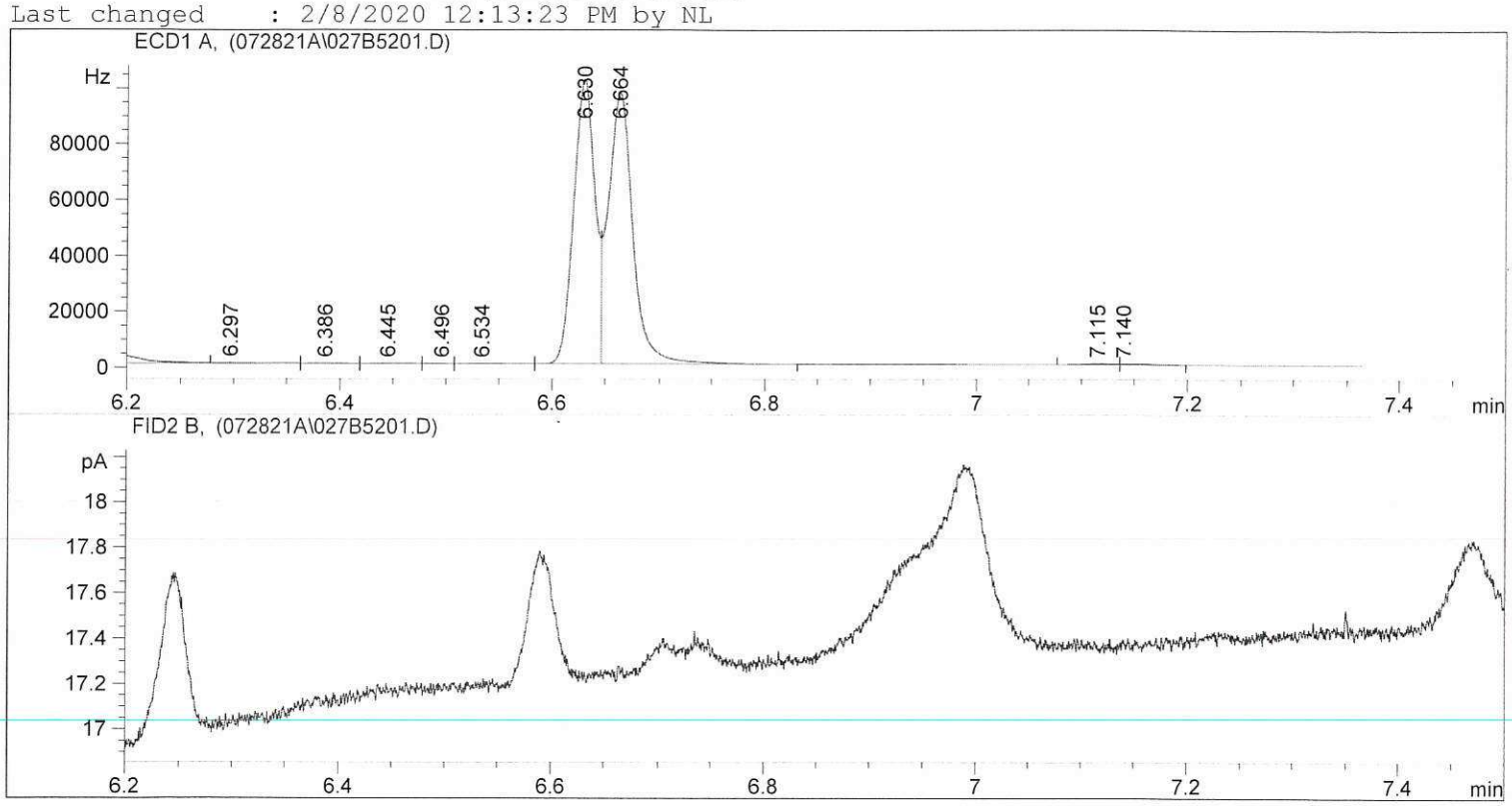
Injection Date : 7/29/2021 3:13:06 AM Seq. Line : 52
Sample Name : CS4 STANDARD Location : Vial 27
Acq. Operator : DXP Inj : 1
Inj Volume : 1 µl

Sequence File : C:\HPCHEM\2\SEQUENCE\072821A.S
Method : C:\HPCHEM\2\METHODS\DIOXIN.M
Last changed : 2/8/2020 12:13:23 PM by NL



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Area Percent Report

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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	5.210	BP	2.69e-3	21.49671	229.10591	0.00174
2	5.295	VP	9.95e-3	15.34430	18.74968	0.00124
3	5.346	BP	0.0129	47.50861	48.40617	0.00385
4	5.412	BP	0.0192	64.02478	42.46477	0.00519
5	5.489	VV S	0.0257	1.72550e5	9.18294e4	13.98877
6	5.588	VV S	0.0392	2.76191e5	1.17394e5	22.39104
7	5.644	VV S	0.0210	1.00620e5	8.00100e4	8.15737
8	5.690	VV S	0.0236	9.61401e4	6.80303e4	7.79416
9	5.796	VV S	0.0250	647.11530	431.97357	0.05246
10	5.845	VB S	0.0208	221.97621	177.49835	0.01800
11	5.931	BP S	0.0178	1.00994e5	8.39870e4	8.18764
12	6.081	VV S	0.0190	9.10633e4	7.30064e4	7.38258
13	6.161	VV S	0.0245	9.63910e4	6.55753e4	7.81450
14	6.297	BV T	0.0131	150.43935	140.14824	0.01220
15	6.386	PV T	0.0187	207.51062	136.89142	0.01682
16	6.445	PV T	0.0245	180.20015	89.38720	0.01461
17	6.496	PV T	0.0173	76.27612	54.04667	0.00618

Peak #	RetTime [min]	Type	Width [min]	Area [Hz*s]	Height [Hz]	Area %
18	6.534	PV T	0.0239	216.63544	111.52394	0.01756
19	6.630	VV S	0.0214	1.41222e5	1.01721e5	11.44899
20	6.664	VB S	0.0266	1.54778e5	9.69125e4	12.54795
21	7.115	PV	0.0238	563.29437	283.84085	0.04567
22	7.140	VB	0.0228	455.74457	237.07764	0.03695
23	7.681	BB	0.0280	672.43372	292.84381	0.05451
Totals :				1.23349e6	7.80760e5	

Results obtained with enhanced integrator!

Signal 2: FID2 B,

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*** End of Report ***

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJG0135	Cleanup Type:	Sulfuric Acid
Cleanup Method:	z-EPA 3665A Sulfuric Acid Cleanup (mL) DO NOT USE	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC564B	21F0442-02	21071914	07/13/2021	
LDW21-SC564C	21F0442-03	21071915	07/13/2021	
LDW21-SC564D	21F0442-04	21071916	07/13/2021	
LDW21-SC564E	21F0442-05	21071917	07/13/2021	
LDW21-SC564G	21F0442-06	21071918	07/13/2021	
LDW21-SC564I	21F0442-07	21071919	07/13/2021	
LDW21-SC564A	21F0442-01	21071913	07/13/2021	
Reference	BJG0187-SRM1	21071906	07/13/2021	
Blank	BJG0187-BLK1	21071904	07/13/2021	
Duplicate	BJG0187-DUP1	21071907	07/13/2021	
LCS	BJG0187-BS1	21071905	07/13/2021	
LDW21-SC564K	21F0442-08	21071920	07/13/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJG0135

Matrix: Solid **Cleanup using: HRGCMS - EPA 3665A Sulfuric Acid Cleanup** **Printed: 7/15/2021 9:18:48AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21F0442-08	B	LDW21-SC564K	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-07	B	LDW21-SC564I	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-03	B	LDW21-SC564C	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-04	B	LDW21-SC564D	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-05	C	LDW21-SC564E	C 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-06	B	LDW21-SC564G	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-01	B	LDW21-SC564A	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0442-02	B	LDW21-SC564B	B 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0392-25	A	T91-R1-ITESSComp2	A 01	20	20	1613B Dioxin	7/13/2021	NPL	
21F0392-26	A	T91-R1-ITWSSComp1	A 01	20	20	1613B Dioxin	7/13/2021	NPL	
BJG0187-SRM1	-	Reference	-	20	20	-	7/13/2021	NPL	
BJG0187-DUP2	-	Duplicate	-	20	20	-	7/13/2021	NPL	
BJG0187-BLK1	-	Blank	-	20	20	-	7/13/2021	NPL	
BJG0187-BS1	-	LCS	-	20	20	-	7/13/2021	NPL	
BJG0187-DUP1	-	Duplicate	-	20	20	-	7/13/2021	NPL	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJG0136	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
Duplicate	BJG0187-DUP1	21071907	07/14/2021	
LDW21-SC564A	21F0442-01	21071913	07/14/2021	
LDW21-SC564B	21F0442-02	21071914	07/14/2021	
LDW21-SC564C	21F0442-03	21071915	07/14/2021	
LDW21-SC564D	21F0442-04	21071916	07/14/2021	
LDW21-SC564E	21F0442-05	21071917	07/14/2021	
LCS	BJG0187-BS1	21071905	07/14/2021	
Blank	BJG0187-BLK1	21071904	07/14/2021	
LDW21-SC564K	21F0442-08	21071920	07/14/2021	
LDW21-SC564G	21F0442-06	21071918	07/14/2021	
LDW21-SC564I	21F0442-07	21071919	07/14/2021	
Reference	BJG0187-SRM1	21071906	07/14/2021	

Analytical Resources, Incorporated
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CLEANUP BENCH SHEET

CJG0136

Matrix: Solid **Cleanup using: HRGCMS - EPA 3630C Silica Gel Cleanup** **Printed: 7/15/2021 9:19:00AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21F0442-08	B	LDW21-SC564K	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-07	B	LDW21-SC564I	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-03	B	LDW21-SC564C	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-04	B	LDW21-SC564D	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-05	C	LDW21-SC564E	C 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-06	B	LDW21-SC564G	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-01	B	LDW21-SC564A	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-02	B	LDW21-SC564B	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0392-25	A	T91-R1-ITESSComp2	A 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0392-26	A	T91-R1-ITWSSComp1	A 01	20	20	1613B Dioxin	7/14/2021	NPL	
BJG0187-SRM1	-	Reference	-	20	20	-	7/14/2021	NPL	
BJG0187-DUP2	-	Duplicate	-	20	20	-	7/14/2021	NPL	
BJG0187-BLK1	-	Blank	-	20	20	-	7/14/2021	NPL	
BJG0187-BS1	-	LCS	-	20	20	-	7/14/2021	NPL	
BJG0187-DUP1	-	Duplicate	-	20	20	-	7/14/2021	NPL	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJG0137	Cleanup Type:	Florisil
Cleanup Method:	z-EPA 3620B Florisil Cleanup (mL) DO NOT USE	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LDW21-SC564E	21F0442-05	21071917	07/14/2021	
LDW21-SC564G	21F0442-06	21071918	07/14/2021	
LDW21-SC564I	21F0442-07	21071919	07/14/2021	
Blank	BJG0187-BLK1	21071904	07/14/2021	
Duplicate	BJG0187-DUP1	21071907	07/14/2021	
LDW21-SC564D	21F0442-04	21071916	07/14/2021	
Reference	BJG0187-SRM1	21071906	07/14/2021	
LCS	BJG0187-BS1	21071905	07/14/2021	
LDW21-SC564B	21F0442-02	21071914	07/14/2021	
LDW21-SC564A	21F0442-01	21071913	07/14/2021	
LDW21-SC564K	21F0442-08	21071920	07/14/2021	
LDW21-SC564C	21F0442-03	21071915	07/14/2021	

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CLEANUP BENCH SHEET

CJG0137

Matrix: Solid **Cleanup using: HRGCMS - EPA 3620B Florisil Cleanup (mL)** **Printed: 7/15/2021 9:19:09AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21F0442-08	B	LDW21-SC564K	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-07	B	LDW21-SC564I	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-03	B	LDW21-SC564C	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-04	B	LDW21-SC564D	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-05	C	LDW21-SC564E	C 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-06	B	LDW21-SC564G	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-01	B	LDW21-SC564A	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0442-02	B	LDW21-SC564B	B 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0392-25	A	T91-R1-ITESSComp2	A 01	20	20	1613B Dioxin	7/14/2021	NPL	
21F0392-26	A	T91-R1-ITWSSComp1	A 01	20	20	1613B Dioxin	7/14/2021	NPL	
BJG0187-SRM1	-	Reference	-	20	20	-	7/14/2021	NPL	
BJG0187-DUP2	-	Duplicate	-	20	20	-	7/14/2021	NPL	
BJG0187-BLK1	-	Blank	-	20	20	-	7/14/2021	NPL	
BJG0187-BS1	-	LCS	-	20	20	-	7/14/2021	NPL	
BJG0187-DUP1	-	Duplicate	-	20	20	-	7/14/2021	NPL	

Analytical Resources, Incorporated
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CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0148	Cleanup Type:	Sulfuric Acid
Cleanup Method:	z-EPA 3665A Sulfuric Acid Cleanup (mL) DO NOT USE	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	BJH0186-BLK1	21082409	08/13/2021	
Reference	BJH0186-SRM1	21082411	08/13/2021	
LCS	BJH0186-BS1	21082410	08/13/2021	
LDW21-SC564I	21F0442-07RE1	21082414	08/13/2021	

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CLEANUP BENCH SHEET

CJH0148

Matrix: Solid **Cleanup using: HRGCMS - EPA 3665A Sulfuric Acid Cleanup** **Printed: 8/18/2021 9:38:26AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0127-12	A	LDW21-SS634	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-11	A	LDW21-SS647	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-03	A	LDW21-SS651	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-05	A	LDW21-SS633	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-08	A	LDW21-SS645	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-10	A	LDW21-SS656	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-01	A	LDW21-SS668	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21G0127-02	A	LDW21-SS667	A 01	20	20	1613B Dioxin	8/13/2021	VB	
21F0392-25RE1	A	T91-R1-ITESSComp2	A 02	20	20	1613B Dioxin	8/13/2021	VB	
21F0442-07RE1	B	LDW21-SC564I	B 03	20	20	1613B Dioxin	8/13/2021	VB	
BJH0186-SRM1	-	Reference	-	20	20	-	8/13/2021	VB	
BJH0186-DUP1	-	Duplicate	-	20	20	-	8/13/2021	VB	
BJH0186-BLK1	-	Blank	-	20	20	-	8/13/2021	VB	
BJH0186-BS1	-	LCS	-	20	20	-	8/13/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0149	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
Reference	BJH0186-SRM1	21082411	08/17/2021	
LCS	BJH0186-BS1	21082410	08/17/2021	
Blank	BJH0186-BLK1	21082409	08/17/2021	
LDW21-SC564I	21F0442-07RE1	21082414	08/17/2021	

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CLEANUP BENCH SHEET

CJH0149

Matrix: Solid **Cleanup using: HRGCMS - EPA 3630C Silica Gel Cleanup** **Printed: 8/18/2021 9:38:48AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0127-12	A	LDW21-SS634	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-11	A	LDW21-SS647	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-03	A	LDW21-SS651	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-05	A	LDW21-SS633	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-08	A	LDW21-SS645	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-10	A	LDW21-SS656	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-01	A	LDW21-SS668	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-02	A	LDW21-SS667	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21F0392-25RE1	A	T91-R1-ITESSComp2	A 02	20	20	1613B Dioxin	8/17/2021	VB	
21F0442-07RE1	B	LDW21-SC564I	B 03	20	20	1613B Dioxin	8/17/2021	VB	
BJH0186-SRM1	-	Reference	-	20	20	-	8/17/2021	VB	
BJH0186-DUP1	-	Duplicate	-	20	20	-	8/17/2021	VB	
BJH0186-BLK1	-	Blank	-	20	20	-	8/17/2021	VB	
BJH0186-BS1	-	LCS	-	20	20	-	8/17/2021	VB	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BATCH SUMMARY

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Cleanup Batch:	CJH0150	Cleanup Type:	Florisil
Cleanup Method:	z-EPA 3620B Florisil Cleanup (mL) DO NOT USE	Analysis:	EPA 1613B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
LCS	BJH0186-BS1	21082410	08/17/2021	
Blank	BJH0186-BLK1	21082409	08/17/2021	
Reference	BJH0186-SRM1	21082411	08/17/2021	
LDW21-SC564I	21F0442-07RE1	21082414	08/17/2021	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CLEANUP BENCH SHEET

CJH0150

Matrix: Solid **Cleanup using: HRGCMS - EPA 3620B Florisil Cleanup (mL)** **Printed: 8/18/2021 9:39:00AM**

Lab Number	Sample Container	Sample Name	Extract Container	Initial (mL)	Final (mL)	Analysis	Clean Up Date	Cleaned By	Cleanup Comments
21G0127-12	A	LDW21-SS634	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-11	A	LDW21-SS647	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-03	A	LDW21-SS651	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-05	A	LDW21-SS633	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-08	A	LDW21-SS645	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-10	A	LDW21-SS656	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-01	A	LDW21-SS668	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21G0127-02	A	LDW21-SS667	A 01	20	20	1613B Dioxin	8/17/2021	VB	
21F0392-25RE1	A	T91-R1-ITESSComp2	A 02	20	20	1613B Dioxin	8/17/2021	VB	
21F0442-07RE1	B	LDW21-SC564I	B 03	20	20	1613B Dioxin	8/17/2021	VB	
BJH0186-SRM1	-	Reference	-	20	20	-	8/17/2021	VB	
BJH0186-DUP1	-	Duplicate	-	20	20	-	8/17/2021	VB	
BJH0186-BLK1	-	Blank	-	20	20	-	8/17/2021	VB	
BJH0186-BS1	-	LCS	-	20	20	-	8/17/2021	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:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJG0187-BLK1	File ID:	21071904
Sampled:	N/A	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 12:54
Solids Wt%:		Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	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	0.516	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.000	0.655-0.886	0.481	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1	0.000	1.318-1.783	0.216	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	0.000	1.318-1.783	0.196	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1	0.000	1.318-1.783	0.279	1.00	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	0.000	1.054-1.426	0.154	1.00	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.000	1.054-1.426	0.156	1.00	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.000	1.054-1.426	0.144	1.00	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	0.000	1.054-1.426	0.184	1.00	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	0.000	1.054-1.426	0.225	1.00	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.000	1.054-1.426	0.224	1.00	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.000	1.054-1.426	0.231	1.00	ND	ng/kg	U
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	0.000	0.893-1.208	0.148	1.00	ND	ng/kg	U
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.000	0.893-1.208	0.211	1.00	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	0.000	0.893-1.208	0.265	2.50	ND	ng/kg	U
39001-02-0	OCDF	1	0.000	0.757-1.024	0.321	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.979	0.757-1.024	0.297	10.0	0.865	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	ND	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.000
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.508

Analytical Resources, Incorporated
Analytical Chemists and Consultants

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Form 2
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJG0187-BLK1	File ID:	21071904
Sampled:	N/A	Prepared:	07/08/21 18:05	Analyzed:	07/19/21 12:54
Solids Wt%:	0.00	Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SJG0248	Calibration:	EC00006
Batch:	BJG0187	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF	1	0.791	0.655-0.886	0.33	34.8	24 - 169 %	
13C12-2,3,7,8-TCDD	1	0.811	0.655-0.886	0.41	43.8	25 - 164 %	
13C12-1,2,3,7,8-PeCDF	1	1.550	1.318-1.783	0.46	79.6	24 - 185 %	
13C12-2,3,4,7,8-PeCDF	1	1.536	1.318-1.783	0.48	79.2	21 - 178 %	
13C12-1,2,3,7,8-PeCDD	1	1.668	1.318-1.783	0.37	79.6	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF	1	0.498	0.434-0.587	0.42	81.8	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF	1	0.529	0.434-0.587	0.39	81.3	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF	1	0.506	0.434-0.587	0.44	88.2	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF	1	0.510	0.434-0.587	0.48	80.7	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD	1	1.242	1.054-1.426	0.47	90.8	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD	1	1.268	1.054-1.426	0.43	83.3	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF	1	0.434	0.374-0.506	0.46	92.9	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF	1	0.436	0.374-0.506	0.56	88.7	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD	1	1.090	0.893-1.208	0.50	86.3	23 - 140 %	
13C12-OCDD	1	0.873	0.757-1.024	0.70	94.6	17 - 157 %	
37Cl4-2,3,7,8-TCDD	1	328.000		0.12	44.6	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:46 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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					0.782		0.770	691	1167								
12378-PeCDF					0.866		1.550	658	878								
23478-PeCDF					0.980		1.550	658	878								
123478-HxCDF					1.002		1.240	634	499								
234678-HxCDF					1.043		1.240	634	499								
123678-HxCDF					0.961		1.240	634	499								
123789-HxCDF					0.994		1.240	634	499								
1234678-HpCDF					1.058		1.050	509	668								
1234789-HpCDF					1.070		1.050	509	668								
OCDF					1.257		0.890	650	1016								
2378-TCDD					1.307		0.770	1355	887								
12378-PeCDD					0.979		1.550	786	704								
123478-HxCDD					0.956		1.240	867	736								
123678-HxCDD					0.953		1.240	867	736								
123789-HxCDD					0.927		1.240	867	736								
1234678-HpCDD					1.055		1.050	774	696								
OCDD	44.903	1.000	4.910e2	5.013e2	1.074	0.979	0.890	677	641	1.35e4	9.34e3	19.9	14.6	NO	bd	db	0.433
13C-2378-TCDF	25.670	1.007	8.346e4	1.055e5	1.925	0.791	0.770	2781	1815	1.22e6	1.54e6	439.1	845.9	NO	bb	db	34.849
13C-12378-PeCDF	29.817	1.170	1.966e5	1.268e5	1.442	1.550	1.550	2367	2340	3.00e6	1.93e6	1266.9	825.5	NO	bb	bb	79.611
13C-23478-PeCDF	31.165	1.223	1.874e5	1.220e5	1.387	1.536	1.550	2367	2340	2.90e6	1.90e6	1225.6	811.6	NO	bb	bb	79.208
13C-123478-HxCDF	34.797	0.955	9.208e4	1.847e5	1.053	0.498	0.510	1582	2175	1.46e6	2.90e6	923.7	1331.1	NO	bd	bd	81.844
13C-123678-HxCDF	34.931	0.959	1.025e5	1.940e5	1.135	0.529	0.510	1582	2175	1.57e6	3.02e6	992.4	1387.7	NO	db	db	81.336
13C-234678-HxCDF	35.800	0.983	9.559e4	1.889e5	1.004	0.506	0.510	1582	2175	1.52e6	3.00e6	960.3	1377.9	NO	bb	bd	88.222
13C-123789-HxCDF	36.836	1.011	7.948e4	1.560e5	0.909	0.510	0.510	1582	2175	1.26e6	2.50e6	795.1	1148.5	NO	bb	bb	80.655
13C-1234678-HpCDF	38.674	1.062	8.674e4	1.997e5	0.960	0.434	0.440	1667	2104	1.37e6	3.14e6	821.0	1491.2	NO	bd	bd	92.928
13C-1234789-HpCDF	40.914	1.123	6.868e4	1.574e5	0.794	0.436	0.440	1667	2104	9.49e5	2.18e6	569.3	1034.6	NO	bd	bd	88.685
13C-1234-TCDD	25.489	0.000	1.259e5	1.558e5	1.000	0.808	0.770	1907	1443	1.91e6	2.39e6	1002.7	1653.6	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	6.254e4	7.716e4	1.133	0.811	0.770	1907	1443	9.57e5	1.16e6	502.0	801.4	NO	bb	bb	43.782
13C-12378-PeCDD	31.421	1.233	1.328e5	7.962e4	0.947	1.668	1.550	1469	1006	2.05e6	1.22e6	1394.1	1213.4	NO	bb	bb	79.635
13C-123478-HxCDD	35.922	0.986	1.516e5	1.220e5	0.939	1.242	1.240	1842	1959	2.47e6	1.99e6	1342.6	1014.9	NO	bd	bd	90.786
13C-123678-HxCDD	36.045	0.990	1.560e5	1.230e5	1.042	1.268	1.240	1842	1959	2.52e6	2.01e6	1369.0	1023.8	NO	db	db	83.344
13C-1234678-HpCDD	40.178	1.103	1.139e5	1.045e5	0.788	1.090	1.050	1546	1814	1.64e6	1.48e6	1062.5	813.6	NO	bd	bd	86.291
13C-OCDD	44.894	1.233	1.991e5	2.281e5	0.703	0.873	0.890	1341	2846	2.31e6	2.59e6	1723.9	908.6	NO	bb	bd	189.158
13C-123789-HxCDD	36.424	0.000	1.790e5	1.422e5	1.000	1.259	1.240	1842	1959	2.86e6	2.26e6	1550.1	1151.5	NO	bb	bb	100.000
37CL-2378-TCDD	26.335	1.033	6.522e4		1.298			1092		9.49e5		869.2			bb		17.844

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:46 Pacific Daylight Time

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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					0.966		0.770	691	1167								
1289-TCDF					0.736		0.770	691	1167								
13468-PECDF					1.347		1.550	465	742								
12389-PECDF					0.867		1.550	658	878								
123468-HXCDF					1.036		1.240	634	499								
1368-TCDD					1.256		0.770	1355	887								
1289-TCDD					1.151		0.770	1355	887								
12479-PECDD					1.773		1.550	786	704								
12389-PECDD					1.171		1.550	786	704								
124679-HXCDD					1.034		1.240	867	736								
1234679-HPCDD					1.194		1.050	774	696								
Total-tetrafurans			0.000e0		0.828			691		0.00e0							
Total-penta1			0.000e0					465		0.00e0							
Total-pentafurans			0.000e0		0.904			658		0.00e0							
Total-hexafurans			0.000e0		1.007			634		0.00e0							
Total-heptafurans			0.000e0		1.064			509		0.00e0							
Total-Furans			0.000e0		0.998			691		0.00e0							
Total-tetradioxins			0.000e0		1.238			1355		0.00e0							
Total-pentadioxins			0.000e0		1.308			786		0.00e0							
Total-hexadioxins			0.000e0		0.967			867		0.00e0							
Total-heptadioxins			0.000e0		1.125			774		0.00e0							
Total-Dioxins			4.910e2		1.141			1355		1.35e4							0.433
Total-TEQ			4.910e2					1355		1.35e4							0.433
FUNCTION1 PFK			9.719e6					1052020		8.86e7							
FUNCTION2 PFK			1.682e5					640918		6.71e6							0.000
FUNCTION3 PFK			1.875e4					609252		9.08e5							0.000
FUNCTION4 PFK			6.988e5					515899		1.90e7							
FUNCTION5 PFK			7.643e4					286270		3.22e6							
FUNCTION1 HXCD...			9.277e2					572		9.21e3							0.000
FUNCTION1 HPCD...			9.995e2					760		1.72e4							0.000
FUNCTION2 HPCD...			1.179e2					740		2.41e3							0.000
FUNCTION3 OCDPE			2.066e2					535		3.38e3							0.000
FUNCTION4 NCDPE			1.596e2					638		3.36e3							0.000
FUNCTION5 DCDPE			2.682e2					644		2.52e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:46 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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													

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:46 Pacific Daylight Time

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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													

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	44.90	4.910e2	5.013e2	1.074	0.98	0.89	19.9	YES	NO	bd	db	0.433

TotalTEQ,Furans,Dioxins

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

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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	21.94	1.966e5					4.4	YES		bd		
2	FUNCTION1 PFK	21.80	3.142e5					3.8	YES		db		
3	FUNCTION1 PFK	21.68	2.239e5					2.5	NO		bd		
4	FUNCTION1 PFK	21.41	1.580e4					0.6	NO		bb		
5	FUNCTION1 PFK	21.21	1.415e5					1.6	NO		bb		
6	FUNCTION1 PFK	24.52	5.388e5					3.0	YES		bb		
7	FUNCTION1 PFK	24.35	4.165e4					1.2	NO		bb		
8	FUNCTION1 PFK	24.25	3.316e5					3.0	NO		bb		
9	FUNCTION1 PFK	24.10	1.791e4					0.5	NO		bb		
10	FUNCTION1 PFK	23.89	1.089e5					2.1	NO		db		
11	FUNCTION1 PFK	23.83	7.343e4					1.6	NO		dd		
12	FUNCTION1 PFK	23.76	5.156e4					1.3	NO		bd		
13	FUNCTION1 PFK	23.64	4.325e4					1.1	NO		db		
14	FUNCTION1 PFK	23.58	9.596e5					1.5	NO		dd		
15	FUNCTION1 PFK	23.27	4.267e5					5.8	YES		dd		
16	FUNCTION1 PFK	23.22	4.022e5					5.2	YES		bd		
17	FUNCTION1 PFK	23.02	1.195e6					7.0	YES		db		
18	FUNCTION1 PFK	22.72	4.144e5					1.9	NO		bd		
19	FUNCTION1 PFK	22.45	1.001e6					6.2	YES		bb		
20	FUNCTION1 PFK	22.21	1.325e6					6.1	YES		db		
21	FUNCTION1 PFK	22.04	6.385e5					5.7	YES		dd		
22	FUNCTION1 PFK	27.62	4.559e4					1.1	NO		bb		
23	FUNCTION1 PFK	27.50	7.248e4					1.4	NO		db		
24	FUNCTION1 PFK	27.44	6.303e4					1.4	NO		bd		
25	FUNCTION1 PFK	27.18	6.002e3					0.4	NO		bb		
26	FUNCTION1 PFK	26.91	2.289e4					0.8	NO		bb		
27	FUNCTION1 PFK	26.79	6.616e3					0.4	NO		bb		
28	FUNCTION1 PFK	26.67	1.891e4					0.7	NO		db		
29	FUNCTION1 PFK	26.61	3.654e4					1.0	NO		bd		
30	FUNCTION1 PFK	26.40	2.064e4					0.7	NO		bb		
31	FUNCTION1 PFK	26.32	4.350e4					1.1	NO		db		
32	FUNCTION1 PFK	26.24	2.420e4					0.8	NO		bd		
33	FUNCTION1 PFK	26.14	8.504e4					1.1	NO		bb		
34	FUNCTION1 PFK	26.08	2.193e4					0.8	NO		bb		
35	FUNCTION1 PFK	25.69	6.928e3					0.4	NO		bb		
36	FUNCTION1 PFK	25.29	5.570e5					3.7	YES		bb		
37	FUNCTION1 PFK	24.70	2.257e5					2.2	NO		bb		

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Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:46 Pacific Daylight Time

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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	31.93	1.469e4					1.1	NO		bb		0.000
2	FUNCTION2 PFK	31.63	9.041e3					0.8	NO		bb		0.000
3	FUNCTION2 PFK	30.64	1.036e4					0.8	NO		bb		0.000
4	FUNCTION2 PFK	30.45	1.039e4					0.8	NO		bb		0.000
5	FUNCTION2 PFK	30.36	1.146e4					0.8	NO		bb		0.000
6	FUNCTION2 PFK	28.69	1.385e4					0.8	NO		bb		0.000
7	FUNCTION2 PFK	28.64	3.357e4					1.5	NO		bb		0.000
8	FUNCTION2 PFK	28.29	1.897e4					1.1	NO		bb		0.000
9	FUNCTION2 PFK	27.86	1.735e4					1.2	NO		db		0.000
10	FUNCTION2 PFK	27.81	2.852e4					1.6	NO		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	37.43	1.875e4					1.5	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:46 Pacific Daylight Time

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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	37.89	7.862e3					0.8	NO		db		
2	FUNCTION4 PFK	37.81	5.985e4					2.2	NO		bd		
3	FUNCTION4 PFK	40.19	4.401e3					0.5	NO		dd		
4	FUNCTION4 PFK	40.14	2.420e4					1.3	NO		bd		
5	FUNCTION4 PFK	40.09	1.884e4					1.5	NO		bb		
6	FUNCTION4 PFK	39.89	4.825e3					0.5	NO		bb		
7	FUNCTION4 PFK	39.61	1.320e4					1.2	NO		bb		
8	FUNCTION4 PFK	39.52	1.697e4					1.0	NO		bb		
9	FUNCTION4 PFK	39.45	1.332e4					1.3	NO		bb		
10	FUNCTION4 PFK	39.40	8.526e3					0.6	NO		bb		
11	FUNCTION4 PFK	39.34	1.471e4					1.0	NO		bb		
12	FUNCTION4 PFK	39.28	2.376e4					0.9	NO		bb		
13	FUNCTION4 PFK	39.14	2.130e3					0.4	NO		bb		
14	FUNCTION4 PFK	38.90	2.122e3					0.4	NO		bb		
15	FUNCTION4 PFK	38.83	5.061e4					2.0	NO		bb		
16	FUNCTION4 PFK	38.74	1.558e4					1.0	NO		bb		
17	FUNCTION4 PFK	38.55	5.017e3					0.5	NO		bb		
18	FUNCTION4 PFK	38.44	1.274e4					1.0	NO		bb		
19	FUNCTION4 PFK	42.19	2.110e4					1.4	NO		bb		
20	FUNCTION4 PFK	41.87	1.844e4					1.0	NO		bb		
21	FUNCTION4 PFK	41.75	6.372e3					0.6	NO		bb		
22	FUNCTION4 PFK	41.69	1.449e4					0.9	NO		bb		
23	FUNCTION4 PFK	41.54	2.094e3					0.4	NO		bb		
24	FUNCTION4 PFK	41.49	1.902e4					1.2	NO		bb		
25	FUNCTION4 PFK	41.42	1.328e4					0.9	NO		bb		
26	FUNCTION4 PFK	41.10	1.800e4					1.0	NO		db		
27	FUNCTION4 PFK	41.06	2.466e4					1.4	NO		bd		
28	FUNCTION4 PFK	40.92	2.892e4					1.1	NO		db		
29	FUNCTION4 PFK	40.80	2.842e4					1.0	NO		bd		
30	FUNCTION4 PFK	40.52	2.012e3					0.4	NO		bb		
31	FUNCTION4 PFK	40.42	3.763e4					1.2	NO		db		
32	FUNCTION4 PFK	40.36	5.773e4					1.7	NO		dd		
33	FUNCTION4 PFK	40.28	2.804e4					1.7	NO		dd		
34	FUNCTION4 PFK	40.23	2.334e4					1.2	NO		dd		
35	FUNCTION4 PFK	42.41	5.657e4					1.4	NO		bb		

ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, 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	45.81	1.039e4					0.8	NO		bb		
2	FUNCTION5 PFK	45.77	3.563e3					0.8	NO		db		
3	FUNCTION5 PFK	45.75	2.674e3					0.7	NO		bd		
4	FUNCTION5 PFK	45.29	8.153e3					1.2	NO		bb		
5	FUNCTION5 PFK	44.62	3.685e3					0.9	NO		bb		
6	FUNCTION5 PFK	44.40	1.973e3					0.8	NO		bb		
7	FUNCTION5 PFK	44.19	1.910e3					0.7	NO		bb		
8	FUNCTION5 PFK	43.43	1.697e3					0.6	NO		bb		
9	FUNCTION5 PFK	43.22	1.381e4					1.5	NO		bb		
10	FUNCTION5 PFK	43.13	2.117e4					1.8	NO		bb		
11	FUNCTION5 PFK	43.05	3.538e3					0.5	NO		bb		
12	FUNCTION5 PFK	42.92	3.867e3					0.9	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.36	2.516e2					3.3	YES		bb		0.000
2	FUNCTION1 HXCD...	27.08	8.731e1					2.4	NO		bb		0.000
3	FUNCTION1 HXCD...	22.68	1.738e2					2.1	NO		bb		0.000
4	FUNCTION1 HXCD...	22.28	1.094e2					3.5	YES		db		0.000
5	FUNCTION1 HXCD...	22.19	1.142e2					2.6	NO		dd		0.000
6	FUNCTION1 HXCD...	21.98	1.913e2					2.3	NO		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.83	8.547e1					2.1	NO		db		0.000
2	FUNCTION1 HPCD...	26.71	1.599e2					2.4	NO		dd		0.000
3	FUNCTION1 HPCD...	26.56	1.847e2					2.0	NO		bd		0.000
4	FUNCTION1 HPCD...	24.63	1.042e2					1.5	NO		db		0.000
5	FUNCTION1 HPCD...	24.48	1.712e2					6.2	YES		bd		0.000
6	FUNCTION1 HPCD...	22.25	7.461e1					1.4	NO		bb		0.000
7	FUNCTION1 HPCD...	21.65	1.372e2					4.9	YES		db		0.000
8	FUNCTION1 HPCD...	21.59	8.223e1					2.0	NO		bd		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.72	1.179e2					3.3	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	37.25	7.454e1					2.8	NO		bb		0.000
2	FUNCTION3 OCDPE	36.42	1.321e2					3.5	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	39.25	8.669e1					2.1	NO		bb		0.000
2	FUNCTION4 NCDPE	38.91	7.287e1					3.2	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	44.03	2.682e2					3.9	YES		bb		0.000

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
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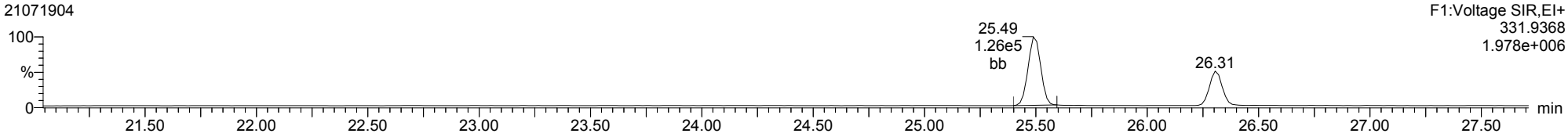

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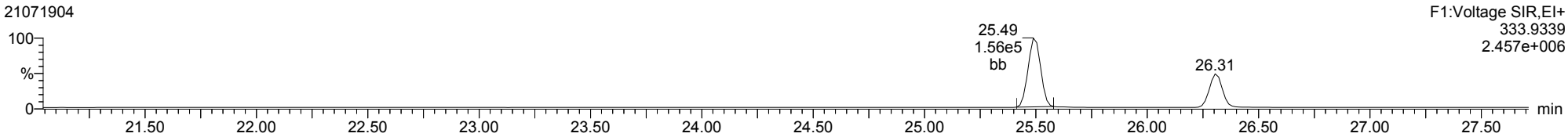

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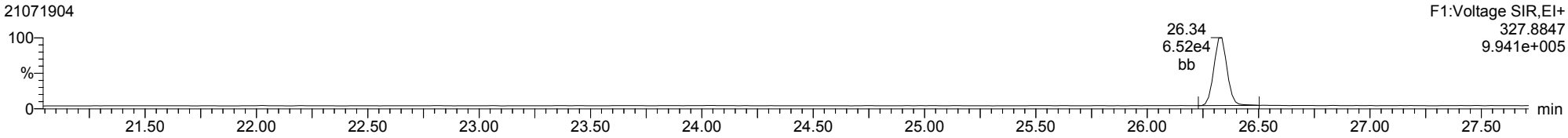

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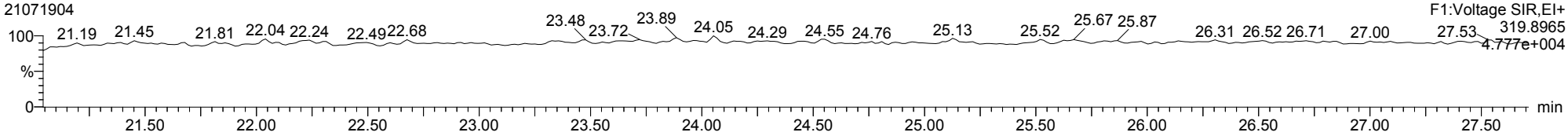
2378-TCDD



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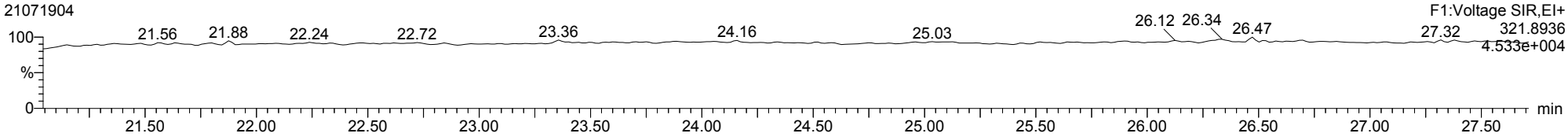

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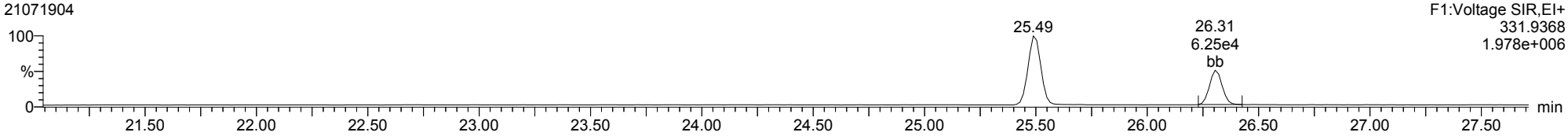

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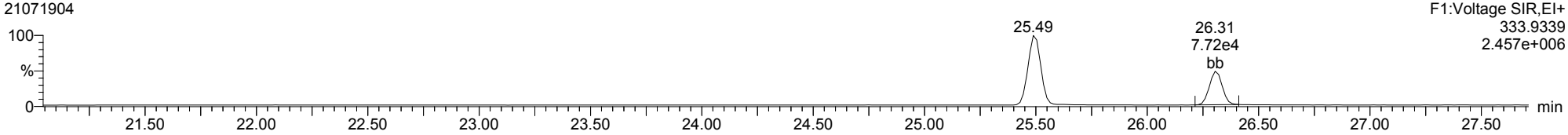
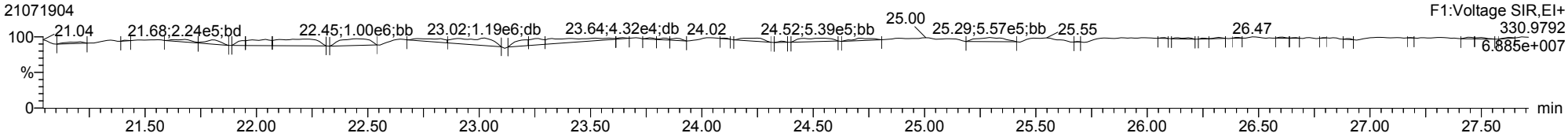


FUNCTION1 PFK



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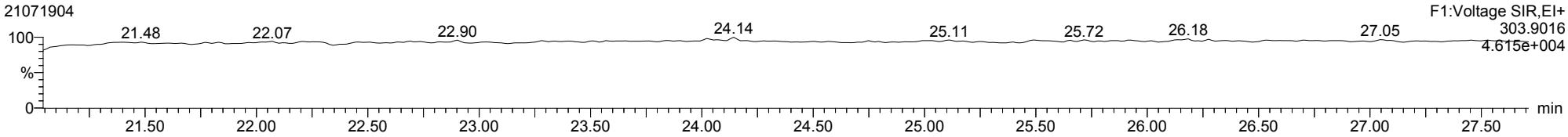
2378-TCDF



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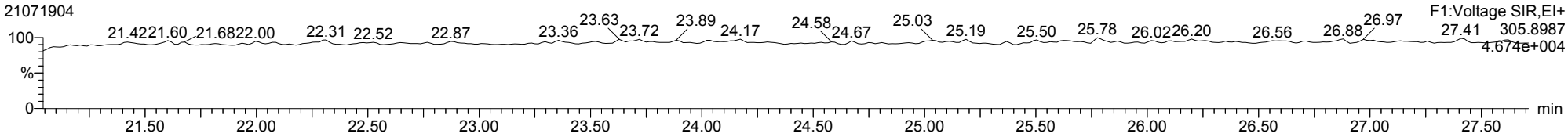

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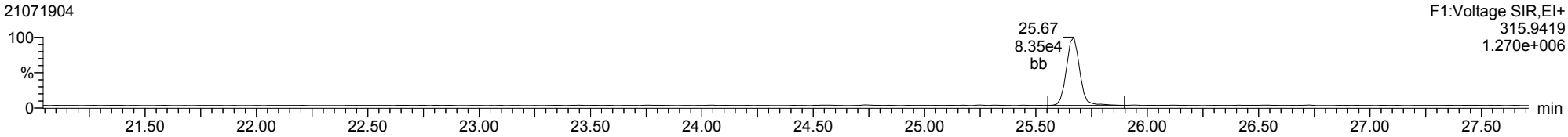

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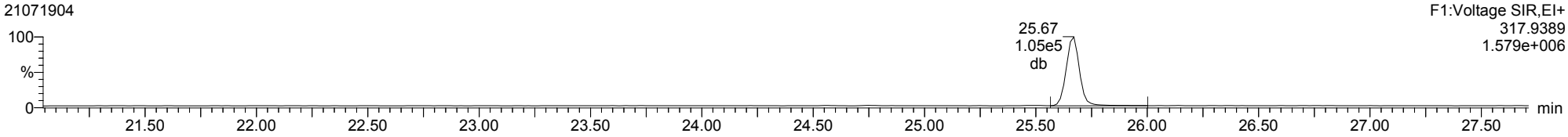

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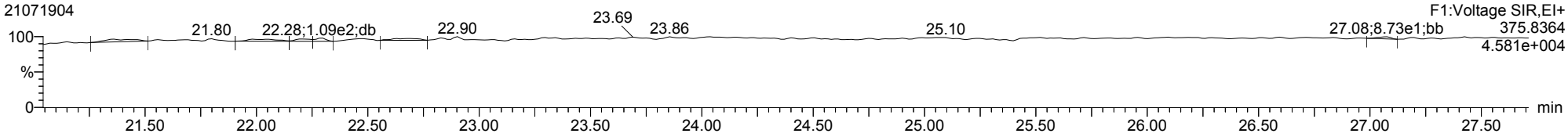

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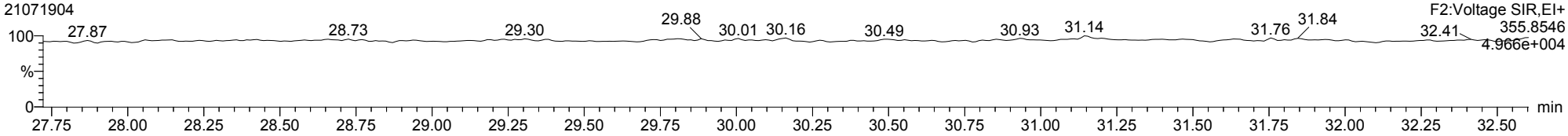
12378-PeCDD



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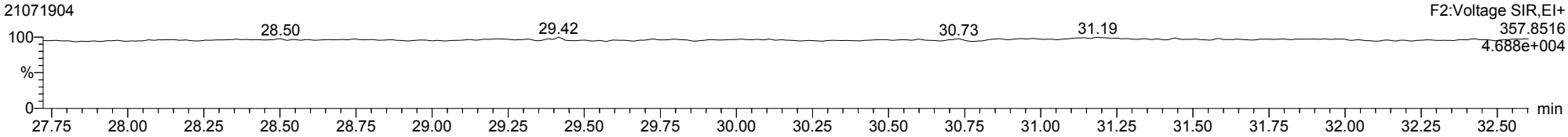

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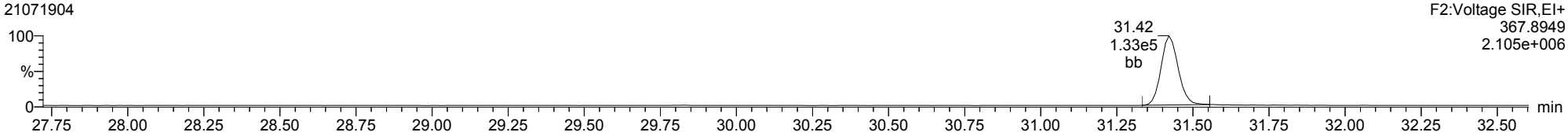

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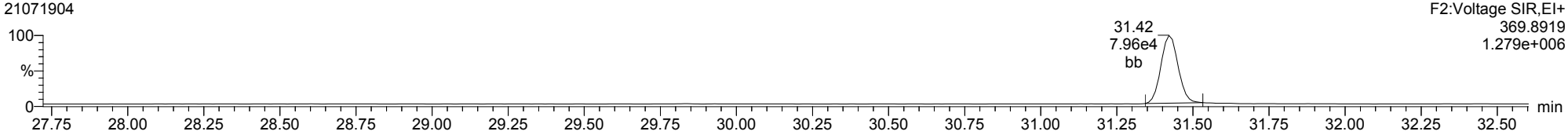
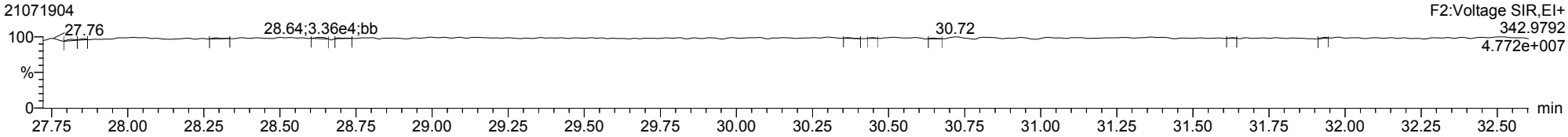


FUNCTION2 PFK



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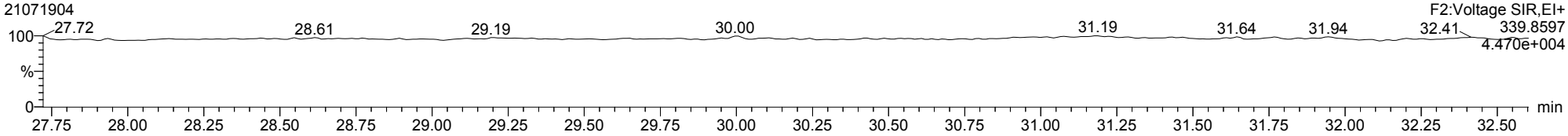

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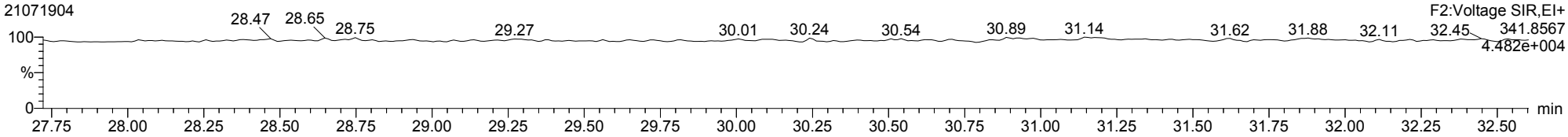

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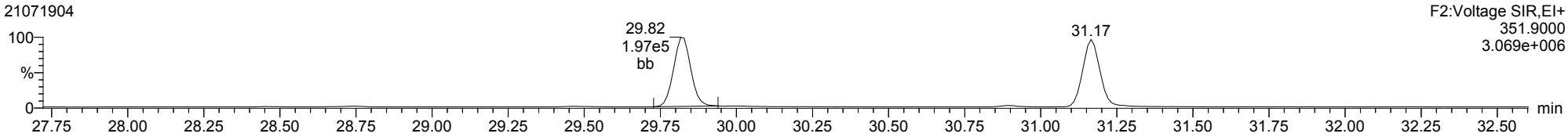

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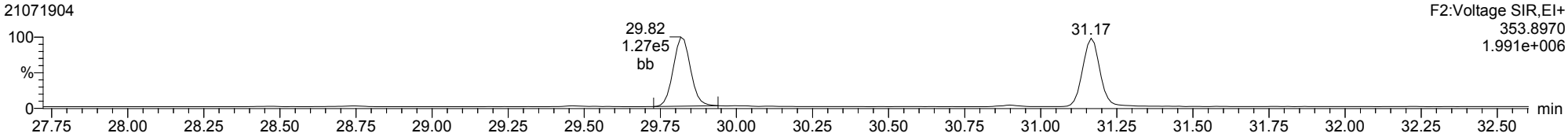
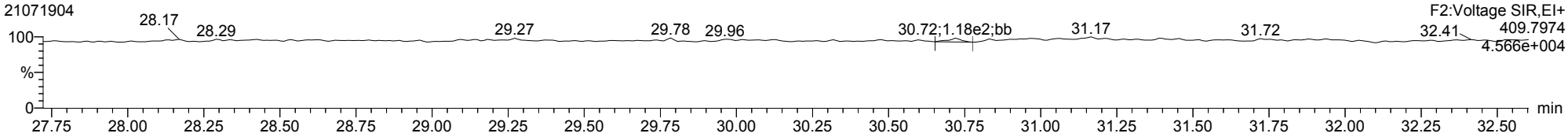


FUNCTION2 HPCDPE



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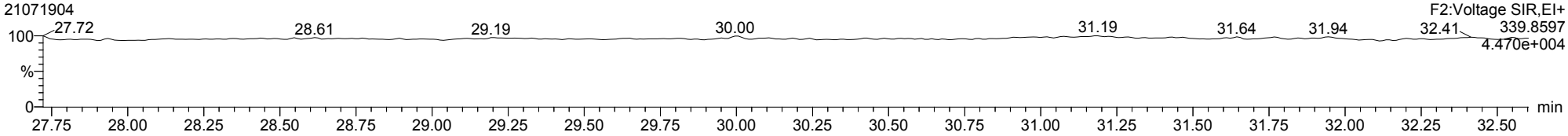
23478-PeCDF



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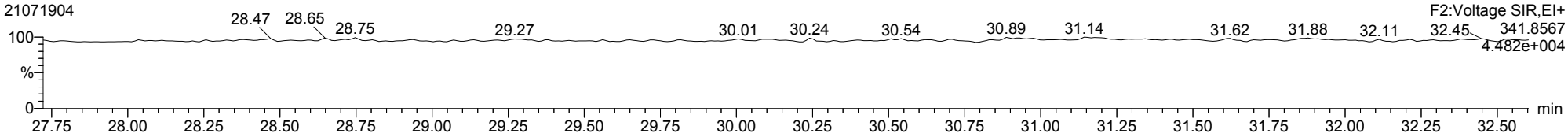

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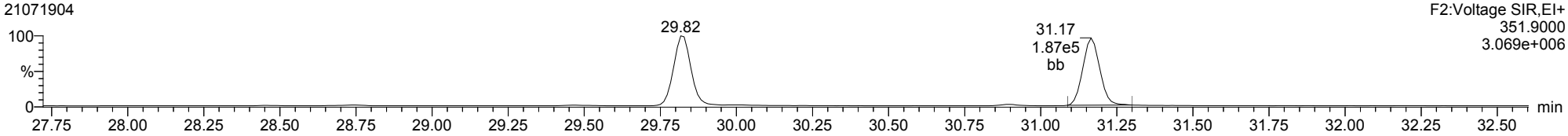

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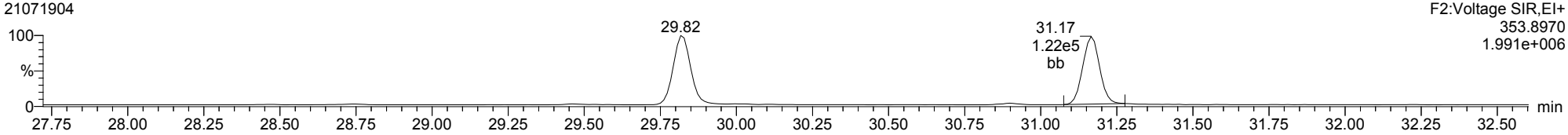
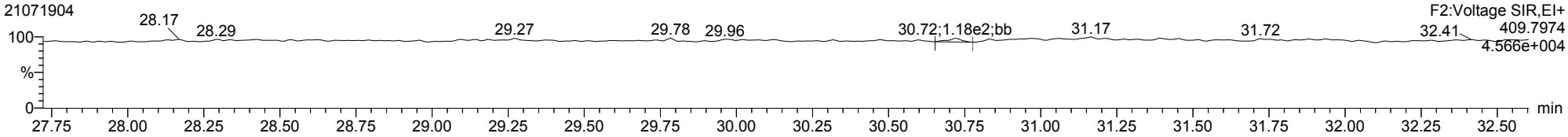


FUNCTION2 HPCDPE



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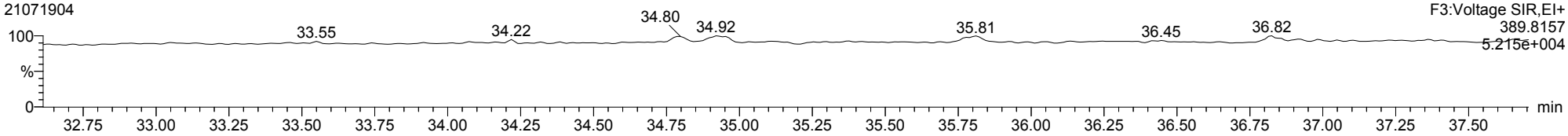

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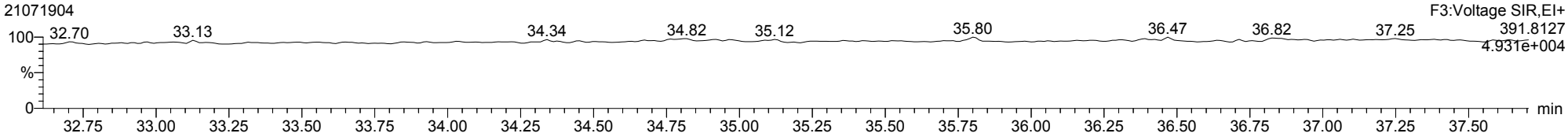

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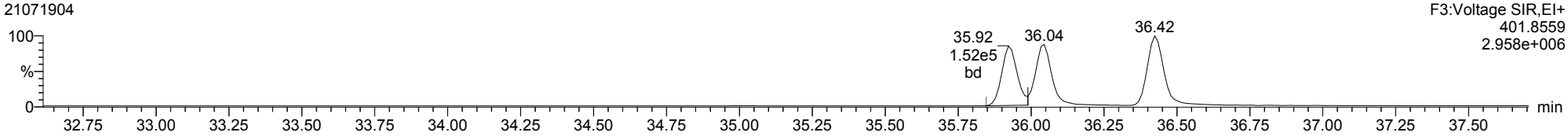

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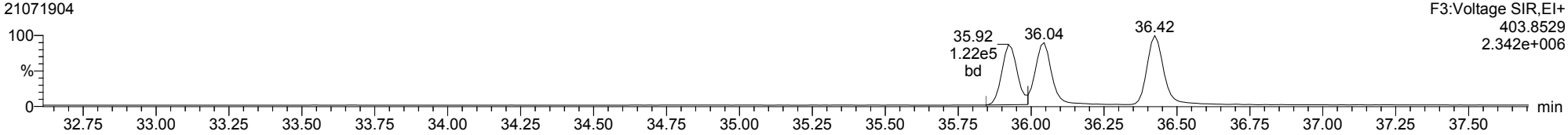

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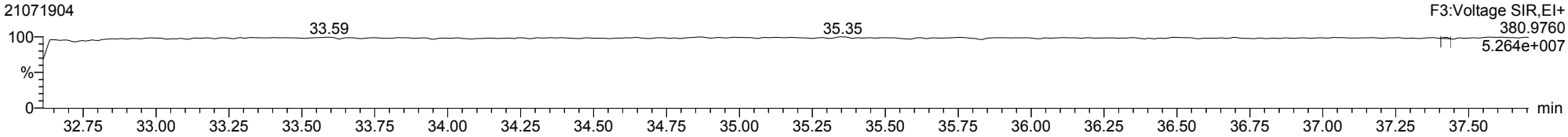

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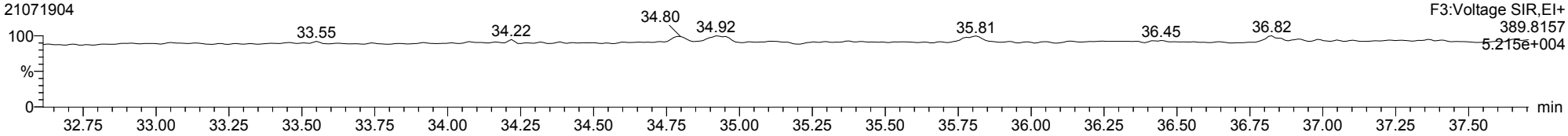

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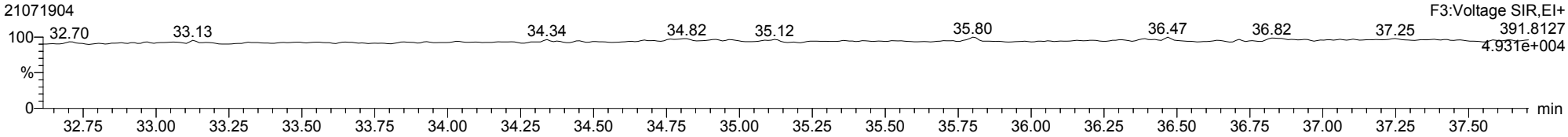

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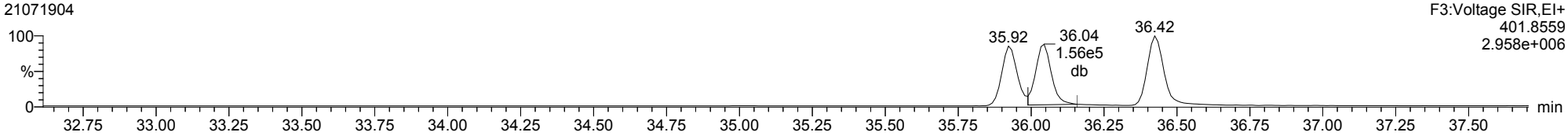

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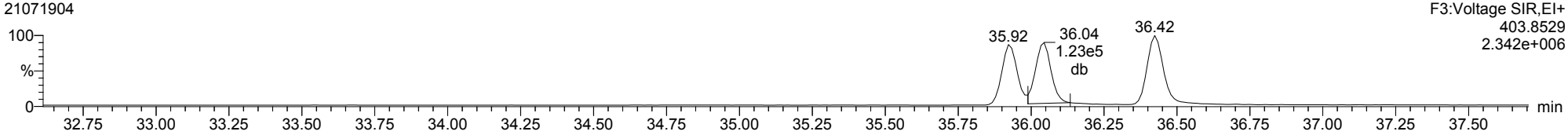

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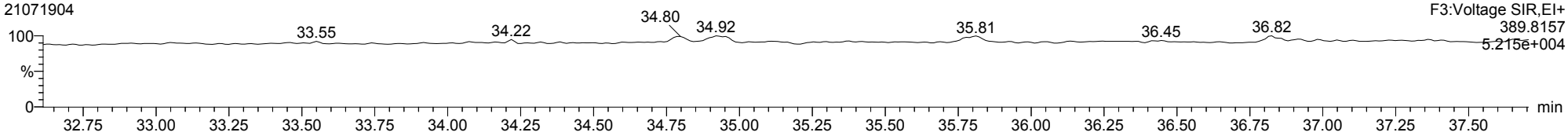

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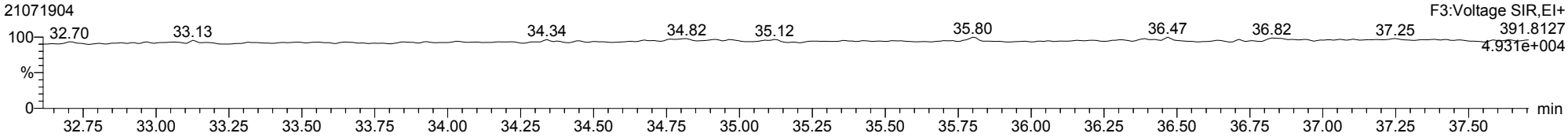

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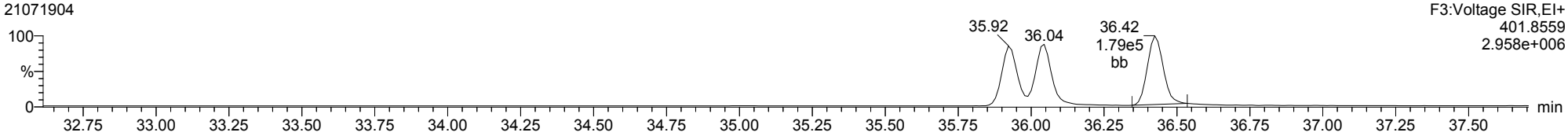

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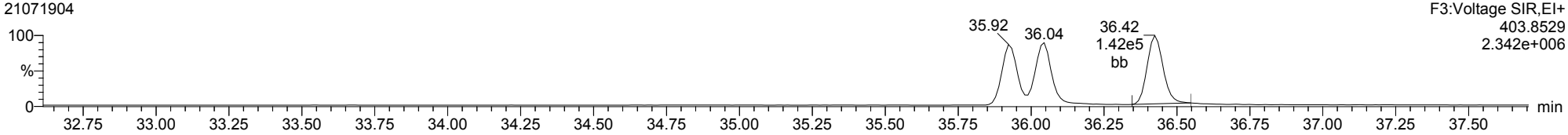

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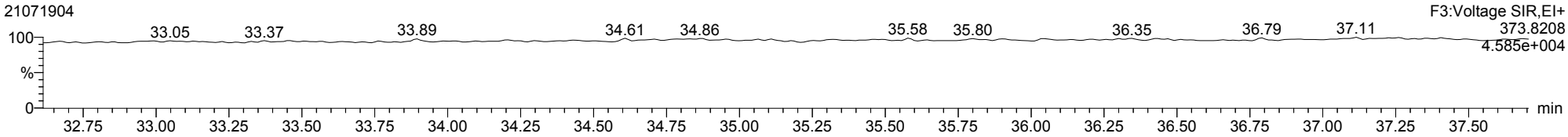

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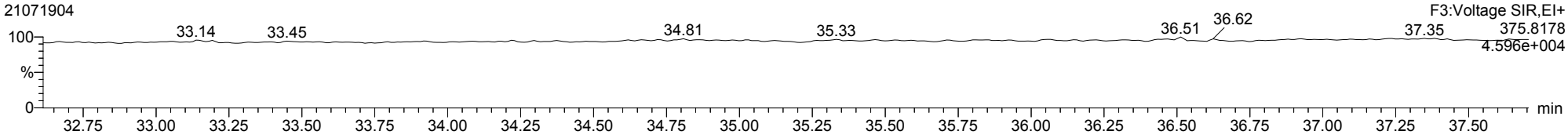

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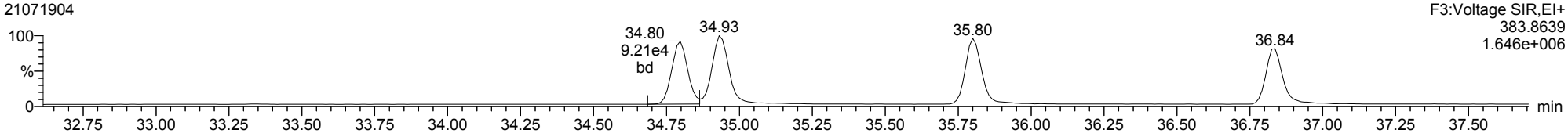

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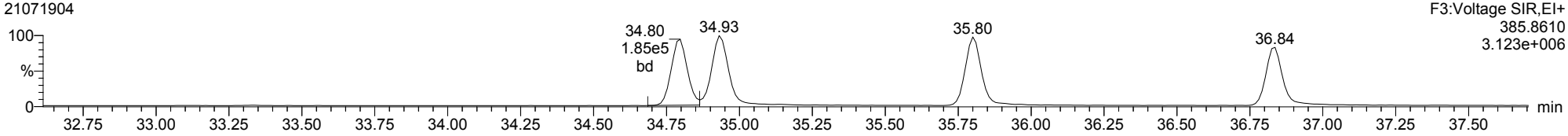

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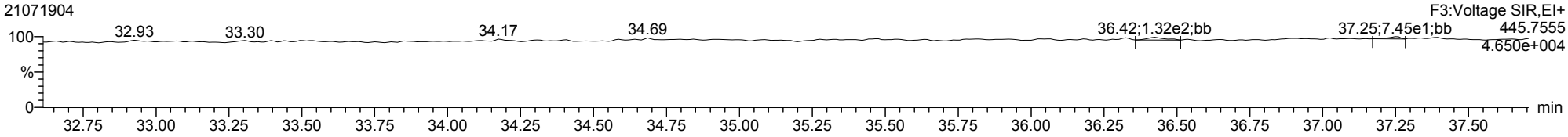

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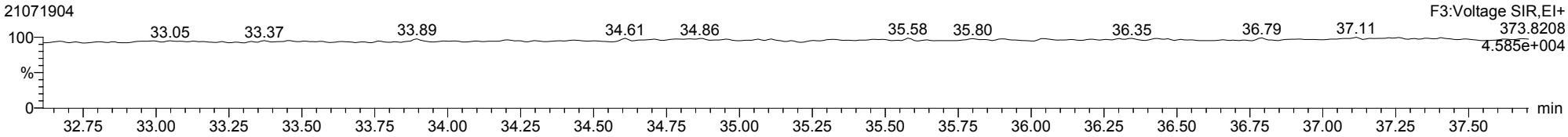

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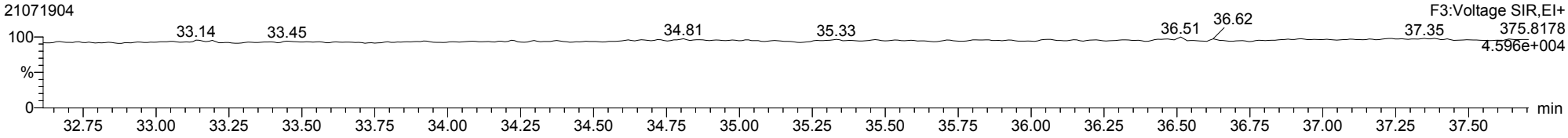

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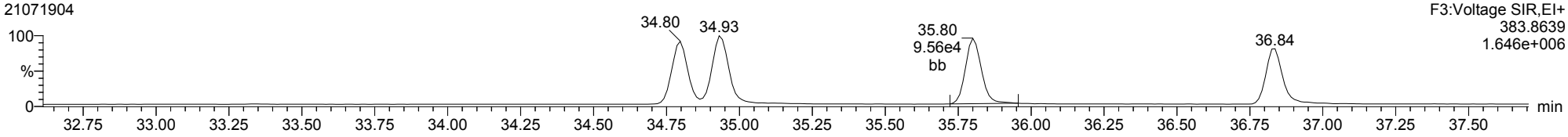

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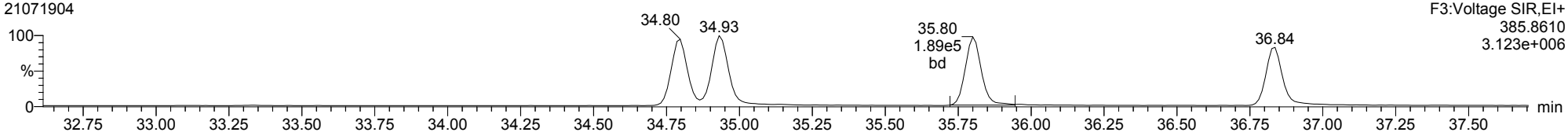

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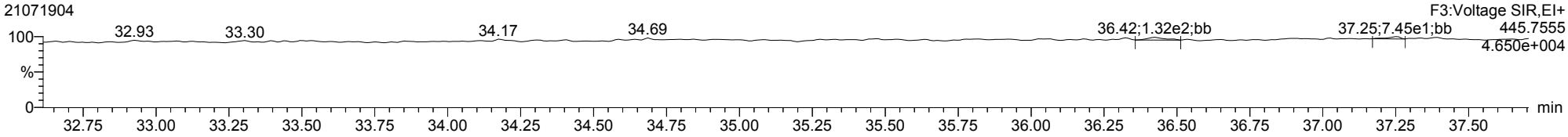

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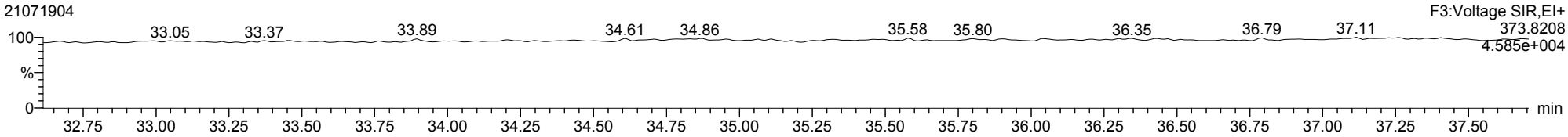

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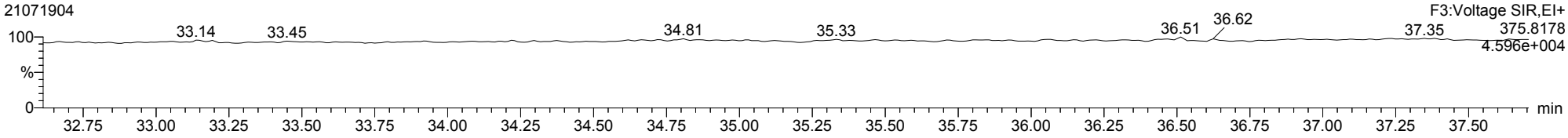

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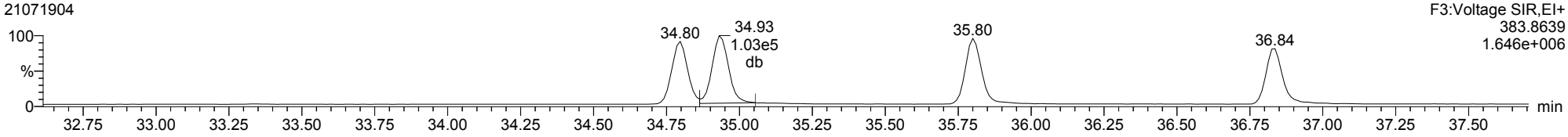

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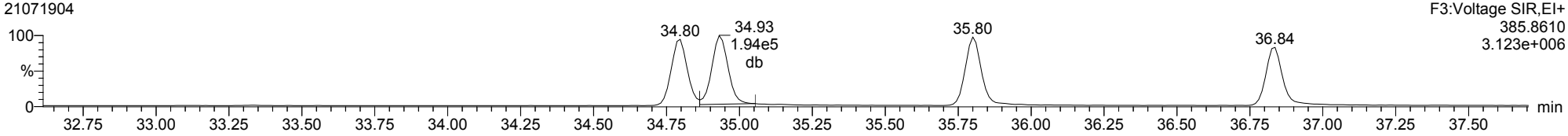

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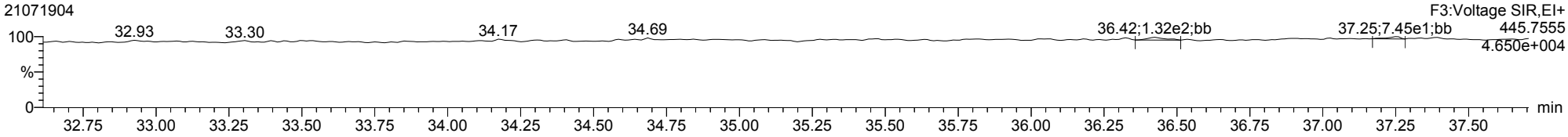

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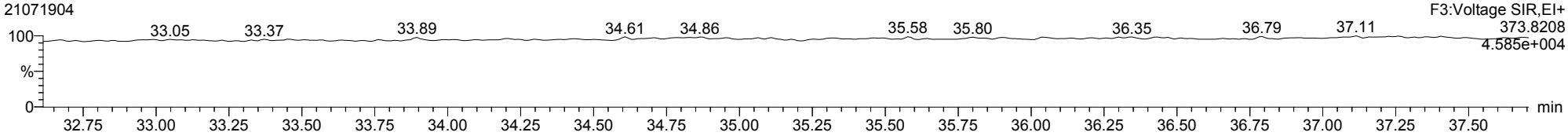

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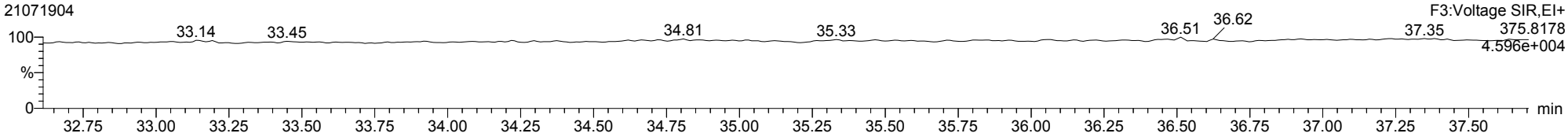

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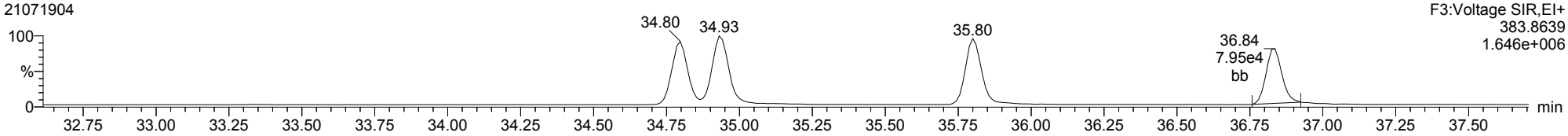

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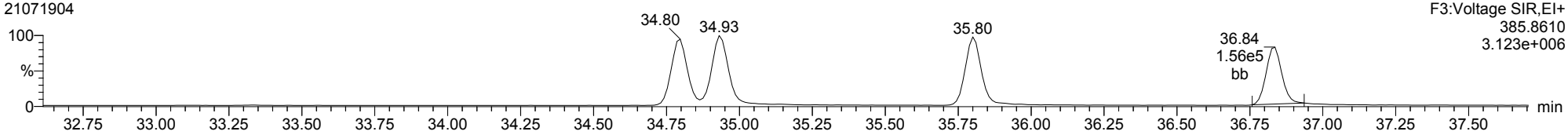
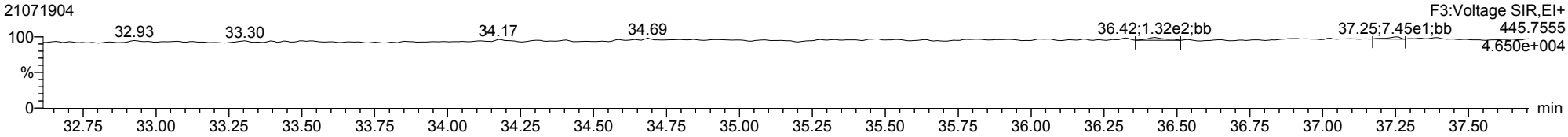


FUNCTION3 OCDPE



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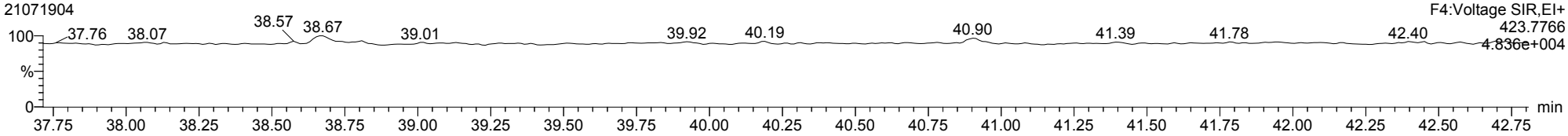

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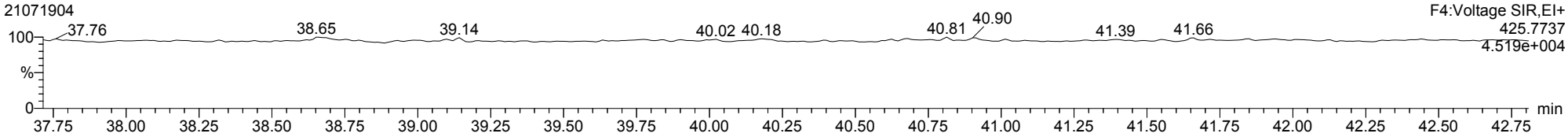

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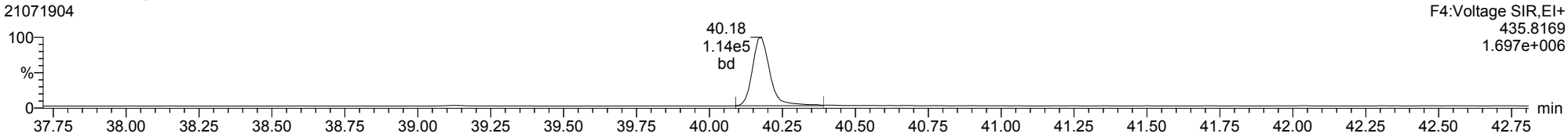

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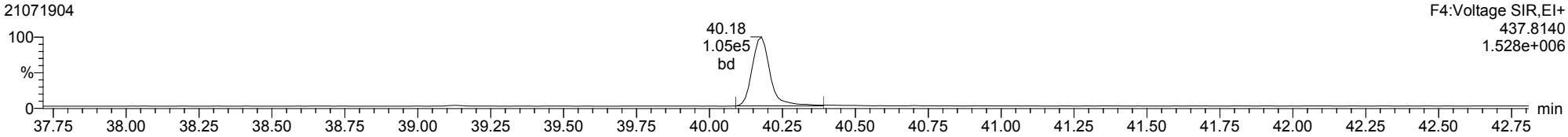
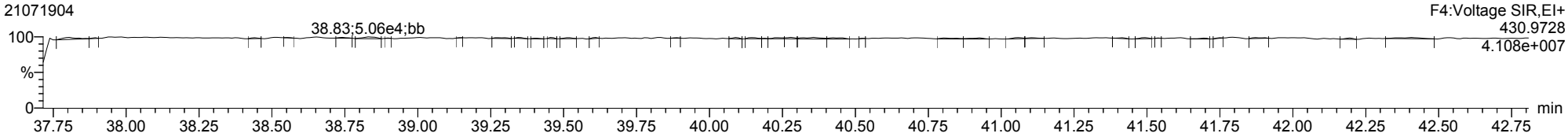


FUNCTION4 PFK



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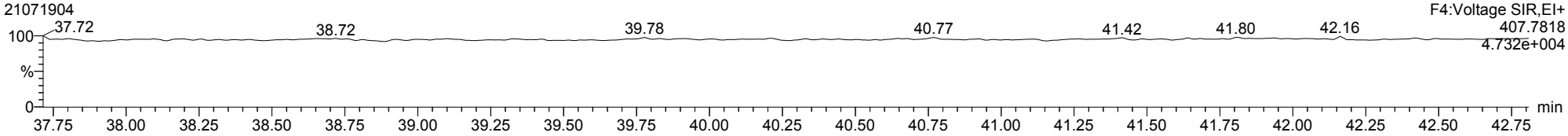

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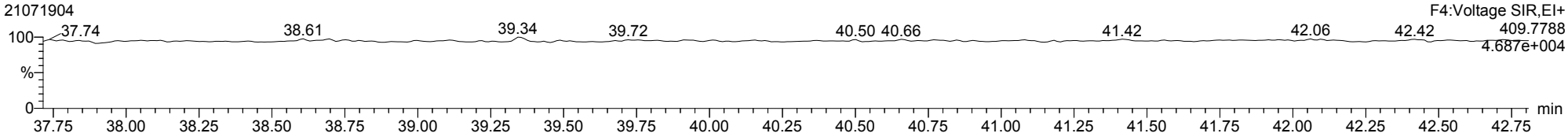

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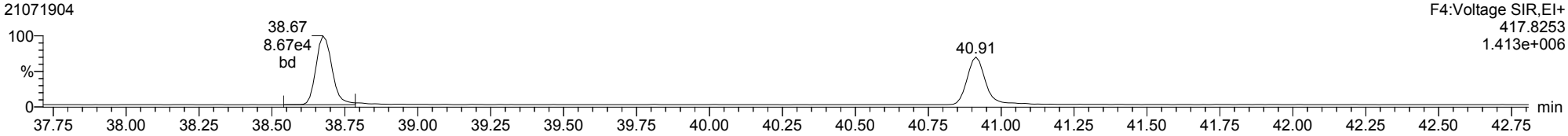

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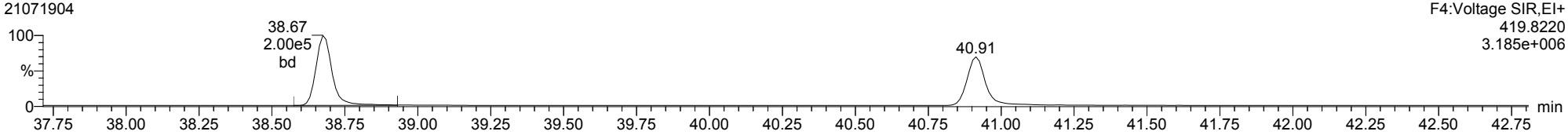

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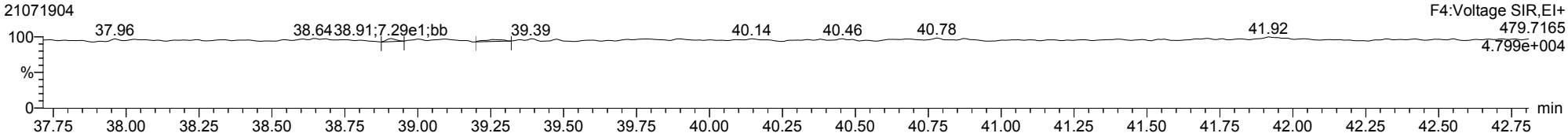

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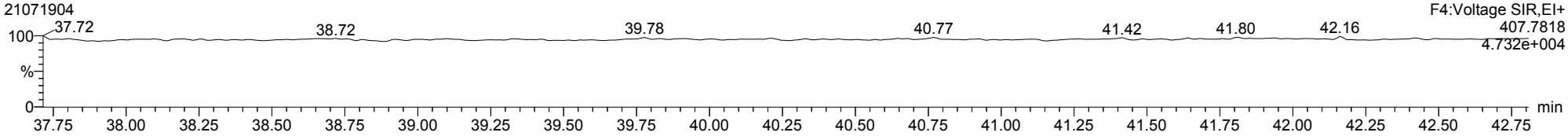

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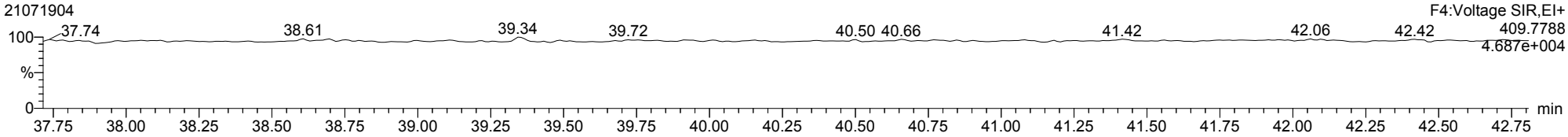

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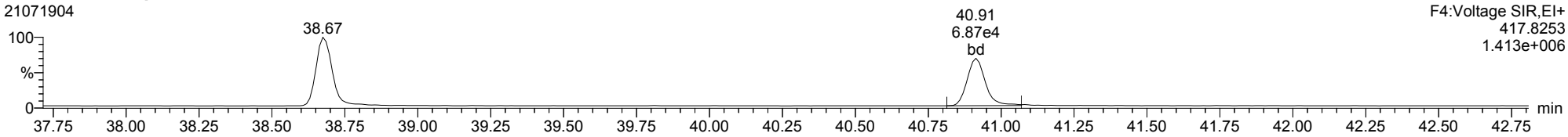

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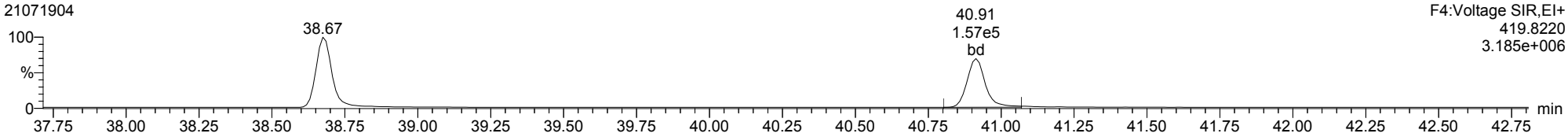

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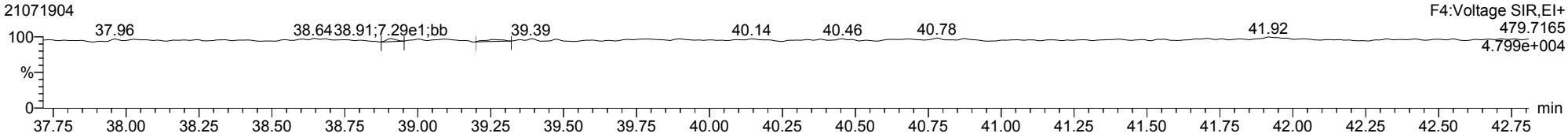

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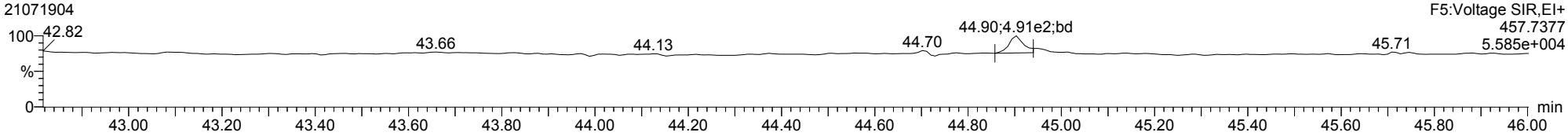
OCDD



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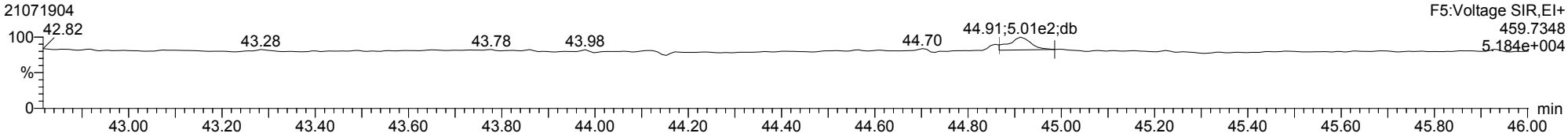
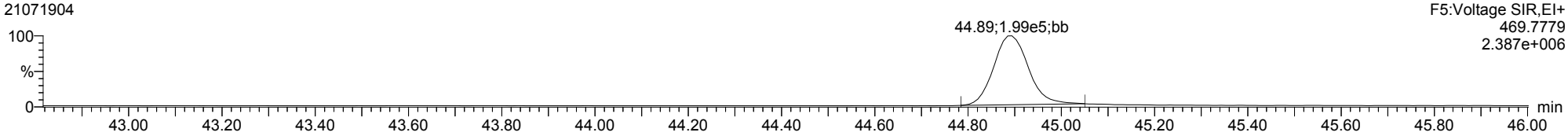


13C-OCDD



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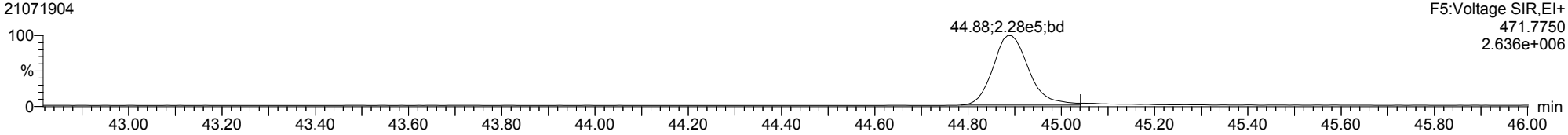
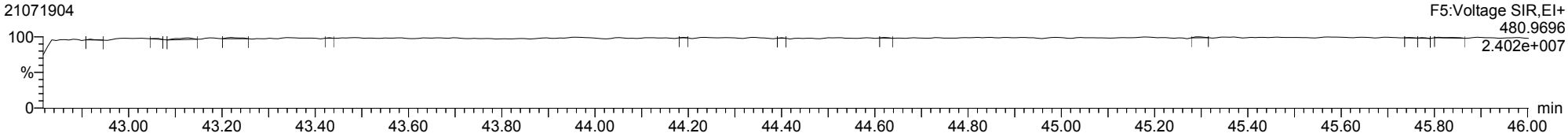
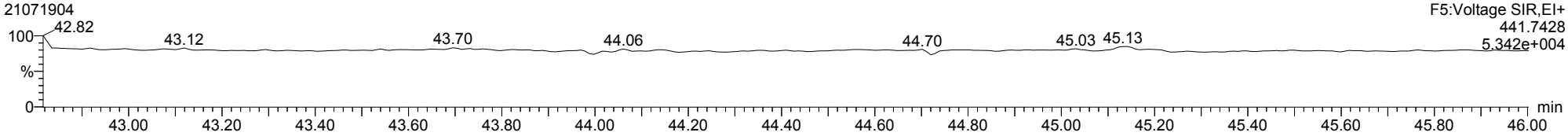


FUNCTION5 PFK

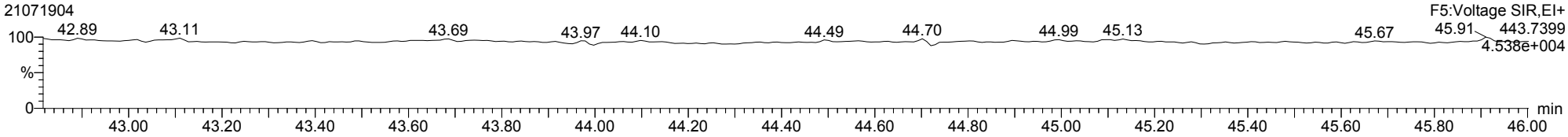


ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, Conditions: AUTOSPEC01, User: pk

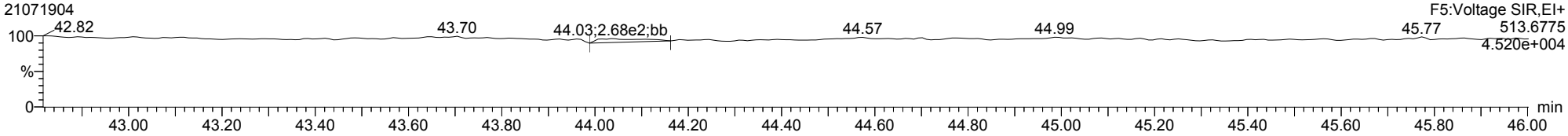
OCDF



OCDF

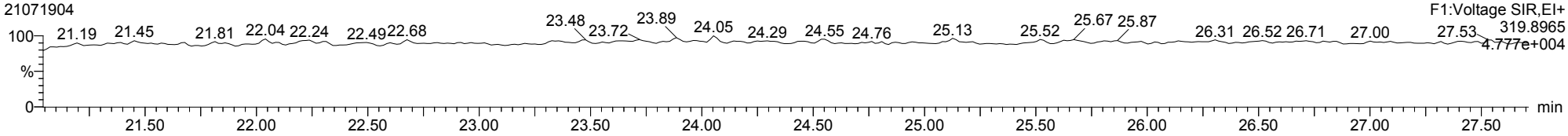


FUNCTION5 DCDPE

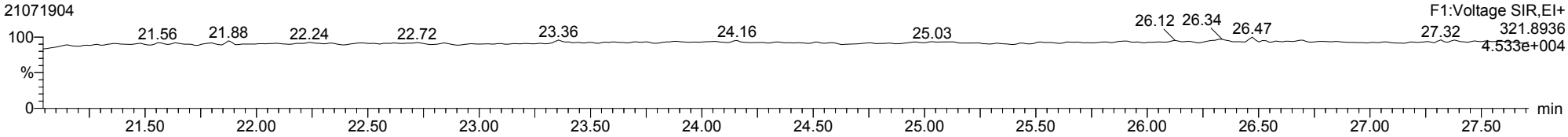


ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, Conditions: AUTOSPEC01, User: pk

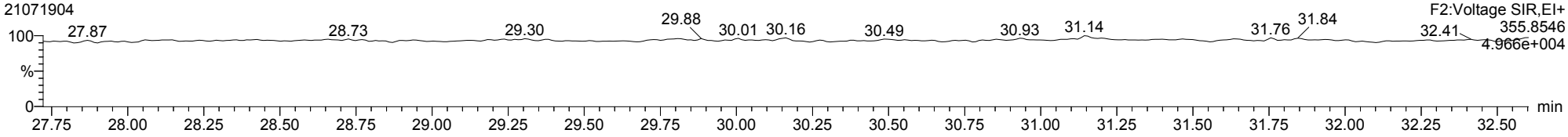
Total-tetradioxins



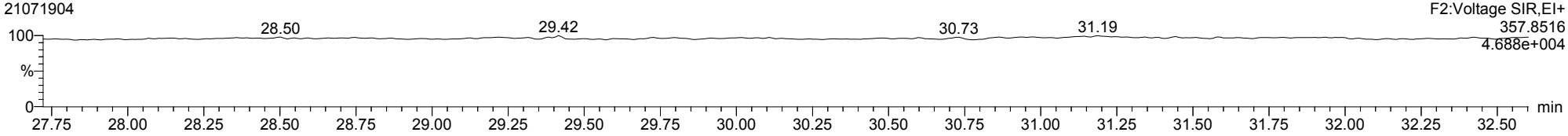
Total-tetradioxins



Total-pentadioxins

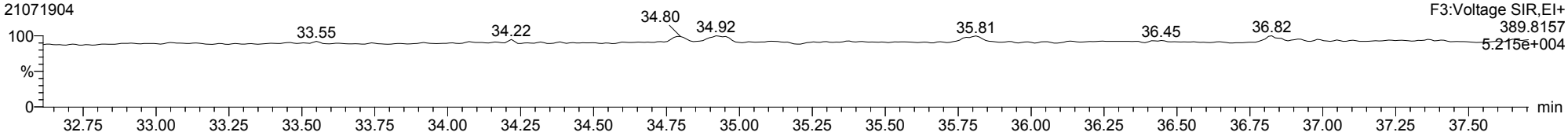


Total-pentadioxins

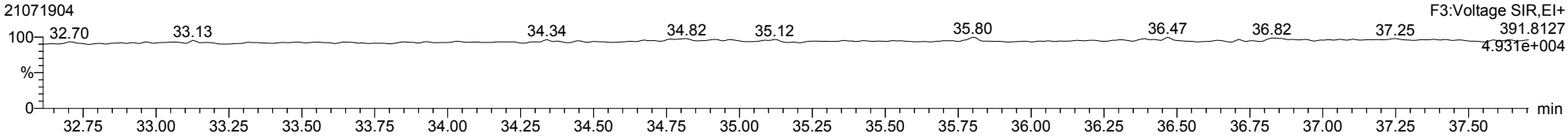


ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, Conditions: AUTOSPEC01, User: pk

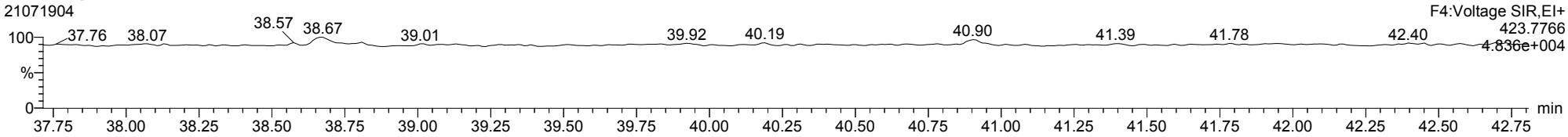
Total-hexadioxins



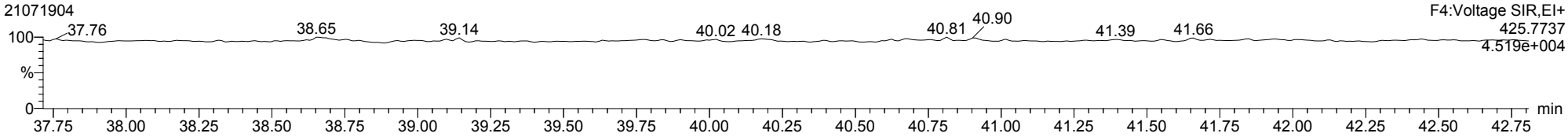
Total-hexadioxins



Total-heptadioxins

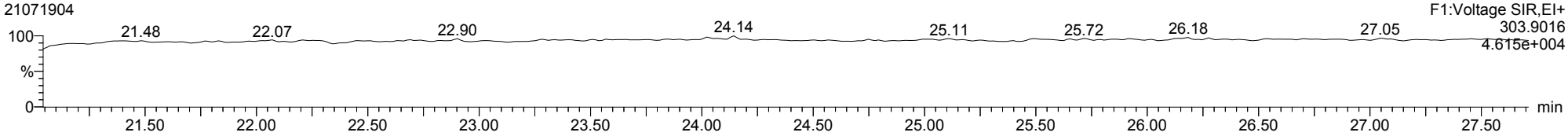


Total-heptadioxins

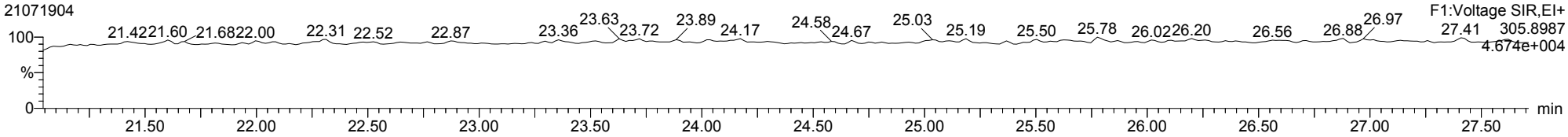


ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, Conditions: AUTOSPEC01, User: pk

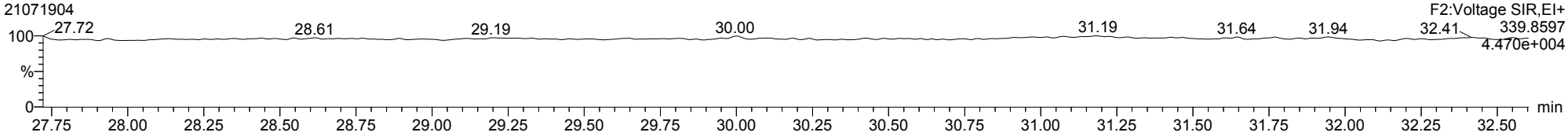
Total-tetrafurans



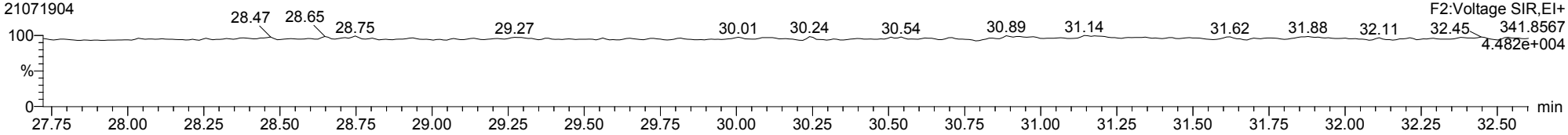
Total-tetrafurans



Total-pentafurans

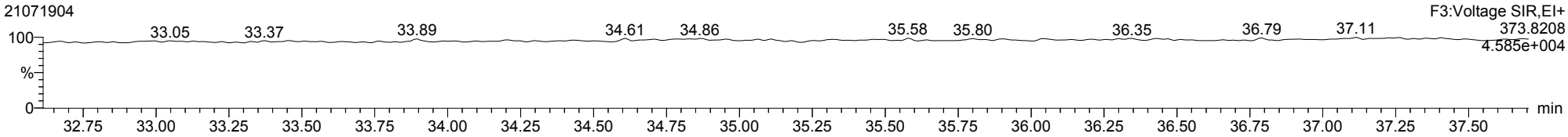


Total-pentafurans

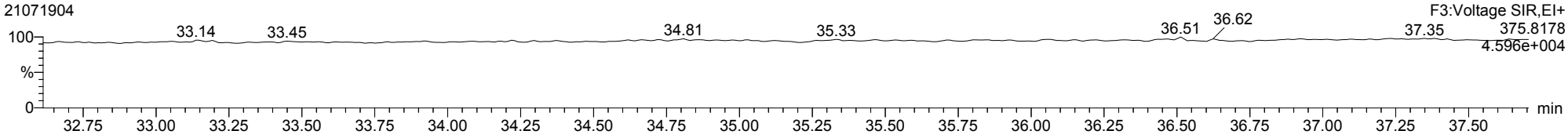


ID: BJG0187-BLK1, Name: 21071904, Date: 19-Jul-2021, Time: 12:54:46, Conditions: AUTOSPEC01, User: pk

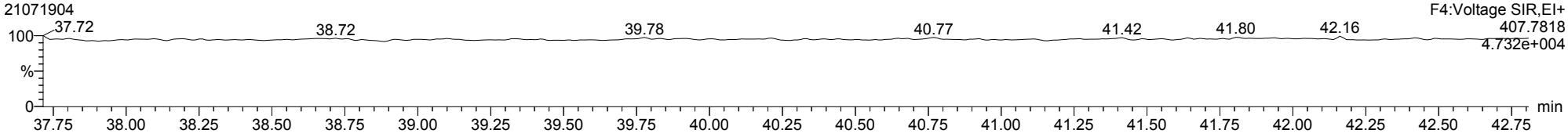
Total-hexafurans



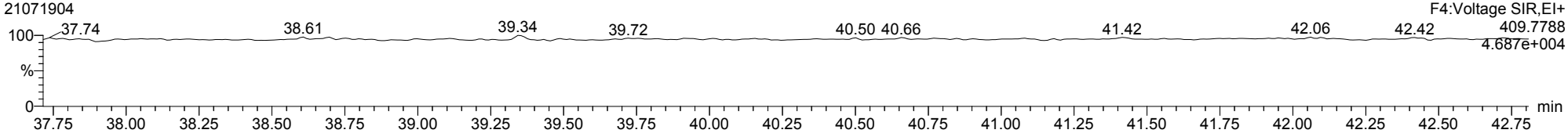
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

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Form 1
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0186-BLK1	File ID:	21082409
Sampled:	N/A	Prepared:	08/09/21 16:30	Analyzed:	08/24/21 18:40
Solids Wt%:		Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SJH0304	Calibration:	EH00030
Batch:	BJH0186	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	0.082	1.00	ND	ng/kg	U
1746-01-6	2,3,7,8-TCDD	1	0.000	0.655-0.886	0.166	1.00	ND	ng/kg	U
57117-41-6	1,2,3,7,8-PeCDF	1	0.000	1.318-1.783	0.102	1.00	ND	ng/kg	U
57117-31-4	2,3,4,7,8-PeCDF	1	0.000	1.318-1.783	0.096	1.00	ND	ng/kg	U
40321-76-4	1,2,3,7,8-PeCDD	1	0.000	1.318-1.783	0.151	1.00	ND	ng/kg	U
70648-26-9	1,2,3,4,7,8-HxCDF	1	0.000	1.054-1.426	0.100	1.00	ND	ng/kg	U
57117-44-9	1,2,3,6,7,8-HxCDF	1	0.000	1.054-1.426	0.097	1.00	ND	ng/kg	U
60851-34-5	2,3,4,6,7,8-HxCDF	1	0.000	1.054-1.426	0.103	1.00	ND	ng/kg	U
72918-21-9	1,2,3,7,8,9-HxCDF	1	0.000	1.054-1.426	0.118	1.00	ND	ng/kg	U
39227-28-6	1,2,3,4,7,8-HxCDD	1	0.000	1.054-1.426	0.105	1.00	ND	ng/kg	U
57653-85-7	1,2,3,6,7,8-HxCDD	1	0.000	1.054-1.426	0.110	1.00	ND	ng/kg	U
19408-74-3	1,2,3,7,8,9-HxCDD	1	0.000	1.054-1.426	0.115	1.00	ND	ng/kg	U
67562-39-4	1,2,3,4,6,7,8-HpCDF	1	0.000	0.893-1.208	0.060	1.00	ND	ng/kg	U
55673-89-7	1,2,3,4,7,8,9-HpCDF	1	0.000	0.893-1.208	0.083	1.00	ND	ng/kg	U
35822-46-9	1,2,3,4,6,7,8-HpCDD	1	0.720	0.893-1.208	0.132	2.50	0.228	ng/kg	EMPC, J
39001-02-0	OCDF	1	0.000	0.757-1.024	0.214	2.50	ND	ng/kg	U
3268-87-9	OCDD	1	0.799	0.757-1.024	0.192	10.0	1.55	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	0.0476	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	0.180	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	0.103	ng/kg

Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=0, Including EMPC): 0.003
Total 2,3,7,8-TCDD Equivalence (WHO2005, ND=1/2 EDL, Including EMPC): 0.219

Analytical Resources, Incorporated
Analytical Chemists and Consultants

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Form 2
METHOD BLANK DATA SHEET
EPA 1613B
Dioxins/Furans by HRGC/HRMS

Laboratory:	Analytical Resources, Inc.			SDG:	21F0442
Client:	Anchor QEA, LLC			Project:	Lower Duwamish AOC4
Matrix:	Solid	Laboratory ID:	BJH0186-BLK1	File ID:	21082409
Sampled:	N/A	Prepared:	08/09/21 16:30	Analyzed:	08/24/21 18:40
Solids Wt%:	0.00	Preparation:	EPA 1613	Initial/Final:	10 g / 20 uL
Result Basis:	Dry	Sequence:	SJH0304	Calibration:	EH00030
Batch:	BJH0186	Instrument:	AUTOSPEC01	Column:	RTX-Dioxin2

Labels	DF/Split	Ion Ratio	Ratio Limits	EDL	% REC	QC LIMITS	Q
13C12-2,3,7,8-TCDF	1	0.808	0.655-0.886	0.17	91.6	24 - 169 %	
13C12-2,3,7,8-TCDD	1	0.767	0.655-0.886	0.20	96.3	25 - 164 %	
13C12-1,2,3,7,8-PeCDF	1	1.606	1.318-1.783	0.20	103	24 - 185 %	
13C12-2,3,4,7,8-PeCDF	1	1.594	1.318-1.783	0.21	101	21 - 178 %	
13C12-1,2,3,7,8-PeCDD	1	1.571	1.318-1.783	0.25	101	25 - 181 %	
13C12-1,2,3,4,7,8-HxCDF	1	0.517	0.434-0.587	0.18	87.1	26 - 152 %	
13C12-1,2,3,6,7,8-HxCDF	1	0.511	0.434-0.587	0.17	81.8	26 - 123 %	
13C12-2,3,4,6,7,8-HxCDF	1	0.512	0.434-0.587	0.18	83.2	28 - 136 %	
13C12-1,2,3,7,8,9-HxCDF	1	0.514	0.434-0.587	0.22	88.2	29 - 147 %	
13C12-1,2,3,4,7,8-HxCDD	1	1.266	1.054-1.426	0.21	95.1	32 - 141 %	
13C12-1,2,3,6,7,8-HxCDD	1	1.258	1.054-1.426	0.19	91.2	28 - 130 %	
13C12-1,2,3,4,6,7,8-HpCDF	1	0.468	0.374-0.506	0.22	93.7	28 - 143 %	
13C12-1,2,3,4,7,8,9-HpCDF	1	0.461	0.374-0.506	0.27	96.9	26 - 138 %	
13C12-1,2,3,4,6,7,8-HpCDD	1	1.052	0.893-1.208	0.20	97.7	23 - 140 %	
13C12-OCDD	1	0.954	0.757-1.024	0.29	115	17 - 157 %	
37Cl4-2,3,7,8-TCDD	1	328.000		0.06	96.1	35 - 197 %	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:22:30 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0186-BLK1, Name: 21082409, Date: 24-Aug-2021, Time: 18:40:23, 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	922	1000								
12378-PeCDF					1.015		1.550	1106	1124								
23478-PeCDF					1.126		1.550	1106	1124								
123478-HxCDF					1.017		1.240	1094	851								
234678-HxCDF					1.052		1.240	1094	851								
123678-HxCDF					1.037		1.240	1094	851								
123789-HxCDF					1.030		1.240	1094	851								
1234678-HpCDF					1.327		1.050	597	667								
1234789-HpCDF					1.283		1.050	597	667								
OCDF					1.447		0.890	1252	1100								
2378-TCDD					0.920		0.770	1502	1197								
12378-PeCDD					0.995		1.550	898	939								
123478-HxCDD					1.027		1.240	780	1086								
123678-HxCDD					1.009		1.240	780	1086								
123789-HxCDD					0.950		1.240	780	1086								
1234678-HpCDD	39.843	1.001	2.152e2	2.990e2	1.068	0.720	1.050	913	648	2.92e3	4.58e3	3.2	7.1	YES	bb	bb	0.114
OCDD	44.456	1.000	1.608e3	2.012e3	1.181	0.799	0.890	901	819	1.89e4	2.39e4	21.0	29.2	NO	MM	bb	0.777
13C-2378-TCDF	25.247	1.007	3.899e5	4.825e5	1.427	0.808	0.770	2231	1791	5.64e6	7.04e6	2530.4	3928.2	NO	bb	bb	91.604
13C-12378-PeCDF	29.414	1.173	5.487e5	3.416e5	1.297	1.606	1.550	2335	2067	7.98e6	5.01e6	3416.2	2422.2	NO	bb	bb	102.790
13C-23478-PeCDF	30.751	1.227	5.116e5	3.210e5	1.236	1.594	1.550	2335	2067	7.58e6	4.86e6	3246.5	2350.3	NO	bb	bb	100.861
13C-123478-HxCDF	34.417	0.954	2.518e5	4.870e5	1.242	0.517	0.510	1853	2231	3.91e6	7.49e6	2109.6	3358.1	NO	bd	bd	87.142
13C-123678-HxCDF	34.551	0.958	2.537e5	4.964e5	1.343	0.511	0.510	1853	2231	3.94e6	7.76e6	2125.5	3479.7	NO	db	db	81.827
13C-234678-HxCDF	35.431	0.982	2.336e5	4.563e5	1.215	0.512	0.510	1853	2231	3.63e6	7.25e6	1959.7	3248.6	NO	bb	bb	83.218
13C-123789-HxCDF	36.467	1.011	2.059e5	4.007e5	1.008	0.514	0.510	1853	2231	3.26e6	6.38e6	1760.7	2860.9	NO	bb	bb	88.223
13C-1234678-HpCDF	38.350	1.063	1.887e5	4.037e5	0.926	0.468	0.440	1839	1957	3.05e6	6.60e6	1659.2	3371.4	NO	bb	bb	93.719
13C-1234789-HpCDF	40.522	1.124	1.581e5	3.432e5	0.758	0.461	0.440	1839	1957	2.24e6	4.93e6	1219.9	2518.6	NO	bb	bb	96.946
13C-1234-TCDD	25.065	0.000	2.912e5	3.764e5	1.000	0.774	0.770	2394	1351	4.34e6	5.65e6	1813.8	4183.1	NO	bb	bb	100.000
13C-2378-TCDD	25.897	1.033	3.115e5	4.062e5	1.116	0.767	0.770	2394	1351	4.61e6	5.98e6	1927.5	4429.4	NO	bb	bb	96.289
13C-12378-PeCDD	31.008	1.237	3.006e5	1.914e5	0.732	1.571	1.550	1436	1644	4.49e6	2.86e6	3125.0	1741.4	NO	bb	bb	100.686
13C-123478-HxCDD	35.553	0.986	3.481e5	2.750e5	0.960	1.266	1.240	2007	1701	5.79e6	4.54e6	2882.9	2670.4	NO	bd	bd	95.136
13C-123678-HxCDD	35.665	0.989	3.611e5	2.871e5	1.041	1.258	1.240	2007	1701	5.64e6	4.56e6	2809.8	2683.4	NO	db	db	91.227
13C-1234678-HpCDD	39.810	1.104	2.162e5	2.055e5	0.632	1.052	1.050	1340	1026	3.40e6	3.28e6	2534.9	3197.8	NO	bb	bb	97.708
13C-OCDD	44.437	1.232	3.854e5	4.041e5	0.504	0.954	0.890	1351	1312	4.45e6	4.88e6	3293.6	3717.7	NO	bd	bb	229.714
13C-123789-HxCDD	36.066	0.000	3.804e5	3.019e5	1.000	1.260	1.240	2007	1701	6.13e6	4.88e6	3052.0	2866.3	NO	bb	bb	100.000
37CL-2378-TCDD	25.912	1.034	2.781e5		1.084			1122		4.16e6		3708.2			bd		38.438

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:22:30 Pacific Daylight Time

ID: BJH0186-BLK1, Name: 21082409, Date: 24-Aug-2021, Time: 18:40:23, 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	922	1000								
1289-TCDF					1.043		0.770	922	1000								
13468-PECDF					1.376		1.550	797	1268								
12389-PECDF					1.000		1.550	1106	1124								
123468-HXCDF					1.087		1.240	1094	851								
1368-TCDD					0.923		0.770	1502	1197								
1289-TCDD					0.794		0.770	1502	1197								
12479-PECDD					1.843		1.550	898	939								
12389-PECDD					1.154		1.550	898	939								
124679-HXCDD					1.125		1.240	780	1086								
1234679-HPCDD	38.796	0.975	1.433e2	1.197e2	1.211	1.197	1.050	913	648	4.51e3	2.47e3	4.9	3.8	NO	bb	bb	0.052
Total-tetrafurans			0.000e0		1.192			922		0.00e0							
Total-penta1			0.000e0					797		0.00e0							
Total-pentafurans			1.267e2		1.047			1106		3.75e3							0.024
Total-hexafurans			0.000e0		1.045			1094		0.00e0							
Total-heptafurans			0.000e0		1.305			597		0.00e0							
Total-Furans			1.267e2		1.158			922		3.75e3							0.024
Total-tetradioxins			0.000e0		0.879			1502		0.00e0							
Total-pentadioxins			0.000e0		1.331			898		0.00e0							
Total-hexadioxins			3.415e2		1.028			780		5.94e3							0.090
Total-heptadioxins			1.433e2		1.140			913		4.51e3							0.052
Total-Dioxins			2.093e3		1.092			1502		2.94e4							0.918
Total-TEQ			2.220e3					1502		3.31e4							0.942
FUNCTION1 PFK			0.000e0					844648		0.00e0							
FUNCTION2 PFK			1.862e7					519570		1.65e8							0.000
FUNCTION3 PFK			2.705e7					678352		2.92e8							0.000
FUNCTION4 PFK			2.482e5					394136		5.00e6							
FUNCTION5 PFK			1.162e5					277126		4.35e6							
FUNCTION1 HXCD...			9.959e2					676		1.65e4							0.000
FUNCTION1 HPCD...			9.272e2					951		1.73e4							0.000
FUNCTION2 HPCD...			4.411e2					894		1.28e4							0.000
FUNCTION3 OCDPE			1.207e3					1068		3.13e4							0.000
FUNCTION4 NCDPE			6.854e2					885		1.28e4							0.000
FUNCTION5 DCDPE			8.941e1					829		3.28e3							0.000

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

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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	Total-pentafurans	28.07	1.267e2	8.764e1	1.047	1.45	1.55	3.4	YES	NO	bb	bb	0.024

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	Total-pentafurans	28.07	1.267e2	8.764e1	1.047	1.45	1.55	3.4	YES	NO	bb	bb	0.024

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													

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ID: BJH0186-BLK1, Name: 21082409, Date: 24-Aug-2021, Time: 18:40:23, Conditions: AUTOSPEC01, User: pk

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	35.44	3.415e2	2.468e2	1.028	1.38	1.24	7.6	YES	NO	db	dd	0.090

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234679-HPCDD	38.80	1.433e2	1.197e2	1.211	1.20	1.05	4.9	YES	NO	bb	bb	0.052

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	35.44	3.415e2	2.468e2	1.028	1.38	1.24	7.6	YES	NO	db	dd	0.090
2	1234679-HPCDD	38.80	1.433e2	1.197e2	1.211	1.20	1.05	4.9	YES	NO	bb	bb	0.052
3	OCDD	44.46	1.608e3	2.012e3	1.181	0.80	0.89	21.0	YES	NO	MM	bb	0.777

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.07	1.267e2	8.764e1	1.047	1.45	1.55	3.4	YES	NO	bb	bb	0.024
2	Total-hexadioxins	35.44	3.415e2	2.468e2	1.028	1.38	1.24	7.6	YES	NO	db	dd	0.090
3	1234679-HPCDD	38.80	1.433e2	1.197e2	1.211	1.20	1.05	4.9	YES	NO	bb	bb	0.052
4	OCDD	44.46	1.608e3	2.012e3	1.181	0.80	0.89	21.0	YES	NO	MM	bb	0.777

PFK1

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

ID: BJH0186-BLK1, Name: 21082409, Date: 24-Aug-2021, Time: 18:40:23, 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	29.05	1.709e4					1.3	NO		bb		0.000
2	FUNCTION2 PFK	28.98	1.562e4					1.0	NO		bb		0.000
3	FUNCTION2 PFK	28.84	7.025e3					0.7	NO		bb		0.000
4	FUNCTION2 PFK	28.79	1.351e4					1.0	NO		db		0.000
5	FUNCTION2 PFK	28.75	2.329e4					0.9	NO		bd		0.000
6	FUNCTION2 PFK	28.67	2.298e3					0.4	NO		bb		0.000
7	FUNCTION2 PFK	28.39	4.408e5					9.8	YES		db		0.000
8	FUNCTION2 PFK	28.24	2.196e6					17.7	YES		dd		0.000
9	FUNCTION2 PFK	27.81	6.682e6					43.0	YES		dd		0.000
10	FUNCTION2 PFK	27.73	3.358e6					46.4	YES		dd		0.000
11	FUNCTION2 PFK	27.56	2.153e6					55.3	YES		dd		0.000
12	FUNCTION2 PFK	27.52	9.760e5					57.2	YES		dd		0.000
13	FUNCTION2 PFK	27.48	2.359e6					60.5	YES		bd		0.000
14	FUNCTION2 PFK	31.31	7.730e3					0.8	NO		bd		0.000
15	FUNCTION2 PFK	31.11	1.846e4					1.1	NO		bb		0.000
16	FUNCTION2 PFK	30.95	1.018e4					1.0	NO		bb		0.000
17	FUNCTION2 PFK	30.64	9.075e3					0.9	NO		bb		0.000
18	FUNCTION2 PFK	30.51	2.602e4					1.1	NO		bb		0.000
19	FUNCTION2 PFK	30.38	3.662e4					1.8	NO		db		0.000
20	FUNCTION2 PFK	30.34	1.171e4					0.9	NO		dd		0.000
21	FUNCTION2 PFK	30.31	1.405e4					1.2	NO		bd		0.000
22	FUNCTION2 PFK	30.23	8.017e3					0.9	NO		bb		0.000
23	FUNCTION2 PFK	29.96	4.505e4					1.4	NO		bb		0.000
24	FUNCTION2 PFK	29.92	2.827e3					0.5	NO		bb		0.000
25	FUNCTION2 PFK	29.87	2.224e3					0.4	NO		bb		0.000
26	FUNCTION2 PFK	29.78	3.044e3					0.5	NO		bb		0.000
27	FUNCTION2 PFK	29.54	1.423e4					0.5	NO		bb		0.000
28	FUNCTION2 PFK	29.46	6.132e4					2.1	NO		bb		0.000
29	FUNCTION2 PFK	29.25	7.456e3					0.6	NO		bb		0.000
30	FUNCTION2 PFK	32.18	6.230e3					0.8	NO		bb		0.000
31	FUNCTION2 PFK	32.10	3.734e4					1.4	NO		db		0.000
32	FUNCTION2 PFK	31.95	3.019e4					1.2	NO		bd		0.000
33	FUNCTION2 PFK	31.90	7.386e3					0.7	NO		bb		0.000
34	FUNCTION2 PFK	31.81	9.014e3					0.8	NO		bb		0.000
35	FUNCTION2 PFK	31.35	1.052e4					0.9	NO		db		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.07	2.850e6					23.6	YES		dd		0.000
2	FUNCTION3 PFK	32.87	2.038e6					31.5	YES		dd		0.000
3	FUNCTION3 PFK	32.77	2.871e6					34.9	YES		dd		0.000
4	FUNCTION3 PFK	32.58	4.209e6					42.1	YES		dd		0.000
5	FUNCTION3 PFK	32.52	9.824e5					44.3	YES		dd		0.000
6	FUNCTION3 PFK	32.44	3.107e6					47.2	YES		dd		0.000
7	FUNCTION3 PFK	32.39	1.443e6					48.4	YES		dd		0.000
8	FUNCTION3 PFK	32.32	2.294e6					52.0	YES		dd		0.000
9	FUNCTION3 PFK	32.28	2.404e6					53.2	YES		bd		0.000
10	FUNCTION3 PFK	35.06	4.555e3					0.4	NO		bb		0.000
11	FUNCTION3 PFK	34.90	5.158e4					1.4	NO		bb		0.000
12	FUNCTION3 PFK	34.70	1.188e4					0.9	NO		bb		0.000
13	FUNCTION3 PFK	34.63	3.479e4					1.9	NO		db		0.000
14	FUNCTION3 PFK	34.57	4.849e4					2.0	NO		bd		0.000
15	FUNCTION3 PFK	34.52	1.417e4					1.0	NO		bb		0.000
16	FUNCTION3 PFK	34.47	5.434e3					0.7	NO		bb		0.000
17	FUNCTION3 PFK	34.42	2.624e4					1.6	NO		bb		0.000
18	FUNCTION3 PFK	34.33	1.942e4					0.4	NO		bb		0.000
19	FUNCTION3 PFK	34.23	8.660e3					0.5	NO		bb		0.000
20	FUNCTION3 PFK	33.99	2.655e3					0.4	NO		bb		0.000
21	FUNCTION3 PFK	33.92	1.339e4					0.8	NO		bb		0.000
22	FUNCTION3 PFK	33.86	1.109e4					0.8	NO		bb		0.000
23	FUNCTION3 PFK	33.58	3.988e5					3.4	YES		db		0.000
24	FUNCTION3 PFK	33.45	6.882e5					9.0	YES		dd		0.000
25	FUNCTION3 PFK	33.29	3.160e6					14.9	YES		dd		0.000
26	FUNCTION3 PFK	37.27	4.920e4					1.6	NO		bb		0.000
27	FUNCTION3 PFK	37.01	7.982e3					0.6	NO		bb		0.000
28	FUNCTION3 PFK	36.08	2.073e4					1.1	NO		bb		0.000
29	FUNCTION3 PFK	36.01	2.294e4					1.1	NO		bb		0.000
30	FUNCTION3 PFK	35.93	1.476e4					0.8	NO		bb		0.000
31	FUNCTION3 PFK	35.87	2.139e4					1.4	NO		bb		0.000
32	FUNCTION3 PFK	35.76	6.742e3					0.5	NO		bb		0.000
33	FUNCTION3 PFK	35.69	5.566e4					2.0	NO		db		0.000
34	FUNCTION3 PFK	35.58	8.657e4					2.1	NO		dd		0.000
35	FUNCTION3 PFK	35.50	6.605e4					1.7	NO		bd		0.000
36	FUNCTION3 PFK	35.36	5.032e3					0.7	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.93	3.061e3					0.7	NO		bb		
2	FUNCTION4 PFK	37.69	1.329e5					2.0	NO		bb		
3	FUNCTION4 PFK	37.53	8.464e3					1.2	NO		bb		
4	FUNCTION4 PFK	37.48	2.511e3					0.6	NO		bb		
5	FUNCTION4 PFK	42.34	7.476e3					0.9	NO		bb		
6	FUNCTION4 PFK	42.29	7.358e3					0.9	NO		bb		
7	FUNCTION4 PFK	42.25	2.474e3					0.6	NO		bb		
8	FUNCTION4 PFK	42.20	2.056e3					0.5	NO		bb		
9	FUNCTION4 PFK	41.88	1.102e4					1.2	NO		bb		
10	FUNCTION4 PFK	41.81	8.612e3					1.1	NO		bb		
11	FUNCTION4 PFK	39.59	1.480e4					1.3	NO		bb		
12	FUNCTION4 PFK	39.49	4.751e4					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	44.05	1.971e3					0.6	NO		bb		
2	FUNCTION5 PFK	43.98	5.871e3					1.1	NO		bb		
3	FUNCTION5 PFK	43.76	5.918e3					1.1	NO		bb		
4	FUNCTION5 PFK	43.70	5.405e3					0.9	NO		bb		
5	FUNCTION5 PFK	42.76	3.767e3					0.8	NO		bb		
6	FUNCTION5 PFK	42.59	8.720e3					1.5	NO		bb		
7	FUNCTION5 PFK	42.46	9.737e3					1.5	NO		bb		
8	FUNCTION5 PFK	45.87	8.957e3					0.7	NO		bb		
9	FUNCTION5 PFK	45.56	2.027e3					0.6	NO		bb		
10	FUNCTION5 PFK	45.53	1.610e3					0.6	NO		bb		
11	FUNCTION5 PFK	45.49	6.254e3					1.2	NO		bb		
12	FUNCTION5 PFK	45.33	1.339e4					1.5	NO		bb		
13	FUNCTION5 PFK	45.12	3.233e4					2.1	NO		bb		
14	FUNCTION5 PFK	44.55	6.044e3					0.8	NO		bb		
15	FUNCTION5 PFK	44.46	4.232e3					0.6	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.28	1.308e2					2.4	NO		db		0.000
2	FUNCTION1 HXCD...	25.11	1.319e2					2.5	NO		bd		0.000
3	FUNCTION1 HXCD...	24.28	1.063e2					4.8	YES		bb		0.000
4	FUNCTION1 HXCD...	23.67	1.075e2					3.7	YES		bb		0.000
5	FUNCTION1 HXCD...	23.22	1.782e2					2.8	NO		bb		0.000
6	FUNCTION1 HXCD...	22.31	7.372e1					2.4	NO		bb		0.000
7	FUNCTION1 HXCD...	21.78	8.878e1					1.1	NO		bb		0.000
8	FUNCTION1 HXCD...	27.09	8.500e1					2.8	NO		bb		0.000
9	FUNCTION1 HXCD...	26.20	9.364e1					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...	26.02	8.100e1					1.9	NO		bb		0.000
2	FUNCTION1 HPCD...	25.05	8.124e1					1.6	NO		bb		0.000
3	FUNCTION1 HPCD...	24.91	9.126e1					2.5	NO		bb		0.000
4	FUNCTION1 HPCD...	22.48	9.119e1					1.9	NO		db		0.000
5	FUNCTION1 HPCD...	22.42	9.787e1					2.7	NO		bd		0.000
6	FUNCTION1 HPCD...	21.56	1.881e2					2.8	NO		bb		0.000
7	FUNCTION1 HPCD...	21.19	1.333e2					2.2	NO		db		0.000
8	FUNCTION1 HPCD...	21.12	1.633e2					2.6	NO		bd		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	30.04	9.156e1					2.2	NO		bb		0.000
2	FUNCTION2 HPCD...	28.82	9.651e1					3.2	YES		bb		0.000
3	FUNCTION2 HPCD...	28.04	7.030e1					2.6	NO		bb		0.000
4	FUNCTION2 HPCD...	27.90	7.008e1					2.5	NO		bb		0.000
5	FUNCTION2 HPCD...	31.42	1.127e2					3.8	YES		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	35.55	1.190e2					2.5	NO		bb		0.000
2	FUNCTION3 OCDPE	34.55	7.909e1					1.7	NO		bb		0.000
3	FUNCTION3 OCDPE	33.96	7.298e1					1.8	NO		bb		0.000
4	FUNCTION3 OCDPE	33.74	7.823e1					1.9	NO		bb		0.000
5	FUNCTION3 OCDPE	33.07	1.202e2					3.6	YES		bb		0.000
6	FUNCTION3 OCDPE	32.65	1.521e2					4.3	YES		db		0.000
7	FUNCTION3 OCDPE	32.60	1.423e2					4.7	YES		bd		0.000
8	FUNCTION3 OCDPE	32.55	7.805e1					1.6	NO		db		0.000
9	FUNCTION3 OCDPE	32.46	1.213e2					1.9	NO		dd		0.000
10	FUNCTION3 OCDPE	32.34	1.353e2					2.7	NO		dd		0.000
11	FUNCTION3 OCDPE	32.30	1.082e2					2.6	NO		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	38.14	9.583e1					2.8	NO		dd		0.000
2	FUNCTION4 NCDPE	38.08	8.451e1					1.7	NO		bd		0.000
3	FUNCTION4 NCDPE	41.87	1.713e2					2.2	NO		db		0.000
4	FUNCTION4 NCDPE	41.75	8.431e1					2.1	NO		bd		0.000
5	FUNCTION4 NCDPE	41.50	1.431e2					4.0	YES		bb		0.000
6	FUNCTION4 NCDPE	38.19	1.064e2					1.7	NO		db		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	43.50	8.941e1					4.0	YES		bb		0.000

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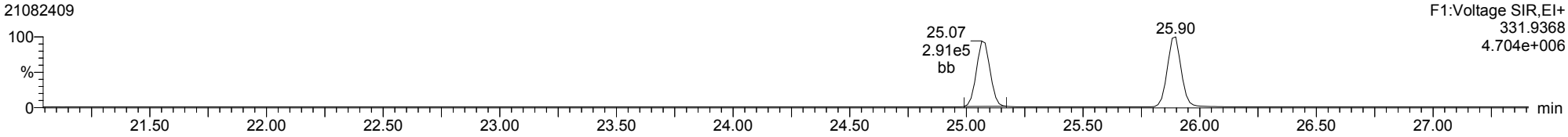
13C-1234-TCDD



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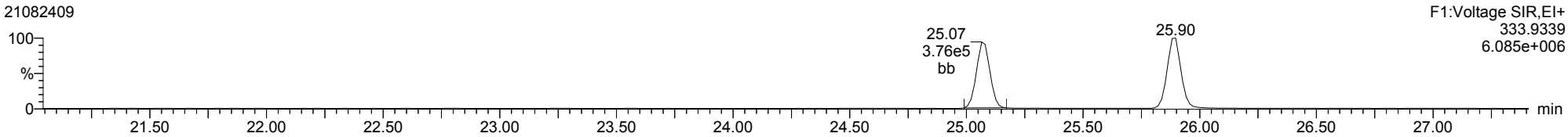
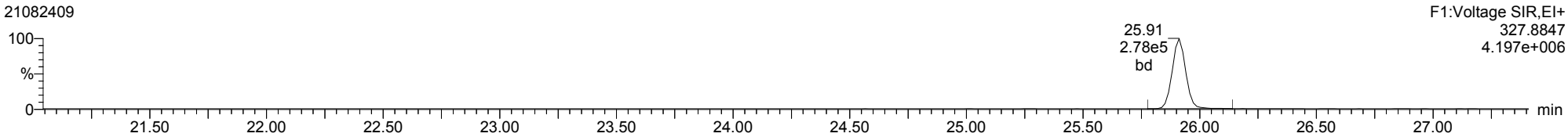


37CL-2378-TCDD



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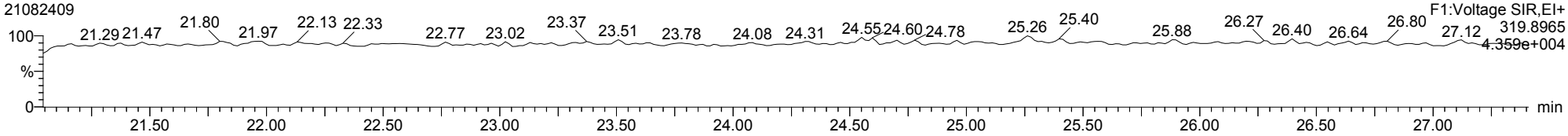

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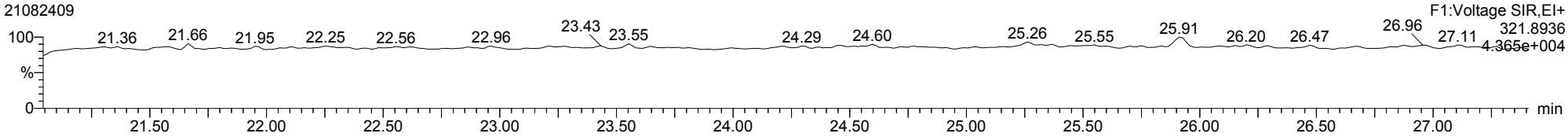

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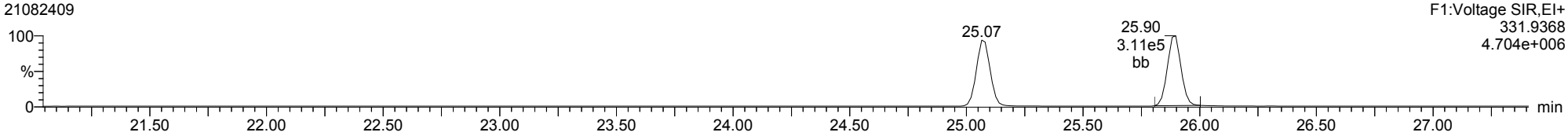

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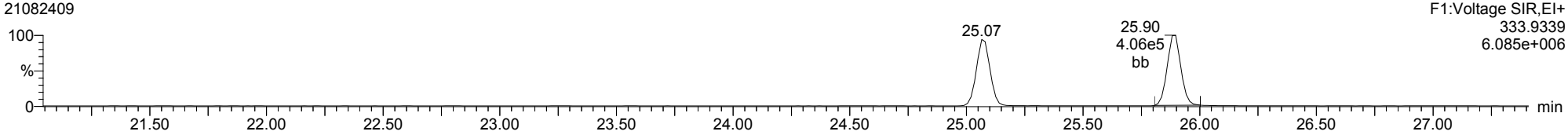

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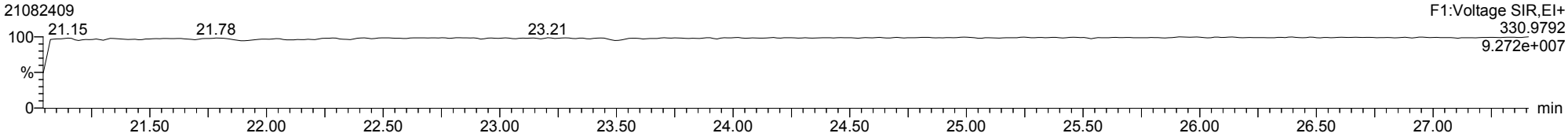

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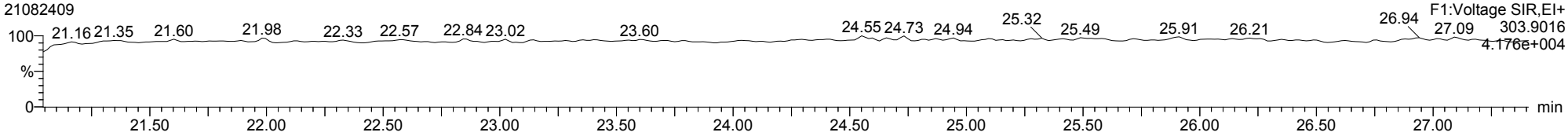

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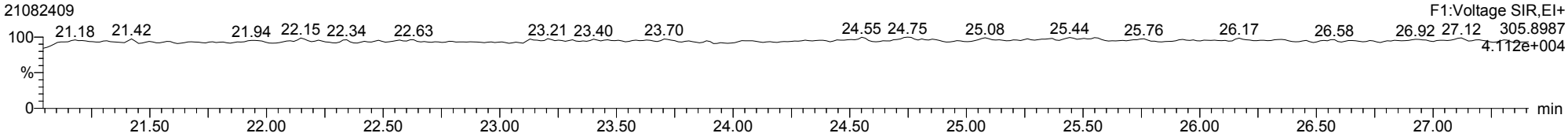

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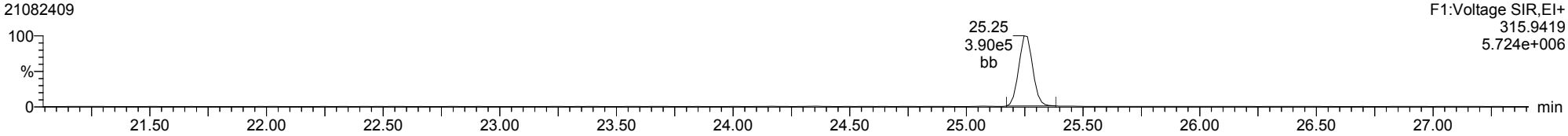

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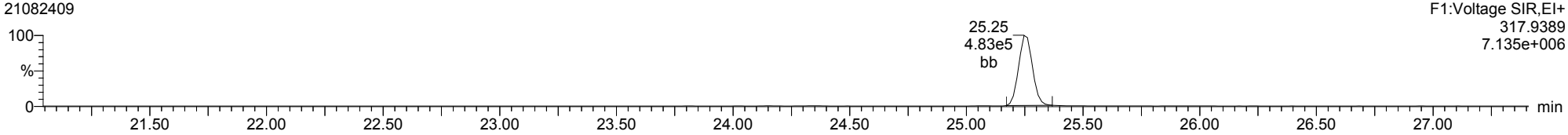

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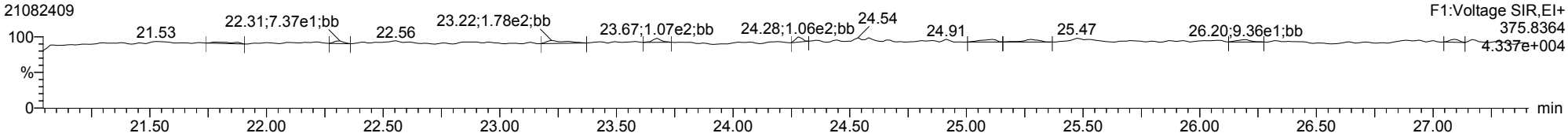

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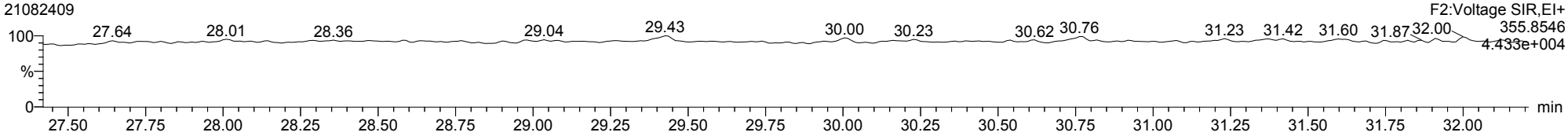
12378-PeCDD



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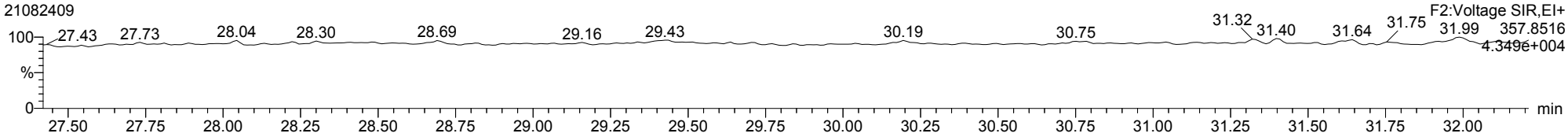

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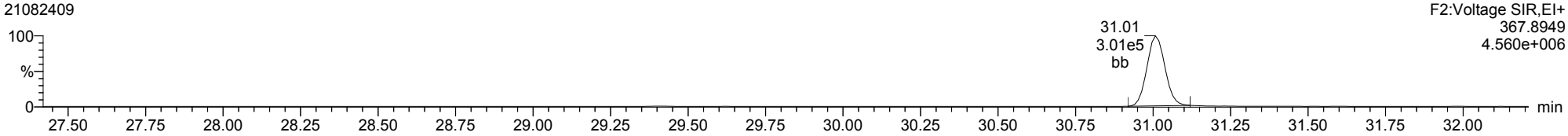

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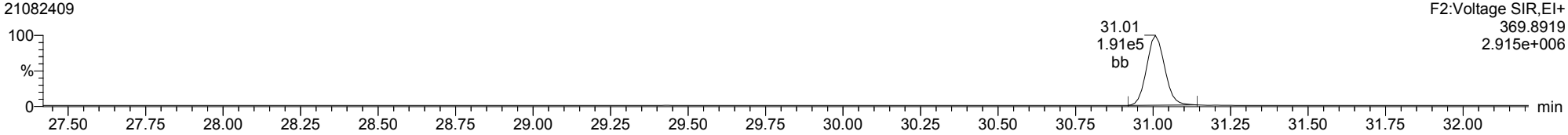

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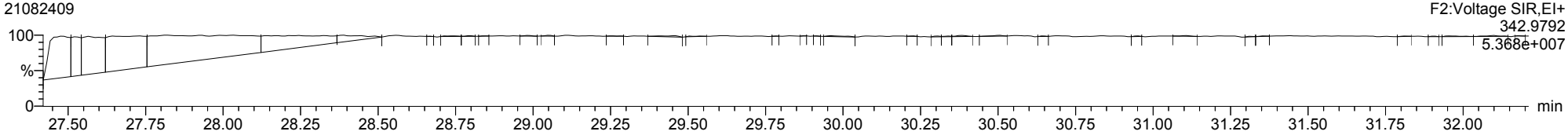

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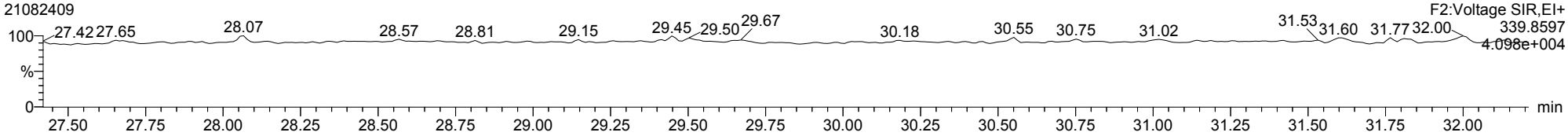

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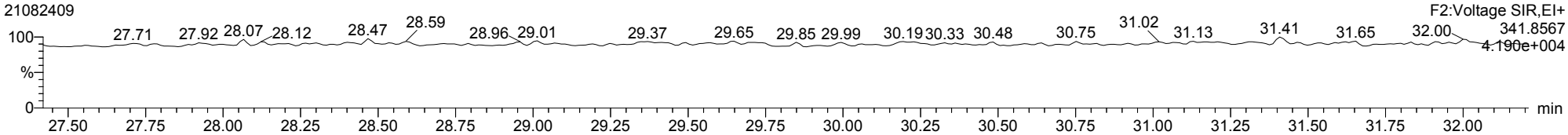

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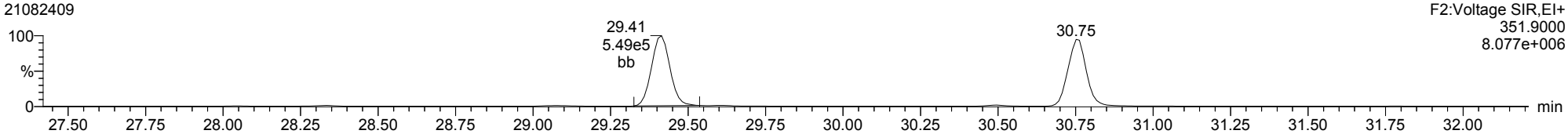

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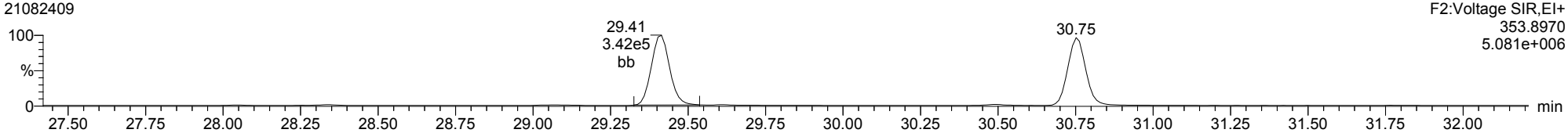
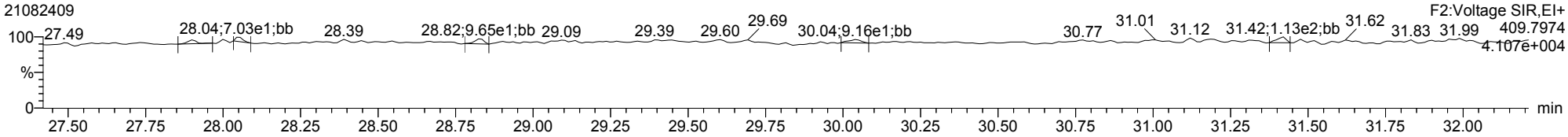


FUNCTION2 HPCDPE



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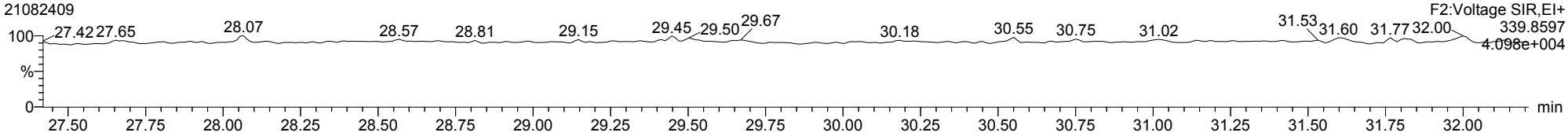

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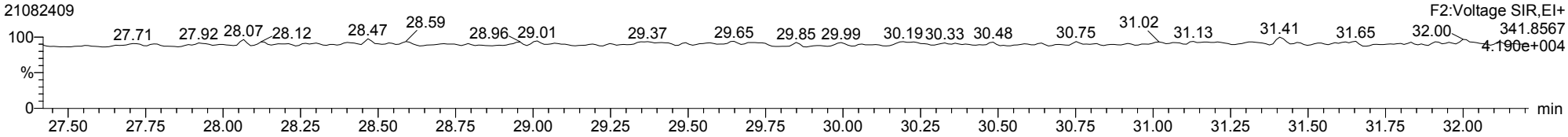

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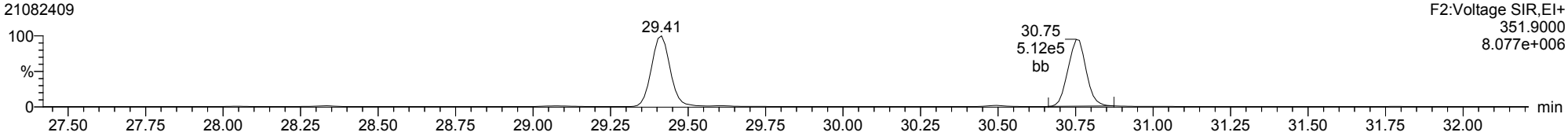

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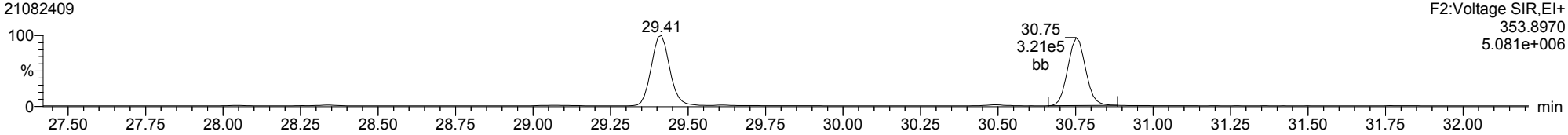
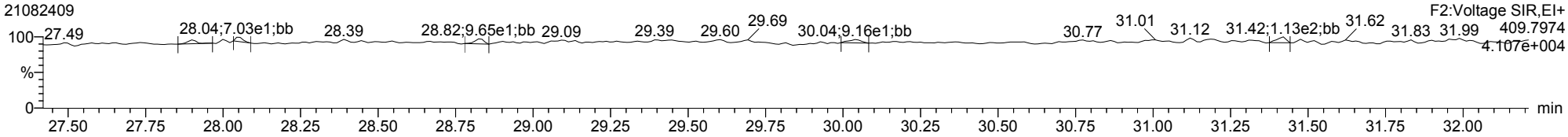


FUNCTION2 HPCDPE



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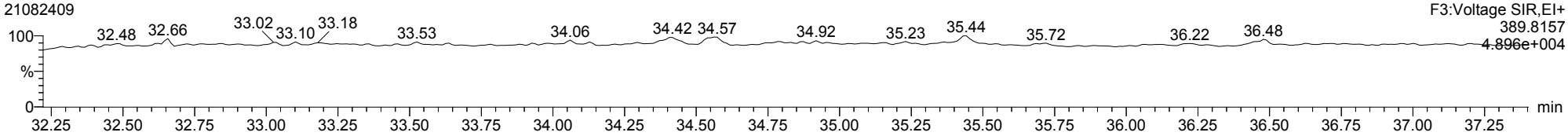

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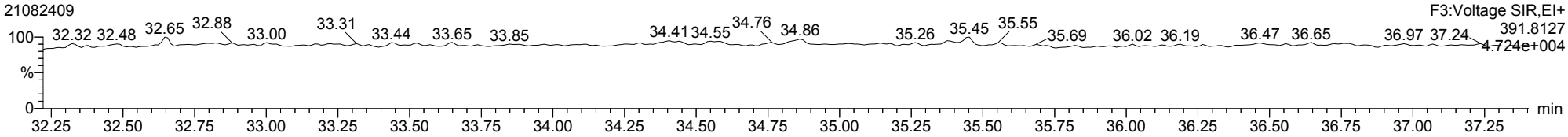

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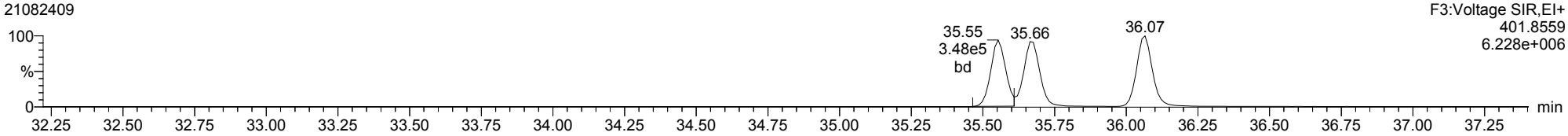

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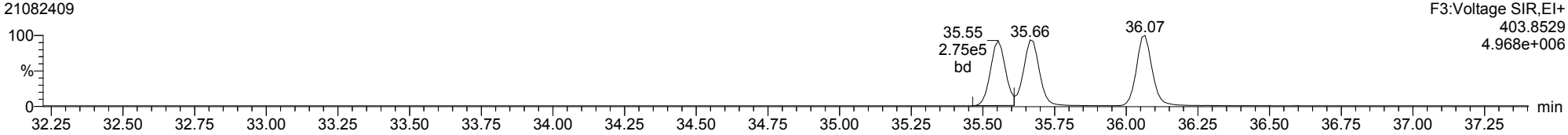

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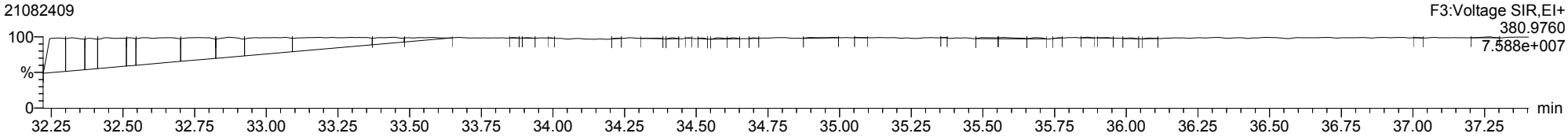

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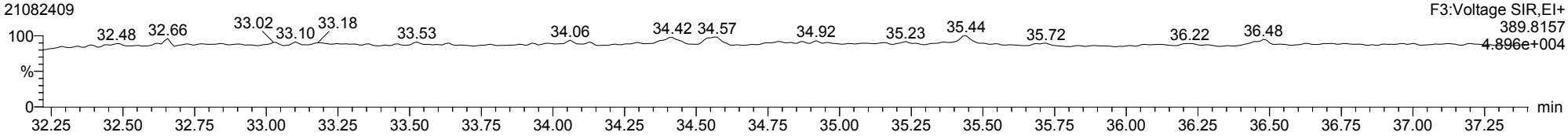

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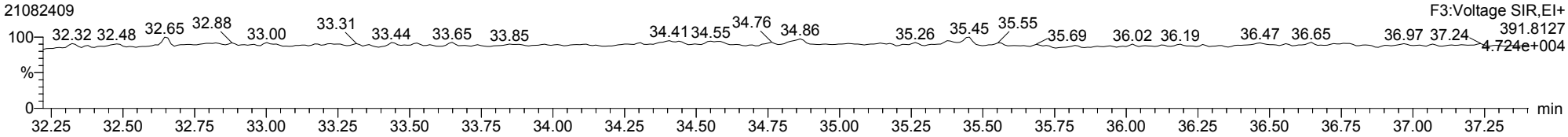

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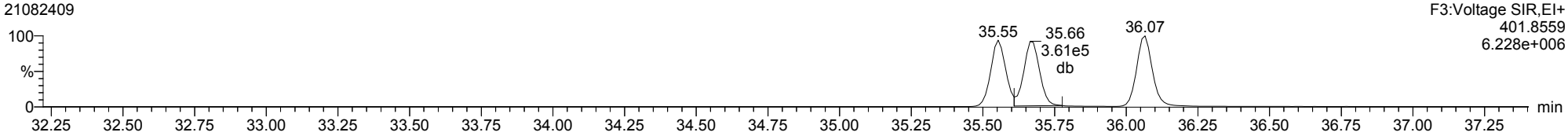

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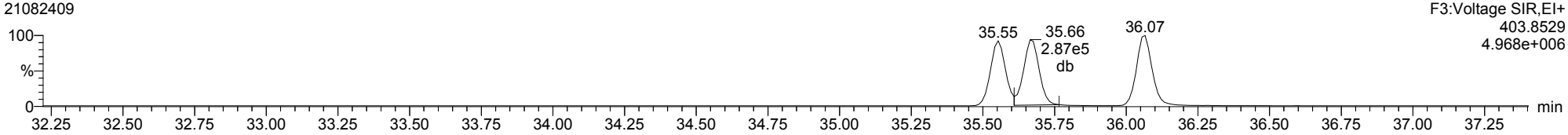

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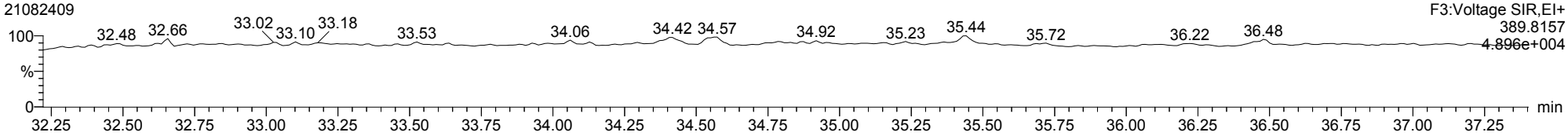

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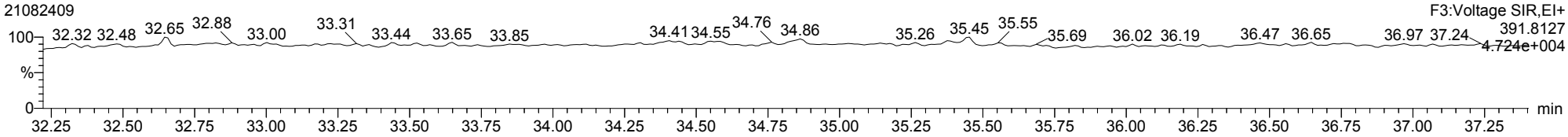

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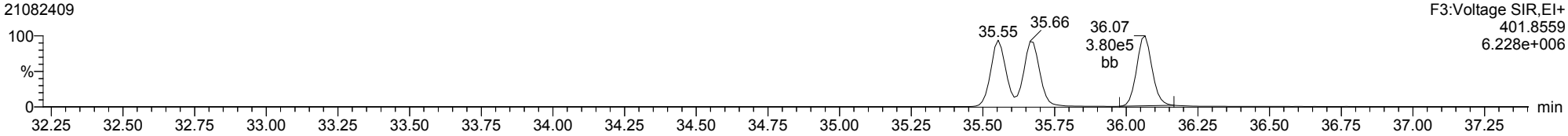

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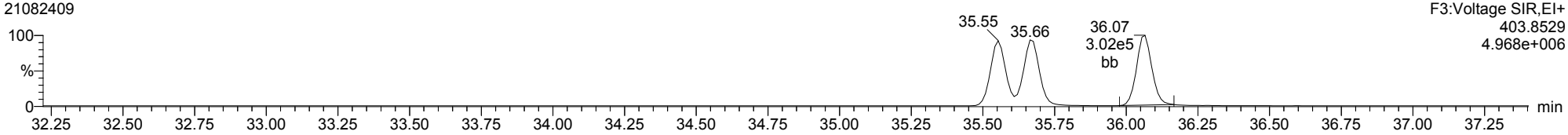

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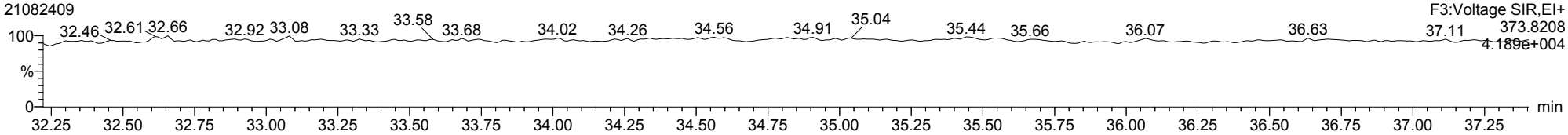

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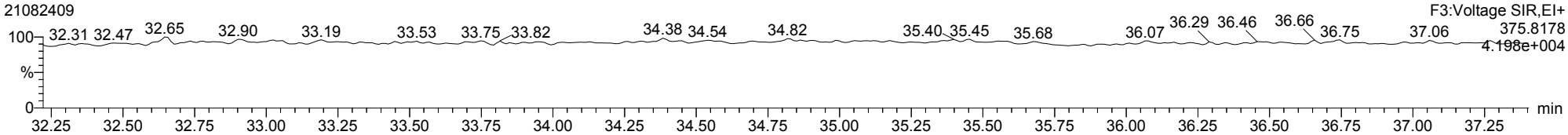

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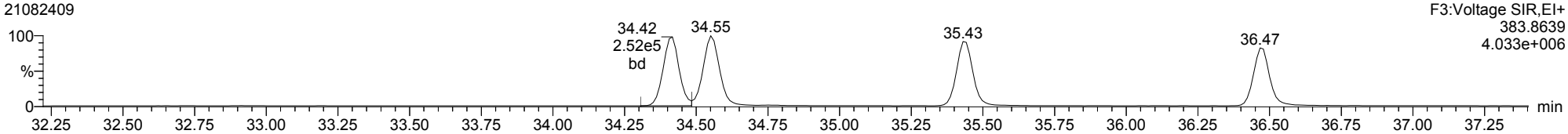

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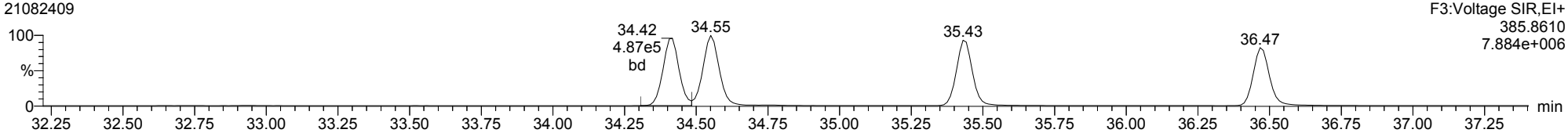

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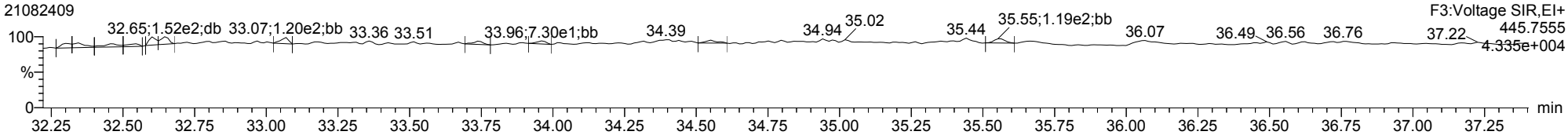

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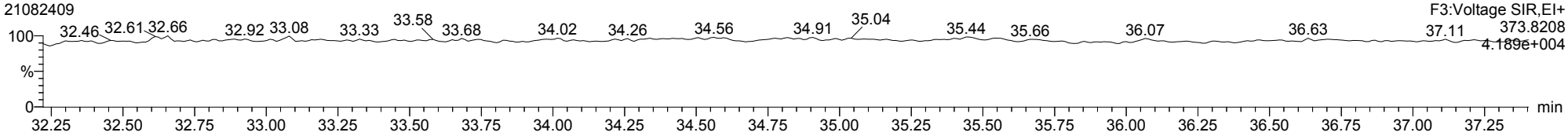

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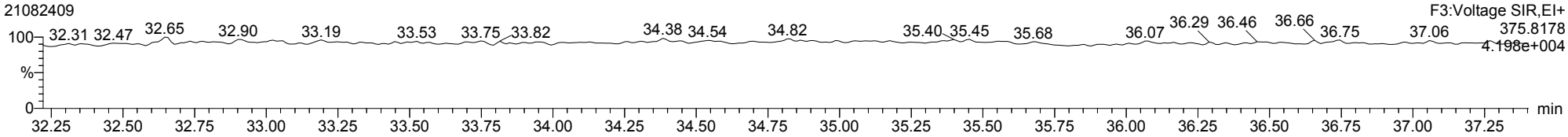

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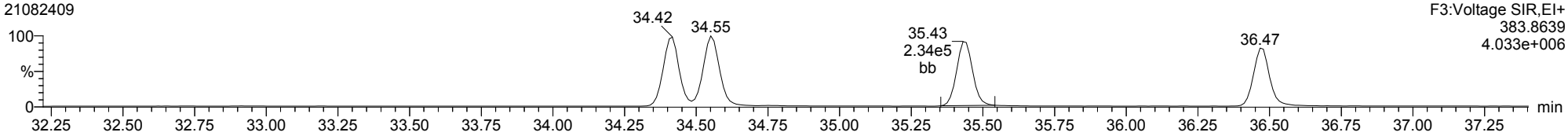

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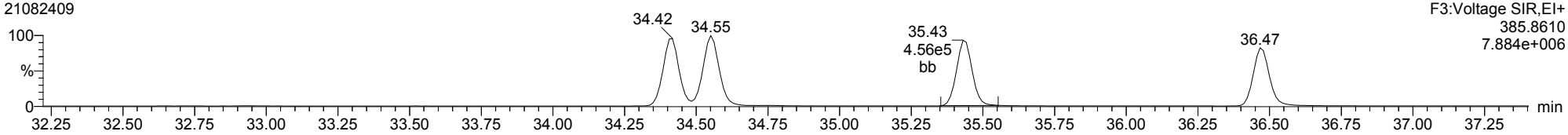

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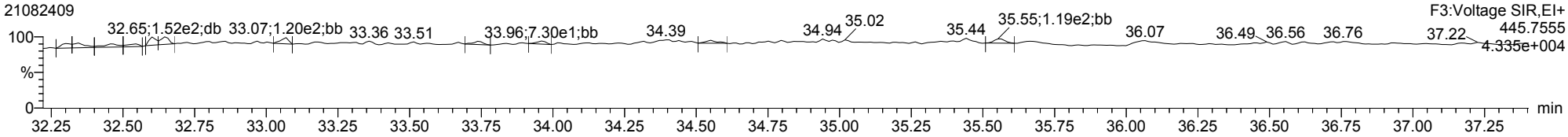

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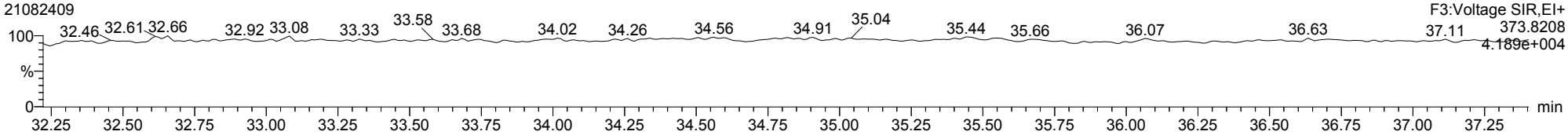

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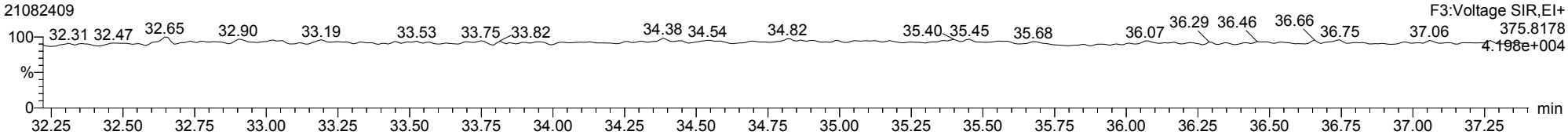

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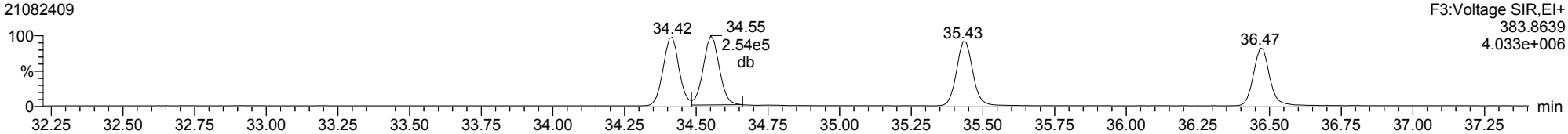

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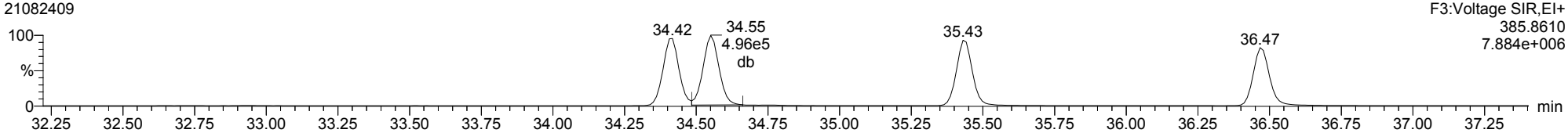

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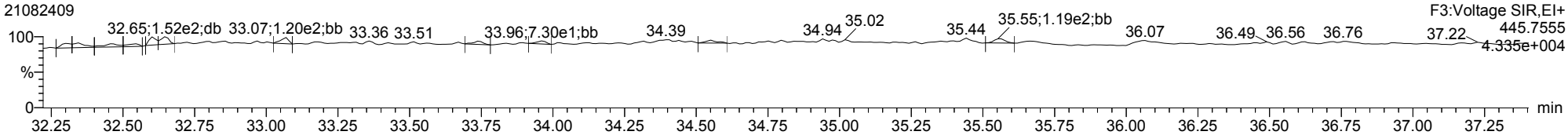

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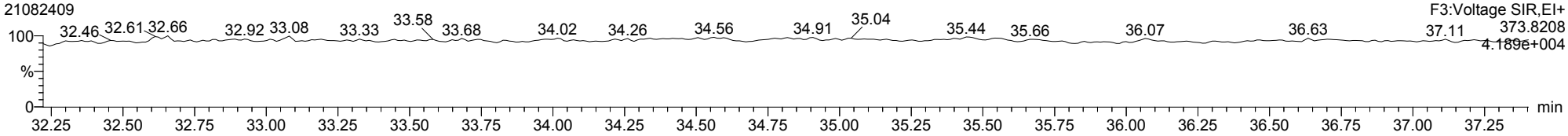

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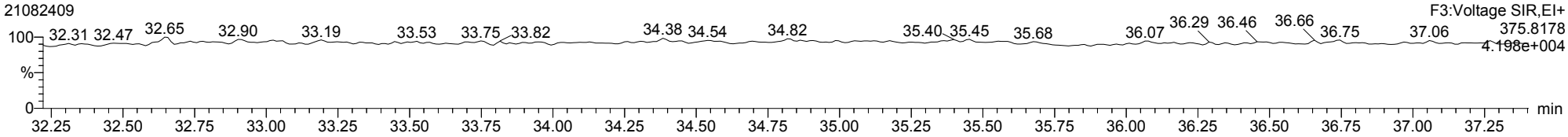

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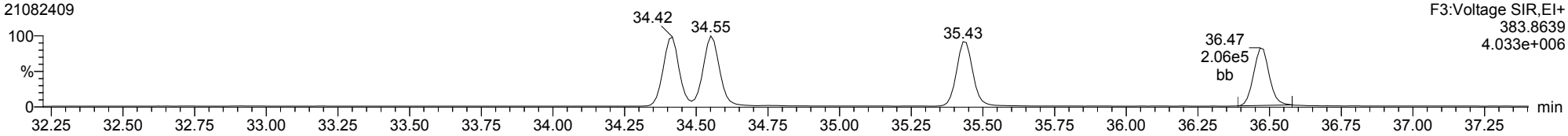

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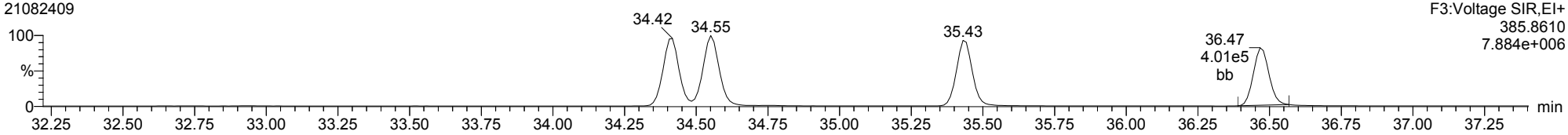

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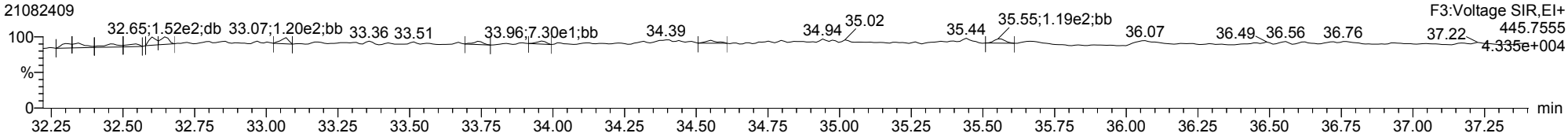

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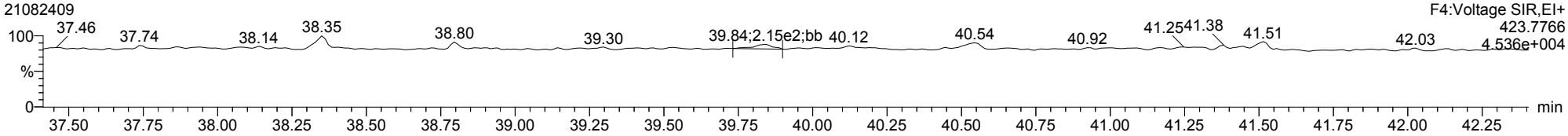

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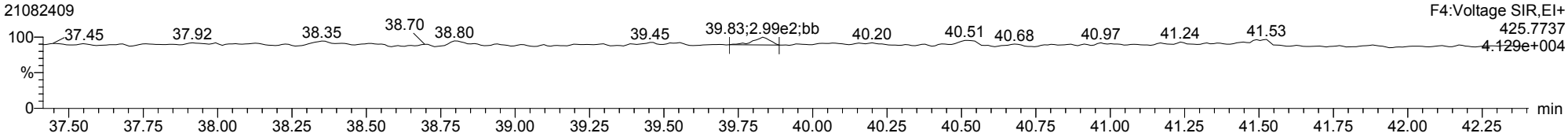

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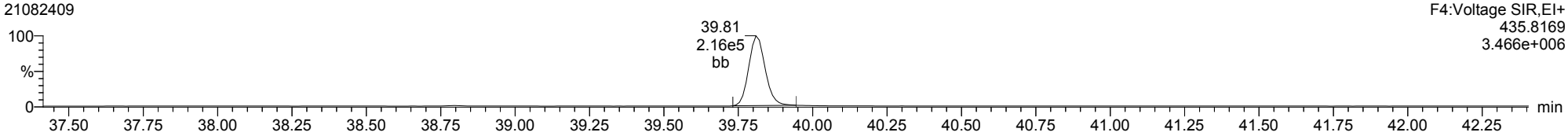

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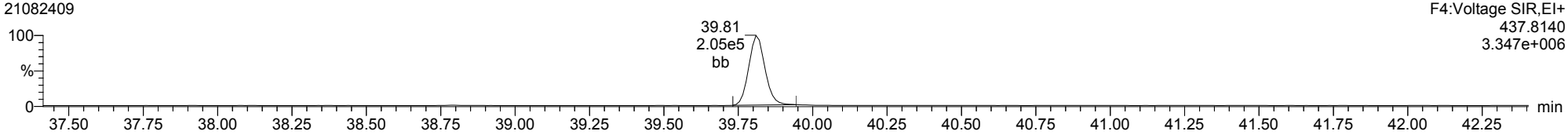

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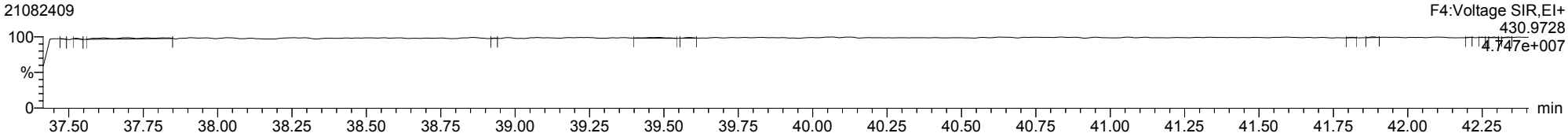

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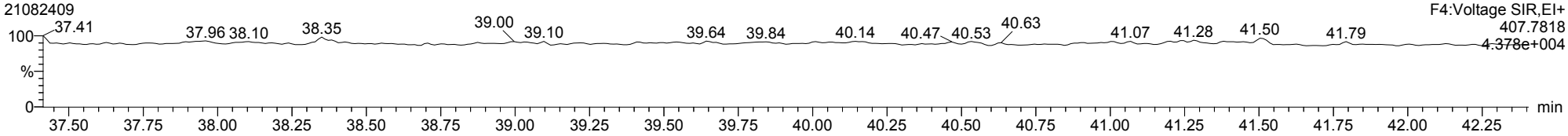

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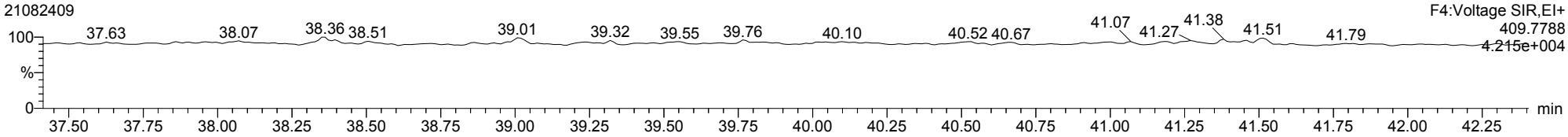

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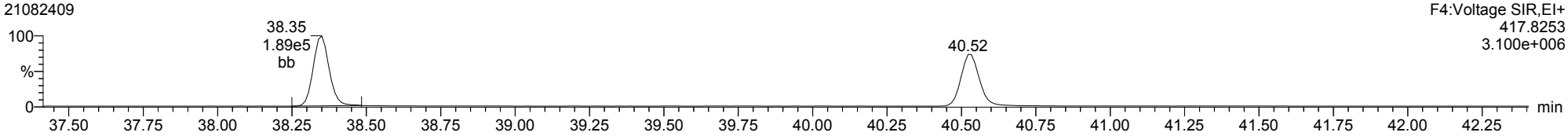

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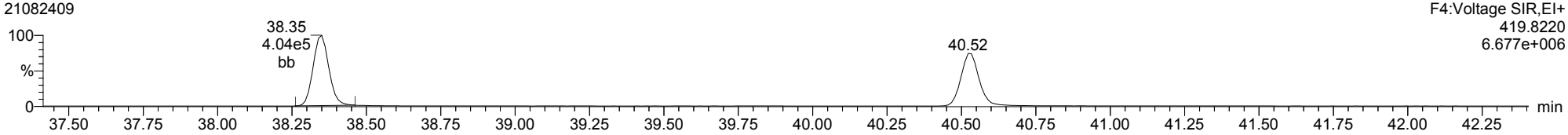

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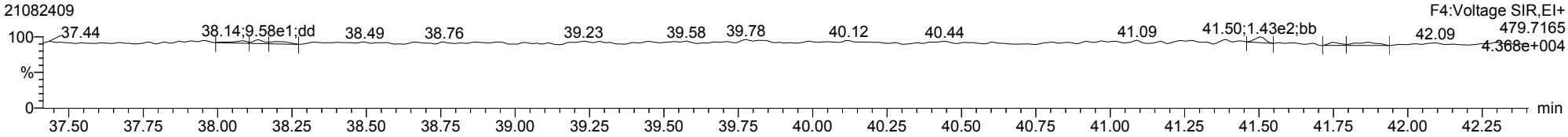

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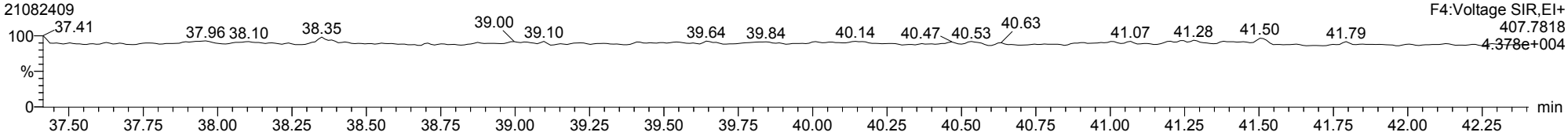

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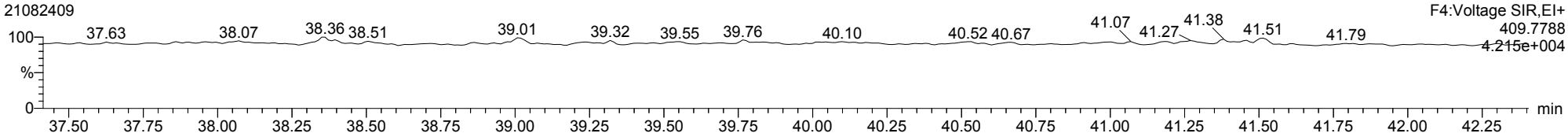

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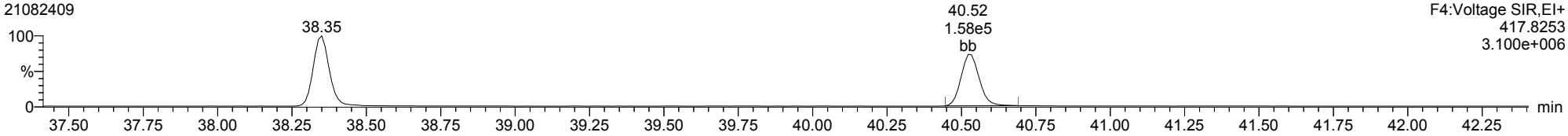

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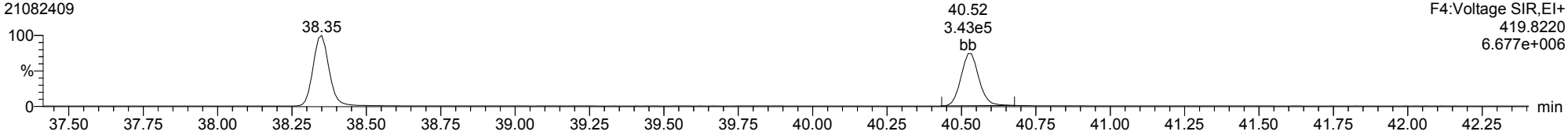

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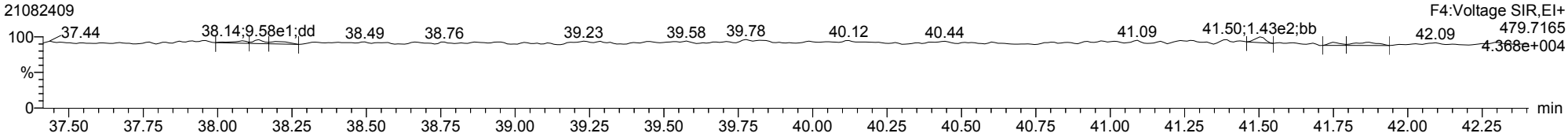

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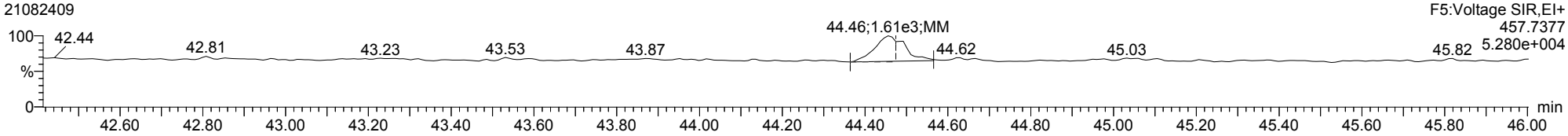

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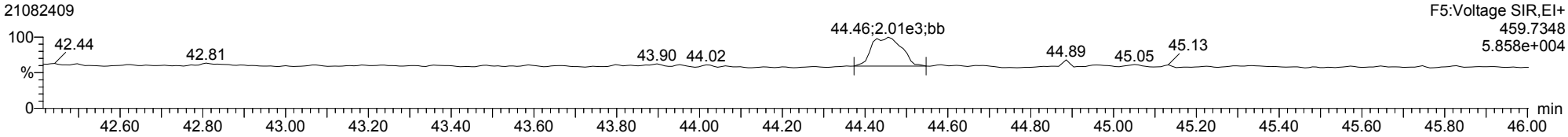

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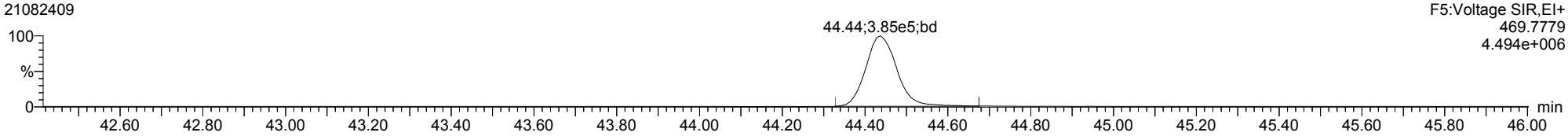

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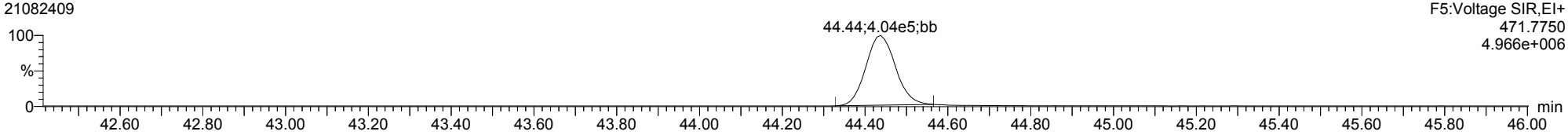
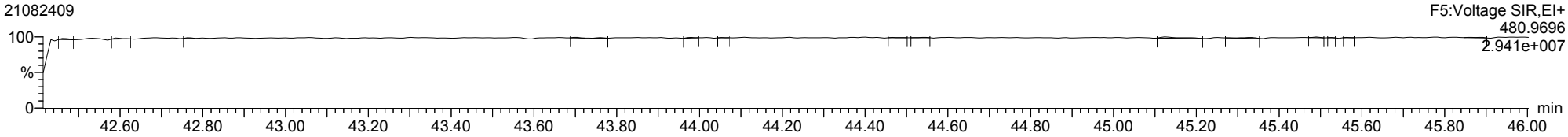


FUNCTION5 PFK



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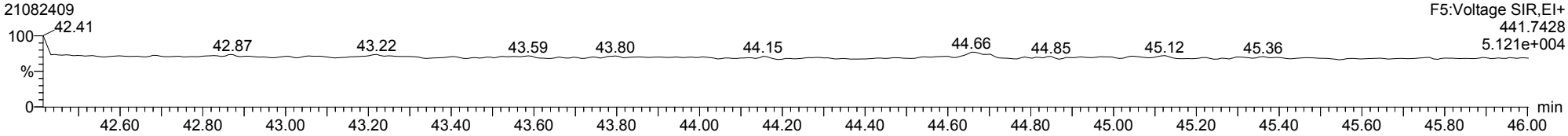

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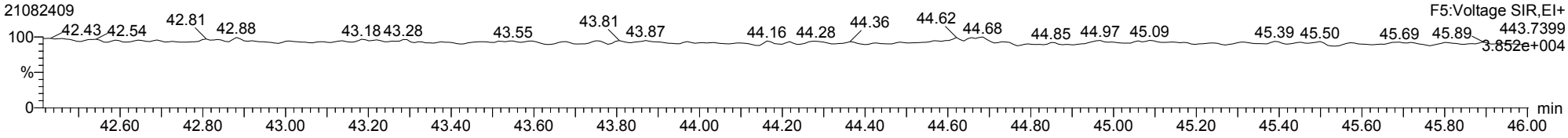

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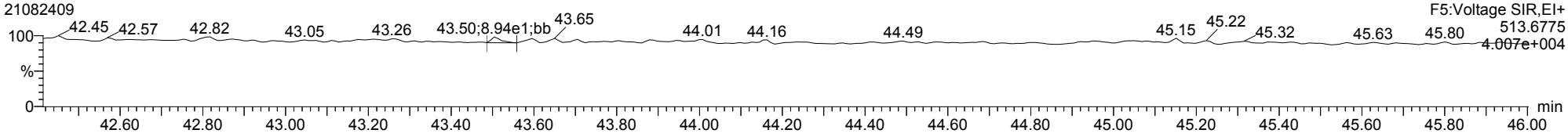

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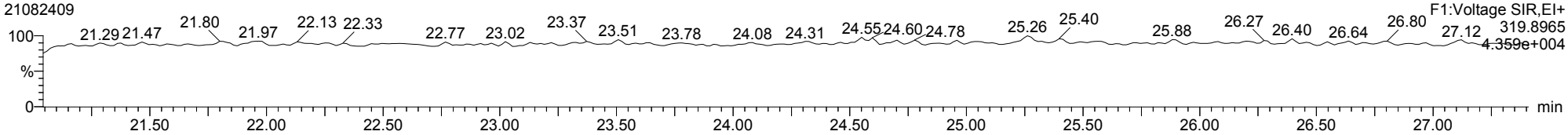

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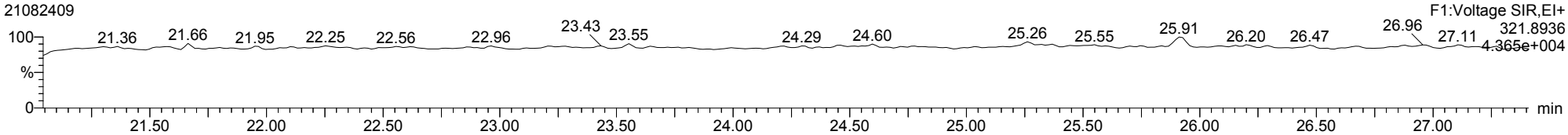

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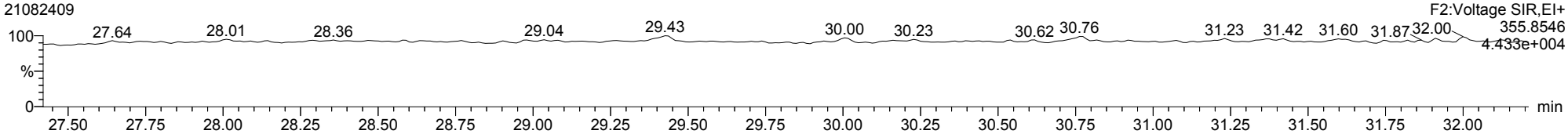

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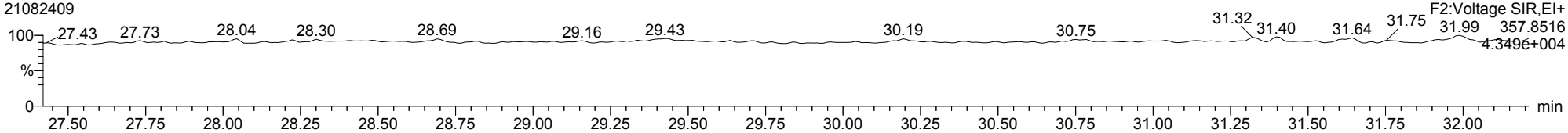

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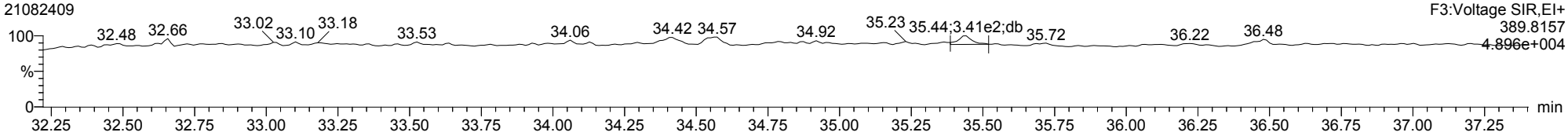

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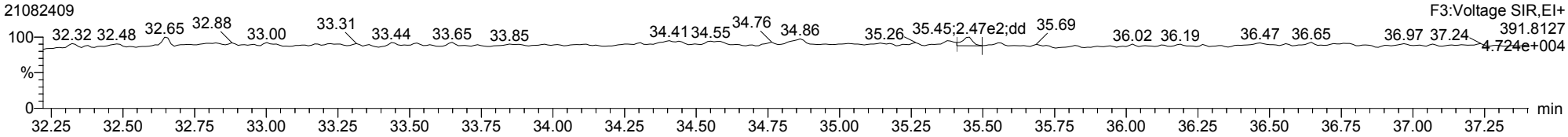

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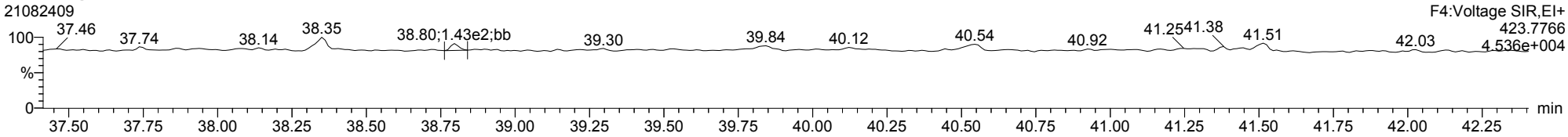

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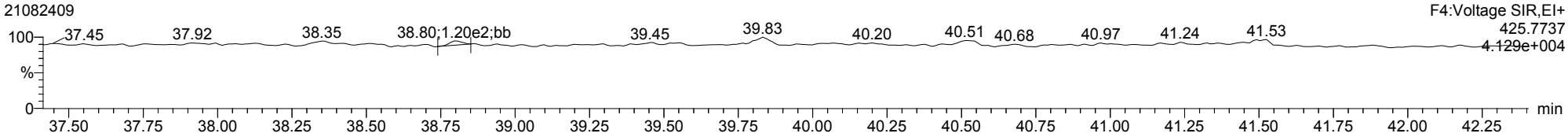

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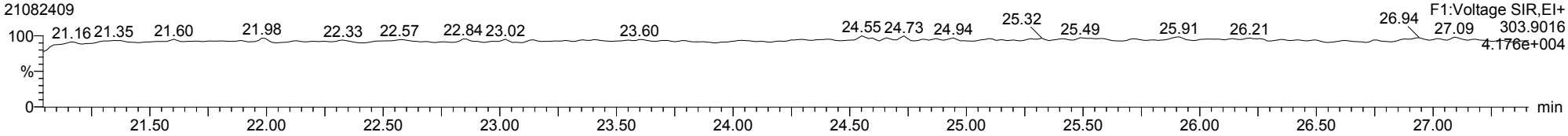
Total-tetrafurans



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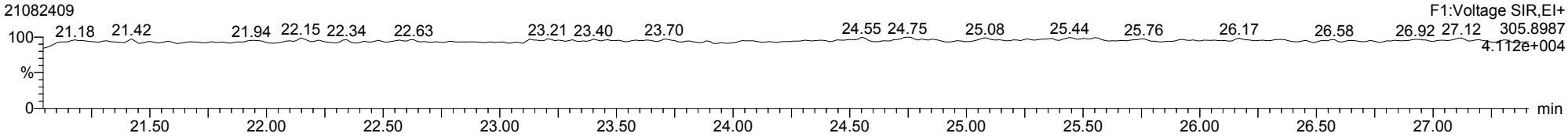

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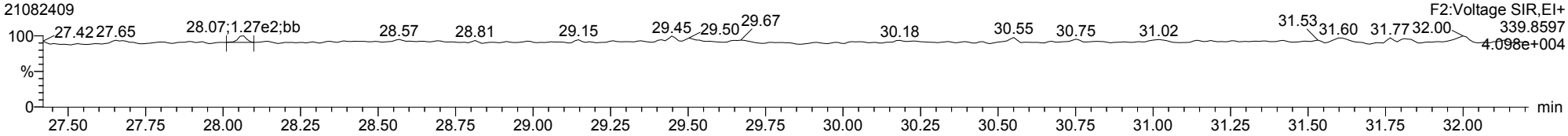

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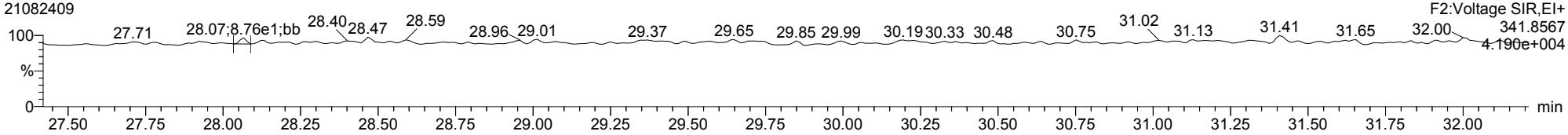

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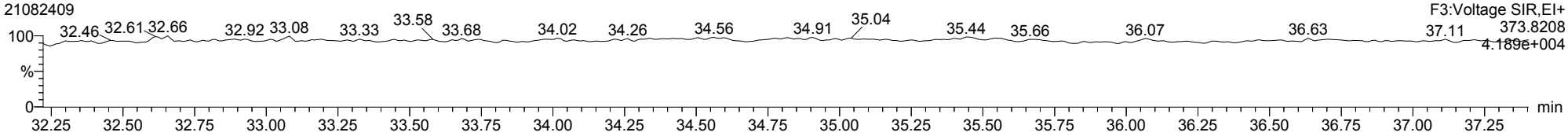
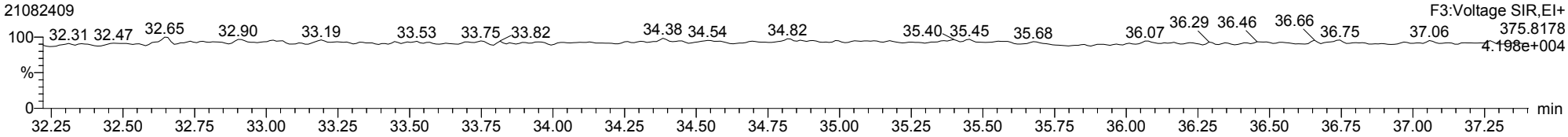
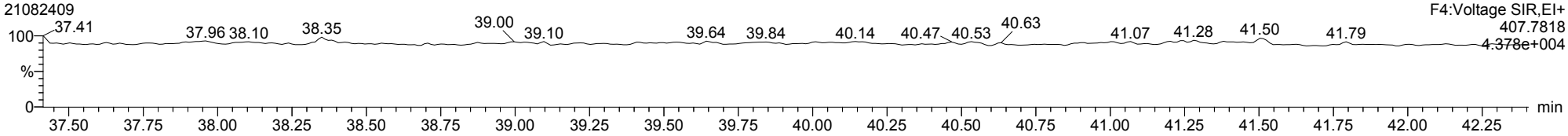


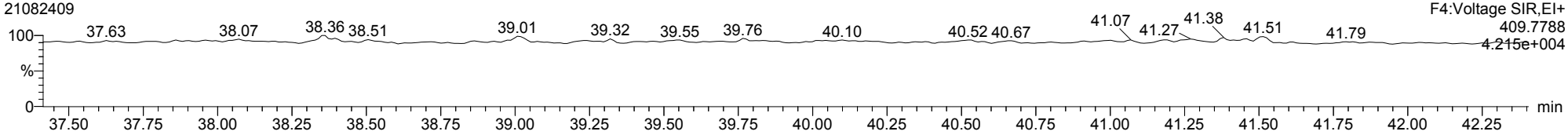
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS RECOVERY
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	07/19/21 13:43
Batch:	BJG0187	Laboratory ID:	BJG0187-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	20.2		101	75 - 158
2,3,7,8-TCDD	20.0	17.7		88.6	67 - 158
1,2,3,7,8-PeCDF	100	107		107	80 - 134
2,3,4,7,8-PeCDF	100	103		103	68 - 160
1,2,3,7,8-PeCDD	100	103		103	70 - 142
1,2,3,4,7,8-HxCDF	100	98.7		98.7	72 - 134
1,2,3,6,7,8-HxCDF	100	101		101	84 - 130
2,3,4,6,7,8-HxCDF	100	94.9		94.9	70 - 156
1,2,3,7,8,9-HxCDF	100	99.7		99.7	78 - 130
1,2,3,4,7,8-HxCDD	100	90.0		90.0	70 - 164
1,2,3,6,7,8-HxCDD	100	93.4		93.4	76 - 134
1,2,3,7,8,9-HxCDD	100	105		105	64 - 162
1,2,3,4,6,7,8-HpCDF	100	108		108	82 - 122
1,2,3,4,7,8,9-HpCDF	100	102		102	78 - 138
1,2,3,4,6,7,8-HpCDD	100	102		102	70 - 140
OCDF	200	176		87.9	63 - 170
OCDD	200	180	B	89.8	78 - 144

* Indicates values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:55 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, 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	25.670	1.001	4.962e3	5.674e3	0.782	0.875	0.770	708	1349	7.55e4	8.08e4	106.6	59.9	NO	MM	bb	10.082
12378-PeCDF	29.839	1.001	8.470e4	4.998e4	0.866	1.695	1.550	1034	1409	1.27e6	7.76e5	1225.1	550.6	NO	bb	bb	53.700
23478-PeCDF	31.187	1.001	8.438e4	5.040e4	0.980	1.674	1.550	1034	1409	1.29e6	7.93e5	1249.8	563.2	NO	bb	bb	51.715
123478-HxCDF	34.808	1.001	7.817e4	6.092e4	1.002	1.283	1.240	1807	1348	1.27e6	9.47e5	703.2	702.4	NO	bd	bd	49.328
234678-HxCDF	35.811	1.000	8.501e4	6.788e4	1.043	1.252	1.240	1807	1348	1.38e6	1.10e6	765.4	815.2	NO	bb	bb	47.468
123678-HxCDF	34.942	1.000	8.631e4	6.493e4	0.961	1.329	1.240	1807	1348	1.33e6	1.04e6	736.8	769.6	NO	db	db	50.666
123789-HxCDF	36.847	1.001	7.386e4	5.547e4	0.994	1.332	1.240	1807	1348	1.12e6	8.75e5	621.9	649.3	NO	bd	bb	49.842
1234678-HpCDF	38.685	1.000	8.887e4	8.837e4	1.058	1.006	1.050	1414	1663	1.54e6	1.41e6	1088.2	849.3	NO	bb	bb	53.860
1234789-HpCDF	40.925	1.000	6.961e4	6.886e4	1.070	1.011	1.050	1414	1663	1.04e6	9.66e5	732.0	580.7	NO	bb	bd	50.988
OCDF	45.141	1.006	1.354e5	1.392e5	1.257	0.973	0.890	1316	2117	1.62e6	1.69e6	1231.3	800.2	NO	bb	bb	87.885
2378-TCDD	26.320	1.001	5.857e3	6.786e3	1.307	0.863	0.770	1176	832	8.73e4	1.02e5	74.3	122.2	NO	MM	bb	8.856
12378-PeCDD	31.432	1.000	5.952e4	3.959e4	0.979	1.503	1.550	1097	676	9.38e5	6.38e5	854.9	943.3	NO	bb	bb	51.740
123478-HxCDD	35.933	1.000	6.466e4	5.295e4	0.956	1.221	1.240	1114	1243	1.09e6	8.90e5	975.1	716.4	NO	bd	bd	44.987
123678-HxCDD	36.056	1.001	7.166e4	5.814e4	0.953	1.232	1.240	1114	1243	1.13e6	9.48e5	1014.3	762.7	NO	db	db	46.705
123789-HxCDD	36.435	1.011	7.515e4	6.258e4	0.927	1.201	1.240	1114	1243	1.23e6	1.02e6	1103.1	823.8	NO	bb	bb	52.586
1234678-HpCDD	40.189	1.001	6.730e4	6.452e4	1.055	1.043	1.050	1309	1479	1.01e6	9.65e5	773.8	652.5	NO	bb	bd	51.024
OCDD	44.903	1.000	1.094e5	1.304e5	1.074	0.839	0.890	1430	2356	1.37e6	1.55e6	960.0	656.7	NO	bb	bd	89.840
13C-2378-TCDF	25.655	1.007	5.827e4	7.672e4	1.925	0.760	0.770	3083	2161	8.55e5	1.10e6	277.2	507.7	NO	bb	bd	21.551
13C-12378-PeCDF	29.817	1.170	1.766e5	1.130e5	1.442	1.563	1.550	1443	1493	2.67e6	1.72e6	1853.8	1152.8	NO	bb	bb	61.699
13C-23478-PeCDF	31.165	1.223	1.603e5	1.056e5	1.387	1.518	1.550	1443	1493	2.50e6	1.64e6	1731.4	1096.1	NO	bb	bb	58.948
13C-123478-HxCDF	34.786	0.955	9.498e4	1.864e5	1.053	0.510	0.510	1913	2034	1.51e6	2.94e6	790.4	1445.8	NO	bd	bd	69.601
13C-123678-HxCDF	34.931	0.959	1.057e5	2.049e5	1.135	0.516	0.510	1913	2034	1.66e6	3.32e6	868.2	1631.4	NO	db	db	71.291
13C-234678-HxCDF	35.800	0.983	1.060e5	2.028e5	1.004	0.523	0.510	1913	2034	1.64e6	3.21e6	858.7	1577.5	NO	bb	bb	80.119
13C-123789-HxCDF	36.825	1.011	8.720e4	1.738e5	0.909	0.502	0.510	1913	2034	1.40e6	2.76e6	734.0	1359.6	NO	bb	bb	74.794
13C-1234678-HpCDF	38.674	1.062	9.756e4	2.135e5	0.960	0.457	0.440	2658	1895	1.59e6	3.57e6	599.7	1882.1	NO	bb	bb	84.427
13C-1234789-HpCDF	40.902	1.123	7.516e4	1.787e5	0.794	0.421	0.440	2658	1895	1.07e6	2.54e6	404.4	1338.4	NO	bd	bd	83.325
13C-1234-TCDD	25.489	0.000	1.420e5	1.834e5	1.000	0.774	0.770	2392	1182	2.28e6	2.89e6	952.0	2444.4	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	4.937e4	5.981e4	1.133	0.826	0.770	2392	1182	7.50e5	9.34e5	313.5	790.4	NO	bd	bb	29.621
13C-12378-PeCDD	31.421	1.233	1.226e5	7.312e4	0.947	1.677	1.550	1306	915	1.88e6	1.12e6	1438.2	1223.2	NO	bb	bb	63.531
13C-123478-HxCDD	35.922	0.986	1.535e5	1.199e5	0.939	1.280	1.240	1131	1921	2.57e6	1.95e6	2274.3	1015.1	NO	bd	bd	75.895
13C-123678-HxCDD	36.034	0.989	1.603e5	1.314e5	1.042	1.220	1.240	1131	1921	2.57e6	2.15e6	2271.8	1116.8	NO	db	db	72.938
13C-1234678-HpCDD	40.167	1.103	1.267e5	1.182e5	0.788	1.072	1.050	1650	1503	1.86e6	1.78e6	1129.4	1181.6	NO	bd	bd	80.919
13C-OCDD	44.885	1.232	2.274e5	2.698e5	0.703	0.843	0.890	1939	2414	2.86e6	3.19e6	1472.6	1323.6	NO	bb	bd	184.183
13C-123789-HxCDD	36.424	0.000	2.171e5	1.668e5	1.000	1.301	1.240	1131	1921	3.42e6	2.70e6	3026.8	1403.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	4.984e4		1.298			988		7.46e5		755.3			bb		11.804

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:55 Pacific Daylight Time

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, 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					0.966		0.770	708	1349								
1289-TCDF					0.736		0.770	708	1349								
13468-PECDF					1.347		1.550	627	811								
12389-PECDF	32.235	1.081	8.791e2	6.889e2	0.867	1.276	1.550	1034	1409	1.20e4	1.16e4	11.6	8.2	YES	bb	bb	0.625
123468-HXCDF					1.036		1.240	1807	1348								
1368-TCDD					1.256		0.770	1176	832								
1289-TCDD					1.151		0.770	1176	832								
12479-PECDD					1.773		1.550	1097	676								
12389-PECDD					1.171		1.550	1097	676								
124679-HXCDD					1.034		1.240	1114	1243								
1234679-HPCDD	39.164	0.975	6.650e2	6.789e2	1.194	0.979	1.050	1309	1479	1.02e4	1.07e4	7.8	7.3	NO	bb	bb	0.460
Total-tetrafurans			4.962e3		0.828			708		7.55e4							10.082
Total-penta1			0.000e0					627		0.00e0							
Total-pentafurans			1.691e5		0.904			1034		2.56e6							105.414
Total-hexafurans			3.233e5		1.007			1807		5.11e6							197.304
Total-heptafurans			1.585e5		1.064			1414		2.57e6							104.849
Total-Furans			7.913e5		0.998			708		1.19e7							505.533
Total-tetradioxins			5.857e3		1.238			1176		8.73e4							8.856
Total-pentadioxins			5.952e4		1.308			1097		9.38e5							51.740
Total-hexadioxins			2.115e5		0.967			1114		3.45e6							144.278
Total-heptadioxins			6.796e4		1.125			1309		1.02e6							51.484
Total-Dioxins			4.543e5		1.141			1176		6.87e6							346.198
Total-TEQ			1.246e6					1176		1.88e7							851.731
FUNCTION1 PFK			2.226e6					926706		1.24e7							
FUNCTION2 PFK			1.426e6					673401		3.22e7							0.000
FUNCTION3 PFK			7.446e4					624898		3.00e6							0.000
FUNCTION4 PFK			5.896e6					507314		5.12e7							
FUNCTION5 PFK			6.839e4					390435		3.94e6							
FUNCTION1 HXCD...			5.467e2					447		6.63e3							0.000
FUNCTION1 HPCD...			8.021e2					747		1.38e4							0.000
FUNCTION2 HPCD...			2.565e2					793		7.71e3							0.000
FUNCTION3 OCDPE			5.958e2					588		1.07e4							0.000
FUNCTION4 NCDPE			5.589e2					679		8.29e3							0.000
FUNCTION5 DCDPE			8.815e1					690		1.15e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:55 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.67	4.962e3	5.674e3	0.782	0.87	0.77	106.6	YES	NO	MM	bb	10.082

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	31.19	8.438e4	5.040e4	0.980	1.67	1.55	1249.8	YES	NO	bb	bb	51.715
2	12378-PeCDF	29.84	8.470e4	4.998e4	0.866	1.69	1.55	1225.1	YES	NO	bb	bb	53.700

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123478-HxCDF	34.81	7.817e4	6.092e4	1.002	1.28	1.24	703.2	YES	NO	bd	bd	49.328
2	123789-HxCDF	36.85	7.386e4	5.547e4	0.994	1.33	1.24	621.9	YES	NO	bd	bb	49.842
3	234678-HxCDF	35.81	8.501e4	6.788e4	1.043	1.25	1.24	765.4	YES	NO	bb	bb	47.468
4	123678-HxCDF	34.94	8.631e4	6.493e4	0.961	1.33	1.24	736.8	YES	NO	db	db	50.666

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.69	8.887e4	8.837e4	1.058	1.01	1.05	1088.2	YES	NO	bb	bb	53.860
2	1234789-HpCDF	40.92	6.961e4	6.886e4	1.070	1.01	1.05	732.0	YES	NO	bb	bd	50.988

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, 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	23478-PeCDF	31.19	8.438e4	5.040e4	0.980	1.67	1.55	1249.8	YES	NO	bb	bb	51.715
2	12378-PeCDF	29.84	8.470e4	4.998e4	0.866	1.69	1.55	1225.1	YES	NO	bb	bb	53.700
3	2378-TCDF	25.67	4.962e3	5.674e3	0.782	0.87	0.77	106.6	YES	NO	MM	bb	10.082
4	123478-HxCDF	34.81	7.817e4	6.092e4	1.002	1.28	1.24	703.2	YES	NO	bd	bd	49.328
5	123789-HxCDF	36.85	7.386e4	5.547e4	0.994	1.33	1.24	621.9	YES	NO	bd	bb	49.842
6	234678-HxCDF	35.81	8.501e4	6.788e4	1.043	1.25	1.24	765.4	YES	NO	bb	bb	47.468
7	123678-HxCDF	34.94	8.631e4	6.493e4	0.961	1.33	1.24	736.8	YES	NO	db	db	50.666
8	1234678-HpCDF	38.69	8.887e4	8.837e4	1.058	1.01	1.05	1088.2	YES	NO	bb	bb	53.860
9	1234789-HpCDF	40.92	6.961e4	6.886e4	1.070	1.01	1.05	732.0	YES	NO	bb	bd	50.988
10	OCDF	45.14	1.354e5	1.392e5	1.257	0.97	0.89	1231.3	YES	NO	bb	bb	87.885

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.32	5.857e3	6.786e3	1.307	0.86	0.77	74.3	YES	NO	MM	bb	8.856

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.43	5.952e4	3.959e4	0.979	1.50	1.55	854.9	YES	NO	bb	bb	51.740

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.43	7.515e4	6.258e4	0.927	1.20	1.24	1103.1	YES	NO	bb	bb	52.586
2	123678-HxCDD	36.06	7.166e4	5.814e4	0.953	1.23	1.24	1014.3	YES	NO	db	db	46.705
3	123478-HxCDD	35.93	6.466e4	5.295e4	0.956	1.22	1.24	975.1	YES	NO	bd	bd	44.987

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.19	6.730e4	6.452e4	1.055	1.04	1.05	773.8	YES	NO	bb	bd	51.024
2	1234679-HPCDD	39.16	6.650e2	6.789e2	1.194	0.98	1.05	7.8	YES	NO	bb	bb	0.460

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
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ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, 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	12378-PeCDD	31.43	5.952e4	3.959e4	0.979	1.50	1.55	854.9	YES	NO	bb	bb	51.740
2	2378-TCDD	26.32	5.857e3	6.786e3	1.307	0.86	0.77	74.3	YES	NO	MM	bb	8.856
3	123789-HxCDD	36.43	7.515e4	6.258e4	0.927	1.20	1.24	1103.1	YES	NO	bb	bb	52.586
4	123678-HxCDD	36.06	7.166e4	5.814e4	0.953	1.23	1.24	1014.3	YES	NO	db	db	46.705
5	123478-HxCDD	35.93	6.466e4	5.295e4	0.956	1.22	1.24	975.1	YES	NO	bd	bd	44.987
6	1234678-HpCDD	40.19	6.730e4	6.452e4	1.055	1.04	1.05	773.8	YES	NO	bb	bd	51.024
7	1234679-HPCDD	39.16	6.650e2	6.789e2	1.194	0.98	1.05	7.8	YES	NO	bb	bb	0.460
8	OCDD	44.90	1.094e5	1.304e5	1.074	0.84	0.89	960.0	YES	NO	bb	bd	89.840

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.19	8.438e4	5.040e4	0.980	1.67	1.55	1249.8	YES	NO	bb	bb	51.715
2	12378-PeCDF	29.84	8.470e4	4.998e4	0.866	1.69	1.55	1225.1	YES	NO	bb	bb	53.700
3	2378-TCDF	25.67	4.962e3	5.674e3	0.782	0.87	0.77	106.6	YES	NO	MM	bb	10.082
4	123478-HxCDF	34.81	7.817e4	6.092e4	1.002	1.28	1.24	703.2	YES	NO	bd	bd	49.328
5	123789-HxCDF	36.85	7.386e4	5.547e4	0.994	1.33	1.24	621.9	YES	NO	bd	bb	49.842
6	234678-HxCDF	35.81	8.501e4	6.788e4	1.043	1.25	1.24	765.4	YES	NO	bb	bb	47.468
7	123678-HxCDF	34.94	8.631e4	6.493e4	0.961	1.33	1.24	736.8	YES	NO	db	db	50.666
8	1234678-HpCDF	38.69	8.887e4	8.837e4	1.058	1.01	1.05	1088.2	YES	NO	bb	bb	53.860
9	1234789-HpCDF	40.92	6.961e4	6.886e4	1.070	1.01	1.05	732.0	YES	NO	bb	bd	50.988
10	OCDF	45.14	1.354e5	1.392e5	1.257	0.97	0.89	1231.3	YES	NO	bb	bb	87.885
11	12378-PeCDD	31.43	5.952e4	3.959e4	0.979	1.50	1.55	854.9	YES	NO	bb	bb	51.740
12	2378-TCDD	26.32	5.857e3	6.786e3	1.307	0.86	0.77	74.3	YES	NO	MM	bb	8.856
13	123789-HxCDD	36.43	7.515e4	6.258e4	0.927	1.20	1.24	1103.1	YES	NO	bb	bb	52.586
14	123678-HxCDD	36.06	7.166e4	5.814e4	0.953	1.23	1.24	1014.3	YES	NO	db	db	46.705
15	123478-HxCDD	35.93	6.466e4	5.295e4	0.956	1.22	1.24	975.1	YES	NO	bd	bd	44.987
16	1234678-HpCDD	40.19	6.730e4	6.452e4	1.055	1.04	1.05	773.8	YES	NO	bb	bd	51.024
17	1234679-HPCDD	39.16	6.650e2	6.789e2	1.194	0.98	1.05	7.8	YES	NO	bb	bb	0.460
18	OCDD	44.90	1.094e5	1.304e5	1.074	0.84	0.89	960.0	YES	NO	bb	bd	89.840

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	23.34	1.571e6					5.0	YES		bb		
2	FUNCTION1 PFK	23.04	6.544e5					8.4	YES		bb		

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:55 Pacific Daylight Time

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, 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	28.94	1.942e4					0.9	NO		bb		0.000
2	FUNCTION2 PFK	28.79	2.069e4					1.2	NO		bb		0.000
3	FUNCTION2 PFK	28.58	8.488e3					0.7	NO		bb		0.000
4	FUNCTION2 PFK	28.48	1.279e4					0.7	NO		bb		0.000
5	FUNCTION2 PFK	28.27	4.066e3					0.5	NO		bb		0.000
6	FUNCTION2 PFK	28.20	1.965e5					4.3	YES		bb		0.000
7	FUNCTION2 PFK	28.02	3.500e5					4.5	YES		bb		0.000
8	FUNCTION2 PFK	27.86	4.853e3					0.6	NO		bb		0.000
9	FUNCTION2 PFK	27.81	2.075e4					1.3	NO		db		0.000
10	FUNCTION2 PFK	27.76	5.637e4					3.1	YES		bd		0.000
11	FUNCTION2 PFK	31.09	4.884e4					1.7	NO		bd		0.000
12	FUNCTION2 PFK	30.88	8.425e3					0.7	NO		bb		0.000
13	FUNCTION2 PFK	30.79	3.841e3					0.5	NO		bb		0.000
14	FUNCTION2 PFK	30.64	1.890e4					1.0	NO		bb		0.000
15	FUNCTION2 PFK	30.59	1.752e4					1.1	NO		bb		0.000
16	FUNCTION2 PFK	30.30	2.229e4					0.9	NO		bb		0.000
17	FUNCTION2 PFK	30.23	6.218e3					0.7	NO		bb		0.000
18	FUNCTION2 PFK	29.97	4.079e3					0.5	NO		bb		0.000
19	FUNCTION2 PFK	29.93	8.045e3					0.7	NO		bb		0.000
20	FUNCTION2 PFK	29.81	2.625e4					1.3	NO		bb		0.000
21	FUNCTION2 PFK	29.61	6.828e4					2.6	NO		bb		0.000
22	FUNCTION2 PFK	29.50	8.496e4					2.8	NO		db		0.000
23	FUNCTION2 PFK	29.46	7.586e4					2.2	NO		dd		0.000
24	FUNCTION2 PFK	29.38	4.605e4					1.4	NO		dd		0.000
25	FUNCTION2 PFK	29.35	2.127e4					1.3	NO		bd		0.000
26	FUNCTION2 PFK	29.16	6.076e4					1.8	NO		bb		0.000
27	FUNCTION2 PFK	32.57	9.468e3					0.7	NO		bb		0.000
28	FUNCTION2 PFK	32.46	2.933e3					0.4	NO		bb		0.000
29	FUNCTION2 PFK	32.41	2.013e4					1.1	NO		bb		0.000
30	FUNCTION2 PFK	32.29	7.653e3					0.7	NO		bb		0.000
31	FUNCTION2 PFK	32.26	8.377e3					0.6	NO		db		0.000
32	FUNCTION2 PFK	32.19	2.595e4					1.2	NO		dd		0.000
33	FUNCTION2 PFK	32.11	6.772e4					1.6	NO		bd		0.000
34	FUNCTION2 PFK	31.87	2.141e4					1.1	NO		bb		0.000
35	FUNCTION2 PFK	31.72	1.546e4					0.6	NO		bb		0.000
36	FUNCTION2 PFK	31.24	2.638e3					0.4	NO		bb		0.000
37	FUNCTION2 PFK	31.20	2.861e4					0.6	NO		db		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	36.97	4.932e4					2.4	NO		bb		0.000
2	FUNCTION3 PFK	36.92	1.981e4					1.7	NO		bb		0.000
3	FUNCTION3 PFK	33.28	5.332e3					0.8	NO		bb		0.000

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Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:55 Pacific Daylight Time

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, 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	40.18	2.460e3					0.4	NO		bb		
2	FUNCTION4 PFK	40.06	1.976e4					0.9	NO		db		
3	FUNCTION4 PFK	39.97	1.455e4					0.9	NO		dd		
4	FUNCTION4 PFK	39.92	2.024e4					1.3	NO		dd		
5	FUNCTION4 PFK	39.85	2.405e4					1.4	NO		bd		
6	FUNCTION4 PFK	39.75	9.208e3					0.6	NO		bb		
7	FUNCTION4 PFK	39.39	1.027e4					0.8	NO		bb		
8	FUNCTION4 PFK	39.31	7.116e3					0.5	NO		bb		
9	FUNCTION4 PFK	39.15	1.444e4					0.9	NO		bb		
10	FUNCTION4 PFK	38.99	1.657e3					0.3	NO		bb		
11	FUNCTION4 PFK	38.70	3.410e4					1.6	NO		bb		
12	FUNCTION4 PFK	38.52	7.294e5					2.7	NO		db		
13	FUNCTION4 PFK	38.18	5.495e5					13.0	YES		dd		
14	FUNCTION4 PFK	38.03	1.395e6					17.7	YES		dd		
15	FUNCTION4 PFK	37.96	1.313e6					19.0	YES		dd		
16	FUNCTION4 PFK	37.76	1.510e6					24.1	YES		bd		
17	FUNCTION4 PFK	42.79	9.692e3					0.7	NO		bb		
18	FUNCTION4 PFK	42.68	3.508e4					1.5	NO		bb		
19	FUNCTION4 PFK	42.64	6.369e3					0.7	NO		bb		
20	FUNCTION4 PFK	42.24	6.729e3					0.5	NO		bb		
21	FUNCTION4 PFK	42.16	4.258e3					0.6	NO		bb		
22	FUNCTION4 PFK	42.03	2.036e4					1.5	NO		bb		
23	FUNCTION4 PFK	41.87	1.984e3					0.4	NO		bb		
24	FUNCTION4 PFK	41.83	1.855e3					0.3	NO		bb		
25	FUNCTION4 PFK	41.54	3.314e4					1.6	NO		bb		
26	FUNCTION4 PFK	41.40	7.676e3					0.6	NO		bb		
27	FUNCTION4 PFK	41.19	3.139e4					1.4	NO		bb		
28	FUNCTION4 PFK	41.11	1.332e4					1.3	NO		db		
29	FUNCTION4 PFK	41.08	2.701e4					1.2	NO		bd		
30	FUNCTION4 PFK	40.87	2.380e4					1.1	NO		bb		
31	FUNCTION4 PFK	40.67	5.849e3					0.6	NO		bb		
32	FUNCTION4 PFK	40.43	1.278e4					1.2	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.96	4.889e3					0.6	NO		bb		
2	FUNCTION5 PFK	45.93	4.265e3					0.7	NO		bb		
3	FUNCTION5 PFK	45.71	5.142e3					0.8	NO		bb		
4	FUNCTION5 PFK	45.14	3.450e3					0.5	NO		bb		
5	FUNCTION5 PFK	44.02	1.777e3					0.5	NO		bb		
6	FUNCTION5 PFK	43.98	8.081e3					1.0	NO		bb		
7	FUNCTION5 PFK	43.76	4.379e3					0.7	NO		bb		
8	FUNCTION5 PFK	43.63	6.790e3					0.9	NO		bb		
9	FUNCTION5 PFK	43.58	7.518e3					0.9	NO		bb		
10	FUNCTION5 PFK	43.54	5.235e3					0.7	NO		bb		
11	FUNCTION5 PFK	43.33	6.085e3					0.8	NO		bb		
12	FUNCTION5 PFK	43.29	5.264e3					0.9	NO		bb		
13	FUNCTION5 PFK	43.02	5.515e3					0.9	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.15	9.540e1					2.5	NO		bb		0.000
2	FUNCTION1 HXCD...	26.20	1.351e2					3.6	YES		bb		0.000
3	FUNCTION1 HXCD...	25.61	8.021e1					2.0	NO		bb		0.000
4	FUNCTION1 HXCD...	24.51	9.662e1					3.8	YES		bb		0.000
5	FUNCTION1 HXCD...	23.16	1.394e2					3.0	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...	26.64	7.689e1					3.0	YES		bb		0.000
2	FUNCTION1 HPCD...	26.08	9.856e1					1.7	NO		bb		0.000
3	FUNCTION1 HPCD...	25.61	9.150e1					1.8	NO		db		0.000
4	FUNCTION1 HPCD...	25.50	7.972e1					1.7	NO		dd		0.000
5	FUNCTION1 HPCD...	25.37	9.981e1					2.4	NO		bd		0.000
6	FUNCTION1 HPCD...	24.51	8.905e1					2.1	NO		bb		0.000
7	FUNCTION1 HPCD...	22.45	9.826e1					1.6	NO		bb		0.000
8	FUNCTION1 HPCD...	22.24	7.037e1					1.5	NO		bb		0.000
9	FUNCTION1 HPCD...	21.75	9.792e1					2.7	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.18	9.737e1					5.4	YES		bb		0.000
2	FUNCTION2 HPCD...	32.45	8.169e1					2.0	NO		bb		0.000
3	FUNCTION2 HPCD...	29.69	7.741e1					2.2	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	37.43	9.885e1					1.2	NO		bb		0.000
2	FUNCTION3 OCDPE	36.43	1.014e2					3.3	YES		bb		0.000
3	FUNCTION3 OCDPE	34.77	7.173e1					3.6	YES		bb		0.000
4	FUNCTION3 OCDPE	34.42	1.349e2					4.7	YES		bb		0.000
5	FUNCTION3 OCDPE	34.05	7.399e1					3.0	YES		bb		0.000
6	FUNCTION3 OCDPE	32.97	1.150e2					2.3	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	40.69	1.153e2					2.1	NO		bb		0.000
2	FUNCTION4 NCDPE	40.18	1.338e2					2.9	NO		bb		0.000
3	FUNCTION4 NCDPE	38.16	1.012e2					2.2	NO		db		0.000
4	FUNCTION4 NCDPE	37.99	1.379e2					2.0	NO		dd		0.000
5	FUNCTION4 NCDPE	37.92	7.066e1					2.9	NO		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	44.93	8.815e1					1.7	NO		bb		0.000

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

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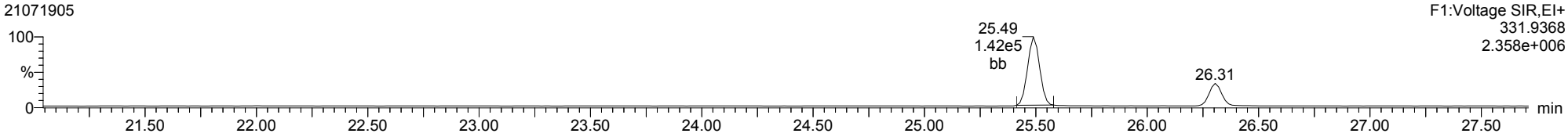
13C-1234-TCDD



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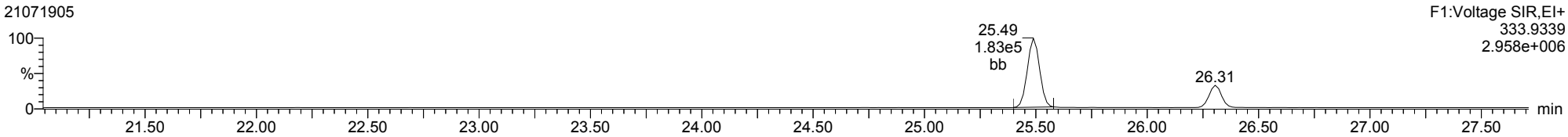

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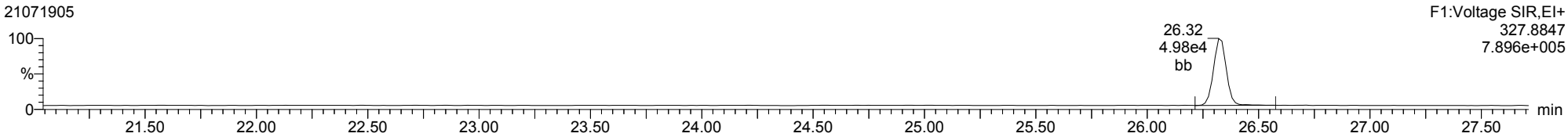

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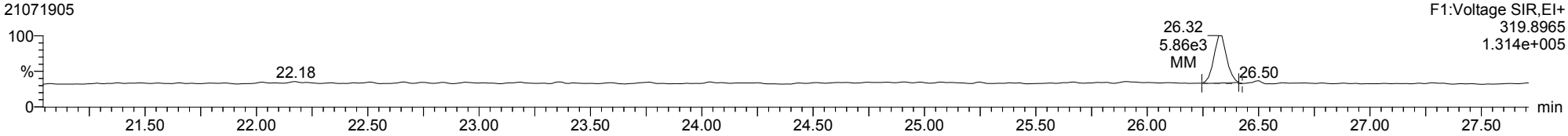
2378-TCDD



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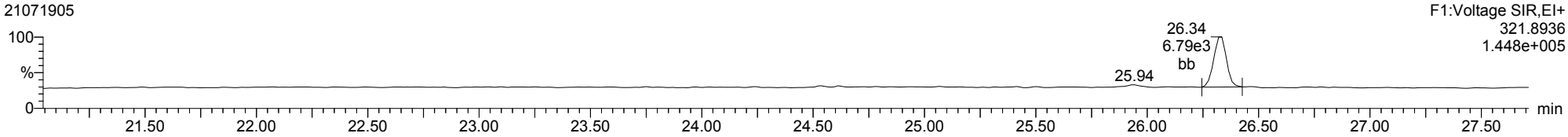

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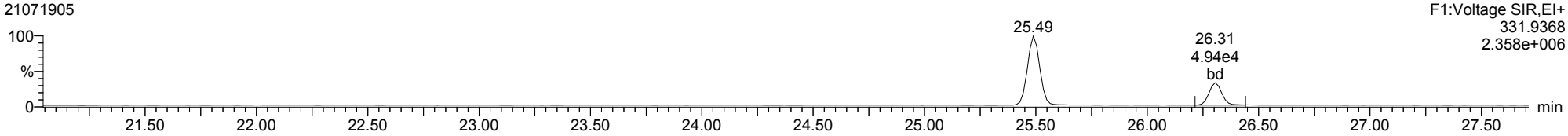

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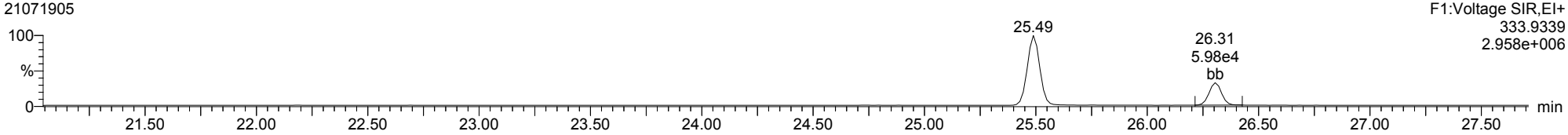
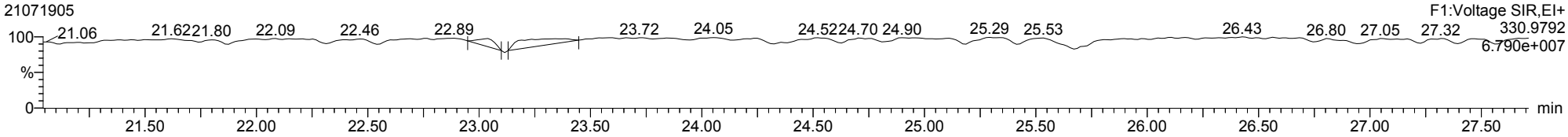


FUNCTION1 PFK



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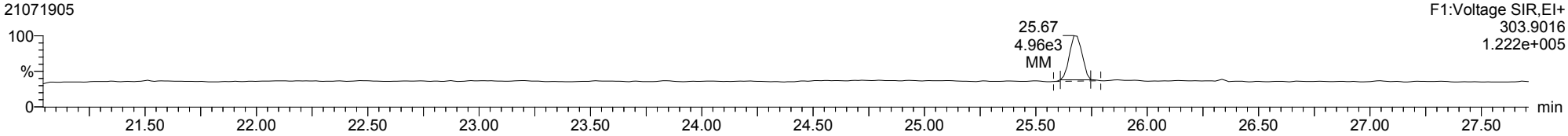
2378-TCDF



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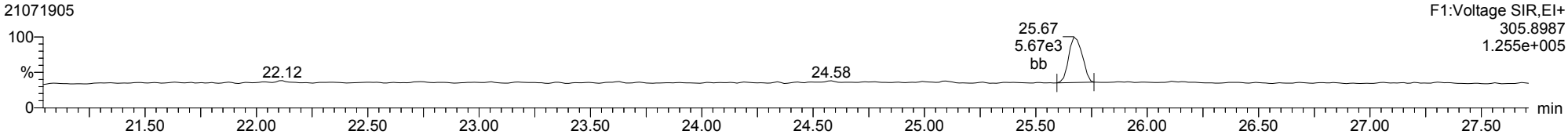

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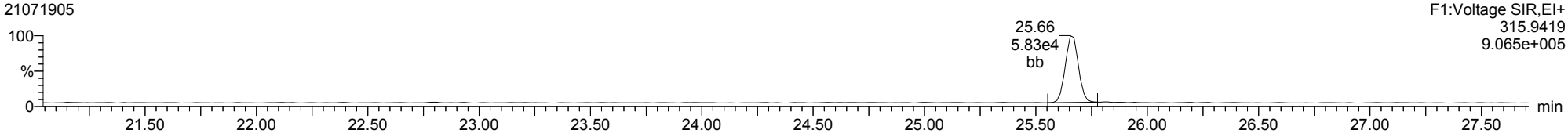

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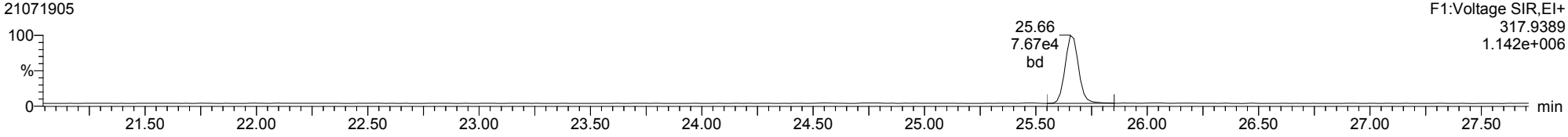
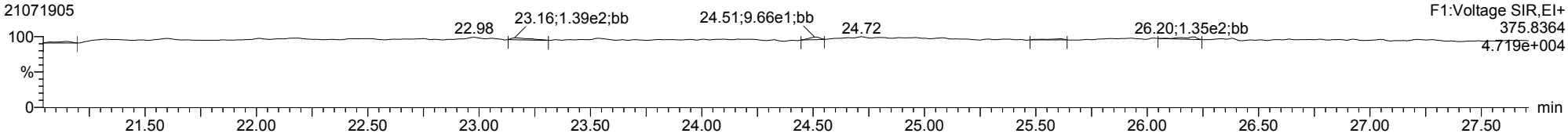


FUNCTION1 HXCDPE



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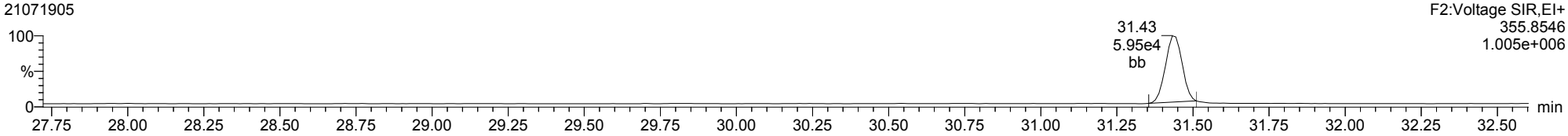
12378-PeCDD



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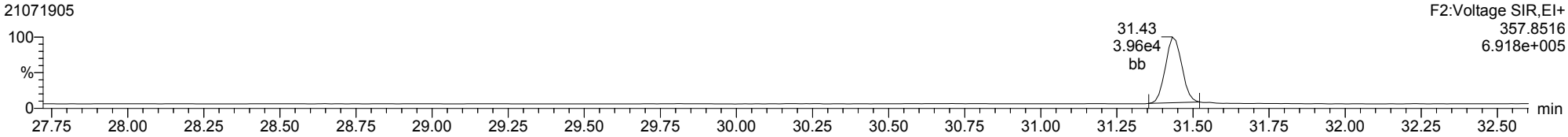

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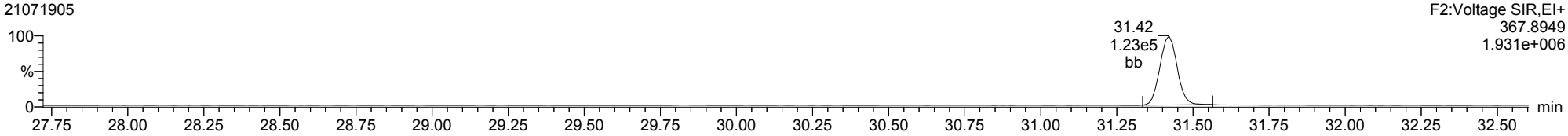

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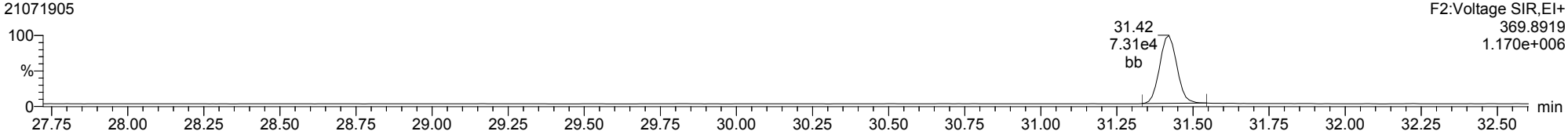

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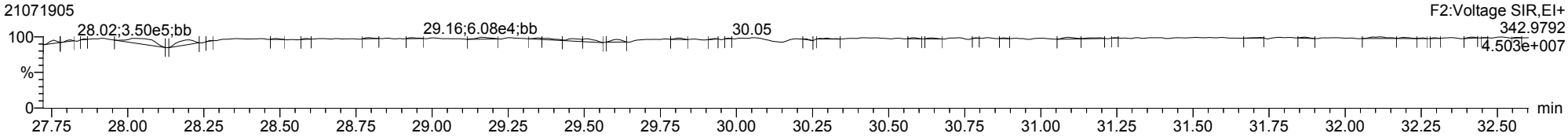

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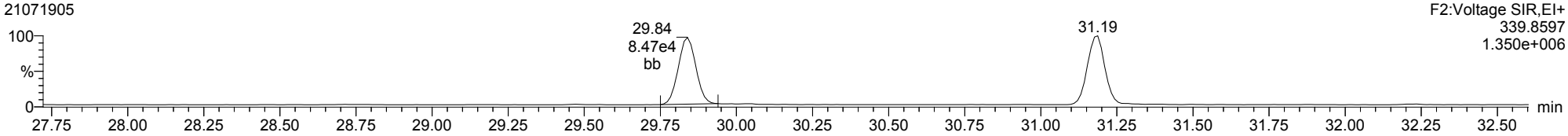

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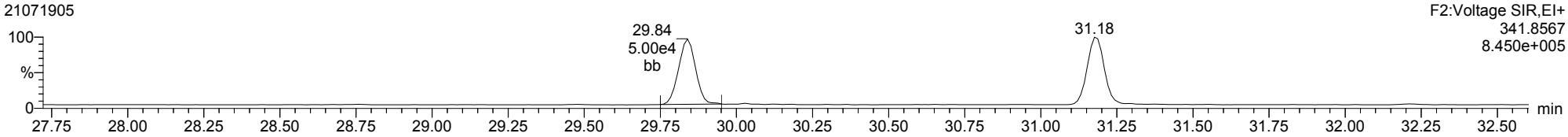

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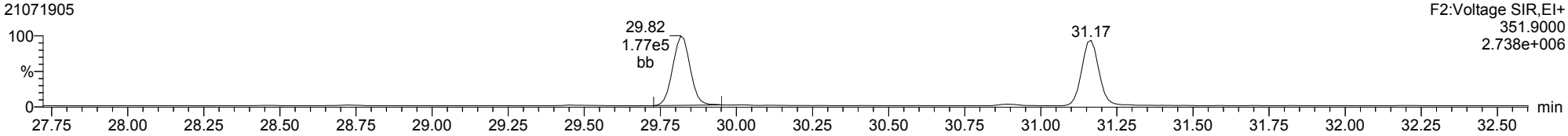

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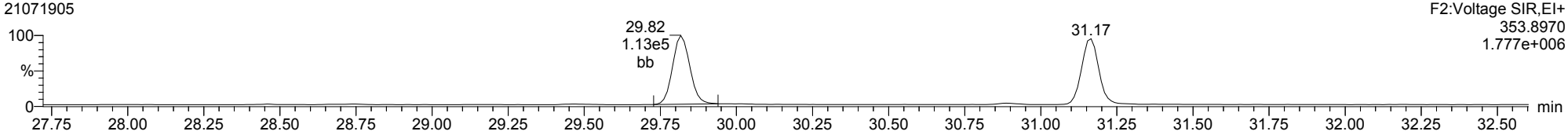

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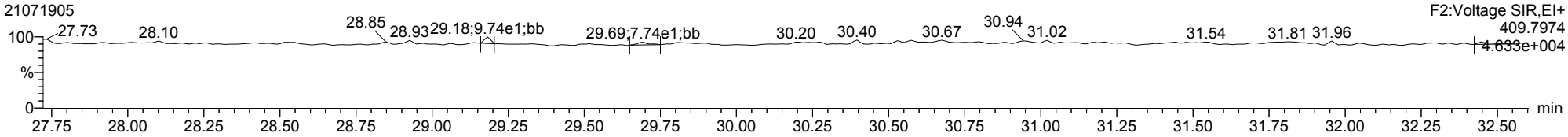

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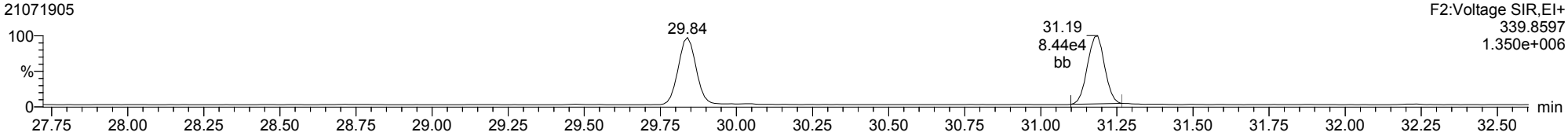

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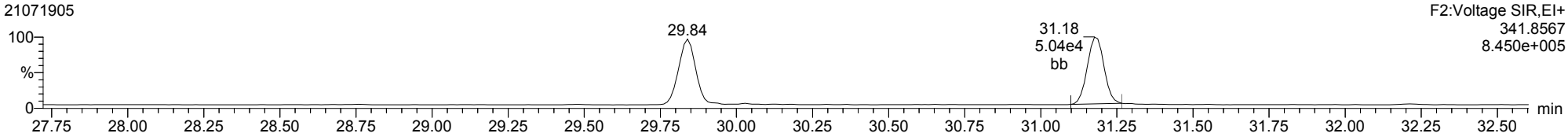

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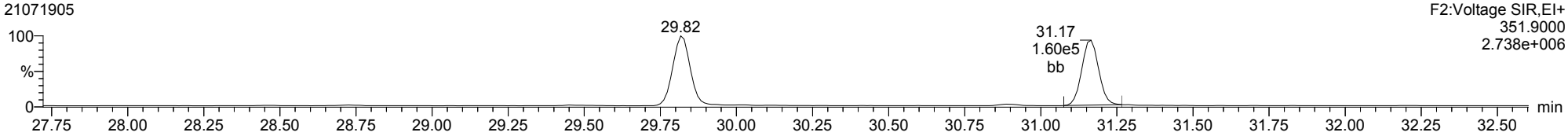

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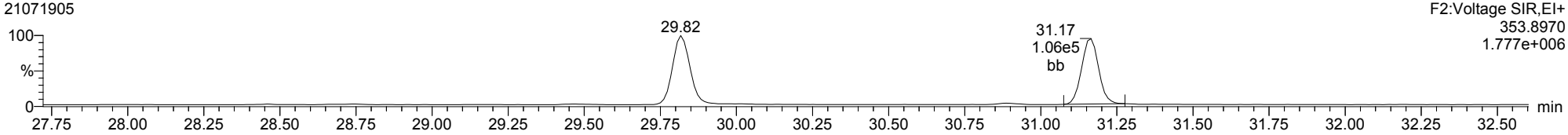

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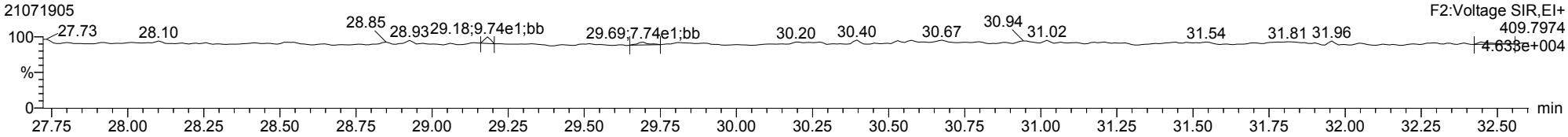

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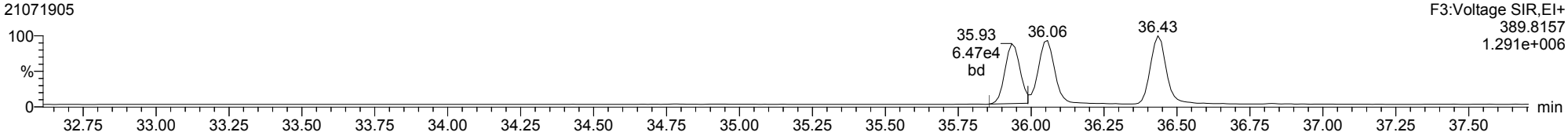

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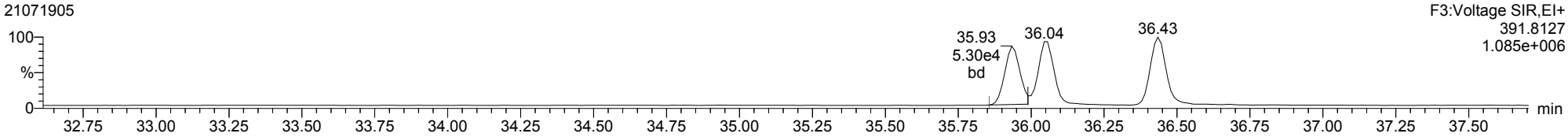

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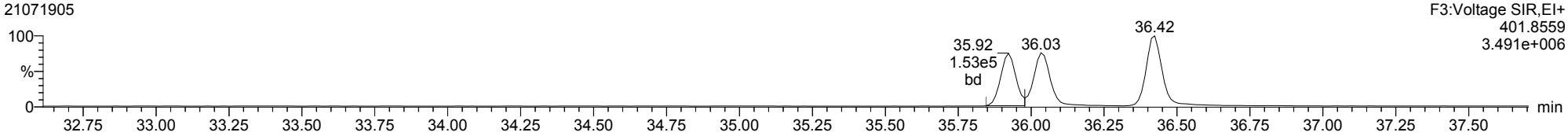

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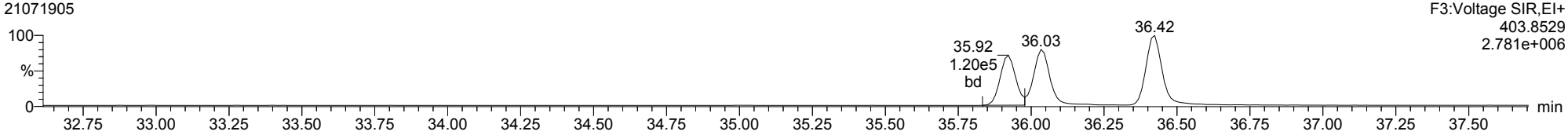

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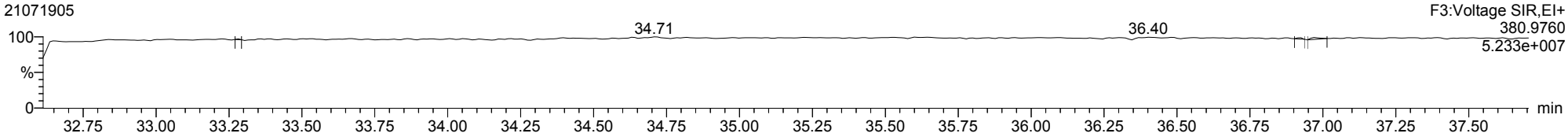

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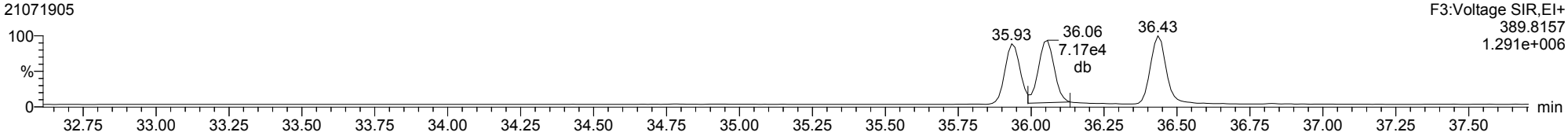

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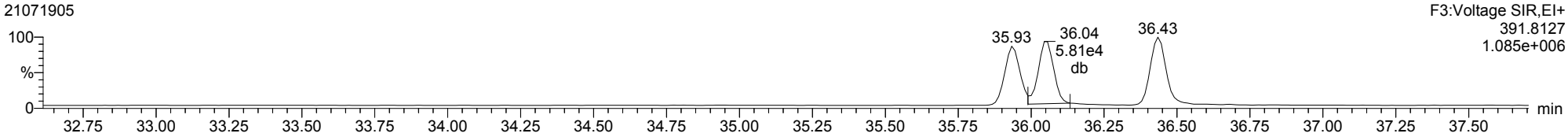

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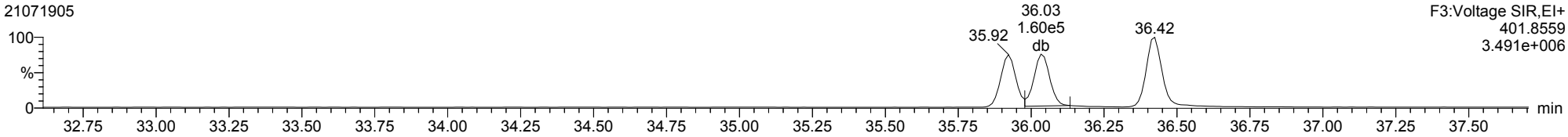

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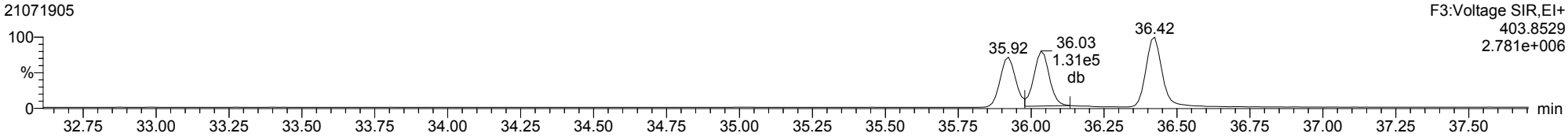

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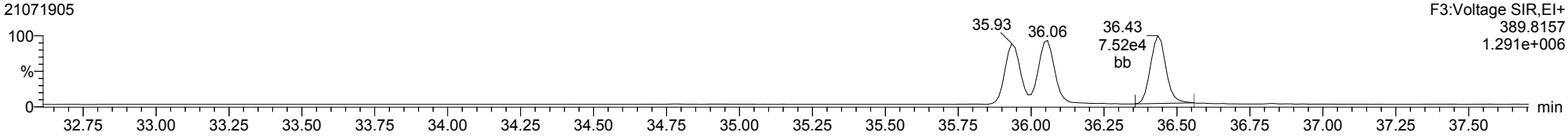

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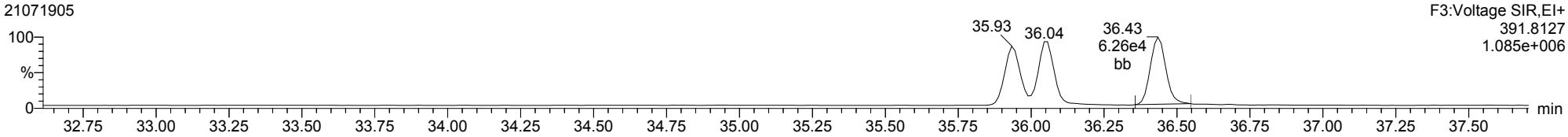

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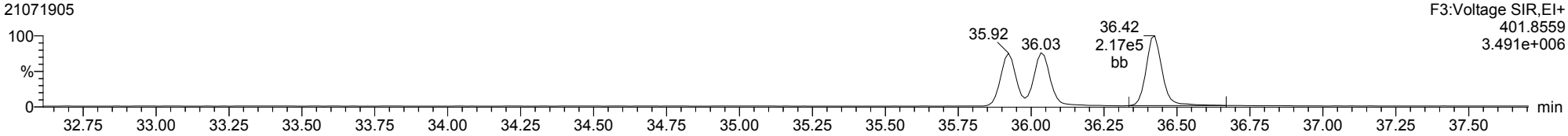

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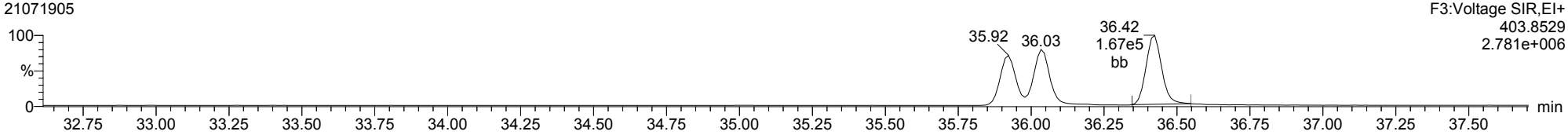

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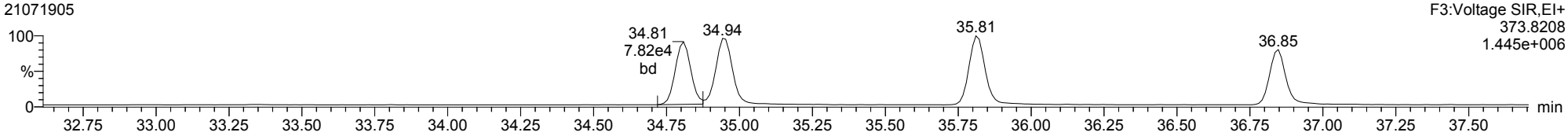

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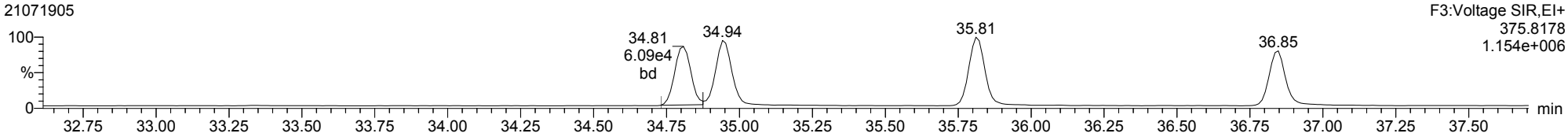

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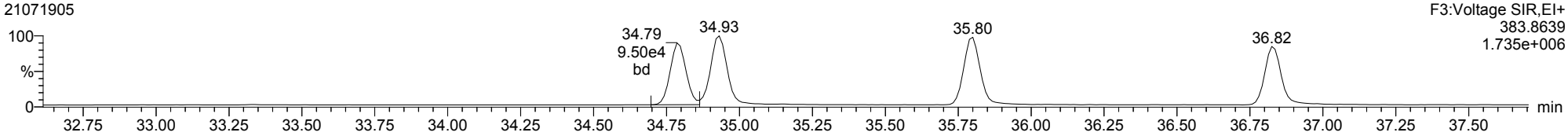

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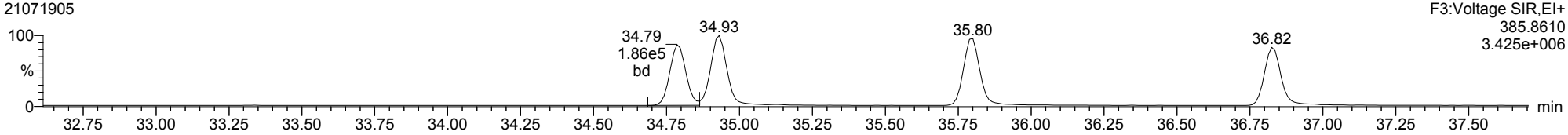
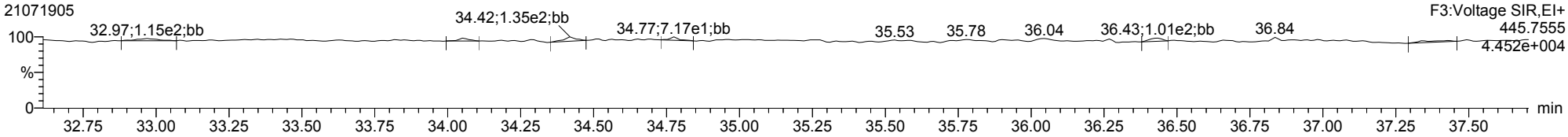


FUNCTION3 OCDPE



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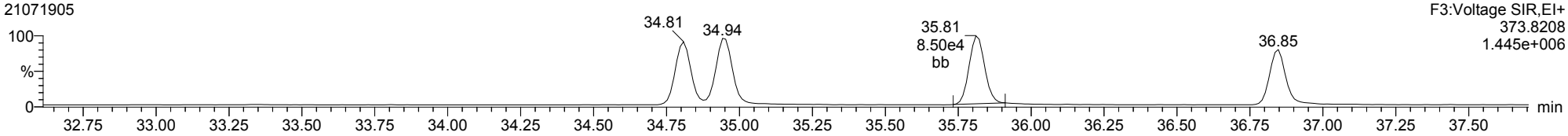
234678-HxCDF



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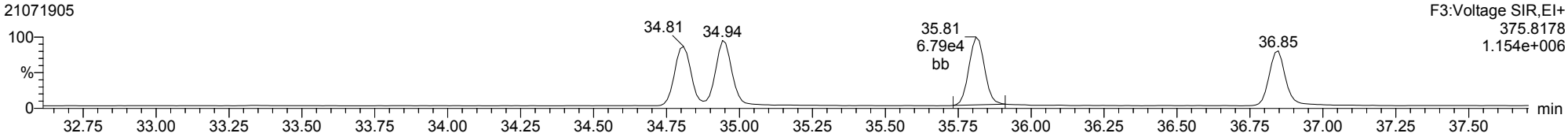

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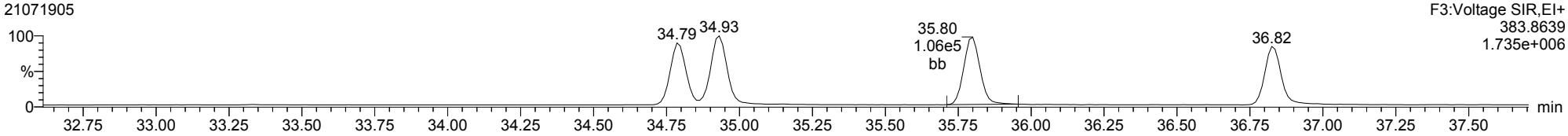

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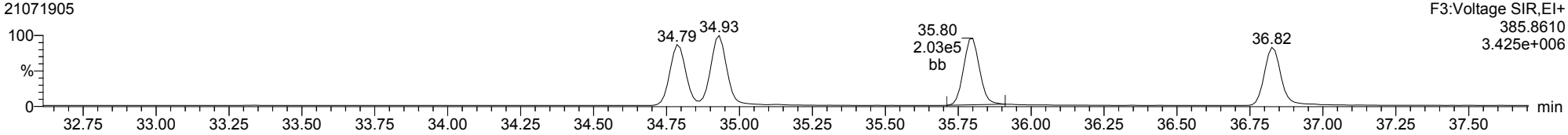

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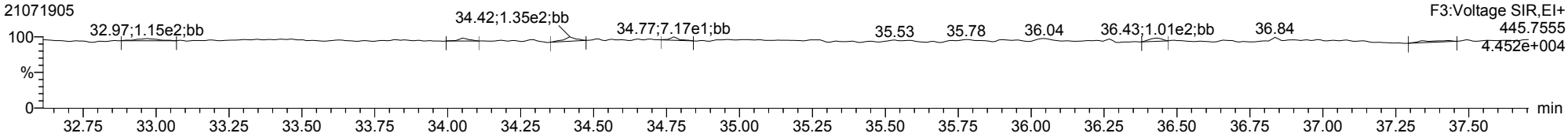

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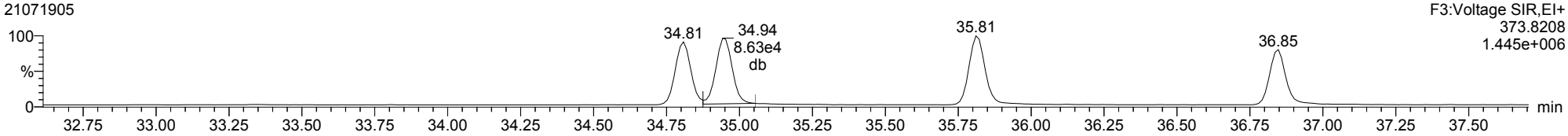
123678-HxCDF



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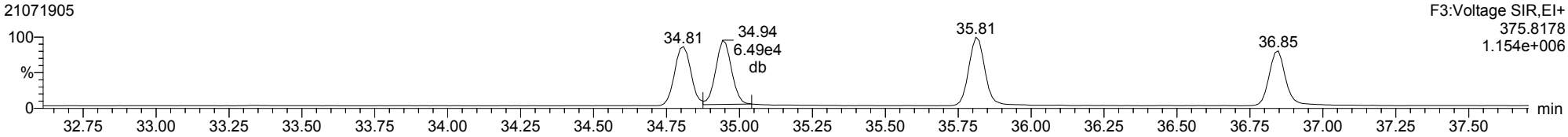

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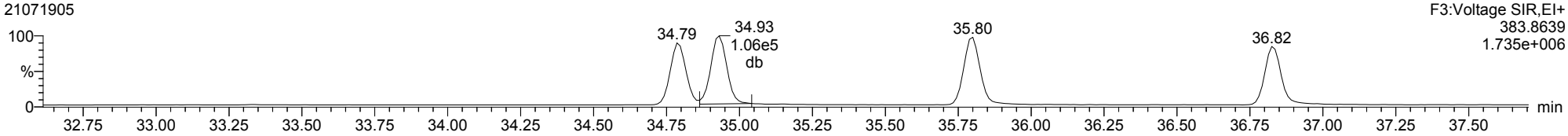

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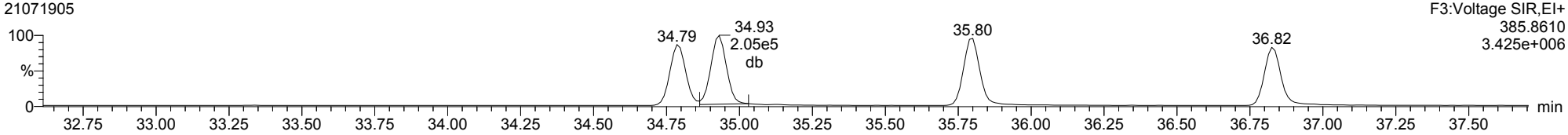

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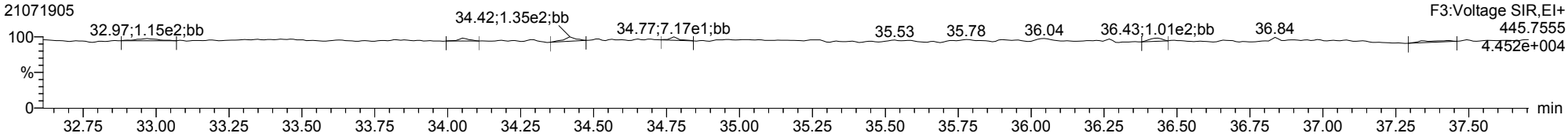

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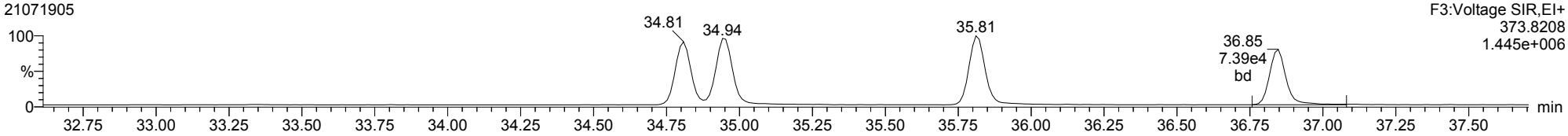

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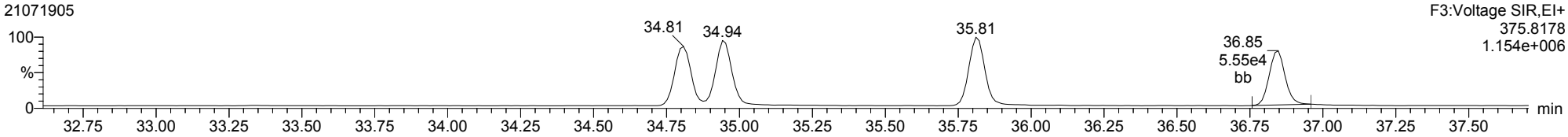

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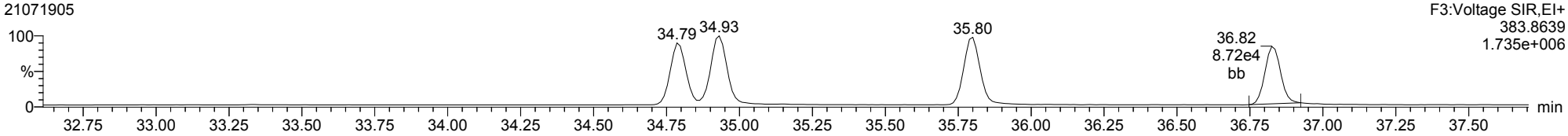

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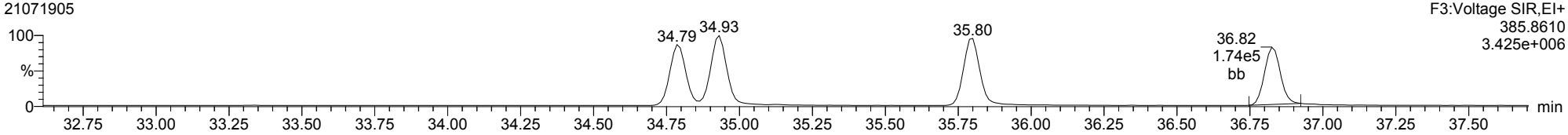

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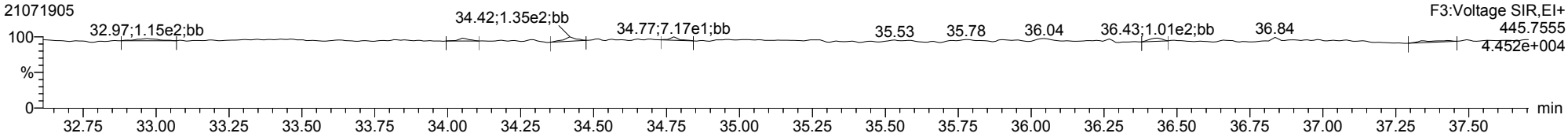

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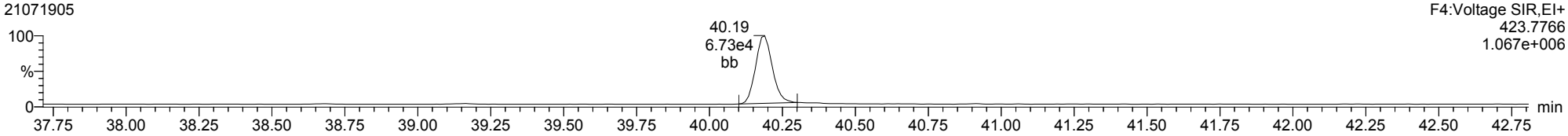
1234678-HpCDD



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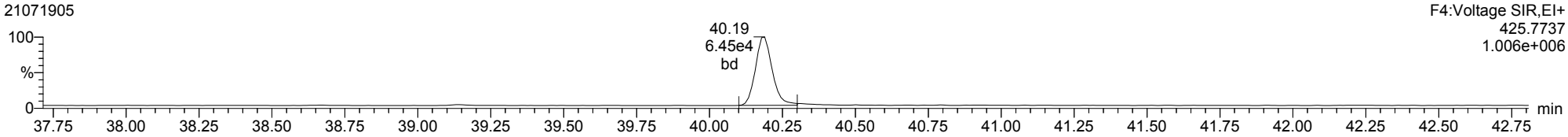

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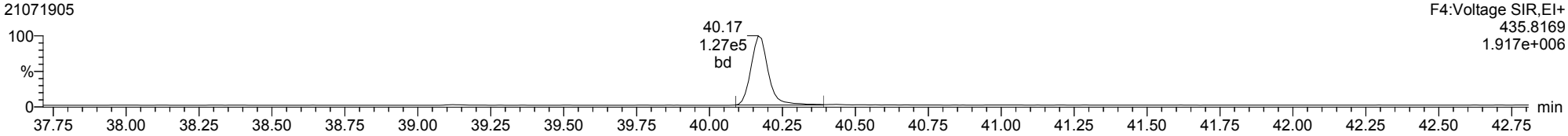

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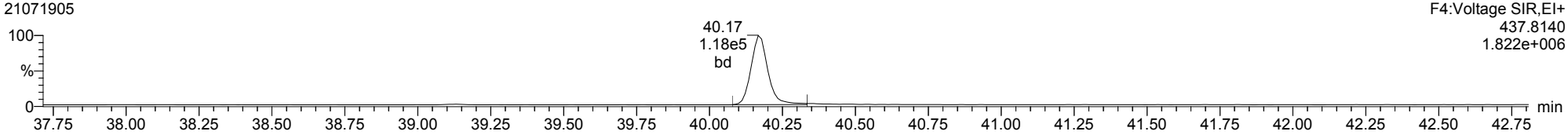
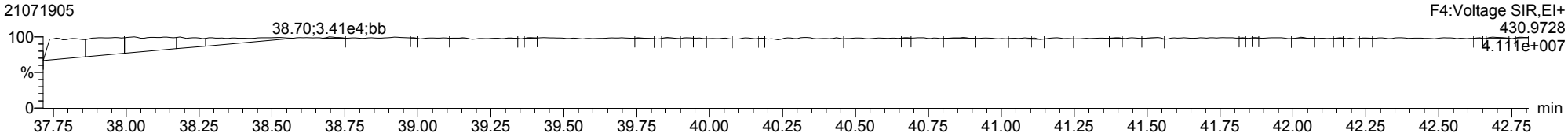


FUNCTION4 PFK



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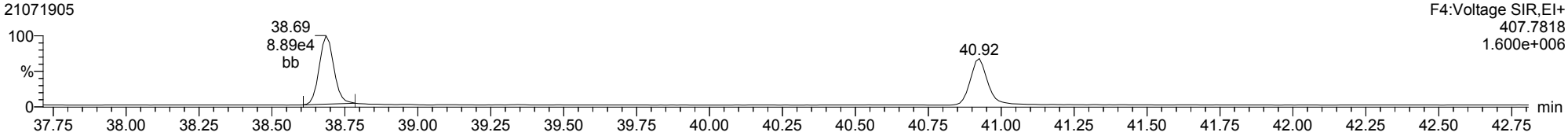

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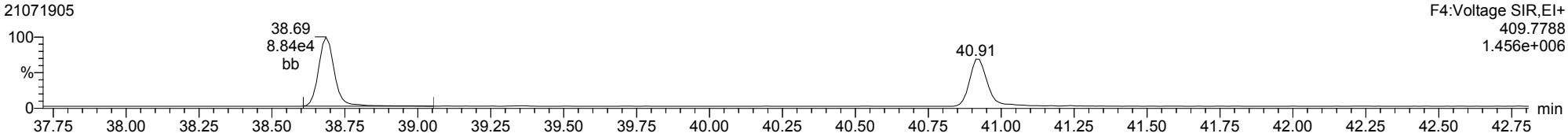

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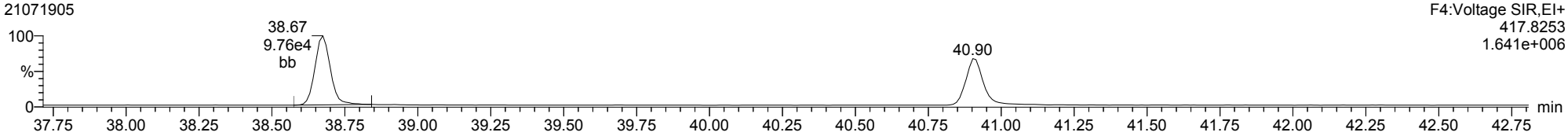

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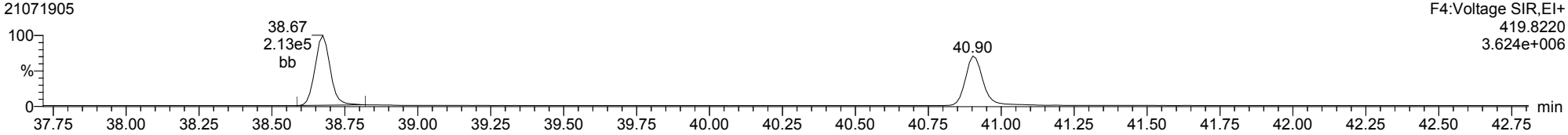
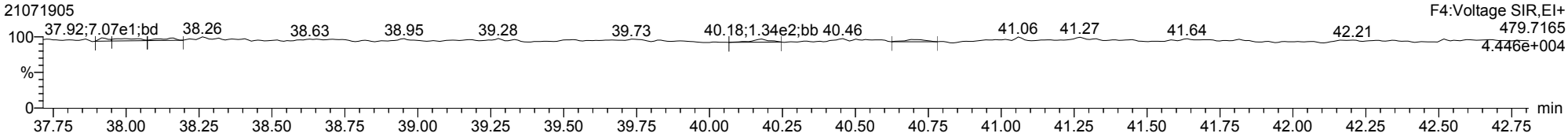
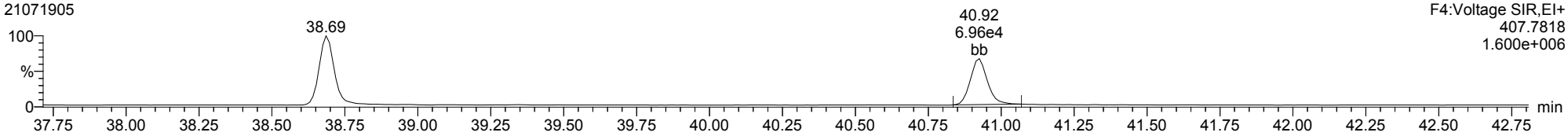


FUNCTION4 NCDPE



ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

1234789-HpCDF



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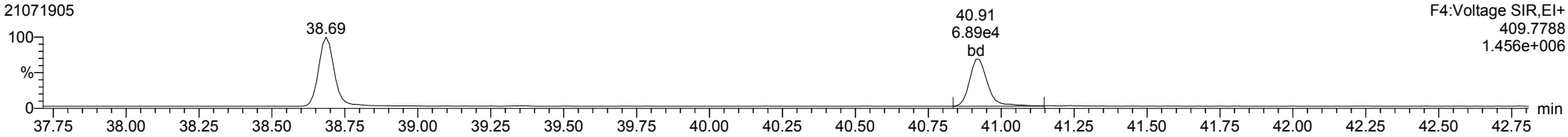

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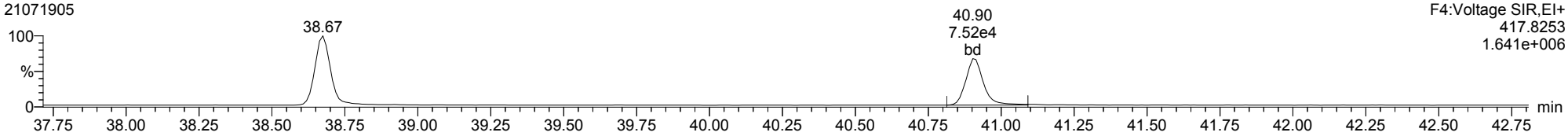

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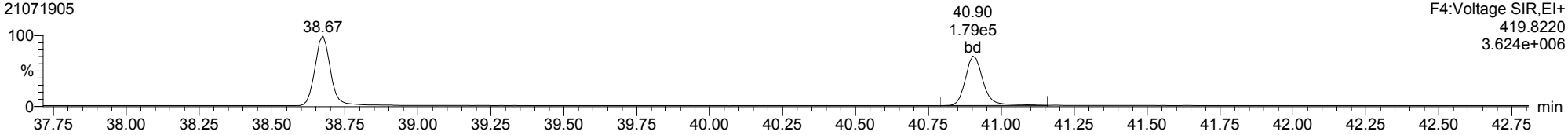
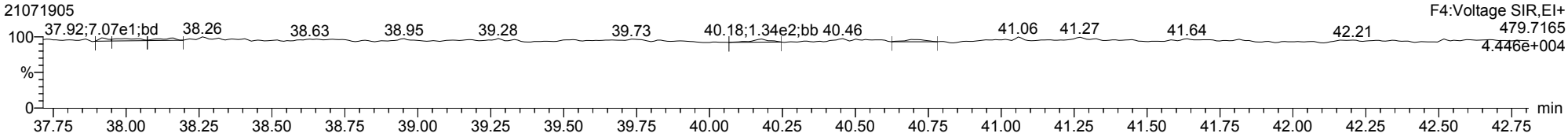
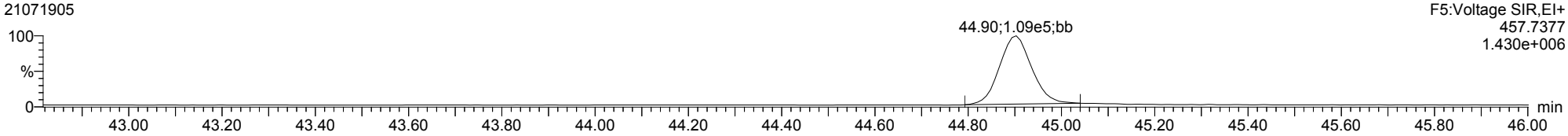


FUNCTION4 NCDPE

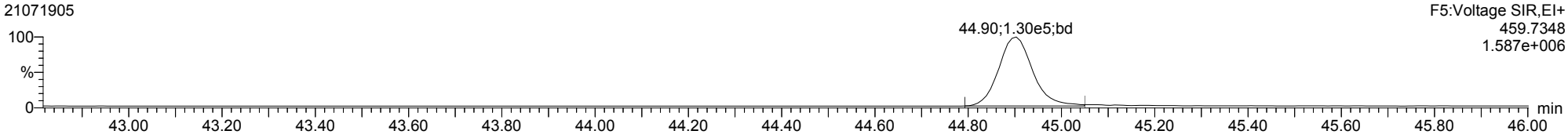


ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

OCDD



OCDD



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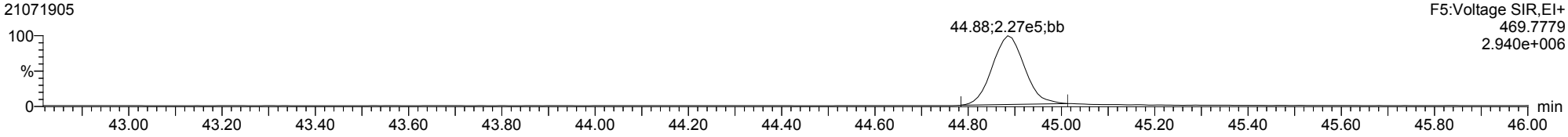

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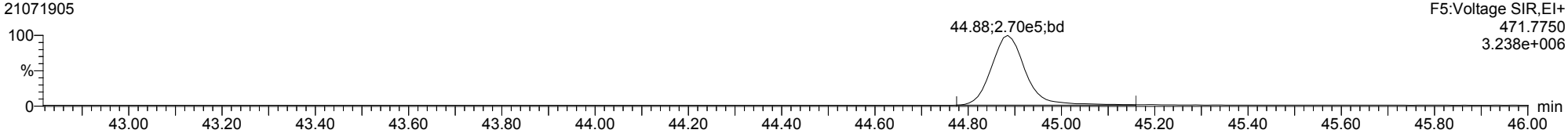
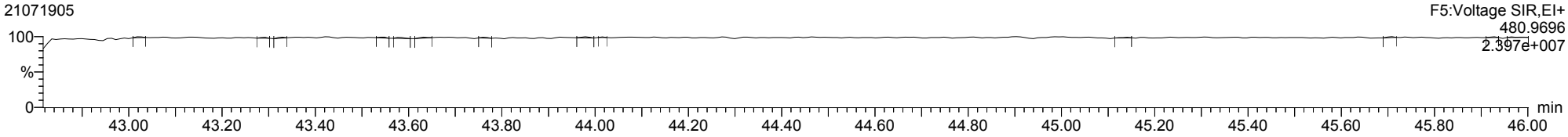
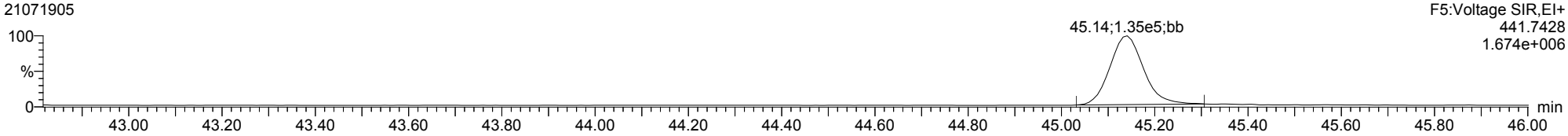


FUNCTION5 PFK

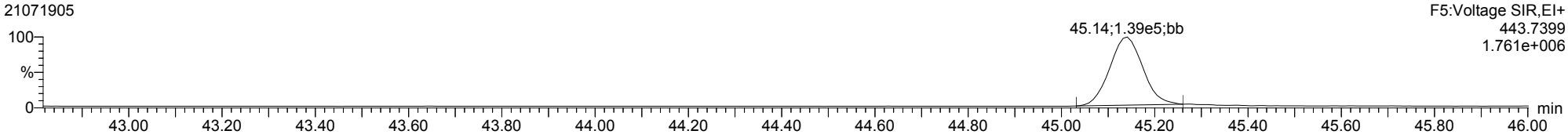


ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

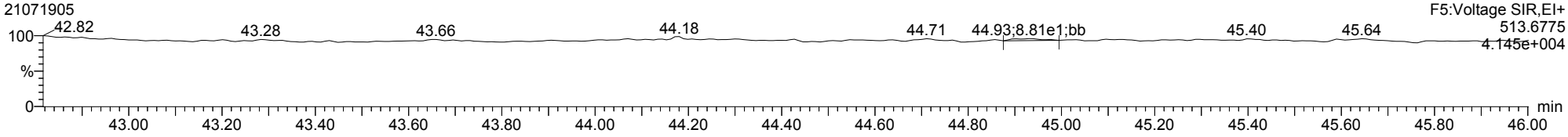
OCDF



OCDF

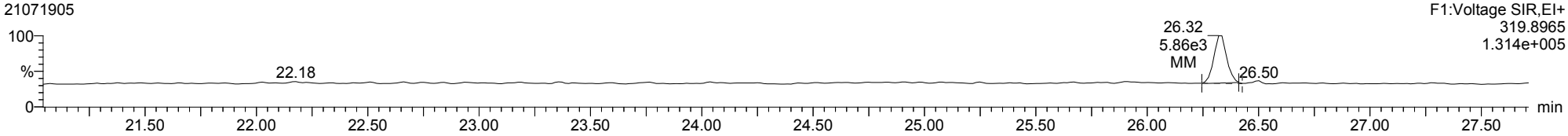


FUNCTION5 DCDPE

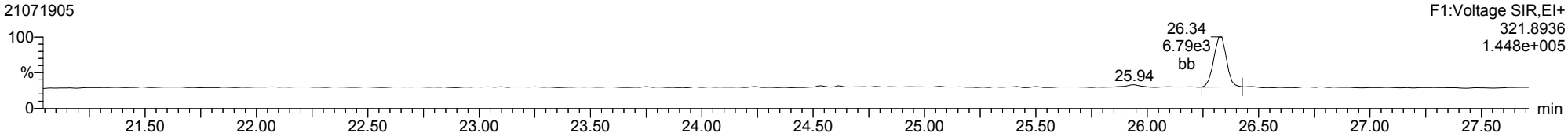


ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

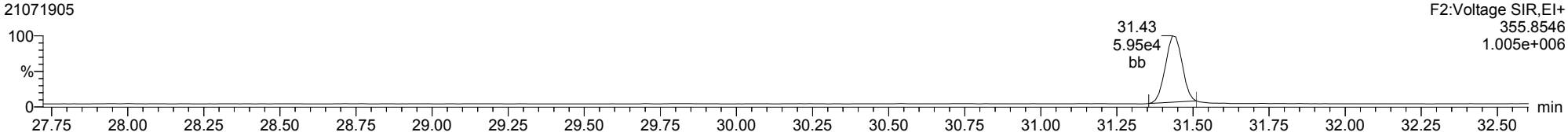
Total-tetradioxins



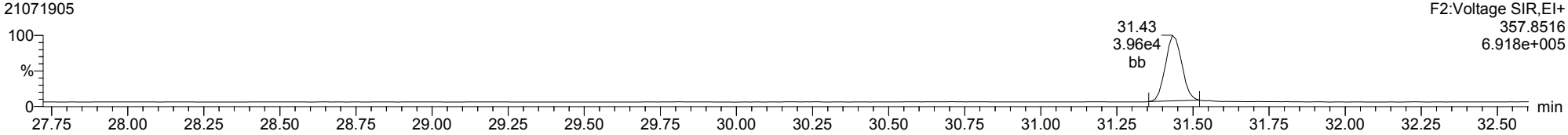
Total-tetradioxins



Total-pentadioxins

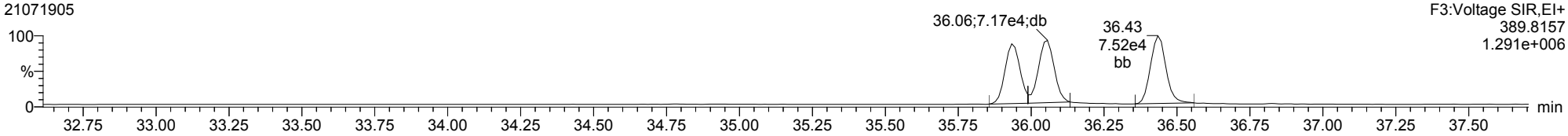


Total-pentadioxins

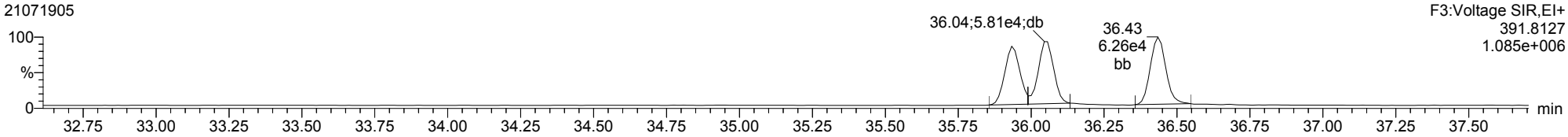


ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

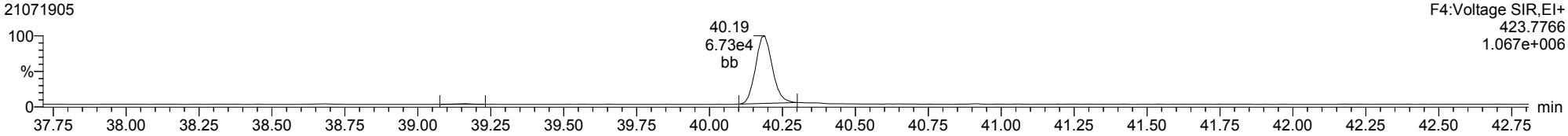
Total-hexadioxins



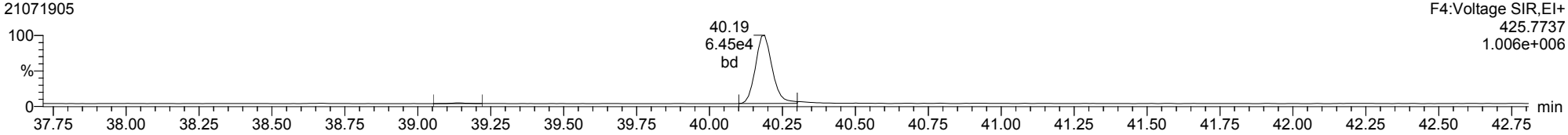
Total-hexadioxins



Total-heptadioxins

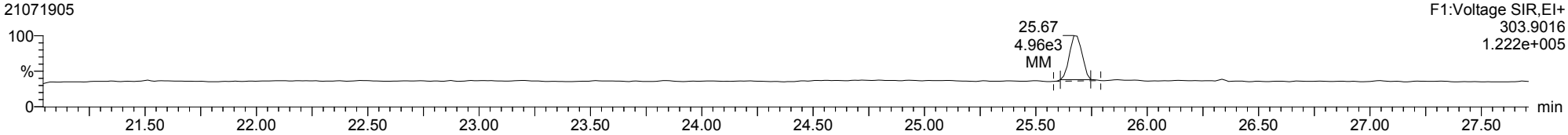


Total-heptadioxins

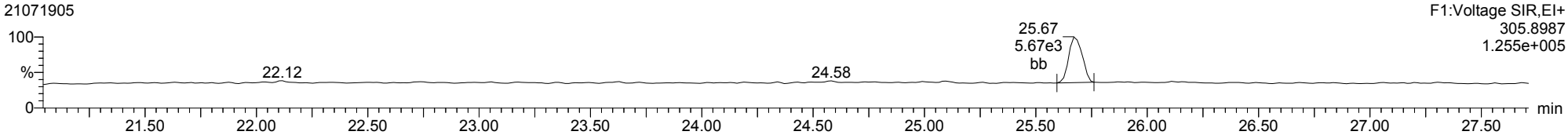


ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



Total-tetrafurans



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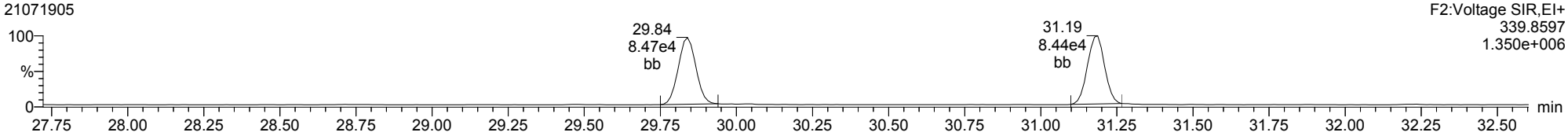
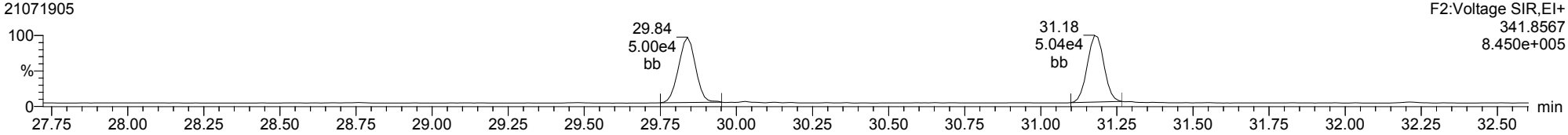


Total-pentafurans



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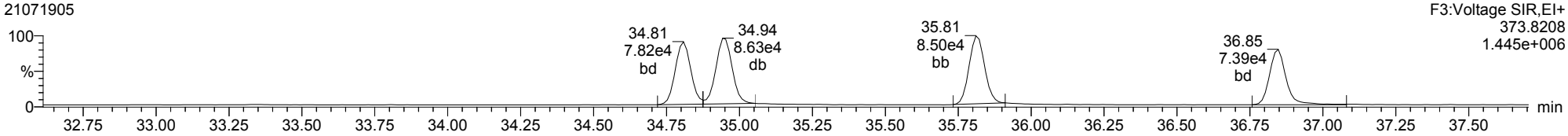
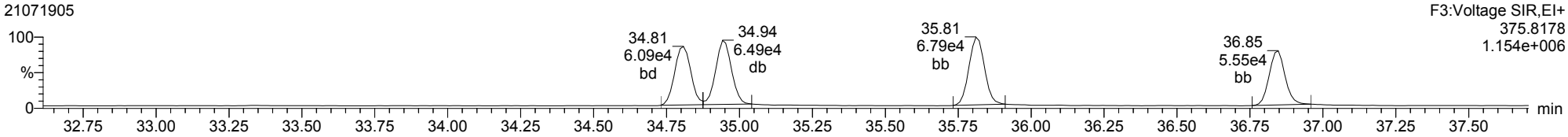
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:41:55 Pacific Daylight Time

ID: BJG0187-BS1, Name: 21071905, Date: 19-Jul-2021, Time: 13:43:45, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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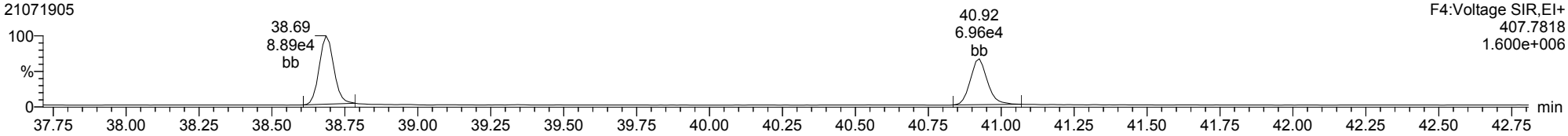
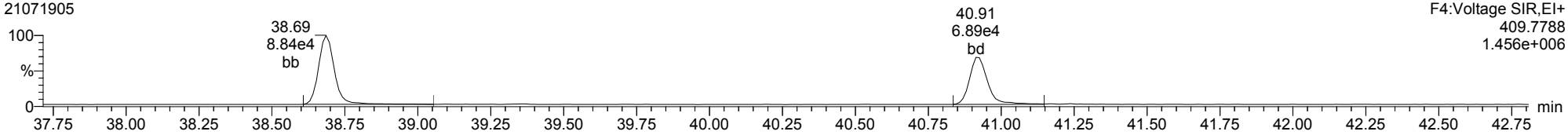


Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

LCS RECOVERY
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Matrix:	Solid	Analyzed:	08/24/21 19:29
Batch:	BJH0186	Laboratory ID:	BJH0186-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	18.3		91.5	75 - 158
2,3,7,8-TCDD	20.0	20.0		99.9	67 - 158
1,2,3,7,8-PeCDF	100	93.1		93.1	80 - 134
2,3,4,7,8-PeCDF	100	94.5		94.5	68 - 160
1,2,3,7,8-PeCDD	100	110		110	70 - 142
1,2,3,4,7,8-HxCDF	100	98.7		98.7	72 - 134
1,2,3,6,7,8-HxCDF	100	96.9		96.9	84 - 130
2,3,4,6,7,8-HxCDF	100	96.8		96.8	70 - 156
1,2,3,7,8,9-HxCDF	100	93.8		93.8	78 - 130
1,2,3,4,7,8-HxCDD	100	96.9		96.9	70 - 164
1,2,3,6,7,8-HxCDD	100	97.0		97.0	76 - 134
1,2,3,7,8,9-HxCDD	100	101		101	64 - 162
1,2,3,4,6,7,8-HpCDF	100	97.9		97.9	82 - 122
1,2,3,4,7,8,9-HpCDF	100	99.4		99.4	78 - 138
1,2,3,4,6,7,8-HpCDD	100	108	B	108	70 - 140
OCDF	200	181		90.3	63 - 170
OCDD	200	192	B	96.1	78 - 144

* Indicates values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:22:40 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, 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	25.277	1.001	3.430e4	4.305e4	1.108	0.797	0.770	831	1469	5.27e5	6.58e5	634.7	447.8	NO	bb	bb	9.151
12378-PeCDF	29.437	1.001	2.441e5	1.610e5	1.015	1.517	1.550	2125	2207	3.63e6	2.40e6	1709.4	1085.8	NO	bb	bb	46.569
23478-PeCDF	30.774	1.000	2.633e5	1.676e5	1.126	1.571	1.550	2125	2207	3.90e6	2.51e6	1837.4	1137.3	NO	bd	bb	47.268
123478-HxCDF	34.428	1.000	1.931e5	1.593e5	1.017	1.212	1.240	2068	1640	2.88e6	2.36e6	1393.0	1436.7	NO	bd	bd	49.327
234678-HxCDF	35.453	1.000	1.854e5	1.526e5	1.052	1.215	1.240	2068	1640	2.89e6	2.37e6	1398.0	1445.1	NO	bb	bb	48.387
123678-HxCDF	34.573	1.001	2.015e5	1.612e5	1.037	1.250	1.240	2068	1640	3.02e6	2.45e6	1461.7	1492.7	NO	db	db	48.441
123789-HxCDF	36.489	1.000	1.558e5	1.263e5	1.030	1.233	1.240	2068	1640	2.44e6	1.97e6	1179.4	1199.0	NO	bb	bb	46.916
1234678-HpCDF	38.361	1.000	1.902e5	1.838e5	1.327	1.035	1.050	3301	2107	3.08e6	2.95e6	933.7	1398.7	NO	bb	bb	48.947
1234789-HpCDF	40.544	1.000	1.576e5	1.449e5	1.283	1.088	1.050	3301	2107	2.30e6	2.17e6	696.2	1029.7	NO	bd	bb	49.724
OCDF	44.674	1.005	2.306e5	2.507e5	1.447	0.920	0.890	1459	1977	2.79e6	3.08e6	1909.4	1556.9	NO	bd	bb	90.269
2378-TCDD	25.912	1.001	2.566e4	3.138e4	0.920	0.818	0.770	1265	853	3.77e5	4.84e5	297.9	568.0	NO	bb	bb	9.986
12378-PeCDD	31.030	1.001	1.623e5	9.960e4	0.995	1.629	1.550	1325	832	2.53e6	1.54e6	1911.8	1848.6	NO	bb	bb	55.249
123478-HxCDD	35.575	1.001	1.611e5	1.333e5	1.027	1.209	1.240	1126	1641	2.56e6	2.12e6	2276.3	1292.3	NO	bd	bd	48.467
123678-HxCDD	35.687	1.000	1.707e5	1.346e5	1.009	1.268	1.240	1126	1641	2.72e6	2.17e6	2415.5	1320.6	NO	db	db	48.477
123789-HxCDD	36.077	1.011	1.603e5	1.312e5	0.950	1.221	1.240	1126	1641	2.54e6	2.12e6	2257.9	1294.4	NO	bb	bb	50.456
1234678-HpCDD	39.831	1.000	1.200e5	1.106e5	1.068	1.085	1.050	1327	886	1.95e6	1.79e6	1472.5	2020.5	NO	bb	bb	53.821
OCDD	44.455	1.000	1.992e5	2.188e5	1.181	0.910	0.890	1615	1333	2.40e6	2.68e6	1485.6	2009.9	NO	bb	bb	96.057
13C-2378-TCDF	25.262	1.007	3.430e5	4.202e5	1.427	0.816	0.770	3134	1491	5.15e6	6.31e6	1643.8	4233.7	NO	bb	bb	74.430
13C-12378-PeCDF	29.414	1.173	5.268e5	3.304e5	1.297	1.595	1.550	1949	1701	7.94e6	4.94e6	4073.0	2903.7	NO	bb	bb	91.933
13C-23478-PeCDF	30.762	1.227	4.992e5	3.107e5	1.236	1.607	1.550	1949	1701	7.36e6	4.59e6	3778.9	2697.5	NO	bb	bb	91.137
13C-123478-HxCDF	34.417	0.954	2.381e5	4.644e5	1.242	0.513	0.510	2730	1823	3.58e6	6.96e6	1312.4	3818.1	NO	bd	bd	82.190
13C-123678-HxCDF	34.550	0.958	2.430e5	4.792e5	1.343	0.507	0.510	2730	1823	3.59e6	7.11e6	1316.6	3899.3	NO	db	db	78.141
13C-234678-HxCDF	35.442	0.983	2.266e5	4.370e5	1.215	0.519	0.510	2730	1823	3.51e6	6.73e6	1286.6	3690.1	NO	bb	bb	79.401
13C-123789-HxCDF	36.478	1.011	1.977e5	3.861e5	1.008	0.512	0.510	2730	1823	3.01e6	5.99e6	1104.0	3283.1	NO	bb	bb	84.221
13C-1234678-HpCDF	38.349	1.063	1.835e5	3.921e5	0.926	0.468	0.440	1636	2293	2.86e6	6.20e6	1748.5	2704.9	NO	bb	bb	90.316
13C-1234789-HpCDF	40.533	1.124	1.501e5	3.240e5	0.758	0.463	0.440	1636	2293	2.21e6	4.67e6	1351.6	2037.2	NO	bb	bb	90.925
13C-1234-TCDD	25.080	0.000	3.142e5	4.045e5	1.000	0.777	0.770	2415	1461	4.84e6	6.23e6	2003.6	4265.6	NO	bb	bb	100.000
13C-2378-TCDD	25.897	1.033	2.691e5	3.516e5	1.116	0.765	0.770	2415	1461	4.11e6	5.35e6	1700.2	3661.2	NO	bb	bb	77.341
13C-12378-PeCDD	31.007	1.236	2.903e5	1.859e5	0.732	1.561	1.550	1332	1252	4.37e6	2.76e6	3281.4	2206.7	NO	bb	bb	90.521
13C-123478-HxCDD	35.553	0.986	3.286e5	2.627e5	0.960	1.251	1.240	1747	1973	5.35e6	4.24e6	3064.7	2151.4	NO	bd	bd	89.554
13C-123678-HxCDD	35.675	0.989	3.490e5	2.754e5	1.041	1.267	1.240	1747	1973	5.46e6	4.23e6	3127.3	2145.4	NO	db	db	87.146
13C-1234678-HpCDD	39.820	1.104	2.055e5	1.958e5	0.632	1.049	1.050	1413	1310	3.13e6	3.00e6	2213.4	2288.8	NO	bb	bb	92.231
13C-OCDD	44.437	1.232	3.525e5	3.845e5	0.504	0.917	0.890	1722	1830	4.26e6	4.64e6	2476.7	2534.2	NO	bb	bb	212.676
13C-123789-HxCDD	36.065	0.000	3.812e5	3.067e5	1.000	1.243	1.240	1747	1973	6.07e6	4.86e6	3472.0	2460.8	NO	bb	bb	100.000
37CL-2378-TCDD	25.912	1.033	2.293e5		1.084			1049		3.39e6		3236.6			bd		29.437

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:22:40 Pacific Daylight Time

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, 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					1.425		0.770	831	1469								
1289-TCDF					1.043		0.770	831	1469								
13468-PECDF					1.376		1.550	821	1129								
12389-PECDF	31.798	1.081	1.706e3	9.355e2	1.000	1.824	1.550	2125	2207	2.22e4	1.57e4	10.4	7.1	YES	bb	bb	0.308
123468-HXCDF					1.087		1.240	2068	1640								
1368-TCDD					0.923		0.770	1265	853								
1289-TCDD					0.794		0.770	1265	853								
12479-PECDD					1.843		1.550	1325	832								
12389-PECDD					1.154		1.550	1325	832								
124679-HXCDD					1.125		1.240	1126	1641								
1234679-HPCDD	38.806	0.975	1.159e3	1.183e3	1.211	0.979	1.050	1327	886	1.91e4	2.04e4	14.4	23.0	NO	bb	bb	0.482
Total-tetrafurans			3.430e4		1.192			831		5.27e5							9.151
Total-penta1			0.000e0					821		0.00e0							
Total-pentafurans			5.074e5		1.047			2125		7.54e6							93.836
Total-hexafurans			7.358e5		1.045			2068		1.12e7							193.072
Total-heptafurans			3.485e5		1.305			3301		5.39e6							98.897
Total-Furans			1.857e6		1.158			831		2.75e7							485.225
Total-tetradioxins			2.566e4		0.879			1265		3.77e5							9.986
Total-pentadioxins			1.623e5		1.331			1325		2.53e6							55.249
Total-hexadioxins			4.921e5		1.028			1126		7.82e6							147.401
Total-heptadioxins			1.212e5		1.140			1327		1.97e6							54.304
Total-Dioxins			1.000e6		1.092			1265		1.51e7							362.997
Total-TEQ			2.857e6					1265		4.26e7							848.221
FUNCTION1 PFK			1.703e7					799301		1.57e8							
FUNCTION2 PFK			2.153e7					538475		1.13e8							0.000
FUNCTION3 PFK			2.995e7					588503		2.06e8							0.000
FUNCTION4 PFK			8.702e5					354751		2.22e7							
FUNCTION5 PFK			0.000e0					285036		0.00e0							
FUNCTION1 HXCD...			2.600e3					1075		3.25e4							0.000
FUNCTION1 HPCD...			1.619e3					910		2.82e4							0.000
FUNCTION2 HPCD...			5.351e2					797		1.33e4							0.000
FUNCTION3 OCDPE			1.941e3					859		3.57e4							0.000
FUNCTION4 NCDPE			7.772e1					860		1.73e3							0.000
FUNCTION5 DCDPE			3.020e2					745		5.88e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
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Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.28	3.430e4	4.305e4	1.108	0.80	0.77	634.7	YES	NO	bb	bb	9.151

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	30.77	2.633e5	1.676e5	1.126	1.57	1.55	1837.4	YES	NO	bd	bb	47.268
2	12378-PeCDF	29.44	2.441e5	1.610e5	1.015	1.52	1.55	1709.4	YES	NO	bb	bb	46.569

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.45	1.854e5	1.526e5	1.052	1.21	1.24	1398.0	YES	NO	bb	bb	48.387
2	123678-HxCDF	34.57	2.015e5	1.612e5	1.037	1.25	1.24	1461.7	YES	NO	db	db	48.441
3	123478-HxCDF	34.43	1.931e5	1.593e5	1.017	1.21	1.24	1393.0	YES	NO	bd	bd	49.327
4	123789-HxCDF	36.49	1.558e5	1.263e5	1.030	1.23	1.24	1179.4	YES	NO	bb	bb	46.916

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.54	1.576e5	1.449e5	1.283	1.09	1.05	696.2	YES	NO	bd	bb	49.724
2	Total-heptafurans	39.00	7.533e2	7.881e2	1.305	0.96	1.05	3.2	YES	NO	bb	bd	0.225
3	1234678-HpCDF	38.36	1.902e5	1.838e5	1.327	1.03	1.05	933.7	YES	NO	bb	bb	48.947

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, 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	2378-TCDF	25.28	3.430e4	4.305e4	1.108	0.80	0.77	634.7	YES	NO	bb	bb	9.151
2	23478-PeCDF	30.77	2.633e5	1.676e5	1.126	1.57	1.55	1837.4	YES	NO	bd	bb	47.268
3	12378-PeCDF	29.44	2.441e5	1.610e5	1.015	1.52	1.55	1709.4	YES	NO	bb	bb	46.569
4	234678-HxCDF	35.45	1.854e5	1.526e5	1.052	1.21	1.24	1398.0	YES	NO	bb	bb	48.387
5	123678-HxCDF	34.57	2.015e5	1.612e5	1.037	1.25	1.24	1461.7	YES	NO	db	db	48.441
6	123478-HxCDF	34.43	1.931e5	1.593e5	1.017	1.21	1.24	1393.0	YES	NO	bd	bd	49.327
7	123789-HxCDF	36.49	1.558e5	1.263e5	1.030	1.23	1.24	1179.4	YES	NO	bb	bb	46.916
8	1234789-HpCDF	40.54	1.576e5	1.449e5	1.283	1.09	1.05	696.2	YES	NO	bd	bb	49.724
9	Total-heptafurans	39.00	7.533e2	7.881e2	1.305	0.96	1.05	3.2	YES	NO	bb	bd	0.225
10	1234678-HpCDF	38.36	1.902e5	1.838e5	1.327	1.03	1.05	933.7	YES	NO	bb	bb	48.947
11	OCDF	44.67	2.306e5	2.507e5	1.447	0.92	0.89	1909.4	YES	NO	bd	bb	90.269

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	25.91	2.566e4	3.138e4	0.920	0.82	0.77	297.9	YES	NO	bb	bb	9.986

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.03	1.623e5	9.960e4	0.995	1.63	1.55	1911.8	YES	NO	bb	bb	55.249

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.08	1.603e5	1.312e5	0.950	1.22	1.24	2257.9	YES	NO	bb	bb	50.456
2	123678-HxCDD	35.69	1.707e5	1.346e5	1.009	1.27	1.24	2415.5	YES	NO	db	db	48.477
3	123478-HxCDD	35.58	1.611e5	1.333e5	1.027	1.21	1.24	2276.3	YES	NO	bd	bd	48.467

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.83	1.200e5	1.106e5	1.068	1.09	1.05	1472.5	YES	NO	bb	bb	53.821
2	1234679-HPCDD	38.81	1.159e3	1.183e3	1.211	0.98	1.05	14.4	YES	NO	bb	bb	0.482

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
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ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, 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	12378-PeCDD	31.03	1.623e5	9.960e4	0.995	1.63	1.55	1911.8	YES	NO	bb	bb	55.249
2	2378-TCDD	25.91	2.566e4	3.138e4	0.920	0.82	0.77	297.9	YES	NO	bb	bb	9.986
3	123789-HxCDD	36.08	1.603e5	1.312e5	0.950	1.22	1.24	2257.9	YES	NO	bb	bb	50.456
4	123678-HxCDD	35.69	1.707e5	1.346e5	1.009	1.27	1.24	2415.5	YES	NO	db	db	48.477
5	123478-HxCDD	35.58	1.611e5	1.333e5	1.027	1.21	1.24	2276.3	YES	NO	bd	bd	48.467
6	1234678-HpCDD	39.83	1.200e5	1.106e5	1.068	1.09	1.05	1472.5	YES	NO	bb	bb	53.821
7	1234679-HPCDD	38.81	1.159e3	1.183e3	1.211	0.98	1.05	14.4	YES	NO	bb	bb	0.482
8	OCDD	44.45	1.992e5	2.188e5	1.181	0.91	0.89	1485.6	YES	NO	bb	bb	96.057

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.28	3.430e4	4.305e4	1.108	0.80	0.77	634.7	YES	NO	bb	bb	9.151
2	23478-PeCDF	30.77	2.633e5	1.676e5	1.126	1.57	1.55	1837.4	YES	NO	bd	bb	47.268
3	12378-PeCDF	29.44	2.441e5	1.610e5	1.015	1.52	1.55	1709.4	YES	NO	bb	bb	46.569
4	234678-HxCDF	35.45	1.854e5	1.526e5	1.052	1.21	1.24	1398.0	YES	NO	bb	bb	48.387
5	123678-HxCDF	34.57	2.015e5	1.612e5	1.037	1.25	1.24	1461.7	YES	NO	db	db	48.441
6	123478-HxCDF	34.43	1.931e5	1.593e5	1.017	1.21	1.24	1393.0	YES	NO	bd	bd	49.327
7	123789-HxCDF	36.49	1.558e5	1.263e5	1.030	1.23	1.24	1179.4	YES	NO	bb	bb	46.916
8	1234789-HpCDF	40.54	1.576e5	1.449e5	1.283	1.09	1.05	696.2	YES	NO	bd	bb	49.724
9	Total-heptafurans	39.00	7.533e2	7.881e2	1.305	0.96	1.05	3.2	YES	NO	bb	bd	0.225
10	1234678-HpCDF	38.36	1.902e5	1.838e5	1.327	1.03	1.05	933.7	YES	NO	bb	bb	48.947
11	OCDF	44.67	2.306e5	2.507e5	1.447	0.92	0.89	1909.4	YES	NO	bd	bb	90.269
12	12378-PeCDD	31.03	1.623e5	9.960e4	0.995	1.63	1.55	1911.8	YES	NO	bb	bb	55.249
13	2378-TCDD	25.91	2.566e4	3.138e4	0.920	0.82	0.77	297.9	YES	NO	bb	bb	9.986
14	123789-HxCDD	36.08	1.603e5	1.312e5	0.950	1.22	1.24	2257.9	YES	NO	bb	bb	50.456
15	123678-HxCDD	35.69	1.707e5	1.346e5	1.009	1.27	1.24	2415.5	YES	NO	db	db	48.477
16	123478-HxCDD	35.58	1.611e5	1.333e5	1.027	1.21	1.24	2276.3	YES	NO	bd	bd	48.467
17	1234678-HpCDD	39.83	1.200e5	1.106e5	1.068	1.09	1.05	1472.5	YES	NO	bb	bb	53.821
18	1234679-HPCDD	38.81	1.159e3	1.183e3	1.211	0.98	1.05	14.4	YES	NO	bb	bb	0.482
19	OCDD	44.45	1.992e5	2.188e5	1.181	0.91	0.89	1485.6	YES	NO	bb	bb	96.057

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, 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	21.15	2.575e5					5.3	YES		bd		
2	FUNCTION1 PFK	23.75	2.842e5					6.8	YES		dd		
3	FUNCTION1 PFK	23.61	9.498e5					8.0	YES		bd		
4	FUNCTION1 PFK	23.45	6.898e5					6.7	YES		bb		
5	FUNCTION1 PFK	22.87	7.397e5					7.0	YES		db		
6	FUNCTION1 PFK	22.83	3.462e5					7.6	YES		dd		
7	FUNCTION1 PFK	22.75	5.755e5					8.6	YES		bd		
8	FUNCTION1 PFK	22.59	8.787e5					12.7	YES		db		
9	FUNCTION1 PFK	22.46	2.919e6					12.9	YES		dd		
10	FUNCTION1 PFK	22.19	7.071e5					10.5	YES		bd		
11	FUNCTION1 PFK	22.03	1.761e6					14.3	YES		bb		
12	FUNCTION1 PFK	21.81	1.442e6					14.4	YES		db		
13	FUNCTION1 PFK	21.69	6.173e5					13.2	YES		dd		
14	FUNCTION1 PFK	21.62	1.818e6					13.2	YES		bd		
15	FUNCTION1 PFK	21.38	6.135e5					9.1	YES		db		
16	FUNCTION1 PFK	21.25	2.020e5					4.4	YES		dd		
17	FUNCTION1 PFK	21.22	3.472e5					6.8	YES		dd		
18	FUNCTION1 PFK	27.30	6.082e4					1.4	NO		bd		
19	FUNCTION1 PFK	27.15	2.440e4					0.5	NO		bb		
20	FUNCTION1 PFK	26.97	5.943e4					1.2	NO		bb		
21	FUNCTION1 PFK	26.83	7.364e3					0.6	NO		bb		
22	FUNCTION1 PFK	25.85	2.696e4					1.2	NO		db		
23	FUNCTION1 PFK	25.79	4.456e4					1.5	NO		bd		
24	FUNCTION1 PFK	25.73	4.504e3					0.4	NO		bb		
25	FUNCTION1 PFK	25.58	1.309e4					0.7	NO		bb		
26	FUNCTION1 PFK	25.17	6.517e4					1.8	NO		db		
27	FUNCTION1 PFK	25.10	2.079e5					4.1	YES		dd		
28	FUNCTION1 PFK	25.03	2.097e5					4.7	YES		bd		
29	FUNCTION1 PFK	24.84	5.004e5					4.2	YES		bb		
30	FUNCTION1 PFK	24.49	6.653e4					0.8	NO		bb		
31	FUNCTION1 PFK	24.26	6.470e4					2.1	NO		db		
32	FUNCTION1 PFK	24.25	5.005e4					1.9	NO		bd		
33	FUNCTION1 PFK	23.81	4.323e5					6.7	YES		db		
34	FUNCTION1 PFK	27.36	4.220e4					1.4	NO		db		

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Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:22:40 Pacific Daylight Time

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, 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	32.10	3.070e4					1.5	NO		bb		0.000
2	FUNCTION2 PFK	31.35	5.962e3					0.7	NO		bb		0.000
3	FUNCTION2 PFK	30.24	8.115e3					0.8	NO		bb		0.000
4	FUNCTION2 PFK	29.89	2.851e3					0.5	NO		bb		0.000
5	FUNCTION2 PFK	28.85	2.377e4					1.9	NO		db		0.000
6	FUNCTION2 PFK	28.78	1.429e5					5.0	YES		dd		0.000
7	FUNCTION2 PFK	28.42	7.110e6					18.3	YES		dd		0.000
8	FUNCTION2 PFK	27.98	6.912e6					35.1	YES		dd		0.000
9	FUNCTION2 PFK	27.68	2.506e6					46.9	YES		dd		0.000
10	FUNCTION2 PFK	27.59	1.167e6					49.2	YES		dd		0.000
11	FUNCTION2 PFK	27.55	3.622e6					50.0	YES		bd		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	32.34	3.223e6					56.7	YES		dd		0.000
2	FUNCTION3 PFK	32.28	3.063e6					59.4	YES		bd		0.000
3	FUNCTION3 PFK	35.47	1.321e4					0.9	NO		bb		0.000
4	FUNCTION3 PFK	35.29	1.053e4					0.8	NO		bb		0.000
5	FUNCTION3 PFK	35.10	1.521e5					2.2	NO		db		0.000
6	FUNCTION3 PFK	34.96	3.028e4					1.9	NO		bd		0.000
7	FUNCTION3 PFK	34.90	2.055e4					1.1	NO		bb		0.000
8	FUNCTION3 PFK	34.85	4.165e3					0.6	NO		bb		0.000
9	FUNCTION3 PFK	34.35	3.872e4					1.2	NO		bb		0.000
10	FUNCTION3 PFK	33.84	5.044e4					2.8	NO		db		0.000
11	FUNCTION3 PFK	33.78	9.839e4					4.0	YES		dd		0.000
12	FUNCTION3 PFK	33.73	1.659e5					6.0	YES		dd		0.000
13	FUNCTION3 PFK	33.43	2.123e6					17.7	YES		dd		0.000
14	FUNCTION3 PFK	33.32	1.458e6					21.7	YES		dd		0.000
15	FUNCTION3 PFK	33.20	2.332e6					26.0	YES		dd		0.000
16	FUNCTION3 PFK	33.00	2.637e6					33.5	YES		dd		0.000
17	FUNCTION3 PFK	32.57	1.086e7					49.6	YES		dd		0.000
18	FUNCTION3 PFK	32.51	3.425e6					51.5	YES		dd		0.000
19	FUNCTION3 PFK	37.11	4.208e4					1.8	NO		bb		0.000
20	FUNCTION3 PFK	36.95	4.811e4					2.1	NO		bb		0.000
21	FUNCTION3 PFK	36.88	6.742e4					2.2	NO		db		0.000
22	FUNCTION3 PFK	36.81	2.401e4					1.4	NO		bd		0.000
23	FUNCTION3 PFK	36.68	2.818e4					1.7	NO		bb		0.000
24	FUNCTION3 PFK	36.56	3.576e3					0.5	NO		bb		0.000
25	FUNCTION3 PFK	35.85	2.133e4					0.8	NO		bb		0.000
26	FUNCTION3 PFK	35.81	2.761e3					0.4	NO		bb		0.000
27	FUNCTION3 PFK	35.76	4.416e3					0.7	NO		bb		0.000
28	FUNCTION3 PFK	35.56	2.967e3					0.5	NO		bb		0.000
29	FUNCTION3 PFK	35.52	4.023e3					0.6	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	37.70	5.448e4					1.2	NO		bb		
2	FUNCTION4 PFK	37.58	8.921e3					1.1	NO		bb		
3	FUNCTION4 PFK	37.54	8.270e3					1.1	NO		db		
4	FUNCTION4 PFK	37.50	3.712e3					0.7	NO		bd		
5	FUNCTION4 PFK	39.60	7.152e4					2.3	NO		db		
6	FUNCTION4 PFK	39.43	3.792e4					1.7	NO		dd		
7	FUNCTION4 PFK	39.35	3.216e3					0.6	NO		bd		
8	FUNCTION4 PFK	39.31	2.093e3					0.5	NO		bb		
9	FUNCTION4 PFK	39.11	9.618e3					1.2	NO		bb		
10	FUNCTION4 PFK	38.97	2.924e3					0.5	NO		bb		
11	FUNCTION4 PFK	38.73	1.804e3					0.5	NO		bb		
12	FUNCTION4 PFK	38.57	4.680e4					2.1	NO		bb		
13	FUNCTION4 PFK	38.44	9.435e3					0.8	NO		bb		
14	FUNCTION4 PFK	38.40	2.823e3					0.7	NO		bb		
15	FUNCTION4 PFK	38.34	5.645e3					0.7	NO		bb		
16	FUNCTION4 PFK	38.29	1.441e4					1.0	NO		bb		
17	FUNCTION4 PFK	38.20	8.658e3					0.8	NO		db		
18	FUNCTION4 PFK	38.17	1.511e4					1.2	NO		bd		
19	FUNCTION4 PFK	38.02	5.049e4					1.1	NO		bb		
20	FUNCTION4 PFK	37.89	1.413e4					1.2	NO		bb		
21	FUNCTION4 PFK	41.03	3.038e4					1.4	NO		bd		
22	FUNCTION4 PFK	40.96	1.389e4					1.7	NO		db		
23	FUNCTION4 PFK	40.92	3.796e4					2.5	NO		bd		
24	FUNCTION4 PFK	40.85	8.429e3					1.1	NO		db		
25	FUNCTION4 PFK	40.81	7.250e3					0.7	NO		bd		
26	FUNCTION4 PFK	40.72	4.505e3					0.8	NO		db		
27	FUNCTION4 PFK	40.69	1.106e4					1.0	NO		bd		
28	FUNCTION4 PFK	40.49	1.659e4					1.4	NO		bb		
29	FUNCTION4 PFK	40.43	2.309e4					1.3	NO		bb		
30	FUNCTION4 PFK	40.33	9.945e3					1.2	NO		bb		
31	FUNCTION4 PFK	40.10	9.418e3					1.1	NO		bb		
32	FUNCTION4 PFK	40.02	1.236e4					0.9	NO		bb		
33	FUNCTION4 PFK	39.95	2.069e4					1.6	NO		db		
34	FUNCTION4 PFK	39.85	2.886e4					1.6	NO		bd		
35	FUNCTION4 PFK	39.80	1.231e4					1.4	NO		bb		
36	FUNCTION4 PFK	39.64	2.096e3					0.5	NO		bb		
37	FUNCTION4 PFK	42.32	1.003e4					1.6	NO		bb		

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	42.27	4.711e3					0.6	NO		bb		
39	FUNCTION4 PFK	42.22	3.243e4					1.9	NO		db		
40	FUNCTION4 PFK	42.15	5.208e3					0.9	NO		dd		
41	FUNCTION4 PFK	42.12	6.302e3					0.7	NO		dd		
42	FUNCTION4 PFK	42.06	6.839e3					0.8	NO		dd		
43	FUNCTION4 PFK	42.03	8.386e3					1.1	NO		bd		
44	FUNCTION4 PFK	41.91	1.399e4					1.2	NO		db		
45	FUNCTION4 PFK	41.88	1.204e4					1.4	NO		bd		
46	FUNCTION4 PFK	41.79	4.930e4					2.2	NO		db		
47	FUNCTION4 PFK	41.71	1.296e4					1.5	NO		dd		
48	FUNCTION4 PFK	41.67	3.308e4					2.2	NO		bd		
49	FUNCTION4 PFK	41.60	1.772e4					2.0	NO		bb		
50	FUNCTION4 PFK	41.46	4.160e3					0.7	NO		bb		
51	FUNCTION4 PFK	41.37	1.101e4					1.3	NO		bb		
52	FUNCTION4 PFK	41.11	8.619e3					0.9	NO		db		
53	FUNCTION4 PFK	42.39	1.258e4					0.5	NO		bb		

PFK5

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

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.84	3.138e2					4.0	YES		bd		0.000
2	FUNCTION1 HXCD...	24.49	1.752e2					1.3	NO		bb		0.000
3	FUNCTION1 HXCD...	24.29	1.912e2					1.4	NO		db		0.000
4	FUNCTION1 HXCD...	24.07	1.408e2					1.6	NO		bd		0.000
5	FUNCTION1 HXCD...	23.80	8.298e1					1.7	NO		bb		0.000
6	FUNCTION1 HXCD...	23.49	1.529e2					1.1	NO		bb		0.000
7	FUNCTION1 HXCD...	23.24	1.293e2					1.6	NO		db		0.000
8	FUNCTION1 HXCD...	23.18	7.168e1					1.8	NO		bd		0.000
9	FUNCTION1 HXCD...	22.45	1.437e2					1.7	NO		db		0.000
10	FUNCTION1 HXCD...	22.33	3.850e2					2.3	NO		bd		0.000
11	FUNCTION1 HXCD...	21.50	8.447e1					1.6	NO		db		0.000
12	FUNCTION1 HXCD...	21.35	1.089e2					1.5	NO		dd		0.000
13	FUNCTION1 HXCD...	21.29	1.465e2					2.8	NO		bd		0.000
14	FUNCTION1 HXCD...	26.40	1.275e2					1.9	NO		db		0.000
15	FUNCTION1 HXCD...	26.34	7.512e1					1.3	NO		bd		0.000
16	FUNCTION1 HXCD...	25.94	2.706e2					2.4	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...	25.99	1.151e2					2.4	NO		db		0.000
2	FUNCTION1 HPCD...	25.90	1.584e2					3.2	YES		dd		0.000
3	FUNCTION1 HPCD...	25.84	3.085e2					3.9	YES		bd		0.000
4	FUNCTION1 HPCD...	25.32	7.802e1					2.0	NO		bb		0.000
5	FUNCTION1 HPCD...	24.54	1.692e2					1.7	NO		bb		0.000
6	FUNCTION1 HPCD...	23.78	1.018e2					2.0	NO		bb		0.000
7	FUNCTION1 HPCD...	23.60	7.035e1					1.7	NO		bb		0.000
8	FUNCTION1 HPCD...	22.54	7.611e1					2.0	NO		db		0.000
9	FUNCTION1 HPCD...	22.42	1.435e2					2.9	NO		dd		0.000
10	FUNCTION1 HPCD...	22.33	1.209e2					3.2	YES		bd		0.000
11	FUNCTION1 HPCD...	21.83	8.816e1					2.5	NO		bb		0.000
12	FUNCTION1 HPCD...	21.33	1.182e2					2.4	NO		bb		0.000
13	FUNCTION1 HPCD...	27.20	7.099e1					1.0	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	32.05	1.161e2					3.1	YES		bb		0.000
2	FUNCTION2 HPCD...	31.62	1.315e2					5.1	YES		bb		0.000
3	FUNCTION2 HPCD...	31.24	1.699e2					3.6	YES		db		0.000
4	FUNCTION2 HPCD...	31.13	1.177e2					5.0	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	35.17	8.682e1					3.2	YES		bd		0.000
2	FUNCTION3 OCDPE	34.78	1.306e2					2.1	NO		bb		0.000
3	FUNCTION3 OCDPE	34.42	1.059e2					3.0	YES		bb		0.000
4	FUNCTION3 OCDPE	33.92	1.892e2					2.7	NO		bb		0.000
5	FUNCTION3 OCDPE	33.67	7.297e1					2.4	NO		db		0.000
6	FUNCTION3 OCDPE	33.61	1.279e2					4.1	YES		bd		0.000
7	FUNCTION3 OCDPE	33.24	7.852e1					2.1	NO		bb		0.000
8	FUNCTION3 OCDPE	32.98	7.805e1					1.8	NO		db		0.000
9	FUNCTION3 OCDPE	32.87	7.290e1					1.4	NO		bd		0.000
10	FUNCTION3 OCDPE	37.21	9.773e1					1.7	NO		bb		0.000
11	FUNCTION3 OCDPE	36.57	1.511e2					2.9	NO		bb		0.000
12	FUNCTION3 OCDPE	36.07	1.566e2					3.8	YES		bb		0.000
13	FUNCTION3 OCDPE	35.68	2.628e2					4.2	YES		db		0.000
14	FUNCTION3 OCDPE	35.56	2.170e2					2.7	NO		bd		0.000
15	FUNCTION3 OCDPE	35.21	1.127e2					3.6	YES		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	40.95	7.772e1					2.0	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	44.87	1.353e2					2.6	NO		bb		0.000
2	FUNCTION5 DCDPE	43.25	7.635e1					3.1	YES		bb		0.000
3	FUNCTION5 DCDPE	42.44	9.039e1					2.2	NO		bb		0.000

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ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, Conditions: AUTOSPEC01, User: pk

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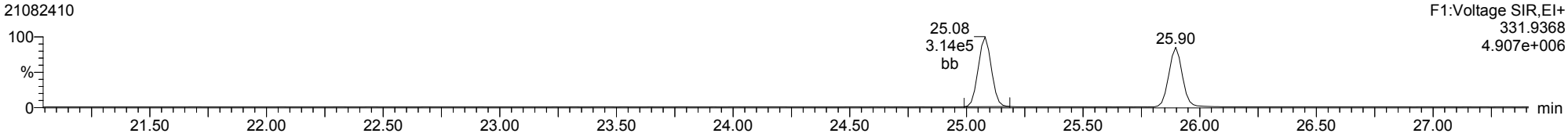

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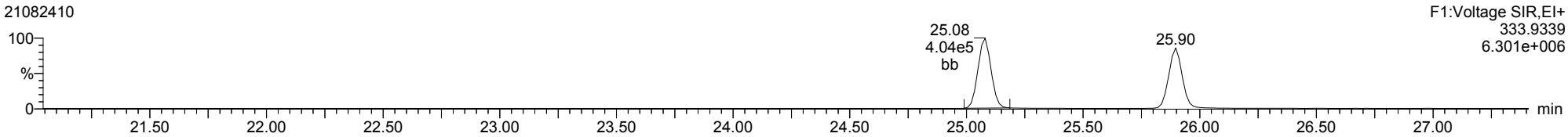

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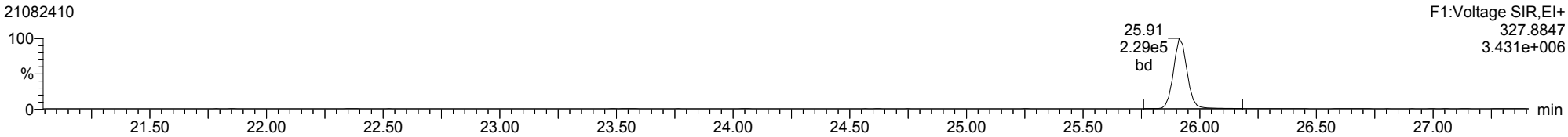

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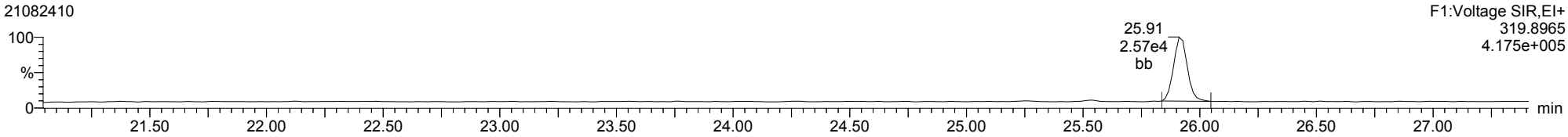

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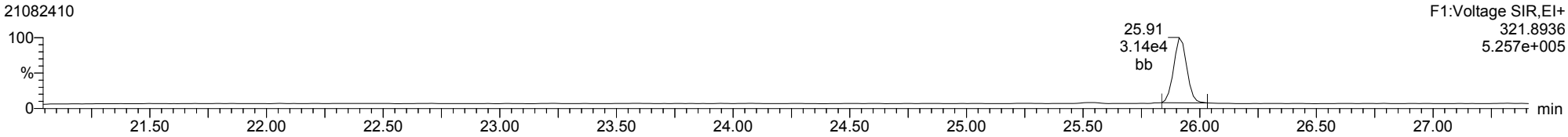

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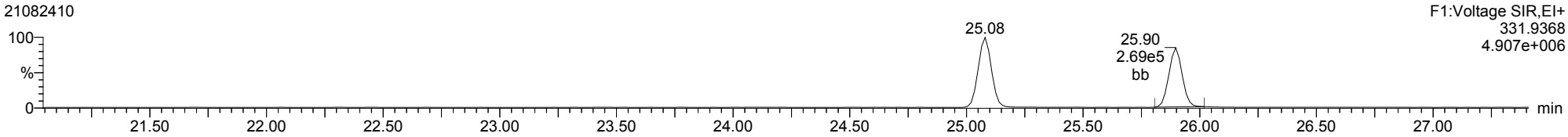

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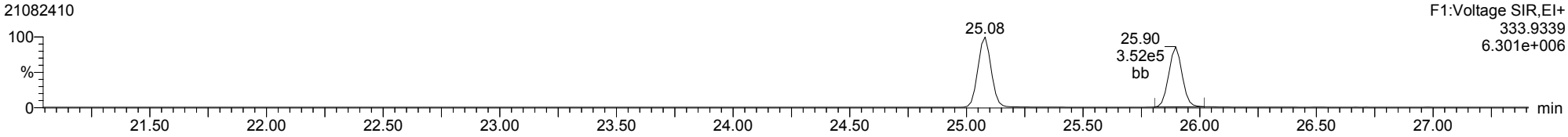

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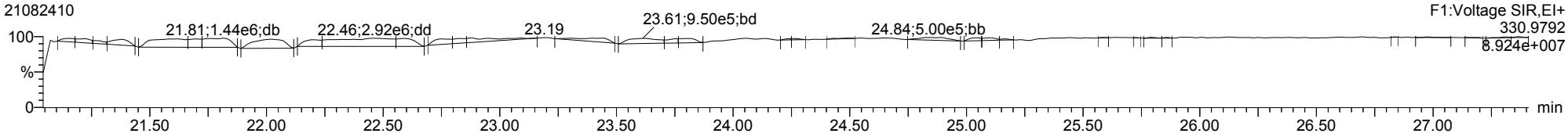

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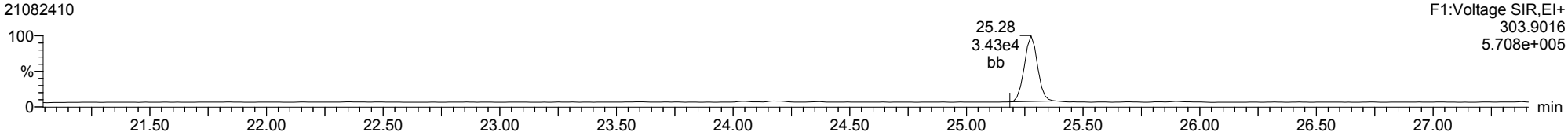

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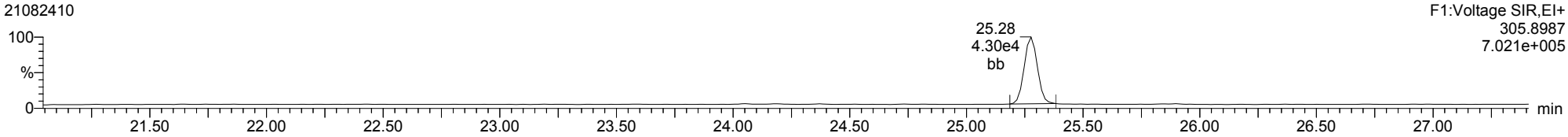

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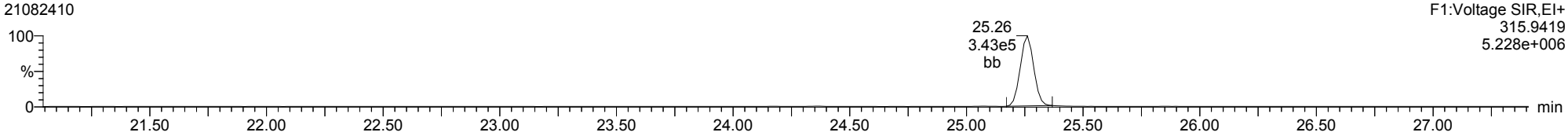

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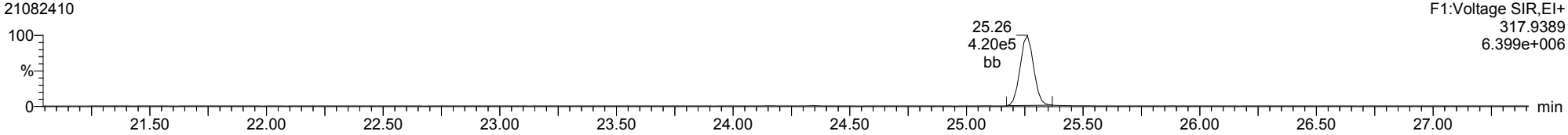

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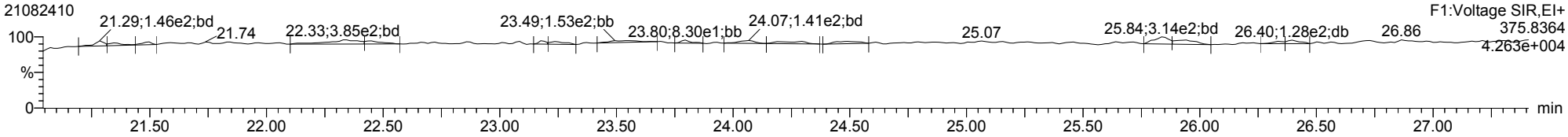

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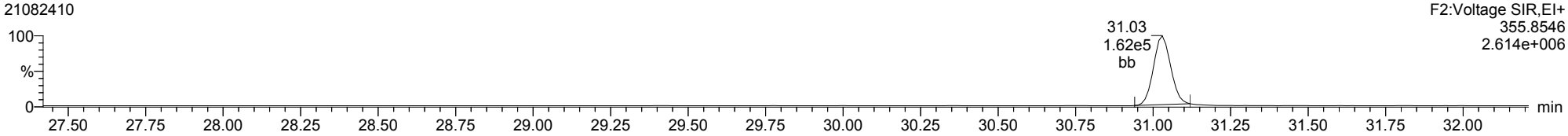

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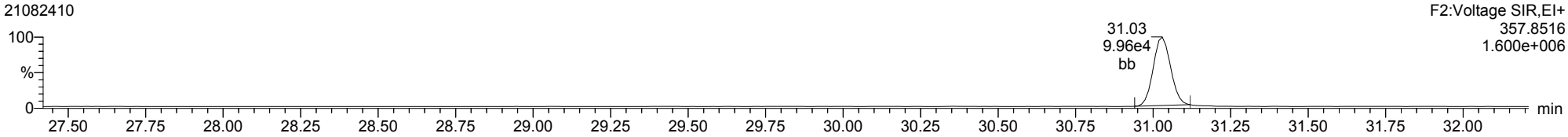

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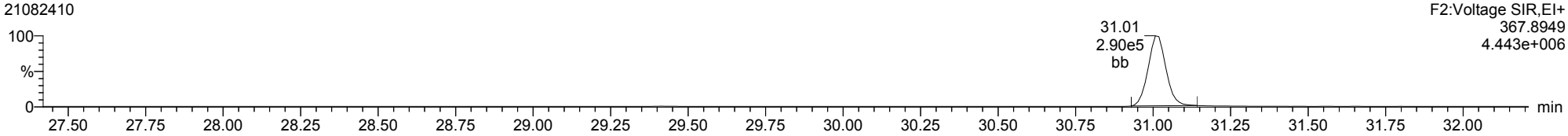

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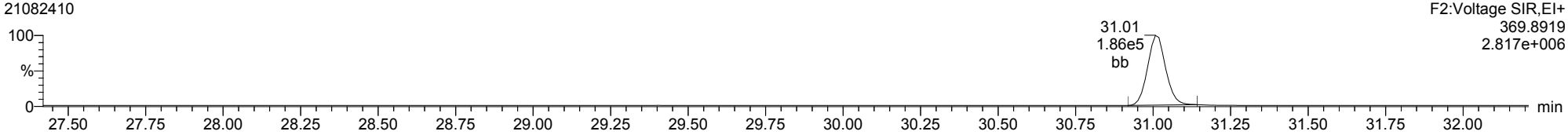

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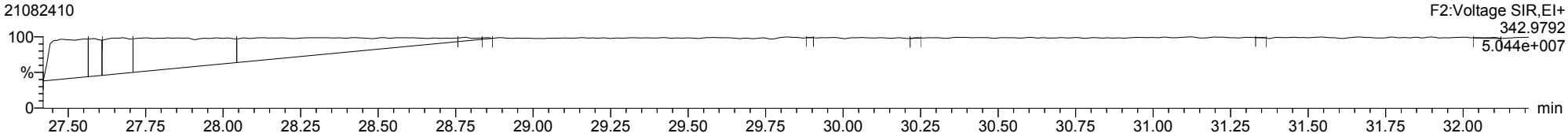

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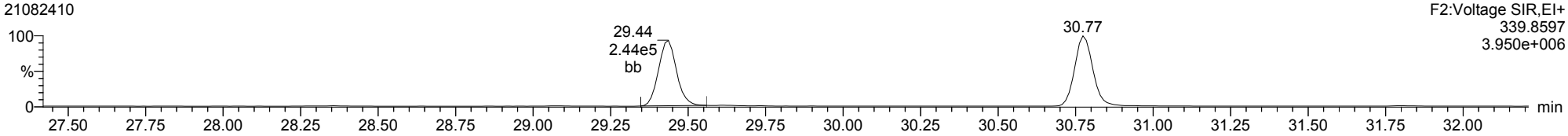

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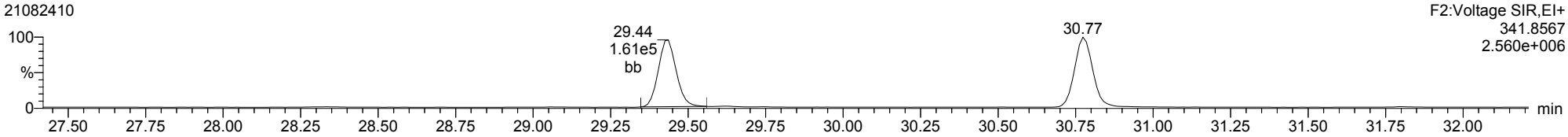

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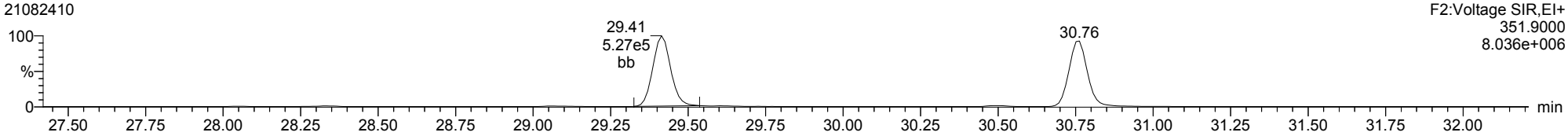

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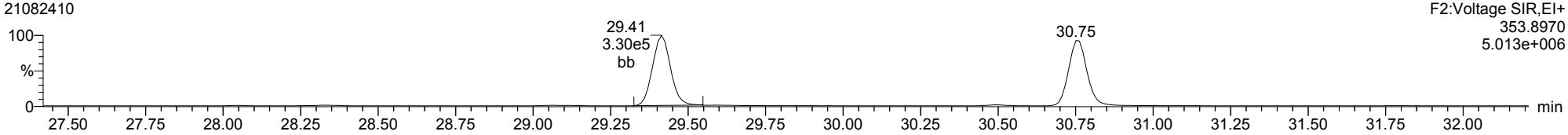

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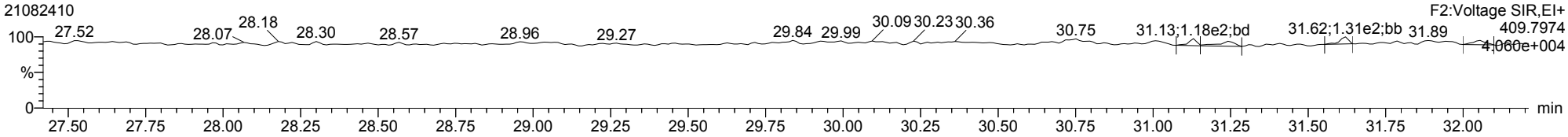

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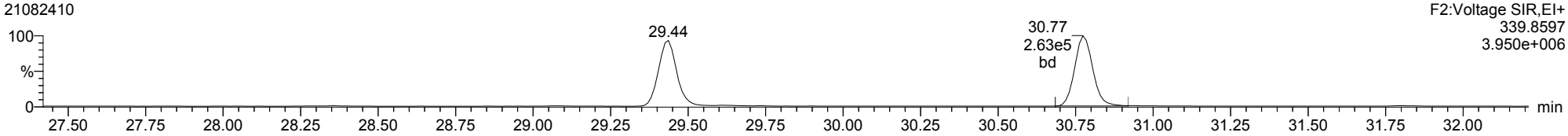

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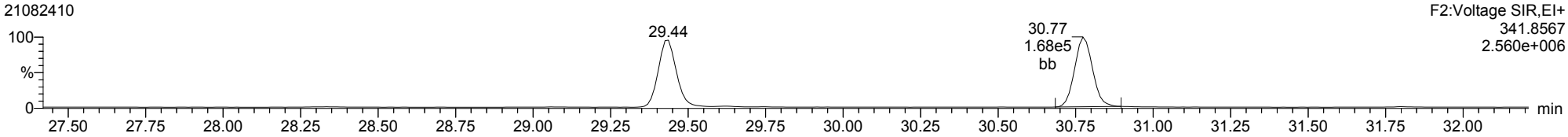

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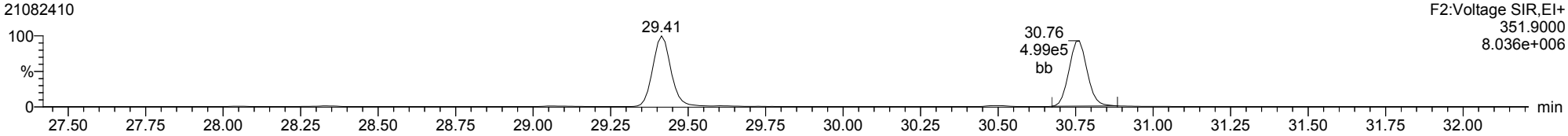

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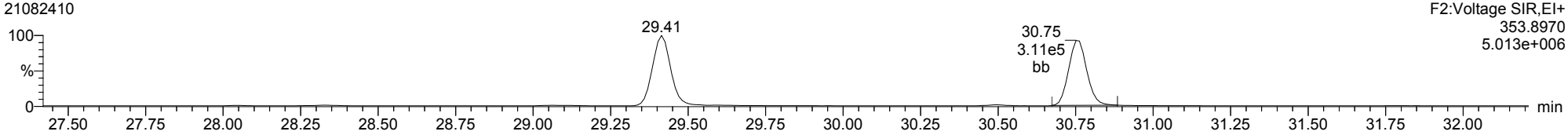

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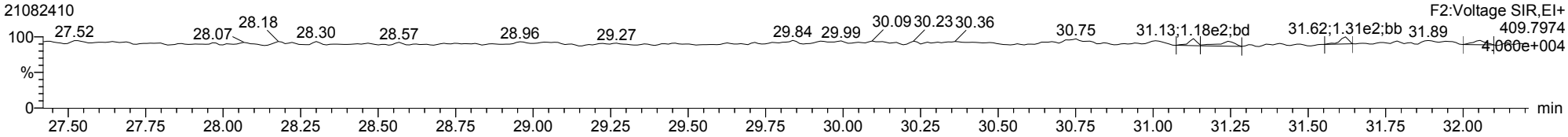

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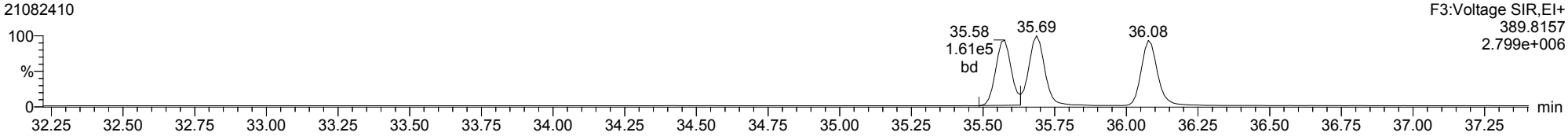

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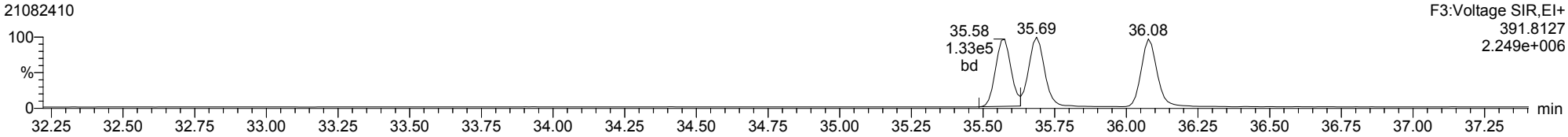

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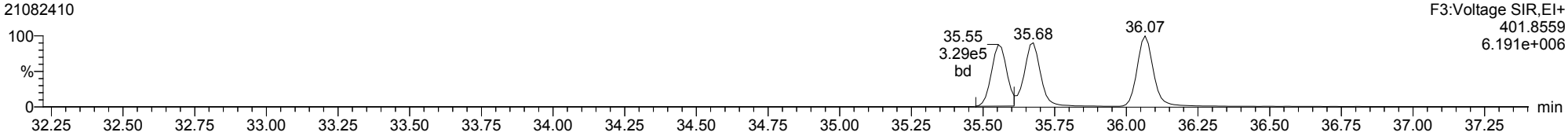

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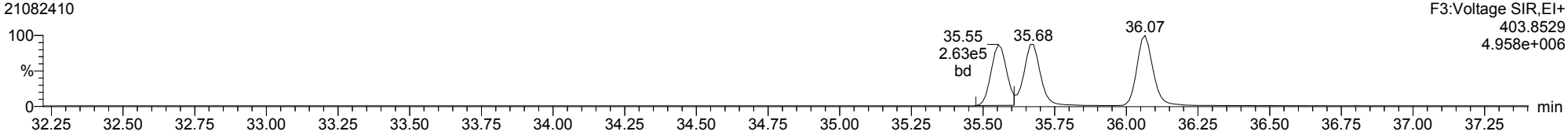

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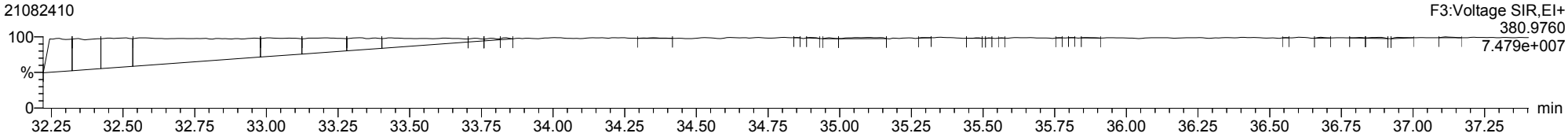

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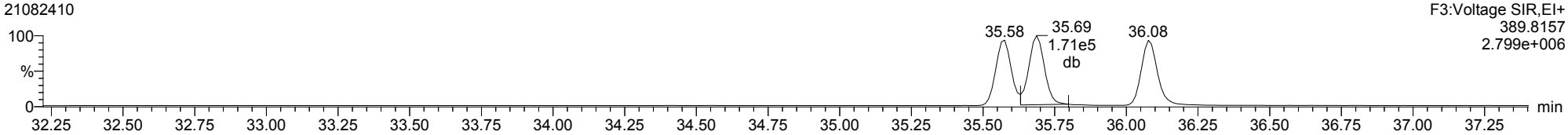

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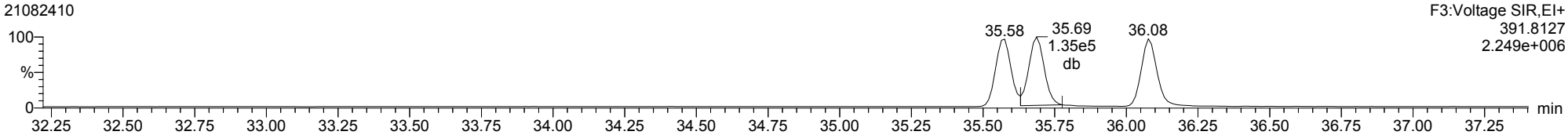

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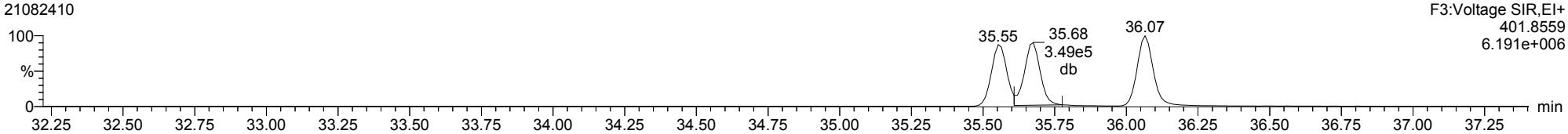

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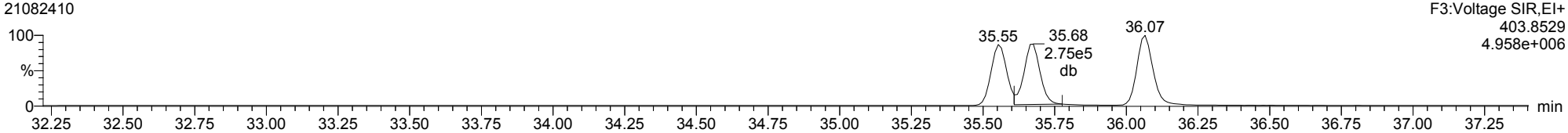

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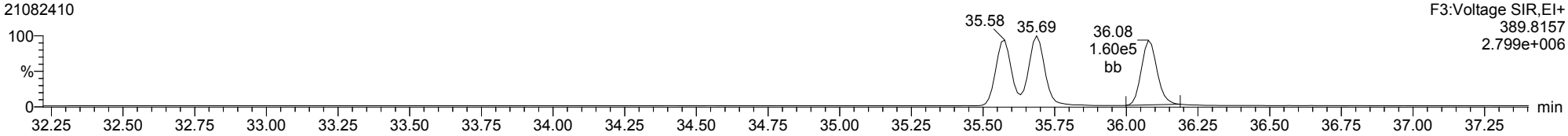

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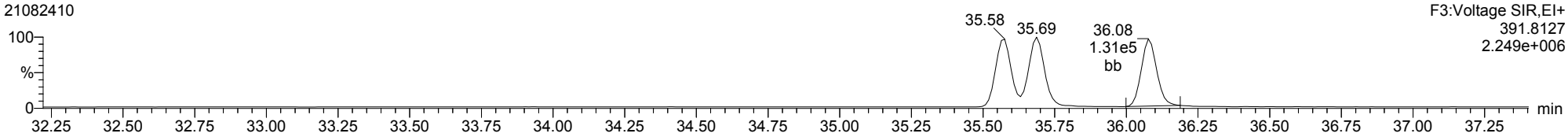

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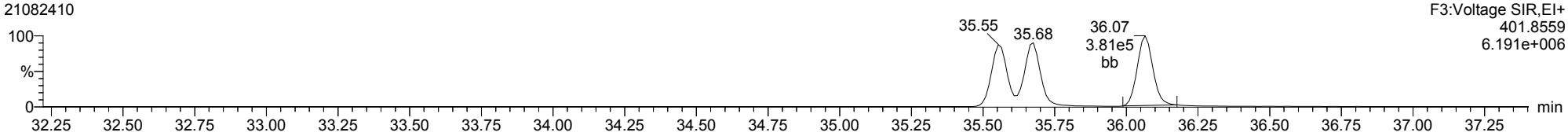

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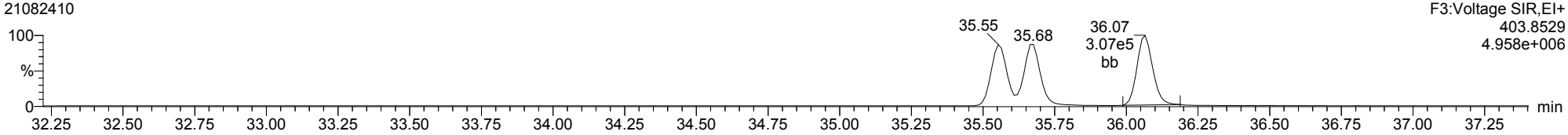

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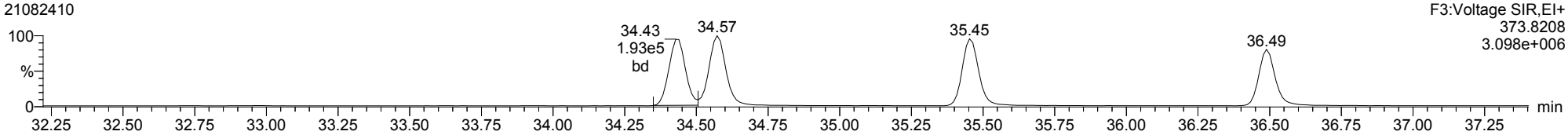

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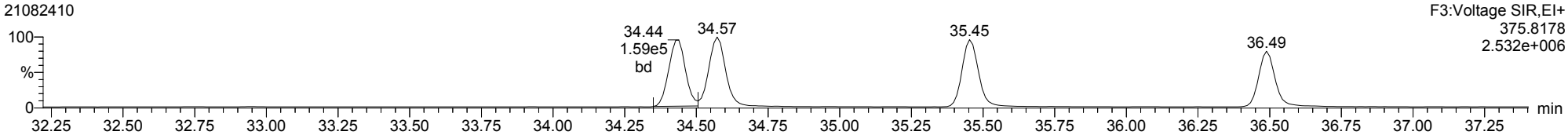

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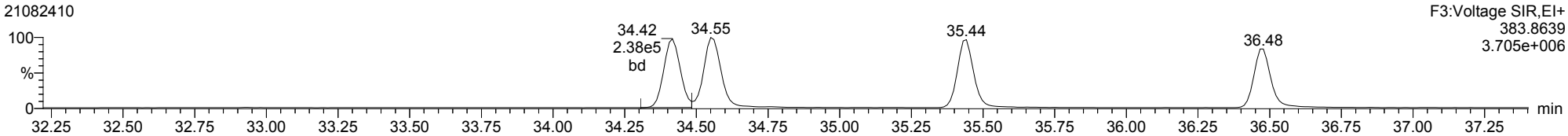

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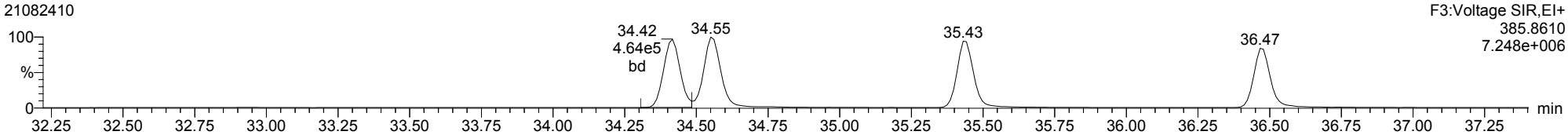

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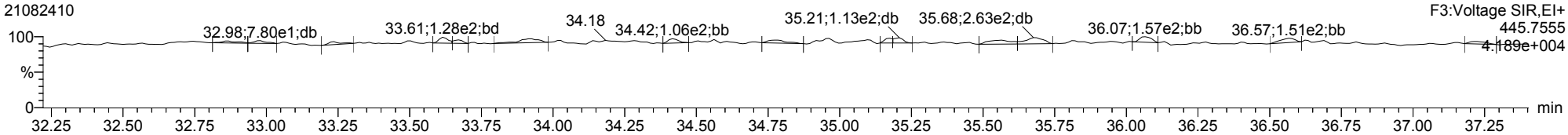

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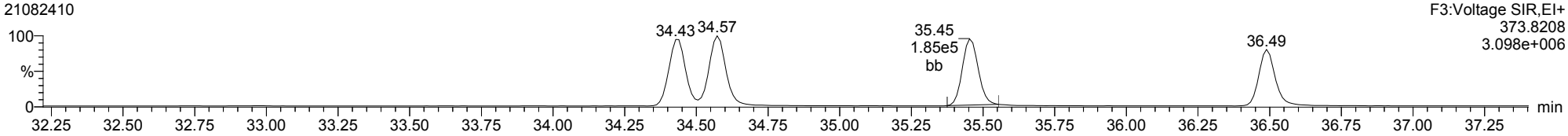

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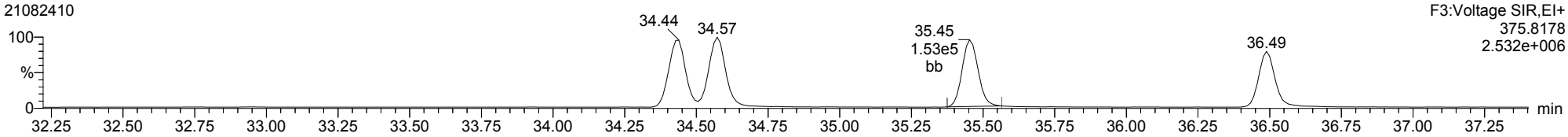

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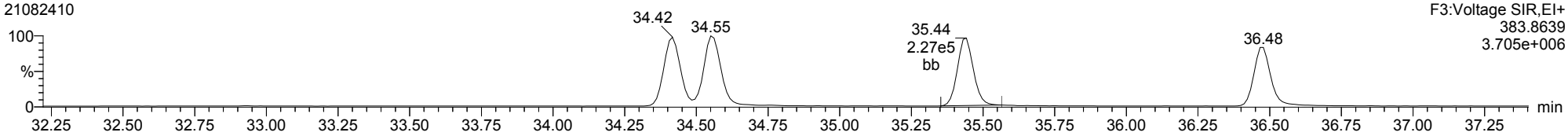

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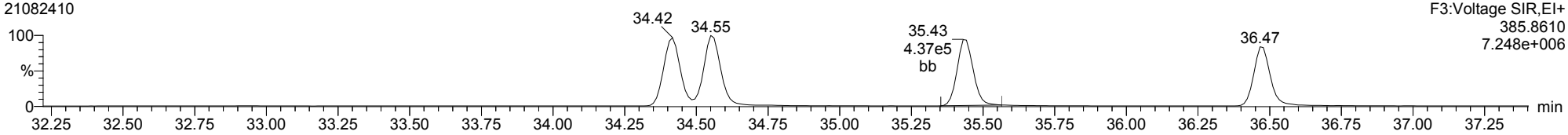

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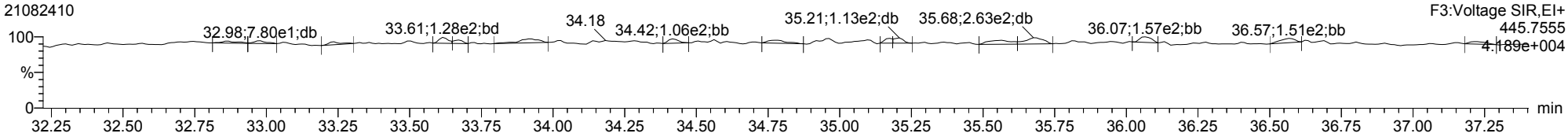

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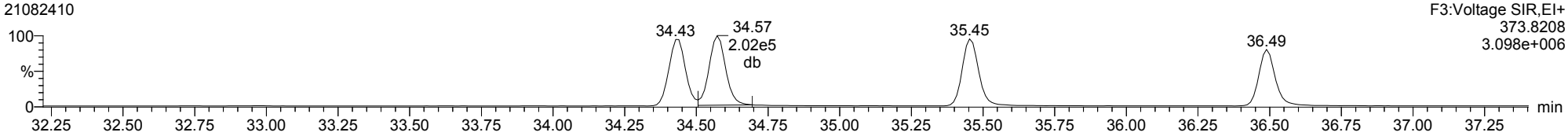

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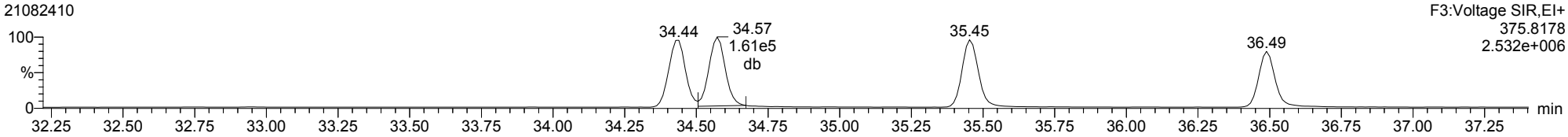

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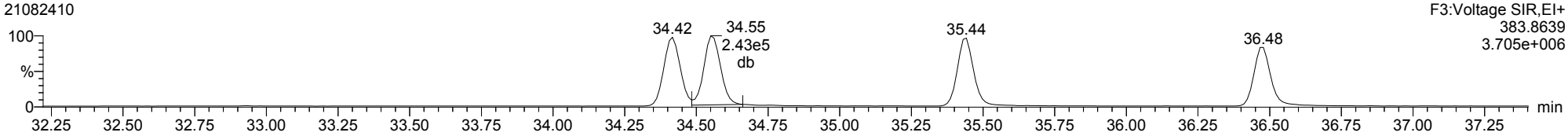

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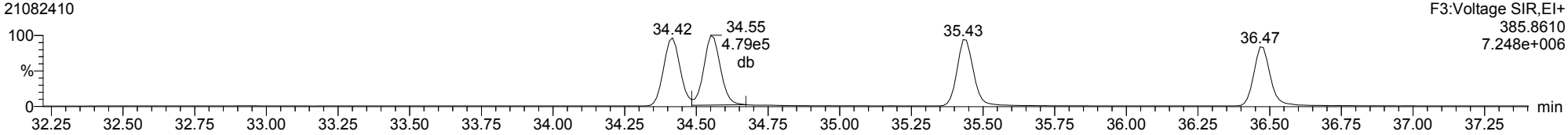

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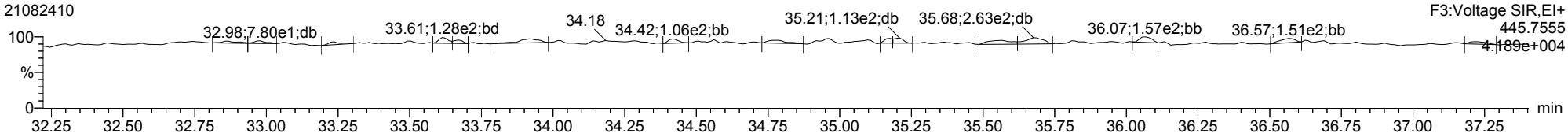

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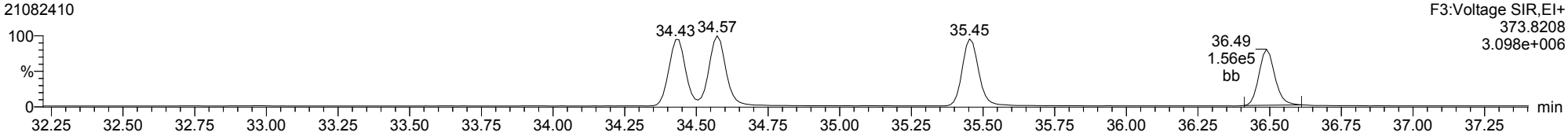

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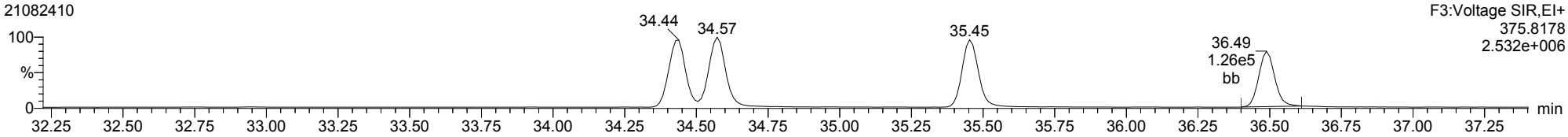

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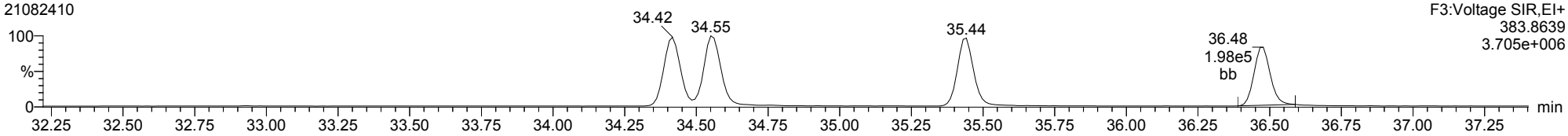

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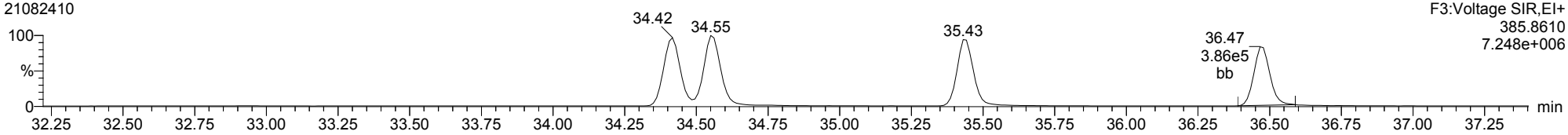

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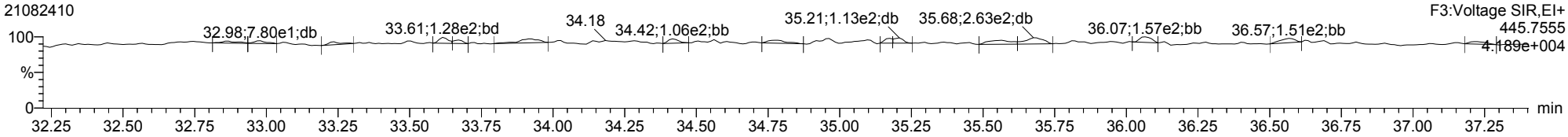

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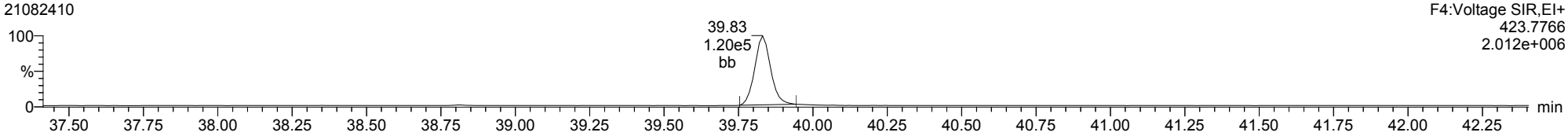
1234678-HpCDD



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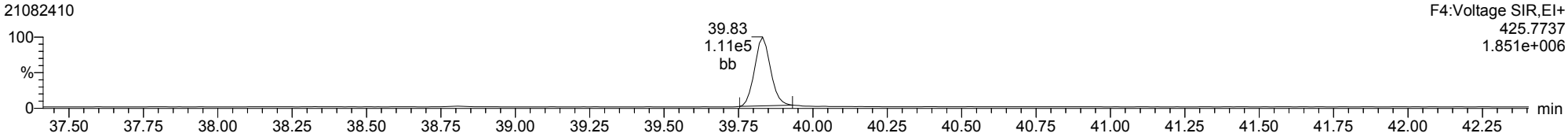

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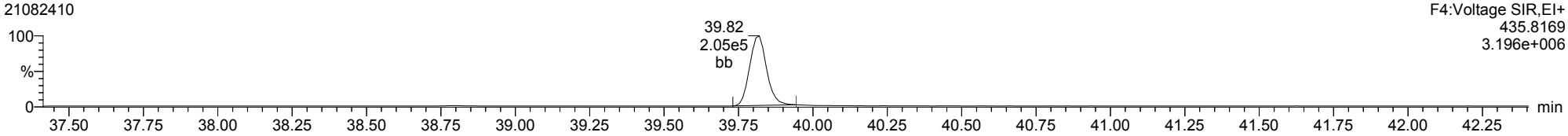

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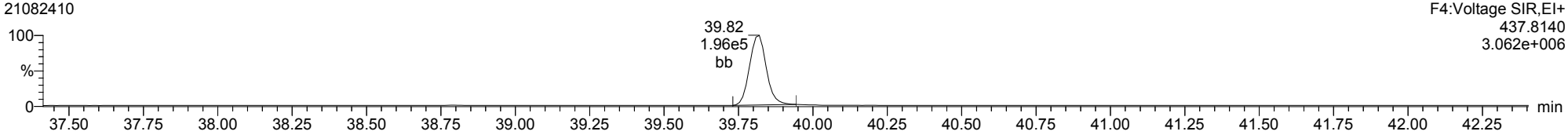
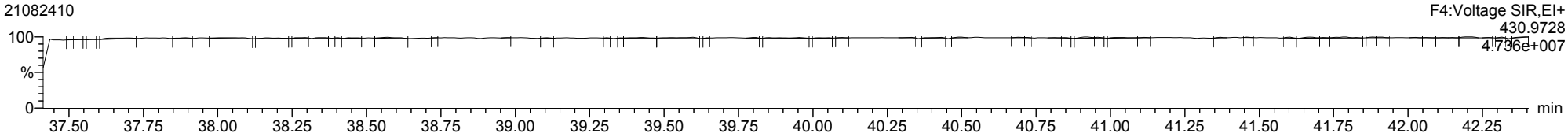


FUNCTION4 PFK



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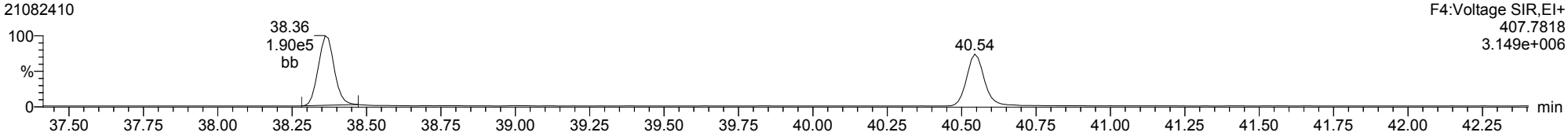

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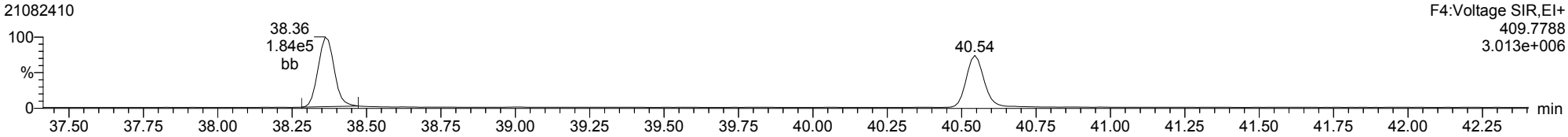

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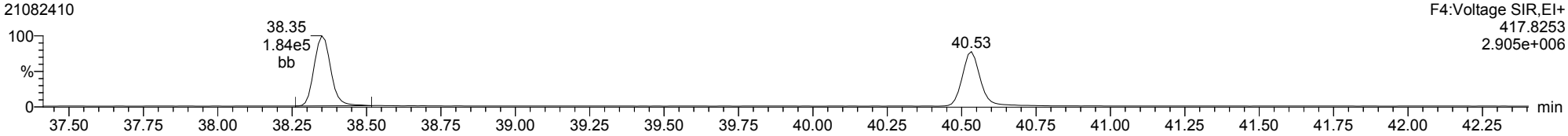

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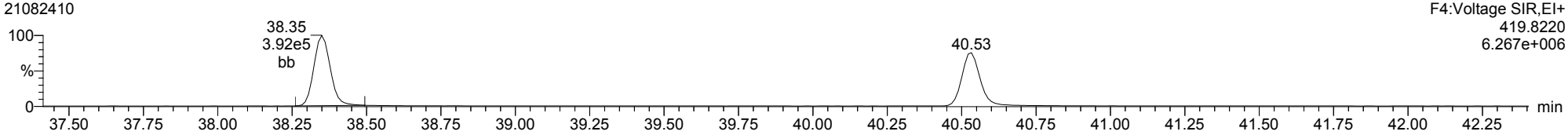
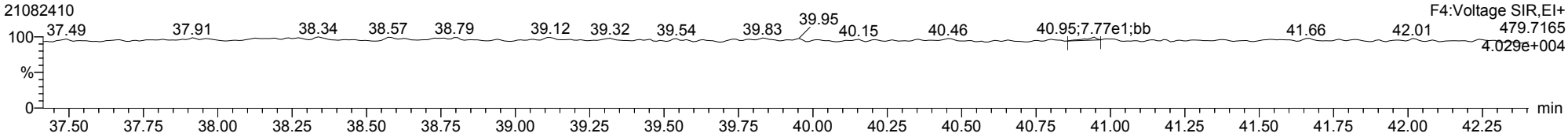


FUNCTION4 NCDPE



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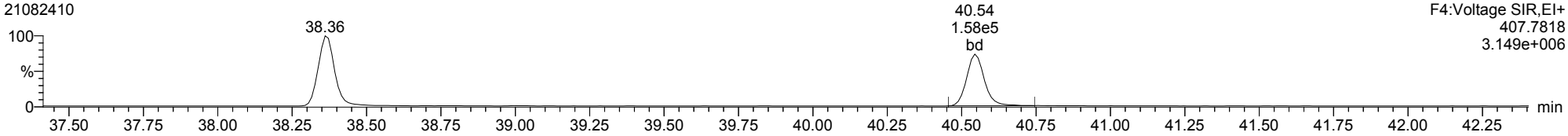

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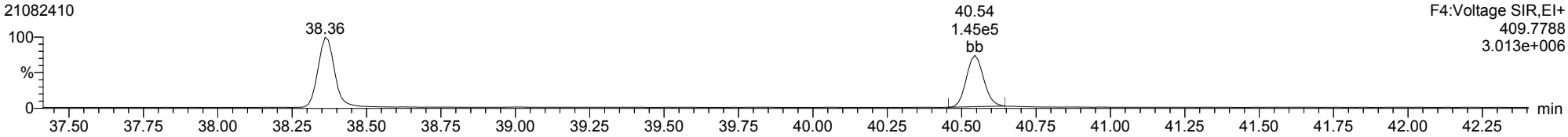

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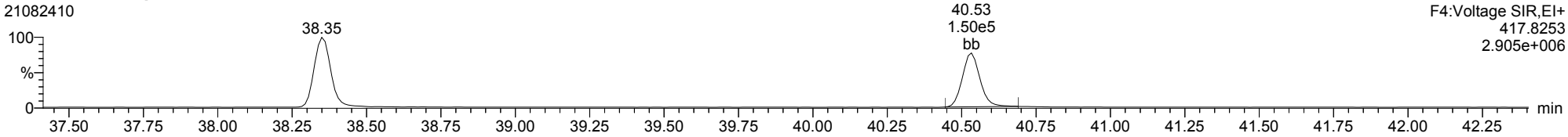

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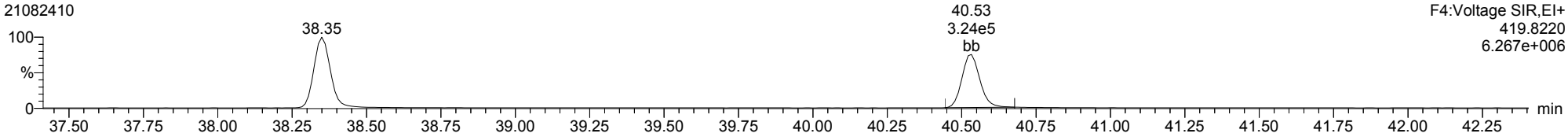

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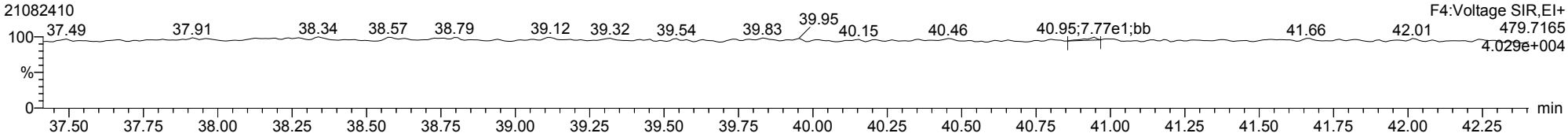

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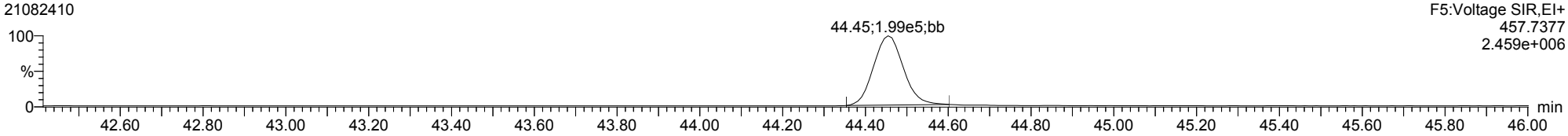
OCDD



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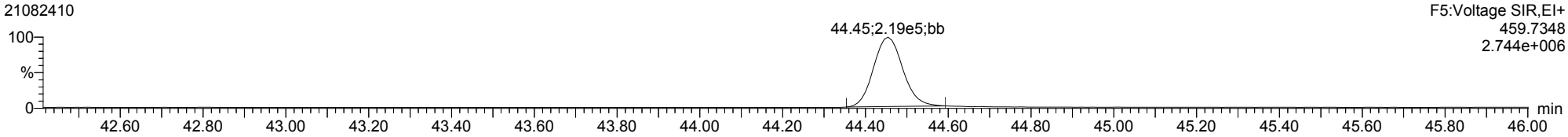

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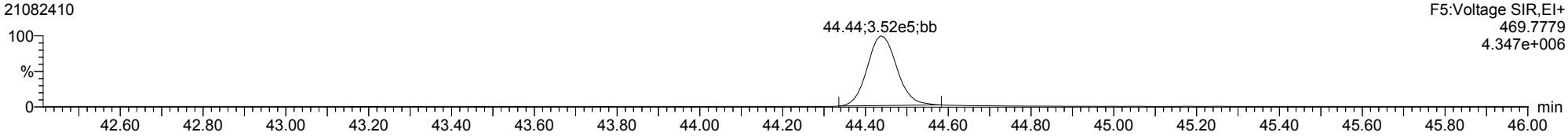

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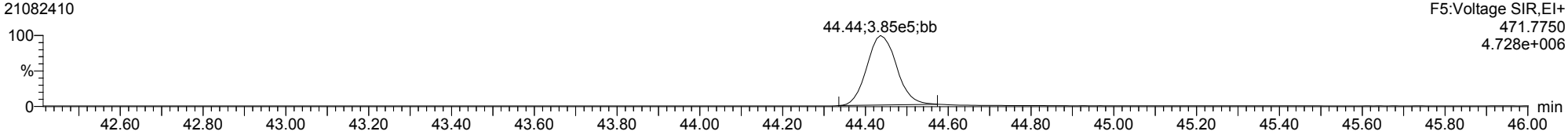
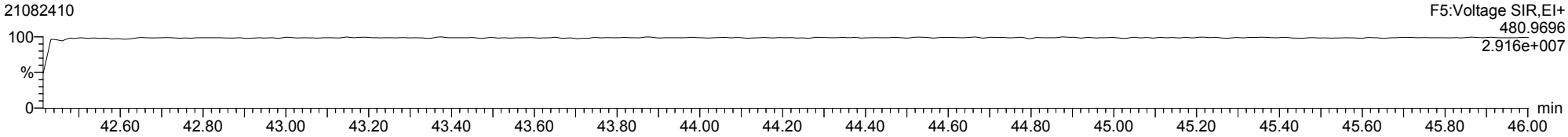


FUNCTION5 PFK



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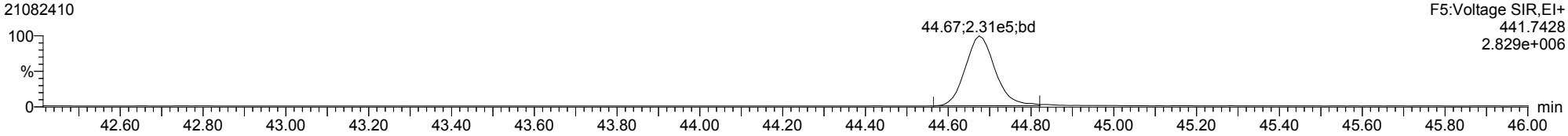

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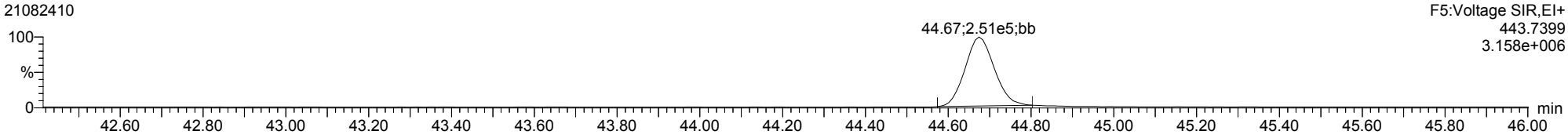
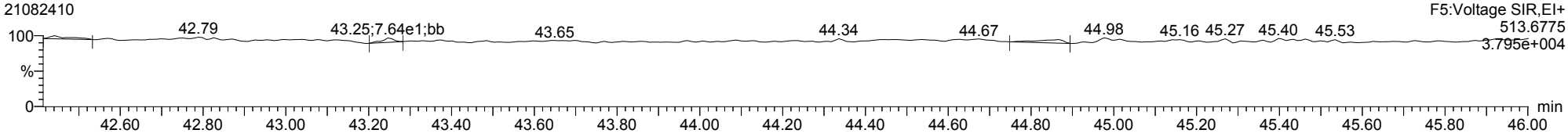


FUNCTION5 DCDPE



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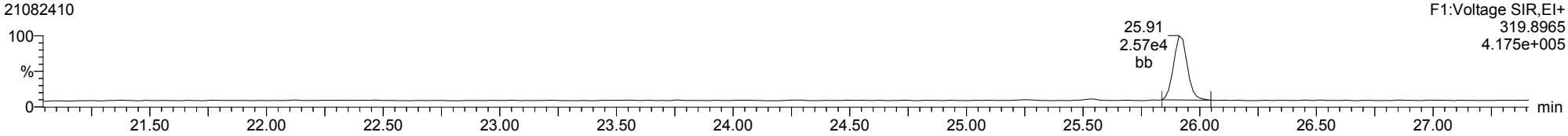
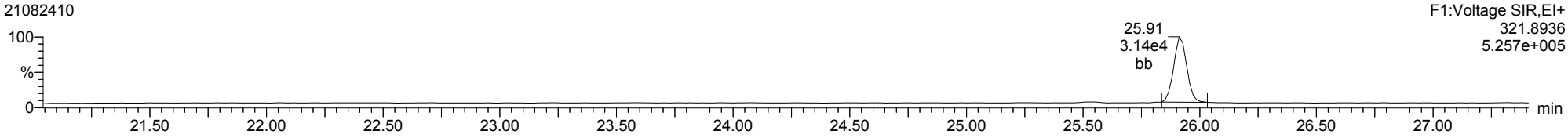
Printed: Wednesday, August 25, 2021 09:22:40 Pacific Daylight Time

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, Conditions: AUTOSPEC01, User: pk

Total-tetradioxins



Total-tetradioxins



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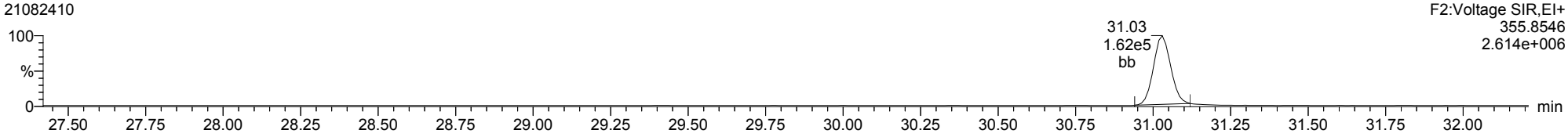

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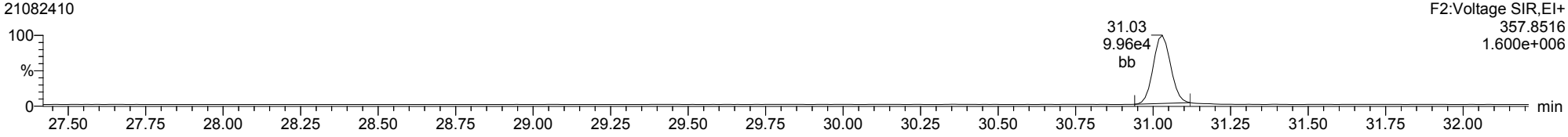

ID: BJH0186-BS1, Name: 21082410, Date: 24-Aug-2021, Time: 19:29:20, Conditions: AUTOSPEC01, User: pk

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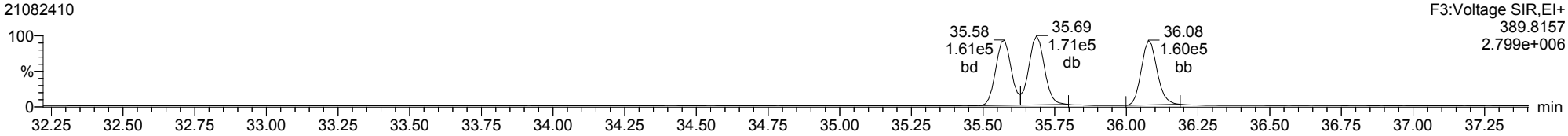

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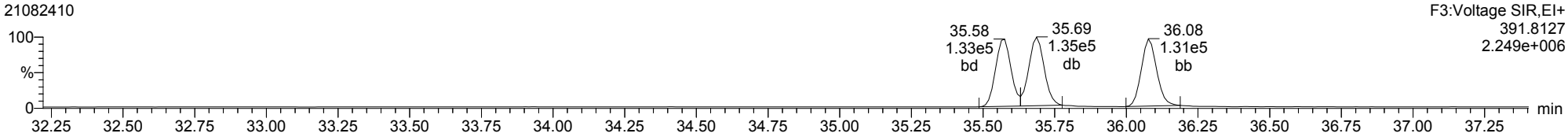

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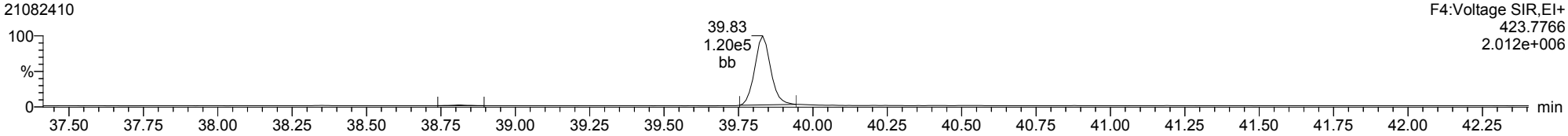
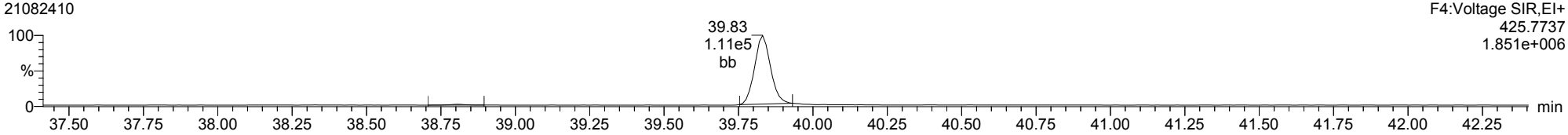


Total-heptadioxins



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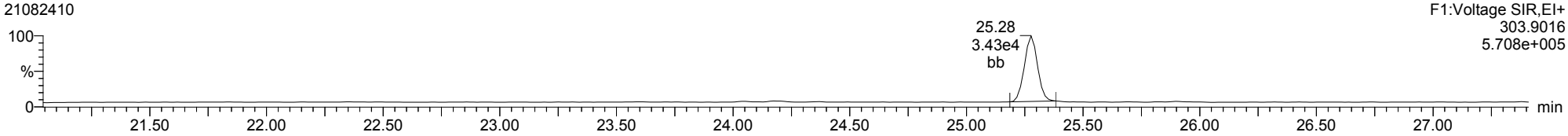
Total-tetrafurans



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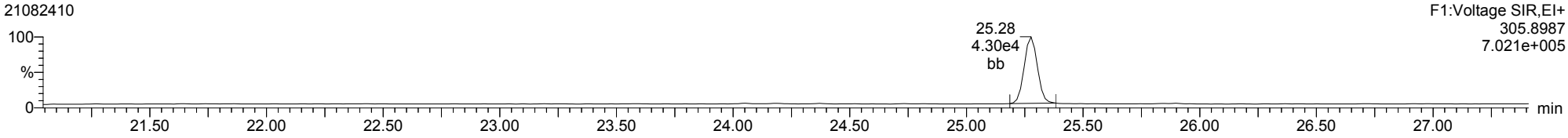

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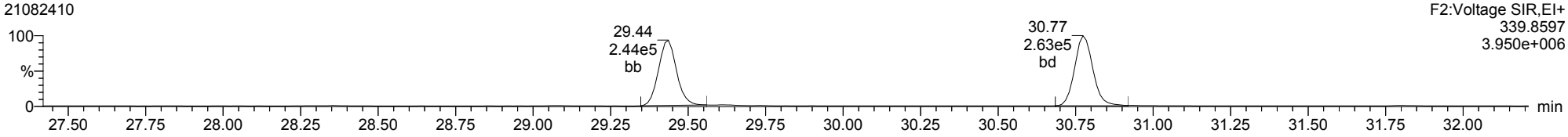

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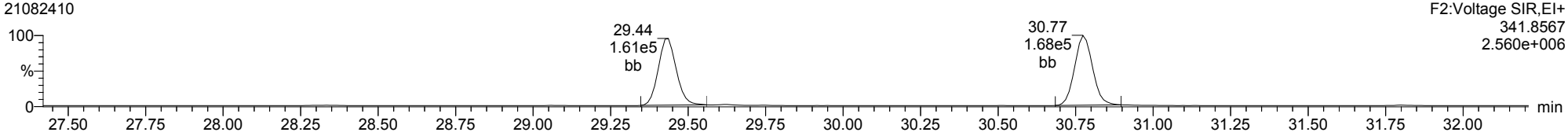

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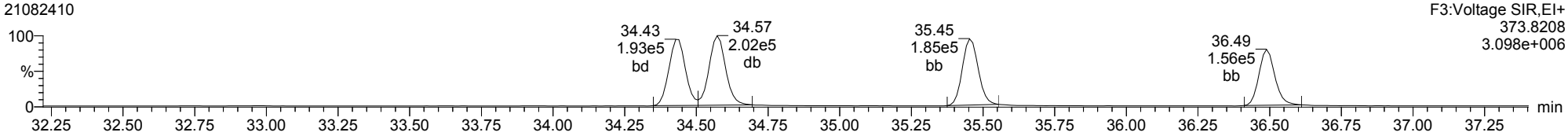
Total-hexafurans



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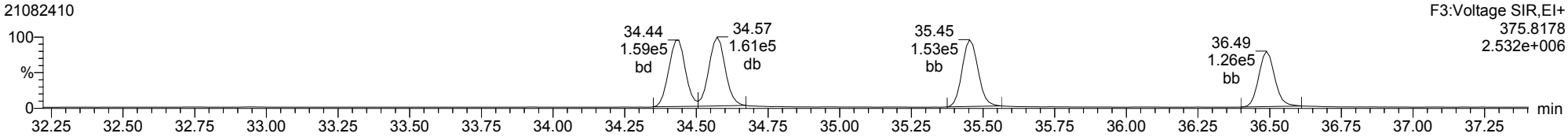

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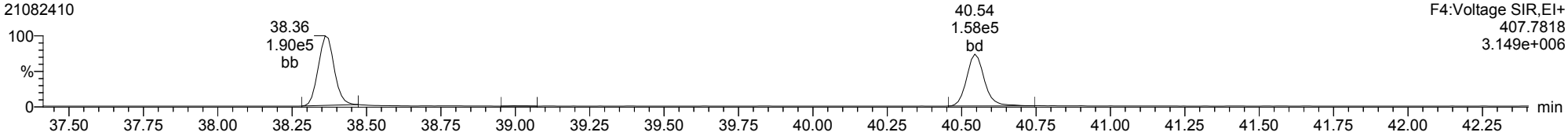

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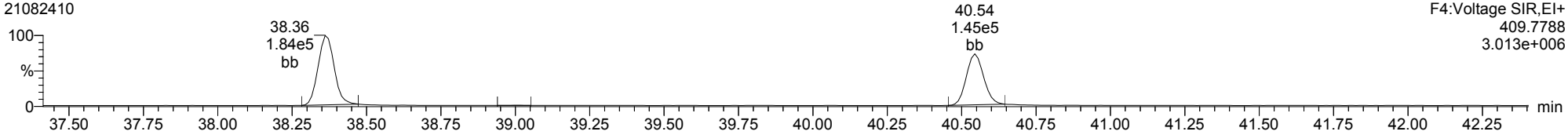

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564A

DUPLICATES
EPA 1613B

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Matrix: Solid
Batch: BJG0187
Preparation: EPA 1613
Source Sample Name: LDW21-SC564A

SDG: 21F0442
Project: Lower Duwamish AOC4
Laboratory ID: BJG0187-DUP1
Lab Source ID: 21F0442-01
Initial/Final: 17.72 g / 20 uL
% Solids: 56.48

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
2,3,7,8-TCDF	25	ND	ND		
2,3,7,8-TCDD	25	ND	ND		
1,2,3,7,8-PeCDF	25	ND	ND		
2,3,4,7,8-PeCDF	25	0.524	0.561	6.85	
1,2,3,7,8-PeCDD	25	0.558	0.904	47.4	*
1,2,3,4,7,8-HxCDF	25	1.36	1.65	19.2	
1,2,3,6,7,8-HxCDF	25	0.869	0.918	5.55	
2,3,4,6,7,8-HxCDF	25	0.608	1.05	53.3	*
1,2,3,7,8,9-HxCDF	25	ND	0.455		
1,2,3,4,7,8-HxCDD	25	0.419	0.647	42.6	*
1,2,3,6,7,8-HxCDD	25	2.02	2.16	6.95	
1,2,3,7,8,9-HxCDD	25	1.56	1.75	11.9	
1,2,3,4,6,7,8-HpCDF	25	11.8	11.3	3.96	
1,2,3,4,7,8,9-HpCDF	25	ND	1.28		
1,2,3,4,6,7,8-HpCDD	25	59.3	61.0	2.91	
OCDF	25	42.8	29.4	37.1	*
OCDD	25	431	473	9.31	
Total TCDF	200	1.61	ND		
Total TCDD	200	ND	ND		
Total PeCDF	200	2.94	4.36	38.9	
Total PeCDD	200	1.21	2.12	54.5	
Total HxCDF	200	16.2	14.6	10.4	
Total HxCDD	200	6.09	17.3	95.8	
Total HpCDF	200	41.7	37.8	9.62	
Total HpCDD	200	133	158	17.1	
13C12-2,3,7,8-TCDF		59.1	95.6		
13C12-2,3,7,8-TCDD		79.5	125		

* Values outside of QC limits
L Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to +/- RL instead of 20% RPD

Analytical Resources, Incorporated
Analytical Chemists and Consultants

LDW21-SC564A

DUPLICATES
EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21F0442
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJG0187-DUP1
Batch: BJG0187
Lab Source ID: 21F0442-01
Preparation: EPA 1613
Initial/Final: 17.72 g / 20 uL
Source Sample Name: LDW21-SC564A
% Solids: 56.48

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION	DUPLICATE CONCENTRATION	RPD %	Q
13C12-1,2,3,7,8-PeCDF		128	160		
13C12-2,3,4,7,8-PeCDF		131	167		
13C12-1,2,3,7,8-PeCDD		128	153		
13C12-1,2,3,4,7,8-HxCDF		136	144		
13C12-1,2,3,6,7,8-HxCDF		126	135		
13C12-2,3,4,6,7,8-HxCDF		141	149		
13C12-1,2,3,7,8,9-HxCDF		141	145		
13C12-1,2,3,4,7,8-HxCDD		146	161		
13C12-1,2,3,6,7,8-HxCDD		136	145		
13C12-1,2,3,4,6,7,8-HpCDF		140	147		
13C12-1,2,3,4,7,8,9-HpCDF		138	145		
13C12-1,2,3,4,6,7,8-HpCDD		134	140		
13C12-OCDD		281	313		
37Cl4-2,3,7,8-TCDD		34.7	55.2		

*: Values outside of QC limits
L: Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to Dup = +/- RL instead of 20% RPD

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ID: BJG0187-DUP1, Name: 21071907, Date: 19-Jul-2021, Time: 15:21:52, 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					0.782		0.770	808	1897								
12378-PeCDF					0.866		1.550	1928	1415								
23478-PeCDF	31.198	1.001	8.431e2	6.143e2	0.980	1.372	1.550	1928	1415	1.52e4	1.13e4	7.9	8.0	NO	bb	MM	0.281
123478-HxCDF	34.808	1.000	2.062e3	1.399e3	1.002	1.473	1.240	940	976	3.56e4	2.53e4	37.8	25.9	YES	bd	bd	0.825
234678-HxCDF	35.799	1.000	1.286e3	9.778e2	1.043	1.315	1.240	940	976	1.48e4	1.31e4	15.7	13.5	NO	MM	bb	0.526
123678-HxCDF	34.952	1.000	1.111e3	7.626e2	0.961	1.457	1.240	940	976	1.68e4	1.14e4	17.9	11.7	YES	MM	db	0.460
123789-HxCDF	36.824	1.000	5.578e2	2.659e2	0.994	2.098	1.240	940	976	7.64e3	4.55e3	8.1	4.7	YES	bb	bb	0.228
1234678-HpCDF	38.685	1.000	1.224e4	1.122e4	1.058	1.092	1.050	873	672	2.06e5	1.89e5	236.2	281.5	NO	bb	bb	5.677
1234789-HpCDF	40.924	1.000	1.174e3	1.000e3	1.070	1.174	1.050	873	672	1.71e4	1.54e4	19.6	22.9	NO	bb	bb	0.639
OCDF	45.149	1.005	2.796e4	2.833e4	1.257	0.987	0.890	1019	948	3.57e5	3.59e5	350.7	378.4	NO	bd	bb	14.727
2378-TCDD					1.307		0.770	1620	1380								
12378-PeCDD	31.432	1.000	8.041e2	6.583e2	0.979	1.222	1.550	1437	896	9.30e3	1.16e4	6.5	12.9	YES	bb	bb	0.452
123478-HxCDD	35.944	1.000	5.168e2	7.756e2	0.956	0.666	1.240	1004	1066	1.01e4	1.40e4	10.1	13.1	YES	bd	dd	0.324
123678-HxCDD	36.077	1.001	2.236e3	2.068e3	0.953	1.081	1.240	1004	1066	4.06e4	2.89e4	40.4	27.1	NO	dd	db	1.082
123789-HxCDD	36.445	1.011	1.734e3	1.665e3	0.927	1.042	1.240	1004	1066	3.08e4	2.70e4	30.7	25.3	YES	bb	bd	0.878
1234678-HpCDD	40.188	1.000	5.057e4	4.756e4	1.055	1.063	1.050	2365	2499	8.56e5	7.84e5	361.9	313.9	NO	bb	bb	30.531
OCDD	44.921	1.000	3.624e5	4.104e5	1.074	0.883	0.890	1601	2431	4.63e6	5.29e6	2895.1	2177.2	NO	bb	bb	236.636
13C-2378-TCDF	25.655	1.007	1.865e5	2.337e5	1.925	0.798	0.770	3087	1795	2.92e6	3.63e6	945.0	2019.3	NO	db	bb	47.837
13C-12378-PeCDF	29.817	1.170	3.191e5	2.080e5	1.442	1.534	1.550	1772	1976	4.97e6	3.25e6	2805.6	1643.7	NO	bb	bb	80.087
13C-23478-PeCDF	31.176	1.223	3.192e5	2.104e5	1.387	1.517	1.550	1772	1976	5.02e6	3.26e6	2831.4	1647.4	NO	bb	bd	83.693
13C-123478-HxCDF	34.797	0.955	1.422e5	2.762e5	1.053	0.515	0.510	1420	2263	2.38e6	4.56e6	1676.1	2014.4	NO	bd	bd	71.917
13C-123678-HxCDF	34.941	0.959	1.449e5	2.793e5	1.135	0.519	0.510	1420	2263	2.28e6	4.41e6	1607.5	1949.2	NO	db	db	67.648
13C-234678-HxCDF	35.810	0.983	1.399e5	2.731e5	1.004	0.512	0.510	1420	2263	2.27e6	4.41e6	1601.1	1948.2	NO	bb	bb	74.435
13C-123789-HxCDF	36.824	1.011	1.221e5	2.418e5	0.909	0.505	0.510	1420	2263	2.14e6	4.33e6	1508.7	1911.3	NO	bb	bb	72.451
13C-1234678-HpCDF	38.685	1.062	1.218e5	2.687e5	0.960	0.453	0.440	1302	1505	1.98e6	4.54e6	1523.0	3017.4	NO	bd	bb	73.647
13C-1234789-HpCDF	40.913	1.123	9.689e4	2.211e5	0.794	0.438	0.440	1302	1505	1.46e6	3.26e6	1121.4	2167.5	NO	bb	bb	72.517
13C-1234-TCDD	25.489	0.000	2.029e5	2.534e5	1.000	0.800	0.770	2592	1355	3.16e6	3.93e6	1218.6	2896.4	NO	bb	bb	100.000
13C-2378-TCDD	26.305	1.032	1.426e5	1.816e5	1.133	0.785	0.770	2592	1355	2.12e6	2.73e6	816.1	2012.6	NO	bb	bb	62.708
13C-12378-PeCDD	31.421	1.233	2.044e5	1.258e5	0.947	1.625	1.550	1553	1235	3.04e6	1.88e6	1959.3	1525.4	NO	bb	bd	76.431
13C-123478-HxCDD	35.944	0.987	2.328e5	1.850e5	0.939	1.259	1.240	2071	1730	3.87e6	2.99e6	1866.2	1726.4	NO	bd	bd	80.563
13C-123678-HxCDD	36.055	0.990	2.318e5	1.856e5	1.042	1.248	1.240	2071	1730	3.79e6	3.06e6	1831.9	1771.4	NO	db	db	72.492
13C-1234678-HpCDD	40.177	1.103	1.572e5	1.474e5	0.788	1.066	1.050	1879	2317	2.56e6	2.37e6	1360.0	1023.7	NO	bb	bb	69.936
13C-OCDD	44.902	1.232	2.910e5	3.173e5	0.703	0.917	0.890	1931	1324	3.67e6	4.04e6	1900.0	3053.9	NO	bb	bb	156.533
13C-123789-HxCDD	36.434	0.000	3.014e5	2.512e5	1.000	1.200	1.240	2071	1730	5.16e6	4.37e6	2489.4	2526.4	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	1.634e5		1.298			1333		2.49e6		1865.9			bb		27.602

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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					0.966		0.770	808	1897								
1289-TCDF					0.736		0.770	808	1897								
13468-PECDF					1.347		1.550	716	757								
12389-PECDF					0.867		1.550	1928	1415								
123468-HXCDF	33.148	0.953	1.949e3	1.436e3	1.036	1.357	1.240	940	976	3.25e4	2.49e4	34.6	25.4	NO	bb	bb	0.781
1368-TCDD	23.417	0.890	3.014e2	5.901e2	1.256	0.511	0.770	1620	1380	3.79e3	1.02e4	2.3	7.4	YES	bb	db	0.219
1289-TCDD					1.151		0.770	1620	1380								
12479-PECDD	28.747	0.915	1.601e3	9.434e2	1.773	1.697	1.550	1437	896	2.14e4	1.09e4	14.9	12.2	NO	bb	bb	0.434
12389-PECDD					1.171		1.550	1437	896								
124679-HXCDD	33.927	0.944	8.529e3	6.558e3	1.034	1.301	1.240	1004	1066	1.35e5	1.12e5	134.3	104.9	NO	bb	bb	3.494
1234679-HPCDD	39.141	0.974	8.972e4	8.687e4	1.194	1.033	1.050	2365	2499	1.55e6	1.48e6	654.4	592.0	NO	bb	bb	48.540
Total-tetrafurans			0.000e0		0.828			808		0.00e0							
Total-penta1			5.039e3					716		6.88e4							1.735
Total-pentafurans			1.296e3		0.904			1928		2.28e4							0.445
Total-hexafurans			1.709e4		1.007			940		2.62e5							7.306
Total-heptafurans			3.782e4		1.064			873		6.40e5							18.937
Total-Furans			8.920e4		0.998			808		1.35e6							43.149
Total-tetradioxins			0.000e0		1.238			1620		0.00e0							
Total-pentadioxins			3.290e3		1.308			1437		4.89e4							1.061
Total-hexadioxins			1.964e4		0.967			1004		2.83e5							8.649
Total-heptadioxins			1.403e5		1.125			2365		2.40e6							79.071
Total-Dioxins			5.256e5		1.141			1620		7.37e6							325.418
Total-TEQ			6.148e5					1620		8.72e6							368.568
FUNCTION1 PFK			3.400e7					620289		1.55e8							
FUNCTION2 PFK			7.360e6					607431		9.22e6							0.000
FUNCTION3 PFK			3.957e5					402343		1.08e6							0.000
FUNCTION4 PFK			8.017e5					374191		4.50e6							
FUNCTION5 PFK			3.607e4					252704		1.76e6							
FUNCTION1 HXCD...			1.519e3					655		2.25e4							0.000
FUNCTION1 HPCD...			5.713e3					850		5.96e4							0.000
FUNCTION2 HPCD...			2.547e2					713		3.84e3							0.000
FUNCTION3 OCDPE			3.633e2					569		5.96e3							0.000
FUNCTION4 NCDPE			2.167e3					733		3.46e4							0.000
FUNCTION5 DCDPE			7.149e1					515		1.28e3							0.000

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Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

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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	Total-penta1	27.11	5.039e3	3.346e3		1.51	1.55	96.1	YES	NO	bb	bb	1.735

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.20	8.431e2	6.143e2	0.980	1.37	1.55	7.9	YES	NO	bb	MM	0.281
2	Total-pentafurans	30.92	4.527e2	3.293e2	0.904	1.38	1.55	3.9	YES	NO	bd	bd	0.164

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.80	1.286e3	9.778e2	1.043	1.32	1.24	15.7	YES	NO	MM	bb	0.526
2	Total-hexafurans	34.18	7.813e3	5.610e3	1.007	1.39	1.24	129.3	YES	NO	bb	bb	3.291
3	Total-hexafurans	33.35	6.044e3	5.001e3	1.007	1.21	1.24	99.2	YES	NO	bb	bb	2.708
4	123468-HXCDF	33.15	1.949e3	1.436e3	1.036	1.36	1.24	34.6	YES	NO	bb	bb	0.781

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.92	1.174e3	1.000e3	1.070	1.17	1.05	19.6	YES	NO	bb	bb	0.639
2	Total-heptafurans	39.35	2.440e4	2.317e4	1.064	1.05	1.05	476.6	YES	NO	bb	bb	12.621
3	1234678-HpCDF	38.68	1.224e4	1.122e4	1.058	1.09	1.05	236.2	YES	NO	bb	bb	5.677

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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	23478-PeCDF	31.20	8.431e2	6.143e2	0.980	1.37	1.55	7.9	YES	NO	bb	MM	0.281
2	Total-pentafurans	30.92	4.527e2	3.293e2	0.904	1.38	1.55	3.9	YES	NO	bd	bd	0.164
3	234678-HxCDF	35.80	1.286e3	9.778e2	1.043	1.32	1.24	15.7	YES	NO	MM	bb	0.526
4	Total-hexafurans	34.18	7.813e3	5.610e3	1.007	1.39	1.24	129.3	YES	NO	bb	bb	3.291
5	Total-hexafurans	33.35	6.044e3	5.001e3	1.007	1.21	1.24	99.2	YES	NO	bb	bb	2.708
6	123468-HXCDF	33.15	1.949e3	1.436e3	1.036	1.36	1.24	34.6	YES	NO	bb	bb	0.781
7	1234789-HpCDF	40.92	1.174e3	1.000e3	1.070	1.17	1.05	19.6	YES	NO	bb	bb	0.639
8	Total-heptafurans	39.35	2.440e4	2.317e4	1.064	1.05	1.05	476.6	YES	NO	bb	bb	12.621
9	1234678-HpCDF	38.68	1.224e4	1.122e4	1.058	1.09	1.05	236.2	YES	NO	bb	bb	5.677
10	OCDF	45.15	2.796e4	2.833e4	1.257	0.99	0.89	350.7	YES	NO	bd	bb	14.727
11	Total-penta1	27.11	5.039e3	3.346e3		1.51	1.55	96.1	YES	NO	bb	bb	1.735

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	30.37	3.290e2	1.996e2	1.308	1.65	1.55	4.8	YES	NO	bb	db	0.122
2	Total-pentadioxins	30.05	4.966e2	3.258e2	1.308	1.52	1.55	5.6	YES	NO	bb	bd	0.190
3	Total-pentadioxins	29.84	8.637e2	4.928e2	1.308	1.75	1.55	8.7	YES	NO	bb	bb	0.314
4	12479-PECDD	28.75	1.601e3	9.434e2	1.773	1.70	1.55	14.9	YES	NO	bb	bb	0.434

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	36.08	2.236e3	2.068e3	0.953	1.08	1.24	40.4	YES	NO	dd	db	1.082
2	Total-hexadioxins	35.05	7.267e3	6.371e3	0.967	1.14	1.24	81.3	YES	NO	bd	bd	3.376
3	Total-hexadioxins	34.70	1.603e3	1.211e3	0.967	1.32	1.24	25.5	YES	NO	bb	bb	0.697
4	124679-HXCDD	33.93	8.529e3	6.558e3	1.034	1.30	1.24	134.3	YES	NO	bb	bb	3.494

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HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.19	5.057e4	4.756e4	1.055	1.06	1.05	361.9	YES	NO	bb	bb	30.531
2	1234679-HPCDD	39.14	8.972e4	8.687e4	1.194	1.03	1.05	654.4	YES	NO	bb	bb	48.540

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	30.37	3.290e2	1.996e2	1.308	1.65	1.55	4.8	YES	NO	bb	db	0.122
2	Total-pentadioxins	30.05	4.966e2	3.258e2	1.308	1.52	1.55	5.6	YES	NO	bb	bd	0.190
3	Total-pentadioxins	29.84	8.637e2	4.928e2	1.308	1.75	1.55	8.7	YES	NO	bb	bb	0.314
4	12479-PECDD	28.75	1.601e3	9.434e2	1.773	1.70	1.55	14.9	YES	NO	bb	bb	0.434
5	123678-HxCDD	36.08	2.236e3	2.068e3	0.953	1.08	1.24	40.4	YES	NO	dd	db	1.082
6	Total-hexadioxins	35.05	7.267e3	6.371e3	0.967	1.14	1.24	81.3	YES	NO	bd	bd	3.376
7	Total-hexadioxins	34.70	1.603e3	1.211e3	0.967	1.32	1.24	25.5	YES	NO	bb	bb	0.697
8	124679-HXCDD	33.93	8.529e3	6.558e3	1.034	1.30	1.24	134.3	YES	NO	bb	bb	3.494
9	1234678-HpCDD	40.19	5.057e4	4.756e4	1.055	1.06	1.05	361.9	YES	NO	bb	bb	30.531
10	1234679-HPCDD	39.14	8.972e4	8.687e4	1.194	1.03	1.05	654.4	YES	NO	bb	bb	48.540
11	OCDD	44.92	3.624e5	4.104e5	1.074	0.88	0.89	2895.1	YES	NO	bb	bb	236.636

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	31.20	8.431e2	6.143e2	0.980	1.37	1.55	7.9	YES	NO	bb	MM	0.281
2	Total-pentafurans	30.92	4.527e2	3.293e2	0.904	1.38	1.55	3.9	YES	NO	bd	bd	0.164
3	234678-HxCDF	35.80	1.286e3	9.778e2	1.043	1.32	1.24	15.7	YES	NO	MM	bb	0.526
4	Total-hexafurans	34.18	7.813e3	5.610e3	1.007	1.39	1.24	129.3	YES	NO	bb	bb	3.291
5	Total-hexafurans	33.35	6.044e3	5.001e3	1.007	1.21	1.24	99.2	YES	NO	bb	bb	2.708
6	123468-HXCDF	33.15	1.949e3	1.436e3	1.036	1.36	1.24	34.6	YES	NO	bb	bb	0.781
7	1234789-HpCDF	40.92	1.174e3	1.000e3	1.070	1.17	1.05	19.6	YES	NO	bb	bb	0.639
8	Total-heptafurans	39.35	2.440e4	2.317e4	1.064	1.05	1.05	476.6	YES	NO	bb	bb	12.621
9	1234678-HpCDF	38.68	1.224e4	1.122e4	1.058	1.09	1.05	236.2	YES	NO	bb	bb	5.677
10	OCDF	45.15	2.796e4	2.833e4	1.257	0.99	0.89	350.7	YES	NO	bd	bb	14.727
11	Total-penta1	27.11	5.039e3	3.346e3		1.51	1.55	96.1	YES	NO	bb	bb	1.735
12	Total-pentadioxins	30.37	3.290e2	1.996e2	1.308	1.65	1.55	4.8	YES	NO	bb	db	0.122
13	Total-pentadioxins	30.05	4.966e2	3.258e2	1.308	1.52	1.55	5.6	YES	NO	bb	bd	0.190
14	Total-pentadioxins	29.84	8.637e2	4.928e2	1.308	1.75	1.55	8.7	YES	NO	bb	bb	0.314
15	12479-PECDD	28.75	1.601e3	9.434e2	1.773	1.70	1.55	14.9	YES	NO	bb	bb	0.434
16	123678-HxCDD	36.08	2.236e3	2.068e3	0.953	1.08	1.24	40.4	YES	NO	dd	db	1.082
17	Total-hexadioxins	35.05	7.267e3	6.371e3	0.967	1.14	1.24	81.3	YES	NO	bd	bd	3.376
18	Total-hexadioxins	34.70	1.603e3	1.211e3	0.967	1.32	1.24	25.5	YES	NO	bb	bb	0.697
19	124679-HXCDD	33.93	8.529e3	6.558e3	1.034	1.30	1.24	134.3	YES	NO	bb	bb	3.494
20	1234678-HpCDD	40.19	5.057e4	4.756e4	1.055	1.06	1.05	361.9	YES	NO	bb	bb	30.531
21	1234679-HPCDD	39.14	8.972e4	8.687e4	1.194	1.03	1.05	654.4	YES	NO	bb	bb	48.540
22	OCDD	44.92	3.624e5	4.104e5	1.074	0.88	0.89	2895.1	YES	NO	bb	bb	236.636

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.40	7.923e6					18.9	YES		db		
2	FUNCTION1 PFK	21.94	1.474e7					48.2	YES		dd		
3	FUNCTION1 PFK	21.57	3.069e6					66.7	YES		dd		
4	FUNCTION1 PFK	21.51	3.687e6					63.8	YES		bd		
5	FUNCTION1 PFK	21.18	4.584e6					51.8	YES		bb		

ID: BJG0187-DUP1, Name: 21071907, Date: 19-Jul-2021, Time: 15:21:52, 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	29.26	7.240e4					2.6	NO		bb		0.000
2	FUNCTION2 PFK	31.70	7.025e6					9.1	YES		bb		0.000
3	FUNCTION2 PFK	29.43	2.629e5					3.5	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	34.66	3.957e5					2.7	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	42.54	2.927e4					2.0	NO		bb		
2	FUNCTION4 PFK	40.00	9.182e3					1.2	NO		bb		
3	FUNCTION4 PFK	38.94	7.479e5					7.0	YES		bb		
4	FUNCTION4 PFK	38.22	1.537e4					1.9	NO		bb		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.87	1.349e3					0.6	NO		bb		
2	FUNCTION5 PFK	44.59	1.316e4					1.7	NO		db		
3	FUNCTION5 PFK	44.54	1.014e4					1.4	NO		bd		
4	FUNCTION5 PFK	43.60	3.969e3					0.9	NO		bb		
5	FUNCTION5 PFK	43.12	4.506e3					1.0	NO		bb		
6	FUNCTION5 PFK	42.99	1.520e3					0.7	NO		bb		
7	FUNCTION5 PFK	45.04	1.424e3					0.6	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.29	8.621e1					1.8	NO		bb		0.000
2	FUNCTION1 HXCD...	25.85	4.080e2					10.8	YES		bb		0.000
3	FUNCTION1 HXCD...	25.49	7.194e1					2.2	NO		bb		0.000
4	FUNCTION1 HXCD...	23.69	7.114e1					3.1	YES		bb		0.000
5	FUNCTION1 HXCD...	21.97	1.650e2					3.2	YES		db		0.000
6	FUNCTION1 HXCD...	21.88	1.666e2					3.3	YES		dd		0.000
7	FUNCTION1 HXCD...	21.74	9.918e1					1.9	NO		bd		0.000
8	FUNCTION1 HXCD...	21.21	1.531e2					3.9	YES		db		0.000
9	FUNCTION1 HXCD...	21.13	2.976e2					4.2	YES		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.16	2.032e2					3.7	YES		dd		0.000
2	FUNCTION1 HPCD...	22.01	1.975e3					27.2	YES		dd		0.000
3	FUNCTION1 HPCD...	21.89	1.538e3					5.7	YES		dd		0.000
4	FUNCTION1 HPCD...	21.51	2.584e2					3.4	YES		bd		0.000
5	FUNCTION1 HPCD...	24.51	9.041e1					1.7	NO		bb		0.000
6	FUNCTION1 HPCD...	24.14	1.238e2					3.8	YES		db		0.000
7	FUNCTION1 HPCD...	24.07	7.487e1					1.6	NO		bd		0.000
8	FUNCTION1 HPCD...	23.76	1.185e2					2.4	NO		bb		0.000
9	FUNCTION1 HPCD...	23.30	7.251e2					13.2	YES		bb		0.000
10	FUNCTION1 HPCD...	22.53	7.701e1					1.5	NO		db		0.000
11	FUNCTION1 HPCD...	22.45	1.167e2					2.0	NO		dd		0.000
12	FUNCTION1 HPCD...	22.31	4.126e2					4.0	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...	31.94	7.162e1					2.4	NO		bb		0.000
2	FUNCTION2 HPCD...	31.79	7.210e1					1.2	NO		bb		0.000
3	FUNCTION2 HPCD...	29.84	1.110e2					1.7	NO		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.43	1.433e2					3.9	YES		bb		0.000
2	FUNCTION3 OCDPE	36.04	1.147e2					3.3	YES		db		0.000
3	FUNCTION3 OCDPE	35.94	1.053e2					3.2	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	38.95	1.002e2					3.6	YES		bb		0.000
2	FUNCTION4 NCDPE	38.34	2.067e3					43.6	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	44.93	7.149e1					2.5	NO		bb		0.000

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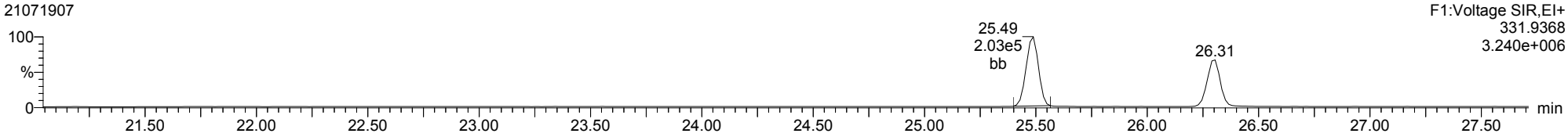

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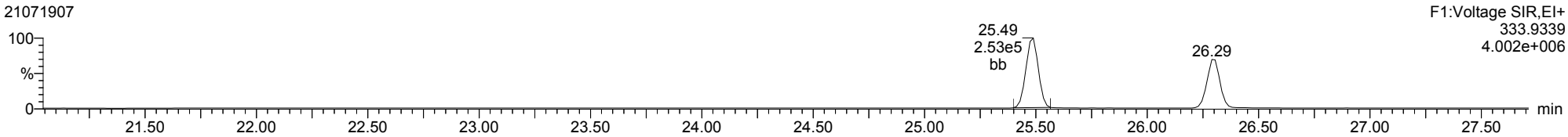

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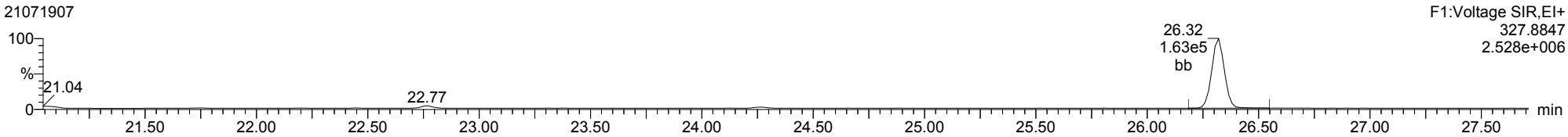

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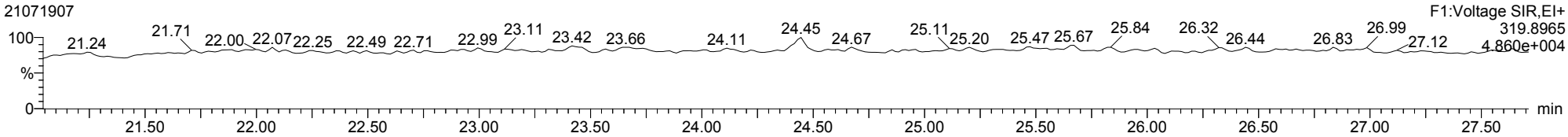

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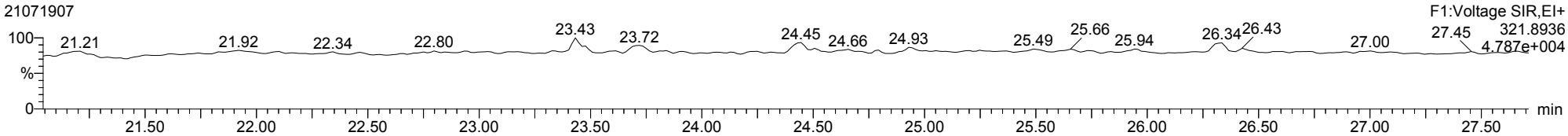

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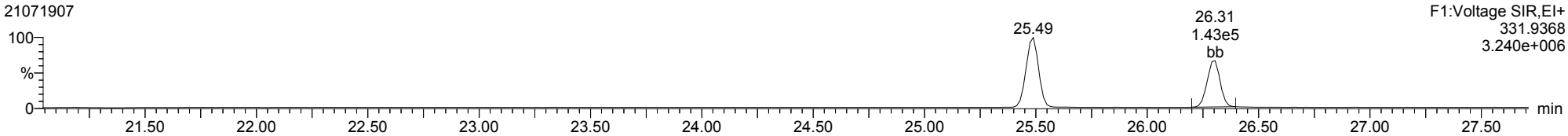

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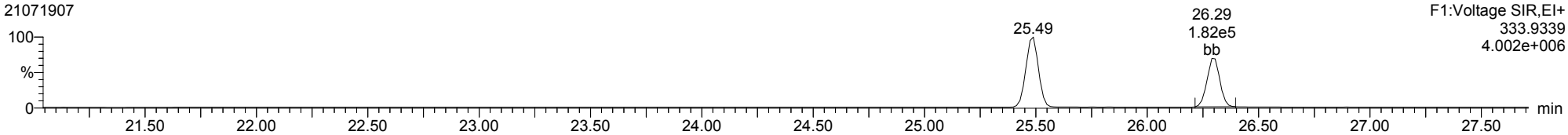

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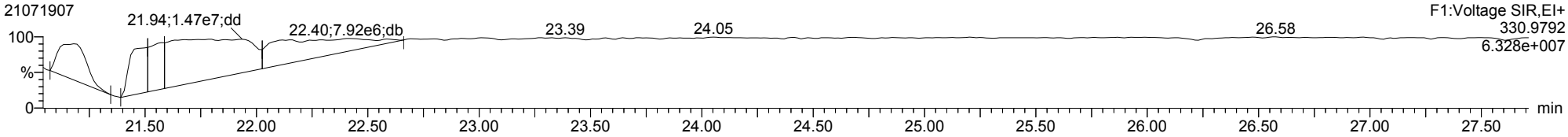

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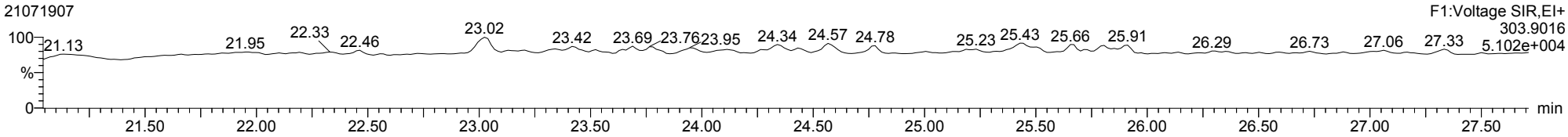
2378-TCDF



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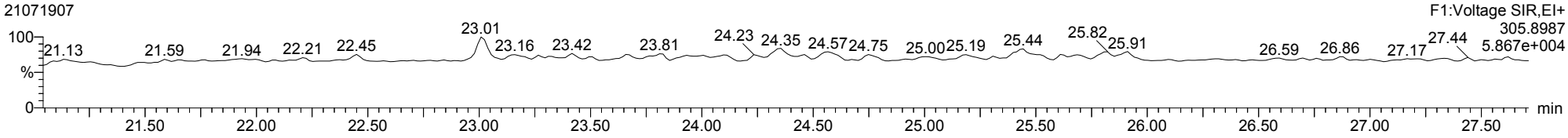

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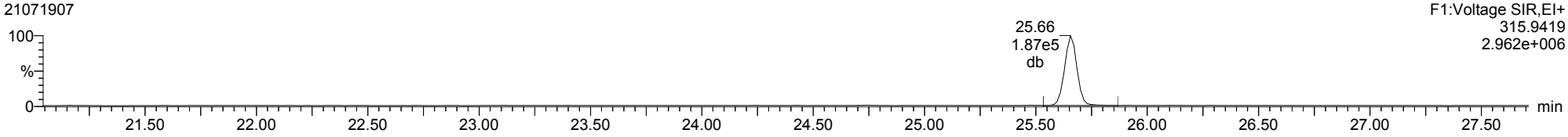

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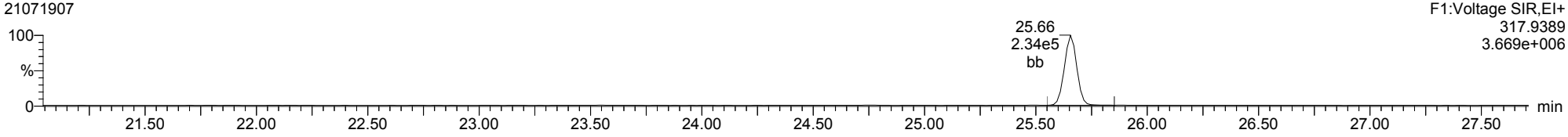
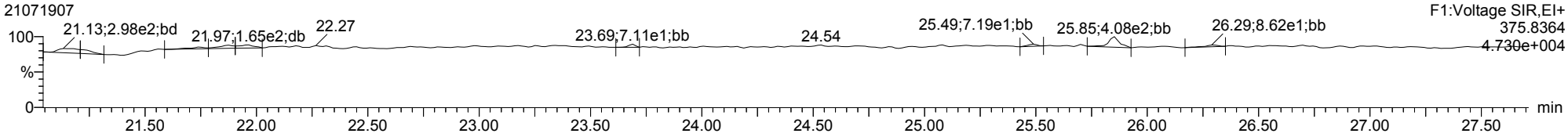


FUNCTION1 HXCDPE



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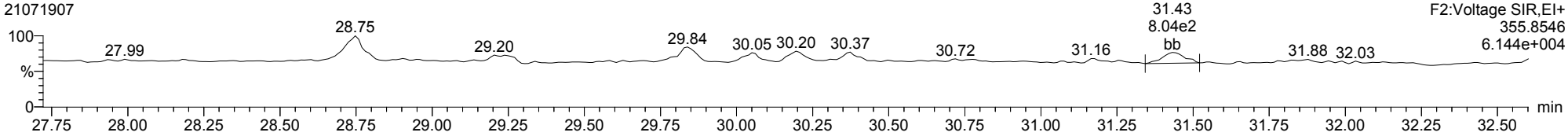
12378-PeCDD



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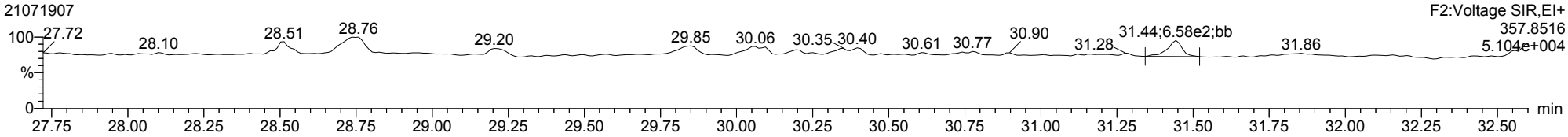

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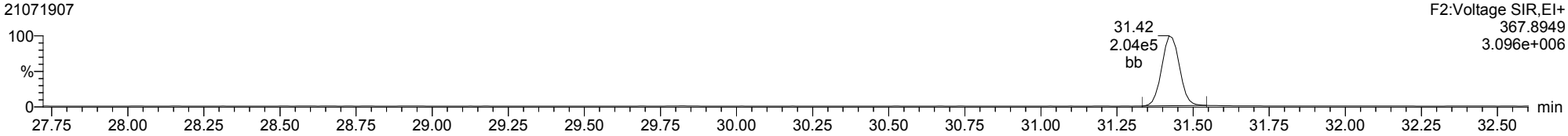

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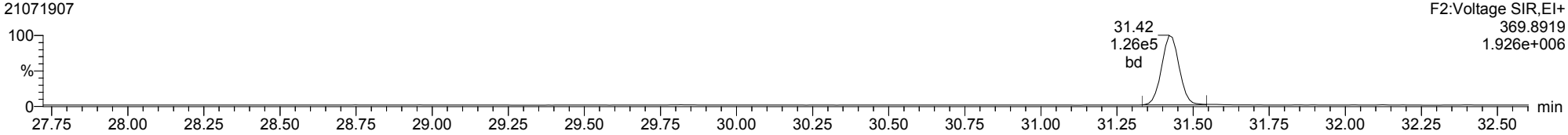
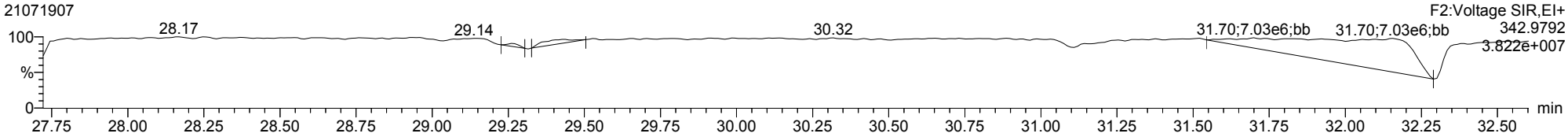


FUNCTION2 PFK



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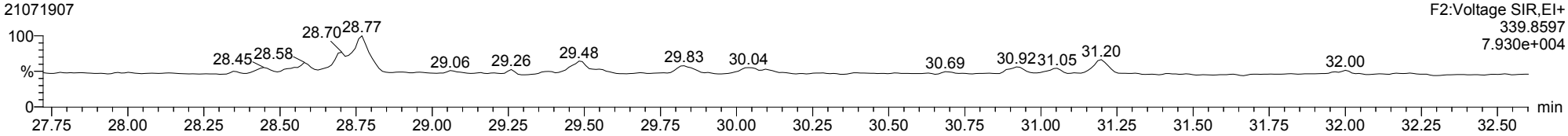

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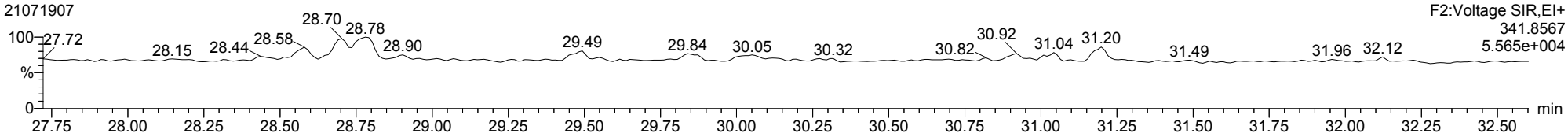

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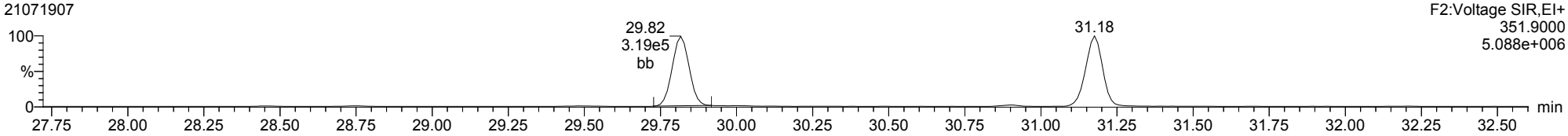

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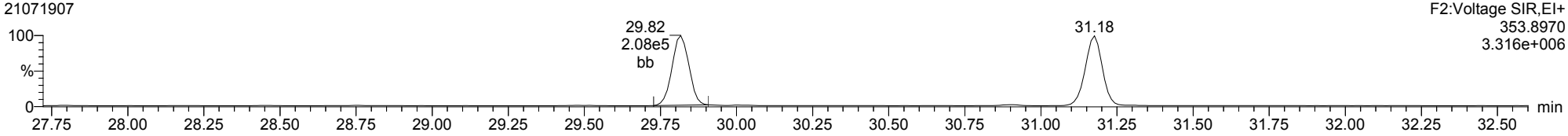
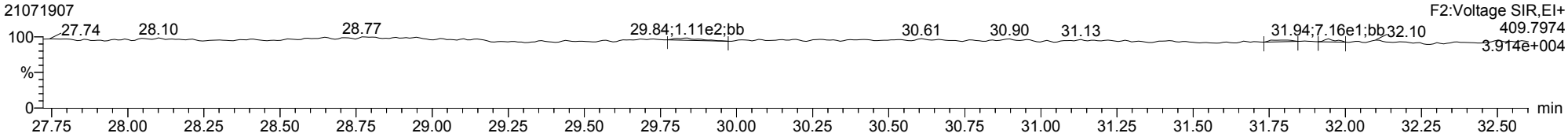


FUNCTION2 HPCDPE



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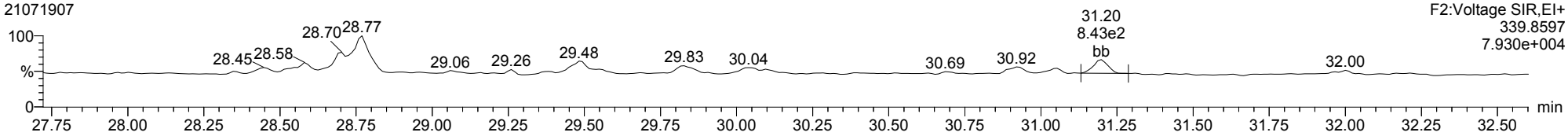
23478-PeCDF



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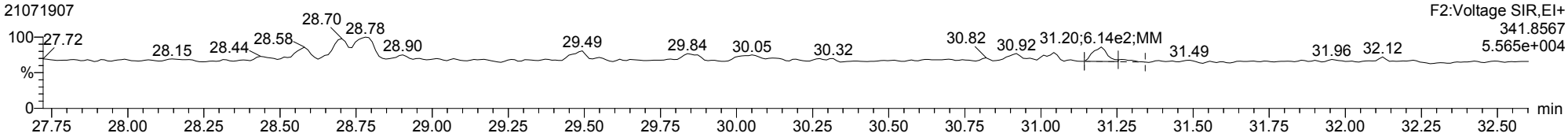

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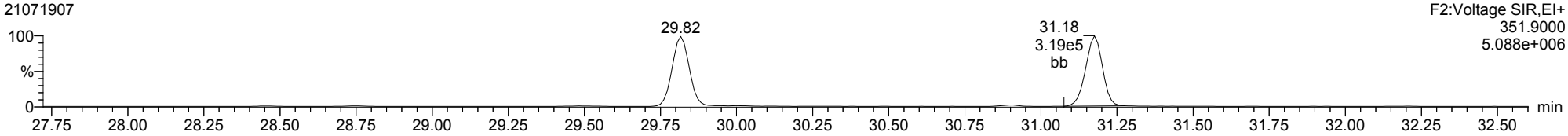

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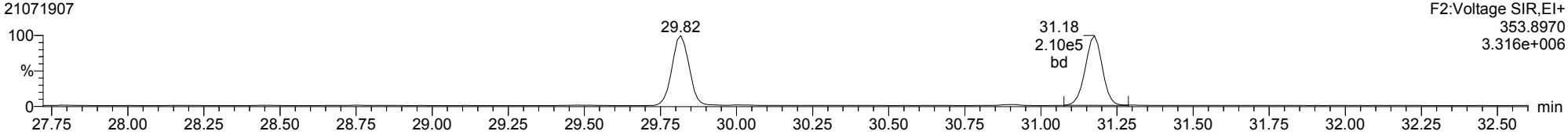
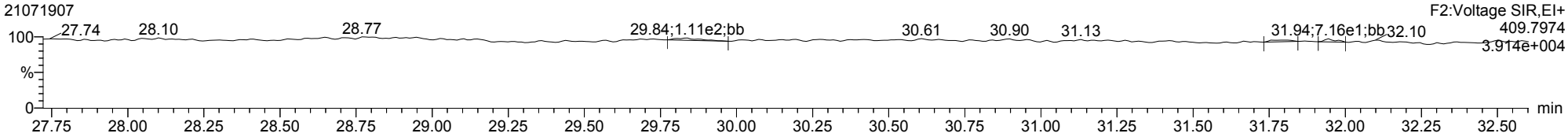


FUNCTION2 HPCDPE



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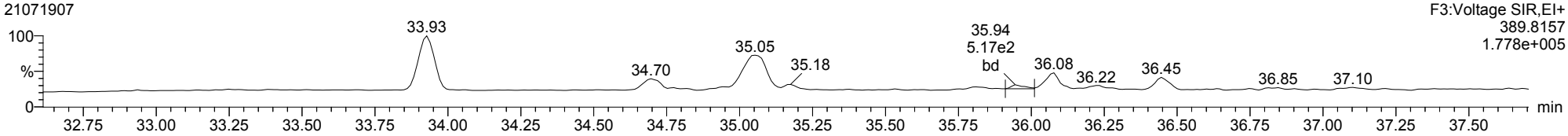
123478-HxCDD



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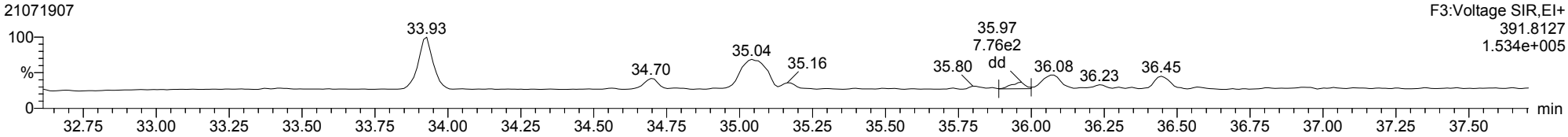

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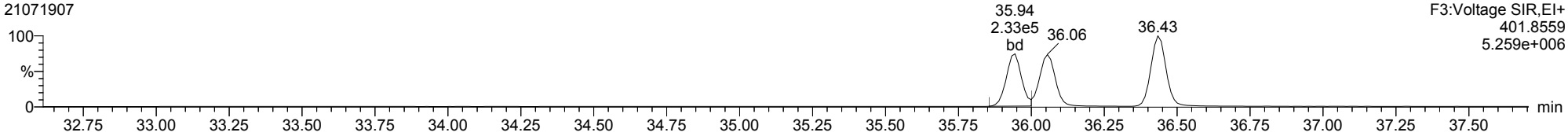

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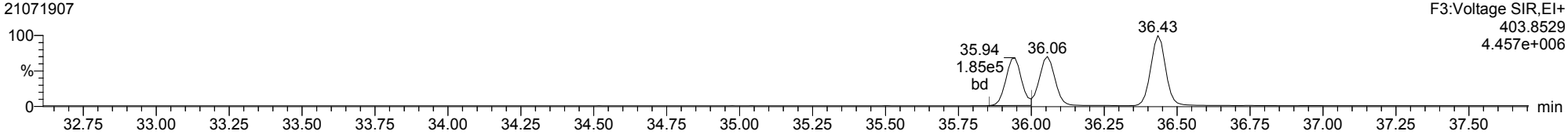
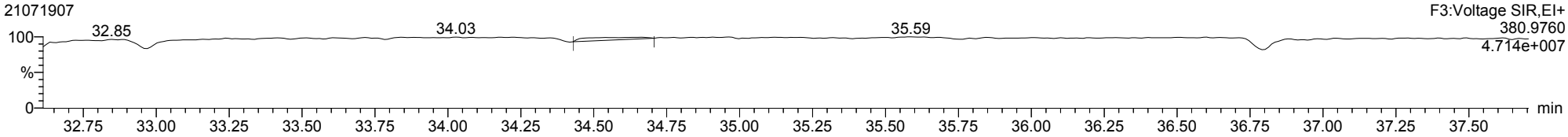


FUNCTION3 PFK



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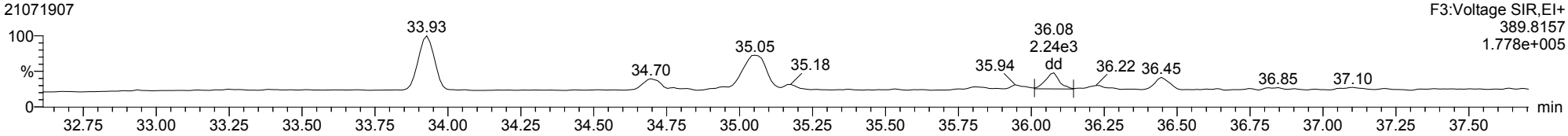
123678-HxCDD



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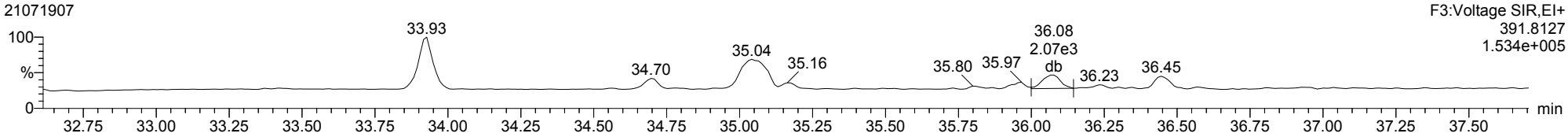

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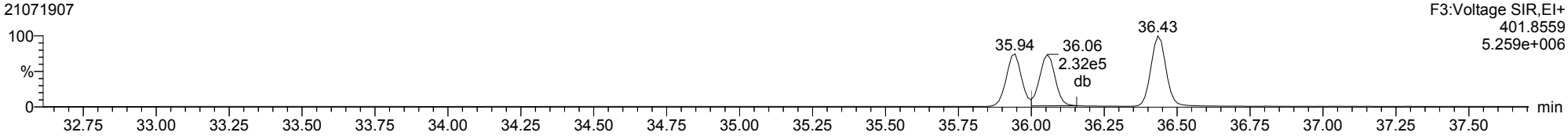

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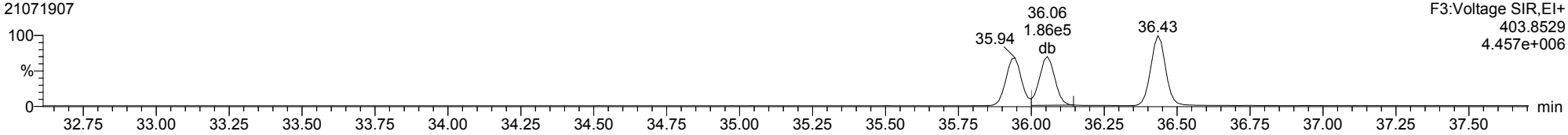

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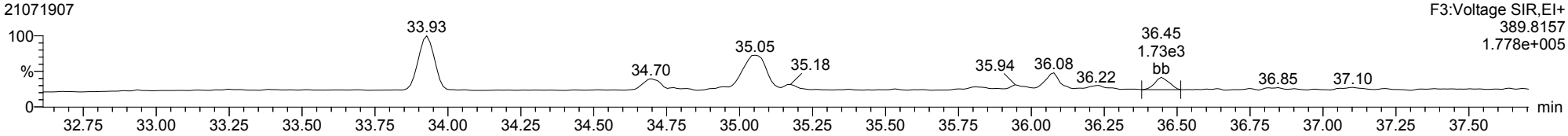

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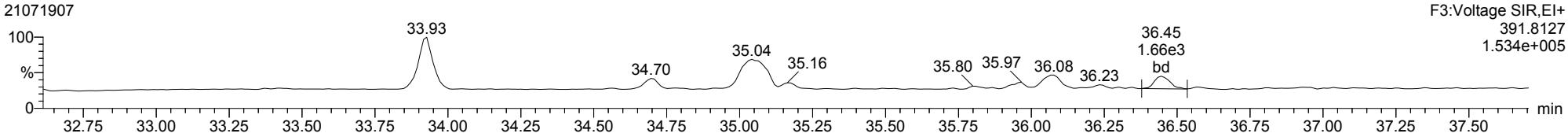

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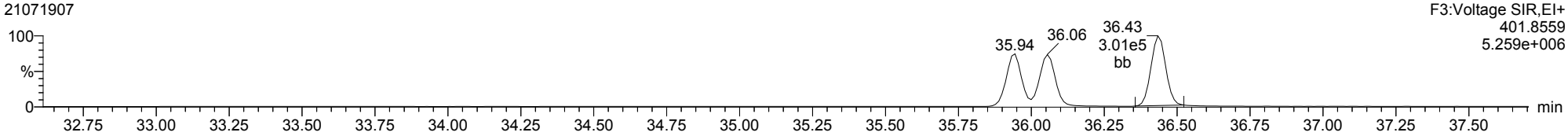

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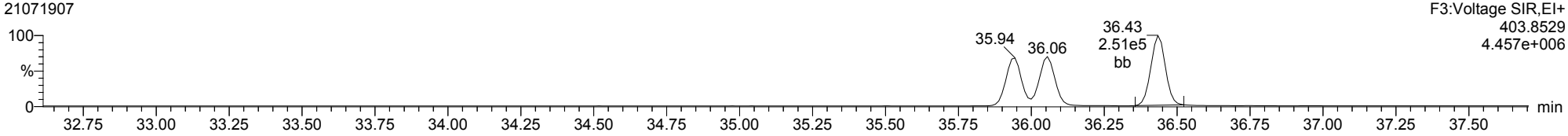

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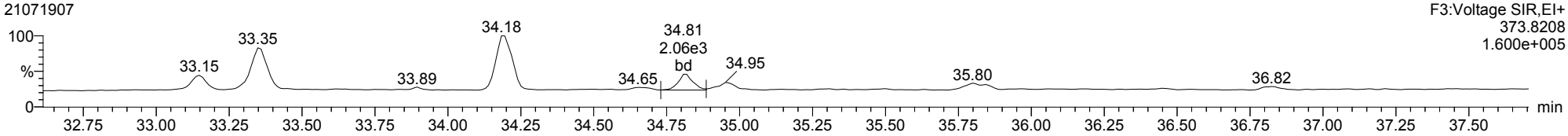

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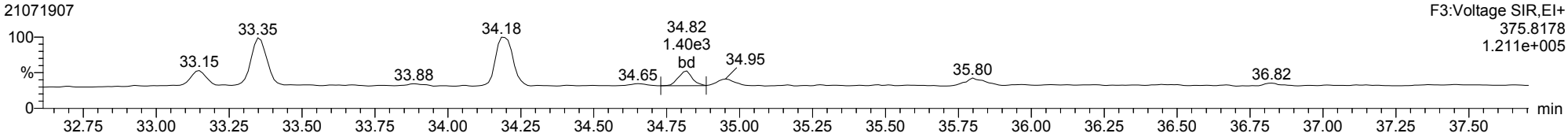

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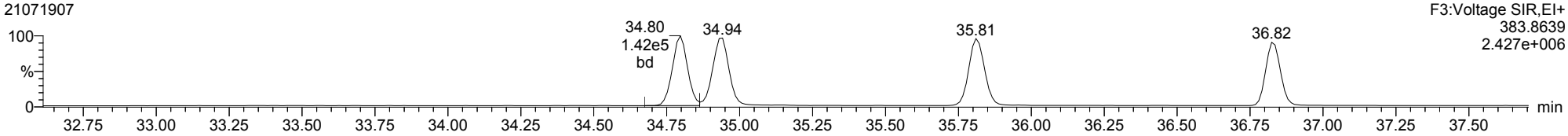

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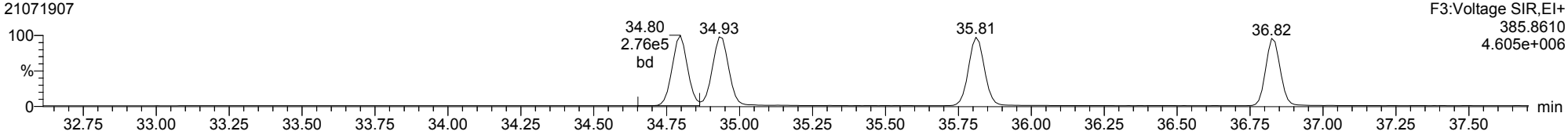
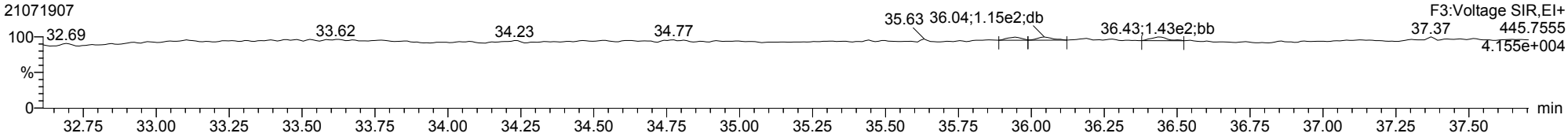


FUNCTION3 OCDPE



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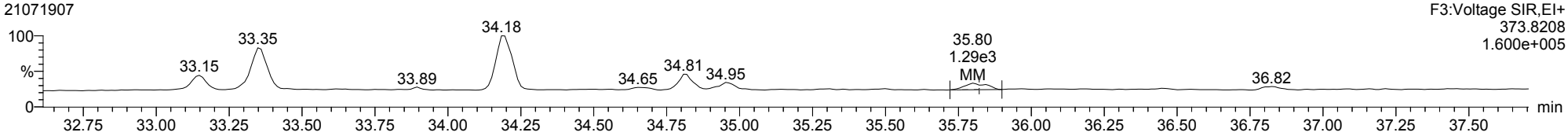

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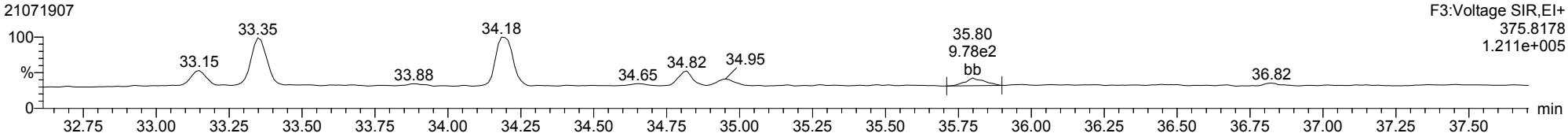

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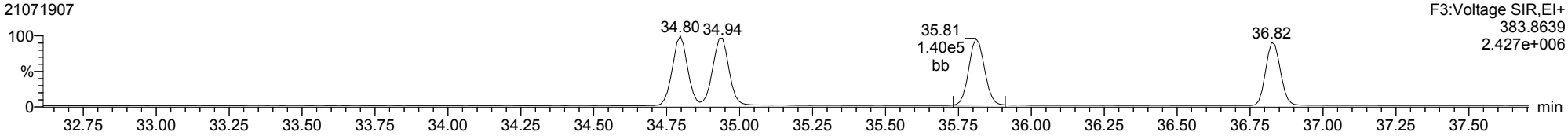

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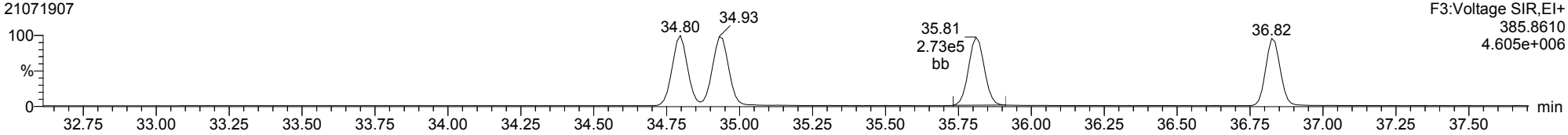
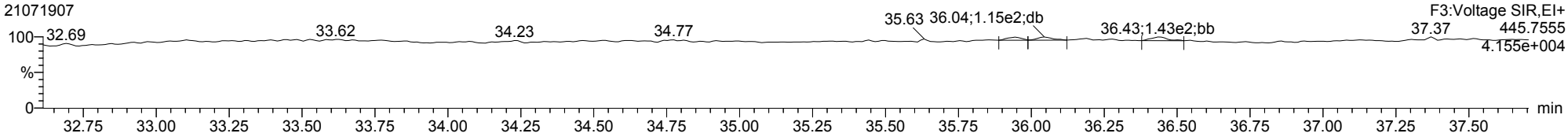


FUNCTION3 OCDPE



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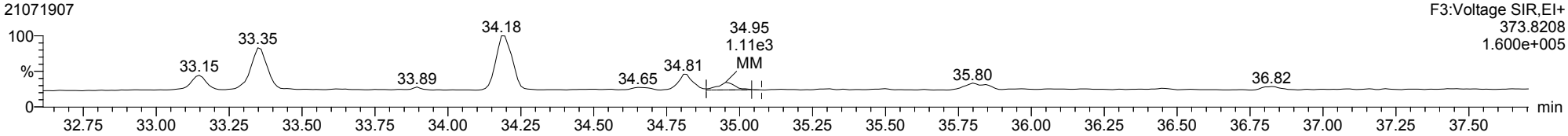

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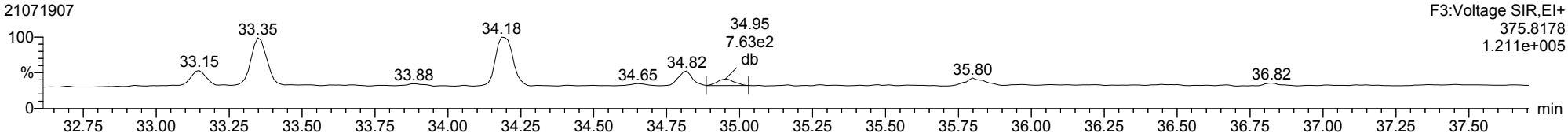

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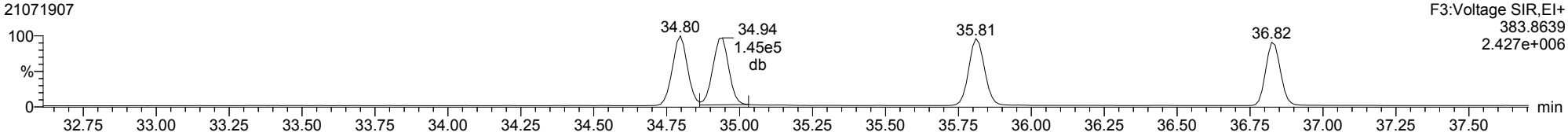

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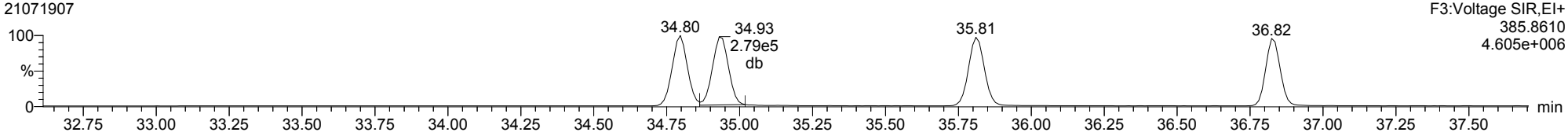

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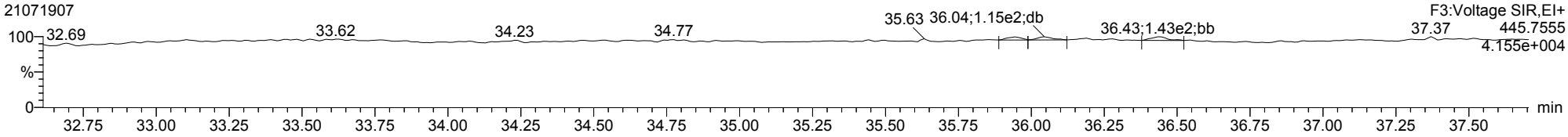

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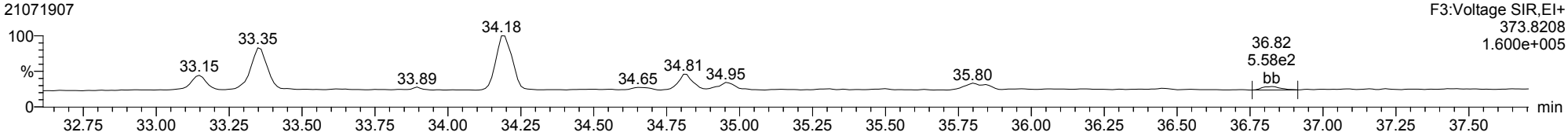

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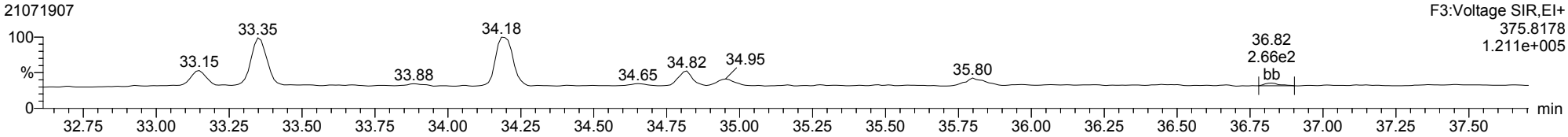

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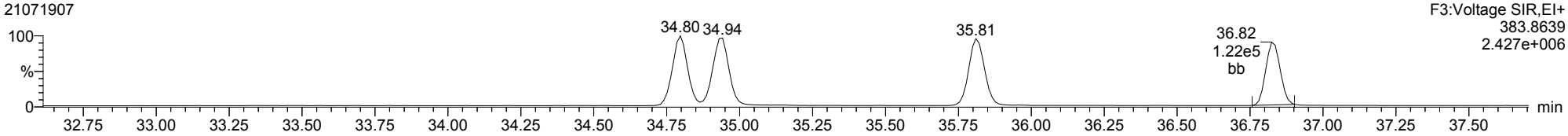

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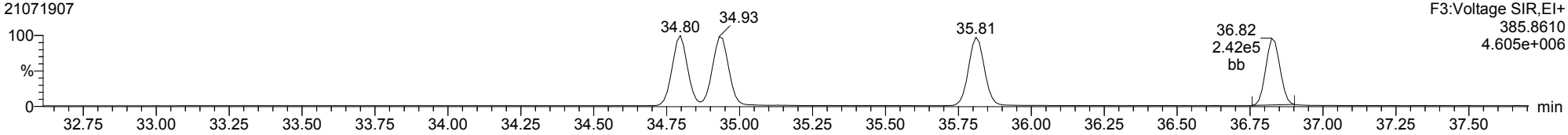
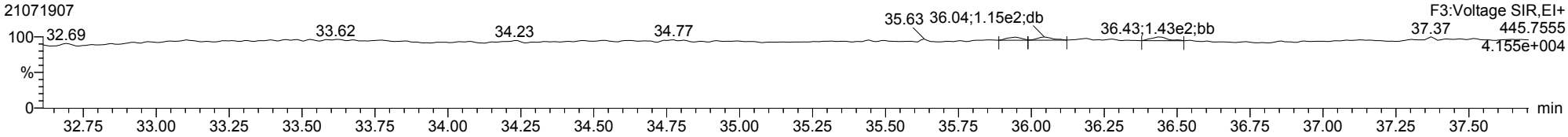


FUNCTION3 OCDPE



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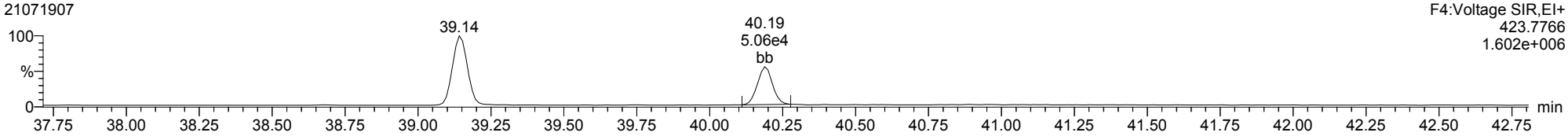

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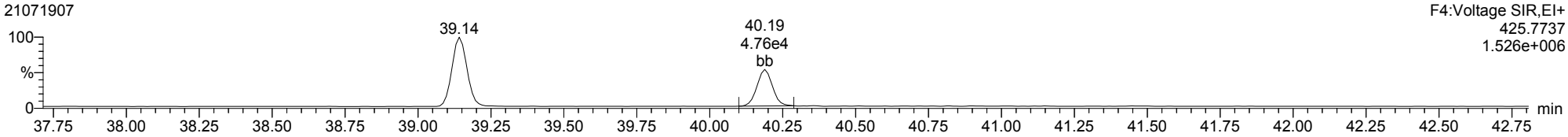

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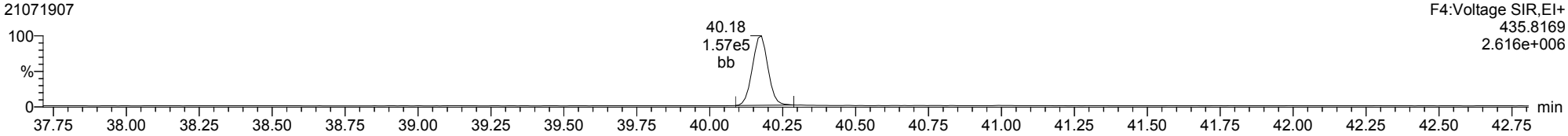

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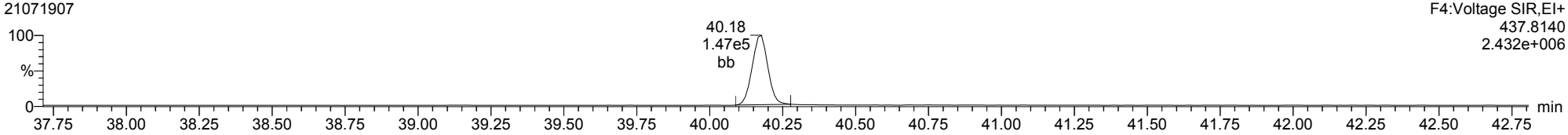
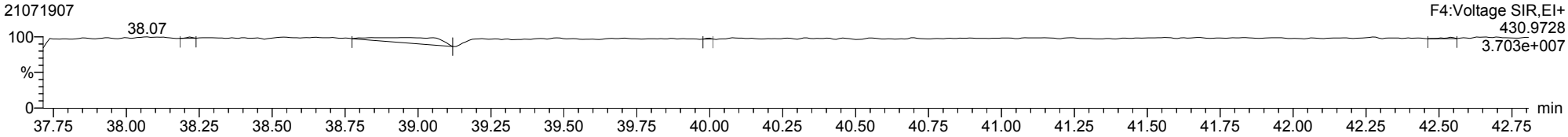


FUNCTION4 PFK



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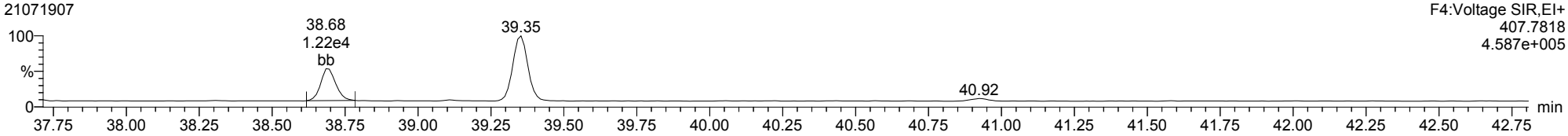

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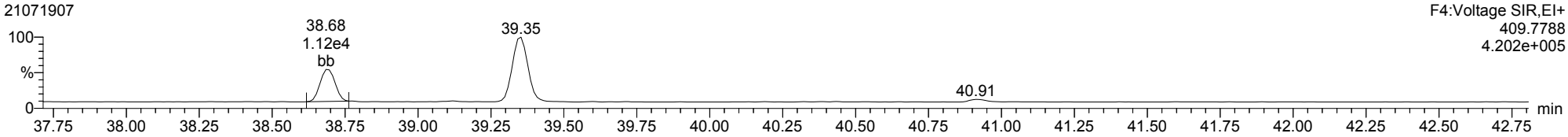

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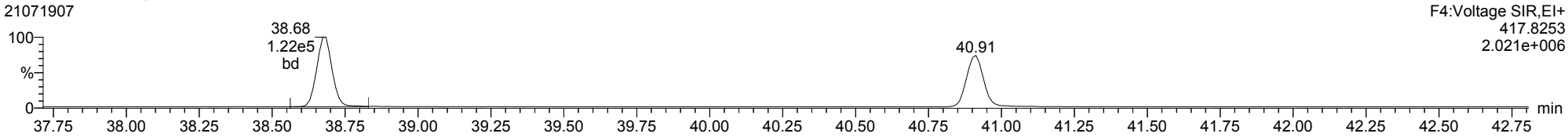

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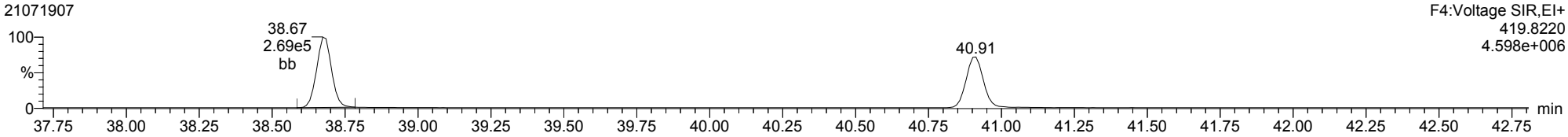
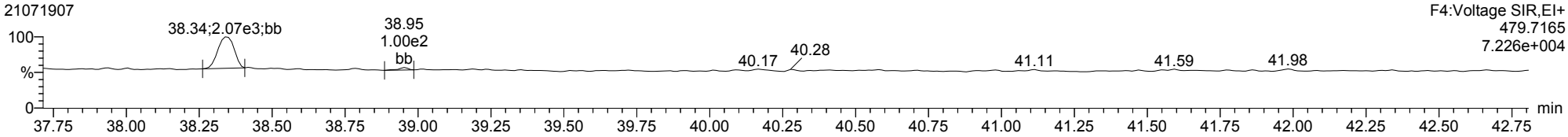


FUNCTION4 NCDPE



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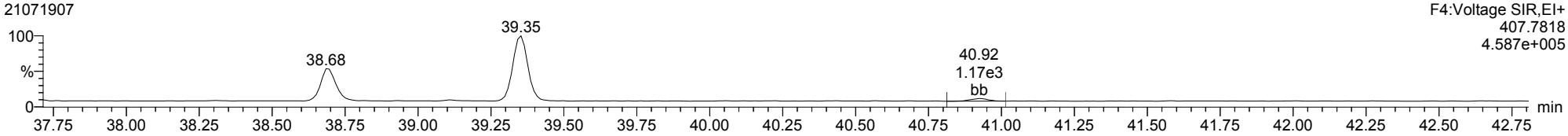
1234789-HpCDF



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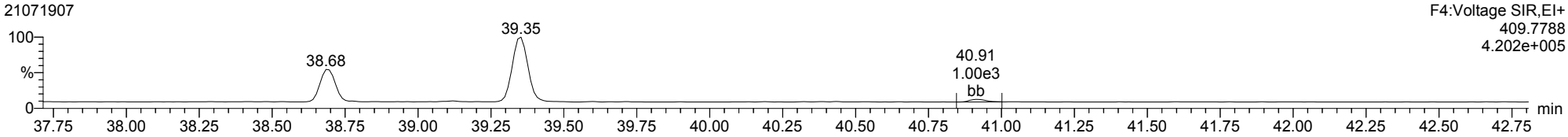

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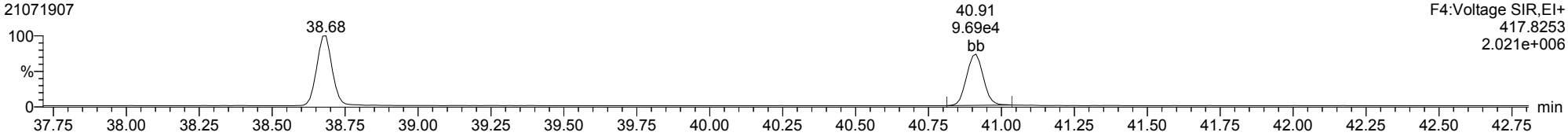

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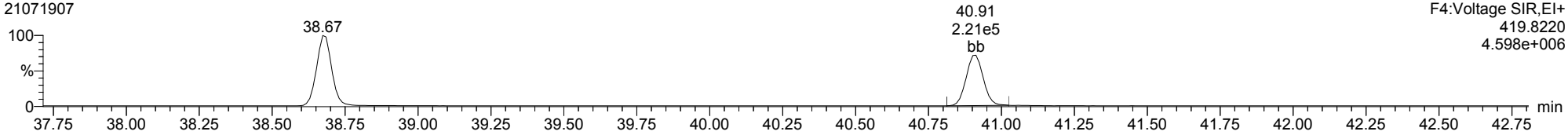

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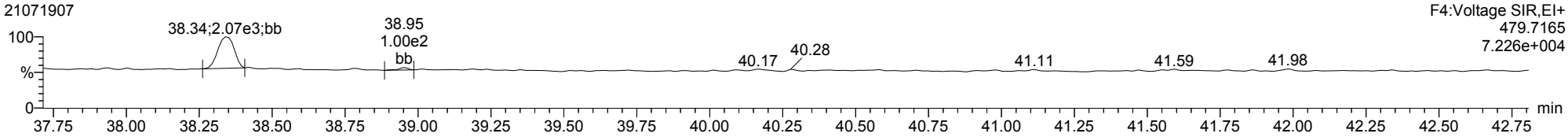

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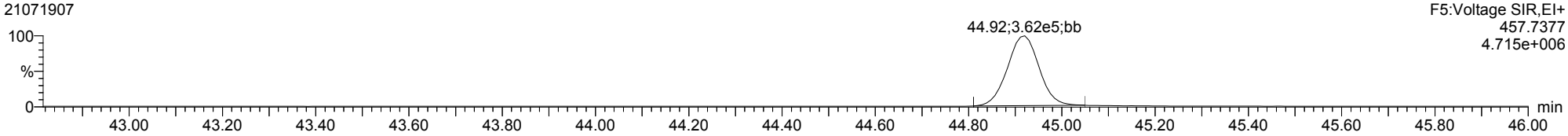
OCDD



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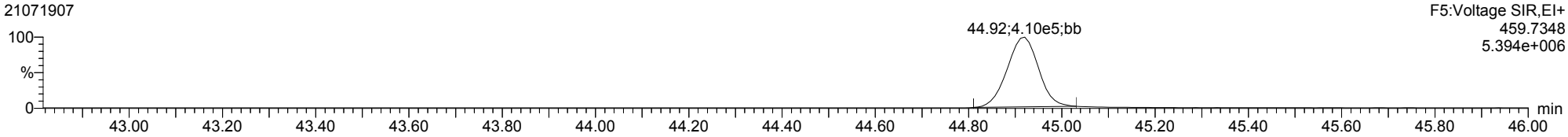

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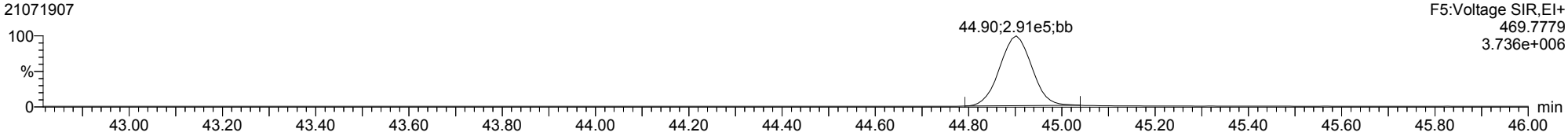
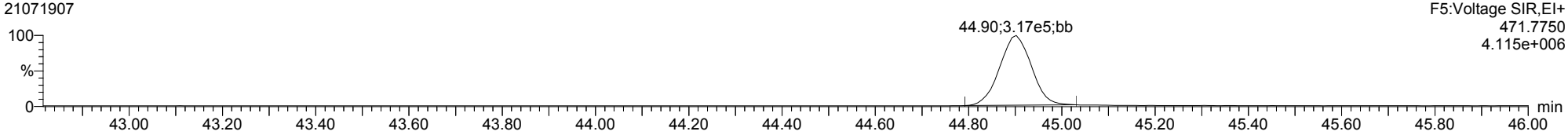
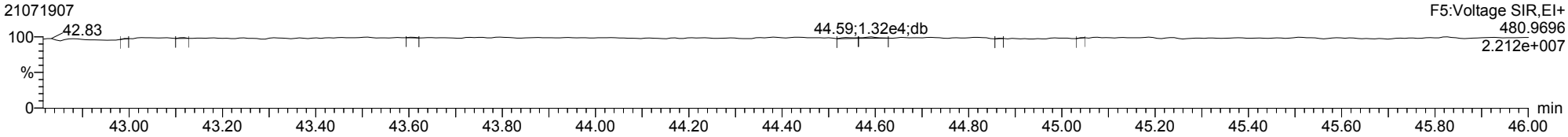


13C-OCDD



FUNCTION5 PFK



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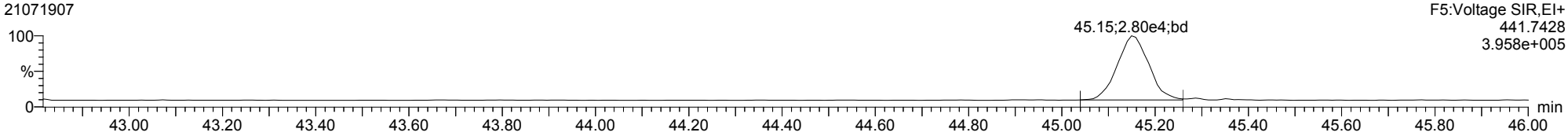
OCDF



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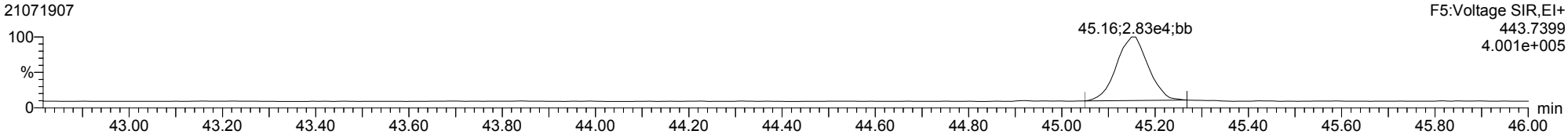
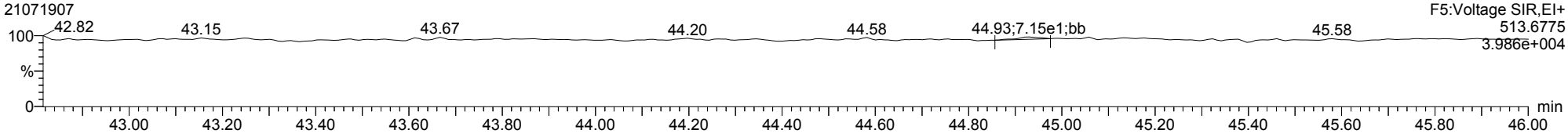
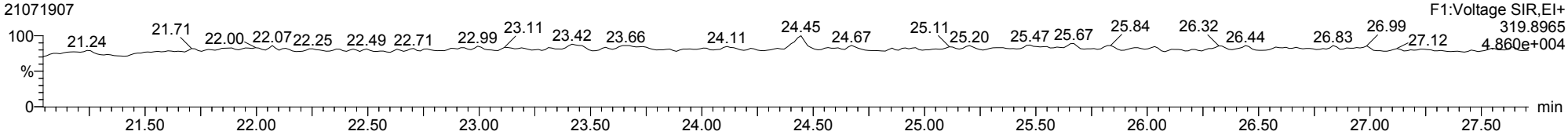


FUNCTION5 DCDPE

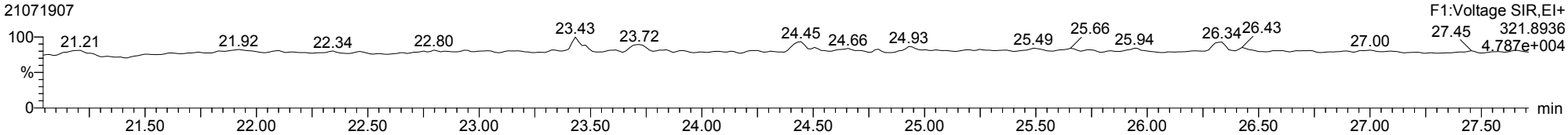


ID: BJG0187-DUP1, Name: 21071907, Date: 19-Jul-2021, Time: 15:21:52, Conditions: AUTOSPEC01, User: pk

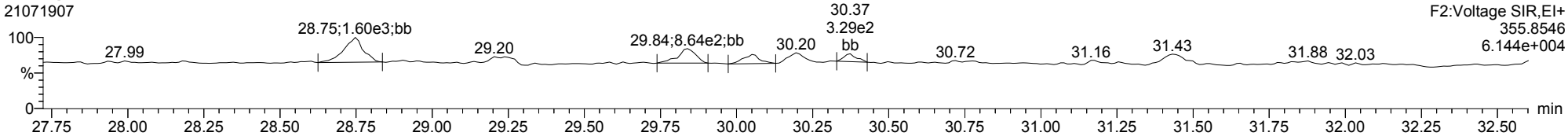
Total-tetradioxins



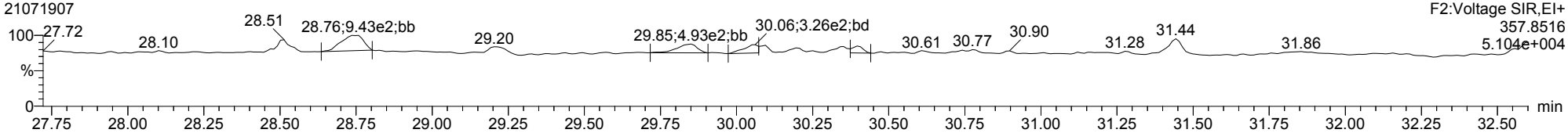
Total-tetradioxins



Total-pentadioxins

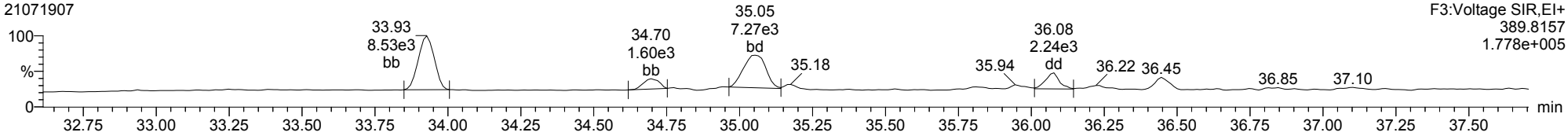


Total-pentadioxins

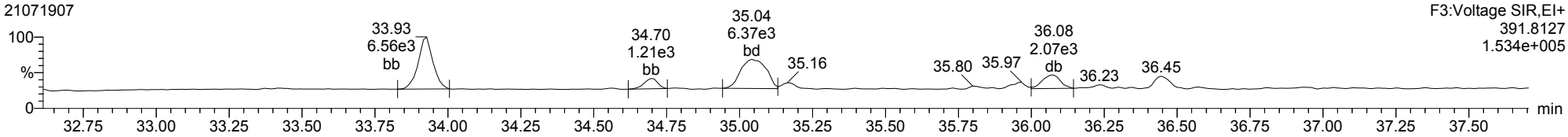


ID: BJG0187-DUP1, Name: 21071907, Date: 19-Jul-2021, Time: 15:21:52, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



Total-hexadioxins



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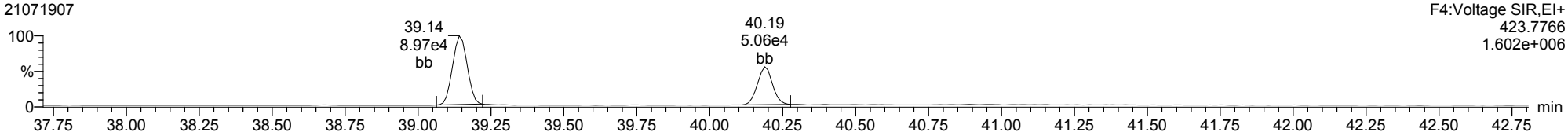
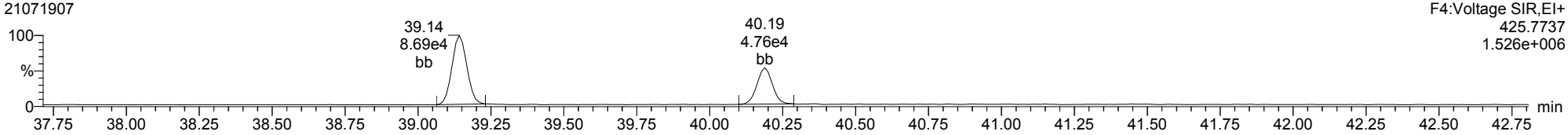


Total-heptadioxins



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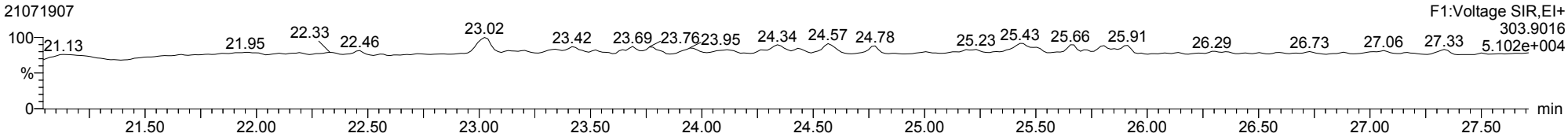
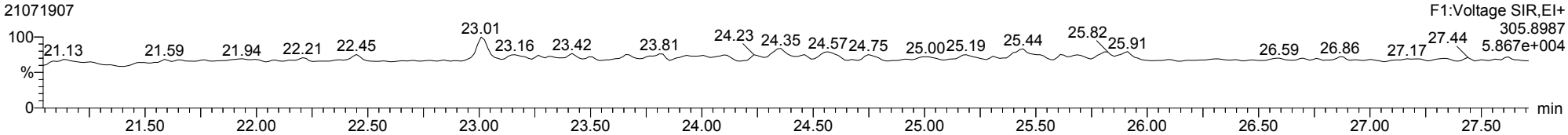
Printed: Tuesday, July 20, 2021 10:55:03 Pacific Daylight Time

ID: BJG0187-DUP1, Name: 21071907, Date: 19-Jul-2021, Time: 15:21:52, Conditions: AUTOSPEC01, User: pk

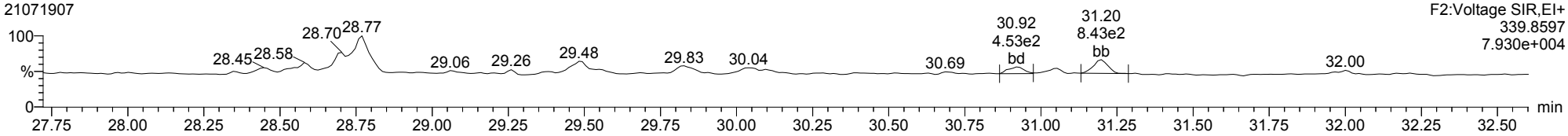
Total-tetrafurans



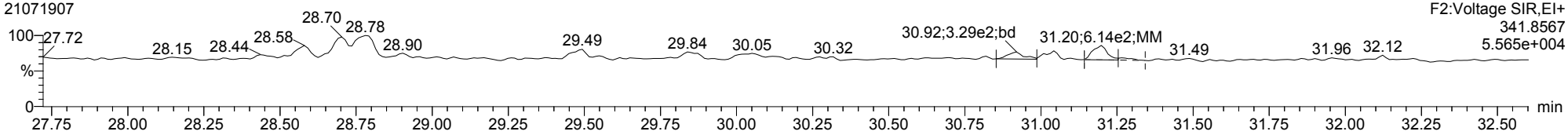
Total-tetrafurans



Total-pentafurans

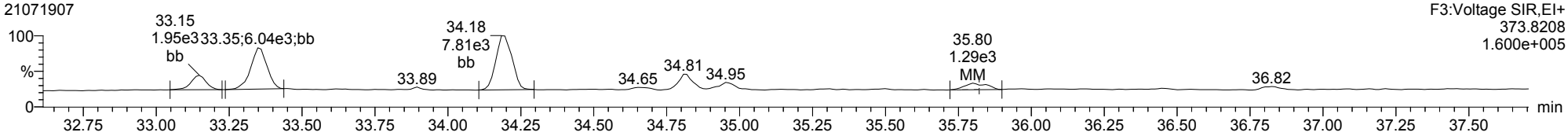


Total-pentafurans

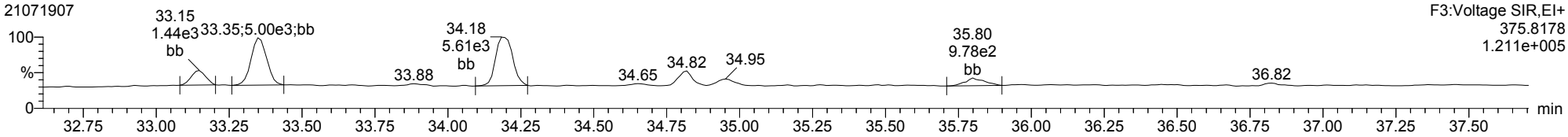


ID: BJG0187-DUP1, Name: 21071907, Date: 19-Jul-2021, Time: 15:21:52, Conditions: AUTOSPEC01, User: pk

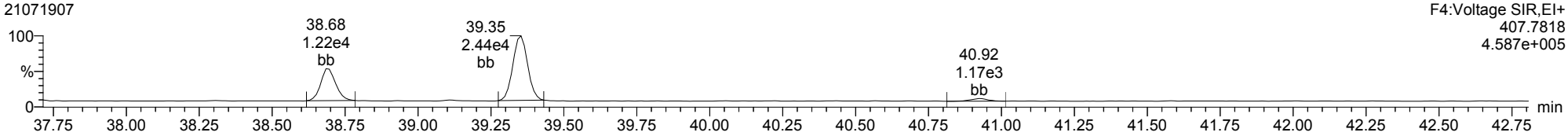
Total-hexafurans



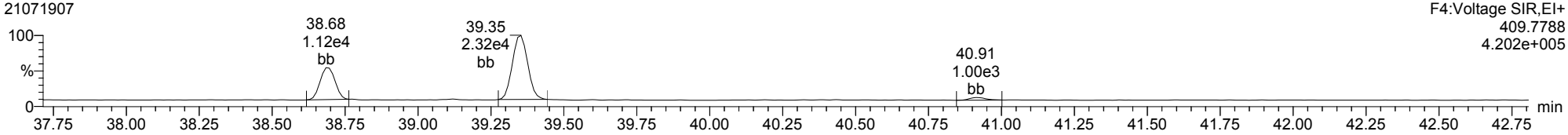
Total-hexafurans



Total-heptafurans



Total-heptafurans



Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21F0442
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJG0187-SRM1
Batch: BJG0187
Initial/Final: 5 g / 20 uL
Preparation: EPA 1613
Analyzed: 07/19/2021 14:32
Standard ID: J006840
Expires: 12/28/2021
Standard Lot#: PSRM0134
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	ND	1.22	2.00	*, U		50 - 150
2,3,7,8-TCDD	1.0500	1.29	0.742	2.00	J	123	50 - 150
1,2,3,7,8-PeCDF	1.2300	1.60	0.480	2.00	J	130	50 - 150
2,3,4,7,8-PeCDF	1.0700	0.743	0.440	2.00	EMPC, J	69.4	50 - 150
1,2,3,7,8-PeCDD	1.0800	1.25	0.566	2.00	J	116	50 - 150
1,2,3,4,7,8-HxCDF	3.0200	3.15	0.560	2.00		104	50 - 150
1,2,3,6,7,8-HxCDF	1.0900	1.27	0.400	2.00	EMPC, J	117	50 - 150
2,3,4,6,7,8-HxCDF	1.8300	2.08	0.340	2.00		114	50 - 150
1,2,3,7,8,9-HxCDF	0.51100	ND	0.380	2.00	*, U		50 - 150
1,2,3,4,7,8-HxCDD	1.5900	1.40	0.411	2.00	EMPC, J	87.7	50 - 150
1,2,3,6,7,8-HxCDD	3.8800	3.64	0.407	2.00		93.9	50 - 150
1,2,3,7,8,9-HxCDD	3.0400	2.64	0.440	2.00		86.8	50 - 150
1,2,3,4,6,7,8-HpCDF	18.700	20.6	0.420	2.00		110	50 - 150
1,2,3,4,7,8,9-HpCDF	1.6300	1.61	0.480	2.00	J	98.6	50 - 150
1,2,3,4,6,7,8-HpCDD	90.600	111	1.12	5.00		122	50 - 150
OCDF	58.400	56.5	2.20	5.00		96.7	50 - 150
OCDD	811.00	859	9.20	20.0	B	106	50 - 150

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:42:05 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, 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					0.782		0.770	1074	1960								
12378-PeCDF	29.828	1.000	9.482e2	5.649e2	0.866	1.679	1.550	1269	936	1.44e4	9.36e3	11.4	10.0	NO	MM	bb	0.400
23478-PeCDF	31.176	1.001	5.639e2	2.362e2	0.980	2.387	1.550	1269	936	1.05e4	4.02e3	8.2	4.3	YES	bb	MM	0.186
123478-HxCDF	34.808	1.001	1.728e3	1.338e3	1.002	1.291	1.240	786	726	2.82e4	2.12e4	35.9	29.1	NO	bd	dd	0.789
234678-HxCDF	35.833	1.001	1.088e3	9.633e2	1.043	1.129	1.240	786	726	1.49e4	1.22e4	19.0	16.8	NO	bb	bb	0.520
123678-HxCDF	34.953	1.001	5.829e2	6.300e2	0.961	0.925	1.240	786	726	9.02e3	9.21e3	11.5	12.7	YES	MM	db	0.319
123789-HxCDF					0.994		1.240	786	726								
1234678-HpCDF	38.685	1.000	1.052e4	9.956e3	1.058	1.057	1.050	941	668	1.83e5	1.63e5	194.5	243.4	NO	bb	bb	5.144
1234789-HpCDF	40.913	1.000	7.186e2	6.382e2	1.070	1.126	1.050	941	668	1.04e4	8.67e3	11.1	13.0	NO	db	bb	0.402
OCDF	45.141	1.006	2.380e4	2.604e4	1.257	0.914	0.890	675	940	3.11e5	3.32e5	461.2	353.5	NO	bb	bb	14.113
2378-TCDD	26.320	1.001	3.757e2	4.288e2	1.307	0.876	0.770	1524	886	7.81e3	7.46e3	5.1	8.4	NO	MM	bd	0.323
12378-PeCDD	31.421	1.000	5.528e2	3.210e2	0.979	1.722	1.550	1062	949	9.93e3	4.42e3	9.3	4.7	NO	bb	bb	0.314
123478-HxCDD	35.944	1.000	7.812e2	4.681e2	0.956	1.669	1.240	847	1185	1.27e4	7.48e3	15.0	6.3	YES	MM	bd	0.349
123678-HxCDD	36.067	1.001	1.954e3	1.395e3	0.953	1.400	1.240	847	1185	3.19e4	2.26e4	37.6	19.1	NO	db	dd	0.910
123789-HxCDD	36.434	1.011	1.362e3	9.633e2	0.927	1.414	1.240	847	1185	2.40e4	1.44e4	28.3	12.2	NO	bd	bb	0.659
1234678-HpCDD	40.178	1.000	4.181e4	4.168e4	1.055	1.003	1.050	2114	2138	6.62e5	6.51e5	313.3	304.7	NO	bb	bb	27.628
OCDD	44.903	1.000	3.058e5	3.423e5	1.074	0.893	0.890	1327	1358	3.76e6	4.27e6	2837.3	3142.5	NO	bd	bb	214.785
13C-2378-TCDF	25.655	1.007	1.094e5	1.380e5	1.925	0.792	0.770	3013	2259	1.69e6	2.10e6	561.1	928.2	NO	bb	bb	33.804
13C-12378-PeCDF	29.817	1.171	2.649e5	1.724e5	1.442	1.537	1.550	1792	2151	4.12e6	2.71e6	2296.3	1258.6	NO	bb	bb	79.738
13C-23478-PeCDF	31.153	1.223	2.657e5	1.739e5	1.387	1.528	1.550	1792	2151	4.20e6	2.71e6	2345.7	1260.7	NO	bb	bb	83.384
13C-123478-HxCDF	34.785	0.955	1.305e5	2.575e5	1.053	0.507	0.510	1370	2441	2.07e6	4.05e6	1509.4	1659.4	NO	bd	bd	80.671
13C-123678-HxCDF	34.930	0.959	1.339e5	2.620e5	1.135	0.511	0.510	1370	2441	2.12e6	4.16e6	1547.8	1705.7	NO	db	db	76.386
13C-234678-HxCDF	35.810	0.983	1.296e5	2.488e5	1.004	0.521	0.510	1370	2441	2.03e6	3.90e6	1480.7	1596.9	NO	bb	bb	82.509
13C-123789-HxCDF	36.824	1.011	1.220e5	2.411e5	0.909	0.506	0.510	1370	2441	2.11e6	4.14e6	1542.9	1694.1	NO	bb	bb	87.468
13C-1234678-HpCDF	38.674	1.062	1.127e5	2.636e5	0.960	0.428	0.440	1243	1736	1.94e6	4.30e6	1559.3	2476.6	NO	bb	bb	85.841
13C-1234789-HpCDF	40.902	1.123	9.384e4	2.218e5	0.794	0.423	0.440	1243	1736	1.40e6	3.31e6	1126.2	1903.6	NO	bb	bb	87.068
13C-1234-TCDD	25.473	0.000	1.694e5	2.108e5	1.000	0.804	0.770	2282	1128	2.55e6	3.24e6	1119.2	2874.9	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.032	8.406e4	1.063e5	1.133	0.790	0.770	2282	1128	1.32e6	1.64e6	576.6	1455.4	NO	bb	bb	44.208
13C-12378-PeCDD	31.410	1.233	1.753e5	1.094e5	0.947	1.602	1.550	1025	1345	2.68e6	1.70e6	2616.7	1259.8	NO	bb	bb	79.092
13C-123478-HxCDD	35.933	0.987	2.099e5	1.648e5	0.939	1.273	1.240	1382	1455	3.48e6	2.71e6	2515.5	1860.7	NO	bd	bd	87.398
13C-123678-HxCDD	36.044	0.990	2.113e5	1.748e5	1.042	1.209	1.240	1382	1455	3.44e6	2.80e6	2487.3	1926.5	NO	db	db	81.145
13C-1234678-HpCDD	40.167	1.103	1.484e5	1.380e5	0.788	1.075	1.050	1915	1980	2.41e6	2.19e6	1258.2	1106.9	NO	bd	bb	79.550
13C-OCDD	44.884	1.232	2.680e5	2.940e5	0.703	0.912	0.890	1130	1297	3.35e6	3.65e6	2968.0	2811.4	NO	bb	bb	174.985
13C-123789-HxCDD	36.423	0.000	2.515e5	2.052e5	1.000	1.225	1.240	1382	1455	4.20e6	3.45e6	3037.0	2369.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.320	1.033	9.354e4		1.298			1748		1.40e6		802.2			bb		18.961

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
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ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, 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					0.966		0.770	1074	1960								
1289-TCDF					0.736		0.770	1074	1960								
13468-PECDF					1.347		1.550	718	842								
12389-PECDF					0.867		1.550	1269	936								
123468-HXCDF	33.137	0.953	1.378e3	1.562e3	1.036	0.882	1.240	786	726	2.00e4	2.37e4	25.4	32.7	YES	bb	bb	0.732
1368-TCDD					1.256		0.770	1524	886								
1289-TCDD					1.151		0.770	1524	886								
12479-PECDD	28.725	0.914	6.936e2	7.684e2	1.773	0.903	1.550	1062	949	1.04e4	9.23e3	9.8	9.7	YES	bd	bb	0.290
12389-PECDD	31.833	1.013	9.473e1	7.376e1	1.171	1.284	1.550	1062	949	1.95e3	9.05e2	1.8	1.0	YES	bb	bb	0.051
124679-HXCDD	33.917	0.944	5.270e3	4.502e3	1.034	1.171	1.240	847	1185	7.79e4	6.76e4	91.9	57.0	NO	bd	bb	2.524
1234679-HPCDD	39.142	0.975	6.551e4	6.249e4	1.194	1.048	1.050	2114	2138	1.13e6	1.05e6	534.3	489.9	NO	bb	bb	37.424
Total-tetrafurans			0.000e0		0.828			1074		0.00e0							
Total-penta1			3.092e3					718		3.97e4							1.243
Total-pentafurans			9.482e2		0.904			1269		1.44e4							0.400
Total-hexafurans			7.980e3		1.007			786		1.25e5							3.621
Total-heptafurans			3.219e4		1.064			941		5.46e5							16.694
Total-Furans			6.801e4		0.998			1074		1.04e6							36.070
Total-tetradioxins			7.413e2		1.238			1524		1.34e4							0.659
Total-pentadioxins			8.112e2		1.308			1062		1.48e4							0.430
Total-hexadioxins			1.480e4		0.967			847		2.00e5							7.041
Total-heptadioxins			1.073e5		1.125			2114		1.79e6							65.052
Total-Dioxins			4.295e5		1.141			1524		5.78e6							287.967
Total-TEQ			4.975e5					1524		6.82e6							324.037
FUNCTION1 PFK			4.912e6					936037		4.39e7							
FUNCTION2 PFK			1.725e5					629888		3.71e6							0.000
FUNCTION3 PFK			0.000e0					564268		0.00e0							
FUNCTION4 PFK			4.833e6					504370		2.75e7							
FUNCTION5 PFK			5.397e4					355101		2.79e6							
FUNCTION1 HXCD...			5.996e2					628		1.16e4							0.000
FUNCTION1 HPCD...			8.269e2					751		1.56e4							0.000
FUNCTION2 HPCD...			6.759e2					744		1.20e4							0.000
FUNCTION3 OCDPE			9.320e2					661		1.28e4							0.000
FUNCTION4 NCDPE			1.568e3					725		2.96e4							0.000
FUNCTION5 DCDPE			0.000e0					601		0.00e0							

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
Last Altered: Monday, July 19, 2021 15:36:26 Pacific Daylight Time
Printed: Monday, July 19, 2021 15:42:05 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

TF

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

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.21	1.338e2	8.553e1		1.56	1.55	3.3	NO	NO	db	db	0.055
2	Total-penta1	27.09	2.959e3	1.805e3		1.64	1.55	52.0	YES	NO	bd	dd	1.188

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.83	9.482e2	5.649e2	0.866	1.68	1.55	11.4	YES	NO	MM	bb	0.400

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.83	1.088e3	9.633e2	1.043	1.13	1.24	19.0	YES	NO	bb	bb	0.520
2	123478-HxCDF	34.81	1.728e3	1.338e3	1.002	1.29	1.24	35.9	YES	NO	bd	dd	0.789
3	Total-hexafurans	33.35	5.164e3	3.721e3	1.007	1.39	1.24	104.3	YES	NO	bb	bb	2.313

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	39.34	2.095e4	2.008e4	1.064	1.04	1.05	375.0	YES	NO	bb	bb	11.148
2	1234678-HpCDF	38.68	1.052e4	9.956e3	1.058	1.06	1.05	194.5	YES	NO	bb	bb	5.144
3	1234789-HpCDF	40.91	7.186e2	6.382e2	1.070	1.13	1.05	11.1	YES	NO	db	bb	0.402

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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	12378-PeCDF	29.83	9.482e2	5.649e2	0.866	1.68	1.55	11.4	YES	NO	MM	bb	0.400
2	234678-HxCDF	35.83	1.088e3	9.633e2	1.043	1.13	1.24	19.0	YES	NO	bb	bb	0.520
3	123478-HxCDF	34.81	1.728e3	1.338e3	1.002	1.29	1.24	35.9	YES	NO	bd	dd	0.789
4	Total-hexafurans	33.35	5.164e3	3.721e3	1.007	1.39	1.24	104.3	YES	NO	bb	bb	2.313
5	Total-heptafurans	39.34	2.095e4	2.008e4	1.064	1.04	1.05	375.0	YES	NO	bb	bb	11.148
6	1234678-HpCDF	38.68	1.052e4	9.956e3	1.058	1.06	1.05	194.5	YES	NO	bb	bb	5.144
7	OCDF	45.14	2.380e4	2.604e4	1.257	0.91	0.89	461.2	YES	NO	bb	bb	14.113
8	1234789-HpCDF	40.91	7.186e2	6.382e2	1.070	1.13	1.05	11.1	YES	NO	db	bb	0.402
9	Total-penta1	27.21	1.338e2	8.553e1		1.56	1.55	3.3	NO	NO	db	db	0.055
10	Total-penta1	27.09	2.959e3	1.805e3		1.64	1.55	52.0	YES	NO	bd	dd	1.188

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.32	3.757e2	4.288e2	1.307	0.88	0.77	5.1	YES	NO	MM	bd	0.323
2	Total-tetradioxins	24.43	3.656e2	4.262e2	1.238	0.86	0.77	3.6	YES	NO	bb	bb	0.336

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.42	5.528e2	3.210e2	0.979	1.72	1.55	9.3	YES	NO	bb	bb	0.314
2	Total-pentadioxins	30.36	2.585e2	1.754e2	1.308	1.47	1.55	4.6	YES	NO	bb	bb	0.117

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	34.80	1.986e2	1.595e2	0.967	1.25	1.24	5.2	YES	NO	db	db	0.097
2	124679-HXCDD	33.92	5.270e3	4.502e3	1.034	1.17	1.24	91.9	YES	NO	bd	bb	2.524
3	123789-HxCDD	36.43	1.362e3	9.633e2	0.927	1.41	1.24	28.3	YES	NO	bd	bb	0.659
4	123678-HxCDD	36.07	1.954e3	1.395e3	0.953	1.40	1.24	37.6	YES	NO	db	dd	0.910
5	Total-hexadioxins	35.06	6.016e3	4.471e3	0.967	1.35	1.24	73.0	YES	NO	dd	bd	2.850

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	4.181e4	4.168e4	1.055	1.00	1.05	313.3	YES	NO	bb	bb	27.628
2	1234679-HPCDD	39.14	6.551e4	6.249e4	1.194	1.05	1.05	534.3	YES	NO	bb	bb	37.424

Dataset: T:\Autospec\Processed Data Batch\210719D1.qld
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ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, 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	26.32	3.757e2	4.288e2	1.307	0.88	0.77	5.1	YES	NO	MM	bd	0.323
2	Total-tetradioxins	24.43	3.656e2	4.262e2	1.238	0.86	0.77	3.6	YES	NO	bb	bb	0.336
3	12378-PeCDD	31.42	5.528e2	3.210e2	0.979	1.72	1.55	9.3	YES	NO	bb	bb	0.314
4	Total-pentadioxins	30.36	2.585e2	1.754e2	1.308	1.47	1.55	4.6	YES	NO	bb	bb	0.117
5	Total-hexadioxins	34.80	1.986e2	1.595e2	0.967	1.25	1.24	5.2	YES	NO	db	db	0.097
6	124679-HXCDD	33.92	5.270e3	4.502e3	1.034	1.17	1.24	91.9	YES	NO	bd	bb	2.524
7	123789-HxCDD	36.43	1.362e3	9.633e2	0.927	1.41	1.24	28.3	YES	NO	bd	bb	0.659
8	123678-HxCDD	36.07	1.954e3	1.395e3	0.953	1.40	1.24	37.6	YES	NO	db	dd	0.910
9	Total-hexadioxins	35.06	6.016e3	4.471e3	0.967	1.35	1.24	73.0	YES	NO	dd	bd	2.850
10	1234678-HpCDD	40.18	4.181e4	4.168e4	1.055	1.00	1.05	313.3	YES	NO	bb	bb	27.628
11	1234679-HPCDD	39.14	6.551e4	6.249e4	1.194	1.05	1.05	534.3	YES	NO	bb	bb	37.424
12	OCDD	44.90	3.058e5	3.423e5	1.074	0.89	0.89	2837.3	YES	NO	bd	bb	214.785

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.83	9.482e2	5.649e2	0.866	1.68	1.55	11.4	YES	NO	MM	bb	0.400
2	234678-HxCDF	35.83	1.088e3	9.633e2	1.043	1.13	1.24	19.0	YES	NO	bb	bb	0.520
3	123478-HxCDF	34.81	1.728e3	1.338e3	1.002	1.29	1.24	35.9	YES	NO	bd	dd	0.789
4	Total-hexafurans	33.35	5.164e3	3.721e3	1.007	1.39	1.24	104.3	YES	NO	bb	bb	2.313
5	Total-heptafurans	39.34	2.095e4	2.008e4	1.064	1.04	1.05	375.0	YES	NO	bb	bb	11.148
6	1234678-HpCDF	38.68	1.052e4	9.956e3	1.058	1.06	1.05	194.5	YES	NO	bb	bb	5.144
7	OCDF	45.14	2.380e4	2.604e4	1.257	0.91	0.89	461.2	YES	NO	bb	bb	14.113
8	1234789-HpCDF	40.91	7.186e2	6.382e2	1.070	1.13	1.05	11.1	YES	NO	db	bb	0.402
9	Total-penta1	27.21	1.338e2	8.553e1		1.56	1.55	3.3	NO	NO	db	db	0.055
10	Total-penta1	27.09	2.959e3	1.805e3		1.64	1.55	52.0	YES	NO	bd	dd	1.188
11	2378-TCDD	26.32	3.757e2	4.288e2	1.307	0.88	0.77	5.1	YES	NO	MM	bd	0.323
12	Total-tetradioxins	24.43	3.656e2	4.262e2	1.238	0.86	0.77	3.6	YES	NO	bb	bb	0.336
13	12378-PeCDD	31.42	5.528e2	3.210e2	0.979	1.72	1.55	9.3	YES	NO	bb	bb	0.314
14	Total-pentadioxins	30.36	2.585e2	1.754e2	1.308	1.47	1.55	4.6	YES	NO	bb	bb	0.117
15	Total-hexadioxins	34.80	1.986e2	1.595e2	0.967	1.25	1.24	5.2	YES	NO	db	db	0.097
16	124679-HXCDD	33.92	5.270e3	4.502e3	1.034	1.17	1.24	91.9	YES	NO	bd	bb	2.524
17	123789-HxCDD	36.43	1.362e3	9.633e2	0.927	1.41	1.24	28.3	YES	NO	bd	bb	0.659
18	123678-HxCDD	36.07	1.954e3	1.395e3	0.953	1.40	1.24	37.6	YES	NO	db	dd	0.910
19	Total-hexadioxins	35.06	6.016e3	4.471e3	0.967	1.35	1.24	73.0	YES	NO	dd	bd	2.850
20	1234678-HpCDD	40.18	4.181e4	4.168e4	1.055	1.00	1.05	313.3	YES	NO	bb	bb	27.628
21	1234679-HPCDD	39.14	6.551e4	6.249e4	1.194	1.05	1.05	534.3	YES	NO	bb	bb	37.424
22	OCDD	44.90	3.058e5	3.423e5	1.074	0.89	0.89	2837.3	YES	NO	bd	bb	214.785

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ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, 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	24.54	1.201e4					0.5	NO		bb		
2	FUNCTION1 PFK	24.46	9.940e4					1.1	NO		db		
3	FUNCTION1 PFK	24.34	2.685e4					0.9	NO		bd		
4	FUNCTION1 PFK	24.14	4.067e4					1.4	NO		db		
5	FUNCTION1 PFK	24.08	7.383e4					1.9	NO		dd		
6	FUNCTION1 PFK	24.02	6.174e4					1.7	NO		bd		
7	FUNCTION1 PFK	23.95	2.524e4					0.9	NO		bb		
8	FUNCTION1 PFK	23.27	8.078e4					1.2	NO		bb		
9	FUNCTION1 PFK	22.93	6.085e3					0.4	NO		bb		
10	FUNCTION1 PFK	22.87	7.882e3					0.6	NO		bb		
11	FUNCTION1 PFK	22.36	3.171e4					1.1	NO		bb		
12	FUNCTION1 PFK	22.10	1.070e5					1.0	NO		bb		
13	FUNCTION1 PFK	21.66	2.516e5					3.3	YES		db		
14	FUNCTION1 PFK	21.59	1.615e6					4.5	YES		bd		
15	FUNCTION1 PFK	21.15	4.019e5					3.6	YES		bb		
16	FUNCTION1 PFK	27.68	4.445e4					1.1	NO		db		
17	FUNCTION1 PFK	27.54	6.161e5					3.3	YES		bd		
18	FUNCTION1 PFK	27.30	3.500e5					4.2	YES		db		
19	FUNCTION1 PFK	27.24	1.748e5					3.4	YES		dd		
20	FUNCTION1 PFK	27.05	1.413e5					0.9	NO		bd		
21	FUNCTION1 PFK	26.47	6.698e3					0.5	NO		bb		
22	FUNCTION1 PFK	26.32	1.393e4					0.6	NO		bb		
23	FUNCTION1 PFK	25.88	7.743e4					1.5	NO		db		
24	FUNCTION1 PFK	25.81	1.591e5					1.8	NO		bd		
25	FUNCTION1 PFK	25.61	1.914e5					2.5	NO		db		
26	FUNCTION1 PFK	25.53	2.822e5					2.6	NO		bd		
27	FUNCTION1 PFK	24.87	1.314e4					0.5	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.26	8.272e4					3.1	YES		bb		0.000
2	FUNCTION2 PFK	27.79	8.976e4					2.8	NO		bb		0.000

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PFK3

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

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	41.25	1.412e4					0.8	NO		bb		
2	FUNCTION4 PFK	40.95	2.853e4					1.6	NO		db		
3	FUNCTION4 PFK	40.84	4.782e4					1.6	NO		dd		
4	FUNCTION4 PFK	40.77	3.544e4					1.7	NO		bd		
5	FUNCTION4 PFK	40.31	7.430e3					0.6	NO		bb		
6	FUNCTION4 PFK	40.21	2.355e4					1.2	NO		bb		
7	FUNCTION4 PFK	39.99	9.567e3					0.8	NO		bb		
8	FUNCTION4 PFK	39.92	7.885e3					0.7	NO		bb		
9	FUNCTION4 PFK	39.84	2.792e4					1.0	NO		bb		
10	FUNCTION4 PFK	39.75	2.496e4					1.7	NO		db		
11	FUNCTION4 PFK	39.70	1.276e4					1.1	NO		bd		
12	FUNCTION4 PFK	39.43	3.047e3					0.5	NO		bb		
13	FUNCTION4 PFK	39.35	1.457e4					1.0	NO		bb		
14	FUNCTION4 PFK	38.04	3.063e6					14.6	YES		db		
15	FUNCTION4 PFK	37.77	1.469e6					20.8	YES		bd		
16	FUNCTION4 PFK	42.70	6.604e3					0.8	NO		bb		
17	FUNCTION4 PFK	42.60	1.364e4					0.9	NO		bb		
18	FUNCTION4 PFK	42.53	8.070e3					0.8	NO		bb		
19	FUNCTION4 PFK	41.46	6.332e3					0.6	NO		bb		
20	FUNCTION4 PFK	41.34	4.562e3					0.8	NO		bb		
21	FUNCTION4 PFK	41.29	4.288e3					0.8	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.85	4.359e3					0.8	NO		bb		
2	FUNCTION5 PFK	45.44	7.130e3					0.8	NO		bb		
3	FUNCTION5 PFK	45.28	1.854e3					0.6	NO		bb		
4	FUNCTION5 PFK	45.16	2.344e3					0.7	NO		bb		
5	FUNCTION5 PFK	45.12	8.941e3					1.3	NO		bb		
6	FUNCTION5 PFK	44.71	1.924e3					0.6	NO		bb		
7	FUNCTION5 PFK	44.67	3.458e3					0.7	NO		bb		
8	FUNCTION5 PFK	43.38	2.826e3					0.6	NO		bb		
9	FUNCTION5 PFK	42.90	2.113e4					1.8	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.87	2.479e2					7.0	YES		bb		0.000
2	FUNCTION1 HXCD...	25.50	7.880e1					1.5	NO		bb		0.000
3	FUNCTION1 HXCD...	25.02	8.956e1					4.1	YES		db		0.000
4	FUNCTION1 HXCD...	24.90	7.712e1					3.1	YES		bd		0.000
5	FUNCTION1 HXCD...	22.04	1.063e2					2.8	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...	24.51	8.238e1					1.7	NO		bb		0.000
2	FUNCTION1 HPCD...	23.28	2.658e2					6.0	YES		bb		0.000
3	FUNCTION1 HPCD...	22.33	1.325e2					3.5	YES		bb		0.000
4	FUNCTION1 HPCD...	21.97	2.651e2					7.7	YES		bb		0.000
5	FUNCTION1 HPCD...	21.39	8.104e1					1.9	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.49	7.916e1					2.6	NO		bb		0.000
2	FUNCTION2 HPCD...	29.01	7.386e1					2.3	NO		bb		0.000
3	FUNCTION2 HPCD...	28.68	1.045e2					2.1	NO		bb		0.000
4	FUNCTION2 HPCD...	32.26	7.469e1					2.3	NO		bb		0.000
5	FUNCTION2 HPCD...	31.41	8.187e1					2.0	NO		bb		0.000
6	FUNCTION2 HPCD...	29.91	1.271e2					2.7	NO		db		0.000
7	FUNCTION2 HPCD...	29.77	1.348e2					2.1	NO		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	37.39	1.737e2					2.8	NO		bb		0.000
2	FUNCTION3 OCDPE	36.82	1.121e2					3.1	YES		bb		0.000
3	FUNCTION3 OCDPE	36.66	7.711e1					1.2	NO		bb		0.000
4	FUNCTION3 OCDPE	36.04	1.247e2					3.8	YES		bb		0.000
5	FUNCTION3 OCDPE	34.66	1.253e2					2.9	NO		bb		0.000
6	FUNCTION3 OCDPE	34.11	7.708e1					1.3	NO		db		0.000
7	FUNCTION3 OCDPE	33.89	9.751e1					2.3	NO		bd		0.000
8	FUNCTION3 OCDPE	33.36	1.445e2					1.9	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	38.34	1.568e3					40.8	YES		bb		0.000

ETHERS6

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

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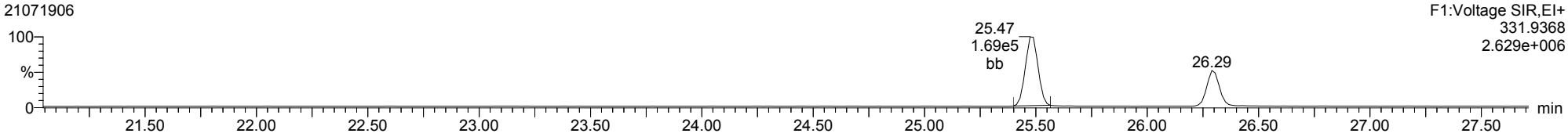
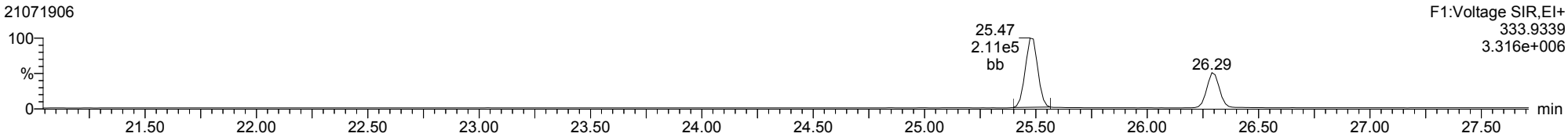
ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

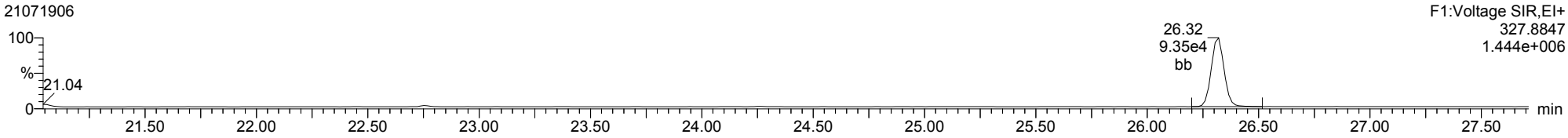
13C-1234-TCDD



13C-1234-TCDD

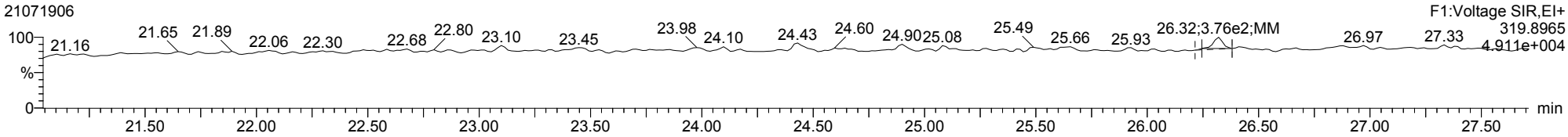


37CL-2378-TCDD



ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

2378-TCDD



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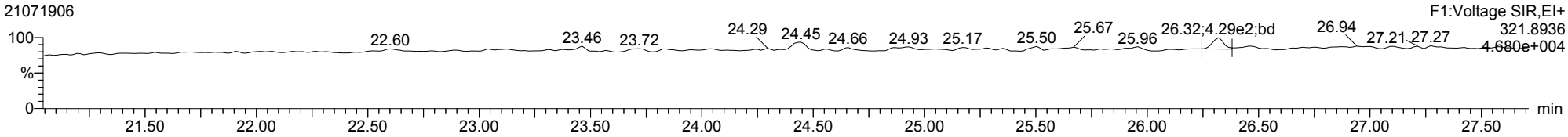

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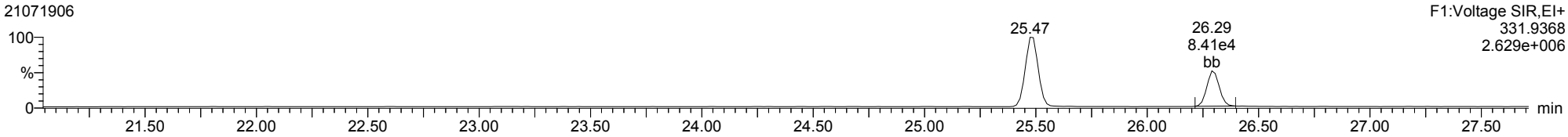

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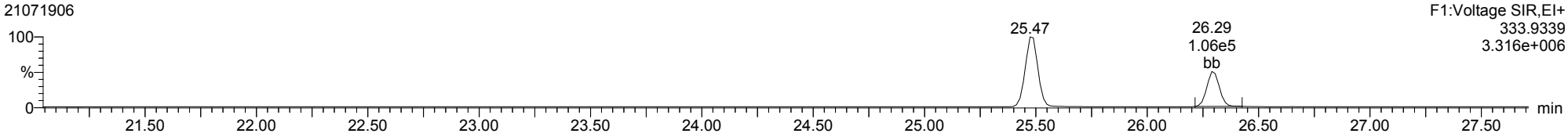
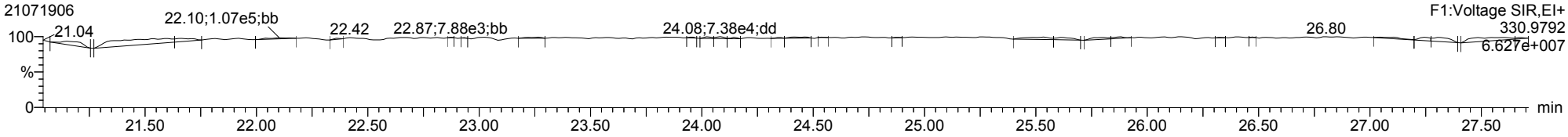
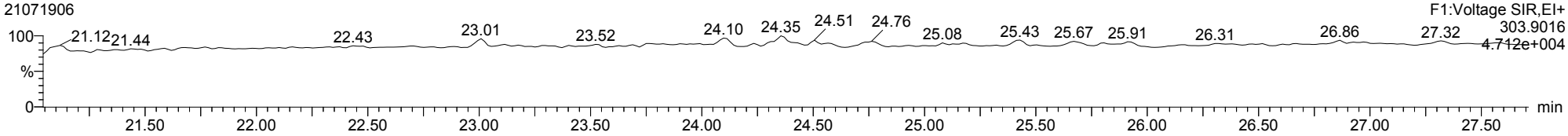


FUNCTION1 PFK



ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

2378-TCDF



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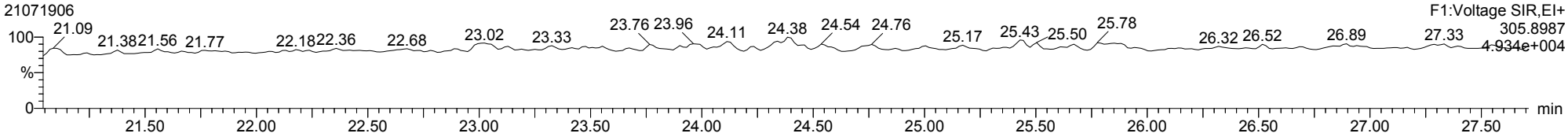

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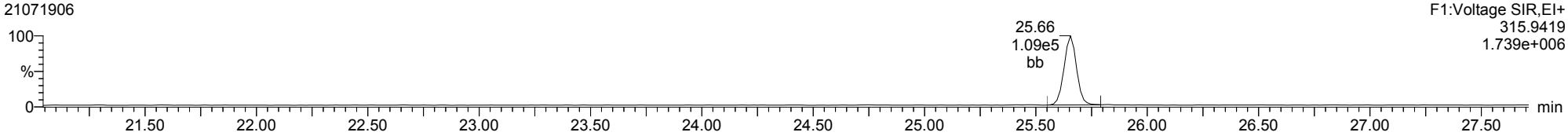

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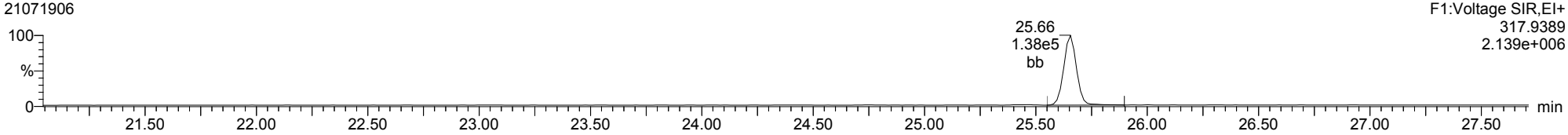
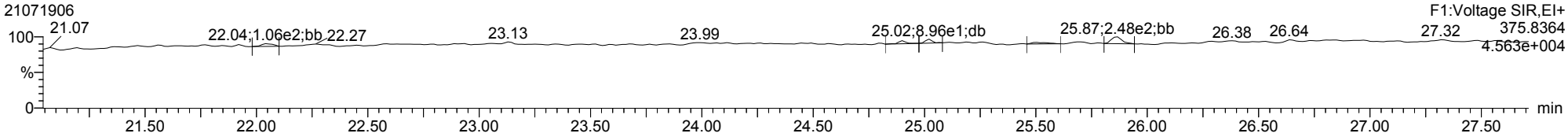
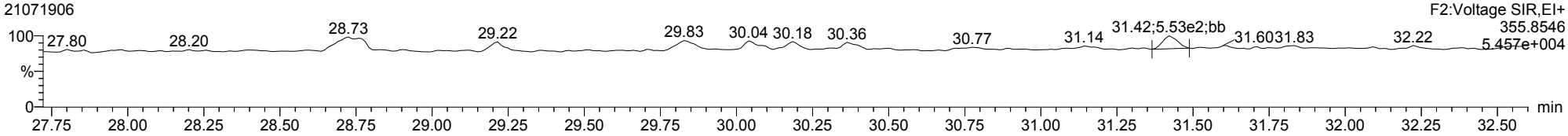


FUNCTION1 HXCDPE

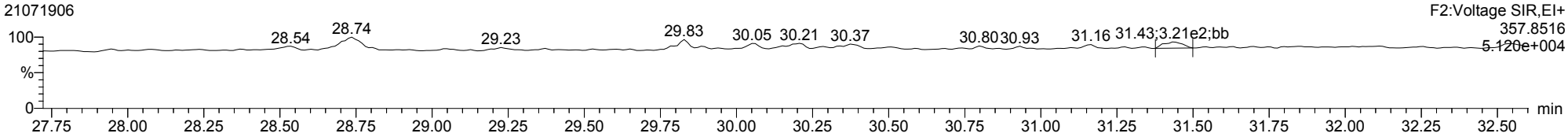


ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

12378-PeCDD



12378-PeCDD



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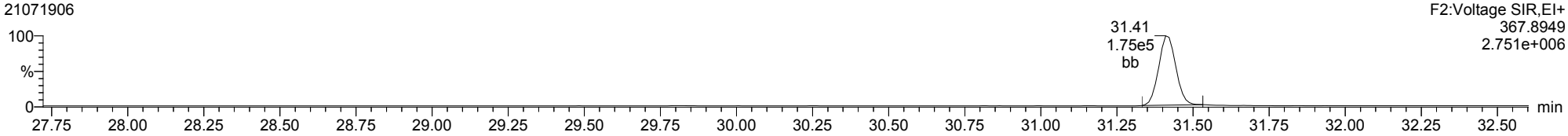

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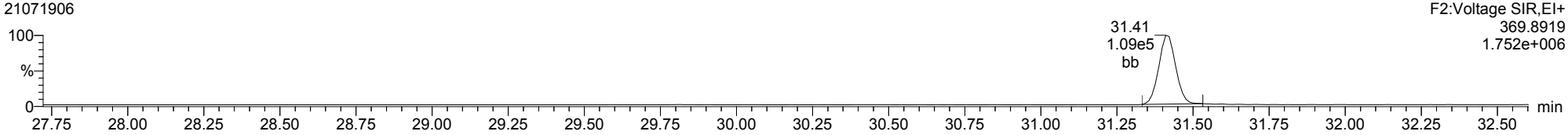
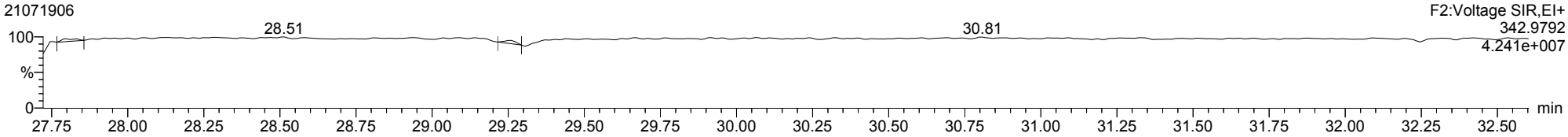


FUNCTION2 PFK



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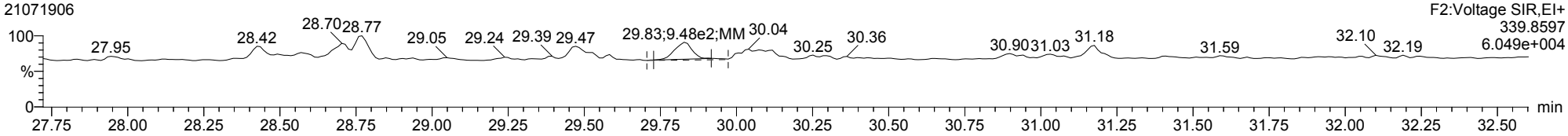
12378-PeCDF



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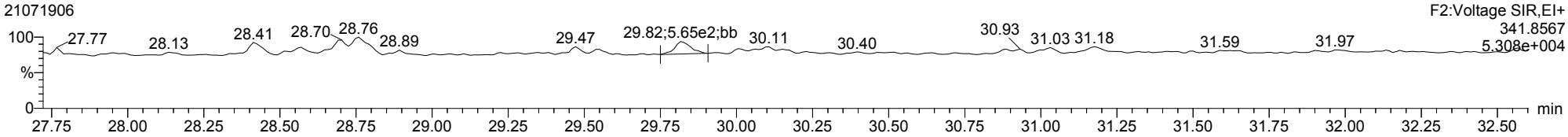

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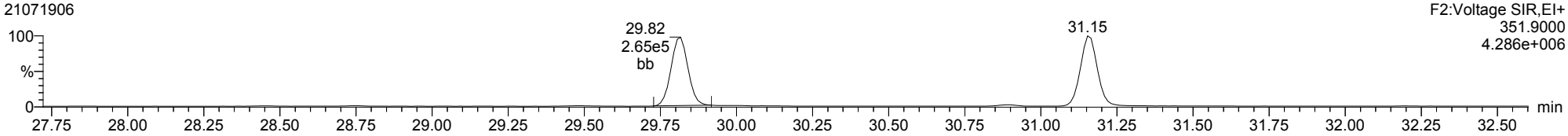

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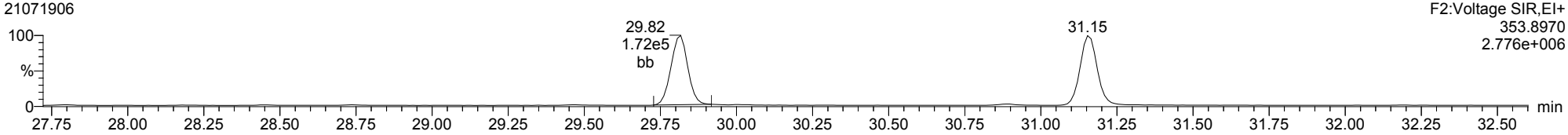
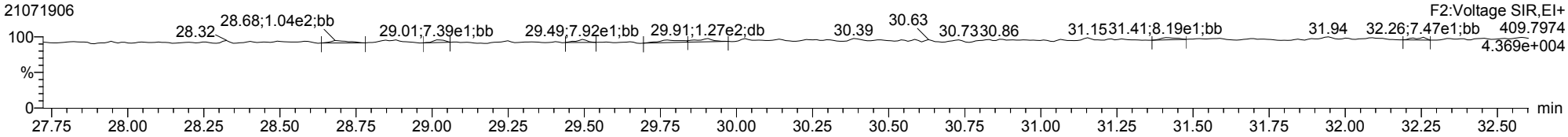


FUNCTION2 HPCDPE



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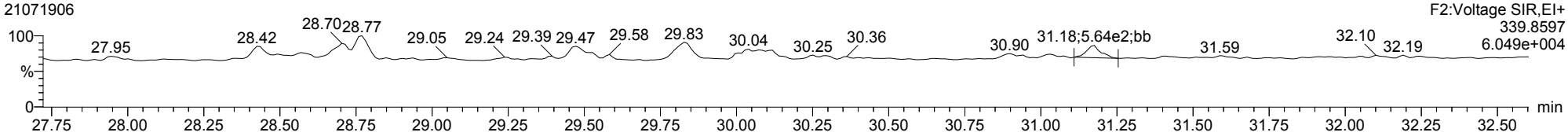
23478-PeCDF



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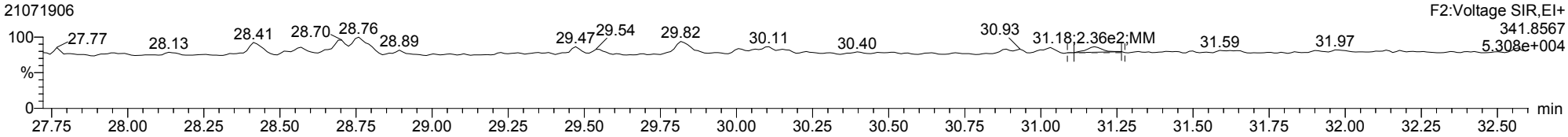

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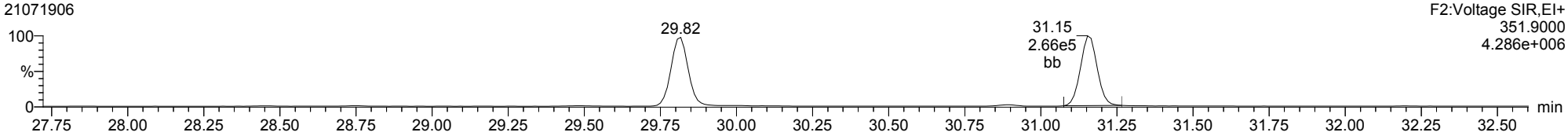

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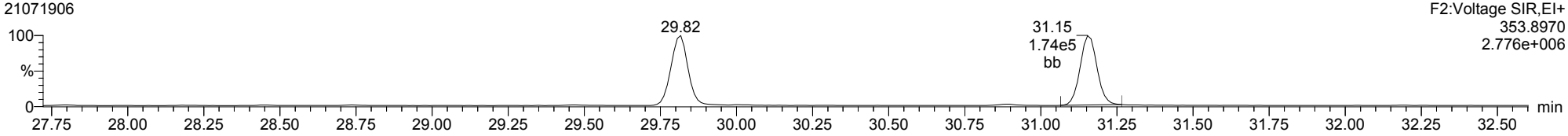
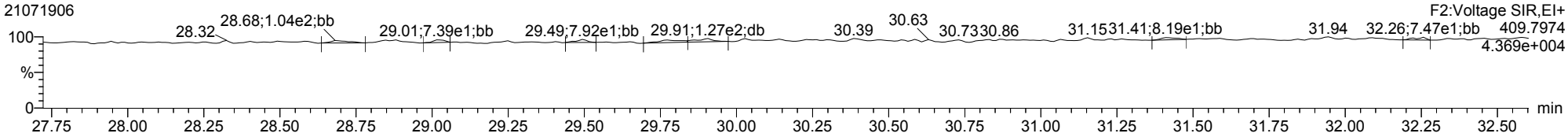
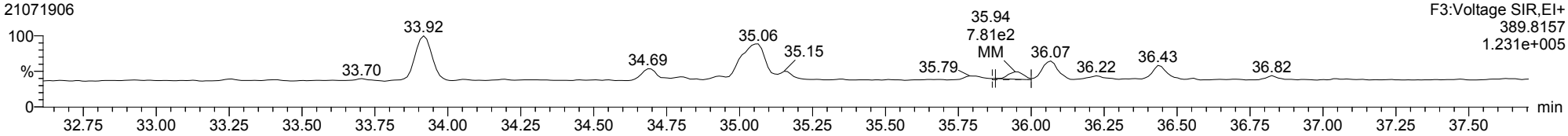


FUNCTION2 HPCDPE



ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

123478-HxCDD



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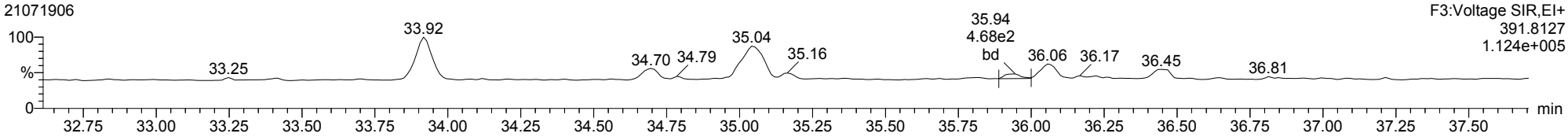

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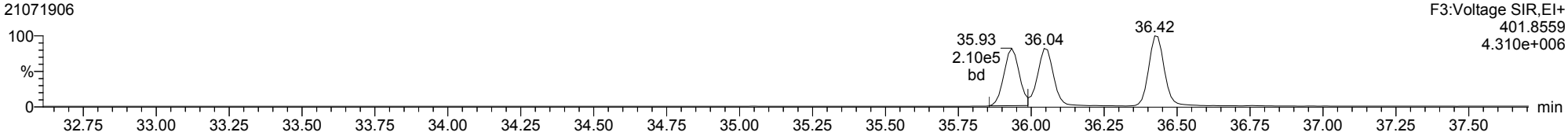

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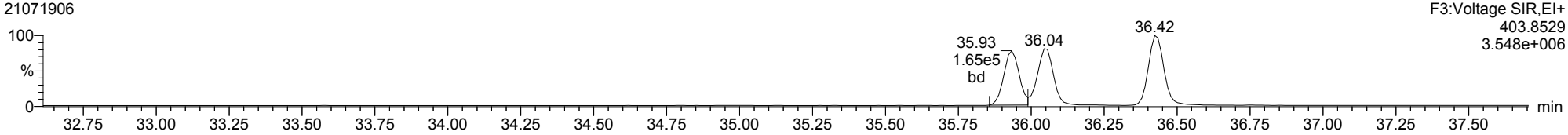
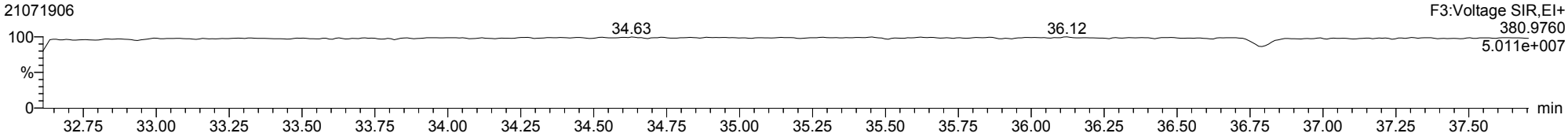
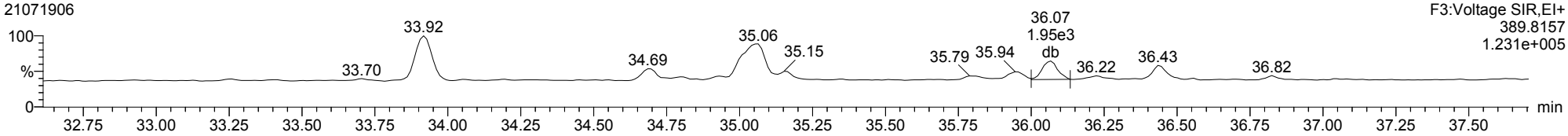


FUNCTION3 PFK



ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

123678-HxCDD



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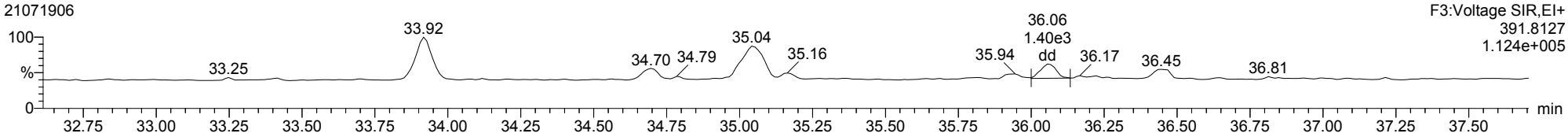

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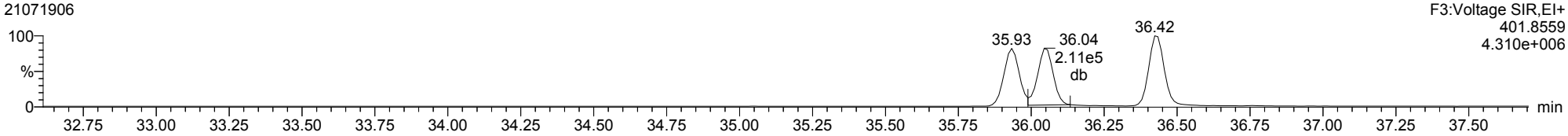

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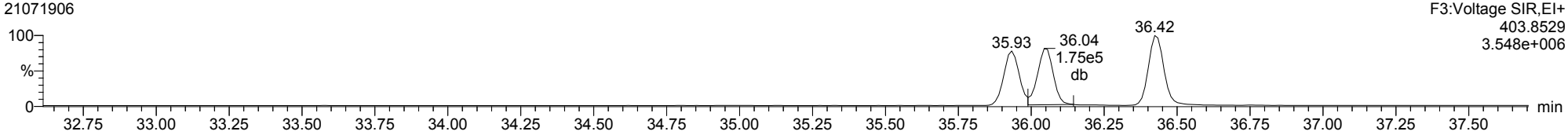

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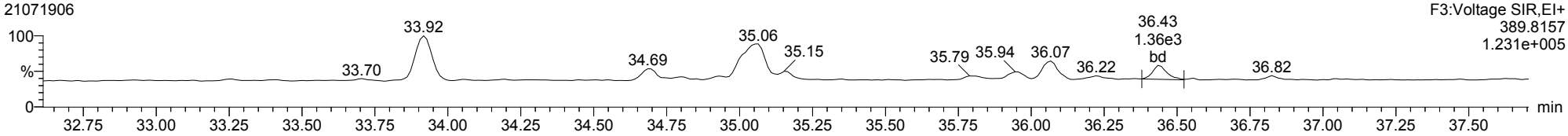
123789-HxCDD



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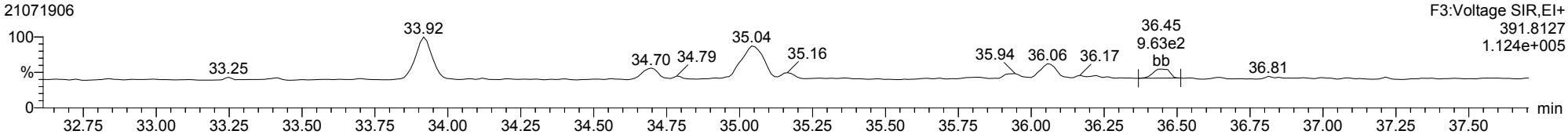

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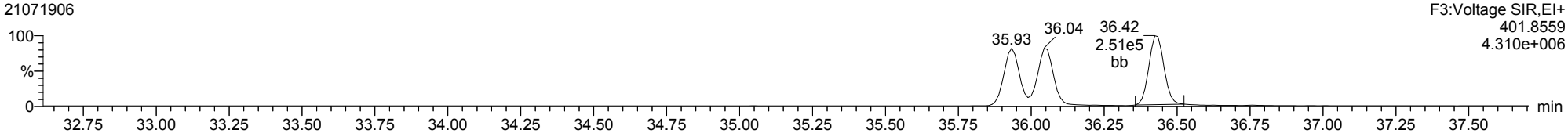

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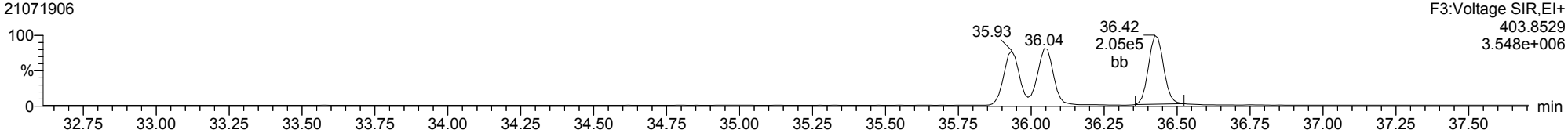
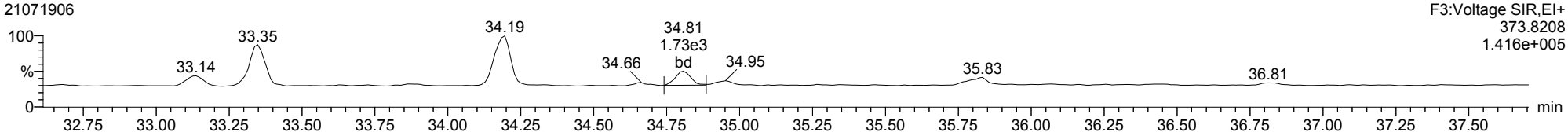


ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

123478-HxCDF



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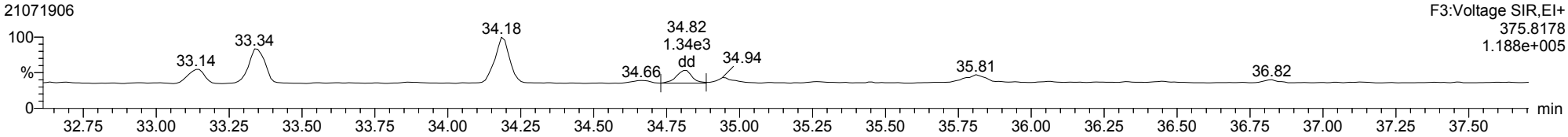

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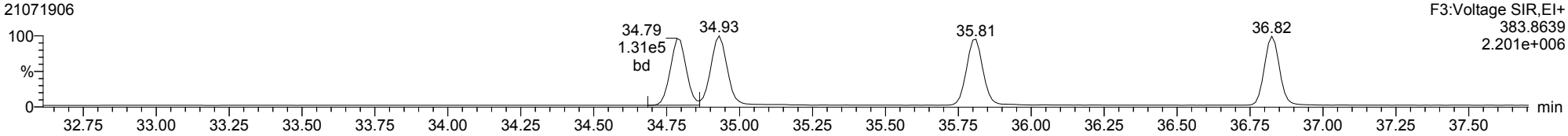

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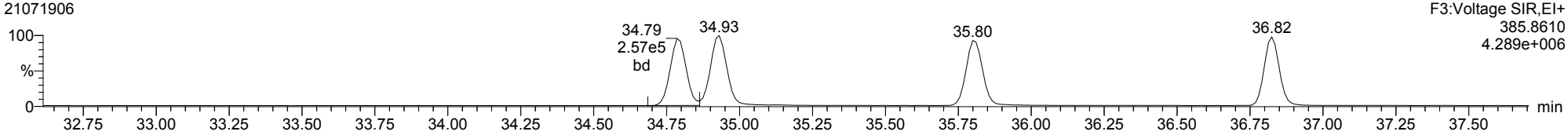
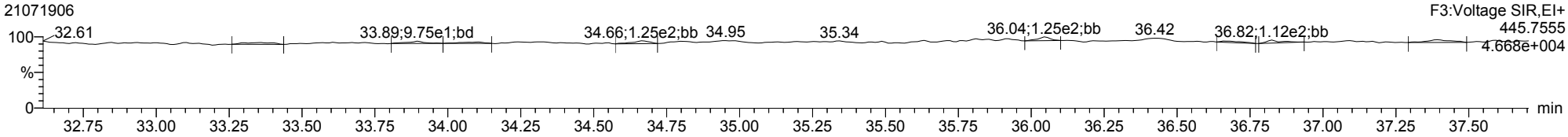
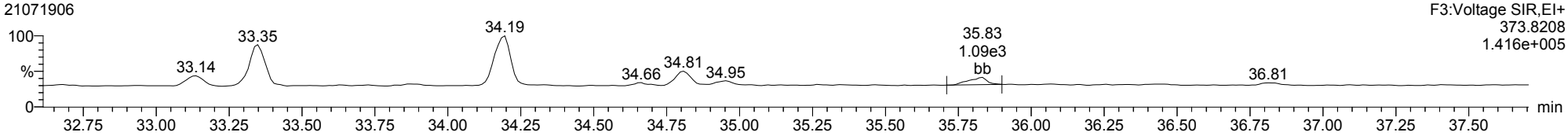


FUNCTION3 OCDPE

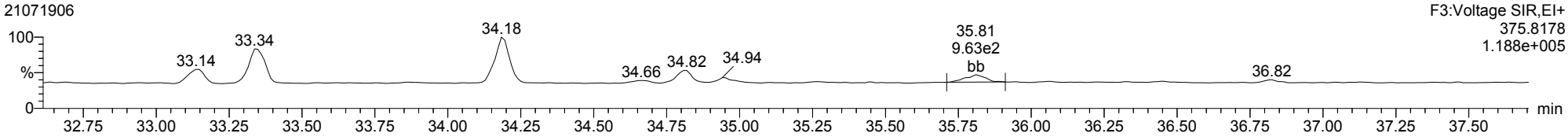


ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

234678-HxCDF



234678-HxCDF



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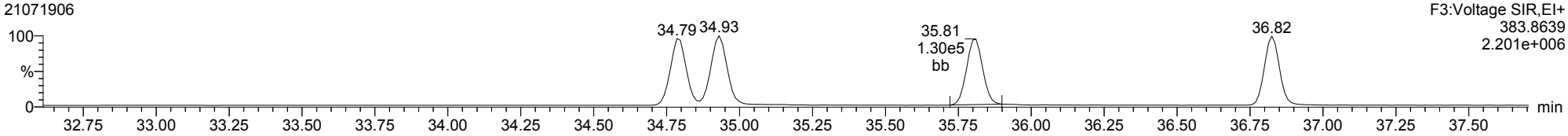

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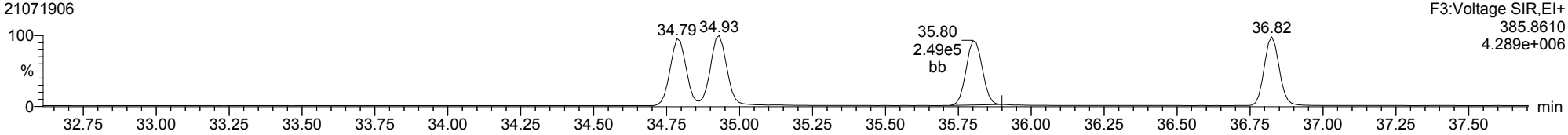
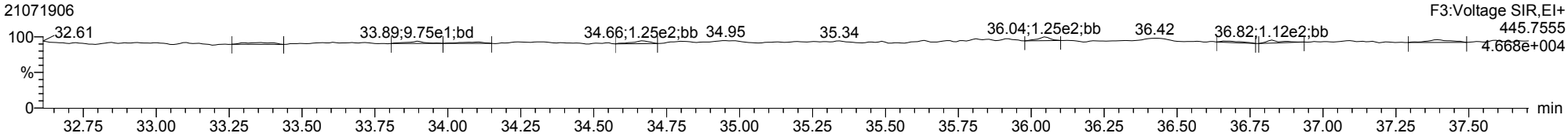


FUNCTION3 OCDPE



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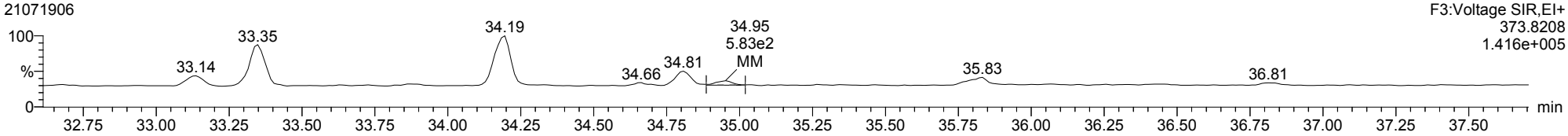

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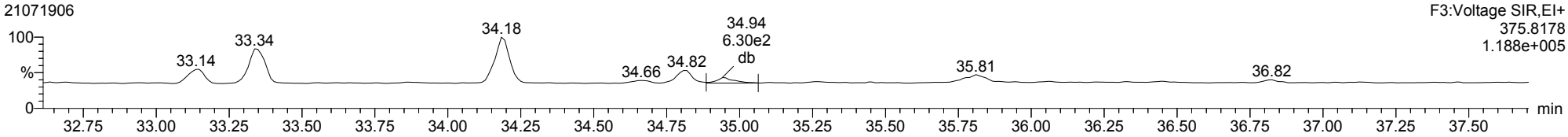

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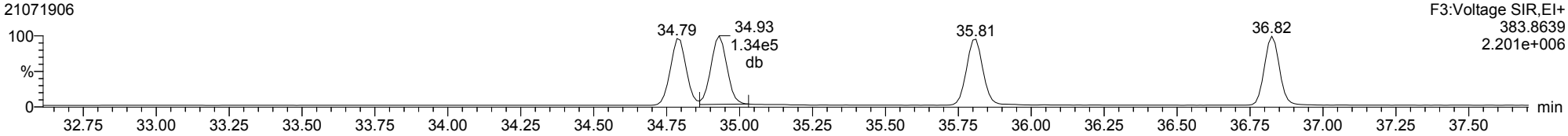

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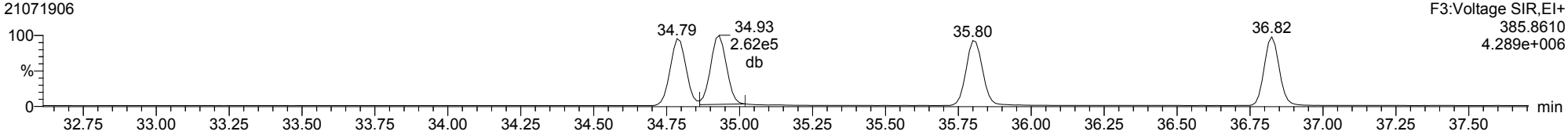

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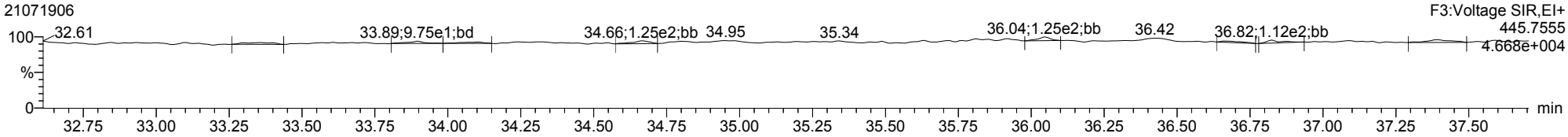

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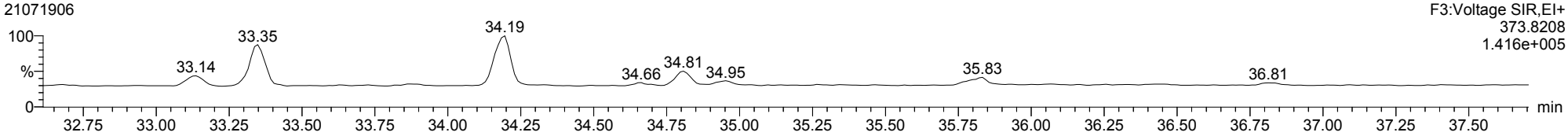

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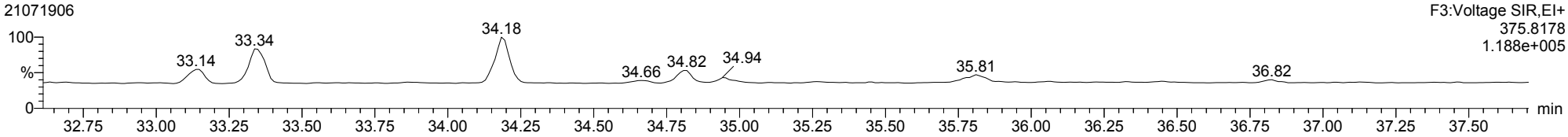

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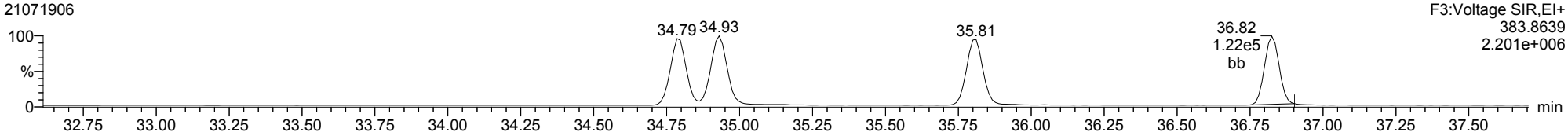

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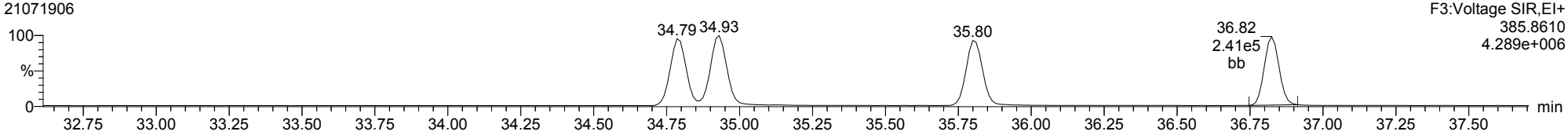

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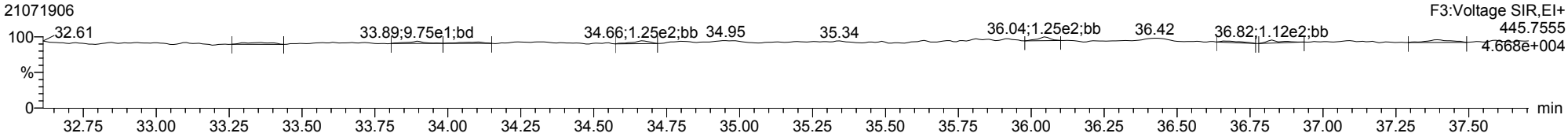

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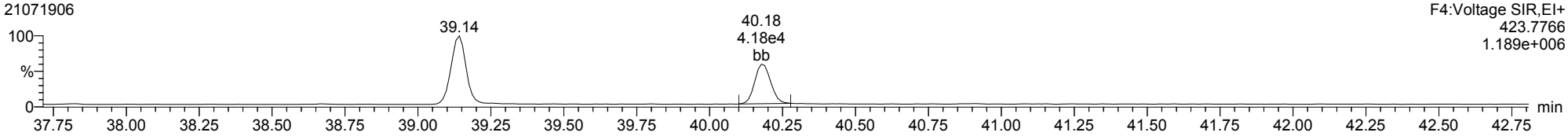

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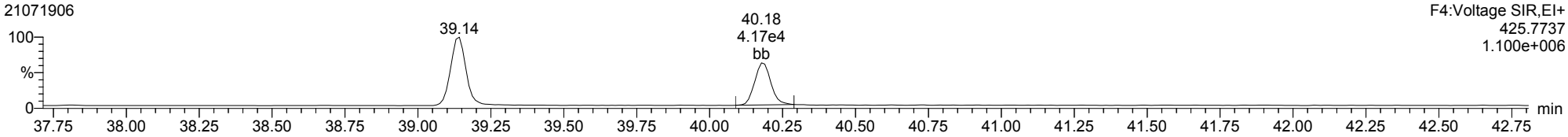

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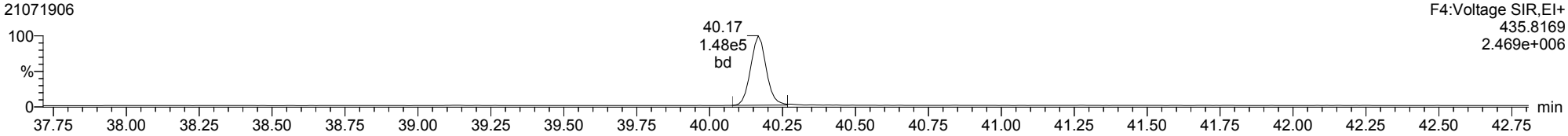

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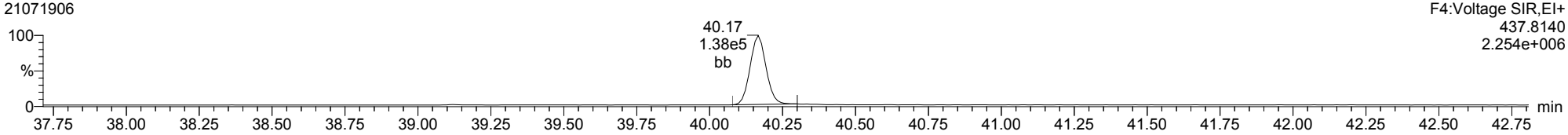

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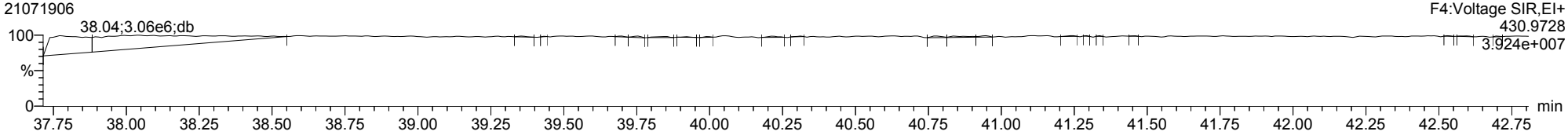

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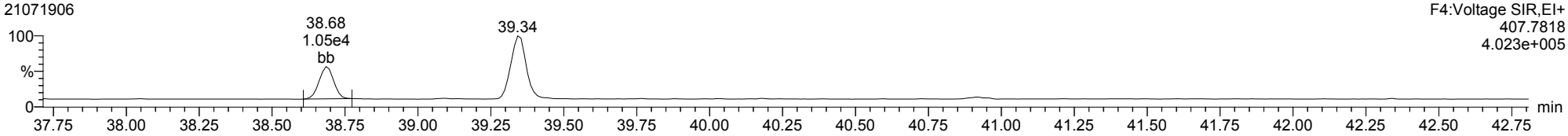

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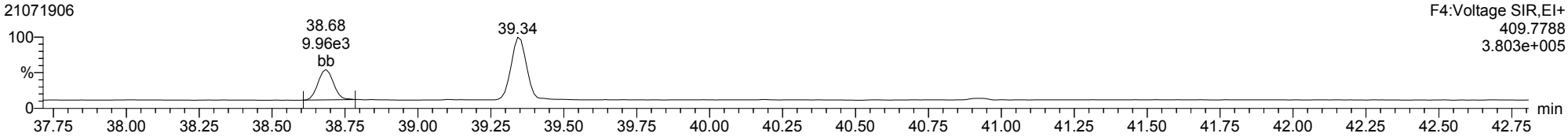

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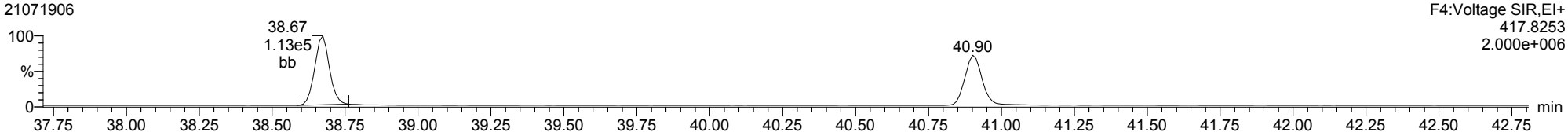

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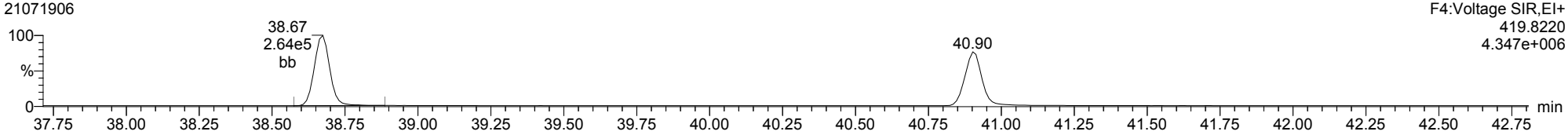
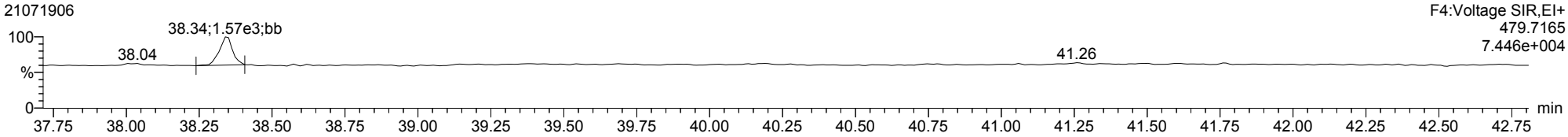


FUNCTION4 NCDPE



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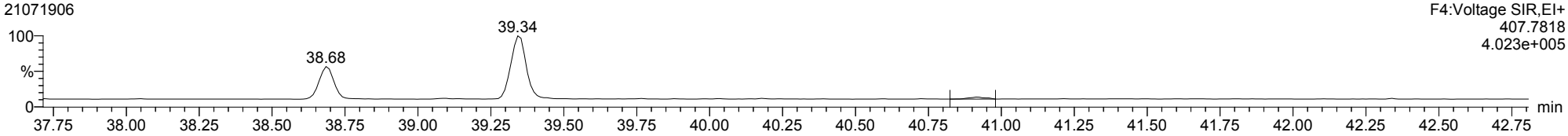

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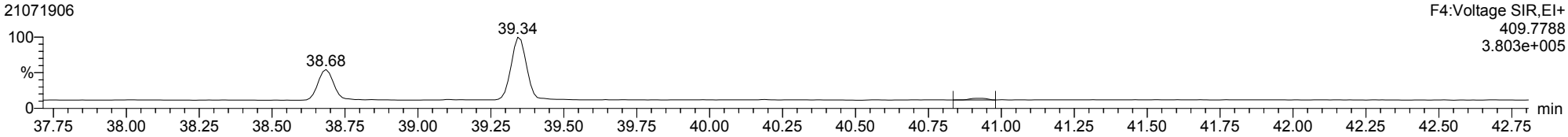

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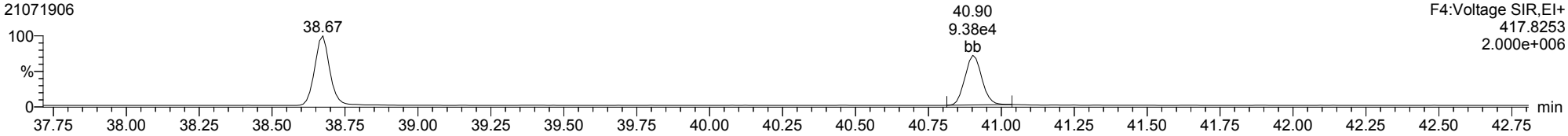

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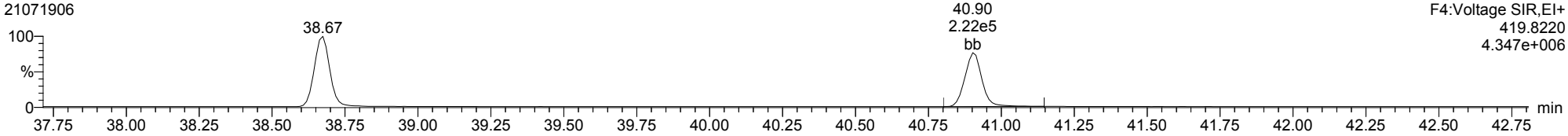

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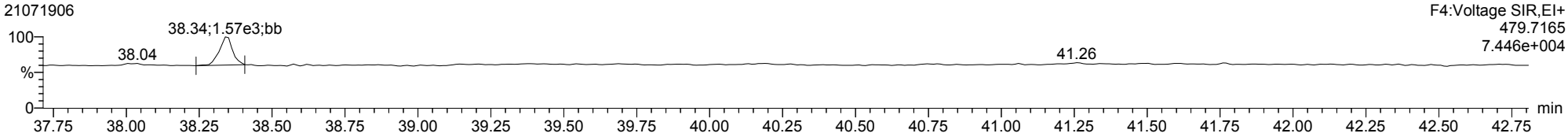

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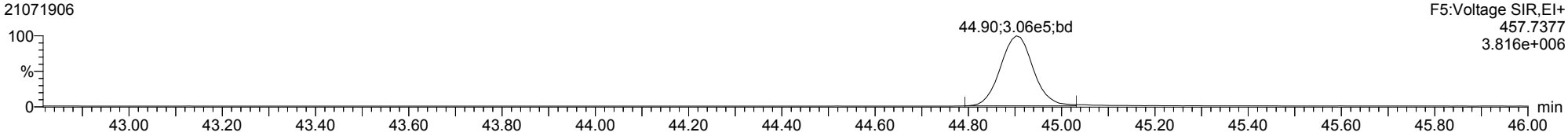
OCDD



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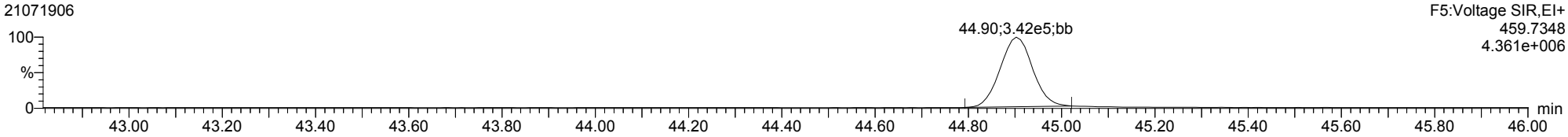

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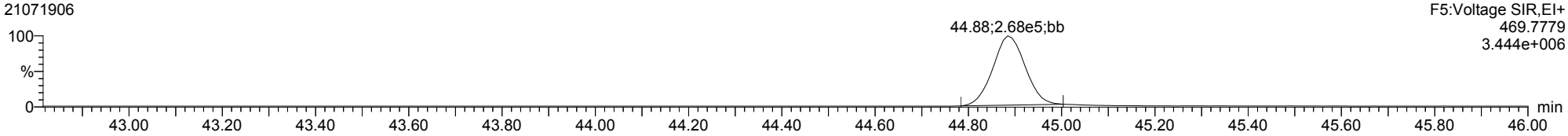

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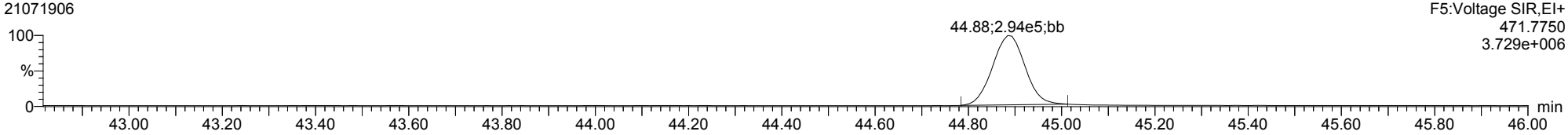
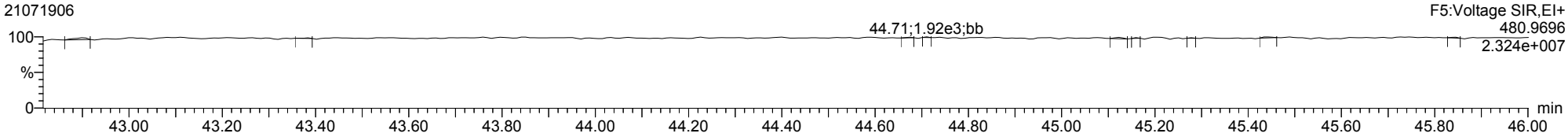


FUNCTION5 PFK



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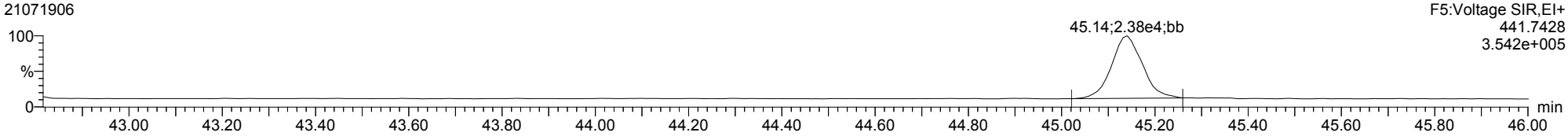

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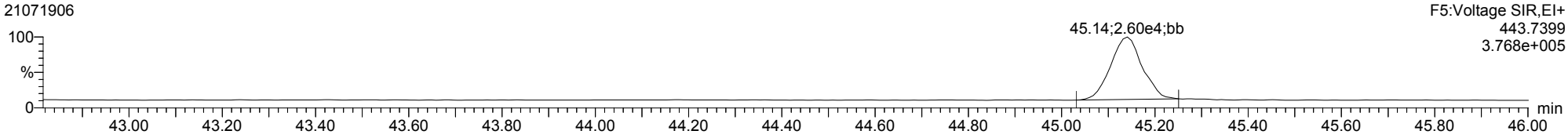

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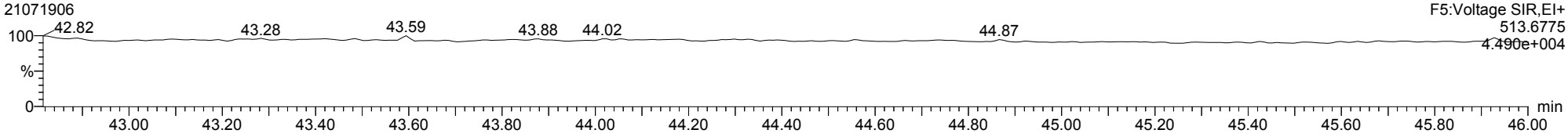

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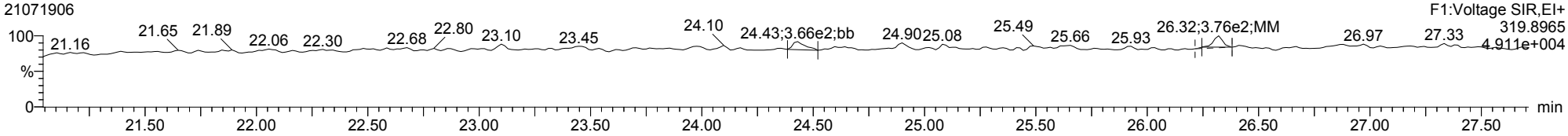
ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

Total-tetradioxins



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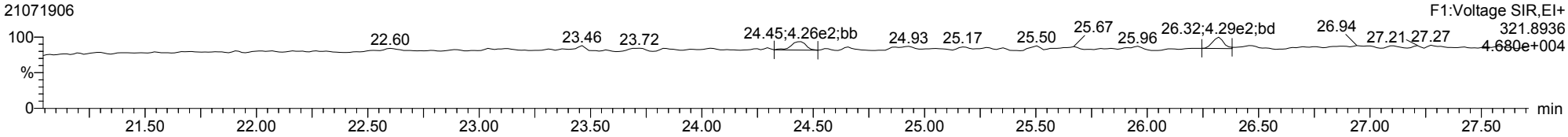

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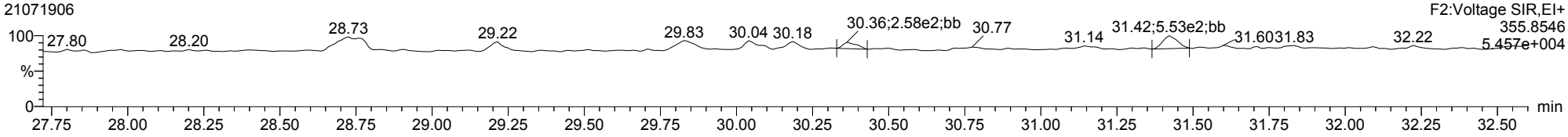

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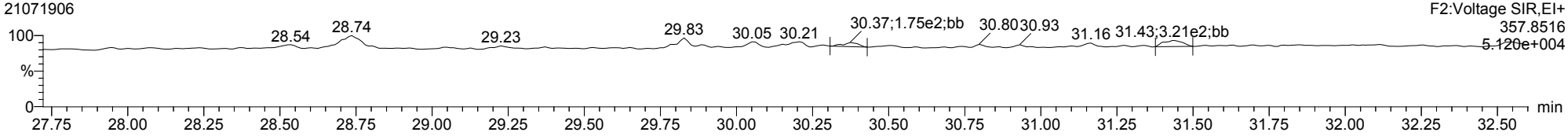

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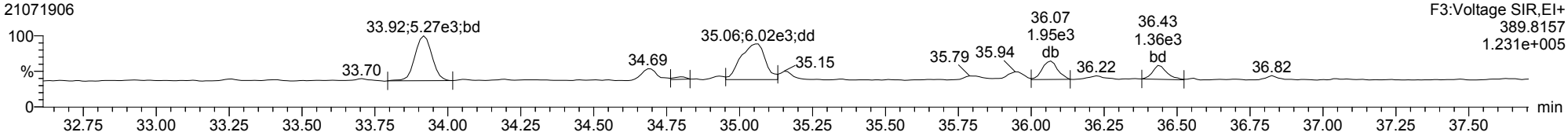

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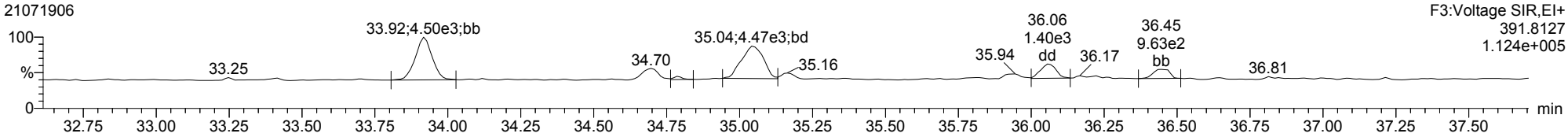

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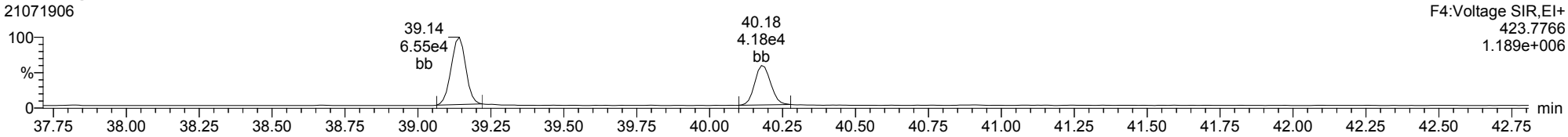

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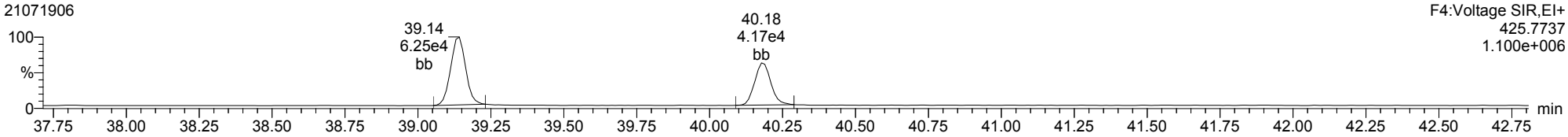

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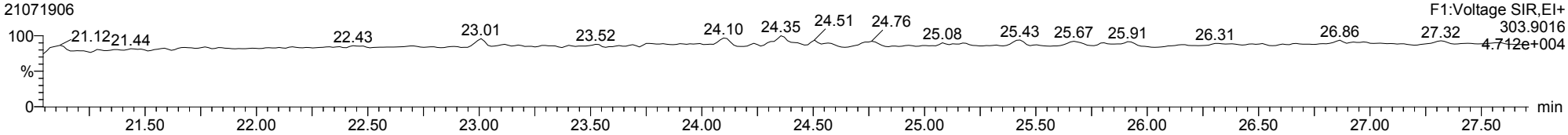
ID: BJG0187-SRM1, Name: 21071906, Date: 19-Jul-2021, Time: 14:32:52, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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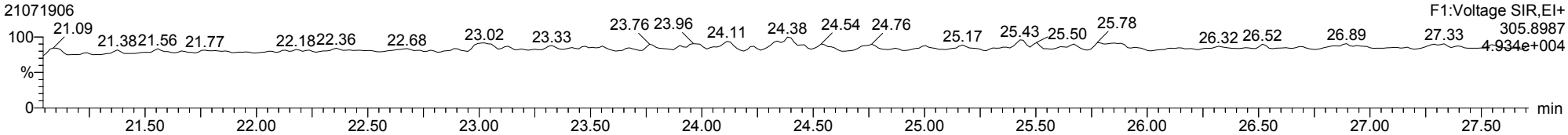

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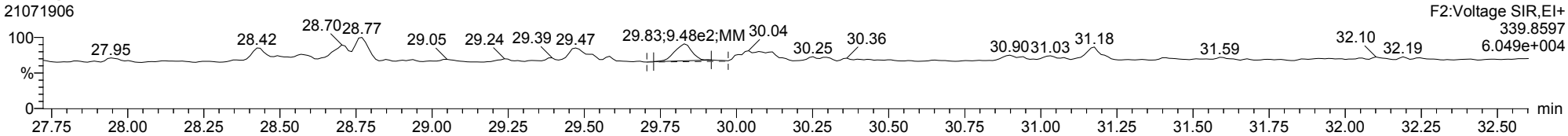
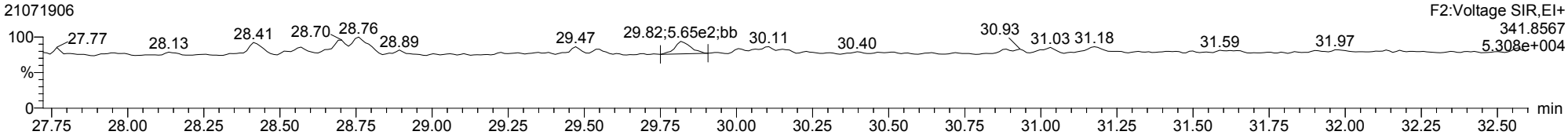


Total-pentafurans



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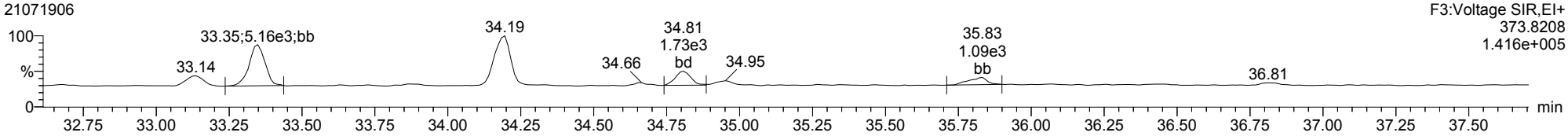
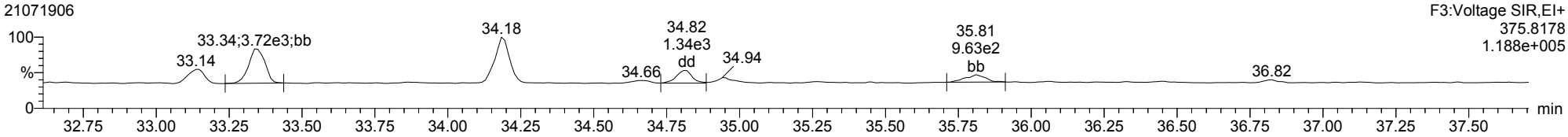
Total-hexafurans



Total-hexafurans



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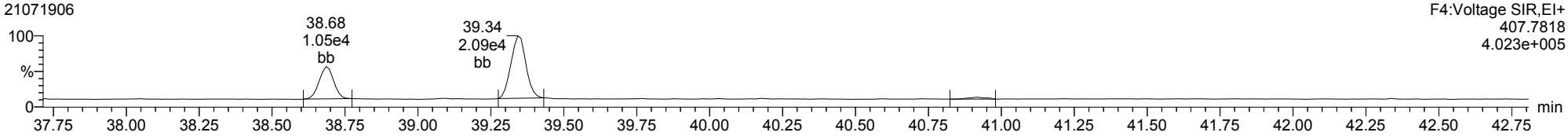

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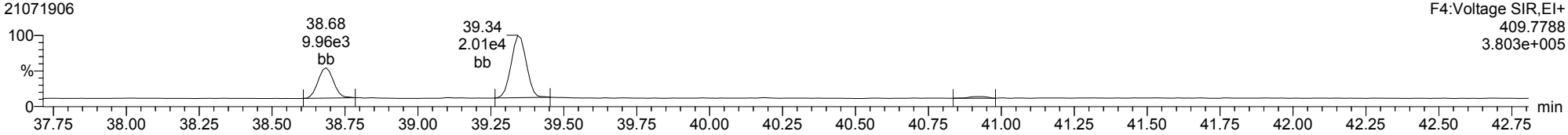

Analytical Resources, Incorporated
Analytical Chemists and Consultants

STANDARD REFERENCE MATERIAL RECOVERY

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21F0442
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Matrix: Solid
Laboratory ID: BJH0186-SRM1
Batch: BJH0186
Initial/Final: 5.05 g / 20 uL
Preparation: EPA 1613
Analyzed: 08/24/2021 20:18
Standard ID: J006842
Expires: 12/28/2021
Standard Lot#: PSRM0136
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	1.1001	0.996	0.423	1.98	EMPC, J	90.6	50 - 150
2,3,7,8-TCDD	1.0406	1.12	0.383	1.98	EMPC, J	108	50 - 150
1,2,3,7,8-PeCDF	1.2190	0.993	0.475	1.98	J	81.5	50 - 150
2,3,4,7,8-PeCDF	1.0605	0.992	0.436	1.98	J	93.5	50 - 150
1,2,3,7,8-PeCDD	1.0704	1.12	0.628	1.98	J	105	50 - 150
1,2,3,4,7,8-HxCDF	2.9931	3.08	0.554	1.98		103	50 - 150
1,2,3,6,7,8-HxCDF	1.0803	1.24	0.396	1.98	J	115	50 - 150
2,3,4,6,7,8-HxCDF	1.8137	1.83	0.337	1.98	J	101	50 - 150
1,2,3,7,8,9-HxCDF	0.50645	0.664	0.376	1.98	J	131	50 - 150
1,2,3,4,7,8-HxCDD	1.5758	1.35	0.377	1.98	J	85.9	50 - 150
1,2,3,6,7,8-HxCDD	3.8454	3.74	0.390	1.98		97.3	50 - 150
1,2,3,7,8,9-HxCDD	3.0129	2.80	0.436	1.98		93.0	50 - 150
1,2,3,4,6,7,8-HpCDF	18.533	20.6	0.416	1.98		111	50 - 150
1,2,3,4,7,8,9-HpCDF	1.6155	1.76	0.475	1.98	J	109	50 - 150
1,2,3,4,6,7,8-HpCDD	89.793	112	1.11	4.95	B	124	50 - 150
OCDF	57.880	57.7	2.18	4.95		99.6	50 - 150
OCDD	803.77	901	9.11	19.8	B	112	50 - 150

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:22:50 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0186-SRM1, Name: 21082411, Date: 24-Aug-2021, Time: 20:18:13, 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	25.262	1.000	1.154e3	1.072e3	1.108	1.076	0.770	2530	2164	1.64e4	1.54e4	6.5	7.1	YES	bd	bb	0.252
12378-PeCDF	29.437	1.000	1.320e3	9.929e2	1.015	1.329	1.550	2522	2110	2.14e4	1.91e4	8.5	9.1	NO	bb	bb	0.251
23478-PeCDF	30.774	1.000	1.474e3	1.023e3	1.126	1.440	1.550	2522	2110	1.99e4	1.20e4	7.9	5.7	NO	MM	db	0.250
123478-HxCDF	34.439	1.000	3.175e3	2.667e3	1.017	1.190	1.240	1502	1222	4.78e4	4.03e4	31.8	33.0	NO	bd	bd	0.778
234678-HxCDF	35.453	1.000	1.869e3	1.645e3	1.052	1.137	1.240	1502	1222	2.60e4	2.35e4	17.3	19.2	NO	db	MM	0.463
123678-HxCDF	34.584	1.001	1.382e3	1.082e3	1.037	1.278	1.240	1502	1222	1.52e4	1.78e4	10.1	14.6	NO	db	db	0.314
123789-HxCDF	36.478	1.000	6.063e2	5.116e2	1.030	1.185	1.240	1502	1222	8.42e3	5.13e3	5.6	4.2	NO	MM	MM	0.168
1234678-HpCDF	38.372	1.000	2.103e4	1.954e4	1.327	1.076	1.050	948	1006	3.35e5	3.20e5	353.2	318.2	NO	bb	bb	5.209
1234789-HpCDF	40.556	1.000	1.424e3	1.432e3	1.283	0.994	1.050	948	1006	2.06e4	2.12e4	21.7	21.1	NO	bb	bb	0.445
OCDF	44.684	1.005	3.716e4	4.056e4	1.447	0.916	0.890	802	1077	4.48e5	4.85e5	557.9	449.9	NO	bb	bb	14.557
2378-TCDD	25.927	1.001	9.399e2	8.230e2	0.920	1.142	0.770	1659	1287	1.32e4	1.53e4	7.9	11.9	YES	bb	bb	0.283
12378-PeCDD	31.041	1.001	9.196e2	5.279e2	0.995	1.742	1.550	2415	1480	1.06e4	9.91e3	4.4	6.7	NO	bb	bb	0.283
123478-HxCDD	35.576	1.000	1.241e3	9.833e2	1.027	1.262	1.240	1696	1580	2.23e4	1.66e4	13.2	10.5	NO	bd	bd	0.342
123678-HxCDD	35.709	1.001	3.358e3	2.781e3	1.009	1.208	1.240	1696	1580	5.83e4	4.77e4	34.4	30.2	NO	db	db	0.945
123789-HxCDD	36.088	1.011	2.274e3	2.019e3	0.950	1.126	1.240	1696	1580	3.86e4	2.84e4	22.8	17.9	NO	bb	MM	0.708
1234678-HpCDD	39.832	1.000	6.519e4	5.926e4	1.068	1.100	1.050	1793	1587	9.74e5	8.95e5	542.9	563.7	NO	bb	bb	28.161
OCDD	44.465	1.000	4.709e5	5.209e5	1.181	0.904	0.890	3307	1594	5.80e6	6.37e6	1754.2	3997.7	NO	bb	bb	227.620
13C-2378-TCDF	25.262	1.007	3.602e5	4.387e5	1.427	0.821	0.770	2969	2175	5.37e6	6.53e6	1808.9	3003.1	NO	bb	bb	69.929
13C-12378-PeCDF	29.426	1.173	5.641e5	3.445e5	1.297	1.638	1.550	2409	2644	8.17e6	5.07e6	3389.0	1918.2	NO	bd	bb	87.447
13C-23478-PeCDF	30.762	1.227	5.474e5	3.386e5	1.236	1.617	1.550	2409	2644	8.15e6	5.08e6	3381.8	1922.4	NO	bb	bb	89.485
13C-123478-HxCDF	34.428	0.954	2.500e5	4.888e5	1.242	0.512	0.510	1743	3303	3.83e6	7.44e6	2197.6	2251.4	NO	bd	bd	77.241
13C-123678-HxCDF	34.562	0.958	2.599e5	4.974e5	1.343	0.523	0.510	1743	3303	3.79e6	7.30e6	2175.2	2211.0	NO	db	db	73.222
13C-234678-HxCDF	35.453	0.983	2.476e5	4.738e5	1.215	0.523	0.510	1743	3303	3.72e6	7.29e6	2135.3	2207.1	NO	bd	bb	77.142
13C-123789-HxCDF	36.478	1.011	2.216e5	4.256e5	1.008	0.521	0.510	1743	3303	3.48e6	6.78e6	1996.0	2052.4	NO	bb	bb	83.435
13C-1234678-HpCDF	38.361	1.063	1.834e5	4.034e5	0.926	0.455	0.440	1424	2689	2.97e6	6.51e6	2087.9	2420.4	NO	bb	bb	82.267
13C-1234789-HpCDF	40.545	1.124	1.572e5	3.436e5	0.758	0.458	0.440	1424	2689	2.22e6	4.86e6	1561.5	1806.1	NO	bb	bb	85.828
13C-1234-TCDD	25.080	0.000	3.482e5	4.527e5	1.000	0.769	0.770	2217	1352	5.33e6	6.89e6	2405.9	5101.2	NO	bb	bb	100.000
13C-2378-TCDD	25.897	1.033	2.919e5	3.855e5	1.116	0.757	0.770	2217	1352	4.28e6	5.57e6	1932.3	4119.5	NO	bb	bd	75.761
13C-12378-PeCDD	31.019	1.237	3.150e5	1.988e5	0.732	1.584	1.550	1417	1508	4.54e6	2.93e6	3203.4	1942.0	NO	bb	bb	87.653
13C-123478-HxCDD	35.576	0.986	3.531e5	2.798e5	0.960	1.262	1.240	2868	1916	5.60e6	4.44e6	1953.8	2315.7	NO	bd	bd	85.666
13C-123678-HxCDD	35.687	0.989	3.576e5	2.862e5	1.041	1.249	1.240	2868	1916	5.50e6	4.47e6	1918.1	2334.2	NO	db	db	80.314
13C-1234678-HpCDD	39.820	1.104	2.132e5	2.005e5	0.632	1.063	1.050	1434	2048	3.24e6	3.08e6	2261.0	1501.9	NO	bb	bb	84.979
13C-OCDD	44.446	1.232	3.556e5	3.824e5	0.504	0.930	0.890	1643	1099	4.36e6	4.72e6	2654.5	4297.5	NO	bb	bb	190.313
13C-123789-HxCDD	36.077	0.000	4.305e5	3.393e5	1.000	1.269	1.240	2868	1916	6.94e6	5.49e6	2420.5	2864.1	NO	bb	bb	100.000
37CL-2378-TCDD	25.927	1.034	2.520e5		1.084			1535		3.58e6		2330.5			bd		29.042

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ID: BJH0186-SRM1, Name: 21082411, Date: 24-Aug-2021, Time: 20:18:13, 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	2530	2164								
1289-TCDF					1.043		0.770	2530	2164								
13468-PECDF	26.713	0.908	8.450e3	5.891e3	1.376	1.434	1.550	1476	1307	1.10e5	7.28e4	74.5	55.8	NO	db	db	1.147
12389-PECDF					1.000		1.550	2522	2110								
123468-HXCDF	32.757	0.951	2.979e3	2.727e3	1.087	1.093	1.240	1502	1222	4.19e4	4.13e4	27.9	33.8	NO	bb	bd	0.711
1368-TCDD					0.923		0.770	1659	1287								
1289-TCDD	26.456	1.022	3.254e2	3.287e2	0.794	0.990	0.770	1659	1287	5.83e3	4.06e3	3.5	3.2	YES	bb	dd	0.122
12479-PECDD	28.345	0.914	1.076e3	9.757e2	1.843	1.103	1.550	2415	1480	1.72e4	1.13e4	7.1	7.6	YES	db	bb	0.217
12389-PECDD					1.154		1.550	2415	1480								
124679-HXCDD	33.537	0.943	9.166e3	7.343e3	1.125	1.248	1.240	1696	1580	1.38e5	1.05e5	81.6	66.7	NO	bb	bb	2.319
1234679-HPCDD	38.818	0.975	9.693e4	9.249e4	1.211	1.048	1.050	1793	1587	1.54e6	1.42e6	858.2	895.9	NO	bb	bd	37.810
Total-tetrafurans			1.262e3		1.192			2530		1.83e4							0.319
Total-penta1			8.450e3					1476		1.10e5							1.147
Total-pentafurans			8.767e3		1.047			2522		1.14e5							1.569
Total-hexafurans			3.122e4		1.045			1502		4.55e5							7.613
Total-heptafurans			6.428e4		1.305			948		1.02e6							17.033
Total-Furans			1.511e5		1.158			2530		2.17e6							42.238
Total-tetradioxins			1.178e3		0.879			1659		1.45e4							0.444
Total-pentadioxins			1.897e3		1.331			2415		2.47e4							0.521
Total-hexadioxins			3.089e4		1.028			1696		4.27e5							8.240
Total-heptadioxins			1.621e5		1.140			1793		2.51e6							65.971
Total-Dioxins			6.670e5		1.092			1659		8.78e6							302.797
Total-TEQ			8.181e5					1659		1.09e7							345.035
FUNCTION1 PFK			5.695e6					910328		5.67e7							
FUNCTION2 PFK			7.931e5					640383		5.66e6							0.000
FUNCTION3 PFK			4.041e6					536750		1.34e7							0.000
FUNCTION4 PFK			2.685e5					421987		8.14e6							
FUNCTION5 PFK			9.523e6					271068		1.10e8							
FUNCTION1 HXCD...			2.284e3					1284		4.19e4							0.000
FUNCTION1 HPCD...			6.873e3					1201		1.13e5							0.000
FUNCTION2 HPCD...			1.133e3					1088		2.43e4							0.000
FUNCTION3 OCDPE			1.571e3					1011		3.75e4							0.000
FUNCTION4 NCDPE			4.894e3					682		8.22e4							0.000
FUNCTION5 DCDPE			1.190e2					637		5.08e3							0.000

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: BJH0186-SRM1, Name: 21082411, Date: 24-Aug-2021, Time: 20:18:13, 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	24.37	1.262e3	1.777e3	1.192	0.71	0.77	7.2	YES	NO	bb	dd	0.319

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.71	8.450e3	5.891e3	1.376	1.43	1.55	74.5	YES	NO	db	db	1.147

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	30.77	1.474e3	1.023e3	1.126	1.44	1.55	7.9	YES	NO	MM	db	0.250
2	Total-pentafurans	29.66	2.132e3	1.287e3	1.047	1.66	1.55	9.2	YES	NO	bd	bb	0.364
3	12378-PeCDF	29.44	1.320e3	9.929e2	1.015	1.33	1.55	8.5	YES	NO	bb	bb	0.251
4	Total-pentafurans	29.09	1.583e3	1.190e3	1.047	1.33	1.55	6.9	YES	NO	bb	bb	0.295
5	Total-pentafurans	28.00	2.259e3	1.577e3	1.047	1.43	1.55	12.6	YES	NO	dd	dd	0.408

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.45	1.869e3	1.645e3	1.052	1.14	1.24	17.3	YES	NO	db	MM	0.463
2	123678-HxCDF	34.58	1.382e3	1.082e3	1.037	1.28	1.24	10.1	YES	NO	db	db	0.314
3	123478-HxCDF	34.44	3.175e3	2.667e3	1.017	1.19	1.24	31.8	YES	NO	bd	bd	0.778
4	Total-hexafurans	33.82	1.199e4	9.721e3	1.045	1.23	1.24	121.9	YES	NO	bb	bb	2.902
5	Total-hexafurans	32.96	9.220e3	7.820e3	1.045	1.18	1.24	88.4	YES	NO	bb	db	2.278
6	123468-HXCDF	32.76	2.979e3	2.727e3	1.087	1.09	1.24	27.9	YES	NO	bb	bd	0.711
7	123789-HxCDF	36.48	6.063e2	5.116e2	1.030	1.19	1.24	5.6	YES	NO	MM	MM	0.168

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.56	1.424e3	1.432e3	1.283	0.99	1.05	21.7	YES	NO	bb	bb	0.445
2	Total-heptafurans	39.01	4.130e4	3.848e4	1.305	1.07	1.05	697.0	YES	NO	bb	bb	11.240
3	Total-heptafurans	38.78	5.311e2	4.563e2	1.305	1.16	1.05	7.9	YES	NO	bb	bb	0.139
4	1234678-HpCDF	38.37	2.103e4	1.954e4	1.327	1.08	1.05	353.2	YES	NO	bb	bb	5.209

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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	24.37	1.262e3	1.777e3	1.192	0.71	0.77	7.2	YES	NO	bb	dd	0.319
2	23478-PeCDF	30.77	1.474e3	1.023e3	1.126	1.44	1.55	7.9	YES	NO	MM	db	0.250
3	Total-pentafurans	29.66	2.132e3	1.287e3	1.047	1.66	1.55	9.2	YES	NO	bd	bb	0.364
4	12378-PeCDF	29.44	1.320e3	9.929e2	1.015	1.33	1.55	8.5	YES	NO	bb	bb	0.251
5	Total-pentafurans	29.09	1.583e3	1.190e3	1.047	1.33	1.55	6.9	YES	NO	bb	bb	0.295
6	Total-pentafurans	28.00	2.259e3	1.577e3	1.047	1.43	1.55	12.6	YES	NO	dd	dd	0.408
7	234678-HxCDF	35.45	1.869e3	1.645e3	1.052	1.14	1.24	17.3	YES	NO	db	MM	0.463
8	123678-HxCDF	34.58	1.382e3	1.082e3	1.037	1.28	1.24	10.1	YES	NO	db	db	0.314
9	123478-HxCDF	34.44	3.175e3	2.667e3	1.017	1.19	1.24	31.8	YES	NO	bd	bd	0.778
10	Total-hexafurans	33.82	1.199e4	9.721e3	1.045	1.23	1.24	121.9	YES	NO	bb	bb	2.902
11	Total-hexafurans	32.96	9.220e3	7.820e3	1.045	1.18	1.24	88.4	YES	NO	bb	db	2.278
12	123468-HXCDF	32.76	2.979e3	2.727e3	1.087	1.09	1.24	27.9	YES	NO	bb	bd	0.711
13	123789-HxCDF	36.48	6.063e2	5.116e2	1.030	1.19	1.24	5.6	YES	NO	MM	MM	0.168
14	1234789-HpCDF	40.56	1.424e3	1.432e3	1.283	0.99	1.05	21.7	YES	NO	bb	bb	0.445
15	Total-heptafurans	39.01	4.130e4	3.848e4	1.305	1.07	1.05	697.0	YES	NO	bb	bb	11.240
16	Total-heptafurans	38.78	5.311e2	4.563e2	1.305	1.16	1.05	7.9	YES	NO	bb	bb	0.139
17	1234678-HpCDF	38.37	2.103e4	1.954e4	1.327	1.08	1.05	353.2	YES	NO	bb	bb	5.209
18	OCDF	44.68	3.716e4	4.056e4	1.447	0.92	0.89	557.9	YES	NO	bb	bb	14.557
19	13468-PECDF	26.71	8.450e3	5.891e3	1.376	1.43	1.55	74.5	YES	NO	db	db	1.147

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.10	5.583e2	6.600e2	0.879	0.85	0.77	4.8	YES	NO	bd	dd	0.205
2	Total-tetradioxins	24.07	6.202e2	8.072e2	0.879	0.77	0.77	4.0	YES	NO	bd	bd	0.240

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	29.44	9.777e2	6.524e2	1.331	1.50	1.55	5.8	YES	NO	bb	bb	0.238
2	12378-PeCDD	31.04	9.196e2	5.279e2	0.995	1.74	1.55	4.4	YES	NO	bb	bb	0.283

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	34.80	1.607e3	1.237e3	1.028	1.30	1.24	12.3	YES	NO	db	db	0.433
2	Total-hexadioxins	34.68	1.105e4	8.100e3	1.028	1.36	1.24	64.9	YES	NO	dd	bd	2.918
3	Total-hexadioxins	34.33	2.197e3	1.578e3	1.028	1.39	1.24	22.6	YES	NO	bd	bb	0.575
4	124679-HXCDD	33.54	9.166e3	7.343e3	1.125	1.25	1.24	81.6	YES	NO	bb	bb	2.319
5	123789-HxCDD	36.09	2.274e3	2.019e3	0.950	1.13	1.24	22.8	YES	NO	bb	MM	0.708
6	123678-HxCDD	35.71	3.358e3	2.781e3	1.009	1.21	1.24	34.4	YES	NO	db	db	0.945
7	123478-HxCDD	35.58	1.241e3	9.833e2	1.027	1.26	1.24	13.2	YES	NO	bd	bd	0.342

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.83	6.519e4	5.926e4	1.068	1.10	1.05	542.9	YES	NO	bb	bb	28.161
2	1234679-HPCDD	38.82	9.693e4	9.249e4	1.211	1.05	1.05	858.2	YES	NO	bb	bd	37.810

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	25.10	5.583e2	6.600e2	0.879	0.85	0.77	4.8	YES	NO	bd	dd	0.205
2	Total-tetradioxins	24.07	6.202e2	8.072e2	0.879	0.77	0.77	4.0	YES	NO	bd	bd	0.240
3	Total-pentadioxins	29.44	9.777e2	6.524e2	1.331	1.50	1.55	5.8	YES	NO	bb	bb	0.238
4	12378-PeCDD	31.04	9.196e2	5.279e2	0.995	1.74	1.55	4.4	YES	NO	bb	bb	0.283
5	Total-hexadioxins	34.80	1.607e3	1.237e3	1.028	1.30	1.24	12.3	YES	NO	db	db	0.433
6	Total-hexadioxins	34.68	1.105e4	8.100e3	1.028	1.36	1.24	64.9	YES	NO	dd	bd	2.918
7	Total-hexadioxins	34.33	2.197e3	1.578e3	1.028	1.39	1.24	22.6	YES	NO	bd	bb	0.575
8	124679-HXCDD	33.54	9.166e3	7.343e3	1.125	1.25	1.24	81.6	YES	NO	bb	bb	2.319
9	123789-HxCDD	36.09	2.274e3	2.019e3	0.950	1.13	1.24	22.8	YES	NO	bb	MM	0.708
10	123678-HxCDD	35.71	3.358e3	2.781e3	1.009	1.21	1.24	34.4	YES	NO	db	db	0.945
11	123478-HxCDD	35.58	1.241e3	9.833e2	1.027	1.26	1.24	13.2	YES	NO	bd	bd	0.342
12	1234678-HpCDD	39.83	6.519e4	5.926e4	1.068	1.10	1.05	542.9	YES	NO	bb	bb	28.161
13	1234679-HPCDD	38.82	9.693e4	9.249e4	1.211	1.05	1.05	858.2	YES	NO	bb	bd	37.810
14	OCDD	44.46	4.709e5	5.209e5	1.181	0.90	0.89	1754.2	YES	NO	bb	bb	227.620

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.37	1.262e3	1.777e3	1.192	0.71	0.77	7.2	YES	NO	bb	dd	0.319
2	23478-PeCDF	30.77	1.474e3	1.023e3	1.126	1.44	1.55	7.9	YES	NO	MM	db	0.250
3	Total-pentafurans	29.66	2.132e3	1.287e3	1.047	1.66	1.55	9.2	YES	NO	bd	bb	0.364
4	12378-PeCDF	29.44	1.320e3	9.929e2	1.015	1.33	1.55	8.5	YES	NO	bb	bb	0.251
5	Total-pentafurans	29.09	1.583e3	1.190e3	1.047	1.33	1.55	6.9	YES	NO	bb	bb	0.295
6	Total-pentafurans	28.00	2.259e3	1.577e3	1.047	1.43	1.55	12.6	YES	NO	dd	dd	0.408
7	234678-HxCDF	35.45	1.869e3	1.645e3	1.052	1.14	1.24	17.3	YES	NO	db	MM	0.463
8	123678-HxCDF	34.58	1.382e3	1.082e3	1.037	1.28	1.24	10.1	YES	NO	db	db	0.314
9	123478-HxCDF	34.44	3.175e3	2.667e3	1.017	1.19	1.24	31.8	YES	NO	bd	bd	0.778
10	Total-hexafurans	33.82	1.199e4	9.721e3	1.045	1.23	1.24	121.9	YES	NO	bb	bb	2.902
11	Total-hexafurans	32.96	9.220e3	7.820e3	1.045	1.18	1.24	88.4	YES	NO	bb	db	2.278
12	123468-HXCDF	32.76	2.979e3	2.727e3	1.087	1.09	1.24	27.9	YES	NO	bb	bd	0.711
13	123789-HxCDF	36.48	6.063e2	5.116e2	1.030	1.19	1.24	5.6	YES	NO	MM	MM	0.168
14	1234789-HpCDF	40.56	1.424e3	1.432e3	1.283	0.99	1.05	21.7	YES	NO	bb	bb	0.445
15	Total-heptafurans	39.01	4.130e4	3.848e4	1.305	1.07	1.05	697.0	YES	NO	bb	bb	11.240
16	Total-heptafurans	38.78	5.311e2	4.563e2	1.305	1.16	1.05	7.9	YES	NO	bb	bb	0.139
17	1234678-HpCDF	38.37	2.103e4	1.954e4	1.327	1.08	1.05	353.2	YES	NO	bb	bb	5.209
18	OCDF	44.68	3.716e4	4.056e4	1.447	0.92	0.89	557.9	YES	NO	bb	bb	14.557
19	13468-PECDF	26.71	8.450e3	5.891e3	1.376	1.43	1.55	74.5	YES	NO	db	db	1.147
20	Total-tetradioxins	25.10	5.583e2	6.600e2	0.879	0.85	0.77	4.8	YES	NO	bd	dd	0.205
21	Total-tetradioxins	24.07	6.202e2	8.072e2	0.879	0.77	0.77	4.0	YES	NO	bd	bd	0.240
22	Total-pentadioxins	29.44	9.777e2	6.524e2	1.331	1.50	1.55	5.8	YES	NO	bb	bb	0.238
23	12378-PeCDD	31.04	9.196e2	5.279e2	0.995	1.74	1.55	4.4	YES	NO	bb	bb	0.283
24	Total-hexadioxins	34.80	1.607e3	1.237e3	1.028	1.30	1.24	12.3	YES	NO	db	db	0.433
25	Total-hexadioxins	34.68	1.105e4	8.100e3	1.028	1.36	1.24	64.9	YES	NO	dd	bd	2.918
26	Total-hexadioxins	34.33	2.197e3	1.578e3	1.028	1.39	1.24	22.6	YES	NO	bd	bb	0.575
27	124679-HXCDD	33.54	9.166e3	7.343e3	1.125	1.25	1.24	81.6	YES	NO	bb	bb	2.319
28	123789-HxCDD	36.09	2.274e3	2.019e3	0.950	1.13	1.24	22.8	YES	NO	bb	MM	0.708
29	123678-HxCDD	35.71	3.358e3	2.781e3	1.009	1.21	1.24	34.4	YES	NO	db	db	0.945
30	123478-HxCDD	35.58	1.241e3	9.833e2	1.027	1.26	1.24	13.2	YES	NO	bd	bd	0.342
31	1234678-HpCDD	39.83	6.519e4	5.926e4	1.068	1.10	1.05	542.9	YES	NO	bb	bb	28.161
32	1234679-HPCDD	38.82	9.693e4	9.249e4	1.211	1.05	1.05	858.2	YES	NO	bb	bd	37.810
33	OCDD	44.46	4.709e5	5.209e5	1.181	0.90	0.89	1754.2	YES	NO	bb	bb	227.620

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.33	1.678e5					3.2	YES		dd		
2	FUNCTION1 PFK	21.25	5.019e4					1.7	NO		bd		
3	FUNCTION1 PFK	21.19	7.100e4					2.2	NO		db		
4	FUNCTION1 PFK	21.13	3.988e4					1.5	NO		bd		
5	FUNCTION1 PFK	25.58	5.283e3					0.4	NO		bb		
6	FUNCTION1 PFK	25.52	3.479e4					1.2	NO		bb		
7	FUNCTION1 PFK	25.10	1.847e5					1.3	NO		bb		
8	FUNCTION1 PFK	24.66	6.854e3					0.5	NO		bb		
9	FUNCTION1 PFK	24.60	3.584e4					1.2	NO		bb		
10	FUNCTION1 PFK	24.45	3.888e4					0.9	NO		bb		
11	FUNCTION1 PFK	23.40	1.051e5					1.4	NO		bb		
12	FUNCTION1 PFK	23.15	1.927e5					2.0	NO		bb		
13	FUNCTION1 PFK	22.81	2.362e5					1.4	NO		bb		
14	FUNCTION1 PFK	22.59	3.817e5					4.5	YES		db		
15	FUNCTION1 PFK	22.48	4.262e5					4.5	YES		dd		
16	FUNCTION1 PFK	22.39	2.498e5					4.4	YES		dd		
17	FUNCTION1 PFK	22.25	7.293e5					4.7	YES		bd		
18	FUNCTION1 PFK	22.03	4.679e5					3.7	YES		bb		
19	FUNCTION1 PFK	21.63	2.213e5					3.7	YES		bb		
20	FUNCTION1 PFK	21.50	6.133e5					5.3	YES		db		
21	FUNCTION1 PFK	27.38	3.846e5					0.9	NO		bb		
22	FUNCTION1 PFK	27.09	5.553e5					5.4	YES		bb		
23	FUNCTION1 PFK	26.80	3.951e5					2.5	NO		bb		
24	FUNCTION1 PFK	26.68	2.726e4					1.0	NO		bb		
25	FUNCTION1 PFK	26.58	1.253e4					0.6	NO		bb		
26	FUNCTION1 PFK	26.43	3.539e4					1.2	NO		bb		
27	FUNCTION1 PFK	25.91	4.715e3					0.3	NO		bb		
28	FUNCTION1 PFK	25.78	2.114e4					0.8	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.99	3.125e4					1.7	NO		bb		0.000
2	FUNCTION2 PFK	28.85	6.889e4					2.6	NO		bb		0.000
3	FUNCTION2 PFK	28.65	6.929e5					4.5	YES		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	36.21	2.716e6					12.8	YES		bb		0.000
2	FUNCTION3 PFK	35.10	4.174e4					2.6	NO		bb		0.000
3	FUNCTION3 PFK	32.32	3.424e4					2.4	NO		bb		0.000
4	FUNCTION3 PFK	36.63	1.250e6					7.1	YES		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	41.48	6.969e3					1.0	NO		bb		
2	FUNCTION4 PFK	41.05	2.198e3					0.5	NO		bb		
3	FUNCTION4 PFK	40.60	1.043e4					0.7	NO		bb		
4	FUNCTION4 PFK	40.50	2.376e3					0.4	NO		bb		
5	FUNCTION4 PFK	40.18	2.415e4					1.8	NO		bb		
6	FUNCTION4 PFK	40.12	1.485e4					1.0	NO		bb		
7	FUNCTION4 PFK	39.81	1.025e4					1.0	NO		bb		
8	FUNCTION4 PFK	39.40	4.620e4					2.1	NO		bb		
9	FUNCTION4 PFK	39.34	5.744e3					0.8	NO		bb		
10	FUNCTION4 PFK	38.82	5.751e3					0.7	NO		bb		
11	FUNCTION4 PFK	38.77	1.466e4					1.5	NO		bb		
12	FUNCTION4 PFK	38.73	1.925e3					0.4	NO		bb		
13	FUNCTION4 PFK	37.70	4.883e4					0.4	NO		bb		
14	FUNCTION4 PFK	37.51	2.156e4					1.8	NO		bb		
15	FUNCTION4 PFK	42.35	1.919e3					0.4	NO		bb		
16	FUNCTION4 PFK	42.15	1.455e4					1.2	NO		db		
17	FUNCTION4 PFK	42.12	1.238e4					1.2	NO		bd		
18	FUNCTION4 PFK	41.89	2.652e3					0.6	NO		bb		
19	FUNCTION4 PFK	41.83	1.104e4					0.7	NO		bb		
20	FUNCTION4 PFK	41.53	1.004e4					1.1	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.27	3.428e5					20.3	YES		dd		
2	FUNCTION5 PFK	43.16	5.477e5					23.9	YES		dd		
3	FUNCTION5 PFK	43.13	2.450e5					25.2	YES		dd		
4	FUNCTION5 PFK	42.92	3.151e6					33.0	YES		dd		
5	FUNCTION5 PFK	42.70	6.747e5					40.2	YES		dd		
6	FUNCTION5 PFK	42.63	1.569e6					42.6	YES		dd		
7	FUNCTION5 PFK	42.52	4.390e5					44.8	YES		dd		
8	FUNCTION5 PFK	42.49	4.526e5					46.0	YES		dd		
9	FUNCTION5 PFK	42.45	5.882e5					48.0	YES		bd		
10	FUNCTION5 PFK	44.82	2.570e4					1.7	NO		db		
11	FUNCTION5 PFK	44.75	7.424e3					1.4	NO		bd		
12	FUNCTION5 PFK	44.70	3.339e3					0.8	NO		db		
13	FUNCTION5 PFK	44.69	6.663e3					1.2	NO		bd		
14	FUNCTION5 PFK	44.63	1.065e3					0.4	NO		bb		
15	FUNCTION5 PFK	44.43	8.847e3					1.2	NO		bb		
16	FUNCTION5 PFK	44.34	1.016e3					0.4	NO		bb		
17	FUNCTION5 PFK	44.15	1.821e3					0.7	NO		bb		
18	FUNCTION5 PFK	44.10	3.035e4					2.4	NO		db		
19	FUNCTION5 PFK	44.03	2.220e4					2.0	NO		bd		
20	FUNCTION5 PFK	43.91	4.362e3					0.9	NO		bb		
21	FUNCTION5 PFK	43.74	5.711e4					3.6	YES		db		
22	FUNCTION5 PFK	43.66	2.891e5					6.8	YES		dd		
23	FUNCTION5 PFK	43.49	2.435e5					13.0	YES		dd		
24	FUNCTION5 PFK	43.38	5.132e5					16.4	YES		dd		
25	FUNCTION5 PFK	43.32	2.199e5					18.5	YES		dd		
26	FUNCTION5 PFK	45.85	9.150e2					0.4	NO		bb		
27	FUNCTION5 PFK	45.73	1.544e4					1.6	NO		bb		
28	FUNCTION5 PFK	45.66	6.976e3					1.2	NO		bb		
29	FUNCTION5 PFK	45.57	2.910e3					0.7	NO		db		
30	FUNCTION5 PFK	45.54	3.394e3					0.7	NO		bd		
31	FUNCTION5 PFK	45.39	2.588e3					0.6	NO		bb		
32	FUNCTION5 PFK	45.29	1.612e4					1.3	NO		bb		
33	FUNCTION5 PFK	45.21	6.760e3					1.3	NO		bb		
34	FUNCTION5 PFK	45.04	1.496e4					1.5	NO		db		
35	FUNCTION5 PFK	45.01	7.121e3					1.1	NO		bd		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	24.51	1.447e2					1.8	NO		dd		0.000
2	FUNCTION1 HXCD...	24.46	7.879e1					1.6	NO		bd		0.000
3	FUNCTION1 HXCD...	24.14	7.889e1					1.0	NO		bb		0.000
4	FUNCTION1 HXCD...	23.30	1.172e2					1.3	NO		bb		0.000
5	FUNCTION1 HXCD...	21.83	1.081e2					2.2	NO		bb		0.000
6	FUNCTION1 HXCD...	27.30	1.373e2					1.8	NO		bb		0.000
7	FUNCTION1 HXCD...	27.03	8.455e1					1.1	NO		bb		0.000
8	FUNCTION1 HXCD...	26.62	1.361e2					1.6	NO		bb		0.000
9	FUNCTION1 HXCD...	26.41	1.105e2					1.4	NO		db		0.000
10	FUNCTION1 HXCD...	26.31	1.979e2					2.2	NO		dd		0.000
11	FUNCTION1 HXCD...	26.18	1.382e2					1.8	NO		dd		0.000
12	FUNCTION1 HXCD...	26.12	1.005e2					1.4	NO		bd		0.000
13	FUNCTION1 HXCD...	25.85	1.515e2					2.7	NO		bb		0.000
14	FUNCTION1 HXCD...	25.66	9.797e1					1.5	NO		db		0.000
15	FUNCTION1 HXCD...	25.56	1.488e2					2.3	NO		dd		0.000
16	FUNCTION1 HXCD...	25.44	8.995e1					1.7	NO		bd		0.000
17	FUNCTION1 HXCD...	25.25	1.738e2					2.6	NO		bb		0.000
18	FUNCTION1 HXCD...	24.85	7.455e1					1.2	NO		bb		0.000
19	FUNCTION1 HXCD...	24.64	1.145e2					1.4	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...	21.12	1.190e2					1.8	NO		bb		0.000
2	FUNCTION1 HPCD...	27.29	1.189e2					1.7	NO		bb		0.000
3	FUNCTION1 HPCD...	26.61	2.611e2					1.8	NO		bb		0.000
4	FUNCTION1 HPCD...	26.38	1.203e2					2.1	NO		bb		0.000
5	FUNCTION1 HPCD...	25.85	7.313e1					1.6	NO		bb		0.000
6	FUNCTION1 HPCD...	25.73	8.320e1					1.8	NO		bb		0.000
7	FUNCTION1 HPCD...	25.23	1.453e2					3.0	NO		bb		0.000
8	FUNCTION1 HPCD...	24.19	1.077e2					1.5	NO		bb		0.000
9	FUNCTION1 HPCD...	23.45	9.150e1					1.6	NO		bb		0.000
10	FUNCTION1 HPCD...	22.86	7.317e2					9.0	YES		bb		0.000
11	FUNCTION1 HPCD...	21.56	5.021e3					68.1	YES		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	29.26	7.996e1					1.9	NO		bb		0.000
2	FUNCTION2 HPCD...	28.85	9.309e1					1.5	NO		bb		0.000
3	FUNCTION2 HPCD...	28.71	7.057e1					1.4	NO		bb		0.000
4	FUNCTION2 HPCD...	28.38	1.121e2					2.4	NO		bb		0.000
5	FUNCTION2 HPCD...	27.65	7.715e1					2.6	NO		bb		0.000
6	FUNCTION2 HPCD...	31.80	9.739e1					2.0	NO		bb		0.000
7	FUNCTION2 HPCD...	31.69	9.350e1					2.8	NO		bb		0.000
8	FUNCTION2 HPCD...	31.54	1.786e2					2.5	NO		bb		0.000
9	FUNCTION2 HPCD...	31.01	1.739e2					2.5	NO		bb		0.000
10	FUNCTION2 HPCD...	29.86	1.565e2					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	35.97	1.392e2					3.2	YES		bd		0.000
2	FUNCTION3 OCDPE	35.78	9.783e1					2.9	NO		db		0.000
3	FUNCTION3 OCDPE	35.73	9.925e1					3.4	YES		dd		0.000
4	FUNCTION3 OCDPE	35.70	1.802e2					3.6	YES		bd		0.000
5	FUNCTION3 OCDPE	35.58	1.378e2					3.2	YES		bb		0.000
6	FUNCTION3 OCDPE	35.45	7.019e1					1.8	NO		bb		0.000
7	FUNCTION3 OCDPE	34.02	9.760e1					1.6	NO		bb		0.000
8	FUNCTION3 OCDPE	32.95	1.109e2					2.4	NO		bb		0.000
9	FUNCTION3 OCDPE	32.36	8.445e1					1.9	NO		db		0.000
10	FUNCTION3 OCDPE	32.30	7.638e1					2.5	NO		bd		0.000
11	FUNCTION3 OCDPE	36.90	8.562e1					2.7	NO		bb		0.000
12	FUNCTION3 OCDPE	36.53	1.110e2					1.7	NO		bb		0.000
13	FUNCTION3 OCDPE	36.10	1.379e2					3.0	NO		db		0.000
14	FUNCTION3 OCDPE	36.07	1.423e2					3.2	YES		dd		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	38.09	1.071e2					4.4	YES		db		0.000
2	FUNCTION4 NCDPE	37.99	4.787e3					116.1	YES		bd		0.000

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Printed: Wednesday, August 25, 2021 09:22:50 Pacific Daylight Time

ID: BJH0186-SRM1, Name: 21082411, Date: 24-Aug-2021, Time: 20:18:13, 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	45.57	1.190e2					8.0	YES		bb		0.000

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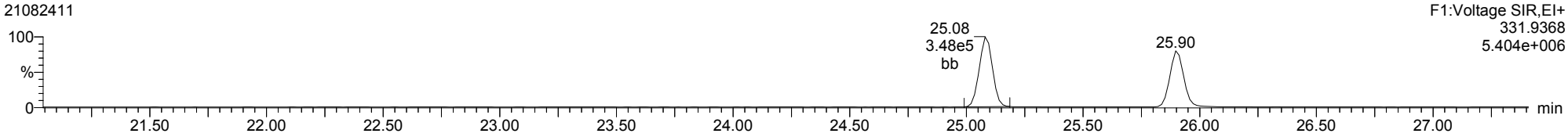

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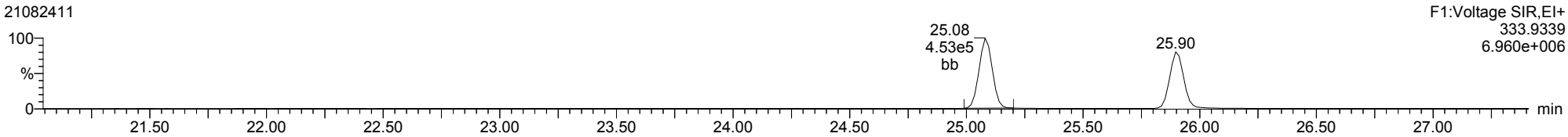

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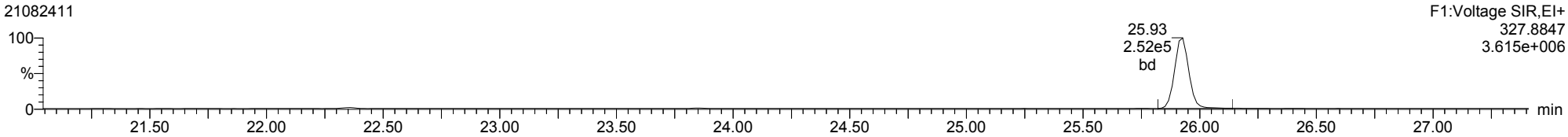

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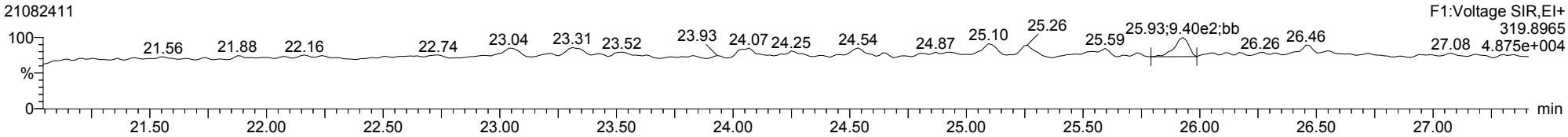

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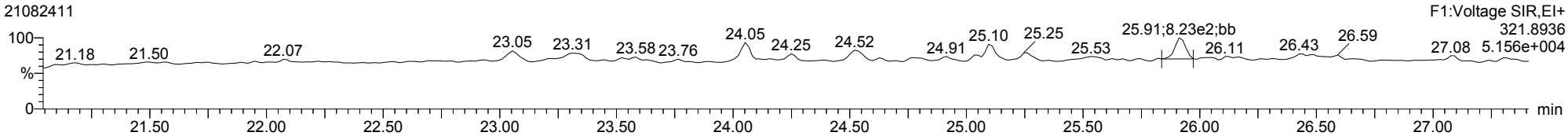

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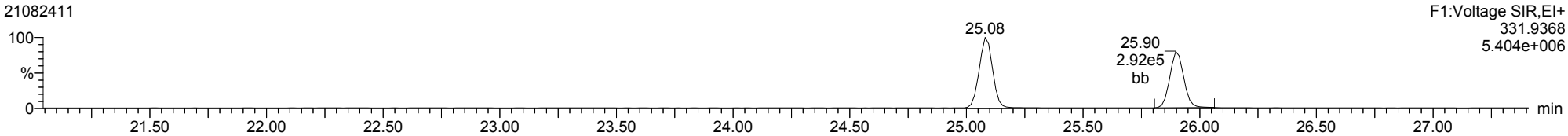

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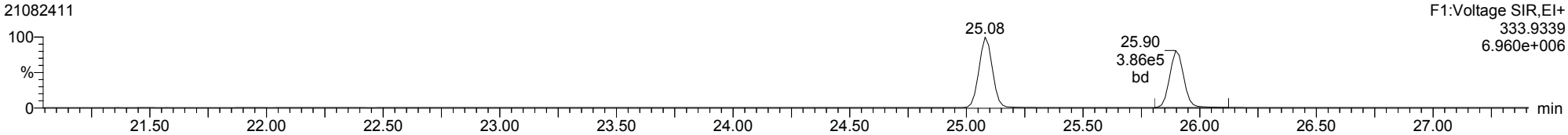

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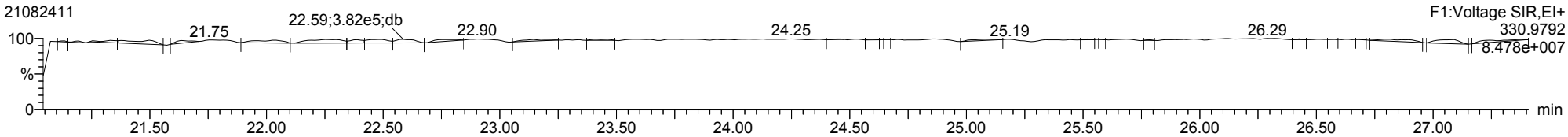

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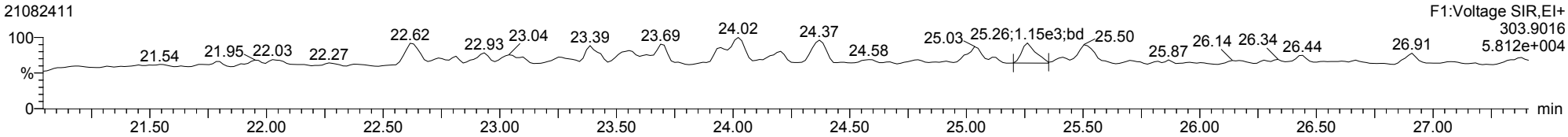
2378-TCDF



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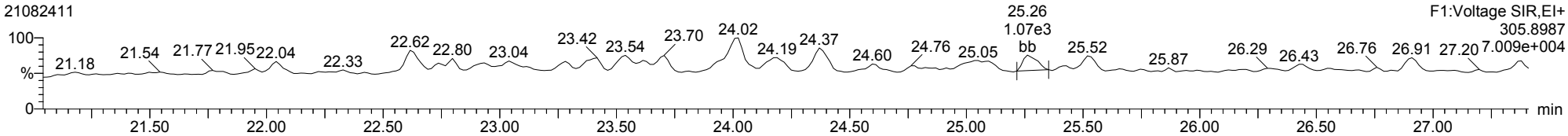

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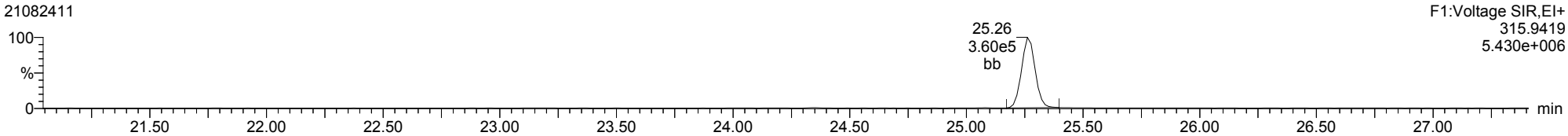

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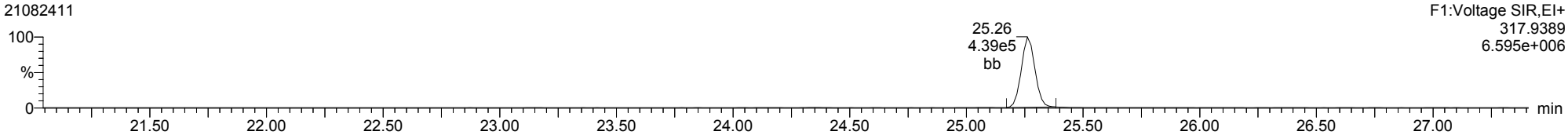
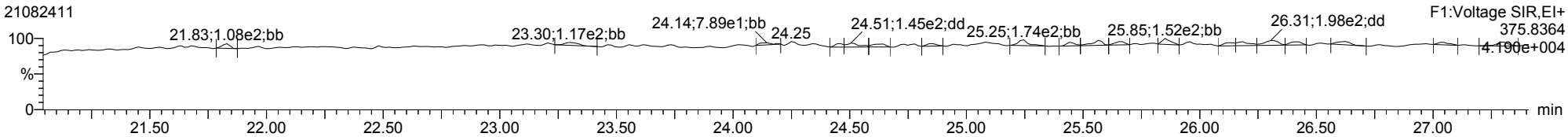


FUNCTION1 HXCDPE



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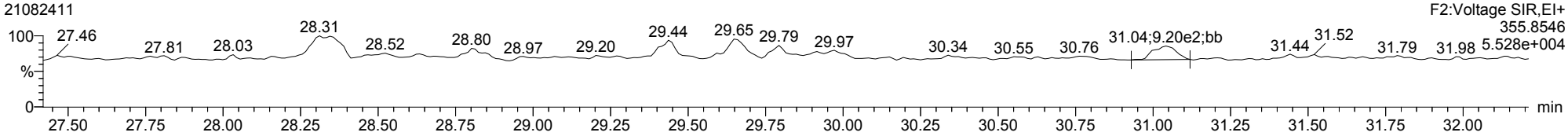
12378-PeCDD



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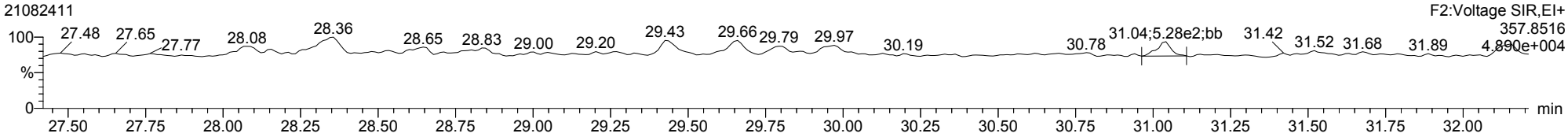

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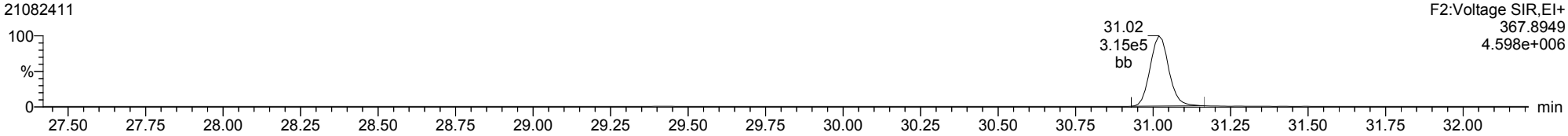

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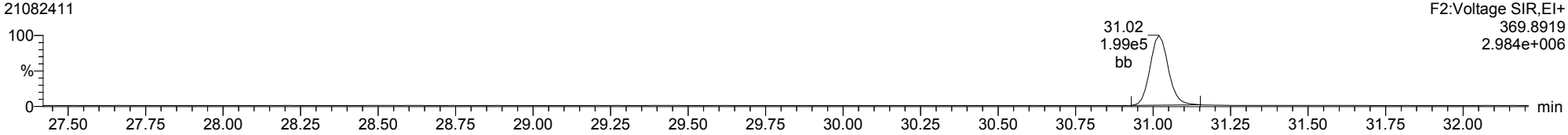
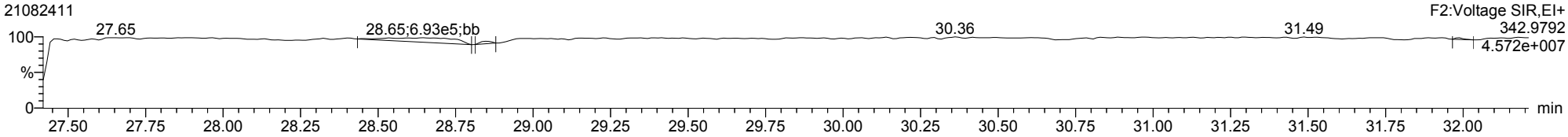


FUNCTION2 PFK



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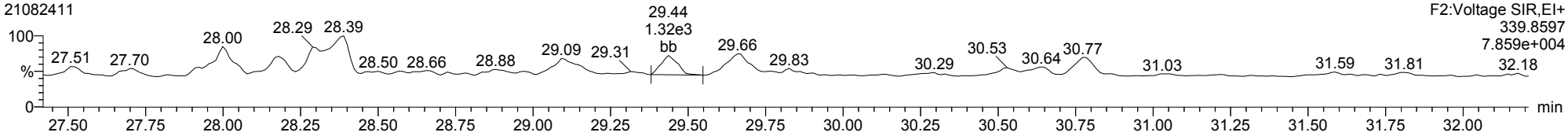

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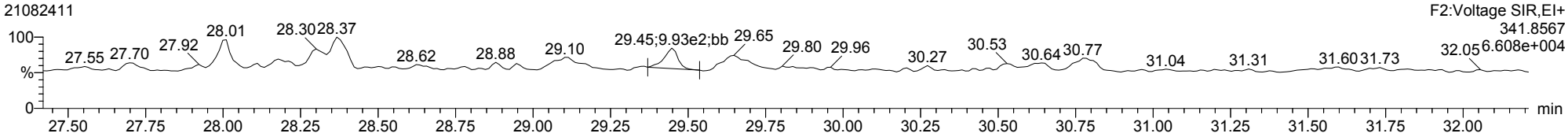

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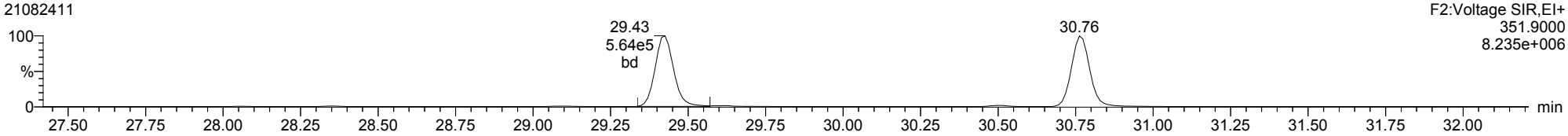

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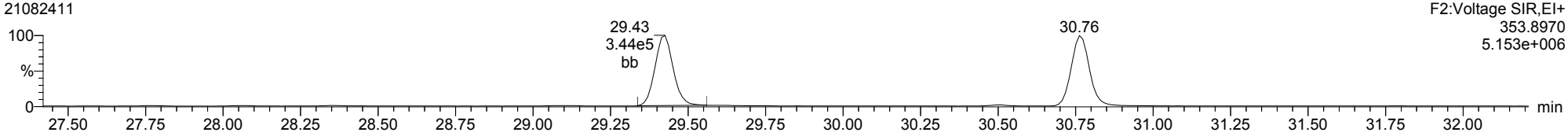
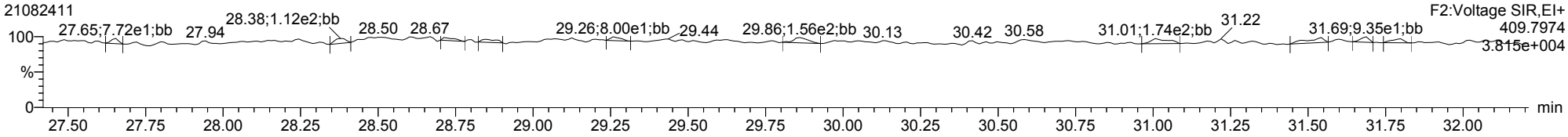


FUNCTION2 HPCDPE



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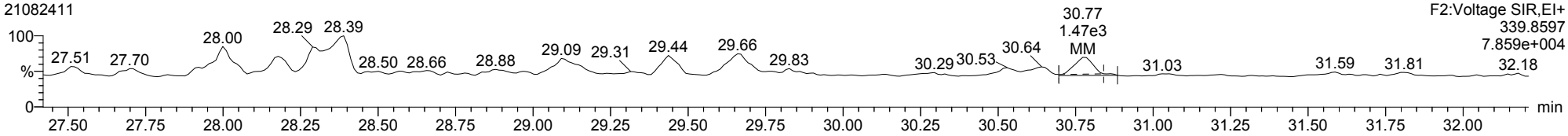

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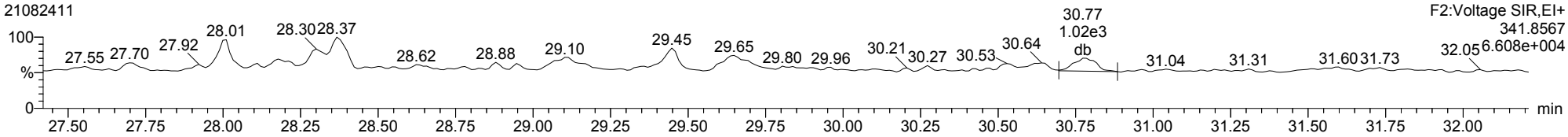

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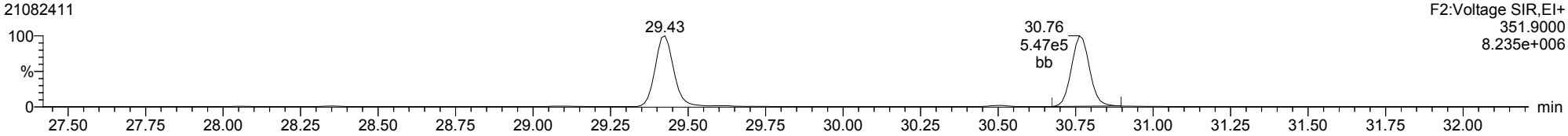

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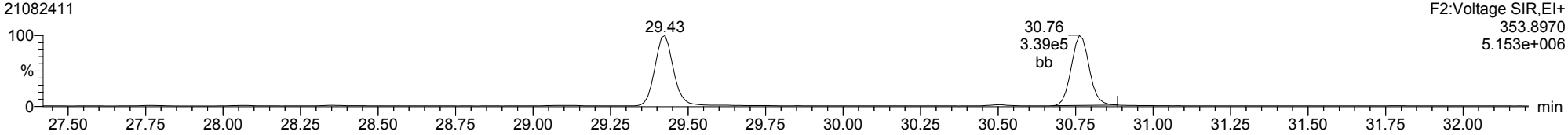
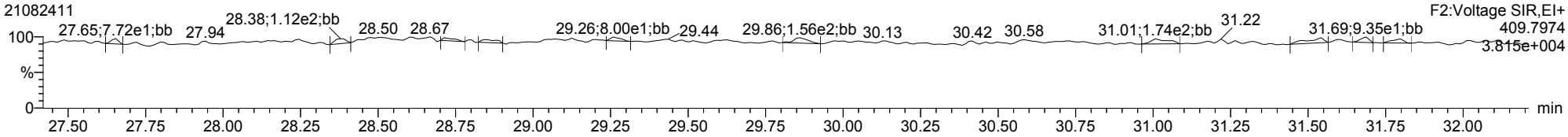


FUNCTION2 HPCDPE



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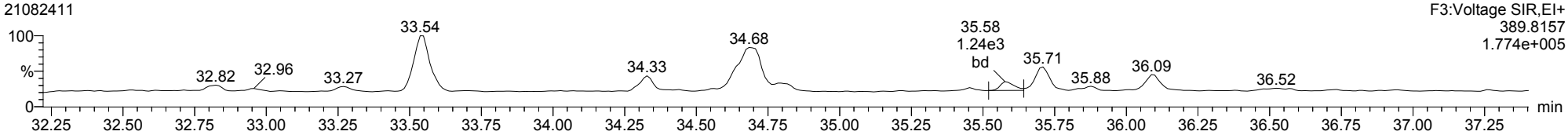

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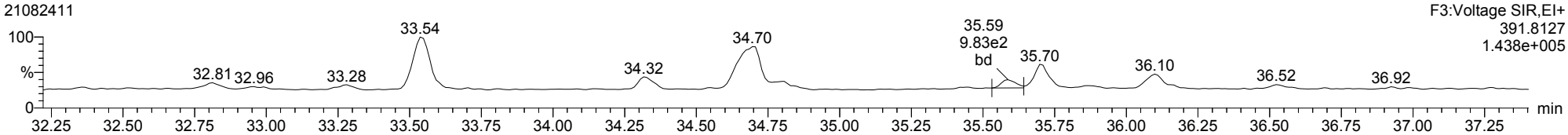

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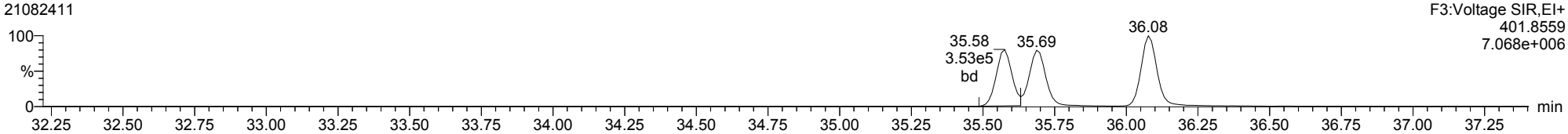

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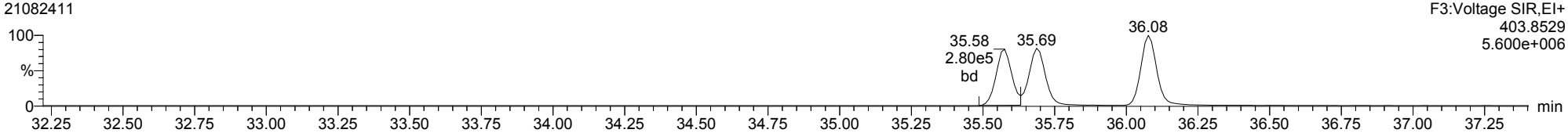
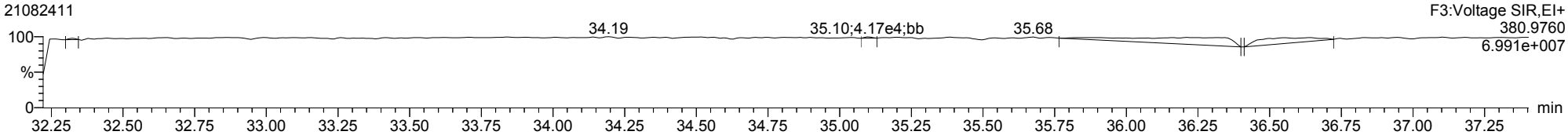


FUNCTION3 PFK



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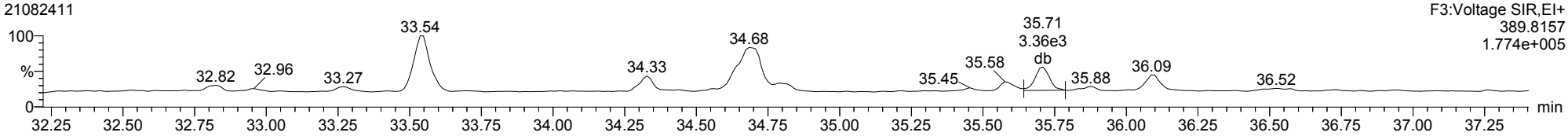

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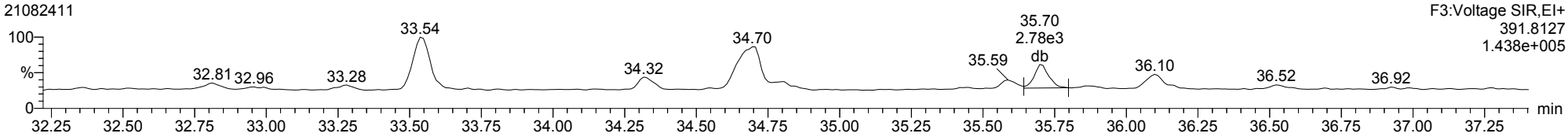

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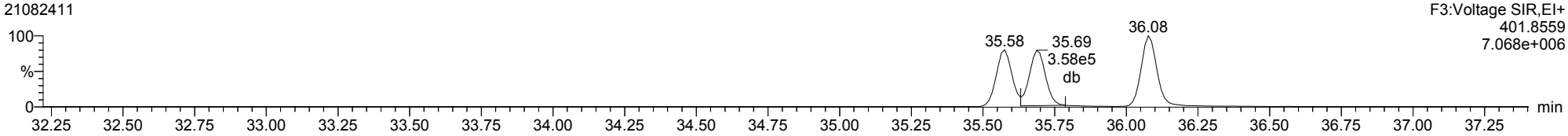

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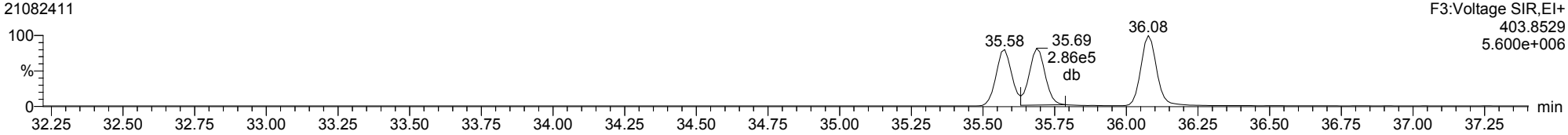

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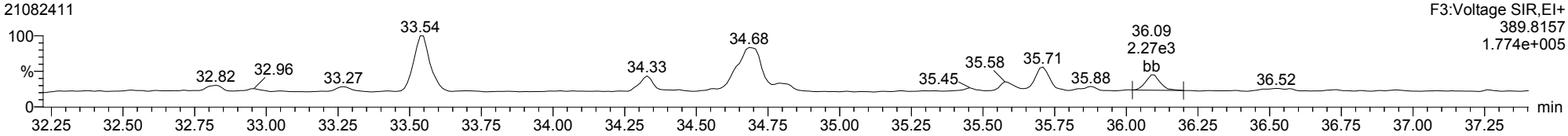

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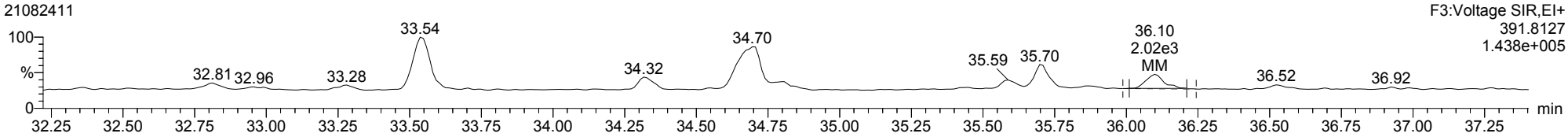

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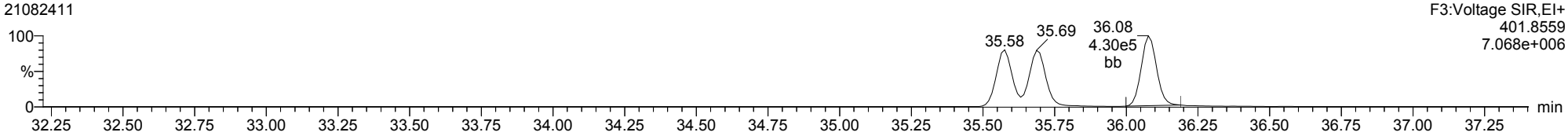

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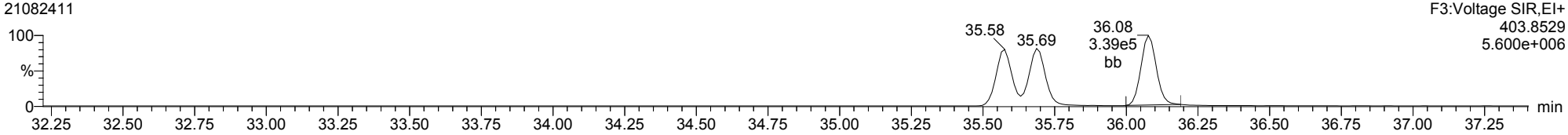

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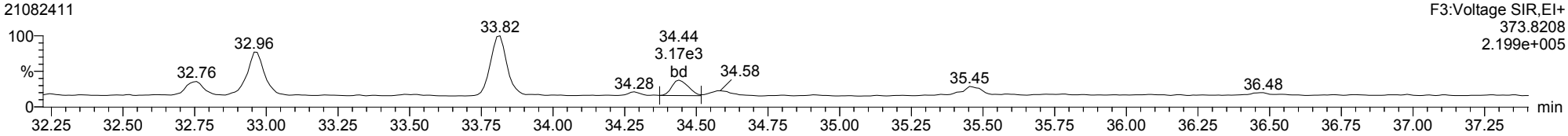

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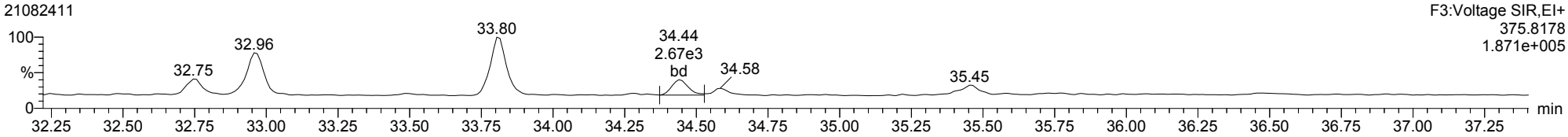

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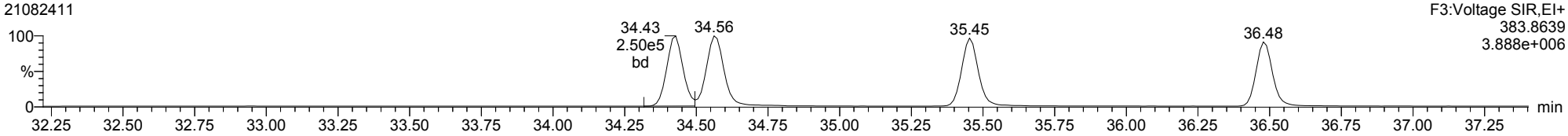

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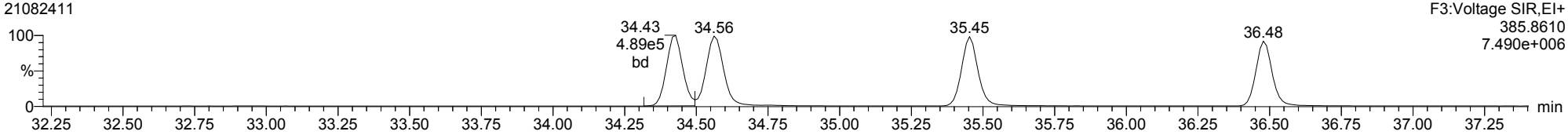

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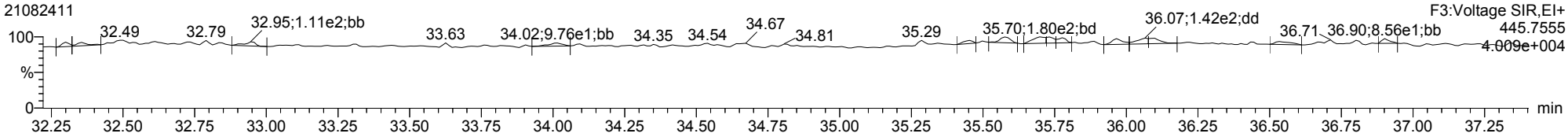

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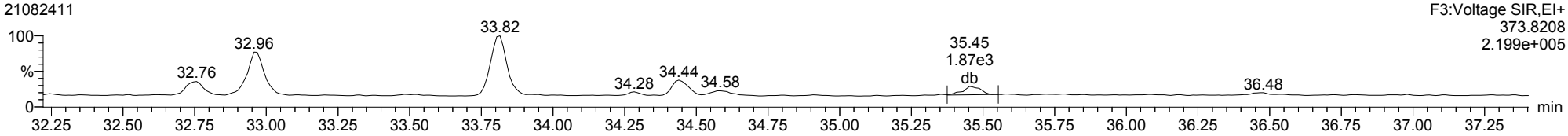

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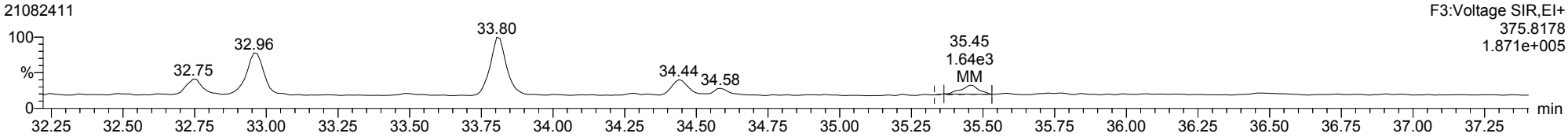

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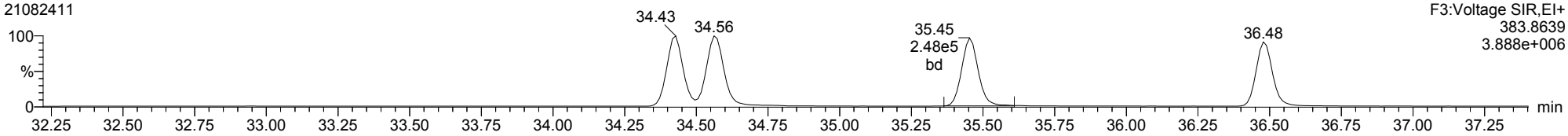

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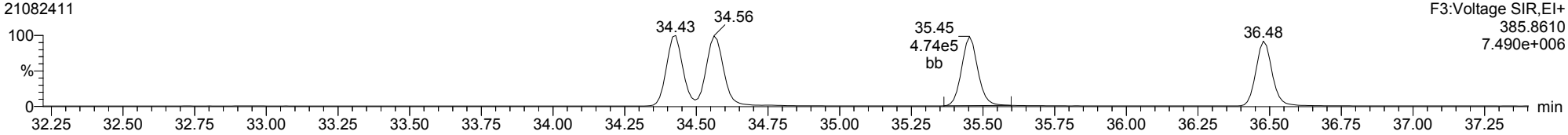

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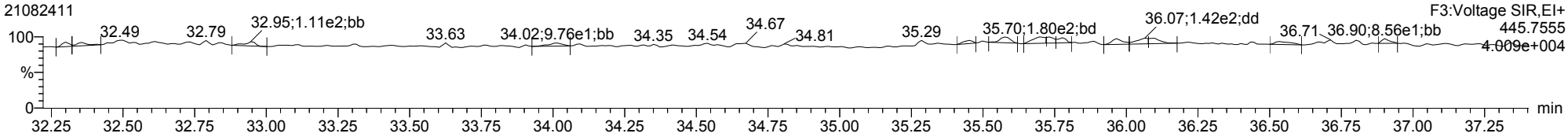

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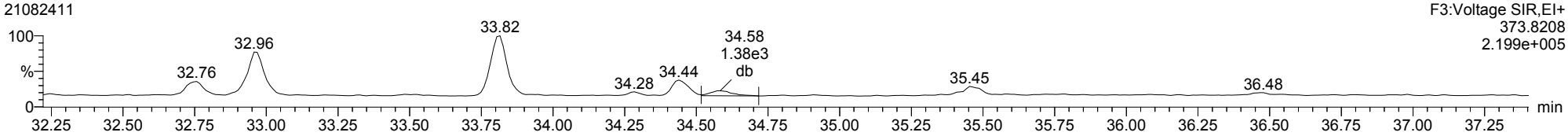

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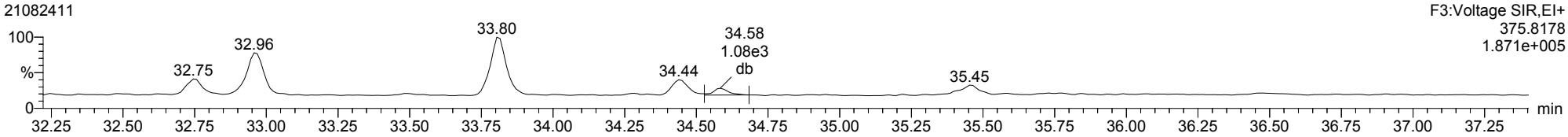

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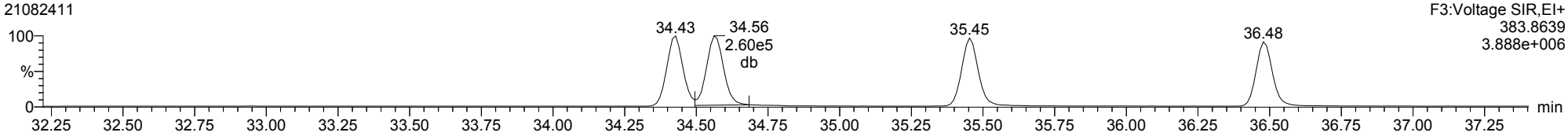

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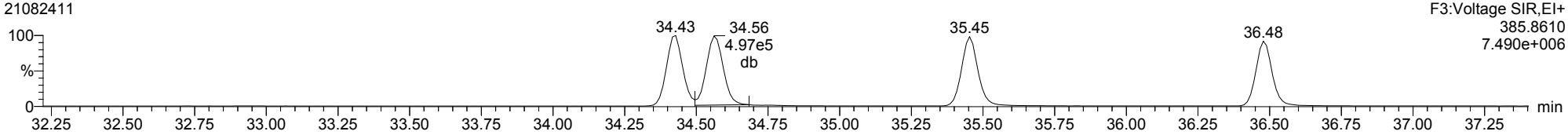

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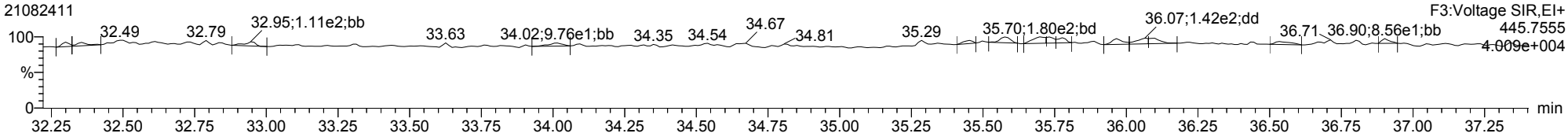

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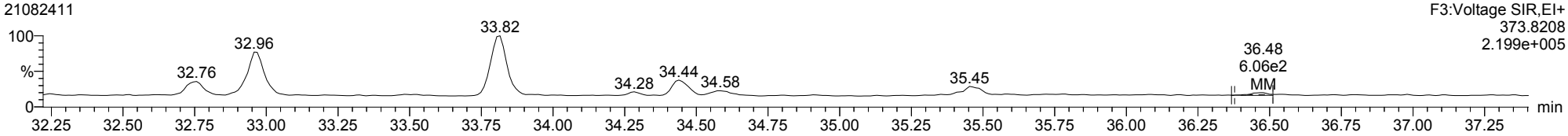

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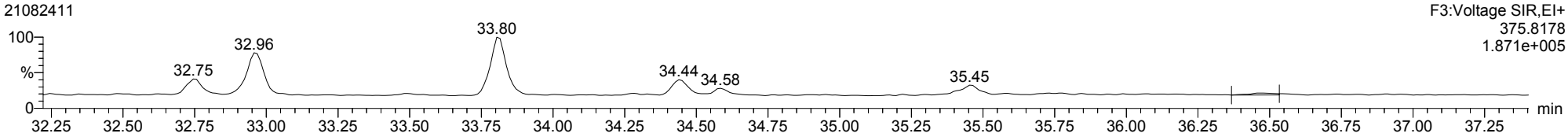

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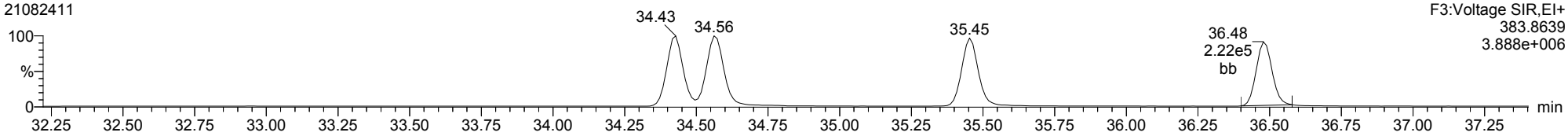

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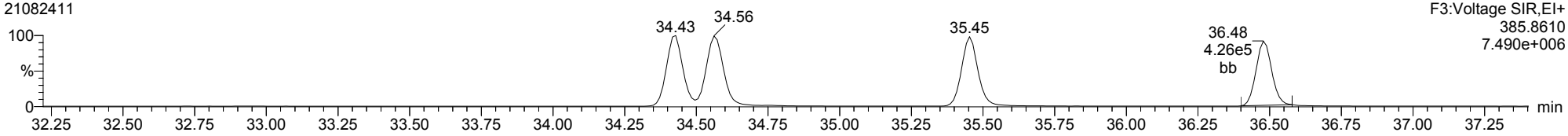

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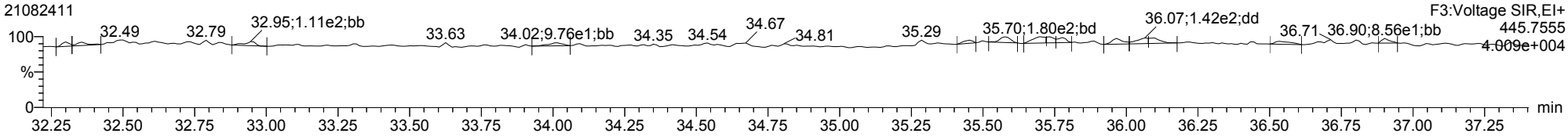

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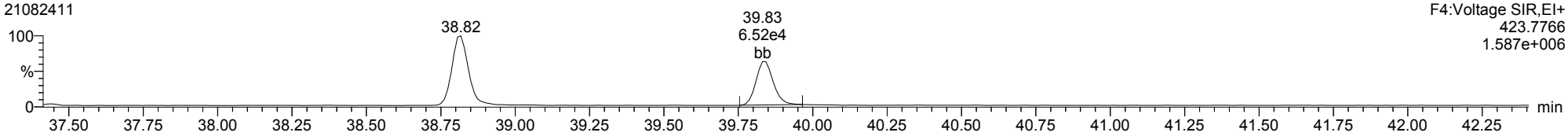

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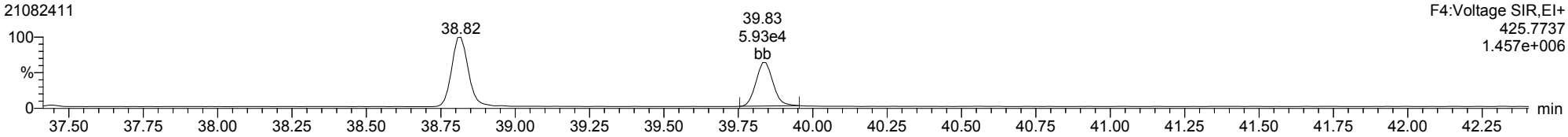

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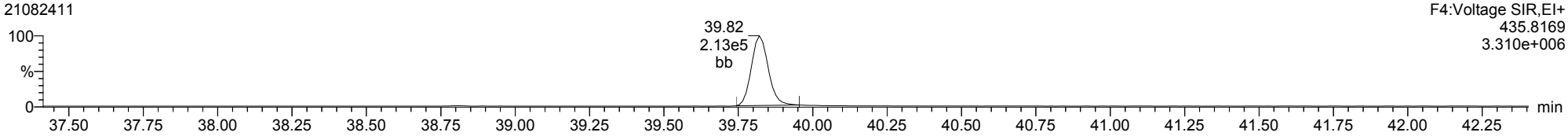

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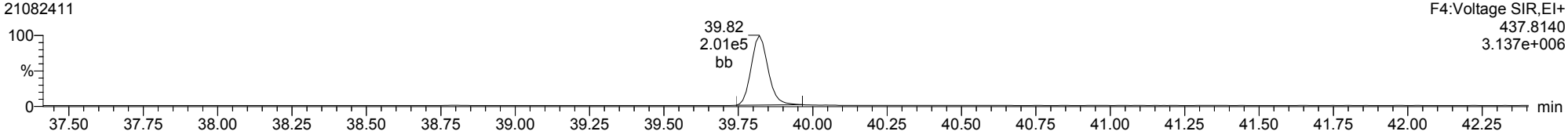

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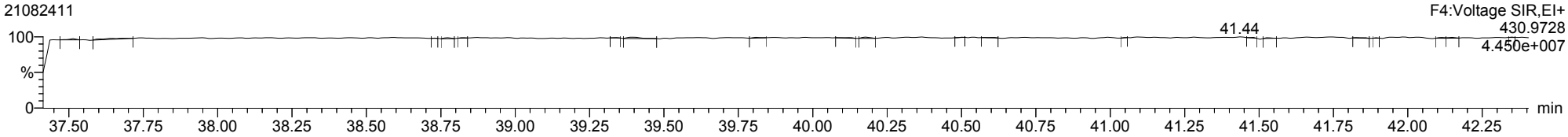

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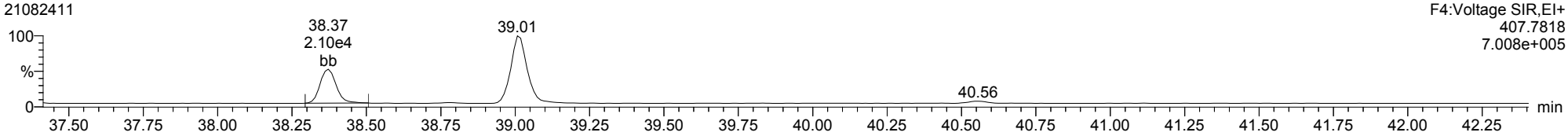

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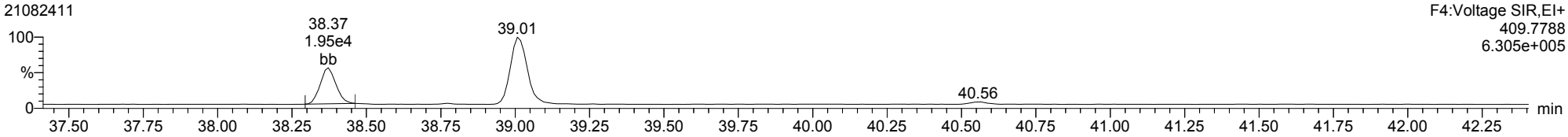

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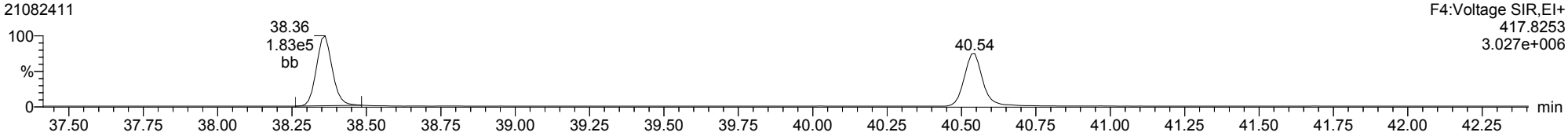

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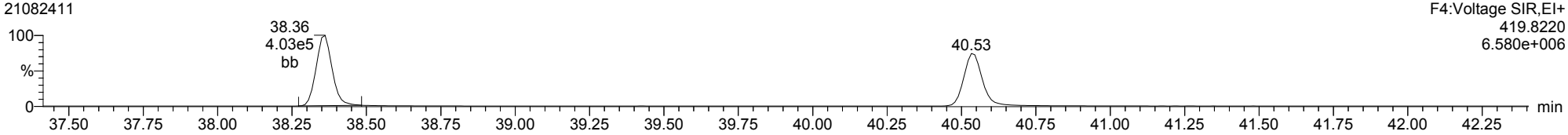

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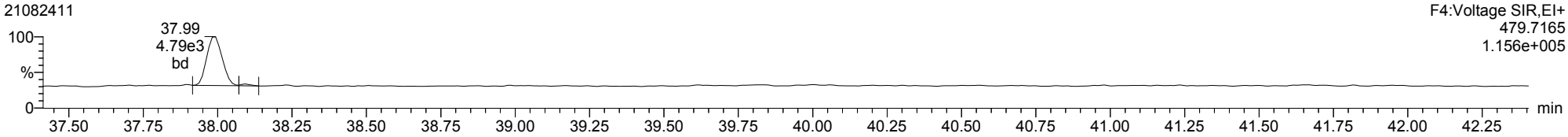

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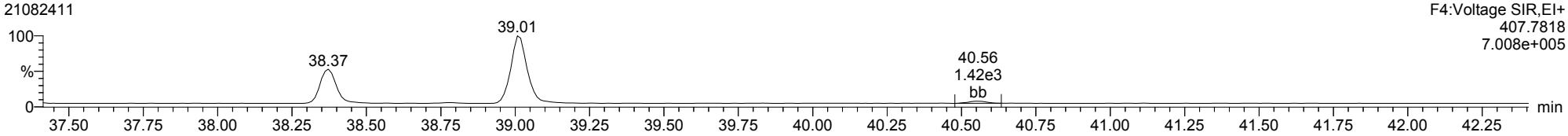

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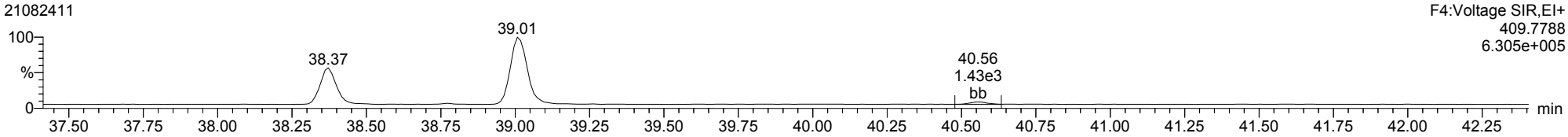

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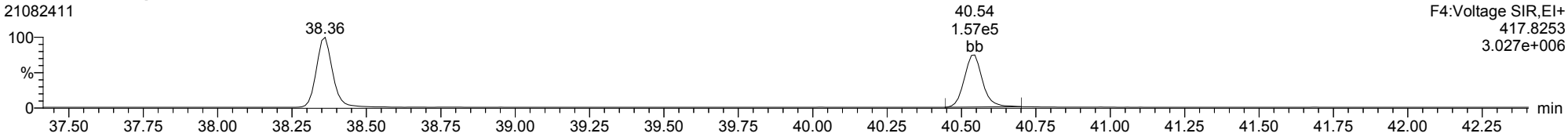

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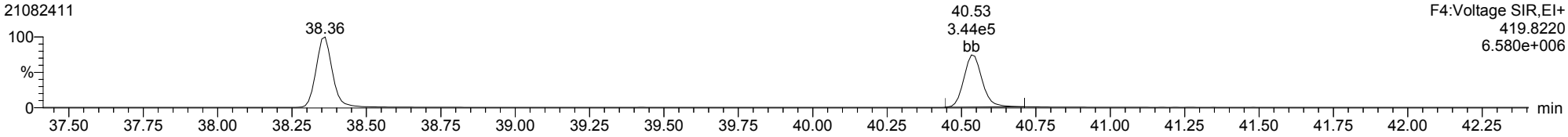

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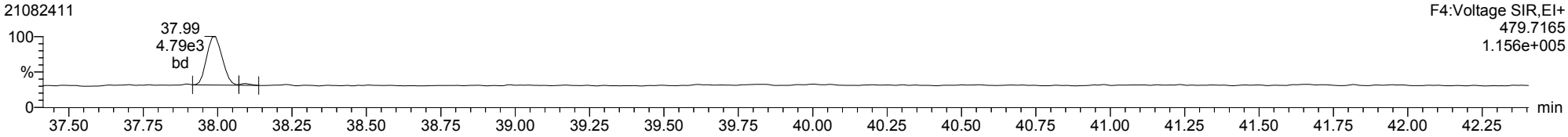

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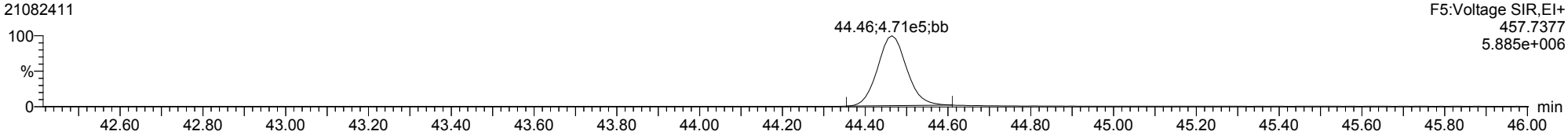

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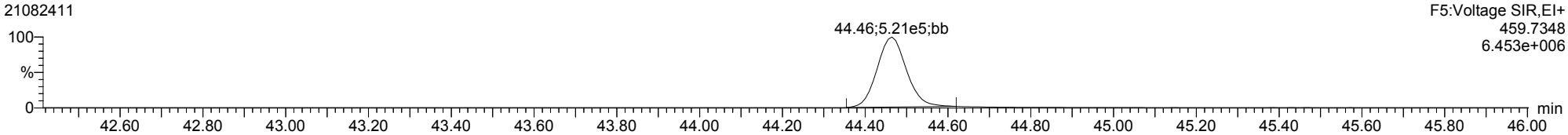

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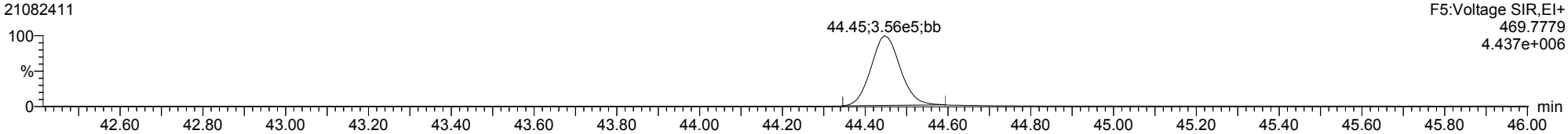

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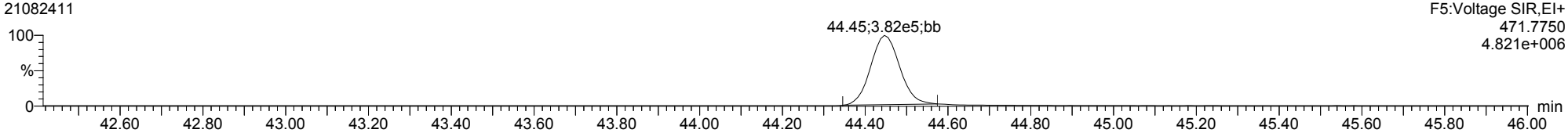
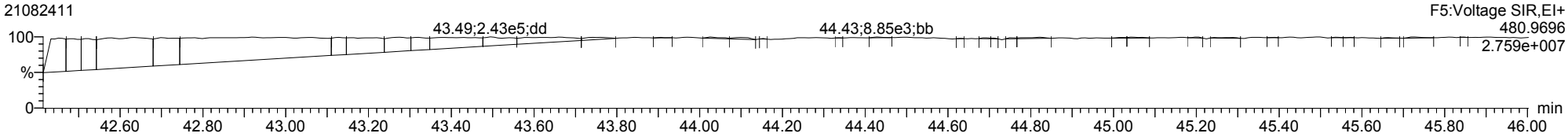


FUNCTION5 PFK



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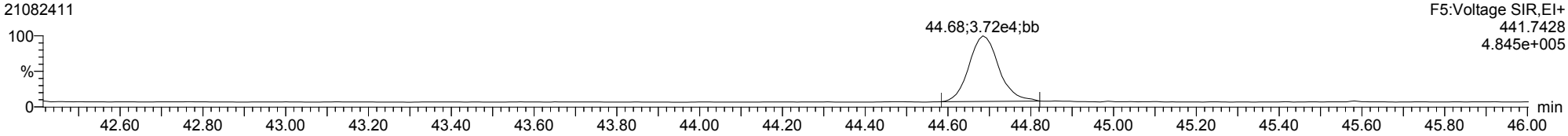

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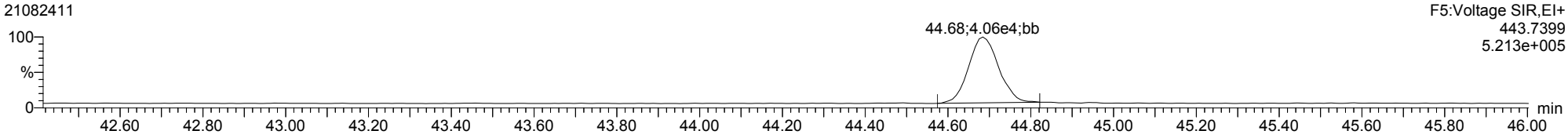

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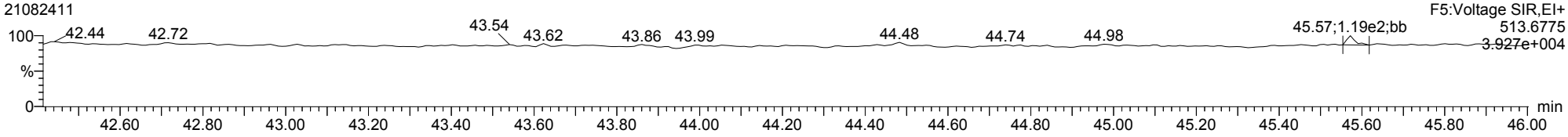

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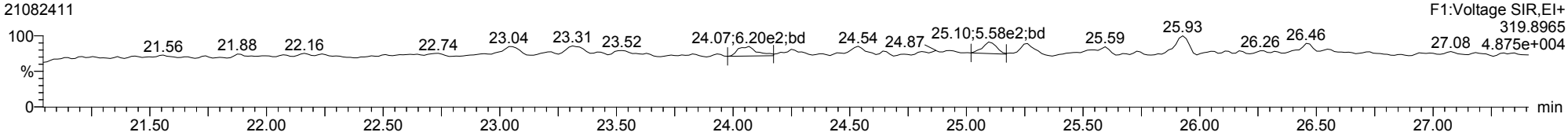

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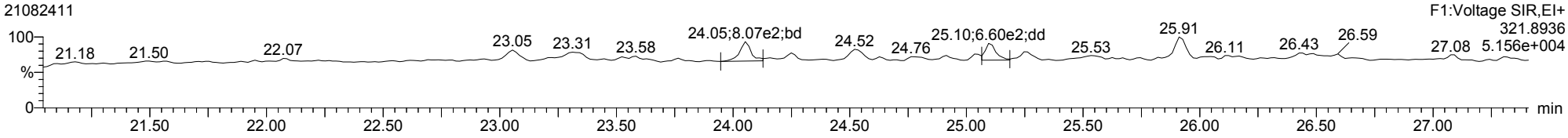

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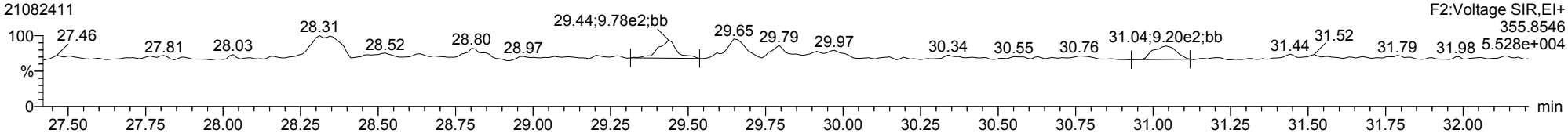

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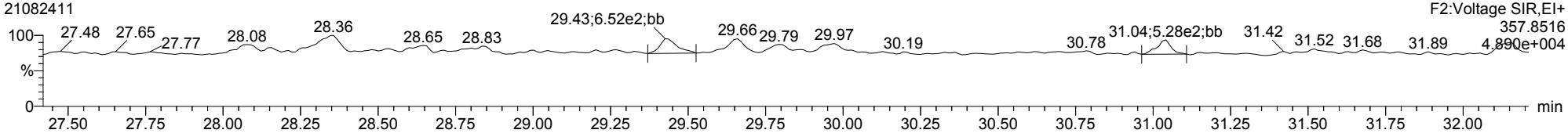

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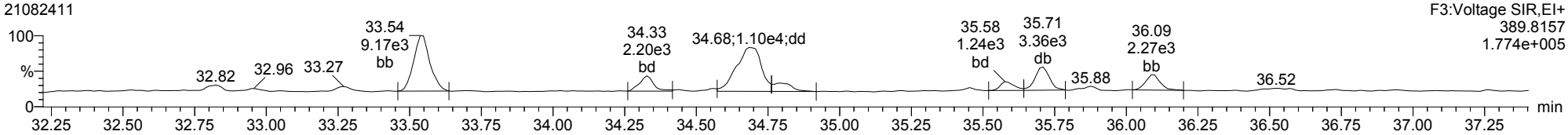

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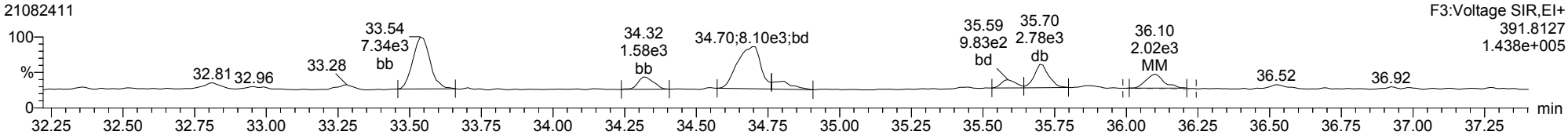

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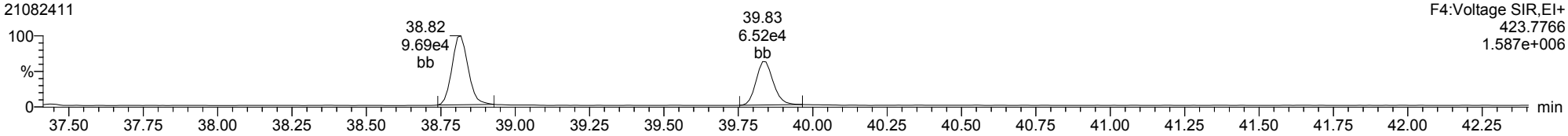

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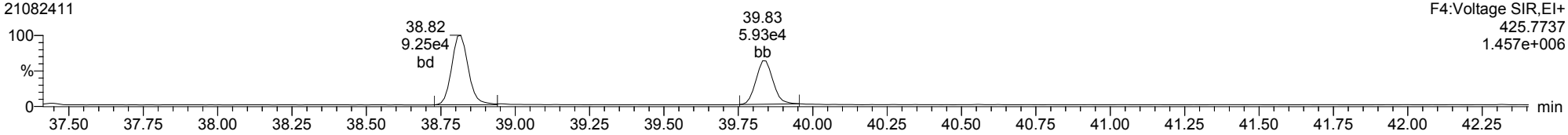

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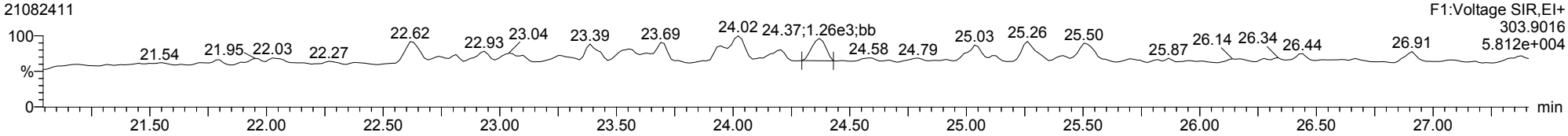
Total-tetrafurans



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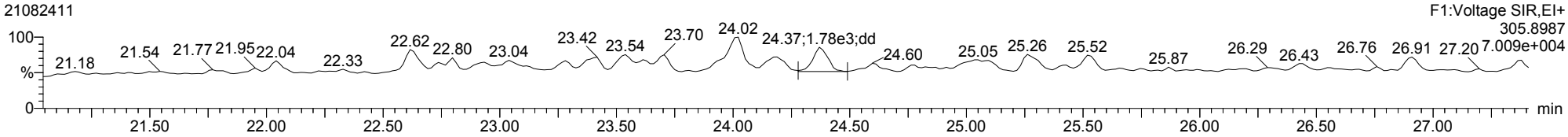

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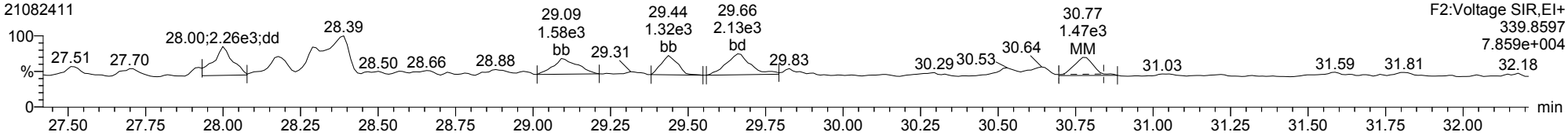

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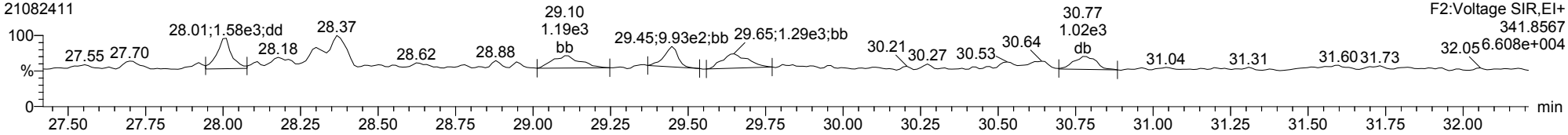

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Printed: Wednesday, August 25, 2021 09:22:50 Pacific Daylight Time

ID: BJH0186-SRM1, Name: 21082411, Date: 24-Aug-2021, Time: 20:18:13, Conditions: AUTOSPEC01, User: pk

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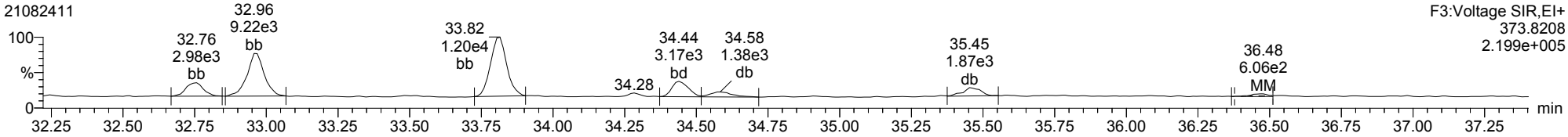

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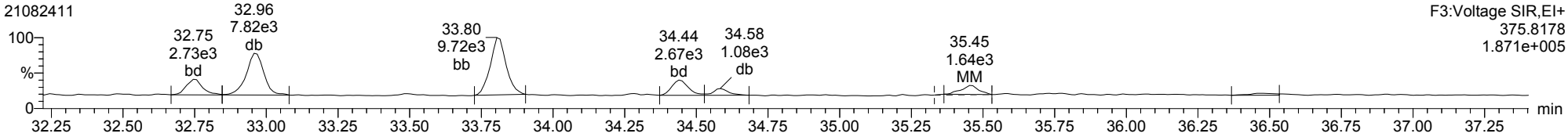

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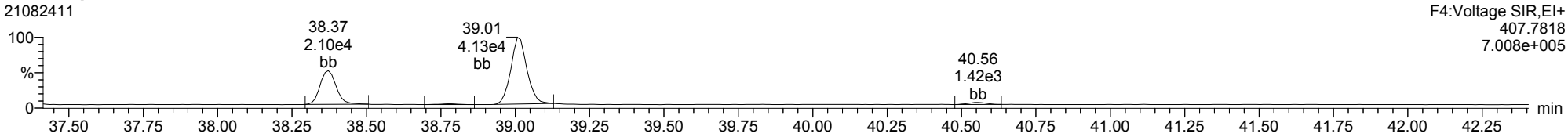

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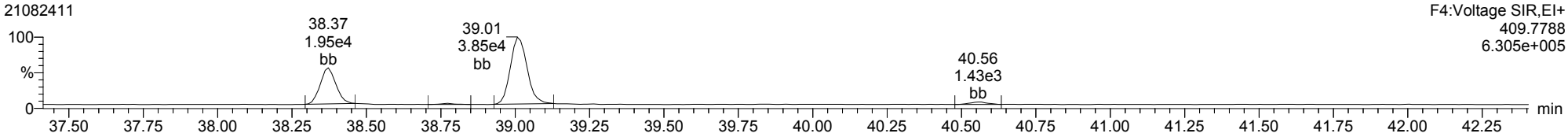

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EC00006	Instrument:	AUTOSPEC01
Calibration Date:	03/01/2021	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	0.7748709	2	0.7831653	10	0.7882736	40	0.7830694	200	0.7781552
2,3,7,8-TCDD			0.5	1.3651	2	1.30578	10	1.259849	40	1.295571	200	1.311057
1,2,3,7,8-PeCDF	0.5	0.8603599	2.5	0.8764169	10	0.8773571	50	0.8645142	200	0.8486305	1000	0.8694004
2,3,4,7,8-PeCDF	0.5	1.118256	2.5	0.9431073	10	0.9399037	50	0.9424602	200	0.9699737	1000	0.9652965
1,2,3,7,8-PeCDD	0.5	0.9273666	2.5	0.9878148	10	0.9895966	50	0.985943	200	0.9828972	1000	0.9981499
1,2,3,4,7,8-HxCDF	0.5	1.073535	2.5	0.9798465	10	1.001271	50	1.001942	200	1.008375	1000	0.9483315
1,2,3,6,7,8-HxCDF	0.5	0.9661642	2.5	0.9966357	10	0.9910789	50	0.95346	200	0.9568166	1000	0.9022143
2,3,4,6,7,8-HxCDF	0.5	1.026166	2.5	1.031376	10	1.059935	50	1.04558	200	1.041998	1000	1.053189
1,2,3,7,8,9-HxCDF	0.5	1.112488	2.5	1.000298	10	1.011938	50	0.9553546	200	0.9315848	1000	0.9541313
1,2,3,4,7,8-HxCDD	0.5	0.9829104	2.5	0.9648049	10	0.9676242	50	0.938107	200	0.9301411	1000	0.9533622
1,2,3,6,7,8-HxCDD	0.5	0.9186338	2.5	0.8913861	10	1.025243	50	0.9824801	200	0.9280584	1000	0.9696846
1,2,3,7,8,9-HxCDD	0.5	0.9505991	2.5	0.8870905	10	0.9803382	50	0.905352	200	0.8952699	1000	0.9427238
1,2,3,4,6,7,8-HpCDF	0.5	1.053876	2.5	1.056606	10	1.07478	50	1.053077	200	1.060433	1000	1.04906
1,2,3,4,7,8,9-HpCDF	0.5	1.073635	2.5	1.083627	10	1.072943	50	1.084052	200	1.038558	1000	1.065618
1,2,3,4,6,7,8-HpCDD	0.5	1.109029	2.5	1.036977	10	1.028518	50	1.027155	200	1.063078	1000	1.065492
OCDF	1	1.512287	5	1.323104	20	1.117361	100	1.207266	400	1.183779	2000	1.196379
OCDD	1	1.214023	5	1.023832	20	1.012505	100	1.070652	400	1.062926	2000	1.059094
13C12-2,3,7,8-TCDF	100	1.94158	100	1.889834	100	1.938641	100	1.869787	100	1.889303	100	2.020351
13C12-2,3,7,8-TCDD	100	1.124146	100	1.11008	100	1.132297	100	1.111067	100	1.116708	100	1.20223
13C12-1,2,3,7,8-PeCDF	100	1.324785	100	1.417396	100	1.392298	100	1.381366	100	1.458154	100	1.679439
13C12-2,3,4,7,8-PeCDF	100	1.300251	100	1.314229	100	1.378532	100	1.331685	100	1.354824	100	1.640351
13C12-1,2,3,7,8-PeCDD	100	0.8992179	100	0.8838896	100	0.9490973	100	0.9065271	100	0.9357045	100	1.106752
13C12-1,2,3,4,7,8-HxCDF	100	1.06252	100	1.058799	100	1.05246	100	1.083351	100	1.040067	100	1.021232
13C12-1,2,3,6,7,8-HxCDF	100	1.123687	100	1.125304	100	1.122636	100	1.184706	100	1.142138	100	1.11161
13C12-2,3,4,6,7,8-HxCDF	100	0.9997932	100	1.066197	100	0.9852867	100	1.015132	100	0.9785955	100	0.9794138
13C12-1,2,3,7,8,9-HxCDF	100	0.8921499	100	0.9008288	100	0.8934276	100	0.9148209	100	0.9264368	100	0.9259996
13C12-1,2,3,4,7,8-HxCDD	100	0.943128	100	0.9275041	100	0.9053886	100	0.962453	100	0.9555316	100	0.9374149
13C12-1,2,3,6,7,8-HxCDD	100	1.054097	100	1.09629	100	1.008303	100	1.043494	100	1.056087	100	0.9940022

Analytical Resources, Incorporated
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INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EC00006	Instrument:	AUTOSPEC01
Calibration Date:	03/01/2021	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	0.9553546	100	0.9539128	100	0.9553307	100	0.9799731	100	0.9526028	100	0.9616751
13C12-1,2,3,4,7,8,9-HpCDF	100	0.7762386	100	0.7926088	100	0.7799964	100	0.8079006	100	0.8037442	100	0.8017816
13C12-1,2,3,4,6,7,8-HpCDD	100	0.8141068	100	0.8083974	100	0.7639869	100	0.8053523	100	0.7610735	100	0.7771319
13C12-OCDD	200	0.6978513	200	0.6931955	200	0.7077803	200	0.6941003	200	0.690797	200	0.7360243
37Cl4-2,3,7,8-TCDD	0.1	2.014412	0.5	1.266981	2	1.261909	10	1.236396	40	1.305496	200	1.416885
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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EC00006	Instrument:	AUTOSPEC01
Calibration Date:	03/01/2021	Column (1):	RTX-Dioxin2

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
2,3,7,8-TCDF	0.7815069	0.7			RSD ()	
2,3,7,8-TCDD	1.307471	2.9			RSD ()	
1,2,3,7,8-PeCDF	0.8661132	1.2			RSD ()	
2,3,4,7,8-PeCDF	0.9798329	7.0			RSD ()	
1,2,3,7,8-PeCDD	0.978628	2.6			RSD ()	
1,2,3,4,7,8-HxCDF	1.002217	4.1			RSD ()	
1,2,3,6,7,8-HxCDF	0.9610616	3.5			RSD ()	
2,3,4,6,7,8-HxCDF	1.043041	1.2			RSD ()	
1,2,3,7,8,9-HxCDF	0.9942991	6.6			RSD ()	
1,2,3,4,7,8-HxCDD	0.9561583	2.1			RSD ()	
1,2,3,6,7,8-HxCDD	0.952581	5.1			RSD ()	
1,2,3,7,8,9-HxCDD	0.9268956	4.0			RSD ()	
1,2,3,4,6,7,8-HpCDF	1.057972	0.9			RSD ()	
1,2,3,4,7,8,9-HpCDF	1.069739	1.6			RSD ()	
1,2,3,4,6,7,8-HpCDD	1.055042	3.0			RSD ()	
OCDF	1.256696	11.3			RSD ()	
OCDD	1.073839	6.7			RSD ()	
13C12-2,3,7,8-TCDF	1.924916	2.9			RSD ()	
13C12-2,3,7,8-TCDD	1.132755	3.1			RSD ()	
13C12-1,2,3,7,8-PeCDF	1.44224	8.6			RSD ()	
13C12-2,3,4,7,8-PeCDF	1.386645	9.2			RSD ()	
13C12-1,2,3,7,8-PeCDD	0.9468647	8.7			RSD ()	
13C12-1,2,3,4,7,8-HxCDF	1.053071	2.0			RSD ()	
13C12-1,2,3,6,7,8-HxCDF	1.135014	2.3			RSD ()	
13C12-2,3,4,6,7,8-HxCDF	1.00407	3.3			RSD ()	
13C12-1,2,3,7,8,9-HxCDF	0.9089439	1.7			RSD ()	
13C12-1,2,3,4,7,8-HxCDD	0.93857	2.2			RSD ()	
13C12-1,2,3,6,7,8-HxCDD	1.042046	3.5			RSD ()	
13C12-1,2,3,4,6,7,8-HpCDF	0.9598082	1.1			RSD ()	
13C12-1,2,3,4,7,8,9-HpCDF	0.7937117	1.7			RSD ()	
13C12-1,2,3,4,6,7,8-HpCDD	0.7883415	3.0			RSD ()	

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INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Calibration:	EC00006	Instrument:	AUTOSPEC01
Calibration Date:	03/01/2021	Column (1):	RTX-Dioxin2

COMPOUND	Mean RRF	RRF RSD	Linear COD	Quad COD	Limit Type & Limit	Q
13C12-OCDD	0.7032915	2.4			RSD ()	
37Cl4-2,3,7,8-TCDD	1.417013	21.1			RSD ()	
13C12-1,2,3,4-TCDD	1	0.0			RSD ()	
13C12-1,2,3,7,8,9-HxCDD	1	0.0			RSD ()	

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Printed: 3/2/2021 3:09:05PM

ANALYSIS SEQUENCE

SJC0004

Instrument: AUTOSPEC01 Element Column ID: I10581
Calibration ID: EC00006 Tune File: JAN2621_1-5
EM Voltage: 370 Resolution check times : 11:12, 20:07

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Comments
SJC0004-ICV1	CS3V2	QC		1	I005452		
SJC0004-RES1	ISCV2	QC		2	I008888		
SJC0004-CAL1	CSLCV	QC		3	I005460		
SJC0004-CAL2	CS1CV	QC		4	I005456		
SJC0004-CAL3	CS2CV	QC		5	I005457		
SJC0004-CAL4	CS3CV	QC		6	I005452		
SJC0004-CAL5	CS4CV	QC		7	I005458		
SJC0004-CAL6	CS5CV	QC		8	I005459		
SJC0004-SCV1	ICVCV	QC		9	G001361		
SJC0004-CCV1	CS3V2	QC		10	I005452		
SJC0004-RES2	ISCV2	QC		11	I008888		

Dataset: Untitled
Last Altered: Tuesday, March 02, 2021 15:04:24 Pacific Standard Time
Printed: Tuesday, March 02, 2021 15:04:38 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 02 Mar 2021 12:01:07
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

Compound name: 2378-TCDF

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2	01-Mar-21	12:05:12	21030103	ISCV1	
3	01-Mar-21	12:54:29	21030104	CSLCV	
4	01-Mar-21	13:49:55	21030105	CS1CV	
5	01-Mar-21	15:09:05	21030106	CS2CV	
6	01-Mar-21	15:57:27	21030107	CS3CV	
7	01-Mar-21	16:46:20	21030108	CS4CV	
8	01-Mar-21	17:35:23	21030109	CS5CV	
9	01-Mar-21	18:24:17	21030110	ICVCV	
10	01-Mar-21	19:13:21	21030111	CS3V2	
11	01-Mar-21	20:07:03	21030112	ISCV2	

Quantify Audit Report MassLynx MassLynx V4.1 SCN909

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:26:39 Pacific Standard Time

3/2/21 [redacted]

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Process Integrate		
Process Calibrate		
Process Quantify		
Dataset Created		
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Pre modification peak	Sample:21030104, Compound:HPF, RT:40.668	1
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Peak deleted	Sample:21030104, Compound:TD, RT:26.108	1
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Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	25.489	1.001	7.379e4	9.289e4	0.782	0.794	0.770	1691	2113	1.09e6	1.39e6	644.7	657.8	NO	bb	bb	10.064
12378-PeCDF	29.628	1.001	4.337e5	2.754e5	0.866	1.575	1.550	2697	3621	6.51e6	4.05e6	2412.4	1117.7	NO	bb	bb	52.499
23478-PeCDF	30.965	1.000	4.672e5	2.808e5	0.980	1.664	1.550	2697	3621	7.16e6	4.29e6	2655.0	1185.5	NO	bb	bb	50.428
123478-HxCDF	34.585	1.000	3.771e5	2.865e5	1.002	1.316	1.240	2353	2393	5.78e6	4.37e6	2454.7	1827.0	NO	bd	bd	53.083
234678-HxCDF	35.599	1.000	3.662e5	2.833e5	1.043	1.293	1.240	2353	2393	5.89e6	4.50e6	2502.3	1878.5	NO	bb	bb	52.472
123678-HxCDF	34.730	1.000	3.883e5	2.933e5	0.961	1.324	1.240	2353	2393	6.06e6	4.54e6	2574.0	1898.9	NO	db	db	53.760
123789-HxCDF	36.635	1.001	3.126e5	2.339e5	0.994	1.336	1.240	2353	2393	4.93e6	3.73e6	2095.9	1560.0	NO	bb	bb	50.771
1234678-HpCDF	38.474	1.000	3.472e5	3.121e5	1.058	1.112	1.050	2827	2764	5.59e6	5.23e6	1977.0	1891.7	NO	bd	bb	53.287
1234789-HpCDF	40.680	1.000	2.951e5	2.603e5	1.070	1.133	1.050	2827	2764	4.10e6	3.75e6	1451.2	1358.0	NO	bd	bb	52.759
OCDF	44.820	1.006	5.318e5	5.483e5	1.257	0.970	0.890	1995	2833	6.08e6	6.48e6	3049.0	2287.4	NO	bd	bb	96.535
2378-TCDD	26.124	1.001	7.410e4	8.807e4	1.307	0.841	0.770	1933	1287	1.07e6	1.30e6	553.7	1011.9	NO	bb	bb	9.920
12378-PeCDD	31.221	1.001	3.192e5	2.063e5	0.979	1.547	1.550	3184	1924	4.85e6	3.16e6	1522.6	1641.2	NO	bb	bb	50.568
123478-HxCDD	35.722	1.001	2.864e5	2.381e5	0.956	1.203	1.240	3423	2360	4.68e6	3.92e6	1368.2	1661.0	NO	bd	bd	48.817
123678-HxCDD	35.833	1.000	3.067e5	2.504e5	0.953	1.225	1.240	3423	2360	4.71e6	3.89e6	1376.2	1648.1	NO	db	db	50.204
123789-HxCDD	36.223	1.011	2.952e5	2.392e5	0.927	1.234	1.240	3423	2360	4.58e6	3.73e6	1336.9	1581.8	NO	bb	bb	50.377
1234678-HpCDD	39.955	1.001	2.666e5	2.571e5	1.055	1.037	1.050	2909	2441	4.06e6	3.77e6	1397.0	1546.3	NO	bb	bb	50.951
OCDD	44.582	1.000	4.209e5	4.840e5	1.074	0.870	0.890	1951	3467	5.09e6	5.90e6	2610.5	1701.2	NO	bb	bb	94.650
13C-2378-TCDF	25.473	1.007	9.262e5	1.193e6	1.925	0.776	0.770	4452	2893	1.39e7	1.78e7	3112.7	6164.5	NO	bb	bb	99.012
13C-12378-PeCDF	29.605	1.171	9.352e5	6.242e5	1.442	1.498	1.550	3330	2513	1.39e7	9.16e6	4168.0	3644.1	NO	bb	bb	97.239
13C-23478-PeCDF	30.953	1.224	9.092e5	6.047e5	1.387	1.503	1.550	3330	2513	1.37e7	9.05e6	4114.8	3603.4	NO	bb	bb	98.191
13C-123478-HxCDF	34.574	0.955	4.183e5	8.290e5	1.053	0.505	0.510	1960	3049	6.60e6	1.29e7	3364.7	4236.2	NO	bd	bd	99.831
13C-123678-HxCDF	34.719	0.959	4.458e5	8.734e5	1.135	0.510	0.510	1960	3049	6.69e6	1.33e7	3410.0	4350.9	NO	db	db	97.967
13C-234678-HxCDF	35.588	0.983	3.995e5	7.872e5	1.004	0.508	0.510	1960	3049	6.19e6	1.22e7	3159.3	4003.7	NO	bb	bb	99.617
13C-123789-HxCDF	36.613	1.011	3.645e5	7.182e5	0.909	0.507	0.510	1960	3049	5.74e6	1.13e7	2928.9	3717.9	NO	bb	bb	100.396
13C-1234678-HpCDF	38.463	1.063	3.544e5	8.151e5	0.960	0.435	0.440	2651	3304	5.79e6	1.35e7	2183.5	4073.8	NO	bb	bb	102.704
13C-1234789-HpCDF	40.668	1.123	2.995e5	6.846e5	0.794	0.437	0.440	2651	3304	4.35e6	9.96e6	1642.1	3013.7	NO	bb	bb	104.495
13C-1234-TCDD	25.292	0.000	4.984e5	6.136e5	1.000	0.812	0.770	2725	1912	7.63e6	9.45e6	2799.5	4941.9	NO	bb	bb	100.000
13C-2378-TCDD	26.108	1.032	5.577e5	6.927e5	1.133	0.805	0.770	2725	1912	8.31e6	1.03e7	3048.6	5407.9	NO	bb	bb	99.276
13C-12378-PeCDD	31.198	1.234	6.558e5	4.061e5	0.947	1.615	1.550	1849	1290	9.57e6	6.01e6	5173.2	4657.0	NO	bb	bb	100.859
13C-123478-HxCDD	35.700	0.986	6.279e5	4.959e5	0.939	1.266	1.240	2784	2882	9.79e6	7.73e6	3517.5	2681.0	NO	bd	bd	100.917
13C-123678-HxCDD	35.822	0.989	6.437e5	5.214e5	1.042	1.235	1.240	2784	2882	9.96e6	8.08e6	3579.1	2803.5	NO	db	db	94.232
13C-1234678-HpCDD	39.933	1.103	5.060e5	4.682e5	0.788	1.081	1.050	2965	2665	7.46e6	7.00e6	2517.3	2626.5	NO	bb	bb	104.154
13C-OCDD	44.564	1.231	8.464e5	9.342e5	0.703	0.906	0.890	3158	3687	1.07e7	1.17e7	3392.9	3172.1	NO	bb	bb	213.393
13C-123789-HxCDD	36.201	0.000	6.593e5	5.272e5	1.000	1.251	1.240	2784	2882	1.01e7	8.17e6	3640.6	2834.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.124	1.033	1.424e5		1.298			2786		2.09e6		748.7			bb		9.873

Dataset: T:\Autospec\Processed Data Batch\210301IHOP.qld
Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	21.996	0.863	8.742e4	1.104e5	0.966	0.792	0.770	1691	2113	1.40e6	1.77e6	826.7	835.7	NO	bb	bb	9.668
1289-TCDF	26.986	1.059	7.194e4	8.938e4	0.736	0.805	0.770	1691	2113	1.01e6	1.25e6	599.5	593.8	NO	db	db	10.346
13468-PECDF	26.834	0.906	5.952e5	4.024e5	1.347	1.479	1.550	1054	1234	8.91e6	6.00e6	8453.7	4867.0	NO	bb	bb	47.499
12389-PECDF	32.001	1.081	4.454e5	2.950e5	0.867	1.510	1.550	2697	3621	6.58e6	4.13e6	2441.7	1139.5	NO	bb	bd	54.774
123468-HXCDF	32.914	0.952	3.821e5	2.910e5	1.036	1.313	1.240	2353	2393	5.80e6	4.48e6	2467.1	1870.1	NO	bb	bb	52.097
1368-TCDD	23.266	0.891	6.772e4	8.709e4	1.256	0.778	0.770	1933	1287	1.05e6	1.32e6	542.7	1028.8	NO	bb	bb	9.861
1289-TCDD	26.729	1.024	6.242e4	7.980e4	1.151	0.782	0.770	1933	1287	9.09e5	1.11e6	470.2	865.7	NO	bb	bb	9.883
12479-PECDD	28.502	0.914	5.432e5	3.538e5	1.773	1.535	1.550	3184	1924	5.28e6	3.44e6	1658.1	1785.6	NO	bb	bb	47.631
12389-PECDD	31.611	1.013	3.769e5	2.472e5	1.171	1.525	1.550	3184	1924	5.54e6	3.69e6	1738.9	1918.9	NO	bb	bb	50.181
124679-HXCDD	33.694	0.944	3.150e5	2.599e5	1.034	1.212	1.240	3423	2360	4.88e6	3.99e6	1425.8	1689.5	NO	bb	bb	49.499
1234679-HPCDD	38.919	0.975	2.924e5	2.817e5	1.194	1.038	1.050	2909	2441	4.79e6	4.59e6	1647.5	1879.0	NO	bb	bb	49.345
Total-tetrafurans			2.350e5		0.828			1691		3.53e6							30.321
Total-penta1			5.952e5					1054		8.91e6							47.499
Total-pentafurans			1.419e6		0.904			2697		2.13e7							166.298
Total-hexafurans			1.827e6		1.007			2353		2.85e7							262.249
Total-heptafurans			6.432e5		1.064			2827		9.71e6							106.188
Total-Furans			5.251e6		0.998			1691		7.80e7							709.090
Total-tetradioxins			3.466e5		1.238			1933		4.69e6							50.647
Total-pentadioxins			1.241e6		1.308			3184		1.57e7							148.534
Total-hexadioxins			1.203e6		0.967			3423		1.88e7							198.897
Total-heptadioxins			5.591e5		1.125			2909		8.86e6							100.318
Total-Dioxins			3.771e6		1.141			1933		5.32e7							593.045
Total-TEQ			9.022e6					1933		1.31e8							1302.135
FUNCTION1 PFK			6.745e6					902036		1.05e8							
FUNCTION2 PFK			1.698e6					508046		3.52e7							0.000
FUNCTION3 PFK			8.207e5					532068		1.74e7							0.000
FUNCTION4 PFK			5.913e5					399274		1.30e7							
FUNCTION5 PFK			1.132e6					197432		1.89e7							
FUNCTION1 HXCD...			7.912e2					700		1.41e4							0.000
FUNCTION1 HPCD...			2.186e3					814		4.07e4							0.000
FUNCTION2 HPCD...			1.462e3					785		2.84e4							0.000
FUNCTION3 OCDPE			9.164e2					572		1.22e4							0.000
FUNCTION4 NCDPE			7.895e2					717		1.45e4							0.000
FUNCTION5 DCDPE			9.454e2					1573		3.09e4							0.000

Dataset: T:\Autospec\Processed Data Batch\210301IHOP.qld
Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	26.99	7.194e4	8.938e4	0.736	0.80	0.77	599.5	YES	NO	db	db	10.346
2	2378-TCDF	25.49	7.379e4	9.289e4	0.782	0.79	0.77	644.7	YES	NO	bb	bb	10.064
3	Total-tetrafurans	24.60	4.809e2	6.548e2	0.828	0.73	0.77	3.9	YES	NO	bb	bb	0.065
4	Total-tetrafurans	24.38	4.928e2	7.502e2	0.828	0.66	0.77	4.2	YES	NO	db	db	0.071
5	Total-tetrafurans	24.26	8.620e2	1.015e3	0.828	0.85	0.77	6.8	YES	NO	bd	bd	0.107
6	1368-TCDF	22.00	8.742e4	1.104e5	0.966	0.79	0.77	826.7	YES	NO	bb	bb	9.668

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.83	5.952e5	4.024e5	1.347	1.48	1.55	8453.7	YES	NO	bb	bb	47.499

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.63	4.337e5	2.754e5	0.866	1.57	1.55	2412.4	YES	NO	bb	bb	52.499
2	Total-pentafurans	28.49	7.314e4	4.630e4	0.904	1.58	1.55	401.3	YES	NO	bb	bb	8.596
3	12389-PECDF	32.00	4.454e5	2.950e5	0.867	1.51	1.55	2441.7	YES	NO	bb	bd	54.774
4	23478-PeCDF	30.96	4.672e5	2.808e5	0.980	1.66	1.55	2655.0	YES	NO	bb	bb	50.428

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.64	3.126e5	2.339e5	0.994	1.34	1.24	2095.9	YES	NO	bb	bb	50.771
2	Total-hexafurans	36.23	4.568e2	3.538e2	1.007	1.29	1.24	4.3	YES	NO	bb	bb	0.067
3	234678-HxCDF	35.60	3.662e5	2.833e5	1.043	1.29	1.24	2502.3	YES	NO	bb	bb	52.472
4	123678-HxCDF	34.73	3.883e5	2.933e5	0.961	1.32	1.24	2574.0	YES	NO	db	db	53.760
5	123478-HxCDF	34.59	3.771e5	2.865e5	1.002	1.32	1.24	2454.7	YES	NO	bd	bd	53.083
6	123468-HXCDF	32.91	3.821e5	2.910e5	1.036	1.31	1.24	2467.1	YES	NO	bb	bb	52.097

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HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.68	2.951e5	2.603e5	1.070	1.13	1.05	1451.2	YES	NO	bd	bb	52.759
2	Total-heptafurans	39.12	8.907e2	7.410e2	1.064	1.20	1.05	5.1	YES	NO	bb	dd	0.142
3	1234678-HpCDF	38.47	3.472e5	3.121e5	1.058	1.11	1.05	1977.0	YES	NO	bd	bb	53.287

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	26.99	7.194e4	8.938e4	0.736	0.80	0.77	599.5	YES	NO	db	db	10.346
2	2378-TCDF	25.49	7.379e4	9.289e4	0.782	0.79	0.77	644.7	YES	NO	bb	bb	10.064
3	Total-tetrafurans	24.60	4.809e2	6.548e2	0.828	0.73	0.77	3.9	YES	NO	bb	bb	0.065
4	Total-tetrafurans	24.38	4.928e2	7.502e2	0.828	0.66	0.77	4.2	YES	NO	db	db	0.071
5	Total-tetrafurans	24.26	8.620e2	1.015e3	0.828	0.85	0.77	6.8	YES	NO	bd	bd	0.107
6	1368-TCDF	22.00	8.742e4	1.104e5	0.966	0.79	0.77	826.7	YES	NO	bb	bb	9.668
7	12378-PeCDF	29.63	4.337e5	2.754e5	0.866	1.57	1.55	2412.4	YES	NO	bb	bb	52.499
8	Total-pentafurans	28.49	7.314e4	4.630e4	0.904	1.58	1.55	401.3	YES	NO	bb	bb	8.596
9	12389-PECDF	32.00	4.454e5	2.950e5	0.867	1.51	1.55	2441.7	YES	NO	bb	bd	54.774
10	23478-PeCDF	30.96	4.672e5	2.808e5	0.980	1.66	1.55	2655.0	YES	NO	bb	bb	50.428
11	123789-HxCDF	36.64	3.126e5	2.339e5	0.994	1.34	1.24	2095.9	YES	NO	bb	bb	50.771
12	Total-hexafurans	36.23	4.568e2	3.538e2	1.007	1.29	1.24	4.3	YES	NO	bb	bb	0.067
13	234678-HxCDF	35.60	3.662e5	2.833e5	1.043	1.29	1.24	2502.3	YES	NO	bb	bb	52.472
14	123678-HxCDF	34.73	3.883e5	2.933e5	0.961	1.32	1.24	2574.0	YES	NO	db	db	53.760
15	123478-HxCDF	34.59	3.771e5	2.865e5	1.002	1.32	1.24	2454.7	YES	NO	bd	bd	53.083
16	123468-HXCDF	32.91	3.821e5	2.910e5	1.036	1.31	1.24	2467.1	YES	NO	bb	bb	52.097
17	1234789-HpCDF	40.68	2.951e5	2.603e5	1.070	1.13	1.05	1451.2	YES	NO	bd	bb	52.759
18	Total-heptafurans	39.12	8.907e2	7.410e2	1.064	1.20	1.05	5.1	YES	NO	bb	dd	0.142
19	1234678-HpCDF	38.47	3.472e5	3.121e5	1.058	1.11	1.05	1977.0	YES	NO	bd	bb	53.287
20	OCDF	44.82	5.318e5	5.483e5	1.257	0.97	0.89	3049.0	YES	NO	bd	bb	96.535
21	13468-PECDF	26.83	5.952e5	4.024e5	1.347	1.48	1.55	8453.7	YES	NO	bb	bb	47.499

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.73	6.242e4	7.980e4	1.151	0.78	0.77	470.2	YES	NO	bb	bb	9.883
2	2378-TCDD	26.12	7.410e4	8.807e4	1.307	0.84	0.77	553.7	YES	NO	bb	bb	9.920
3	Total-tetradioxins	25.81	1.074e5	1.384e5	1.238	0.78	0.77	590.6	YES	NO	bb	bb	15.878
4	Total-tetradioxins	25.32	3.329e4	4.205e4	1.238	0.79	0.77	255.4	YES	NO	bd	bb	4.867
5	Total-tetradioxins	24.46	1.644e3	2.044e3	1.238	0.80	0.77	12.5	YES	NO	db	db	0.238
6	1368-TCDD	23.27	6.772e4	8.709e4	1.256	0.78	0.77	542.7	YES	NO	bb	bb	9.861

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.50	5.432e5	3.538e5	1.773	1.54	1.55	1658.1	YES	NO	bb	bb	47.631
2	12389-PECDD	31.61	3.769e5	2.472e5	1.171	1.52	1.55	1738.9	YES	NO	bb	bb	50.181
3	12378-PeCDD	31.22	3.192e5	2.063e5	0.979	1.55	1.55	1522.6	YES	NO	bb	bb	50.568
4	Total-pentadioxins	30.54	1.305e3	8.352e2	1.308	1.56	1.55	5.8	YES	NO	bb	bb	0.154

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.22	2.952e5	2.392e5	0.927	1.23	1.24	1336.9	YES	NO	bb	bb	50.377
2	123678-HxCDD	35.83	3.067e5	2.504e5	0.953	1.22	1.24	1376.2	YES	NO	db	db	50.204
3	123478-HxCDD	35.72	2.864e5	2.381e5	0.956	1.20	1.24	1368.2	YES	NO	bd	bd	48.817
4	124679-HXCDD	33.69	3.150e5	2.599e5	1.034	1.21	1.24	1425.8	YES	NO	bb	bb	49.499

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.96	2.666e5	2.571e5	1.055	1.04	1.05	1397.0	YES	NO	bb	bb	50.951
2	Total-heptadioxins	39.61	1.218e2	1.312e2	1.125	0.93	1.05	1.6	NO	NO	bb	bb	0.023
3	1234679-HPCDD	38.92	2.924e5	2.817e5	1.194	1.04	1.05	1647.5	YES	NO	bb	bb	49.345

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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	26.73	6.242e4	7.980e4	1.151	0.78	0.77	470.2	YES	NO	bb	bb	9.883
2	2378-TCDD	26.12	7.410e4	8.807e4	1.307	0.84	0.77	553.7	YES	NO	bb	bb	9.920
3	Total-tetradioxins	25.81	1.074e5	1.384e5	1.238	0.78	0.77	590.6	YES	NO	bb	bb	15.878
4	Total-tetradioxins	25.32	3.329e4	4.205e4	1.238	0.79	0.77	255.4	YES	NO	bd	bb	4.867
5	Total-tetradioxins	24.46	1.644e3	2.044e3	1.238	0.80	0.77	12.5	YES	NO	db	db	0.238
6	1368-TCDD	23.27	6.772e4	8.709e4	1.256	0.78	0.77	542.7	YES	NO	bb	bb	9.861
7	12479-PECDD	28.50	5.432e5	3.538e5	1.773	1.54	1.55	1658.1	YES	NO	bb	bb	47.631
8	12389-PECDD	31.61	3.769e5	2.472e5	1.171	1.52	1.55	1738.9	YES	NO	bb	bb	50.181
9	12378-PeCDD	31.22	3.192e5	2.063e5	0.979	1.55	1.55	1522.6	YES	NO	bb	bb	50.568
10	Total-pentadioxins	30.54	1.305e3	8.352e2	1.308	1.56	1.55	5.8	YES	NO	bb	bb	0.154
11	123789-HxCDD	36.22	2.952e5	2.392e5	0.927	1.23	1.24	1336.9	YES	NO	bb	bb	50.377
12	123678-HxCDD	35.83	3.067e5	2.504e5	0.953	1.22	1.24	1376.2	YES	NO	db	db	50.204
13	123478-HxCDD	35.72	2.864e5	2.381e5	0.956	1.20	1.24	1368.2	YES	NO	bd	bd	48.817
14	124679-HXCDD	33.69	3.150e5	2.599e5	1.034	1.21	1.24	1425.8	YES	NO	bb	bb	49.499
15	1234678-HpCDD	39.96	2.666e5	2.571e5	1.055	1.04	1.05	1397.0	YES	NO	bb	bb	50.951
16	Total-heptadioxins	39.61	1.218e2	1.312e2	1.125	0.93	1.05	1.6	NO	NO	bb	bb	0.023
17	1234679-HPCDD	38.92	2.924e5	2.817e5	1.194	1.04	1.05	1647.5	YES	NO	bb	bb	49.345
18	OCDD	44.58	4.209e5	4.840e5	1.074	0.87	0.89	2610.5	YES	NO	bb	bb	94.650

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.99	7.194e4	8.938e4	0.736	0.80	0.77	599.5	YES	NO	db	db	10.346
2	2378-TCDF	25.49	7.379e4	9.289e4	0.782	0.79	0.77	644.7	YES	NO	bb	bb	10.064
3	Total-tetrafurans	24.60	4.809e2	6.548e2	0.828	0.73	0.77	3.9	YES	NO	bb	bb	0.065
4	Total-tetrafurans	24.38	4.928e2	7.502e2	0.828	0.66	0.77	4.2	YES	NO	db	db	0.071
5	Total-tetrafurans	24.26	8.620e2	1.015e3	0.828	0.85	0.77	6.8	YES	NO	bd	bd	0.107
6	1368-TCDF	22.00	8.742e4	1.104e5	0.966	0.79	0.77	826.7	YES	NO	bb	bb	9.668
7	12378-PeCDF	29.63	4.337e5	2.754e5	0.866	1.57	1.55	2412.4	YES	NO	bb	bb	52.499
8	Total-pentafurans	28.49	7.314e4	4.630e4	0.904	1.58	1.55	401.3	YES	NO	bb	bb	8.596
9	12389-PECDF	32.00	4.454e5	2.950e5	0.867	1.51	1.55	2441.7	YES	NO	bb	bd	54.774
10	23478-PeCDF	30.96	4.672e5	2.808e5	0.980	1.66	1.55	2655.0	YES	NO	bb	bb	50.428
11	123789-HxCDF	36.64	3.126e5	2.339e5	0.994	1.34	1.24	2095.9	YES	NO	bb	bb	50.771
12	Total-hexafurans	36.23	4.568e2	3.538e2	1.007	1.29	1.24	4.3	YES	NO	bb	bb	0.067
13	234678-HxCDF	35.60	3.662e5	2.833e5	1.043	1.29	1.24	2502.3	YES	NO	bb	bb	52.472
14	123678-HxCDF	34.73	3.883e5	2.933e5	0.961	1.32	1.24	2574.0	YES	NO	db	db	53.760
15	123478-HxCDF	34.59	3.771e5	2.865e5	1.002	1.32	1.24	2454.7	YES	NO	bd	bd	53.083
16	123468-HXCDF	32.91	3.821e5	2.910e5	1.036	1.31	1.24	2467.1	YES	NO	bb	bb	52.097
17	1234789-HpCDF	40.68	2.951e5	2.603e5	1.070	1.13	1.05	1451.2	YES	NO	bd	bb	52.759
18	Total-heptafurans	39.12	8.907e2	7.410e2	1.064	1.20	1.05	5.1	YES	NO	bb	dd	0.142
19	1234678-HpCDF	38.47	3.472e5	3.121e5	1.058	1.11	1.05	1977.0	YES	NO	bd	bb	53.287
20	OCDF	44.82	5.318e5	5.483e5	1.257	0.97	0.89	3049.0	YES	NO	bd	bb	96.535
21	13468-PECDF	26.83	5.952e5	4.024e5	1.347	1.48	1.55	8453.7	YES	NO	bb	bb	47.499
22	1289-TCDD	26.73	6.242e4	7.980e4	1.151	0.78	0.77	470.2	YES	NO	bb	bb	9.883
23	2378-TCDD	26.12	7.410e4	8.807e4	1.307	0.84	0.77	553.7	YES	NO	bb	bb	9.920
24	Total-tetradioxins	25.81	1.074e5	1.384e5	1.238	0.78	0.77	590.6	YES	NO	bb	bb	15.878
25	Total-tetradioxins	25.32	3.329e4	4.205e4	1.238	0.79	0.77	255.4	YES	NO	bd	bb	4.867
26	Total-tetradioxins	24.46	1.644e3	2.044e3	1.238	0.80	0.77	12.5	YES	NO	db	db	0.238
27	1368-TCDD	23.27	6.772e4	8.709e4	1.256	0.78	0.77	542.7	YES	NO	bb	bb	9.861
28	12479-PECDD	28.50	5.432e5	3.538e5	1.773	1.54	1.55	1658.1	YES	NO	bb	bb	47.631
29	12389-PECDD	31.61	3.769e5	2.472e5	1.171	1.52	1.55	1738.9	YES	NO	bb	bb	50.181
30	12378-PeCDD	31.22	3.192e5	2.063e5	0.979	1.55	1.55	1522.6	YES	NO	bb	bb	50.568
31	Total-pentadioxins	30.54	1.305e3	8.352e2	1.308	1.56	1.55	5.8	YES	NO	bb	bb	0.154
32	123789-HxCDD	36.22	2.952e5	2.392e5	0.927	1.23	1.24	1336.9	YES	NO	bb	bb	50.377
33	123678-HxCDD	35.83	3.067e5	2.504e5	0.953	1.22	1.24	1376.2	YES	NO	db	db	50.204
34	123478-HxCDD	35.72	2.864e5	2.381e5	0.956	1.20	1.24	1368.2	YES	NO	bd	bd	48.817
35	124679-HXCDD	33.69	3.150e5	2.599e5	1.034	1.21	1.24	1425.8	YES	NO	bb	bb	49.499
36	1234678-HpCDD	39.96	2.666e5	2.571e5	1.055	1.04	1.05	1397.0	YES	NO	bb	bb	50.951
37	Total-heptadioxins	39.61	1.218e2	1.312e2	1.125	0.93	1.05	1.6	NO	NO	bb	bb	0.023

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Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	38.92	2.924e5	2.817e5	1.194	1.04	1.05	1647.5	YES	NO	bb	bb	49.345
39	OCDD	44.58	4.209e5	4.840e5	1.074	0.87	0.89	2610.5	YES	NO	bb	bb	94.650

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.45	1.451e5					2.7	NO		dd		
2	FUNCTION1 PFK	21.36	2.113e5					3.0	YES		dd		
3	FUNCTION1 PFK	21.25	1.720e5					2.3	NO		dd		
4	FUNCTION1 PFK	21.16	1.329e5					2.1	NO		bd		
5	FUNCTION1 PFK	23.11	6.638e4					1.8	NO		dd		
6	FUNCTION1 PFK	23.04	1.243e5					1.7	NO		dd		
7	FUNCTION1 PFK	22.90	7.974e4					1.8	NO		dd		
8	FUNCTION1 PFK	22.78	1.279e5					1.7	NO		dd		
9	FUNCTION1 PFK	22.69	1.267e5					2.0	NO		dd		
10	FUNCTION1 PFK	22.57	1.076e5					2.1	NO		dd		
11	FUNCTION1 PFK	22.45	1.284e5					2.1	NO		dd		
12	FUNCTION1 PFK	22.34	1.229e5					2.1	NO		dd		
13	FUNCTION1 PFK	22.22	1.739e5					2.1	NO		dd		
14	FUNCTION1 PFK	22.12	9.299e4					1.6	NO		dd		
15	FUNCTION1 PFK	22.01	1.474e5					2.1	NO		dd		
16	FUNCTION1 PFK	21.92	1.602e5					2.0	NO		dd		
17	FUNCTION1 PFK	21.80	1.527e5					2.1	NO		dd		
18	FUNCTION1 PFK	21.68	1.193e5					2.2	NO		dd		
19	FUNCTION1 PFK	21.57	1.969e5					2.7	NO		dd		
20	FUNCTION1 PFK	21.51	1.006e5					2.2	NO		dd		
21	FUNCTION1 PFK	24.57	1.027e5					1.5	NO		dd		
22	FUNCTION1 PFK	24.45	7.700e4					1.1	NO		dd		
23	FUNCTION1 PFK	24.37	5.995e4					1.5	NO		dd		
24	FUNCTION1 PFK	24.32	4.082e4					1.3	NO		dd		
25	FUNCTION1 PFK	24.23	1.214e5					2.1	NO		bd		
26	FUNCTION1 PFK	24.11	6.668e4					1.7	NO		bb		
27	FUNCTION1 PFK	24.02	1.166e5					2.0	NO		db		
28	FUNCTION1 PFK	23.90	7.806e4					1.7	NO		dd		
29	FUNCTION1 PFK	23.78	1.140e5					1.9	NO		dd		
30	FUNCTION1 PFK	23.67	1.251e5					2.1	NO		dd		
31	FUNCTION1 PFK	23.60	4.794e4					1.5	NO		dd		
32	FUNCTION1 PFK	23.57	6.470e4					1.5	NO		dd		
33	FUNCTION1 PFK	23.46	8.953e4					1.8	NO		dd		
34	FUNCTION1 PFK	23.34	1.300e5					2.0	NO		dd		
35	FUNCTION1 PFK	23.22	1.105e5					1.5	NO		dd		
36	FUNCTION1 PFK	23.15	6.869e4					1.8	NO		dd		
37	FUNCTION1 PFK	26.35	7.469e4					1.9	NO		dd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	26.24	8.623e4					1.4	NO		dd		
39	FUNCTION1 PFK	26.11	9.719e4					1.5	NO		dd		
40	FUNCTION1 PFK	26.02	7.610e4					1.5	NO		dd		
41	FUNCTION1 PFK	25.90	8.091e4					1.5	NO		dd		
42	FUNCTION1 PFK	25.79	6.062e4					1.2	NO		bd		
43	FUNCTION1 PFK	25.69	4.164e4					1.2	NO		bb		
44	FUNCTION1 PFK	25.47	7.145e4					1.1	NO		bb		
45	FUNCTION1 PFK	25.35	7.445e4					1.7	NO		db		
46	FUNCTION1 PFK	25.29	1.854e4					0.7	NO		dd		
47	FUNCTION1 PFK	25.22	9.507e4					1.8	NO		dd		
48	FUNCTION1 PFK	25.13	8.085e4					1.9	NO		dd		
49	FUNCTION1 PFK	25.00	9.681e4					1.4	NO		dd		
50	FUNCTION1 PFK	24.91	1.171e5					1.5	NO		dd		
51	FUNCTION1 PFK	24.81	9.938e4					1.6	NO		dd		
52	FUNCTION1 PFK	24.69	1.189e5					2.3	NO		dd		
53	FUNCTION1 PFK	27.59	5.977e4					1.2	NO		bb		
54	FUNCTION1 PFK	27.48	8.402e4					2.0	NO		db		
55	FUNCTION1 PFK	27.36	1.502e5					2.0	NO		dd		
56	FUNCTION1 PFK	27.24	1.435e5					2.0	NO		dd		
57	FUNCTION1 PFK	27.15	1.095e5					1.8	NO		dd		
58	FUNCTION1 PFK	27.02	1.821e5					2.1	NO		dd		
59	FUNCTION1 PFK	26.92	1.667e5					2.6	NO		dd		
60	FUNCTION1 PFK	26.80	1.219e5					2.3	NO		dd		
61	FUNCTION1 PFK	26.68	1.204e5					2.0	NO		dd		
62	FUNCTION1 PFK	26.59	9.017e4					1.6	NO		dd		
63	FUNCTION1 PFK	26.47	8.773e4					1.9	NO		dd		
64	FUNCTION1 PFK	26.41	3.649e4					1.0	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.02	5.326e4					2.2	NO		db		0.000
2	FUNCTION2 PFK	27.96	6.356e4					2.1	NO		dd		0.000
3	FUNCTION2 PFK	27.81	9.975e4					2.9	NO		bd		0.000
4	FUNCTION2 PFK	29.83	7.293e4					2.7	NO		dd		0.000
5	FUNCTION2 PFK	29.72	6.765e4					2.6	NO		bd		0.000
6	FUNCTION2 PFK	29.63	4.341e4					2.2	NO		db		0.000
7	FUNCTION2 PFK	29.59	2.520e4					1.9	NO		dd		0.000
8	FUNCTION2 PFK	29.48	5.725e4					2.3	NO		bd		0.000
9	FUNCTION2 PFK	29.39	4.762e4					2.2	NO		bb		0.000
10	FUNCTION2 PFK	29.14	3.819e4					1.8	NO		db		0.000
11	FUNCTION2 PFK	29.08	6.314e4					2.2	NO		bd		0.000
12	FUNCTION2 PFK	28.95	5.376e4					1.9	NO		bb		0.000
13	FUNCTION2 PFK	28.70	7.983e4					3.0	NO		db		0.000
14	FUNCTION2 PFK	28.61	7.166e4					2.4	NO		dd		0.000
15	FUNCTION2 PFK	28.51	1.740e4					1.5	NO		dd		0.000
16	FUNCTION2 PFK	28.48	6.060e4					2.6	NO		dd		0.000
17	FUNCTION2 PFK	28.37	6.492e4					2.2	NO		bd		0.000
18	FUNCTION2 PFK	28.26	3.331e4					1.4	NO		bb		0.000
19	FUNCTION2 PFK	28.18	4.145e3					0.4	NO		bb		0.000
20	FUNCTION2 PFK	31.71	2.170e4					1.4	NO		bb		0.000
21	FUNCTION2 PFK	31.51	4.265e4					1.5	NO		bb		0.000
22	FUNCTION2 PFK	31.30	3.427e4					1.6	NO		bb		0.000
23	FUNCTION2 PFK	31.20	3.744e4					1.6	NO		db		0.000
24	FUNCTION2 PFK	31.04	5.453e4					1.8	NO		bd		0.000
25	FUNCTION2 PFK	30.94	1.706e4					1.0	NO		bb		0.000
26	FUNCTION2 PFK	30.86	2.003e3					0.4	NO		bb		0.000
27	FUNCTION2 PFK	30.76	3.991e4					1.5	NO		bb		0.000
28	FUNCTION2 PFK	30.61	6.028e4					2.2	NO		db		0.000
29	FUNCTION2 PFK	30.53	4.321e4					1.6	NO		dd		0.000
30	FUNCTION2 PFK	30.49	2.884e4					1.9	NO		bd		0.000
31	FUNCTION2 PFK	30.28	4.429e4					1.5	NO		db		0.000
32	FUNCTION2 PFK	30.20	5.733e4					1.5	NO		bd		0.000
33	FUNCTION2 PFK	30.06	3.699e4					1.5	NO		db		0.000
34	FUNCTION2 PFK	30.03	2.196e4					1.4	NO		dd		0.000
35	FUNCTION2 PFK	29.94	7.631e4					2.0	NO		dd		0.000
36	FUNCTION2 PFK	32.44	1.832e4					1.2	NO		db		0.000
37	FUNCTION2 PFK	32.39	3.348e4					2.0	NO		bd		0.000

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Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	31.99	8.164e3					0.8	NO		bb		0.000
39	FUNCTION2 PFK	31.89	2.079e3					0.4	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	35.20	5.344e4					1.9	NO		bb		0.000
2	FUNCTION3 PFK	35.09	4.136e4					2.0	NO		bb		0.000
3	FUNCTION3 PFK	34.20	3.005e4					1.4	NO		bb		0.000
4	FUNCTION3 PFK	33.97	4.696e4					1.8	NO		bb		0.000
5	FUNCTION3 PFK	33.86	5.418e4					2.0	NO		bb		0.000
6	FUNCTION3 PFK	33.74	8.789e3					0.9	NO		bb		0.000
7	FUNCTION3 PFK	33.64	2.869e4					1.2	NO		bb		0.000
8	FUNCTION3 PFK	33.19	6.328e4					2.6	NO		db		0.000
9	FUNCTION3 PFK	33.08	5.359e4					2.0	NO		bd		0.000
10	FUNCTION3 PFK	32.78	1.215e4					0.9	NO		bb		0.000
11	FUNCTION3 PFK	32.65	6.643e4					2.3	NO		bb		0.000
12	FUNCTION3 PFK	37.46	3.584e4					1.6	NO		bb		0.000
13	FUNCTION3 PFK	37.31	5.436e4					1.6	NO		bb		0.000
14	FUNCTION3 PFK	36.65	6.482e4					2.4	NO		bb		0.000
15	FUNCTION3 PFK	36.55	6.432e4					2.5	NO		bb		0.000
16	FUNCTION3 PFK	36.11	4.784e4					1.9	NO		bb		0.000
17	FUNCTION3 PFK	35.98	3.870e4					1.8	NO		bb		0.000
18	FUNCTION3 PFK	35.54	5.586e4					1.9	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.38	1.630e4					1.4	NO		db		
2	FUNCTION4 PFK	39.32	3.367e4					2.4	NO		bd		
3	FUNCTION4 PFK	38.66	3.682e4					2.1	NO		bb		
4	FUNCTION4 PFK	38.55	5.819e4					2.5	NO		bb		
5	FUNCTION4 PFK	38.45	2.900e4					2.1	NO		db		
6	FUNCTION4 PFK	38.41	1.642e4					1.6	NO		bd		
7	FUNCTION4 PFK	38.21	2.620e4					2.0	NO		bb		
8	FUNCTION4 PFK	38.01	2.233e4					1.4	NO		bb		
9	FUNCTION4 PFK	41.44	4.718e4					2.0	NO		bb		
10	FUNCTION4 PFK	41.23	3.615e4					1.9	NO		bb		
11	FUNCTION4 PFK	41.03	7.445e4					2.4	NO		bb		
12	FUNCTION4 PFK	40.80	3.629e4					1.8	NO		bb		
13	FUNCTION4 PFK	40.47	4.978e4					2.2	NO		bb		
14	FUNCTION4 PFK	40.14	2.382e4					1.9	NO		db		
15	FUNCTION4 PFK	40.11	4.213e4					2.6	NO		bd		
16	FUNCTION4 PFK	39.89	4.256e4					2.2	NO		bb		

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	43.64	7.787e3					1.5	NO		bb		
2	FUNCTION5 PFK	43.57	5.219e4					4.5	YES		db		
3	FUNCTION5 PFK	43.43	9.439e4					6.1	YES		dd		
4	FUNCTION5 PFK	43.33	1.502e5					8.2	YES		dd		
5	FUNCTION5 PFK	43.25	1.852e5					10.4	YES		dd		
6	FUNCTION5 PFK	43.12	1.881e5					10.8	YES		dd		
7	FUNCTION5 PFK	43.04	9.445e4					11.2	YES		bd		
8	FUNCTION5 PFK	46.03	2.210e4					3.1	YES		bb		
9	FUNCTION5 PFK	45.70	1.811e4					1.9	NO		bb		
10	FUNCTION5 PFK	45.50	3.121e4					2.1	NO		bb		
11	FUNCTION5 PFK	45.41	2.663e4					2.5	NO		bb		
12	FUNCTION5 PFK	45.26	4.464e3					1.2	NO		bb		
13	FUNCTION5 PFK	45.18	4.012e3					1.0	NO		bb		
14	FUNCTION5 PFK	45.07	7.495e3					1.9	NO		bb		
15	FUNCTION5 PFK	44.94	8.495e2					0.5	NO		bb		
16	FUNCTION5 PFK	44.86	1.593e4					2.1	NO		bb		
17	FUNCTION5 PFK	44.76	3.816e4					3.7	YES		db		
18	FUNCTION5 PFK	44.63	4.049e4					3.0	YES		dd		
19	FUNCTION5 PFK	44.53	3.256e4					3.2	YES		bd		
20	FUNCTION5 PFK	44.43	2.848e4					3.5	YES		bb		
21	FUNCTION5 PFK	43.95	4.595e3					1.3	NO		bb		
22	FUNCTION5 PFK	43.90	3.442e3					1.1	NO		db		
23	FUNCTION5 PFK	43.87	8.364e3					1.3	NO		bd		
24	FUNCTION5 PFK	46.36	2.125e4					2.5	NO		bb		
25	FUNCTION5 PFK	46.27	1.178e4					2.2	NO		db		
26	FUNCTION5 PFK	46.25	1.287e4					2.1	NO		dd		
27	FUNCTION5 PFK	46.12	2.695e4					2.5	NO		bd		

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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...	27.41	1.237e2					4.8	YES		bb		0.000
2	FUNCTION1 HXCD...	26.83	2.209e2					4.3	YES		bb		0.000
3	FUNCTION1 HXCD...	26.14	1.339e2					2.3	NO		bb		0.000
4	FUNCTION1 HXCD...	25.49	7.336e1					2.6	NO		bb		0.000
5	FUNCTION1 HXCD...	24.26	7.838e1					2.0	NO		bb		0.000
6	FUNCTION1 HXCD...	21.60	7.788e1					1.9	NO		db		0.000
7	FUNCTION1 HXCD...	21.51	8.309e1					2.4	NO		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.40	9.379e1					1.9	NO		bd		0.000
2	FUNCTION1 HPCD...	22.04	1.933e2					4.3	YES		bb		0.000
3	FUNCTION1 HPCD...	21.53	9.025e1					2.5	NO		bb		0.000
4	FUNCTION1 HPCD...	26.85	1.782e2					2.8	NO		db		0.000
5	FUNCTION1 HPCD...	26.73	9.979e1					1.9	NO		dd		0.000
6	FUNCTION1 HPCD...	26.62	1.694e2					4.7	YES		dd		0.000
7	FUNCTION1 HPCD...	26.53	7.385e1					1.7	NO		bd		0.000
8	FUNCTION1 HPCD...	26.14	1.538e2					3.4	YES		db		0.000
9	FUNCTION1 HPCD...	26.05	9.731e1					1.6	NO		bd		0.000
10	FUNCTION1 HPCD...	25.55	7.087e1					2.1	NO		db		0.000
11	FUNCTION1 HPCD...	25.49	8.225e1					2.3	NO		bd		0.000
12	FUNCTION1 HPCD...	25.31	1.154e2					2.5	NO		bb		0.000
13	FUNCTION1 HPCD...	24.76	1.311e2					4.4	YES		db		0.000
14	FUNCTION1 HPCD...	24.69	9.781e1					2.1	NO		bd		0.000
15	FUNCTION1 HPCD...	23.64	7.750e1					1.6	NO		bb		0.000
16	FUNCTION1 HPCD...	23.15	9.222e1					1.9	NO		bb		0.000
17	FUNCTION1 HPCD...	22.89	7.835e1					1.8	NO		bb		0.000
18	FUNCTION1 HPCD...	22.72	1.146e2					2.2	NO		bb		0.000
19	FUNCTION1 HPCD...	22.46	7.726e1					1.7	NO		db		0.000
20	FUNCTION1 HPCD...	27.48	9.891e1					2.5	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.80	2.127e2					3.8	YES		bb		0.000
2	FUNCTION2 HPCD...	31.21	2.105e2					4.6	YES		bb		0.000
3	FUNCTION2 HPCD...	30.98	9.042e1					2.6	NO		db		0.000
4	FUNCTION2 HPCD...	30.85	4.174e2					9.3	YES		bd		0.000
5	FUNCTION2 HPCD...	30.65	7.010e1					2.3	NO		bb		0.000
6	FUNCTION2 HPCD...	30.52	1.171e2					2.3	NO		bb		0.000
7	FUNCTION2 HPCD...	29.25	1.151e2					2.2	NO		bb		0.000
8	FUNCTION2 HPCD...	28.78	1.271e2					4.3	YES		bb		0.000
9	FUNCTION2 HPCD...	28.68	1.019e2					4.8	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	36.21	3.040e2					6.8	YES		bb		0.000
2	FUNCTION3 OCDPE	35.83	1.593e2					4.8	YES		db		0.000
3	FUNCTION3 OCDPE	35.71	1.904e2					5.9	YES		bd		0.000
4	FUNCTION3 OCDPE	35.05	2.627e2					3.9	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	42.83	1.041e2					2.6	NO		db		0.000
2	FUNCTION4 NCDPE	42.72	9.060e1					3.0	NO		dd		0.000
3	FUNCTION4 NCDPE	42.63	1.862e2					3.1	YES		bd		0.000
4	FUNCTION4 NCDPE	42.01	8.832e1					1.9	NO		bb		0.000
5	FUNCTION4 NCDPE	41.23	9.502e1					2.6	NO		bb		0.000
6	FUNCTION4 NCDPE	39.93	1.384e2					3.6	YES		bb		0.000
7	FUNCTION4 NCDPE	38.17	8.680e1					3.3	YES		bb		0.000

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	45.86	9.775e1					3.3	YES		bb		0.000
2	FUNCTION5 DCDPE	45.66	1.351e2					3.7	YES		bb		0.000
3	FUNCTION5 DCDPE	45.46	7.010e1					1.8	NO		bb		0.000
4	FUNCTION5 DCDPE	45.31	2.061e2					3.7	YES		db		0.000
5	FUNCTION5 DCDPE	45.26	7.880e1					2.2	NO		dd		0.000
6	FUNCTION5 DCDPE	45.23	1.404e2					2.9	NO		bd		0.000
7	FUNCTION5 DCDPE	44.57	2.172e2					2.0	NO		bb		0.000

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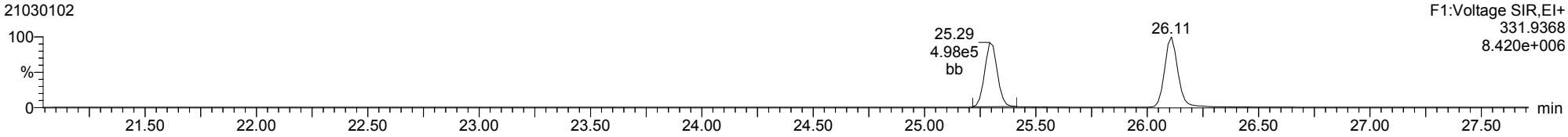

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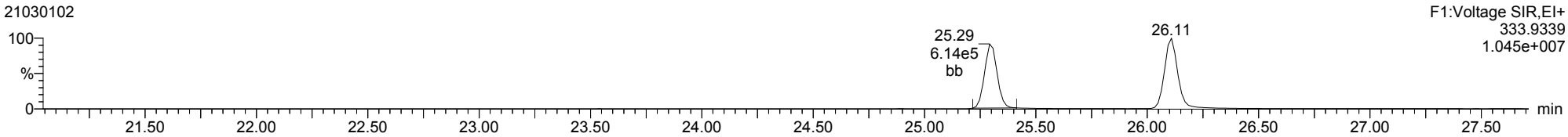

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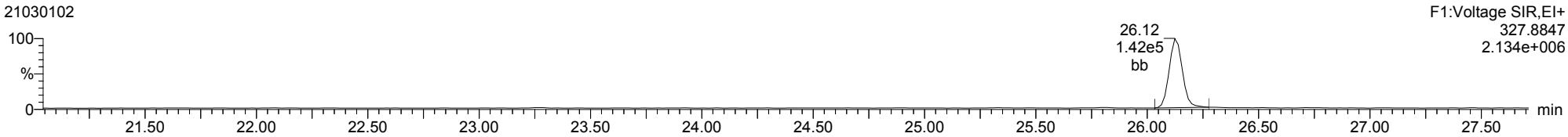

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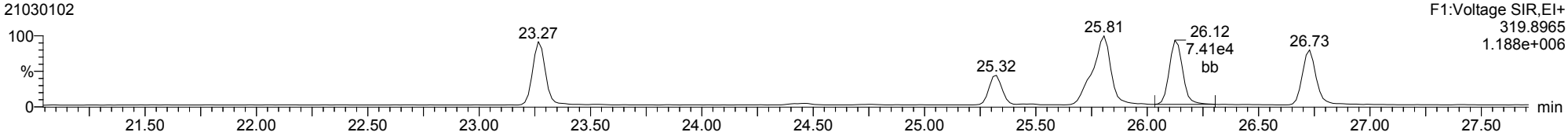

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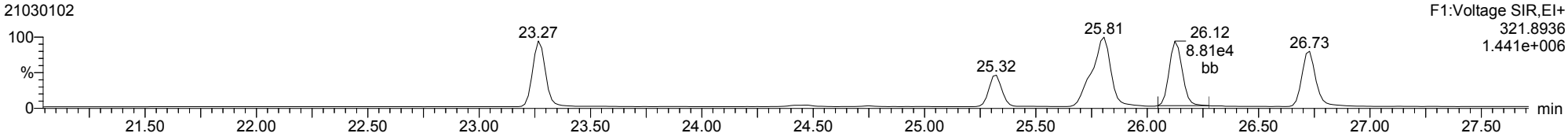

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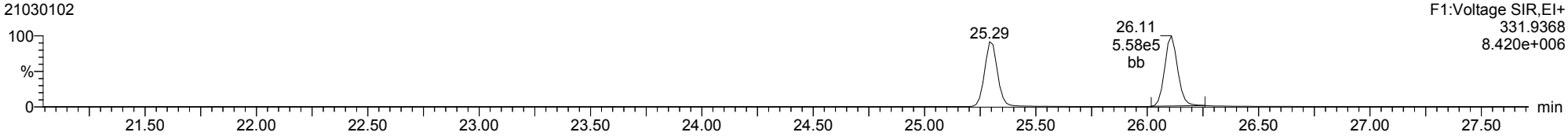

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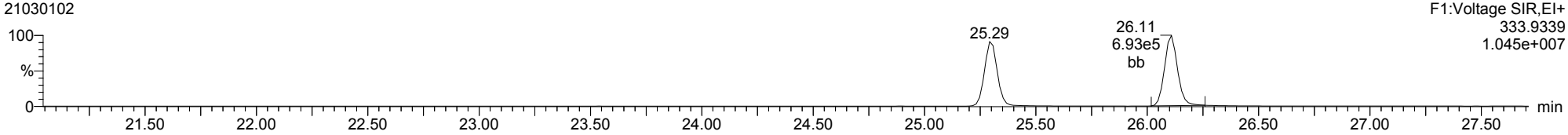

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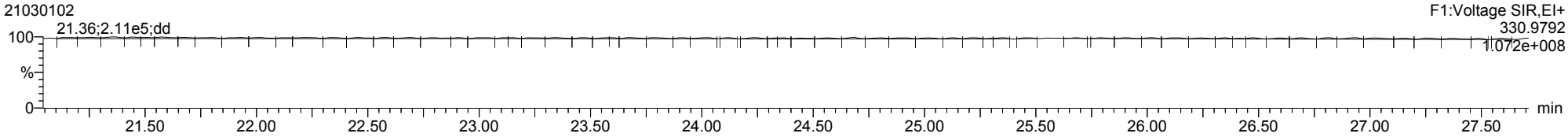

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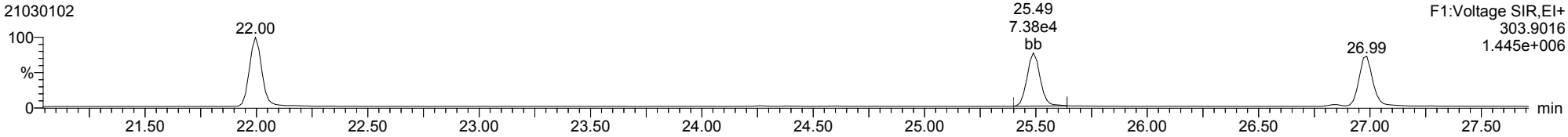

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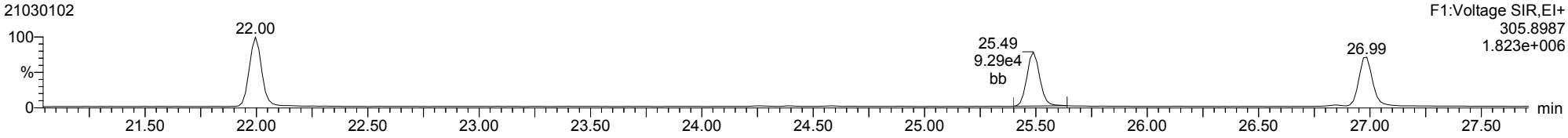

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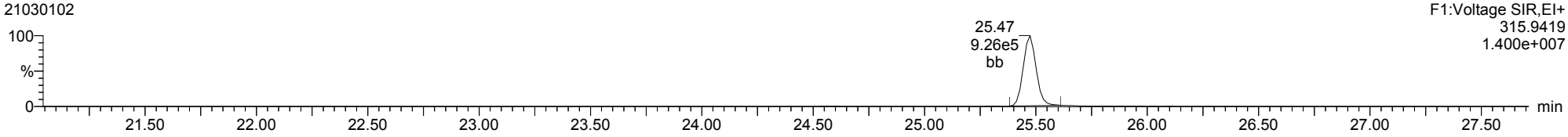

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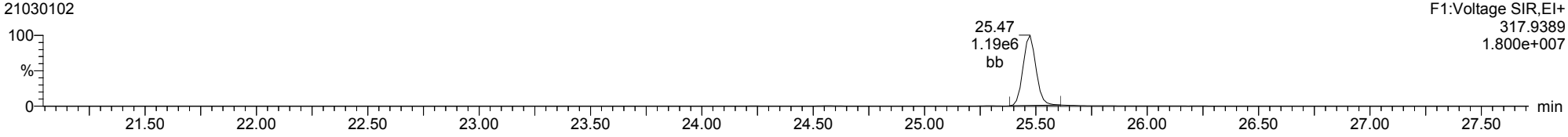

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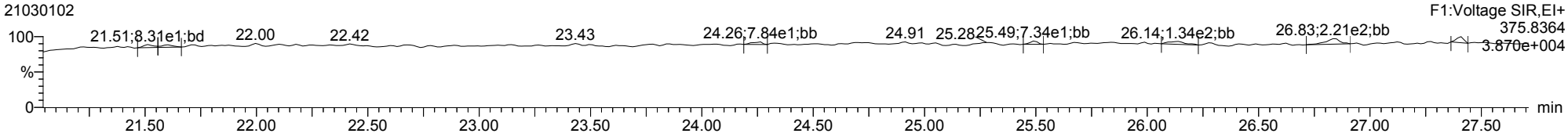

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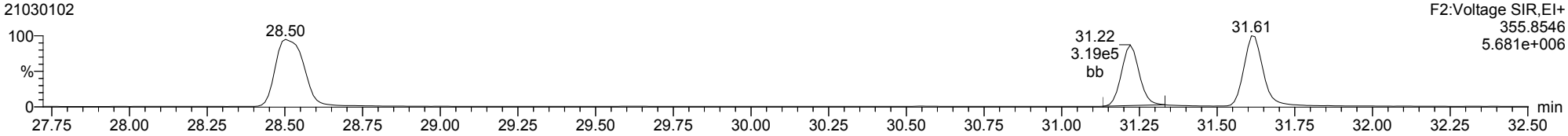

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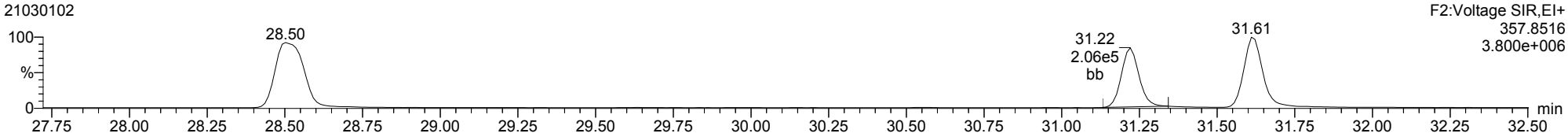

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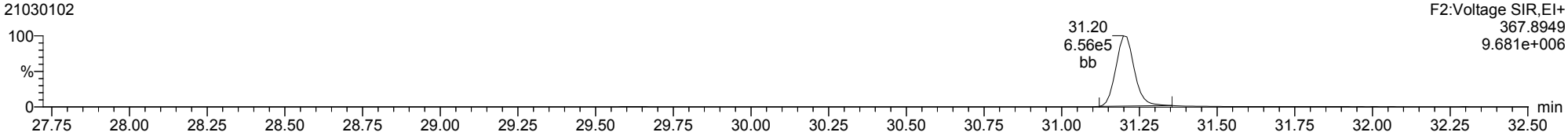

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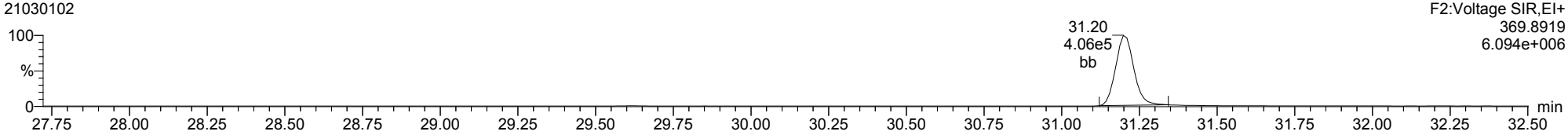
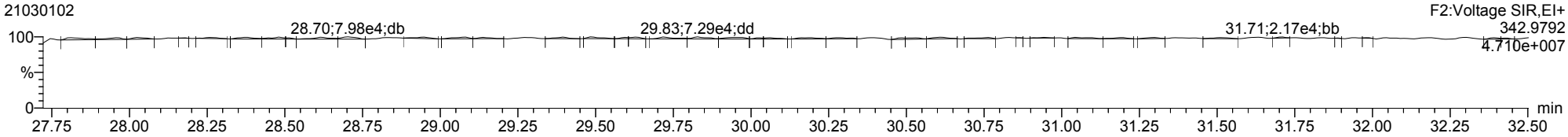


FUNCTION2 PFK



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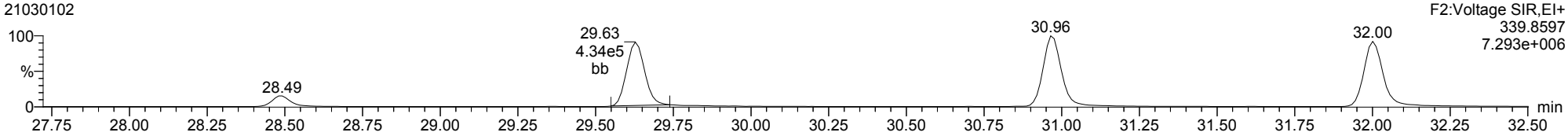

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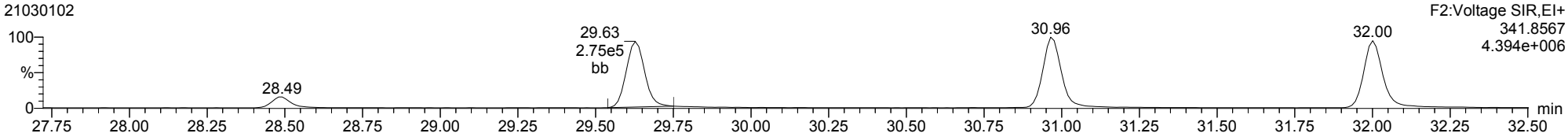

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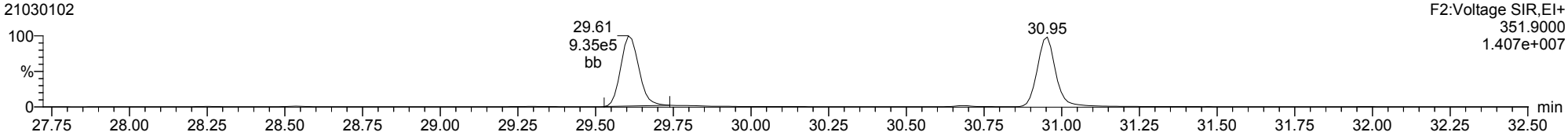

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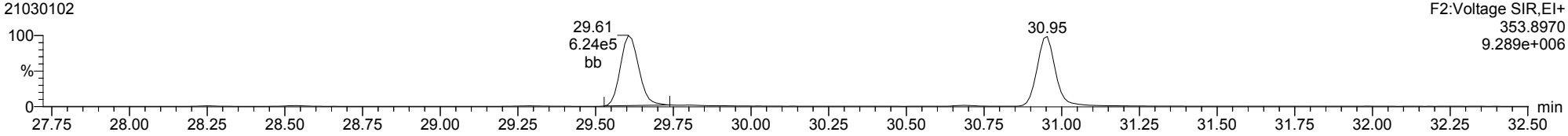

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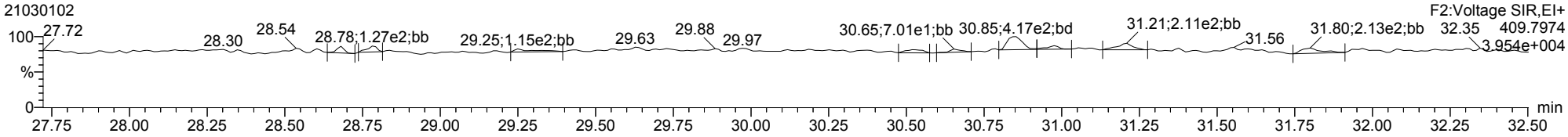

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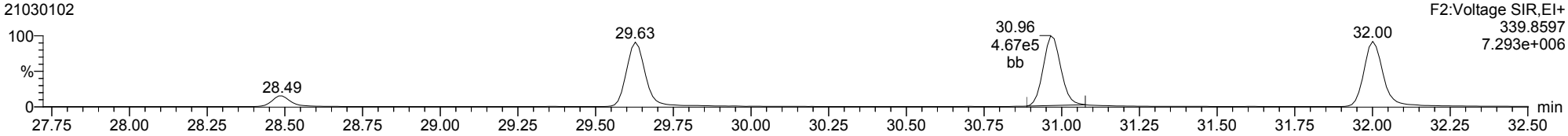
23478-PeCDF



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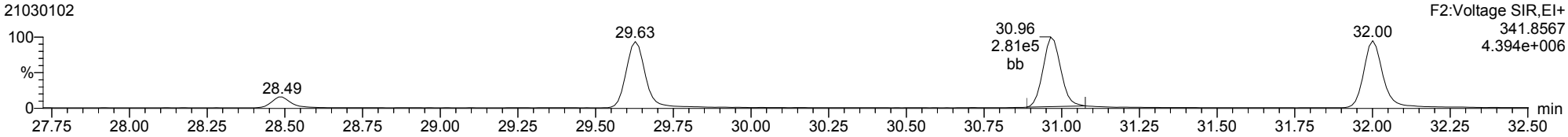

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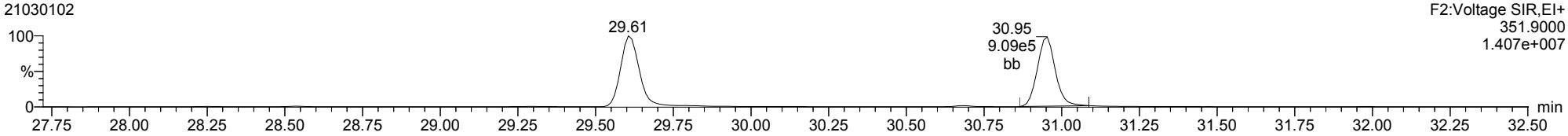

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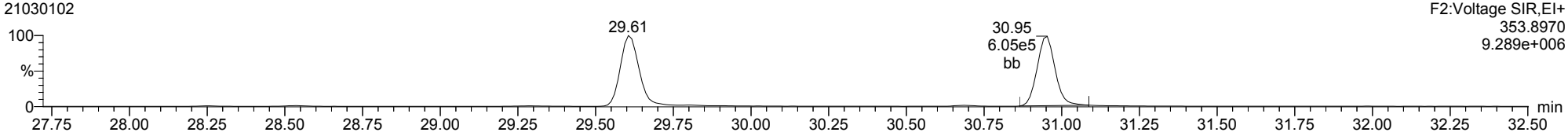

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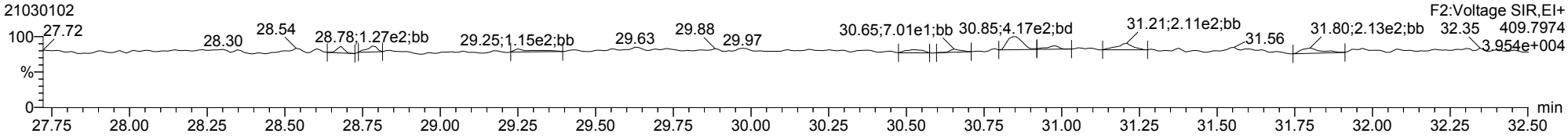

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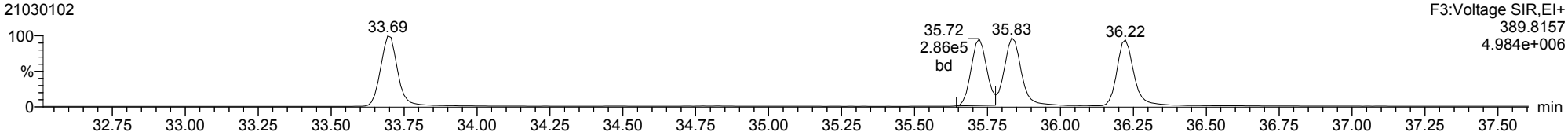
123478-HxCDD



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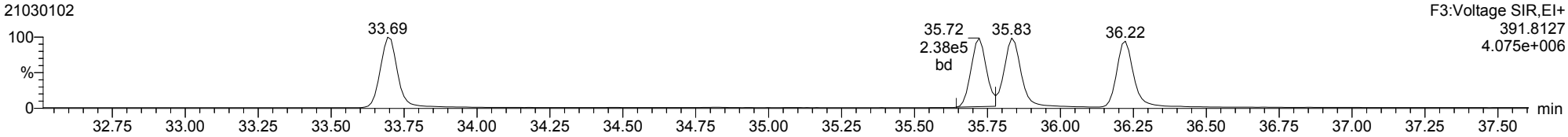

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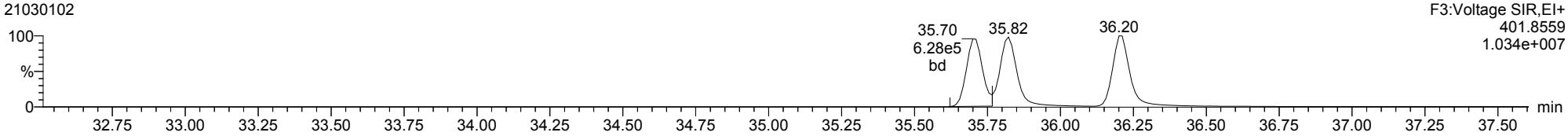

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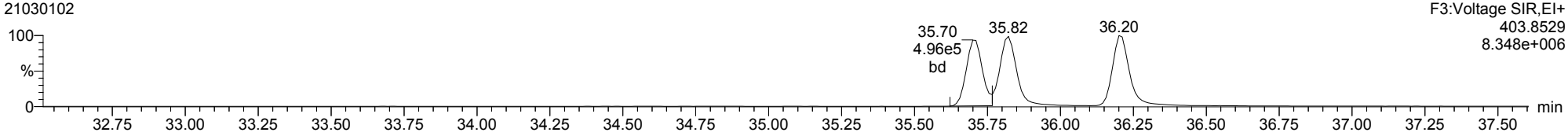

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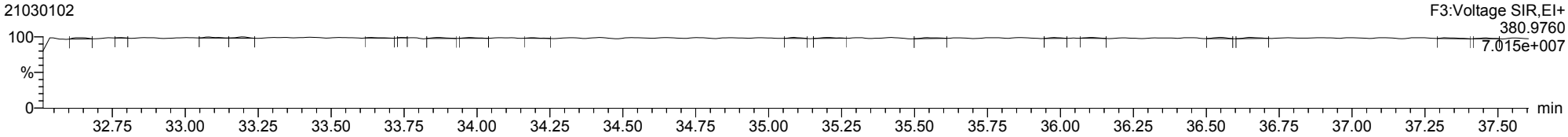

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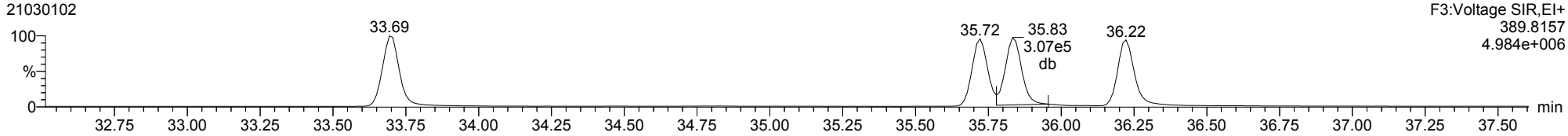

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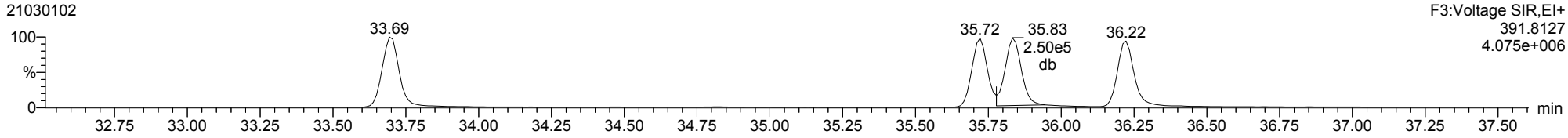

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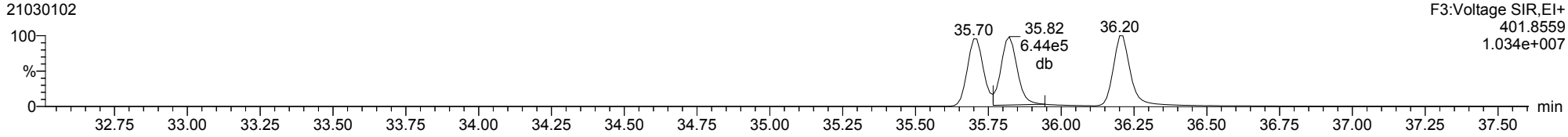

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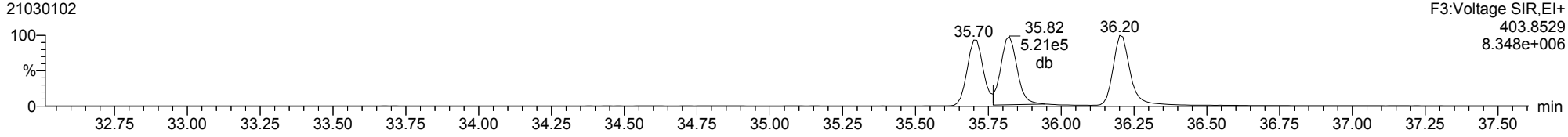

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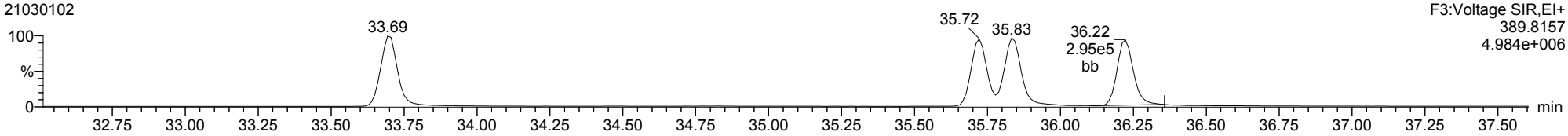

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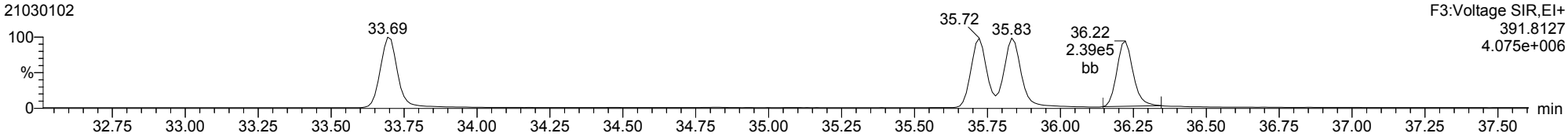

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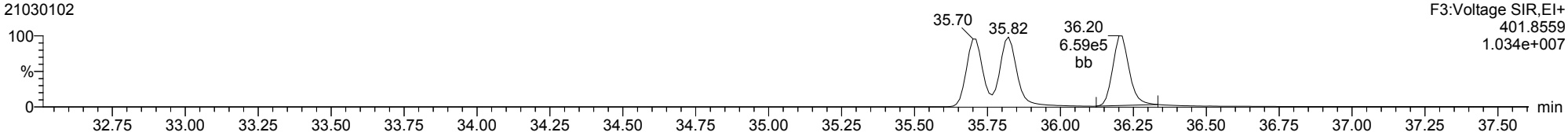

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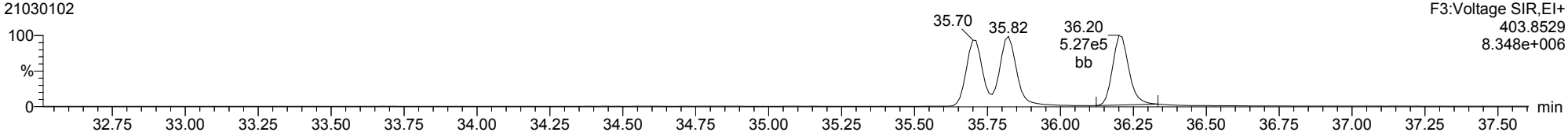

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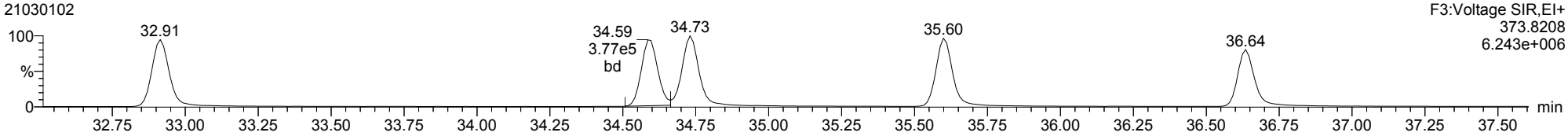

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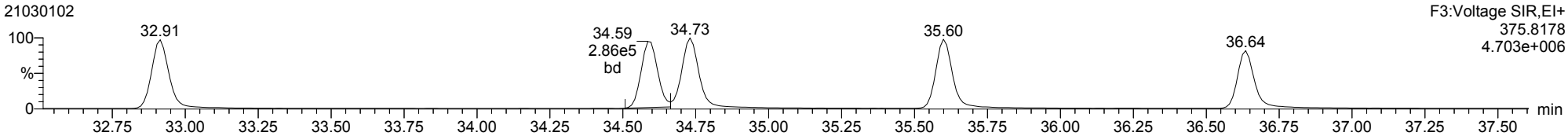

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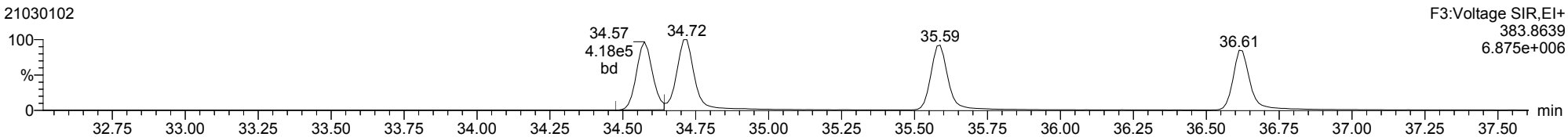

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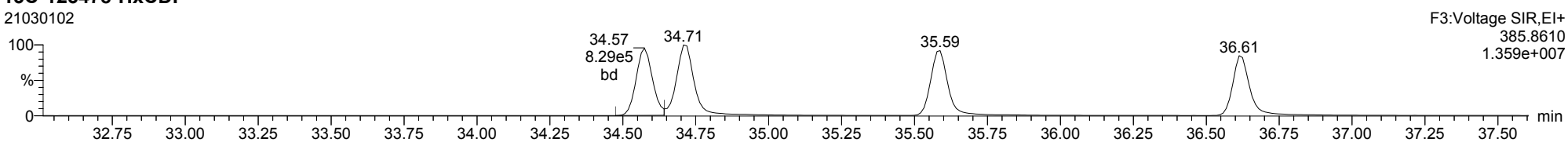

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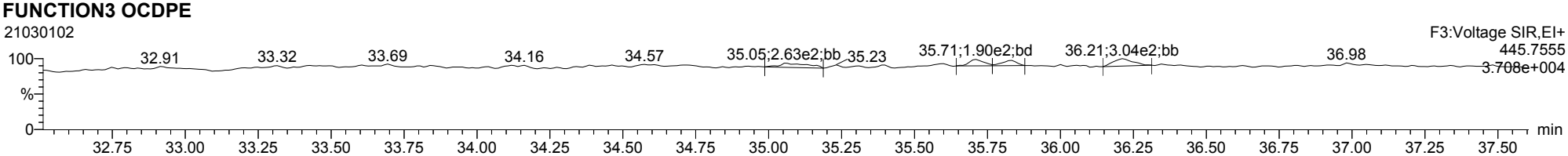

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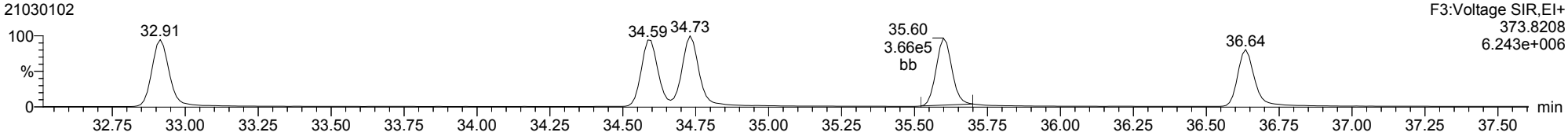

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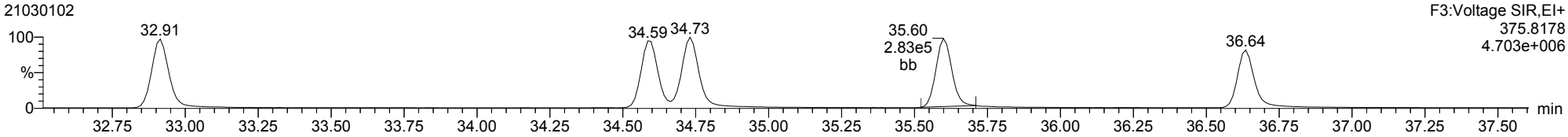

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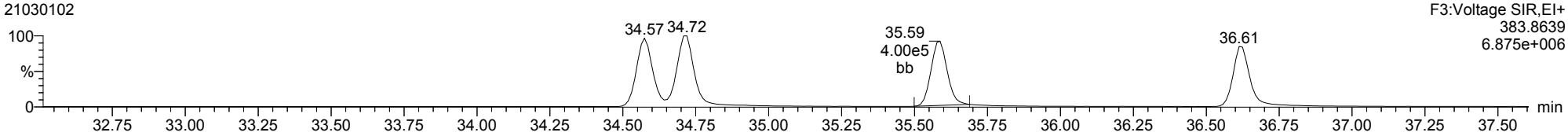

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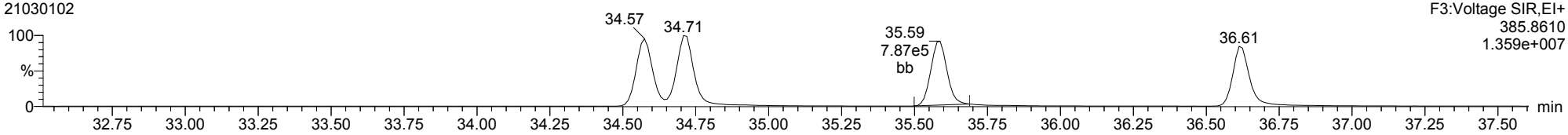

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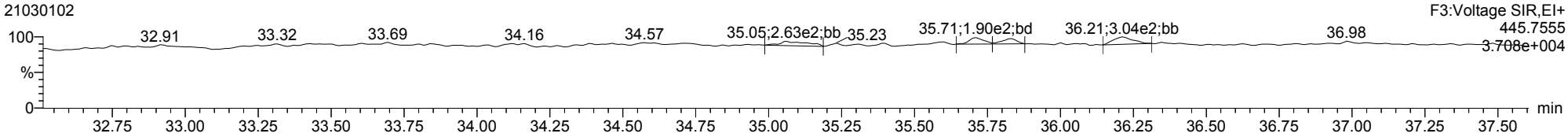

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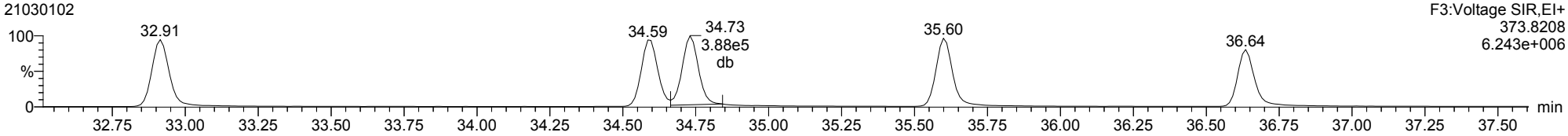

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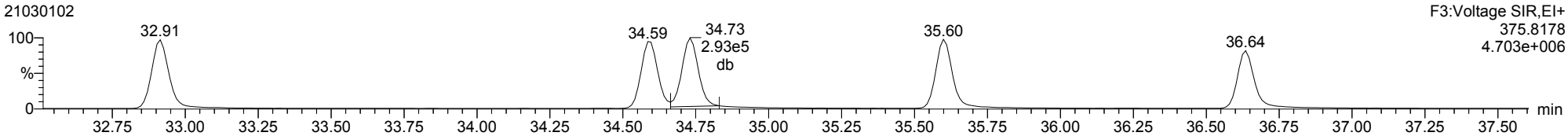

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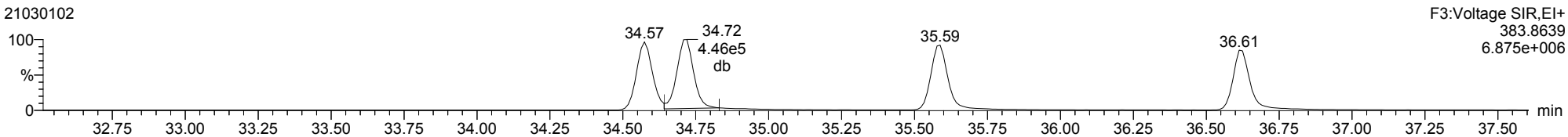

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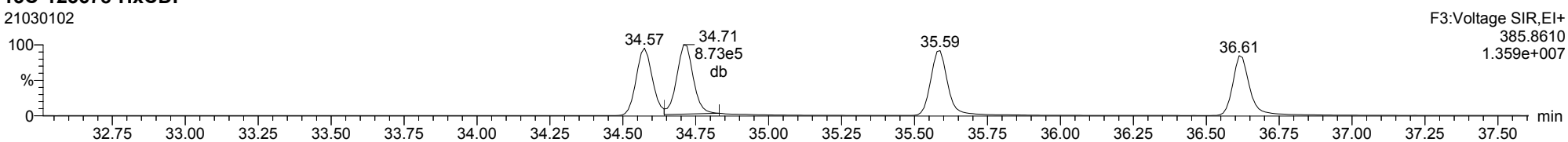

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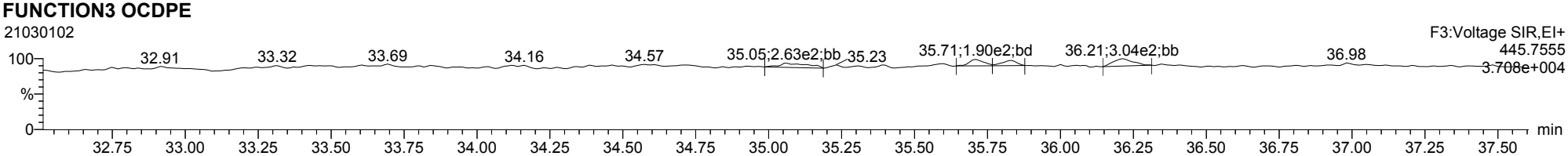

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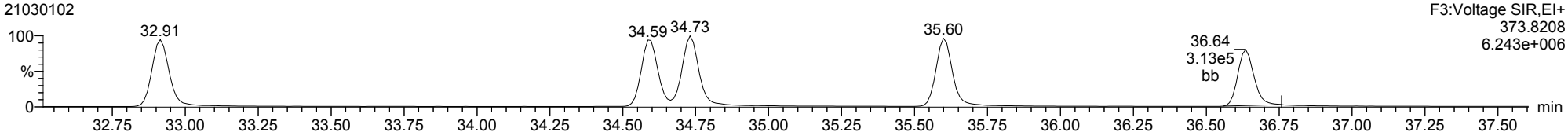

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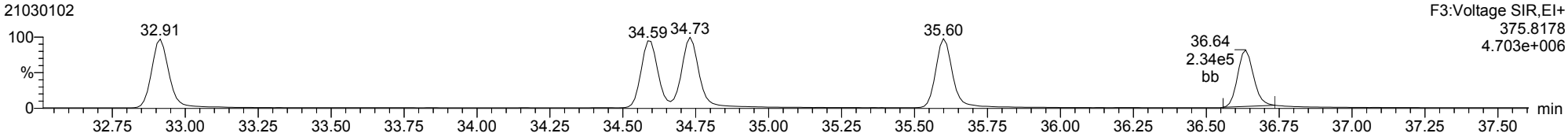

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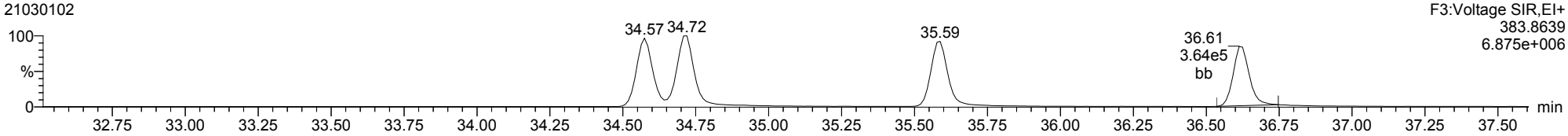

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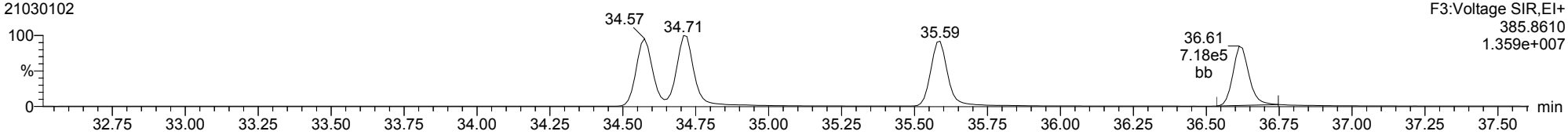
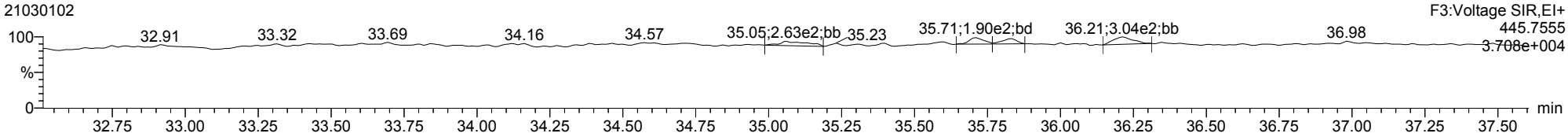


FUNCTION3 OCDPE



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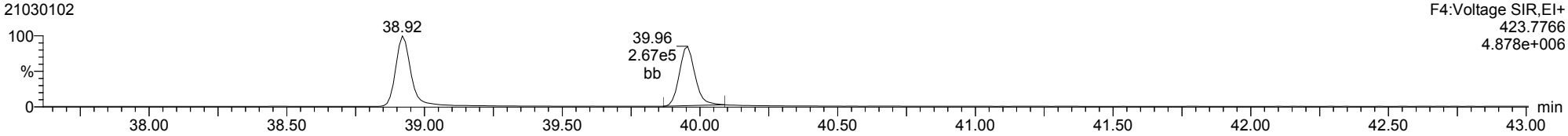

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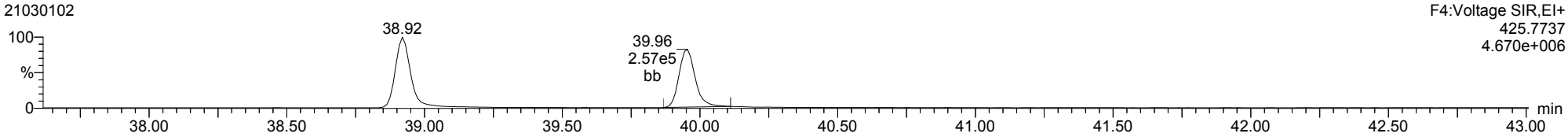

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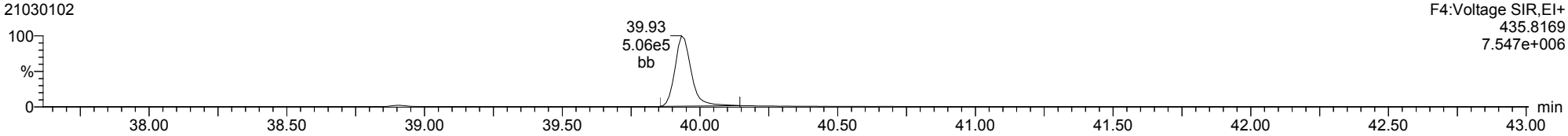

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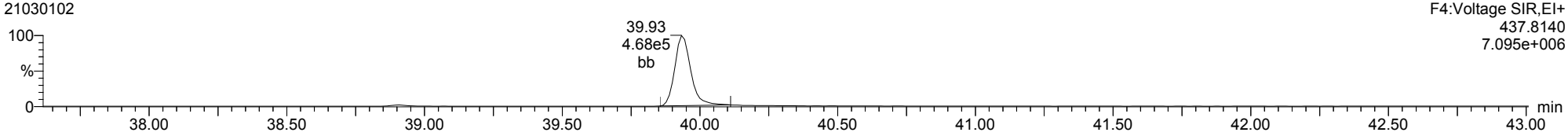

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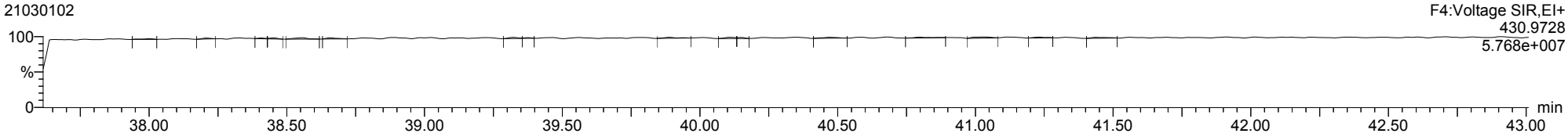

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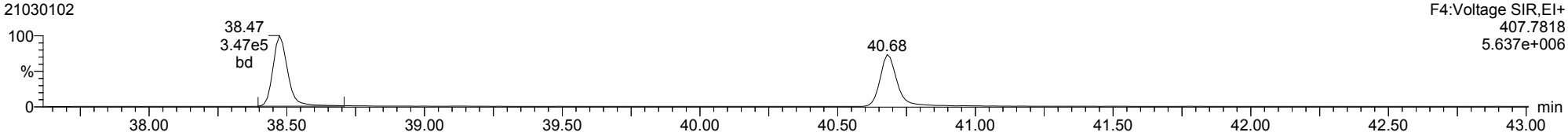

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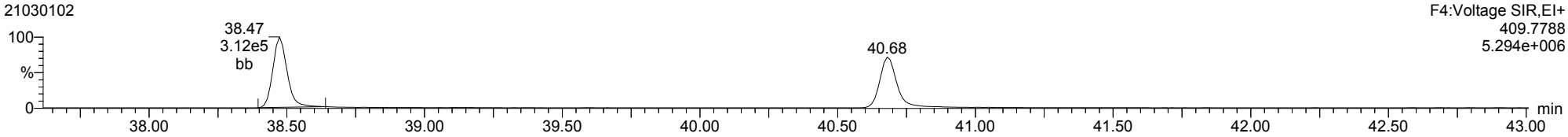

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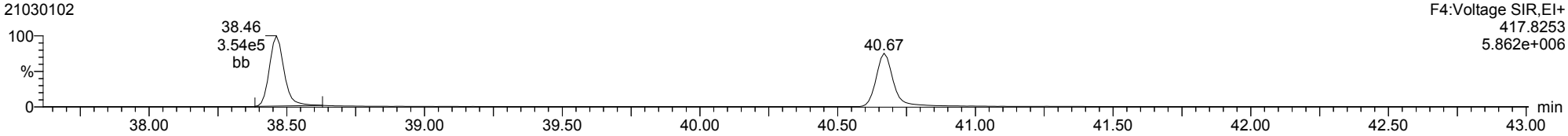

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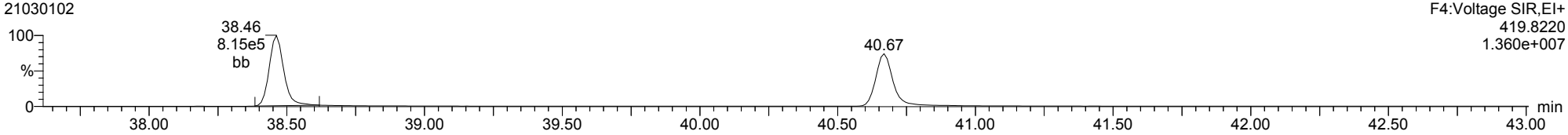

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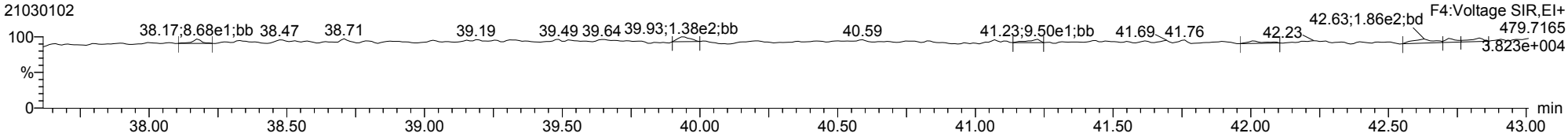

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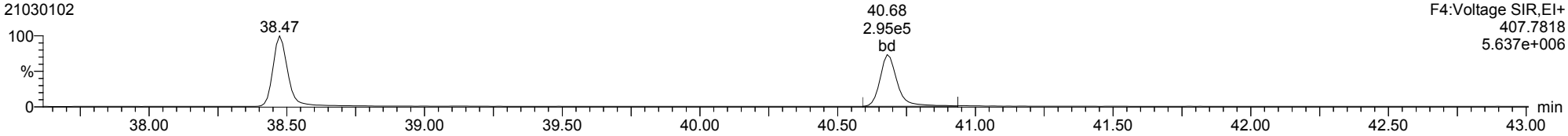

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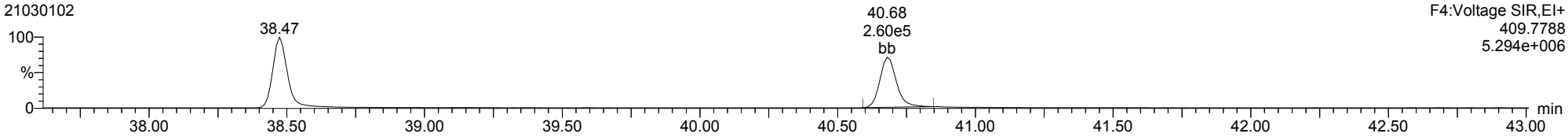

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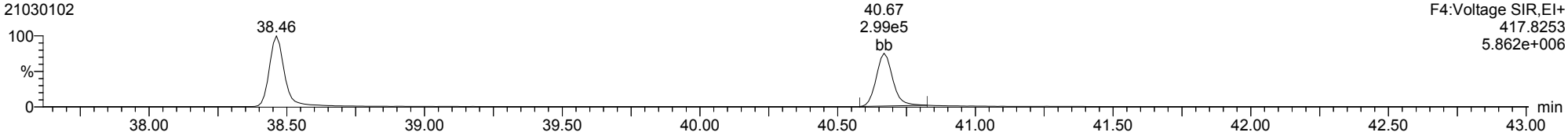

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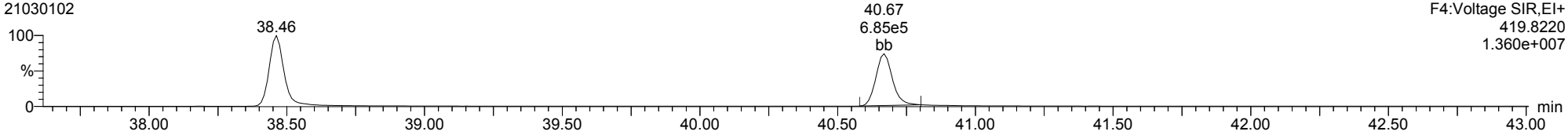

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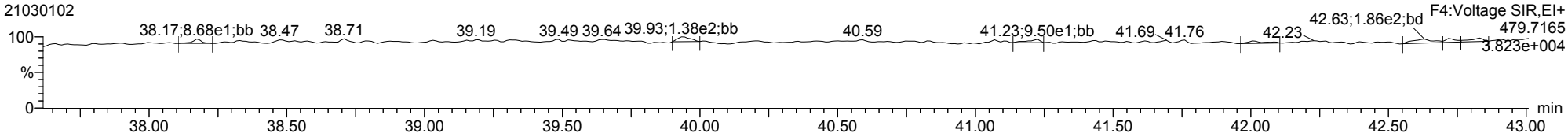

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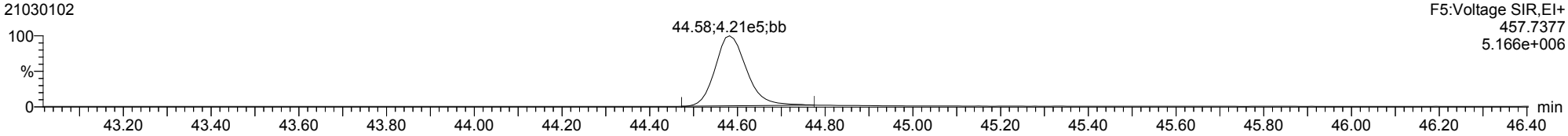
OCDD



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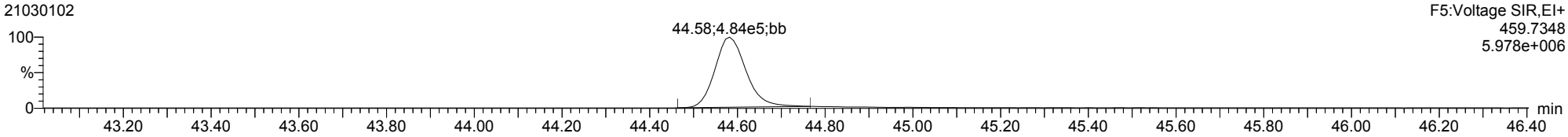

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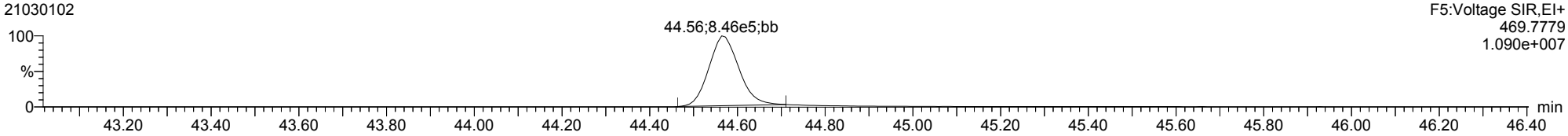
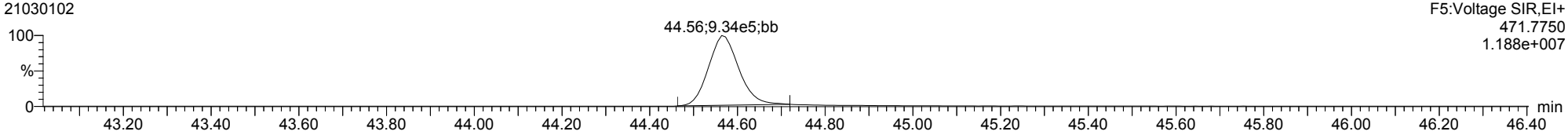


13C-OCDD



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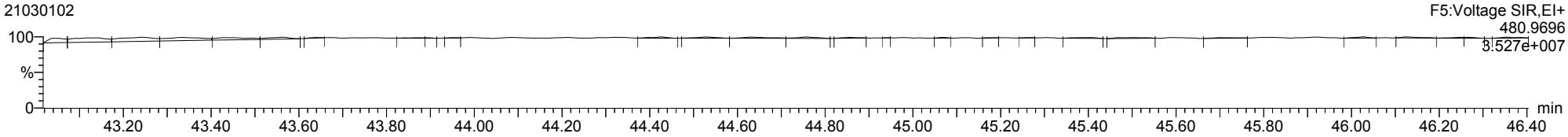

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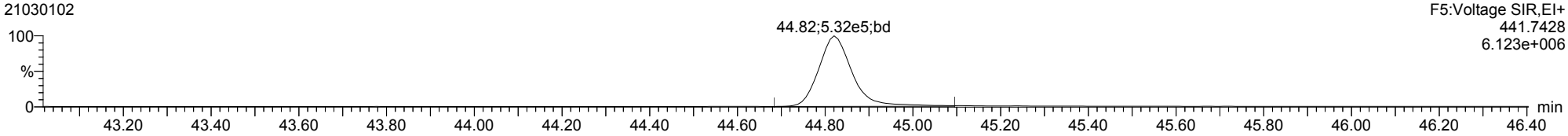

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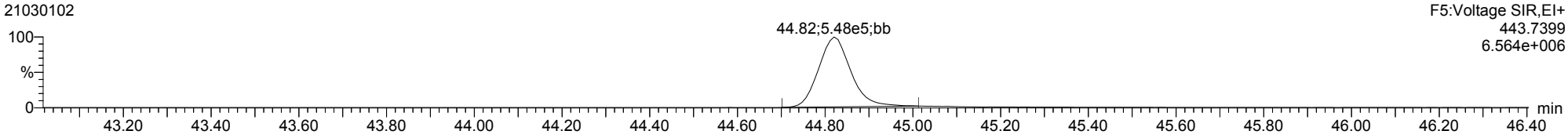

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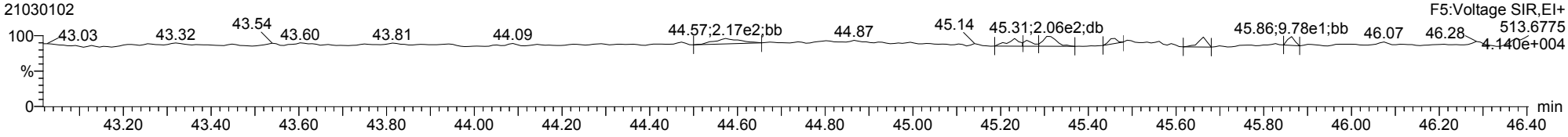

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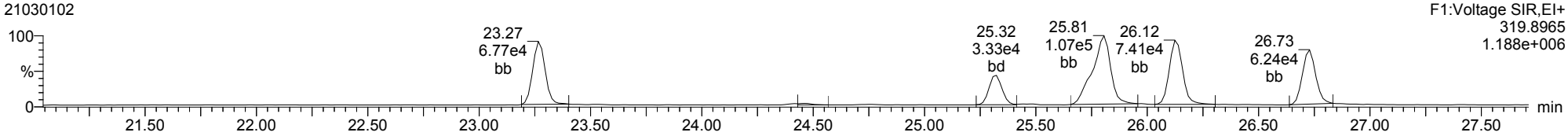

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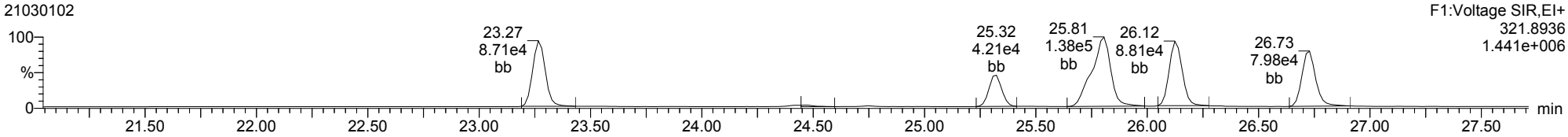

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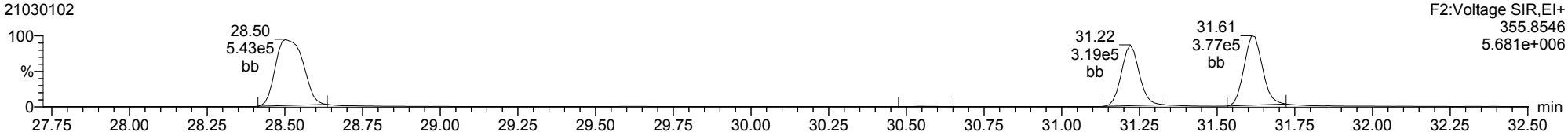

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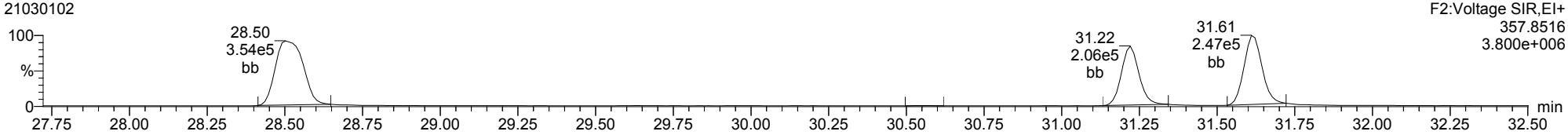

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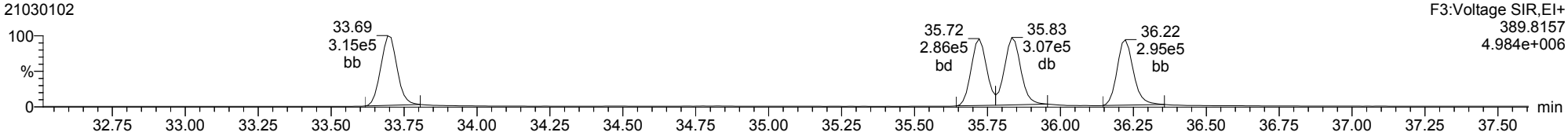

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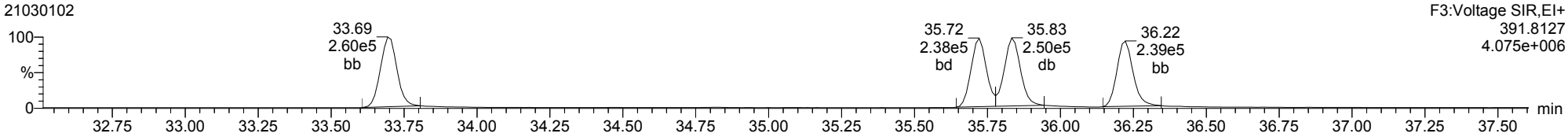

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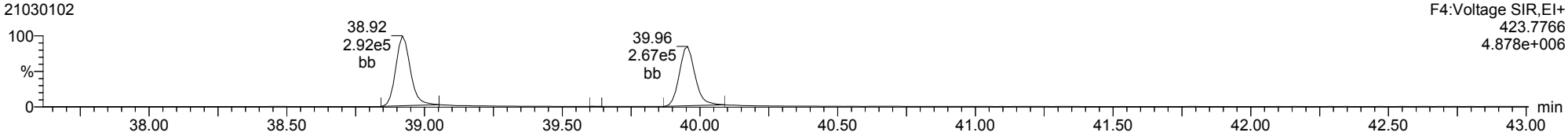

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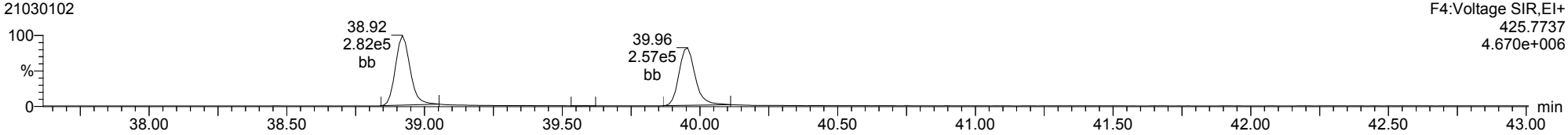

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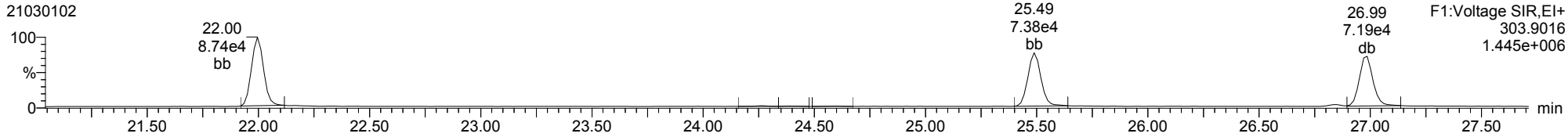

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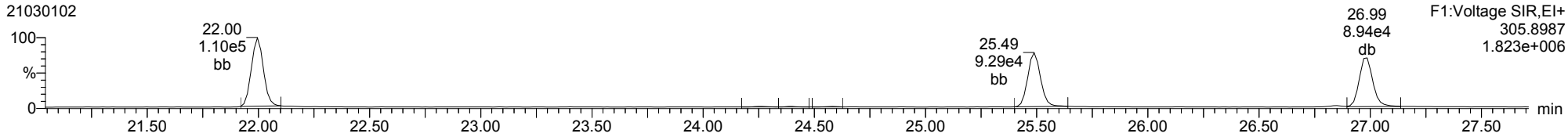

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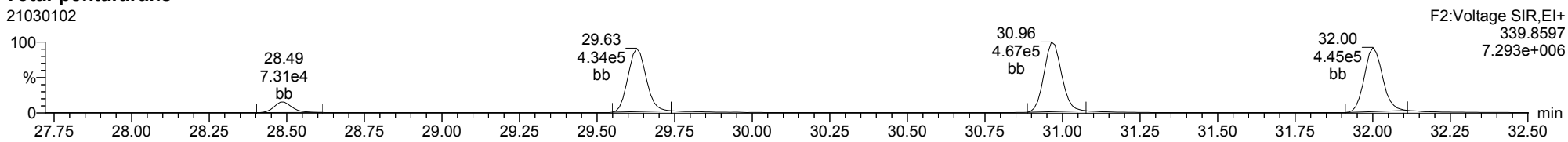

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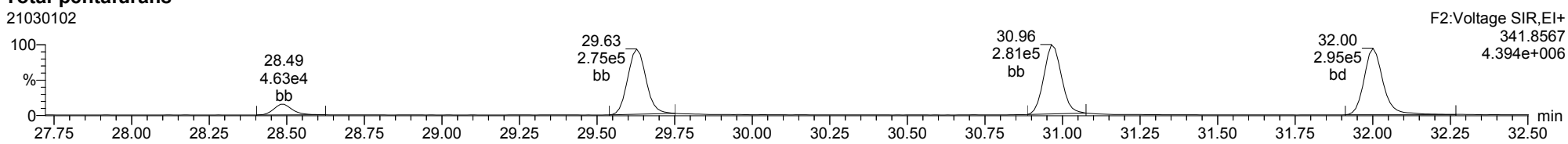

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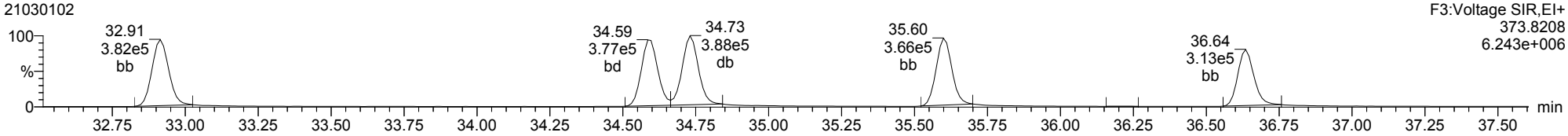

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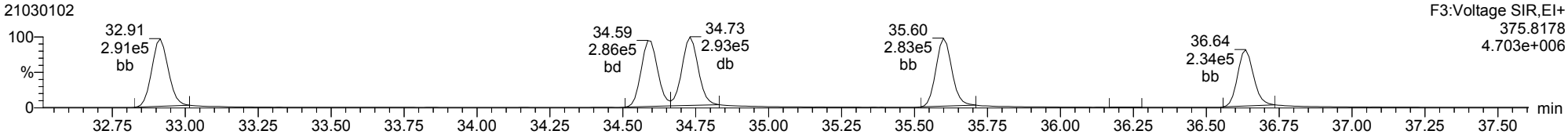

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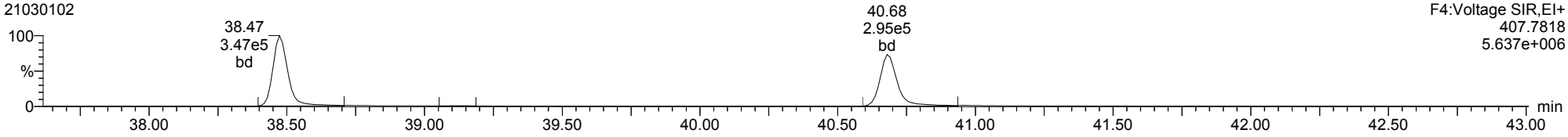

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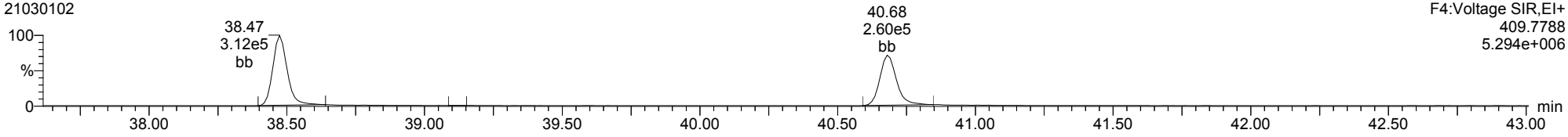

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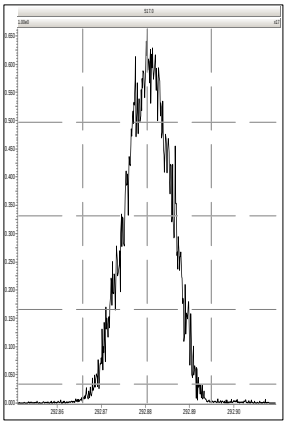
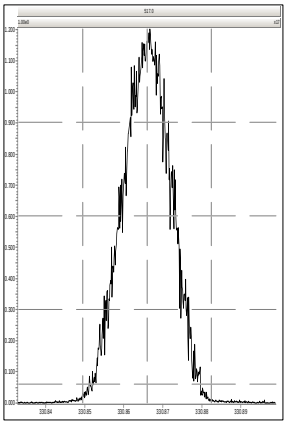


M 330.9792 R 12019



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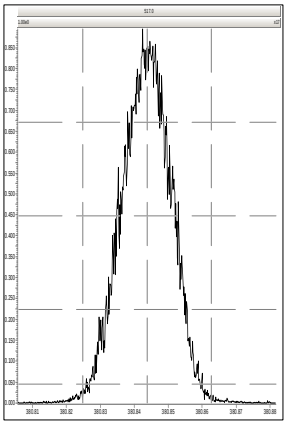
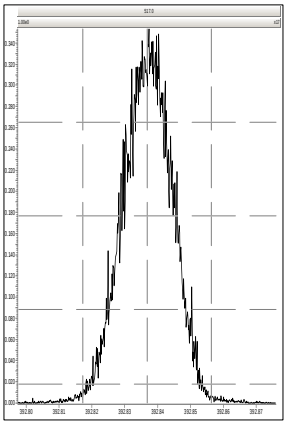
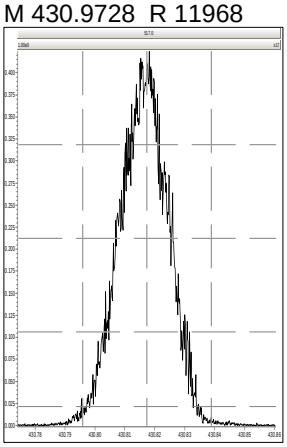


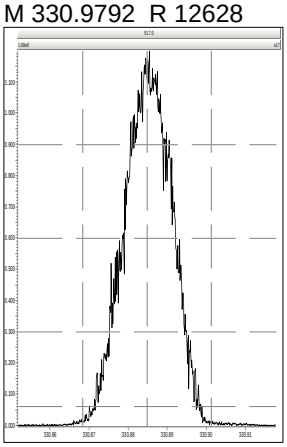
M 392.9760 R 12109



M 430.9728 R 11968



M 330.9792 R 12628



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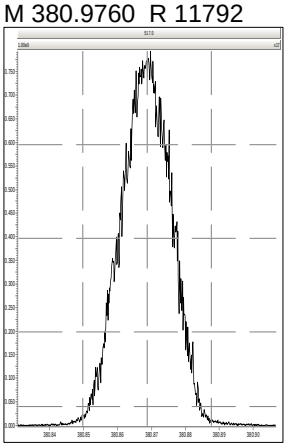

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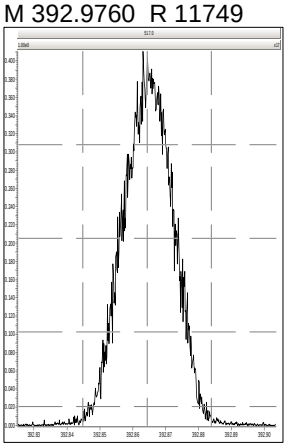

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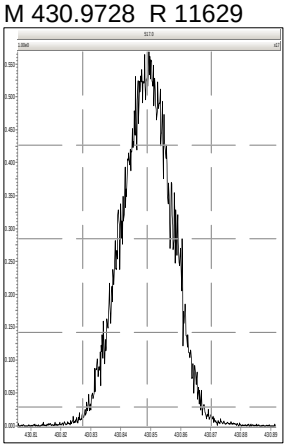
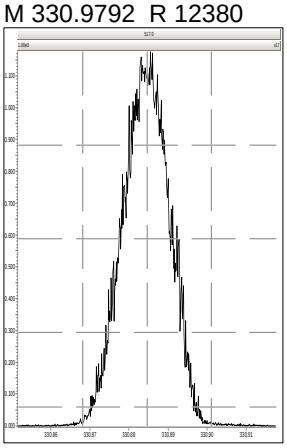
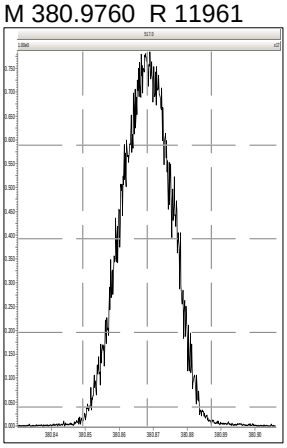


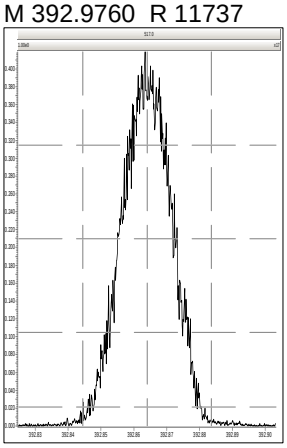
M 330.9792 R 12380



M 380.9760 R 11961



M 392.9760 R 11737



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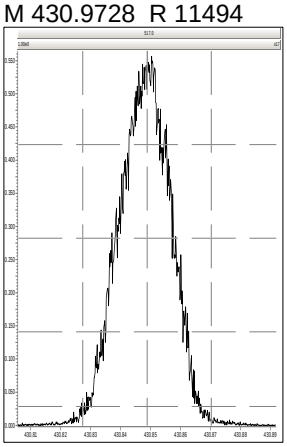

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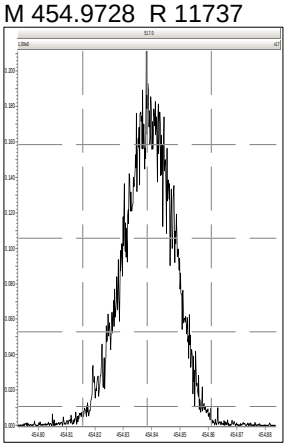
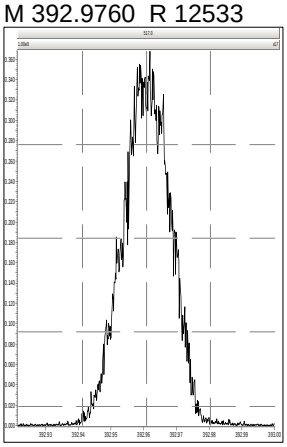
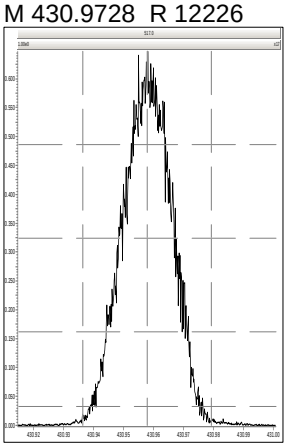


M 392.9760 R 12533



M 430.9728 R 12226



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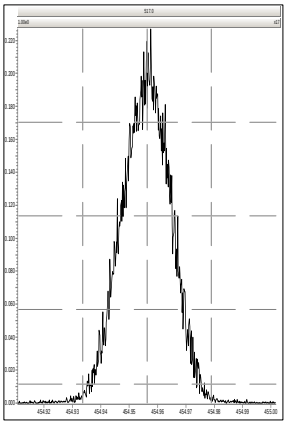

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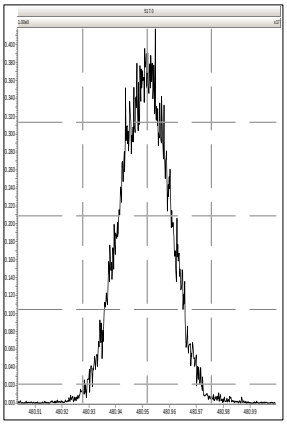

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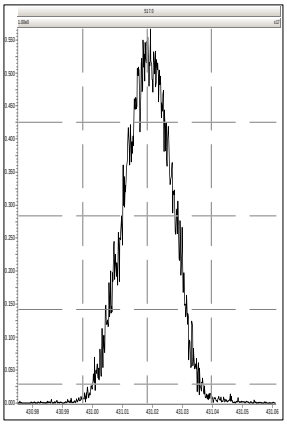

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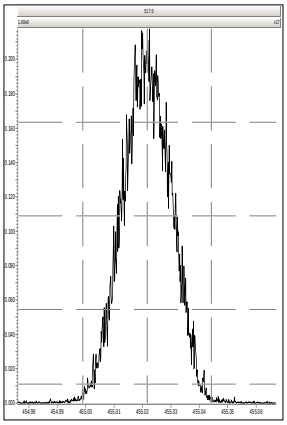

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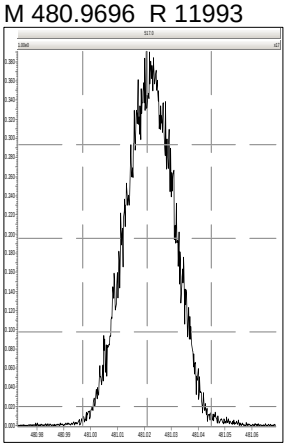

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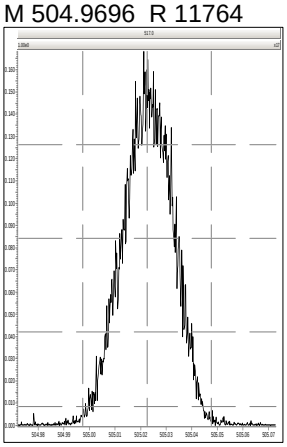

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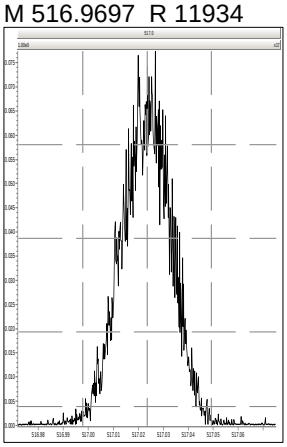

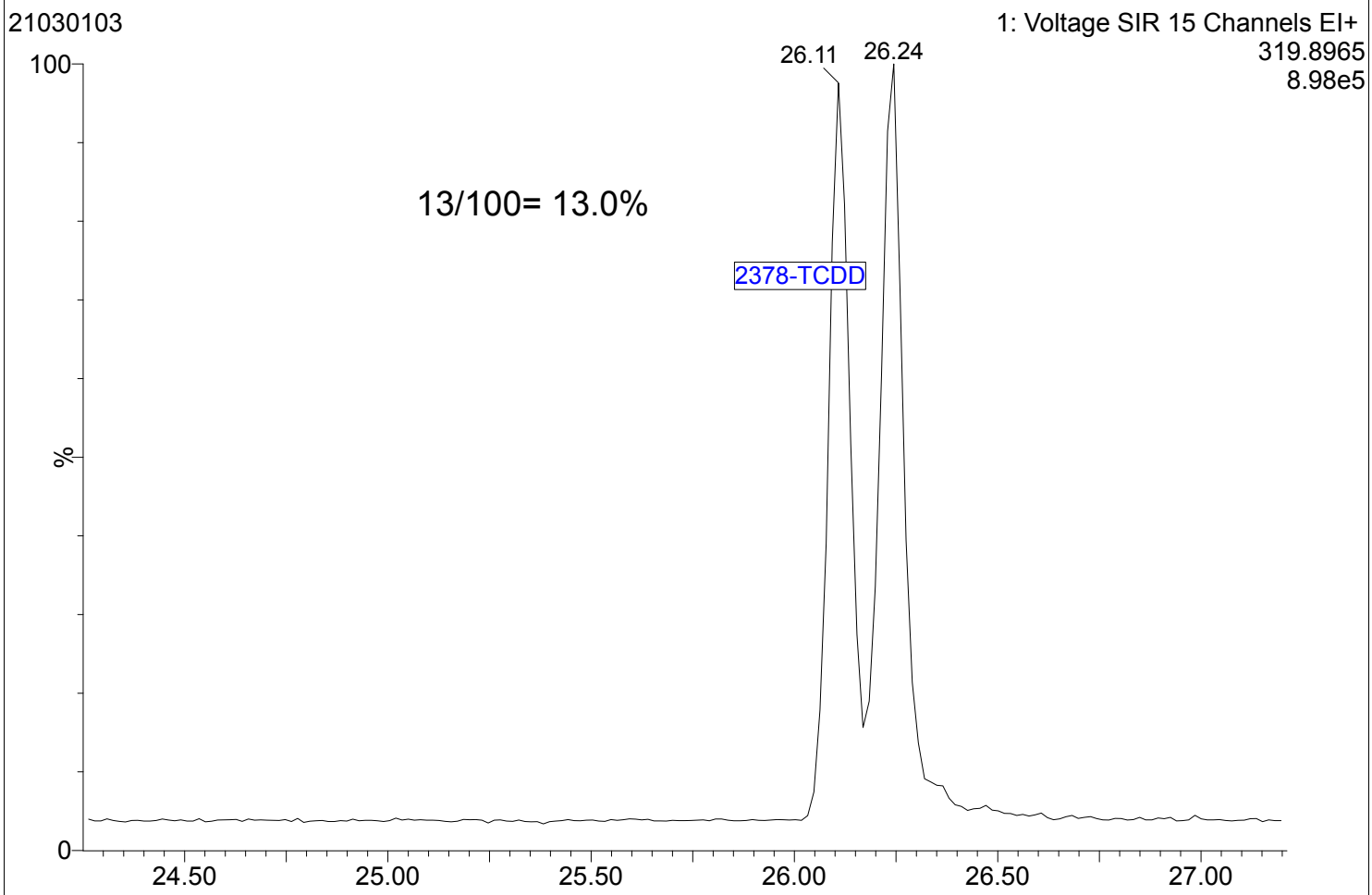
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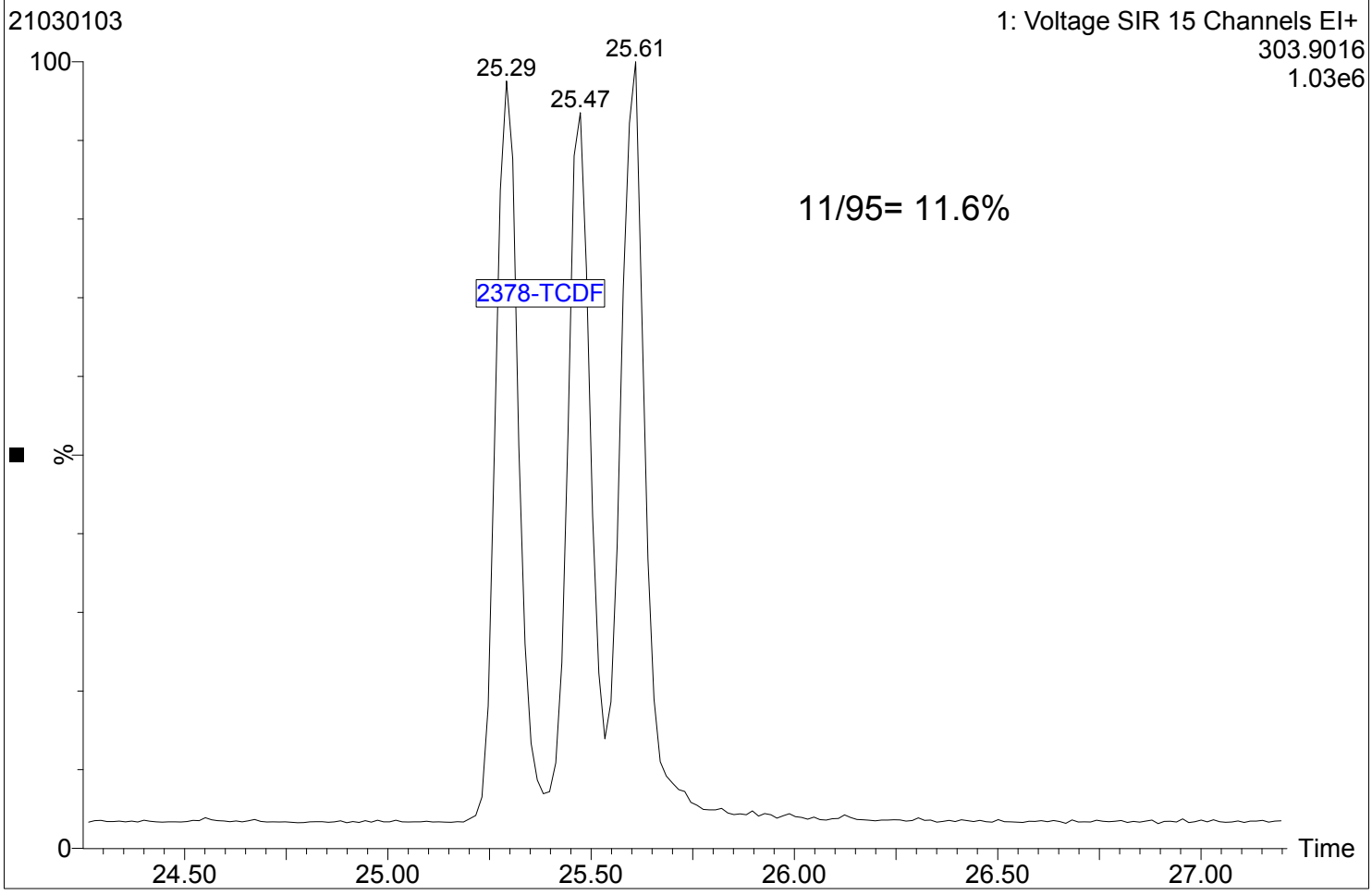
8.98e5
26.11
26.24
13/100= 13.0%
2378-TCDD
100
%
0
24.50
25.00
25.50
26.00
26.50
27.00


21030103
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1.03e6
25.29
25.47
25.61
11/95= 11.6%
2378-TCDF
100
%
0
Time
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25.00
25.50
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ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, 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					0.782		0.770	908	1368								
12378-PeCDF	29.605	1.001	2.875e3	1.658e3	0.866	1.734	1.550	851	1350	4.91e4	2.84e4	57.7	21.0	NO	bb	bb	0.497
23478-PeCDF	30.953	1.001	3.613e3	2.170e3	0.980	1.665	1.550	851	1350	5.27e4	2.93e4	62.0	21.7	NO	MM	MM	0.571
123478-HxCDF	34.574	1.001	2.665e3	1.920e3	1.002	1.388	1.240	804	788	3.95e4	2.78e4	49.1	35.2	NO	bd	bd	0.536
234678-HxCDF	35.588	1.001	2.353e3	1.770e3	1.043	1.329	1.240	804	788	3.56e4	3.01e4	44.2	38.2	NO	MM	bb	0.492
123678-HxCDF	34.708	1.000	2.378e3	1.985e3	0.961	1.197	1.240	804	788	3.65e4	2.90e4	45.4	36.8	NO	db	db	0.503
123789-HxCDF	36.624	1.001	2.085e3	1.904e3	0.994	1.095	1.240	804	788	3.18e4	2.88e4	39.5	36.6	NO	bb	bd	0.559
1234678-HpCDF	38.451	1.000	2.125e3	1.921e3	1.058	1.106	1.050	539	575	3.51e4	3.62e4	65.0	63.0	NO	bb	bb	0.498
1234789-HpCDF	40.668	1.000	1.616e3	1.733e3	1.070	0.932	1.050	539	575	2.33e4	2.49e4	43.1	43.3	NO	MM	MM	0.502
OCDF	44.811	1.006	4.092e3	4.390e3	1.257	0.932	0.890	860	715	5.43e4	5.61e4	63.1	78.5	NO	bd	bb	1.203
2378-TCDD					1.307		0.770	1225	772								
12378-PeCDD	31.209	1.001	1.943e3	1.373e3	0.979	1.415	1.550	1067	624	2.92e4	2.00e4	27.4	32.0	NO	bb	MM	0.474
123478-HxCDD	35.699	1.000	2.167e3	1.559e3	0.956	1.390	1.240	654	791	3.75e4	2.31e4	57.3	29.2	NO	dd	bd	0.514
123678-HxCDD	35.822	1.001	2.152e3	1.740e3	0.953	1.237	1.240	654	791	3.11e4	2.84e4	47.5	35.9	NO	db	db	0.482
123789-HxCDD	36.212	1.012	1.972e3	1.843e3	0.927	1.070	1.240	654	791	3.21e4	2.75e4	49.2	34.8	NO	bb	bb	0.513
1234678-HpCDD	39.933	1.000	1.979e3	1.649e3	1.055	1.200	1.050	705	579	3.22e4	2.61e4	45.7	45.1	NO	bb	bb	0.526
OCDD	44.582	1.001	3.330e3	3.479e3	1.074	0.957	0.890	991	629	3.87e4	4.13e4	39.0	65.6	NO	bb	bb	1.131
13C-2378-TCDF	25.443	1.007	6.873e5	8.571e5	1.925	0.802	0.770	2794	2489	9.72e6	1.25e7	3478.8	5032.1	NO	bb	bb	100.866
13C-12378-PeCDF	29.583	1.170	6.310e5	4.227e5	1.442	1.493	1.550	3696	2103	9.28e6	6.22e6	2510.3	2959.7	NO	bb	bb	91.856
13C-23478-PeCDF	30.931	1.224	6.198e5	4.145e5	1.387	1.495	1.550	3696	2103	8.77e6	5.78e6	2371.6	2749.6	NO	bb	bb	93.770
13C-123478-HxCDF	34.552	0.955	2.853e5	5.688e5	1.053	0.502	0.510	3153	3409	4.27e6	8.55e6	1353.3	2508.7	NO	bd	bd	100.897
13C-123678-HxCDF	34.696	0.959	3.018e5	6.013e5	1.135	0.502	0.510	3153	3409	4.39e6	8.85e6	1392.3	2594.9	NO	db	db	99.002
13C-234678-HxCDF	35.565	0.983	2.689e5	5.346e5	1.004	0.503	0.510	3153	3409	4.25e6	8.41e6	1347.3	2466.7	NO	bb	bb	99.574
13C-123789-HxCDF	36.602	1.011	2.422e5	4.749e5	0.909	0.510	0.510	3153	3409	3.61e6	7.14e6	1145.4	2096.0	NO	bb	bb	98.152
13C-1234678-HpCDF	38.451	1.063	2.314e5	5.364e5	0.960	0.431	0.440	2722	2740	3.66e6	8.40e6	1344.3	3065.0	NO	bb	bb	99.536
13C-1234789-HpCDF	40.657	1.123	1.881e5	4.358e5	0.794	0.431	0.440	2722	2740	2.58e6	6.04e6	946.5	2202.8	NO	bb	bb	97.799
13C-1234-TCDD	25.277	0.000	3.558e5	4.396e5	1.000	0.809	0.770	2103	1644	5.35e6	6.59e6	2543.7	4008.7	NO	bb	bb	100.000
13C-2378-TCDD	26.078	1.032	3.983e5	4.959e5	1.133	0.803	0.770	2103	1644	5.70e6	7.09e6	2709.0	4314.2	NO	bb	bb	99.240
13C-12378-PeCDD	31.176	1.233	4.405e5	2.748e5	0.947	1.603	1.550	1412	1213	6.35e6	3.97e6	4496.8	3275.0	NO	bb	bb	94.968
13C-123478-HxCDD	35.688	0.986	4.245e5	3.335e5	0.939	1.273	1.240	2559	3161	7.03e6	5.41e6	2746.0	1712.8	NO	bd	bd	100.486
13C-123678-HxCDD	35.799	0.989	4.513e5	3.959e5	1.042	1.140	1.240	2559	3161	6.84e6	5.69e6	2672.6	1798.8	NO	db	dd	101.156
13C-1234678-HpCDD	39.922	1.103	3.431e5	3.112e5	0.788	1.102	1.050	1919	2315	4.77e6	4.45e6	2484.4	1920.5	NO	bb	bb	103.268
13C-OCDD	44.555	1.231	5.598e5	5.620e5	0.703	0.996	0.890	2953	2508	6.26e6	6.85e6	2120.3	2729.5	NO	bd	bb	198.453
13C-123789-HxCDD	36.189	0.000	4.477e5	3.561e5	1.000	1.257	1.240	2559	3161	6.73e6	5.42e6	2632.2	1714.0	NO	bb	bb	100.000
37CL-2378-TCDD					1.298			2197							MM-		

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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					0.966		0.770	908	1368								
1289-TCDF					0.736		0.770	908	1368								
13468-PECDF					1.347		1.550	665	982								
12389-PECDF					0.867		1.550	851	1350								
123468-HXCDF					1.036		1.240	804	788								
1368-TCDD					1.256		0.770	1225	772								
1289-TCDD					1.151		0.770	1225	772								
12479-PECDD					1.773		1.550	1067	624								
12389-PECDD					1.171		1.550	1067	624								
124679-HXCDD					1.034		1.240	654	791								
1234679-HPCDD					1.194		1.050	705	579								
Total-tetrafurans			7.420e1		0.828			908		1.32e3							0.013
Total-penta1			0.000e0					665		0.00e0							
Total-pentafurans			6.488e3		0.904			851		1.02e5							1.067
Total-hexafurans			9.480e3		1.007			804		1.43e5							2.090
Total-heptafurans			3.741e3		1.064			539		5.83e4							1.000
Total-Furans			2.388e4		0.998			908		3.59e5							5.373
Total-tetradioxins			0.000e0		1.238			1225		0.00e0							
Total-pentadioxins			1.943e3		1.308			1067		2.92e4							0.474
Total-hexadioxins			6.290e3		0.967			654		1.01e5							1.509
Total-heptadioxins			1.979e3		1.125			705		3.22e4							0.526
Total-Dioxins			1.354e4		1.141			1225		2.01e5							3.639
Total-TEQ			3.742e4					1225		5.60e5							9.012
FUNCTION1 PFK			1.778e6					618166		3.44e7							
FUNCTION2 PFK			9.105e5					280920		1.96e7							0.000
FUNCTION3 PFK			4.375e5					370897		1.03e7							0.000
FUNCTION4 PFK			1.258e7					292504		5.94e7							
FUNCTION5 PFK			2.720e5					244343		7.83e6							
FUNCTION1 HXCD...			3.921e2					627		6.60e3							0.000
FUNCTION1 HPCD...			3.040e2					917		6.72e3							0.000
FUNCTION2 HPCD...			1.446e2					859		4.53e3							0.000
FUNCTION3 OCDPE			9.683e2					616		1.26e4							0.000
FUNCTION4 NCDPE			7.680e1					701		1.74e3							0.000
FUNCTION5 DCDPE			0.000e0					670		0.00e0							

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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.78	7.420e1	8.669e1	0.828	0.86	0.77	1.5	NO	NO	db	bb	0.013

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	30.95	3.613e3	2.170e3	0.980	1.67	1.55	62.0	YES	NO	MM	MM	0.571
2	12378-PeCDF	29.60	2.875e3	1.658e3	0.866	1.73	1.55	57.7	YES	NO	bb	bb	0.497

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	34.71	2.378e3	1.985e3	0.961	1.20	1.24	45.4	YES	NO	db	db	0.503
2	123478-HxCDF	34.57	2.665e3	1.920e3	1.002	1.39	1.24	49.1	YES	NO	bd	bd	0.536
3	123789-HxCDF	36.62	2.085e3	1.904e3	0.994	1.10	1.24	39.5	YES	NO	bb	bd	0.559
4	234678-HxCDF	35.59	2.353e3	1.770e3	1.043	1.33	1.24	44.2	YES	NO	MM	bb	0.492

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.45	2.125e3	1.921e3	1.058	1.11	1.05	65.0	YES	NO	bb	bb	0.498
2	1234789-HpCDF	40.67	1.616e3	1.733e3	1.070	0.93	1.05	43.1	YES	NO	MM	MM	0.502

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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	24.78	7.420e1	8.669e1	0.828	0.86	0.77	1.5	NO	NO	db	bb	0.013
2	123678-HxCDF	34.71	2.378e3	1.985e3	0.961	1.20	1.24	45.4	YES	NO	db	db	0.503
3	123478-HxCDF	34.57	2.665e3	1.920e3	1.002	1.39	1.24	49.1	YES	NO	bd	bd	0.536
4	23478-PeCDF	30.95	3.613e3	2.170e3	0.980	1.67	1.55	62.0	YES	NO	MM	MM	0.571
5	12378-PeCDF	29.60	2.875e3	1.658e3	0.866	1.73	1.55	57.7	YES	NO	bb	bb	0.497
6	1234678-HpCDF	38.45	2.125e3	1.921e3	1.058	1.11	1.05	65.0	YES	NO	bb	bb	0.498
7	123789-HxCDF	36.62	2.085e3	1.904e3	0.994	1.10	1.24	39.5	YES	NO	bb	bd	0.559
8	234678-HxCDF	35.59	2.353e3	1.770e3	1.043	1.33	1.24	44.2	YES	NO	MM	bb	0.492
9	OCDF	44.81	4.092e3	4.390e3	1.257	0.93	0.89	63.1	YES	NO	bd	bb	1.203
10	1234789-HpCDF	40.67	1.616e3	1.733e3	1.070	0.93	1.05	43.1	YES	NO	MM	MM	0.502

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	12378-PeCDD	31.21	1.943e3	1.373e3	0.979	1.41	1.55	27.4	YES	NO	bb	MM	0.474

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.21	1.972e3	1.843e3	0.927	1.07	1.24	49.2	YES	NO	bb	bb	0.513
2	123678-HxCDD	35.82	2.152e3	1.740e3	0.953	1.24	1.24	47.5	YES	NO	db	db	0.482
3	123478-HxCDD	35.70	2.167e3	1.559e3	0.956	1.39	1.24	57.3	YES	NO	dd	bd	0.514

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.93	1.979e3	1.649e3	1.055	1.20	1.05	45.7	YES	NO	bb	bb	0.526

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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	123789-HxCDD	36.21	1.972e3	1.843e3	0.927	1.07	1.24	49.2	YES	NO	bb	bb	0.513
2	123678-HxCDD	35.82	2.152e3	1.740e3	0.953	1.24	1.24	47.5	YES	NO	db	db	0.482
3	123478-HxCDD	35.70	2.167e3	1.559e3	0.956	1.39	1.24	57.3	YES	NO	dd	bd	0.514
4	12378-PeCDD	31.21	1.943e3	1.373e3	0.979	1.41	1.55	27.4	YES	NO	bb	MM	0.474
5	1234678-HpCDD	39.93	1.979e3	1.649e3	1.055	1.20	1.05	45.7	YES	NO	bb	bb	0.526
6	OCDD	44.58	3.330e3	3.479e3	1.074	0.96	0.89	39.0	YES	NO	bb	bb	1.131

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	24.78	7.420e1	8.669e1	0.828	0.86	0.77	1.5	NO	NO	db	bb	0.013
2	123678-HxCDF	34.71	2.378e3	1.985e3	0.961	1.20	1.24	45.4	YES	NO	db	db	0.503
3	123478-HxCDF	34.57	2.665e3	1.920e3	1.002	1.39	1.24	49.1	YES	NO	bd	bd	0.536
4	23478-PeCDF	30.95	3.613e3	2.170e3	0.980	1.67	1.55	62.0	YES	NO	MM	MM	0.571
5	12378-PeCDF	29.60	2.875e3	1.658e3	0.866	1.73	1.55	57.7	YES	NO	bb	bb	0.497
6	1234678-HpCDF	38.45	2.125e3	1.921e3	1.058	1.11	1.05	65.0	YES	NO	bb	bb	0.498
7	123789-HxCDF	36.62	2.085e3	1.904e3	0.994	1.10	1.24	39.5	YES	NO	bb	bd	0.559
8	234678-HxCDF	35.59	2.353e3	1.770e3	1.043	1.33	1.24	44.2	YES	NO	MM	bb	0.492
9	OCDF	44.81	4.092e3	4.390e3	1.257	0.93	0.89	63.1	YES	NO	bd	bb	1.203
10	1234789-HpCDF	40.67	1.616e3	1.733e3	1.070	0.93	1.05	43.1	YES	NO	MM	MM	0.502
11	123789-HxCDD	36.21	1.972e3	1.843e3	0.927	1.07	1.24	49.2	YES	NO	bb	bb	0.513
12	123678-HxCDD	35.82	2.152e3	1.740e3	0.953	1.24	1.24	47.5	YES	NO	db	db	0.482
13	123478-HxCDD	35.70	2.167e3	1.559e3	0.956	1.39	1.24	57.3	YES	NO	dd	bd	0.514
14	12378-PeCDD	31.21	1.943e3	1.373e3	0.979	1.41	1.55	27.4	YES	NO	bb	MM	0.474
15	1234678-HpCDD	39.93	1.979e3	1.649e3	1.055	1.20	1.05	45.7	YES	NO	bb	bb	0.526
16	OCDD	44.58	3.330e3	3.479e3	1.074	0.96	0.89	39.0	YES	NO	bb	bb	1.131

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.91	4.811e4					1.4	NO		bd		
2	FUNCTION1 PFK	21.57	5.532e4					1.7	NO		bb		
3	FUNCTION1 PFK	21.35	1.121e5					2.6	NO		bb		
4	FUNCTION1 PFK	21.12	2.788e4					1.3	NO		bb		
5	FUNCTION1 PFK	24.40	4.379e4					1.6	NO		db		
6	FUNCTION1 PFK	24.29	4.714e4					1.5	NO		bd		
7	FUNCTION1 PFK	24.17	4.425e4					1.3	NO		bb		
8	FUNCTION1 PFK	24.04	6.636e4					1.5	NO		bb		
9	FUNCTION1 PFK	23.84	8.174e4					1.8	NO		db		
10	FUNCTION1 PFK	23.72	4.959e4					1.8	NO		bd		
11	FUNCTION1 PFK	23.51	5.219e4					1.5	NO		bb		
12	FUNCTION1 PFK	23.37	5.323e4					1.6	NO		db		
13	FUNCTION1 PFK	23.27	5.914e4					1.6	NO		bd		
14	FUNCTION1 PFK	23.04	4.034e4					1.5	NO		bb		
15	FUNCTION1 PFK	22.83	2.706e4					1.0	NO		bb		
16	FUNCTION1 PFK	22.71	5.742e4					1.3	NO		bb		
17	FUNCTION1 PFK	22.48	7.141e4					2.0	NO		db		
18	FUNCTION1 PFK	22.37	5.810e4					1.9	NO		bd		
19	FUNCTION1 PFK	22.16	6.578e4					1.4	NO		db		
20	FUNCTION1 PFK	22.04	5.727e4					1.4	NO		dd		
21	FUNCTION1 PFK	27.32	3.993e4					1.7	NO		bd		
22	FUNCTION1 PFK	27.24	3.051e3					0.3	NO		bb		
23	FUNCTION1 PFK	27.11	4.057e4					1.7	NO		bb		
24	FUNCTION1 PFK	26.89	3.581e4					1.2	NO		bb		
25	FUNCTION1 PFK	26.77	4.031e4					1.5	NO		bb		
26	FUNCTION1 PFK	26.30	5.396e4					1.8	NO		bb		
27	FUNCTION1 PFK	26.20	4.401e4					1.1	NO		bb		
28	FUNCTION1 PFK	25.97	2.955e4					1.1	NO		bb		
29	FUNCTION1 PFK	25.76	4.222e4					1.3	NO		bb		
30	FUNCTION1 PFK	25.64	2.501e4					1.2	NO		bb		
31	FUNCTION1 PFK	25.43	4.341e4					1.6	NO		bb		
32	FUNCTION1 PFK	25.29	6.584e4					1.7	NO		bb		
33	FUNCTION1 PFK	24.96	3.666e4					1.5	NO		bb		
34	FUNCTION1 PFK	24.75	5.133e4					1.5	NO		db		
35	FUNCTION1 PFK	24.63	4.198e4					1.6	NO		bd		
36	FUNCTION1 PFK	24.49	1.353e4					0.8	NO		bb		
37	FUNCTION1 PFK	27.44	3.090e4					1.4	NO		db		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	27.36	2.215e4					1.2	NO		dd		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.67	2.681e4					2.2	NO		bb		0.000
2	FUNCTION2 PFK	29.59	1.836e4					2.4	NO		db		0.000
3	FUNCTION2 PFK	29.56	3.972e4					3.0	YES		dd		0.000
4	FUNCTION2 PFK	29.45	1.734e4					2.0	NO		bd		0.000
5	FUNCTION2 PFK	29.32	2.002e4					1.8	NO		bb		0.000
6	FUNCTION2 PFK	29.15	8.928e3					1.5	NO		db		0.000
7	FUNCTION2 PFK	29.10	3.383e4					2.8	NO		bd		0.000
8	FUNCTION2 PFK	29.00	2.772e4					1.8	NO		bb		0.000
9	FUNCTION2 PFK	28.78	1.986e4					1.9	NO		bb		0.000
10	FUNCTION2 PFK	28.68	3.378e4					2.3	NO		bb		0.000
11	FUNCTION2 PFK	28.11	5.396e4					3.0	YES		db		0.000
12	FUNCTION2 PFK	27.98	5.150e4					3.4	YES		dd		0.000
13	FUNCTION2 PFK	27.92	2.477e4					2.0	NO		bd		0.000
14	FUNCTION2 PFK	31.91	1.969e4					2.2	NO		bd		0.000
15	FUNCTION2 PFK	31.71	1.696e4					1.8	NO		bb		0.000
16	FUNCTION2 PFK	31.62	7.763e3					1.1	NO		bb		0.000
17	FUNCTION2 PFK	31.38	3.468e4					2.2	NO		bb		0.000
18	FUNCTION2 PFK	31.26	4.605e4					2.9	NO		bb		0.000
19	FUNCTION2 PFK	31.13	3.096e4					2.3	NO		bb		0.000
20	FUNCTION2 PFK	30.93	2.263e4					2.1	NO		bb		0.000
21	FUNCTION2 PFK	30.80	4.588e4					3.0	YES		bb		0.000
22	FUNCTION2 PFK	30.70	3.681e4					2.4	NO		bb		0.000
23	FUNCTION2 PFK	30.59	4.758e4					2.6	NO		bb		0.000
24	FUNCTION2 PFK	30.47	3.797e4					2.5	NO		db		0.000
25	FUNCTION2 PFK	30.40	2.016e4					2.1	NO		dd		0.000
26	FUNCTION2 PFK	30.37	2.688e4					2.5	NO		bd		0.000
27	FUNCTION2 PFK	30.04	2.422e4					2.0	NO		bb		0.000
28	FUNCTION2 PFK	29.89	2.404e3					0.8	NO		bb		0.000
29	FUNCTION2 PFK	29.79	3.413e4					1.4	NO		bb		0.000
30	FUNCTION2 PFK	32.17	2.054e4					1.7	NO		bb		0.000
31	FUNCTION2 PFK	32.06	3.570e4					2.3	NO		db		0.000
32	FUNCTION2 PFK	31.96	2.290e4					2.0	NO		dd		0.000

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Printed: Tuesday, March 02, 2021 11:33:52 Pacific Standard Time

ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, 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	36.00	3.248e4					1.9	NO		bb		0.000
2	FUNCTION3 PFK	35.89	4.723e4					2.7	NO		bb		0.000
3	FUNCTION3 PFK	35.76	1.225e4					1.2	NO		bb		0.000
4	FUNCTION3 PFK	35.57	3.317e4					1.6	NO		bb		0.000
5	FUNCTION3 PFK	35.42	2.975e4					1.8	NO		bb		0.000
6	FUNCTION3 PFK	35.21	2.522e4					1.7	NO		bb		0.000
7	FUNCTION3 PFK	35.10	1.572e4					1.3	NO		bb		0.000
8	FUNCTION3 PFK	34.75	3.133e4					1.7	NO		bb		0.000
9	FUNCTION3 PFK	34.40	5.083e4					2.4	NO		bb		0.000
10	FUNCTION3 PFK	32.95	3.196e4					1.7	NO		bb		0.000
11	FUNCTION3 PFK	32.74	4.346e4					2.5	NO		bb		0.000
12	FUNCTION3 PFK	32.61	1.933e4					1.6	NO		bb		0.000
13	FUNCTION3 PFK	37.36	2.524e4					1.9	NO		db		0.000
14	FUNCTION3 PFK	37.31	1.364e4					1.3	NO		bd		0.000
15	FUNCTION3 PFK	37.11	2.137e4					1.7	NO		bb		0.000
16	FUNCTION3 PFK	36.30	4.481e3					0.6	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
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ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, 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	40.41	1.581e4					1.4	NO		bb		
2	FUNCTION4 PFK	40.30	3.339e4					2.1	NO		db		
3	FUNCTION4 PFK	40.17	3.551e4					1.9	NO		bd		
4	FUNCTION4 PFK	39.97	1.739e4					1.5	NO		bb		
5	FUNCTION4 PFK	39.61	4.200e4					2.6	NO		bb		
6	FUNCTION4 PFK	39.50	2.895e4					2.3	NO		bb		
7	FUNCTION4 PFK	39.33	1.534e3					0.5	NO		bb		
8	FUNCTION4 PFK	38.36	2.406e6					29.1	YES		db		
9	FUNCTION4 PFK	38.27	2.496e6					33.0	YES		dd		
10	FUNCTION4 PFK	38.05	4.272e6					44.4	YES		dd		
11	FUNCTION4 PFK	37.68	2.888e6					61.9	YES		bd		
12	FUNCTION4 PFK	42.79	3.879e4					1.9	NO		bb		
13	FUNCTION4 PFK	42.35	2.703e4					2.2	NO		bb		
14	FUNCTION4 PFK	42.15	3.172e4					1.4	NO		bb		
15	FUNCTION4 PFK	41.76	2.878e4					2.3	NO		bb		
16	FUNCTION4 PFK	41.69	2.252e4					2.6	NO		db		
17	FUNCTION4 PFK	41.65	4.121e4					3.2	YES		bd		
18	FUNCTION4 PFK	41.23	2.095e4					1.8	NO		db		
19	FUNCTION4 PFK	41.19	1.202e4					1.6	NO		bd		
20	FUNCTION4 PFK	40.75	4.931e4					2.5	NO		db		
21	FUNCTION4 PFK	40.63	6.621e4					3.0	NO		bd		

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:33:52 Pacific Standard Time

ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, 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	43.91	1.115e4					1.3	NO		bb		
2	FUNCTION5 PFK	43.47	5.219e3					0.7	NO		bb		
3	FUNCTION5 PFK	43.41	9.576e2					0.4	NO		bb		
4	FUNCTION5 PFK	43.36	1.330e4					1.5	NO		bb		
5	FUNCTION5 PFK	43.16	4.575e3					1.0	NO		bb		
6	FUNCTION5 PFK	45.64	1.426e4					1.2	NO		bb		
7	FUNCTION5 PFK	45.54	4.604e3					0.9	NO		db		
8	FUNCTION5 PFK	45.52	5.255e3					1.0	NO		dd		
9	FUNCTION5 PFK	45.48	4.158e3					0.8	NO		bd		
10	FUNCTION5 PFK	45.42	3.019e3					0.8	NO		bb		
11	FUNCTION5 PFK	45.30	1.123e4					0.9	NO		bb		
12	FUNCTION5 PFK	45.08	1.911e4					1.6	NO		bb		
13	FUNCTION5 PFK	44.98	1.322e4					2.0	NO		db		
14	FUNCTION5 PFK	44.92	1.849e4					1.7	NO		dd		
15	FUNCTION5 PFK	44.89	2.559e3					0.8	NO		bd		
16	FUNCTION5 PFK	44.85	3.846e3					0.8	NO		bb		
17	FUNCTION5 PFK	44.58	4.530e3					0.8	NO		bb		
18	FUNCTION5 PFK	44.37	2.767e4					2.0	NO		bb		
19	FUNCTION5 PFK	44.25	1.311e4					1.7	NO		bb		
20	FUNCTION5 PFK	44.16	2.085e4					2.1	NO		db		
21	FUNCTION5 PFK	44.13	1.005e4					1.9	NO		bd		
22	FUNCTION5 PFK	46.28	3.956e3					1.0	NO		bb		
23	FUNCTION5 PFK	45.96	2.133e4					2.1	NO		bb		
24	FUNCTION5 PFK	45.83	2.266e4					1.5	NO		bb		
25	FUNCTION5 PFK	45.74	1.291e4					1.6	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.29	1.152e2					4.0	YES		bb		0.000
2	FUNCTION1 HXCD...	22.25	1.243e2					2.0	NO		bb		0.000
3	FUNCTION1 HXCD...	21.94	7.519e1					2.4	NO		bb		0.000
4	FUNCTION1 HXCD...	21.18	7.740e1					2.2	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	25.41	1.083e2					2.1	NO		bb		0.000
2	FUNCTION1 HPCD...	24.23	1.034e2					2.1	NO		bb		0.000
3	FUNCTION1 HPCD...	21.54	9.223e1					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...	30.33	7.259e1					2.6	NO		bb		0.000
2	FUNCTION2 HPCD...	28.00	7.198e1					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	36.61	9.574e1					2.5	NO		bb		0.000
2	FUNCTION3 OCDPE	36.21	1.280e2					2.7	NO		bb		0.000
3	FUNCTION3 OCDPE	35.81	2.755e2					5.5	YES		db		0.000
4	FUNCTION3 OCDPE	35.69	1.518e2					3.3	YES		dd		0.000
5	FUNCTION3 OCDPE	35.58	1.244e2					2.1	NO		bd		0.000
6	FUNCTION3 OCDPE	34.54	1.014e2					2.8	NO		bb		0.000
7	FUNCTION3 OCDPE	34.05	9.149e1					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	42.43	7.680e1					2.5	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\Dioxin210225.mdb 25 Feb 2021 14:28:48
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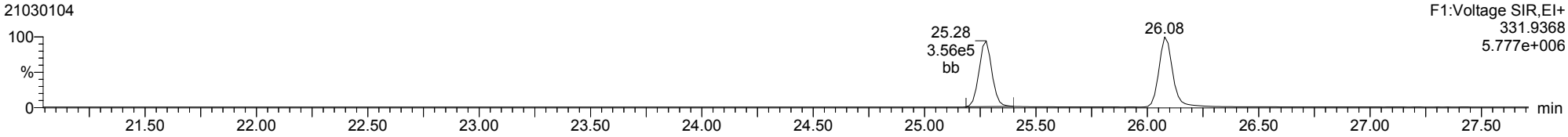
ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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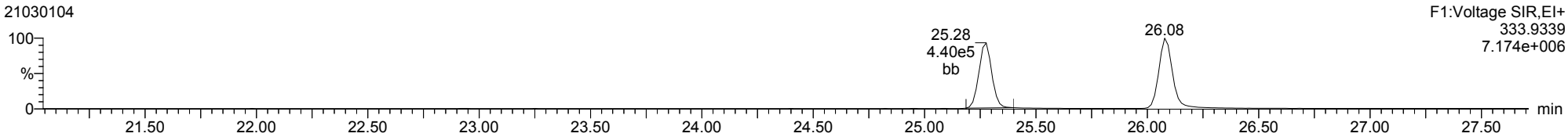

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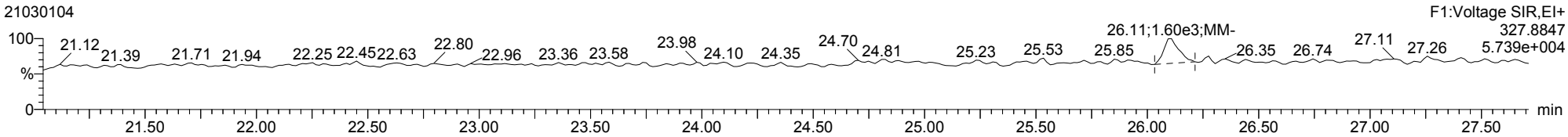

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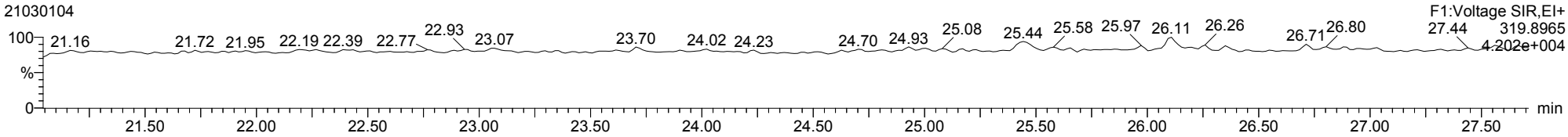
2378-TCDD



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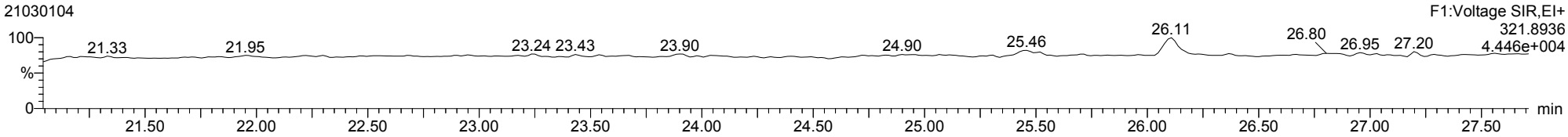

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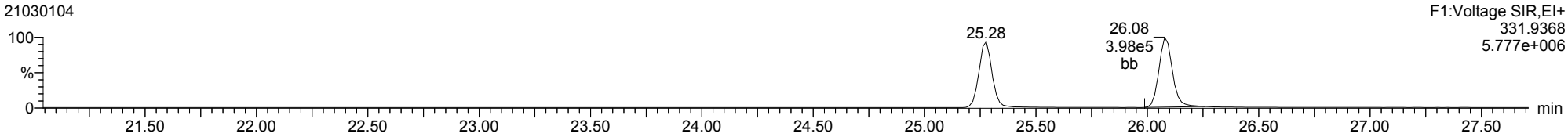

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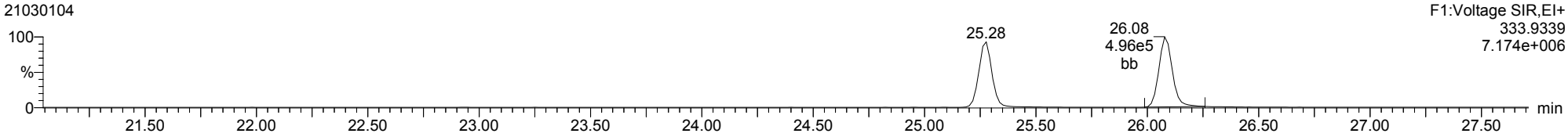
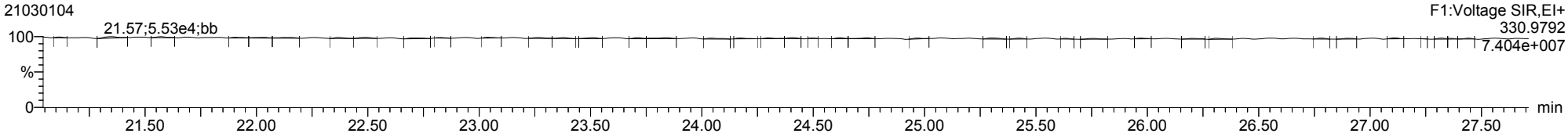


FUNCTION1 PFK



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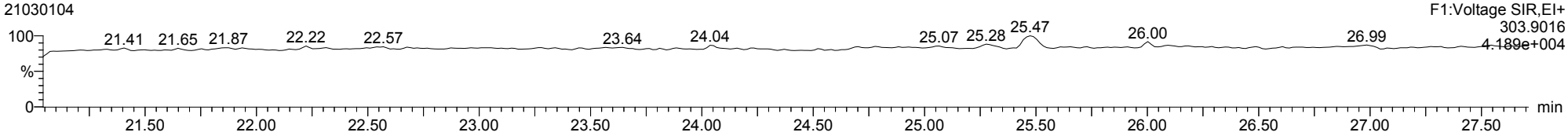
2378-TCDF



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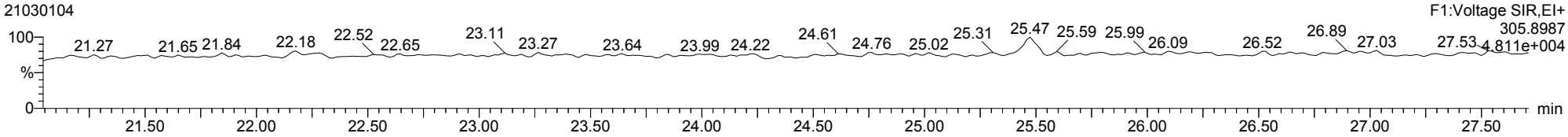

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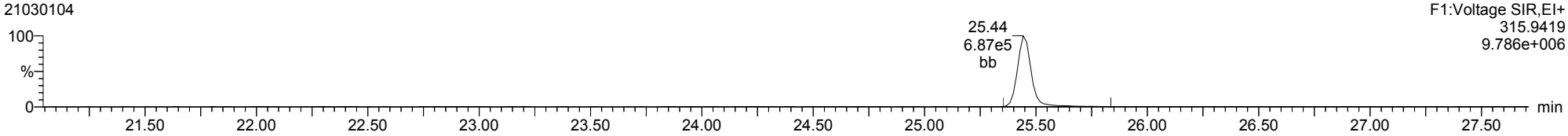

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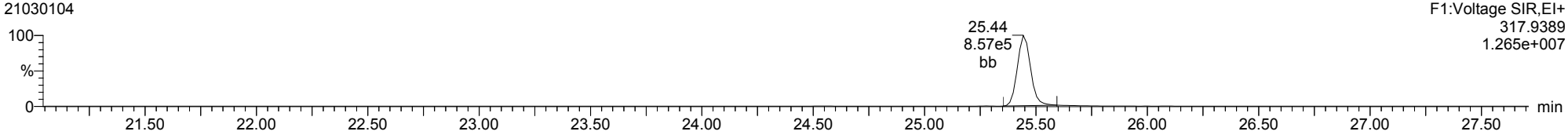

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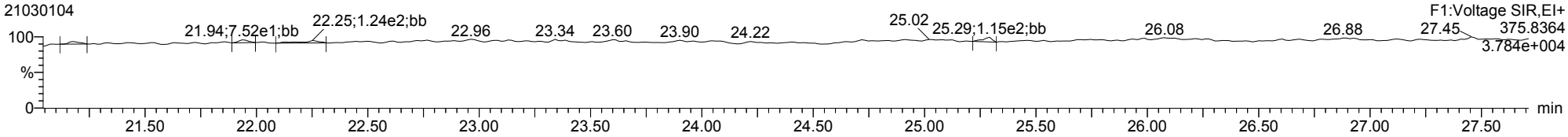

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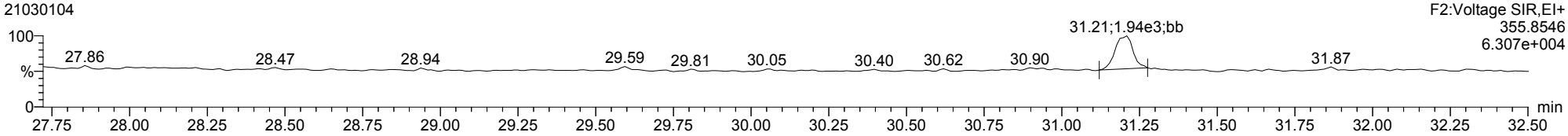

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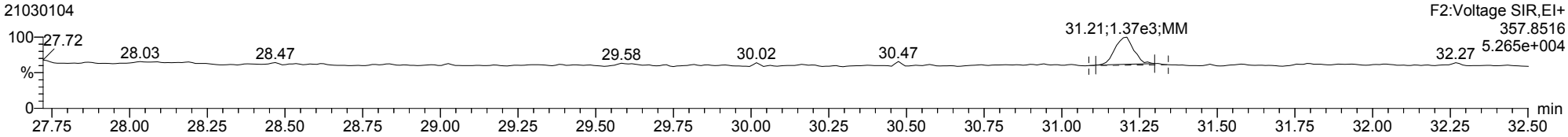

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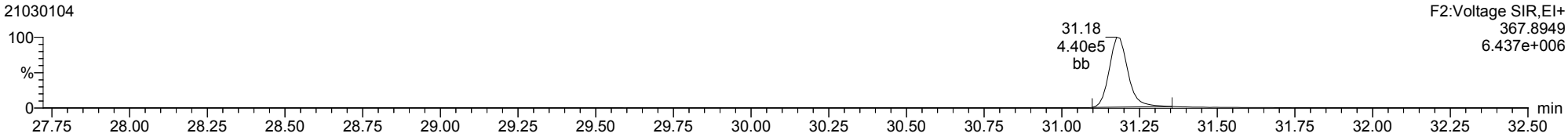

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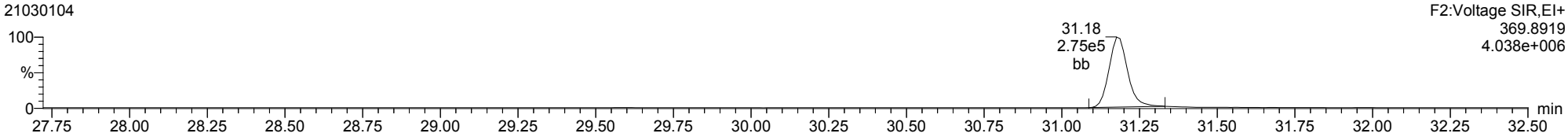
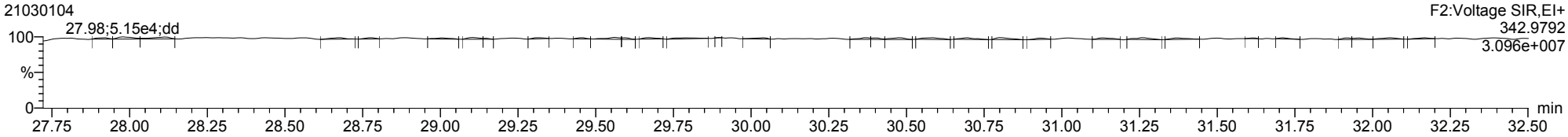


FUNCTION2 PFK



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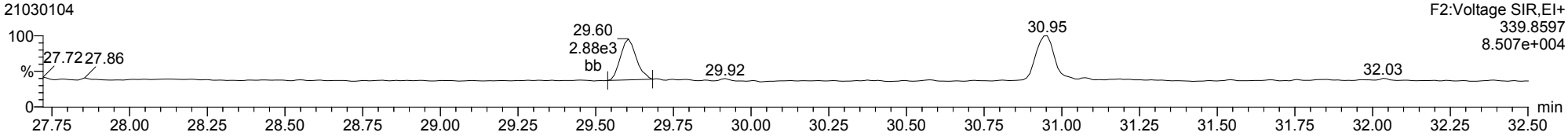
12378-PeCDF



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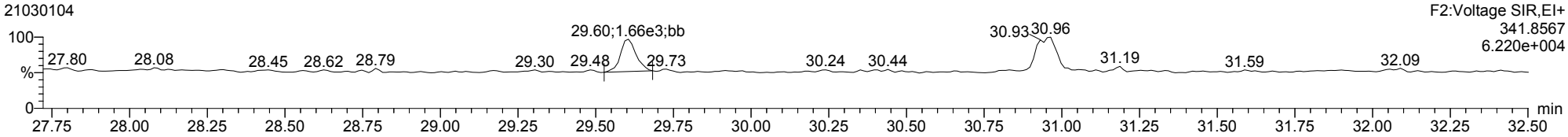

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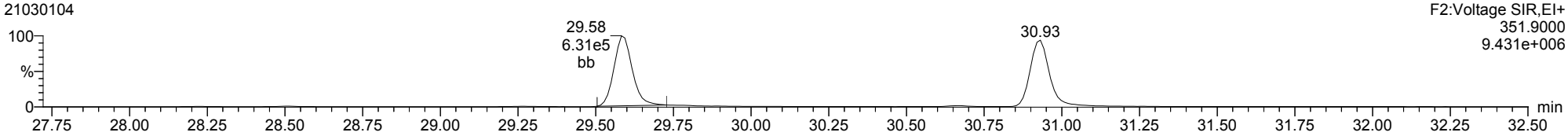

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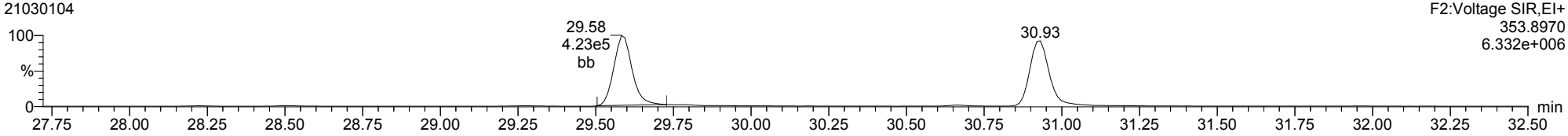
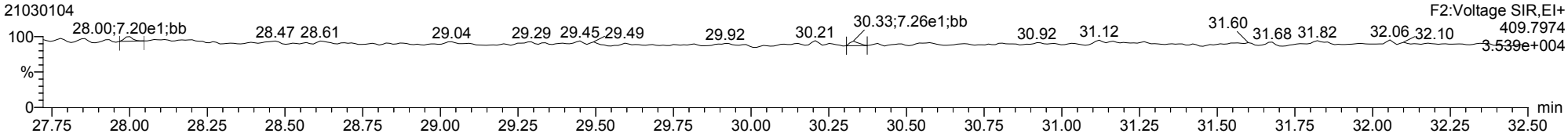


FUNCTION2 HPCDPE



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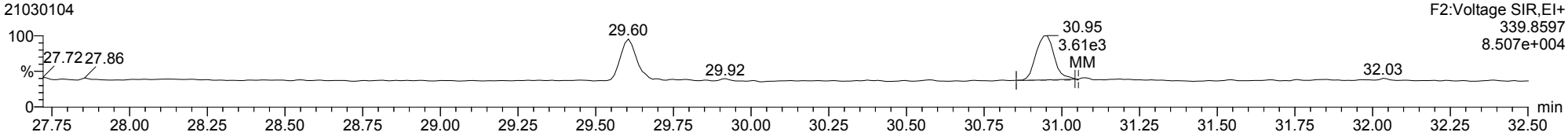
23478-PeCDF



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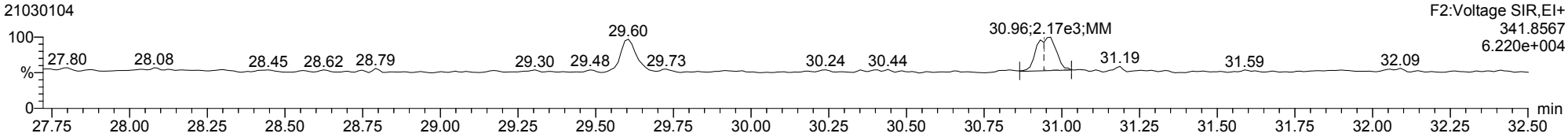

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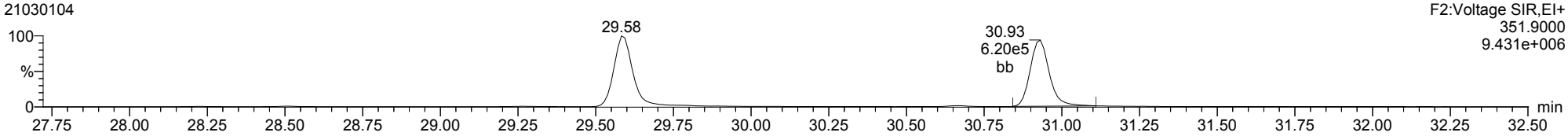

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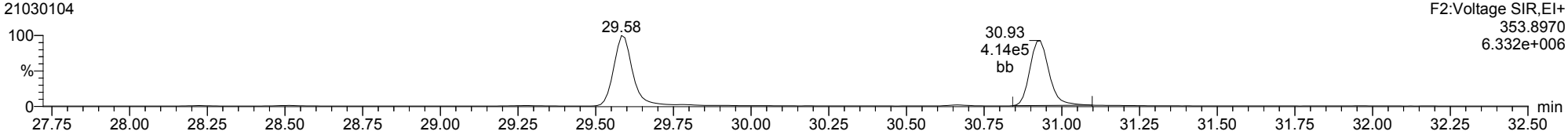

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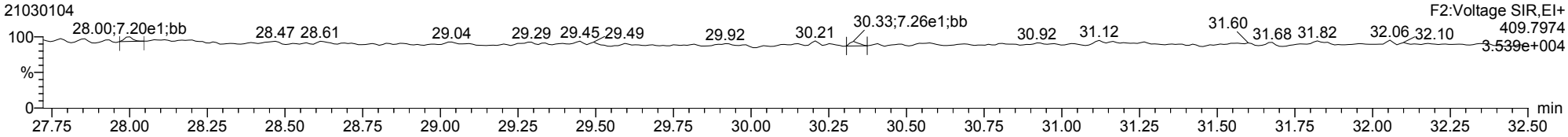

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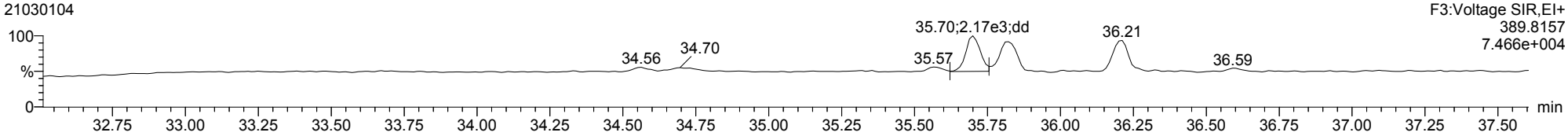

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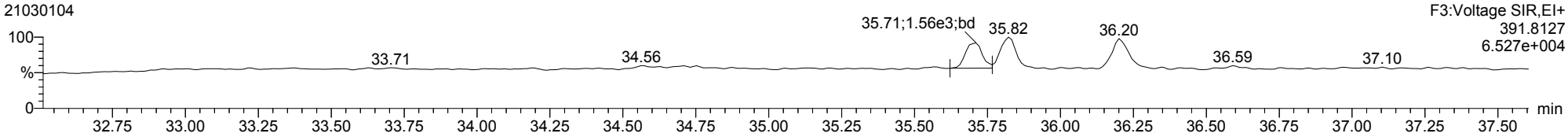

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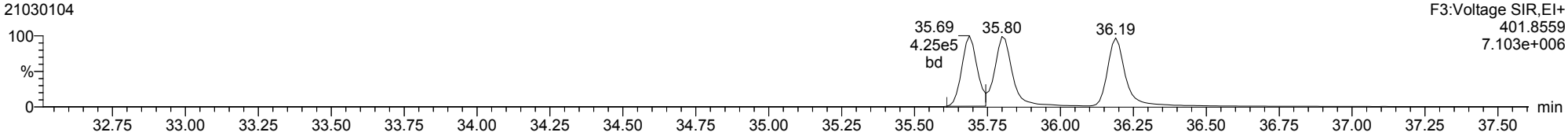

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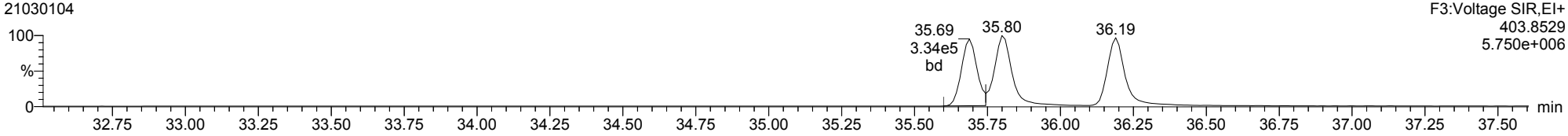

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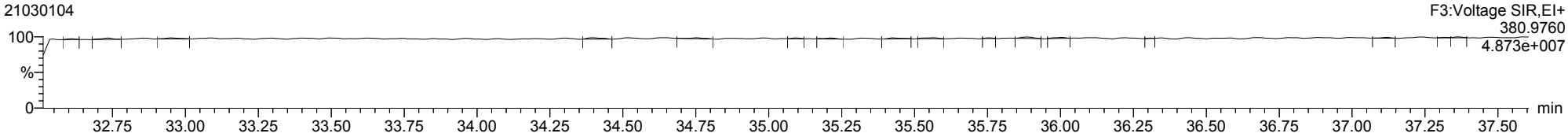

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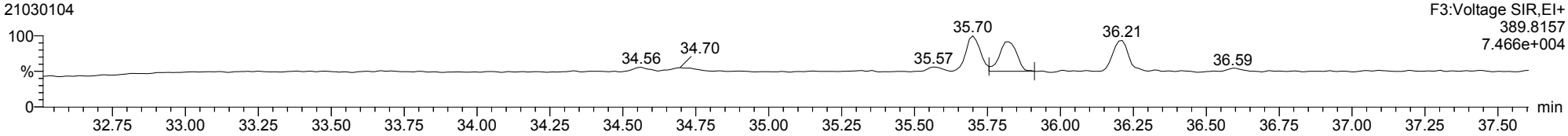

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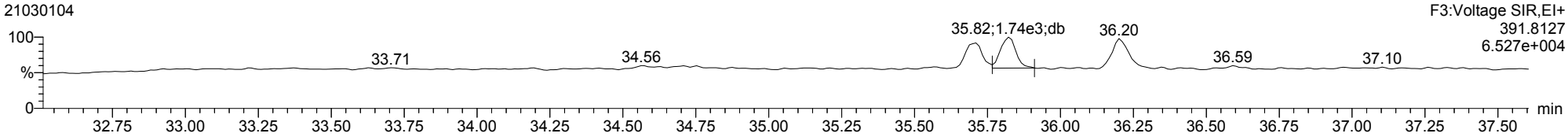

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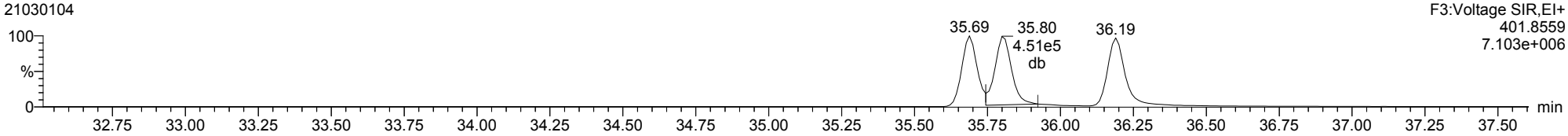

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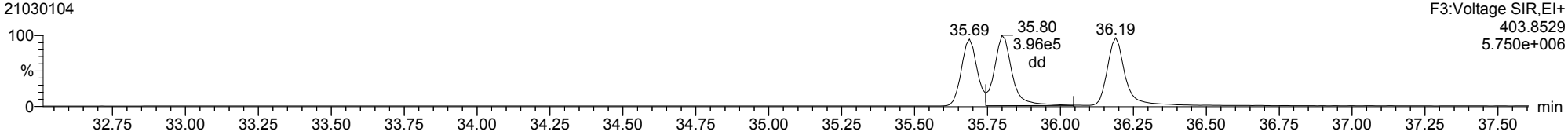

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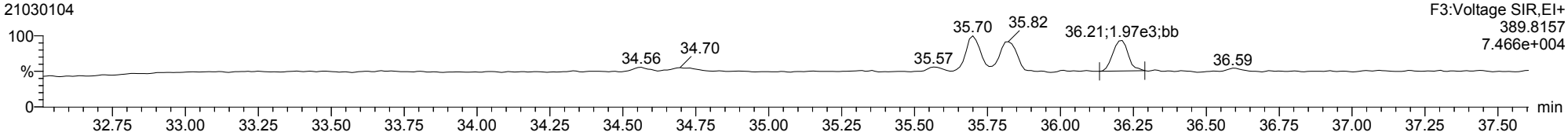

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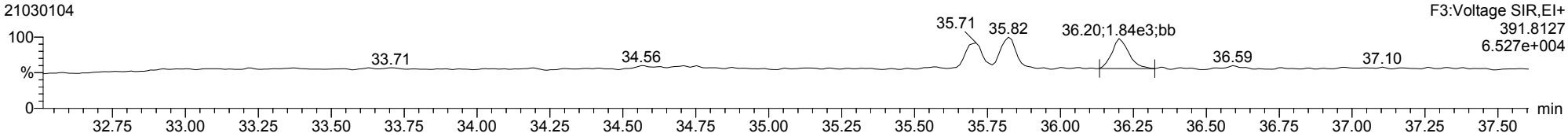

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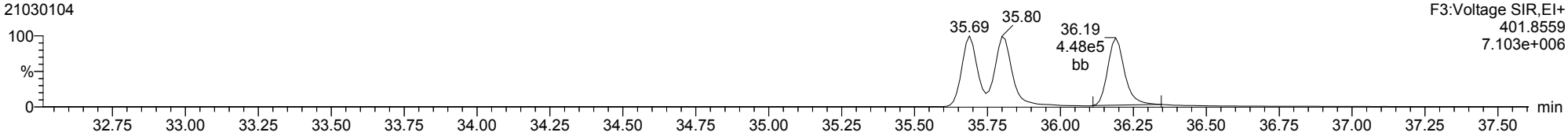

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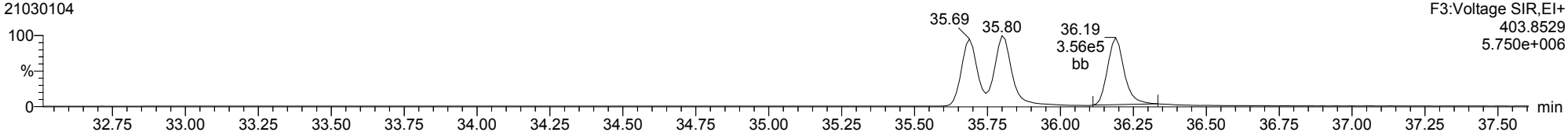

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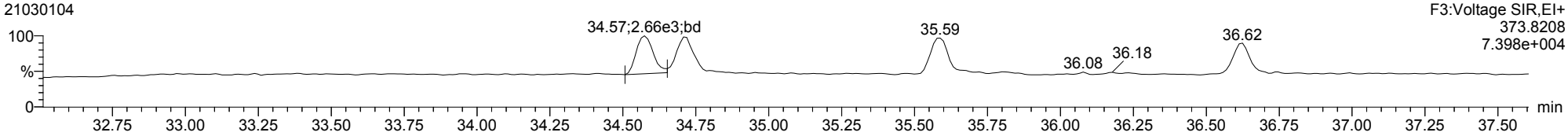

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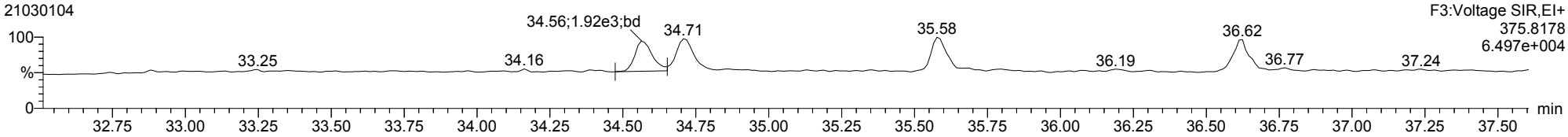

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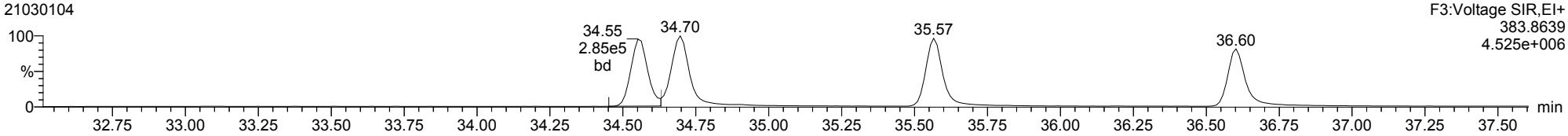

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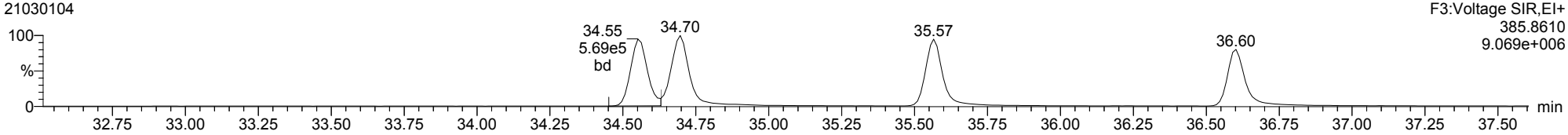

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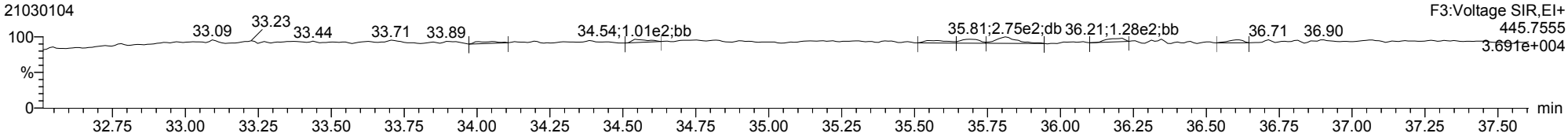

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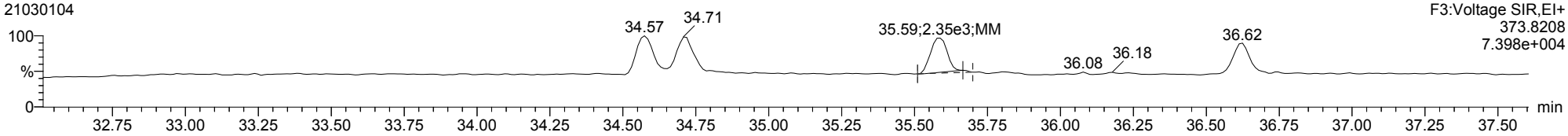

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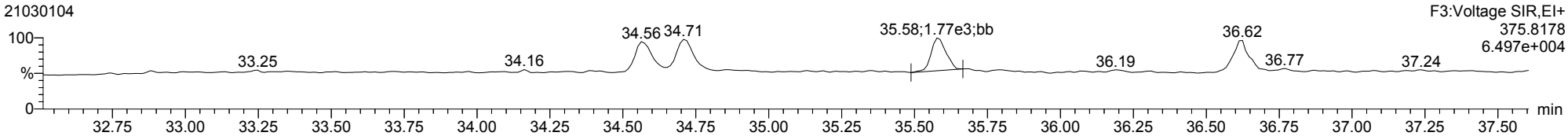

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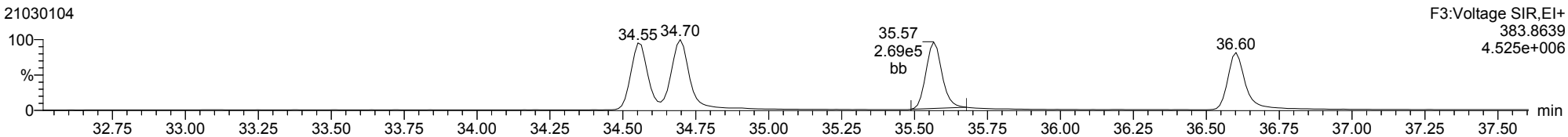

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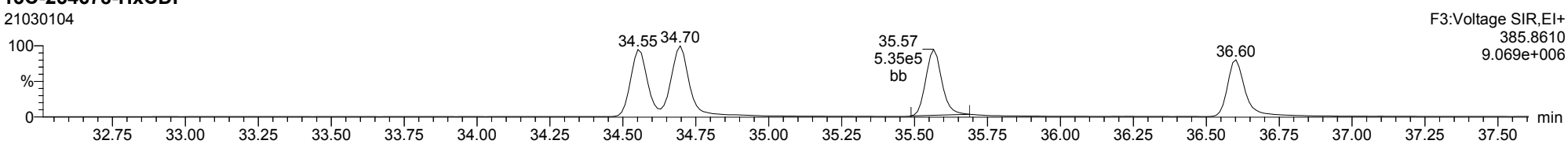

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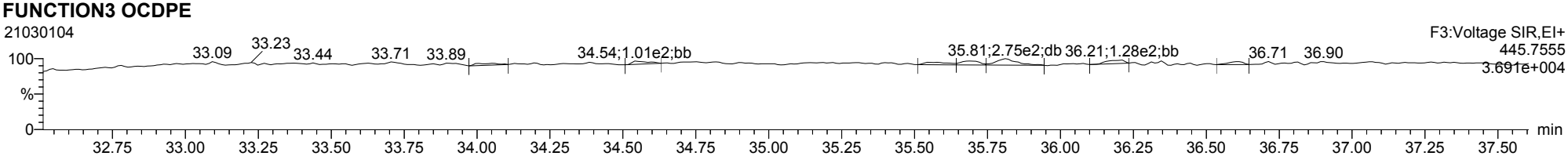

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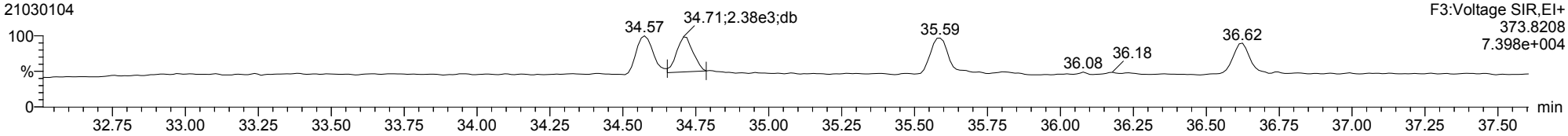

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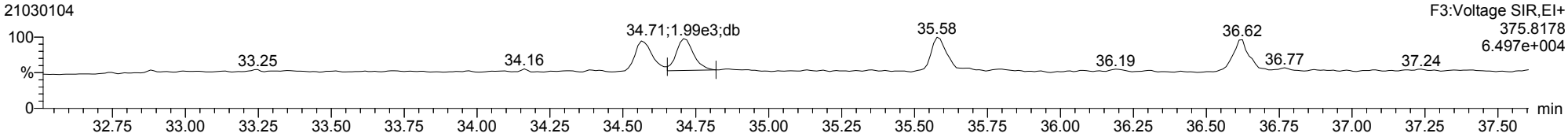

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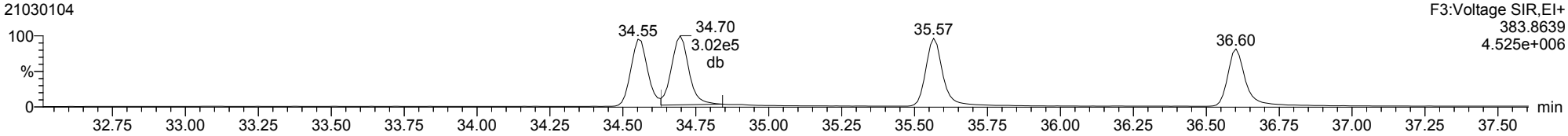

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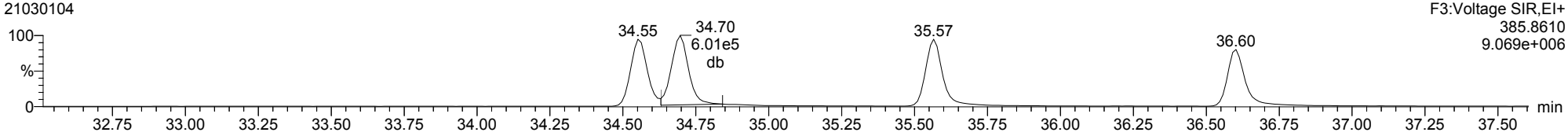

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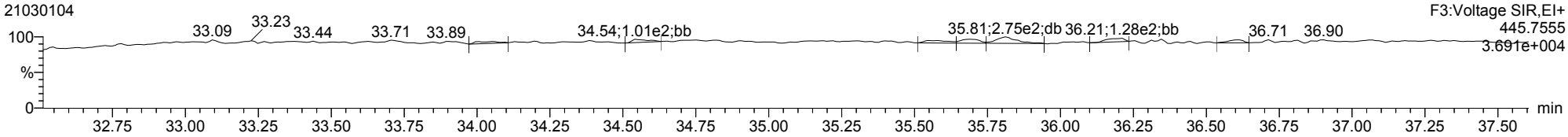

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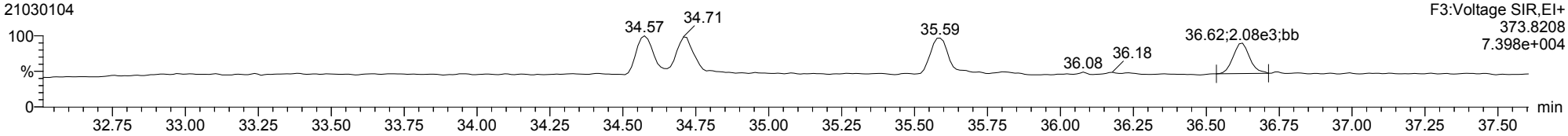

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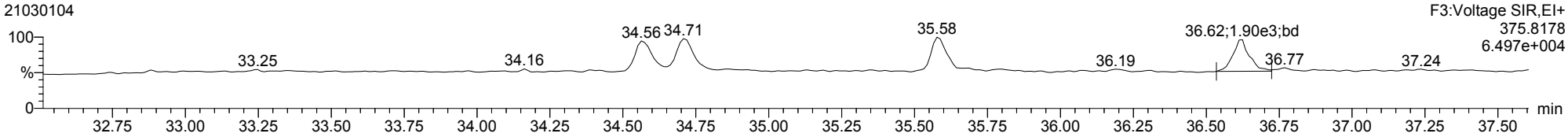

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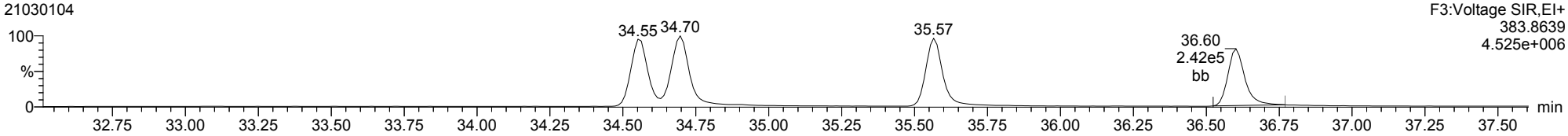

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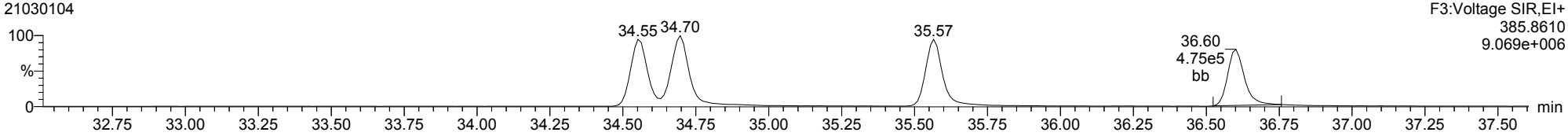

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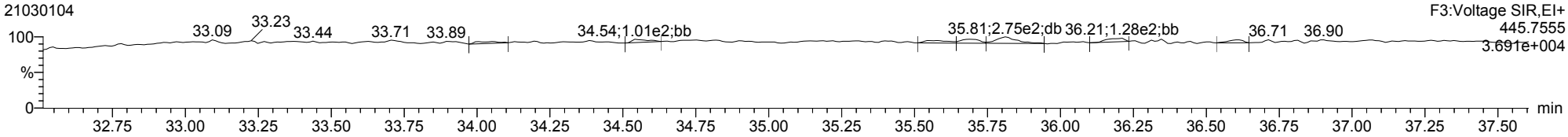

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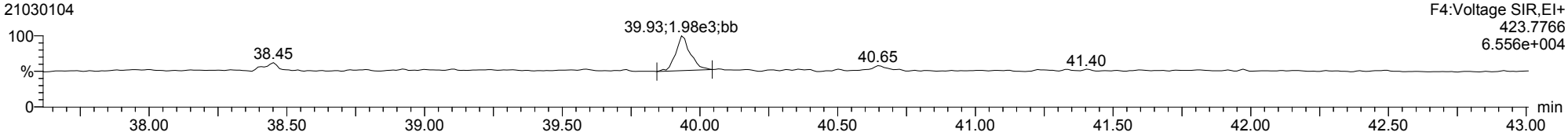

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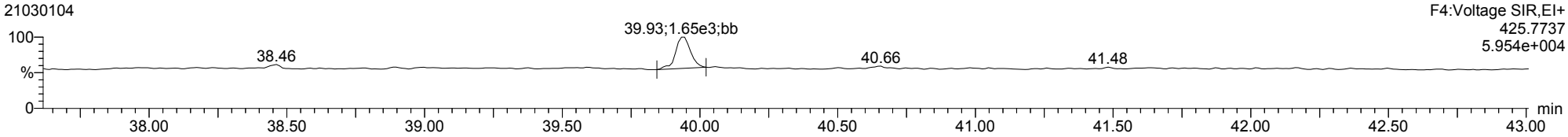

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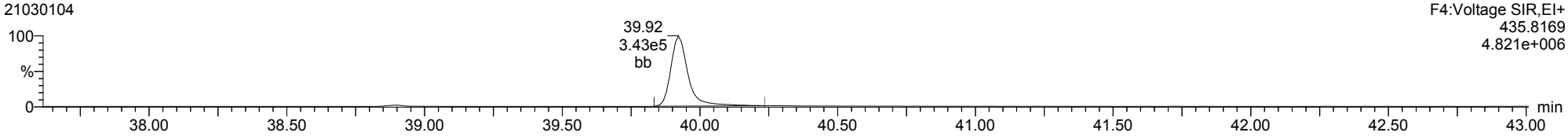

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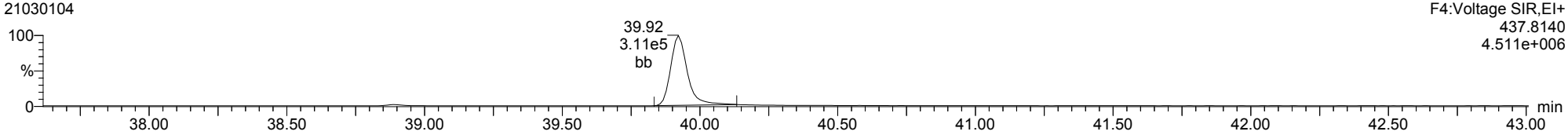

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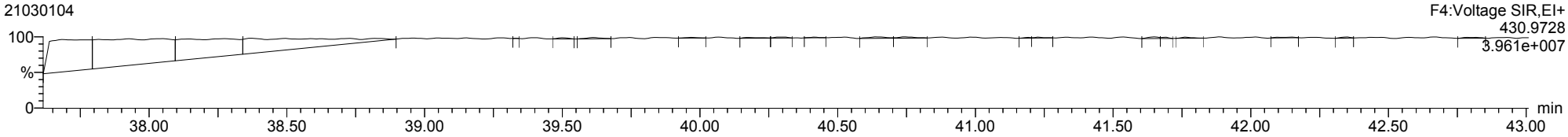

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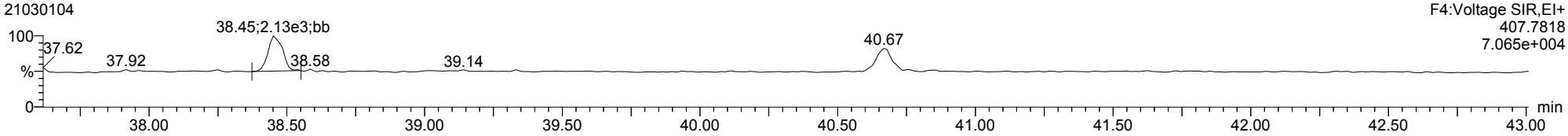

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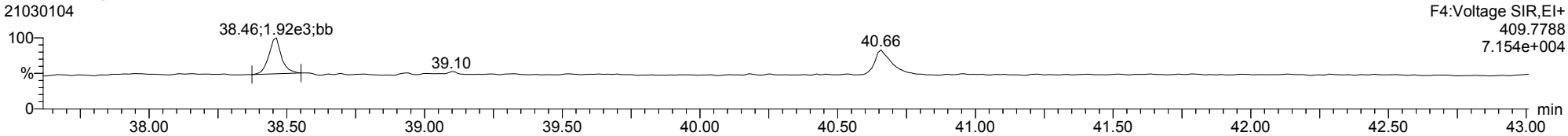

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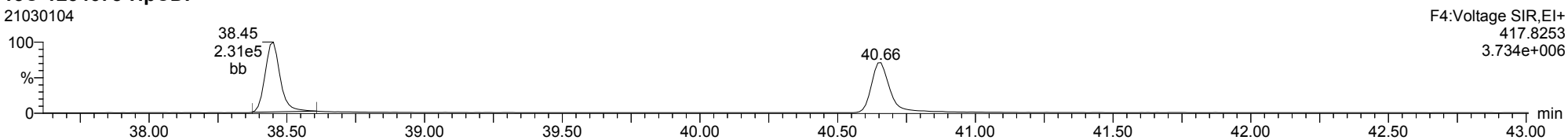

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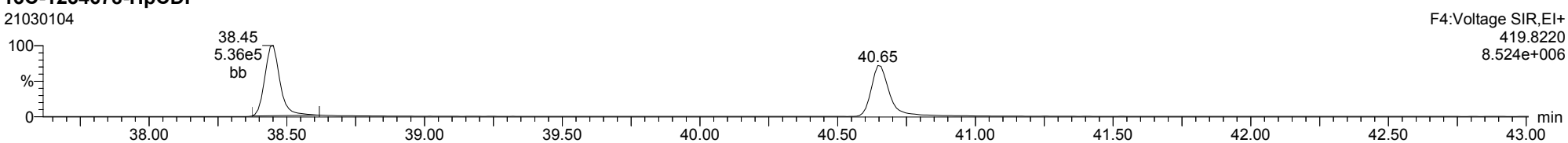

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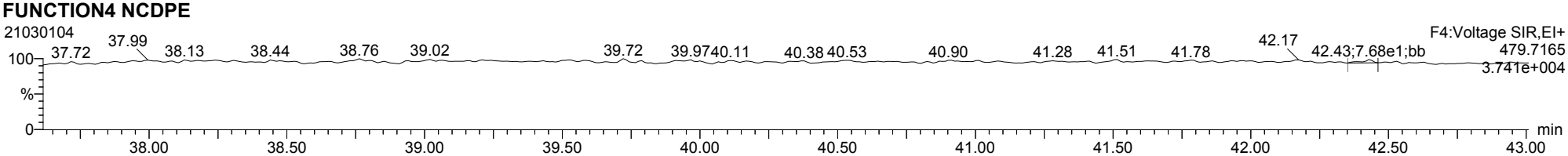

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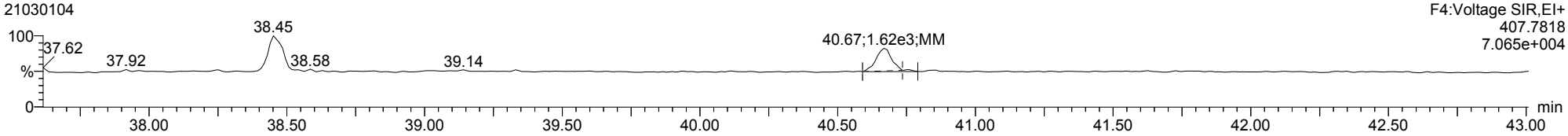
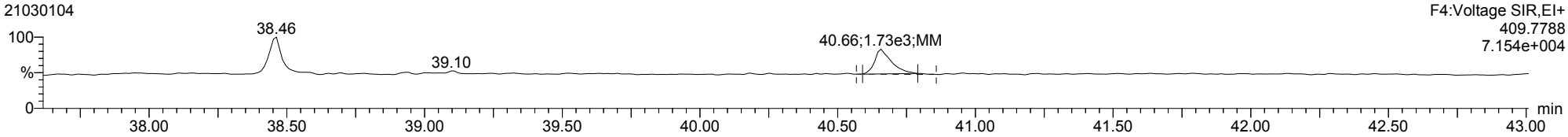


1234789-HpCDF



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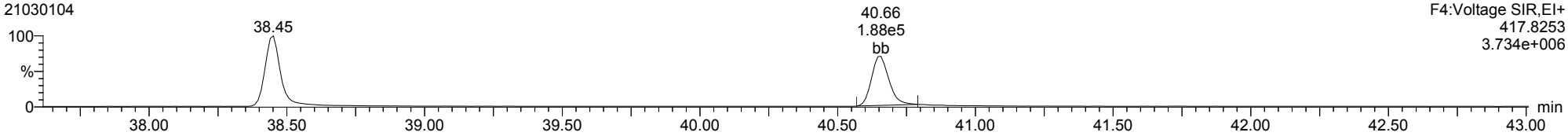

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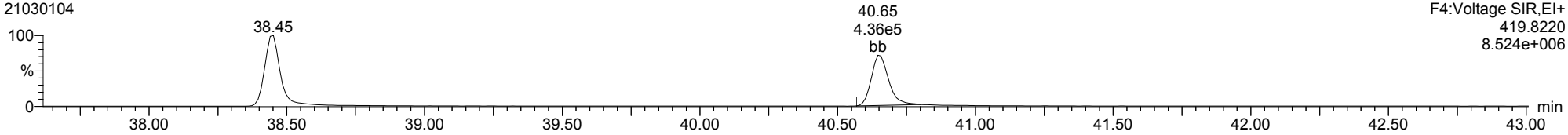
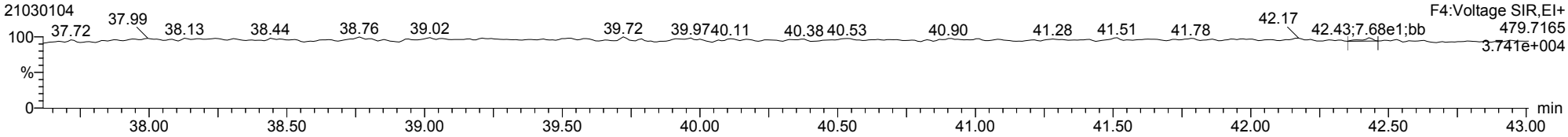


FUNCTION4 NCDPE



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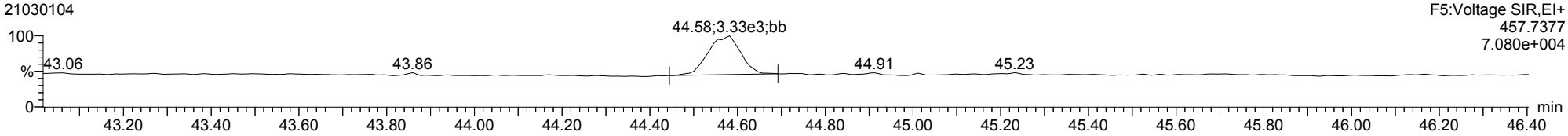
OCDD



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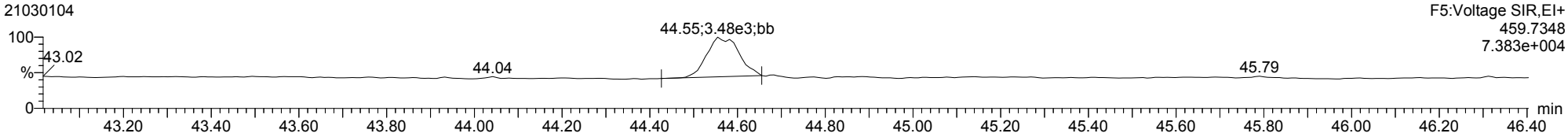

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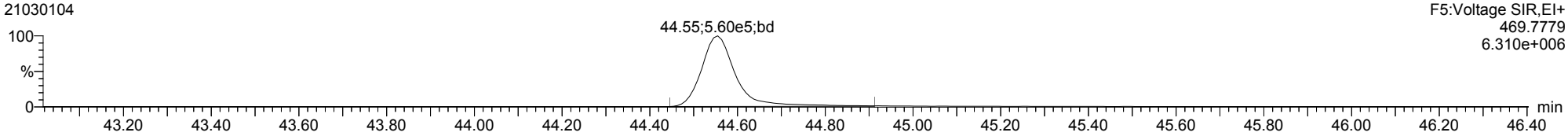

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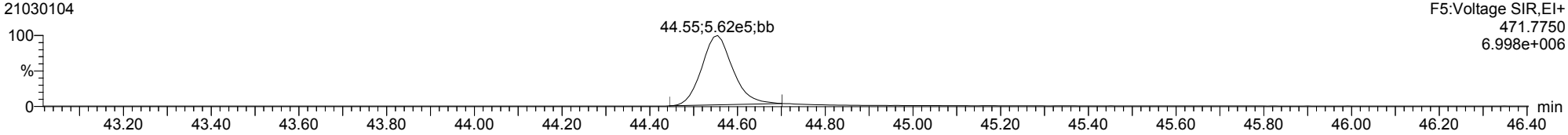
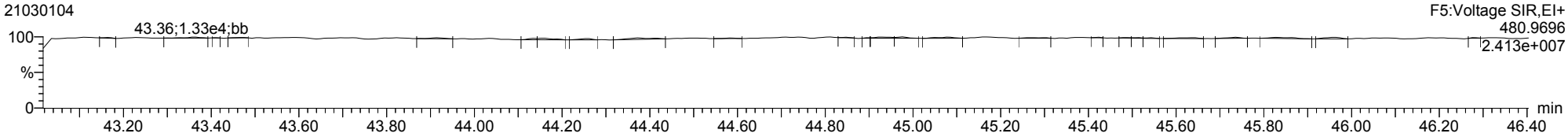


FUNCTION5 PFK



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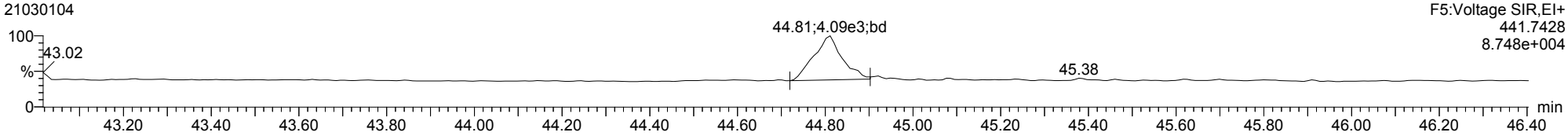
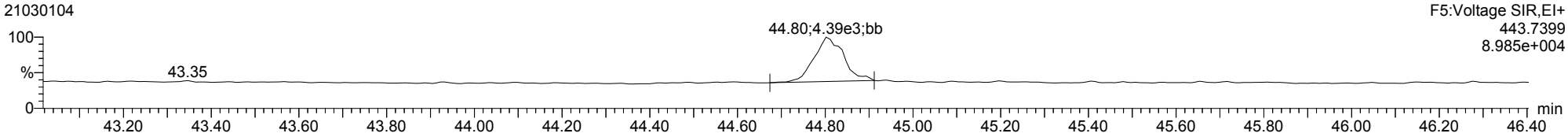
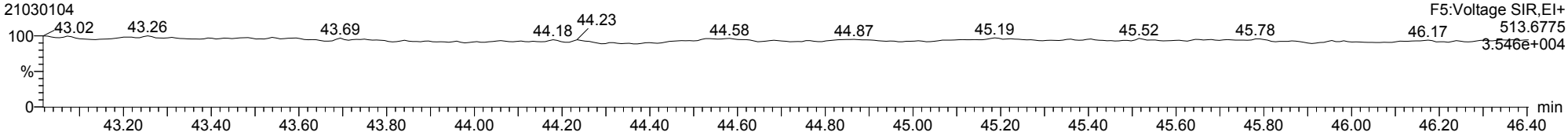
OCDF



OCDF



FUNCTION5 DCDPE



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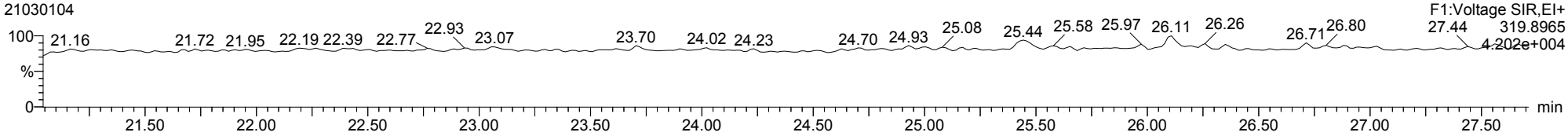
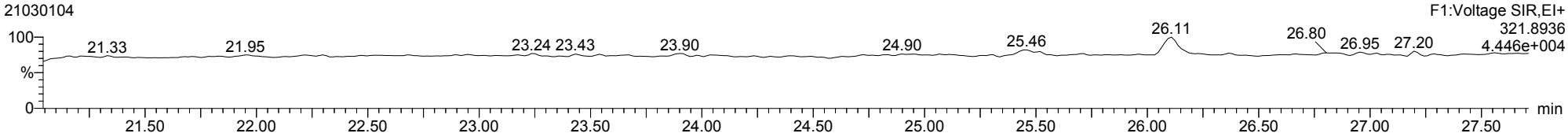
ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, Conditions: AUTOSPEC01, User: pk

Total-tetradioxins



Total-tetradioxins



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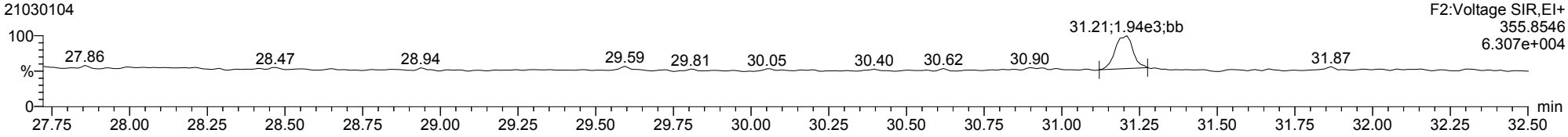

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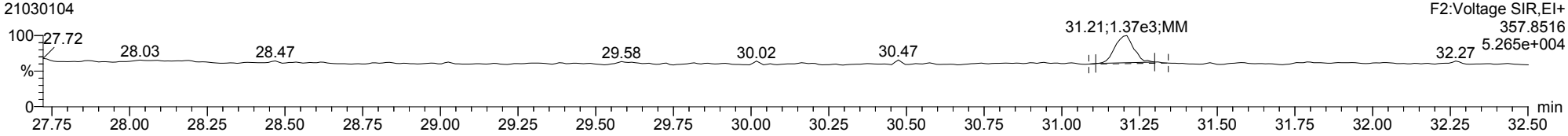

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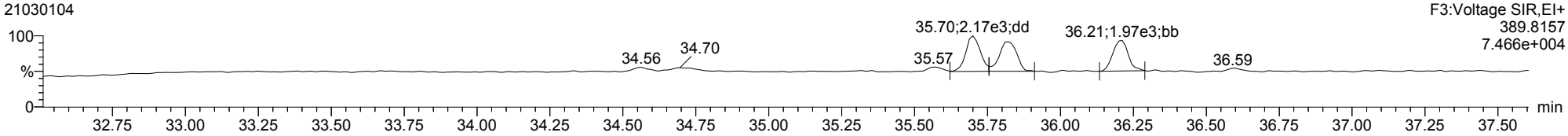
Total-hexadioxins



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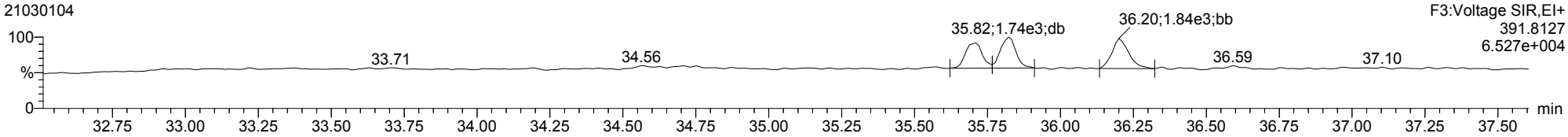

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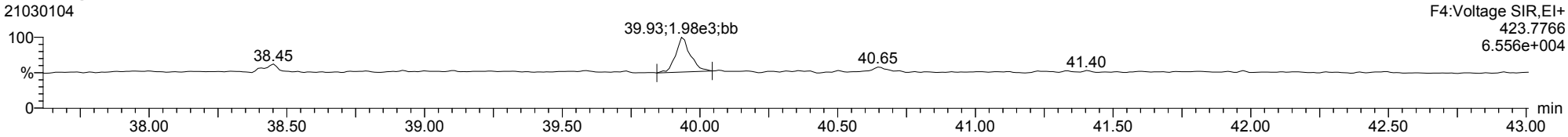
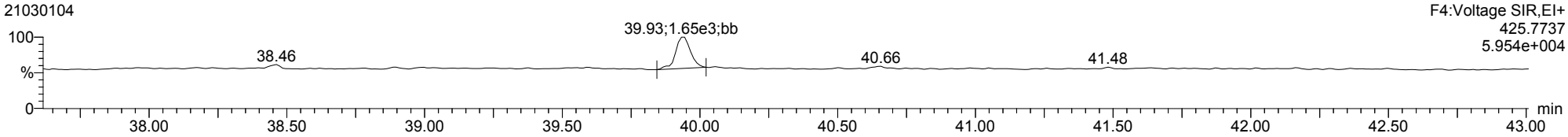


Total-heptadioxins



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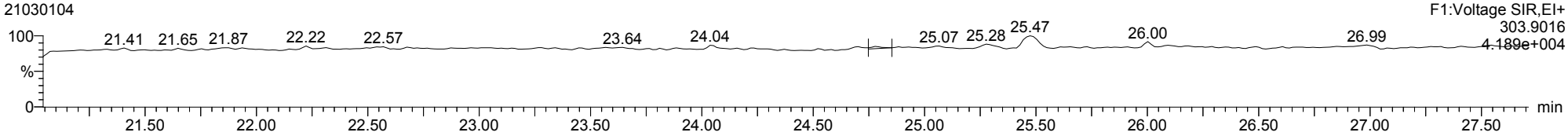
ID: CSLCV, Name: 21030104, Date: 01-Mar-2021, Time: 12:54:29, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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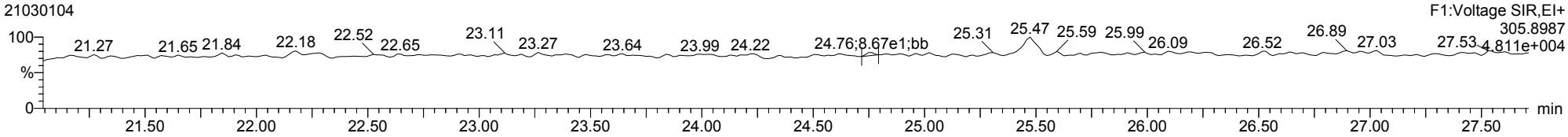

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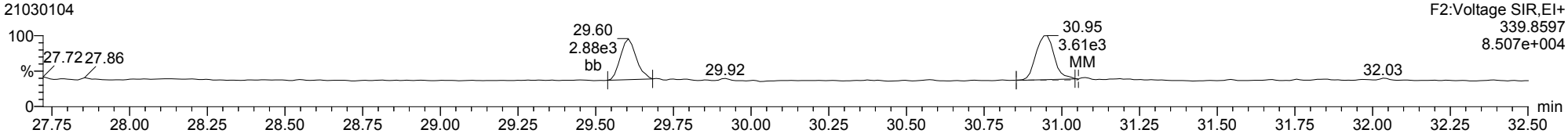

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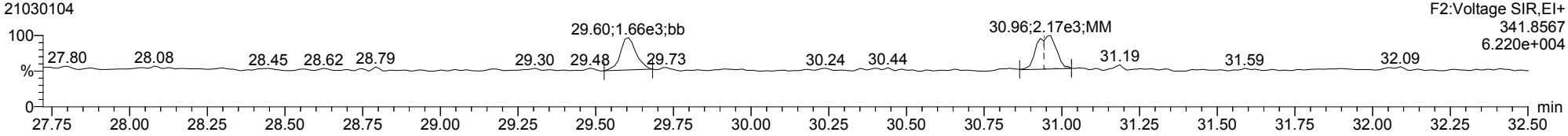

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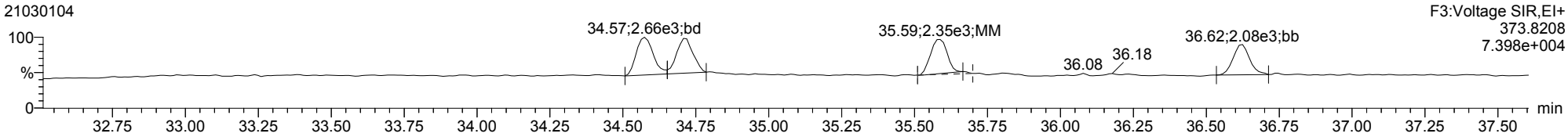
Total-hexafurans



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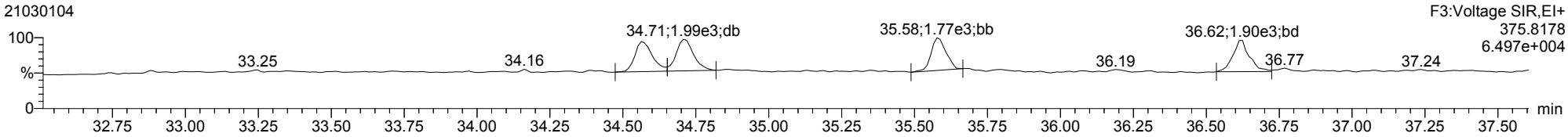

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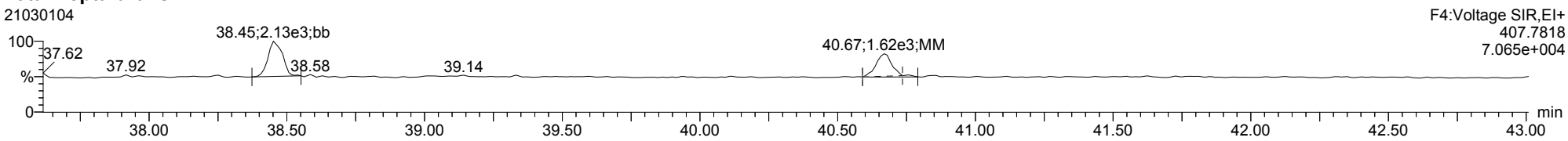

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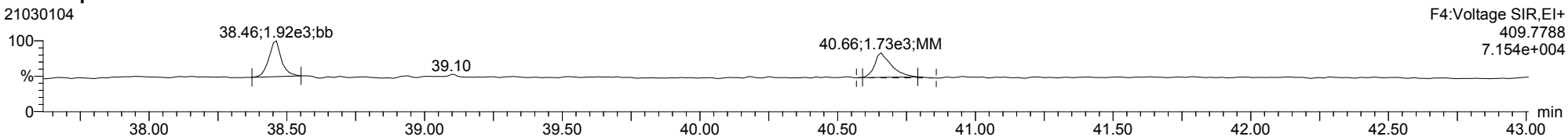

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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS1CV, Name: 21030105, Date: 01-Mar-2021, Time: 13:49:55, 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	25.473	1.001	2.195e3	2.919e3	0.782	0.752	0.770	876	1617	2.98e4	4.20e4	34.0	25.9	NO	bb	bb	0.496
12378-PeCDF	29.605	1.000	1.384e4	7.855e3	0.866	1.761	1.550	1010	1369	1.86e5	1.17e5	183.9	85.5	NO	bd	bb	2.530
23478-PeCDF	30.953	1.001	1.371e4	7.927e3	0.980	1.730	1.550	1010	1369	1.96e5	1.15e5	193.9	84.3	NO	MM	bb	2.406
123478-HxCDF	34.574	1.000	1.052e4	8.119e3	1.002	1.295	1.240	803	732	1.45e5	1.15e5	180.3	157.0	NO	bd	bd	2.444
234678-HxCDF	35.588	1.001	1.091e4	8.848e3	1.043	1.233	1.240	803	732	1.61e5	1.24e5	200.0	169.3	NO	bd	bd	2.472
123678-HxCDF	34.719	1.001	1.113e4	9.013e3	0.961	1.235	1.240	803	732	1.58e5	1.26e5	196.6	171.8	NO	db	db	2.593
123789-HxCDF	36.624	1.001	9.024e3	7.163e3	0.994	1.260	1.240	803	732	1.27e5	1.08e5	157.9	148.1	NO	bb	bd	2.515
1234678-HpCDF	38.463	1.000	9.057e3	9.050e3	1.058	1.001	1.050	901	731	1.50e5	1.36e5	166.1	186.3	NO	bd	bd	2.497
1234789-HpCDF	40.669	1.000	7.860e3	7.569e3	1.070	1.038	1.050	901	731	1.04e5	1.08e5	115.3	147.8	NO	bb	bd	2.532
OCDF	44.802	1.005	1.590e4	1.705e4	1.257	0.933	0.890	845	1436	1.77e5	1.98e5	209.4	137.9	NO	bb	bb	5.264
2378-TCDD	26.108	1.001	2.425e3	2.867e3	1.307	0.846	0.770	1014	647	3.50e4	3.87e4	34.5	59.9	NO	bd	bb	0.522
12378-PeCDD	31.198	1.000	9.292e3	5.954e3	0.979	1.561	1.550	828	712	1.29e5	8.31e4	155.5	116.7	NO	bd	bd	2.523
123478-HxCDD	35.711	1.001	8.589e3	7.487e3	0.956	1.147	1.240	765	717	1.32e5	1.10e5	172.3	153.0	NO	bd	bd	2.523
123678-HxCDD	35.822	1.000	9.659e3	7.895e3	0.953	1.223	1.240	765	717	1.44e5	1.18e5	188.6	164.6	NO	db	db	2.339
123789-HxCDD	36.212	1.011	8.797e3	7.329e3	0.927	1.200	1.240	765	717	1.29e5	1.09e5	168.8	151.4	NO	bd	bb	2.393
1234678-HpCDD	39.944	1.001	7.948e3	7.111e3	1.055	1.118	1.050	873	701	1.15e5	1.14e5	132.2	162.0	NO	bd	bd	2.457
OCDD	44.573	1.000	1.157e4	1.393e4	1.074	0.831	0.890	718	993	1.34e5	1.66e5	187.3	167.6	NO	bd	bd	4.767
13C-2378-TCDF	25.458	1.007	5.841e5	7.359e5	1.925	0.794	0.770	2813	1919	8.28e6	1.04e7	2943.7	5427.6	NO	bb	bb	98.177
13C-12378-PeCDF	29.594	1.171	6.038e5	3.862e5	1.442	1.564	1.550	4203	2659	8.17e6	5.35e6	1944.9	2014.0	NO	bd	bd	98.277
13C-23478-PeCDF	30.931	1.224	5.470e5	3.709e5	1.387	1.474	1.550	4203	2659	7.90e6	5.25e6	1879.0	1976.0	NO	bb	bb	94.778
13C-123478-HxCDF	34.563	0.955	2.560e5	5.048e5	1.053	0.507	0.510	2582	3410	3.76e6	7.38e6	1454.6	2162.9	NO	bd	bd	100.544
13C-123678-HxCDF	34.697	0.959	2.722e5	5.364e5	1.135	0.507	0.510	2582	3410	3.91e6	7.70e6	1512.8	2258.8	NO	db	db	99.145
13C-234678-HxCDF	35.566	0.983	2.436e5	5.225e5	1.004	0.466	0.510	2582	3410	3.67e6	7.43e6	1422.8	2178.5	NO	bb	bb	106.188
13C-123789-HxCDF	36.602	1.011	2.196e5	4.277e5	0.909	0.514	0.510	2582	3410	3.24e6	6.40e6	1255.8	1878.0	NO	bb	bb	99.107
13C-1234678-HpCDF	38.452	1.063	2.133e5	4.721e5	0.960	0.452	0.440	2158	3935	3.18e6	7.35e6	1475.4	1866.8	NO	bd	bb	99.386
13C-1234789-HpCDF	40.658	1.123	1.803e5	3.892e5	0.794	0.463	0.440	2158	3935	2.43e6	5.35e6	1127.9	1358.5	NO	bd	bb	99.861
13C-1234-TCDD	25.277	0.000	3.082e5	3.902e5	1.000	0.790	0.770	2556	1309	4.56e6	5.71e6	1784.0	4365.7	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	3.426e5	4.327e5	1.133	0.792	0.770	2556	1309	4.75e6	6.00e6	1857.8	4581.8	NO	bb	bb	97.998
13C-12378-PeCDD	31.187	1.234	3.821e5	2.352e5	0.947	1.624	1.550	1041	1333	5.59e6	3.43e6	5365.3	2570.5	NO	bb	bb	93.349
13C-123478-HxCDD	35.688	0.986	3.695e5	2.969e5	0.939	1.245	1.240	2685	1533	5.98e6	4.80e6	2227.3	3129.7	NO	bd	bd	98.821
13C-123678-HxCDD	35.811	0.989	4.265e5	3.612e5	1.042	1.181	1.240	2685	1533	6.08e6	4.91e6	2264.0	3201.8	NO	db	dd	105.206
13C-1234678-HpCDD	39.922	1.103	2.990e5	2.819e5	0.788	1.061	1.050	2442	1814	4.02e6	3.81e6	1644.5	2099.3	NO	bd	bd	102.544
13C-OCDD	44.555	1.231	4.545e5	5.417e5	0.703	0.839	0.890	2362	3257	5.53e6	6.03e6	2339.2	1851.9	NO	bb	bd	197.129
13C-123789-HxCDD	36.190	0.000	3.979e5	3.207e5	1.000	1.241	1.240	2685	1533	5.99e6	4.93e6	2231.5	3215.1	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	4.425e3		1.298			2040		6.79e4		33.3			bb		0.488

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
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ID: CS1CV, Name: 21030105, Date: 01-Mar-2021, Time: 13:49:55, 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					0.966		0.770	876	1617								
1289-TCDF					0.736		0.770	876	1617								
13468-PECDF					1.347		1.550	637	956								
12389-PECDF					0.867		1.550	1010	1369								
123468-HXCDF					1.036		1.240	803	732								
1368-TCDD					1.256		0.770	1014	647								
1289-TCDD					1.151		0.770	1014	647								
12479-PECDD					1.773		1.550	828	712								
12389-PECDD					1.171		1.550	828	712								
124679-HXCDD					1.034		1.240	765	717								
1234679-HPCDD					1.194		1.050	873	701								
Total-tetrafurans			2.195e3		0.828			876		2.98e4							0.496
Total-penta1			0.000e0					637		0.00e0							
Total-pentafurans			2.755e4		0.904			1010		3.82e5							4.936
Total-hexafurans			4.158e4		1.007			803		5.90e5							10.024
Total-heptafurans			1.692e4		1.064			901		2.53e5							5.029
Total-Furans			1.041e5		0.998			876		1.43e6							25.749
Total-tetradioxins			2.425e3		1.238			1014		3.50e4							0.522
Total-pentadioxins			9.292e3		1.308			828		1.29e5							2.523
Total-hexadioxins			2.704e4		0.967			765		4.05e5							7.255
Total-heptadioxins			7.948e3		1.125			873		1.15e5							2.457
Total-Dioxins			5.828e4		1.141			1014		8.19e5							17.525
Total-TEQ			1.624e5					1014		2.25e6							43.274
FUNCTION1 PFK			9.988e5					487481		1.99e7							
FUNCTION2 PFK			2.481e5					294422		6.08e6							0.000
FUNCTION3 PFK			6.117e5					364644		1.32e7							0.000
FUNCTION4 PFK			7.967e6					241651		7.91e7							
FUNCTION5 PFK			1.297e5					166474		3.26e6							
FUNCTION1 HXCD...			0.000e0					608		0.00e0							
FUNCTION1 HPCD...			8.130e2					704		1.57e4							0.000
FUNCTION2 HPCD...			9.652e2					816		1.62e4							0.000
FUNCTION3 OCDPE			5.075e2					472		7.07e3							0.000
FUNCTION4 NCDPE			0.000e0					686		0.00e0							
FUNCTION5 DCDPE			3.491e2					571		6.49e3							0.000

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.47	2.195e3	2.919e3	0.782	0.75	0.77	34.0	YES	NO	bb	bb	0.496

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	30.95	1.371e4	7.927e3	0.980	1.73	1.55	193.9	YES	NO	MM	bb	2.406
2	12378-PeCDF	29.61	1.384e4	7.855e3	0.866	1.76	1.55	183.9	YES	NO	bd	bb	2.530

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.59	1.091e4	8.848e3	1.043	1.23	1.24	200.0	YES	NO	bd	bd	2.472
2	123678-HxCDF	34.72	1.113e4	9.013e3	0.961	1.24	1.24	196.6	YES	NO	db	db	2.593
3	123478-HxCDF	34.57	1.052e4	8.119e3	1.002	1.30	1.24	180.3	YES	NO	bd	bd	2.444
4	123789-HxCDF	36.62	9.024e3	7.163e3	0.994	1.26	1.24	157.9	YES	NO	bb	bd	2.515

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.67	7.860e3	7.569e3	1.070	1.04	1.05	115.3	YES	NO	bb	bd	2.532
2	1234678-HpCDF	38.46	9.057e3	9.050e3	1.058	1.00	1.05	166.1	YES	NO	bd	bd	2.497

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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	23478-PeCDF	30.95	1.371e4	7.927e3	0.980	1.73	1.55	193.9	YES	NO	MM	bb	2.406
2	12378-PeCDF	29.61	1.384e4	7.855e3	0.866	1.76	1.55	183.9	YES	NO	bd	bb	2.530
3	2378-TCDF	25.47	2.195e3	2.919e3	0.782	0.75	0.77	34.0	YES	NO	bb	bb	0.496
4	234678-HxCDF	35.59	1.091e4	8.848e3	1.043	1.23	1.24	200.0	YES	NO	bd	bd	2.472
5	123678-HxCDF	34.72	1.113e4	9.013e3	0.961	1.24	1.24	196.6	YES	NO	db	db	2.593
6	123478-HxCDF	34.57	1.052e4	8.119e3	1.002	1.30	1.24	180.3	YES	NO	bd	bd	2.444
7	123789-HxCDF	36.62	9.024e3	7.163e3	0.994	1.26	1.24	157.9	YES	NO	bb	bd	2.515
8	1234789-HpCDF	40.67	7.860e3	7.569e3	1.070	1.04	1.05	115.3	YES	NO	bb	bd	2.532
9	1234678-HpCDF	38.46	9.057e3	9.050e3	1.058	1.00	1.05	166.1	YES	NO	bd	bd	2.497
10	OCDF	44.80	1.590e4	1.705e4	1.257	0.93	0.89	209.4	YES	NO	bb	bb	5.264

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.11	2.425e3	2.867e3	1.307	0.85	0.77	34.5	YES	NO	bd	bb	0.522

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.20	9.292e3	5.954e3	0.979	1.56	1.55	155.5	YES	NO	bd	bd	2.523

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.21	8.797e3	7.329e3	0.927	1.20	1.24	168.8	YES	NO	bd	bb	2.393
2	123678-HxCDD	35.82	9.659e3	7.895e3	0.953	1.22	1.24	188.6	YES	NO	db	db	2.339
3	123478-HxCDD	35.71	8.589e3	7.487e3	0.956	1.15	1.24	172.3	YES	NO	bd	bd	2.523

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	7.948e3	7.111e3	1.055	1.12	1.05	132.2	YES	NO	bd	bd	2.457

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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	26.11	2.425e3	2.867e3	1.307	0.85	0.77	34.5	YES	NO	bd	bb	0.522
2	12378-PeCDD	31.20	9.292e3	5.954e3	0.979	1.56	1.55	155.5	YES	NO	bd	bd	2.523
3	123789-HxCDD	36.21	8.797e3	7.329e3	0.927	1.20	1.24	168.8	YES	NO	bd	bb	2.393
4	123678-HxCDD	35.82	9.659e3	7.895e3	0.953	1.22	1.24	188.6	YES	NO	db	db	2.339
5	123478-HxCDD	35.71	8.589e3	7.487e3	0.956	1.15	1.24	172.3	YES	NO	bd	bd	2.523
6	OCDD	44.57	1.157e4	1.393e4	1.074	0.83	0.89	187.3	YES	NO	bd	bd	4.767
7	1234678-HpCDD	39.94	7.948e3	7.111e3	1.055	1.12	1.05	132.2	YES	NO	bd	bd	2.457

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	23478-PeCDF	30.95	1.371e4	7.927e3	0.980	1.73	1.55	193.9	YES	NO	MM	bb	2.406
2	12378-PeCDF	29.61	1.384e4	7.855e3	0.866	1.76	1.55	183.9	YES	NO	bd	bb	2.530
3	2378-TCDF	25.47	2.195e3	2.919e3	0.782	0.75	0.77	34.0	YES	NO	bb	bb	0.496
4	234678-HxCDF	35.59	1.091e4	8.848e3	1.043	1.23	1.24	200.0	YES	NO	bd	bd	2.472
5	123678-HxCDF	34.72	1.113e4	9.013e3	0.961	1.24	1.24	196.6	YES	NO	db	db	2.593
6	123478-HxCDF	34.57	1.052e4	8.119e3	1.002	1.30	1.24	180.3	YES	NO	bd	bd	2.444
7	123789-HxCDF	36.62	9.024e3	7.163e3	0.994	1.26	1.24	157.9	YES	NO	bb	bd	2.515
8	1234789-HpCDF	40.67	7.860e3	7.569e3	1.070	1.04	1.05	115.3	YES	NO	bb	bd	2.532
9	1234678-HpCDF	38.46	9.057e3	9.050e3	1.058	1.00	1.05	166.1	YES	NO	bd	bd	2.497
10	OCDF	44.80	1.590e4	1.705e4	1.257	0.93	0.89	209.4	YES	NO	bb	bb	5.264
11	2378-TCDD	26.11	2.425e3	2.867e3	1.307	0.85	0.77	34.5	YES	NO	bd	bb	0.522
12	12378-PeCDD	31.20	9.292e3	5.954e3	0.979	1.56	1.55	155.5	YES	NO	bd	bd	2.523
13	123789-HxCDD	36.21	8.797e3	7.329e3	0.927	1.20	1.24	168.8	YES	NO	bd	bb	2.393
14	123678-HxCDD	35.82	9.659e3	7.895e3	0.953	1.22	1.24	188.6	YES	NO	db	db	2.339
15	123478-HxCDD	35.71	8.589e3	7.487e3	0.956	1.15	1.24	172.3	YES	NO	bd	bd	2.523
16	OCDD	44.57	1.157e4	1.393e4	1.074	0.83	0.89	187.3	YES	NO	bd	bd	4.767
17	1234678-HpCDD	39.94	7.948e3	7.111e3	1.055	1.12	1.05	132.2	YES	NO	bd	bd	2.457

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.84	4.851e4					2.2	NO		bb		
2	FUNCTION1 PFK	22.74	5.650e4					2.0	NO		bb		
3	FUNCTION1 PFK	22.62	5.071e4					1.9	NO		db		
4	FUNCTION1 PFK	22.49	5.698e4					1.8	NO		bd		
5	FUNCTION1 PFK	22.16	5.608e4					1.8	NO		db		
6	FUNCTION1 PFK	22.04	4.493e4					2.0	NO		bd		
7	FUNCTION1 PFK	21.84	5.029e4					1.7	NO		bb		
8	FUNCTION1 PFK	21.59	5.081e4					1.9	NO		db		
9	FUNCTION1 PFK	21.47	3.202e4					1.4	NO		dd		
10	FUNCTION1 PFK	21.35	3.491e4					1.4	NO		bd		
11	FUNCTION1 PFK	27.23	3.520e4					1.4	NO		bb		
12	FUNCTION1 PFK	26.79	3.272e4					1.6	NO		bb		
13	FUNCTION1 PFK	26.67	4.409e4					1.4	NO		bb		
14	FUNCTION1 PFK	26.46	2.752e4					1.4	NO		bb		
15	FUNCTION1 PFK	26.08	2.883e3					0.4	NO		bb		
16	FUNCTION1 PFK	26.00	3.288e4					1.6	NO		bb		
17	FUNCTION1 PFK	25.56	2.019e4					1.0	NO		bb		
18	FUNCTION1 PFK	25.19	8.353e3					0.7	NO		bb		
19	FUNCTION1 PFK	25.00	3.597e4					1.4	NO		db		
20	FUNCTION1 PFK	24.87	1.950e4					1.1	NO		bd		
21	FUNCTION1 PFK	24.42	2.932e4					1.3	NO		bb		
22	FUNCTION1 PFK	24.08	2.550e4					1.5	NO		bb		
23	FUNCTION1 PFK	23.96	4.350e4					1.9	NO		bb		
24	FUNCTION1 PFK	23.87	5.255e4					1.7	NO		bb		
25	FUNCTION1 PFK	23.75	6.176e4					2.2	NO		bb		
26	FUNCTION1 PFK	23.49	4.516e4					1.9	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	31.93	3.202e4					2.0	NO		bb		0.000
2	FUNCTION2 PFK	31.48	2.482e4					1.5	NO		bb		0.000
3	FUNCTION2 PFK	31.08	3.512e4					2.0	NO		bb		0.000
4	FUNCTION2 PFK	29.57	1.691e4					1.9	NO		bb		0.000
5	FUNCTION2 PFK	29.47	2.785e4					1.9	NO		bb		0.000
6	FUNCTION2 PFK	29.26	1.561e4					1.5	NO		bb		0.000
7	FUNCTION2 PFK	29.13	5.410e3					0.9	NO		bb		0.000
8	FUNCTION2 PFK	28.83	2.951e4					1.8	NO		bb		0.000
9	FUNCTION2 PFK	28.39	1.129e4					1.7	NO		bb		0.000
10	FUNCTION2 PFK	27.93	2.693e4					2.3	NO		bb		0.000
11	FUNCTION2 PFK	27.83	7.865e3					1.3	NO		db		0.000
12	FUNCTION2 PFK	27.80	1.479e4					1.7	NO		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	32.74	5.831e4					2.6	NO		bd		0.000
2	FUNCTION3 PFK	32.64	3.895e4					2.0	NO		bb		0.000
3	FUNCTION3 PFK	36.94	4.469e3					0.7	NO		bb		0.000
4	FUNCTION3 PFK	36.84	4.245e3					0.7	NO		bb		0.000
5	FUNCTION3 PFK	36.55	2.045e4					1.1	NO		bb		0.000
6	FUNCTION3 PFK	36.32	3.953e4					2.6	NO		bb		0.000
7	FUNCTION3 PFK	36.00	3.808e4					2.1	NO		bb		0.000
8	FUNCTION3 PFK	35.20	3.535e4					2.1	NO		bb		0.000
9	FUNCTION3 PFK	35.09	4.315e4					2.2	NO		bb		0.000
10	FUNCTION3 PFK	34.53	3.853e4					2.2	NO		bb		0.000
11	FUNCTION3 PFK	34.31	1.946e4					1.9	NO		db		0.000
12	FUNCTION3 PFK	34.28	2.409e4					2.1	NO		dd		0.000
13	FUNCTION3 PFK	34.17	3.647e4					1.4	NO		bd		0.000
14	FUNCTION3 PFK	33.63	2.000e4					1.4	NO		bb		0.000
15	FUNCTION3 PFK	33.53	3.019e4					1.8	NO		bb		0.000
16	FUNCTION3 PFK	33.28	2.594e4					1.6	NO		bb		0.000
17	FUNCTION3 PFK	33.05	2.711e4					1.5	NO		bb		0.000
18	FUNCTION3 PFK	32.86	5.146e4					2.2	NO		db		0.000
19	FUNCTION3 PFK	37.33	1.564e4					1.4	NO		bb		0.000
20	FUNCTION3 PFK	37.23	3.849e4					2.4	NO		bb		0.000
21	FUNCTION3 PFK	36.98	1.809e3					0.4	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.05	2.299e4					2.1	NO		bb		
2	FUNCTION4 PFK	38.82	8.479e4					4.5	YES		db		
3	FUNCTION4 PFK	38.71	1.526e5					8.7	YES		dd		
4	FUNCTION4 PFK	38.59	3.323e5					13.9	YES		dd		
5	FUNCTION4 PFK	38.47	5.028e5					17.5	YES		dd		
6	FUNCTION4 PFK	38.36	5.403e5					21.8	YES		dd		
7	FUNCTION4 PFK	38.26	6.470e5					24.8	YES		dd		
8	FUNCTION4 PFK	38.15	6.860e5					29.6	YES		dd		
9	FUNCTION4 PFK	38.02	9.459e5					33.7	YES		dd		
10	FUNCTION4 PFK	37.94	7.775e5					36.8	YES		dd		
11	FUNCTION4 PFK	37.89	1.175e6					37.9	YES		dd		
12	FUNCTION4 PFK	37.68	1.543e6					46.0	YES		bd		
13	FUNCTION4 PFK	41.42	1.975e4					1.8	NO		bd		
14	FUNCTION4 PFK	41.28	2.629e4					2.5	NO		bb		
15	FUNCTION4 PFK	41.17	3.448e4					2.2	NO		bb		
16	FUNCTION4 PFK	41.07	2.653e4					1.9	NO		db		
17	FUNCTION4 PFK	40.95	3.661e4					2.6	NO		dd		
18	FUNCTION4 PFK	40.88	1.828e4					2.1	NO		dd		
19	FUNCTION4 PFK	40.84	1.875e4					2.2	NO		bd		
20	FUNCTION4 PFK	40.62	1.759e4					1.9	NO		bb		
21	FUNCTION4 PFK	40.40	2.306e4					1.9	NO		bb		
22	FUNCTION4 PFK	40.16	2.003e4					2.0	NO		bb		
23	FUNCTION4 PFK	40.06	3.049e4					2.3	NO		bb		
24	FUNCTION4 PFK	39.97	8.123e3					1.1	NO		db		
25	FUNCTION4 PFK	39.94	1.647e4					2.3	NO		bd		
26	FUNCTION4 PFK	39.81	1.440e3					0.4	NO		bb		
27	FUNCTION4 PFK	39.73	1.989e4					1.7	NO		bb		
28	FUNCTION4 PFK	39.35	5.104e3					1.1	NO		bb		
29	FUNCTION4 PFK	42.87	1.487e4					1.4	NO		bb		
30	FUNCTION4 PFK	42.75	1.390e4					1.3	NO		bb		
31	FUNCTION4 PFK	42.53	3.360e4					2.4	NO		bb		
32	FUNCTION4 PFK	42.34	1.803e4					1.6	NO		bb		
33	FUNCTION4 PFK	42.18	1.656e4					1.4	NO		bb		
34	FUNCTION4 PFK	42.13	1.739e3					0.4	NO		bb		
35	FUNCTION4 PFK	41.98	1.185e4					1.3	NO		bb		
36	FUNCTION4 PFK	41.85	2.072e4					2.0	NO		bb		
37	FUNCTION4 PFK	41.73	3.073e4					2.0	NO		db		

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	41.63	3.307e4					2.0	NO		dd		
39	FUNCTION4 PFK	41.52	3.005e4					2.2	NO		dd		
40	FUNCTION4 PFK	41.45	7.964e3					1.3	NO		dd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.58	3.593e3					1.0	NO		bb		
2	FUNCTION5 PFK	43.54	7.898e2					0.5	NO		bb		
3	FUNCTION5 PFK	43.33	6.593e3					2.0	NO		bb		
4	FUNCTION5 PFK	45.96	1.958e3					0.8	NO		bb		
5	FUNCTION5 PFK	45.81	9.865e3					1.8	NO		bb		
6	FUNCTION5 PFK	45.46	1.539e4					2.3	NO		bb		
7	FUNCTION5 PFK	45.07	3.088e3					1.0	NO		bb		
8	FUNCTION5 PFK	44.91	1.851e4					1.8	NO		bb		
9	FUNCTION5 PFK	44.60	2.455e4					2.6	NO		db		
10	FUNCTION5 PFK	44.45	2.313e4					2.7	NO		bd		
11	FUNCTION5 PFK	43.91	1.757e4					2.1	NO		bb		
12	FUNCTION5 PFK	43.69	4.626e3					1.0	NO		bb		

ETHERS1

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

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	24.91	1.399e2					2.4	NO		bb		0.000
2	FUNCTION1 HPCD...	23.64	7.242e1					1.8	NO		bb		0.000
3	FUNCTION1 HPCD...	22.86	9.992e1					3.9	YES		bb		0.000
4	FUNCTION1 HPCD...	22.49	1.140e2					2.6	NO		bb		0.000
5	FUNCTION1 HPCD...	21.71	1.189e2					3.9	YES		bb		0.000
6	FUNCTION1 HPCD...	27.56	7.147e1					2.2	NO		bb		0.000
7	FUNCTION1 HPCD...	27.18	9.626e1					2.5	NO		bb		0.000
8	FUNCTION1 HPCD...	26.11	1.002e2					3.0	NO		bb		0.000

ID: CS1CV, Name: 21030105, Date: 01-Mar-2021, Time: 13:49:55, 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...	32.06	1.545e2					2.3	NO		db		0.000
2	FUNCTION2 HPCD...	32.00	1.633e2					2.8	NO		dd		0.000
3	FUNCTION2 HPCD...	31.88	1.390e2					2.5	NO		dd		0.000
4	FUNCTION2 HPCD...	31.78	8.610e1					1.8	NO		bd		0.000
5	FUNCTION2 HPCD...	31.66	1.016e2					2.3	NO		db		0.000
6	FUNCTION2 HPCD...	31.57	9.148e1					2.0	NO		bd		0.000
7	FUNCTION2 HPCD...	30.62	7.605e1					2.0	NO		bb		0.000
8	FUNCTION2 HPCD...	28.48	7.405e1					2.3	NO		bb		0.000
9	FUNCTION2 HPCD...	28.03	7.908e1					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	35.58	7.653e1					2.9	NO		bd		0.000
2	FUNCTION3 OCDPE	32.58	9.550e1					2.9	NO		bb		0.000
3	FUNCTION3 OCDPE	35.80	1.750e2					4.4	YES		db		0.000
4	FUNCTION3 OCDPE	35.70	1.604e2					4.8	YES		dd		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	FUNCTION5 DCDPE	45.56	1.621e2					4.6	YES		db		0.000
2	FUNCTION5 DCDPE	45.49	9.769e1					3.6	YES		bd		0.000
3	FUNCTION5 DCDPE	44.84	8.929e1					3.2	YES		bb		0.000

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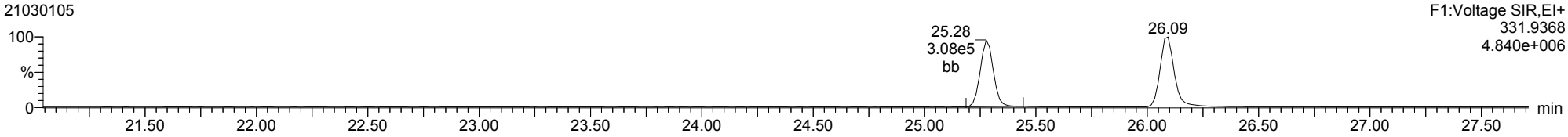
ID: CS1CV, Name: 21030105, Date: 01-Mar-2021, Time: 13:49:55, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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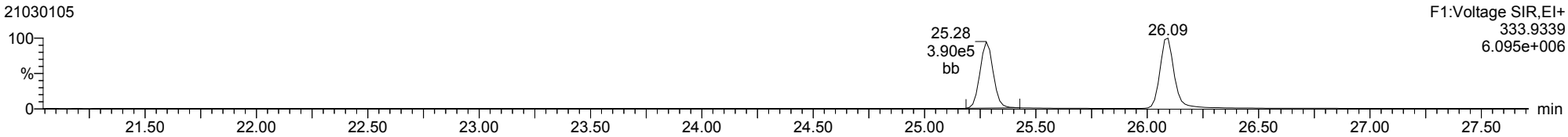

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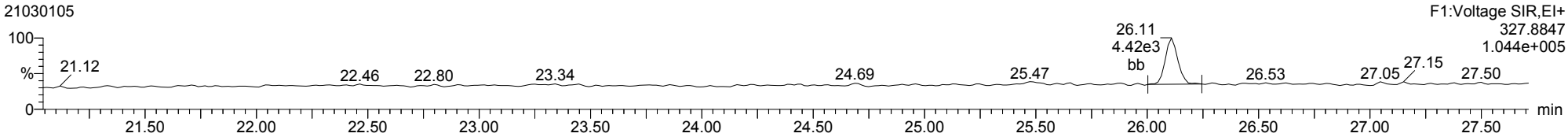

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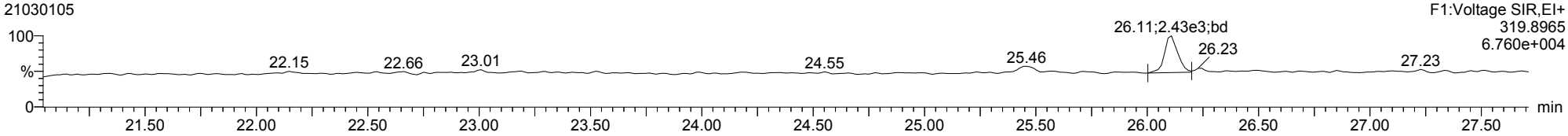

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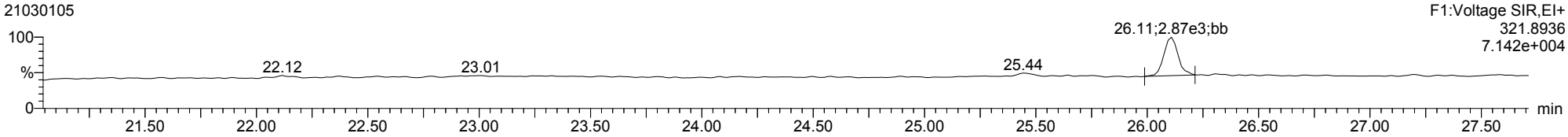

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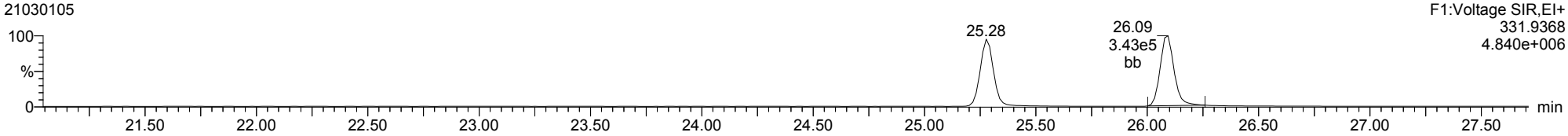

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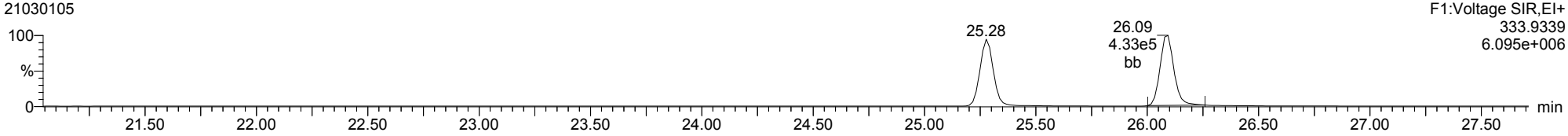

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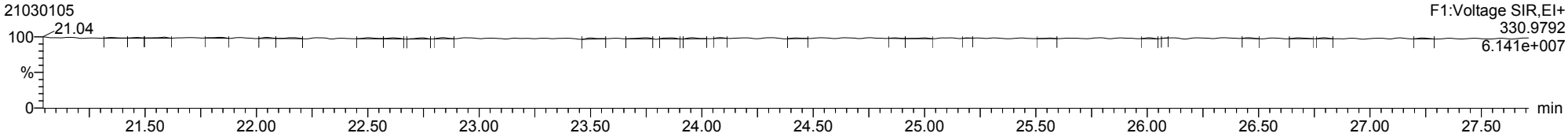

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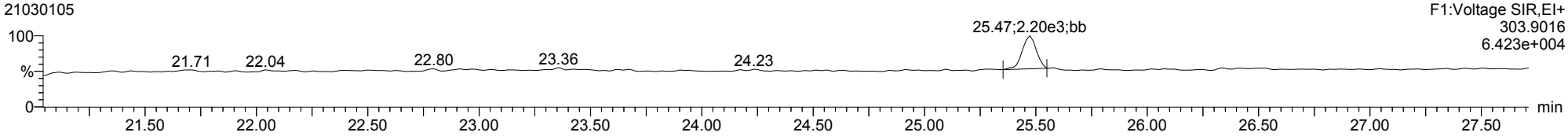

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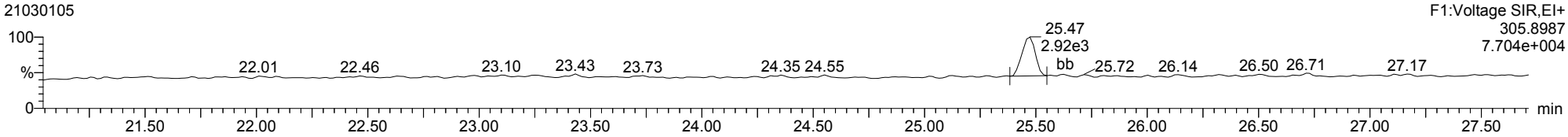

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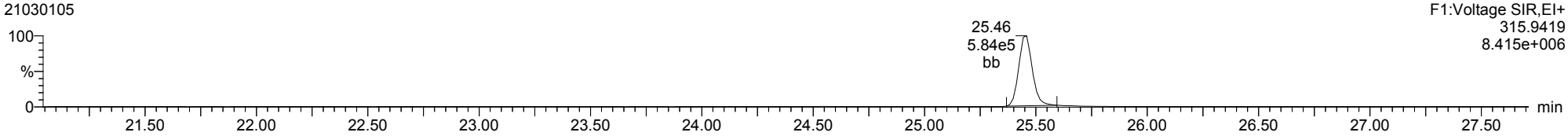

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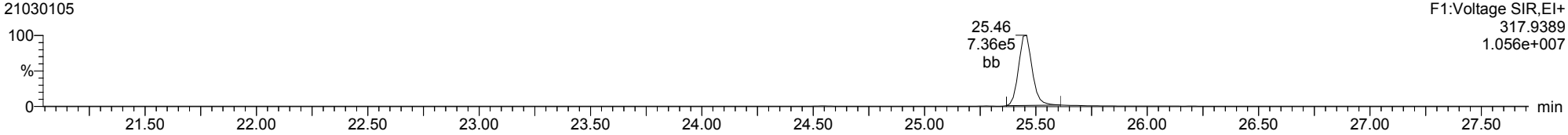

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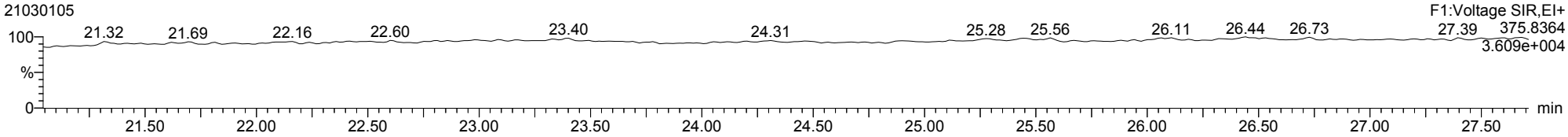

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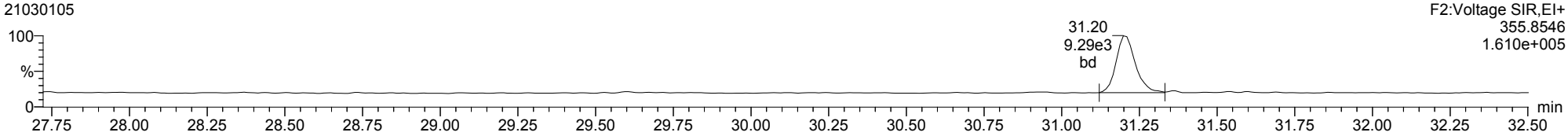

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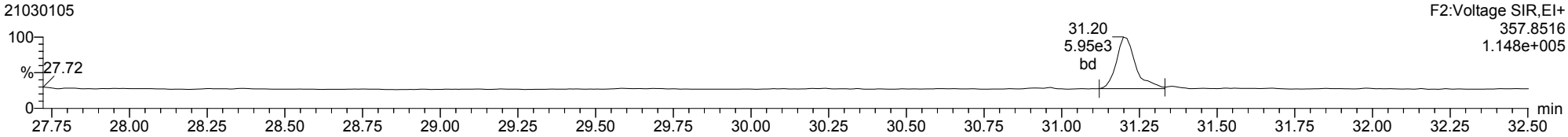

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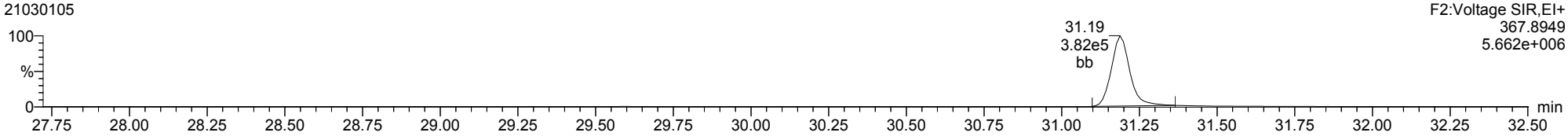

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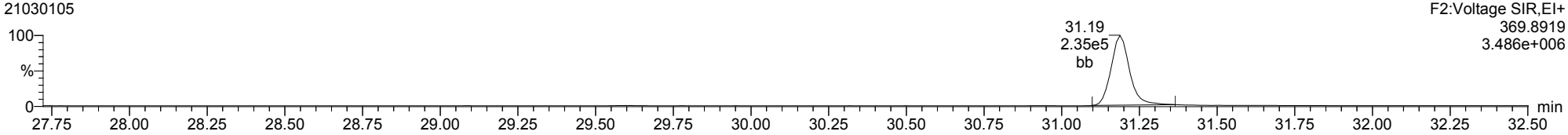

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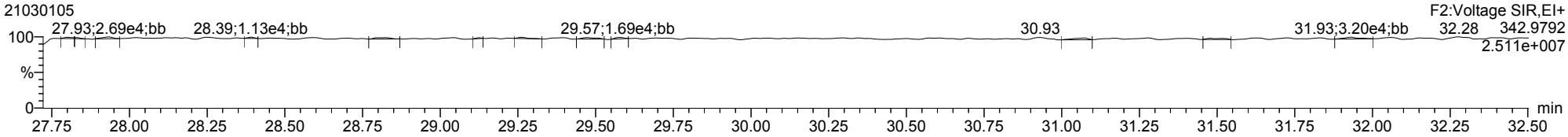

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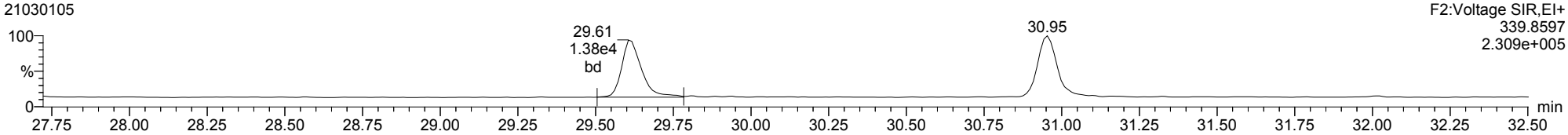

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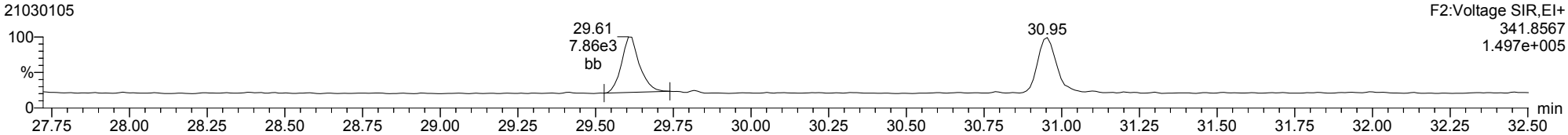

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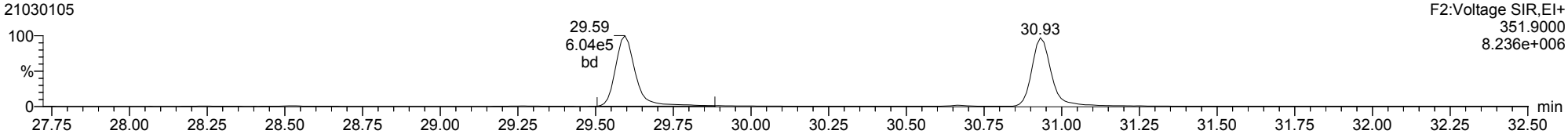

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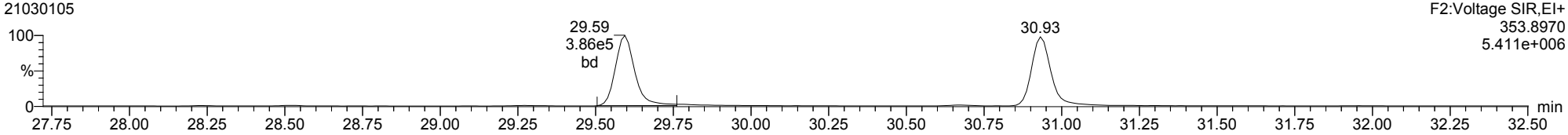
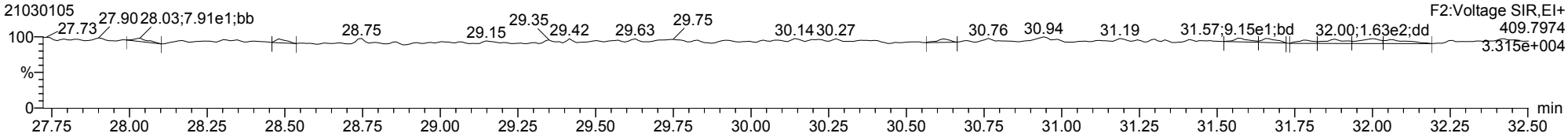


FUNCTION2 HPCDPE



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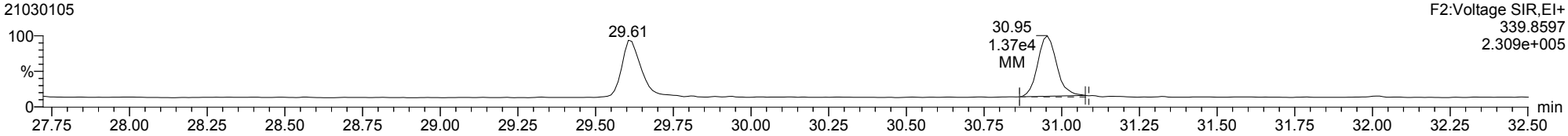

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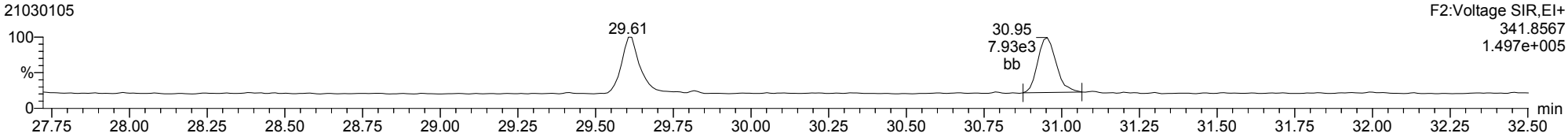

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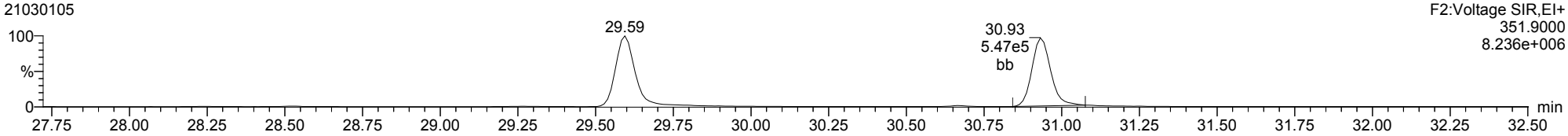

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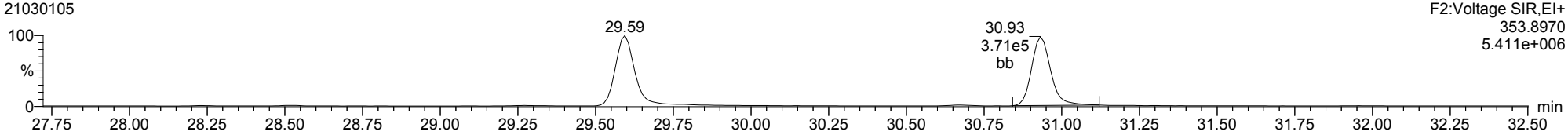

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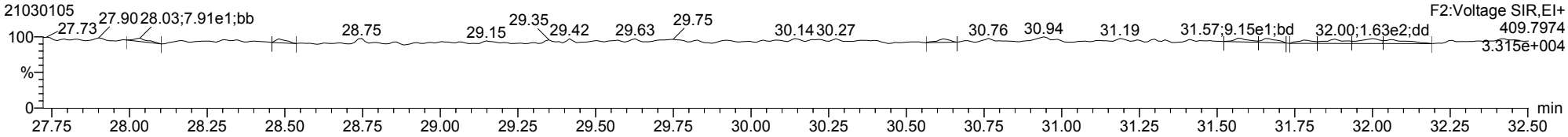

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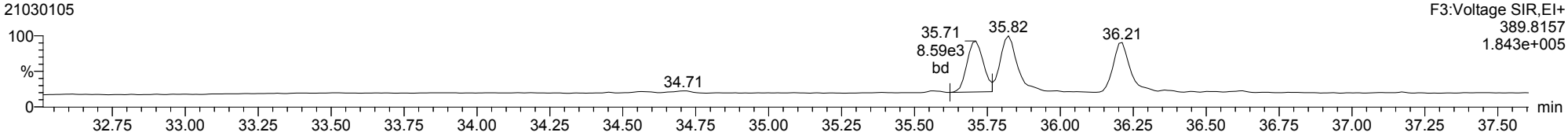
123478-HxCDD



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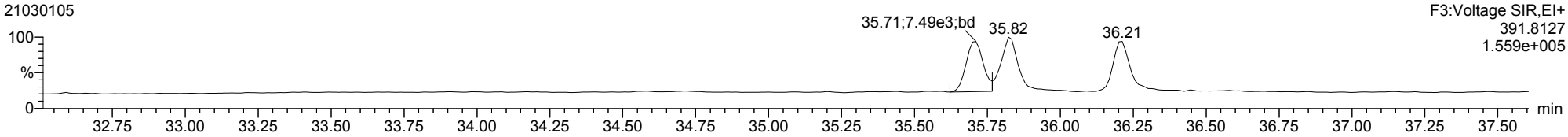

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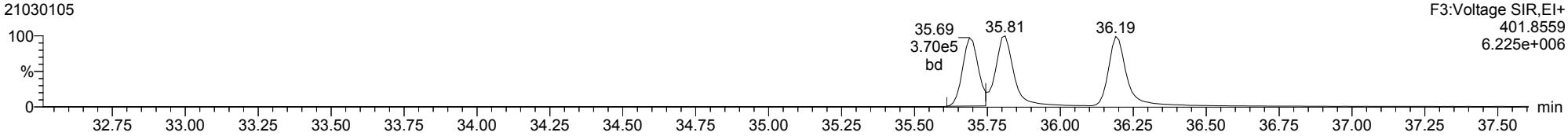

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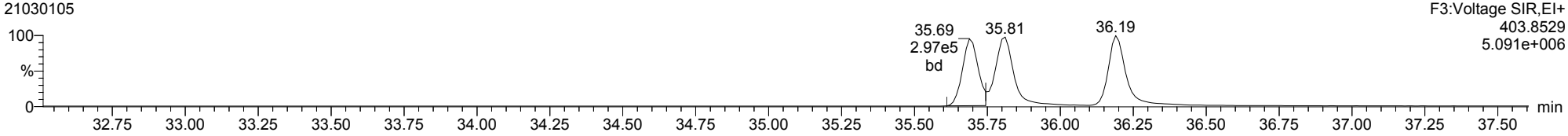

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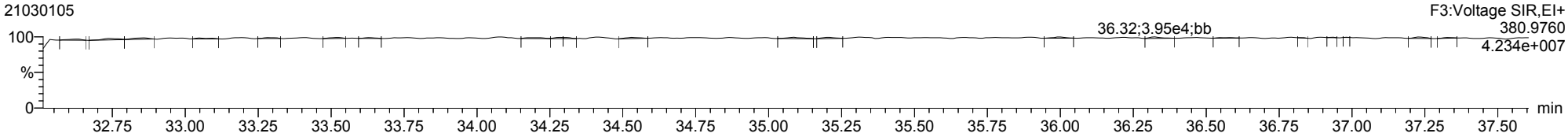

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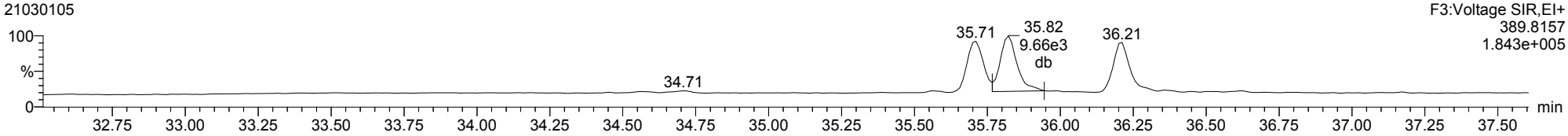

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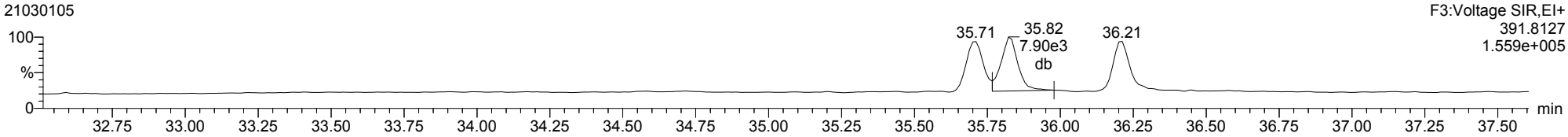

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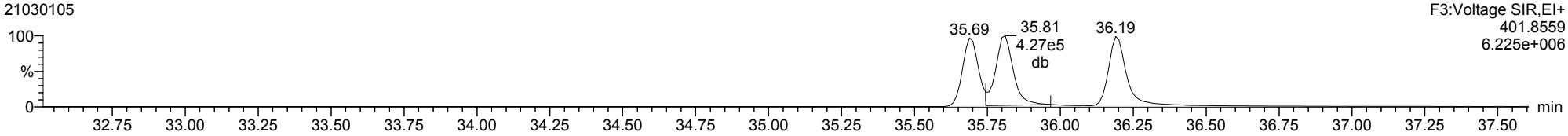

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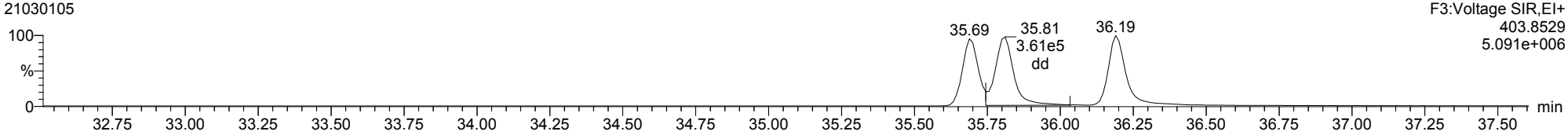

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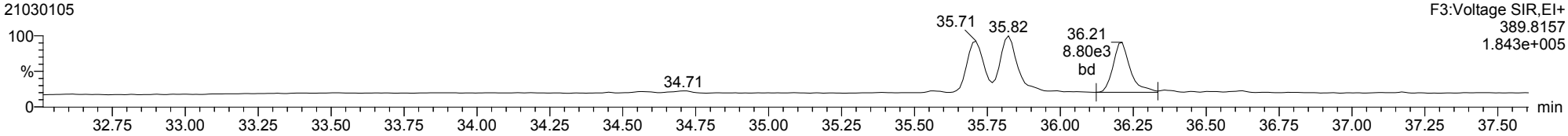

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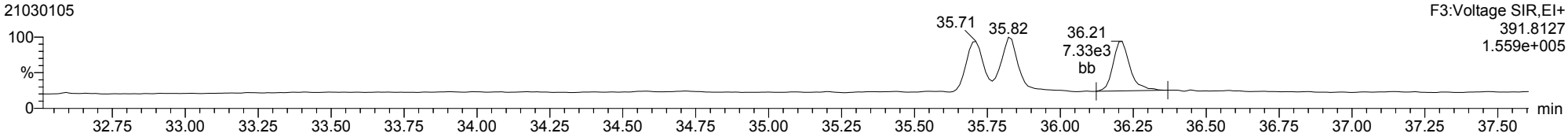

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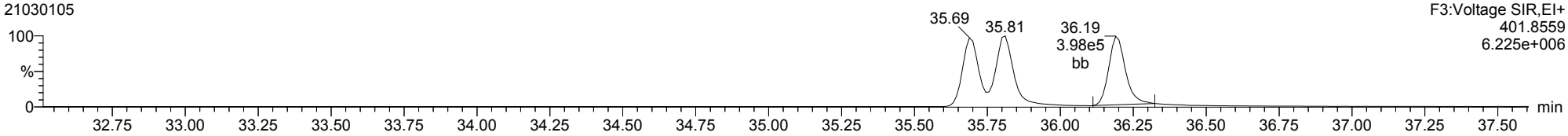

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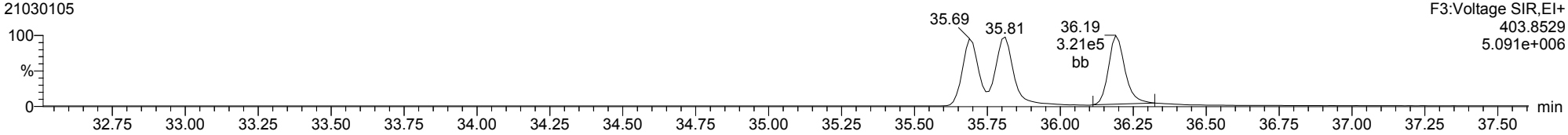

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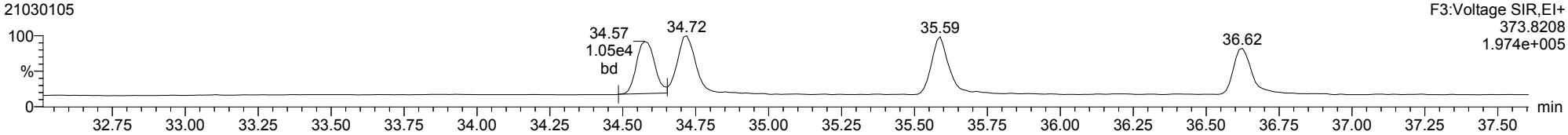

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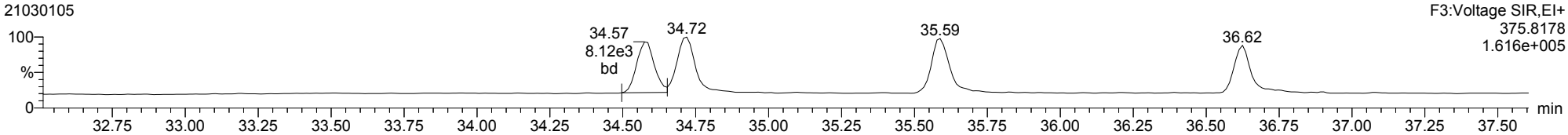

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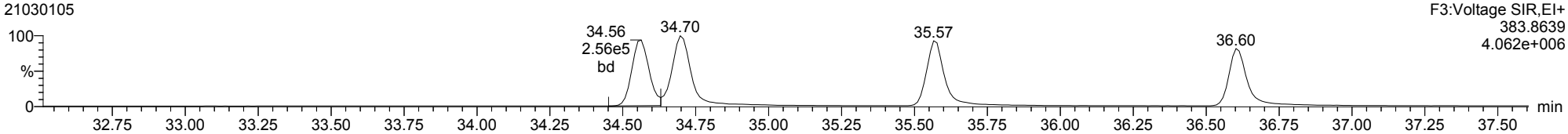

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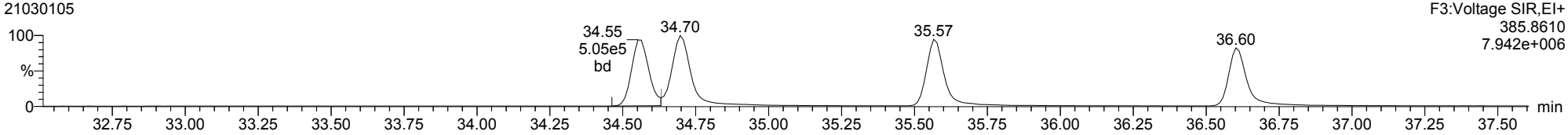

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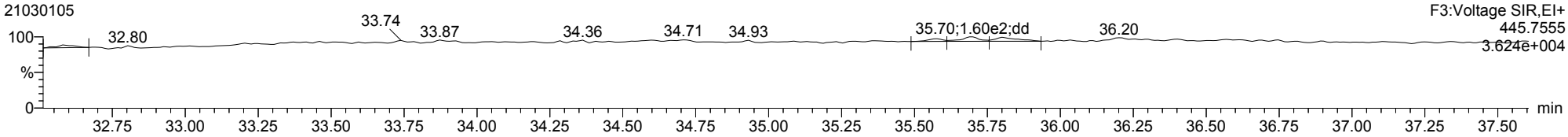

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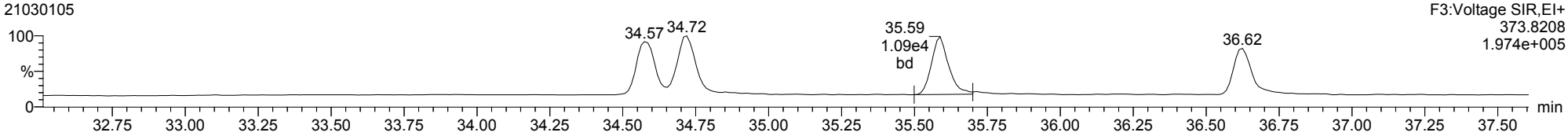

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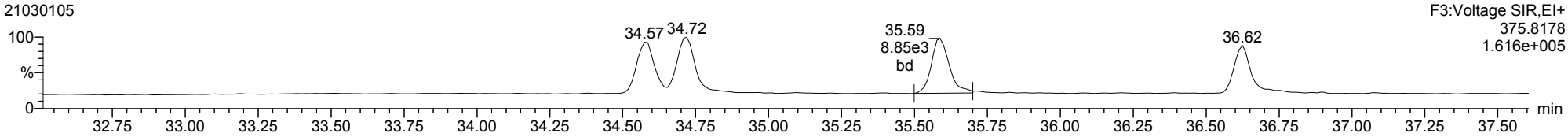

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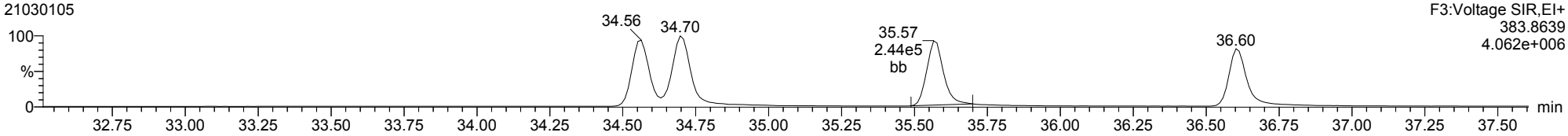

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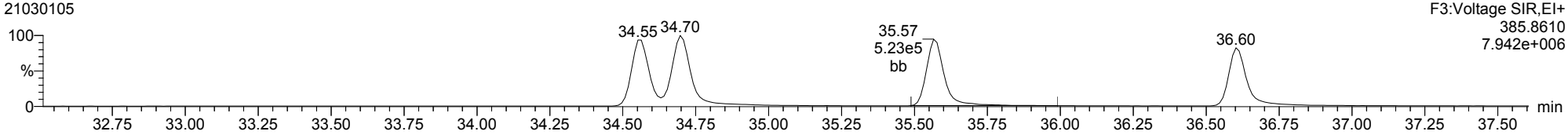

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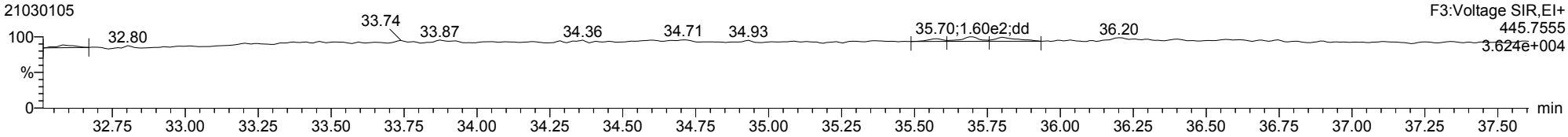

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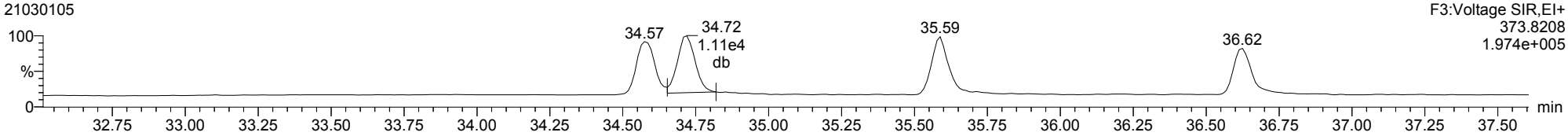

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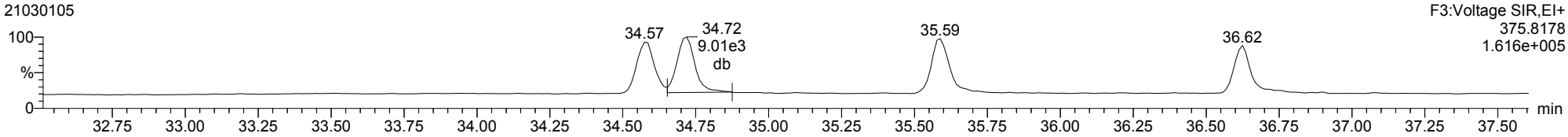

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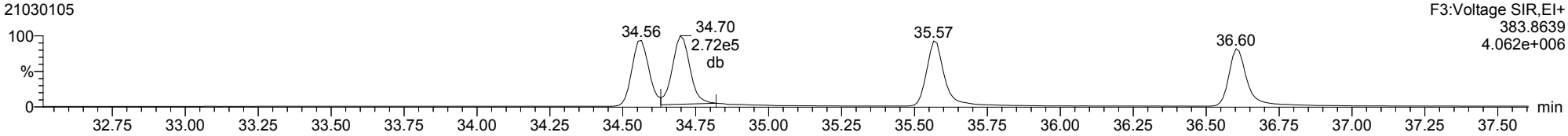

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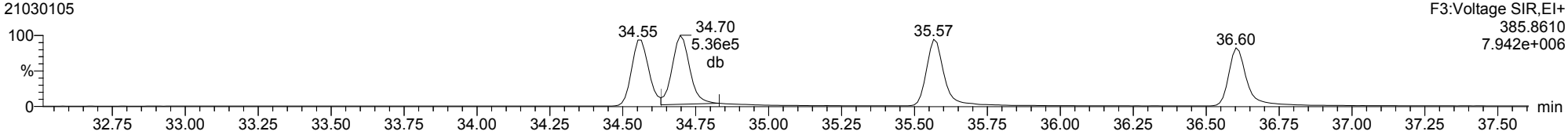

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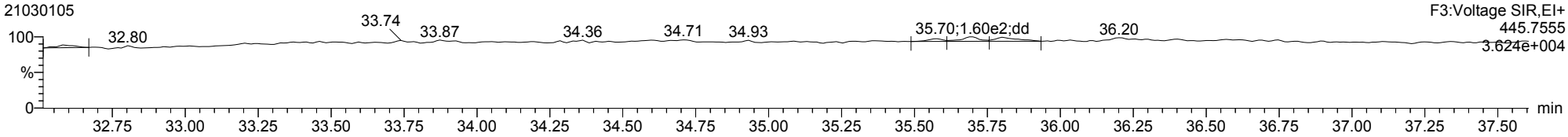

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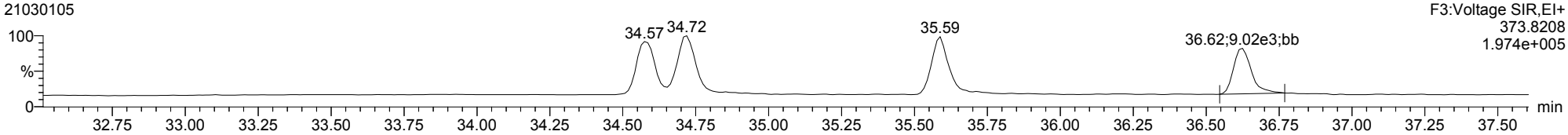

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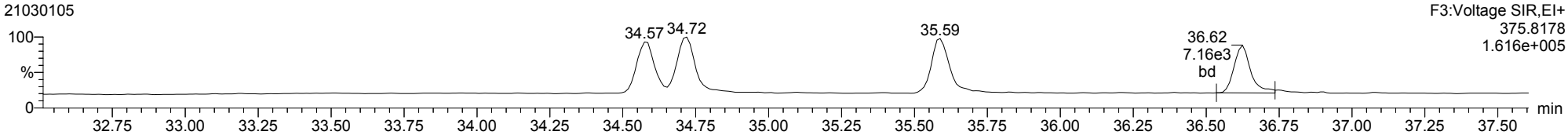

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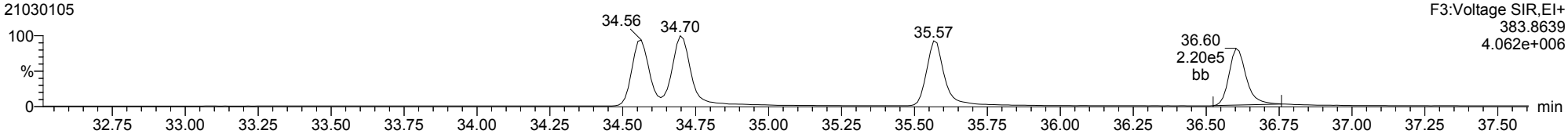

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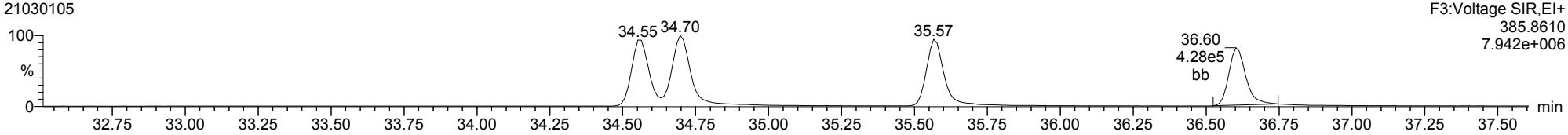

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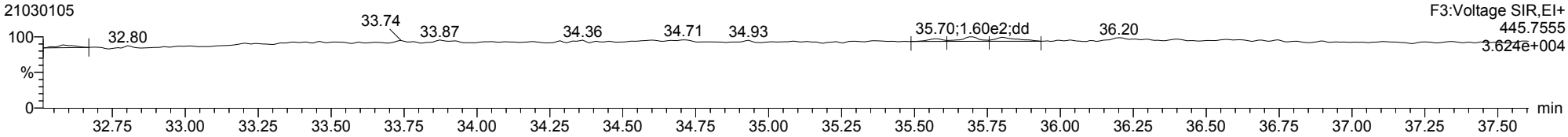

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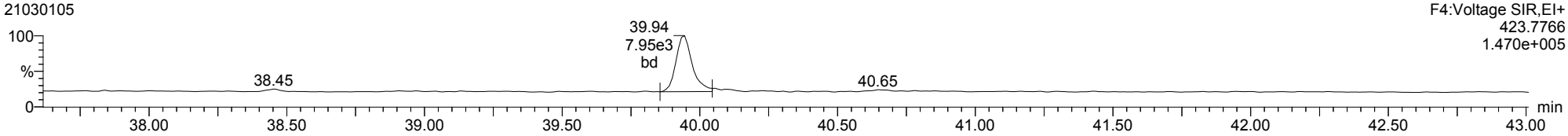

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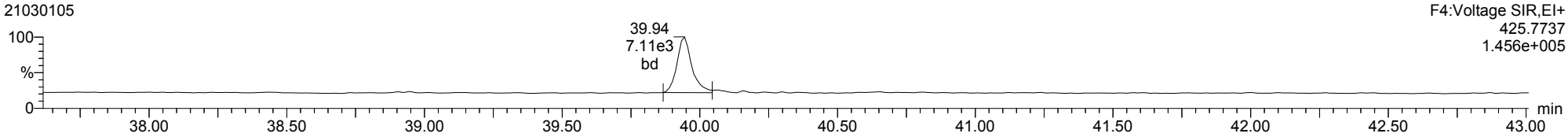

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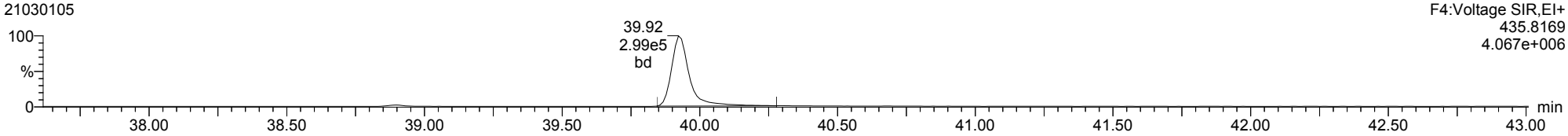

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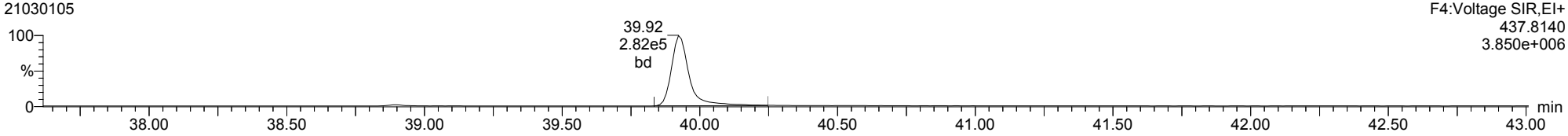
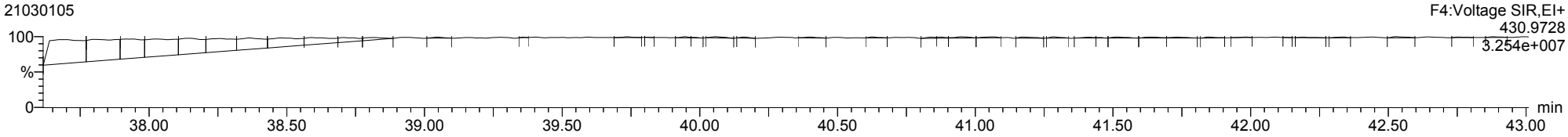


FUNCTION4 PFK



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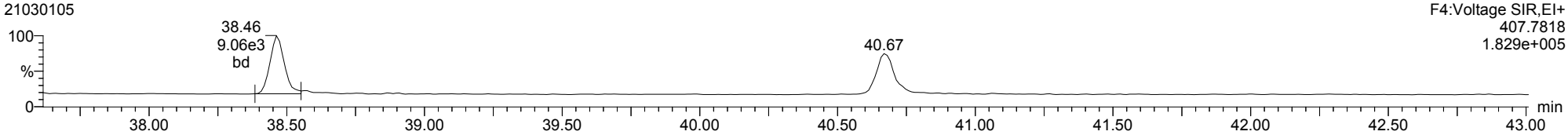

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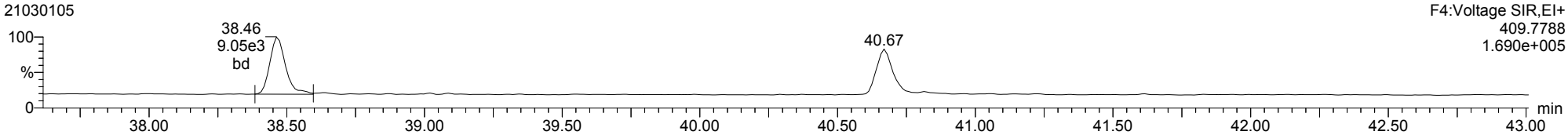

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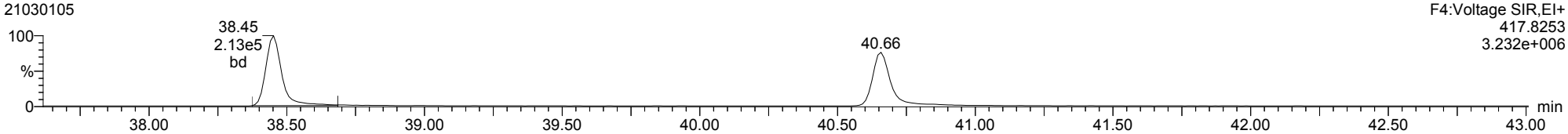

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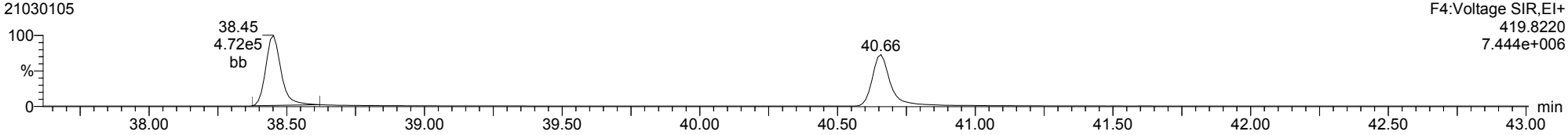

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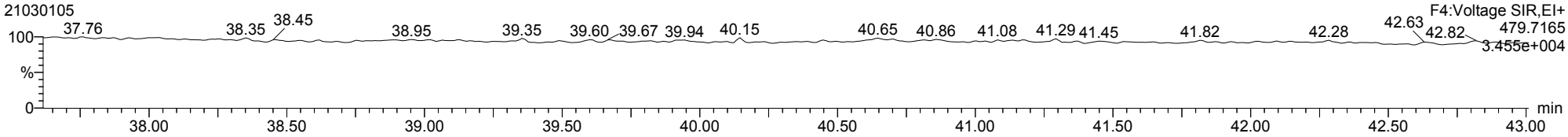

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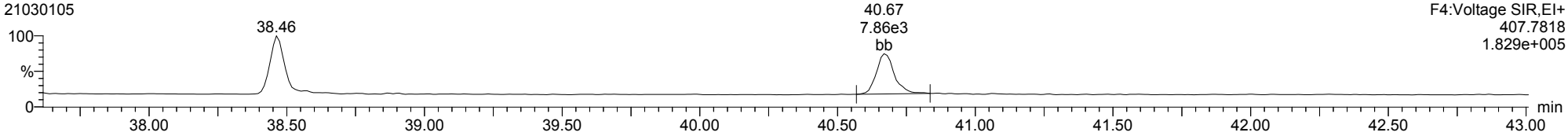

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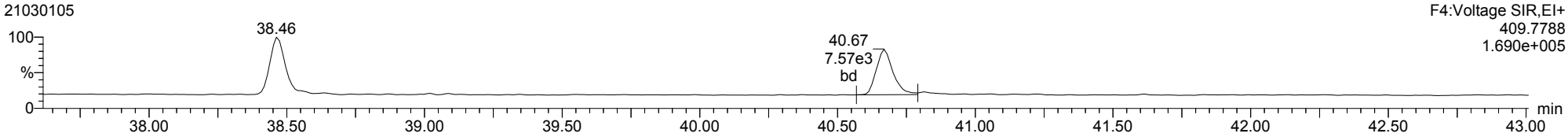

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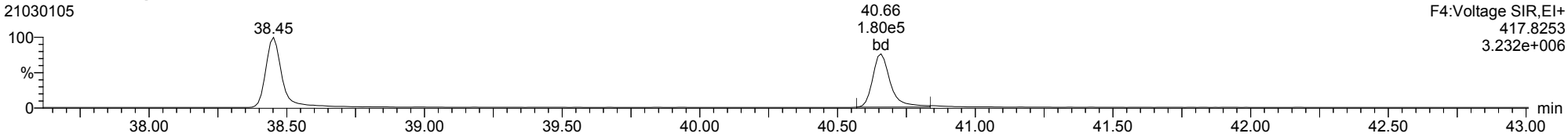

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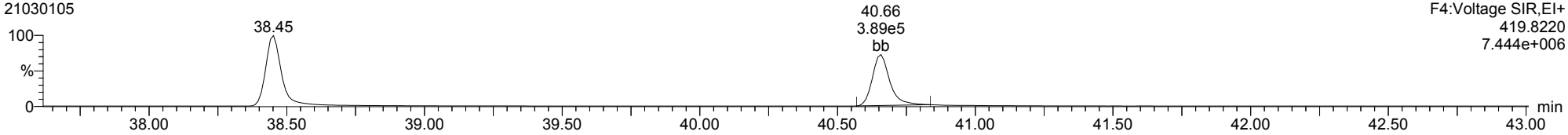

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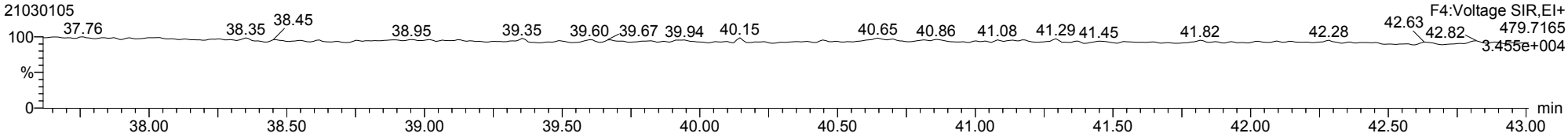

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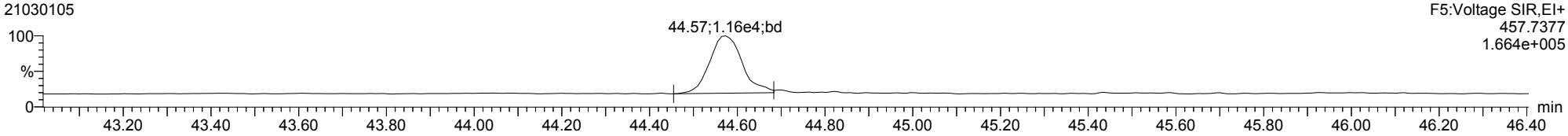

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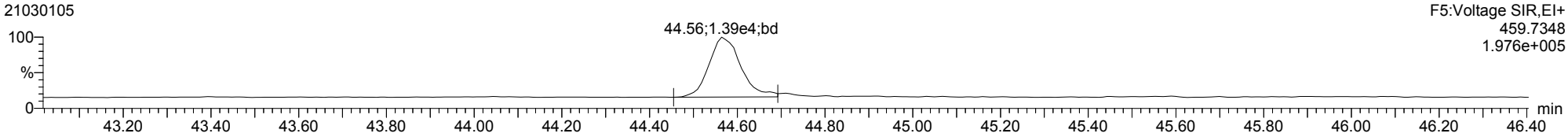

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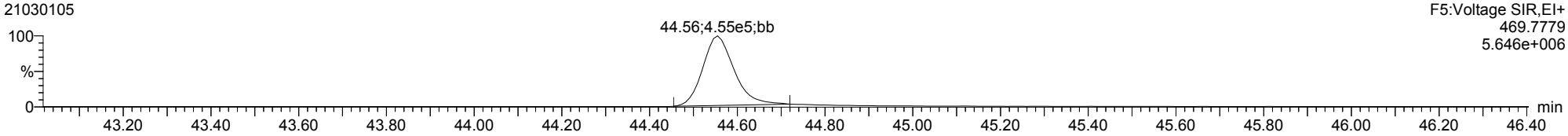

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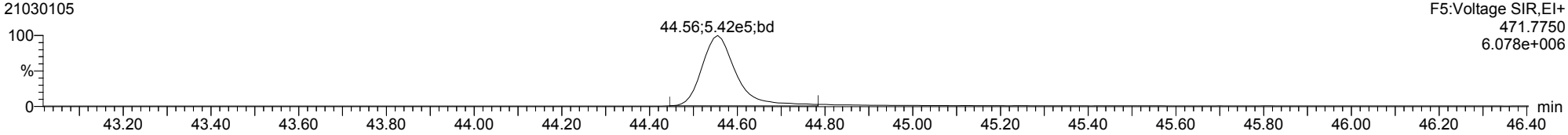
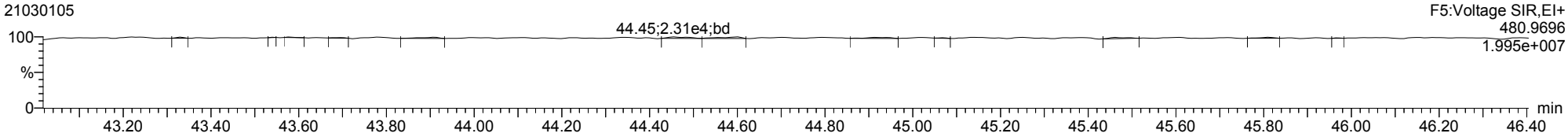


FUNCTION5 PFK



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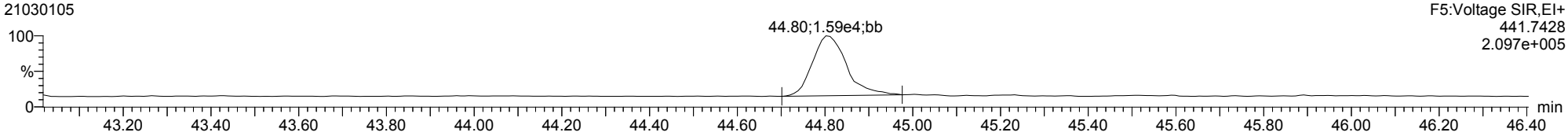

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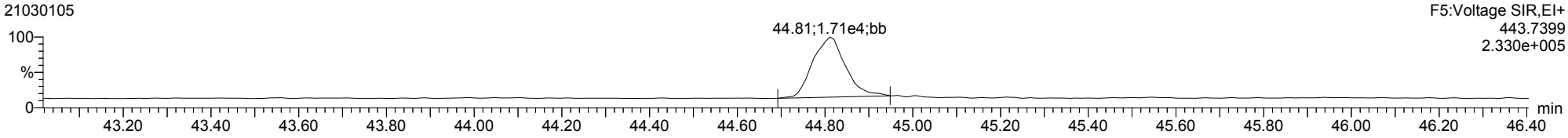
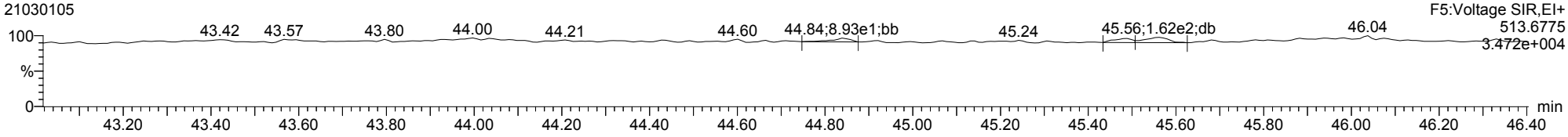


FUNCTION5 DCDPE



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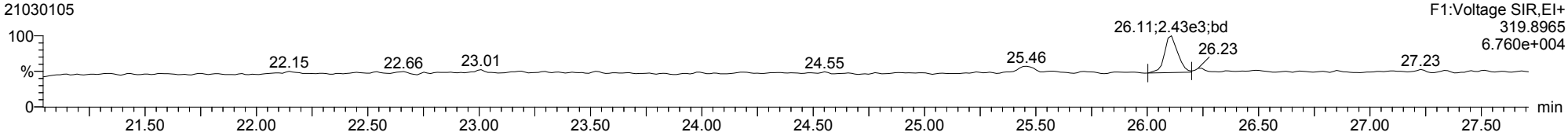

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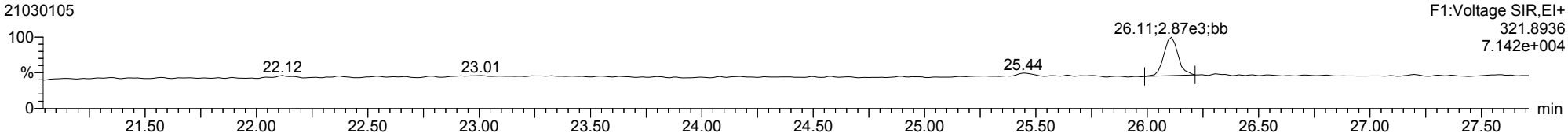
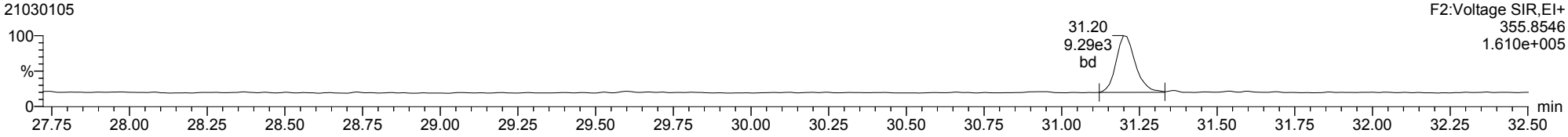
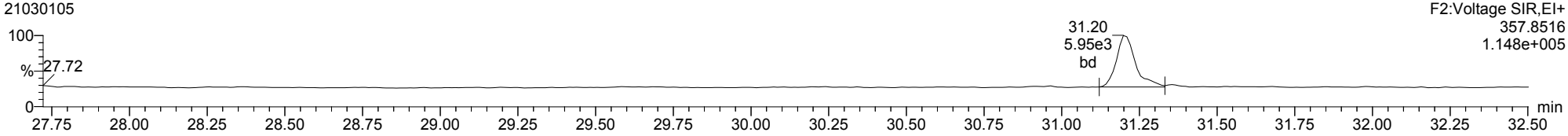


Total-pentadioxins



Total-pentadioxins



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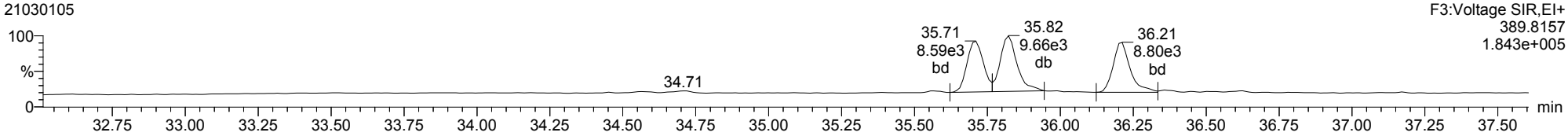
Total-hexadioxins



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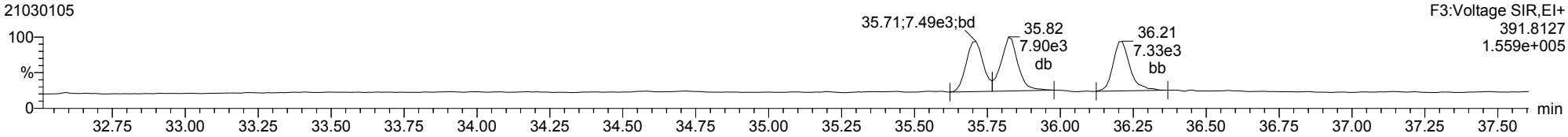

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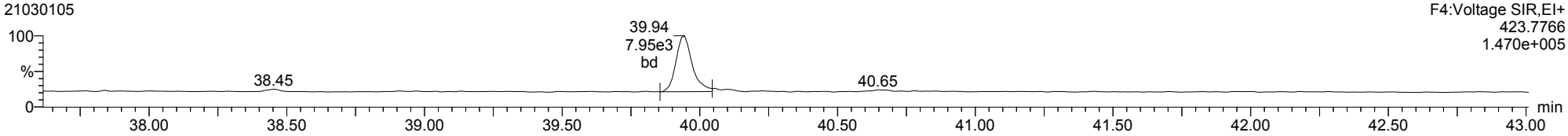

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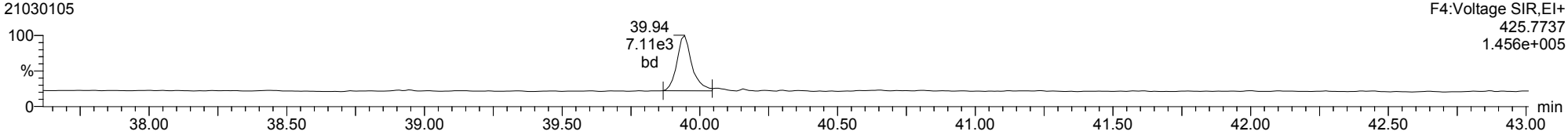

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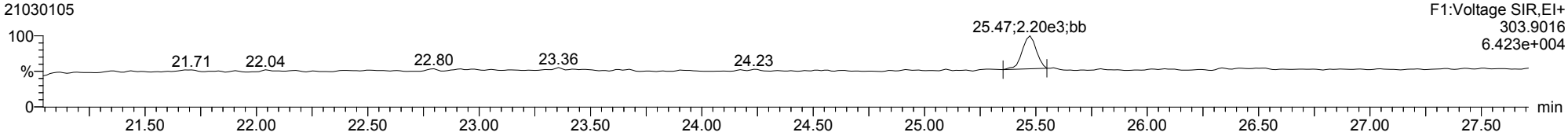
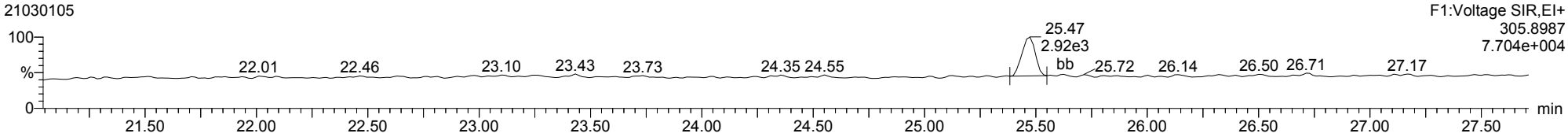
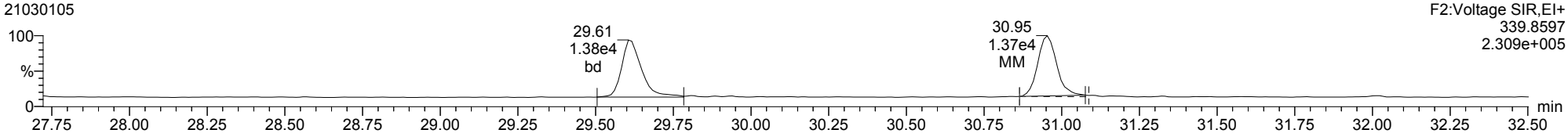
Total-tetrafurans



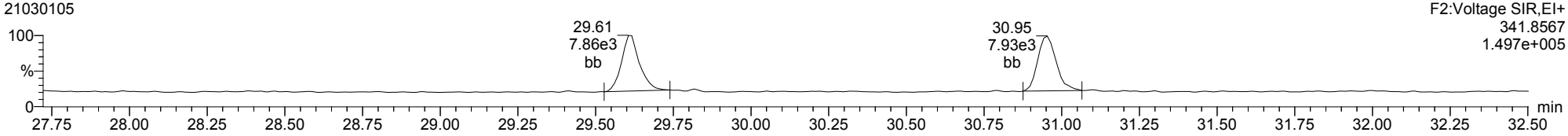
Total-tetrafurans



Total-pentafurans

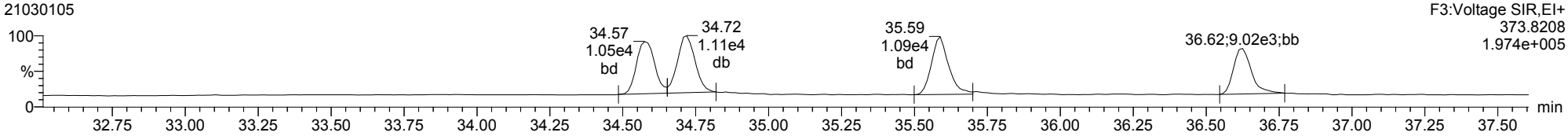


Total-pentafurans

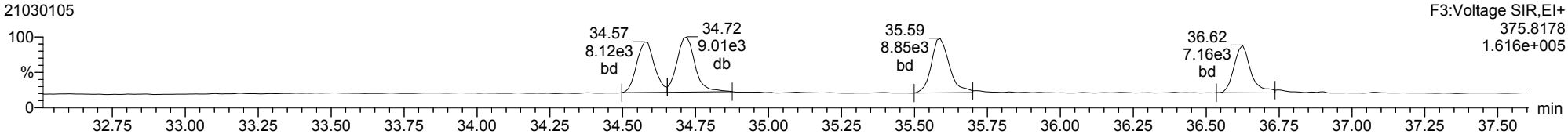


ID: CS1CV, Name: 21030105, Date: 01-Mar-2021, Time: 13:49:55, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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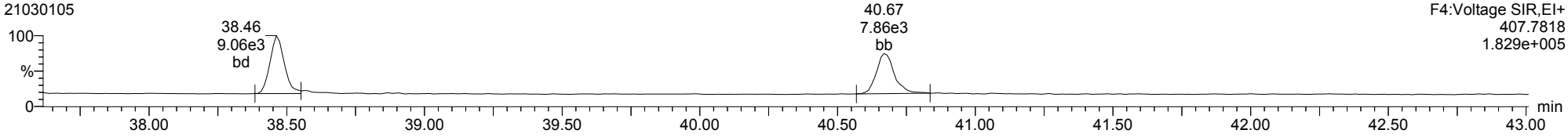
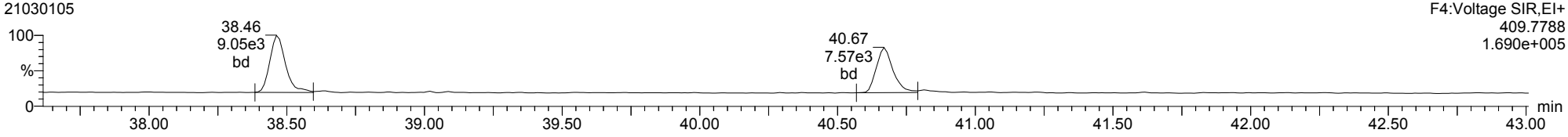


Total-heptafurans



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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:32 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, 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	25.488	1.001	1.144e4	1.381e4	0.782	0.829	0.770	831	1665	1.57e5	1.97e5	189.0	118.4	NO	bb	bb	2.004
12378-PeCDF	29.616	1.000	6.280e4	3.878e4	0.866	1.619	1.550	2083	1927	8.94e5	5.51e5	429.2	286.1	NO	bb	bb	10.130
23478-PeCDF	30.964	1.001	6.607e4	4.168e4	0.980	1.585	1.550	2083	1927	9.43e5	6.03e5	452.7	313.0	NO	bb	bb	9.592
123478-HxCDF	34.585	1.001	5.171e4	4.061e4	1.002	1.273	1.240	1531	1348	8.00e5	5.99e5	522.1	444.6	NO	bd	bd	9.991
234678-HxCDF	35.588	1.000	5.133e4	4.017e4	1.043	1.278	1.240	1531	1348	7.54e5	6.03e5	492.1	447.3	NO	bb	bb	10.162
123678-HxCDF	34.718	1.000	5.394e4	4.353e4	0.961	1.239	1.240	1531	1348	8.00e5	6.24e5	522.7	462.8	NO	db	db	10.312
123789-HxCDF	36.624	1.000	4.609e4	3.311e4	0.994	1.392	1.240	1531	1348	6.35e5	5.04e5	414.7	373.6	NO	bd	bb	10.177
1234678-HpCDF	38.462	1.000	4.662e4	4.333e4	1.058	1.076	1.050	1262	1536	6.90e5	6.47e5	546.3	421.0	NO	bd	bd	10.159
1234789-HpCDF	40.667	1.000	3.825e4	3.507e4	1.070	1.091	1.050	1262	1536	5.03e5	4.75e5	398.4	308.9	NO	bd	bb	10.030
OCDF	44.819	1.006	6.775e4	7.082e4	1.257	0.957	0.890	2377	1777	7.53e5	7.39e5	316.8	416.1	NO	bd	bd	17.783
2378-TCDD	26.108	1.001	1.027e4	1.432e4	1.307	0.717	0.770	1488	1022	1.47e5	1.93e5	99.0	188.5	NO	bb	bd	1.997
12378-PeCDD	31.209	1.000	4.588e4	3.222e4	0.979	1.424	1.550	883	687	6.73e5	4.44e5	762.0	647.2	NO	bb	bd	10.112
123478-HxCDD	35.710	1.000	4.252e4	3.423e4	0.956	1.242	1.240	1251	1133	6.69e5	5.44e5	534.9	480.1	NO	bd	bd	10.120
123678-HxCDD	35.833	1.001	4.954e4	4.102e4	0.953	1.208	1.240	1251	1133	6.74e5	5.60e5	538.8	494.4	NO	dd	dd	10.763
123789-HxCDD	36.211	1.011	4.535e4	3.683e4	0.927	1.231	1.240	1251	1133	6.31e5	5.18e5	504.5	457.0	NO	dd	dd	10.577
1234678-HpCDD	39.943	1.000	3.520e4	3.364e4	1.055	1.046	1.050	1024	1045	5.18e5	5.19e5	505.9	497.2	NO	bb	bb	9.749
OCDD	44.581	1.000	5.862e4	6.694e4	1.074	0.876	0.890	1153	1866	6.48e5	7.44e5	562.2	398.6	NO	bd	bd	18.858
13C-2378-TCDF	25.458	1.007	7.027e5	9.094e5	1.925	0.773	0.770	4173	2512	1.02e7	1.29e7	2444.0	5148.4	NO	bb	bb	100.713
13C-12378-PeCDF	29.605	1.171	6.954e5	4.624e5	1.442	1.504	1.550	1954	2217	9.75e6	6.48e6	4991.1	2921.7	NO	bb	bb	96.537
13C-23478-PeCDF	30.942	1.223	6.927e5	4.537e5	1.387	1.527	1.550	1954	2217	9.81e6	6.37e6	5020.8	2872.7	NO	bb	bb	99.415
13C-123478-HxCDF	34.563	0.955	3.105e5	6.115e5	1.053	0.508	0.510	2175	3528	4.63e6	9.08e6	2126.7	2573.5	NO	bd	bd	99.942
13C-123678-HxCDF	34.707	0.959	3.337e5	6.498e5	1.135	0.513	0.510	2175	3528	4.83e6	9.37e6	2221.2	2657.1	NO	db	db	98.909
13C-234678-HxCDF	35.576	0.983	2.958e5	5.673e5	1.004	0.521	0.510	2175	3528	4.48e6	8.67e6	2060.5	2456.1	NO	bb	bb	98.129
13C-123789-HxCDF	36.612	1.011	2.666e5	5.161e5	0.909	0.517	0.510	2175	3528	3.89e6	7.62e6	1789.2	2159.1	NO	bb	bb	98.293
13C-1234678-HpCDF	38.451	1.062	2.649e5	5.720e5	0.960	0.463	0.440	2738	4922	3.80e6	8.79e6	1388.7	1786.7	NO	bd	bb	99.533
13C-1234789-HpCDF	40.656	1.123	2.204e5	4.629e5	0.794	0.476	0.440	2738	4922	2.82e6	6.47e6	1028.9	1313.9	NO	bd	bb	98.272
13C-1234-TCDD	25.292	0.000	3.684e5	4.632e5	1.000	0.795	0.770	2282	1988	5.42e6	6.77e6	2375.3	3407.9	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	4.182e5	5.234e5	1.133	0.799	0.770	2282	1988	5.85e6	7.35e6	2561.9	3696.7	NO	bb	bb	99.960
13C-12378-PeCDD	31.198	1.234	4.802e5	3.090e5	0.947	1.554	1.550	1882	1426	6.64e6	4.14e6	3526.9	2902.1	NO	bb	bd	100.236
13C-123478-HxCDD	35.699	0.986	4.416e5	3.516e5	0.939	1.256	1.240	3263	1505	7.08e6	5.59e6	2170.6	3711.5	NO	bd	bd	96.465
13C-123678-HxCDD	35.810	0.989	4.910e5	3.924e5	1.042	1.251	1.240	3263	1505	7.17e6	5.71e6	2197.6	3793.7	NO	db	db	96.762
13C-1234678-HpCDD	39.932	1.103	3.460e5	3.233e5	0.788	1.070	1.050	2071	2476	4.77e6	4.51e6	2303.9	1821.0	NO	bb	bb	96.911
13C-OCDD	44.563	1.231	5.624e5	6.777e5	0.703	0.830	0.890	3036	3533	6.48e6	7.31e6	2132.9	2069.3	NO	bb	bd	201.276
13C-123789-HxCDD	36.200	0.000	4.976e5	3.785e5	1.000	1.314	1.240	3263	1505	6.89e6	5.51e6	2111.2	3658.2	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.032	2.099e4		1.298			2661		3.00e5		112.8			bb		1.945

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
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ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, 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					0.966		0.770	831	1665								
1289-TCDF					0.736		0.770	831	1665								
13468-PECDF					1.347		1.550	695	1158								
12389-PECDF					0.867		1.550	2083	1927								
123468-HXCDF					1.036		1.240	1531	1348								
1368-TCDD					1.256		0.770	1488	1022								
1289-TCDD					1.151		0.770	1488	1022								
12479-PECDD					1.773		1.550	883	687								
12389-PECDD					1.171		1.550	883	687								
124679-HXCDD					1.034		1.240	1251	1133								
1234679-HPCDD					1.194		1.050	1024	1045								
Total-tetrafurans			1.144e4		0.828			831		1.57e5							2.004
Total-penta1			0.000e0					695		0.00e0							
Total-pentafurans			1.289e5		0.904			2083		1.84e6							19.722
Total-hexafurans			2.031e5		1.007			1531		2.99e6							40.642
Total-heptafurans			8.487e4		1.064			1262		1.19e6							20.189
Total-Furans			4.960e5		0.998			831		6.93e6							100.340
Total-tetradioxins			1.027e4		1.238			1488		1.47e5							1.997
Total-pentadioxins			4.588e4		1.308			883		6.73e5							10.112
Total-hexadioxins			1.378e5		0.967			1251		1.98e6							31.532
Total-heptadioxins			3.520e4		1.125			1024		5.18e5							9.749
Total-Dioxins			2.877e5		1.141			1488		3.97e6							72.248
Total-TEQ			7.837e5					1488		1.09e7							172.588
FUNCTION1 PFK			2.357e6					869732		4.36e7							
FUNCTION2 PFK			3.462e6					648960		7.29e7							0.000
FUNCTION3 PFK			6.473e5					382272		1.30e7							0.000
FUNCTION4 PFK			3.220e7					441144		2.96e8							
FUNCTION5 PFK			5.956e5					308981		1.52e7							
FUNCTION1 HXCD...			1.653e3					656		1.87e4							0.000
FUNCTION1 HPCD...			1.225e3					897		1.81e4							0.000
FUNCTION2 HPCD...			3.054e2					929		5.97e3							0.000
FUNCTION3 OCDPE			1.043e3					655		1.31e4							0.000
FUNCTION4 NCDPE			4.508e2					746		8.23e3							0.000
FUNCTION5 DCDPE			0.000e0					596		0.00e0							

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:32 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.49	1.144e4	1.381e4	0.782	0.83	0.77	189.0	YES	NO	bb	bb	2.004

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	30.96	6.607e4	4.168e4	0.980	1.59	1.55	452.7	YES	NO	bb	bb	9.592
2	12378-PeCDF	29.62	6.280e4	3.878e4	0.866	1.62	1.55	429.2	YES	NO	bb	bb	10.130

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	4.609e4	3.311e4	0.994	1.39	1.24	414.7	YES	NO	bd	bb	10.177
2	234678-HxCDF	35.59	5.133e4	4.017e4	1.043	1.28	1.24	492.1	YES	NO	bb	bb	10.162
3	123678-HxCDF	34.72	5.394e4	4.353e4	0.961	1.24	1.24	522.7	YES	NO	db	db	10.312
4	123478-HxCDF	34.58	5.171e4	4.061e4	1.002	1.27	1.24	522.1	YES	NO	bd	bd	9.991

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.46	4.662e4	4.333e4	1.058	1.08	1.05	546.3	YES	NO	bd	bd	10.159
2	1234789-HpCDF	40.67	3.825e4	3.507e4	1.070	1.09	1.05	398.4	YES	NO	bd	bb	10.030

ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, 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	2378-TCDF	25.49	1.144e4	1.381e4	0.782	0.83	0.77	189.0	YES	NO	bb	bb	2.004
2	23478-PeCDF	30.96	6.607e4	4.168e4	0.980	1.59	1.55	452.7	YES	NO	bb	bb	9.592
3	12378-PeCDF	29.62	6.280e4	3.878e4	0.866	1.62	1.55	429.2	YES	NO	bb	bb	10.130
4	123789-HxCDF	36.62	4.609e4	3.311e4	0.994	1.39	1.24	414.7	YES	NO	bd	bb	10.177
5	234678-HxCDF	35.59	5.133e4	4.017e4	1.043	1.28	1.24	492.1	YES	NO	bb	bb	10.162
6	123678-HxCDF	34.72	5.394e4	4.353e4	0.961	1.24	1.24	522.7	YES	NO	db	db	10.312
7	123478-HxCDF	34.58	5.171e4	4.061e4	1.002	1.27	1.24	522.1	YES	NO	bd	bd	9.991
8	1234678-HpCDF	38.46	4.662e4	4.333e4	1.058	1.08	1.05	546.3	YES	NO	bd	bd	10.159
9	1234789-HpCDF	40.67	3.825e4	3.507e4	1.070	1.09	1.05	398.4	YES	NO	bd	bb	10.030
10	OCDF	44.82	6.775e4	7.082e4	1.257	0.96	0.89	316.8	YES	NO	bd	bd	17.783

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.11	1.027e4	1.432e4	1.307	0.72	0.77	99.0	YES	NO	bb	bd	1.997

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.21	4.588e4	3.222e4	0.979	1.42	1.55	762.0	YES	NO	bb	bd	10.112

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.62	3.417e2	2.492e2	0.967	1.37	1.24	6.8	YES	NO	dd	bb	0.073
2	123789-HxCDD	36.21	4.535e4	3.683e4	0.927	1.23	1.24	504.5	YES	NO	dd	dd	10.577
3	123678-HxCDD	35.83	4.954e4	4.102e4	0.953	1.21	1.24	538.8	YES	NO	dd	dd	10.763
4	123478-HxCDD	35.71	4.252e4	3.423e4	0.956	1.24	1.24	534.9	YES	NO	bd	bd	10.120

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	3.520e4	3.364e4	1.055	1.05	1.05	505.9	YES	NO	bb	bb	9.749

ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, 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	12378-PeCDD	31.21	4.588e4	3.222e4	0.979	1.42	1.55	762.0	YES	NO	bb	bd	10.112
2	2378-TCDD	26.11	1.027e4	1.432e4	1.307	0.72	0.77	99.0	YES	NO	bb	bd	1.997
3	Total-hexadioxins	36.62	3.417e2	2.492e2	0.967	1.37	1.24	6.8	YES	NO	dd	bb	0.073
4	123789-HxCDD	36.21	4.535e4	3.683e4	0.927	1.23	1.24	504.5	YES	NO	dd	dd	10.577
5	123678-HxCDD	35.83	4.954e4	4.102e4	0.953	1.21	1.24	538.8	YES	NO	dd	dd	10.763
6	123478-HxCDD	35.71	4.252e4	3.423e4	0.956	1.24	1.24	534.9	YES	NO	bd	bd	10.120
7	1234678-HpCDD	39.94	3.520e4	3.364e4	1.055	1.05	1.05	505.9	YES	NO	bb	bb	9.749
8	OCDD	44.58	5.862e4	6.694e4	1.074	0.88	0.89	562.2	YES	NO	bd	bd	18.858

TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.49	1.144e4	1.381e4	0.782	0.83	0.77	189.0	YES	NO	bb	bb	2.004
2	23478-PeCDF	30.96	6.607e4	4.168e4	0.980	1.59	1.55	452.7	YES	NO	bb	bb	9.592
3	12378-PeCDF	29.62	6.280e4	3.878e4	0.866	1.62	1.55	429.2	YES	NO	bb	bb	10.130
4	123789-HxCDF	36.62	4.609e4	3.311e4	0.994	1.39	1.24	414.7	YES	NO	bd	bb	10.177
5	234678-HxCDF	35.59	5.133e4	4.017e4	1.043	1.28	1.24	492.1	YES	NO	bb	bb	10.162
6	123678-HxCDF	34.72	5.394e4	4.353e4	0.961	1.24	1.24	522.7	YES	NO	db	db	10.312
7	123478-HxCDF	34.58	5.171e4	4.061e4	1.002	1.27	1.24	522.1	YES	NO	bd	bd	9.991
8	1234678-HpCDF	38.46	4.662e4	4.333e4	1.058	1.08	1.05	546.3	YES	NO	bd	bd	10.159
9	1234789-HpCDF	40.67	3.825e4	3.507e4	1.070	1.09	1.05	398.4	YES	NO	bd	bb	10.030
10	OCDF	44.82	6.775e4	7.082e4	1.257	0.96	0.89	316.8	YES	NO	bd	bd	17.783
11	12378-PeCDD	31.21	4.588e4	3.222e4	0.979	1.42	1.55	762.0	YES	NO	bb	bd	10.112
12	2378-TCDD	26.11	1.027e4	1.432e4	1.307	0.72	0.77	99.0	YES	NO	bb	bd	1.997
13	Total-hexadioxins	36.62	3.417e2	2.492e2	0.967	1.37	1.24	6.8	YES	NO	dd	bb	0.073
14	123789-HxCDD	36.21	4.535e4	3.683e4	0.927	1.23	1.24	504.5	YES	NO	dd	dd	10.577
15	123678-HxCDD	35.83	4.954e4	4.102e4	0.953	1.21	1.24	538.8	YES	NO	dd	dd	10.763
16	123478-HxCDD	35.71	4.252e4	3.423e4	0.956	1.24	1.24	534.9	YES	NO	bd	bd	10.120
17	1234678-HpCDD	39.94	3.520e4	3.364e4	1.055	1.05	1.05	505.9	YES	NO	bb	bb	9.749
18	OCDD	44.58	5.862e4	6.694e4	1.074	0.88	0.89	562.2	YES	NO	bd	bd	18.858

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.78	7.211e4					1.7	NO		dd		
2	FUNCTION1 PFK	22.74	3.373e4					1.3	NO		bd		
3	FUNCTION1 PFK	22.54	8.676e4					1.8	NO		bb		
4	FUNCTION1 PFK	22.21	1.028e5					1.7	NO		db		
5	FUNCTION1 PFK	22.09	6.445e4					1.7	NO		bd		
6	FUNCTION1 PFK	21.87	7.860e4					1.7	NO		db		
7	FUNCTION1 PFK	21.75	6.980e4					1.7	NO		dd		
8	FUNCTION1 PFK	21.62	1.218e5					1.7	NO		dd		
9	FUNCTION1 PFK	21.54	8.317e4					1.2	NO		dd		
10	FUNCTION1 PFK	21.42	8.479e4					1.8	NO		dd		
11	FUNCTION1 PFK	21.30	4.756e4					1.3	NO		bd		
12	FUNCTION1 PFK	21.18	6.391e4					1.4	NO		bb		
13	FUNCTION1 PFK	26.49	1.032e5					1.5	NO		bd		
14	FUNCTION1 PFK	25.81	7.913e4					2.0	NO		bb		
15	FUNCTION1 PFK	25.58	2.330e4					0.8	NO		bb		
16	FUNCTION1 PFK	25.46	8.845e4					1.6	NO		bb		
17	FUNCTION1 PFK	25.13	7.763e4					1.3	NO		bb		
18	FUNCTION1 PFK	25.02	3.938e4					1.3	NO		bb		
19	FUNCTION1 PFK	24.90	5.881e4					1.4	NO		bb		
20	FUNCTION1 PFK	24.78	3.069e4					1.0	NO		bb		
21	FUNCTION1 PFK	24.57	4.867e4					1.3	NO		bb		
22	FUNCTION1 PFK	24.44	8.110e4					1.8	NO		bb		
23	FUNCTION1 PFK	24.22	6.389e4					1.5	NO		bb		
24	FUNCTION1 PFK	24.10	7.326e4					1.7	NO		bb		
25	FUNCTION1 PFK	23.89	5.234e4					1.4	NO		bb		
26	FUNCTION1 PFK	23.54	4.750e4					1.3	NO		bb		
27	FUNCTION1 PFK	22.98	6.210e4					1.5	NO		bb		
28	FUNCTION1 PFK	22.86	7.436e4					1.2	NO		db		
29	FUNCTION1 PFK	27.06	3.101e4					1.2	NO		bb		
30	FUNCTION1 PFK	26.95	6.711e4					1.3	NO		bb		
31	FUNCTION1 PFK	26.82	1.207e5					1.7	NO		db		
32	FUNCTION1 PFK	26.74	1.292e5					2.6	NO		dd		
33	FUNCTION1 PFK	26.61	9.520e4					1.6	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.41	3.010e4					1.1	NO		bb		0.000
2	FUNCTION2 PFK	28.35	1.155e4					0.6	NO		db		0.000
3	FUNCTION2 PFK	28.30	4.476e4					2.0	NO		bd		0.000
4	FUNCTION2 PFK	28.21	1.360e4					0.8	NO		bb		0.000
5	FUNCTION2 PFK	28.16	5.522e3					0.6	NO		bb		0.000
6	FUNCTION2 PFK	28.01	2.294e4					1.3	NO		db		0.000
7	FUNCTION2 PFK	27.97	5.303e4					1.9	NO		bd		0.000
8	FUNCTION2 PFK	27.87	4.751e4					2.0	NO		db		0.000
9	FUNCTION2 PFK	27.83	1.795e4					1.1	NO		bd		0.000
10	FUNCTION2 PFK	27.77	5.325e4					1.6	NO		bb		0.000
11	FUNCTION2 PFK	29.66	6.043e4					2.2	NO		bd		0.000
12	FUNCTION2 PFK	29.55	1.049e5					3.1	YES		db		0.000
13	FUNCTION2 PFK	29.45	8.658e4					1.9	NO		bd		0.000
14	FUNCTION2 PFK	29.36	3.740e4					2.0	NO		db		0.000
15	FUNCTION2 PFK	29.32	9.079e4					2.7	NO		dd		0.000
16	FUNCTION2 PFK	29.23	9.541e4					2.3	NO		dd		0.000
17	FUNCTION2 PFK	29.14	5.651e4					2.2	NO		dd		0.000
18	FUNCTION2 PFK	29.09	5.536e4					2.3	NO		dd		0.000
19	FUNCTION2 PFK	29.05	2.558e4					1.3	NO		dd		0.000
20	FUNCTION2 PFK	29.00	8.783e4					2.7	NO		dd		0.000
21	FUNCTION2 PFK	28.89	4.787e4					2.3	NO		dd		0.000
22	FUNCTION2 PFK	28.87	7.897e4					2.8	NO		dd		0.000
23	FUNCTION2 PFK	28.76	1.118e5					2.6	NO		dd		0.000
24	FUNCTION2 PFK	28.70	2.604e4					1.7	NO		dd		0.000
25	FUNCTION2 PFK	28.64	5.975e4					2.3	NO		bd		0.000
26	FUNCTION2 PFK	28.54	5.744e4					1.6	NO		bb		0.000
27	FUNCTION2 PFK	30.75	5.548e4					2.1	NO		dd		0.000
28	FUNCTION2 PFK	30.69	7.422e4					2.5	NO		dd		0.000
29	FUNCTION2 PFK	30.57	1.353e5					2.5	NO		dd		0.000
30	FUNCTION2 PFK	30.48	7.088e4					2.7	NO		dd		0.000
31	FUNCTION2 PFK	30.44	4.847e4					2.4	NO		dd		0.000
32	FUNCTION2 PFK	30.38	3.732e4					1.8	NO		dd		0.000
33	FUNCTION2 PFK	30.35	7.541e4					2.4	NO		dd		0.000
34	FUNCTION2 PFK	30.30	4.197e4					2.1	NO		dd		0.000
35	FUNCTION2 PFK	30.23	1.307e5					2.3	NO		dd		0.000
36	FUNCTION2 PFK	30.12	9.860e4					1.9	NO		dd		0.000
37	FUNCTION2 PFK	30.02	1.021e5					2.0	NO		dd		0.000

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	29.94	4.910e4					1.9	NO		dd		0.000
39	FUNCTION2 PFK	29.87	8.781e4					2.3	NO		dd		0.000
40	FUNCTION2 PFK	29.79	5.409e4					2.2	NO		dd		0.000
41	FUNCTION2 PFK	29.76	8.270e4					2.7	NO		dd		0.000
42	FUNCTION2 PFK	29.69	3.282e4					1.7	NO		dd		0.000
43	FUNCTION2 PFK	32.29	9.687e3					0.6	NO		bb		0.000
44	FUNCTION2 PFK	32.14	3.217e4					1.1	NO		bb		0.000
45	FUNCTION2 PFK	32.02	1.548e4					1.0	NO		bb		0.000
46	FUNCTION2 PFK	31.92	8.349e4					2.1	NO		db		0.000
47	FUNCTION2 PFK	31.84	3.877e4					1.3	NO		dd		0.000
48	FUNCTION2 PFK	31.80	4.391e4					1.9	NO		dd		0.000
49	FUNCTION2 PFK	31.71	9.010e4					2.4	NO		bd		0.000
50	FUNCTION2 PFK	31.58	1.208e5					2.5	NO		db		0.000
51	FUNCTION2 PFK	31.47	9.056e4					2.0	NO		bd		0.000
52	FUNCTION2 PFK	31.24	6.407e4					1.6	NO		bb		0.000
53	FUNCTION2 PFK	31.13	4.434e4					1.3	NO		bb		0.000
54	FUNCTION2 PFK	31.01	8.075e4					2.2	NO		bb		0.000
55	FUNCTION2 PFK	30.94	4.669e4					1.9	NO		db		0.000
56	FUNCTION2 PFK	30.90	3.301e4					1.4	NO		dd		0.000
57	FUNCTION2 PFK	30.84	4.073e4					1.8	NO		dd		0.000
58	FUNCTION2 PFK	30.80	6.118e4					2.7	NO		dd		0.000
59	FUNCTION2 PFK	32.38	6.691e3					0.5	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	37.13	4.171e4					2.8	NO		db		0.000
2	FUNCTION3 PFK	37.08	4.219e4					3.4	YES		bd		0.000
3	FUNCTION3 PFK	36.62	3.526e4					1.6	NO		bb		0.000
4	FUNCTION3 PFK	35.64	6.896e4					2.2	NO		db		0.000
5	FUNCTION3 PFK	35.51	5.750e4					2.4	NO		bd		0.000
6	FUNCTION3 PFK	34.86	1.353e4					1.6	NO		db		0.000
7	FUNCTION3 PFK	34.83	3.339e4					2.4	NO		bd		0.000
8	FUNCTION3 PFK	34.27	3.945e4					1.8	NO		bb		0.000
9	FUNCTION3 PFK	33.83	3.098e4					2.0	NO		bb		0.000
10	FUNCTION3 PFK	33.54	1.821e4					1.6	NO		bb		0.000
11	FUNCTION3 PFK	33.37	5.042e4					2.6	NO		bb		0.000
12	FUNCTION3 PFK	32.81	5.486e4					2.2	NO		db		0.000
13	FUNCTION3 PFK	32.71	8.303e4					3.8	YES		bd		0.000
14	FUNCTION3 PFK	32.62	4.531e4					2.1	NO		bb		0.000
15	FUNCTION3 PFK	37.58	3.245e4					1.4	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.24	1.211e6					21.6	YES		dd		
2	FUNCTION4 PFK	39.14	1.027e6					23.6	YES		dd		
3	FUNCTION4 PFK	39.04	1.257e6					26.1	YES		dd		
4	FUNCTION4 PFK	38.92	1.510e6					28.6	YES		dd		
5	FUNCTION4 PFK	38.81	1.324e6					30.7	YES		dd		
6	FUNCTION4 PFK	38.72	1.581e6					32.4	YES		dd		
7	FUNCTION4 PFK	38.56	1.881e6					36.3	YES		dd		
8	FUNCTION4 PFK	38.48	9.025e5					37.3	YES		dd		
9	FUNCTION4 PFK	38.35	2.644e6					40.0	YES		dd		
10	FUNCTION4 PFK	38.11	4.348e6					44.8	YES		dd		
11	FUNCTION4 PFK	38.02	2.468e6					46.3	YES		dd		
12	FUNCTION4 PFK	37.88	2.837e6					49.1	YES		dd		
13	FUNCTION4 PFK	37.79	1.474e6					50.9	YES		dd		
14	FUNCTION4 PFK	37.70	2.766e6					51.7	YES		bd		
15	FUNCTION4 PFK	41.06	6.903e4					2.6	NO		dd		
16	FUNCTION4 PFK	40.94	7.709e4					2.3	NO		dd		
17	FUNCTION4 PFK	40.83	4.454e4					2.1	NO		dd		
18	FUNCTION4 PFK	40.73	4.214e4					1.6	NO		dd		
19	FUNCTION4 PFK	40.60	3.432e4					1.7	NO		bd		
20	FUNCTION4 PFK	40.48	2.382e4					1.3	NO		bb		
21	FUNCTION4 PFK	40.39	2.445e4					1.5	NO		bb		
22	FUNCTION4 PFK	40.16	9.282e4					3.4	YES		db		
23	FUNCTION4 PFK	40.04	1.978e5					5.0	YES		dd		
24	FUNCTION4 PFK	39.91	3.589e5					8.1	YES		dd		
25	FUNCTION4 PFK	39.80	4.374e5					10.1	YES		dd		
26	FUNCTION4 PFK	39.71	5.404e5					12.0	YES		dd		
27	FUNCTION4 PFK	39.58	6.664e5					15.1	YES		dd		
28	FUNCTION4 PFK	39.48	6.108e5					17.1	YES		dd		
29	FUNCTION4 PFK	39.44	2.478e5					17.0	YES		dd		
30	FUNCTION4 PFK	39.35	8.002e5					19.4	YES		dd		
31	FUNCTION4 PFK	42.85	5.421e4					2.0	NO		db		
32	FUNCTION4 PFK	42.73	6.805e4					2.2	NO		dd		
33	FUNCTION4 PFK	42.66	1.187e4					1.2	NO		dd		
34	FUNCTION4 PFK	42.61	3.934e4					1.5	NO		dd		
35	FUNCTION4 PFK	42.51	4.300e4					1.9	NO		bd		
36	FUNCTION4 PFK	42.32	3.251e4					1.3	NO		bb		
37	FUNCTION4 PFK	42.18	2.772e4					1.6	NO		bb		

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	41.95	2.390e4					1.3	NO		bb		
39	FUNCTION4 PFK	41.73	3.862e4					2.0	NO		db		
40	FUNCTION4 PFK	41.64	2.408e4					1.2	NO		dd		
41	FUNCTION4 PFK	41.60	2.417e4					1.4	NO		dd		
42	FUNCTION4 PFK	41.50	6.950e4					2.2	NO		dd		
43	FUNCTION4 PFK	41.40	5.189e4					2.2	NO		dd		
44	FUNCTION4 PFK	41.31	4.102e4					2.1	NO		dd		
45	FUNCTION4 PFK	41.27	4.464e4					3.0	NO		bd		
46	FUNCTION4 PFK	41.17	7.296e4					2.1	NO		db		
47	FUNCTION4 PFK	42.96	3.066e4					1.6	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.10	2.912e4					1.6	NO		bb		
2	FUNCTION5 PFK	43.99	3.444e4					2.3	NO		bb		
3	FUNCTION5 PFK	43.92	1.306e3					0.5	NO		bb		
4	FUNCTION5 PFK	43.88	1.617e4					1.4	NO		bb		
5	FUNCTION5 PFK	43.67	1.687e4					1.3	NO		db		
6	FUNCTION5 PFK	43.64	1.013e4					1.3	NO		dd		
7	FUNCTION5 PFK	43.56	1.222e4					1.0	NO		dd		
8	FUNCTION5 PFK	43.52	7.261e3					1.0	NO		bd		
9	FUNCTION5 PFK	43.46	1.121e3					0.4	NO		bb		
10	FUNCTION5 PFK	43.42	1.201e3					0.4	NO		bb		
11	FUNCTION5 PFK	43.32	1.325e4					1.3	NO		db		
12	FUNCTION5 PFK	43.28	1.256e4					1.2	NO		dd		
13	FUNCTION5 PFK	43.20	2.288e4					1.6	NO		bd		
14	FUNCTION5 PFK	43.11	1.368e4					1.5	NO		bb		
15	FUNCTION5 PFK	45.44	2.392e4					1.5	NO		bb		
16	FUNCTION5 PFK	45.37	7.373e3					1.0	NO		db		
17	FUNCTION5 PFK	45.33	2.833e4					2.3	NO		dd		
18	FUNCTION5 PFK	45.22	3.539e4					1.6	NO		bd		
19	FUNCTION5 PFK	45.13	2.762e4					1.6	NO		bb		
20	FUNCTION5 PFK	45.04	1.075e4					1.4	NO		db		
21	FUNCTION5 PFK	44.99	1.372e4					1.4	NO		bd		
22	FUNCTION5 PFK	44.95	7.688e3					1.1	NO		db		
23	FUNCTION5 PFK	44.87	1.271e4					1.0	NO		bd		
24	FUNCTION5 PFK	44.67	3.527e4					1.7	NO		db		
25	FUNCTION5 PFK	44.60	8.265e3					1.2	NO		dd		
26	FUNCTION5 PFK	44.57	1.149e4					1.6	NO		dd		
27	FUNCTION5 PFK	44.54	2.079e4					2.1	NO		bd		
28	FUNCTION5 PFK	44.47	2.856e3					0.2	NO		bb		
29	FUNCTION5 PFK	44.33	1.265e4					1.1	NO		bb		
30	FUNCTION5 PFK	44.22	2.256e4					1.4	NO		bb		
31	FUNCTION5 PFK	46.35	9.052e3					1.1	NO		bb		
32	FUNCTION5 PFK	46.27	8.937e3					1.1	NO		db		
33	FUNCTION5 PFK	46.23	1.660e4					1.7	NO		dd		
34	FUNCTION5 PFK	46.11	4.453e4					2.0	NO		bd		
35	FUNCTION5 PFK	46.03	2.439e4					1.7	NO		bb		
36	FUNCTION5 PFK	45.89	5.547e3					0.7	NO		bb		
37	FUNCTION5 PFK	45.82	2.184e3					0.5	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION5 PFK	45.79	6.390e3					0.8	NO		dd		
39	FUNCTION5 PFK	45.75	4.425e3					0.6	NO		bd		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	22.39	7.123e1					1.7	NO		bb		0.000
2	FUNCTION1 HXCD...	21.59	1.350e2					2.1	NO		db		0.000
3	FUNCTION1 HXCD...	21.48	1.364e2					3.3	YES		dd		0.000
4	FUNCTION1 HXCD...	21.39	2.306e2					4.2	YES		dd		0.000
5	FUNCTION1 HXCD...	21.33	1.697e2					4.1	YES		dd		0.000
6	FUNCTION1 HXCD...	21.24	3.831e2					3.2	YES		bd		0.000
7	FUNCTION1 HXCD...	26.37	1.382e2					2.1	NO		bb		0.000
8	FUNCTION1 HXCD...	26.14	1.660e2					3.0	YES		bb		0.000
9	FUNCTION1 HXCD...	25.29	1.498e2					2.8	NO		db		0.000
10	FUNCTION1 HXCD...	25.17	7.341e1					2.0	NO		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	27.56	8.423e1					2.2	NO		db		0.000
2	FUNCTION1 HPCD...	27.41	1.339e2					2.0	NO		bd		0.000
3	FUNCTION1 HPCD...	25.59	7.958e1					1.2	NO		bb		0.000
4	FUNCTION1 HPCD...	24.22	8.001e1					1.2	NO		bb		0.000
5	FUNCTION1 HPCD...	21.47	1.962e2					2.6	NO		db		0.000
6	FUNCTION1 HPCD...	21.35	1.820e2					2.9	NO		dd		0.000
7	FUNCTION1 HPCD...	21.29	1.314e2					3.1	YES		dd		0.000
8	FUNCTION1 HPCD...	21.24	1.039e2					2.3	NO		dd		0.000
9	FUNCTION1 HPCD...	21.10	2.336e2					2.6	NO		bd		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	28.40	1.178e2					2.0	NO		bb		0.000
2	FUNCTION2 HPCD...	30.61	1.155e2					2.6	NO		bb		0.000
3	FUNCTION2 HPCD...	28.97	7.211e1					1.8	NO		bb		0.000

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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:32 Pacific Standard Time

ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, 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	36.58	1.669e2					2.9	NO		bb		0.000
2	FUNCTION3 OCDPE	36.19	1.539e2					3.4	YES		bb		0.000
3	FUNCTION3 OCDPE	36.00	9.256e1					1.3	NO		bb		0.000
4	FUNCTION3 OCDPE	35.83	2.214e2					4.5	YES		db		0.000
5	FUNCTION3 OCDPE	35.70	3.027e2					5.3	YES		dd		0.000
6	FUNCTION3 OCDPE	35.59	1.055e2					2.5	NO		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	41.34	1.047e2					1.8	NO		bb		0.000
2	FUNCTION4 NCDPE	39.32	1.620e2					2.9	NO		db		0.000
3	FUNCTION4 NCDPE	39.25	7.316e1					1.9	NO		bd		0.000
4	FUNCTION4 NCDPE	38.04	1.110e2					4.4	YES		bb		0.000

ETHERS6

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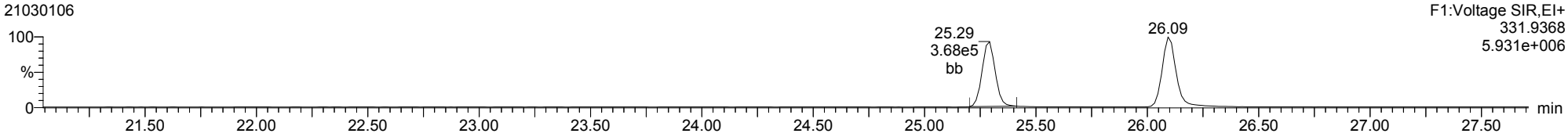

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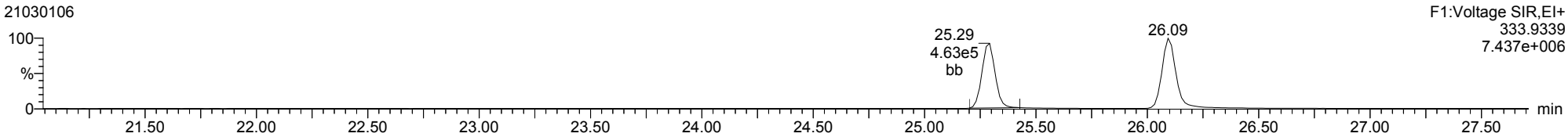

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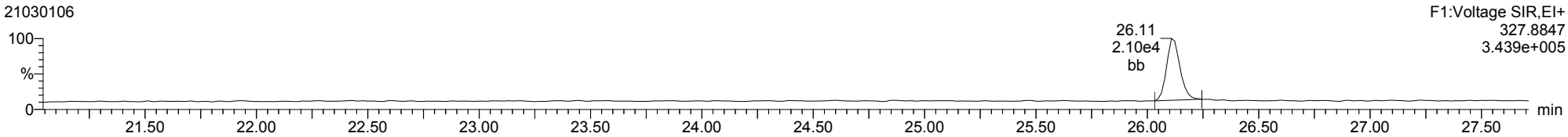

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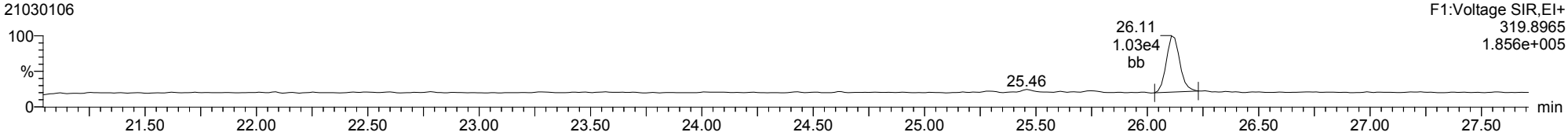

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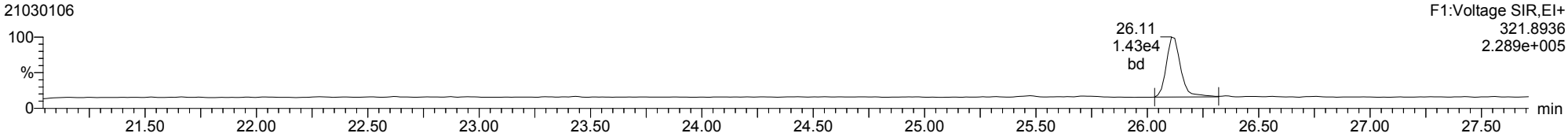

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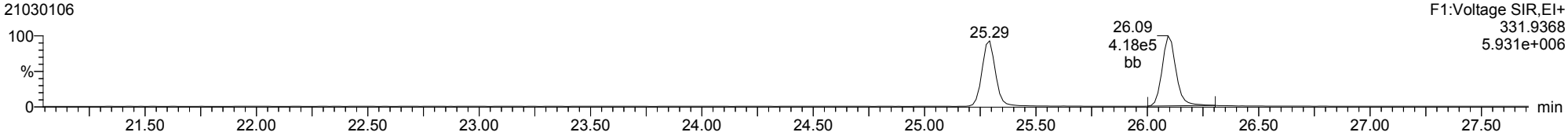

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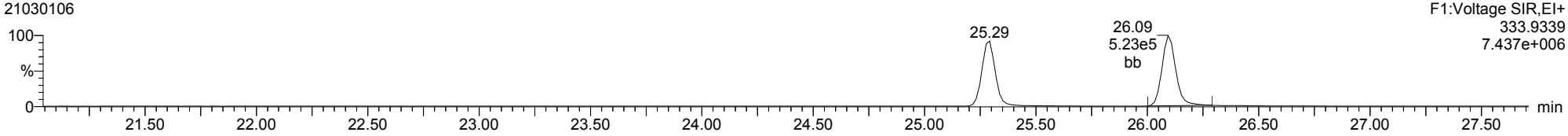

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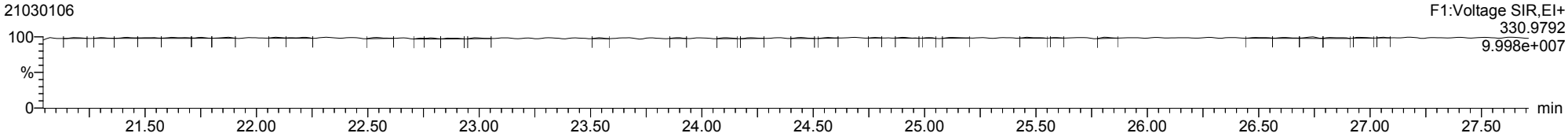

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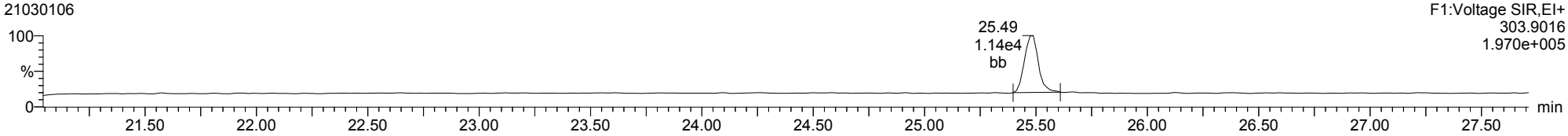

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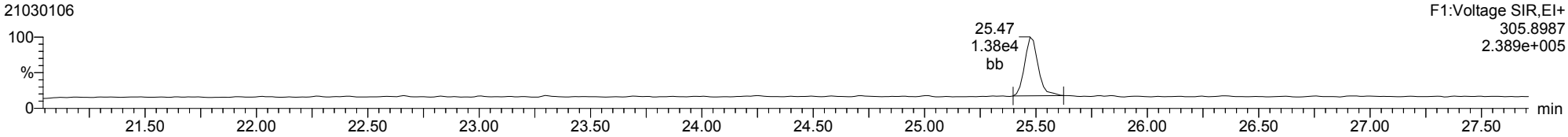

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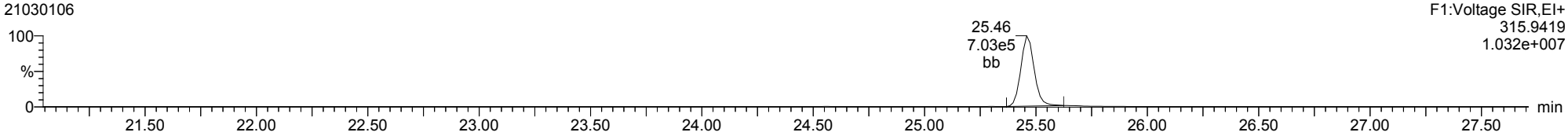

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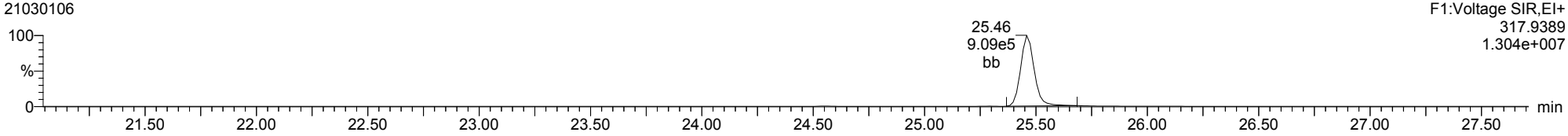

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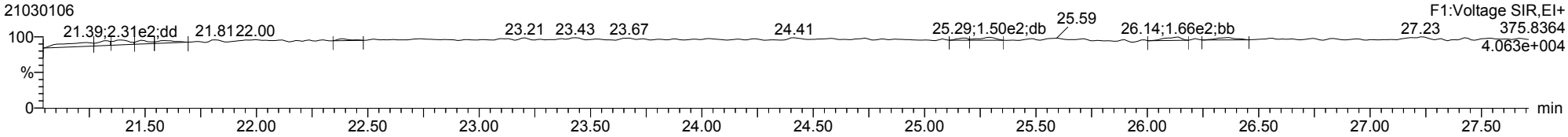

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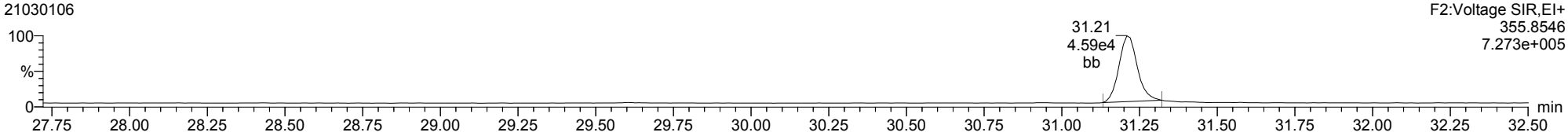

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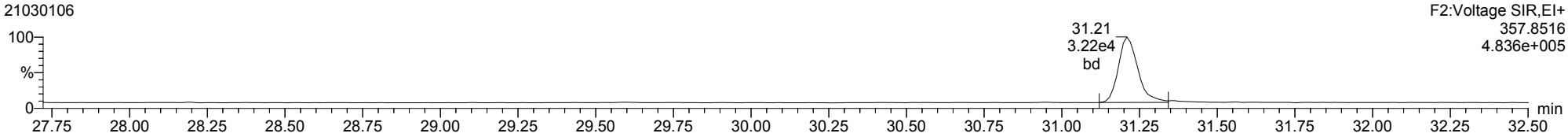

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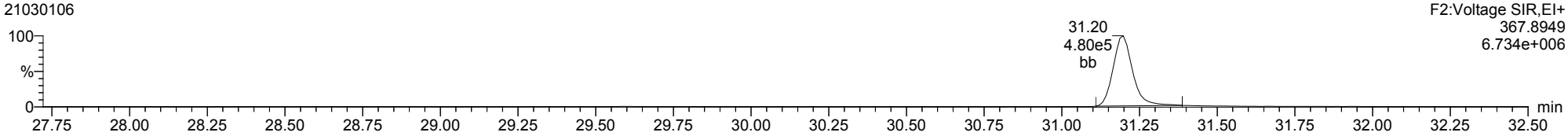

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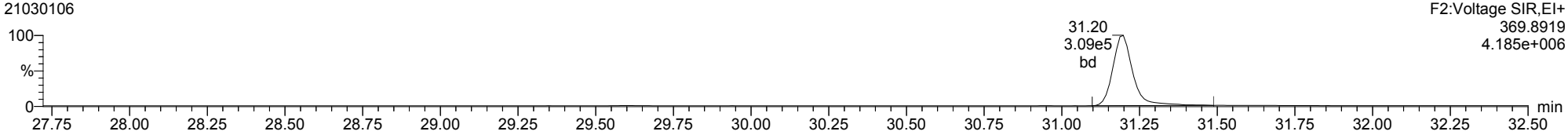

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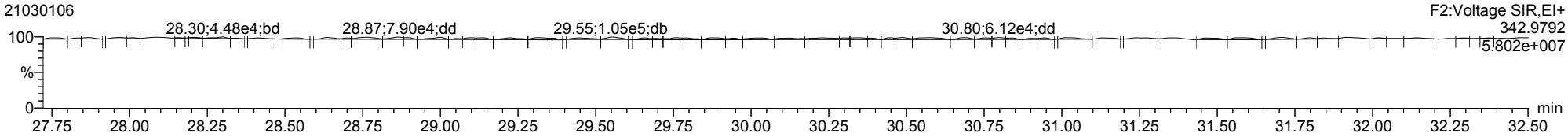

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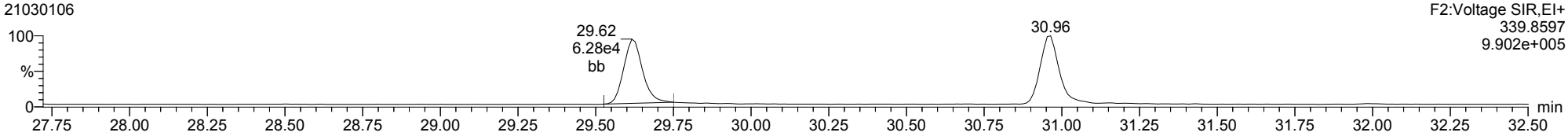

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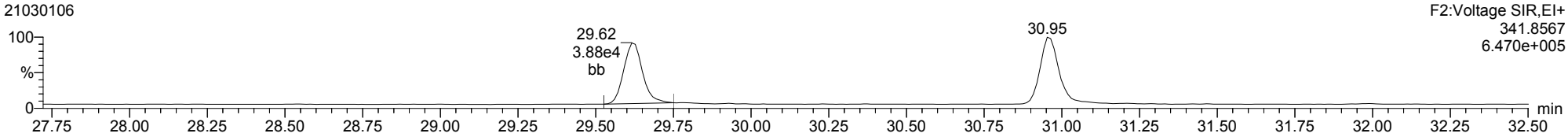

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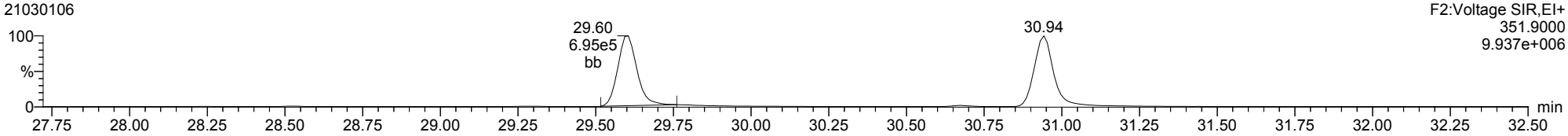

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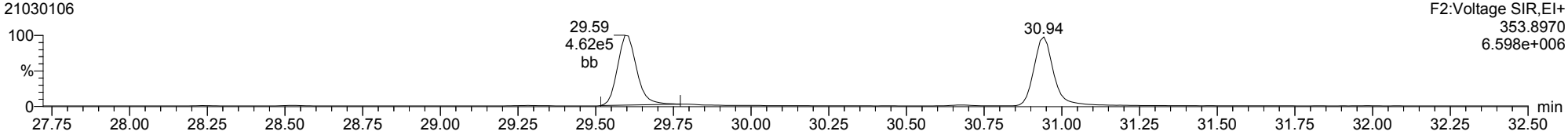

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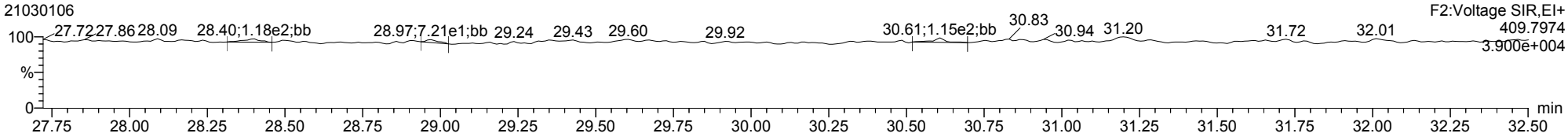

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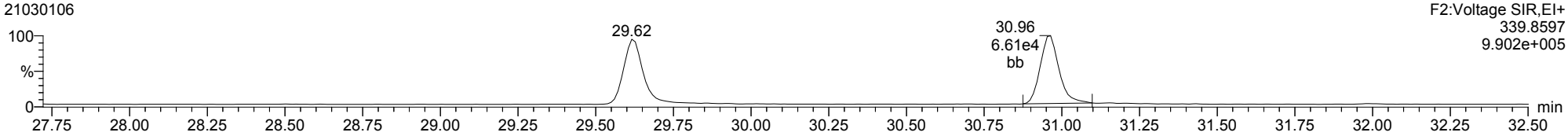

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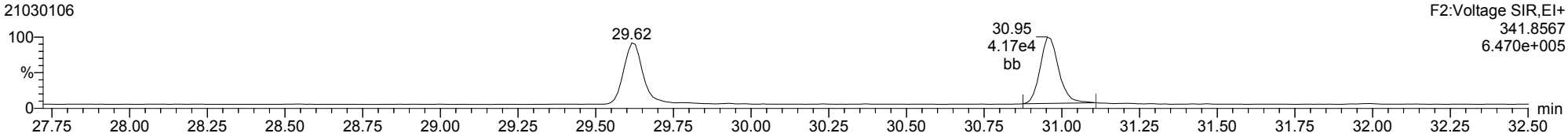

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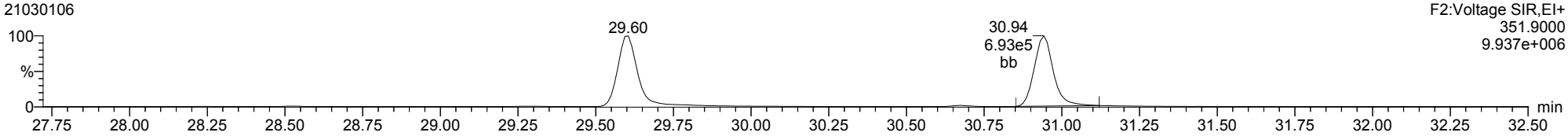

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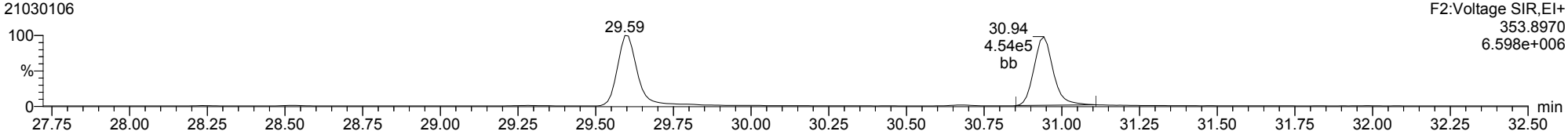

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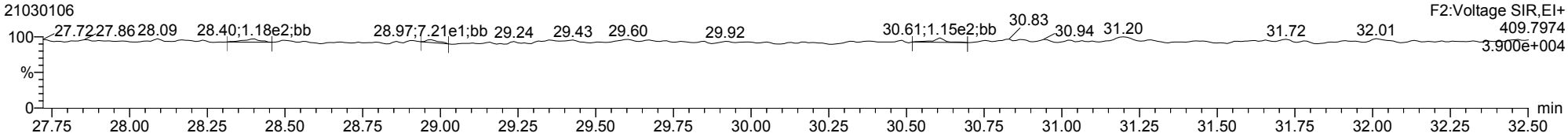

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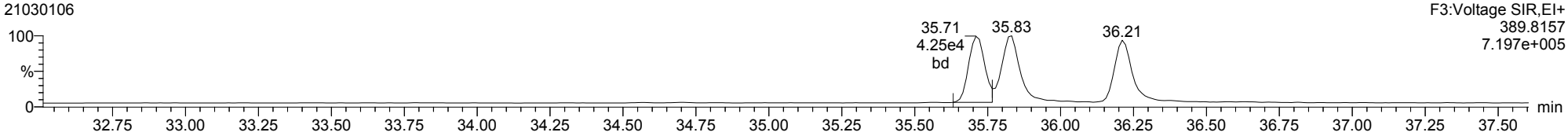

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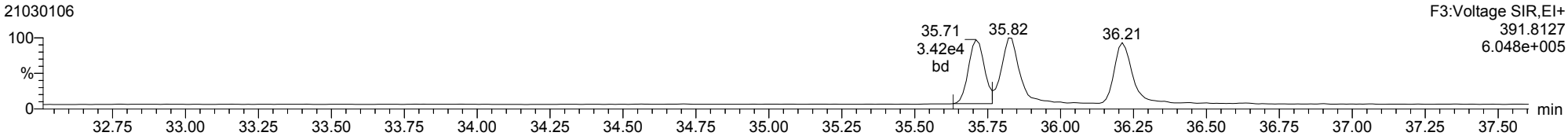

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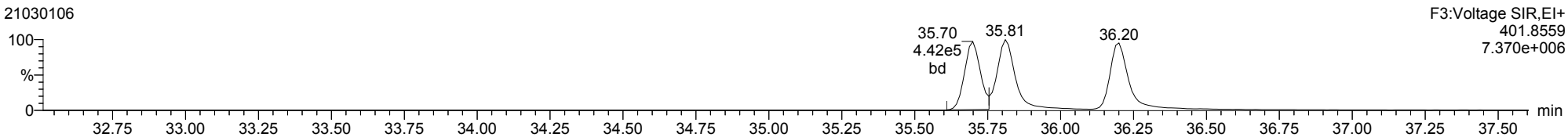

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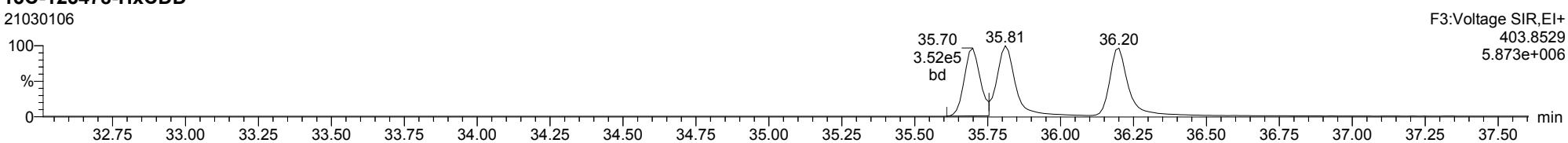

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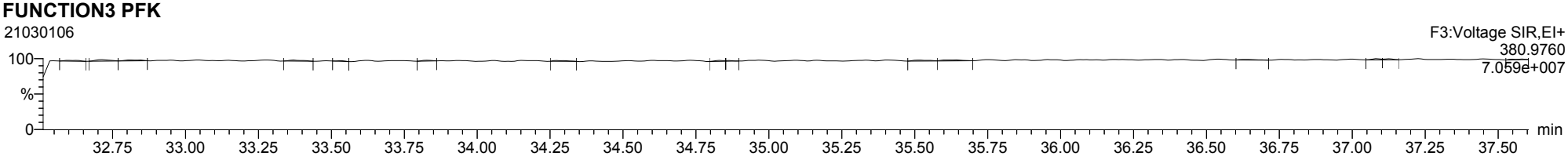

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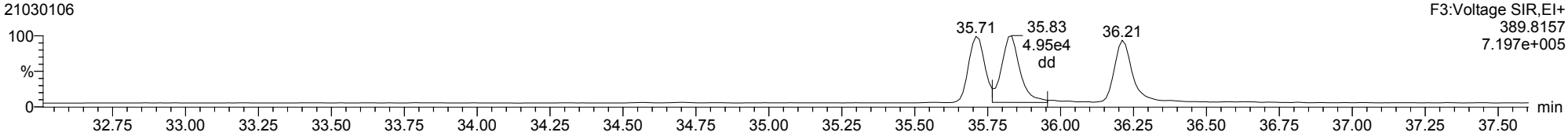

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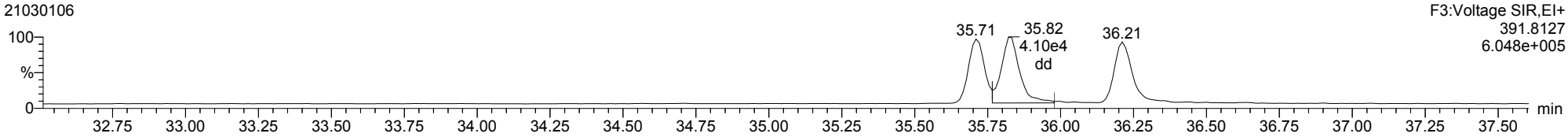

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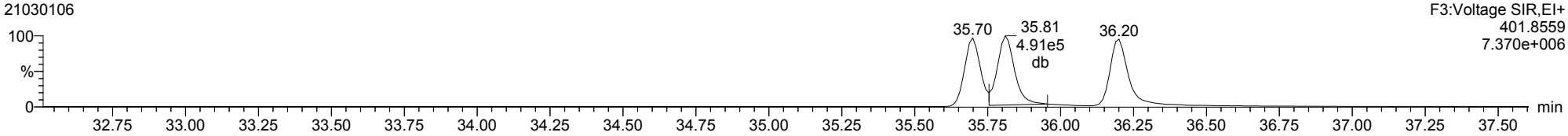

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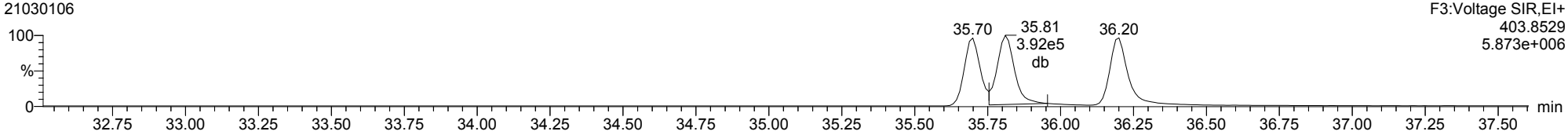

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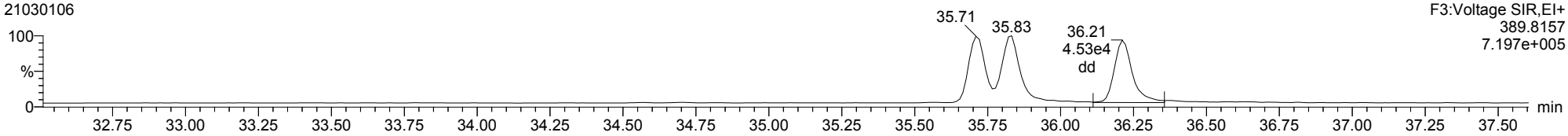

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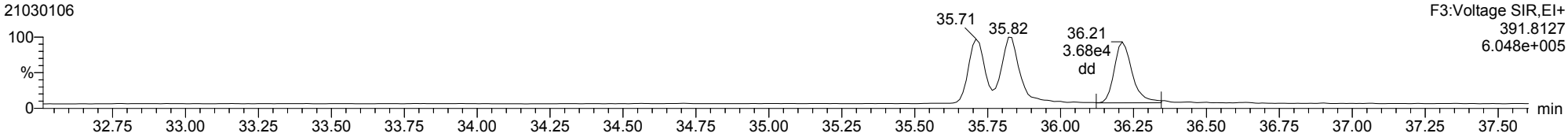

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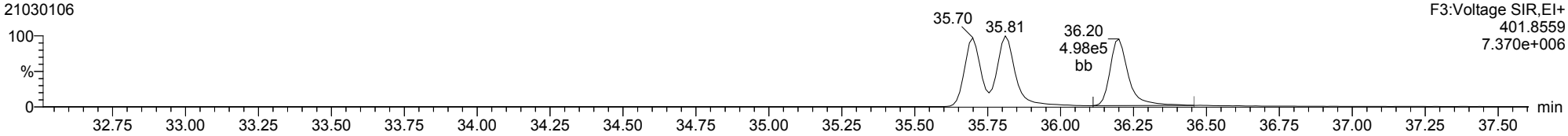

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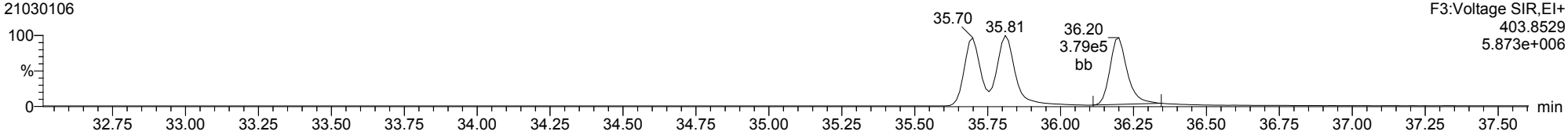

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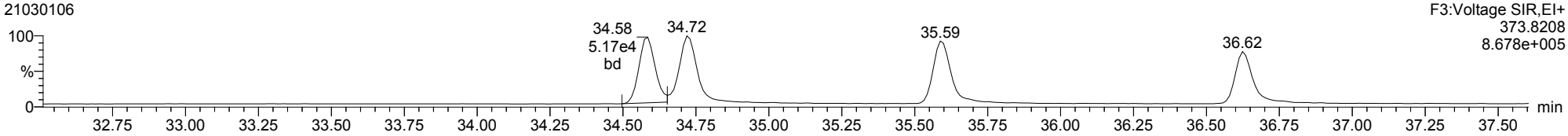

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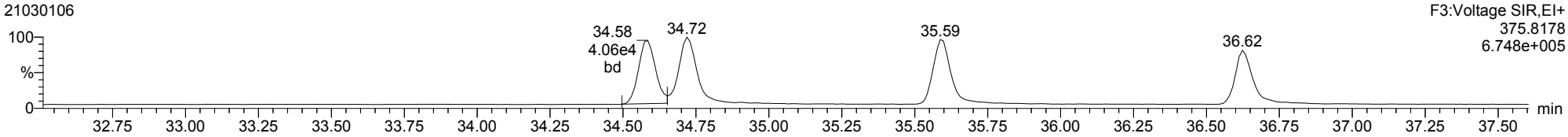

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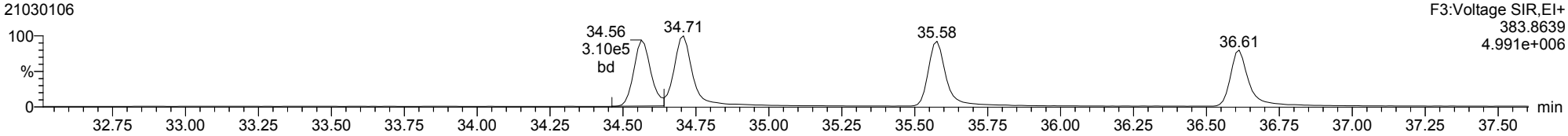

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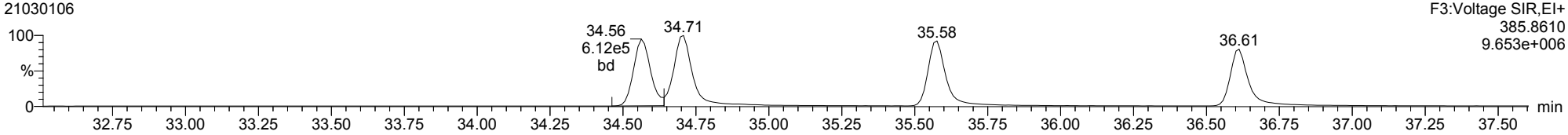

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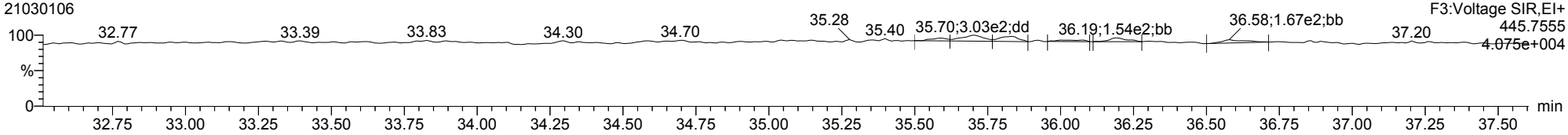

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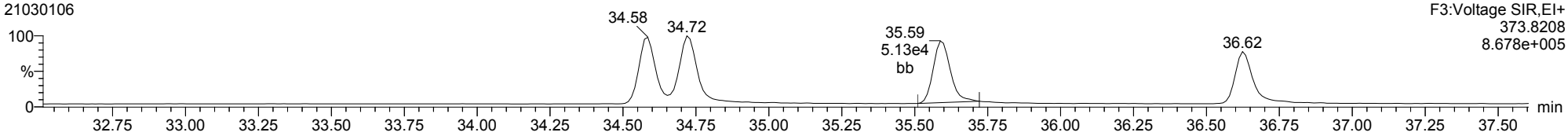

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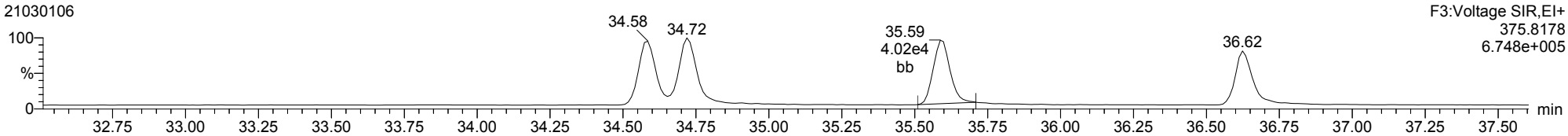

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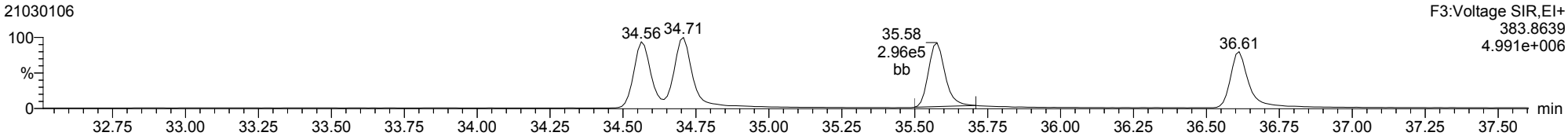

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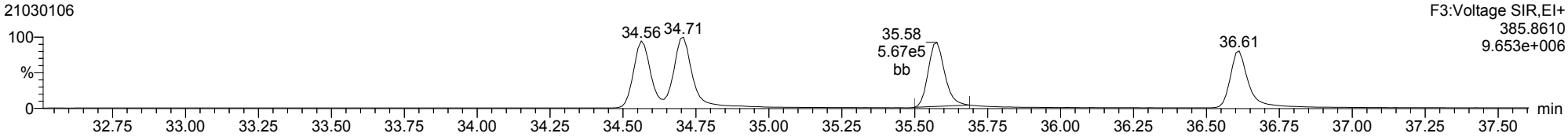

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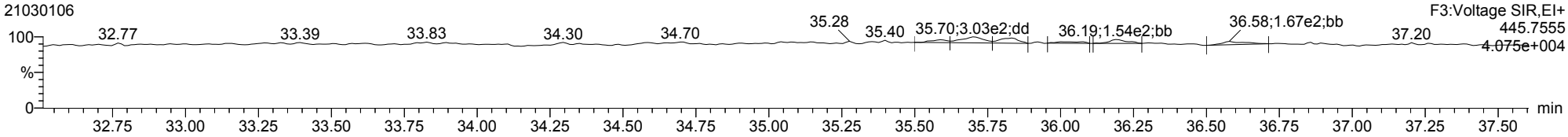

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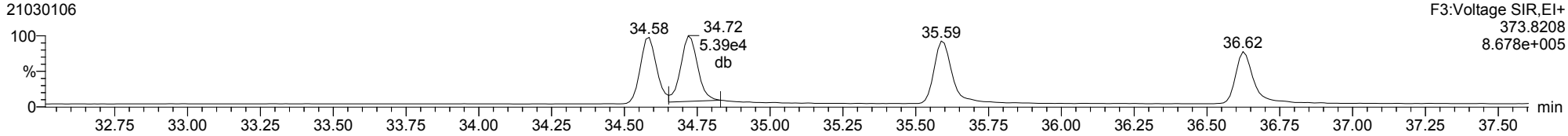

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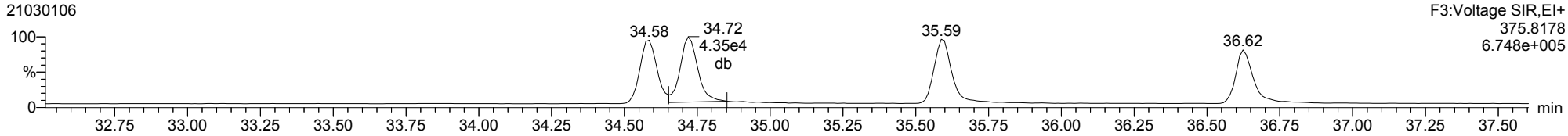

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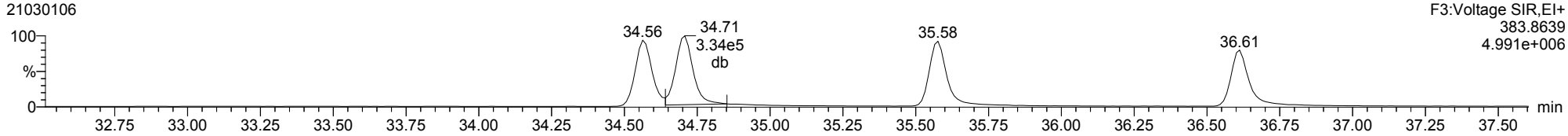

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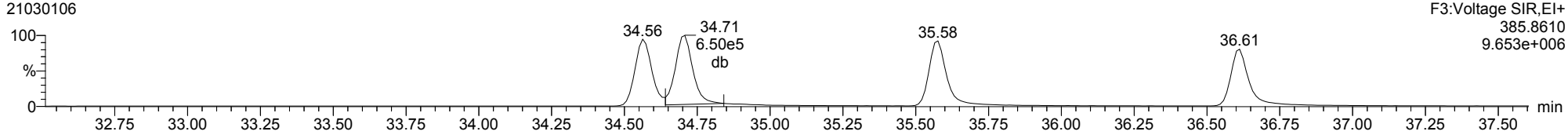

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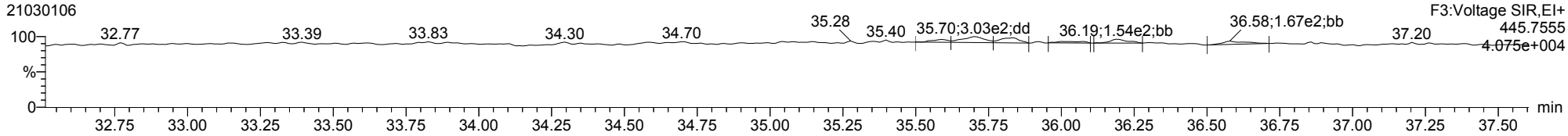

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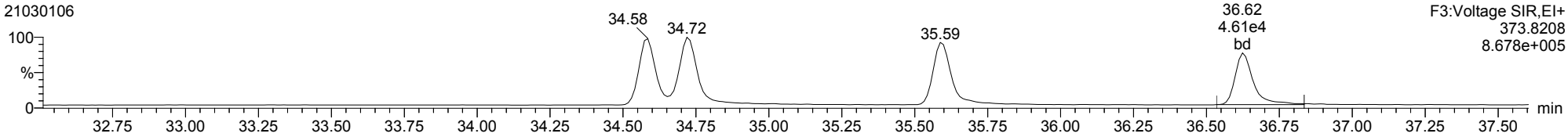

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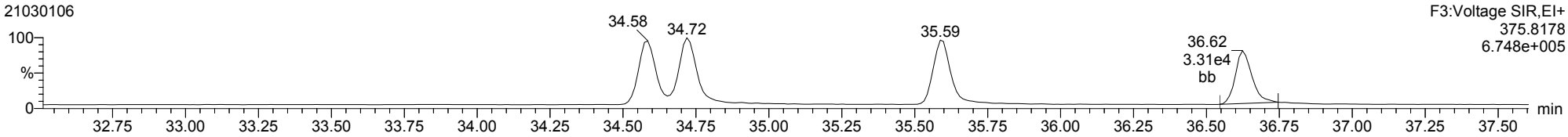

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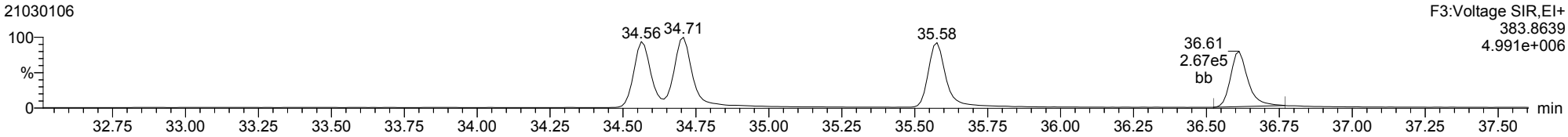

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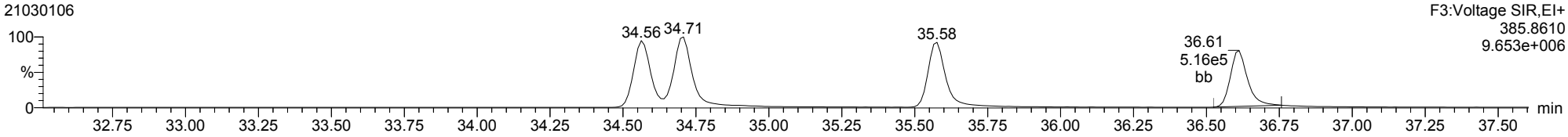

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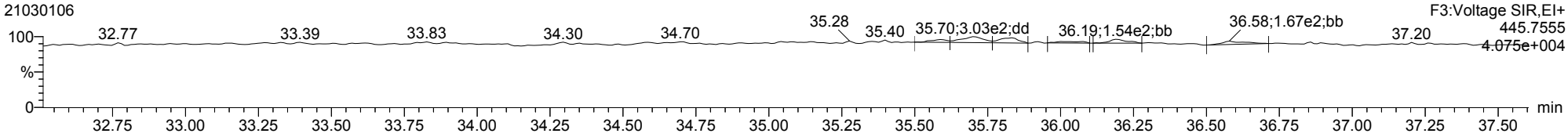

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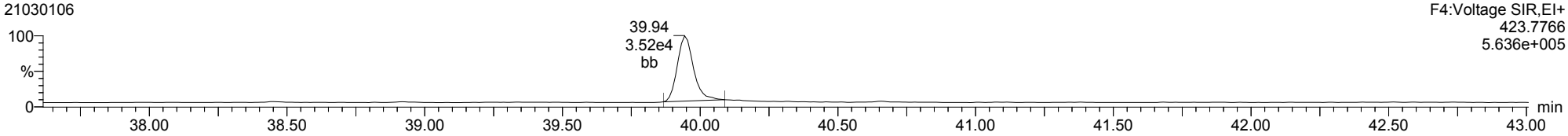

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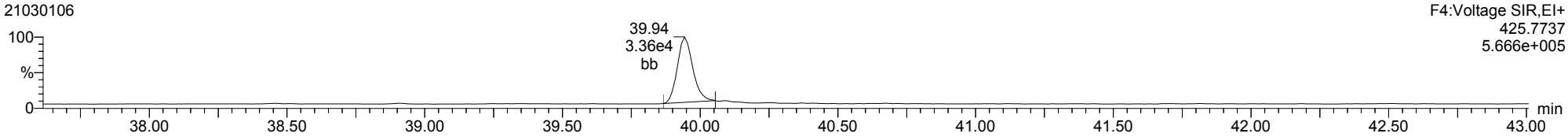

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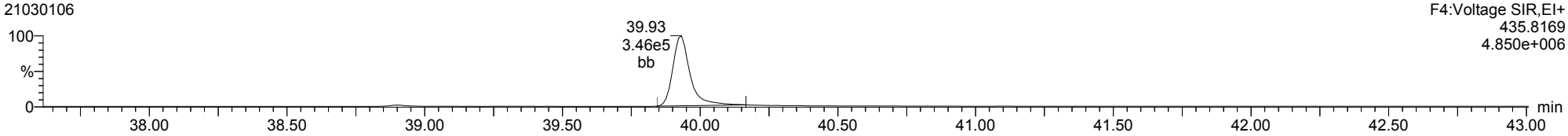

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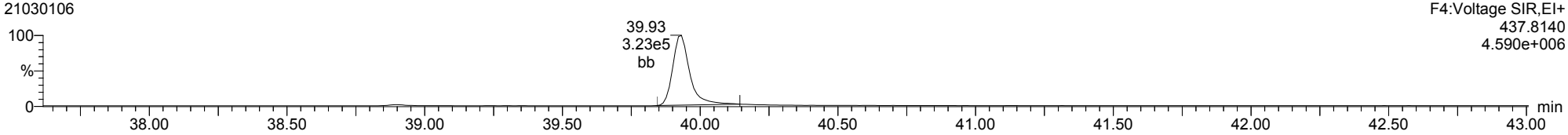

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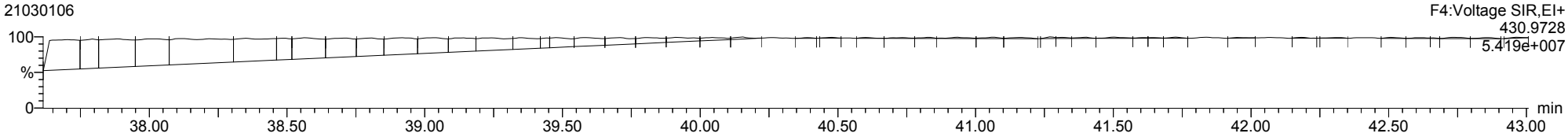

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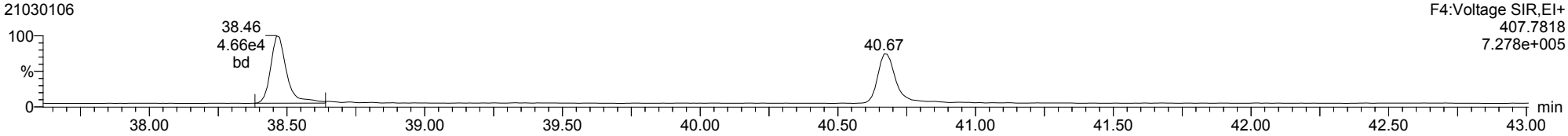

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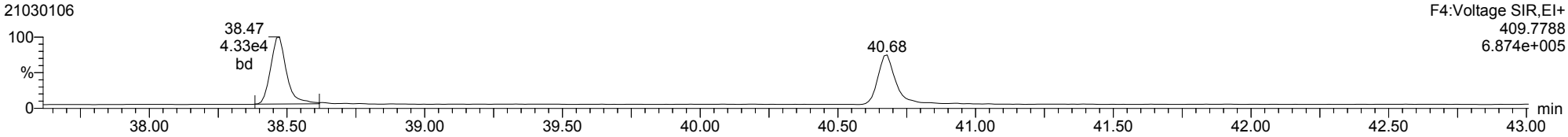

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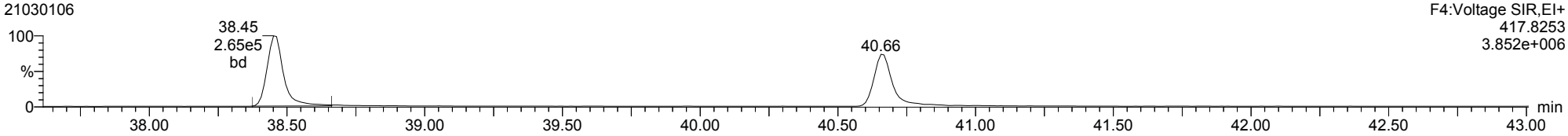

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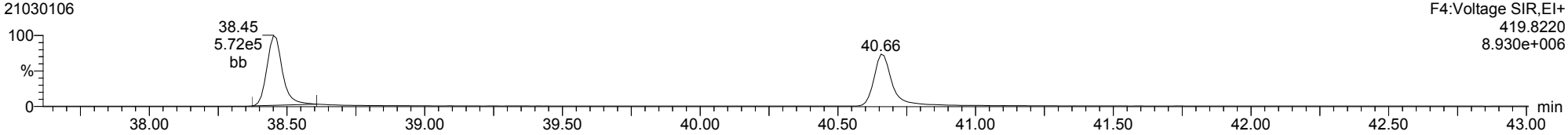

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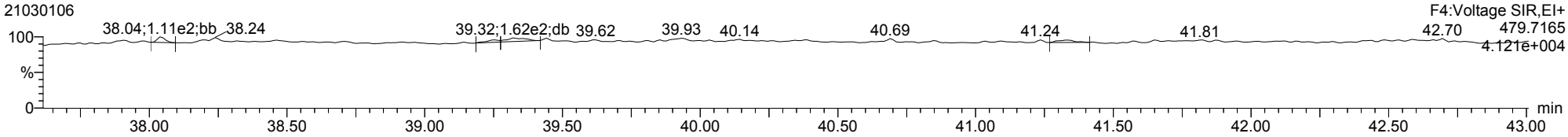

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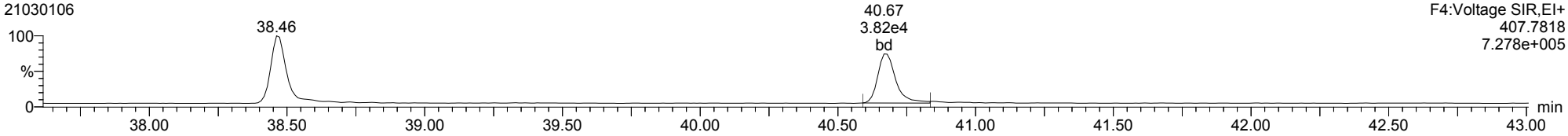

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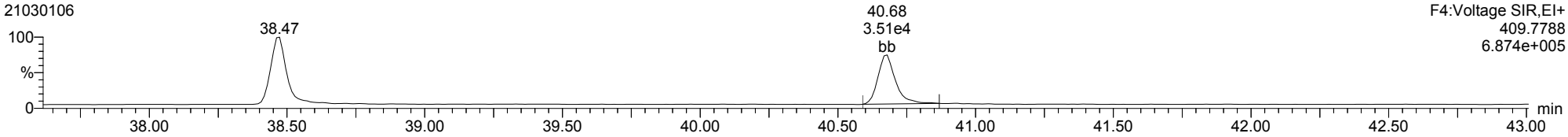

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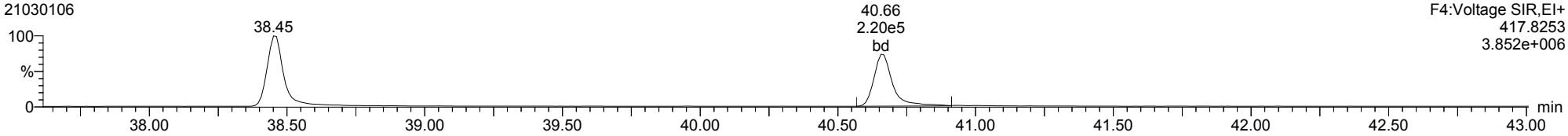

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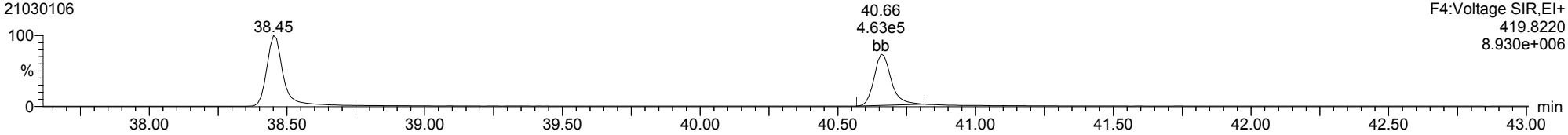

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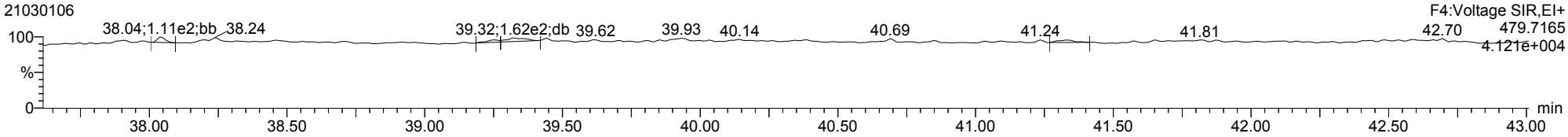

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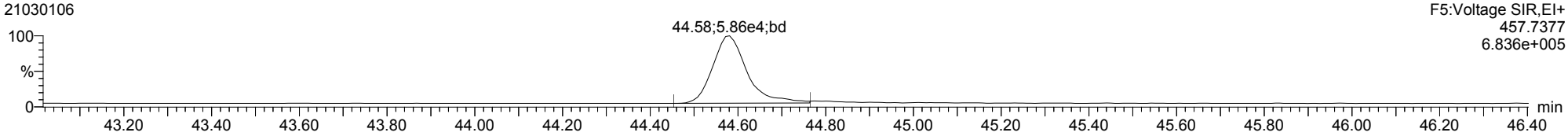

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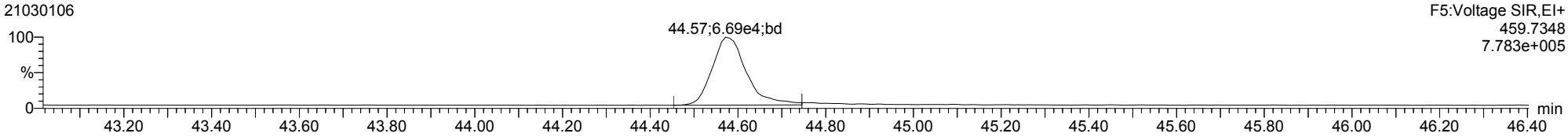

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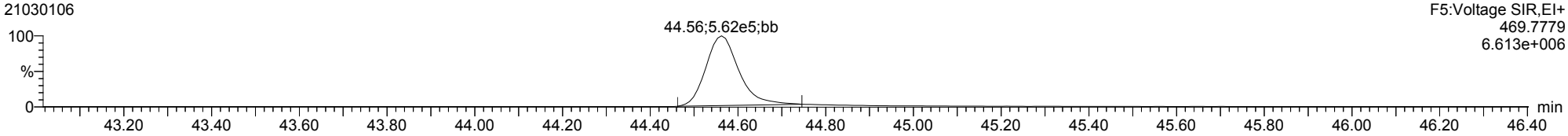

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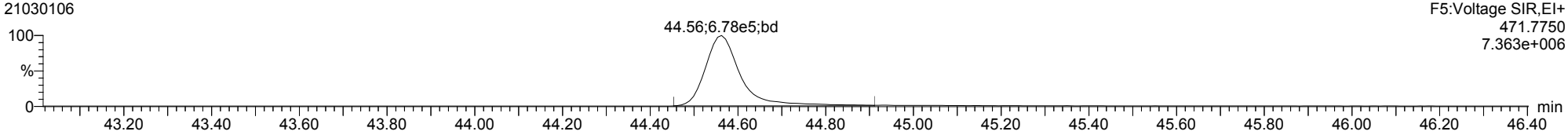

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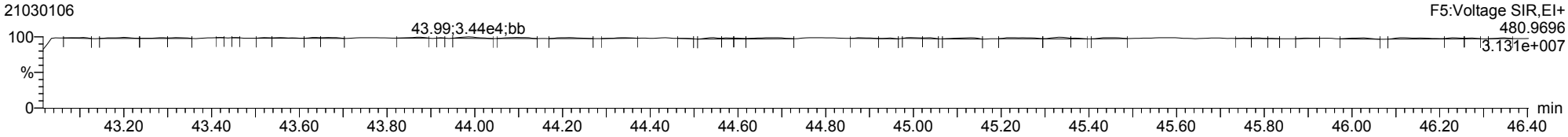

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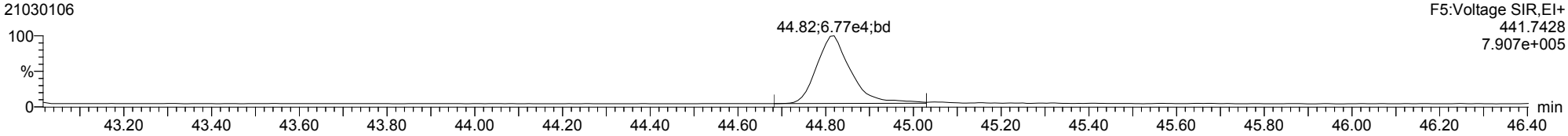

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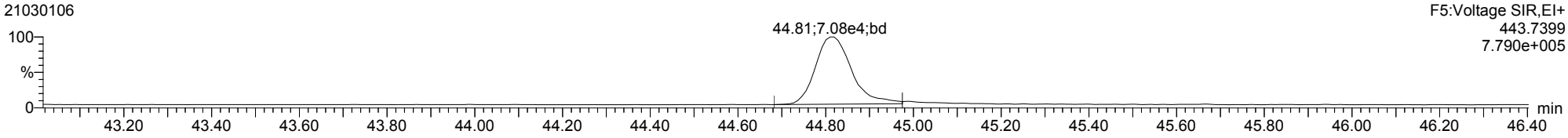

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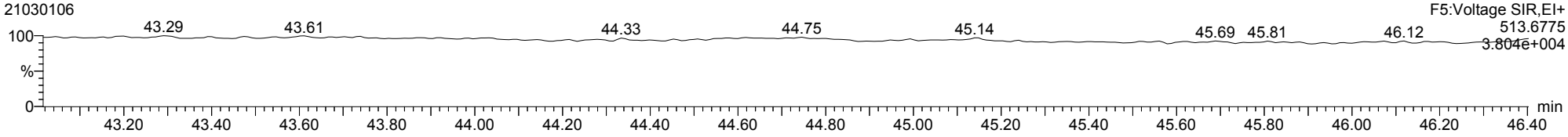

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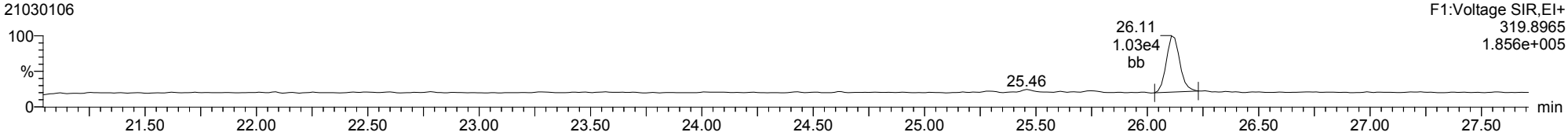

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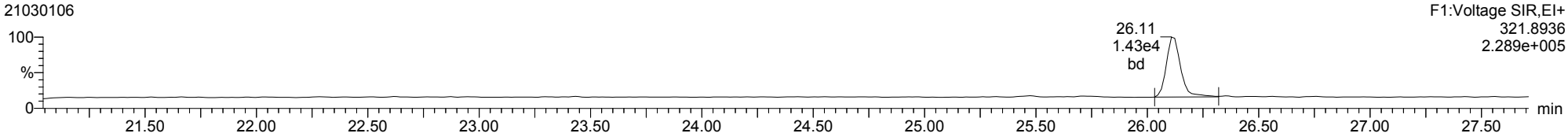

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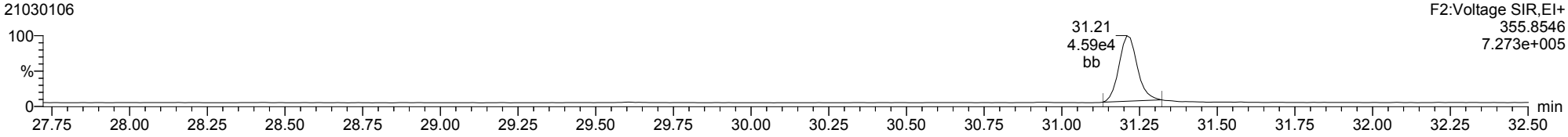

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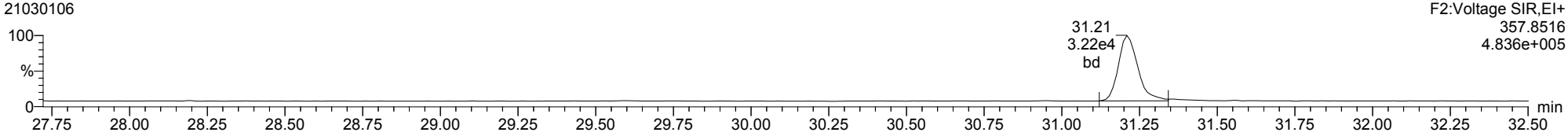

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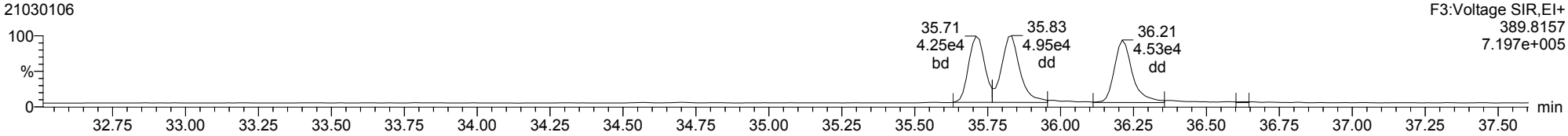

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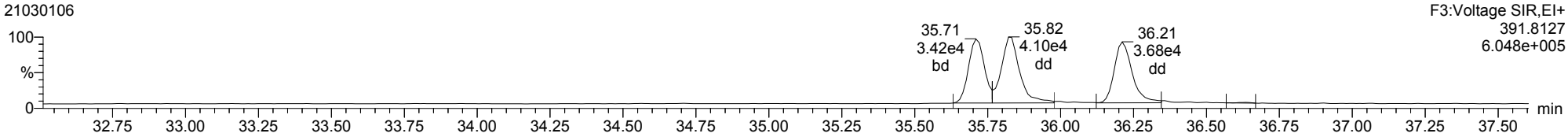

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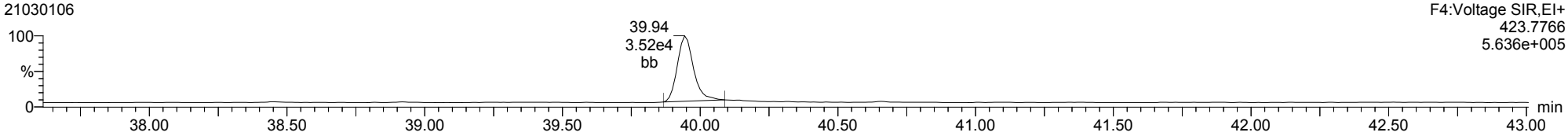

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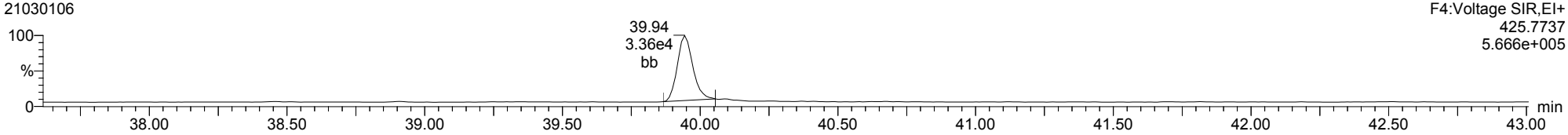

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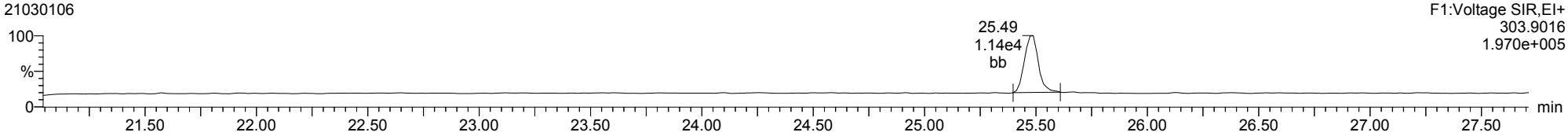
Total-tetrafurans



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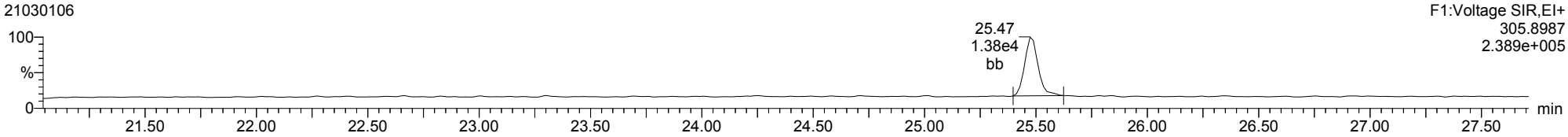

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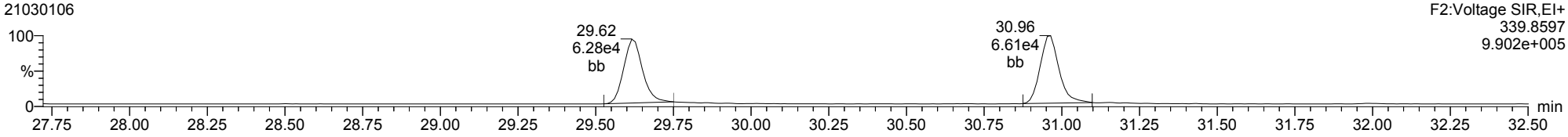

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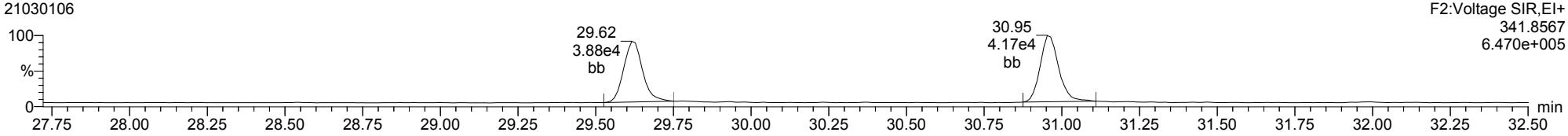

ID: CS2CV, Name: 21030106, Date: 01-Mar-2021, Time: 15:09:05, Conditions: AUTOSPEC01, User: pk

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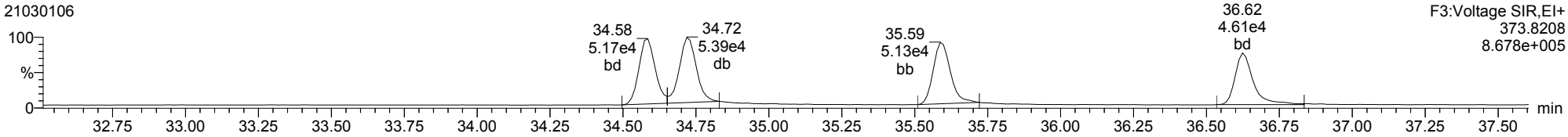

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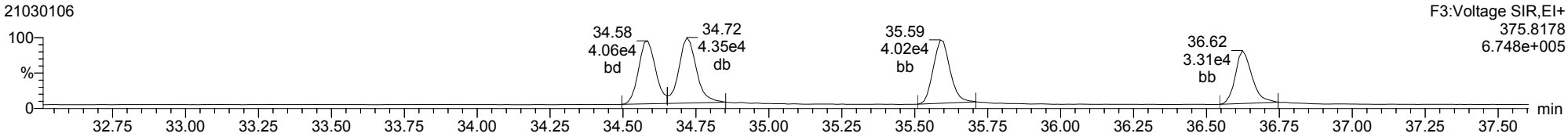

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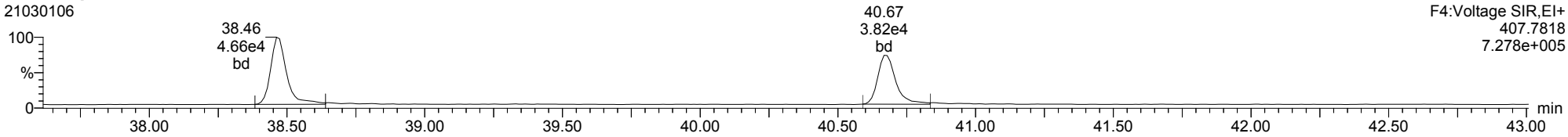

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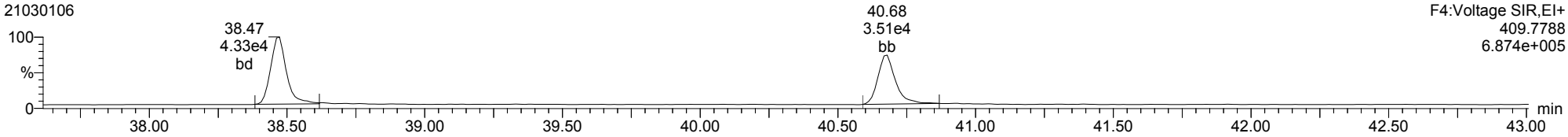

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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:44 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, 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	25.458	1.001	7.057e4	8.635e4	0.782	0.817	0.770	1175	2518	9.86e5	1.21e6	839.4	482.1	NO	bd	bb	10.087
12378-PeCDF	29.605	1.001	3.986e5	2.371e5	0.866	1.681	1.550	3823	2917	5.92e6	3.48e6	1549.2	1192.4	NO	bb	bb	49.908
23478-PeCDF	30.942	1.000	4.136e5	2.545e5	0.980	1.625	1.550	3823	2917	6.14e6	3.78e6	1604.7	1294.9	NO	bb	bb	48.093
123478-HxCDF	34.574	1.001	3.315e5	2.595e5	1.002	1.277	1.240	3467	2201	4.98e6	3.90e6	1435.7	1770.9	NO	bd	bd	49.986
234678-HxCDF	35.576	1.000	3.256e5	2.524e5	1.043	1.290	1.240	3467	2201	5.04e6	3.94e6	1452.4	1789.1	NO	bb	bb	50.122
123678-HxCDF	34.707	1.000	3.457e5	2.694e5	0.961	1.283	1.240	3467	2201	5.06e6	3.95e6	1459.4	1795.7	NO	db	db	49.605
123789-HxCDF	36.612	1.000	2.684e5	2.075e5	0.994	1.293	1.240	3467	2201	4.03e6	3.15e6	1161.6	1431.4	NO	bb	bb	48.042
1234678-HpCDF	38.462	1.001	2.903e5	2.716e5	1.058	1.069	1.050	3272	3442	4.46e6	4.21e6	1363.7	1223.9	NO	bb	bb	49.769
1234789-HpCDF	40.668	1.001	2.511e5	2.258e5	1.070	1.112	1.050	3272	3442	3.16e6	3.03e6	966.5	880.0	NO	bd	bb	50.669
OCDF	44.801	1.005	4.527e5	4.599e5	1.257	0.984	0.890	3932	3545	4.93e6	5.23e6	1254.4	1475.3	NO	bd	bb	96.067
2378-TCDD	26.093	1.001	6.570e4	8.332e4	1.307	0.789	0.770	1443	1834	9.11e5	1.20e6	630.9	651.7	NO	bb	bb	9.636
12378-PeCDD	31.198	1.001	2.920e5	1.838e5	0.979	1.588	1.550	2680	2537	4.36e6	2.73e6	1625.1	1074.4	NO	bb	bb	50.374
123478-HxCDD	35.699	1.000	2.685e5	2.231e5	0.956	1.203	1.240	2367	3308	4.37e6	3.58e6	1845.7	1082.6	NO	bd	bd	49.056
123678-HxCDD	35.810	1.000	3.023e5	2.560e5	0.953	1.181	1.240	2367	3308	4.33e6	3.60e6	1830.4	1087.1	NO	db	MM	51.569
123789-HxCDD	36.200	1.011	2.701e5	2.243e5	0.927	1.204	1.240	2367	3308	4.15e6	3.43e6	1752.1	1035.9	NO	bb	bb	48.838
1234678-HpCDD	39.932	1.000	2.290e5	2.214e5	1.055	1.034	1.050	3064	2871	3.42e6	3.30e6	1114.7	1149.3	NO	bb	bb	48.678
OCDD	44.563	1.000	3.763e5	4.330e5	1.074	0.869	0.890	2129	3072	4.36e6	5.05e6	2047.9	1642.5	NO	bd	bd	99.703
13C-2378-TCDF	25.443	1.007	8.751e5	1.116e6	1.925	0.785	0.770	4540	2796	1.26e7	1.61e7	2774.5	5773.6	NO	bb	bb	97.136
13C-12378-PeCDF	29.583	1.170	8.835e5	5.871e5	1.442	1.505	1.550	2930	2468	1.29e7	8.49e6	4388.8	3439.2	NO	bb	bb	95.779
13C-23478-PeCDF	30.931	1.224	8.551e5	5.627e5	1.387	1.520	1.550	2930	2468	1.20e7	7.83e6	4111.1	3172.4	NO	bb	bb	96.036
13C-123478-HxCDF	34.551	0.955	3.953e5	7.845e5	1.053	0.504	0.510	3220	2552	5.81e6	1.16e7	1804.8	4546.5	NO	bd	bd	102.875
13C-123678-HxCDF	34.696	0.959	4.571e5	8.331e5	1.135	0.549	0.510	3220	2552	6.18e6	1.19e7	1919.6	4652.0	NO	dd	db	104.378
13C-234678-HxCDF	35.565	0.983	3.735e5	7.320e5	1.004	0.510	0.510	3220	2552	5.69e6	1.12e7	1767.7	4378.2	NO	bb	bb	101.102
13C-123789-HxCDF	36.601	1.011	3.357e5	6.606e5	0.909	0.508	0.510	3220	2552	4.97e6	9.72e6	1543.2	3808.4	NO	bb	bb	100.647
13C-1234678-HpCDF	38.439	1.062	3.248e5	7.424e5	0.960	0.438	0.440	3138	3238	4.94e6	1.15e7	1575.4	3542.3	NO	bb	bb	102.101
13C-1234789-HpCDF	40.645	1.123	2.654e5	6.144e5	0.794	0.432	0.440	3138	3238	3.66e6	8.39e6	1164.9	2591.4	NO	bb	bb	101.788
13C-1234-TCDD	25.277	0.000	4.739e5	5.907e5	1.000	0.802	0.770	2440	1671	7.00e6	8.70e6	2869.7	5203.8	NO	bb	bb	100.000
13C-2378-TCDD	26.078	1.032	5.238e5	6.591e5	1.133	0.795	0.770	2440	1671	7.57e6	9.52e6	3101.0	5694.8	NO	bb	bb	98.085
13C-12378-PeCDD	31.176	1.233	6.014e5	3.638e5	0.947	1.653	1.550	1611	1799	8.57e6	5.15e6	5319.5	2865.1	NO	bb	bb	95.740
13C-123478-HxCDD	35.688	0.986	5.853e5	4.629e5	0.939	1.264	1.240	2993	2083	9.14e6	7.14e6	3054.6	3426.1	NO	bd	bd	102.545
13C-123678-HxCDD	35.799	0.989	6.289e5	5.075e5	1.042	1.239	1.240	2993	2083	9.38e6	7.51e6	3134.4	3603.6	NO	db	db	100.139
13C-1234678-HpCDD	39.921	1.103	4.508e5	4.262e5	0.788	1.058	1.050	2652	1839	6.35e6	5.96e6	2395.0	3239.3	NO	bb	bb	102.158
13C-OCDD	44.554	1.231	7.196e5	7.922e5	0.703	0.908	0.890	2957	3651	8.71e6	9.52e6	2946.0	2607.5	NO	bb	bb	197.386
13C-123789-HxCDD	36.189	0.000	6.067e5	4.823e5	1.000	1.258	1.240	2993	2083	8.99e6	7.27e6	3005.4	3487.8	NO	bb	bb	100.000
37CL-2378-TCDD	26.093	1.032	1.316e5		1.298			2391		1.84e6		768.7			bb		9.529

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
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ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, 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	21.966	0.863	8.631e4	1.059e5	0.966	0.815	0.770	1175	2518	1.29e6	1.62e6	1098.9	643.2	NO	bb	bb	10.000
1289-TCDF	26.955	1.059	6.245e4	8.401e4	0.736	0.743	0.770	1175	2518	9.02e5	1.16e6	768.1	460.6	NO	bb	db	10.000
13468-PECDF	26.804	0.906	5.960e5	3.944e5	1.347	1.511	1.550	1096	1205	8.81e6	5.83e6	8042.2	4841.0	NO	bb	bb	50.000
12389-PECDF	31.978	1.081	3.951e5	2.423e5	0.867	1.630	1.550	3823	2917	5.65e6	3.49e6	1477.7	1196.0	NO	bb	bb	50.000
123468-HXCDF	32.891	0.952	3.443e5	2.668e5	1.036	1.290	1.240	3467	2201	5.02e6	3.91e6	1448.4	1778.0	NO	bb	bb	50.000
1368-TCDD	23.236	0.891	6.448e4	8.404e4	1.256	0.767	0.770	1443	1834	9.74e5	1.27e6	674.7	690.3	NO	bb	bb	10.000
1289-TCDD	26.698	1.024	5.994e4	7.620e4	1.151	0.787	0.770	1443	1834	8.25e5	1.02e6	571.7	555.4	NO	bd	bd	10.000
12479-PECDD	28.480	0.914	5.215e5	3.344e5	1.773	1.560	1.550	2680	2537	4.85e6	3.16e6	1809.8	1245.6	NO	bb	bb	50.000
12389-PECDD	31.588	1.013	3.489e5	2.162e5	1.171	1.614	1.550	2680	2537	4.91e6	3.11e6	1833.9	1224.5	NO	bb	bb	50.000
124679-HXCDD	33.671	0.943	2.995e5	2.422e5	1.034	1.237	1.240	2367	3308	4.41e6	3.66e6	1864.4	1105.2	NO	bb	bb	50.000
1234679-HPCDD	38.907	0.975	2.820e5	2.416e5	1.194	1.167	1.050	3064	2871	4.03e6	3.71e6	1316.5	1292.2	NO	bd	bb	50.000
Total-tetrafurans			2.193e5		0.828			1175		3.18e6							30.087
Total-penta1			5.960e5					1096		8.81e6							50.000
Total-pentafurans			1.277e6		0.904			3823		1.87e7							156.485
Total-hexafurans			1.615e6		1.007			3467		2.41e7							247.754
Total-heptafurans			5.414e5		1.064			3272		7.62e6							100.438
Total-Furans			4.701e6		0.998			1175		6.74e7							680.830
Total-tetradioxins			3.285e5		1.238			1443		4.27e6							51.075
Total-pentadioxins			1.164e6		1.308			2680		1.41e7							150.540
Total-hexadioxins			1.141e6		0.967			2367		1.73e7							199.542
Total-heptadioxins			5.110e5		1.125			3064		7.45e6							98.678
Total-Dioxins			3.520e6		1.141			1443		4.75e7							599.538
Total-TEQ			8.222e6					1443		1.15e8							1280.369
FUNCTION1 PFK			3.358e6					776224		5.66e7							
FUNCTION2 PFK			9.795e5					587377		2.31e7							0.000
FUNCTION3 PFK			1.473e6					464966		2.63e7							0.000
FUNCTION4 PFK			2.534e5					403715		5.91e6							
FUNCTION5 PFK			7.600e5					203404		1.80e7							
FUNCTION1 HXCD...			1.587e3					697		1.98e4							0.000
FUNCTION1 HPCD...			5.424e2					1062		9.56e3							0.000
FUNCTION2 HPCD...			6.622e2					946		1.39e4							0.000
FUNCTION3 OCDPE			8.715e2					567		1.46e4							0.000
FUNCTION4 NCDPE			5.771e2					713		9.25e3							0.000
FUNCTION5 DCDPE			8.620e1					858		2.05e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:44 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, 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	26.95	6.245e4	8.401e4	0.736	0.74	0.77	768.1	YES	NO	bb	db	10.000
2	2378-TCDF	25.46	7.057e4	8.635e4	0.782	0.82	0.77	839.4	YES	NO	bd	bb	10.087
3	1368-TCDF	21.97	8.631e4	1.059e5	0.966	0.81	0.77	1098.9	YES	NO	bb	bb	10.000

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.80	5.960e5	3.944e5	1.347	1.51	1.55	8042.2	YES	NO	bb	bb	50.000

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.60	3.986e5	2.371e5	0.866	1.68	1.55	1549.2	YES	NO	bb	bb	49.908
2	Total-pentafurans	28.46	6.934e4	4.147e4	0.904	1.67	1.55	260.2	YES	NO	bb	bb	8.485
3	12389-PECDF	31.98	3.951e5	2.423e5	0.867	1.63	1.55	1477.7	YES	NO	bb	bb	50.000
4	23478-PeCDF	30.94	4.136e5	2.545e5	0.980	1.63	1.55	1604.7	YES	NO	bb	bb	48.093

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123468-HXCDF	32.89	3.443e5	2.668e5	1.036	1.29	1.24	1448.4	YES	NO	bb	bb	50.000
2	123789-HxCDF	36.61	2.684e5	2.075e5	0.994	1.29	1.24	1161.6	YES	NO	bb	bb	48.042
3	234678-HxCDF	35.58	3.256e5	2.524e5	1.043	1.29	1.24	1452.4	YES	NO	bb	bb	50.122
4	123678-HxCDF	34.71	3.457e5	2.694e5	0.961	1.28	1.24	1459.4	YES	NO	db	db	49.605
5	123478-HxCDF	34.57	3.315e5	2.595e5	1.002	1.28	1.24	1435.7	YES	NO	bd	bd	49.986

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.67	2.511e5	2.258e5	1.070	1.11	1.05	966.5	YES	NO	bd	bb	50.669
2	1234678-HpCDF	38.46	2.903e5	2.716e5	1.058	1.07	1.05	1363.7	YES	NO	bb	bb	49.769

ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, 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	26.95	6.245e4	8.401e4	0.736	0.74	0.77	768.1	YES	NO	bb	db	10.000
2	2378-TCDF	25.46	7.057e4	8.635e4	0.782	0.82	0.77	839.4	YES	NO	bd	bb	10.087
3	1368-TCDF	21.97	8.631e4	1.059e5	0.966	0.81	0.77	1098.9	YES	NO	bb	bb	10.000
4	12378-PeCDF	29.60	3.986e5	2.371e5	0.866	1.68	1.55	1549.2	YES	NO	bb	bb	49.908
5	Total-pentafurans	28.46	6.934e4	4.147e4	0.904	1.67	1.55	260.2	YES	NO	bb	bb	8.485
6	123468-HXCDF	32.89	3.443e5	2.668e5	1.036	1.29	1.24	1448.4	YES	NO	bb	bb	50.000
7	12389-PECDF	31.98	3.951e5	2.423e5	0.867	1.63	1.55	1477.7	YES	NO	bb	bb	50.000
8	23478-PeCDF	30.94	4.136e5	2.545e5	0.980	1.63	1.55	1604.7	YES	NO	bb	bb	48.093
9	123789-HxCDF	36.61	2.684e5	2.075e5	0.994	1.29	1.24	1161.6	YES	NO	bb	bb	48.042
10	234678-HxCDF	35.58	3.256e5	2.524e5	1.043	1.29	1.24	1452.4	YES	NO	bb	bb	50.122
11	123678-HxCDF	34.71	3.457e5	2.694e5	0.961	1.28	1.24	1459.4	YES	NO	db	db	49.605
12	123478-HxCDF	34.57	3.315e5	2.595e5	1.002	1.28	1.24	1435.7	YES	NO	bd	bd	49.986
13	1234789-HpCDF	40.67	2.511e5	2.258e5	1.070	1.11	1.05	966.5	YES	NO	bd	bb	50.669
14	1234678-HpCDF	38.46	2.903e5	2.716e5	1.058	1.07	1.05	1363.7	YES	NO	bb	bb	49.769
15	OCDF	44.80	4.527e5	4.599e5	1.257	0.98	0.89	1254.4	YES	NO	bd	bb	96.067
16	13468-PECDF	26.80	5.960e5	3.944e5	1.347	1.51	1.55	8042.2	YES	NO	bb	bb	50.000

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.70	5.994e4	7.620e4	1.151	0.79	0.77	571.7	YES	NO	bd	bd	10.000
2	2378-TCDD	26.09	6.570e4	8.332e4	1.307	0.79	0.77	630.9	YES	NO	bb	bb	9.636
3	Total-tetradioxins	25.78	1.032e5	1.302e5	1.238	0.79	0.77	714.4	YES	NO	bb	bb	15.942
4	Total-tetradioxins	25.29	3.205e4	4.159e4	1.238	0.77	0.77	346.4	YES	NO	bb	bd	5.029
5	Total-tetradioxins	24.45	3.140e3	3.711e3	1.238	0.85	0.77	21.4	YES	NO	bb	bb	0.468
6	1368-TCDD	23.24	6.448e4	8.404e4	1.256	0.77	0.77	674.7	YES	NO	bb	bb	10.000

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.59	3.489e5	2.162e5	1.171	1.61	1.55	1833.9	YES	NO	bb	bb	50.000
2	12378-PeCDD	31.20	2.920e5	1.838e5	0.979	1.59	1.55	1625.1	YES	NO	bb	bb	50.374
3	Total-pentadioxins	30.54	1.268e3	8.327e2	1.308	1.52	1.55	6.2	YES	NO	bb	bb	0.166
4	12479-PECDD	28.48	5.215e5	3.344e5	1.773	1.56	1.55	1809.8	YES	NO	bb	bb	50.000

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.67	2.995e5	2.422e5	1.034	1.24	1.24	1864.4	YES	NO	bb	bb	50.000
2	Total-hexadioxins	36.65	4.840e2	3.435e2	0.967	1.41	1.24	3.7	NO	NO	db	db	0.078
3	123789-HxCDD	36.20	2.701e5	2.243e5	0.927	1.20	1.24	1752.1	YES	NO	bb	bb	48.838
4	123678-HxCDD	35.81	3.023e5	2.560e5	0.953	1.18	1.24	1830.4	YES	NO	db	MM	51.569
5	123478-HxCDD	35.70	2.685e5	2.231e5	0.956	1.20	1.24	1845.7	YES	NO	bd	bd	49.056

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.93	2.290e5	2.214e5	1.055	1.03	1.05	1114.7	YES	NO	bb	bb	48.678
2	1234679-HPCDD	38.91	2.820e5	2.416e5	1.194	1.17	1.05	1316.5	YES	NO	bd	bb	50.000

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	26.70	5.994e4	7.620e4	1.151	0.79	0.77	571.7	YES	NO	bd	bd	10.000
2	2378-TCDD	26.09	6.570e4	8.332e4	1.307	0.79	0.77	630.9	YES	NO	bb	bb	9.636
3	Total-tetradioxins	25.78	1.032e5	1.302e5	1.238	0.79	0.77	714.4	YES	NO	bb	bb	15.942
4	Total-tetradioxins	25.29	3.205e4	4.159e4	1.238	0.77	0.77	346.4	YES	NO	bb	bd	5.029
5	Total-tetradioxins	24.45	3.140e3	3.711e3	1.238	0.85	0.77	21.4	YES	NO	bb	bb	0.468
6	1368-TCDD	23.24	6.448e4	8.404e4	1.256	0.77	0.77	674.7	YES	NO	bb	bb	10.000
7	12389-PECDD	31.59	3.489e5	2.162e5	1.171	1.61	1.55	1833.9	YES	NO	bb	bb	50.000
8	12378-PeCDD	31.20	2.920e5	1.838e5	0.979	1.59	1.55	1625.1	YES	NO	bb	bb	50.374
9	Total-pentadioxins	30.54	1.268e3	8.327e2	1.308	1.52	1.55	6.2	YES	NO	bb	bb	0.166
10	12479-PECDD	28.48	5.215e5	3.344e5	1.773	1.56	1.55	1809.8	YES	NO	bb	bb	50.000
11	124679-HXCDD	33.67	2.995e5	2.422e5	1.034	1.24	1.24	1864.4	YES	NO	bb	bb	50.000
12	Total-hexadioxins	36.65	4.840e2	3.435e2	0.967	1.41	1.24	3.7	NO	NO	db	db	0.078
13	123789-HxCDD	36.20	2.701e5	2.243e5	0.927	1.20	1.24	1752.1	YES	NO	bb	bb	48.838
14	123678-HxCDD	35.81	3.023e5	2.560e5	0.953	1.18	1.24	1830.4	YES	NO	db	MM	51.569
15	123478-HxCDD	35.70	2.685e5	2.231e5	0.956	1.20	1.24	1845.7	YES	NO	bd	bd	49.056
16	1234678-HpCDD	39.93	2.290e5	2.214e5	1.055	1.03	1.05	1114.7	YES	NO	bb	bb	48.678
17	1234679-HPCDD	38.91	2.820e5	2.416e5	1.194	1.17	1.05	1316.5	YES	NO	bd	bb	50.000
18	OCDD	44.56	3.763e5	4.330e5	1.074	0.87	0.89	2047.9	YES	NO	bd	bd	99.703

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.95	6.245e4	8.401e4	0.736	0.74	0.77	768.1	YES	NO	bb	db	10.000
2	2378-TCDF	25.46	7.057e4	8.635e4	0.782	0.82	0.77	839.4	YES	NO	bd	bb	10.087
3	1368-TCDF	21.97	8.631e4	1.059e5	0.966	0.81	0.77	1098.9	YES	NO	bb	bb	10.000
4	12378-PeCDF	29.60	3.986e5	2.371e5	0.866	1.68	1.55	1549.2	YES	NO	bb	bb	49.908
5	Total-pentafurans	28.46	6.934e4	4.147e4	0.904	1.67	1.55	260.2	YES	NO	bb	bb	8.485
6	123468-HXCDF	32.89	3.443e5	2.668e5	1.036	1.29	1.24	1448.4	YES	NO	bb	bb	50.000
7	12389-PECDF	31.98	3.951e5	2.423e5	0.867	1.63	1.55	1477.7	YES	NO	bb	bb	50.000
8	23478-PeCDF	30.94	4.136e5	2.545e5	0.980	1.63	1.55	1604.7	YES	NO	bb	bb	48.093
9	123789-HxCDF	36.61	2.684e5	2.075e5	0.994	1.29	1.24	1161.6	YES	NO	bb	bb	48.042
10	234678-HxCDF	35.58	3.256e5	2.524e5	1.043	1.29	1.24	1452.4	YES	NO	bb	bb	50.122
11	123678-HxCDF	34.71	3.457e5	2.694e5	0.961	1.28	1.24	1459.4	YES	NO	db	db	49.605
12	123478-HxCDF	34.57	3.315e5	2.595e5	1.002	1.28	1.24	1435.7	YES	NO	bd	bd	49.986
13	1234789-HpCDF	40.67	2.511e5	2.258e5	1.070	1.11	1.05	966.5	YES	NO	bd	bb	50.669
14	1234678-HpCDF	38.46	2.903e5	2.716e5	1.058	1.07	1.05	1363.7	YES	NO	bb	bb	49.769
15	OCDF	44.80	4.527e5	4.599e5	1.257	0.98	0.89	1254.4	YES	NO	bd	bb	96.067
16	13468-PECDF	26.80	5.960e5	3.944e5	1.347	1.51	1.55	8042.2	YES	NO	bb	bb	50.000
17	1289-TCDD	26.70	5.994e4	7.620e4	1.151	0.79	0.77	571.7	YES	NO	bd	bd	10.000
18	2378-TCDD	26.09	6.570e4	8.332e4	1.307	0.79	0.77	630.9	YES	NO	bb	bb	9.636
19	Total-tetradioxins	25.78	1.032e5	1.302e5	1.238	0.79	0.77	714.4	YES	NO	bb	bb	15.942
20	Total-tetradioxins	25.29	3.205e4	4.159e4	1.238	0.77	0.77	346.4	YES	NO	bb	bd	5.029
21	Total-tetradioxins	24.45	3.140e3	3.711e3	1.238	0.85	0.77	21.4	YES	NO	bb	bb	0.468
22	1368-TCDD	23.24	6.448e4	8.404e4	1.256	0.77	0.77	674.7	YES	NO	bb	bb	10.000
23	12389-PECDD	31.59	3.489e5	2.162e5	1.171	1.61	1.55	1833.9	YES	NO	bb	bb	50.000
24	12378-PeCDD	31.20	2.920e5	1.838e5	0.979	1.59	1.55	1625.1	YES	NO	bb	bb	50.374
25	Total-pentadioxins	30.54	1.268e3	8.327e2	1.308	1.52	1.55	6.2	YES	NO	bb	bb	0.166
26	12479-PECDD	28.48	5.215e5	3.344e5	1.773	1.56	1.55	1809.8	YES	NO	bb	bb	50.000
27	124679-HXCDD	33.67	2.995e5	2.422e5	1.034	1.24	1.24	1864.4	YES	NO	bb	bb	50.000
28	Total-hexadioxins	36.65	4.840e2	3.435e2	0.967	1.41	1.24	3.7	NO	NO	db	db	0.078
29	123789-HxCDD	36.20	2.701e5	2.243e5	0.927	1.20	1.24	1752.1	YES	NO	bb	bb	48.838
30	123678-HxCDD	35.81	3.023e5	2.560e5	0.953	1.18	1.24	1830.4	YES	NO	db	MM	51.569
31	123478-HxCDD	35.70	2.685e5	2.231e5	0.956	1.20	1.24	1845.7	YES	NO	bd	bd	49.056
32	1234678-HpCDD	39.93	2.290e5	2.214e5	1.055	1.03	1.05	1114.7	YES	NO	bb	bb	48.678
33	1234679-HPCDD	38.91	2.820e5	2.416e5	1.194	1.17	1.05	1316.5	YES	NO	bd	bb	50.000
34	OCDD	44.56	3.763e5	4.330e5	1.074	0.87	0.89	2047.9	YES	NO	bd	bd	99.703

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.33	4.991e4					1.7	NO		db		
2	FUNCTION1 PFK	21.27	3.471e4					1.2	NO		dd		
3	FUNCTION1 PFK	21.18	1.698e5					2.6	NO		dd		
4	FUNCTION1 PFK	21.09	9.521e4					2.0	NO		bd		
5	FUNCTION1 PFK	23.76	8.691e4					1.7	NO		db		
6	FUNCTION1 PFK	23.67	1.005e5					1.4	NO		dd		
7	FUNCTION1 PFK	23.54	4.530e4					1.3	NO		bd		
8	FUNCTION1 PFK	23.34	5.262e4					1.3	NO		db		
9	FUNCTION1 PFK	23.21	8.627e4					1.8	NO		bd		
10	FUNCTION1 PFK	22.98	4.435e4					1.5	NO		bb		
11	FUNCTION1 PFK	22.77	5.403e4					1.7	NO		bb		
12	FUNCTION1 PFK	22.65	1.031e5					2.1	NO		db		
13	FUNCTION1 PFK	22.54	7.245e4					1.6	NO		dd		
14	FUNCTION1 PFK	22.43	7.535e4					1.7	NO		dd		
15	FUNCTION1 PFK	22.31	6.977e4					1.7	NO		bd		
16	FUNCTION1 PFK	22.22	7.613e4					1.5	NO		bb		
17	FUNCTION1 PFK	22.09	3.367e4					1.1	NO		db		
18	FUNCTION1 PFK	21.97	7.297e4					1.6	NO		bd		
19	FUNCTION1 PFK	21.65	6.021e4					1.5	NO		bb		
20	FUNCTION1 PFK	21.42	6.097e4					1.7	NO		bb		
21	FUNCTION1 PFK	26.24	7.095e4					1.6	NO		bb		
22	FUNCTION1 PFK	26.03	4.950e4					1.2	NO		bb		
23	FUNCTION1 PFK	25.91	5.973e4					1.2	NO		bb		
24	FUNCTION1 PFK	25.72	6.955e4					1.6	NO		bb		
25	FUNCTION1 PFK	25.49	4.508e4					1.3	NO		bb		
26	FUNCTION1 PFK	25.25	7.681e4					1.9	NO		bb		
27	FUNCTION1 PFK	25.13	8.467e4					1.5	NO		db		
28	FUNCTION1 PFK	25.03	1.011e5					1.9	NO		dd		
29	FUNCTION1 PFK	24.90	8.889e4					1.4	NO		dd		
30	FUNCTION1 PFK	24.79	8.083e4					1.5	NO		dd		
31	FUNCTION1 PFK	24.69	8.866e4					1.5	NO		bd		
32	FUNCTION1 PFK	24.57	1.318e5					2.0	NO		db		
33	FUNCTION1 PFK	24.46	1.126e5					2.2	NO		dd		
34	FUNCTION1 PFK	24.34	8.943e4					1.9	NO		bd		
35	FUNCTION1 PFK	23.99	8.268e4					1.9	NO		db		
36	FUNCTION1 PFK	23.89	1.112e5					2.1	NO		bd		
37	FUNCTION1 PFK	27.61	3.807e4					0.8	NO		bb		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	27.39	1.025e4					0.6	NO		bb		
39	FUNCTION1 PFK	27.29	4.420e4					1.2	NO		bb		
40	FUNCTION1 PFK	27.15	6.883e4					1.1	NO		bb		
41	FUNCTION1 PFK	27.08	5.733e4					1.2	NO		bb		
42	FUNCTION1 PFK	26.94	5.334e4					1.5	NO		db		
43	FUNCTION1 PFK	26.82	1.097e5					2.2	NO		dd		
44	FUNCTION1 PFK	26.71	1.022e5					2.0	NO		bd		
45	FUNCTION1 PFK	26.50	4.073e4					1.3	NO		bb		
46	FUNCTION1 PFK	26.38	4.558e4					1.3	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.41	3.797e4					1.5	NO		bb		0.000
2	FUNCTION2 PFK	28.22	2.213e4					1.1	NO		db		0.000
3	FUNCTION2 PFK	28.17	2.501e4					1.0	NO		bd		0.000
4	FUNCTION2 PFK	27.98	3.751e4					1.1	NO		bb		0.000
5	FUNCTION2 PFK	27.83	4.552e4					1.4	NO		bb		0.000
6	FUNCTION2 PFK	30.42	1.937e4					1.0	NO		bb		0.000
7	FUNCTION2 PFK	30.36	2.059e4					1.1	NO		db		0.000
8	FUNCTION2 PFK	30.32	2.459e4					1.4	NO		bd		0.000
9	FUNCTION2 PFK	30.22	3.118e4					1.7	NO		db		0.000
10	FUNCTION2 PFK	30.12	3.912e4					1.7	NO		dd		0.000
11	FUNCTION2 PFK	30.08	2.173e4					1.6	NO		dd		0.000
12	FUNCTION2 PFK	30.02	4.539e4					1.8	NO		bd		0.000
13	FUNCTION2 PFK	29.87	2.939e4					1.2	NO		bb		0.000
14	FUNCTION2 PFK	29.79	2.704e4					1.5	NO		db		0.000
15	FUNCTION2 PFK	29.75	3.961e4					2.1	NO		bd		0.000
16	FUNCTION2 PFK	29.55	7.027e4					2.1	NO		bb		0.000
17	FUNCTION2 PFK	29.44	5.757e4					1.5	NO		bb		0.000
18	FUNCTION2 PFK	29.19	1.929e4					1.1	NO		db		0.000
19	FUNCTION2 PFK	29.13	7.749e4					1.4	NO		bd		0.000
20	FUNCTION2 PFK	28.98	2.306e4					1.0	NO		bb		0.000
21	FUNCTION2 PFK	28.62	3.385e4					1.1	NO		bb		0.000
22	FUNCTION2 PFK	32.25	4.375e4					1.3	NO		bb		0.000
23	FUNCTION2 PFK	32.01	4.140e4					1.1	NO		bb		0.000
24	FUNCTION2 PFK	31.24	3.163e4					1.3	NO		bb		0.000
25	FUNCTION2 PFK	31.04	2.826e4					1.4	NO		db		0.000
26	FUNCTION2 PFK	31.00	3.538e4					1.9	NO		bd		0.000
27	FUNCTION2 PFK	30.72	2.097e4					1.2	NO		db		0.000
28	FUNCTION2 PFK	30.67	3.040e4					1.8	NO		bd		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.40	2.540e4					1.3	NO		bb		0.000
2	FUNCTION3 PFK	33.27	3.059e4					1.6	NO		bb		0.000
3	FUNCTION3 PFK	33.05	4.127e4					1.8	NO		bb		0.000
4	FUNCTION3 PFK	32.95	8.167e4					3.2	YES		db		0.000
5	FUNCTION3 PFK	32.84	1.249e5					3.3	YES		dd		0.000
6	FUNCTION3 PFK	32.75	1.080e5					2.9	NO		dd		0.000
7	FUNCTION3 PFK	32.65	4.145e4					2.4	NO		dd		0.000
8	FUNCTION3 PFK	32.60	7.886e4					3.6	YES		bd		0.000
9	FUNCTION3 PFK	37.10	6.296e4					2.3	NO		bb		0.000
10	FUNCTION3 PFK	37.01	6.753e4					2.4	NO		bb		0.000
11	FUNCTION3 PFK	36.88	3.551e4					1.3	NO		bb		0.000
12	FUNCTION3 PFK	36.68	4.748e4					2.0	NO		bb		0.000
13	FUNCTION3 PFK	36.24	3.976e4					1.6	NO		bb		0.000
14	FUNCTION3 PFK	35.87	4.422e4					1.7	NO		bb		0.000
15	FUNCTION3 PFK	35.43	1.644e4					1.3	NO		bb		0.000
16	FUNCTION3 PFK	35.10	3.796e4					1.7	NO		bb		0.000
17	FUNCTION3 PFK	34.96	6.640e4					2.4	NO		db		0.000
18	FUNCTION3 PFK	34.87	5.936e4					1.7	NO		bd		0.000
19	FUNCTION3 PFK	34.62	8.465e4					2.2	NO		db		0.000
20	FUNCTION3 PFK	34.51	3.098e4					1.9	NO		bd		0.000
21	FUNCTION3 PFK	34.28	5.166e4					2.2	NO		bb		0.000
22	FUNCTION3 PFK	34.06	3.973e4					1.8	NO		bb		0.000
23	FUNCTION3 PFK	33.85	3.577e4					1.7	NO		db		0.000
24	FUNCTION3 PFK	33.75	5.027e4					2.1	NO		bd		0.000
25	FUNCTION3 PFK	37.44	4.887e4					1.8	NO		bb		0.000
26	FUNCTION3 PFK	37.34	4.956e4					1.8	NO		bb		0.000
27	FUNCTION3 PFK	37.22	7.199e4					2.6	NO		bb		0.000

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:44 Pacific Standard Time

ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, 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	42.56	2.570e4					1.8	NO		bb		
2	FUNCTION4 PFK	41.19	4.182e4					2.3	NO		bb		
3	FUNCTION4 PFK	39.38	4.065e4					2.0	NO		bb		
4	FUNCTION4 PFK	39.26	3.686e4					2.3	NO		bb		
5	FUNCTION4 PFK	39.15	4.021e4					2.2	NO		db		
6	FUNCTION4 PFK	39.04	5.002e4					2.3	NO		bd		
7	FUNCTION4 PFK	37.78	1.815e4					1.8	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.33	1.880e4					2.8	NO		bd		
2	FUNCTION5 PFK	43.26	1.158e4					2.2	NO		db		
3	FUNCTION5 PFK	43.22	1.984e4					2.3	NO		bd		
4	FUNCTION5 PFK	43.10	3.628e3					1.0	NO		bb		
5	FUNCTION5 PFK	44.48	2.530e4					2.5	NO		dd		
6	FUNCTION5 PFK	44.38	3.695e4					2.7	NO		dd		
7	FUNCTION5 PFK	44.24	4.623e4					3.1	YES		dd		
8	FUNCTION5 PFK	44.13	4.898e4					3.5	YES		bd		
9	FUNCTION5 PFK	44.05	3.980e4					2.4	NO		db		
10	FUNCTION5 PFK	43.93	1.303e4					2.4	NO		dd		
11	FUNCTION5 PFK	43.90	1.934e4					2.4	NO		dd		
12	FUNCTION5 PFK	43.80	1.145e4					1.4	NO		dd		
13	FUNCTION5 PFK	43.78	4.616e3					1.2	NO		bd		
14	FUNCTION5 PFK	43.70	3.283e3					1.0	NO		bb		
15	FUNCTION5 PFK	43.62	6.810e3					1.4	NO		db		
16	FUNCTION5 PFK	43.58	1.258e4					2.0	NO		dd		
17	FUNCTION5 PFK	43.55	1.299e3					0.5	NO		bd		
18	FUNCTION5 PFK	43.49	1.056e4					2.0	NO		db		
19	FUNCTION5 PFK	43.46	3.273e4					3.2	YES		bd		
20	FUNCTION5 PFK	43.35	2.071e4					2.8	NO		db		
21	FUNCTION5 PFK	45.77	3.155e3					0.7	NO		db		
22	FUNCTION5 PFK	45.73	1.704e4					2.3	NO		bd		
23	FUNCTION5 PFK	45.58	8.052e2					0.4	NO		bb		
24	FUNCTION5 PFK	45.39	2.294e4					2.3	NO		db		
25	FUNCTION5 PFK	45.31	1.355e4					2.0	NO		dd		
26	FUNCTION5 PFK	45.26	2.161e4					1.9	NO		dd		
27	FUNCTION5 PFK	45.17	1.526e4					2.0	NO		bd		
28	FUNCTION5 PFK	45.04	2.024e4					2.0	NO		db		
29	FUNCTION5 PFK	44.93	2.625e4					2.3	NO		bd		
30	FUNCTION5 PFK	44.82	1.772e4					2.1	NO		db		
31	FUNCTION5 PFK	44.79	1.042e4					1.7	NO		dd		
32	FUNCTION5 PFK	44.72	1.587e4					1.4	NO		bd		
33	FUNCTION5 PFK	44.63	1.012e4					2.1	NO		db		
34	FUNCTION5 PFK	44.60	1.281e4					2.6	NO		dd		
35	FUNCTION5 PFK	44.56	1.208e4					1.9	NO		dd		
36	FUNCTION5 PFK	44.53	5.865e3					1.4	NO		dd		
37	FUNCTION5 PFK	46.22	1.824e3					0.7	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION5 PFK	46.15	2.196e4					2.1	NO		dd		
39	FUNCTION5 PFK	46.11	2.333e3					0.6	NO		bd		
40	FUNCTION5 PFK	46.06	2.778e4					3.3	YES		db		
41	FUNCTION5 PFK	45.98	2.095e4					2.6	NO		dd		
42	FUNCTION5 PFK	45.94	3.157e4					3.3	YES		dd		
43	FUNCTION5 PFK	45.83	4.027e4					4.0	YES		bd		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	26.26	1.509e2					2.1	NO		db		0.000
2	FUNCTION1 HXCD...	26.17	7.257e1					1.5	NO		bd		0.000
3	FUNCTION1 HXCD...	25.44	1.394e2					3.0	YES		bb		0.000
4	FUNCTION1 HXCD...	24.22	1.304e2					2.2	NO		bb		0.000
5	FUNCTION1 HXCD...	23.80	1.444e2					2.3	NO		db		0.000
6	FUNCTION1 HXCD...	23.66	1.952e2					2.4	NO		dd		0.000
7	FUNCTION1 HXCD...	23.43	1.040e2					1.6	NO		bd		0.000
8	FUNCTION1 HXCD...	21.10	1.035e2					2.9	NO		bb		0.000
9	FUNCTION1 HXCD...	27.54	7.562e1					2.3	NO		bb		0.000
10	FUNCTION1 HXCD...	27.39	7.139e1					1.7	NO		bb		0.000
11	FUNCTION1 HXCD...	26.83	3.995e2					6.5	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...	26.85	3.635e2					5.3	YES		bb		0.000
2	FUNCTION1 HPCD...	25.81	9.707e1					1.7	NO		bb		0.000
3	FUNCTION1 HPCD...	21.86	8.183e1					2.0	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...	30.82	4.748e2					10.1	YES		bb		0.000
2	FUNCTION2 HPCD...	29.76	7.319e1					2.1	NO		bb		0.000
3	FUNCTION2 HPCD...	29.10	1.142e2					2.5	NO		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	34.71	8.074e1					3.6	YES		bb		0.000
2	FUNCTION3 OCDPE	33.81	7.372e1					3.8	YES		bb		0.000
3	FUNCTION3 OCDPE	33.08	7.230e1					2.5	NO		db		0.000
4	FUNCTION3 OCDPE	32.94	1.200e2					2.6	NO		bd		0.000
5	FUNCTION3 OCDPE	36.62	8.844e1					2.4	NO		bb		0.000
6	FUNCTION3 OCDPE	36.18	2.420e2					5.9	YES		bb		0.000
7	FUNCTION3 OCDPE	35.70	1.943e2					4.9	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	42.65	1.150e2					4.2	YES		db		0.000
2	FUNCTION4 NCDPE	42.53	7.966e1					1.8	NO		bd		0.000
3	FUNCTION4 NCDPE	39.91	2.607e2					4.8	YES		bb		0.000
4	FUNCTION4 NCDPE	38.42	1.217e2					2.2	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	43.95	8.620e1					2.4	NO		bb		0.000

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ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, Conditions: AUTOSPEC01, User: pk

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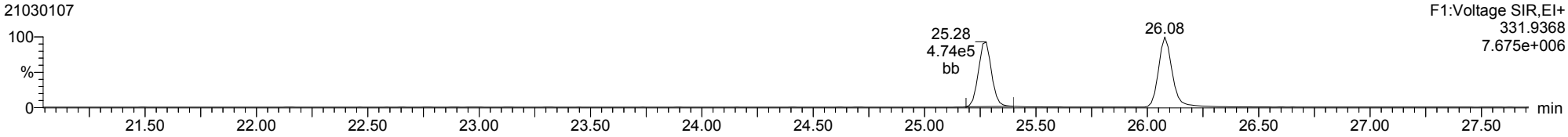

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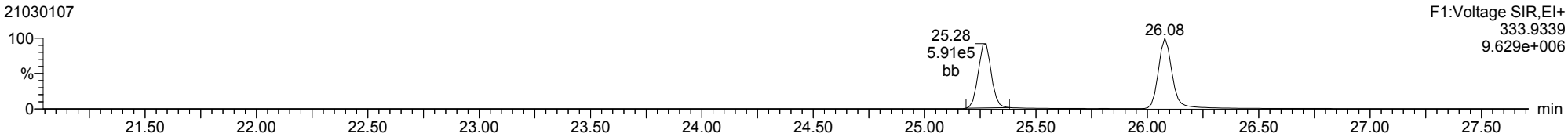

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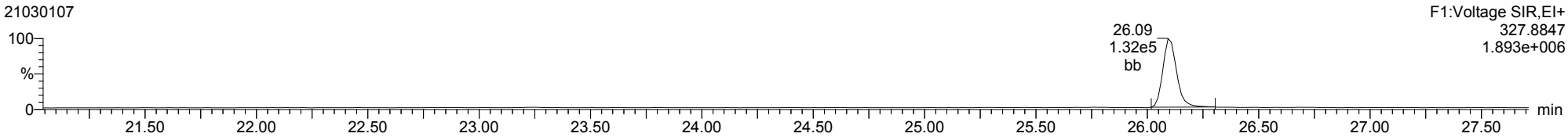

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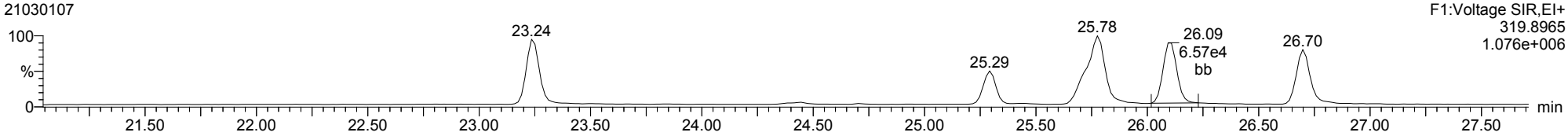

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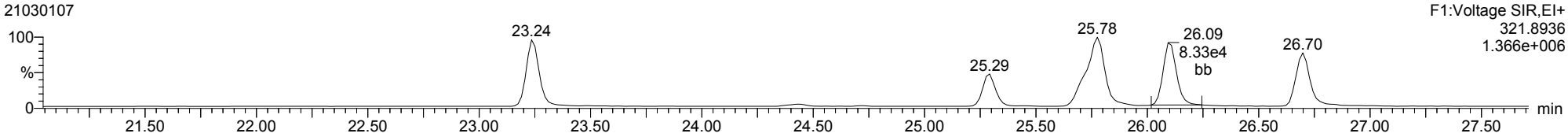

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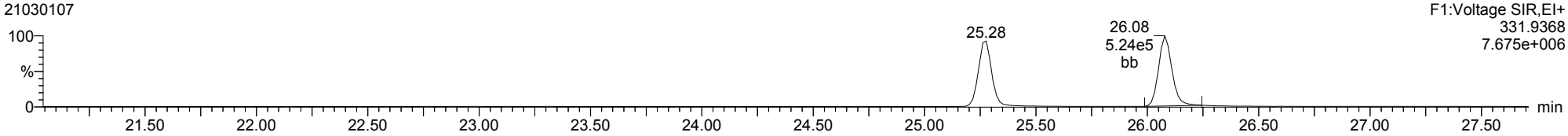

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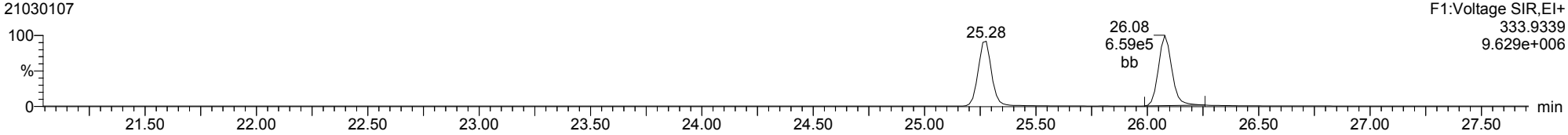

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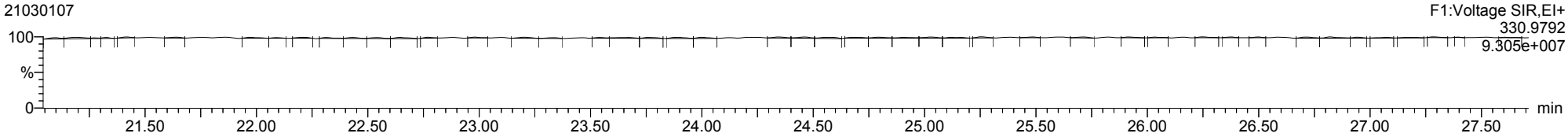

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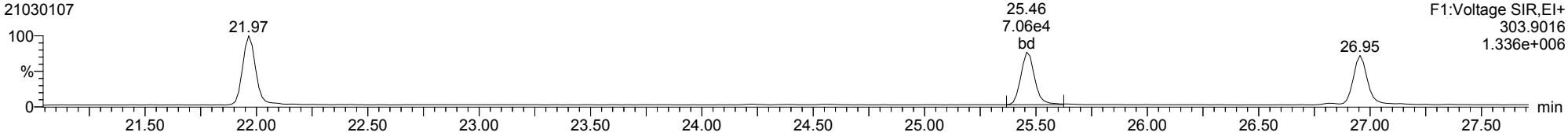

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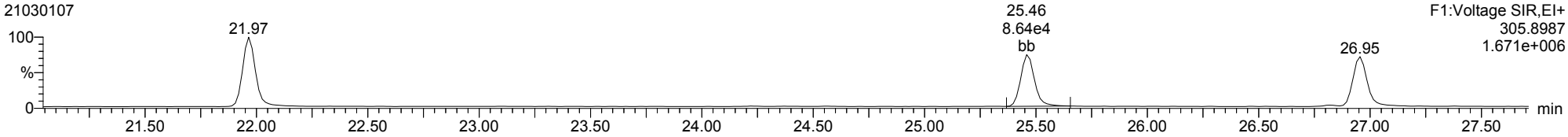

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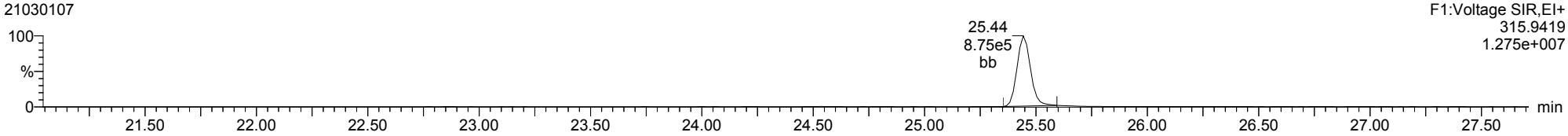

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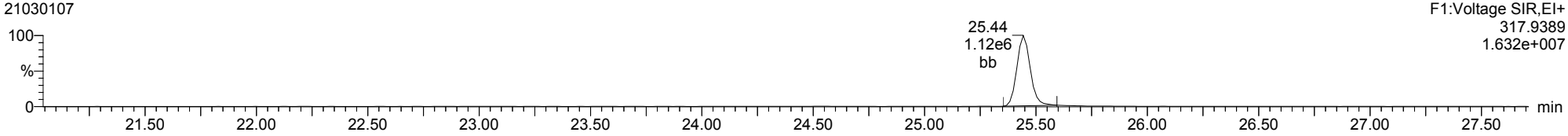
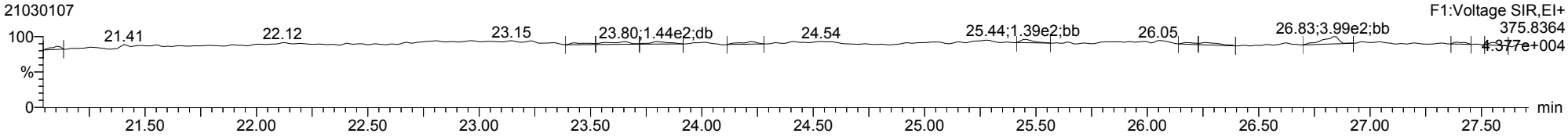


FUNCTION1 HXCDPE



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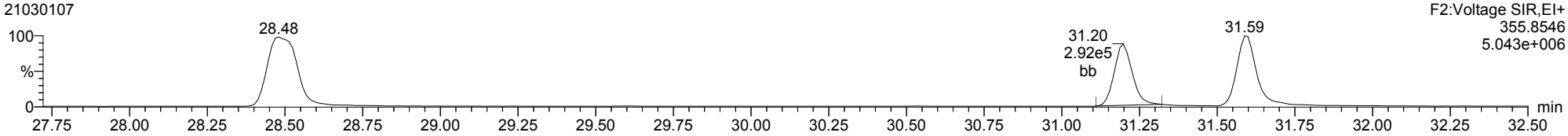

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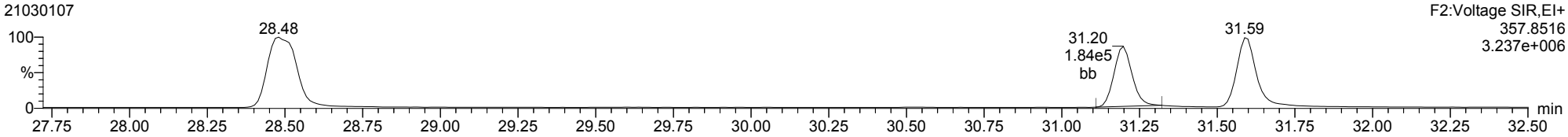

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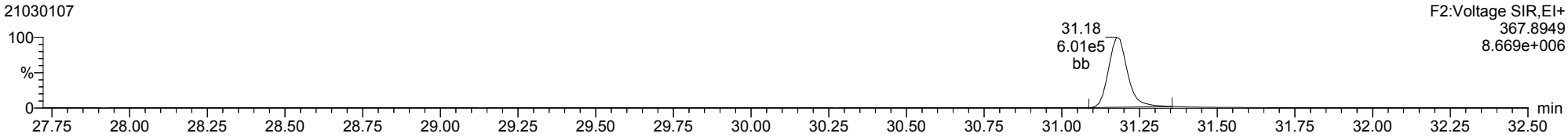

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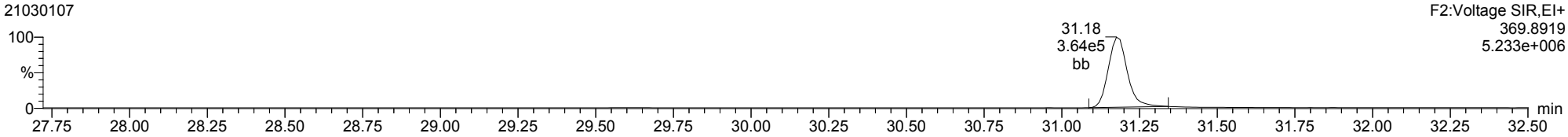

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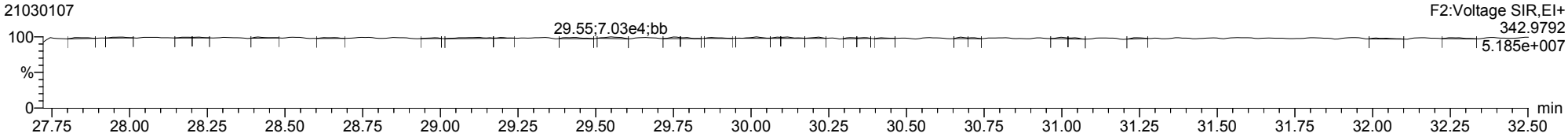

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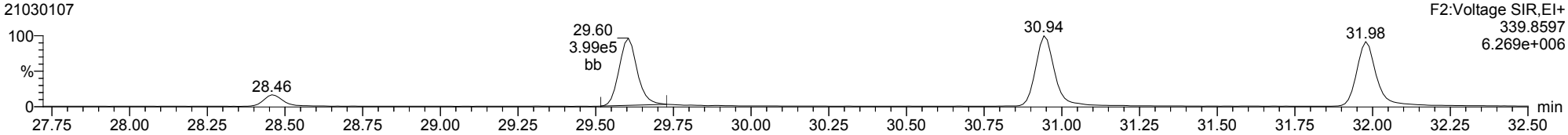

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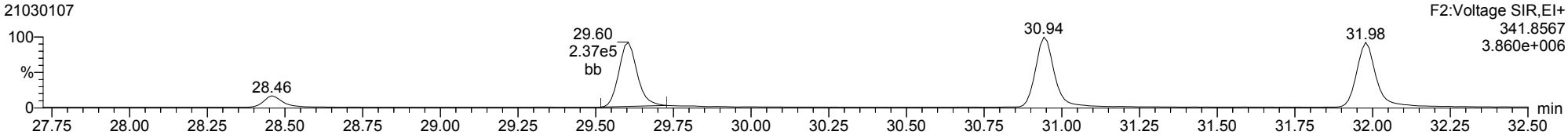

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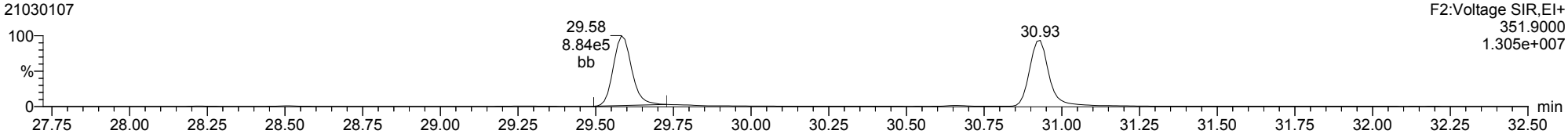

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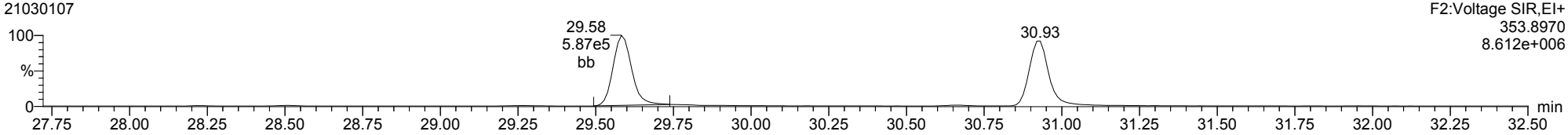
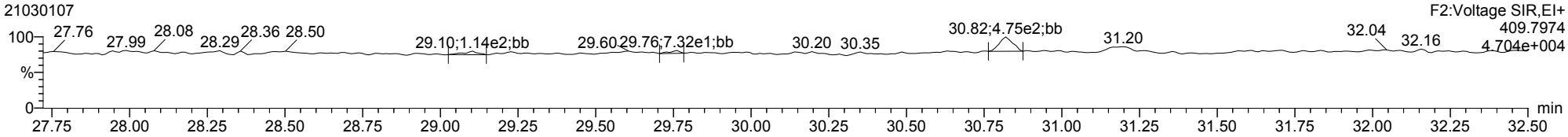


FUNCTION2 HPCDPE



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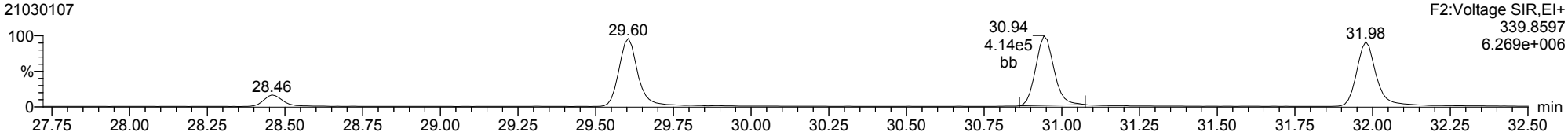
23478-PeCDF



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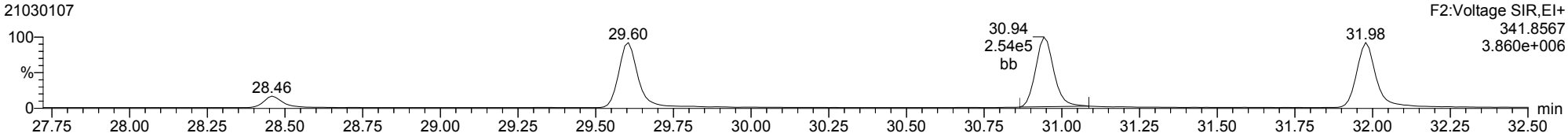

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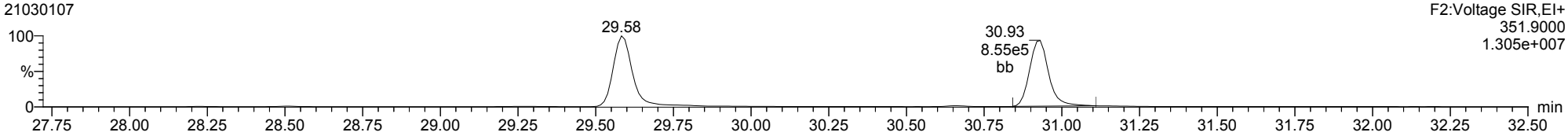

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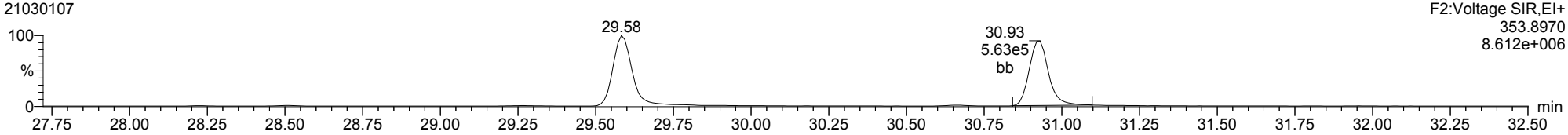
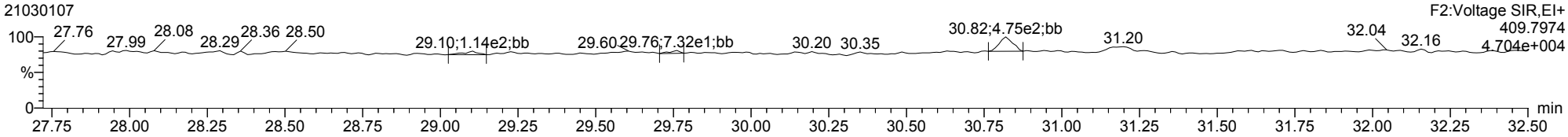


FUNCTION2 HPCDPE



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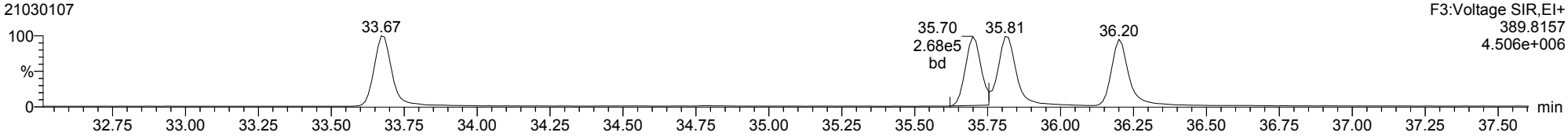

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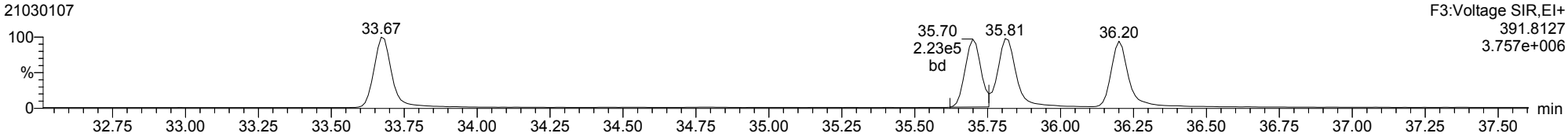

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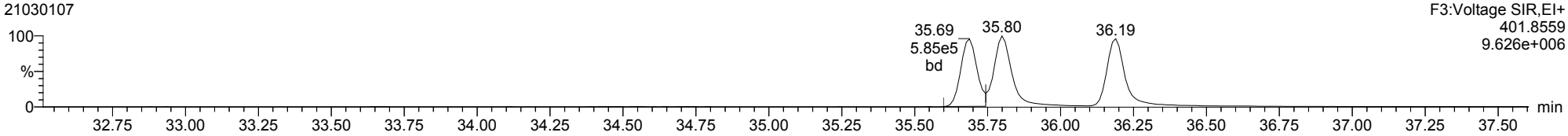

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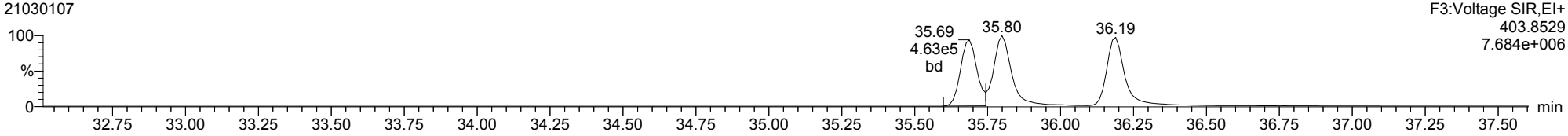

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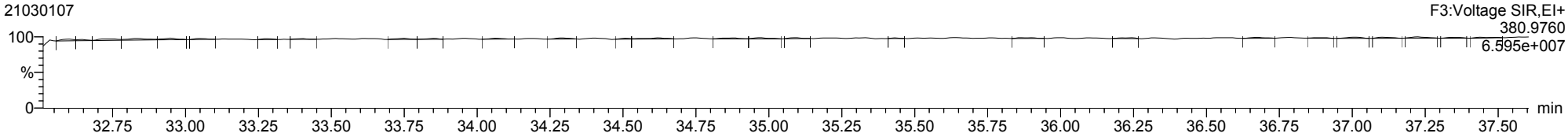

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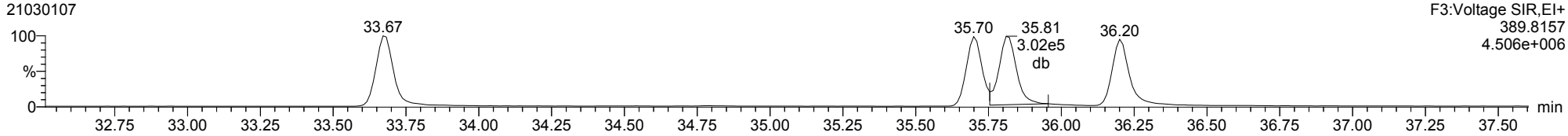

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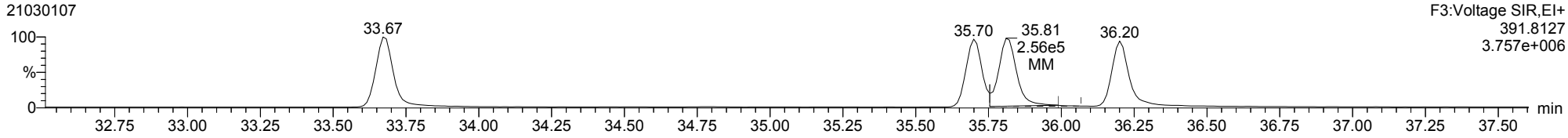

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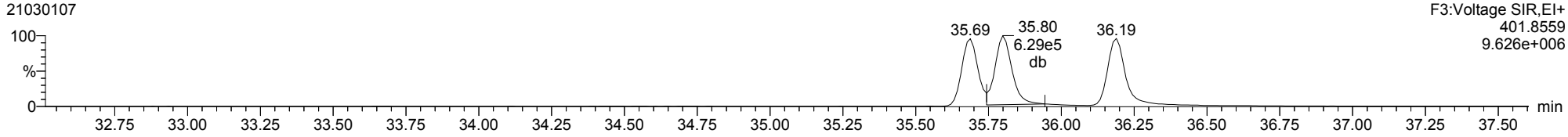

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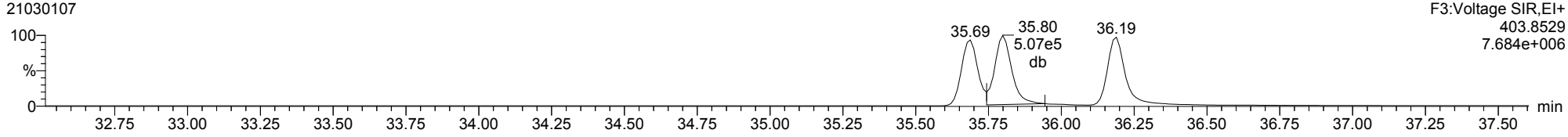

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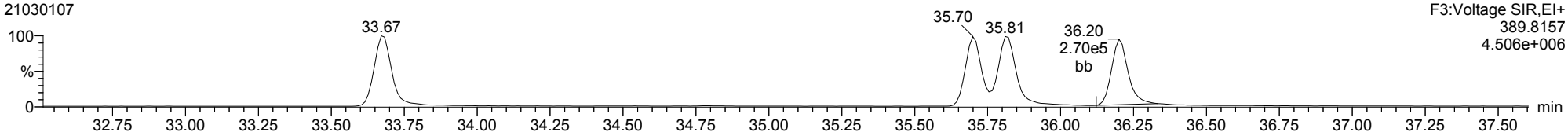

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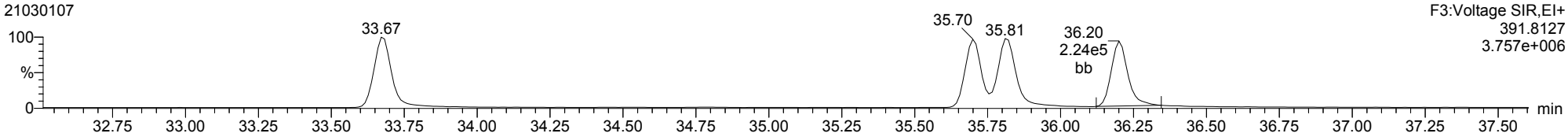

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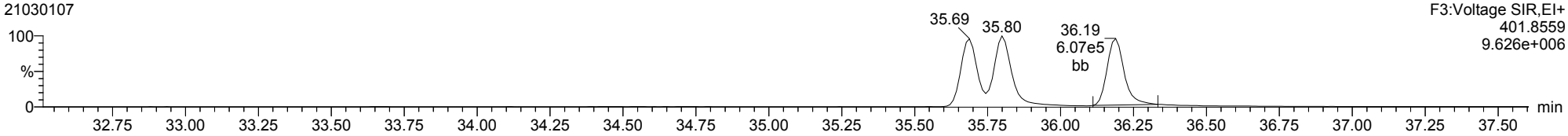

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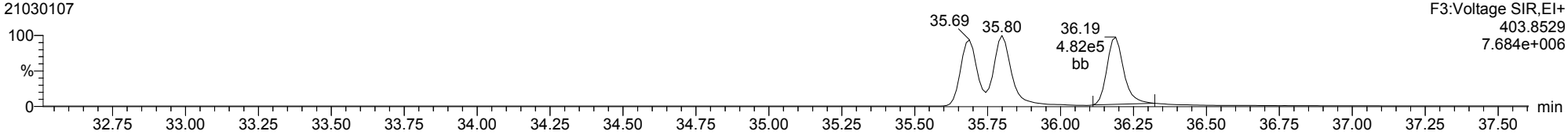

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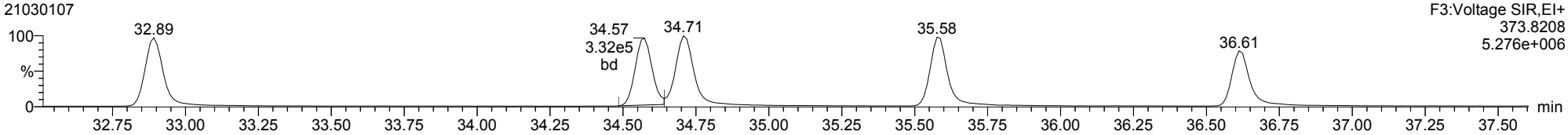

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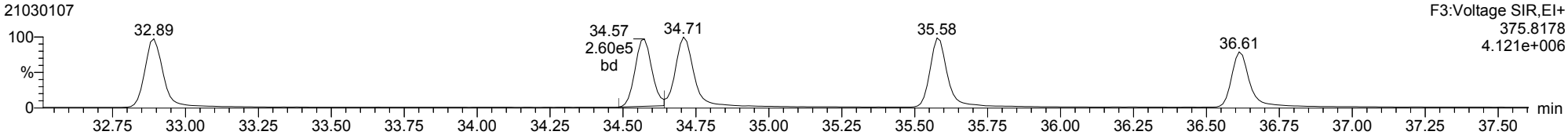

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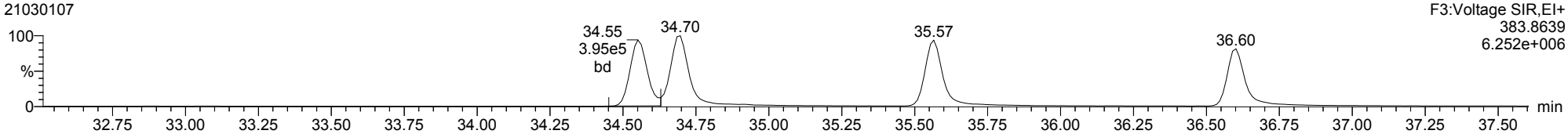

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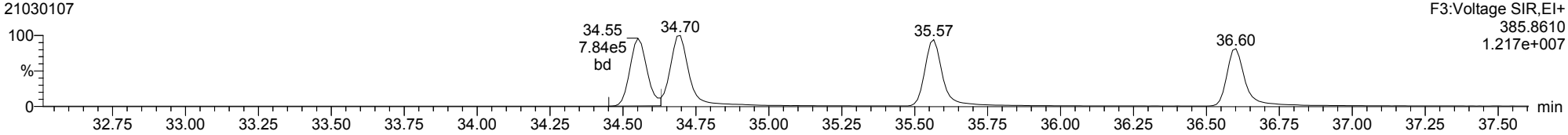

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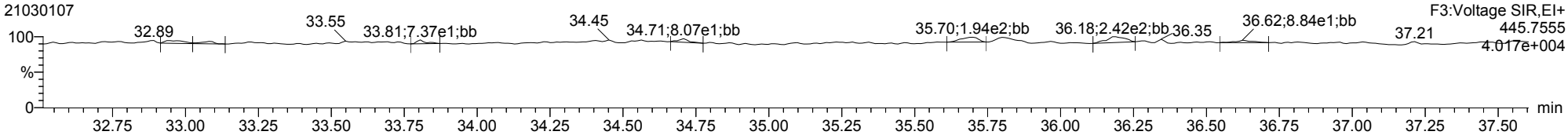

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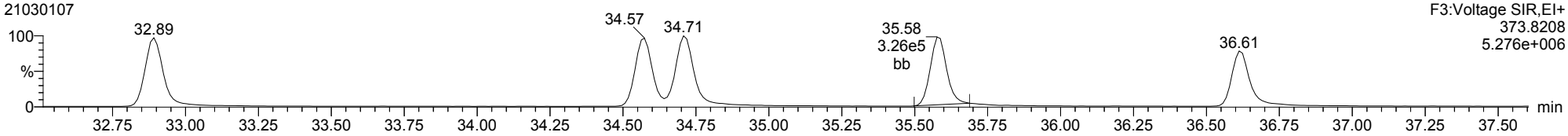

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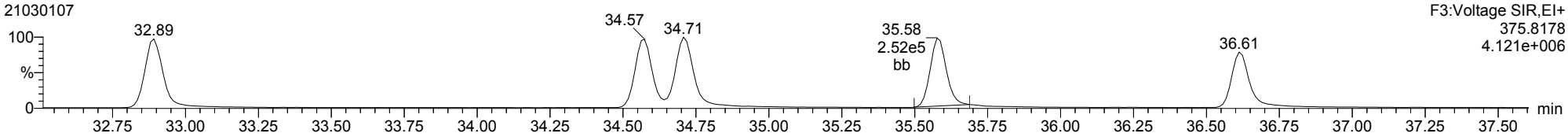

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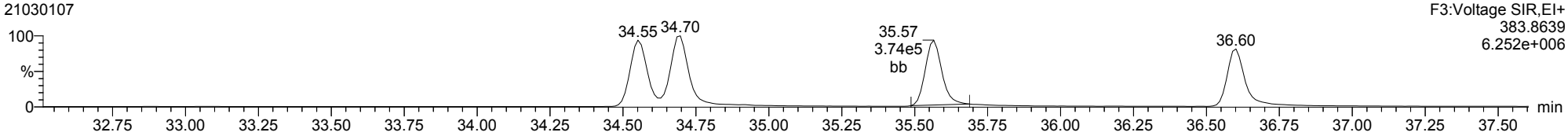

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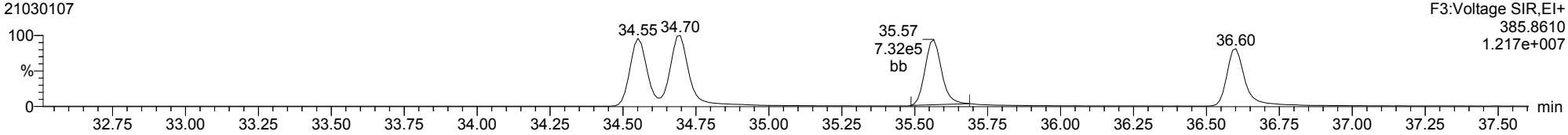

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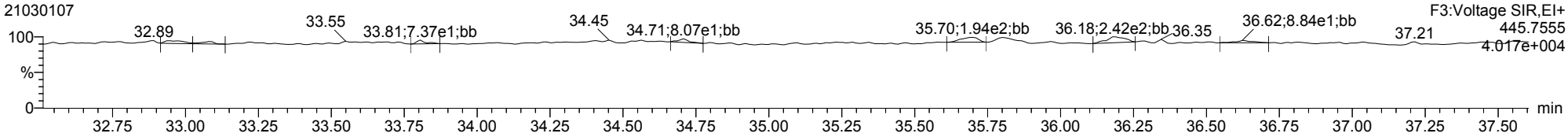

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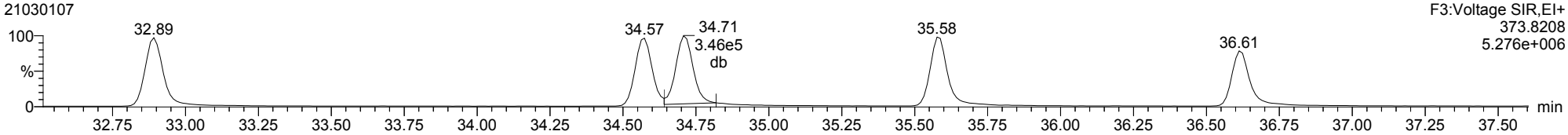

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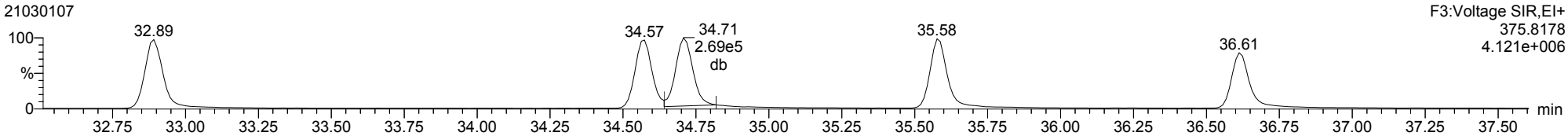

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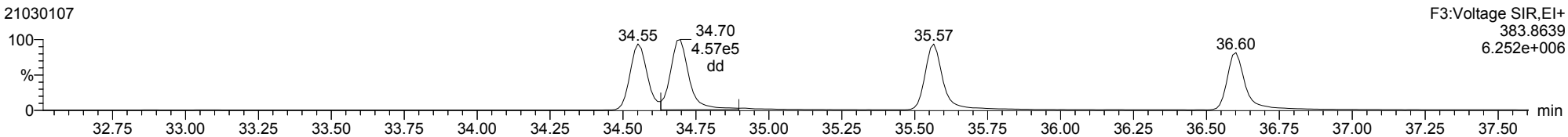

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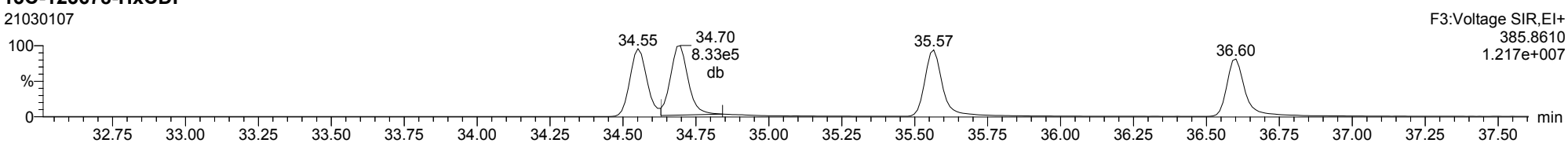

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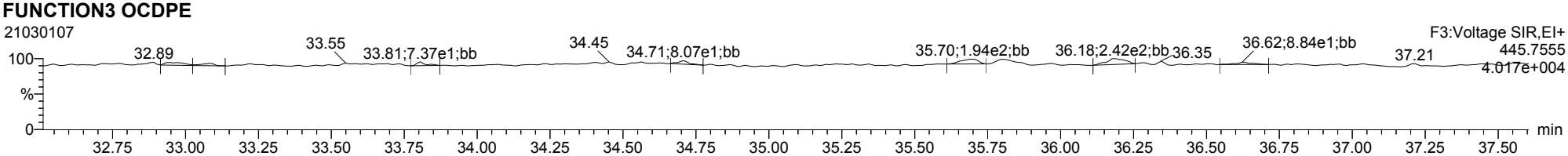

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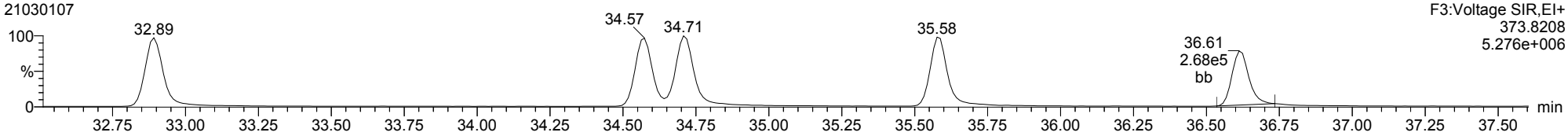

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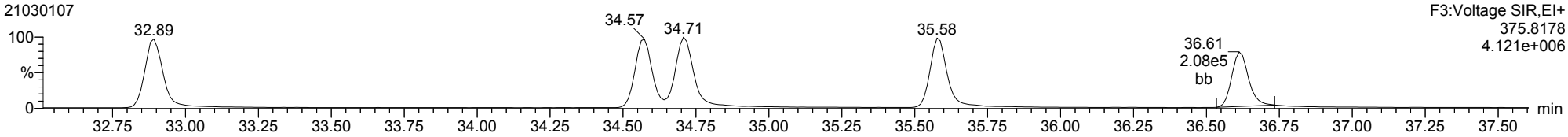

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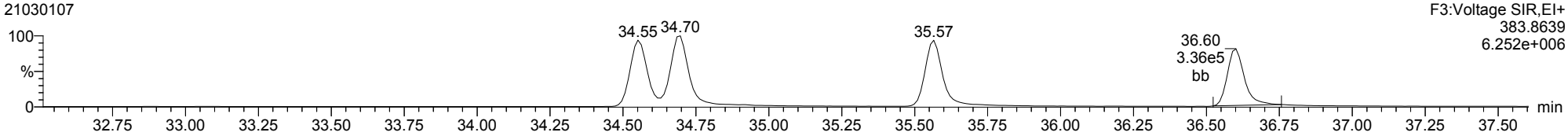

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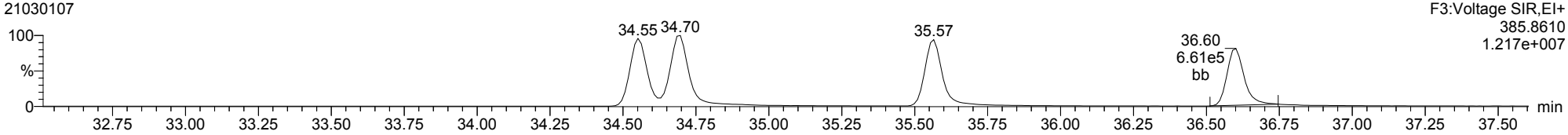
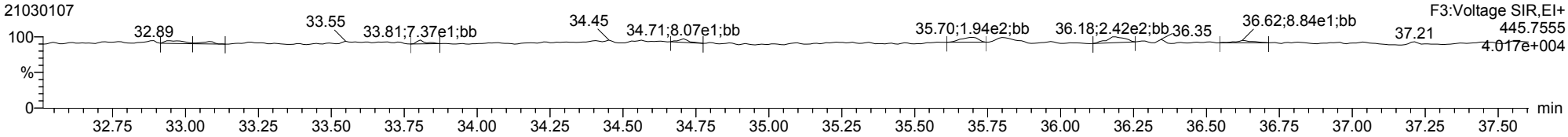


FUNCTION3 OCDPE



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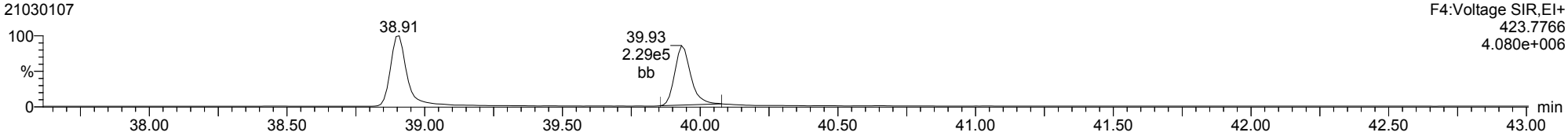

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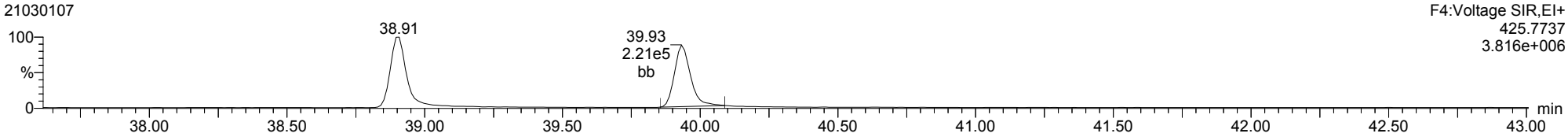

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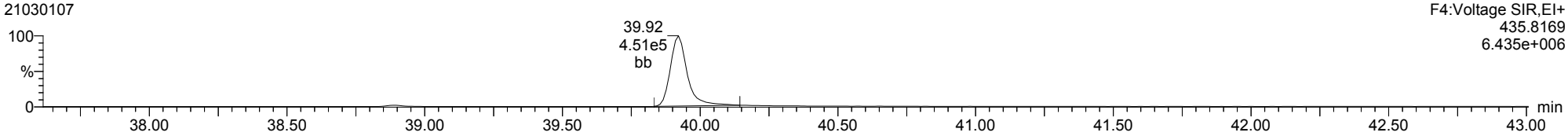

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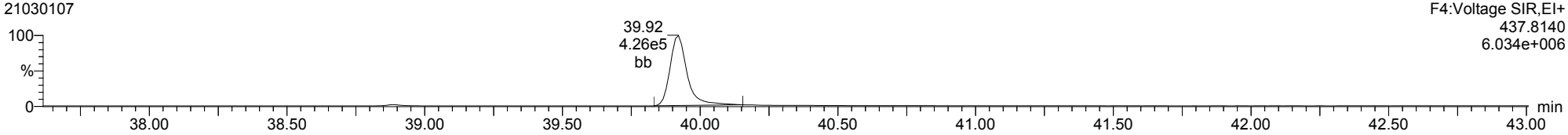
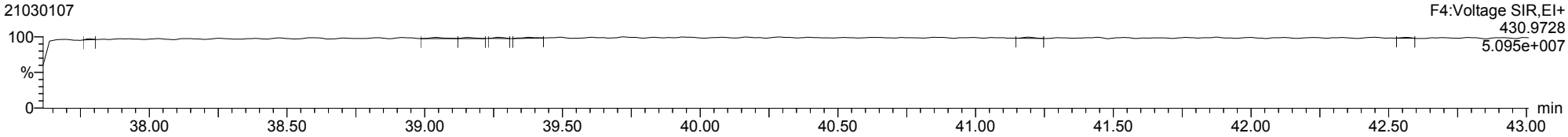


FUNCTION4 PFK



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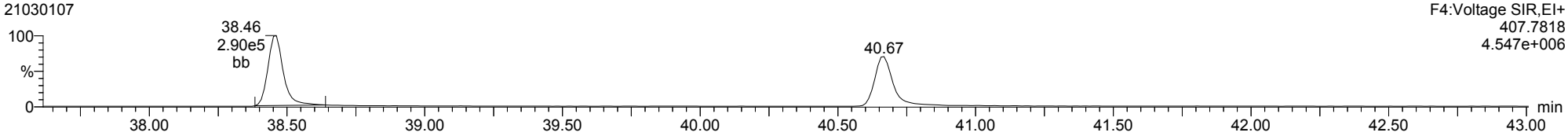

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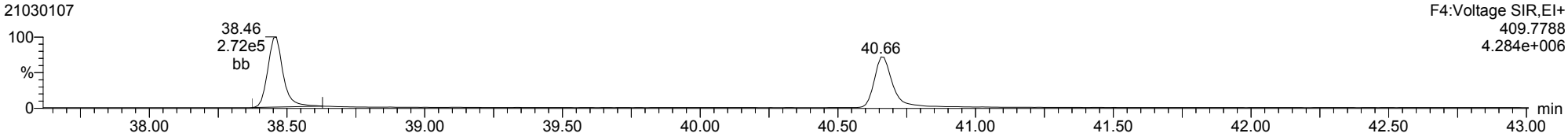

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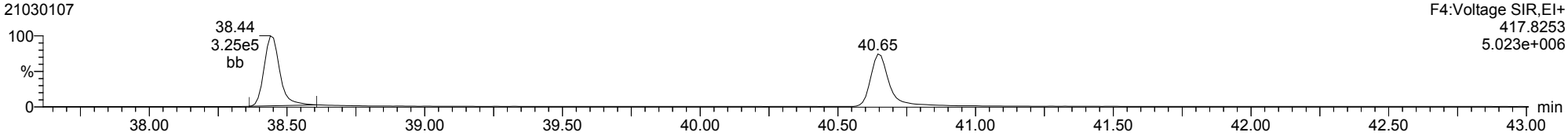

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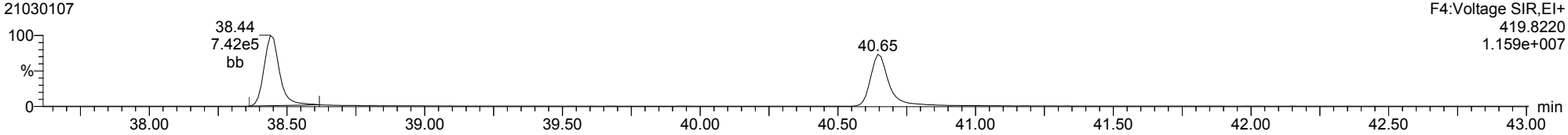

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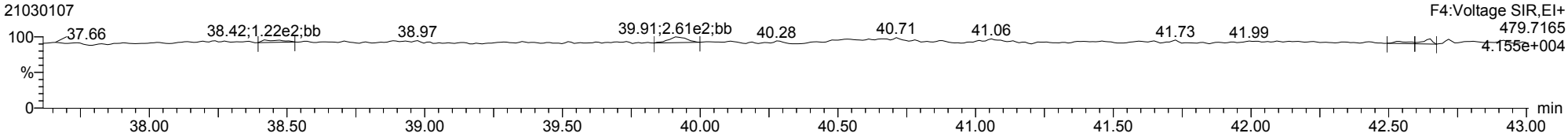

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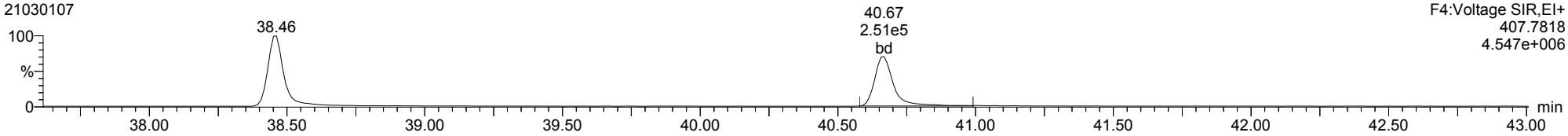
1234789-HpCDF



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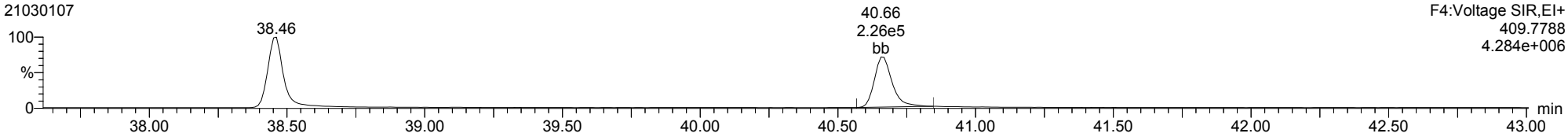

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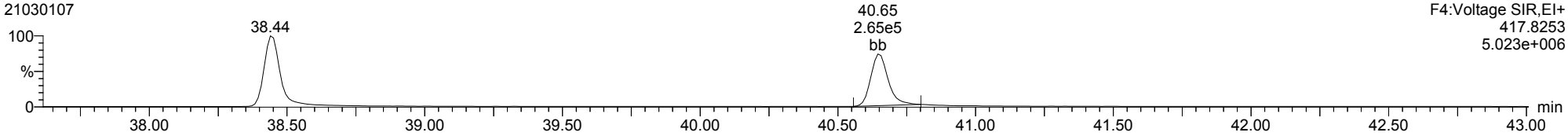

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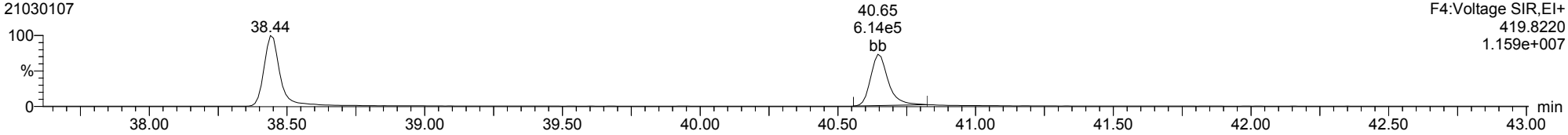

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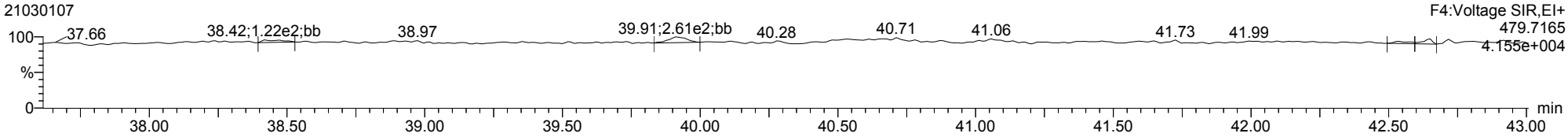

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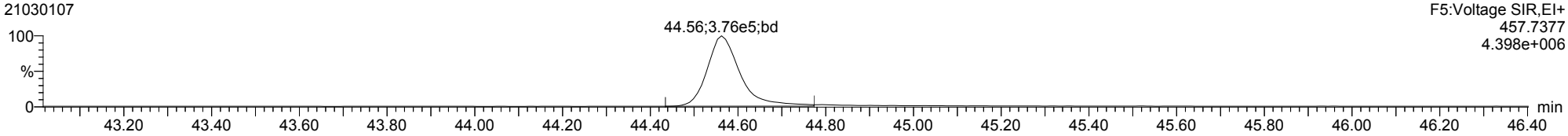
OCDD



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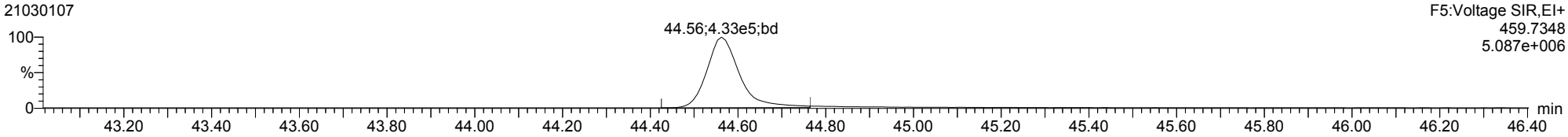

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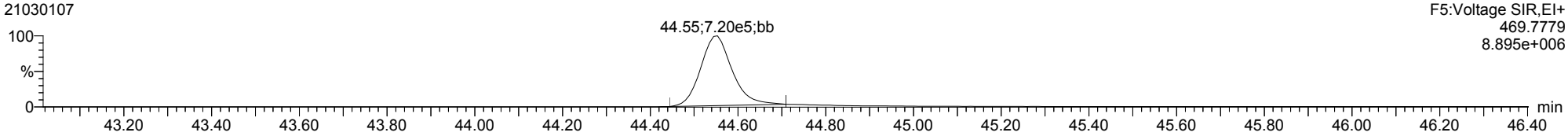

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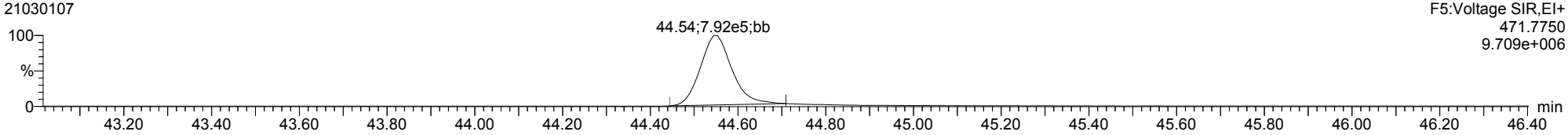
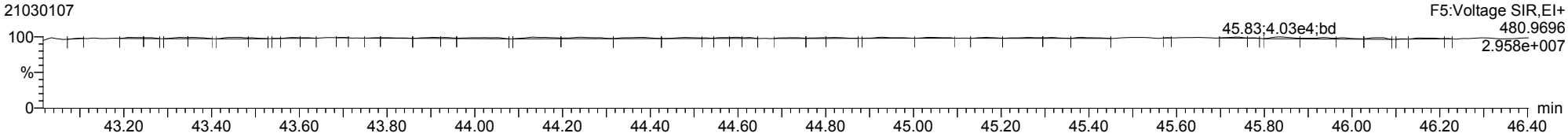
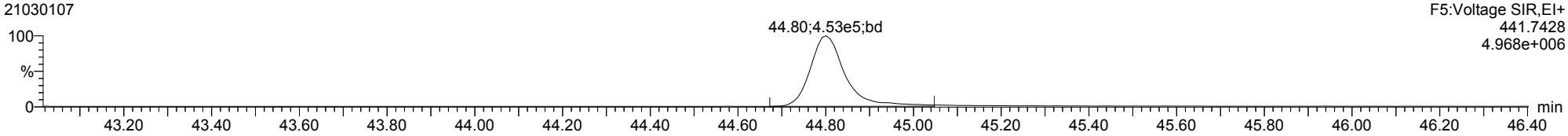


FUNCTION5 PFK

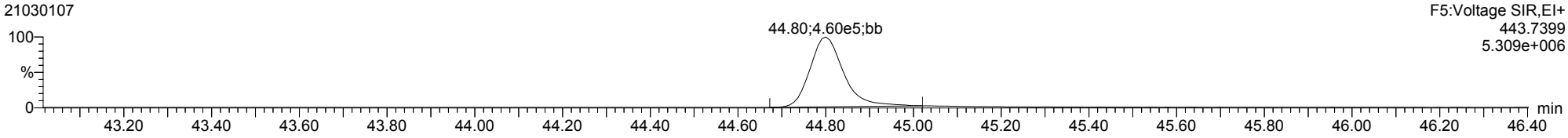


ID: CS3CV, Name: 21030107, Date: 01-Mar-2021, Time: 15:57:27, Conditions: AUTOSPEC01, User: pk

OCDF



OCDF



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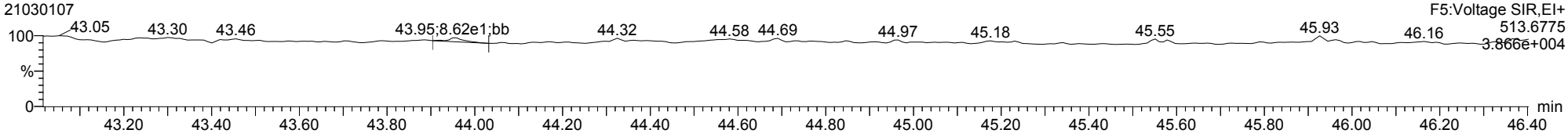

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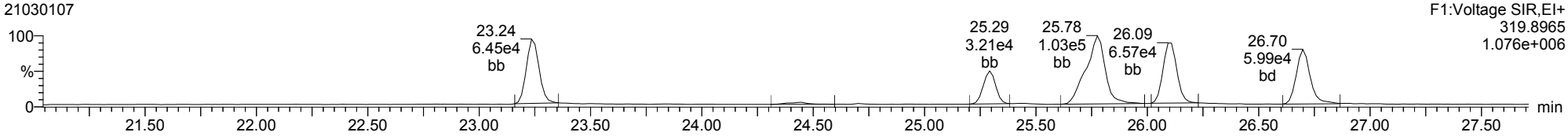
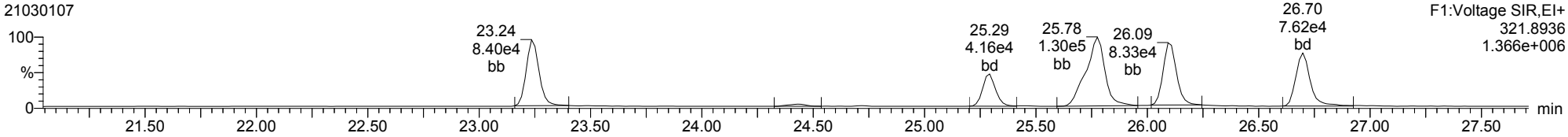
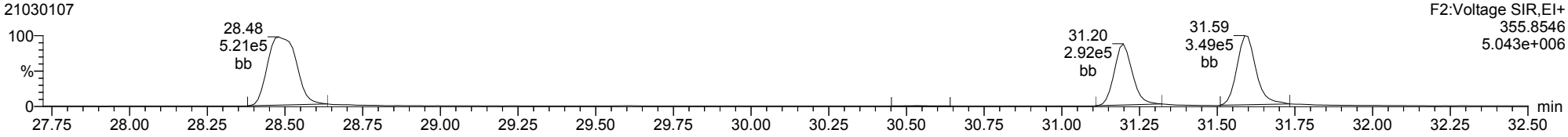
Total-tetradioxins



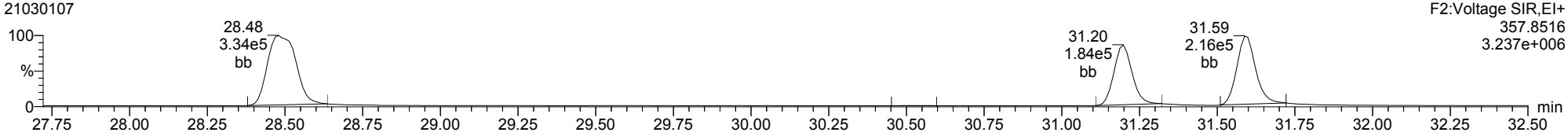
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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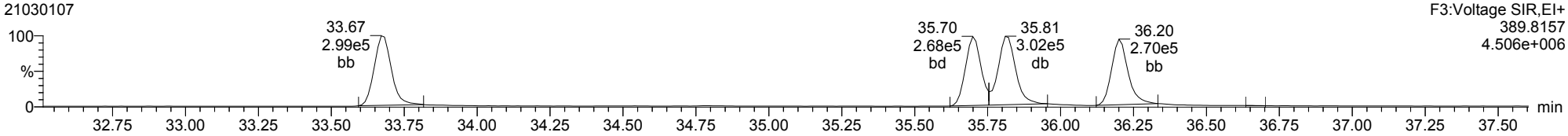
Total-hexadioxins



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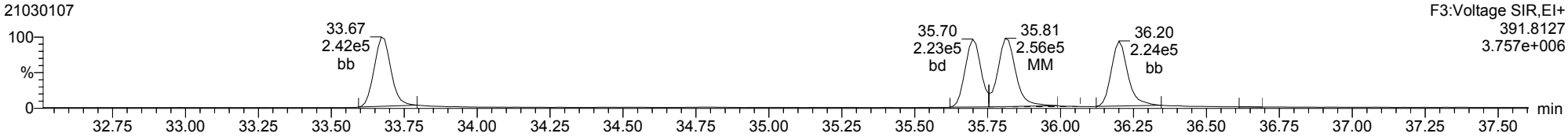

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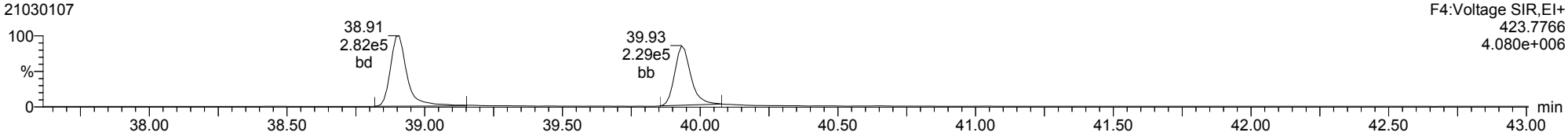

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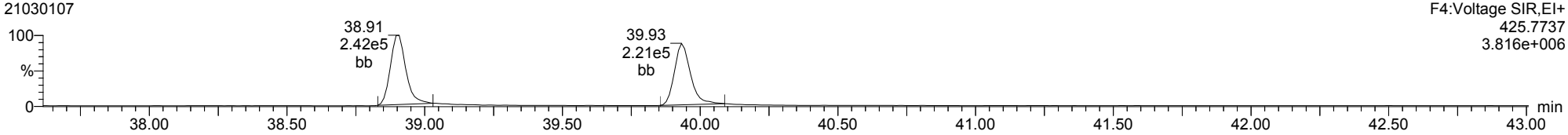

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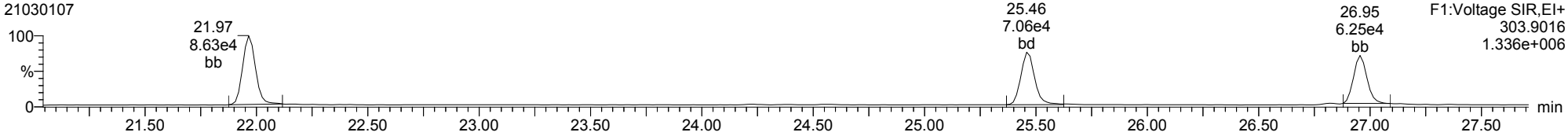
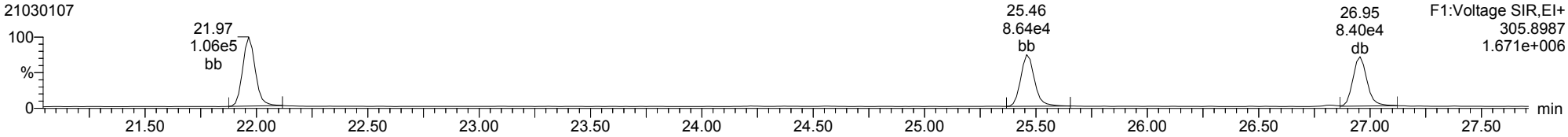
Total-tetrafurans



Total-tetrafurans



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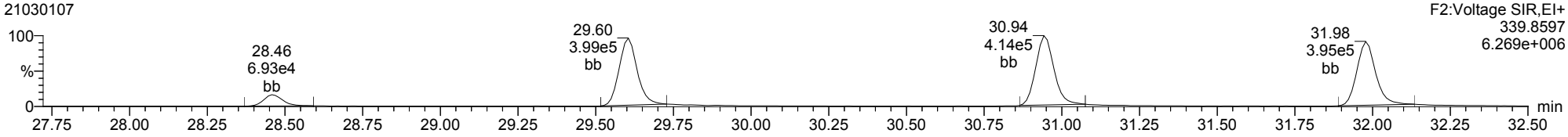

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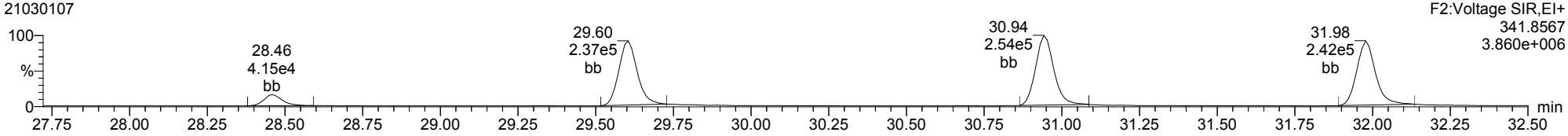

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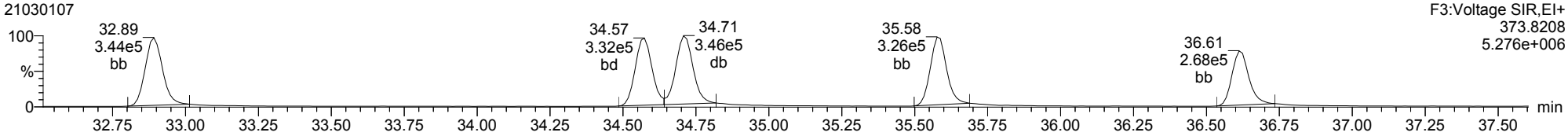
Total-hexafurans



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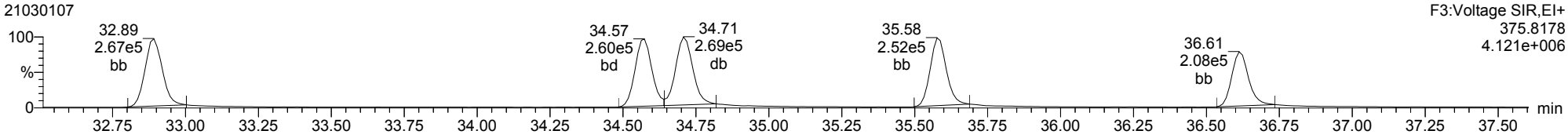

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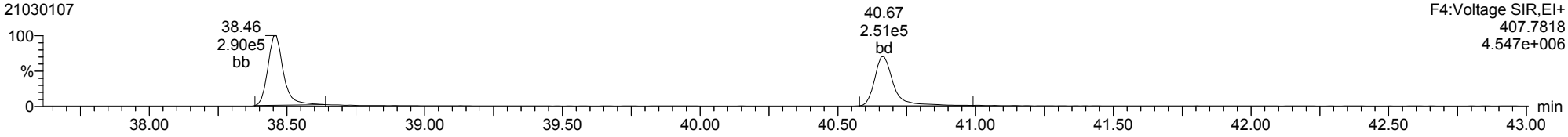
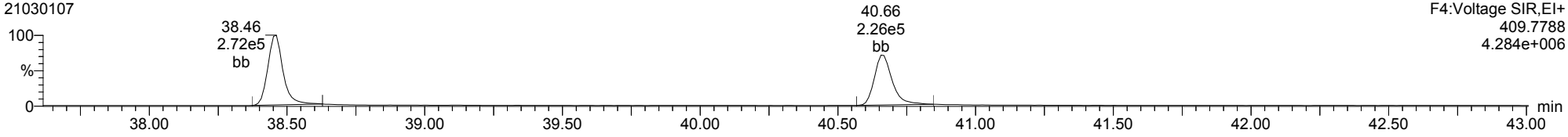


Total-heptafurans



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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:55 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, 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	25.473	1.001	2.562e5	3.274e5	0.782	0.783	0.770	1504	1655	3.70e6	4.74e6	2462.6	2865.4	NO	bb	bb	40.080
12378-PeCDF	29.617	1.001	1.527e6	9.139e5	0.866	1.671	1.550	4634	7577	2.27e7	1.35e7	4890.7	1782.9	NO	bb	bb	195.963
23478-PeCDF	30.954	1.001	1.616e6	9.760e5	0.980	1.656	1.550	4634	7577	2.46e7	1.48e7	5307.8	1948.0	NO	bb	bb	197.988
123478-HxCDF	34.586	1.001	1.227e6	9.582e5	1.002	1.281	1.240	3707	3715	1.89e7	1.48e7	5111.5	3983.8	NO	bd	bd	201.229
234678-HxCDF	35.588	1.000	1.194e6	9.312e5	1.043	1.282	1.240	3707	3715	1.89e7	1.47e7	5093.1	3968.5	NO	bb	bb	199.800
123678-HxCDF	34.720	1.001	1.274e6	1.004e6	0.961	1.269	1.240	3707	3715	1.92e7	1.50e7	5181.1	4043.3	NO	db	db	199.117
123789-HxCDF	36.625	1.000	1.010e6	7.884e5	0.994	1.281	1.240	3707	3715	1.54e7	1.21e7	4163.7	3245.8	NO	bb	bb	187.385
1234678-HpCDF	38.463	1.000	1.065e6	1.040e6	1.058	1.023	1.050	6565	4225	1.69e7	1.65e7	2579.7	3898.1	NO	bb	bb	200.465
1234789-HpCDF	40.669	1.000	8.954e5	8.441e5	1.070	1.061	1.050	6565	4225	1.22e7	1.17e7	1863.7	2759.2	NO	bb	bb	194.170
OCDF	44.812	1.005	1.645e6	1.763e6	1.257	0.933	0.890	4064	5225	1.93e7	2.07e7	4760.7	3960.8	NO	bb	bb	376.791
2378-TCDD	26.109	1.001	2.507e5	3.200e5	1.307	0.783	0.770	1560	1090	3.64e6	4.61e6	2336.3	4234.2	NO	bb	bb	39.636
12378-PeCDD	31.210	1.001	1.105e6	7.088e5	0.979	1.559	1.550	2900	2859	1.65e7	1.05e7	5694.2	3676.6	NO	bb	bb	200.873
123478-HxCDD	35.711	1.000	1.022e6	8.301e5	0.956	1.231	1.240	2066	3023	1.67e7	1.36e7	8098.8	4510.2	NO	bd	bd	194.558
123678-HxCDD	35.822	1.000	1.125e6	9.178e5	0.953	1.225	1.240	2066	3023	1.69e7	1.39e7	8161.2	4604.5	NO	db	db	194.851
123789-HxCDD	36.212	1.011	1.037e6	8.393e5	0.927	1.236	1.240	2066	3023	1.62e7	1.31e7	7828.7	4329.9	NO	bb	bb	193.176
1234678-HpCDD	39.945	1.000	8.522e5	8.338e5	1.055	1.022	1.050	3512	3483	1.27e7	1.23e7	3623.4	3517.2	NO	bb	bb	201.523
OCDD	44.574	1.000	1.421e6	1.639e6	1.074	0.867	0.890	3039	3327	1.63e7	1.88e7	5377.7	5640.7	NO	MM	MM	395.935
13C-2378-TCDF	25.458	1.007	8.204e5	1.043e6	1.925	0.787	0.770	4303	2177	1.19e7	1.51e7	2761.2	6919.3	NO	bb	bb	98.150
13C-12378-PeCDF	29.594	1.171	8.833e5	5.546e5	1.442	1.593	1.550	3773	3090	1.23e7	8.05e6	3246.9	2606.7	NO	bd	bb	101.103
13C-23478-PeCDF	30.931	1.224	8.080e5	5.280e5	1.387	1.530	1.550	3773	3090	1.17e7	7.73e6	3095.7	2501.6	NO	bb	bb	97.705
13C-123478-HxCDF	34.563	0.955	3.651e5	7.185e5	1.053	0.508	0.510	2319	3242	5.58e6	1.10e7	2404.3	3381.1	NO	bd	bd	98.765
13C-123678-HxCDF	34.697	0.959	4.044e5	7.856e5	1.135	0.515	0.510	2319	3242	5.72e6	1.13e7	2468.2	3491.9	NO	db	db	100.628
13C-234678-HxCDF	35.577	0.983	3.421e5	6.775e5	1.004	0.505	0.510	2319	3242	5.28e6	1.05e7	2278.1	3244.8	NO	bb	bb	97.463
13C-123789-HxCDF	36.613	1.011	3.434e5	6.219e5	0.909	0.552	0.510	2319	3242	4.78e6	9.20e6	2063.3	2839.4	NO	bb	bb	101.925
13C-1234678-HpCDF	38.452	1.062	3.123e5	6.802e5	0.960	0.459	0.440	3178	3910	4.82e6	1.09e7	1516.2	2797.6	NO	bd	bb	99.249
13C-1234789-HpCDF	40.658	1.123	2.667e5	5.708e5	0.794	0.467	0.440	3178	3910	3.51e6	7.95e6	1103.2	2032.3	NO	bd	bb	101.264
13C-1234-TCDD	25.277	0.000	4.364e5	5.498e5	1.000	0.794	0.770	2212	1467	6.46e6	8.14e6	2920.4	5547.1	NO	bb	bb	100.000
13C-2378-TCDD	26.094	1.032	4.865e5	6.147e5	1.133	0.791	0.770	2212	1467	6.98e6	8.84e6	3157.9	6028.6	NO	bb	bb	98.583
13C-12378-PeCDD	31.188	1.234	5.724e5	3.504e5	0.947	1.633	1.550	1612	1274	8.38e6	5.12e6	5196.4	4019.3	NO	bb	bb	98.821
13C-123478-HxCDD	35.700	0.986	5.564e5	4.392e5	0.939	1.267	1.240	2743	1648	8.62e6	6.73e6	3141.7	4080.8	NO	bd	bd	101.807
13C-123678-HxCDD	35.811	0.989	5.959e5	5.045e5	1.042	1.181	1.240	2743	1648	8.99e6	7.37e6	3277.0	4471.2	NO	db	db	101.348
13C-1234678-HpCDD	39.934	1.103	4.104e5	3.826e5	0.788	1.073	1.050	2937	2277	5.73e6	5.34e6	1950.6	2346.0	NO	bb	bb	96.541
13C-OCDD	44.565	1.231	6.864e5	7.531e5	0.703	0.911	0.890	2659	3230	8.07e6	8.79e6	3033.9	2722.4	NO	bb	bb	196.447
13C-123789-HxCDD	36.201	0.000	5.863e5	4.556e5	1.000	1.287	1.240	2743	1648	8.64e6	6.94e6	3148.1	4211.4	NO	bb	bb	100.000
37CL-2378-TCDD	26.109	1.033	5.150e5		1.298			2844		7.52e6		2644.4			bb		40.245

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Printed: Tuesday, March 02, 2021 11:34:55 Pacific Standard Time

ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, 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					0.966		0.770	1504	1655								
1289-TCDF					0.736		0.770	1504	1655								
13468-PECDF					1.347		1.550	743	1310								
12389-PECDF					0.867		1.550	4634	7577								
123468-HXCDF					1.036		1.240	3707	3715								
1368-TCDD					1.256		0.770	1560	1090								
1289-TCDD					1.151		0.770	1560	1090								
12479-PECDD					1.773		1.550	2900	2859								
12389-PECDD					1.171		1.550	2900	2859								
124679-HXCDD					1.034		1.240	2066	3023								
1234679-HPCDD					1.194		1.050	3512	3483								
Total-tetrafurans			2.585e5		0.828			1504		3.74e6							40.456
Total-penta1			0.000e0					743		0.00e0							
Total-pentafurans			3.149e6		0.904			4634		4.74e7							394.824
Total-hexafurans			4.705e6		1.007			3707		7.25e7							787.531
Total-heptafurans			1.960e6		1.064			6565		2.92e7							394.636
Total-Furans			1.172e7		0.998			1504		1.72e8							1994.238
Total-tetradioxins			2.568e5		1.238			1560		3.71e6							40.670
Total-pentadioxins			1.105e6		1.308			2900		1.65e7							200.873
Total-hexadioxins			3.185e6		0.967			2066		4.98e7							582.773
Total-heptadioxins			8.522e5		1.125			3512		1.27e7							201.523
Total-Dioxins			6.820e6		1.141			1560		9.91e7							1421.774
Total-TEQ			1.854e7					1560		2.71e8							3416.012
FUNCTION1 PFK			2.242e6					601458		4.47e7							
FUNCTION2 PFK			9.886e5					524151		2.19e7							0.000
FUNCTION3 PFK			4.947e5					431459		1.01e7							0.000
FUNCTION4 PFK			6.553e5					401603		1.52e7							
FUNCTION5 PFK			3.700e5					240987		1.06e7							
FUNCTION1 HXCD...			2.040e3					638		2.63e4							0.000
FUNCTION1 HPCD...			1.812e3					1056		3.14e4							0.000
FUNCTION2 HPCD...			1.877e3					920		3.33e4							0.000
FUNCTION3 OCDPE			6.424e2					634		9.32e3							0.000
FUNCTION4 NCDPE			9.312e2					718		1.68e4							0.000
FUNCTION5 DCDPE			0.000e0					704		0.00e0							

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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:55 Pacific Standard Time

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.47	2.562e5	3.274e5	0.782	0.78	0.77	2462.6	YES	NO	bb	bb	40.080
2	Total-tetrafurans	24.25	2.343e3	3.456e3	0.828	0.68	0.77	22.6	YES	NO	bb	bd	0.376

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	29.90	4.826e2	3.491e2	0.904	1.38	1.55	3.1	NO	NO	bb	bd	0.066
2	12378-PeCDF	29.62	1.527e6	9.139e5	0.866	1.67	1.55	4890.7	YES	NO	bb	bb	195.963
3	Total-pentafurans	28.54	4.127e3	2.738e3	0.904	1.51	1.55	11.5	YES	NO	bb	bb	0.547
4	23478-PeCDF	30.95	1.616e6	9.760e5	0.980	1.66	1.55	5307.8	YES	NO	bb	bb	197.988
5	Total-pentafurans	30.69	1.797e3	1.264e3	0.904	1.42	1.55	5.7	NO	NO	bb	bb	0.244
6	Total-pentafurans	30.16	1.144e2	8.462e1	0.904	1.35	1.55	0.5	NO	NO	db	bb	0.016

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.59	1.194e6	9.312e5	1.043	1.28	1.24	5093.1	YES	NO	bb	bb	199.800
2	123678-HxCDF	34.72	1.274e6	1.004e6	0.961	1.27	1.24	5181.1	YES	NO	db	db	199.117
3	123478-HxCDF	34.59	1.227e6	9.582e5	1.002	1.28	1.24	5111.5	YES	NO	bd	bd	201.229
4	123789-HxCDF	36.62	1.010e6	7.884e5	0.994	1.28	1.24	4163.7	YES	NO	bb	bb	187.385

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.67	8.954e5	8.441e5	1.070	1.06	1.05	1863.7	YES	NO	bb	bb	194.170
2	1234678-HpCDF	38.46	1.065e6	1.040e6	1.058	1.02	1.05	2579.7	YES	NO	bb	bb	200.465

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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	25.47	2.562e5	3.274e5	0.782	0.78	0.77	2462.6	YES	NO	bb	bb	40.080
2	Total-tetrafurans	24.25	2.343e3	3.456e3	0.828	0.68	0.77	22.6	YES	NO	bb	bd	0.376
3	Total-pentafurans	29.90	4.826e2	3.491e2	0.904	1.38	1.55	3.1	NO	NO	bb	bd	0.066
4	12378-PeCDF	29.62	1.527e6	9.139e5	0.866	1.67	1.55	4890.7	YES	NO	bb	bb	195.963
5	Total-pentafurans	28.54	4.127e3	2.738e3	0.904	1.51	1.55	11.5	YES	NO	bb	bb	0.547
6	23478-PeCDF	30.95	1.616e6	9.760e5	0.980	1.66	1.55	5307.8	YES	NO	bb	bb	197.988
7	Total-pentafurans	30.69	1.797e3	1.264e3	0.904	1.42	1.55	5.7	NO	NO	bb	bb	0.244
8	Total-pentafurans	30.16	1.144e2	8.462e1	0.904	1.35	1.55	0.5	NO	NO	db	bb	0.016
9	234678-HxCDF	35.59	1.194e6	9.312e5	1.043	1.28	1.24	5093.1	YES	NO	bb	bb	199.800
10	123678-HxCDF	34.72	1.274e6	1.004e6	0.961	1.27	1.24	5181.1	YES	NO	db	db	199.117
11	123478-HxCDF	34.59	1.227e6	9.582e5	1.002	1.28	1.24	5111.5	YES	NO	bd	bd	201.229
12	123789-HxCDF	36.62	1.010e6	7.884e5	0.994	1.28	1.24	4163.7	YES	NO	bb	bb	187.385
13	1234789-HpCDF	40.67	8.954e5	8.441e5	1.070	1.06	1.05	1863.7	YES	NO	bb	bb	194.170
14	1234678-HpCDF	38.46	1.065e6	1.040e6	1.058	1.02	1.05	2579.7	YES	NO	bb	bb	200.465
15	OCDF	44.81	1.645e6	1.763e6	1.257	0.93	0.89	4760.7	YES	NO	bb	bb	376.791

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.11	2.507e5	3.200e5	1.307	0.78	0.77	2336.3	YES	NO	bb	bb	39.636
2	Total-tetradioxins	25.73	6.106e3	7.992e3	1.238	0.76	0.77	42.6	YES	NO	bb	bb	1.034

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.21	1.105e6	7.088e5	0.979	1.56	1.55	5694.2	YES	NO	bb	bb	200.873

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-hexadioxins	36.65	1.075e3	8.335e2	0.967	1.29	1.24	14.4	YES	NO	db	db	0.188
2	123789-HxCDD	36.21	1.037e6	8.393e5	0.927	1.24	1.24	7828.7	YES	NO	bb	bb	193.176
3	123678-HxCDD	35.82	1.125e6	9.178e5	0.953	1.23	1.24	8161.2	YES	NO	db	db	194.851
4	123478-HxCDD	35.71	1.022e6	8.301e5	0.956	1.23	1.24	8098.8	YES	NO	bd	bd	194.558

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HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	8.522e5	8.338e5	1.055	1.02	1.05	3623.4	YES	NO	bb	bb	201.523

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	26.11	2.507e5	3.200e5	1.307	0.78	0.77	2336.3	YES	NO	bb	bb	39.636
2	Total-tetradioxins	25.73	6.106e3	7.992e3	1.238	0.76	0.77	42.6	YES	NO	bb	bb	1.034
3	12378-PeCDD	31.21	1.105e6	7.088e5	0.979	1.56	1.55	5694.2	YES	NO	bb	bb	200.873
4	Total-hexadioxins	36.65	1.075e3	8.335e2	0.967	1.29	1.24	14.4	YES	NO	db	db	0.188
5	123789-HxCDD	36.21	1.037e6	8.393e5	0.927	1.24	1.24	7828.7	YES	NO	bb	bb	193.176
6	123678-HxCDD	35.82	1.125e6	9.178e5	0.953	1.23	1.24	8161.2	YES	NO	db	db	194.851
7	123478-HxCDD	35.71	1.022e6	8.301e5	0.956	1.23	1.24	8098.8	YES	NO	bd	bd	194.558
8	1234678-HpCDD	39.94	8.522e5	8.338e5	1.055	1.02	1.05	3623.4	YES	NO	bb	bb	201.523
9	OCDD	44.57	1.421e6	1.639e6	1.074	0.87	0.89	5377.7	YES	NO	MM	MM	395.935

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.47	2.562e5	3.274e5	0.782	0.78	0.77	2462.6	YES	NO	bb	bb	40.080
2	Total-tetrafurans	24.25	2.343e3	3.456e3	0.828	0.68	0.77	22.6	YES	NO	bb	bd	0.376
3	Total-pentafurans	29.90	4.826e2	3.491e2	0.904	1.38	1.55	3.1	NO	NO	bb	bd	0.066
4	12378-PeCDF	29.62	1.527e6	9.139e5	0.866	1.67	1.55	4890.7	YES	NO	bb	bb	195.963
5	Total-pentafurans	28.54	4.127e3	2.738e3	0.904	1.51	1.55	11.5	YES	NO	bb	bb	0.547
6	23478-PeCDF	30.95	1.616e6	9.760e5	0.980	1.66	1.55	5307.8	YES	NO	bb	bb	197.988
7	Total-pentafurans	30.69	1.797e3	1.264e3	0.904	1.42	1.55	5.7	NO	NO	bb	bb	0.244
8	Total-pentafurans	30.16	1.144e2	8.462e1	0.904	1.35	1.55	0.5	NO	NO	db	bb	0.016
9	234678-HxCDF	35.59	1.194e6	9.312e5	1.043	1.28	1.24	5093.1	YES	NO	bb	bb	199.800
10	123678-HxCDF	34.72	1.274e6	1.004e6	0.961	1.27	1.24	5181.1	YES	NO	db	db	199.117
11	123478-HxCDF	34.59	1.227e6	9.582e5	1.002	1.28	1.24	5111.5	YES	NO	bd	bd	201.229
12	123789-HxCDF	36.62	1.010e6	7.884e5	0.994	1.28	1.24	4163.7	YES	NO	bb	bb	187.385
13	1234789-HpCDF	40.67	8.954e5	8.441e5	1.070	1.06	1.05	1863.7	YES	NO	bb	bb	194.170
14	1234678-HpCDF	38.46	1.065e6	1.040e6	1.058	1.02	1.05	2579.7	YES	NO	bb	bb	200.465
15	OCDF	44.81	1.645e6	1.763e6	1.257	0.93	0.89	4760.7	YES	NO	bb	bb	376.791
16	2378-TCDD	26.11	2.507e5	3.200e5	1.307	0.78	0.77	2336.3	YES	NO	bb	bb	39.636
17	Total-tetradioxins	25.73	6.106e3	7.992e3	1.238	0.76	0.77	42.6	YES	NO	bb	bb	1.034
18	12378-PeCDD	31.21	1.105e6	7.088e5	0.979	1.56	1.55	5694.2	YES	NO	bb	bb	200.873
19	Total-hexadioxins	36.65	1.075e3	8.335e2	0.967	1.29	1.24	14.4	YES	NO	db	db	0.188
20	123789-HxCDD	36.21	1.037e6	8.393e5	0.927	1.24	1.24	7828.7	YES	NO	bb	bb	193.176
21	123678-HxCDD	35.82	1.125e6	9.178e5	0.953	1.23	1.24	8161.2	YES	NO	db	db	194.851
22	123478-HxCDD	35.71	1.022e6	8.301e5	0.956	1.23	1.24	8098.8	YES	NO	bd	bd	194.558
23	1234678-HpCDD	39.94	8.522e5	8.338e5	1.055	1.02	1.05	3623.4	YES	NO	bb	bb	201.523
24	OCDD	44.57	1.421e6	1.639e6	1.074	0.87	0.89	5377.7	YES	NO	MM	MM	395.935

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.15	9.222e3					0.7	NO		bd		
2	FUNCTION1 PFK	22.96	5.755e4					1.7	NO		db		
3	FUNCTION1 PFK	22.84	8.624e4					2.3	NO		dd		
4	FUNCTION1 PFK	22.74	9.379e4					2.1	NO		dd		
5	FUNCTION1 PFK	22.65	5.888e4					1.6	NO		dd		
6	FUNCTION1 PFK	22.53	3.966e4					1.5	NO		bd		
7	FUNCTION1 PFK	22.40	4.709e4					1.7	NO		bb		
8	FUNCTION1 PFK	22.21	2.955e4					1.7	NO		db		
9	FUNCTION1 PFK	22.16	5.546e4					1.9	NO		bd		
10	FUNCTION1 PFK	21.95	5.373e4					1.9	NO		db		
11	FUNCTION1 PFK	21.84	6.308e4					2.1	NO		bd		
12	FUNCTION1 PFK	21.72	7.574e4					2.4	NO		db		
13	FUNCTION1 PFK	21.60	9.380e4					2.5	NO		bd		
14	FUNCTION1 PFK	21.39	4.846e4					1.6	NO		bb		
15	FUNCTION1 PFK	21.32	4.583e4					1.9	NO		db		
16	FUNCTION1 PFK	21.27	3.472e4					1.8	NO		bd		
17	FUNCTION1 PFK	21.19	3.171e4					1.3	NO		db		
18	FUNCTION1 PFK	25.66	1.518e4					0.9	NO		bb		
19	FUNCTION1 PFK	25.44	6.248e4					2.1	NO		db		
20	FUNCTION1 PFK	25.32	6.632e4					1.9	NO		dd		
21	FUNCTION1 PFK	25.22	7.574e4					2.3	NO		dd		
22	FUNCTION1 PFK	25.10	5.438e4					1.6	NO		dd		
23	FUNCTION1 PFK	24.97	6.666e4					1.7	NO		bd		
24	FUNCTION1 PFK	24.90	5.665e4					2.0	NO		bb		
25	FUNCTION1 PFK	24.78	4.821e4					1.7	NO		bb		
26	FUNCTION1 PFK	24.32	4.813e4					1.5	NO		bb		
27	FUNCTION1 PFK	23.99	2.432e4					0.8	NO		bb		
28	FUNCTION1 PFK	23.87	2.632e4					1.1	NO		bb		
29	FUNCTION1 PFK	23.75	3.623e4					1.4	NO		bb		
30	FUNCTION1 PFK	23.54	6.111e4					2.0	NO		db		
31	FUNCTION1 PFK	23.42	7.269e4					2.1	NO		dd		
32	FUNCTION1 PFK	23.30	8.913e4					2.1	NO		bd		
33	FUNCTION1 PFK	23.08	3.599e4					1.6	NO		bb		
34	FUNCTION1 PFK	27.67	2.059e4					1.0	NO		bb		
35	FUNCTION1 PFK	27.45	5.333e4					1.4	NO		db		
36	FUNCTION1 PFK	27.33	6.119e4					1.9	NO		dd		
37	FUNCTION1 PFK	27.21	4.677e4					1.3	NO		bd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	27.00	4.018e4					1.4	NO		bb		
39	FUNCTION1 PFK	26.88	3.777e4					1.5	NO		bb		
40	FUNCTION1 PFK	26.70	4.154e4					1.5	NO		db		
41	FUNCTION1 PFK	26.64	1.864e4					1.0	NO		dd		
42	FUNCTION1 PFK	26.56	6.211e4					2.3	NO		dd		
43	FUNCTION1 PFK	26.44	4.831e4					1.6	NO		bd		
44	FUNCTION1 PFK	25.78	4.707e4					1.8	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.24	4.561e4					1.6	NO		bb		0.000
2	FUNCTION2 PFK	27.91	4.788e4					2.3	NO		db		0.000
3	FUNCTION2 PFK	27.88	4.898e4					2.5	NO		dd		0.000
4	FUNCTION2 PFK	27.78	1.974e5					4.7	YES		bd		0.000
5	FUNCTION2 PFK	31.30	6.308e3					0.5	NO		bb		0.000
6	FUNCTION2 PFK	30.82	2.682e4					1.7	NO		bb		0.000
7	FUNCTION2 PFK	30.69	5.832e4					2.1	NO		bb		0.000
8	FUNCTION2 PFK	30.47	2.981e4					1.3	NO		bb		0.000
9	FUNCTION2 PFK	30.17	2.168e3					0.4	NO		bb		0.000
10	FUNCTION2 PFK	29.58	1.366e4					0.9	NO		bb		0.000
11	FUNCTION2 PFK	29.34	2.952e4					1.3	NO		bb		0.000
12	FUNCTION2 PFK	29.24	2.151e4					1.0	NO		bb		0.000
13	FUNCTION2 PFK	29.17	9.012e3					0.6	NO		db		0.000
14	FUNCTION2 PFK	29.01	9.243e4					1.5	NO		dd		0.000
15	FUNCTION2 PFK	28.95	1.015e4					0.9	NO		dd		0.000
16	FUNCTION2 PFK	28.90	1.657e4					1.0	NO		bd		0.000
17	FUNCTION2 PFK	28.83	3.014e4					1.6	NO		db		0.000
18	FUNCTION2 PFK	28.78	2.604e4					1.5	NO		bd		0.000
19	FUNCTION2 PFK	28.69	1.305e4					0.9	NO		bb		0.000
20	FUNCTION2 PFK	28.34	3.236e4					1.6	NO		bb		0.000
21	FUNCTION2 PFK	32.42	2.660e4					1.4	NO		db		0.000
22	FUNCTION2 PFK	32.38	2.611e4					1.6	NO		bd		0.000
23	FUNCTION2 PFK	32.32	3.275e4					2.2	NO		db		0.000
24	FUNCTION2 PFK	32.28	3.569e4					2.0	NO		bd		0.000
25	FUNCTION2 PFK	32.07	2.179e4					1.1	NO		bb		0.000
26	FUNCTION2 PFK	31.93	2.787e4					1.1	NO		bb		0.000
27	FUNCTION2 PFK	31.71	1.130e4					0.8	NO		bb		0.000
28	FUNCTION2 PFK	31.61	4.873e4					2.0	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.34	4.389e4					2.3	NO		bb		0.000
2	FUNCTION3 PFK	35.23	6.594e4					2.9	NO		bb		0.000
3	FUNCTION3 PFK	34.47	5.377e4					1.9	NO		bb		0.000
4	FUNCTION3 PFK	34.07	5.582e4					2.0	NO		db		0.000
5	FUNCTION3 PFK	34.00	3.029e4					1.9	NO		bd		0.000
6	FUNCTION3 PFK	33.18	2.129e4					1.5	NO		bb		0.000
7	FUNCTION3 PFK	32.61	5.049e4					2.3	NO		bb		0.000
8	FUNCTION3 PFK	37.26	3.961e4					2.2	NO		bb		0.000
9	FUNCTION3 PFK	36.90	4.150e4					2.1	NO		bb		0.000
10	FUNCTION3 PFK	36.80	3.973e4					2.2	NO		bb		0.000
11	FUNCTION3 PFK	35.56	5.237e4					2.1	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	40.16	1.595e4					1.3	NO		dd		
2	FUNCTION4 PFK	40.09	2.012e4					1.3	NO		dd		
3	FUNCTION4 PFK	40.04	2.032e4					1.5	NO		bd		
4	FUNCTION4 PFK	39.73	5.053e4					2.0	NO		bb		
5	FUNCTION4 PFK	39.38	4.262e4					2.2	NO		bb		
6	FUNCTION4 PFK	38.69	7.964e3					0.9	NO		bb		
7	FUNCTION4 PFK	38.47	4.365e4					1.9	NO		bb		
8	FUNCTION4 PFK	38.16	2.222e4					1.5	NO		db		
9	FUNCTION4 PFK	38.13	1.016e4					1.0	NO		bd		
10	FUNCTION4 PFK	37.95	2.120e4					1.7	NO		db		
11	FUNCTION4 PFK	37.91	2.754e4					2.0	NO		bd		
12	FUNCTION4 PFK	42.77	1.027e4					1.2	NO		db		
13	FUNCTION4 PFK	42.74	1.901e4					1.6	NO		bd		
14	FUNCTION4 PFK	42.65	2.442e4					1.4	NO		bb		
15	FUNCTION4 PFK	42.30	4.113e4					2.1	NO		db		
16	FUNCTION4 PFK	42.20	4.100e4					1.9	NO		bd		
17	FUNCTION4 PFK	41.85	1.540e4					1.3	NO		bb		
18	FUNCTION4 PFK	41.74	3.037e4					1.9	NO		bb		
19	FUNCTION4 PFK	41.65	5.034e4					2.2	NO		bb		
20	FUNCTION4 PFK	41.52	5.492e4					2.1	NO		bb		
21	FUNCTION4 PFK	41.17	1.005e4					1.0	NO		bb		
22	FUNCTION4 PFK	41.09	2.864e4					1.5	NO		bb		
23	FUNCTION4 PFK	40.94	3.426e4					1.3	NO		bb		
24	FUNCTION4 PFK	40.20	1.318e4					1.0	NO		db		

ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, 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	43.22	3.271e4					2.1	NO		bb		
2	FUNCTION5 PFK	43.07	9.523e3					1.6	NO		bb		
3	FUNCTION5 PFK	45.43	3.101e3					0.5	NO		bb		
4	FUNCTION5 PFK	45.34	1.344e4					1.3	NO		bb		
5	FUNCTION5 PFK	45.22	2.102e4					1.6	NO		bb		
6	FUNCTION5 PFK	45.02	1.871e4					2.9	NO		db		
7	FUNCTION5 PFK	44.99	1.348e4					1.8	NO		bd		
8	FUNCTION5 PFK	44.93	5.752e3					1.2	NO		db		
9	FUNCTION5 PFK	44.89	1.691e4					2.1	NO		bd		
10	FUNCTION5 PFK	44.78	2.278e4					2.7	NO		bb		
11	FUNCTION5 PFK	44.68	8.769e3					1.5	NO		db		
12	FUNCTION5 PFK	44.66	1.090e4					1.6	NO		bd		
13	FUNCTION5 PFK	44.59	5.806e3					1.0	NO		bb		
14	FUNCTION5 PFK	44.45	2.521e4					2.2	NO		bb		
15	FUNCTION5 PFK	44.01	3.531e3					0.6	NO		bb		
16	FUNCTION5 PFK	43.97	6.099e3					1.2	NO		bb		
17	FUNCTION5 PFK	43.78	1.508e4					1.2	NO		bb		
18	FUNCTION5 PFK	43.43	2.571e4					2.2	NO		bb		
19	FUNCTION5 PFK	46.36	1.309e4					1.6	NO		db		
20	FUNCTION5 PFK	46.32	7.838e3					1.0	NO		dd		
21	FUNCTION5 PFK	46.26	5.479e3					1.3	NO		dd		
22	FUNCTION5 PFK	46.23	1.161e4					1.7	NO		bd		
23	FUNCTION5 PFK	46.14	1.566e4					1.2	NO		bb		
24	FUNCTION5 PFK	45.95	7.735e3					1.4	NO		db		
25	FUNCTION5 PFK	45.89	1.799e4					1.8	NO		bd		
26	FUNCTION5 PFK	45.71	8.130e3					1.4	NO		db		
27	FUNCTION5 PFK	45.65	1.856e4					2.3	NO		bd		
28	FUNCTION5 PFK	45.59	4.675e3					0.9	NO		bb		
29	FUNCTION5 PFK	45.53	6.998e2					0.3	NO		bb		

ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, 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...	24.55	7.431e1					1.5	NO		bb		0.000
2	FUNCTION1 HXCD...	24.34	1.020e2					3.0	NO		bb		0.000
3	FUNCTION1 HXCD...	22.89	7.234e1					1.5	NO		bb		0.000
4	FUNCTION1 HXCD...	22.30	1.961e2					2.4	NO		bb		0.000
5	FUNCTION1 HXCD...	27.53	9.045e1					2.9	NO		bb		0.000
6	FUNCTION1 HXCD...	27.17	2.554e2					8.5	YES		bb		0.000
7	FUNCTION1 HXCD...	27.00	1.091e2					2.5	NO		bb		0.000
8	FUNCTION1 HXCD...	26.73	8.017e1					2.1	NO		db		0.000
9	FUNCTION1 HXCD...	26.65	1.417e2					2.0	NO		dd		0.000
10	FUNCTION1 HXCD...	26.38	2.666e2					4.8	YES		dd		0.000
11	FUNCTION1 HXCD...	26.32	2.265e2					3.4	YES		dd		0.000
12	FUNCTION1 HXCD...	26.15	3.080e2					3.8	YES		bd		0.000
13	FUNCTION1 HXCD...	24.76	1.175e2					2.9	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...	24.73	8.303e1					1.4	NO		bb		0.000
2	FUNCTION1 HPCD...	24.58	8.862e1					1.7	NO		bb		0.000
3	FUNCTION1 HPCD...	24.20	8.844e1					1.5	NO		bb		0.000
4	FUNCTION1 HPCD...	23.13	1.075e2					1.5	NO		bb		0.000
5	FUNCTION1 HPCD...	22.45	1.039e2					1.4	NO		bb		0.000
6	FUNCTION1 HPCD...	21.45	1.417e2					2.4	NO		bb		0.000
7	FUNCTION1 HPCD...	27.29	9.328e1					2.5	NO		db		0.000
8	FUNCTION1 HPCD...	27.23	7.394e1					1.8	NO		dd		0.000
9	FUNCTION1 HPCD...	27.15	1.254e2					2.4	NO		bd		0.000
10	FUNCTION1 HPCD...	26.73	1.737e2					2.5	NO		bb		0.000
11	FUNCTION1 HPCD...	26.38	1.281e2					2.7	NO		bb		0.000
12	FUNCTION1 HPCD...	25.88	1.033e2					1.1	NO		db		0.000
13	FUNCTION1 HPCD...	25.73	1.319e2					1.8	NO		bd		0.000
14	FUNCTION1 HPCD...	25.59	7.914e1					1.6	NO		db		0.000
15	FUNCTION1 HPCD...	25.50	7.633e1					1.1	NO		bd		0.000
16	FUNCTION1 HPCD...	25.28	2.138e2					2.1	NO		bb		0.000

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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:34:55 Pacific Standard Time

ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, 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...	32.16	8.134e1					3.5	YES		bb		0.000
2	FUNCTION2 HPCD...	30.84	1.662e3					29.3	YES		bb		0.000
3	FUNCTION2 HPCD...	29.29	1.339e2					3.3	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	35.71	2.615e2					6.5	YES		bb		0.000
2	FUNCTION3 OCDPE	36.20	3.809e2					8.2	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	41.28	7.796e1					2.1	NO		db		0.000
2	FUNCTION4 NCDPE	41.21	1.221e2					3.0	YES		bd		0.000
3	FUNCTION4 NCDPE	40.98	1.514e2					6.6	YES		bb		0.000
4	FUNCTION4 NCDPE	39.92	2.120e2					4.7	YES		bb		0.000
5	FUNCTION4 NCDPE	38.47	9.897e1					2.1	NO		bb		0.000
6	FUNCTION4 NCDPE	38.24	1.219e2					3.0	NO		bb		0.000
7	FUNCTION4 NCDPE	37.86	1.469e2					2.0	NO		bb		0.000

ETHERS6

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

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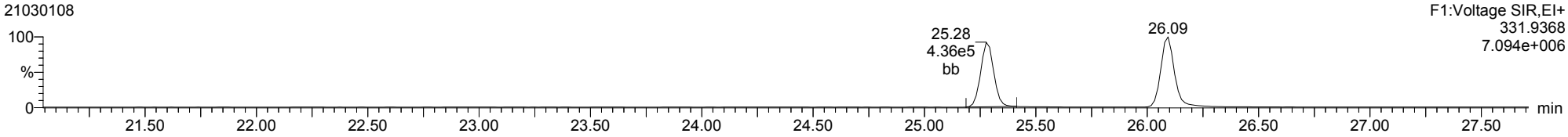

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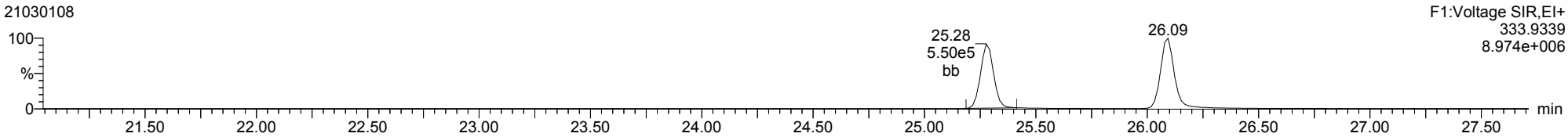

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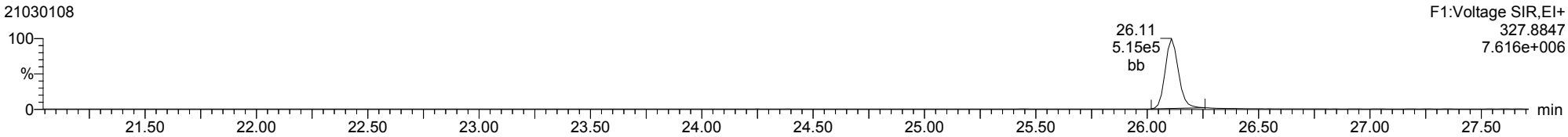

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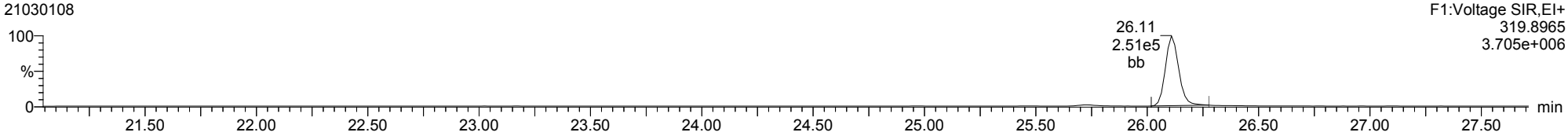

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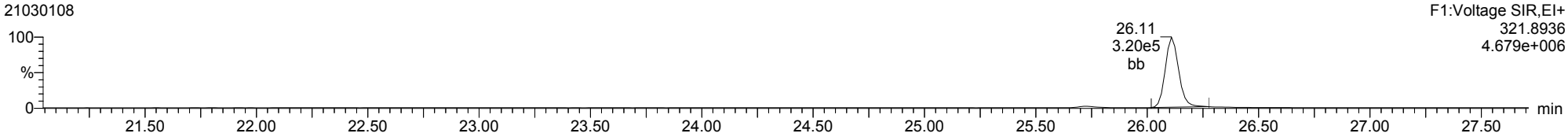

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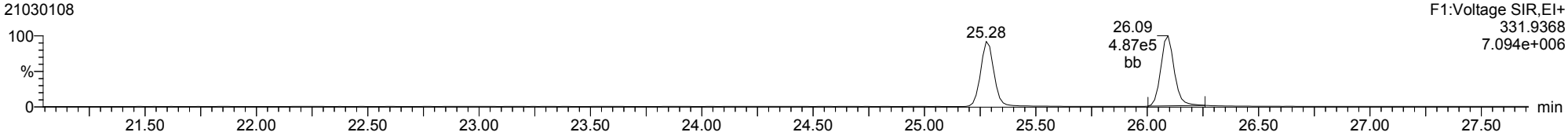

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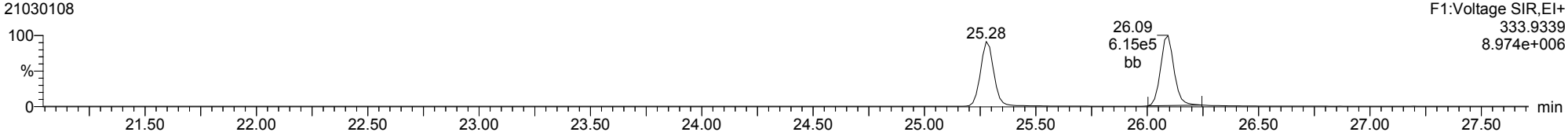

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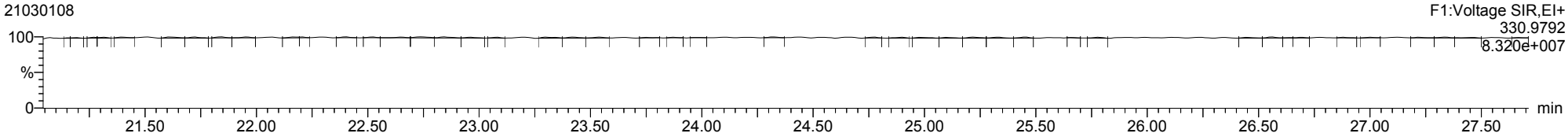

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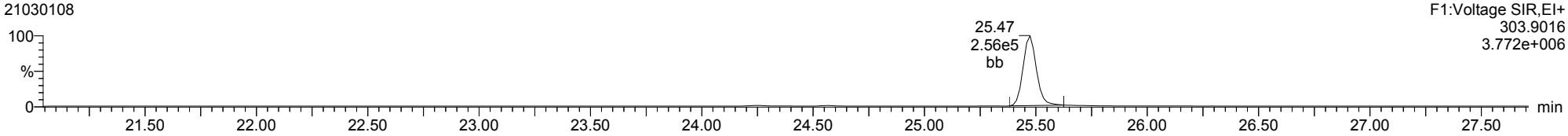

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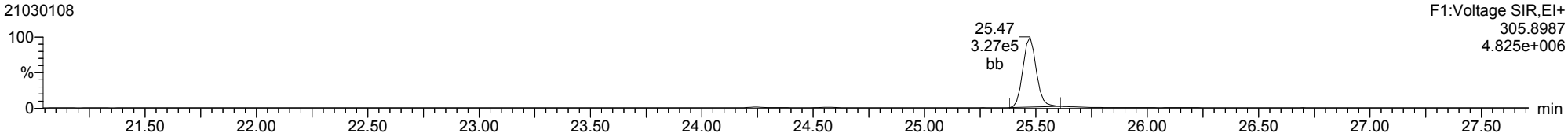

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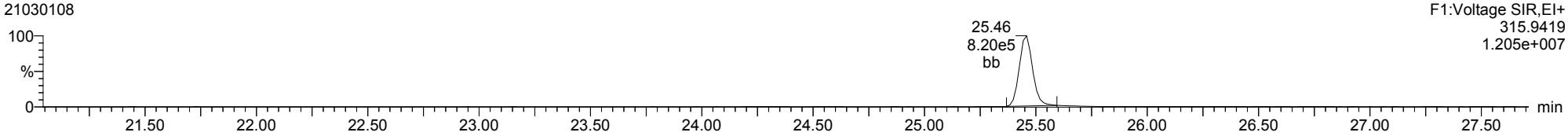

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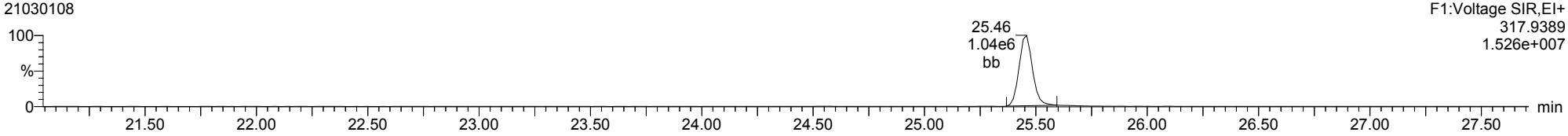

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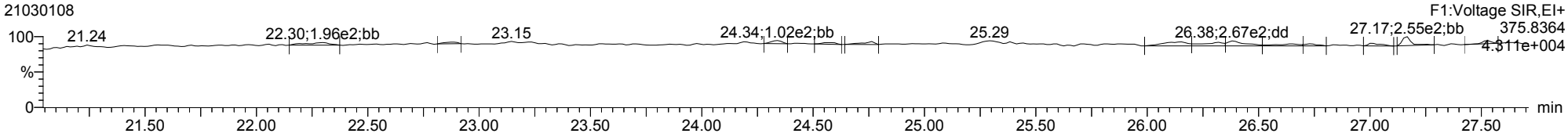

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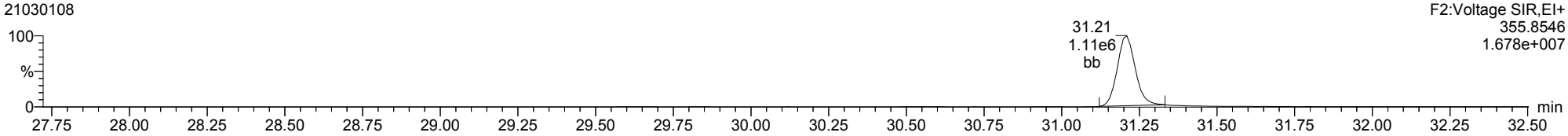

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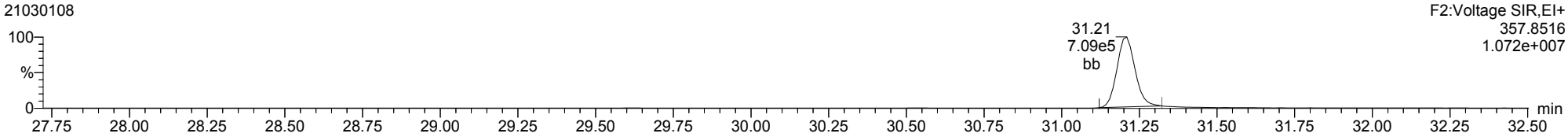

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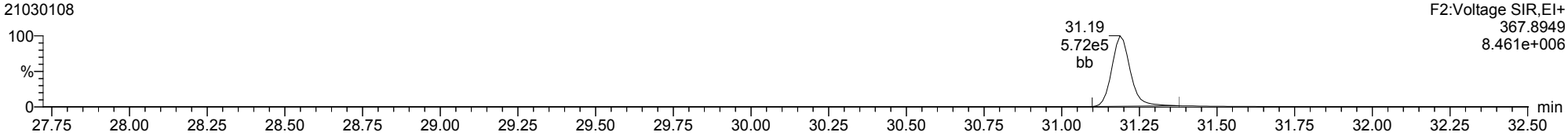

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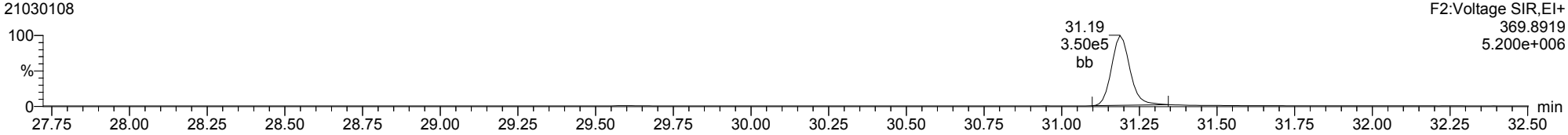

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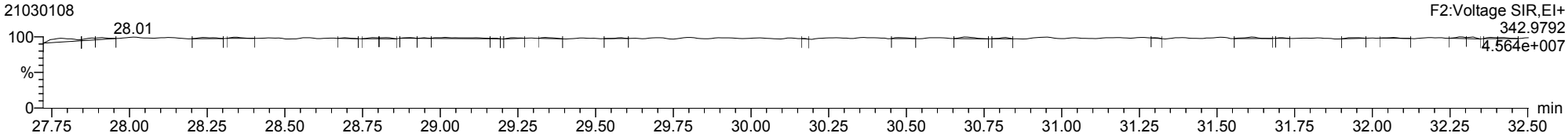

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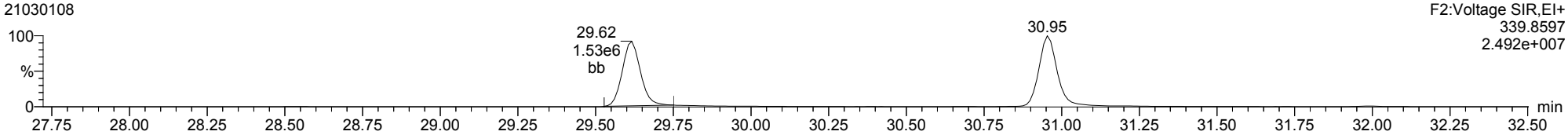

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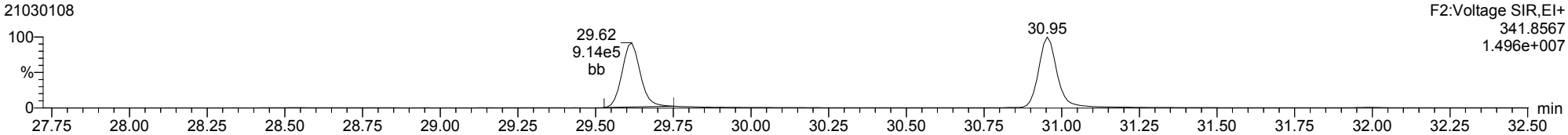

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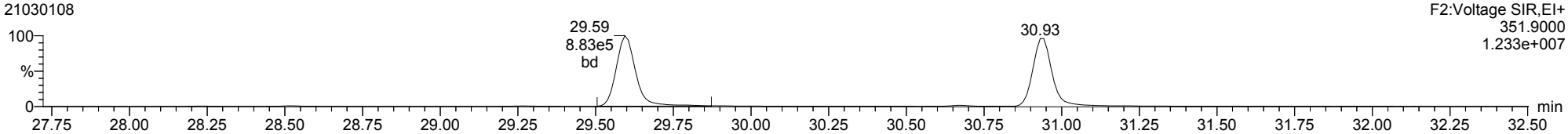

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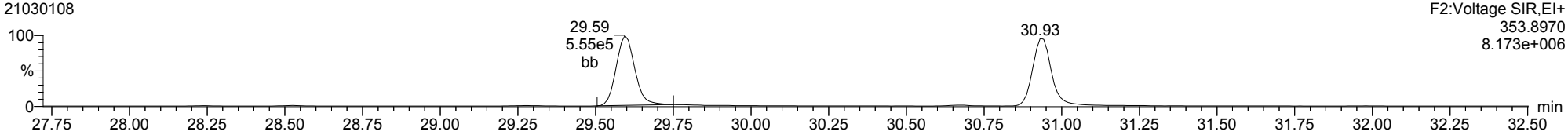

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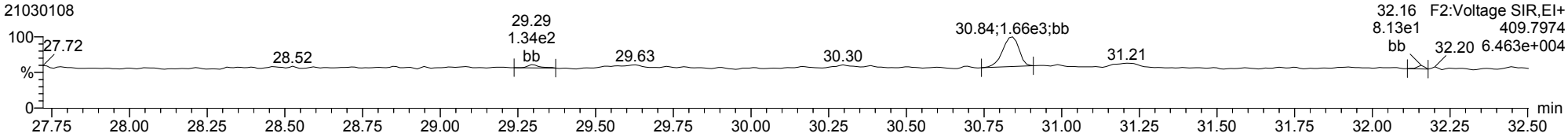

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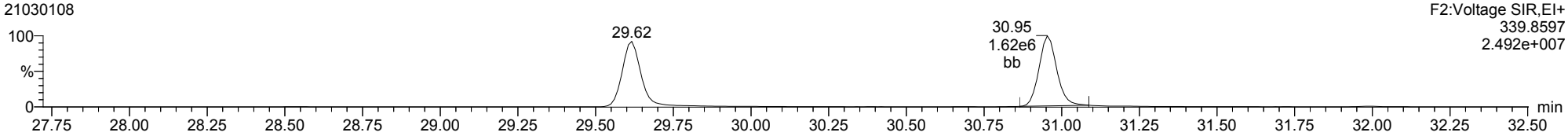

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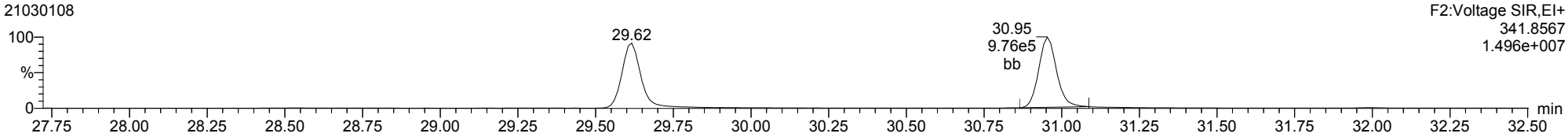

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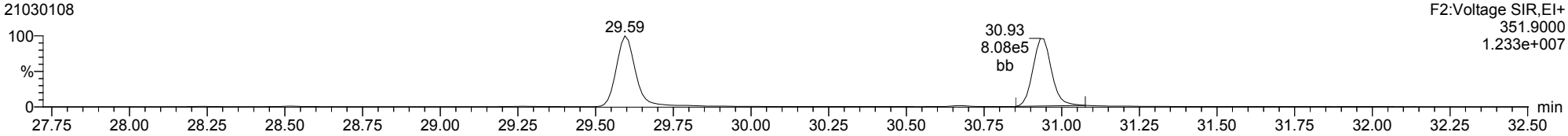

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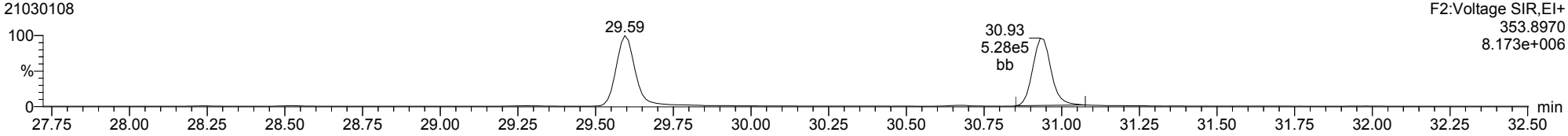
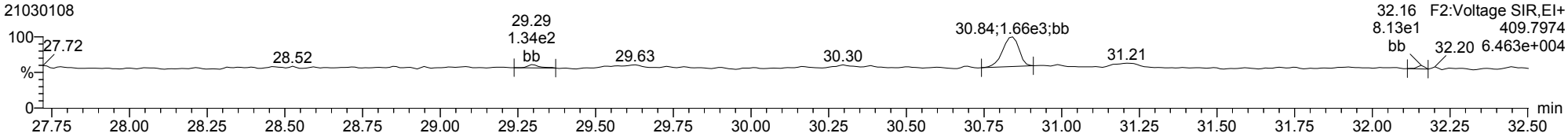


FUNCTION2 HPCDPE



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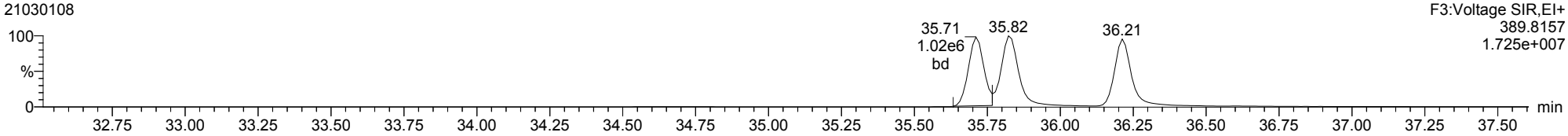
123478-HxCDD



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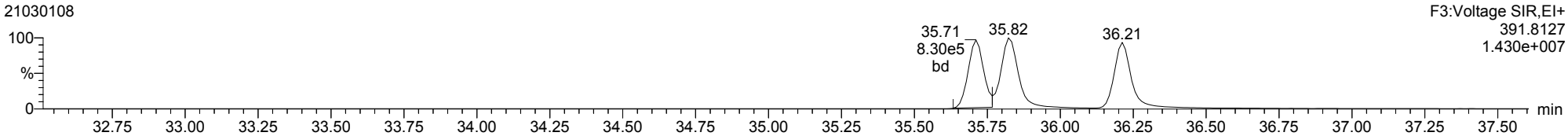

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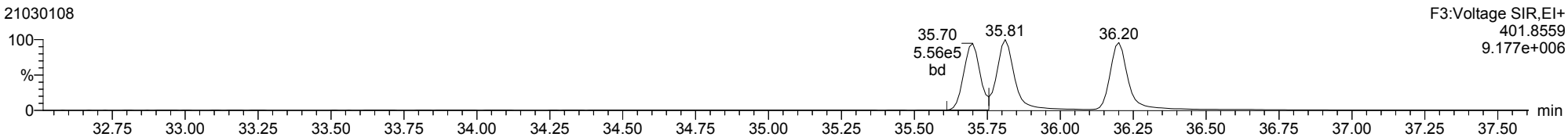

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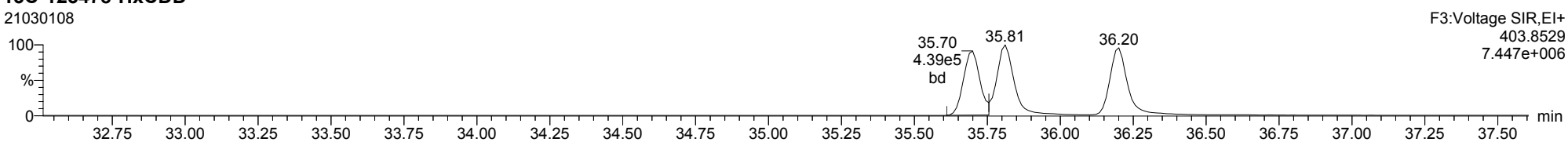
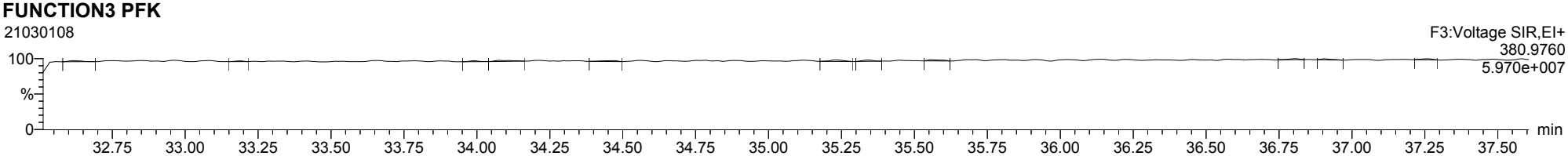


FUNCTION3 PFK



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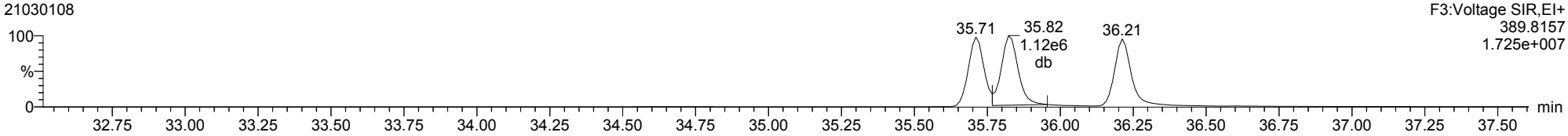

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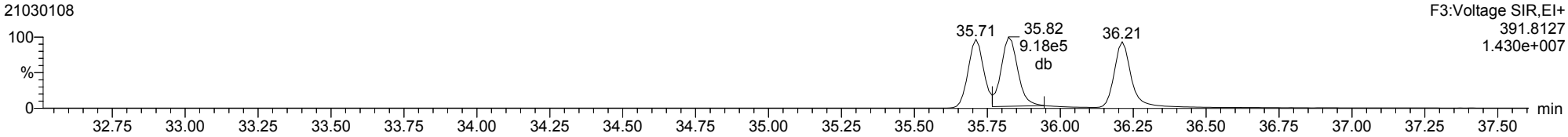

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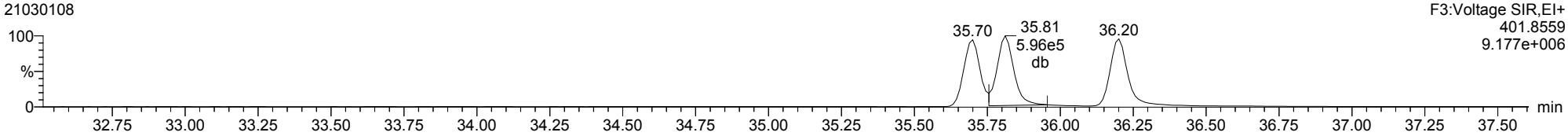

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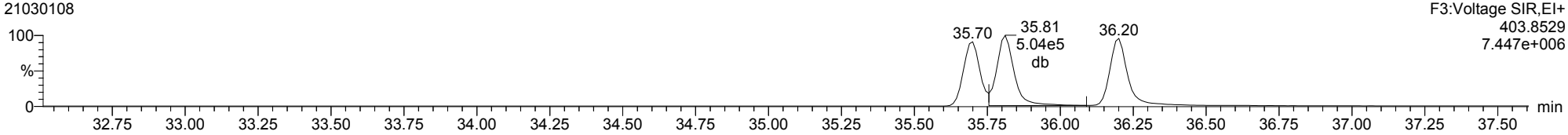

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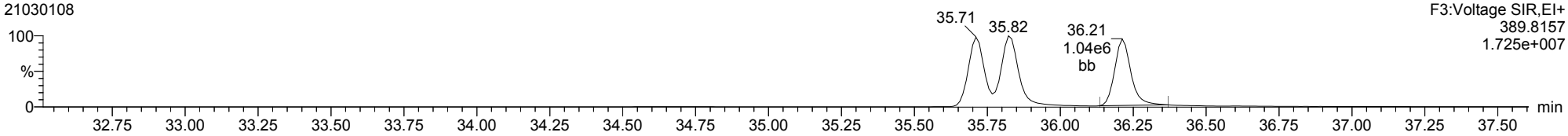

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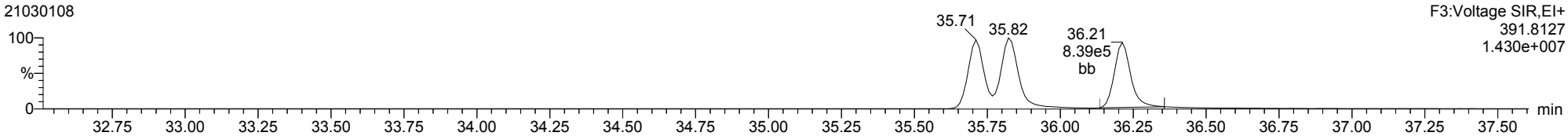

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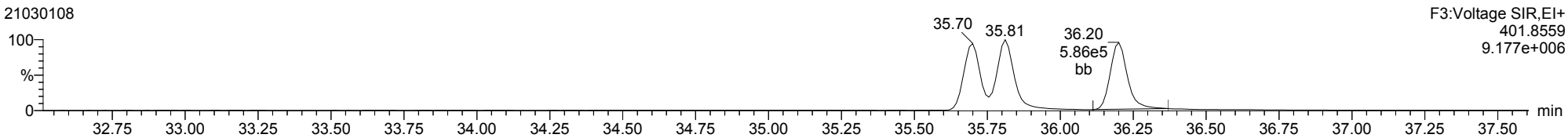

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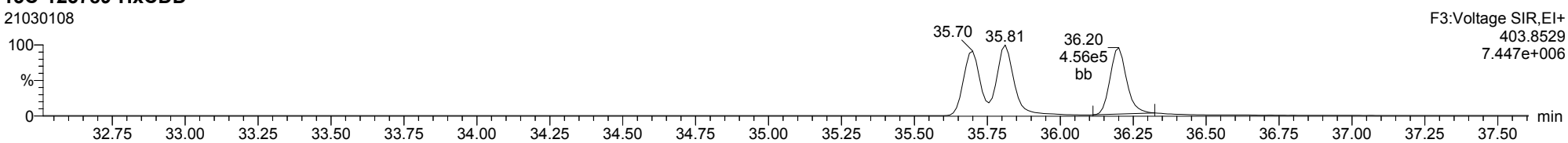

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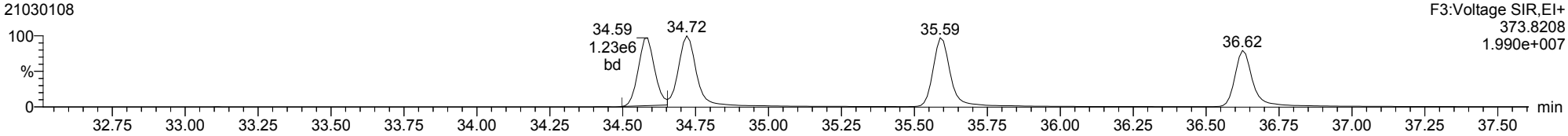

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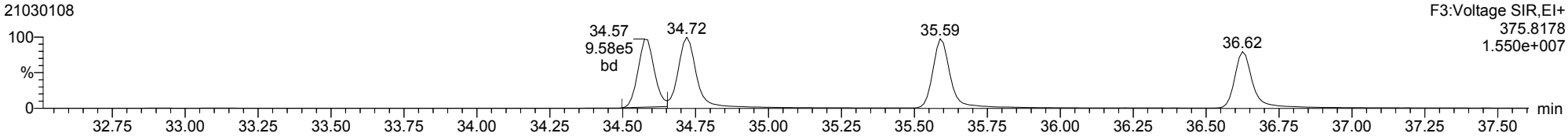

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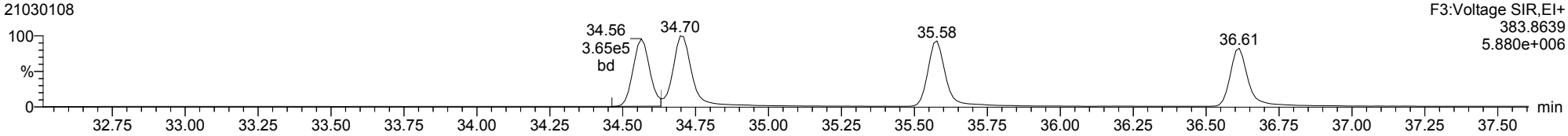

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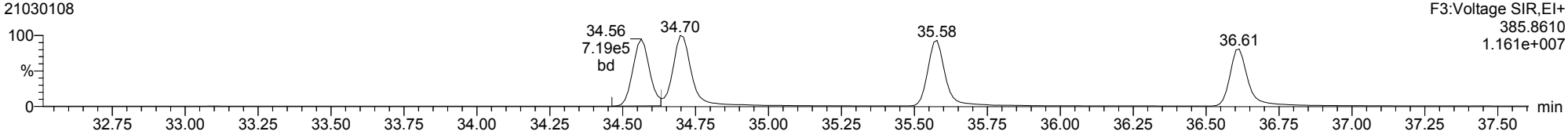

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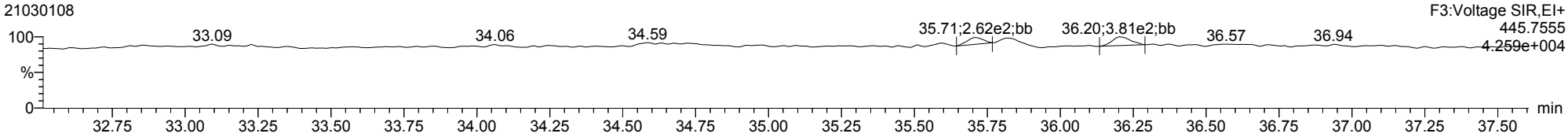

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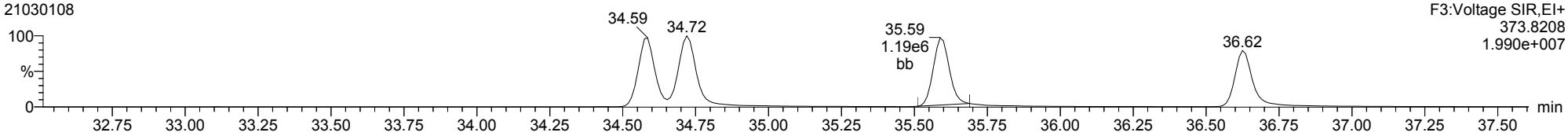

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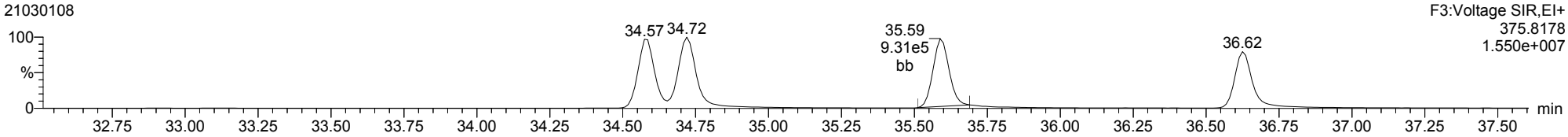

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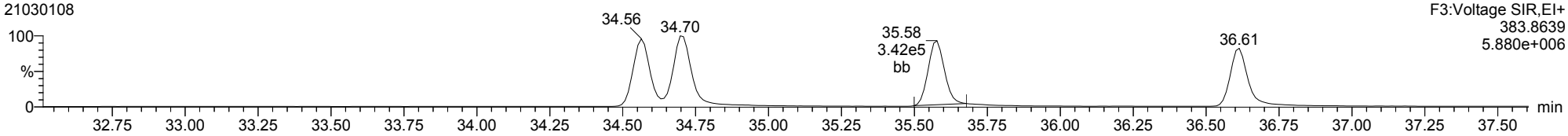

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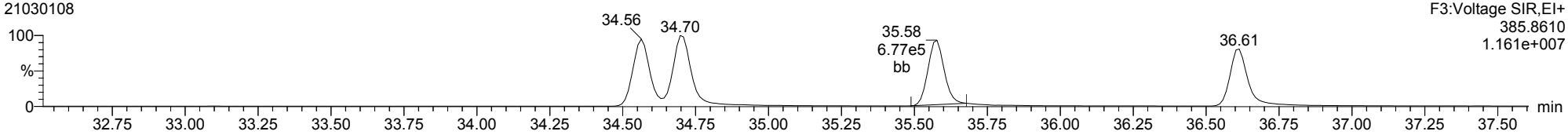

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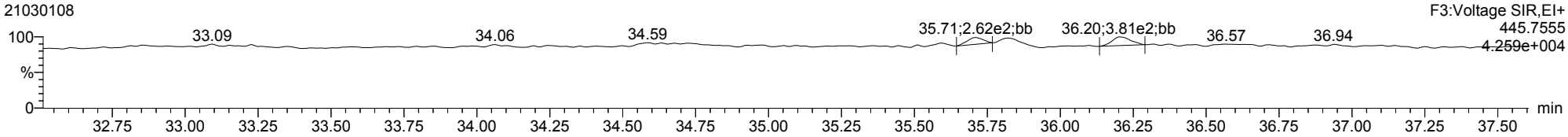

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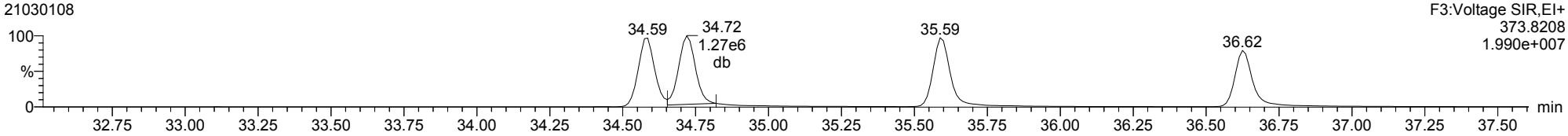

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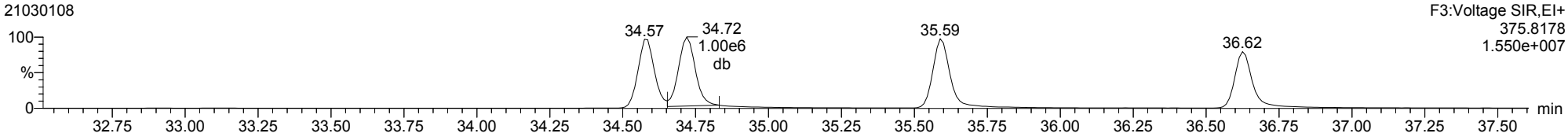

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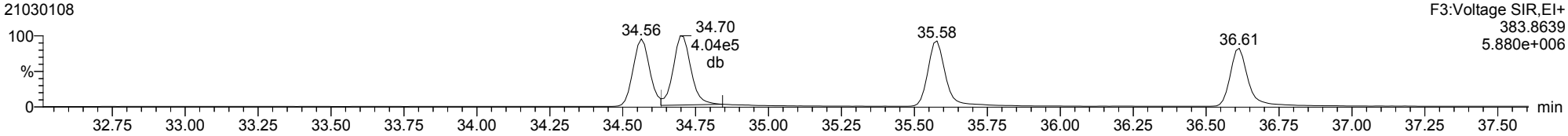

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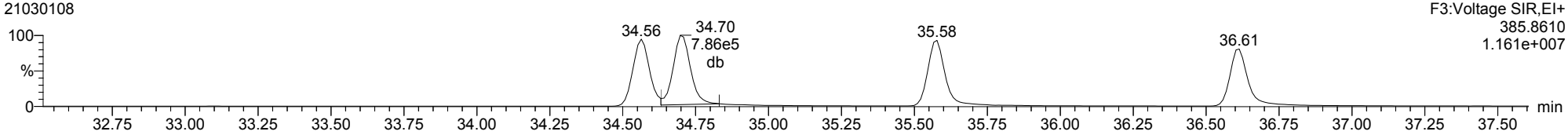

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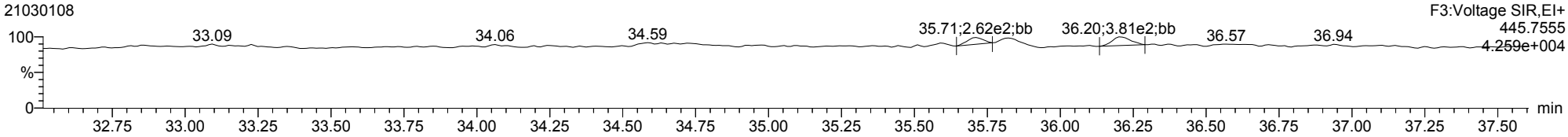

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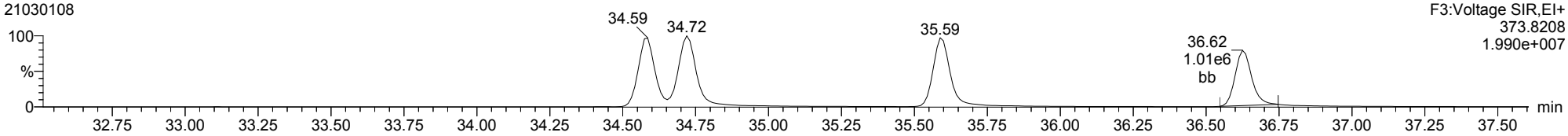

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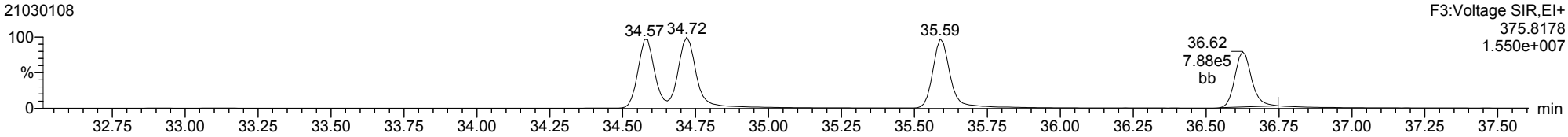

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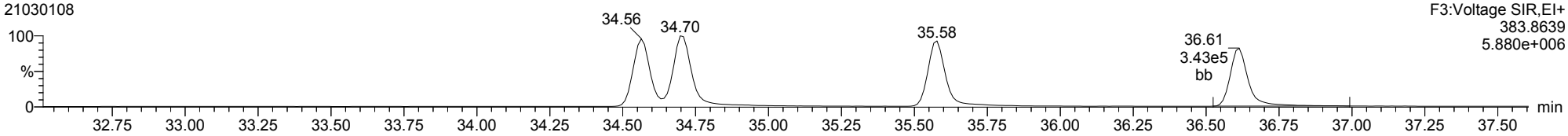

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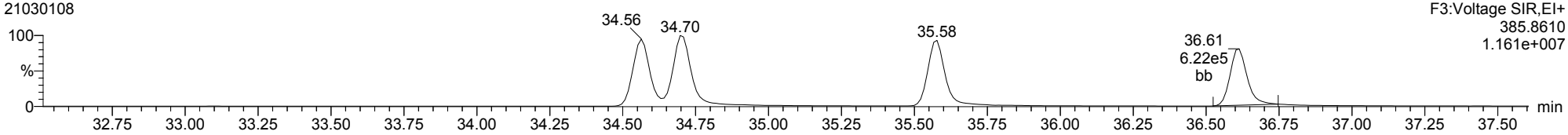

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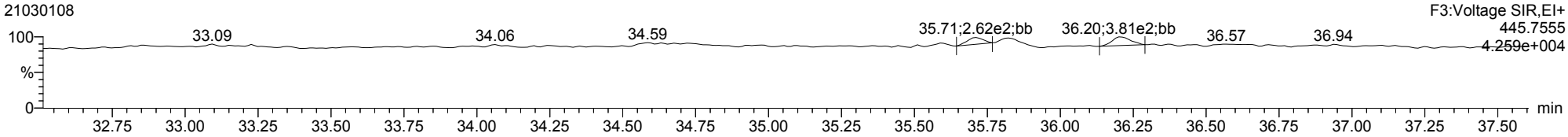

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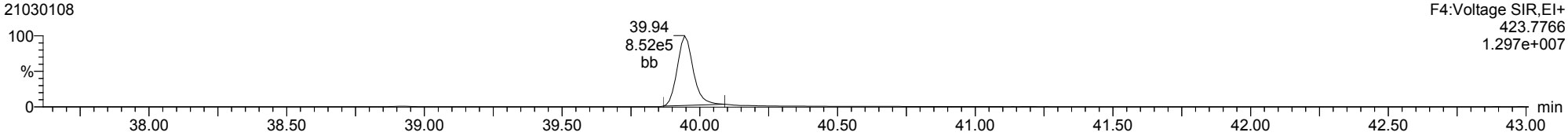

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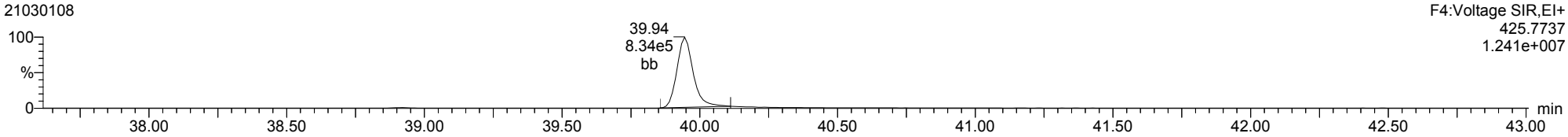

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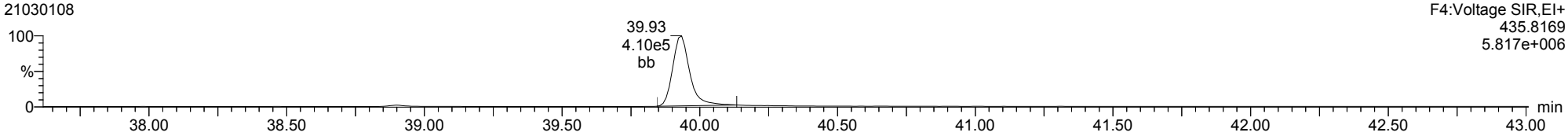

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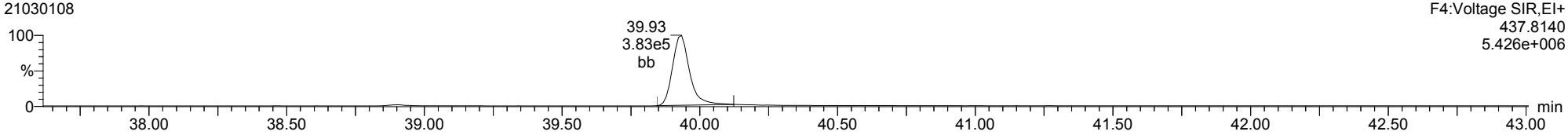
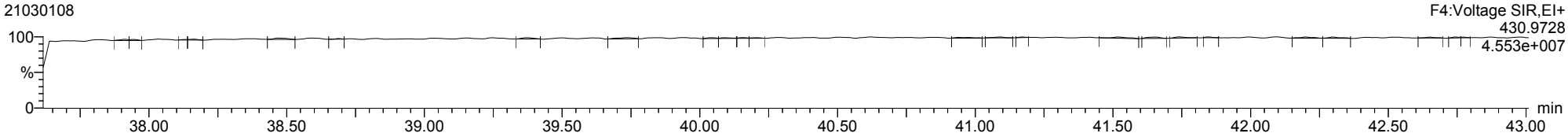


FUNCTION4 PFK



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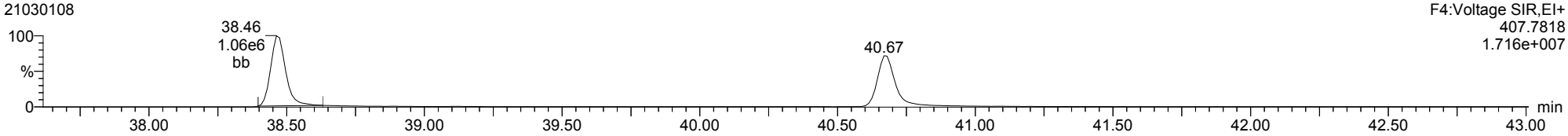

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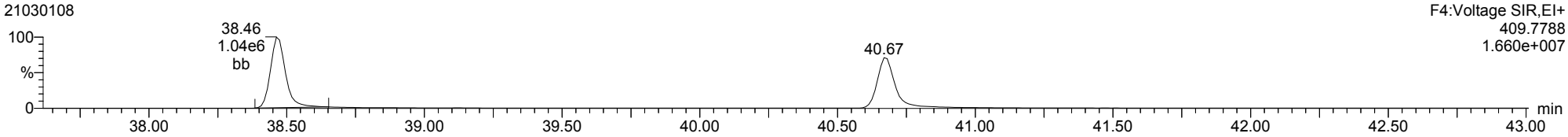

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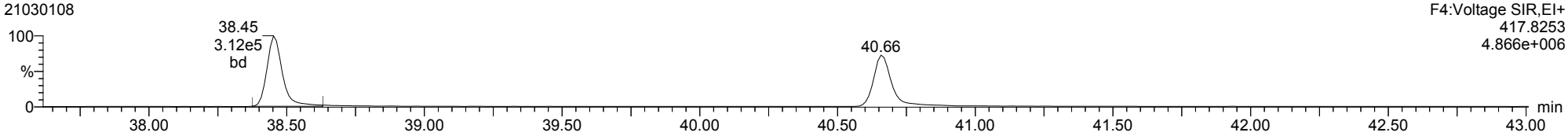

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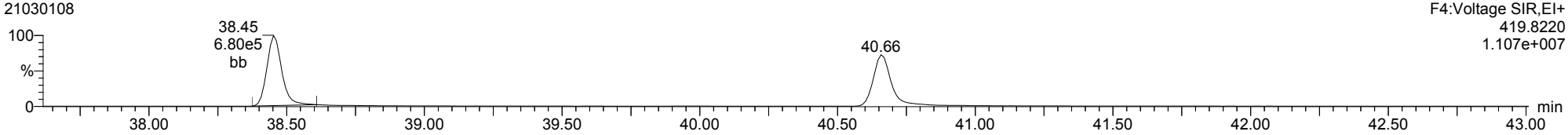

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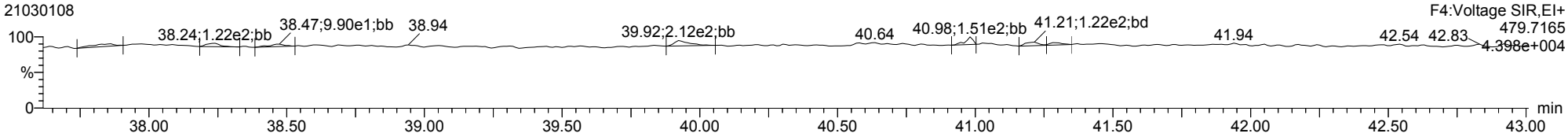

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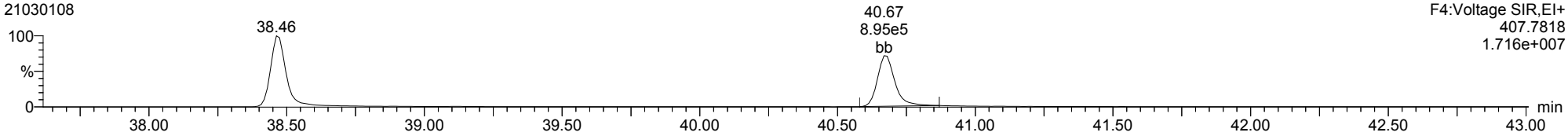

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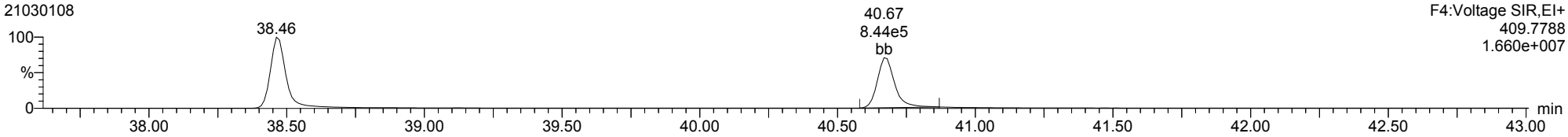

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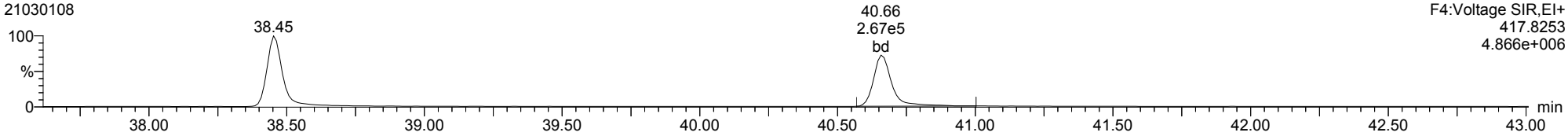

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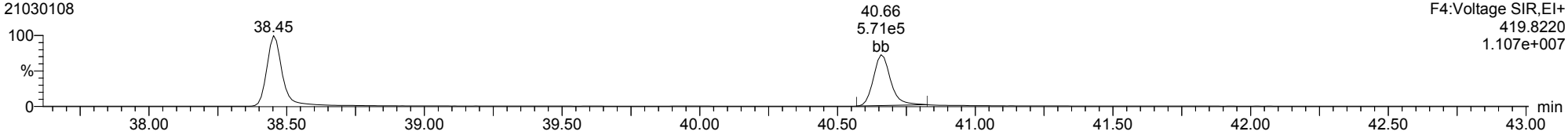

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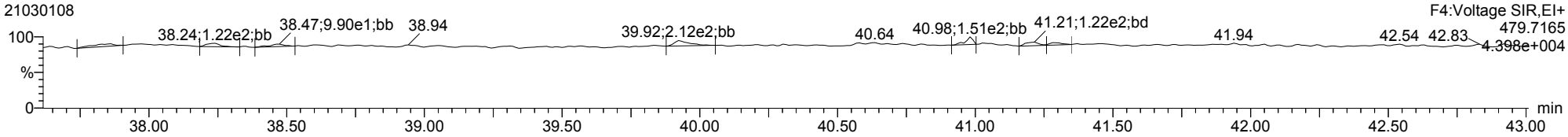

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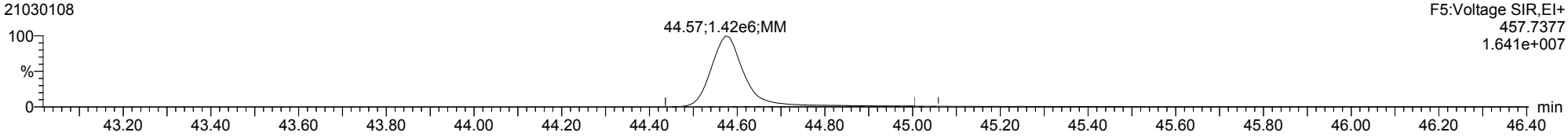
OCDD



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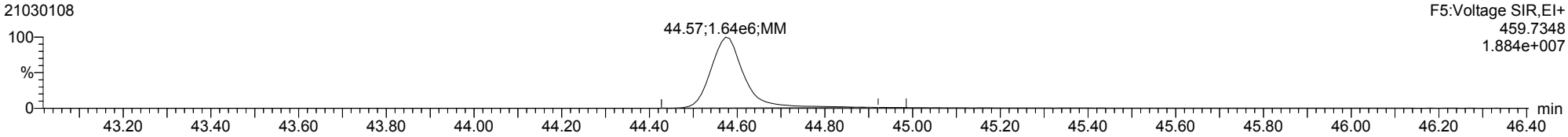

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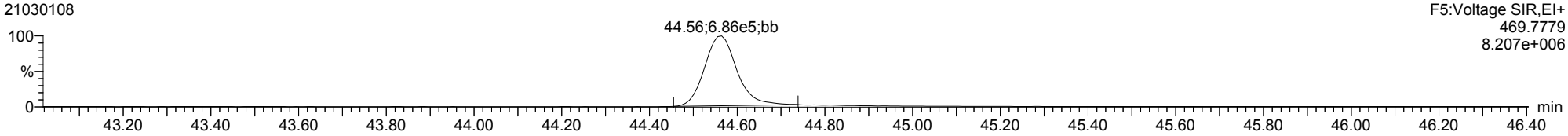

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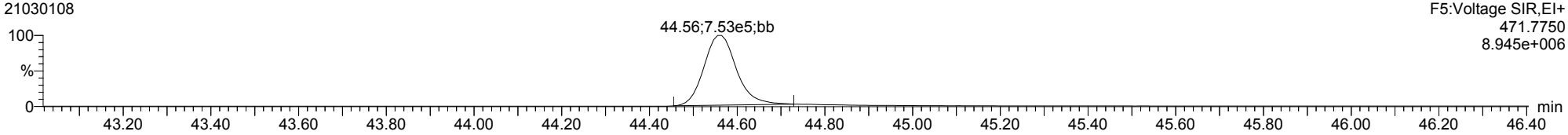
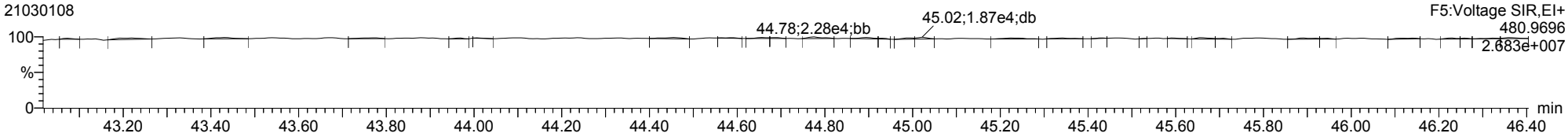


FUNCTION5 PFK



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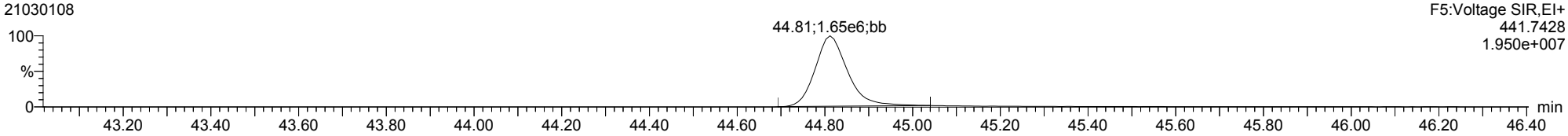
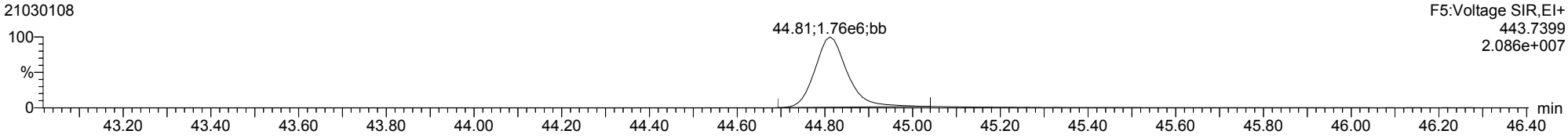
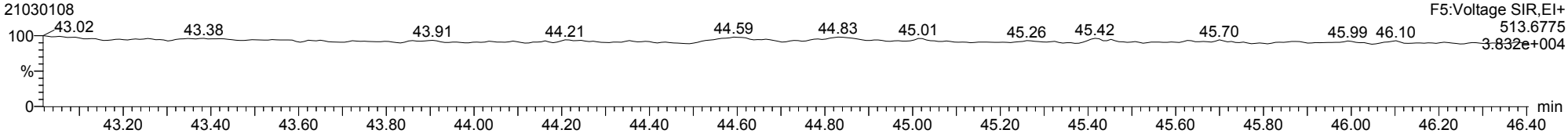


OCDF

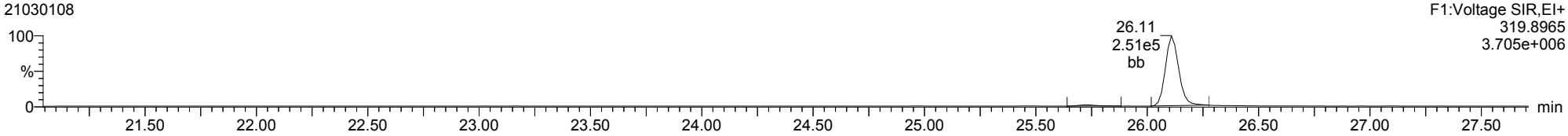


FUNCTION5 DCDPE

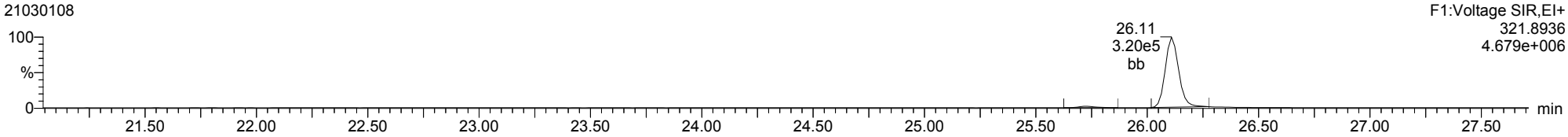


ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, Conditions: AUTOSPEC01, User: pk

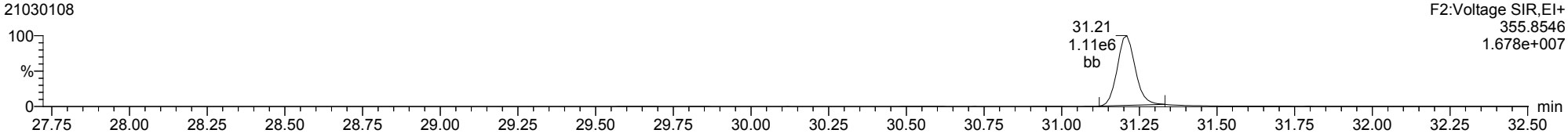
Total-tetradioxins



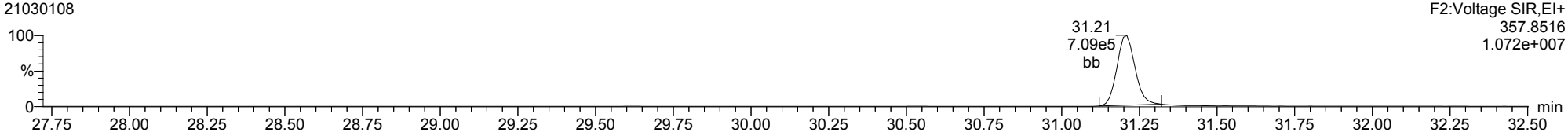
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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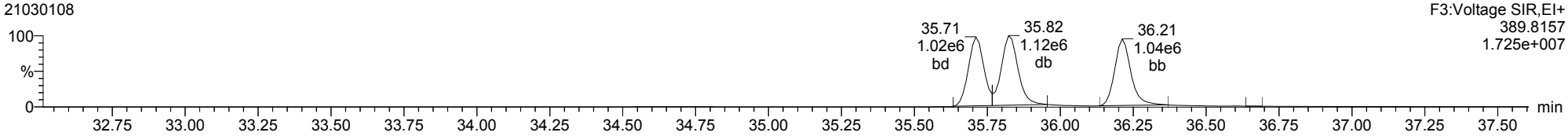
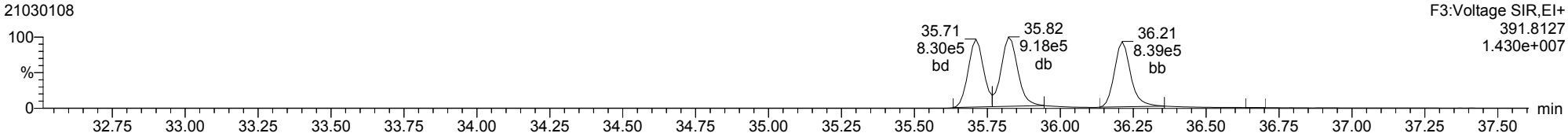
Total-hexadioxins



Total-hexadioxins



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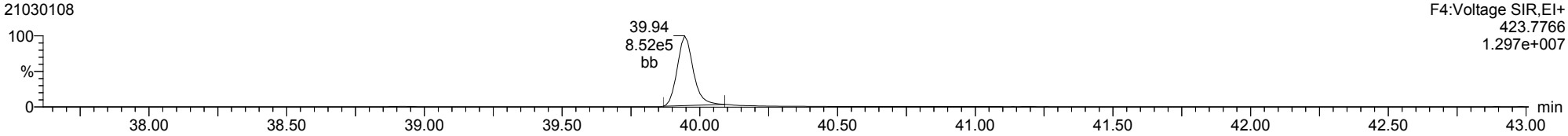

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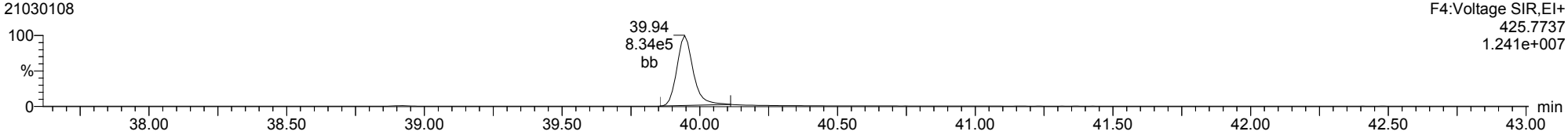
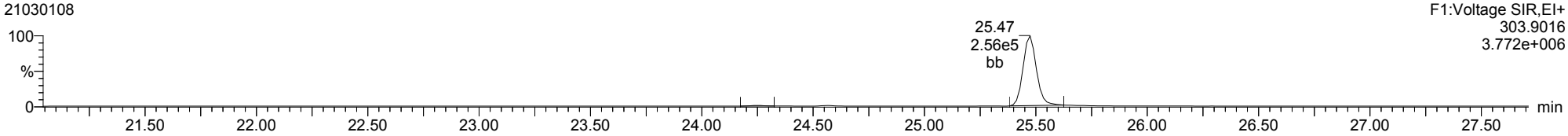
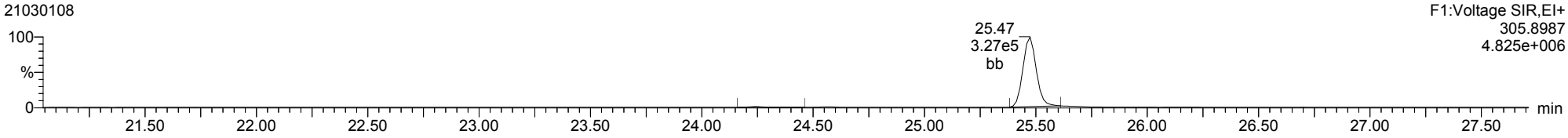


ID: CS4CV, Name: 21030108, Date: 01-Mar-2021, Time: 16:46:20, Conditions: AUTOSPEC01, User: pk

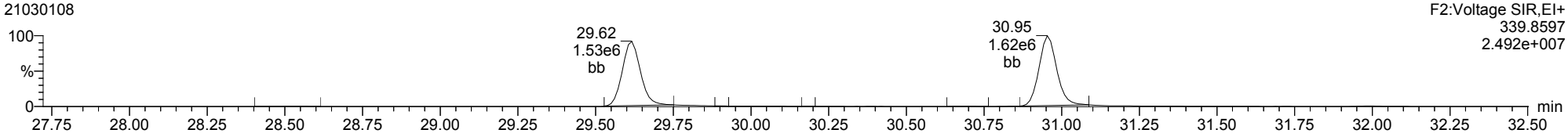
Total-tetrafurans



Total-tetrafurans



Total-pentafurans



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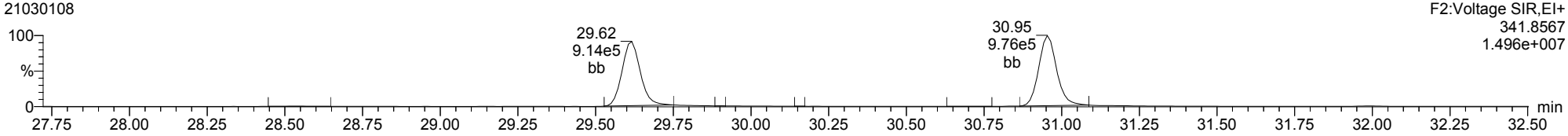

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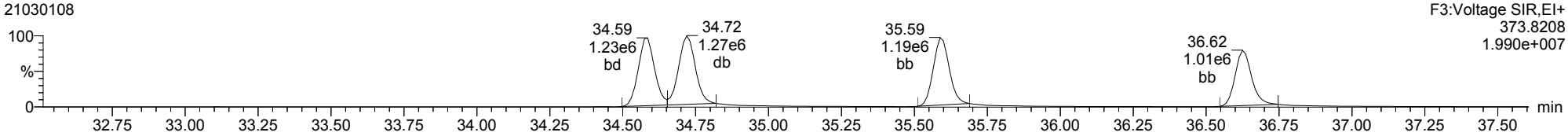
Total-hexafurans



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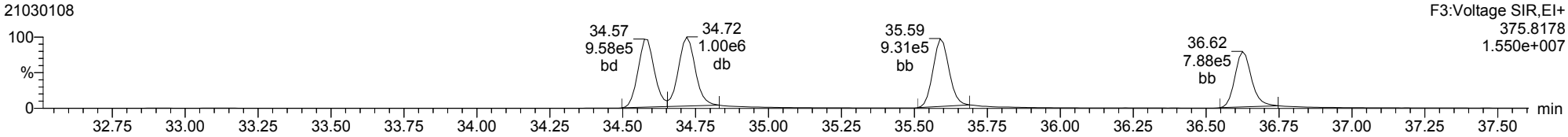
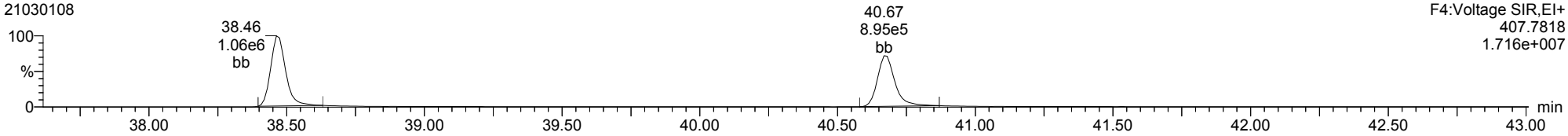
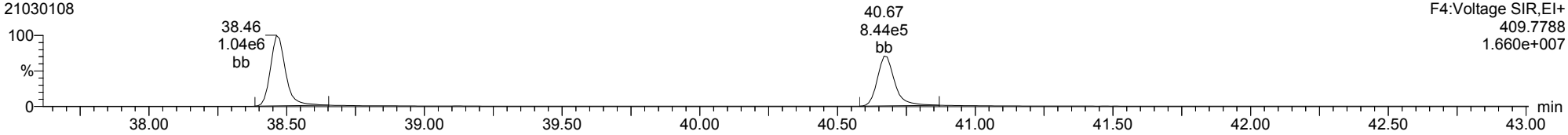


Total-heptafurans



Total-heptafurans



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Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:35:06 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS5CV, Name: 21030109, Date: 01-Mar-2021, Time: 17:35:23, 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	25.473	1.001	1.590e6	2.031e6	0.782	0.783	0.770	1852	2701	2.36e7	2.99e7	12738.8	11080.7	NO	bb	bb	199.142
12378-PeCDF	29.616	1.001	1.051e7	6.307e6	0.866	1.666	1.550	6631	4394	1.62e8	9.67e7	24358.9	22001.2	NO	bb	bb	1003.796
23478-PeCDF	30.953	1.001	1.138e7	6.853e6	0.980	1.661	1.550	6631	4394	1.75e8	1.05e8	26344.0	23931.4	NO	bb	bb	985.164
123478-HxCDF	34.585	1.001	7.866e6	7.004e6	1.002	1.123	1.240	2546	1547	1.34e8	1.10e8	52471.4	71117.5	NO	bb	bd	946.234
234678-HxCDF	35.588	1.000	8.929e6	6.909e6	1.043	1.293	1.240	2546	1547	1.49e8	1.17e8	58614.7	75341.3	NO	bb	bb	1009.730
123678-HxCDF	34.719	1.000	8.069e6	7.330e6	0.961	1.101	1.240	2546	1547	1.39e8	1.17e8	54784.3	75427.0	NO	bb	db	938.768
123789-HxCDF	36.624	1.000	7.686e6	5.880e6	0.994	1.307	1.240	2546	1547	1.23e8	9.54e7	48235.5	61683.5	NO	bb	bb	959.602
1234678-HpCDF	38.462	1.000	7.931e6	7.559e6	1.058	1.049	1.050	10730	7918	1.33e8	1.28e8	12406.6	16218.9	NO	bb	bb	991.576
1234789-HpCDF	40.679	1.000	6.715e6	6.403e6	1.070	1.049	1.050	10730	7918	1.01e8	9.64e7	9449.3	12175.7	NO	bb	bb	996.147
OCDF	44.819	1.006	1.305e7	1.399e7	1.257	0.933	0.890	7231	3584	1.66e8	1.77e8	22919.6	49280.8	NO	bb	bb	1904.007
2378-TCDD	26.108	1.001	1.604e6	2.026e6	1.307	0.791	0.770	1789	1521	2.42e7	3.07e7	13528.6	20169.9	NO	bb	bb	200.548
12378-PeCDD	31.209	1.001	7.733e6	4.989e6	0.979	1.550	1.550	3845	2667	1.21e8	7.77e7	31486.9	29152.0	NO	bb	bb	1019.948
123478-HxCDD	35.710	1.000	7.561e6	6.161e6	0.956	1.227	1.240	4024	3131	1.27e8	1.03e8	31563.8	32957.4	NO	bd	bd	997.076
123678-HxCDD	35.821	1.000	8.135e6	6.664e6	0.953	1.221	1.240	4024	3131	1.28e8	1.06e8	31784.3	33828.8	NO	db	db	1017.955
123789-HxCDD	36.211	1.011	7.644e6	6.334e6	0.927	1.207	1.240	4024	3131	1.28e8	1.05e8	31689.2	33557.1	NO	bb	bb	1017.077
1234678-HpCDD	39.944	1.000	6.483e6	6.231e6	1.055	1.041	1.050	4742	6107	1.05e8	1.01e8	22202.8	16495.9	NO	bb	bb	1009.905
OCDD	44.582	1.000	1.111e7	1.283e7	1.074	0.866	0.890	4933	3970	1.40e8	1.61e8	28314.9	40649.1	NO	bd	bd	1972.538
13C-2378-TCDF	25.458	1.007	1.025e6	1.301e6	1.925	0.788	0.770	4234	2794	1.49e7	1.88e7	3524.2	6724.8	NO	bb	bb	104.958
13C-12378-PeCDF	29.594	1.171	1.160e6	7.741e5	1.442	1.498	1.550	3232	2634	1.72e7	1.15e7	5335.8	4366.9	NO	bb	bb	116.447
13C-23478-PeCDF	30.931	1.224	1.138e6	7.514e5	1.387	1.514	1.550	3232	2634	1.68e7	1.12e7	5198.1	4240.6	NO	bb	bb	118.296
13C-123478-HxCDF	34.563	0.955	5.266e5	1.041e6	1.053	0.506	0.510	2101	2042	8.25e6	1.63e7	3927.0	7967.7	NO	bd	bd	96.976
13C-123678-HxCDF	34.708	0.959	5.817e5	1.125e6	1.135	0.517	0.510	2101	2042	8.89e6	1.70e7	4231.3	8335.3	NO	db	db	97.938
13C-234678-HxCDF	35.576	0.983	5.065e5	9.973e5	1.004	0.508	0.510	2101	2042	8.38e6	1.65e7	3986.7	8100.1	NO	bb	bb	97.544
13C-123789-HxCDF	36.612	1.011	4.761e5	9.457e5	0.909	0.503	0.510	2101	2042	7.53e6	1.48e7	3581.4	7251.6	NO	bb	bb	101.876
13C-1234678-HpCDF	38.451	1.062	4.513e5	1.025e6	0.960	0.440	0.440	2631	3738	7.39e6	1.70e7	2810.0	4540.2	NO	bb	bb	100.195
13C-1234789-HpCDF	40.668	1.123	3.756e5	8.554e5	0.794	0.439	0.440	2631	3738	5.59e6	1.27e7	2125.8	3405.0	NO	bb	bb	101.017
13C-1234-TCDD	25.277	0.000	5.095e5	6.421e5	1.000	0.793	0.770	2357	1687	7.80e6	9.73e6	3308.2	5765.4	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	6.061e5	7.784e5	1.133	0.779	0.770	2357	1687	8.96e6	1.14e7	3801.1	6762.8	NO	bb	bb	106.133
13C-12378-PeCDD	31.187	1.234	7.905e5	4.840e5	0.947	1.633	1.550	1437	1217	1.22e7	7.44e6	8466.7	6119.3	NO	bb	bb	116.886
13C-123478-HxCDD	35.699	0.986	8.021e5	6.372e5	0.939	1.259	1.240	2818	1863	1.28e7	1.03e7	4559.8	5513.4	NO	bd	bd	99.877
13C-123678-HxCDD	35.810	0.989	8.437e5	6.825e5	1.042	1.236	1.240	2818	1863	1.32e7	1.06e7	4694.8	5708.5	NO	db	db	95.389
13C-1234678-HpCDD	39.932	1.103	6.169e5	5.763e5	0.788	1.070	1.050	3153	1902	9.40e6	8.82e6	2982.3	4636.5	NO	bb	bb	98.578
13C-OCDD	44.563	1.231	1.073e6	1.187e6	0.703	0.904	0.890	4158	2368	1.38e7	1.51e7	3312.5	6359.8	NO	bb	bb	209.308
13C-123789-HxCDD	36.200	0.000	8.573e5	6.780e5	1.000	1.264	1.240	2818	1863	1.39e7	1.10e7	4942.1	5893.9	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	3.263e6		1.298			2859		4.94e7		17280.6			bb		218.397

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
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Printed: Tuesday, March 02, 2021 11:35:06 Pacific Standard Time

ID: CS5CV, Name: 21030109, Date: 01-Mar-2021, Time: 17:35:23, 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					0.966		0.770	1852	2701								
1289-TCDF					0.736		0.770	1852	2701								
13468-PECDF					1.347		1.550	698	1319								
12389-PECDF					0.867		1.550	6631	4394								
123468-HXCDF					1.036		1.240	2546	1547								
1368-TCDD					1.256		0.770	1789	1521								
1289-TCDD					1.151		0.770	1789	1521								
12479-PECDD					1.773		1.550	3845	2667								
12389-PECDD					1.171		1.550	3845	2667								
124679-HXCDD					1.034		1.240	4024	3131								
1234679-HPCDD					1.194		1.050	4742	6107								
Total-tetrafurans			1.618e6		0.828			1852		2.40e7							202.383
Total-penta1			0.000e0					698		0.00e0							
Total-pentafurans			2.195e7		0.904			6631		3.37e8							1994.700
Total-hexafurans			3.256e7		1.007			2546		5.45e8							3855.876
Total-heptafurans			1.466e7		1.064			10730		2.35e8							1989.502
Total-Furans			8.384e7		0.998			1852		1.31e9							9946.467
Total-tetradioxins			1.639e6		1.238			1789		2.46e7							205.278
Total-pentadioxins			7.748e6		1.308			3845		1.21e8							1021.483
Total-hexadioxins			2.336e7		0.967			4024		3.83e8							3035.232
Total-heptadioxins			6.483e6		1.125			4742		1.05e8							1009.905
Total-Dioxins			5.034e7		1.141			1789		7.74e8							7244.467
Total-TEQ			1.342e8					1789		2.08e9							17190.934
FUNCTION1 PFK			2.144e6					735973		3.98e7							
FUNCTION2 PFK			1.135e6					433365		2.45e7							0.000
FUNCTION3 PFK			1.682e6					499819		3.37e7							0.000
FUNCTION4 PFK			8.526e5					361786		1.45e7							
FUNCTION5 PFK			3.116e5					214305		7.45e6							
FUNCTION1 HXCD...			3.567e3					678		5.33e4							0.000
FUNCTION1 HPCD...			2.955e3					1294		4.23e4							0.000
FUNCTION2 HPCD...			1.200e4					1023		1.97e5							0.000
FUNCTION3 OCDPE			5.708e3					658		6.56e4							0.000
FUNCTION4 NCDPE			1.359e3					780		1.59e4							0.000
FUNCTION5 DCDPE			4.269e3					928		3.69e4							0.000

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
Last Altered: Tuesday, March 02, 2021 11:24:22 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:35:06 Pacific Standard Time

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS5CV, Name: 21030109, Date: 01-Mar-2021, Time: 17:35:23, 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	26.40	2.212e2	2.513e2	0.828	0.88	0.77	2.2	NO	NO	bd	bb	0.025
2	Total-tetrafurans	26.23	2.481e2	3.065e2	0.828	0.81	0.77	3.3	YES	NO	db	db	0.029
3	Total-tetrafurans	26.11	1.825e3	2.357e3	0.828	0.77	0.77	13.6	YES	NO	dd	bd	0.217
4	2378-TCDF	25.47	1.590e6	2.031e6	0.782	0.78	0.77	12738.8	YES	NO	bb	bb	199.142
5	Total-tetrafurans	24.57	1.053e4	1.305e4	0.828	0.81	0.77	74.9	YES	NO	db	db	1.224
6	Total-tetrafurans	24.38	1.123e3	1.628e3	0.828	0.69	0.77	10.4	YES	NO	dd	dd	0.143
7	Total-tetrafurans	24.23	1.376e4	1.709e4	0.828	0.81	0.77	99.8	YES	NO	bd	bd	1.602

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	31.20	1.866e4	1.050e4	0.904	1.78	1.55	42.8	YES	NO	bb	bb	1.687
2	23478-PeCDF	30.95	1.138e7	6.853e6	0.980	1.66	1.55	26344.0	YES	NO	bb	bb	985.164
3	Total-pentafurans	29.89	5.293e3	3.802e3	0.904	1.39	1.55	7.0	YES	NO	bb	bb	0.526
4	12378-PeCDF	29.62	1.051e7	6.307e6	0.866	1.67	1.55	24358.9	YES	NO	bb	bb	1003.7...
5	Total-pentafurans	29.27	5.524e3	3.504e3	0.904	1.58	1.55	12.1	YES	NO	bd	bd	0.522
6	Total-pentafurans	28.54	3.192e4	2.002e4	0.904	1.59	1.55	54.9	YES	NO	bb	bb	3.005

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDF	34.72	8.069e6	7.330e6	0.961	1.10	1.24	54784.3	YES	NO	bb	db	938.768
2	123478-HxCDF	34.58	7.866e6	7.004e6	1.002	1.12	1.24	52471.4	YES	NO	bb	bd	946.234
3	Total-hexafurans	34.43	7.555e3	6.317e3	1.007	1.20	1.24	56.3	YES	NO	bb	bb	0.888
4	Total-hexafurans	33.10	5.370e3	4.839e3	1.007	1.11	1.24	27.1	YES	NO	bb	bb	0.654
5	123789-HxCDF	36.62	7.686e6	5.880e6	0.994	1.31	1.24	48235.5	YES	NO	bb	bb	959.602
6	234678-HxCDF	35.59	8.929e6	6.909e6	1.043	1.29	1.24	58614.7	YES	NO	bb	bb	1009.7...

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HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.68	6.715e6	6.403e6	1.070	1.05	1.05	9449.3	YES	NO	bb	bb	996.147
2	Total-heptafurans	39.12	1.298e4	1.263e4	1.064	1.03	1.05	18.9	YES	NO	bb	bb	1.778
3	1234678-HpCDF	38.46	7.931e6	7.559e6	1.058	1.05	1.05	12406.6	YES	NO	bb	bb	991.576

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	26.40	2.212e2	2.513e2	0.828	0.88	0.77	2.2	NO	NO	bd	bb	0.025
2	Total-tetrafurans	26.23	2.481e2	3.065e2	0.828	0.81	0.77	3.3	YES	NO	db	db	0.029
3	Total-tetrafurans	26.11	1.825e3	2.357e3	0.828	0.77	0.77	13.6	YES	NO	dd	bd	0.217
4	2378-TCDF	25.47	1.590e6	2.031e6	0.782	0.78	0.77	12738.8	YES	NO	bb	bb	199.142
5	Total-tetrafurans	24.57	1.053e4	1.305e4	0.828	0.81	0.77	74.9	YES	NO	db	db	1.224
6	Total-tetrafurans	24.38	1.123e3	1.628e3	0.828	0.69	0.77	10.4	YES	NO	dd	dd	0.143
7	Total-tetrafurans	24.23	1.376e4	1.709e4	0.828	0.81	0.77	99.8	YES	NO	bd	bd	1.602
8	Total-pentafurans	31.20	1.866e4	1.050e4	0.904	1.78	1.55	42.8	YES	NO	bb	bb	1.687
9	23478-PeCDF	30.95	1.138e7	6.853e6	0.980	1.66	1.55	26344.0	YES	NO	bb	bb	985.164
10	Total-pentafurans	29.89	5.293e3	3.802e3	0.904	1.39	1.55	7.0	YES	NO	bb	bb	0.526
11	12378-PeCDF	29.62	1.051e7	6.307e6	0.866	1.67	1.55	24358.9	YES	NO	bb	bb	1003.7...
12	Total-pentafurans	29.27	5.524e3	3.504e3	0.904	1.58	1.55	12.1	YES	NO	bd	bd	0.522
13	Total-pentafurans	28.54	3.192e4	2.002e4	0.904	1.59	1.55	54.9	YES	NO	bb	bb	3.005
14	123678-HxCDF	34.72	8.069e6	7.330e6	0.961	1.10	1.24	54784.3	YES	NO	bb	db	938.768
15	123478-HxCDF	34.58	7.866e6	7.004e6	1.002	1.12	1.24	52471.4	YES	NO	bb	bd	946.234
16	Total-hexafurans	34.43	7.555e3	6.317e3	1.007	1.20	1.24	56.3	YES	NO	bb	bb	0.888
17	Total-hexafurans	33.10	5.370e3	4.839e3	1.007	1.11	1.24	27.1	YES	NO	bb	bb	0.654
18	123789-HxCDF	36.62	7.686e6	5.880e6	0.994	1.31	1.24	48235.5	YES	NO	bb	bb	959.602
19	234678-HxCDF	35.59	8.929e6	6.909e6	1.043	1.29	1.24	58614.7	YES	NO	bb	bb	1009.7...
20	1234789-HpCDF	40.68	6.715e6	6.403e6	1.070	1.05	1.05	9449.3	YES	NO	bb	bb	996.147
21	Total-heptafurans	39.12	1.298e4	1.263e4	1.064	1.03	1.05	18.9	YES	NO	bb	bb	1.778
22	1234678-HpCDF	38.46	7.931e6	7.559e6	1.058	1.05	1.05	12406.6	YES	NO	bb	bb	991.576
23	OCDF	44.82	1.305e7	1.399e7	1.257	0.93	0.89	22919.6	YES	NO	bb	bb	1904.0...

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDD	26.11	1.604e6	2.026e6	1.307	0.79	0.77	13528.6	YES	NO	bb	bb	200.548
2	Total-tetradioxins	25.73	3.540e4	4.567e4	1.238	0.78	0.77	215.9	YES	NO	bd	bb	4.730

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PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentadioxins	29.62	5.691e3	4.123e3	1.308	1.38	1.55	19.5	YES	NO	bd	bd	0.589
2	Total-pentadioxins	31.86	3.745e2		1.308			0.8	NO		db		0.037
3	12378-PeCDD	31.21	7.733e6	4.989e6	0.979	1.55	1.55	31486.9	YES	NO	bb	bb	1019.9...
4	Total-pentadioxins	30.54	9.487e3	5.664e3	1.308	1.67	1.55	31.7	YES	NO	bb	bb	0.909

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.82	8.135e6	6.664e6	0.953	1.22	1.24	31784.3	YES	NO	db	db	1017.9...
2	123478-HxCDD	35.71	7.561e6	6.161e6	0.956	1.23	1.24	31563.8	YES	NO	bd	bd	997.076
3	Total-hexadioxins	34.57	1.296e3	1.116e3	0.967	1.16	1.24	4.0	YES	NO	dd	bd	0.168
4	Total-hexadioxins	36.62	2.206e4	2.034e4	0.967	1.08	1.24	75.3	YES	NO	bb	bb	2.956
5	123789-HxCDD	36.21	7.644e6	6.334e6	0.927	1.21	1.24	31689.2	YES	NO	bb	bb	1017.0...

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	6.483e6	6.231e6	1.055	1.04	1.05	22202.8	YES	NO	bb	bb	1009.9...

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-Dioxins	27.05	1.818e2	2.728e2	1.141	0.67	0.77	2.3	NO	NO	bb	bd	0.029
2	2378-TCDD	26.11	1.604e6	2.026e6	1.307	0.79	0.77	13528.6	YES	NO	bb	bb	200.548
3	Total-tetradioxins	25.73	3.540e4	4.567e4	1.238	0.78	0.77	215.9	YES	NO	bd	bb	4.730
4	Total-pentadioxins	29.62	5.691e3	4.123e3	1.308	1.38	1.55	19.5	YES	NO	bd	bd	0.589
5	Total-pentadioxins	31.86	3.745e2		1.308			0.8	NO		db		0.037
6	12378-PeCDD	31.21	7.733e6	4.989e6	0.979	1.55	1.55	31486.9	YES	NO	bb	bb	1019.9...
7	Total-pentadioxins	30.54	9.487e3	5.664e3	1.308	1.67	1.55	31.7	YES	NO	bb	bb	0.909
8	123678-HxCDD	35.82	8.135e6	6.664e6	0.953	1.22	1.24	31784.3	YES	NO	db	db	1017.9...
9	123478-HxCDD	35.71	7.561e6	6.161e6	0.956	1.23	1.24	31563.8	YES	NO	bd	bd	997.076
10	Total-hexadioxins	34.57	1.296e3	1.116e3	0.967	1.16	1.24	4.0	YES	NO	dd	bd	0.168
11	Total-hexadioxins	36.62	2.206e4	2.034e4	0.967	1.08	1.24	75.3	YES	NO	bb	bb	2.956
12	123789-HxCDD	36.21	7.644e6	6.334e6	0.927	1.21	1.24	31689.2	YES	NO	bb	bb	1017.0...
13	1234678-HpCDD	39.94	6.483e6	6.231e6	1.055	1.04	1.05	22202.8	YES	NO	bb	bb	1009.9...
14	OCDD	44.58	1.111e7	1.283e7	1.074	0.87	0.89	28314.9	YES	NO	bd	bd	1972.5...

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetrafurans	26.40	2.212e2	2.513e2	0.828	0.88	0.77	2.2	NO	NO	bd	bb	0.025
2	Total-tetrafurans	26.23	2.481e2	3.065e2	0.828	0.81	0.77	3.3	YES	NO	db	db	0.029
3	Total-tetrafurans	26.11	1.825e3	2.357e3	0.828	0.77	0.77	13.6	YES	NO	dd	bd	0.217
4	2378-TCDF	25.47	1.590e6	2.031e6	0.782	0.78	0.77	12738.8	YES	NO	bb	bb	199.142
5	Total-tetrafurans	24.57	1.053e4	1.305e4	0.828	0.81	0.77	74.9	YES	NO	db	db	1.224
6	Total-tetrafurans	24.38	1.123e3	1.628e3	0.828	0.69	0.77	10.4	YES	NO	dd	dd	0.143
7	Total-tetrafurans	24.23	1.376e4	1.709e4	0.828	0.81	0.77	99.8	YES	NO	bd	bd	1.602
8	Total-pentafurans	31.20	1.866e4	1.050e4	0.904	1.78	1.55	42.8	YES	NO	bb	bb	1.687
9	23478-PeCDF	30.95	1.138e7	6.853e6	0.980	1.66	1.55	26344.0	YES	NO	bb	bb	985.164
10	Total-pentafurans	29.89	5.293e3	3.802e3	0.904	1.39	1.55	7.0	YES	NO	bb	bb	0.526
11	12378-PeCDF	29.62	1.051e7	6.307e6	0.866	1.67	1.55	24358.9	YES	NO	bb	bb	1003.7...
12	Total-pentafurans	29.27	5.524e3	3.504e3	0.904	1.58	1.55	12.1	YES	NO	bd	bd	0.522
13	Total-pentafurans	28.54	3.192e4	2.002e4	0.904	1.59	1.55	54.9	YES	NO	bb	bb	3.005
14	123678-HxCDF	34.72	8.069e6	7.330e6	0.961	1.10	1.24	54784.3	YES	NO	bb	db	938.768
15	123478-HxCDF	34.58	7.866e6	7.004e6	1.002	1.12	1.24	52471.4	YES	NO	bb	bd	946.234
16	Total-hexafurans	34.43	7.555e3	6.317e3	1.007	1.20	1.24	56.3	YES	NO	bb	bb	0.888
17	Total-hexafurans	33.10	5.370e3	4.839e3	1.007	1.11	1.24	27.1	YES	NO	bb	bb	0.654
18	123789-HxCDF	36.62	7.686e6	5.880e6	0.994	1.31	1.24	48235.5	YES	NO	bb	bb	959.602
19	234678-HxCDF	35.59	8.929e6	6.909e6	1.043	1.29	1.24	58614.7	YES	NO	bb	bb	1009.7...
20	1234789-HpCDF	40.68	6.715e6	6.403e6	1.070	1.05	1.05	9449.3	YES	NO	bb	bb	996.147
21	Total-heptafurans	39.12	1.298e4	1.263e4	1.064	1.03	1.05	18.9	YES	NO	bb	bb	1.778
22	1234678-HpCDF	38.46	7.931e6	7.559e6	1.058	1.05	1.05	12406.6	YES	NO	bb	bb	991.576
23	OCDF	44.82	1.305e7	1.399e7	1.257	0.93	0.89	22919.6	YES	NO	bb	bb	1904.0...
24	Total-Dioxins	27.05	1.818e2	2.728e2	1.141	0.67	0.77	2.3	NO	NO	bb	bd	0.029
25	2378-TCDD	26.11	1.604e6	2.026e6	1.307	0.79	0.77	13528.6	YES	NO	bb	bb	200.548
26	Total-tetradioxins	25.73	3.540e4	4.567e4	1.238	0.78	0.77	215.9	YES	NO	bd	bb	4.730
27	Total-pentadioxins	29.62	5.691e3	4.123e3	1.308	1.38	1.55	19.5	YES	NO	bd	bd	0.589
28	Total-pentadioxins	31.86	3.745e2		1.308			0.8	NO		db		0.037
29	12378-PeCDD	31.21	7.733e6	4.989e6	0.979	1.55	1.55	31486.9	YES	NO	bb	bb	1019.9...
30	Total-pentadioxins	30.54	9.487e3	5.664e3	1.308	1.67	1.55	31.7	YES	NO	bb	bb	0.909
31	123678-HxCDD	35.82	8.135e6	6.664e6	0.953	1.22	1.24	31784.3	YES	NO	db	db	1017.9...
32	123478-HxCDD	35.71	7.561e6	6.161e6	0.956	1.23	1.24	31563.8	YES	NO	bd	bd	997.076
33	Total-hexadioxins	34.57	1.296e3	1.116e3	0.967	1.16	1.24	4.0	YES	NO	dd	bd	0.168
34	Total-hexadioxins	36.62	2.206e4	2.034e4	0.967	1.08	1.24	75.3	YES	NO	bb	bb	2.956
35	123789-HxCDD	36.21	7.644e6	6.334e6	0.927	1.21	1.24	31689.2	YES	NO	bb	bb	1017.0...
36	1234678-HpCDD	39.94	6.483e6	6.231e6	1.055	1.04	1.05	22202.8	YES	NO	bb	bb	1009.9...
37	OCDD	44.58	1.111e7	1.283e7	1.074	0.87	0.89	28314.9	YES	NO	bd	bd	1972.5...

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.21	5.372e4					1.4	NO		bb		
2	FUNCTION1 PFK	22.07	3.846e4					1.2	NO		bb		
3	FUNCTION1 PFK	21.95	2.944e4					0.7	NO		bb		
4	FUNCTION1 PFK	21.84	7.312e4					1.1	NO		db		
5	FUNCTION1 PFK	21.74	4.383e4					1.3	NO		bd		
6	FUNCTION1 PFK	21.50	3.535e4					0.7	NO		bb		
7	FUNCTION1 PFK	21.41	9.251e4					2.0	NO		db		
8	FUNCTION1 PFK	21.29	5.146e4					1.2	NO		dd		
9	FUNCTION1 PFK	21.24	8.478e3					0.6	NO		bd		
10	FUNCTION1 PFK	21.15	4.395e4					1.2	NO		bb		
11	FUNCTION1 PFK	24.75	4.428e4					1.3	NO		bb		
12	FUNCTION1 PFK	24.67	3.643e3					0.3	NO		bb		
13	FUNCTION1 PFK	24.40	5.488e4					1.4	NO		db		
14	FUNCTION1 PFK	24.28	5.862e4					1.3	NO		bd		
15	FUNCTION1 PFK	24.17	4.230e4					0.9	NO		bb		
16	FUNCTION1 PFK	24.08	8.310e4					2.4	NO		bb		
17	FUNCTION1 PFK	23.95	5.068e4					1.2	NO		bb		
18	FUNCTION1 PFK	23.73	6.169e4					1.7	NO		bb		
19	FUNCTION1 PFK	23.61	4.840e4					1.2	NO		db		
20	FUNCTION1 PFK	23.54	7.300e4					1.5	NO		dd		
21	FUNCTION1 PFK	23.40	5.930e4					1.4	NO		bd		
22	FUNCTION1 PFK	23.07	3.391e4					1.1	NO		bb		
23	FUNCTION1 PFK	22.84	6.148e4					1.2	NO		bb		
24	FUNCTION1 PFK	22.63	6.841e4					1.8	NO		bb		
25	FUNCTION1 PFK	22.40	4.846e4					1.5	NO		bb		
26	FUNCTION1 PFK	22.28	3.547e4					1.1	NO		bb		
27	FUNCTION1 PFK	27.44	4.747e4					1.0	NO		db		
28	FUNCTION1 PFK	27.35	4.504e4					1.3	NO		bd		
29	FUNCTION1 PFK	27.23	3.180e4					1.3	NO		bb		
30	FUNCTION1 PFK	26.89	2.854e4					1.0	NO		bb		
31	FUNCTION1 PFK	26.80	5.938e4					1.3	NO		bb		
32	FUNCTION1 PFK	26.67	4.412e4					1.2	NO		bb		
33	FUNCTION1 PFK	26.44	4.610e4					1.2	NO		bb		
34	FUNCTION1 PFK	26.32	8.044e4					1.4	NO		bb		
35	FUNCTION1 PFK	26.11	6.900e4					1.8	NO		bb		
36	FUNCTION1 PFK	25.88	3.900e4					1.3	NO		bb		
37	FUNCTION1 PFK	25.76	2.909e4					1.0	NO		bb		

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Printed: Tuesday, March 02, 2021 11:35:06 Pacific Standard Time

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	25.56	2.571e4					0.7	NO		bb		
39	FUNCTION1 PFK	25.32	5.682e4					1.3	NO		bb		
40	FUNCTION1 PFK	25.10	6.422e4					1.6	NO		db		
41	FUNCTION1 PFK	24.97	7.563e4					1.9	NO		dd		
42	FUNCTION1 PFK	24.85	1.038e5					1.8	NO		bd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.68	1.588e3					0.3	NO		bb		0.000
2	FUNCTION2 PFK	29.48	3.049e4					1.5	NO		bb		0.000
3	FUNCTION2 PFK	29.30	1.779e3					0.4	NO		bb		0.000
4	FUNCTION2 PFK	29.15	1.935e4					1.2	NO		bb		0.000
5	FUNCTION2 PFK	28.93	5.324e4					2.6	NO		bb		0.000
6	FUNCTION2 PFK	28.70	3.300e4					1.7	NO		db		0.000
7	FUNCTION2 PFK	28.59	6.146e4					2.1	NO		dd		0.000
8	FUNCTION2 PFK	28.50	4.633e4					1.8	NO		bd		0.000
9	FUNCTION2 PFK	28.40	1.536e4					1.1	NO		db		0.000
10	FUNCTION2 PFK	28.36	6.117e4					2.8	NO		dd		0.000
11	FUNCTION2 PFK	28.25	2.441e4					1.6	NO		bd		0.000
12	FUNCTION2 PFK	28.16	6.041e4					2.4	NO		db		0.000
13	FUNCTION2 PFK	28.05	3.143e4					2.0	NO		dd		0.000
14	FUNCTION2 PFK	28.01	2.229e4					1.9	NO		bd		0.000
15	FUNCTION2 PFK	27.83	5.181e3					0.7	NO		bb		0.000
16	FUNCTION2 PFK	32.16	4.316e4					1.6	NO		bb		0.000
17	FUNCTION2 PFK	31.94	5.611e4					2.2	NO		db		0.000
18	FUNCTION2 PFK	31.86	2.775e4					1.8	NO		dd		0.000
19	FUNCTION2 PFK	31.81	2.573e4					1.7	NO		dd		0.000
20	FUNCTION2 PFK	31.74	3.686e4					1.5	NO		dd		0.000
21	FUNCTION2 PFK	31.61	5.147e4					2.1	NO		bd		0.000
22	FUNCTION2 PFK	31.50	2.018e4					1.3	NO		bb		0.000
23	FUNCTION2 PFK	31.39	2.479e4					1.7	NO		bb		0.000
24	FUNCTION2 PFK	30.71	5.258e4					1.9	NO		bb		0.000
25	FUNCTION2 PFK	30.61	5.498e4					2.4	NO		db		0.000
26	FUNCTION2 PFK	30.51	3.288e4					1.6	NO		bd		0.000
27	FUNCTION2 PFK	30.42	1.196e4					1.2	NO		bb		0.000
28	FUNCTION2 PFK	30.27	1.846e4					1.0	NO		bb		0.000
29	FUNCTION2 PFK	30.14	4.292e4					1.8	NO		bb		0.000
30	FUNCTION2 PFK	30.04	3.165e4					1.4	NO		bb		0.000
31	FUNCTION2 PFK	29.81	4.078e4					1.6	NO		bb		0.000
32	FUNCTION2 PFK	32.39	4.130e4					2.1	NO		bb		0.000
33	FUNCTION2 PFK	32.30	3.767e4					2.4	NO		db		0.000
34	FUNCTION2 PFK	32.25	1.581e4					1.2	NO		bd		0.000

Dataset: T:\Autospec\Processed Data Batch\210301ICIH.qld
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ID: CS5CV, Name: 21030109, Date: 01-Mar-2021, Time: 17:35:23, 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	34.06	4.788e4					1.5	NO		db		0.000
2	FUNCTION3 PFK	33.92	4.043e4					1.5	NO		dd		0.000
3	FUNCTION3 PFK	33.84	2.693e4					1.2	NO		bd		0.000
4	FUNCTION3 PFK	33.70	4.856e4					1.4	NO		bb		0.000
5	FUNCTION3 PFK	33.63	1.399e4					1.2	NO		db		0.000
6	FUNCTION3 PFK	33.59	2.151e4					1.2	NO		bd		0.000
7	FUNCTION3 PFK	33.38	3.869e4					1.6	NO		db		0.000
8	FUNCTION3 PFK	33.26	5.134e4					1.6	NO		bd		0.000
9	FUNCTION3 PFK	33.17	3.963e4					1.6	NO		db		0.000
10	FUNCTION3 PFK	33.06	5.183e4					1.8	NO		bd		0.000
11	FUNCTION3 PFK	32.81	4.454e4					1.5	NO		bb		0.000
12	FUNCTION3 PFK	32.61	3.668e4					1.5	NO		bb		0.000
13	FUNCTION3 PFK	36.36	3.742e4					2.0	NO		dd		0.000
14	FUNCTION3 PFK	36.30	6.954e4					2.8	NO		dd		0.000
15	FUNCTION3 PFK	36.21	9.858e4					2.9	NO		bd		0.000
16	FUNCTION3 PFK	36.08	6.759e4					2.7	NO		bb		0.000
17	FUNCTION3 PFK	35.97	4.527e4					2.1	NO		bb		0.000
18	FUNCTION3 PFK	35.83	8.396e4					3.0	YES		db		0.000
19	FUNCTION3 PFK	35.72	8.837e4					2.4	NO		bd		0.000
20	FUNCTION3 PFK	35.61	1.194e5					3.0	NO		db		0.000
21	FUNCTION3 PFK	35.51	2.255e4					1.3	NO		bd		0.000
22	FUNCTION3 PFK	35.41	2.027e4					1.4	NO		bb		0.000
23	FUNCTION3 PFK	35.08	4.214e4					1.8	NO		bb		0.000
24	FUNCTION3 PFK	34.84	6.003e4					2.1	NO		bb		0.000
25	FUNCTION3 PFK	34.73	6.505e4					2.6	NO		bb		0.000
26	FUNCTION3 PFK	34.61	3.676e4					1.3	NO		bb		0.000
27	FUNCTION3 PFK	34.38	4.862e4					2.1	NO		bb		0.000
28	FUNCTION3 PFK	34.24	1.883e3					0.3	NO		bb		0.000
29	FUNCTION3 PFK	37.46	4.542e3					0.4	NO		db		0.000
30	FUNCTION3 PFK	37.41	2.792e4					1.6	NO		bd		0.000
31	FUNCTION3 PFK	37.20	3.729e4					1.8	NO		bb		0.000
32	FUNCTION3 PFK	37.09	3.791e4					1.5	NO		bb		0.000
33	FUNCTION3 PFK	36.87	4.764e4					1.8	NO		db		0.000
34	FUNCTION3 PFK	36.75	3.601e4					1.7	NO		bd		0.000
35	FUNCTION3 PFK	36.53	2.630e4					1.7	NO		db		0.000
36	FUNCTION3 PFK	36.51	2.386e4					1.7	NO		dd		0.000
37	FUNCTION3 PFK	36.42	2.989e4					1.8	NO		dd		0.000

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ID: CS5CV, Name: 21030109, Date: 01-Mar-2021, Time: 17:35:23, 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	36.40	4.150e4					2.1	NO		dd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.90	3.348e4					1.6	NO		bb		
2	FUNCTION4 PFK	38.74	1.523e4					1.4	NO		db		
3	FUNCTION4 PFK	38.65	4.613e4					2.2	NO		bd		
4	FUNCTION4 PFK	38.53	5.187e4					2.7	NO		db		
5	FUNCTION4 PFK	38.45	1.162e5					4.1	YES		bd		
6	FUNCTION4 PFK	42.90	4.757e4					2.1	NO		bb		
7	FUNCTION4 PFK	42.67	4.420e4					2.1	NO		db		
8	FUNCTION4 PFK	42.58	3.758e4					2.1	NO		bd		
9	FUNCTION4 PFK	42.12	3.309e4					1.9	NO		bb		
10	FUNCTION4 PFK	42.03	4.524e4					2.3	NO		bb		
11	FUNCTION4 PFK	41.74	1.444e3					0.4	NO		bb		
12	FUNCTION4 PFK	41.56	3.188e4					2.0	NO		bb		
13	FUNCTION4 PFK	41.22	4.814e4					2.0	NO		db		
14	FUNCTION4 PFK	41.12	5.981e4					2.8	NO		bd		
15	FUNCTION4 PFK	40.88	3.775e4					1.8	NO		bb		
16	FUNCTION4 PFK	40.83	2.208e3					0.6	NO		bb		
17	FUNCTION4 PFK	40.57	3.676e4					2.0	NO		bb		
18	FUNCTION4 PFK	40.21	6.416e4					2.2	NO		db		
19	FUNCTION4 PFK	40.10	5.496e4					2.1	NO		bd		
20	FUNCTION4 PFK	39.75	4.488e4					2.0	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.42	6.583e3					1.3	NO		db		
2	FUNCTION5 PFK	45.37	2.529e4					2.6	NO		bd		
3	FUNCTION5 PFK	45.27	1.771e4					1.8	NO		bb		
4	FUNCTION5 PFK	45.05	1.291e4					1.2	NO		bb		
5	FUNCTION5 PFK	44.97	2.554e3					0.7	NO		db		
6	FUNCTION5 PFK	44.92	9.484e3					1.7	NO		bd		
7	FUNCTION5 PFK	44.80	4.100e3					1.0	NO		bb		
8	FUNCTION5 PFK	44.71	2.352e4					2.1	NO		bb		
9	FUNCTION5 PFK	44.26	1.852e4					1.9	NO		bb		
10	FUNCTION5 PFK	44.06	2.356e3					0.6	NO		bb		
11	FUNCTION5 PFK	43.90	2.020e3					0.6	NO		bb		
12	FUNCTION5 PFK	43.80	1.061e4					1.5	NO		bb		
13	FUNCTION5 PFK	43.47	1.526e4					1.7	NO		bb		
14	FUNCTION5 PFK	43.36	2.438e4					2.5	NO		bb		
15	FUNCTION5 PFK	43.15	9.009e2					0.4	NO		bb		
16	FUNCTION5 PFK	43.12	3.882e3					1.1	NO		bb		
17	FUNCTION5 PFK	46.33	1.504e3					0.6	NO		bb		
18	FUNCTION5 PFK	45.98	1.642e4					1.1	NO		bb		
19	FUNCTION5 PFK	45.85	1.897e4					1.6	NO		db		
20	FUNCTION5 PFK	45.70	2.603e4					1.8	NO		bd		
21	FUNCTION5 PFK	45.62	2.821e4					2.7	NO		db		
22	FUNCTION5 PFK	45.55	1.043e4					1.5	NO		dd		
23	FUNCTION5 PFK	45.51	2.998e4					2.6	NO		bd		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	24.97	1.107e2					3.2	YES		dd		0.000
2	FUNCTION1 HXCD...	24.87	2.179e2					4.8	YES		dd		0.000
3	FUNCTION1 HXCD...	24.81	1.844e2					5.0	YES		dd		0.000
4	FUNCTION1 HXCD...	24.72	1.545e2					3.9	YES		dd		0.000
5	FUNCTION1 HXCD...	24.60	1.077e2					1.9	NO		bd		0.000
6	FUNCTION1 HXCD...	23.51	7.674e1					1.7	NO		bb		0.000
7	FUNCTION1 HXCD...	23.34	1.025e2					2.2	NO		bb		0.000
8	FUNCTION1 HXCD...	22.84	1.860e2					3.1	YES		bb		0.000
9	FUNCTION1 HXCD...	26.85	1.854e2					3.5	YES		bb		0.000
10	FUNCTION1 HXCD...	26.58	1.883e2					5.3	YES		db		0.000
11	FUNCTION1 HXCD...	26.40	3.587e2					7.5	YES		dd		0.000
12	FUNCTION1 HXCD...	26.35	2.231e2					5.0	YES		dd		0.000
13	FUNCTION1 HXCD...	26.23	1.131e2					4.0	YES		dd		0.000
14	FUNCTION1 HXCD...	26.15	1.699e2					5.2	YES		dd		0.000
15	FUNCTION1 HXCD...	26.11	3.530e2					7.0	YES		bd		0.000
16	FUNCTION1 HXCD...	25.90	7.194e1					1.4	NO		bb		0.000
17	FUNCTION1 HXCD...	25.78	1.775e2					3.4	YES		db		0.000
18	FUNCTION1 HXCD...	25.46	3.411e2					3.2	YES		dd		0.000
19	FUNCTION1 HXCD...	25.41	1.198e2					3.7	YES		bd		0.000
20	FUNCTION1 HXCD...	25.02	1.247e2					3.7	YES		db		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.81	1.205e2					1.5	NO		db		0.000
2	FUNCTION1 HPCD...	22.68	1.300e2					1.0	NO		bd		0.000
3	FUNCTION1 HPCD...	21.81	9.850e1					1.0	NO		bb		0.000
4	FUNCTION1 HPCD...	26.95	7.759e1					1.2	NO		db		0.000
5	FUNCTION1 HPCD...	26.88	1.967e2					1.2	NO		bd		0.000
6	FUNCTION1 HPCD...	26.56	2.222e2					2.7	NO		db		0.000
7	FUNCTION1 HPCD...	26.41	5.040e2					4.7	YES		dd		0.000
8	FUNCTION1 HPCD...	26.32	1.720e2					2.5	NO		dd		0.000
9	FUNCTION1 HPCD...	26.23	1.587e2					2.3	NO		dd		0.000
10	FUNCTION1 HPCD...	26.15	4.003e2					2.8	NO		bd		0.000
11	FUNCTION1 HPCD...	25.44	1.030e2					1.4	NO		bb		0.000
12	FUNCTION1 HPCD...	25.26	7.617e1					1.3	NO		bb		0.000
13	FUNCTION1 HPCD...	25.16	1.592e2					2.6	NO		bb		0.000
14	FUNCTION1 HPCD...	24.01	1.188e2					1.3	NO		bb		0.000
15	FUNCTION1 HPCD...	23.86	1.318e2					1.5	NO		db		0.000
16	FUNCTION1 HPCD...	23.76	1.327e2					1.8	NO		bd		0.000
17	FUNCTION1 HPCD...	23.39	1.532e2					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...	28.75	1.031e2					3.7	YES		bb		0.000
2	FUNCTION2 HPCD...	32.15	8.374e1					3.3	YES		bb		0.000
3	FUNCTION2 HPCD...	31.21	1.068e3					11.6	YES		bb		0.000
4	FUNCTION2 HPCD...	30.83	1.027e4					166.9	YES		bb		0.000
5	FUNCTION2 HPCD...	29.62	4.780e2					6.6	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	36.63	6.092e2					9.5	YES		bb		0.000
2	FUNCTION3 OCDPE	36.21	1.107e3					19.2	YES		bb		0.000
3	FUNCTION3 OCDPE	35.83	1.059e3					19.1	YES		db		0.000
4	FUNCTION3 OCDPE	35.71	9.609e2					19.0	YES		dd		0.000
5	FUNCTION3 OCDPE	35.60	3.925e2					8.5	YES		bd		0.000
6	FUNCTION3 OCDPE	34.73	8.119e2					12.4	YES		db		0.000
7	FUNCTION3 OCDPE	34.60	7.671e2					12.0	YES		bd		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.95	8.081e2					12.0	YES		bb		0.000
2	FUNCTION4 NCDPE	38.47	5.507e2					8.4	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	45.72	7.429e1					2.2	NO		bb		0.000
2	FUNCTION5 DCDPE	45.47	7.465e1					3.3	YES		bb		0.000
3	FUNCTION5 DCDPE	44.83	2.170e3					17.2	YES		db		0.000
4	FUNCTION5 DCDPE	44.59	1.950e3					17.2	YES		bd		0.000

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS5CV, Name: 21030109, Date: 01-Mar-2021, Time: 17:35:23, Conditions: AUTOSPEC01, User: pk

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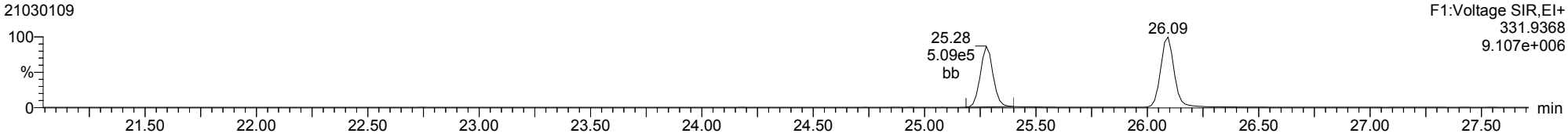

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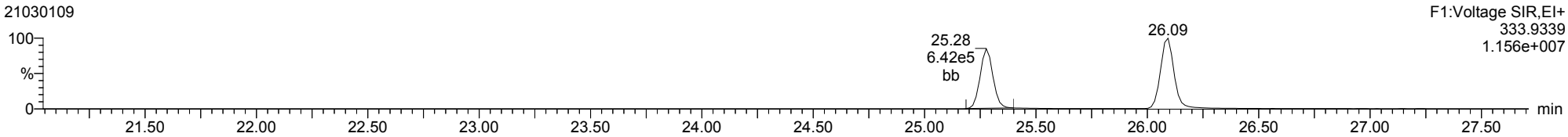

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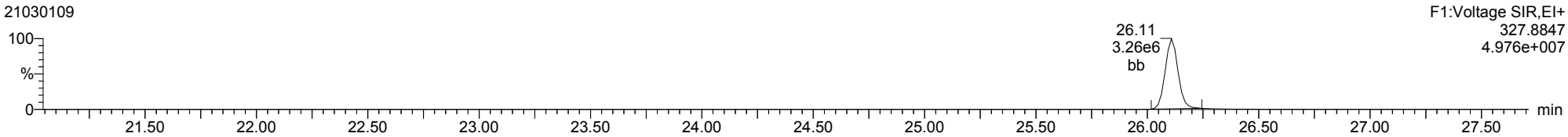

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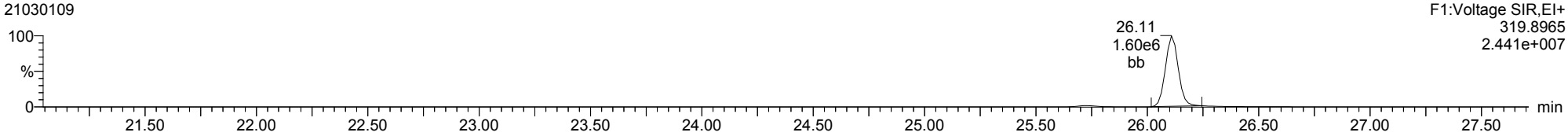

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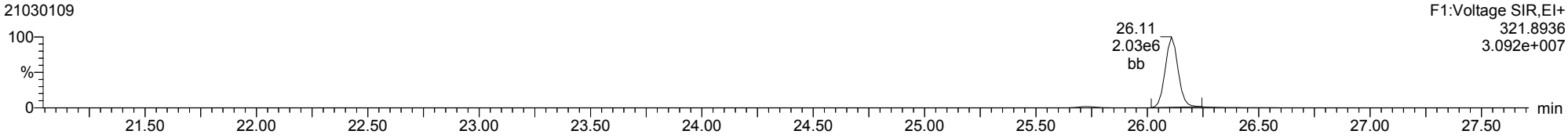

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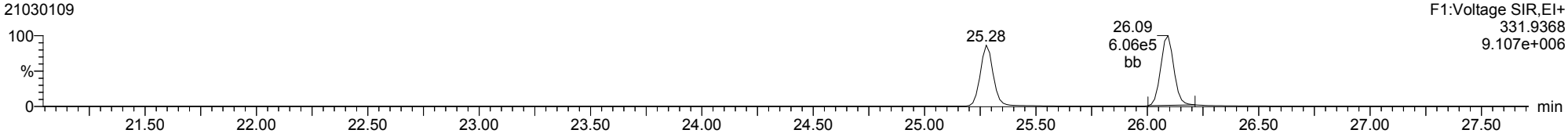

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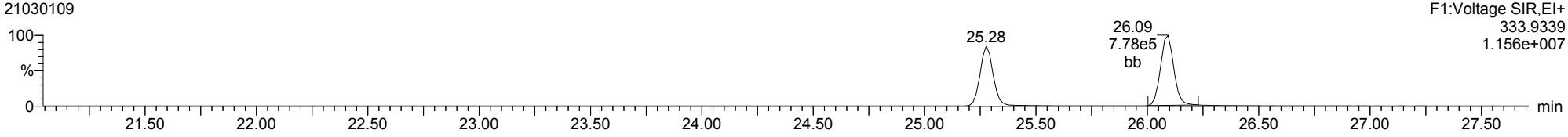

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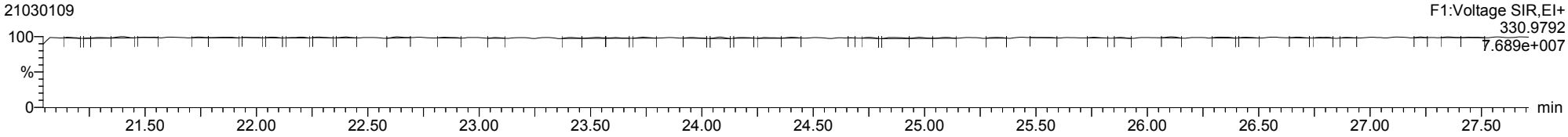

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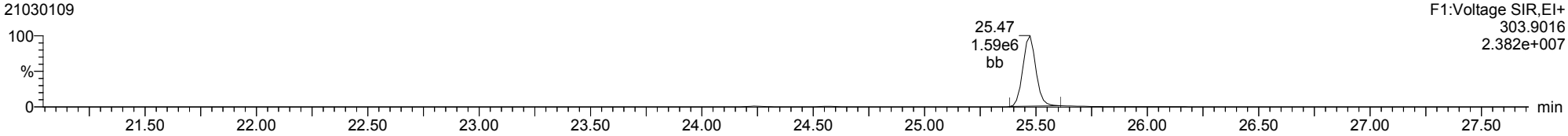
2378-TCDF



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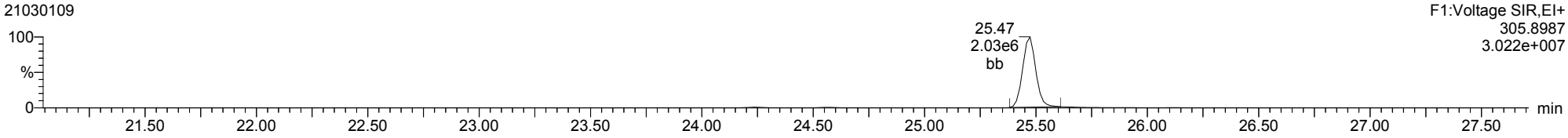

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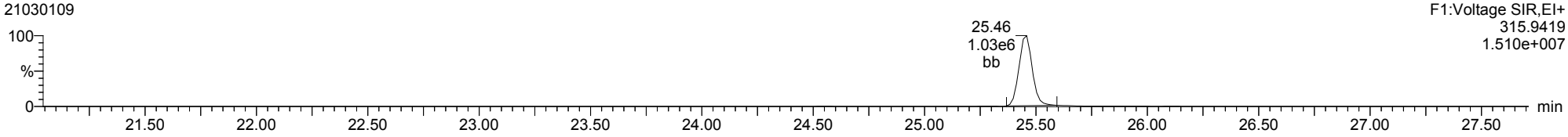

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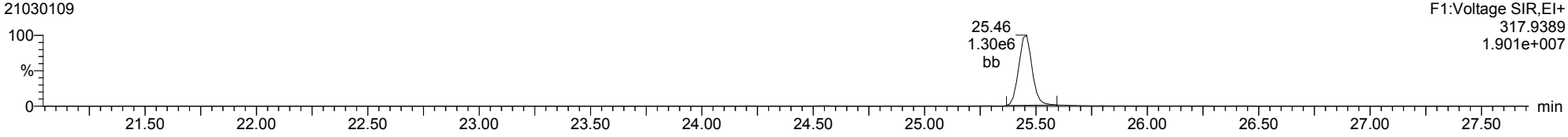

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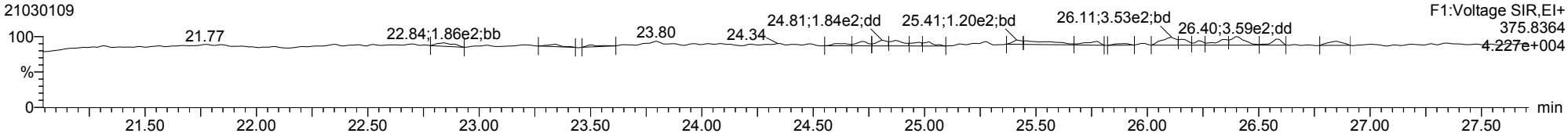

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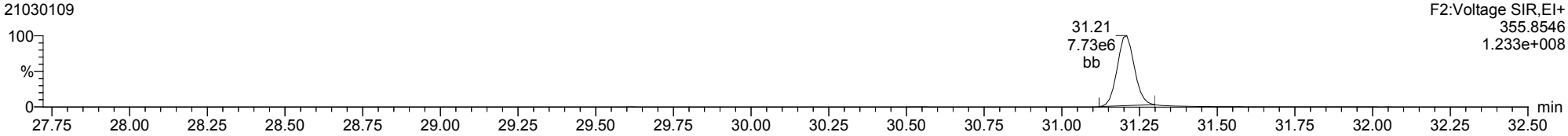
12378-PeCDD



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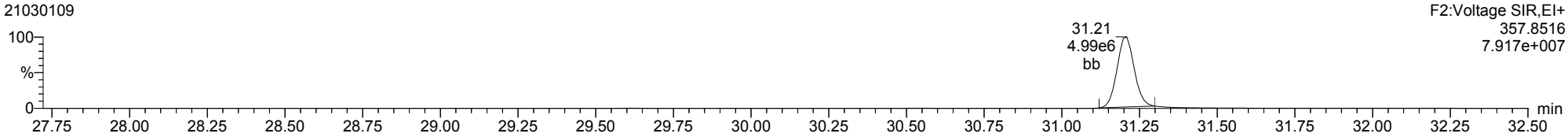

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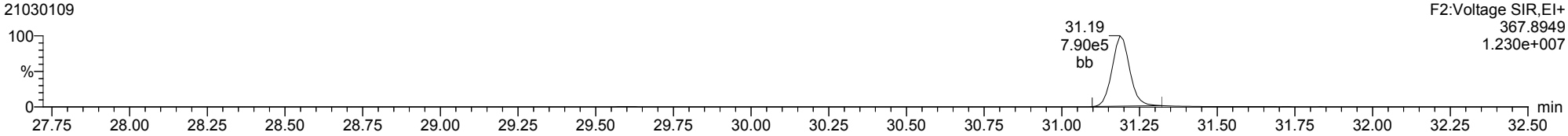

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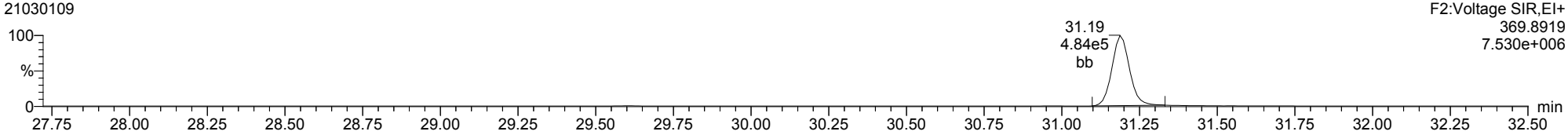

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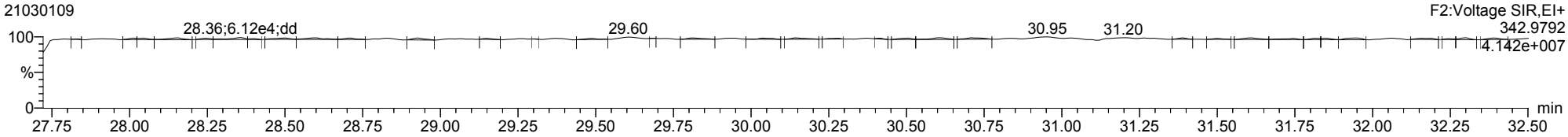

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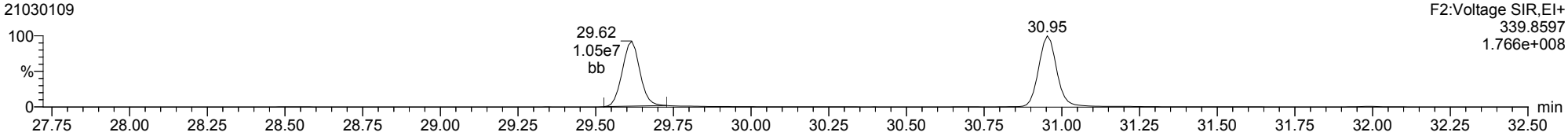

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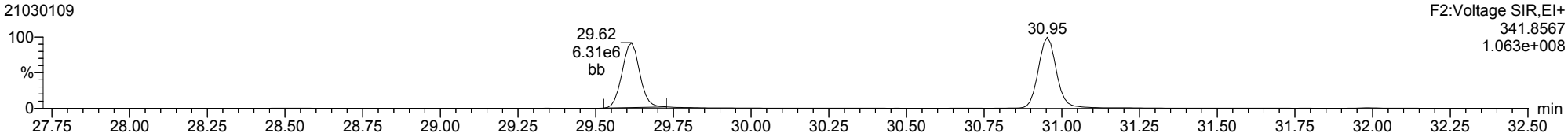

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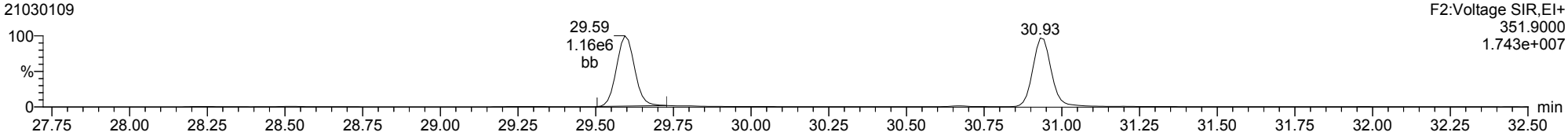

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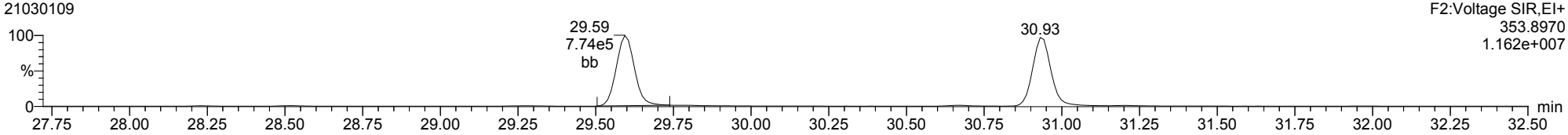

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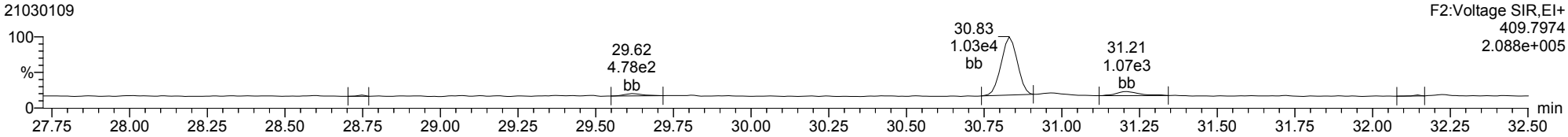

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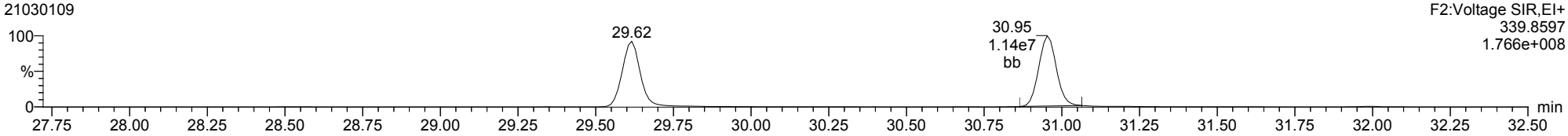

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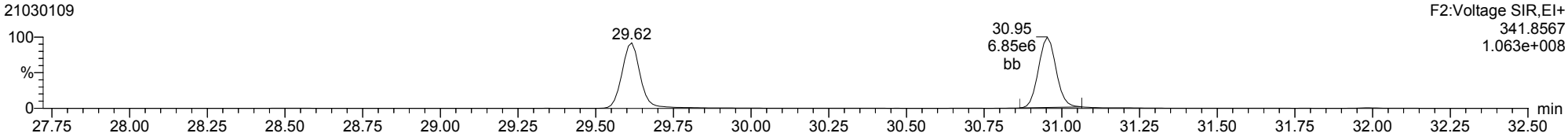

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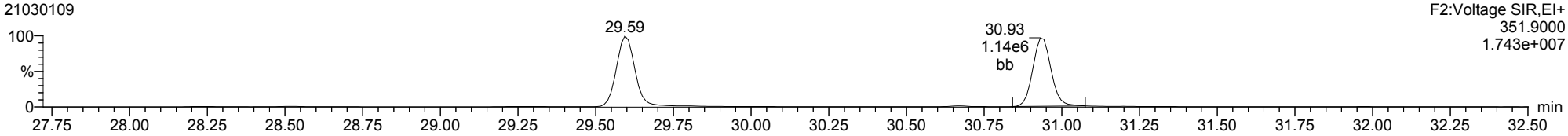

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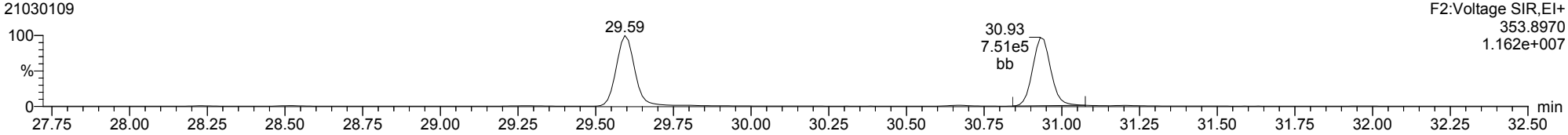

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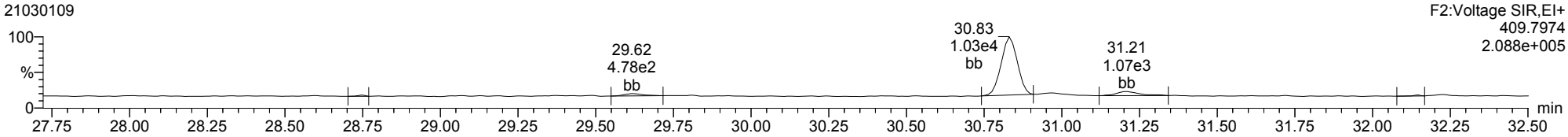

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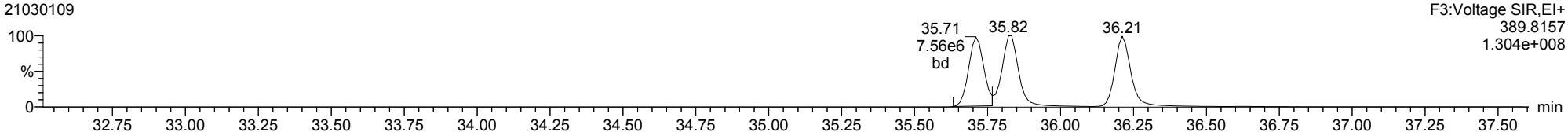

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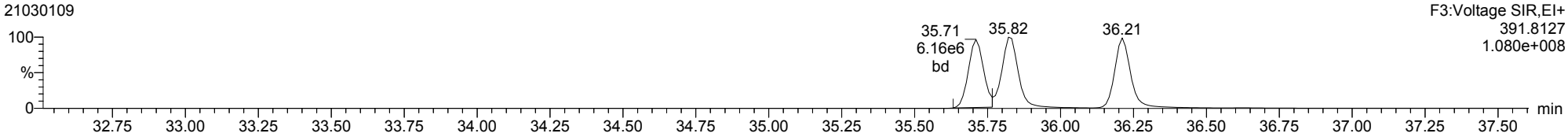

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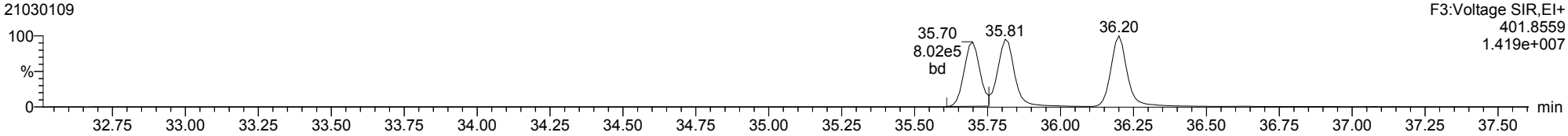

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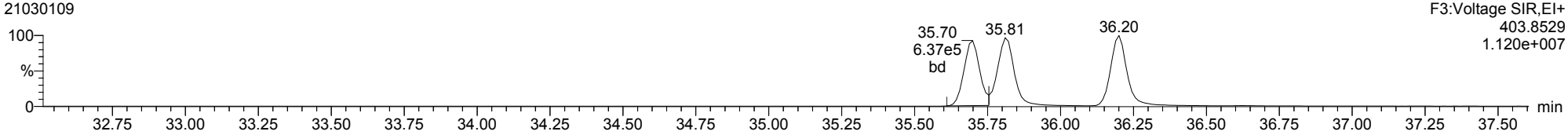

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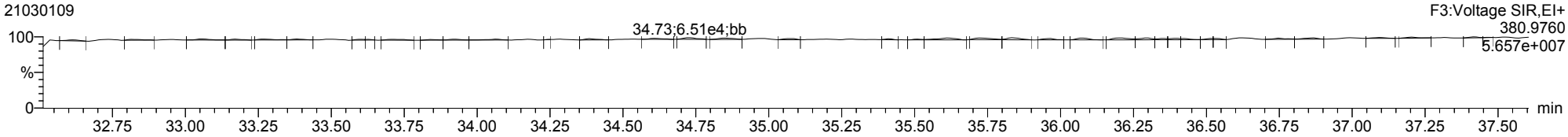

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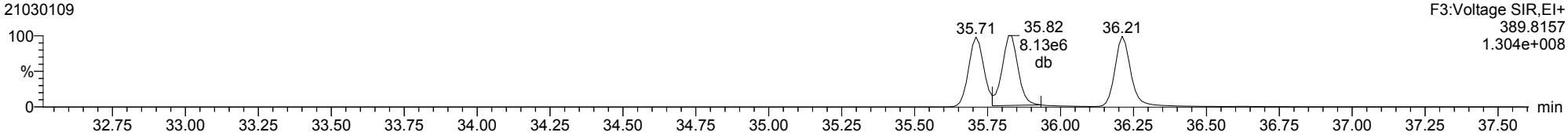

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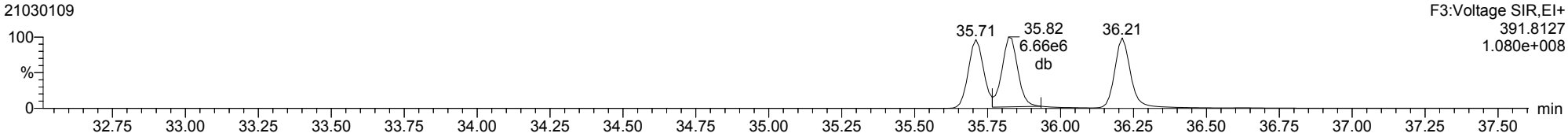

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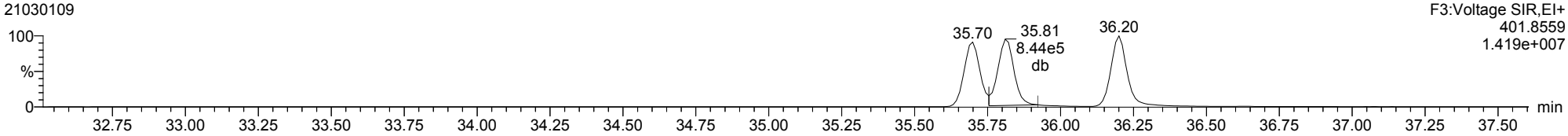

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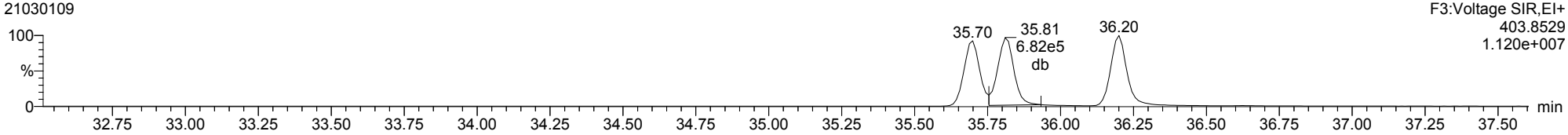

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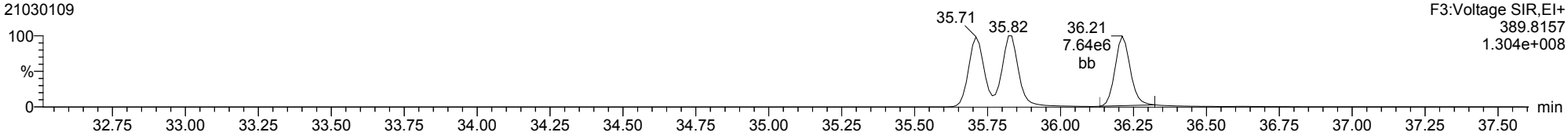

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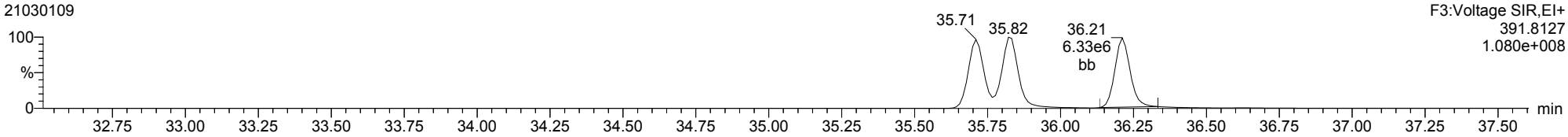

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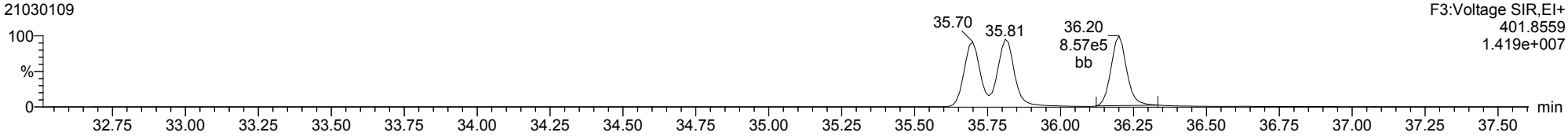

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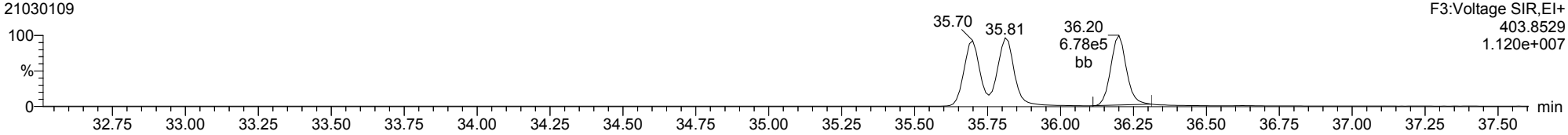

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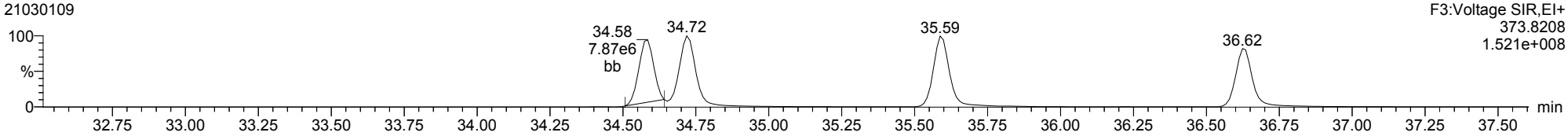

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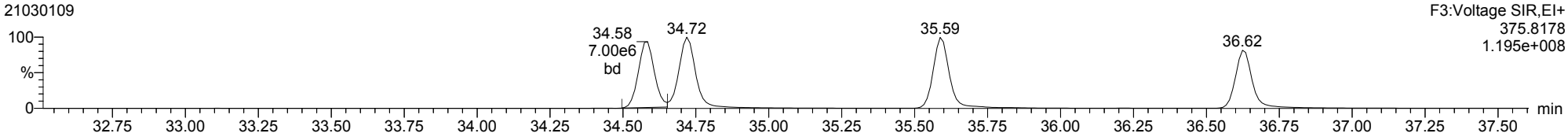

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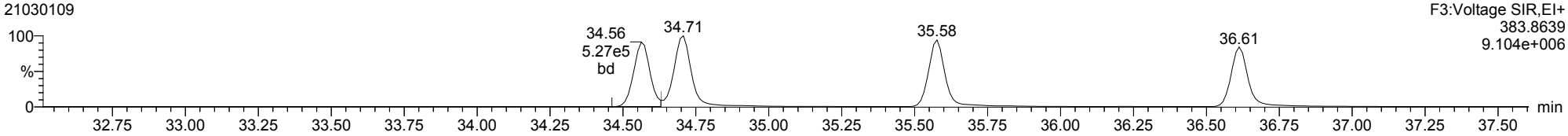

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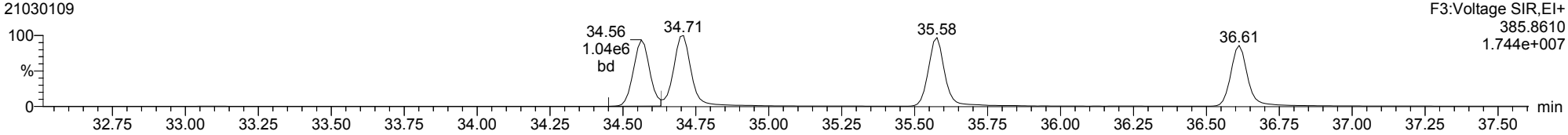

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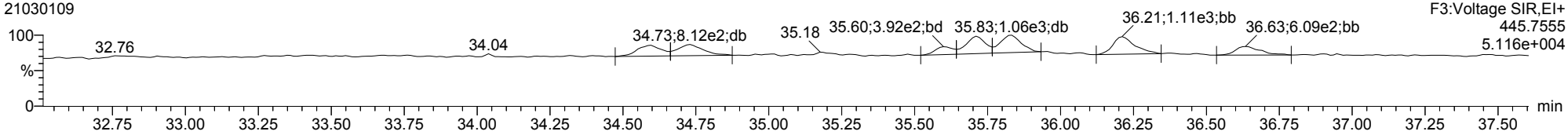

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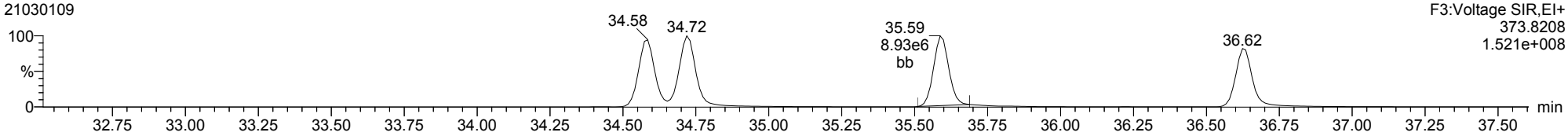
234678-HxCDF



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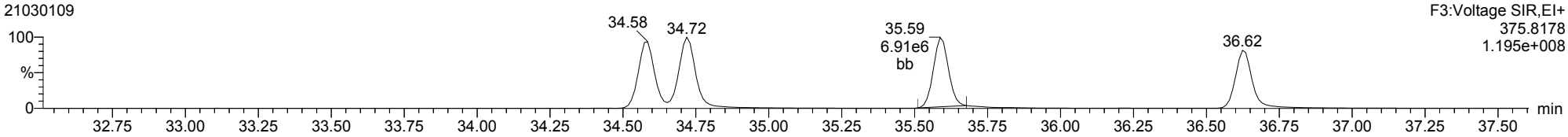

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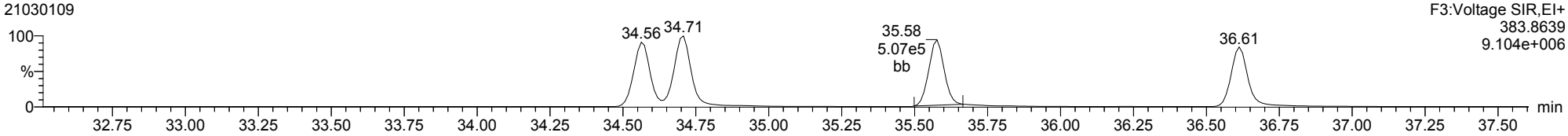

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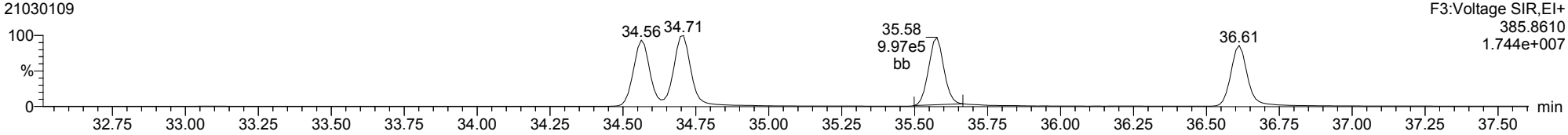

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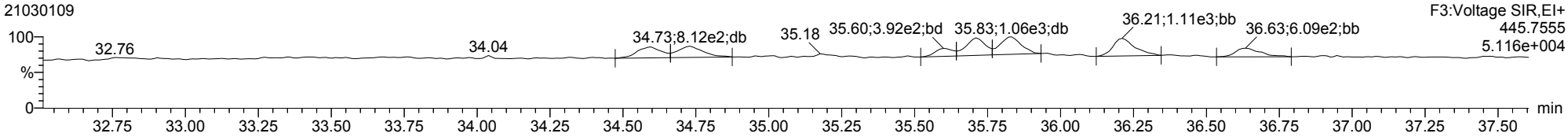

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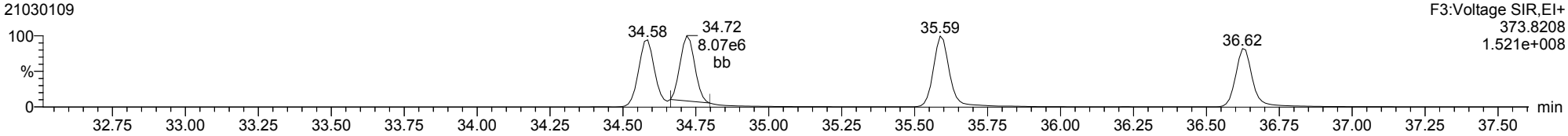

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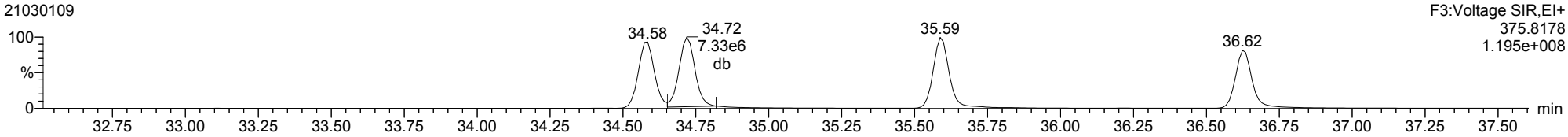

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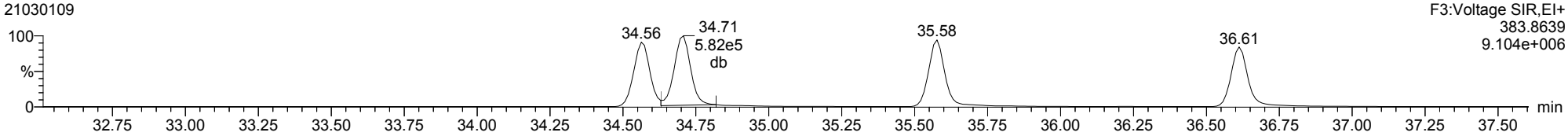

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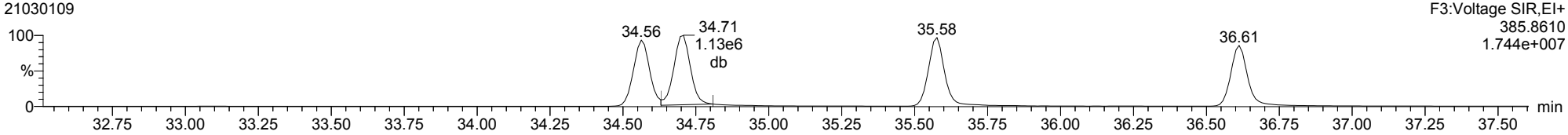

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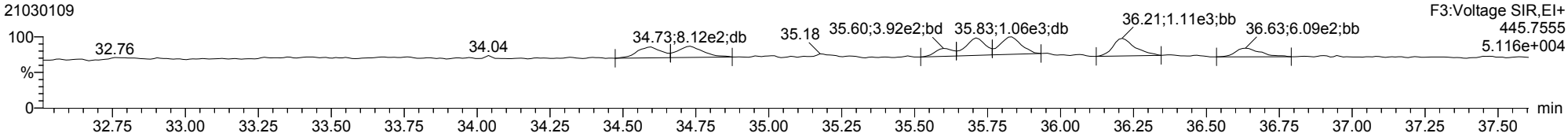

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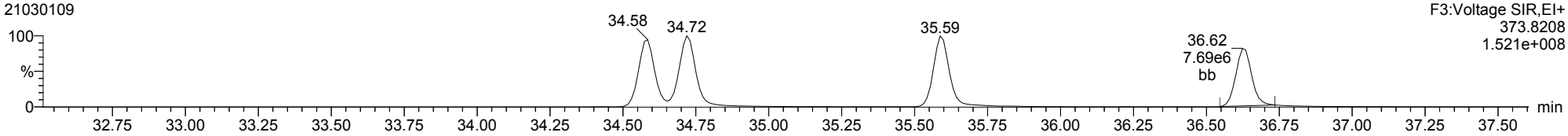

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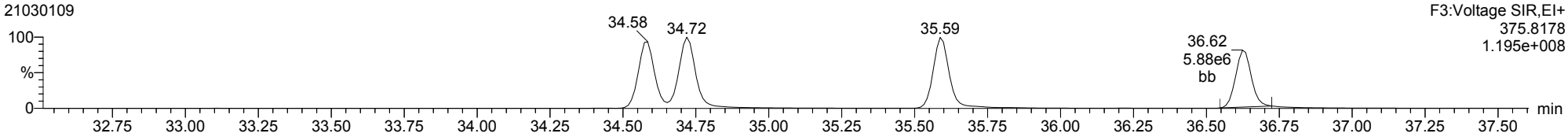

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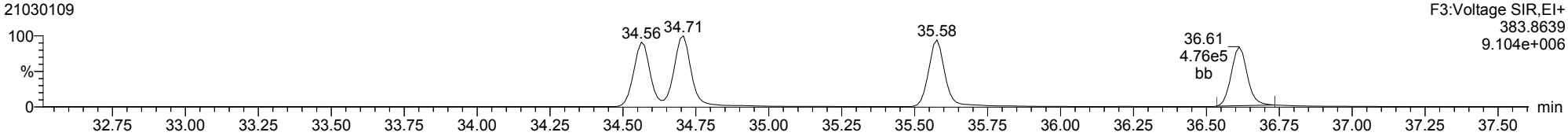

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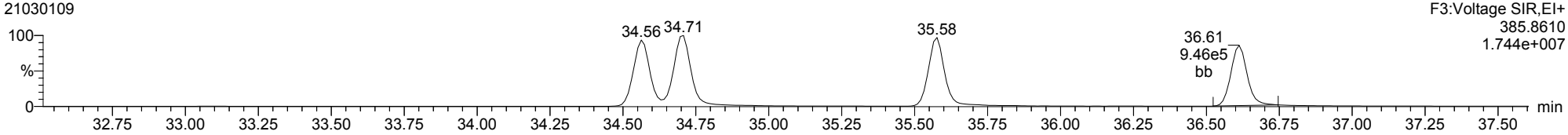
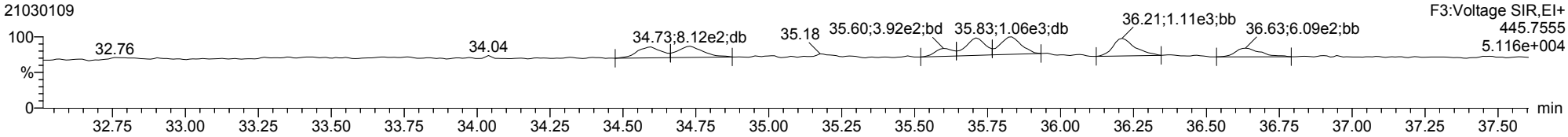


FUNCTION3 OCDPE



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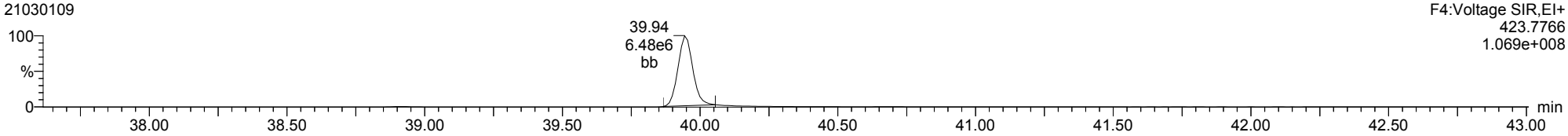
1234678-HpCDD



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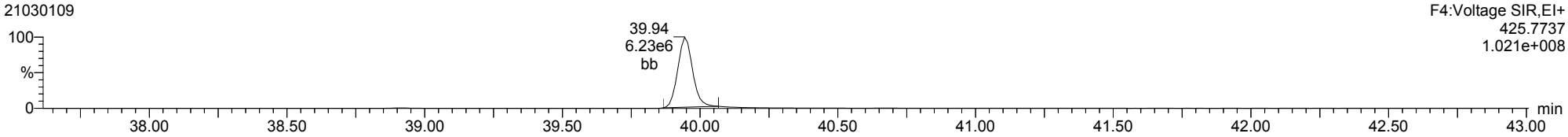

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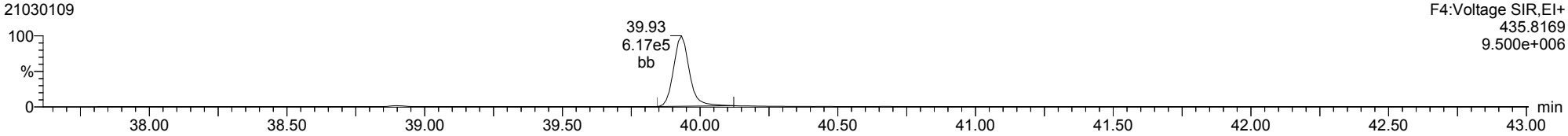

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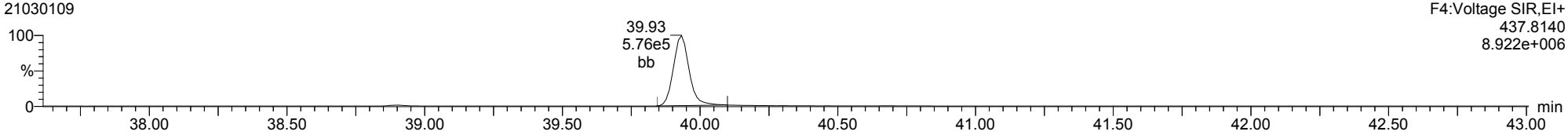
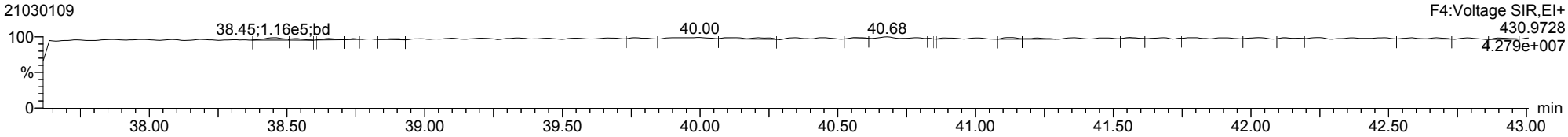


FUNCTION4 PFK



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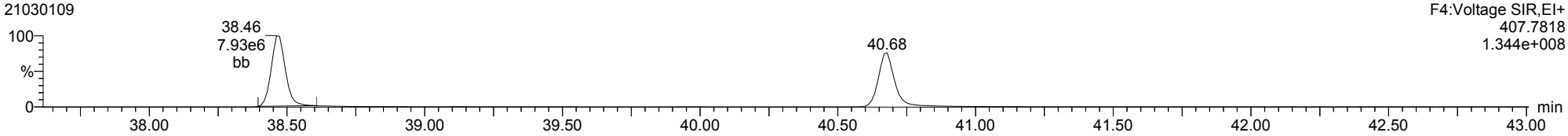
1234678-HpCDF



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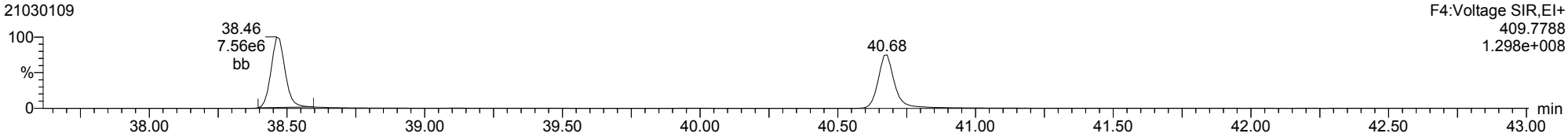

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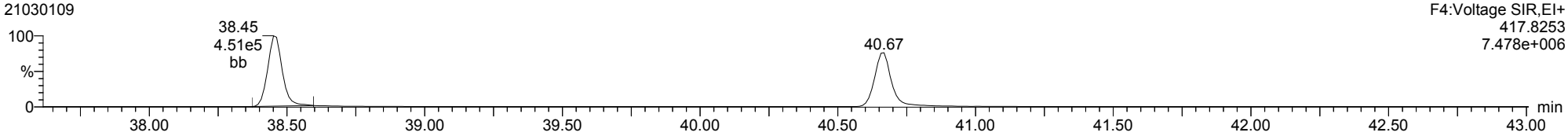

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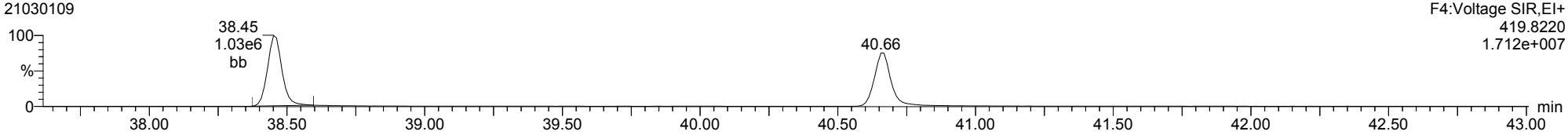

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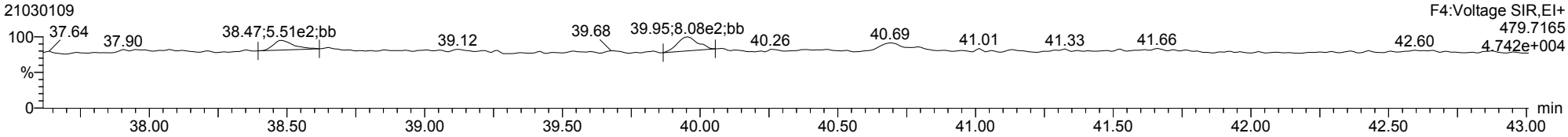

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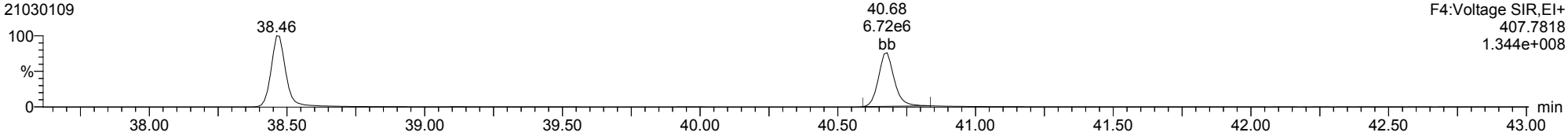

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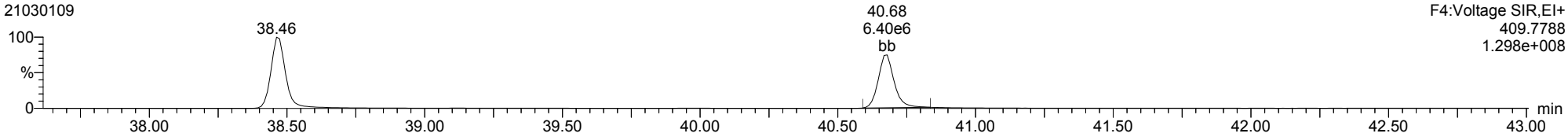

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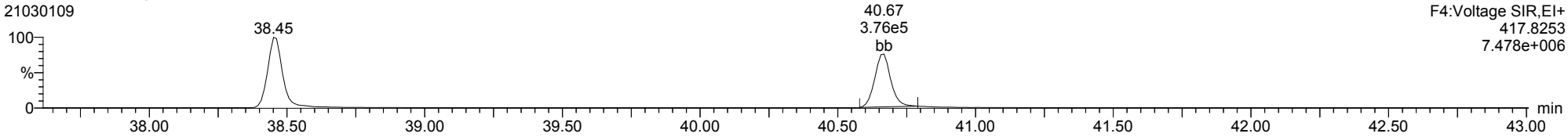

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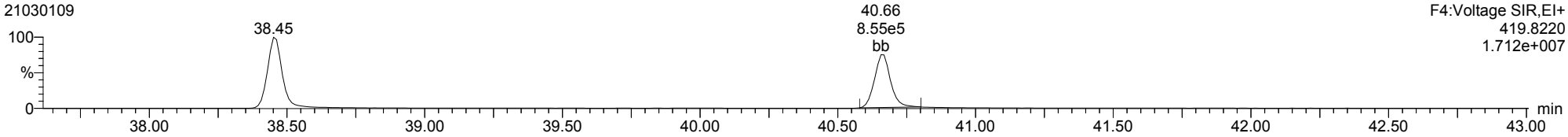
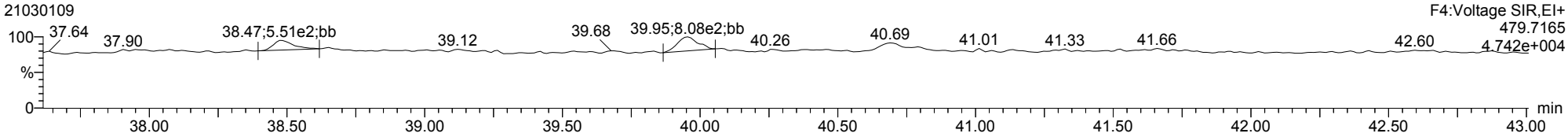


FUNCTION4 NCDPE



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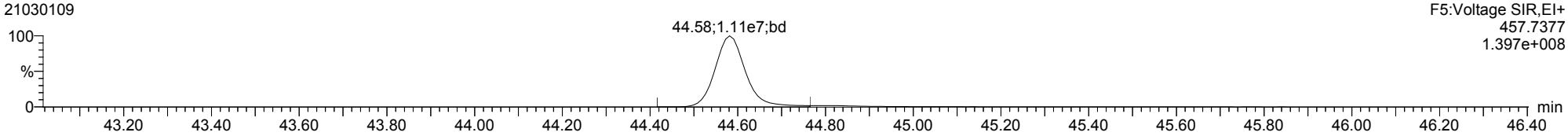
OCDD



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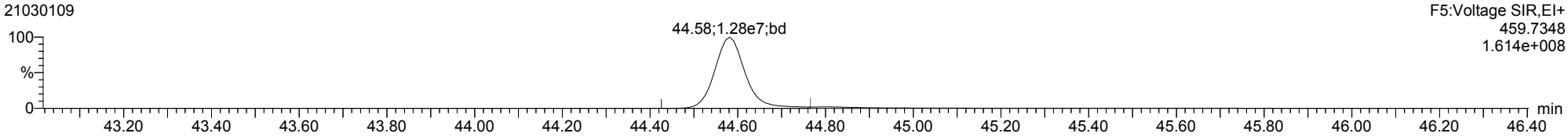

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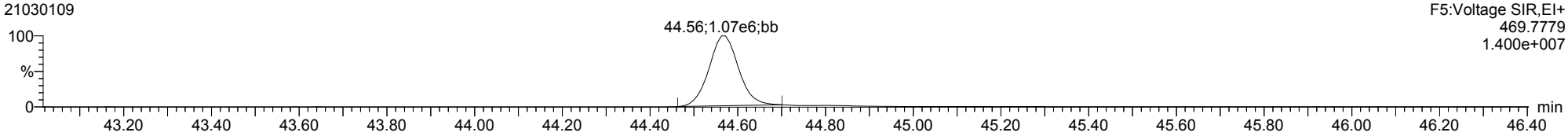

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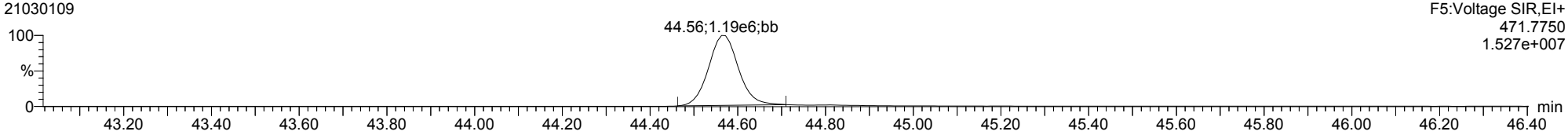
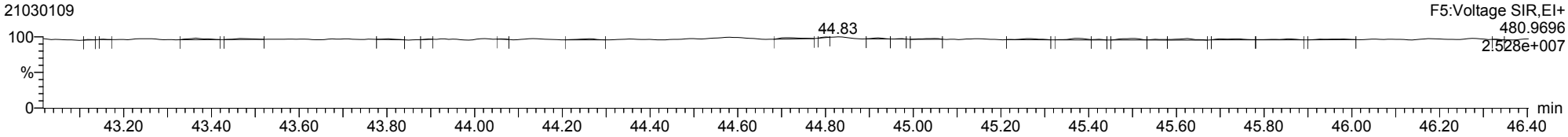


FUNCTION5 PFK



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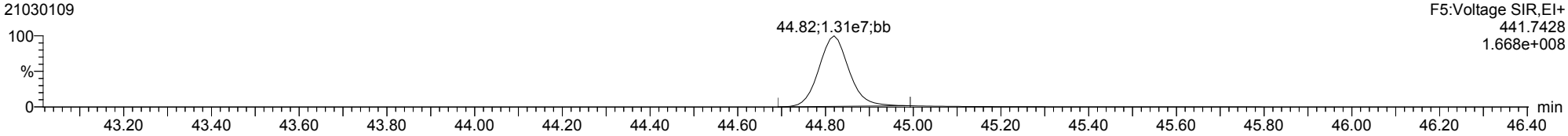

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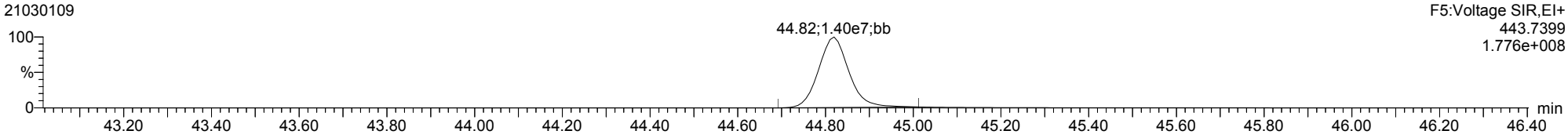
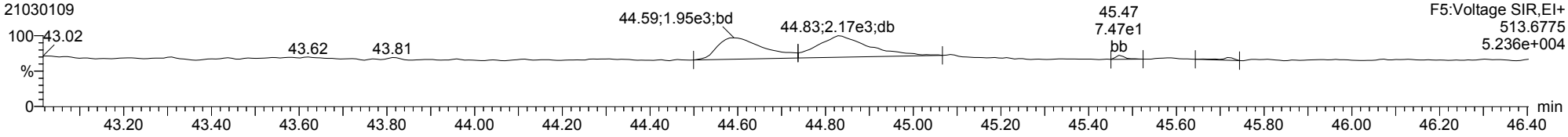


FUNCTION5 DCDPE



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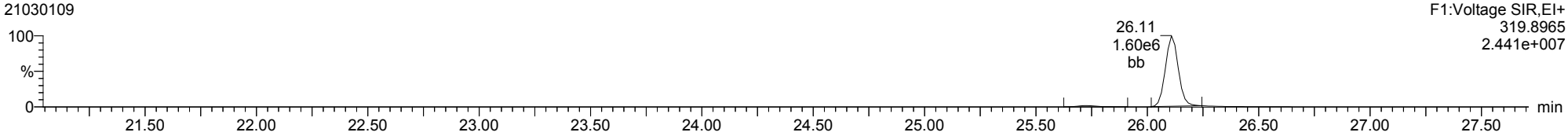
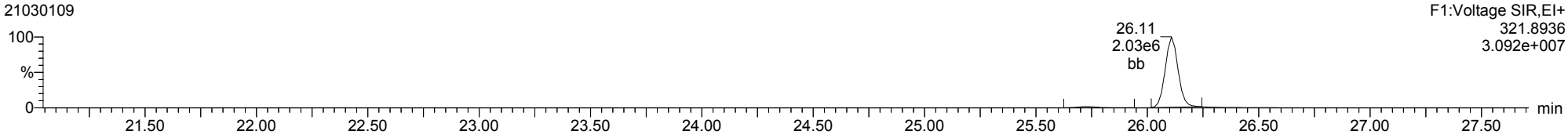


Total-tetradioxins



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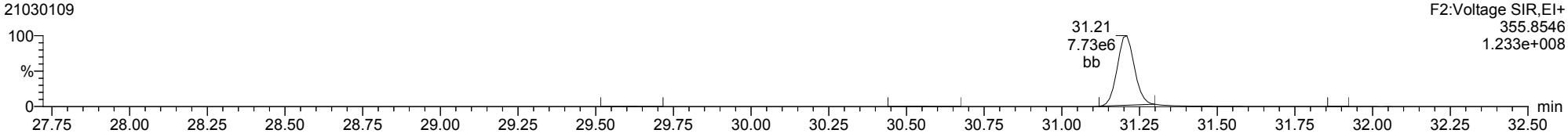

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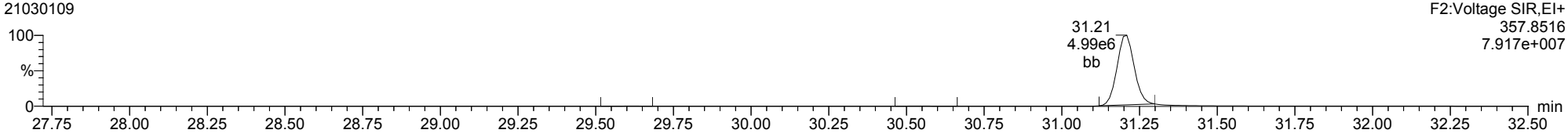

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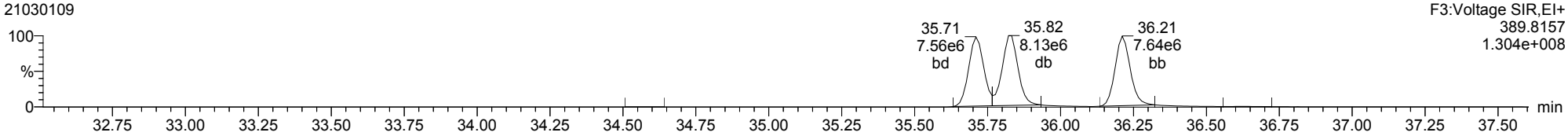

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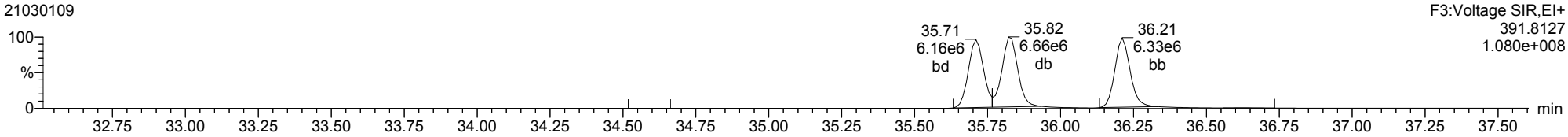

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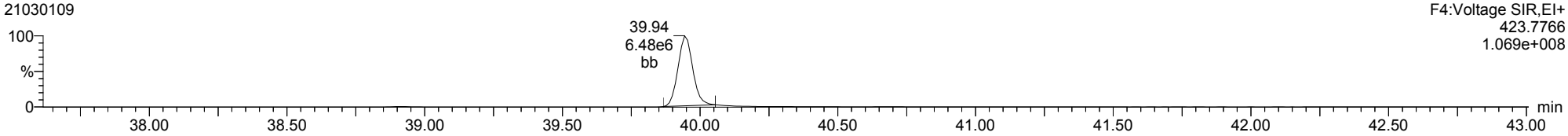

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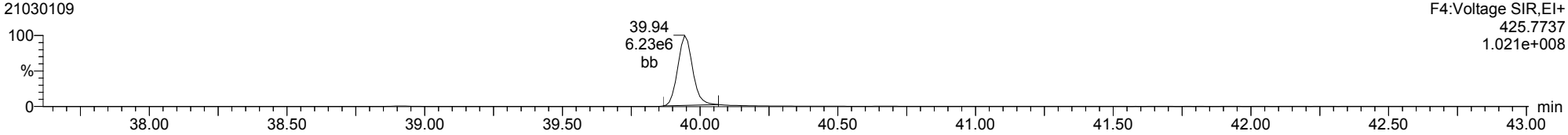

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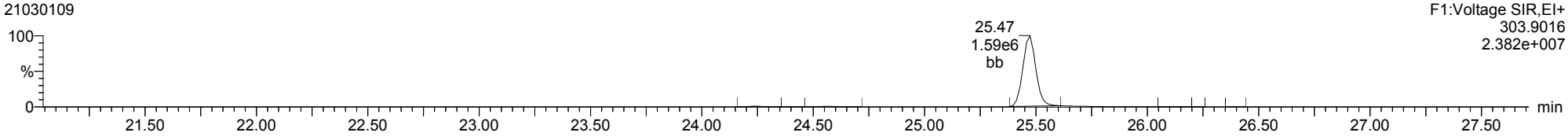

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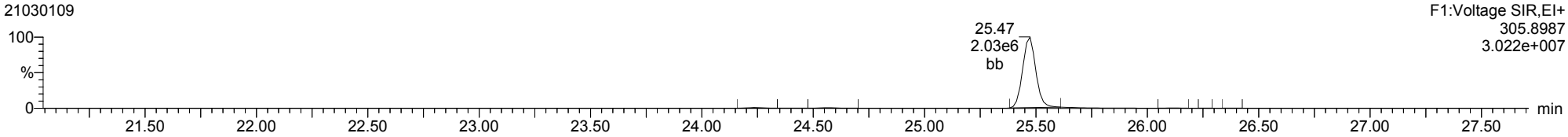

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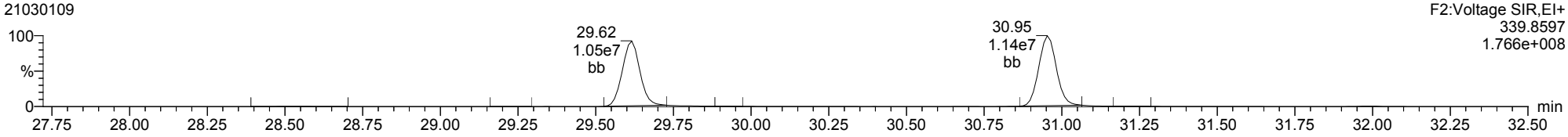

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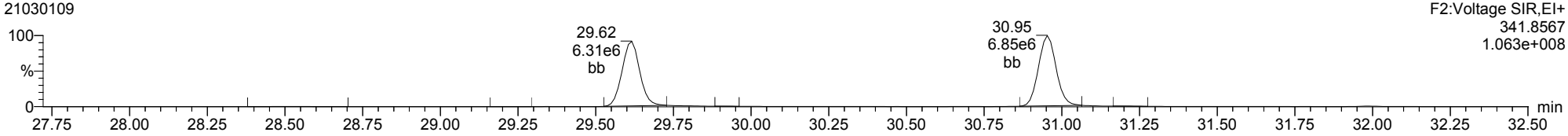

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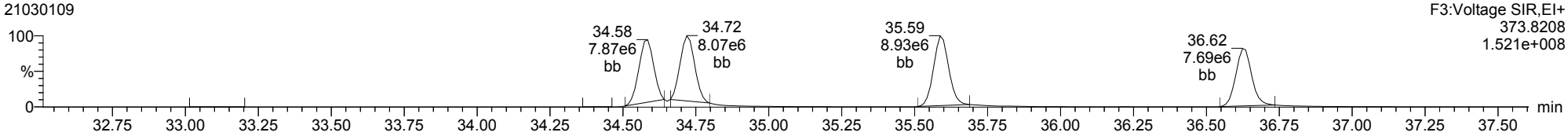

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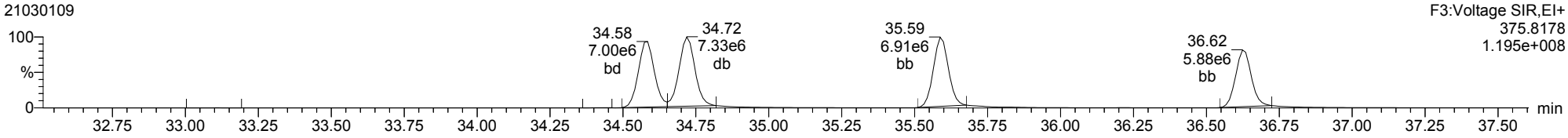

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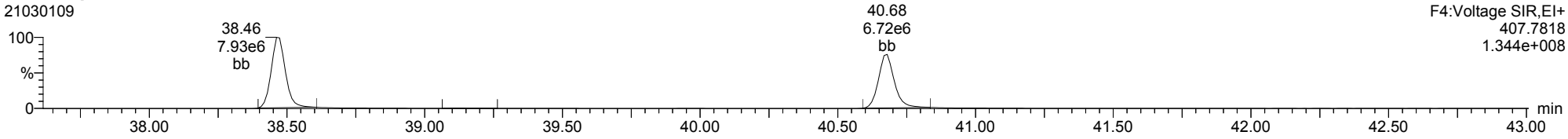

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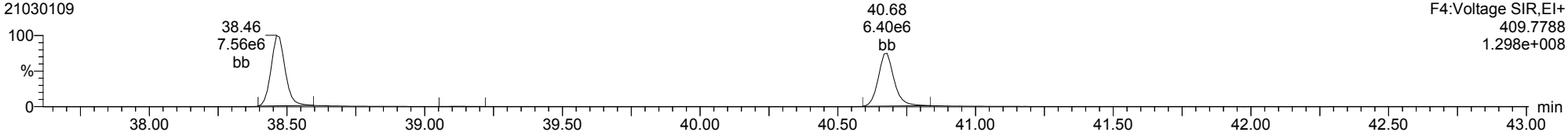

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Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	25.473	1.001	5.397e4	6.935e4	0.782	0.778	0.770	1051	2000	7.54e5	9.79e5	717.1	489.3	NO	bb	bb	10.509
12378-PeCDF	29.616	1.001	3.430e5	1.976e5	0.866	1.736	1.550	3779	2507	4.93e6	2.95e6	1303.4	1177.5	NO	bd	bb	55.118
23478-PeCDF	30.953	1.000	3.296e5	1.969e5	0.980	1.674	1.550	3779	2507	4.89e6	2.91e6	1292.8	1159.4	NO	bb	bb	47.811
123478-HxCDF	34.585	1.001	2.573e5	1.996e5	1.002	1.289	1.240	3209	2473	3.98e6	3.06e6	1240.8	1237.2	NO	bd	bd	53.177
234678-HxCDF	35.588	1.000	2.529e5	1.943e5	1.043	1.301	1.240	3209	2473	3.88e6	3.05e6	1210.6	1232.0	NO	bb	bb	53.589
123678-HxCDF	34.719	1.000	2.753e5	2.071e5	0.961	1.329	1.240	3209	2473	4.09e6	3.13e6	1274.3	1264.2	NO	db	db	52.827
123789-HxCDF	36.624	1.000	2.095e5	1.657e5	0.994	1.265	1.240	3209	2473	3.18e6	2.54e6	990.9	1025.6	NO	bb	bb	50.257
1234678-HpCDF	38.473	1.001	2.384e5	2.261e5	1.058	1.054	1.050	2381	2711	3.67e6	3.40e6	1540.3	1252.5	NO	bd	bd	56.960
1234789-HpCDF	40.679	1.001	1.814e5	1.797e5	1.070	1.010	1.050	2381	2711	2.42e6	2.41e6	1016.3	889.7	NO	MM	MM	56.978
OCDF	44.811	1.006	3.187e5	3.370e5	1.257	0.946	0.890	3160	3240	3.52e6	3.73e6	1112.5	1150.5	NO	bd	bd	100.427
2378-TCDD	26.108	1.001	4.639e4	6.004e4	1.307	0.773	0.770	1881	1409	6.50e5	8.45e5	345.7	599.3	NO	bb	bd	11.143
12378-PeCDD	31.209	1.001	2.268e5	1.440e5	0.979	1.575	1.550	2550	4048	3.46e6	2.17e6	1356.4	537.1	NO	bb	bb	52.571
123478-HxCDD	35.710	1.000	2.144e5	1.756e5	0.956	1.221	1.240	2202	2575	3.45e6	2.82e6	1568.7	1096.1	NO	bd	bd	52.086
123678-HxCDD	35.833	1.001	2.325e5	1.934e5	0.953	1.202	1.240	2202	2575	3.38e6	2.84e6	1535.3	1101.5	NO	db	db	51.859
123789-HxCDD	36.212	1.011	2.124e5	1.759e5	0.927	1.207	1.240	2202	2575	3.20e6	2.60e6	1454.2	1009.7	NO	bb	bb	50.934
1234678-HpCDD	39.944	1.000	1.667e5	1.626e5	1.055	1.025	1.050	2421	2184	2.32e6	2.29e6	960.0	1049.1	NO	bb	bb	51.576
OCDD	44.573	1.000	2.816e5	3.124e5	1.074	0.901	0.890	2949	2167	3.02e6	3.44e6	1024.1	1588.7	NO	bd	bb	106.484
13C-2378-TCDF	25.458	1.007	6.632e5	8.384e5	1.925	0.791	0.770	4329	2119	9.49e6	1.21e7	2193.1	5722.7	NO	bb	bb	97.772
13C-12378-PeCDF	29.594	1.171	6.821e5	4.504e5	1.442	1.515	1.550	3588	3800	9.85e6	6.48e6	2745.6	1704.7	NO	bb	bb	98.414
13C-23478-PeCDF	30.942	1.224	6.762e5	4.477e5	1.387	1.510	1.550	3588	3800	9.73e6	6.43e6	2712.3	1691.0	NO	bb	bb	101.585
13C-123478-HxCDF	34.563	0.955	2.895e5	5.677e5	1.053	0.510	0.510	3016	3448	4.32e6	8.66e6	1432.9	2512.7	NO	bd	bd	112.270
13C-123678-HxCDF	34.708	0.959	3.164e5	6.337e5	1.135	0.499	0.510	3016	3448	4.67e6	9.11e6	1547.2	2643.6	NO	db	db	115.454
13C-234678-HxCDF	35.577	0.983	2.686e5	5.315e5	1.004	0.505	0.510	3016	3448	4.21e6	8.26e6	1395.0	2395.5	NO	bb	bb	109.899
13C-123789-HxCDF	36.613	1.011	2.712e5	4.796e5	0.909	0.566	0.510	3016	3448	3.80e6	7.27e6	1259.3	2108.1	NO	bb	bb	113.934
13C-1234678-HpCDF	38.451	1.062	2.318e5	5.391e5	0.960	0.430	0.440	2524	3843	3.63e6	8.28e6	1439.7	2155.3	NO	bb	bb	110.785
13C-1234789-HpCDF	40.657	1.123	1.844e5	4.081e5	0.794	0.452	0.440	2524	3843	2.47e6	5.61e6	979.7	1460.1	NO	bb	bb	102.961
13C-1234-TCDD	25.277	0.000	3.546e5	4.433e5	1.000	0.800	0.770	2370	1656	5.14e6	6.48e6	2167.0	3914.8	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	3.201e5	4.104e5	1.133	0.780	0.770	2370	1656	4.57e6	5.82e6	1927.7	3517.9	NO	bb	bb	80.834
13C-12378-PeCDD	31.187	1.234	4.541e5	2.667e5	0.947	1.703	1.550	1548	1438	6.12e6	3.81e6	3952.6	2652.5	NO	bd	bb	95.416
13C-123478-HxCDD	35.699	0.986	4.400e5	3.430e5	0.939	1.283	1.240	5236	1911	6.93e6	5.31e6	1323.8	2776.5	NO	bd	bd	115.057
13C-123678-HxCDD	35.811	0.989	4.783e5	3.839e5	1.042	1.246	1.240	5236	1911	7.13e6	5.87e6	1362.2	3071.2	NO	db	db	114.113
13C-1234678-HpCDD	39.933	1.103	3.109e5	2.943e5	0.788	1.056	1.050	2200	2496	4.41e6	4.10e6	2003.5	1642.7	NO	bb	bb	105.880
13C-OCDD	44.554	1.231	4.924e5	5.466e5	0.703	0.901	0.890	2844	3590	5.67e6	6.38e6	1994.9	1778.6	NO	bb	bb	203.768
13C-123789-HxCDD	36.201	0.000	3.996e5	3.254e5	1.000	1.228	1.240	5236	1911	5.95e6	4.83e6	1137.1	2525.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	1.083e5		1.298			2708		1.51e6		558.7			bb		10.462

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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	21.981	0.863	6.290e4	7.727e4	0.966	0.814	0.770	1051	2000	9.03e5	1.17e6	859.1	586.2	NO	bd	bb	9.667
1289-TCDF	26.970	1.059	3.538e4	4.519e4	0.736	0.783	0.770	1051	2000	5.00e5	6.19e5	475.1	309.6	NO	db	db	7.292
13468-PECDF	26.819	0.906	3.866e5	2.593e5	1.347	1.491	1.550	1150	1394	5.59e6	3.79e6	4863.9	2716.8	NO	bb	bb	42.347
12389-PECDF	31.989	1.081	2.576e5	1.610e5	0.867	1.600	1.550	3779	2507	3.73e6	2.29e6	987.5	914.9	NO	bb	bb	42.640
123468-HXCDF	32.903	0.952	2.822e5	2.207e5	1.036	1.279	1.240	3209	2473	4.14e6	3.21e6	1290.0	1296.5	NO	bb	bb	56.637
1368-TCDD	23.251	0.891	4.855e4	6.494e4	1.256	0.748	0.770	1881	1409	7.38e5	9.49e5	392.3	673.6	NO	bb	bd	12.372
1289-TCDD	26.713	1.024	4.492e4	5.792e4	1.151	0.775	0.770	1881	1409	6.05e5	7.69e5	321.3	545.4	NO	bb	bd	12.231
12479-PECDD	28.502	0.914	3.298e5	2.048e5	1.773	1.611	1.550	2550	4048	3.12e6	1.98e6	1223.1	489.6	NO	bb	bb	41.819
12389-PECDD	31.599	1.013	2.235e5	1.584e5	1.171	1.411	1.550	2550	4048	3.21e6	2.13e6	1258.6	527.1	NO	bb	bd	45.240
124679-HXCDD	33.694	0.944	2.599e5	2.103e5	1.034	1.236	1.240	2202	2575	3.82e6	3.11e6	1734.4	1208.3	NO	bb	bb	58.104
1234679-HPCDD	38.919	0.975	1.878e5	1.813e5	1.194	1.036	1.050	2421	2184	2.94e6	2.80e6	1212.6	1283.7	NO	bb	bb	51.075
Total-tetrafurans			1.565e5		0.828			1051		2.22e6							28.295
Total-penta1			3.866e5					1150		5.59e6							42.347
Total-pentafurans			9.757e5		0.904			3779		1.42e7							152.615
Total-hexafurans			1.277e6		1.007			3209		1.93e7							266.487
Total-heptafurans			4.214e5		1.064			2381		6.12e6							114.391
Total-Furans			3.536e6		0.998			1051		5.09e7							704.561
Total-tetradioxins			2.465e5		1.238			1881		3.02e6							62.382
Total-pentadioxins			7.802e5		1.308			2550		9.79e6							139.630
Total-hexadioxins			9.279e5		0.967			2202		1.39e7							214.893
Total-heptadioxins			3.545e5		1.125			2421		5.26e6							102.651
Total-Dioxins			2.591e6		1.141			1881		3.50e7							626.040
Total-TEQ			6.127e6					1881		8.59e7							1330.601
FUNCTION1 PFK			4.173e6					638729		6.49e7							
FUNCTION2 PFK			6.392e5					323979		1.36e7							0.000
FUNCTION3 PFK			1.631e6					372007		3.19e7							0.000
FUNCTION4 PFK			1.794e6					339905		2.36e7							
FUNCTION5 PFK			7.170e5					167053		1.68e7							
FUNCTION1 HXCD...			5.708e2					819		8.41e3							0.000
FUNCTION1 HPCD...			1.564e3					912		3.31e4							0.000
FUNCTION2 HPCD...			1.066e3					1224		1.87e4							0.000
FUNCTION3 OCDPE			5.294e2					1008		7.55e3							0.000
FUNCTION4 NCDPE			2.385e2					833		5.02e3							0.000
FUNCTION5 DCDPE			3.233e2					691		4.35e3							0.000

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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
2	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
3	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
4	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
2	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
3	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
4	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
5	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
2	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
3	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978

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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	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
2	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
3	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
2	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
3	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
4	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
5	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
2	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075

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	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
7	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
8	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
9	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
10	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
11	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
12	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
13	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
14	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
15	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
16	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
17	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347
20	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
21	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
22	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
23	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
24	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
25	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
26	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
27	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
28	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
29	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
30	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
31	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
32	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
33	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
34	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
35	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
36	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.92	1.156e5					2.1	NO		dd		
2	FUNCTION1 PFK	21.81	9.219e4					1.9	NO		dd		
3	FUNCTION1 PFK	21.69	1.040e5					2.1	NO		dd		
4	FUNCTION1 PFK	21.59	1.237e5					2.4	NO		dd		
5	FUNCTION1 PFK	21.50	1.080e5					2.3	NO		dd		
6	FUNCTION1 PFK	21.41	6.439e4					2.1	NO		dd		
7	FUNCTION1 PFK	21.36	8.424e4					2.3	NO		dd		
8	FUNCTION1 PFK	21.30	1.669e4					1.0	NO		dd		
9	FUNCTION1 PFK	21.24	6.060e4					1.7	NO		dd		
10	FUNCTION1 PFK	21.18	4.762e4					1.6	NO		dd		
11	FUNCTION1 PFK	21.12	4.780e3					0.4	NO		bd		
12	FUNCTION1 PFK	23.58	4.497e4					1.3	NO		bd		
13	FUNCTION1 PFK	23.48	1.760e4					0.8	NO		bb		
14	FUNCTION1 PFK	23.36	3.195e4					1.1	NO		bb		
15	FUNCTION1 PFK	23.25	1.015e5					1.8	NO		db		
16	FUNCTION1 PFK	23.15	6.591e4					2.1	NO		dd		
17	FUNCTION1 PFK	23.02	1.064e5					1.8	NO		dd		
18	FUNCTION1 PFK	22.95	4.945e4					1.5	NO		dd		
19	FUNCTION1 PFK	22.90	5.485e4					1.8	NO		dd		
20	FUNCTION1 PFK	22.81	8.219e4					1.9	NO		dd		
21	FUNCTION1 PFK	22.69	8.428e4					1.5	NO		dd		
22	FUNCTION1 PFK	22.59	6.669e4					1.5	NO		dd		
23	FUNCTION1 PFK	22.48	7.201e4					1.7	NO		dd		
24	FUNCTION1 PFK	22.37	9.568e4					1.7	NO		dd		
25	FUNCTION1 PFK	22.27	9.298e4					2.0	NO		dd		
26	FUNCTION1 PFK	22.15	6.624e4					2.0	NO		dd		
27	FUNCTION1 PFK	22.04	9.485e4					2.3	NO		dd		
28	FUNCTION1 PFK	25.28	4.780e4					1.5	NO		bd		
29	FUNCTION1 PFK	25.16	3.320e4					1.2	NO		db		
30	FUNCTION1 PFK	25.05	4.422e4					1.2	NO		dd		
31	FUNCTION1 PFK	24.93	4.108e4					1.3	NO		bd		
32	FUNCTION1 PFK	24.79	2.806e4					0.8	NO		bb		
33	FUNCTION1 PFK	24.72	4.553e4					1.3	NO		db		
34	FUNCTION1 PFK	24.67	2.488e4					1.3	NO		dd		
35	FUNCTION1 PFK	24.60	8.222e4					1.8	NO		dd		
36	FUNCTION1 PFK	24.48	5.748e4					1.8	NO		dd		
37	FUNCTION1 PFK	24.37	9.536e4					1.8	NO		dd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	24.28	7.763e4					1.9	NO		dd		
39	FUNCTION1 PFK	24.14	7.067e4					1.9	NO		dd		
40	FUNCTION1 PFK	24.04	9.260e4					1.8	NO		dd		
41	FUNCTION1 PFK	23.93	1.030e5					2.3	NO		dd		
42	FUNCTION1 PFK	23.81	4.843e4					1.4	NO		dd		
43	FUNCTION1 PFK	23.69	7.884e4					1.9	NO		dd		
44	FUNCTION1 PFK	27.06	7.787e4					2.0	NO		dd		
45	FUNCTION1 PFK	26.97	8.111e4					1.8	NO		dd		
46	FUNCTION1 PFK	26.83	9.036e4					2.0	NO		dd		
47	FUNCTION1 PFK	26.74	8.591e4					1.8	NO		dd		
48	FUNCTION1 PFK	26.61	6.449e4					1.4	NO		dd		
49	FUNCTION1 PFK	26.49	5.909e4					1.2	NO		dd		
50	FUNCTION1 PFK	26.40	5.894e4					1.4	NO		dd		
51	FUNCTION1 PFK	26.29	3.046e4					1.1	NO		dd		
52	FUNCTION1 PFK	26.18	3.010e4					1.0	NO		dd		
53	FUNCTION1 PFK	26.15	2.080e4					0.9	NO		bd		
54	FUNCTION1 PFK	25.94	5.251e4					1.2	NO		bb		
55	FUNCTION1 PFK	25.84	3.685e4					1.1	NO		db		
56	FUNCTION1 PFK	25.70	4.278e4					1.2	NO		dd		
57	FUNCTION1 PFK	25.59	5.314e4					1.3	NO		bd		
58	FUNCTION1 PFK	25.49	6.315e4					1.4	NO		db		
59	FUNCTION1 PFK	25.38	6.586e4					1.5	NO		dd		
60	FUNCTION1 PFK	27.50	6.900e4					1.8	NO		db		
61	FUNCTION1 PFK	27.39	8.722e4					1.9	NO		dd		
62	FUNCTION1 PFK	27.27	8.670e4					1.7	NO		dd		
63	FUNCTION1 PFK	27.17	9.663e4					2.1	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.97	2.403e4					2.4	NO		bb		0.000
2	FUNCTION2 PFK	29.92	4.624e3					0.9	NO		db		0.000
3	FUNCTION2 PFK	29.88	2.754e4					1.7	NO		bd		0.000
4	FUNCTION2 PFK	29.69	2.184e3					0.6	NO		bb		0.000
5	FUNCTION2 PFK	29.63	2.944e4					2.0	NO		bb		0.000
6	FUNCTION2 PFK	28.56	4.796e3					0.9	NO		bb		0.000
7	FUNCTION2 PFK	28.44	5.849e4					2.6	NO		bb		0.000
8	FUNCTION2 PFK	28.30	3.377e4					2.5	NO		db		0.000
9	FUNCTION2 PFK	28.18	3.753e4					1.6	NO		dd		0.000
10	FUNCTION2 PFK	28.10	5.241e4					2.6	NO		bd		0.000
11	FUNCTION2 PFK	27.86	3.047e4					1.8	NO		bb		0.000
12	FUNCTION2 PFK	31.88	2.920e4					1.8	NO		bb		0.000
13	FUNCTION2 PFK	31.76	4.625e3					0.8	NO		bb		0.000
14	FUNCTION2 PFK	31.67	3.044e4					2.7	NO		bb		0.000
15	FUNCTION2 PFK	31.58	5.445e4					3.1	YES		bb		0.000
16	FUNCTION2 PFK	31.33	1.312e4					1.5	NO		bb		0.000
17	FUNCTION2 PFK	31.09	3.942e4					1.8	NO		bb		0.000
18	FUNCTION2 PFK	30.93	5.594e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	30.56	3.248e4					2.0	NO		bb		0.000
20	FUNCTION2 PFK	30.33	4.992e4					2.7	NO		db		0.000
21	FUNCTION2 PFK	30.20	5.152e4					3.3	YES		bd		0.000
22	FUNCTION2 PFK	30.08	2.319e4					1.6	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	32.78	3.627e4					2.5	NO		bb		0.000
2	FUNCTION3 PFK	32.72	1.391e3					0.3	NO		bb		0.000
3	FUNCTION3 PFK	32.68	1.420e4					1.6	NO		bb		0.000
4	FUNCTION3 PFK	32.57	1.765e4					1.2	NO		bb		0.000
5	FUNCTION3 PFK	34.51	7.166e4					2.5	NO		bd		0.000
6	FUNCTION3 PFK	34.37	3.299e4					1.9	NO		bb		0.000
7	FUNCTION3 PFK	34.27	2.024e4					1.0	NO		bb		0.000
8	FUNCTION3 PFK	34.03	3.995e4					1.8	NO		db		0.000
9	FUNCTION3 PFK	33.94	2.641e4					1.7	NO		bd		0.000
10	FUNCTION3 PFK	33.85	5.420e3					0.6	NO		db		0.000
11	FUNCTION3 PFK	33.79	2.499e4					2.1	NO		bd		0.000
12	FUNCTION3 PFK	33.72	4.357e4					2.1	NO		db		0.000
13	FUNCTION3 PFK	33.60	3.370e4					2.5	NO		dd		0.000
14	FUNCTION3 PFK	33.57	4.168e4					2.7	NO		dd		0.000
15	FUNCTION3 PFK	33.47	4.842e4					2.0	NO		dd		0.000
16	FUNCTION3 PFK	33.36	5.830e4					2.9	NO		dd		0.000
17	FUNCTION3 PFK	33.27	2.606e4					2.0	NO		dd		0.000
18	FUNCTION3 PFK	33.24	3.089e4					1.9	NO		bd		0.000
19	FUNCTION3 PFK	33.10	4.231e3					0.6	NO		bb		0.000
20	FUNCTION3 PFK	32.91	4.478e4					1.8	NO		bb		0.000
21	FUNCTION3 PFK	36.47	2.325e4					1.2	NO		bb		0.000
22	FUNCTION3 PFK	36.37	4.000e4					1.6	NO		db		0.000
23	FUNCTION3 PFK	36.25	4.928e4					1.9	NO		dd		0.000
24	FUNCTION3 PFK	36.14	5.917e4					2.5	NO		dd		0.000
25	FUNCTION3 PFK	36.02	3.775e4					1.7	NO		dd		0.000
26	FUNCTION3 PFK	35.96	2.283e4					2.0	NO		dd		0.000
27	FUNCTION3 PFK	35.92	3.256e4					2.2	NO		bd		0.000
28	FUNCTION3 PFK	35.50	2.799e4					1.2	NO		bb		0.000
29	FUNCTION3 PFK	35.39	2.021e4					1.6	NO		db		0.000
30	FUNCTION3 PFK	35.35	1.054e4					1.2	NO		bd		0.000
31	FUNCTION3 PFK	35.26	2.891e4					1.8	NO		bb		0.000
32	FUNCTION3 PFK	35.14	2.968e4					1.7	NO		bb		0.000
33	FUNCTION3 PFK	34.93	4.830e4					2.6	NO		bb		0.000
34	FUNCTION3 PFK	34.81	5.937e4					2.7	NO		db		0.000
35	FUNCTION3 PFK	34.69	7.389e4					2.6	NO		dd		0.000
36	FUNCTION3 PFK	34.61	5.603e4					2.2	NO		dd		0.000
37	FUNCTION3 PFK	37.57	5.322e3					0.7	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.47	2.042e4					1.5	NO		bb		0.000
39	FUNCTION3 PFK	37.39	2.887e4					1.5	NO		bb		0.000
40	FUNCTION3 PFK	37.25	4.912e4					1.9	NO		db		0.000
41	FUNCTION3 PFK	37.16	5.569e4					2.3	NO		dd		0.000
42	FUNCTION3 PFK	37.08	2.607e4					2.0	NO		dd		0.000
43	FUNCTION3 PFK	37.04	5.346e4					2.7	NO		dd		0.000
44	FUNCTION3 PFK	36.95	6.200e4					2.6	NO		bd		0.000
45	FUNCTION3 PFK	36.71	1.917e4					1.6	NO		db		0.000
46	FUNCTION3 PFK	36.59	6.869e4					2.3	NO		bd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.38	2.044e4					1.6	NO		bb		
2	FUNCTION4 PFK	38.05	5.732e4					3.2	YES		db		
3	FUNCTION4 PFK	37.95	1.411e5					5.6	YES		dd		
4	FUNCTION4 PFK	37.85	3.608e5					8.1	YES		dd		
5	FUNCTION4 PFK	37.70	5.484e5					11.8	YES		bd		
6	FUNCTION4 PFK	40.85	2.650e4					1.8	NO		bd		
7	FUNCTION4 PFK	40.51	2.576e4					1.5	NO		db		
8	FUNCTION4 PFK	40.40	2.586e4					1.6	NO		bd		
9	FUNCTION4 PFK	40.28	2.720e4					1.3	NO		bb		
10	FUNCTION4 PFK	40.18	1.718e4					1.2	NO		bb		
11	FUNCTION4 PFK	40.06	2.263e4					1.6	NO		bb		
12	FUNCTION4 PFK	39.94	1.247e4					1.1	NO		bb		
13	FUNCTION4 PFK	39.74	2.676e4					1.3	NO		bb		
14	FUNCTION4 PFK	39.54	1.027e3					0.3	NO		bb		
15	FUNCTION4 PFK	39.38	2.354e4					1.2	NO		bb		
16	FUNCTION4 PFK	39.29	1.762e4					1.4	NO		db		
17	FUNCTION4 PFK	39.18	2.910e4					1.6	NO		bd		
18	FUNCTION4 PFK	38.83	3.069e4					1.4	NO		bb		
19	FUNCTION4 PFK	38.73	3.539e4					1.6	NO		db		
20	FUNCTION4 PFK	38.63	9.699e3					0.9	NO		dd		
21	FUNCTION4 PFK	38.58	9.331e3					0.9	NO		bd		
22	FUNCTION4 PFK	42.77	1.724e4					1.2	NO		bb		
23	FUNCTION4 PFK	42.55	2.073e4					1.3	NO		db		
24	FUNCTION4 PFK	42.42	3.607e4					1.9	NO		bd		
25	FUNCTION4 PFK	42.31	4.473e4					1.7	NO		bb		
26	FUNCTION4 PFK	42.06	3.196e4					1.6	NO		bb		
27	FUNCTION4 PFK	41.89	4.289e3					0.6	NO		bb		
28	FUNCTION4 PFK	41.73	2.900e4					1.4	NO		bb		
29	FUNCTION4 PFK	41.65	2.539e4					1.9	NO		bb		
30	FUNCTION4 PFK	41.50	3.007e4					1.4	NO		bb		
31	FUNCTION4 PFK	41.29	2.942e4					1.7	NO		db		
32	FUNCTION4 PFK	41.20	1.070e4					1.0	NO		dd		
33	FUNCTION4 PFK	41.16	1.019e4					1.0	NO		bd		
34	FUNCTION4 PFK	40.97	3.520e4					1.6	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.17	2.622e4					4.3	YES		dd		
2	FUNCTION5 PFK	43.10	8.115e4					5.8	YES		bd		
3	FUNCTION5 PFK	44.31	1.424e4					1.5	NO		bd		
4	FUNCTION5 PFK	44.20	2.337e4					2.3	NO		bb		
5	FUNCTION5 PFK	44.10	1.419e4					1.9	NO		db		
6	FUNCTION5 PFK	43.98	2.537e4					3.3	YES		dd		
7	FUNCTION5 PFK	43.88	9.970e3					1.7	NO		dd		
8	FUNCTION5 PFK	43.85	7.848e3					1.4	NO		dd		
9	FUNCTION5 PFK	43.79	9.429e3					1.8	NO		dd		
10	FUNCTION5 PFK	43.75	5.501e3					1.2	NO		bd		
11	FUNCTION5 PFK	43.64	1.833e4					2.9	NO		bb		
12	FUNCTION5 PFK	43.53	1.509e4					2.4	NO		db		
13	FUNCTION5 PFK	43.49	2.714e3					0.8	NO		dd		
14	FUNCTION5 PFK	43.43	1.917e4					3.2	YES		dd		
15	FUNCTION5 PFK	43.41	2.015e4					3.2	YES		dd		
16	FUNCTION5 PFK	43.34	2.726e4					3.5	YES		dd		
17	FUNCTION5 PFK	43.30	2.997e4					4.4	YES		dd		
18	FUNCTION5 PFK	43.21	5.187e4					4.5	YES		dd		
19	FUNCTION5 PFK	45.52	4.230e3					1.3	NO		bd		
20	FUNCTION5 PFK	45.47	6.814e3					1.6	NO		db		
21	FUNCTION5 PFK	45.44	1.565e4					2.6	NO		dd		
22	FUNCTION5 PFK	45.34	1.434e4					2.1	NO		bd		
23	FUNCTION5 PFK	45.22	7.354e3					1.6	NO		db		
24	FUNCTION5 PFK	45.20	6.210e3					1.5	NO		bd		
25	FUNCTION5 PFK	45.02	7.175e3					1.0	NO		db		
26	FUNCTION5 PFK	44.96	3.641e3					1.0	NO		dd		
27	FUNCTION5 PFK	44.90	9.237e3					1.7	NO		dd		
28	FUNCTION5 PFK	44.87	8.890e3					1.7	NO		dd		
29	FUNCTION5 PFK	44.82	1.356e4					2.1	NO		dd		
30	FUNCTION5 PFK	44.78	2.418e4					2.4	NO		bd		
31	FUNCTION5 PFK	44.65	2.284e4					2.2	NO		db		
32	FUNCTION5 PFK	44.55	1.380e4					1.7	NO		bd		
33	FUNCTION5 PFK	44.45	8.362e3					2.0	NO		db		
34	FUNCTION5 PFK	44.41	1.412e4					2.0	NO		dd		
35	FUNCTION5 PFK	46.36	3.164e3					1.2	NO		db		
36	FUNCTION5 PFK	46.33	1.179e4					1.8	NO		bd		
37	FUNCTION5 PFK	46.26	6.653e3					1.7	NO		db		

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	46.22	1.290e4					2.5	NO		bd		
39	FUNCTION5 PFK	46.11	1.729e4					2.1	NO		db		
40	FUNCTION5 PFK	46.01	2.263e4					2.3	NO		dd		
41	FUNCTION5 PFK	45.92	9.899e3					1.8	NO		dd		
42	FUNCTION5 PFK	45.89	1.679e4					3.5	YES		bd		
43	FUNCTION5 PFK	45.74	4.790e3					1.0	NO		db		
44	FUNCTION5 PFK	45.71	4.776e3					1.1	NO		dd		
45	FUNCTION5 PFK	45.65	8.970e3					1.4	NO		bd		
46	FUNCTION5 PFK	45.55	1.507e4					1.9	NO		db		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.58	1.353e2					2.3	NO		db		0.000
2	FUNCTION1 HXCD...	25.49	9.740e1					1.7	NO		bd		0.000
3	FUNCTION1 HXCD...	23.96	9.111e1					1.2	NO		bb		0.000
4	FUNCTION1 HXCD...	26.82	1.752e2					2.3	NO		bb		0.000
5	FUNCTION1 HXCD...	25.73	7.183e1					2.7	NO		bb		0.000

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Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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...	26.50	1.182e2					2.9	NO		bb		0.000
2	FUNCTION1 HPCD...	26.26	7.553e1					1.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.76	9.414e1					1.7	NO		bb		0.000
4	FUNCTION1 HPCD...	25.50	7.280e1					1.8	NO		bb		0.000
5	FUNCTION1 HPCD...	24.88	8.348e1					1.5	NO		bb		0.000
6	FUNCTION1 HPCD...	24.69	8.225e1					2.5	NO		bb		0.000
7	FUNCTION1 HPCD...	24.02	1.219e2					3.8	YES		db		0.000
8	FUNCTION1 HPCD...	23.92	8.739e1					1.9	NO		bd		0.000
9	FUNCTION1 HPCD...	23.43	1.627e2					4.0	YES		bb		0.000
10	FUNCTION1 HPCD...	23.16	9.346e1					2.2	NO		bb		0.000
11	FUNCTION1 HPCD...	21.83	9.696e1					2.4	NO		db		0.000
12	FUNCTION1 HPCD...	21.74	8.411e1					1.6	NO		bd		0.000
13	FUNCTION1 HPCD...	21.44	7.327e1					1.6	NO		bb		0.000
14	FUNCTION1 HPCD...	27.61	8.015e1					2.5	NO		bb		0.000
15	FUNCTION1 HPCD...	27.39	7.945e1					1.5	NO		bb		0.000
16	FUNCTION1 HPCD...	26.80	1.580e2					3.0	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...	32.36	9.129e1					1.5	NO		db		0.000
2	FUNCTION2 HPCD...	32.17	1.165e2					1.4	NO		bd		0.000
3	FUNCTION2 HPCD...	30.98	1.204e2					2.5	NO		bb		0.000
4	FUNCTION2 HPCD...	30.84	4.732e2					6.4	YES		bb		0.000
5	FUNCTION2 HPCD...	29.56	1.813e2					1.5	NO		bb		0.000
6	FUNCTION2 HPCD...	27.93	8.299e1					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	36.21	1.492e2					2.3	NO		bb		0.000
2	FUNCTION3 OCDPE	35.81	1.108e2					2.0	NO		bb		0.000
3	FUNCTION3 OCDPE	35.14	9.464e1					1.6	NO		bb		0.000
4	FUNCTION3 OCDPE	34.32	1.746e2					1.5	NO		bb		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.12	1.399e2					2.9	NO		bb		0.000
2	FUNCTION4 NCDPE	38.11	9.856e1					3.2	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	44.21	1.290e2					2.9	NO		bb		0.000
2	FUNCTION5 DCDPE	43.44	1.944e2					3.4	YES		bb		0.000

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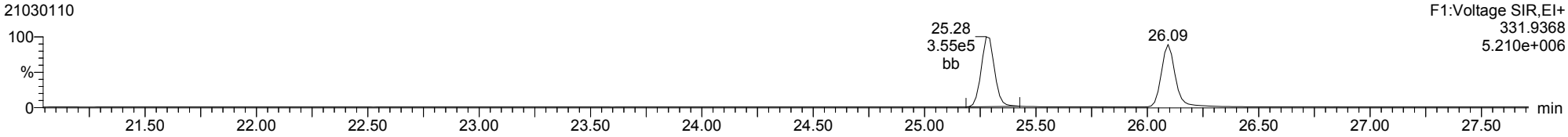

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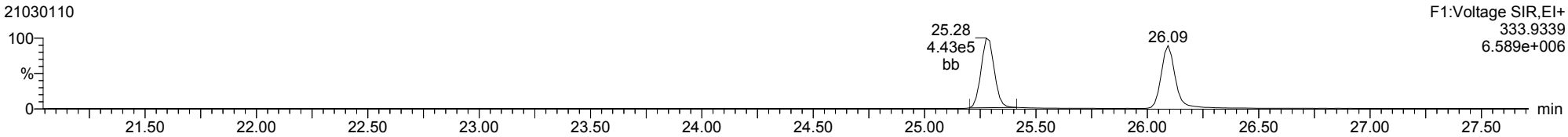

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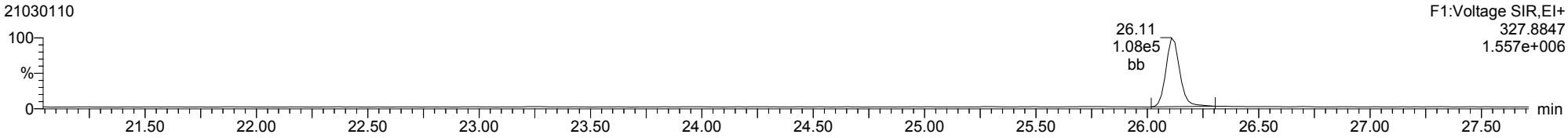

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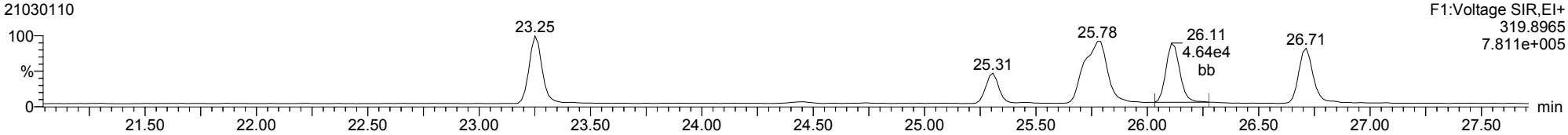

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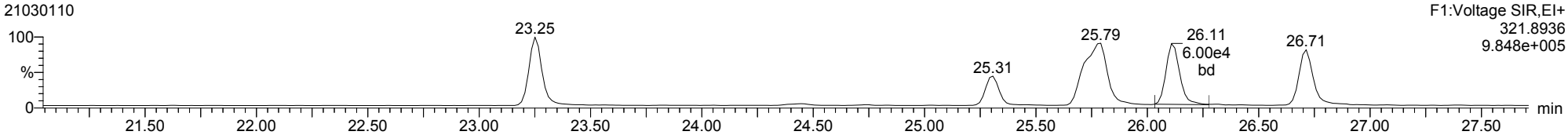

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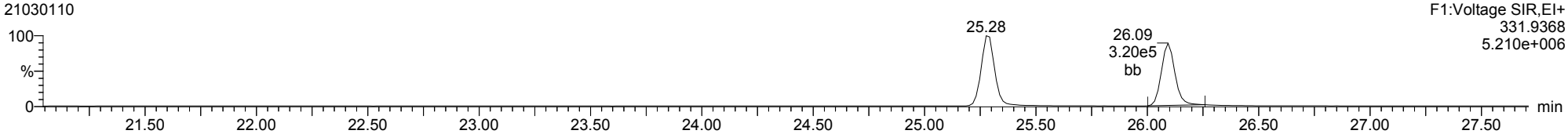

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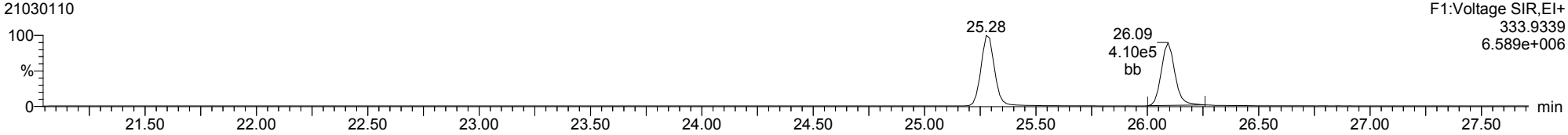

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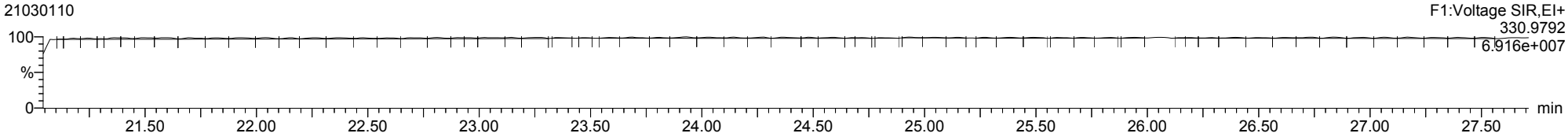

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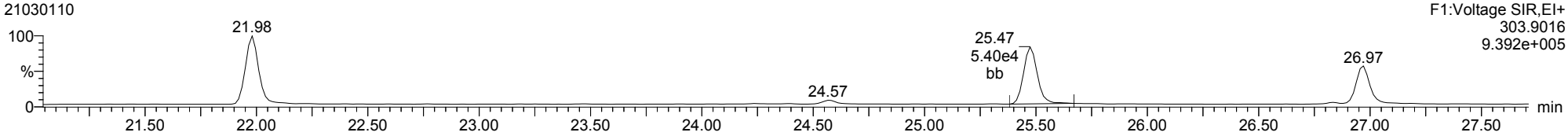

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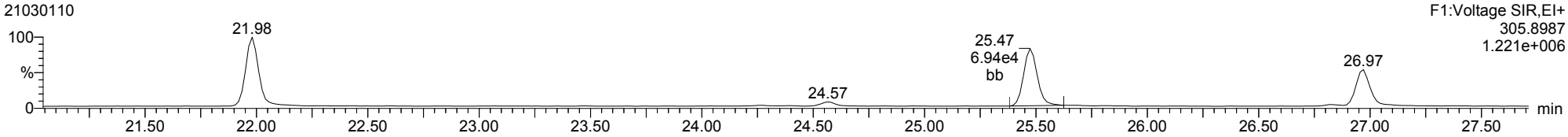

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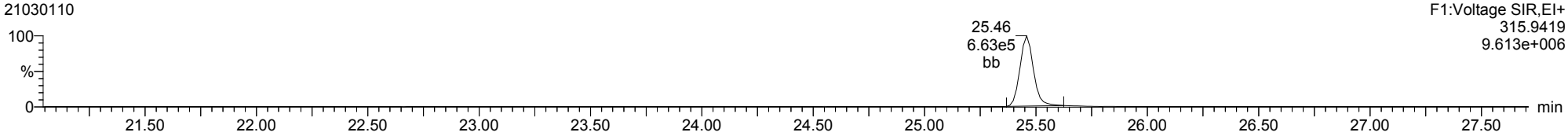

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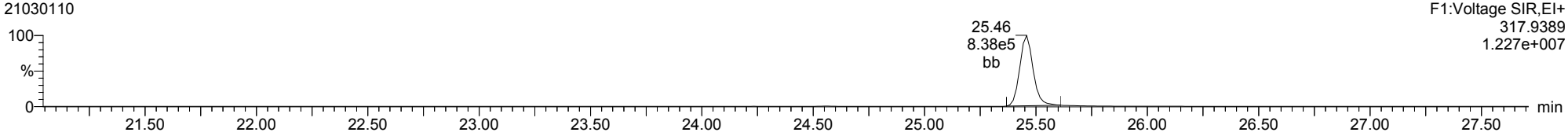

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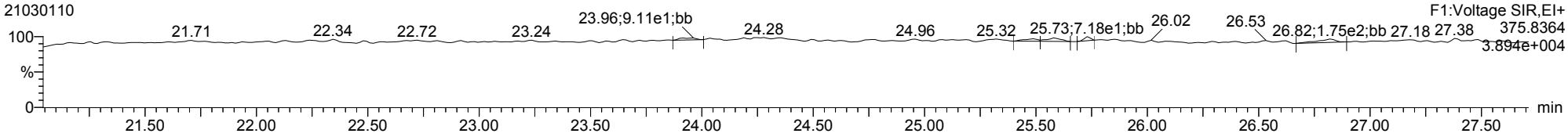

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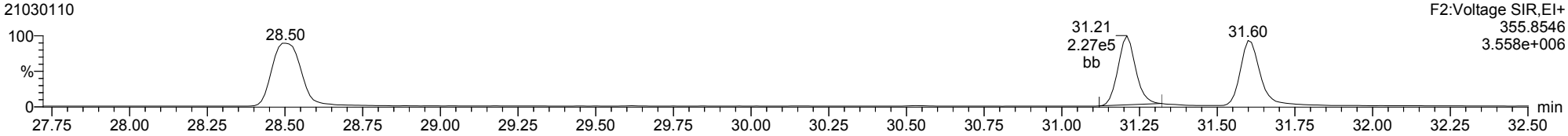

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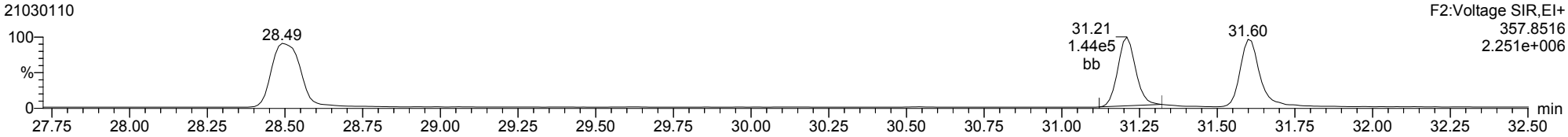

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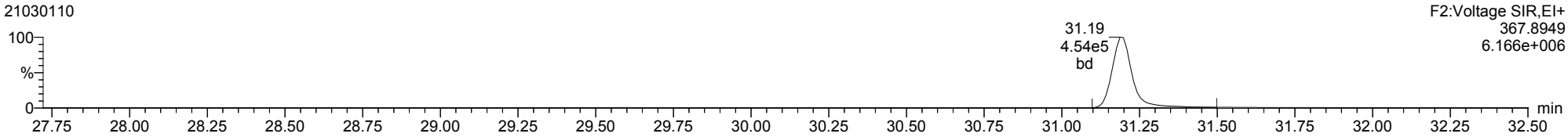

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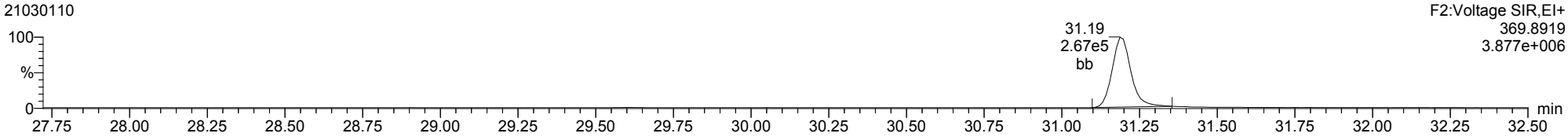

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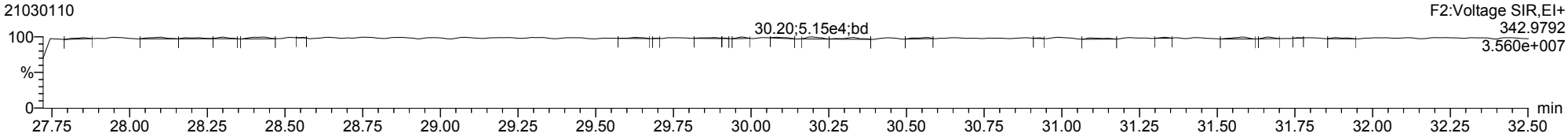

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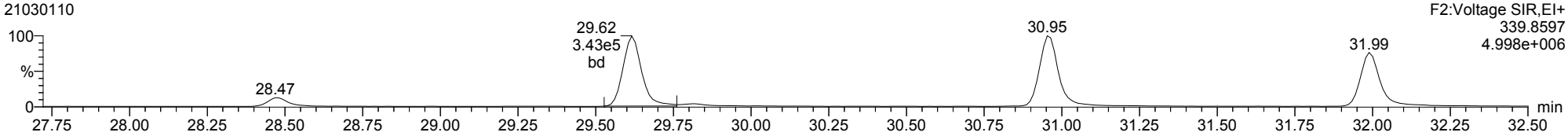

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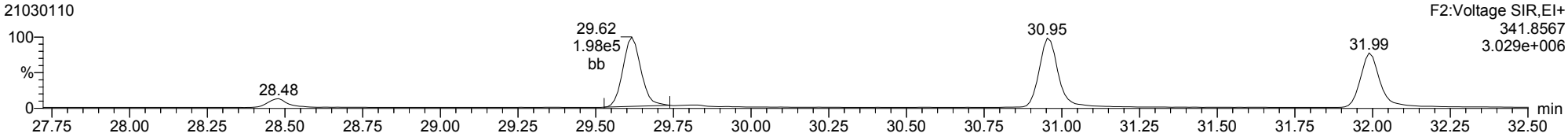

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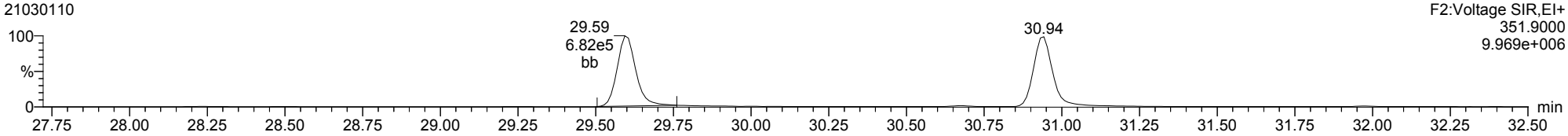

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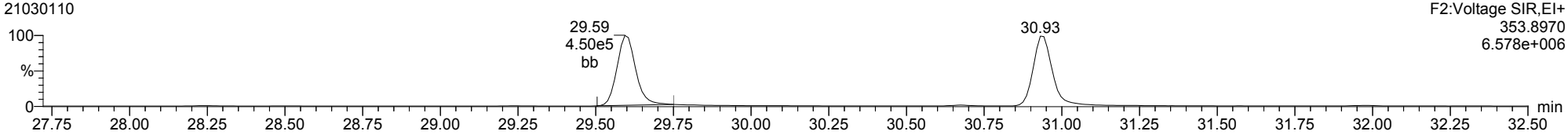

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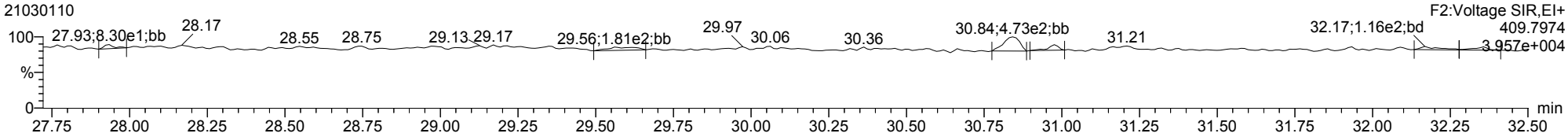

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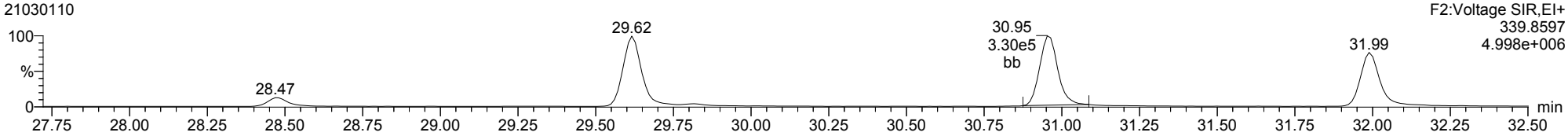

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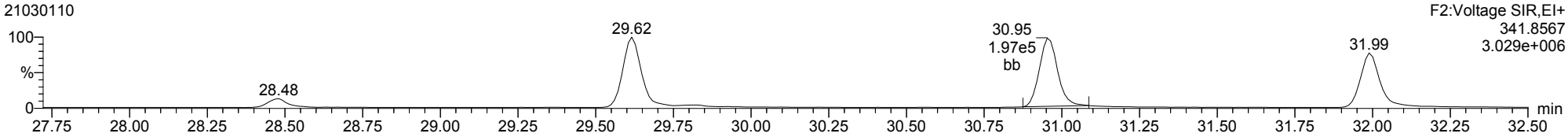

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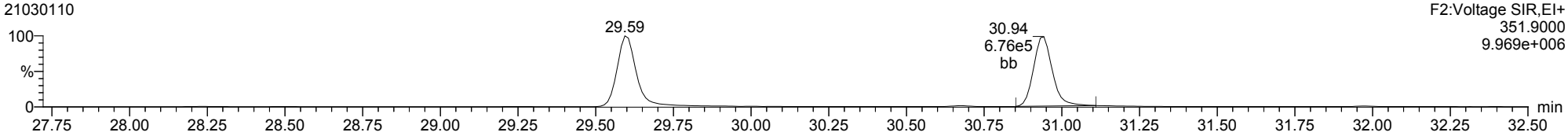

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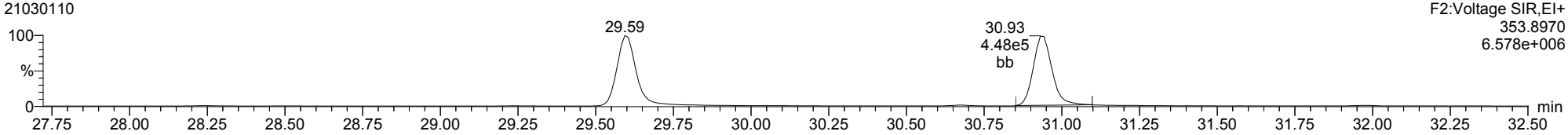

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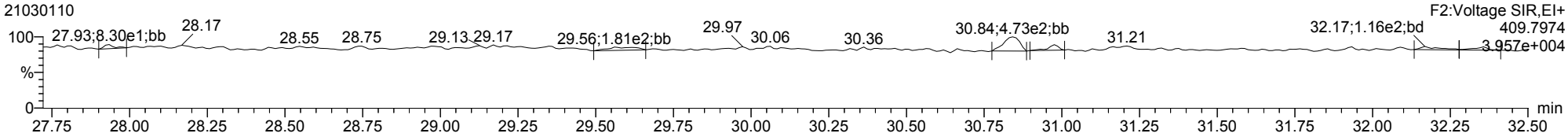

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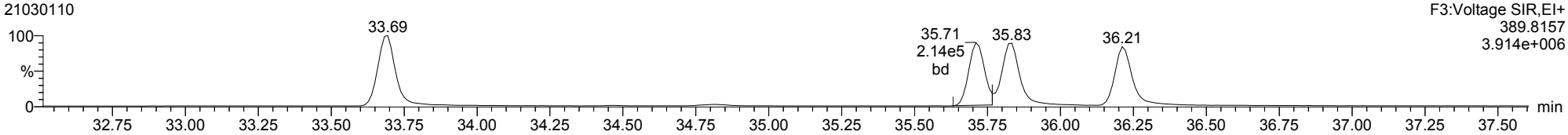

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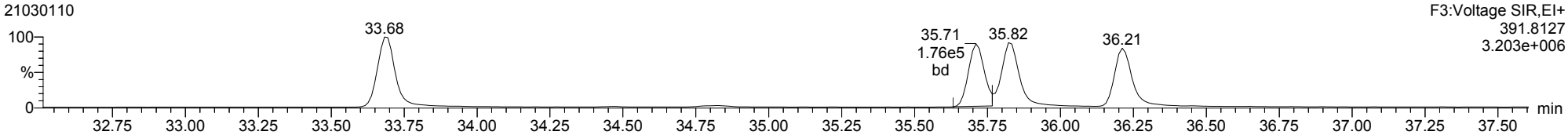

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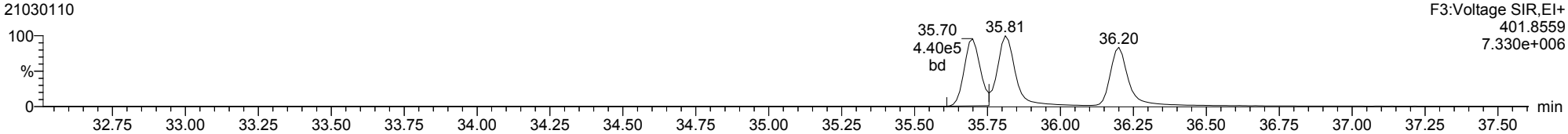

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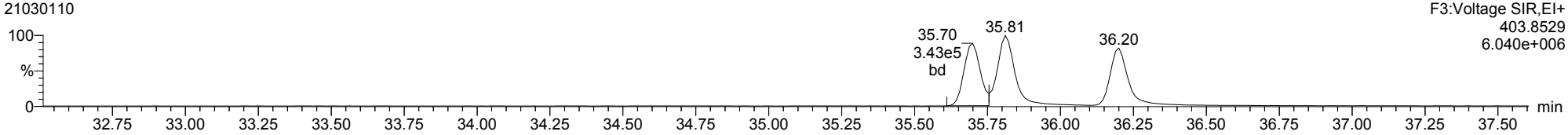

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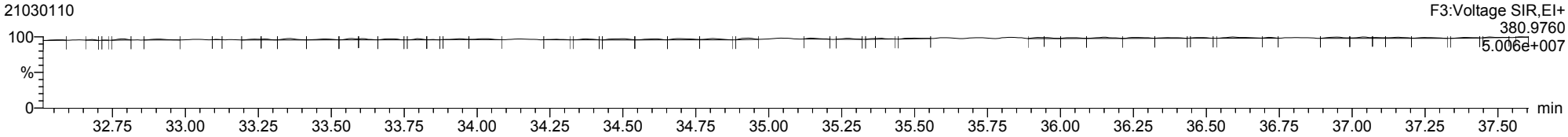

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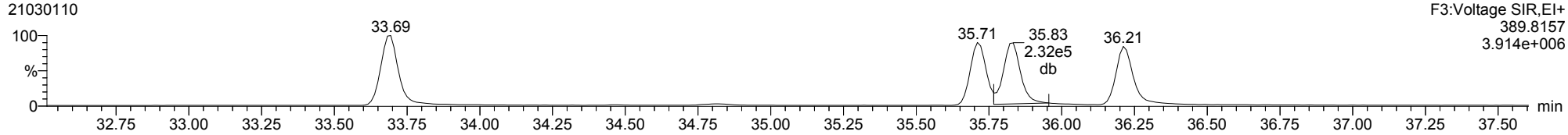

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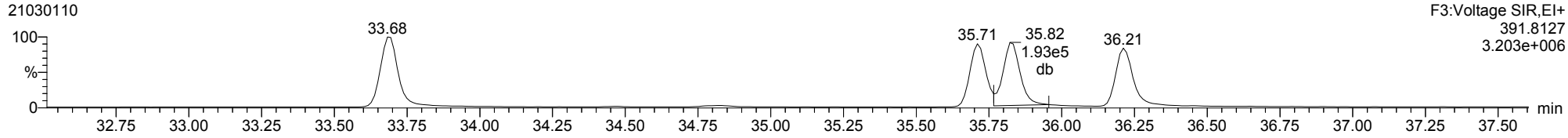

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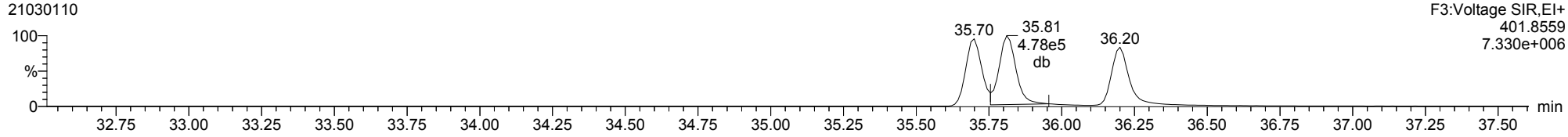

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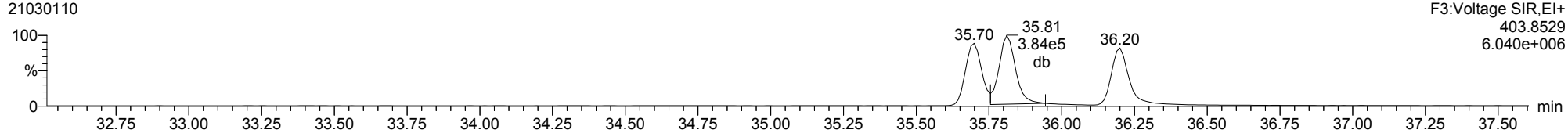

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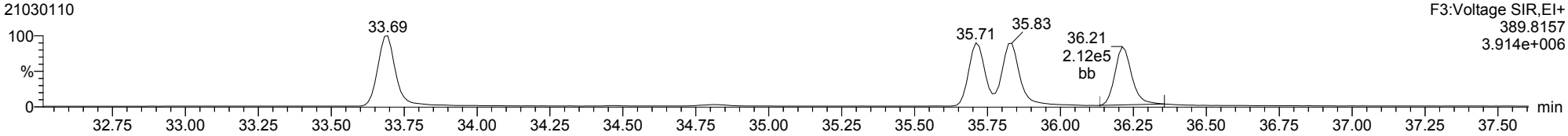

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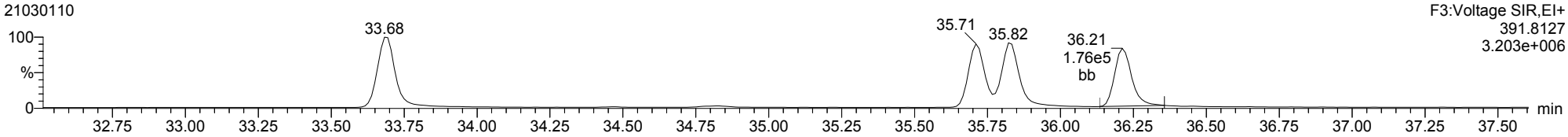

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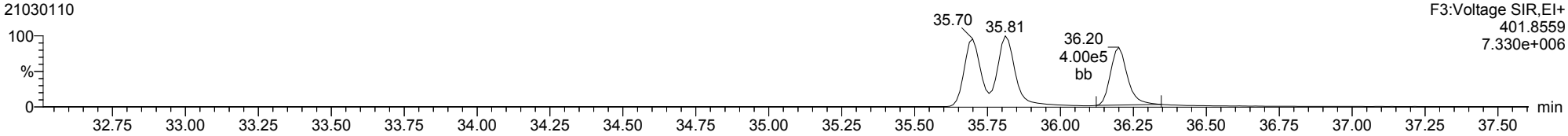

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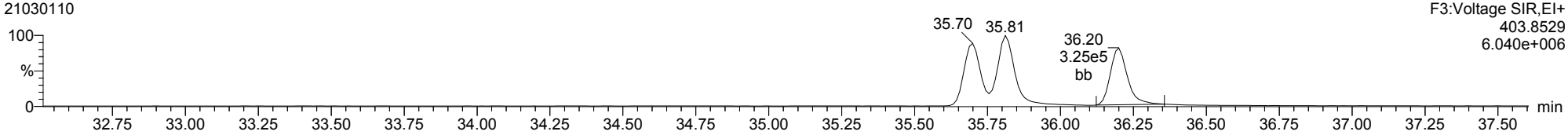

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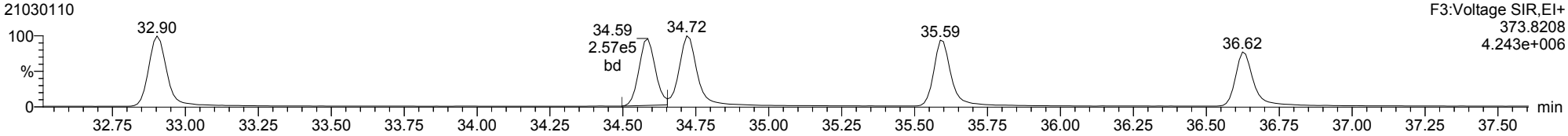

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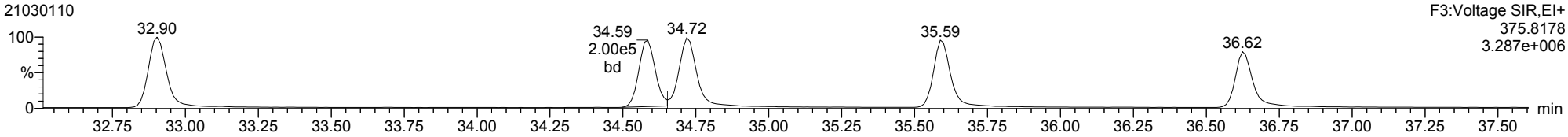

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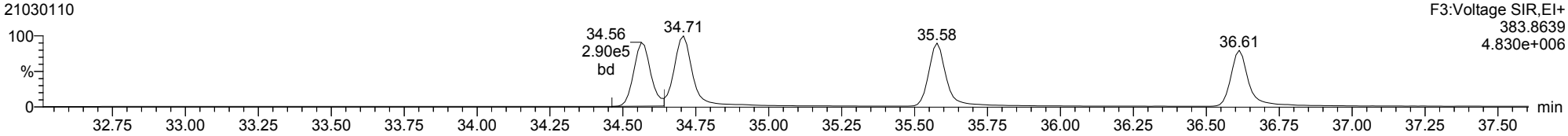

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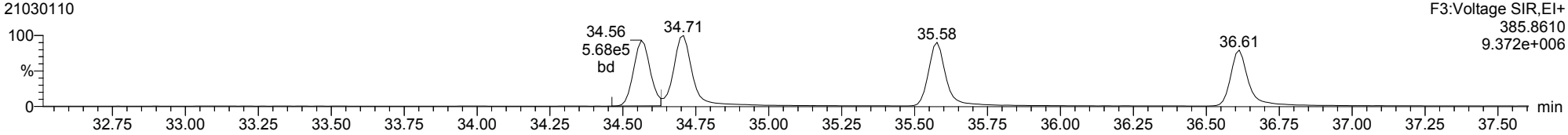

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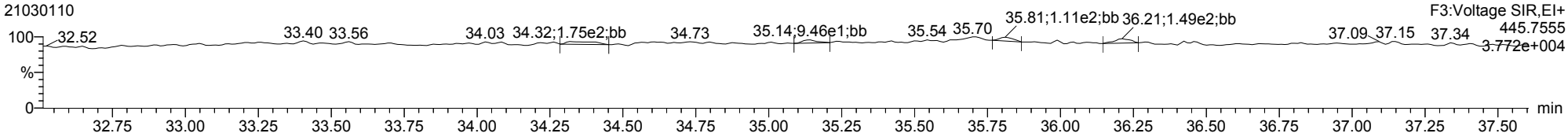

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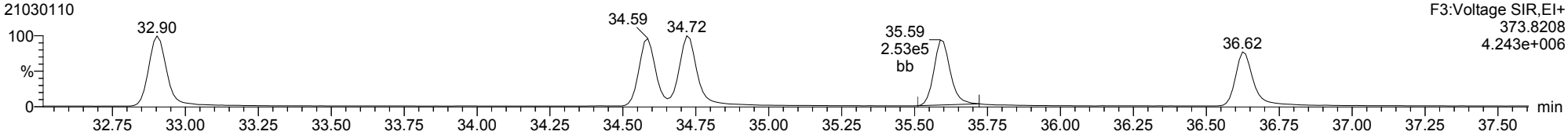

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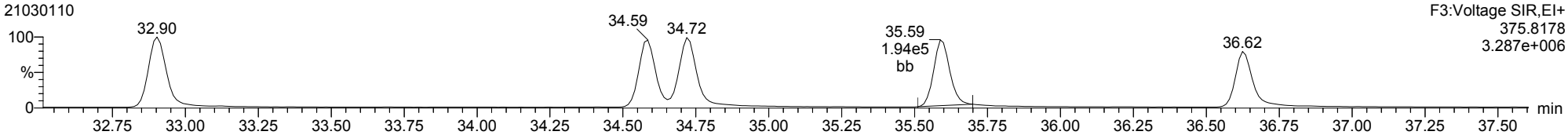

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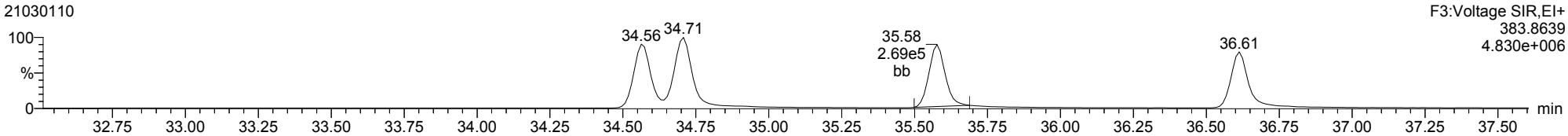

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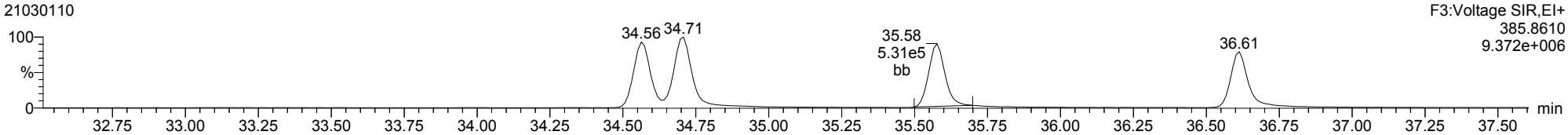

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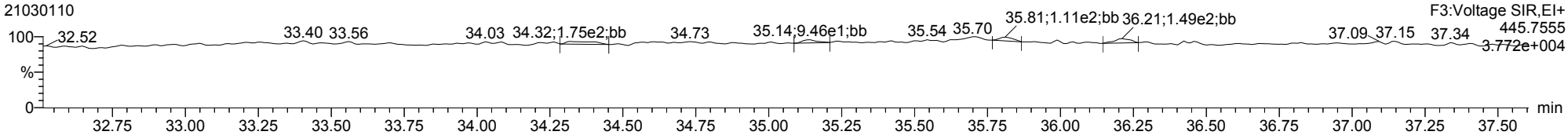

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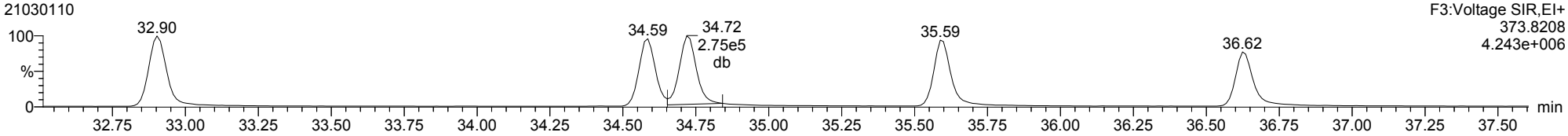

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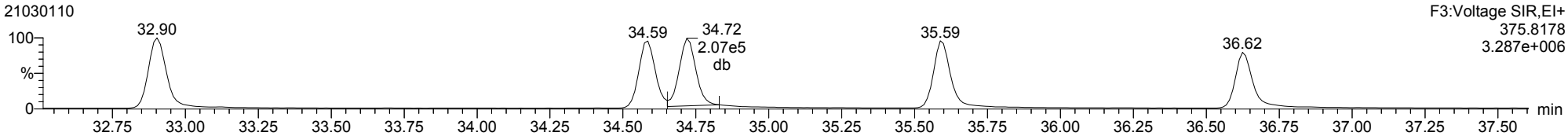

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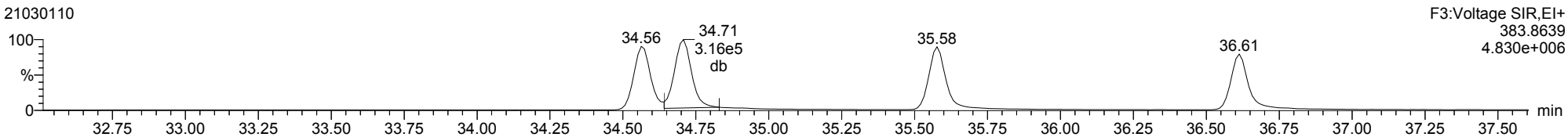

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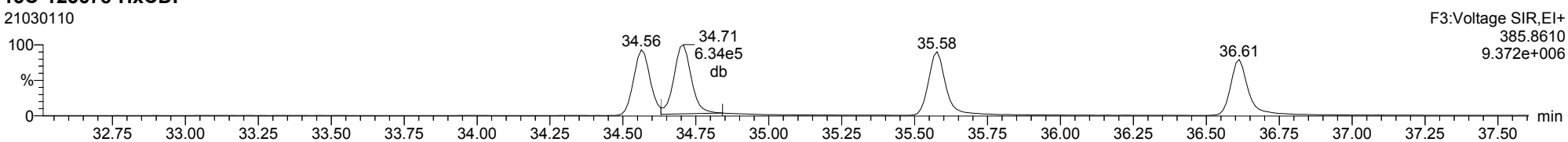

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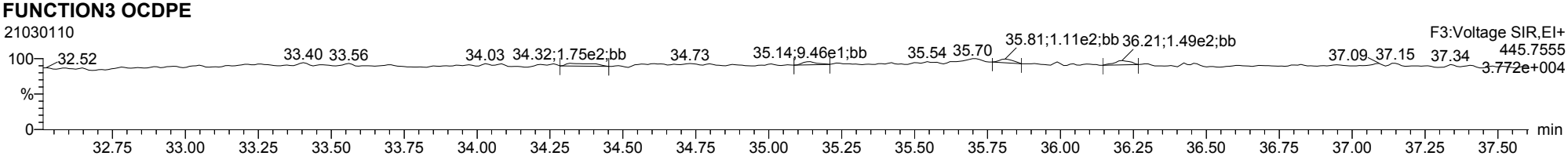

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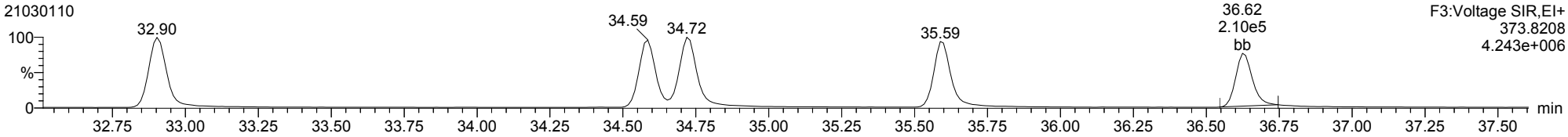

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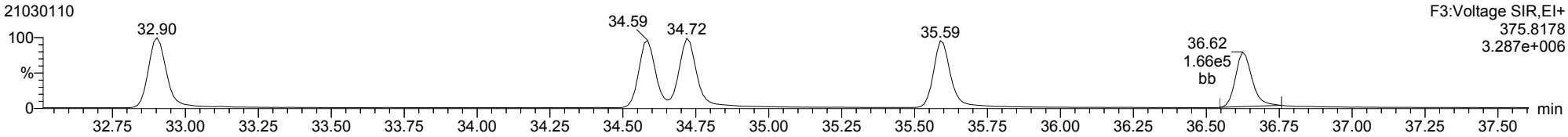

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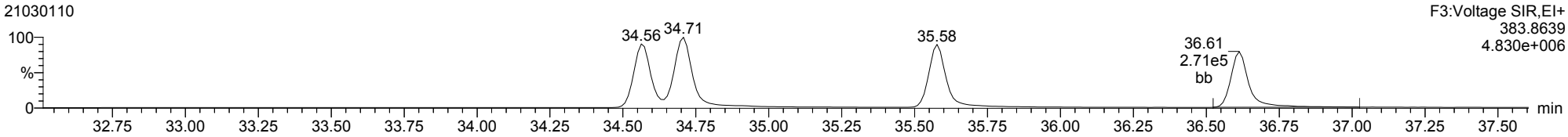

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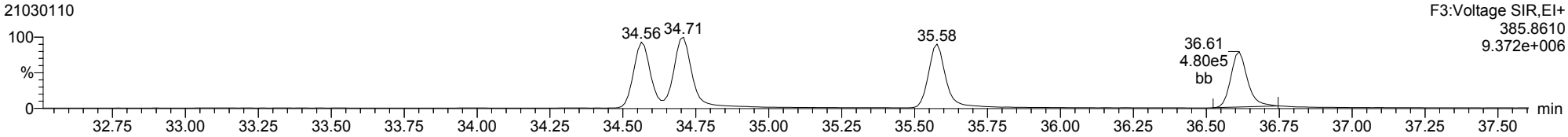

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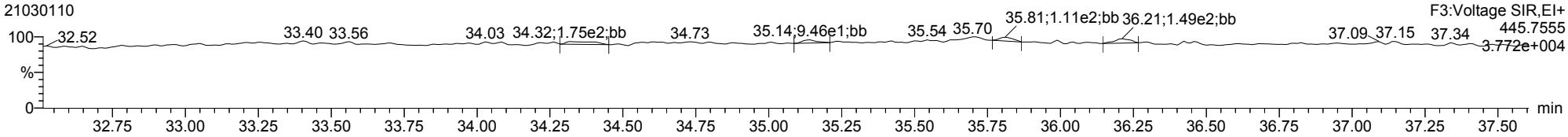

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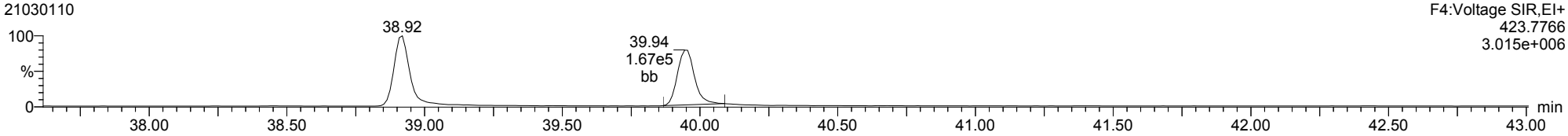

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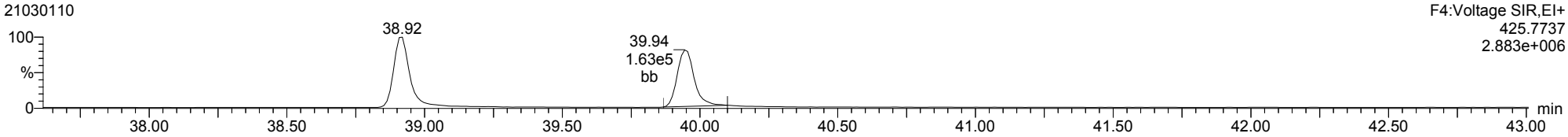

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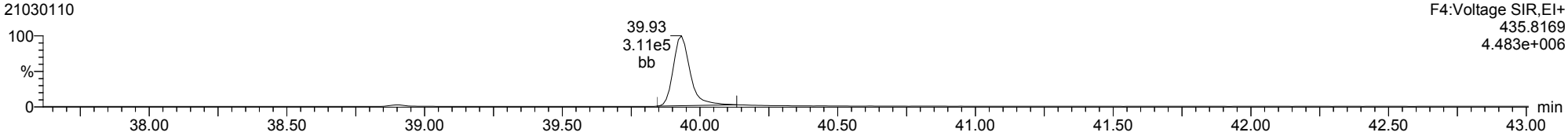

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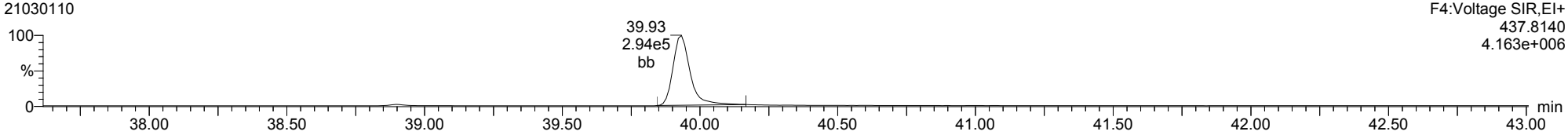

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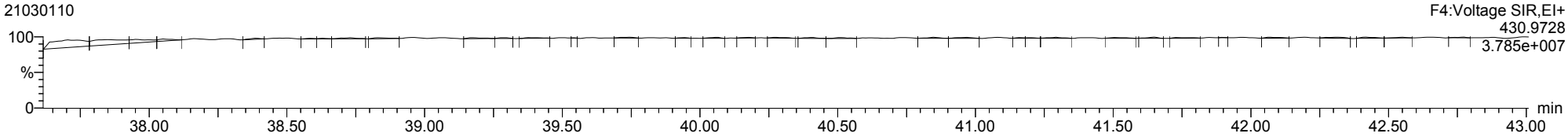

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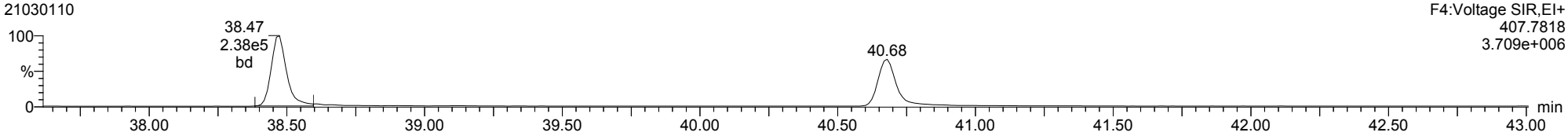

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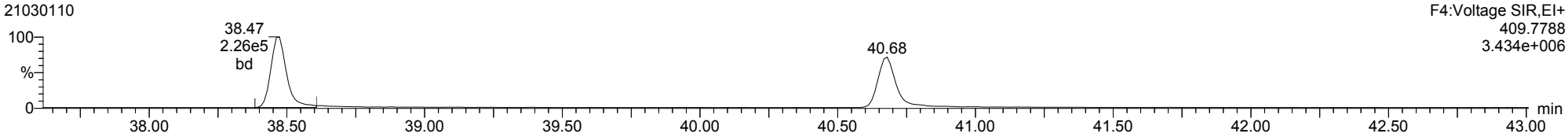

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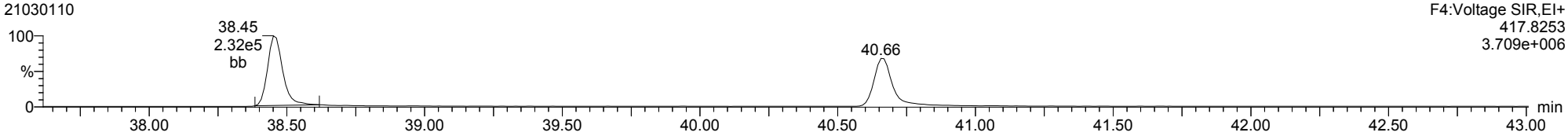

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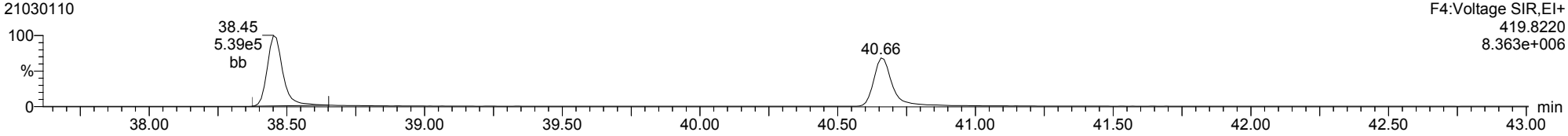

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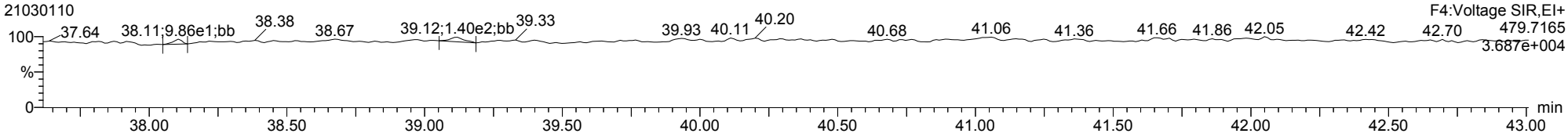

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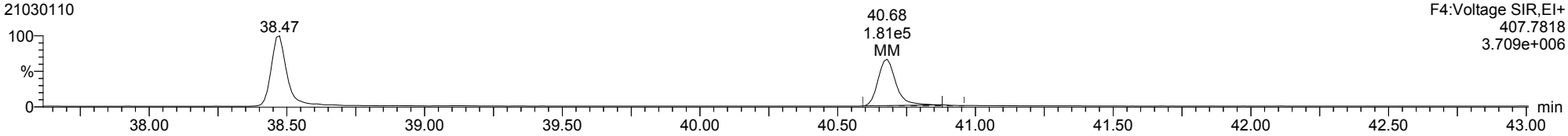

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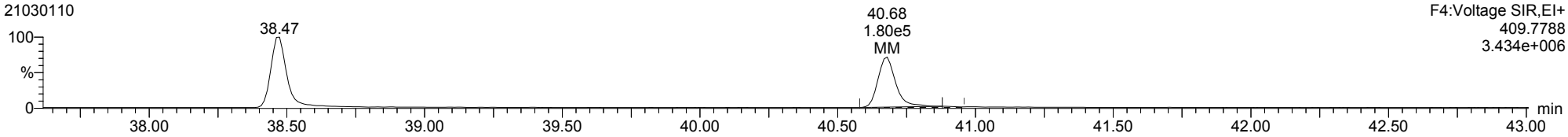

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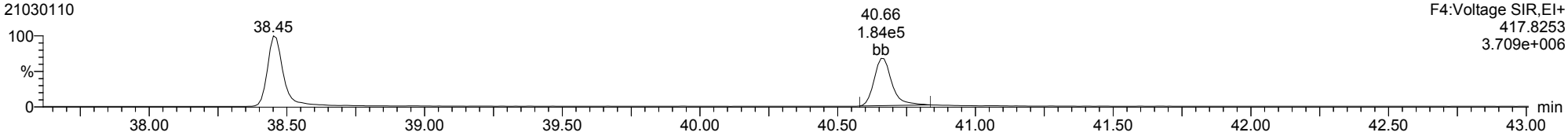

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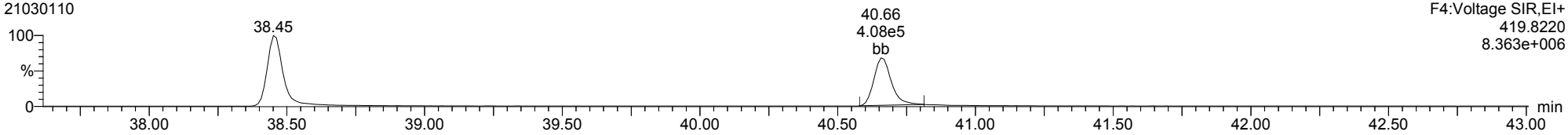

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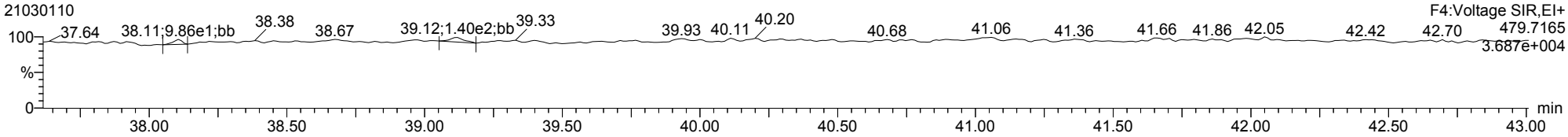

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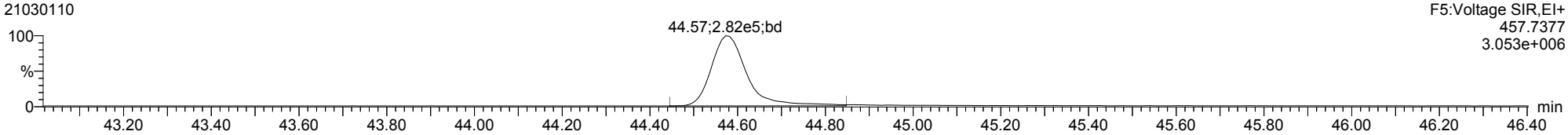

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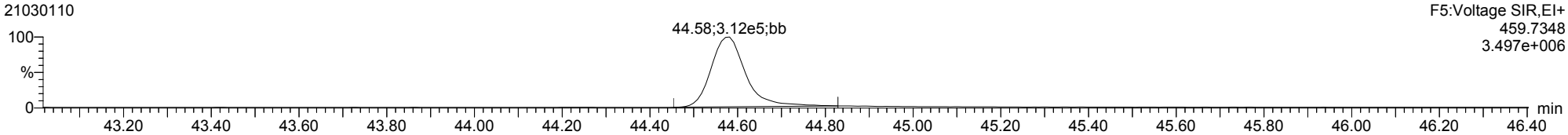

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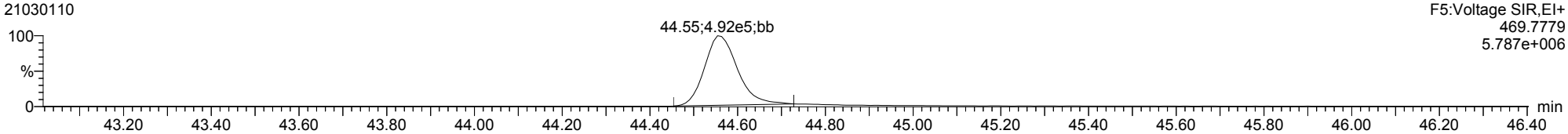

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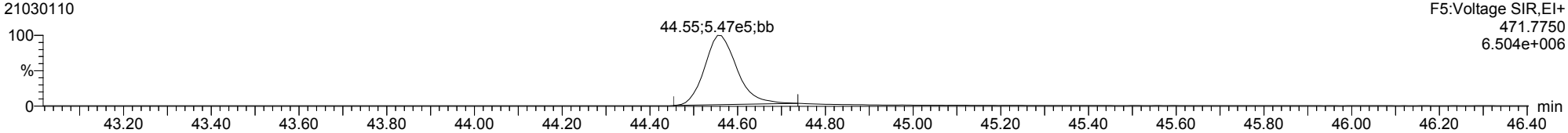
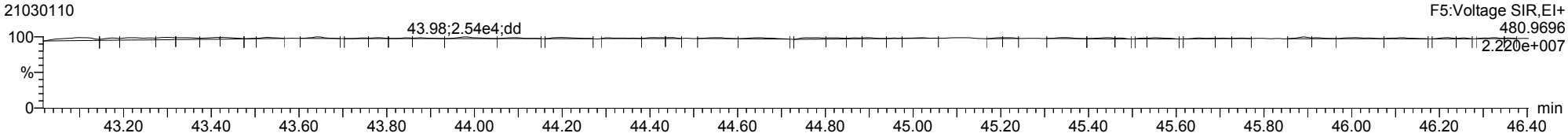


FUNCTION5 PFK



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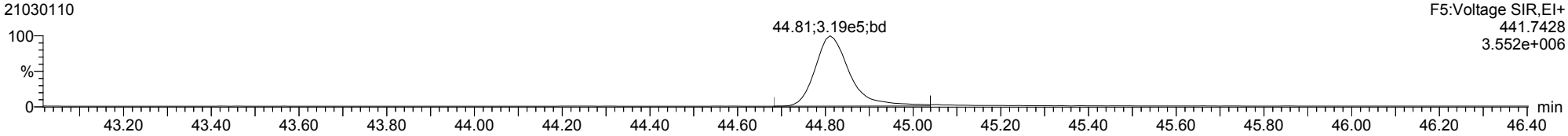

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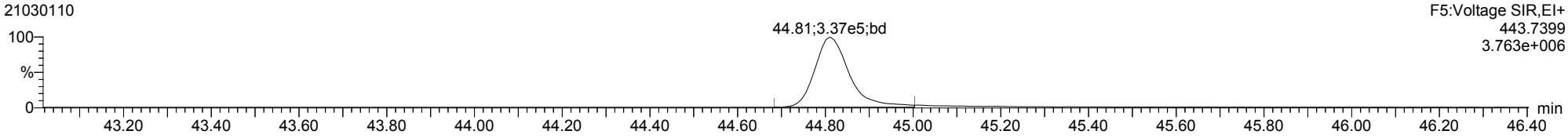

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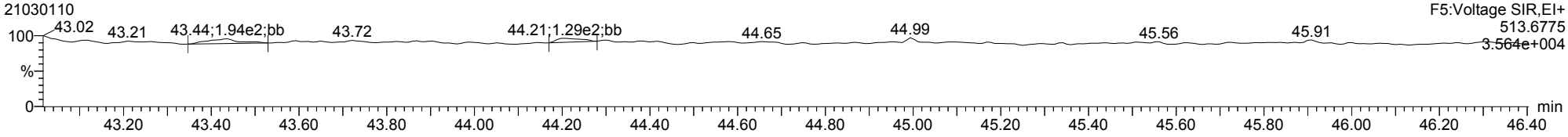

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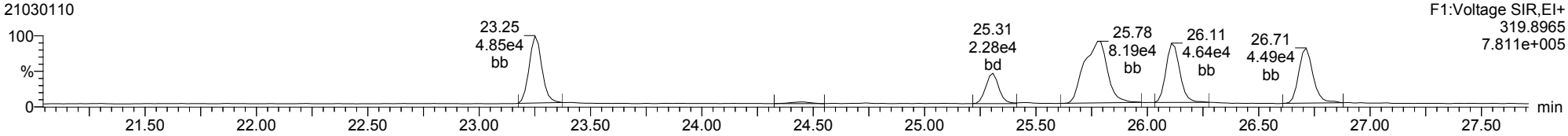
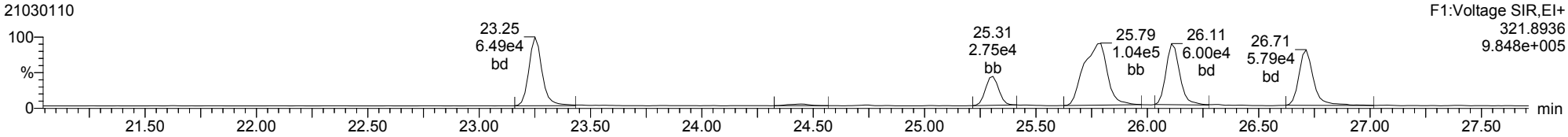
Total-tetradioxins



Total-tetradioxins



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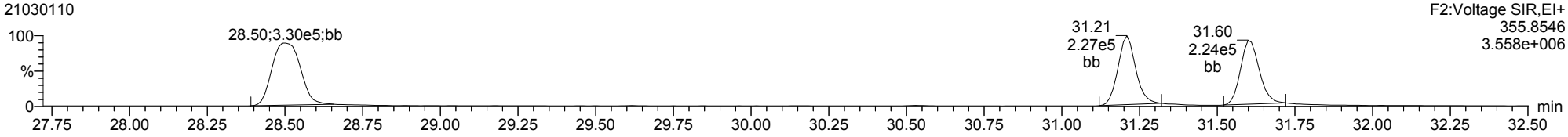

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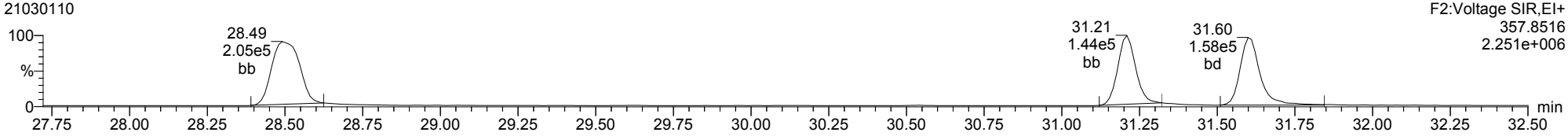

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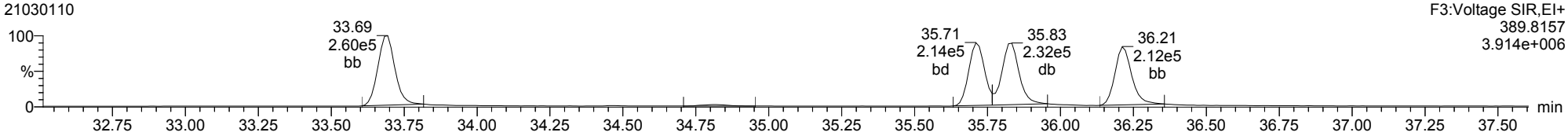
Total-hexadioxins



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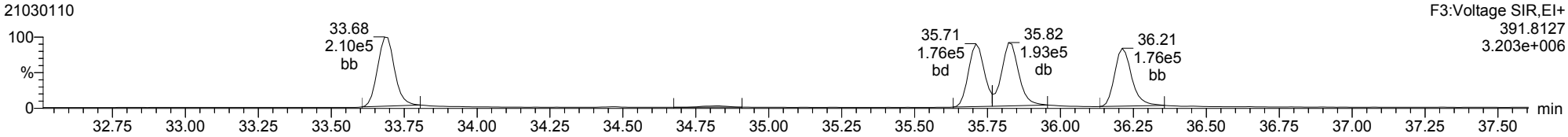

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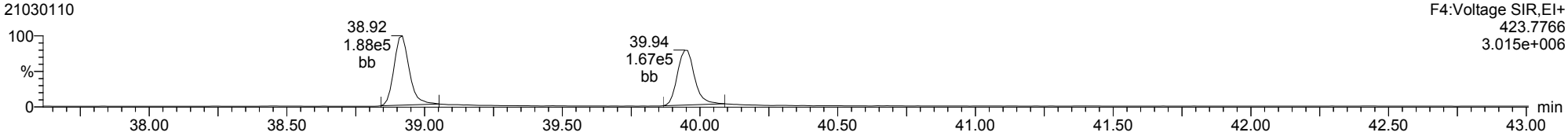

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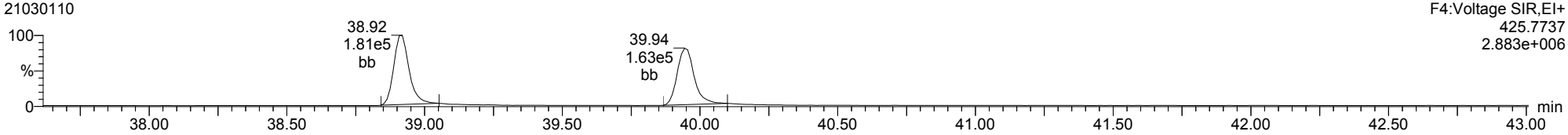

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Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

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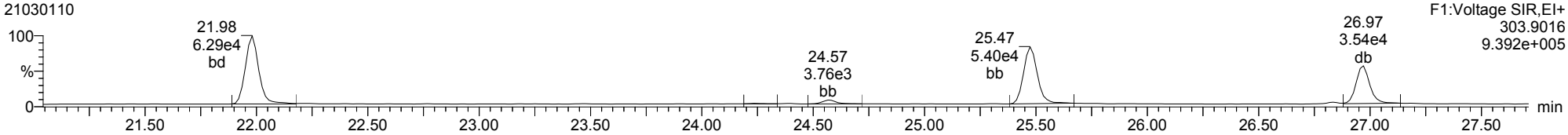
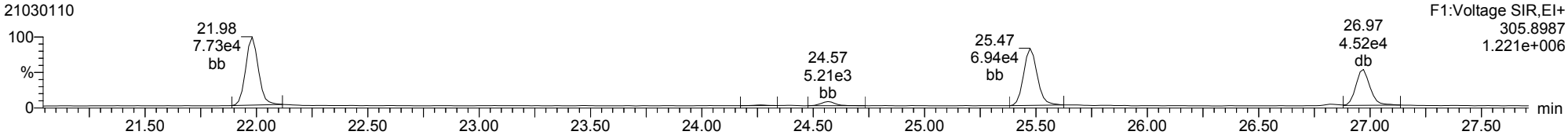
Total-tetrafurans



Total-tetrafurans



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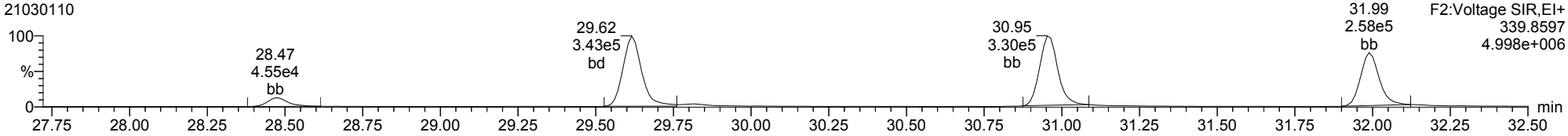

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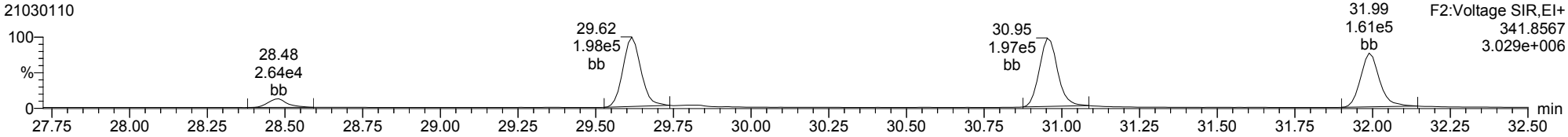

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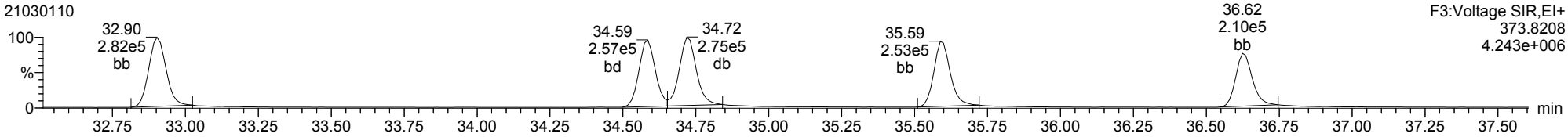
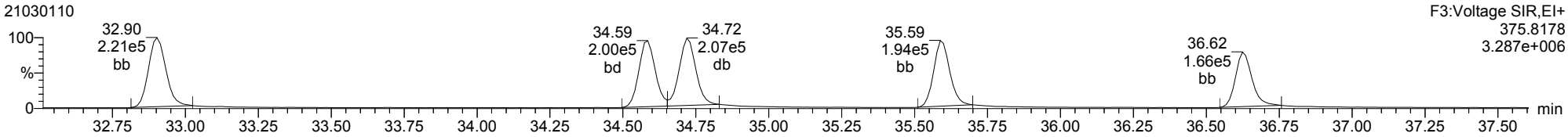
ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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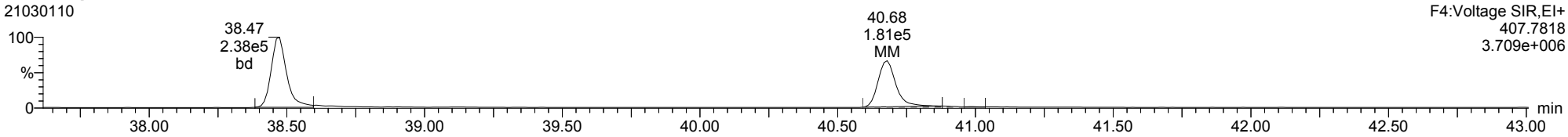

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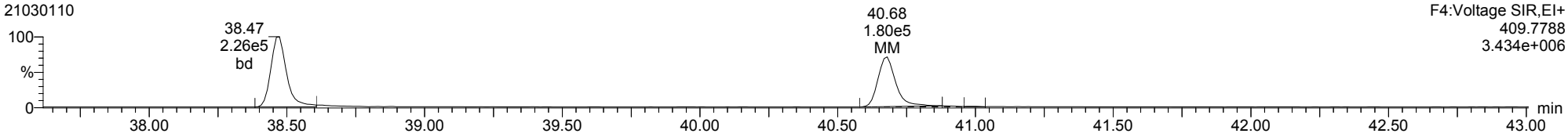

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, 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	25.458	1.001	6.950e4	8.437e4	0.782	0.824	0.770	2062	1982	9.51e5	1.22e6	461.0	613.8	NO	dd	bb	9.636
12378-PeCDF	29.605	1.001	4.108e5	2.609e5	0.866	1.574	1.550	4780	2896	6.10e6	3.71e6	1275.3	1282.3	NO	bb	bd	52.005
23478-PeCDF	30.942	1.000	4.217e5	2.602e5	0.980	1.621	1.550	4780	2896	6.30e6	3.85e6	1317.6	1327.8	NO	bb	bb	49.019
123478-HxCDF	34.574	1.001	3.401e5	2.586e5	1.002	1.315	1.240	3776	2108	5.31e6	4.01e6	1406.3	1903.2	NO	bd	bd	49.622
234678-HxCDF	35.588	1.001	3.354e5	2.542e5	1.043	1.319	1.240	3776	2108	5.32e6	4.06e6	1409.9	1925.1	NO	bb	bb	49.594
123678-HxCDF	34.708	1.000	3.583e5	2.707e5	0.961	1.324	1.240	3776	2108	5.23e6	4.04e6	1385.9	1918.4	NO	db	db	51.019
123789-HxCDF	36.624	1.001	2.735e5	2.143e5	0.994	1.276	1.240	3776	2108	4.20e6	3.29e6	1112.6	1561.7	NO	bb	bb	46.271
1234678-HpCDF	38.462	1.000	3.042e5	2.905e5	1.058	1.047	1.050	2351	2357	4.67e6	4.42e6	1986.3	1875.7	NO	bb	bd	52.696
1234789-HpCDF	40.668	1.000	2.544e5	2.404e5	1.070	1.059	1.050	2351	2357	3.45e6	3.27e6	1467.8	1386.9	NO	bd	bd	52.535
OCDF	44.810	1.006	4.505e5	4.756e5	1.257	0.947	0.890	2505	2749	5.09e6	5.38e6	2032.1	1955.9	NO	bd	bd	96.372
2378-TCDD	26.108	1.001	6.621e4	8.481e4	1.307	0.781	0.770	1536	1226	9.44e5	1.15e6	614.2	941.6	NO	bb	db	9.650
12378-PeCDD	31.198	1.000	2.929e5	1.900e5	0.979	1.541	1.550	2321	1781	4.28e6	2.81e6	1845.7	1580.7	NO	bb	bb	50.523
123478-HxCDD	35.699	1.000	2.858e5	2.322e5	0.956	1.230	1.240	3140	2519	4.43e6	3.65e6	1409.8	1450.3	NO	bd	bd	50.476
123678-HxCDD	35.821	1.001	3.057e5	2.458e5	0.953	1.244	1.240	3140	2519	4.57e6	3.76e6	1455.1	1493.2	NO	db	db	48.441
123789-HxCDD	36.200	1.011	2.916e5	2.354e5	0.927	1.239	1.240	3140	2519	4.39e6	3.62e6	1398.5	1435.2	NO	bb	bb	50.127
1234678-HpCDD	39.944	1.001	2.565e5	2.403e5	1.055	1.067	1.050	2925	2335	3.51e6	3.29e6	1199.4	1407.1	NO	bd	bd	51.058
OCDD	44.572	1.000	3.731e5	4.160e5	1.074	0.897	0.890	2705	1813	4.24e6	4.93e6	1567.2	2719.0	NO	bd	bb	96.088
13C-2378-TCDF	25.443	1.007	8.758e5	1.167e6	1.925	0.750	0.770	3258	1851	1.26e7	1.64e7	3866.5	8851.7	NO	bb	bd	101.122
13C-12378-PeCDF	29.583	1.170	9.144e5	5.771e5	1.442	1.584	1.550	4095	3684	1.25e7	8.26e6	3057.1	2242.4	NO	bd	bb	98.514
13C-23478-PeCDF	30.931	1.224	8.555e5	5.643e5	1.387	1.516	1.550	4095	3684	1.24e7	8.13e6	3027.8	2206.0	NO	bb	bb	97.539
13C-123478-HxCDF	34.552	0.955	4.067e5	7.972e5	1.053	0.510	0.510	3208	3250	6.01e6	1.18e7	1875.0	3641.3	NO	bd	bd	97.428
13C-123678-HxCDF	34.696	0.959	4.296e5	8.533e5	1.135	0.503	0.510	3208	3250	6.23e6	1.23e7	1943.2	3794.3	NO	db	db	96.330
13C-234678-HxCDF	35.565	0.983	3.816e5	7.582e5	1.004	0.503	0.510	3208	3250	6.11e6	1.22e7	1905.5	3749.9	NO	bb	bb	96.743
13C-123789-HxCDF	36.602	1.011	3.536e5	7.067e5	0.909	0.500	0.510	3208	3250	5.35e6	1.07e7	1667.8	3296.4	NO	bb	bb	99.408
13C-1234678-HpCDF	38.451	1.062	3.416e5	7.252e5	0.960	0.471	0.440	2595	4679	5.18e6	1.16e7	1994.6	2472.4	NO	bb	bb	94.728
13C-1234789-HpCDF	40.657	1.123	2.689e5	6.115e5	0.794	0.440	0.440	2595	4679	3.86e6	8.66e6	1488.2	1851.4	NO	bb	bb	94.533
13C-1234-TCDD	25.277	0.000	4.643e5	5.854e5	1.000	0.793	0.770	2525	1390	6.95e6	8.78e6	2750.6	6318.2	NO	bb	bb	100.000
13C-2378-TCDD	26.078	1.032	5.265e5	6.705e5	1.133	0.785	0.770	2525	1390	7.45e6	9.51e6	2949.4	6837.0	NO	bb	bb	100.670
13C-12378-PeCDD	31.187	1.234	6.023e5	3.743e5	0.947	1.609	1.550	1474	1384	8.57e6	5.31e6	5814.3	3837.1	NO	bb	bb	98.257
13C-123478-HxCDD	35.688	0.986	5.991e5	4.742e5	0.939	1.263	1.240	3086	2500	9.53e6	7.59e6	3089.6	3034.7	NO	bd	bd	97.458
13C-123678-HxCDD	35.799	0.989	6.636e5	5.315e5	1.042	1.249	1.240	3086	2500	9.92e6	8.07e6	3212.9	3227.2	NO	db	db	97.744
13C-1234678-HpCDD	39.921	1.103	4.778e5	4.445e5	0.788	1.075	1.050	2199	2353	6.54e6	6.04e6	2975.5	2568.0	NO	bd	bd	99.706
13C-OCDD	44.554	1.231	7.268e5	8.027e5	0.703	0.905	0.890	3279	2634	8.51e6	9.32e6	2595.6	3538.1	NO	bb	bb	185.337
13C-123789-HxCDD	36.189	0.000	6.482e5	5.252e5	1.000	1.234	1.240	3086	2500	9.70e6	7.98e6	3143.6	3192.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	1.288e5		1.298			2295		1.80e6		783.1			bb		9.460

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ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, 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	21.966	0.863	8.373e4	1.044e5	0.966	0.802	0.770	2062	1982	1.26e6	1.55e6	611.0	781.0	NO	bb	bb	9.535
1289-TCDF	26.955	1.059	7.148e4	8.563e4	0.736	0.835	0.770	2062	1982	9.94e5	1.21e6	482.2	610.9	NO	dd	db	10.451
13468-PECDF	26.804	0.906	5.875e5	3.989e5	1.347	1.473	1.550	1041	1225	8.57e6	5.75e6	8235.6	4696.1	NO	bb	bb	49.105
12389-PECDF	31.978	1.081	4.367e5	2.485e5	0.867	1.757	1.550	4780	2896	5.82e6	3.52e6	1216.9	1215.9	NO	bd	bb	52.996
123468-HXCDF	32.892	0.952	3.426e5	2.663e5	1.036	1.287	1.240	3776	2108	5.08e6	3.90e6	1344.3	1849.7	NO	bb	bb	48.828
1368-TCDD	23.236	0.891	6.259e4	8.307e4	1.256	0.753	0.770	1536	1226	9.25e5	1.18e6	602.1	961.4	NO	bb	bd	9.692
1289-TCDD	26.698	1.024	5.795e4	7.426e4	1.151	0.780	0.770	1536	1226	8.00e5	1.03e6	520.4	838.7	NO	bb	bd	9.597
12479-PECDD	28.480	0.913	5.018e5	3.207e5	1.773	1.565	1.550	2321	1781	4.76e6	3.09e6	2052.6	1734.9	NO	bb	bb	47.484
12389-PECDD	31.599	1.013	3.419e5	2.227e5	1.171	1.535	1.550	2321	1781	4.99e6	3.18e6	2149.1	1788.0	NO	bb	bb	49.360
124679-HXCDD	33.683	0.944	3.020e5	2.491e5	1.034	1.212	1.240	3140	2519	4.55e6	3.74e6	1450.6	1483.1	NO	bb	bb	49.679
1234679-HPCDD	38.908	0.975	2.771e5	2.476e5	1.194	1.119	1.050	2925	2335	4.10e6	3.90e6	1401.0	1671.8	NO	bd	bb	47.642
Total-tetrafurans			2.255e5		0.828			2062		3.22e6							29.725
Total-penta1			5.876e5					1041		8.58e6							49.121
Total-pentafurans			1.336e6		0.904			4780		1.92e7							162.153
Total-hexafurans			1.650e6		1.007			3776		2.51e7							245.334
Total-heptafurans			5.596e5		1.064			2351		8.13e6							105.416
Total-Furans			4.809e6		0.998			2062		6.93e7							688.122
Total-tetradioxins			3.230e5		1.238			1536		4.21e6							49.752
Total-pentadioxins			1.136e6		1.308			2321		1.40e7							147.368
Total-hexadioxins			1.186e6		0.967			3140		1.80e7							198.874
Total-heptadioxins			5.347e5		1.125			2925		7.62e6							98.885
Total-Dioxins			3.553e6		1.141			1536		4.81e7							590.967
Total-TEQ			8.363e6					1536		1.17e8							1279.089
FUNCTION1 PFK			6.783e4					531336		1.84e6							
FUNCTION2 PFK			7.922e5					292267		1.57e7							0.000
FUNCTION3 PFK			1.720e6					314910		3.42e7							0.000
FUNCTION4 PFK			1.504e6					353505		1.65e7							
FUNCTION5 PFK			3.128e5					226765		7.67e6							
FUNCTION1 HXCD...			1.140e3					680		1.32e4							0.000
FUNCTION1 HPCD...			8.641e2					1073		1.56e4							0.000
FUNCTION2 HPCD...			7.746e2					900		1.66e4							0.000
FUNCTION3 OCDPE			1.480e3					553		2.30e4							0.000
FUNCTION4 NCDPE			9.417e1					729		1.85e3							0.000
FUNCTION5 DCDPE			1.751e2					642		3.47e3							0.000

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Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, Conditions: AUTOSPEC01, User: pk

TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.46	6.950e4	8.437e4	0.782	0.82	0.77	461.0	YES	NO	dd	bb	9.636
2	Total-tetrafurans	24.57	8.090e2	9.361e2	0.828	0.86	0.77	5.3	YES	NO	bd	db	0.103
3	1368-TCDF	21.97	8.373e4	1.044e5	0.966	0.80	0.77	611.0	YES	NO	bb	bb	9.535
4	1289-TCDF	26.96	7.148e4	8.563e4	0.736	0.83	0.77	482.2	YES	NO	dd	db	10.451

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.38	1.298e2	9.717e1		1.34	1.55	3.5	NO	NO	bb	bb	0.017
2	13468-PECDF	26.80	5.875e5	3.989e5	1.347	1.47	1.55	8235.6	YES	NO	bb	bb	49.105

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.60	4.108e5	2.609e5	0.866	1.57	1.55	1275.3	YES	NO	bb	bd	52.005
2	Total-pentafurans	28.47	6.679e4	4.026e4	0.904	1.66	1.55	200.0	YES	NO	bb	bb	8.133
3	12389-PECDF	31.98	4.367e5	2.485e5	0.867	1.76	1.55	1216.9	YES	NO	bd	bb	52.996
4	23478-PeCDF	30.94	4.217e5	2.602e5	0.980	1.62	1.55	1317.6	YES	NO	bb	bb	49.019

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	2.735e5	2.143e5	0.994	1.28	1.24	1112.6	YES	NO	bb	bb	46.271
2	234678-HxCDF	35.59	3.354e5	2.542e5	1.043	1.32	1.24	1409.9	YES	NO	bb	bb	49.594
3	123678-HxCDF	34.71	3.583e5	2.707e5	0.961	1.32	1.24	1385.9	YES	NO	db	db	51.019
4	123478-HxCDF	34.57	3.401e5	2.586e5	1.002	1.32	1.24	1406.3	YES	NO	bd	bd	49.622
5	123468-HXCDF	32.89	3.426e5	2.663e5	1.036	1.29	1.24	1344.3	YES	NO	bb	bb	48.828

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.46	3.042e5	2.905e5	1.058	1.05	1.05	1986.3	YES	NO	bb	bd	52.696
2	1234789-HpCDF	40.67	2.544e5	2.404e5	1.070	1.06	1.05	1467.8	YES	NO	bd	bd	52.535
3	Total-heptafurans	39.12	9.452e2	9.751e2	1.064	0.97	1.05	5.4	YES	NO	bb	bb	0.185

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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	25.46	6.950e4	8.437e4	0.782	0.82	0.77	461.0	YES	NO	dd	bb	9.636
2	Total-tetrafurans	24.57	8.090e2	9.361e2	0.828	0.86	0.77	5.3	YES	NO	bd	db	0.103
3	1368-TCDF	21.97	8.373e4	1.044e5	0.966	0.80	0.77	611.0	YES	NO	bb	bb	9.535
4	12378-PeCDF	29.60	4.108e5	2.609e5	0.866	1.57	1.55	1275.3	YES	NO	bb	bd	52.005
5	Total-pentafurans	28.47	6.679e4	4.026e4	0.904	1.66	1.55	200.0	YES	NO	bb	bb	8.133
6	1289-TCDF	26.96	7.148e4	8.563e4	0.736	0.83	0.77	482.2	YES	NO	dd	db	10.451
7	12389-PECDF	31.98	4.367e5	2.485e5	0.867	1.76	1.55	1216.9	YES	NO	bd	bb	52.996
8	23478-PeCDF	30.94	4.217e5	2.602e5	0.980	1.62	1.55	1317.6	YES	NO	bb	bb	49.019
9	123789-HxCDF	36.62	2.735e5	2.143e5	0.994	1.28	1.24	1112.6	YES	NO	bb	bb	46.271
10	234678-HxCDF	35.59	3.354e5	2.542e5	1.043	1.32	1.24	1409.9	YES	NO	bb	bb	49.594
11	123678-HxCDF	34.71	3.583e5	2.707e5	0.961	1.32	1.24	1385.9	YES	NO	db	db	51.019
12	123478-HxCDF	34.57	3.401e5	2.586e5	1.002	1.32	1.24	1406.3	YES	NO	bd	bd	49.622
13	123468-HXCDF	32.89	3.426e5	2.663e5	1.036	1.29	1.24	1344.3	YES	NO	bb	bb	48.828
14	1234678-HpCDF	38.46	3.042e5	2.905e5	1.058	1.05	1.05	1986.3	YES	NO	bb	bd	52.696
15	1234789-HpCDF	40.67	2.544e5	2.404e5	1.070	1.06	1.05	1467.8	YES	NO	bd	bd	52.535
16	Total-heptafurans	39.12	9.452e2	9.751e2	1.064	0.97	1.05	5.4	YES	NO	bb	bb	0.185
17	OCDF	44.81	4.505e5	4.756e5	1.257	0.95	0.89	2032.1	YES	NO	bd	bd	96.372
18	Total-penta1	27.38	1.298e2	9.717e1		1.34	1.55	3.5	NO	NO	bb	bb	0.017
19	13468-PECDF	26.80	5.875e5	3.989e5	1.347	1.47	1.55	8235.6	YES	NO	bb	bb	49.105

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.29	3.373e4	4.101e4	1.238	0.82	0.77	326.3	YES	NO	bd	bb	5.043
2	Total-tetradioxins	24.45	2.593e3	2.950e3	1.238	0.88	0.77	16.9	YES	NO	bb	bb	0.374
3	1368-TCDD	23.24	6.259e4	8.307e4	1.256	0.75	0.77	602.1	YES	NO	bb	bd	9.692
4	1289-TCDD	26.70	5.795e4	7.426e4	1.151	0.78	0.77	520.4	YES	NO	bb	bd	9.597
5	2378-TCDD	26.11	6.621e4	8.481e4	1.307	0.78	0.77	614.2	YES	NO	bb	db	9.650
6	Total-tetradioxins	25.78	9.997e4	1.282e5	1.238	0.78	0.77	657.1	YES	NO	bb	bd	15.395

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.60	3.419e5	2.227e5	1.171	1.53	1.55	2149.1	YES	NO	bb	bb	49.360
2	12378-PeCDD	31.20	2.929e5	1.900e5	0.979	1.54	1.55	1845.7	YES	NO	bb	bb	50.523
3	12479-PECDD	28.48	5.018e5	3.207e5	1.773	1.56	1.55	2052.6	YES	NO	bb	bb	47.484

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.82	3.057e5	2.458e5	0.953	1.24	1.24	1455.1	YES	NO	db	db	48.441
2	123478-HxCDD	35.70	2.858e5	2.322e5	0.956	1.23	1.24	1409.8	YES	NO	bd	bd	50.476
3	124679-HXCDD	33.68	3.020e5	2.491e5	1.034	1.21	1.24	1450.6	YES	NO	bb	bb	49.679
4	Total-hexadioxins	36.62	8.715e2	7.856e2	0.967	1.11	1.24	5.0	YES	NO	bb	bb	0.151
5	123789-HxCDD	36.20	2.916e5	2.354e5	0.927	1.24	1.24	1398.5	YES	NO	bb	bb	50.127

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptadioxins	40.24	1.024e3	8.954e2	1.125	1.14	1.05	6.3	YES	NO	dd	dd	0.185
2	1234678-HpCDD	39.94	2.565e5	2.403e5	1.055	1.07	1.05	1199.4	YES	NO	bd	bd	51.058
3	1234679-HPCDD	38.91	2.771e5	2.476e5	1.194	1.12	1.05	1401.0	YES	NO	bd	bb	47.642

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	25.29	3.373e4	4.101e4	1.238	0.82	0.77	326.3	YES	NO	bd	bb	5.043
2	Total-tetradioxins	24.45	2.593e3	2.950e3	1.238	0.88	0.77	16.9	YES	NO	bb	bb	0.374
3	1368-TCDD	23.24	6.259e4	8.307e4	1.256	0.75	0.77	602.1	YES	NO	bb	bd	9.692
4	1289-TCDD	26.70	5.795e4	7.426e4	1.151	0.78	0.77	520.4	YES	NO	bb	bd	9.597
5	2378-TCDD	26.11	6.621e4	8.481e4	1.307	0.78	0.77	614.2	YES	NO	bb	db	9.650
6	Total-tetradioxins	25.78	9.997e4	1.282e5	1.238	0.78	0.77	657.1	YES	NO	bb	bd	15.395
7	12389-PECDD	31.60	3.419e5	2.227e5	1.171	1.53	1.55	2149.1	YES	NO	bb	bb	49.360
8	12378-PeCDD	31.20	2.929e5	1.900e5	0.979	1.54	1.55	1845.7	YES	NO	bb	bb	50.523
9	12479-PECDD	28.48	5.018e5	3.207e5	1.773	1.56	1.55	2052.6	YES	NO	bb	bb	47.484
10	123678-HxCDD	35.82	3.057e5	2.458e5	0.953	1.24	1.24	1455.1	YES	NO	db	db	48.441
11	123478-HxCDD	35.70	2.858e5	2.322e5	0.956	1.23	1.24	1409.8	YES	NO	bd	bd	50.476
12	124679-HXCDD	33.68	3.020e5	2.491e5	1.034	1.21	1.24	1450.6	YES	NO	bb	bb	49.679
13	Total-hexadioxins	36.62	8.715e2	7.856e2	0.967	1.11	1.24	5.0	YES	NO	bb	bb	0.151
14	123789-HxCDD	36.20	2.916e5	2.354e5	0.927	1.24	1.24	1398.5	YES	NO	bb	bb	50.127
15	Total-heptadioxins	40.24	1.024e3	8.954e2	1.125	1.14	1.05	6.3	YES	NO	dd	dd	0.185
16	1234678-HpCDD	39.94	2.565e5	2.403e5	1.055	1.07	1.05	1199.4	YES	NO	bd	bd	51.058
17	1234679-HPCDD	38.91	2.771e5	2.476e5	1.194	1.12	1.05	1401.0	YES	NO	bd	bb	47.642
18	OCDD	44.57	3.731e5	4.160e5	1.074	0.90	0.89	1567.2	YES	NO	bd	bb	96.088

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
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Printed: Tuesday, March 02, 2021 11:38:54 Pacific Standard Time

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.46	6.950e4	8.437e4	0.782	0.82	0.77	461.0	YES	NO	dd	bb	9.636
2	Total-tetrafurans	24.57	8.090e2	9.361e2	0.828	0.86	0.77	5.3	YES	NO	bd	db	0.103
3	1368-TCDF	21.97	8.373e4	1.044e5	0.966	0.80	0.77	611.0	YES	NO	bb	bb	9.535
4	12378-PeCDF	29.60	4.108e5	2.609e5	0.866	1.57	1.55	1275.3	YES	NO	bb	bd	52.005
5	Total-pentafurans	28.47	6.679e4	4.026e4	0.904	1.66	1.55	200.0	YES	NO	bb	bb	8.133
6	1289-TCDF	26.96	7.148e4	8.563e4	0.736	0.83	0.77	482.2	YES	NO	dd	db	10.451
7	12389-PECDF	31.98	4.367e5	2.485e5	0.867	1.76	1.55	1216.9	YES	NO	bd	bb	52.996
8	23478-PeCDF	30.94	4.217e5	2.602e5	0.980	1.62	1.55	1317.6	YES	NO	bb	bb	49.019
9	123789-HxCDF	36.62	2.735e5	2.143e5	0.994	1.28	1.24	1112.6	YES	NO	bb	bb	46.271
10	234678-HxCDF	35.59	3.354e5	2.542e5	1.043	1.32	1.24	1409.9	YES	NO	bb	bb	49.594
11	123678-HxCDF	34.71	3.583e5	2.707e5	0.961	1.32	1.24	1385.9	YES	NO	db	db	51.019
12	123478-HxCDF	34.57	3.401e5	2.586e5	1.002	1.32	1.24	1406.3	YES	NO	bd	bd	49.622
13	123468-HXCDF	32.89	3.426e5	2.663e5	1.036	1.29	1.24	1344.3	YES	NO	bb	bb	48.828
14	1234678-HpCDF	38.46	3.042e5	2.905e5	1.058	1.05	1.05	1986.3	YES	NO	bb	bd	52.696
15	1234789-HpCDF	40.67	2.544e5	2.404e5	1.070	1.06	1.05	1467.8	YES	NO	bd	bd	52.535
16	Total-heptafurans	39.12	9.452e2	9.751e2	1.064	0.97	1.05	5.4	YES	NO	bb	bb	0.185
17	OCDF	44.81	4.505e5	4.756e5	1.257	0.95	0.89	2032.1	YES	NO	bd	bd	96.372
18	Total-penta1	27.38	1.298e2	9.717e1		1.34	1.55	3.5	NO	NO	bb	bb	0.017
19	13468-PECDF	26.80	5.875e5	3.989e5	1.347	1.47	1.55	8235.6	YES	NO	bb	bb	49.105
20	Total-tetradioxins	25.29	3.373e4	4.101e4	1.238	0.82	0.77	326.3	YES	NO	bd	bb	5.043
21	Total-tetradioxins	24.45	2.593e3	2.950e3	1.238	0.88	0.77	16.9	YES	NO	bb	bb	0.374
22	1368-TCDD	23.24	6.259e4	8.307e4	1.256	0.75	0.77	602.1	YES	NO	bb	bd	9.692
23	1289-TCDD	26.70	5.795e4	7.426e4	1.151	0.78	0.77	520.4	YES	NO	bb	bd	9.597
24	2378-TCDD	26.11	6.621e4	8.481e4	1.307	0.78	0.77	614.2	YES	NO	bb	db	9.650
25	Total-tetradioxins	25.78	9.997e4	1.282e5	1.238	0.78	0.77	657.1	YES	NO	bb	bd	15.395
26	12389-PECDD	31.60	3.419e5	2.227e5	1.171	1.53	1.55	2149.1	YES	NO	bb	bb	49.360
27	12378-PeCDD	31.20	2.929e5	1.900e5	0.979	1.54	1.55	1845.7	YES	NO	bb	bb	50.523
28	12479-PECDD	28.48	5.018e5	3.207e5	1.773	1.56	1.55	2052.6	YES	NO	bb	bb	47.484
29	123678-HxCDD	35.82	3.057e5	2.458e5	0.953	1.24	1.24	1455.1	YES	NO	db	db	48.441
30	123478-HxCDD	35.70	2.858e5	2.322e5	0.956	1.23	1.24	1409.8	YES	NO	bd	bd	50.476
31	124679-HXCDD	33.68	3.020e5	2.491e5	1.034	1.21	1.24	1450.6	YES	NO	bb	bb	49.679
32	Total-hexadioxins	36.62	8.715e2	7.856e2	0.967	1.11	1.24	5.0	YES	NO	bb	bb	0.151
33	123789-HxCDD	36.20	2.916e5	2.354e5	0.927	1.24	1.24	1398.5	YES	NO	bb	bb	50.127
34	Total-heptadioxins	40.24	1.024e3	8.954e2	1.125	1.14	1.05	6.3	YES	NO	dd	dd	0.185
35	1234678-HpCDD	39.94	2.565e5	2.403e5	1.055	1.07	1.05	1199.4	YES	NO	bd	bd	51.058
36	1234679-HPCDD	38.91	2.771e5	2.476e5	1.194	1.12	1.05	1401.0	YES	NO	bd	bb	47.642
37	OCDD	44.57	3.731e5	4.160e5	1.074	0.90	0.89	1567.2	YES	NO	bd	bb	96.088

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	23.58	3.525e4					1.8	NO		bb		
2	FUNCTION1 PFK	21.45	3.258e4					1.7	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.75	2.480e4					1.9	NO		bb		0.000
2	FUNCTION2 PFK	28.62	3.765e4					2.0	NO		bb		0.000
3	FUNCTION2 PFK	28.52	1.804e4					1.9	NO		bb		0.000
4	FUNCTION2 PFK	28.32	3.517e4					2.5	NO		bb		0.000
5	FUNCTION2 PFK	28.07	3.188e4					2.7	NO		bb		0.000
6	FUNCTION2 PFK	27.93	1.213e4					1.6	NO		db		0.000
7	FUNCTION2 PFK	27.88	3.919e4					1.6	NO		bd		0.000
8	FUNCTION2 PFK	31.44	3.117e4					2.0	NO		bb		0.000
9	FUNCTION2 PFK	31.37	4.982e3					0.8	NO		bb		0.000
10	FUNCTION2 PFK	31.22	3.525e4					2.3	NO		db		0.000
11	FUNCTION2 PFK	31.10	4.490e4					2.8	NO		bd		0.000
12	FUNCTION2 PFK	30.79	3.204e4					1.5	NO		db		0.000
13	FUNCTION2 PFK	30.64	4.492e4					2.5	NO		bd		0.000
14	FUNCTION2 PFK	30.43	3.089e4					1.9	NO		db		0.000
15	FUNCTION2 PFK	30.31	4.166e4					2.7	NO		bd		0.000
16	FUNCTION2 PFK	30.20	3.238e4					2.7	NO		bb		0.000
17	FUNCTION2 PFK	30.10	1.849e4					1.8	NO		db		0.000
18	FUNCTION2 PFK	30.06	1.010e4					1.6	NO		bd		0.000
19	FUNCTION2 PFK	29.95	2.517e4					1.2	NO		bb		0.000
20	FUNCTION2 PFK	29.85	1.177e4					1.0	NO		bb		0.000
21	FUNCTION2 PFK	29.63	3.482e4					2.3	NO		bb		0.000
22	FUNCTION2 PFK	29.33	8.030e4					2.6	NO		bb		0.000
23	FUNCTION2 PFK	29.20	1.622e4					1.7	NO		bb		0.000
24	FUNCTION2 PFK	32.12	2.200e4					1.8	NO		bb		0.000
25	FUNCTION2 PFK	31.79	3.309e4					2.3	NO		bb		0.000
26	FUNCTION2 PFK	31.59	1.667e4					1.8	NO		db		0.000
27	FUNCTION2 PFK	31.54	2.653e4					2.2	NO		bd		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.46	4.905e4					2.4	NO		dd		0.000
2	FUNCTION3 PFK	33.36	3.236e4					1.7	NO		dd		0.000
3	FUNCTION3 PFK	33.34	1.095e4					1.4	NO		bd		0.000
4	FUNCTION3 PFK	33.13	4.534e3					0.6	NO		bb		0.000
5	FUNCTION3 PFK	33.01	5.833e4					2.3	NO		db		0.000
6	FUNCTION3 PFK	32.89	5.735e4					2.9	NO		dd		0.000
7	FUNCTION3 PFK	32.79	9.217e4					3.6	YES		dd		0.000
8	FUNCTION3 PFK	32.75	2.842e4					3.1	YES		dd		0.000
9	FUNCTION3 PFK	32.68	8.580e4					3.9	YES		dd		0.000
10	FUNCTION3 PFK	32.59	5.349e4					3.5	YES		dd		0.000
11	FUNCTION3 PFK	32.55	4.825e4					4.2	YES		bd		0.000
12	FUNCTION3 PFK	35.00	2.187e4					2.2	NO		bd		0.000
13	FUNCTION3 PFK	34.92	3.865e4					2.5	NO		bb		0.000
14	FUNCTION3 PFK	34.72	3.821e4					2.6	NO		db		0.000
15	FUNCTION3 PFK	34.69	1.930e4					2.2	NO		dd		0.000
16	FUNCTION3 PFK	34.60	6.142e4					2.4	NO		dd		0.000
17	FUNCTION3 PFK	34.48	4.927e4					2.2	NO		bd		0.000
18	FUNCTION3 PFK	34.37	2.421e4					2.1	NO		db		0.000
19	FUNCTION3 PFK	34.34	2.759e4					2.6	NO		bd		0.000
20	FUNCTION3 PFK	34.24	3.548e4					2.4	NO		bb		0.000
21	FUNCTION3 PFK	34.12	5.590e3					0.8	NO		bb		0.000
22	FUNCTION3 PFK	34.02	3.972e4					1.5	NO		bb		0.000
23	FUNCTION3 PFK	33.93	2.694e4					2.0	NO		bb		0.000
24	FUNCTION3 PFK	33.78	4.005e4					2.2	NO		db		0.000
25	FUNCTION3 PFK	33.68	5.045e4					2.3	NO		dd		0.000
26	FUNCTION3 PFK	33.59	2.088e4					1.8	NO		dd		0.000
27	FUNCTION3 PFK	33.56	2.985e4					2.5	NO		dd		0.000
28	FUNCTION3 PFK	36.49	3.524e4					2.4	NO		bd		0.000
29	FUNCTION3 PFK	36.36	4.625e4					2.2	NO		bb		0.000
30	FUNCTION3 PFK	36.19	7.563e3					1.0	NO		bb		0.000
31	FUNCTION3 PFK	36.13	4.675e3					0.7	NO		bb		0.000
32	FUNCTION3 PFK	35.96	1.497e4					1.4	NO		db		0.000
33	FUNCTION3 PFK	35.91	2.742e4					2.5	NO		dd		0.000
34	FUNCTION3 PFK	35.81	5.616e4					2.6	NO		dd		0.000
35	FUNCTION3 PFK	35.70	5.431e4					2.7	NO		dd		0.000
36	FUNCTION3 PFK	35.59	6.542e4					3.3	YES		bd		0.000
37	FUNCTION3 PFK	35.52	6.080e3					0.9	NO		db		0.000

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Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
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ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, 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	35.47	2.623e4					2.3	NO		dd		0.000
39	FUNCTION3 PFK	35.39	2.328e4					2.2	NO		dd		0.000
40	FUNCTION3 PFK	35.35	1.711e4					1.6	NO		bd		0.000
41	FUNCTION3 PFK	35.19	1.514e4					2.1	NO		db		0.000
42	FUNCTION3 PFK	35.14	5.496e4					3.4	YES		dd		0.000
43	FUNCTION3 PFK	35.04	4.629e4					2.6	NO		dd		0.000
44	FUNCTION3 PFK	37.55	4.542e3					0.8	NO		bb		0.000
45	FUNCTION3 PFK	37.36	3.986e4					1.9	NO		bb		0.000
46	FUNCTION3 PFK	37.26	2.859e4					2.1	NO		bb		0.000
47	FUNCTION3 PFK	37.16	2.567e4					2.0	NO		bb		0.000
48	FUNCTION3 PFK	36.96	4.027e4					1.8	NO		bb		0.000
49	FUNCTION3 PFK	36.69	2.072e3					0.6	NO		bb		0.000
50	FUNCTION3 PFK	36.59	2.741e4					1.5	NO		db		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.71	2.981e4					2.0	NO		dd		
2	FUNCTION4 PFK	38.58	2.971e4					1.2	NO		bd		
3	FUNCTION4 PFK	38.48	6.298e4					2.3	NO		db		
4	FUNCTION4 PFK	38.36	2.818e4					1.2	NO		bd		
5	FUNCTION4 PFK	38.17	1.485e3					0.4	NO		bb		
6	FUNCTION4 PFK	38.05	3.737e4					2.4	NO		db		
7	FUNCTION4 PFK	37.94	1.463e5					5.0	YES		dd		
8	FUNCTION4 PFK	37.84	7.308e5					6.7	YES		bd		
9	FUNCTION4 PFK	41.87	2.077e4					1.2	NO		dd		
10	FUNCTION4 PFK	41.75	3.486e4					1.7	NO		bd		
11	FUNCTION4 PFK	41.51	2.347e4					1.2	NO		bb		
12	FUNCTION4 PFK	41.41	2.579e4					1.7	NO		bb		
13	FUNCTION4 PFK	41.18	3.794e4					1.7	NO		bb		
14	FUNCTION4 PFK	40.73	2.120e4					1.3	NO		bb		
15	FUNCTION4 PFK	40.17	2.658e4					1.7	NO		bb		
16	FUNCTION4 PFK	39.97	7.726e3					0.9	NO		db		
17	FUNCTION4 PFK	39.93	1.844e4					1.5	NO		dd		
18	FUNCTION4 PFK	39.83	3.270e4					1.3	NO		bd		
19	FUNCTION4 PFK	39.74	4.083e3					0.5	NO		bb		
20	FUNCTION4 PFK	39.61	2.131e4					1.4	NO		bb		
21	FUNCTION4 PFK	39.41	2.211e4					1.7	NO		db		
22	FUNCTION4 PFK	39.38	1.518e4					1.6	NO		bd		
23	FUNCTION4 PFK	39.26	3.832e4					1.9	NO		bb		
24	FUNCTION4 PFK	38.76	6.379e3					0.8	NO		db		
25	FUNCTION4 PFK	42.97	9.191e3					0.9	NO		bb		
26	FUNCTION4 PFK	42.86	1.898e4					0.8	NO		bb		
27	FUNCTION4 PFK	41.97	5.225e4					2.0	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.11	5.638e3					1.0	NO		bb		
2	FUNCTION5 PFK	44.02	1.317e4					1.5	NO		db		
3	FUNCTION5 PFK	43.97	5.416e3					0.8	NO		bd		
4	FUNCTION5 PFK	43.91	6.971e3					1.4	NO		db		
5	FUNCTION5 PFK	43.87	1.019e4					1.2	NO		dd		
6	FUNCTION5 PFK	43.78	1.549e4					1.5	NO		bd		
7	FUNCTION5 PFK	43.66	1.625e4					1.7	NO		bb		
8	FUNCTION5 PFK	43.55	6.652e3					0.9	NO		bb		
9	FUNCTION5 PFK	43.44	2.398e4					1.9	NO		db		
10	FUNCTION5 PFK	43.40	9.178e3					1.4	NO		dd		
11	FUNCTION5 PFK	43.32	2.981e4					2.1	NO		bd		
12	FUNCTION5 PFK	43.20	2.183e4					1.7	NO		bb		
13	FUNCTION5 PFK	46.37	1.382e4					1.5	NO		bb		
14	FUNCTION5 PFK	46.22	2.032e3					0.6	NO		bb		
15	FUNCTION5 PFK	46.12	1.989e3					0.6	NO		bb		
16	FUNCTION5 PFK	45.81	1.239e4					1.4	NO		db		
17	FUNCTION5 PFK	45.78	9.154e3					1.6	NO		bd		
18	FUNCTION5 PFK	45.72	5.701e3					0.9	NO		bb		
19	FUNCTION5 PFK	45.60	2.951e3					0.2	NO		bb		
20	FUNCTION5 PFK	45.48	9.918e3					1.4	NO		bb		
21	FUNCTION5 PFK	45.24	2.175e4					1.6	NO		bb		
22	FUNCTION5 PFK	45.12	1.617e4					1.5	NO		bb		
23	FUNCTION5 PFK	45.04	1.836e4					1.3	NO		bb		
24	FUNCTION5 PFK	44.62	5.950e3					1.1	NO		bb		
25	FUNCTION5 PFK	44.45	1.460e4					1.6	NO		bb		
26	FUNCTION5 PFK	44.24	1.340e4					1.5	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.09	2.438e2					3.1	YES		bd		0.000
2	FUNCTION1 HXCD...	27.48	8.109e1					2.0	NO		bb		0.000
3	FUNCTION1 HXCD...	26.23	1.375e2					3.0	YES		bb		0.000
4	FUNCTION1 HXCD...	25.88	7.082e1					2.6	NO		bb		0.000
5	FUNCTION1 HXCD...	24.97	1.025e2					1.7	NO		bb		0.000
6	FUNCTION1 HXCD...	24.52	9.212e1					1.8	NO		bb		0.000
7	FUNCTION1 HXCD...	24.07	1.630e2					2.3	NO		bb		0.000
8	FUNCTION1 HXCD...	21.80	8.962e1					0.8	NO		bb		0.000
9	FUNCTION1 HXCD...	21.36	1.592e2					2.2	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...	27.24	7.415e1					1.7	NO		bb		0.000
2	FUNCTION1 HPCD...	26.00	7.563e1					1.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.47	9.592e1					2.3	NO		bb		0.000
4	FUNCTION1 HPCD...	25.35	7.011e1					2.2	NO		bb		0.000
5	FUNCTION1 HPCD...	24.60	7.462e1					1.7	NO		bb		0.000
6	FUNCTION1 HPCD...	23.18	7.276e1					1.3	NO		bb		0.000
7	FUNCTION1 HPCD...	21.09	2.905e2					2.8	NO		bb		0.000
8	FUNCTION1 HPCD...	27.41	1.104e2					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...	32.38	1.373e2					3.6	YES		bb		0.000
2	FUNCTION2 HPCD...	30.81	4.562e2					8.8	YES		db		0.000
3	FUNCTION2 HPCD...	30.71	8.759e1					2.7	NO		bd		0.000
4	FUNCTION2 HPCD...	29.82	9.353e1					3.3	YES		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.20	2.642e2					6.8	YES		bb		0.000
2	FUNCTION3 OCDPE	35.84	1.315e2					5.0	YES		db		0.000
3	FUNCTION3 OCDPE	35.80	1.653e2					6.2	YES		dd		0.000
4	FUNCTION3 OCDPE	35.69	2.329e2					6.2	YES		dd		0.000
5	FUNCTION3 OCDPE	35.57	1.023e2					3.0	YES		bd		0.000
6	FUNCTION3 OCDPE	34.66	8.446e1					1.6	NO		bb		0.000
7	FUNCTION3 OCDPE	34.42	9.493e1					3.0	NO		bb		0.000
8	FUNCTION3 OCDPE	33.68	1.648e2					3.9	YES		db		0.000
9	FUNCTION3 OCDPE	33.62	8.351e1					2.9	NO		bd		0.000
10	FUNCTION3 OCDPE	36.59	1.557e2					3.0	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	39.92	9.417e1					2.5	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	45.35	7.178e1					2.7	NO		bb		0.000
2	FUNCTION5 DCDPE	44.54	1.033e2					2.7	NO		bb		0.000

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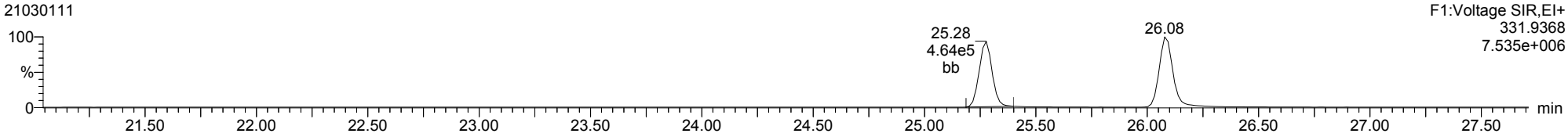

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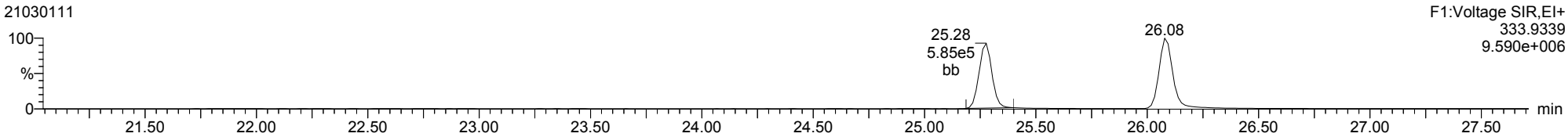

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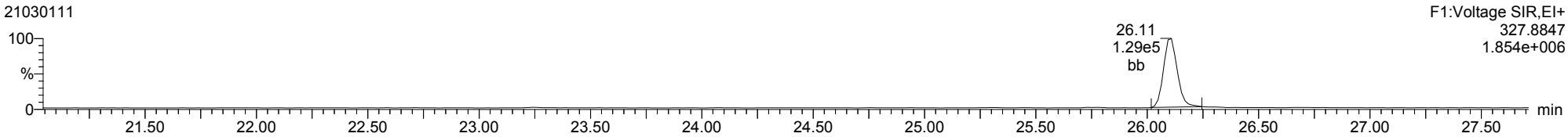

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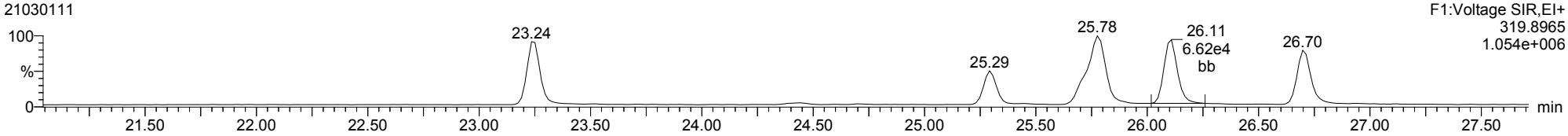

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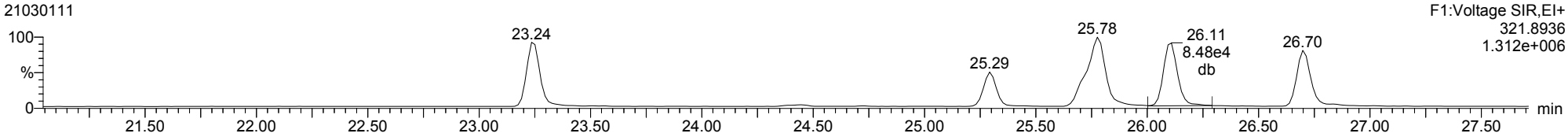

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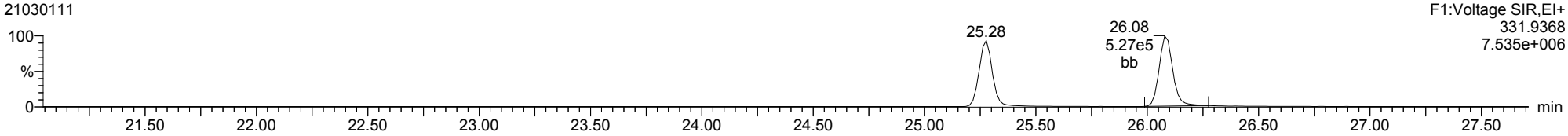

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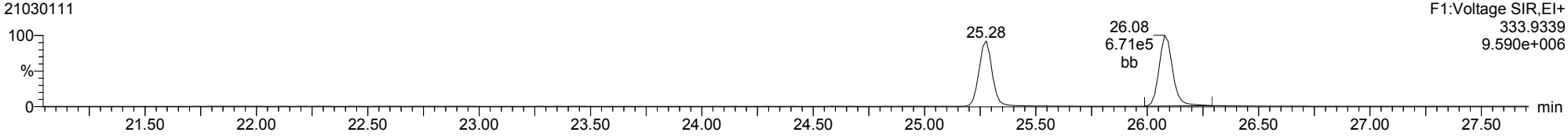

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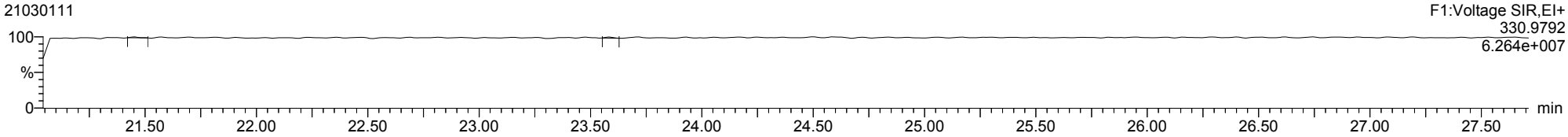

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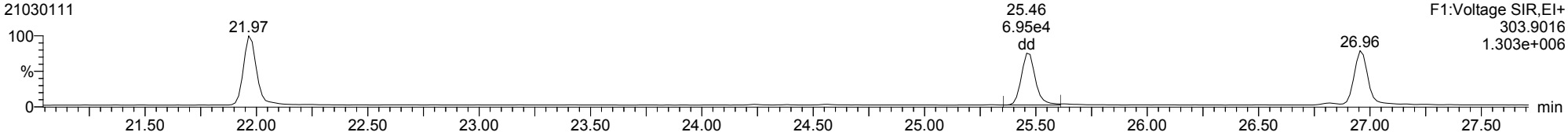

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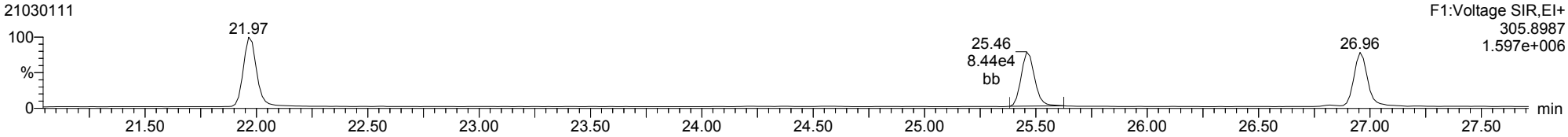

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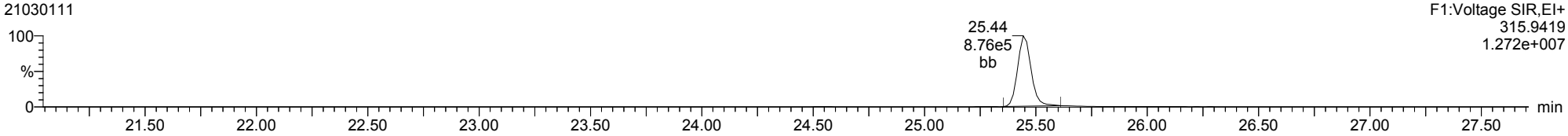

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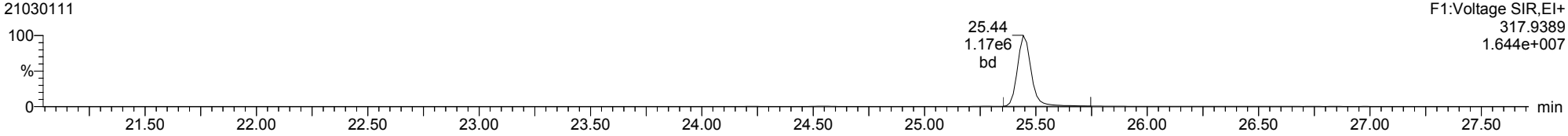

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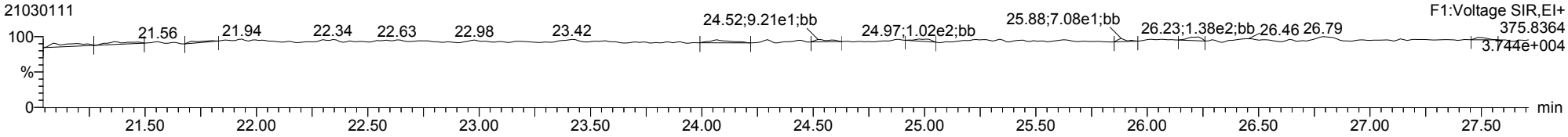

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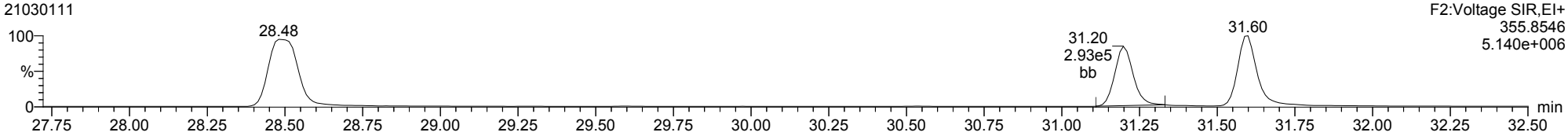
12378-PeCDD



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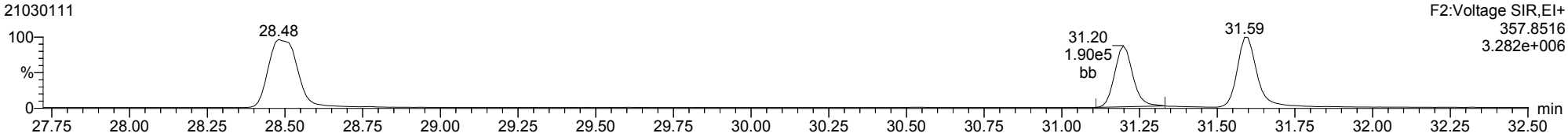

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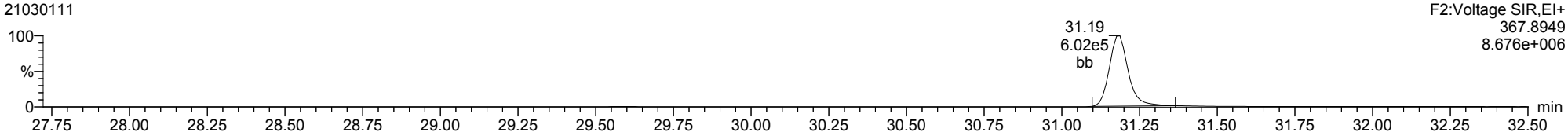

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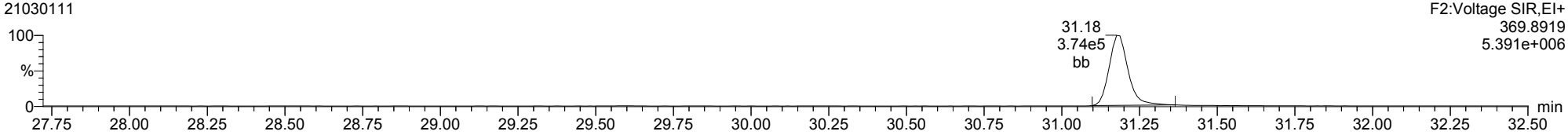
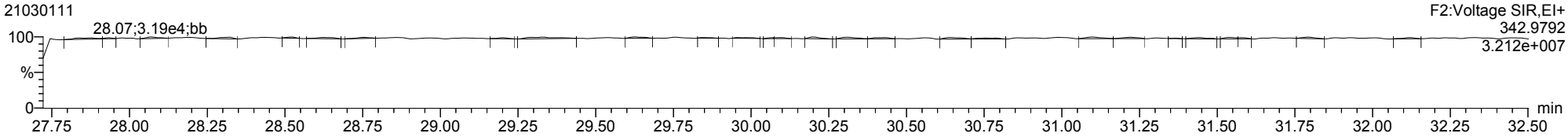


FUNCTION2 PFK



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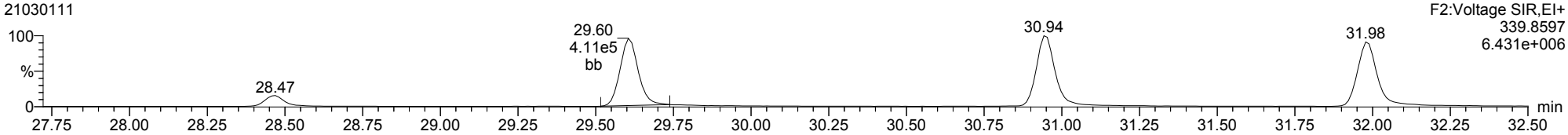

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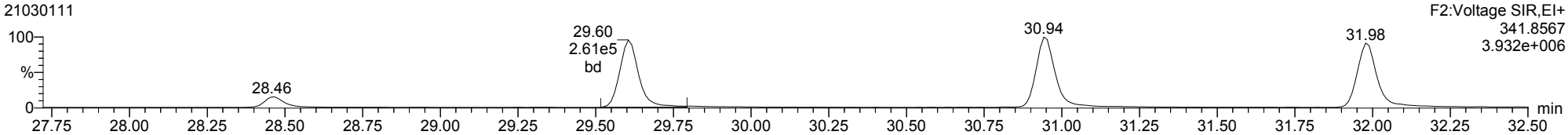

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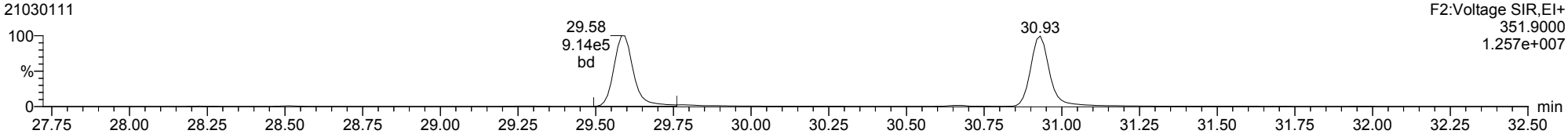

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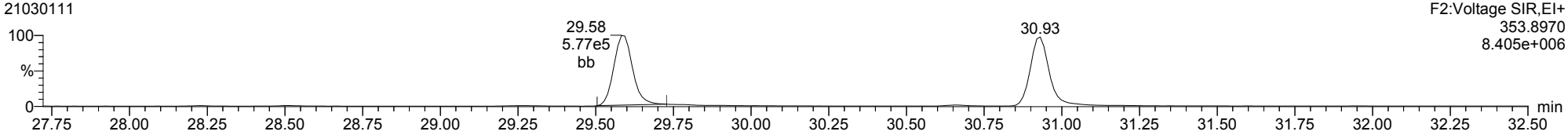

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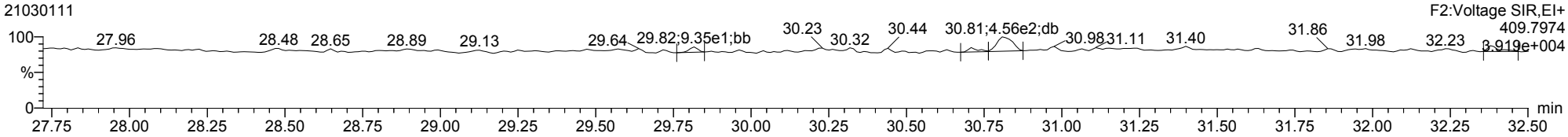

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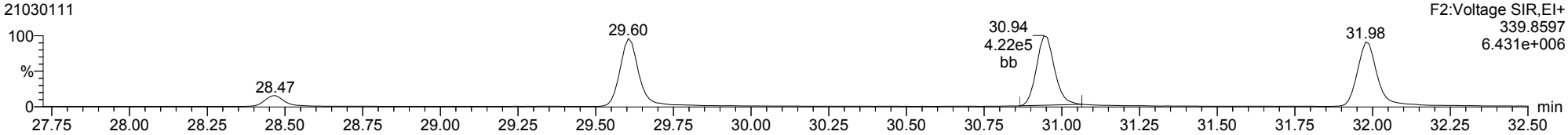
23478-PeCDF



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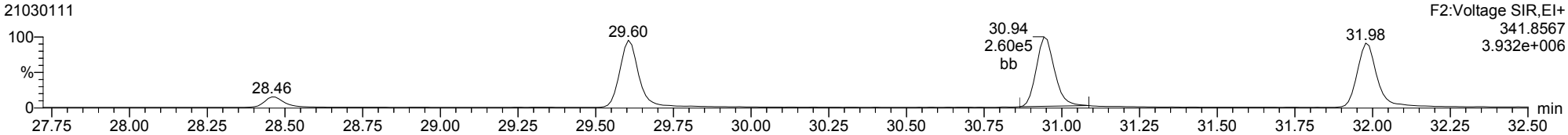

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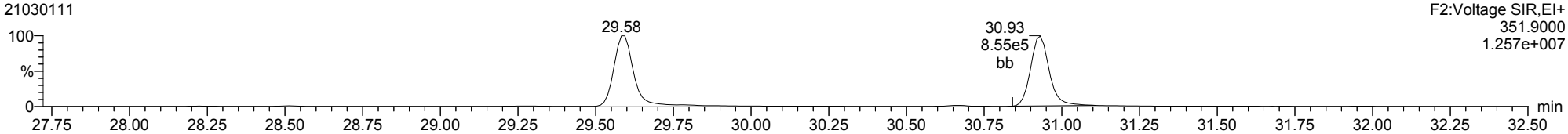

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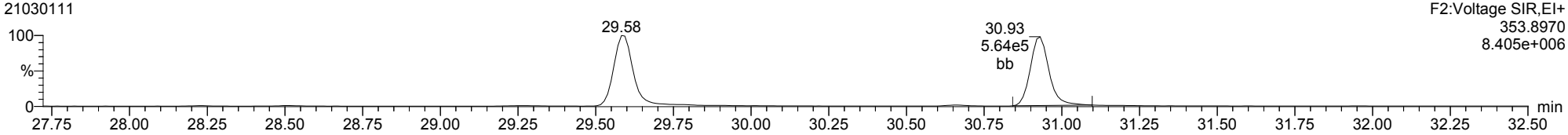

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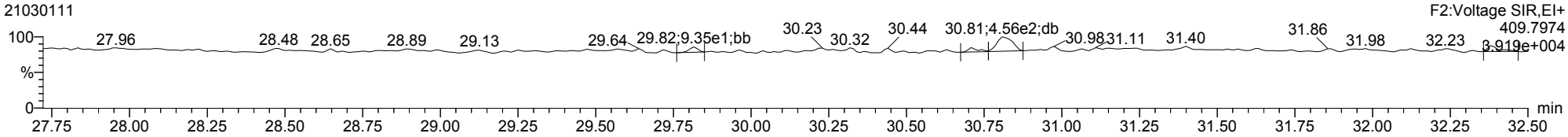

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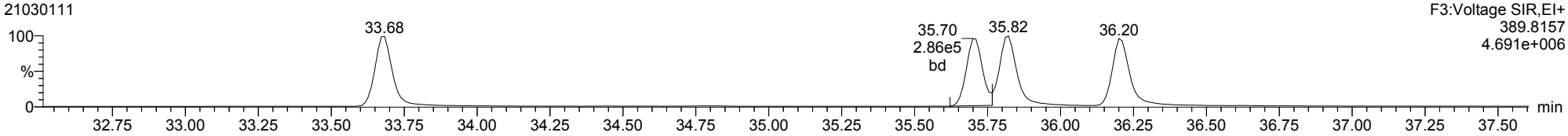

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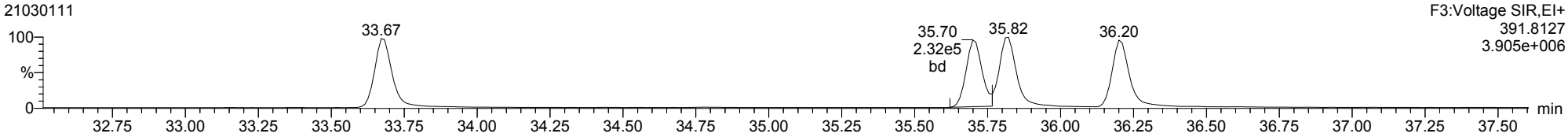

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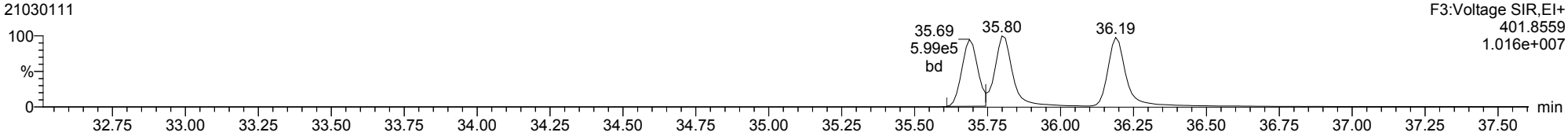

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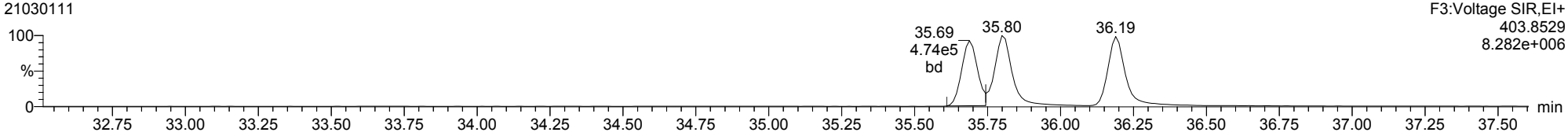

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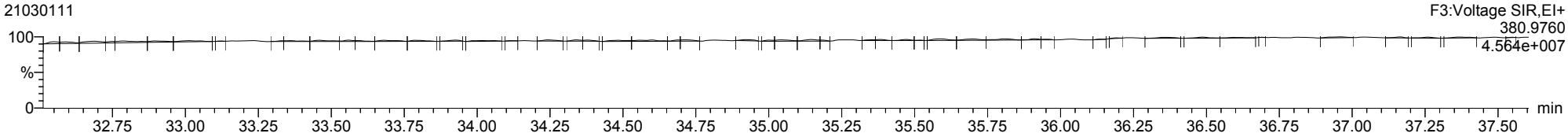

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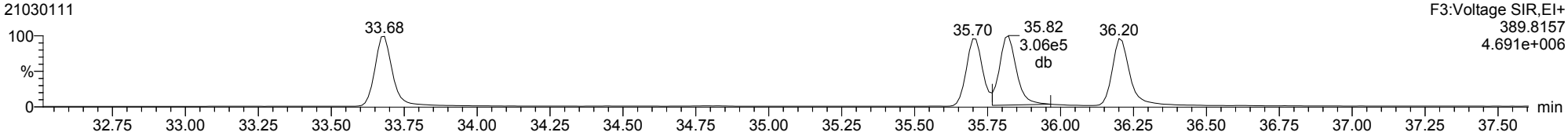

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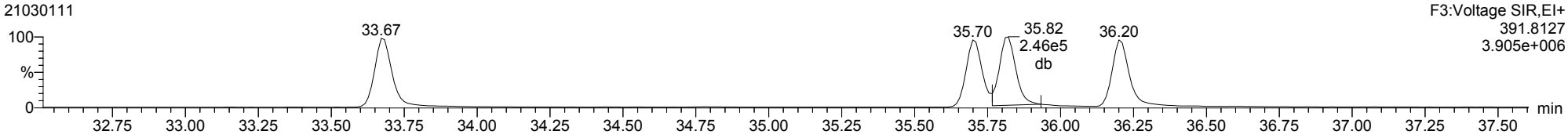

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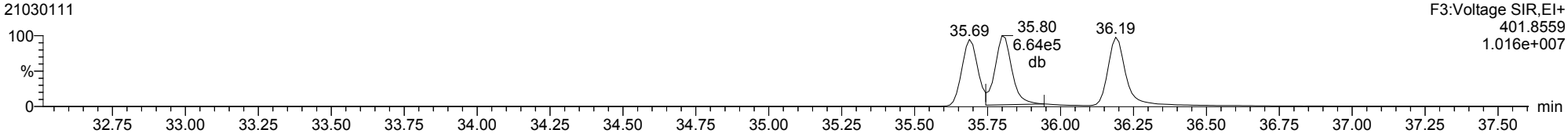

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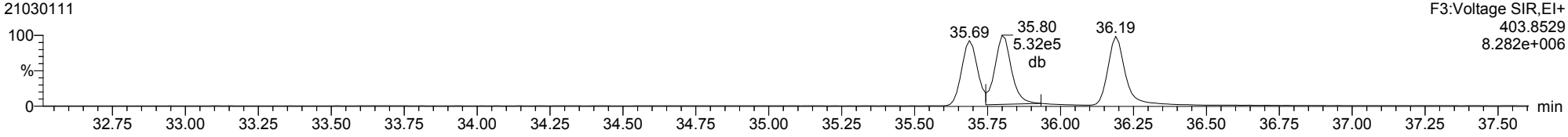

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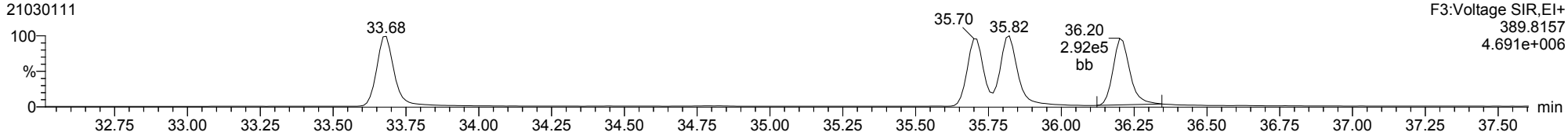

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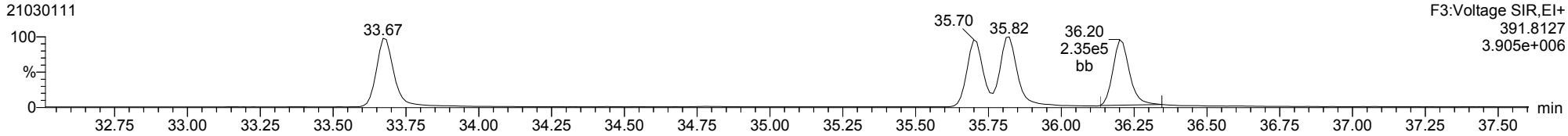

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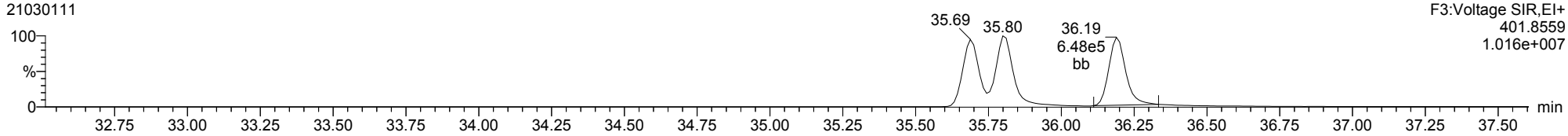

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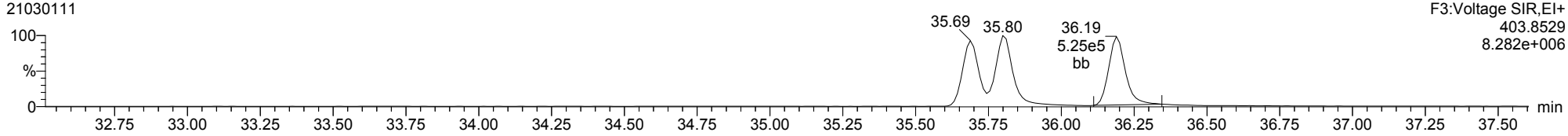

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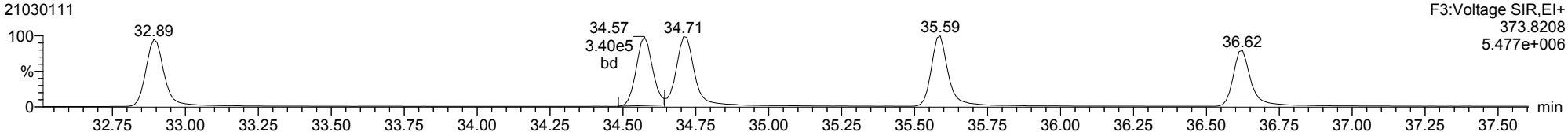

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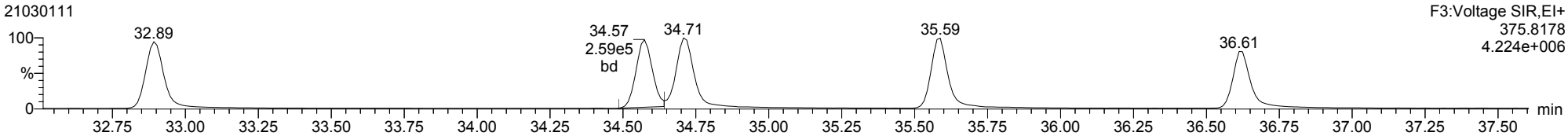

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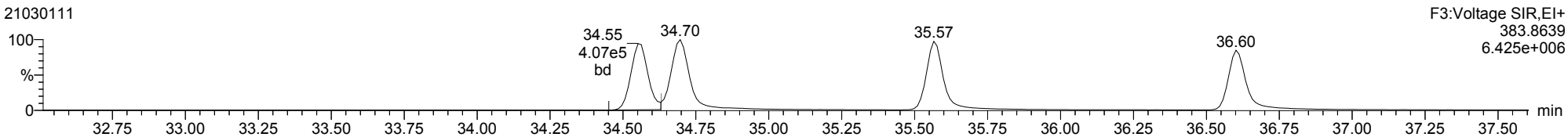

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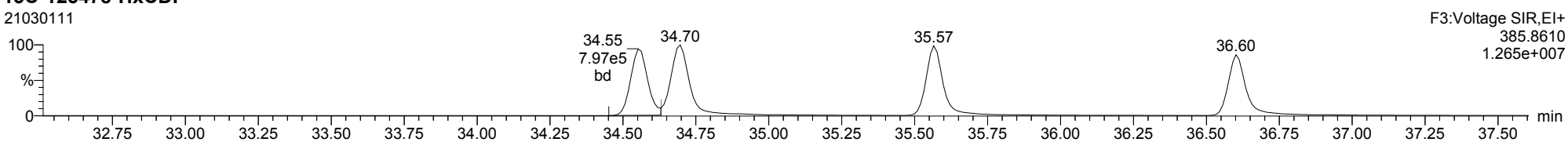

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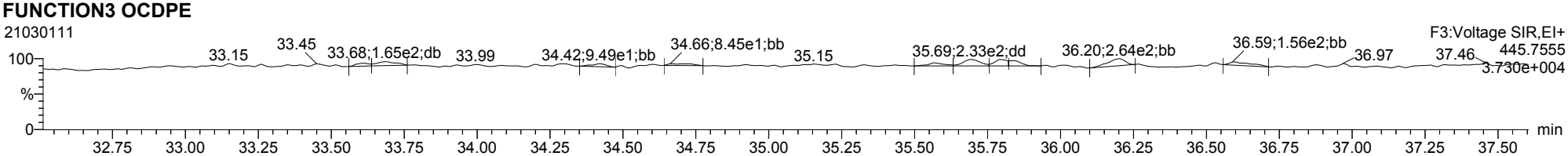

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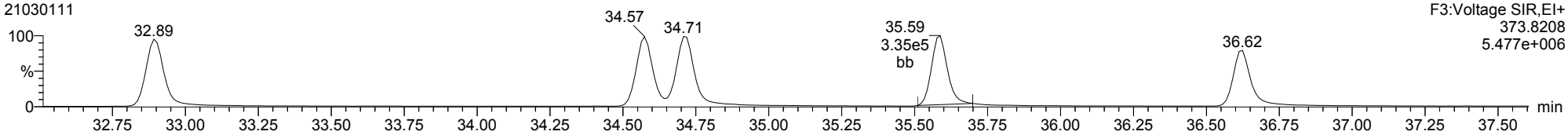
234678-HxCDF



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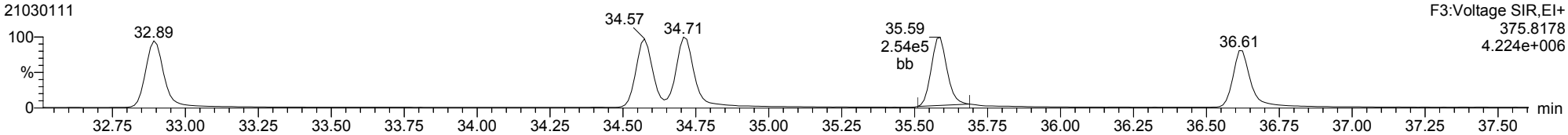

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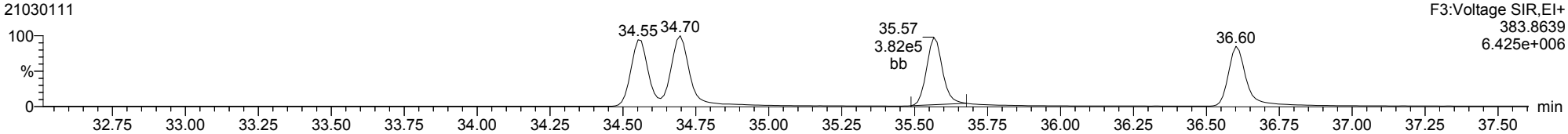

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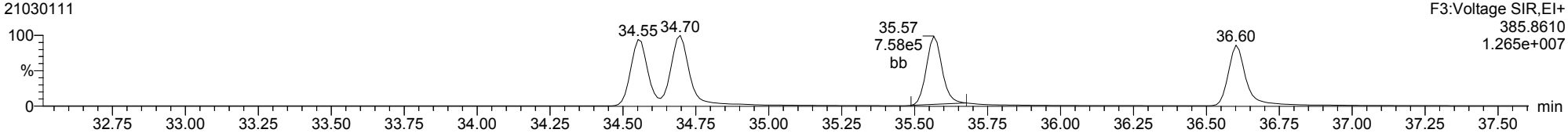

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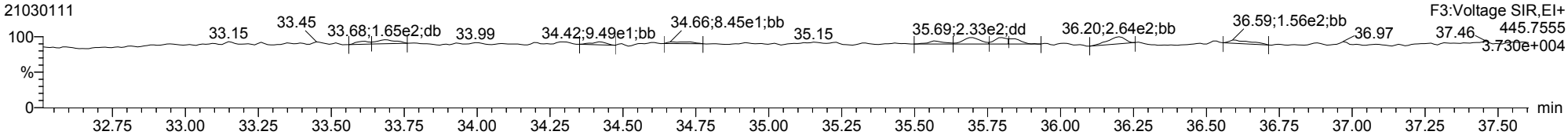

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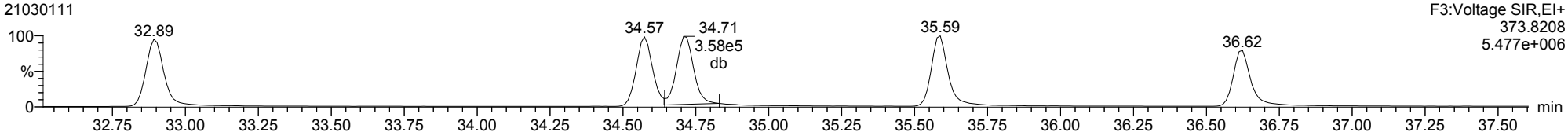
123678-HxCDF



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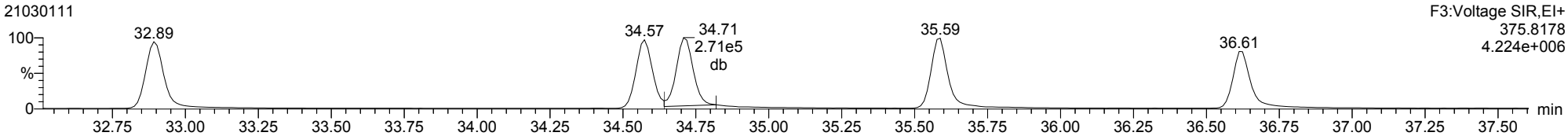

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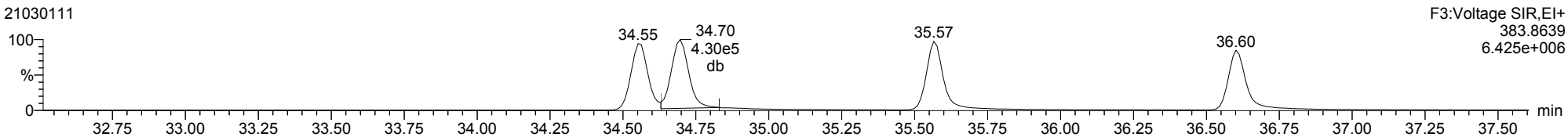

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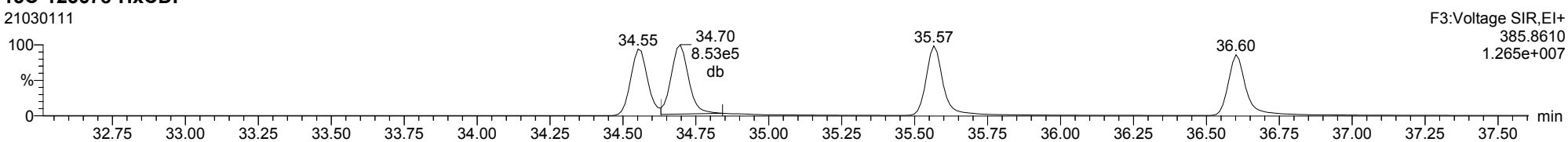

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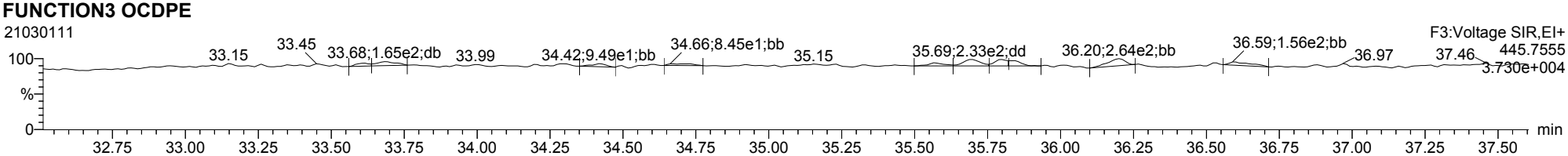

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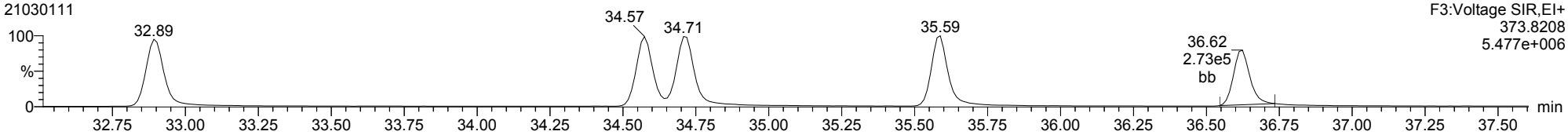

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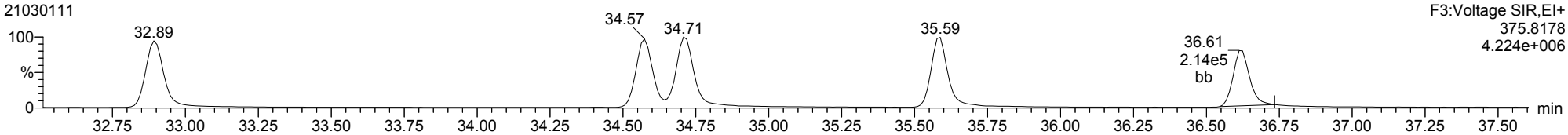

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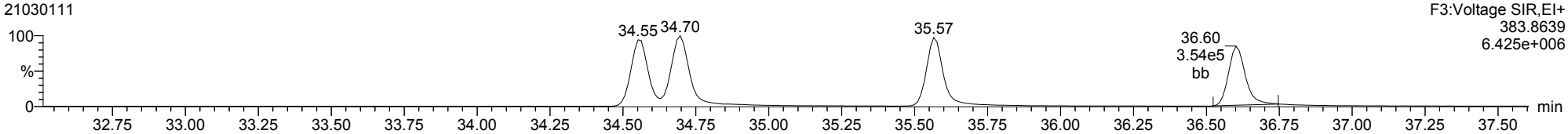

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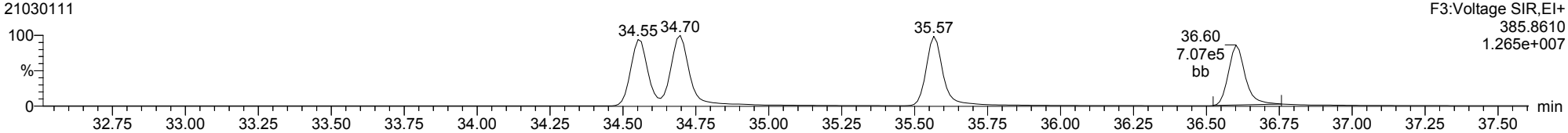
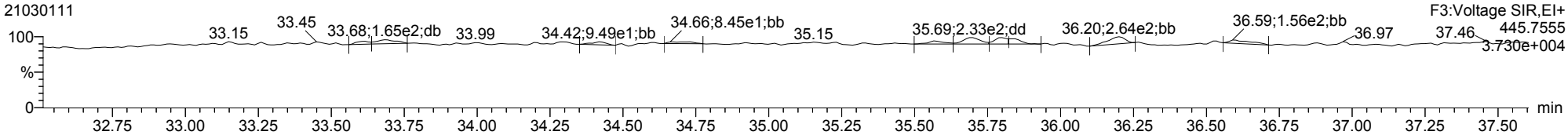


FUNCTION3 OCDPE



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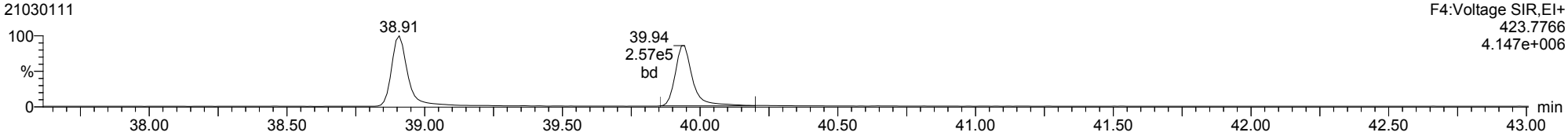
1234678-HpCDD



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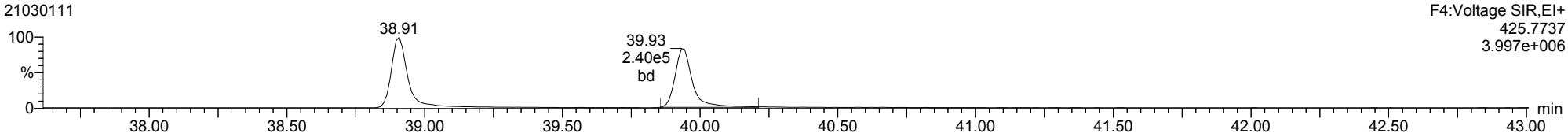

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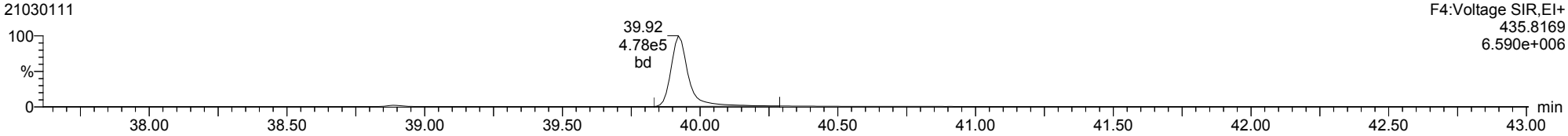

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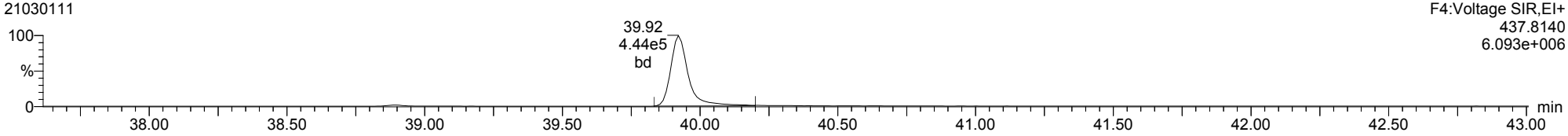
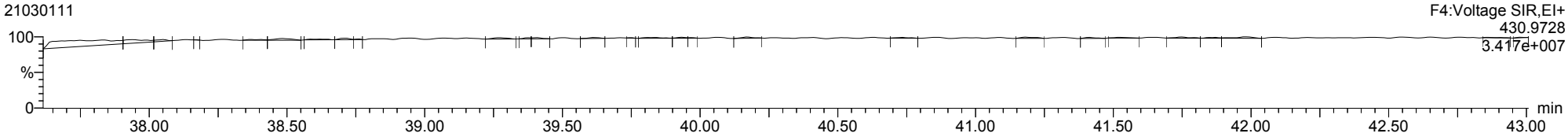


FUNCTION4 PFK



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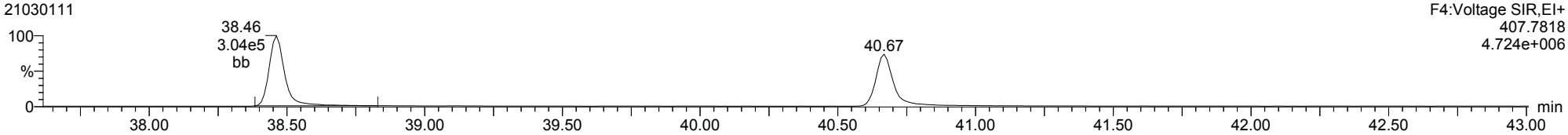

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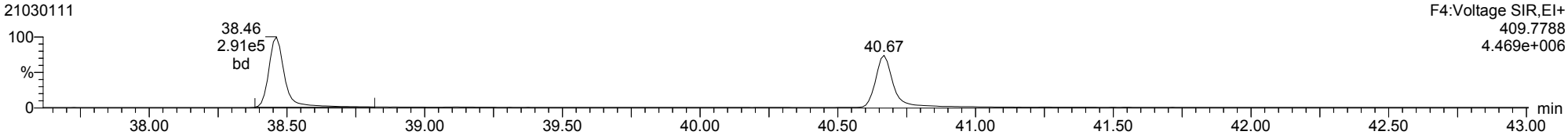

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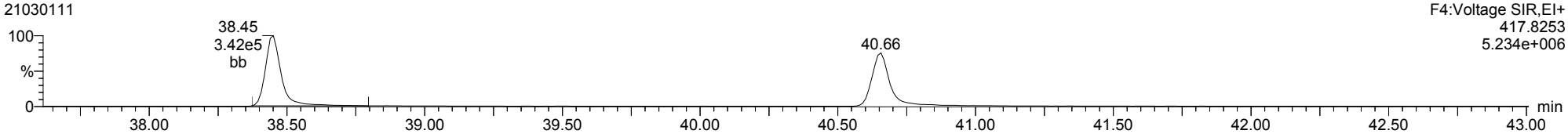

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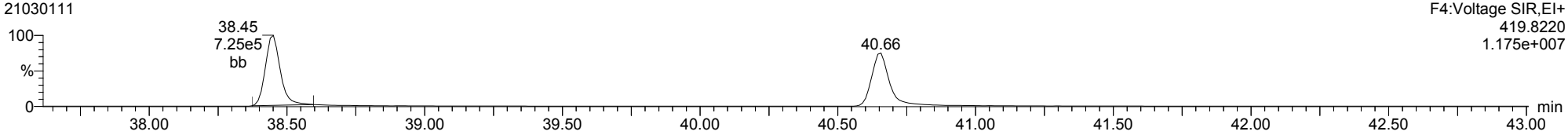
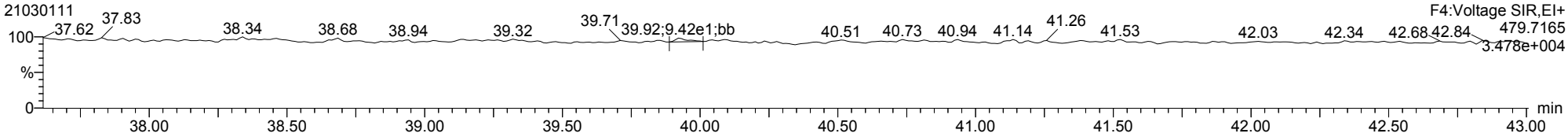


FUNCTION4 NCDPE



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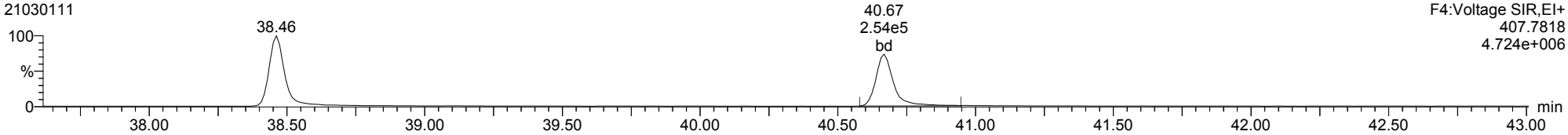

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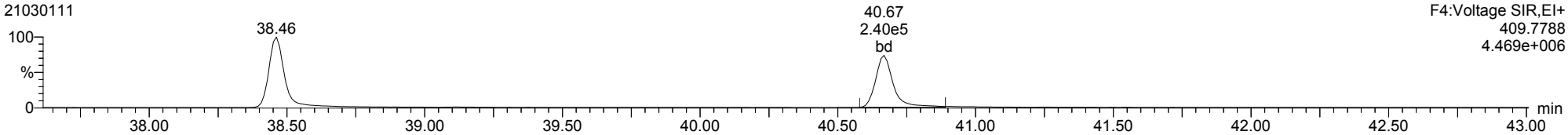

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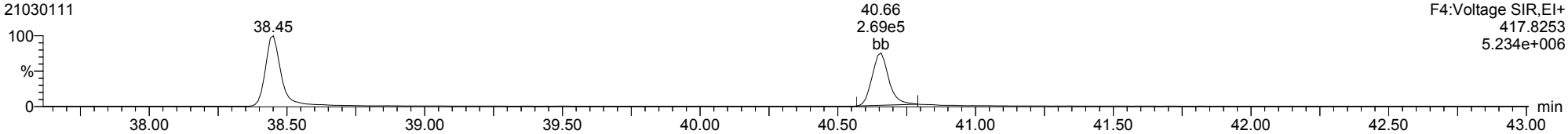

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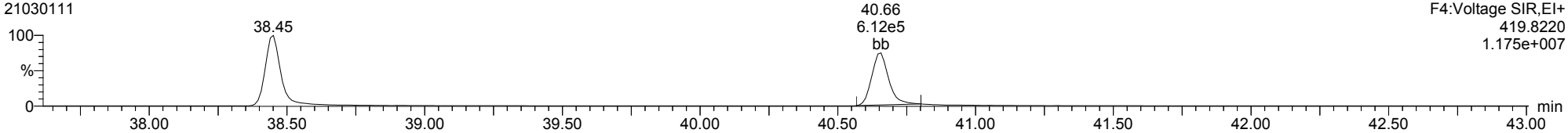
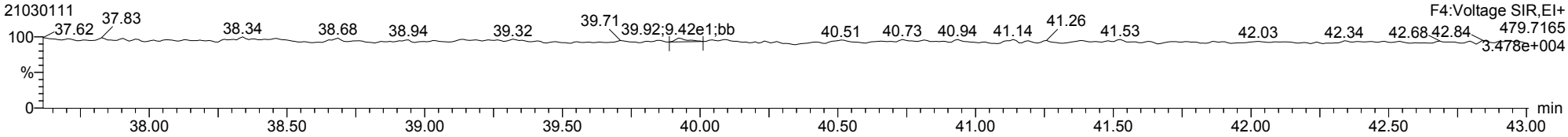


FUNCTION4 NCDPE



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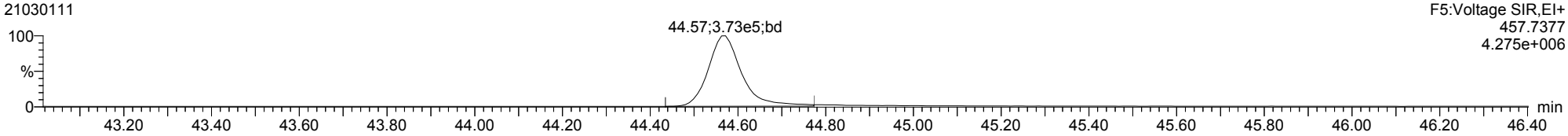

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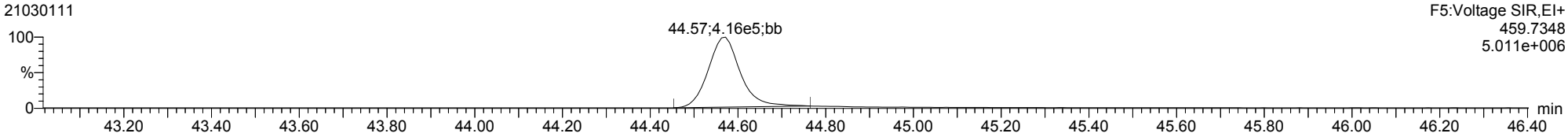

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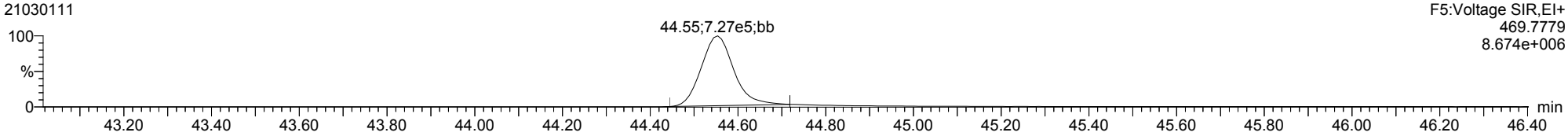

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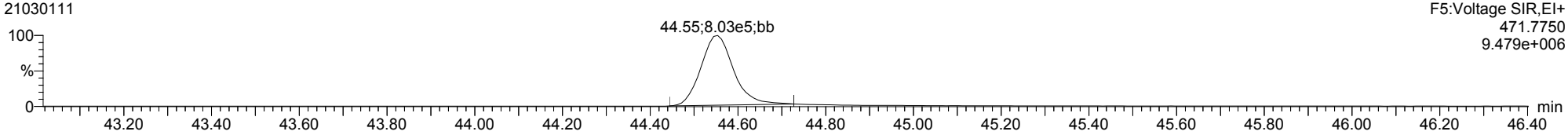

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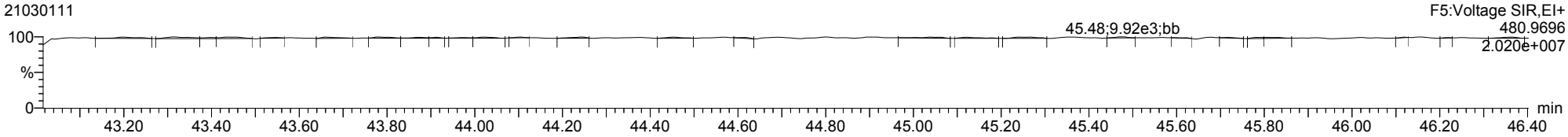

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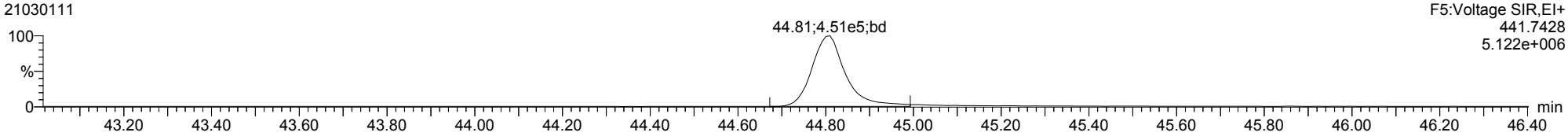

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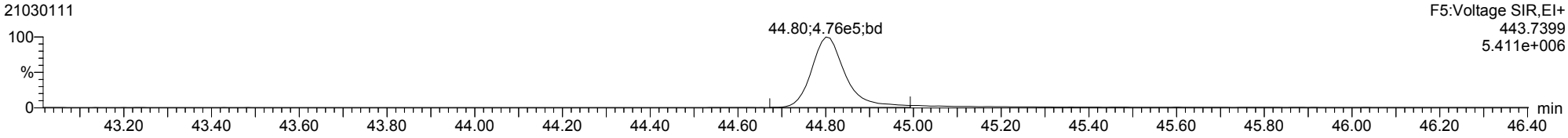
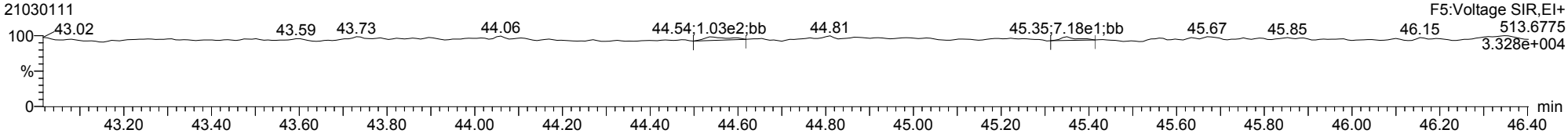


FUNCTION5 DCDPE



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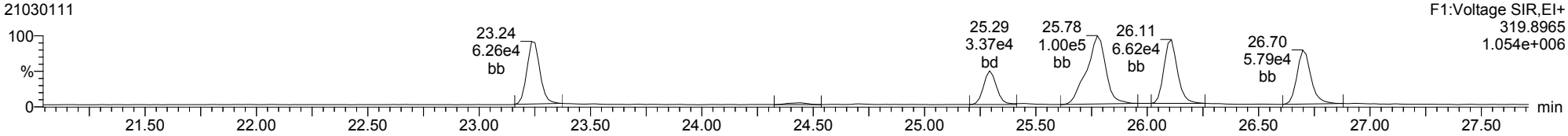

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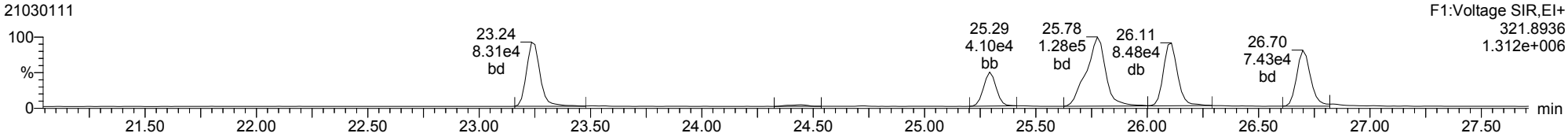

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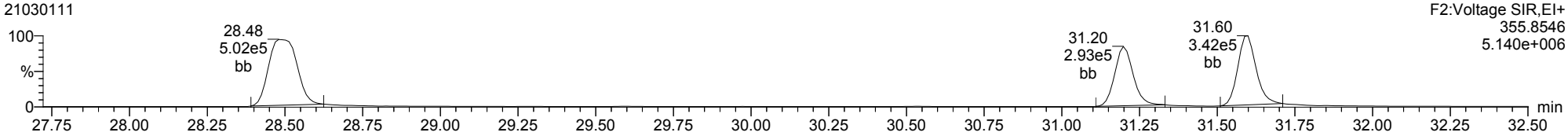

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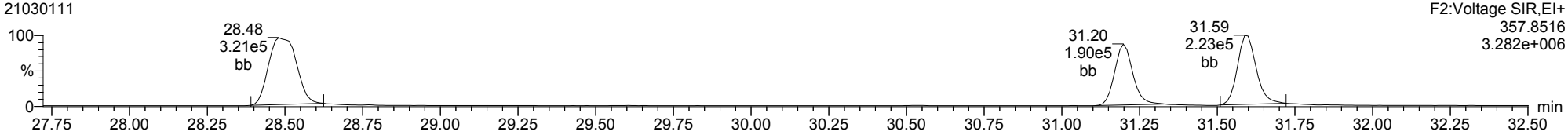

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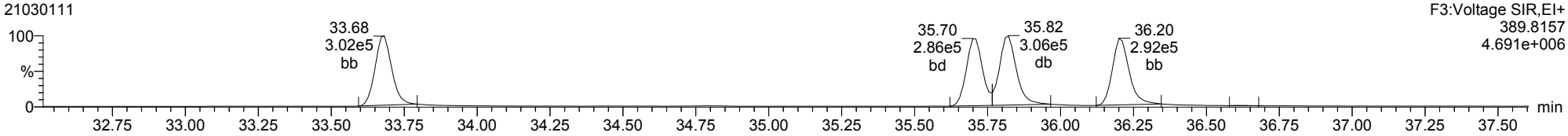

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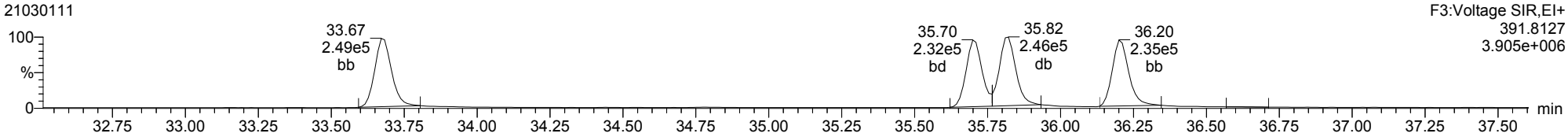

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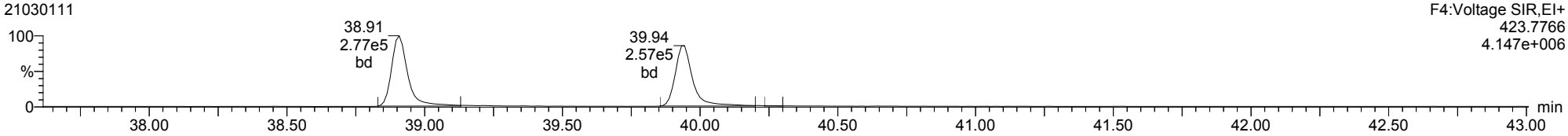

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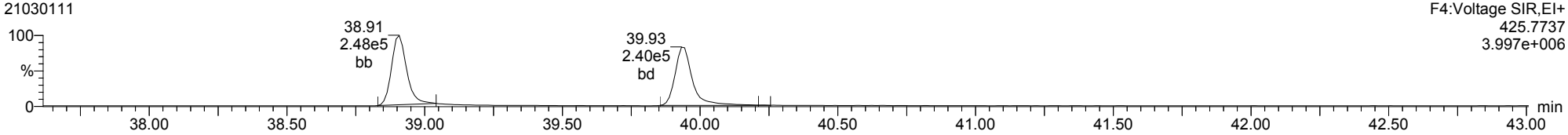

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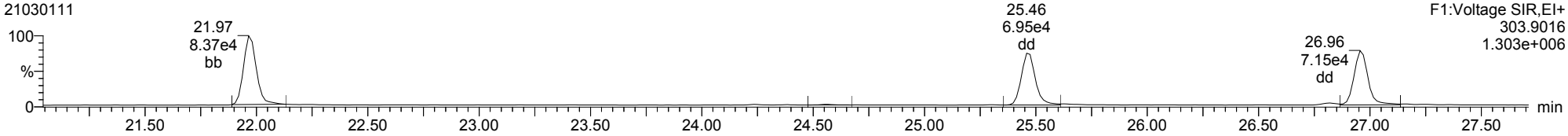
Printed: Tuesday, March 02, 2021 11:38:54 Pacific Standard Time

ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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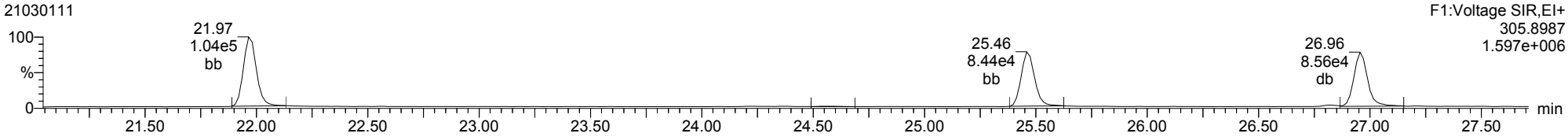

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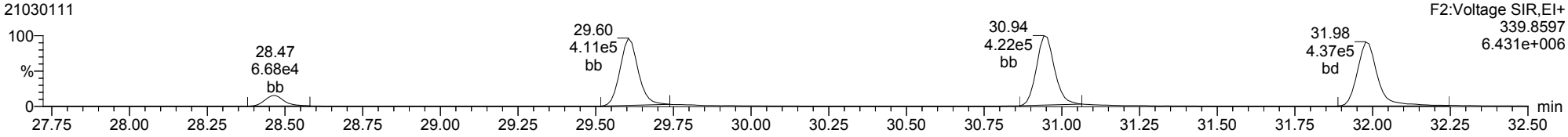

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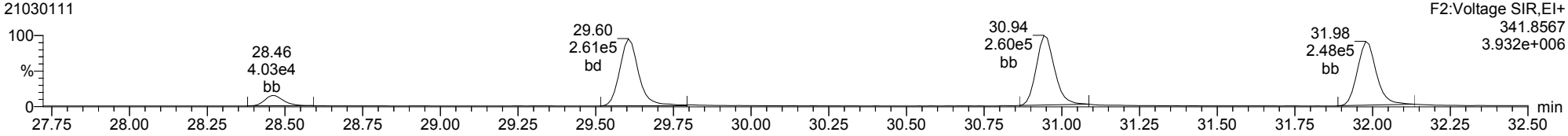

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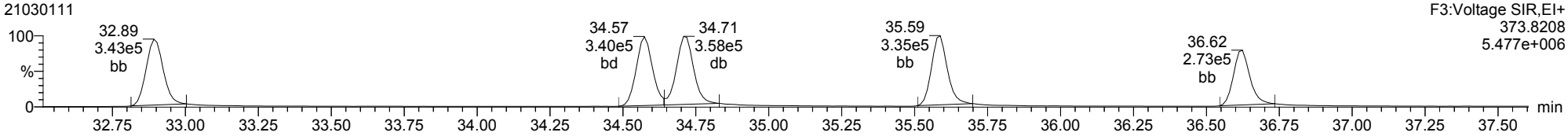

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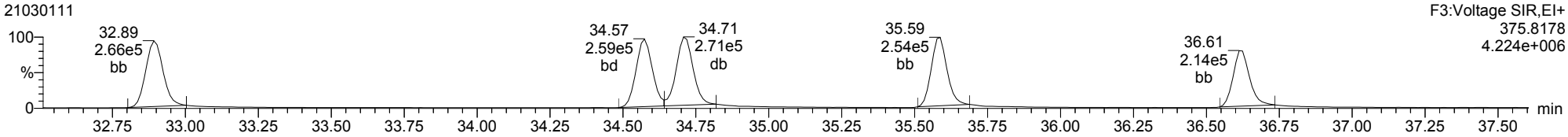

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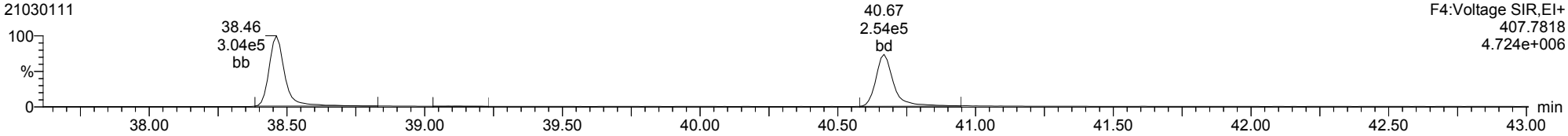

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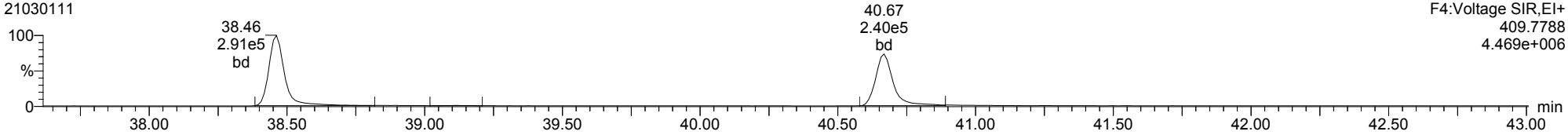

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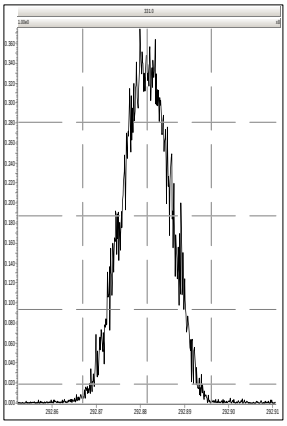
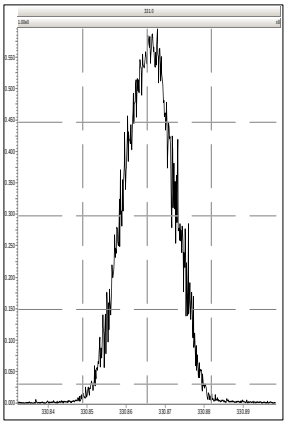
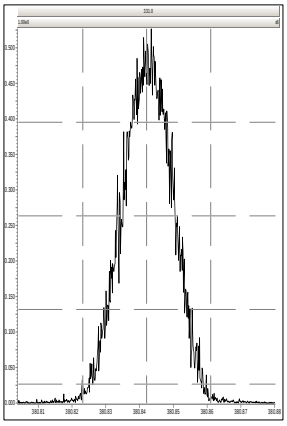


M 330.9792 R 12106



M 380.9760 R 11948



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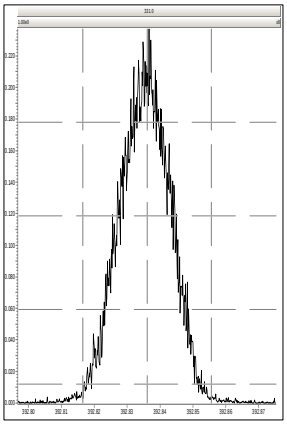
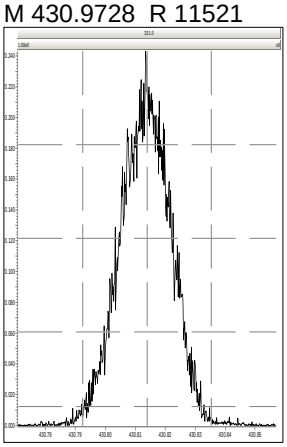


M 430.9728 R 11521



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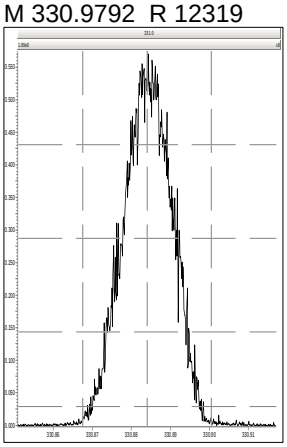

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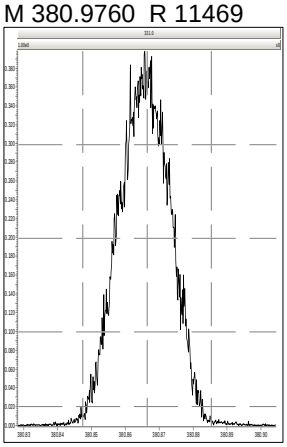

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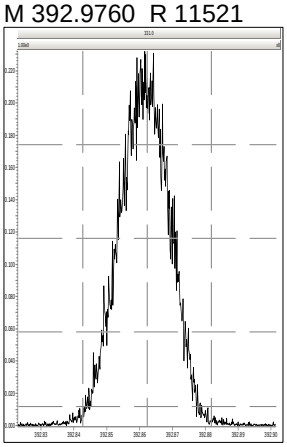

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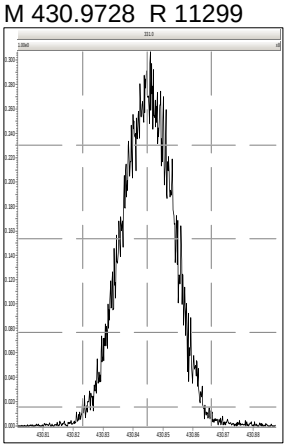
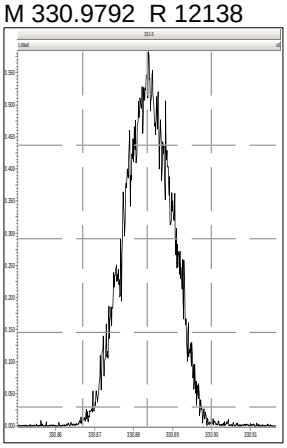


M 330.9792 R 12138



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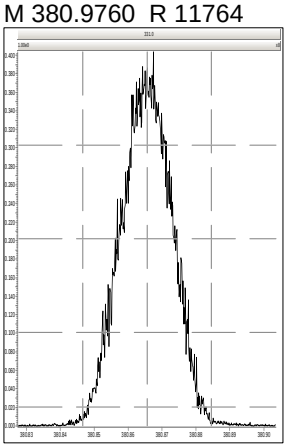
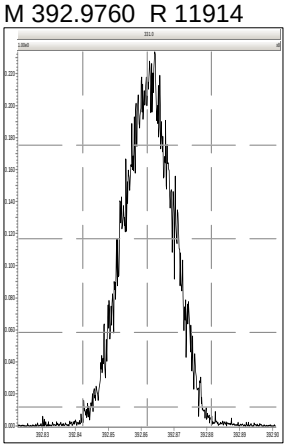
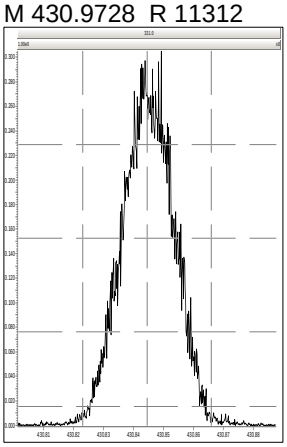


M 392.9760 R 11914



M 430.9728 R 11312



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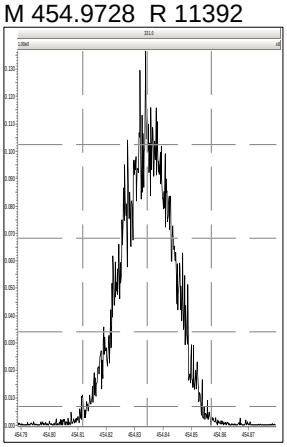
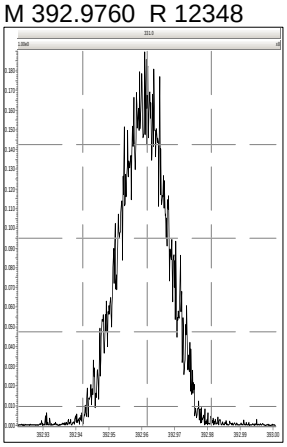


M 392.9760 R 12348



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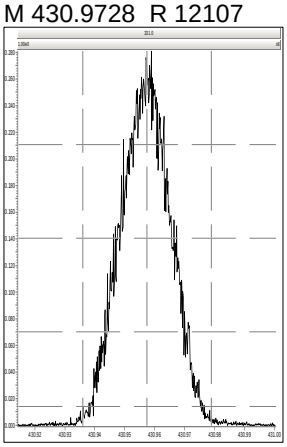

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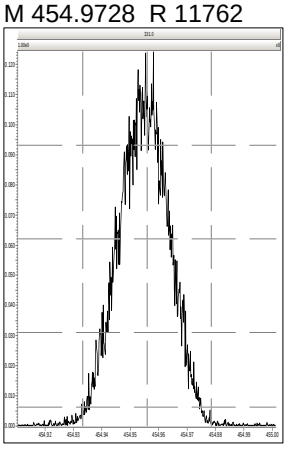
M 454.9728 R 11762



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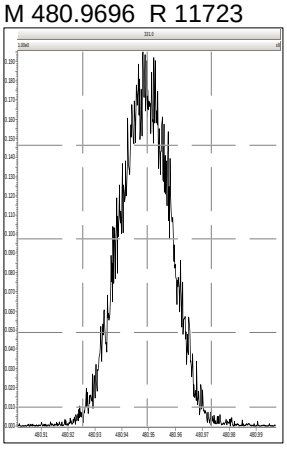

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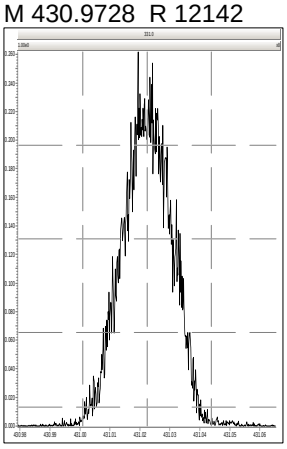

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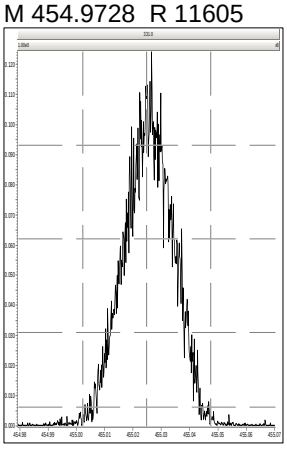

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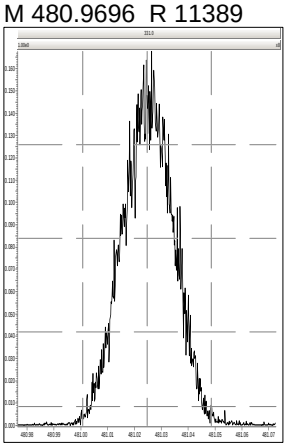

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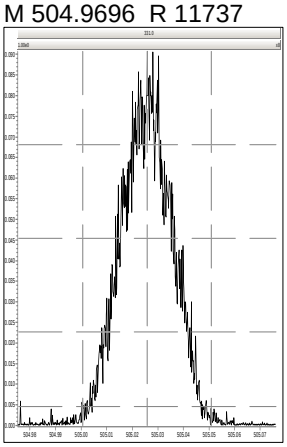
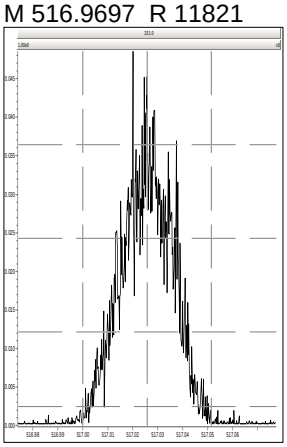
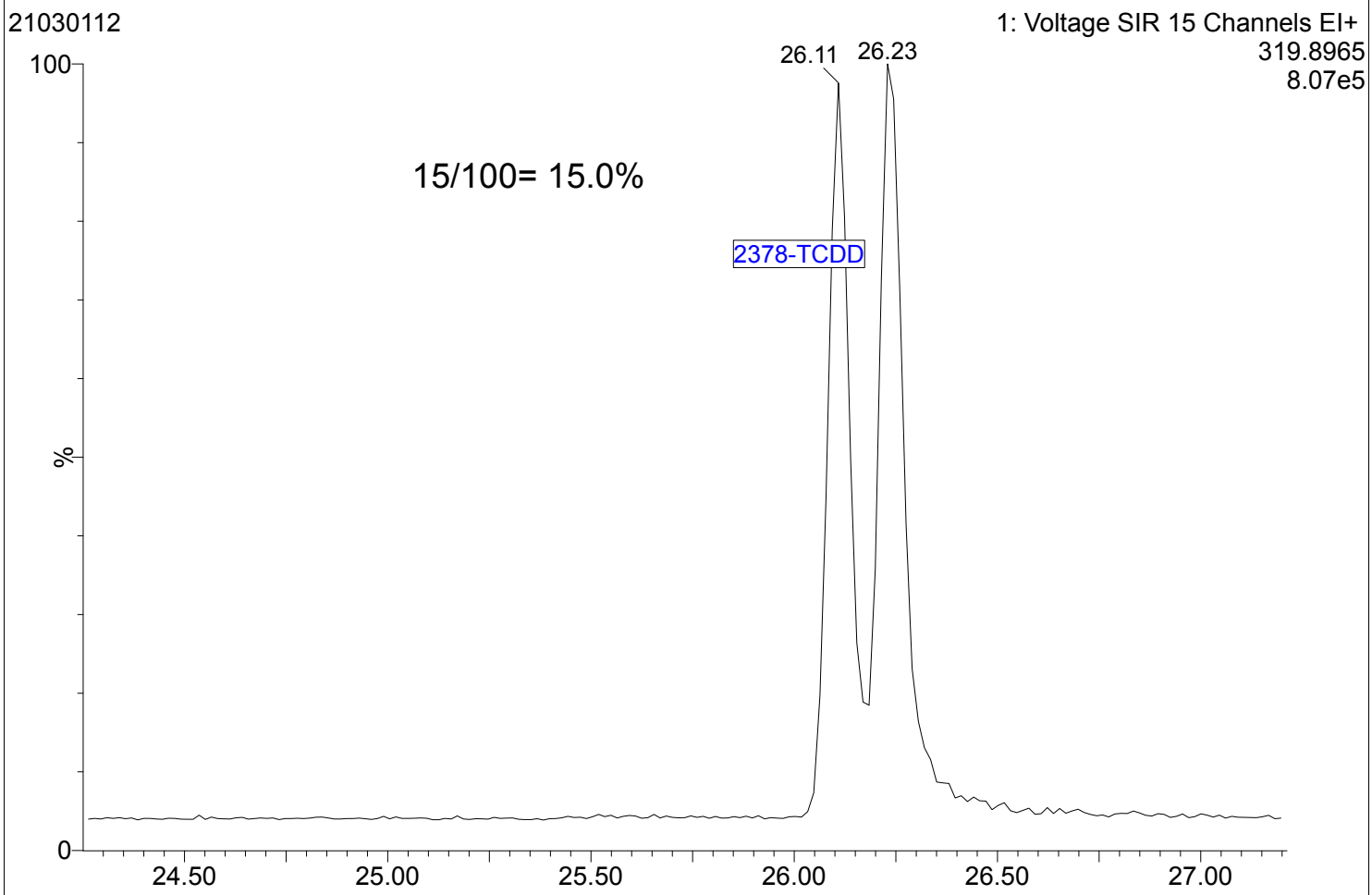
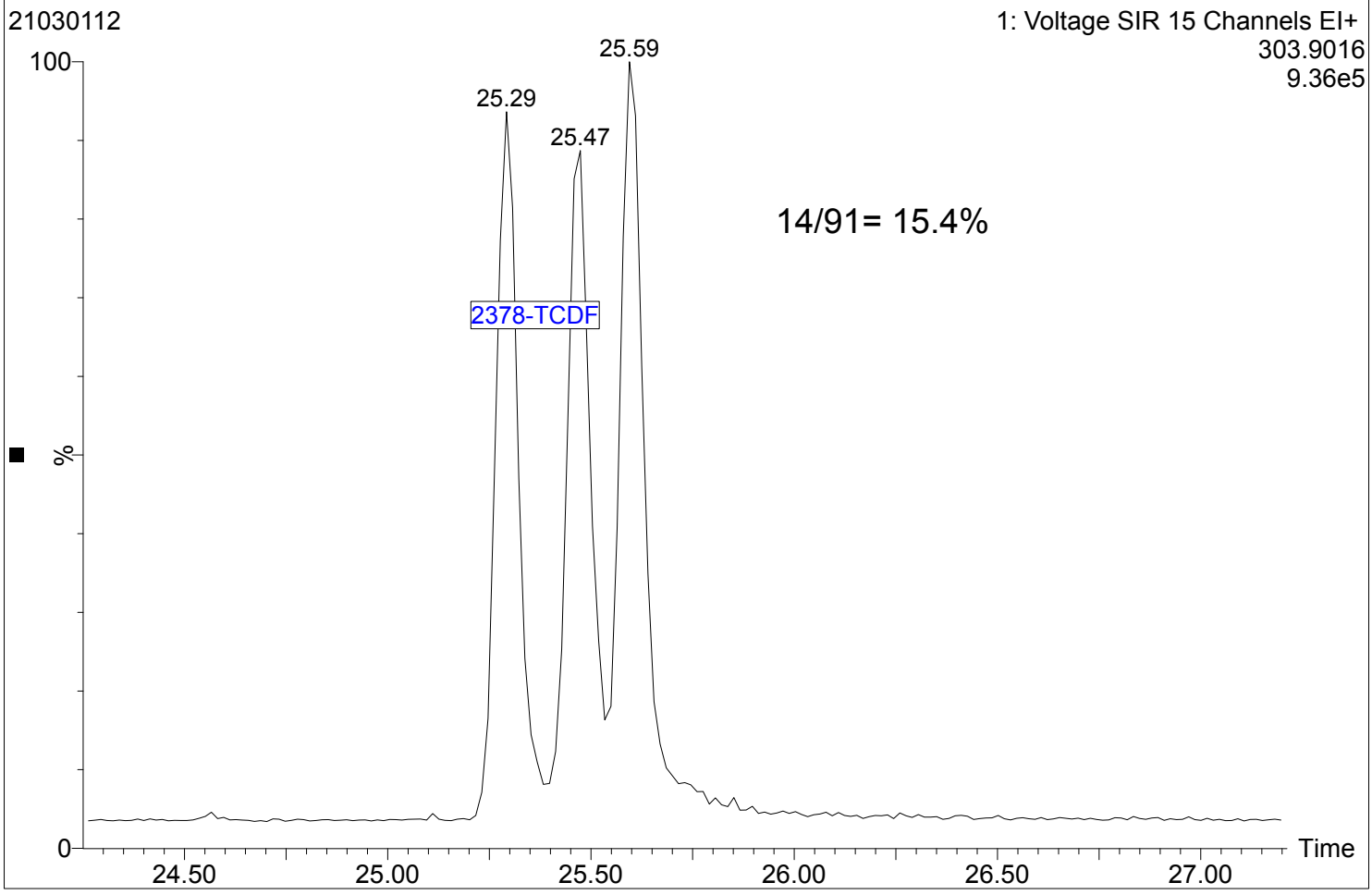


M 516.9697 R 11821




21030112
1: Voltage SIR 15 Channels EI+
319.8965
8.07e5
26.11
26.23
15/100= 15.0%
2378-TCDD
100
%
0
24.50
25.00
25.50
26.00
26.50
27.00


21030112
1: Voltage SIR 15 Channels EI+
303.9016
9.36e5
25.59
25.29
25.47
14/91= 15.4%
2378-TCDF
100
%
0
Time
24.50
25.00
25.50
26.00
26.50
27.00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
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:	21F0442
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:	21F0442
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
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INITIAL CALIBRATION DATA
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
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: EC00006
Sequence: SJC0004

SDG: 21F0442
Project: Lower Duwamish AOC4
Laboratory ID: SJC0004-SCV1
Sequence Name: ICVCV
Standard ID: G001361

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
2,3,7,8-TCDF	10.000	10.5	5.1	20.00
2,3,7,8-TCDD	10.000	11.1	11.4	20.00
1,2,3,7,8-PeCDF	50.000	55.1	10.2	20.00
2,3,4,7,8-PeCDF	50.000	47.8	-4.4	20.00
1,2,3,7,8-PeCDD	50.000	52.6	5.1	20.00
1,2,3,4,7,8-HxCDF	50.000	53.2	6.4	20.00
1,2,3,6,7,8-HxCDF	50.000	52.8	5.7	20.00
2,3,4,6,7,8-HxCDF	50.000	53.6	7.2	20.00
1,2,3,7,8,9-HxCDF	50.000	50.3	0.5	20.00
1,2,3,4,7,8-HxCDD	50.000	52.1	4.2	20.00
1,2,3,6,7,8-HxCDD	50.000	51.9	3.7	20.00
1,2,3,7,8,9-HxCDD	50.000	50.9	1.9	20.00
1,2,3,4,6,7,8-HpCDF	50.000	57.0	13.9	20.00
1,2,3,4,7,8,9-HpCDF	50.000	57.0	14.0	20.00
1,2,3,4,6,7,8-HpCDD	50.000	51.6	3.2	20.00
OCDF	100.00	100	0.4	20.00
OCDD	100.00	106	6.5	20.00
13C12-2,3,7,8-TCDF	100.00	97.8	-2.2	20.00
13C12-2,3,7,8-TCDD	100.00	80.8	-19.2	20.00
13C12-1,2,3,7,8-PeCDF	100.00	98.4	-1.6	20.00
13C12-2,3,4,7,8-PeCDF	100.00	102	1.6	20.00
13C12-1,2,3,7,8-PeCDD	100.00	95.4	-4.6	20.00
13C12-1,2,3,4,7,8-HxCDF	100.00	112	12.3	20.00
13C12-1,2,3,6,7,8-HxCDF	100.00	115	15.5	20.00
13C12-2,3,4,6,7,8-HxCDF	100.00	110	9.9	20.00
13C12-1,2,3,7,8,9-HxCDF	100.00	114	13.9	20.00
13C12-1,2,3,4,7,8-HxCDD	100.00	115	15.1	20.00
13C12-1,2,3,6,7,8-HxCDD	100.00	114	14.1	20.00
13C12-1,2,3,4,6,7,8-HpCDF	100.00	111	10.8	20.00
13C12-1,2,3,4,7,8,9-HpCDF	100.00	103	3.0	20.00
13C12-1,2,3,4,6,7,8-HpCDD	100.00	106	5.9	20.00
13C12-OCDD	200.00	204	1.9	20.00
37Cl4-2,3,7,8-TCDD	10.000	10.5	4.6	20.00

* Indicates values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	25.473	1.001	5.397e4	6.935e4	0.782	0.778	0.770	1051	2000	7.54e5	9.79e5	717.1	489.3	NO	bb	bb	10.509
12378-PeCDF	29.616	1.001	3.430e5	1.976e5	0.866	1.736	1.550	3779	2507	4.93e6	2.95e6	1303.4	1177.5	NO	bd	bb	55.118
23478-PeCDF	30.953	1.000	3.296e5	1.969e5	0.980	1.674	1.550	3779	2507	4.89e6	2.91e6	1292.8	1159.4	NO	bb	bb	47.811
123478-HxCDF	34.585	1.001	2.573e5	1.996e5	1.002	1.289	1.240	3209	2473	3.98e6	3.06e6	1240.8	1237.2	NO	bd	bd	53.177
234678-HxCDF	35.588	1.000	2.529e5	1.943e5	1.043	1.301	1.240	3209	2473	3.88e6	3.05e6	1210.6	1232.0	NO	bb	bb	53.589
123678-HxCDF	34.719	1.000	2.753e5	2.071e5	0.961	1.329	1.240	3209	2473	4.09e6	3.13e6	1274.3	1264.2	NO	db	db	52.827
123789-HxCDF	36.624	1.000	2.095e5	1.657e5	0.994	1.265	1.240	3209	2473	3.18e6	2.54e6	990.9	1025.6	NO	bb	bb	50.257
1234678-HpCDF	38.473	1.001	2.384e5	2.261e5	1.058	1.054	1.050	2381	2711	3.67e6	3.40e6	1540.3	1252.5	NO	bd	bd	56.960
1234789-HpCDF	40.679	1.001	1.814e5	1.797e5	1.070	1.010	1.050	2381	2711	2.42e6	2.41e6	1016.3	889.7	NO	MM	MM	56.978
OCDF	44.811	1.006	3.187e5	3.370e5	1.257	0.946	0.890	3160	3240	3.52e6	3.73e6	1112.5	1150.5	NO	bd	bd	100.427
2378-TCDD	26.108	1.001	4.639e4	6.004e4	1.307	0.773	0.770	1881	1409	6.50e5	8.45e5	345.7	599.3	NO	bb	bd	11.143
12378-PeCDD	31.209	1.001	2.268e5	1.440e5	0.979	1.575	1.550	2550	4048	3.46e6	2.17e6	1356.4	537.1	NO	bb	bb	52.571
123478-HxCDD	35.710	1.000	2.144e5	1.756e5	0.956	1.221	1.240	2202	2575	3.45e6	2.82e6	1568.7	1096.1	NO	bd	bd	52.086
123678-HxCDD	35.833	1.001	2.325e5	1.934e5	0.953	1.202	1.240	2202	2575	3.38e6	2.84e6	1535.3	1101.5	NO	db	db	51.859
123789-HxCDD	36.212	1.011	2.124e5	1.759e5	0.927	1.207	1.240	2202	2575	3.20e6	2.60e6	1454.2	1009.7	NO	bb	bb	50.934
1234678-HpCDD	39.944	1.000	1.667e5	1.626e5	1.055	1.025	1.050	2421	2184	2.32e6	2.29e6	960.0	1049.1	NO	bb	bb	51.576
OCDD	44.573	1.000	2.816e5	3.124e5	1.074	0.901	0.890	2949	2167	3.02e6	3.44e6	1024.1	1588.7	NO	bd	bb	106.484
13C-2378-TCDF	25.458	1.007	6.632e5	8.384e5	1.925	0.791	0.770	4329	2119	9.49e6	1.21e7	2193.1	5722.7	NO	bb	bb	97.772
13C-12378-PeCDF	29.594	1.171	6.821e5	4.504e5	1.442	1.515	1.550	3588	3800	9.85e6	6.48e6	2745.6	1704.7	NO	bb	bb	98.414
13C-23478-PeCDF	30.942	1.224	6.762e5	4.477e5	1.387	1.510	1.550	3588	3800	9.73e6	6.43e6	2712.3	1691.0	NO	bb	bb	101.585
13C-123478-HxCDF	34.563	0.955	2.895e5	5.677e5	1.053	0.510	0.510	3016	3448	4.32e6	8.66e6	1432.9	2512.7	NO	bd	bd	112.270
13C-123678-HxCDF	34.708	0.959	3.164e5	6.337e5	1.135	0.499	0.510	3016	3448	4.67e6	9.11e6	1547.2	2643.6	NO	db	db	115.454
13C-234678-HxCDF	35.577	0.983	2.686e5	5.315e5	1.004	0.505	0.510	3016	3448	4.21e6	8.26e6	1395.0	2395.5	NO	bb	bb	109.899
13C-123789-HxCDF	36.613	1.011	2.712e5	4.796e5	0.909	0.566	0.510	3016	3448	3.80e6	7.27e6	1259.3	2108.1	NO	bb	bb	113.934
13C-1234678-HpCDF	38.451	1.062	2.318e5	5.391e5	0.960	0.430	0.440	2524	3843	3.63e6	8.28e6	1439.7	2155.3	NO	bb	bb	110.785
13C-1234789-HpCDF	40.657	1.123	1.844e5	4.081e5	0.794	0.452	0.440	2524	3843	2.47e6	5.61e6	979.7	1460.1	NO	bb	bb	102.961
13C-1234-TCDD	25.277	0.000	3.546e5	4.433e5	1.000	0.800	0.770	2370	1656	5.14e6	6.48e6	2167.0	3914.8	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	3.201e5	4.104e5	1.133	0.780	0.770	2370	1656	4.57e6	5.82e6	1927.7	3517.9	NO	bb	bb	80.834
13C-12378-PeCDD	31.187	1.234	4.541e5	2.667e5	0.947	1.703	1.550	1548	1438	6.12e6	3.81e6	3952.6	2652.5	NO	bd	bb	95.416
13C-123478-HxCDD	35.699	0.986	4.400e5	3.430e5	0.939	1.283	1.240	5236	1911	6.93e6	5.31e6	1323.8	2776.5	NO	bd	bd	115.057
13C-123678-HxCDD	35.811	0.989	4.783e5	3.839e5	1.042	1.246	1.240	5236	1911	7.13e6	5.87e6	1362.2	3071.2	NO	db	db	114.113
13C-1234678-HpCDD	39.933	1.103	3.109e5	2.943e5	0.788	1.056	1.050	2200	2496	4.41e6	4.10e6	2003.5	1642.7	NO	bb	bb	105.880
13C-OCDD	44.554	1.231	4.924e5	5.466e5	0.703	0.901	0.890	2844	3590	5.67e6	6.38e6	1994.9	1778.6	NO	bb	bb	203.768
13C-123789-HxCDD	36.201	0.000	3.996e5	3.254e5	1.000	1.228	1.240	5236	1911	5.95e6	4.83e6	1137.1	2525.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	1.083e5		1.298			2708		1.51e6		558.7			bb		10.462

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
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ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	21.981	0.863	6.290e4	7.727e4	0.966	0.814	0.770	1051	2000	9.03e5	1.17e6	859.1	586.2	NO	bd	bb	9.667
1289-TCDF	26.970	1.059	3.538e4	4.519e4	0.736	0.783	0.770	1051	2000	5.00e5	6.19e5	475.1	309.6	NO	db	db	7.292
13468-PECDF	26.819	0.906	3.866e5	2.593e5	1.347	1.491	1.550	1150	1394	5.59e6	3.79e6	4863.9	2716.8	NO	bb	bb	42.347
12389-PECDF	31.989	1.081	2.576e5	1.610e5	0.867	1.600	1.550	3779	2507	3.73e6	2.29e6	987.5	914.9	NO	bb	bb	42.640
123468-HXCDF	32.903	0.952	2.822e5	2.207e5	1.036	1.279	1.240	3209	2473	4.14e6	3.21e6	1290.0	1296.5	NO	bb	bb	56.637
1368-TCDD	23.251	0.891	4.855e4	6.494e4	1.256	0.748	0.770	1881	1409	7.38e5	9.49e5	392.3	673.6	NO	bb	bd	12.372
1289-TCDD	26.713	1.024	4.492e4	5.792e4	1.151	0.775	0.770	1881	1409	6.05e5	7.69e5	321.3	545.4	NO	bb	bd	12.231
12479-PECDD	28.502	0.914	3.298e5	2.048e5	1.773	1.611	1.550	2550	4048	3.12e6	1.98e6	1223.1	489.6	NO	bb	bb	41.819
12389-PECDD	31.599	1.013	2.235e5	1.584e5	1.171	1.411	1.550	2550	4048	3.21e6	2.13e6	1258.6	527.1	NO	bb	bd	45.240
124679-HXCDD	33.694	0.944	2.599e5	2.103e5	1.034	1.236	1.240	2202	2575	3.82e6	3.11e6	1734.4	1208.3	NO	bb	bb	58.104
1234679-HPCDD	38.919	0.975	1.878e5	1.813e5	1.194	1.036	1.050	2421	2184	2.94e6	2.80e6	1212.6	1283.7	NO	bb	bb	51.075
Total-tetrafurans			1.565e5		0.828			1051		2.22e6							28.295
Total-penta1			3.866e5					1150		5.59e6							42.347
Total-pentafurans			9.757e5		0.904			3779		1.42e7							152.615
Total-hexafurans			1.277e6		1.007			3209		1.93e7							266.487
Total-heptafurans			4.214e5		1.064			2381		6.12e6							114.391
Total-Furans			3.536e6		0.998			1051		5.09e7							704.561
Total-tetradioxins			2.465e5		1.238			1881		3.02e6							62.382
Total-pentadioxins			7.802e5		1.308			2550		9.79e6							139.630
Total-hexadioxins			9.279e5		0.967			2202		1.39e7							214.893
Total-heptadioxins			3.545e5		1.125			2421		5.26e6							102.651
Total-Dioxins			2.591e6		1.141			1881		3.50e7							626.040
Total-TEQ			6.127e6					1881		8.59e7							1330.601
FUNCTION1 PFK			4.173e6					638729		6.49e7							
FUNCTION2 PFK			6.392e5					323979		1.36e7							0.000
FUNCTION3 PFK			1.631e6					372007		3.19e7							0.000
FUNCTION4 PFK			1.794e6					339905		2.36e7							
FUNCTION5 PFK			7.170e5					167053		1.68e7							
FUNCTION1 HXCD...			5.708e2					819		8.41e3							0.000
FUNCTION1 HPCD...			1.564e3					912		3.31e4							0.000
FUNCTION2 HPCD...			1.066e3					1224		1.87e4							0.000
FUNCTION3 OCDPE			5.294e2					1008		7.55e3							0.000
FUNCTION4 NCDPE			2.385e2					833		5.02e3							0.000
FUNCTION5 DCDPE			3.233e2					691		4.35e3							0.000

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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
2	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
3	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
4	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
2	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
3	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
4	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
5	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
2	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
3	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978

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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	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
2	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
3	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
2	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
3	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
4	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
5	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
2	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075

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	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
7	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
8	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
9	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
10	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
11	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
12	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
13	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
14	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
15	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
16	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
17	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347
20	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
21	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
22	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
23	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
24	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
25	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
26	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
27	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
28	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
29	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
30	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
31	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
32	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
33	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
34	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
35	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
36	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.92	1.156e5					2.1	NO		dd		
2	FUNCTION1 PFK	21.81	9.219e4					1.9	NO		dd		
3	FUNCTION1 PFK	21.69	1.040e5					2.1	NO		dd		
4	FUNCTION1 PFK	21.59	1.237e5					2.4	NO		dd		
5	FUNCTION1 PFK	21.50	1.080e5					2.3	NO		dd		
6	FUNCTION1 PFK	21.41	6.439e4					2.1	NO		dd		
7	FUNCTION1 PFK	21.36	8.424e4					2.3	NO		dd		
8	FUNCTION1 PFK	21.30	1.669e4					1.0	NO		dd		
9	FUNCTION1 PFK	21.24	6.060e4					1.7	NO		dd		
10	FUNCTION1 PFK	21.18	4.762e4					1.6	NO		dd		
11	FUNCTION1 PFK	21.12	4.780e3					0.4	NO		bd		
12	FUNCTION1 PFK	23.58	4.497e4					1.3	NO		bd		
13	FUNCTION1 PFK	23.48	1.760e4					0.8	NO		bb		
14	FUNCTION1 PFK	23.36	3.195e4					1.1	NO		bb		
15	FUNCTION1 PFK	23.25	1.015e5					1.8	NO		db		
16	FUNCTION1 PFK	23.15	6.591e4					2.1	NO		dd		
17	FUNCTION1 PFK	23.02	1.064e5					1.8	NO		dd		
18	FUNCTION1 PFK	22.95	4.945e4					1.5	NO		dd		
19	FUNCTION1 PFK	22.90	5.485e4					1.8	NO		dd		
20	FUNCTION1 PFK	22.81	8.219e4					1.9	NO		dd		
21	FUNCTION1 PFK	22.69	8.428e4					1.5	NO		dd		
22	FUNCTION1 PFK	22.59	6.669e4					1.5	NO		dd		
23	FUNCTION1 PFK	22.48	7.201e4					1.7	NO		dd		
24	FUNCTION1 PFK	22.37	9.568e4					1.7	NO		dd		
25	FUNCTION1 PFK	22.27	9.298e4					2.0	NO		dd		
26	FUNCTION1 PFK	22.15	6.624e4					2.0	NO		dd		
27	FUNCTION1 PFK	22.04	9.485e4					2.3	NO		dd		
28	FUNCTION1 PFK	25.28	4.780e4					1.5	NO		bd		
29	FUNCTION1 PFK	25.16	3.320e4					1.2	NO		db		
30	FUNCTION1 PFK	25.05	4.422e4					1.2	NO		dd		
31	FUNCTION1 PFK	24.93	4.108e4					1.3	NO		bd		
32	FUNCTION1 PFK	24.79	2.806e4					0.8	NO		bb		
33	FUNCTION1 PFK	24.72	4.553e4					1.3	NO		db		
34	FUNCTION1 PFK	24.67	2.488e4					1.3	NO		dd		
35	FUNCTION1 PFK	24.60	8.222e4					1.8	NO		dd		
36	FUNCTION1 PFK	24.48	5.748e4					1.8	NO		dd		
37	FUNCTION1 PFK	24.37	9.536e4					1.8	NO		dd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	24.28	7.763e4					1.9	NO		dd		
39	FUNCTION1 PFK	24.14	7.067e4					1.9	NO		dd		
40	FUNCTION1 PFK	24.04	9.260e4					1.8	NO		dd		
41	FUNCTION1 PFK	23.93	1.030e5					2.3	NO		dd		
42	FUNCTION1 PFK	23.81	4.843e4					1.4	NO		dd		
43	FUNCTION1 PFK	23.69	7.884e4					1.9	NO		dd		
44	FUNCTION1 PFK	27.06	7.787e4					2.0	NO		dd		
45	FUNCTION1 PFK	26.97	8.111e4					1.8	NO		dd		
46	FUNCTION1 PFK	26.83	9.036e4					2.0	NO		dd		
47	FUNCTION1 PFK	26.74	8.591e4					1.8	NO		dd		
48	FUNCTION1 PFK	26.61	6.449e4					1.4	NO		dd		
49	FUNCTION1 PFK	26.49	5.909e4					1.2	NO		dd		
50	FUNCTION1 PFK	26.40	5.894e4					1.4	NO		dd		
51	FUNCTION1 PFK	26.29	3.046e4					1.1	NO		dd		
52	FUNCTION1 PFK	26.18	3.010e4					1.0	NO		dd		
53	FUNCTION1 PFK	26.15	2.080e4					0.9	NO		bd		
54	FUNCTION1 PFK	25.94	5.251e4					1.2	NO		bb		
55	FUNCTION1 PFK	25.84	3.685e4					1.1	NO		db		
56	FUNCTION1 PFK	25.70	4.278e4					1.2	NO		dd		
57	FUNCTION1 PFK	25.59	5.314e4					1.3	NO		bd		
58	FUNCTION1 PFK	25.49	6.315e4					1.4	NO		db		
59	FUNCTION1 PFK	25.38	6.586e4					1.5	NO		dd		
60	FUNCTION1 PFK	27.50	6.900e4					1.8	NO		db		
61	FUNCTION1 PFK	27.39	8.722e4					1.9	NO		dd		
62	FUNCTION1 PFK	27.27	8.670e4					1.7	NO		dd		
63	FUNCTION1 PFK	27.17	9.663e4					2.1	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.97	2.403e4					2.4	NO		bb		0.000
2	FUNCTION2 PFK	29.92	4.624e3					0.9	NO		db		0.000
3	FUNCTION2 PFK	29.88	2.754e4					1.7	NO		bd		0.000
4	FUNCTION2 PFK	29.69	2.184e3					0.6	NO		bb		0.000
5	FUNCTION2 PFK	29.63	2.944e4					2.0	NO		bb		0.000
6	FUNCTION2 PFK	28.56	4.796e3					0.9	NO		bb		0.000
7	FUNCTION2 PFK	28.44	5.849e4					2.6	NO		bb		0.000
8	FUNCTION2 PFK	28.30	3.377e4					2.5	NO		db		0.000
9	FUNCTION2 PFK	28.18	3.753e4					1.6	NO		dd		0.000
10	FUNCTION2 PFK	28.10	5.241e4					2.6	NO		bd		0.000
11	FUNCTION2 PFK	27.86	3.047e4					1.8	NO		bb		0.000
12	FUNCTION2 PFK	31.88	2.920e4					1.8	NO		bb		0.000
13	FUNCTION2 PFK	31.76	4.625e3					0.8	NO		bb		0.000
14	FUNCTION2 PFK	31.67	3.044e4					2.7	NO		bb		0.000
15	FUNCTION2 PFK	31.58	5.445e4					3.1	YES		bb		0.000
16	FUNCTION2 PFK	31.33	1.312e4					1.5	NO		bb		0.000
17	FUNCTION2 PFK	31.09	3.942e4					1.8	NO		bb		0.000
18	FUNCTION2 PFK	30.93	5.594e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	30.56	3.248e4					2.0	NO		bb		0.000
20	FUNCTION2 PFK	30.33	4.992e4					2.7	NO		db		0.000
21	FUNCTION2 PFK	30.20	5.152e4					3.3	YES		bd		0.000
22	FUNCTION2 PFK	30.08	2.319e4					1.6	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	32.78	3.627e4					2.5	NO		bb		0.000
2	FUNCTION3 PFK	32.72	1.391e3					0.3	NO		bb		0.000
3	FUNCTION3 PFK	32.68	1.420e4					1.6	NO		bb		0.000
4	FUNCTION3 PFK	32.57	1.765e4					1.2	NO		bb		0.000
5	FUNCTION3 PFK	34.51	7.166e4					2.5	NO		bd		0.000
6	FUNCTION3 PFK	34.37	3.299e4					1.9	NO		bb		0.000
7	FUNCTION3 PFK	34.27	2.024e4					1.0	NO		bb		0.000
8	FUNCTION3 PFK	34.03	3.995e4					1.8	NO		db		0.000
9	FUNCTION3 PFK	33.94	2.641e4					1.7	NO		bd		0.000
10	FUNCTION3 PFK	33.85	5.420e3					0.6	NO		db		0.000
11	FUNCTION3 PFK	33.79	2.499e4					2.1	NO		bd		0.000
12	FUNCTION3 PFK	33.72	4.357e4					2.1	NO		db		0.000
13	FUNCTION3 PFK	33.60	3.370e4					2.5	NO		dd		0.000
14	FUNCTION3 PFK	33.57	4.168e4					2.7	NO		dd		0.000
15	FUNCTION3 PFK	33.47	4.842e4					2.0	NO		dd		0.000
16	FUNCTION3 PFK	33.36	5.830e4					2.9	NO		dd		0.000
17	FUNCTION3 PFK	33.27	2.606e4					2.0	NO		dd		0.000
18	FUNCTION3 PFK	33.24	3.089e4					1.9	NO		bd		0.000
19	FUNCTION3 PFK	33.10	4.231e3					0.6	NO		bb		0.000
20	FUNCTION3 PFK	32.91	4.478e4					1.8	NO		bb		0.000
21	FUNCTION3 PFK	36.47	2.325e4					1.2	NO		bb		0.000
22	FUNCTION3 PFK	36.37	4.000e4					1.6	NO		db		0.000
23	FUNCTION3 PFK	36.25	4.928e4					1.9	NO		dd		0.000
24	FUNCTION3 PFK	36.14	5.917e4					2.5	NO		dd		0.000
25	FUNCTION3 PFK	36.02	3.775e4					1.7	NO		dd		0.000
26	FUNCTION3 PFK	35.96	2.283e4					2.0	NO		dd		0.000
27	FUNCTION3 PFK	35.92	3.256e4					2.2	NO		bd		0.000
28	FUNCTION3 PFK	35.50	2.799e4					1.2	NO		bb		0.000
29	FUNCTION3 PFK	35.39	2.021e4					1.6	NO		db		0.000
30	FUNCTION3 PFK	35.35	1.054e4					1.2	NO		bd		0.000
31	FUNCTION3 PFK	35.26	2.891e4					1.8	NO		bb		0.000
32	FUNCTION3 PFK	35.14	2.968e4					1.7	NO		bb		0.000
33	FUNCTION3 PFK	34.93	4.830e4					2.6	NO		bb		0.000
34	FUNCTION3 PFK	34.81	5.937e4					2.7	NO		db		0.000
35	FUNCTION3 PFK	34.69	7.389e4					2.6	NO		dd		0.000
36	FUNCTION3 PFK	34.61	5.603e4					2.2	NO		dd		0.000
37	FUNCTION3 PFK	37.57	5.322e3					0.7	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.47	2.042e4					1.5	NO		bb		0.000
39	FUNCTION3 PFK	37.39	2.887e4					1.5	NO		bb		0.000
40	FUNCTION3 PFK	37.25	4.912e4					1.9	NO		db		0.000
41	FUNCTION3 PFK	37.16	5.569e4					2.3	NO		dd		0.000
42	FUNCTION3 PFK	37.08	2.607e4					2.0	NO		dd		0.000
43	FUNCTION3 PFK	37.04	5.346e4					2.7	NO		dd		0.000
44	FUNCTION3 PFK	36.95	6.200e4					2.6	NO		bd		0.000
45	FUNCTION3 PFK	36.71	1.917e4					1.6	NO		db		0.000
46	FUNCTION3 PFK	36.59	6.869e4					2.3	NO		bd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.38	2.044e4					1.6	NO		bb		
2	FUNCTION4 PFK	38.05	5.732e4					3.2	YES		db		
3	FUNCTION4 PFK	37.95	1.411e5					5.6	YES		dd		
4	FUNCTION4 PFK	37.85	3.608e5					8.1	YES		dd		
5	FUNCTION4 PFK	37.70	5.484e5					11.8	YES		bd		
6	FUNCTION4 PFK	40.85	2.650e4					1.8	NO		bd		
7	FUNCTION4 PFK	40.51	2.576e4					1.5	NO		db		
8	FUNCTION4 PFK	40.40	2.586e4					1.6	NO		bd		
9	FUNCTION4 PFK	40.28	2.720e4					1.3	NO		bb		
10	FUNCTION4 PFK	40.18	1.718e4					1.2	NO		bb		
11	FUNCTION4 PFK	40.06	2.263e4					1.6	NO		bb		
12	FUNCTION4 PFK	39.94	1.247e4					1.1	NO		bb		
13	FUNCTION4 PFK	39.74	2.676e4					1.3	NO		bb		
14	FUNCTION4 PFK	39.54	1.027e3					0.3	NO		bb		
15	FUNCTION4 PFK	39.38	2.354e4					1.2	NO		bb		
16	FUNCTION4 PFK	39.29	1.762e4					1.4	NO		db		
17	FUNCTION4 PFK	39.18	2.910e4					1.6	NO		bd		
18	FUNCTION4 PFK	38.83	3.069e4					1.4	NO		bb		
19	FUNCTION4 PFK	38.73	3.539e4					1.6	NO		db		
20	FUNCTION4 PFK	38.63	9.699e3					0.9	NO		dd		
21	FUNCTION4 PFK	38.58	9.331e3					0.9	NO		bd		
22	FUNCTION4 PFK	42.77	1.724e4					1.2	NO		bb		
23	FUNCTION4 PFK	42.55	2.073e4					1.3	NO		db		
24	FUNCTION4 PFK	42.42	3.607e4					1.9	NO		bd		
25	FUNCTION4 PFK	42.31	4.473e4					1.7	NO		bb		
26	FUNCTION4 PFK	42.06	3.196e4					1.6	NO		bb		
27	FUNCTION4 PFK	41.89	4.289e3					0.6	NO		bb		
28	FUNCTION4 PFK	41.73	2.900e4					1.4	NO		bb		
29	FUNCTION4 PFK	41.65	2.539e4					1.9	NO		bb		
30	FUNCTION4 PFK	41.50	3.007e4					1.4	NO		bb		
31	FUNCTION4 PFK	41.29	2.942e4					1.7	NO		db		
32	FUNCTION4 PFK	41.20	1.070e4					1.0	NO		dd		
33	FUNCTION4 PFK	41.16	1.019e4					1.0	NO		bd		
34	FUNCTION4 PFK	40.97	3.520e4					1.6	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.17	2.622e4					4.3	YES		dd		
2	FUNCTION5 PFK	43.10	8.115e4					5.8	YES		bd		
3	FUNCTION5 PFK	44.31	1.424e4					1.5	NO		bd		
4	FUNCTION5 PFK	44.20	2.337e4					2.3	NO		bb		
5	FUNCTION5 PFK	44.10	1.419e4					1.9	NO		db		
6	FUNCTION5 PFK	43.98	2.537e4					3.3	YES		dd		
7	FUNCTION5 PFK	43.88	9.970e3					1.7	NO		dd		
8	FUNCTION5 PFK	43.85	7.848e3					1.4	NO		dd		
9	FUNCTION5 PFK	43.79	9.429e3					1.8	NO		dd		
10	FUNCTION5 PFK	43.75	5.501e3					1.2	NO		bd		
11	FUNCTION5 PFK	43.64	1.833e4					2.9	NO		bb		
12	FUNCTION5 PFK	43.53	1.509e4					2.4	NO		db		
13	FUNCTION5 PFK	43.49	2.714e3					0.8	NO		dd		
14	FUNCTION5 PFK	43.43	1.917e4					3.2	YES		dd		
15	FUNCTION5 PFK	43.41	2.015e4					3.2	YES		dd		
16	FUNCTION5 PFK	43.34	2.726e4					3.5	YES		dd		
17	FUNCTION5 PFK	43.30	2.997e4					4.4	YES		dd		
18	FUNCTION5 PFK	43.21	5.187e4					4.5	YES		dd		
19	FUNCTION5 PFK	45.52	4.230e3					1.3	NO		bd		
20	FUNCTION5 PFK	45.47	6.814e3					1.6	NO		db		
21	FUNCTION5 PFK	45.44	1.565e4					2.6	NO		dd		
22	FUNCTION5 PFK	45.34	1.434e4					2.1	NO		bd		
23	FUNCTION5 PFK	45.22	7.354e3					1.6	NO		db		
24	FUNCTION5 PFK	45.20	6.210e3					1.5	NO		bd		
25	FUNCTION5 PFK	45.02	7.175e3					1.0	NO		db		
26	FUNCTION5 PFK	44.96	3.641e3					1.0	NO		dd		
27	FUNCTION5 PFK	44.90	9.237e3					1.7	NO		dd		
28	FUNCTION5 PFK	44.87	8.890e3					1.7	NO		dd		
29	FUNCTION5 PFK	44.82	1.356e4					2.1	NO		dd		
30	FUNCTION5 PFK	44.78	2.418e4					2.4	NO		bd		
31	FUNCTION5 PFK	44.65	2.284e4					2.2	NO		db		
32	FUNCTION5 PFK	44.55	1.380e4					1.7	NO		bd		
33	FUNCTION5 PFK	44.45	8.362e3					2.0	NO		db		
34	FUNCTION5 PFK	44.41	1.412e4					2.0	NO		dd		
35	FUNCTION5 PFK	46.36	3.164e3					1.2	NO		db		
36	FUNCTION5 PFK	46.33	1.179e4					1.8	NO		bd		
37	FUNCTION5 PFK	46.26	6.653e3					1.7	NO		db		

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	46.22	1.290e4					2.5	NO		bd		
39	FUNCTION5 PFK	46.11	1.729e4					2.1	NO		db		
40	FUNCTION5 PFK	46.01	2.263e4					2.3	NO		dd		
41	FUNCTION5 PFK	45.92	9.899e3					1.8	NO		dd		
42	FUNCTION5 PFK	45.89	1.679e4					3.5	YES		bd		
43	FUNCTION5 PFK	45.74	4.790e3					1.0	NO		db		
44	FUNCTION5 PFK	45.71	4.776e3					1.1	NO		dd		
45	FUNCTION5 PFK	45.65	8.970e3					1.4	NO		bd		
46	FUNCTION5 PFK	45.55	1.507e4					1.9	NO		db		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.58	1.353e2					2.3	NO		db		0.000
2	FUNCTION1 HXCD...	25.49	9.740e1					1.7	NO		bd		0.000
3	FUNCTION1 HXCD...	23.96	9.111e1					1.2	NO		bb		0.000
4	FUNCTION1 HXCD...	26.82	1.752e2					2.3	NO		bb		0.000
5	FUNCTION1 HXCD...	25.73	7.183e1					2.7	NO		bb		0.000

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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...	26.50	1.182e2					2.9	NO		bb		0.000
2	FUNCTION1 HPCD...	26.26	7.553e1					1.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.76	9.414e1					1.7	NO		bb		0.000
4	FUNCTION1 HPCD...	25.50	7.280e1					1.8	NO		bb		0.000
5	FUNCTION1 HPCD...	24.88	8.348e1					1.5	NO		bb		0.000
6	FUNCTION1 HPCD...	24.69	8.225e1					2.5	NO		bb		0.000
7	FUNCTION1 HPCD...	24.02	1.219e2					3.8	YES		db		0.000
8	FUNCTION1 HPCD...	23.92	8.739e1					1.9	NO		bd		0.000
9	FUNCTION1 HPCD...	23.43	1.627e2					4.0	YES		bb		0.000
10	FUNCTION1 HPCD...	23.16	9.346e1					2.2	NO		bb		0.000
11	FUNCTION1 HPCD...	21.83	9.696e1					2.4	NO		db		0.000
12	FUNCTION1 HPCD...	21.74	8.411e1					1.6	NO		bd		0.000
13	FUNCTION1 HPCD...	21.44	7.327e1					1.6	NO		bb		0.000
14	FUNCTION1 HPCD...	27.61	8.015e1					2.5	NO		bb		0.000
15	FUNCTION1 HPCD...	27.39	7.945e1					1.5	NO		bb		0.000
16	FUNCTION1 HPCD...	26.80	1.580e2					3.0	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...	32.36	9.129e1					1.5	NO		db		0.000
2	FUNCTION2 HPCD...	32.17	1.165e2					1.4	NO		bd		0.000
3	FUNCTION2 HPCD...	30.98	1.204e2					2.5	NO		bb		0.000
4	FUNCTION2 HPCD...	30.84	4.732e2					6.4	YES		bb		0.000
5	FUNCTION2 HPCD...	29.56	1.813e2					1.5	NO		bb		0.000
6	FUNCTION2 HPCD...	27.93	8.299e1					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	36.21	1.492e2					2.3	NO		bb		0.000
2	FUNCTION3 OCDPE	35.81	1.108e2					2.0	NO		bb		0.000
3	FUNCTION3 OCDPE	35.14	9.464e1					1.6	NO		bb		0.000
4	FUNCTION3 OCDPE	34.32	1.746e2					1.5	NO		bb		0.000

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	39.12	1.399e2					2.9	NO		bb		0.000
2	FUNCTION4 NCDPE	38.11	9.856e1					3.2	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	44.21	1.290e2					2.9	NO		bb		0.000
2	FUNCTION5 DCDPE	43.44	1.944e2					3.4	YES		bb		0.000

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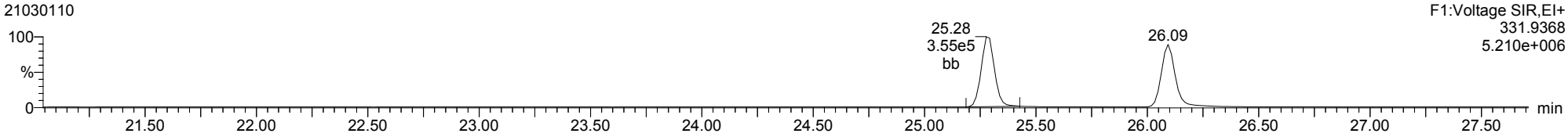

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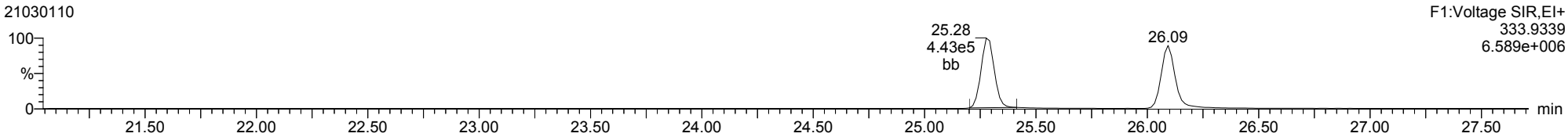

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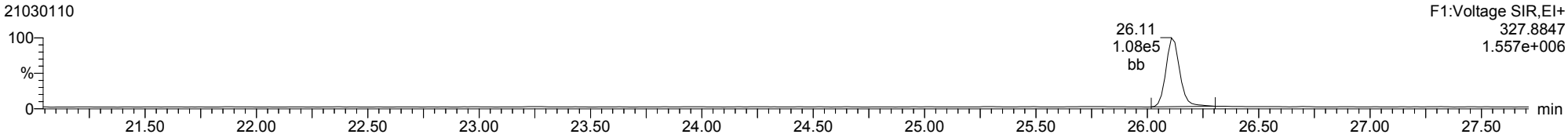

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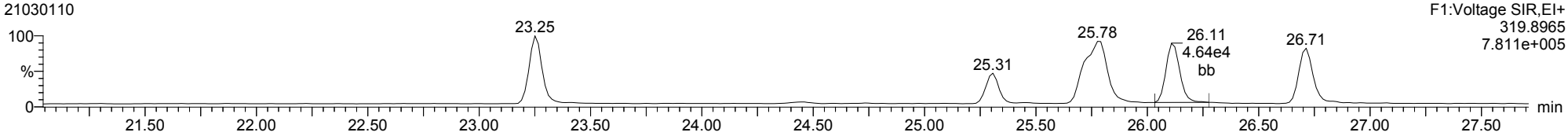

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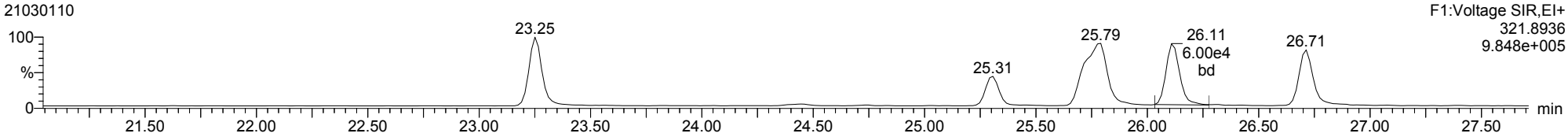

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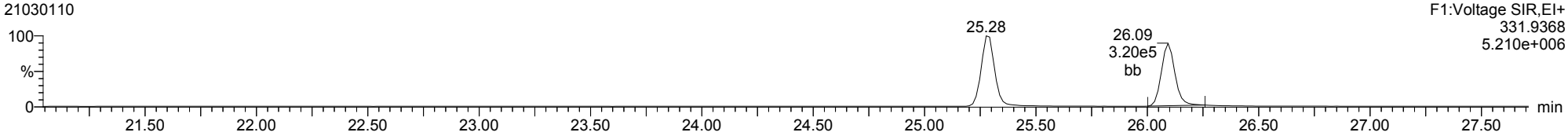

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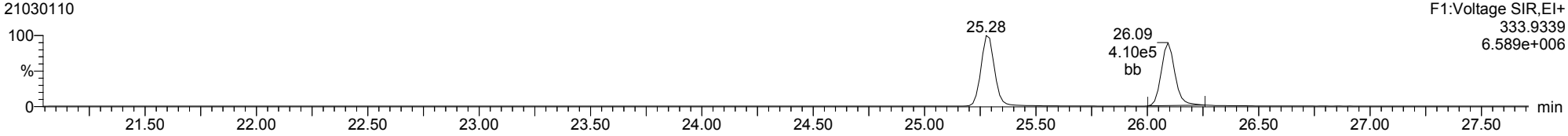

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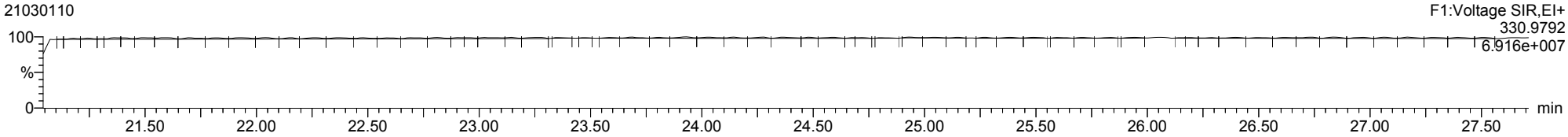

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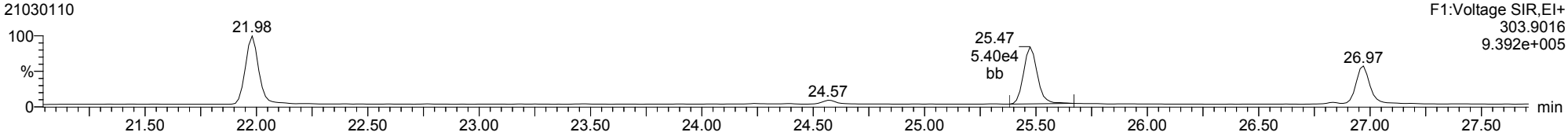

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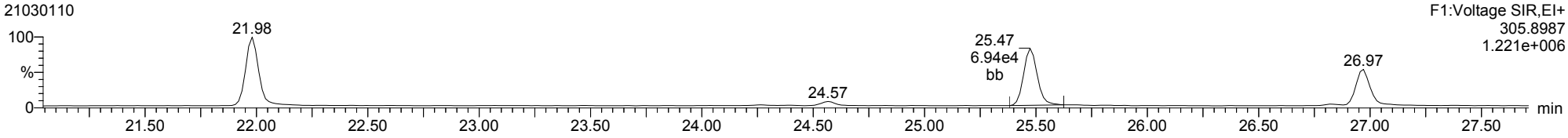

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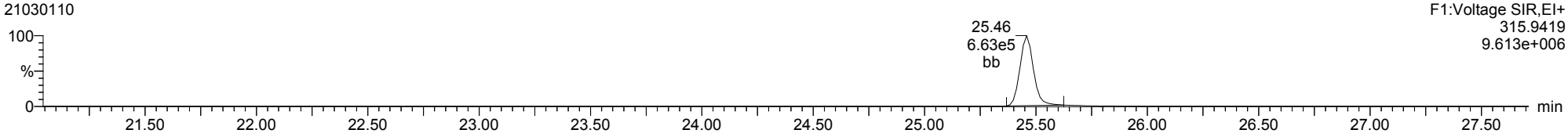

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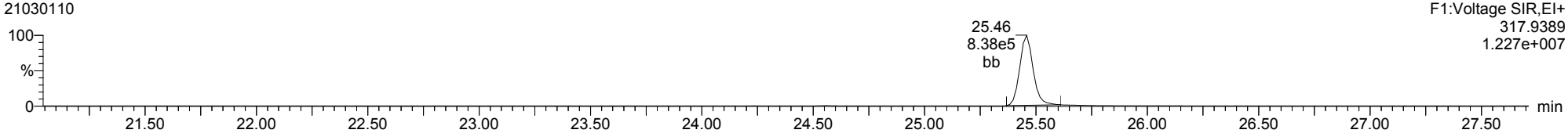

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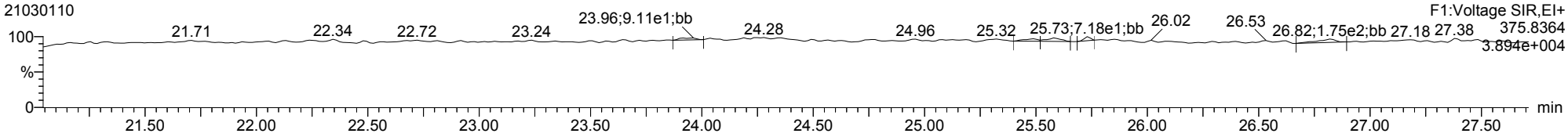

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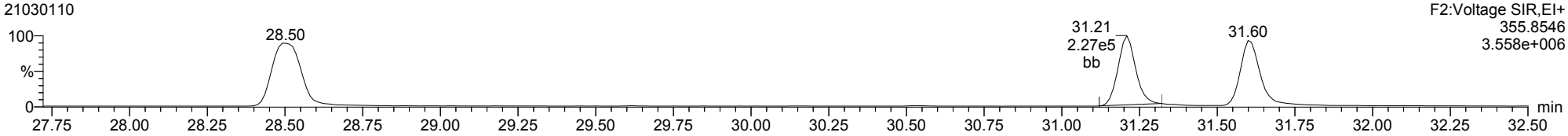

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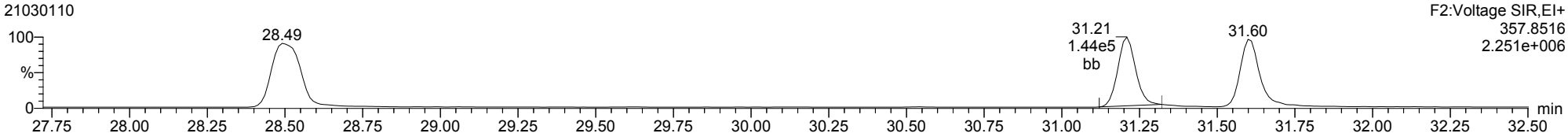

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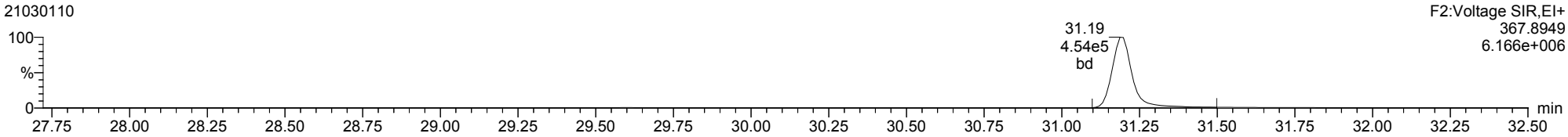

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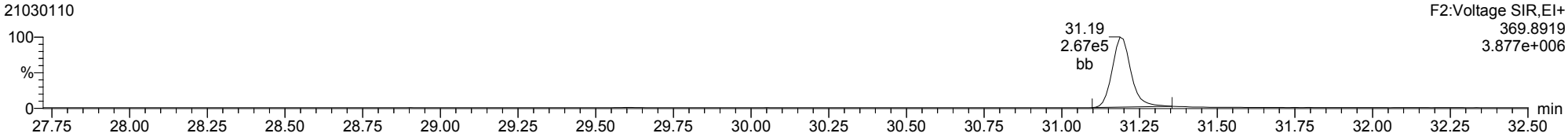

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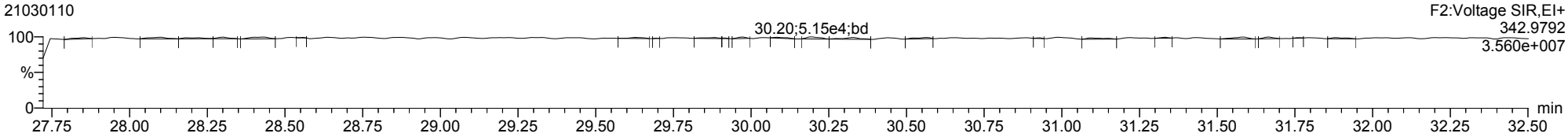

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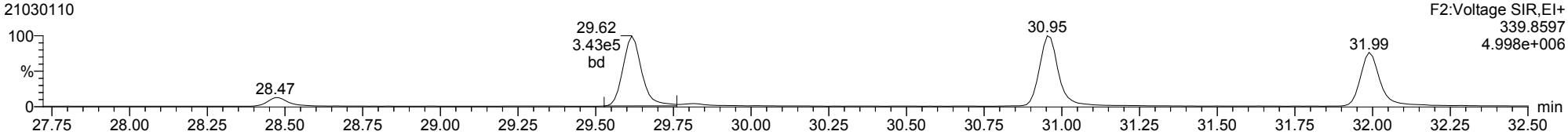

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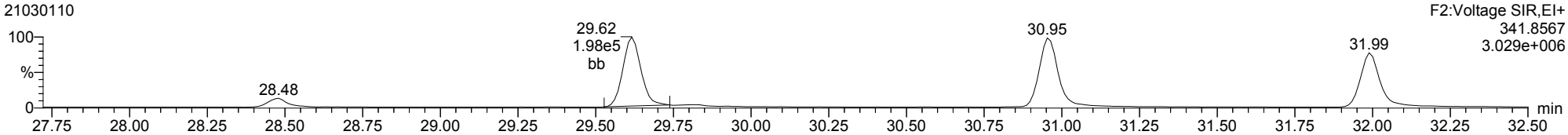

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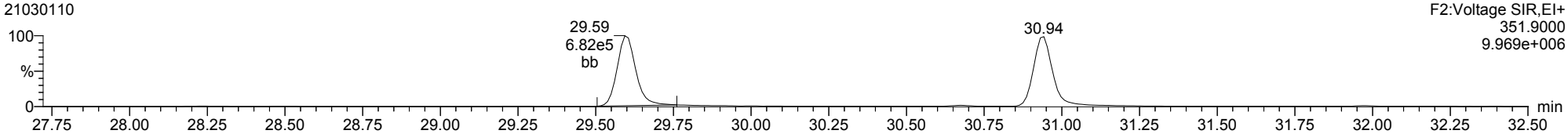

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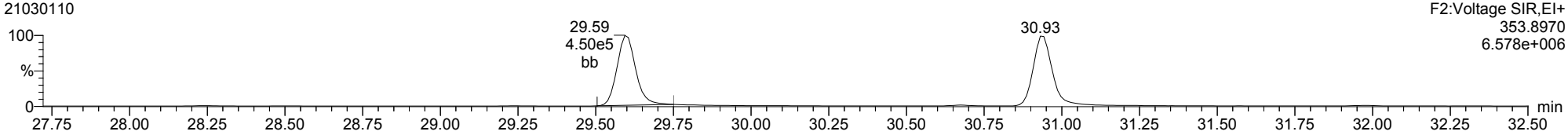

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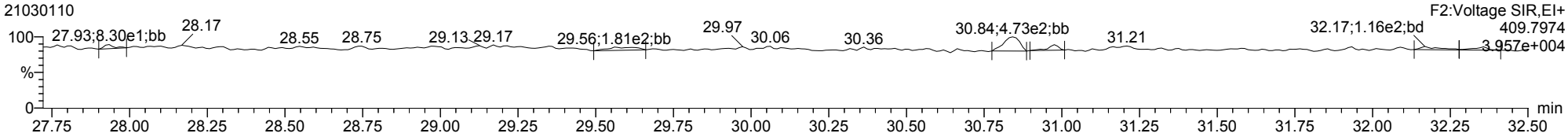

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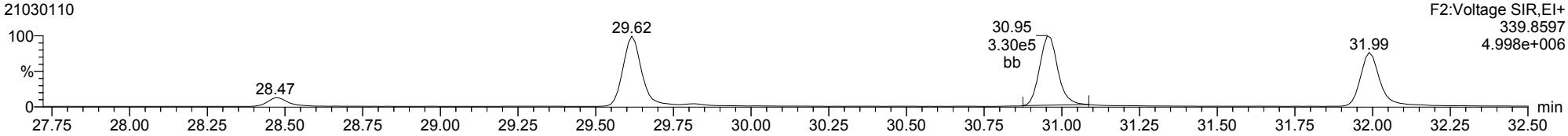

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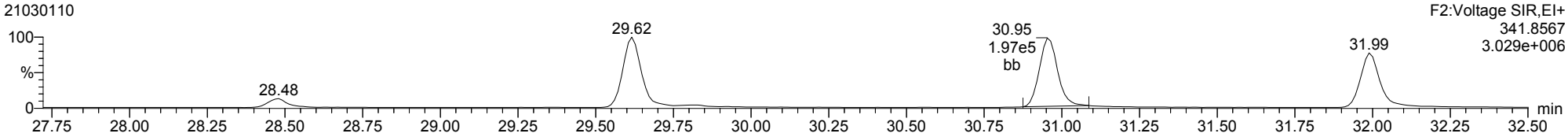

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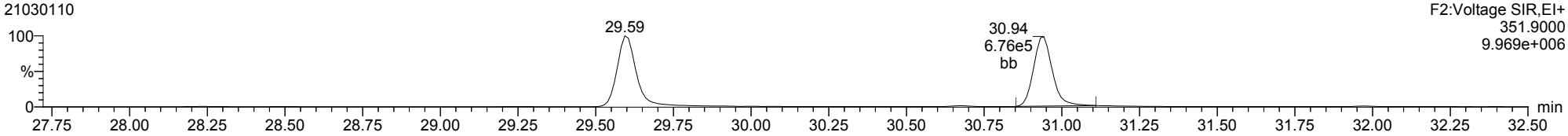

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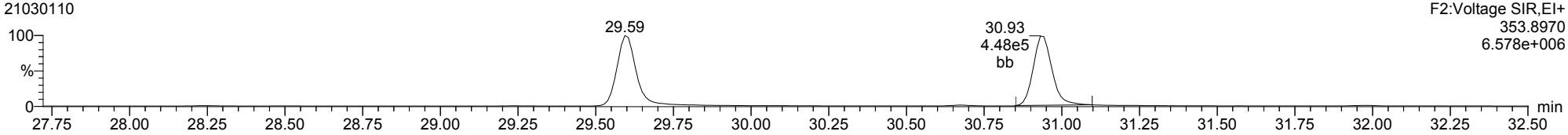

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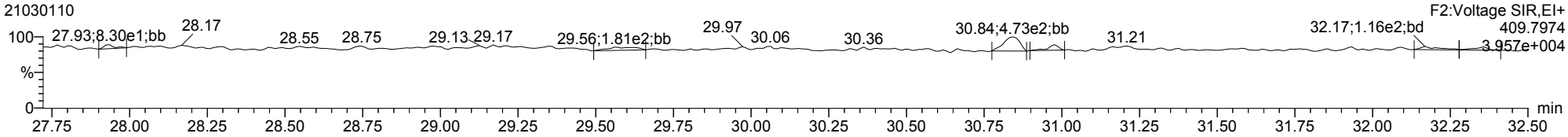

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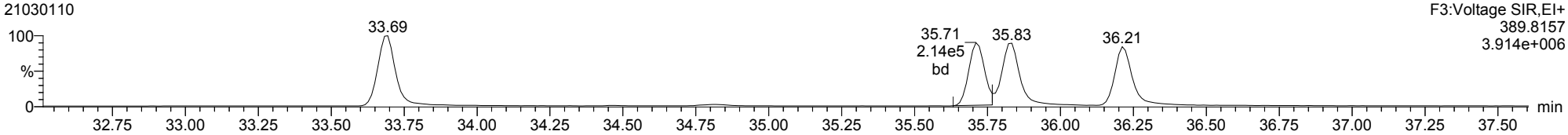

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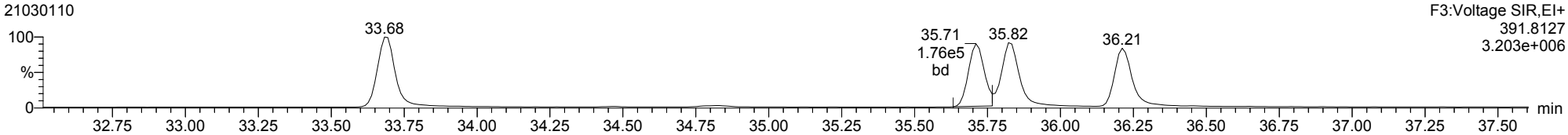

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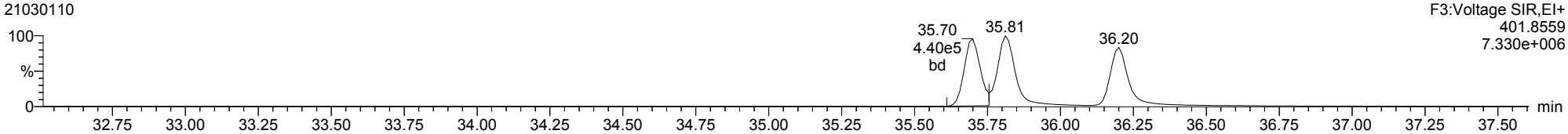

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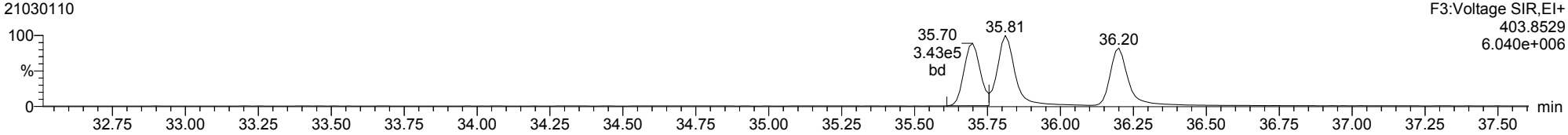

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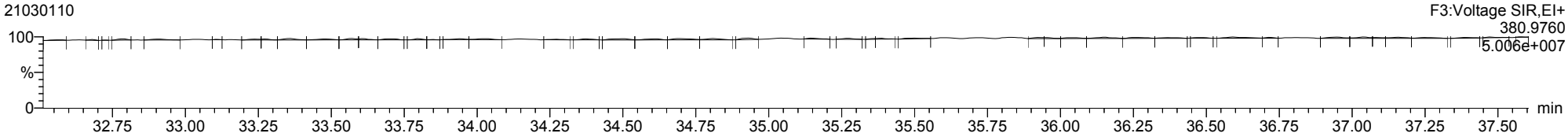

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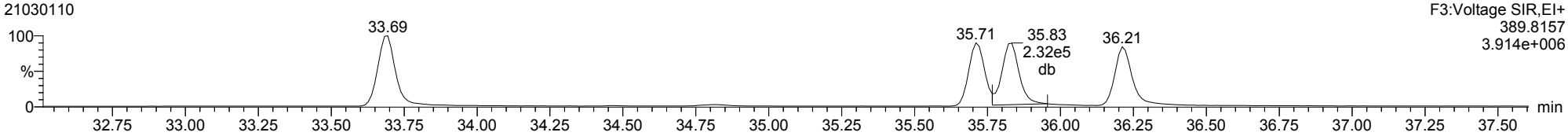

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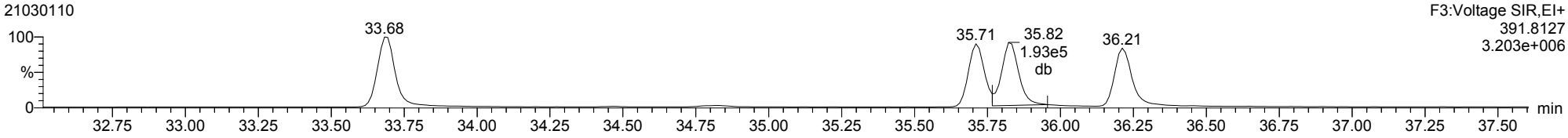

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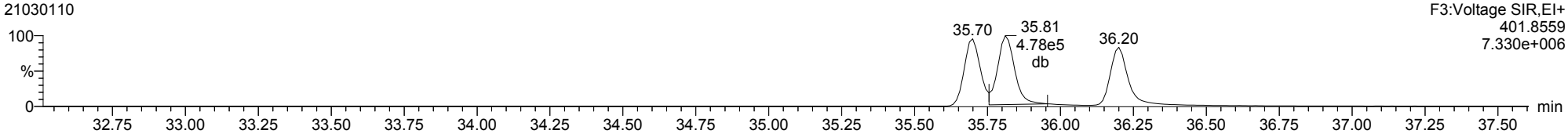

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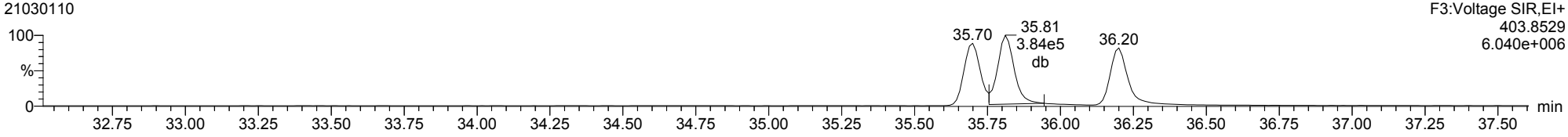

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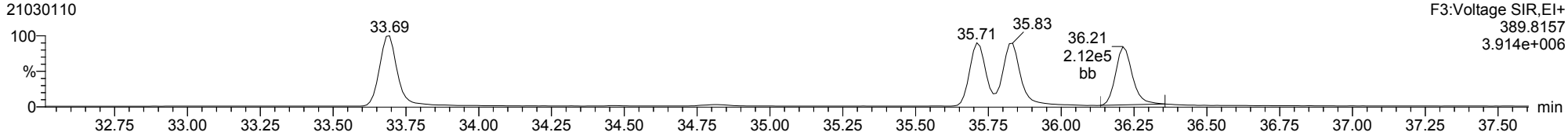

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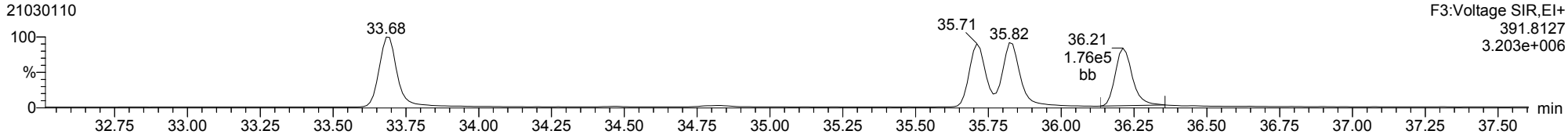

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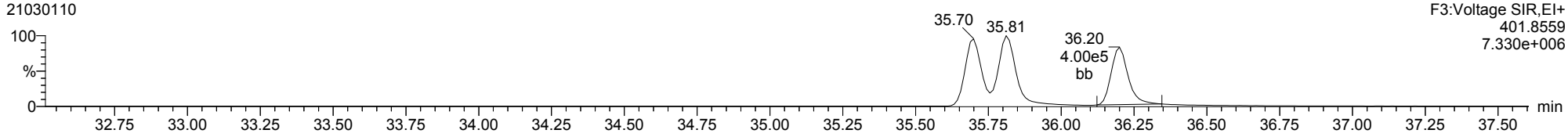

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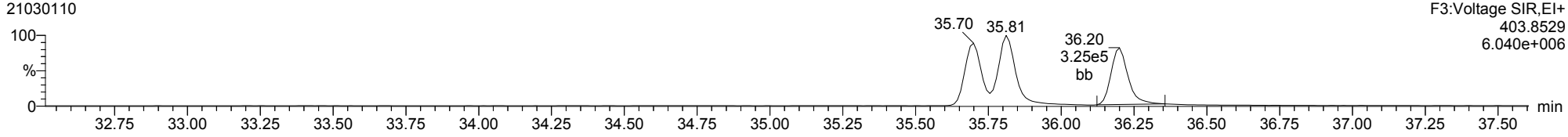

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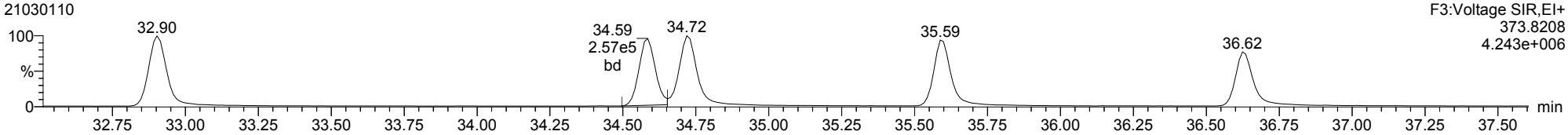

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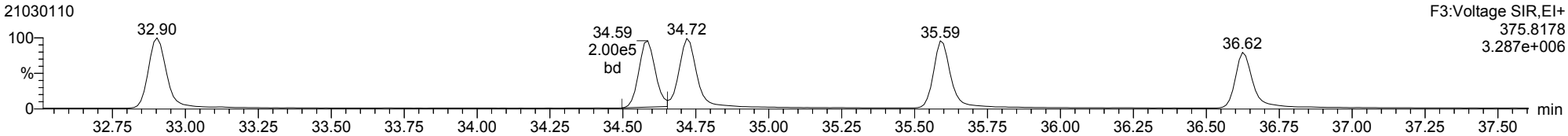

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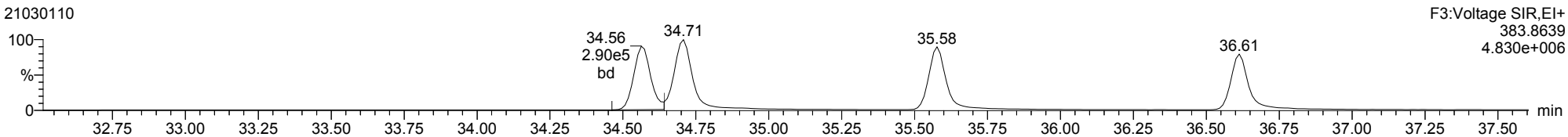

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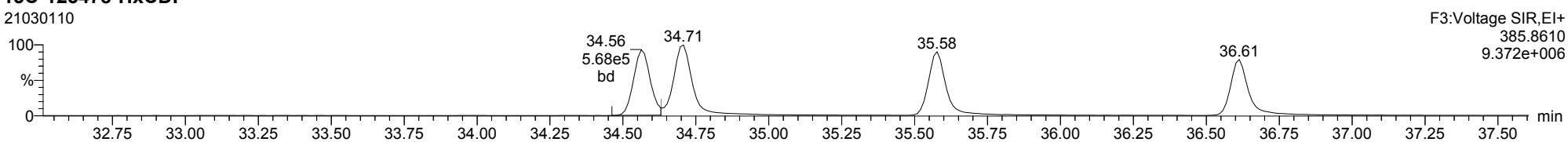

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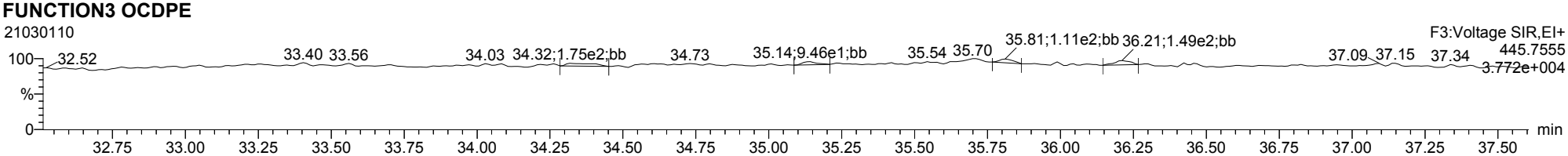

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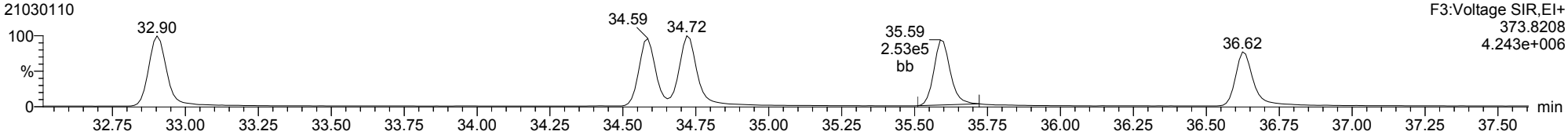

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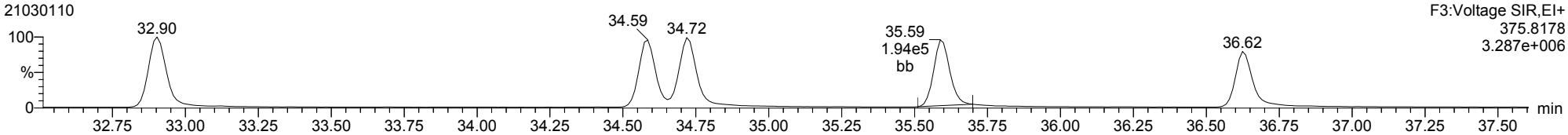

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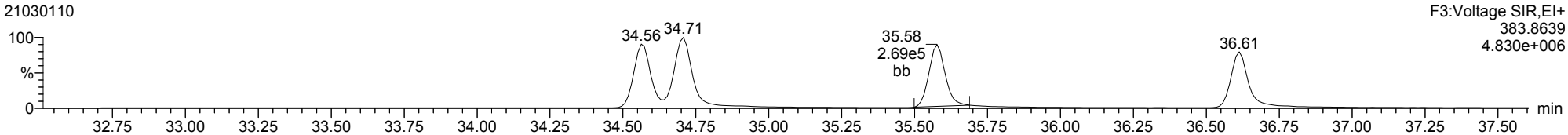

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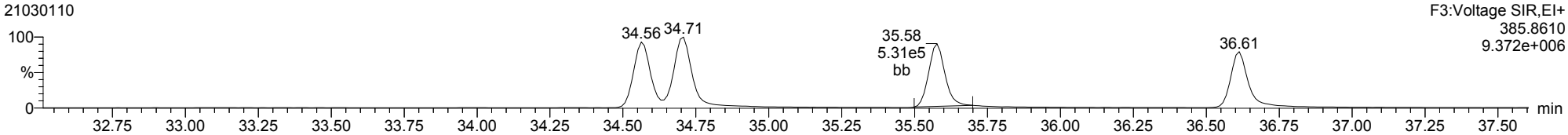

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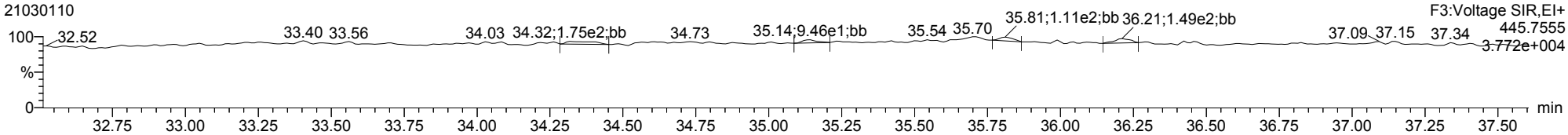

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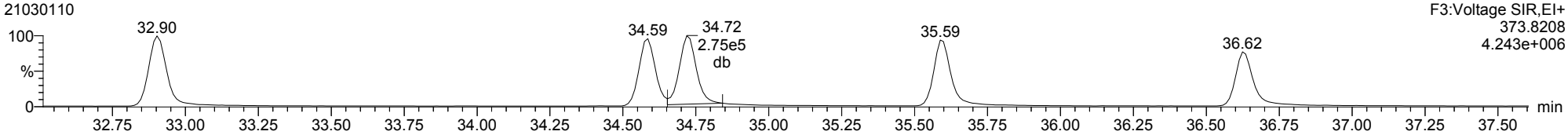

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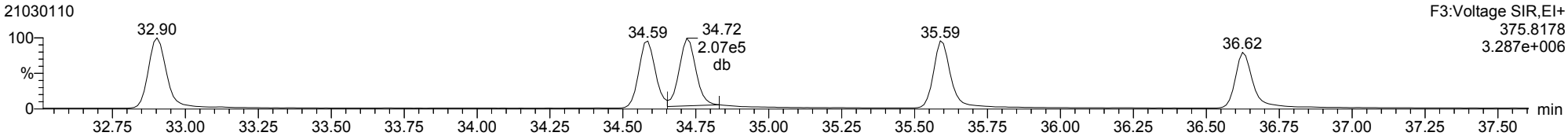

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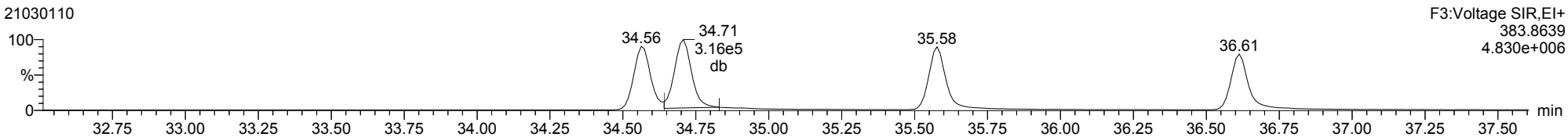

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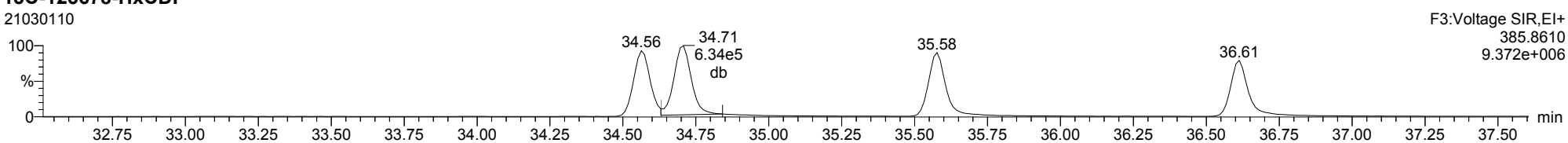

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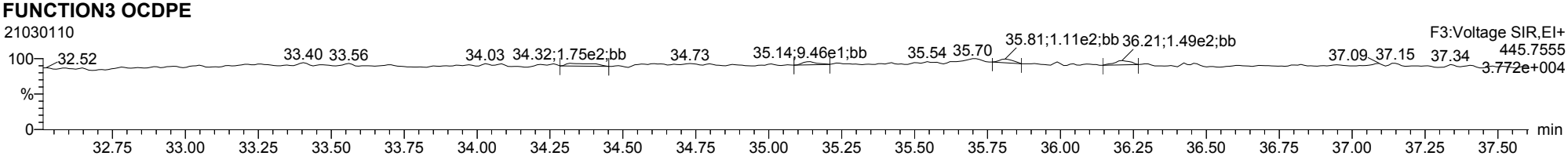

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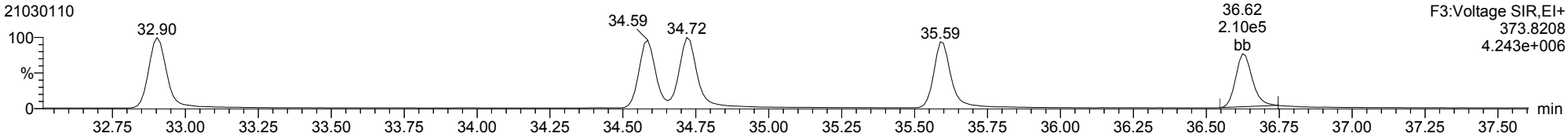

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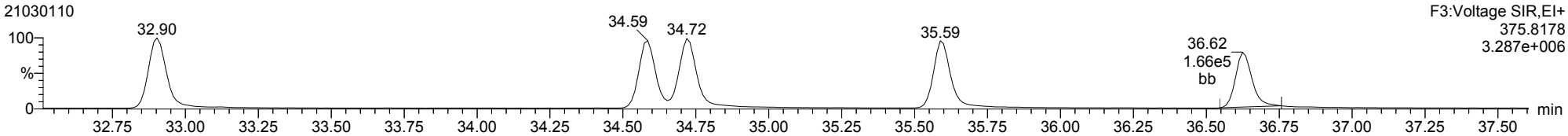

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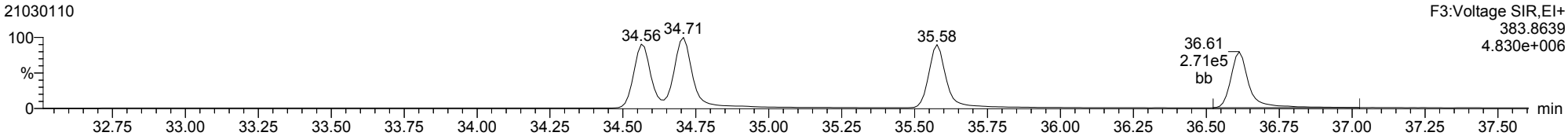

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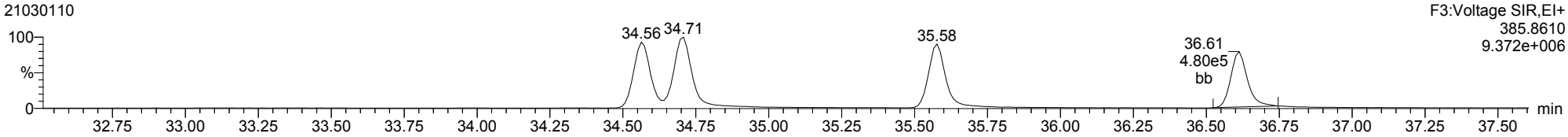

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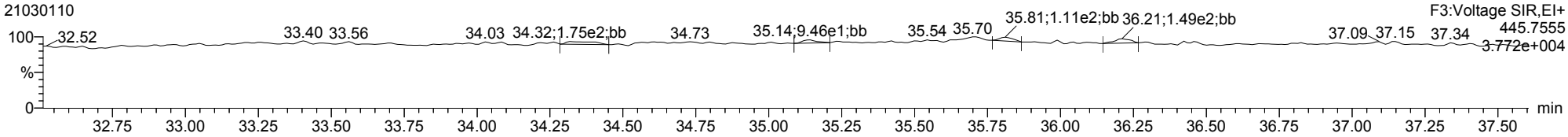

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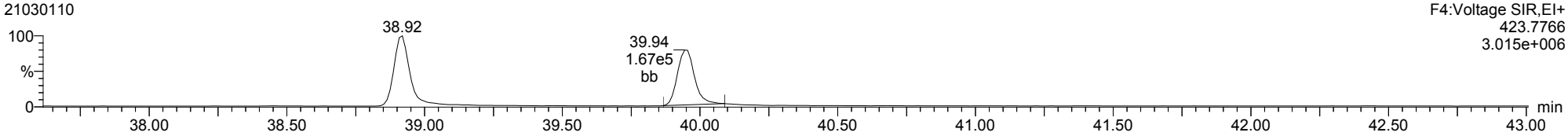

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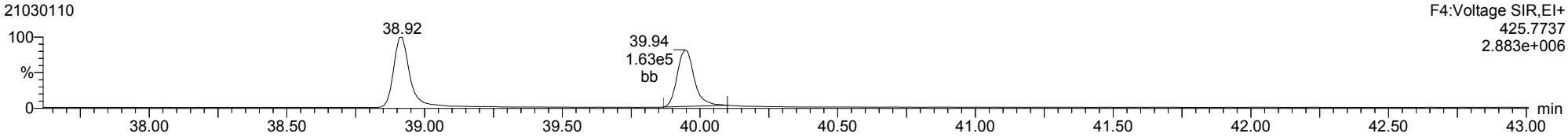

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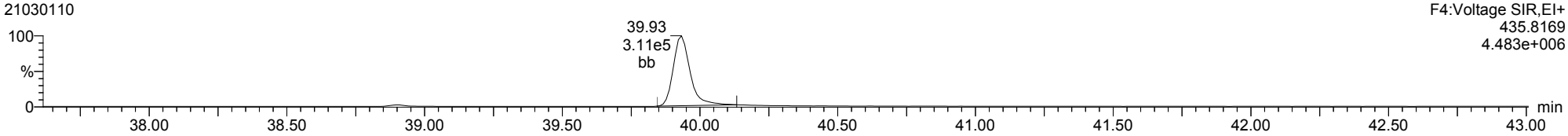

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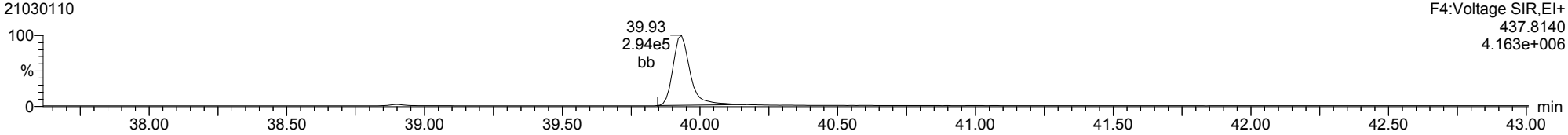

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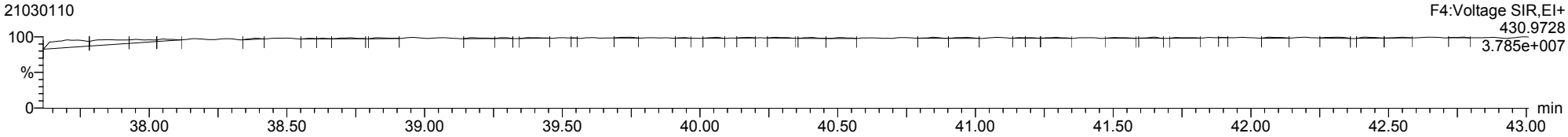

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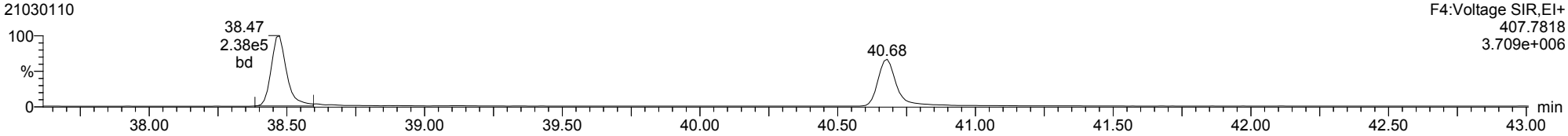

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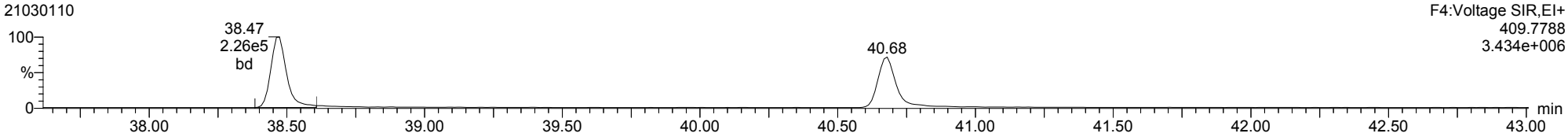

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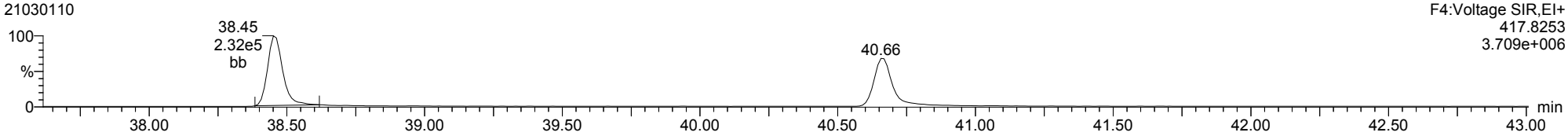

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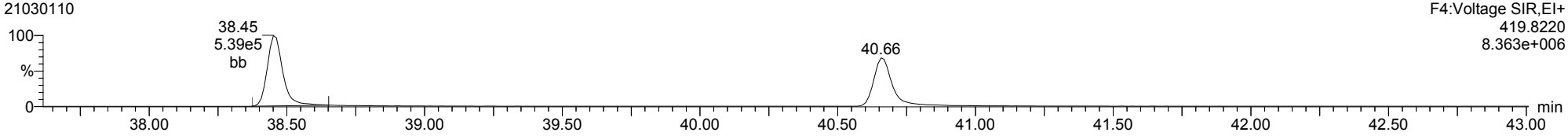

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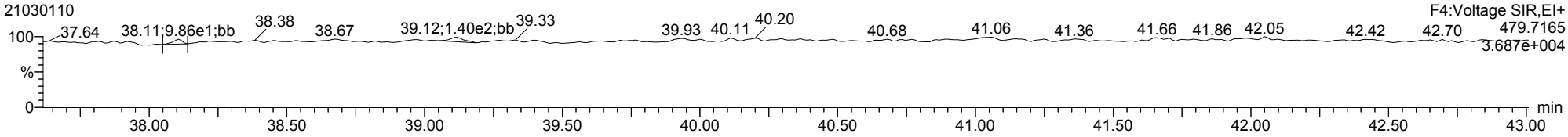

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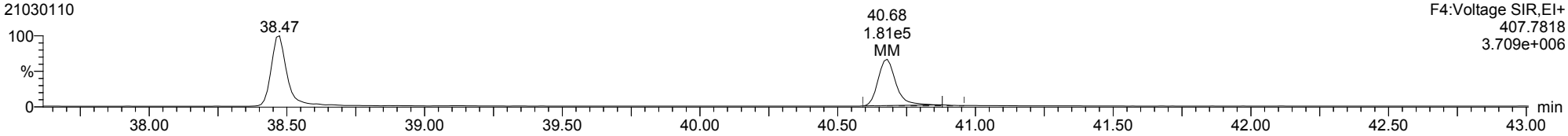

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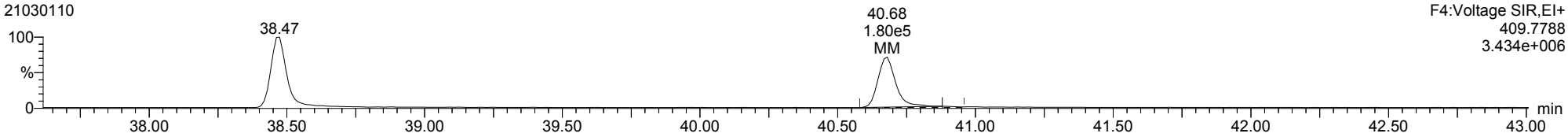

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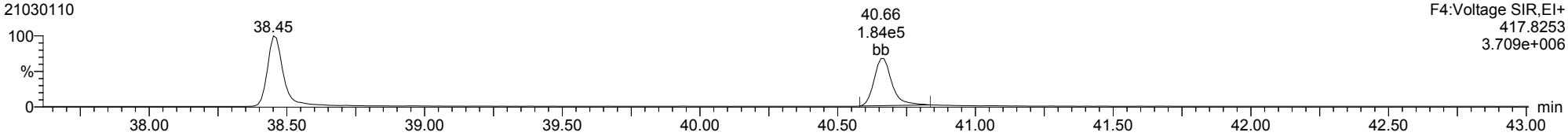

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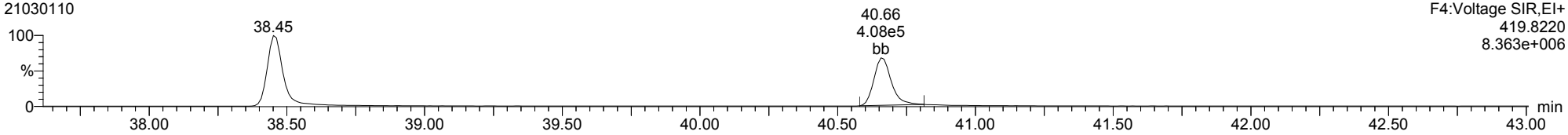

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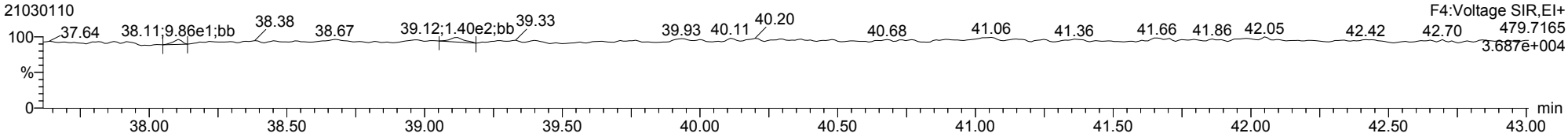

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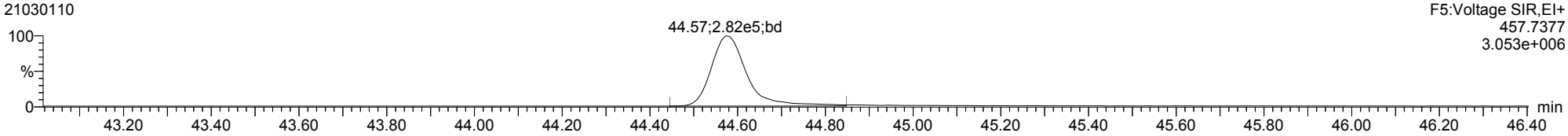

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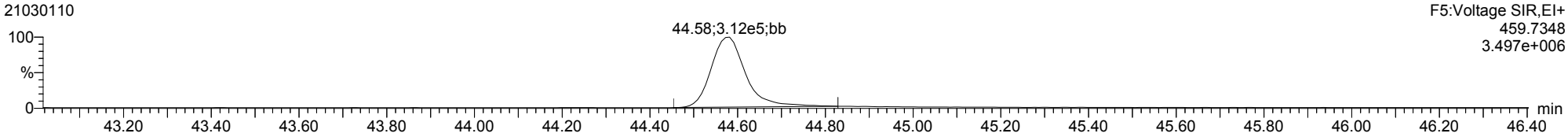

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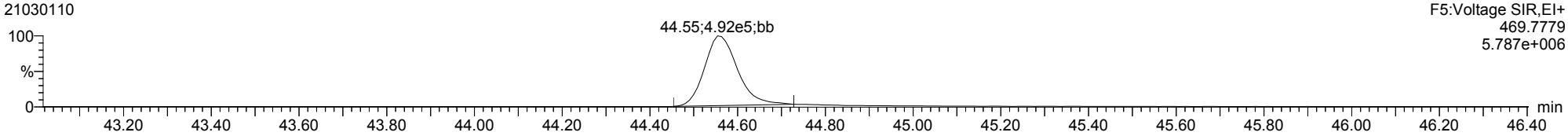

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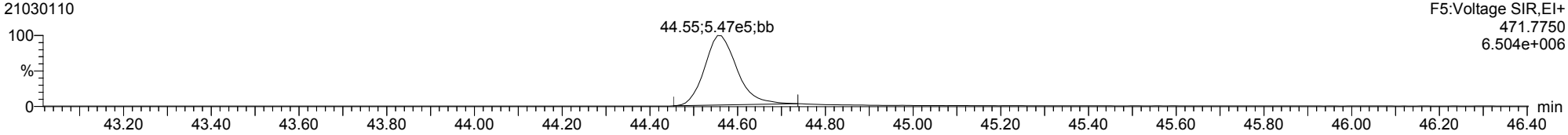

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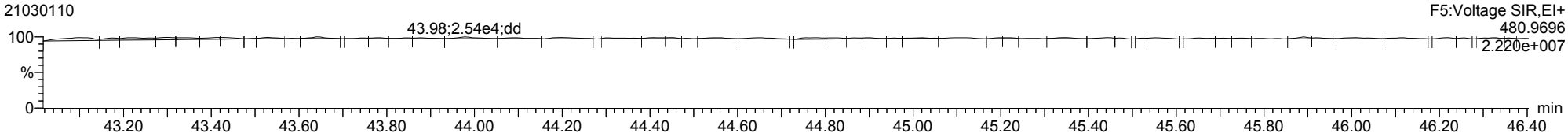

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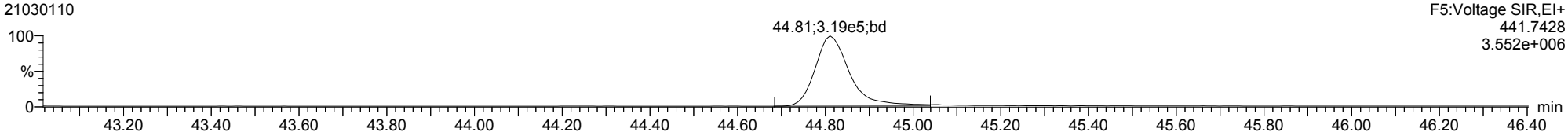

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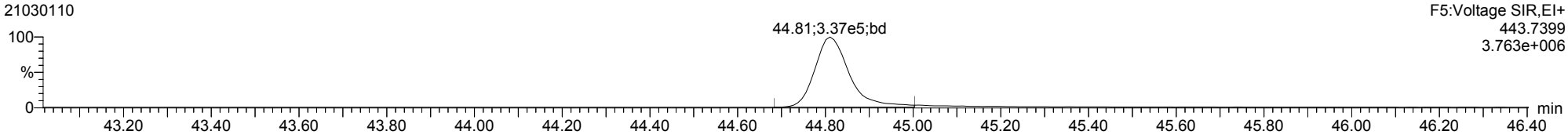

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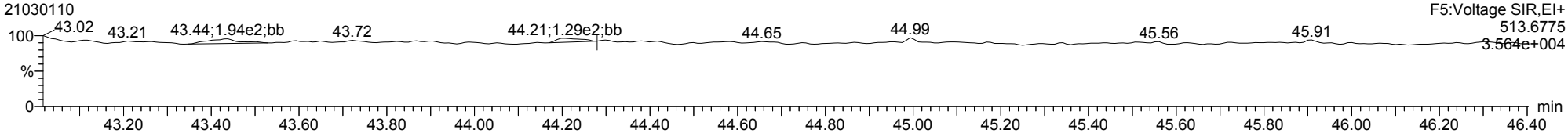

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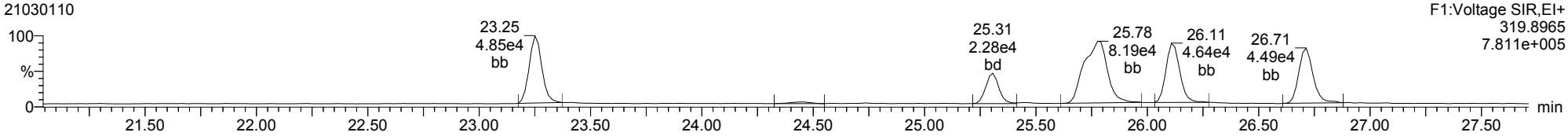
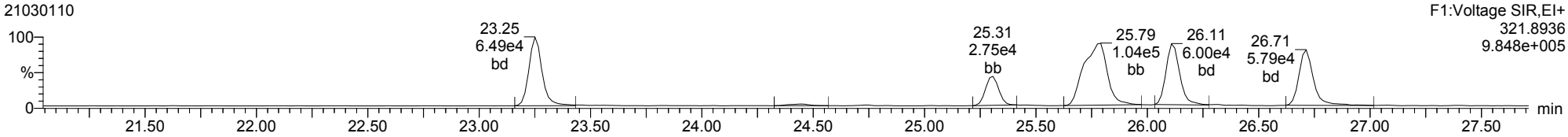
Total-tetradioxins



Total-tetradioxins



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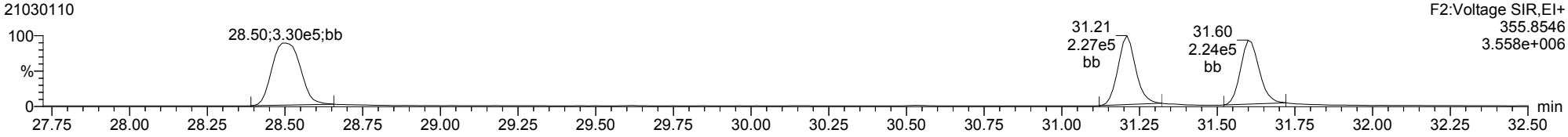
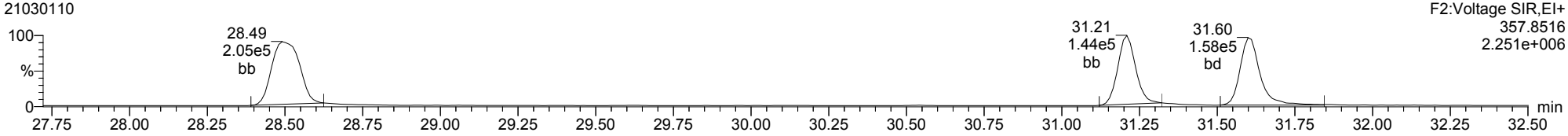
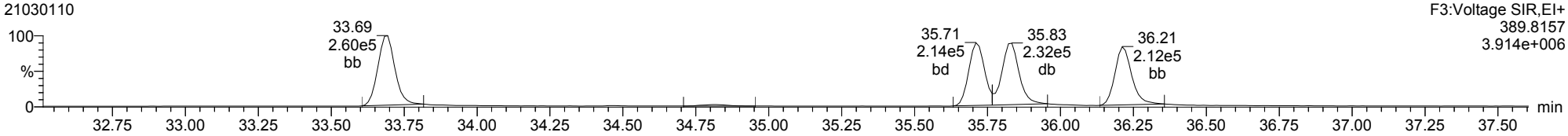


Total-pentadioxins

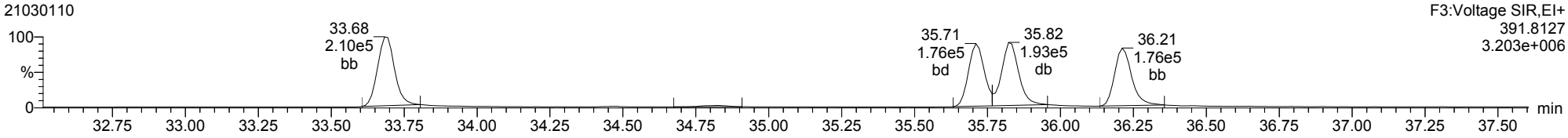


ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



Total-hexadioxins



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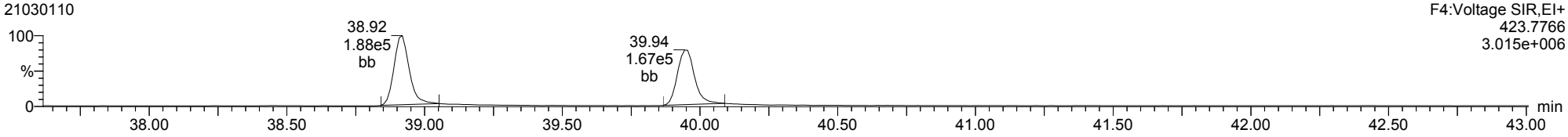
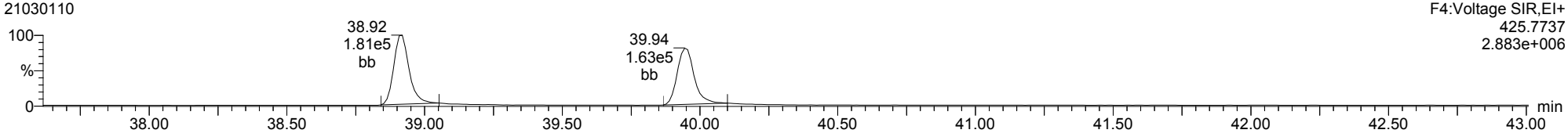


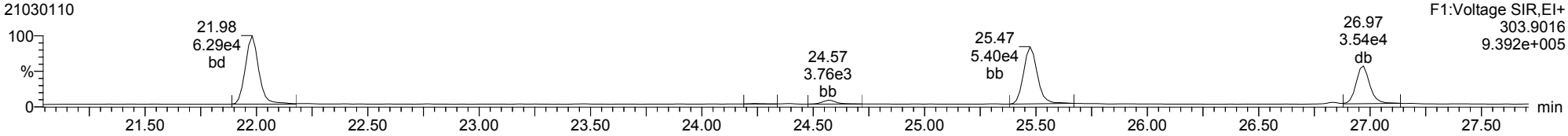
Total-heptadioxins



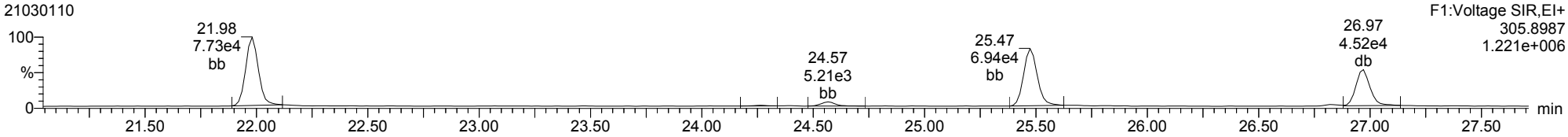
Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

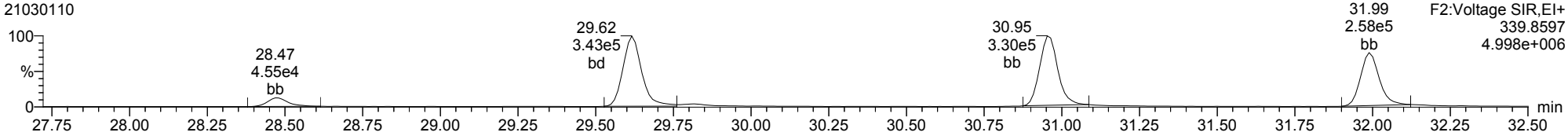
Total-tetrafurans



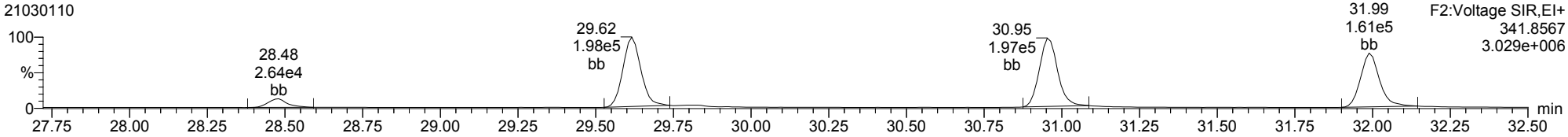
Total-tetrafurans



Total-pentafurans



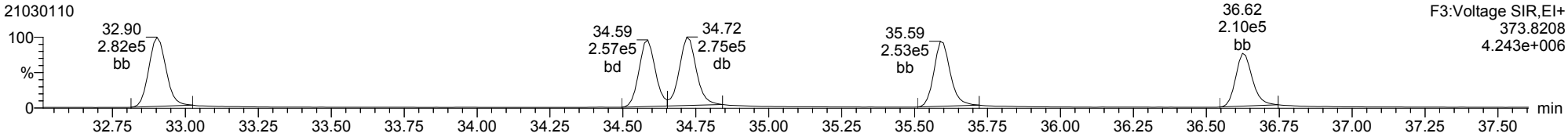
Total-pentafurans



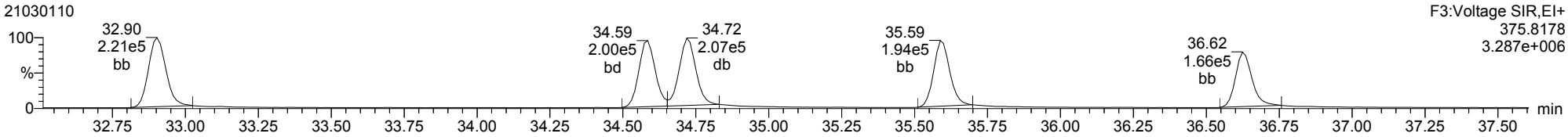
Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

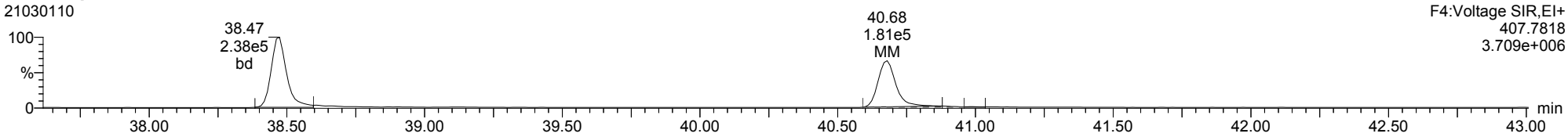
Total-hexafurans



Total-hexafurans



Total-heptafurans



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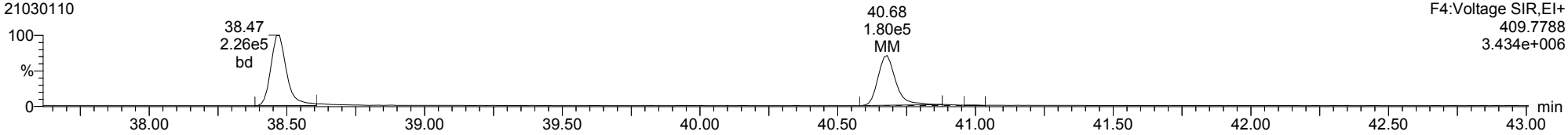

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, Inc.
Client: Anchor QEA, LLC
Calibration: EH00030
Sequence: SJH0117

SDG: 21F0442
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
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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
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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

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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

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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

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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

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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

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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													

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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

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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

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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		

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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

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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

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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

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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

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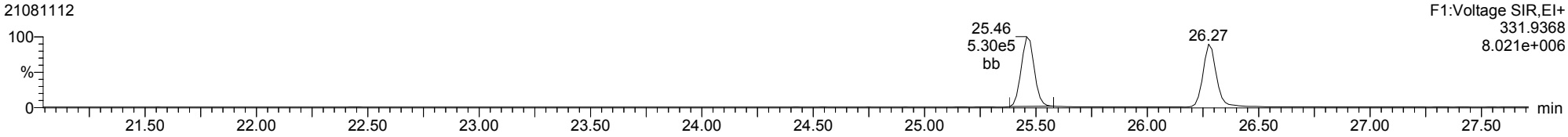

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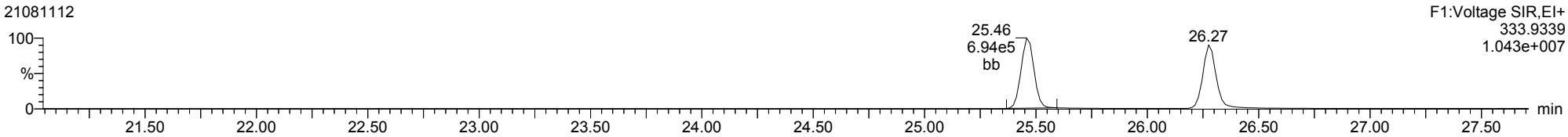

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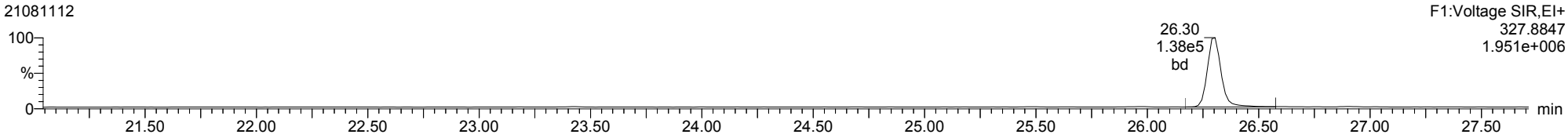

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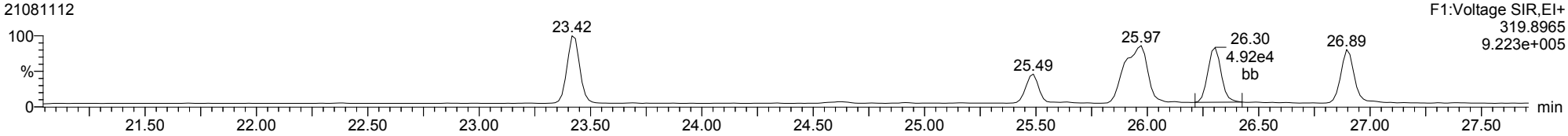

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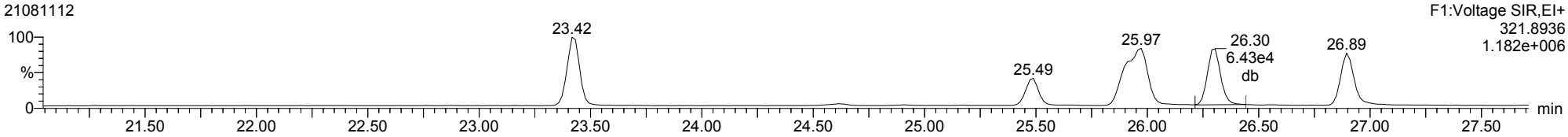

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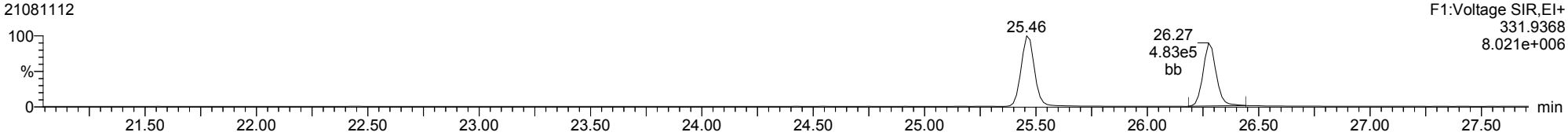

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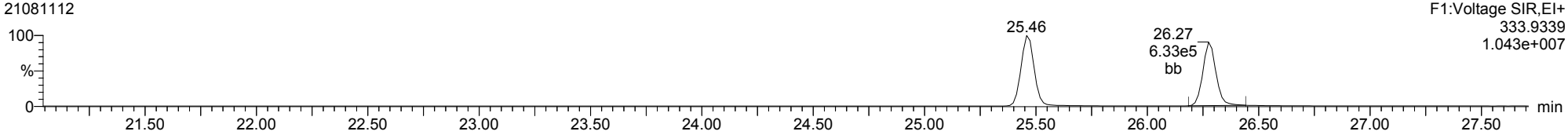
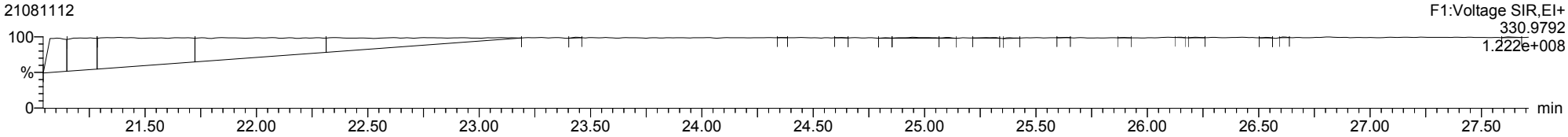


FUNCTION1 PFK



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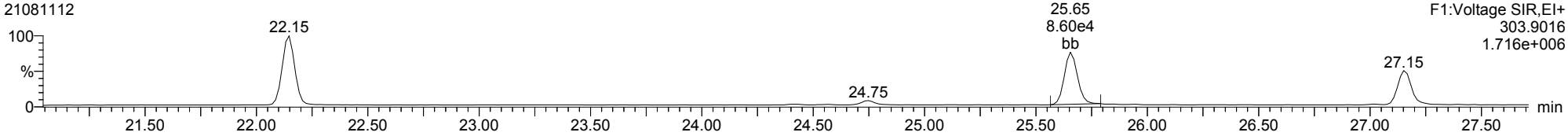
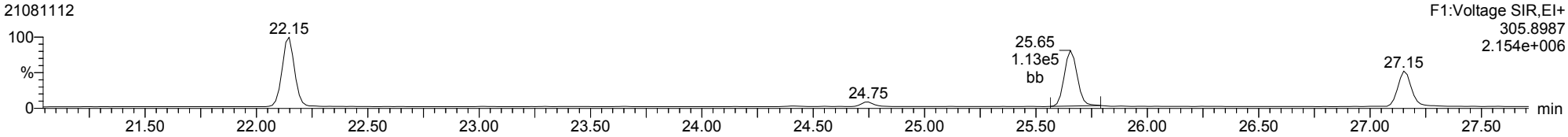
2378-TCDF



2378-TCDF



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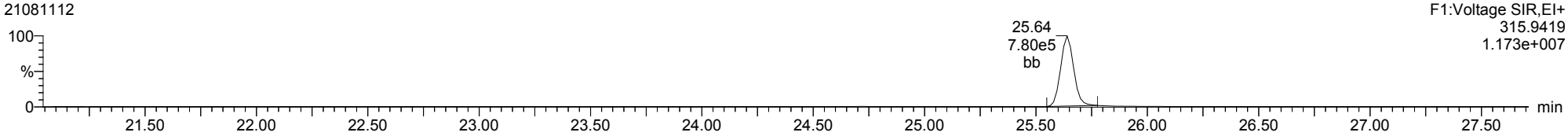

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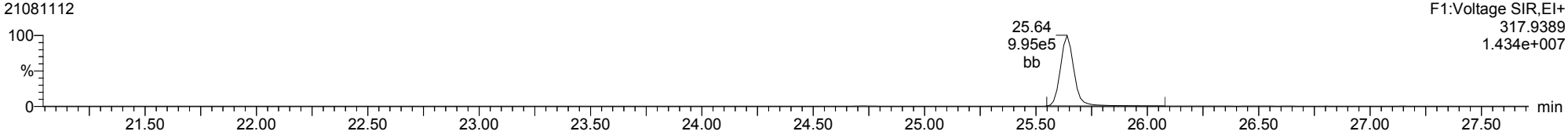
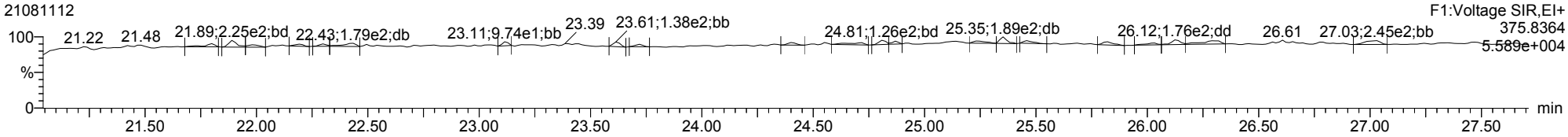


FUNCTION1 HXCDPE



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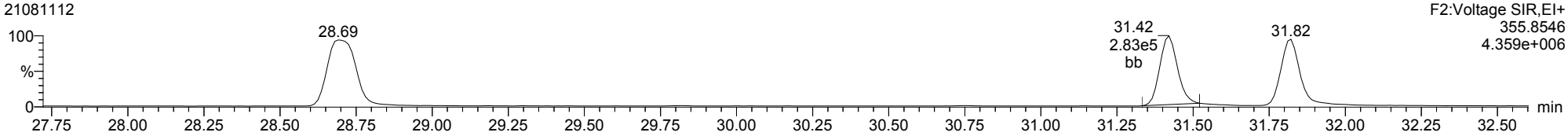
12378-PeCDD



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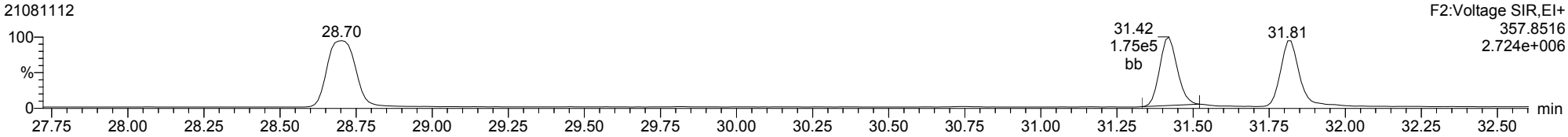

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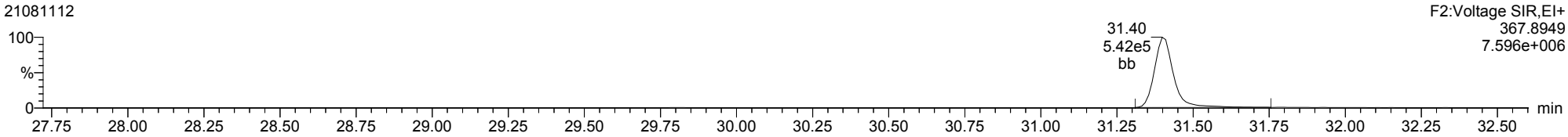

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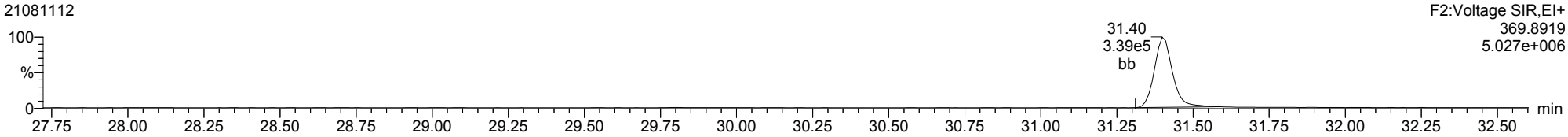

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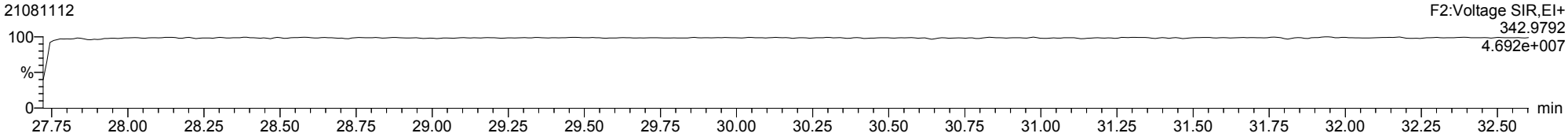

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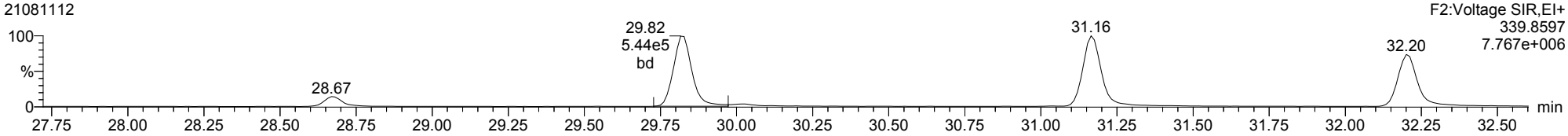

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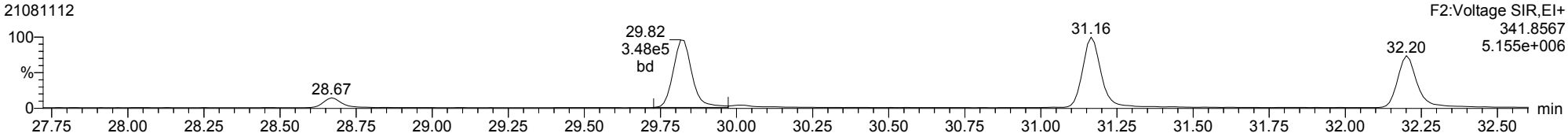

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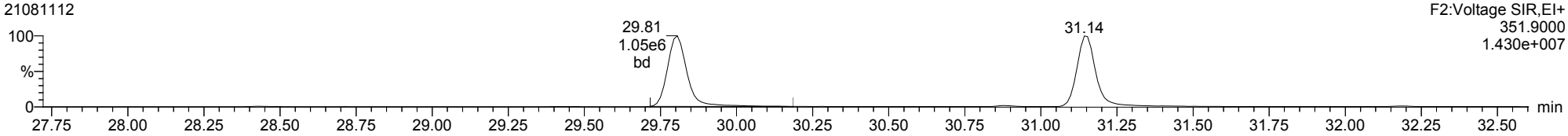

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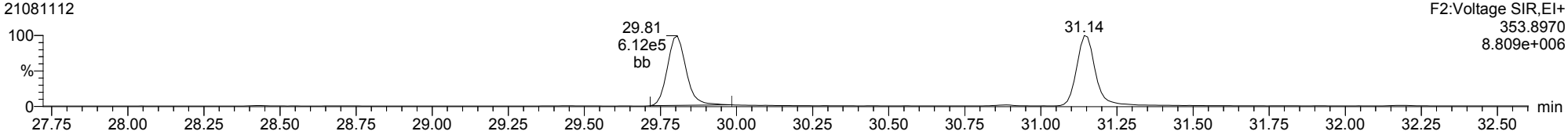
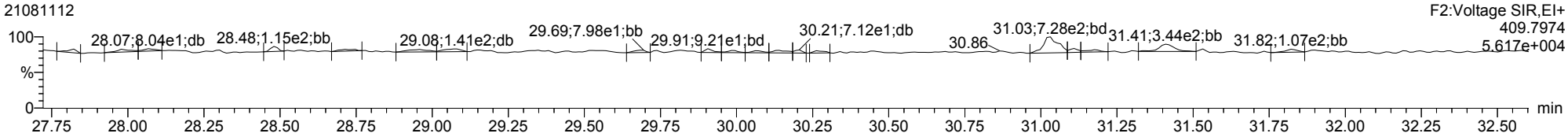


FUNCTION2 HPCDPE



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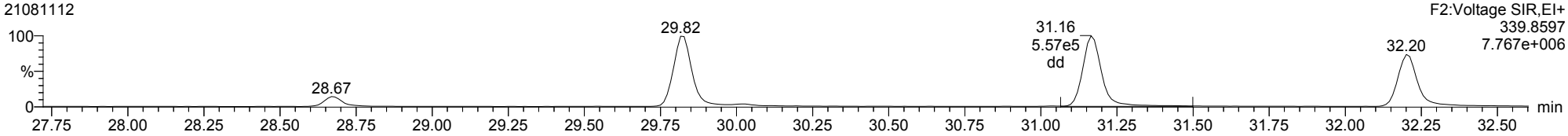
23478-PeCDF



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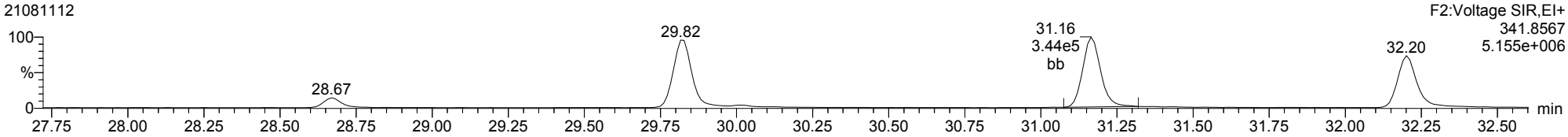

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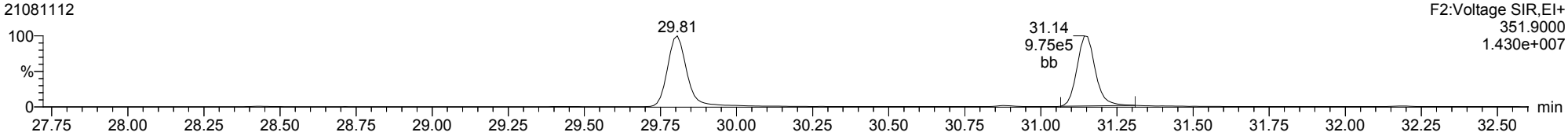

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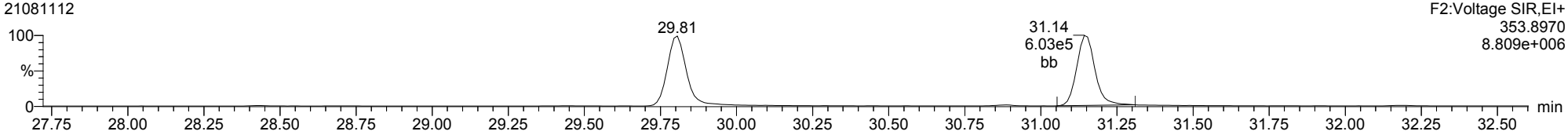
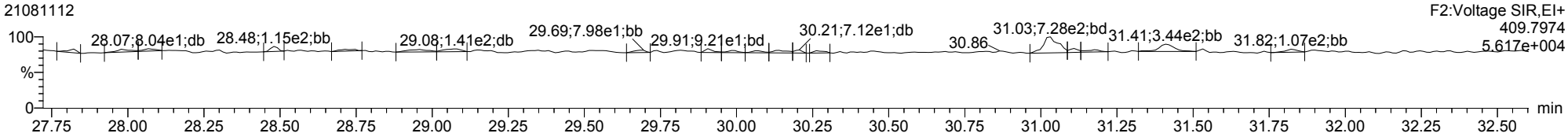


FUNCTION2 HPCDPE



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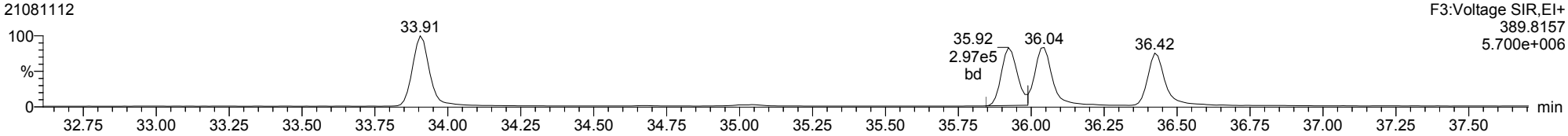

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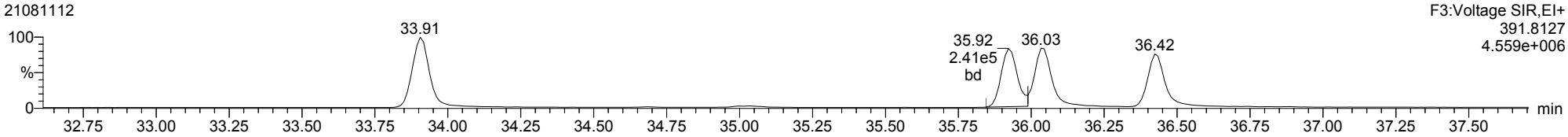

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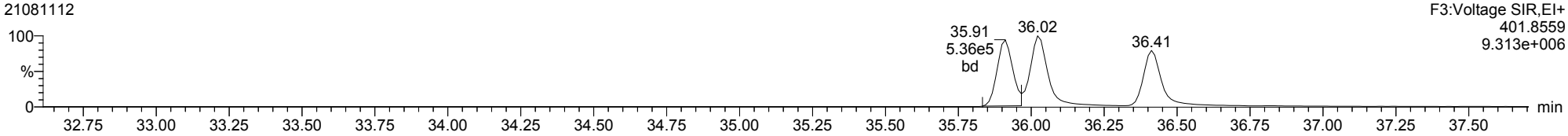

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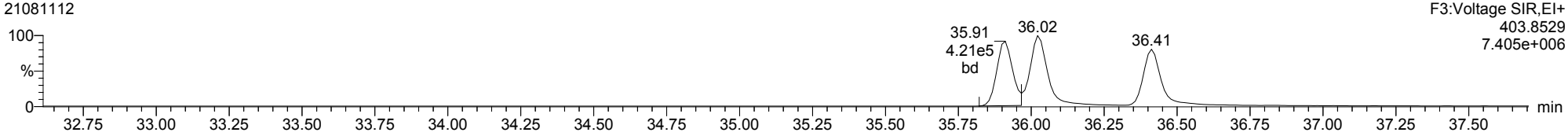
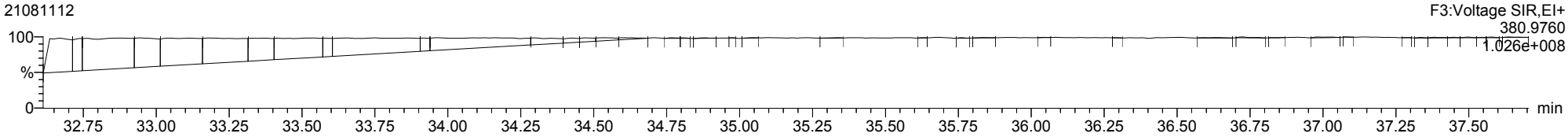


FUNCTION3 PFK



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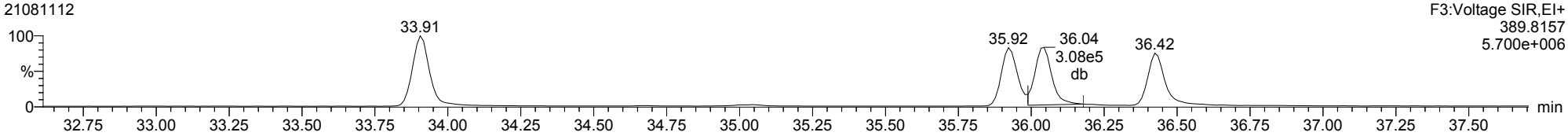

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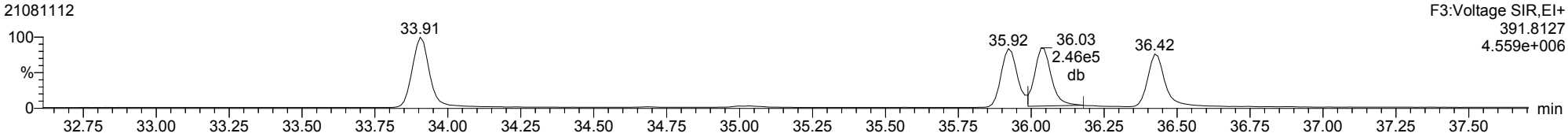

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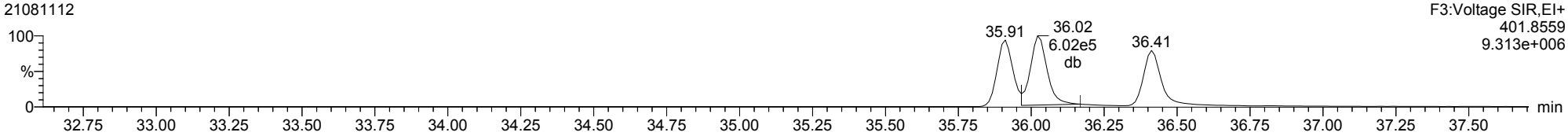

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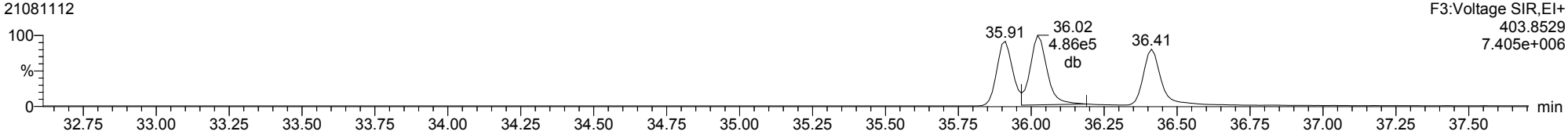

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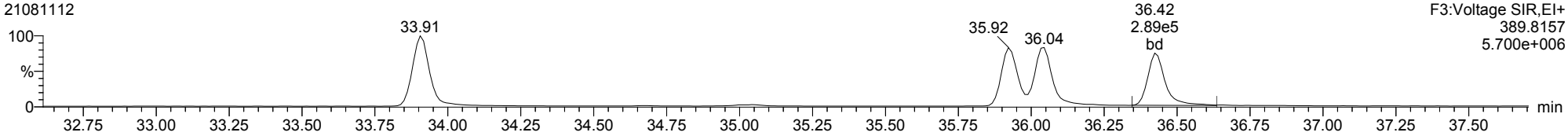

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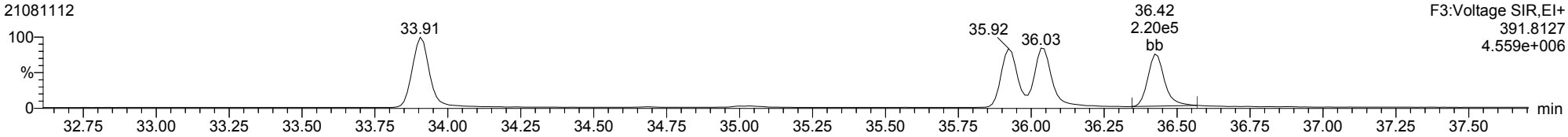

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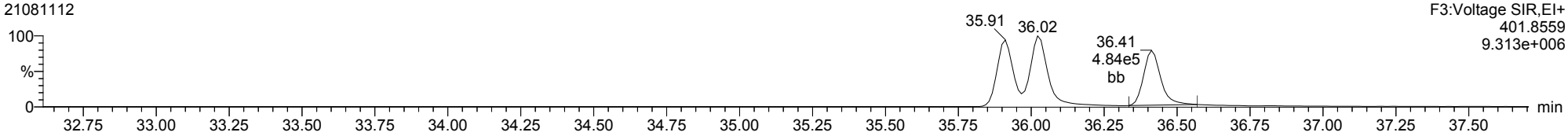

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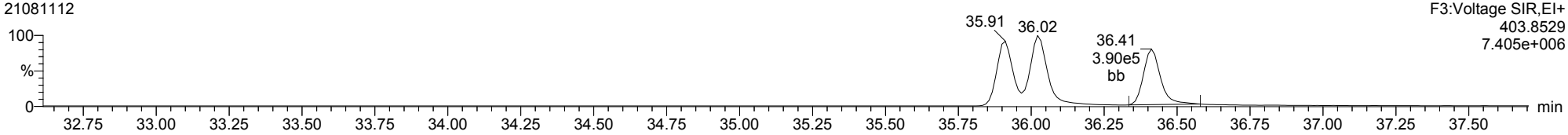

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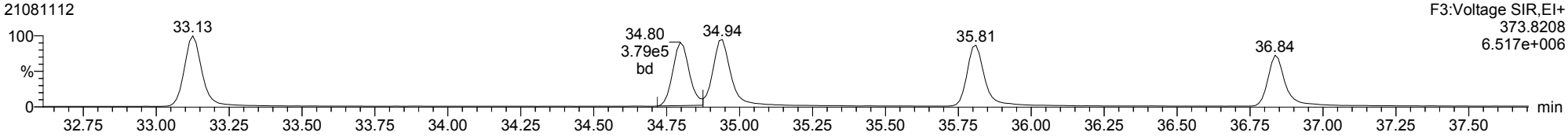

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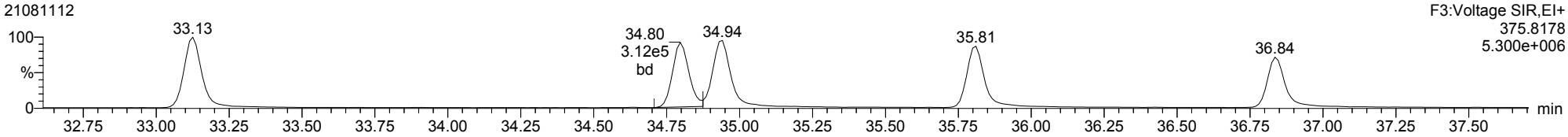

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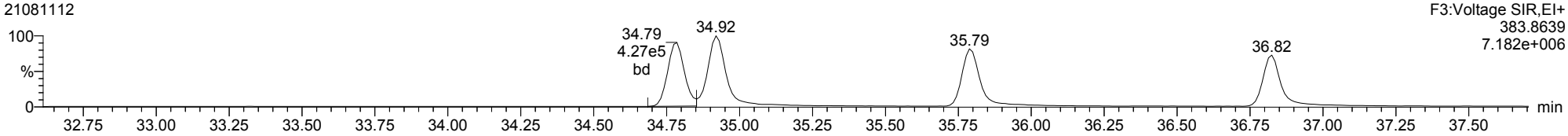

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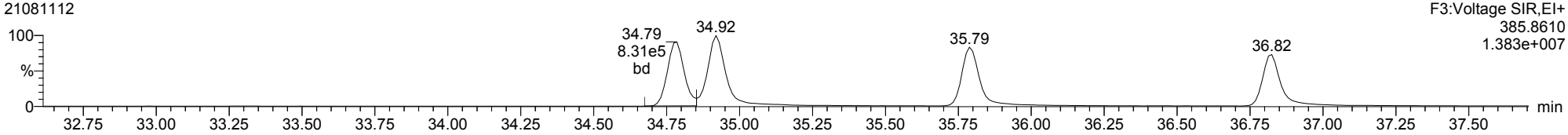
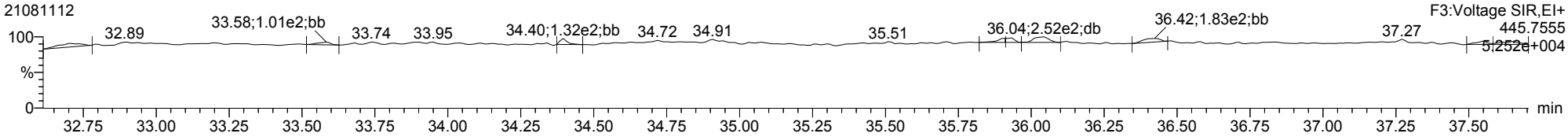


FUNCTION3 OCDPE



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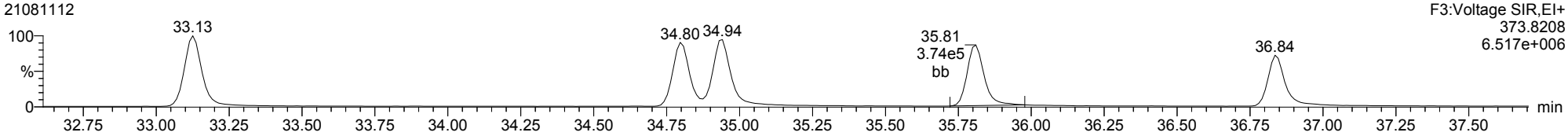
234678-HxCDF



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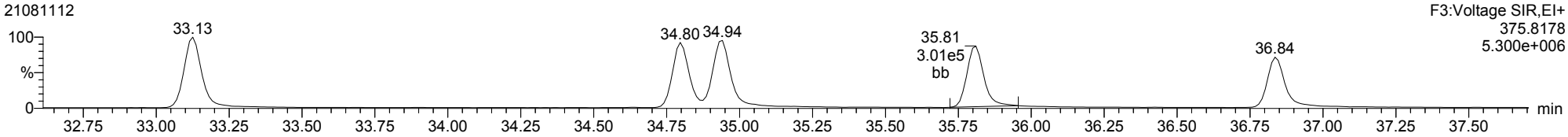

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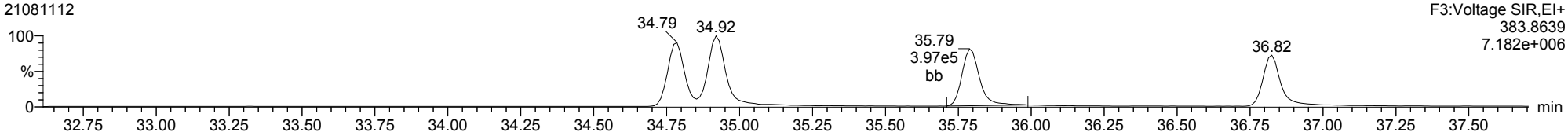

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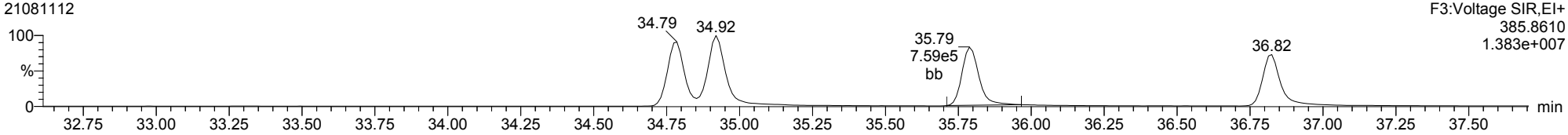
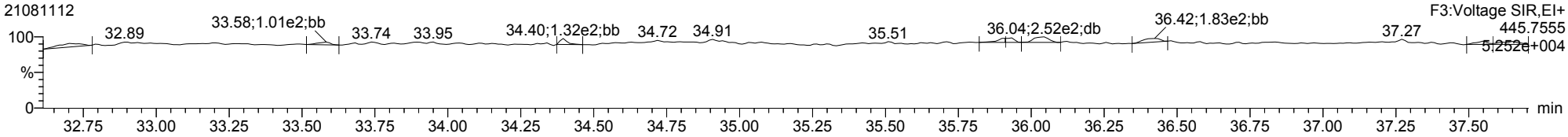


FUNCTION3 OCDPE



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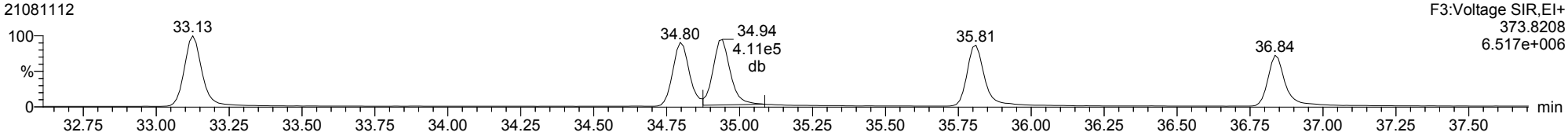

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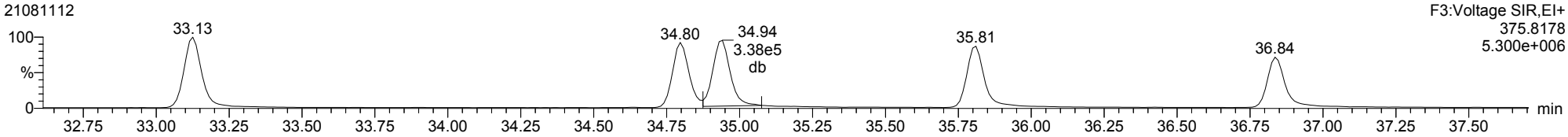

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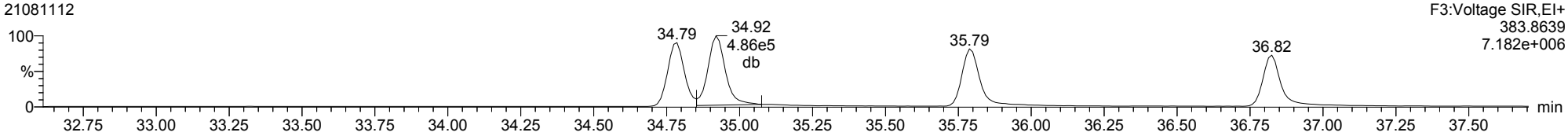

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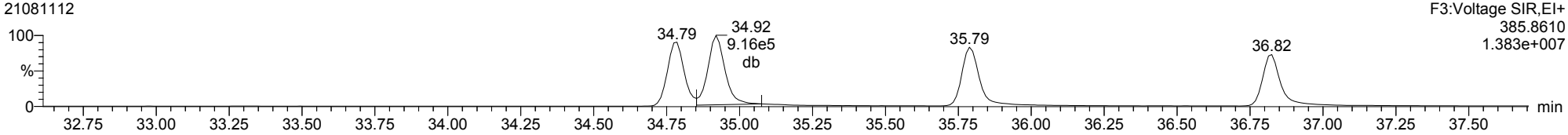
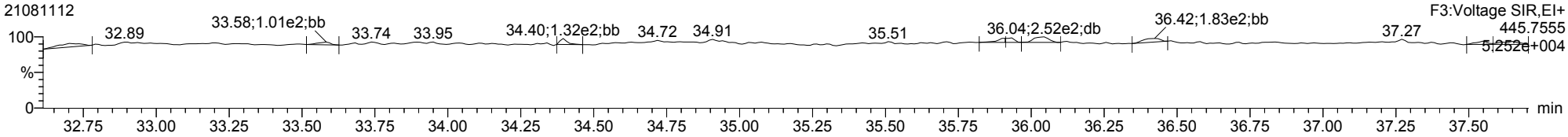


FUNCTION3 OCDPE



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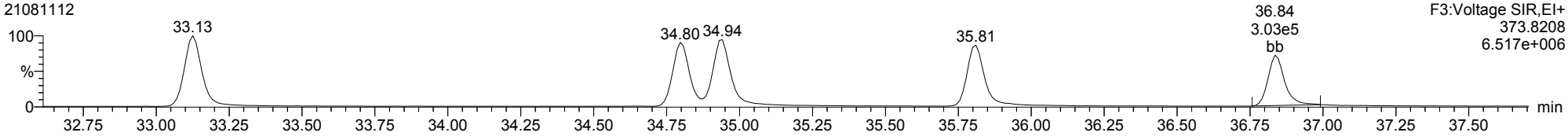

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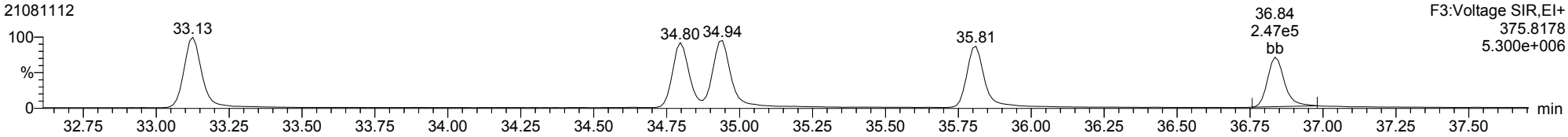

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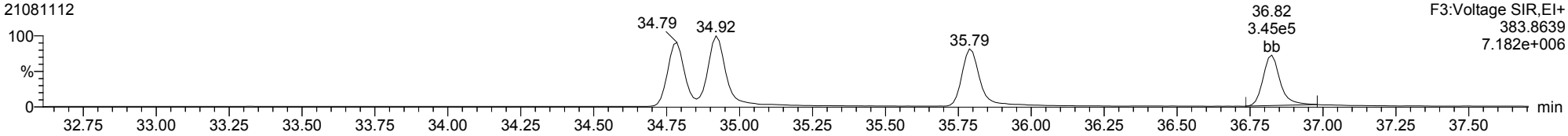

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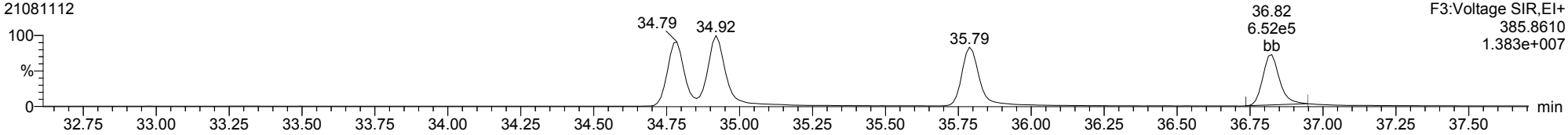
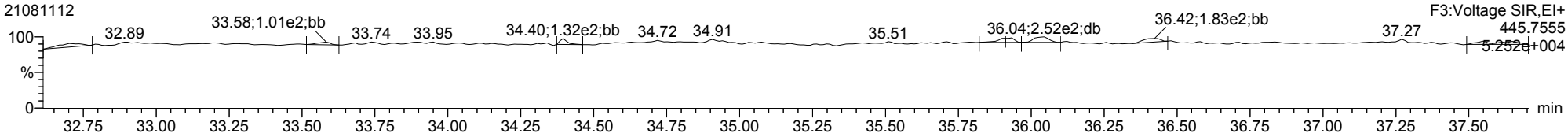


FUNCTION3 OCDPE



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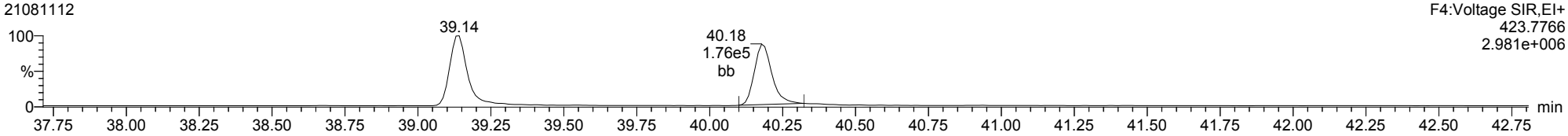

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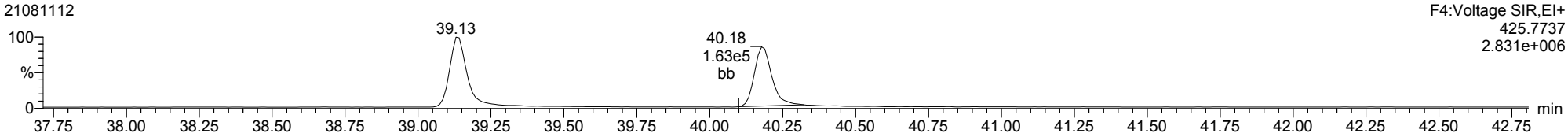

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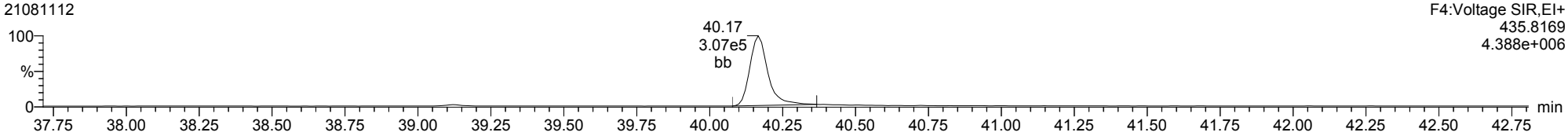

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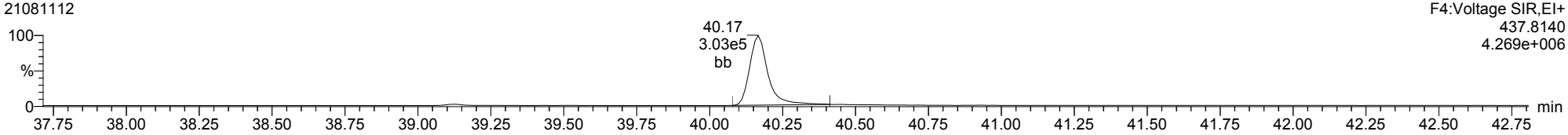
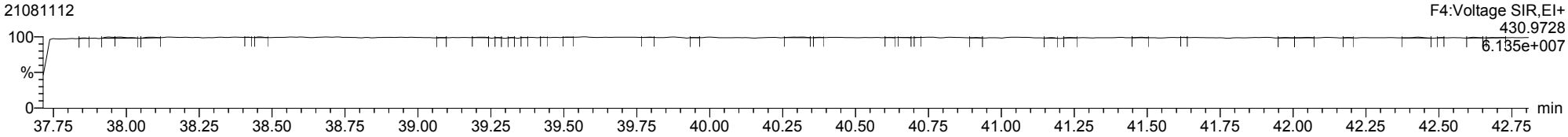


FUNCTION4 PFK



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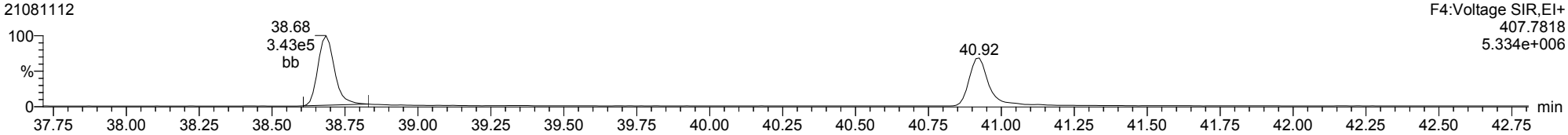

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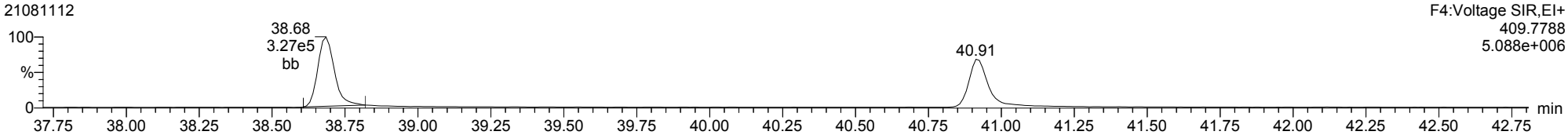

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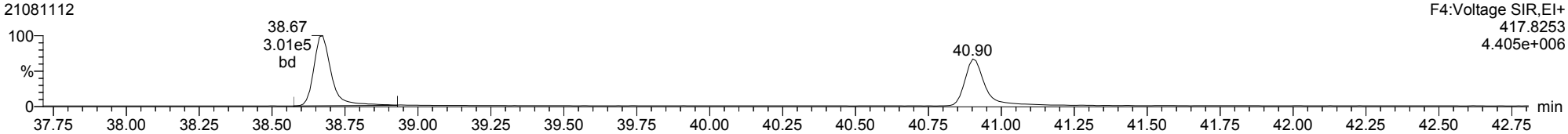

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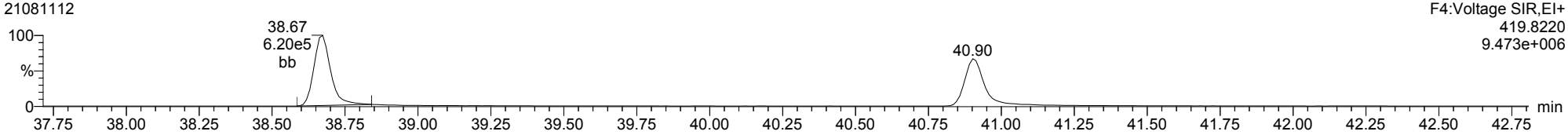
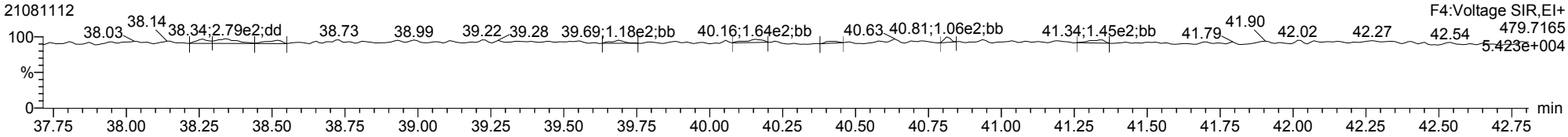


FUNCTION4 NCDPE



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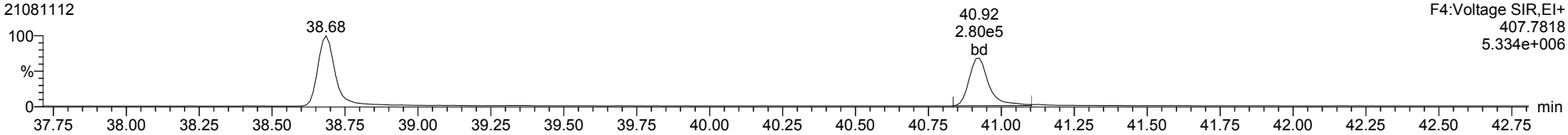

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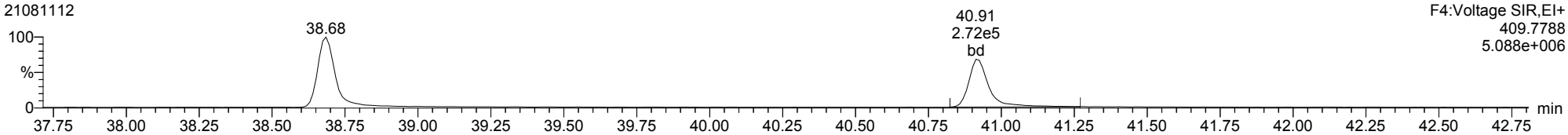

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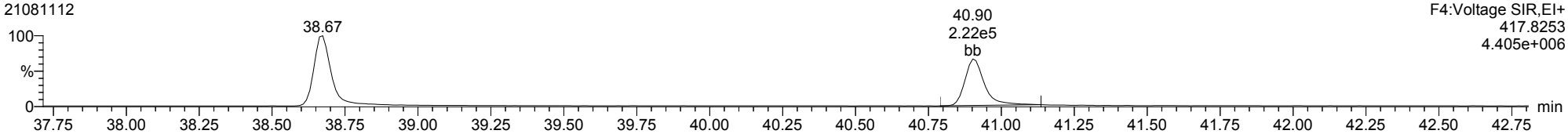

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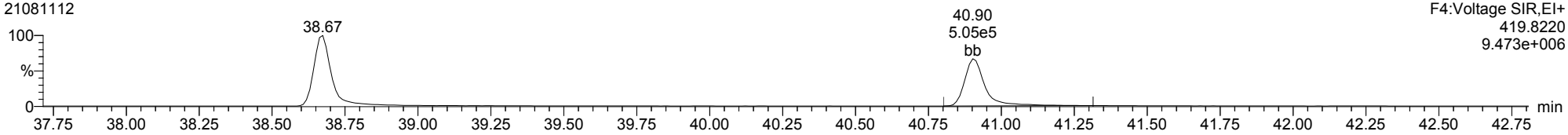
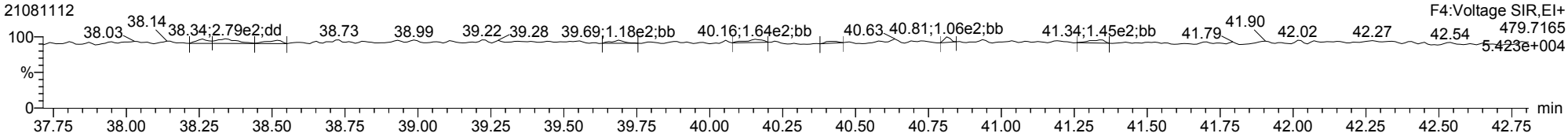


FUNCTION4 NCDPE



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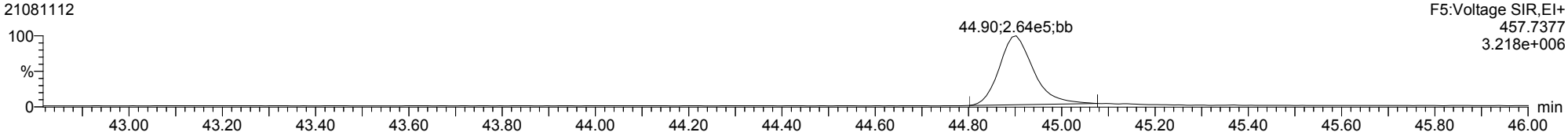
OCDD



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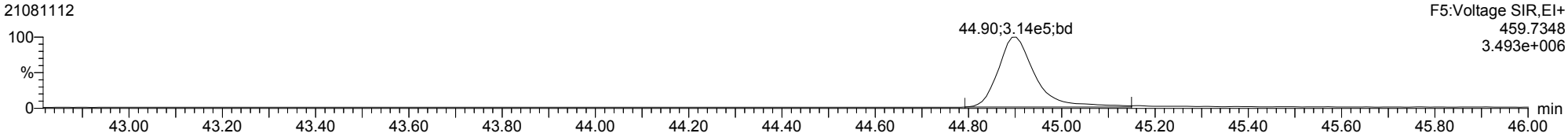
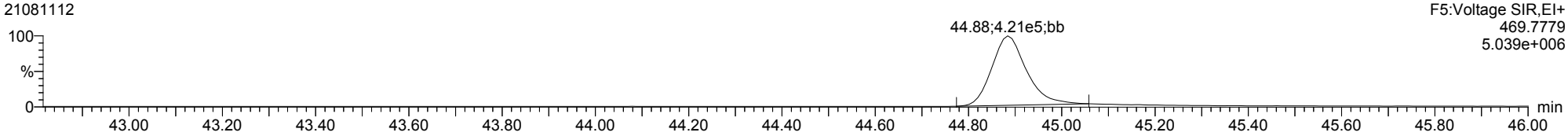


13C-OCDD



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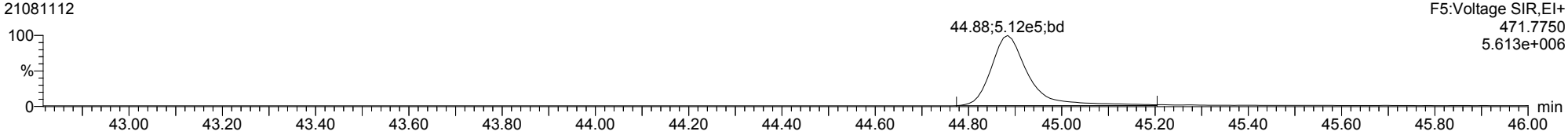
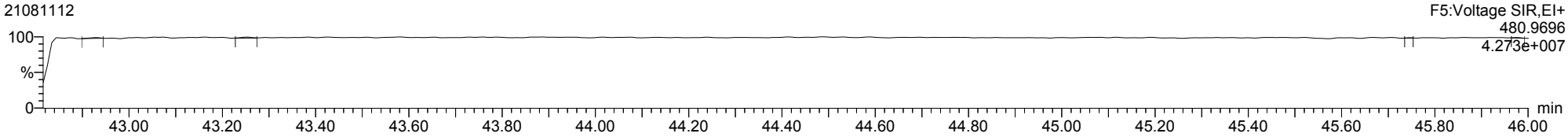


FUNCTION5 PFK



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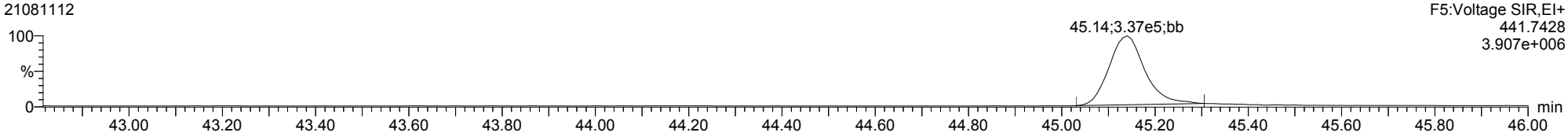
OCDF



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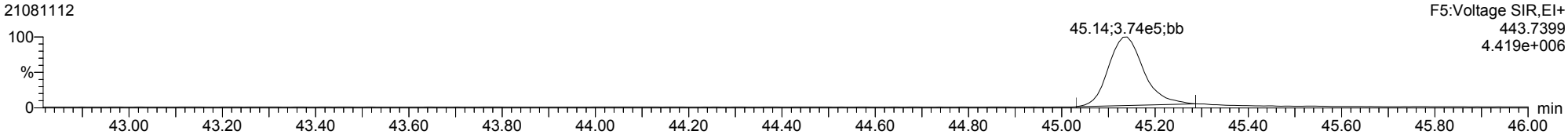
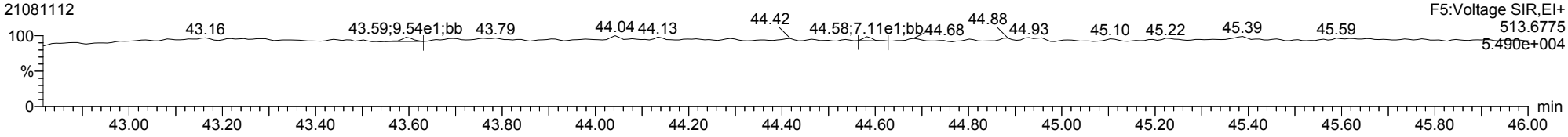


FUNCTION5 DCDPE



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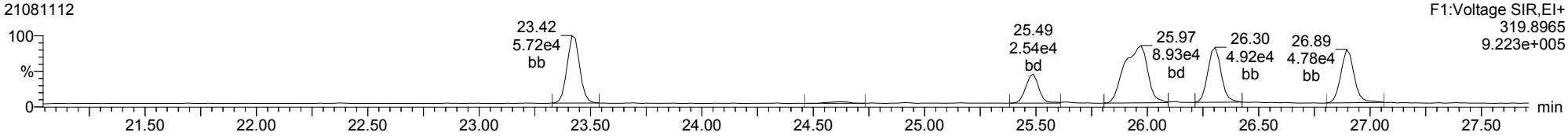
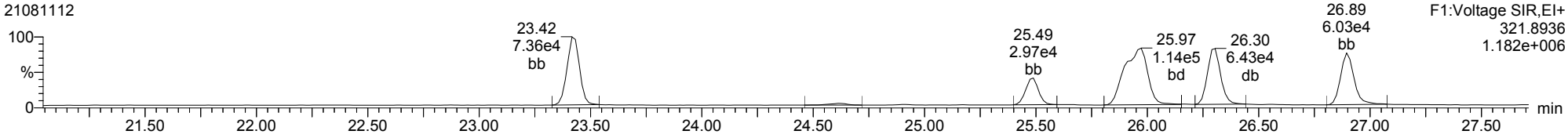
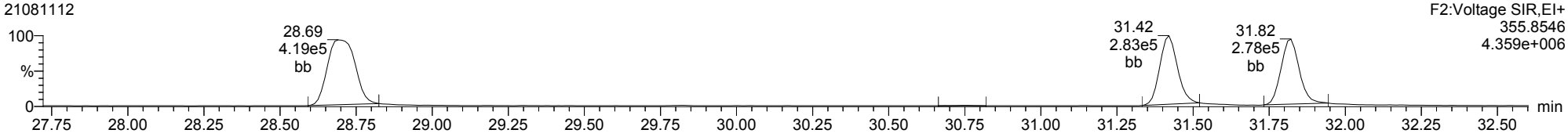


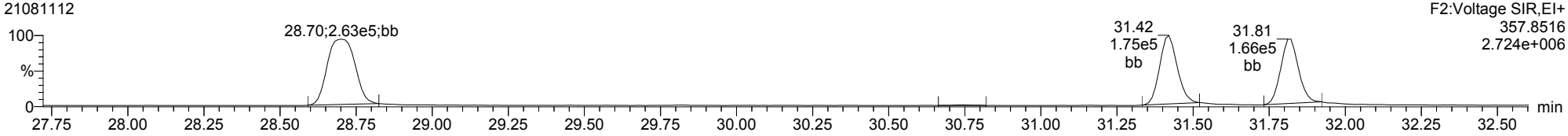
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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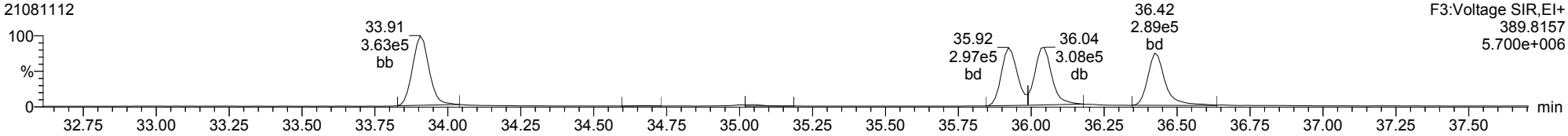
Total-hexadioxins



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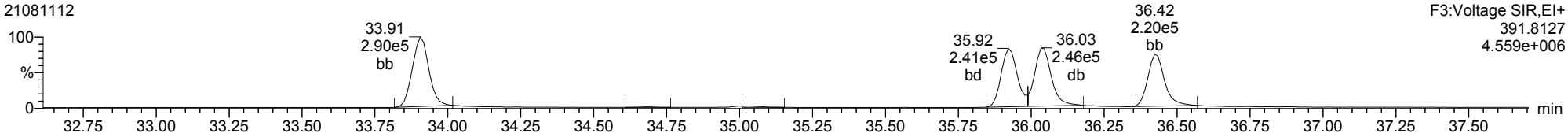

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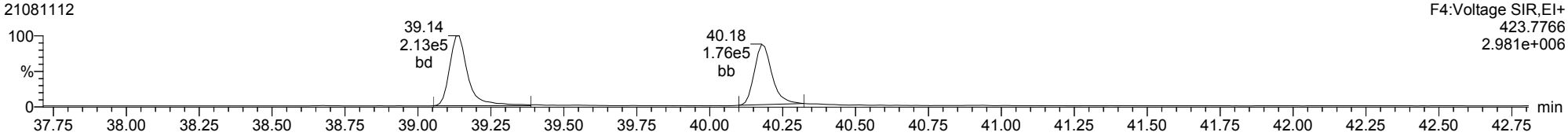

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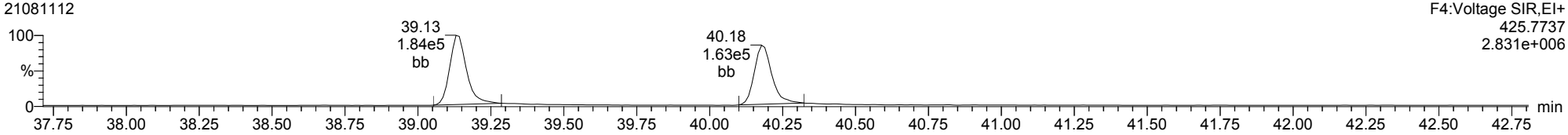

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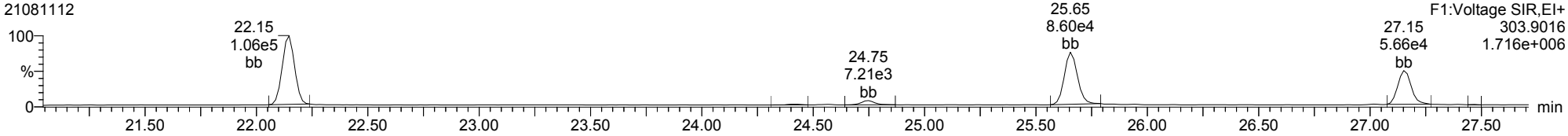
Total-tetrafurans



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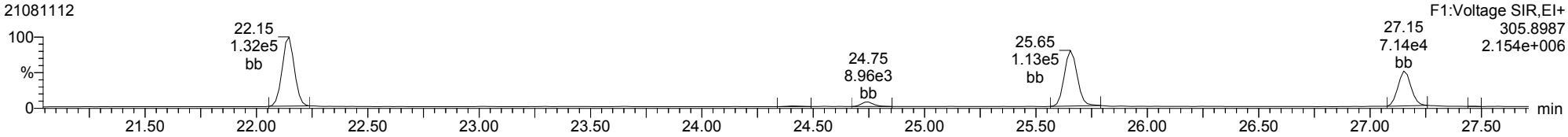

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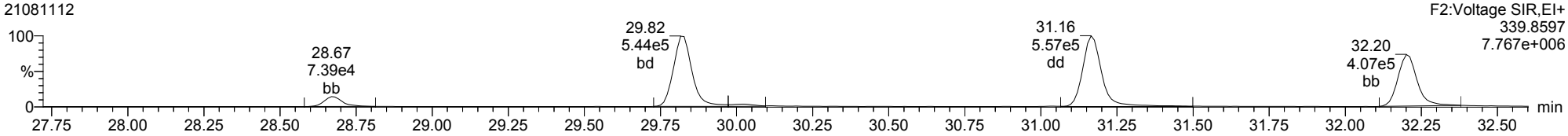

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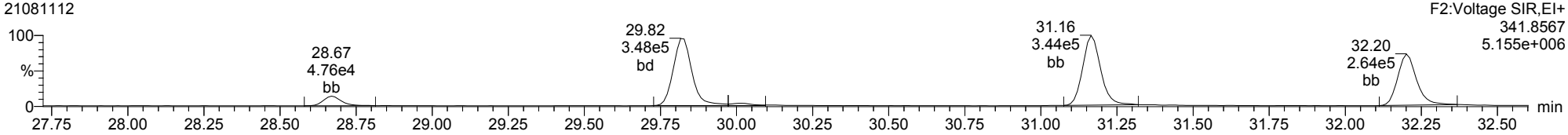

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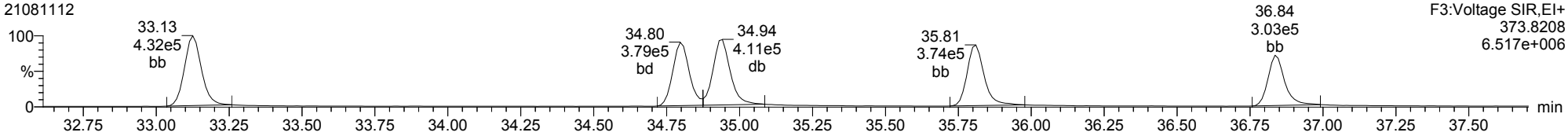

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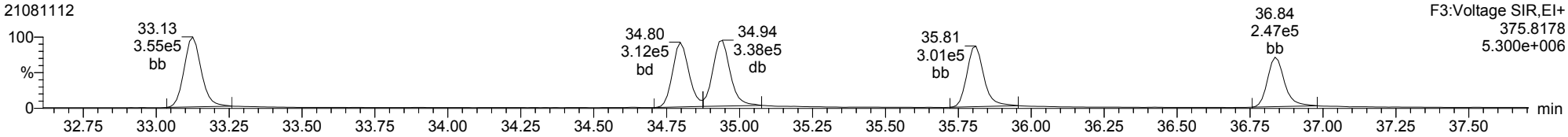

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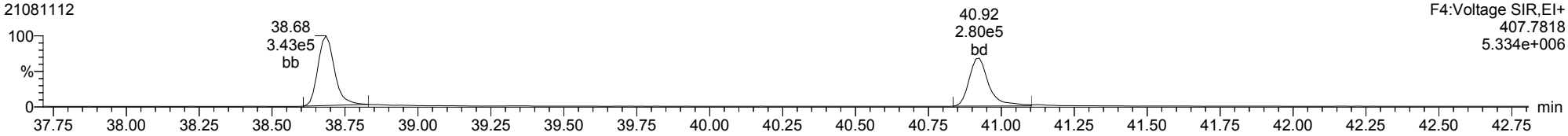

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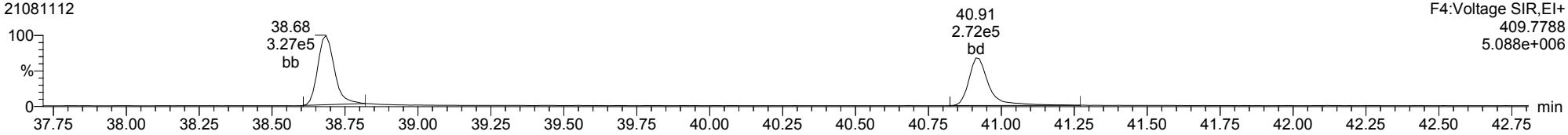

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21F0442
Client: Anchor QEA, LLC
Project: Lower Duwamish AOC4
Calibration: EC00006
Laboratory ID: SJC0004-SCV1
Sequence: SJC0004
Standard ID: G001361

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
OCDF	100.00	100	0.4	20.00
OCDD	100.00	106	6.5	20.00
13C12-2,3,7,8-TCDF	100.00	97.8	-2.2	20.00
13C12-2,3,7,8-TCDD	100.00	80.8	-19.2	20.00
13C12-1,2,3,7,8-PeCDF	100.00	98.4	-1.6	20.00
13C12-2,3,4,7,8-PeCDF	100.00	102	1.6	20.00
13C12-1,2,3,7,8-PeCDD	100.00	95.4	-4.6	20.00
13C12-1,2,3,4,7,8-HxCDF	100.00	112	12.3	20.00
13C12-1,2,3,6,7,8-HxCDF	100.00	115	15.5	20.00
13C12-2,3,4,6,7,8-HxCDF	100.00	110	9.9	20.00
13C12-1,2,3,7,8,9-HxCDF	100.00	114	13.9	20.00
13C12-1,2,3,4,7,8-HxCDD	100.00	115	15.1	20.00
13C12-1,2,3,6,7,8-HxCDD	100.00	114	14.1	20.00
13C12-1,2,3,4,6,7,8-HpCDF	100.00	111	10.8	20.00
13C12-1,2,3,4,7,8,9-HpCDF	100.00	103	3.0	20.00
13C12-1,2,3,4,6,7,8-HpCDD	100.00	106	5.9	20.00
13C12-OCDD	200.00	204	1.9	20.00
37Cl4-2,3,7,8-TCDD	10.000	10.5	4.6	20.00

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	25.473	1.001	5.397e4	6.935e4	0.782	0.778	0.770	1051	2000	7.54e5	9.79e5	717.1	489.3	NO	bb	bb	10.509
12378-PeCDF	29.616	1.001	3.430e5	1.976e5	0.866	1.736	1.550	3779	2507	4.93e6	2.95e6	1303.4	1177.5	NO	bd	bb	55.118
23478-PeCDF	30.953	1.000	3.296e5	1.969e5	0.980	1.674	1.550	3779	2507	4.89e6	2.91e6	1292.8	1159.4	NO	bb	bb	47.811
123478-HxCDF	34.585	1.001	2.573e5	1.996e5	1.002	1.289	1.240	3209	2473	3.98e6	3.06e6	1240.8	1237.2	NO	bd	bd	53.177
234678-HxCDF	35.588	1.000	2.529e5	1.943e5	1.043	1.301	1.240	3209	2473	3.88e6	3.05e6	1210.6	1232.0	NO	bb	bb	53.589
123678-HxCDF	34.719	1.000	2.753e5	2.071e5	0.961	1.329	1.240	3209	2473	4.09e6	3.13e6	1274.3	1264.2	NO	db	db	52.827
123789-HxCDF	36.624	1.000	2.095e5	1.657e5	0.994	1.265	1.240	3209	2473	3.18e6	2.54e6	990.9	1025.6	NO	bb	bb	50.257
1234678-HpCDF	38.473	1.001	2.384e5	2.261e5	1.058	1.054	1.050	2381	2711	3.67e6	3.40e6	1540.3	1252.5	NO	bd	bd	56.960
1234789-HpCDF	40.679	1.001	1.814e5	1.797e5	1.070	1.010	1.050	2381	2711	2.42e6	2.41e6	1016.3	889.7	NO	MM	MM	56.978
OCDF	44.811	1.006	3.187e5	3.370e5	1.257	0.946	0.890	3160	3240	3.52e6	3.73e6	1112.5	1150.5	NO	bd	bd	100.427
2378-TCDD	26.108	1.001	4.639e4	6.004e4	1.307	0.773	0.770	1881	1409	6.50e5	8.45e5	345.7	599.3	NO	bb	bd	11.143
12378-PeCDD	31.209	1.001	2.268e5	1.440e5	0.979	1.575	1.550	2550	4048	3.46e6	2.17e6	1356.4	537.1	NO	bb	bb	52.571
123478-HxCDD	35.710	1.000	2.144e5	1.756e5	0.956	1.221	1.240	2202	2575	3.45e6	2.82e6	1568.7	1096.1	NO	bd	bd	52.086
123678-HxCDD	35.833	1.001	2.325e5	1.934e5	0.953	1.202	1.240	2202	2575	3.38e6	2.84e6	1535.3	1101.5	NO	db	db	51.859
123789-HxCDD	36.212	1.011	2.124e5	1.759e5	0.927	1.207	1.240	2202	2575	3.20e6	2.60e6	1454.2	1009.7	NO	bb	bb	50.934
1234678-HpCDD	39.944	1.000	1.667e5	1.626e5	1.055	1.025	1.050	2421	2184	2.32e6	2.29e6	960.0	1049.1	NO	bb	bb	51.576
OCDD	44.573	1.000	2.816e5	3.124e5	1.074	0.901	0.890	2949	2167	3.02e6	3.44e6	1024.1	1588.7	NO	bd	bb	106.484
13C-2378-TCDF	25.458	1.007	6.632e5	8.384e5	1.925	0.791	0.770	4329	2119	9.49e6	1.21e7	2193.1	5722.7	NO	bb	bb	97.772
13C-12378-PeCDF	29.594	1.171	6.821e5	4.504e5	1.442	1.515	1.550	3588	3800	9.85e6	6.48e6	2745.6	1704.7	NO	bb	bb	98.414
13C-23478-PeCDF	30.942	1.224	6.762e5	4.477e5	1.387	1.510	1.550	3588	3800	9.73e6	6.43e6	2712.3	1691.0	NO	bb	bb	101.585
13C-123478-HxCDF	34.563	0.955	2.895e5	5.677e5	1.053	0.510	0.510	3016	3448	4.32e6	8.66e6	1432.9	2512.7	NO	bd	bd	112.270
13C-123678-HxCDF	34.708	0.959	3.164e5	6.337e5	1.135	0.499	0.510	3016	3448	4.67e6	9.11e6	1547.2	2643.6	NO	db	db	115.454
13C-234678-HxCDF	35.577	0.983	2.686e5	5.315e5	1.004	0.505	0.510	3016	3448	4.21e6	8.26e6	1395.0	2395.5	NO	bb	bb	109.899
13C-123789-HxCDF	36.613	1.011	2.712e5	4.796e5	0.909	0.566	0.510	3016	3448	3.80e6	7.27e6	1259.3	2108.1	NO	bb	bb	113.934
13C-1234678-HpCDF	38.451	1.062	2.318e5	5.391e5	0.960	0.430	0.440	2524	3843	3.63e6	8.28e6	1439.7	2155.3	NO	bb	bb	110.785
13C-1234789-HpCDF	40.657	1.123	1.844e5	4.081e5	0.794	0.452	0.440	2524	3843	2.47e6	5.61e6	979.7	1460.1	NO	bb	bb	102.961
13C-1234-TCDD	25.277	0.000	3.546e5	4.433e5	1.000	0.800	0.770	2370	1656	5.14e6	6.48e6	2167.0	3914.8	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	3.201e5	4.104e5	1.133	0.780	0.770	2370	1656	4.57e6	5.82e6	1927.7	3517.9	NO	bb	bb	80.834
13C-12378-PeCDD	31.187	1.234	4.541e5	2.667e5	0.947	1.703	1.550	1548	1438	6.12e6	3.81e6	3952.6	2652.5	NO	bd	bb	95.416
13C-123478-HxCDD	35.699	0.986	4.400e5	3.430e5	0.939	1.283	1.240	5236	1911	6.93e6	5.31e6	1323.8	2776.5	NO	bd	bd	115.057
13C-123678-HxCDD	35.811	0.989	4.783e5	3.839e5	1.042	1.246	1.240	5236	1911	7.13e6	5.87e6	1362.2	3071.2	NO	db	db	114.113
13C-1234678-HpCDD	39.933	1.103	3.109e5	2.943e5	0.788	1.056	1.050	2200	2496	4.41e6	4.10e6	2003.5	1642.7	NO	bb	bb	105.880
13C-OCDD	44.554	1.231	4.924e5	5.466e5	0.703	0.901	0.890	2844	3590	5.67e6	6.38e6	1994.9	1778.6	NO	bb	bb	203.768
13C-123789-HxCDD	36.201	0.000	3.996e5	3.254e5	1.000	1.228	1.240	5236	1911	5.95e6	4.83e6	1137.1	2525.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	1.083e5		1.298			2708		1.51e6		558.7			bb		10.462

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
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ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	21.981	0.863	6.290e4	7.727e4	0.966	0.814	0.770	1051	2000	9.03e5	1.17e6	859.1	586.2	NO	bd	bb	9.667
1289-TCDF	26.970	1.059	3.538e4	4.519e4	0.736	0.783	0.770	1051	2000	5.00e5	6.19e5	475.1	309.6	NO	db	db	7.292
13468-PECDF	26.819	0.906	3.866e5	2.593e5	1.347	1.491	1.550	1150	1394	5.59e6	3.79e6	4863.9	2716.8	NO	bb	bb	42.347
12389-PECDF	31.989	1.081	2.576e5	1.610e5	0.867	1.600	1.550	3779	2507	3.73e6	2.29e6	987.5	914.9	NO	bb	bb	42.640
123468-HXCDF	32.903	0.952	2.822e5	2.207e5	1.036	1.279	1.240	3209	2473	4.14e6	3.21e6	1290.0	1296.5	NO	bb	bb	56.637
1368-TCDD	23.251	0.891	4.855e4	6.494e4	1.256	0.748	0.770	1881	1409	7.38e5	9.49e5	392.3	673.6	NO	bb	bd	12.372
1289-TCDD	26.713	1.024	4.492e4	5.792e4	1.151	0.775	0.770	1881	1409	6.05e5	7.69e5	321.3	545.4	NO	bb	bd	12.231
12479-PECDD	28.502	0.914	3.298e5	2.048e5	1.773	1.611	1.550	2550	4048	3.12e6	1.98e6	1223.1	489.6	NO	bb	bb	41.819
12389-PECDD	31.599	1.013	2.235e5	1.584e5	1.171	1.411	1.550	2550	4048	3.21e6	2.13e6	1258.6	527.1	NO	bb	bd	45.240
124679-HXCDD	33.694	0.944	2.599e5	2.103e5	1.034	1.236	1.240	2202	2575	3.82e6	3.11e6	1734.4	1208.3	NO	bb	bb	58.104
1234679-HPCDD	38.919	0.975	1.878e5	1.813e5	1.194	1.036	1.050	2421	2184	2.94e6	2.80e6	1212.6	1283.7	NO	bb	bb	51.075
Total-tetrafurans			1.565e5		0.828			1051		2.22e6							28.295
Total-penta1			3.866e5					1150		5.59e6							42.347
Total-pentafurans			9.757e5		0.904			3779		1.42e7							152.615
Total-hexafurans			1.277e6		1.007			3209		1.93e7							266.487
Total-heptafurans			4.214e5		1.064			2381		6.12e6							114.391
Total-Furans			3.536e6		0.998			1051		5.09e7							704.561
Total-tetradioxins			2.465e5		1.238			1881		3.02e6							62.382
Total-pentadioxins			7.802e5		1.308			2550		9.79e6							139.630
Total-hexadioxins			9.279e5		0.967			2202		1.39e7							214.893
Total-heptadioxins			3.545e5		1.125			2421		5.26e6							102.651
Total-Dioxins			2.591e6		1.141			1881		3.50e7							626.040
Total-TEQ			6.127e6					1881		8.59e7							1330.601
FUNCTION1 PFK			4.173e6					638729		6.49e7							
FUNCTION2 PFK			6.392e5					323979		1.36e7							0.000
FUNCTION3 PFK			1.631e6					372007		3.19e7							0.000
FUNCTION4 PFK			1.794e6					339905		2.36e7							
FUNCTION5 PFK			7.170e5					167053		1.68e7							
FUNCTION1 HXCD...			5.708e2					819		8.41e3							0.000
FUNCTION1 HPCD...			1.564e3					912		3.31e4							0.000
FUNCTION2 HPCD...			1.066e3					1224		1.87e4							0.000
FUNCTION3 OCDPE			5.294e2					1008		7.55e3							0.000
FUNCTION4 NCDPE			2.385e2					833		5.02e3							0.000
FUNCTION5 DCDPE			3.233e2					691		4.35e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
2	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
3	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
4	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
2	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
3	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
4	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
5	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
2	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
3	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978

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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	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
2	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
3	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
2	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
3	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
4	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
5	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
2	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075

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	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
7	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
8	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
9	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
10	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
11	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
12	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
13	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
14	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
15	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
16	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
17	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347
20	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
21	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
22	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
23	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
24	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
25	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
26	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
27	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
28	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
29	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
30	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
31	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
32	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
33	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
34	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
35	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
36	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.92	1.156e5					2.1	NO		dd		
2	FUNCTION1 PFK	21.81	9.219e4					1.9	NO		dd		
3	FUNCTION1 PFK	21.69	1.040e5					2.1	NO		dd		
4	FUNCTION1 PFK	21.59	1.237e5					2.4	NO		dd		
5	FUNCTION1 PFK	21.50	1.080e5					2.3	NO		dd		
6	FUNCTION1 PFK	21.41	6.439e4					2.1	NO		dd		
7	FUNCTION1 PFK	21.36	8.424e4					2.3	NO		dd		
8	FUNCTION1 PFK	21.30	1.669e4					1.0	NO		dd		
9	FUNCTION1 PFK	21.24	6.060e4					1.7	NO		dd		
10	FUNCTION1 PFK	21.18	4.762e4					1.6	NO		dd		
11	FUNCTION1 PFK	21.12	4.780e3					0.4	NO		bd		
12	FUNCTION1 PFK	23.58	4.497e4					1.3	NO		bd		
13	FUNCTION1 PFK	23.48	1.760e4					0.8	NO		bb		
14	FUNCTION1 PFK	23.36	3.195e4					1.1	NO		bb		
15	FUNCTION1 PFK	23.25	1.015e5					1.8	NO		db		
16	FUNCTION1 PFK	23.15	6.591e4					2.1	NO		dd		
17	FUNCTION1 PFK	23.02	1.064e5					1.8	NO		dd		
18	FUNCTION1 PFK	22.95	4.945e4					1.5	NO		dd		
19	FUNCTION1 PFK	22.90	5.485e4					1.8	NO		dd		
20	FUNCTION1 PFK	22.81	8.219e4					1.9	NO		dd		
21	FUNCTION1 PFK	22.69	8.428e4					1.5	NO		dd		
22	FUNCTION1 PFK	22.59	6.669e4					1.5	NO		dd		
23	FUNCTION1 PFK	22.48	7.201e4					1.7	NO		dd		
24	FUNCTION1 PFK	22.37	9.568e4					1.7	NO		dd		
25	FUNCTION1 PFK	22.27	9.298e4					2.0	NO		dd		
26	FUNCTION1 PFK	22.15	6.624e4					2.0	NO		dd		
27	FUNCTION1 PFK	22.04	9.485e4					2.3	NO		dd		
28	FUNCTION1 PFK	25.28	4.780e4					1.5	NO		bd		
29	FUNCTION1 PFK	25.16	3.320e4					1.2	NO		db		
30	FUNCTION1 PFK	25.05	4.422e4					1.2	NO		dd		
31	FUNCTION1 PFK	24.93	4.108e4					1.3	NO		bd		
32	FUNCTION1 PFK	24.79	2.806e4					0.8	NO		bb		
33	FUNCTION1 PFK	24.72	4.553e4					1.3	NO		db		
34	FUNCTION1 PFK	24.67	2.488e4					1.3	NO		dd		
35	FUNCTION1 PFK	24.60	8.222e4					1.8	NO		dd		
36	FUNCTION1 PFK	24.48	5.748e4					1.8	NO		dd		
37	FUNCTION1 PFK	24.37	9.536e4					1.8	NO		dd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	24.28	7.763e4					1.9	NO		dd		
39	FUNCTION1 PFK	24.14	7.067e4					1.9	NO		dd		
40	FUNCTION1 PFK	24.04	9.260e4					1.8	NO		dd		
41	FUNCTION1 PFK	23.93	1.030e5					2.3	NO		dd		
42	FUNCTION1 PFK	23.81	4.843e4					1.4	NO		dd		
43	FUNCTION1 PFK	23.69	7.884e4					1.9	NO		dd		
44	FUNCTION1 PFK	27.06	7.787e4					2.0	NO		dd		
45	FUNCTION1 PFK	26.97	8.111e4					1.8	NO		dd		
46	FUNCTION1 PFK	26.83	9.036e4					2.0	NO		dd		
47	FUNCTION1 PFK	26.74	8.591e4					1.8	NO		dd		
48	FUNCTION1 PFK	26.61	6.449e4					1.4	NO		dd		
49	FUNCTION1 PFK	26.49	5.909e4					1.2	NO		dd		
50	FUNCTION1 PFK	26.40	5.894e4					1.4	NO		dd		
51	FUNCTION1 PFK	26.29	3.046e4					1.1	NO		dd		
52	FUNCTION1 PFK	26.18	3.010e4					1.0	NO		dd		
53	FUNCTION1 PFK	26.15	2.080e4					0.9	NO		bd		
54	FUNCTION1 PFK	25.94	5.251e4					1.2	NO		bb		
55	FUNCTION1 PFK	25.84	3.685e4					1.1	NO		db		
56	FUNCTION1 PFK	25.70	4.278e4					1.2	NO		dd		
57	FUNCTION1 PFK	25.59	5.314e4					1.3	NO		bd		
58	FUNCTION1 PFK	25.49	6.315e4					1.4	NO		db		
59	FUNCTION1 PFK	25.38	6.586e4					1.5	NO		dd		
60	FUNCTION1 PFK	27.50	6.900e4					1.8	NO		db		
61	FUNCTION1 PFK	27.39	8.722e4					1.9	NO		dd		
62	FUNCTION1 PFK	27.27	8.670e4					1.7	NO		dd		
63	FUNCTION1 PFK	27.17	9.663e4					2.1	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.97	2.403e4					2.4	NO		bb		0.000
2	FUNCTION2 PFK	29.92	4.624e3					0.9	NO		db		0.000
3	FUNCTION2 PFK	29.88	2.754e4					1.7	NO		bd		0.000
4	FUNCTION2 PFK	29.69	2.184e3					0.6	NO		bb		0.000
5	FUNCTION2 PFK	29.63	2.944e4					2.0	NO		bb		0.000
6	FUNCTION2 PFK	28.56	4.796e3					0.9	NO		bb		0.000
7	FUNCTION2 PFK	28.44	5.849e4					2.6	NO		bb		0.000
8	FUNCTION2 PFK	28.30	3.377e4					2.5	NO		db		0.000
9	FUNCTION2 PFK	28.18	3.753e4					1.6	NO		dd		0.000
10	FUNCTION2 PFK	28.10	5.241e4					2.6	NO		bd		0.000
11	FUNCTION2 PFK	27.86	3.047e4					1.8	NO		bb		0.000
12	FUNCTION2 PFK	31.88	2.920e4					1.8	NO		bb		0.000
13	FUNCTION2 PFK	31.76	4.625e3					0.8	NO		bb		0.000
14	FUNCTION2 PFK	31.67	3.044e4					2.7	NO		bb		0.000
15	FUNCTION2 PFK	31.58	5.445e4					3.1	YES		bb		0.000
16	FUNCTION2 PFK	31.33	1.312e4					1.5	NO		bb		0.000
17	FUNCTION2 PFK	31.09	3.942e4					1.8	NO		bb		0.000
18	FUNCTION2 PFK	30.93	5.594e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	30.56	3.248e4					2.0	NO		bb		0.000
20	FUNCTION2 PFK	30.33	4.992e4					2.7	NO		db		0.000
21	FUNCTION2 PFK	30.20	5.152e4					3.3	YES		bd		0.000
22	FUNCTION2 PFK	30.08	2.319e4					1.6	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	32.78	3.627e4					2.5	NO		bb		0.000
2	FUNCTION3 PFK	32.72	1.391e3					0.3	NO		bb		0.000
3	FUNCTION3 PFK	32.68	1.420e4					1.6	NO		bb		0.000
4	FUNCTION3 PFK	32.57	1.765e4					1.2	NO		bb		0.000
5	FUNCTION3 PFK	34.51	7.166e4					2.5	NO		bd		0.000
6	FUNCTION3 PFK	34.37	3.299e4					1.9	NO		bb		0.000
7	FUNCTION3 PFK	34.27	2.024e4					1.0	NO		bb		0.000
8	FUNCTION3 PFK	34.03	3.995e4					1.8	NO		db		0.000
9	FUNCTION3 PFK	33.94	2.641e4					1.7	NO		bd		0.000
10	FUNCTION3 PFK	33.85	5.420e3					0.6	NO		db		0.000
11	FUNCTION3 PFK	33.79	2.499e4					2.1	NO		bd		0.000
12	FUNCTION3 PFK	33.72	4.357e4					2.1	NO		db		0.000
13	FUNCTION3 PFK	33.60	3.370e4					2.5	NO		dd		0.000
14	FUNCTION3 PFK	33.57	4.168e4					2.7	NO		dd		0.000
15	FUNCTION3 PFK	33.47	4.842e4					2.0	NO		dd		0.000
16	FUNCTION3 PFK	33.36	5.830e4					2.9	NO		dd		0.000
17	FUNCTION3 PFK	33.27	2.606e4					2.0	NO		dd		0.000
18	FUNCTION3 PFK	33.24	3.089e4					1.9	NO		bd		0.000
19	FUNCTION3 PFK	33.10	4.231e3					0.6	NO		bb		0.000
20	FUNCTION3 PFK	32.91	4.478e4					1.8	NO		bb		0.000
21	FUNCTION3 PFK	36.47	2.325e4					1.2	NO		bb		0.000
22	FUNCTION3 PFK	36.37	4.000e4					1.6	NO		db		0.000
23	FUNCTION3 PFK	36.25	4.928e4					1.9	NO		dd		0.000
24	FUNCTION3 PFK	36.14	5.917e4					2.5	NO		dd		0.000
25	FUNCTION3 PFK	36.02	3.775e4					1.7	NO		dd		0.000
26	FUNCTION3 PFK	35.96	2.283e4					2.0	NO		dd		0.000
27	FUNCTION3 PFK	35.92	3.256e4					2.2	NO		bd		0.000
28	FUNCTION3 PFK	35.50	2.799e4					1.2	NO		bb		0.000
29	FUNCTION3 PFK	35.39	2.021e4					1.6	NO		db		0.000
30	FUNCTION3 PFK	35.35	1.054e4					1.2	NO		bd		0.000
31	FUNCTION3 PFK	35.26	2.891e4					1.8	NO		bb		0.000
32	FUNCTION3 PFK	35.14	2.968e4					1.7	NO		bb		0.000
33	FUNCTION3 PFK	34.93	4.830e4					2.6	NO		bb		0.000
34	FUNCTION3 PFK	34.81	5.937e4					2.7	NO		db		0.000
35	FUNCTION3 PFK	34.69	7.389e4					2.6	NO		dd		0.000
36	FUNCTION3 PFK	34.61	5.603e4					2.2	NO		dd		0.000
37	FUNCTION3 PFK	37.57	5.322e3					0.7	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.47	2.042e4					1.5	NO		bb		0.000
39	FUNCTION3 PFK	37.39	2.887e4					1.5	NO		bb		0.000
40	FUNCTION3 PFK	37.25	4.912e4					1.9	NO		db		0.000
41	FUNCTION3 PFK	37.16	5.569e4					2.3	NO		dd		0.000
42	FUNCTION3 PFK	37.08	2.607e4					2.0	NO		dd		0.000
43	FUNCTION3 PFK	37.04	5.346e4					2.7	NO		dd		0.000
44	FUNCTION3 PFK	36.95	6.200e4					2.6	NO		bd		0.000
45	FUNCTION3 PFK	36.71	1.917e4					1.6	NO		db		0.000
46	FUNCTION3 PFK	36.59	6.869e4					2.3	NO		bd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.38	2.044e4					1.6	NO		bb		
2	FUNCTION4 PFK	38.05	5.732e4					3.2	YES		db		
3	FUNCTION4 PFK	37.95	1.411e5					5.6	YES		dd		
4	FUNCTION4 PFK	37.85	3.608e5					8.1	YES		dd		
5	FUNCTION4 PFK	37.70	5.484e5					11.8	YES		bd		
6	FUNCTION4 PFK	40.85	2.650e4					1.8	NO		bd		
7	FUNCTION4 PFK	40.51	2.576e4					1.5	NO		db		
8	FUNCTION4 PFK	40.40	2.586e4					1.6	NO		bd		
9	FUNCTION4 PFK	40.28	2.720e4					1.3	NO		bb		
10	FUNCTION4 PFK	40.18	1.718e4					1.2	NO		bb		
11	FUNCTION4 PFK	40.06	2.263e4					1.6	NO		bb		
12	FUNCTION4 PFK	39.94	1.247e4					1.1	NO		bb		
13	FUNCTION4 PFK	39.74	2.676e4					1.3	NO		bb		
14	FUNCTION4 PFK	39.54	1.027e3					0.3	NO		bb		
15	FUNCTION4 PFK	39.38	2.354e4					1.2	NO		bb		
16	FUNCTION4 PFK	39.29	1.762e4					1.4	NO		db		
17	FUNCTION4 PFK	39.18	2.910e4					1.6	NO		bd		
18	FUNCTION4 PFK	38.83	3.069e4					1.4	NO		bb		
19	FUNCTION4 PFK	38.73	3.539e4					1.6	NO		db		
20	FUNCTION4 PFK	38.63	9.699e3					0.9	NO		dd		
21	FUNCTION4 PFK	38.58	9.331e3					0.9	NO		bd		
22	FUNCTION4 PFK	42.77	1.724e4					1.2	NO		bb		
23	FUNCTION4 PFK	42.55	2.073e4					1.3	NO		db		
24	FUNCTION4 PFK	42.42	3.607e4					1.9	NO		bd		
25	FUNCTION4 PFK	42.31	4.473e4					1.7	NO		bb		
26	FUNCTION4 PFK	42.06	3.196e4					1.6	NO		bb		
27	FUNCTION4 PFK	41.89	4.289e3					0.6	NO		bb		
28	FUNCTION4 PFK	41.73	2.900e4					1.4	NO		bb		
29	FUNCTION4 PFK	41.65	2.539e4					1.9	NO		bb		
30	FUNCTION4 PFK	41.50	3.007e4					1.4	NO		bb		
31	FUNCTION4 PFK	41.29	2.942e4					1.7	NO		db		
32	FUNCTION4 PFK	41.20	1.070e4					1.0	NO		dd		
33	FUNCTION4 PFK	41.16	1.019e4					1.0	NO		bd		
34	FUNCTION4 PFK	40.97	3.520e4					1.6	NO		db		

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Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	43.17	2.622e4					4.3	YES		dd		
2	FUNCTION5 PFK	43.10	8.115e4					5.8	YES		bd		
3	FUNCTION5 PFK	44.31	1.424e4					1.5	NO		bd		
4	FUNCTION5 PFK	44.20	2.337e4					2.3	NO		bb		
5	FUNCTION5 PFK	44.10	1.419e4					1.9	NO		db		
6	FUNCTION5 PFK	43.98	2.537e4					3.3	YES		dd		
7	FUNCTION5 PFK	43.88	9.970e3					1.7	NO		dd		
8	FUNCTION5 PFK	43.85	7.848e3					1.4	NO		dd		
9	FUNCTION5 PFK	43.79	9.429e3					1.8	NO		dd		
10	FUNCTION5 PFK	43.75	5.501e3					1.2	NO		bd		
11	FUNCTION5 PFK	43.64	1.833e4					2.9	NO		bb		
12	FUNCTION5 PFK	43.53	1.509e4					2.4	NO		db		
13	FUNCTION5 PFK	43.49	2.714e3					0.8	NO		dd		
14	FUNCTION5 PFK	43.43	1.917e4					3.2	YES		dd		
15	FUNCTION5 PFK	43.41	2.015e4					3.2	YES		dd		
16	FUNCTION5 PFK	43.34	2.726e4					3.5	YES		dd		
17	FUNCTION5 PFK	43.30	2.997e4					4.4	YES		dd		
18	FUNCTION5 PFK	43.21	5.187e4					4.5	YES		dd		
19	FUNCTION5 PFK	45.52	4.230e3					1.3	NO		bd		
20	FUNCTION5 PFK	45.47	6.814e3					1.6	NO		db		
21	FUNCTION5 PFK	45.44	1.565e4					2.6	NO		dd		
22	FUNCTION5 PFK	45.34	1.434e4					2.1	NO		bd		
23	FUNCTION5 PFK	45.22	7.354e3					1.6	NO		db		
24	FUNCTION5 PFK	45.20	6.210e3					1.5	NO		bd		
25	FUNCTION5 PFK	45.02	7.175e3					1.0	NO		db		
26	FUNCTION5 PFK	44.96	3.641e3					1.0	NO		dd		
27	FUNCTION5 PFK	44.90	9.237e3					1.7	NO		dd		
28	FUNCTION5 PFK	44.87	8.890e3					1.7	NO		dd		
29	FUNCTION5 PFK	44.82	1.356e4					2.1	NO		dd		
30	FUNCTION5 PFK	44.78	2.418e4					2.4	NO		bd		
31	FUNCTION5 PFK	44.65	2.284e4					2.2	NO		db		
32	FUNCTION5 PFK	44.55	1.380e4					1.7	NO		bd		
33	FUNCTION5 PFK	44.45	8.362e3					2.0	NO		db		
34	FUNCTION5 PFK	44.41	1.412e4					2.0	NO		dd		
35	FUNCTION5 PFK	46.36	3.164e3					1.2	NO		db		
36	FUNCTION5 PFK	46.33	1.179e4					1.8	NO		bd		
37	FUNCTION5 PFK	46.26	6.653e3					1.7	NO		db		

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	46.22	1.290e4					2.5	NO		bd		
39	FUNCTION5 PFK	46.11	1.729e4					2.1	NO		db		
40	FUNCTION5 PFK	46.01	2.263e4					2.3	NO		dd		
41	FUNCTION5 PFK	45.92	9.899e3					1.8	NO		dd		
42	FUNCTION5 PFK	45.89	1.679e4					3.5	YES		bd		
43	FUNCTION5 PFK	45.74	4.790e3					1.0	NO		db		
44	FUNCTION5 PFK	45.71	4.776e3					1.1	NO		dd		
45	FUNCTION5 PFK	45.65	8.970e3					1.4	NO		bd		
46	FUNCTION5 PFK	45.55	1.507e4					1.9	NO		db		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.58	1.353e2					2.3	NO		db		0.000
2	FUNCTION1 HXCD...	25.49	9.740e1					1.7	NO		bd		0.000
3	FUNCTION1 HXCD...	23.96	9.111e1					1.2	NO		bb		0.000
4	FUNCTION1 HXCD...	26.82	1.752e2					2.3	NO		bb		0.000
5	FUNCTION1 HXCD...	25.73	7.183e1					2.7	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.50	1.182e2					2.9	NO		bb		0.000
2	FUNCTION1 HPCD...	26.26	7.553e1					1.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.76	9.414e1					1.7	NO		bb		0.000
4	FUNCTION1 HPCD...	25.50	7.280e1					1.8	NO		bb		0.000
5	FUNCTION1 HPCD...	24.88	8.348e1					1.5	NO		bb		0.000
6	FUNCTION1 HPCD...	24.69	8.225e1					2.5	NO		bb		0.000
7	FUNCTION1 HPCD...	24.02	1.219e2					3.8	YES		db		0.000
8	FUNCTION1 HPCD...	23.92	8.739e1					1.9	NO		bd		0.000
9	FUNCTION1 HPCD...	23.43	1.627e2					4.0	YES		bb		0.000
10	FUNCTION1 HPCD...	23.16	9.346e1					2.2	NO		bb		0.000
11	FUNCTION1 HPCD...	21.83	9.696e1					2.4	NO		db		0.000
12	FUNCTION1 HPCD...	21.74	8.411e1					1.6	NO		bd		0.000
13	FUNCTION1 HPCD...	21.44	7.327e1					1.6	NO		bb		0.000
14	FUNCTION1 HPCD...	27.61	8.015e1					2.5	NO		bb		0.000
15	FUNCTION1 HPCD...	27.39	7.945e1					1.5	NO		bb		0.000
16	FUNCTION1 HPCD...	26.80	1.580e2					3.0	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...	32.36	9.129e1					1.5	NO		db		0.000
2	FUNCTION2 HPCD...	32.17	1.165e2					1.4	NO		bd		0.000
3	FUNCTION2 HPCD...	30.98	1.204e2					2.5	NO		bb		0.000
4	FUNCTION2 HPCD...	30.84	4.732e2					6.4	YES		bb		0.000
5	FUNCTION2 HPCD...	29.56	1.813e2					1.5	NO		bb		0.000
6	FUNCTION2 HPCD...	27.93	8.299e1					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	36.21	1.492e2					2.3	NO		bb		0.000
2	FUNCTION3 OCDPE	35.81	1.108e2					2.0	NO		bb		0.000
3	FUNCTION3 OCDPE	35.14	9.464e1					1.6	NO		bb		0.000
4	FUNCTION3 OCDPE	34.32	1.746e2					1.5	NO		bb		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.12	1.399e2					2.9	NO		bb		0.000
2	FUNCTION4 NCDPE	38.11	9.856e1					3.2	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	44.21	1.290e2					2.9	NO		bb		0.000
2	FUNCTION5 DCDPE	43.44	1.944e2					3.4	YES		bb		0.000

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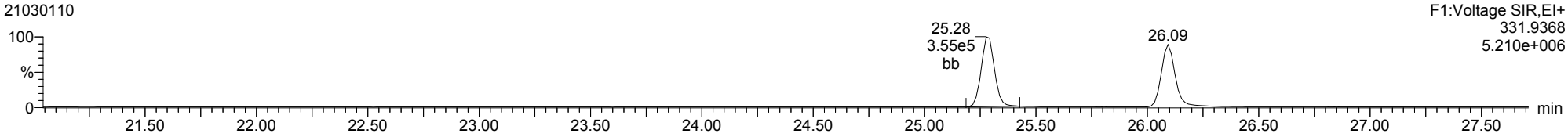

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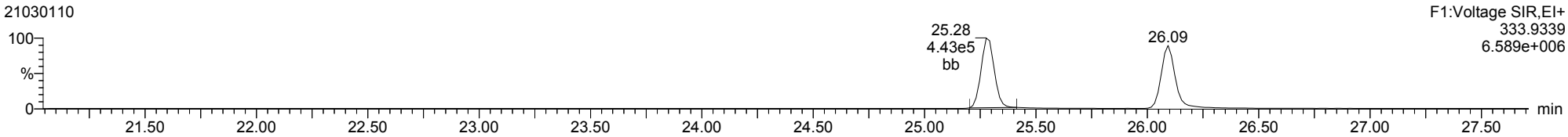

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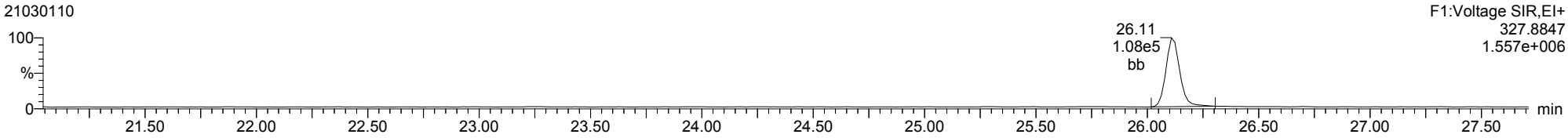

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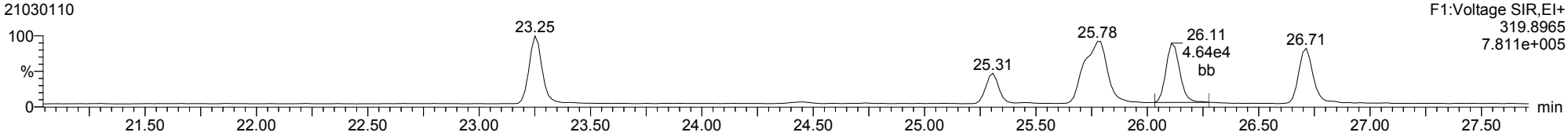

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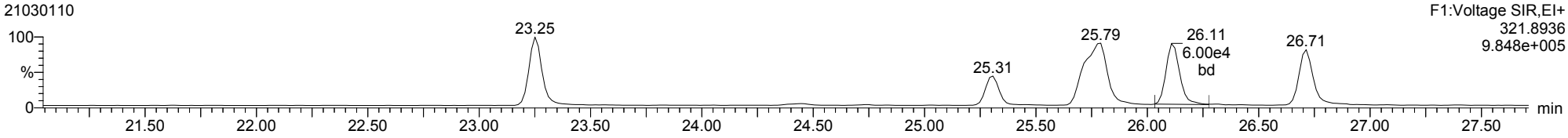

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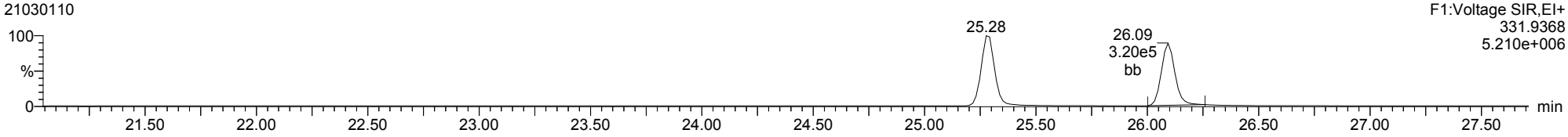

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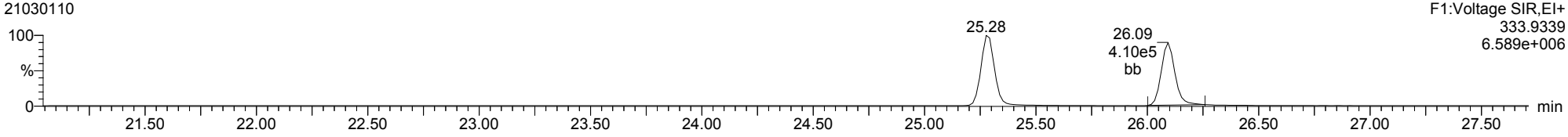
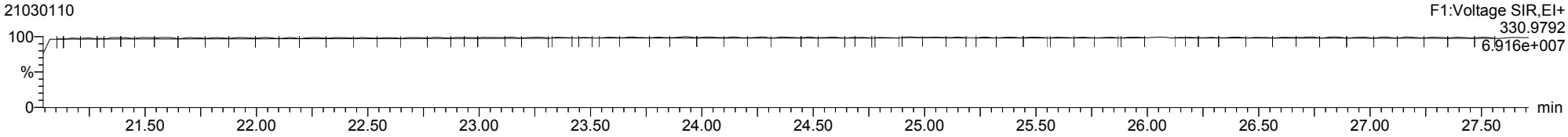


FUNCTION1 PFK



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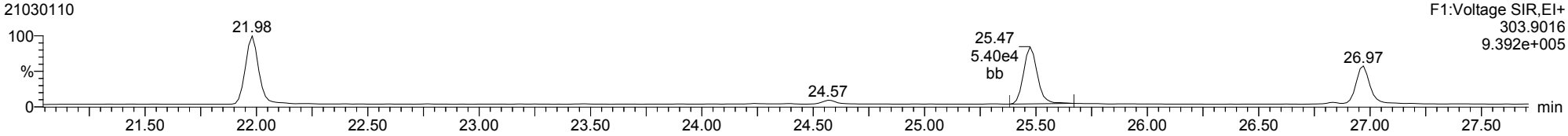

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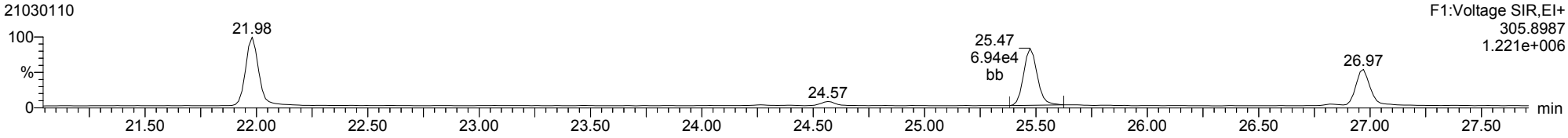

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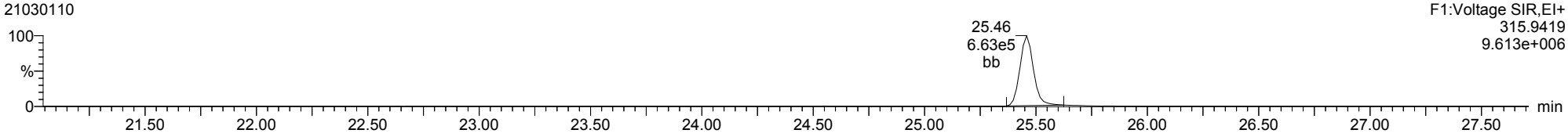

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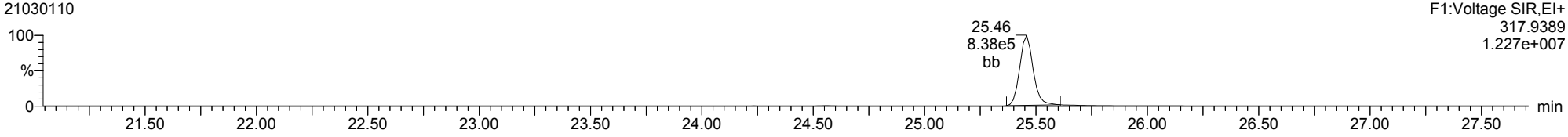

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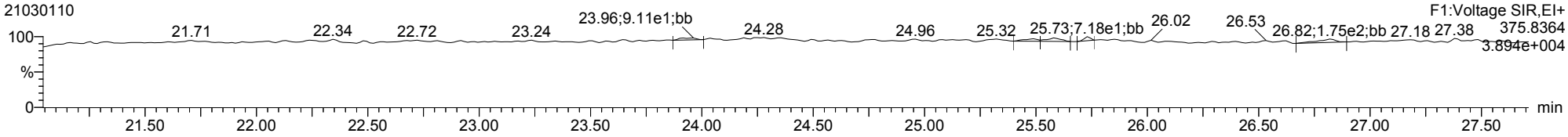

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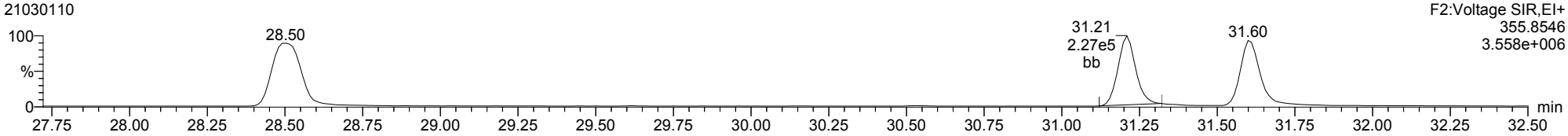

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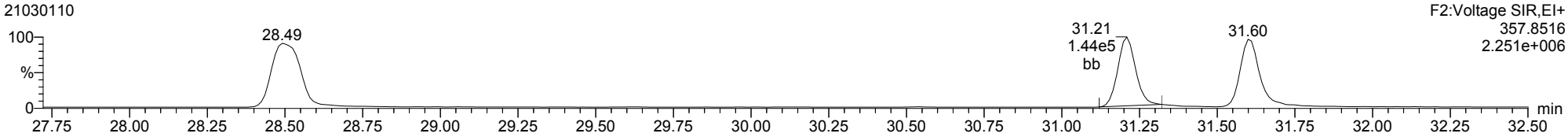

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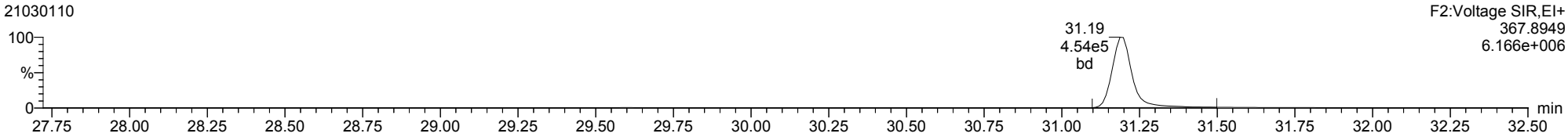

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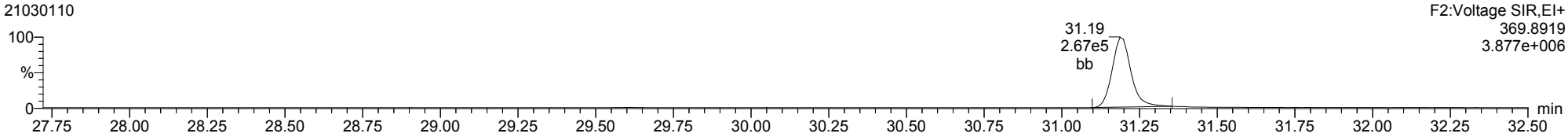
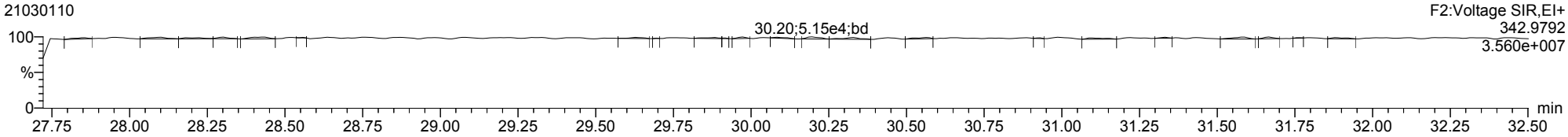


FUNCTION2 PFK



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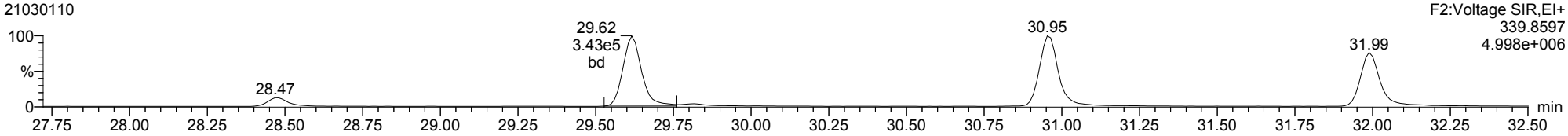

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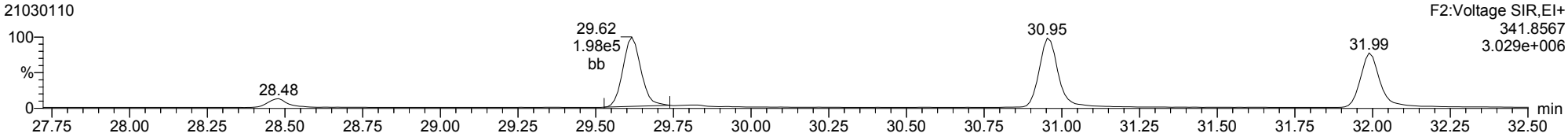

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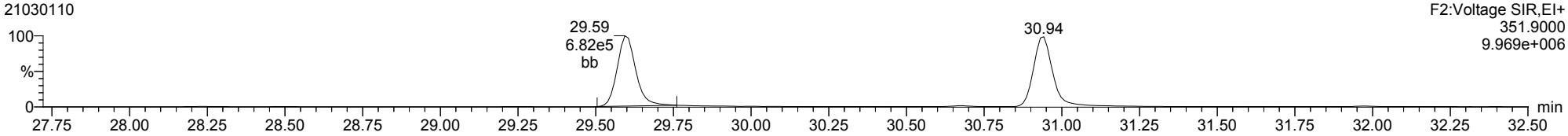

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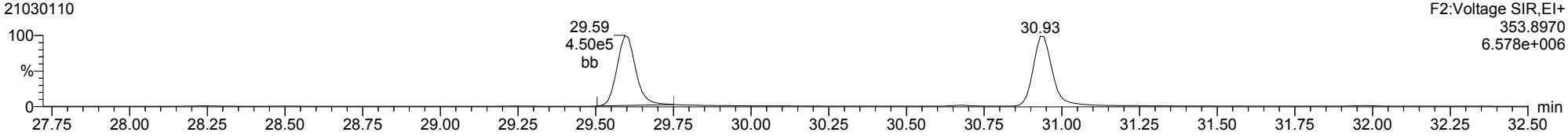

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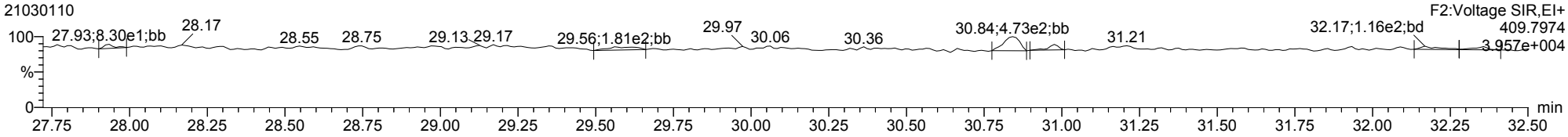

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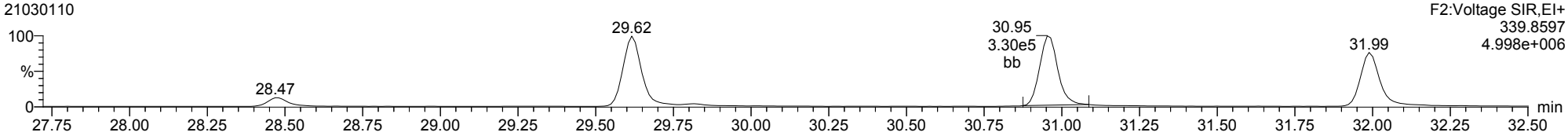
23478-PeCDF



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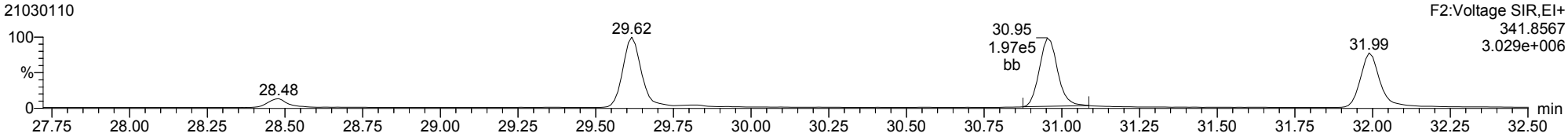

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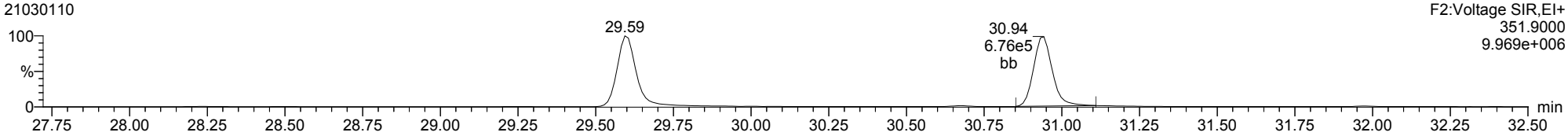

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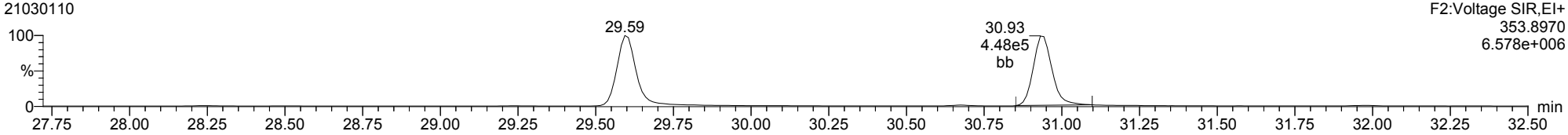

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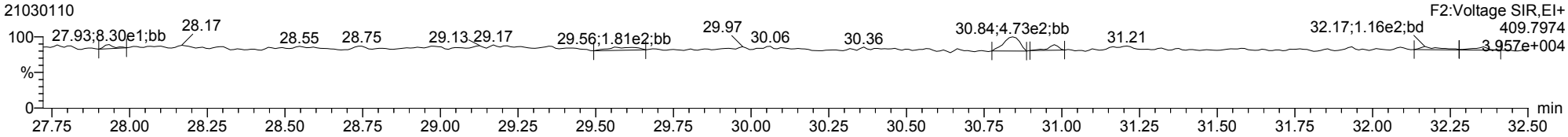

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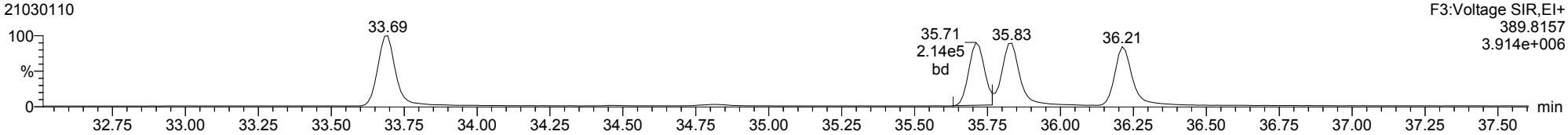

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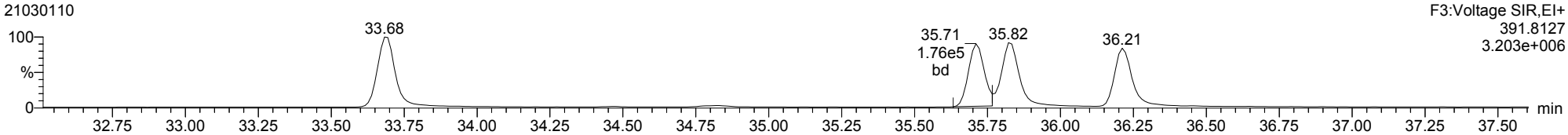

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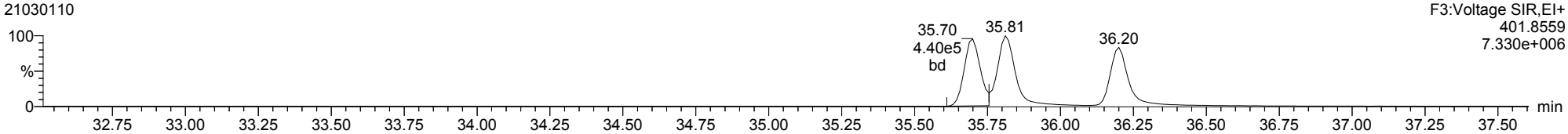

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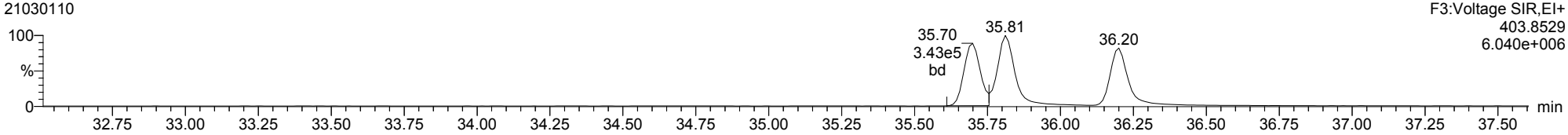

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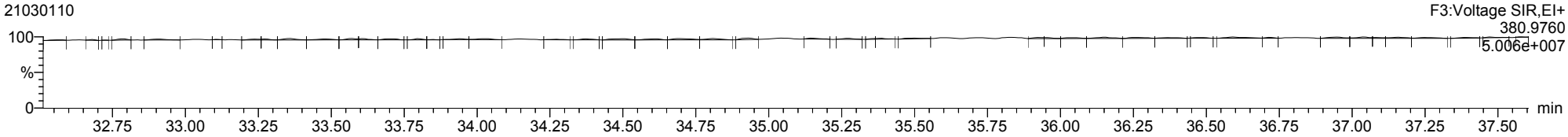

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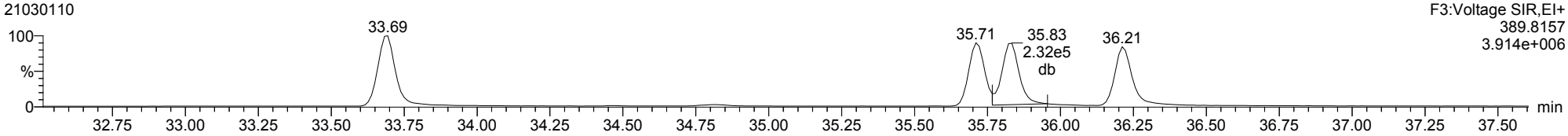

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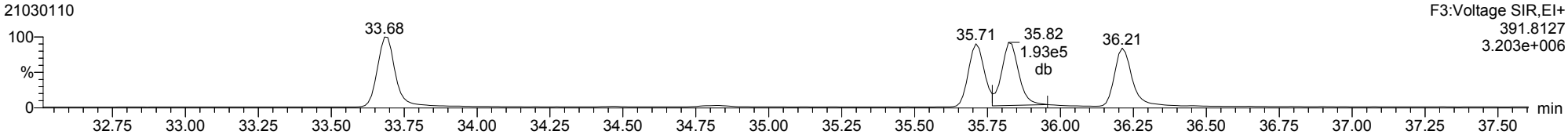

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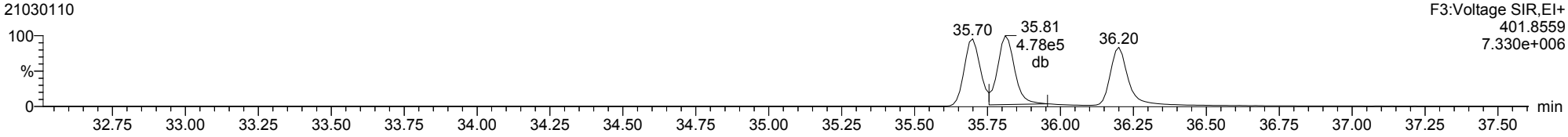

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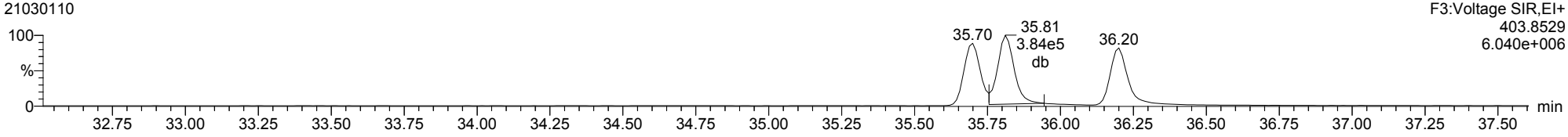

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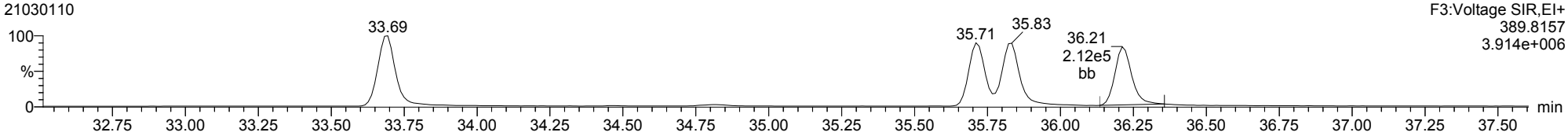

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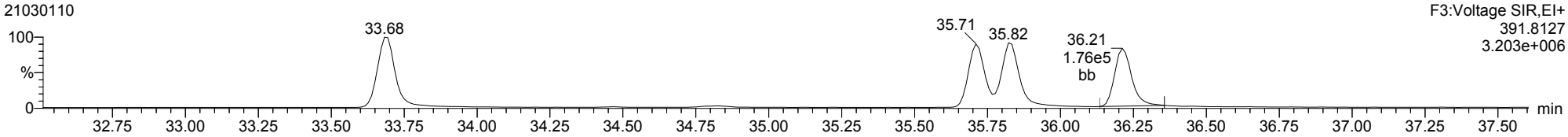

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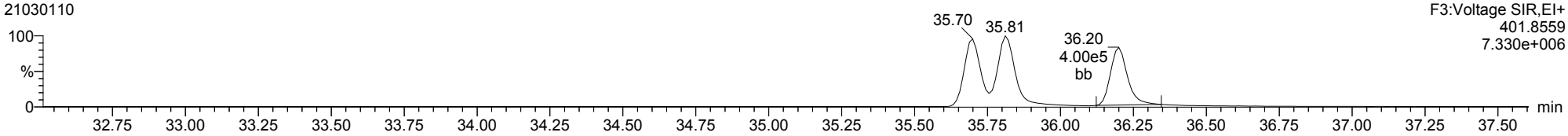

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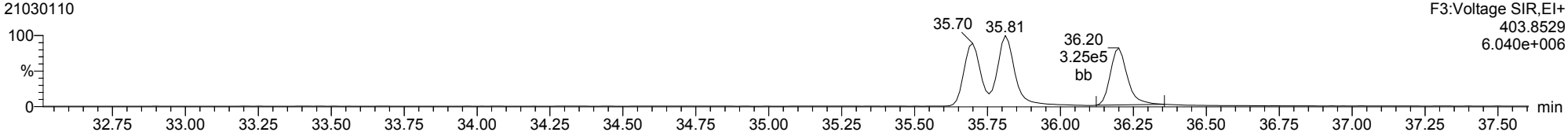

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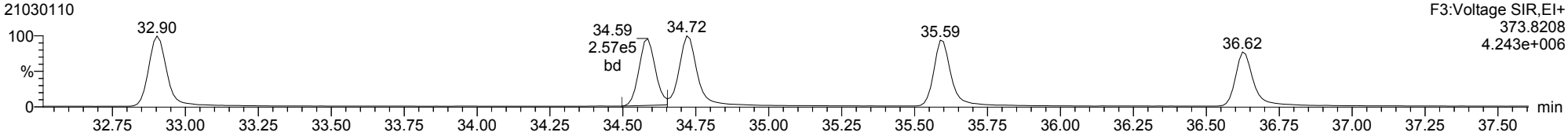

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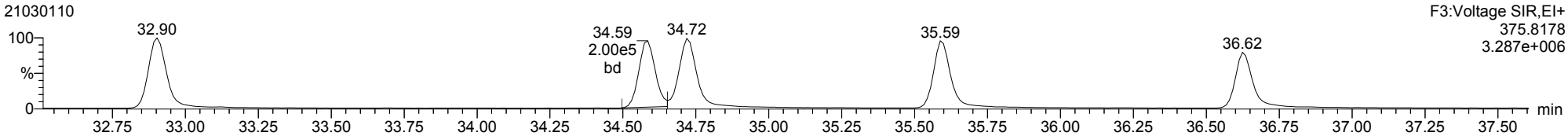

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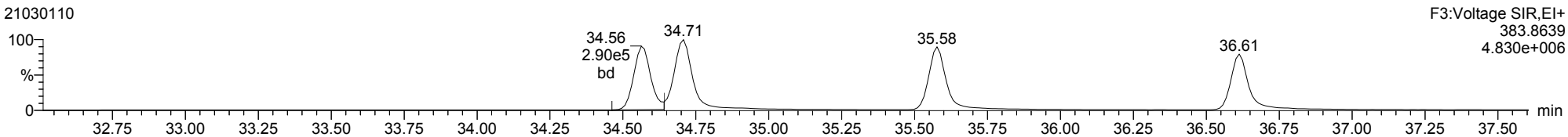

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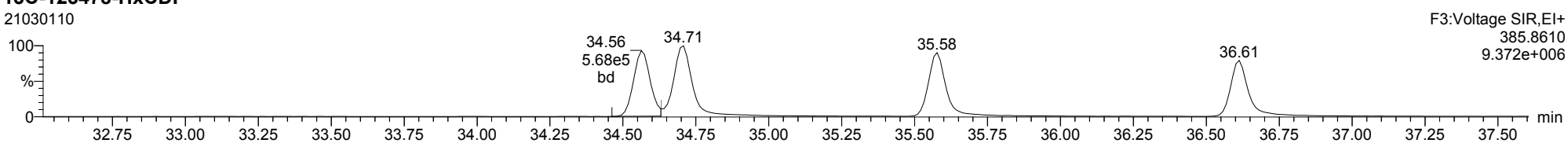

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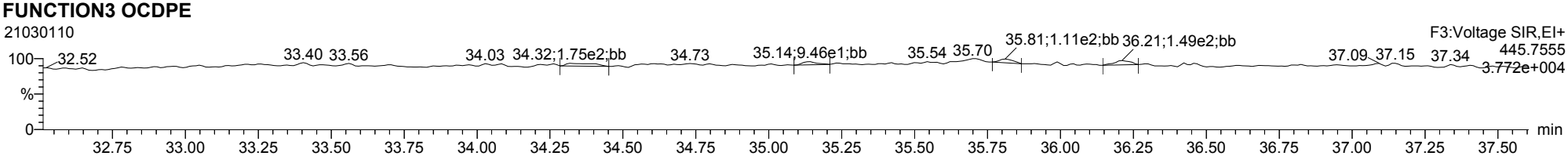

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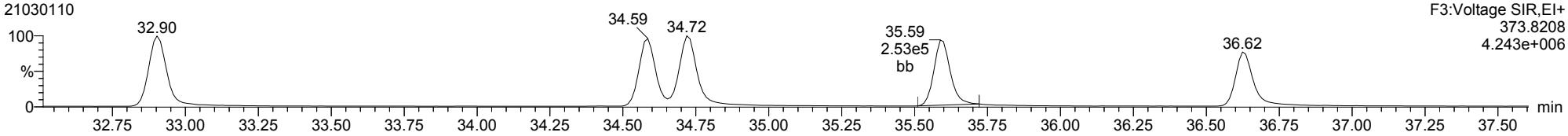

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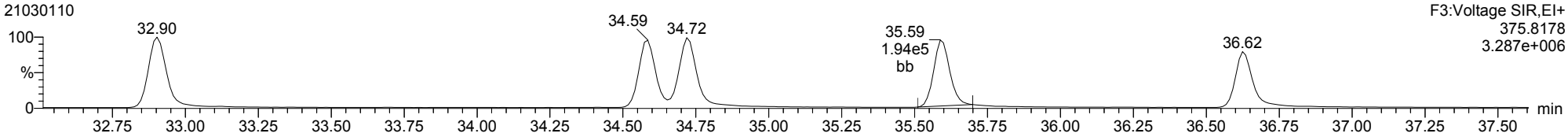

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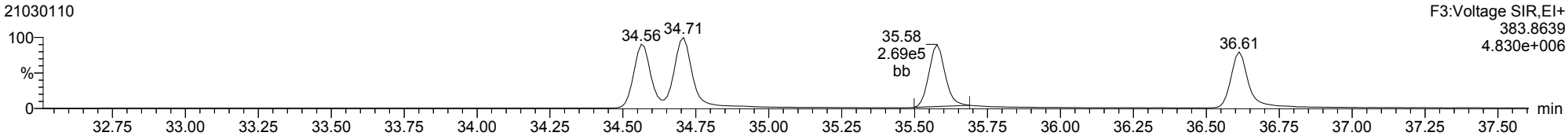

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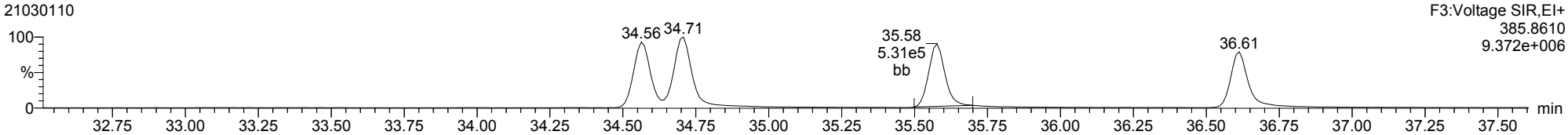

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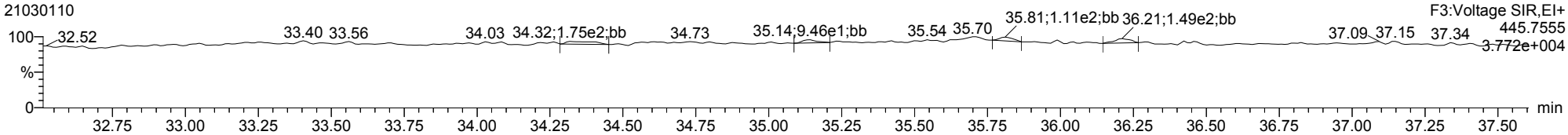

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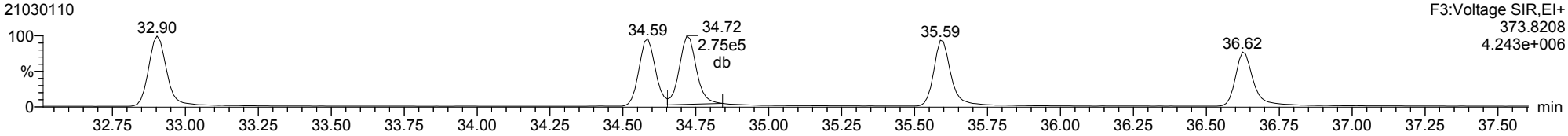

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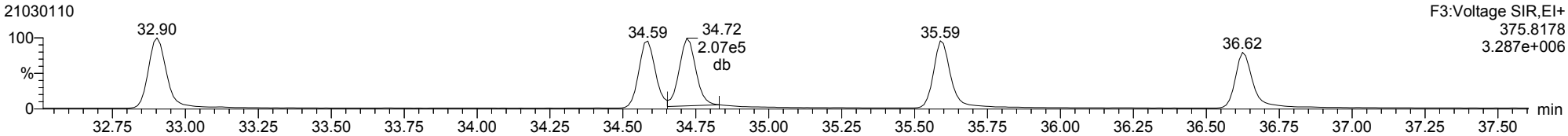

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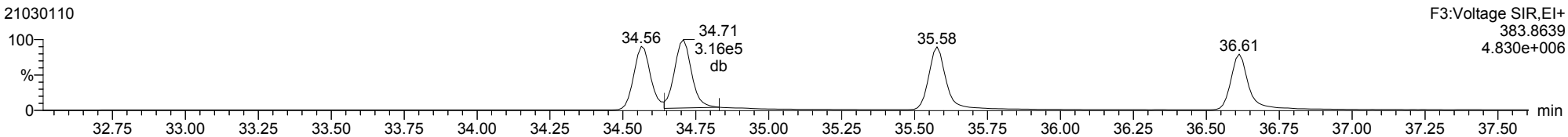

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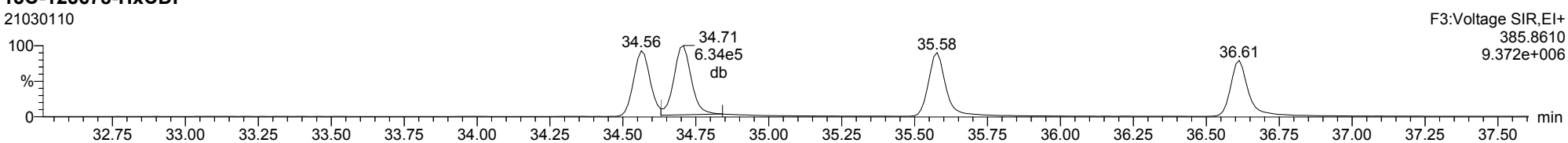

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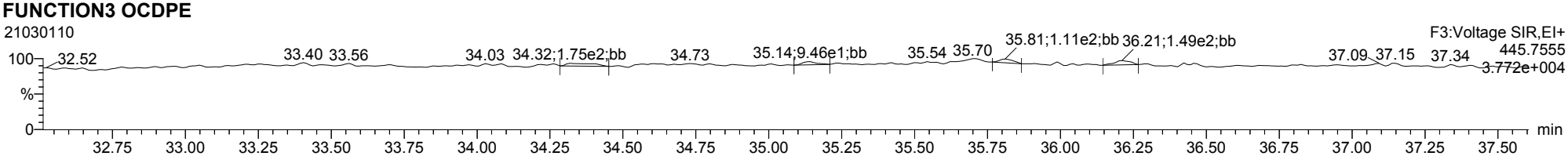

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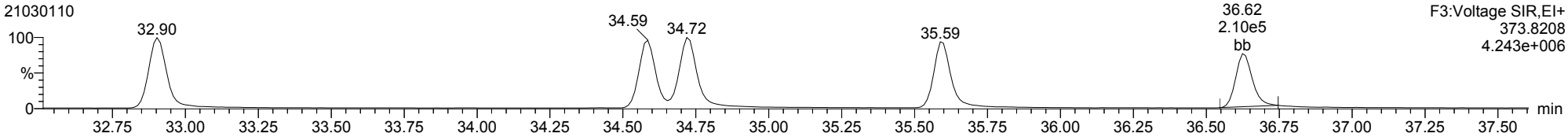

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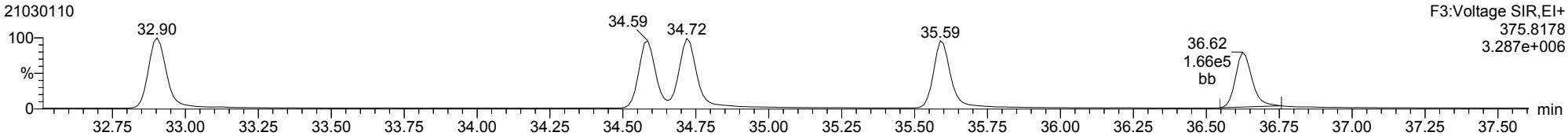

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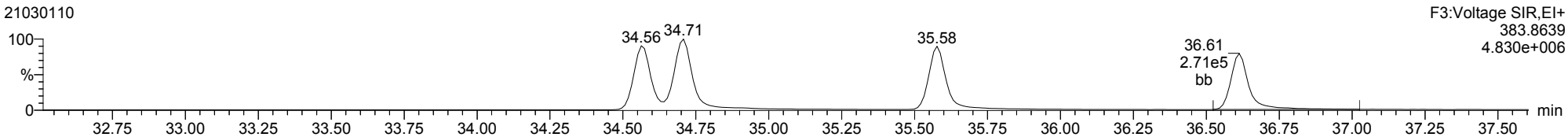

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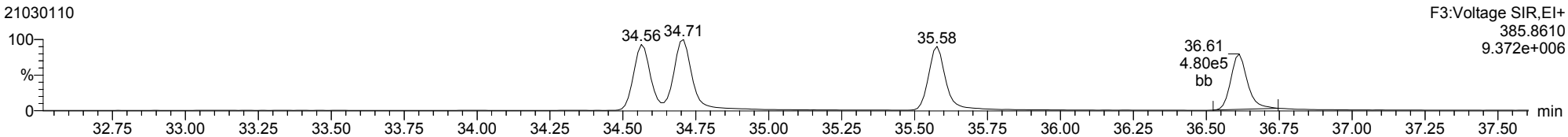

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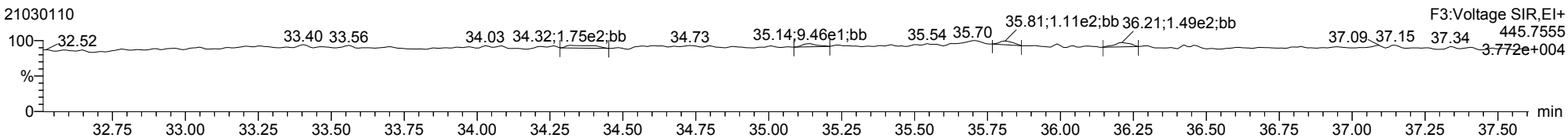

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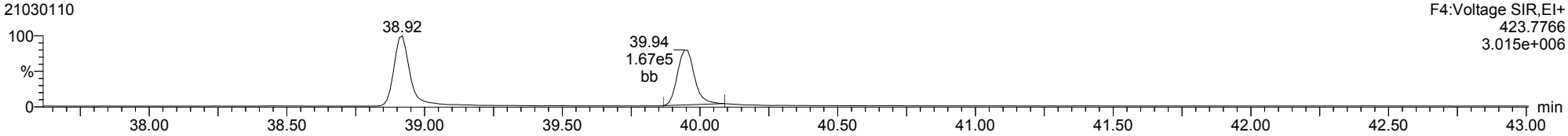

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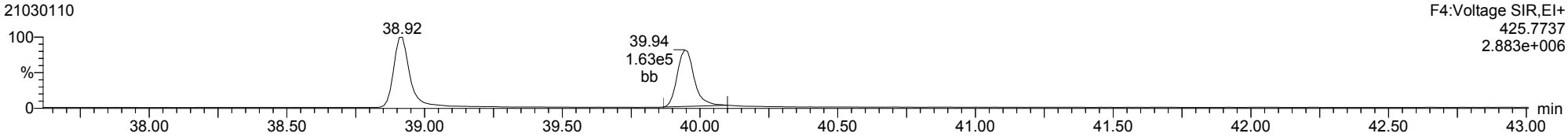

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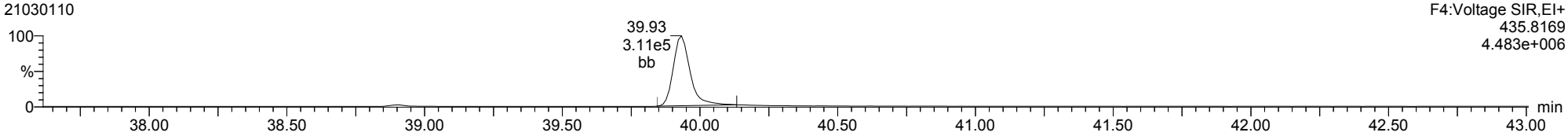

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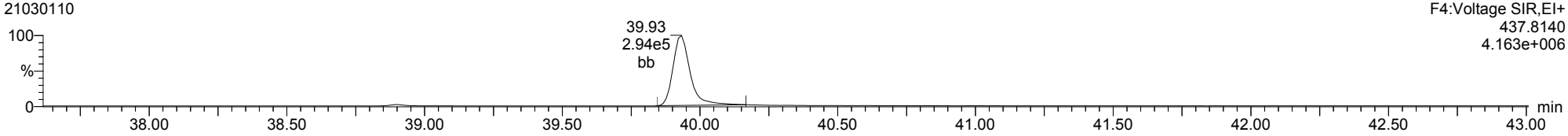

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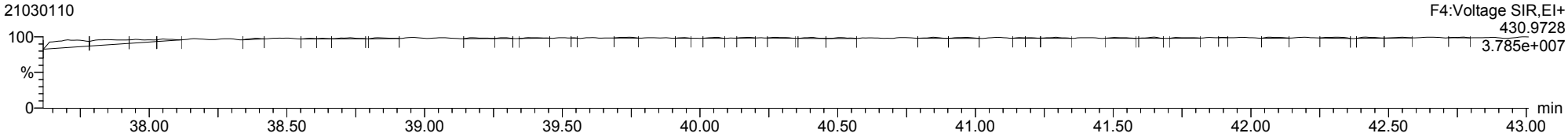

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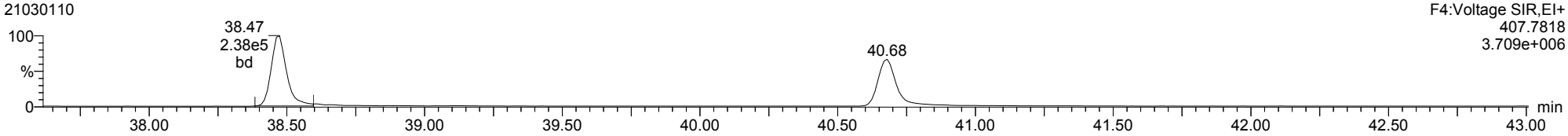

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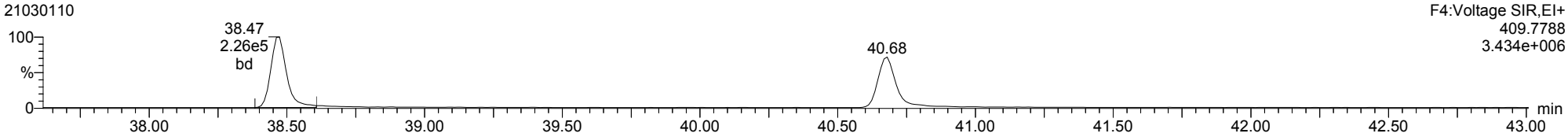

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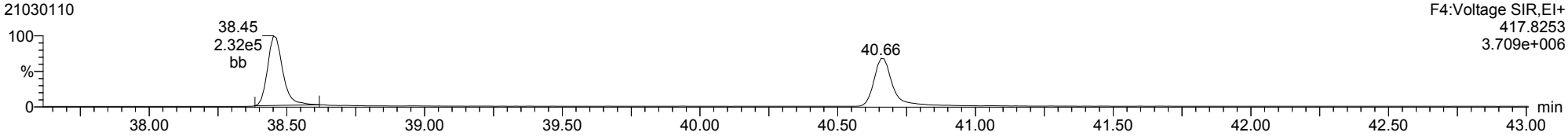

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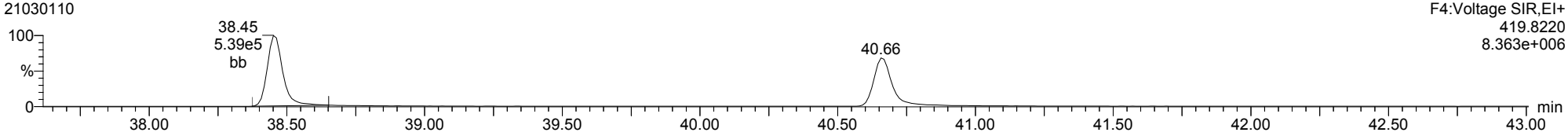

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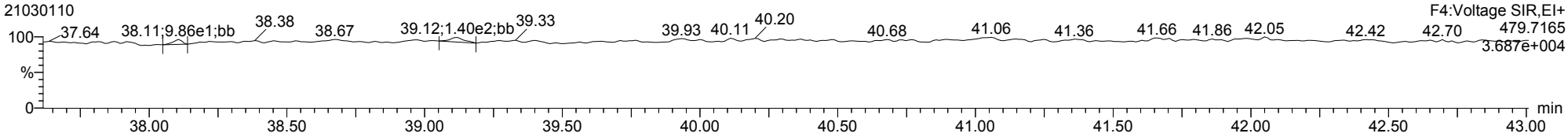

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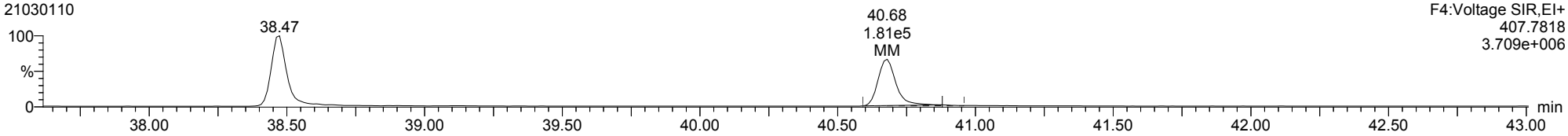

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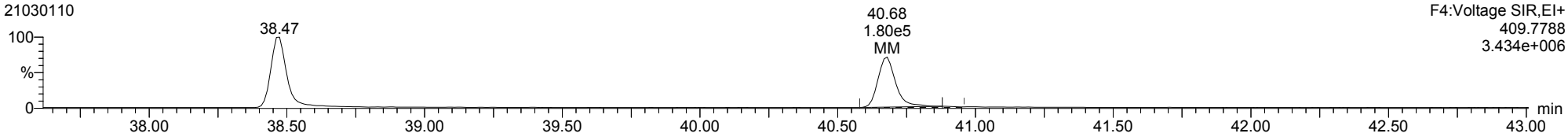

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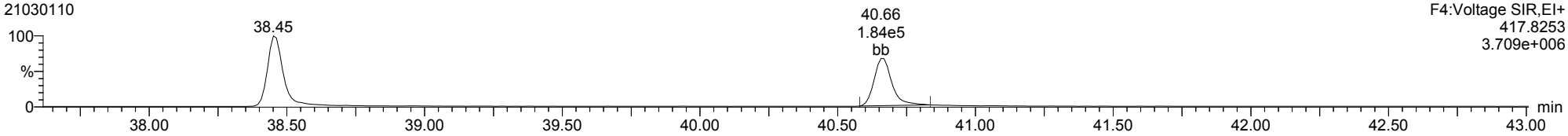

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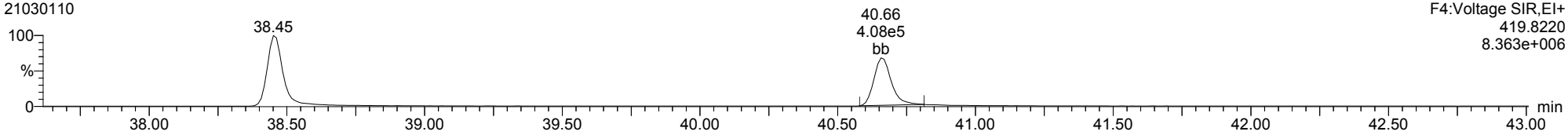
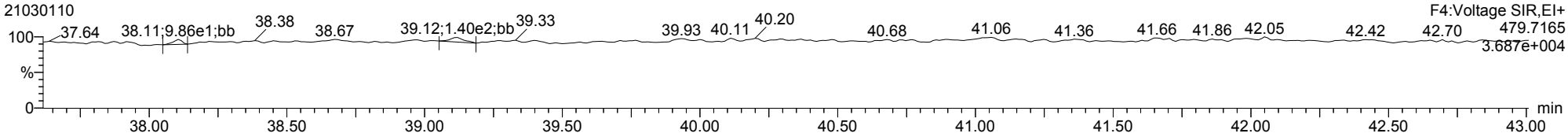
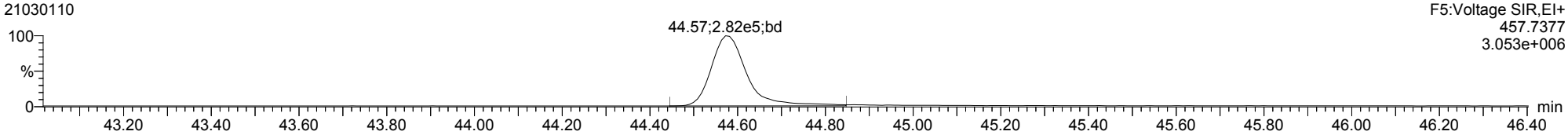


FUNCTION4 NCDPE

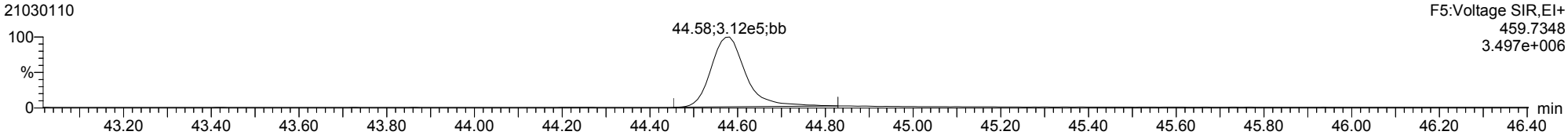


ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

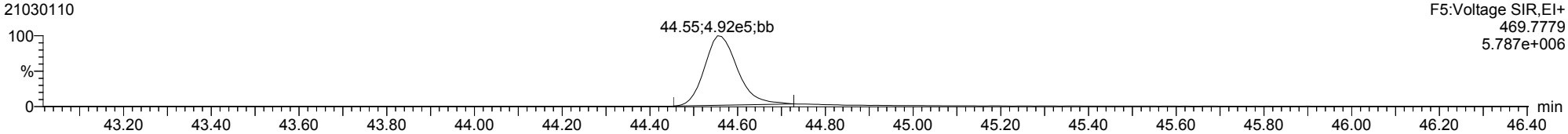
OCDD



OCDD



13C-OCDD



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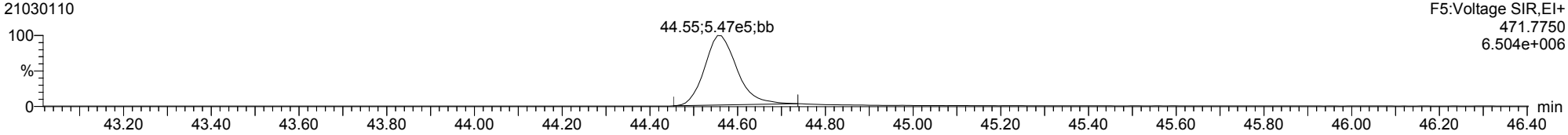
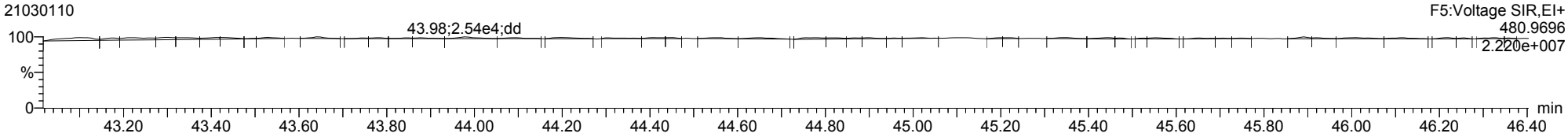


FUNCTION5 PFK



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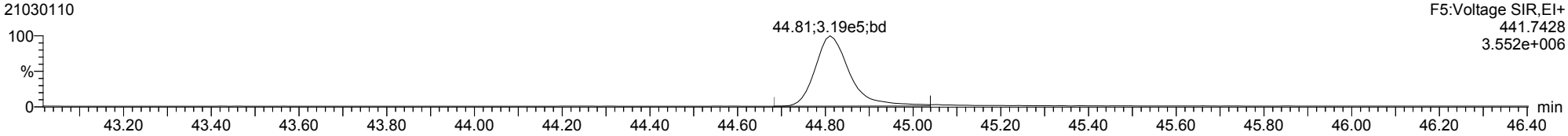
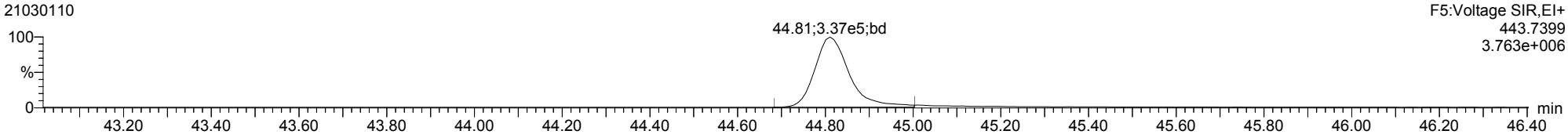
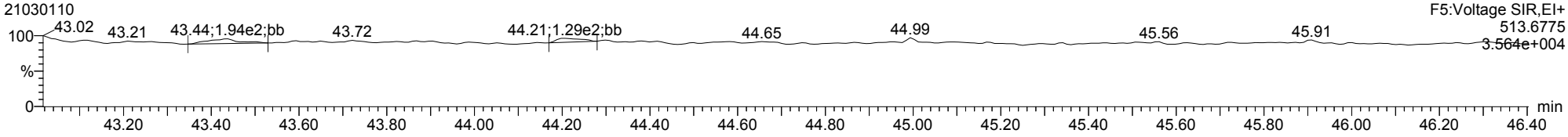
OCDF



OCDF

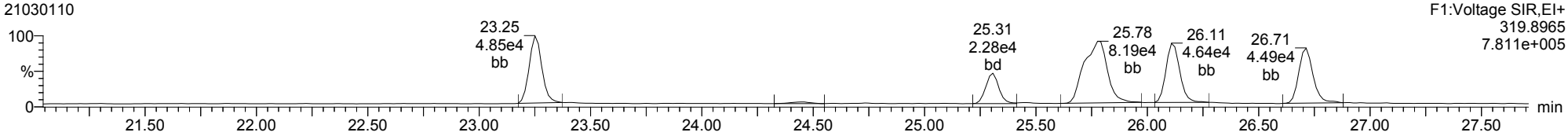


FUNCTION5 DCDPE

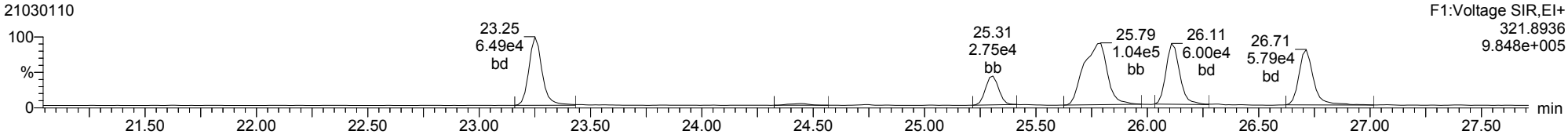


ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

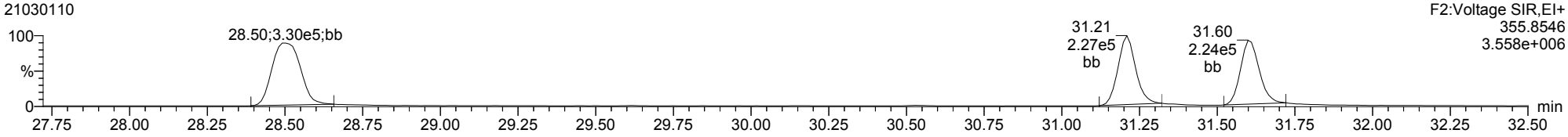
Total-tetradioxins



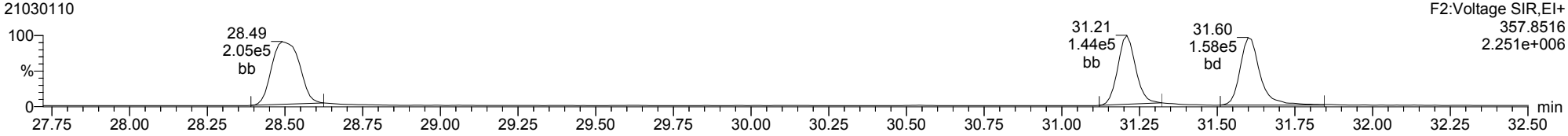
Total-tetradioxins



Total-pentadioxins

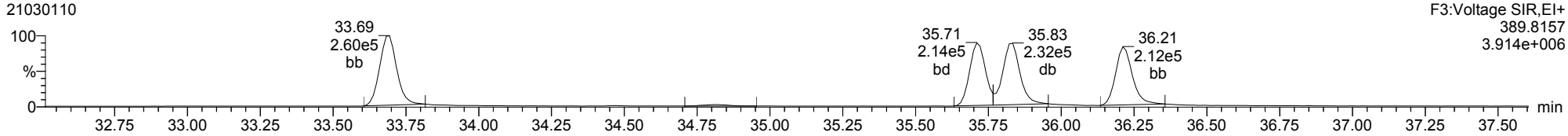


Total-pentadioxins

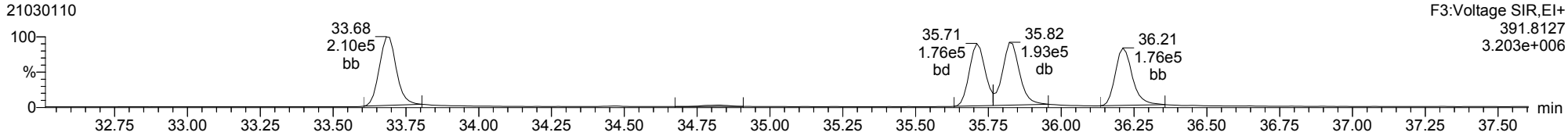


ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

Total-hexadioxins



Total-hexadioxins



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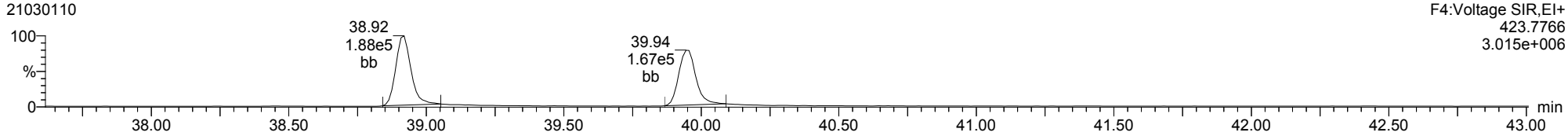
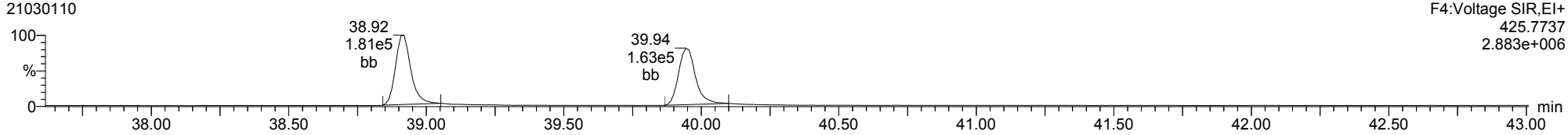


Total-heptadioxins



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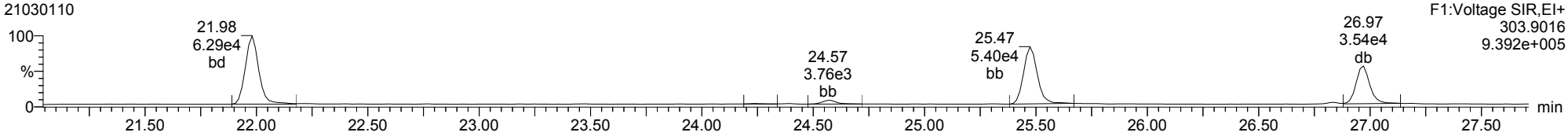
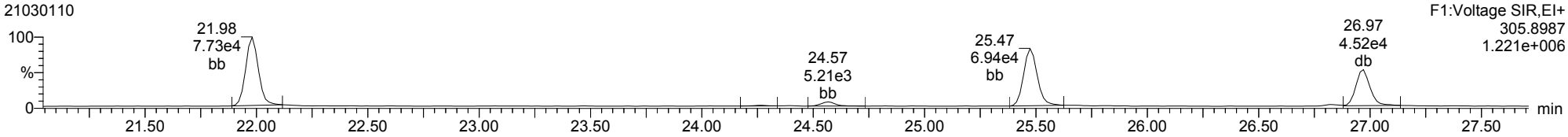
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

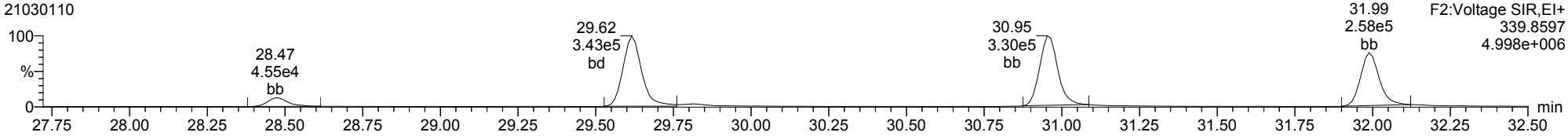
Total-tetrafurans



Total-tetrafurans



Total-pentafurans



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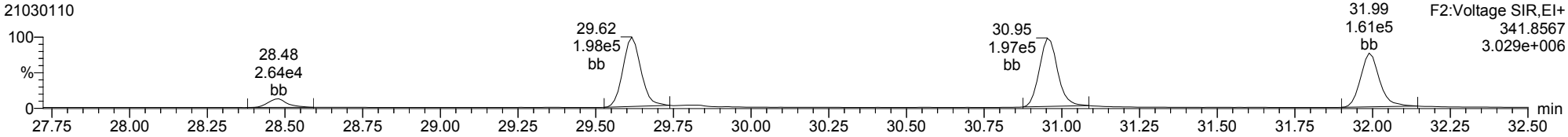

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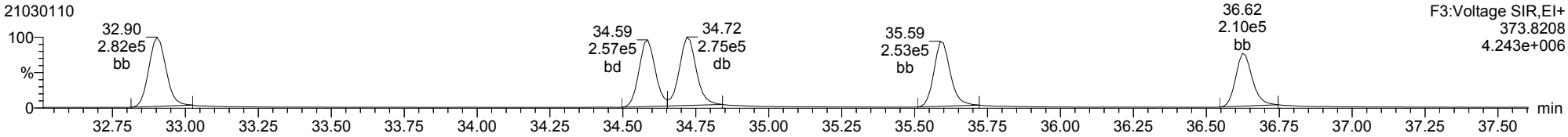
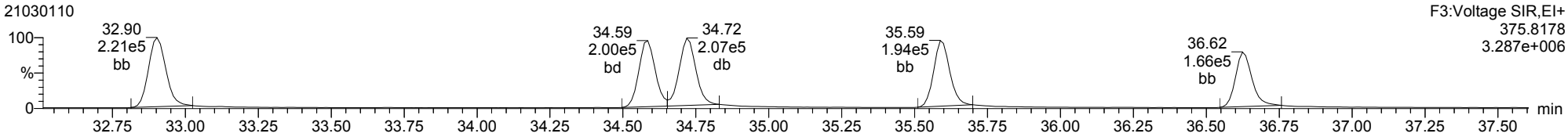
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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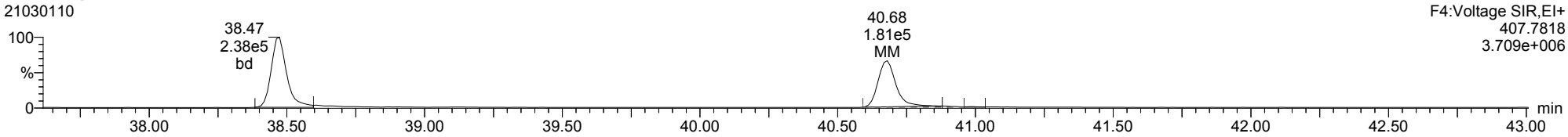

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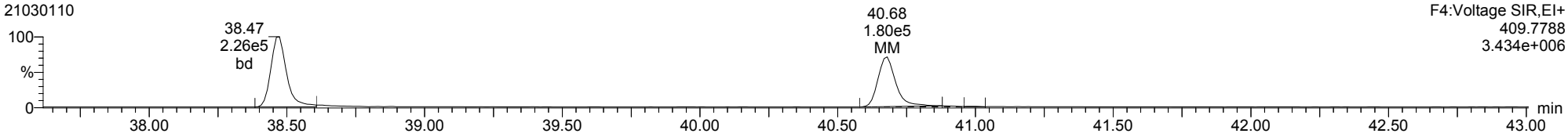

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21F0442
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
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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
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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

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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

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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

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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

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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

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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

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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													

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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

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Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

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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

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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		

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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

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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

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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

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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

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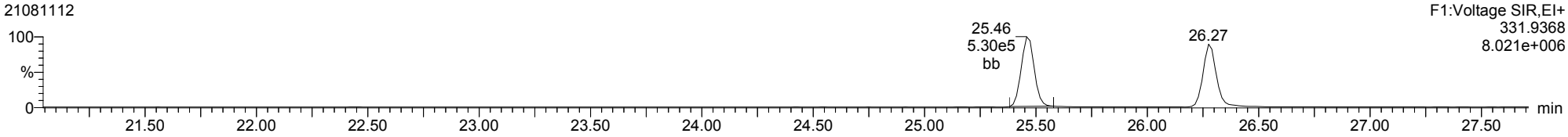
ID: ICVCZ, Name: 21081112, Date: 12-Aug-2021, Time: 00:00:03, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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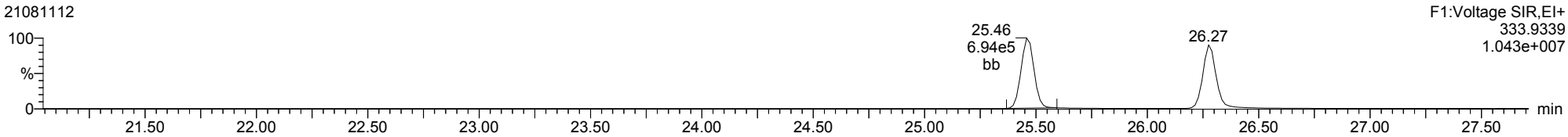

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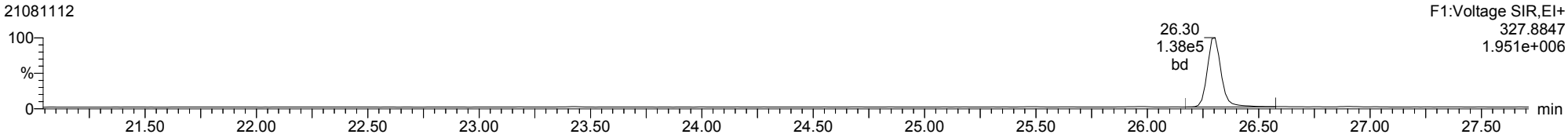

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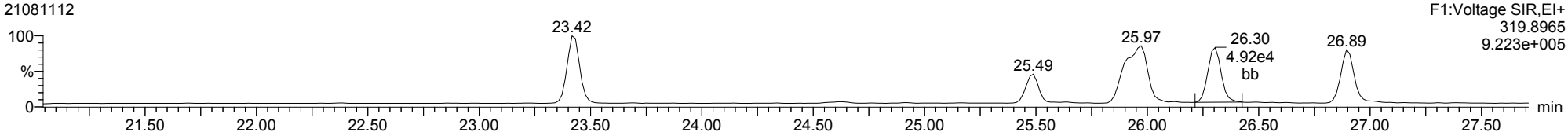

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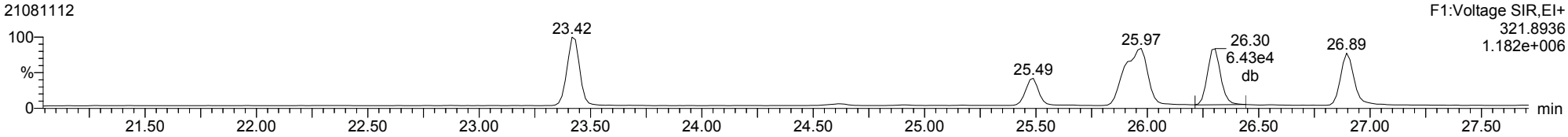

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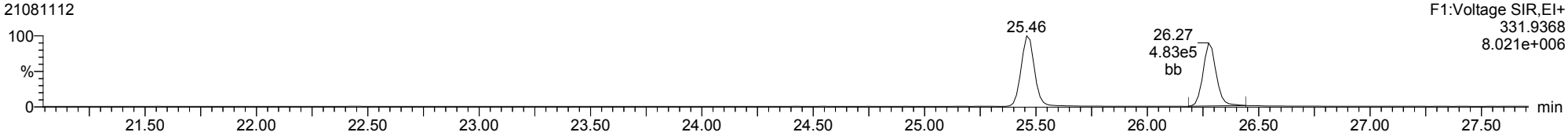

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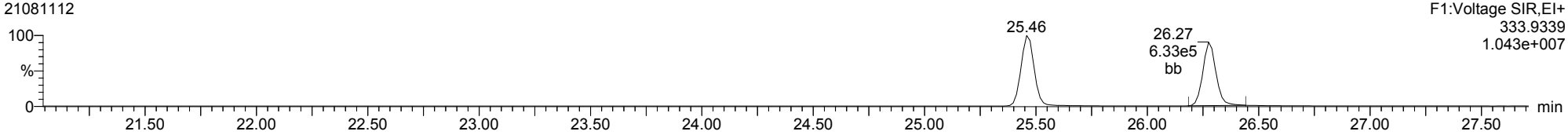

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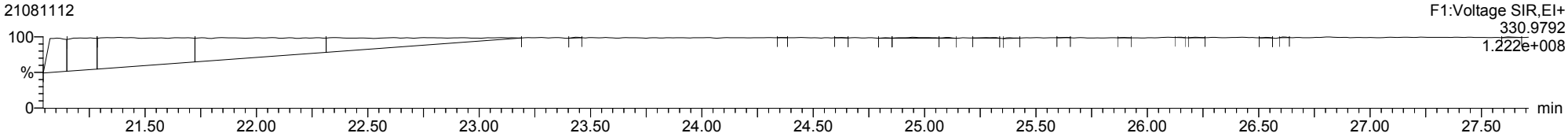

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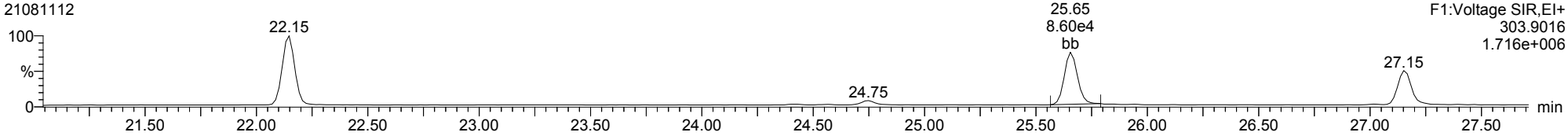

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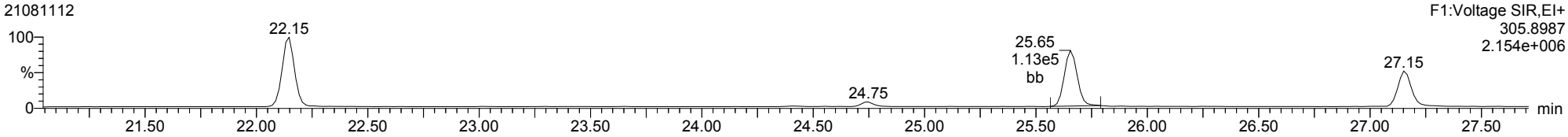

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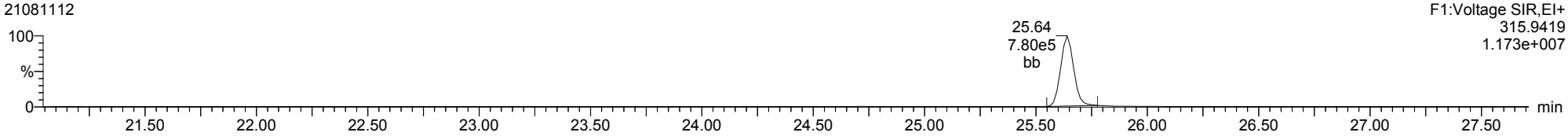

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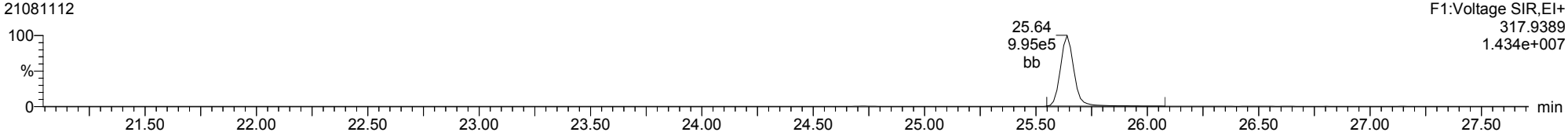

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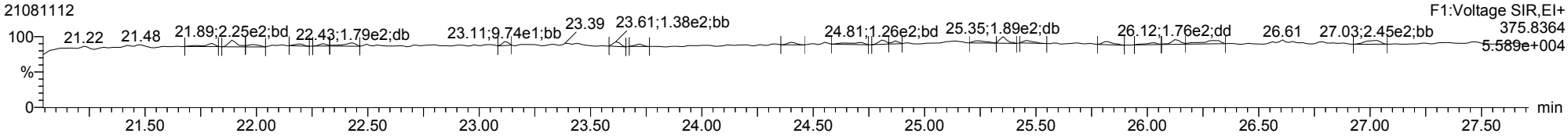

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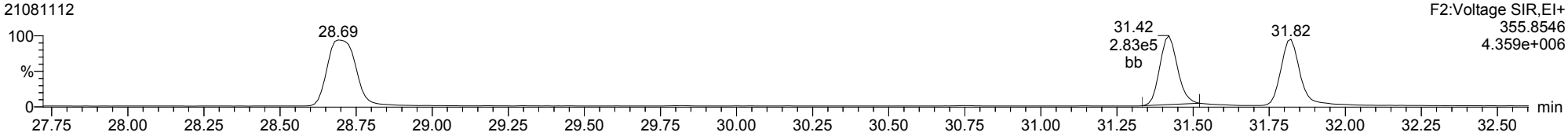

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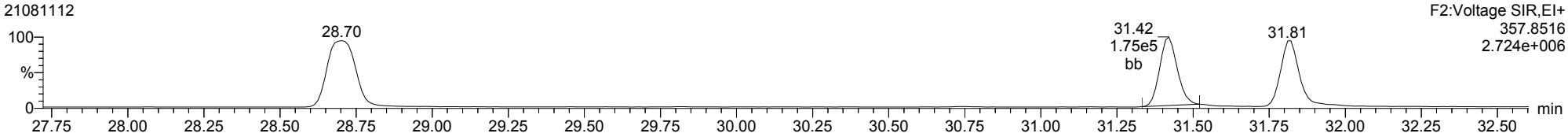

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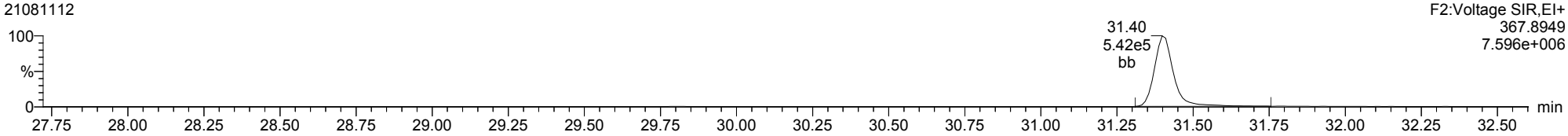

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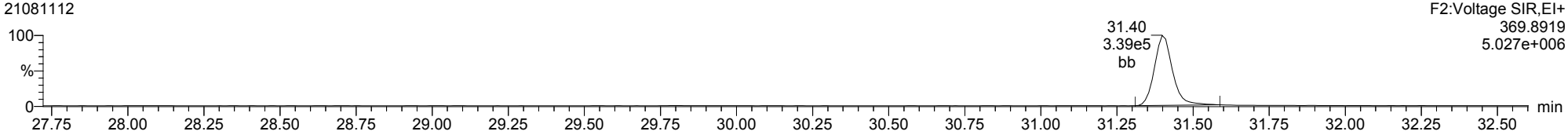

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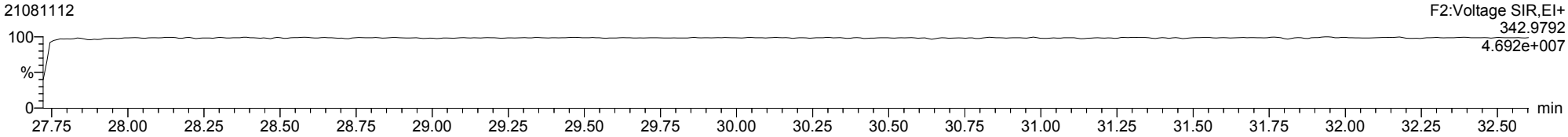

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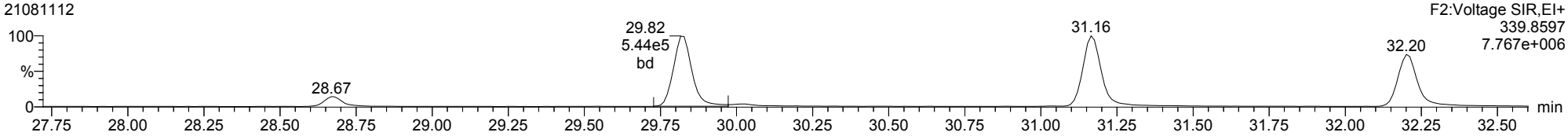

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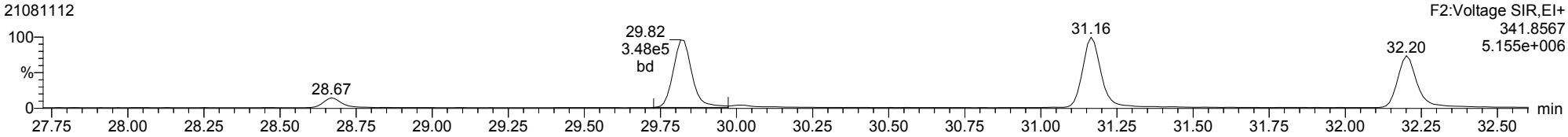

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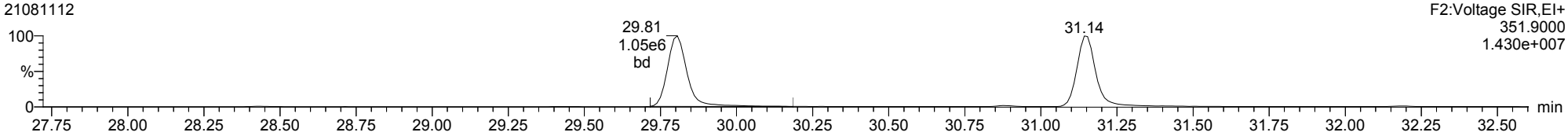

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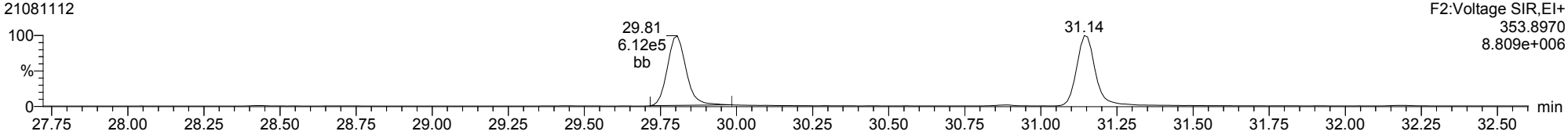

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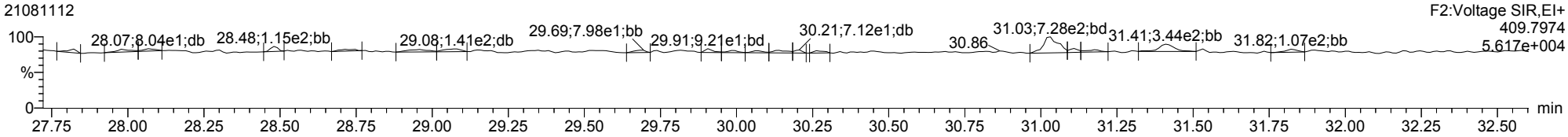

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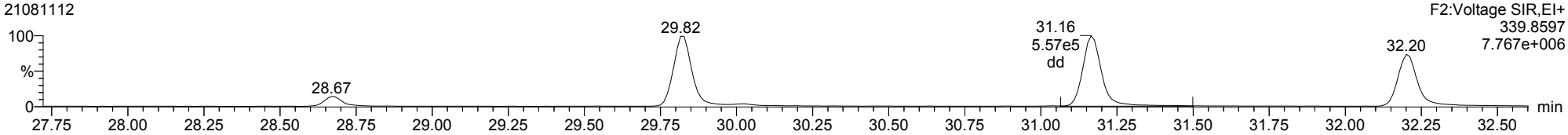

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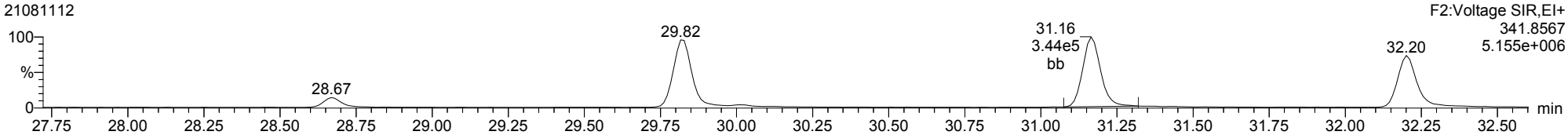

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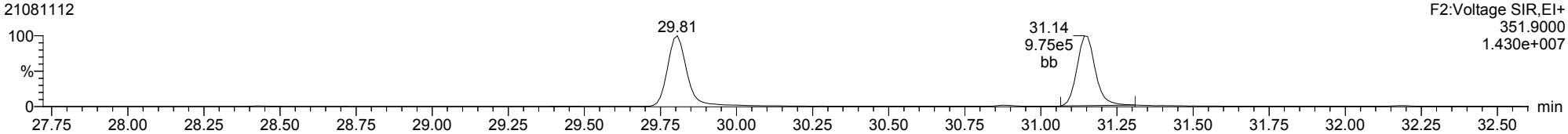

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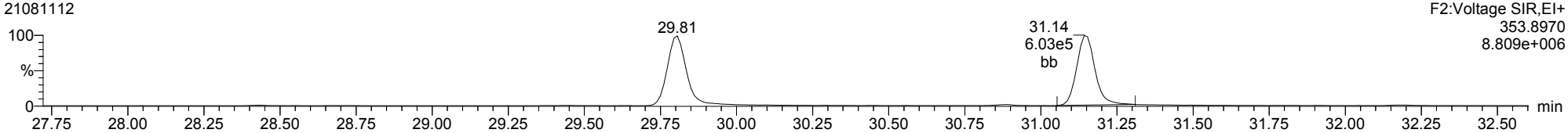

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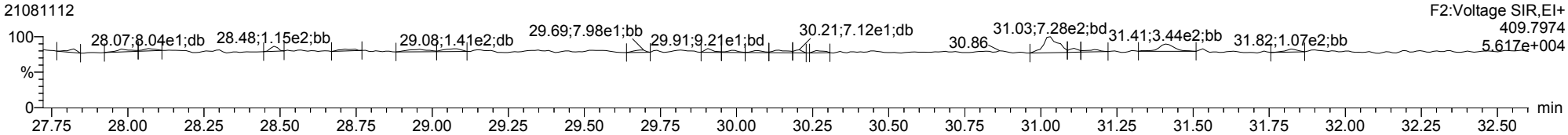

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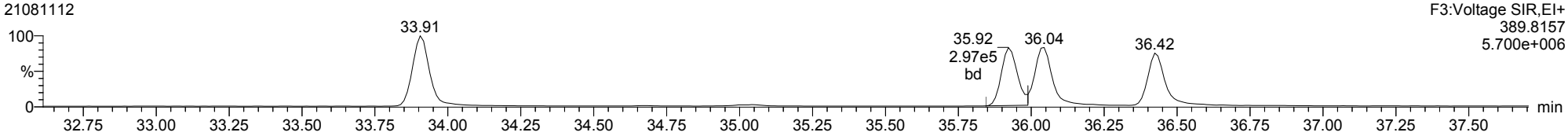

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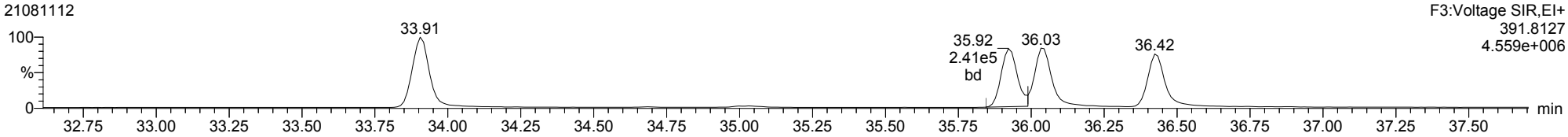

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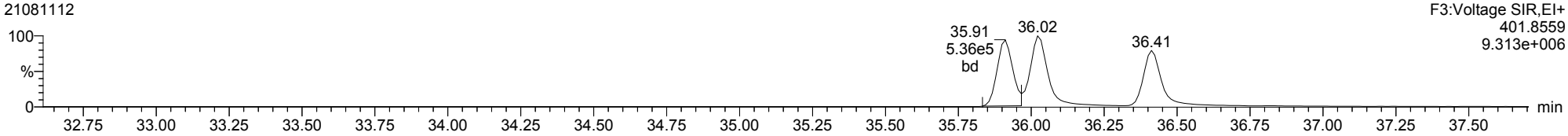

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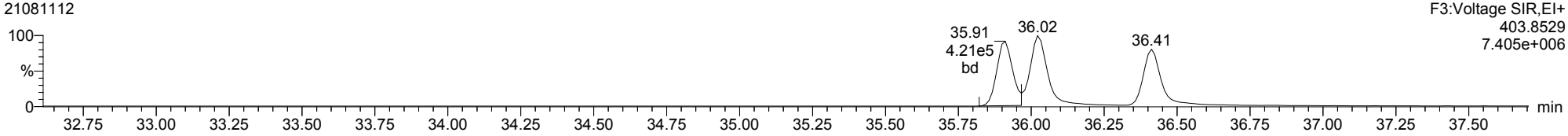

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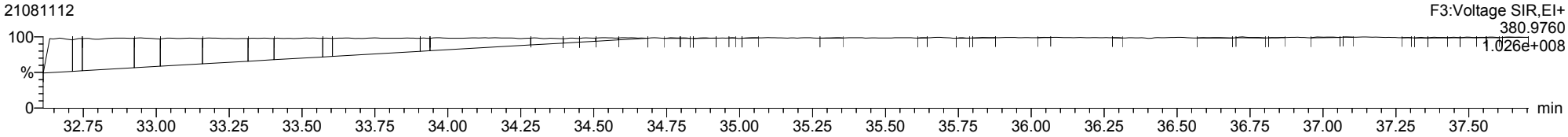

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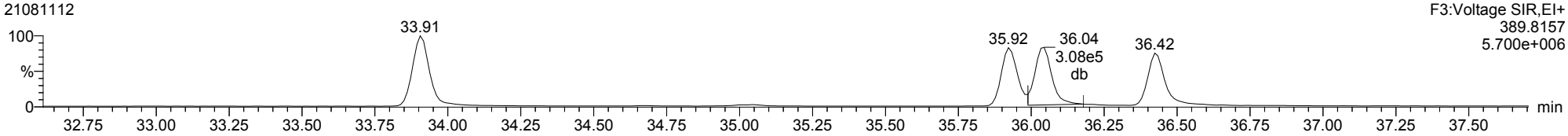

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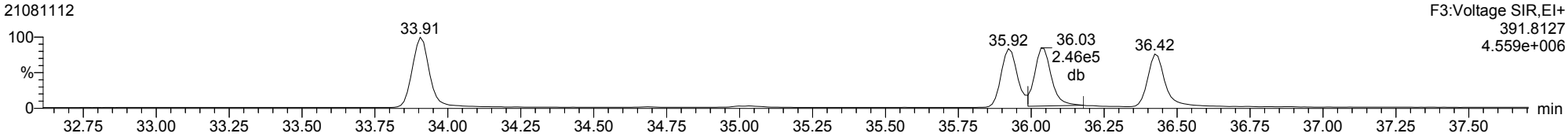

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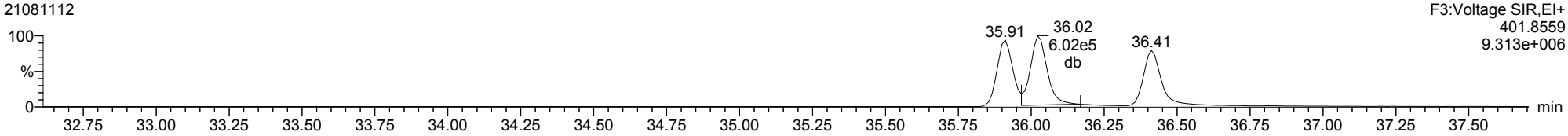

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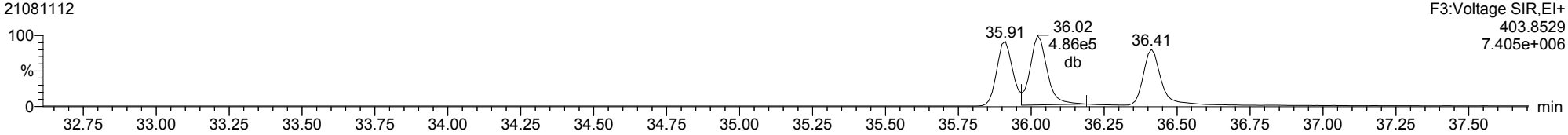

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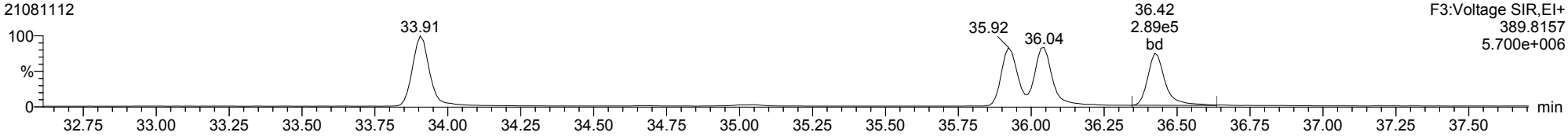

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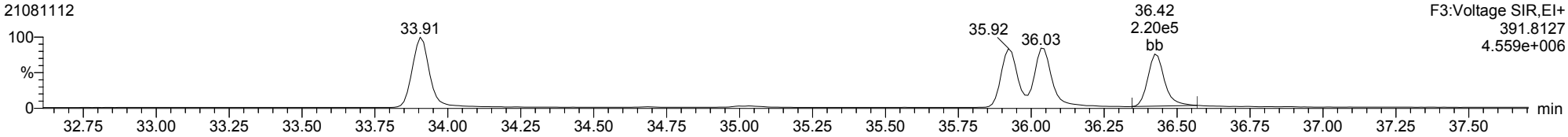

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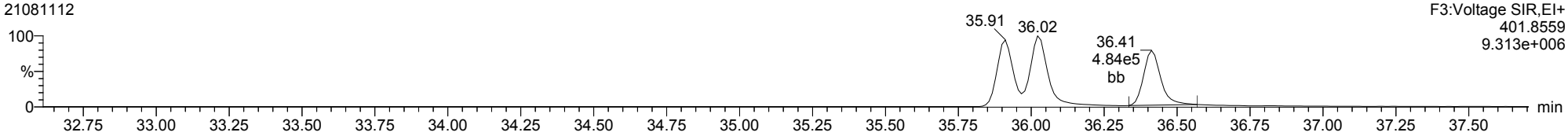

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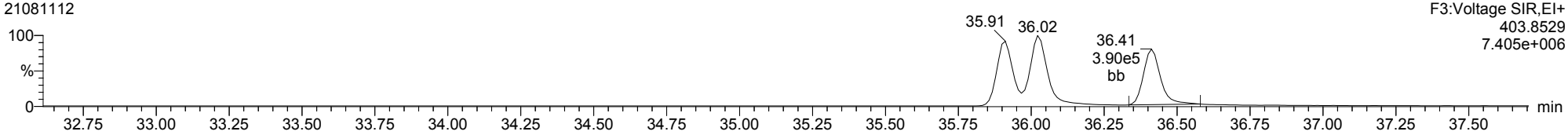

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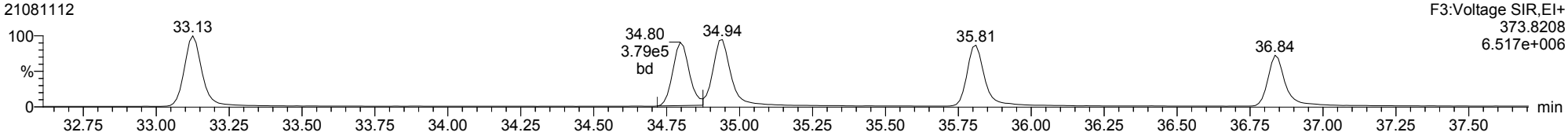

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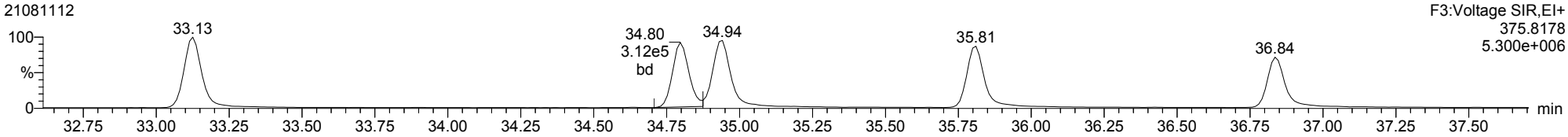

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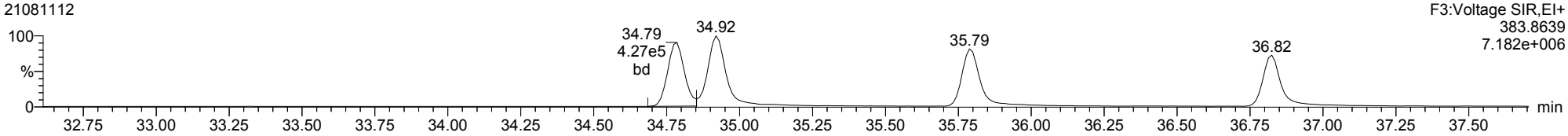

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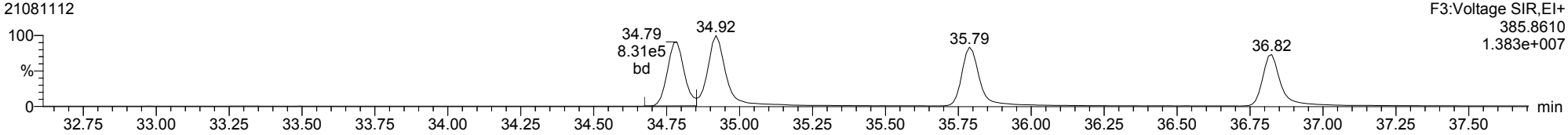

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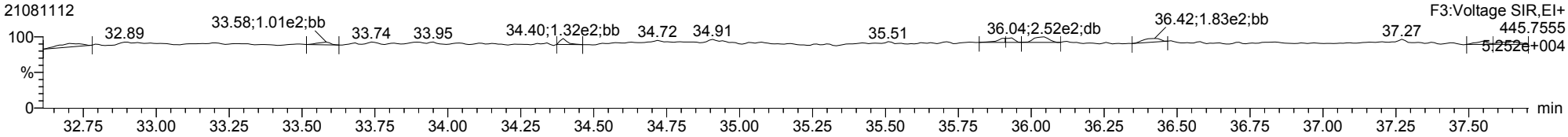

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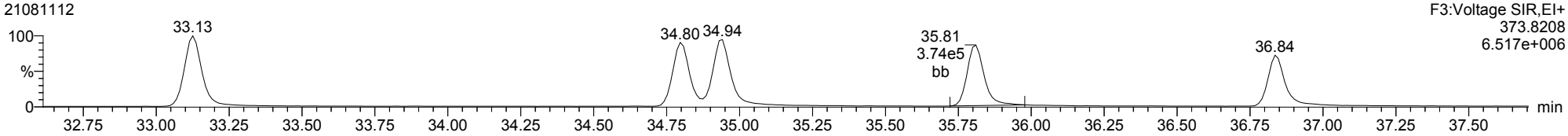
234678-HxCDF



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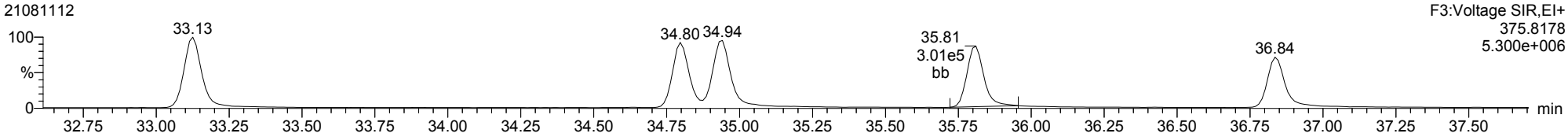

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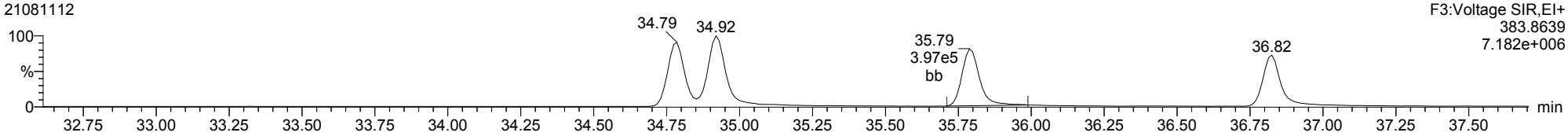

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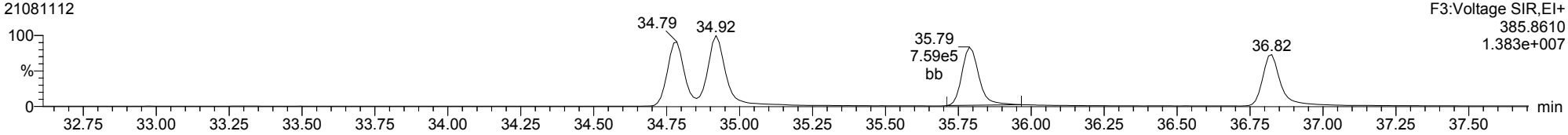
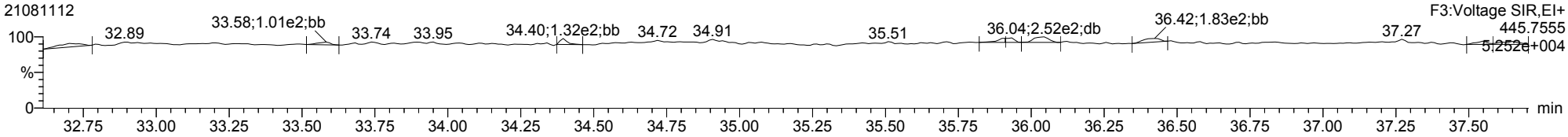


FUNCTION3 OCDPE



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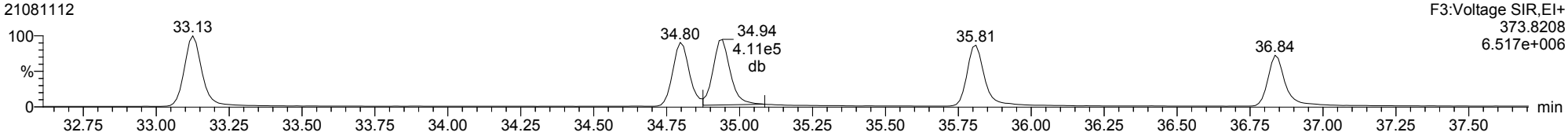

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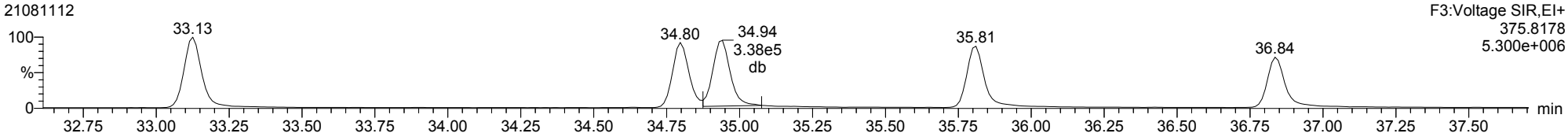

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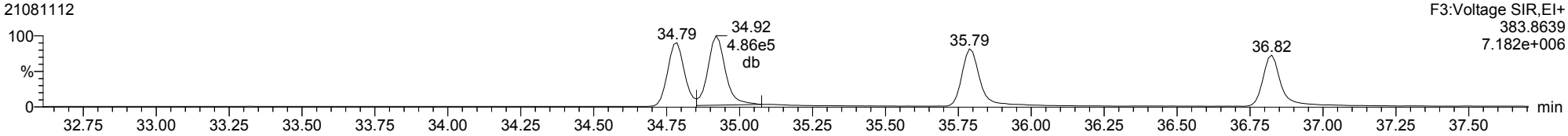

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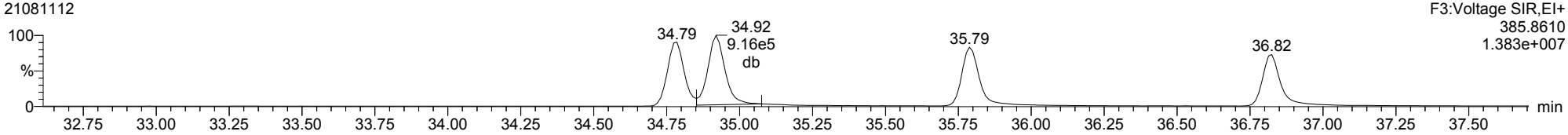

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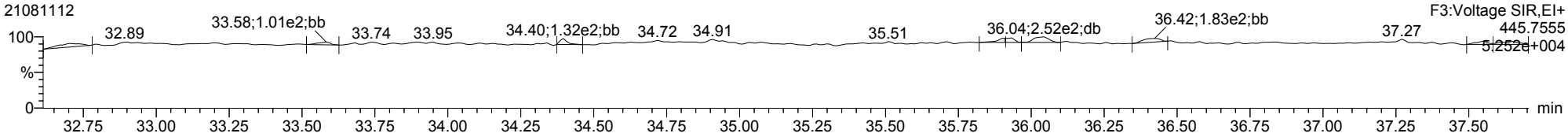

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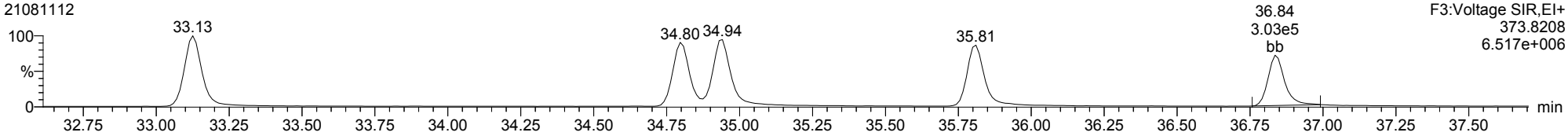

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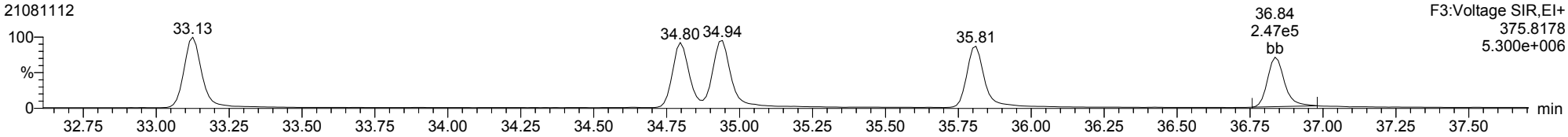

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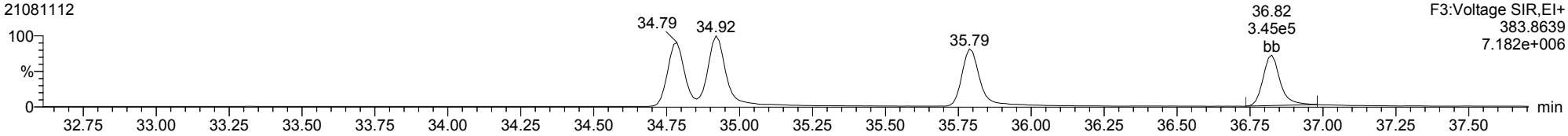

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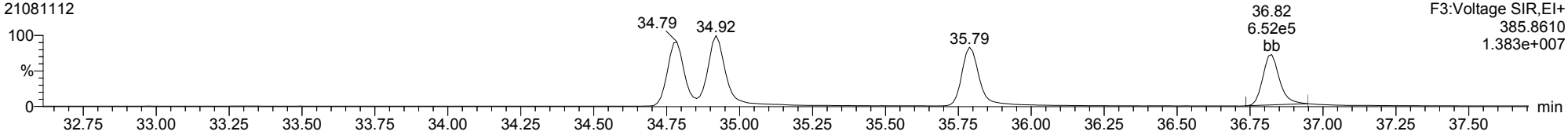

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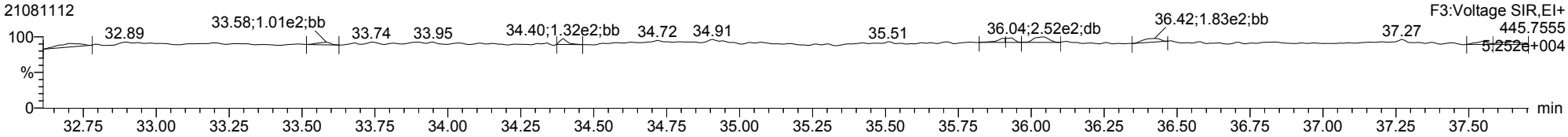

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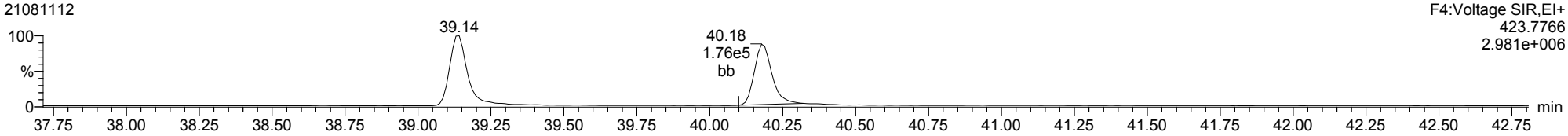

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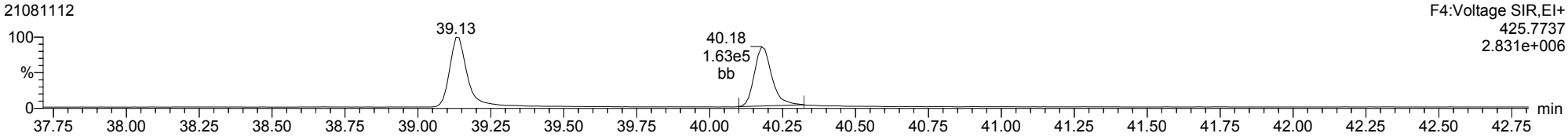

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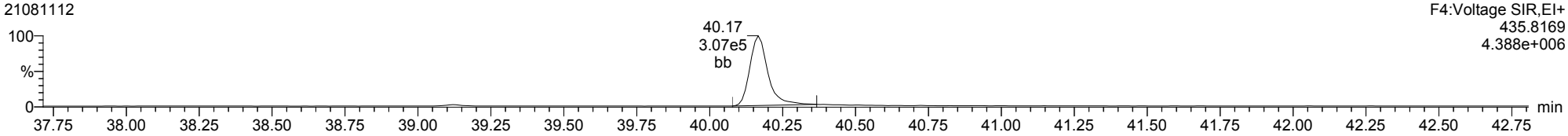

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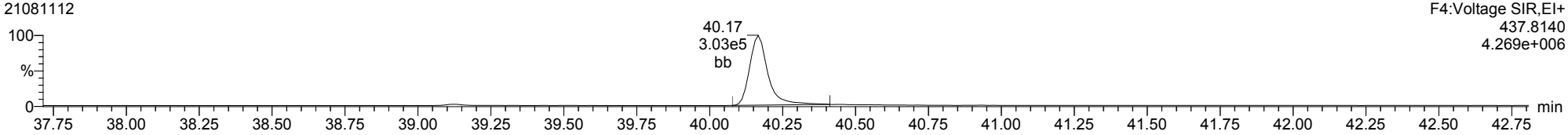

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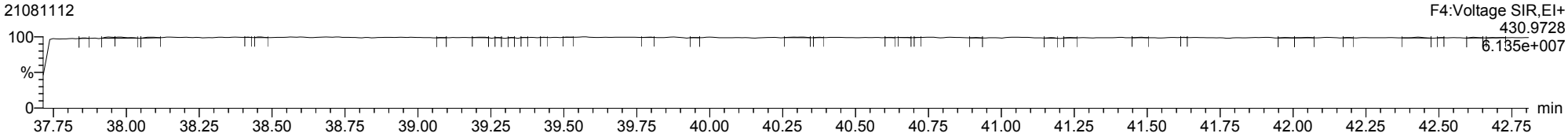

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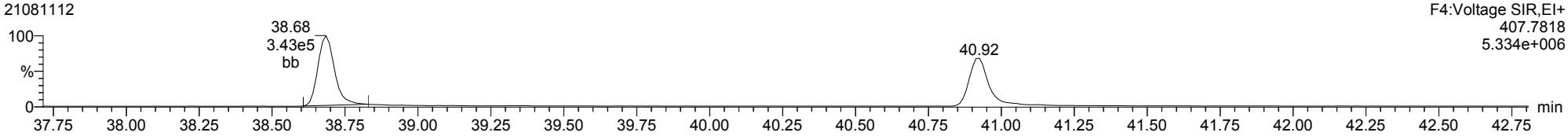

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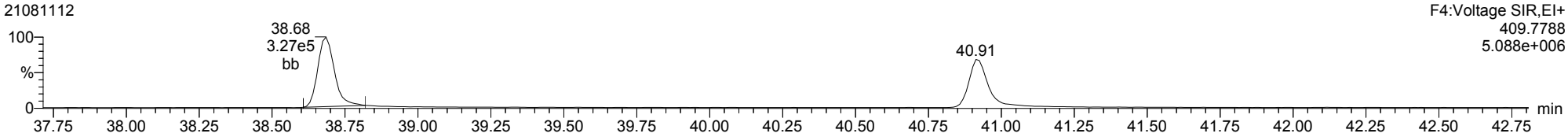

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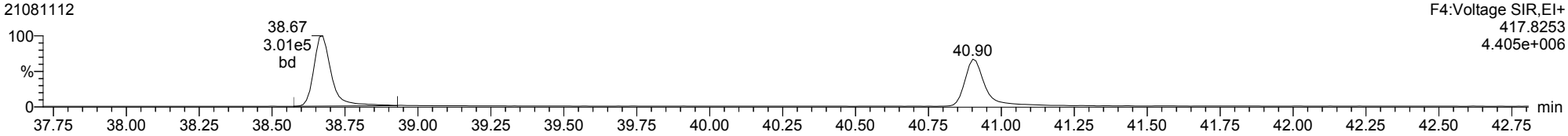

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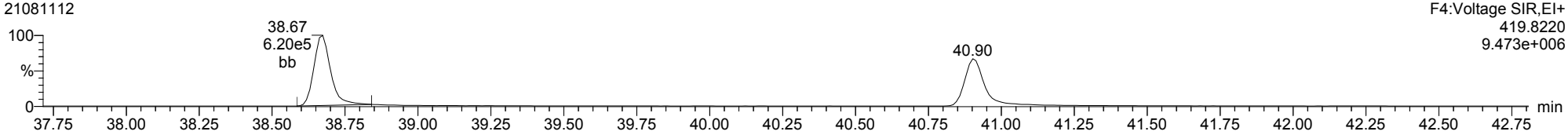

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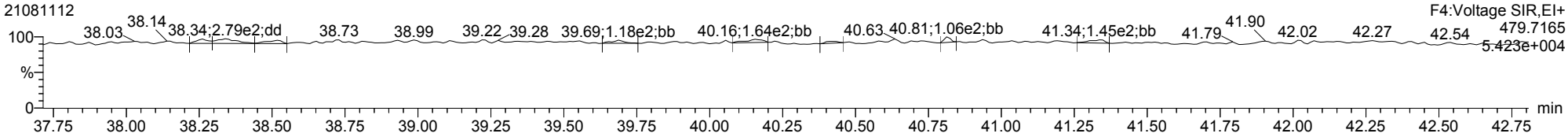

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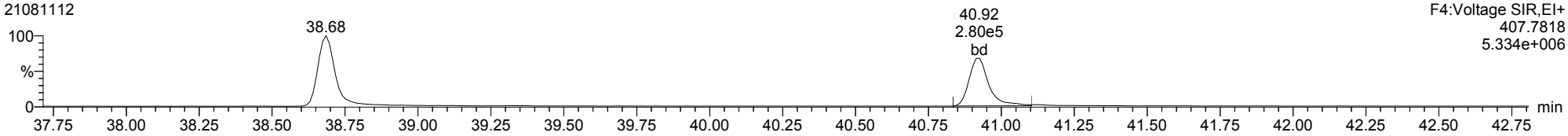

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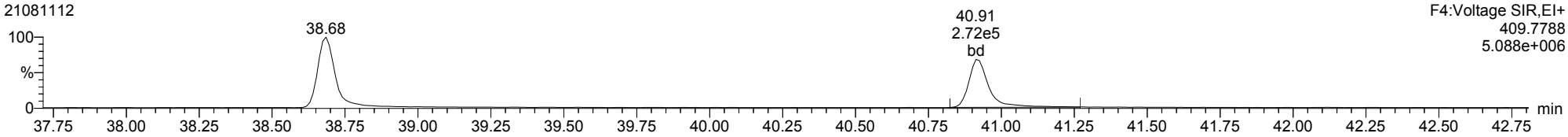

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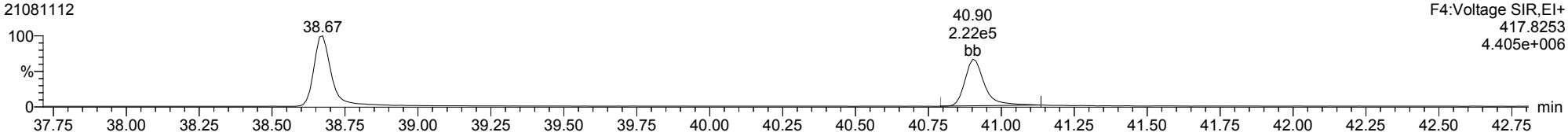

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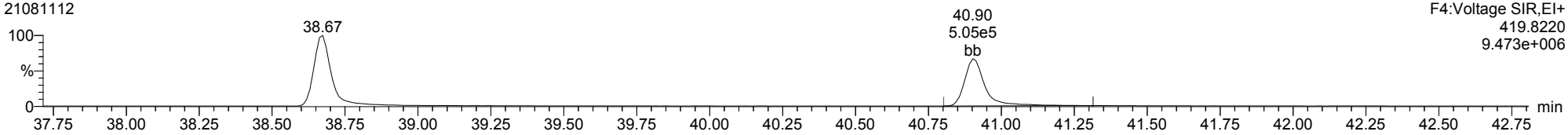

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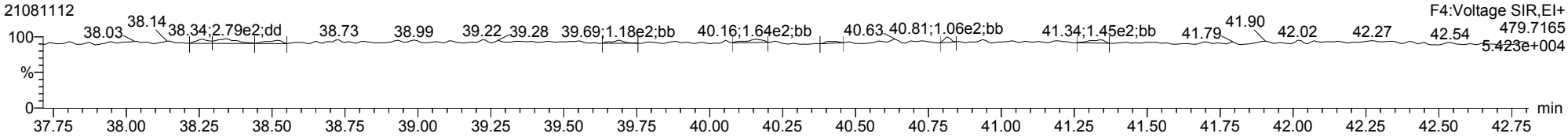

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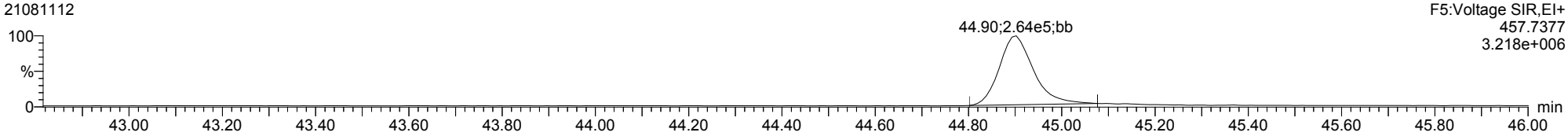

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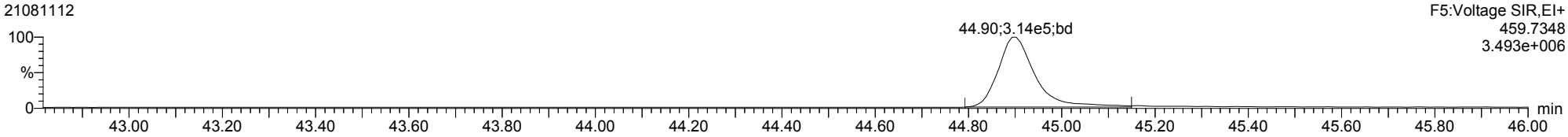

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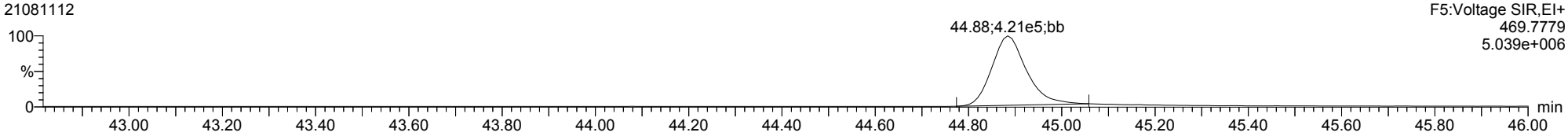

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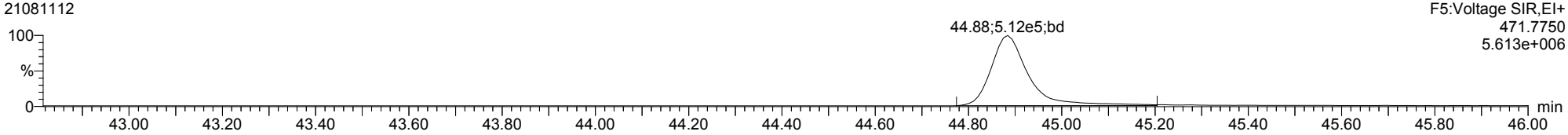

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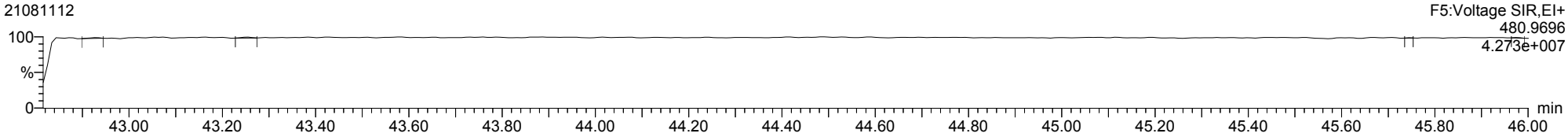

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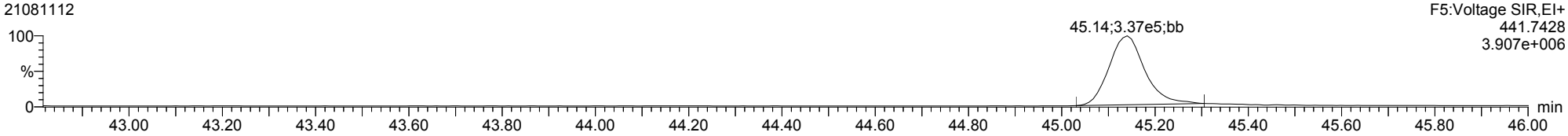

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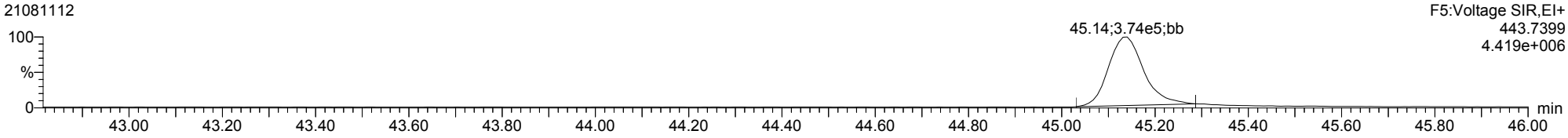

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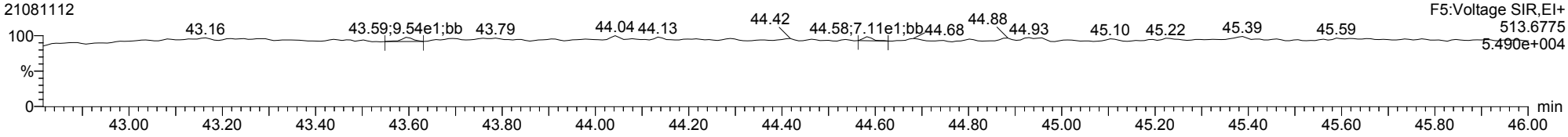

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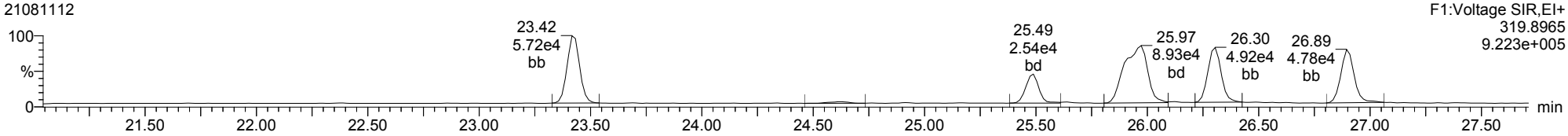

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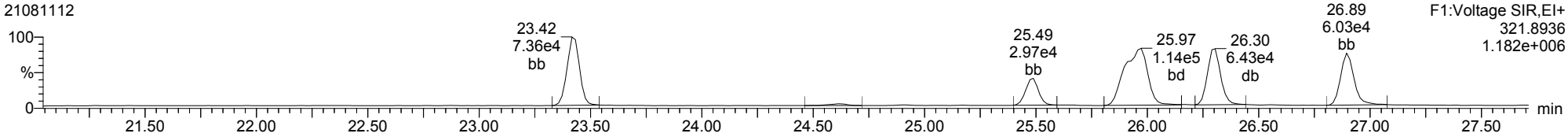

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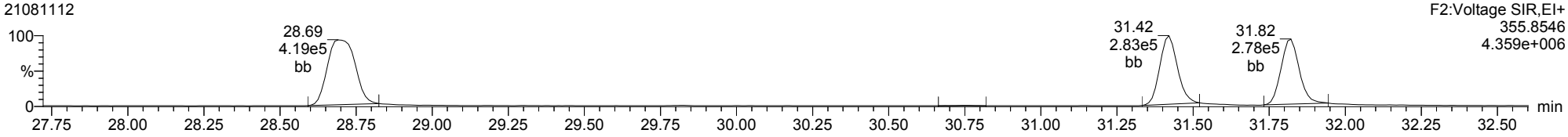

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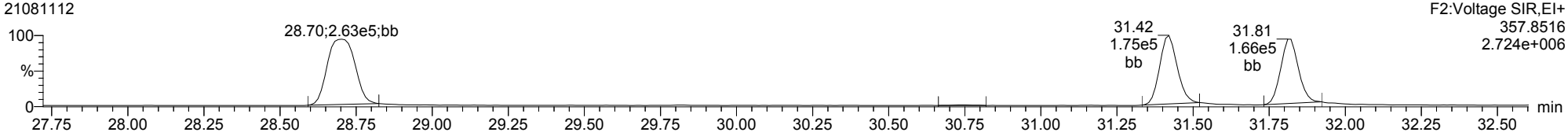

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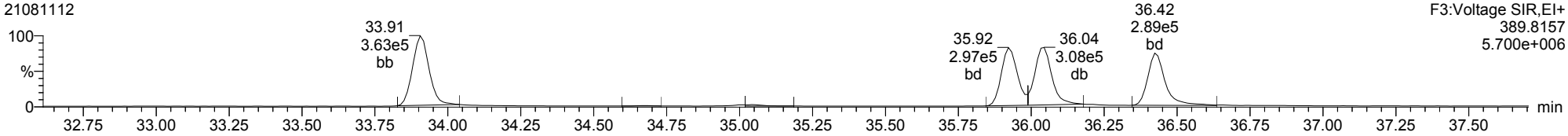

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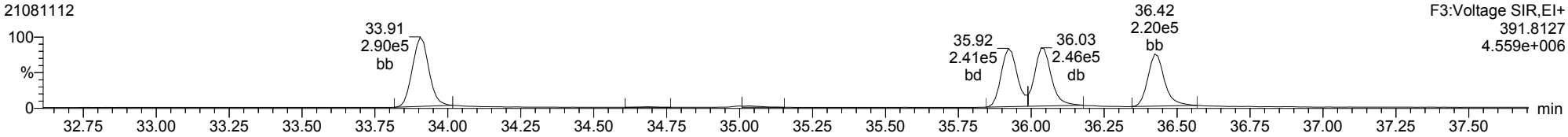

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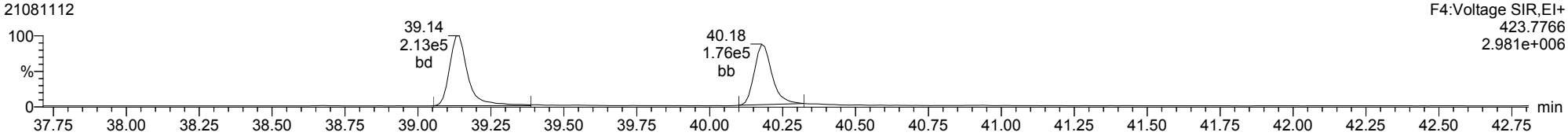

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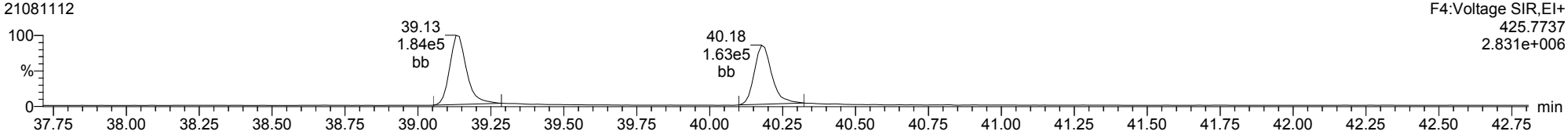

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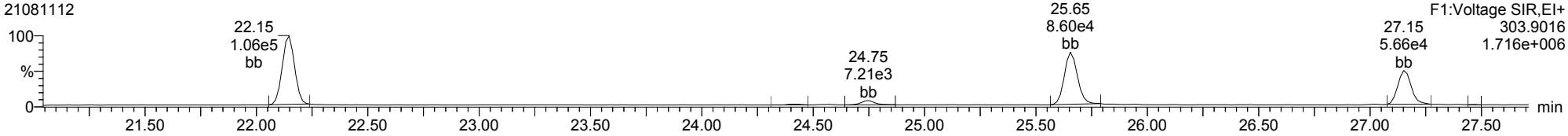
Total-tetrafurans



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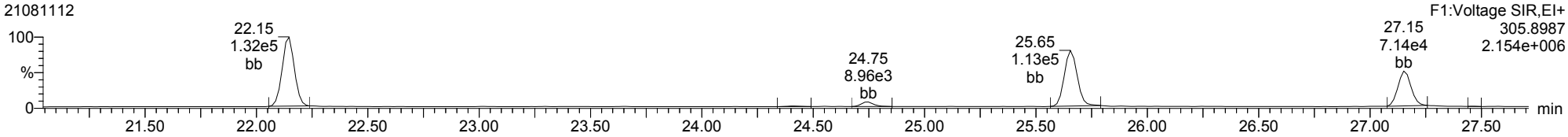

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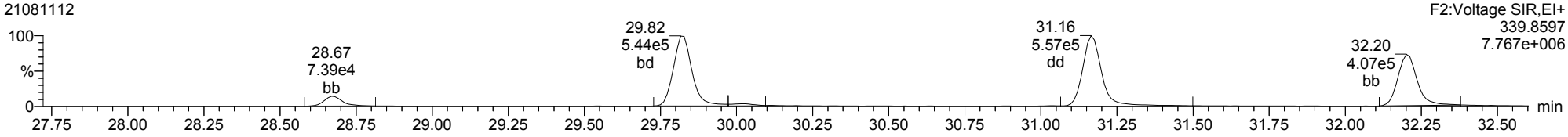

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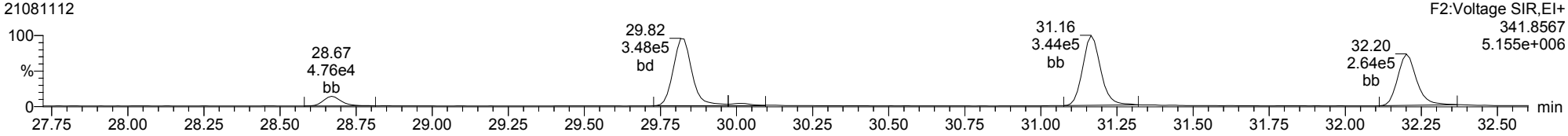

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Last Altered: Friday, August 13, 2021 13:47:27 Pacific Daylight Time
Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

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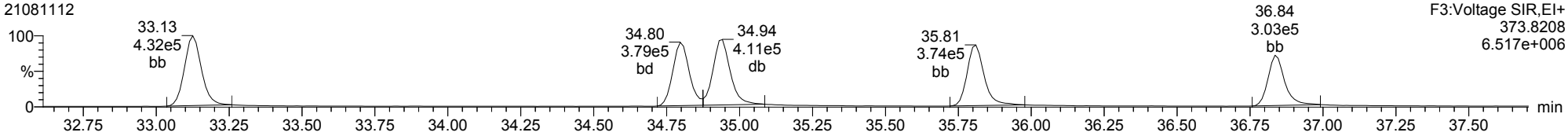
Total-hexafurans



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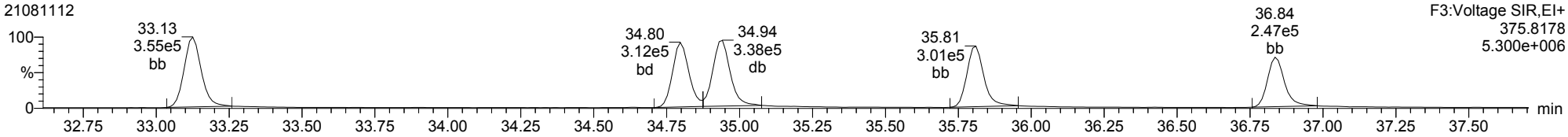

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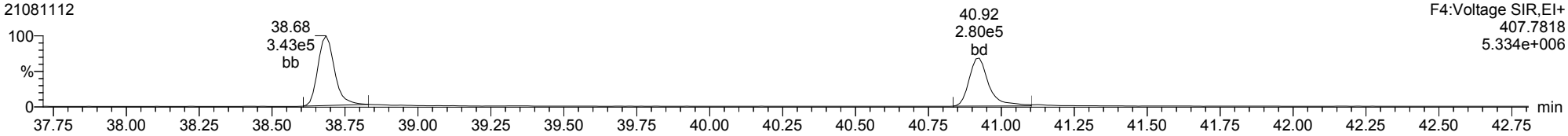

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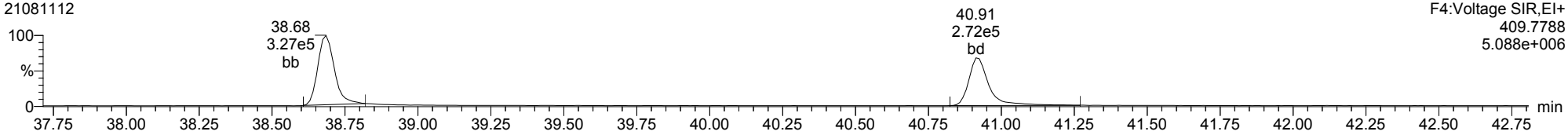

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21030102A	Calibration Date:	03/01/2021
Sequence:	SJC0004	Injection Date:	03/01/21
Lab Sample ID:	SJC0004-ICV1	Injection Time:	11:16
Sequence Name:	CS3V2		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	10.1	0.7815069	0.7865334		0.6	+/-16
2,3,7,8-TCDD	A	10.000	9.92	1.3074710	1.2969940		-0.8	+/-22
1,2,3,7,8-PeCDF	A	50.000	52.5	0.8661132	0.9094034		5.0	+/-18
2,3,4,7,8-PeCDF	A	50.000	50.4	0.9798329	0.9882243		0.9	+/-18
1,2,3,7,8-PeCDD	A	50.000	50.6	0.9786280	0.9897509		1.1	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	53.1	1.0022170	1.0640100		6.2	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	53.8	0.9610616	1.0333350		7.5	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	52.5	1.0430410	1.0946080		4.9	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	50.8	0.9942991	1.0096260		1.5	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.8	0.9561583	0.9335381		-2.4	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	50.2	0.9525810	0.9564714		0.4	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.4	0.9268956	0.9338913		0.8	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	53.3	1.0579720	1.1275140		6.6	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	52.8	1.0697390	1.1287730		5.5	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	51.0	1.0550420	1.0751000		1.9	+/-14
OCDF	A	100.00	96.5	1.2566960	1.2131530		-3.5	+/-37
OCDD	A	100.00	94.6	1.0738390	1.0163850		-5.4	+/-21
13C12-2,3,7,8-TCDF	A	100.00	99.0	1.9249160	1.9059078		-1.0	+/-29
13C12-2,3,7,8-TCDD	A	100.00	99.3	1.1327550	1.1245539		-0.7	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	97.2	1.4422400	1.4024201		-2.8	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	98.2	1.3866450	1.3615629		-1.8	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	101	0.9468647	0.9550022		0.9	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	99.8	1.0530710	1.0512952		-0.2	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	98.0	1.1350140	1.1119343		-2.0	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	99.6	1.0040700	1.0002259		-0.4	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	100	0.9089439	0.9125472		0.4	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	101	0.9385700	0.9471725		0.9	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	94.2	1.0420460	0.9819427		-5.8	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	103	0.9598082	0.9857659		2.7	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	104	0.7937117	0.8293911		4.5	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	104	0.7883415	0.8210922		4.2	+/-18

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21030102A	Calibration Date:	03/01/2021
Sequence:	SJC0004	Injection Date:	03/01/21
Lab Sample ID:	SJC0004-ICV1	Injection Time:	11:16
Sequence Name:	CS3V2		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-OCDD	A	200.00	213	0.7032915	0.7503881		6.7	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.87	1.4170130	1.2810427		-1.3	+/-21

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210301IHOP.qld
Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	25.489	1.001	7.379e4	9.289e4	0.782	0.794	0.770	1691	2113	1.09e6	1.39e6	644.7	657.8	NO	bb	bb	10.064
12378-PeCDF	29.628	1.001	4.337e5	2.754e5	0.866	1.575	1.550	2697	3621	6.51e6	4.05e6	2412.4	1117.7	NO	bb	bb	52.499
23478-PeCDF	30.965	1.000	4.672e5	2.808e5	0.980	1.664	1.550	2697	3621	7.16e6	4.29e6	2655.0	1185.5	NO	bb	bb	50.428
123478-HxCDF	34.585	1.000	3.771e5	2.865e5	1.002	1.316	1.240	2353	2393	5.78e6	4.37e6	2454.7	1827.0	NO	bd	bd	53.083
234678-HxCDF	35.599	1.000	3.662e5	2.833e5	1.043	1.293	1.240	2353	2393	5.89e6	4.50e6	2502.3	1878.5	NO	bb	bb	52.472
123678-HxCDF	34.730	1.000	3.883e5	2.933e5	0.961	1.324	1.240	2353	2393	6.06e6	4.54e6	2574.0	1898.9	NO	db	db	53.760
123789-HxCDF	36.635	1.001	3.126e5	2.339e5	0.994	1.336	1.240	2353	2393	4.93e6	3.73e6	2095.9	1560.0	NO	bb	bb	50.771
1234678-HpCDF	38.474	1.000	3.472e5	3.121e5	1.058	1.112	1.050	2827	2764	5.59e6	5.23e6	1977.0	1891.7	NO	bd	bb	53.287
1234789-HpCDF	40.680	1.000	2.951e5	2.603e5	1.070	1.133	1.050	2827	2764	4.10e6	3.75e6	1451.2	1358.0	NO	bd	bb	52.759
OCDF	44.820	1.006	5.318e5	5.483e5	1.257	0.970	0.890	1995	2833	6.08e6	6.48e6	3049.0	2287.4	NO	bd	bb	96.535
2378-TCDD	26.124	1.001	7.410e4	8.807e4	1.307	0.841	0.770	1933	1287	1.07e6	1.30e6	553.7	1011.9	NO	bb	bb	9.920
12378-PeCDD	31.221	1.001	3.192e5	2.063e5	0.979	1.547	1.550	3184	1924	4.85e6	3.16e6	1522.6	1641.2	NO	bb	bb	50.568
123478-HxCDD	35.722	1.001	2.864e5	2.381e5	0.956	1.203	1.240	3423	2360	4.68e6	3.92e6	1368.2	1661.0	NO	bd	bd	48.817
123678-HxCDD	35.833	1.000	3.067e5	2.504e5	0.953	1.225	1.240	3423	2360	4.71e6	3.89e6	1376.2	1648.1	NO	db	db	50.204
123789-HxCDD	36.223	1.011	2.952e5	2.392e5	0.927	1.234	1.240	3423	2360	4.58e6	3.73e6	1336.9	1581.8	NO	bb	bb	50.377
1234678-HpCDD	39.955	1.001	2.666e5	2.571e5	1.055	1.037	1.050	2909	2441	4.06e6	3.77e6	1397.0	1546.3	NO	bb	bb	50.951
OCDD	44.582	1.000	4.209e5	4.840e5	1.074	0.870	0.890	1951	3467	5.09e6	5.90e6	2610.5	1701.2	NO	bb	bb	94.650
13C-2378-TCDF	25.473	1.007	9.262e5	1.193e6	1.925	0.776	0.770	4452	2893	1.39e7	1.78e7	3112.7	6164.5	NO	bb	bb	99.012
13C-12378-PeCDF	29.605	1.171	9.352e5	6.242e5	1.442	1.498	1.550	3330	2513	1.39e7	9.16e6	4168.0	3644.1	NO	bb	bb	97.239
13C-23478-PeCDF	30.953	1.224	9.092e5	6.047e5	1.387	1.503	1.550	3330	2513	1.37e7	9.05e6	4114.8	3603.4	NO	bb	bb	98.191
13C-123478-HxCDF	34.574	0.955	4.183e5	8.290e5	1.053	0.505	0.510	1960	3049	6.60e6	1.29e7	3364.7	4236.2	NO	bd	bd	99.831
13C-123678-HxCDF	34.719	0.959	4.458e5	8.734e5	1.135	0.510	0.510	1960	3049	6.69e6	1.33e7	3410.0	4350.9	NO	db	db	97.967
13C-234678-HxCDF	35.588	0.983	3.995e5	7.872e5	1.004	0.508	0.510	1960	3049	6.19e6	1.22e7	3159.3	4003.7	NO	bb	bb	99.617
13C-123789-HxCDF	36.613	1.011	3.645e5	7.182e5	0.909	0.507	0.510	1960	3049	5.74e6	1.13e7	2928.9	3717.9	NO	bb	bb	100.396
13C-1234678-HpCDF	38.463	1.063	3.544e5	8.151e5	0.960	0.435	0.440	2651	3304	5.79e6	1.35e7	2183.5	4073.8	NO	bb	bb	102.704
13C-1234789-HpCDF	40.668	1.123	2.995e5	6.846e5	0.794	0.437	0.440	2651	3304	4.35e6	9.96e6	1642.1	3013.7	NO	bb	bb	104.495
13C-1234-TCDD	25.292	0.000	4.984e5	6.136e5	1.000	0.812	0.770	2725	1912	7.63e6	9.45e6	2799.5	4941.9	NO	bb	bb	100.000
13C-2378-TCDD	26.108	1.032	5.577e5	6.927e5	1.133	0.805	0.770	2725	1912	8.31e6	1.03e7	3048.6	5407.9	NO	bb	bb	99.276
13C-12378-PeCDD	31.198	1.234	6.558e5	4.061e5	0.947	1.615	1.550	1849	1290	9.57e6	6.01e6	5173.2	4657.0	NO	bb	bb	100.859
13C-123478-HxCDD	35.700	0.986	6.279e5	4.959e5	0.939	1.266	1.240	2784	2882	9.79e6	7.73e6	3517.5	2681.0	NO	bd	bd	100.917
13C-123678-HxCDD	35.822	0.989	6.437e5	5.214e5	1.042	1.235	1.240	2784	2882	9.96e6	8.08e6	3579.1	2803.5	NO	db	db	94.232
13C-1234678-HpCDD	39.933	1.103	5.060e5	4.682e5	0.788	1.081	1.050	2965	2665	7.46e6	7.00e6	2517.3	2626.5	NO	bb	bb	104.154
13C-OCDD	44.564	1.231	8.464e5	9.342e5	0.703	0.906	0.890	3158	3687	1.07e7	1.17e7	3392.9	3172.1	NO	bb	bb	213.393
13C-123789-HxCDD	36.201	0.000	6.593e5	5.272e5	1.000	1.251	1.240	2784	2882	1.01e7	8.17e6	3640.6	2834.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.124	1.033	1.424e5		1.298			2786		2.09e6		748.7			bb		9.873

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Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
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ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	21.996	0.863	8.742e4	1.104e5	0.966	0.792	0.770	1691	2113	1.40e6	1.77e6	826.7	835.7	NO	bb	bb	9.668
1289-TCDF	26.986	1.059	7.194e4	8.938e4	0.736	0.805	0.770	1691	2113	1.01e6	1.25e6	599.5	593.8	NO	db	db	10.346
13468-PECDF	26.834	0.906	5.952e5	4.024e5	1.347	1.479	1.550	1054	1234	8.91e6	6.00e6	8453.7	4867.0	NO	bb	bb	47.499
12389-PECDF	32.001	1.081	4.454e5	2.950e5	0.867	1.510	1.550	2697	3621	6.58e6	4.13e6	2441.7	1139.5	NO	bb	bd	54.774
123468-HXCDF	32.914	0.952	3.821e5	2.910e5	1.036	1.313	1.240	2353	2393	5.80e6	4.48e6	2467.1	1870.1	NO	bb	bb	52.097
1368-TCDD	23.266	0.891	6.772e4	8.709e4	1.256	0.778	0.770	1933	1287	1.05e6	1.32e6	542.7	1028.8	NO	bb	bb	9.861
1289-TCDD	26.729	1.024	6.242e4	7.980e4	1.151	0.782	0.770	1933	1287	9.09e5	1.11e6	470.2	865.7	NO	bb	bb	9.883
12479-PECDD	28.502	0.914	5.432e5	3.538e5	1.773	1.535	1.550	3184	1924	5.28e6	3.44e6	1658.1	1785.6	NO	bb	bb	47.631
12389-PECDD	31.611	1.013	3.769e5	2.472e5	1.171	1.525	1.550	3184	1924	5.54e6	3.69e6	1738.9	1918.9	NO	bb	bb	50.181
124679-HXCDD	33.694	0.944	3.150e5	2.599e5	1.034	1.212	1.240	3423	2360	4.88e6	3.99e6	1425.8	1689.5	NO	bb	bb	49.499
1234679-HPCDD	38.919	0.975	2.924e5	2.817e5	1.194	1.038	1.050	2909	2441	4.79e6	4.59e6	1647.5	1879.0	NO	bb	bb	49.345
Total-tetrafurans			2.350e5		0.828			1691		3.53e6							30.321
Total-penta1			5.952e5					1054		8.91e6							47.499
Total-pentafurans			1.419e6		0.904			2697		2.13e7							166.298
Total-hexafurans			1.827e6		1.007			2353		2.85e7							262.249
Total-heptafurans			6.432e5		1.064			2827		9.71e6							106.188
Total-Furans			5.251e6		0.998			1691		7.80e7							709.090
Total-tetradioxins			3.466e5		1.238			1933		4.69e6							50.647
Total-pentadioxins			1.241e6		1.308			3184		1.57e7							148.534
Total-hexadioxins			1.203e6		0.967			3423		1.88e7							198.897
Total-heptadioxins			5.591e5		1.125			2909		8.86e6							100.318
Total-Dioxins			3.771e6		1.141			1933		5.32e7							593.045
Total-TEQ			9.022e6					1933		1.31e8							1302.135
FUNCTION1 PFK			6.745e6					902036		1.05e8							
FUNCTION2 PFK			1.698e6					508046		3.52e7							0.000
FUNCTION3 PFK			8.207e5					532068		1.74e7							0.000
FUNCTION4 PFK			5.913e5					399274		1.30e7							
FUNCTION5 PFK			1.132e6					197432		1.89e7							
FUNCTION1 HXCD...			7.912e2					700		1.41e4							0.000
FUNCTION1 HPCD...			2.186e3					814		4.07e4							0.000
FUNCTION2 HPCD...			1.462e3					785		2.84e4							0.000
FUNCTION3 OCDPE			9.164e2					572		1.22e4							0.000
FUNCTION4 NCDPE			7.895e2					717		1.45e4							0.000
FUNCTION5 DCDPE			9.454e2					1573		3.09e4							0.000

Dataset: T:\Autospec\Processed Data Batch\210301IHOP.qld
Last Altered: Tuesday, March 02, 2021 11:27:44 Pacific Standard Time
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Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	26.99	7.194e4	8.938e4	0.736	0.80	0.77	599.5	YES	NO	db	db	10.346
2	2378-TCDF	25.49	7.379e4	9.289e4	0.782	0.79	0.77	644.7	YES	NO	bb	bb	10.064
3	Total-tetrafurans	24.60	4.809e2	6.548e2	0.828	0.73	0.77	3.9	YES	NO	bb	bb	0.065
4	Total-tetrafurans	24.38	4.928e2	7.502e2	0.828	0.66	0.77	4.2	YES	NO	db	db	0.071
5	Total-tetrafurans	24.26	8.620e2	1.015e3	0.828	0.85	0.77	6.8	YES	NO	bd	bd	0.107
6	1368-TCDF	22.00	8.742e4	1.104e5	0.966	0.79	0.77	826.7	YES	NO	bb	bb	9.668

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.83	5.952e5	4.024e5	1.347	1.48	1.55	8453.7	YES	NO	bb	bb	47.499

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.63	4.337e5	2.754e5	0.866	1.57	1.55	2412.4	YES	NO	bb	bb	52.499
2	Total-pentafurans	28.49	7.314e4	4.630e4	0.904	1.58	1.55	401.3	YES	NO	bb	bb	8.596
3	12389-PECDF	32.00	4.454e5	2.950e5	0.867	1.51	1.55	2441.7	YES	NO	bb	bd	54.774
4	23478-PeCDF	30.96	4.672e5	2.808e5	0.980	1.66	1.55	2655.0	YES	NO	bb	bb	50.428

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.64	3.126e5	2.339e5	0.994	1.34	1.24	2095.9	YES	NO	bb	bb	50.771
2	Total-hexafurans	36.23	4.568e2	3.538e2	1.007	1.29	1.24	4.3	YES	NO	bb	bb	0.067
3	234678-HxCDF	35.60	3.662e5	2.833e5	1.043	1.29	1.24	2502.3	YES	NO	bb	bb	52.472
4	123678-HxCDF	34.73	3.883e5	2.933e5	0.961	1.32	1.24	2574.0	YES	NO	db	db	53.760
5	123478-HxCDF	34.59	3.771e5	2.865e5	1.002	1.32	1.24	2454.7	YES	NO	bd	bd	53.083
6	123468-HXCDF	32.91	3.821e5	2.910e5	1.036	1.31	1.24	2467.1	YES	NO	bb	bb	52.097

ID: CS3V1, Name: 21030102, Date: 01-Mar-2021, Time: 11:16:51, 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	40.68	2.951e5	2.603e5	1.070	1.13	1.05	1451.2	YES	NO	bd	bb	52.759
2	Total-heptafurans	39.12	8.907e2	7.410e2	1.064	1.20	1.05	5.1	YES	NO	bb	dd	0.142
3	1234678-HpCDF	38.47	3.472e5	3.121e5	1.058	1.11	1.05	1977.0	YES	NO	bd	bb	53.287

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	26.99	7.194e4	8.938e4	0.736	0.80	0.77	599.5	YES	NO	db	db	10.346
2	2378-TCDF	25.49	7.379e4	9.289e4	0.782	0.79	0.77	644.7	YES	NO	bb	bb	10.064
3	Total-tetrafurans	24.60	4.809e2	6.548e2	0.828	0.73	0.77	3.9	YES	NO	bb	bb	0.065
4	Total-tetrafurans	24.38	4.928e2	7.502e2	0.828	0.66	0.77	4.2	YES	NO	db	db	0.071
5	Total-tetrafurans	24.26	8.620e2	1.015e3	0.828	0.85	0.77	6.8	YES	NO	bd	bd	0.107
6	1368-TCDF	22.00	8.742e4	1.104e5	0.966	0.79	0.77	826.7	YES	NO	bb	bb	9.668
7	12378-PeCDF	29.63	4.337e5	2.754e5	0.866	1.57	1.55	2412.4	YES	NO	bb	bb	52.499
8	Total-pentafurans	28.49	7.314e4	4.630e4	0.904	1.58	1.55	401.3	YES	NO	bb	bb	8.596
9	12389-PECDF	32.00	4.454e5	2.950e5	0.867	1.51	1.55	2441.7	YES	NO	bb	bd	54.774
10	23478-PeCDF	30.96	4.672e5	2.808e5	0.980	1.66	1.55	2655.0	YES	NO	bb	bb	50.428
11	123789-HxCDF	36.64	3.126e5	2.339e5	0.994	1.34	1.24	2095.9	YES	NO	bb	bb	50.771
12	Total-hexafurans	36.23	4.568e2	3.538e2	1.007	1.29	1.24	4.3	YES	NO	bb	bb	0.067
13	234678-HxCDF	35.60	3.662e5	2.833e5	1.043	1.29	1.24	2502.3	YES	NO	bb	bb	52.472
14	123678-HxCDF	34.73	3.883e5	2.933e5	0.961	1.32	1.24	2574.0	YES	NO	db	db	53.760
15	123478-HxCDF	34.59	3.771e5	2.865e5	1.002	1.32	1.24	2454.7	YES	NO	bd	bd	53.083
16	123468-HXCDF	32.91	3.821e5	2.910e5	1.036	1.31	1.24	2467.1	YES	NO	bb	bb	52.097
17	1234789-HpCDF	40.68	2.951e5	2.603e5	1.070	1.13	1.05	1451.2	YES	NO	bd	bb	52.759
18	Total-heptafurans	39.12	8.907e2	7.410e2	1.064	1.20	1.05	5.1	YES	NO	bb	dd	0.142
19	1234678-HpCDF	38.47	3.472e5	3.121e5	1.058	1.11	1.05	1977.0	YES	NO	bd	bb	53.287
20	OCDF	44.82	5.318e5	5.483e5	1.257	0.97	0.89	3049.0	YES	NO	bd	bb	96.535
21	13468-PECDF	26.83	5.952e5	4.024e5	1.347	1.48	1.55	8453.7	YES	NO	bb	bb	47.499

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TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.73	6.242e4	7.980e4	1.151	0.78	0.77	470.2	YES	NO	bb	bb	9.883
2	2378-TCDD	26.12	7.410e4	8.807e4	1.307	0.84	0.77	553.7	YES	NO	bb	bb	9.920
3	Total-tetradioxins	25.81	1.074e5	1.384e5	1.238	0.78	0.77	590.6	YES	NO	bb	bb	15.878
4	Total-tetradioxins	25.32	3.329e4	4.205e4	1.238	0.79	0.77	255.4	YES	NO	bd	bb	4.867
5	Total-tetradioxins	24.46	1.644e3	2.044e3	1.238	0.80	0.77	12.5	YES	NO	db	db	0.238
6	1368-TCDD	23.27	6.772e4	8.709e4	1.256	0.78	0.77	542.7	YES	NO	bb	bb	9.861

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.50	5.432e5	3.538e5	1.773	1.54	1.55	1658.1	YES	NO	bb	bb	47.631
2	12389-PECDD	31.61	3.769e5	2.472e5	1.171	1.52	1.55	1738.9	YES	NO	bb	bb	50.181
3	12378-PeCDD	31.22	3.192e5	2.063e5	0.979	1.55	1.55	1522.6	YES	NO	bb	bb	50.568
4	Total-pentadioxins	30.54	1.305e3	8.352e2	1.308	1.56	1.55	5.8	YES	NO	bb	bb	0.154

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.22	2.952e5	2.392e5	0.927	1.23	1.24	1336.9	YES	NO	bb	bb	50.377
2	123678-HxCDD	35.83	3.067e5	2.504e5	0.953	1.22	1.24	1376.2	YES	NO	db	db	50.204
3	123478-HxCDD	35.72	2.864e5	2.381e5	0.956	1.20	1.24	1368.2	YES	NO	bd	bd	48.817
4	124679-HXCDD	33.69	3.150e5	2.599e5	1.034	1.21	1.24	1425.8	YES	NO	bb	bb	49.499

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.96	2.666e5	2.571e5	1.055	1.04	1.05	1397.0	YES	NO	bb	bb	50.951
2	Total-heptadioxins	39.61	1.218e2	1.312e2	1.125	0.93	1.05	1.6	NO	NO	bb	bb	0.023
3	1234679-HPCDD	38.92	2.924e5	2.817e5	1.194	1.04	1.05	1647.5	YES	NO	bb	bb	49.345

Dataset: T:\Autospec\Processed Data Batch\210301IHOP.qld
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Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

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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	26.73	6.242e4	7.980e4	1.151	0.78	0.77	470.2	YES	NO	bb	bb	9.883
2	2378-TCDD	26.12	7.410e4	8.807e4	1.307	0.84	0.77	553.7	YES	NO	bb	bb	9.920
3	Total-tetradioxins	25.81	1.074e5	1.384e5	1.238	0.78	0.77	590.6	YES	NO	bb	bb	15.878
4	Total-tetradioxins	25.32	3.329e4	4.205e4	1.238	0.79	0.77	255.4	YES	NO	bd	bb	4.867
5	Total-tetradioxins	24.46	1.644e3	2.044e3	1.238	0.80	0.77	12.5	YES	NO	db	db	0.238
6	1368-TCDD	23.27	6.772e4	8.709e4	1.256	0.78	0.77	542.7	YES	NO	bb	bb	9.861
7	12479-PECDD	28.50	5.432e5	3.538e5	1.773	1.54	1.55	1658.1	YES	NO	bb	bb	47.631
8	12389-PECDD	31.61	3.769e5	2.472e5	1.171	1.52	1.55	1738.9	YES	NO	bb	bb	50.181
9	12378-PeCDD	31.22	3.192e5	2.063e5	0.979	1.55	1.55	1522.6	YES	NO	bb	bb	50.568
10	Total-pentadioxins	30.54	1.305e3	8.352e2	1.308	1.56	1.55	5.8	YES	NO	bb	bb	0.154
11	123789-HxCDD	36.22	2.952e5	2.392e5	0.927	1.23	1.24	1336.9	YES	NO	bb	bb	50.377
12	123678-HxCDD	35.83	3.067e5	2.504e5	0.953	1.22	1.24	1376.2	YES	NO	db	db	50.204
13	123478-HxCDD	35.72	2.864e5	2.381e5	0.956	1.20	1.24	1368.2	YES	NO	bd	bd	48.817
14	124679-HXCDD	33.69	3.150e5	2.599e5	1.034	1.21	1.24	1425.8	YES	NO	bb	bb	49.499
15	1234678-HpCDD	39.96	2.666e5	2.571e5	1.055	1.04	1.05	1397.0	YES	NO	bb	bb	50.951
16	Total-heptadioxins	39.61	1.218e2	1.312e2	1.125	0.93	1.05	1.6	NO	NO	bb	bb	0.023
17	1234679-HPCDD	38.92	2.924e5	2.817e5	1.194	1.04	1.05	1647.5	YES	NO	bb	bb	49.345
18	OCDD	44.58	4.209e5	4.840e5	1.074	0.87	0.89	2610.5	YES	NO	bb	bb	94.650

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.99	7.194e4	8.938e4	0.736	0.80	0.77	599.5	YES	NO	db	db	10.346
2	2378-TCDF	25.49	7.379e4	9.289e4	0.782	0.79	0.77	644.7	YES	NO	bb	bb	10.064
3	Total-tetrafurans	24.60	4.809e2	6.548e2	0.828	0.73	0.77	3.9	YES	NO	bb	bb	0.065
4	Total-tetrafurans	24.38	4.928e2	7.502e2	0.828	0.66	0.77	4.2	YES	NO	db	db	0.071
5	Total-tetrafurans	24.26	8.620e2	1.015e3	0.828	0.85	0.77	6.8	YES	NO	bd	bd	0.107
6	1368-TCDF	22.00	8.742e4	1.104e5	0.966	0.79	0.77	826.7	YES	NO	bb	bb	9.668
7	12378-PeCDF	29.63	4.337e5	2.754e5	0.866	1.57	1.55	2412.4	YES	NO	bb	bb	52.499
8	Total-pentafurans	28.49	7.314e4	4.630e4	0.904	1.58	1.55	401.3	YES	NO	bb	bb	8.596
9	12389-PECDF	32.00	4.454e5	2.950e5	0.867	1.51	1.55	2441.7	YES	NO	bb	bd	54.774
10	23478-PeCDF	30.96	4.672e5	2.808e5	0.980	1.66	1.55	2655.0	YES	NO	bb	bb	50.428
11	123789-HxCDF	36.64	3.126e5	2.339e5	0.994	1.34	1.24	2095.9	YES	NO	bb	bb	50.771
12	Total-hexafurans	36.23	4.568e2	3.538e2	1.007	1.29	1.24	4.3	YES	NO	bb	bb	0.067
13	234678-HxCDF	35.60	3.662e5	2.833e5	1.043	1.29	1.24	2502.3	YES	NO	bb	bb	52.472
14	123678-HxCDF	34.73	3.883e5	2.933e5	0.961	1.32	1.24	2574.0	YES	NO	db	db	53.760
15	123478-HxCDF	34.59	3.771e5	2.865e5	1.002	1.32	1.24	2454.7	YES	NO	bd	bd	53.083
16	123468-HXCDF	32.91	3.821e5	2.910e5	1.036	1.31	1.24	2467.1	YES	NO	bb	bb	52.097
17	1234789-HpCDF	40.68	2.951e5	2.603e5	1.070	1.13	1.05	1451.2	YES	NO	bd	bb	52.759
18	Total-heptafurans	39.12	8.907e2	7.410e2	1.064	1.20	1.05	5.1	YES	NO	bb	dd	0.142
19	1234678-HpCDF	38.47	3.472e5	3.121e5	1.058	1.11	1.05	1977.0	YES	NO	bd	bb	53.287
20	OCDF	44.82	5.318e5	5.483e5	1.257	0.97	0.89	3049.0	YES	NO	bd	bb	96.535
21	13468-PECDF	26.83	5.952e5	4.024e5	1.347	1.48	1.55	8453.7	YES	NO	bb	bb	47.499
22	1289-TCDD	26.73	6.242e4	7.980e4	1.151	0.78	0.77	470.2	YES	NO	bb	bb	9.883
23	2378-TCDD	26.12	7.410e4	8.807e4	1.307	0.84	0.77	553.7	YES	NO	bb	bb	9.920
24	Total-tetradioxins	25.81	1.074e5	1.384e5	1.238	0.78	0.77	590.6	YES	NO	bb	bb	15.878
25	Total-tetradioxins	25.32	3.329e4	4.205e4	1.238	0.79	0.77	255.4	YES	NO	bd	bb	4.867
26	Total-tetradioxins	24.46	1.644e3	2.044e3	1.238	0.80	0.77	12.5	YES	NO	db	db	0.238
27	1368-TCDD	23.27	6.772e4	8.709e4	1.256	0.78	0.77	542.7	YES	NO	bb	bb	9.861
28	12479-PECDD	28.50	5.432e5	3.538e5	1.773	1.54	1.55	1658.1	YES	NO	bb	bb	47.631
29	12389-PECDD	31.61	3.769e5	2.472e5	1.171	1.52	1.55	1738.9	YES	NO	bb	bb	50.181
30	12378-PeCDD	31.22	3.192e5	2.063e5	0.979	1.55	1.55	1522.6	YES	NO	bb	bb	50.568
31	Total-pentadioxins	30.54	1.305e3	8.352e2	1.308	1.56	1.55	5.8	YES	NO	bb	bb	0.154
32	123789-HxCDD	36.22	2.952e5	2.392e5	0.927	1.23	1.24	1336.9	YES	NO	bb	bb	50.377
33	123678-HxCDD	35.83	3.067e5	2.504e5	0.953	1.22	1.24	1376.2	YES	NO	db	db	50.204
34	123478-HxCDD	35.72	2.864e5	2.381e5	0.956	1.20	1.24	1368.2	YES	NO	bd	bd	48.817
35	124679-HXCDD	33.69	3.150e5	2.599e5	1.034	1.21	1.24	1425.8	YES	NO	bb	bb	49.499
36	1234678-HpCDD	39.96	2.666e5	2.571e5	1.055	1.04	1.05	1397.0	YES	NO	bb	bb	50.951
37	Total-heptadioxins	39.61	1.218e2	1.312e2	1.125	0.93	1.05	1.6	NO	NO	bb	bb	0.023

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Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	1234679-HPCDD	38.92	2.924e5	2.817e5	1.194	1.04	1.05	1647.5	YES	NO	bb	bb	49.345
39	OCDD	44.58	4.209e5	4.840e5	1.074	0.87	0.89	2610.5	YES	NO	bb	bb	94.650

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.45	1.451e5					2.7	NO		dd		
2	FUNCTION1 PFK	21.36	2.113e5					3.0	YES		dd		
3	FUNCTION1 PFK	21.25	1.720e5					2.3	NO		dd		
4	FUNCTION1 PFK	21.16	1.329e5					2.1	NO		bd		
5	FUNCTION1 PFK	23.11	6.638e4					1.8	NO		dd		
6	FUNCTION1 PFK	23.04	1.243e5					1.7	NO		dd		
7	FUNCTION1 PFK	22.90	7.974e4					1.8	NO		dd		
8	FUNCTION1 PFK	22.78	1.279e5					1.7	NO		dd		
9	FUNCTION1 PFK	22.69	1.267e5					2.0	NO		dd		
10	FUNCTION1 PFK	22.57	1.076e5					2.1	NO		dd		
11	FUNCTION1 PFK	22.45	1.284e5					2.1	NO		dd		
12	FUNCTION1 PFK	22.34	1.229e5					2.1	NO		dd		
13	FUNCTION1 PFK	22.22	1.739e5					2.1	NO		dd		
14	FUNCTION1 PFK	22.12	9.299e4					1.6	NO		dd		
15	FUNCTION1 PFK	22.01	1.474e5					2.1	NO		dd		
16	FUNCTION1 PFK	21.92	1.602e5					2.0	NO		dd		
17	FUNCTION1 PFK	21.80	1.527e5					2.1	NO		dd		
18	FUNCTION1 PFK	21.68	1.193e5					2.2	NO		dd		
19	FUNCTION1 PFK	21.57	1.969e5					2.7	NO		dd		
20	FUNCTION1 PFK	21.51	1.006e5					2.2	NO		dd		
21	FUNCTION1 PFK	24.57	1.027e5					1.5	NO		dd		
22	FUNCTION1 PFK	24.45	7.700e4					1.1	NO		dd		
23	FUNCTION1 PFK	24.37	5.995e4					1.5	NO		dd		
24	FUNCTION1 PFK	24.32	4.082e4					1.3	NO		dd		
25	FUNCTION1 PFK	24.23	1.214e5					2.1	NO		bd		
26	FUNCTION1 PFK	24.11	6.668e4					1.7	NO		bb		
27	FUNCTION1 PFK	24.02	1.166e5					2.0	NO		db		
28	FUNCTION1 PFK	23.90	7.806e4					1.7	NO		dd		
29	FUNCTION1 PFK	23.78	1.140e5					1.9	NO		dd		
30	FUNCTION1 PFK	23.67	1.251e5					2.1	NO		dd		
31	FUNCTION1 PFK	23.60	4.794e4					1.5	NO		dd		
32	FUNCTION1 PFK	23.57	6.470e4					1.5	NO		dd		
33	FUNCTION1 PFK	23.46	8.953e4					1.8	NO		dd		
34	FUNCTION1 PFK	23.34	1.300e5					2.0	NO		dd		
35	FUNCTION1 PFK	23.22	1.105e5					1.5	NO		dd		
36	FUNCTION1 PFK	23.15	6.869e4					1.8	NO		dd		
37	FUNCTION1 PFK	26.35	7.469e4					1.9	NO		dd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	26.24	8.623e4					1.4	NO		dd		
39	FUNCTION1 PFK	26.11	9.719e4					1.5	NO		dd		
40	FUNCTION1 PFK	26.02	7.610e4					1.5	NO		dd		
41	FUNCTION1 PFK	25.90	8.091e4					1.5	NO		dd		
42	FUNCTION1 PFK	25.79	6.062e4					1.2	NO		bd		
43	FUNCTION1 PFK	25.69	4.164e4					1.2	NO		bb		
44	FUNCTION1 PFK	25.47	7.145e4					1.1	NO		bb		
45	FUNCTION1 PFK	25.35	7.445e4					1.7	NO		db		
46	FUNCTION1 PFK	25.29	1.854e4					0.7	NO		dd		
47	FUNCTION1 PFK	25.22	9.507e4					1.8	NO		dd		
48	FUNCTION1 PFK	25.13	8.085e4					1.9	NO		dd		
49	FUNCTION1 PFK	25.00	9.681e4					1.4	NO		dd		
50	FUNCTION1 PFK	24.91	1.171e5					1.5	NO		dd		
51	FUNCTION1 PFK	24.81	9.938e4					1.6	NO		dd		
52	FUNCTION1 PFK	24.69	1.189e5					2.3	NO		dd		
53	FUNCTION1 PFK	27.59	5.977e4					1.2	NO		bb		
54	FUNCTION1 PFK	27.48	8.402e4					2.0	NO		db		
55	FUNCTION1 PFK	27.36	1.502e5					2.0	NO		dd		
56	FUNCTION1 PFK	27.24	1.435e5					2.0	NO		dd		
57	FUNCTION1 PFK	27.15	1.095e5					1.8	NO		dd		
58	FUNCTION1 PFK	27.02	1.821e5					2.1	NO		dd		
59	FUNCTION1 PFK	26.92	1.667e5					2.6	NO		dd		
60	FUNCTION1 PFK	26.80	1.219e5					2.3	NO		dd		
61	FUNCTION1 PFK	26.68	1.204e5					2.0	NO		dd		
62	FUNCTION1 PFK	26.59	9.017e4					1.6	NO		dd		
63	FUNCTION1 PFK	26.47	8.773e4					1.9	NO		dd		
64	FUNCTION1 PFK	26.41	3.649e4					1.0	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.02	5.326e4					2.2	NO		db		0.000
2	FUNCTION2 PFK	27.96	6.356e4					2.1	NO		dd		0.000
3	FUNCTION2 PFK	27.81	9.975e4					2.9	NO		bd		0.000
4	FUNCTION2 PFK	29.83	7.293e4					2.7	NO		dd		0.000
5	FUNCTION2 PFK	29.72	6.765e4					2.6	NO		bd		0.000
6	FUNCTION2 PFK	29.63	4.341e4					2.2	NO		db		0.000
7	FUNCTION2 PFK	29.59	2.520e4					1.9	NO		dd		0.000
8	FUNCTION2 PFK	29.48	5.725e4					2.3	NO		bd		0.000
9	FUNCTION2 PFK	29.39	4.762e4					2.2	NO		bb		0.000
10	FUNCTION2 PFK	29.14	3.819e4					1.8	NO		db		0.000
11	FUNCTION2 PFK	29.08	6.314e4					2.2	NO		bd		0.000
12	FUNCTION2 PFK	28.95	5.376e4					1.9	NO		bb		0.000
13	FUNCTION2 PFK	28.70	7.983e4					3.0	NO		db		0.000
14	FUNCTION2 PFK	28.61	7.166e4					2.4	NO		dd		0.000
15	FUNCTION2 PFK	28.51	1.740e4					1.5	NO		dd		0.000
16	FUNCTION2 PFK	28.48	6.060e4					2.6	NO		dd		0.000
17	FUNCTION2 PFK	28.37	6.492e4					2.2	NO		bd		0.000
18	FUNCTION2 PFK	28.26	3.331e4					1.4	NO		bb		0.000
19	FUNCTION2 PFK	28.18	4.145e3					0.4	NO		bb		0.000
20	FUNCTION2 PFK	31.71	2.170e4					1.4	NO		bb		0.000
21	FUNCTION2 PFK	31.51	4.265e4					1.5	NO		bb		0.000
22	FUNCTION2 PFK	31.30	3.427e4					1.6	NO		bb		0.000
23	FUNCTION2 PFK	31.20	3.744e4					1.6	NO		db		0.000
24	FUNCTION2 PFK	31.04	5.453e4					1.8	NO		bd		0.000
25	FUNCTION2 PFK	30.94	1.706e4					1.0	NO		bb		0.000
26	FUNCTION2 PFK	30.86	2.003e3					0.4	NO		bb		0.000
27	FUNCTION2 PFK	30.76	3.991e4					1.5	NO		bb		0.000
28	FUNCTION2 PFK	30.61	6.028e4					2.2	NO		db		0.000
29	FUNCTION2 PFK	30.53	4.321e4					1.6	NO		dd		0.000
30	FUNCTION2 PFK	30.49	2.884e4					1.9	NO		bd		0.000
31	FUNCTION2 PFK	30.28	4.429e4					1.5	NO		db		0.000
32	FUNCTION2 PFK	30.20	5.733e4					1.5	NO		bd		0.000
33	FUNCTION2 PFK	30.06	3.699e4					1.5	NO		db		0.000
34	FUNCTION2 PFK	30.03	2.196e4					1.4	NO		dd		0.000
35	FUNCTION2 PFK	29.94	7.631e4					2.0	NO		dd		0.000
36	FUNCTION2 PFK	32.44	1.832e4					1.2	NO		db		0.000
37	FUNCTION2 PFK	32.39	3.348e4					2.0	NO		bd		0.000

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	31.99	8.164e3					0.8	NO		bb		0.000
39	FUNCTION2 PFK	31.89	2.079e3					0.4	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	35.20	5.344e4					1.9	NO		bb		0.000
2	FUNCTION3 PFK	35.09	4.136e4					2.0	NO		bb		0.000
3	FUNCTION3 PFK	34.20	3.005e4					1.4	NO		bb		0.000
4	FUNCTION3 PFK	33.97	4.696e4					1.8	NO		bb		0.000
5	FUNCTION3 PFK	33.86	5.418e4					2.0	NO		bb		0.000
6	FUNCTION3 PFK	33.74	8.789e3					0.9	NO		bb		0.000
7	FUNCTION3 PFK	33.64	2.869e4					1.2	NO		bb		0.000
8	FUNCTION3 PFK	33.19	6.328e4					2.6	NO		db		0.000
9	FUNCTION3 PFK	33.08	5.359e4					2.0	NO		bd		0.000
10	FUNCTION3 PFK	32.78	1.215e4					0.9	NO		bb		0.000
11	FUNCTION3 PFK	32.65	6.643e4					2.3	NO		bb		0.000
12	FUNCTION3 PFK	37.46	3.584e4					1.6	NO		bb		0.000
13	FUNCTION3 PFK	37.31	5.436e4					1.6	NO		bb		0.000
14	FUNCTION3 PFK	36.65	6.482e4					2.4	NO		bb		0.000
15	FUNCTION3 PFK	36.55	6.432e4					2.5	NO		bb		0.000
16	FUNCTION3 PFK	36.11	4.784e4					1.9	NO		bb		0.000
17	FUNCTION3 PFK	35.98	3.870e4					1.8	NO		bb		0.000
18	FUNCTION3 PFK	35.54	5.586e4					1.9	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.38	1.630e4					1.4	NO		db		
2	FUNCTION4 PFK	39.32	3.367e4					2.4	NO		bd		
3	FUNCTION4 PFK	38.66	3.682e4					2.1	NO		bb		
4	FUNCTION4 PFK	38.55	5.819e4					2.5	NO		bb		
5	FUNCTION4 PFK	38.45	2.900e4					2.1	NO		db		
6	FUNCTION4 PFK	38.41	1.642e4					1.6	NO		bd		
7	FUNCTION4 PFK	38.21	2.620e4					2.0	NO		bb		
8	FUNCTION4 PFK	38.01	2.233e4					1.4	NO		bb		
9	FUNCTION4 PFK	41.44	4.718e4					2.0	NO		bb		
10	FUNCTION4 PFK	41.23	3.615e4					1.9	NO		bb		
11	FUNCTION4 PFK	41.03	7.445e4					2.4	NO		bb		
12	FUNCTION4 PFK	40.80	3.629e4					1.8	NO		bb		
13	FUNCTION4 PFK	40.47	4.978e4					2.2	NO		bb		
14	FUNCTION4 PFK	40.14	2.382e4					1.9	NO		db		
15	FUNCTION4 PFK	40.11	4.213e4					2.6	NO		bd		
16	FUNCTION4 PFK	39.89	4.256e4					2.2	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.64	7.787e3					1.5	NO		bb		
2	FUNCTION5 PFK	43.57	5.219e4					4.5	YES		db		
3	FUNCTION5 PFK	43.43	9.439e4					6.1	YES		dd		
4	FUNCTION5 PFK	43.33	1.502e5					8.2	YES		dd		
5	FUNCTION5 PFK	43.25	1.852e5					10.4	YES		dd		
6	FUNCTION5 PFK	43.12	1.881e5					10.8	YES		dd		
7	FUNCTION5 PFK	43.04	9.445e4					11.2	YES		bd		
8	FUNCTION5 PFK	46.03	2.210e4					3.1	YES		bb		
9	FUNCTION5 PFK	45.70	1.811e4					1.9	NO		bb		
10	FUNCTION5 PFK	45.50	3.121e4					2.1	NO		bb		
11	FUNCTION5 PFK	45.41	2.663e4					2.5	NO		bb		
12	FUNCTION5 PFK	45.26	4.464e3					1.2	NO		bb		
13	FUNCTION5 PFK	45.18	4.012e3					1.0	NO		bb		
14	FUNCTION5 PFK	45.07	7.495e3					1.9	NO		bb		
15	FUNCTION5 PFK	44.94	8.495e2					0.5	NO		bb		
16	FUNCTION5 PFK	44.86	1.593e4					2.1	NO		bb		
17	FUNCTION5 PFK	44.76	3.816e4					3.7	YES		db		
18	FUNCTION5 PFK	44.63	4.049e4					3.0	YES		dd		
19	FUNCTION5 PFK	44.53	3.256e4					3.2	YES		bd		
20	FUNCTION5 PFK	44.43	2.848e4					3.5	YES		bb		
21	FUNCTION5 PFK	43.95	4.595e3					1.3	NO		bb		
22	FUNCTION5 PFK	43.90	3.442e3					1.1	NO		db		
23	FUNCTION5 PFK	43.87	8.364e3					1.3	NO		bd		
24	FUNCTION5 PFK	46.36	2.125e4					2.5	NO		bb		
25	FUNCTION5 PFK	46.27	1.178e4					2.2	NO		db		
26	FUNCTION5 PFK	46.25	1.287e4					2.1	NO		dd		
27	FUNCTION5 PFK	46.12	2.695e4					2.5	NO		bd		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.41	1.237e2					4.8	YES		bb		0.000
2	FUNCTION1 HXCD...	26.83	2.209e2					4.3	YES		bb		0.000
3	FUNCTION1 HXCD...	26.14	1.339e2					2.3	NO		bb		0.000
4	FUNCTION1 HXCD...	25.49	7.336e1					2.6	NO		bb		0.000
5	FUNCTION1 HXCD...	24.26	7.838e1					2.0	NO		bb		0.000
6	FUNCTION1 HXCD...	21.60	7.788e1					1.9	NO		db		0.000
7	FUNCTION1 HXCD...	21.51	8.309e1					2.4	NO		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	22.40	9.379e1					1.9	NO		bd		0.000
2	FUNCTION1 HPCD...	22.04	1.933e2					4.3	YES		bb		0.000
3	FUNCTION1 HPCD...	21.53	9.025e1					2.5	NO		bb		0.000
4	FUNCTION1 HPCD...	26.85	1.782e2					2.8	NO		db		0.000
5	FUNCTION1 HPCD...	26.73	9.979e1					1.9	NO		dd		0.000
6	FUNCTION1 HPCD...	26.62	1.694e2					4.7	YES		dd		0.000
7	FUNCTION1 HPCD...	26.53	7.385e1					1.7	NO		bd		0.000
8	FUNCTION1 HPCD...	26.14	1.538e2					3.4	YES		db		0.000
9	FUNCTION1 HPCD...	26.05	9.731e1					1.6	NO		bd		0.000
10	FUNCTION1 HPCD...	25.55	7.087e1					2.1	NO		db		0.000
11	FUNCTION1 HPCD...	25.49	8.225e1					2.3	NO		bd		0.000
12	FUNCTION1 HPCD...	25.31	1.154e2					2.5	NO		bb		0.000
13	FUNCTION1 HPCD...	24.76	1.311e2					4.4	YES		db		0.000
14	FUNCTION1 HPCD...	24.69	9.781e1					2.1	NO		bd		0.000
15	FUNCTION1 HPCD...	23.64	7.750e1					1.6	NO		bb		0.000
16	FUNCTION1 HPCD...	23.15	9.222e1					1.9	NO		bb		0.000
17	FUNCTION1 HPCD...	22.89	7.835e1					1.8	NO		bb		0.000
18	FUNCTION1 HPCD...	22.72	1.146e2					2.2	NO		bb		0.000
19	FUNCTION1 HPCD...	22.46	7.726e1					1.7	NO		db		0.000
20	FUNCTION1 HPCD...	27.48	9.891e1					2.5	NO		bb		0.000

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ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.80	2.127e2					3.8	YES		bb		0.000
2	FUNCTION2 HPCD...	31.21	2.105e2					4.6	YES		bb		0.000
3	FUNCTION2 HPCD...	30.98	9.042e1					2.6	NO		db		0.000
4	FUNCTION2 HPCD...	30.85	4.174e2					9.3	YES		bd		0.000
5	FUNCTION2 HPCD...	30.65	7.010e1					2.3	NO		bb		0.000
6	FUNCTION2 HPCD...	30.52	1.171e2					2.3	NO		bb		0.000
7	FUNCTION2 HPCD...	29.25	1.151e2					2.2	NO		bb		0.000
8	FUNCTION2 HPCD...	28.78	1.271e2					4.3	YES		bb		0.000
9	FUNCTION2 HPCD...	28.68	1.019e2					4.8	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	36.21	3.040e2					6.8	YES		bb		0.000
2	FUNCTION3 OCDPE	35.83	1.593e2					4.8	YES		db		0.000
3	FUNCTION3 OCDPE	35.71	1.904e2					5.9	YES		bd		0.000
4	FUNCTION3 OCDPE	35.05	2.627e2					3.9	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	42.83	1.041e2					2.6	NO		db		0.000
2	FUNCTION4 NCDPE	42.72	9.060e1					3.0	NO		dd		0.000
3	FUNCTION4 NCDPE	42.63	1.862e2					3.1	YES		bd		0.000
4	FUNCTION4 NCDPE	42.01	8.832e1					1.9	NO		bb		0.000
5	FUNCTION4 NCDPE	41.23	9.502e1					2.6	NO		bb		0.000
6	FUNCTION4 NCDPE	39.93	1.384e2					3.6	YES		bb		0.000
7	FUNCTION4 NCDPE	38.17	8.680e1					3.3	YES		bb		0.000

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Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

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ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.86	9.775e1					3.3	YES		bb		0.000
2	FUNCTION5 DCDPE	45.66	1.351e2					3.7	YES		bb		0.000
3	FUNCTION5 DCDPE	45.46	7.010e1					1.8	NO		bb		0.000
4	FUNCTION5 DCDPE	45.31	2.061e2					3.7	YES		db		0.000
5	FUNCTION5 DCDPE	45.26	7.880e1					2.2	NO		dd		0.000
6	FUNCTION5 DCDPE	45.23	1.404e2					2.9	NO		bd		0.000
7	FUNCTION5 DCDPE	44.57	2.172e2					2.0	NO		bb		0.000

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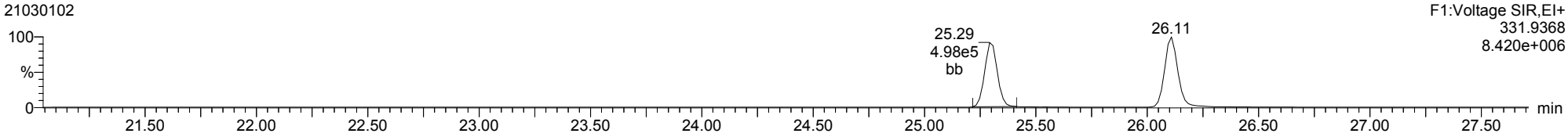
13C-1234-TCDD



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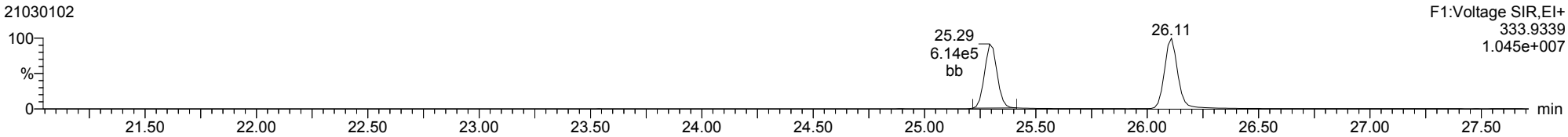

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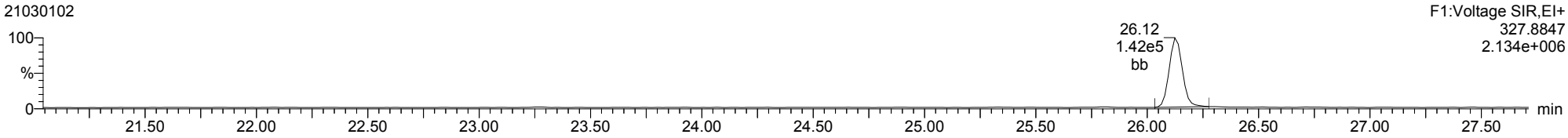

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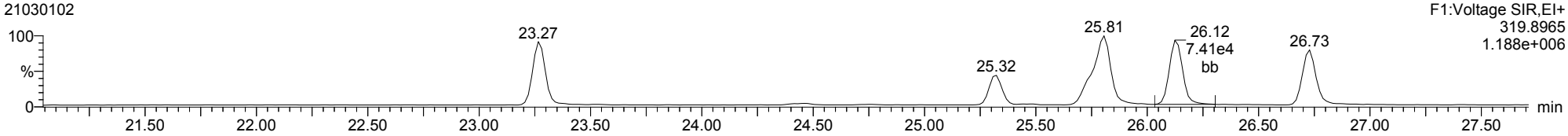

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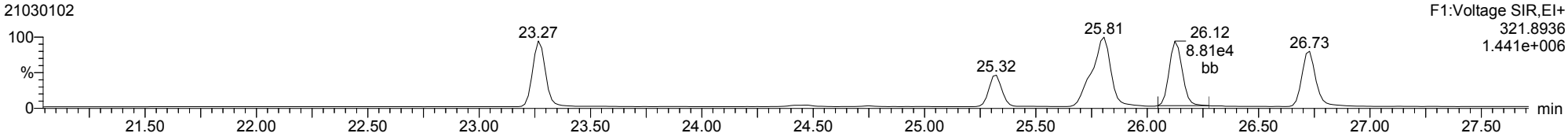

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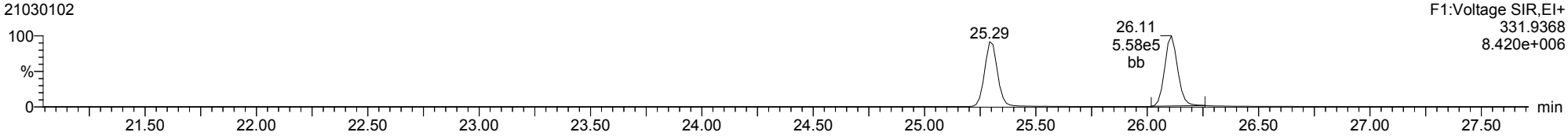

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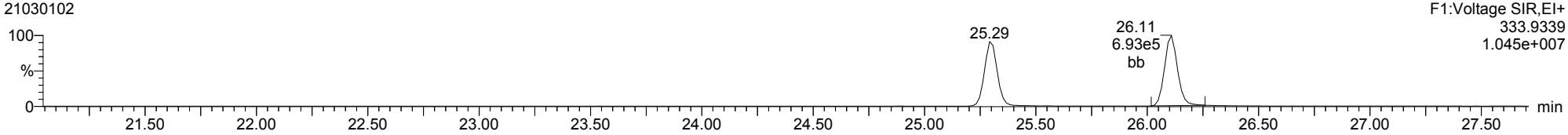

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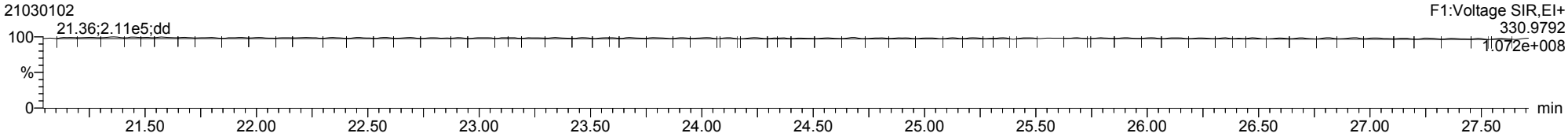

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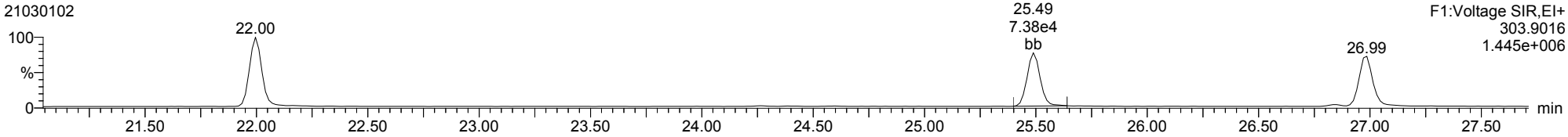
2378-TCDF



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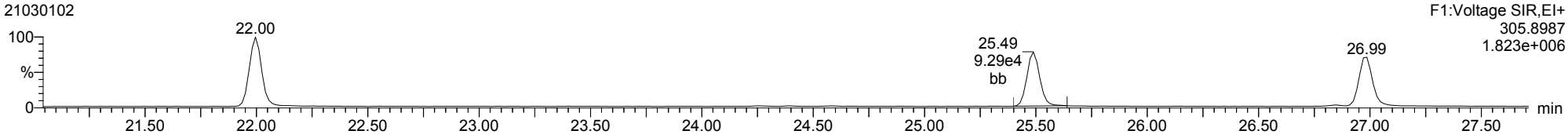

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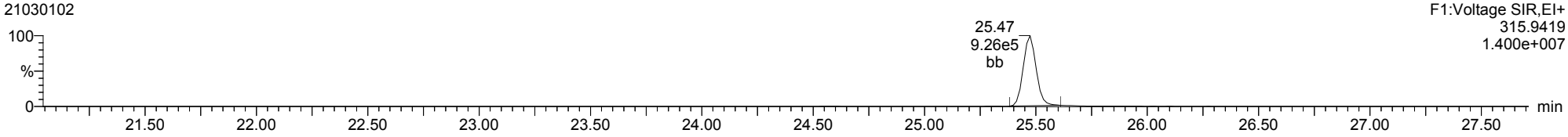

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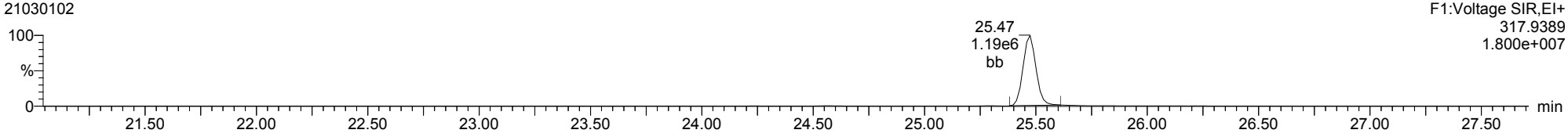

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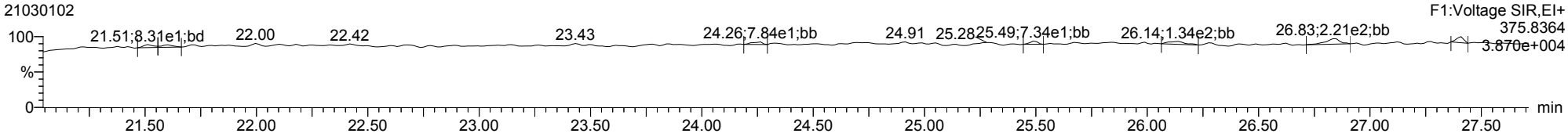

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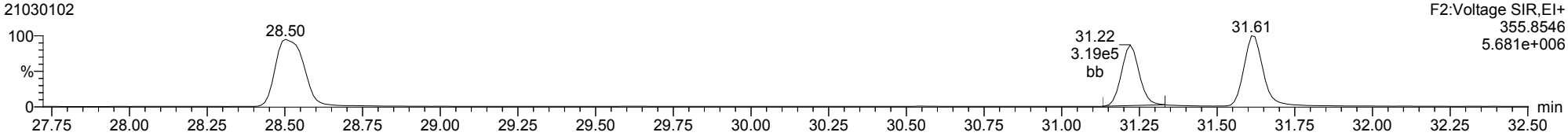
12378-PeCDD



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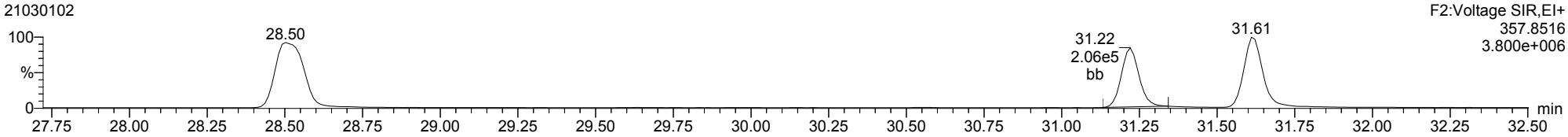

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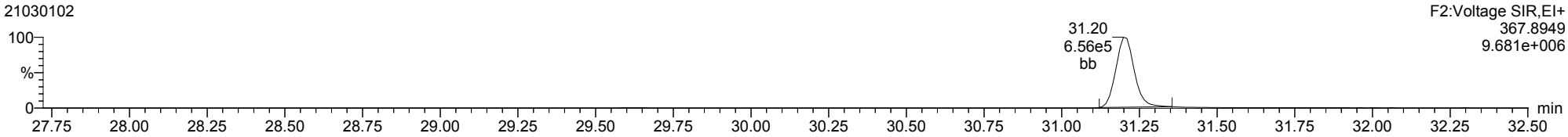

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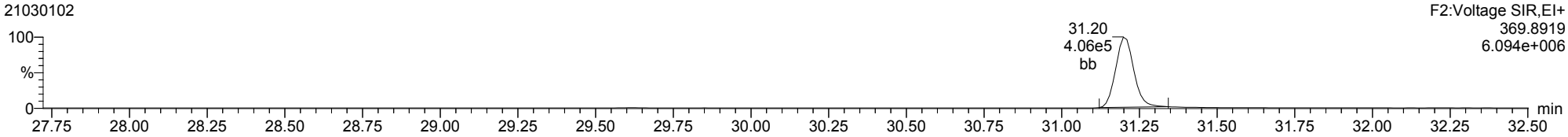

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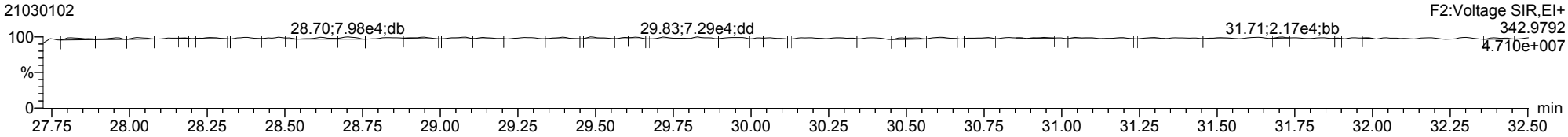

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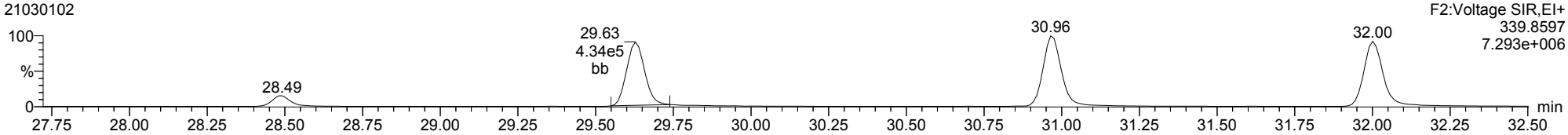

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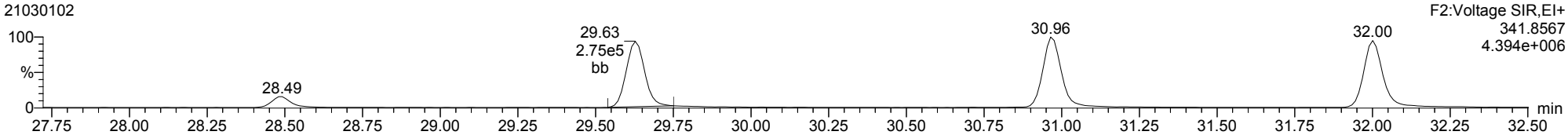

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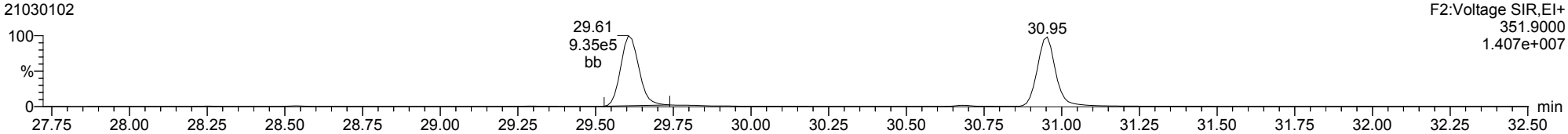

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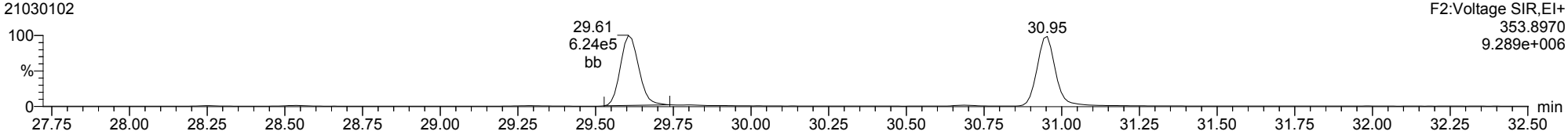

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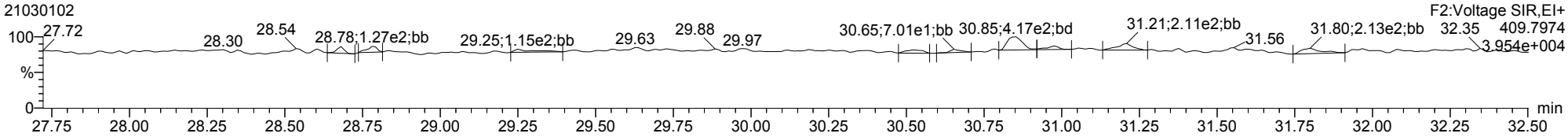

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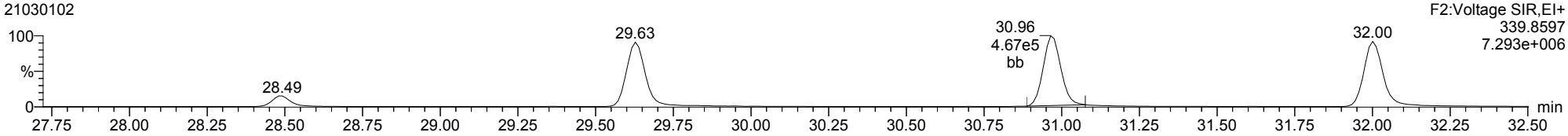
23478-PeCDF



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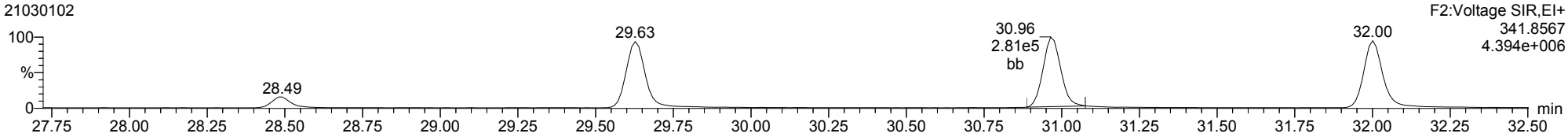

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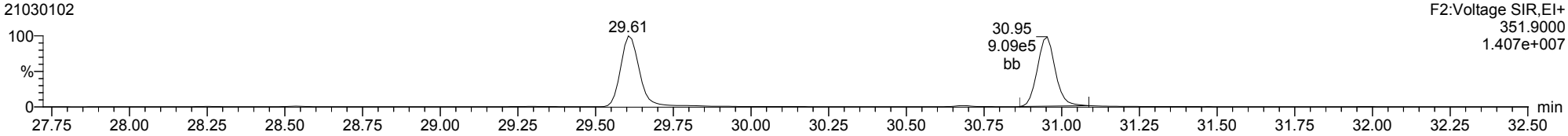

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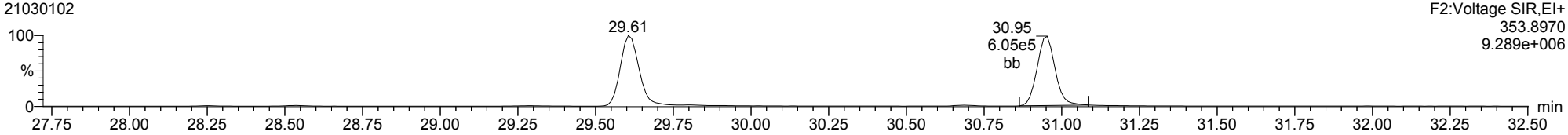

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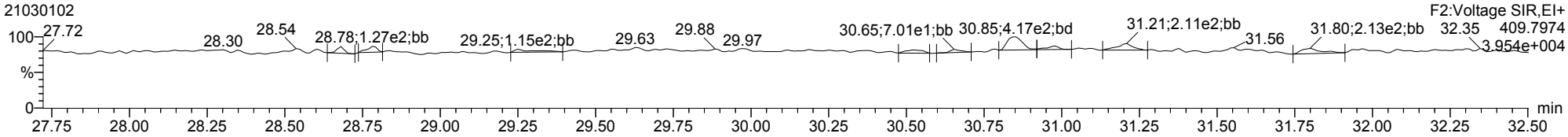

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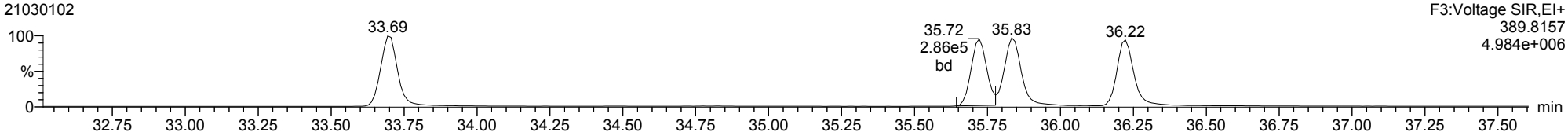

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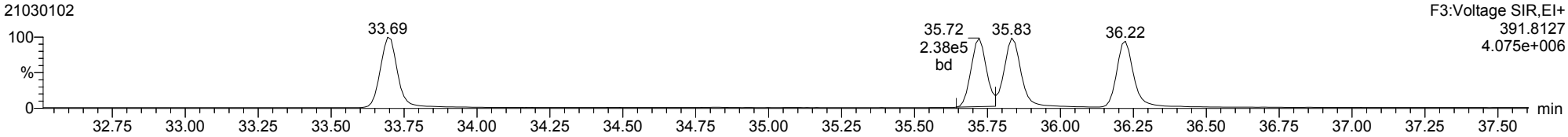

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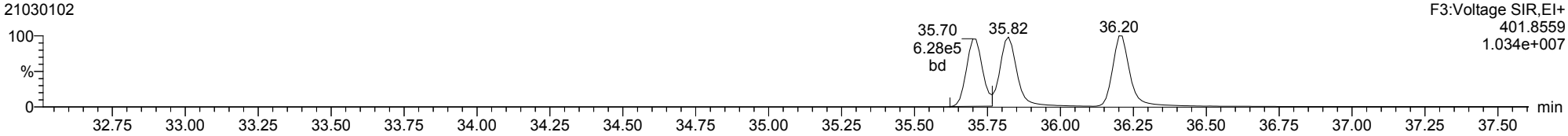

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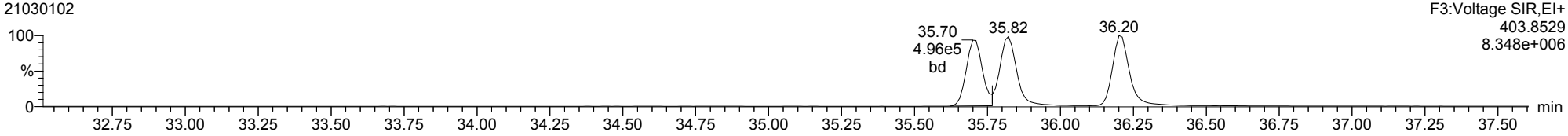
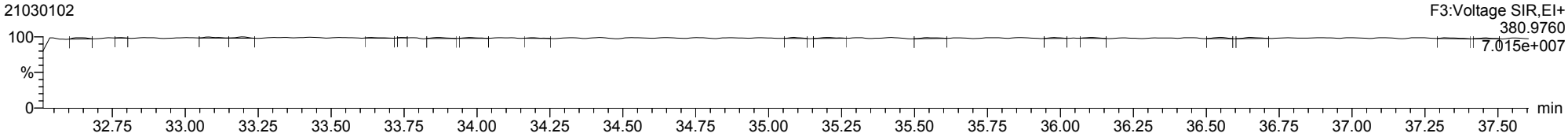


FUNCTION3 PFK



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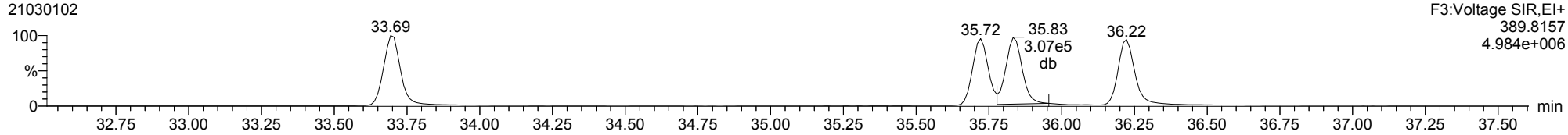

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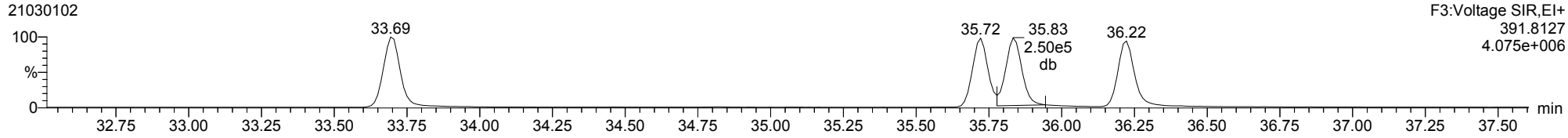

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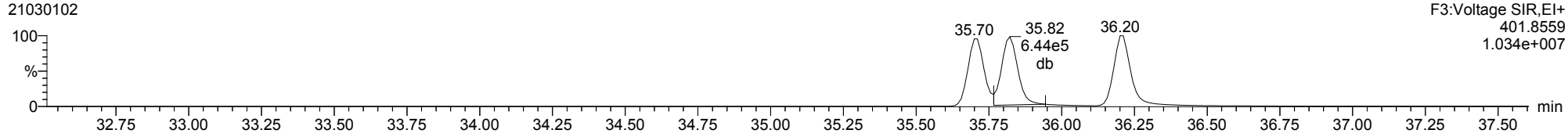

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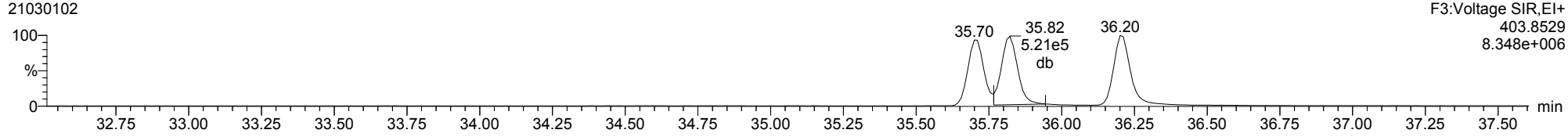

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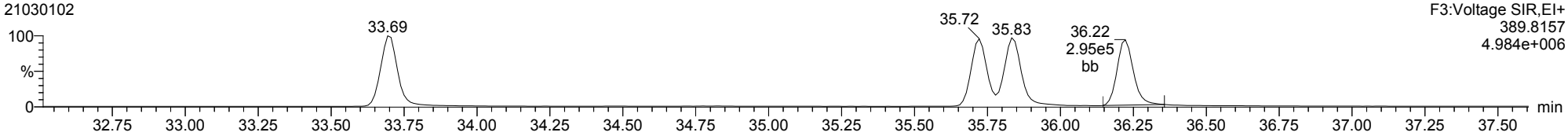

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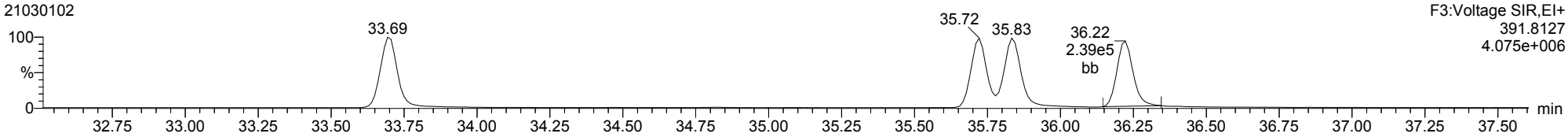

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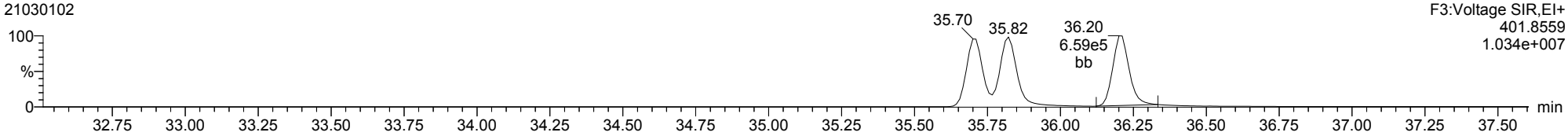

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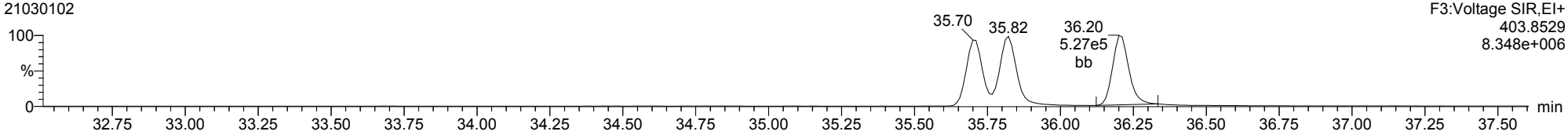

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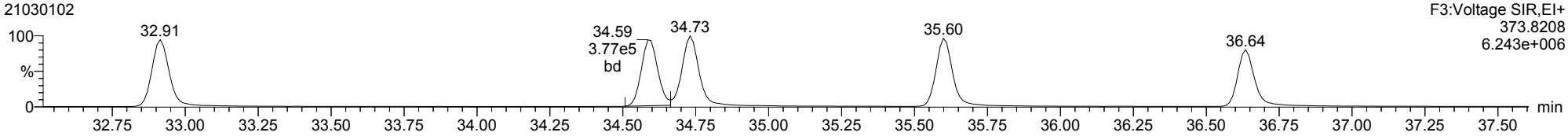

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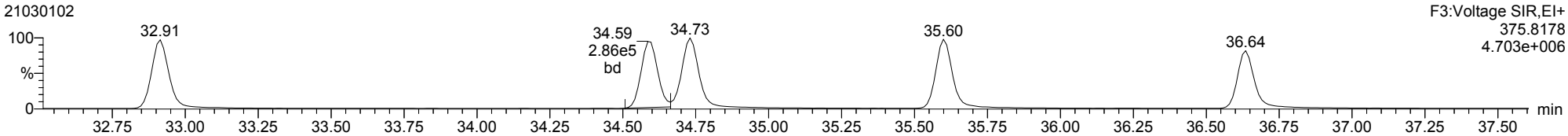

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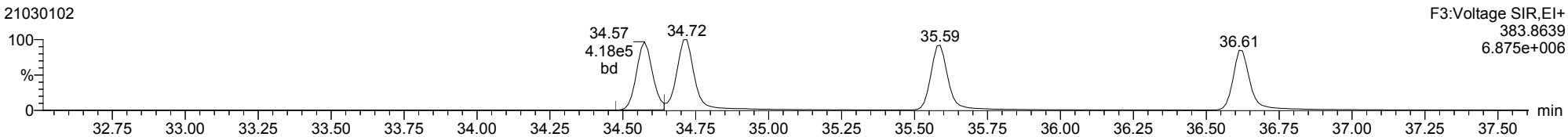

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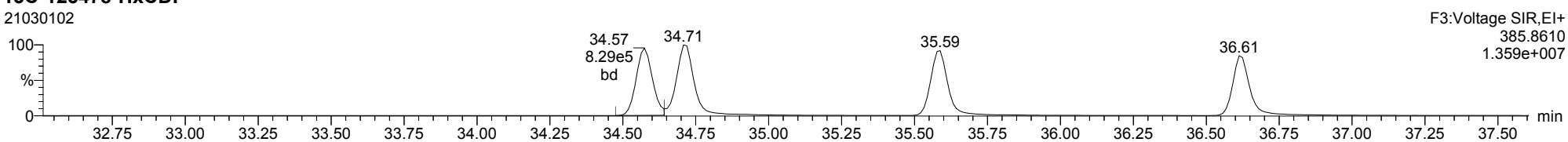
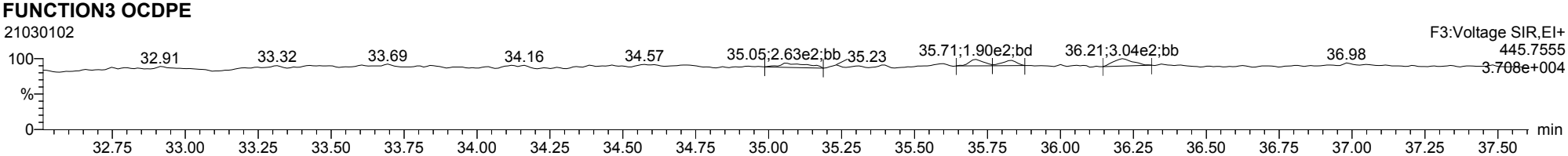


FUNCTION3 OCDPE



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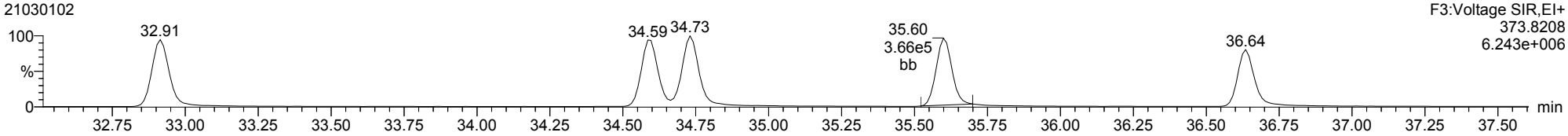
234678-HxCDF



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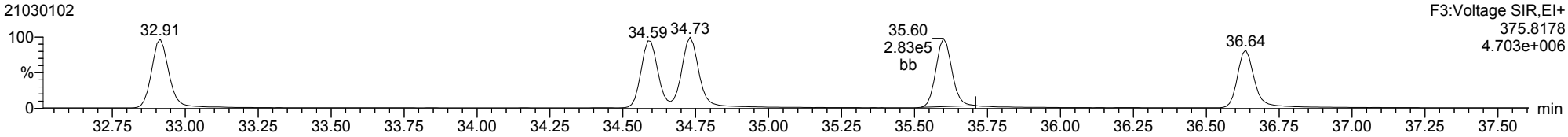

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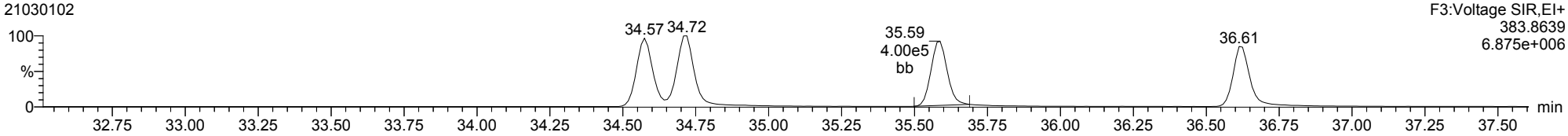

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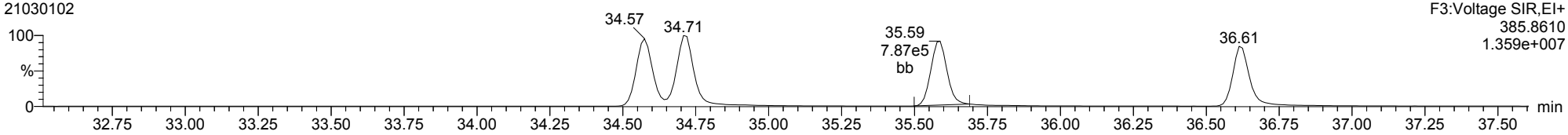

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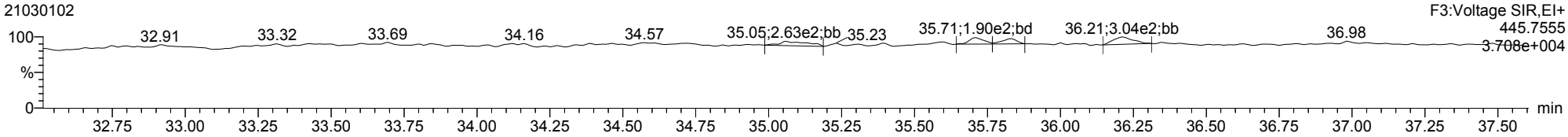

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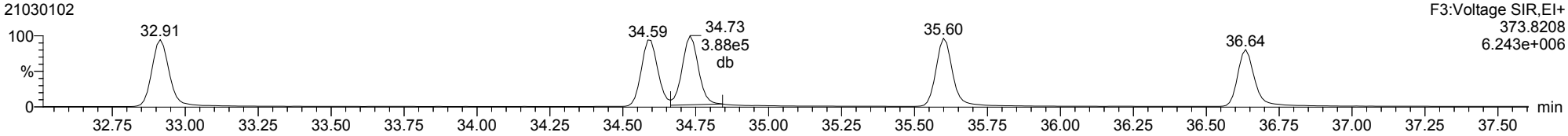

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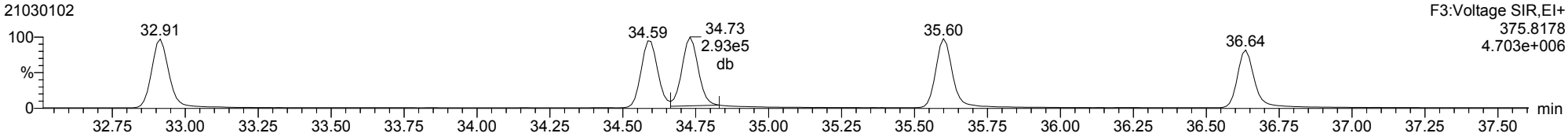

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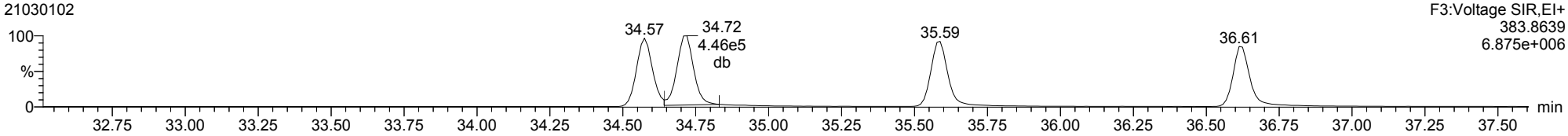

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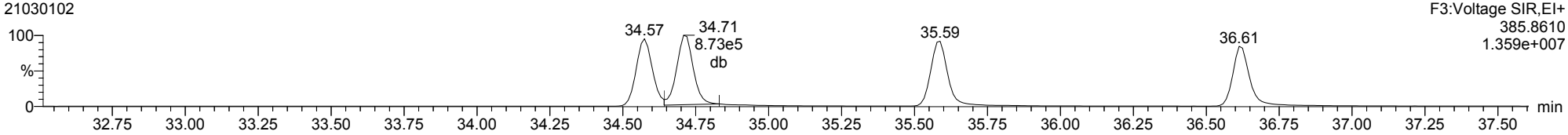

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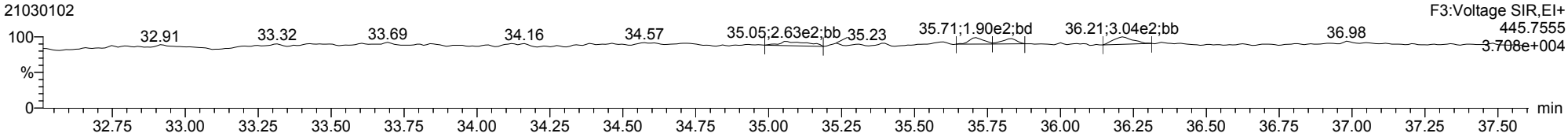

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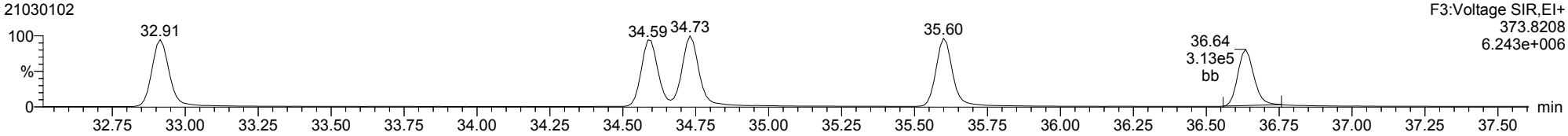

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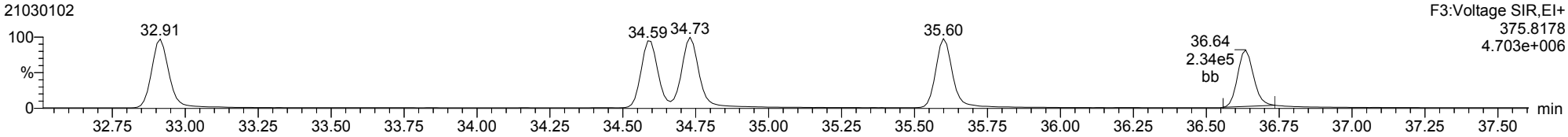

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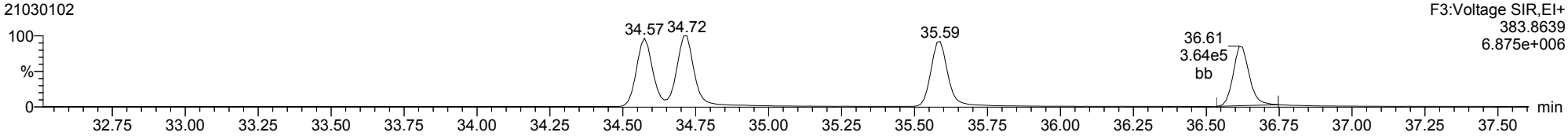

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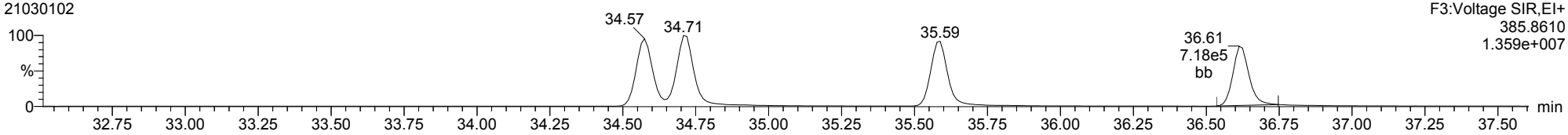

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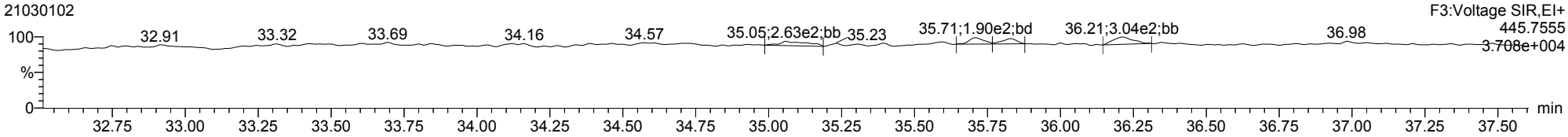

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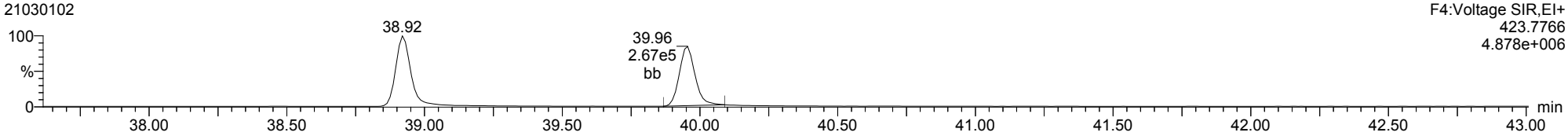
1234678-HpCDD



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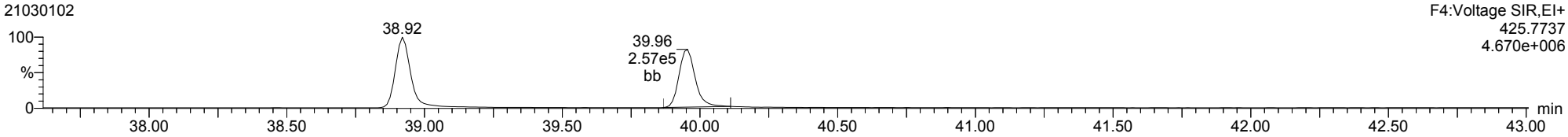

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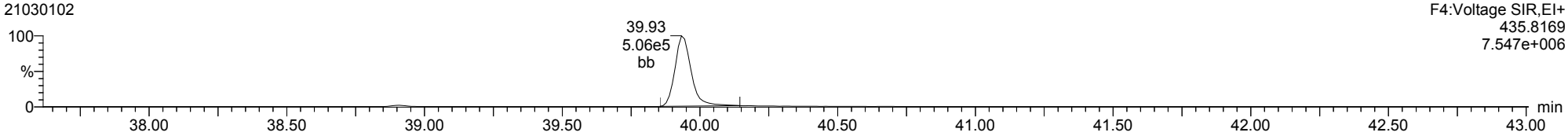

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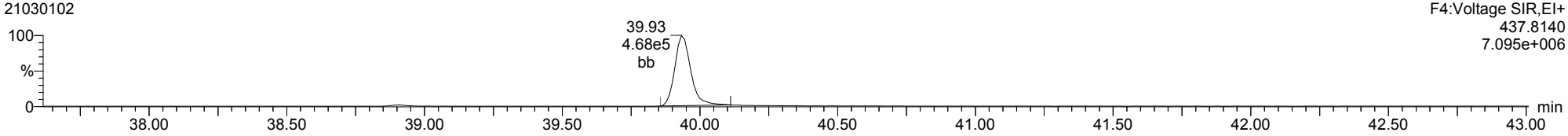

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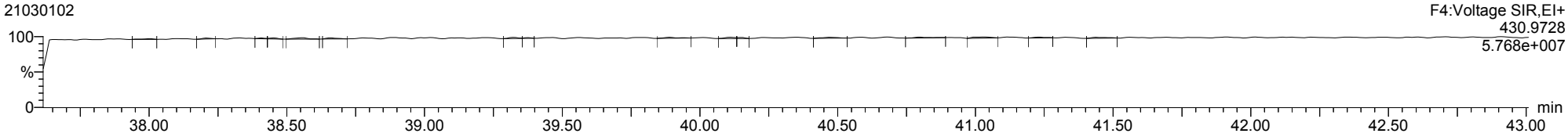

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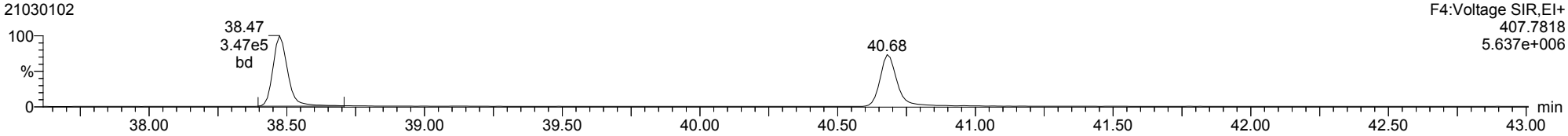

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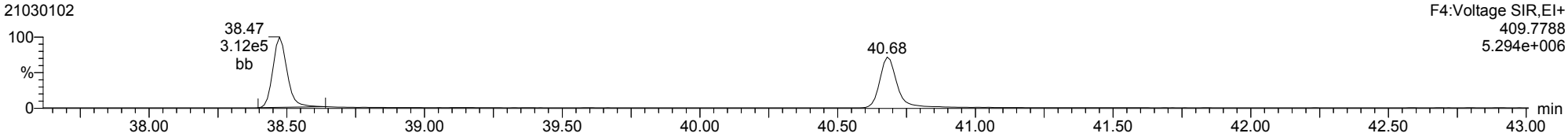

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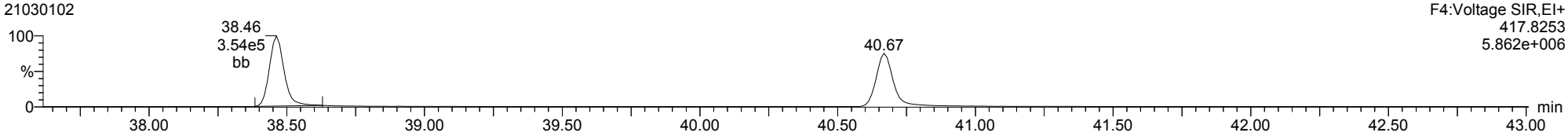

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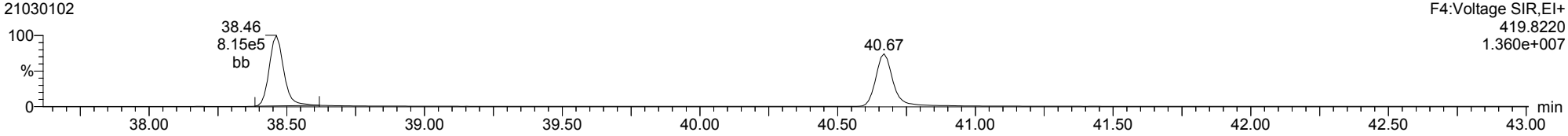

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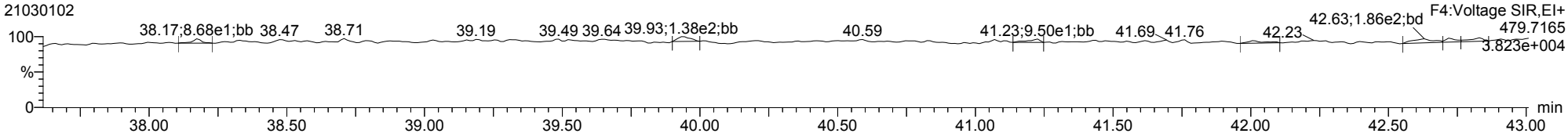

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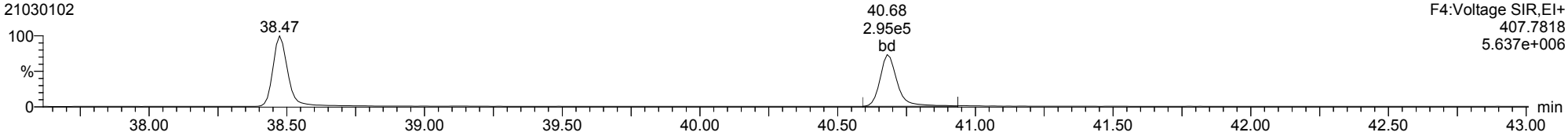

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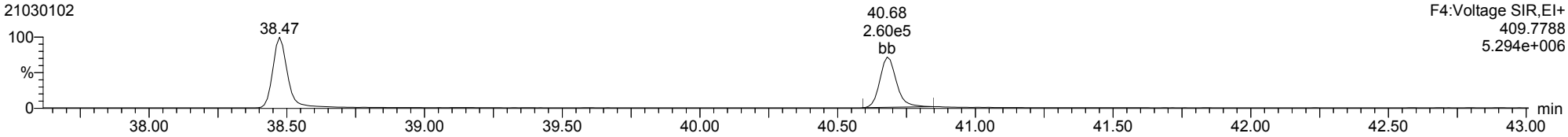

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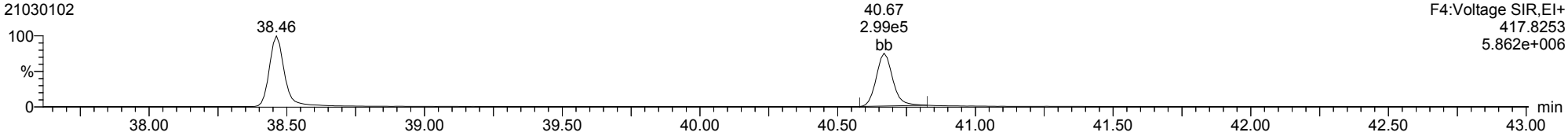

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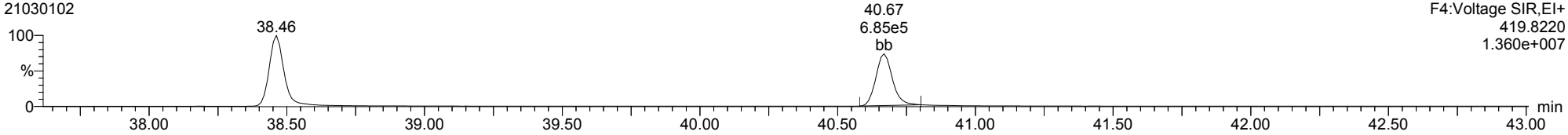

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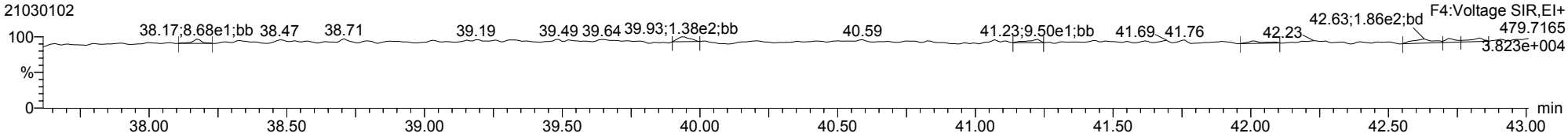

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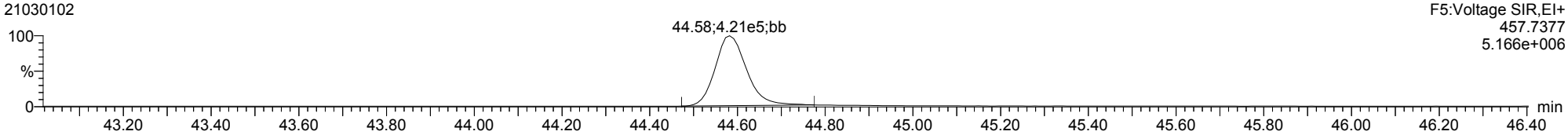

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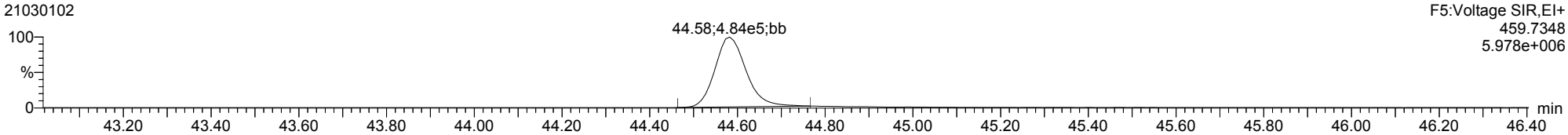

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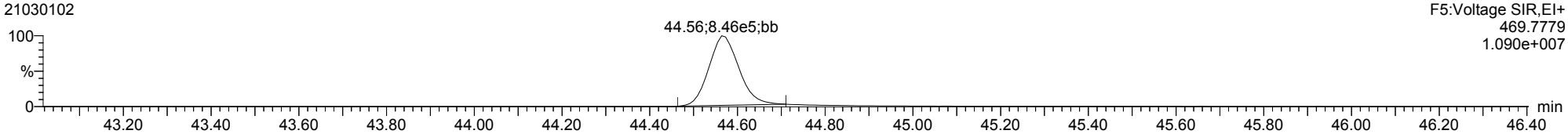

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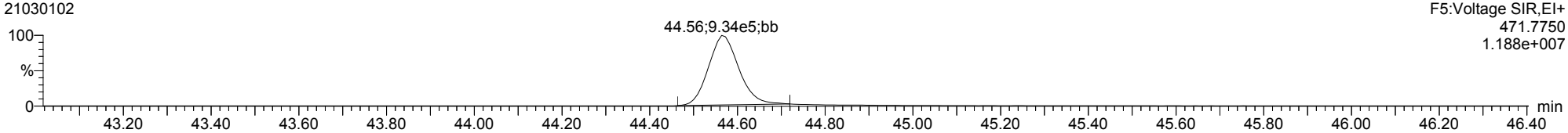

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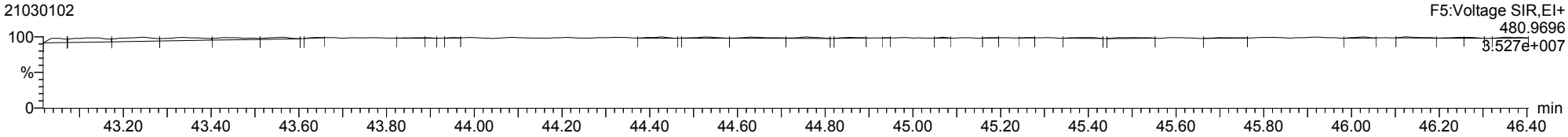

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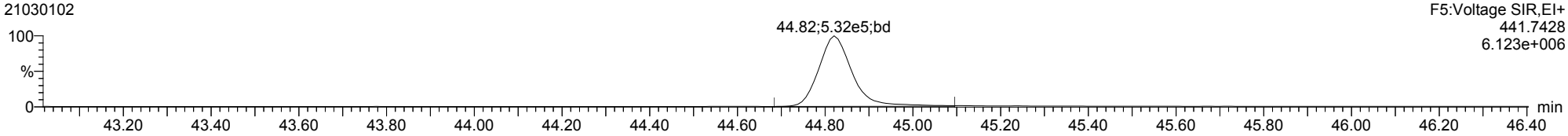

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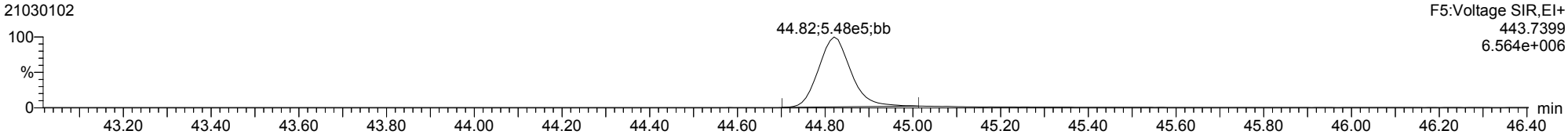

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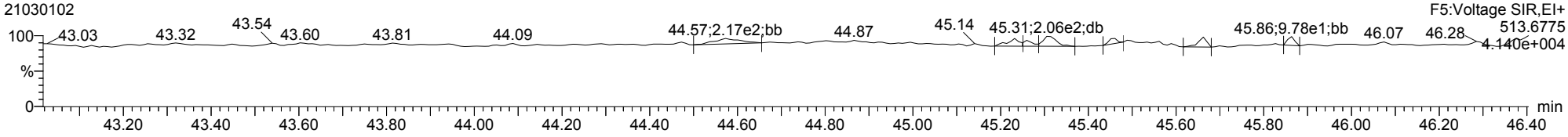

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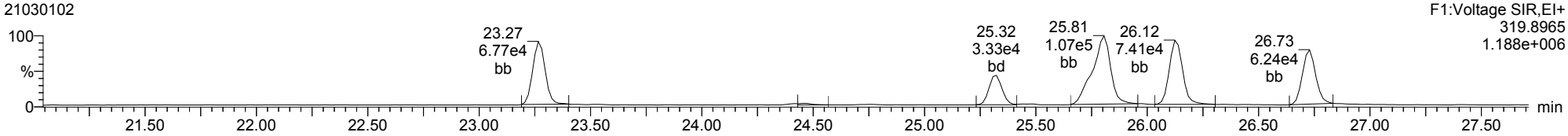

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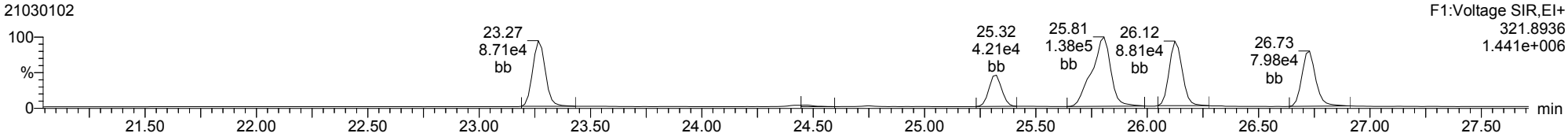

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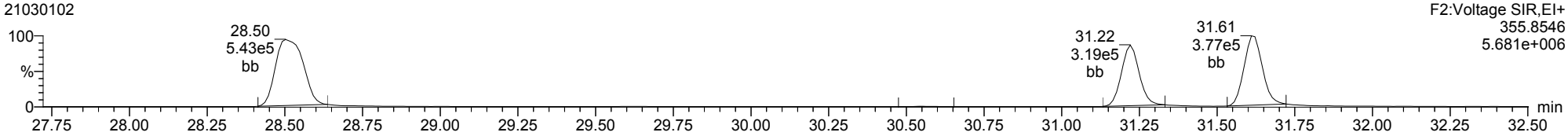

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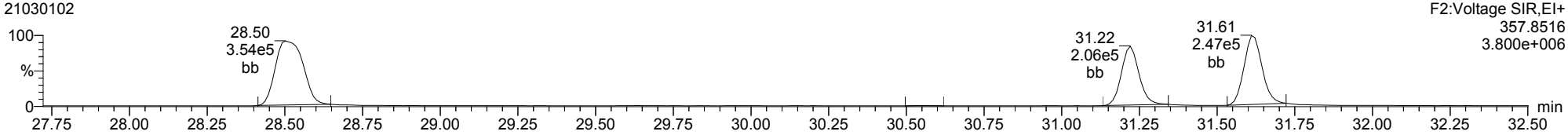

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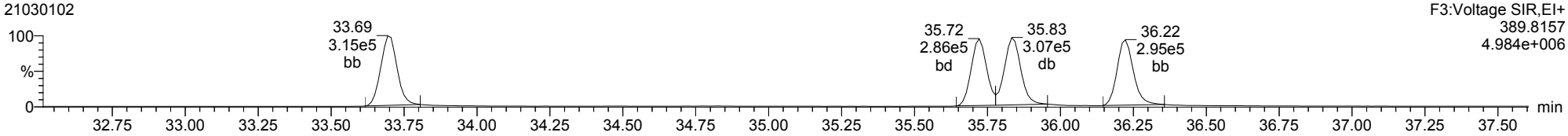

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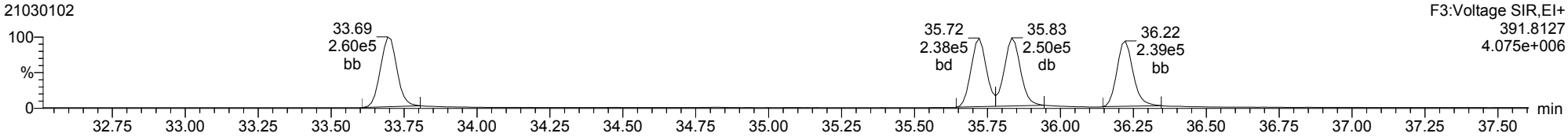

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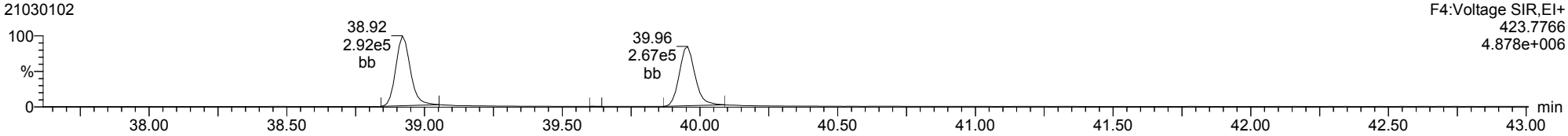

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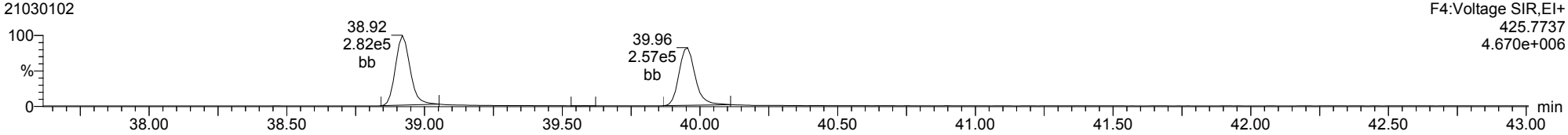

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Printed: Tuesday, March 02, 2021 11:35:56 Pacific Standard Time

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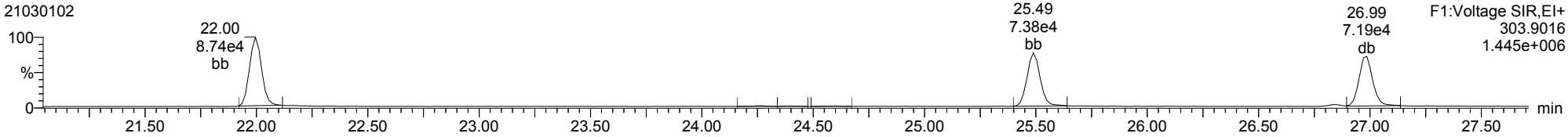

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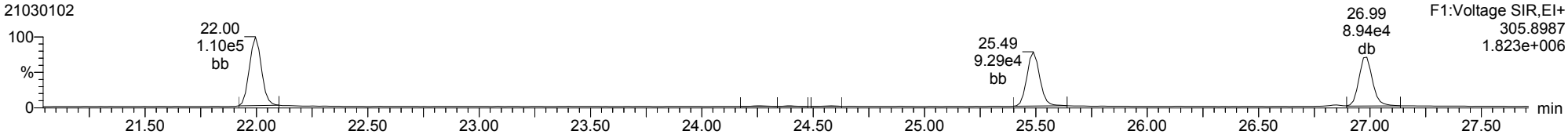

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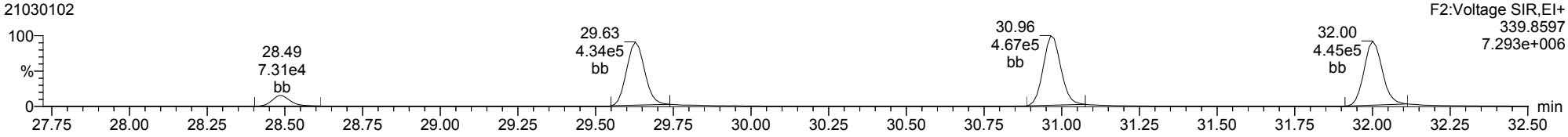

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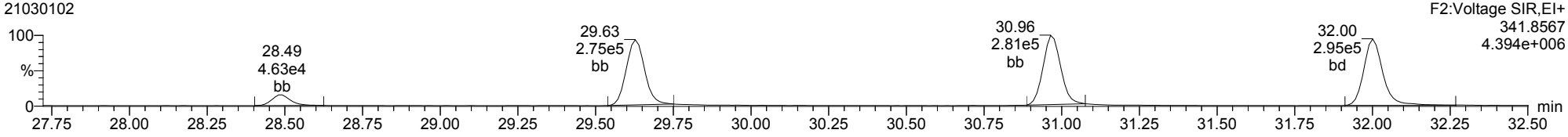

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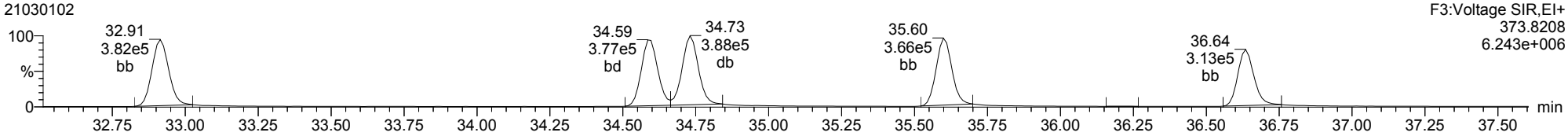

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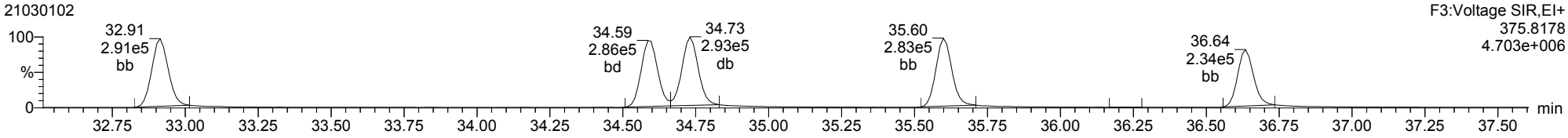

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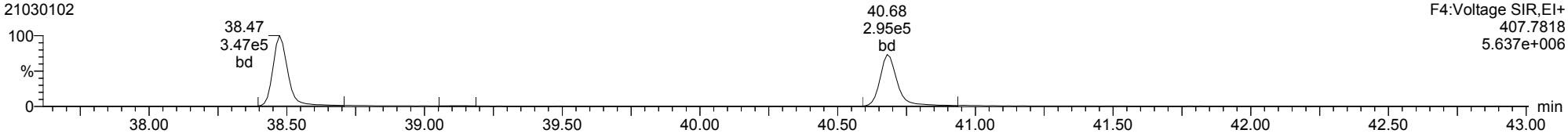

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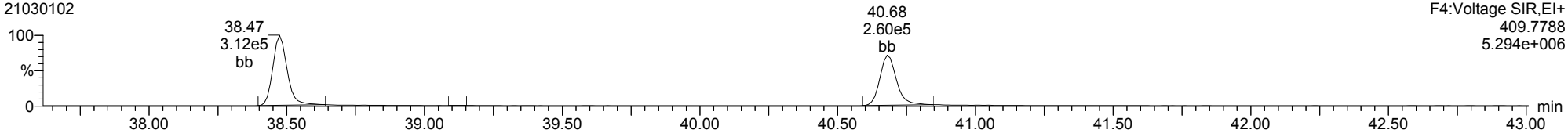

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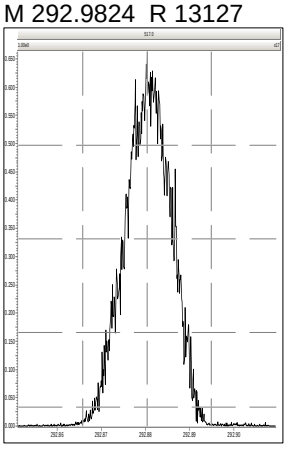

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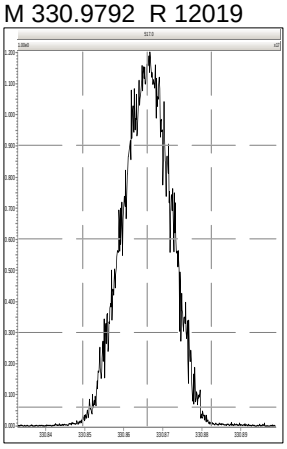

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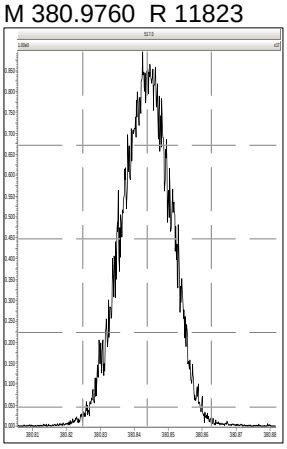

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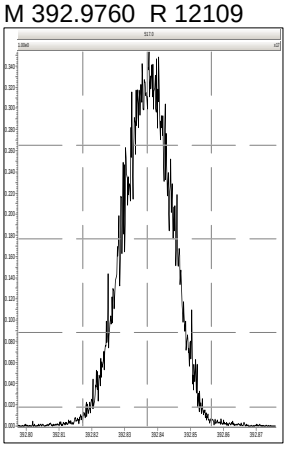

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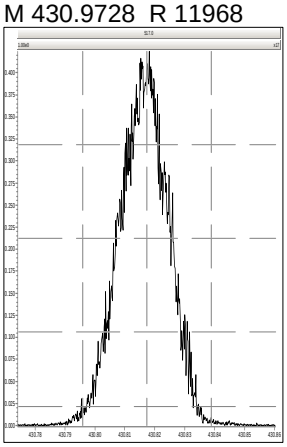

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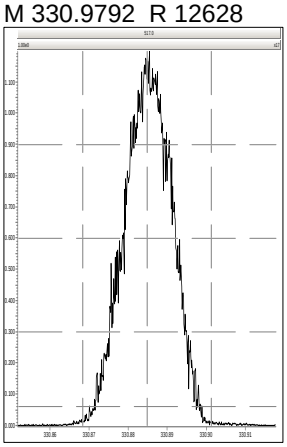

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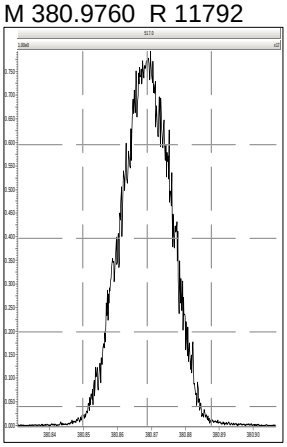

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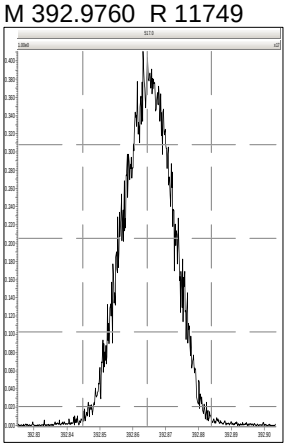

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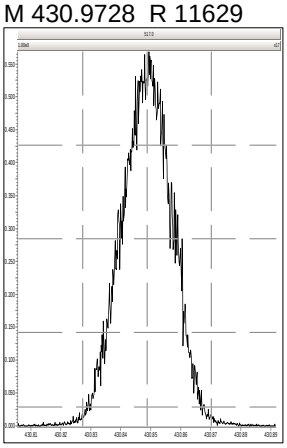

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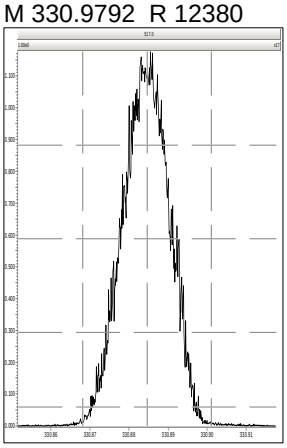

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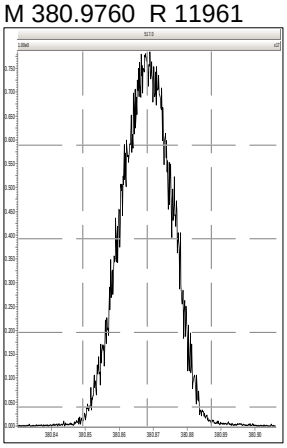

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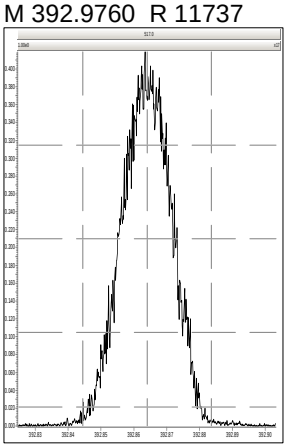

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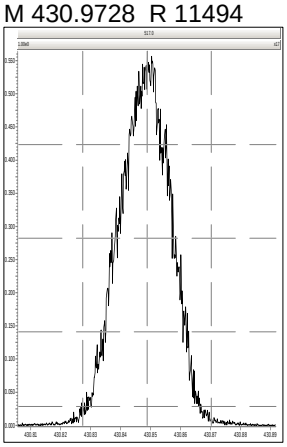

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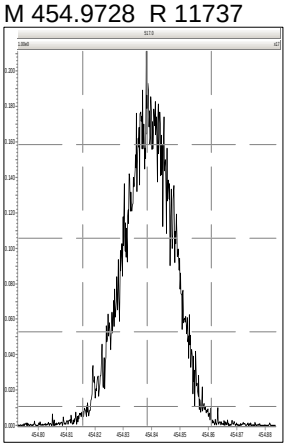

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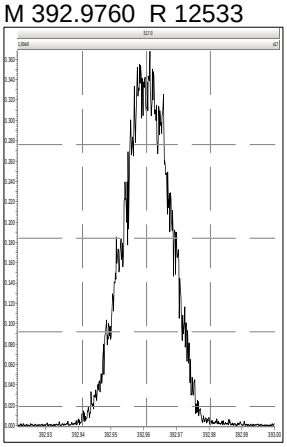
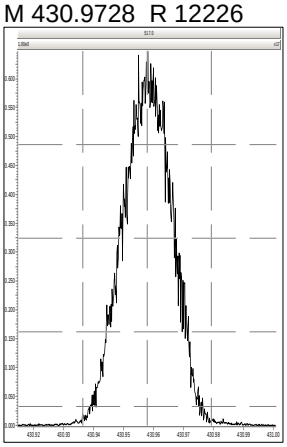
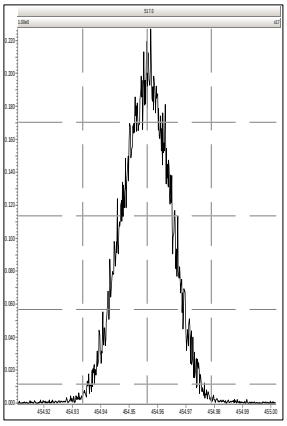


M 430.9728 R 12226

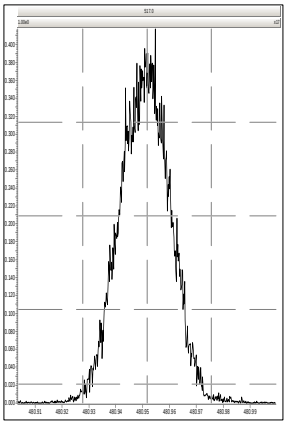


Printed: Monday, March 01, 2021 11:12:38 Pacific Standard Time

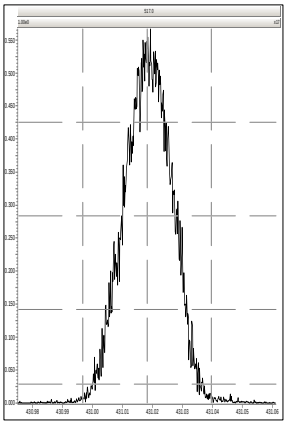
M 454.9728 R 12406



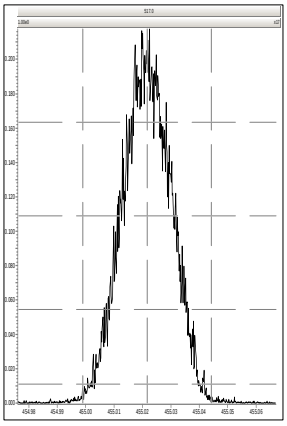
M 480.9696 R 12059



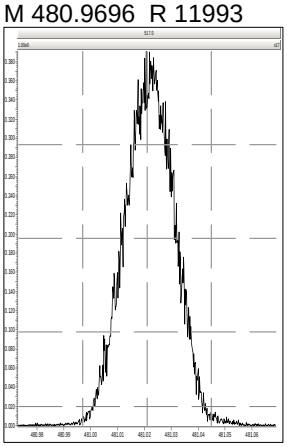
M 430.9728 R 12502



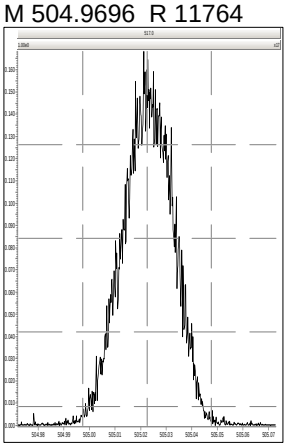
M 454.9728 R 12225



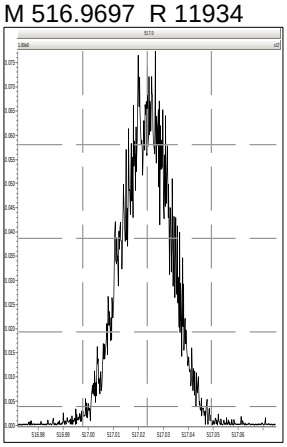
M 480.9696 R 11993

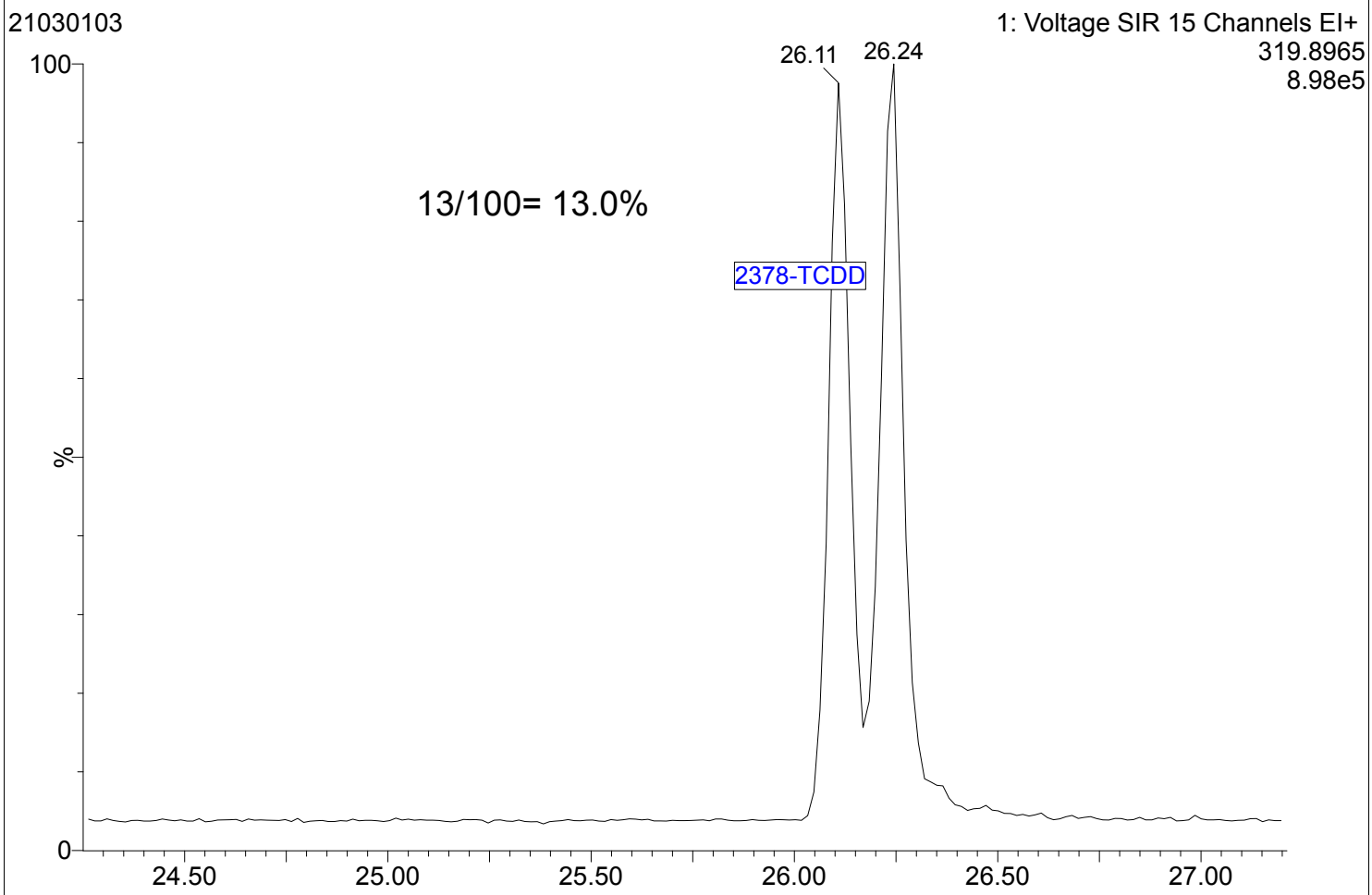


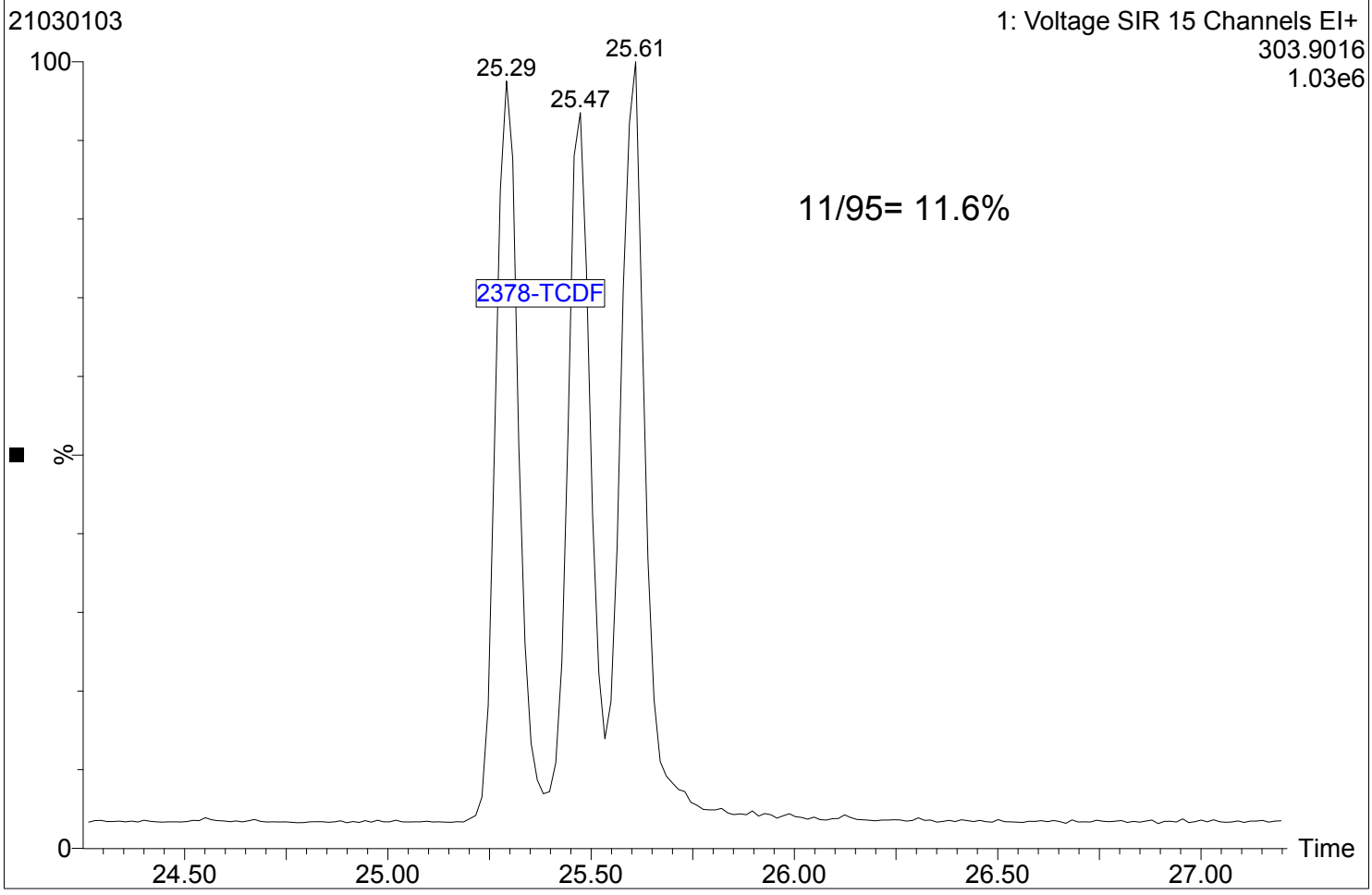
M 504.9696 R 11764



M 516.9697 R 11934




21030103
1: Voltage SIR 15 Channels EI+
319.8965
8.98e5
26.11
26.24
13/100= 13.0%
2378-TCDD
100
%
0
24.50
25.00
25.50
26.00
26.50
27.00


21030103
1: Voltage SIR 15 Channels EI+
303.9016
1.03e6
25.29
25.47
25.61
11/95= 11.6%
2378-TCDF
100
%
0
Time
24.50
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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21071902	Calibration Date:	03/01/2021
Sequence:	SJG0248	Injection Date:	07/19/21
Lab Sample ID:	SJG0248-ICV1	Injection Time:	11:08
Sequence Name:	CS3E1		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	10.4	0.7815069	0.8149628		4.3	+/-16
2,3,7,8-TCDD	A	10.000	9.46	1.3074710	1.2368080		-5.4	+/-22
1,2,3,7,8-PeCDF	A	50.000	54.1	0.8661132	0.9371907		8.2	+/-18
2,3,4,7,8-PeCDF	A	50.000	53.5	0.9798329	1.0483300		7.0	+/-18
1,2,3,7,8-PeCDD	A	50.000	51.5	0.9786280	1.0080110		3.0	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	49.7	1.0022170	0.9960236		-0.6	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	53.9	0.9610616	1.0353410		7.7	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	49.0	1.0430410	1.0228840		-1.9	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	49.7	0.9942991	0.9888769		-0.5	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.2	0.9561583	0.9220405		-3.6	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	48.5	0.9525810	0.9238462		-3.0	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	47.1	0.9268956	0.8738693		-5.7	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	54.9	1.0579720	1.1861620		9.8	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	49.3	1.0697390	1.0545770		-1.4	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	51.3	1.0550420	1.0821530		2.6	+/-14
OCDF	A	100.00	97.4	1.2566960	1.2236100		-2.6	+/-37
OCDD	A	100.00	94.4	1.0738390	1.0131800		-5.6	+/-21
13C12-2,3,7,8-TCDF	A	100.00	106	1.9249160	2.0425674		6.1	+/-29
13C12-2,3,7,8-TCDD	A	100.00	103	1.1327550	1.1678517		3.1	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	111	1.4422400	1.5973635		10.8	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	108	1.3866450	1.5032008		8.4	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	104	0.9468647	0.9816478		3.7	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	96.4	1.0530710	1.0148927		-3.6	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	93.1	1.1350140	1.0565669		-6.9	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	97.4	1.0040700	0.9777173		-2.6	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	93.3	0.9089439	0.8484647		-6.7	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	103	0.9385700	0.9703292		3.4	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	99.4	1.0420460	1.0353397		-0.6	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	101	0.9598082	0.9647914		0.5	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	109	0.7937117	0.8638408		8.8	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	94.4	0.7883415	0.7440497		-5.6	+/-28

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21071902	Calibration Date:	03/01/2021
Sequence:	SJG0248	Injection Date:	07/19/21
Lab Sample ID:	SJG0248-ICV1	Injection Time:	11:08
Sequence Name:	CS3E1		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-OCDD	A	200.00	217	0.7032915	0.7617557		8.3	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	10.3	1.4170130	1.3302425		2.5	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719OP.qld
Last Altered: Tuesday, July 20, 2021 11:14:22 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:18:34 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: CS3E1, Name: 21071902, Date: 19-Jul-2021, Time: 11:08:08, 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	25.685	1.001	3.049e4	3.621e4	0.782	0.842	0.770	824	1646	4.78e5	5.27e5	580.4	319.9	NO	bb	bb	10.428
12378-PeCDF	29.850	1.001	1.896e5	1.103e5	0.866	1.719	1.550	2001	1807	2.91e6	1.71e6	1453.9	946.6	NO	bb	bb	54.103
23478-PeCDF	31.198	1.001	1.973e5	1.184e5	0.980	1.666	1.550	2001	1807	2.94e6	1.81e6	1470.1	999.3	NO	bb	bb	53.495
123478-HxCDF	34.819	1.001	1.311e5	1.037e5	1.002	1.264	1.240	2569	2262	2.06e6	1.61e6	802.6	710.1	NO	bd	bd	49.691
234678-HxCDF	35.821	1.000	1.300e5	1.022e5	1.043	1.273	1.240	2569	2262	2.07e6	1.62e6	804.6	716.6	NO	bb	bb	49.034
123678-HxCDF	34.953	1.000	1.421e5	1.119e5	0.961	1.269	1.240	2569	2262	2.12e6	1.65e6	825.1	729.4	NO	db	db	53.864
123789-HxCDF	36.858	1.001	1.100e5	8.485e4	0.994	1.296	1.240	2569	2262	1.68e6	1.29e6	654.2	570.6	NO	bb	bb	49.727
1234678-HpCDF	38.696	1.000	1.341e5	1.261e5	1.058	1.063	1.050	1887	2342	2.17e6	2.03e6	1149.8	867.7	NO	MM	MM	54.877
1234789-HpCDF	40.935	1.000	1.081e5	1.035e5	1.070	1.044	1.050	1887	2342	1.51e6	1.44e6	802.1	613.6	NO	bb	bb	49.291
OCDF	45.150	1.006	2.087e5	2.242e5	1.257	0.931	0.890	1750	1965	2.41e6	2.55e6	1377.3	1296.0	NO	bb	bd	97.367
2378-TCDD	26.335	1.001	2.593e4	3.194e4	1.307	0.812	0.770	1454	1151	3.80e5	4.71e5	261.0	409.3	NO	bb	bb	9.460
12378-PeCDD	31.454	1.001	1.196e5	7.863e4	0.979	1.521	1.550	2446	1240	1.83e6	1.20e6	749.1	964.4	NO	bb	bb	51.501
123478-HxCDD	35.944	1.000	1.158e5	9.197e4	0.956	1.259	1.240	2090	1808	1.90e6	1.50e6	909.4	829.3	NO	bd	bd	48.216
123678-HxCDD	36.067	1.001	1.201e5	1.020e5	0.953	1.178	1.240	2090	1808	1.88e6	1.52e6	901.2	838.2	NO	db	db	48.492
123789-HxCDD	36.445	1.011	1.110e5	9.246e4	0.927	1.201	1.240	2090	1808	1.76e6	1.51e6	842.1	837.3	NO	bb	bb	47.140
1234678-HpCDD	40.200	1.001	9.621e4	9.075e4	1.055	1.060	1.050	1580	1745	1.42e6	1.34e6	900.4	766.5	NO	bb	bb	51.285
OCDD	44.912	1.000	1.620e5	1.964e5	1.074	0.825	0.890	2397	1999	2.01e6	2.36e6	837.6	1181.6	NO	bb	bd	94.351
13C-2378-TCDF	25.670	1.007	3.629e5	4.556e5	1.925	0.797	0.770	4636	2521	5.20e6	6.60e6	1121.2	2618.4	NO	dd	bd	106.112
13C-12378-PeCDF	29.828	1.170	3.821e5	2.580e5	1.442	1.481	1.550	3228	2814	5.83e6	3.85e6	1804.7	1369.1	NO	bb	bd	110.756
13C-23478-PeCDF	31.176	1.222	3.654e5	2.369e5	1.387	1.543	1.550	3228	2814	5.43e6	3.51e6	1683.5	1248.7	NO	bb	bb	108.406
13C-123478-HxCDF	34.797	0.955	1.574e5	3.139e5	1.053	0.501	0.510	2304	2458	2.41e6	4.81e6	1047.8	1954.6	NO	bd	bd	96.375
13C-123678-HxCDF	34.942	0.959	1.670e5	3.237e5	1.135	0.516	0.510	2304	2458	2.58e6	4.87e6	1118.1	1982.7	NO	db	db	93.088
13C-234678-HxCDF	35.810	0.983	1.541e5	3.000e5	1.004	0.514	0.510	2304	2458	2.41e6	4.73e6	1044.4	1922.0	NO	bb	bb	97.375
13C-123789-HxCDF	36.835	1.011	1.355e5	2.585e5	0.909	0.524	0.510	2304	2458	2.13e6	4.07e6	926.2	1654.7	NO	bb	bb	93.346
13C-1234678-HpCDF	38.685	1.062	1.376e5	3.104e5	0.960	0.443	0.440	1580	2542	2.22e6	5.05e6	1403.1	1984.6	NO	bb	bb	100.519
13C-1234789-HpCDF	40.913	1.123	1.233e5	2.779e5	0.794	0.444	0.440	1580	2542	1.64e6	3.71e6	1039.7	1459.1	NO	bd	bd	108.836
13C-1234-TCDD	25.503	0.000	1.768e5	2.239e5	1.000	0.790	0.770	2075	1259	2.74e6	3.47e6	1319.0	2753.4	NO	bb	bb	100.000
13C-2378-TCDD	26.320	1.032	2.073e5	2.607e5	1.133	0.795	0.770	2075	1259	3.05e6	3.84e6	1470.7	3048.0	NO	bb	bb	103.098
13C-12378-PeCDD	31.432	1.232	2.463e5	1.470e5	0.947	1.675	1.550	1151	1291	3.55e6	2.18e6	3084.8	1688.5	NO	bd	bb	103.674
13C-123478-HxCDD	35.933	0.986	2.507e5	1.999e5	0.939	1.254	1.240	2080	2816	4.13e6	3.26e6	1986.4	1157.7	NO	bd	bd	103.384
13C-123678-HxCDD	36.044	0.989	2.653e5	2.156e5	1.042	1.231	1.240	2080	2816	4.10e6	3.37e6	1973.3	1195.7	NO	db	db	99.356
13C-1234678-HpCDD	40.178	1.103	1.749e5	1.706e5	0.788	1.025	1.050	1689	1726	2.57e6	2.45e6	1518.8	1421.8	NO	bb	bd	94.382
13C-OCDD	44.894	1.232	3.471e5	3.604e5	0.703	0.963	0.890	1688	3091	4.03e6	4.32e6	2389.8	1399.3	NO	bd	bb	216.626
13C-123789-HxCDD	36.434	0.000	2.569e5	2.075e5	1.000	1.238	1.240	2080	2816	4.11e6	3.29e6	1974.9	1167.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.335	1.033	5.330e4		1.298			1485		7.85e5		528.3			bd		10.252

Dataset: T:\Autospec\Processed Data Batch\210719OP.qld
Last Altered: Tuesday, July 20, 2021 11:14:22 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:18:34 Pacific Daylight Time

ID: CS3E1, Name: 21071902, Date: 19-Jul-2021, Time: 11:08:08, 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	22.177	0.864	3.586e4	4.910e4	0.966	0.730	0.770	824	1646	5.56e5	7.80e5	674.9	474.2	NO	bb	bb	10.751
1289-TCDF	27.182	1.059	2.978e4	3.573e4	0.736	0.833	0.770	824	1646	4.07e5	5.18e5	494.1	315.0	NO	dd	db	10.877
13468-PECDF	27.046	0.907	2.230e5	1.464e5	1.347	1.523	1.550	729	807	3.38e6	2.22e6	4641.1	2748.9	NO	bb	bb	42.848
12389-PECDF	32.223	1.080	1.924e5	1.190e5	0.867	1.617	1.550	2001	1807	2.70e6	1.64e6	1349.6	907.1	NO	bb	bb	56.117
123468-HXCDF	33.148	0.953	1.402e5	1.092e5	1.036	1.284	1.240	2569	2262	2.14e6	1.71e6	831.4	754.6	NO	bb	bb	51.093
1368-TCDD	23.462	0.891	2.594e4	3.270e4	1.256	0.793	0.770	1454	1151	3.99e5	5.35e5	274.7	464.9	NO	bb	bb	9.981
1289-TCDD	26.940	1.023	2.413e4	2.803e4	1.151	0.861	0.770	1454	1151	3.47e5	3.96e5	238.4	343.7	NO	bb	bb	9.684
12479-PECDD	28.714	0.914	2.192e5	1.416e5	1.773	1.548	1.550	2446	1240	2.12e6	1.39e6	864.9	1123.6	NO	bb	bb	51.720
12389-PECDD	31.844	1.013	1.412e5	9.098e4	1.171	1.552	1.550	2446	1240	2.14e6	1.42e6	874.8	1142.3	NO	bb	bb	50.406
124679-HXCDD	33.928	0.944	1.258e5	1.032e5	1.034	1.219	1.240	2090	1808	1.93e6	1.61e6	925.1	890.9	NO	bb	bb	49.174
1234679-HPCDD	39.153	0.975	1.051e5	1.025e5	1.194	1.026	1.050	1580	1745	1.65e6	1.58e6	1043.9	907.0	NO	bb	bb	50.319
Total-tetrafurans			9.676e4		0.828			824		1.45e6							32.264
Total-penta1			2.230e5					729		3.38e6							42.848
Total-pentafurans			6.120e5		0.904			2001		9.05e6							173.057
Total-hexafurans			6.534e5		1.007			2569		1.01e7							253.410
Total-heptafurans			2.426e5		1.064			1887		3.70e6							104.383
Total-Furans			2.036e6		0.998			824		3.01e7							703.329
Total-tetradioxins			1.285e5		1.238			1454		1.74e6							49.434
Total-pentadioxins			4.800e5		1.308			2446		6.09e6							153.628
Total-hexadioxins			4.727e5		0.967			2090		7.48e6							193.021
Total-heptadioxins			2.013e5		1.125			1580		3.07e6							101.604
Total-Dioxins			1.445e6		1.141			1454		2.04e7							592.038
Total-TEQ			3.481e6					1454		5.04e7							1295.367
FUNCTION1 PFK			2.741e5					1027984		7.97e6							
FUNCTION2 PFK			0.000e0					710403		0.00e0							
FUNCTION3 PFK			3.267e5					638574		1.34e7							0.000
FUNCTION4 PFK			1.891e7					1427962		1.43e8							
FUNCTION5 PFK			2.008e4					288486		1.23e6							
FUNCTION1 HXCD...			2.564e2					561		3.67e3							0.000
FUNCTION1 HPCD...			2.525e2					789		4.24e3							0.000
FUNCTION2 HPCD...			6.845e2					602		1.17e4							0.000
FUNCTION3 OCDPE			6.175e2					581		8.50e3							0.000
FUNCTION4 NCDPE			5.878e2					897		1.31e4							0.000
FUNCTION5 DCDPE			3.704e2					574		6.87e3							0.000

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Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.18	2.978e4	3.573e4	0.736	0.83	0.77	494.1	YES	NO	dd	db	10.877
2	Total-tetrafurans	27.06	3.206e2	4.143e2	0.828	0.77	0.77	6.3	YES	NO	bd	bd	0.108
3	2378-TCDF	25.68	3.049e4	3.621e4	0.782	0.84	0.77	580.4	YES	NO	bb	bb	10.428
4	Total-tetrafurans	24.58	3.158e2	3.577e2	0.828	0.88	0.77	6.3	YES	NO	db	db	0.099
5	1368-TCDF	22.18	3.586e4	4.910e4	0.966	0.73	0.77	674.9	YES	NO	bb	bb	10.751

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.05	2.230e5	1.464e5	1.347	1.52	1.55	4641.1	YES	NO	bb	bb	42.848

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	32.22	1.924e5	1.190e5	0.867	1.62	1.55	1349.6	YES	NO	bb	bb	56.117
2	23478-PeCDF	31.20	1.973e5	1.184e5	0.980	1.67	1.55	1470.1	YES	NO	bb	bb	53.495
3	12378-PeCDF	29.85	1.896e5	1.103e5	0.866	1.72	1.55	1453.9	YES	NO	bb	bb	54.103
4	Total-pentafurans	28.70	3.268e4	1.979e4	0.904	1.65	1.55	248.7	YES	NO	bb	bb	9.341

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.82	1.300e5	1.022e5	1.043	1.27	1.24	804.6	YES	NO	bb	bb	49.034
2	123678-HxCDF	34.95	1.421e5	1.119e5	0.961	1.27	1.24	825.1	YES	NO	db	db	53.864
3	123478-HxCDF	34.82	1.311e5	1.037e5	1.002	1.26	1.24	802.6	YES	NO	bd	bd	49.691
4	123468-HXCDF	33.15	1.402e5	1.092e5	1.036	1.28	1.24	831.4	YES	NO	bb	bb	51.093
5	123789-HxCDF	36.86	1.100e5	8.485e4	0.994	1.30	1.24	654.2	YES	NO	bb	bb	49.727

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.94	1.081e5	1.035e5	1.070	1.04	1.05	802.1	YES	NO	bb	bb	49.291
2	Total-heptafurans	38.94	4.587e2	5.105e2	1.064	0.90	1.05	6.7	YES	NO	dd	db	0.215
3	1234678-HpCDF	38.70	1.341e5	1.261e5	1.058	1.06	1.05	1149.8	YES	NO	MM	MM	54.877

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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	27.18	2.978e4	3.573e4	0.736	0.83	0.77	494.1	YES	NO	dd	db	10.877
2	Total-tetrafurans	27.06	3.206e2	4.143e2	0.828	0.77	0.77	6.3	YES	NO	bd	bd	0.108
3	2378-TCDF	25.68	3.049e4	3.621e4	0.782	0.84	0.77	580.4	YES	NO	bb	bb	10.428
4	Total-tetrafurans	24.58	3.158e2	3.577e2	0.828	0.88	0.77	6.3	YES	NO	db	db	0.099
5	1368-TCDF	22.18	3.586e4	4.910e4	0.966	0.73	0.77	674.9	YES	NO	bb	bb	10.751
6	12389-PECDF	32.22	1.924e5	1.190e5	0.867	1.62	1.55	1349.6	YES	NO	bb	bb	56.117
7	23478-PeCDF	31.20	1.973e5	1.184e5	0.980	1.67	1.55	1470.1	YES	NO	bb	bb	53.495
8	12378-PeCDF	29.85	1.896e5	1.103e5	0.866	1.72	1.55	1453.9	YES	NO	bb	bb	54.103
9	Total-pentafurans	28.70	3.268e4	1.979e4	0.904	1.65	1.55	248.7	YES	NO	bb	bb	9.341
10	234678-HxCDF	35.82	1.300e5	1.022e5	1.043	1.27	1.24	804.6	YES	NO	bb	bb	49.034
11	123678-HxCDF	34.95	1.421e5	1.119e5	0.961	1.27	1.24	825.1	YES	NO	db	db	53.864
12	123478-HxCDF	34.82	1.311e5	1.037e5	1.002	1.26	1.24	802.6	YES	NO	bd	bd	49.691
13	123468-HXCDF	33.15	1.402e5	1.092e5	1.036	1.28	1.24	831.4	YES	NO	bb	bb	51.093
14	123789-HxCDF	36.86	1.100e5	8.485e4	0.994	1.30	1.24	654.2	YES	NO	bb	bb	49.727
15	1234789-HpCDF	40.94	1.081e5	1.035e5	1.070	1.04	1.05	802.1	YES	NO	bb	bb	49.291
16	Total-heptafurans	38.94	4.587e2	5.105e2	1.064	0.90	1.05	6.7	YES	NO	dd	db	0.215
17	1234678-HpCDF	38.70	1.341e5	1.261e5	1.058	1.06	1.05	1149.8	YES	NO	MM	MM	54.877
18	OCDF	45.15	2.087e5	2.242e5	1.257	0.93	0.89	1377.3	YES	NO	bb	bd	97.367
19	13468-PECDF	27.05	2.230e5	1.464e5	1.347	1.52	1.55	4641.1	YES	NO	bb	bb	42.848

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.94	2.413e4	2.803e4	1.151	0.86	0.77	238.4	YES	NO	bb	bb	9.684
2	2378-TCDD	26.34	2.593e4	3.194e4	1.307	0.81	0.77	261.0	YES	NO	bb	bb	9.460
3	Total-tetradioxins	26.00	3.960e4	4.982e4	1.238	0.79	0.77	285.2	YES	NO	bb	bb	15.435
4	Total-tetradioxins	25.52	1.290e4	1.533e4	1.238	0.84	0.77	140.6	YES	NO	bb	bb	4.874
5	1368-TCDD	23.46	2.594e4	3.270e4	1.256	0.79	0.77	274.7	YES	NO	bb	bb	9.981

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.84	1.412e5	9.098e4	1.171	1.55	1.55	874.8	YES	NO	bb	bb	50.406
2	12378-PeCDD	31.45	1.196e5	7.863e4	0.979	1.52	1.55	749.1	YES	NO	bb	bb	51.501
3	12479-PECDD	28.71	2.192e5	1.416e5	1.773	1.55	1.55	864.9	YES	NO	bb	bb	51.720

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	124679-HXCDD	33.93	1.258e5	1.032e5	1.034	1.22	1.24	925.1	YES	NO	bb	bb	49.174
2	123789-HxCDD	36.45	1.110e5	9.246e4	0.927	1.20	1.24	842.1	YES	NO	bb	bb	47.140
3	123678-HxCDD	36.07	1.201e5	1.020e5	0.953	1.18	1.24	901.2	YES	NO	db	db	48.492
4	123478-HxCDD	35.94	1.158e5	9.197e4	0.956	1.26	1.24	909.4	YES	NO	bd	bd	48.216

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.20	9.621e4	9.075e4	1.055	1.06	1.05	900.4	YES	NO	bb	bb	51.285
2	1234679-HPCDD	39.15	1.051e5	1.025e5	1.194	1.03	1.05	1043.9	YES	NO	bb	bb	50.319

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	26.94	2.413e4	2.803e4	1.151	0.86	0.77	238.4	YES	NO	bb	bb	9.684
2	2378-TCDD	26.34	2.593e4	3.194e4	1.307	0.81	0.77	261.0	YES	NO	bb	bb	9.460
3	Total-tetradioxins	26.00	3.960e4	4.982e4	1.238	0.79	0.77	285.2	YES	NO	bb	bb	15.435
4	Total-tetradioxins	25.52	1.290e4	1.533e4	1.238	0.84	0.77	140.6	YES	NO	bb	bb	4.874
5	1368-TCDD	23.46	2.594e4	3.270e4	1.256	0.79	0.77	274.7	YES	NO	bb	bb	9.981
6	12389-PECDD	31.84	1.412e5	9.098e4	1.171	1.55	1.55	874.8	YES	NO	bb	bb	50.406
7	12378-PeCDD	31.45	1.196e5	7.863e4	0.979	1.52	1.55	749.1	YES	NO	bb	bb	51.501
8	12479-PECDD	28.71	2.192e5	1.416e5	1.773	1.55	1.55	864.9	YES	NO	bb	bb	51.720
9	124679-HXCDD	33.93	1.258e5	1.032e5	1.034	1.22	1.24	925.1	YES	NO	bb	bb	49.174
10	123789-HxCDD	36.45	1.110e5	9.246e4	0.927	1.20	1.24	842.1	YES	NO	bb	bb	47.140
11	123678-HxCDD	36.07	1.201e5	1.020e5	0.953	1.18	1.24	901.2	YES	NO	db	db	48.492
12	123478-HxCDD	35.94	1.158e5	9.197e4	0.956	1.26	1.24	909.4	YES	NO	bd	bd	48.216
13	1234678-HpCDD	40.20	9.621e4	9.075e4	1.055	1.06	1.05	900.4	YES	NO	bb	bb	51.285
14	1234679-HPCDD	39.15	1.051e5	1.025e5	1.194	1.03	1.05	1043.9	YES	NO	bb	bb	50.319
15	OCDD	44.91	1.620e5	1.964e5	1.074	0.82	0.89	837.6	YES	NO	bb	bd	94.351

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.18	2.978e4	3.573e4	0.736	0.83	0.77	494.1	YES	NO	dd	db	10.877
2	Total-tetrafurans	27.06	3.206e2	4.143e2	0.828	0.77	0.77	6.3	YES	NO	bd	bd	0.108
3	2378-TCDF	25.68	3.049e4	3.621e4	0.782	0.84	0.77	580.4	YES	NO	bb	bb	10.428
4	Total-tetrafurans	24.58	3.158e2	3.577e2	0.828	0.88	0.77	6.3	YES	NO	db	db	0.099
5	1368-TCDF	22.18	3.586e4	4.910e4	0.966	0.73	0.77	674.9	YES	NO	bb	bb	10.751
6	12389-PECDF	32.22	1.924e5	1.190e5	0.867	1.62	1.55	1349.6	YES	NO	bb	bb	56.117
7	23478-PeCDF	31.20	1.973e5	1.184e5	0.980	1.67	1.55	1470.1	YES	NO	bb	bb	53.495
8	12378-PeCDF	29.85	1.896e5	1.103e5	0.866	1.72	1.55	1453.9	YES	NO	bb	bb	54.103
9	Total-pentafurans	28.70	3.268e4	1.979e4	0.904	1.65	1.55	248.7	YES	NO	bb	bb	9.341
10	234678-HxCDF	35.82	1.300e5	1.022e5	1.043	1.27	1.24	804.6	YES	NO	bb	bb	49.034
11	123678-HxCDF	34.95	1.421e5	1.119e5	0.961	1.27	1.24	825.1	YES	NO	db	db	53.864
12	123478-HxCDF	34.82	1.311e5	1.037e5	1.002	1.26	1.24	802.6	YES	NO	bd	bd	49.691
13	123468-HXCDF	33.15	1.402e5	1.092e5	1.036	1.28	1.24	831.4	YES	NO	bb	bb	51.093
14	123789-HxCDF	36.86	1.100e5	8.485e4	0.994	1.30	1.24	654.2	YES	NO	bb	bb	49.727
15	1234789-HpCDF	40.94	1.081e5	1.035e5	1.070	1.04	1.05	802.1	YES	NO	bb	bb	49.291
16	Total-heptafurans	38.94	4.587e2	5.105e2	1.064	0.90	1.05	6.7	YES	NO	dd	db	0.215
17	1234678-HpCDF	38.70	1.341e5	1.261e5	1.058	1.06	1.05	1149.8	YES	NO	MM	MM	54.877
18	OCDF	45.15	2.087e5	2.242e5	1.257	0.93	0.89	1377.3	YES	NO	bb	bd	97.367
19	13468-PECDF	27.05	2.230e5	1.464e5	1.347	1.52	1.55	4641.1	YES	NO	bb	bb	42.848
20	1289-TCDD	26.94	2.413e4	2.803e4	1.151	0.86	0.77	238.4	YES	NO	bb	bb	9.684
21	2378-TCDD	26.34	2.593e4	3.194e4	1.307	0.81	0.77	261.0	YES	NO	bb	bb	9.460
22	Total-tetradioxins	26.00	3.960e4	4.982e4	1.238	0.79	0.77	285.2	YES	NO	bb	bb	15.435
23	Total-tetradioxins	25.52	1.290e4	1.533e4	1.238	0.84	0.77	140.6	YES	NO	bb	bb	4.874
24	1368-TCDD	23.46	2.594e4	3.270e4	1.256	0.79	0.77	274.7	YES	NO	bb	bb	9.981
25	12389-PECDD	31.84	1.412e5	9.098e4	1.171	1.55	1.55	874.8	YES	NO	bb	bb	50.406
26	12378-PeCDD	31.45	1.196e5	7.863e4	0.979	1.52	1.55	749.1	YES	NO	bb	bb	51.501
27	12479-PECDD	28.71	2.192e5	1.416e5	1.773	1.55	1.55	864.9	YES	NO	bb	bb	51.720
28	124679-HXCDD	33.93	1.258e5	1.032e5	1.034	1.22	1.24	925.1	YES	NO	bb	bb	49.174
29	123789-HxCDD	36.45	1.110e5	9.246e4	0.927	1.20	1.24	842.1	YES	NO	bb	bb	47.140
30	123678-HxCDD	36.07	1.201e5	1.020e5	0.953	1.18	1.24	901.2	YES	NO	db	db	48.492
31	123478-HxCDD	35.94	1.158e5	9.197e4	0.956	1.26	1.24	909.4	YES	NO	bd	bd	48.216
32	1234678-HpCDD	40.20	9.621e4	9.075e4	1.055	1.06	1.05	900.4	YES	NO	bb	bb	51.285
33	1234679-HPCDD	39.15	1.051e5	1.025e5	1.194	1.03	1.05	1043.9	YES	NO	bb	bb	50.319
34	OCDD	44.91	1.620e5	1.964e5	1.074	0.82	0.89	837.6	YES	NO	bb	bd	94.351

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	26.06	2.128e4					0.8	NO		bb		
2	FUNCTION1 PFK	25.68	2.852e4					0.9	NO		db		
3	FUNCTION1 PFK	25.62	6.640e4					1.8	NO		bd		
4	FUNCTION1 PFK	24.48	7.377e4					0.9	NO		bb		
5	FUNCTION1 PFK	24.17	2.919e4					1.0	NO		bb		
6	FUNCTION1 PFK	22.24	7.097e3					0.5	NO		bb		
7	FUNCTION1 PFK	21.19	1.172e4					0.8	NO		bb		
8	FUNCTION1 PFK	21.15	3.617e4					1.2	NO		bb		

PFK2

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

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	34.19	2.095e4					1.3	NO		bb		0.000
2	FUNCTION3 PFK	33.84	4.412e3					0.6	NO		bb		0.000
3	FUNCTION3 PFK	33.57	2.661e3					0.4	NO		bb		0.000
4	FUNCTION3 PFK	32.75	3.211e4					1.6	NO		db		0.000
5	FUNCTION3 PFK	32.70	4.776e4					2.1	NO		bd		0.000
6	FUNCTION3 PFK	37.00	5.728e3					0.5	NO		bb		0.000
7	FUNCTION3 PFK	36.88	7.622e3					0.6	NO		bb		0.000
8	FUNCTION3 PFK	36.84	9.307e3					0.8	NO		bb		0.000
9	FUNCTION3 PFK	36.80	3.268e3					0.5	NO		bb		0.000
10	FUNCTION3 PFK	36.76	6.497e3					0.6	NO		bb		0.000
11	FUNCTION3 PFK	36.68	7.504e3					0.6	NO		bb		0.000
12	FUNCTION3 PFK	36.61	7.299e3					0.6	NO		bb		0.000
13	FUNCTION3 PFK	36.30	7.101e3					0.6	NO		db		0.000
14	FUNCTION3 PFK	36.27	1.357e4					1.0	NO		bd		0.000
15	FUNCTION3 PFK	35.72	2.135e4					1.3	NO		bb		0.000
16	FUNCTION3 PFK	35.62	4.392e3					0.6	NO		bb		0.000
17	FUNCTION3 PFK	35.43	4.522e4					1.8	NO		bb		0.000
18	FUNCTION3 PFK	35.36	4.827e3					0.7	NO		bb		0.000
19	FUNCTION3 PFK	34.91	9.692e3					0.7	NO		bb		0.000
20	FUNCTION3 PFK	34.44	1.770e4					0.9	NO		bb		0.000
21	FUNCTION3 PFK	34.40	2.765e3					0.4	NO		bb		0.000
22	FUNCTION3 PFK	37.60	1.281e4					0.5	NO		bb		0.000
23	FUNCTION3 PFK	37.36	2.816e3					0.4	NO		bb		0.000
24	FUNCTION3 PFK	37.31	3.455e3					0.5	NO		bb		0.000
25	FUNCTION3 PFK	37.25	1.260e4					0.4	NO		bb		0.000
26	FUNCTION3 PFK	37.17	1.330e4					1.1	NO		bb		0.000

ID: CS3E1, Name: 21071902, Date: 19-Jul-2021, Time: 11:08:08, 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	39.04	6.781e3					0.2	NO		bb		
2	FUNCTION4 PFK	38.97	4.291e3					0.2	NO		bb		
3	FUNCTION4 PFK	38.90	3.423e4					0.5	NO		bb		
4	FUNCTION4 PFK	38.83	4.991e4					0.7	NO		db		
5	FUNCTION4 PFK	38.76	1.241e4					0.5	NO		dd		
6	FUNCTION4 PFK	38.72	4.699e4					0.7	NO		bd		
7	FUNCTION4 PFK	38.44	4.339e4					0.6	NO		bb		
8	FUNCTION4 PFK	38.25	1.059e4					0.3	NO		bb		
9	FUNCTION4 PFK	37.89	1.228e4					0.3	NO		db		
10	FUNCTION4 PFK	37.80	3.104e4					0.6	NO		bd		
11	FUNCTION4 PFK	41.83	1.553e4					0.4	NO		bb		
12	FUNCTION4 PFK	41.57	3.741e3					0.2	NO		bb		
13	FUNCTION4 PFK	41.51	7.444e4					0.8	NO		bb		
14	FUNCTION4 PFK	41.37	6.687e3					0.3	NO		bb		
15	FUNCTION4 PFK	41.24	1.390e6					17.3	YES		db		
16	FUNCTION4 PFK	41.18	8.123e6					16.9	YES		dd		
17	FUNCTION4 PFK	40.80	9.480e5					12.2	YES		dd		
18	FUNCTION4 PFK	40.72	1.073e6					11.3	YES		dd		
19	FUNCTION4 PFK	40.68	8.474e5					11.0	YES		dd		
20	FUNCTION4 PFK	40.62	2.889e6					10.1	YES		dd		
21	FUNCTION4 PFK	40.39	7.553e5					7.1	YES		dd		
22	FUNCTION4 PFK	40.02	2.166e6					2.8	NO		dd		
23	FUNCTION4 PFK	39.92	2.071e5					1.6	NO		bd		
24	FUNCTION4 PFK	39.72	2.035e4					0.4	NO		bb		
25	FUNCTION4 PFK	39.60	2.803e4					0.6	NO		bb		
26	FUNCTION4 PFK	39.44	3.029e4					0.3	NO		bb		
27	FUNCTION4 PFK	42.63	2.305e4					0.5	NO		bb		
28	FUNCTION4 PFK	42.21	5.511e3					0.2	NO		bb		
29	FUNCTION4 PFK	42.16	2.276e3					0.1	NO		bb		
30	FUNCTION4 PFK	42.06	1.217e4					0.3	NO		db		
31	FUNCTION4 PFK	42.02	1.372e4					0.3	NO		dd		
32	FUNCTION4 PFK	41.98	1.010e4					0.3	NO		bd		
33	FUNCTION4 PFK	41.92	1.191e4					0.3	NO		bb		

ID: CS3E1, Name: 21071902, Date: 19-Jul-2021, Time: 11:08:08, 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	44.97	1.747e3					0.7	NO		bb		
2	FUNCTION5 PFK	44.76	2.118e3					0.8	NO		bb		
3	FUNCTION5 PFK	44.72	5.901e3					0.9	NO		bb		
4	FUNCTION5 PFK	43.87	1.032e4					1.9	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.00	1.432e2					4.0	YES		bb		0.000
2	FUNCTION1 HXCD...	24.14	1.132e2					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...	27.21	9.328e1					1.4	NO		bb		0.000
2	FUNCTION1 HPCD...	26.43	7.995e1					2.4	NO		db		0.000
3	FUNCTION1 HPCD...	26.30	7.931e1					1.6	NO		bd		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.89	1.565e2					3.4	YES		bb		0.000
2	FUNCTION2 HPCD...	31.43	2.215e2					4.1	YES		bb		0.000
3	FUNCTION2 HPCD...	31.09	3.065e2					12.0	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	36.59	7.023e1					1.7	NO		db		0.000
2	FUNCTION3 OCDPE	36.53	9.147e1					2.8	NO		dd		0.000
3	FUNCTION3 OCDPE	36.42	2.316e2					3.9	YES		bd		0.000
4	FUNCTION3 OCDPE	36.04	1.259e2					3.5	YES		db		0.000
5	FUNCTION3 OCDPE	35.96	9.830e1					2.7	NO		bd		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.00	7.705e1					1.9	NO		bb		0.000
2	FUNCTION4 NCDPE	38.90	1.152e2					2.5	NO		bb		0.000
3	FUNCTION4 NCDPE	41.26	9.767e1					2.8	NO		db		0.000
4	FUNCTION4 NCDPE	41.20	7.169e1					2.1	NO		bd		0.000
5	FUNCTION4 NCDPE	40.56	1.182e2					3.5	YES		db		0.000
6	FUNCTION4 NCDPE	40.47	1.081e2					1.7	NO		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	43.60	8.700e1					3.0	YES		db		0.000
2	FUNCTION5 DCDPE	43.52	7.532e1					3.0	NO		dd		0.000
3	FUNCTION5 DCDPE	43.40	1.285e2					3.7	YES		dd		0.000
4	FUNCTION5 DCDPE	43.34	7.958e1					2.3	NO		bd		0.000

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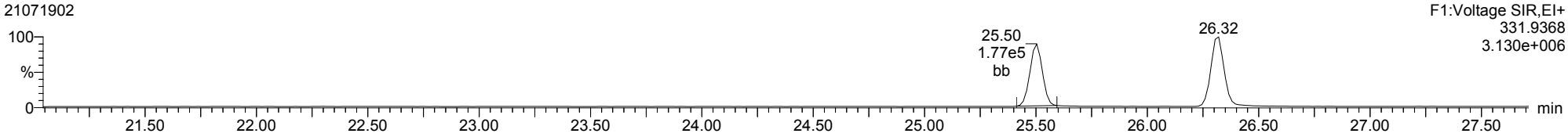

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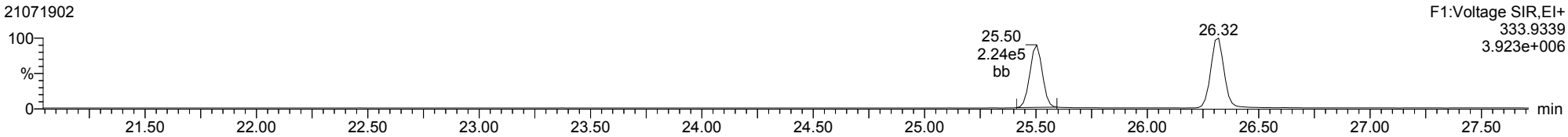

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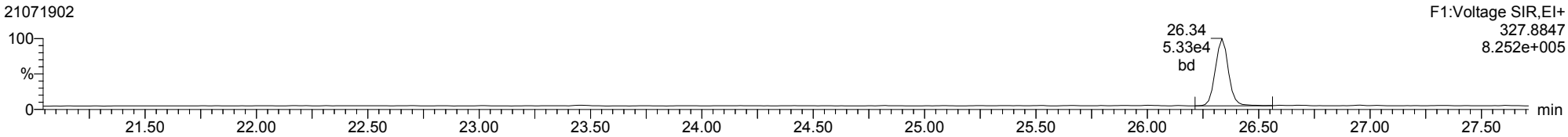

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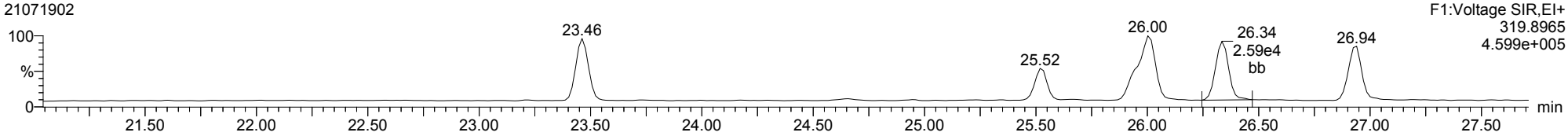

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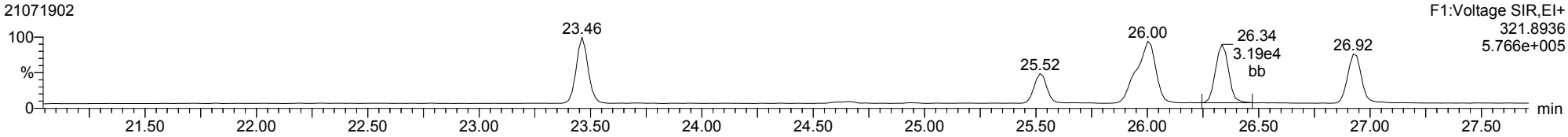

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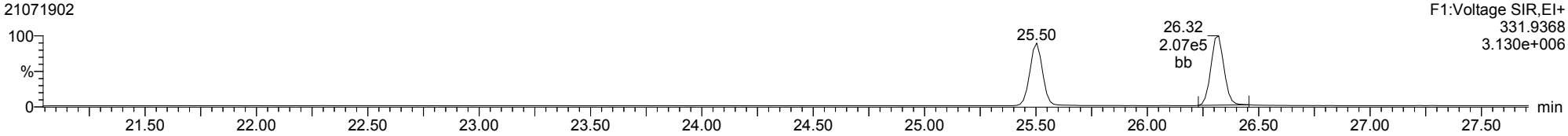

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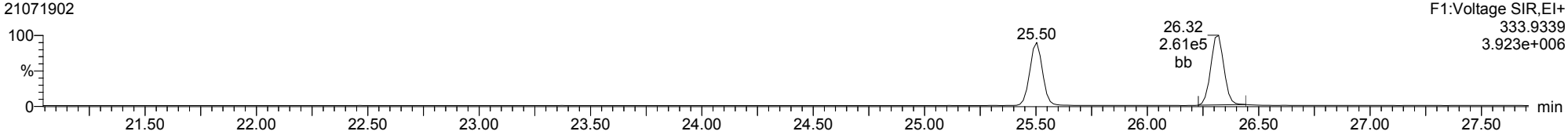

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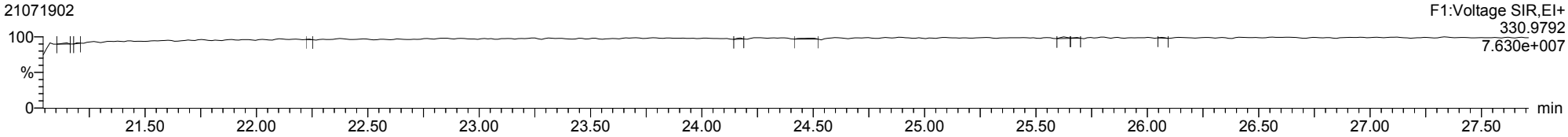

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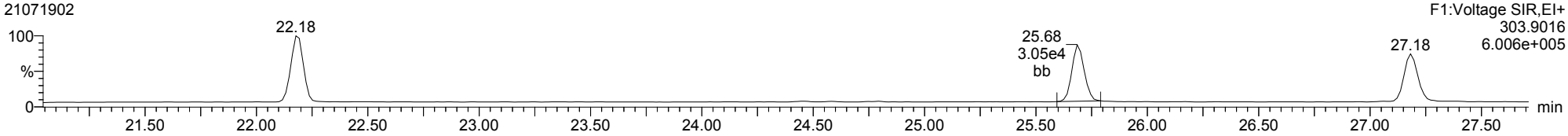

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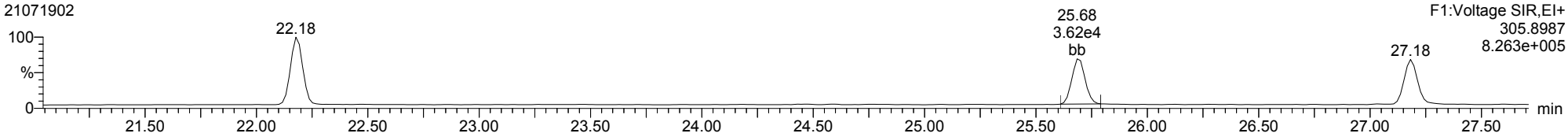

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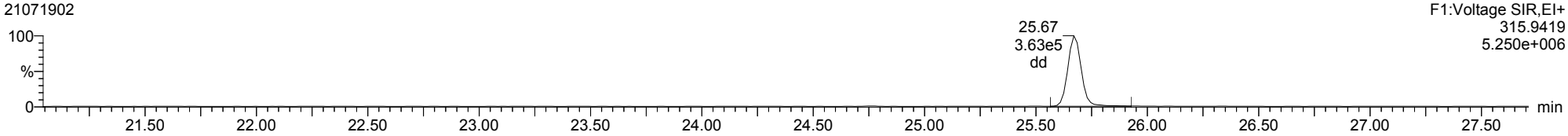

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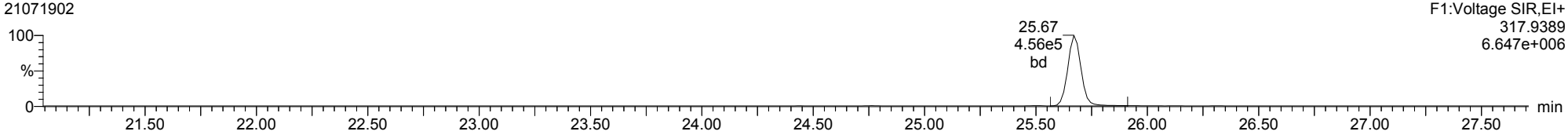

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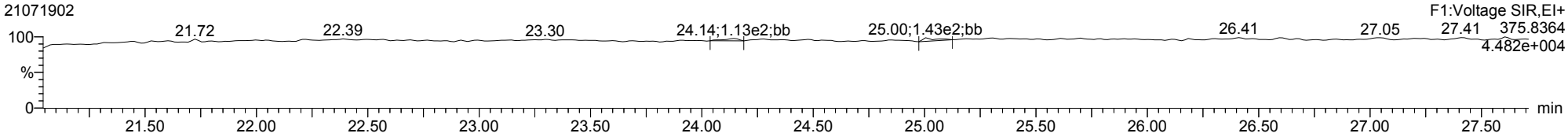

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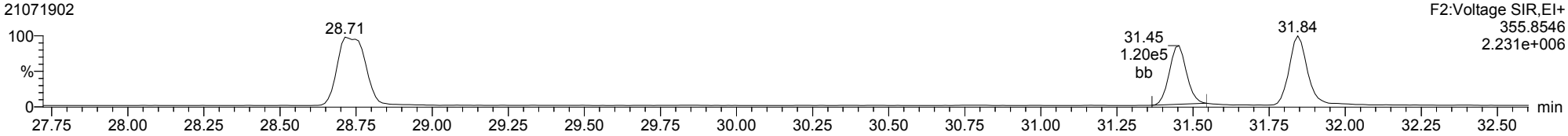

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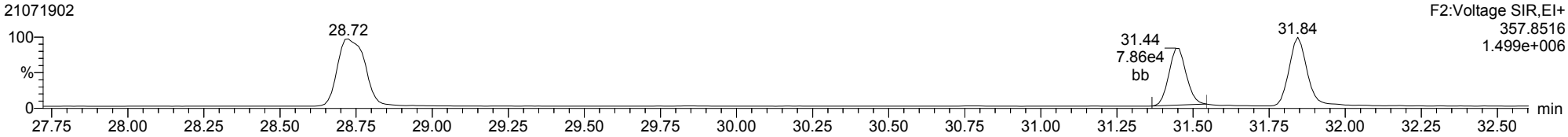

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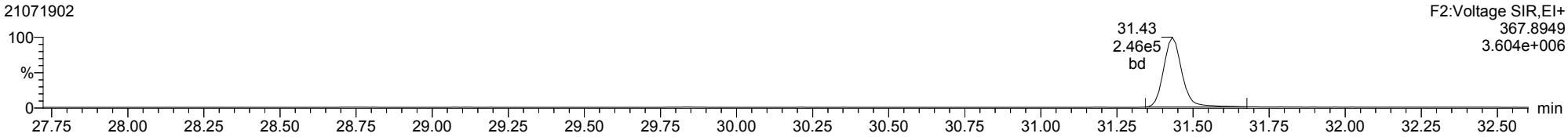

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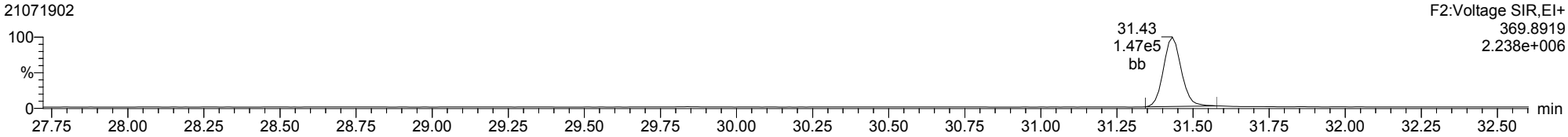
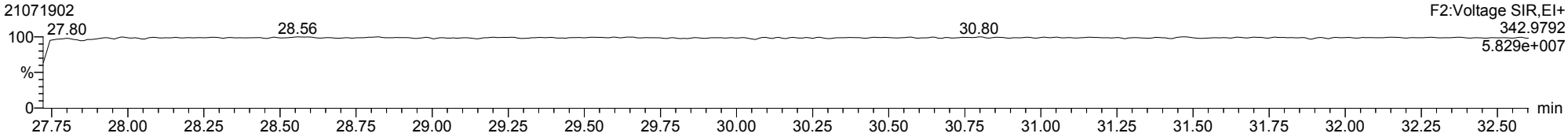


FUNCTION2 PFK



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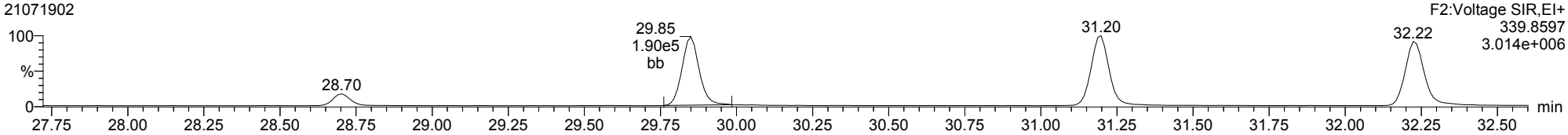

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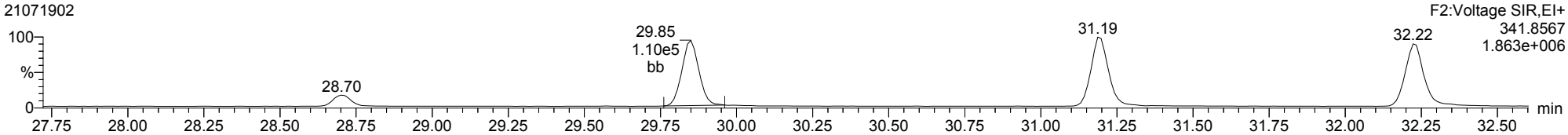

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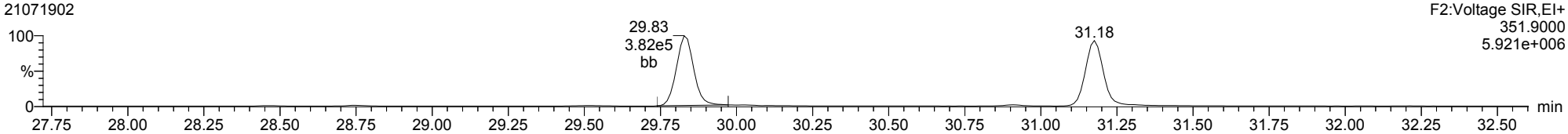

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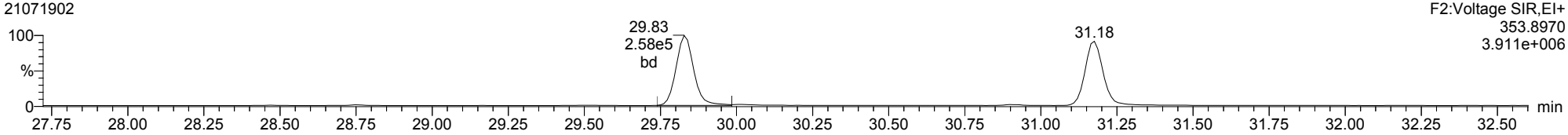
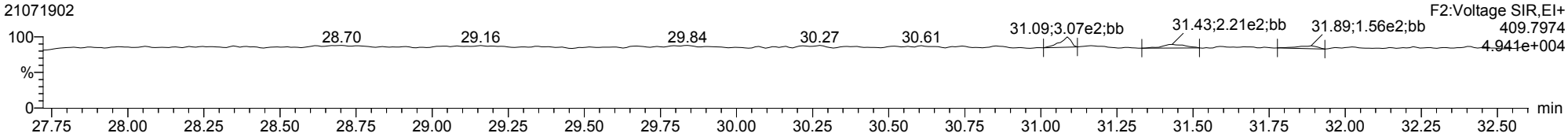


FUNCTION2 HPCDPE



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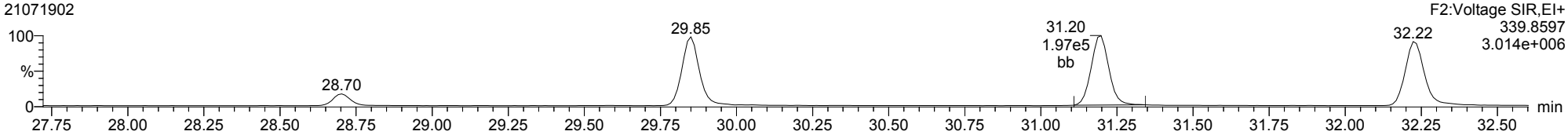
23478-PeCDF



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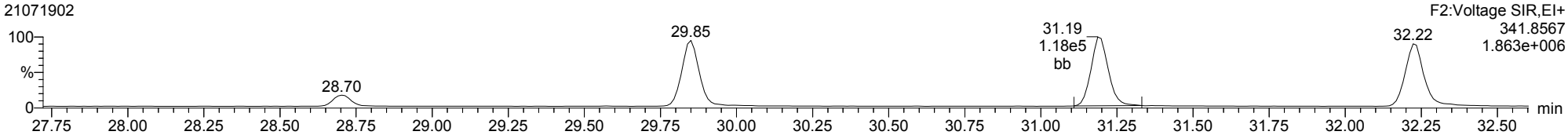

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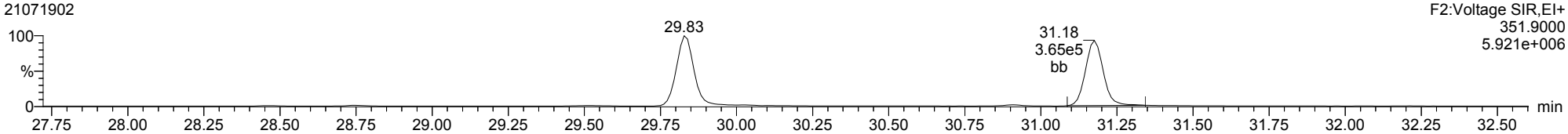

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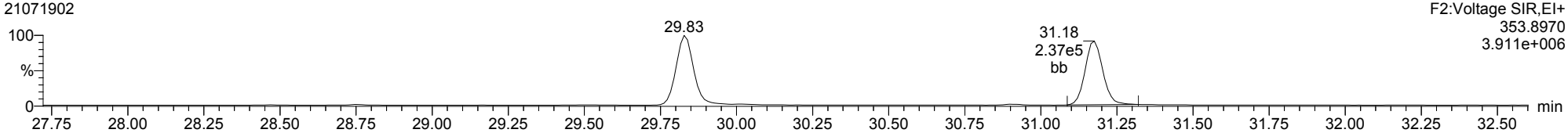

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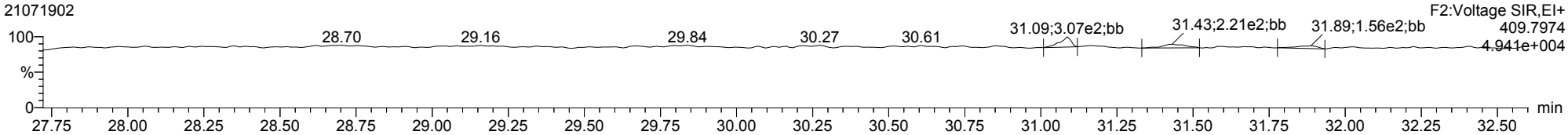

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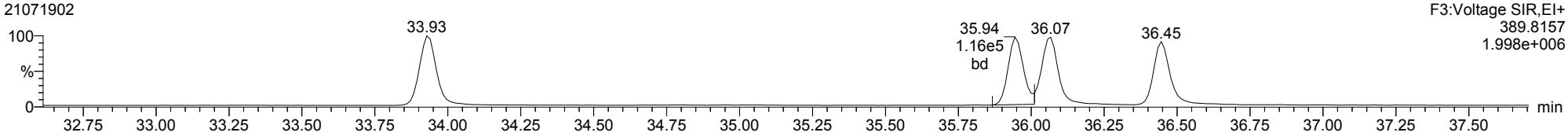
123478-HxCDD



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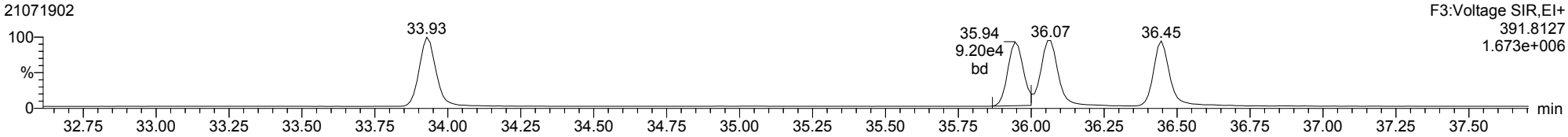

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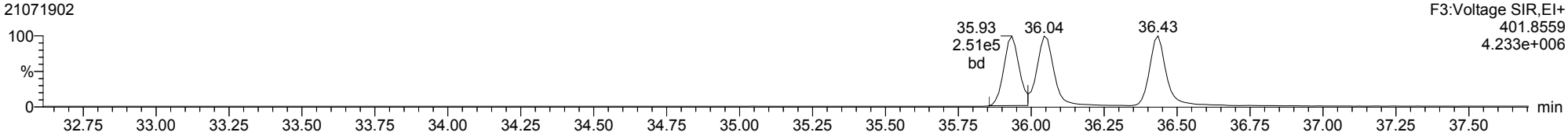

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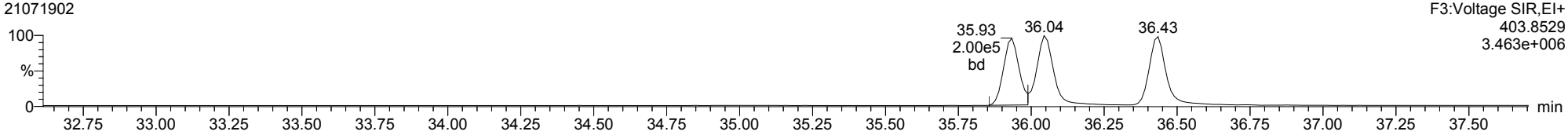

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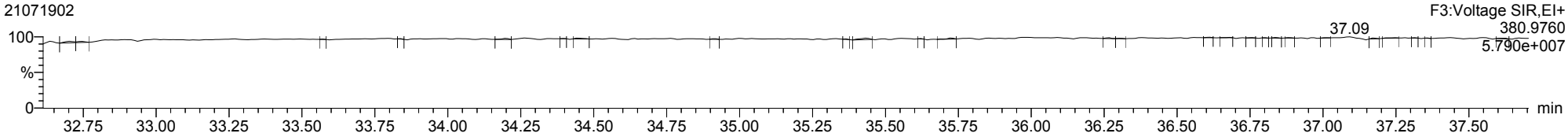

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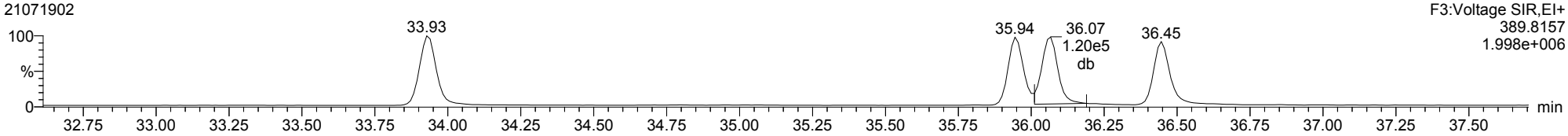

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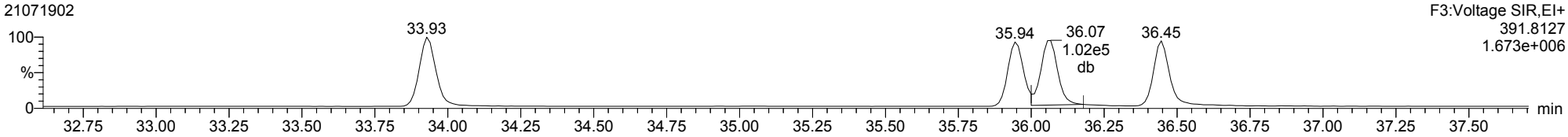

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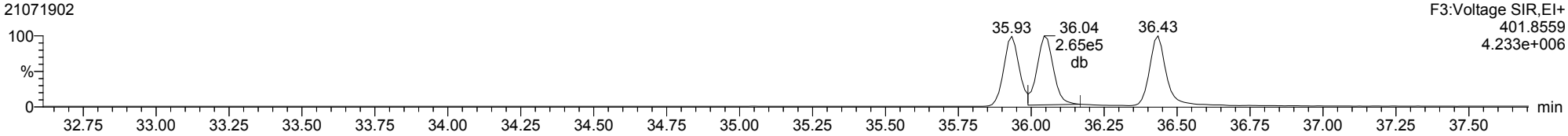

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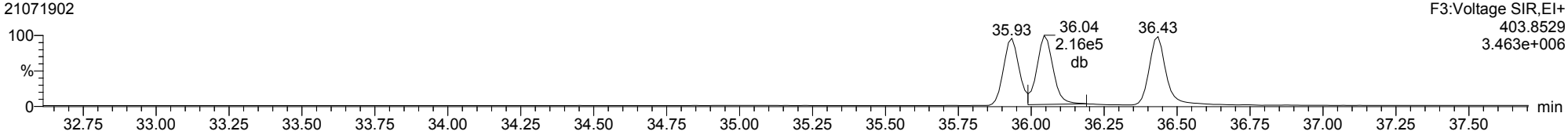

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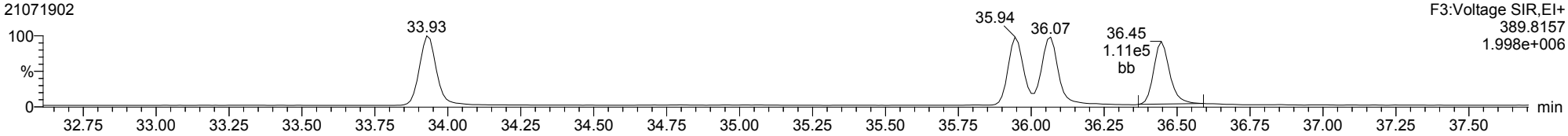

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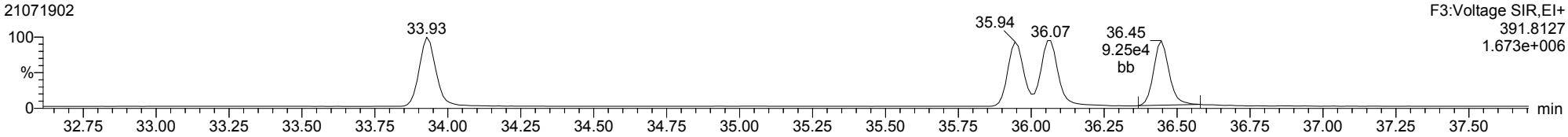

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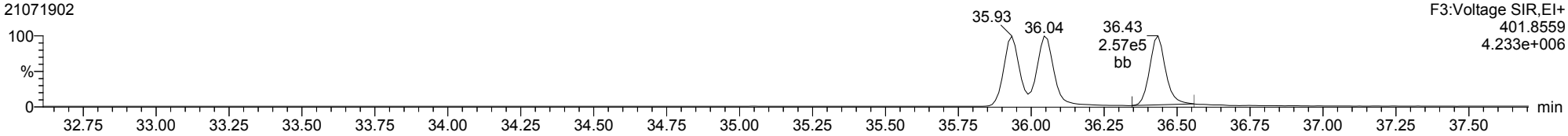

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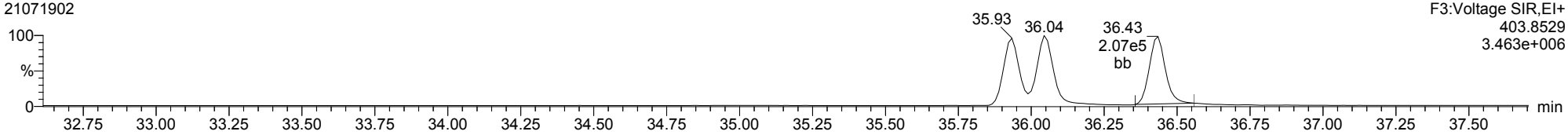

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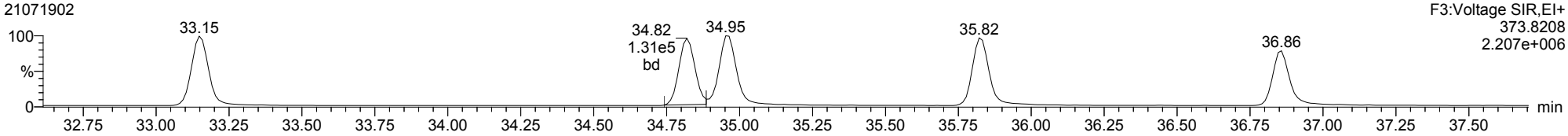

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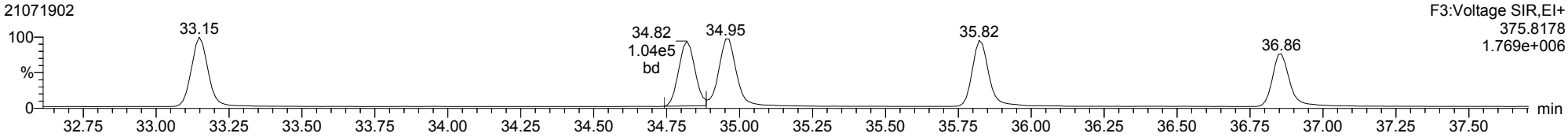

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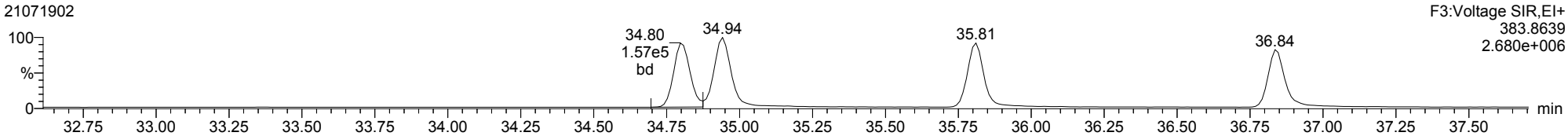

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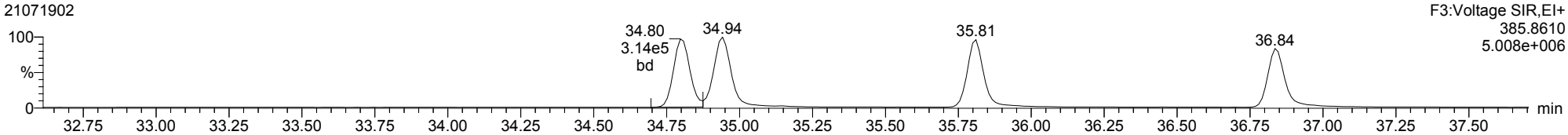

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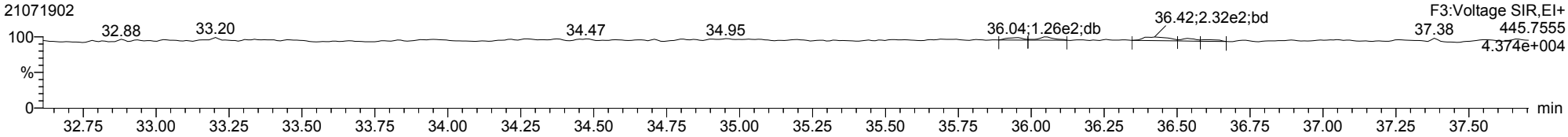

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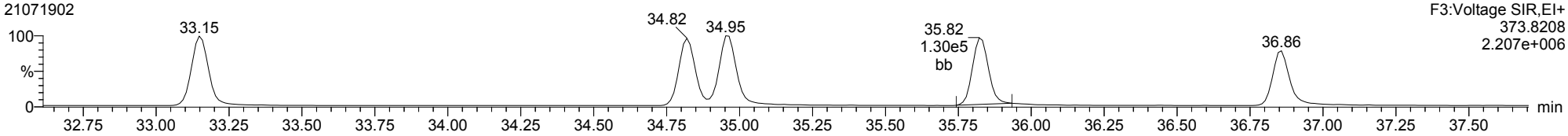

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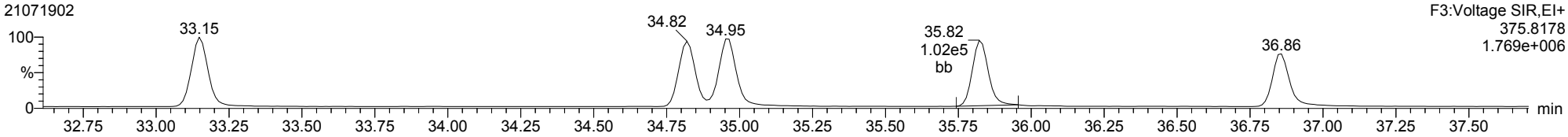

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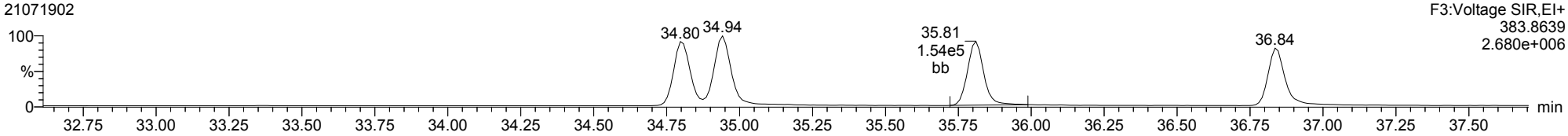

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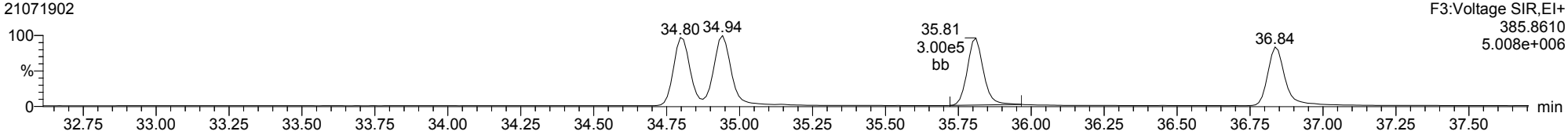

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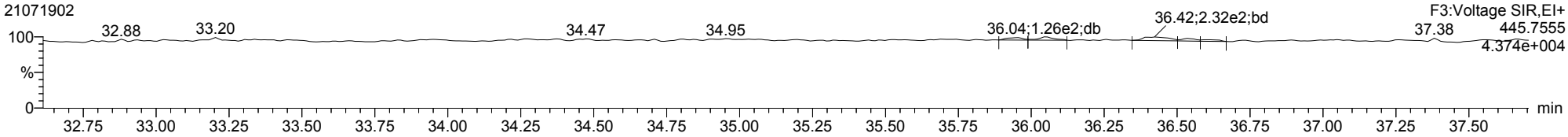

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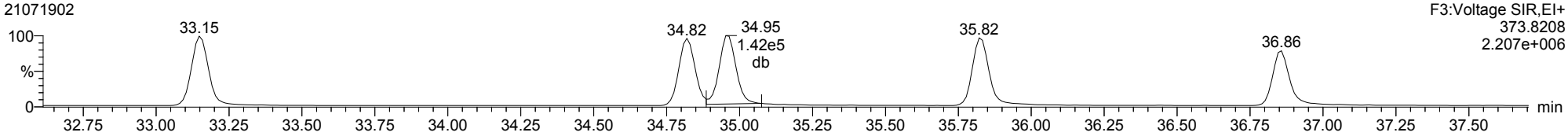

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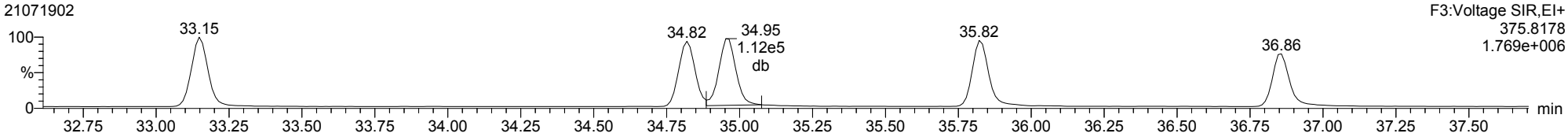

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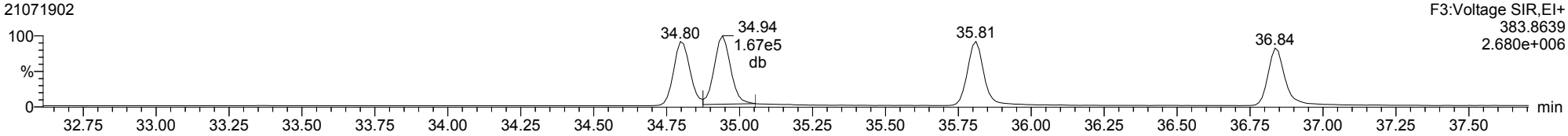

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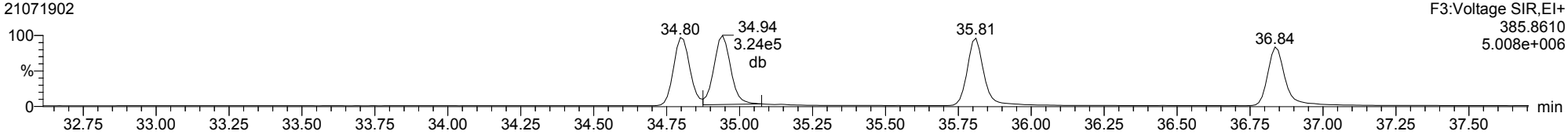

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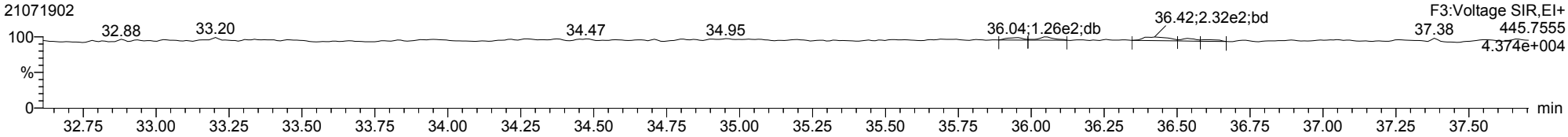

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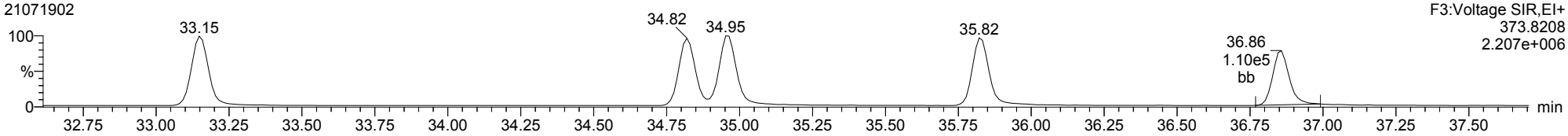

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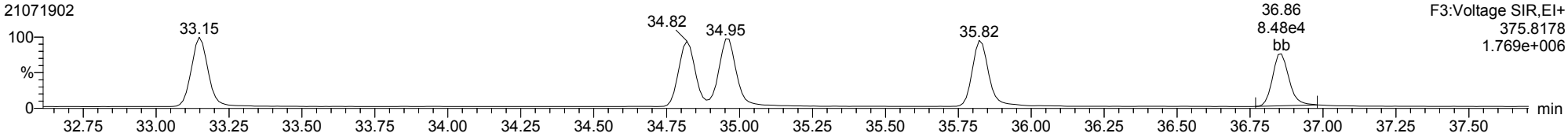

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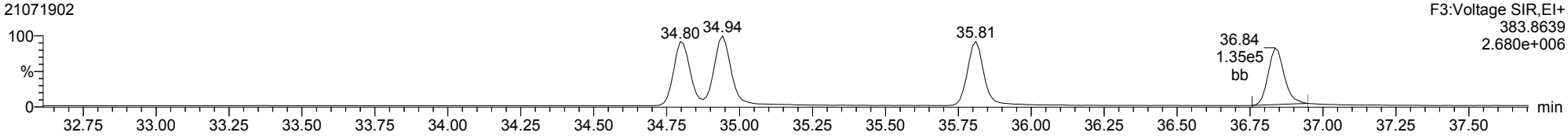

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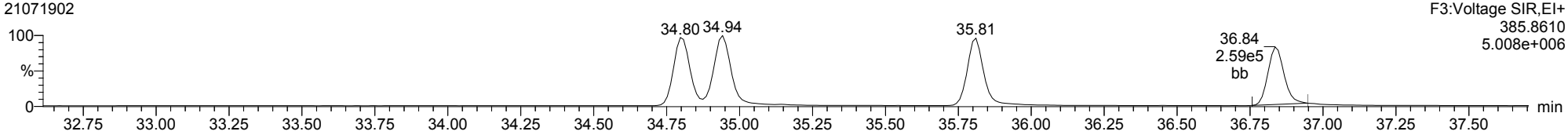

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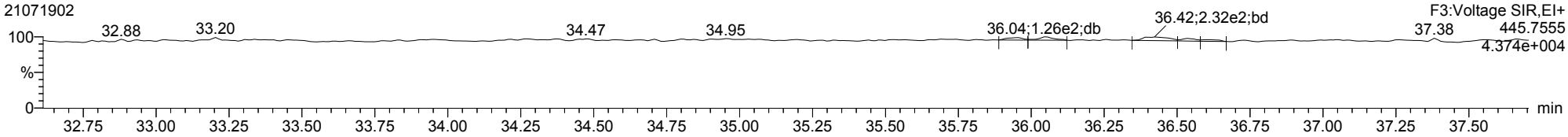

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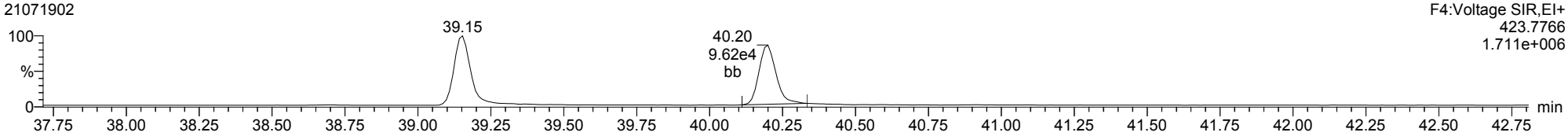

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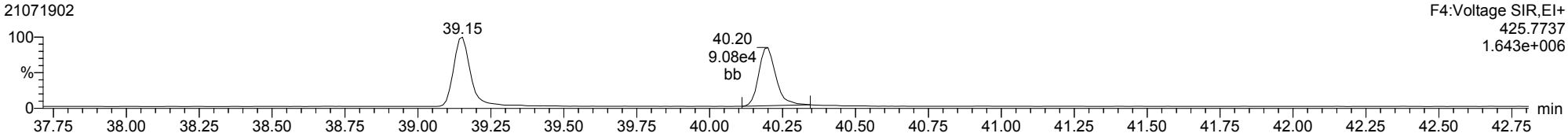

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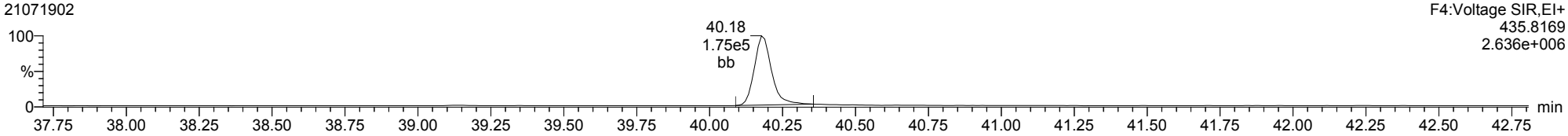

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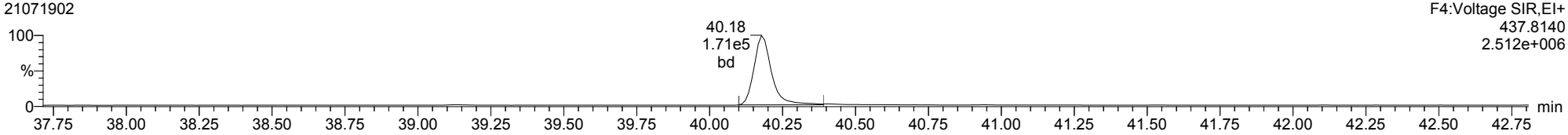

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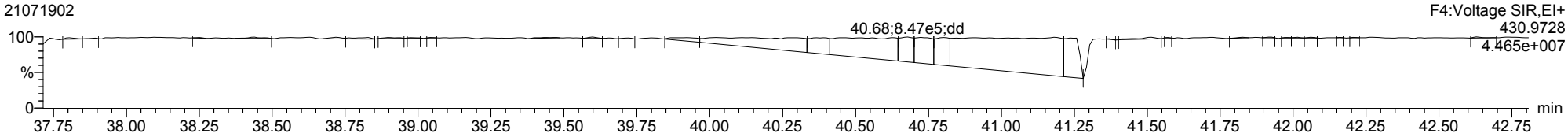

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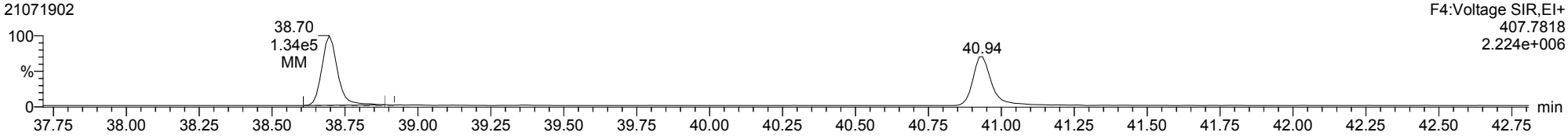

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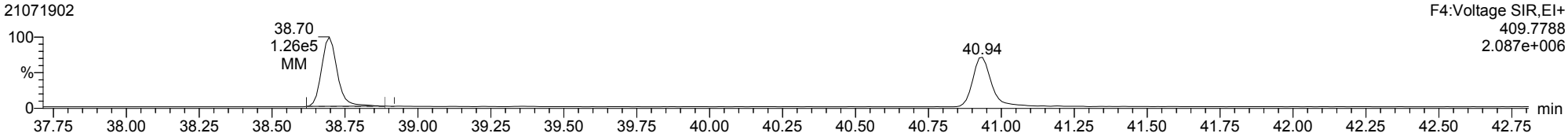

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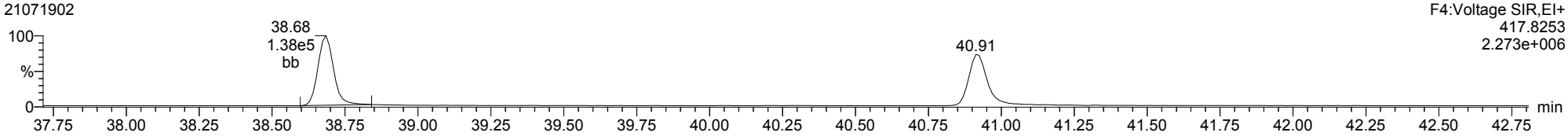

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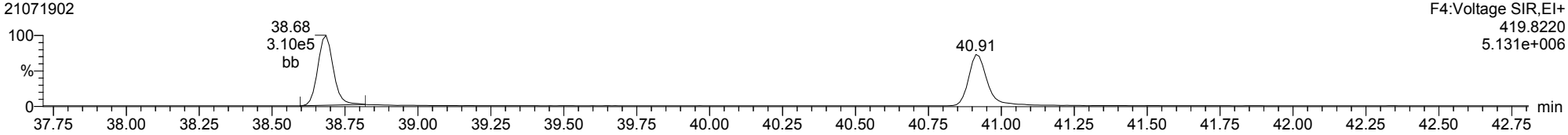

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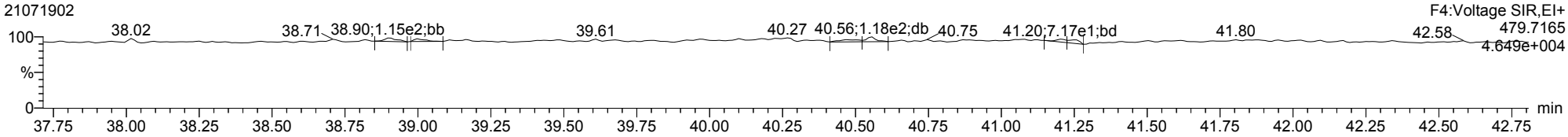

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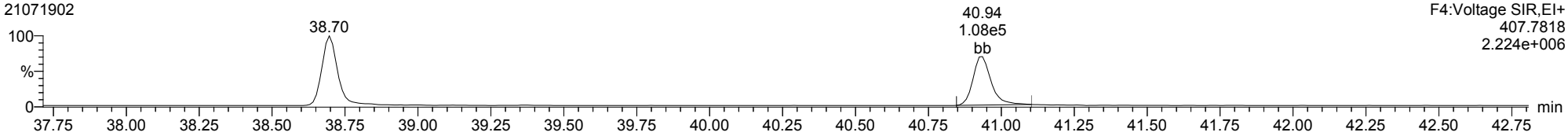

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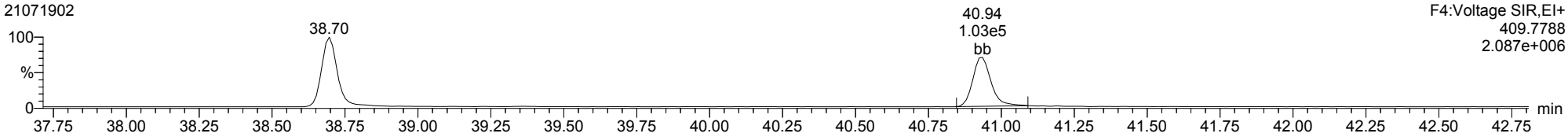

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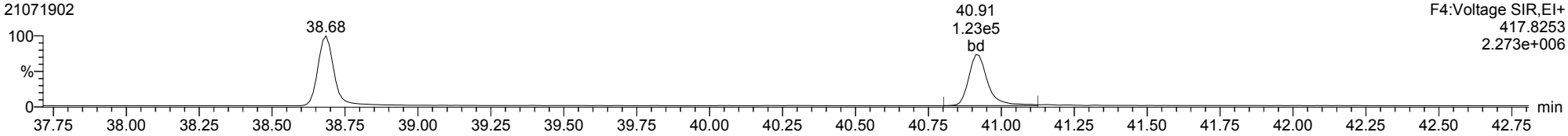

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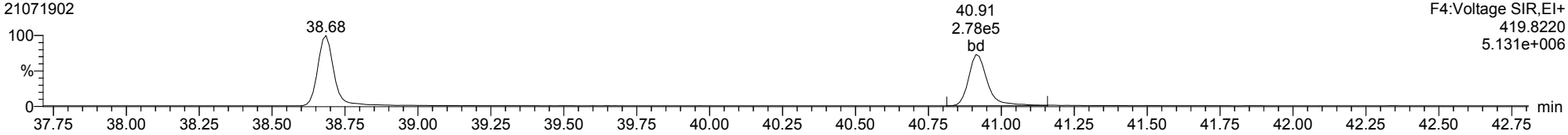

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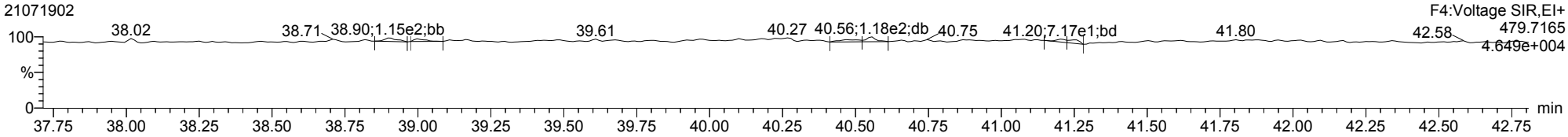

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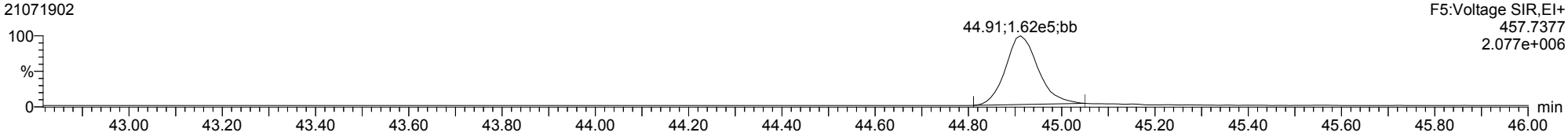

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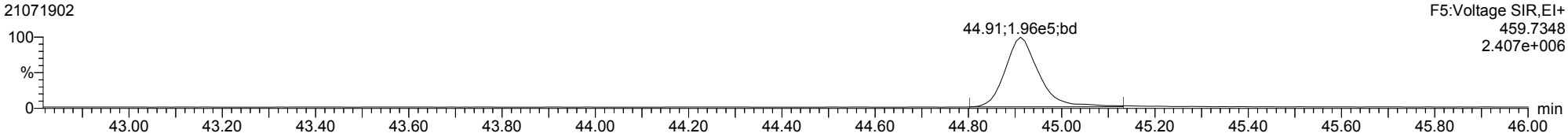

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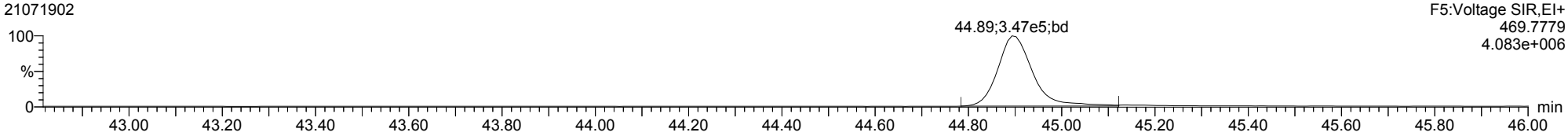

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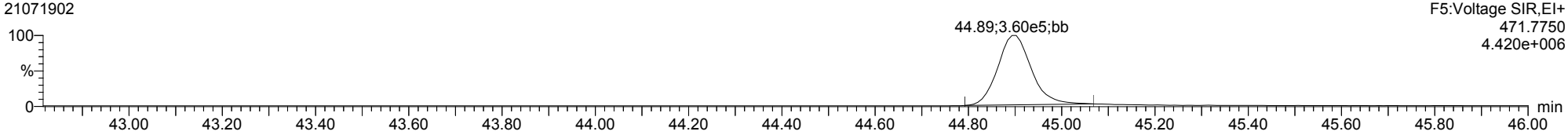
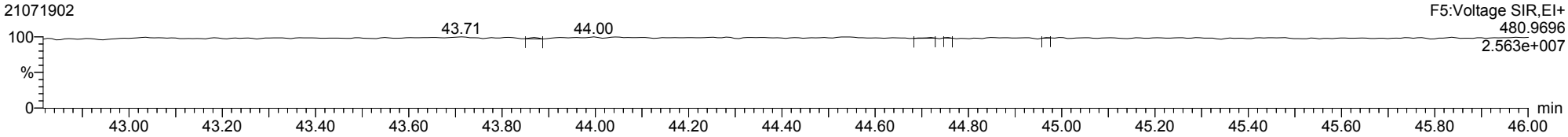


FUNCTION5 PFK



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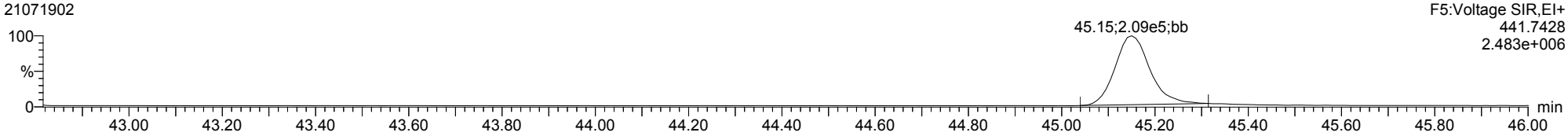

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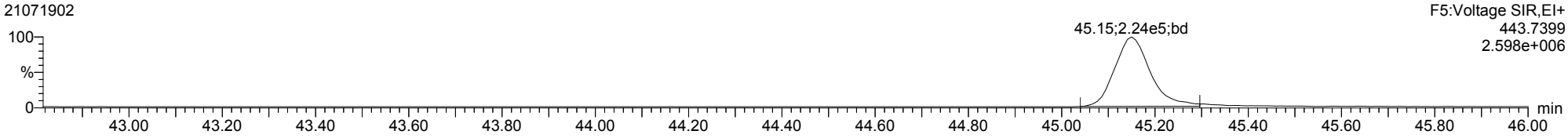
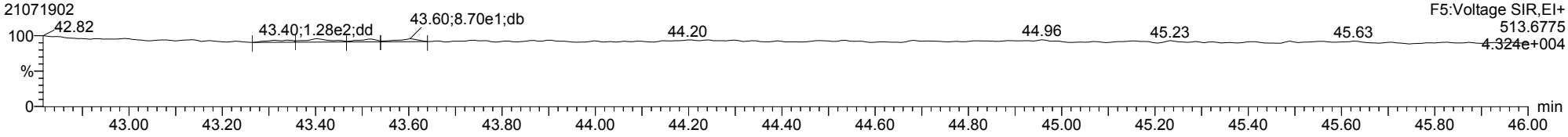


FUNCTION5 DCDPE



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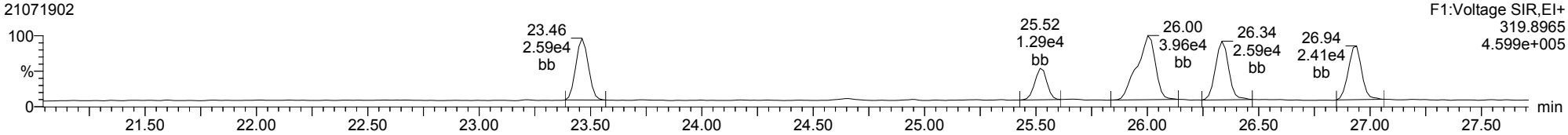
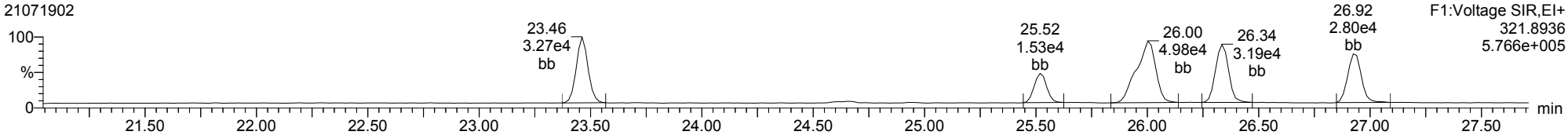


Total-tetradioxins



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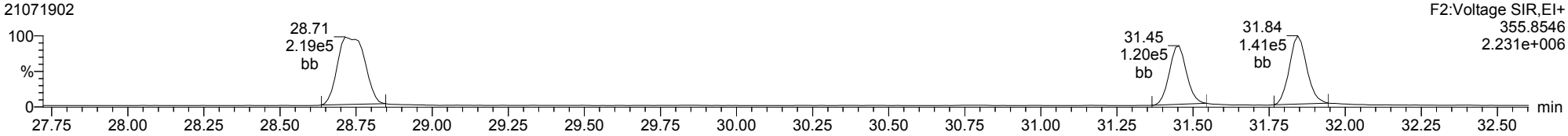

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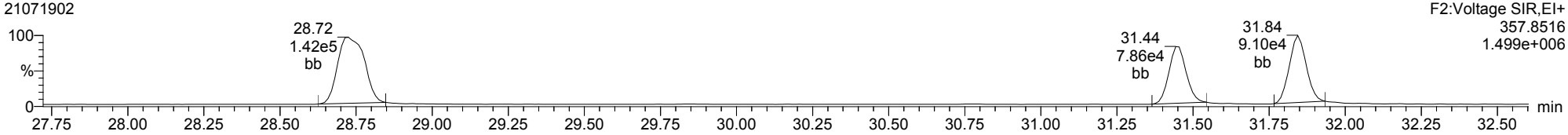

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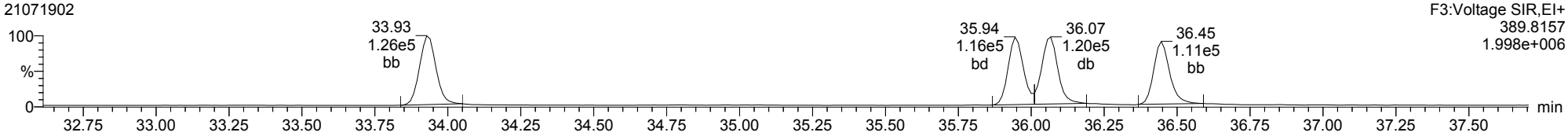
Total-hexadioxins



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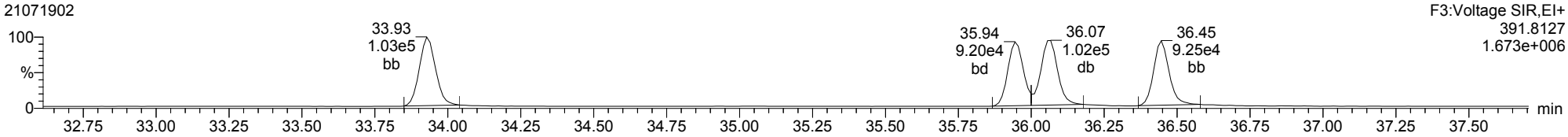

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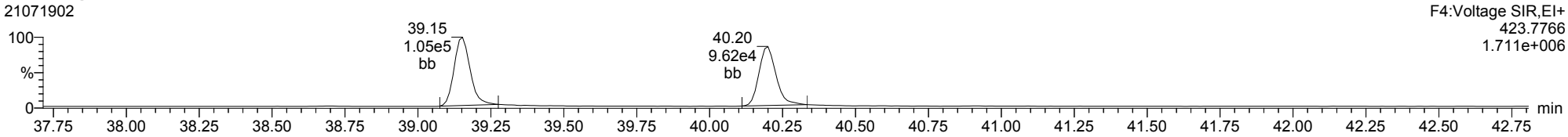

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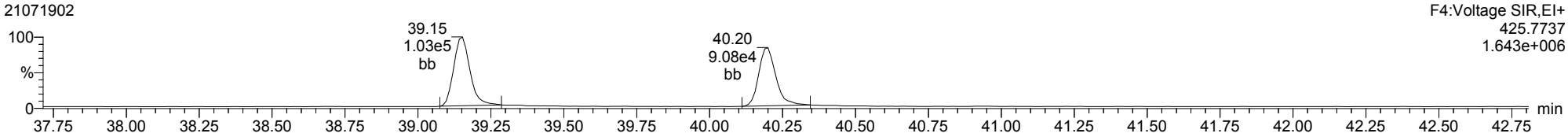

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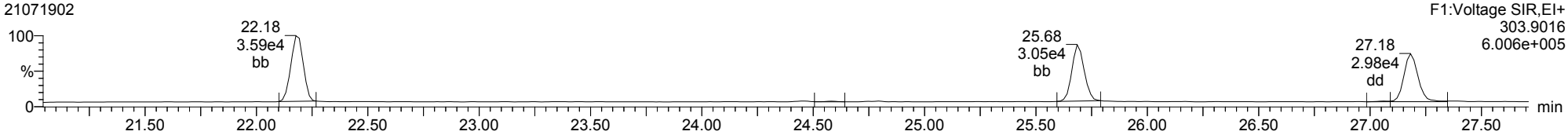
Total-tetrafurans



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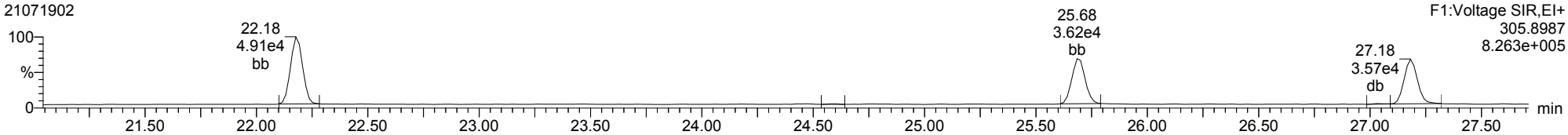

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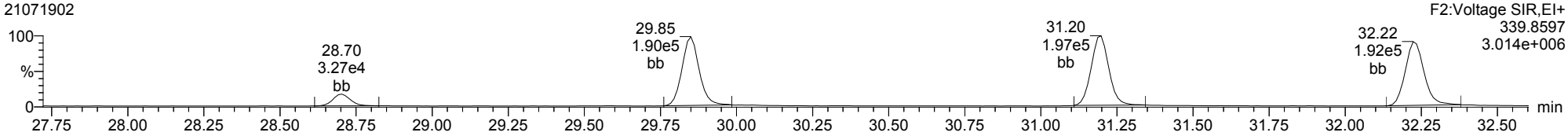

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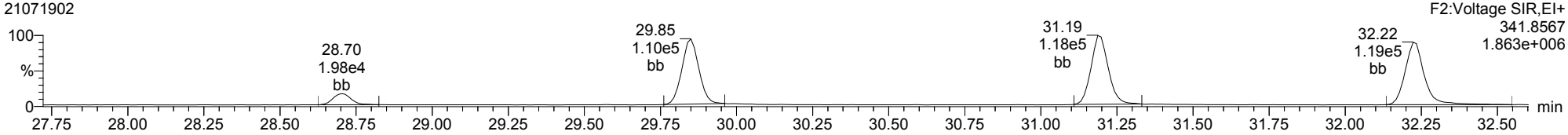

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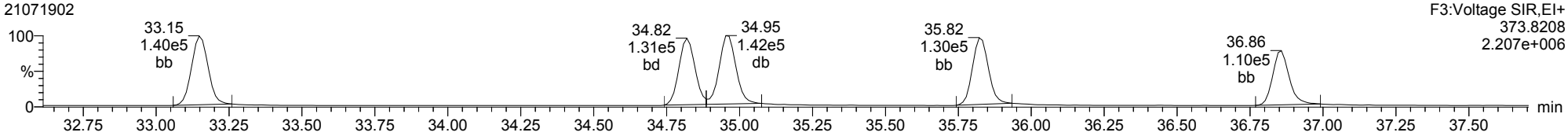
Printed: Tuesday, July 20, 2021 11:18:34 Pacific Daylight Time

ID: CS3E1, Name: 21071902, Date: 19-Jul-2021, Time: 11:08:08, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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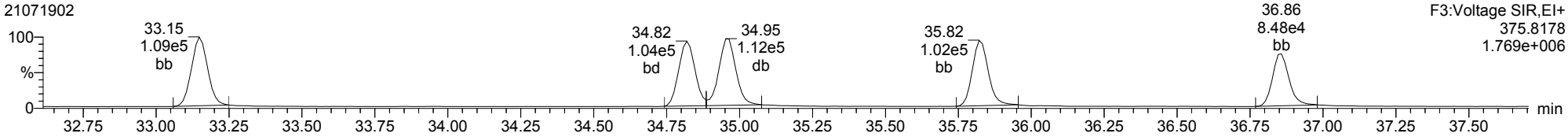

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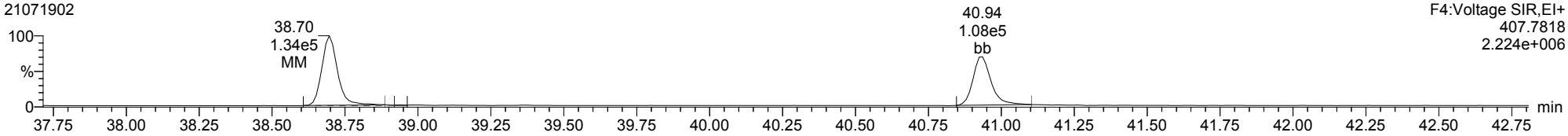

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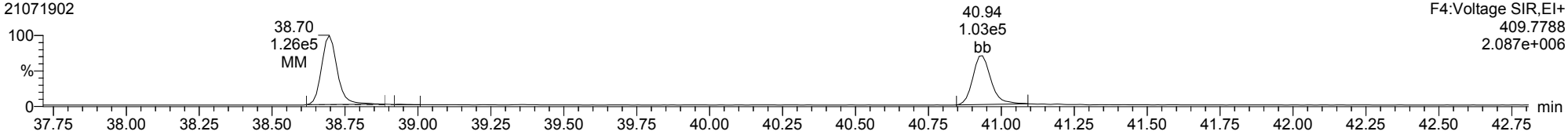

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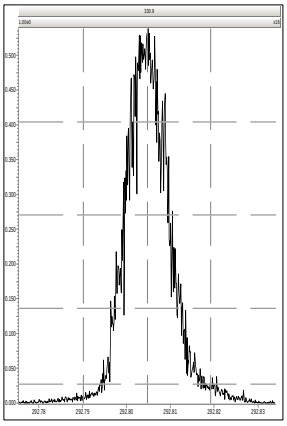

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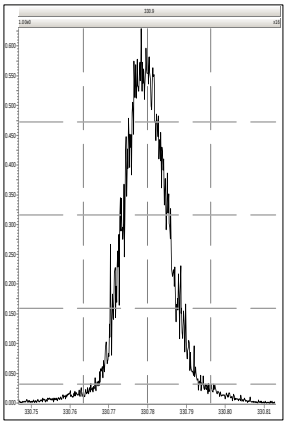

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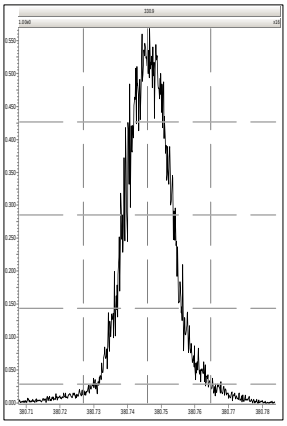

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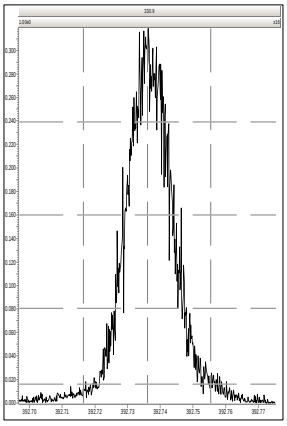
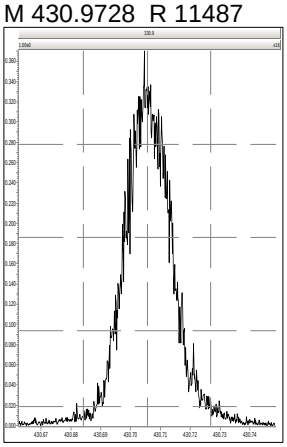


M 430.9728 R 11487



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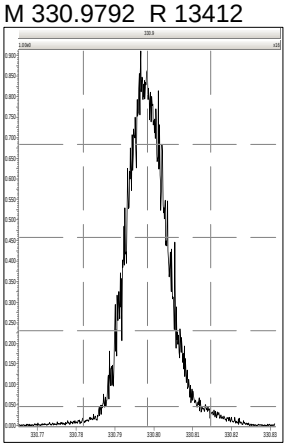
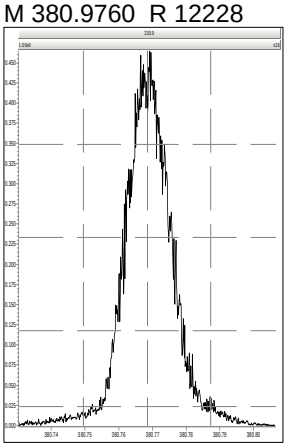
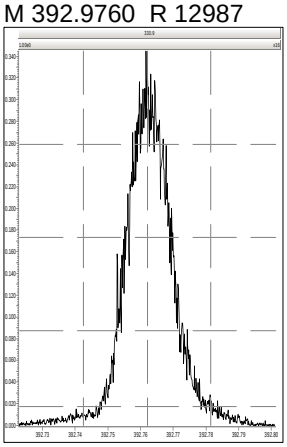


M 380.9760 R 12228



M 392.9760 R 12987



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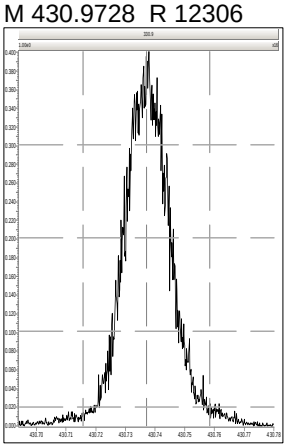
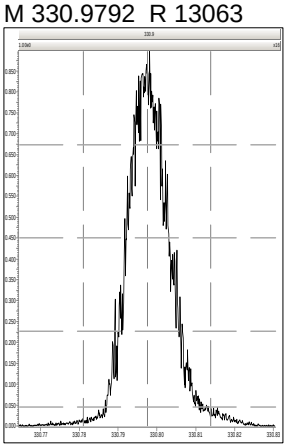


M 330.9792 R 13063



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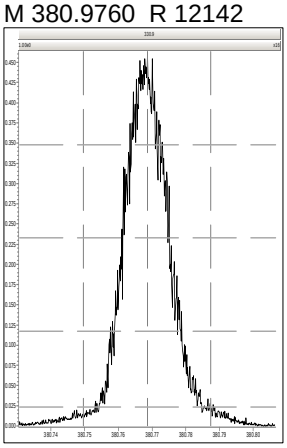
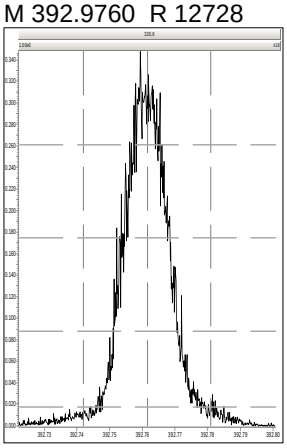


M 392.9760 R 12728



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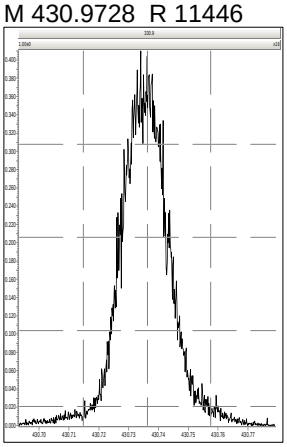

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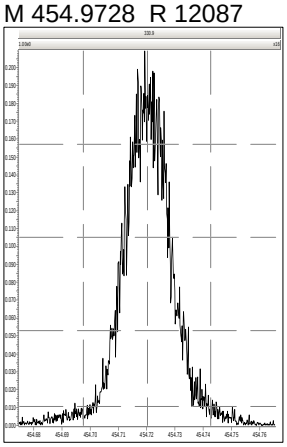
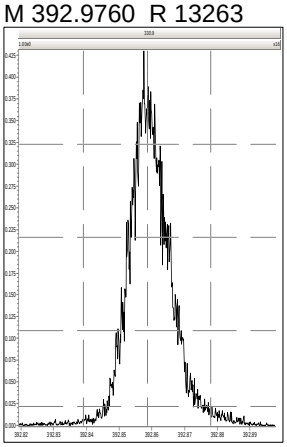
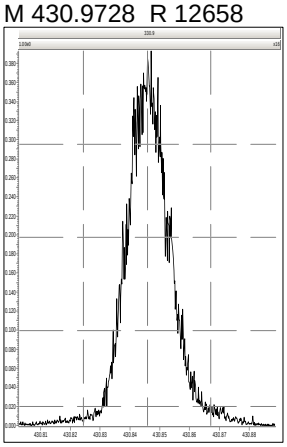


M 392.9760 R 13263



M 430.9728 R 12658



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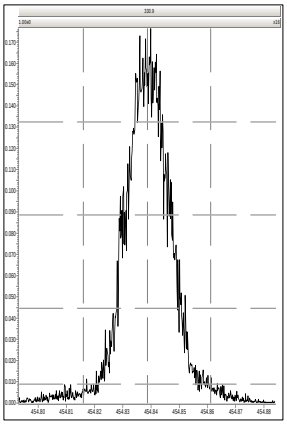
M 454.9728 R 12953



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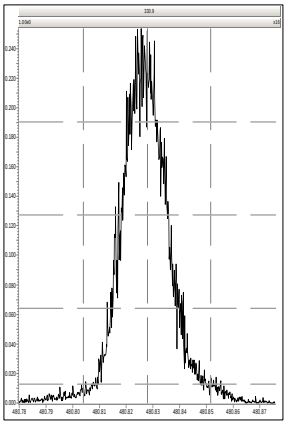

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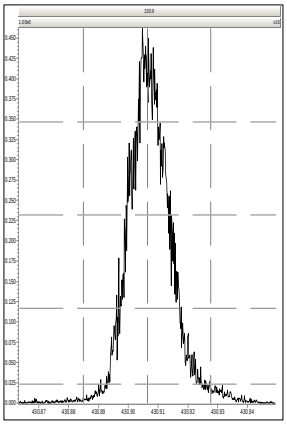

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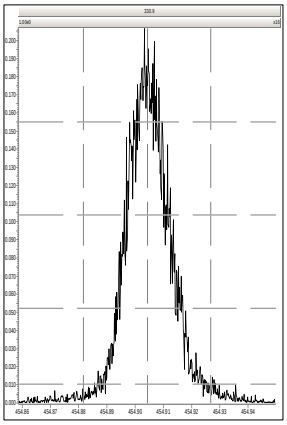

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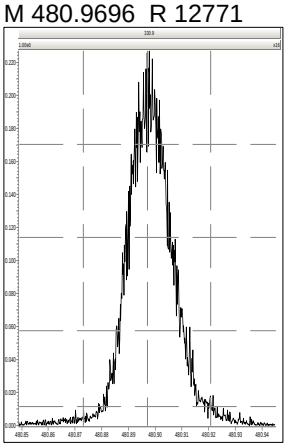

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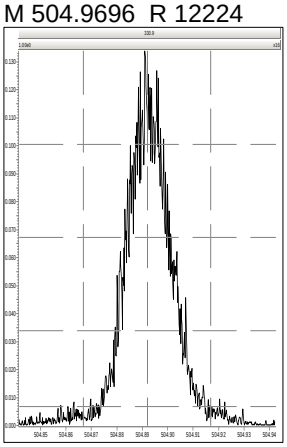
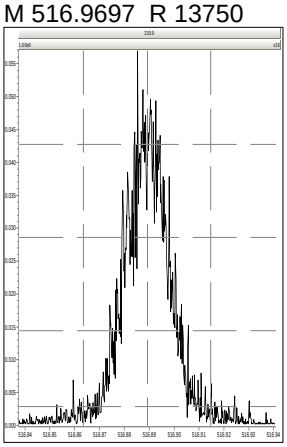
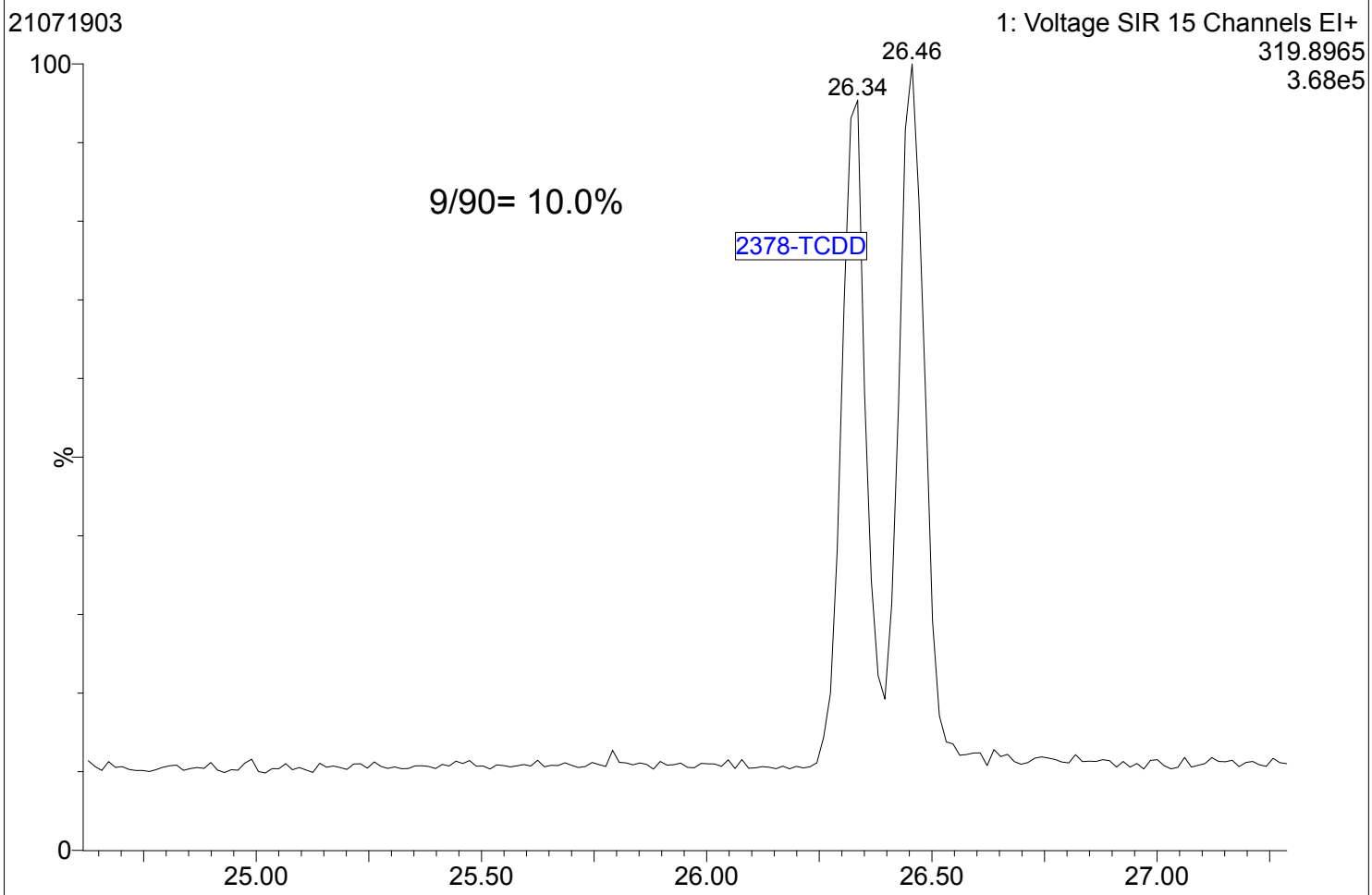
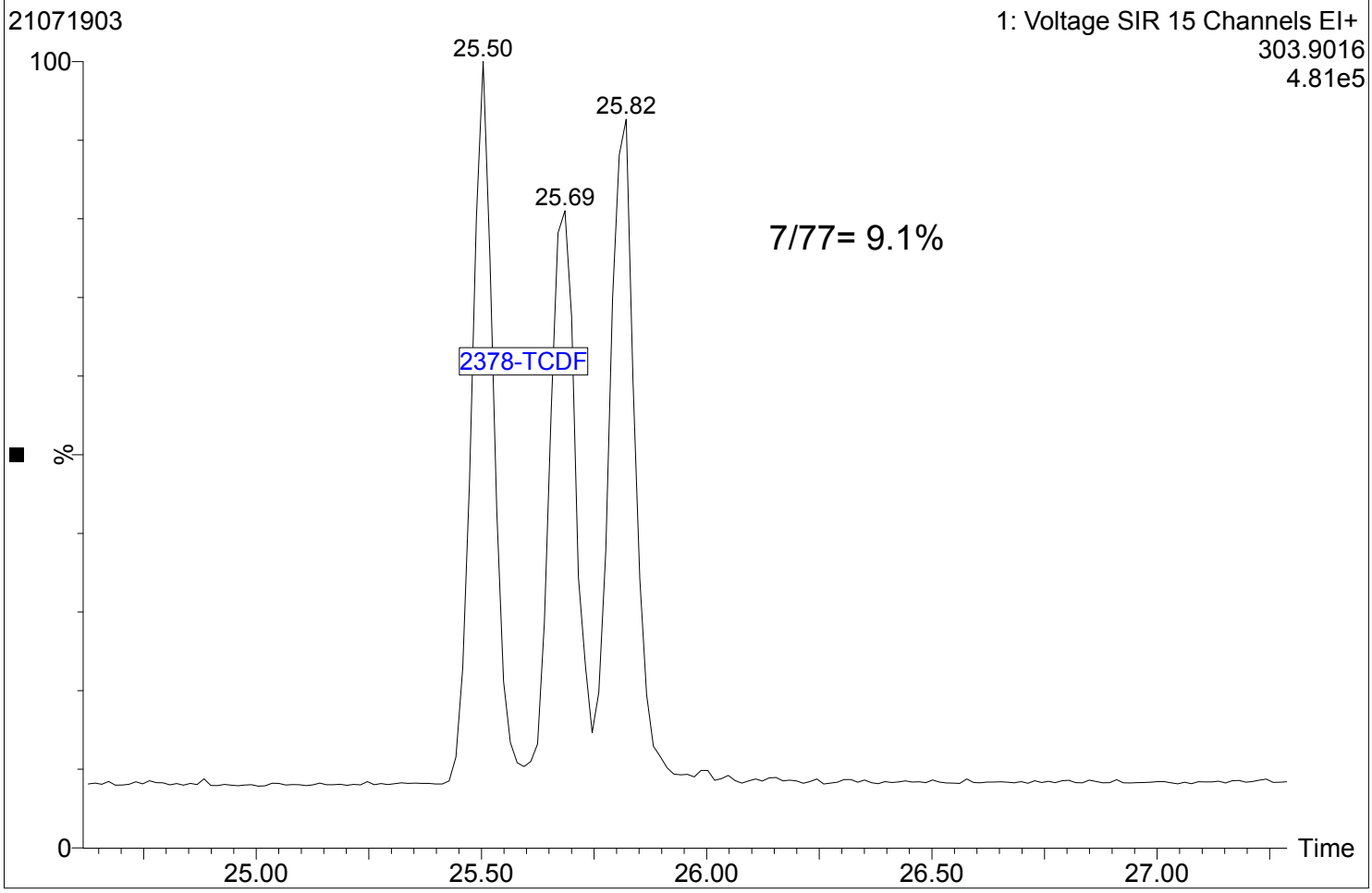


M 516.9697 R 13750




21071903
1: Voltage SIR 15 Channels EI+
319.8965
3.68e5
100
%
0
26.34
26.46
9/90= 10.0%
2378-TCDD
25.00
25.50
26.00
26.50
27.00


21071903
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4.81e5
100
%
0
25.50
25.69
25.82
7/77= 9.1%
2378-TCDF
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:	21F0442
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:	21F0442
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
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

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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

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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

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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

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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

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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		

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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

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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

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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		

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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		

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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

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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

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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

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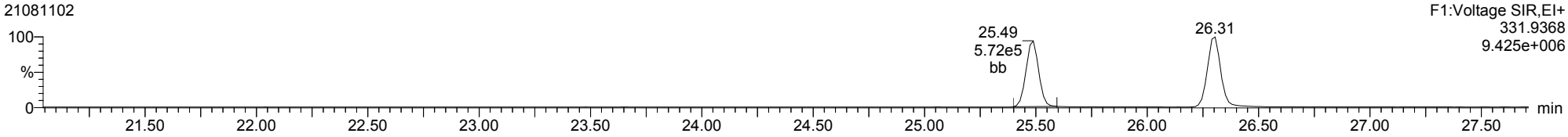
13C-1234-TCDD



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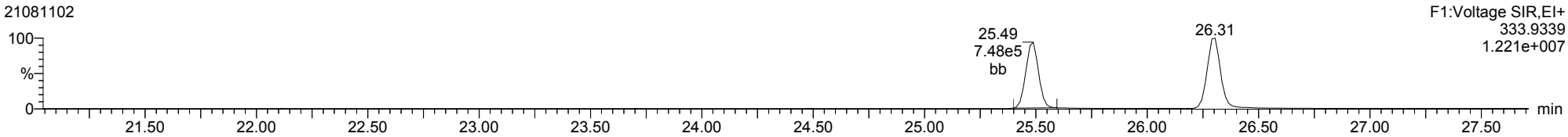

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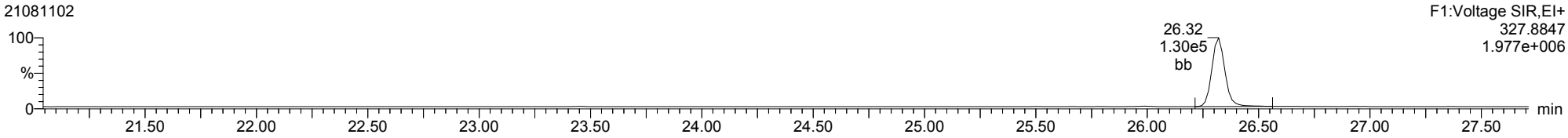

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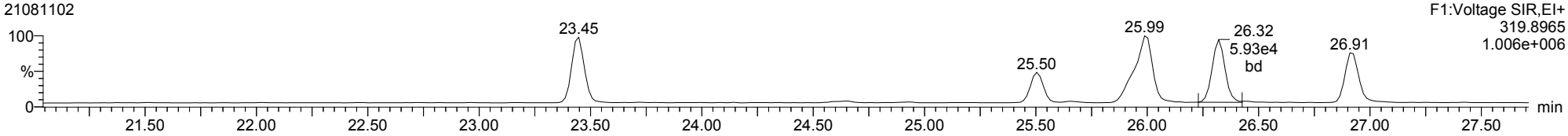

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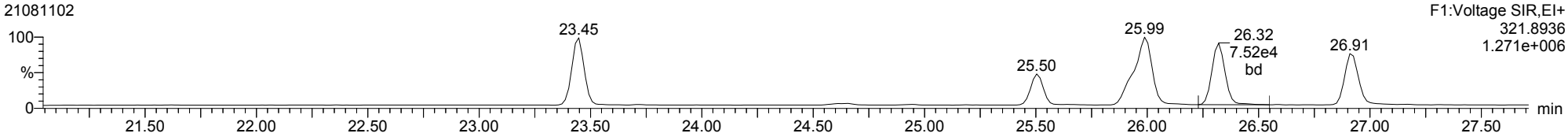

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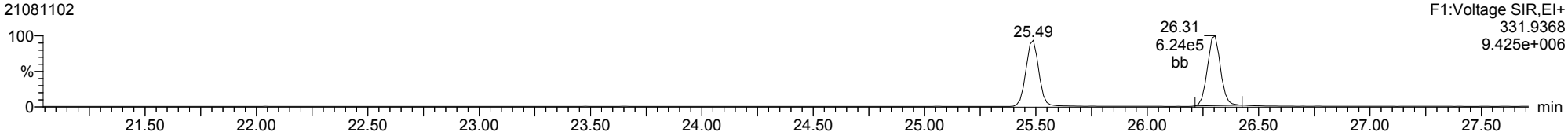

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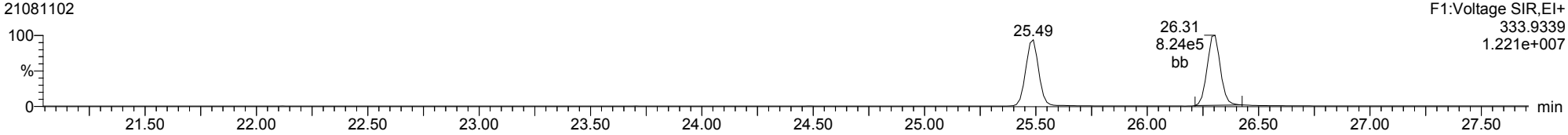
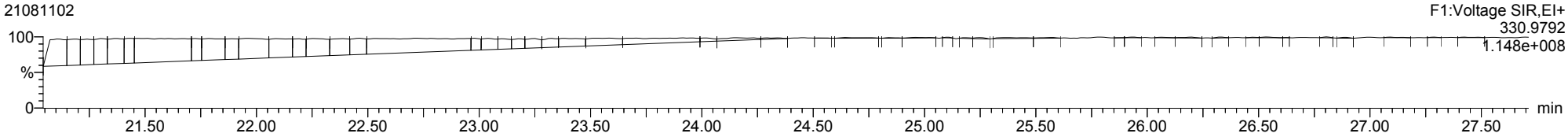


FUNCTION1 PFK



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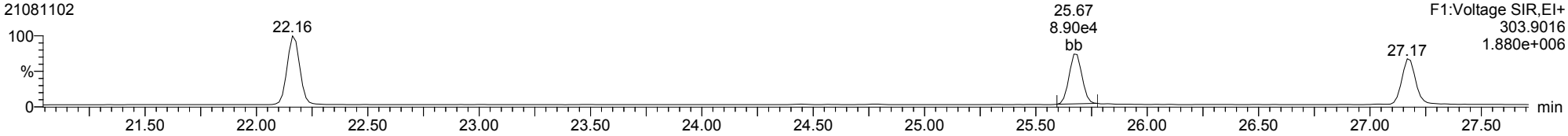
2378-TCDF



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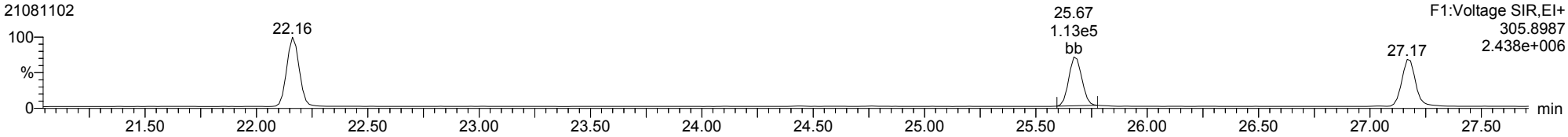

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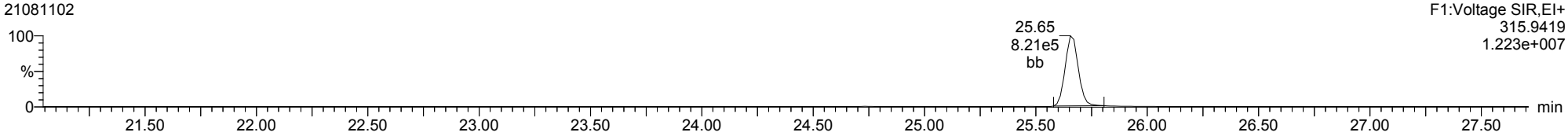

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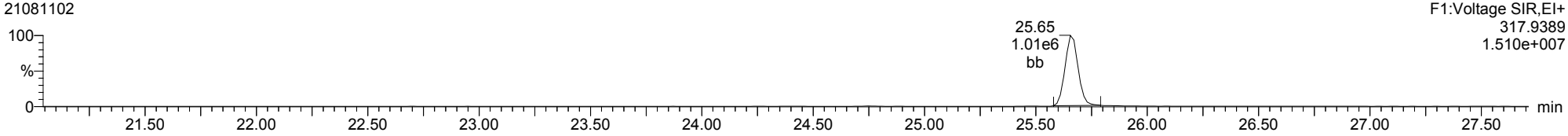

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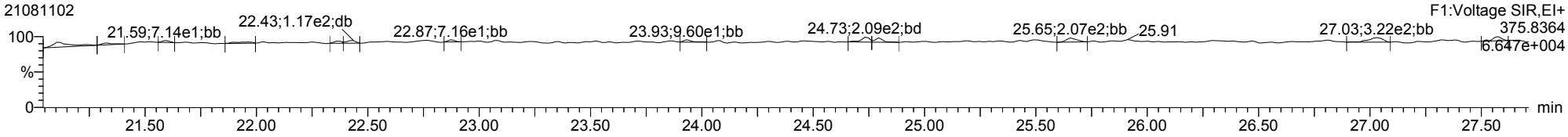

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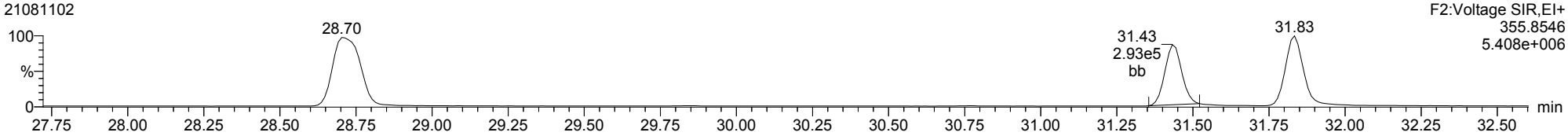
12378-PeCDD



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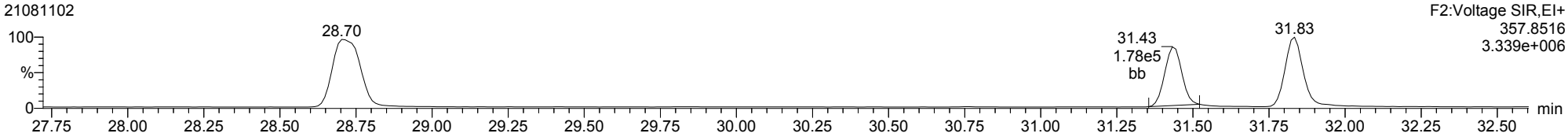

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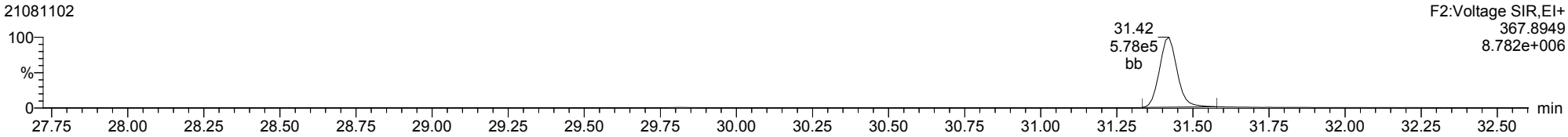

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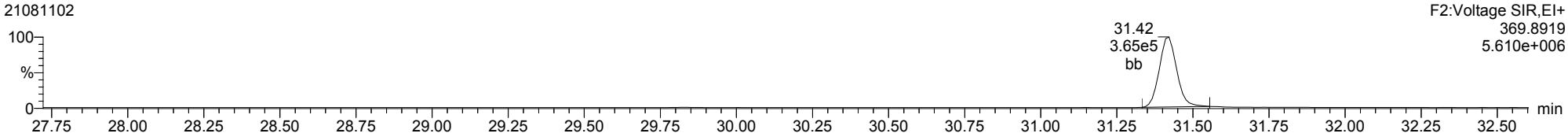
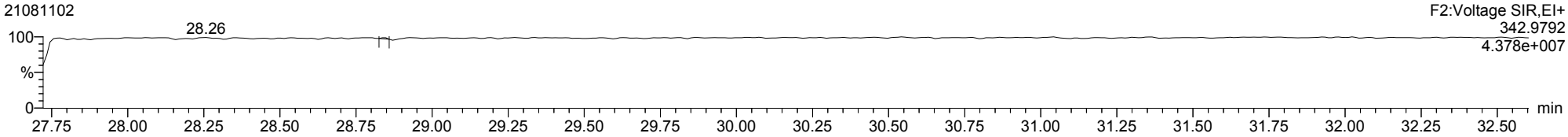


FUNCTION2 PFK



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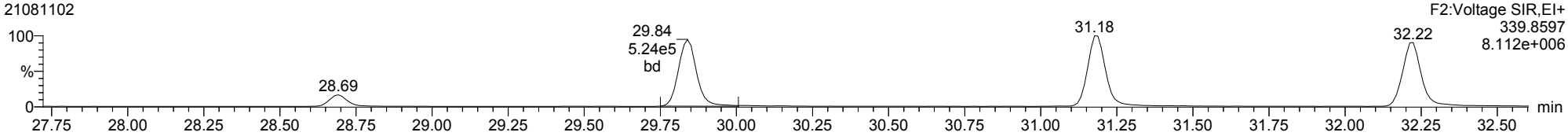
12378-PeCDF



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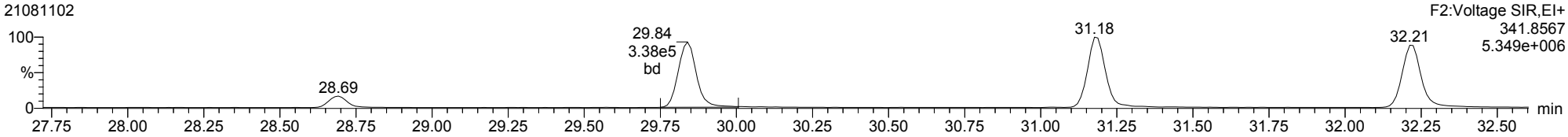

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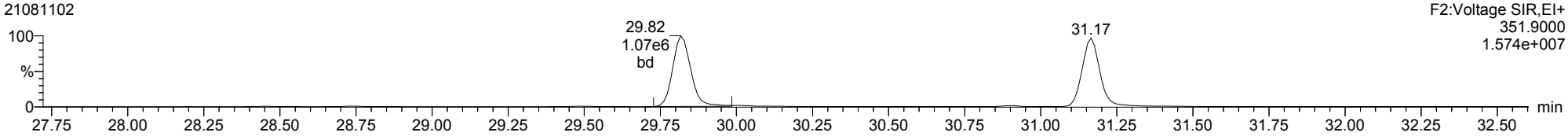

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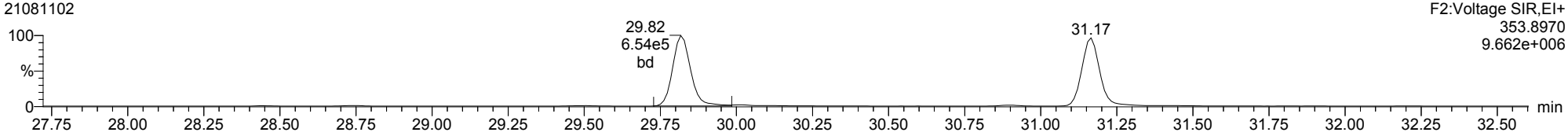

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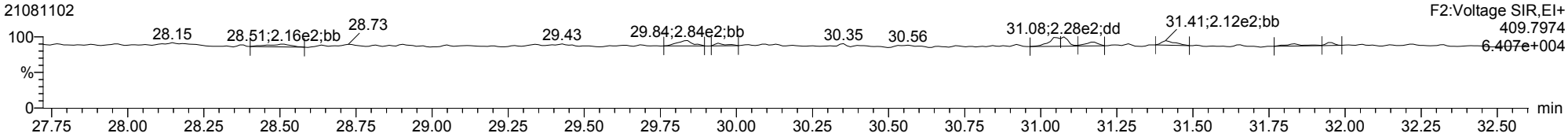

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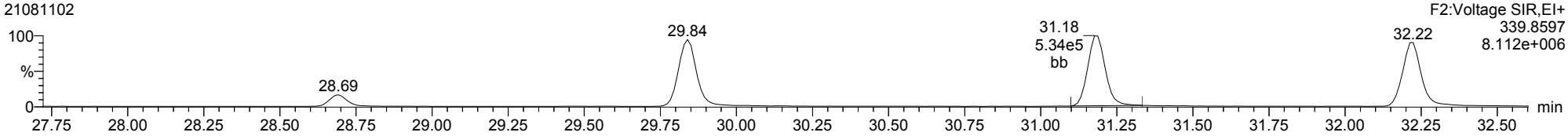
23478-PeCDF



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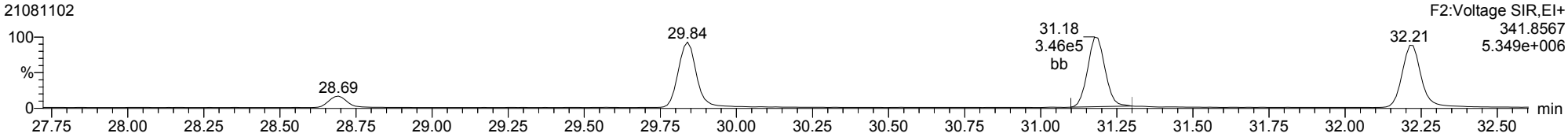

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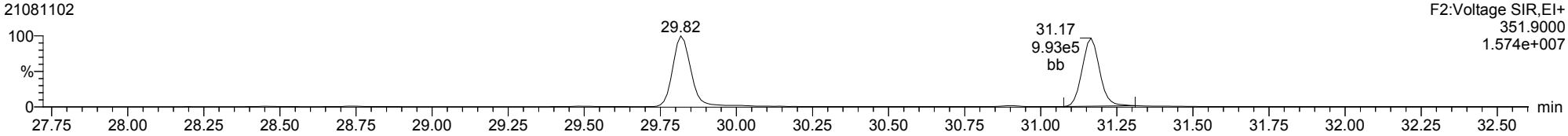

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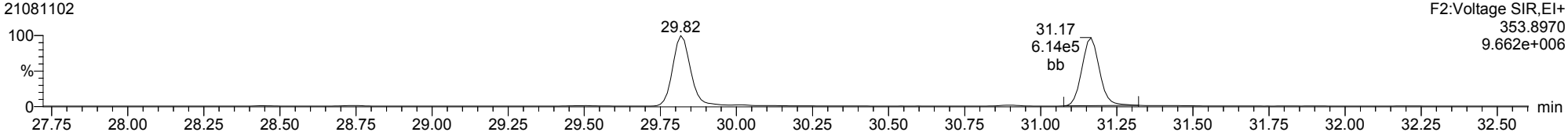

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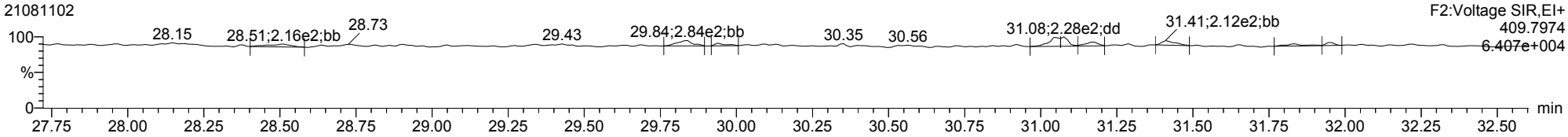

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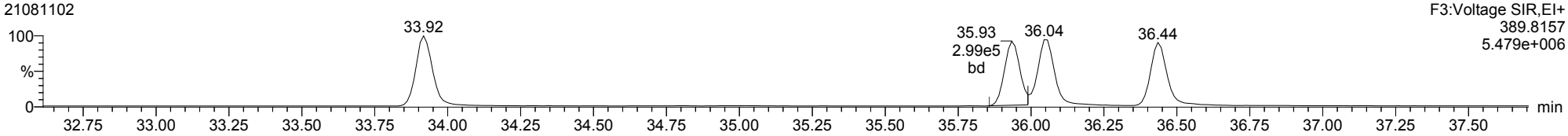

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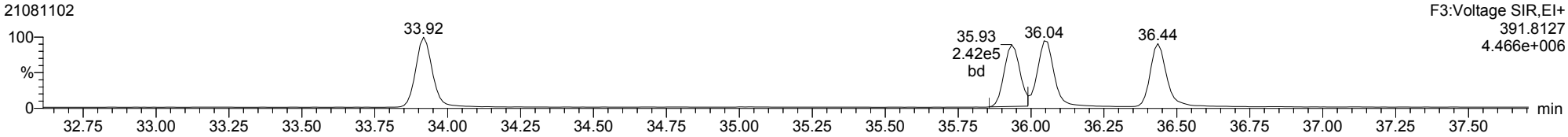

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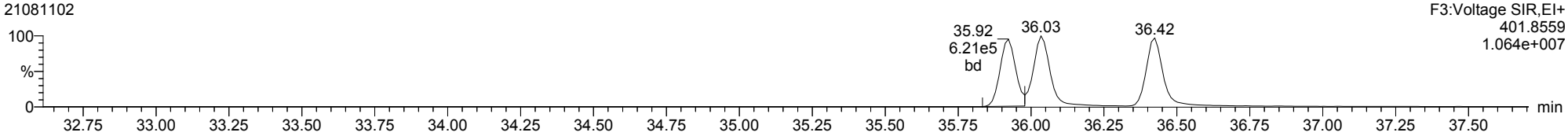

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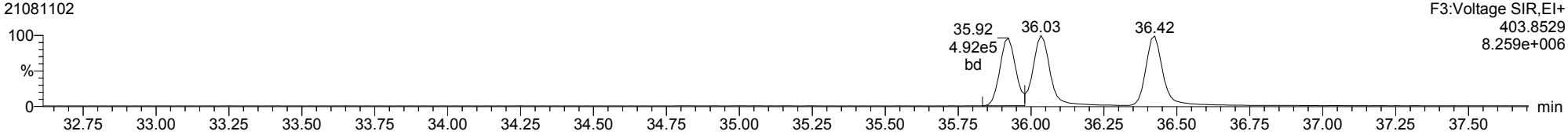

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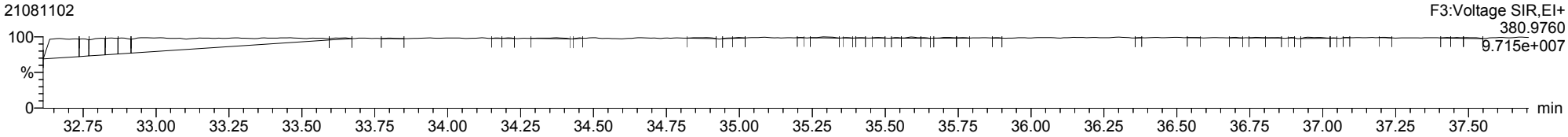

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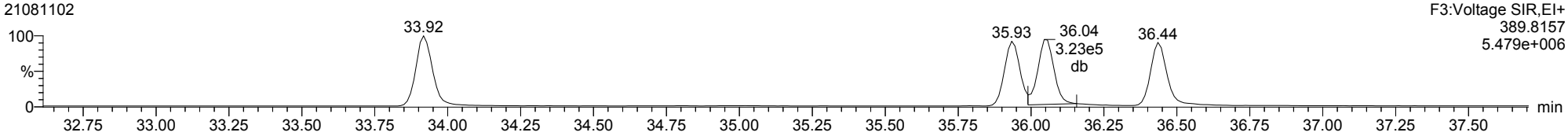

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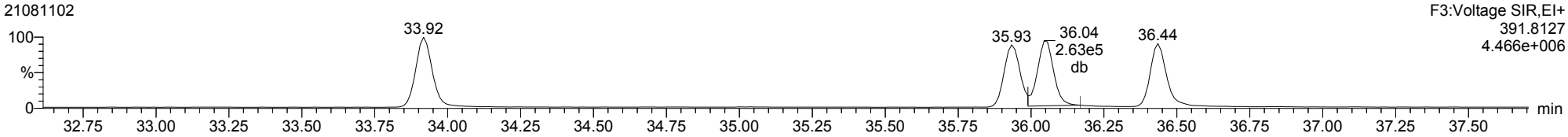

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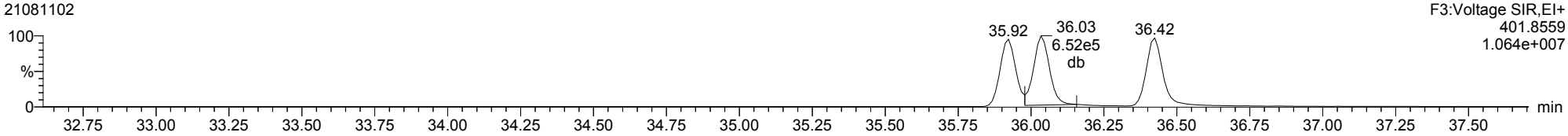

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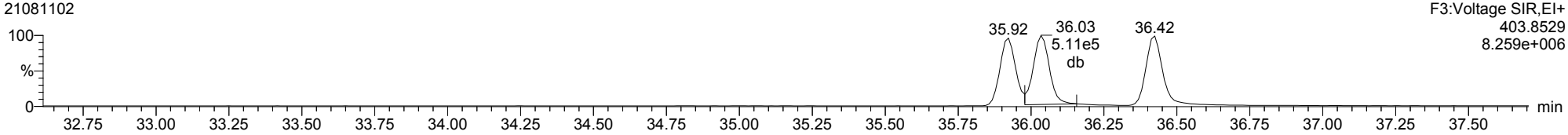

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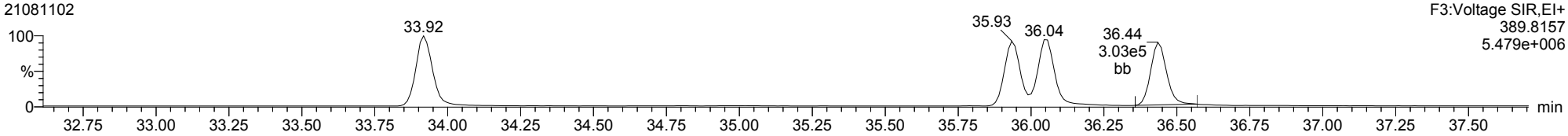

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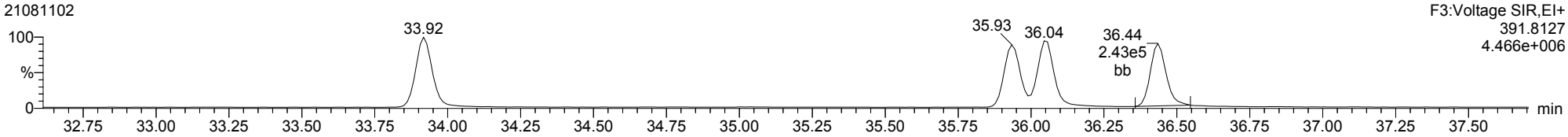

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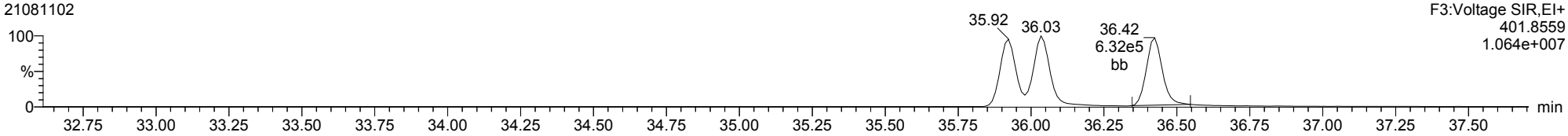

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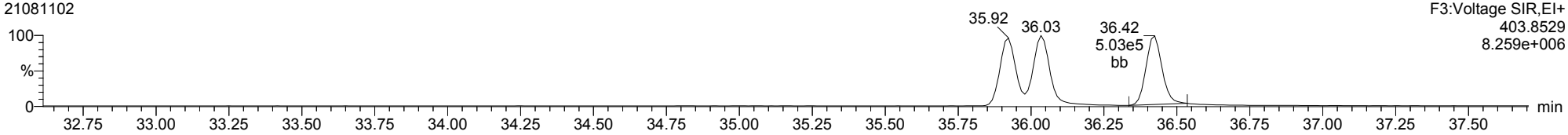

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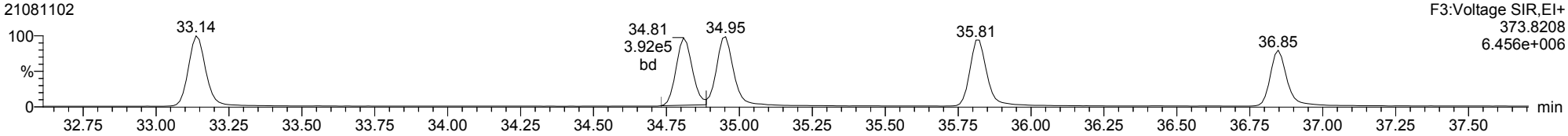

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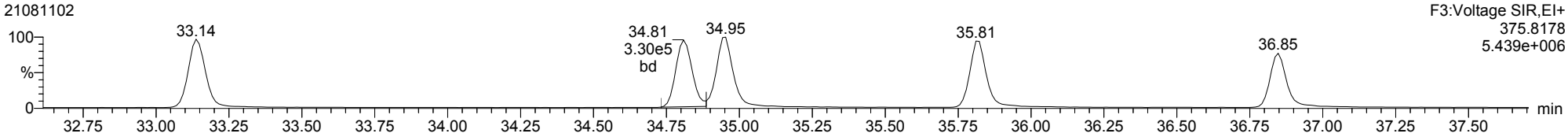

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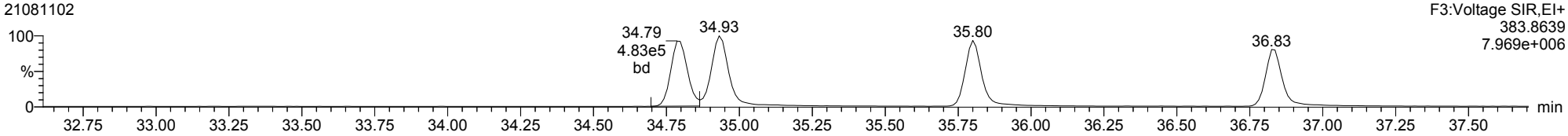

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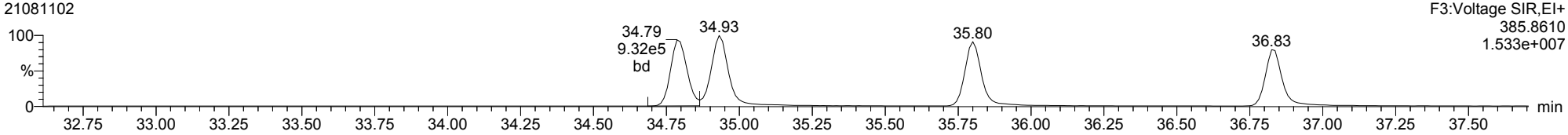

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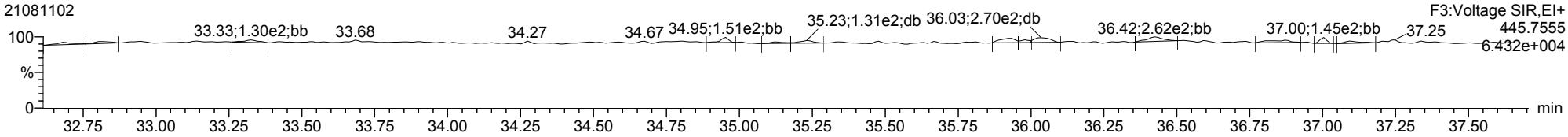

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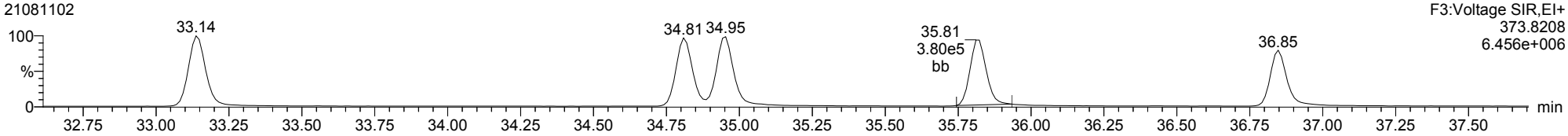
234678-HxCDF



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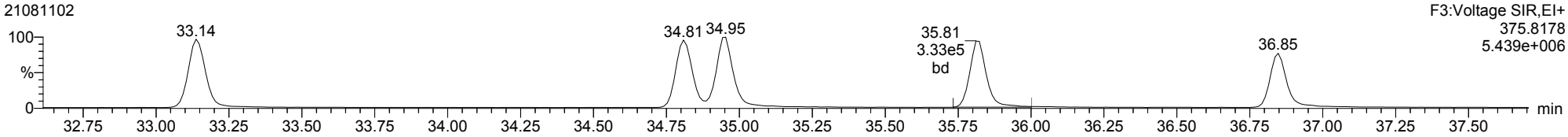

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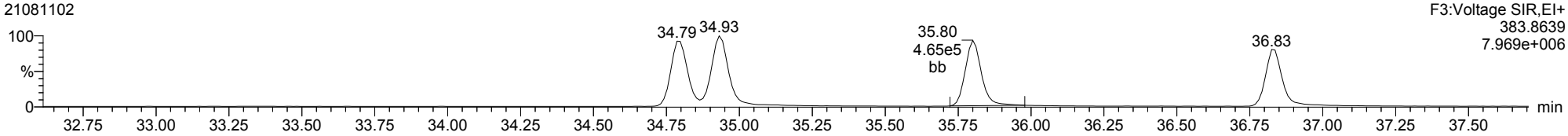

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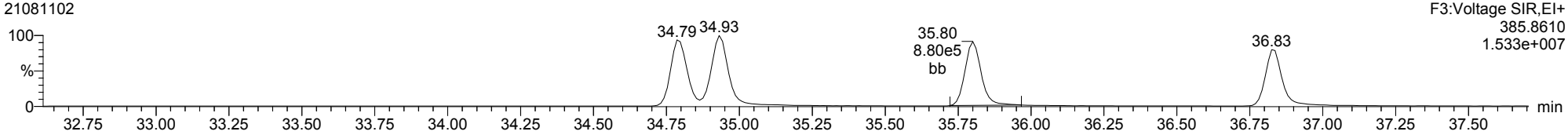

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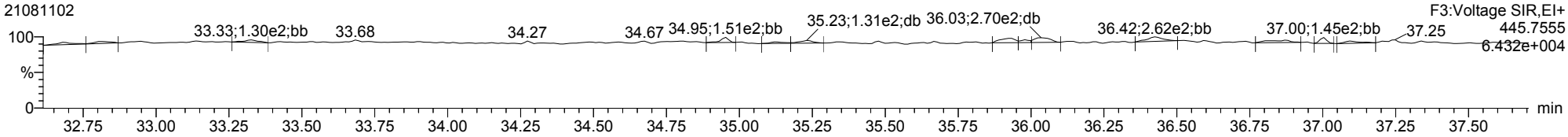

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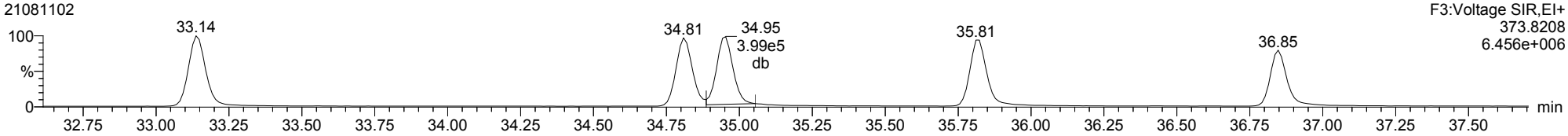

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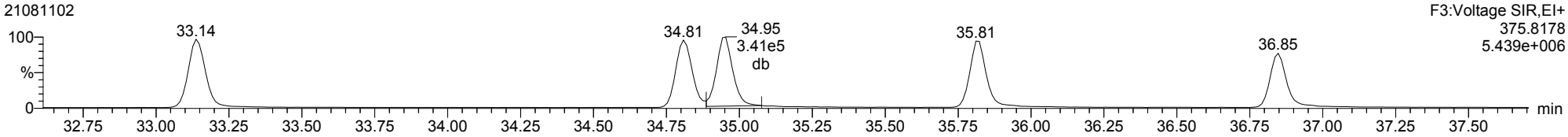

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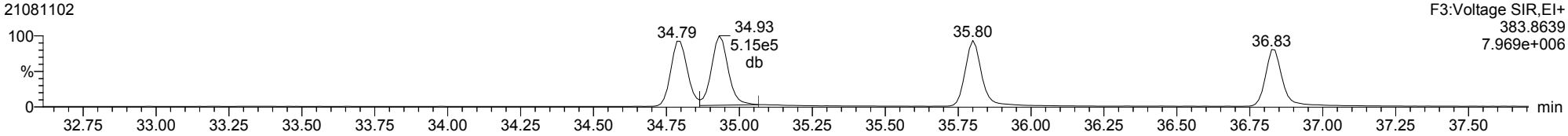

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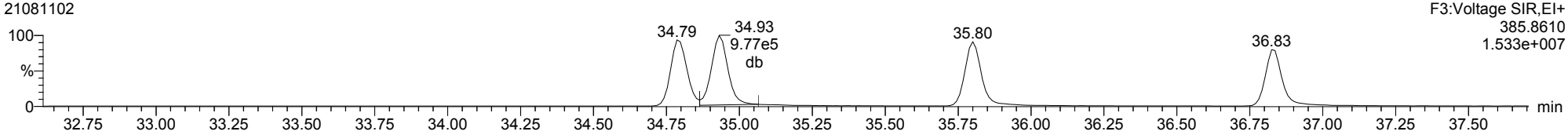

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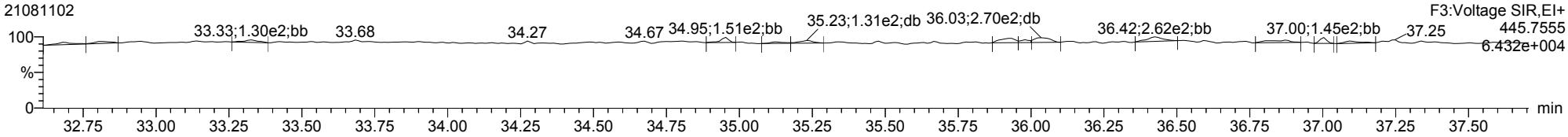

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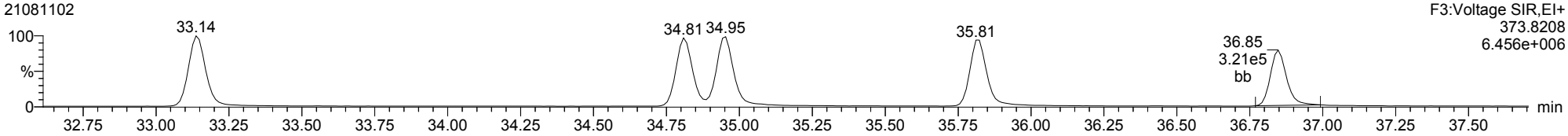

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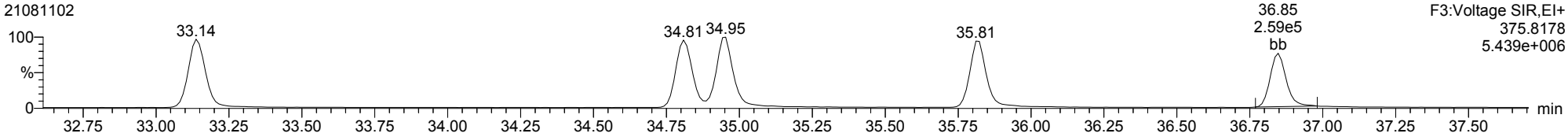

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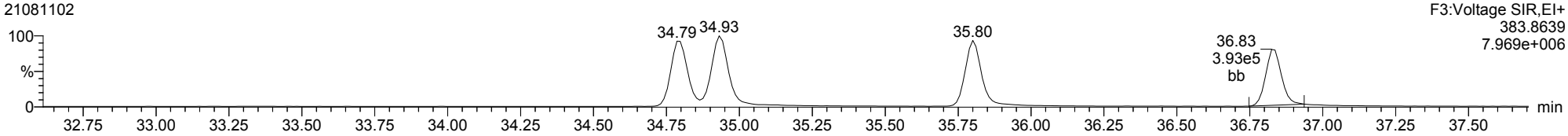

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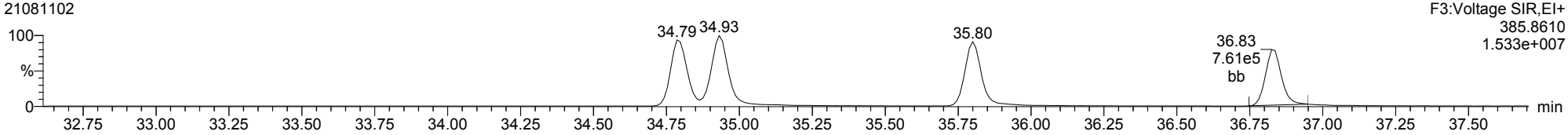
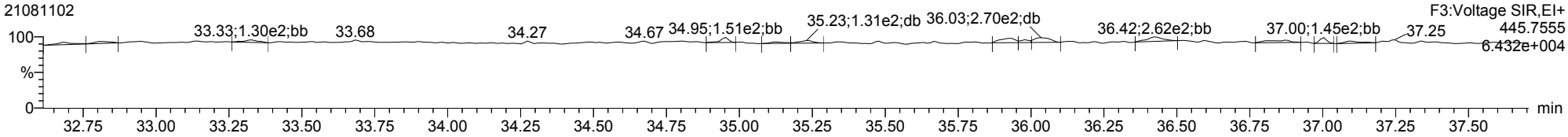


FUNCTION3 OCDPE



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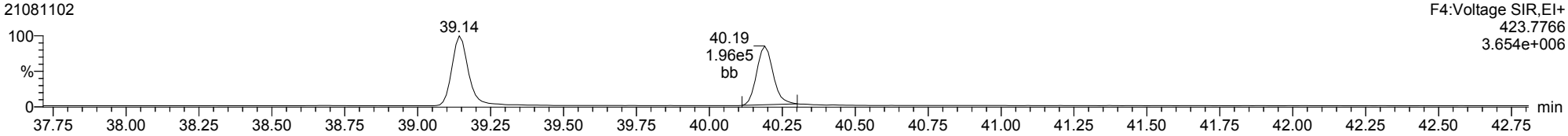
1234678-HpCDD



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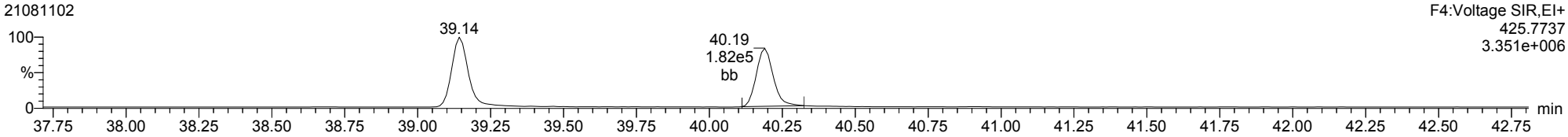

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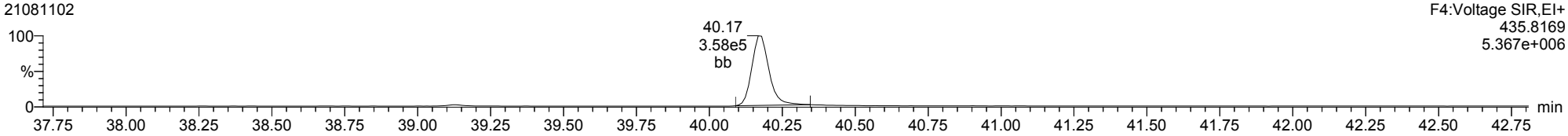

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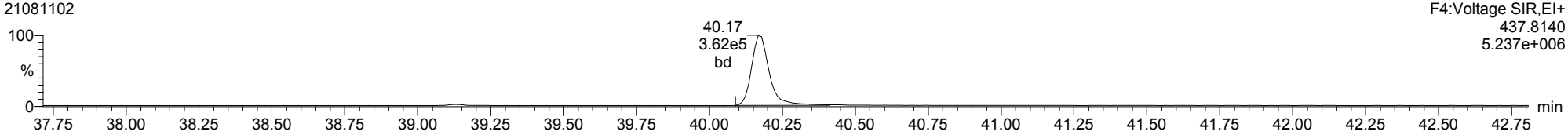
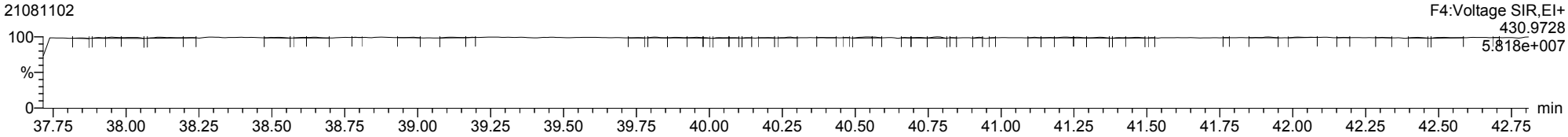


FUNCTION4 PFK



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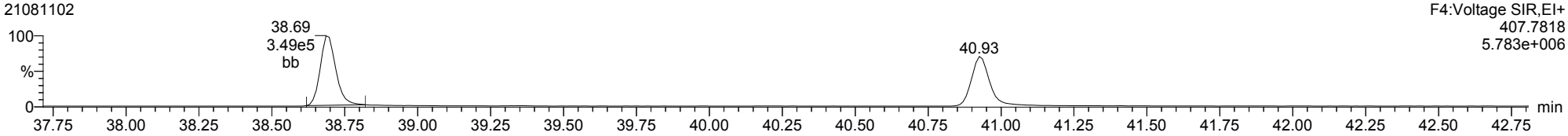

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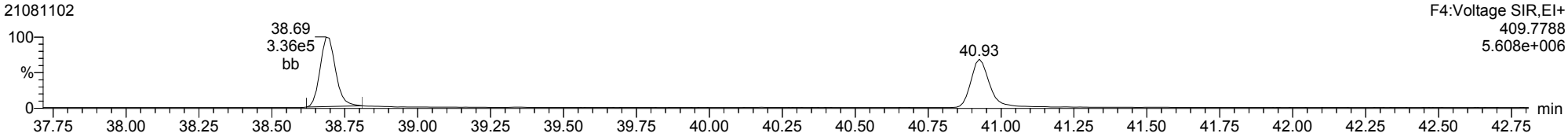

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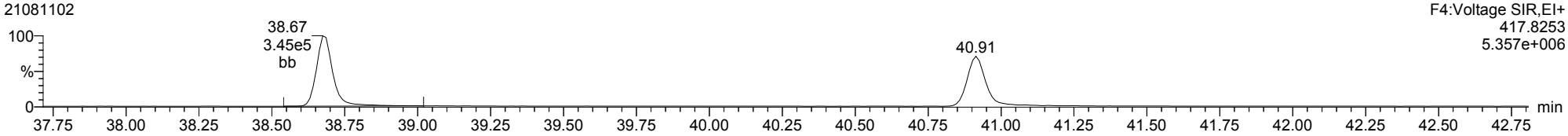

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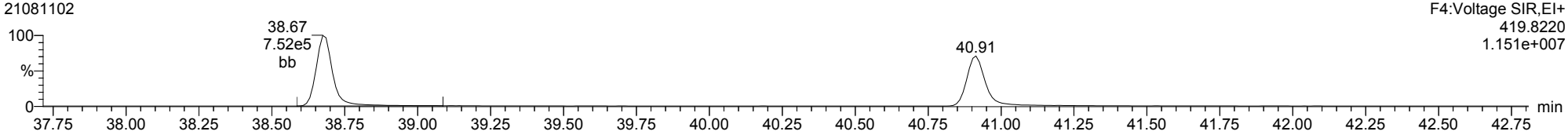
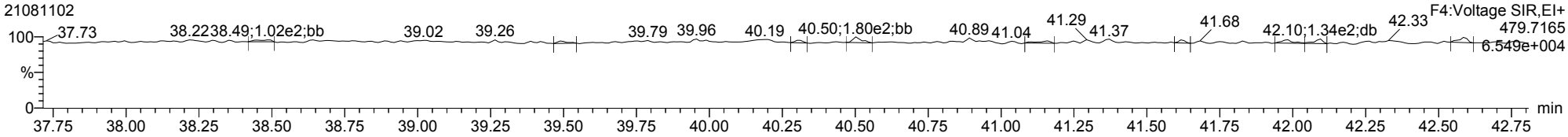


FUNCTION4 NCDPE



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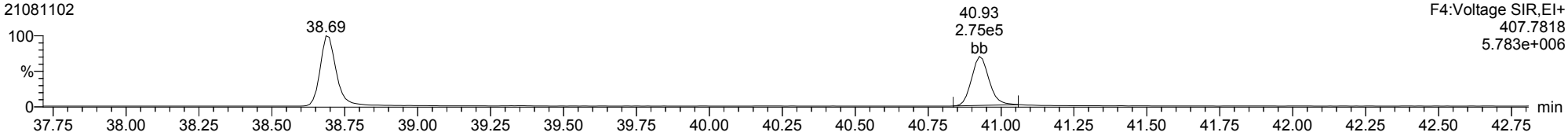

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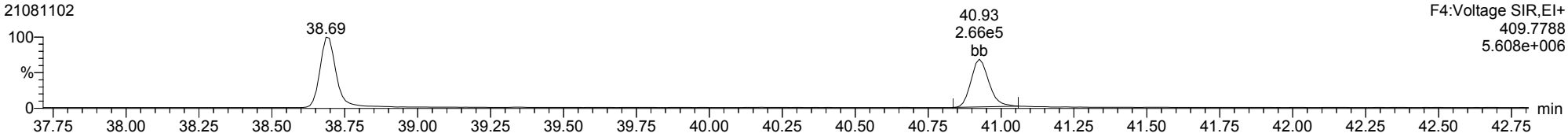

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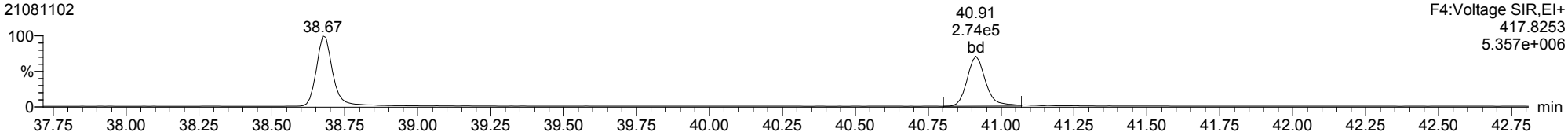

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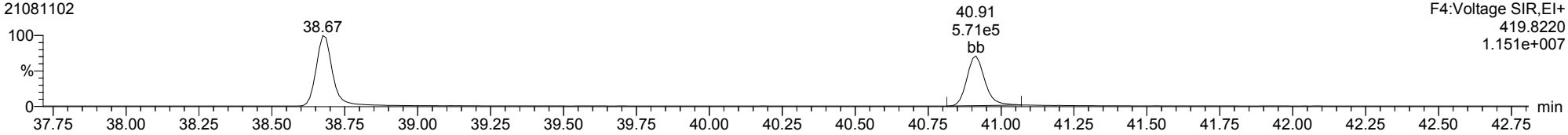

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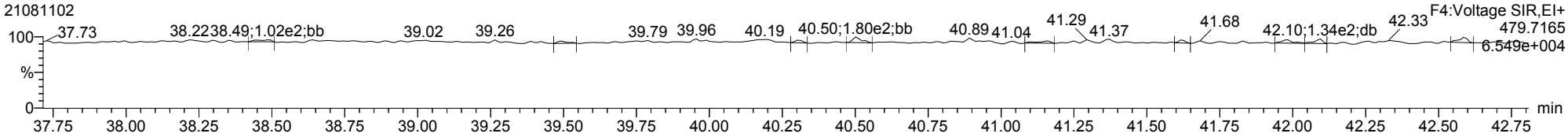

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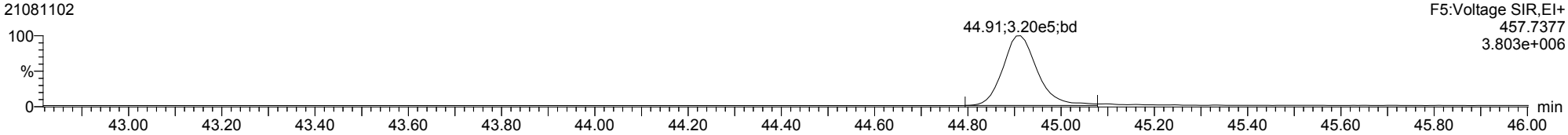

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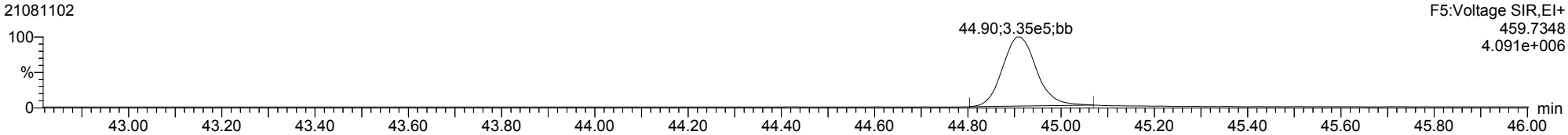

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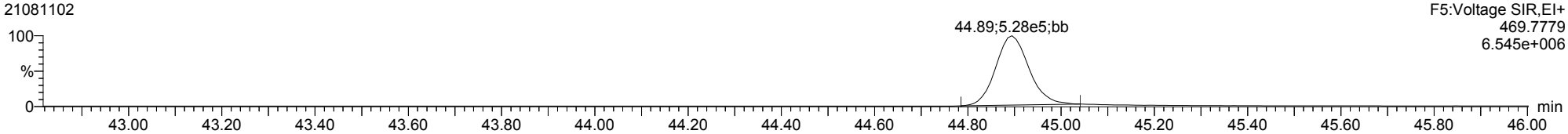

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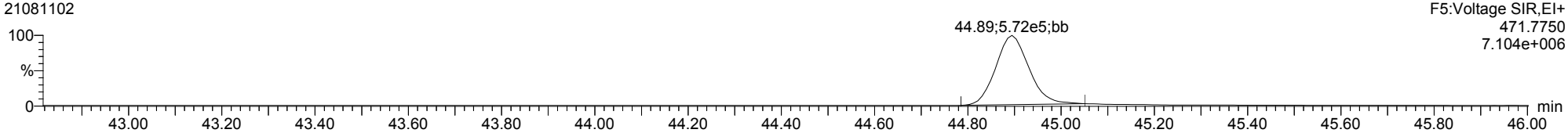

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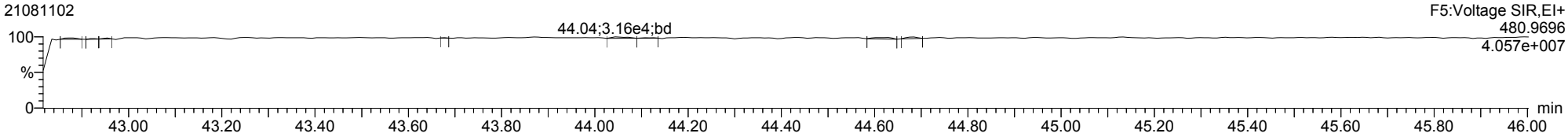

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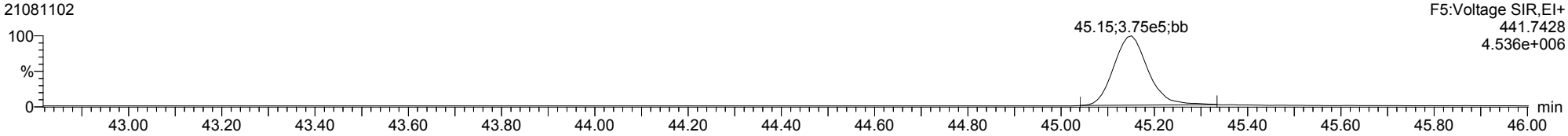

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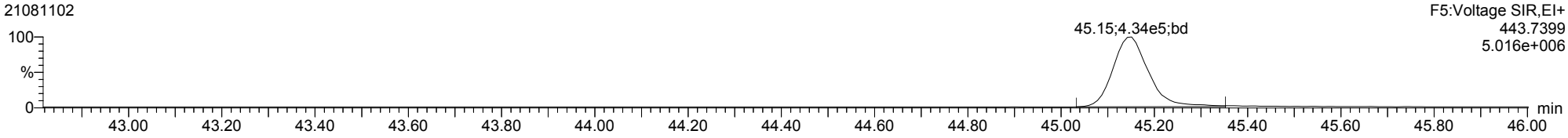

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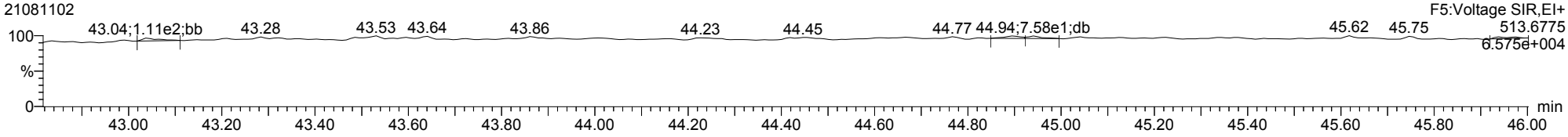

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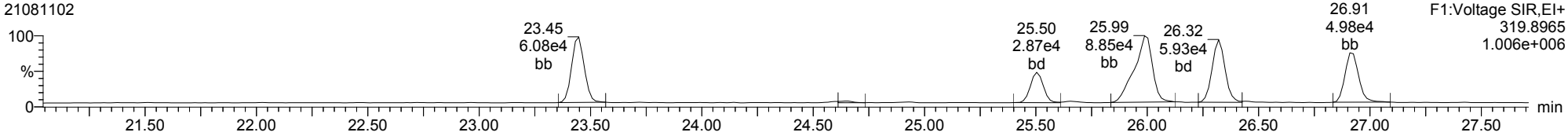

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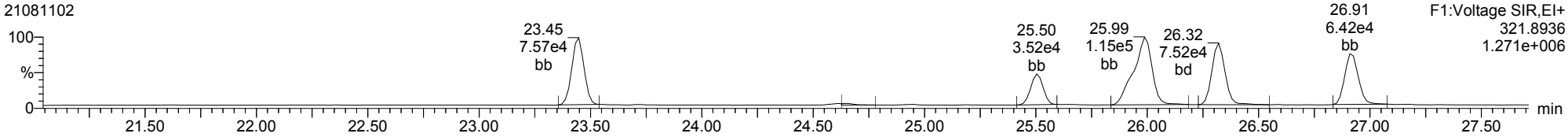

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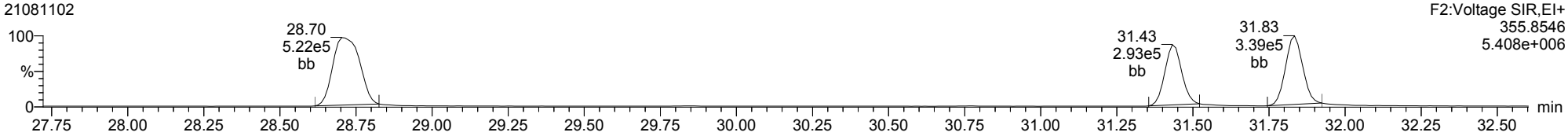

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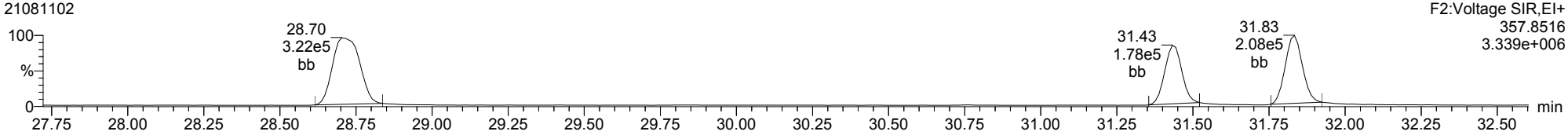

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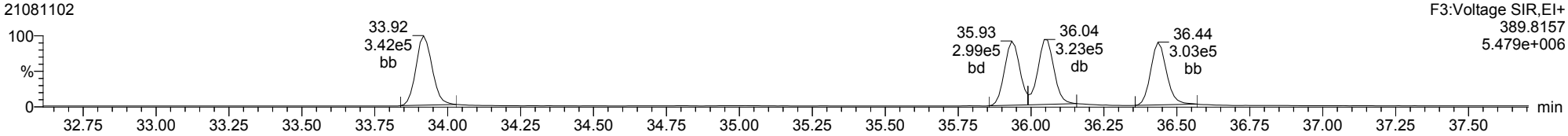

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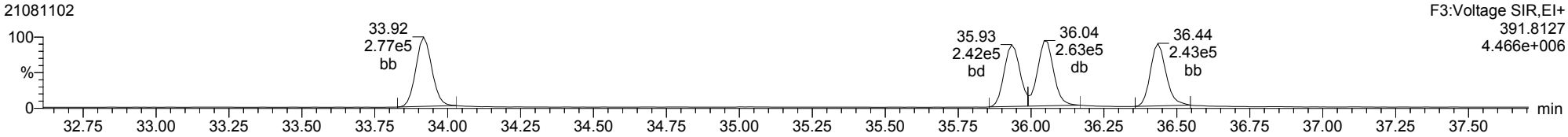

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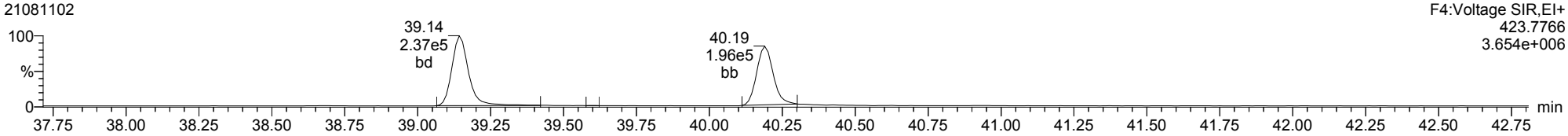

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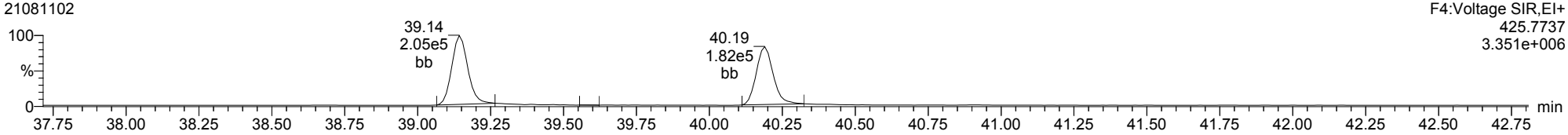

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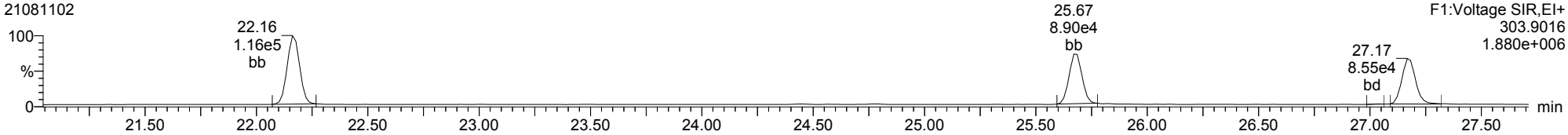

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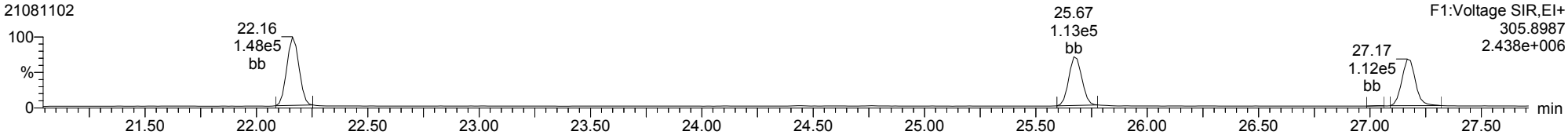

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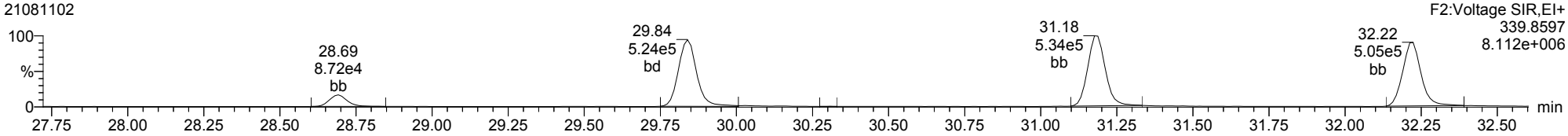

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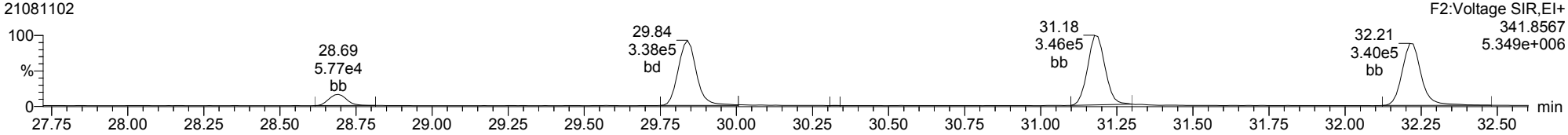

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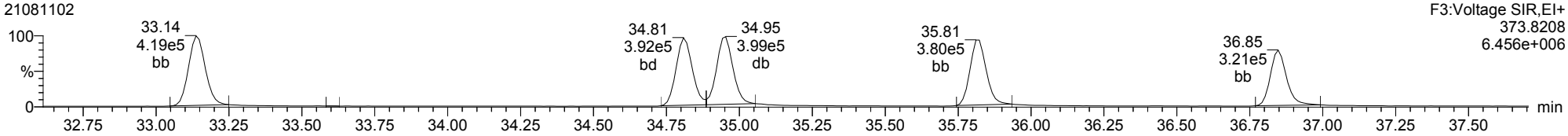

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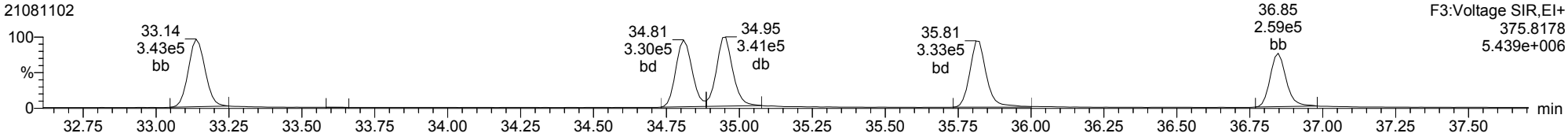

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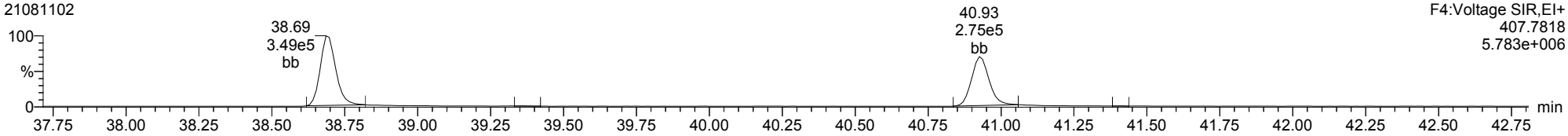

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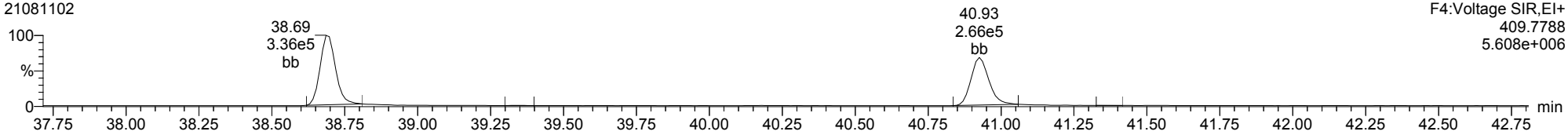

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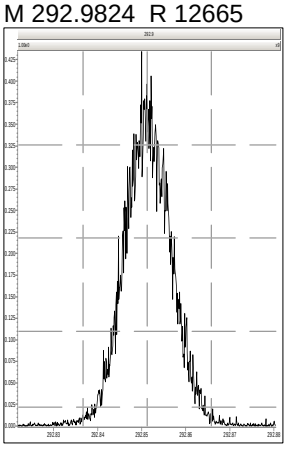

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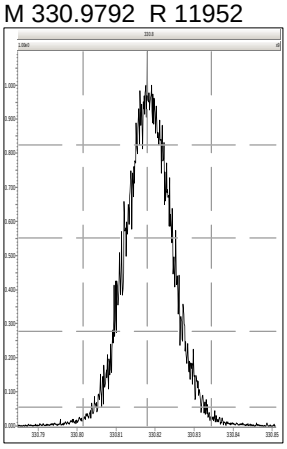

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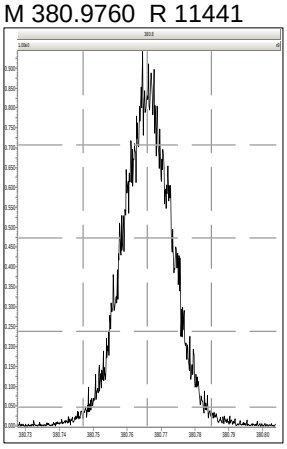

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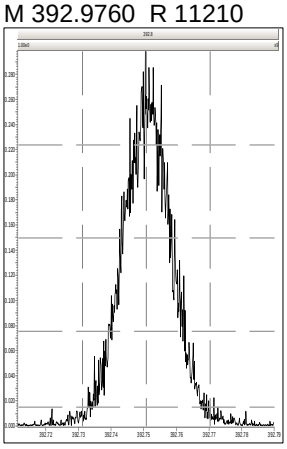

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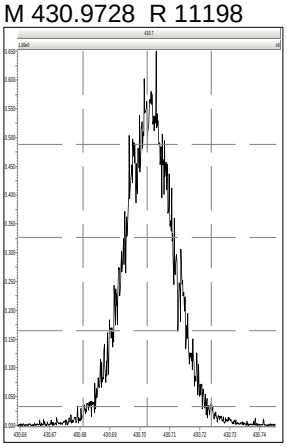

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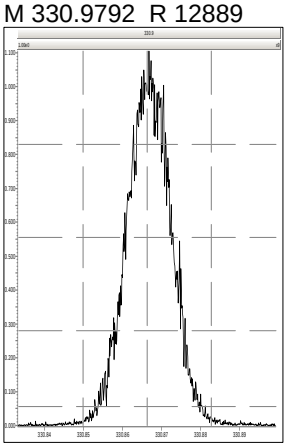

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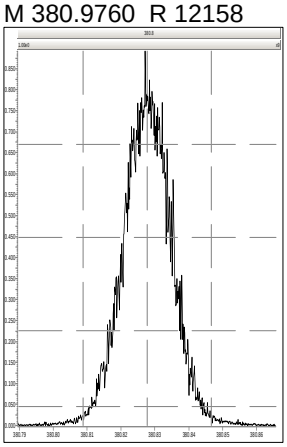

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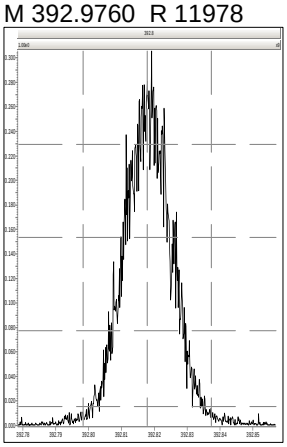

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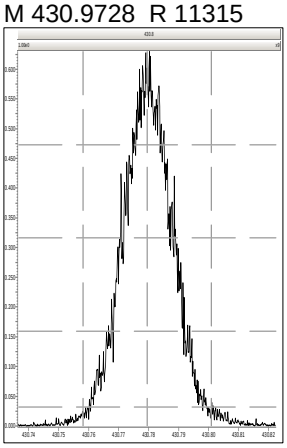

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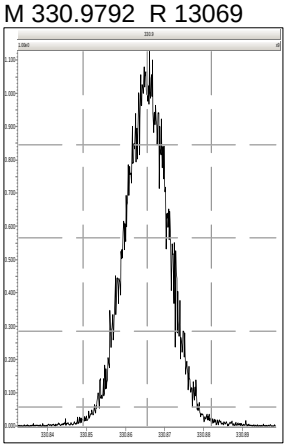

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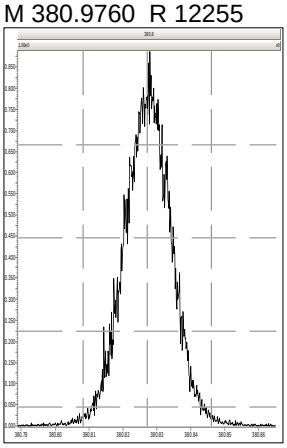

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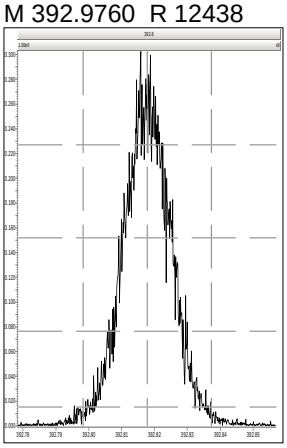

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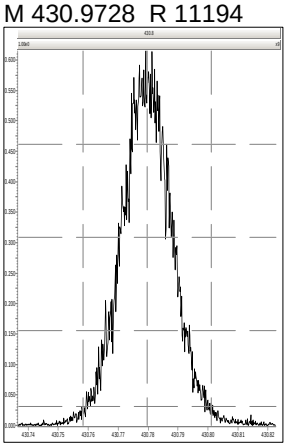

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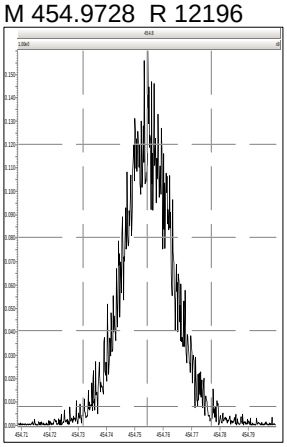

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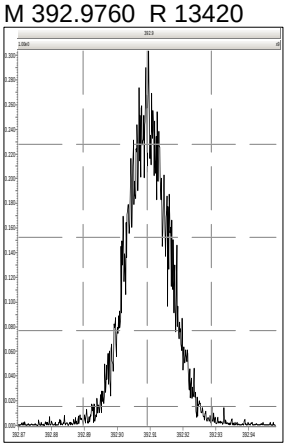
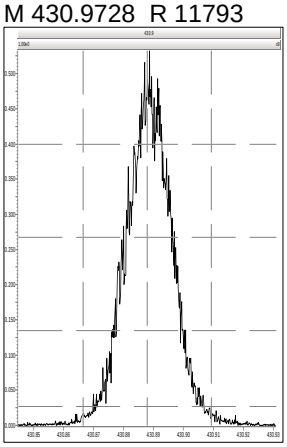


M 430.9728 R 11793



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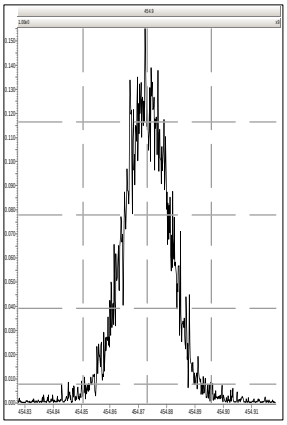
M 454.9728 R 12079



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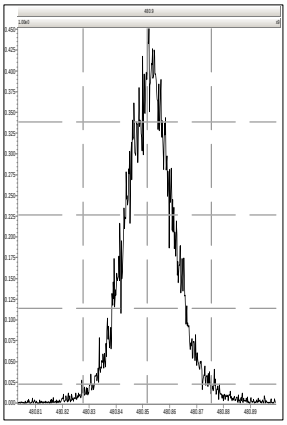

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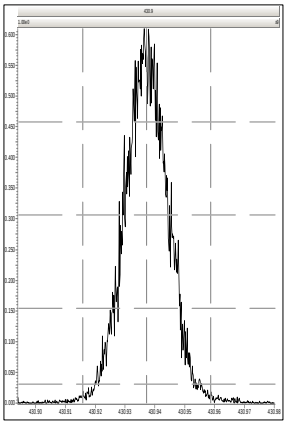

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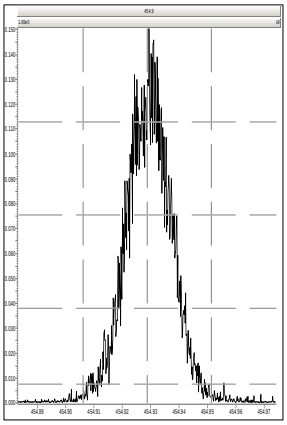

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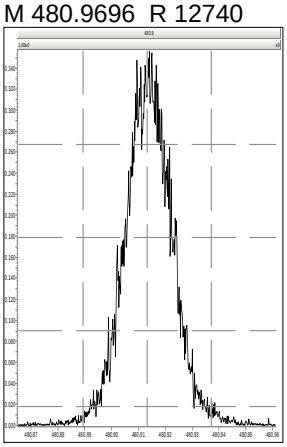
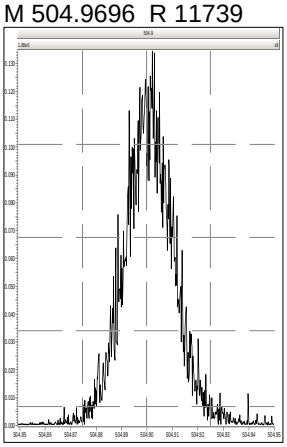
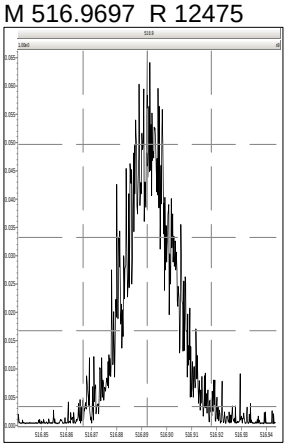
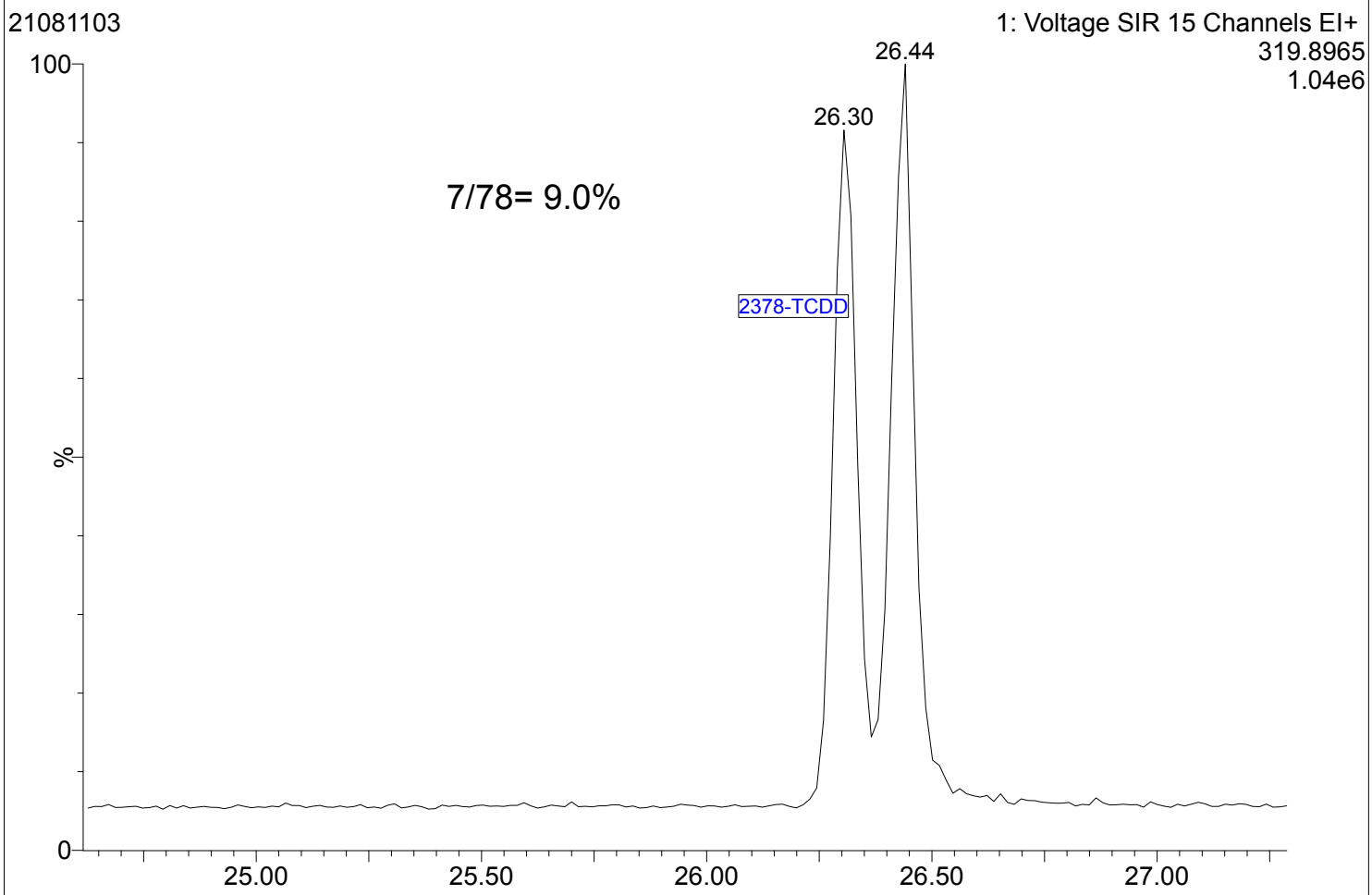


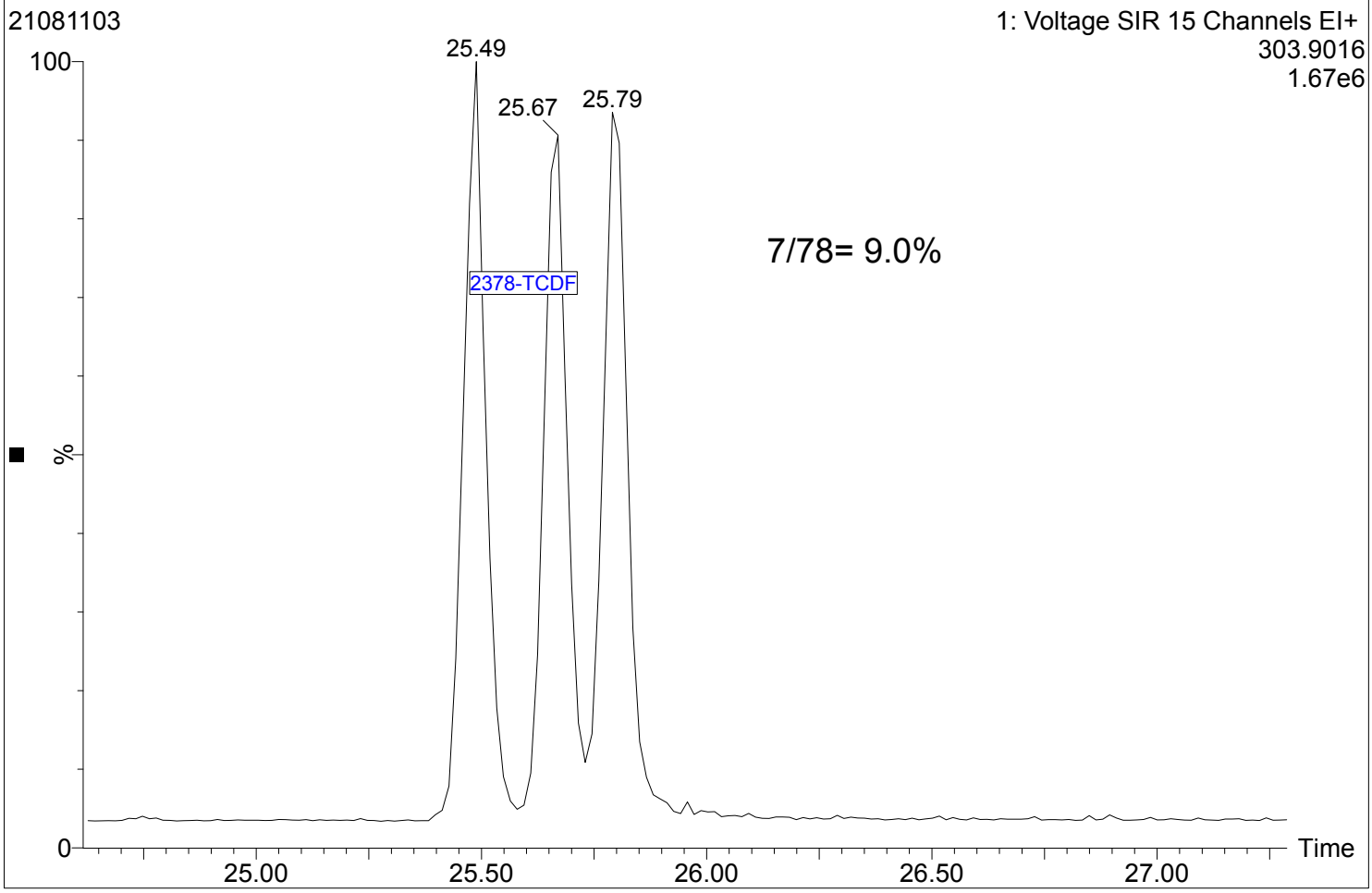
M 504.9696 R 11739



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+
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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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21082402	Calibration Date:	08/11/2021
Sequence:	SJH0304	Injection Date:	08/24/21
Lab Sample ID:	SJH0304-ICV1	Injection Time:	12:52
Sequence Name:	CS3L3		

		CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
COMPOUND	TYPE	STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
2,3,7,8-TCDF	A	10.000	9.42	1.1075930	1.0429760		-5.8	+/-16
2,3,7,8-TCDD	A	10.000	10.9	0.9202875	1.0008890		8.8	+/-22
1,2,3,7,8-PeCDF	A	50.000	48.2	1.0148670	0.9775208		-3.7	+/-18
2,3,4,7,8-PeCDF	A	50.000	47.8	1.1255490	1.0770180		-4.3	+/-18
1,2,3,7,8-PeCDD	A	50.000	53.8	0.9953229	1.0706660		7.6	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	51.1	1.0168930	1.0390950		2.2	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	48.9	1.0368310	1.0146940		-2.1	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	48.7	1.0524660	1.0260000		-2.5	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	49.6	1.0301540	1.0216260		-0.8	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.6	1.0273630	0.9982061		-2.8	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	47.7	1.0089800	0.9632547		-4.5	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	49.0	0.9504865	0.9313906		-2.0	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	48.2	1.3273500	1.2806600		-3.5	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	48.8	1.2833380	1.2517180		-2.5	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	51.9	1.0680880	1.1089530		3.8	+/-14
OCDF	A	100.00	99.4	1.4469010	1.4385450		-0.6	+/-37
OCDD	A	100.00	100	1.1808230	1.1816450		0.07	+/-21
13C12-2,3,7,8-TCDF	A	100.00	105	1.4265830	1.5037875		5.4	+/-29
13C12-2,3,7,8-TCDD	A	100.00	99.3	1.1164910	1.1086856		-0.7	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	107	1.2973130	1.3914411		7.3	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	105	1.2364800	1.2971467		4.9	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	105	0.7319833	0.7651367		4.5	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	91.2	1.2424560	1.1326788		-8.8	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	90.9	1.3434760	1.2206823		-9.1	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	90.3	1.2148550	1.0970564		-9.7	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	90.7	1.0076370	0.9138581		-9.3	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	99.8	0.9598233	0.9577089		-0.2	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	98.9	1.0413850	1.0303953		-1.1	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	102	0.9264704	0.9407908		1.5	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	102	0.7579160	0.7737350		2.1	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	103	0.6324476	0.6540871		3.4	+/-28

* Values outside of QC limits

Analytical Resources, Incorporated
Analytical Chemists and Consultants

INITIAL CALIBRATION CHECK

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21082402	Calibration Date:	08/11/2021
Sequence:	SJH0304	Injection Date:	08/24/21
Lab Sample ID:	SJH0304-ICV1	Injection Time:	12:52
Sequence Name:	CS3L3		

COMPOUND	TYPE	CONC. (ng/mL)		RESPONSE FACTOR			% DRIFT/DIFF	
		STD	ICV	ICAL	ICV	MIN	ICV	LIMIT
13C12-OCDD	A	200.00	230	0.5037432	0.5790277		14.9	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.29	1.0835930	1.0068583		-7.1	

* Values outside of QC limits

Dataset: Untitled
Last Altered: Tuesday, August 24, 2021 14:58:07 Pacific Daylight Time
Printed: Tuesday, August 24, 2021 14:58:35 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3L3, Name: 21082402, Date: 24-Aug-2021, Time: 12:52:16, 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	25.262	1.001	7.221e4	9.608e4	1.108	0.752	0.770	1743	1772	1.06e6	1.34e6	606.7	755.4	NO	bb	bb	9.417
12378-PeCDF	29.425	1.001	4.446e5	2.851e5	1.015	1.559	1.550	3082	2321	6.22e6	4.03e6	2018.2	1736.5	NO	bb	bd	48.160
23478-PeCDF	30.762	1.000	4.508e5	2.987e5	1.126	1.509	1.550	3082	2321	6.44e6	4.21e6	2088.5	1813.4	NO	bb	bd	47.844
123478-HxCDF	34.417	1.000	3.374e5	2.782e5	1.017	1.213	1.240	3059	3389	4.98e6	4.19e6	1627.1	1236.2	NO	bd	bd	51.092
234678-HxCDF	35.442	1.000	3.242e5	2.645e5	1.052	1.226	1.240	3059	3389	4.99e6	4.09e6	1631.5	1205.4	NO	bb	bb	48.743
123678-HxCDF	34.561	1.001	3.594e5	2.885e5	1.037	1.246	1.240	3059	3389	5.15e6	4.14e6	1684.8	1223.0	NO	db	db	48.932
123789-HxCDF	36.478	1.001	2.719e5	2.164e5	1.030	1.257	1.240	3059	3389	4.16e6	3.34e6	1361.0	985.6	NO	bb	bb	49.586
1234678-HpCDF	38.349	1.000	3.194e5	3.108e5	1.327	1.028	1.050	3053	3360	5.22e6	5.01e6	1709.3	1492.3	NO	bb	bb	48.241
1234789-HpCDF	40.533	1.000	2.571e5	2.495e5	1.283	1.031	1.050	3053	3360	3.74e6	3.64e6	1225.1	1084.6	NO	bb	bb	48.768
OCDF	44.656	1.005	4.239e5	4.474e5	1.447	0.947	0.890	2236	2524	4.76e6	5.33e6	2130.6	2112.3	NO	bd	bb	99.422
2378-TCDD	25.912	1.001	5.273e4	6.634e4	0.920	0.795	0.770	1855	1133	7.48e5	9.30e5	403.4	820.9	NO	bb	bb	10.876
12378-PeCDD	31.018	1.001	2.706e5	1.689e5	0.995	1.602	1.550	2492	2488	4.07e6	2.53e6	1634.5	1015.8	NO	bb	bb	53.785
123478-HxCDD	35.553	1.000	2.764e5	2.236e5	1.027	1.236	1.240	2803	2922	4.26e6	3.50e6	1519.8	1196.7	NO	bd	bd	48.581
123678-HxCDD	35.675	1.001	2.848e5	2.343e5	1.009	1.215	1.240	2803	2922	4.45e6	3.63e6	1586.9	1242.0	NO	db	db	47.734
123789-HxCDD	36.065	1.012	2.691e5	2.151e5	0.950	1.251	1.240	2803	2922	4.13e6	3.36e6	1474.0	1151.0	NO	bb	bb	48.995
1234678-HpCDD	39.820	1.001	2.005e5	1.788e5	1.068	1.121	1.050	2042	2295	2.98e6	2.66e6	1460.7	1158.4	NO	bb	bb	51.913
OCDD	44.437	1.000	3.390e5	3.767e5	1.181	0.900	0.890	1908	1791	4.13e6	4.55e6	2166.0	2540.1	NO	bb	bb	100.070
13C-2378-TCDF	25.247	1.007	7.193e5	8.943e5	1.427	0.804	0.770	2661	1855	1.04e7	1.29e7	3919.6	6931.5	NO	bb	bb	105.412
13C-12378-PeCDF	29.403	1.173	9.163e5	5.767e5	1.297	1.589	1.550	2691	3017	1.29e7	8.13e6	4811.0	2694.5	NO	bd	bd	107.256
13C-23478-PeCDF	30.751	1.227	8.603e5	5.315e5	1.236	1.618	1.550	2691	3017	1.23e7	7.69e6	4552.1	2549.1	NO	bb	bb	104.906
13C-123478-HxCDF	34.405	0.954	4.001e5	7.847e5	1.242	0.510	0.510	3136	4396	5.90e6	1.16e7	1880.2	2644.4	NO	bd	bd	91.164
13C-123678-HxCDF	34.539	0.958	4.364e5	8.405e5	1.343	0.519	0.510	3136	4396	6.24e6	1.21e7	1990.7	2763.6	NO	db	db	90.860
13C-234678-HxCDF	35.430	0.983	3.925e5	7.551e5	1.215	0.520	0.510	3136	4396	5.85e6	1.12e7	1866.6	2558.1	NO	bb	bb	90.303
13C-123789-HxCDF	36.455	1.011	3.265e5	6.295e5	1.008	0.519	0.510	3136	4396	5.07e6	9.71e6	1617.7	2209.5	NO	bb	bb	90.693
13C-1234678-HpCDF	38.338	1.063	3.144e5	6.697e5	0.926	0.470	0.440	2568	3312	5.02e6	1.07e7	1954.6	3225.2	NO	bb	bb	101.546
13C-1234789-HpCDF	40.522	1.124	2.628e5	5.466e5	0.758	0.481	0.440	2568	3312	3.65e6	7.68e6	1421.9	2319.8	NO	bb	bb	102.087
13C-1234-TCDD	25.065	0.000	4.661e5	6.069e5	1.000	0.768	0.770	2535	2191	6.90e6	8.98e6	2722.6	4097.8	NO	bb	bb	100.000
13C-2378-TCDD	25.882	1.033	5.133e5	6.763e5	1.116	0.759	0.770	2535	2191	7.39e6	9.72e6	2914.5	4437.6	NO	bb	bb	99.301
13C-12378-PeCDD	30.996	1.237	5.011e5	3.199e5	0.732	1.567	1.550	2037	2026	7.11e6	4.59e6	3492.7	2265.8	NO	bb	bb	104.529
13C-123478-HxCDD	35.542	0.986	5.612e5	4.406e5	0.960	1.274	1.240	3868	2222	8.87e6	7.00e6	2294.1	3150.6	NO	bd	bd	99.780
13C-123678-HxCDD	35.653	0.989	5.992e5	4.786e5	1.041	1.252	1.240	3868	2222	8.90e6	7.23e6	2301.5	3251.1	NO	db	db	98.945
13C-1234678-HpCDD	39.798	1.104	3.381e5	3.462e5	0.632	0.977	1.050	1685	1817	5.08e6	4.98e6	3014.1	2743.5	NO	bb	bb	103.422
13C-OCDD	44.418	1.232	5.807e5	6.307e5	0.504	0.921	0.890	2934	1994	7.10e6	7.73e6	2421.4	3875.7	NO	bb	bb	229.890
13C-123789-HxCDD	36.054	0.000	5.837e5	4.624e5	1.000	1.262	1.240	3868	2222	9.00e6	7.05e6	2326.3	3171.6	NO	bb	bb	100.000
37CL-2378-TCDD	25.912	1.034	1.080e5		1.084			1814		1.48e6		814.1			bb		9.292

Dataset: Untitled
Last Altered: Tuesday, August 24, 2021 14:58:07 Pacific Daylight Time
Printed: Tuesday, August 24, 2021 14:58:35 Pacific Daylight Time

ID: CS3L3, Name: 21082402, Date: 24-Aug-2021, Time: 12:52:16, 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	21.769	0.862	9.345e4	1.190e5	1.425	0.785	0.770	1743	1772	1.41e6	1.76e6	808.2	992.3	NO	bb	bb	9.240
1289-TCDF	26.758	1.060	6.448e4	9.112e4	1.043	0.708	0.770	1743	1772	9.14e5	1.22e6	524.7	689.6	NO	bb	db	9.246
13468-PECDF	26.622	0.905	5.729e5	3.719e5	1.376	1.541	1.550	737	1470	8.32e6	5.32e6	11296.3	3619.8	NO	bb	bb	45.981
12389-PECDF	31.798	1.081	4.256e5	2.682e5	1.000	1.587	1.550	3082	2321	5.73e6	3.69e6	1858.2	1590.2	NO	bb	bb	46.491
123468-HXCDF	32.734	0.951	3.520e5	2.900e5	1.087	1.214	1.240	3059	3389	4.88e6	4.01e6	1596.7	1184.4	NO	bb	bb	49.867
1368-TCDD	23.039	0.890	5.426e4	6.744e4	0.923	0.804	0.770	1855	1133	8.11e5	1.01e6	437.0	889.4	NO	bb	bb	11.080
1289-TCDD	26.501	1.024	4.719e4	5.836e4	0.794	0.809	0.770	1855	1133	6.46e5	8.05e5	348.4	710.7	NO	bd	bd	11.174
12479-PECDD	28.311	0.913	4.823e5	3.003e5	1.843	1.606	1.550	2492	2488	4.62e6	2.88e6	1854.2	1158.1	NO	bb	bb	51.717
12389-PECDD	31.420	1.014	3.189e5	1.938e5	1.154	1.645	1.550	2492	2488	4.63e6	2.80e6	1858.4	1125.7	NO	bb	bb	54.128
124679-HXCDD	33.525	0.943	2.994e5	2.453e5	1.125	1.220	1.240	2803	2922	4.31e6	3.51e6	1536.4	1200.7	NO	bb	bb	48.336
1234679-HPCDD	38.795	0.975	2.231e5	2.058e5	1.211	1.084	1.050	2042	2295	3.57e6	3.36e6	1748.5	1463.0	NO	bb	bb	51.765
Total-tetrafurans			2.308e5		1.192			1743		3.39e6							27.985
Total-penta1			5.729e5					737		8.32e6							45.981
Total-pentafurans			1.397e6		1.047			3082		1.95e7							150.588
Total-hexafurans			1.645e6		1.045			3059		2.42e7							248.220
Total-heptafurans			5.767e5		1.305			3053		8.97e6							97.045
Total-Furans			4.846e6		1.158			1743		6.91e7							669.241
Total-tetradioxins			2.636e5		0.879			1855		3.42e6							56.347
Total-pentadioxins			1.074e6		1.331			2492		1.34e7							159.886
Total-hexadioxins			1.130e6		1.028			2803		1.71e7							193.647
Total-heptadioxins			4.241e5		1.140			2042		6.56e6							103.780
Total-Dioxins			3.230e6		1.092			1855		4.46e7							613.730
Total-TEQ			8.076e6					1855		1.14e8							1282.971
FUNCTION1 PFK			4.889e5					671494		1.43e7							
FUNCTION2 PFK			9.105e6					387911		8.25e7							0.000
FUNCTION3 PFK			1.956e5					519089		8.40e6							0.000
FUNCTION4 PFK			3.469e5					398762		8.62e6							
FUNCTION5 PFK			4.991e4					302347		2.46e6							
FUNCTION1 HXCD...			2.058e3					976		3.88e4							0.000
FUNCTION1 HPCD...			1.398e3					1130		2.49e4							0.000
FUNCTION2 HPCD...			2.410e3					1066		5.81e4							0.000
FUNCTION3 OCDPE			1.638e3					877		4.06e4							0.000
FUNCTION4 NCDPE			2.560e3					915		5.36e4							0.000
FUNCTION5 DCDPE			7.270e1					633		1.63e3							0.000

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3L3, Name: 21082402, Date: 24-Aug-2021, Time: 12:52:16, 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	25.26	7.221e4	9.608e4	1.108	0.75	0.77	606.7	YES	NO	bb	bb	9.417
2	Total-tetrafurans	24.04	6.830e2	8.986e2	1.192	0.76	0.77	5.5	YES	NO	bd	bd	0.082
3	1368-TCDF	21.77	9.345e4	1.190e5	1.425	0.79	0.77	808.2	YES	NO	bb	bb	9.240
4	1289-TCDF	26.76	6.448e4	9.112e4	1.043	0.71	0.77	524.7	YES	NO	bb	db	9.246

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.62	5.729e5	3.719e5	1.376	1.54	1.55	11296.3	YES	NO	bb	bb	45.981

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	31.80	4.256e5	2.682e5	1.000	1.59	1.55	1858.2	YES	NO	bb	bb	46.491
2	23478-PeCDF	30.76	4.508e5	2.987e5	1.126	1.51	1.55	2088.5	YES	NO	bb	bd	47.844
3	12378-PeCDF	29.43	4.446e5	2.851e5	1.015	1.56	1.55	2018.2	YES	NO	bb	bd	48.160
4	Total-pentafurans	28.28	7.557e4	4.661e4	1.047	1.62	1.55	348.4	YES	NO	bd	bb	8.093

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.48	2.719e5	2.164e5	1.030	1.26	1.24	1361.0	YES	NO	bb	bb	49.586
2	234678-HxCDF	35.44	3.242e5	2.645e5	1.052	1.23	1.24	1631.5	YES	NO	bb	bb	48.743
3	123678-HxCDF	34.56	3.594e5	2.885e5	1.037	1.25	1.24	1684.8	YES	NO	db	db	48.932
4	123478-HxCDF	34.42	3.374e5	2.782e5	1.017	1.21	1.24	1627.1	YES	NO	bd	bd	51.092
5	123468-HXCDF	32.73	3.520e5	2.900e5	1.087	1.21	1.24	1596.7	YES	NO	bb	bb	49.867

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptafurans	40.95	2.104e2	2.039e2	1.305	1.03	1.05	2.7	NO	NO	bb	bb	0.035
2	1234789-HpCDF	40.53	2.571e5	2.495e5	1.283	1.03	1.05	1225.1	YES	NO	bb	bb	48.768
3	1234678-HpCDF	38.35	3.194e5	3.108e5	1.327	1.03	1.05	1709.3	YES	NO	bb	bb	48.241

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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	25.26	7.221e4	9.608e4	1.108	0.75	0.77	606.7	YES	NO	bb	bb	9.417
2	Total-tetrafurans	24.04	6.830e2	8.986e2	1.192	0.76	0.77	5.5	YES	NO	bd	bd	0.082
3	1368-TCDF	21.77	9.345e4	1.190e5	1.425	0.79	0.77	808.2	YES	NO	bb	bb	9.240
4	1289-TCDF	26.76	6.448e4	9.112e4	1.043	0.71	0.77	524.7	YES	NO	bb	db	9.246
5	12389-PECDF	31.80	4.256e5	2.682e5	1.000	1.59	1.55	1858.2	YES	NO	bb	bb	46.491
6	23478-PeCDF	30.76	4.508e5	2.987e5	1.126	1.51	1.55	2088.5	YES	NO	bb	bd	47.844
7	12378-PeCDF	29.43	4.446e5	2.851e5	1.015	1.56	1.55	2018.2	YES	NO	bb	bd	48.160
8	Total-pentafurans	28.28	7.557e4	4.661e4	1.047	1.62	1.55	348.4	YES	NO	bd	bb	8.093
9	123789-HxCDF	36.48	2.719e5	2.164e5	1.030	1.26	1.24	1361.0	YES	NO	bb	bb	49.586
10	234678-HxCDF	35.44	3.242e5	2.645e5	1.052	1.23	1.24	1631.5	YES	NO	bb	bb	48.743
11	123678-HxCDF	34.56	3.594e5	2.885e5	1.037	1.25	1.24	1684.8	YES	NO	db	db	48.932
12	123478-HxCDF	34.42	3.374e5	2.782e5	1.017	1.21	1.24	1627.1	YES	NO	bd	bd	51.092
13	123468-HXCDF	32.73	3.520e5	2.900e5	1.087	1.21	1.24	1596.7	YES	NO	bb	bb	49.867
14	Total-heptafurans	40.95	2.104e2	2.039e2	1.305	1.03	1.05	2.7	NO	NO	bb	bb	0.035
15	1234789-HpCDF	40.53	2.571e5	2.495e5	1.283	1.03	1.05	1225.1	YES	NO	bb	bb	48.768
16	1234678-HpCDF	38.35	3.194e5	3.108e5	1.327	1.03	1.05	1709.3	YES	NO	bb	bb	48.241
17	OCDF	44.66	4.239e5	4.474e5	1.447	0.95	0.89	2130.6	YES	NO	bd	bb	99.422
18	13468-PECDF	26.62	5.729e5	3.719e5	1.376	1.54	1.55	11296.3	YES	NO	bb	bb	45.981

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.50	4.719e4	5.836e4	0.794	0.81	0.77	348.4	YES	NO	bd	bd	11.174
2	2378-TCDD	25.91	5.273e4	6.634e4	0.920	0.79	0.77	403.4	YES	NO	bb	bb	10.876
3	Total-tetradioxins	25.58	7.964e4	9.801e4	0.879	0.81	0.77	431.6	YES	NO	bb	bb	16.985
4	Total-tetradioxins	25.10	2.699e4	3.205e4	0.879	0.84	0.77	210.2	YES	NO	bd	bd	5.645
5	Total-tetradioxins	24.23	2.483e3	2.879e3	0.879	0.86	0.77	12.8	YES	NO	bb	bb	0.513
6	Total-tetradioxins	23.30	3.185e2	4.538e2	0.879	0.70	0.77	2.6	NO	NO	bb	bb	0.074
7	1368-TCDD	23.04	5.426e4	6.744e4	0.923	0.80	0.77	437.0	YES	NO	bb	bb	11.080

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PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.31	4.823e5	3.003e5	1.843	1.61	1.55	1854.2	YES	NO	bb	bb	51.717
2	12389-PECDD	31.42	3.189e5	1.938e5	1.154	1.65	1.55	1858.4	YES	NO	bb	bb	54.128
3	12378-PeCDD	31.02	2.706e5	1.689e5	0.995	1.60	1.55	1634.5	YES	NO	bb	bb	53.785
4	Total-pentadioxins	30.35	1.149e3	7.012e2	1.331	1.64	1.55	7.0	YES	NO	bb	bb	0.169
5	Total-pentadioxins	29.41	5.778e2	3.663e2	1.331	1.58	1.55	5.6	NO	NO	bb	bb	0.086

HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.07	2.691e5	2.151e5	0.950	1.25	1.24	1474.0	YES	NO	bb	bb	48.995
2	123678-HxCDD	35.68	2.848e5	2.343e5	1.009	1.22	1.24	1586.9	YES	NO	db	db	47.734
3	123478-HxCDD	35.55	2.764e5	2.236e5	1.027	1.24	1.24	1519.8	YES	NO	bd	bd	48.581
4	124679-HXCDD	33.53	2.994e5	2.453e5	1.125	1.22	1.24	1536.4	YES	NO	bb	bb	48.336

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.82	2.005e5	1.788e5	1.068	1.12	1.05	1460.7	YES	NO	bb	bb	51.913
2	Total-heptadioxins	39.32	4.010e2	3.991e2	1.140	1.00	1.05	4.1	NO	NO	bb	bd	0.103
3	1234679-HPCDD	38.80	2.231e5	2.058e5	1.211	1.08	1.05	1748.5	YES	NO	bb	bb	51.765

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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	26.50	4.719e4	5.836e4	0.794	0.81	0.77	348.4	YES	NO	bd	bd	11.174
2	2378-TCDD	25.91	5.273e4	6.634e4	0.920	0.79	0.77	403.4	YES	NO	bb	bb	10.876
3	Total-tetradioxins	25.58	7.964e4	9.801e4	0.879	0.81	0.77	431.6	YES	NO	bb	bb	16.985
4	Total-tetradioxins	25.10	2.699e4	3.205e4	0.879	0.84	0.77	210.2	YES	NO	bd	bd	5.645
5	Total-tetradioxins	24.23	2.483e3	2.879e3	0.879	0.86	0.77	12.8	YES	NO	bb	bb	0.513
6	Total-tetradioxins	23.30	3.185e2	4.538e2	0.879	0.70	0.77	2.6	NO	NO	bb	bb	0.074
7	1368-TCDD	23.04	5.426e4	6.744e4	0.923	0.80	0.77	437.0	YES	NO	bb	bb	11.080
8	12479-PECDD	28.31	4.823e5	3.003e5	1.843	1.61	1.55	1854.2	YES	NO	bb	bb	51.717
9	12389-PECDD	31.42	3.189e5	1.938e5	1.154	1.65	1.55	1858.4	YES	NO	bb	bb	54.128
10	12378-PeCDD	31.02	2.706e5	1.689e5	0.995	1.60	1.55	1634.5	YES	NO	bb	bb	53.785
11	Total-pentadioxins	30.35	1.149e3	7.012e2	1.331	1.64	1.55	7.0	YES	NO	bb	bb	0.169
12	Total-pentadioxins	29.41	5.778e2	3.663e2	1.331	1.58	1.55	5.6	NO	NO	bb	bb	0.086
13	123789-HxCDD	36.07	2.691e5	2.151e5	0.950	1.25	1.24	1474.0	YES	NO	bb	bb	48.995
14	123678-HxCDD	35.68	2.848e5	2.343e5	1.009	1.22	1.24	1586.9	YES	NO	db	db	47.734
15	123478-HxCDD	35.55	2.764e5	2.236e5	1.027	1.24	1.24	1519.8	YES	NO	bd	bd	48.581
16	124679-HXCDD	33.53	2.994e5	2.453e5	1.125	1.22	1.24	1536.4	YES	NO	bb	bb	48.336
17	1234678-HpCDD	39.82	2.005e5	1.788e5	1.068	1.12	1.05	1460.7	YES	NO	bb	bb	51.913
18	Total-heptadioxins	39.32	4.010e2	3.991e2	1.140	1.00	1.05	4.1	NO	NO	bb	bd	0.103
19	1234679-HPCDD	38.80	2.231e5	2.058e5	1.211	1.08	1.05	1748.5	YES	NO	bb	bb	51.765
20	OCDD	44.44	3.390e5	3.767e5	1.181	0.90	0.89	2166.0	YES	NO	bb	bb	100.070

Dataset: Untitled
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Printed: Tuesday, August 24, 2021 14:58:35 Pacific Daylight Time

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.26	7.221e4	9.608e4	1.108	0.75	0.77	606.7	YES	NO	bb	bb	9.417
2	Total-tetrafurans	24.04	6.830e2	8.986e2	1.192	0.76	0.77	5.5	YES	NO	bd	bd	0.082
3	1368-TCDF	21.77	9.345e4	1.190e5	1.425	0.79	0.77	808.2	YES	NO	bb	bb	9.240
4	1289-TCDF	26.76	6.448e4	9.112e4	1.043	0.71	0.77	524.7	YES	NO	bb	db	9.246
5	12389-PECDF	31.80	4.256e5	2.682e5	1.000	1.59	1.55	1858.2	YES	NO	bb	bb	46.491
6	23478-PeCDF	30.76	4.508e5	2.987e5	1.126	1.51	1.55	2088.5	YES	NO	bb	bd	47.844
7	12378-PeCDF	29.43	4.446e5	2.851e5	1.015	1.56	1.55	2018.2	YES	NO	bb	bd	48.160
8	Total-pentafurans	28.28	7.557e4	4.661e4	1.047	1.62	1.55	348.4	YES	NO	bd	bb	8.093
9	123789-HxCDF	36.48	2.719e5	2.164e5	1.030	1.26	1.24	1361.0	YES	NO	bb	bb	49.586
10	234678-HxCDF	35.44	3.242e5	2.645e5	1.052	1.23	1.24	1631.5	YES	NO	bb	bb	48.743
11	123678-HxCDF	34.56	3.594e5	2.885e5	1.037	1.25	1.24	1684.8	YES	NO	db	db	48.932
12	123478-HxCDF	34.42	3.374e5	2.782e5	1.017	1.21	1.24	1627.1	YES	NO	bd	bd	51.092
13	123468-HXCDF	32.73	3.520e5	2.900e5	1.087	1.21	1.24	1596.7	YES	NO	bb	bb	49.867
14	Total-heptafurans	40.95	2.104e2	2.039e2	1.305	1.03	1.05	2.7	NO	NO	bb	bb	0.035
15	1234789-HpCDF	40.53	2.571e5	2.495e5	1.283	1.03	1.05	1225.1	YES	NO	bb	bb	48.768
16	1234678-HpCDF	38.35	3.194e5	3.108e5	1.327	1.03	1.05	1709.3	YES	NO	bb	bb	48.241
17	OCDF	44.66	4.239e5	4.474e5	1.447	0.95	0.89	2130.6	YES	NO	bd	bb	99.422
18	13468-PECDF	26.62	5.729e5	3.719e5	1.376	1.54	1.55	11296.3	YES	NO	bb	bb	45.981
19	1289-TCDD	26.50	4.719e4	5.836e4	0.794	0.81	0.77	348.4	YES	NO	bd	bd	11.174
20	2378-TCDD	25.91	5.273e4	6.634e4	0.920	0.79	0.77	403.4	YES	NO	bb	bb	10.876
21	Total-tetradioxins	25.58	7.964e4	9.801e4	0.879	0.81	0.77	431.6	YES	NO	bb	bb	16.985
22	Total-tetradioxins	25.10	2.699e4	3.205e4	0.879	0.84	0.77	210.2	YES	NO	bd	bd	5.645
23	Total-tetradioxins	24.23	2.483e3	2.879e3	0.879	0.86	0.77	12.8	YES	NO	bb	bb	0.513
24	Total-tetradioxins	23.30	3.185e2	4.538e2	0.879	0.70	0.77	2.6	NO	NO	bb	bb	0.074
25	1368-TCDD	23.04	5.426e4	6.744e4	0.923	0.80	0.77	437.0	YES	NO	bb	bb	11.080
26	12479-PECDD	28.31	4.823e5	3.003e5	1.843	1.61	1.55	1854.2	YES	NO	bb	bb	51.717
27	12389-PECDD	31.42	3.189e5	1.938e5	1.154	1.65	1.55	1858.4	YES	NO	bb	bb	54.128
28	12378-PeCDD	31.02	2.706e5	1.689e5	0.995	1.60	1.55	1634.5	YES	NO	bb	bb	53.785
29	Total-pentadioxins	30.35	1.149e3	7.012e2	1.331	1.64	1.55	7.0	YES	NO	bb	bb	0.169
30	Total-pentadioxins	29.41	5.778e2	3.663e2	1.331	1.58	1.55	5.6	NO	NO	bb	bb	0.086
31	123789-HxCDD	36.07	2.691e5	2.151e5	0.950	1.25	1.24	1474.0	YES	NO	bb	bb	48.995
32	123678-HxCDD	35.68	2.848e5	2.343e5	1.009	1.22	1.24	1586.9	YES	NO	db	db	47.734
33	123478-HxCDD	35.55	2.764e5	2.236e5	1.027	1.24	1.24	1519.8	YES	NO	bd	bd	48.581
34	124679-HXCDD	33.53	2.994e5	2.453e5	1.125	1.22	1.24	1536.4	YES	NO	bb	bb	48.336
35	1234678-HpCDD	39.82	2.005e5	1.788e5	1.068	1.12	1.05	1460.7	YES	NO	bb	bb	51.913
36	Total-heptadioxins	39.32	4.010e2	3.991e2	1.140	1.00	1.05	4.1	NO	NO	bb	bd	0.103
37	1234679-HPCDD	38.80	2.231e5	2.058e5	1.211	1.08	1.05	1748.5	YES	NO	bb	bb	51.765

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	OCDD	44.44	3.390e5	3.767e5	1.181	0.90	0.89	2166.0	YES	NO	bb	bb	100.070

PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	22.03	5.912e3					0.6	NO		bb		
2	FUNCTION1 PFK	21.83	1.212e4					0.7	NO		bb		
3	FUNCTION1 PFK	21.69	3.211e4					1.4	NO		bb		
4	FUNCTION1 PFK	21.63	5.675e3					0.6	NO		bb		
5	FUNCTION1 PFK	21.24	2.098e4					1.0	NO		bb		
6	FUNCTION1 PFK	21.16	5.427e4					1.5	NO		bb		
7	FUNCTION1 PFK	26.82	2.461e4					1.2	NO		bb		
8	FUNCTION1 PFK	26.11	4.735e3					0.5	NO		bb		
9	FUNCTION1 PFK	26.03	8.915e3					0.6	NO		bb		
10	FUNCTION1 PFK	25.84	1.679e4					0.8	NO		bb		
11	FUNCTION1 PFK	25.78	2.663e4					1.2	NO		bb		
12	FUNCTION1 PFK	25.53	3.297e4					1.4	NO		bb		
13	FUNCTION1 PFK	25.46	4.731e3					0.5	NO		bb		
14	FUNCTION1 PFK	24.52	3.425e4					0.9	NO		bb		
15	FUNCTION1 PFK	24.34	5.098e3					0.5	NO		bb		
16	FUNCTION1 PFK	24.20	1.502e4					0.8	NO		bb		
17	FUNCTION1 PFK	23.18	1.594e4					0.8	NO		bb		
18	FUNCTION1 PFK	23.10	4.572e4					1.8	NO		bb		
19	FUNCTION1 PFK	22.92	1.341e4					0.7	NO		bb		
20	FUNCTION1 PFK	22.78	1.696e4					1.0	NO		bb		
21	FUNCTION1 PFK	22.57	5.574e4					1.5	NO		bb		
22	FUNCTION1 PFK	22.15	3.630e4					1.3	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.74	4.724e3					0.6	NO		bb		0.000
2	FUNCTION2 PFK	29.59	1.606e4					1.1	NO		bb		0.000
3	FUNCTION2 PFK	29.25	1.723e3					0.4	NO		bb		0.000
4	FUNCTION2 PFK	29.17	1.669e4					0.7	NO		bb		0.000
5	FUNCTION2 PFK	29.00	2.075e3					0.5	NO		bb		0.000
6	FUNCTION2 PFK	28.60	1.585e5					3.1	YES		db		0.000
7	FUNCTION2 PFK	28.48	1.623e5					7.3	YES		dd		0.000
8	FUNCTION2 PFK	28.43	5.425e5					8.1	YES		dd		0.000
9	FUNCTION2 PFK	28.23	4.418e5					14.2	YES		dd		0.000
10	FUNCTION2 PFK	28.19	2.479e5					15.0	YES		dd		0.000
11	FUNCTION2 PFK	28.10	5.773e5					17.9	YES		dd		0.000
12	FUNCTION2 PFK	27.67	4.340e6					30.6	YES		dd		0.000
13	FUNCTION2 PFK	27.60	3.858e5					30.8	YES		dd		0.000
14	FUNCTION2 PFK	27.56	8.284e5					32.4	YES		dd		0.000
15	FUNCTION2 PFK	27.49	1.176e6					35.3	YES		bd		0.000
16	FUNCTION2 PFK	32.14	4.424e3					0.6	NO		bb		0.000
17	FUNCTION2 PFK	32.08	1.517e4					1.2	NO		bb		0.000
18	FUNCTION2 PFK	31.84	6.820e4					2.5	NO		db		0.000
19	FUNCTION2 PFK	31.75	1.040e4					1.2	NO		bd		0.000
20	FUNCTION2 PFK	31.48	2.661e4					1.6	NO		db		0.000
21	FUNCTION2 PFK	31.43	1.505e4					1.2	NO		bd		0.000
22	FUNCTION2 PFK	31.29	1.505e3					0.3	NO		bb		0.000
23	FUNCTION2 PFK	31.11	4.049e3					0.6	NO		db		0.000
24	FUNCTION2 PFK	31.07	1.985e4					1.2	NO		dd		0.000
25	FUNCTION2 PFK	31.00	6.860e3					0.7	NO		bd		0.000
26	FUNCTION2 PFK	30.81	4.918e3					0.7	NO		bb		0.000
27	FUNCTION2 PFK	30.14	1.657e3					0.4	NO		bb		0.000
28	FUNCTION2 PFK	30.00	1.214e4					1.2	NO		bb		0.000
29	FUNCTION2 PFK	29.88	1.279e4					1.3	NO		bb		0.000

ID: CS3L3, Name: 21082402, Date: 24-Aug-2021, Time: 12:52:16, 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	32.31	3.527e3					0.6	NO		bb		0.000
2	FUNCTION3 PFK	37.32	4.525e3					0.8	NO		bb		0.000
3	FUNCTION3 PFK	37.02	1.157e4					1.0	NO		bb		0.000
4	FUNCTION3 PFK	36.95	4.569e3					0.8	NO		bb		0.000
5	FUNCTION3 PFK	36.90	2.420e4					1.9	NO		bb		0.000
6	FUNCTION3 PFK	36.85	1.257e4					1.1	NO		bb		0.000
7	FUNCTION3 PFK	36.66	3.418e3					0.6	NO		bb		0.000
8	FUNCTION3 PFK	35.89	3.417e4					2.2	NO		bb		0.000
9	FUNCTION3 PFK	34.62	3.419e4					2.3	NO		bb		0.000
10	FUNCTION3 PFK	34.14	1.229e4					1.2	NO		bb		0.000
11	FUNCTION3 PFK	33.21	1.355e4					1.2	NO		bb		0.000
12	FUNCTION3 PFK	32.42	3.706e4					2.5	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	37.83	1.078e4					1.1	NO		bb		
2	FUNCTION4 PFK	37.66	5.121e4					1.6	NO		bb		
3	FUNCTION4 PFK	37.54	2.821e4					1.8	NO		db		
4	FUNCTION4 PFK	37.49	1.547e4					1.4	NO		bd		
5	FUNCTION4 PFK	42.32	2.240e4					0.7	NO		bb		
6	FUNCTION4 PFK	42.19	2.350e4					1.6	NO		db		
7	FUNCTION4 PFK	42.13	5.621e4					1.8	NO		bd		
8	FUNCTION4 PFK	41.17	1.169e4					0.9	NO		bb		
9	FUNCTION4 PFK	40.92	2.534e3					0.5	NO		bb		
10	FUNCTION4 PFK	40.88	1.161e4					1.1	NO		db		
11	FUNCTION4 PFK	40.80	2.093e4					1.6	NO		bd		
12	FUNCTION4 PFK	40.73	1.937e4					1.3	NO		bb		
13	FUNCTION4 PFK	40.17	1.731e3					0.4	NO		bb		
14	FUNCTION4 PFK	40.04	7.062e3					1.1	NO		bb		
15	FUNCTION4 PFK	39.69	1.148e4					1.1	NO		bb		
16	FUNCTION4 PFK	39.62	8.386e3					0.5	NO		bb		
17	FUNCTION4 PFK	39.39	2.049e3					0.5	NO		bb		
18	FUNCTION4 PFK	38.73	3.151e4					1.6	NO		bb		
19	FUNCTION4 PFK	38.37	1.080e4					1.0	NO		bb		

ID: CS3L3, Name: 21082402, Date: 24-Aug-2021, Time: 12:52:16, 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	45.94	2.602e3					0.6	NO		bb		
2	FUNCTION5 PFK	45.85	1.392e3					0.5	NO		bb		
3	FUNCTION5 PFK	45.82	1.723e3					0.6	NO		bb		
4	FUNCTION5 PFK	44.65	7.208e3					1.2	NO		bb		
5	FUNCTION5 PFK	43.93	4.383e3					0.9	NO		bb		
6	FUNCTION5 PFK	43.87	7.712e3					1.2	NO		bb		
7	FUNCTION5 PFK	43.63	1.319e4					1.4	NO		bb		
8	FUNCTION5 PFK	43.40	1.031e4					1.3	NO		bb		
9	FUNCTION5 PFK	42.67	1.389e3					0.5	NO		bb		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	23.48	7.796e1					1.7	NO		bb		0.000
2	FUNCTION1 HXCD...	23.11	9.500e1					2.3	NO		bb		0.000
3	FUNCTION1 HXCD...	23.02	1.142e2					2.5	NO		bb		0.000
4	FUNCTION1 HXCD...	22.57	7.423e1					1.7	NO		bb		0.000
5	FUNCTION1 HXCD...	22.13	9.525e1					1.4	NO		bb		0.000
6	FUNCTION1 HXCD...	21.97	7.937e1					1.5	NO		bb		0.000
7	FUNCTION1 HXCD...	27.15	2.094e2					5.3	YES		bb		0.000
8	FUNCTION1 HXCD...	26.92	1.939e2					3.6	YES		db		0.000
9	FUNCTION1 HXCD...	26.83	1.551e2					2.1	NO		bd		0.000
10	FUNCTION1 HXCD...	26.62	1.517e2					2.2	NO		bb		0.000
11	FUNCTION1 HXCD...	26.37	1.493e2					3.4	YES		bb		0.000
12	FUNCTION1 HXCD...	26.15	2.002e2					4.0	YES		db		0.000
13	FUNCTION1 HXCD...	26.06	1.127e2					1.9	NO		bd		0.000
14	FUNCTION1 HXCD...	25.91	7.092e1					1.6	NO		db		0.000
15	FUNCTION1 HXCD...	25.87	8.232e1					1.6	NO		dd		0.000
16	FUNCTION1 HXCD...	25.82	9.276e1					1.7	NO		bd		0.000
17	FUNCTION1 HXCD...	25.07	1.032e2					1.3	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	23.02	1.107e2					2.2	NO		bb		0.000
2	FUNCTION1 HPCD...	22.28	1.806e2					3.6	YES		bb		0.000
3	FUNCTION1 HPCD...	22.13	1.508e2					2.1	NO		bb		0.000
4	FUNCTION1 HPCD...	21.51	7.354e1					1.1	NO		bb		0.000
5	FUNCTION1 HPCD...	27.29	1.236e2					1.6	NO		bb		0.000
6	FUNCTION1 HPCD...	26.61	1.207e2					1.4	NO		bb		0.000
7	FUNCTION1 HPCD...	26.44	1.459e2					2.4	NO		db		0.000
8	FUNCTION1 HPCD...	26.38	1.616e2					2.2	NO		bd		0.000
9	FUNCTION1 HPCD...	26.23	9.226e1					2.1	NO		bb		0.000
10	FUNCTION1 HPCD...	24.13	7.562e1					0.9	NO		bb		0.000
11	FUNCTION1 HPCD...	23.70	8.201e1					1.4	NO		bb		0.000
12	FUNCTION1 HPCD...	23.46	8.017e1					1.0	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...	28.56	8.985e1					3.6	YES		db		0.000
2	FUNCTION2 HPCD...	28.46	2.620e2					5.0	YES		bd		0.000
3	FUNCTION2 HPCD...	28.32	8.726e1					2.7	NO		bb		0.000
4	FUNCTION2 HPCD...	28.19	1.550e2					2.9	NO		db		0.000
5	FUNCTION2 HPCD...	28.13	1.199e2					2.3	NO		dd		0.000
6	FUNCTION2 HPCD...	28.08	2.552e2					5.0	YES		bd		0.000
7	FUNCTION2 HPCD...	27.61	7.161e1					2.1	NO		bb		0.000
8	FUNCTION2 HPCD...	31.22	8.421e1					2.0	NO		bb		0.000
9	FUNCTION2 HPCD...	31.02	1.875e2					3.3	YES		db		0.000
10	FUNCTION2 HPCD...	30.96	9.011e1					1.8	NO		bd		0.000
11	FUNCTION2 HPCD...	30.65	3.458e2					7.2	YES		db		0.000
12	FUNCTION2 HPCD...	30.62	2.944e2					6.7	YES		bd		0.000
13	FUNCTION2 HPCD...	29.63	1.099e2					4.0	YES		bb		0.000
14	FUNCTION2 HPCD...	29.41	1.087e2					1.9	NO		bb		0.000
15	FUNCTION2 HPCD...	29.28	7.538e1					1.1	NO		bb		0.000
16	FUNCTION2 HPCD...	28.65	7.296e1					2.9	NO		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	33.98	1.006e2					3.9	YES		bb		0.000
2	FUNCTION3 OCDPE	33.58	7.438e1					3.4	YES		db		0.000
3	FUNCTION3 OCDPE	33.49	2.083e2					4.3	YES		bd		0.000
4	FUNCTION3 OCDPE	32.92	1.515e2					7.9	YES		bb		0.000
5	FUNCTION3 OCDPE	32.81	1.352e2					3.4	YES		bb		0.000
6	FUNCTION3 OCDPE	32.54	8.103e1					1.4	NO		bb		0.000
7	FUNCTION3 OCDPE	35.88	7.146e1					2.0	NO		bb		0.000
8	FUNCTION3 OCDPE	35.66	1.597e2					3.1	YES		db		0.000
9	FUNCTION3 OCDPE	35.54	1.914e2					3.6	YES		bd		0.000
10	FUNCTION3 OCDPE	34.96	1.235e2					3.8	YES		db		0.000
11	FUNCTION3 OCDPE	34.90	8.553e1					2.8	NO		bd		0.000
12	FUNCTION3 OCDPE	34.33	1.415e2					3.1	YES		bb		0.000
13	FUNCTION3 OCDPE	34.10	1.136e2					3.5	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	39.75	1.343e2					4.5	YES		bd		0.000
2	FUNCTION4 NCDPE	39.40	2.498e2					6.4	YES		db		0.000
3	FUNCTION4 NCDPE	39.34	1.881e2					3.6	YES		bd		0.000
4	FUNCTION4 NCDPE	39.16	8.583e1					3.9	YES		bb		0.000
5	FUNCTION4 NCDPE	38.82	1.055e2					2.6	NO		db		0.000
6	FUNCTION4 NCDPE	38.76	2.262e2					4.6	YES		dd		0.000
7	FUNCTION4 NCDPE	38.66	2.605e2					6.2	YES		bd		0.000
8	FUNCTION4 NCDPE	38.34	1.907e2					2.5	NO		bb		0.000
9	FUNCTION4 NCDPE	40.70	1.415e2					1.6	NO		bb		0.000
10	FUNCTION4 NCDPE	40.15	2.474e2					6.5	YES		db		0.000
11	FUNCTION4 NCDPE	40.11	9.813e1					2.9	NO		dd		0.000
12	FUNCTION4 NCDPE	40.02	1.547e2					2.6	NO		bd		0.000
13	FUNCTION4 NCDPE	39.88	2.214e2					5.2	YES		db		0.000
14	FUNCTION4 NCDPE	39.81	2.563e2					5.6	YES		dd		0.000

ETHERS6

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 DCDPE	45.16	7.270e1					2.6	NO		bb		0.000

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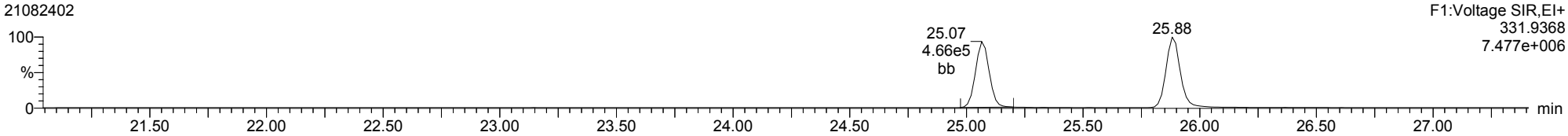

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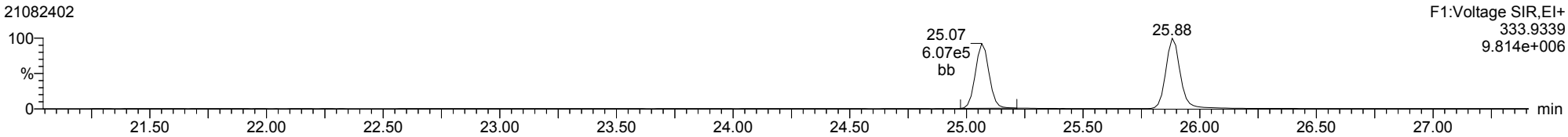

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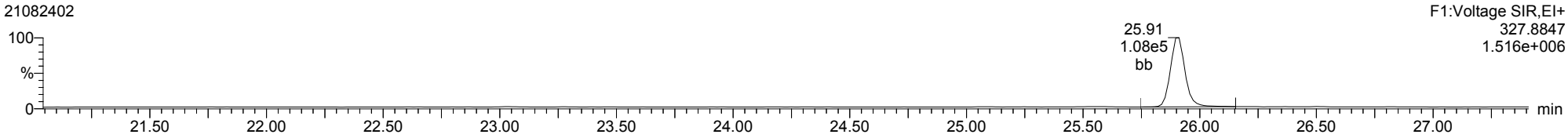

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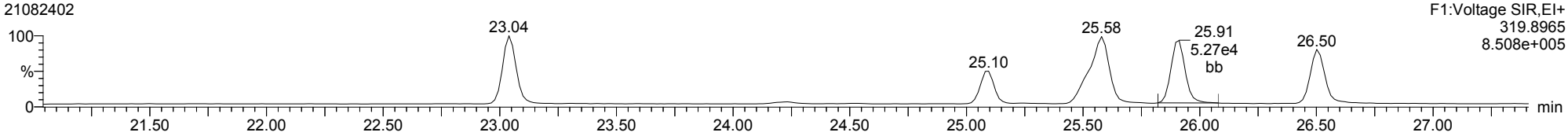

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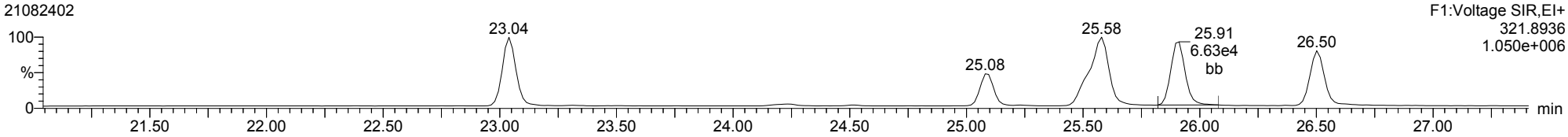

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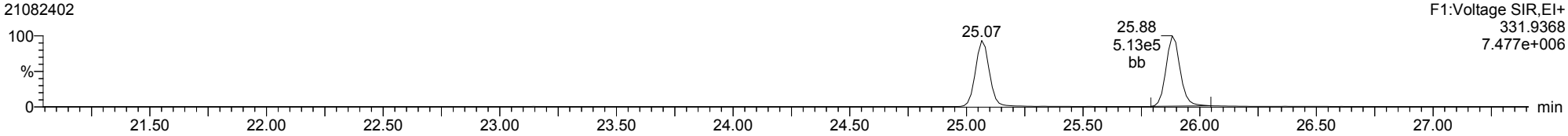

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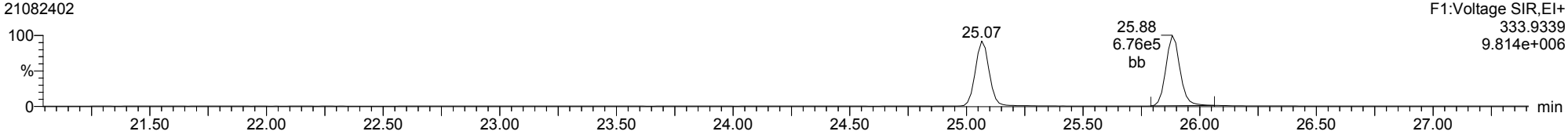

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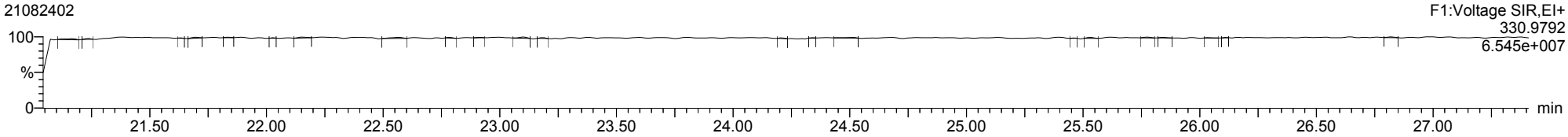

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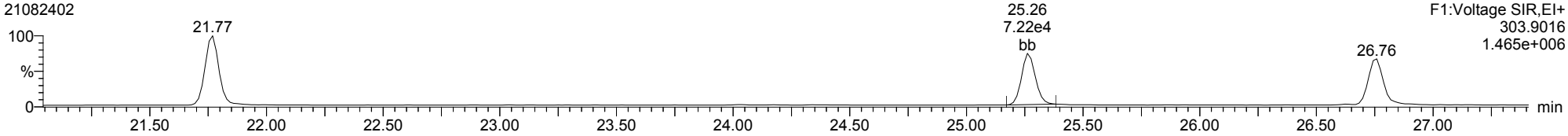

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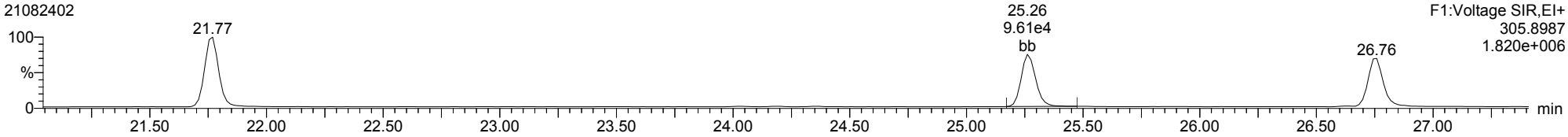

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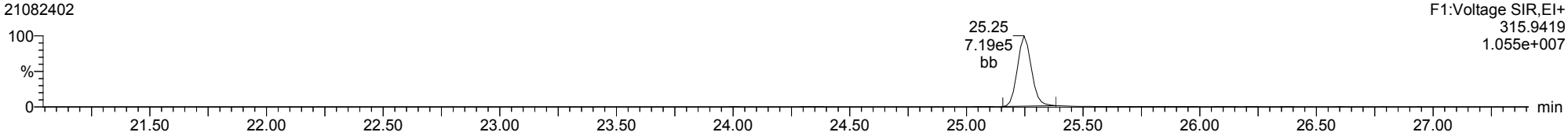

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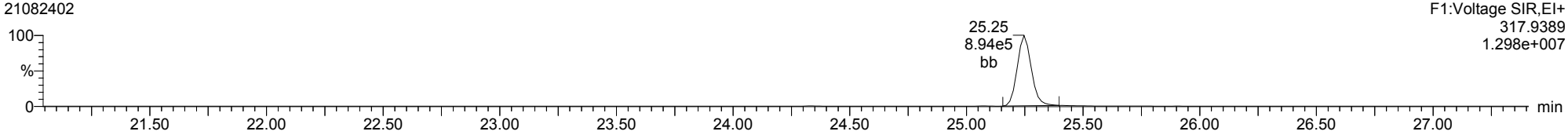

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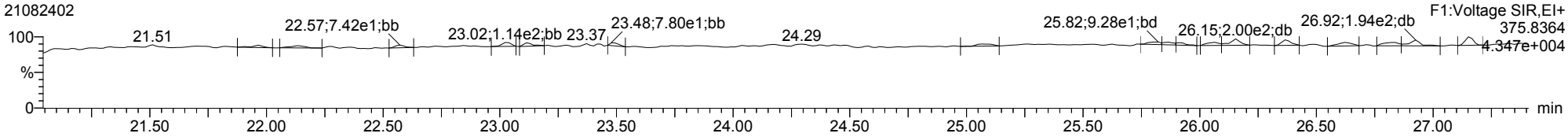

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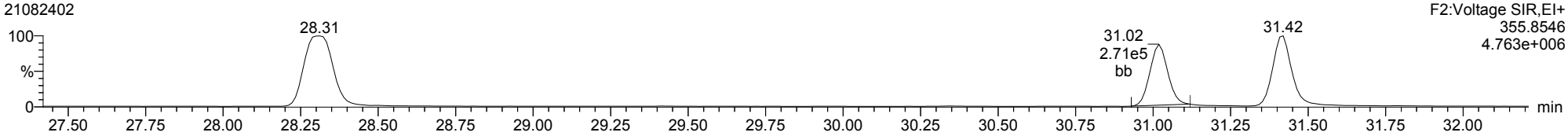

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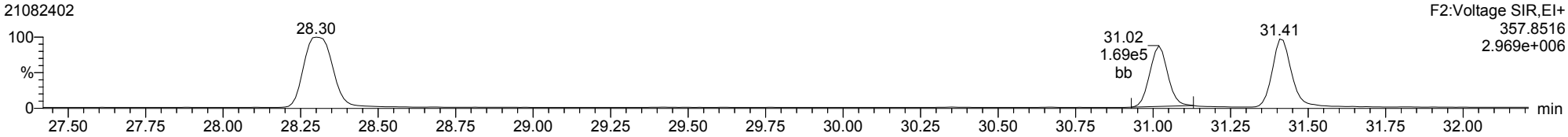

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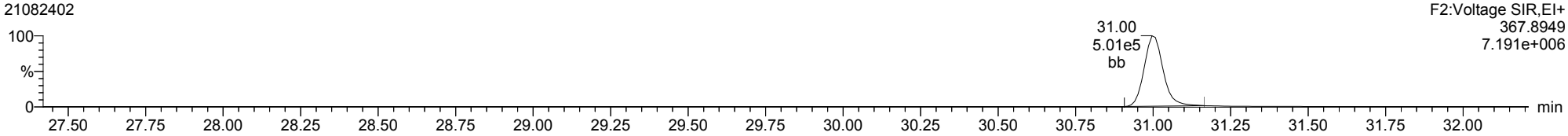

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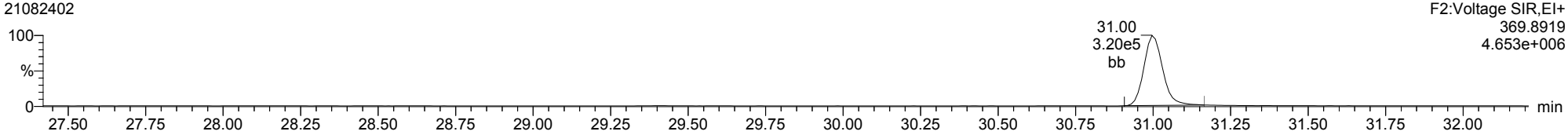

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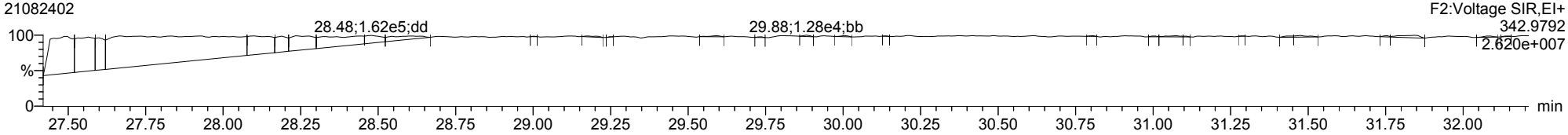

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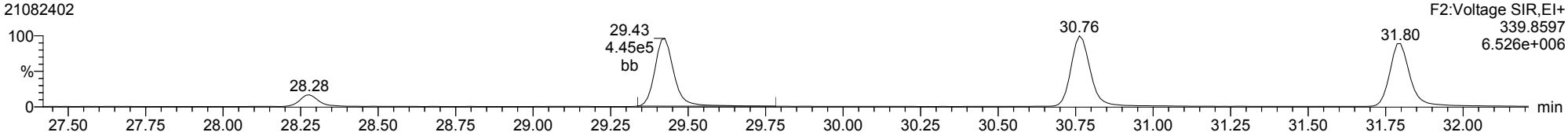

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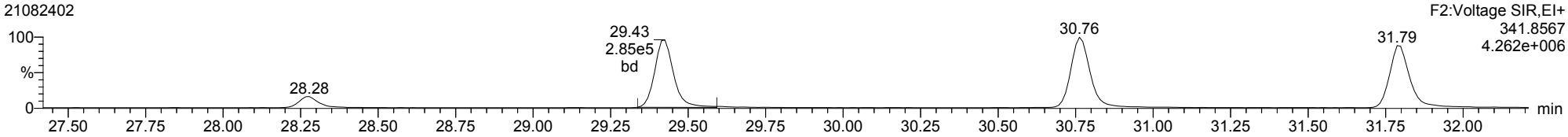

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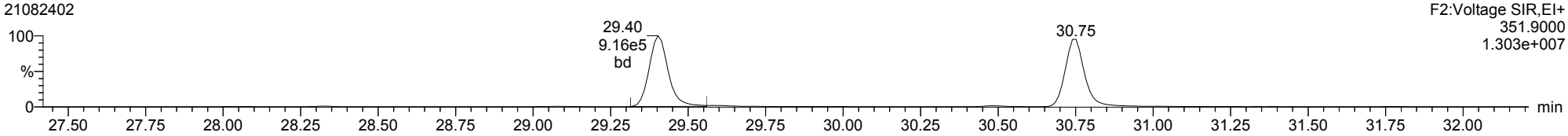

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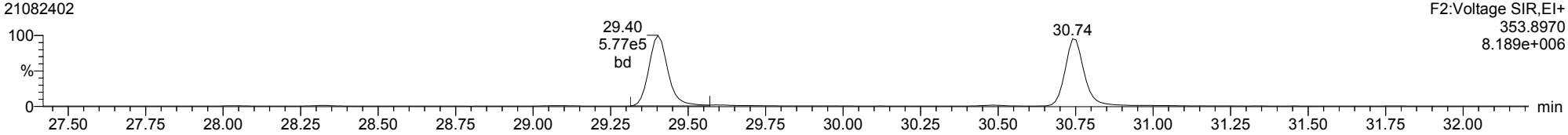

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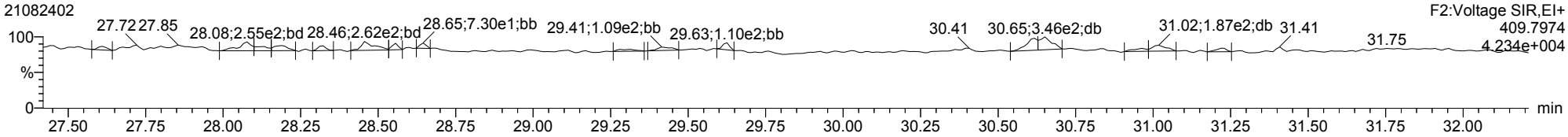

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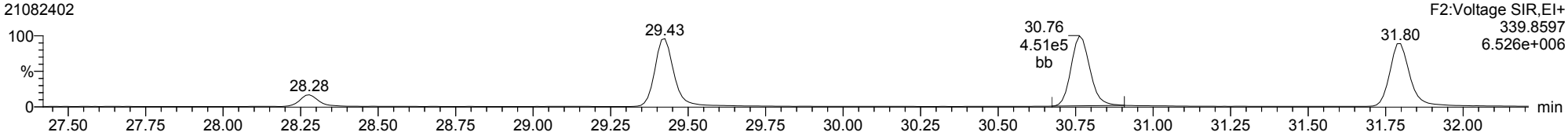

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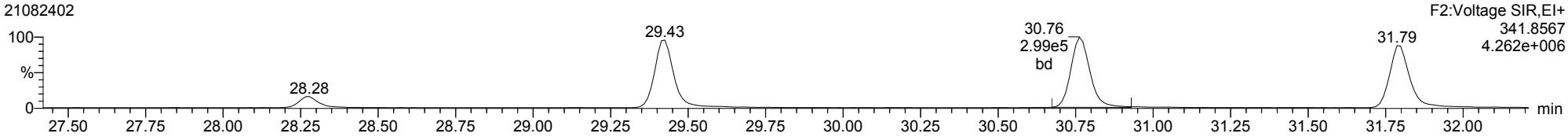

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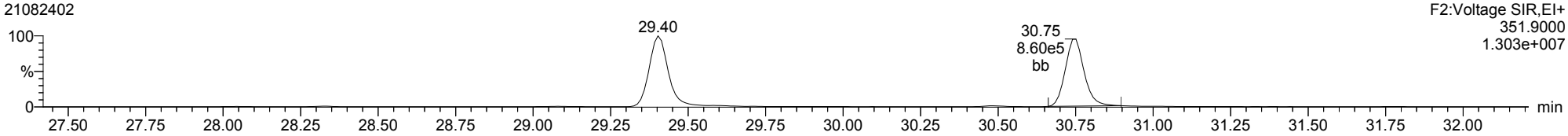

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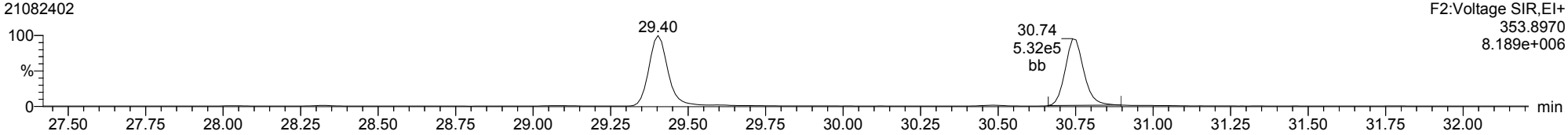

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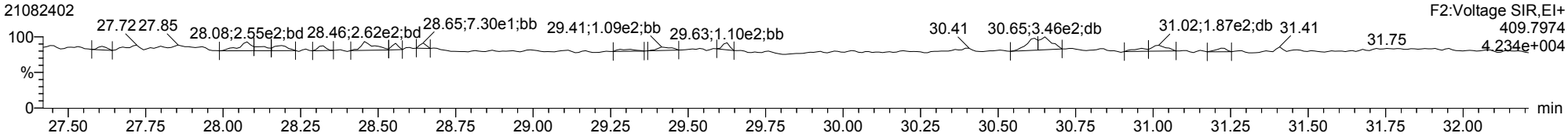

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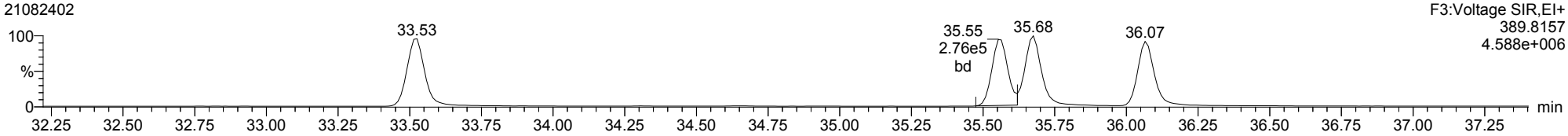

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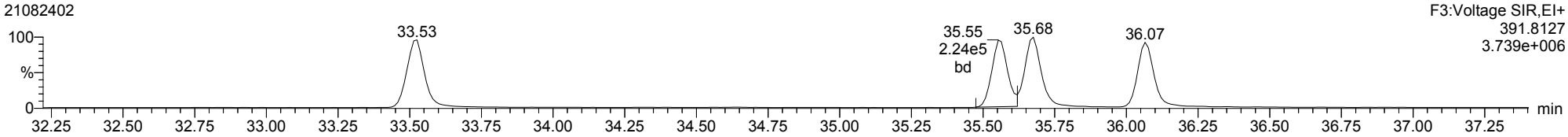

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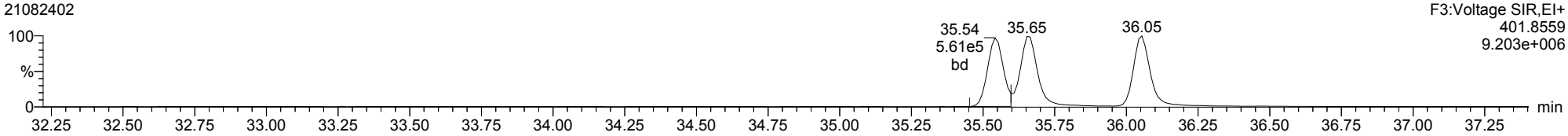

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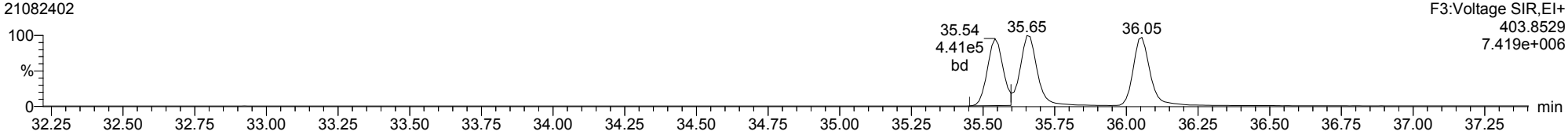

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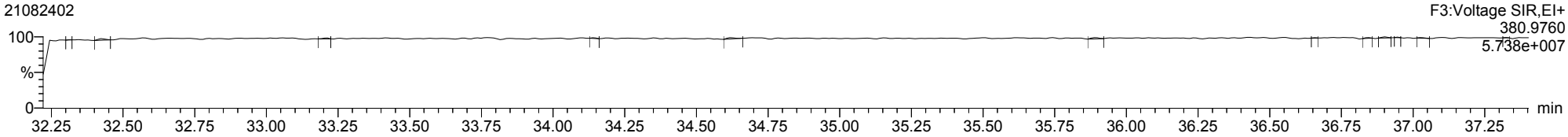

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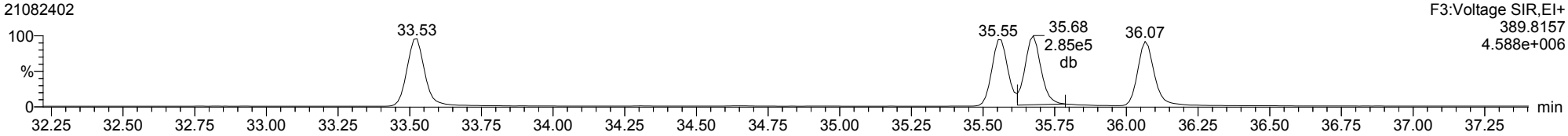

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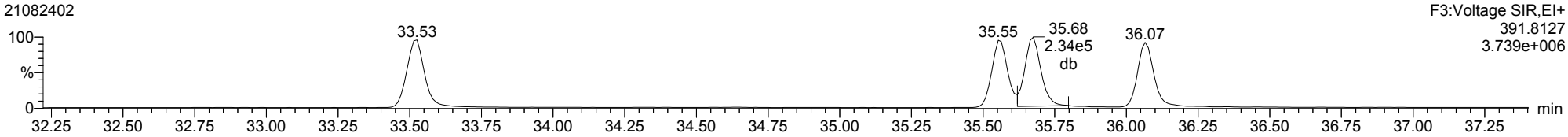

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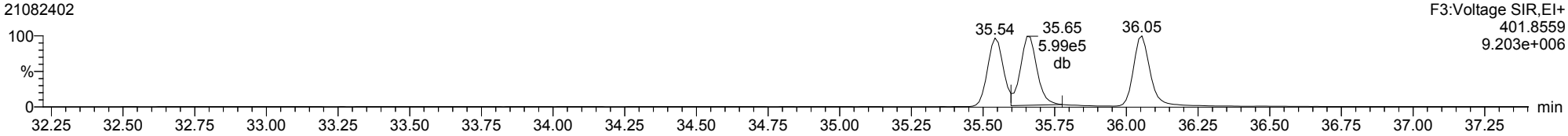

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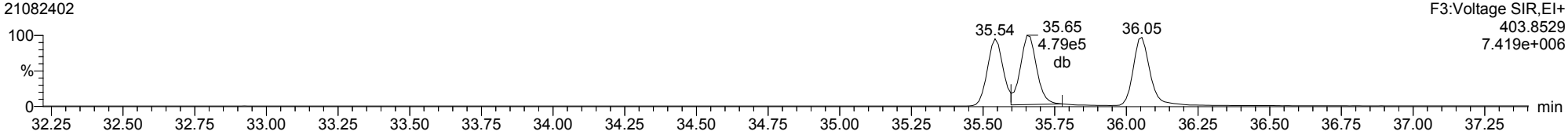

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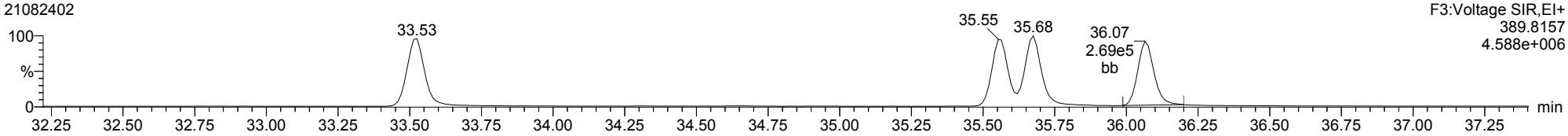

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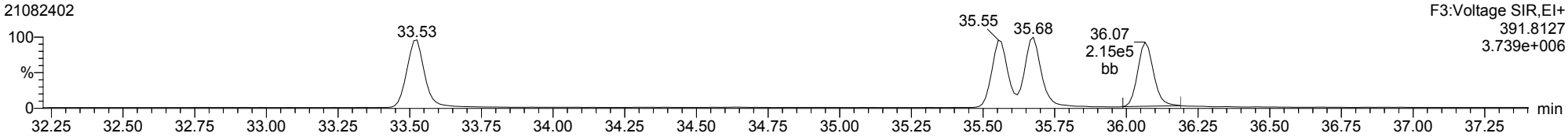

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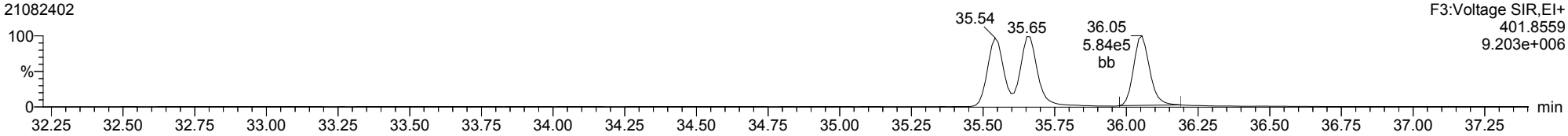

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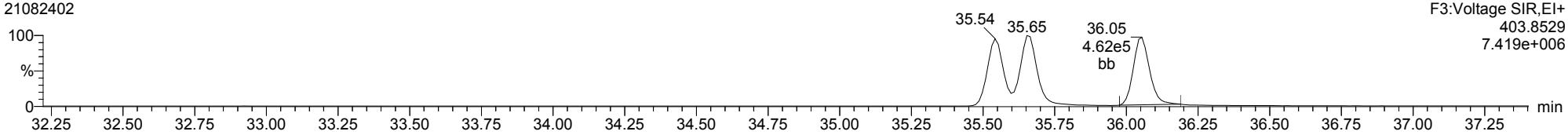

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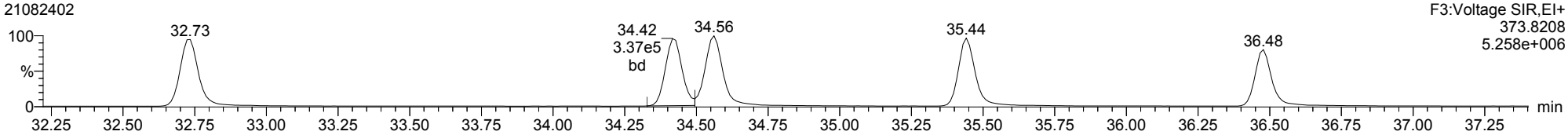

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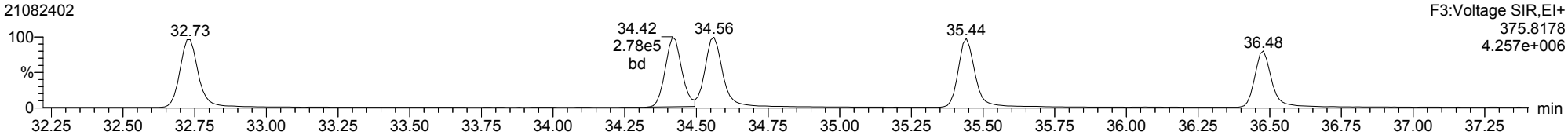

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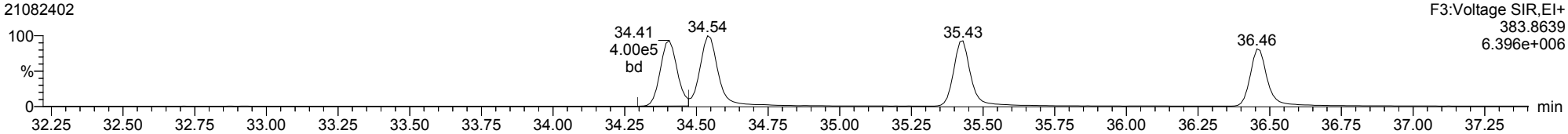

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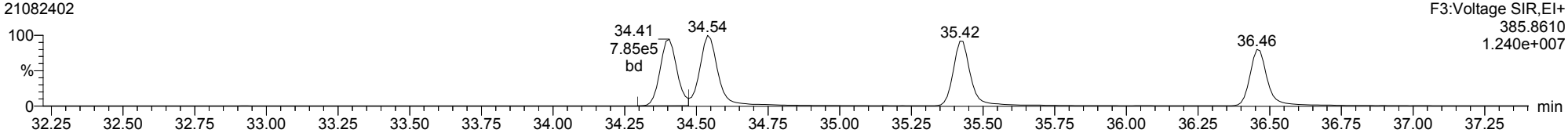

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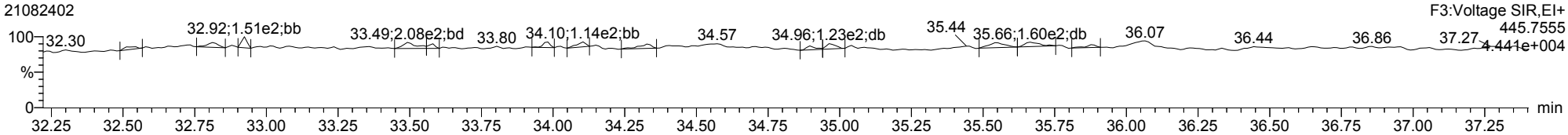

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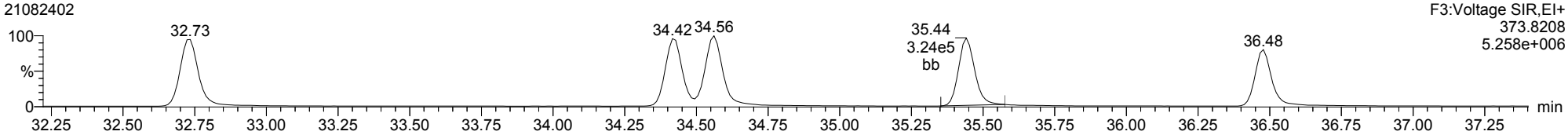

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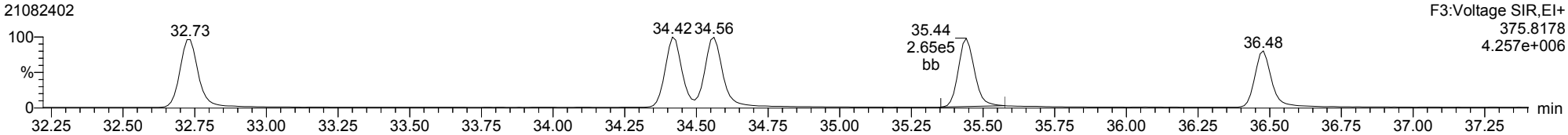

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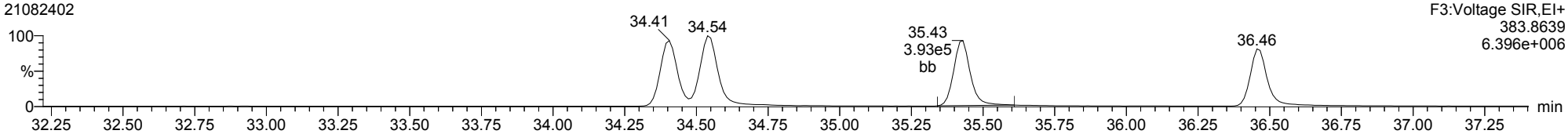

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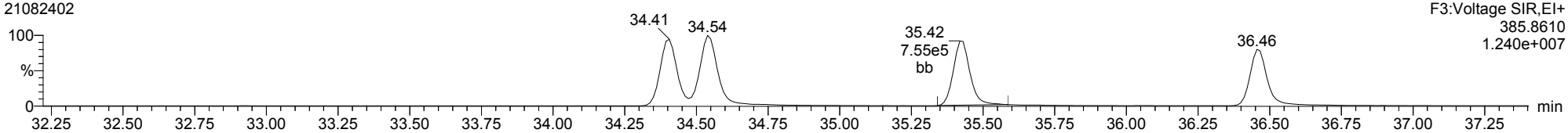

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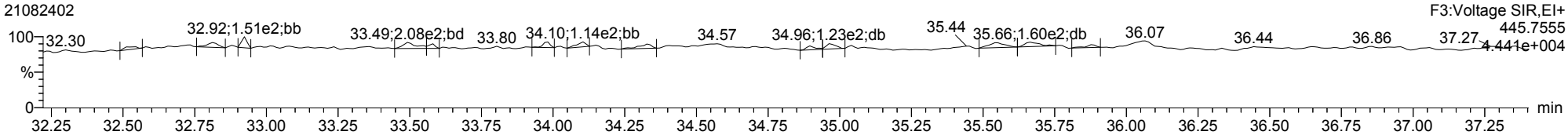

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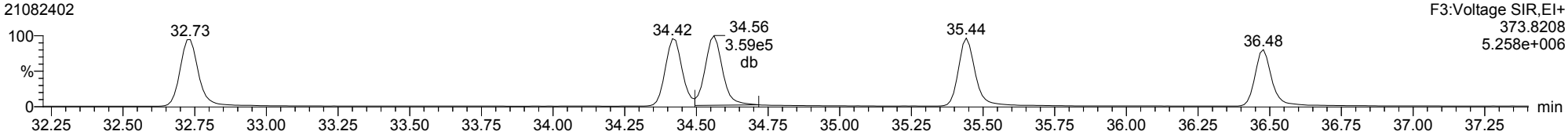

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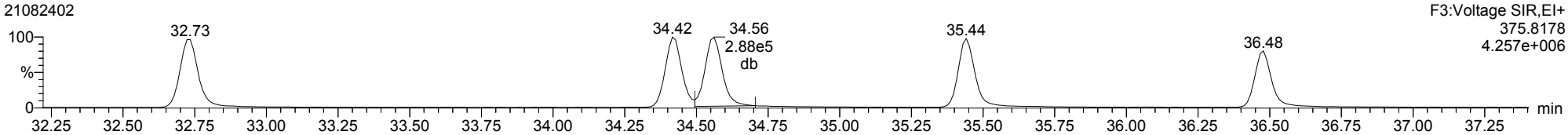

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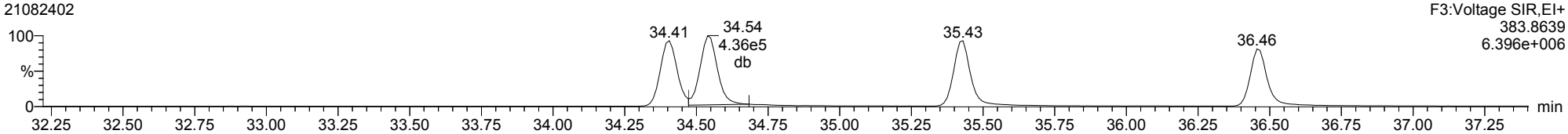

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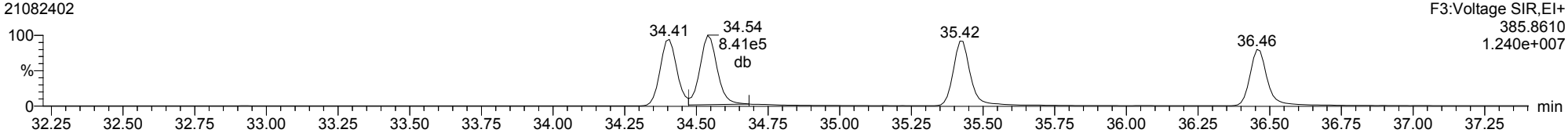

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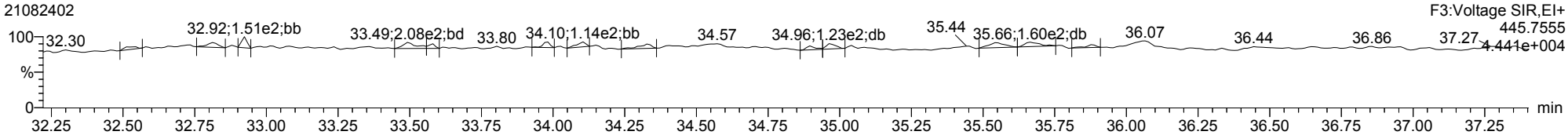

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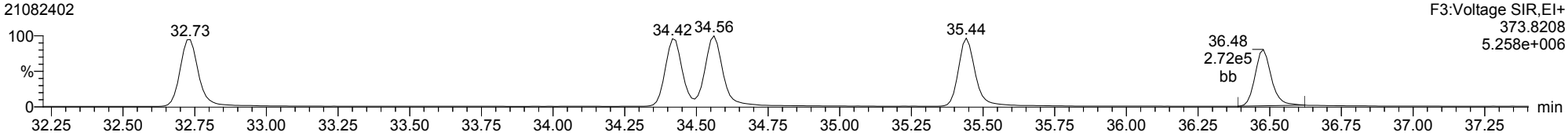

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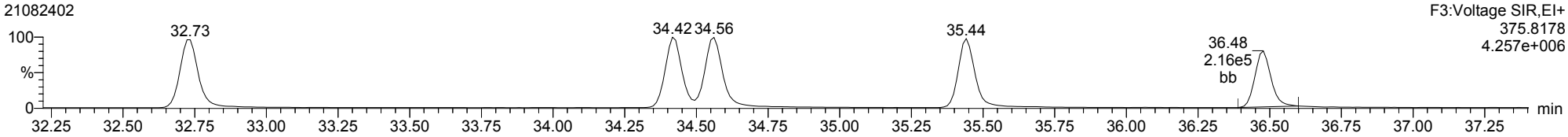

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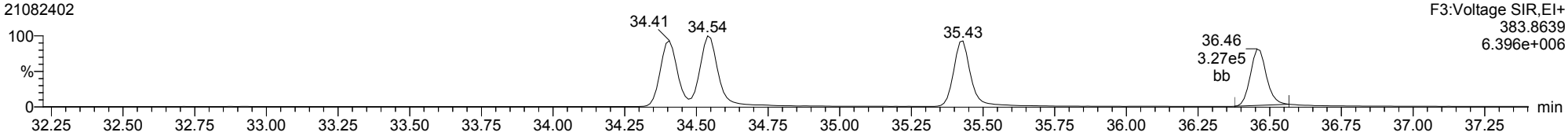

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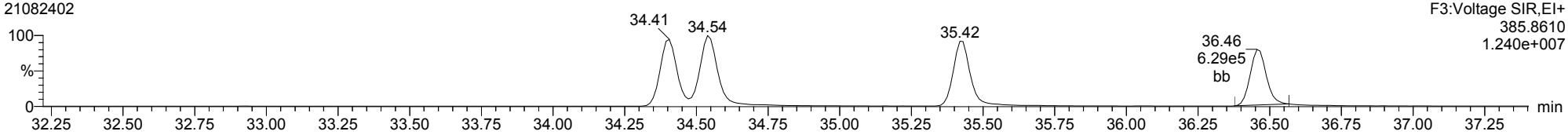

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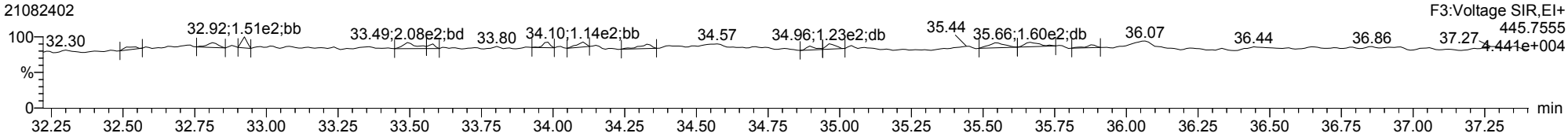

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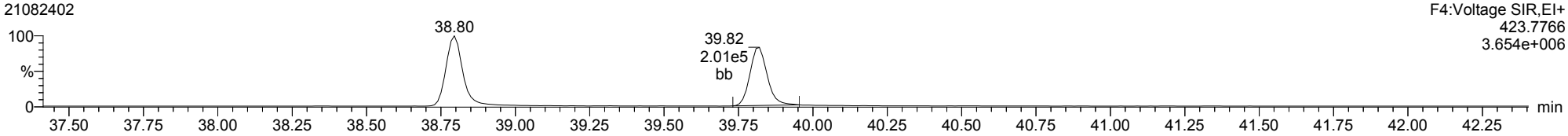

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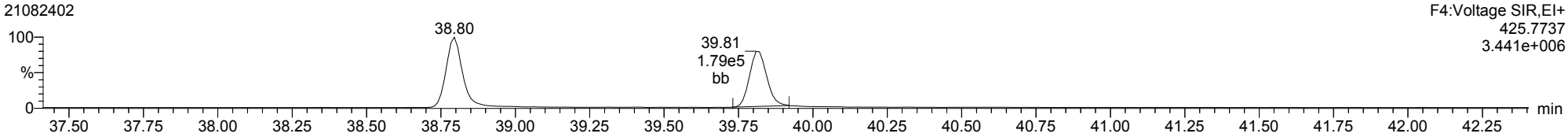

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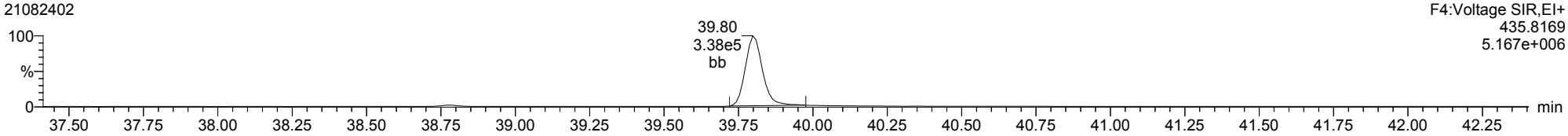

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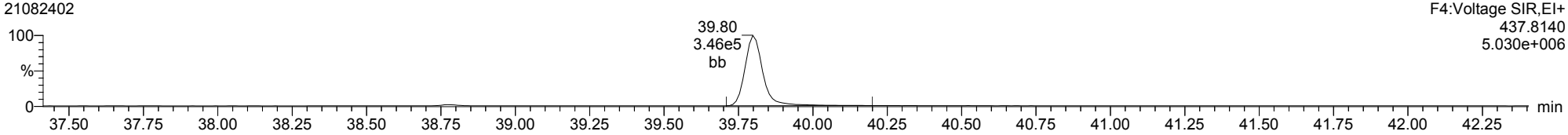

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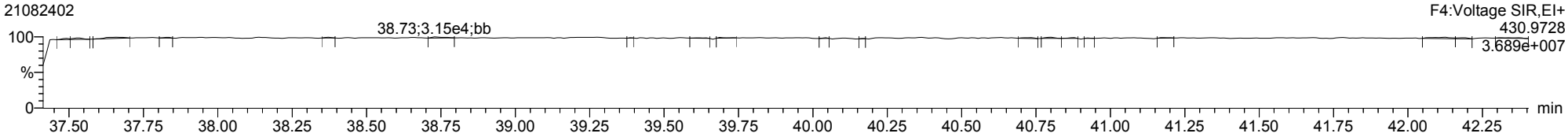

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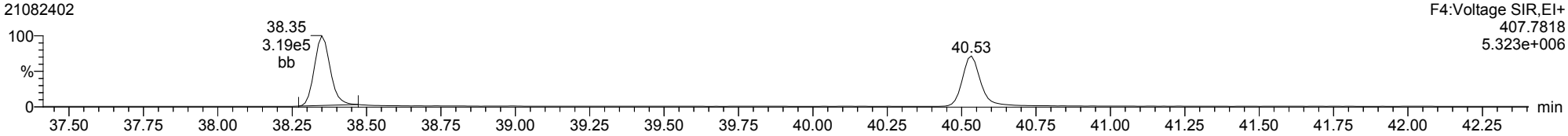

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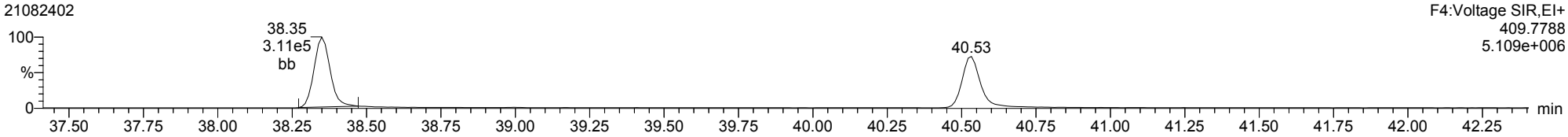

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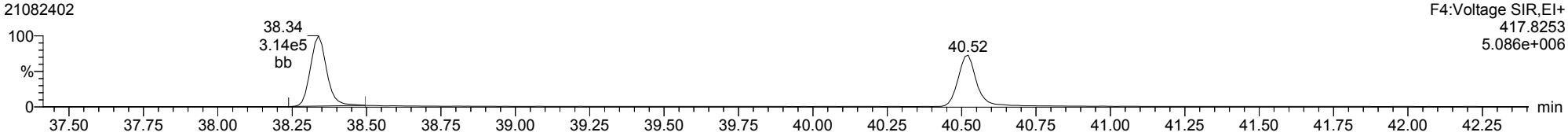

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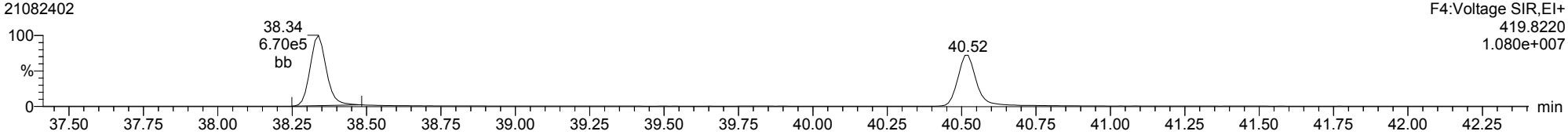

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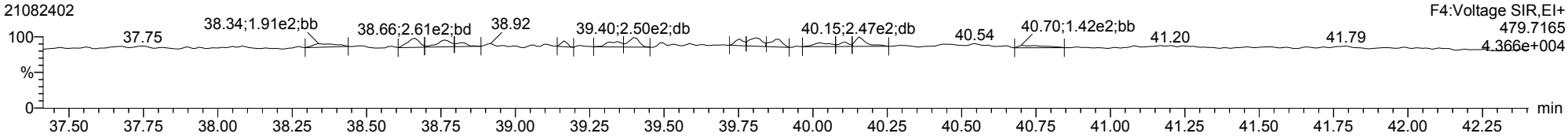

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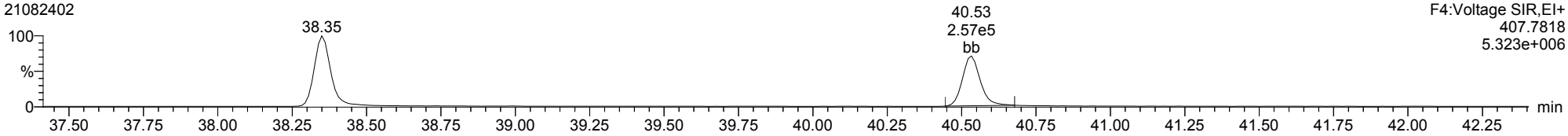

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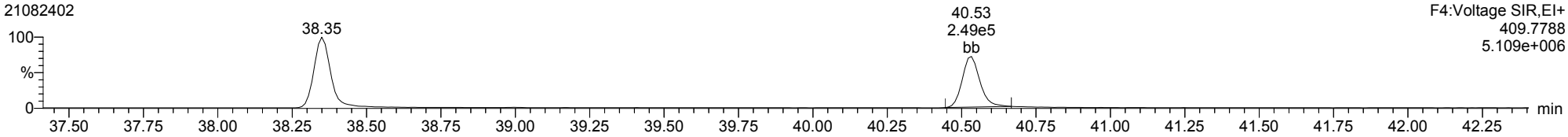

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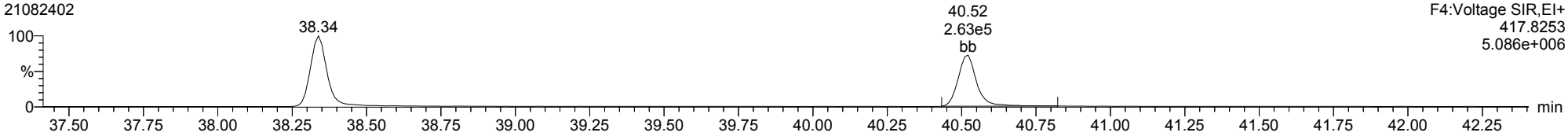

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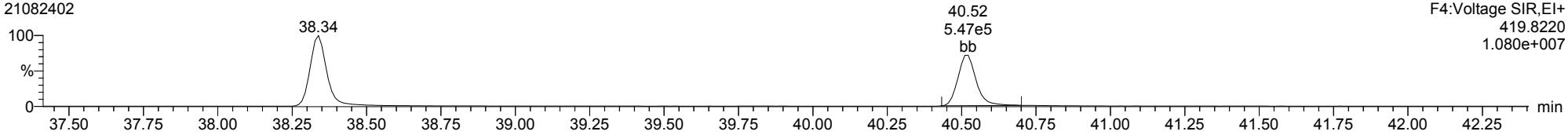

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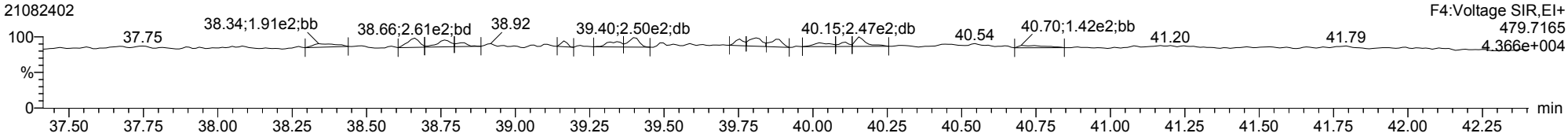

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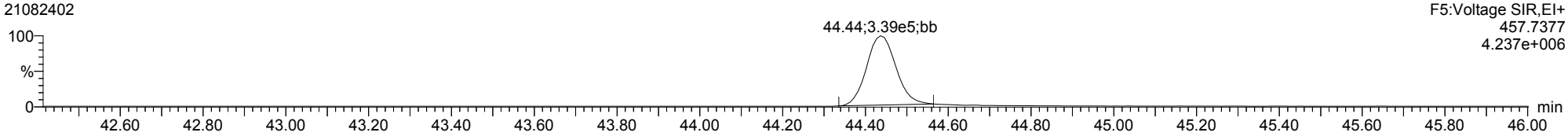

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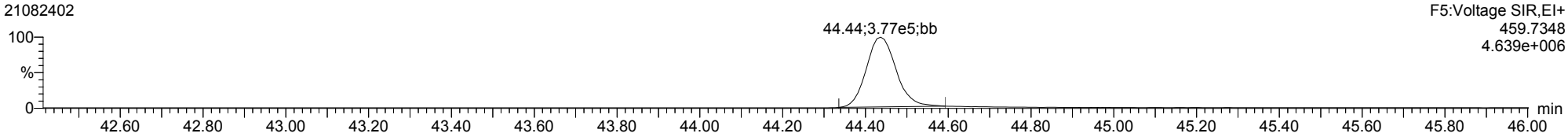

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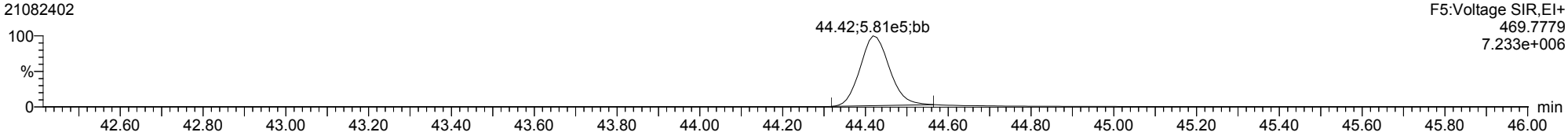

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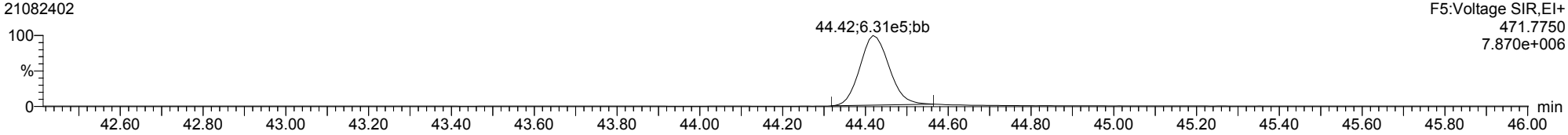

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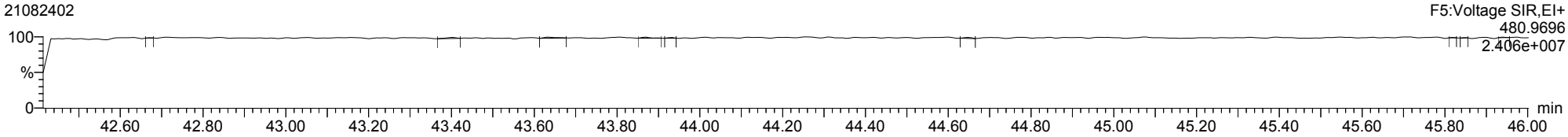

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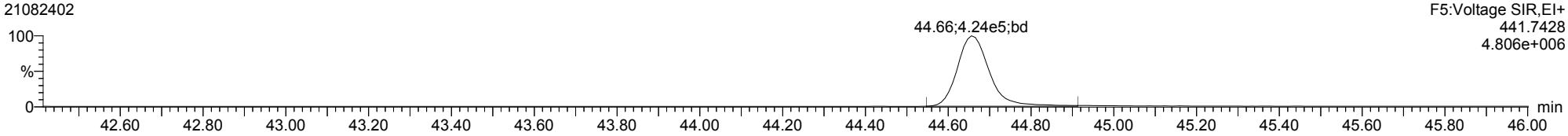

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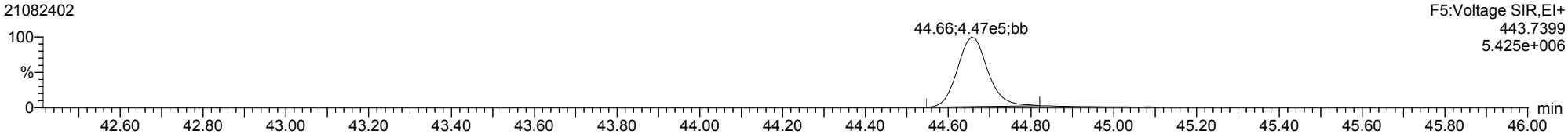

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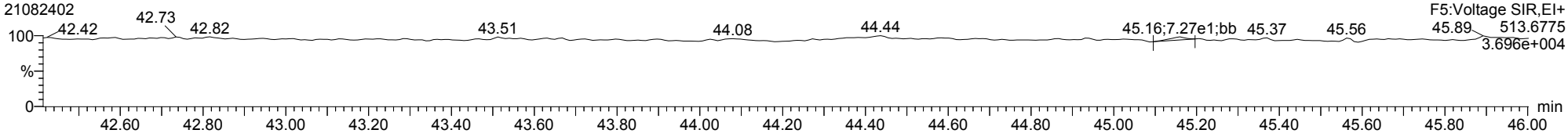

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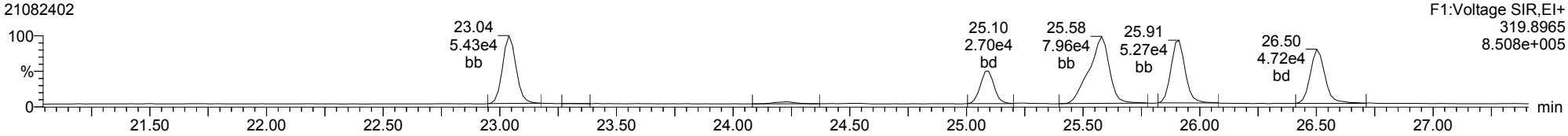

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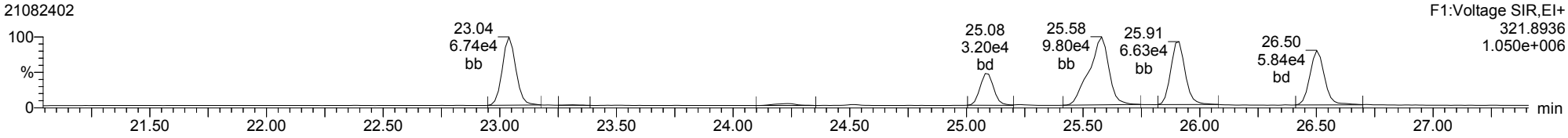

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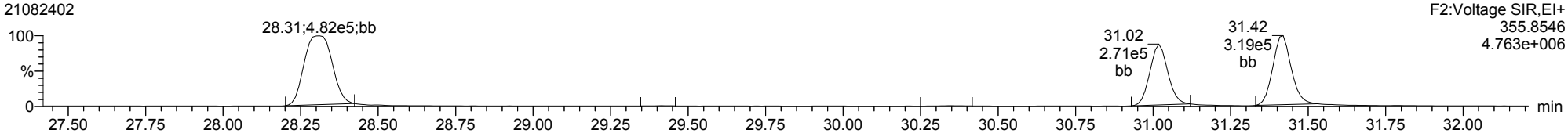

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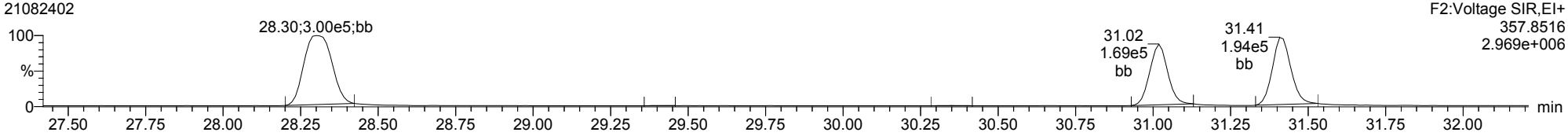

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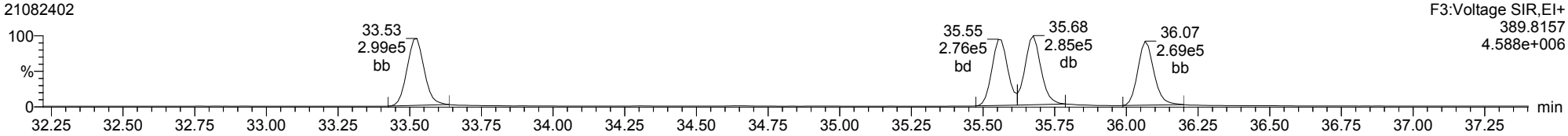

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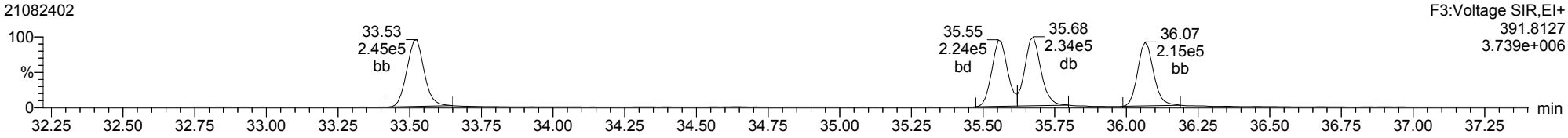

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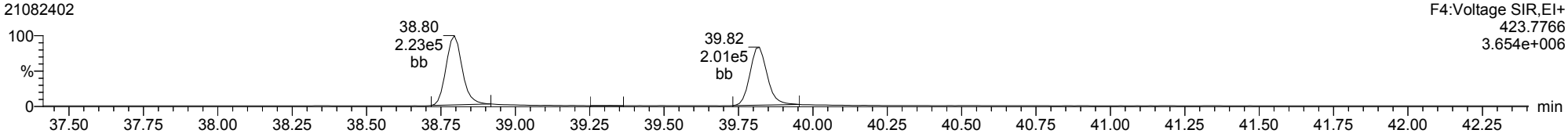

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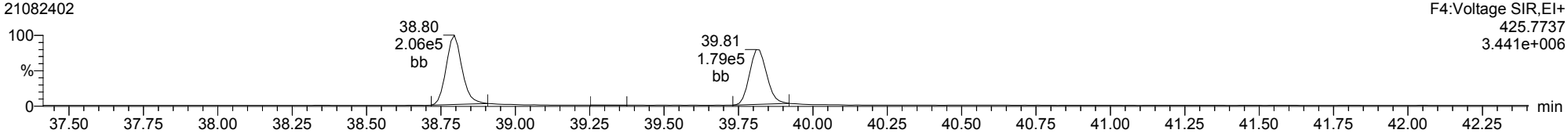

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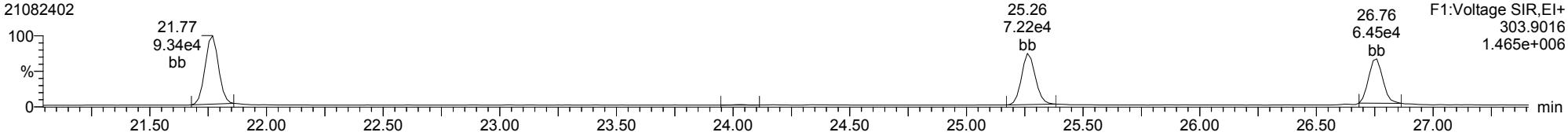

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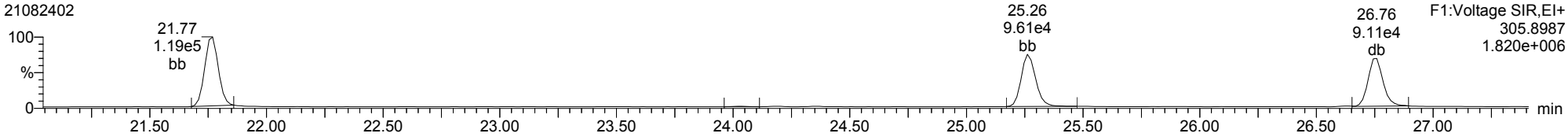

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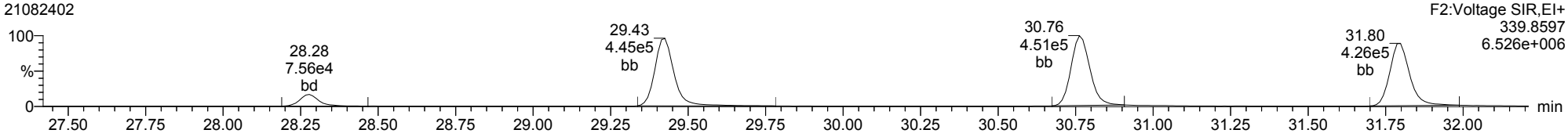

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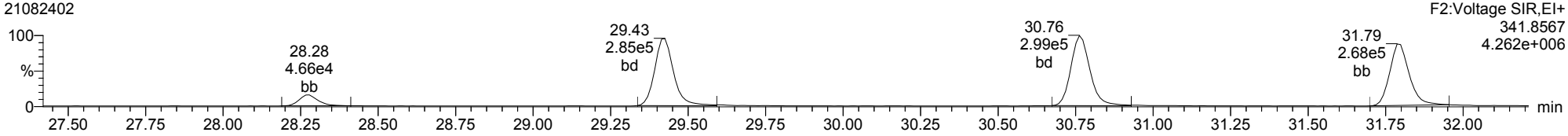

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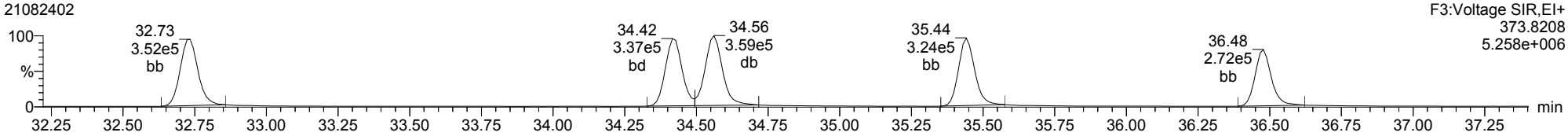

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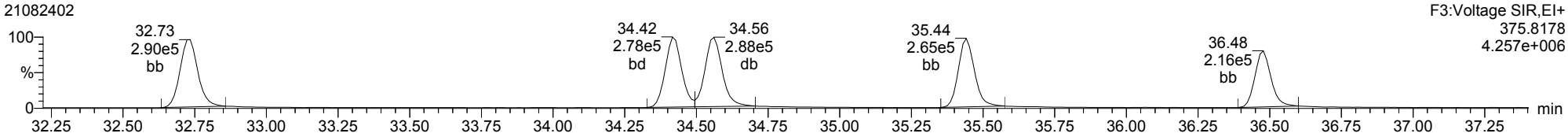

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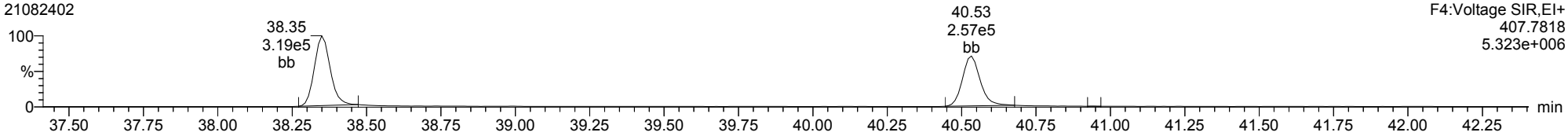

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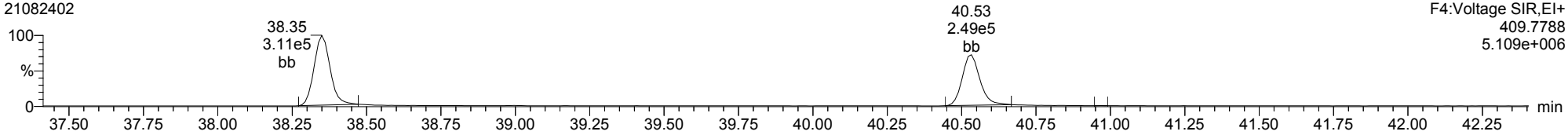

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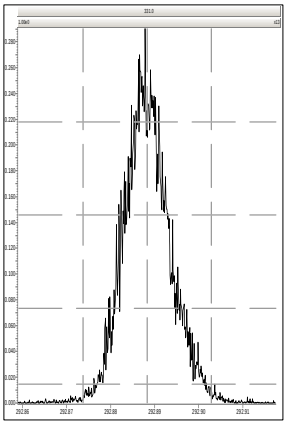

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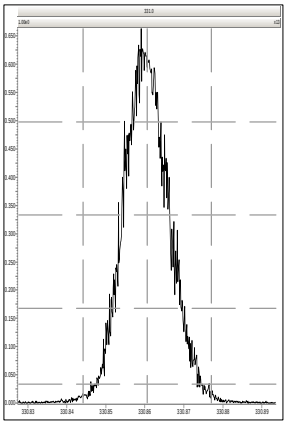

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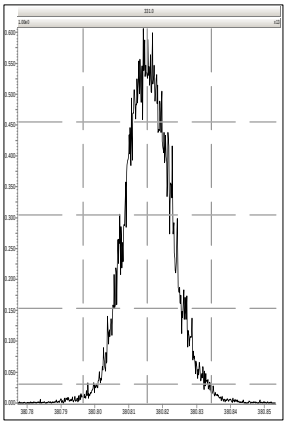

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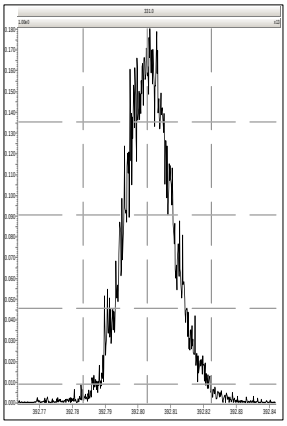

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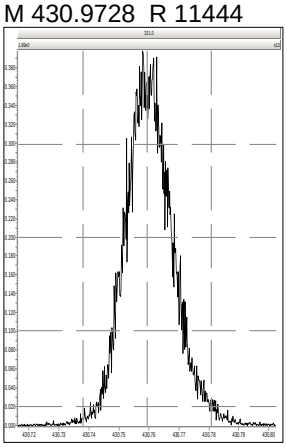

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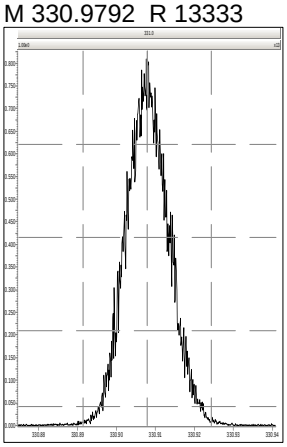

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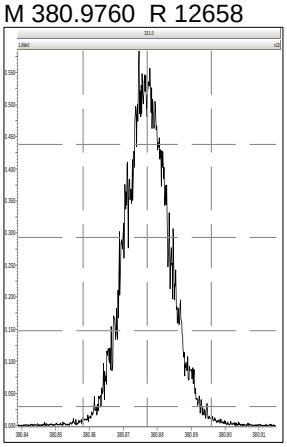

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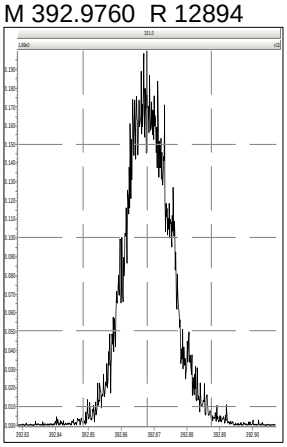

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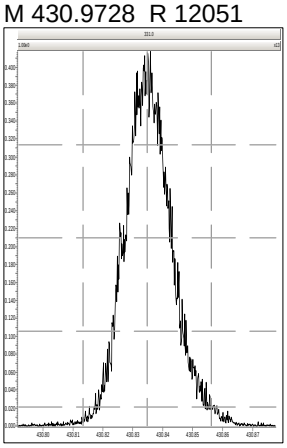

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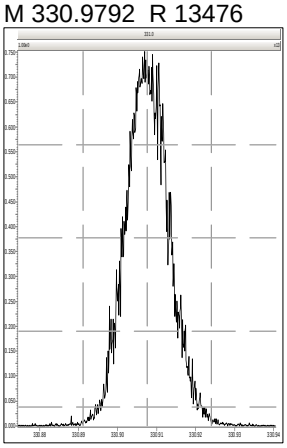

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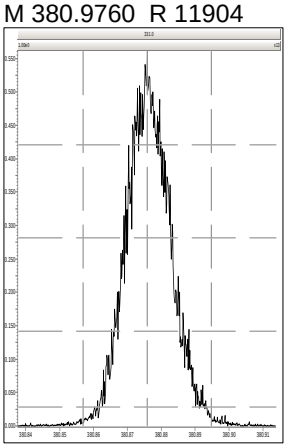

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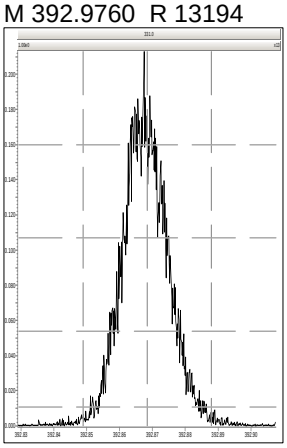

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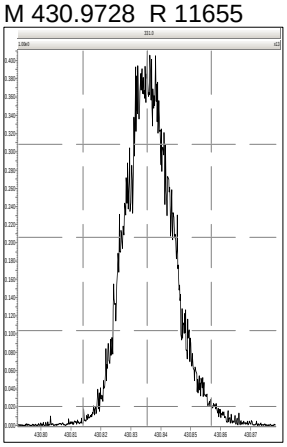

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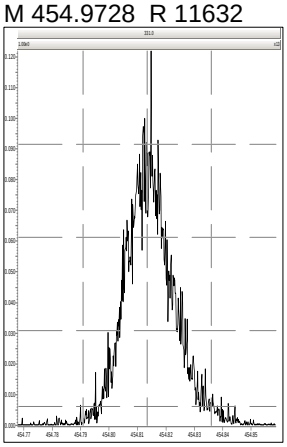

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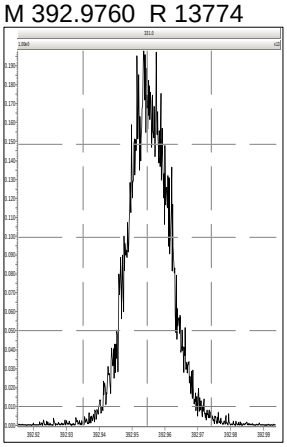

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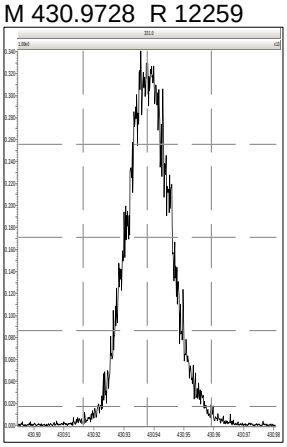

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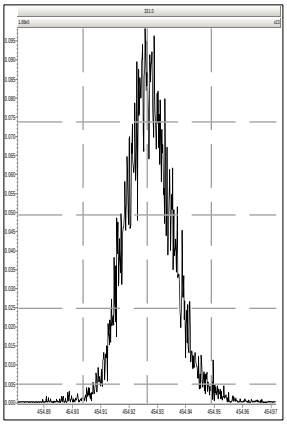
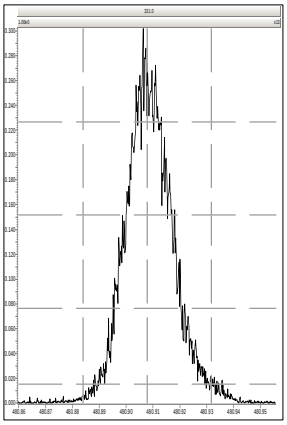
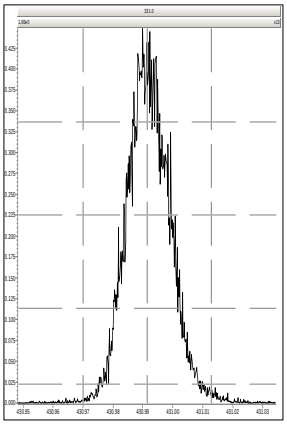


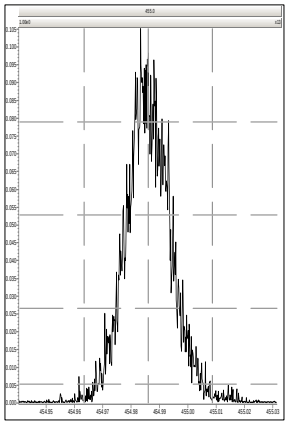
M 480.9696 R 11876



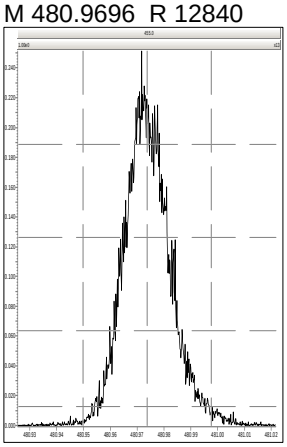
M 430.9728 R 13094



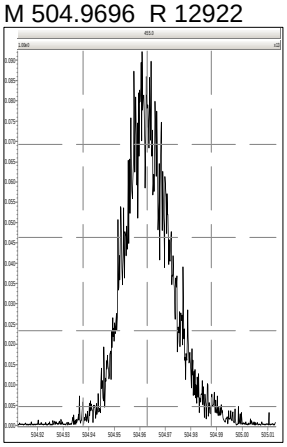
M 454.9728 R 13161



M 480.9696 R 12840



M 504.9696 R 12922



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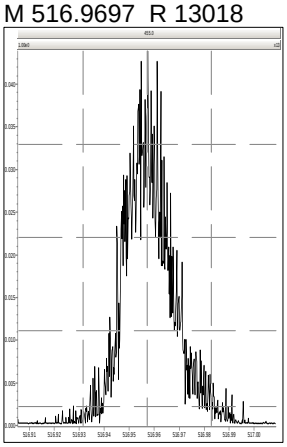
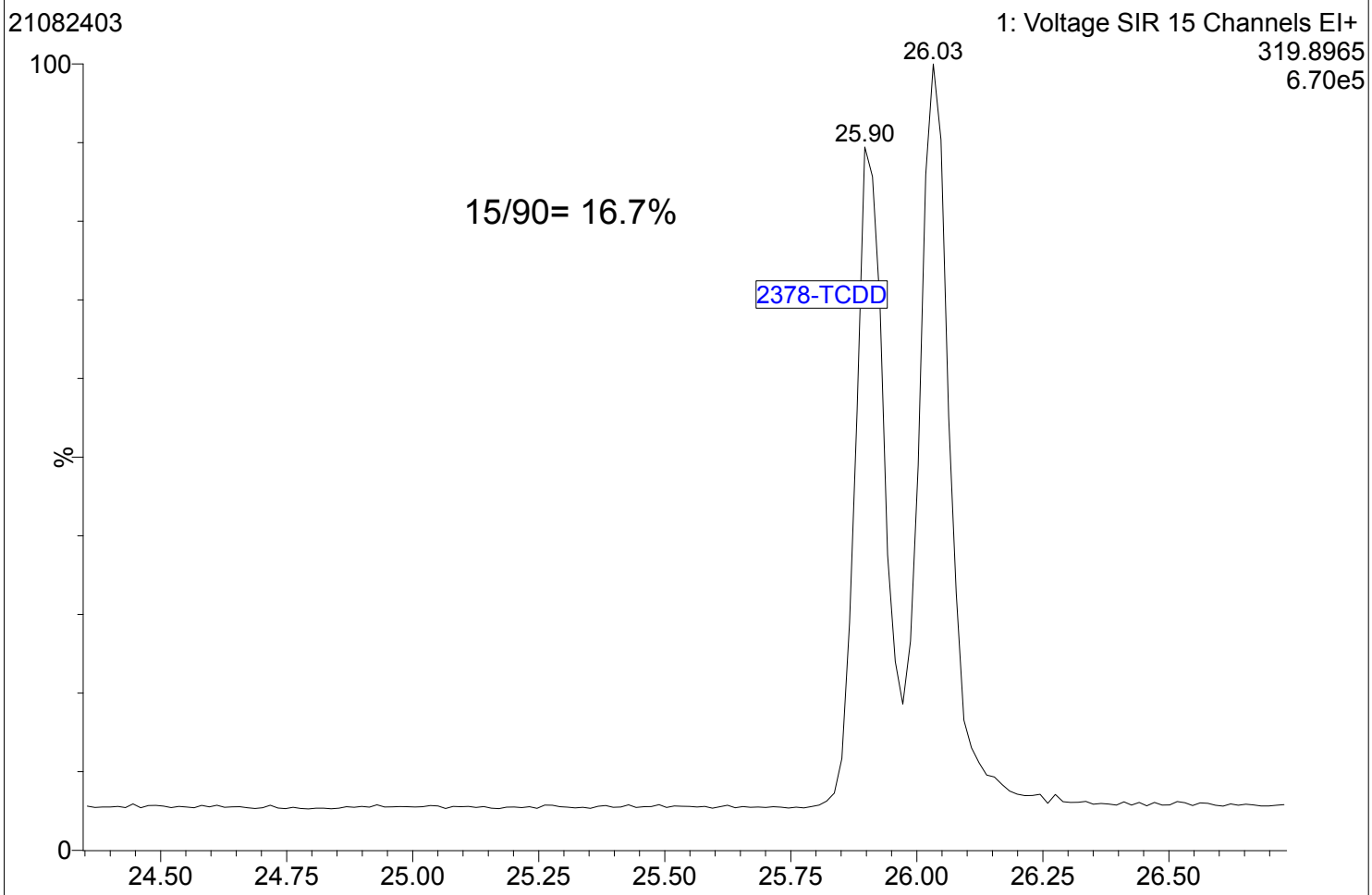
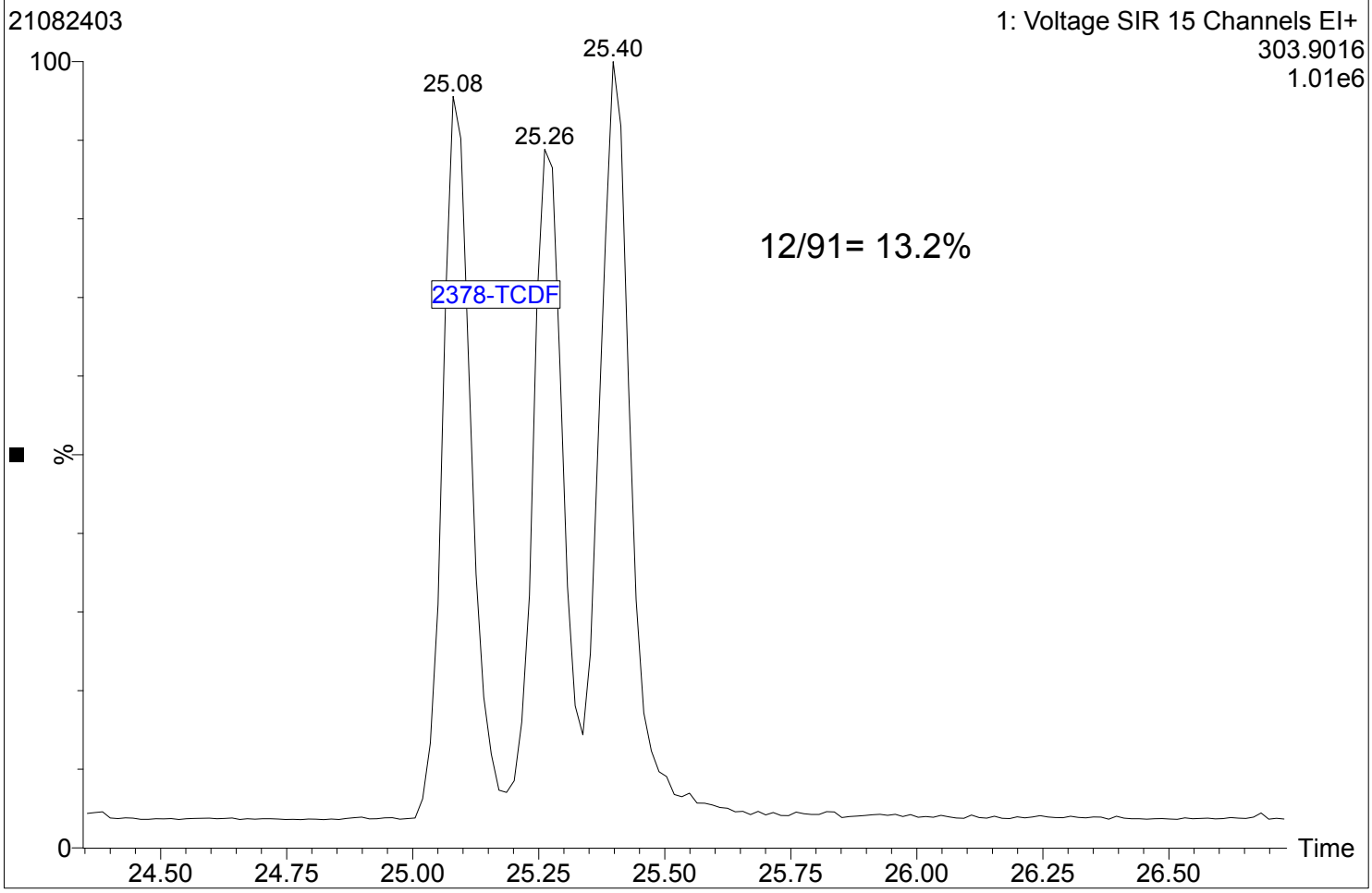



21082403
1: Voltage SIR 15 Channels EI+
319.8965
6.70e5
100
%
0
26.03
25.90
15/90= 16.7%
2378-TCDD
24.50
24.75
25.00
25.25
25.50
25.75
26.00
26.25
26.50


21082403
1: Voltage SIR 15 Channels EI+
303.9016
1.01e6
100
%
0
25.40
25.08
25.26
12/91= 13.2%
2378-TCDF
Time
24.50
24.75
25.00
25.25
25.50
25.75
26.00
26.25
26.50

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21030111A	Calibration Date:	03/01/2021
Sequence:	SJC0004	Injection Date:	03/01/21
Lab Sample ID:	SJC0004-CCV1	Injection Time:	19:13
Sequence Name:	CS3V2		

		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	9.64	0.7815069	0.7530337		-3.6	+/-16
2,3,7,8-TCDD	A	10.000	9.65	1.3074710	1.2616640		-3.5	+/-22
1,2,3,7,8-PeCDF	A	50.000	52.0	0.8661132	0.9008405		4.0	+/-18
2,3,4,7,8-PeCDF	A	50.000	49.0	0.9798329	0.9606136		-2.0	+/-18
1,2,3,7,8-PeCDD	A	50.000	50.5	0.9786280	0.9888719		1.0	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	49.6	1.0022170	0.9946424		-0.8	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	51.0	0.9610616	0.9806574		2.0	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	49.6	1.0430410	1.0345720		-0.8	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	46.3	0.9942991	0.9201414		-7.5	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	50.5	0.9561583	0.9652618		1.0	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	48.4	0.9525810	0.9228720		-3.1	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.1	0.9268956	0.9292545		0.3	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	52.7	1.0579720	1.1150140		5.4	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	52.5	1.0697390	1.1239760		5.1	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	51.1	1.0550420	1.0773570		2.1	+/-14
OCDF	A	100.00	96.4	1.2566960	1.2111070		-3.6	+/-37
OCDD	A	100.00	96.1	1.0738390	1.0318340		-3.9	+/-21
13C12-2,3,7,8-TCDF	A	100.00	101	1.9249160	1.9465136		1.1	+/-29
13C12-2,3,7,8-TCDD	A	100.00	101	1.1327550	1.1403393		0.7	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	98.5	1.4422400	1.4208121		-1.5	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	97.5	1.3866450	1.3525244		-2.5	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	98.3	0.9468647	0.9303635		-1.7	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	97.4	1.0530710	1.0259886		-2.6	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	96.3	1.1350140	1.0933604		-3.7	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	96.7	1.0040700	0.9713678		-3.3	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	99.4	0.9089439	0.9035648		-0.6	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	97.5	0.9385700	0.9147110		-2.5	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	97.7	1.0420460	1.0185359		-2.3	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	94.7	0.9598082	0.9092108		-5.3	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	94.5	0.7937117	0.7503206		-5.5	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	99.7	0.7883415	0.7860206		-0.3	+/-18
13C12-OCDD	A	200.00	185	0.7032915	0.6517301		-7.3	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.46	1.4170130	1.2274627		-5.4	+/-21

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:54 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, 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	25.458	1.001	6.950e4	8.437e4	0.782	0.824	0.770	2062	1982	9.51e5	1.22e6	461.0	613.8	NO	dd	bb	9.636
12378-PeCDF	29.605	1.001	4.108e5	2.609e5	0.866	1.574	1.550	4780	2896	6.10e6	3.71e6	1275.3	1282.3	NO	bb	bd	52.005
23478-PeCDF	30.942	1.000	4.217e5	2.602e5	0.980	1.621	1.550	4780	2896	6.30e6	3.85e6	1317.6	1327.8	NO	bb	bb	49.019
123478-HxCDF	34.574	1.001	3.401e5	2.586e5	1.002	1.315	1.240	3776	2108	5.31e6	4.01e6	1406.3	1903.2	NO	bd	bd	49.622
234678-HxCDF	35.588	1.001	3.354e5	2.542e5	1.043	1.319	1.240	3776	2108	5.32e6	4.06e6	1409.9	1925.1	NO	bb	bb	49.594
123678-HxCDF	34.708	1.000	3.583e5	2.707e5	0.961	1.324	1.240	3776	2108	5.23e6	4.04e6	1385.9	1918.4	NO	db	db	51.019
123789-HxCDF	36.624	1.001	2.735e5	2.143e5	0.994	1.276	1.240	3776	2108	4.20e6	3.29e6	1112.6	1561.7	NO	bb	bb	46.271
1234678-HpCDF	38.462	1.000	3.042e5	2.905e5	1.058	1.047	1.050	2351	2357	4.67e6	4.42e6	1986.3	1875.7	NO	bb	bd	52.696
1234789-HpCDF	40.668	1.000	2.544e5	2.404e5	1.070	1.059	1.050	2351	2357	3.45e6	3.27e6	1467.8	1386.9	NO	bd	bd	52.535
OCDF	44.810	1.006	4.505e5	4.756e5	1.257	0.947	0.890	2505	2749	5.09e6	5.38e6	2032.1	1955.9	NO	bd	bd	96.372
2378-TCDD	26.108	1.001	6.621e4	8.481e4	1.307	0.781	0.770	1536	1226	9.44e5	1.15e6	614.2	941.6	NO	bb	db	9.650
12378-PeCDD	31.198	1.000	2.929e5	1.900e5	0.979	1.541	1.550	2321	1781	4.28e6	2.81e6	1845.7	1580.7	NO	bb	bb	50.523
123478-HxCDD	35.699	1.000	2.858e5	2.322e5	0.956	1.230	1.240	3140	2519	4.43e6	3.65e6	1409.8	1450.3	NO	bd	bd	50.476
123678-HxCDD	35.821	1.001	3.057e5	2.458e5	0.953	1.244	1.240	3140	2519	4.57e6	3.76e6	1455.1	1493.2	NO	db	db	48.441
123789-HxCDD	36.200	1.011	2.916e5	2.354e5	0.927	1.239	1.240	3140	2519	4.39e6	3.62e6	1398.5	1435.2	NO	bb	bb	50.127
1234678-HpCDD	39.944	1.001	2.565e5	2.403e5	1.055	1.067	1.050	2925	2335	3.51e6	3.29e6	1199.4	1407.1	NO	bd	bd	51.058
OCDD	44.572	1.000	3.731e5	4.160e5	1.074	0.897	0.890	2705	1813	4.24e6	4.93e6	1567.2	2719.0	NO	bd	bb	96.088
13C-2378-TCDF	25.443	1.007	8.758e5	1.167e6	1.925	0.750	0.770	3258	1851	1.26e7	1.64e7	3866.5	8851.7	NO	bb	bd	101.122
13C-12378-PeCDF	29.583	1.170	9.144e5	5.771e5	1.442	1.584	1.550	4095	3684	1.25e7	8.26e6	3057.1	2242.4	NO	bd	bb	98.514
13C-23478-PeCDF	30.931	1.224	8.555e5	5.643e5	1.387	1.516	1.550	4095	3684	1.24e7	8.13e6	3027.8	2206.0	NO	bb	bb	97.539
13C-123478-HxCDF	34.552	0.955	4.067e5	7.972e5	1.053	0.510	0.510	3208	3250	6.01e6	1.18e7	1875.0	3641.3	NO	bd	bd	97.428
13C-123678-HxCDF	34.696	0.959	4.296e5	8.533e5	1.135	0.503	0.510	3208	3250	6.23e6	1.23e7	1943.2	3794.3	NO	db	db	96.330
13C-234678-HxCDF	35.565	0.983	3.816e5	7.582e5	1.004	0.503	0.510	3208	3250	6.11e6	1.22e7	1905.5	3749.9	NO	bb	bb	96.743
13C-123789-HxCDF	36.602	1.011	3.536e5	7.067e5	0.909	0.500	0.510	3208	3250	5.35e6	1.07e7	1667.8	3296.4	NO	bb	bb	99.408
13C-1234678-HpCDF	38.451	1.062	3.416e5	7.252e5	0.960	0.471	0.440	2595	4679	5.18e6	1.16e7	1994.6	2472.4	NO	bb	bb	94.728
13C-1234789-HpCDF	40.657	1.123	2.689e5	6.115e5	0.794	0.440	0.440	2595	4679	3.86e6	8.66e6	1488.2	1851.4	NO	bb	bb	94.533
13C-1234-TCDD	25.277	0.000	4.643e5	5.854e5	1.000	0.793	0.770	2525	1390	6.95e6	8.78e6	2750.6	6318.2	NO	bb	bb	100.000
13C-2378-TCDD	26.078	1.032	5.265e5	6.705e5	1.133	0.785	0.770	2525	1390	7.45e6	9.51e6	2949.4	6837.0	NO	bb	bb	100.670
13C-12378-PeCDD	31.187	1.234	6.023e5	3.743e5	0.947	1.609	1.550	1474	1384	8.57e6	5.31e6	5814.3	3837.1	NO	bb	bb	98.257
13C-123478-HxCDD	35.688	0.986	5.991e5	4.742e5	0.939	1.263	1.240	3086	2500	9.53e6	7.59e6	3089.6	3034.7	NO	bd	bd	97.458
13C-123678-HxCDD	35.799	0.989	6.636e5	5.315e5	1.042	1.249	1.240	3086	2500	9.92e6	8.07e6	3212.9	3227.2	NO	db	db	97.744
13C-1234678-HpCDD	39.921	1.103	4.778e5	4.445e5	0.788	1.075	1.050	2199	2353	6.54e6	6.04e6	2975.5	2568.0	NO	bd	bd	99.706
13C-OCDD	44.554	1.231	7.268e5	8.027e5	0.703	0.905	0.890	3279	2634	8.51e6	9.32e6	2595.6	3538.1	NO	bb	bb	185.337
13C-123789-HxCDD	36.189	0.000	6.482e5	5.252e5	1.000	1.234	1.240	3086	2500	9.70e6	7.98e6	3143.6	3192.6	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	1.288e5		1.298			2295		1.80e6		783.1			bb		9.460

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:54 Pacific Standard Time

ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, 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	21.966	0.863	8.373e4	1.044e5	0.966	0.802	0.770	2062	1982	1.26e6	1.55e6	611.0	781.0	NO	bb	bb	9.535
1289-TCDF	26.955	1.059	7.148e4	8.563e4	0.736	0.835	0.770	2062	1982	9.94e5	1.21e6	482.2	610.9	NO	dd	db	10.451
13468-PECDF	26.804	0.906	5.875e5	3.989e5	1.347	1.473	1.550	1041	1225	8.57e6	5.75e6	8235.6	4696.1	NO	bb	bb	49.105
12389-PECDF	31.978	1.081	4.367e5	2.485e5	0.867	1.757	1.550	4780	2896	5.82e6	3.52e6	1216.9	1215.9	NO	bd	bb	52.996
123468-HXCDF	32.892	0.952	3.426e5	2.663e5	1.036	1.287	1.240	3776	2108	5.08e6	3.90e6	1344.3	1849.7	NO	bb	bb	48.828
1368-TCDD	23.236	0.891	6.259e4	8.307e4	1.256	0.753	0.770	1536	1226	9.25e5	1.18e6	602.1	961.4	NO	bb	bd	9.692
1289-TCDD	26.698	1.024	5.795e4	7.426e4	1.151	0.780	0.770	1536	1226	8.00e5	1.03e6	520.4	838.7	NO	bb	bd	9.597
12479-PECDD	28.480	0.913	5.018e5	3.207e5	1.773	1.565	1.550	2321	1781	4.76e6	3.09e6	2052.6	1734.9	NO	bb	bb	47.484
12389-PECDD	31.599	1.013	3.419e5	2.227e5	1.171	1.535	1.550	2321	1781	4.99e6	3.18e6	2149.1	1788.0	NO	bb	bb	49.360
124679-HXCDD	33.683	0.944	3.020e5	2.491e5	1.034	1.212	1.240	3140	2519	4.55e6	3.74e6	1450.6	1483.1	NO	bb	bb	49.679
1234679-HPCDD	38.908	0.975	2.771e5	2.476e5	1.194	1.119	1.050	2925	2335	4.10e6	3.90e6	1401.0	1671.8	NO	bd	bb	47.642
Total-tetrafurans			2.255e5		0.828			2062		3.22e6							29.725
Total-penta1			5.876e5					1041		8.58e6							49.121
Total-pentafurans			1.336e6		0.904			4780		1.92e7							162.153
Total-hexafurans			1.650e6		1.007			3776		2.51e7							245.334
Total-heptafurans			5.596e5		1.064			2351		8.13e6							105.416
Total-Furans			4.809e6		0.998			2062		6.93e7							688.122
Total-tetradioxins			3.230e5		1.238			1536		4.21e6							49.752
Total-pentadioxins			1.136e6		1.308			2321		1.40e7							147.368
Total-hexadioxins			1.186e6		0.967			3140		1.80e7							198.874
Total-heptadioxins			5.347e5		1.125			2925		7.62e6							98.885
Total-Dioxins			3.553e6		1.141			1536		4.81e7							590.967
Total-TEQ			8.363e6					1536		1.17e8							1279.089
FUNCTION1 PFK			6.783e4					531336		1.84e6							
FUNCTION2 PFK			7.922e5					292267		1.57e7							0.000
FUNCTION3 PFK			1.720e6					314910		3.42e7							0.000
FUNCTION4 PFK			1.504e6					353505		1.65e7							
FUNCTION5 PFK			3.128e5					226765		7.67e6							
FUNCTION1 HXCD...			1.140e3					680		1.32e4							0.000
FUNCTION1 HPCD...			8.641e2					1073		1.56e4							0.000
FUNCTION2 HPCD...			7.746e2					900		1.66e4							0.000
FUNCTION3 OCDPE			1.480e3					553		2.30e4							0.000
FUNCTION4 NCDPE			9.417e1					729		1.85e3							0.000
FUNCTION5 DCDPE			1.751e2					642		3.47e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:54 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.46	6.950e4	8.437e4	0.782	0.82	0.77	461.0	YES	NO	dd	bb	9.636
2	Total-tetrafurans	24.57	8.090e2	9.361e2	0.828	0.86	0.77	5.3	YES	NO	bd	db	0.103
3	1368-TCDF	21.97	8.373e4	1.044e5	0.966	0.80	0.77	611.0	YES	NO	bb	bb	9.535
4	1289-TCDF	26.96	7.148e4	8.563e4	0.736	0.83	0.77	482.2	YES	NO	dd	db	10.451

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-penta1	27.38	1.298e2	9.717e1		1.34	1.55	3.5	NO	NO	bb	bb	0.017
2	13468-PECDF	26.80	5.875e5	3.989e5	1.347	1.47	1.55	8235.6	YES	NO	bb	bb	49.105

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.60	4.108e5	2.609e5	0.866	1.57	1.55	1275.3	YES	NO	bb	bd	52.005
2	Total-pentafurans	28.47	6.679e4	4.026e4	0.904	1.66	1.55	200.0	YES	NO	bb	bb	8.133
3	12389-PECDF	31.98	4.367e5	2.485e5	0.867	1.76	1.55	1216.9	YES	NO	bd	bb	52.996
4	23478-PeCDF	30.94	4.217e5	2.602e5	0.980	1.62	1.55	1317.6	YES	NO	bb	bb	49.019

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	2.735e5	2.143e5	0.994	1.28	1.24	1112.6	YES	NO	bb	bb	46.271
2	234678-HxCDF	35.59	3.354e5	2.542e5	1.043	1.32	1.24	1409.9	YES	NO	bb	bb	49.594
3	123678-HxCDF	34.71	3.583e5	2.707e5	0.961	1.32	1.24	1385.9	YES	NO	db	db	51.019
4	123478-HxCDF	34.57	3.401e5	2.586e5	1.002	1.32	1.24	1406.3	YES	NO	bd	bd	49.622
5	123468-HXCDF	32.89	3.426e5	2.663e5	1.036	1.29	1.24	1344.3	YES	NO	bb	bb	48.828

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.46	3.042e5	2.905e5	1.058	1.05	1.05	1986.3	YES	NO	bb	bd	52.696
2	1234789-HpCDF	40.67	2.544e5	2.404e5	1.070	1.06	1.05	1467.8	YES	NO	bd	bd	52.535
3	Total-heptafurans	39.12	9.452e2	9.751e2	1.064	0.97	1.05	5.4	YES	NO	bb	bb	0.185

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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	25.46	6.950e4	8.437e4	0.782	0.82	0.77	461.0	YES	NO	dd	bb	9.636
2	Total-tetrafurans	24.57	8.090e2	9.361e2	0.828	0.86	0.77	5.3	YES	NO	bd	db	0.103
3	1368-TCDF	21.97	8.373e4	1.044e5	0.966	0.80	0.77	611.0	YES	NO	bb	bb	9.535
4	12378-PeCDF	29.60	4.108e5	2.609e5	0.866	1.57	1.55	1275.3	YES	NO	bb	bd	52.005
5	Total-pentafurans	28.47	6.679e4	4.026e4	0.904	1.66	1.55	200.0	YES	NO	bb	bb	8.133
6	1289-TCDF	26.96	7.148e4	8.563e4	0.736	0.83	0.77	482.2	YES	NO	dd	db	10.451
7	12389-PECDF	31.98	4.367e5	2.485e5	0.867	1.76	1.55	1216.9	YES	NO	bd	bb	52.996
8	23478-PeCDF	30.94	4.217e5	2.602e5	0.980	1.62	1.55	1317.6	YES	NO	bb	bb	49.019
9	123789-HxCDF	36.62	2.735e5	2.143e5	0.994	1.28	1.24	1112.6	YES	NO	bb	bb	46.271
10	234678-HxCDF	35.59	3.354e5	2.542e5	1.043	1.32	1.24	1409.9	YES	NO	bb	bb	49.594
11	123678-HxCDF	34.71	3.583e5	2.707e5	0.961	1.32	1.24	1385.9	YES	NO	db	db	51.019
12	123478-HxCDF	34.57	3.401e5	2.586e5	1.002	1.32	1.24	1406.3	YES	NO	bd	bd	49.622
13	123468-HXCDF	32.89	3.426e5	2.663e5	1.036	1.29	1.24	1344.3	YES	NO	bb	bb	48.828
14	1234678-HpCDF	38.46	3.042e5	2.905e5	1.058	1.05	1.05	1986.3	YES	NO	bb	bd	52.696
15	1234789-HpCDF	40.67	2.544e5	2.404e5	1.070	1.06	1.05	1467.8	YES	NO	bd	bd	52.535
16	Total-heptafurans	39.12	9.452e2	9.751e2	1.064	0.97	1.05	5.4	YES	NO	bb	bb	0.185
17	OCDF	44.81	4.505e5	4.756e5	1.257	0.95	0.89	2032.1	YES	NO	bd	bd	96.372
18	Total-penta1	27.38	1.298e2	9.717e1		1.34	1.55	3.5	NO	NO	bb	bb	0.017
19	13468-PECDF	26.80	5.875e5	3.989e5	1.347	1.47	1.55	8235.6	YES	NO	bb	bb	49.105

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	25.29	3.373e4	4.101e4	1.238	0.82	0.77	326.3	YES	NO	bd	bb	5.043
2	Total-tetradioxins	24.45	2.593e3	2.950e3	1.238	0.88	0.77	16.9	YES	NO	bb	bb	0.374
3	1368-TCDD	23.24	6.259e4	8.307e4	1.256	0.75	0.77	602.1	YES	NO	bb	bd	9.692
4	1289-TCDD	26.70	5.795e4	7.426e4	1.151	0.78	0.77	520.4	YES	NO	bb	bd	9.597
5	2378-TCDD	26.11	6.621e4	8.481e4	1.307	0.78	0.77	614.2	YES	NO	bb	db	9.650
6	Total-tetradioxins	25.78	9.997e4	1.282e5	1.238	0.78	0.77	657.1	YES	NO	bb	bd	15.395

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.60	3.419e5	2.227e5	1.171	1.53	1.55	2149.1	YES	NO	bb	bb	49.360
2	12378-PeCDD	31.20	2.929e5	1.900e5	0.979	1.54	1.55	1845.7	YES	NO	bb	bb	50.523
3	12479-PECDD	28.48	5.018e5	3.207e5	1.773	1.56	1.55	2052.6	YES	NO	bb	bb	47.484

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.82	3.057e5	2.458e5	0.953	1.24	1.24	1455.1	YES	NO	db	db	48.441
2	123478-HxCDD	35.70	2.858e5	2.322e5	0.956	1.23	1.24	1409.8	YES	NO	bd	bd	50.476
3	124679-HXCDD	33.68	3.020e5	2.491e5	1.034	1.21	1.24	1450.6	YES	NO	bb	bb	49.679
4	Total-hexadioxins	36.62	8.715e2	7.856e2	0.967	1.11	1.24	5.0	YES	NO	bb	bb	0.151
5	123789-HxCDD	36.20	2.916e5	2.354e5	0.927	1.24	1.24	1398.5	YES	NO	bb	bb	50.127

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-heptadioxins	40.24	1.024e3	8.954e2	1.125	1.14	1.05	6.3	YES	NO	dd	dd	0.185
2	1234678-HpCDD	39.94	2.565e5	2.403e5	1.055	1.07	1.05	1199.4	YES	NO	bd	bd	51.058
3	1234679-HPCDD	38.91	2.771e5	2.476e5	1.194	1.12	1.05	1401.0	YES	NO	bd	bb	47.642

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	25.29	3.373e4	4.101e4	1.238	0.82	0.77	326.3	YES	NO	bd	bb	5.043
2	Total-tetradioxins	24.45	2.593e3	2.950e3	1.238	0.88	0.77	16.9	YES	NO	bb	bb	0.374
3	1368-TCDD	23.24	6.259e4	8.307e4	1.256	0.75	0.77	602.1	YES	NO	bb	bd	9.692
4	1289-TCDD	26.70	5.795e4	7.426e4	1.151	0.78	0.77	520.4	YES	NO	bb	bd	9.597
5	2378-TCDD	26.11	6.621e4	8.481e4	1.307	0.78	0.77	614.2	YES	NO	bb	db	9.650
6	Total-tetradioxins	25.78	9.997e4	1.282e5	1.238	0.78	0.77	657.1	YES	NO	bb	bd	15.395
7	12389-PECDD	31.60	3.419e5	2.227e5	1.171	1.53	1.55	2149.1	YES	NO	bb	bb	49.360
8	12378-PeCDD	31.20	2.929e5	1.900e5	0.979	1.54	1.55	1845.7	YES	NO	bb	bb	50.523
9	12479-PECDD	28.48	5.018e5	3.207e5	1.773	1.56	1.55	2052.6	YES	NO	bb	bb	47.484
10	123678-HxCDD	35.82	3.057e5	2.458e5	0.953	1.24	1.24	1455.1	YES	NO	db	db	48.441
11	123478-HxCDD	35.70	2.858e5	2.322e5	0.956	1.23	1.24	1409.8	YES	NO	bd	bd	50.476
12	124679-HXCDD	33.68	3.020e5	2.491e5	1.034	1.21	1.24	1450.6	YES	NO	bb	bb	49.679
13	Total-hexadioxins	36.62	8.715e2	7.856e2	0.967	1.11	1.24	5.0	YES	NO	bb	bb	0.151
14	123789-HxCDD	36.20	2.916e5	2.354e5	0.927	1.24	1.24	1398.5	YES	NO	bb	bb	50.127
15	Total-heptadioxins	40.24	1.024e3	8.954e2	1.125	1.14	1.05	6.3	YES	NO	dd	dd	0.185
16	1234678-HpCDD	39.94	2.565e5	2.403e5	1.055	1.07	1.05	1199.4	YES	NO	bd	bd	51.058
17	1234679-HPCDD	38.91	2.771e5	2.476e5	1.194	1.12	1.05	1401.0	YES	NO	bd	bb	47.642
18	OCDD	44.57	3.731e5	4.160e5	1.074	0.90	0.89	1567.2	YES	NO	bd	bb	96.088

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.46	6.950e4	8.437e4	0.782	0.82	0.77	461.0	YES	NO	dd	bb	9.636
2	Total-tetrafurans	24.57	8.090e2	9.361e2	0.828	0.86	0.77	5.3	YES	NO	bd	db	0.103
3	1368-TCDF	21.97	8.373e4	1.044e5	0.966	0.80	0.77	611.0	YES	NO	bb	bb	9.535
4	12378-PeCDF	29.60	4.108e5	2.609e5	0.866	1.57	1.55	1275.3	YES	NO	bb	bd	52.005
5	Total-pentafurans	28.47	6.679e4	4.026e4	0.904	1.66	1.55	200.0	YES	NO	bb	bb	8.133
6	1289-TCDF	26.96	7.148e4	8.563e4	0.736	0.83	0.77	482.2	YES	NO	dd	db	10.451
7	12389-PECDF	31.98	4.367e5	2.485e5	0.867	1.76	1.55	1216.9	YES	NO	bd	bb	52.996
8	23478-PeCDF	30.94	4.217e5	2.602e5	0.980	1.62	1.55	1317.6	YES	NO	bb	bb	49.019
9	123789-HxCDF	36.62	2.735e5	2.143e5	0.994	1.28	1.24	1112.6	YES	NO	bb	bb	46.271
10	234678-HxCDF	35.59	3.354e5	2.542e5	1.043	1.32	1.24	1409.9	YES	NO	bb	bb	49.594
11	123678-HxCDF	34.71	3.583e5	2.707e5	0.961	1.32	1.24	1385.9	YES	NO	db	db	51.019
12	123478-HxCDF	34.57	3.401e5	2.586e5	1.002	1.32	1.24	1406.3	YES	NO	bd	bd	49.622
13	123468-HXCDF	32.89	3.426e5	2.663e5	1.036	1.29	1.24	1344.3	YES	NO	bb	bb	48.828
14	1234678-HpCDF	38.46	3.042e5	2.905e5	1.058	1.05	1.05	1986.3	YES	NO	bb	bd	52.696
15	1234789-HpCDF	40.67	2.544e5	2.404e5	1.070	1.06	1.05	1467.8	YES	NO	bd	bd	52.535
16	Total-heptafurans	39.12	9.452e2	9.751e2	1.064	0.97	1.05	5.4	YES	NO	bb	bb	0.185
17	OCDF	44.81	4.505e5	4.756e5	1.257	0.95	0.89	2032.1	YES	NO	bd	bd	96.372
18	Total-penta1	27.38	1.298e2	9.717e1		1.34	1.55	3.5	NO	NO	bb	bb	0.017
19	13468-PECDF	26.80	5.875e5	3.989e5	1.347	1.47	1.55	8235.6	YES	NO	bb	bb	49.105
20	Total-tetradioxins	25.29	3.373e4	4.101e4	1.238	0.82	0.77	326.3	YES	NO	bd	bb	5.043
21	Total-tetradioxins	24.45	2.593e3	2.950e3	1.238	0.88	0.77	16.9	YES	NO	bb	bb	0.374
22	1368-TCDD	23.24	6.259e4	8.307e4	1.256	0.75	0.77	602.1	YES	NO	bb	bd	9.692
23	1289-TCDD	26.70	5.795e4	7.426e4	1.151	0.78	0.77	520.4	YES	NO	bb	bd	9.597
24	2378-TCDD	26.11	6.621e4	8.481e4	1.307	0.78	0.77	614.2	YES	NO	bb	db	9.650
25	Total-tetradioxins	25.78	9.997e4	1.282e5	1.238	0.78	0.77	657.1	YES	NO	bb	bd	15.395
26	12389-PECDD	31.60	3.419e5	2.227e5	1.171	1.53	1.55	2149.1	YES	NO	bb	bb	49.360
27	12378-PeCDD	31.20	2.929e5	1.900e5	0.979	1.54	1.55	1845.7	YES	NO	bb	bb	50.523
28	12479-PECDD	28.48	5.018e5	3.207e5	1.773	1.56	1.55	2052.6	YES	NO	bb	bb	47.484
29	123678-HxCDD	35.82	3.057e5	2.458e5	0.953	1.24	1.24	1455.1	YES	NO	db	db	48.441
30	123478-HxCDD	35.70	2.858e5	2.322e5	0.956	1.23	1.24	1409.8	YES	NO	bd	bd	50.476
31	124679-HXCDD	33.68	3.020e5	2.491e5	1.034	1.21	1.24	1450.6	YES	NO	bb	bb	49.679
32	Total-hexadioxins	36.62	8.715e2	7.856e2	0.967	1.11	1.24	5.0	YES	NO	bb	bb	0.151
33	123789-HxCDD	36.20	2.916e5	2.354e5	0.927	1.24	1.24	1398.5	YES	NO	bb	bb	50.127
34	Total-heptadioxins	40.24	1.024e3	8.954e2	1.125	1.14	1.05	6.3	YES	NO	dd	dd	0.185
35	1234678-HpCDD	39.94	2.565e5	2.403e5	1.055	1.07	1.05	1199.4	YES	NO	bd	bd	51.058
36	1234679-HPCDD	38.91	2.771e5	2.476e5	1.194	1.12	1.05	1401.0	YES	NO	bd	bb	47.642
37	OCDD	44.57	3.731e5	4.160e5	1.074	0.90	0.89	1567.2	YES	NO	bd	bb	96.088

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	23.58	3.525e4					1.8	NO		bb		
2	FUNCTION1 PFK	21.45	3.258e4					1.7	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.75	2.480e4					1.9	NO		bb		0.000
2	FUNCTION2 PFK	28.62	3.765e4					2.0	NO		bb		0.000
3	FUNCTION2 PFK	28.52	1.804e4					1.9	NO		bb		0.000
4	FUNCTION2 PFK	28.32	3.517e4					2.5	NO		bb		0.000
5	FUNCTION2 PFK	28.07	3.188e4					2.7	NO		bb		0.000
6	FUNCTION2 PFK	27.93	1.213e4					1.6	NO		db		0.000
7	FUNCTION2 PFK	27.88	3.919e4					1.6	NO		bd		0.000
8	FUNCTION2 PFK	31.44	3.117e4					2.0	NO		bb		0.000
9	FUNCTION2 PFK	31.37	4.982e3					0.8	NO		bb		0.000
10	FUNCTION2 PFK	31.22	3.525e4					2.3	NO		db		0.000
11	FUNCTION2 PFK	31.10	4.490e4					2.8	NO		bd		0.000
12	FUNCTION2 PFK	30.79	3.204e4					1.5	NO		db		0.000
13	FUNCTION2 PFK	30.64	4.492e4					2.5	NO		bd		0.000
14	FUNCTION2 PFK	30.43	3.089e4					1.9	NO		db		0.000
15	FUNCTION2 PFK	30.31	4.166e4					2.7	NO		bd		0.000
16	FUNCTION2 PFK	30.20	3.238e4					2.7	NO		bb		0.000
17	FUNCTION2 PFK	30.10	1.849e4					1.8	NO		db		0.000
18	FUNCTION2 PFK	30.06	1.010e4					1.6	NO		bd		0.000
19	FUNCTION2 PFK	29.95	2.517e4					1.2	NO		bb		0.000
20	FUNCTION2 PFK	29.85	1.177e4					1.0	NO		bb		0.000
21	FUNCTION2 PFK	29.63	3.482e4					2.3	NO		bb		0.000
22	FUNCTION2 PFK	29.33	8.030e4					2.6	NO		bb		0.000
23	FUNCTION2 PFK	29.20	1.622e4					1.7	NO		bb		0.000
24	FUNCTION2 PFK	32.12	2.200e4					1.8	NO		bb		0.000
25	FUNCTION2 PFK	31.79	3.309e4					2.3	NO		bb		0.000
26	FUNCTION2 PFK	31.59	1.667e4					1.8	NO		db		0.000
27	FUNCTION2 PFK	31.54	2.653e4					2.2	NO		bd		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.46	4.905e4					2.4	NO		dd		0.000
2	FUNCTION3 PFK	33.36	3.236e4					1.7	NO		dd		0.000
3	FUNCTION3 PFK	33.34	1.095e4					1.4	NO		bd		0.000
4	FUNCTION3 PFK	33.13	4.534e3					0.6	NO		bb		0.000
5	FUNCTION3 PFK	33.01	5.833e4					2.3	NO		db		0.000
6	FUNCTION3 PFK	32.89	5.735e4					2.9	NO		dd		0.000
7	FUNCTION3 PFK	32.79	9.217e4					3.6	YES		dd		0.000
8	FUNCTION3 PFK	32.75	2.842e4					3.1	YES		dd		0.000
9	FUNCTION3 PFK	32.68	8.580e4					3.9	YES		dd		0.000
10	FUNCTION3 PFK	32.59	5.349e4					3.5	YES		dd		0.000
11	FUNCTION3 PFK	32.55	4.825e4					4.2	YES		bd		0.000
12	FUNCTION3 PFK	35.00	2.187e4					2.2	NO		bd		0.000
13	FUNCTION3 PFK	34.92	3.865e4					2.5	NO		bb		0.000
14	FUNCTION3 PFK	34.72	3.821e4					2.6	NO		db		0.000
15	FUNCTION3 PFK	34.69	1.930e4					2.2	NO		dd		0.000
16	FUNCTION3 PFK	34.60	6.142e4					2.4	NO		dd		0.000
17	FUNCTION3 PFK	34.48	4.927e4					2.2	NO		bd		0.000
18	FUNCTION3 PFK	34.37	2.421e4					2.1	NO		db		0.000
19	FUNCTION3 PFK	34.34	2.759e4					2.6	NO		bd		0.000
20	FUNCTION3 PFK	34.24	3.548e4					2.4	NO		bb		0.000
21	FUNCTION3 PFK	34.12	5.590e3					0.8	NO		bb		0.000
22	FUNCTION3 PFK	34.02	3.972e4					1.5	NO		bb		0.000
23	FUNCTION3 PFK	33.93	2.694e4					2.0	NO		bb		0.000
24	FUNCTION3 PFK	33.78	4.005e4					2.2	NO		db		0.000
25	FUNCTION3 PFK	33.68	5.045e4					2.3	NO		dd		0.000
26	FUNCTION3 PFK	33.59	2.088e4					1.8	NO		dd		0.000
27	FUNCTION3 PFK	33.56	2.985e4					2.5	NO		dd		0.000
28	FUNCTION3 PFK	36.49	3.524e4					2.4	NO		bd		0.000
29	FUNCTION3 PFK	36.36	4.625e4					2.2	NO		bb		0.000
30	FUNCTION3 PFK	36.19	7.563e3					1.0	NO		bb		0.000
31	FUNCTION3 PFK	36.13	4.675e3					0.7	NO		bb		0.000
32	FUNCTION3 PFK	35.96	1.497e4					1.4	NO		db		0.000
33	FUNCTION3 PFK	35.91	2.742e4					2.5	NO		dd		0.000
34	FUNCTION3 PFK	35.81	5.616e4					2.6	NO		dd		0.000
35	FUNCTION3 PFK	35.70	5.431e4					2.7	NO		dd		0.000
36	FUNCTION3 PFK	35.59	6.542e4					3.3	YES		bd		0.000
37	FUNCTION3 PFK	35.52	6.080e3					0.9	NO		db		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	35.47	2.623e4					2.3	NO		dd		0.000
39	FUNCTION3 PFK	35.39	2.328e4					2.2	NO		dd		0.000
40	FUNCTION3 PFK	35.35	1.711e4					1.6	NO		bd		0.000
41	FUNCTION3 PFK	35.19	1.514e4					2.1	NO		db		0.000
42	FUNCTION3 PFK	35.14	5.496e4					3.4	YES		dd		0.000
43	FUNCTION3 PFK	35.04	4.629e4					2.6	NO		dd		0.000
44	FUNCTION3 PFK	37.55	4.542e3					0.8	NO		bb		0.000
45	FUNCTION3 PFK	37.36	3.986e4					1.9	NO		bb		0.000
46	FUNCTION3 PFK	37.26	2.859e4					2.1	NO		bb		0.000
47	FUNCTION3 PFK	37.16	2.567e4					2.0	NO		bb		0.000
48	FUNCTION3 PFK	36.96	4.027e4					1.8	NO		bb		0.000
49	FUNCTION3 PFK	36.69	2.072e3					0.6	NO		bb		0.000
50	FUNCTION3 PFK	36.59	2.741e4					1.5	NO		db		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.71	2.981e4					2.0	NO		dd		
2	FUNCTION4 PFK	38.58	2.971e4					1.2	NO		bd		
3	FUNCTION4 PFK	38.48	6.298e4					2.3	NO		db		
4	FUNCTION4 PFK	38.36	2.818e4					1.2	NO		bd		
5	FUNCTION4 PFK	38.17	1.485e3					0.4	NO		bb		
6	FUNCTION4 PFK	38.05	3.737e4					2.4	NO		db		
7	FUNCTION4 PFK	37.94	1.463e5					5.0	YES		dd		
8	FUNCTION4 PFK	37.84	7.308e5					6.7	YES		bd		
9	FUNCTION4 PFK	41.87	2.077e4					1.2	NO		dd		
10	FUNCTION4 PFK	41.75	3.486e4					1.7	NO		bd		
11	FUNCTION4 PFK	41.51	2.347e4					1.2	NO		bb		
12	FUNCTION4 PFK	41.41	2.579e4					1.7	NO		bb		
13	FUNCTION4 PFK	41.18	3.794e4					1.7	NO		bb		
14	FUNCTION4 PFK	40.73	2.120e4					1.3	NO		bb		
15	FUNCTION4 PFK	40.17	2.658e4					1.7	NO		bb		
16	FUNCTION4 PFK	39.97	7.726e3					0.9	NO		db		
17	FUNCTION4 PFK	39.93	1.844e4					1.5	NO		dd		
18	FUNCTION4 PFK	39.83	3.270e4					1.3	NO		bd		
19	FUNCTION4 PFK	39.74	4.083e3					0.5	NO		bb		
20	FUNCTION4 PFK	39.61	2.131e4					1.4	NO		bb		
21	FUNCTION4 PFK	39.41	2.211e4					1.7	NO		db		
22	FUNCTION4 PFK	39.38	1.518e4					1.6	NO		bd		
23	FUNCTION4 PFK	39.26	3.832e4					1.9	NO		bb		
24	FUNCTION4 PFK	38.76	6.379e3					0.8	NO		db		
25	FUNCTION4 PFK	42.97	9.191e3					0.9	NO		bb		
26	FUNCTION4 PFK	42.86	1.898e4					0.8	NO		bb		
27	FUNCTION4 PFK	41.97	5.225e4					2.0	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.11	5.638e3					1.0	NO		bb		
2	FUNCTION5 PFK	44.02	1.317e4					1.5	NO		db		
3	FUNCTION5 PFK	43.97	5.416e3					0.8	NO		bd		
4	FUNCTION5 PFK	43.91	6.971e3					1.4	NO		db		
5	FUNCTION5 PFK	43.87	1.019e4					1.2	NO		dd		
6	FUNCTION5 PFK	43.78	1.549e4					1.5	NO		bd		
7	FUNCTION5 PFK	43.66	1.625e4					1.7	NO		bb		
8	FUNCTION5 PFK	43.55	6.652e3					0.9	NO		bb		
9	FUNCTION5 PFK	43.44	2.398e4					1.9	NO		db		
10	FUNCTION5 PFK	43.40	9.178e3					1.4	NO		dd		
11	FUNCTION5 PFK	43.32	2.981e4					2.1	NO		bd		
12	FUNCTION5 PFK	43.20	2.183e4					1.7	NO		bb		
13	FUNCTION5 PFK	46.37	1.382e4					1.5	NO		bb		
14	FUNCTION5 PFK	46.22	2.032e3					0.6	NO		bb		
15	FUNCTION5 PFK	46.12	1.989e3					0.6	NO		bb		
16	FUNCTION5 PFK	45.81	1.239e4					1.4	NO		db		
17	FUNCTION5 PFK	45.78	9.154e3					1.6	NO		bd		
18	FUNCTION5 PFK	45.72	5.701e3					0.9	NO		bb		
19	FUNCTION5 PFK	45.60	2.951e3					0.2	NO		bb		
20	FUNCTION5 PFK	45.48	9.918e3					1.4	NO		bb		
21	FUNCTION5 PFK	45.24	2.175e4					1.6	NO		bb		
22	FUNCTION5 PFK	45.12	1.617e4					1.5	NO		bb		
23	FUNCTION5 PFK	45.04	1.836e4					1.3	NO		bb		
24	FUNCTION5 PFK	44.62	5.950e3					1.1	NO		bb		
25	FUNCTION5 PFK	44.45	1.460e4					1.6	NO		bb		
26	FUNCTION5 PFK	44.24	1.340e4					1.5	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	21.09	2.438e2					3.1	YES		bd		0.000
2	FUNCTION1 HXCD...	27.48	8.109e1					2.0	NO		bb		0.000
3	FUNCTION1 HXCD...	26.23	1.375e2					3.0	YES		bb		0.000
4	FUNCTION1 HXCD...	25.88	7.082e1					2.6	NO		bb		0.000
5	FUNCTION1 HXCD...	24.97	1.025e2					1.7	NO		bb		0.000
6	FUNCTION1 HXCD...	24.52	9.212e1					1.8	NO		bb		0.000
7	FUNCTION1 HXCD...	24.07	1.630e2					2.3	NO		bb		0.000
8	FUNCTION1 HXCD...	21.80	8.962e1					0.8	NO		bb		0.000
9	FUNCTION1 HXCD...	21.36	1.592e2					2.2	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...	27.24	7.415e1					1.7	NO		bb		0.000
2	FUNCTION1 HPCD...	26.00	7.563e1					1.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.47	9.592e1					2.3	NO		bb		0.000
4	FUNCTION1 HPCD...	25.35	7.011e1					2.2	NO		bb		0.000
5	FUNCTION1 HPCD...	24.60	7.462e1					1.7	NO		bb		0.000
6	FUNCTION1 HPCD...	23.18	7.276e1					1.3	NO		bb		0.000
7	FUNCTION1 HPCD...	21.09	2.905e2					2.8	NO		bb		0.000
8	FUNCTION1 HPCD...	27.41	1.104e2					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...	32.38	1.373e2					3.6	YES		bb		0.000
2	FUNCTION2 HPCD...	30.81	4.562e2					8.8	YES		db		0.000
3	FUNCTION2 HPCD...	30.71	8.759e1					2.7	NO		bd		0.000
4	FUNCTION2 HPCD...	29.82	9.353e1					3.3	YES		bb		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	36.20	2.642e2					6.8	YES		bb		0.000
2	FUNCTION3 OCDPE	35.84	1.315e2					5.0	YES		db		0.000
3	FUNCTION3 OCDPE	35.80	1.653e2					6.2	YES		dd		0.000
4	FUNCTION3 OCDPE	35.69	2.329e2					6.2	YES		dd		0.000
5	FUNCTION3 OCDPE	35.57	1.023e2					3.0	YES		bd		0.000
6	FUNCTION3 OCDPE	34.66	8.446e1					1.6	NO		bb		0.000
7	FUNCTION3 OCDPE	34.42	9.493e1					3.0	NO		bb		0.000
8	FUNCTION3 OCDPE	33.68	1.648e2					3.9	YES		db		0.000
9	FUNCTION3 OCDPE	33.62	8.351e1					2.9	NO		bd		0.000
10	FUNCTION3 OCDPE	36.59	1.557e2					3.0	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	39.92	9.417e1					2.5	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	45.35	7.178e1					2.7	NO		bb		0.000
2	FUNCTION5 DCDPE	44.54	1.033e2					2.7	NO		bb		0.000

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
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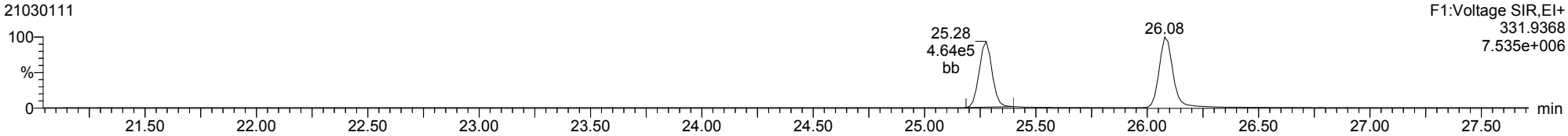
ID: CS3V2, Name: 21030111, Date: 01-Mar-2021, Time: 19:13:21, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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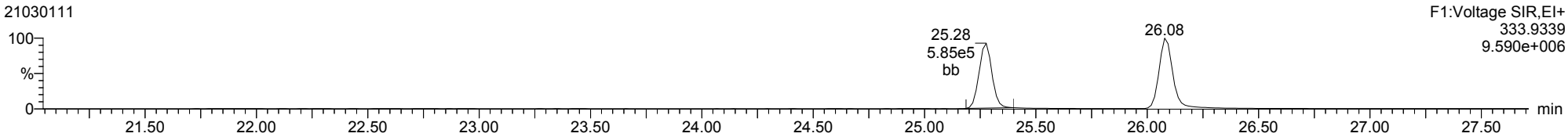
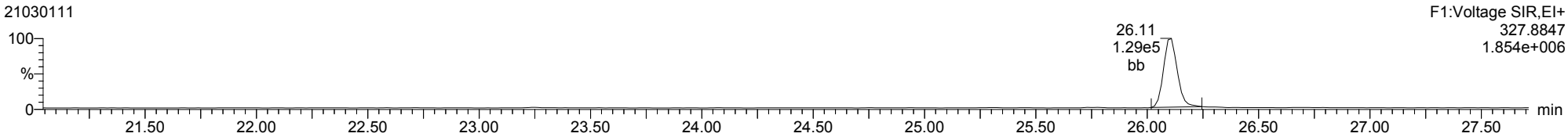


37CL-2378-TCDD



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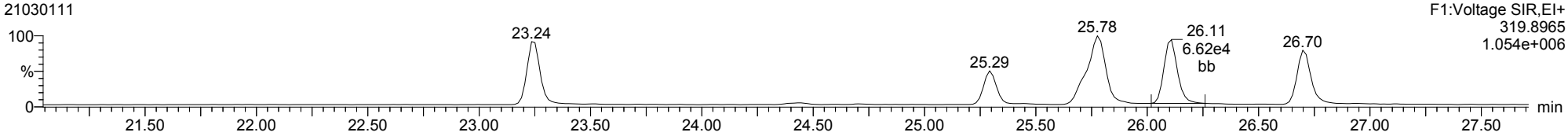
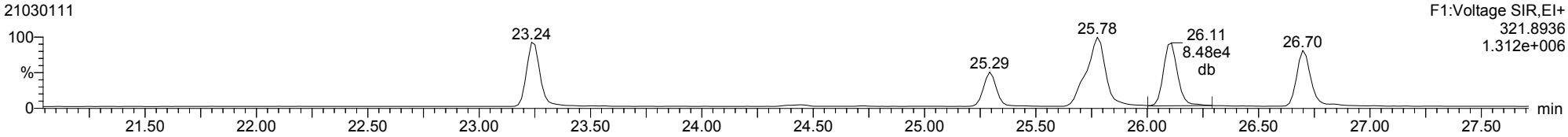
2378-TCDD



2378-TCDD



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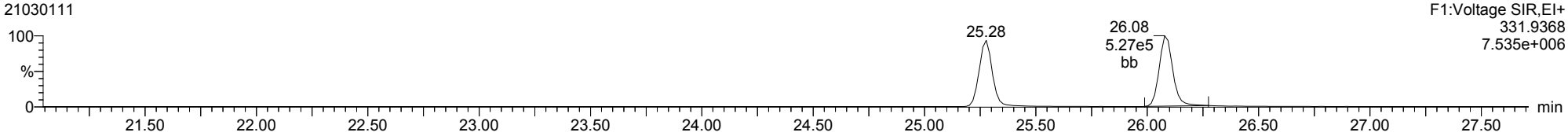

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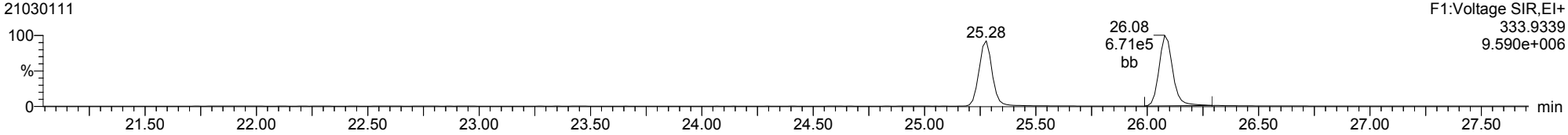
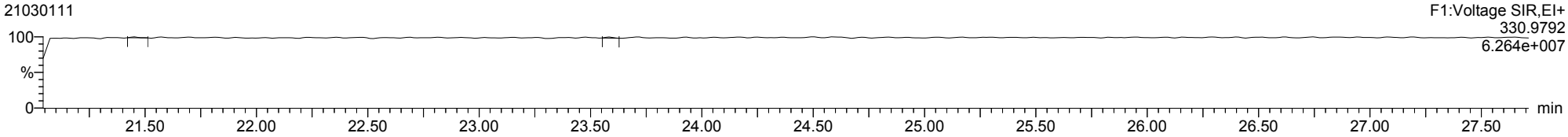


FUNCTION1 PFK



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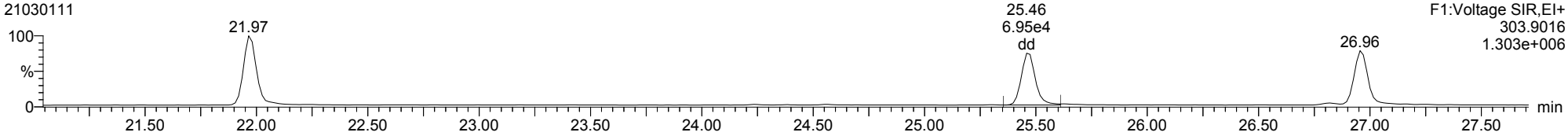
2378-TCDF



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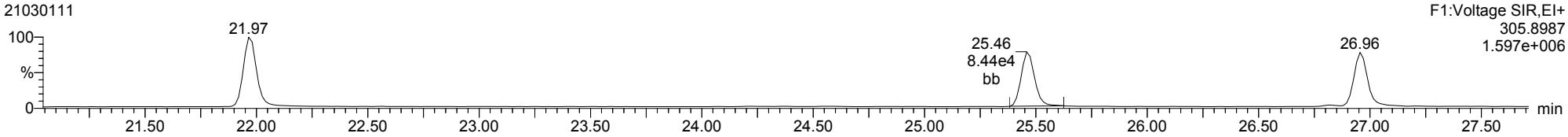

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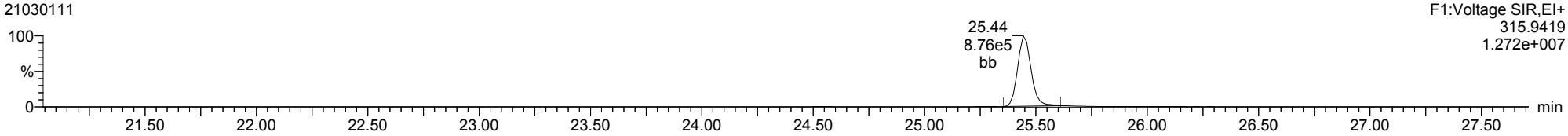

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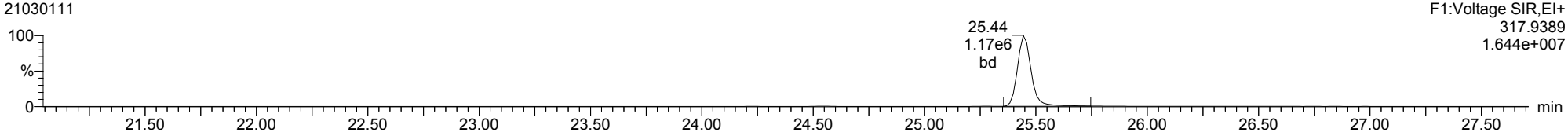

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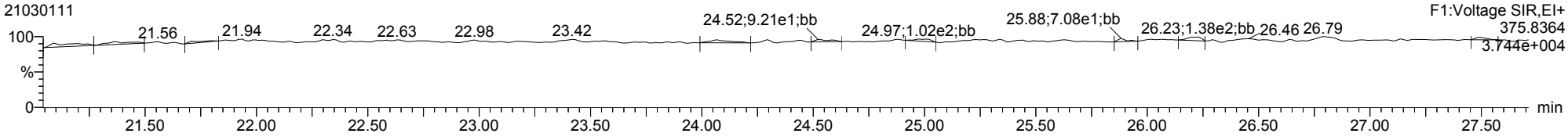

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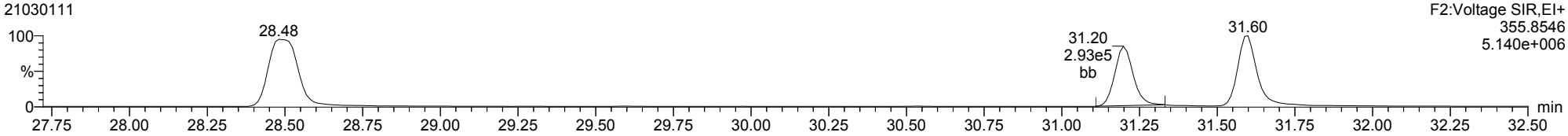
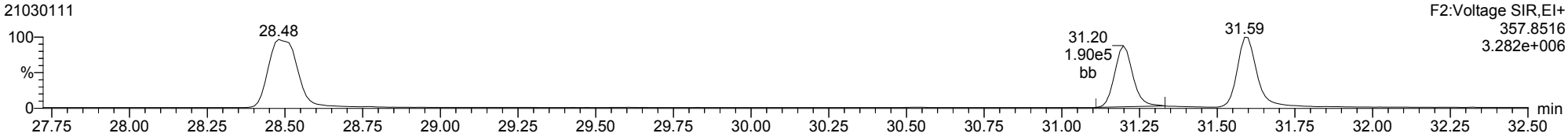
12378-PeCDD



12378-PeCDD



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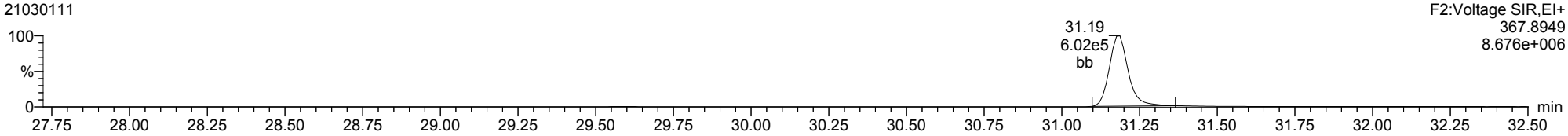

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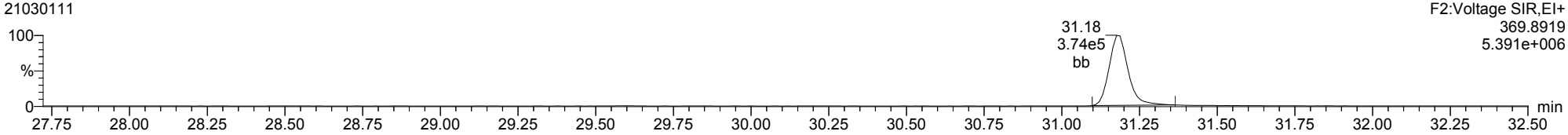
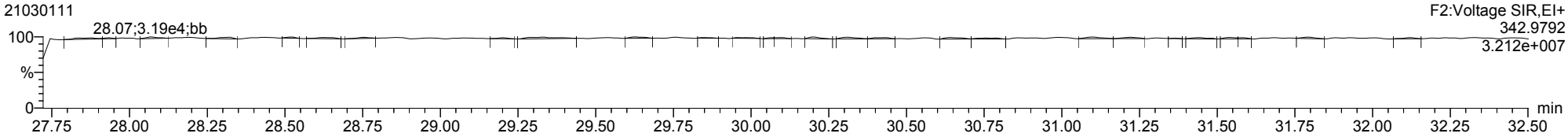


FUNCTION2 PFK



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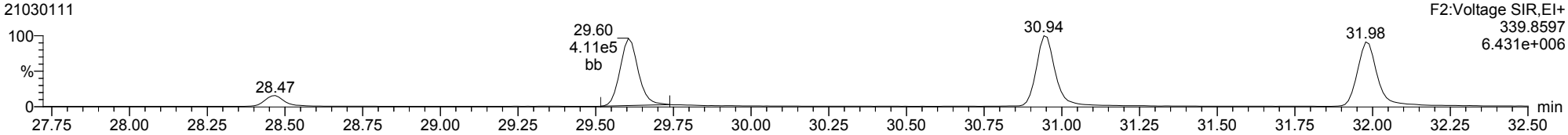
12378-PeCDF



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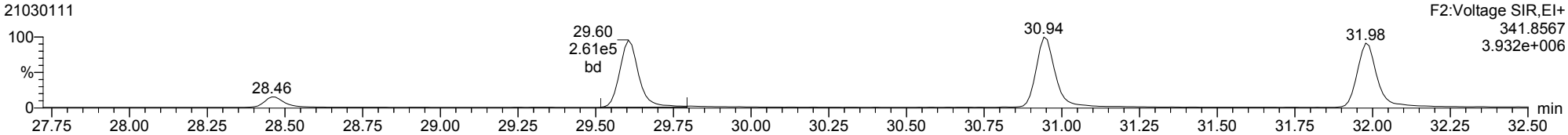

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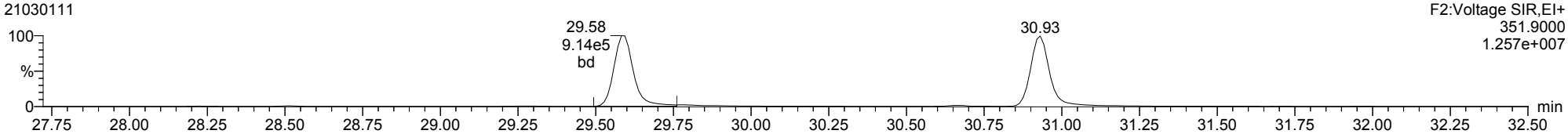

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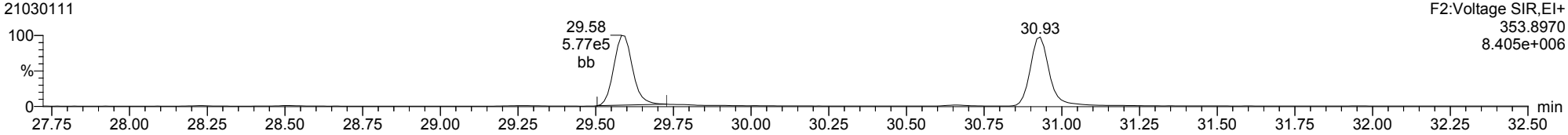

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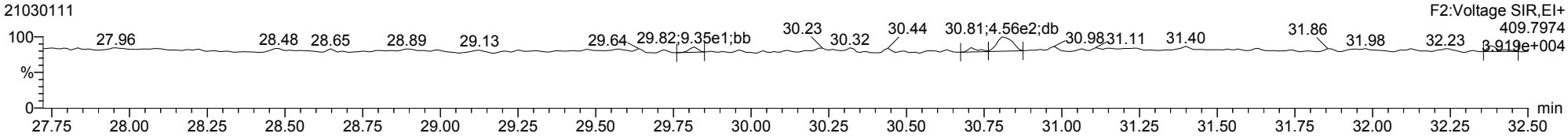

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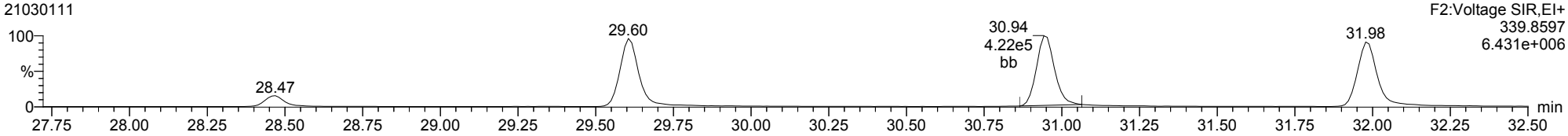
23478-PeCDF



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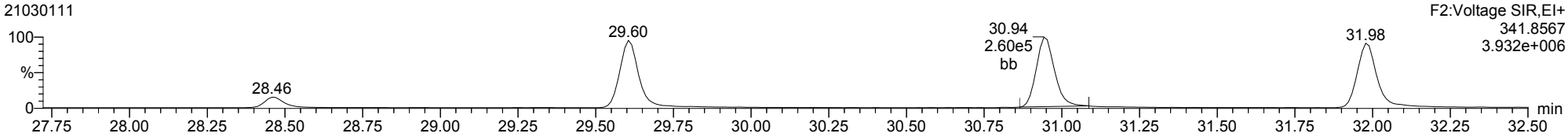

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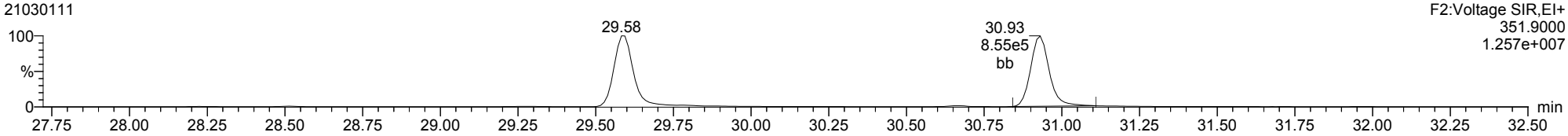

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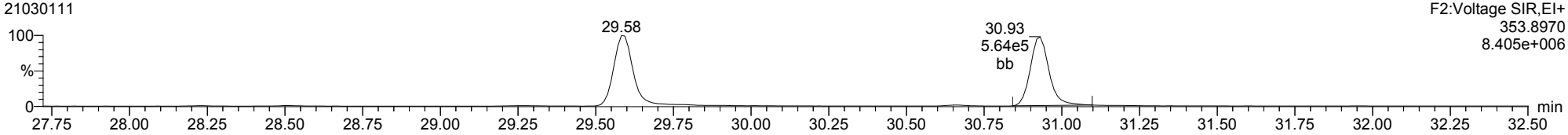

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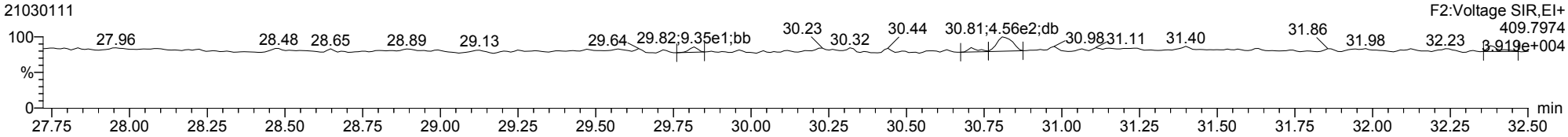

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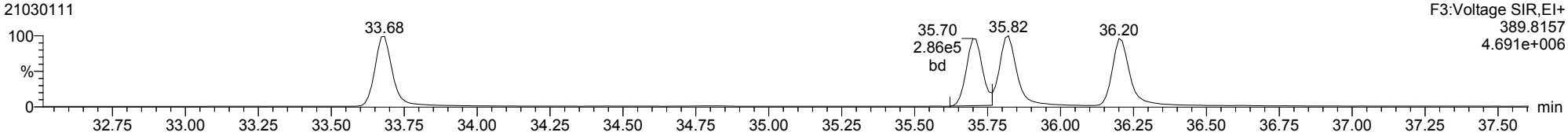

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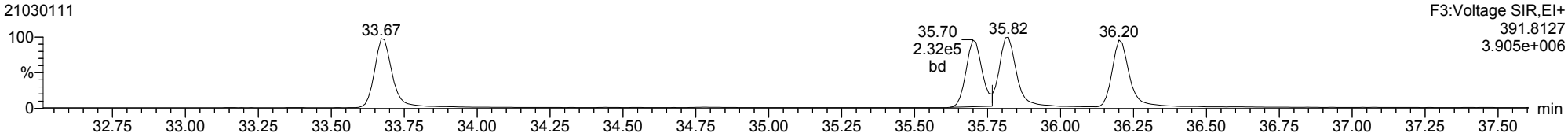

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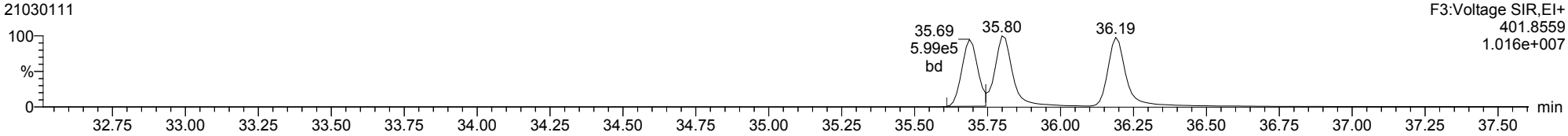

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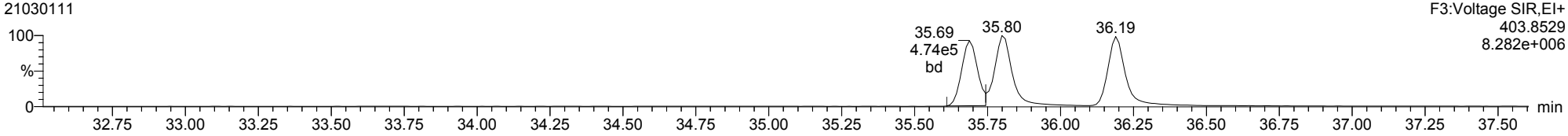

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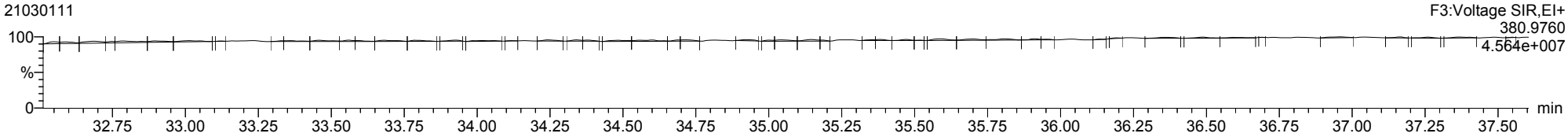

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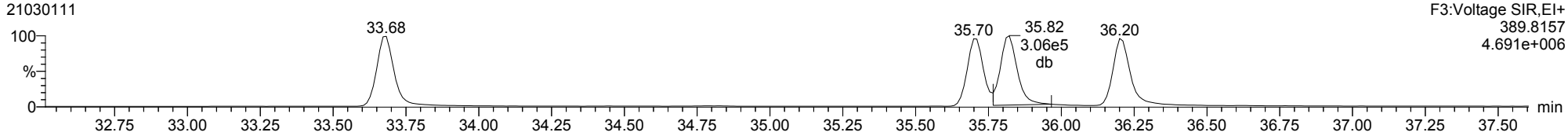

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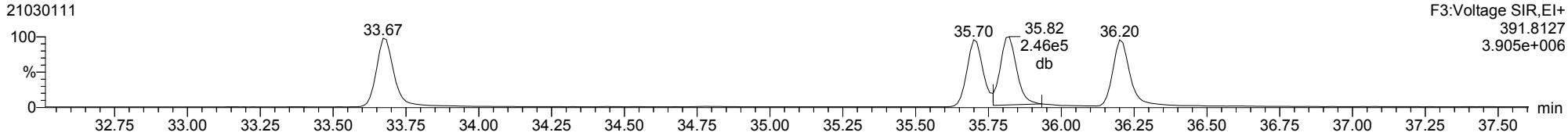

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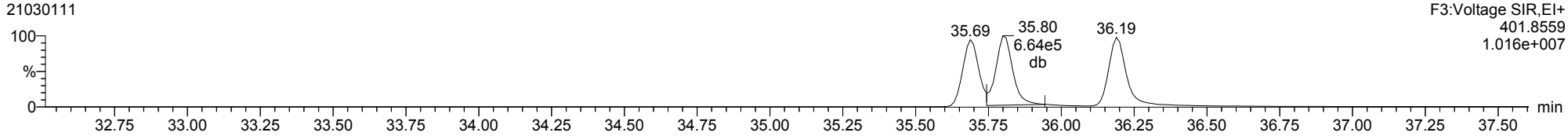

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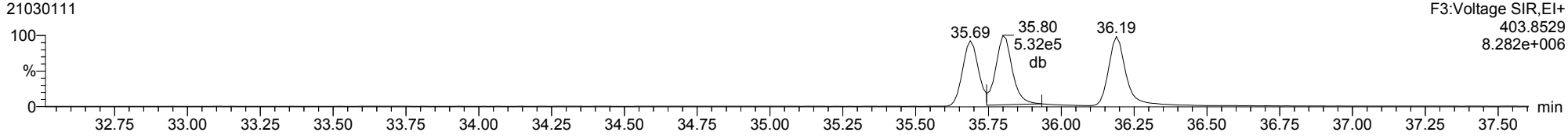

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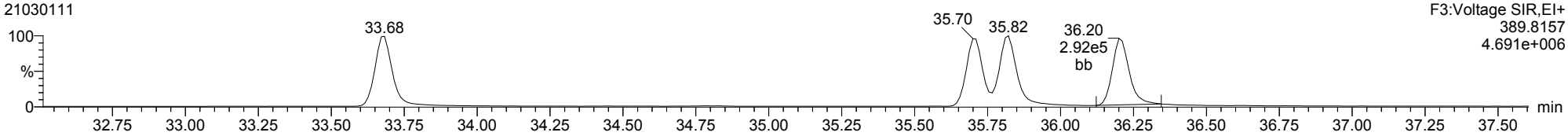

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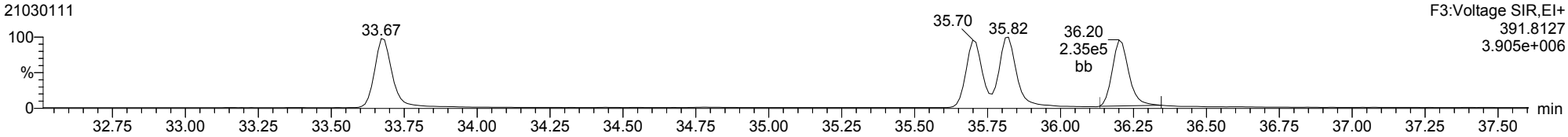

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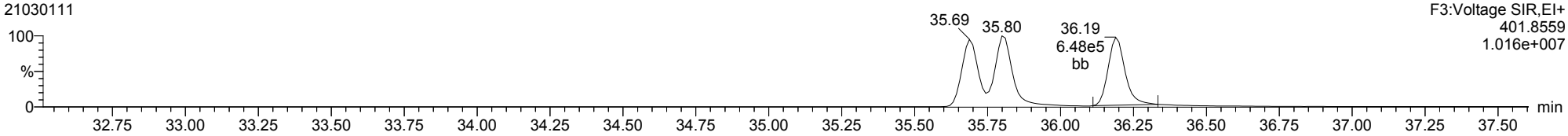

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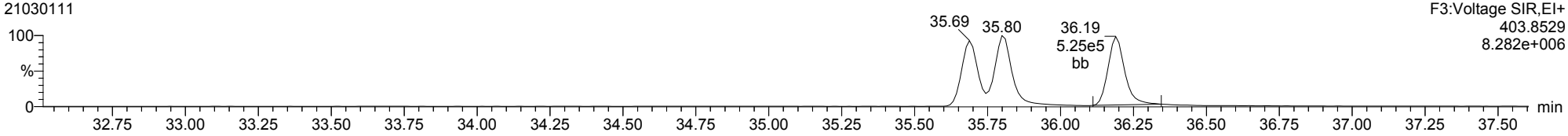

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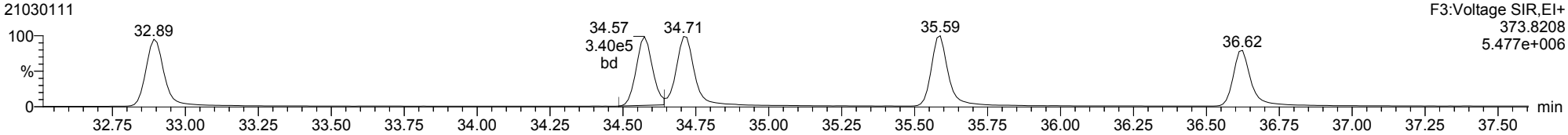

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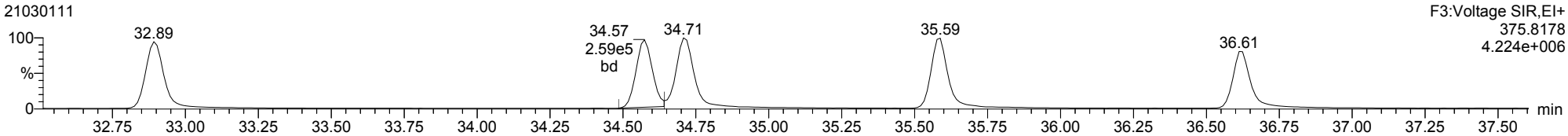

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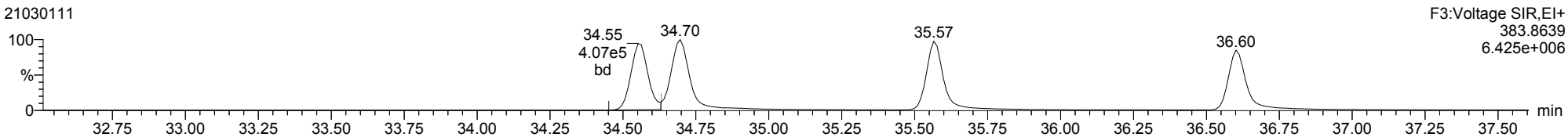

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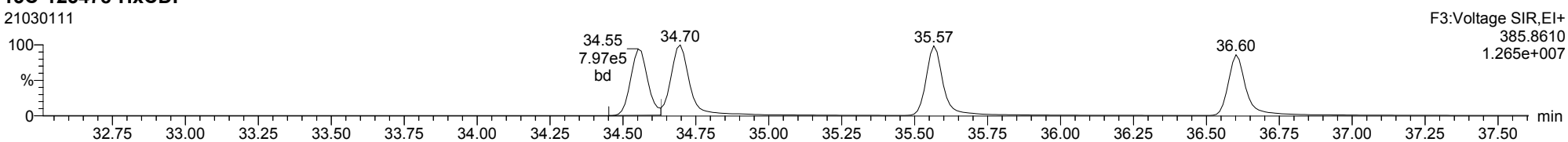

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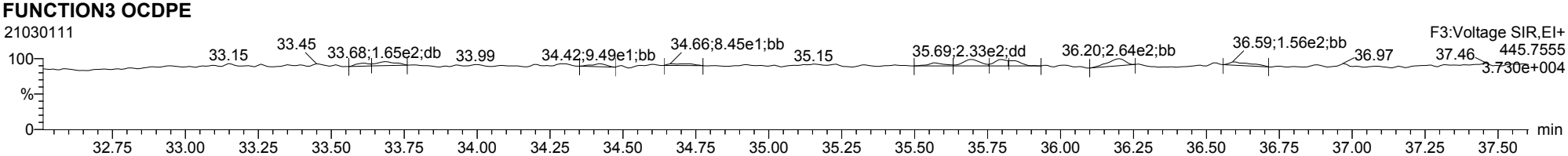

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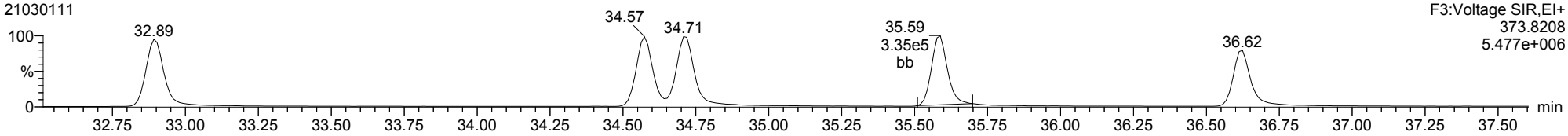
234678-HxCDF



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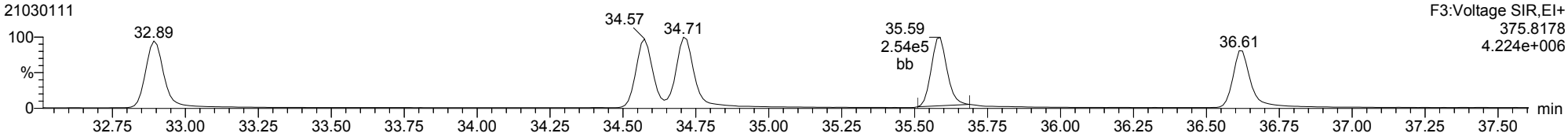

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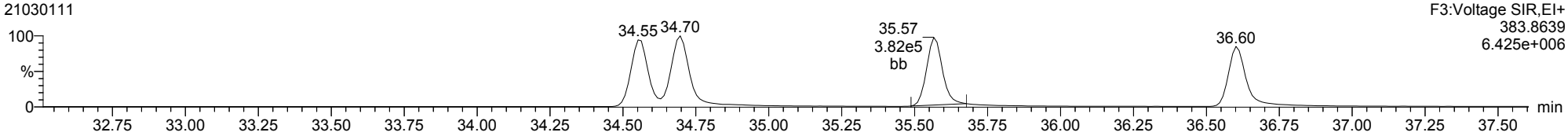

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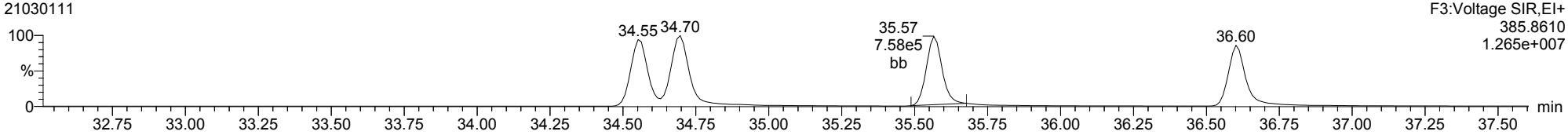
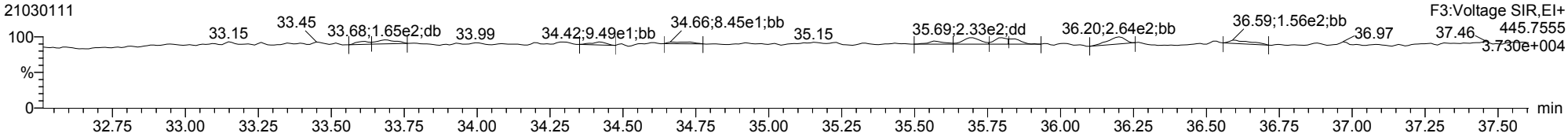


FUNCTION3 OCDPE



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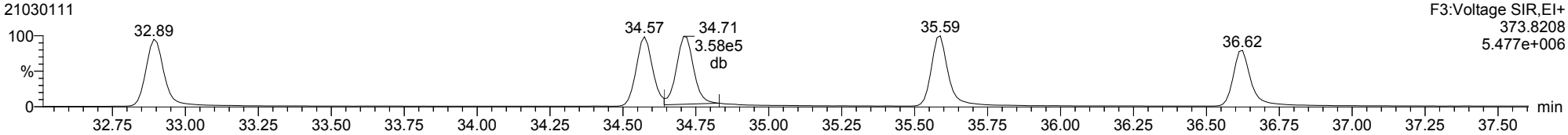
123678-HxCDF



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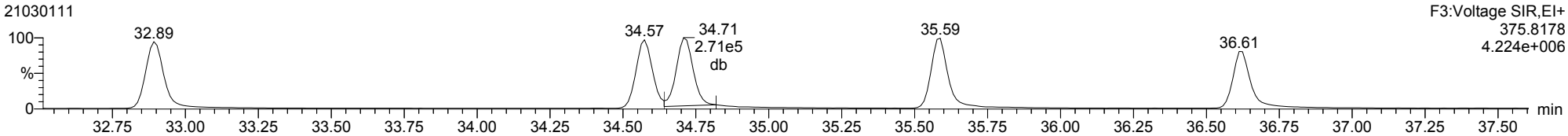

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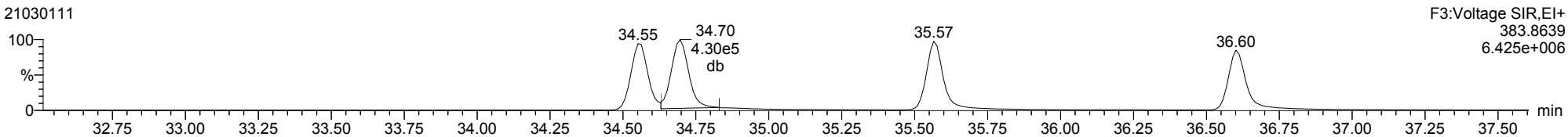

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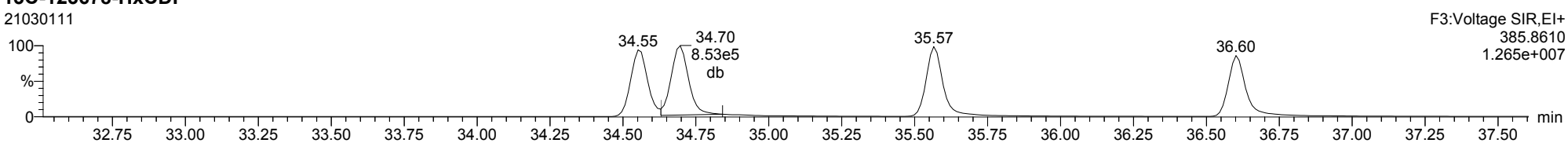
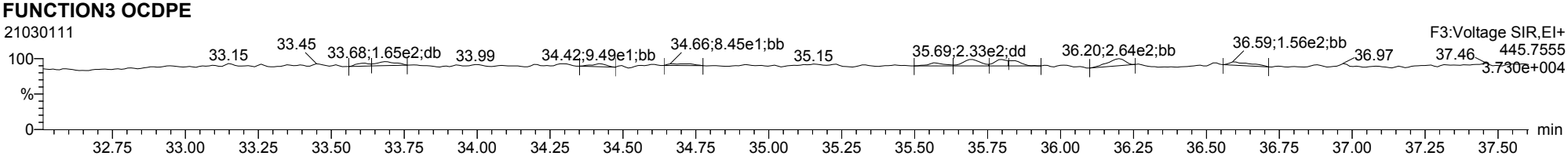


FUNCTION3 OCDPE



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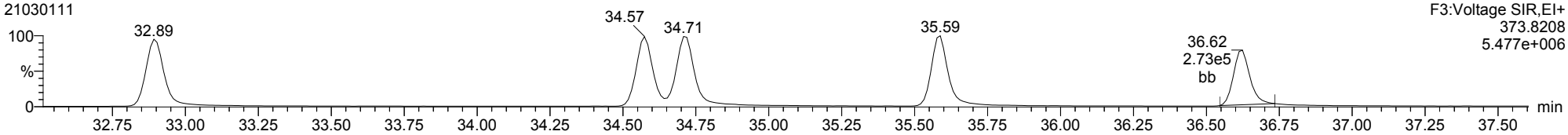

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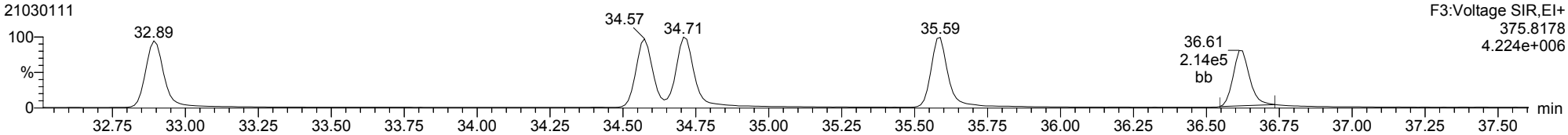

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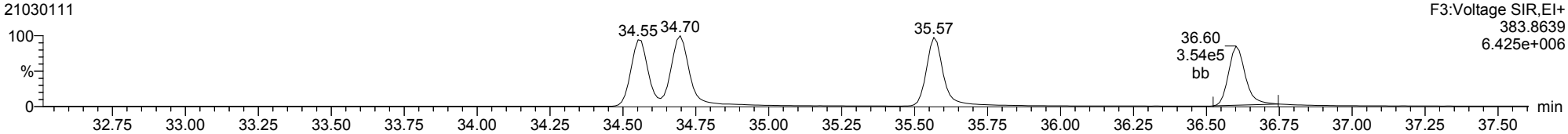

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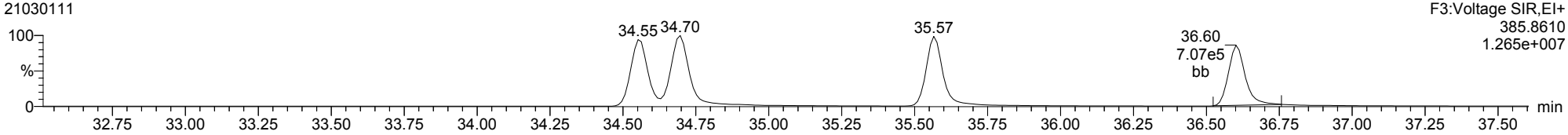
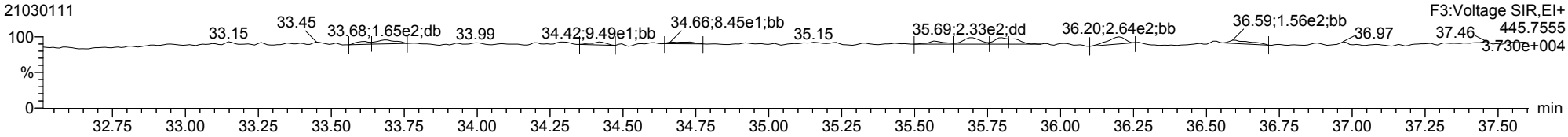


FUNCTION3 OCDPE



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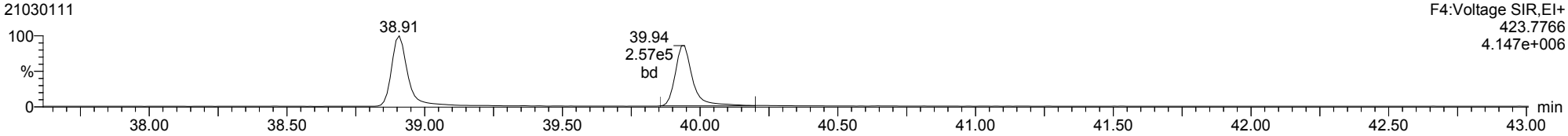
1234678-HpCDD



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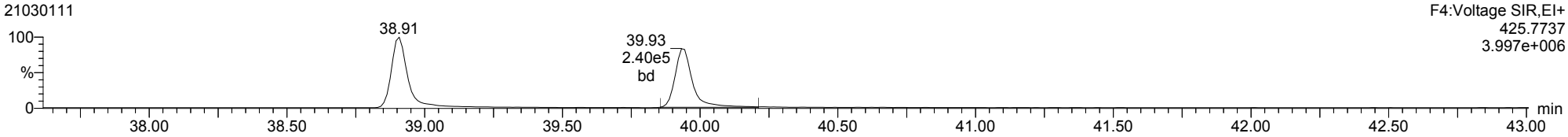

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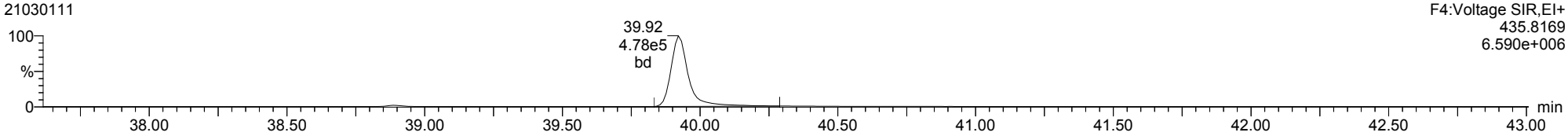

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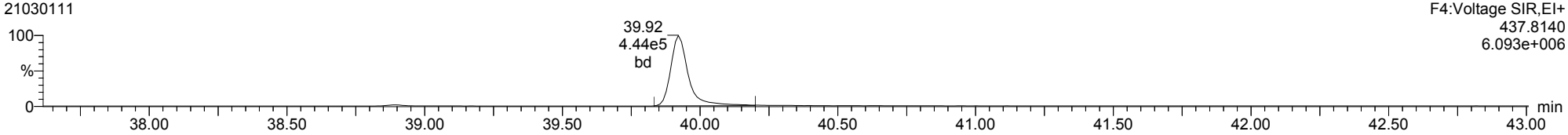
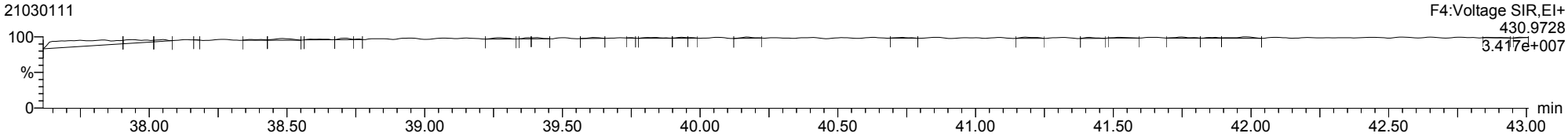


FUNCTION4 PFK



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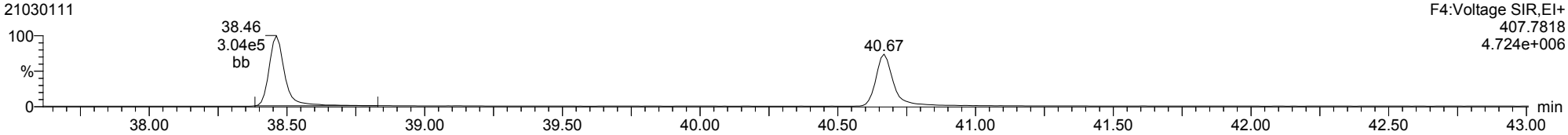

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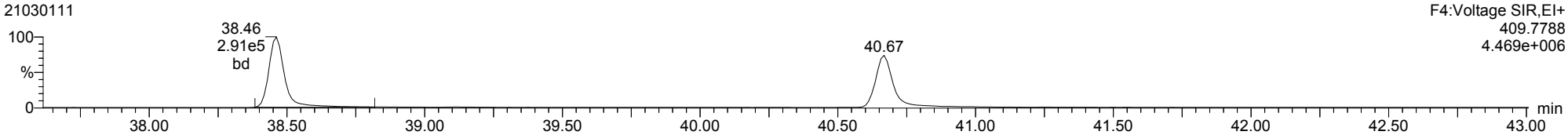

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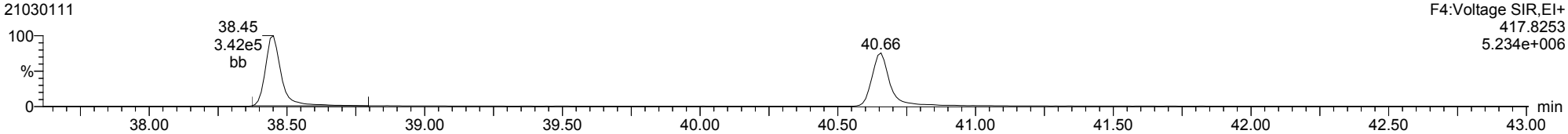

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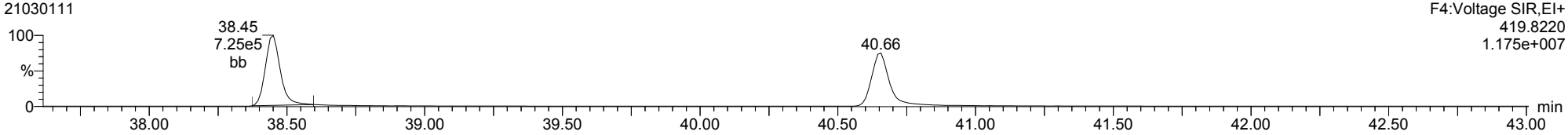

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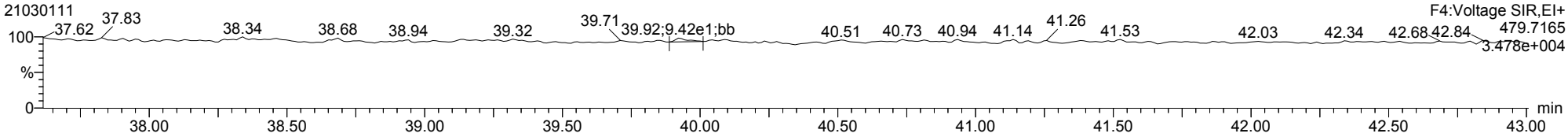

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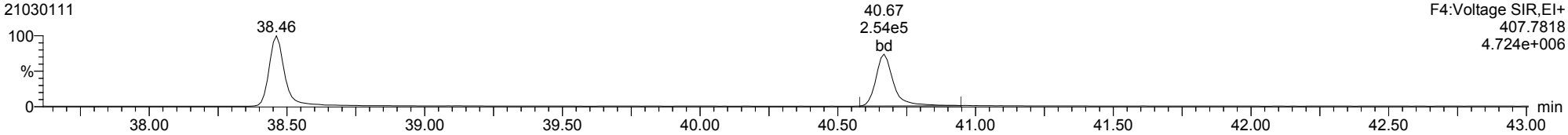

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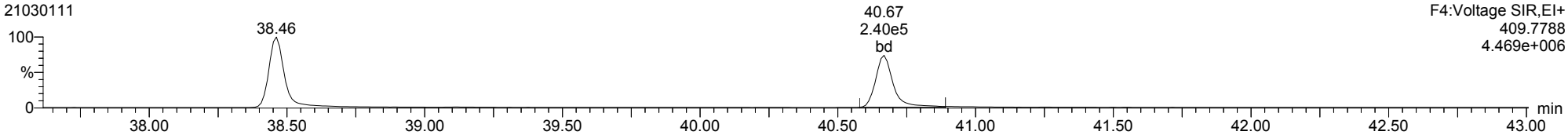

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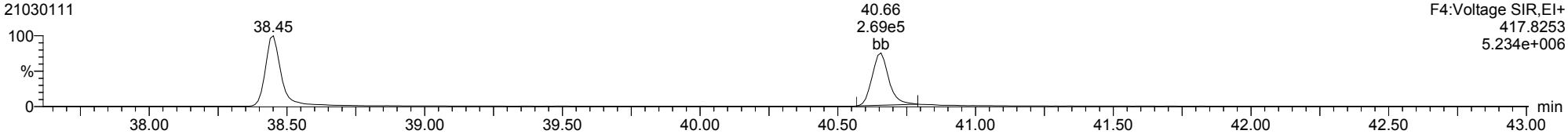

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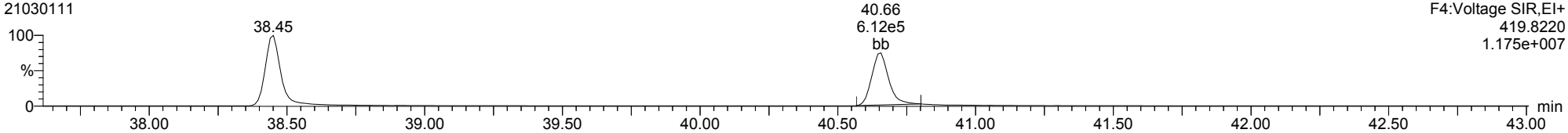

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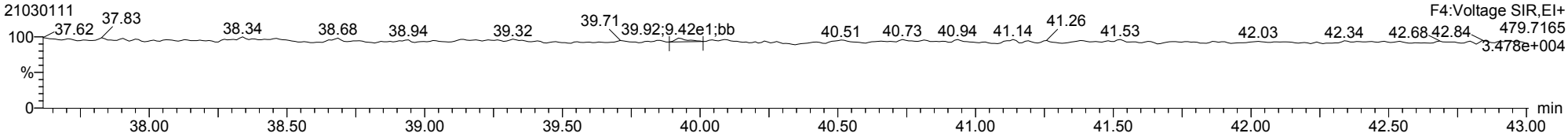

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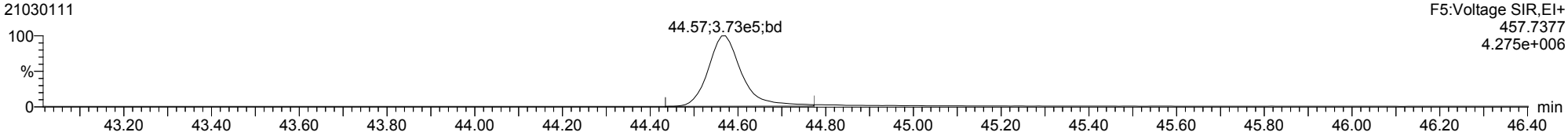

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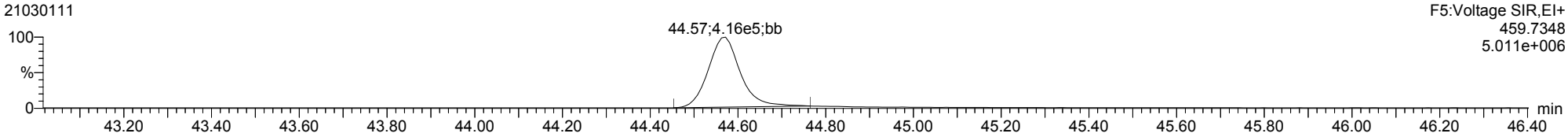

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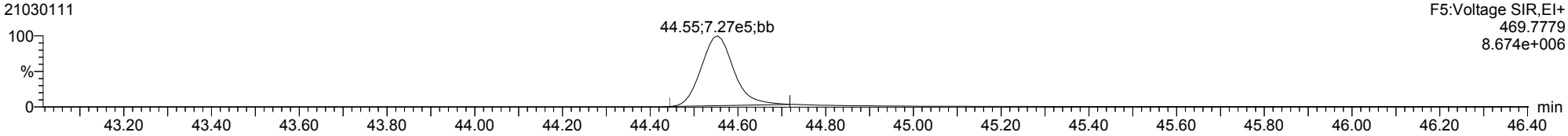

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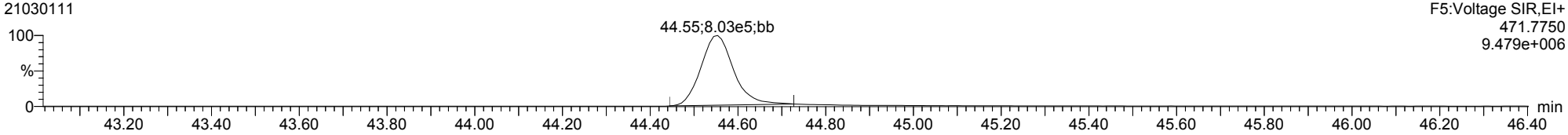

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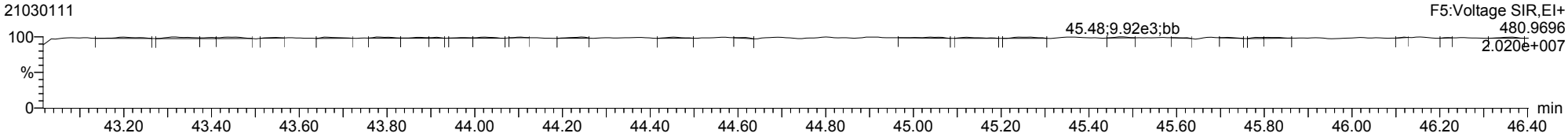

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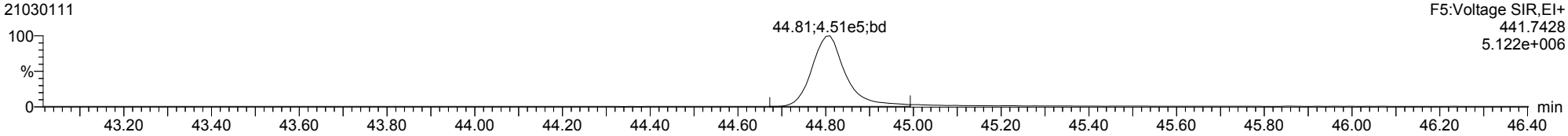

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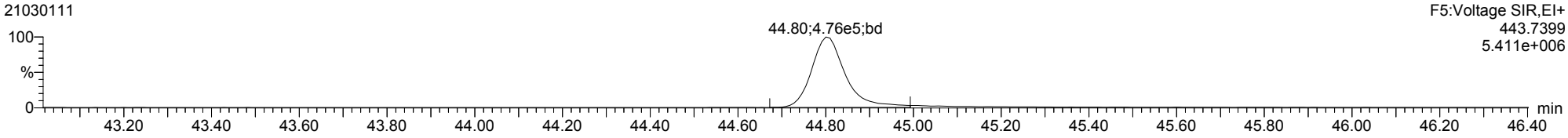

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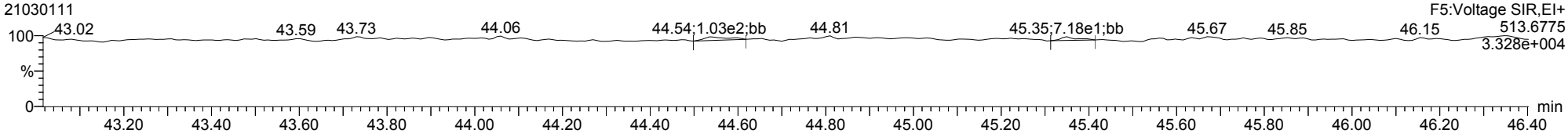

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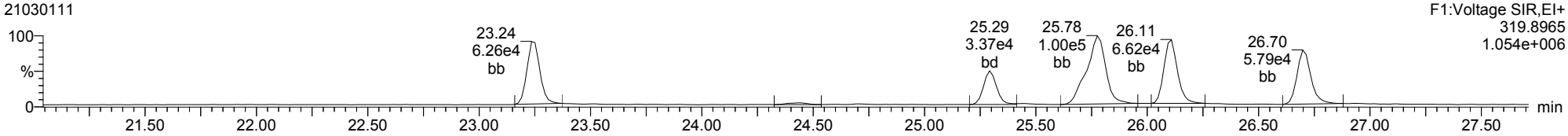

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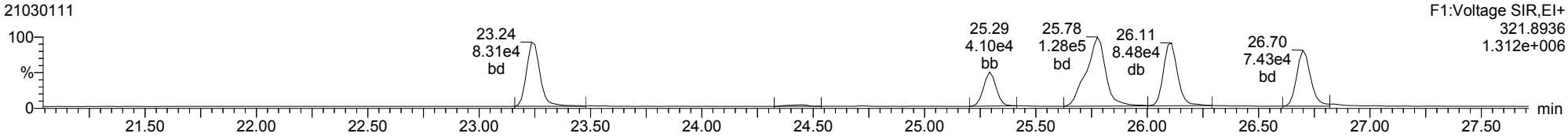

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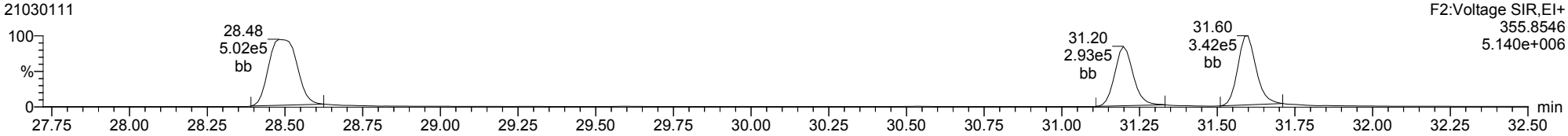

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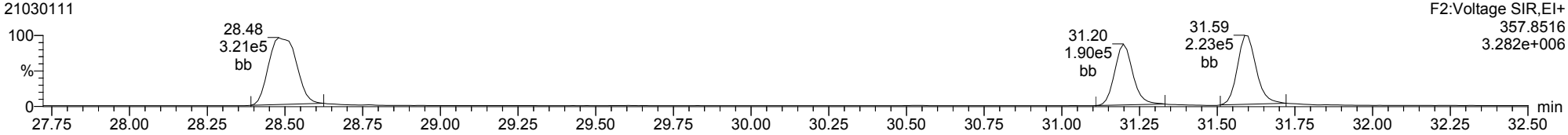

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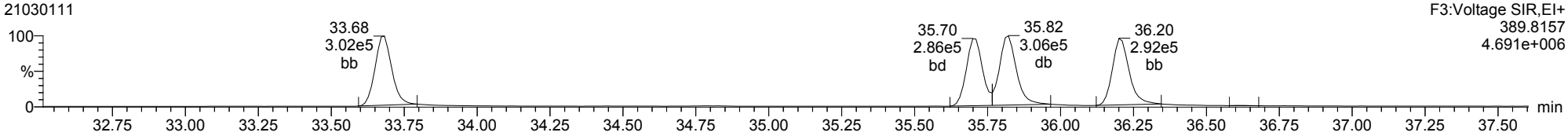

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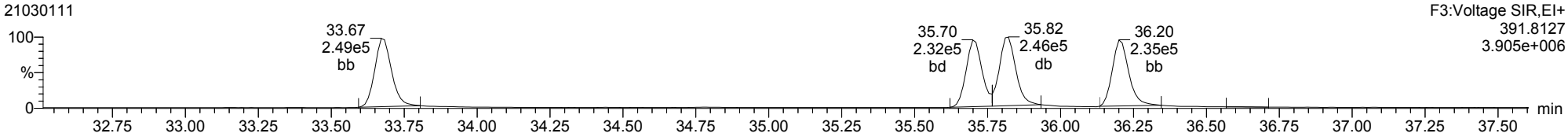

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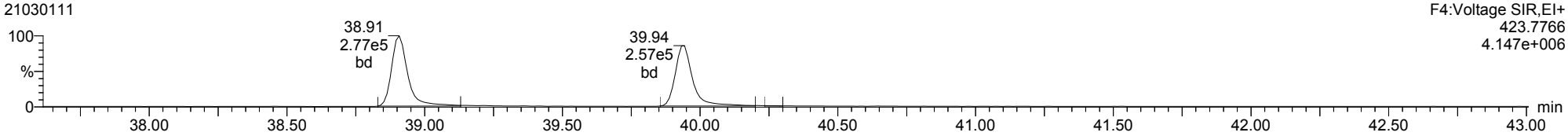

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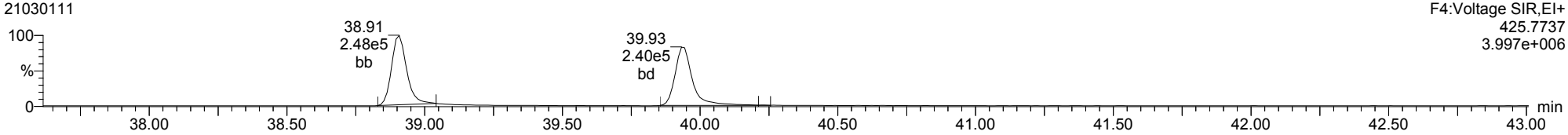

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Printed: Tuesday, March 02, 2021 11:38:54 Pacific Standard Time

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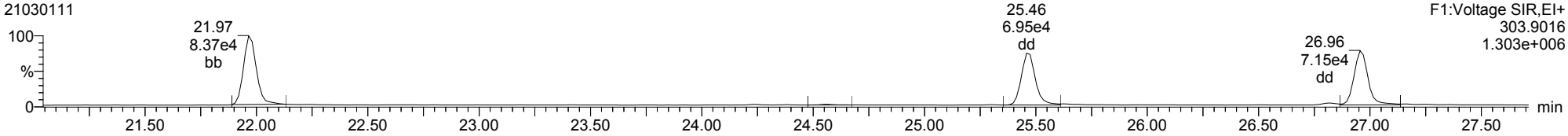

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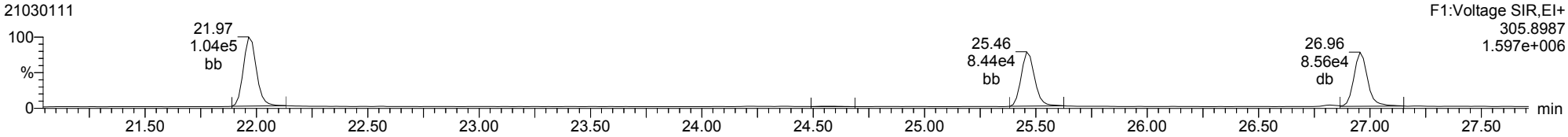

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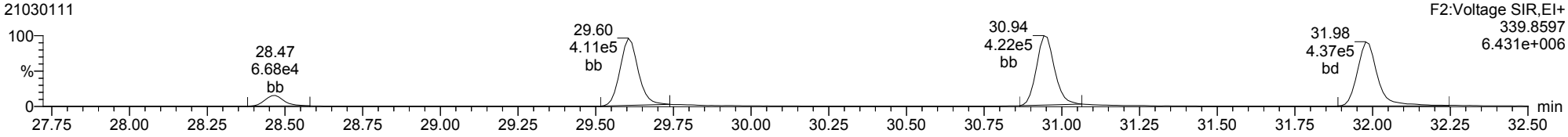

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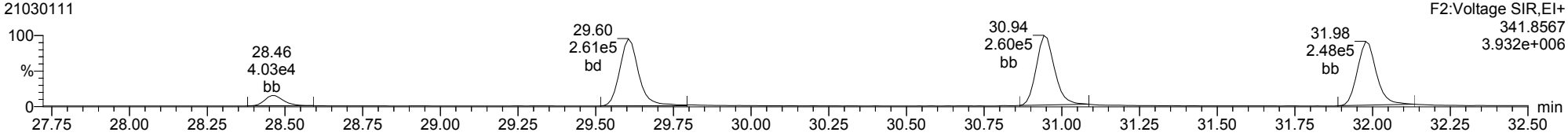

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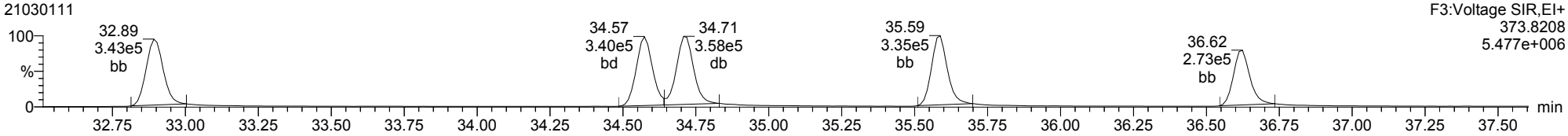

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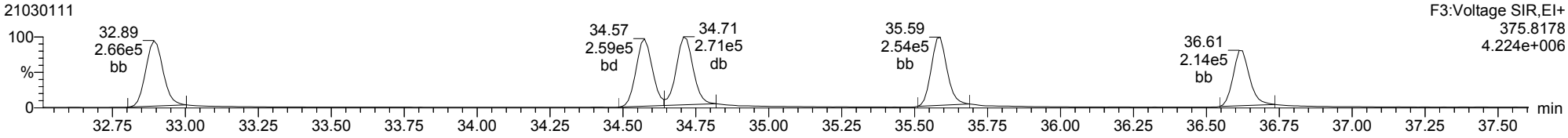

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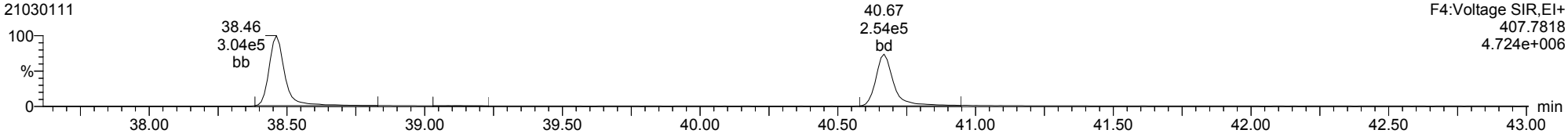

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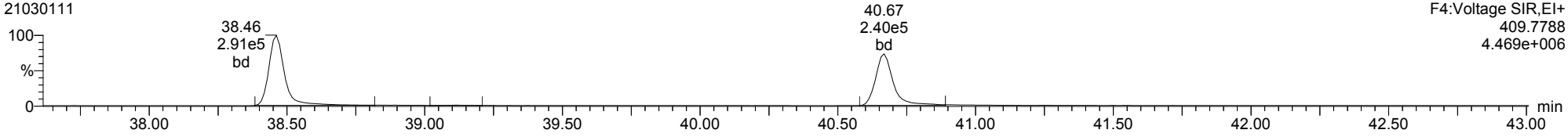

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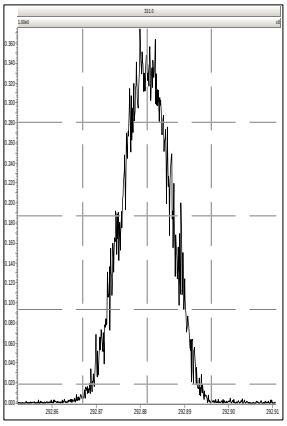

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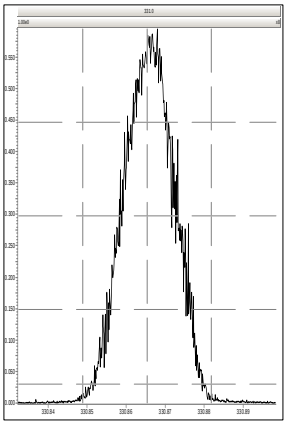

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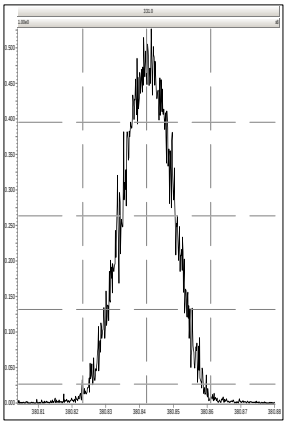

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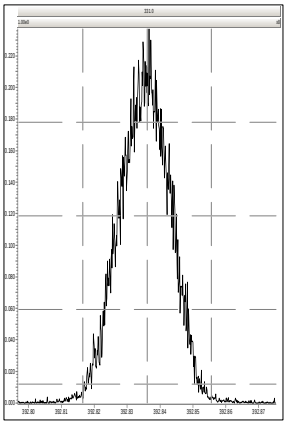

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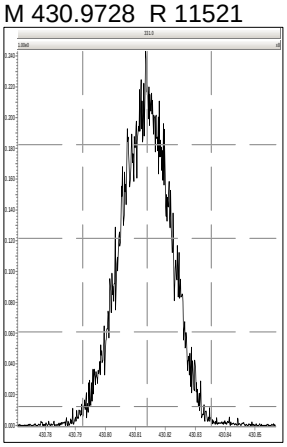

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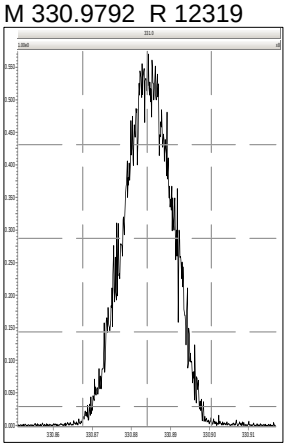

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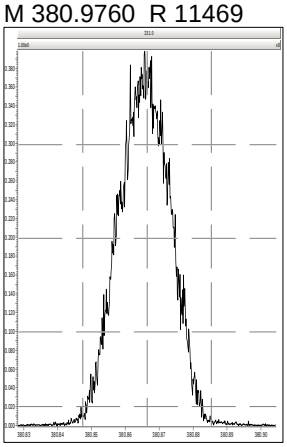

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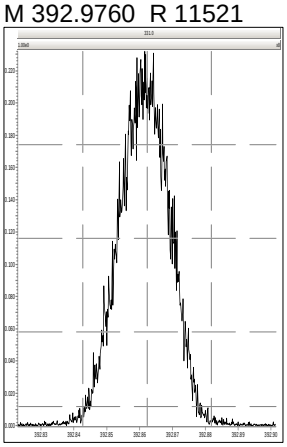

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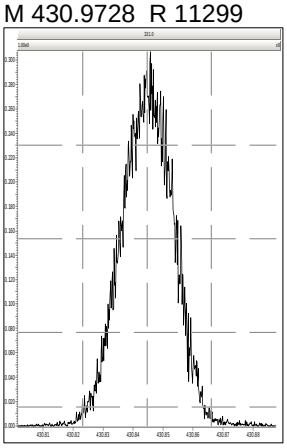

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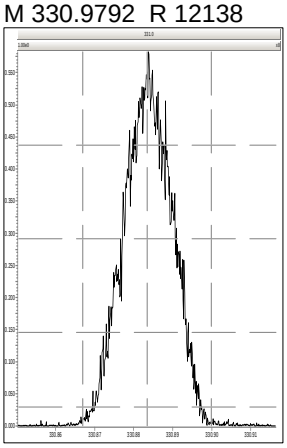

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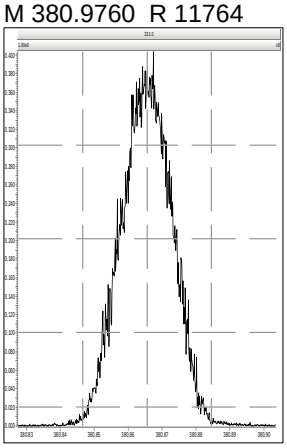

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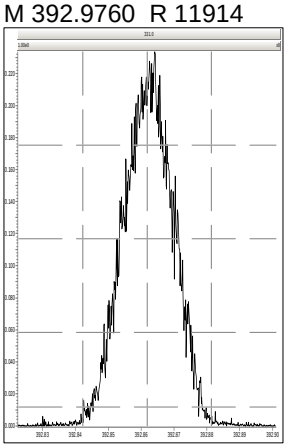

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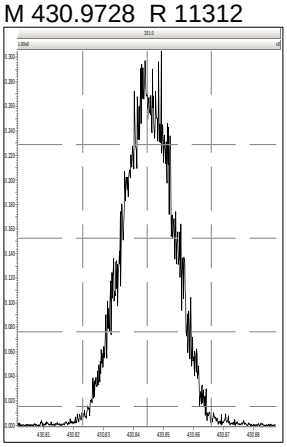

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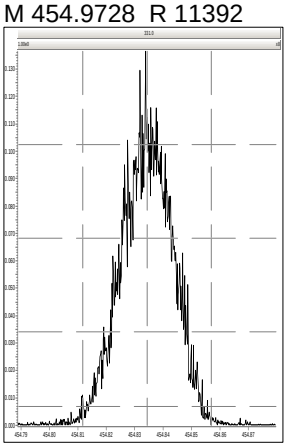
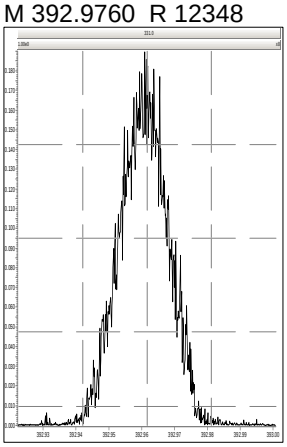


M 392.9760 R 12348



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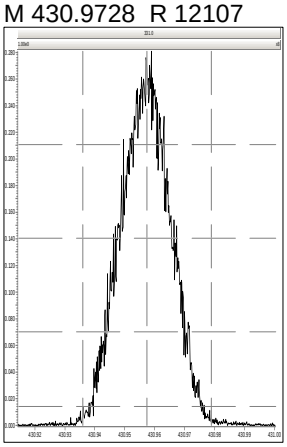

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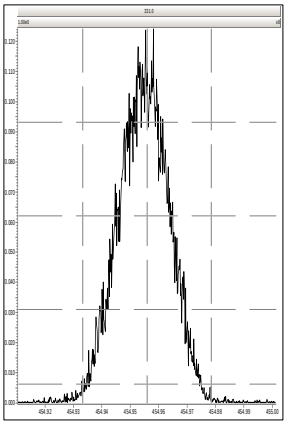
M 454.9728 R 11762



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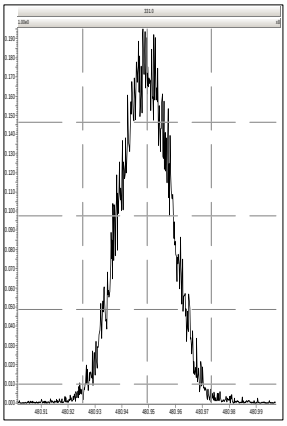
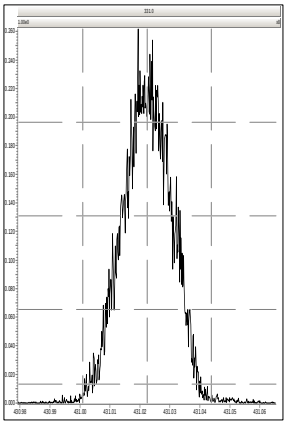
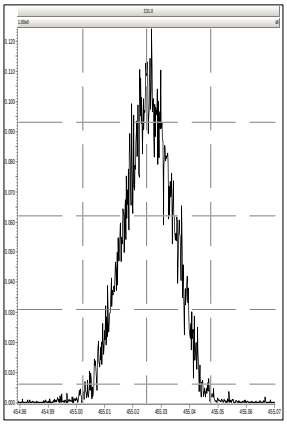


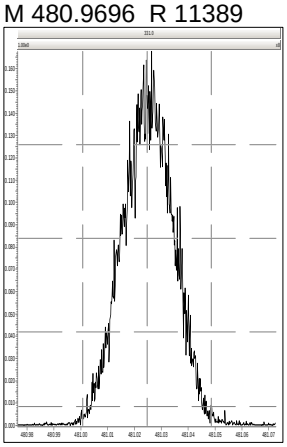
M 430.9728 R 12142



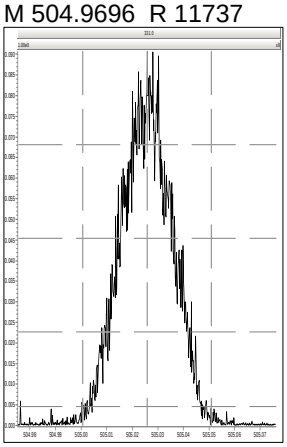
M 454.9728 R 11605



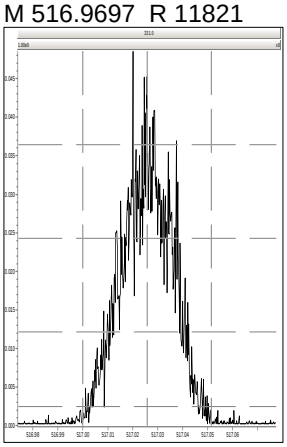
M 480.9696 R 11389

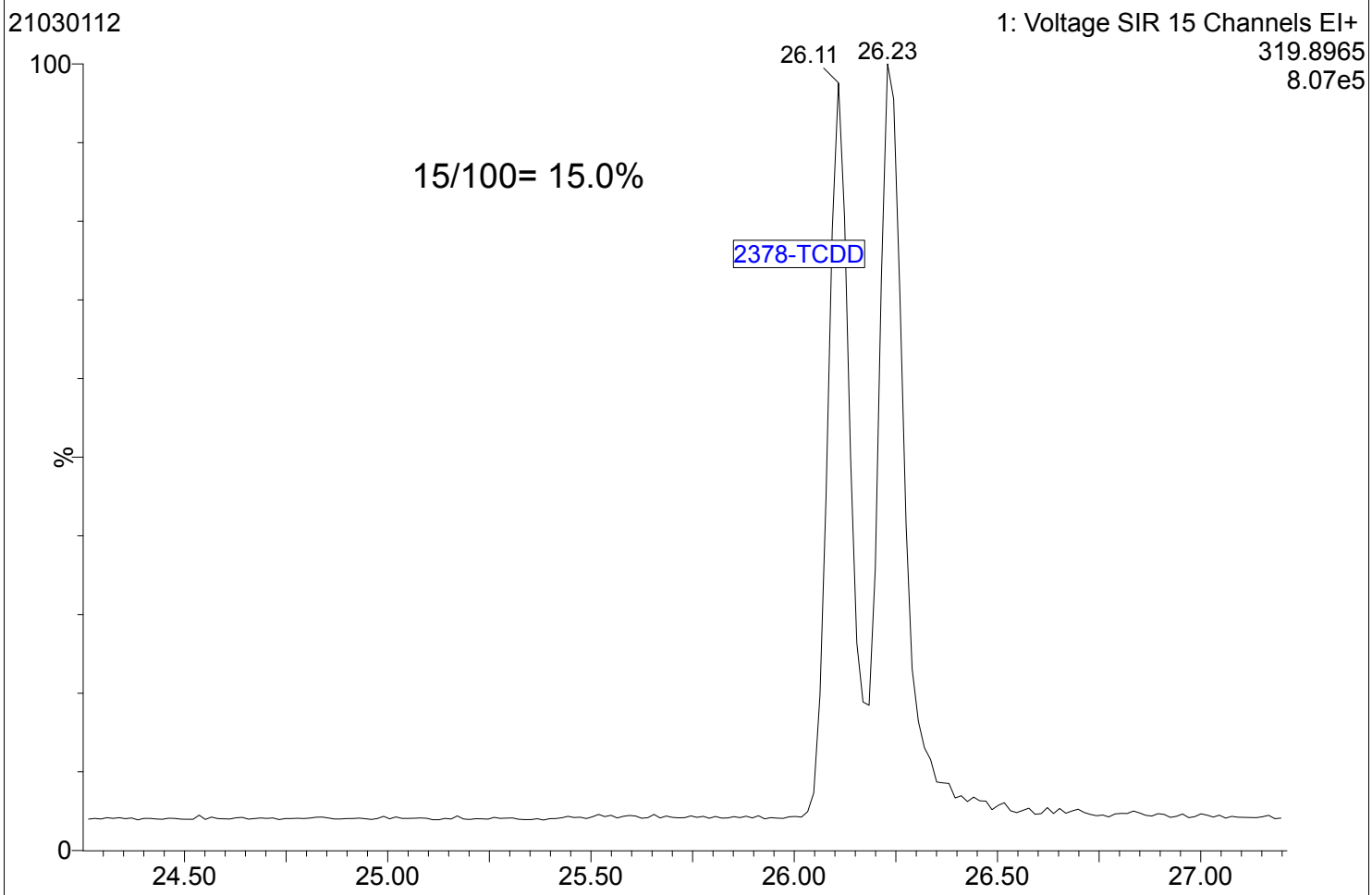


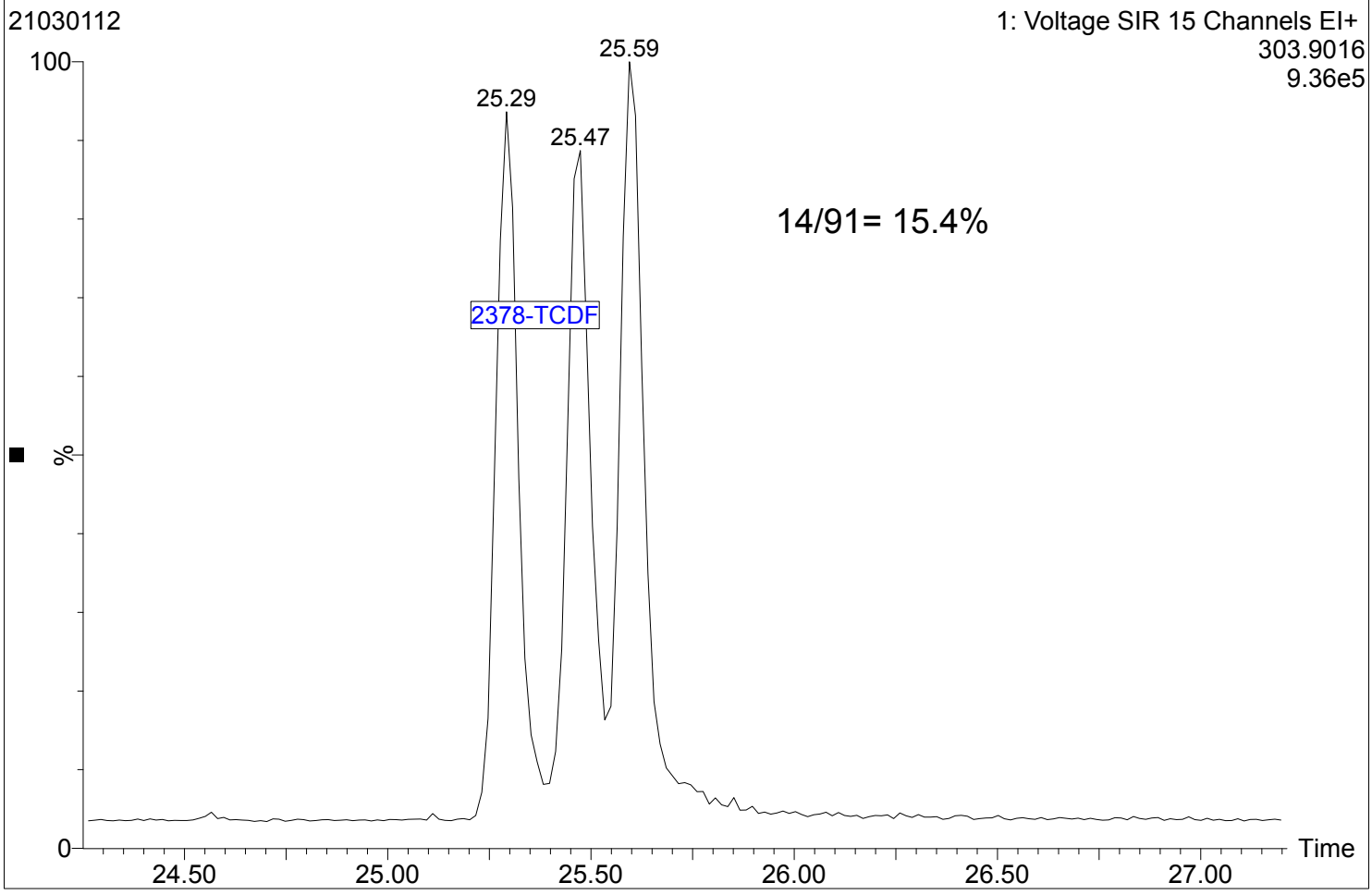
M 504.9696 R 11737



M 516.9697 R 11821




21030112
1: Voltage SIR 15 Channels EI+
319.8965
8.07e5
26.11
26.23
15/100= 15.0%
2378-TCDD
100
%
0
24.50
25.00
25.50
26.00
26.50
27.00


21030112
1: Voltage SIR 15 Channels EI+
303.9016
9.36e5
25.59
25.29
25.47
14/91= 15.4%
2378-TCDF
100
%
0
Time
24.50
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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21030110A	Calibration Date:	03/01/2021
Sequence:	SJC0004	Injection Date:	03/01/21
Lab Sample ID:	SJC0004-SCV1	Injection Time:	18:24
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	10.5	0.7815069	0.8213200		5.1	+/-20
2,3,7,8-TCDD	A	10.000	11.1	1.3074710	1.4569550		11.4	+/-20
1,2,3,7,8-PeCDF	A	50.000	55.1	0.8661132	0.9547719		10.2	+/-20
2,3,4,7,8-PeCDF	A	50.000	47.8	0.9798329	0.9369274		-4.4	+/-20
1,2,3,7,8-PeCDD	A	50.000	52.6	0.9786280	1.0289470		5.1	+/-20
1,2,3,4,7,8-HxCDF	A	50.000	53.2	1.0022170	1.0659060		6.4	+/-20
1,2,3,6,7,8-HxCDF	A	50.000	52.8	0.9610616	1.0153910		5.7	+/-20
2,3,4,6,7,8-HxCDF	A	50.000	53.6	1.0430410	1.1179160		7.2	+/-20
1,2,3,7,8,9-HxCDF	A	50.000	50.3	0.9942991	0.9994004		0.5	+/-20
1,2,3,4,7,8-HxCDD	A	50.000	52.1	0.9561583	0.9960413		4.2	+/-20
1,2,3,6,7,8-HxCDD	A	50.000	51.9	0.9525810	0.9880042		3.7	+/-20
1,2,3,7,8,9-HxCDD	A	50.000	50.9	0.9268956	7766.618		1.9	+/-20
1,2,3,4,6,7,8-HpCDF	A	50.000	57.0	1.0579720	1.2052320		13.9	+/-20
1,2,3,4,7,8,9-HpCDF	A	50.000	57.0	1.0697390	1.2190220		14.0	+/-20
1,2,3,4,6,7,8-HpCDD	A	50.000	51.6	1.0550420	1.0882970		3.2	+/-20
OCDF	A	100.00	100	1.2566960	1.2620580		0.4	+/-20
OCDD	A	100.00	106	1.0738390	1.1434700		6.5	+/-20
13C12-2,3,7,8-TCDF	A	100.00	97.8	1.9249160	1.8820314		-2.2	+/-20
13C12-2,3,7,8-TCDD	A	100.00	80.8	1.1327550	0.9156513		-19.2	+/-20
13C12-1,2,3,7,8-PeCDF	A	100.00	98.4	1.4422400	1.4193710		-1.6	+/-20
13C12-2,3,4,7,8-PeCDF	A	100.00	102	1.3866450	1.4086207		1.6	+/-20
13C12-1,2,3,7,8-PeCDD	A	100.00	95.4	0.9468647	0.9034650		-4.6	+/-20
13C12-1,2,3,4,7,8-HxCDF	A	100.00	112	1.0530710	1.1822840		12.3	+/-20
13C12-1,2,3,6,7,8-HxCDF	A	100.00	115	1.1350140	1.3104218		15.5	+/-20
13C12-2,3,4,6,7,8-HxCDF	A	100.00	110	1.0040700	1.1034654		9.9	+/-20
13C12-1,2,3,7,8,9-HxCDF	A	100.00	114	0.9089439	1.0355954		13.9	+/-20
13C12-1,2,3,4,7,8-HxCDD	A	100.00	115	0.9385700	1.0798912		15.1	+/-20
13C12-1,2,3,6,7,8-HxCDD	A	100.00	114	1.0420460	1.1891080		14.1	+/-20
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	111	0.9598082	1.0633236		10.8	+/-20
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	103	0.7937117	0.8172139		3.0	+/-20
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	106	0.7883415	0.8346998		5.9	+/-20
13C12-OCDD	A	200.00	204	0.7032915	0.7165406		1.9	+/-20
37Cl4-2,3,7,8-TCDD	A	10.000	10.5	1.4170130	1.3575226		4.6	+/-20

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	25.473	1.001	5.397e4	6.935e4	0.782	0.778	0.770	1051	2000	7.54e5	9.79e5	717.1	489.3	NO	bb	bb	10.509
12378-PeCDF	29.616	1.001	3.430e5	1.976e5	0.866	1.736	1.550	3779	2507	4.93e6	2.95e6	1303.4	1177.5	NO	bd	bb	55.118
23478-PeCDF	30.953	1.000	3.296e5	1.969e5	0.980	1.674	1.550	3779	2507	4.89e6	2.91e6	1292.8	1159.4	NO	bb	bb	47.811
123478-HxCDF	34.585	1.001	2.573e5	1.996e5	1.002	1.289	1.240	3209	2473	3.98e6	3.06e6	1240.8	1237.2	NO	bd	bd	53.177
234678-HxCDF	35.588	1.000	2.529e5	1.943e5	1.043	1.301	1.240	3209	2473	3.88e6	3.05e6	1210.6	1232.0	NO	bb	bb	53.589
123678-HxCDF	34.719	1.000	2.753e5	2.071e5	0.961	1.329	1.240	3209	2473	4.09e6	3.13e6	1274.3	1264.2	NO	db	db	52.827
123789-HxCDF	36.624	1.000	2.095e5	1.657e5	0.994	1.265	1.240	3209	2473	3.18e6	2.54e6	990.9	1025.6	NO	bb	bb	50.257
1234678-HpCDF	38.473	1.001	2.384e5	2.261e5	1.058	1.054	1.050	2381	2711	3.67e6	3.40e6	1540.3	1252.5	NO	bd	bd	56.960
1234789-HpCDF	40.679	1.001	1.814e5	1.797e5	1.070	1.010	1.050	2381	2711	2.42e6	2.41e6	1016.3	889.7	NO	MM	MM	56.978
OCDF	44.811	1.006	3.187e5	3.370e5	1.257	0.946	0.890	3160	3240	3.52e6	3.73e6	1112.5	1150.5	NO	bd	bd	100.427
2378-TCDD	26.108	1.001	4.639e4	6.004e4	1.307	0.773	0.770	1881	1409	6.50e5	8.45e5	345.7	599.3	NO	bb	bd	11.143
12378-PeCDD	31.209	1.001	2.268e5	1.440e5	0.979	1.575	1.550	2550	4048	3.46e6	2.17e6	1356.4	537.1	NO	bb	bb	52.571
123478-HxCDD	35.710	1.000	2.144e5	1.756e5	0.956	1.221	1.240	2202	2575	3.45e6	2.82e6	1568.7	1096.1	NO	bd	bd	52.086
123678-HxCDD	35.833	1.001	2.325e5	1.934e5	0.953	1.202	1.240	2202	2575	3.38e6	2.84e6	1535.3	1101.5	NO	db	db	51.859
123789-HxCDD	36.212	1.011	2.124e5	1.759e5	0.927	1.207	1.240	2202	2575	3.20e6	2.60e6	1454.2	1009.7	NO	bb	bb	50.934
1234678-HpCDD	39.944	1.000	1.667e5	1.626e5	1.055	1.025	1.050	2421	2184	2.32e6	2.29e6	960.0	1049.1	NO	bb	bb	51.576
OCDD	44.573	1.000	2.816e5	3.124e5	1.074	0.901	0.890	2949	2167	3.02e6	3.44e6	1024.1	1588.7	NO	bd	bb	106.484
13C-2378-TCDF	25.458	1.007	6.632e5	8.384e5	1.925	0.791	0.770	4329	2119	9.49e6	1.21e7	2193.1	5722.7	NO	bb	bb	97.772
13C-12378-PeCDF	29.594	1.171	6.821e5	4.504e5	1.442	1.515	1.550	3588	3800	9.85e6	6.48e6	2745.6	1704.7	NO	bb	bb	98.414
13C-23478-PeCDF	30.942	1.224	6.762e5	4.477e5	1.387	1.510	1.550	3588	3800	9.73e6	6.43e6	2712.3	1691.0	NO	bb	bb	101.585
13C-123478-HxCDF	34.563	0.955	2.895e5	5.677e5	1.053	0.510	0.510	3016	3448	4.32e6	8.66e6	1432.9	2512.7	NO	bd	bd	112.270
13C-123678-HxCDF	34.708	0.959	3.164e5	6.337e5	1.135	0.499	0.510	3016	3448	4.67e6	9.11e6	1547.2	2643.6	NO	db	db	115.454
13C-234678-HxCDF	35.577	0.983	2.686e5	5.315e5	1.004	0.505	0.510	3016	3448	4.21e6	8.26e6	1395.0	2395.5	NO	bb	bb	109.899
13C-123789-HxCDF	36.613	1.011	2.712e5	4.796e5	0.909	0.566	0.510	3016	3448	3.80e6	7.27e6	1259.3	2108.1	NO	bb	bb	113.934
13C-1234678-HpCDF	38.451	1.062	2.318e5	5.391e5	0.960	0.430	0.440	2524	3843	3.63e6	8.28e6	1439.7	2155.3	NO	bb	bb	110.785
13C-1234789-HpCDF	40.657	1.123	1.844e5	4.081e5	0.794	0.452	0.440	2524	3843	2.47e6	5.61e6	979.7	1460.1	NO	bb	bb	102.961
13C-1234-TCDD	25.277	0.000	3.546e5	4.433e5	1.000	0.800	0.770	2370	1656	5.14e6	6.48e6	2167.0	3914.8	NO	bb	bb	100.000
13C-2378-TCDD	26.093	1.032	3.201e5	4.104e5	1.133	0.780	0.770	2370	1656	4.57e6	5.82e6	1927.7	3517.9	NO	bb	bb	80.834
13C-12378-PeCDD	31.187	1.234	4.541e5	2.667e5	0.947	1.703	1.550	1548	1438	6.12e6	3.81e6	3952.6	2652.5	NO	bd	bb	95.416
13C-123478-HxCDD	35.699	0.986	4.400e5	3.430e5	0.939	1.283	1.240	5236	1911	6.93e6	5.31e6	1323.8	2776.5	NO	bd	bd	115.057
13C-123678-HxCDD	35.811	0.989	4.783e5	3.839e5	1.042	1.246	1.240	5236	1911	7.13e6	5.87e6	1362.2	3071.2	NO	db	db	114.113
13C-1234678-HpCDD	39.933	1.103	3.109e5	2.943e5	0.788	1.056	1.050	2200	2496	4.41e6	4.10e6	2003.5	1642.7	NO	bb	bb	105.880
13C-OCDD	44.554	1.231	4.924e5	5.466e5	0.703	0.901	0.890	2844	3590	5.67e6	6.38e6	1994.9	1778.6	NO	bb	bb	203.768
13C-123789-HxCDD	36.201	0.000	3.996e5	3.254e5	1.000	1.228	1.240	5236	1911	5.95e6	4.83e6	1137.1	2525.3	NO	bb	bb	100.000
37CL-2378-TCDD	26.108	1.033	1.083e5		1.298			2708		1.51e6		558.7			bb		10.462

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	21.981	0.863	6.290e4	7.727e4	0.966	0.814	0.770	1051	2000	9.03e5	1.17e6	859.1	586.2	NO	bd	bb	9.667
1289-TCDF	26.970	1.059	3.538e4	4.519e4	0.736	0.783	0.770	1051	2000	5.00e5	6.19e5	475.1	309.6	NO	db	db	7.292
13468-PECDF	26.819	0.906	3.866e5	2.593e5	1.347	1.491	1.550	1150	1394	5.59e6	3.79e6	4863.9	2716.8	NO	bb	bb	42.347
12389-PECDF	31.989	1.081	2.576e5	1.610e5	0.867	1.600	1.550	3779	2507	3.73e6	2.29e6	987.5	914.9	NO	bb	bb	42.640
123468-HXCDF	32.903	0.952	2.822e5	2.207e5	1.036	1.279	1.240	3209	2473	4.14e6	3.21e6	1290.0	1296.5	NO	bb	bb	56.637
1368-TCDD	23.251	0.891	4.855e4	6.494e4	1.256	0.748	0.770	1881	1409	7.38e5	9.49e5	392.3	673.6	NO	bb	bd	12.372
1289-TCDD	26.713	1.024	4.492e4	5.792e4	1.151	0.775	0.770	1881	1409	6.05e5	7.69e5	321.3	545.4	NO	bb	bd	12.231
12479-PECDD	28.502	0.914	3.298e5	2.048e5	1.773	1.611	1.550	2550	4048	3.12e6	1.98e6	1223.1	489.6	NO	bb	bb	41.819
12389-PECDD	31.599	1.013	2.235e5	1.584e5	1.171	1.411	1.550	2550	4048	3.21e6	2.13e6	1258.6	527.1	NO	bb	bd	45.240
124679-HXCDD	33.694	0.944	2.599e5	2.103e5	1.034	1.236	1.240	2202	2575	3.82e6	3.11e6	1734.4	1208.3	NO	bb	bb	58.104
1234679-HPCDD	38.919	0.975	1.878e5	1.813e5	1.194	1.036	1.050	2421	2184	2.94e6	2.80e6	1212.6	1283.7	NO	bb	bb	51.075
Total-tetrafurans			1.565e5		0.828			1051		2.22e6							28.295
Total-penta1			3.866e5					1150		5.59e6							42.347
Total-pentafurans			9.757e5		0.904			3779		1.42e7							152.615
Total-hexafurans			1.277e6		1.007			3209		1.93e7							266.487
Total-heptafurans			4.214e5		1.064			2381		6.12e6							114.391
Total-Furans			3.536e6		0.998			1051		5.09e7							704.561
Total-tetradioxins			2.465e5		1.238			1881		3.02e6							62.382
Total-pentadioxins			7.802e5		1.308			2550		9.79e6							139.630
Total-hexadioxins			9.279e5		0.967			2202		1.39e7							214.893
Total-heptadioxins			3.545e5		1.125			2421		5.26e6							102.651
Total-Dioxins			2.591e6		1.141			1881		3.50e7							626.040
Total-TEQ			6.127e6					1881		8.59e7							1330.601
FUNCTION1 PFK			4.173e6					638729		6.49e7							
FUNCTION2 PFK			6.392e5					323979		1.36e7							0.000
FUNCTION3 PFK			1.631e6					372007		3.19e7							0.000
FUNCTION4 PFK			1.794e6					339905		2.36e7							
FUNCTION5 PFK			7.170e5					167053		1.68e7							
FUNCTION1 HXCD...			5.708e2					819		8.41e3							0.000
FUNCTION1 HPCD...			1.564e3					912		3.31e4							0.000
FUNCTION2 HPCD...			1.066e3					1224		1.87e4							0.000
FUNCTION3 OCDPE			5.294e2					1008		7.55e3							0.000
FUNCTION4 NCDPE			2.385e2					833		5.02e3							0.000
FUNCTION5 DCDPE			3.233e2					691		4.35e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210301IHICV.qld
Last Altered: Tuesday, March 02, 2021 11:36:58 Pacific Standard Time
Printed: Tuesday, March 02, 2021 11:38:42 Pacific Standard Time

Method: T:\Autospec\Methods\Dioxin210225.mdb 25 Feb 2021 14:28:48
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 11:24:22

ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, 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	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
2	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
3	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
4	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
2	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
3	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
4	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
5	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
2	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
3	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978

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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	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
2	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
3	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
2	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
3	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
4	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
5	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
2	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075

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	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
2	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
3	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
4	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
5	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
6	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
7	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
8	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
9	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
10	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
11	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
12	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
13	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
14	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
15	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
16	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
17	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.97	3.538e4	4.519e4	0.736	0.78	0.77	475.1	YES	NO	db	db	7.292
2	2378-TCDF	25.47	5.397e4	6.935e4	0.782	0.78	0.77	717.1	YES	NO	bb	bb	10.509
3	Total-tetrafurans	24.57	3.756e3	5.207e3	0.828	0.72	0.77	49.4	YES	NO	bb	bb	0.721
4	Total-tetrafurans	24.23	5.297e2	7.685e2	0.828	0.69	0.77	6.0	YES	NO	bd	bb	0.104
5	1368-TCDF	21.98	6.290e4	7.727e4	0.966	0.81	0.77	859.1	YES	NO	bd	bb	9.667
6	12389-PECDF	31.99	2.576e5	1.610e5	0.867	1.60	1.55	987.5	YES	NO	bb	bb	42.640
7	23478-PeCDF	30.95	3.296e5	1.969e5	0.980	1.67	1.55	1292.8	YES	NO	bb	bb	47.811
8	12378-PeCDF	29.62	3.430e5	1.976e5	0.866	1.74	1.55	1303.4	YES	NO	bd	bb	55.118
9	Total-pentafurans	28.47	4.548e4	2.639e4	0.904	1.72	1.55	160.4	YES	NO	bb	bb	7.045
10	123789-HxCDF	36.62	2.095e5	1.657e5	0.994	1.26	1.24	990.9	YES	NO	bb	bb	50.257
11	234678-HxCDF	35.59	2.529e5	1.943e5	1.043	1.30	1.24	1210.6	YES	NO	bb	bb	53.589
12	123678-HxCDF	34.72	2.753e5	2.071e5	0.961	1.33	1.24	1274.3	YES	NO	db	db	52.827
13	123478-HxCDF	34.59	2.573e5	1.996e5	1.002	1.29	1.24	1240.8	YES	NO	bd	bd	53.177
14	123468-HXCDF	32.90	2.822e5	2.207e5	1.036	1.28	1.24	1290.0	YES	NO	bb	bb	56.637
15	1234678-HpCDF	38.47	2.384e5	2.261e5	1.058	1.05	1.05	1540.3	YES	NO	bd	bd	56.960
16	Total-heptafurans	40.98	1.563e3	1.726e3	1.064	0.91	1.05	11.1	YES	NO	dd	dd	0.453
17	1234789-HpCDF	40.68	1.814e5	1.797e5	1.070	1.01	1.05	1016.3	YES	NO	MM	MM	56.978
18	OCDF	44.81	3.187e5	3.370e5	1.257	0.95	0.89	1112.5	YES	NO	bd	bd	100.427
19	13468-PECDF	26.82	3.866e5	2.593e5	1.347	1.49	1.55	4863.9	YES	NO	bb	bb	42.347
20	Total-tetradioxins	24.45	1.952e3	2.340e3	1.238	0.83	0.77	9.8	YES	NO	bd	bb	0.475
21	1368-TCDD	23.25	4.855e4	6.494e4	1.256	0.75	0.77	392.3	YES	NO	bb	bd	12.372
22	1289-TCDD	26.71	4.492e4	5.792e4	1.151	0.78	0.77	321.3	YES	NO	bb	bd	12.231
23	2378-TCDD	26.11	4.639e4	6.004e4	1.307	0.77	0.77	345.7	YES	NO	bb	bd	11.143
24	Total-tetradioxins	25.78	8.191e4	1.044e5	1.238	0.78	0.77	359.4	YES	NO	bb	bb	20.599
25	Total-tetradioxins	25.31	2.275e4	2.754e4	1.238	0.83	0.77	178.0	YES	NO	bd	bb	5.561
26	12378-PeCDD	31.21	2.268e5	1.440e5	0.979	1.57	1.55	1356.4	YES	NO	bb	bb	52.571
27	12479-PECDD	28.50	3.298e5	2.048e5	1.773	1.61	1.55	1223.1	YES	NO	bb	bb	41.819
28	12389-PECDD	31.60	2.235e5	1.584e5	1.171	1.41	1.55	1258.6	YES	NO	bb	bd	45.240
29	123789-HxCDD	36.21	2.124e5	1.759e5	0.927	1.21	1.24	1454.2	YES	NO	bb	bb	50.934
30	123678-HxCDD	35.83	2.325e5	1.934e5	0.953	1.20	1.24	1535.3	YES	NO	db	db	51.859
31	123478-HxCDD	35.71	2.144e5	1.756e5	0.956	1.22	1.24	1568.7	YES	NO	bd	bd	52.086
32	Total-hexadioxins	34.82	8.789e3	6.402e3	0.967	1.37	1.24	37.3	YES	NO	dd	bb	1.909
33	124679-HXCDD	33.69	2.599e5	2.103e5	1.034	1.24	1.24	1734.4	YES	NO	bb	bb	58.104
34	1234678-HpCDD	39.94	1.667e5	1.626e5	1.055	1.03	1.05	960.0	YES	NO	bb	bb	51.576
35	1234679-HPCDD	38.92	1.878e5	1.813e5	1.194	1.04	1.05	1212.6	YES	NO	bb	bb	51.075
36	OCDD	44.57	2.816e5	3.124e5	1.074	0.90	0.89	1024.1	YES	NO	bd	bb	106.484

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.92	1.156e5					2.1	NO		dd		
2	FUNCTION1 PFK	21.81	9.219e4					1.9	NO		dd		
3	FUNCTION1 PFK	21.69	1.040e5					2.1	NO		dd		
4	FUNCTION1 PFK	21.59	1.237e5					2.4	NO		dd		
5	FUNCTION1 PFK	21.50	1.080e5					2.3	NO		dd		
6	FUNCTION1 PFK	21.41	6.439e4					2.1	NO		dd		
7	FUNCTION1 PFK	21.36	8.424e4					2.3	NO		dd		
8	FUNCTION1 PFK	21.30	1.669e4					1.0	NO		dd		
9	FUNCTION1 PFK	21.24	6.060e4					1.7	NO		dd		
10	FUNCTION1 PFK	21.18	4.762e4					1.6	NO		dd		
11	FUNCTION1 PFK	21.12	4.780e3					0.4	NO		bd		
12	FUNCTION1 PFK	23.58	4.497e4					1.3	NO		bd		
13	FUNCTION1 PFK	23.48	1.760e4					0.8	NO		bb		
14	FUNCTION1 PFK	23.36	3.195e4					1.1	NO		bb		
15	FUNCTION1 PFK	23.25	1.015e5					1.8	NO		db		
16	FUNCTION1 PFK	23.15	6.591e4					2.1	NO		dd		
17	FUNCTION1 PFK	23.02	1.064e5					1.8	NO		dd		
18	FUNCTION1 PFK	22.95	4.945e4					1.5	NO		dd		
19	FUNCTION1 PFK	22.90	5.485e4					1.8	NO		dd		
20	FUNCTION1 PFK	22.81	8.219e4					1.9	NO		dd		
21	FUNCTION1 PFK	22.69	8.428e4					1.5	NO		dd		
22	FUNCTION1 PFK	22.59	6.669e4					1.5	NO		dd		
23	FUNCTION1 PFK	22.48	7.201e4					1.7	NO		dd		
24	FUNCTION1 PFK	22.37	9.568e4					1.7	NO		dd		
25	FUNCTION1 PFK	22.27	9.298e4					2.0	NO		dd		
26	FUNCTION1 PFK	22.15	6.624e4					2.0	NO		dd		
27	FUNCTION1 PFK	22.04	9.485e4					2.3	NO		dd		
28	FUNCTION1 PFK	25.28	4.780e4					1.5	NO		bd		
29	FUNCTION1 PFK	25.16	3.320e4					1.2	NO		db		
30	FUNCTION1 PFK	25.05	4.422e4					1.2	NO		dd		
31	FUNCTION1 PFK	24.93	4.108e4					1.3	NO		bd		
32	FUNCTION1 PFK	24.79	2.806e4					0.8	NO		bb		
33	FUNCTION1 PFK	24.72	4.553e4					1.3	NO		db		
34	FUNCTION1 PFK	24.67	2.488e4					1.3	NO		dd		
35	FUNCTION1 PFK	24.60	8.222e4					1.8	NO		dd		
36	FUNCTION1 PFK	24.48	5.748e4					1.8	NO		dd		
37	FUNCTION1 PFK	24.37	9.536e4					1.8	NO		dd		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	24.28	7.763e4					1.9	NO		dd		
39	FUNCTION1 PFK	24.14	7.067e4					1.9	NO		dd		
40	FUNCTION1 PFK	24.04	9.260e4					1.8	NO		dd		
41	FUNCTION1 PFK	23.93	1.030e5					2.3	NO		dd		
42	FUNCTION1 PFK	23.81	4.843e4					1.4	NO		dd		
43	FUNCTION1 PFK	23.69	7.884e4					1.9	NO		dd		
44	FUNCTION1 PFK	27.06	7.787e4					2.0	NO		dd		
45	FUNCTION1 PFK	26.97	8.111e4					1.8	NO		dd		
46	FUNCTION1 PFK	26.83	9.036e4					2.0	NO		dd		
47	FUNCTION1 PFK	26.74	8.591e4					1.8	NO		dd		
48	FUNCTION1 PFK	26.61	6.449e4					1.4	NO		dd		
49	FUNCTION1 PFK	26.49	5.909e4					1.2	NO		dd		
50	FUNCTION1 PFK	26.40	5.894e4					1.4	NO		dd		
51	FUNCTION1 PFK	26.29	3.046e4					1.1	NO		dd		
52	FUNCTION1 PFK	26.18	3.010e4					1.0	NO		dd		
53	FUNCTION1 PFK	26.15	2.080e4					0.9	NO		bd		
54	FUNCTION1 PFK	25.94	5.251e4					1.2	NO		bb		
55	FUNCTION1 PFK	25.84	3.685e4					1.1	NO		db		
56	FUNCTION1 PFK	25.70	4.278e4					1.2	NO		dd		
57	FUNCTION1 PFK	25.59	5.314e4					1.3	NO		bd		
58	FUNCTION1 PFK	25.49	6.315e4					1.4	NO		db		
59	FUNCTION1 PFK	25.38	6.586e4					1.5	NO		dd		
60	FUNCTION1 PFK	27.50	6.900e4					1.8	NO		db		
61	FUNCTION1 PFK	27.39	8.722e4					1.9	NO		dd		
62	FUNCTION1 PFK	27.27	8.670e4					1.7	NO		dd		
63	FUNCTION1 PFK	27.17	9.663e4					2.1	NO		dd		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	29.97	2.403e4					2.4	NO		bb		0.000
2	FUNCTION2 PFK	29.92	4.624e3					0.9	NO		db		0.000
3	FUNCTION2 PFK	29.88	2.754e4					1.7	NO		bd		0.000
4	FUNCTION2 PFK	29.69	2.184e3					0.6	NO		bb		0.000
5	FUNCTION2 PFK	29.63	2.944e4					2.0	NO		bb		0.000
6	FUNCTION2 PFK	28.56	4.796e3					0.9	NO		bb		0.000
7	FUNCTION2 PFK	28.44	5.849e4					2.6	NO		bb		0.000
8	FUNCTION2 PFK	28.30	3.377e4					2.5	NO		db		0.000
9	FUNCTION2 PFK	28.18	3.753e4					1.6	NO		dd		0.000
10	FUNCTION2 PFK	28.10	5.241e4					2.6	NO		bd		0.000
11	FUNCTION2 PFK	27.86	3.047e4					1.8	NO		bb		0.000
12	FUNCTION2 PFK	31.88	2.920e4					1.8	NO		bb		0.000
13	FUNCTION2 PFK	31.76	4.625e3					0.8	NO		bb		0.000
14	FUNCTION2 PFK	31.67	3.044e4					2.7	NO		bb		0.000
15	FUNCTION2 PFK	31.58	5.445e4					3.1	YES		bb		0.000
16	FUNCTION2 PFK	31.33	1.312e4					1.5	NO		bb		0.000
17	FUNCTION2 PFK	31.09	3.942e4					1.8	NO		bb		0.000
18	FUNCTION2 PFK	30.93	5.594e3					0.9	NO		bb		0.000
19	FUNCTION2 PFK	30.56	3.248e4					2.0	NO		bb		0.000
20	FUNCTION2 PFK	30.33	4.992e4					2.7	NO		db		0.000
21	FUNCTION2 PFK	30.20	5.152e4					3.3	YES		bd		0.000
22	FUNCTION2 PFK	30.08	2.319e4					1.6	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	32.78	3.627e4					2.5	NO		bb		0.000
2	FUNCTION3 PFK	32.72	1.391e3					0.3	NO		bb		0.000
3	FUNCTION3 PFK	32.68	1.420e4					1.6	NO		bb		0.000
4	FUNCTION3 PFK	32.57	1.765e4					1.2	NO		bb		0.000
5	FUNCTION3 PFK	34.51	7.166e4					2.5	NO		bd		0.000
6	FUNCTION3 PFK	34.37	3.299e4					1.9	NO		bb		0.000
7	FUNCTION3 PFK	34.27	2.024e4					1.0	NO		bb		0.000
8	FUNCTION3 PFK	34.03	3.995e4					1.8	NO		db		0.000
9	FUNCTION3 PFK	33.94	2.641e4					1.7	NO		bd		0.000
10	FUNCTION3 PFK	33.85	5.420e3					0.6	NO		db		0.000
11	FUNCTION3 PFK	33.79	2.499e4					2.1	NO		bd		0.000
12	FUNCTION3 PFK	33.72	4.357e4					2.1	NO		db		0.000
13	FUNCTION3 PFK	33.60	3.370e4					2.5	NO		dd		0.000
14	FUNCTION3 PFK	33.57	4.168e4					2.7	NO		dd		0.000
15	FUNCTION3 PFK	33.47	4.842e4					2.0	NO		dd		0.000
16	FUNCTION3 PFK	33.36	5.830e4					2.9	NO		dd		0.000
17	FUNCTION3 PFK	33.27	2.606e4					2.0	NO		dd		0.000
18	FUNCTION3 PFK	33.24	3.089e4					1.9	NO		bd		0.000
19	FUNCTION3 PFK	33.10	4.231e3					0.6	NO		bb		0.000
20	FUNCTION3 PFK	32.91	4.478e4					1.8	NO		bb		0.000
21	FUNCTION3 PFK	36.47	2.325e4					1.2	NO		bb		0.000
22	FUNCTION3 PFK	36.37	4.000e4					1.6	NO		db		0.000
23	FUNCTION3 PFK	36.25	4.928e4					1.9	NO		dd		0.000
24	FUNCTION3 PFK	36.14	5.917e4					2.5	NO		dd		0.000
25	FUNCTION3 PFK	36.02	3.775e4					1.7	NO		dd		0.000
26	FUNCTION3 PFK	35.96	2.283e4					2.0	NO		dd		0.000
27	FUNCTION3 PFK	35.92	3.256e4					2.2	NO		bd		0.000
28	FUNCTION3 PFK	35.50	2.799e4					1.2	NO		bb		0.000
29	FUNCTION3 PFK	35.39	2.021e4					1.6	NO		db		0.000
30	FUNCTION3 PFK	35.35	1.054e4					1.2	NO		bd		0.000
31	FUNCTION3 PFK	35.26	2.891e4					1.8	NO		bb		0.000
32	FUNCTION3 PFK	35.14	2.968e4					1.7	NO		bb		0.000
33	FUNCTION3 PFK	34.93	4.830e4					2.6	NO		bb		0.000
34	FUNCTION3 PFK	34.81	5.937e4					2.7	NO		db		0.000
35	FUNCTION3 PFK	34.69	7.389e4					2.6	NO		dd		0.000
36	FUNCTION3 PFK	34.61	5.603e4					2.2	NO		dd		0.000
37	FUNCTION3 PFK	37.57	5.322e3					0.7	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	37.47	2.042e4					1.5	NO		bb		0.000
39	FUNCTION3 PFK	37.39	2.887e4					1.5	NO		bb		0.000
40	FUNCTION3 PFK	37.25	4.912e4					1.9	NO		db		0.000
41	FUNCTION3 PFK	37.16	5.569e4					2.3	NO		dd		0.000
42	FUNCTION3 PFK	37.08	2.607e4					2.0	NO		dd		0.000
43	FUNCTION3 PFK	37.04	5.346e4					2.7	NO		dd		0.000
44	FUNCTION3 PFK	36.95	6.200e4					2.6	NO		bd		0.000
45	FUNCTION3 PFK	36.71	1.917e4					1.6	NO		db		0.000
46	FUNCTION3 PFK	36.59	6.869e4					2.3	NO		bd		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.38	2.044e4					1.6	NO		bb		
2	FUNCTION4 PFK	38.05	5.732e4					3.2	YES		db		
3	FUNCTION4 PFK	37.95	1.411e5					5.6	YES		dd		
4	FUNCTION4 PFK	37.85	3.608e5					8.1	YES		dd		
5	FUNCTION4 PFK	37.70	5.484e5					11.8	YES		bd		
6	FUNCTION4 PFK	40.85	2.650e4					1.8	NO		bd		
7	FUNCTION4 PFK	40.51	2.576e4					1.5	NO		db		
8	FUNCTION4 PFK	40.40	2.586e4					1.6	NO		bd		
9	FUNCTION4 PFK	40.28	2.720e4					1.3	NO		bb		
10	FUNCTION4 PFK	40.18	1.718e4					1.2	NO		bb		
11	FUNCTION4 PFK	40.06	2.263e4					1.6	NO		bb		
12	FUNCTION4 PFK	39.94	1.247e4					1.1	NO		bb		
13	FUNCTION4 PFK	39.74	2.676e4					1.3	NO		bb		
14	FUNCTION4 PFK	39.54	1.027e3					0.3	NO		bb		
15	FUNCTION4 PFK	39.38	2.354e4					1.2	NO		bb		
16	FUNCTION4 PFK	39.29	1.762e4					1.4	NO		db		
17	FUNCTION4 PFK	39.18	2.910e4					1.6	NO		bd		
18	FUNCTION4 PFK	38.83	3.069e4					1.4	NO		bb		
19	FUNCTION4 PFK	38.73	3.539e4					1.6	NO		db		
20	FUNCTION4 PFK	38.63	9.699e3					0.9	NO		dd		
21	FUNCTION4 PFK	38.58	9.331e3					0.9	NO		bd		
22	FUNCTION4 PFK	42.77	1.724e4					1.2	NO		bb		
23	FUNCTION4 PFK	42.55	2.073e4					1.3	NO		db		
24	FUNCTION4 PFK	42.42	3.607e4					1.9	NO		bd		
25	FUNCTION4 PFK	42.31	4.473e4					1.7	NO		bb		
26	FUNCTION4 PFK	42.06	3.196e4					1.6	NO		bb		
27	FUNCTION4 PFK	41.89	4.289e3					0.6	NO		bb		
28	FUNCTION4 PFK	41.73	2.900e4					1.4	NO		bb		
29	FUNCTION4 PFK	41.65	2.539e4					1.9	NO		bb		
30	FUNCTION4 PFK	41.50	3.007e4					1.4	NO		bb		
31	FUNCTION4 PFK	41.29	2.942e4					1.7	NO		db		
32	FUNCTION4 PFK	41.20	1.070e4					1.0	NO		dd		
33	FUNCTION4 PFK	41.16	1.019e4					1.0	NO		bd		
34	FUNCTION4 PFK	40.97	3.520e4					1.6	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.17	2.622e4					4.3	YES		dd		
2	FUNCTION5 PFK	43.10	8.115e4					5.8	YES		bd		
3	FUNCTION5 PFK	44.31	1.424e4					1.5	NO		bd		
4	FUNCTION5 PFK	44.20	2.337e4					2.3	NO		bb		
5	FUNCTION5 PFK	44.10	1.419e4					1.9	NO		db		
6	FUNCTION5 PFK	43.98	2.537e4					3.3	YES		dd		
7	FUNCTION5 PFK	43.88	9.970e3					1.7	NO		dd		
8	FUNCTION5 PFK	43.85	7.848e3					1.4	NO		dd		
9	FUNCTION5 PFK	43.79	9.429e3					1.8	NO		dd		
10	FUNCTION5 PFK	43.75	5.501e3					1.2	NO		bd		
11	FUNCTION5 PFK	43.64	1.833e4					2.9	NO		bb		
12	FUNCTION5 PFK	43.53	1.509e4					2.4	NO		db		
13	FUNCTION5 PFK	43.49	2.714e3					0.8	NO		dd		
14	FUNCTION5 PFK	43.43	1.917e4					3.2	YES		dd		
15	FUNCTION5 PFK	43.41	2.015e4					3.2	YES		dd		
16	FUNCTION5 PFK	43.34	2.726e4					3.5	YES		dd		
17	FUNCTION5 PFK	43.30	2.997e4					4.4	YES		dd		
18	FUNCTION5 PFK	43.21	5.187e4					4.5	YES		dd		
19	FUNCTION5 PFK	45.52	4.230e3					1.3	NO		bd		
20	FUNCTION5 PFK	45.47	6.814e3					1.6	NO		db		
21	FUNCTION5 PFK	45.44	1.565e4					2.6	NO		dd		
22	FUNCTION5 PFK	45.34	1.434e4					2.1	NO		bd		
23	FUNCTION5 PFK	45.22	7.354e3					1.6	NO		db		
24	FUNCTION5 PFK	45.20	6.210e3					1.5	NO		bd		
25	FUNCTION5 PFK	45.02	7.175e3					1.0	NO		db		
26	FUNCTION5 PFK	44.96	3.641e3					1.0	NO		dd		
27	FUNCTION5 PFK	44.90	9.237e3					1.7	NO		dd		
28	FUNCTION5 PFK	44.87	8.890e3					1.7	NO		dd		
29	FUNCTION5 PFK	44.82	1.356e4					2.1	NO		dd		
30	FUNCTION5 PFK	44.78	2.418e4					2.4	NO		bd		
31	FUNCTION5 PFK	44.65	2.284e4					2.2	NO		db		
32	FUNCTION5 PFK	44.55	1.380e4					1.7	NO		bd		
33	FUNCTION5 PFK	44.45	8.362e3					2.0	NO		db		
34	FUNCTION5 PFK	44.41	1.412e4					2.0	NO		dd		
35	FUNCTION5 PFK	46.36	3.164e3					1.2	NO		db		
36	FUNCTION5 PFK	46.33	1.179e4					1.8	NO		bd		
37	FUNCTION5 PFK	46.26	6.653e3					1.7	NO		db		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION5 PFK	46.22	1.290e4					2.5	NO		bd		
39	FUNCTION5 PFK	46.11	1.729e4					2.1	NO		db		
40	FUNCTION5 PFK	46.01	2.263e4					2.3	NO		dd		
41	FUNCTION5 PFK	45.92	9.899e3					1.8	NO		dd		
42	FUNCTION5 PFK	45.89	1.679e4					3.5	YES		bd		
43	FUNCTION5 PFK	45.74	4.790e3					1.0	NO		db		
44	FUNCTION5 PFK	45.71	4.776e3					1.1	NO		dd		
45	FUNCTION5 PFK	45.65	8.970e3					1.4	NO		bd		
46	FUNCTION5 PFK	45.55	1.507e4					1.9	NO		db		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.58	1.353e2					2.3	NO		db		0.000
2	FUNCTION1 HXCD...	25.49	9.740e1					1.7	NO		bd		0.000
3	FUNCTION1 HXCD...	23.96	9.111e1					1.2	NO		bb		0.000
4	FUNCTION1 HXCD...	26.82	1.752e2					2.3	NO		bb		0.000
5	FUNCTION1 HXCD...	25.73	7.183e1					2.7	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	26.50	1.182e2					2.9	NO		bb		0.000
2	FUNCTION1 HPCD...	26.26	7.553e1					1.4	NO		bb		0.000
3	FUNCTION1 HPCD...	25.76	9.414e1					1.7	NO		bb		0.000
4	FUNCTION1 HPCD...	25.50	7.280e1					1.8	NO		bb		0.000
5	FUNCTION1 HPCD...	24.88	8.348e1					1.5	NO		bb		0.000
6	FUNCTION1 HPCD...	24.69	8.225e1					2.5	NO		bb		0.000
7	FUNCTION1 HPCD...	24.02	1.219e2					3.8	YES		db		0.000
8	FUNCTION1 HPCD...	23.92	8.739e1					1.9	NO		bd		0.000
9	FUNCTION1 HPCD...	23.43	1.627e2					4.0	YES		bb		0.000
10	FUNCTION1 HPCD...	23.16	9.346e1					2.2	NO		bb		0.000
11	FUNCTION1 HPCD...	21.83	9.696e1					2.4	NO		db		0.000
12	FUNCTION1 HPCD...	21.74	8.411e1					1.6	NO		bd		0.000
13	FUNCTION1 HPCD...	21.44	7.327e1					1.6	NO		bb		0.000
14	FUNCTION1 HPCD...	27.61	8.015e1					2.5	NO		bb		0.000
15	FUNCTION1 HPCD...	27.39	7.945e1					1.5	NO		bb		0.000
16	FUNCTION1 HPCD...	26.80	1.580e2					3.0	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...	32.36	9.129e1					1.5	NO		db		0.000
2	FUNCTION2 HPCD...	32.17	1.165e2					1.4	NO		bd		0.000
3	FUNCTION2 HPCD...	30.98	1.204e2					2.5	NO		bb		0.000
4	FUNCTION2 HPCD...	30.84	4.732e2					6.4	YES		bb		0.000
5	FUNCTION2 HPCD...	29.56	1.813e2					1.5	NO		bb		0.000
6	FUNCTION2 HPCD...	27.93	8.299e1					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	36.21	1.492e2					2.3	NO		bb		0.000
2	FUNCTION3 OCDPE	35.81	1.108e2					2.0	NO		bb		0.000
3	FUNCTION3 OCDPE	35.14	9.464e1					1.6	NO		bb		0.000
4	FUNCTION3 OCDPE	34.32	1.746e2					1.5	NO		bb		0.000

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ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	39.12	1.399e2					2.9	NO		bb		0.000
2	FUNCTION4 NCDPE	38.11	9.856e1					3.2	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	44.21	1.290e2					2.9	NO		bb		0.000
2	FUNCTION5 DCDPE	43.44	1.944e2					3.4	YES		bb		0.000

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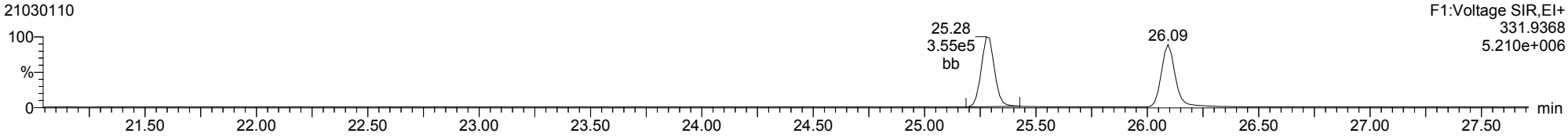
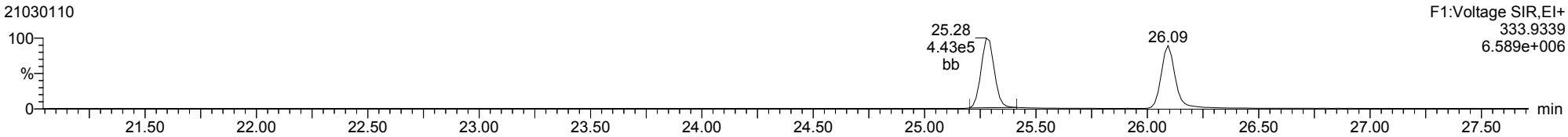
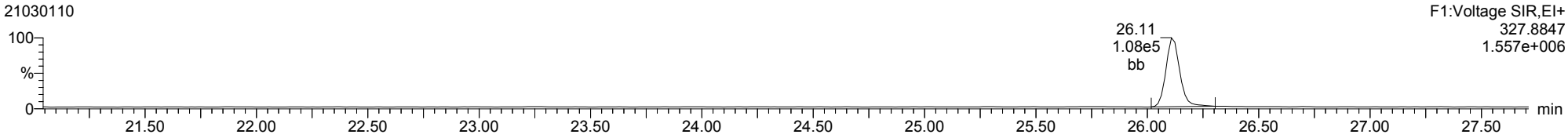
13C-1234-TCDD



13C-1234-TCDD



37CL-2378-TCDD



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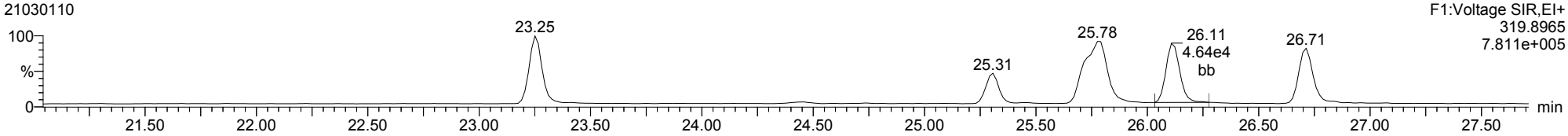

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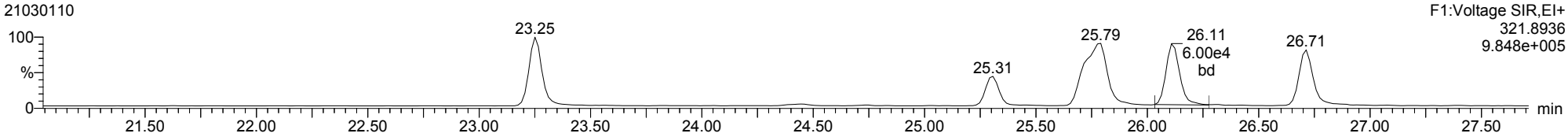

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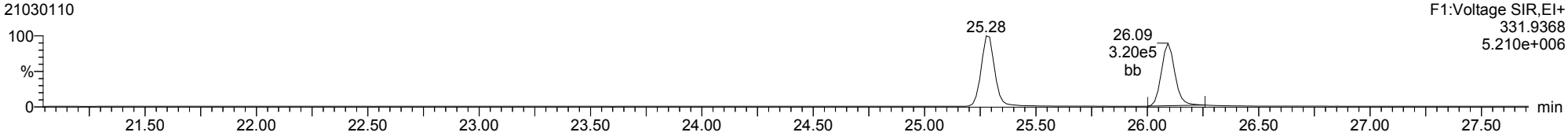

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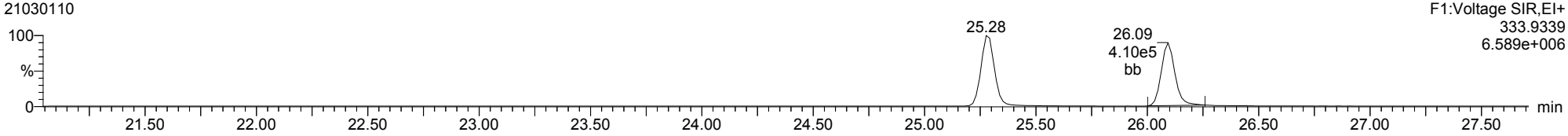

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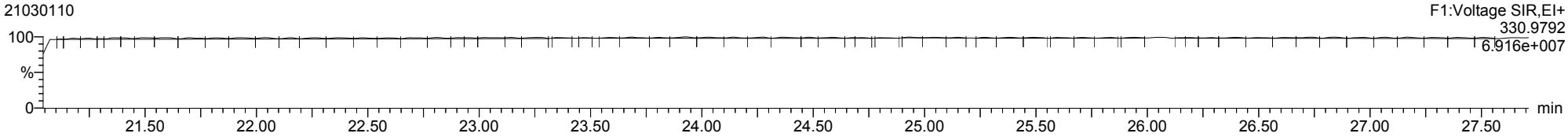

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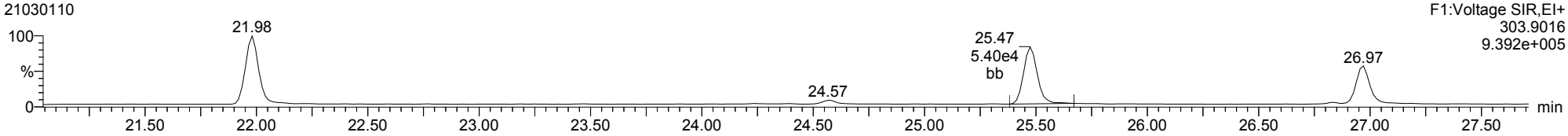

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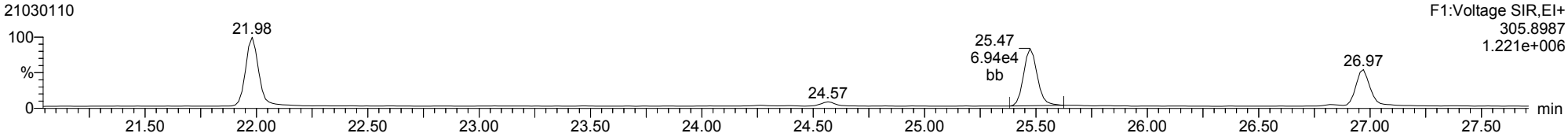

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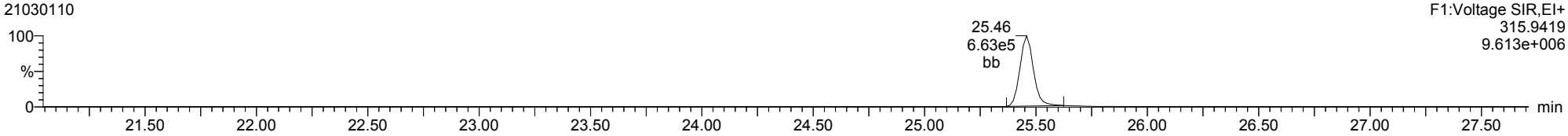

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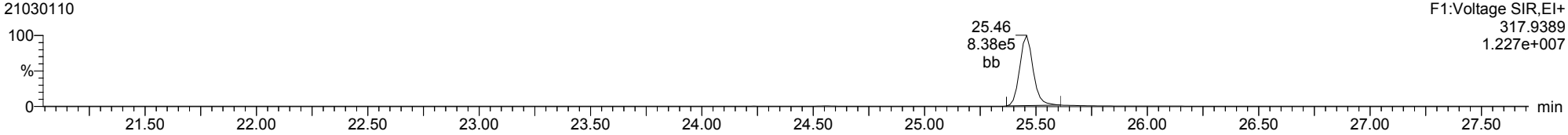

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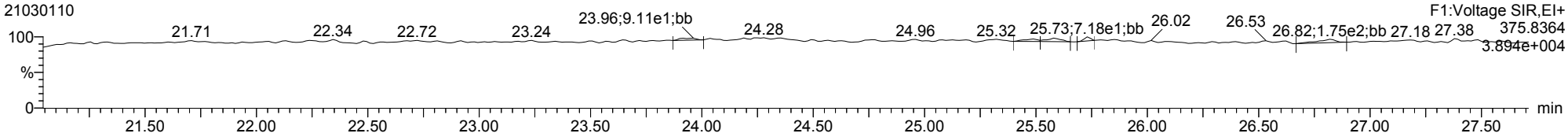

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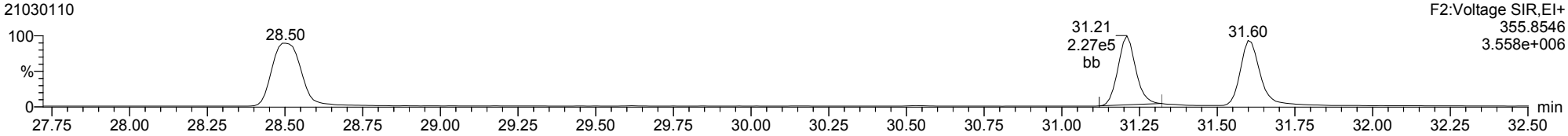

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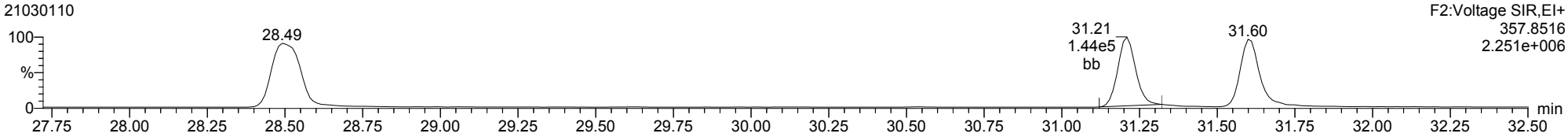

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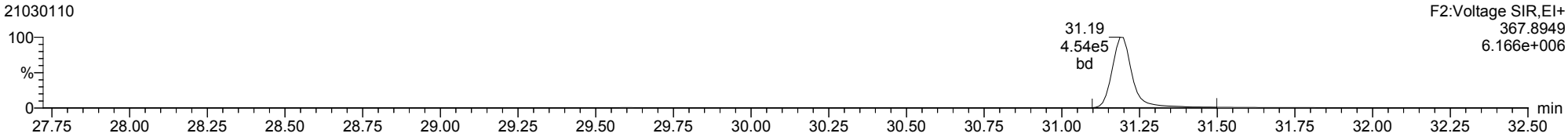

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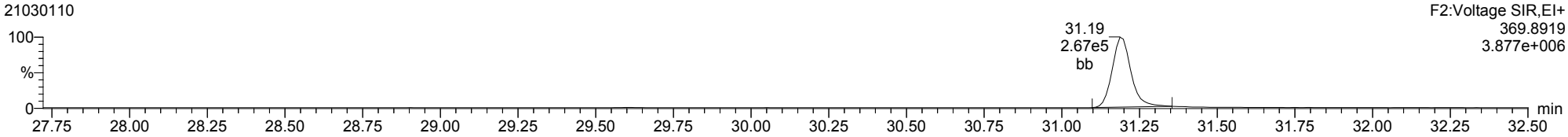

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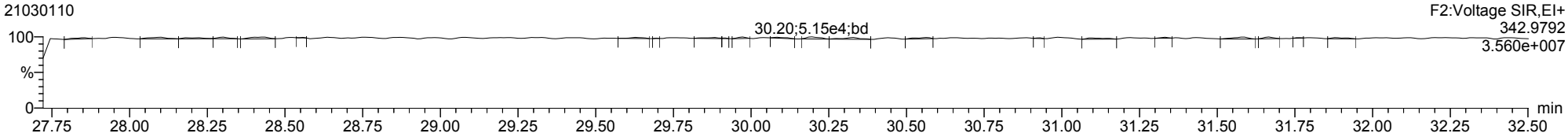

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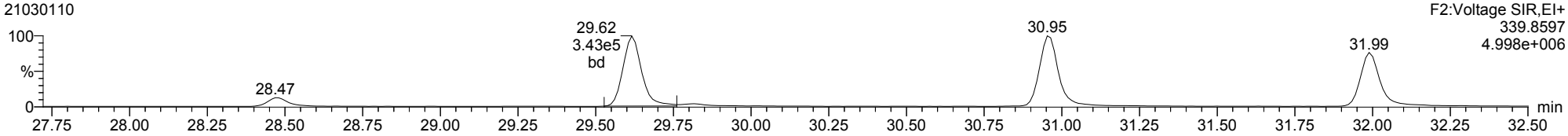

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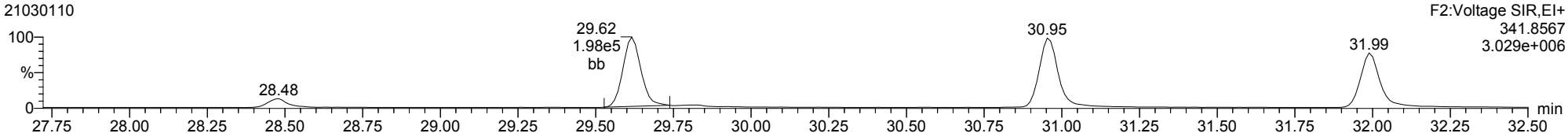

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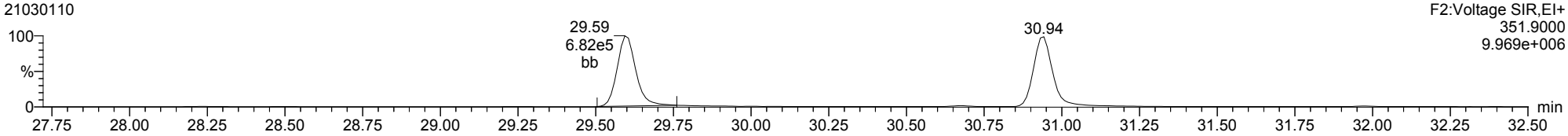

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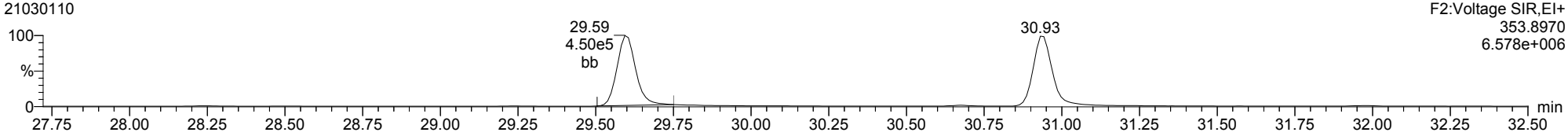
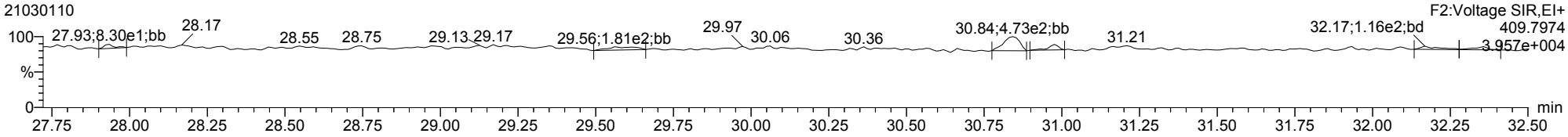


FUNCTION2 HPCDPE



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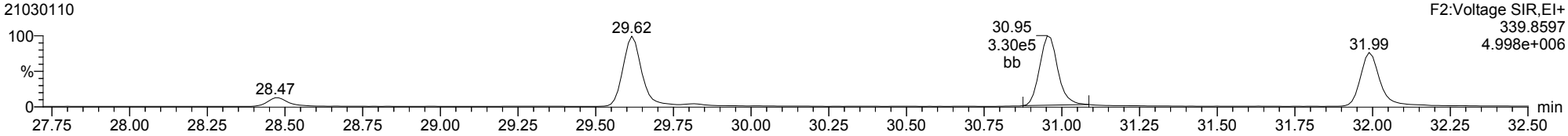
23478-PeCDF



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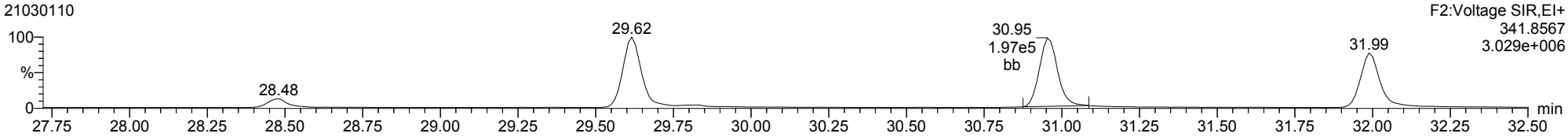

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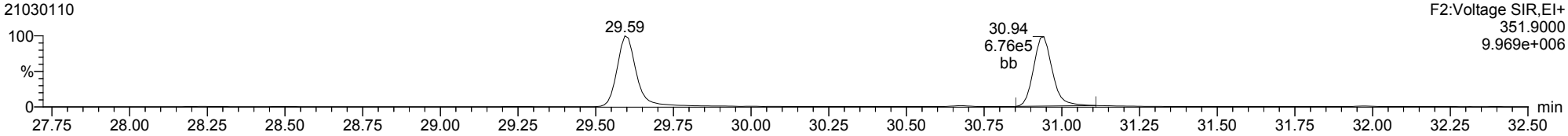

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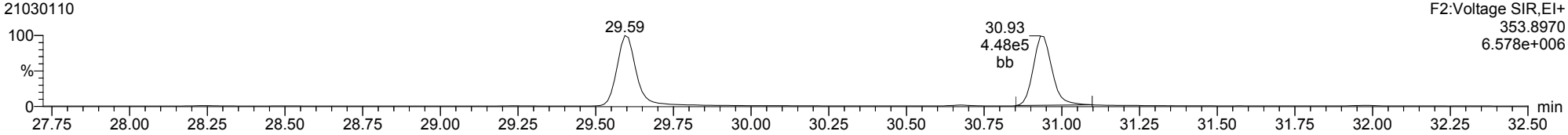

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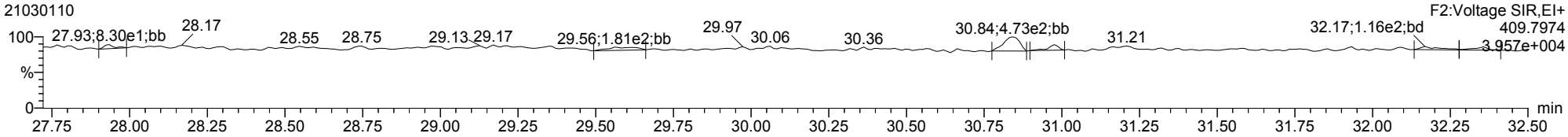

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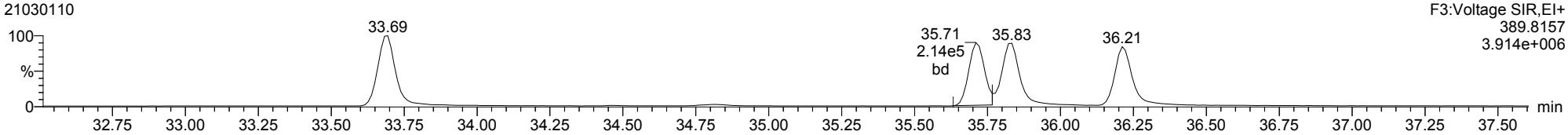

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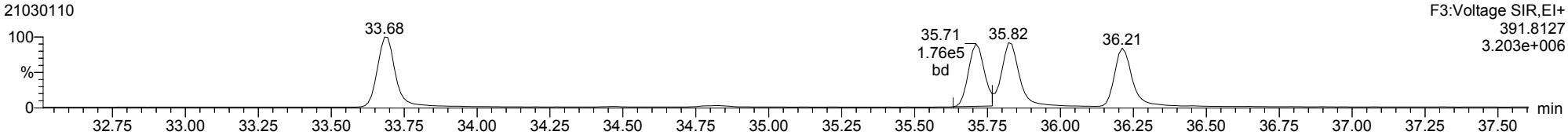

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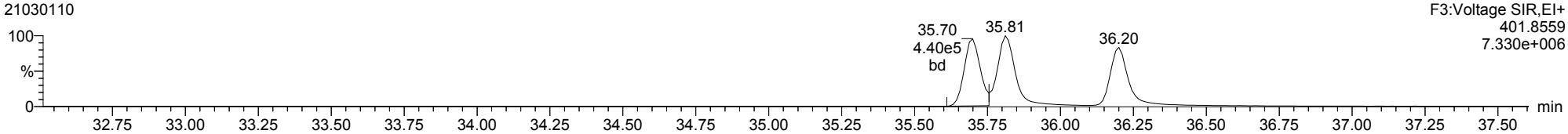

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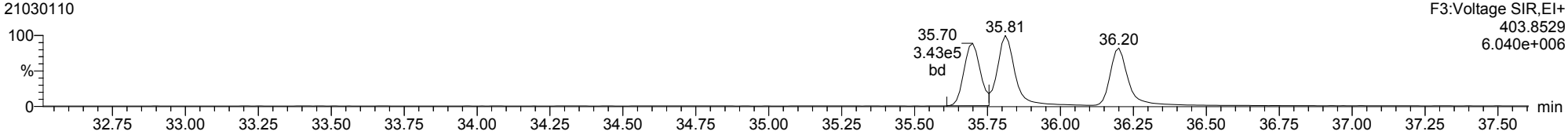

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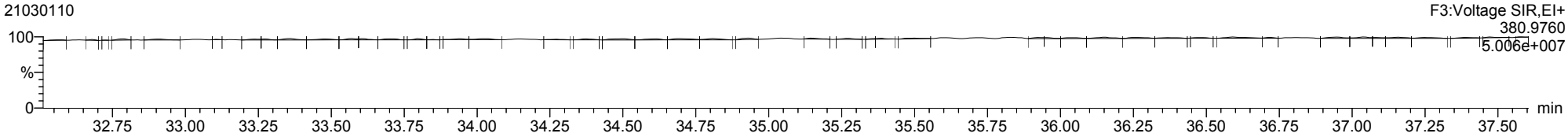

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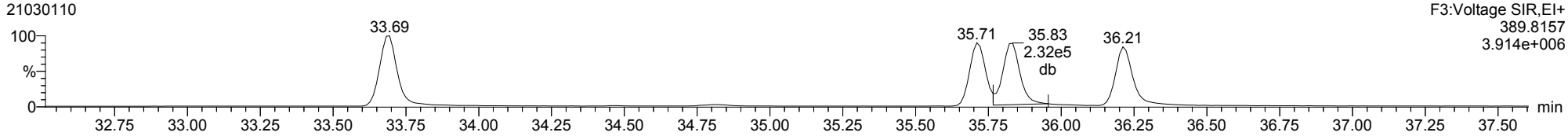

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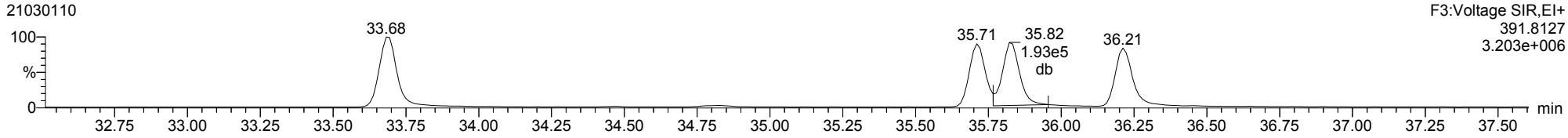

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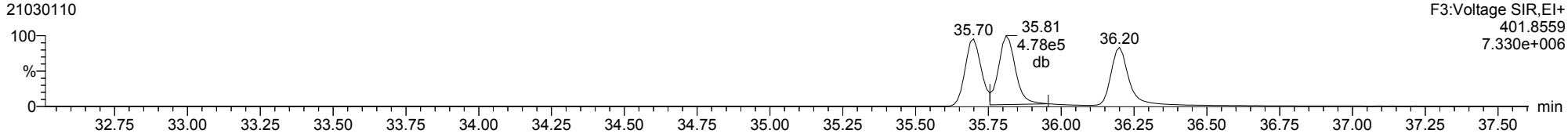

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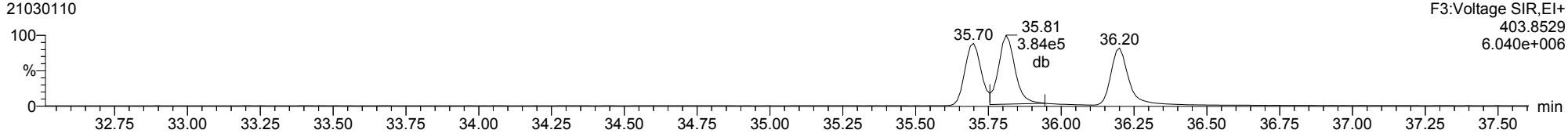

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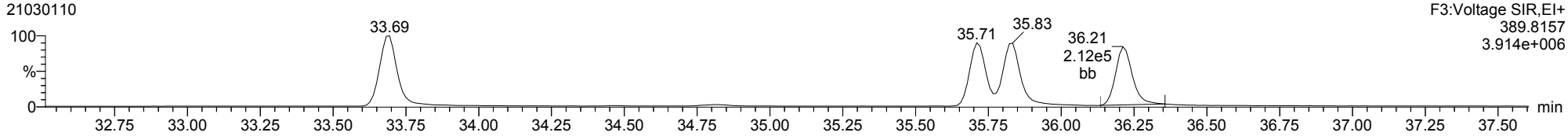

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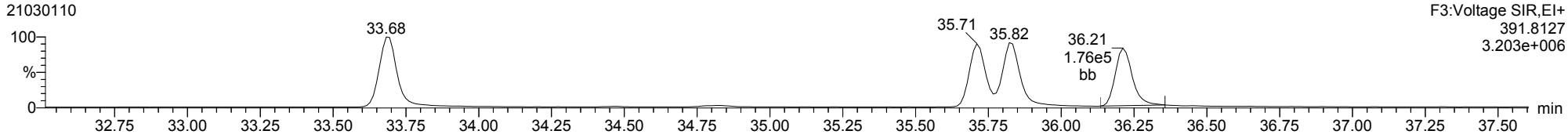

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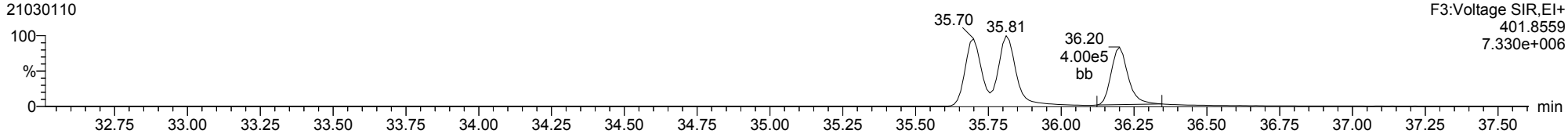

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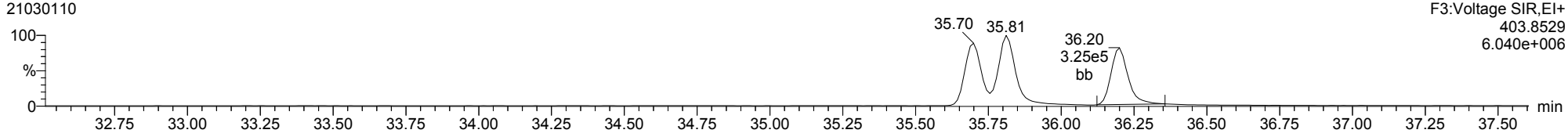

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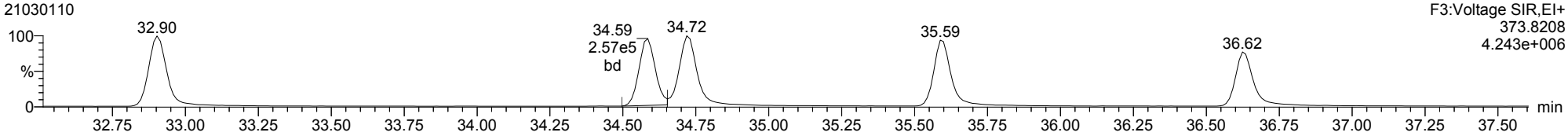

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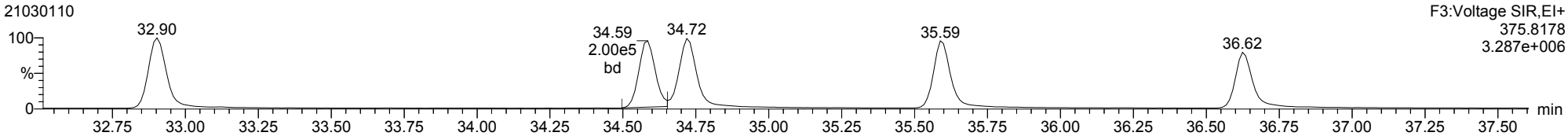

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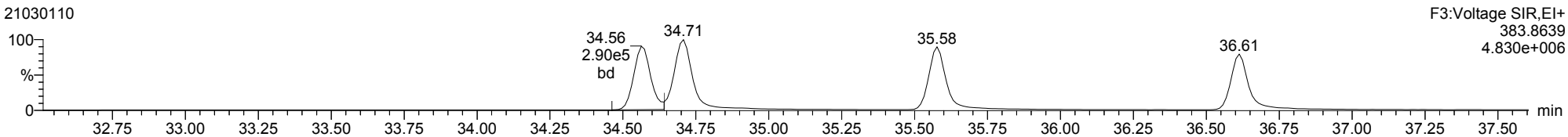

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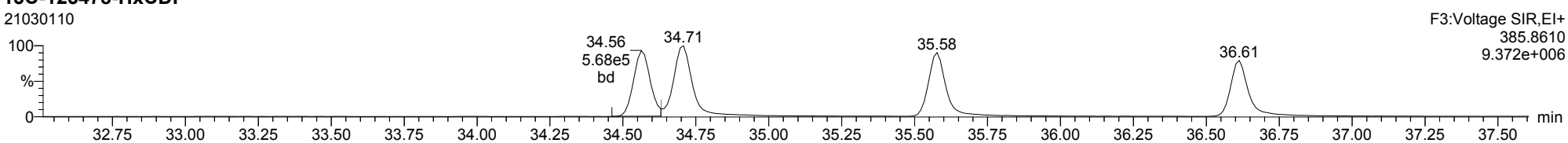

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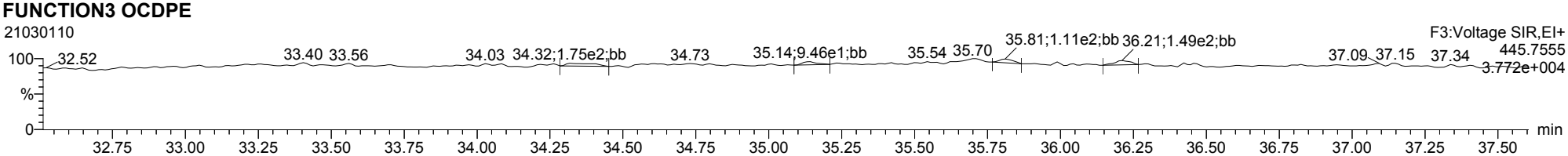

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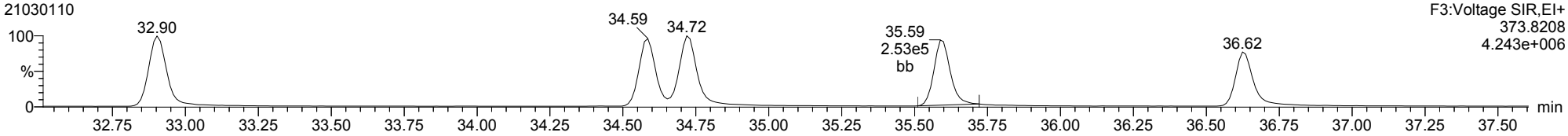
234678-HxCDF



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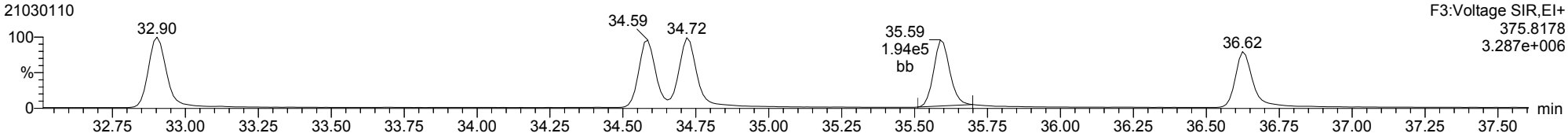

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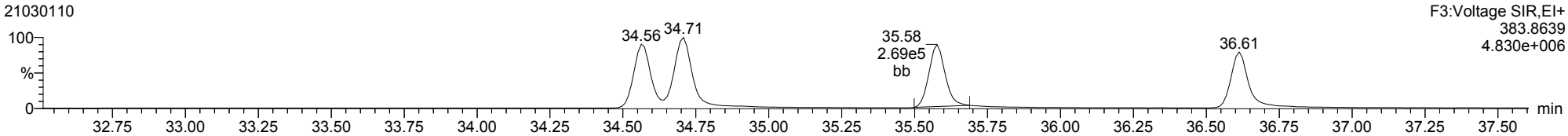

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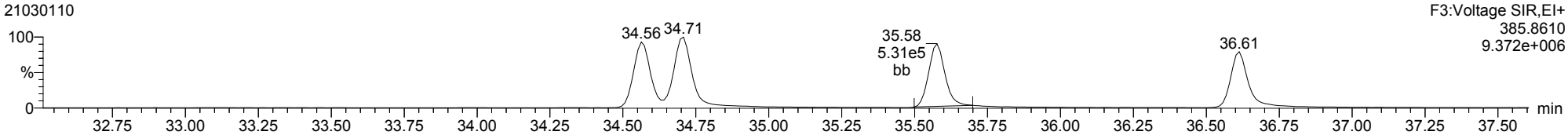

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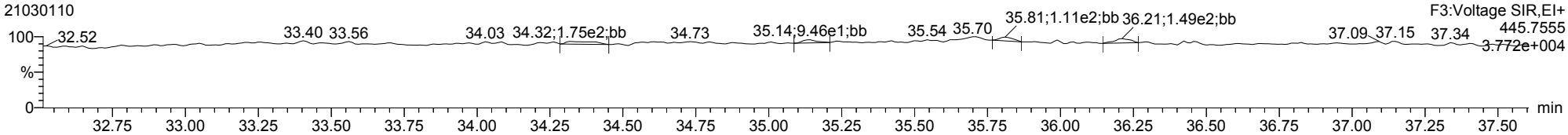

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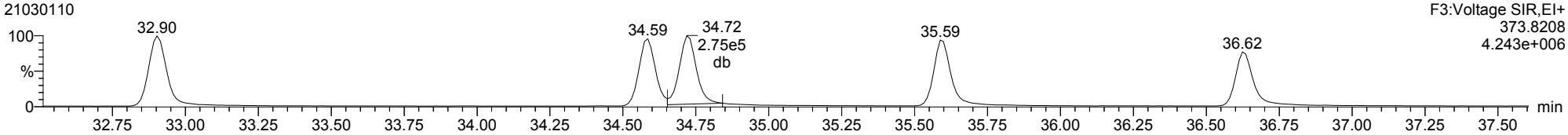

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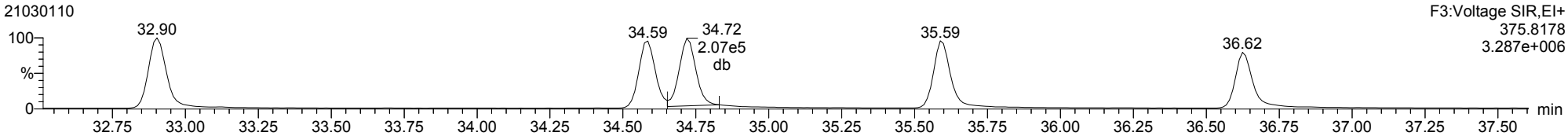

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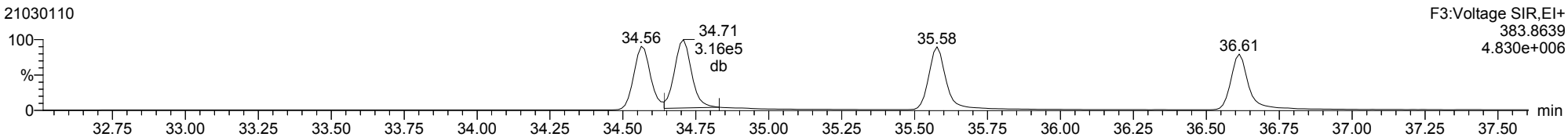

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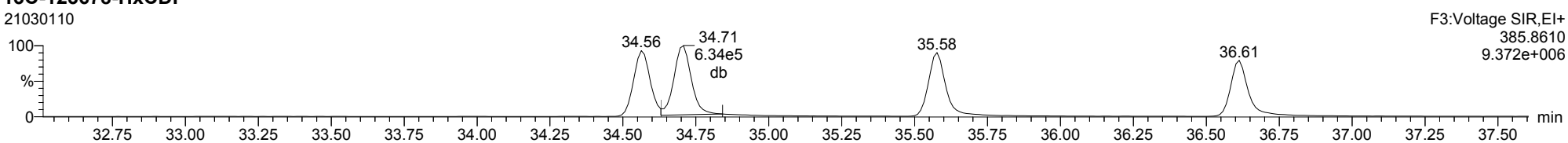

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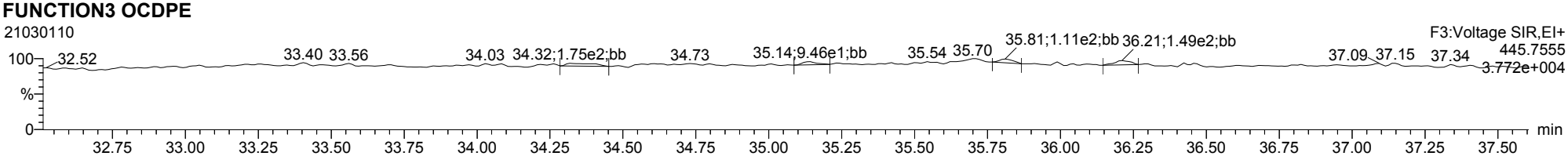

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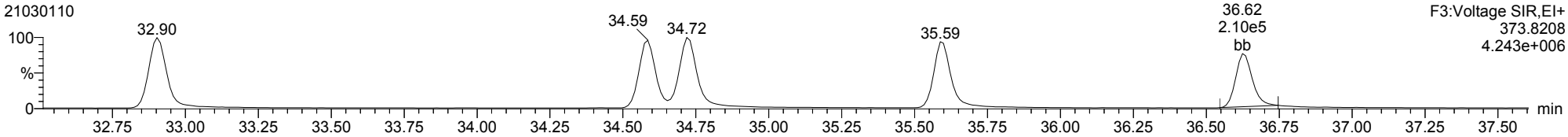

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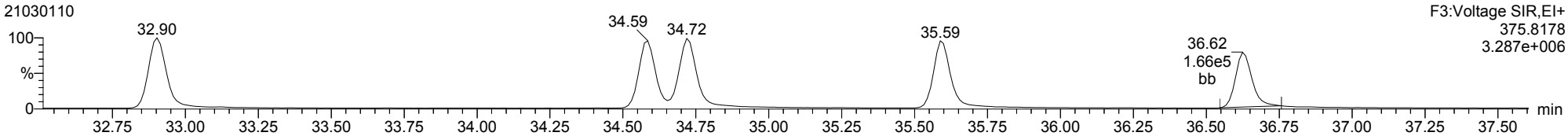

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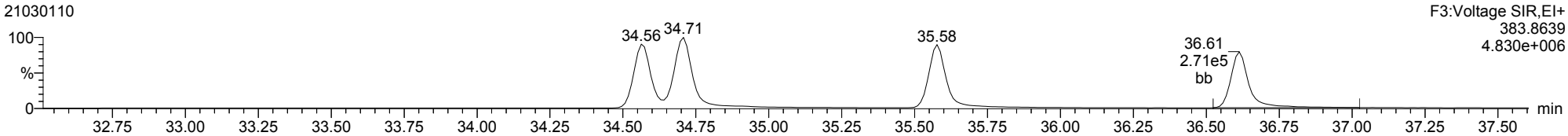

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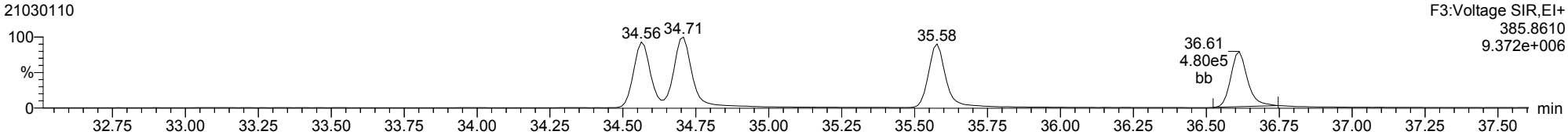
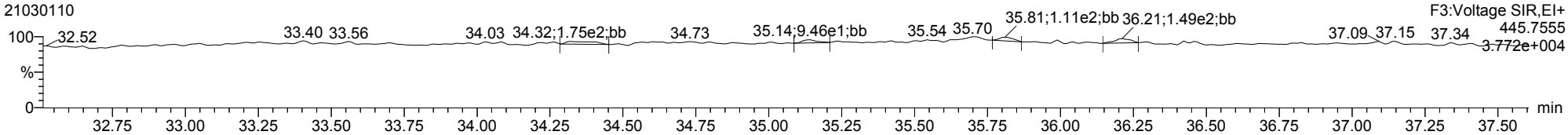


FUNCTION3 OCDPE



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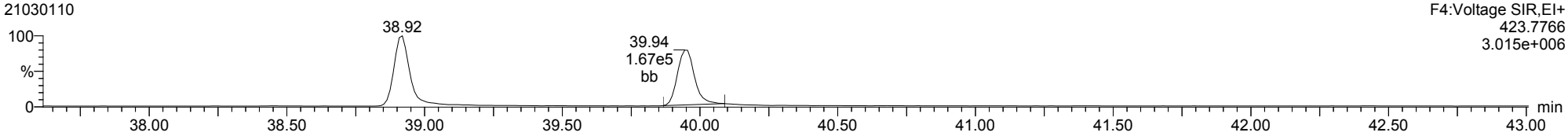

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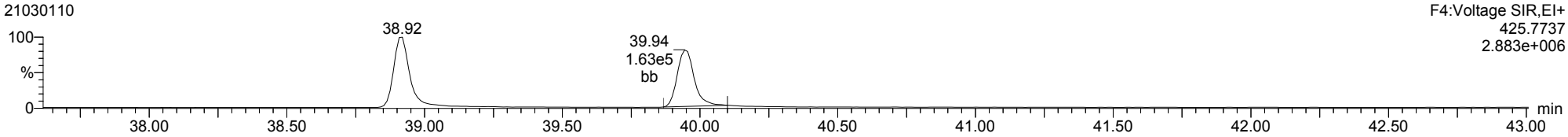

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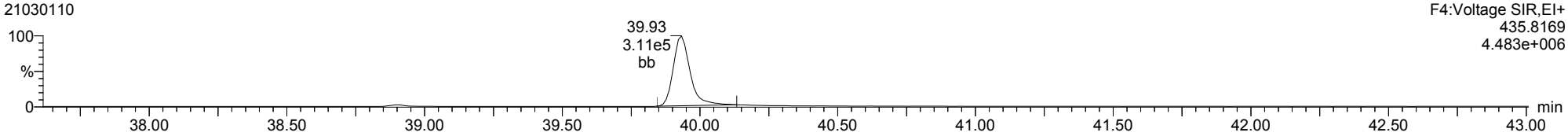

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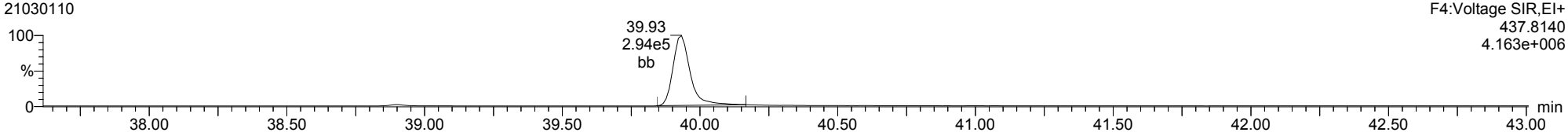

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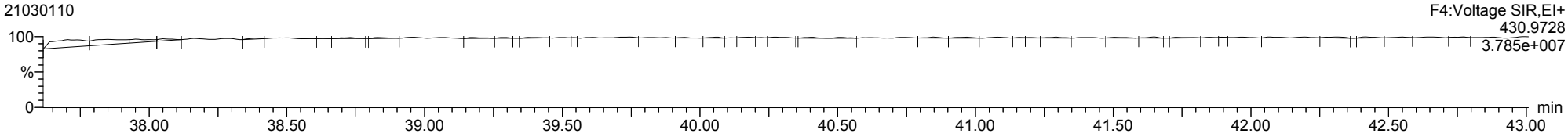

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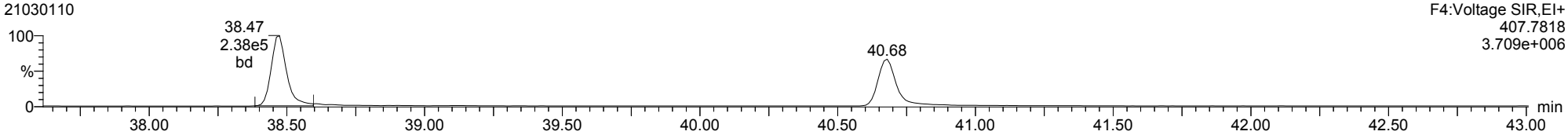

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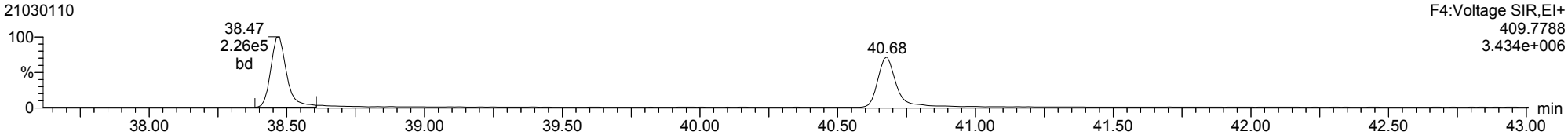

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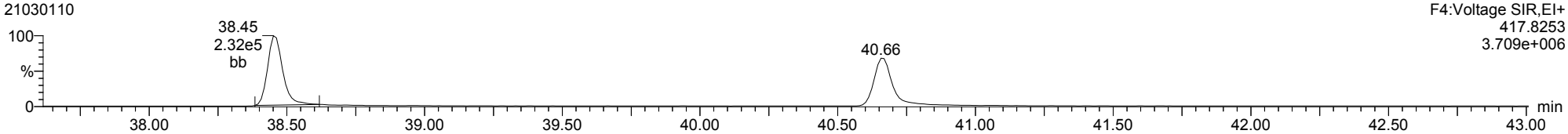

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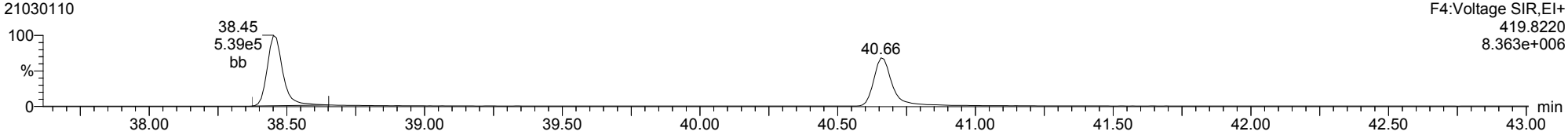

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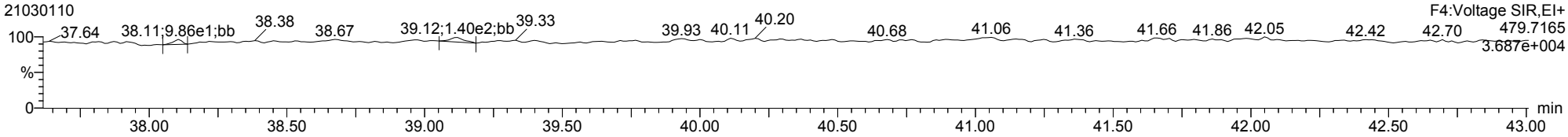

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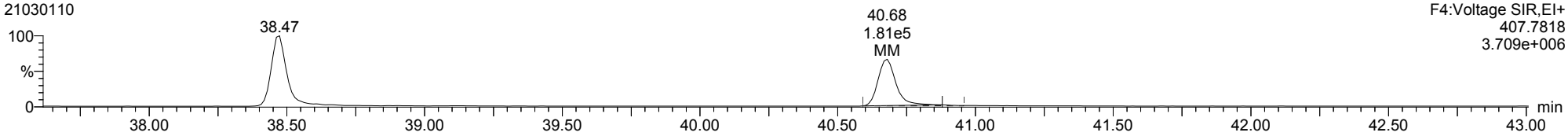

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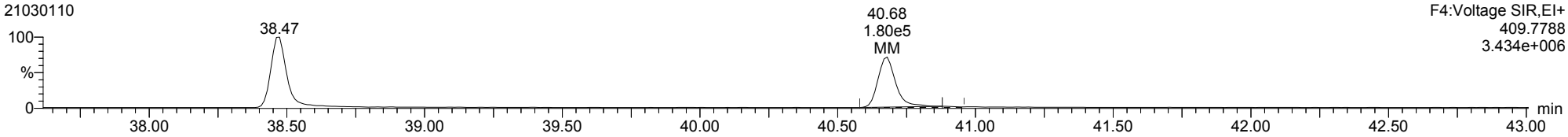

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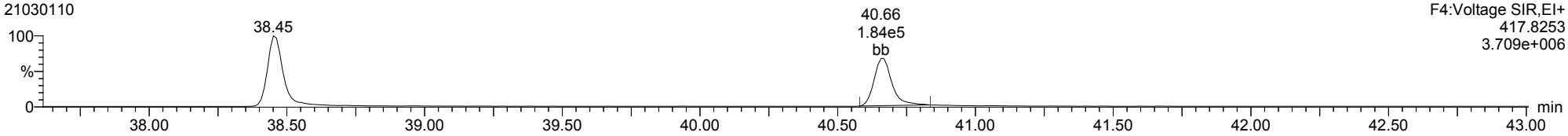

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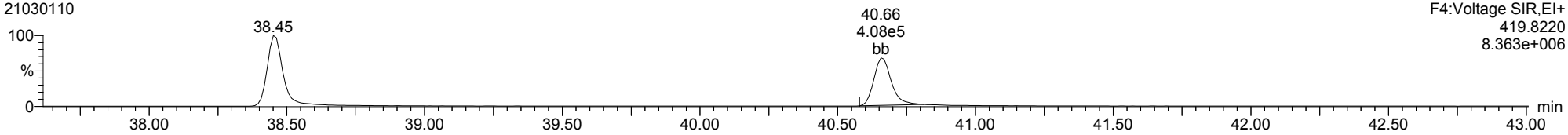

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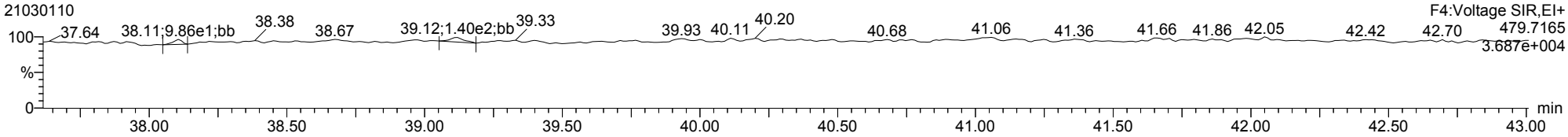

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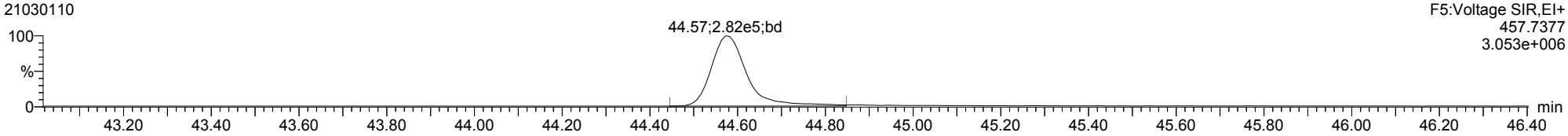

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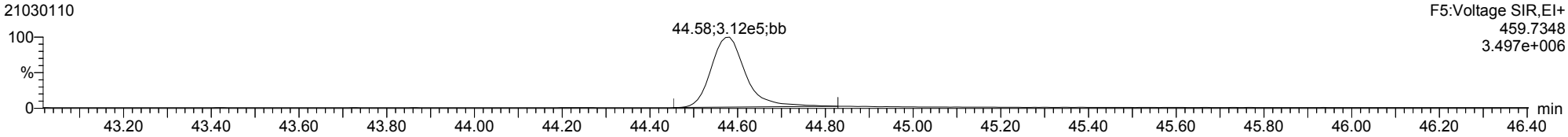

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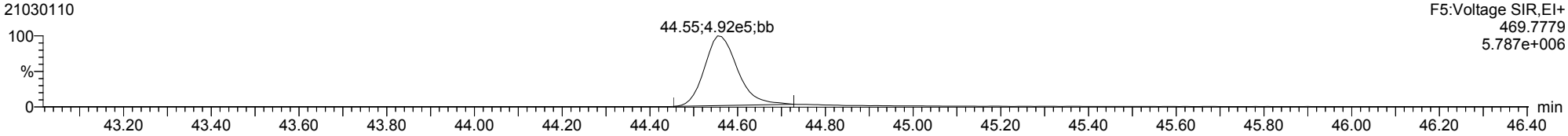

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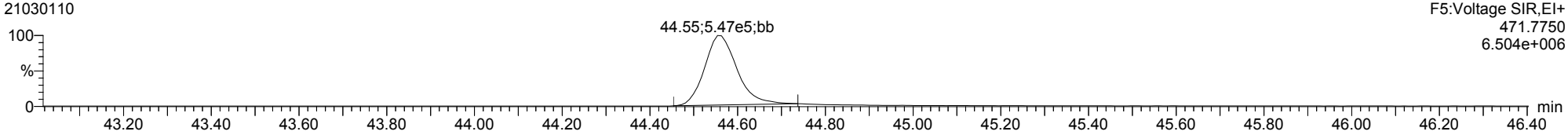

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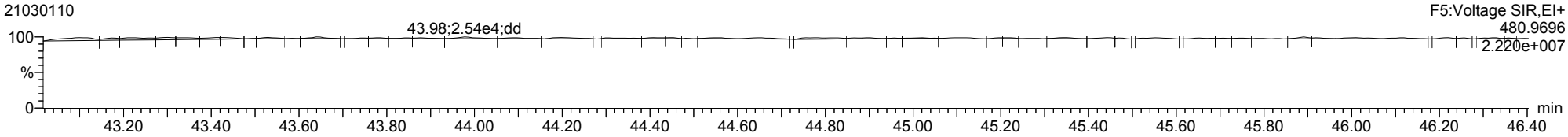

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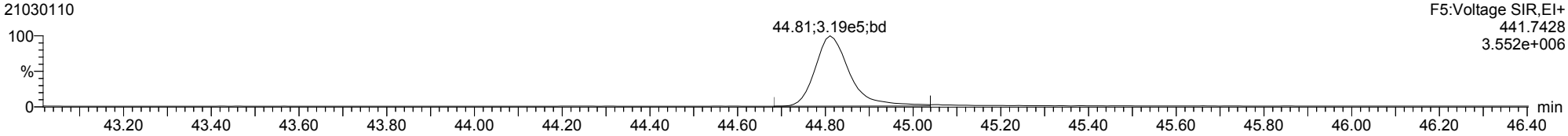

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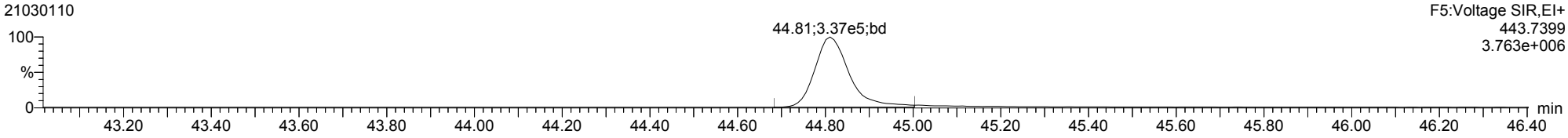

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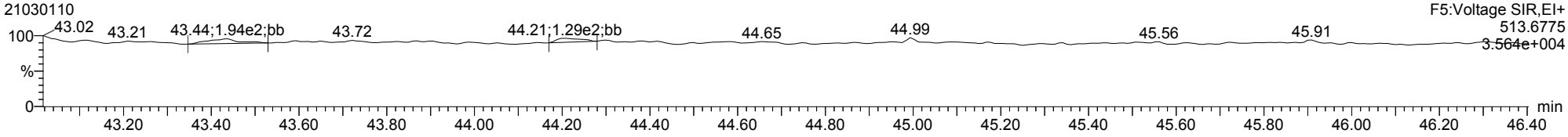

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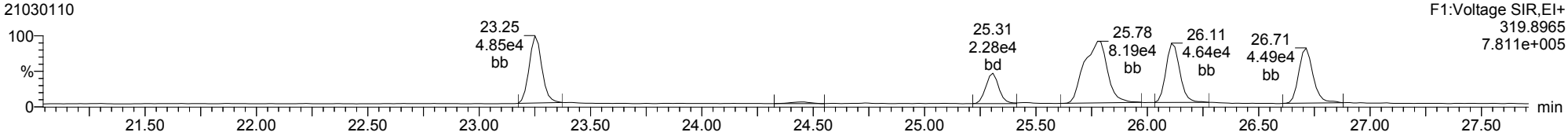

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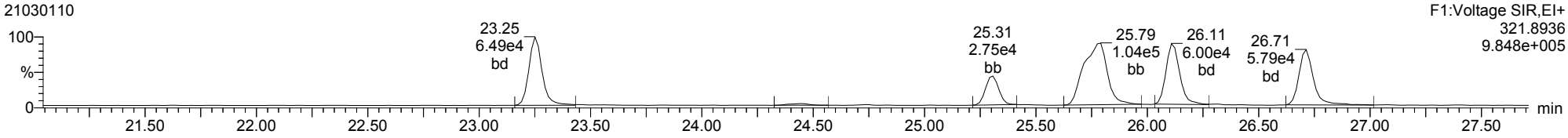

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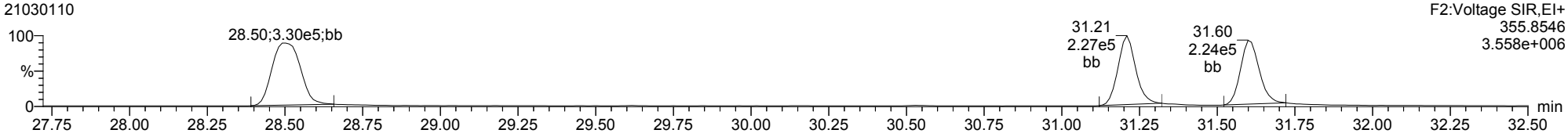

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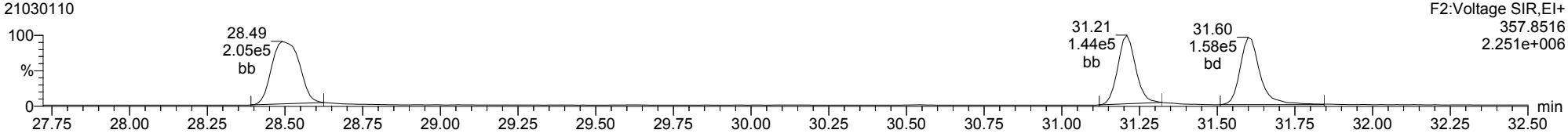

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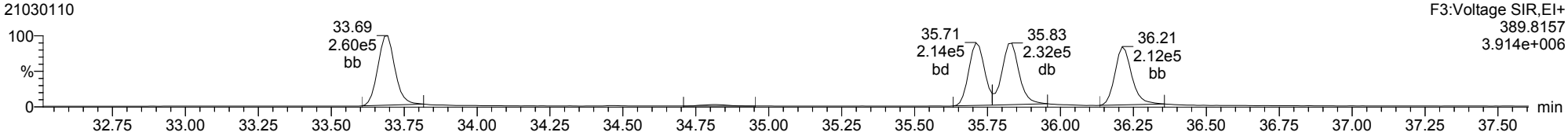

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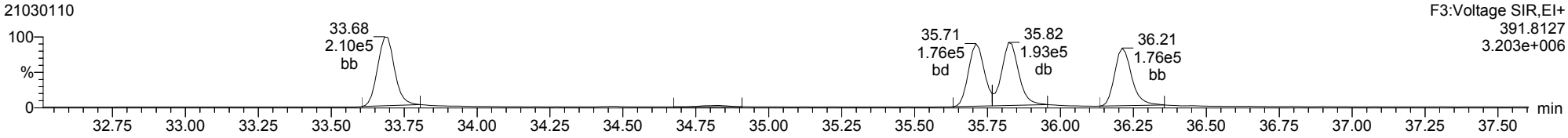

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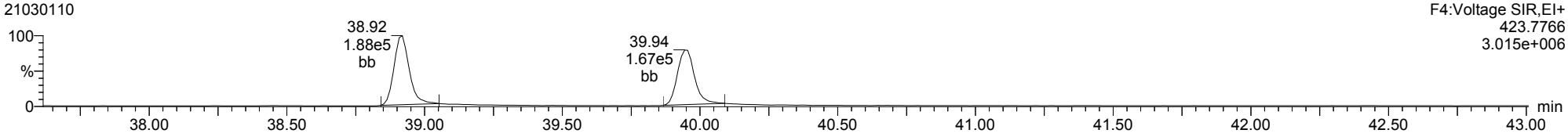

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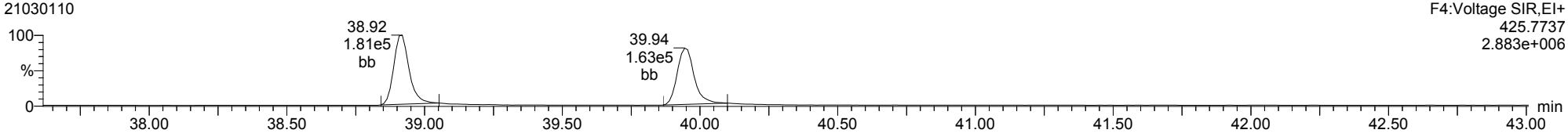

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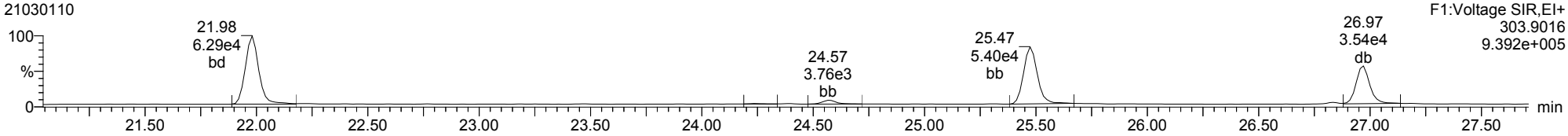
ID: ICVCV, Name: 21030110, Date: 01-Mar-2021, Time: 18:24:17, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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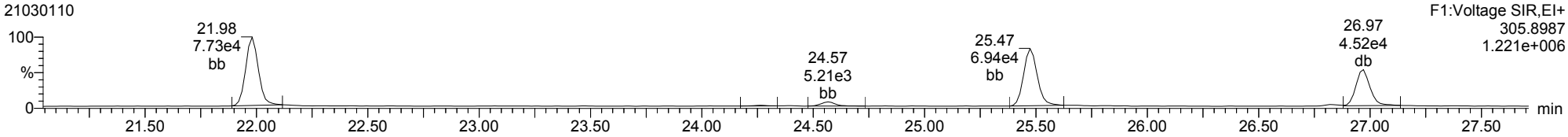

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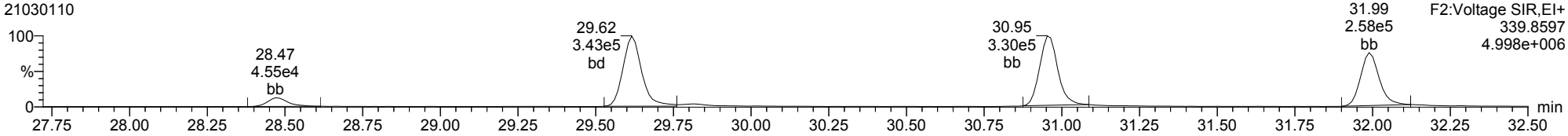

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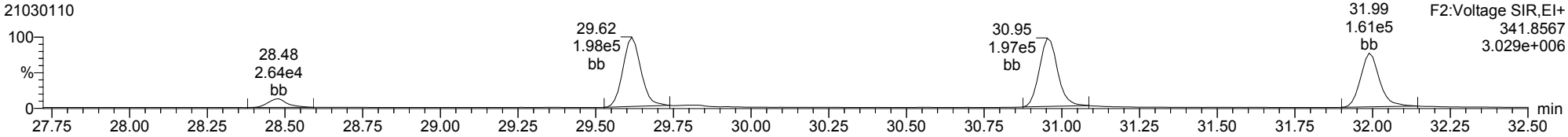

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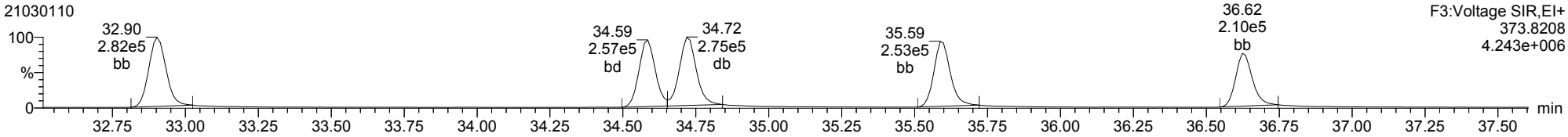
Total-hexafurans



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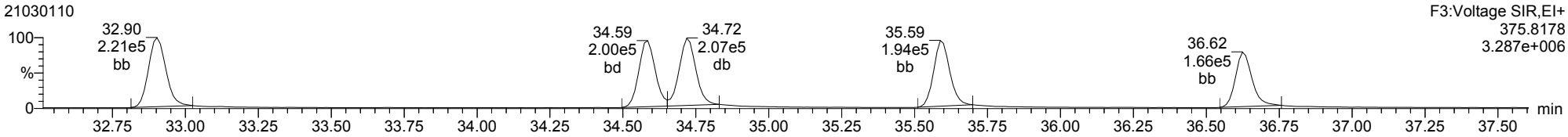

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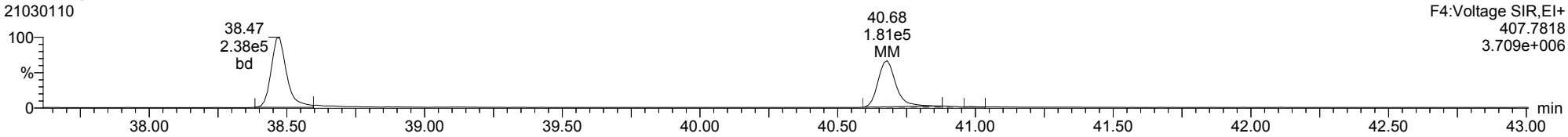

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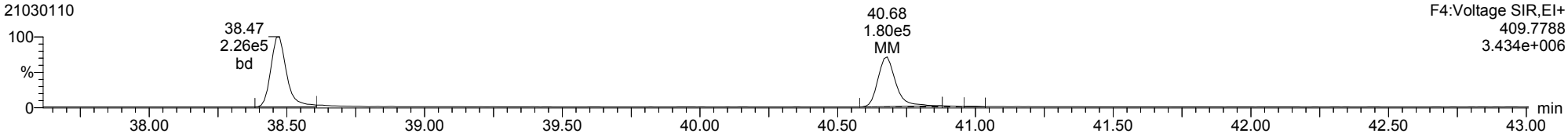

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21071911	Calibration Date:	03/01/2021
Sequence:	SJG0248	Injection Date:	07/19/21
Lab Sample ID:	SJG0248-CCV1	Injection Time:	18:37
Sequence Name:	CS3E2		

		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	11.1	0.7815069	0.8643268		10.6	+/-16
2,3,7,8-TCDD	A	10.000	9.74	1.3074710	1.2738920		-2.6	+/-22
1,2,3,7,8-PeCDF	A	50.000	56.4	0.8661132	0.9770960		12.8	+/-18
2,3,4,7,8-PeCDF	A	50.000	54.6	0.9798329	1.0708040		9.3	+/-18
1,2,3,7,8-PeCDD	A	50.000	56.2	0.9786280	1.1003900		12.4	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	51.9	1.0022170	1.0393010		3.7	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	53.2	0.9610616	1.0223110		6.4	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	50.9	1.0430410	1.0612300		1.7	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	50.0	0.9942991	0.9949772		0.07	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	47.7	0.9561583	0.9129602		-4.5	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	49.3	0.9525810	0.9393906		-1.4	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	49.8	0.9268956	0.9236007		-0.4	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	54.1	1.0579720	1.1437740		8.1	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	53.3	1.0697390	1.1395460		6.5	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	54.8	1.0550420	1.1561660		9.6	+/-14
OCDF	A	100.00	94.4	1.2566960	1.1861730		-5.6	+/-37
OCDD	A	100.00	93.8	1.0738390	1.0075890		-6.2	+/-21
13C12-2,3,7,8-TCDF	A	100.00	105	1.9249160	2.0288054		5.4	+/-29
13C12-2,3,7,8-TCDD	A	100.00	104	1.1327550	1.1759165		3.8	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	106	1.4422400	1.5279054		5.9	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	105	1.3866450	1.4570608		5.1	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	96.2	0.9468647	0.9108012		-3.8	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	97.0	1.0530710	1.0218897		-3.0	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	90.4	1.1350140	1.0258518		-9.6	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	94.2	1.0040700	0.9459437		-5.8	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	93.6	0.9089439	0.8507042		-6.4	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	103	0.9385700	0.9664980		3.0	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	91.7	1.0420460	0.9557952		-8.3	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	100	0.9598082	0.9640741		0.4	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	101	0.7937117	0.8054495		1.5	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	92.8	0.7883415	0.7313800		-7.2	+/-28
13C12-OCDD	A	200.00	217	0.7032915	0.7645005		8.7	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	10.1	1.4170130	1.3091183		0.9	

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 10:55:41 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, 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	3.952e4	4.957e4	0.782	0.797	0.770	941	1405	5.96e5	7.51e5	633.6	534.3	NO	bb	bb	11.060
12378-PeCDF	29.817	1.000	2.380e5	1.412e5	0.866	1.685	1.550	1980	1696	3.64e6	2.16e6	1839.1	1272.9	NO	bb	bb	56.407
23478-PeCDF	31.165	1.001	2.494e5	1.470e5	0.980	1.697	1.550	1980	1696	3.91e6	2.33e6	1977.5	1371.6	NO	bb	bb	54.642
123478-HxCDF	34.797	1.001	1.773e5	1.346e5	1.002	1.317	1.240	1565	1513	2.86e6	2.18e6	1830.5	1437.5	NO	bd	bd	51.850
234678-HxCDF	35.800	1.000	1.655e5	1.293e5	1.043	1.280	1.240	1565	1513	2.76e6	2.15e6	1764.4	1423.5	NO	bb	bb	50.872
123678-HxCDF	34.931	1.000	1.747e5	1.333e5	0.961	1.311	1.240	1565	1513	2.81e6	2.14e6	1796.2	1412.1	NO	db	db	53.187
123789-HxCDF	36.836	1.001	1.400e5	1.085e5	0.994	1.290	1.240	1565	1513	2.30e6	1.72e6	1467.0	1138.8	NO	bb	bb	50.034
1234678-HpCDF	38.674	1.000	1.669e5	1.569e5	1.058	1.064	1.050	2006	1346	2.90e6	2.74e6	1446.1	2033.8	NO	bb	bb	54.055
1234789-HpCDF	40.914	1.000	1.383e5	1.312e5	1.070	1.054	1.050	2006	1346	2.11e6	2.00e6	1054.0	1484.4	NO	bb	bb	53.263
OCDF	45.132	1.006	2.624e5	2.701e5	1.257	0.971	0.890	1511	1447	3.22e6	3.26e6	2129.9	2253.3	NO	bb	bb	94.388
2378-TCDD	26.305	1.001	3.280e4	4.330e4	1.307	0.758	0.770	1586	1012	4.91e5	6.68e5	309.7	660.3	NO	bb	bb	9.743
12378-PeCDD	31.421	1.001	1.554e5	9.922e4	0.979	1.566	1.550	1414	1607	2.46e6	1.59e6	1737.7	989.4	NO	bb	bb	56.221
123478-HxCDD	35.922	1.000	1.429e5	1.162e5	0.956	1.230	1.240	1969	1658	2.42e6	2.00e6	1228.2	1207.2	NO	bd	bd	47.741
123678-HxCDD	36.034	1.000	1.440e5	1.196e5	0.953	1.204	1.240	1969	1658	2.28e6	1.90e6	1159.5	1145.1	NO	db	db	49.308
123789-HxCDD	36.424	1.011	1.404e5	1.203e5	0.927	1.166	1.240	1969	1658	2.36e6	1.97e6	1198.8	1188.0	NO	bb	bb	49.822
1234678-HpCDD	40.178	1.001	1.300e5	1.183e5	1.055	1.099	1.050	1212	2146	2.05e6	1.90e6	1695.4	884.4	NO	bd	bb	54.792
OCDD	44.894	1.000	2.128e5	2.396e5	1.074	0.888	0.890	1643	1545	2.76e6	3.08e6	1679.6	1992.5	NO	bb	bb	93.831
13C-2378-TCDF	25.640	1.007	4.592e5	5.715e5	1.925	0.803	0.770	2185	1756	6.89e6	8.58e6	3151.4	4884.5	NO	bb	bb	105.397
13C-12378-PeCDF	29.806	1.170	4.695e5	3.067e5	1.442	1.531	1.550	3859	1492	7.27e6	4.67e6	1884.6	3133.8	NO	bb	bb	105.940
13C-23478-PeCDF	31.142	1.222	4.465e5	2.938e5	1.387	1.520	1.550	3859	1492	7.03e6	4.61e6	1822.6	3088.3	NO	bb	bb	105.078
13C-123478-HxCDF	34.775	0.955	2.014e5	3.988e5	1.053	0.505	0.510	1544	3550	3.28e6	6.43e6	2126.4	1811.0	NO	bd	bd	97.039
13C-123678-HxCDF	34.919	0.959	2.017e5	4.008e5	1.135	0.503	0.510	1544	3550	3.19e6	6.24e6	2068.2	1756.9	NO	db	db	90.382
13C-234678-HxCDF	35.789	0.983	1.902e5	3.654e5	1.004	0.520	0.510	1544	3550	3.15e6	5.96e6	2037.0	1679.4	NO	bb	bb	94.211
13C-123789-HxCDF	36.813	1.011	1.710e5	3.286e5	0.909	0.520	0.510	1544	3550	2.86e6	5.45e6	1849.7	1534.3	NO	bb	bb	93.593
13C-1234678-HpCDF	38.663	1.062	1.751e5	3.911e5	0.960	0.448	0.440	1710	1560	3.03e6	6.80e6	1772.4	4359.3	NO	bb	bb	100.444
13C-1234789-HpCDF	40.902	1.123	1.463e5	3.267e5	0.794	0.448	0.440	1710	1560	2.19e6	4.84e6	1283.3	3105.4	NO	bb	bb	101.479
13C-1234-TCDD	25.473	0.000	2.254e5	2.826e5	1.000	0.798	0.770	2084	1178	3.47e6	4.35e6	1666.1	3692.2	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.032	2.631e5	3.343e5	1.133	0.787	0.770	2084	1178	3.94e6	4.91e6	1891.9	4167.6	NO	bb	bb	103.810
13C-12378-PeCDD	31.399	1.233	2.888e5	1.740e5	0.947	1.660	1.550	904	1183	4.47e6	2.70e6	4942.8	2283.2	NO	bb	bb	96.191
13C-123478-HxCDD	35.911	0.986	3.146e5	2.530e5	0.939	1.243	1.240	1380	786	5.15e6	4.16e6	3732.1	5283.7	NO	bd	bd	102.976
13C-123678-HxCDD	36.022	0.989	3.097e5	2.516e5	1.042	1.231	1.240	1380	786	5.07e6	4.13e6	3674.6	5257.4	NO	db	db	91.723
13C-1234678-HpCDD	40.156	1.103	2.236e5	2.060e5	0.788	1.085	1.050	2200	1343	3.57e6	3.24e6	1625.0	2415.7	NO	bb	bb	92.775
13C-OCDD	44.876	1.232	4.223e5	4.757e5	0.703	0.888	0.890	2076	2005	5.29e6	5.83e6	2548.8	2908.4	NO	bb	bd	217.406
13C-123789-HxCDD	36.412	0.000	3.241e5	2.632e5	1.000	1.231	1.240	1380	786	5.29e6	4.25e6	3830.6	5404.2	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	6.651e4		1.298			2093		9.92e5		474.1			bb		10.089

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
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ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, 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	4.789e4	6.229e4	0.966	0.769	0.770	941	1405	7.82e5	1.01e6	831.2	717.7	NO	bb	bb	11.071
1289-TCDF	27.152	1.059	3.610e4	4.615e4	0.736	0.782	0.770	941	1405	5.55e5	7.15e5	590.3	508.6	NO	bb	db	10.845
13468-PECDF	27.016	0.906	2.762e5	1.839e5	1.347	1.502	1.550	647	1021	4.30e6	2.86e6	6645.1	2797.8	NO	bb	bb	44.004
12389-PECDF	32.201	1.080	2.561e5	1.509e5	0.867	1.697	1.550	1980	1696	3.87e6	2.27e6	1957.1	1336.6	NO	bb	bb	60.486
123468-HXCDF	33.126	0.953	1.809e5	1.404e5	1.036	1.288	1.240	1565	1513	2.81e6	2.18e6	1794.3	1440.5	NO	bb	bb	51.686
1368-TCDD	23.432	0.891	3.373e4	4.274e4	1.256	0.789	0.770	1586	1012	5.48e5	6.91e5	345.3	682.8	NO	bb	bb	10.195
1289-TCDD	26.910	1.024	3.003e4	3.743e4	1.151	0.802	0.770	1586	1012	4.29e5	5.45e5	270.2	538.3	NO	bb	bd	9.811
12479-PECDD	28.691	0.914	2.702e5	1.743e5	1.773	1.551	1.550	1414	1607	2.68e6	1.74e6	1892.0	1084.9	NO	bb	bb	54.164
12389-PECDD	31.822	1.013	1.888e5	1.165e5	1.171	1.620	1.550	1414	1607	2.94e6	1.84e6	2081.5	1144.2	NO	bb	bb	56.332
124679-HXCDD	33.906	0.944	1.594e5	1.329e5	1.034	1.200	1.240	1969	1658	2.54e6	2.11e6	1292.1	1272.3	NO	bb	bb	49.822
1234679-HPCDD	39.131	0.975	1.390e5	1.298e5	1.194	1.071	1.050	1212	2146	2.38e6	2.18e6	1960.9	1017.7	NO	bb	bb	52.394
Total-tetrafurans			1.235e5		0.828			941		1.93e6							32.976
Total-penta1			2.762e5					647		4.30e6							44.004
Total-pentafurans			7.850e5		0.904			1980		1.21e7							181.161
Total-hexafurans			8.384e5		1.007			1565		1.35e7							257.629
Total-heptafurans			3.052e5		1.064			2006		5.02e6							107.318
Total-Furans			2.591e6		0.998			941		4.01e7							717.476
Total-tetradioxins			1.650e5		1.238			1586		2.31e6							50.415
Total-pentadioxins			6.143e5		1.308			1414		8.08e6							166.717
Total-hexadioxins			5.867e5		0.967			1969		9.61e6							196.693
Total-heptadioxins			2.690e5		1.125			1212		4.43e6							107.186
Total-Dioxins			1.848e6		1.141			1586		2.72e7							614.842
Total-TEQ			4.439e6					1586		6.73e7							1332.318
FUNCTION1 PFK			1.822e6					585352		2.87e7							
FUNCTION2 PFK			0.000e0					362778		0.00e0							
FUNCTION3 PFK			4.491e5					415027		1.44e7							0.000
FUNCTION4 PFK			1.585e5					397041		4.63e6							
FUNCTION5 PFK			1.281e5					256687		5.58e6							
FUNCTION1 HXCD...			5.305e2					510		8.45e3							0.000
FUNCTION1 HPCD...			9.447e2					1013		1.70e4							0.000
FUNCTION2 HPCD...			7.447e2					978		2.03e4							0.000
FUNCTION3 OCDPE			7.181e2					514		1.10e4							0.000
FUNCTION4 NCDPE			2.083e2					556		3.04e3							0.000
FUNCTION5 DCDPE			7.383e1					504		3.64e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 10:55:41 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, 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	3.610e4	4.615e4	0.736	0.78	0.77	590.3	YES	NO	bb	db	10.845
2	2378-TCDF	25.65	3.952e4	4.957e4	0.782	0.80	0.77	633.6	YES	NO	bb	bb	11.060
3	1368-TCDF	22.15	4.789e4	6.229e4	0.966	0.77	0.77	831.2	YES	NO	bb	bb	11.071

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.02	2.762e5	1.839e5	1.347	1.50	1.55	6645.1	YES	NO	bb	bb	44.004

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.82	2.380e5	1.412e5	0.866	1.69	1.55	1839.1	YES	NO	bb	bb	56.407
2	Total-pentafurans	28.67	4.160e4	2.440e4	0.904	1.70	1.55	317.1	YES	NO	bb	bb	9.626
3	12389-PECDF	32.20	2.561e5	1.509e5	0.867	1.70	1.55	1957.1	YES	NO	bb	bb	60.486
4	23478-PeCDF	31.16	2.494e5	1.470e5	0.980	1.70	1.55	1977.5	YES	NO	bb	bb	54.642

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.84	1.400e5	1.085e5	0.994	1.29	1.24	1467.0	YES	NO	bb	bb	50.034
2	234678-HxCDF	35.80	1.655e5	1.293e5	1.043	1.28	1.24	1764.4	YES	NO	bb	bb	50.872
3	123678-HxCDF	34.93	1.747e5	1.333e5	0.961	1.31	1.24	1796.2	YES	NO	db	db	53.187
4	123478-HxCDF	34.80	1.773e5	1.346e5	1.002	1.32	1.24	1830.5	YES	NO	bd	bd	51.850
5	123468-HXCDF	33.13	1.809e5	1.404e5	1.036	1.29	1.24	1794.3	YES	NO	bb	bb	51.686

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDF	38.67	1.669e5	1.569e5	1.058	1.06	1.05	1446.1	YES	NO	bb	bb	54.055
2	1234789-HpCDF	40.91	1.383e5	1.312e5	1.070	1.05	1.05	1054.0	YES	NO	bb	bb	53.263

ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, 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	3.610e4	4.615e4	0.736	0.78	0.77	590.3	YES	NO	bb	db	10.845
2	2378-TCDF	25.65	3.952e4	4.957e4	0.782	0.80	0.77	633.6	YES	NO	bb	bb	11.060
3	1368-TCDF	22.15	4.789e4	6.229e4	0.966	0.77	0.77	831.2	YES	NO	bb	bb	11.071
4	12378-PeCDF	29.82	2.380e5	1.412e5	0.866	1.69	1.55	1839.1	YES	NO	bb	bb	56.407
5	Total-pentafurans	28.67	4.160e4	2.440e4	0.904	1.70	1.55	317.1	YES	NO	bb	bb	9.626
6	12389-PECDF	32.20	2.561e5	1.509e5	0.867	1.70	1.55	1957.1	YES	NO	bb	bb	60.486
7	23478-PeCDF	31.16	2.494e5	1.470e5	0.980	1.70	1.55	1977.5	YES	NO	bb	bb	54.642
8	123789-HxCDF	36.84	1.400e5	1.085e5	0.994	1.29	1.24	1467.0	YES	NO	bb	bb	50.034
9	234678-HxCDF	35.80	1.655e5	1.293e5	1.043	1.28	1.24	1764.4	YES	NO	bb	bb	50.872
10	123678-HxCDF	34.93	1.747e5	1.333e5	0.961	1.31	1.24	1796.2	YES	NO	db	db	53.187
11	123478-HxCDF	34.80	1.773e5	1.346e5	1.002	1.32	1.24	1830.5	YES	NO	bd	bd	51.850
12	123468-HXCDF	33.13	1.809e5	1.404e5	1.036	1.29	1.24	1794.3	YES	NO	bb	bb	51.686
13	1234678-HpCDF	38.67	1.669e5	1.569e5	1.058	1.06	1.05	1446.1	YES	NO	bb	bb	54.055
14	1234789-HpCDF	40.91	1.383e5	1.312e5	1.070	1.05	1.05	1054.0	YES	NO	bb	bb	53.263
15	OCDF	45.13	2.624e5	2.701e5	1.257	0.97	0.89	2129.9	YES	NO	bb	bb	94.388
16	13468-PECDF	27.02	2.762e5	1.839e5	1.347	1.50	1.55	6645.1	YES	NO	bb	bb	44.004

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.43	3.373e4	4.274e4	1.256	0.79	0.77	345.3	YES	NO	bb	bb	10.195
2	1289-TCDD	26.91	3.003e4	3.743e4	1.151	0.80	0.77	270.2	YES	NO	bb	bd	9.811
3	2378-TCDD	26.31	3.280e4	4.330e4	1.307	0.76	0.77	309.7	YES	NO	bb	bb	9.743
4	Total-tetradioxins	25.97	5.153e4	6.434e4	1.238	0.80	0.77	353.0	YES	NO	bb	bb	15.667
5	Total-tetradioxins	25.49	1.692e4	2.005e4	1.238	0.84	0.77	178.0	YES	NO	bb	bb	4.999

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.82	1.888e5	1.165e5	1.171	1.62	1.55	2081.5	YES	NO	bb	bb	56.332
2	12378-PeCDD	31.42	1.554e5	9.922e4	0.979	1.57	1.55	1737.7	YES	NO	bb	bb	56.221
3	12479-PECDD	28.69	2.702e5	1.743e5	1.773	1.55	1.55	1892.0	YES	NO	bb	bb	54.164

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	36.03	1.440e5	1.196e5	0.953	1.20	1.24	1159.5	YES	NO	db	db	49.308
2	123478-HxCDD	35.92	1.429e5	1.162e5	0.956	1.23	1.24	1228.2	YES	NO	bd	bd	47.741
3	124679-HXCDD	33.91	1.594e5	1.329e5	1.034	1.20	1.24	1292.1	YES	NO	bb	bb	49.822
4	123789-HxCDD	36.42	1.404e5	1.203e5	0.927	1.17	1.24	1198.8	YES	NO	bb	bb	49.822

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	1.300e5	1.183e5	1.055	1.10	1.05	1695.4	YES	NO	bd	bb	54.792
2	1234679-HPCDD	39.13	1.390e5	1.298e5	1.194	1.07	1.05	1960.9	YES	NO	bb	bb	52.394

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	23.43	3.373e4	4.274e4	1.256	0.79	0.77	345.3	YES	NO	bb	bb	10.195
2	1289-TCDD	26.91	3.003e4	3.743e4	1.151	0.80	0.77	270.2	YES	NO	bb	bd	9.811
3	2378-TCDD	26.31	3.280e4	4.330e4	1.307	0.76	0.77	309.7	YES	NO	bb	bb	9.743
4	Total-tetradioxins	25.97	5.153e4	6.434e4	1.238	0.80	0.77	353.0	YES	NO	bb	bb	15.667
5	Total-tetradioxins	25.49	1.692e4	2.005e4	1.238	0.84	0.77	178.0	YES	NO	bb	bb	4.999
6	12389-PECDD	31.82	1.888e5	1.165e5	1.171	1.62	1.55	2081.5	YES	NO	bb	bb	56.332
7	12378-PeCDD	31.42	1.554e5	9.922e4	0.979	1.57	1.55	1737.7	YES	NO	bb	bb	56.221
8	12479-PECDD	28.69	2.702e5	1.743e5	1.773	1.55	1.55	1892.0	YES	NO	bb	bb	54.164
9	123678-HxCDD	36.03	1.440e5	1.196e5	0.953	1.20	1.24	1159.5	YES	NO	db	db	49.308
10	123478-HxCDD	35.92	1.429e5	1.162e5	0.956	1.23	1.24	1228.2	YES	NO	bd	bd	47.741
11	124679-HXCDD	33.91	1.594e5	1.329e5	1.034	1.20	1.24	1292.1	YES	NO	bb	bb	49.822
12	123789-HxCDD	36.42	1.404e5	1.203e5	0.927	1.17	1.24	1198.8	YES	NO	bb	bb	49.822
13	1234678-HpCDD	40.18	1.300e5	1.183e5	1.055	1.10	1.05	1695.4	YES	NO	bd	bb	54.792
14	1234679-HPCDD	39.13	1.390e5	1.298e5	1.194	1.07	1.05	1960.9	YES	NO	bb	bb	52.394
15	OCDD	44.89	2.128e5	2.396e5	1.074	0.89	0.89	1679.6	YES	NO	bb	bb	93.831

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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	3.610e4	4.615e4	0.736	0.78	0.77	590.3	YES	NO	bb	db	10.845
2	2378-TCDF	25.65	3.952e4	4.957e4	0.782	0.80	0.77	633.6	YES	NO	bb	bb	11.060
3	1368-TCDF	22.15	4.789e4	6.229e4	0.966	0.77	0.77	831.2	YES	NO	bb	bb	11.071
4	12378-PeCDF	29.82	2.380e5	1.412e5	0.866	1.69	1.55	1839.1	YES	NO	bb	bb	56.407
5	Total-pentafurans	28.67	4.160e4	2.440e4	0.904	1.70	1.55	317.1	YES	NO	bb	bb	9.626
6	12389-PECDF	32.20	2.561e5	1.509e5	0.867	1.70	1.55	1957.1	YES	NO	bb	bb	60.486
7	23478-PeCDF	31.16	2.494e5	1.470e5	0.980	1.70	1.55	1977.5	YES	NO	bb	bb	54.642
8	123789-HxCDF	36.84	1.400e5	1.085e5	0.994	1.29	1.24	1467.0	YES	NO	bb	bb	50.034
9	234678-HxCDF	35.80	1.655e5	1.293e5	1.043	1.28	1.24	1764.4	YES	NO	bb	bb	50.872
10	123678-HxCDF	34.93	1.747e5	1.333e5	0.961	1.31	1.24	1796.2	YES	NO	db	db	53.187
11	123478-HxCDF	34.80	1.773e5	1.346e5	1.002	1.32	1.24	1830.5	YES	NO	bd	bd	51.850
12	123468-HXCDF	33.13	1.809e5	1.404e5	1.036	1.29	1.24	1794.3	YES	NO	bb	bb	51.686
13	1234678-HpCDF	38.67	1.669e5	1.569e5	1.058	1.06	1.05	1446.1	YES	NO	bb	bb	54.055
14	1234789-HpCDF	40.91	1.383e5	1.312e5	1.070	1.05	1.05	1054.0	YES	NO	bb	bb	53.263
15	OCDF	45.13	2.624e5	2.701e5	1.257	0.97	0.89	2129.9	YES	NO	bb	bb	94.388
16	13468-PECDF	27.02	2.762e5	1.839e5	1.347	1.50	1.55	6645.1	YES	NO	bb	bb	44.004
17	1368-TCDD	23.43	3.373e4	4.274e4	1.256	0.79	0.77	345.3	YES	NO	bb	bb	10.195
18	1289-TCDD	26.91	3.003e4	3.743e4	1.151	0.80	0.77	270.2	YES	NO	bb	bd	9.811
19	2378-TCDD	26.31	3.280e4	4.330e4	1.307	0.76	0.77	309.7	YES	NO	bb	bb	9.743
20	Total-tetradioxins	25.97	5.153e4	6.434e4	1.238	0.80	0.77	353.0	YES	NO	bb	bb	15.667
21	Total-tetradioxins	25.49	1.692e4	2.005e4	1.238	0.84	0.77	178.0	YES	NO	bb	bb	4.999
22	12389-PECDD	31.82	1.888e5	1.165e5	1.171	1.62	1.55	2081.5	YES	NO	bb	bb	56.332
23	12378-PeCDD	31.42	1.554e5	9.922e4	0.979	1.57	1.55	1737.7	YES	NO	bb	bb	56.221
24	12479-PECDD	28.69	2.702e5	1.743e5	1.773	1.55	1.55	1892.0	YES	NO	bb	bb	54.164
25	123678-HxCDD	36.03	1.440e5	1.196e5	0.953	1.20	1.24	1159.5	YES	NO	db	db	49.308
26	123478-HxCDD	35.92	1.429e5	1.162e5	0.956	1.23	1.24	1228.2	YES	NO	bd	bd	47.741
27	124679-HXCDD	33.91	1.594e5	1.329e5	1.034	1.20	1.24	1292.1	YES	NO	bb	bb	49.822
28	123789-HxCDD	36.42	1.404e5	1.203e5	0.927	1.17	1.24	1198.8	YES	NO	bb	bb	49.822
29	1234678-HpCDD	40.18	1.300e5	1.183e5	1.055	1.10	1.05	1695.4	YES	NO	bd	bb	54.792
30	1234679-HPCDD	39.13	1.390e5	1.298e5	1.194	1.07	1.05	1960.9	YES	NO	bb	bb	52.394
31	OCDD	44.89	2.128e5	2.396e5	1.074	0.89	0.89	1679.6	YES	NO	bb	bb	93.831

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.51	1.645e5					3.1	YES		dd		
2	FUNCTION1 PFK	21.36	3.049e5					4.0	YES		dd		
3	FUNCTION1 PFK	21.27	4.815e4					1.9	NO		dd		
4	FUNCTION1 PFK	21.16	1.176e5					2.9	NO		bd		
5	FUNCTION1 PFK	24.28	2.579e4					1.2	NO		bb		
6	FUNCTION1 PFK	24.02	2.176e3					0.2	NO		bb		
7	FUNCTION1 PFK	23.84	2.096e4					1.0	NO		bb		
8	FUNCTION1 PFK	23.49	3.642e4					1.4	NO		bb		
9	FUNCTION1 PFK	23.37	2.750e4					1.0	NO		bb		
10	FUNCTION1 PFK	22.95	5.609e4					1.5	NO		db		
11	FUNCTION1 PFK	22.89	1.418e4					0.8	NO		dd		
12	FUNCTION1 PFK	22.84	2.314e4					1.1	NO		bd		
13	FUNCTION1 PFK	22.78	4.312e3					0.5	NO		bb		
14	FUNCTION1 PFK	22.65	2.232e4					0.7	NO		bb		
15	FUNCTION1 PFK	22.51	2.550e4					1.2	NO		bb		
16	FUNCTION1 PFK	22.30	9.402e4					1.5	NO		db		
17	FUNCTION1 PFK	22.21	1.980e4					1.0	NO		bd		
18	FUNCTION1 PFK	21.80	9.222e4					2.1	NO		db		
19	FUNCTION1 PFK	21.72	4.510e4					1.9	NO		dd		
20	FUNCTION1 PFK	21.65	1.007e5					2.3	NO		dd		
21	FUNCTION1 PFK	27.12	3.363e4					1.0	NO		db		
22	FUNCTION1 PFK	27.05	2.757e4					1.2	NO		dd		
23	FUNCTION1 PFK	26.99	2.715e4					1.3	NO		dd		
24	FUNCTION1 PFK	26.92	2.086e4					0.9	NO		bd		
25	FUNCTION1 PFK	26.80	5.068e4					1.4	NO		bb		
26	FUNCTION1 PFK	26.71	6.285e3					0.5	NO		db		
27	FUNCTION1 PFK	26.68	2.846e4					1.2	NO		dd		
28	FUNCTION1 PFK	26.62	1.313e4					0.6	NO		bd		
29	FUNCTION1 PFK	26.47	3.364e3					0.4	NO		bb		
30	FUNCTION1 PFK	25.97	1.562e5					1.5	NO		bb		
31	FUNCTION1 PFK	25.87	3.889e4					1.3	NO		bb		
32	FUNCTION1 PFK	25.23	7.456e4					1.4	NO		bb		
33	FUNCTION1 PFK	24.97	2.147e4					0.9	NO		bb		
34	FUNCTION1 PFK	24.70	9.125e3					0.6	NO		bb		
35	FUNCTION1 PFK	24.58	1.614e4					0.8	NO		bb		
36	FUNCTION1 PFK	24.52	9.194e3					0.7	NO		bb		
37	FUNCTION1 PFK	27.61	1.863e4					0.8	NO		bb		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	27.47	8.085e3					0.5	NO		bb		
39	FUNCTION1 PFK	27.29	1.304e4					0.8	NO		bb		

PFK2

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

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	33.64	6.844e3					0.9	NO		bb		0.000
2	FUNCTION3 PFK	33.59	2.980e3					0.6	NO		bb		0.000
3	FUNCTION3 PFK	33.40	7.801e3					0.8	NO		bb		0.000
4	FUNCTION3 PFK	33.06	6.597e3					0.7	NO		bb		0.000
5	FUNCTION3 PFK	33.01	1.697e3					0.4	NO		bb		0.000
6	FUNCTION3 PFK	32.97	1.031e4					1.0	NO		bb		0.000
7	FUNCTION3 PFK	32.91	6.681e3					0.8	NO		bb		0.000
8	FUNCTION3 PFK	32.83	1.831e4					1.7	NO		db		0.000
9	FUNCTION3 PFK	32.77	9.103e3					1.1	NO		bd		0.000
10	FUNCTION3 PFK	32.71	3.747e4					2.4	NO		db		0.000
11	FUNCTION3 PFK	32.67	5.505e3					0.8	NO		bd		0.000
12	FUNCTION3 PFK	36.19	4.178e4					1.3	NO		bb		0.000
13	FUNCTION3 PFK	35.62	2.035e4					1.3	NO		bb		0.000
14	FUNCTION3 PFK	35.41	2.076e3					0.4	NO		bb		0.000
15	FUNCTION3 PFK	35.22	7.698e3					0.8	NO		bb		0.000
16	FUNCTION3 PFK	35.14	5.286e3					0.7	NO		db		0.000
17	FUNCTION3 PFK	35.11	1.735e4					0.8	NO		bd		0.000
18	FUNCTION3 PFK	34.94	6.530e3					0.7	NO		bb		0.000
19	FUNCTION3 PFK	34.81	2.208e3					0.5	NO		bb		0.000
20	FUNCTION3 PFK	34.76	3.811e4					1.3	NO		bb		0.000
21	FUNCTION3 PFK	34.51	1.272e4					0.9	NO		bb		0.000
22	FUNCTION3 PFK	34.43	1.543e4					1.0	NO		db		0.000
23	FUNCTION3 PFK	34.35	4.577e3					0.6	NO		bd		0.000
24	FUNCTION3 PFK	34.32	7.970e3					0.9	NO		bb		0.000
25	FUNCTION3 PFK	34.23	3.149e3					0.4	NO		bb		0.000
26	FUNCTION3 PFK	34.12	1.038e4					0.9	NO		bb		0.000
27	FUNCTION3 PFK	33.84	1.647e3					0.4	NO		bb		0.000
28	FUNCTION3 PFK	37.52	1.632e4					1.2	NO		db		0.000
29	FUNCTION3 PFK	37.48	1.241e4					1.2	NO		bd		0.000
30	FUNCTION3 PFK	37.44	3.376e3					0.5	NO		bb		0.000
31	FUNCTION3 PFK	37.26	9.339e3					0.8	NO		bb		0.000
32	FUNCTION3 PFK	36.99	8.663e3					1.0	NO		db		0.000
33	FUNCTION3 PFK	36.96	1.032e4					1.0	NO		bd		0.000
34	FUNCTION3 PFK	36.62	2.344e3					0.5	NO		bb		0.000
35	FUNCTION3 PFK	36.58	1.500e3					0.3	NO		bb		0.000
36	FUNCTION3 PFK	36.51	5.717e3					0.7	NO		bb		0.000
37	FUNCTION3 PFK	36.41	6.814e3					0.7	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION3 PFK	36.37	4.038e3					0.7	NO		db		0.000
39	FUNCTION3 PFK	36.29	5.776e4					2.2	NO		bd		0.000

PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.77	2.187e4					1.3	NO		bb		
2	FUNCTION4 PFK	38.58	3.181e4					1.7	NO		bb		
3	FUNCTION4 PFK	37.87	2.248e3					0.5	NO		bb		
4	FUNCTION4 PFK	42.26	8.308e3					1.0	NO		bb		
5	FUNCTION4 PFK	41.48	3.614e4					1.9	NO		db		
6	FUNCTION4 PFK	41.43	1.293e4					1.5	NO		bd		
7	FUNCTION4 PFK	41.37	1.125e4					1.2	NO		bb		
8	FUNCTION4 PFK	40.17	2.023e4					1.3	NO		bb		
9	FUNCTION4 PFK	39.10	1.369e4					1.1	NO		bb		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	43.44	2.583e3					0.6	NO		bb		
2	FUNCTION5 PFK	43.36	3.604e3					0.7	NO		bb		
3	FUNCTION5 PFK	43.31	8.434e3					1.4	NO		bb		
4	FUNCTION5 PFK	43.24	8.729e2					0.4	NO		bb		
5	FUNCTION5 PFK	43.20	4.848e3					1.0	NO		bb		
6	FUNCTION5 PFK	43.02	1.454e4					1.3	NO		db		
7	FUNCTION5 PFK	42.96	2.543e3					0.8	NO		bd		
8	FUNCTION5 PFK	42.93	5.808e3					1.4	NO		bb		
9	FUNCTION5 PFK	42.86	3.038e4					2.9	NO		bb		
10	FUNCTION5 PFK	45.88	3.102e3					0.8	NO		bb		
11	FUNCTION5 PFK	45.40	1.118e3					0.5	NO		bb		
12	FUNCTION5 PFK	45.20	1.204e3					0.5	NO		bb		
13	FUNCTION5 PFK	45.00	7.640e3					1.3	NO		bb		
14	FUNCTION5 PFK	44.95	3.153e3					0.8	NO		bb		
15	FUNCTION5 PFK	44.86	2.868e3					0.7	NO		bb		
16	FUNCTION5 PFK	44.72	4.598e3					0.8	NO		bb		
17	FUNCTION5 PFK	44.60	5.625e3					1.0	NO		db		
18	FUNCTION5 PFK	44.56	3.384e3					0.7	NO		bd		
19	FUNCTION5 PFK	44.45	6.348e3					1.0	NO		bb		
20	FUNCTION5 PFK	44.38	5.679e3					1.1	NO		bb		
21	FUNCTION5 PFK	43.69	5.722e3					0.9	NO		bb		
22	FUNCTION5 PFK	43.59	1.049e3					0.5	NO		bb		
23	FUNCTION5 PFK	43.56	2.957e3					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...	24.01	8.186e1					4.3	YES		bd		0.000
2	FUNCTION1 HXCD...	27.59	1.228e2					2.8	NO		bb		0.000
3	FUNCTION1 HXCD...	27.02	7.118e1					2.4	NO		bb		0.000
4	FUNCTION1 HXCD...	26.62	7.060e1					2.2	NO		bb		0.000
5	FUNCTION1 HXCD...	26.31	9.829e1					2.3	NO		bb		0.000
6	FUNCTION1 HXCD...	24.10	8.578e1					2.6	NO		db		0.000

ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, 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...	26.86	8.125e1					2.1	NO		bb		0.000
2	FUNCTION1 HPCD...	26.62	1.165e2					2.5	NO		db		0.000
3	FUNCTION1 HPCD...	26.56	1.702e2					2.5	NO		bd		0.000
4	FUNCTION1 HPCD...	25.70	1.148e2					2.3	NO		bb		0.000
5	FUNCTION1 HPCD...	24.11	8.372e1					1.5	NO		bb		0.000
6	FUNCTION1 HPCD...	22.93	1.542e2					2.0	NO		bb		0.000
7	FUNCTION1 HPCD...	22.12	1.307e2					2.4	NO		bb		0.000
8	FUNCTION1 HPCD...	21.29	9.336e1					1.6	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...	27.76	8.396e1					2.6	NO		bb		0.000
2	FUNCTION2 HPCD...	31.08	9.752e1					3.0	YES		db		0.000
3	FUNCTION2 HPCD...	31.03	9.724e1					3.3	YES		bd		0.000
4	FUNCTION2 HPCD...	30.67	7.531e1					2.8	NO		bb		0.000
5	FUNCTION2 HPCD...	30.17	7.381e1					2.1	NO		bb		0.000
6	FUNCTION2 HPCD...	29.09	8.653e1					1.4	NO		db		0.000
7	FUNCTION2 HPCD...	28.97	7.034e1					2.7	NO		bd		0.000
8	FUNCTION2 HPCD...	28.80	7.356e1					1.5	NO		bb		0.000
9	FUNCTION2 HPCD...	28.03	8.647e1					1.4	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	36.41	1.419e2					3.7	YES		bb		0.000
2	FUNCTION3 OCDPE	36.17	8.647e1					2.8	NO		bb		0.000
3	FUNCTION3 OCDPE	36.02	1.540e2					4.0	YES		db		0.000
4	FUNCTION3 OCDPE	35.91	1.287e2					4.3	YES		bd		0.000
5	FUNCTION3 OCDPE	35.00	8.136e1					2.9	NO		db		0.000
6	FUNCTION3 OCDPE	34.93	1.257e2					3.7	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	40.17	9.440e1					2.4	NO		bb		0.000
2	FUNCTION4 NCDPE	37.94	1.139e2					3.1	YES		bb		0.000

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Printed: Tuesday, July 20, 2021 10:55:41 Pacific Daylight Time

ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, 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	43.87	7.383e1					7.2	YES		bb		0.000

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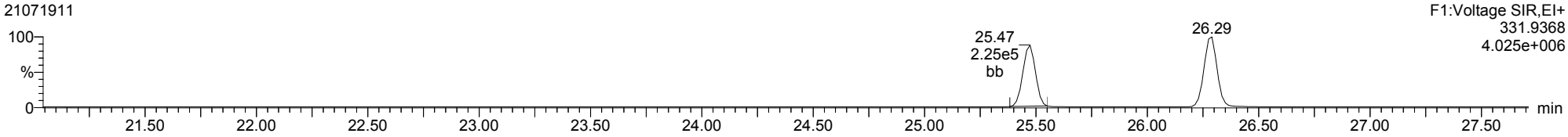
13C-1234-TCDD



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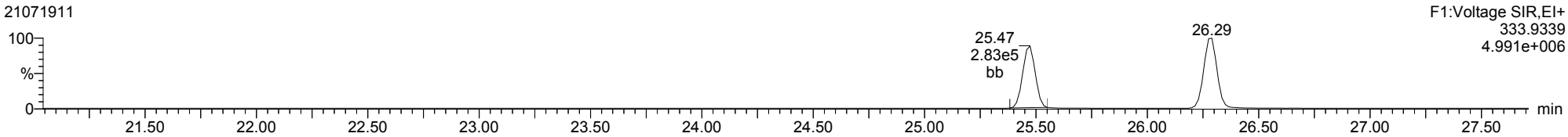

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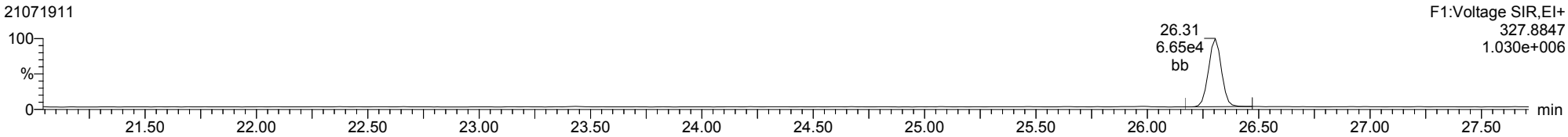

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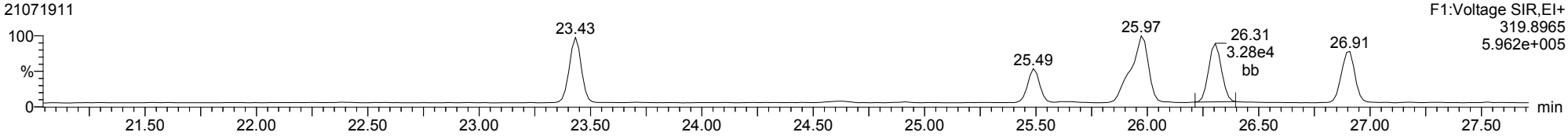

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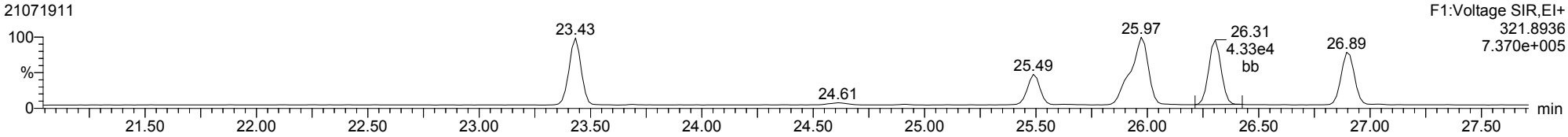

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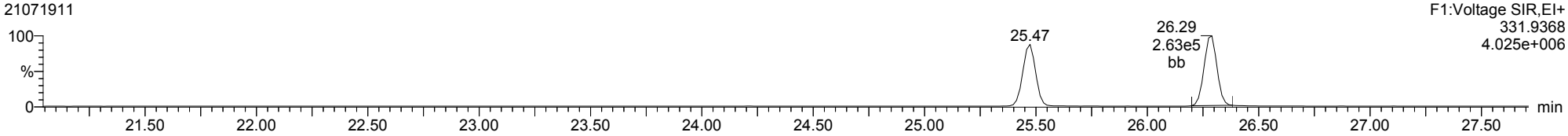

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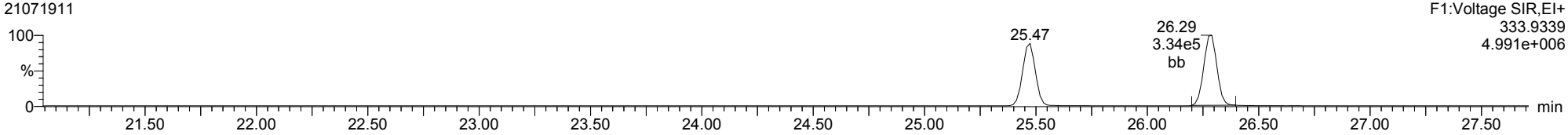

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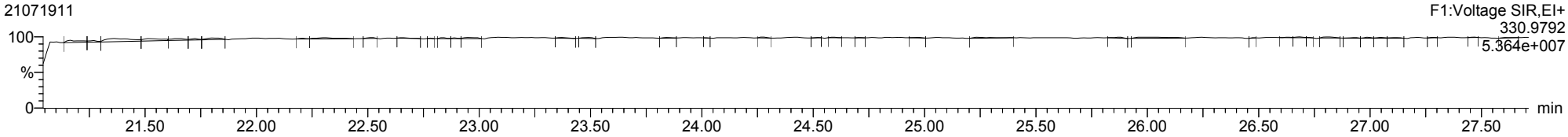

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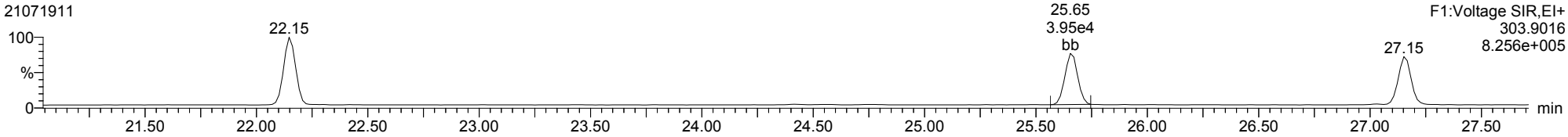

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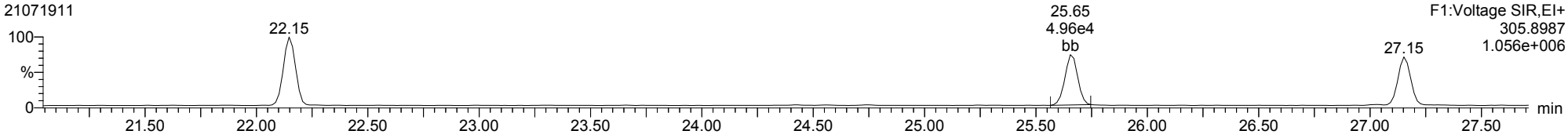

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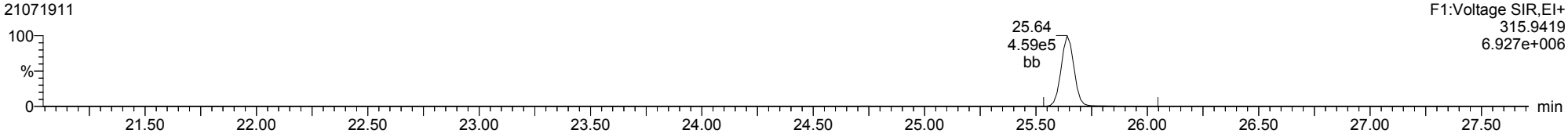

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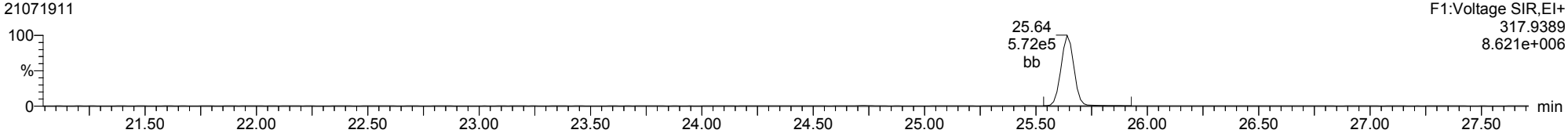

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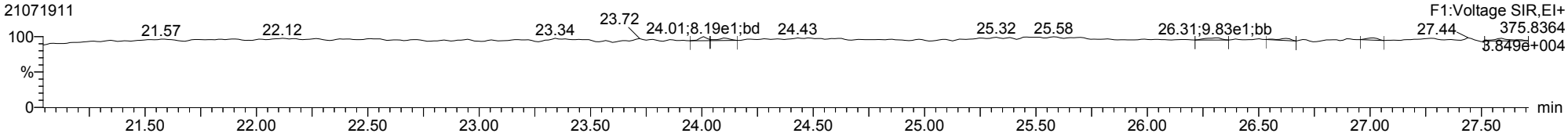

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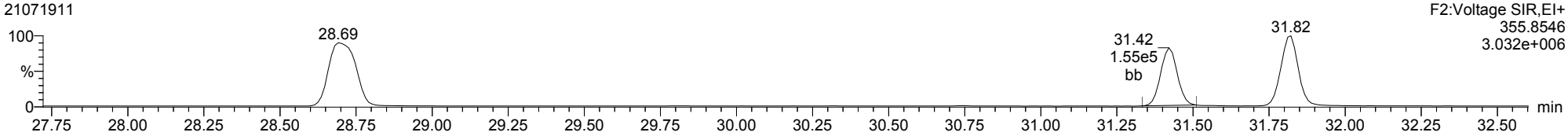
12378-PeCDD



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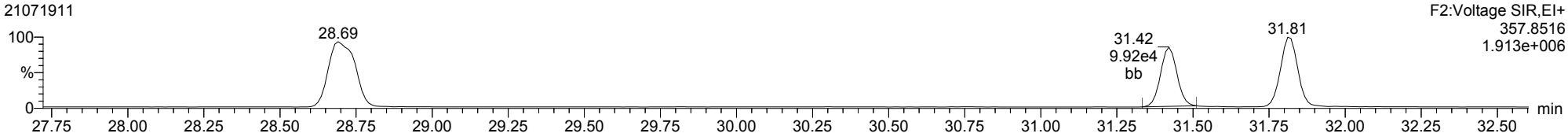

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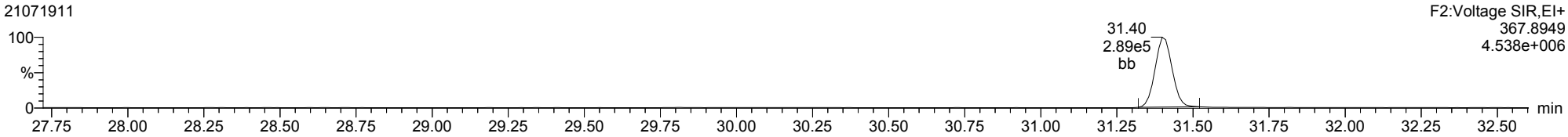

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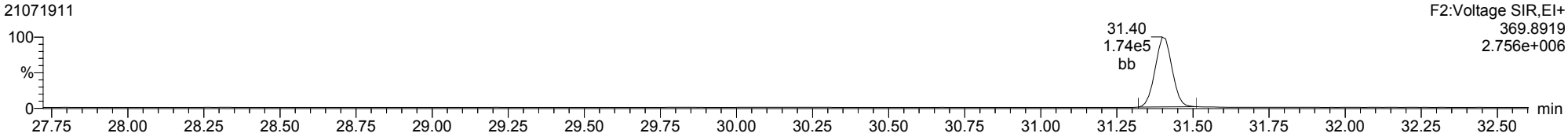
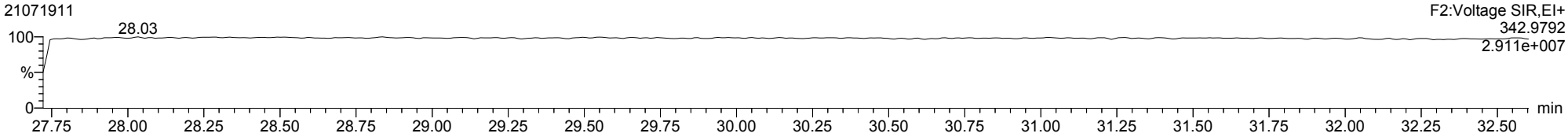


FUNCTION2 PFK



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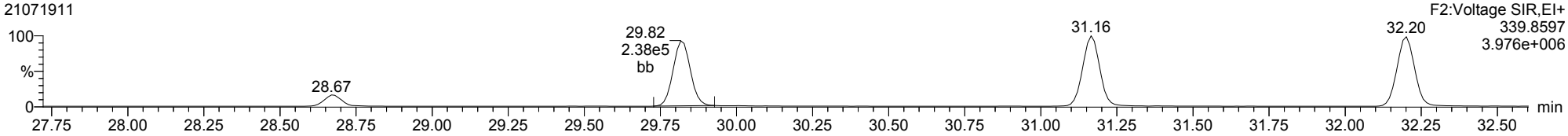

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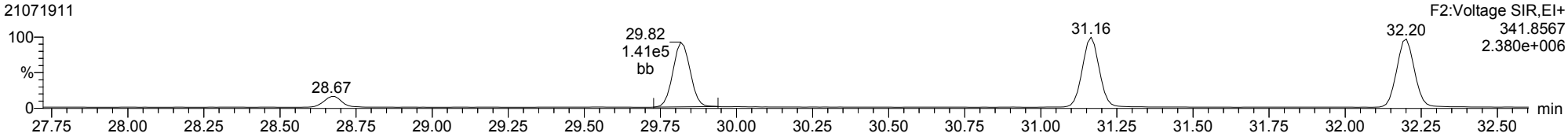

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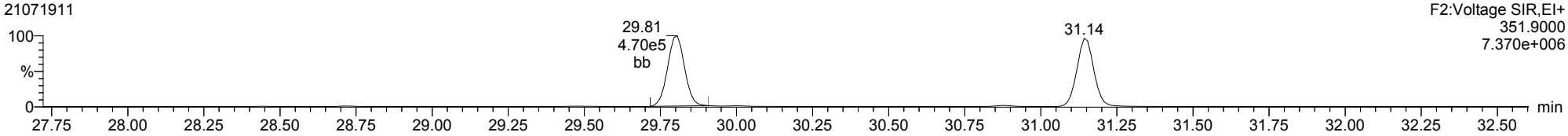

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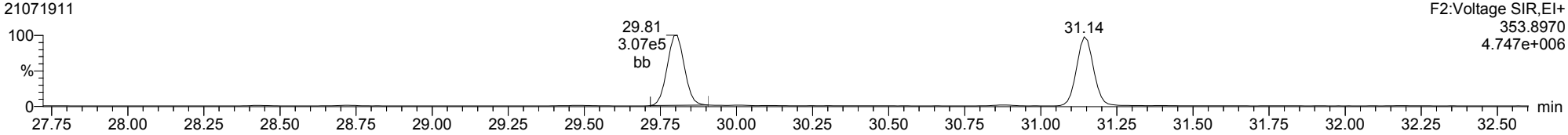
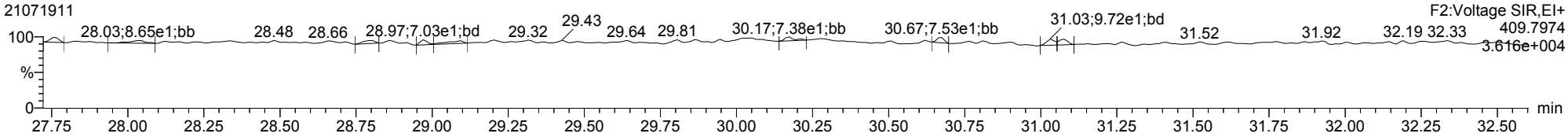


FUNCTION2 HPCDPE



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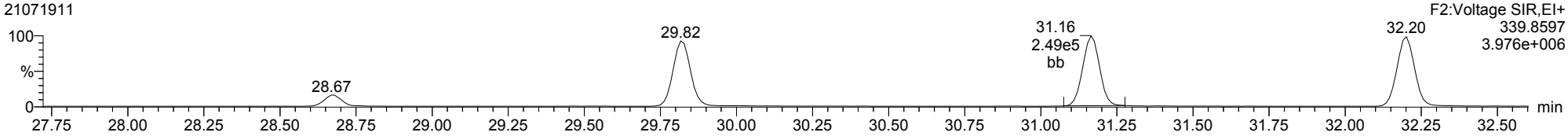
23478-PeCDF



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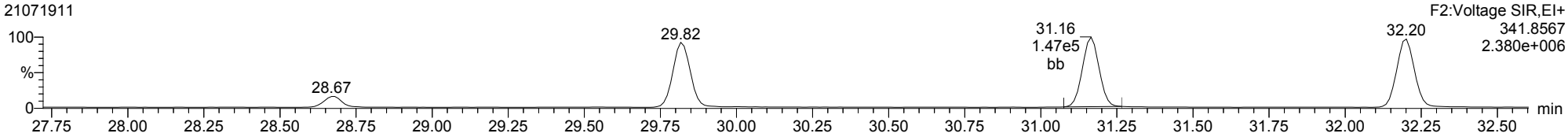

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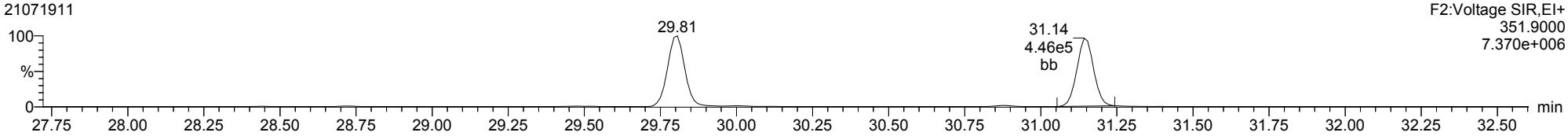

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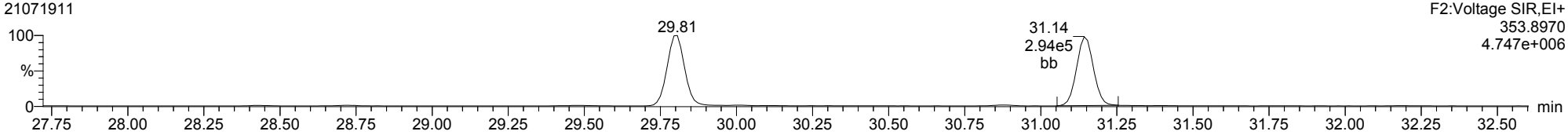

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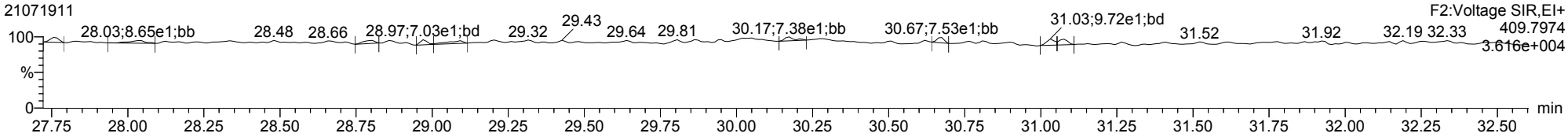

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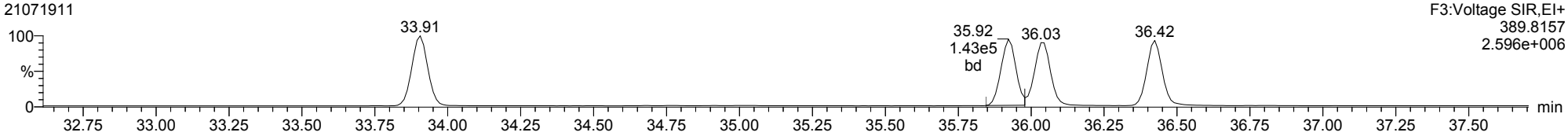
123478-HxCDD



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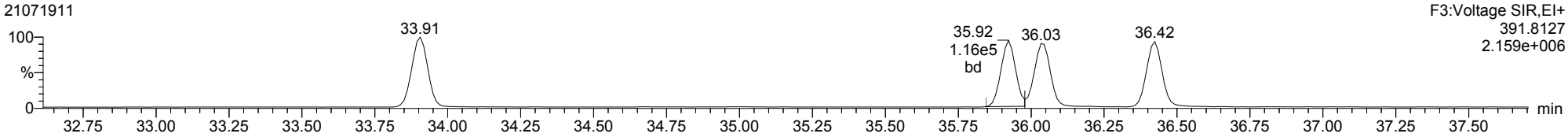

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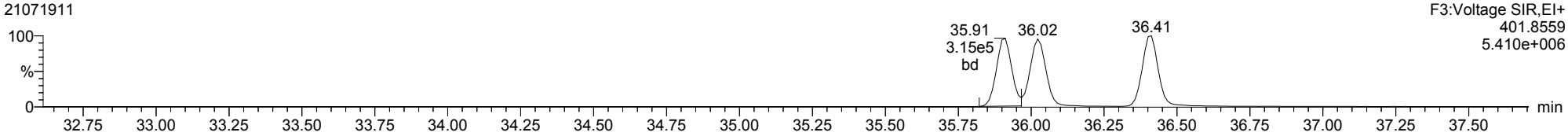

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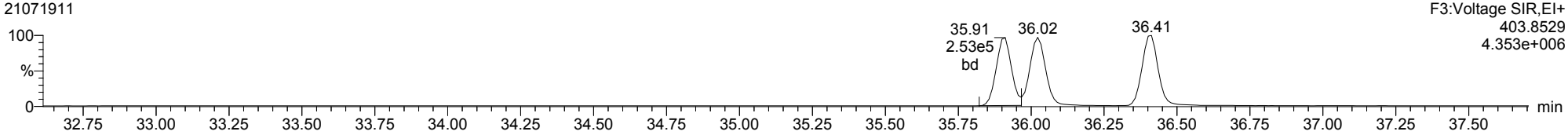

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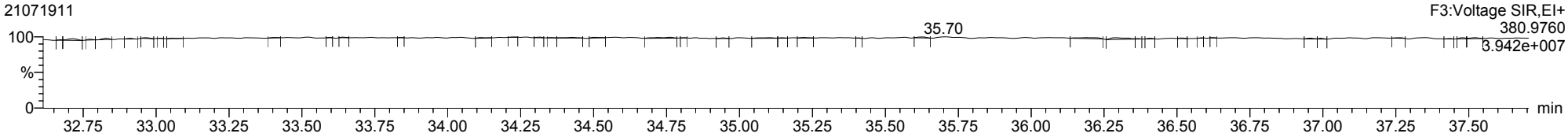

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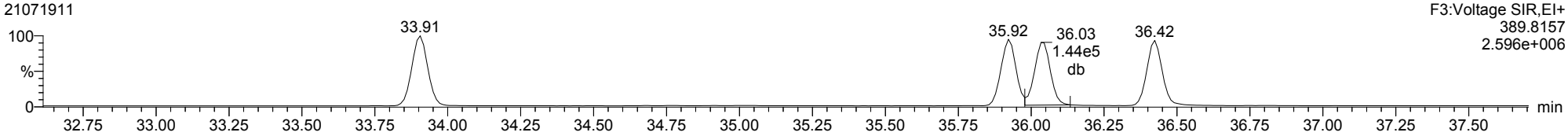

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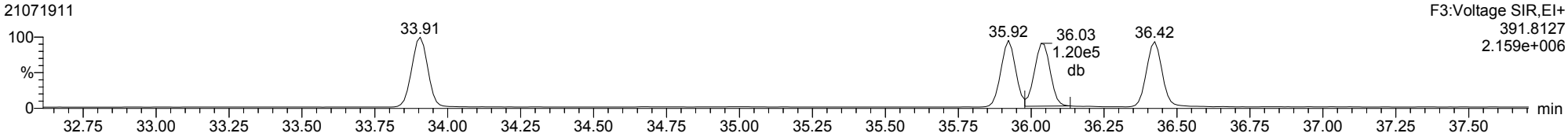

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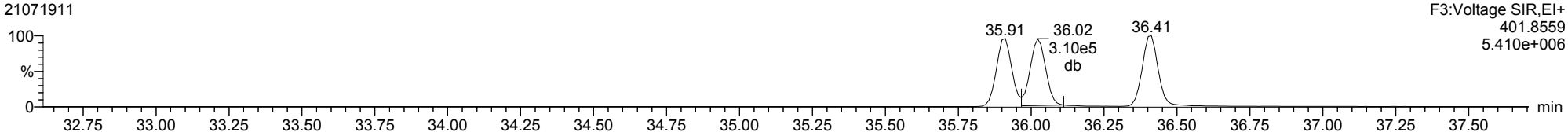

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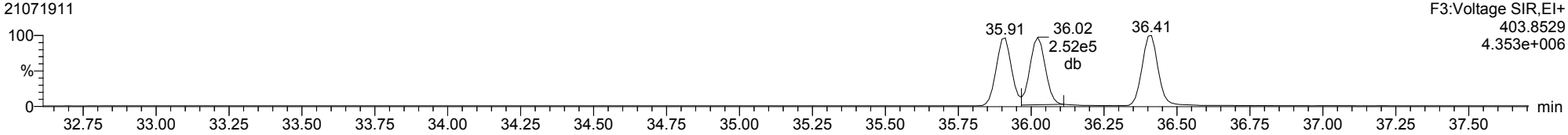

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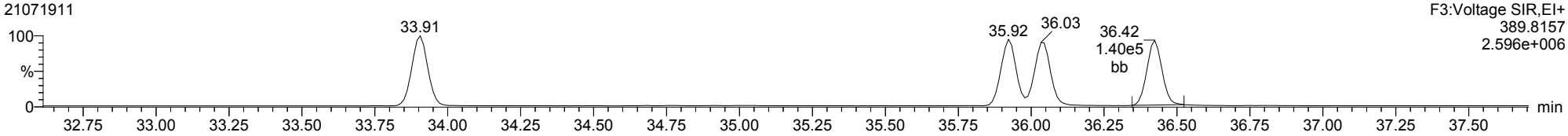

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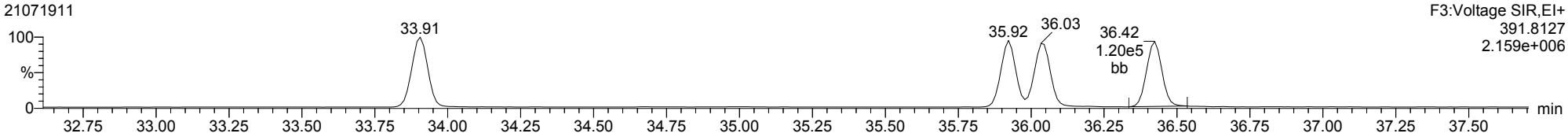

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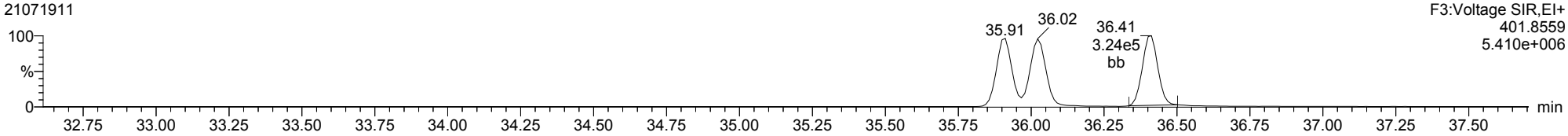

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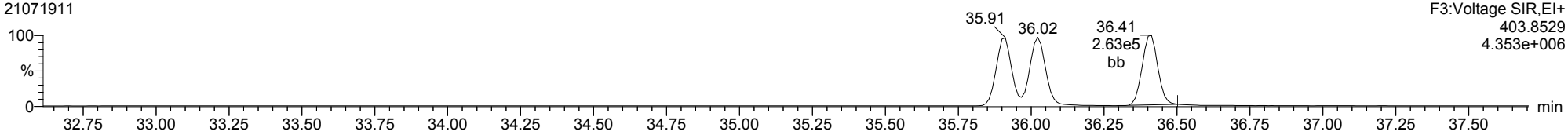

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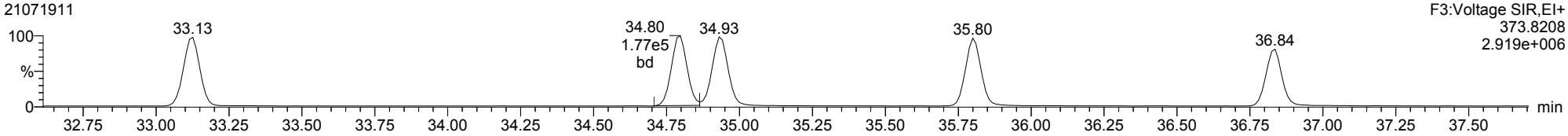

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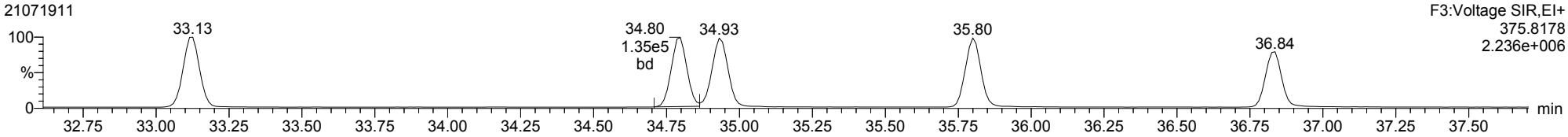

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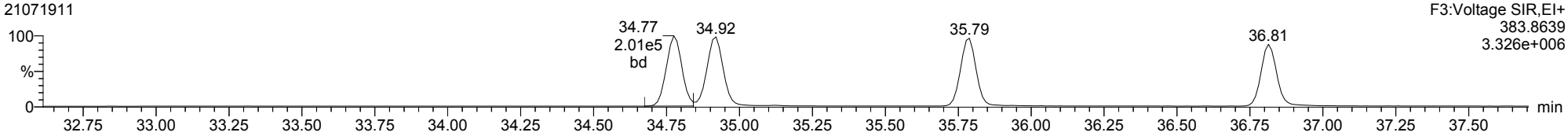

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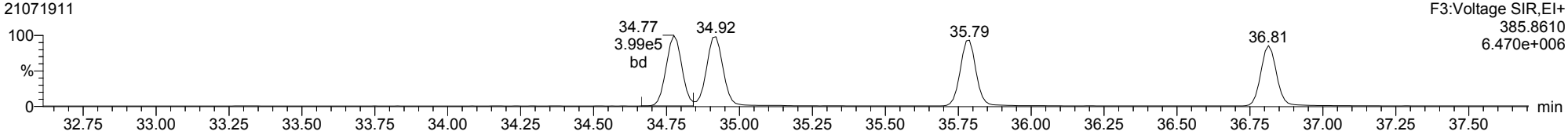

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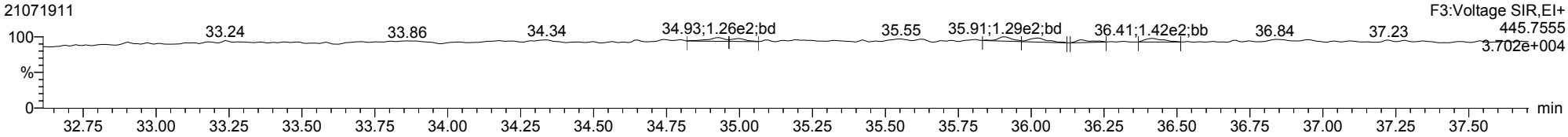

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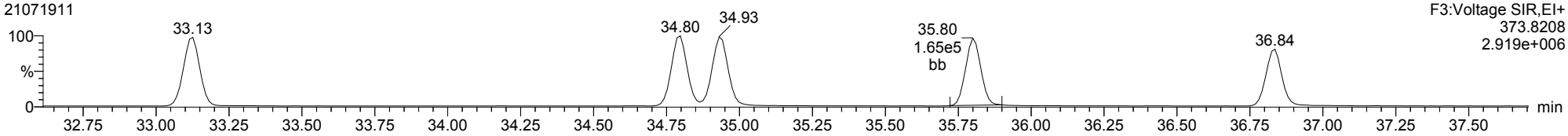

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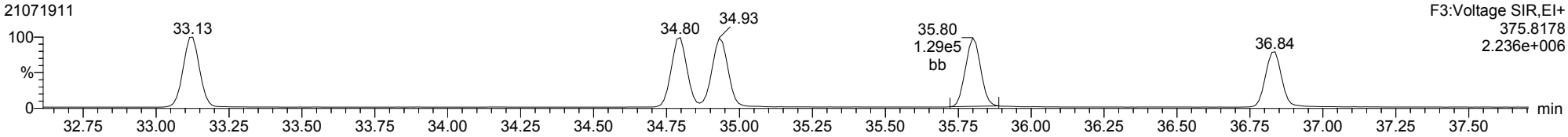

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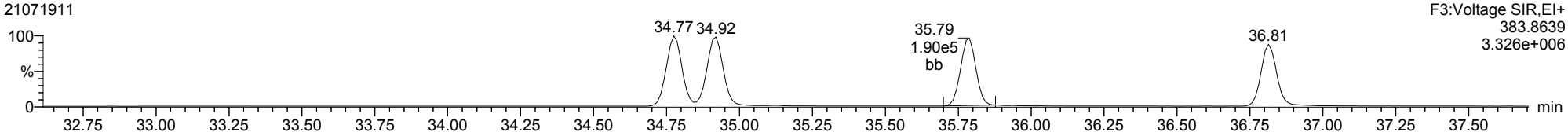

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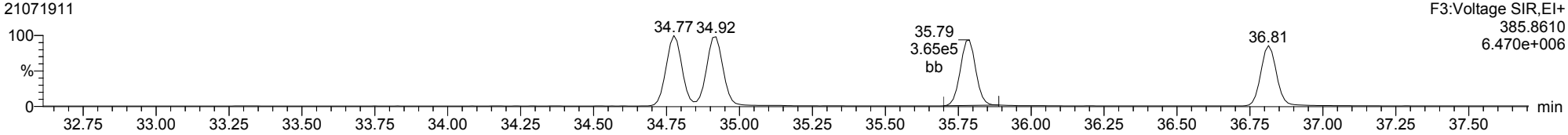

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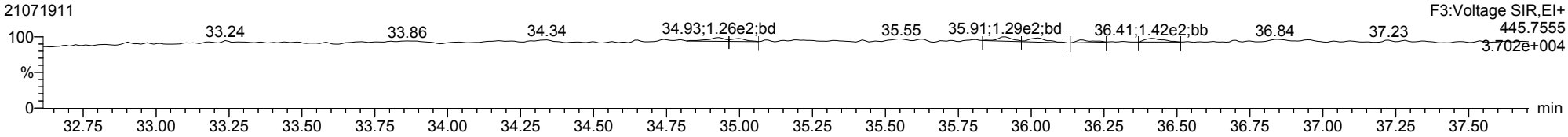

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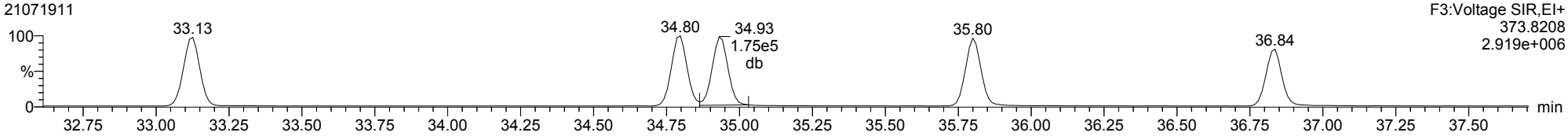

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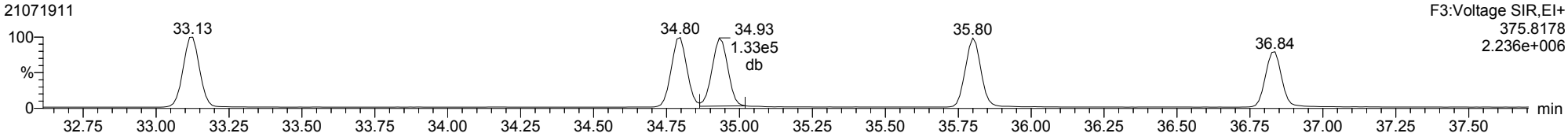

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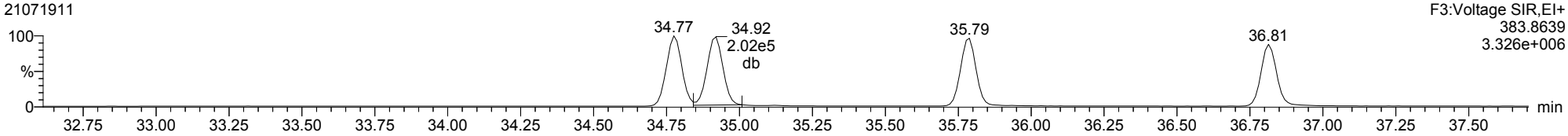

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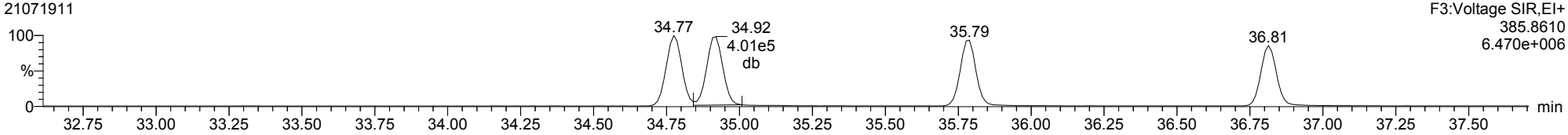

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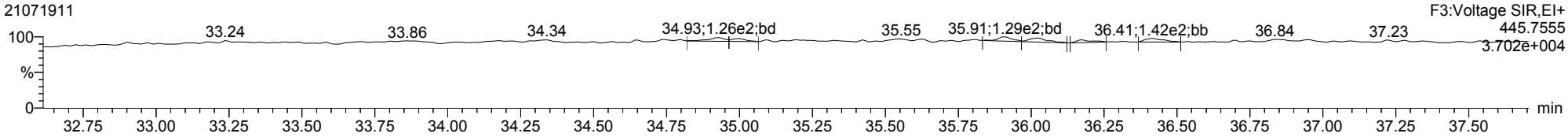

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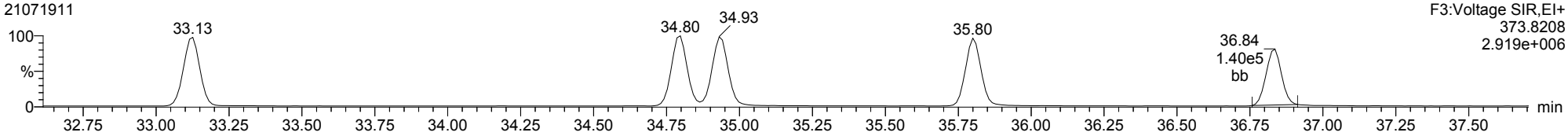

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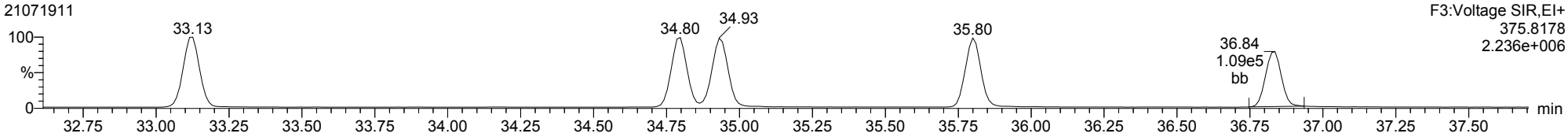

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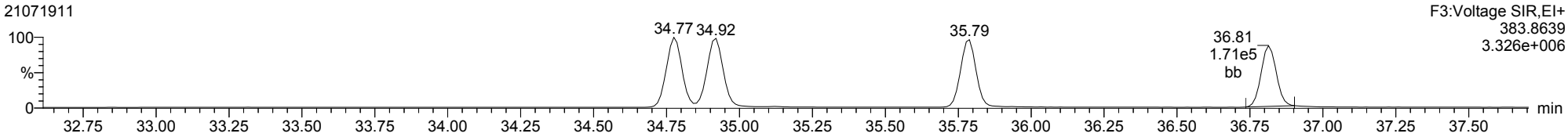

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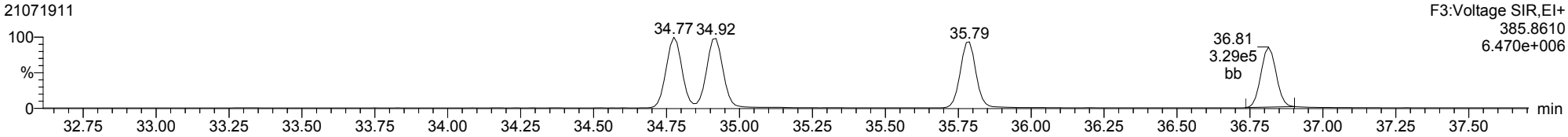

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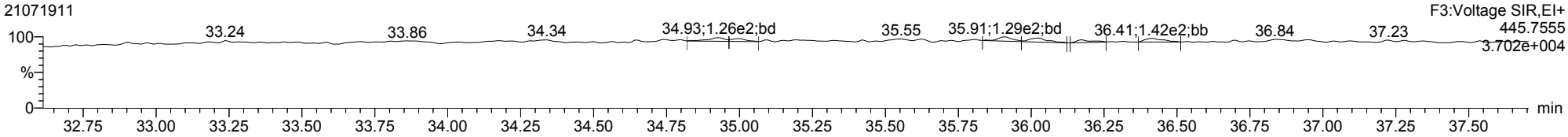

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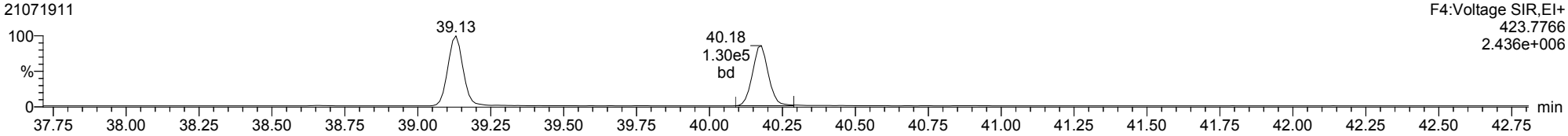

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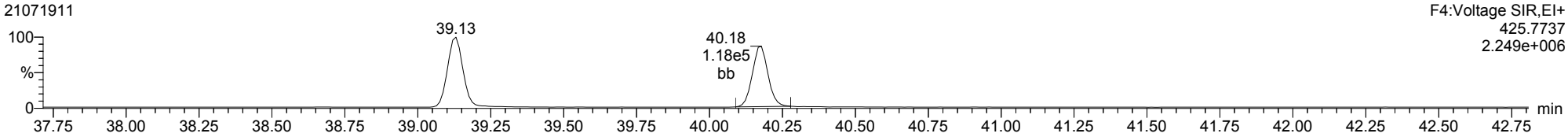

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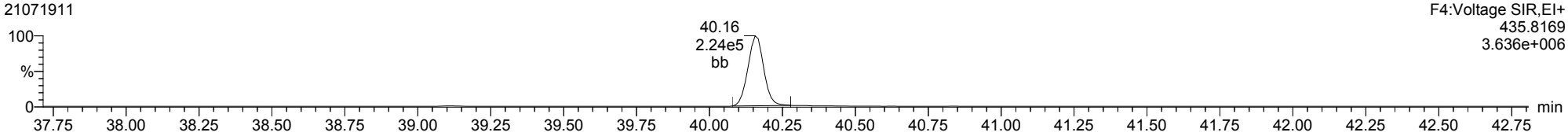

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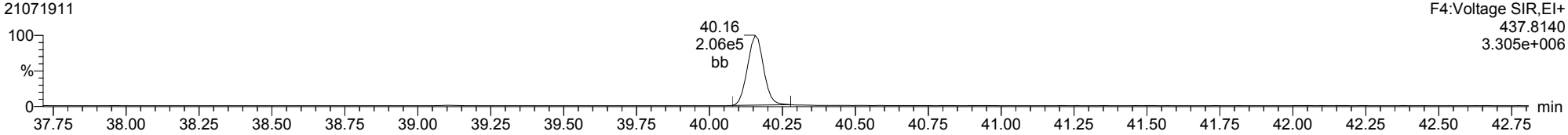

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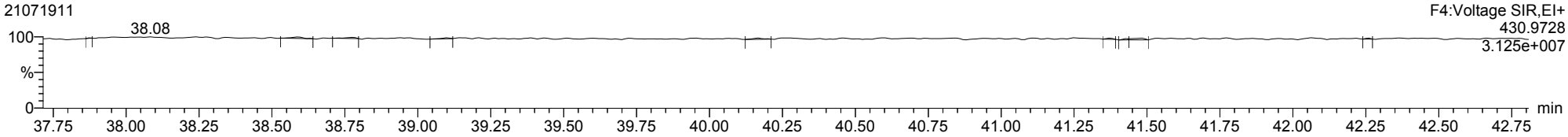

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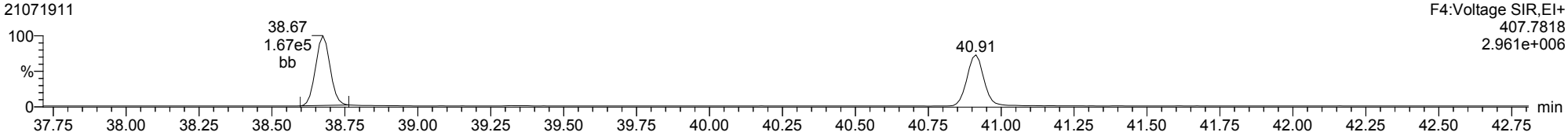

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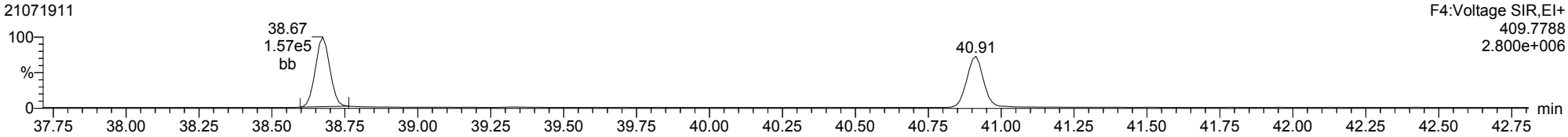

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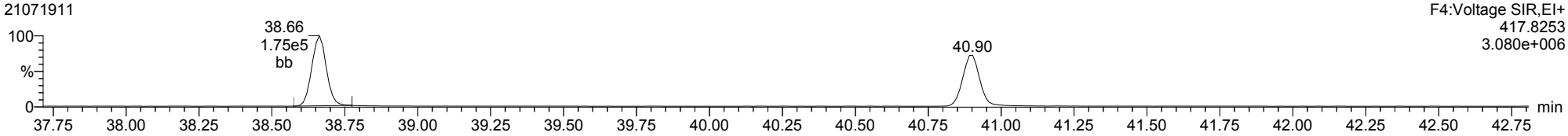

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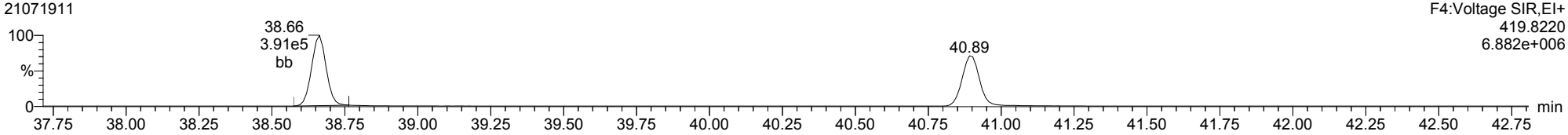

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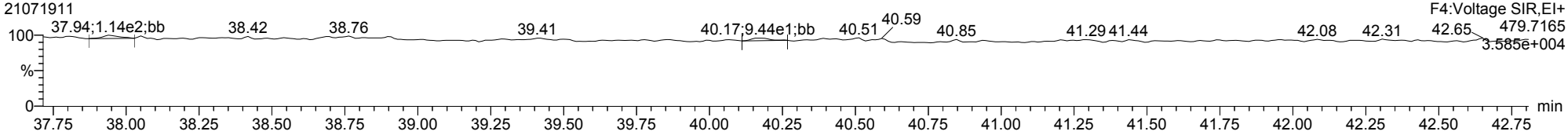

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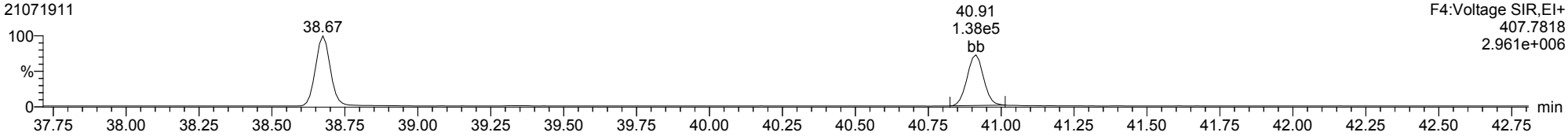

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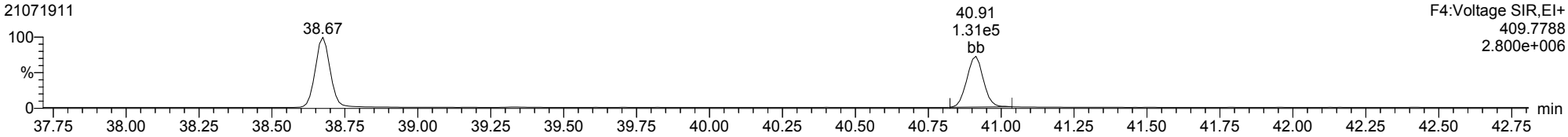

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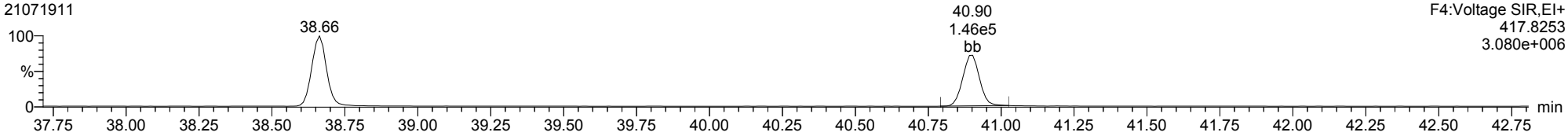

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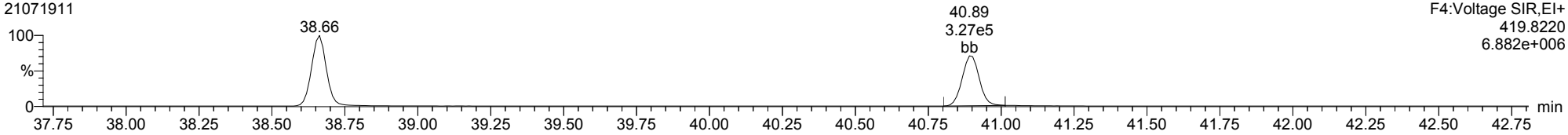

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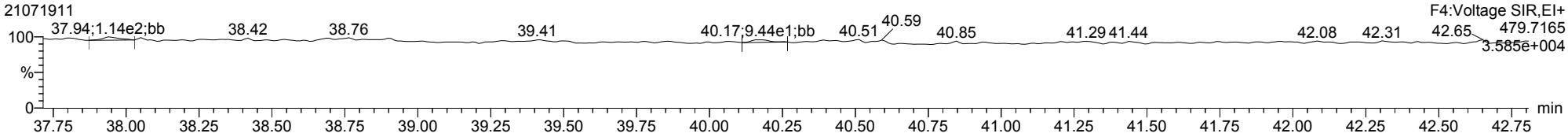

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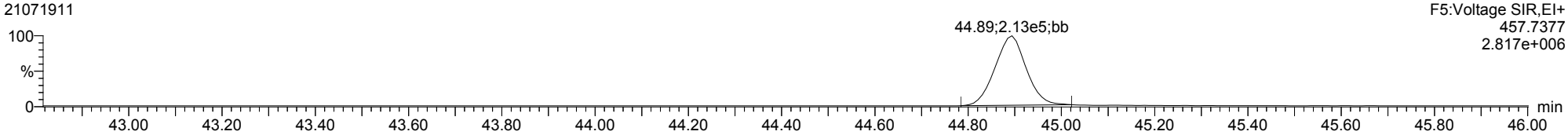

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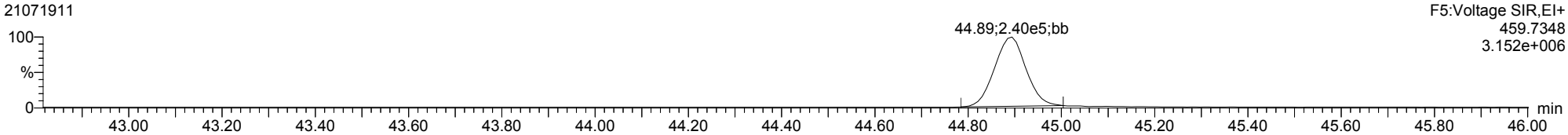

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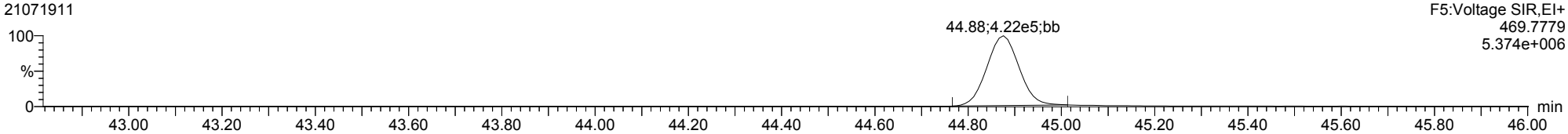

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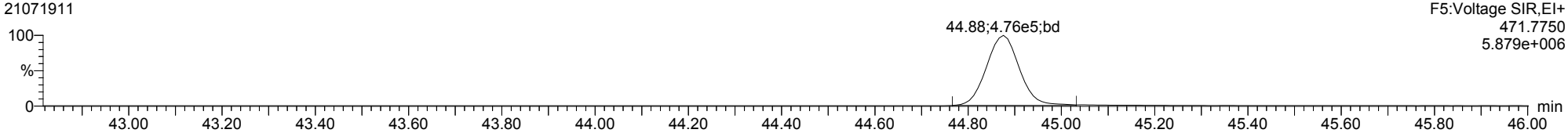
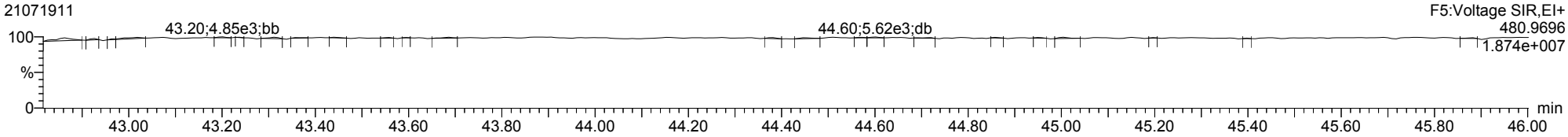


FUNCTION5 PFK



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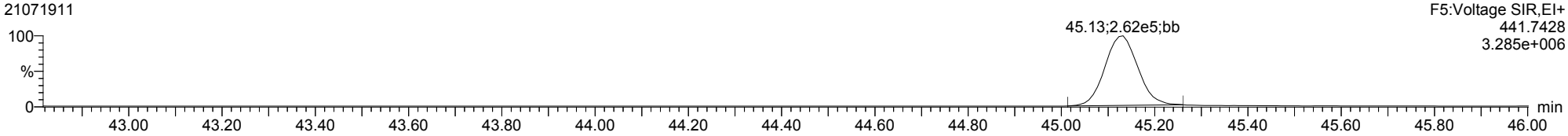

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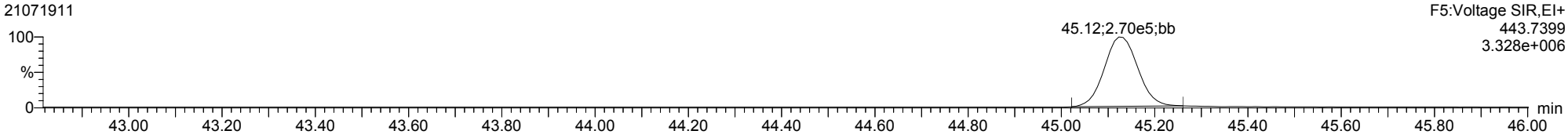
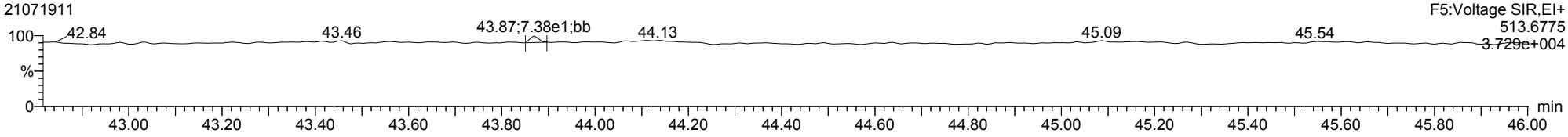


FUNCTION5 DCDPE



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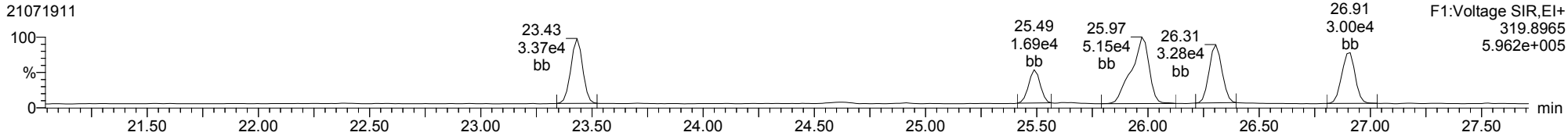
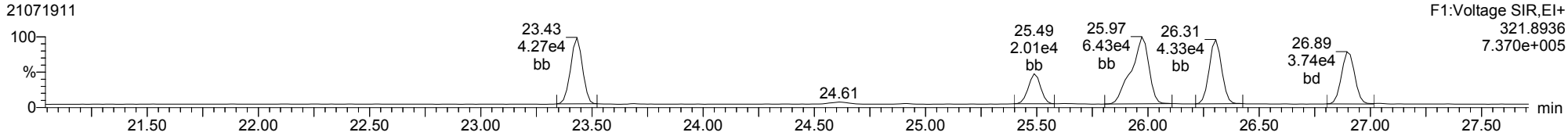
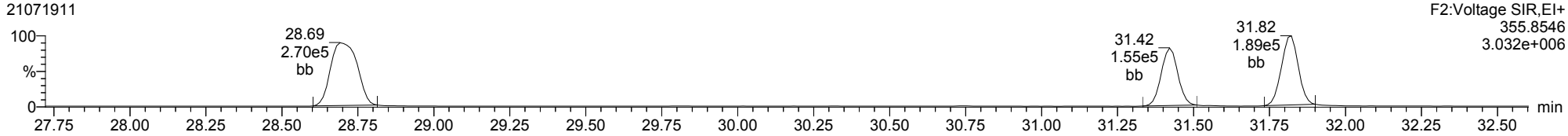


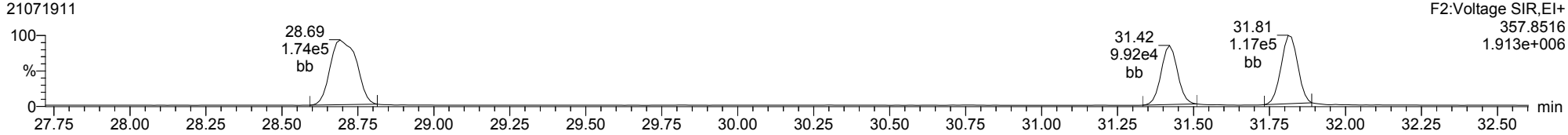
Total-tetradioxins



Total-pentadioxins



Total-pentadioxins



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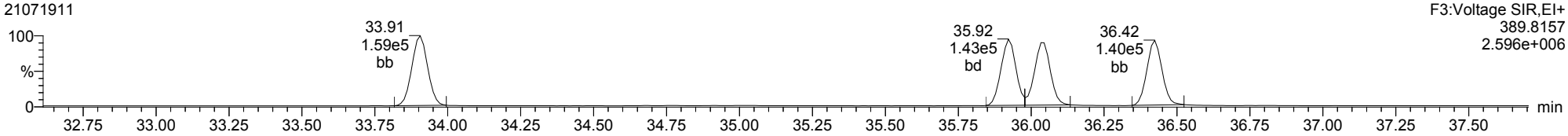
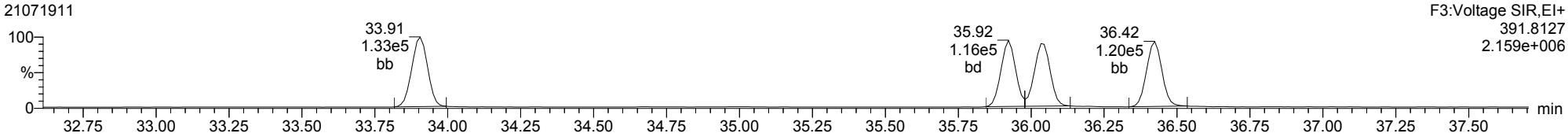
Total-hexadioxins



Total-hexadioxins



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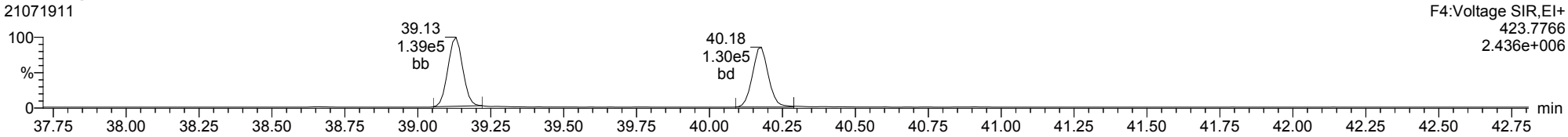

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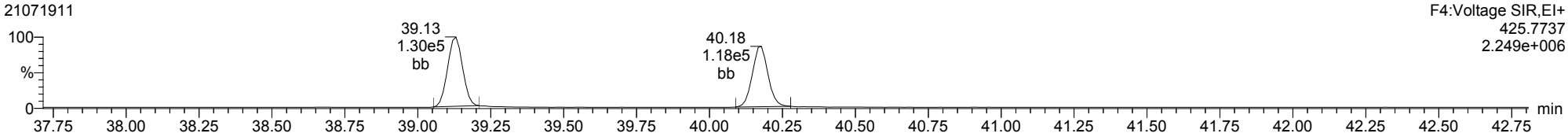

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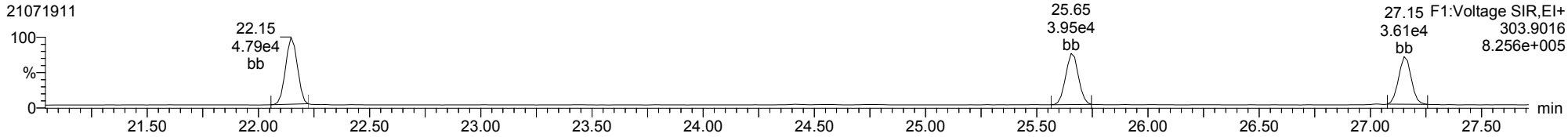
Total-tetrafurans



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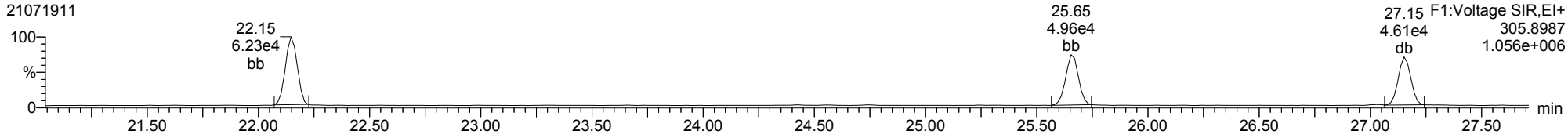

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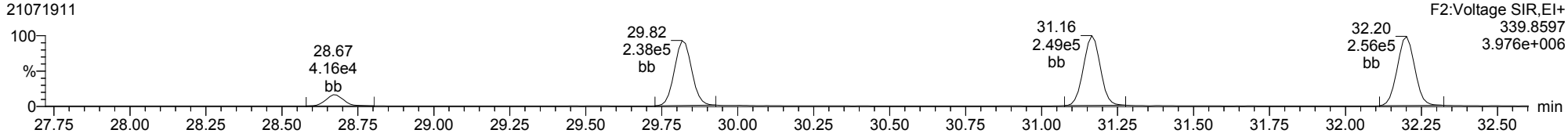

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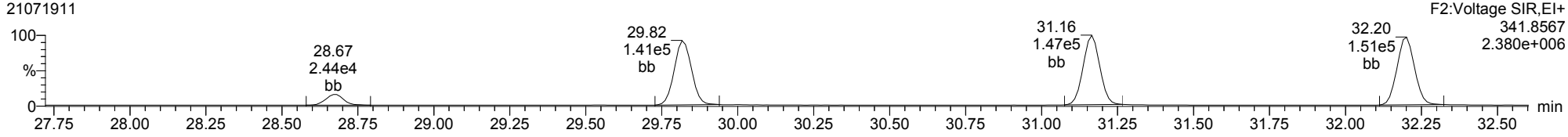

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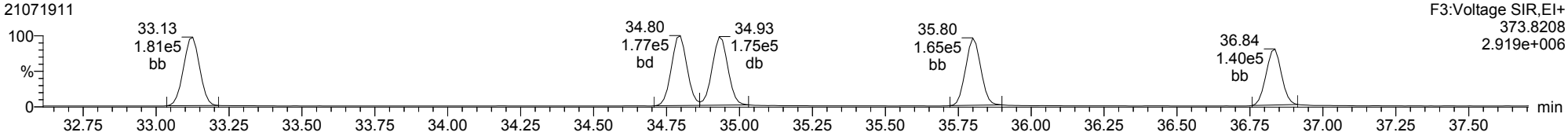
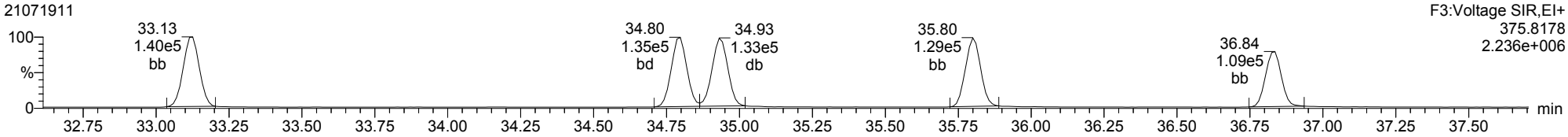
Printed: Tuesday, July 20, 2021 10:55:41 Pacific Daylight Time

ID: CS3E2, Name: 21071911, Date: 19-Jul-2021, Time: 18:37:39, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



Total-hexafurans



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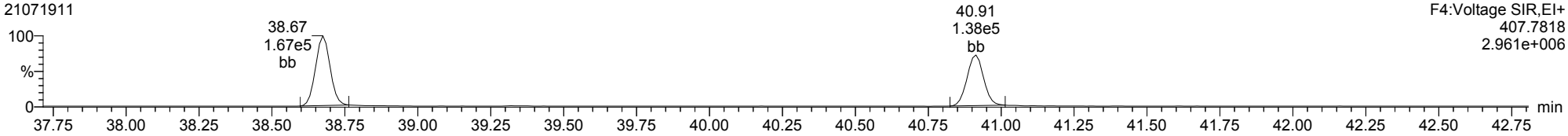

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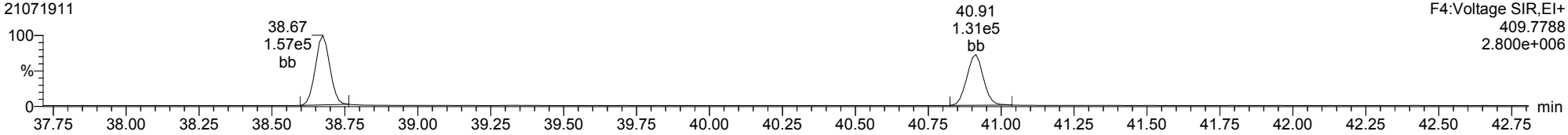

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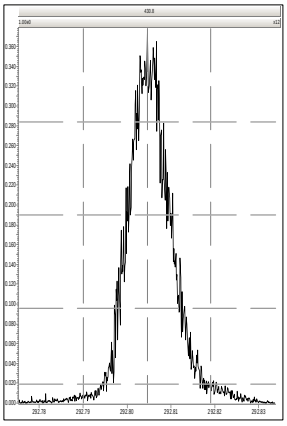
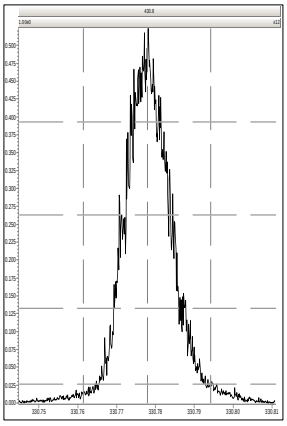
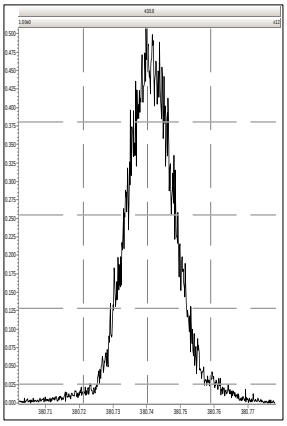


M 330.9792 R 12049



M 380.9760 R 11415



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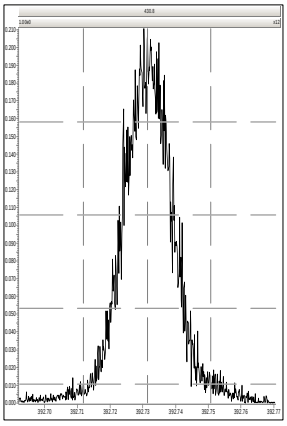
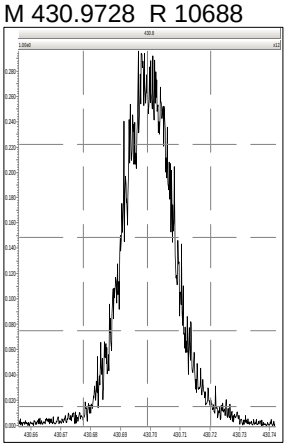


M 430.9728 R 10688



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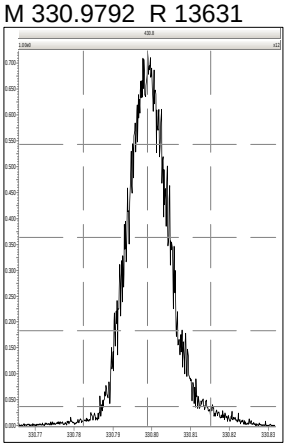

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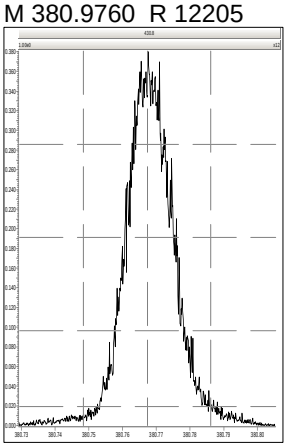

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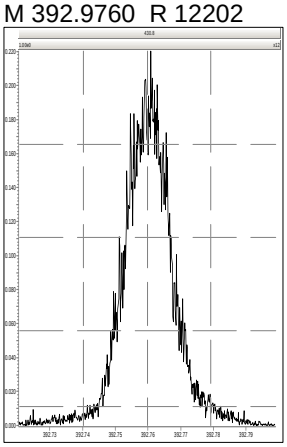

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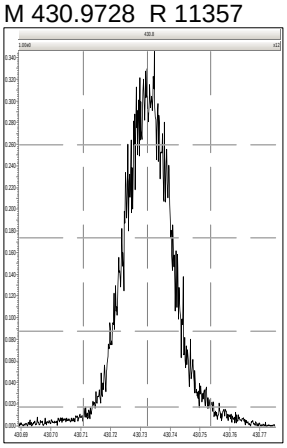
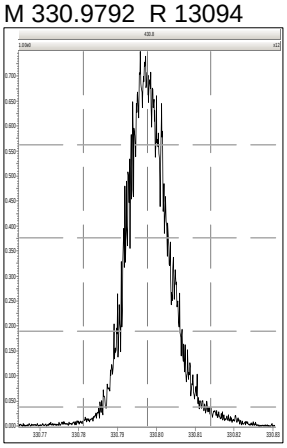


M 330.9792 R 13094



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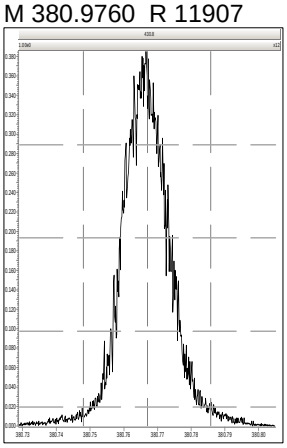

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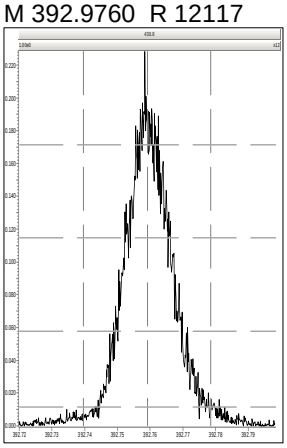

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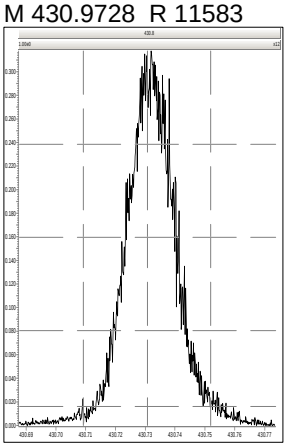

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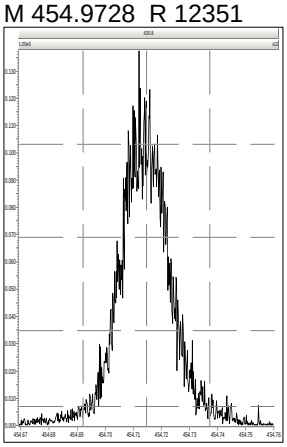
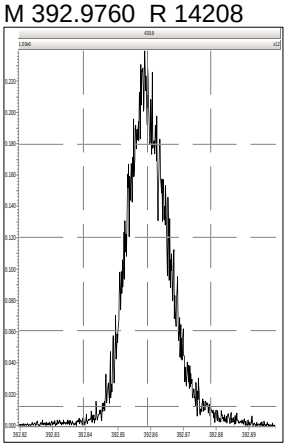


M 392.9760 R 14208



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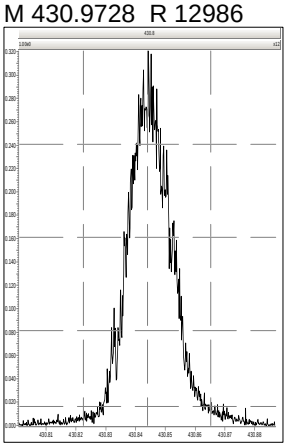

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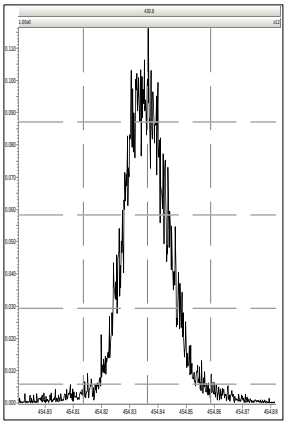
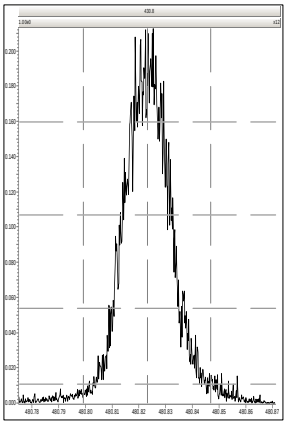
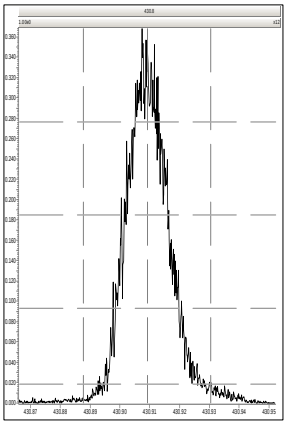
M 454.9728 R 12595



M 480.9696 R 11783



M 430.9728 R 13012



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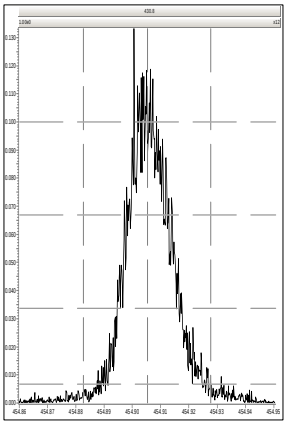

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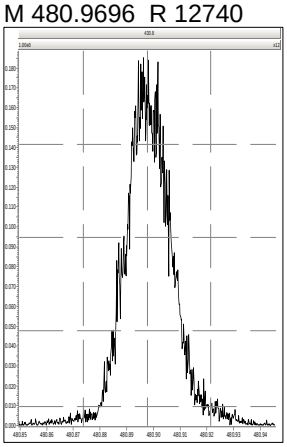

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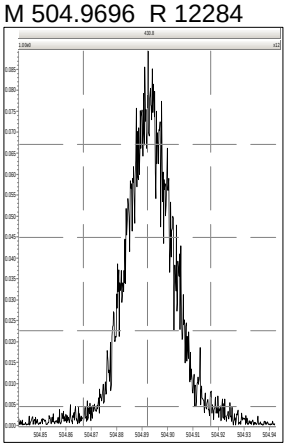

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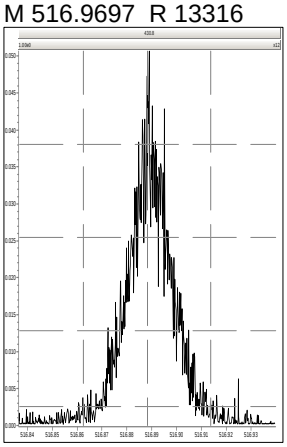
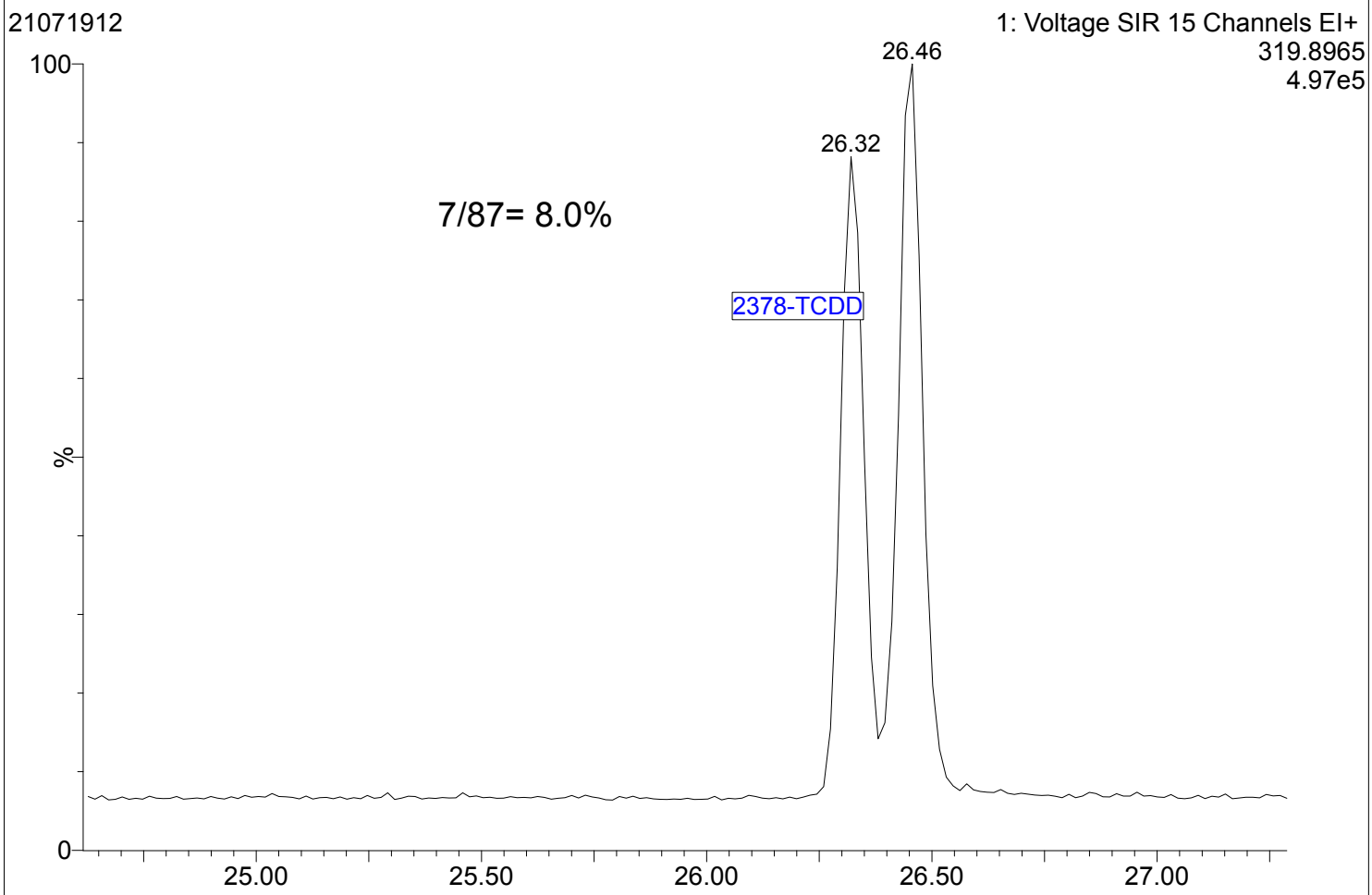
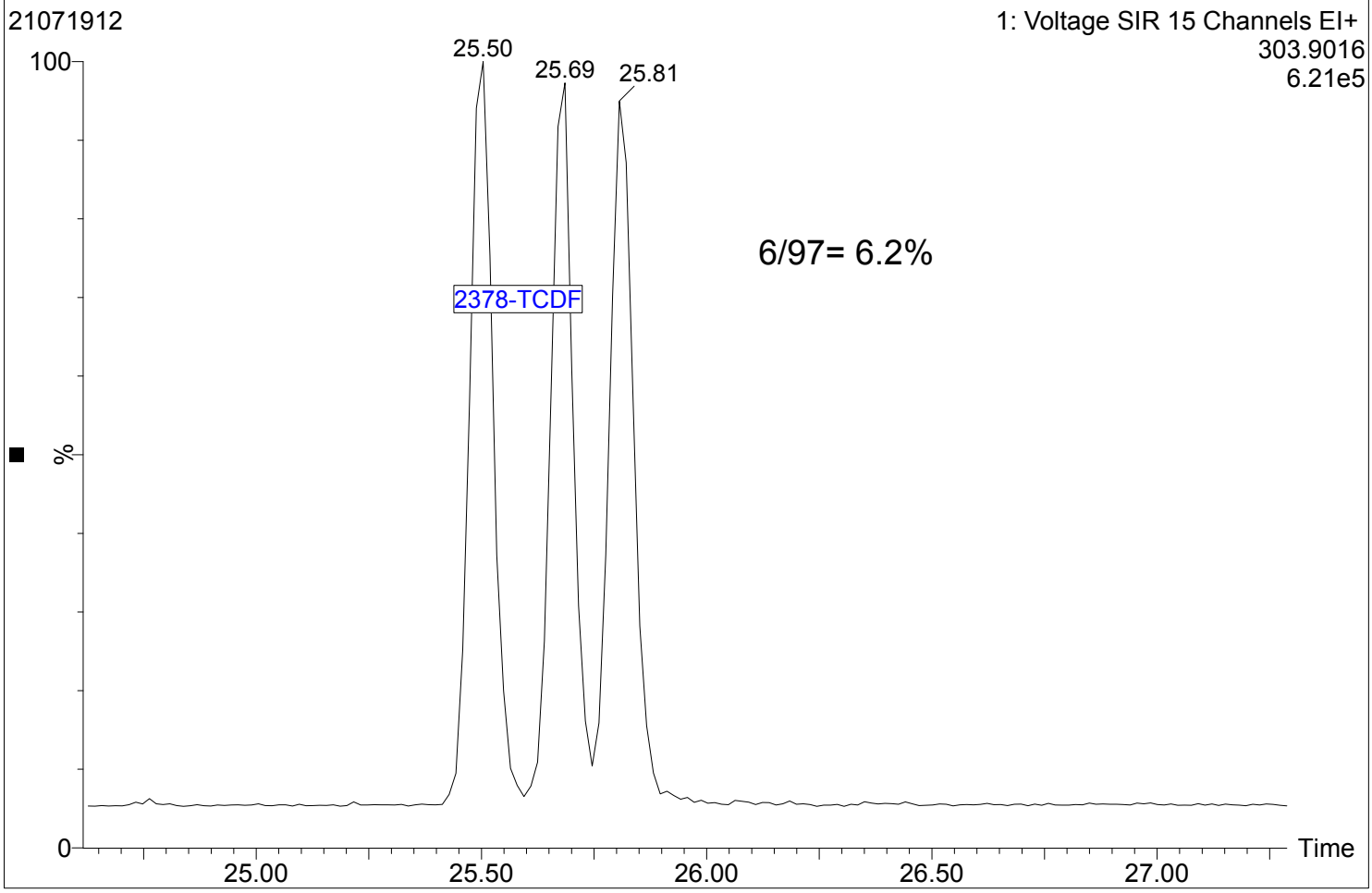



21071912
1: Voltage SIR 15 Channels EI+
319.8965
4.97e5
26.46
26.32
7/87= 8.0%
2378-TCDD
100
%
0
25.00
25.50
26.00
26.50
27.00


21071912
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6.21e5
25.50
25.69
25.81
6/97= 6.2%
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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EC00006
Lab File ID:	21071921	Calibration Date:	03/01/2021
Sequence:	SJG0248	Injection Date:	07/20/21
Lab Sample ID:	SJG0248-CCV2	Injection Time:	02:54
Sequence Name:	CS3E3		

		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	10.9	0.7815069	0.8545373		9.3	+/-16
2,3,7,8-TCDD	A	10.000	9.54	1.3074710	1.2478740		-4.6	+/-22
1,2,3,7,8-PeCDF	A	50.000	54.3	0.8661132	0.9414178		8.7	+/-18
2,3,4,7,8-PeCDF	A	50.000	53.3	0.9798329	1.0439730		6.5	+/-18
1,2,3,7,8-PeCDD	A	50.000	56.0	0.9786280	1.0955430		11.9	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	50.3	1.0022170	1.0088520		0.7	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	53.0	0.9610616	1.0183010		6.0	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	50.9	1.0430410	1.0613280		1.8	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	49.7	0.9942991	0.9876843		-0.7	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.9	0.9561583	0.9360675		-2.1	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	48.0	0.9525810	0.9150373		-3.9	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	51.0	0.9268956	0.9461702		2.1	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	52.6	1.0579720	1.1131530		5.2	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	51.3	1.0697390	1.0971800		2.6	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	52.9	1.0550420	1.1165450		5.8	+/-14
OCDF	A	100.00	93.5	1.2566960	1.1755770		-6.5	+/-37
OCDD	A	100.00	94.8	1.0738390	1.0175220		-5.2	+/-21
13C12-2,3,7,8-TCDF	A	100.00	102	1.9249160	1.9628804		2.0	+/-29
13C12-2,3,7,8-TCDD	A	100.00	101	1.1327550	1.1488325		1.4	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	103	1.4422400	1.4917293		3.4	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	102	1.3866450	1.4118059		1.8	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	93.5	0.9468647	0.8855088		-6.5	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	94.0	1.0530710	0.9901462		-6.0	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	85.9	1.1350140	0.9747225		-14.1	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	93.1	1.0040700	0.9348969		-6.9	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	93.0	0.9089439	0.8456933		-7.0	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	98.8	0.9385700	0.9277043		-1.2	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	89.8	1.0420460	0.9359789		-10.2	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	98.3	0.9598082	0.9432984		-1.7	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	100	0.7937117	0.7964065		0.3	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	92.0	0.7883415	0.7253798		-8.0	+/-28
13C12-OCDD	A	200.00	202	0.7032915	0.7091593		0.8	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.90	1.4170130	1.2844437		-1.0	

* Values outside of QC limits

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Printed: Tuesday, July 20, 2021 11:03:02 Pacific Daylight Time

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Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: CS3E3, Name: 21071921, Date: 20-Jul-2021, Time: 02:54:05, 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	25.670	1.001	3.376e4	4.116e4	0.782	0.820	0.770	925	1309	5.06e5	6.38e5	547.5	487.8	NO	bb	bb	10.934
12378-PeCDF	29.828	1.001	1.973e5	1.163e5	0.866	1.696	1.550	1659	1904	3.12e6	1.80e6	1883.8	943.9	NO	bb	bb	54.347
23478-PeCDF	31.176	1.001	2.054e5	1.237e5	0.980	1.661	1.550	1659	1904	3.19e6	1.93e6	1920.8	1012.4	NO	bb	bb	53.273
123478-HxCDF	34.797	1.000	1.459e5	1.123e5	1.002	1.299	1.240	1428	1062	2.45e6	1.87e6	1715.4	1759.0	NO	bd	bd	50.331
234678-HxCDF	35.811	1.001	1.450e5	1.115e5	1.043	1.300	1.240	1428	1062	2.40e6	1.83e6	1682.9	1724.7	NO	bb	bb	50.877
123678-HxCDF	34.942	1.001	1.443e5	1.123e5	0.961	1.285	1.240	1428	1062	2.28e6	1.78e6	1597.9	1676.2	NO	db	db	52.978
123789-HxCDF	36.836	1.000	1.220e5	9.386e4	0.994	1.300	1.240	1428	1062	2.04e6	1.60e6	1430.0	1501.6	NO	bb	bb	49.667
1234678-HpCDF	38.685	1.000	1.409e5	1.305e5	1.058	1.080	1.050	1604	2083	2.50e6	2.29e6	1555.9	1100.6	NO	bb	bb	52.608
1234789-HpCDF	40.914	1.000	1.159e5	1.100e5	1.070	1.054	1.050	1604	2083	1.81e6	1.69e6	1126.9	810.5	NO	bb	bb	51.283
OCDF	45.123	1.005	2.115e5	2.195e5	1.257	0.963	0.890	806	1377	2.64e6	2.77e6	3274.6	2015.1	NO	bb	bb	93.545
2378-TCDD	26.305	1.001	2.861e4	3.543e4	1.307	0.808	0.770	1098	825	4.36e5	5.42e5	397.4	656.9	NO	bb	bb	9.544
12378-PeCDD	31.421	1.000	1.315e5	8.518e4	0.979	1.543	1.550	1458	872	2.06e6	1.36e6	1416.6	1554.0	NO	bb	bb	55.973
123478-HxCDD	35.933	1.001	1.220e5	1.024e5	0.956	1.191	1.240	2469	1081	1.97e6	1.68e6	799.9	1555.9	NO	bd	bd	48.949
123678-HxCDD	36.045	1.000	1.201e5	1.012e5	0.953	1.187	1.240	2469	1081	2.03e6	1.70e6	820.4	1571.7	NO	db	db	48.029
123789-HxCDD	36.424	1.011	1.240e5	1.039e5	0.927	1.194	1.240	2469	1081	2.08e6	1.76e6	843.0	1630.9	NO	bb	bb	51.040
1234678-HpCDD	40.178	1.000	1.087e5	1.006e5	1.055	1.081	1.050	1715	1245	1.79e6	1.72e6	1042.4	1379.2	NO	bb	bb	52.915
OCDD	44.885	1.000	1.753e5	1.977e5	1.074	0.887	0.890	1289	920	2.23e6	2.54e6	1733.4	2764.7	NO	bb	bb	94.756
13C-2378-TCDF	25.655	1.007	3.842e5	4.926e5	1.925	0.780	0.770	1825	1703	5.66e6	7.27e6	3104.3	4269.8	NO	bb	bb	101.972
13C-12378-PeCDF	29.806	1.170	4.023e5	2.640e5	1.442	1.524	1.550	2708	1197	6.25e6	4.06e6	2308.7	3395.4	NO	bb	bb	103.431
13C-23478-PeCDF	31.154	1.223	3.803e5	2.504e5	1.387	1.519	1.550	2708	1197	5.95e6	3.94e6	2196.3	3291.2	NO	bb	bb	101.815
13C-123478-HxCDF	34.786	0.955	1.728e5	3.391e5	1.053	0.510	0.510	2184	1273	2.80e6	5.43e6	1281.7	4268.0	NO	bd	bd	94.025
13C-123678-HxCDF	34.920	0.959	1.723e5	3.316e5	1.135	0.519	0.510	2184	1273	2.75e6	5.29e6	1257.1	4158.2	NO	db	db	85.878
13C-234678-HxCDF	35.789	0.983	1.641e5	3.192e5	1.004	0.514	0.510	2184	1273	2.73e6	5.30e6	1252.0	4163.8	NO	bb	bb	93.111
13C-123789-HxCDF	36.825	1.011	1.473e5	2.899e5	0.909	0.508	0.510	2184	1273	2.47e6	4.76e6	1128.6	3738.4	NO	bb	bb	93.041
13C-1234678-HpCDF	38.674	1.062	1.527e5	3.350e5	0.960	0.456	0.440	1008	1612	2.61e6	5.84e6	2592.8	3624.0	NO	bd	bb	98.280
13C-1234789-HpCDF	40.902	1.123	1.275e5	2.843e5	0.794	0.448	0.440	1008	1612	1.94e6	4.39e6	1929.0	2721.7	NO	bb	bb	100.340
13C-1234-TCDD	25.473	0.000	1.970e5	2.496e5	1.000	0.789	0.770	1856	1065	3.11e6	3.93e6	1674.5	3688.6	NO	bb	bb	100.000
13C-2378-TCDD	26.290	1.032	2.281e5	2.851e5	1.133	0.800	0.770	1856	1065	3.57e6	4.44e6	1926.0	4168.0	NO	bb	bb	101.419
13C-12378-PeCDD	31.410	1.233	2.463e5	1.492e5	0.947	1.651	1.550	800	1027	3.87e6	2.30e6	4838.2	2236.2	NO	bb	bb	93.520
13C-123478-HxCDD	35.911	0.986	2.645e5	2.151e5	0.939	1.230	1.240	1520	861	4.48e6	3.67e6	2950.6	4266.6	NO	bd	bd	98.842
13C-123678-HxCDD	36.034	0.990	2.667e5	2.172e5	1.042	1.228	1.240	1520	861	4.42e6	3.60e6	2908.1	4184.5	NO	db	db	89.821
13C-1234678-HpCDD	40.167	1.103	1.946e5	1.804e5	0.788	1.079	1.050	2078	1701	3.16e6	2.91e6	1520.1	1713.1	NO	bb	bb	92.013
13C-OCDD	44.876	1.232	3.504e5	3.828e5	0.703	0.915	0.890	1660	1333	4.42e6	4.84e6	2665.8	3630.8	NO	bb	bb	201.669
13C-123789-HxCDD	36.412	0.000	2.872e5	2.298e5	1.000	1.250	1.240	1520	861	4.88e6	3.93e6	3213.1	4567.7	NO	bb	bb	100.000
37CL-2378-TCDD	26.305	1.033	5.737e4		1.298			1432		8.72e5		608.7			bb		9.899

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:03:02 Pacific Daylight Time

ID: CS3E3, Name: 21071921, Date: 20-Jul-2021, Time: 02:54:05, 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	22.147	0.863	4.262e4	5.348e4	0.966	0.797	0.770	925	1309	6.53e5	8.27e5	705.5	631.8	NO	bb	bb	11.352
1289-TCDF	27.167	1.059	3.114e4	3.936e4	0.736	0.791	0.770	925	1309	4.49e5	5.84e5	485.3	446.1	NO	db	db	10.928
13468-PECDF	27.016	0.906	2.332e5	1.538e5	1.347	1.516	1.550	872	1177	3.59e6	2.37e6	4119.5	2016.3	NO	bb	bb	43.126
12389-PECDF	32.201	1.080	2.069e5	1.222e5	0.867	1.693	1.550	1659	1904	3.18e6	1.92e6	1917.0	1006.5	NO	bb	bb	56.978
123468-HXCDF	33.126	0.952	1.469e5	1.143e5	1.036	1.286	1.240	1428	1062	2.35e6	1.84e6	1644.9	1733.0	NO	bb	bb	49.259
1368-TCDD	23.432	0.891	2.953e4	3.656e4	1.256	0.808	0.770	1098	825	4.43e5	5.84e5	404.0	707.6	NO	bb	bb	10.258
1289-TCDD	26.910	1.024	2.680e4	3.272e4	1.151	0.819	0.770	1098	825	3.98e5	4.82e5	362.2	584.2	NO	bd	bb	10.078
12479-PECDD	28.703	0.914	2.313e5	1.499e5	1.773	1.543	1.550	1458	872	2.25e6	1.47e6	1546.6	1686.9	NO	bb	bb	54.347
12389-PECDD	31.822	1.013	1.591e5	1.038e5	1.171	1.532	1.550	1458	872	2.47e6	1.61e6	1697.3	1849.9	NO	bb	bb	56.759
124679-HXCDD	33.906	0.944	1.313e5	1.085e5	1.034	1.210	1.240	2469	1081	2.07e6	1.70e6	839.3	1570.5	NO	bb	bb	48.388
1234679-HPCDD	39.131	0.974	1.194e5	1.116e5	1.194	1.070	1.050	1715	1245	2.04e6	1.90e6	1188.0	1526.0	NO	bb	bb	51.575
Total-tetrafurans			1.075e5		0.828			925		1.61e6							33.215
Total-penta1			2.332e5					872		3.59e6							43.126
Total-pentafurans			6.440e5		0.904			1659		1.00e7							173.761
Total-hexafurans			7.041e5		1.007			1428		1.15e7							253.112
Total-heptafurans			2.568e5		1.064			1604		4.30e6							103.890
Total-Furans			2.157e6		0.998			925		3.37e7							700.649
Total-tetradioxins			1.437e5		1.238			1098		1.96e6							50.887
Total-pentadioxins			5.223e5		1.308			1458		6.80e6							167.239
Total-hexadioxins			4.975e5		0.967			2469		8.15e6							196.407
Total-heptadioxins			2.281e5		1.125			1715		3.83e6							104.490
Total-Dioxins			1.567e6		1.141			1098		2.30e7							613.779
Total-TEQ			3.724e6					1098		5.67e7							1314.428
FUNCTION1 PFK			3.380e5					275591		7.63e6							
FUNCTION2 PFK			2.163e5					184781		6.72e6							0.000
FUNCTION3 PFK			0.000e0					227453		0.00e0							
FUNCTION4 PFK			2.927e5					199101		7.47e6							
FUNCTION5 PFK			7.824e4					165010		2.96e6							
FUNCTION1 HXCD...			6.324e2					591		1.11e4							0.000
FUNCTION1 HPCD...			2.198e3					1004		3.55e4							0.000
FUNCTION2 HPCD...			5.462e2					1034		1.26e4							0.000
FUNCTION3 OCDPE			6.746e2					560		1.44e4							0.000
FUNCTION4 NCDPE			6.091e2					768		1.26e4							0.000
FUNCTION5 DCDPE			8.491e1					693		1.75e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210719D2.qld
Last Altered: Tuesday, July 20, 2021 10:53:18 Pacific Daylight Time
Printed: Tuesday, July 20, 2021 11:03:02 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210716.mdb 16 Jul 2021 15:27:21
Calibration: T:\Autospec\Curves\210301ICIH.cdb 02 Mar 2021 12:24:22

ID: CS3E3, Name: 21071921, Date: 20-Jul-2021, Time: 02:54:05, 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	27.17	3.114e4	3.936e4	0.736	0.79	0.77	485.3	YES	NO	db	db	10.928
2	2378-TCDF	25.67	3.376e4	4.116e4	0.782	0.82	0.77	547.5	YES	NO	bb	bb	10.934
3	1368-TCDF	22.15	4.262e4	5.348e4	0.966	0.80	0.77	705.5	YES	NO	bb	bb	11.352

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	27.02	2.332e5	1.538e5	1.347	1.52	1.55	4119.5	YES	NO	bb	bb	43.126

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12378-PeCDF	29.83	1.973e5	1.163e5	0.866	1.70	1.55	1883.8	YES	NO	bb	bb	54.347
2	Total-pentafurans	28.68	3.438e4	1.934e4	0.904	1.78	1.55	332.5	YES	NO	bb	bb	9.163
3	12389-PECDF	32.20	2.069e5	1.222e5	0.867	1.69	1.55	1917.0	YES	NO	bb	bb	56.978
4	23478-PeCDF	31.18	2.054e5	1.237e5	0.980	1.66	1.55	1920.8	YES	NO	bb	bb	53.273

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.84	1.220e5	9.386e4	0.994	1.30	1.24	1430.0	YES	NO	bb	bb	49.667
2	234678-HxCDF	35.81	1.450e5	1.115e5	1.043	1.30	1.24	1682.9	YES	NO	bb	bb	50.877
3	123678-HxCDF	34.94	1.443e5	1.123e5	0.961	1.29	1.24	1597.9	YES	NO	db	db	52.978
4	123478-HxCDF	34.80	1.459e5	1.123e5	1.002	1.30	1.24	1715.4	YES	NO	bd	bd	50.331
5	123468-HXCDF	33.13	1.469e5	1.143e5	1.036	1.29	1.24	1644.9	YES	NO	bb	bb	49.259

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.91	1.159e5	1.100e5	1.070	1.05	1.05	1126.9	YES	NO	bb	bb	51.283
2	1234678-HpCDF	38.69	1.409e5	1.305e5	1.058	1.08	1.05	1555.9	YES	NO	bb	bb	52.608

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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	27.17	3.114e4	3.936e4	0.736	0.79	0.77	485.3	YES	NO	db	db	10.928
2	2378-TCDF	25.67	3.376e4	4.116e4	0.782	0.82	0.77	547.5	YES	NO	bb	bb	10.934
3	1368-TCDF	22.15	4.262e4	5.348e4	0.966	0.80	0.77	705.5	YES	NO	bb	bb	11.352
4	12378-PeCDF	29.83	1.973e5	1.163e5	0.866	1.70	1.55	1883.8	YES	NO	bb	bb	54.347
5	Total-pentafurans	28.68	3.438e4	1.934e4	0.904	1.78	1.55	332.5	YES	NO	bb	bb	9.163
6	12389-PECDF	32.20	2.069e5	1.222e5	0.867	1.69	1.55	1917.0	YES	NO	bb	bb	56.978
7	23478-PeCDF	31.18	2.054e5	1.237e5	0.980	1.66	1.55	1920.8	YES	NO	bb	bb	53.273
8	123789-HxCDF	36.84	1.220e5	9.386e4	0.994	1.30	1.24	1430.0	YES	NO	bb	bb	49.667
9	234678-HxCDF	35.81	1.450e5	1.115e5	1.043	1.30	1.24	1682.9	YES	NO	bb	bb	50.877
10	123678-HxCDF	34.94	1.443e5	1.123e5	0.961	1.29	1.24	1597.9	YES	NO	db	db	52.978
11	123478-HxCDF	34.80	1.459e5	1.123e5	1.002	1.30	1.24	1715.4	YES	NO	bd	bd	50.331
12	123468-HXCDF	33.13	1.469e5	1.143e5	1.036	1.29	1.24	1644.9	YES	NO	bb	bb	49.259
13	1234789-HpCDF	40.91	1.159e5	1.100e5	1.070	1.05	1.05	1126.9	YES	NO	bb	bb	51.283
14	1234678-HpCDF	38.69	1.409e5	1.305e5	1.058	1.08	1.05	1555.9	YES	NO	bb	bb	52.608
15	OCDF	45.12	2.115e5	2.195e5	1.257	0.96	0.89	3274.6	YES	NO	bb	bb	93.545
16	13468-PECDF	27.02	2.332e5	1.538e5	1.347	1.52	1.55	4119.5	YES	NO	bb	bb	43.126

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1368-TCDD	23.43	2.953e4	3.656e4	1.256	0.81	0.77	404.0	YES	NO	bb	bb	10.258
2	1289-TCDD	26.91	2.680e4	3.272e4	1.151	0.82	0.77	362.2	YES	NO	bd	bb	10.078
3	2378-TCDD	26.31	2.861e4	3.543e4	1.307	0.81	0.77	397.4	YES	NO	bb	bb	9.544
4	Total-tetradioxins	25.99	4.334e4	5.429e4	1.238	0.80	0.77	411.3	YES	NO	bb	bb	15.369
5	Total-tetradioxins	25.49	1.393e4	1.813e4	1.238	0.77	0.77	199.7	YES	NO	bd	bb	5.048
6	Total-tetradioxins	24.64	1.275e3	1.908e3	1.238	0.67	0.77	11.2	YES	NO	bb	bb	0.501
7	Total-tetradioxins	23.72	2.362e2	3.229e2	1.238	0.73	0.77	4.5	YES	NO	db	bb	0.088

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.82	1.591e5	1.038e5	1.171	1.53	1.55	1697.3	YES	NO	bb	bb	56.759
2	12378-PeCDD	31.42	1.315e5	8.518e4	0.979	1.54	1.55	1416.6	YES	NO	bb	bb	55.973
3	Total-pentadioxins	30.75	4.917e2	3.360e2	1.308	1.46	1.55	7.2	YES	NO	bb	bb	0.160
4	12479-PECDD	28.70	2.313e5	1.499e5	1.773	1.54	1.55	1546.6	YES	NO	bb	bb	54.347

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDD	36.42	1.240e5	1.039e5	0.927	1.19	1.24	843.0	YES	NO	bb	bb	51.040
2	123678-HxCDD	36.04	1.201e5	1.012e5	0.953	1.19	1.24	820.4	YES	NO	db	db	48.029
3	123478-HxCDD	35.93	1.220e5	1.024e5	0.956	1.19	1.24	799.9	YES	NO	bd	bd	48.949
4	124679-HXCDD	33.91	1.313e5	1.085e5	1.034	1.21	1.24	839.3	YES	NO	bb	bb	48.388

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	40.18	1.087e5	1.006e5	1.055	1.08	1.05	1042.4	YES	NO	bb	bb	52.915
2	1234679-HPCDD	39.13	1.194e5	1.116e5	1.194	1.07	1.05	1188.0	YES	NO	bb	bb	51.575

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	23.43	2.953e4	3.656e4	1.256	0.81	0.77	404.0	YES	NO	bb	bb	10.258
2	1289-TCDD	26.91	2.680e4	3.272e4	1.151	0.82	0.77	362.2	YES	NO	bd	bb	10.078
3	2378-TCDD	26.31	2.861e4	3.543e4	1.307	0.81	0.77	397.4	YES	NO	bb	bb	9.544
4	Total-tetradioxins	25.99	4.334e4	5.429e4	1.238	0.80	0.77	411.3	YES	NO	bb	bb	15.369
5	Total-tetradioxins	25.49	1.393e4	1.813e4	1.238	0.77	0.77	199.7	YES	NO	bd	bb	5.048
6	Total-tetradioxins	24.64	1.275e3	1.908e3	1.238	0.67	0.77	11.2	YES	NO	bb	bb	0.501
7	Total-tetradioxins	23.72	2.362e2	3.229e2	1.238	0.73	0.77	4.5	YES	NO	db	bb	0.088
8	12389-PECDD	31.82	1.591e5	1.038e5	1.171	1.53	1.55	1697.3	YES	NO	bb	bb	56.759
9	12378-PeCDD	31.42	1.315e5	8.518e4	0.979	1.54	1.55	1416.6	YES	NO	bb	bb	55.973
10	Total-pentadioxins	30.75	4.917e2	3.360e2	1.308	1.46	1.55	7.2	YES	NO	bb	bb	0.160
11	12479-PECDD	28.70	2.313e5	1.499e5	1.773	1.54	1.55	1546.6	YES	NO	bb	bb	54.347
12	123789-HxCDD	36.42	1.240e5	1.039e5	0.927	1.19	1.24	843.0	YES	NO	bb	bb	51.040
13	123678-HxCDD	36.04	1.201e5	1.012e5	0.953	1.19	1.24	820.4	YES	NO	db	db	48.029
14	123478-HxCDD	35.93	1.220e5	1.024e5	0.956	1.19	1.24	799.9	YES	NO	bd	bd	48.949
15	124679-HXCDD	33.91	1.313e5	1.085e5	1.034	1.21	1.24	839.3	YES	NO	bb	bb	48.388
16	1234678-HpCDD	40.18	1.087e5	1.006e5	1.055	1.08	1.05	1042.4	YES	NO	bb	bb	52.915
17	1234679-HPCDD	39.13	1.194e5	1.116e5	1.194	1.07	1.05	1188.0	YES	NO	bb	bb	51.575
18	OCDD	44.88	1.753e5	1.977e5	1.074	0.89	0.89	1733.4	YES	NO	bb	bb	94.756

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	27.17	3.114e4	3.936e4	0.736	0.79	0.77	485.3	YES	NO	db	db	10.928
2	2378-TCDF	25.67	3.376e4	4.116e4	0.782	0.82	0.77	547.5	YES	NO	bb	bb	10.934
3	1368-TCDF	22.15	4.262e4	5.348e4	0.966	0.80	0.77	705.5	YES	NO	bb	bb	11.352
4	12378-PeCDF	29.83	1.973e5	1.163e5	0.866	1.70	1.55	1883.8	YES	NO	bb	bb	54.347
5	Total-pentafurans	28.68	3.438e4	1.934e4	0.904	1.78	1.55	332.5	YES	NO	bb	bb	9.163
6	12389-PECDF	32.20	2.069e5	1.222e5	0.867	1.69	1.55	1917.0	YES	NO	bb	bb	56.978
7	23478-PeCDF	31.18	2.054e5	1.237e5	0.980	1.66	1.55	1920.8	YES	NO	bb	bb	53.273
8	123789-HxCDF	36.84	1.220e5	9.386e4	0.994	1.30	1.24	1430.0	YES	NO	bb	bb	49.667
9	234678-HxCDF	35.81	1.450e5	1.115e5	1.043	1.30	1.24	1682.9	YES	NO	bb	bb	50.877
10	123678-HxCDF	34.94	1.443e5	1.123e5	0.961	1.29	1.24	1597.9	YES	NO	db	db	52.978
11	123478-HxCDF	34.80	1.459e5	1.123e5	1.002	1.30	1.24	1715.4	YES	NO	bd	bd	50.331
12	123468-HXCDF	33.13	1.469e5	1.143e5	1.036	1.29	1.24	1644.9	YES	NO	bb	bb	49.259
13	1234789-HpCDF	40.91	1.159e5	1.100e5	1.070	1.05	1.05	1126.9	YES	NO	bb	bb	51.283
14	1234678-HpCDF	38.69	1.409e5	1.305e5	1.058	1.08	1.05	1555.9	YES	NO	bb	bb	52.608
15	OCDF	45.12	2.115e5	2.195e5	1.257	0.96	0.89	3274.6	YES	NO	bb	bb	93.545
16	13468-PECDF	27.02	2.332e5	1.538e5	1.347	1.52	1.55	4119.5	YES	NO	bb	bb	43.126
17	1368-TCDD	23.43	2.953e4	3.656e4	1.256	0.81	0.77	404.0	YES	NO	bb	bb	10.258
18	1289-TCDD	26.91	2.680e4	3.272e4	1.151	0.82	0.77	362.2	YES	NO	bd	bb	10.078
19	2378-TCDD	26.31	2.861e4	3.543e4	1.307	0.81	0.77	397.4	YES	NO	bb	bb	9.544
20	Total-tetradioxins	25.99	4.334e4	5.429e4	1.238	0.80	0.77	411.3	YES	NO	bb	bb	15.369
21	Total-tetradioxins	25.49	1.393e4	1.813e4	1.238	0.77	0.77	199.7	YES	NO	bd	bb	5.048
22	Total-tetradioxins	24.64	1.275e3	1.908e3	1.238	0.67	0.77	11.2	YES	NO	bb	bb	0.501
23	Total-tetradioxins	23.72	2.362e2	3.229e2	1.238	0.73	0.77	4.5	YES	NO	db	bb	0.088
24	12389-PECDD	31.82	1.591e5	1.038e5	1.171	1.53	1.55	1697.3	YES	NO	bb	bb	56.759
25	12378-PeCDD	31.42	1.315e5	8.518e4	0.979	1.54	1.55	1416.6	YES	NO	bb	bb	55.973
26	Total-pentadioxins	30.75	4.917e2	3.360e2	1.308	1.46	1.55	7.2	YES	NO	bb	bb	0.160
27	12479-PECDD	28.70	2.313e5	1.499e5	1.773	1.54	1.55	1546.6	YES	NO	bb	bb	54.347
28	123789-HxCDD	36.42	1.240e5	1.039e5	0.927	1.19	1.24	843.0	YES	NO	bb	bb	51.040
29	123678-HxCDD	36.04	1.201e5	1.012e5	0.953	1.19	1.24	820.4	YES	NO	db	db	48.029
30	123478-HxCDD	35.93	1.220e5	1.024e5	0.956	1.19	1.24	799.9	YES	NO	bd	bd	48.949
31	124679-HXCDD	33.91	1.313e5	1.085e5	1.034	1.21	1.24	839.3	YES	NO	bb	bb	48.388
32	1234678-HpCDD	40.18	1.087e5	1.006e5	1.055	1.08	1.05	1042.4	YES	NO	bb	bb	52.915
33	1234679-HPCDD	39.13	1.194e5	1.116e5	1.194	1.07	1.05	1188.0	YES	NO	bb	bb	51.575
34	OCDD	44.88	1.753e5	1.977e5	1.074	0.89	0.89	1733.4	YES	NO	bb	bb	94.756

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	24.57	2.346e4					1.5	NO		bd		
2	FUNCTION1 PFK	23.93	2.601e3					0.6	NO		bb		
3	FUNCTION1 PFK	23.86	8.651e3					1.2	NO		bb		
4	FUNCTION1 PFK	23.81	7.416e3					0.9	NO		db		
5	FUNCTION1 PFK	23.75	1.424e4					1.5	NO		bd		
6	FUNCTION1 PFK	23.22	1.818e4					0.9	NO		bb		
7	FUNCTION1 PFK	22.98	2.753e4					1.9	NO		db		
8	FUNCTION1 PFK	22.90	1.886e4					1.6	NO		dd		
9	FUNCTION1 PFK	22.84	1.541e4					1.5	NO		bd		
10	FUNCTION1 PFK	21.56	2.787e3					0.7	NO		bb		
11	FUNCTION1 PFK	21.42	3.404e4					2.2	NO		db		
12	FUNCTION1 PFK	21.38	2.896e4					2.4	NO		dd		
13	FUNCTION1 PFK	21.29	8.202e3					1.4	NO		bd		
14	FUNCTION1 PFK	21.13	2.644e4					1.5	NO		bb		
15	FUNCTION1 PFK	27.27	1.750e4					1.1	NO		bb		
16	FUNCTION1 PFK	27.15	4.986e3					0.9	NO		bb		
17	FUNCTION1 PFK	27.09	6.706e3					0.8	NO		bb		
18	FUNCTION1 PFK	25.40	1.615e4					1.7	NO		bb		
19	FUNCTION1 PFK	25.26	3.837e4					1.8	NO		bb		
20	FUNCTION1 PFK	24.66	1.748e4					1.5	NO		db		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	28.89	5.614e3					0.9	NO		bb		0.000
2	FUNCTION2 PFK	28.73	1.388e4					2.0	NO		bb		0.000
3	FUNCTION2 PFK	28.44	5.032e3					0.5	NO		bb		0.000
4	FUNCTION2 PFK	28.36	1.978e3					0.4	NO		bb		0.000
5	FUNCTION2 PFK	28.31	2.559e3					0.8	NO		bb		0.000
6	FUNCTION2 PFK	28.18	5.519e3					0.9	NO		bb		0.000
7	FUNCTION2 PFK	28.12	4.770e3					0.9	NO		bb		0.000
8	FUNCTION2 PFK	27.98	7.530e3					1.4	NO		db		0.000
9	FUNCTION2 PFK	27.90	7.195e3					1.1	NO		bd		0.000
10	FUNCTION2 PFK	30.83	3.656e3					0.5	NO		bb		0.000
11	FUNCTION2 PFK	30.69	5.765e3					1.2	NO		bb		0.000
12	FUNCTION2 PFK	30.63	2.656e3					0.7	NO		bb		0.000
13	FUNCTION2 PFK	30.59	6.774e3					1.1	NO		bb		0.000
14	FUNCTION2 PFK	30.52	4.814e3					1.1	NO		bb		0.000
15	FUNCTION2 PFK	30.41	6.233e3					1.1	NO		bb		0.000
16	FUNCTION2 PFK	30.01	8.876e3					1.2	NO		db		0.000
17	FUNCTION2 PFK	29.96	4.338e3					1.0	NO		bd		0.000
18	FUNCTION2 PFK	29.85	7.115e2					0.3	NO		bb		0.000
19	FUNCTION2 PFK	29.78	4.390e3					0.6	NO		db		0.000
20	FUNCTION2 PFK	29.69	1.772e3					0.5	NO		bd		0.000
21	FUNCTION2 PFK	29.58	2.275e3					0.6	NO		bb		0.000
22	FUNCTION2 PFK	29.33	5.634e3					1.3	NO		bb		0.000
23	FUNCTION2 PFK	29.14	6.824e3					1.1	NO		bb		0.000
24	FUNCTION2 PFK	29.04	2.061e3					0.6	NO		bb		0.000
25	FUNCTION2 PFK	28.96	7.366e2					0.4	NO		bb		0.000
26	FUNCTION2 PFK	32.55	3.934e3					1.0	NO		db		0.000
27	FUNCTION2 PFK	32.51	4.555e3					1.0	NO		bd		0.000
28	FUNCTION2 PFK	32.47	8.274e2					0.4	NO		bb		0.000
29	FUNCTION2 PFK	32.32	1.597e4					1.9	NO		bb		0.000
30	FUNCTION2 PFK	32.28	4.063e3					0.6	NO		bb		0.000
31	FUNCTION2 PFK	32.12	9.018e3					1.3	NO		db		0.000
32	FUNCTION2 PFK	32.05	6.470e3					0.7	NO		bd		0.000
33	FUNCTION2 PFK	31.98	3.116e3					0.5	NO		bb		0.000
34	FUNCTION2 PFK	31.93	3.140e3					0.9	NO		bb		0.000
35	FUNCTION2 PFK	31.79	1.086e4					1.4	NO		db		0.000
36	FUNCTION2 PFK	31.73	6.918e3					1.2	NO		dd		0.000
37	FUNCTION2 PFK	31.70	2.675e3					0.8	NO		dd		0.000

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION2 PFK	31.66	1.610e4					1.5	NO		bd		0.000
39	FUNCTION2 PFK	31.16	7.070e3					0.9	NO		bb		0.000

PFK3

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

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	39.39	1.368e4					1.9	NO		dd		
2	FUNCTION4 PFK	39.33	1.623e4					2.0	NO		dd		
3	FUNCTION4 PFK	39.26	1.804e4					1.7	NO		dd		
4	FUNCTION4 PFK	39.20	2.156e4					2.2	NO		bd		
5	FUNCTION4 PFK	39.10	8.945e3					1.3	NO		bb		
6	FUNCTION4 PFK	39.01	6.209e3					0.6	NO		bb		
7	FUNCTION4 PFK	38.92	2.737e3					0.7	NO		bb		
8	FUNCTION4 PFK	38.85	7.638e3					1.3	NO		bb		
9	FUNCTION4 PFK	38.53	4.601e3					0.7	NO		bb		
10	FUNCTION4 PFK	38.40	7.027e3					1.3	NO		bb		
11	FUNCTION4 PFK	38.23	8.997e3					1.5	NO		bb		
12	FUNCTION4 PFK	38.11	1.216e3					0.5	NO		bb		
13	FUNCTION4 PFK	38.04	6.119e3					1.1	NO		db		
14	FUNCTION4 PFK	37.97	4.683e3					0.9	NO		bd		
15	FUNCTION4 PFK	37.93	2.456e3					0.4	NO		bb		
16	FUNCTION4 PFK	37.81	1.413e4					1.7	NO		bb		
17	FUNCTION4 PFK	42.48	7.090e3					1.2	NO		bb		
18	FUNCTION4 PFK	42.27	4.469e3					1.0	NO		bb		
19	FUNCTION4 PFK	42.13	5.162e3					1.0	NO		bb		
20	FUNCTION4 PFK	41.62	8.259e3					1.1	NO		bb		
21	FUNCTION4 PFK	41.50	3.640e3					0.9	NO		bb		
22	FUNCTION4 PFK	41.37	1.032e4					1.0	NO		bb		
23	FUNCTION4 PFK	41.23	2.228e4					2.1	NO		bb		
24	FUNCTION4 PFK	41.14	4.429e4					2.3	NO		db		
25	FUNCTION4 PFK	40.97	3.694e3					0.8	NO		bd		
26	FUNCTION4 PFK	40.56	4.748e3					1.1	NO		bb		
27	FUNCTION4 PFK	40.40	4.687e3					0.8	NO		bb		
28	FUNCTION4 PFK	40.26	4.939e3					1.1	NO		bb		
29	FUNCTION4 PFK	39.63	9.114e2					0.4	NO		bb		
30	FUNCTION4 PFK	39.50	8.708e3					1.3	NO		db		
31	FUNCTION4 PFK	39.44	1.524e4					1.8	NO		dd		

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PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.28	2.021e3					0.7	NO		bd		
2	FUNCTION5 PFK	45.08	3.745e3					1.1	NO		bb		
3	FUNCTION5 PFK	45.02	4.676e3					1.4	NO		bb		
4	FUNCTION5 PFK	44.65	4.657e3					1.0	NO		db		
5	FUNCTION5 PFK	44.56	1.094e4					1.5	NO		bd		
6	FUNCTION5 PFK	44.36	2.777e3					0.8	NO		bb		
7	FUNCTION5 PFK	44.15	1.715e3					0.5	NO		bb		
8	FUNCTION5 PFK	44.02	2.998e3					0.8	NO		bb		
9	FUNCTION5 PFK	43.91	3.010e3					1.0	NO		bb		
10	FUNCTION5 PFK	43.77	6.147e3					1.0	NO		bb		
11	FUNCTION5 PFK	43.53	5.582e3					0.9	NO		bb		
12	FUNCTION5 PFK	43.36	1.068e3					0.5	NO		bb		
13	FUNCTION5 PFK	43.26	3.472e3					0.9	NO		db		
14	FUNCTION5 PFK	43.17	8.573e3					1.4	NO		bd		
15	FUNCTION5 PFK	42.98	2.933e3					0.9	NO		bb		
16	FUNCTION5 PFK	42.86	9.416e2					0.5	NO		bb		
17	FUNCTION5 PFK	45.82	1.268e3					0.5	NO		bb		
18	FUNCTION5 PFK	45.78	3.387e3					1.0	NO		bb		
19	FUNCTION5 PFK	45.55	7.501e3					1.0	NO		bb		
20	FUNCTION5 PFK	45.31	8.228e2					0.4	NO		db		

ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	25.05	1.546e2					3.6	YES		bb		0.000
2	FUNCTION1 HXCD...	24.29	1.348e2					3.2	YES		bb		0.000
3	FUNCTION1 HXCD...	23.86	1.003e2					2.7	NO		bb		0.000
4	FUNCTION1 HXCD...	23.67	7.056e1					3.4	YES		bb		0.000
5	FUNCTION1 HXCD...	22.12	9.366e1					3.2	YES		bb		0.000
6	FUNCTION1 HXCD...	21.71	7.860e1					2.6	NO		bb		0.000

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ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	23.37	1.489e2					3.8	YES		bb		0.000
2	FUNCTION1 HPCD...	21.41	9.163e1					1.2	NO		db		0.000
3	FUNCTION1 HPCD...	21.22	2.328e2					2.0	NO		dd		0.000
4	FUNCTION1 HPCD...	21.10	1.742e2					2.4	NO		bd		0.000
5	FUNCTION1 HPCD...	27.02	1.278e2					2.5	NO		db		0.000
6	FUNCTION1 HPCD...	26.92	1.640e2					3.0	YES		bd		0.000
7	FUNCTION1 HPCD...	26.18	1.003e2					1.4	NO		bb		0.000
8	FUNCTION1 HPCD...	25.07	7.731e1					1.3	NO		bb		0.000
9	FUNCTION1 HPCD...	24.72	2.272e2					2.4	NO		db		0.000
10	FUNCTION1 HPCD...	24.57	1.126e2					1.8	NO		dd		0.000
11	FUNCTION1 HPCD...	24.51	1.388e2					2.3	NO		dd		0.000
12	FUNCTION1 HPCD...	24.40	1.663e2					2.4	NO		dd		0.000
13	FUNCTION1 HPCD...	24.35	7.169e1					2.0	NO		dd		0.000
14	FUNCTION1 HPCD...	24.29	7.587e1					1.9	NO		bd		0.000
15	FUNCTION1 HPCD...	23.87	1.669e2					3.1	YES		bb		0.000
16	FUNCTION1 HPCD...	23.70	1.219e2					1.9	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...	29.89	7.347e1					1.3	NO		bb		0.000
2	FUNCTION2 HPCD...	29.40	1.059e2					4.2	YES		bb		0.000
3	FUNCTION2 HPCD...	27.97	8.682e1					1.5	NO		bb		0.000
4	FUNCTION2 HPCD...	31.48	9.262e1					1.7	NO		bb		0.000
5	FUNCTION2 HPCD...	31.04	1.873e2					3.5	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	37.05	1.500e2					6.3	YES		bb		0.000
2	FUNCTION3 OCDPE	36.82	7.376e1					3.4	YES		bb		0.000
3	FUNCTION3 OCDPE	36.60	7.328e1					3.9	YES		bb		0.000
4	FUNCTION3 OCDPE	36.43	2.098e2					6.7	YES		bb		0.000
5	FUNCTION3 OCDPE	35.44	7.547e1					2.8	NO		bb		0.000
6	FUNCTION3 OCDPE	33.97	9.235e1					2.6	NO		bb		0.000

ID: CS3E3, Name: 21071921, Date: 20-Jul-2021, Time: 02:54:05, 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	40.96	7.703e1					1.8	NO		db		0.000
2	FUNCTION4 NCDPE	40.78	1.394e2					2.0	NO		bd		0.000
3	FUNCTION4 NCDPE	39.43	1.272e2					2.9	NO		bb		0.000
4	FUNCTION4 NCDPE	38.65	7.567e1					3.6	YES		bb		0.000
5	FUNCTION4 NCDPE	38.27	9.916e1					2.3	NO		bb		0.000
6	FUNCTION4 NCDPE	37.79	9.062e1					3.7	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	44.25	8.491e1					2.5	NO		bb		0.000

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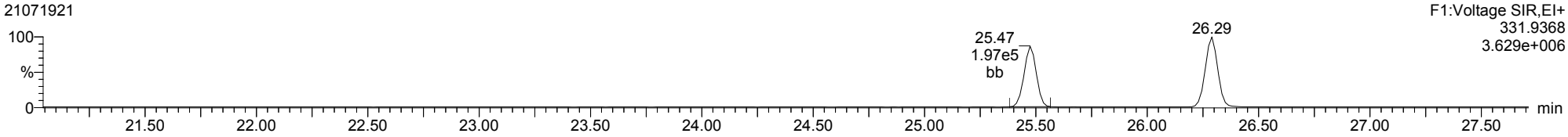
ID: CS3E3, Name: 21071921, Date: 20-Jul-2021, Time: 02:54:05, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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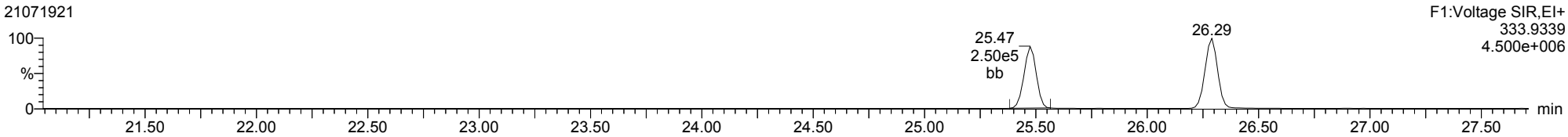
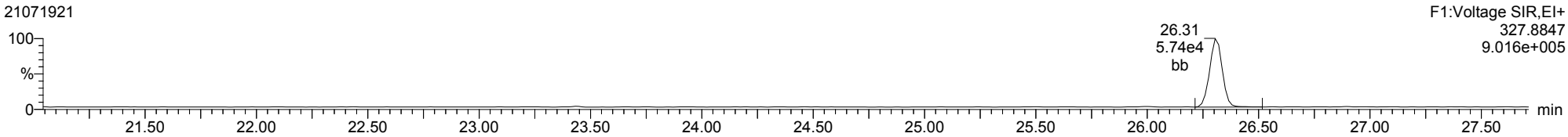


37CL-2378-TCDD



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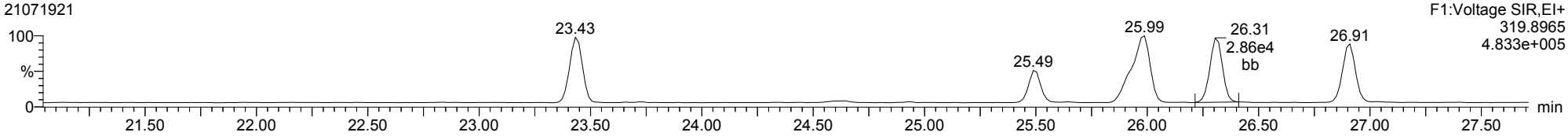

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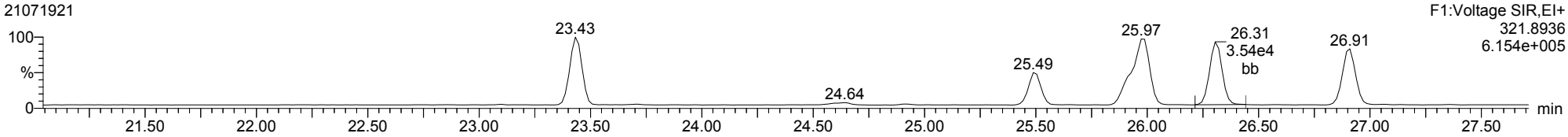

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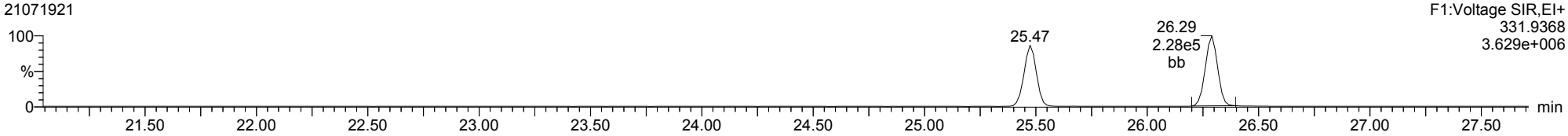

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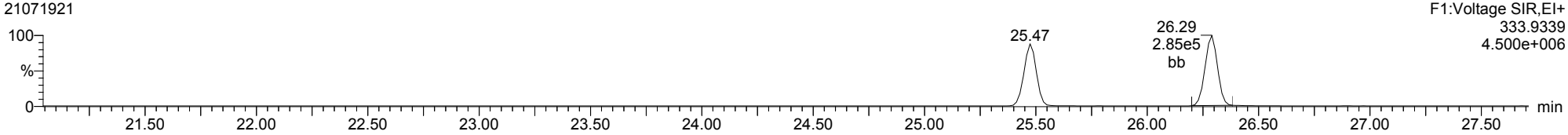

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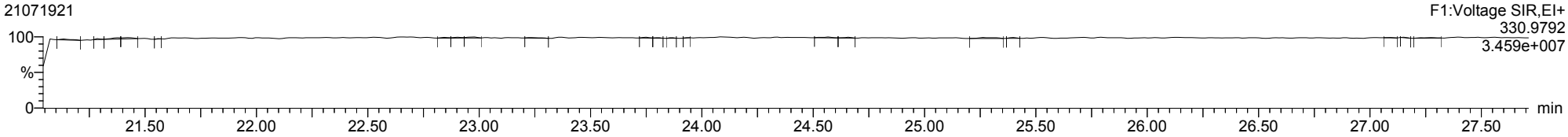

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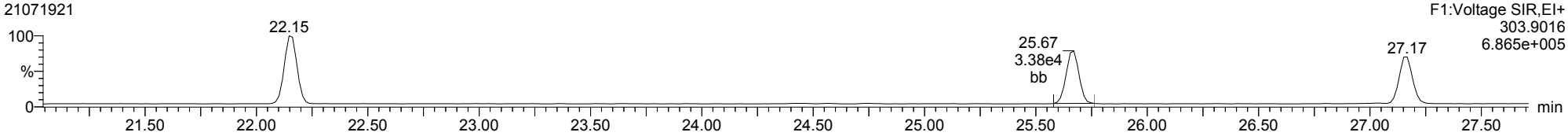

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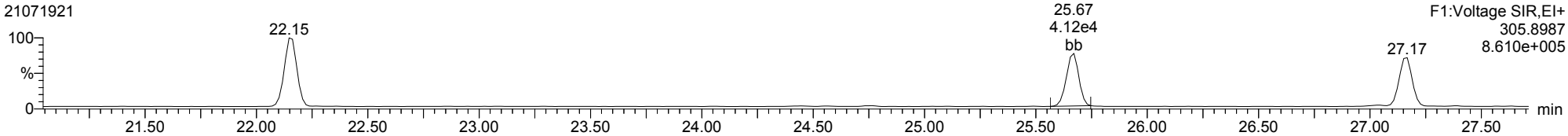

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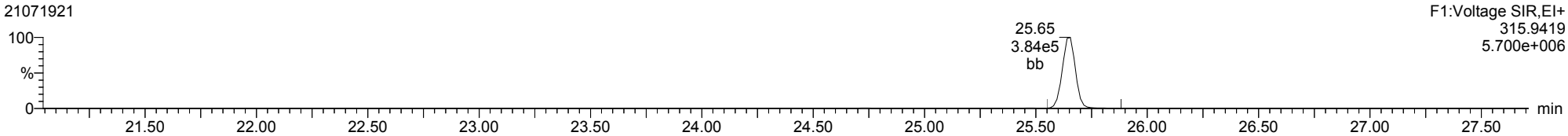

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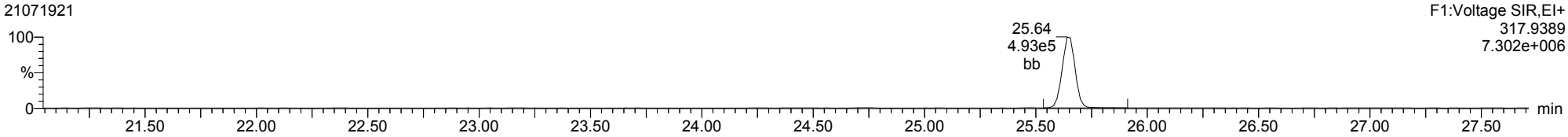

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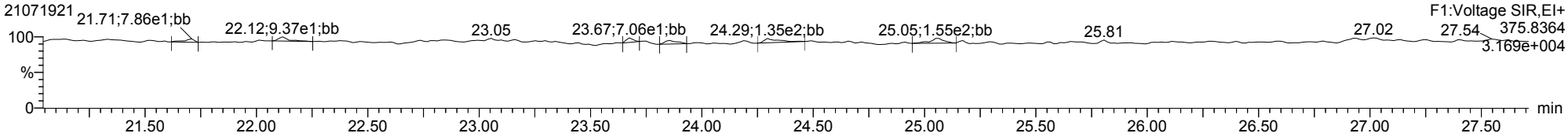

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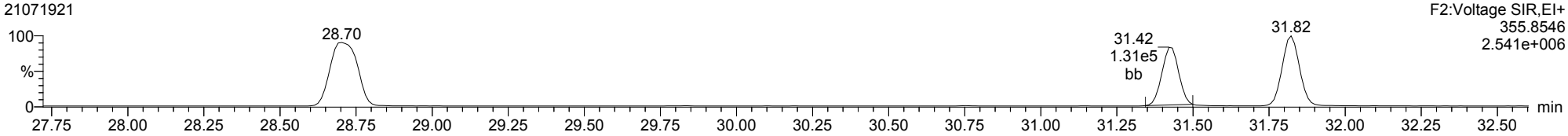

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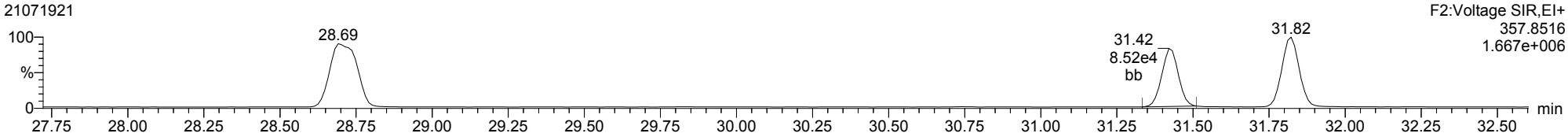

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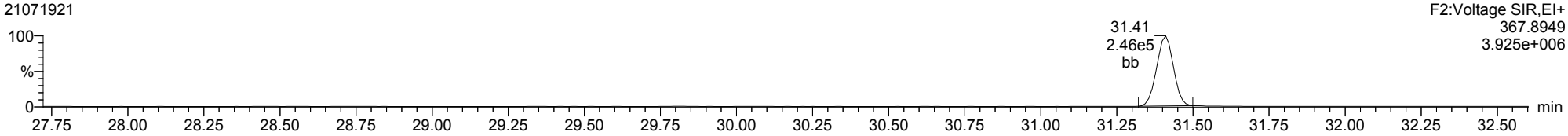

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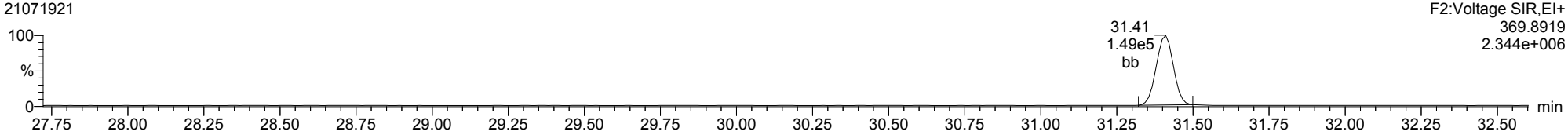

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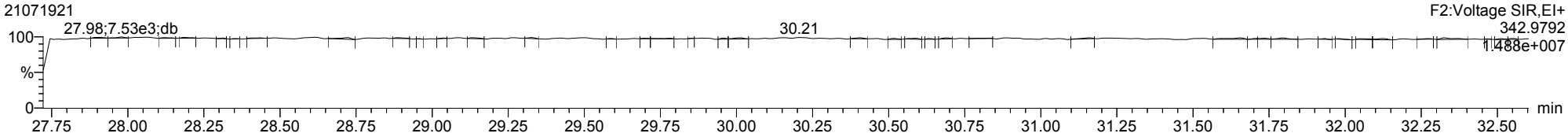

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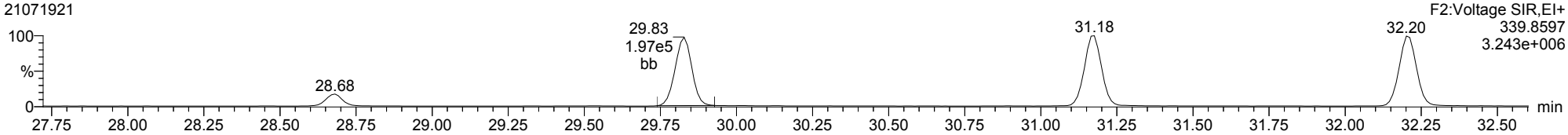

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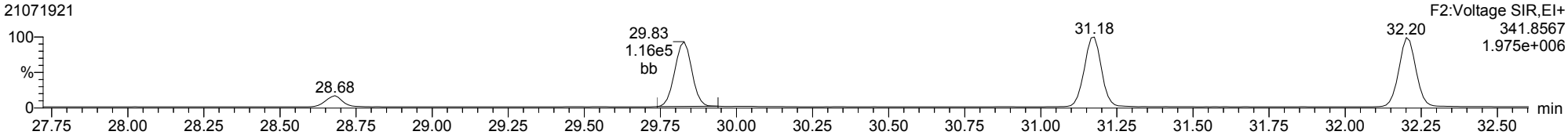

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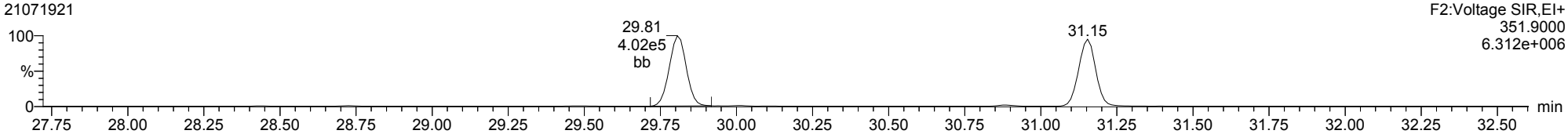

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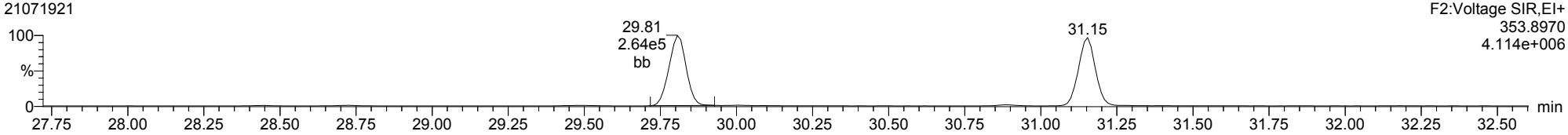
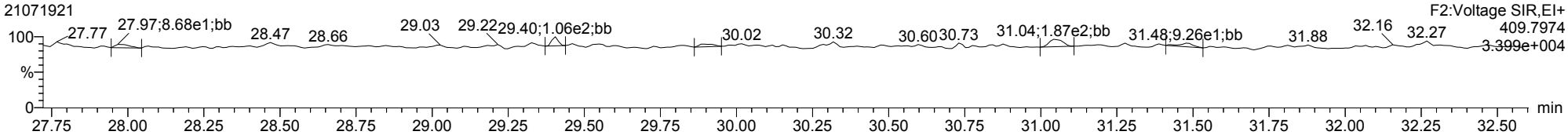


FUNCTION2 HPCDPE



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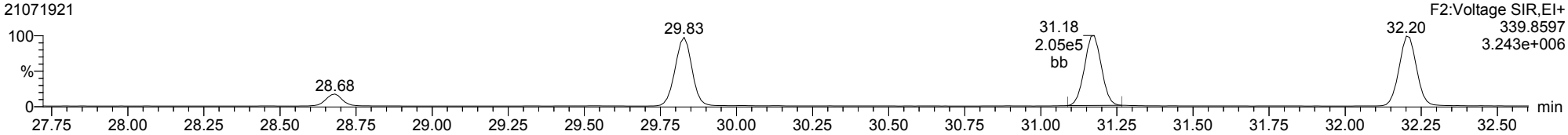

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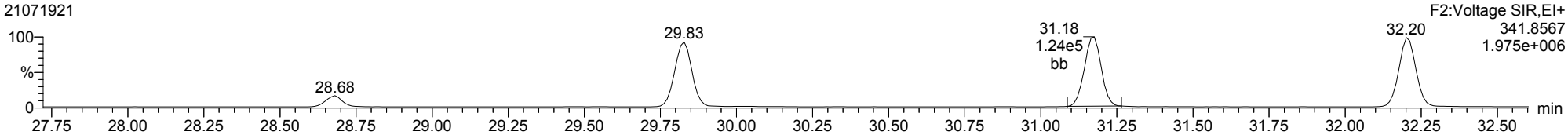

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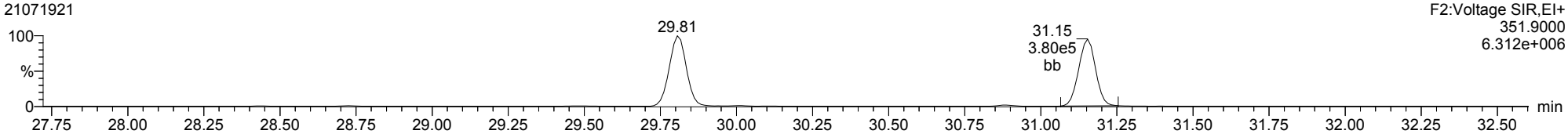

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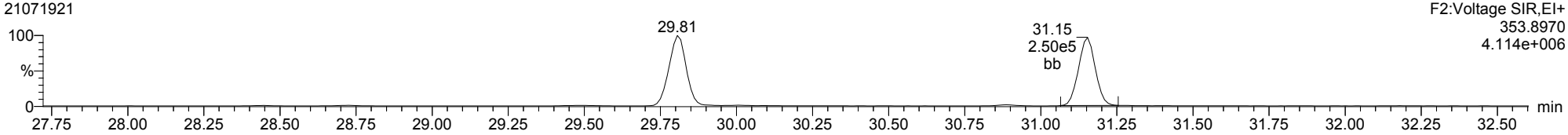

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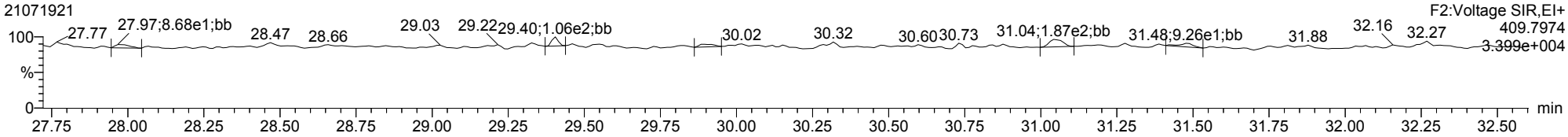

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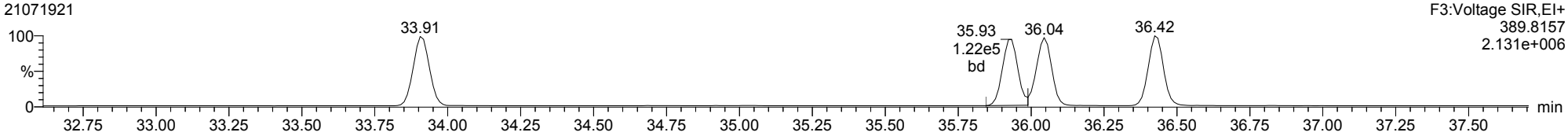
123478-HxCDD



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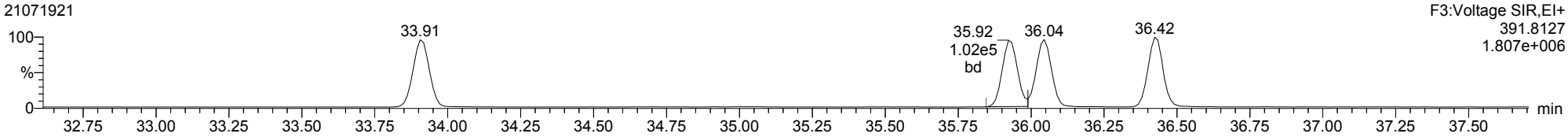

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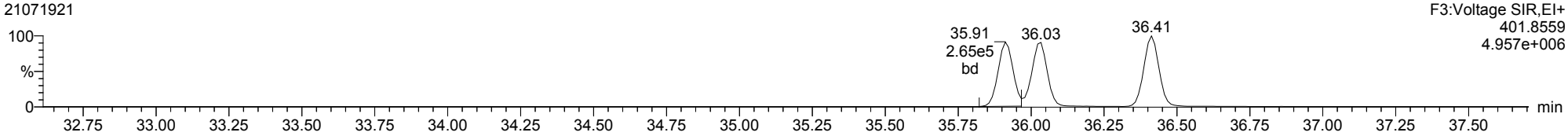

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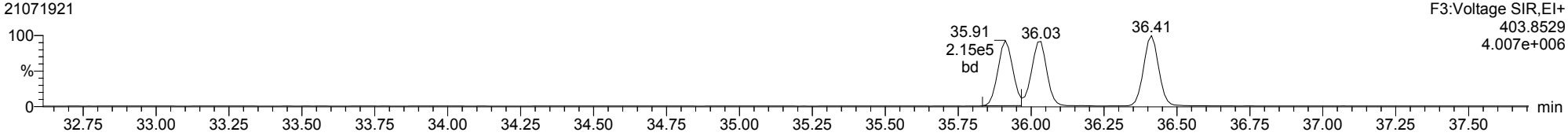

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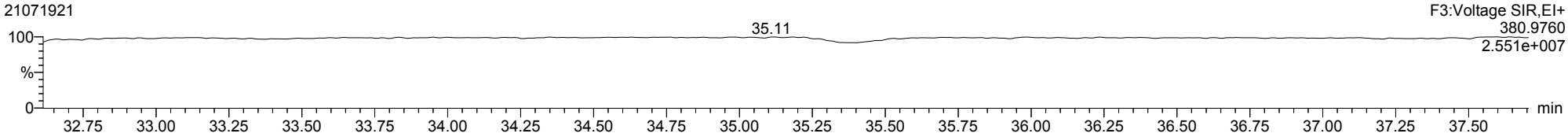

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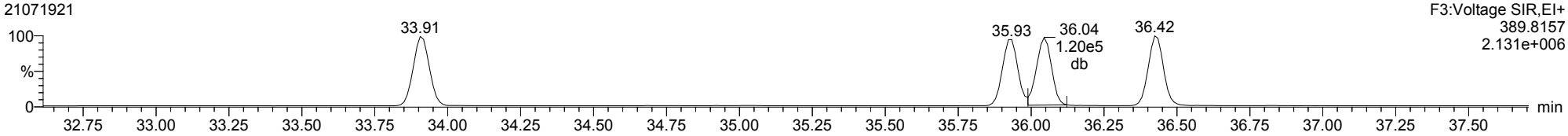

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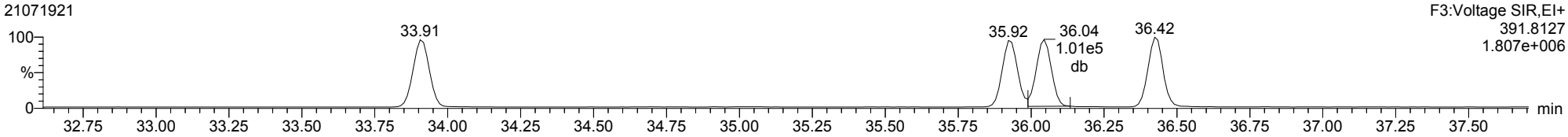

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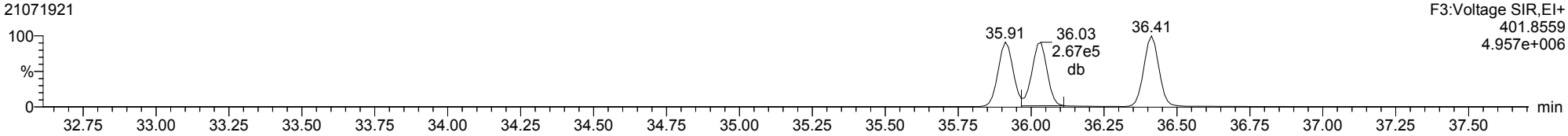

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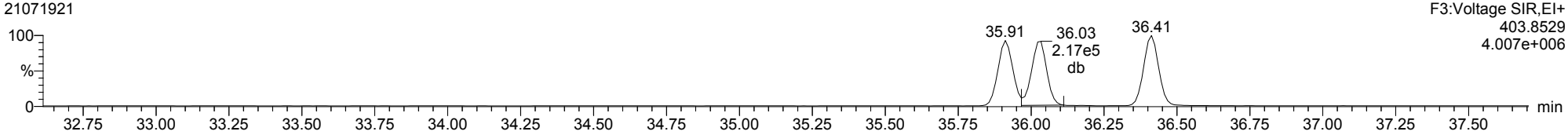

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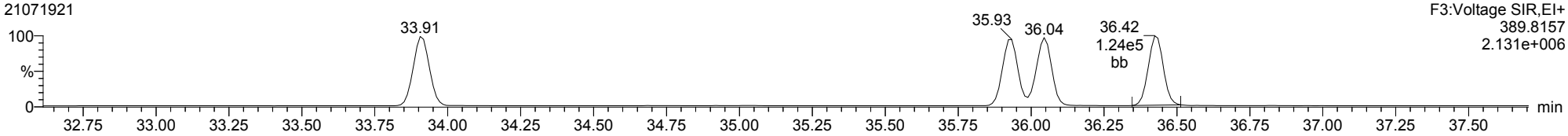

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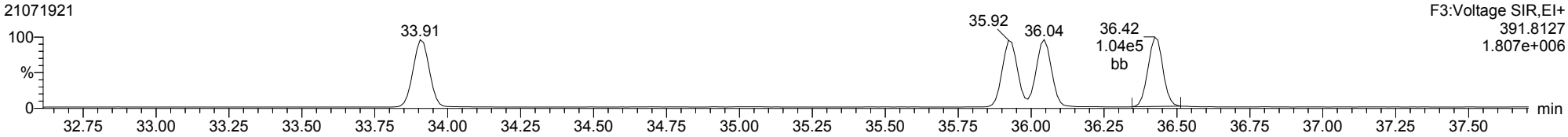

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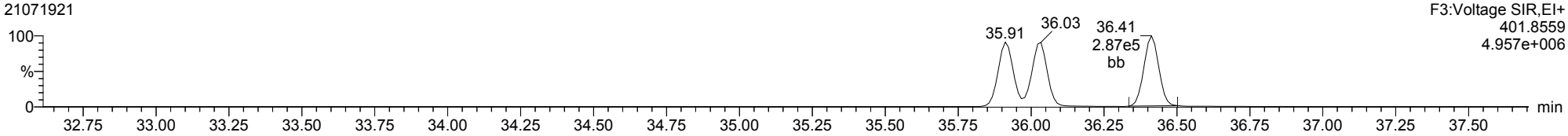

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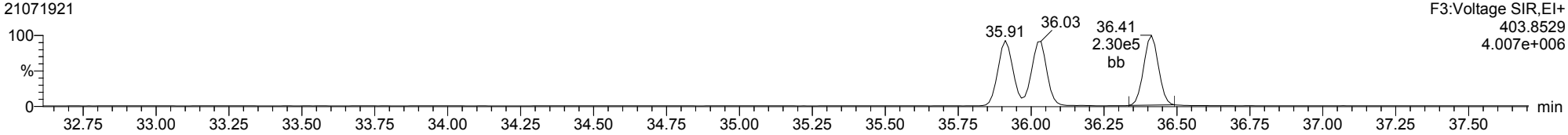

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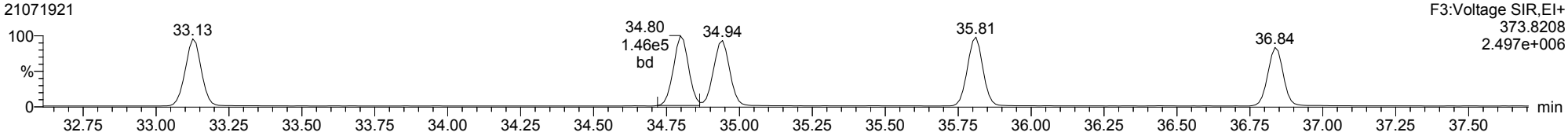

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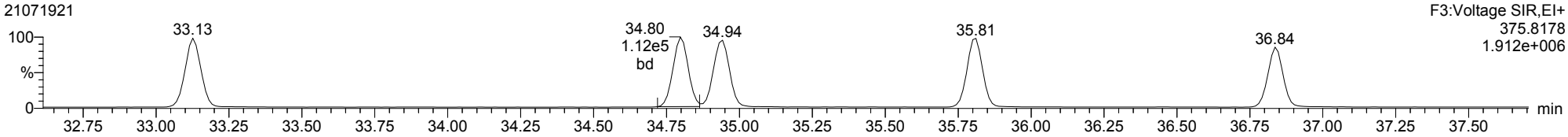

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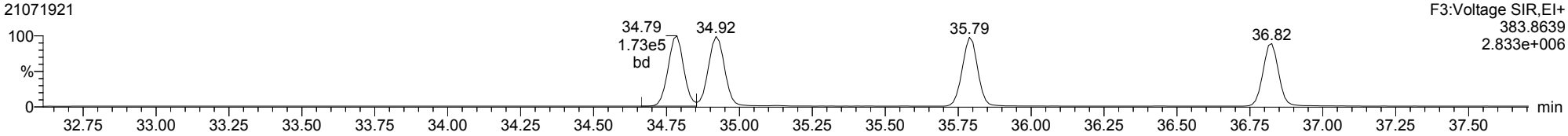

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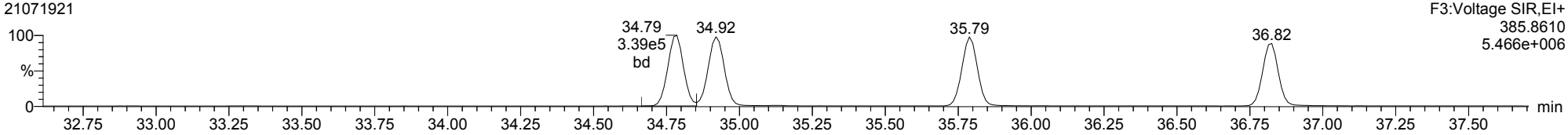
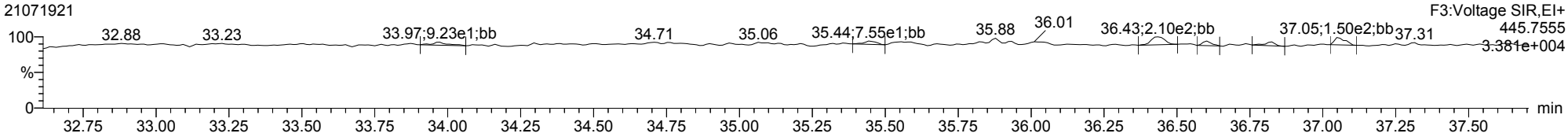


FUNCTION3 OCDPE



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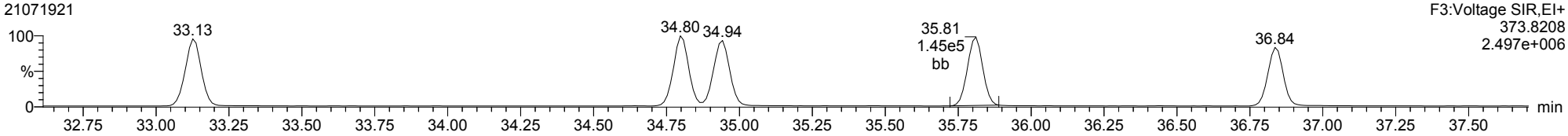
234678-HxCDF



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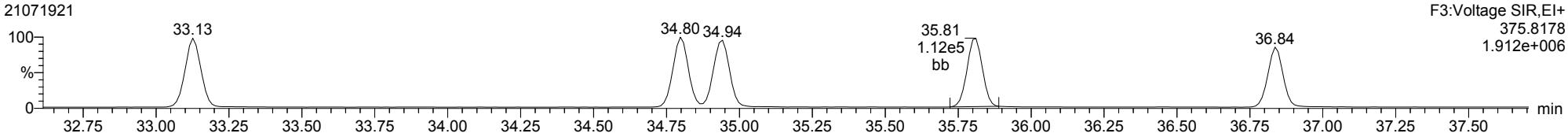

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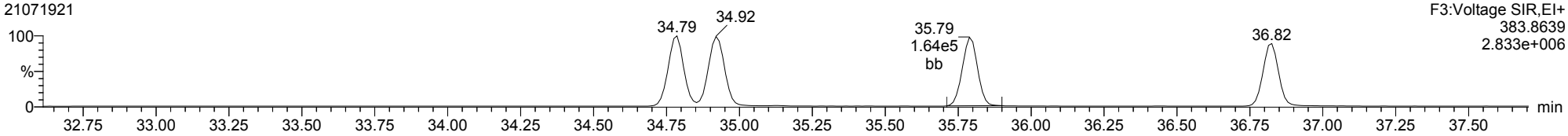

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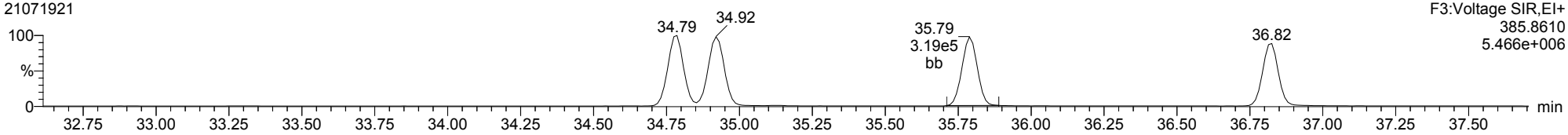

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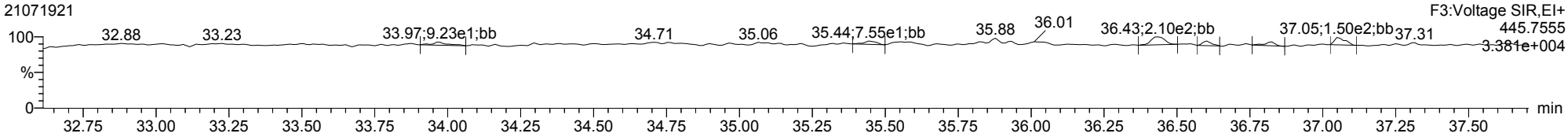

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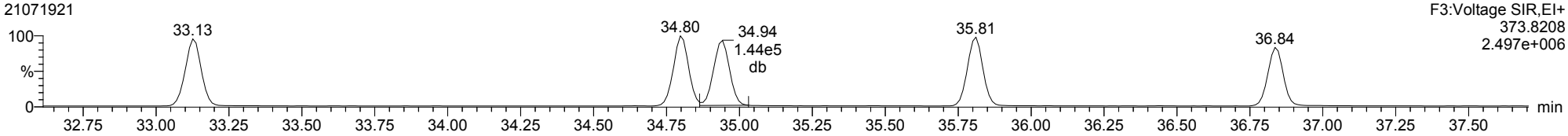

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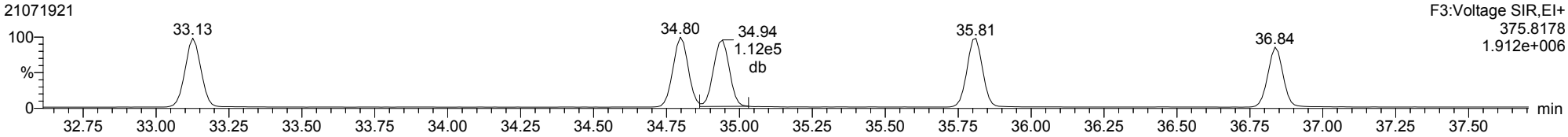

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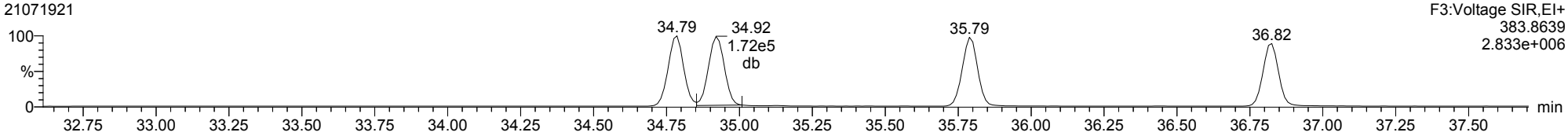

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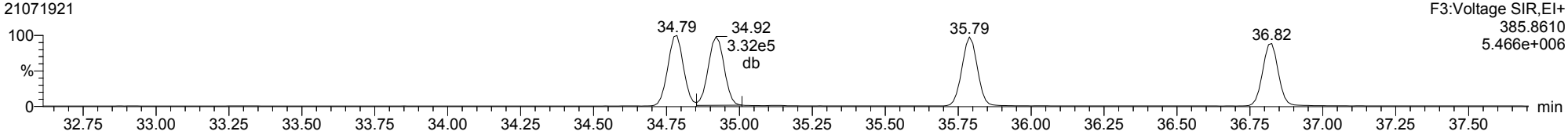

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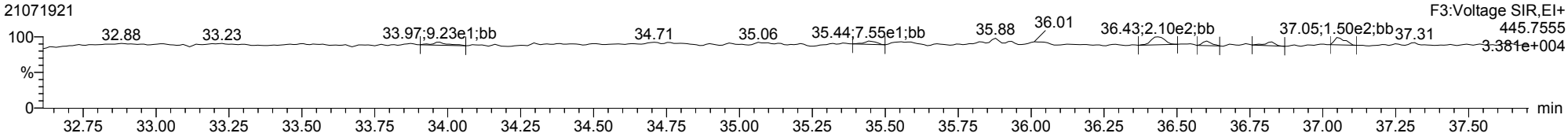

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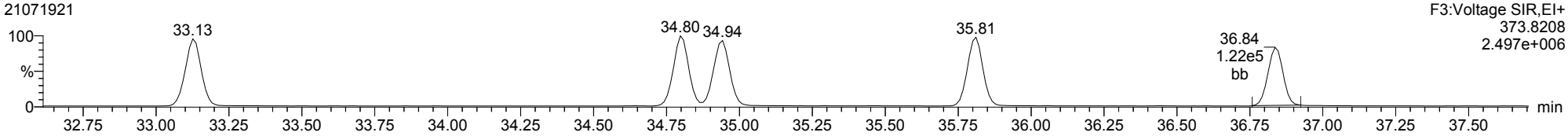

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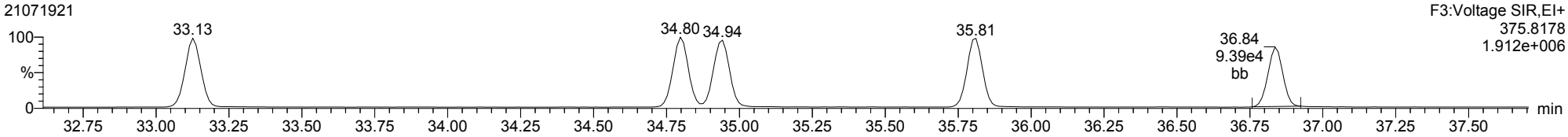

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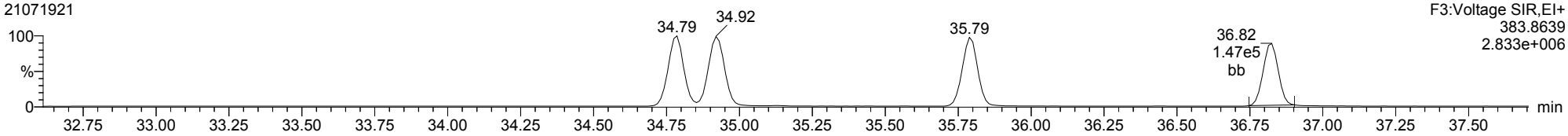

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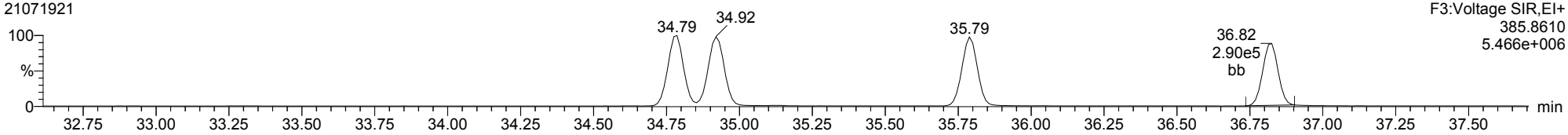

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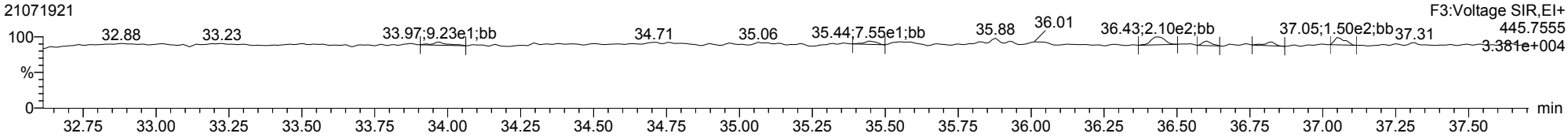

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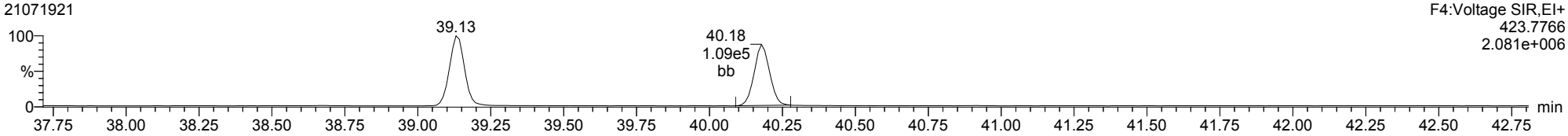

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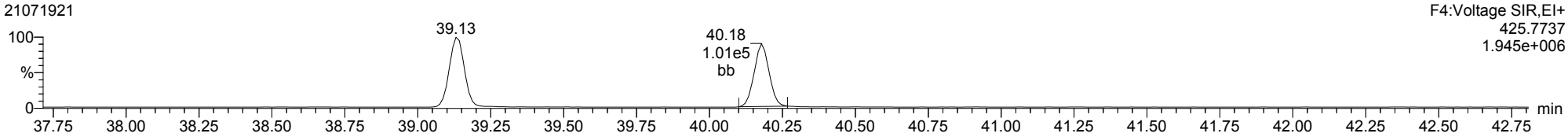

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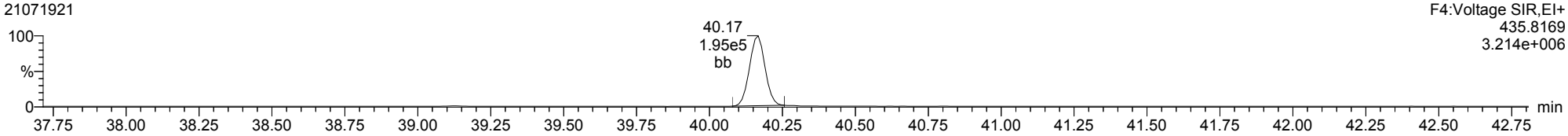

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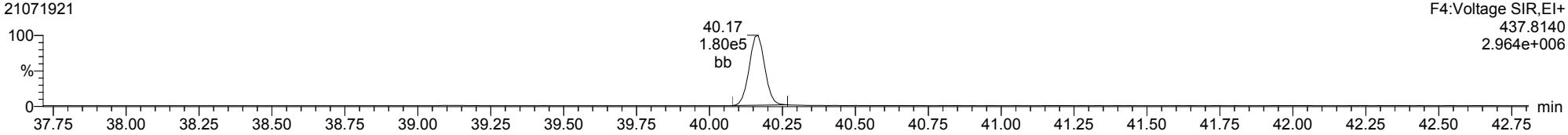

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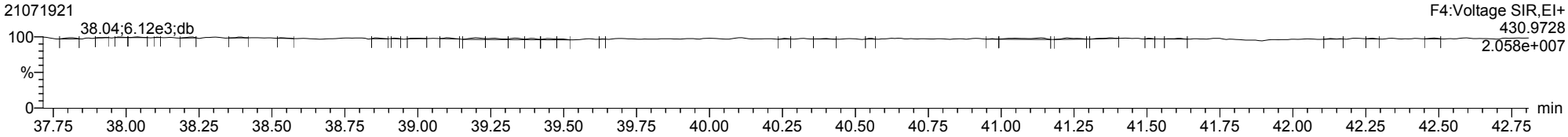

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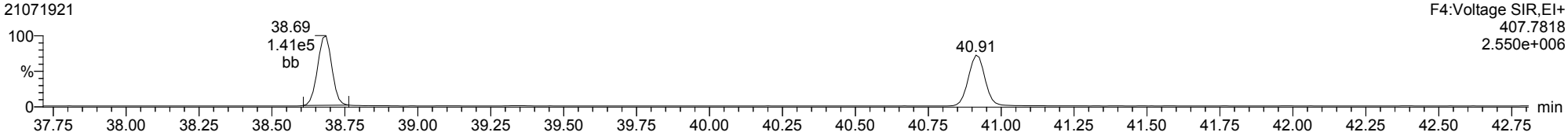

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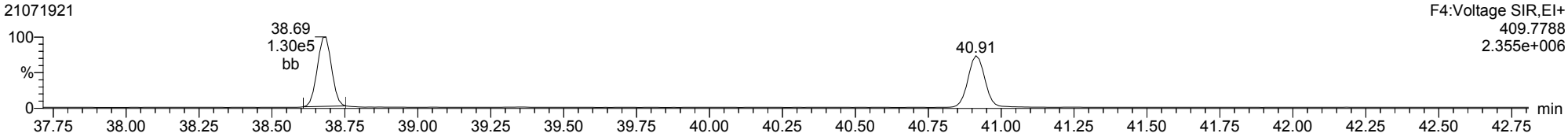

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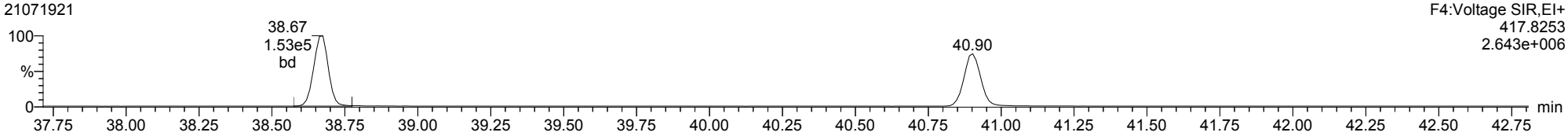

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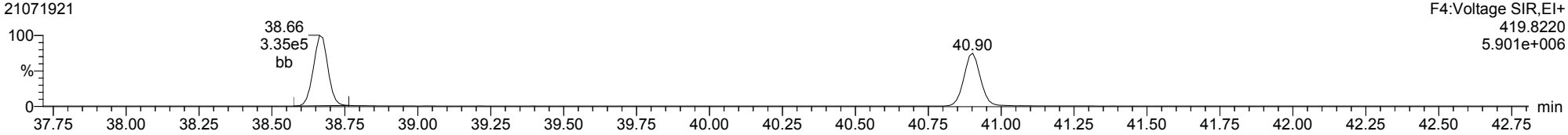

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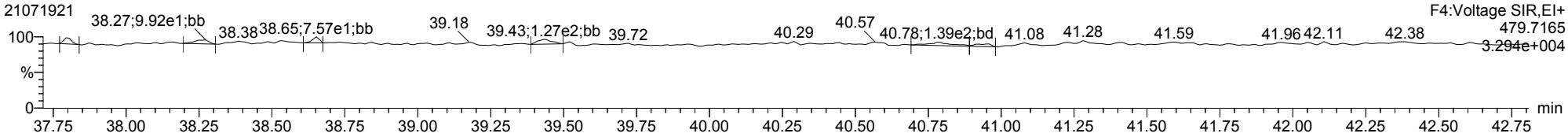

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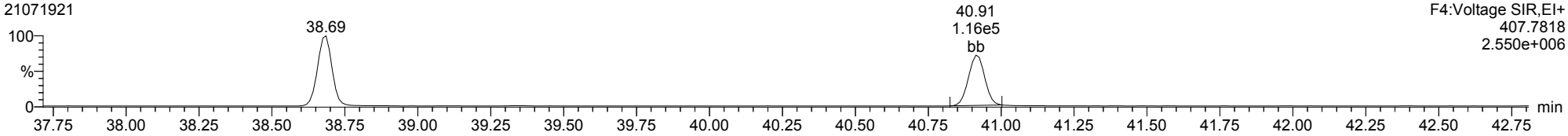

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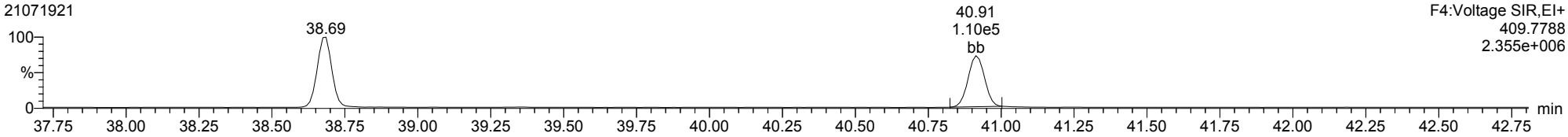

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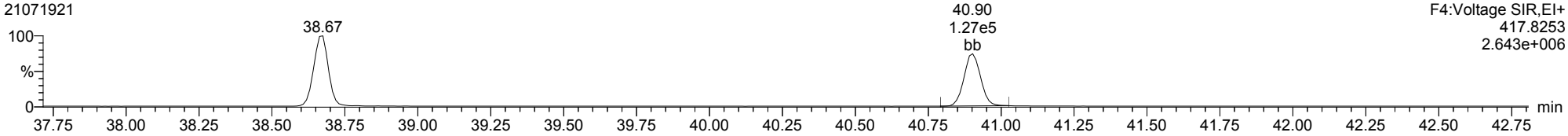

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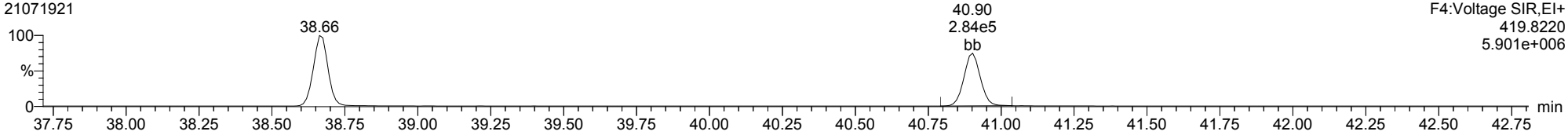

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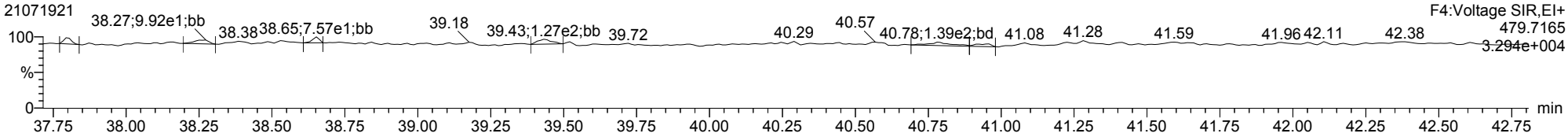

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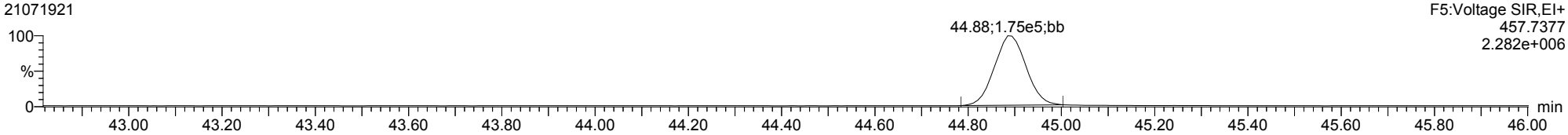

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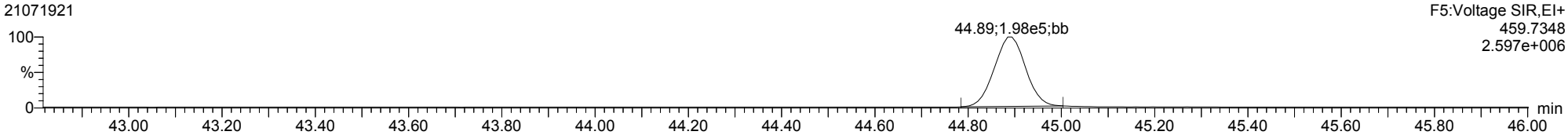

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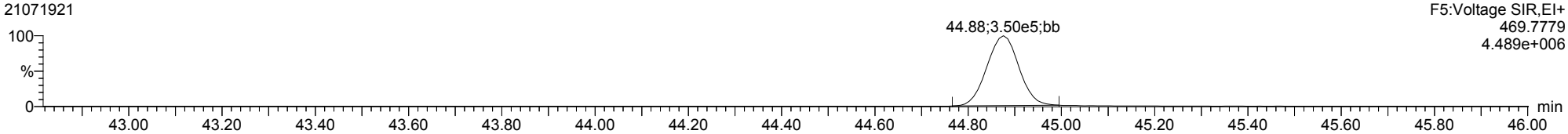

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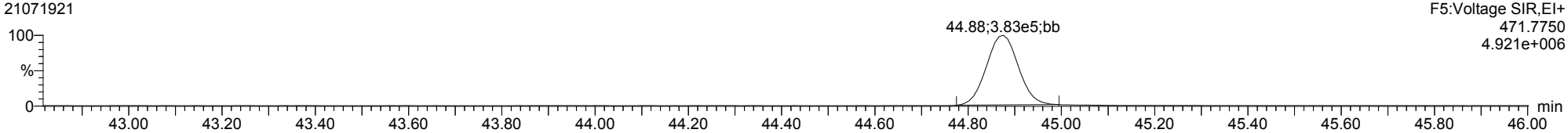

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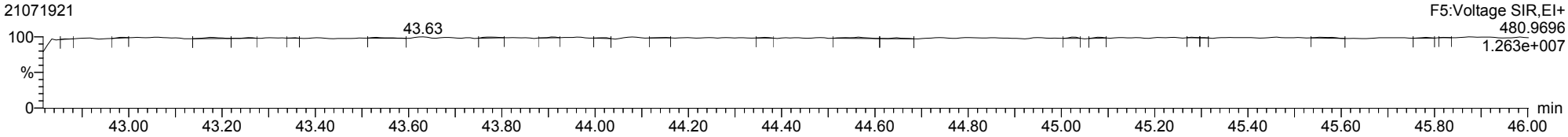

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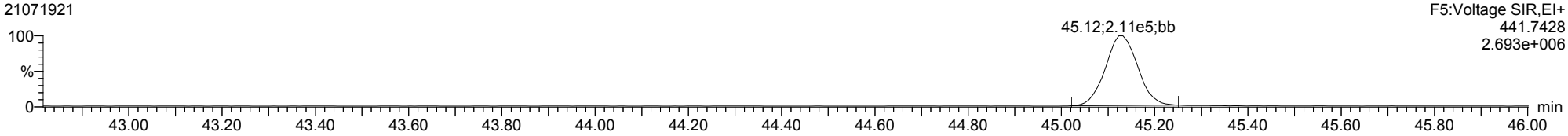

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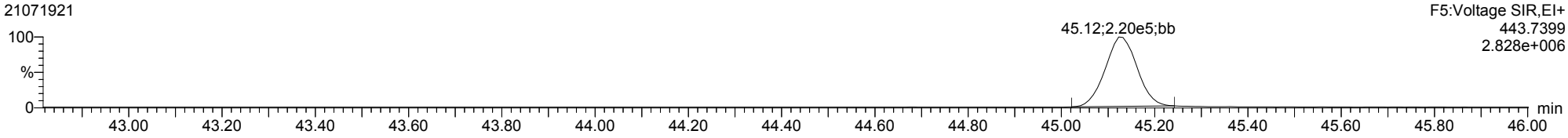

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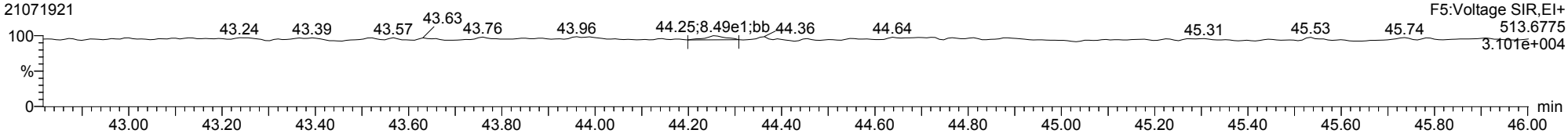

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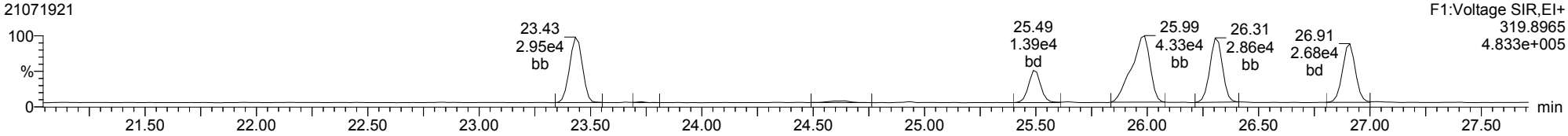

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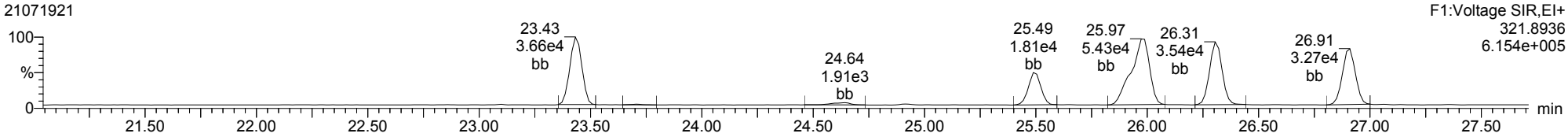

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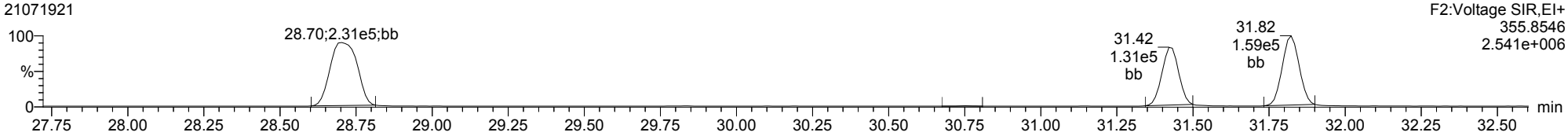

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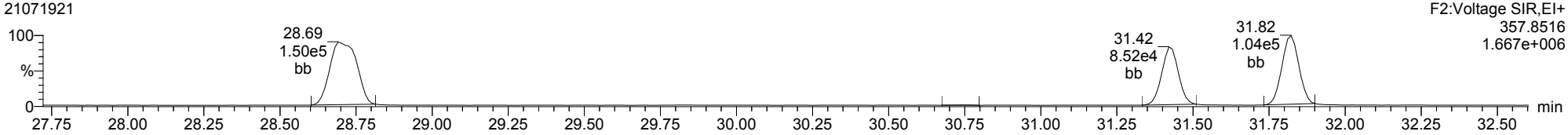

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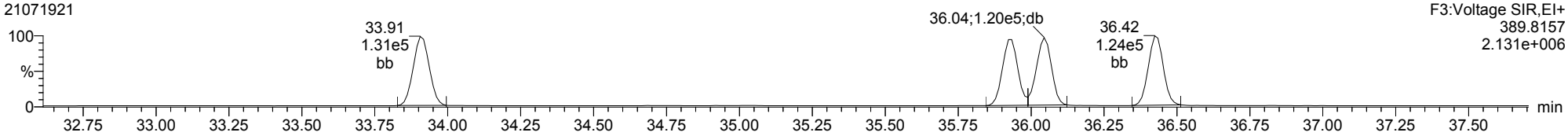

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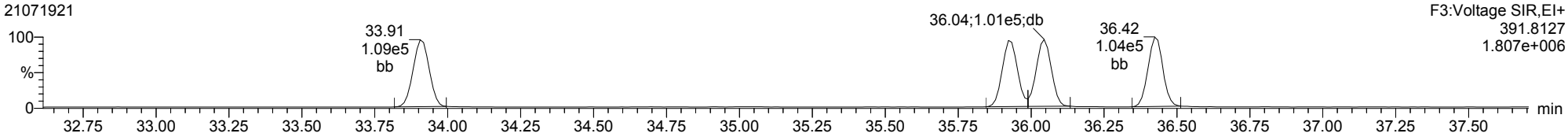

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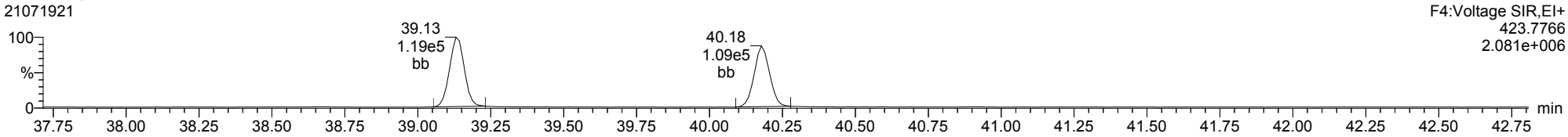

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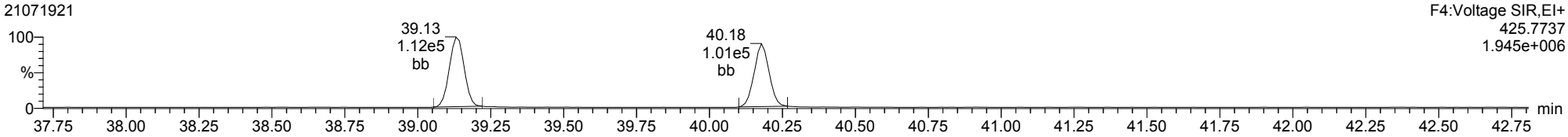

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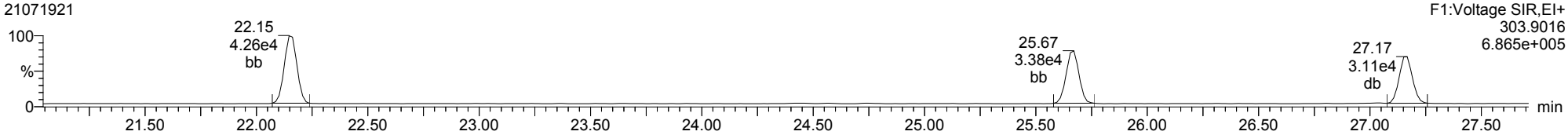
Total-tetrafurans



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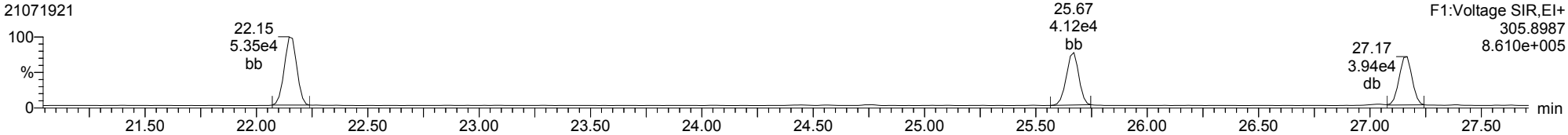

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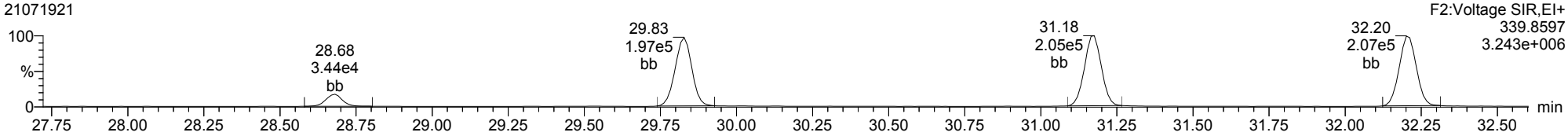

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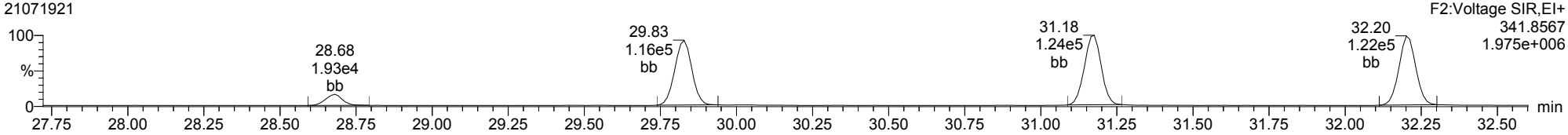

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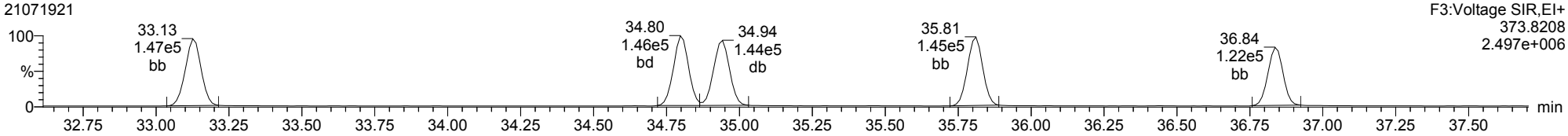
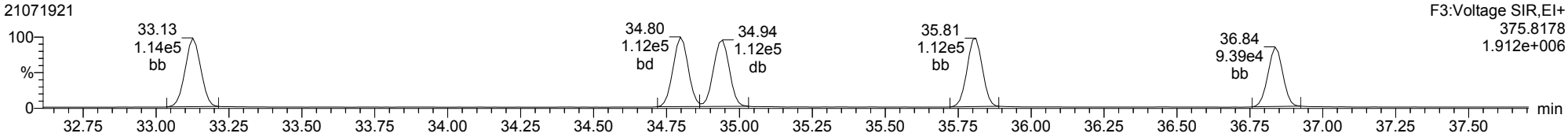
Total-hexafurans



Total-hexafurans



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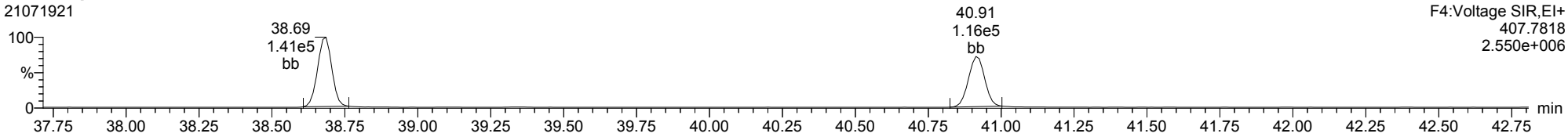

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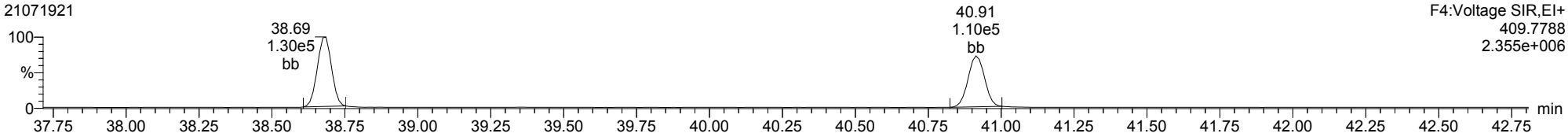

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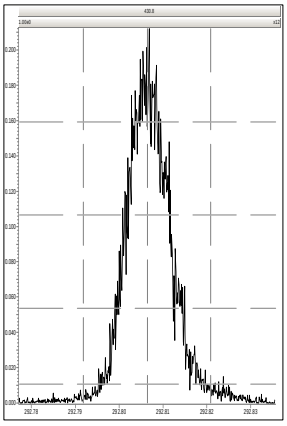
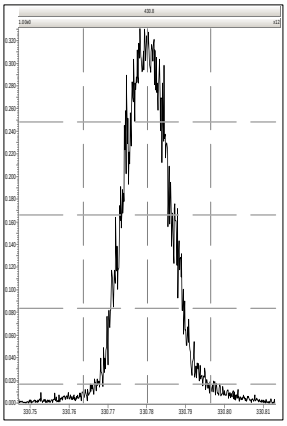
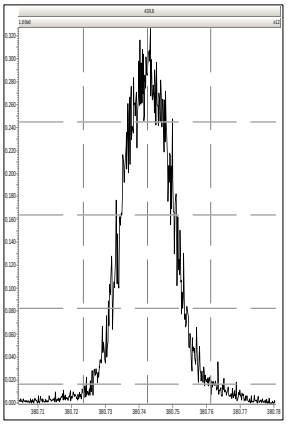
M 292.9824 R 13580



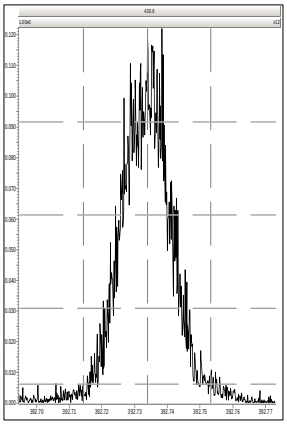
M 330.9792 R 12452



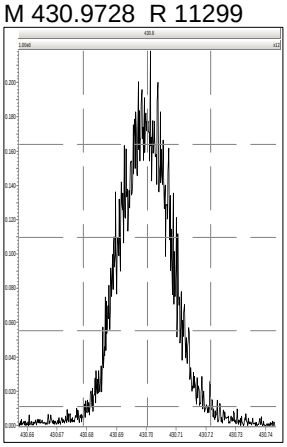
M 380.9760 R 11520



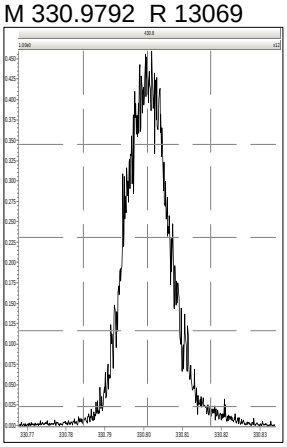
M 392.9760 R 11144



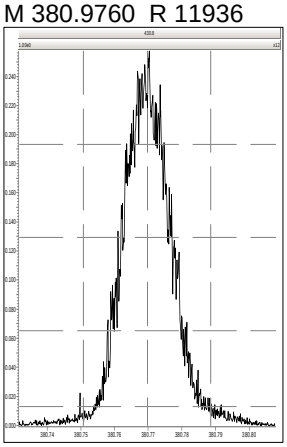
M 430.9728 R 11299



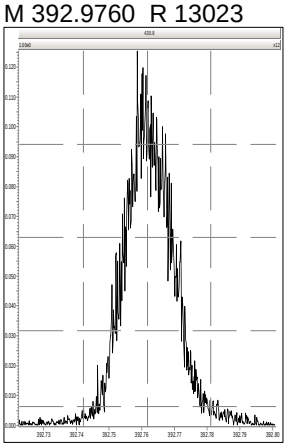
M 330.9792 R 13069



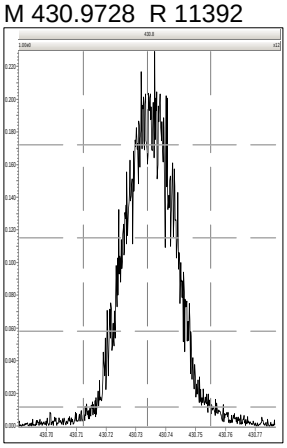
M 380.9760 R 11936



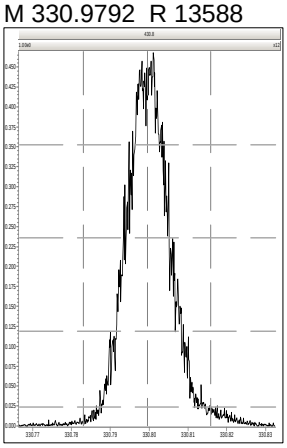
M 392.9760 R 13023



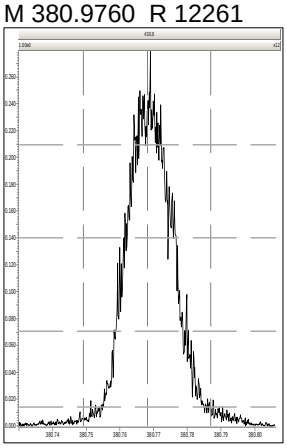
M 430.9728 R 11392



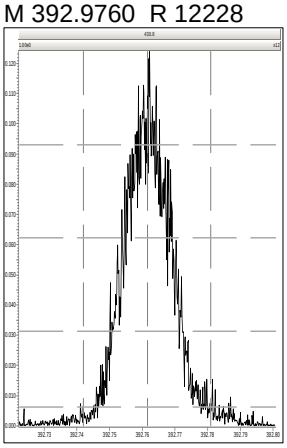
M 330.9792 R 13588



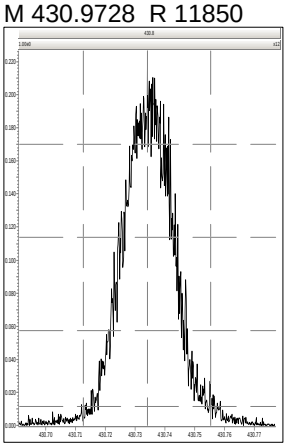
M 380.9760 R 12261



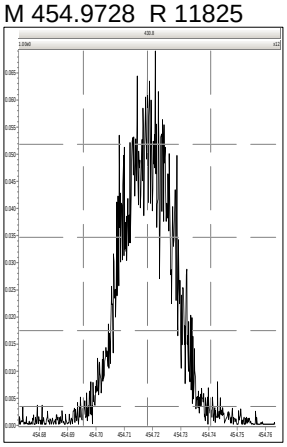
M 392.9760 R 12228



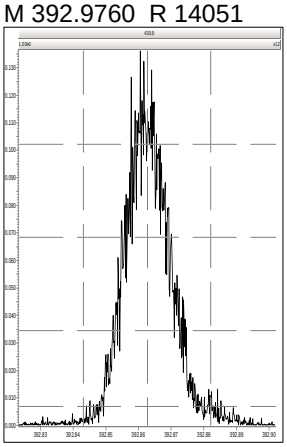
M 430.9728 R 11850



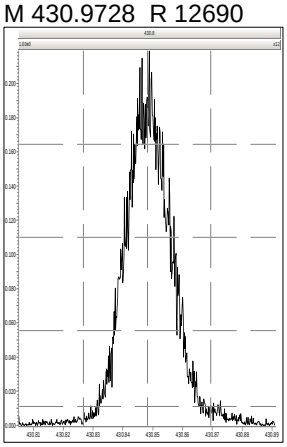
M 454.9728 R 11825



M 392.9760 R 14051



M 430.9728 R 12690



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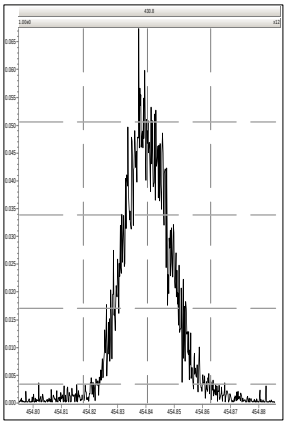
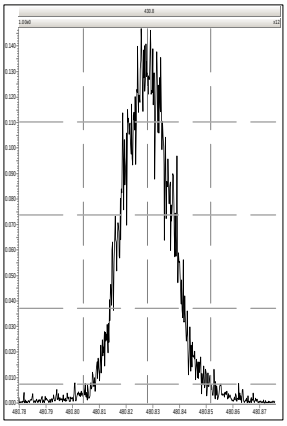
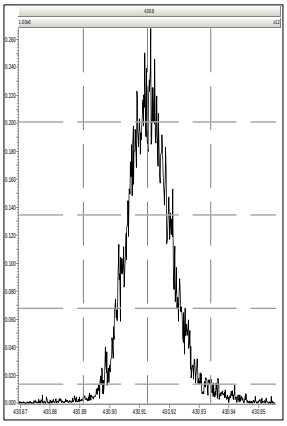
M 454.9728 R 12351



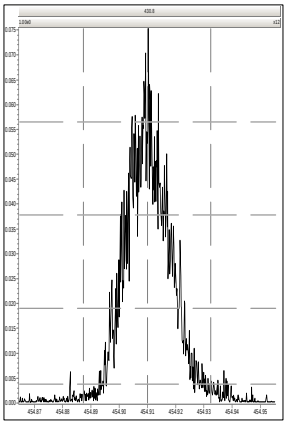
M 480.9696 R 11879



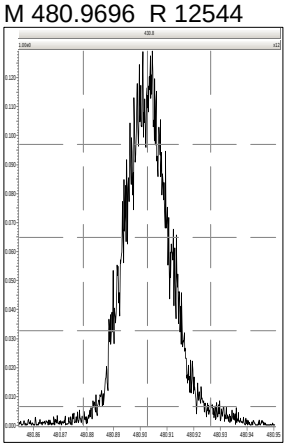
M 430.9728 R 13229



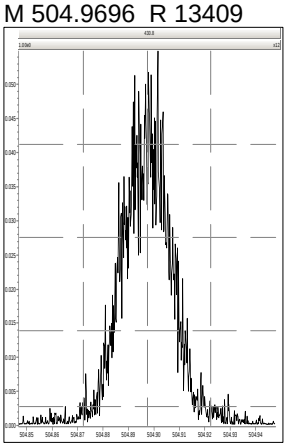
M 454.9728 R 13375



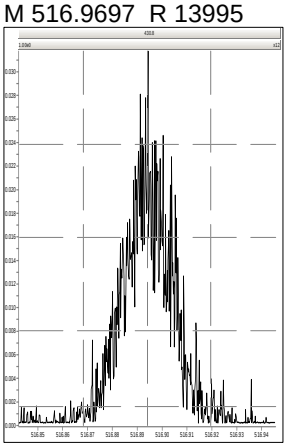
M 480.9696 R 12544

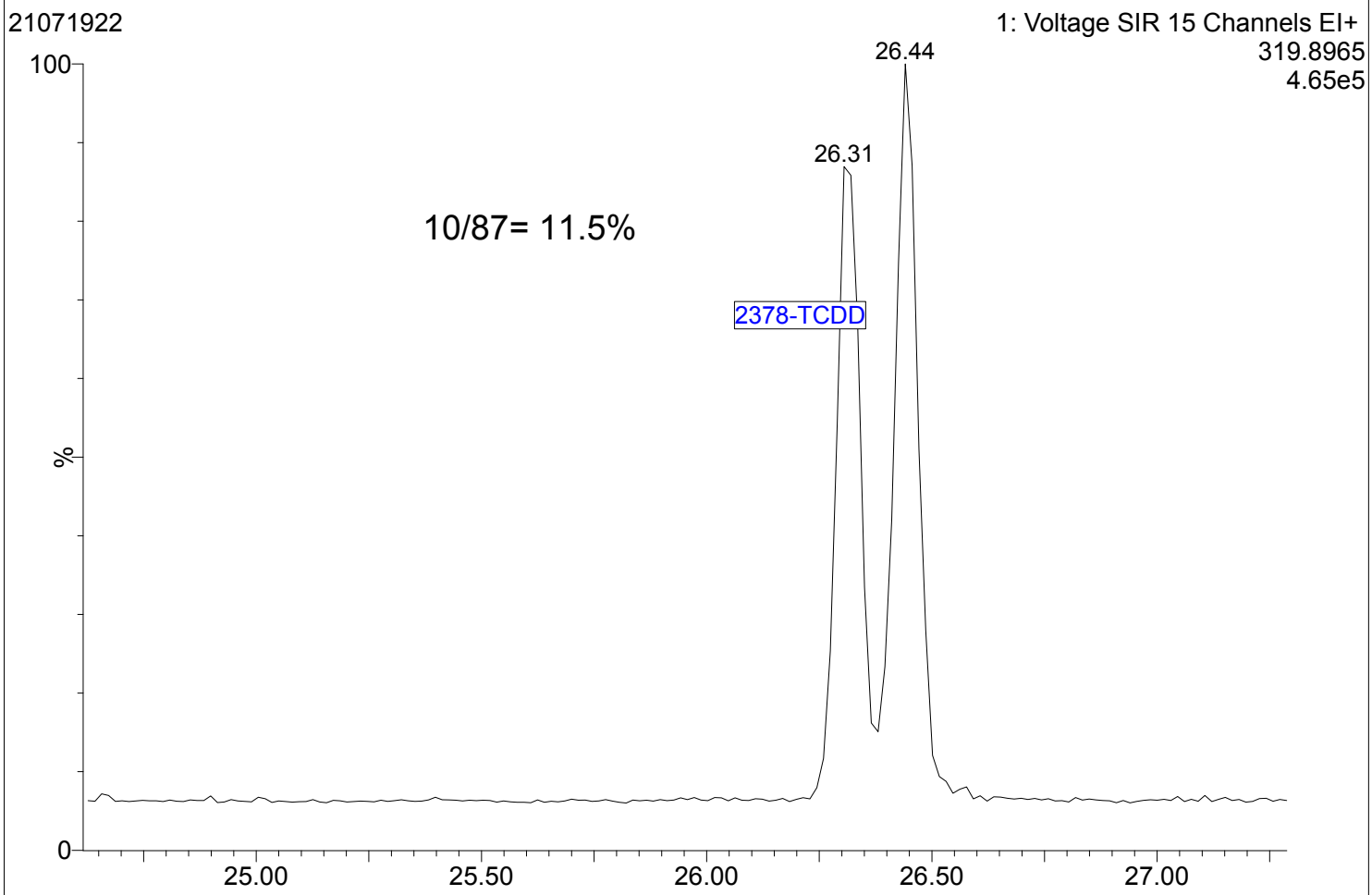


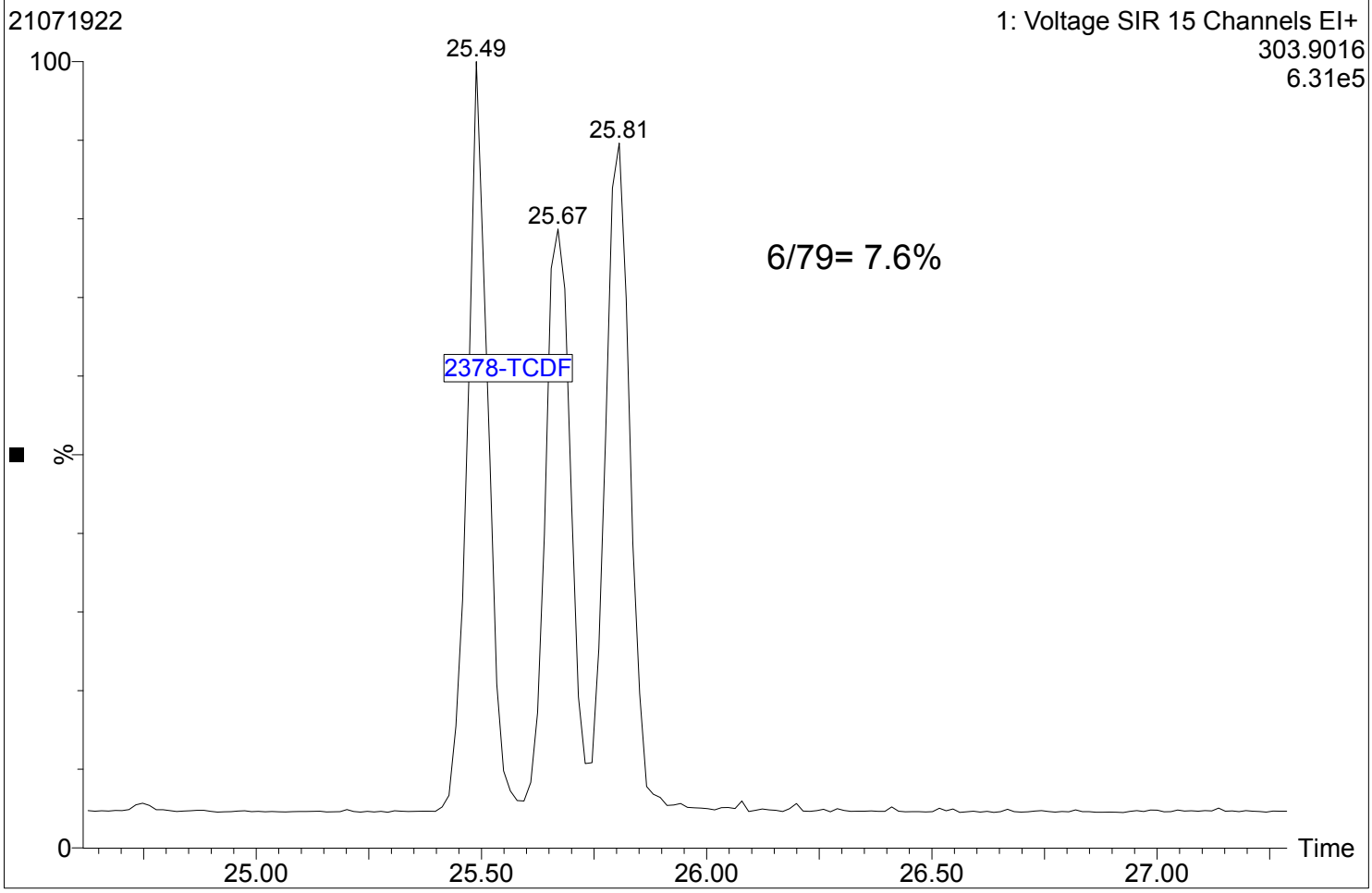
M 504.9696 R 13409



M 516.9697 R 13995




21071922
1: Voltage SIR 15 Channels EI+
319.8965
4.65e5
100
%
0
26.44
26.31
10/87= 11.5%
2378-TCDD
25.00
25.50
26.00
26.50
27.00


21071922
1: Voltage SIR 15 Channels EI+
303.9016
6.31e5
100
%
0
25.49
25.81
25.67
6/79= 7.6%
2378-TCDF
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:	21F0442
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

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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

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Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

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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

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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

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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

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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

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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

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

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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		

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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

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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

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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

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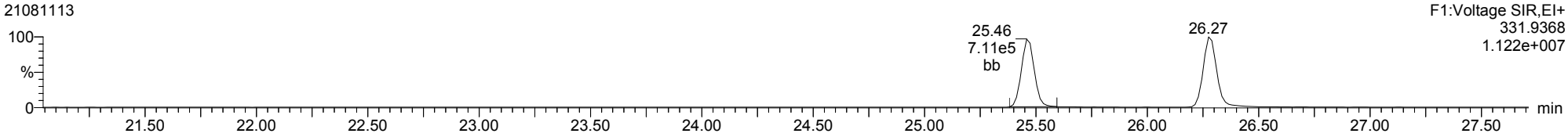

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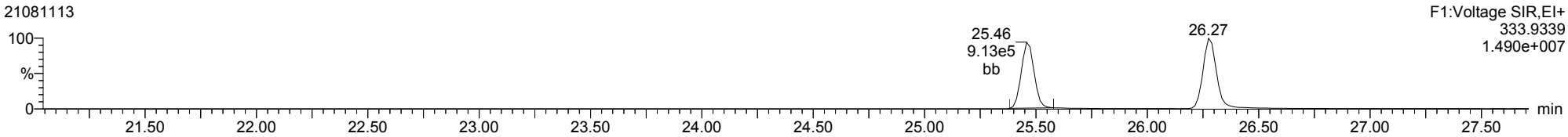

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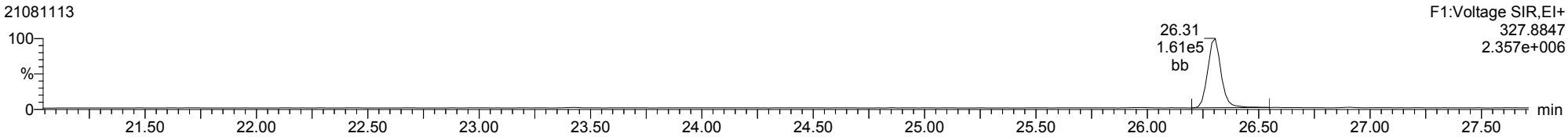

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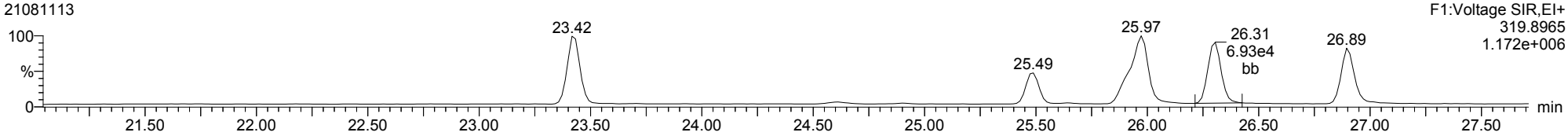

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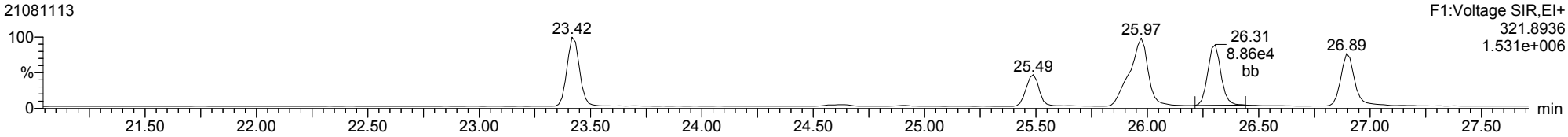

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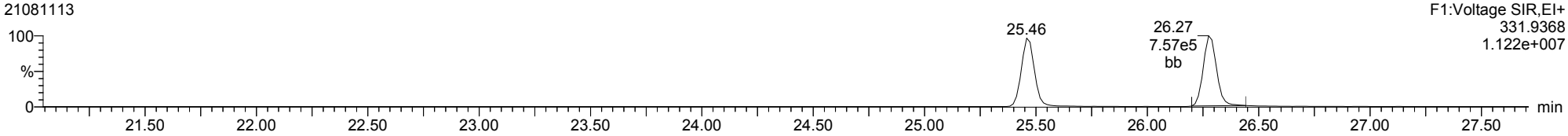

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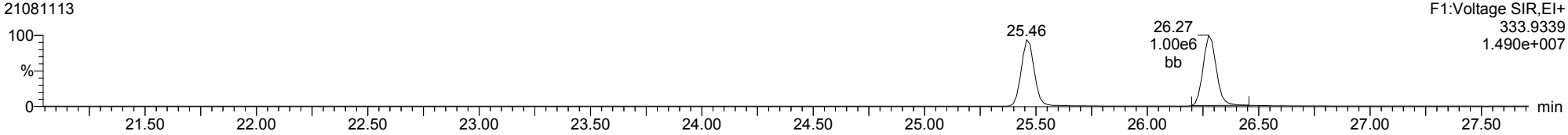

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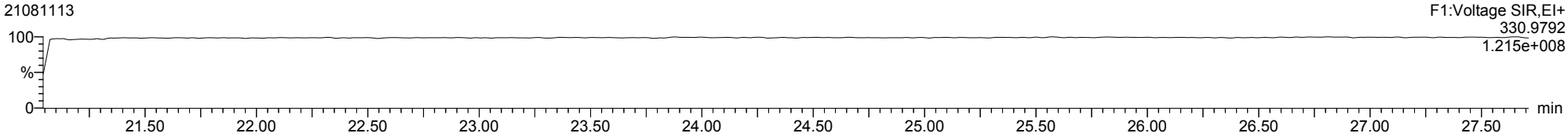

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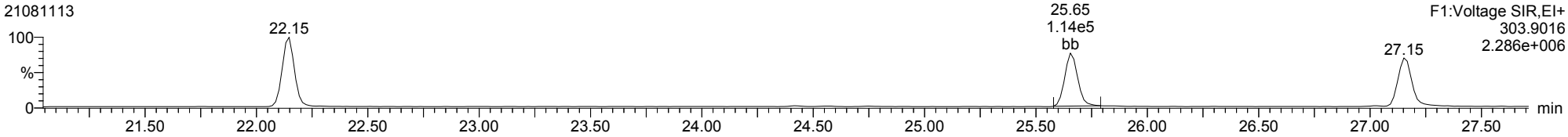
2378-TCDF



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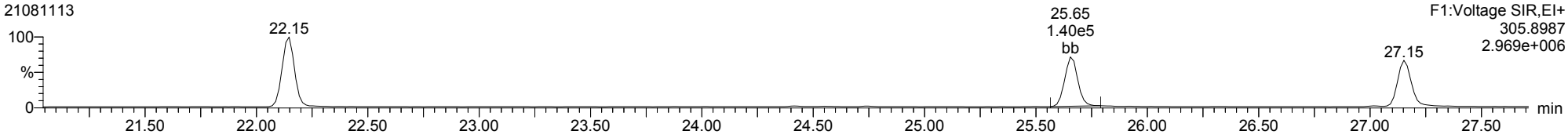

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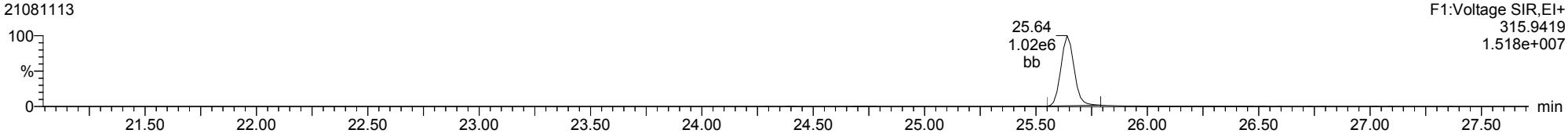

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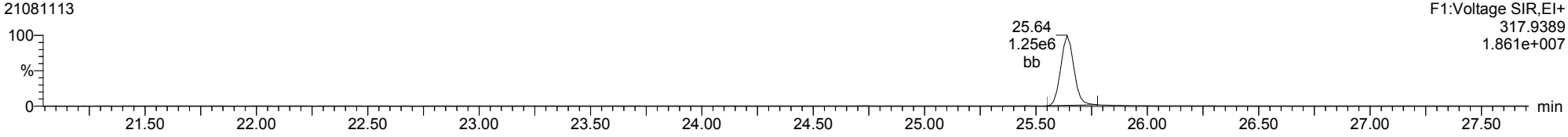

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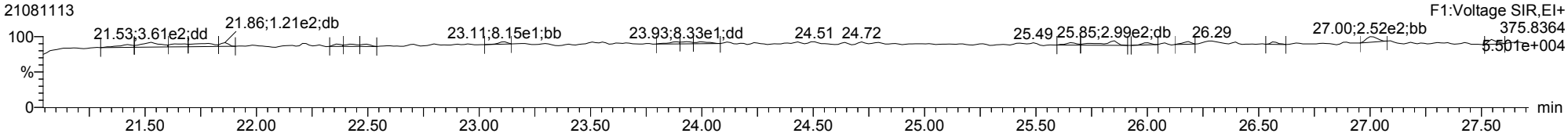

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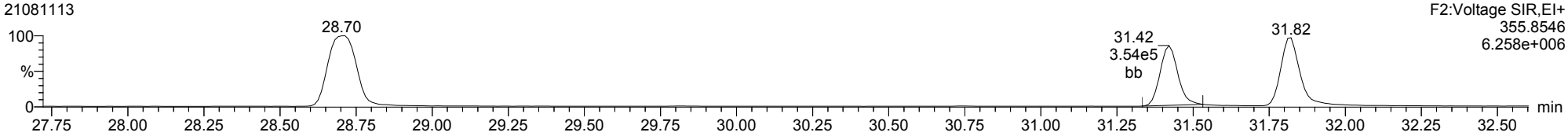
12378-PeCDD



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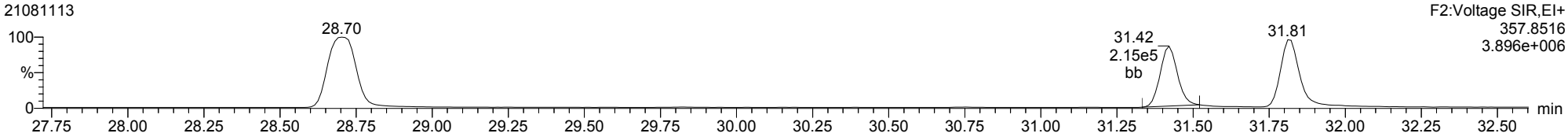

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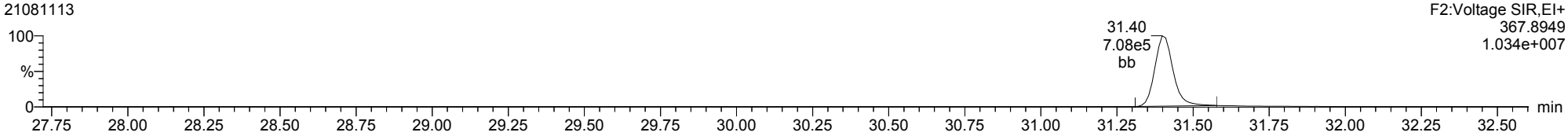

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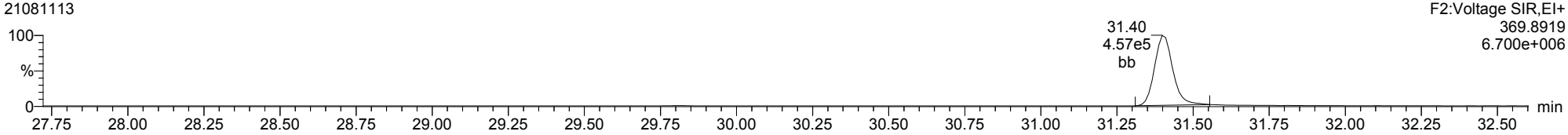

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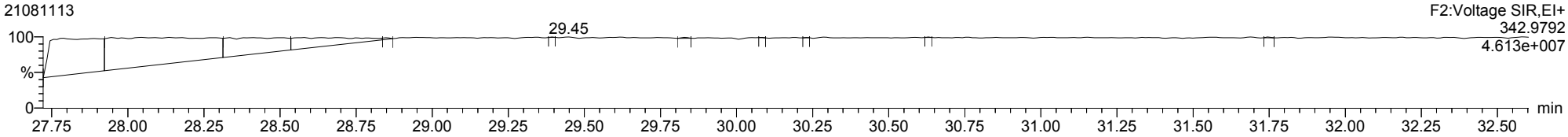

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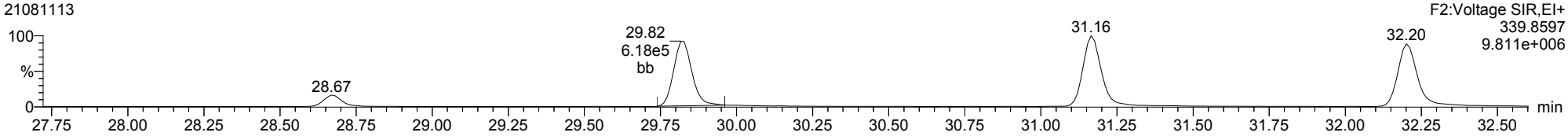

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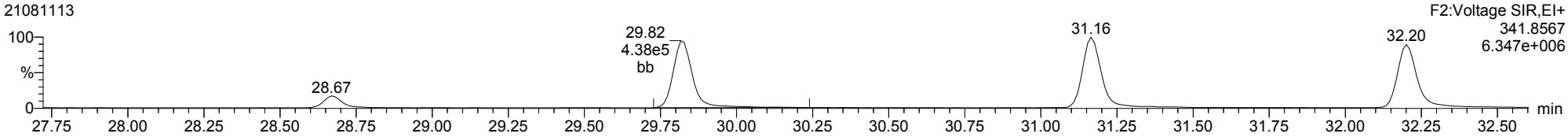

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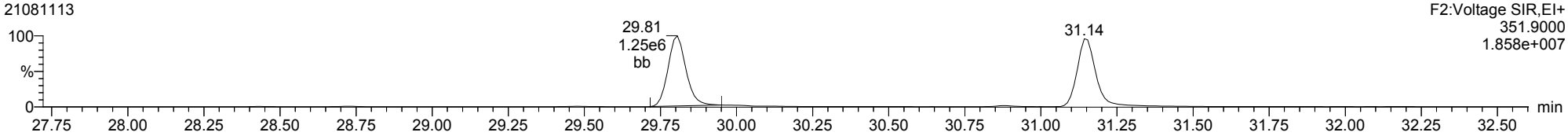

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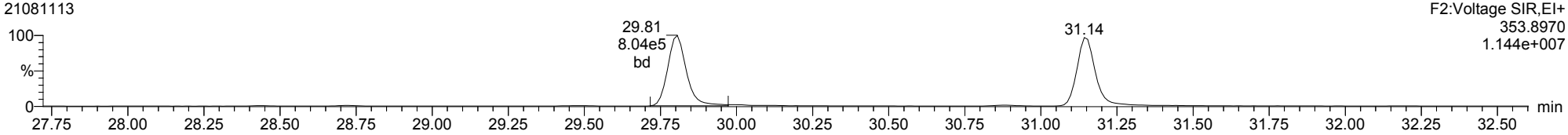

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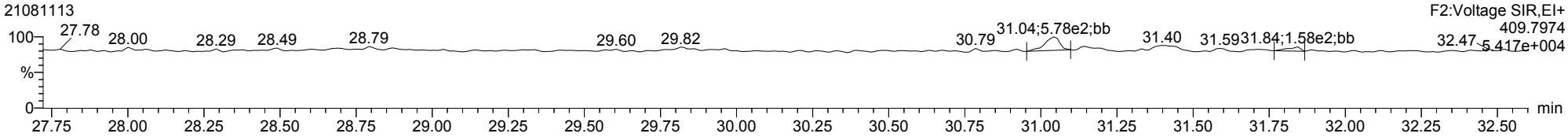

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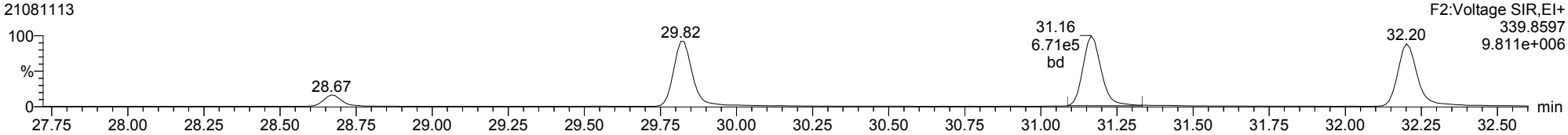

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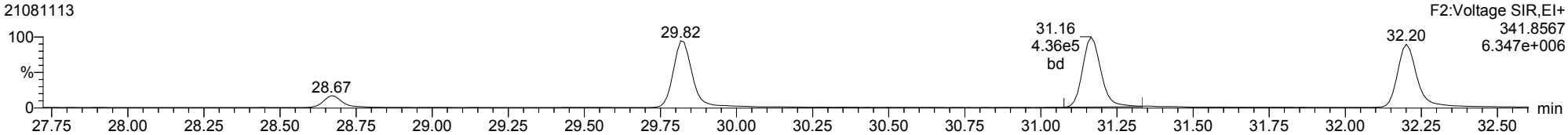

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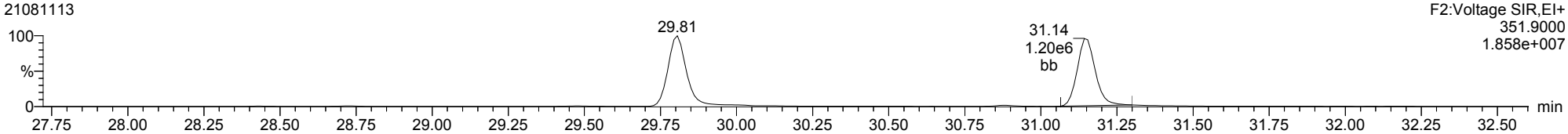

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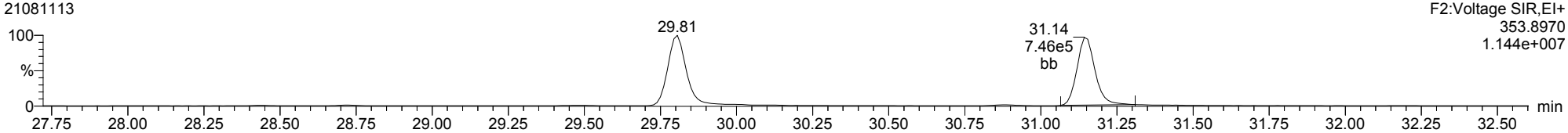

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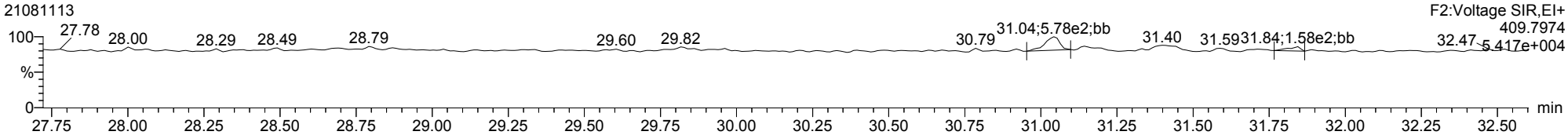

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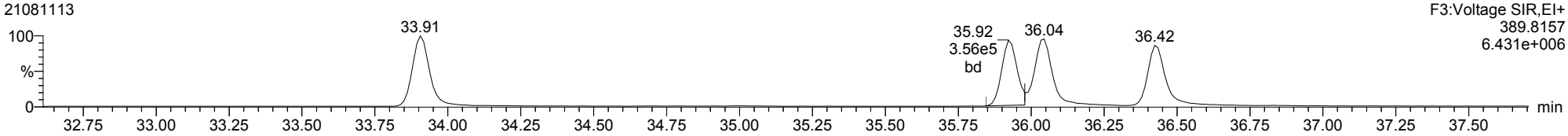

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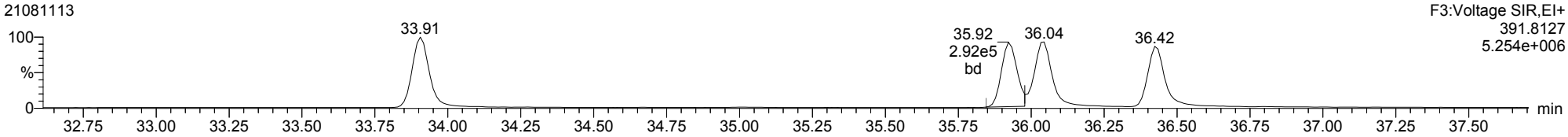

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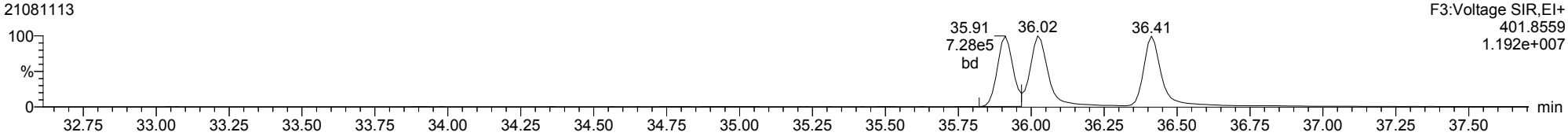

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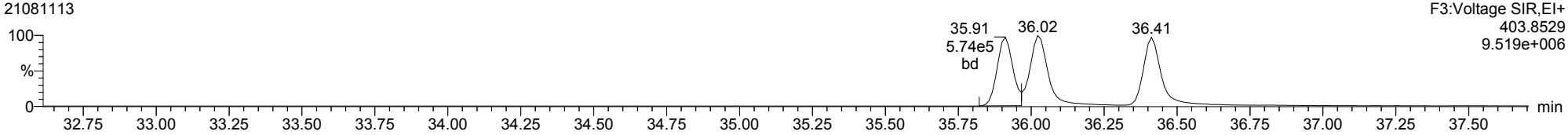

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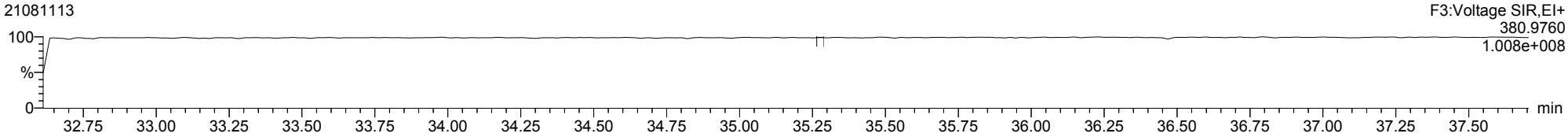

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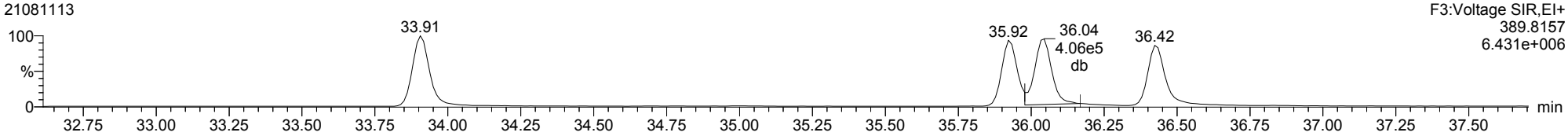

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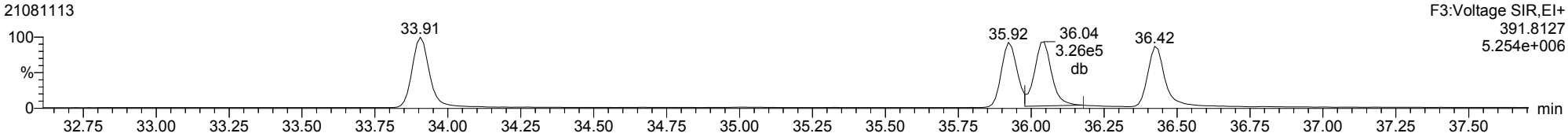

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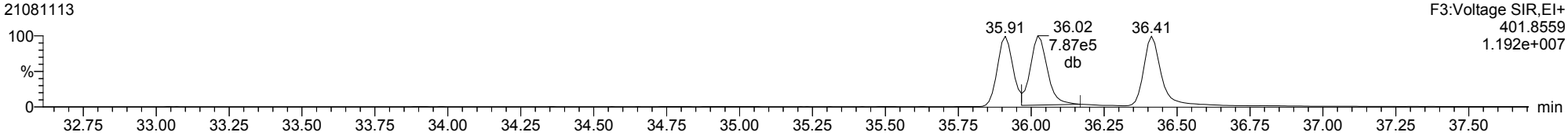

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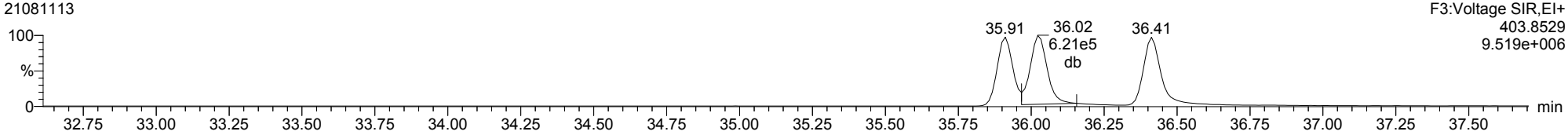

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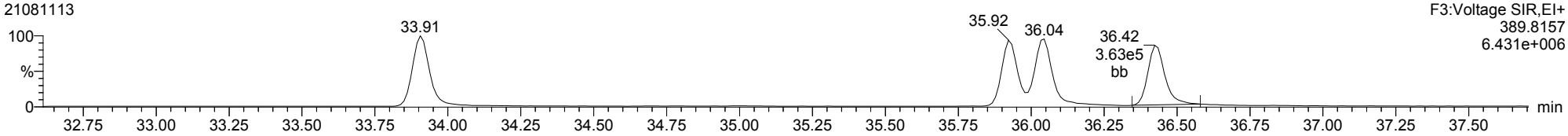

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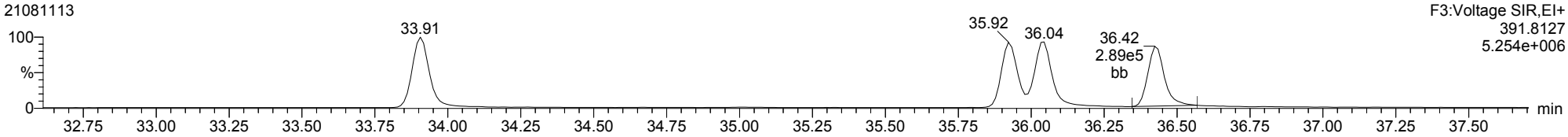

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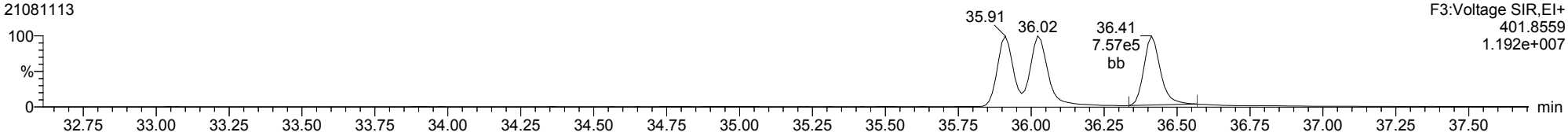

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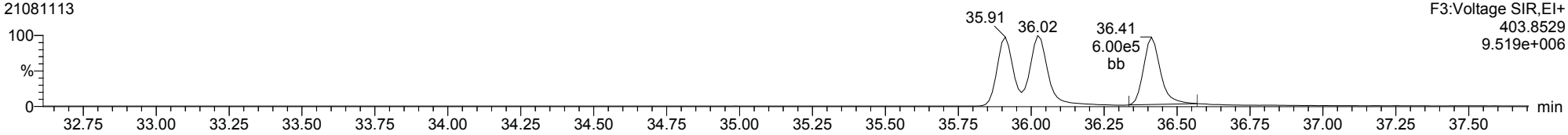

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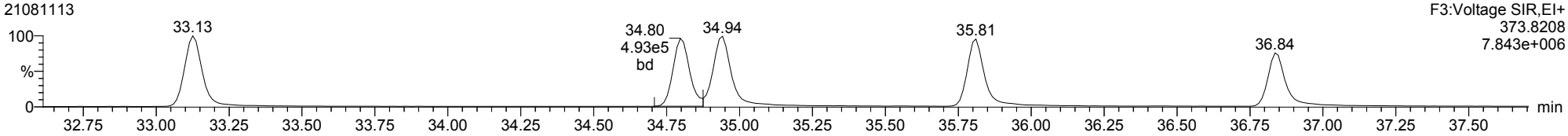

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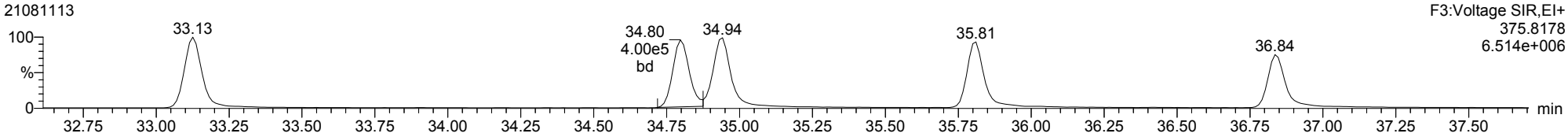

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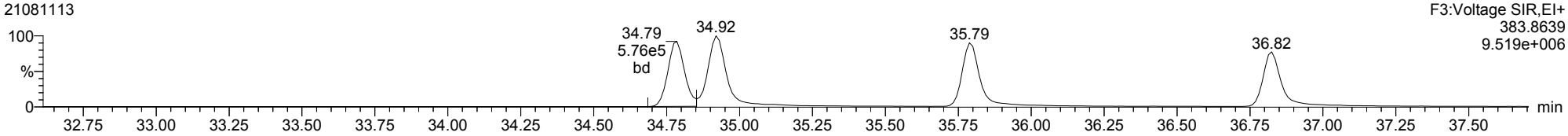

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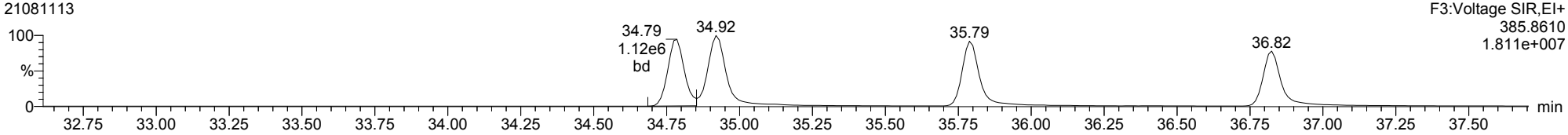
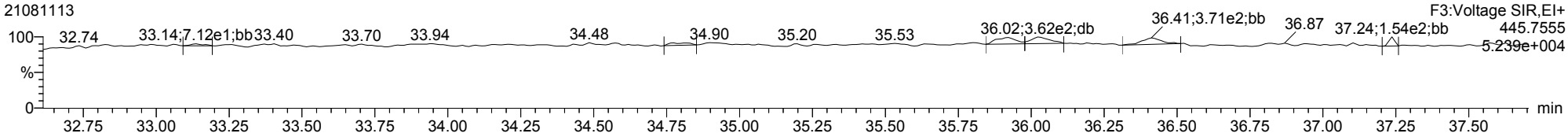


FUNCTION3 OCDPE



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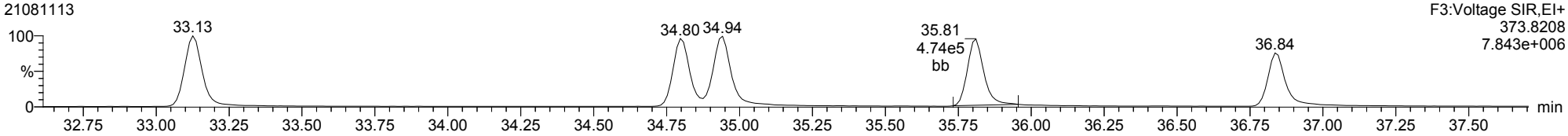
234678-HxCDF



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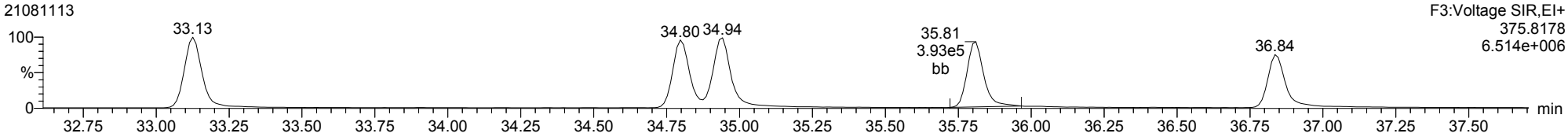

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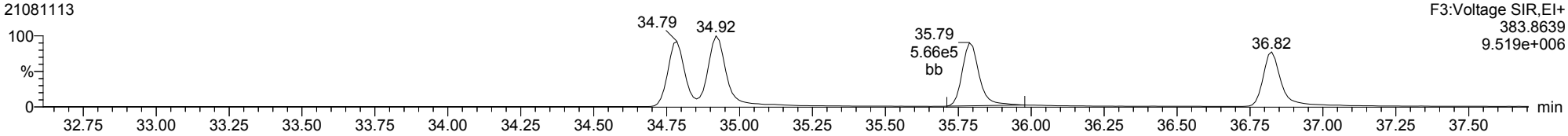

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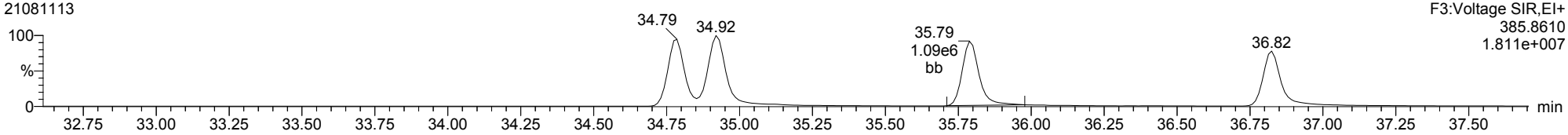
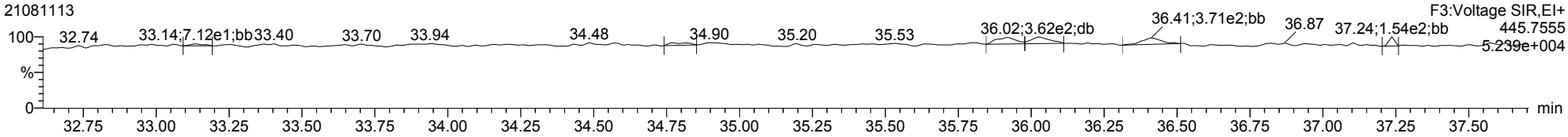


FUNCTION3 OCDPE



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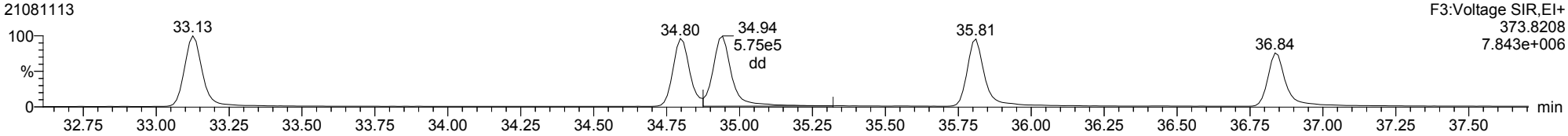

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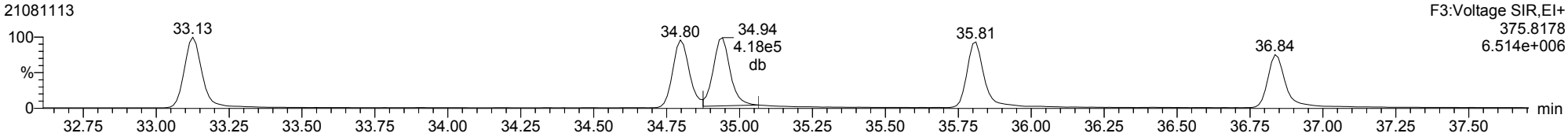

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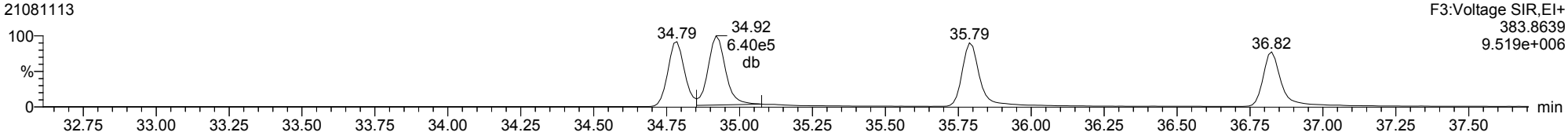

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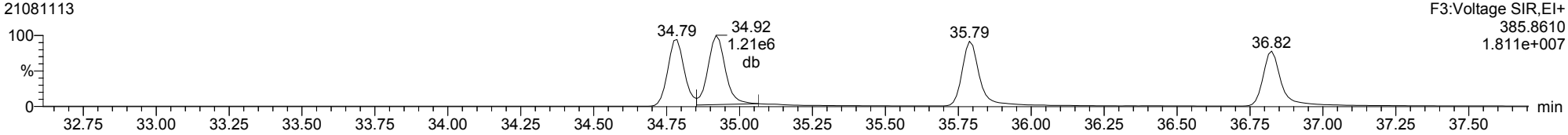

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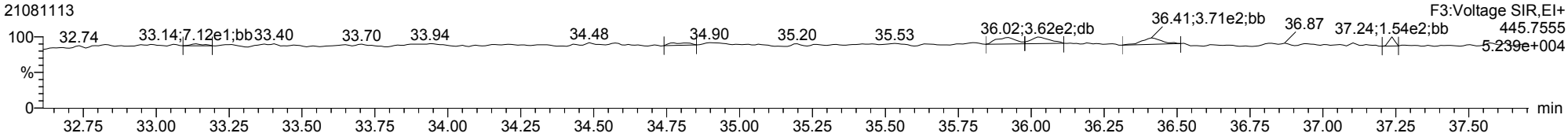

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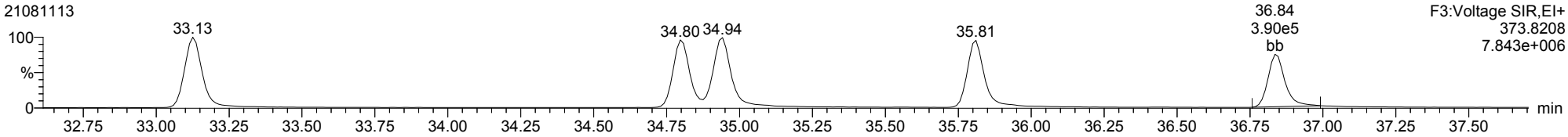
123789-HxCDF



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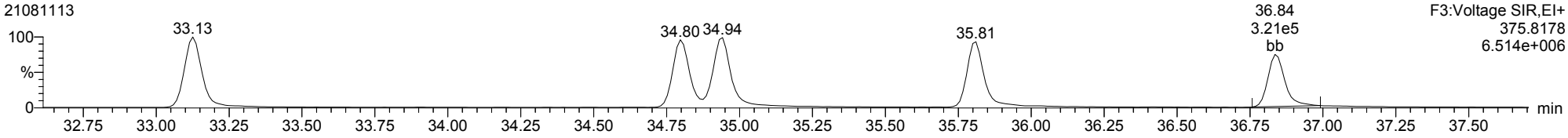

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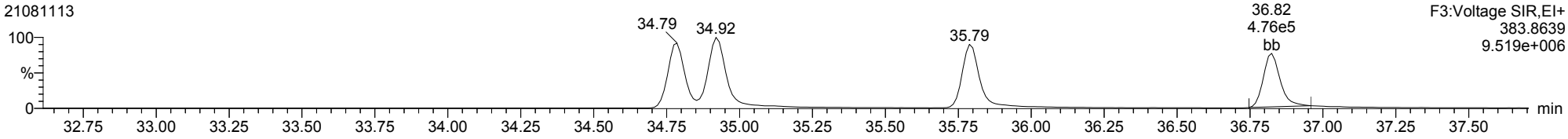

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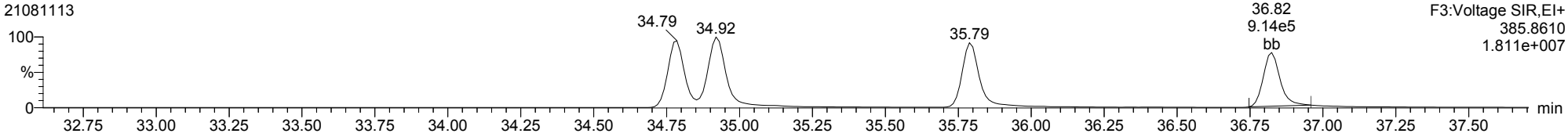
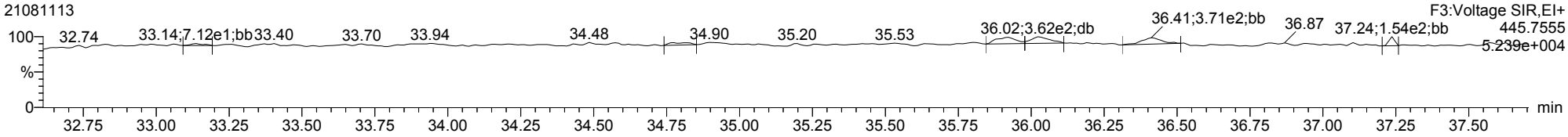


FUNCTION3 OCDPE



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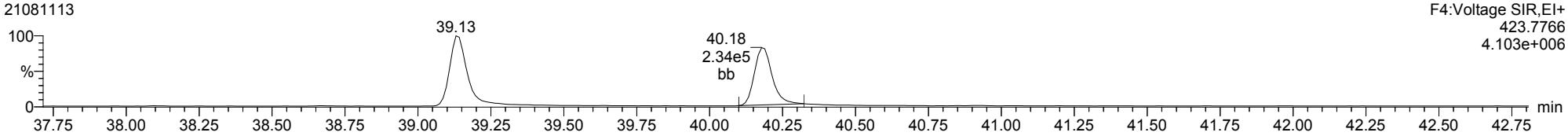

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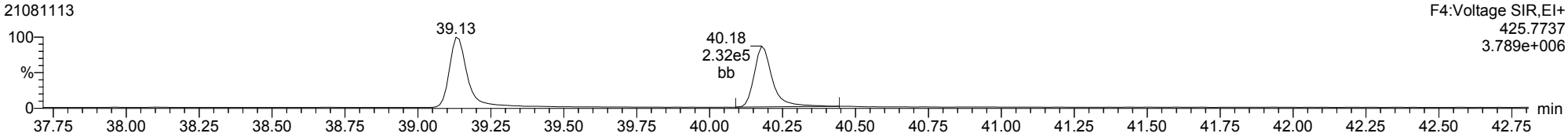

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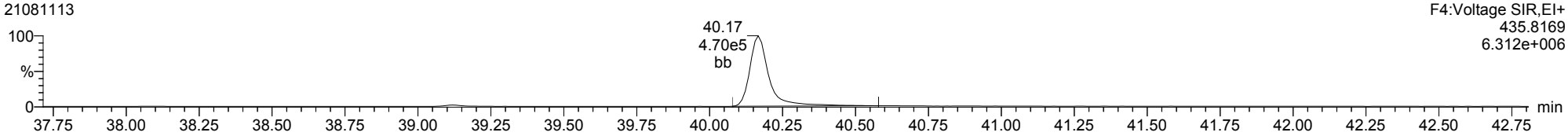

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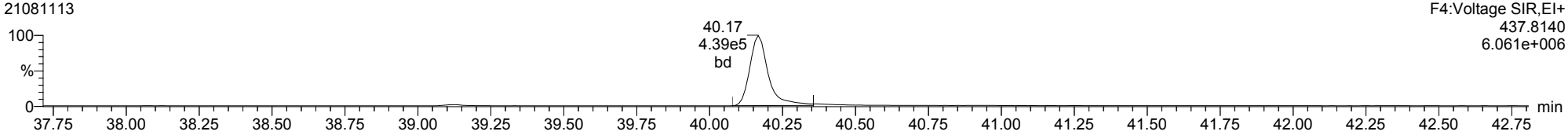
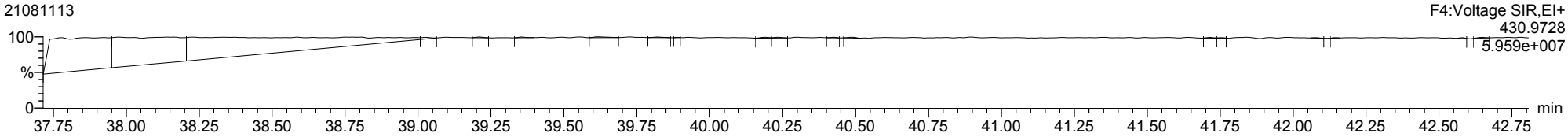


FUNCTION4 PFK



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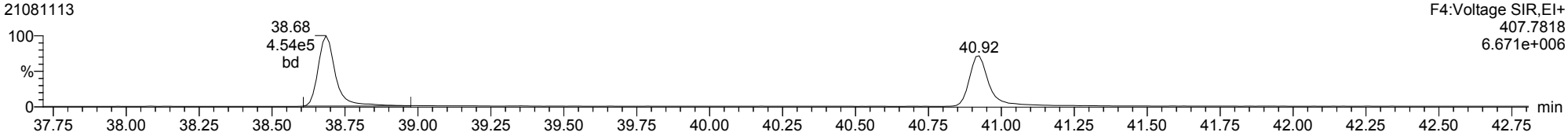

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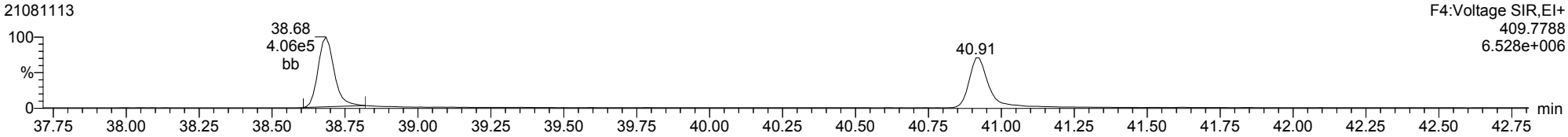

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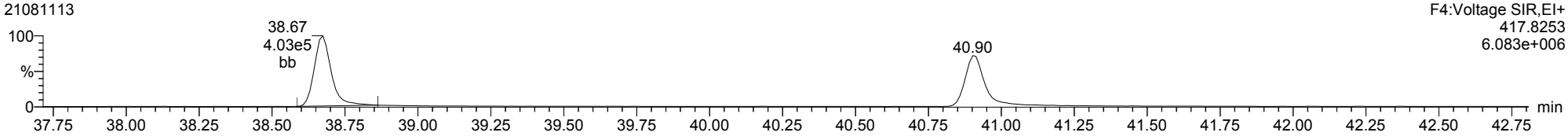

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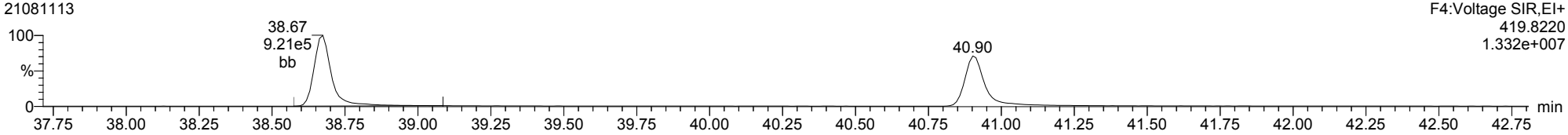

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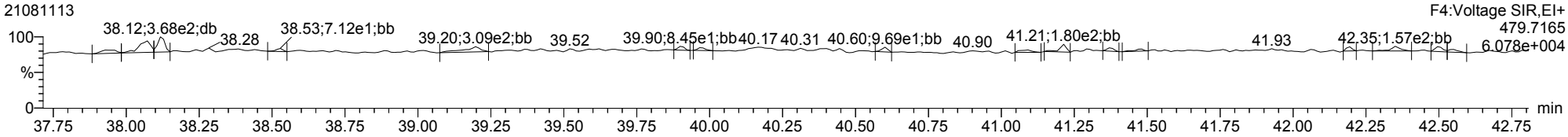

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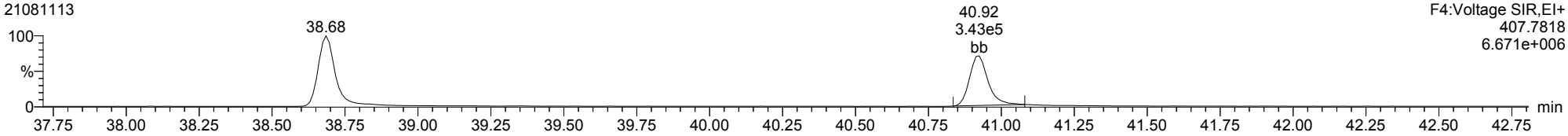

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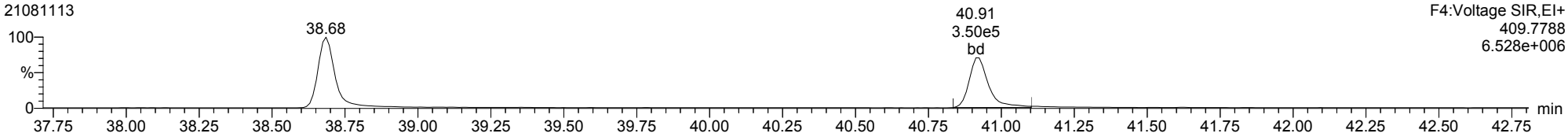

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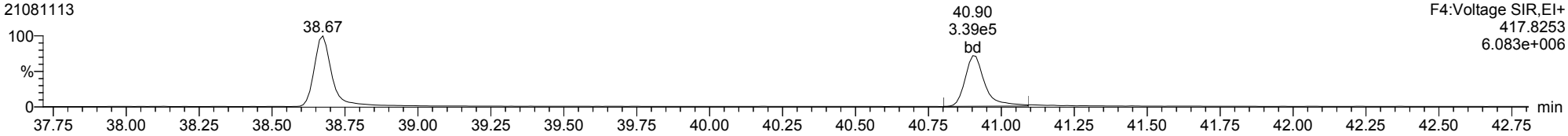

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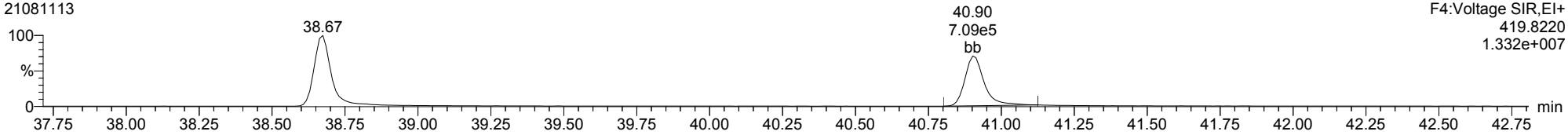

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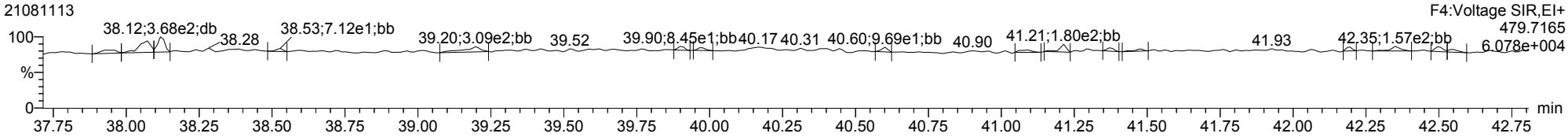

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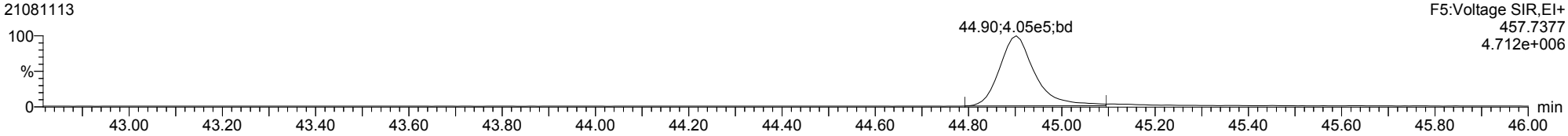

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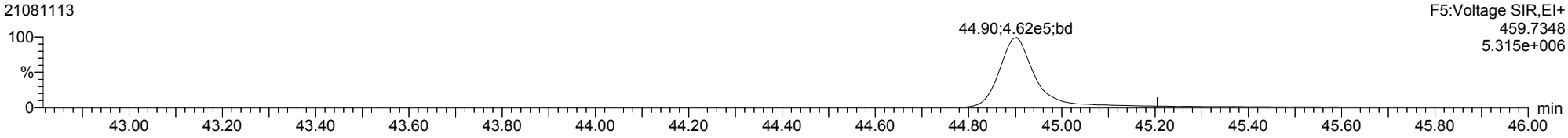

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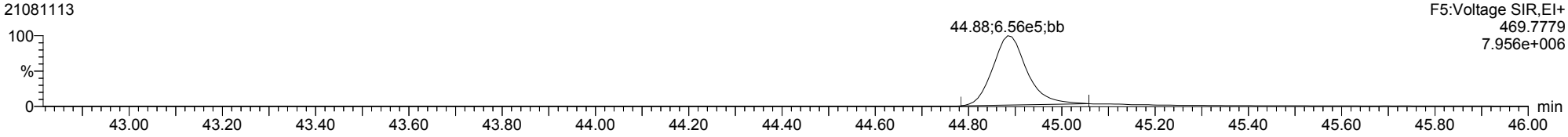

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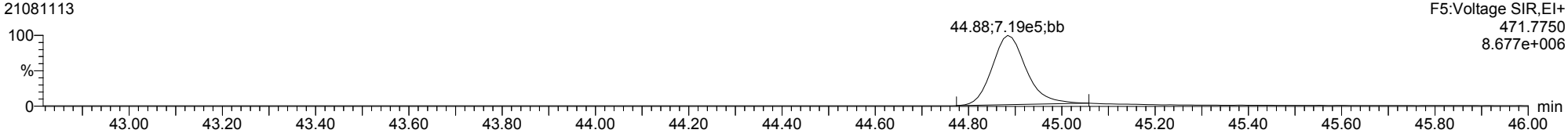

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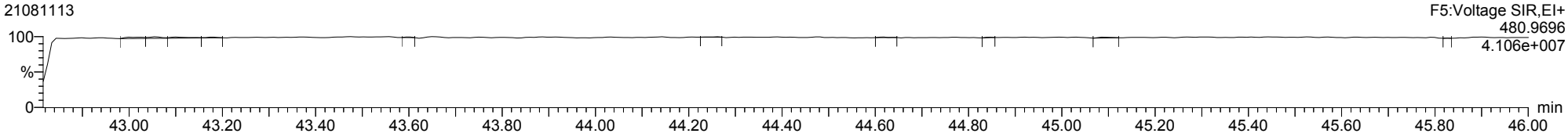

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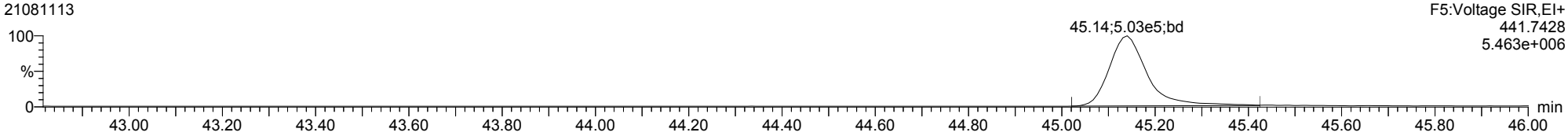

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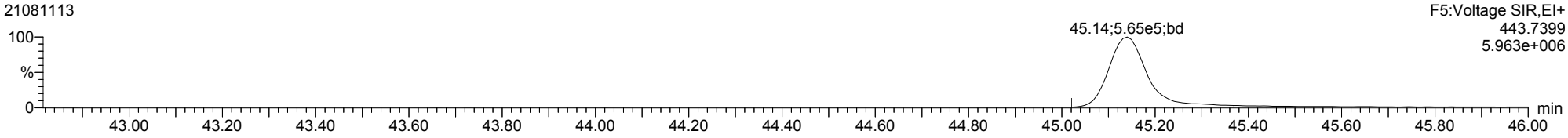
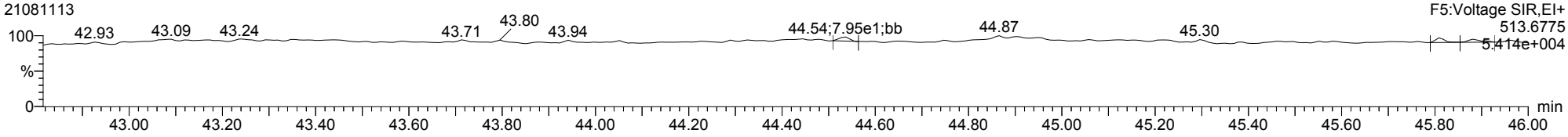


FUNCTION5 DCDPE



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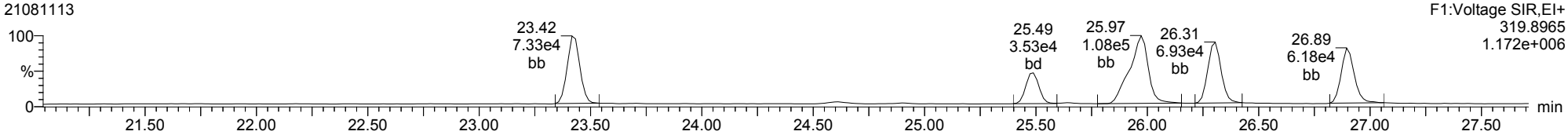

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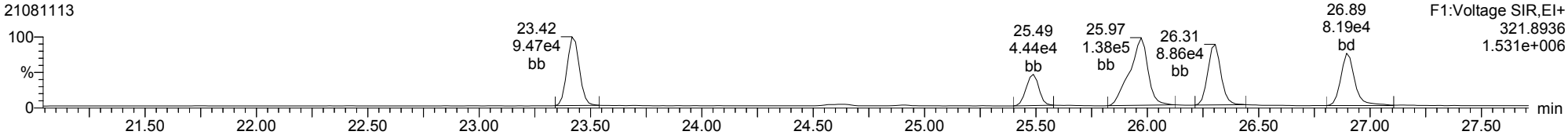

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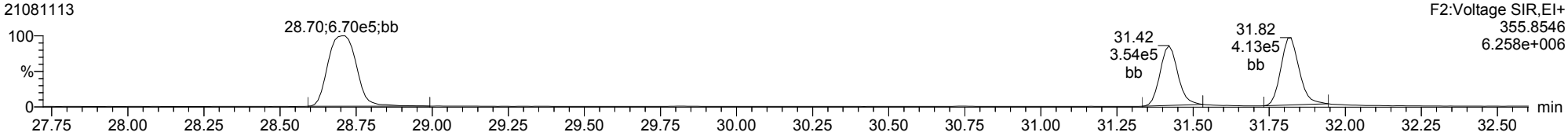

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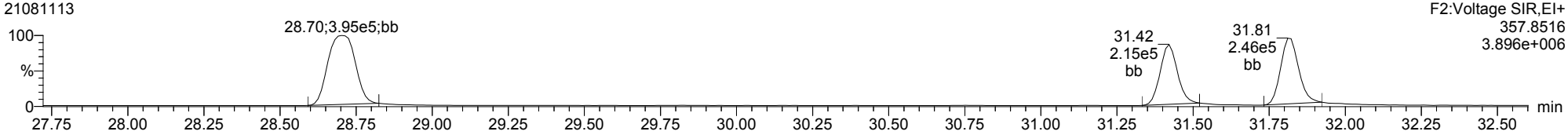

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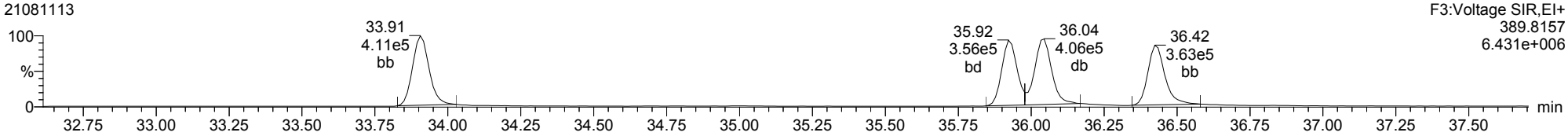

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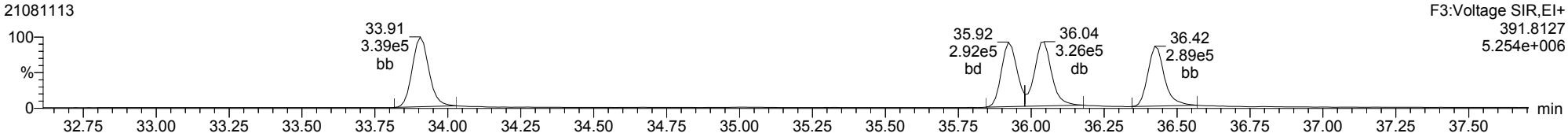

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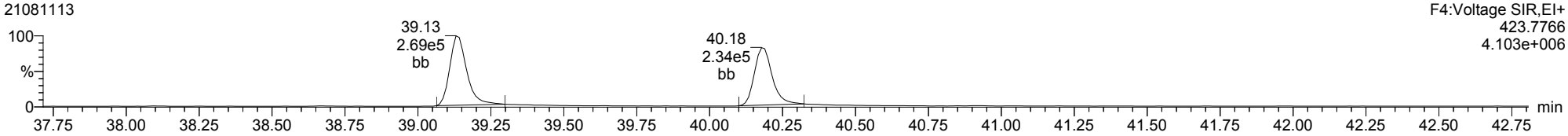

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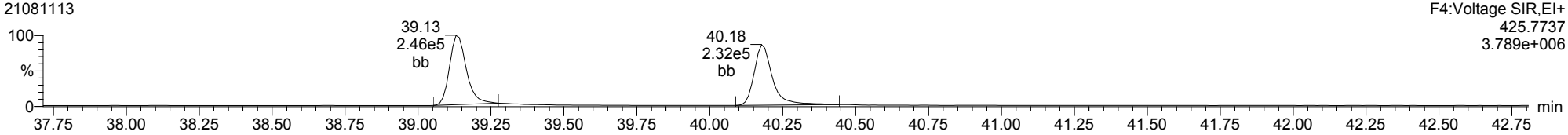

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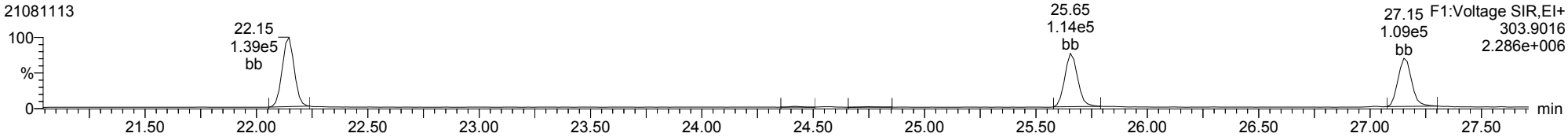

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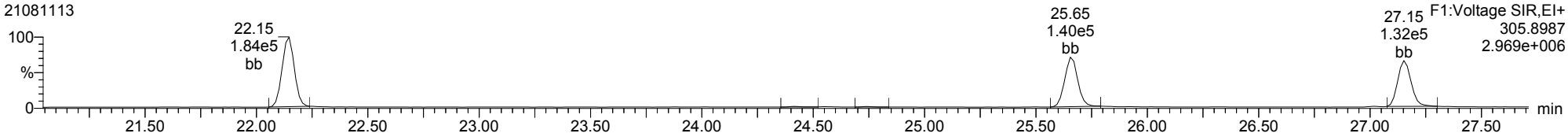

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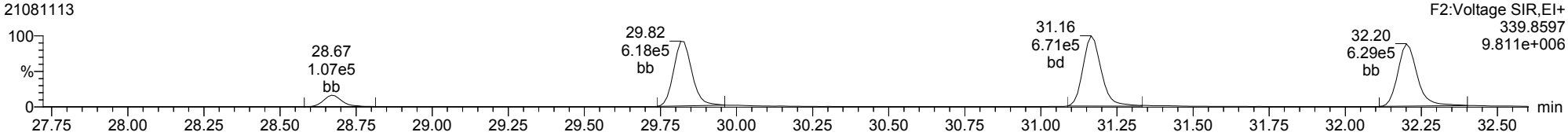

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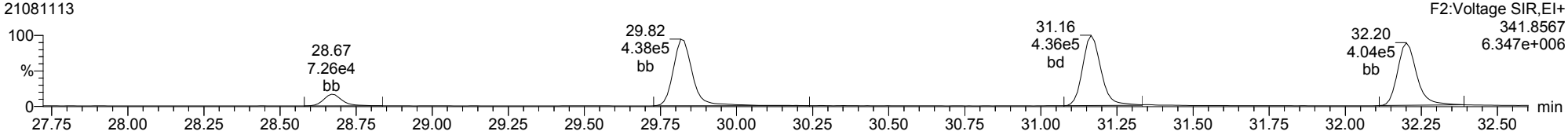

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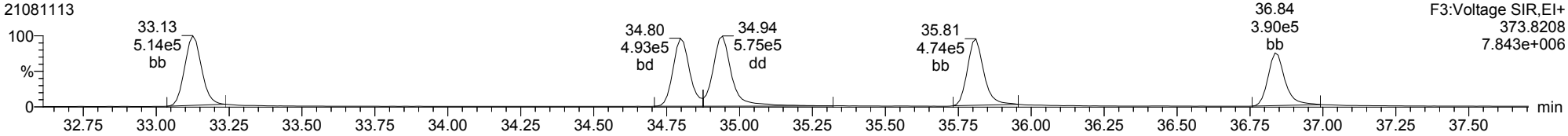

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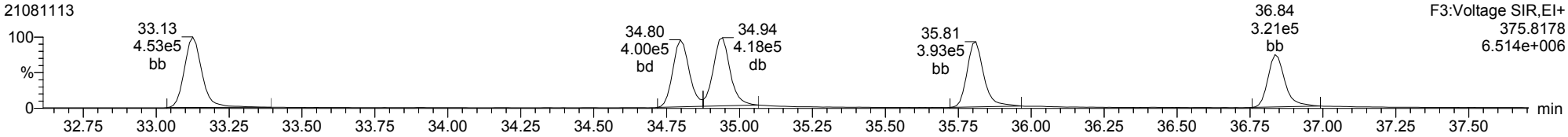

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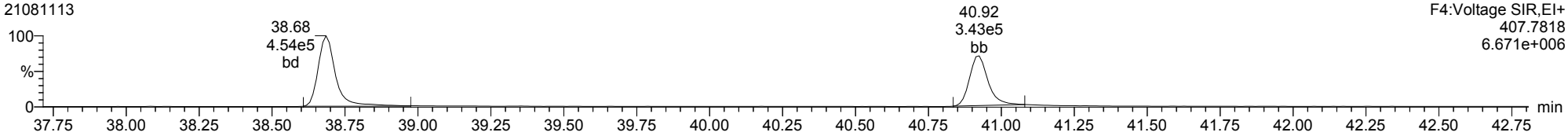

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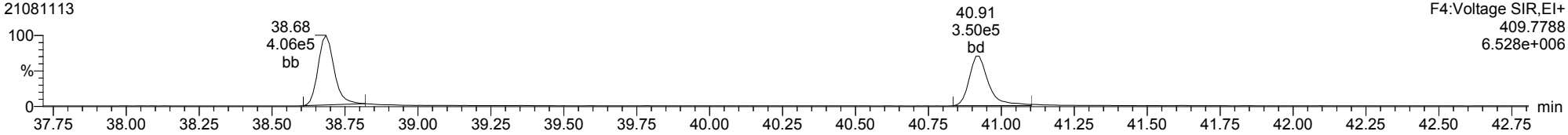

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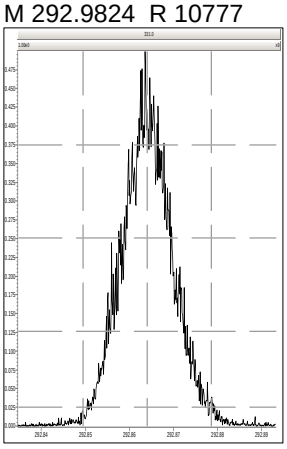

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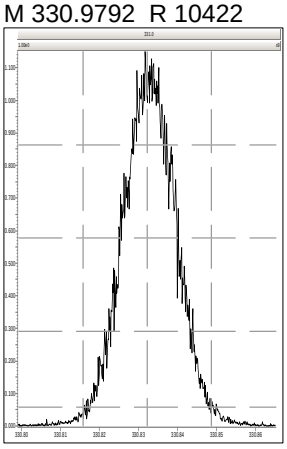

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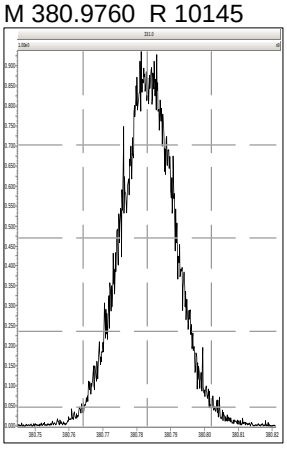

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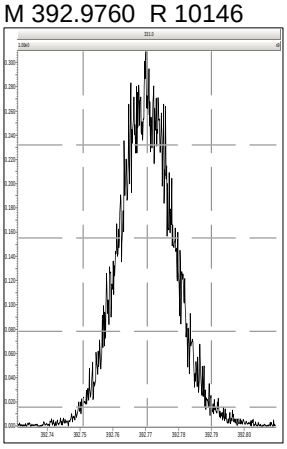

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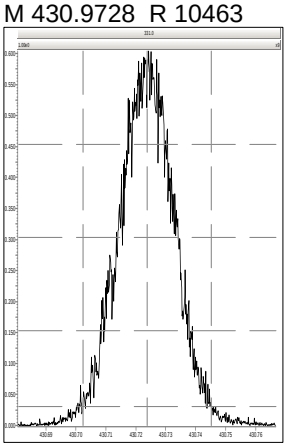

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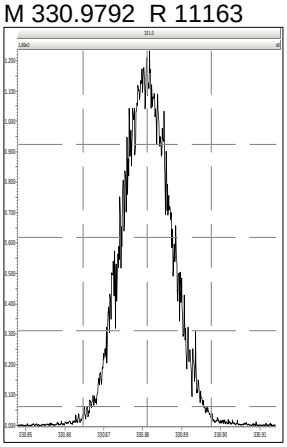

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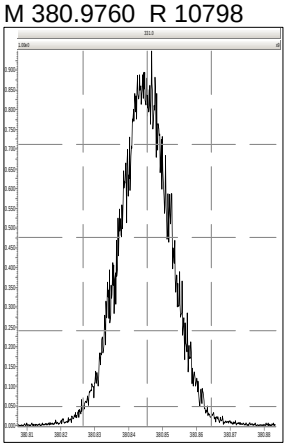

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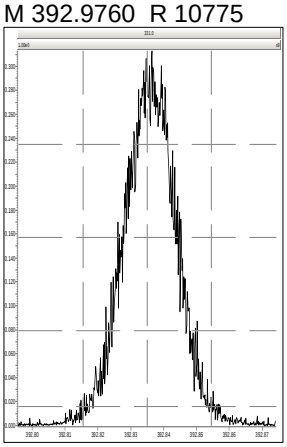

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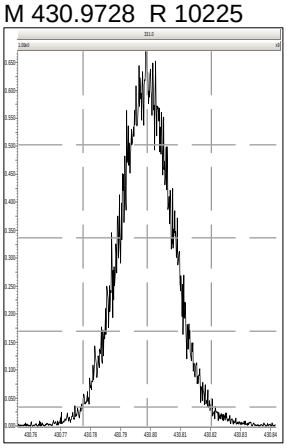

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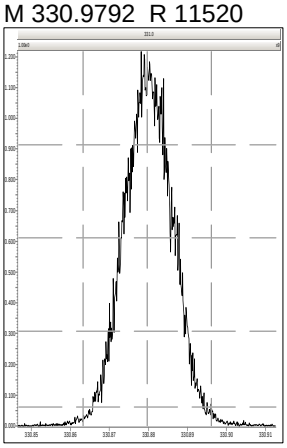

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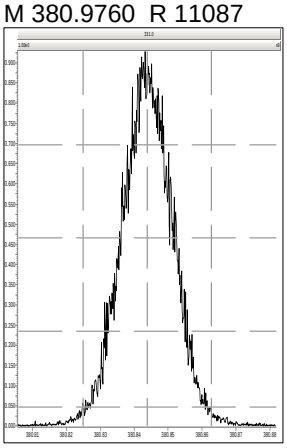

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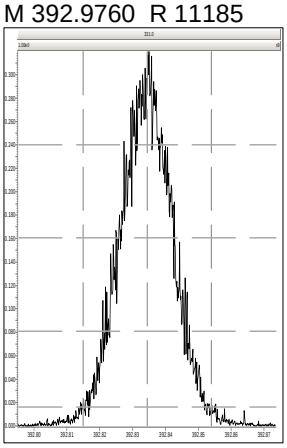

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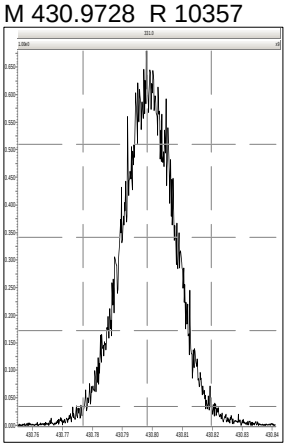

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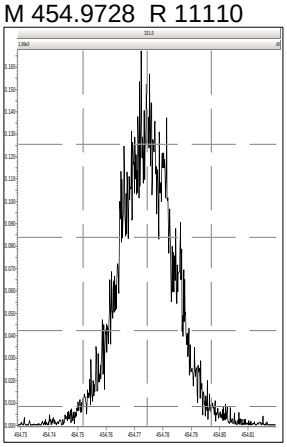

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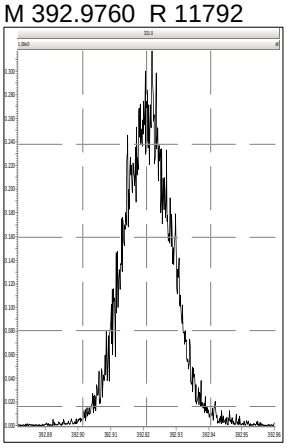
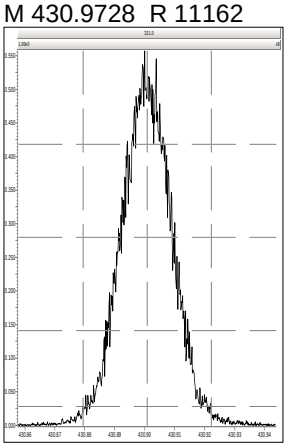
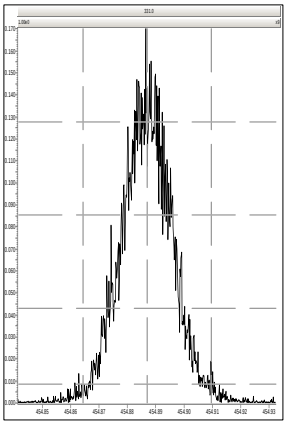


M 430.9728 R 11162

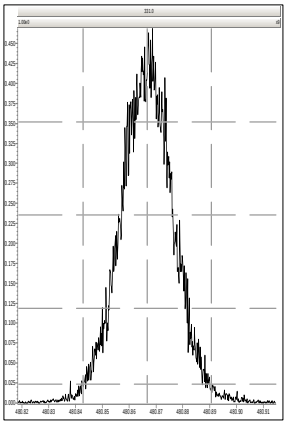


Printed: Thursday, August 12, 2021 01:42:05 Pacific Daylight Time

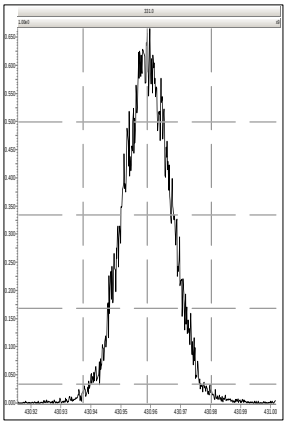
M 454.9728 R 11214



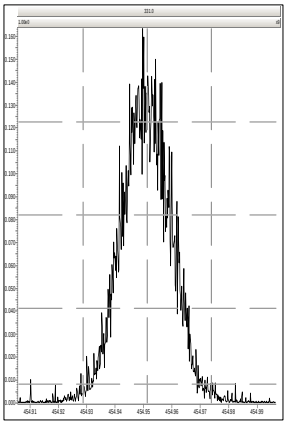
M 480.9696 R 10729



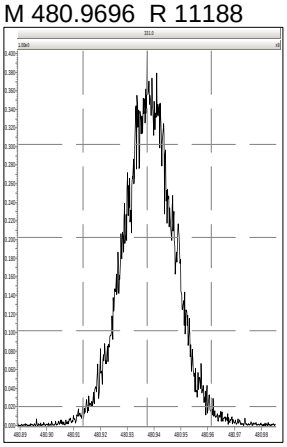
M 430.9728 R 12149



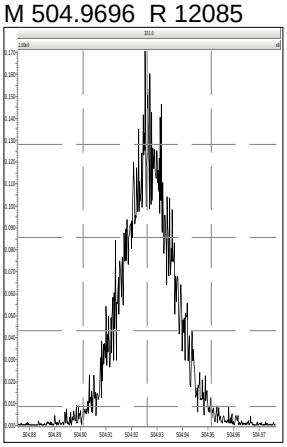
M 454.9728 R 11631



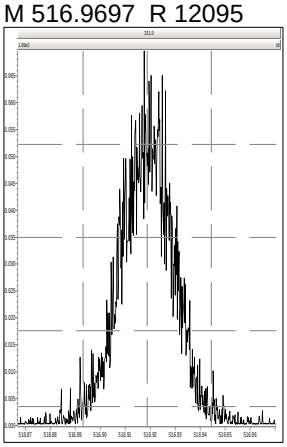
M 480.9696 R 11188

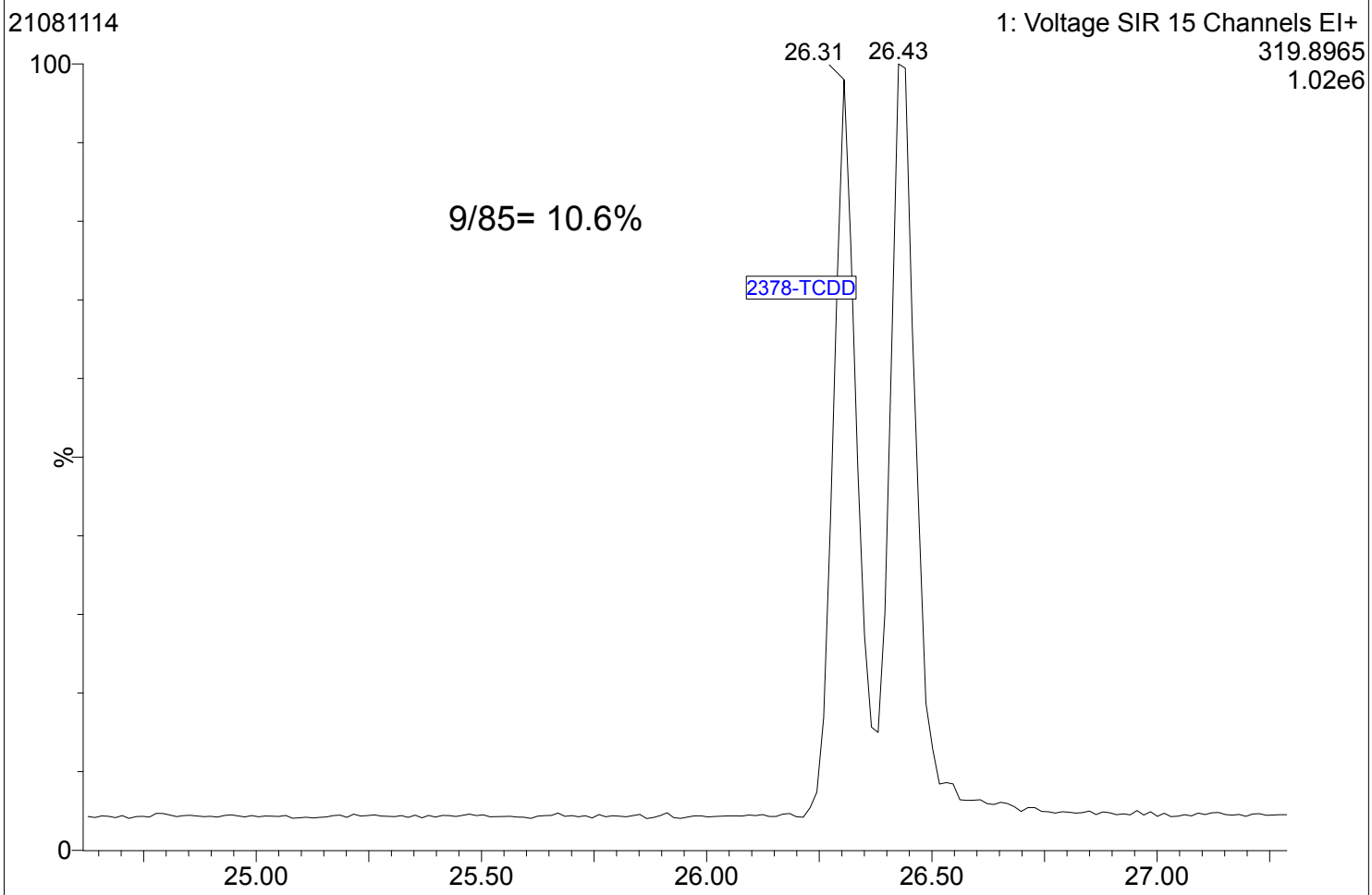


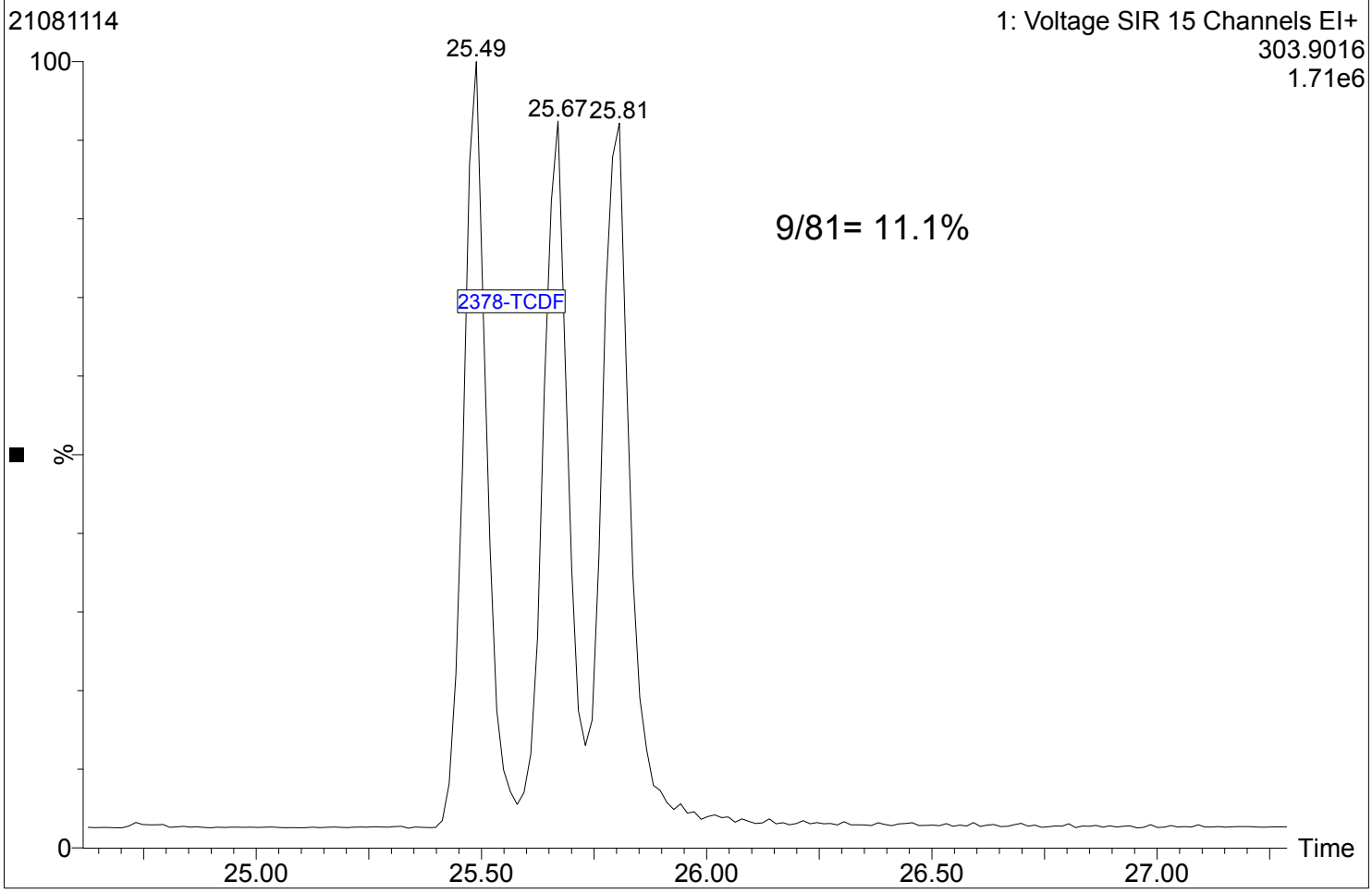
M 504.9696 R 12085



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:	21F0442
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
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Method: T:\Autospec\Methods\Dioxin210720.mdb 11 Aug 2021 14:23:13
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

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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

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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

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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

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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

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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

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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													

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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

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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

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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		

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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

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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

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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

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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

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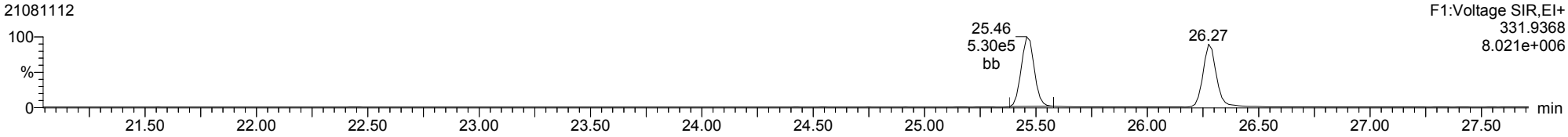
13C-1234-TCDD



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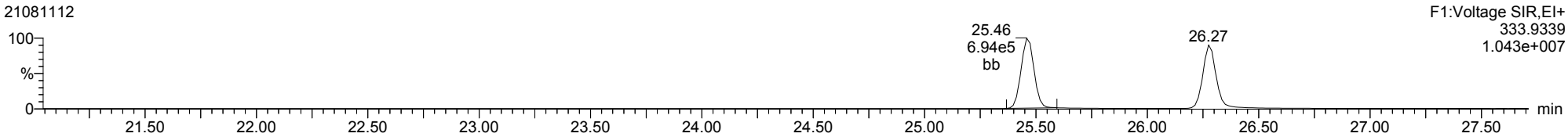

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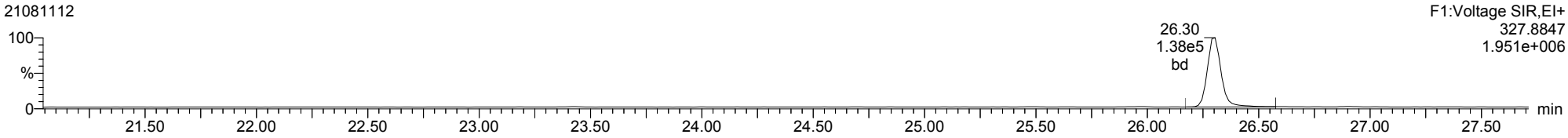

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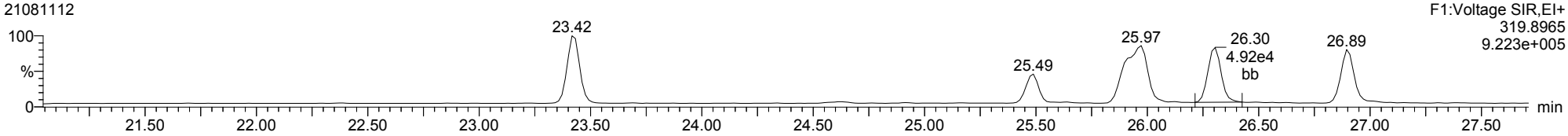

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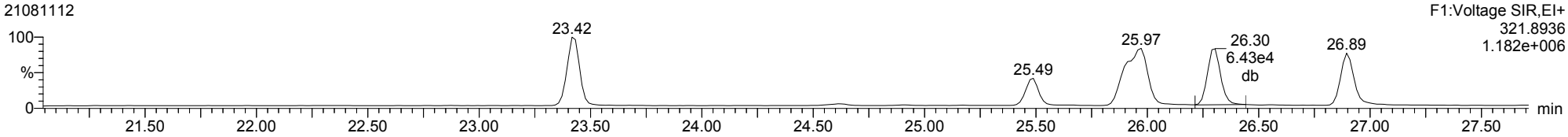

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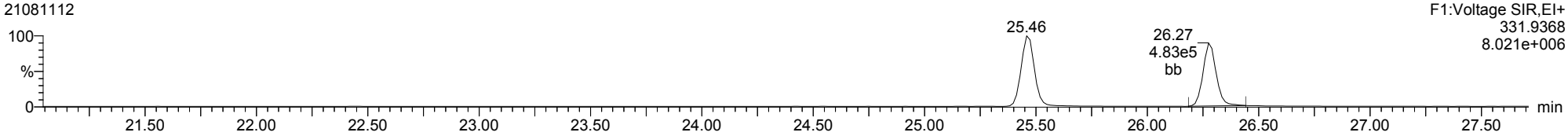

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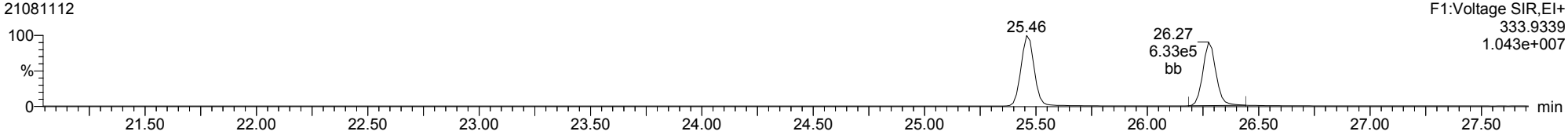

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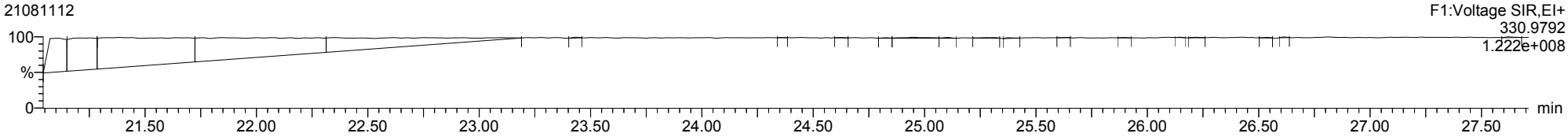

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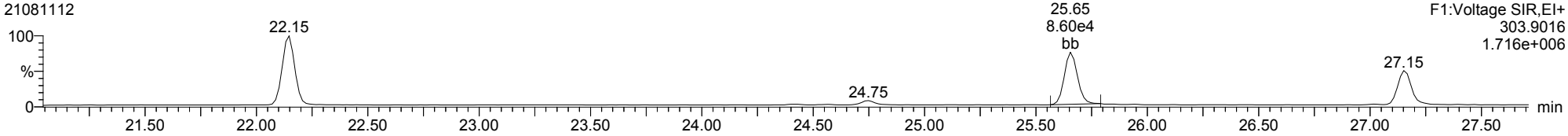

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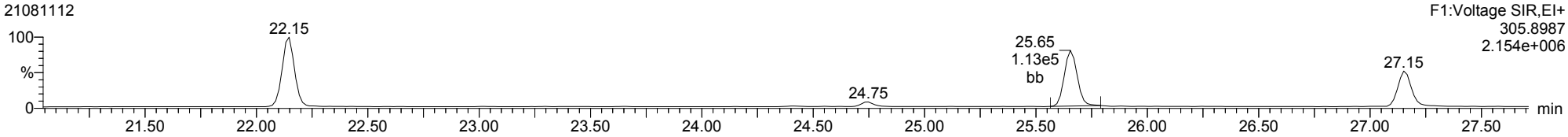

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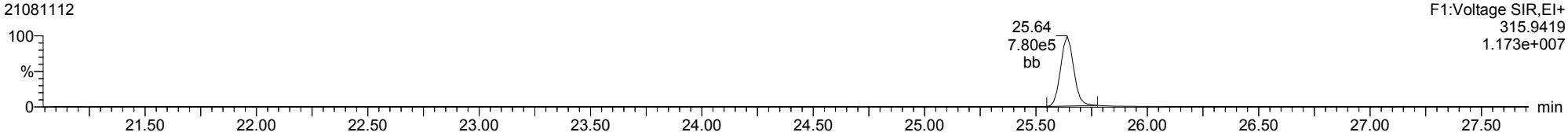
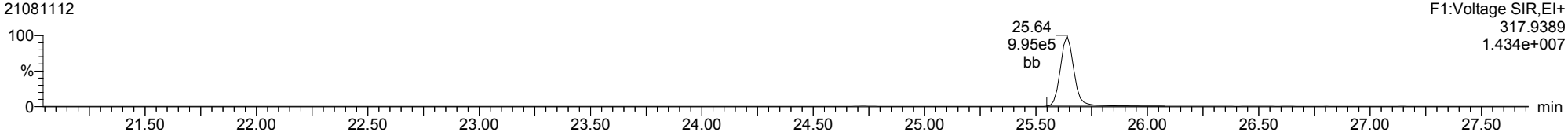
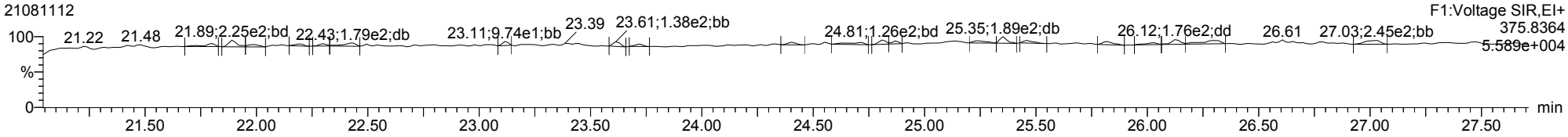


13C-2378-TCDF



FUNCTION1 HXCDPE



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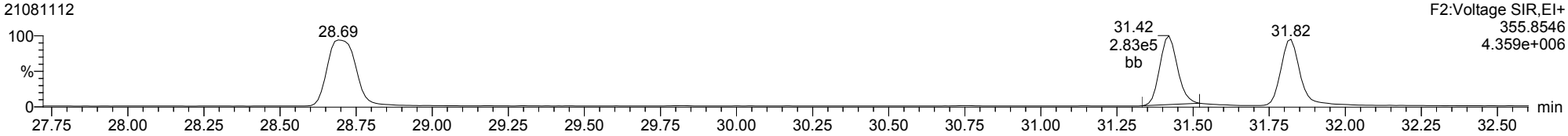
12378-PeCDD



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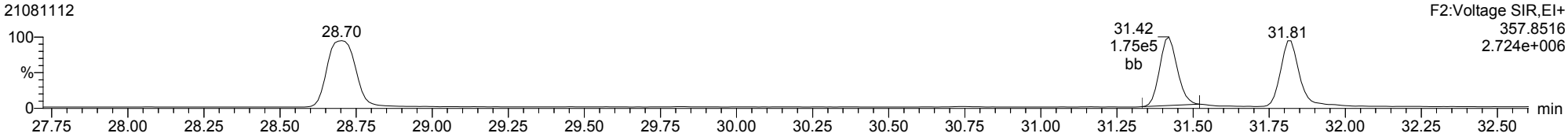

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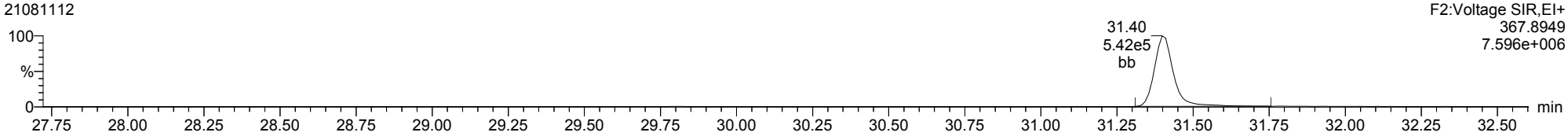

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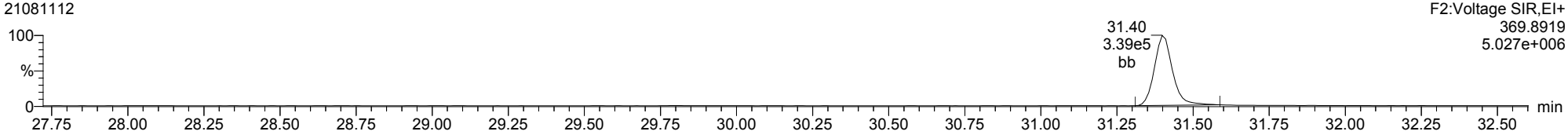
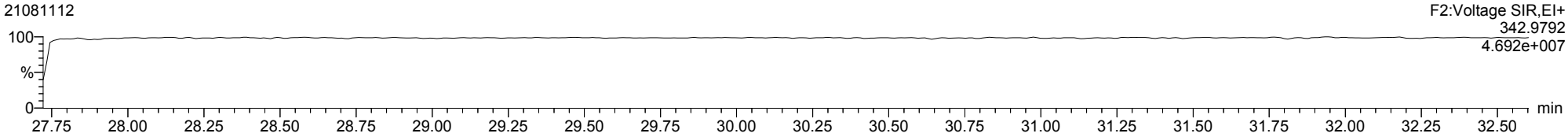


FUNCTION2 PFK



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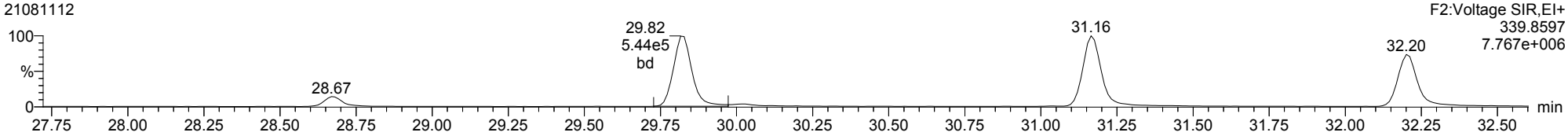

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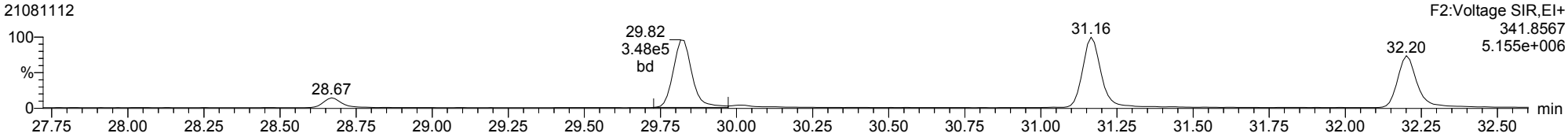

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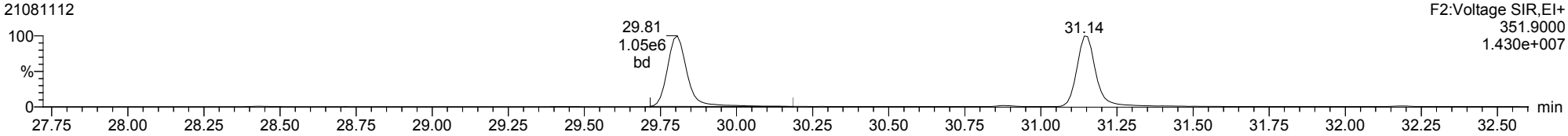

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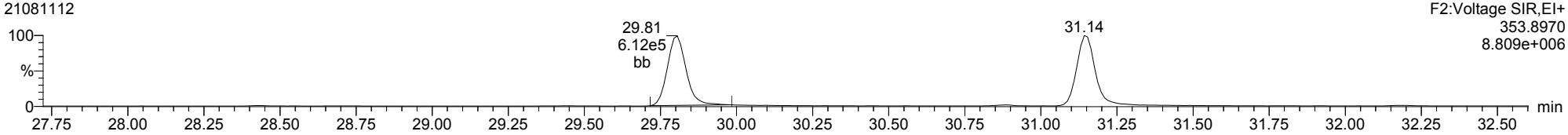
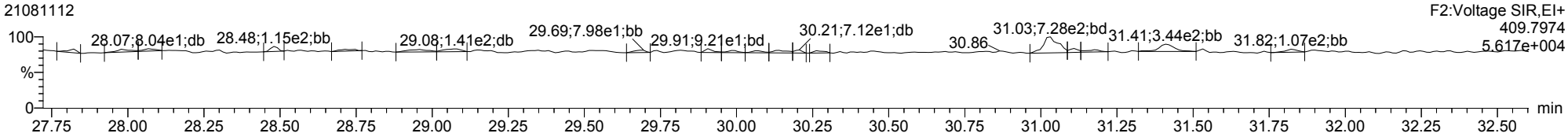


FUNCTION2 HPCDPE



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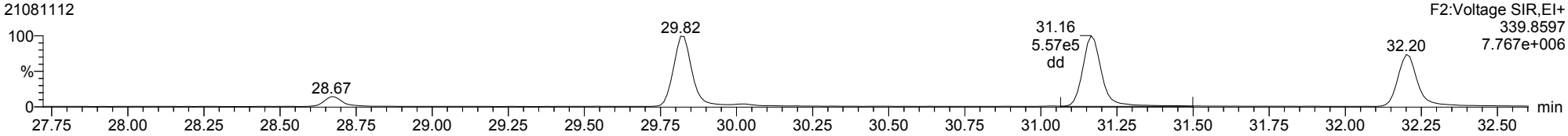
23478-PeCDF



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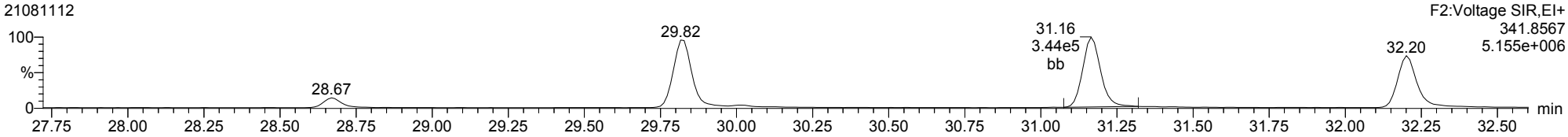

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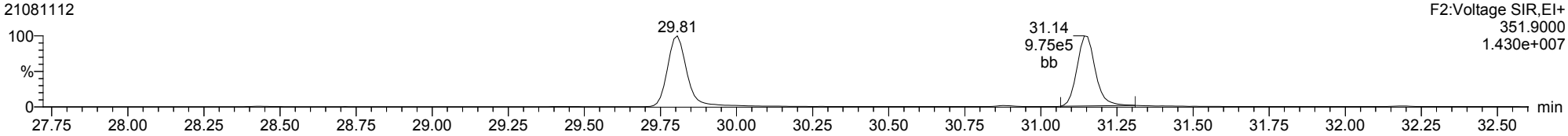

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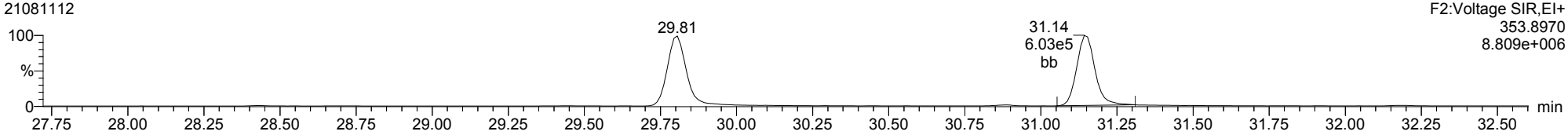

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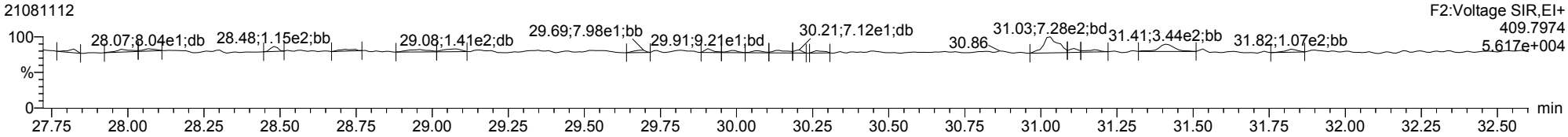

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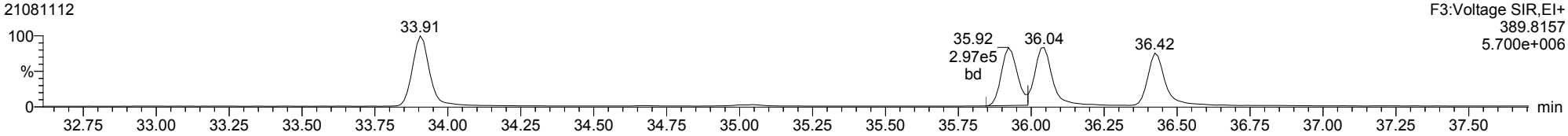
123478-HxCDD



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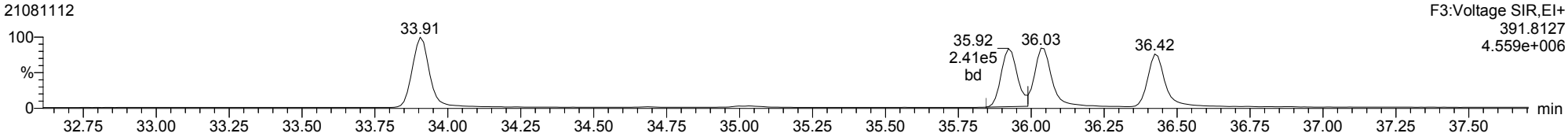

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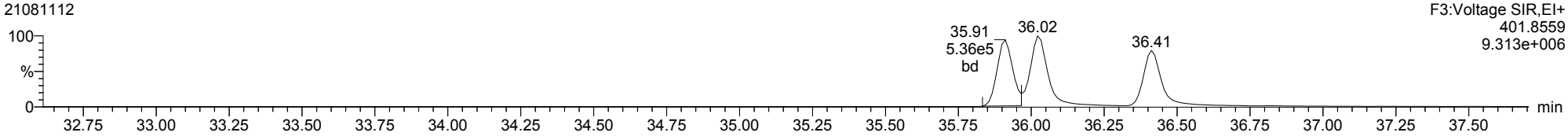

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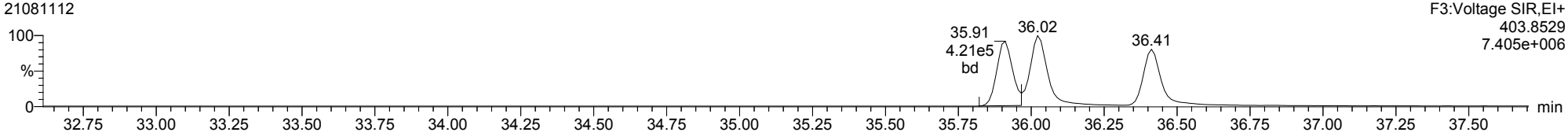
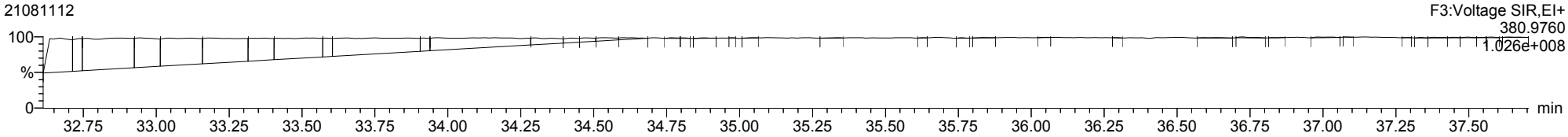


FUNCTION3 PFK



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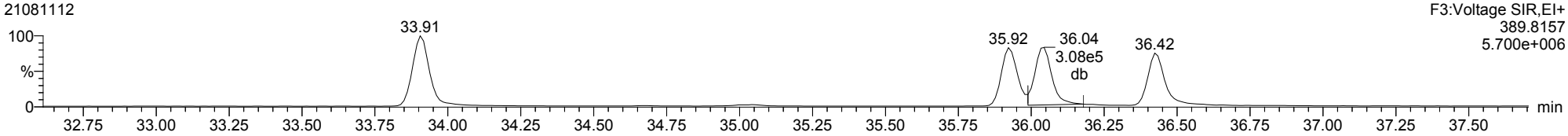

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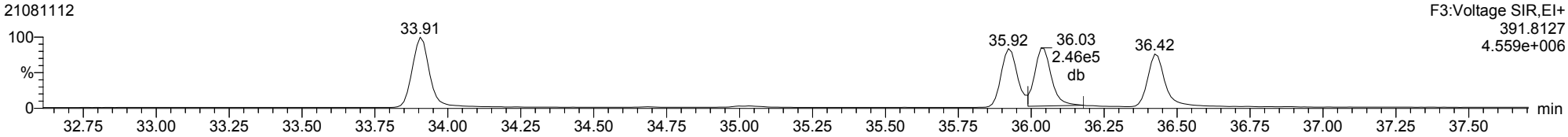

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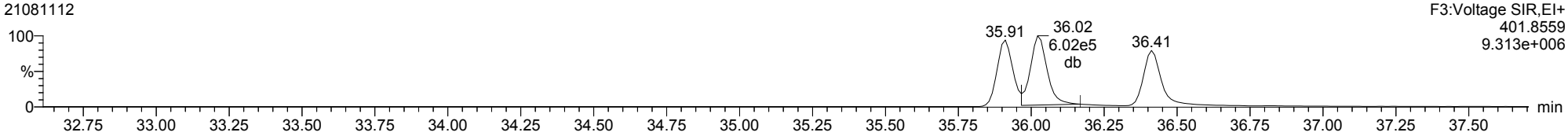

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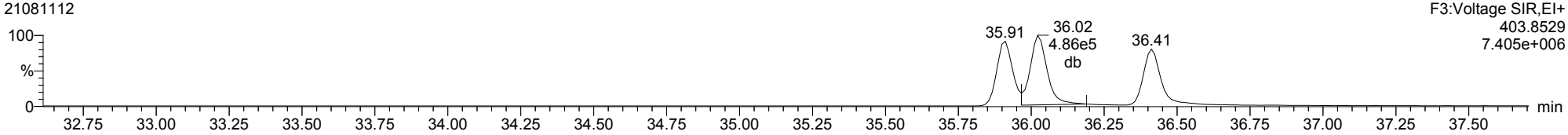

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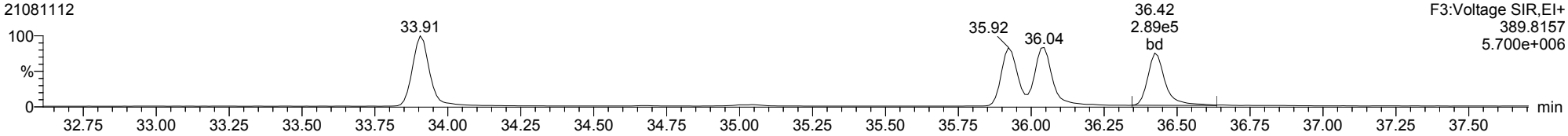
123789-HxCDD



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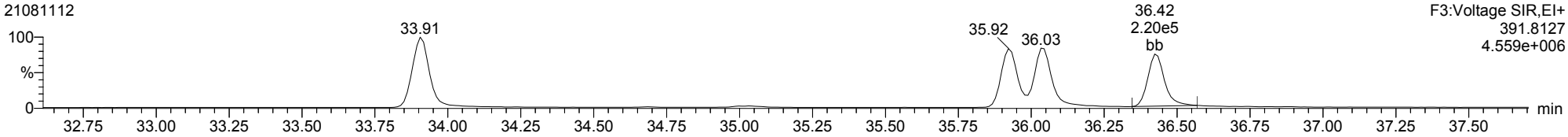

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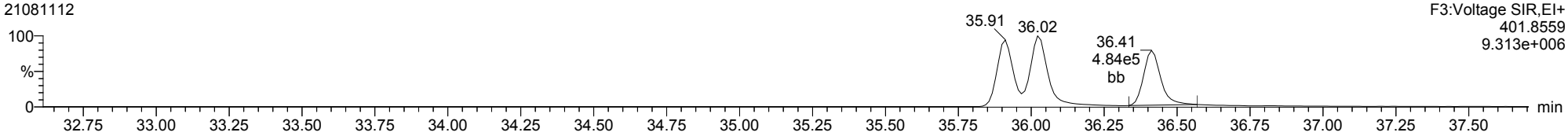

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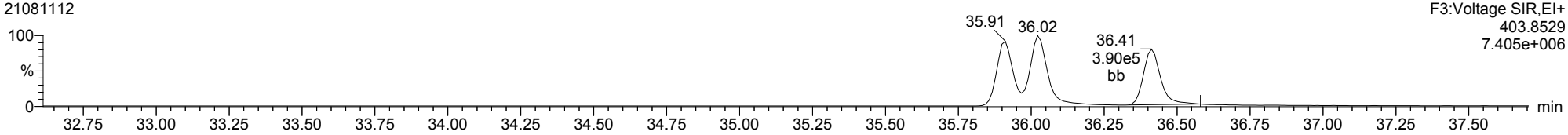

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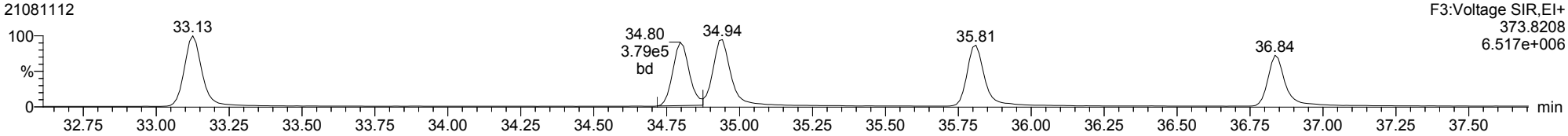
123478-HxCDF



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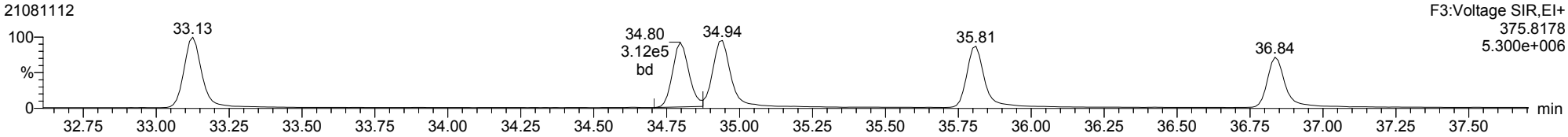

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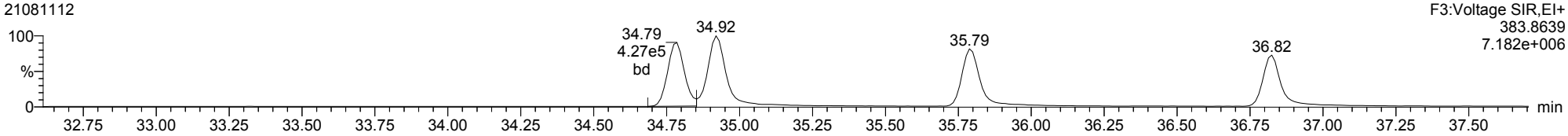

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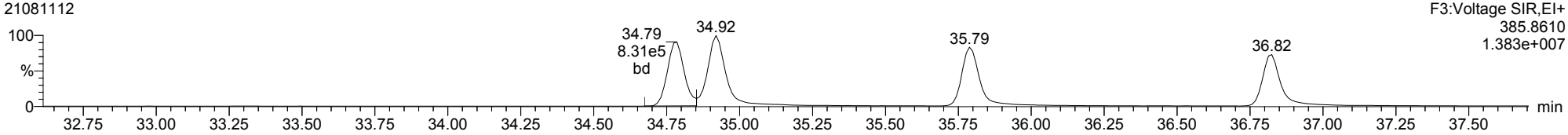
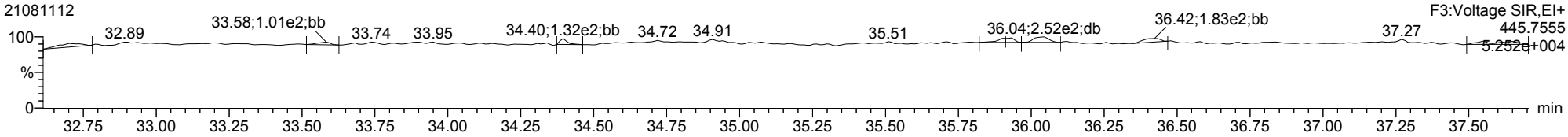


FUNCTION3 OCDPE



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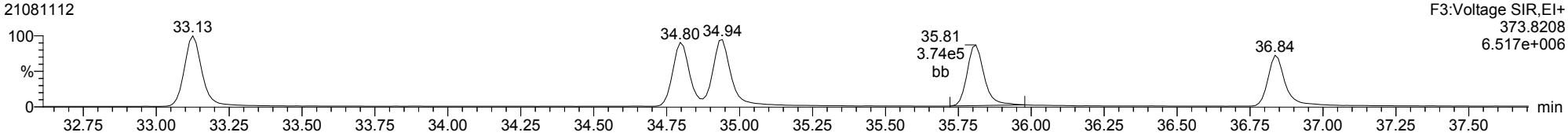
234678-HxCDF



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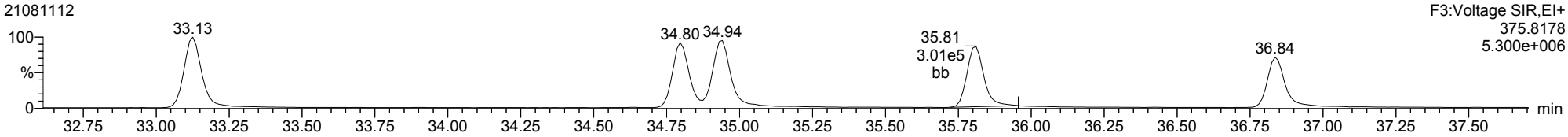

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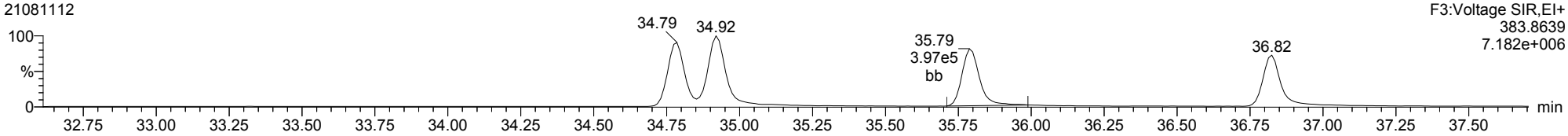

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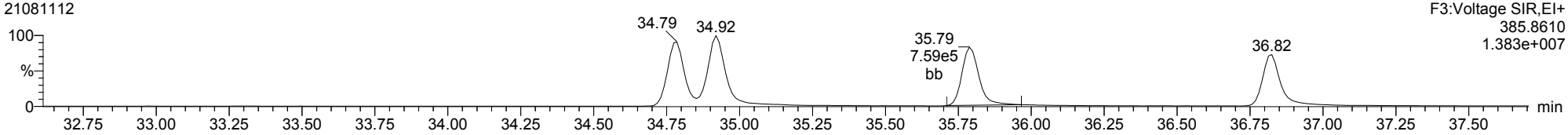
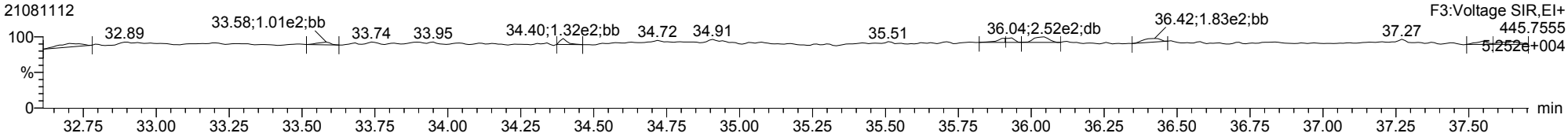


FUNCTION3 OCDPE



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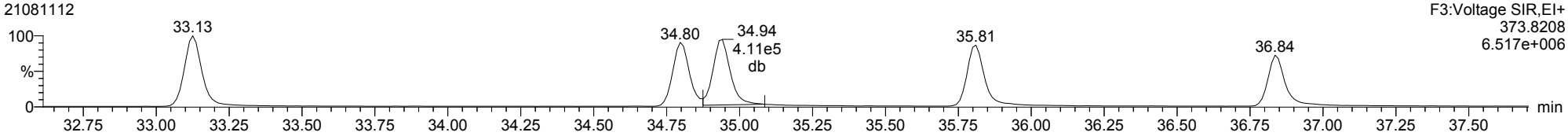
123678-HxCDF



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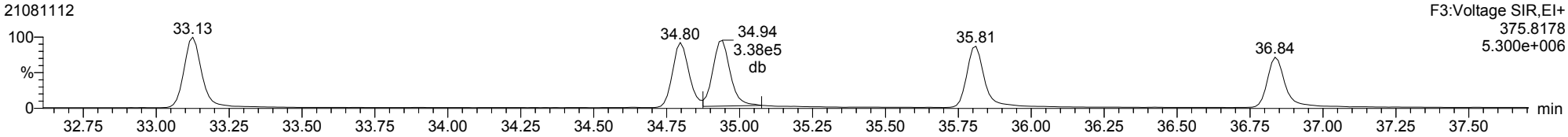

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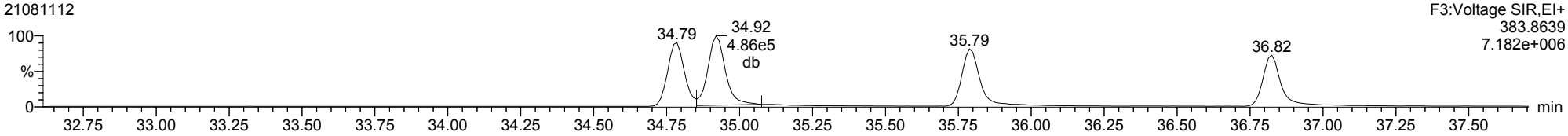

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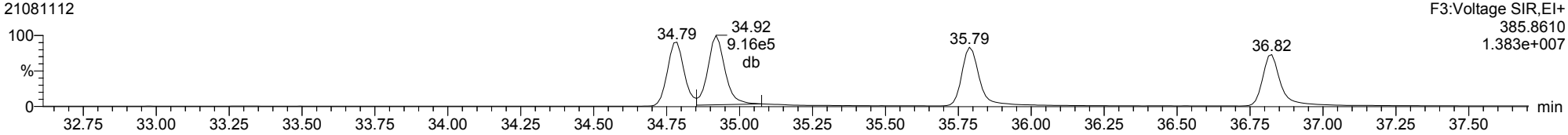
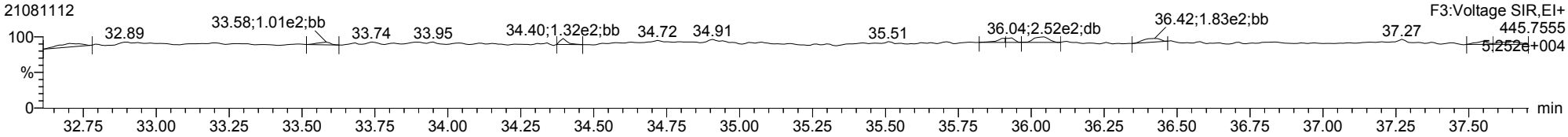


FUNCTION3 OCDPE



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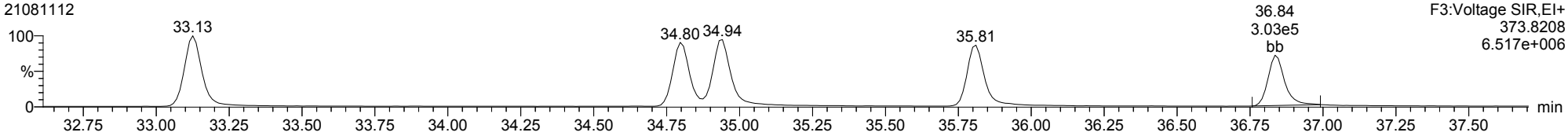
123789-HxCDF



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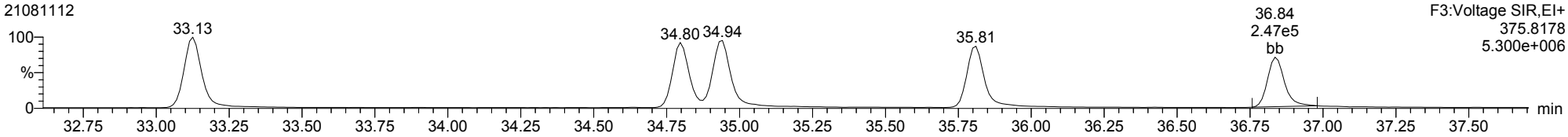

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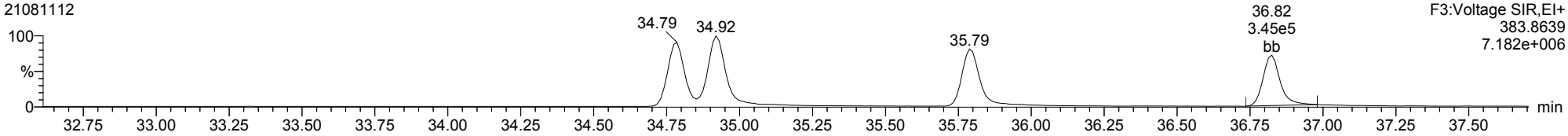

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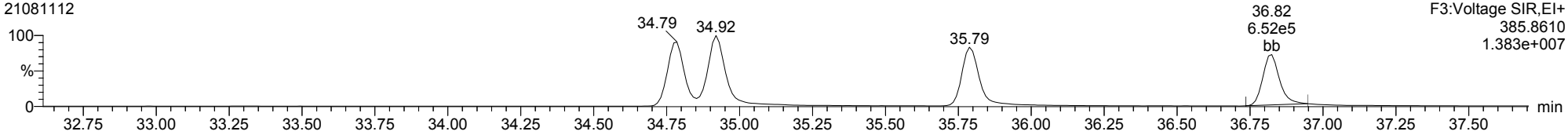
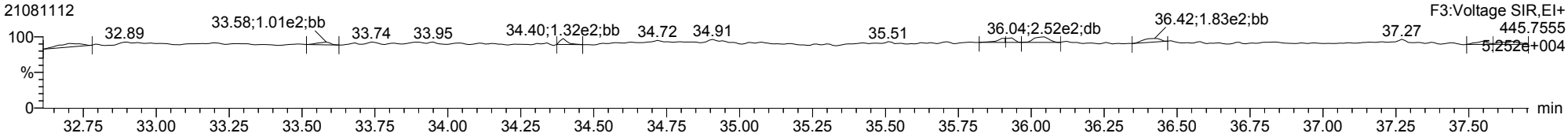


FUNCTION3 OCDPE



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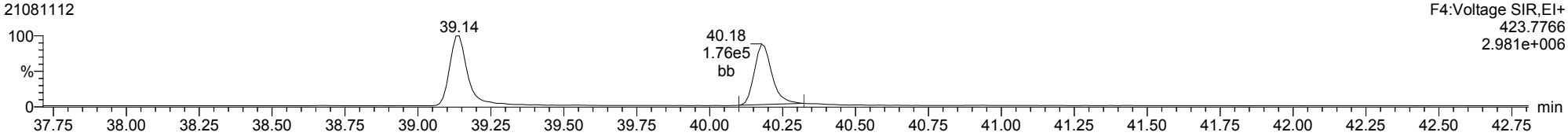

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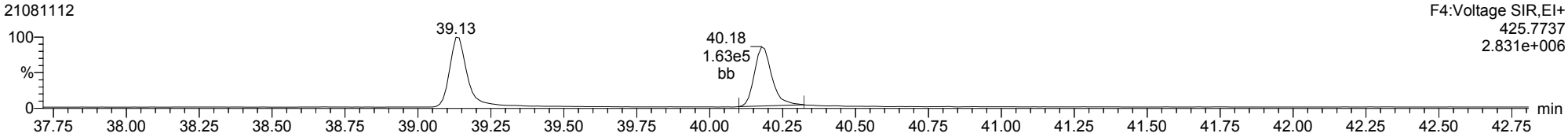

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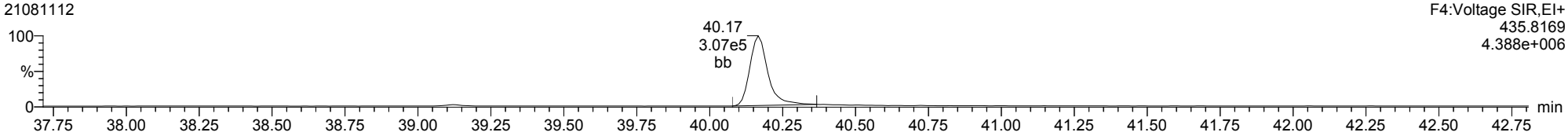

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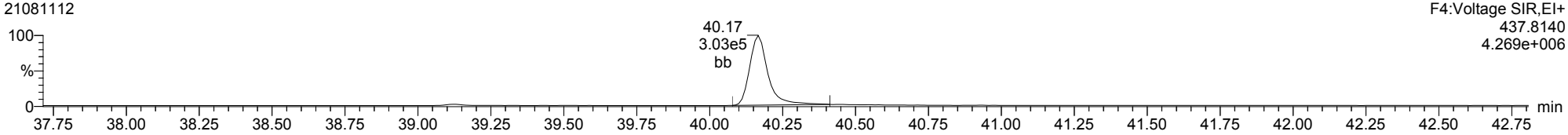

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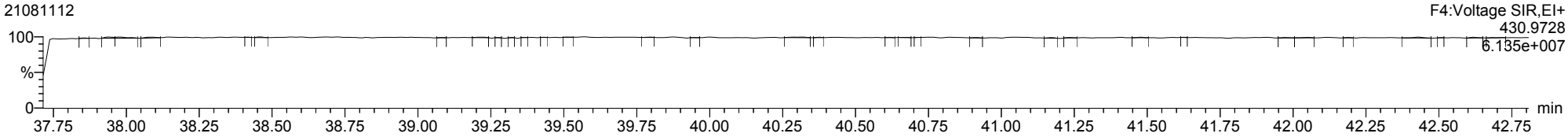

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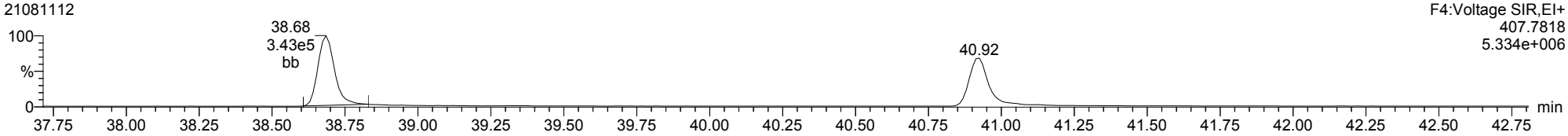

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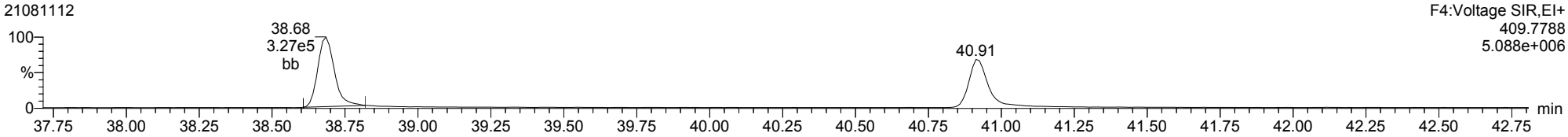

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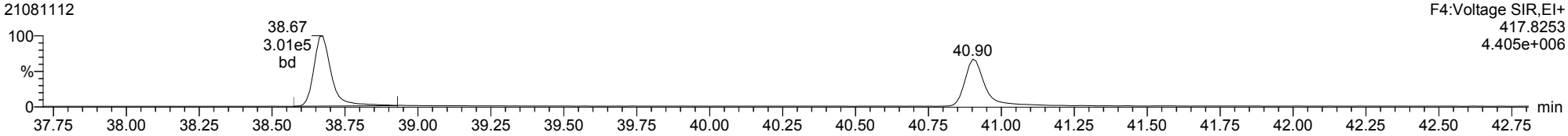

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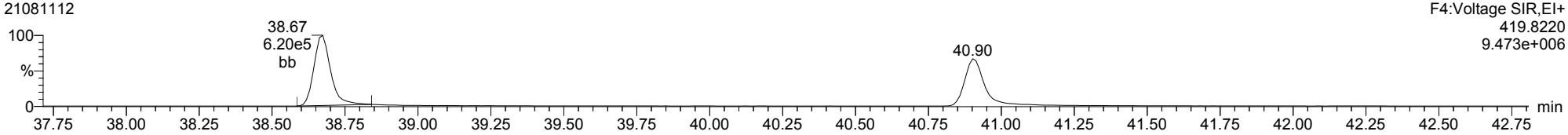

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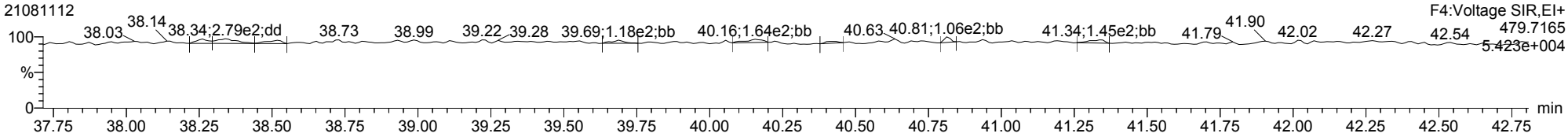

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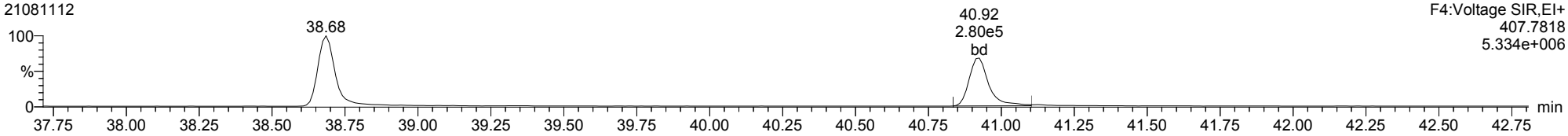

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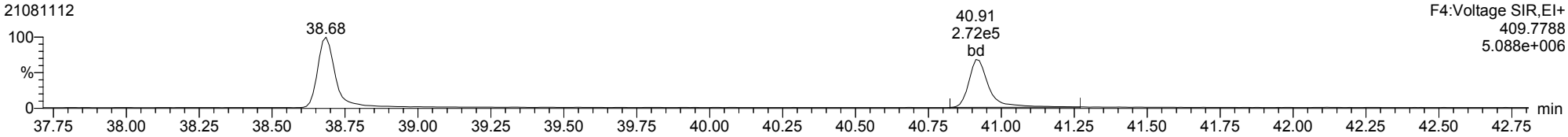

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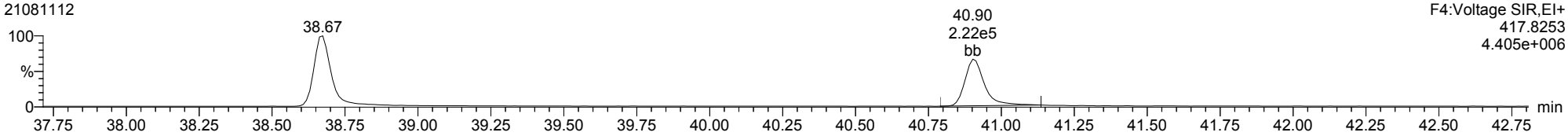

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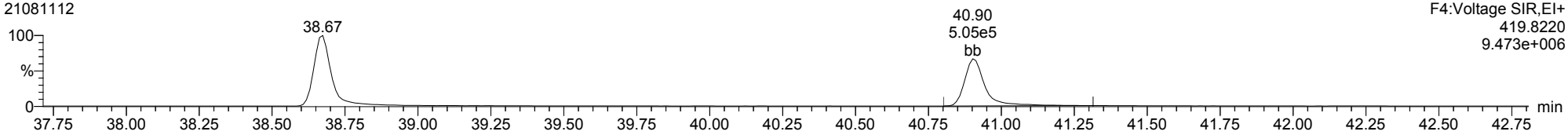

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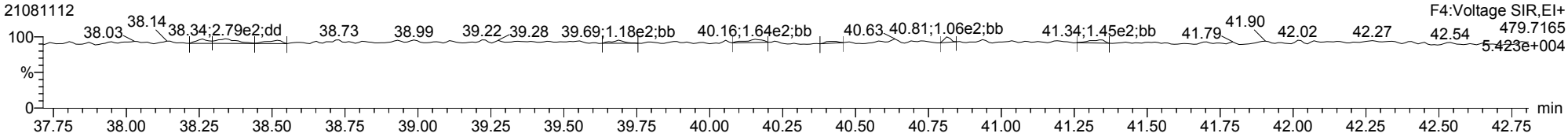

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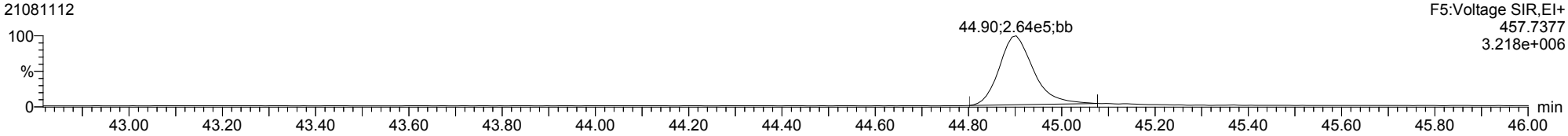

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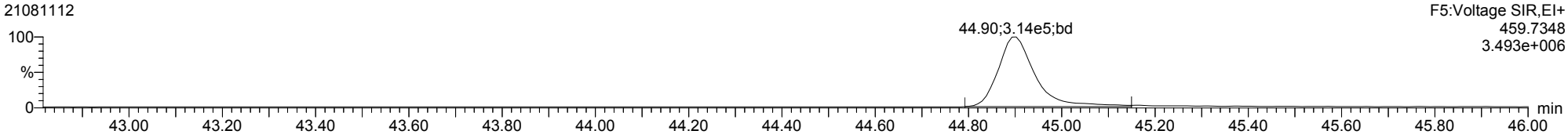

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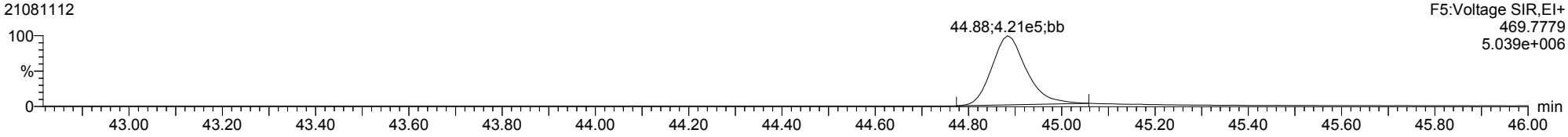

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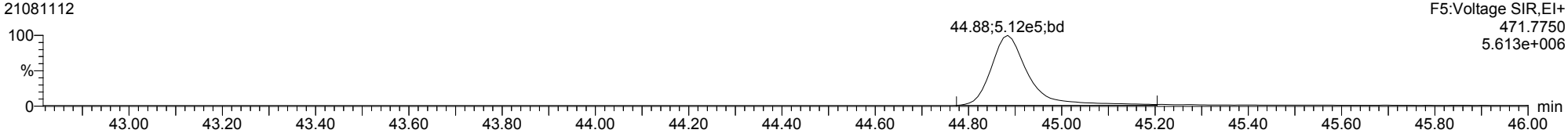

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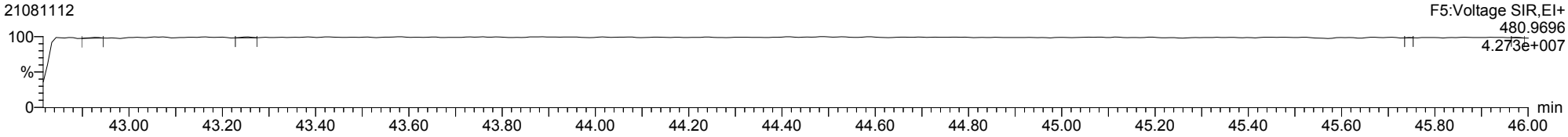

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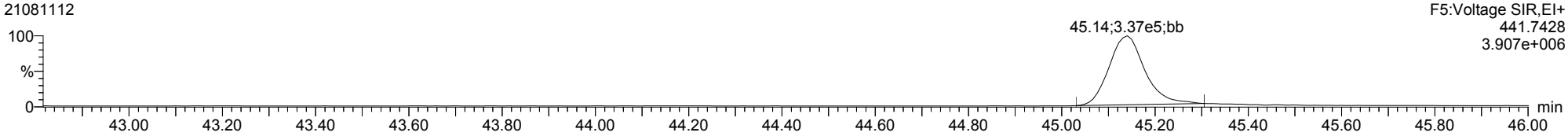

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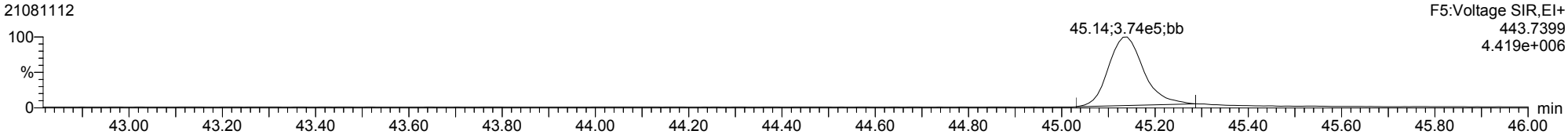

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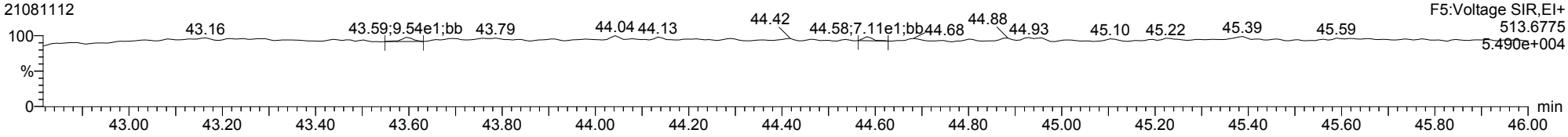

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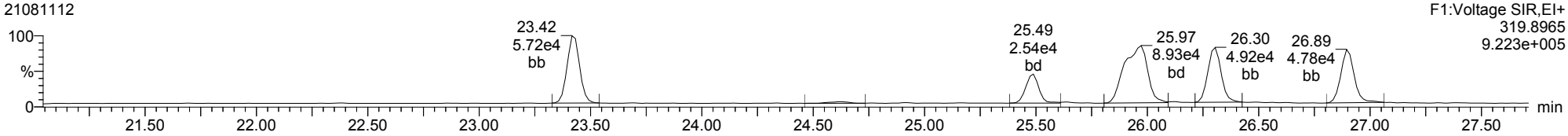

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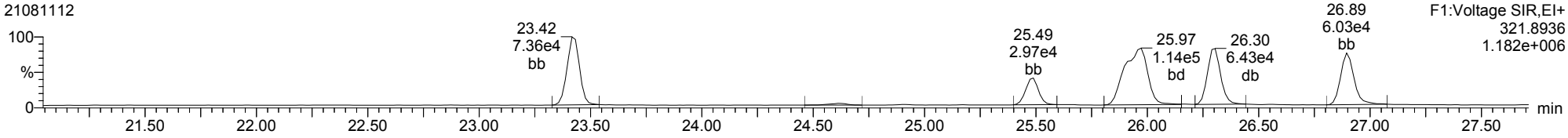

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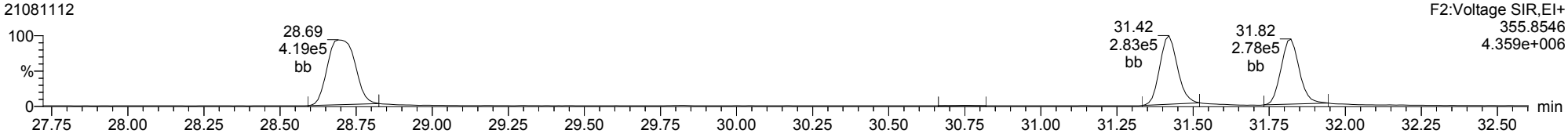

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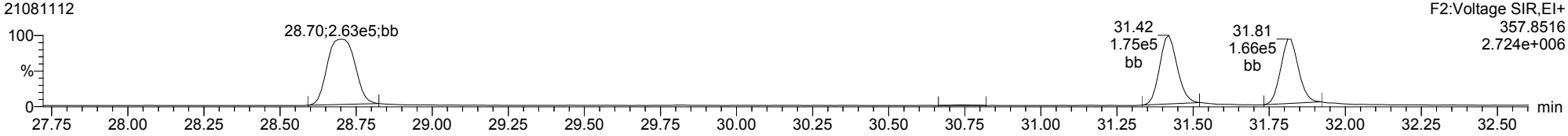

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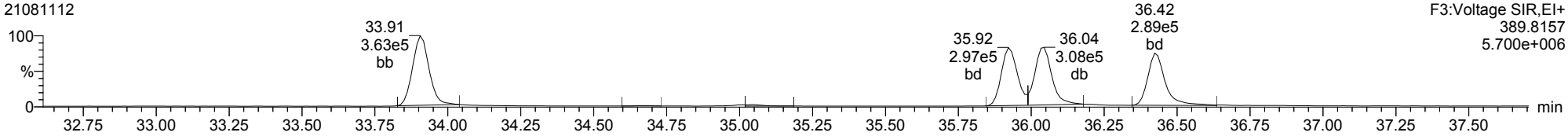

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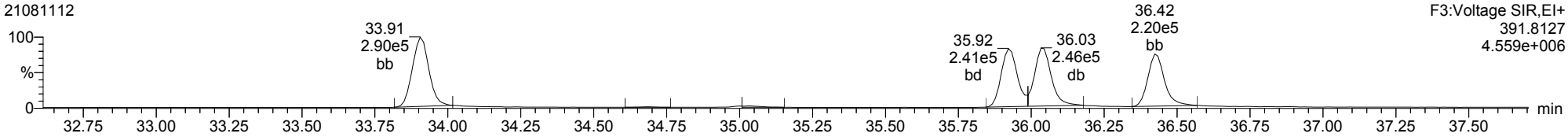

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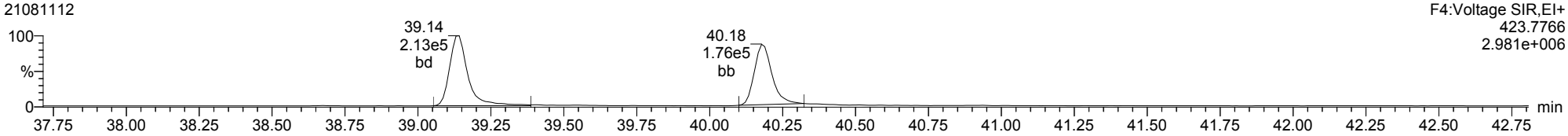

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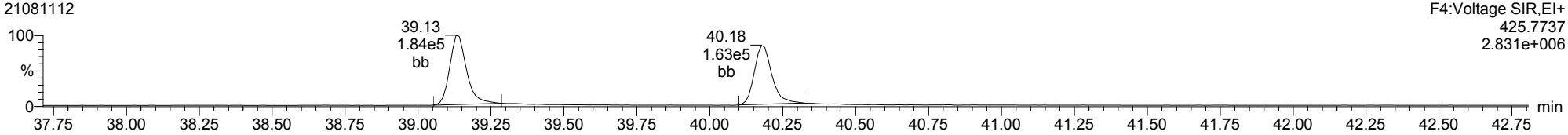

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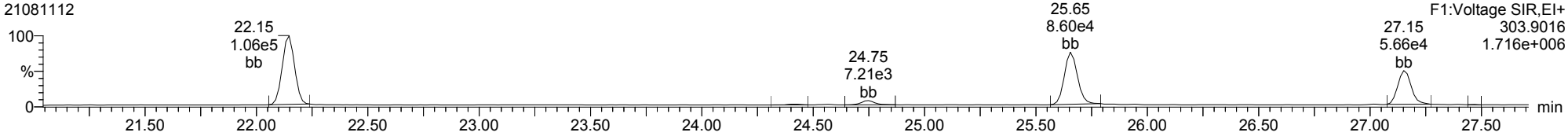
Total-tetrafurans



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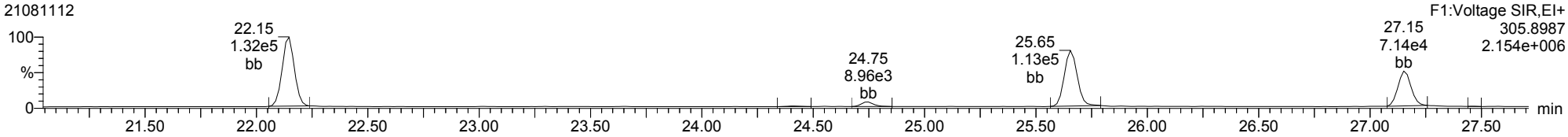

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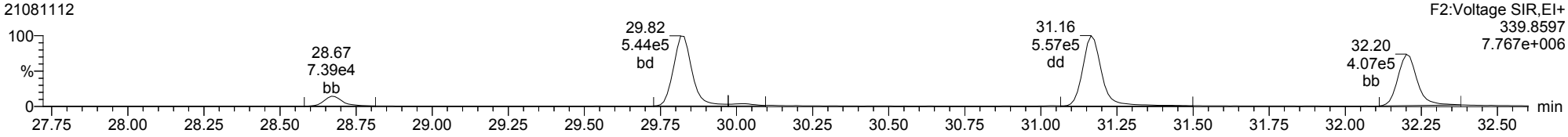

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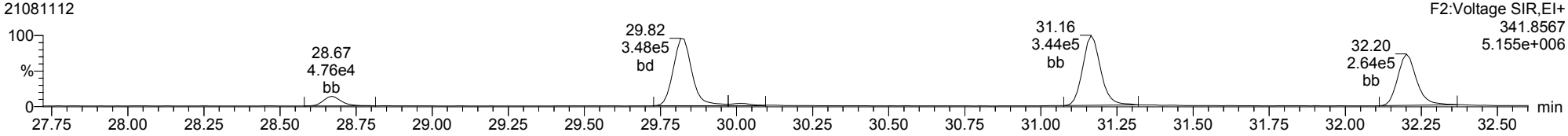

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Printed: Friday, August 13, 2021 13:51:56 Pacific Daylight Time

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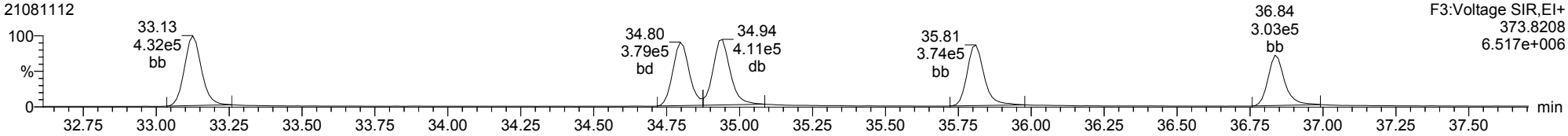
Total-hexafurans



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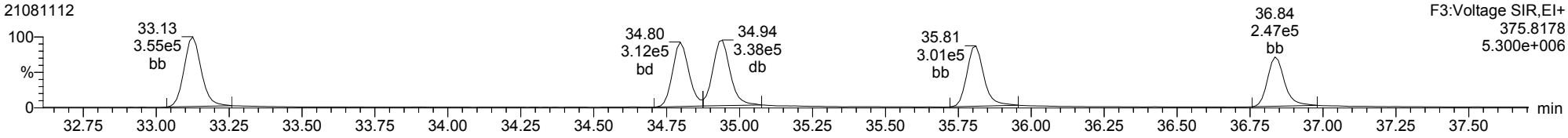

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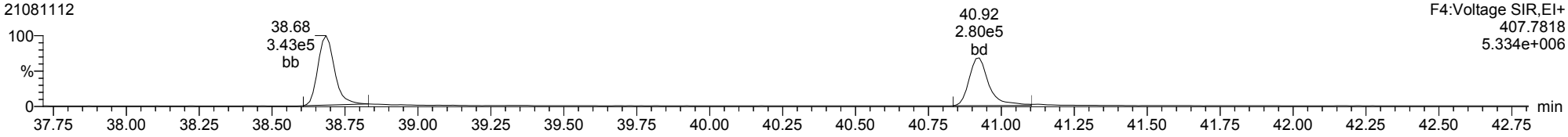

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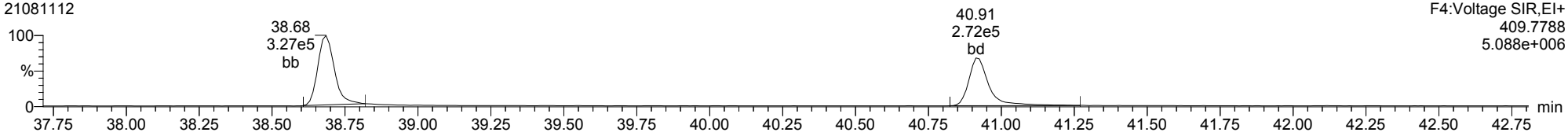

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21082415	Calibration Date:	08/11/2021
Sequence:	SJH0304	Injection Date:	08/24/21
Lab Sample ID:	SJH0304-CCV1	Injection Time:	23:34
Sequence Name:	CS3L4		

		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	9.29	1.1075930	1.0292090		-7.1	+/-16
2,3,7,8-TCDD	A	10.000	10.8	0.9202875	0.9905269		7.6	+/-22
1,2,3,7,8-PeCDF	A	50.000	47.1	1.0148670	0.9558327		-5.8	+/-18
2,3,4,7,8-PeCDF	A	50.000	46.8	1.1255490	1.0535010		-6.4	+/-18
1,2,3,7,8-PeCDD	A	50.000	56.1	0.9953229	1.1172040		12.2	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	50.5	1.0168930	1.0273500		1.0	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	48.2	1.0368310	0.9994585		-3.6	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	49.0	1.0524660	1.0317090		-2.0	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	48.2	1.0301540	0.9931758		-3.6	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	49.2	1.0273630	1.0105340		-1.6	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	48.2	1.0089800	0.9724476		-3.6	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.8	0.9504865	0.9650408		1.5	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	47.9	1.3273500	1.2724880		-4.1	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	49.6	1.2833380	1.2728120		-0.8	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	53.0	1.0680880	1.1328400		6.1	+/-14
OCDF	A	100.00	92.8	1.4469010	1.3433260		-7.2	+/-37
OCDD	A	100.00	99.7	1.1808230	1.1774230		-0.3	+/-21
13C12-2,3,7,8-TCDF	A	100.00	108	1.4265830	1.5399195		7.9	+/-29
13C12-2,3,7,8-TCDD	A	100.00	105	1.1164910	1.1720051		5.0	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	110	1.2973130	1.4208203		9.5	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	110	1.2364800	1.3597266		10.0	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	106	0.7319833	0.7772564		6.2	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	89.7	1.2424560	1.1147704		-10.3	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	86.1	1.3434760	1.1561654		-13.9	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	88.4	1.2148550	1.0733542		-11.6	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	93.4	1.0076370	0.9413553		-6.6	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	98.2	0.9598233	0.9425493		-1.8	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	95.0	1.0413850	0.9893436		-5.0	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	103	0.9264704	0.9532540		2.9	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	104	0.7579160	0.7853786		3.6	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	106	0.6324476	0.6709054		6.1	+/-28
13C12-OCDD	A	200.00	245	0.5037432	0.6173536		22.6	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	10.0	1.0835930	1.0833673		-0.02	

* Values outside of QC limits

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:23:34 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, 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	25.262	1.001	5.541e4	7.628e4	1.108	0.726	0.770	1102	1363	8.10e5	1.11e6	735.6	812.9	NO	bb	bb	9.292
12378-PeCDF	29.414	1.000	3.434e5	2.209e5	1.015	1.555	1.550	2378	3287	4.84e6	3.14e6	2037.4	955.6	NO	bb	bb	47.092
23478-PeCDF	30.762	1.001	3.605e5	2.347e5	1.126	1.536	1.550	2378	3287	5.28e6	3.47e6	2219.9	1055.3	NO	bb	bb	46.799
123478-HxCDF	34.416	1.000	2.733e5	2.242e5	1.017	1.219	1.240	2538	2318	4.14e6	3.41e6	1630.7	1469.5	NO	bd	bd	50.514
234678-HxCDF	35.441	1.001	2.648e5	2.162e5	1.052	1.225	1.240	2538	2318	4.17e6	3.36e6	1642.2	1449.6	NO	bb	bb	49.014
123678-HxCDF	34.561	1.001	2.795e5	2.226e5	1.037	1.256	1.240	2538	2318	4.07e6	3.27e6	1602.7	1412.7	NO	db	db	48.198
123789-HxCDF	36.478	1.001	2.241e5	1.821e5	1.030	1.231	1.240	2538	2318	3.46e6	2.78e6	1362.4	1200.6	NO	bb	bb	48.205
1234678-HpCDF	38.349	1.000	2.671e5	2.599e5	1.327	1.028	1.050	2165	2208	4.34e6	4.31e6	2003.4	1953.4	NO	bb	bb	47.933
1234789-HpCDF	40.533	1.000	2.207e5	2.136e5	1.283	1.033	1.050	2165	2208	3.26e6	3.19e6	1506.1	1444.9	NO	bb	bb	49.590
OCDF	44.665	1.005	3.339e5	3.867e5	1.447	0.863	0.890	1481	1592	3.93e6	4.47e6	2656.6	2807.7	NO	bb	bd	92.842
2378-TCDD	25.897	1.001	4.384e4	5.262e4	0.920	0.833	0.770	1248	1351	6.37e5	7.87e5	510.5	582.8	NO	bb	bb	10.763
12378-PeCDD	31.018	1.001	2.211e5	1.396e5	0.995	1.584	1.550	2337	1177	3.28e6	2.06e6	1402.8	1750.3	NO	bb	bb	56.123
123478-HxCDD	35.553	1.000	2.305e5	1.833e5	1.027	1.257	1.240	2638	1998	3.63e6	2.87e6	1376.0	1438.6	NO	bd	bd	49.181
123678-HxCDD	35.675	1.000	2.308e5	1.871e5	1.009	1.234	1.240	2638	1998	3.65e6	2.94e6	1381.7	1470.5	NO	db	db	48.190
123789-HxCDD	36.065	1.011	2.236e5	1.814e5	0.950	1.232	1.240	2638	1998	3.48e6	2.85e6	1319.1	1425.7	NO	bb	bb	50.766
1234678-HpCDD	39.820	1.000	1.758e5	1.544e5	1.068	1.139	1.050	1950	1452	2.74e6	2.49e6	1405.9	1714.4	NO	bb	bb	53.031
OCDD	44.445	1.000	2.935e5	3.380e5	1.181	0.868	0.890	1820	1504	3.68e6	4.07e6	2021.3	2708.7	NO	bb	bd	99.712
13C-2378-TCDF	25.247	1.007	5.703e5	7.093e5	1.427	0.804	0.770	2411	1425	8.26e6	1.03e7	3425.7	7233.0	NO	bb	bb	107.945
13C-12378-PeCDF	29.403	1.173	7.352e5	4.454e5	1.297	1.651	1.550	2767	2006	1.05e7	6.41e6	3782.0	3193.7	NO	bd	bb	109.520
13C-23478-PeCDF	30.740	1.226	6.988e5	4.310e5	1.236	1.621	1.550	2767	2006	1.02e7	6.28e6	3680.8	3132.1	NO	bb	bb	109.968
13C-123478-HxCDF	34.405	0.954	3.281e5	6.405e5	1.242	0.512	0.510	2598	2742	4.82e6	9.49e6	1854.8	3463.2	NO	bd	bd	89.723
13C-123678-HxCDF	34.539	0.958	3.404e5	6.642e5	1.343	0.513	0.510	2598	2742	4.90e6	9.59e6	1885.1	3498.4	NO	db	db	86.058
13C-234678-HxCDF	35.419	0.982	3.175e5	6.151e5	1.215	0.516	0.510	2598	2742	4.84e6	9.37e6	1861.8	3416.5	NO	bb	bb	88.352
13C-123789-HxCDF	36.455	1.011	2.769e5	5.411e5	1.008	0.512	0.510	2598	2742	4.24e6	8.36e6	1632.1	3048.0	NO	bb	bb	93.422
13C-1234678-HpCDF	38.338	1.063	2.672e5	5.610e5	0.926	0.476	0.440	1992	1884	4.20e6	9.06e6	2110.8	4810.1	NO	bd	bb	102.891
13C-1234789-HpCDF	40.522	1.124	2.172e5	4.652e5	0.758	0.467	0.440	1992	1884	3.11e6	6.62e6	1559.8	3516.2	NO	bb	bb	103.623
13C-1234-TCDD	25.065	0.000	3.614e5	4.695e5	1.000	0.770	0.770	2269	1153	5.29e6	6.90e6	2332.8	5982.9	NO	bb	bb	100.000
13C-2378-TCDD	25.882	1.033	4.219e5	5.519e5	1.116	0.764	0.770	2269	1153	6.16e6	8.17e6	2713.1	7086.1	NO	bb	bb	104.972
13C-12378-PeCDD	30.996	1.237	3.923e5	2.535e5	0.732	1.548	1.550	1141	1103	5.70e6	3.70e6	4991.1	3353.2	NO	bb	bb	106.185
13C-123478-HxCDD	35.542	0.986	4.610e5	3.580e5	0.960	1.288	1.240	2165	1599	7.58e6	5.89e6	3498.4	3680.4	NO	bd	bd	98.200
13C-123678-HxCDD	35.664	0.989	4.763e5	3.834e5	1.041	1.242	1.240	2165	1599	7.30e6	5.94e6	3371.9	3711.2	NO	db	db	95.003
13C-1234678-HpCDD	39.809	1.104	3.008e5	2.821e5	0.632	1.066	1.050	1636	1493	4.40e6	4.23e6	2692.7	2830.9	NO	bb	bb	106.081
13C-OCDD	44.427	1.232	5.170e5	5.558e5	0.504	0.930	0.890	1620	1871	6.39e6	6.81e6	3941.5	3641.4	NO	bb	bb	245.106
13C-123789-HxCDD	36.054	0.000	4.884e5	3.805e5	1.000	1.283	1.240	2165	1599	7.61e6	5.93e6	3512.7	3706.9	NO	bb	bb	100.000
37CL-2378-TCDD	25.897	1.033	9.002e4		1.084			1088		1.28e6		1180.3			bb		9.998

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
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ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, 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	21.754	0.862	6.923e4	8.950e4	1.425	0.774	0.770	1102	1363	1.05e6	1.34e6	956.9	982.0	NO	bb	bb	8.705
1289-TCDF	26.743	1.059	5.575e4	7.192e4	1.043	0.775	0.770	1102	1363	7.65e5	1.01e6	694.4	739.5	NO	db	db	9.567
13468-PECDF	26.607	0.905	4.355e5	2.893e5	1.376	1.505	1.550	883	970	6.15e6	4.10e6	6962.7	4227.9	NO	bb	bb	44.609
12389-PECDF	31.787	1.081	3.528e5	2.296e5	1.000	1.537	1.550	2378	3287	4.78e6	3.13e6	2011.6	950.6	NO	bb	bb	49.348
123468-HXCDF	32.734	0.951	2.780e5	2.288e5	1.087	1.215	1.240	2538	2318	3.93e6	3.24e6	1547.2	1397.8	NO	bb	bb	48.161
1368-TCDD	23.039	0.890	4.114e4	5.070e4	0.923	0.811	0.770	1248	1351	5.68e5	7.21e5	455.0	533.9	NO	bb	bb	10.214
1289-TCDD	26.501	1.024	3.723e4	4.690e4	0.794	0.794	0.770	1248	1351	5.13e5	6.48e5	410.8	480.0	NO	bb	bb	10.880
12479-PECDD	28.289	0.913	3.834e5	2.356e5	1.843	1.627	1.550	2337	1177	3.67e6	2.28e6	1572.2	1939.7	NO	bb	bb	51.995
12389-PECDD	31.408	1.013	2.634e5	1.585e5	1.154	1.662	1.550	2337	1177	3.86e6	2.35e6	1652.9	2000.9	NO	bb	bb	56.631
124679-HXCDD	33.514	0.943	2.423e5	1.980e5	1.125	1.224	1.240	2638	1998	3.56e6	2.91e6	1350.8	1454.8	NO	bb	bb	47.797
1234679-HPCDD	38.795	0.975	1.893e5	1.751e5	1.211	1.081	1.050	1950	1452	3.02e6	2.78e6	1549.3	1913.4	NO	bb	bb	51.619
Total-tetrafurans			1.804e5		1.192			1102		2.63e6							27.563
Total-penta1			4.355e5					883		6.15e6							44.609
Total-pentafurans			1.114e6		1.047			2378		1.57e7							151.050
Total-hexafurans			1.320e6		1.045			2538		1.98e7							244.093
Total-heptafurans			4.884e5		1.305			2165		7.61e6							97.634
Total-Furans			3.872e6		1.158			1102		5.58e7							657.790
Total-tetradioxins			2.082e5		0.879			1248		2.69e6							54.680
Total-pentadioxins			8.680e5		1.331			2337		1.08e7							164.749
Total-hexadioxins			9.272e5		1.028			2638		1.43e7							195.933
Total-heptadioxins			3.651e5		1.140			1950		5.76e6							104.650
Total-Dioxins			2.662e6		1.092			1248		3.73e7							619.724
Total-TEQ			6.534e6					1248		9.30e7							1277.514
FUNCTION1 PFK			1.421e6					666423		3.14e7							
FUNCTION2 PFK			5.739e5					372434		1.70e7							0.000
FUNCTION3 PFK			2.425e7					484034		1.65e8							0.000
FUNCTION4 PFK			1.664e5					332417		5.03e6							
FUNCTION5 PFK			1.559e5					258878		4.32e6							
FUNCTION1 HXCD...			5.896e2					518		8.70e3							0.000
FUNCTION1 HPCD...			1.021e3					786		1.32e4							0.000
FUNCTION2 HPCD...			8.289e2					807		2.17e4							0.000
FUNCTION3 OCDPE			7.123e2					574		9.57e3							0.000
FUNCTION4 NCDPE			4.382e2					741		7.62e3							0.000
FUNCTION5 DCDPE			8.321e1					548		1.44e3							0.000

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:18:01 Pacific Daylight Time
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Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, 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	26.74	5.575e4	7.192e4	1.043	0.78	0.77	694.4	YES	NO	db	db	9.567
2	2378-TCDF	25.26	5.541e4	7.628e4	1.108	0.73	0.77	735.6	YES	NO	bb	bb	9.292
3	1368-TCDF	21.75	6.923e4	8.950e4	1.425	0.77	0.77	956.9	YES	NO	bb	bb	8.705

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.61	4.355e5	2.893e5	1.376	1.51	1.55	6962.7	YES	NO	bb	bb	44.609

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	Total-pentafurans	28.28	5.753e4	3.691e4	1.047	1.56	1.55	329.8	YES	NO	bb	bb	7.811
2	12389-PECDF	31.79	3.528e5	2.296e5	1.000	1.54	1.55	2011.6	YES	NO	bb	bb	49.348
3	23478-PeCDF	30.76	3.605e5	2.347e5	1.126	1.54	1.55	2219.9	YES	NO	bb	bb	46.799
4	12378-PeCDF	29.41	3.434e5	2.209e5	1.015	1.55	1.55	2037.4	YES	NO	bb	bb	47.092

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123789-HxCDF	36.48	2.241e5	1.821e5	1.030	1.23	1.24	1362.4	YES	NO	bb	bb	48.205
2	234678-HxCDF	35.44	2.648e5	2.162e5	1.052	1.22	1.24	1642.2	YES	NO	bb	bb	49.014
3	123678-HxCDF	34.56	2.795e5	2.226e5	1.037	1.26	1.24	1602.7	YES	NO	db	db	48.198
4	123478-HxCDF	34.42	2.733e5	2.242e5	1.017	1.22	1.24	1630.7	YES	NO	bd	bd	50.514
5	123468-HXCDF	32.73	2.780e5	2.288e5	1.087	1.21	1.24	1547.2	YES	NO	bb	bb	48.161

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.53	2.207e5	2.136e5	1.283	1.03	1.05	1506.1	YES	NO	bb	bb	49.590
2	Total-heptafurans	39.01	5.632e2	5.289e2	1.305	1.06	1.05	4.8	YES	NO	bb	bb	0.111
3	1234678-HpCDF	38.35	2.671e5	2.599e5	1.327	1.03	1.05	2003.4	YES	NO	bb	bb	47.933

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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	26.74	5.575e4	7.192e4	1.043	0.78	0.77	694.4	YES	NO	db	db	9.567
2	2378-TCDF	25.26	5.541e4	7.628e4	1.108	0.73	0.77	735.6	YES	NO	bb	bb	9.292
3	1368-TCDF	21.75	6.923e4	8.950e4	1.425	0.77	0.77	956.9	YES	NO	bb	bb	8.705
4	Total-pentafurans	28.28	5.753e4	3.691e4	1.047	1.56	1.55	329.8	YES	NO	bb	bb	7.811
5	12389-PECDF	31.79	3.528e5	2.296e5	1.000	1.54	1.55	2011.6	YES	NO	bb	bb	49.348
6	23478-PeCDF	30.76	3.605e5	2.347e5	1.126	1.54	1.55	2219.9	YES	NO	bb	bb	46.799
7	12378-PeCDF	29.41	3.434e5	2.209e5	1.015	1.55	1.55	2037.4	YES	NO	bb	bb	47.092
8	123789-HxCDF	36.48	2.241e5	1.821e5	1.030	1.23	1.24	1362.4	YES	NO	bb	bb	48.205
9	234678-HxCDF	35.44	2.648e5	2.162e5	1.052	1.22	1.24	1642.2	YES	NO	bb	bb	49.014
10	123678-HxCDF	34.56	2.795e5	2.226e5	1.037	1.26	1.24	1602.7	YES	NO	db	db	48.198
11	123478-HxCDF	34.42	2.733e5	2.242e5	1.017	1.22	1.24	1630.7	YES	NO	bd	bd	50.514
12	123468-HXCDF	32.73	2.780e5	2.288e5	1.087	1.21	1.24	1547.2	YES	NO	bb	bb	48.161
13	1234789-HpCDF	40.53	2.207e5	2.136e5	1.283	1.03	1.05	1506.1	YES	NO	bb	bb	49.590
14	Total-heptafurans	39.01	5.632e2	5.289e2	1.305	1.06	1.05	4.8	YES	NO	bb	bb	0.111
15	1234678-HpCDF	38.35	2.671e5	2.599e5	1.327	1.03	1.05	2003.4	YES	NO	bb	bb	47.933
16	OCDF	44.67	3.339e5	3.867e5	1.447	0.86	0.89	2656.6	YES	NO	bb	bd	92.842
17	13468-PECDF	26.61	4.355e5	2.893e5	1.376	1.51	1.55	6962.7	YES	NO	bb	bb	44.609

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.50	3.723e4	4.690e4	0.794	0.79	0.77	410.8	YES	NO	bb	bb	10.880
2	2378-TCDD	25.90	4.384e4	5.262e4	0.920	0.83	0.77	510.5	YES	NO	bb	bb	10.763
3	Total-tetradioxins	25.56	6.353e4	7.975e4	0.879	0.80	0.77	512.8	YES	NO	bb	bb	16.734
4	Total-tetradioxins	25.08	2.039e4	2.693e4	0.879	0.76	0.77	247.9	YES	NO	bb	bd	5.526
5	Total-tetradioxins	24.54	3.250e2	4.290e2	0.879	0.76	0.77	3.8	YES	NO	bb	bb	0.088
6	Total-tetradioxins	24.23	1.775e3	2.287e3	0.879	0.78	0.77	13.8	YES	NO	bb	bb	0.474
7	1368-TCDD	23.04	4.114e4	5.070e4	0.923	0.81	0.77	455.0	YES	NO	bb	bb	10.214

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDD	31.41	2.634e5	1.585e5	1.154	1.66	1.55	1652.9	YES	NO	bb	bb	56.631
2	12378-PeCDD	31.02	2.211e5	1.396e5	0.995	1.58	1.55	1402.8	YES	NO	bb	bb	56.123
3	12479-PECDD	28.29	3.834e5	2.356e5	1.843	1.63	1.55	1572.2	YES	NO	bb	bb	51.995

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.68	2.308e5	1.871e5	1.009	1.23	1.24	1381.7	YES	NO	db	db	48.190
2	123478-HxCDD	35.55	2.305e5	1.833e5	1.027	1.26	1.24	1376.0	YES	NO	bd	bd	49.181
3	124679-HXCDD	33.51	2.423e5	1.980e5	1.125	1.22	1.24	1350.8	YES	NO	bb	bb	47.797
4	123789-HxCDD	36.07	2.236e5	1.814e5	0.950	1.23	1.24	1319.1	YES	NO	bb	bb	50.766

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.82	1.758e5	1.544e5	1.068	1.14	1.05	1405.9	YES	NO	bb	bb	53.031
2	1234679-HPCDD	38.79	1.893e5	1.751e5	1.211	1.08	1.05	1549.3	YES	NO	bb	bb	51.619

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	26.50	3.723e4	4.690e4	0.794	0.79	0.77	410.8	YES	NO	bb	bb	10.880
2	2378-TCDD	25.90	4.384e4	5.262e4	0.920	0.83	0.77	510.5	YES	NO	bb	bb	10.763
3	Total-tetradioxins	25.56	6.353e4	7.975e4	0.879	0.80	0.77	512.8	YES	NO	bb	bb	16.734
4	Total-tetradioxins	25.08	2.039e4	2.693e4	0.879	0.76	0.77	247.9	YES	NO	bb	bd	5.526
5	Total-tetradioxins	24.54	3.250e2	4.290e2	0.879	0.76	0.77	3.8	YES	NO	bb	bb	0.088
6	Total-tetradioxins	24.23	1.775e3	2.287e3	0.879	0.78	0.77	13.8	YES	NO	bb	bb	0.474
7	1368-TCDD	23.04	4.114e4	5.070e4	0.923	0.81	0.77	455.0	YES	NO	bb	bb	10.214
8	12389-PECDD	31.41	2.634e5	1.585e5	1.154	1.66	1.55	1652.9	YES	NO	bb	bb	56.631
9	12378-PeCDD	31.02	2.211e5	1.396e5	0.995	1.58	1.55	1402.8	YES	NO	bb	bb	56.123
10	12479-PECDD	28.29	3.834e5	2.356e5	1.843	1.63	1.55	1572.2	YES	NO	bb	bb	51.995
11	123678-HxCDD	35.68	2.308e5	1.871e5	1.009	1.23	1.24	1381.7	YES	NO	db	db	48.190
12	123478-HxCDD	35.55	2.305e5	1.833e5	1.027	1.26	1.24	1376.0	YES	NO	bd	bd	49.181
13	124679-HXCDD	33.51	2.423e5	1.980e5	1.125	1.22	1.24	1350.8	YES	NO	bb	bb	47.797
14	123789-HxCDD	36.07	2.236e5	1.814e5	0.950	1.23	1.24	1319.1	YES	NO	bb	bb	50.766
15	1234678-HpCDD	39.82	1.758e5	1.544e5	1.068	1.14	1.05	1405.9	YES	NO	bb	bb	53.031
16	1234679-HPCDD	38.79	1.893e5	1.751e5	1.211	1.08	1.05	1549.3	YES	NO	bb	bb	51.619
17	OCDD	44.45	2.935e5	3.380e5	1.181	0.87	0.89	2021.3	YES	NO	bb	bd	99.712

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDF	26.74	5.575e4	7.192e4	1.043	0.78	0.77	694.4	YES	NO	db	db	9.567
2	2378-TCDF	25.26	5.541e4	7.628e4	1.108	0.73	0.77	735.6	YES	NO	bb	bb	9.292
3	1368-TCDF	21.75	6.923e4	8.950e4	1.425	0.77	0.77	956.9	YES	NO	bb	bb	8.705
4	Total-pentafurans	28.28	5.753e4	3.691e4	1.047	1.56	1.55	329.8	YES	NO	bb	bb	7.811
5	12389-PECDF	31.79	3.528e5	2.296e5	1.000	1.54	1.55	2011.6	YES	NO	bb	bb	49.348
6	23478-PeCDF	30.76	3.605e5	2.347e5	1.126	1.54	1.55	2219.9	YES	NO	bb	bb	46.799
7	12378-PeCDF	29.41	3.434e5	2.209e5	1.015	1.55	1.55	2037.4	YES	NO	bb	bb	47.092
8	123789-HxCDF	36.48	2.241e5	1.821e5	1.030	1.23	1.24	1362.4	YES	NO	bb	bb	48.205
9	234678-HxCDF	35.44	2.648e5	2.162e5	1.052	1.22	1.24	1642.2	YES	NO	bb	bb	49.014
10	123678-HxCDF	34.56	2.795e5	2.226e5	1.037	1.26	1.24	1602.7	YES	NO	db	db	48.198
11	123478-HxCDF	34.42	2.733e5	2.242e5	1.017	1.22	1.24	1630.7	YES	NO	bd	bd	50.514
12	123468-HXCDF	32.73	2.780e5	2.288e5	1.087	1.21	1.24	1547.2	YES	NO	bb	bb	48.161
13	1234789-HpCDF	40.53	2.207e5	2.136e5	1.283	1.03	1.05	1506.1	YES	NO	bb	bb	49.590
14	Total-heptafurans	39.01	5.632e2	5.289e2	1.305	1.06	1.05	4.8	YES	NO	bb	bb	0.111
15	1234678-HpCDF	38.35	2.671e5	2.599e5	1.327	1.03	1.05	2003.4	YES	NO	bb	bb	47.933
16	OCDF	44.67	3.339e5	3.867e5	1.447	0.86	0.89	2656.6	YES	NO	bb	bd	92.842
17	13468-PECDF	26.61	4.355e5	2.893e5	1.376	1.51	1.55	6962.7	YES	NO	bb	bb	44.609
18	1289-TCDD	26.50	3.723e4	4.690e4	0.794	0.79	0.77	410.8	YES	NO	bb	bb	10.880
19	2378-TCDD	25.90	4.384e4	5.262e4	0.920	0.83	0.77	510.5	YES	NO	bb	bb	10.763
20	Total-tetradioxins	25.56	6.353e4	7.975e4	0.879	0.80	0.77	512.8	YES	NO	bb	bb	16.734
21	Total-tetradioxins	25.08	2.039e4	2.693e4	0.879	0.76	0.77	247.9	YES	NO	bb	bd	5.526
22	Total-tetradioxins	24.54	3.250e2	4.290e2	0.879	0.76	0.77	3.8	YES	NO	bb	bb	0.088
23	Total-tetradioxins	24.23	1.775e3	2.287e3	0.879	0.78	0.77	13.8	YES	NO	bb	bb	0.474
24	1368-TCDD	23.04	4.114e4	5.070e4	0.923	0.81	0.77	455.0	YES	NO	bb	bb	10.214
25	12389-PECDD	31.41	2.634e5	1.585e5	1.154	1.66	1.55	1652.9	YES	NO	bb	bb	56.631
26	12378-PeCDD	31.02	2.211e5	1.396e5	0.995	1.58	1.55	1402.8	YES	NO	bb	bb	56.123
27	12479-PECDD	28.29	3.834e5	2.356e5	1.843	1.63	1.55	1572.2	YES	NO	bb	bb	51.995
28	123678-HxCDD	35.68	2.308e5	1.871e5	1.009	1.23	1.24	1381.7	YES	NO	db	db	48.190
29	123478-HxCDD	35.55	2.305e5	1.833e5	1.027	1.26	1.24	1376.0	YES	NO	bd	bd	49.181
30	124679-HXCDD	33.51	2.423e5	1.980e5	1.125	1.22	1.24	1350.8	YES	NO	bb	bb	47.797
31	123789-HxCDD	36.07	2.236e5	1.814e5	0.950	1.23	1.24	1319.1	YES	NO	bb	bb	50.766
32	1234678-HpCDD	39.82	1.758e5	1.544e5	1.068	1.14	1.05	1405.9	YES	NO	bb	bb	53.031
33	1234679-HPCDD	38.79	1.893e5	1.751e5	1.211	1.08	1.05	1549.3	YES	NO	bb	bb	51.619
34	OCDD	44.45	2.935e5	3.380e5	1.181	0.87	0.89	2021.3	YES	NO	bb	bd	99.712

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
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Printed: Wednesday, August 25, 2021 09:23:34 Pacific Daylight Time

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	21.18	1.046e5					2.4	NO		db		
2	FUNCTION1 PFK	21.13	3.913e4					2.1	NO		bd		
3	FUNCTION1 PFK	23.24	3.060e4					1.0	NO		bb		
4	FUNCTION1 PFK	23.02	2.646e4					0.9	NO		bb		
5	FUNCTION1 PFK	22.92	3.533e4					1.2	NO		bb		
6	FUNCTION1 PFK	22.84	4.668e4					1.6	NO		db		
7	FUNCTION1 PFK	22.77	1.617e4					0.7	NO		dd		
8	FUNCTION1 PFK	22.72	3.390e4					1.0	NO		bd		
9	FUNCTION1 PFK	22.63	1.784e4					1.0	NO		bb		
10	FUNCTION1 PFK	22.57	6.046e3					0.4	NO		bb		
11	FUNCTION1 PFK	22.36	4.556e4					1.5	NO		db		
12	FUNCTION1 PFK	22.28	1.250e4					0.6	NO		bd		
13	FUNCTION1 PFK	22.18	1.441e4					0.7	NO		bb		
14	FUNCTION1 PFK	22.03	1.021e5					1.9	NO		db		
15	FUNCTION1 PFK	21.92	3.602e4					1.4	NO		bd		
16	FUNCTION1 PFK	21.71	2.176e4					0.7	NO		db		
17	FUNCTION1 PFK	21.68	3.364e4					1.3	NO		bd		
18	FUNCTION1 PFK	21.35	1.224e5					2.6	NO		bb		
19	FUNCTION1 PFK	24.94	3.266e3					0.3	NO		bb		
20	FUNCTION1 PFK	24.88	7.158e3					0.7	NO		bb		
21	FUNCTION1 PFK	24.75	1.558e4					0.8	NO		bb		
22	FUNCTION1 PFK	24.69	1.355e4					0.7	NO		bb		
23	FUNCTION1 PFK	24.60	3.076e4					1.0	NO		bb		
24	FUNCTION1 PFK	24.54	3.746e3					0.4	NO		bb		
25	FUNCTION1 PFK	24.40	1.094e4					0.5	NO		db		
26	FUNCTION1 PFK	24.34	2.665e4					1.0	NO		bd		
27	FUNCTION1 PFK	24.26	1.598e4					0.5	NO		bb		
28	FUNCTION1 PFK	24.13	1.265e4					0.7	NO		bb		
29	FUNCTION1 PFK	24.08	1.305e4					0.8	NO		bb		
30	FUNCTION1 PFK	23.90	3.489e4					0.9	NO		bb		
31	FUNCTION1 PFK	23.81	5.881e4					1.7	NO		db		
32	FUNCTION1 PFK	23.70	7.696e4					1.5	NO		bd		
33	FUNCTION1 PFK	23.58	1.500e4					0.7	NO		db		
34	FUNCTION1 PFK	23.52	9.980e3					0.6	NO		bd		
35	FUNCTION1 PFK	27.29	4.265e4					1.1	NO		bb		
36	FUNCTION1 PFK	27.02	1.257e4					0.8	NO		bb		
37	FUNCTION1 PFK	26.70	3.775e4					1.1	NO		db		

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION1 PFK	26.58	7.972e4					1.9	NO		bd		
39	FUNCTION1 PFK	26.50	2.006e4					0.7	NO		bb		
40	FUNCTION1 PFK	26.26	1.463e4					0.8	NO		db		
41	FUNCTION1 PFK	26.20	5.108e3					0.3	NO		bd		
42	FUNCTION1 PFK	25.88	1.595e4					1.0	NO		bb		
43	FUNCTION1 PFK	25.78	3.891e4					0.8	NO		bb		
44	FUNCTION1 PFK	25.61	9.378e3					0.5	NO		bb		
45	FUNCTION1 PFK	25.55	7.988e3					0.5	NO		db		
46	FUNCTION1 PFK	25.49	1.251e4					0.6	NO		bd		
47	FUNCTION1 PFK	25.02	2.930e4					1.0	NO		bb		

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PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	27.60	1.020e4					1.3	NO		bb		0.000
2	FUNCTION2 PFK	27.49	4.499e3					1.1	NO		bb		0.000
3	FUNCTION2 PFK	29.30	2.017e4					1.1	NO		db		0.000
4	FUNCTION2 PFK	29.21	2.063e4					1.9	NO		dd		0.000
5	FUNCTION2 PFK	29.14	3.112e4					1.8	NO		bd		0.000
6	FUNCTION2 PFK	29.07	3.000e4					1.7	NO		db		0.000
7	FUNCTION2 PFK	29.00	1.339e4					1.3	NO		bd		0.000
8	FUNCTION2 PFK	28.85	2.058e3					0.5	NO		bb		0.000
9	FUNCTION2 PFK	28.70	2.898e4					1.8	NO		bb		0.000
10	FUNCTION2 PFK	28.66	8.774e3					1.2	NO		db		0.000
11	FUNCTION2 PFK	28.57	1.522e4					0.9	NO		bd		0.000
12	FUNCTION2 PFK	28.52	1.981e3					0.5	NO		bb		0.000
13	FUNCTION2 PFK	28.39	4.112e4					2.3	NO		bb		0.000
14	FUNCTION2 PFK	28.30	1.603e4					1.8	NO		bb		0.000
15	FUNCTION2 PFK	28.22	6.472e3					0.8	NO		bb		0.000
16	FUNCTION2 PFK	28.17	2.197e4					1.2	NO		bb		0.000
17	FUNCTION2 PFK	27.93	1.105e4					1.2	NO		db		0.000
18	FUNCTION2 PFK	27.88	1.949e4					1.5	NO		bd		0.000
19	FUNCTION2 PFK	31.64	6.074e3					0.8	NO		bd		0.000
20	FUNCTION2 PFK	31.59	2.039e4					1.7	NO		bb		0.000
21	FUNCTION2 PFK	31.10	3.981e4					2.0	NO		bb		0.000
22	FUNCTION2 PFK	30.92	4.244e3					0.6	NO		bb		0.000
23	FUNCTION2 PFK	30.85	1.480e4					1.3	NO		db		0.000
24	FUNCTION2 PFK	30.80	1.664e4					1.4	NO		bd		0.000
25	FUNCTION2 PFK	30.66	1.966e3					0.5	NO		bb		0.000
26	FUNCTION2 PFK	30.62	7.532e3					0.7	NO		db		0.000
27	FUNCTION2 PFK	30.56	7.179e3					0.9	NO		bd		0.000
28	FUNCTION2 PFK	30.42	3.246e4					1.8	NO		bb		0.000
29	FUNCTION2 PFK	30.25	1.132e4					0.8	NO		bb		0.000
30	FUNCTION2 PFK	30.05	2.468e3					0.6	NO		bb		0.000
31	FUNCTION2 PFK	29.93	3.681e4					2.0	NO		bb		0.000
32	FUNCTION2 PFK	29.57	1.438e4					1.6	NO		bb		0.000
33	FUNCTION2 PFK	29.41	7.574e3					1.0	NO		bb		0.000
34	FUNCTION2 PFK	29.35	2.269e4					1.9	NO		bb		0.000
35	FUNCTION2 PFK	32.08	9.119e3					1.0	NO		db		0.000
36	FUNCTION2 PFK	32.03	3.240e3					0.6	NO		bd		0.000
37	FUNCTION2 PFK	31.73	1.210e4					0.8	NO		db		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	35.07	1.636e4					1.5	NO		bb		0.000
2	FUNCTION3 PFK	33.94	4.661e4					0.8	NO		bb		0.000
3	FUNCTION3 PFK	33.78	3.807e4					2.3	NO		db		0.000
4	FUNCTION3 PFK	33.65	3.676e5					8.4	YES		dd		0.000
5	FUNCTION3 PFK	33.56	4.063e5					10.8	YES		dd		0.000
6	FUNCTION3 PFK	33.49	3.990e5					13.5	YES		dd		0.000
7	FUNCTION3 PFK	33.28	4.904e6					22.8	YES		dd		0.000
8	FUNCTION3 PFK	32.72	8.656e6					44.0	YES		dd		0.000
9	FUNCTION3 PFK	32.54	2.743e6					50.3	YES		dd		0.000
10	FUNCTION3 PFK	32.42	1.752e6					55.2	YES		dd		0.000
11	FUNCTION3 PFK	32.38	1.819e6					56.7	YES		dd		0.000
12	FUNCTION3 PFK	32.28	2.860e6					60.5	YES		bd		0.000
13	FUNCTION3 PFK	37.08	6.999e3					0.8	NO		bb		0.000
14	FUNCTION3 PFK	36.95	7.653e4					1.6	NO		bb		0.000
15	FUNCTION3 PFK	36.49	1.107e4					1.0	NO		bb		0.000
16	FUNCTION3 PFK	36.40	2.454e3					0.5	NO		bb		0.000
17	FUNCTION3 PFK	36.25	2.347e3					0.4	NO		bb		0.000
18	FUNCTION3 PFK	35.85	1.994e4					1.1	NO		db		0.000
19	FUNCTION3 PFK	35.79	3.232e3					0.6	NO		bd		0.000
20	FUNCTION3 PFK	35.65	3.990e4					2.1	NO		db		0.000
21	FUNCTION3 PFK	35.60	2.151e4					1.5	NO		bd		0.000
22	FUNCTION3 PFK	35.55	9.670e3					1.0	NO		bb		0.000
23	FUNCTION3 PFK	35.51	2.700e3					0.5	NO		bb		0.000
24	FUNCTION3 PFK	35.39	1.269e4					1.0	NO		bb		0.000
25	FUNCTION3 PFK	35.34	3.359e4					1.9	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	37.76	1.252e4					1.5	NO		bb		
2	FUNCTION4 PFK	37.51	1.162e4					1.1	NO		bb		
3	FUNCTION4 PFK	42.30	1.592e4					1.6	NO		bb		
4	FUNCTION4 PFK	42.15	1.546e3					0.4	NO		bb		
5	FUNCTION4 PFK	42.10	1.639e3					0.4	NO		bb		
6	FUNCTION4 PFK	41.09	7.610e3					1.3	NO		bb		
7	FUNCTION4 PFK	40.83	2.646e4					1.6	NO		bb		
8	FUNCTION4 PFK	40.59	2.226e4					1.5	NO		bb		
9	FUNCTION4 PFK	40.05	1.649e4					1.2	NO		bb		
10	FUNCTION4 PFK	38.78	6.407e3					1.1	NO		bb		
11	FUNCTION4 PFK	37.94	3.168e4					1.8	NO		bb		
12	FUNCTION4 PFK	37.84	9.891e3					1.0	NO		db		
13	FUNCTION4 PFK	37.80	2.342e3					0.6	NO		bd		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	44.23	9.224e3					1.9	NO		bb		
2	FUNCTION5 PFK	42.65	9.963e3					1.4	NO		db		
3	FUNCTION5 PFK	42.59	5.900e4					2.5	NO		bd		
4	FUNCTION5 PFK	42.47	1.837e4					2.3	NO		bb		
5	FUNCTION5 PFK	45.97	6.683e3					1.2	NO		bb		
6	FUNCTION5 PFK	45.85	1.549e4					1.8	NO		bb		
7	FUNCTION5 PFK	45.80	1.101e4					1.0	NO		bb		
8	FUNCTION5 PFK	45.54	8.554e3					1.4	NO		bb		
9	FUNCTION5 PFK	45.01	8.263e3					1.6	NO		bb		
10	FUNCTION5 PFK	44.48	3.803e3					0.9	NO		bb		
11	FUNCTION5 PFK	44.27	5.569e3					0.8	NO		bb		

ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, 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...	27.36	7.045e1					2.5	NO		bb		0.000
2	FUNCTION1 HXCD...	26.59	1.926e2					5.5	YES		bb		0.000
3	FUNCTION1 HXCD...	25.20	7.563e1					1.9	NO		bb		0.000
4	FUNCTION1 HXCD...	23.90	8.549e1					2.4	NO		bb		0.000
5	FUNCTION1 HXCD...	23.61	8.275e1					2.2	NO		bb		0.000
6	FUNCTION1 HXCD...	22.37	8.271e1					2.4	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...	24.66	7.140e1					1.7	NO		bb		0.000
2	FUNCTION1 HPCD...	27.36	7.930e1					1.6	NO		bb		0.000
3	FUNCTION1 HPCD...	27.15	1.174e2					2.4	NO		bb		0.000
4	FUNCTION1 HPCD...	26.92	1.474e2					2.9	NO		bb		0.000
5	FUNCTION1 HPCD...	26.65	3.661e2					2.7	NO		bb		0.000
6	FUNCTION1 HPCD...	25.73	8.791e1					2.1	NO		bb		0.000
7	FUNCTION1 HPCD...	25.58	7.530e1					2.0	NO		bb		0.000
8	FUNCTION1 HPCD...	25.31	7.602e1					1.4	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...	32.00	7.656e1					2.1	NO		bb		0.000
2	FUNCTION2 HPCD...	31.88	8.678e1					4.3	YES		bb		0.000
3	FUNCTION2 HPCD...	30.62	3.062e2					9.8	YES		db		0.000
4	FUNCTION2 HPCD...	30.56	1.028e2					4.7	YES		bd		0.000
5	FUNCTION2 HPCD...	29.45	9.257e1					2.0	NO		bb		0.000
6	FUNCTION2 HPCD...	28.69	8.261e1					2.1	NO		bb		0.000
7	FUNCTION2 HPCD...	28.19	8.146e1					1.9	NO		bb		0.000

ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, 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	36.48	1.497e2					2.7	NO		bb		0.000
2	FUNCTION3 OCDPE	36.20	7.197e1					1.9	NO		db		0.000
3	FUNCTION3 OCDPE	36.07	2.982e2					6.1	YES		bd		0.000
4	FUNCTION3 OCDPE	35.66	1.115e2					3.4	YES		bb		0.000
5	FUNCTION3 OCDPE	32.78	8.099e1					2.5	NO		bb		0.000

ETHERS5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 NCDPE	42.27	7.956e1					1.7	NO		bb		0.000
2	FUNCTION4 NCDPE	38.94	1.045e2					1.9	NO		bb		0.000
3	FUNCTION4 NCDPE	38.42	7.621e1					3.2	YES		bb		0.000
4	FUNCTION4 NCDPE	37.50	1.779e2					3.4	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	44.08	8.321e1					2.6	NO		bb		0.000

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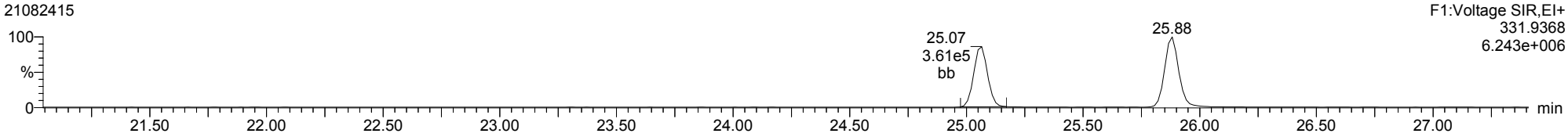
ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, Conditions: AUTOSPEC01, User: pk

13C-1234-TCDD



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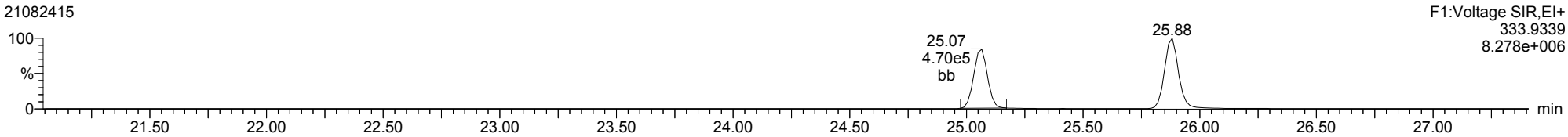
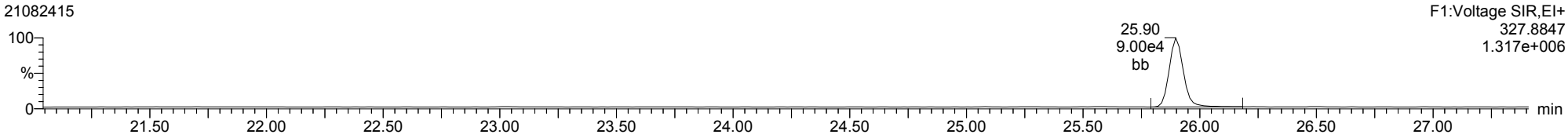


37CL-2378-TCDD



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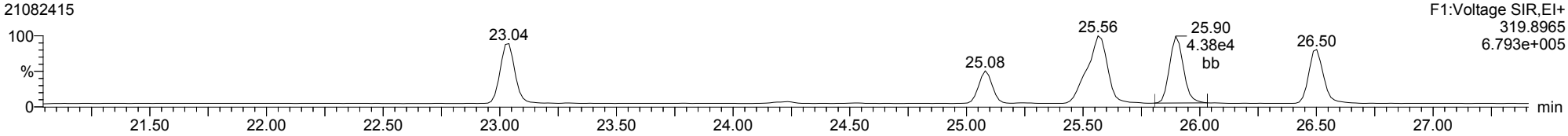

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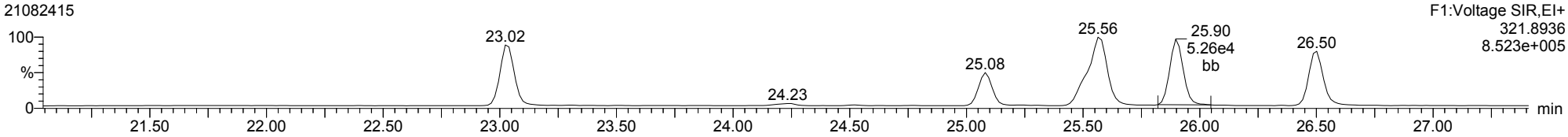

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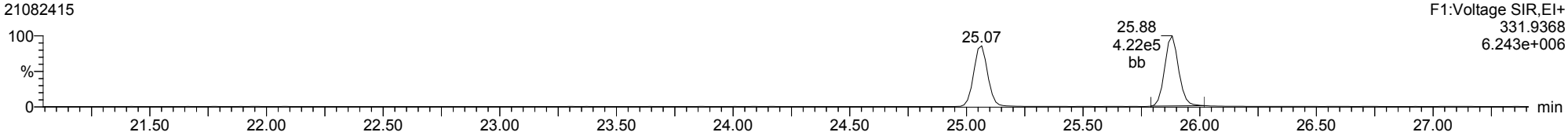

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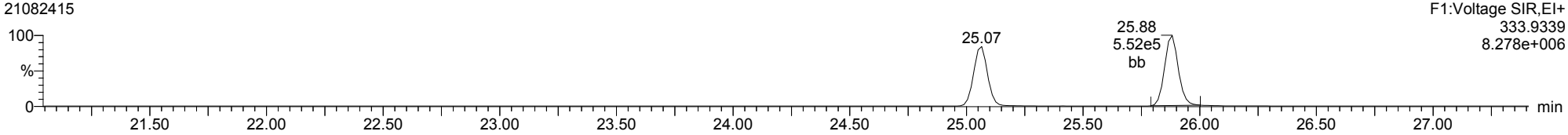

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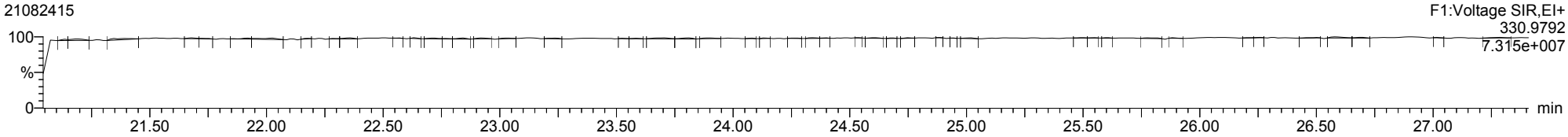

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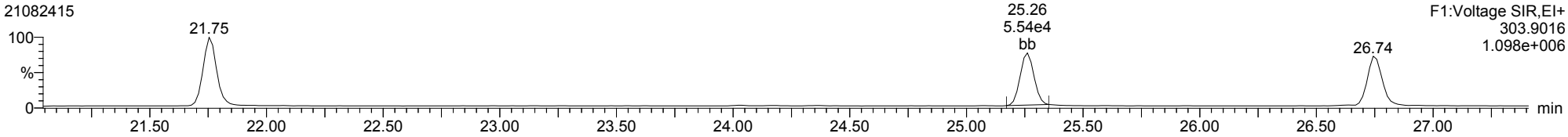
2378-TCDF



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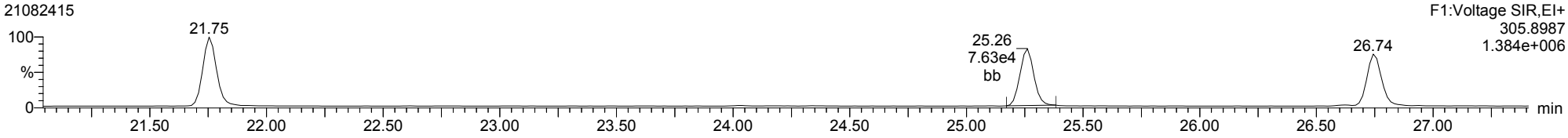

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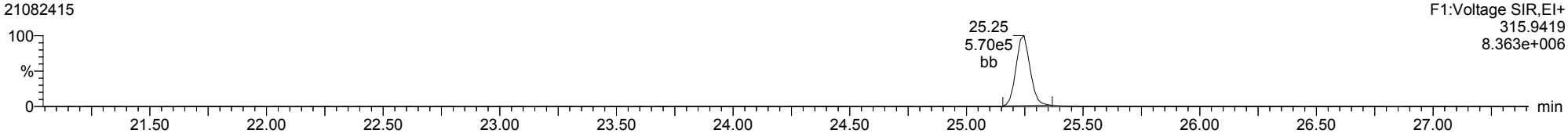

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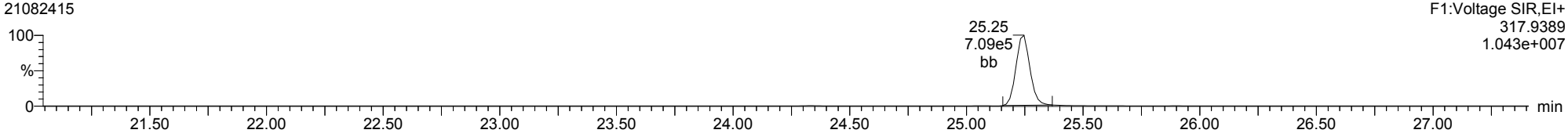

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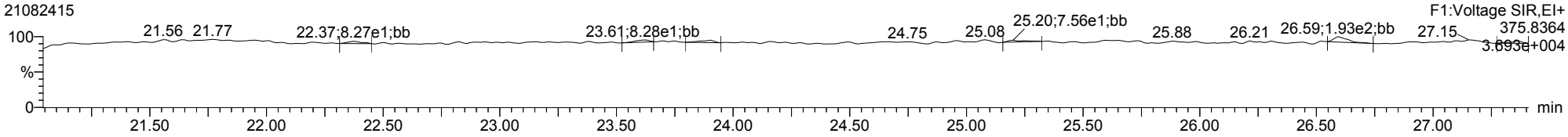

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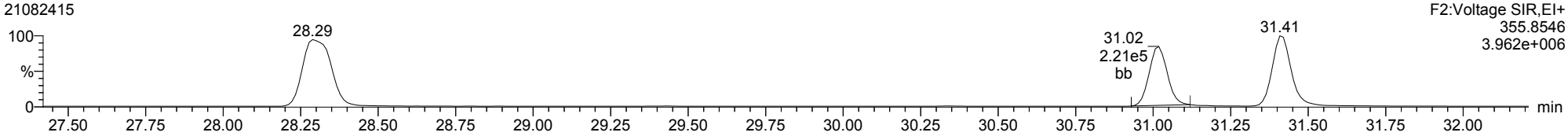
12378-PeCDD



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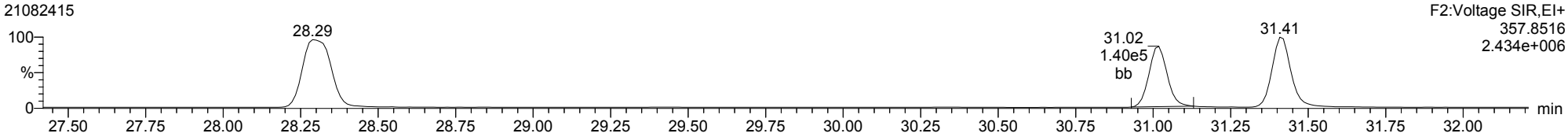

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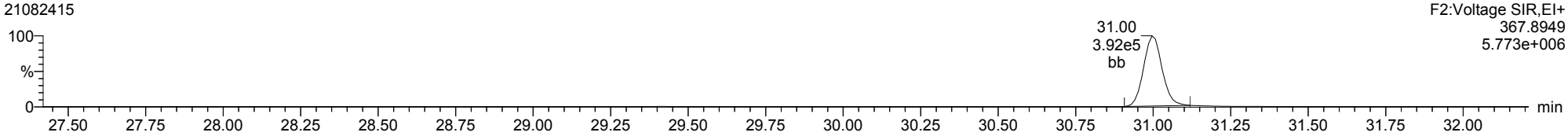

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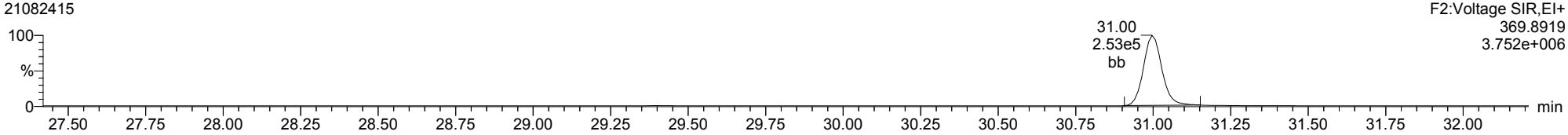

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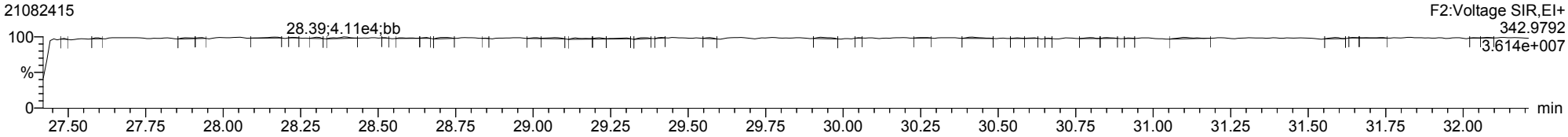

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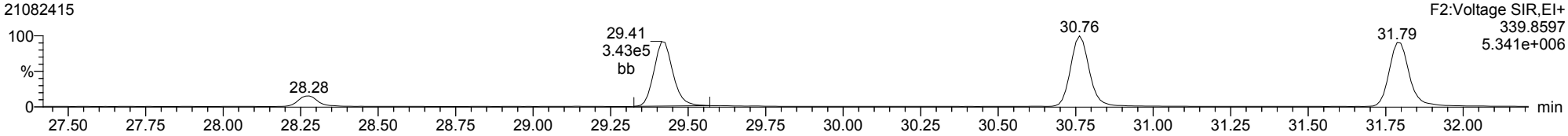

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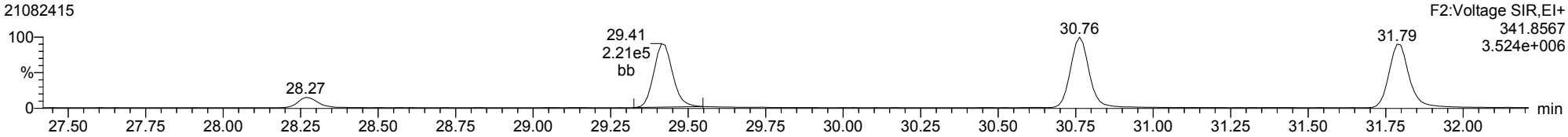

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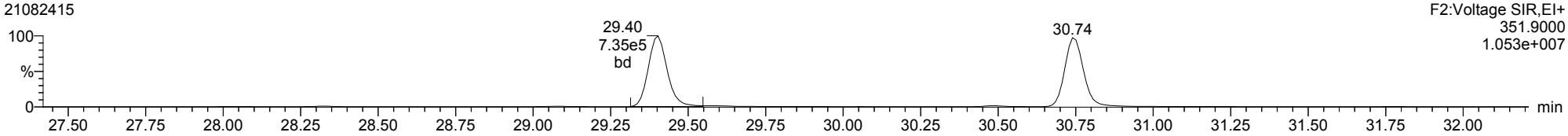

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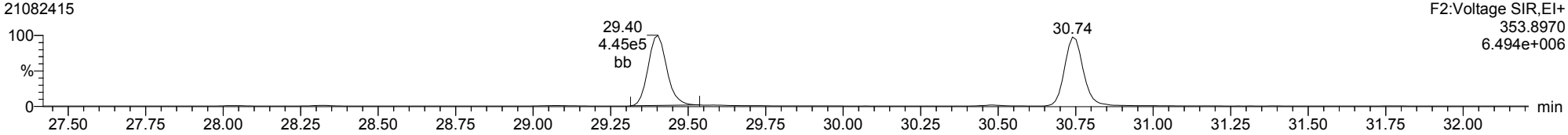
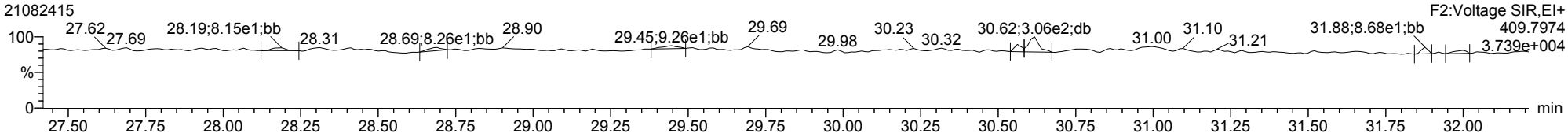


FUNCTION2 HPCDPE



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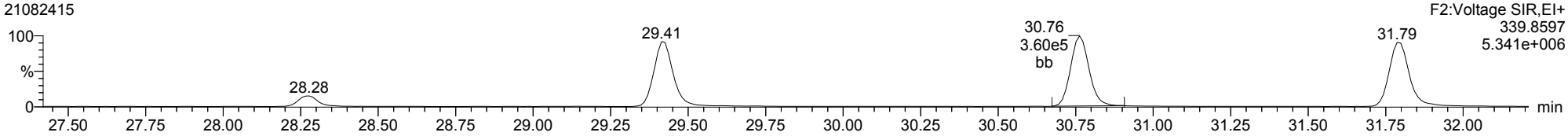
23478-PeCDF



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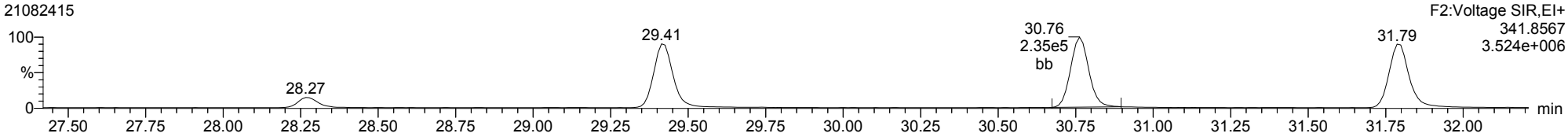

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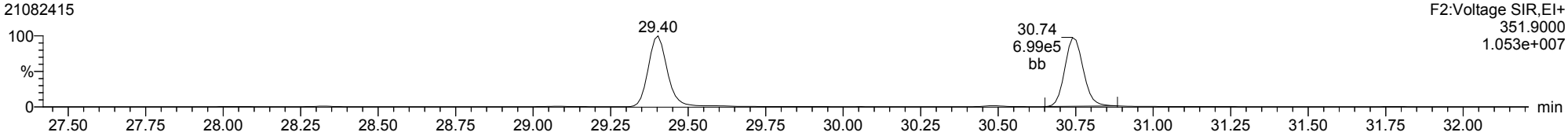

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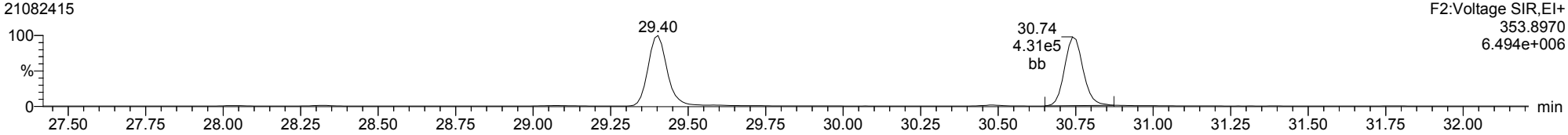
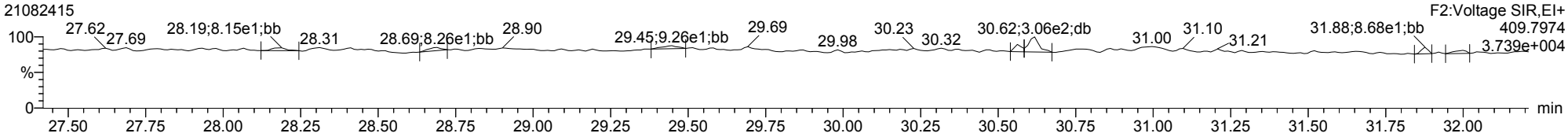


FUNCTION2 HPCDPE



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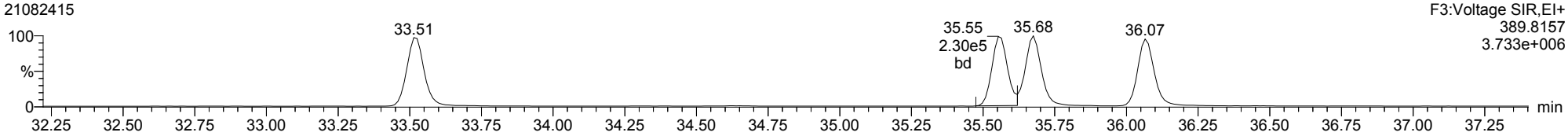
123478-HxCDD



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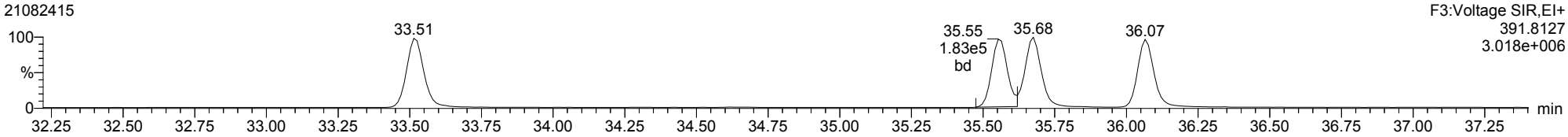

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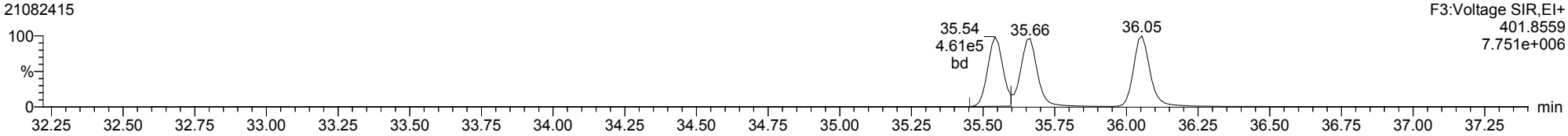

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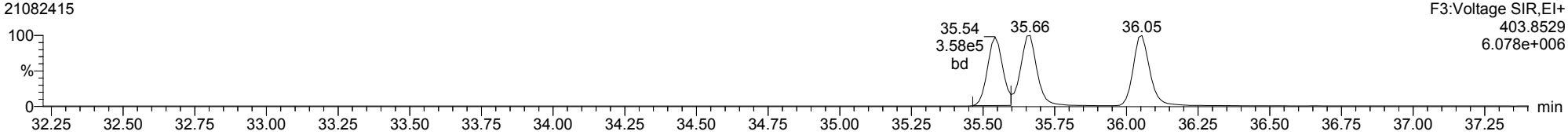

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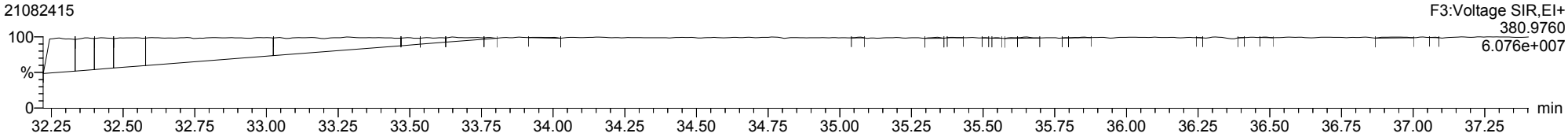

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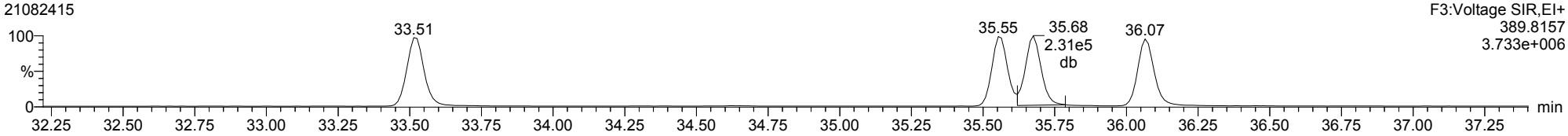

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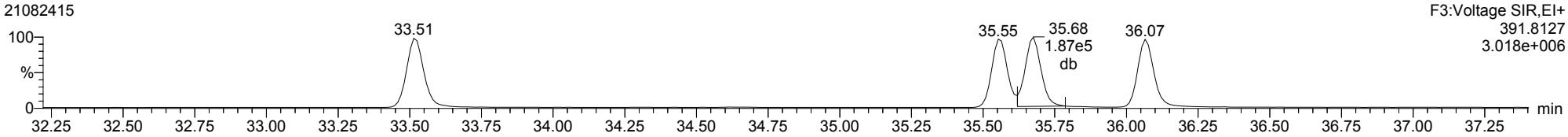

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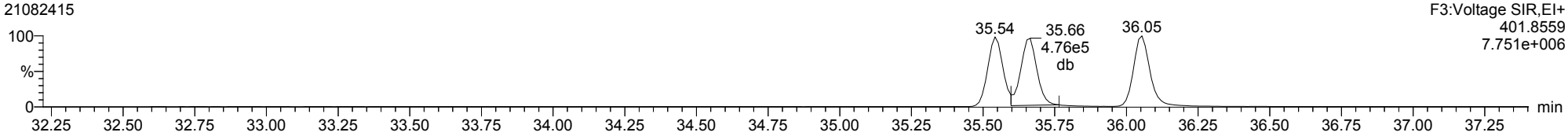

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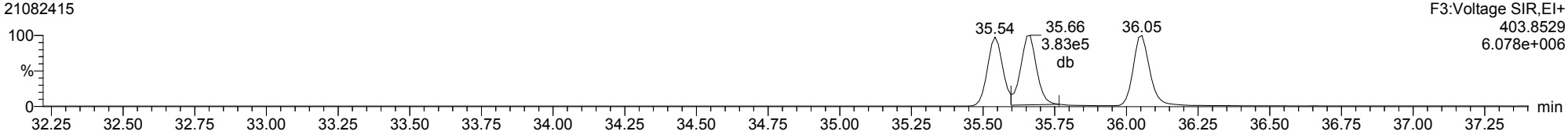

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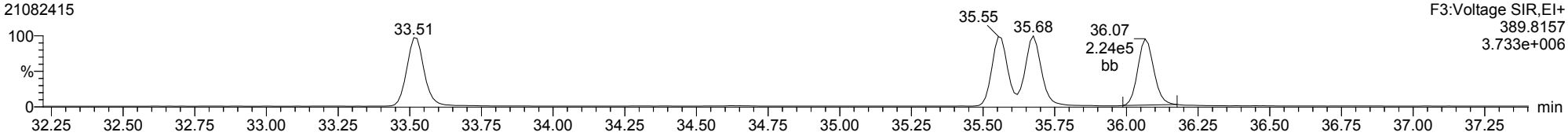
123789-HxCDD



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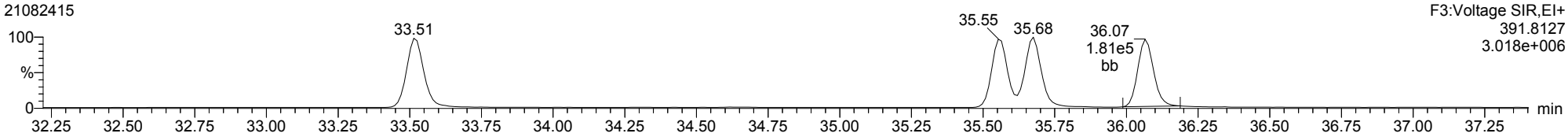

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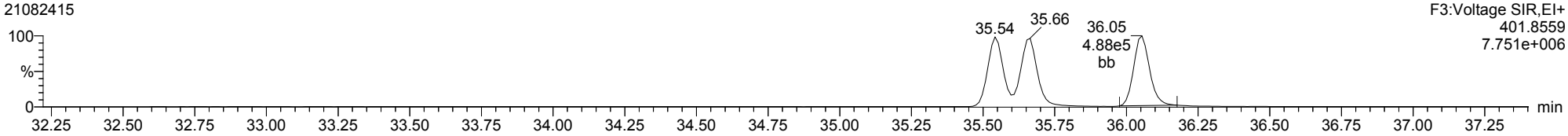

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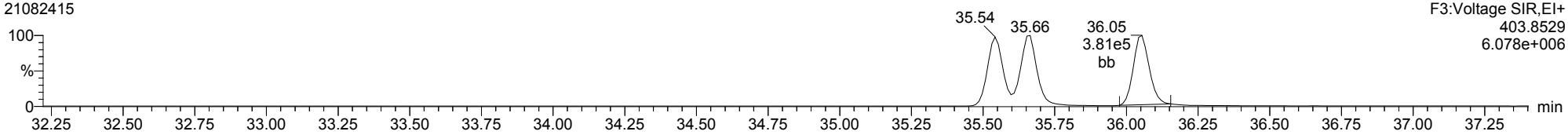

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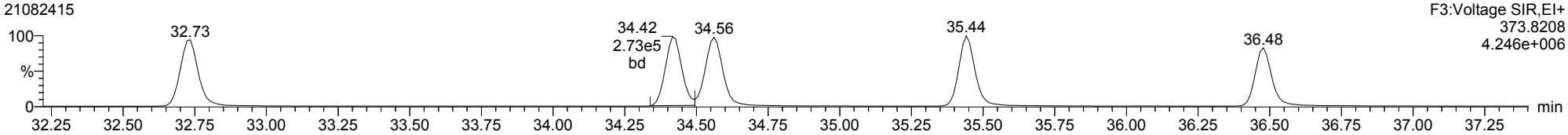

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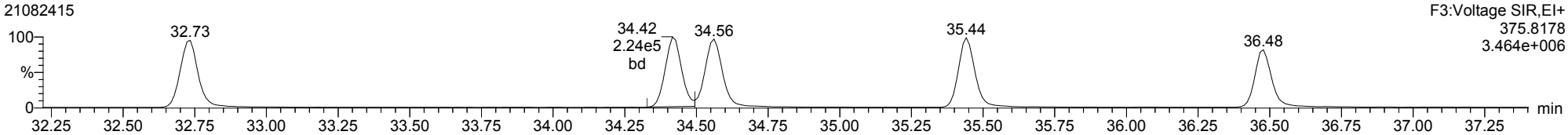

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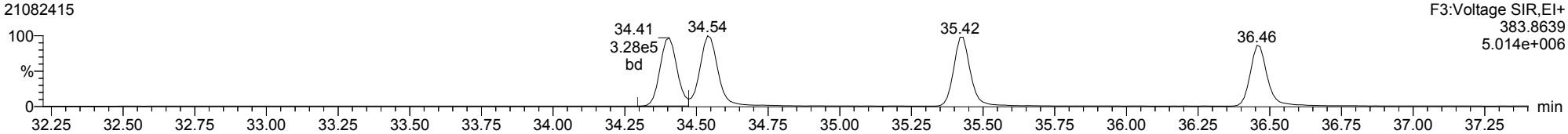

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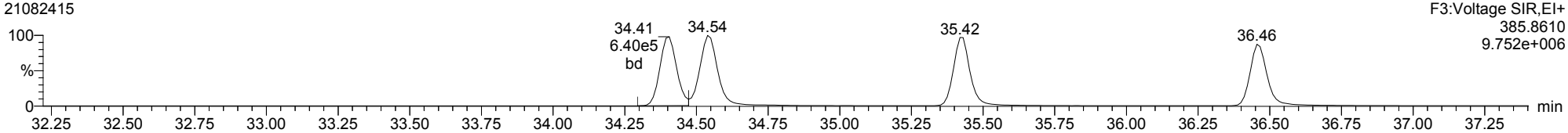

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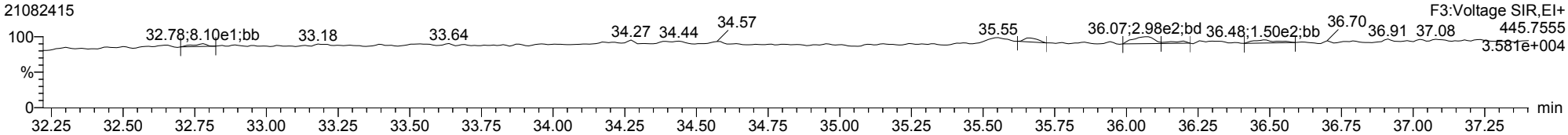

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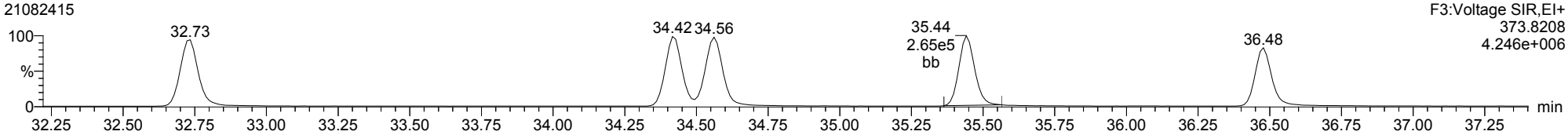

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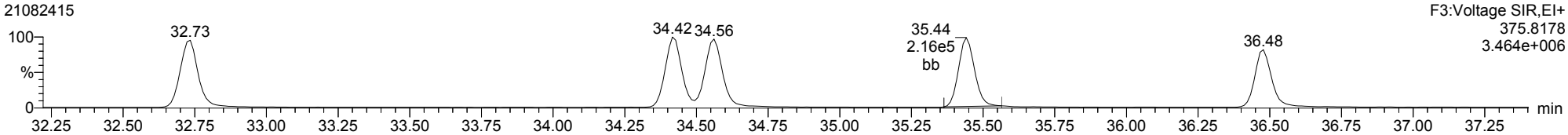

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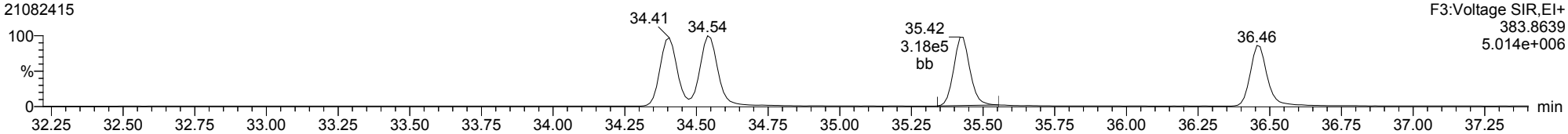

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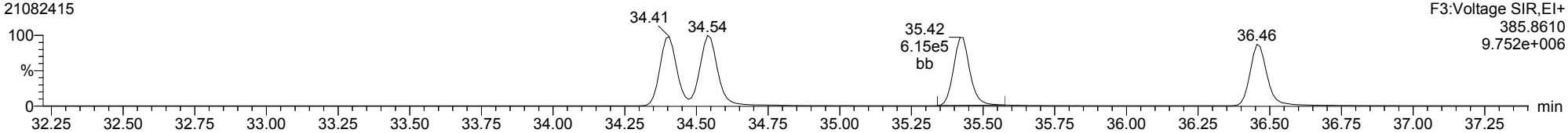

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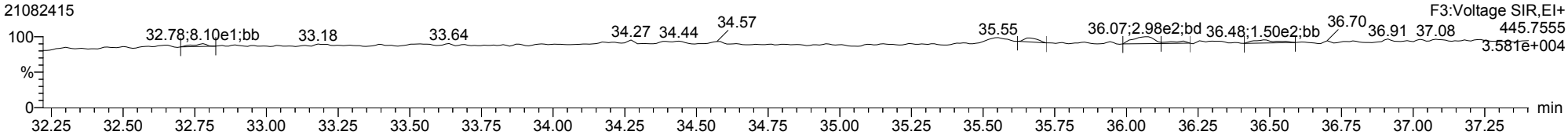

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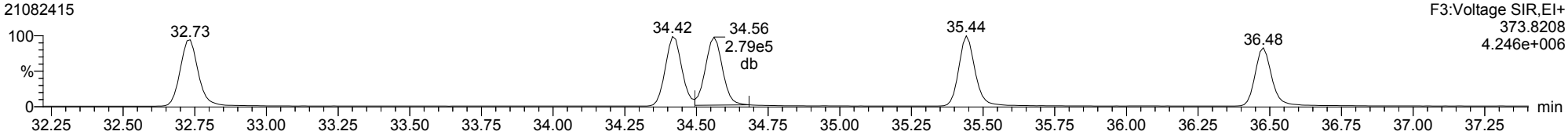

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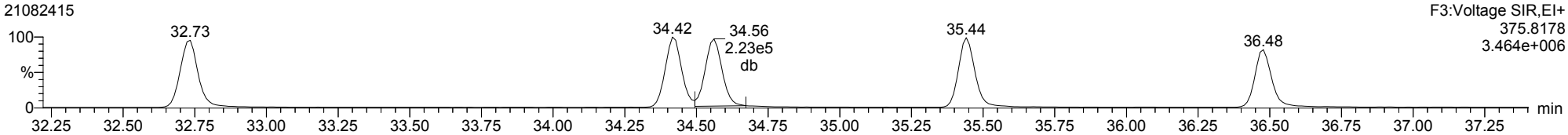

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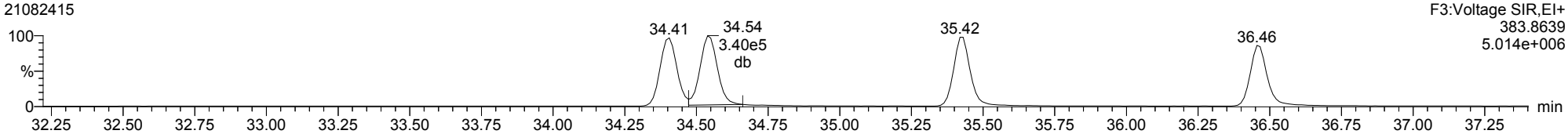

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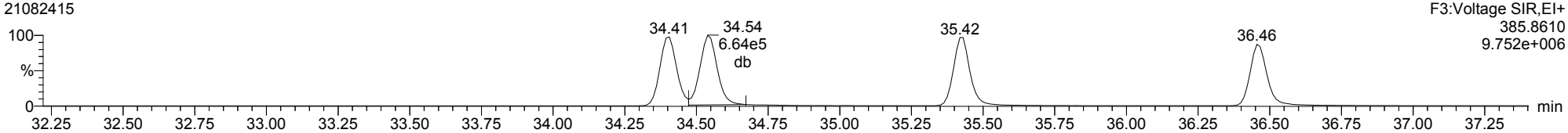

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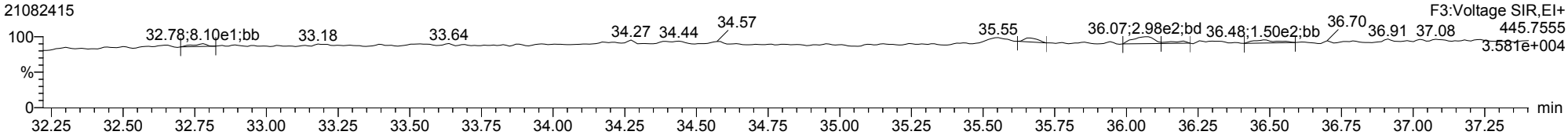

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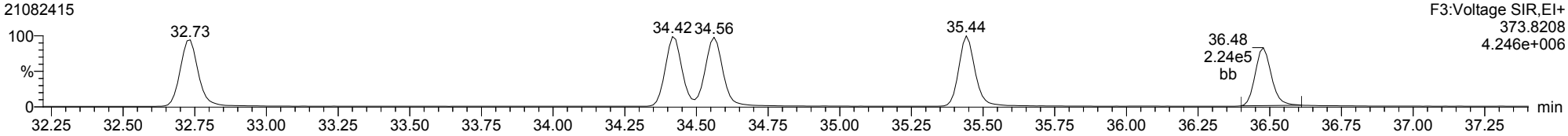

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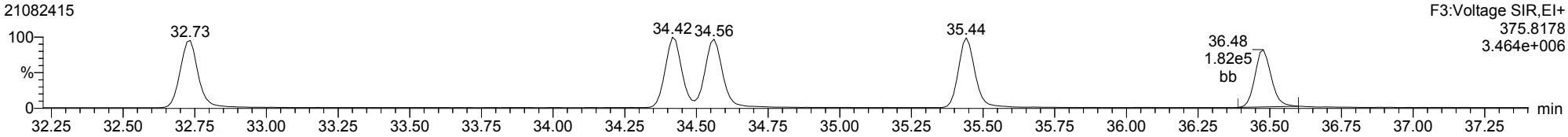

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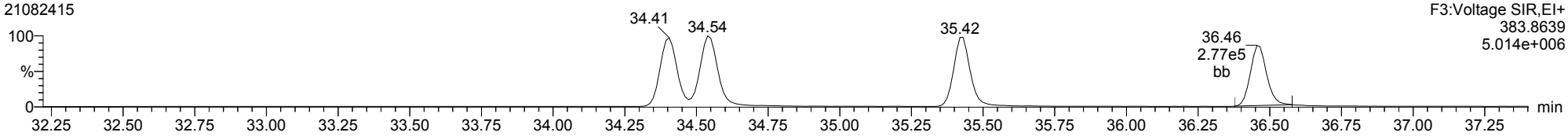

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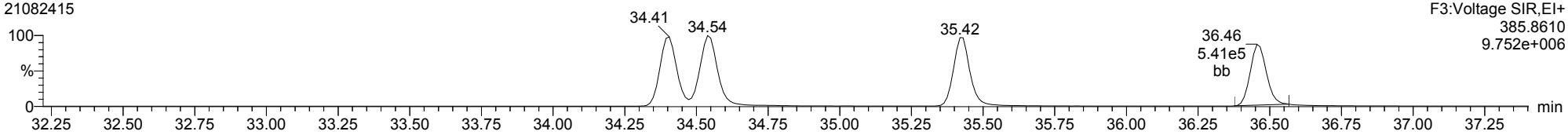

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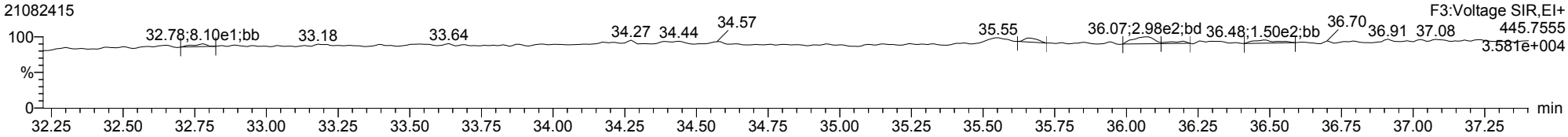

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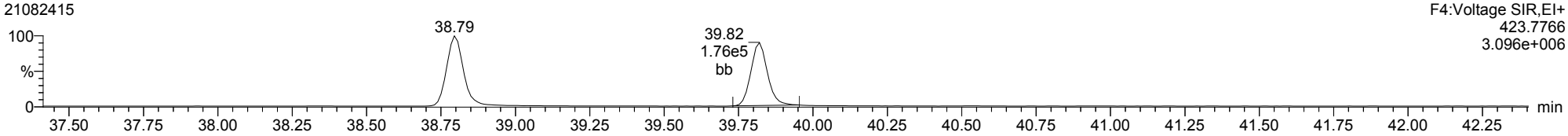

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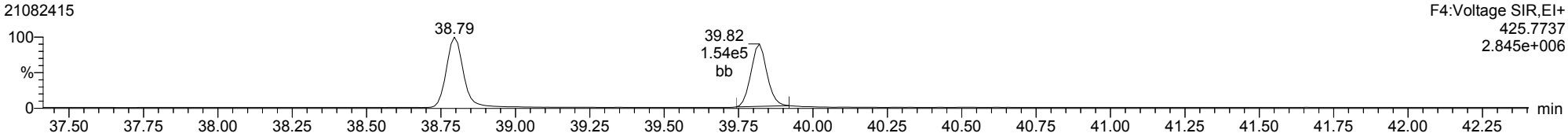

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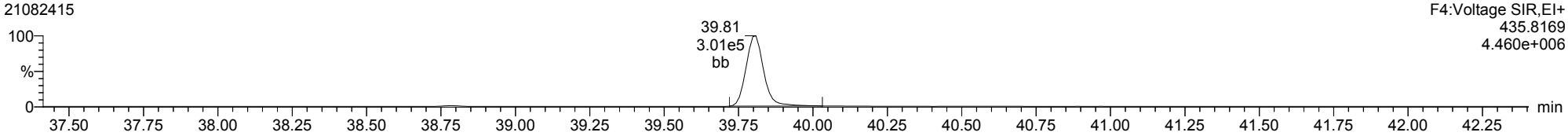

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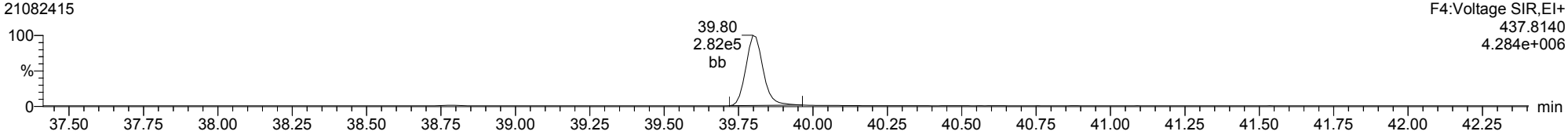

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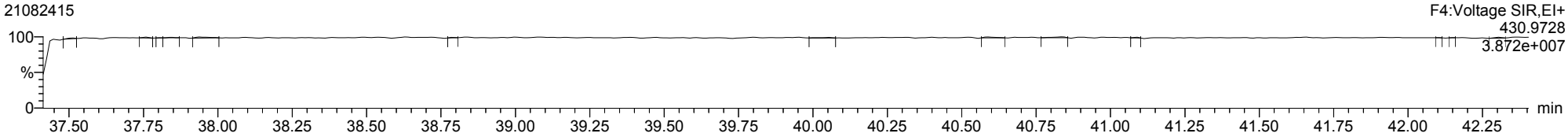

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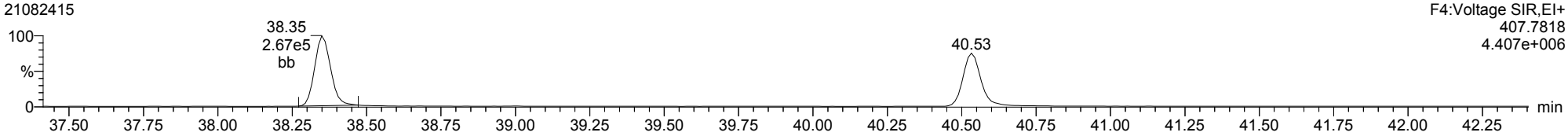

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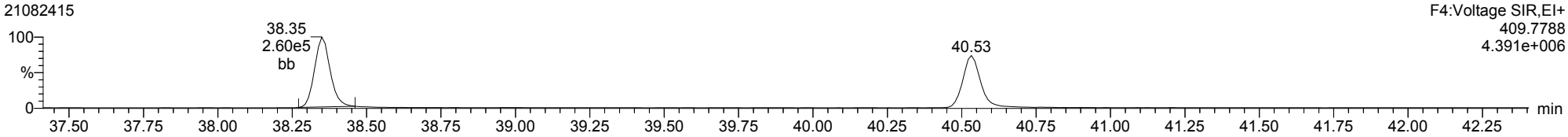

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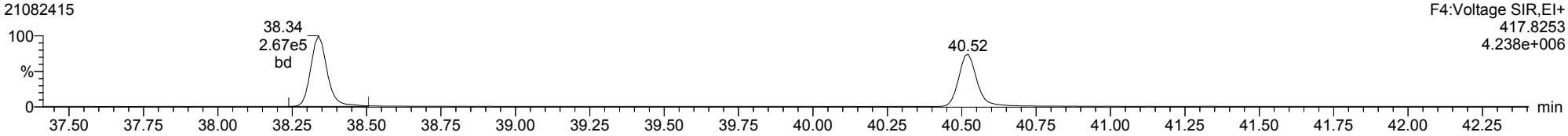

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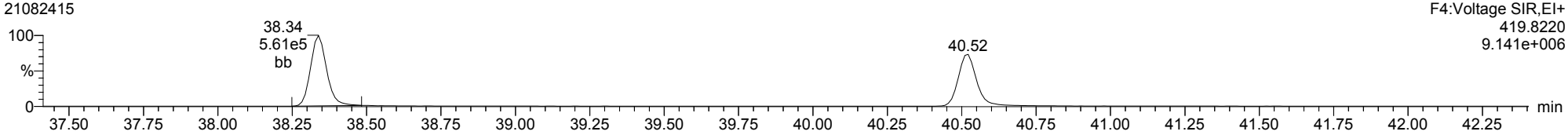

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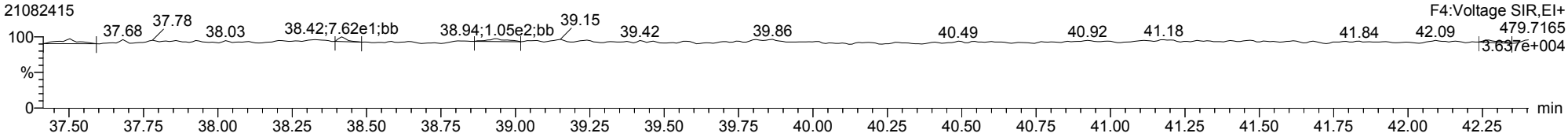

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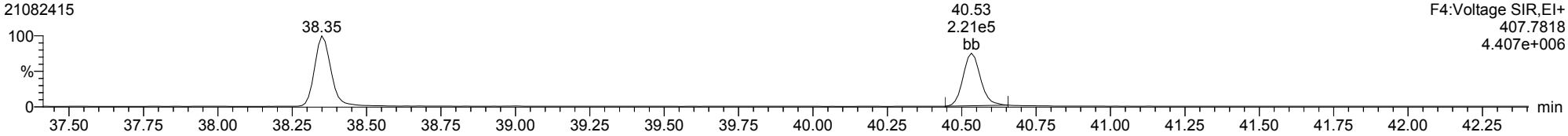

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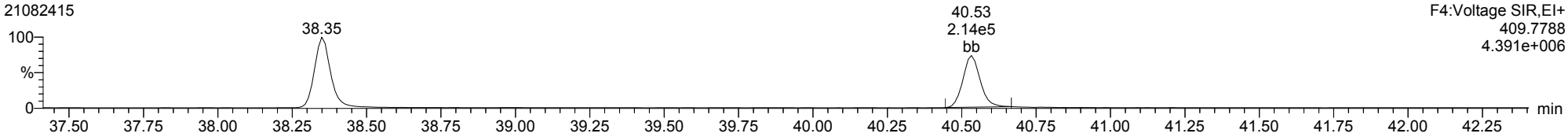

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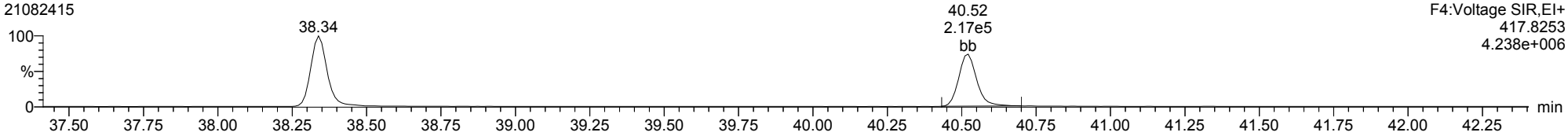

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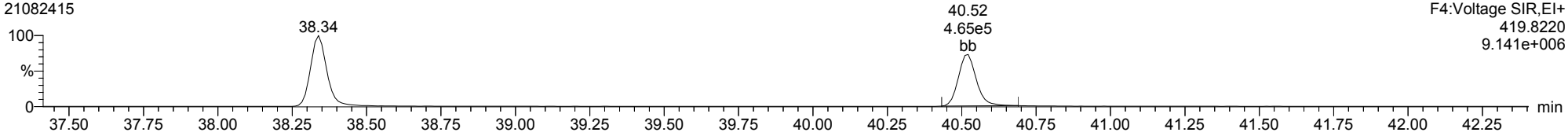

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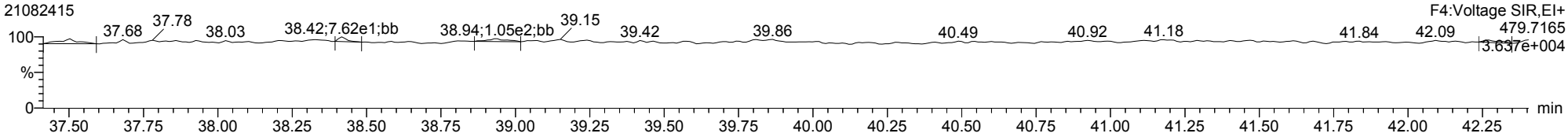

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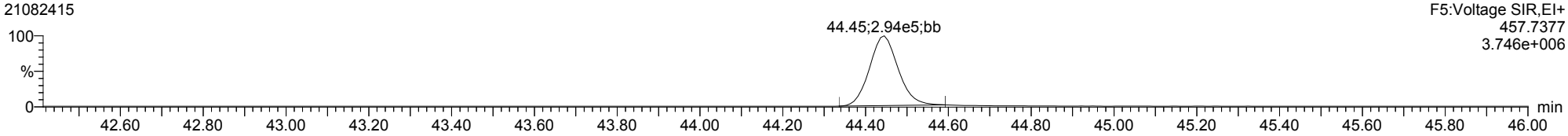

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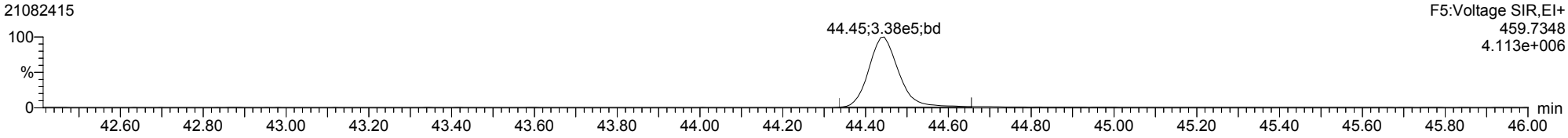

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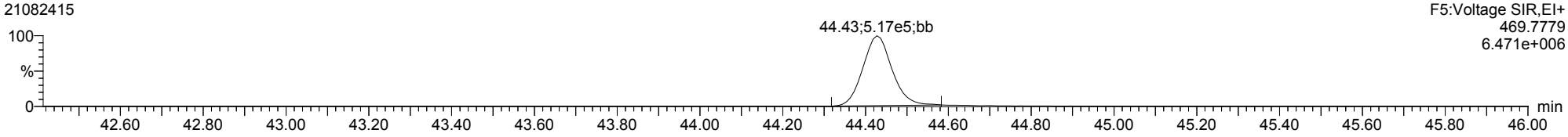

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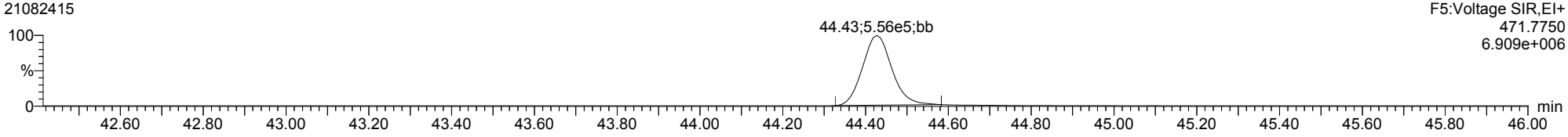

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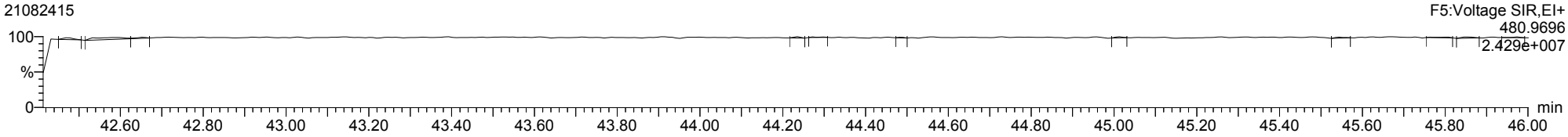

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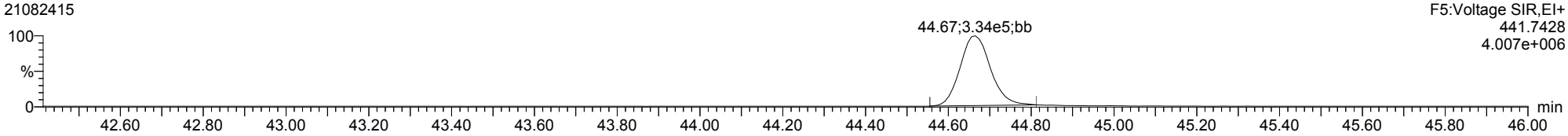

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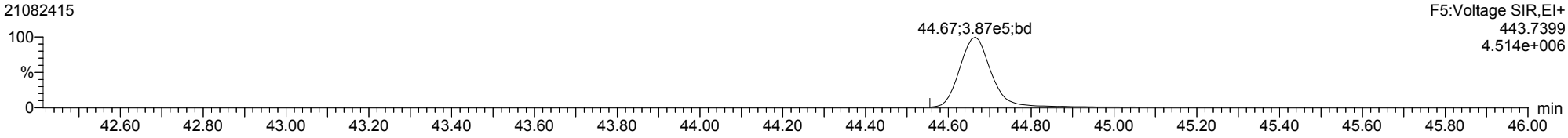

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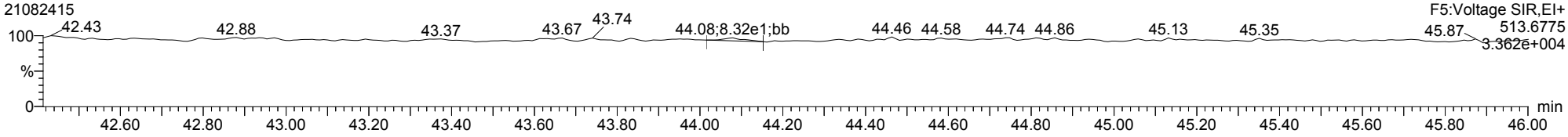

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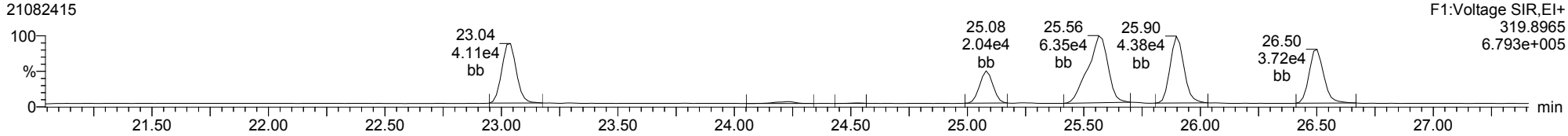

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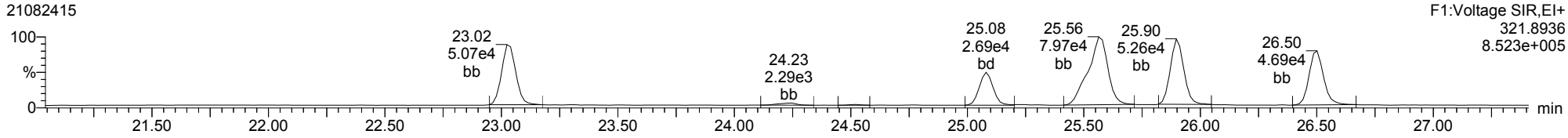

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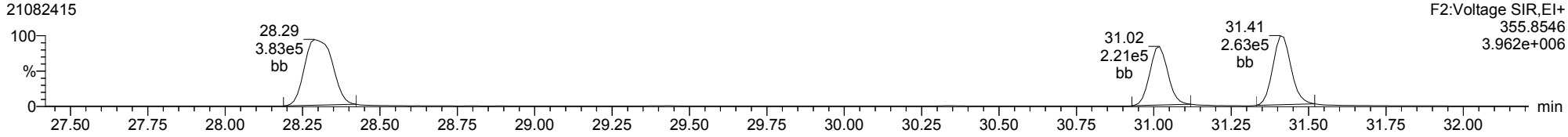

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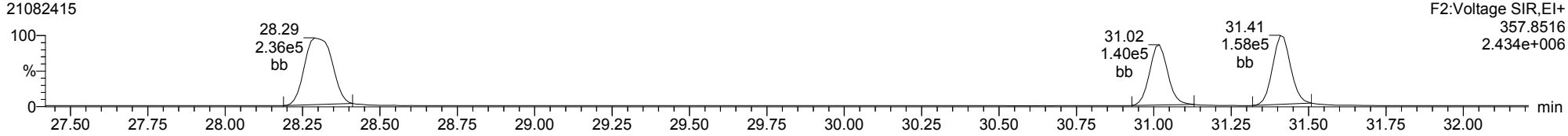

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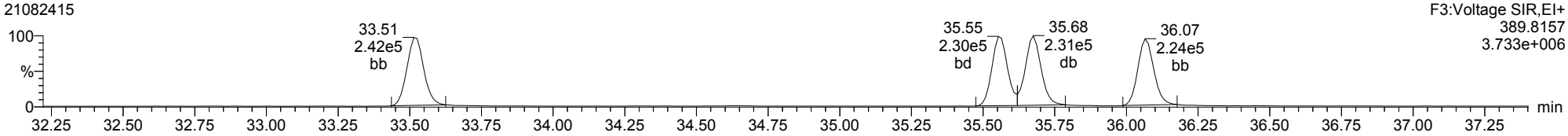

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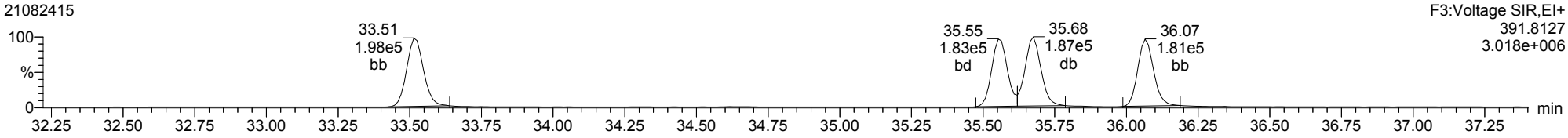

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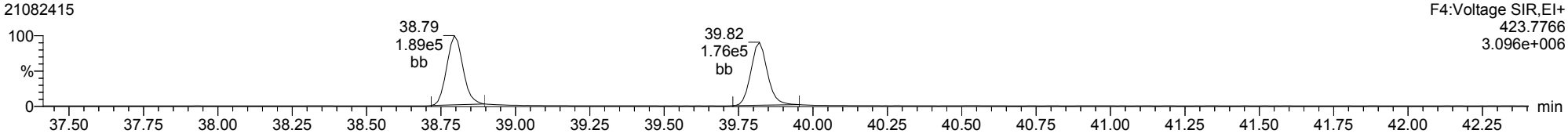
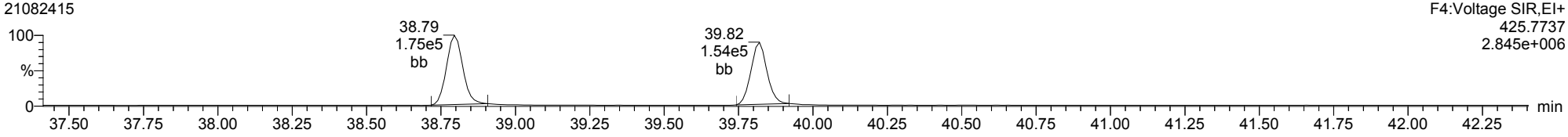


Total-heptadioxins



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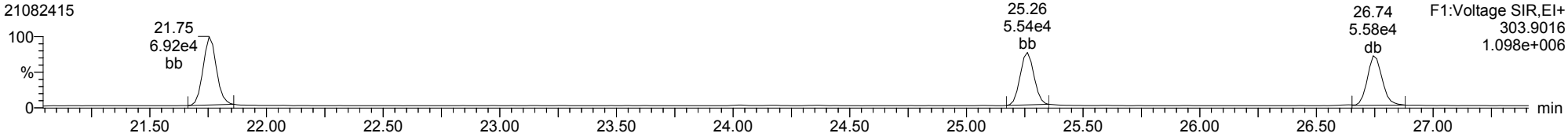
Printed: Wednesday, August 25, 2021 09:23:34 Pacific Daylight Time

ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, Conditions: AUTOSPEC01, User: pk

Total-tetrafurans



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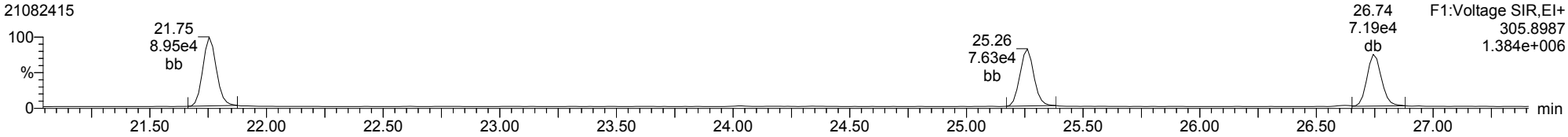

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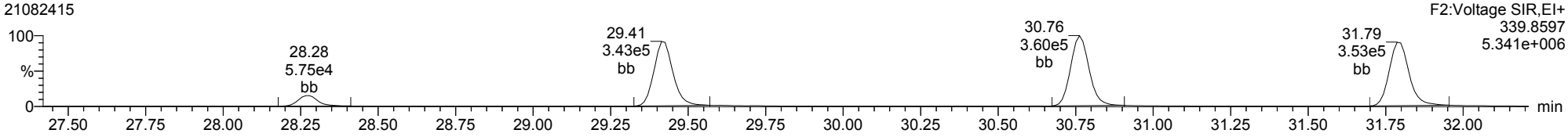

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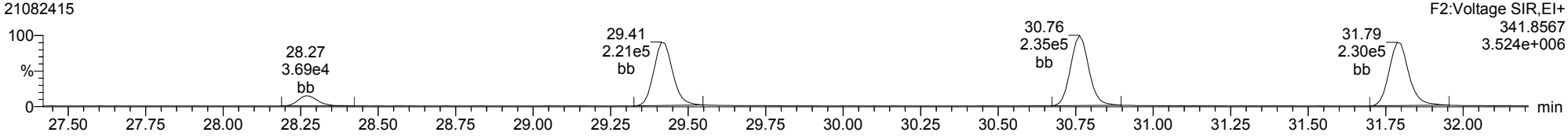

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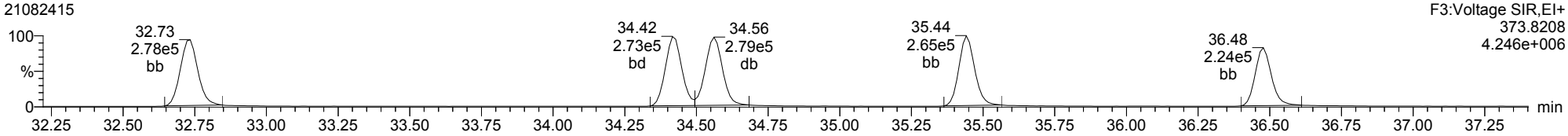
Printed: Wednesday, August 25, 2021 09:23:34 Pacific Daylight Time

ID: CS3L4, Name: 21082415, Date: 24-Aug-2021, Time: 23:34:23, Conditions: AUTOSPEC01, User: pk

Total-hexafurans



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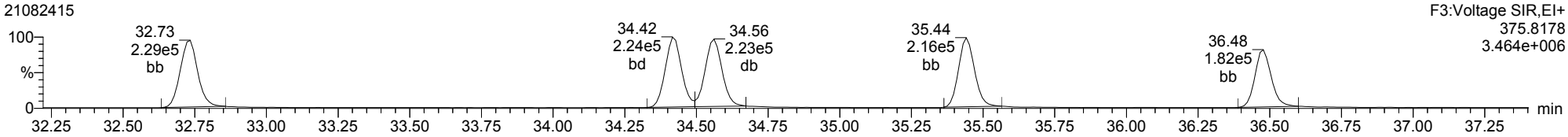

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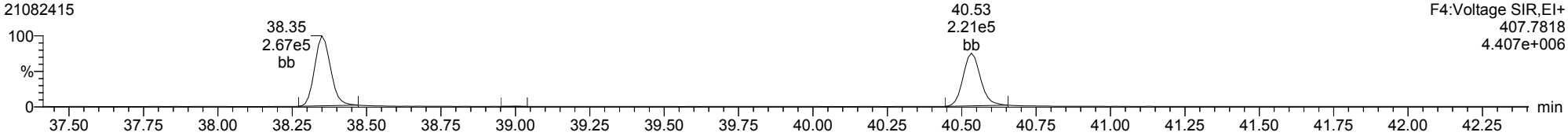

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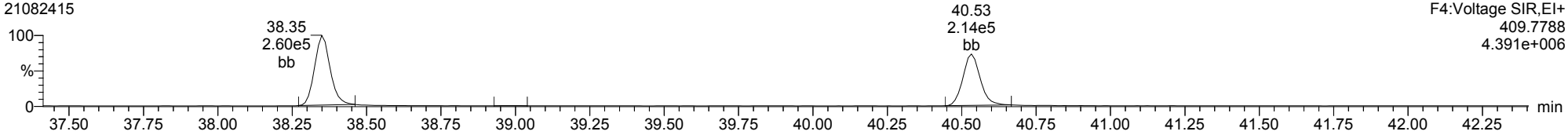

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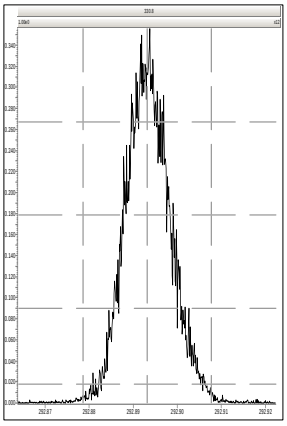
M 292.9824 R 13026



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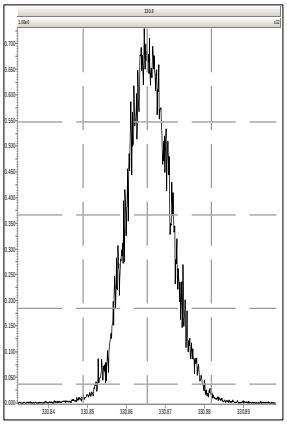
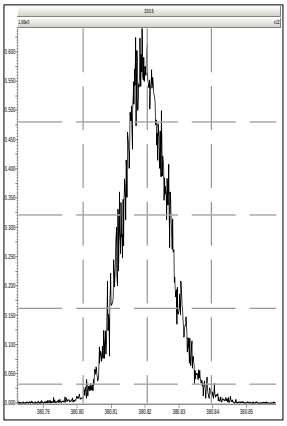


M 380.9760 R 11792



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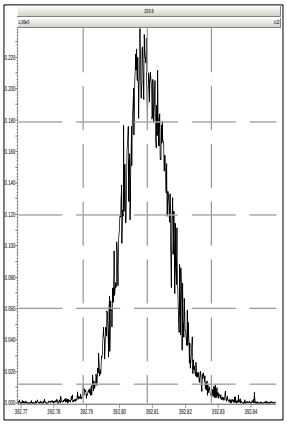
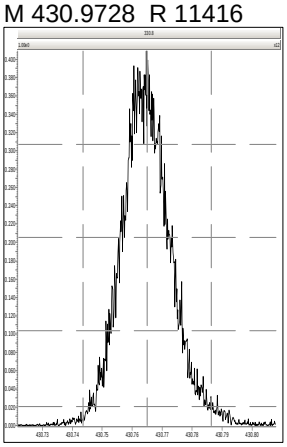


M 430.9728 R 11416



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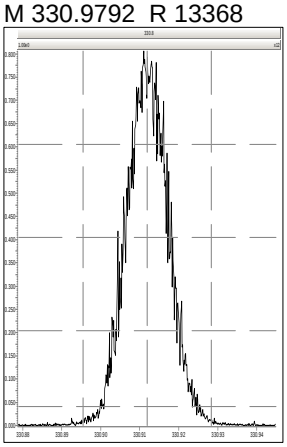

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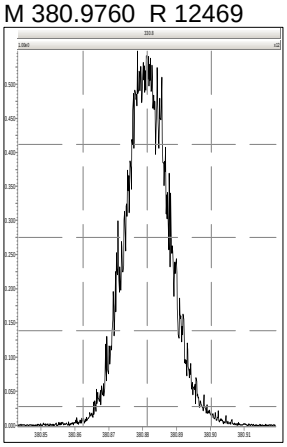

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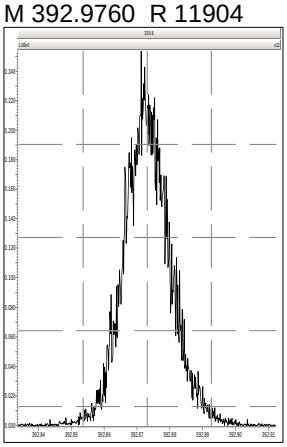

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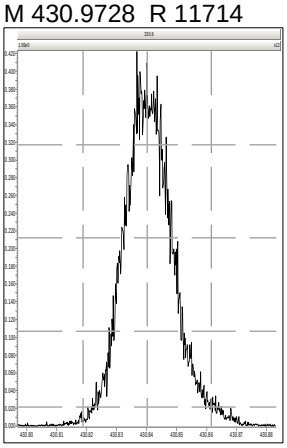

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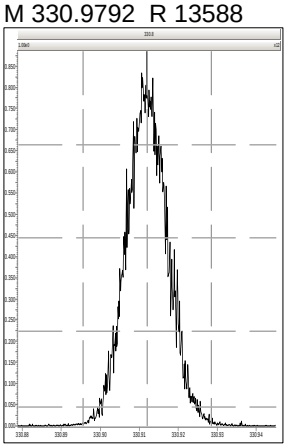

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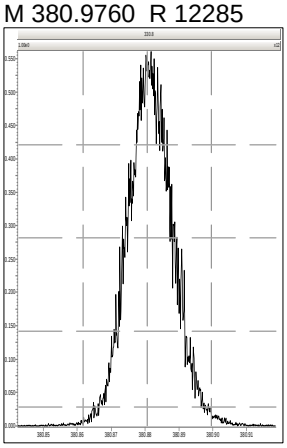

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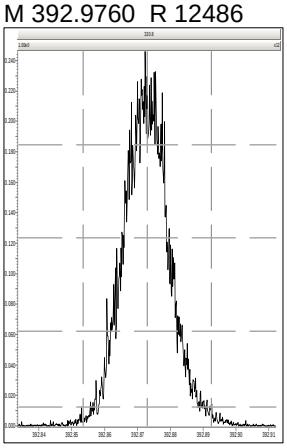

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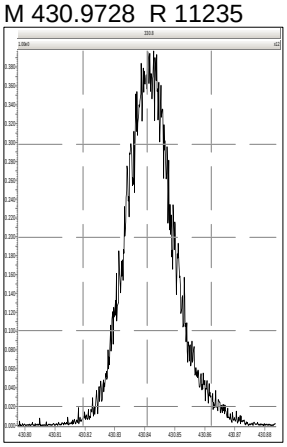

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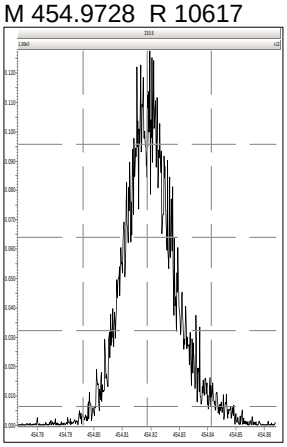
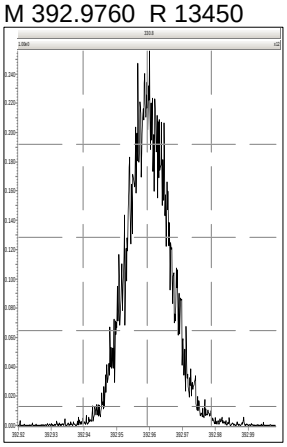


M 392.9760 R 13450



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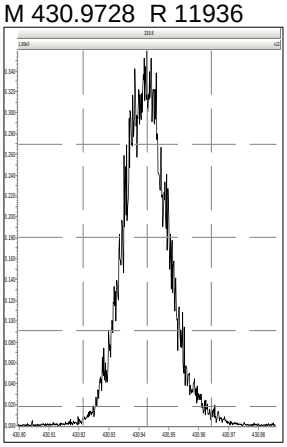

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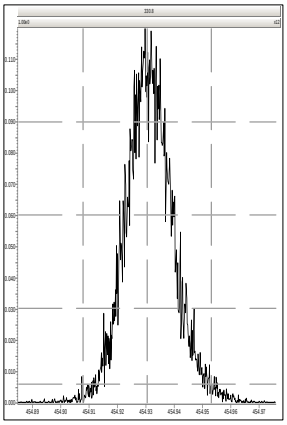

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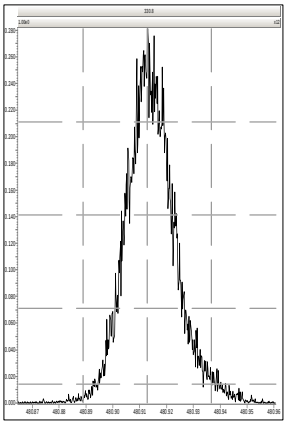

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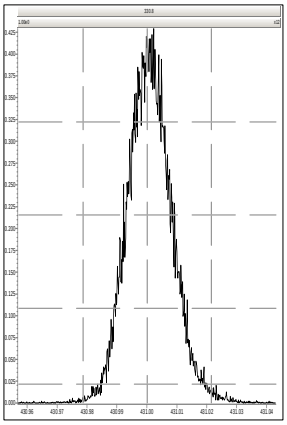

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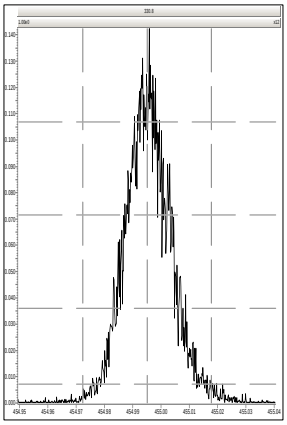

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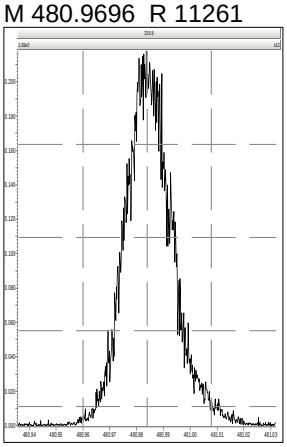

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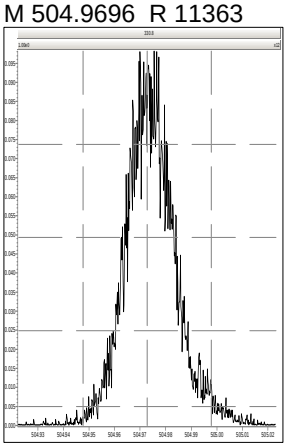
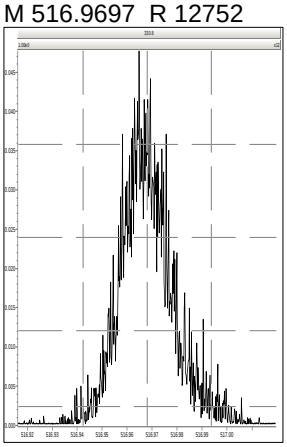
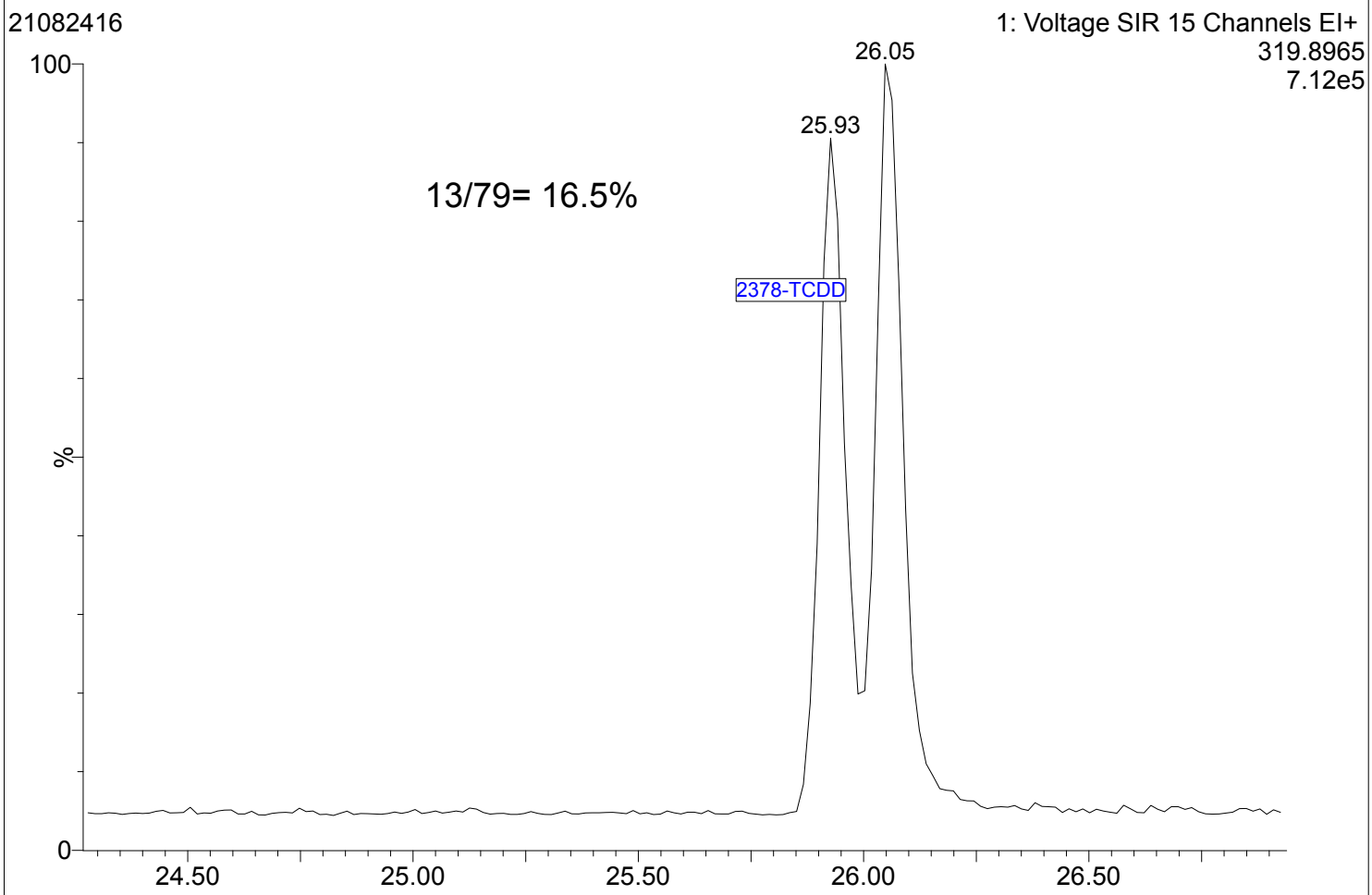


M 516.9697 R 12752

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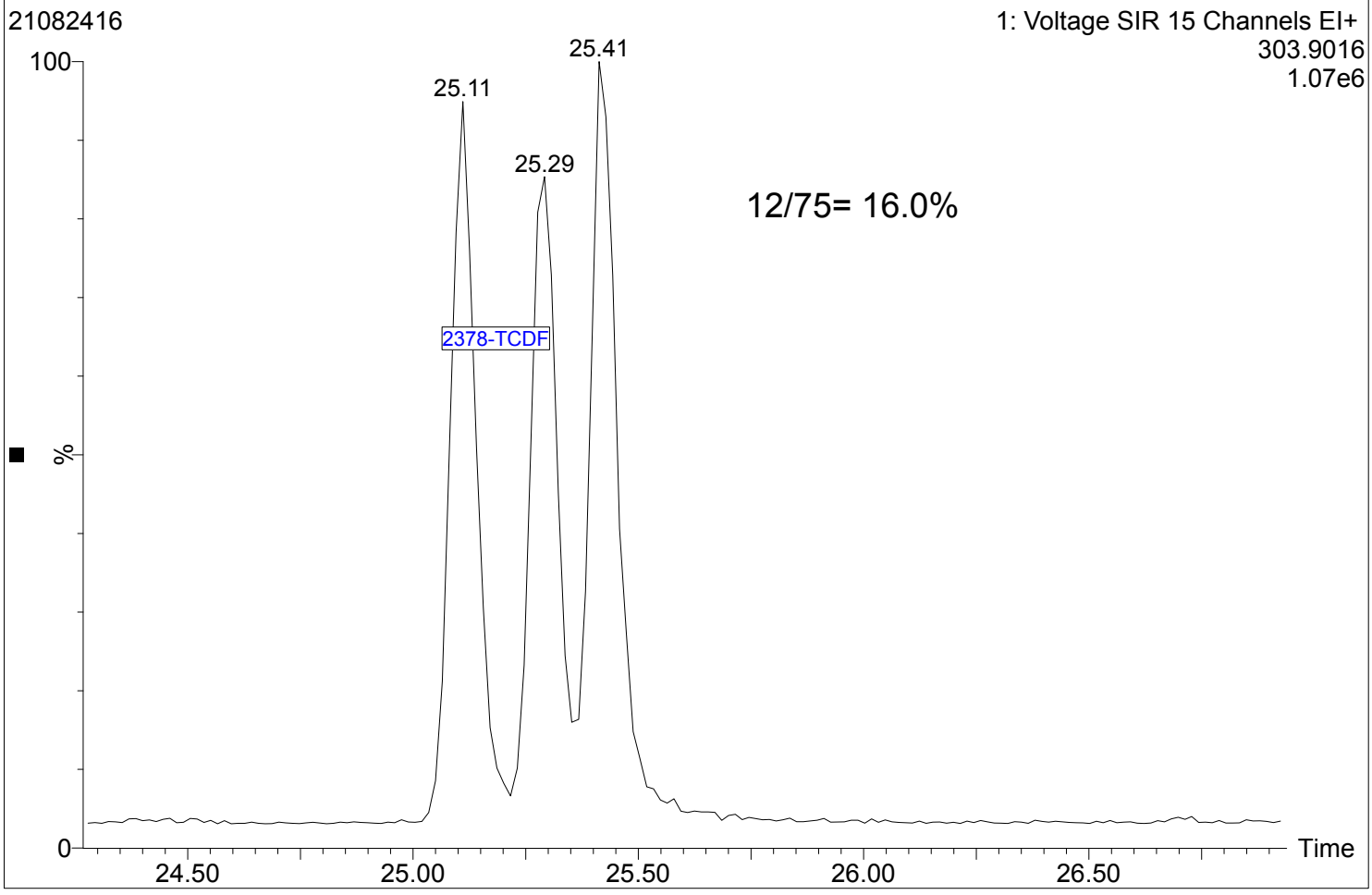
1: Voltage SIR 15 Channels EI+
319.8965
7.12e5
100
%
0
26.05
25.93
13/79= 16.5%
2378-TCDD
24.50
25.00
25.50
26.00
26.50


21082416
1: Voltage SIR 15 Channels EI+
303.9016
1.07e6
100
%
0
25.41
25.11
25.29
12/75= 16.0%
2378-TCDF
Time
24.50
25.00
25.50
26.00
26.50

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CONTINUING CALIBRATION CHECK
EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Instrument ID:	AUTOSPEC01	Calibration:	EH00030
Lab File ID:	21082425	Calibration Date:	08/11/2021
Sequence:	SJH0304	Injection Date:	08/25/21
Lab Sample ID:	SJH0304-CCV2	Injection Time:	07:50
Sequence Name:	CS3L5		

		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	9.43	1.1075930	1.0439180		-5.7	+/-16
2,3,7,8-TCDD	A	10.000	10.7	0.9202875	0.9831469		6.8	+/-22
1,2,3,7,8-PeCDF	A	50.000	47.3	1.0148670	0.9605480		-5.4	+/-18
2,3,4,7,8-PeCDF	A	50.000	47.6	1.1255490	1.0712700		-4.8	+/-18
1,2,3,7,8-PeCDD	A	50.000	55.7	0.9953229	1.1093410		11.5	+/-22
1,2,3,4,7,8-HxCDF	A	50.000	51.2	1.0168930	1.0416350		2.4	+/-10
1,2,3,6,7,8-HxCDF	A	50.000	49.4	1.0368310	1.0248100		-1.2	+/-12
2,3,4,6,7,8-HxCDF	A	50.000	50.2	1.0524660	1.0575620		0.5	+/-12
1,2,3,7,8,9-HxCDF	A	50.000	50.7	1.0301540	1.0437070		1.3	+/-10
1,2,3,4,7,8-HxCDD	A	50.000	48.3	1.0273630	0.9918665		-3.5	+/-22
1,2,3,6,7,8-HxCDD	A	50.000	50.5	1.0089800	1.0199370		1.1	+/-22
1,2,3,7,8,9-HxCDD	A	50.000	50.5	0.9504865	0.9601033		1.0	+/-18
1,2,3,4,6,7,8-HpCDF	A	50.000	46.8	1.3273500	1.2413020		-6.5	+/-10
1,2,3,4,7,8,9-HpCDF	A	50.000	48.7	1.2833380	1.2508680		-2.5	+/-14
1,2,3,4,6,7,8-HpCDD	A	50.000	55.0	1.0680880	1.1739320		9.9	+/-14
OCDF	A	100.00	93.2	1.4469010	1.3478960		-6.8	+/-37
OCDD	A	100.00	98.6	1.1808230	1.1638080		-1.4	+/-21
13C12-2,3,7,8-TCDF	A	100.00	105	1.4265830	1.5035978		5.4	+/-29
13C12-2,3,7,8-TCDD	A	100.00	102	1.1164910	1.1411203		2.2	+/-18
13C12-1,2,3,7,8-PeCDF	A	100.00	108	1.2973130	1.4013356		8.0	+/-24
13C12-2,3,4,7,8-PeCDF	A	100.00	106	1.2364800	1.3133176		6.2	+/-23
13C12-1,2,3,7,8-PeCDD	A	100.00	102	0.7319833	0.7469227		2.0	+/-38
13C12-1,2,3,4,7,8-HxCDF	A	100.00	89.3	1.2424560	1.1097560		-10.7	+/-24
13C12-1,2,3,6,7,8-HxCDF	A	100.00	87.5	1.3434760	1.1759045		-12.5	+/-30
13C12-2,3,4,6,7,8-HxCDF	A	100.00	89.3	1.2148550	1.0849296		-10.7	+/-27
13C12-1,2,3,7,8,9-HxCDF	A	100.00	91.9	1.0076370	0.9255462		-8.1	+/-26
13C12-1,2,3,4,7,8-HxCDD	A	100.00	98.5	0.9598233	0.9453237		-1.5	+/-15
13C12-1,2,3,6,7,8-HxCDD	A	100.00	96.0	1.0413850	1.0001275		-4.0	+/-15
13C12-1,2,3,4,6,7,8-HpCDF	A	100.00	104	0.9264704	0.9667513		4.3	+/-22
13C12-1,2,3,4,7,8,9-HpCDF	A	100.00	105	0.7579160	0.7922983		4.5	+/-23
13C12-1,2,3,4,6,7,8-HpCDD	A	100.00	103	0.6324476	0.6534433		3.3	+/-28
13C12-OCDD	A	200.00	244	0.5037432	0.6139485		21.9	+/-52
37Cl4-2,3,7,8-TCDD	A	10.000	9.70	1.0835930	1.0515944		-3.0	

* Values outside of QC limits

Dataset: T:\Autospec\Processed Data Batch\210824D2.qld
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Printed: Wednesday, August 25, 2021 12:45:59 Pacific Daylight Time

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

ID: CS3L5, Name: 21082425, Date: 25-Aug-2021, Time: 07:50:25, 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	25.262	1.001	4.381e4	5.632e4	1.108	0.778	0.770	1074	1751	6.28e5	7.77e5	584.9	443.9	NO	bb	bd	9.425
12378-PeCDF	29.414	1.000	2.656e5	1.637e5	1.015	1.623	1.550	2523	2502	3.70e6	2.31e6	1464.8	923.1	NO	bd	bb	47.324
23478-PeCDF	30.762	1.001	2.714e5	1.773e5	1.126	1.530	1.550	2523	2502	3.85e6	2.54e6	1525.2	1013.2	NO	bd	bb	47.589
123478-HxCDF	34.416	1.000	2.007e5	1.616e5	1.017	1.242	1.240	2644	1997	3.04e6	2.43e6	1150.2	1217.7	NO	bd	bd	51.217
234678-HxCDF	35.441	1.000	2.020e5	1.575e5	1.052	1.283	1.240	2644	1997	2.95e6	2.45e6	1114.7	1229.3	NO	bd	bb	50.242
123678-HxCDF	34.561	1.001	2.091e5	1.685e5	1.037	1.241	1.240	2644	1997	2.94e6	2.40e6	1113.9	1204.4	NO	db	db	49.420
123789-HxCDF	36.477	1.001	1.672e5	1.355e5	1.030	1.234	1.240	2644	1997	2.41e6	1.94e6	911.7	969.7	NO	bb	bd	50.658
1234678-HpCDF	38.349	1.000	1.937e5	1.824e5	1.327	1.062	1.050	2416	1710	3.03e6	2.93e6	1255.9	1713.6	NO	bb	bb	46.759
1234789-HpCDF	40.533	1.000	1.598e5	1.508e5	1.283	1.060	1.050	2416	1710	2.30e6	2.19e6	950.4	1282.8	NO	bb	bb	48.735
OCDF	44.665	1.005	2.449e5	2.738e5	1.447	0.894	0.890	1801	2219	2.87e6	3.26e6	1594.2	1468.0	NO	bb	bb	93.157
2378-TCDD	25.897	1.001	3.281e4	3.876e4	0.920	0.847	0.770	2139	1135	4.57e5	5.77e5	213.7	508.2	NO	bb	bb	10.683
12378-PeCDD	31.018	1.001	1.629e5	1.014e5	0.995	1.605	1.550	1616	1934	2.35e6	1.47e6	1454.3	759.8	NO	bb	bb	55.728
123478-HxCDD	35.553	1.000	1.655e5	1.284e5	1.027	1.289	1.240	2024	2969	2.53e6	2.02e6	1250.8	681.3	NO	bd	bd	48.272
123678-HxCDD	35.675	1.001	1.784e5	1.412e5	1.009	1.264	1.240	2024	2969	2.58e6	2.07e6	1273.2	696.1	NO	db	db	50.543
123789-HxCDD	36.065	1.012	1.612e5	1.315e5	0.950	1.226	1.240	2024	2969	2.47e6	2.02e6	1221.9	681.3	NO	bb	bb	50.506
1234678-HpCDD	39.820	1.001	1.254e5	1.150e5	1.068	1.090	1.050	1813	1303	1.89e6	1.69e6	1040.6	1298.9	NO	bb	bb	54.955
OCDD	44.445	1.000	2.125e5	2.354e5	1.181	0.903	0.890	1459	2004	2.62e6	2.87e6	1793.0	1430.0	NO	bb	bb	98.559
13C-2378-TCDF	25.232	1.007	4.319e5	5.273e5	1.427	0.819	0.770	3299	2227	5.98e6	7.32e6	1812.1	3288.3	NO	bb	bb	105.399
13C-12378-PeCDF	29.403	1.173	5.479e5	3.460e5	1.297	1.583	1.550	3069	2758	7.54e6	4.70e6	2456.7	1702.6	NO	bd	bd	108.018
13C-23478-PeCDF	30.740	1.226	5.164e5	3.214e5	1.236	1.607	1.550	3069	2758	7.19e6	4.45e6	2343.9	1615.0	NO	bb	bb	106.214
13C-123478-HxCDF	34.405	0.954	2.343e5	4.612e5	1.242	0.508	0.510	2258	2202	3.45e6	6.80e6	1529.7	3086.5	NO	bd	bd	89.320
13C-123678-HxCDF	34.539	0.958	2.485e5	4.885e5	1.343	0.509	0.510	2258	2202	3.52e6	6.86e6	1560.1	3113.5	NO	db	db	87.527
13C-234678-HxCDF	35.430	0.983	2.311e5	4.489e5	1.215	0.515	0.510	2258	2202	3.35e6	6.55e6	1481.9	2972.8	NO	bb	bb	89.305
13C-123789-HxCDF	36.455	1.011	1.960e5	3.841e5	1.008	0.510	0.510	2258	2202	2.96e6	5.85e6	1310.0	2657.1	NO	bb	bb	91.853
13C-1234678-HpCDF	38.338	1.063	1.849e5	4.210e5	0.926	0.439	0.440	2013	2590	2.91e6	6.34e6	1446.8	2449.4	NO	bb	bd	104.348
13C-1234789-HpCDF	40.522	1.124	1.597e5	3.369e5	0.758	0.474	0.440	2013	2590	2.15e6	4.58e6	1066.6	1766.7	NO	bd	bb	104.536
13C-1234-TCDD	25.065	0.000	2.784e5	3.595e5	1.000	0.775	0.770	2376	1486	4.04e6	5.12e6	1698.3	3443.1	NO	bb	bb	100.000
13C-2378-TCDD	25.882	1.033	3.171e5	4.108e5	1.116	0.772	0.770	2376	1486	4.35e6	5.65e6	1831.2	3799.1	NO	bb	bb	102.206
13C-12378-PeCDD	30.996	1.237	2.897e5	1.868e5	0.732	1.551	1.550	1062	1158	4.05e6	2.57e6	3812.4	2218.2	NO	bb	bb	102.041
13C-123478-HxCDD	35.542	0.986	3.298e5	2.626e5	0.960	1.256	1.240	2209	1978	5.16e6	4.09e6	2334.5	2068.7	NO	bd	bd	98.489
13C-123678-HxCDD	35.653	0.989	3.447e5	2.821e5	1.041	1.222	1.240	2209	1978	5.08e6	4.17e6	2297.9	2105.6	NO	db	db	96.038
13C-1234678-HpCDD	39.798	1.104	2.115e5	1.981e5	0.632	1.068	1.050	1989	1115	3.09e6	2.95e6	1552.5	2650.1	NO	bb	bb	103.320
13C-OCDD	44.427	1.232	3.669e5	4.027e5	0.504	0.911	0.890	1395	1934	4.50e6	4.94e6	3225.5	2553.6	NO	bb	bb	243.755
13C-123789-HxCDD	36.054	0.000	3.490e5	2.778e5	1.000	1.256	1.240	2209	1978	5.33e6	4.22e6	2411.2	2135.2	NO	bb	bb	100.000
37CL-2378-TCDD	25.897	1.033	6.708e4		1.084			1365		9.26e5		678.3			bd		9.705

Dataset: T:\Autospec\Processed Data Batch\210824D2.qld
Last Altered: Wednesday, August 25, 2021 12:19:48 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 12:45:59 Pacific Daylight Time

ID: CS3L5, Name: 21082425, Date: 25-Aug-2021, Time: 07:50:25, 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	21.754	0.862	5.466e4	7.377e4	1.425	0.741	0.770	1074	1751	8.13e5	1.05e6	756.9	599.0	NO	bb	bb	9.396
1289-TCDF	26.743	1.060	4.054e4	5.528e4	1.043	0.733	0.770	1074	1751	5.52e5	7.39e5	514.4	421.9	NO	bb	db	9.578
13468-PECDF	26.607	0.905	3.386e5	2.233e5	1.376	1.516	1.550	749	1113	4.70e6	3.14e6	6285.6	2820.5	NO	bb	bb	45.674
12389-PECDF	31.787	1.081	2.482e5	1.663e5	1.000	1.492	1.550	2523	2502	3.37e6	2.26e6	1336.4	903.2	NO	bb	bb	46.390
123468-HXCDF	32.723	0.951	2.063e5	1.659e5	1.087	1.244	1.240	2644	1997	2.79e6	2.39e6	1057.1	1196.2	NO	bb	bb	49.250
1368-TCDD	23.039	0.890	3.259e4	3.906e4	0.923	0.834	0.770	2139	1135	4.40e5	5.57e5	205.9	490.4	NO	bb	bb	10.660
1289-TCDD	26.501	1.024	2.841e4	3.648e4	0.794	0.779	0.770	2139	1135	3.70e5	4.80e5	173.2	422.9	NO	bb	bb	11.226
12479-PECDD	28.289	0.913	2.868e5	1.790e5	1.843	1.602	1.550	1616	1934	2.72e6	1.65e6	1682.5	851.6	NO	bb	bb	53.041
12389-PECDD	31.408	1.013	1.926e5	1.171e5	1.154	1.644	1.550	1616	1934	2.76e6	1.67e6	1709.8	861.0	NO	bb	bb	56.351
124679-HXCDD	33.514	0.943	1.762e5	1.430e5	1.125	1.232	1.240	2024	2969	2.55e6	2.03e6	1260.5	683.8	NO	bb	bb	47.888
1234679-HPCDD	38.795	0.975	1.379e5	1.286e5	1.211	1.072	1.050	1813	1303	2.10e6	2.03e6	1158.6	1556.1	NO	bb	bb	53.735
Total-tetrafurans			1.390e5		1.192			1074		1.99e6							28.399
Total-penta1			3.386e5					749		4.70e6							45.674
Total-pentafurans			8.270e5		1.047			2523		1.15e7							148.914
Total-hexafurans			9.854e5		1.045			2644		1.41e7							250.787
Total-heptafurans			3.538e5		1.305			2416		5.34e6							95.593
Total-Furans			2.889e6		1.158			1074		4.05e7							662.524
Total-tetradioxins			1.580e5		0.879			2139		1.99e6							55.213
Total-pentadioxins			6.423e5		1.331			1616		7.83e6							165.120
Total-hexadioxins			6.813e5		1.028			2024		1.01e7							197.209
Total-heptadioxins			2.632e5		1.140			1813		3.99e6							108.690
Total-Dioxins			1.957e6		1.092			2139		2.66e7							624.791
Total-TEQ			4.846e6					2139		6.71e7							1287.315
FUNCTION1 PFK			4.016e4					911839		2.11e6							
FUNCTION2 PFK			2.955e5					747406		1.05e7							0.000
FUNCTION3 PFK			4.372e5					679841		1.39e7							0.000
FUNCTION4 PFK			3.511e7					485887		4.07e8							
FUNCTION5 PFK			5.125e6					249243		3.34e7							
FUNCTION1 HXCD...			6.481e2					725		9.22e3							0.000
FUNCTION1 HPCD...			1.102e3					891		2.18e4							0.000
FUNCTION2 HPCD...			6.442e2					995		1.83e4							0.000
FUNCTION3 OCDPE			4.020e2					594		7.55e3							0.000
FUNCTION4 NCDPE			2.418e2					805		8.16e3							0.000
FUNCTION5 DCDPE			7.679e1					547		1.38e3							0.000

Method: T:\Autospec\Methods\Dioxin210724.mdb 24 Aug 2021 14:57:46
Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

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TF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.26	4.381e4	5.632e4	1.108	0.78	0.77	584.9	YES	NO	bb	bd	9.425
2	1368-TCDF	21.75	5.466e4	7.377e4	1.425	0.74	0.77	756.9	YES	NO	bb	bb	9.396
3	1289-TCDF	26.74	4.054e4	5.528e4	1.043	0.73	0.77	514.4	YES	NO	bb	db	9.578

PP

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	13468-PECDF	26.61	3.386e5	2.233e5	1.376	1.52	1.55	6285.6	YES	NO	bb	bb	45.674

PF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12389-PECDF	31.79	2.482e5	1.663e5	1.000	1.49	1.55	1336.4	YES	NO	bb	bb	46.390
2	23478-PeCDF	30.76	2.714e5	1.773e5	1.126	1.53	1.55	1525.2	YES	NO	bd	bb	47.589
3	12378-PeCDF	29.41	2.656e5	1.637e5	1.015	1.62	1.55	1464.8	YES	NO	bd	bb	47.324
4	Total-pentafurans	28.27	4.175e4	2.723e4	1.047	1.53	1.55	229.9	YES	NO	bb	bb	7.611

HF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	234678-HxCDF	35.44	2.020e5	1.575e5	1.052	1.28	1.24	1114.7	YES	NO	bd	bb	50.242
2	123678-HxCDF	34.56	2.091e5	1.685e5	1.037	1.24	1.24	1113.9	YES	NO	db	db	49.420
3	123478-HxCDF	34.42	2.007e5	1.616e5	1.017	1.24	1.24	1150.2	YES	NO	bd	bd	51.217
4	123468-HXCDF	32.72	2.063e5	1.659e5	1.087	1.24	1.24	1057.1	YES	NO	bb	bb	49.250
5	123789-HxCDF	36.48	1.672e5	1.355e5	1.030	1.23	1.24	911.7	YES	NO	bb	bd	50.658

HPF

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234789-HpCDF	40.53	1.598e5	1.508e5	1.283	1.06	1.05	950.4	YES	NO	bb	bb	48.735
2	Total-heptafurans	38.77	1.588e2	1.464e2	1.305	1.08	1.05	2.4	NO	NO	bd	bb	0.042
3	Total-heptafurans	38.61	2.088e2	2.032e2	1.305	1.03	1.05	2.6	NO	NO	bb	bb	0.057
4	1234678-HpCDF	38.35	1.937e5	1.824e5	1.327	1.06	1.05	1255.9	YES	NO	bb	bb	46.759

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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	25.26	4.381e4	5.632e4	1.108	0.78	0.77	584.9	YES	NO	bb	bd	9.425
2	1368-TCDF	21.75	5.466e4	7.377e4	1.425	0.74	0.77	756.9	YES	NO	bb	bb	9.396
3	1289-TCDF	26.74	4.054e4	5.528e4	1.043	0.73	0.77	514.4	YES	NO	bb	db	9.578
4	12389-PECDF	31.79	2.482e5	1.663e5	1.000	1.49	1.55	1336.4	YES	NO	bb	bb	46.390
5	23478-PeCDF	30.76	2.714e5	1.773e5	1.126	1.53	1.55	1525.2	YES	NO	bd	bb	47.589
6	12378-PeCDF	29.41	2.656e5	1.637e5	1.015	1.62	1.55	1464.8	YES	NO	bd	bb	47.324
7	Total-pentafurans	28.27	4.175e4	2.723e4	1.047	1.53	1.55	229.9	YES	NO	bb	bb	7.611
8	234678-HxCDF	35.44	2.020e5	1.575e5	1.052	1.28	1.24	1114.7	YES	NO	bd	bb	50.242
9	123678-HxCDF	34.56	2.091e5	1.685e5	1.037	1.24	1.24	1113.9	YES	NO	db	db	49.420
10	123478-HxCDF	34.42	2.007e5	1.616e5	1.017	1.24	1.24	1150.2	YES	NO	bd	bd	51.217
11	123468-HXCDF	32.72	2.063e5	1.659e5	1.087	1.24	1.24	1057.1	YES	NO	bb	bb	49.250
12	123789-HxCDF	36.48	1.672e5	1.355e5	1.030	1.23	1.24	911.7	YES	NO	bb	bd	50.658
13	1234789-HpCDF	40.53	1.598e5	1.508e5	1.283	1.06	1.05	950.4	YES	NO	bb	bb	48.735
14	Total-heptafurans	38.77	1.588e2	1.464e2	1.305	1.08	1.05	2.4	NO	NO	bd	bb	0.042
15	Total-heptafurans	38.61	2.088e2	2.032e2	1.305	1.03	1.05	2.6	NO	NO	bb	bb	0.057
16	1234678-HpCDF	38.35	1.937e5	1.824e5	1.327	1.06	1.05	1255.9	YES	NO	bb	bb	46.759
17	OCDF	44.66	2.449e5	2.738e5	1.447	0.89	0.89	1594.2	YES	NO	bb	bb	93.157
18	13468-PECDF	26.61	3.386e5	2.233e5	1.376	1.52	1.55	6285.6	YES	NO	bb	bb	45.674

TD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1289-TCDD	26.50	2.841e4	3.648e4	0.794	0.78	0.77	173.2	YES	NO	bb	bb	11.226
2	2378-TCDD	25.90	3.281e4	3.876e4	0.920	0.85	0.77	213.7	YES	NO	bb	bb	10.683
3	Total-tetradioxins	25.56	4.820e4	6.132e4	0.879	0.79	0.77	228.2	YES	NO	bb	bb	17.112
4	Total-tetradioxins	25.08	1.596e4	1.944e4	0.879	0.82	0.77	108.0	YES	NO	bd	bd	5.532
5	1368-TCDD	23.04	3.259e4	3.906e4	0.923	0.83	0.77	205.9	YES	NO	bb	bb	10.660

PD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	12479-PECDD	28.29	2.868e5	1.790e5	1.843	1.60	1.55	1682.5	YES	NO	bb	bb	53.041
2	12389-PECDD	31.41	1.926e5	1.171e5	1.154	1.64	1.55	1709.8	YES	NO	bb	bb	56.351
3	12378-PeCDD	31.02	1.629e5	1.014e5	0.995	1.61	1.55	1454.3	YES	NO	bb	bb	55.728

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HD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	123678-HxCDD	35.68	1.784e5	1.412e5	1.009	1.26	1.24	1273.2	YES	NO	db	db	50.543
2	123478-HxCDD	35.55	1.655e5	1.284e5	1.027	1.29	1.24	1250.8	YES	NO	bd	bd	48.272
3	124679-HXCDD	33.51	1.762e5	1.430e5	1.125	1.23	1.24	1260.5	YES	NO	bb	bb	47.888
4	123789-HxCDD	36.07	1.612e5	1.315e5	0.950	1.23	1.24	1221.9	YES	NO	bb	bb	50.506

HPD

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	1234678-HpCDD	39.82	1.254e5	1.150e5	1.068	1.09	1.05	1040.6	YES	NO	bb	bb	54.955
2	1234679-HPCDD	38.79	1.379e5	1.286e5	1.211	1.07	1.05	1158.6	YES	NO	bb	bb	53.735

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	26.50	2.841e4	3.648e4	0.794	0.78	0.77	173.2	YES	NO	bb	bb	11.226
2	2378-TCDD	25.90	3.281e4	3.876e4	0.920	0.85	0.77	213.7	YES	NO	bb	bb	10.683
3	Total-tetradioxins	25.56	4.820e4	6.132e4	0.879	0.79	0.77	228.2	YES	NO	bb	bb	17.112
4	Total-tetradioxins	25.08	1.596e4	1.944e4	0.879	0.82	0.77	108.0	YES	NO	bd	bd	5.532
5	1368-TCDD	23.04	3.259e4	3.906e4	0.923	0.83	0.77	205.9	YES	NO	bb	bb	10.660
6	12479-PECDD	28.29	2.868e5	1.790e5	1.843	1.60	1.55	1682.5	YES	NO	bb	bb	53.041
7	12389-PECDD	31.41	1.926e5	1.171e5	1.154	1.64	1.55	1709.8	YES	NO	bb	bb	56.351
8	12378-PeCDD	31.02	1.629e5	1.014e5	0.995	1.61	1.55	1454.3	YES	NO	bb	bb	55.728
9	123678-HxCDD	35.68	1.784e5	1.412e5	1.009	1.26	1.24	1273.2	YES	NO	db	db	50.543
10	123478-HxCDD	35.55	1.655e5	1.284e5	1.027	1.29	1.24	1250.8	YES	NO	bd	bd	48.272
11	124679-HXCDD	33.51	1.762e5	1.430e5	1.125	1.23	1.24	1260.5	YES	NO	bb	bb	47.888
12	123789-HxCDD	36.07	1.612e5	1.315e5	0.950	1.23	1.24	1221.9	YES	NO	bb	bb	50.506
13	1234678-HpCDD	39.82	1.254e5	1.150e5	1.068	1.09	1.05	1040.6	YES	NO	bb	bb	54.955
14	1234679-HPCDD	38.79	1.379e5	1.286e5	1.211	1.07	1.05	1158.6	YES	NO	bb	bb	53.735
15	OCDD	44.45	2.125e5	2.354e5	1.181	0.90	0.89	1793.0	YES	NO	bb	bb	98.559

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TotalTEQ,Furans,Dioxins

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	2378-TCDF	25.26	4.381e4	5.632e4	1.108	0.78	0.77	584.9	YES	NO	bb	bd	9.425
2	1368-TCDF	21.75	5.466e4	7.377e4	1.425	0.74	0.77	756.9	YES	NO	bb	bb	9.396
3	1289-TCDF	26.74	4.054e4	5.528e4	1.043	0.73	0.77	514.4	YES	NO	bb	db	9.578
4	12389-PECDF	31.79	2.482e5	1.663e5	1.000	1.49	1.55	1336.4	YES	NO	bb	bb	46.390
5	23478-PeCDF	30.76	2.714e5	1.773e5	1.126	1.53	1.55	1525.2	YES	NO	bd	bb	47.589
6	12378-PeCDF	29.41	2.656e5	1.637e5	1.015	1.62	1.55	1464.8	YES	NO	bd	bb	47.324
7	Total-pentafurans	28.27	4.175e4	2.723e4	1.047	1.53	1.55	229.9	YES	NO	bb	bb	7.611
8	234678-HxCDF	35.44	2.020e5	1.575e5	1.052	1.28	1.24	1114.7	YES	NO	bd	bb	50.242
9	123678-HxCDF	34.56	2.091e5	1.685e5	1.037	1.24	1.24	1113.9	YES	NO	db	db	49.420
10	123478-HxCDF	34.42	2.007e5	1.616e5	1.017	1.24	1.24	1150.2	YES	NO	bd	bd	51.217
11	123468-HXCDF	32.72	2.063e5	1.659e5	1.087	1.24	1.24	1057.1	YES	NO	bb	bb	49.250
12	123789-HxCDF	36.48	1.672e5	1.355e5	1.030	1.23	1.24	911.7	YES	NO	bb	bd	50.658
13	1234789-HpCDF	40.53	1.598e5	1.508e5	1.283	1.06	1.05	950.4	YES	NO	bb	bb	48.735
14	Total-heptafurans	38.77	1.588e2	1.464e2	1.305	1.08	1.05	2.4	NO	NO	bd	bb	0.042
15	Total-heptafurans	38.61	2.088e2	2.032e2	1.305	1.03	1.05	2.6	NO	NO	bb	bb	0.057
16	1234678-HpCDF	38.35	1.937e5	1.824e5	1.327	1.06	1.05	1255.9	YES	NO	bb	bb	46.759
17	OCDF	44.66	2.449e5	2.738e5	1.447	0.89	0.89	1594.2	YES	NO	bb	bb	93.157
18	13468-PECDF	26.61	3.386e5	2.233e5	1.376	1.52	1.55	6285.6	YES	NO	bb	bb	45.674
19	1289-TCDD	26.50	2.841e4	3.648e4	0.794	0.78	0.77	173.2	YES	NO	bb	bb	11.226
20	2378-TCDD	25.90	3.281e4	3.876e4	0.920	0.85	0.77	213.7	YES	NO	bb	bb	10.683
21	Total-tetradioxins	25.56	4.820e4	6.132e4	0.879	0.79	0.77	228.2	YES	NO	bb	bb	17.112
22	Total-tetradioxins	25.08	1.596e4	1.944e4	0.879	0.82	0.77	108.0	YES	NO	bd	bd	5.532
23	1368-TCDD	23.04	3.259e4	3.906e4	0.923	0.83	0.77	205.9	YES	NO	bb	bb	10.660
24	12479-PECDD	28.29	2.868e5	1.790e5	1.843	1.60	1.55	1682.5	YES	NO	bb	bb	53.041
25	12389-PECDD	31.41	1.926e5	1.171e5	1.154	1.64	1.55	1709.8	YES	NO	bb	bb	56.351
26	12378-PeCDD	31.02	1.629e5	1.014e5	0.995	1.61	1.55	1454.3	YES	NO	bb	bb	55.728
27	123678-HxCDD	35.68	1.784e5	1.412e5	1.009	1.26	1.24	1273.2	YES	NO	db	db	50.543
28	123478-HxCDD	35.55	1.655e5	1.284e5	1.027	1.29	1.24	1250.8	YES	NO	bd	bd	48.272
29	124679-HXCDD	33.51	1.762e5	1.430e5	1.125	1.23	1.24	1260.5	YES	NO	bb	bb	47.888
30	123789-HxCDD	36.07	1.612e5	1.315e5	0.950	1.23	1.24	1221.9	YES	NO	bb	bb	50.506
31	1234678-HpCDD	39.82	1.254e5	1.150e5	1.068	1.09	1.05	1040.6	YES	NO	bb	bb	54.955
32	1234679-HPCDD	38.79	1.379e5	1.286e5	1.211	1.07	1.05	1158.6	YES	NO	bb	bb	53.735
33	OCDD	44.45	2.125e5	2.354e5	1.181	0.90	0.89	1793.0	YES	NO	bb	bb	98.559

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Last Altered: Wednesday, August 25, 2021 12:19:48 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 12:45:59 Pacific Daylight Time

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PFK1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 PFK	25.84	2.585e4					1.3	NO		bb		
2	FUNCTION1 PFK	21.22	1.431e4					1.0	NO		bb		

PFK2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 PFK	27.65	4.236e3					0.5	NO		bb		0.000
2	FUNCTION2 PFK	27.55	1.876e4					1.3	NO		bb		0.000
3	FUNCTION2 PFK	31.98	1.607e4					1.1	NO		bb		0.000
4	FUNCTION2 PFK	31.82	1.642e4					0.8	NO		bb		0.000
5	FUNCTION2 PFK	31.16	3.920e4					1.4	NO		bb		0.000
6	FUNCTION2 PFK	31.04	1.194e4					0.8	NO		bb		0.000
7	FUNCTION2 PFK	30.81	4.844e3					0.6	NO		bb		0.000
8	FUNCTION2 PFK	30.75	1.379e4					0.8	NO		bb		0.000
9	FUNCTION2 PFK	30.59	2.342e4					1.2	NO		bb		0.000
10	FUNCTION2 PFK	30.42	4.094e3					0.5	NO		bb		0.000
11	FUNCTION2 PFK	29.98	4.770e3					0.6	NO		bb		0.000
12	FUNCTION2 PFK	29.94	1.279e4					0.8	NO		bb		0.000
13	FUNCTION2 PFK	29.53	4.081e3					0.5	NO		bb		0.000
14	FUNCTION2 PFK	29.44	7.886e4					1.3	NO		bb		0.000
15	FUNCTION2 PFK	28.67	3.830e4					1.2	NO		bb		0.000
16	FUNCTION2 PFK	28.26	3.963e3					0.5	NO		bb		0.000

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PFK3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 PFK	32.31	8.613e4					2.9	NO		bb		0.000
2	FUNCTION3 PFK	37.01	3.715e3					0.5	NO		bb		0.000
3	FUNCTION3 PFK	36.82	4.446e3					0.6	NO		bb		0.000
4	FUNCTION3 PFK	36.10	3.984e3					0.5	NO		bb		0.000
5	FUNCTION3 PFK	36.05	2.473e4					1.5	NO		bb		0.000
6	FUNCTION3 PFK	35.74	3.599e3					0.5	NO		bb		0.000
7	FUNCTION3 PFK	35.59	1.211e4					0.9	NO		bb		0.000
8	FUNCTION3 PFK	35.08	3.368e4					1.5	NO		bb		0.000
9	FUNCTION3 PFK	34.94	2.400e4					1.4	NO		bb		0.000
10	FUNCTION3 PFK	34.74	4.196e3					0.6	NO		bb		0.000
11	FUNCTION3 PFK	34.36	4.608e4					1.3	NO		bb		0.000
12	FUNCTION3 PFK	33.11	1.629e4					0.8	NO		bb		0.000
13	FUNCTION3 PFK	32.95	4.591e3					0.6	NO		bb		0.000
14	FUNCTION3 PFK	32.89	2.222e4					1.0	NO		bb		0.000
15	FUNCTION3 PFK	32.51	1.954e4					0.8	NO		db		0.000
16	FUNCTION3 PFK	32.44	6.943e4					2.4	NO		dd		0.000
17	FUNCTION3 PFK	32.38	1.144e4					1.0	NO		bd		0.000
18	FUNCTION3 PFK	37.21	4.701e4					1.6	NO		bb		0.000

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION4 PFK	38.59	9.957e5					30.6	YES		dd		
2	FUNCTION4 PFK	38.49	1.230e6					33.8	YES		dd		
3	FUNCTION4 PFK	38.37	1.905e6					36.6	YES		dd		
4	FUNCTION4 PFK	38.28	1.613e6					38.3	YES		dd		
5	FUNCTION4 PFK	38.23	2.131e6					39.4	YES		dd		
6	FUNCTION4 PFK	38.01	3.429e6					44.1	YES		dd		
7	FUNCTION4 PFK	37.96	9.813e5					45.8	YES		dd		
8	FUNCTION4 PFK	37.89	3.057e6					47.1	YES		dd		
9	FUNCTION4 PFK	37.78	1.049e6					49.0	YES		dd		
10	FUNCTION4 PFK	37.71	1.624e6					50.9	YES		dd		
11	FUNCTION4 PFK	37.65	2.510e6					52.1	YES		dd		
12	FUNCTION4 PFK	37.56	1.439e6					53.8	YES		dd		
13	FUNCTION4 PFK	37.51	1.178e6					54.8	YES		dd		
14	FUNCTION4 PFK	37.48	1.729e6					54.7	YES		bd		
15	FUNCTION4 PFK	40.10	1.206e4					0.8	NO		db		
16	FUNCTION4 PFK	40.05	9.483e3					0.8	NO		bd		
17	FUNCTION4 PFK	40.01	2.213e3					0.4	NO		db		
18	FUNCTION4 PFK	39.96	6.146e3					0.6	NO		bd		
19	FUNCTION4 PFK	39.86	2.180e4					1.6	NO		db		
20	FUNCTION4 PFK	39.78	1.341e5					3.9	YES		dd		
21	FUNCTION4 PFK	39.75	6.522e4					4.2	YES		dd		
22	FUNCTION4 PFK	39.61	6.601e5					8.3	YES		dd		
23	FUNCTION4 PFK	39.44	5.069e5					11.7	YES		dd		
24	FUNCTION4 PFK	39.35	6.122e5					14.0	YES		dd		
25	FUNCTION4 PFK	39.27	1.026e6					16.0	YES		dd		
26	FUNCTION4 PFK	39.08	1.901e6					20.2	YES		dd		
27	FUNCTION4 PFK	38.93	9.829e5					23.6	YES		dd		
28	FUNCTION4 PFK	38.88	5.085e5					24.2	YES		dd		
29	FUNCTION4 PFK	38.82	8.158e5					26.1	YES		dd		
30	FUNCTION4 PFK	38.63	2.584e6					30.2	YES		dd		
31	FUNCTION4 PFK	42.11	3.607e4					1.8	NO		bd		
32	FUNCTION4 PFK	41.99	2.290e4					0.5	NO		bb		
33	FUNCTION4 PFK	41.83	8.379e3					0.7	NO		bb		
34	FUNCTION4 PFK	41.72	1.224e4					1.0	NO		bb		
35	FUNCTION4 PFK	41.60	3.169e4					1.6	NO		db		
36	FUNCTION4 PFK	41.57	1.309e4					1.2	NO		bd		
37	FUNCTION4 PFK	41.50	2.126e4					1.6	NO		db		

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PFK4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
38	FUNCTION4 PFK	41.46	2.549e3					0.4	NO		bd		
39	FUNCTION4 PFK	41.41	2.255e4					1.2	NO		bb		
40	FUNCTION4 PFK	40.87	5.799e4					1.5	NO		bb		
41	FUNCTION4 PFK	40.78	5.043e4					1.6	NO		bb		
42	FUNCTION4 PFK	40.67	2.944e3					0.5	NO		bb		
43	FUNCTION4 PFK	40.60	8.534e3					0.8	NO		bb		
44	FUNCTION4 PFK	40.44	4.369e4					1.1	NO		bb		
45	FUNCTION4 PFK	40.32	2.961e4					1.6	NO		bb		
46	FUNCTION4 PFK	40.22	2.006e3					0.4	NO		bb		
47	FUNCTION4 PFK	42.16	2.545e4					1.6	NO		db		

PFK5

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION5 PFK	45.66	1.690e3					0.7	NO		bb		
2	FUNCTION5 PFK	45.42	1.219e3					0.5	NO		bb		
3	FUNCTION5 PFK	45.31	1.952e4					1.5	NO		bb		
4	FUNCTION5 PFK	45.18	7.332e3					1.5	NO		db		
5	FUNCTION5 PFK	45.12	7.661e3					1.1	NO		bd		
6	FUNCTION5 PFK	44.77	4.012e3					1.0	NO		bb		
7	FUNCTION5 PFK	44.69	1.141e3					0.5	NO		bb		
8	FUNCTION5 PFK	43.88	3.548e3					0.8	NO		bb		
9	FUNCTION5 PFK	43.30	7.113e3					1.5	NO		bb		
10	FUNCTION5 PFK	43.22	7.645e3					1.6	NO		bb		
11	FUNCTION5 PFK	42.97	1.335e5					10.6	YES		db		
12	FUNCTION5 PFK	42.92	1.764e5					15.5	YES		dd		
13	FUNCTION5 PFK	42.72	3.567e6					36.3	YES		dd		
14	FUNCTION5 PFK	42.46	1.182e6					59.4	YES		bd		
15	FUNCTION5 PFK	45.93	1.635e3					0.7	NO		bb		
16	FUNCTION5 PFK	45.80	3.337e3					0.9	NO		bb		

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ETHERS1

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HXCD...	27.02	7.923e1					1.7	NO		bb		0.000
2	FUNCTION1 HXCD...	26.61	2.305e2					2.8	NO		db		0.000
3	FUNCTION1 HXCD...	26.50	9.854e1					2.4	NO		bd		0.000
4	FUNCTION1 HXCD...	23.10	7.194e1					1.7	NO		db		0.000
5	FUNCTION1 HXCD...	23.02	1.678e2					4.1	YES		bd		0.000

ETHERS2

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION1 HPCD...	24.48	7.258e1					1.5	NO		bb		0.000
2	FUNCTION1 HPCD...	23.43	1.131e2					1.8	NO		bb		0.000
3	FUNCTION1 HPCD...	21.86	1.047e2					2.8	NO		db		0.000
4	FUNCTION1 HPCD...	21.78	7.225e1					1.6	NO		bd		0.000
5	FUNCTION1 HPCD...	21.57	8.594e1					1.9	NO		db		0.000
6	FUNCTION1 HPCD...	21.53	1.044e2					2.5	NO		dd		0.000
7	FUNCTION1 HPCD...	21.47	8.574e1					2.6	NO		bd		0.000
8	FUNCTION1 HPCD...	27.12	8.097e1					1.7	NO		bb		0.000
9	FUNCTION1 HPCD...	26.73	9.831e1					3.2	YES		bb		0.000
10	FUNCTION1 HPCD...	24.82	1.396e2					1.9	NO		db		0.000
11	FUNCTION1 HPCD...	24.75	1.446e2					2.8	NO		bd		0.000

ETHERS3

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION2 HPCD...	31.01	8.519e1					2.0	NO		bb		0.000
2	FUNCTION2 HPCD...	30.61	1.118e2					2.8	NO		bb		0.000
3	FUNCTION2 HPCD...	29.94	1.335e2					6.2	YES		bb		0.000
4	FUNCTION2 HPCD...	27.82	9.538e1					2.3	NO		bb		0.000
5	FUNCTION2 HPCD...	27.59	9.906e1					3.4	YES		db		0.000
6	FUNCTION2 HPCD...	27.46	1.193e2					1.8	NO		bd		0.000

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ETHERS4

	Compound	RT	Ion1Area	Ion2Area	RRF	Ratio	Pred R	S/N 1	SNFlag	EMPC	Int.1	Int.2	pg
1	FUNCTION3 OCDPE	35.55	1.337e2					3.9	YES		bb		0.000
2	FUNCTION3 OCDPE	34.04	8.245e1					3.0	YES		db		0.000
3	FUNCTION3 OCDPE	33.95	8.886e1					2.5	NO		bd		0.000
4	FUNCTION3 OCDPE	32.80	9.703e1					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	42.15	8.567e1					3.5	YES		bb		0.000
2	FUNCTION4 NCDPE	40.91	8.019e1					3.9	YES		bb		0.000
3	FUNCTION4 NCDPE	38.56	7.595e1					2.7	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	42.72	7.679e1					2.5	NO		bb		0.000

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Calibration: T:\Autospec\Curves\210811ICIH.cdb 13 Aug 2021 13:44:39

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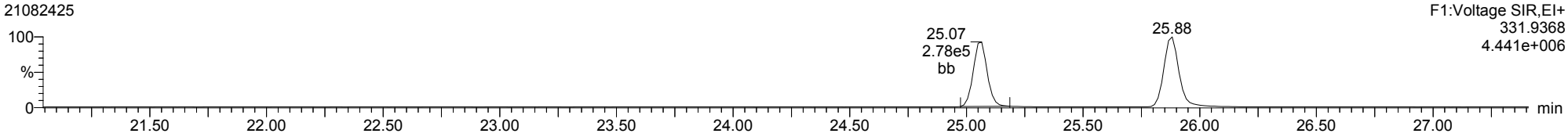

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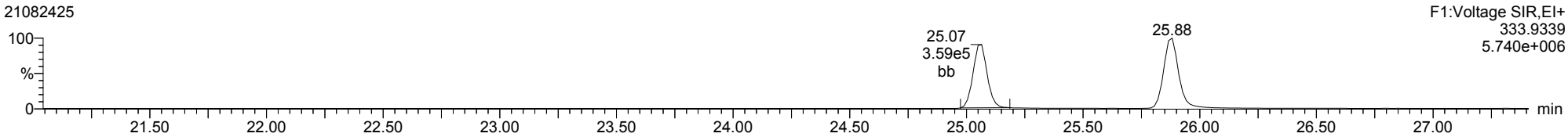

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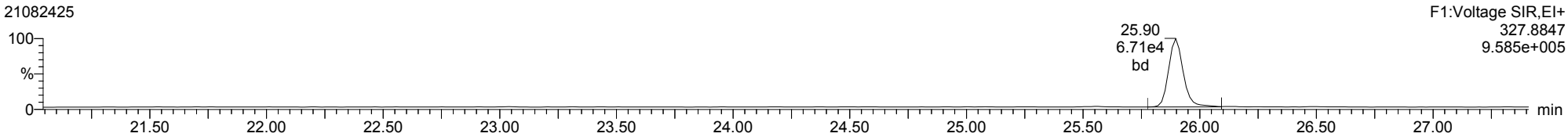

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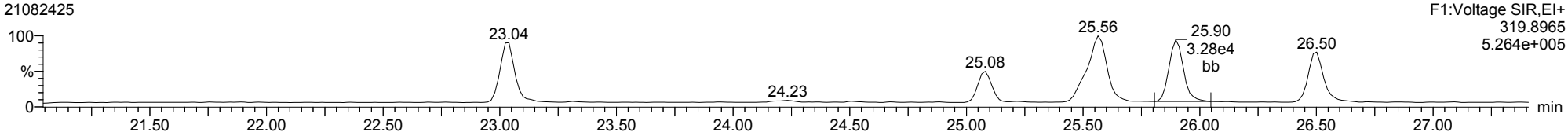
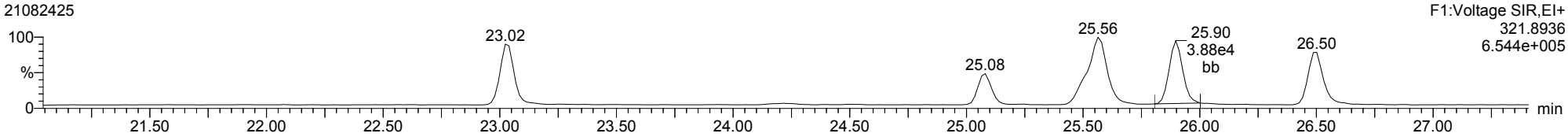
2378-TCDD



2378-TCDD



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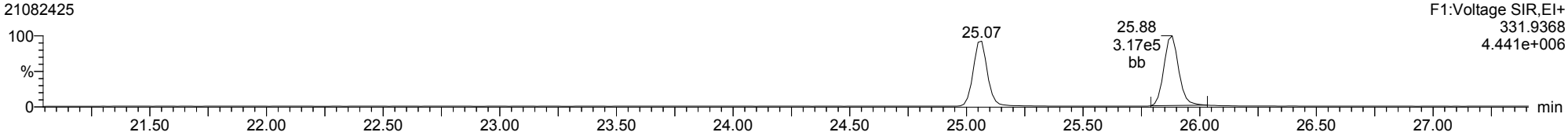

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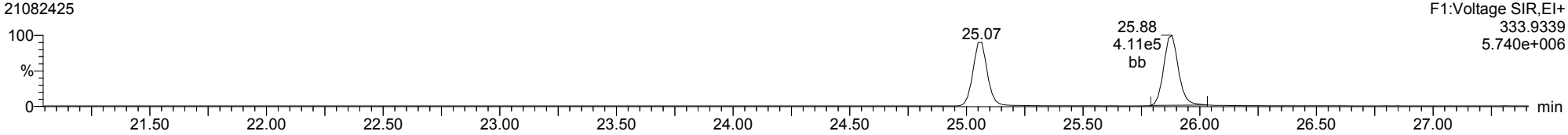

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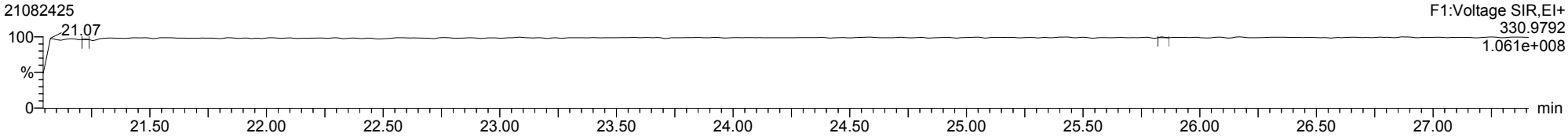

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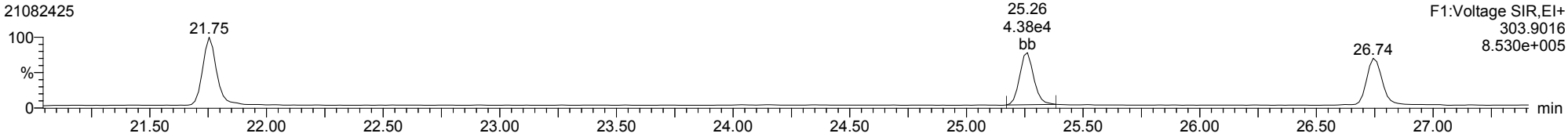
2378-TCDF



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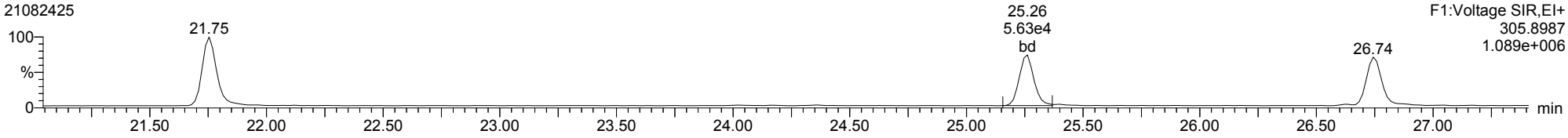

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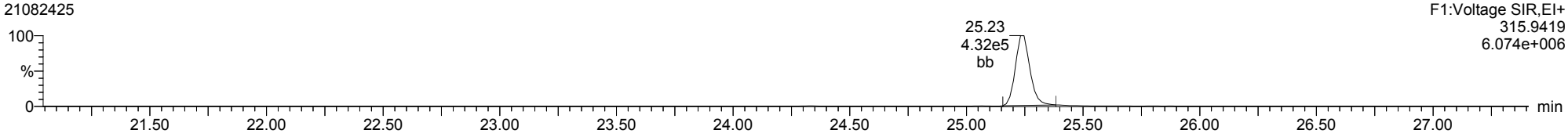

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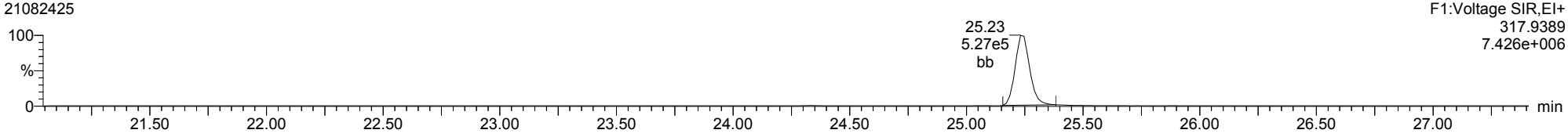

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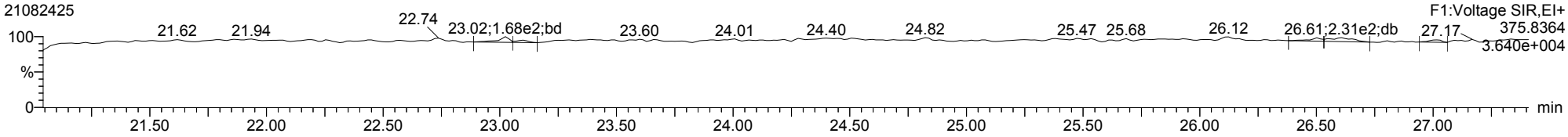

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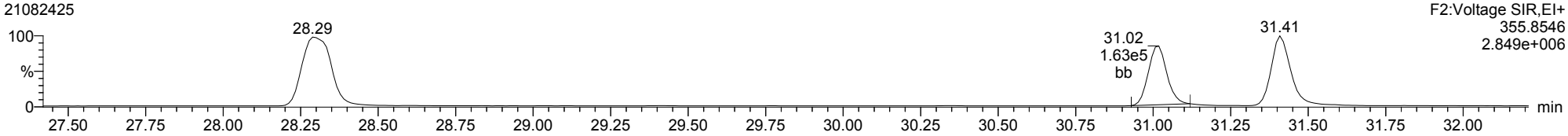
12378-PeCDD



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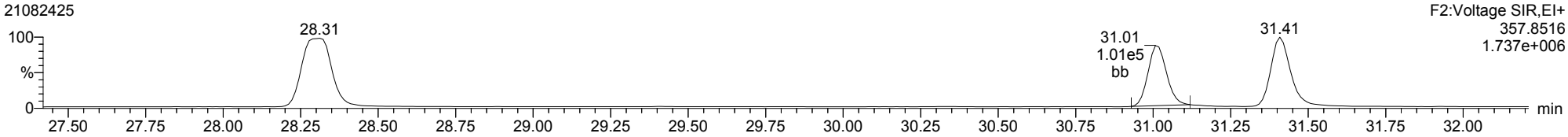

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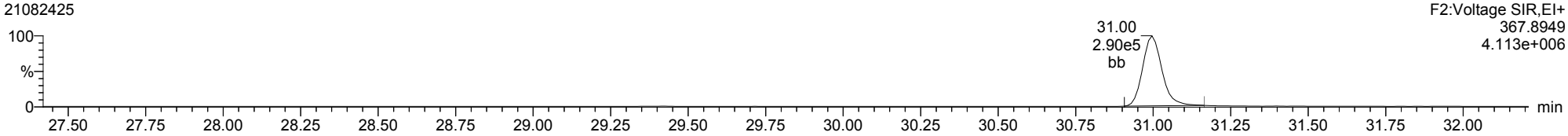

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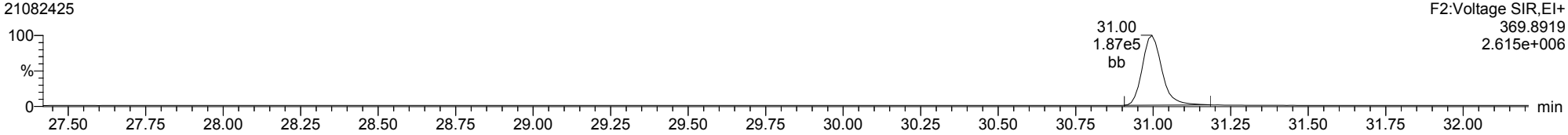

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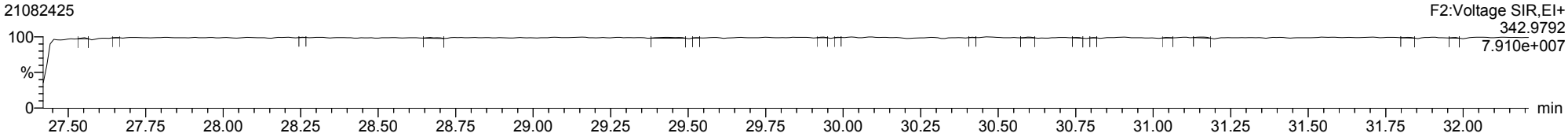

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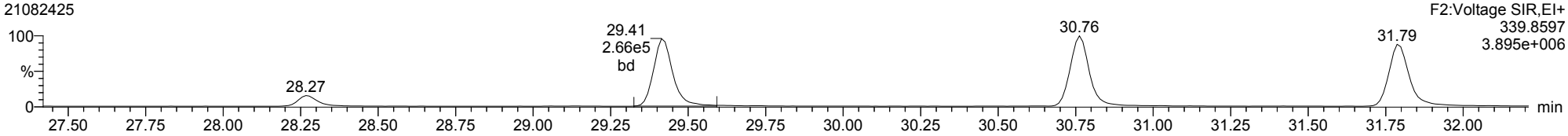

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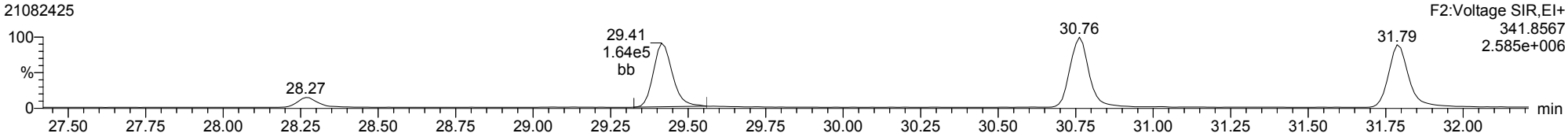

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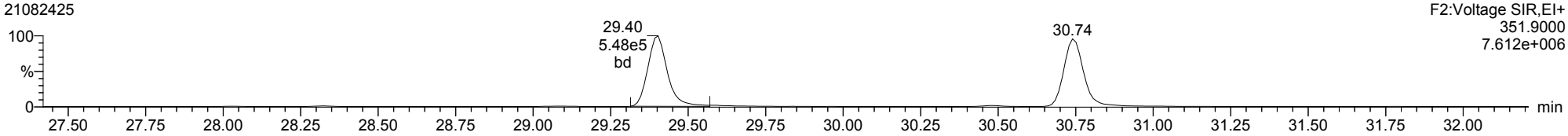

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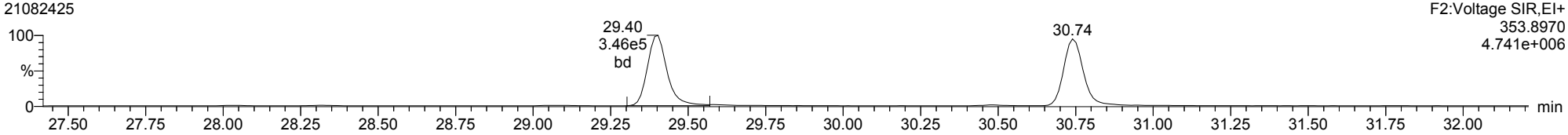
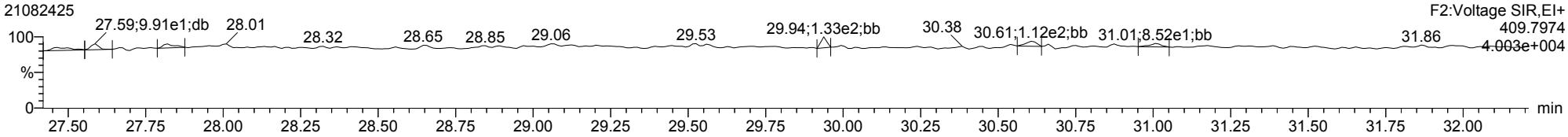


FUNCTION2 HPCDPE



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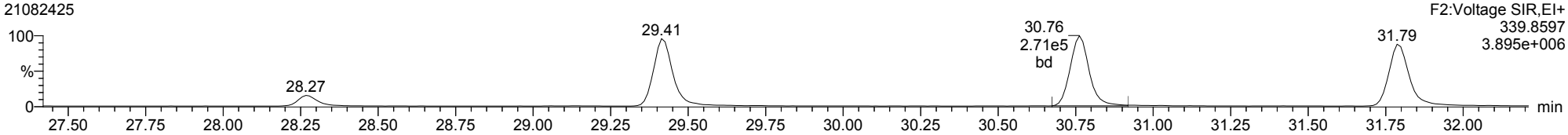
23478-PeCDF



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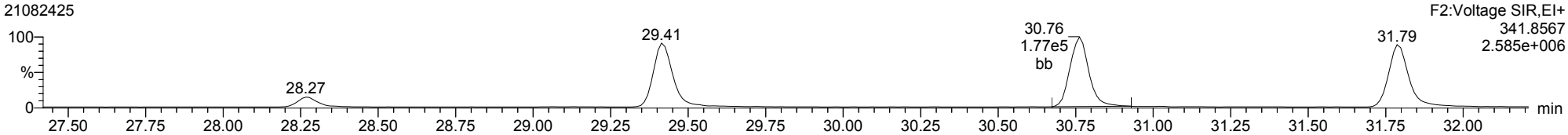

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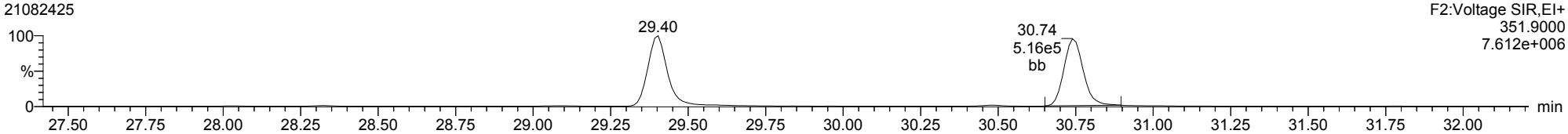

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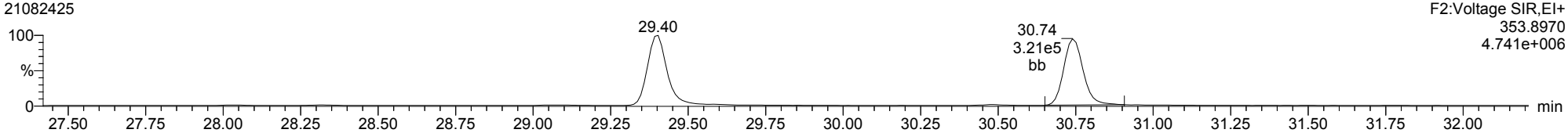
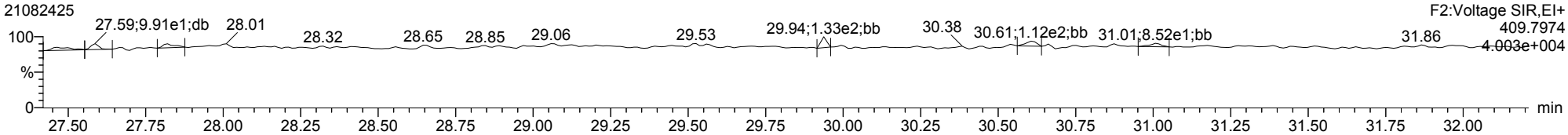


FUNCTION2 HPCDPE



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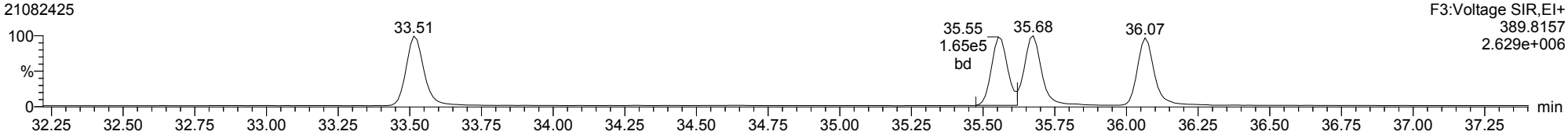
123478-HxCDD



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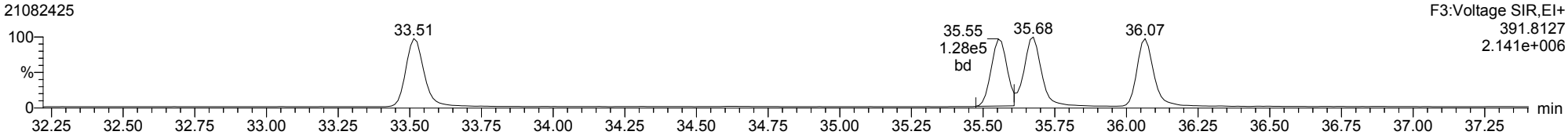

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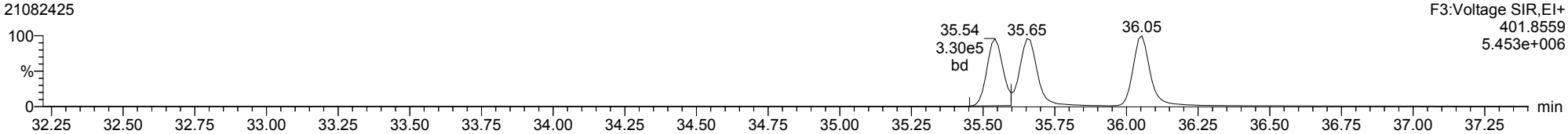

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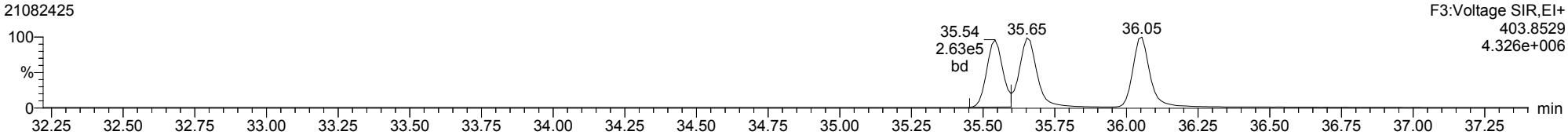
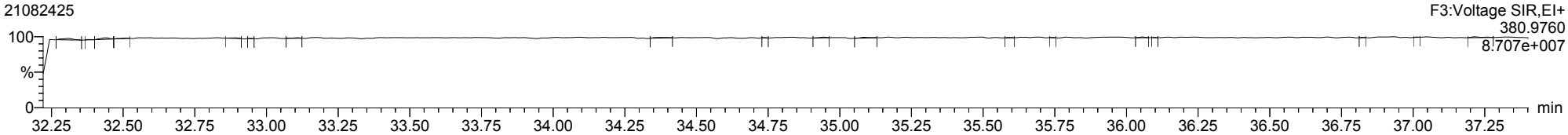


FUNCTION3 PFK



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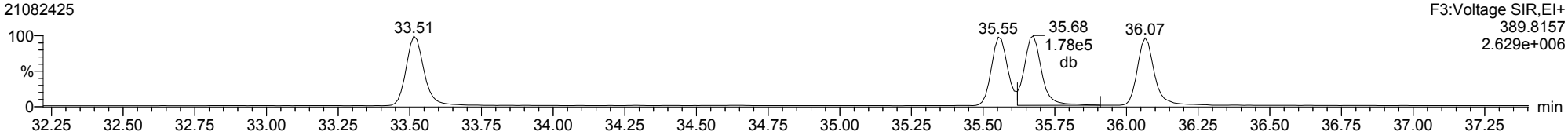
123678-HxCDD



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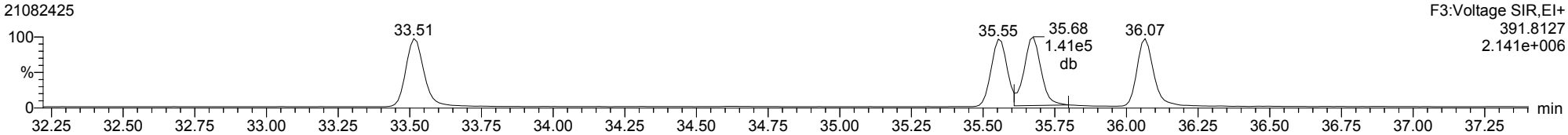

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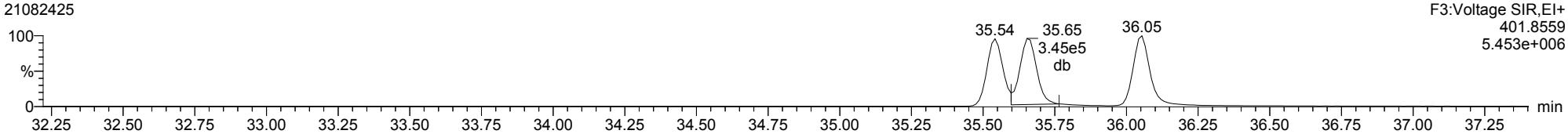

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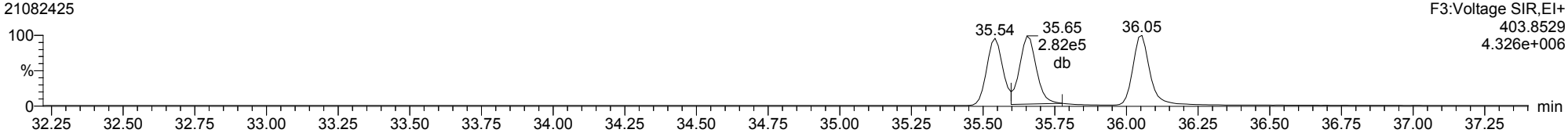

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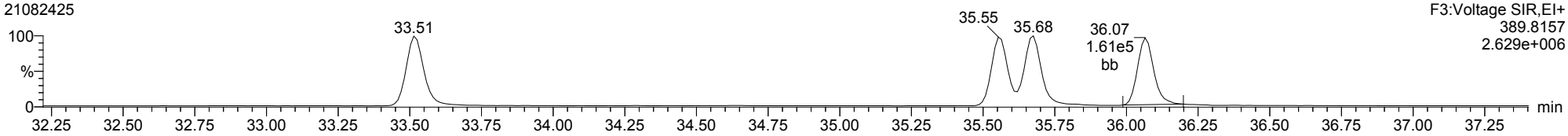
123789-HxCDD



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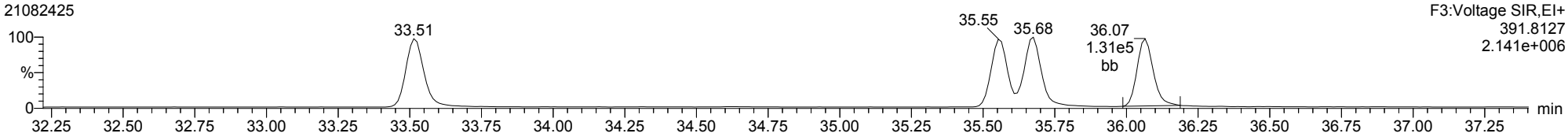

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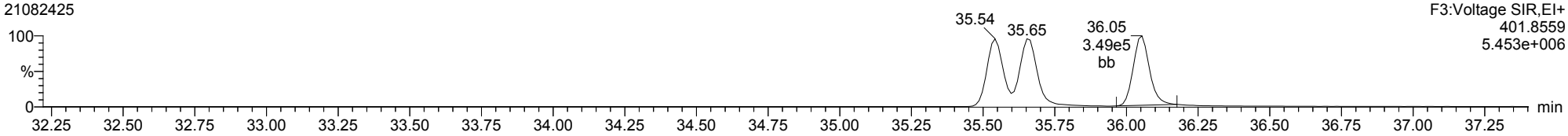

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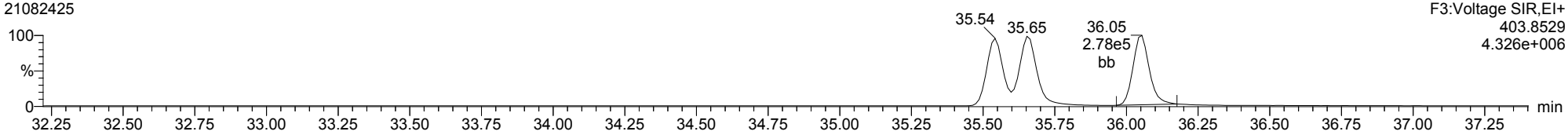

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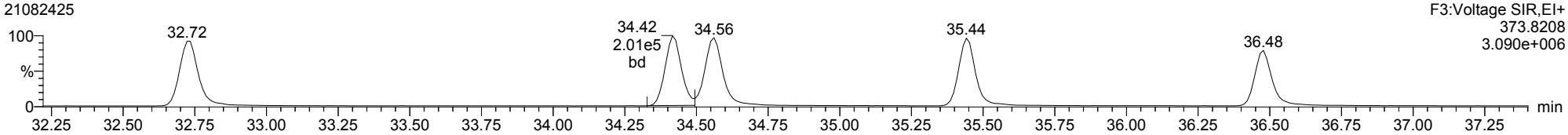
123478-HxCDF



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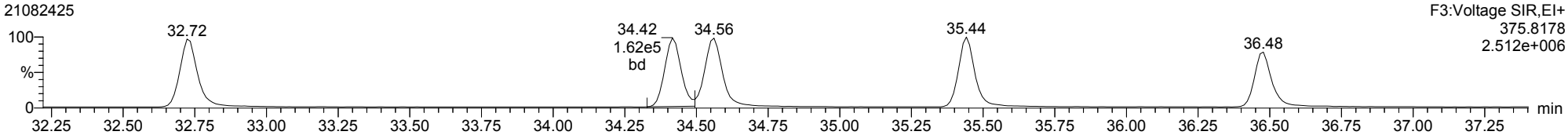

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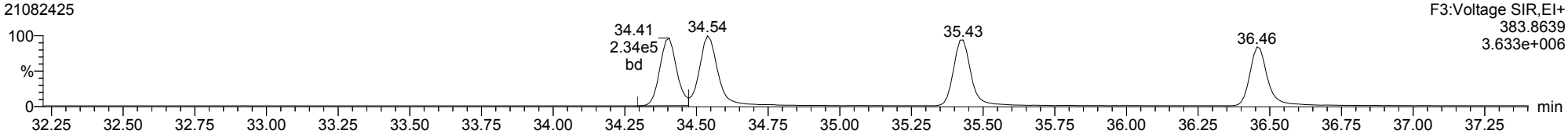

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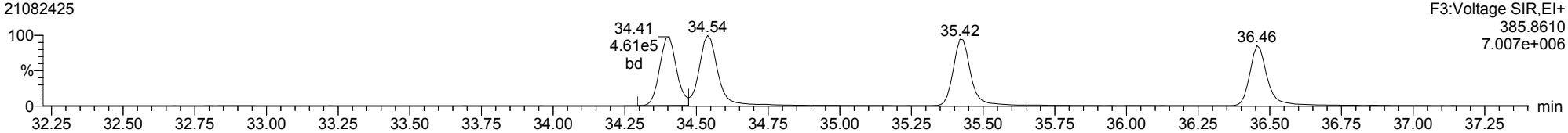
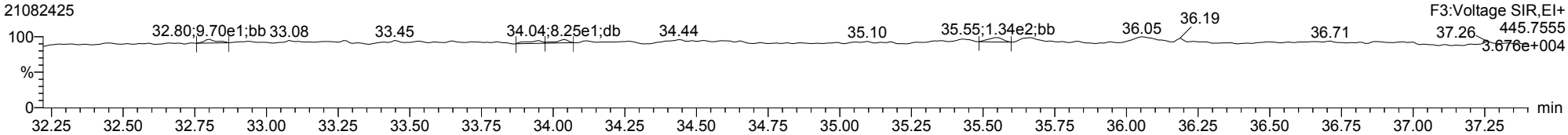


FUNCTION3 OCDPE



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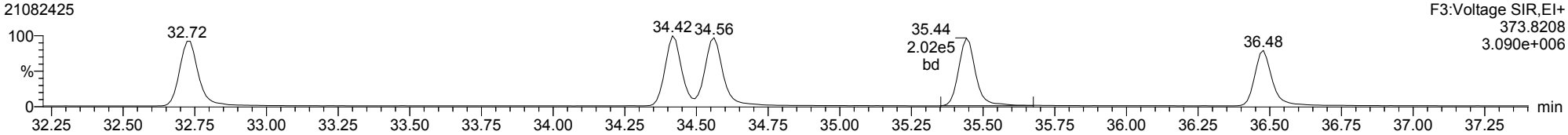
234678-HxCDF



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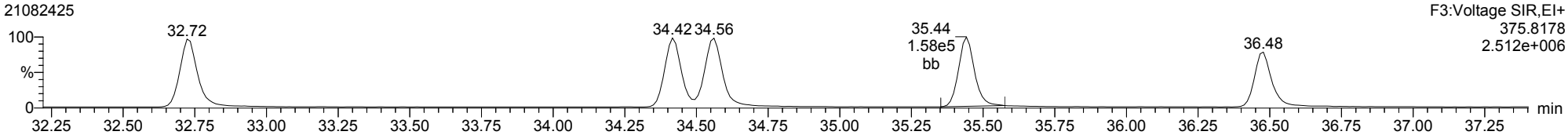

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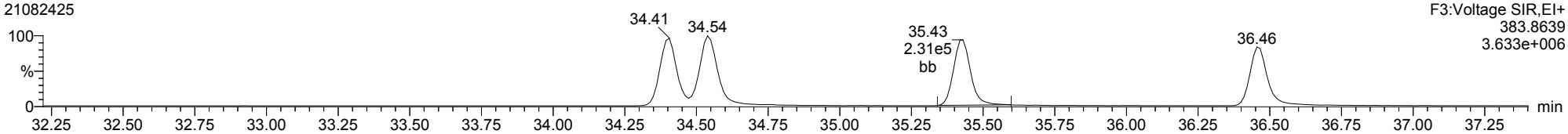

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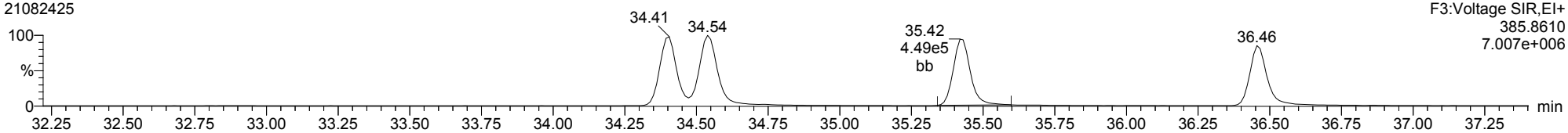
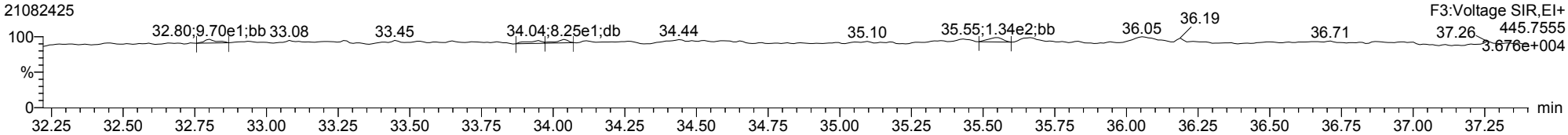


FUNCTION3 OCDPE



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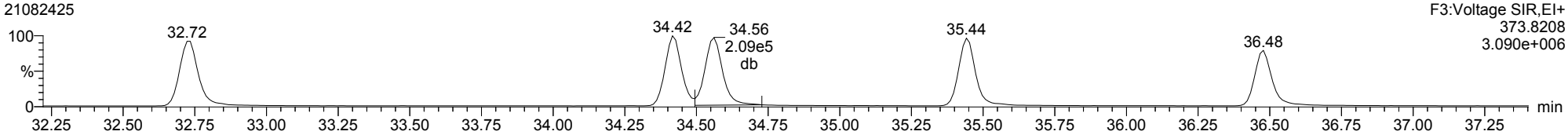

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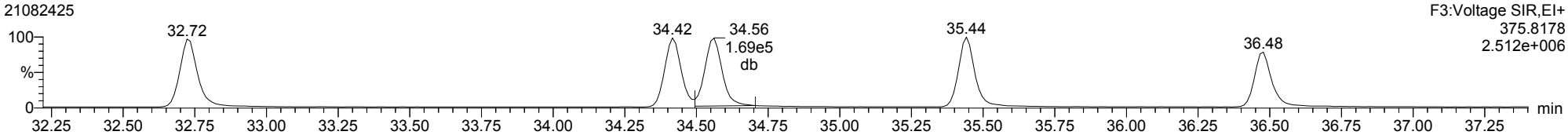

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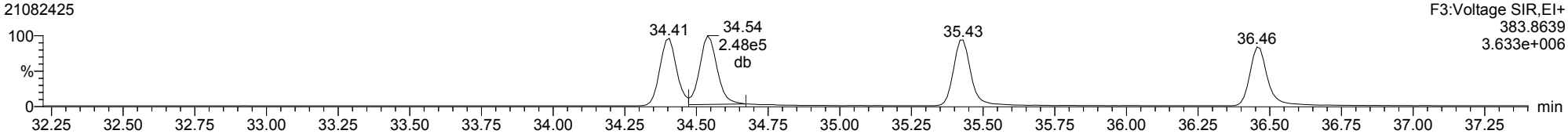

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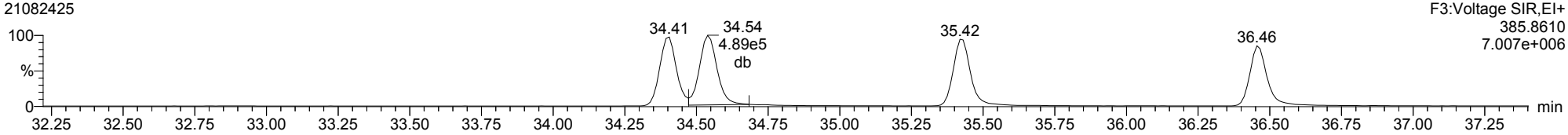

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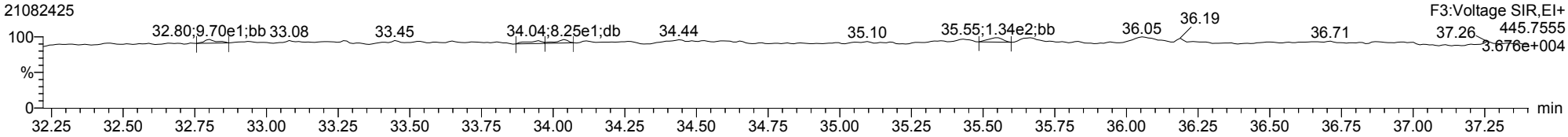

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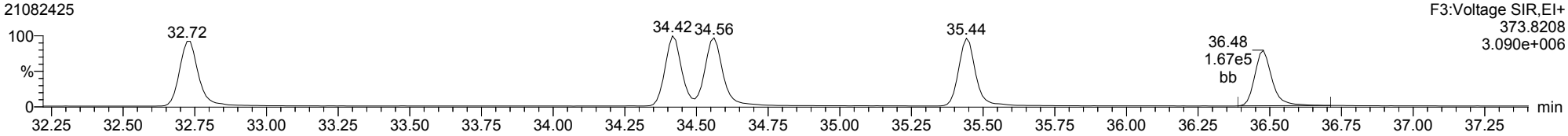

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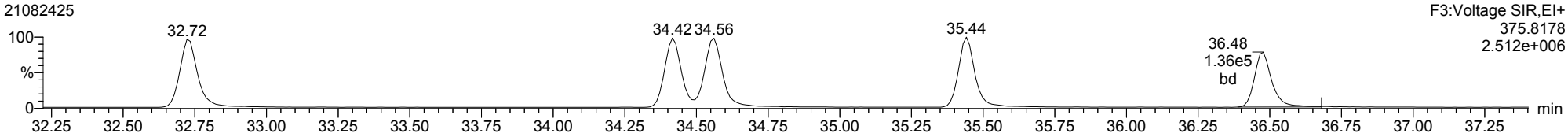

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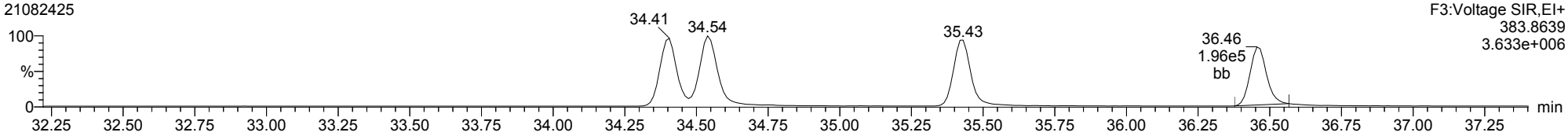

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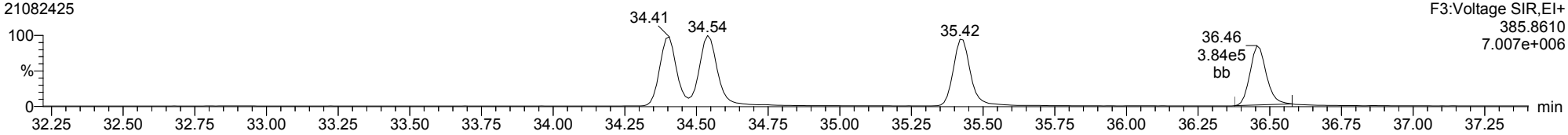

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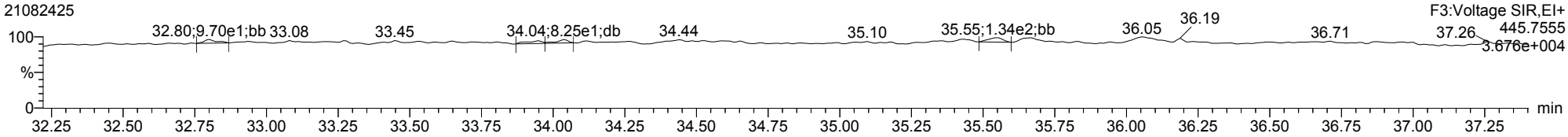

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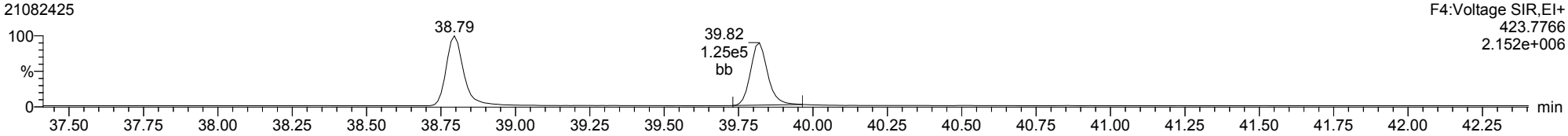

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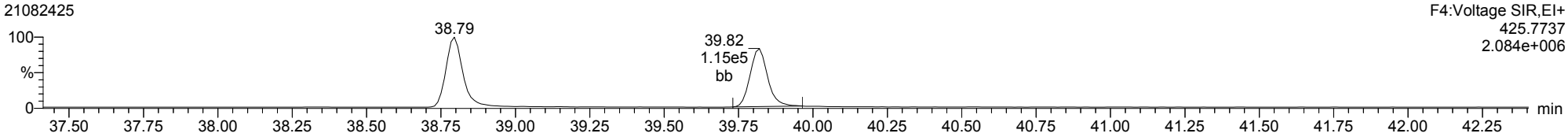

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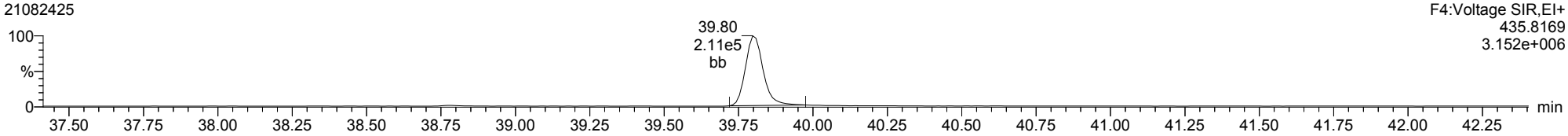

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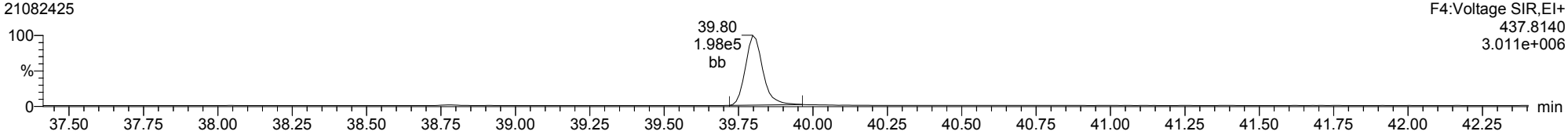

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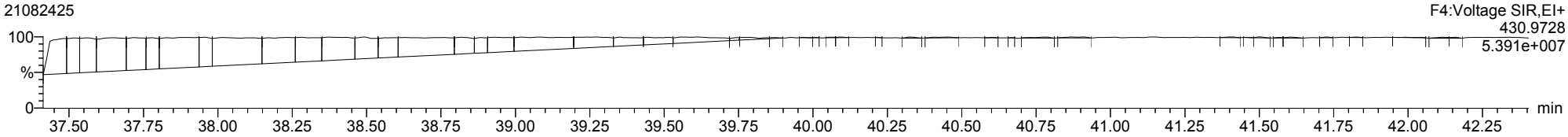

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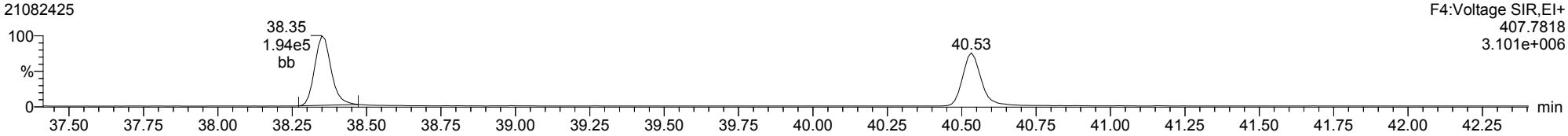

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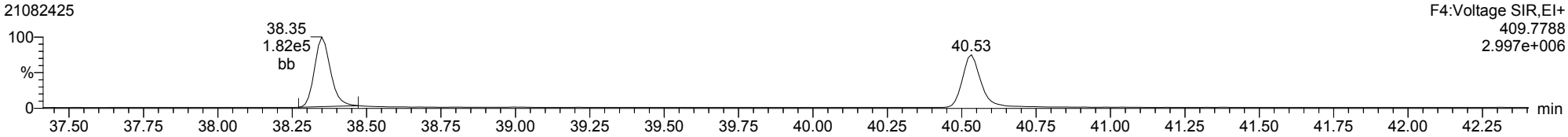

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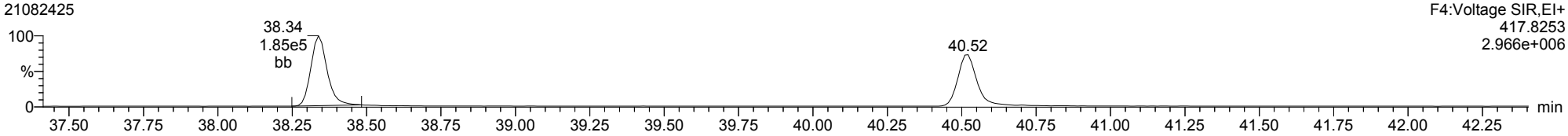

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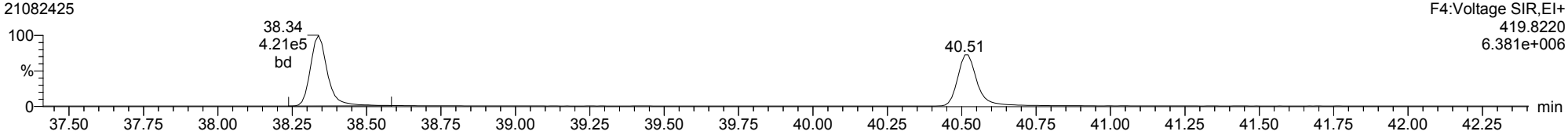

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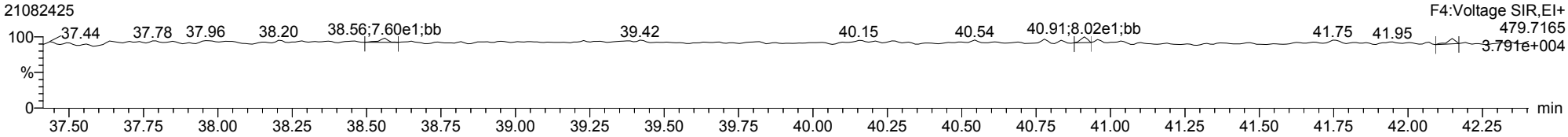

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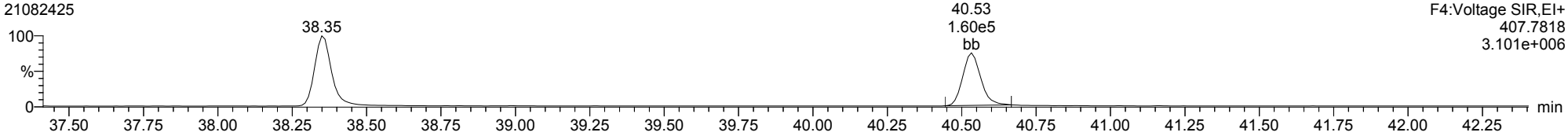

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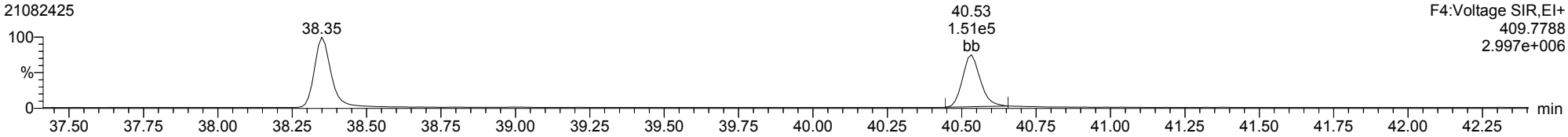

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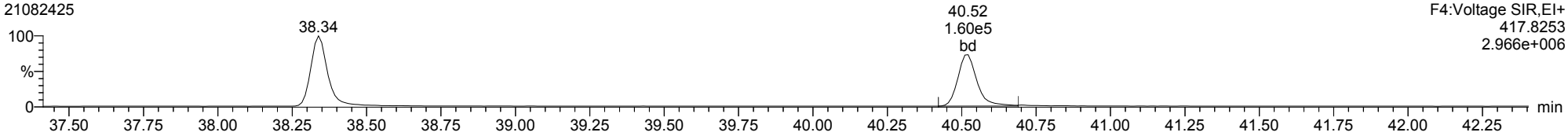

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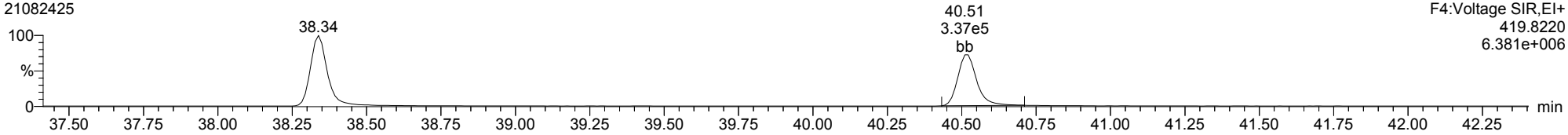

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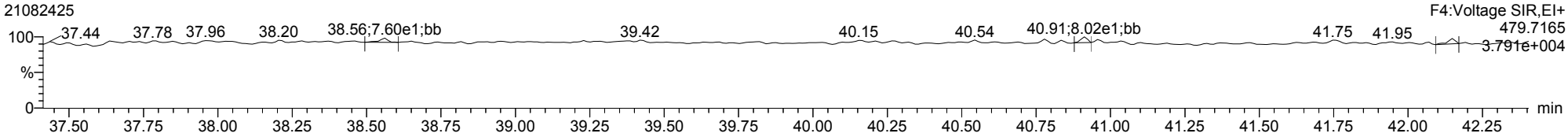

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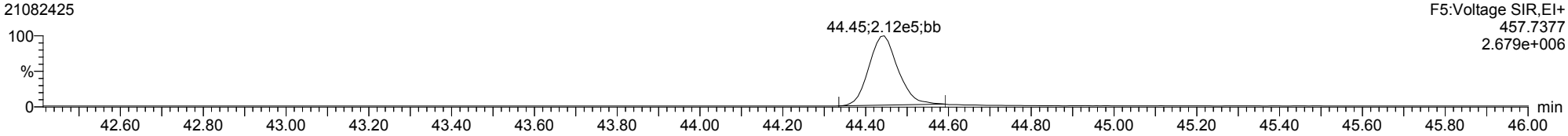

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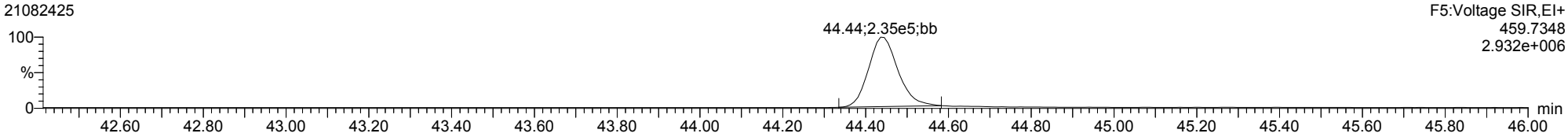

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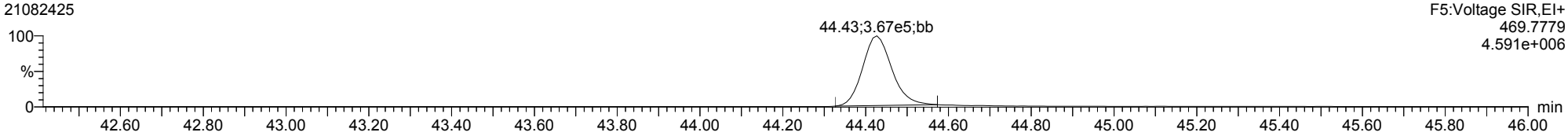

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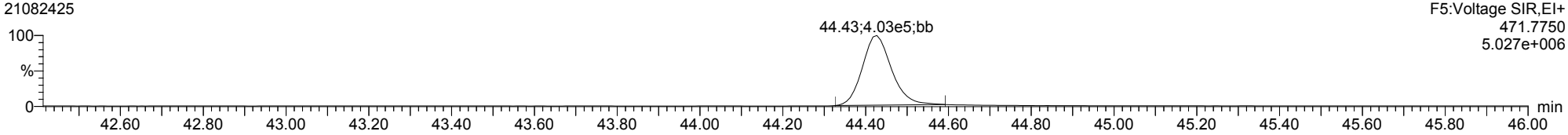

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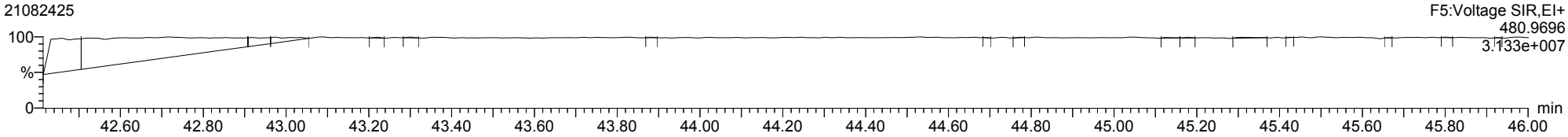

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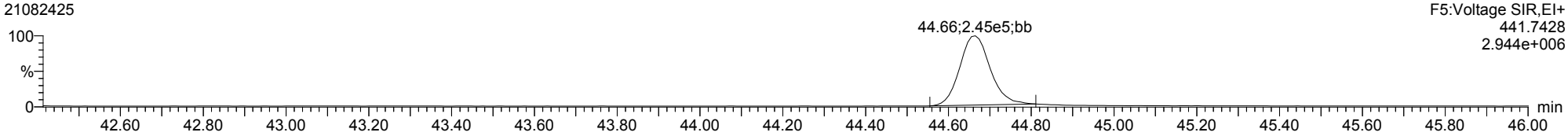

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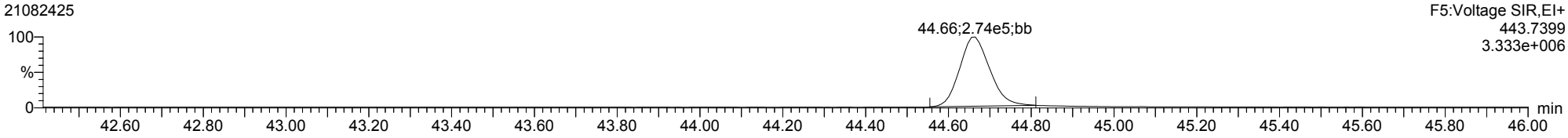

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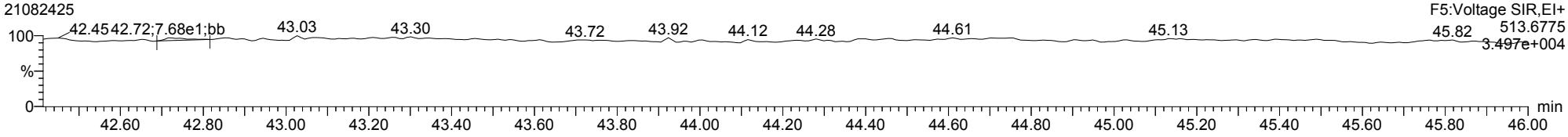

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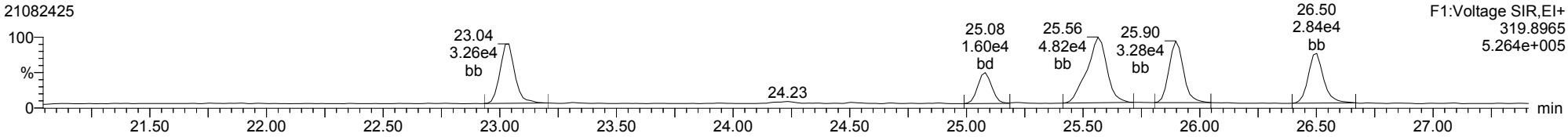

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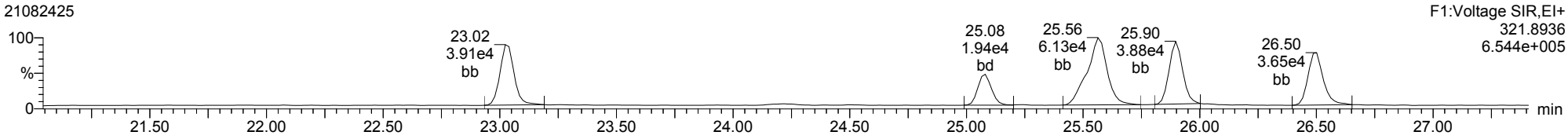

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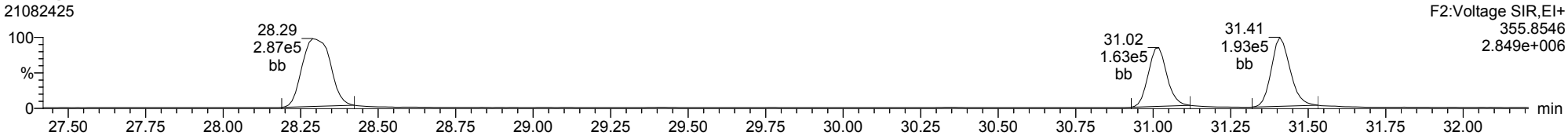

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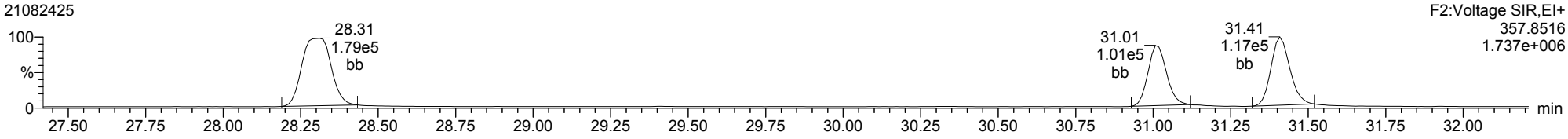

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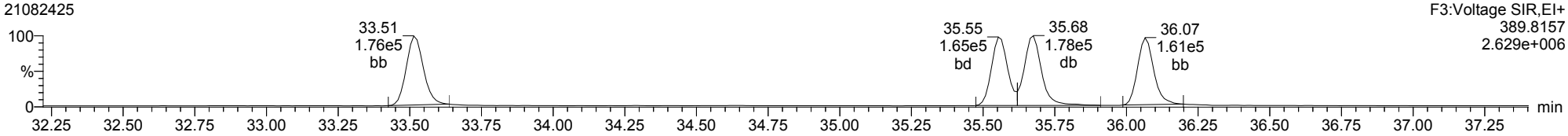

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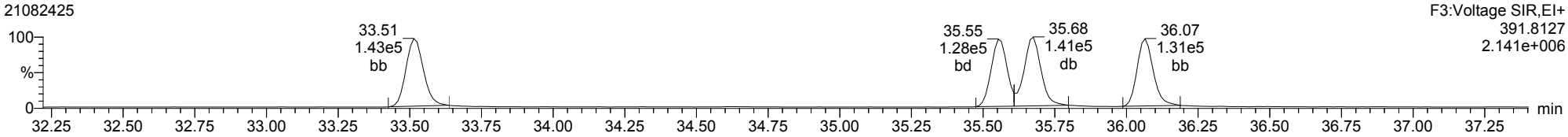

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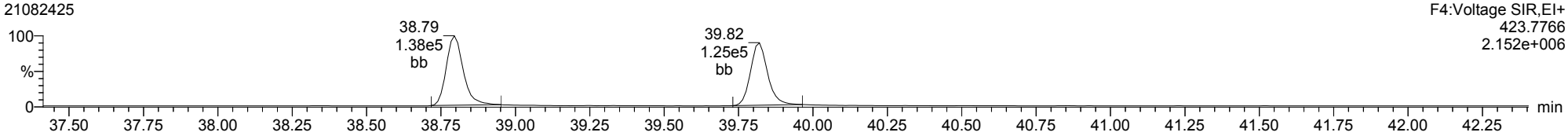

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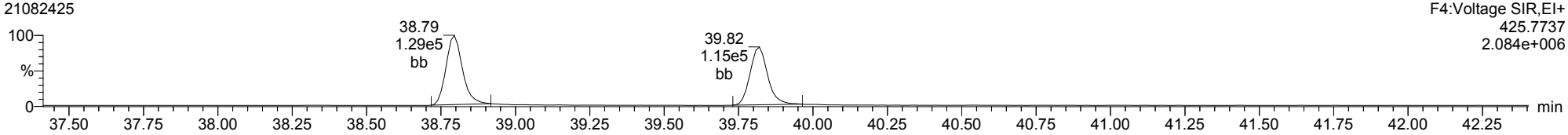

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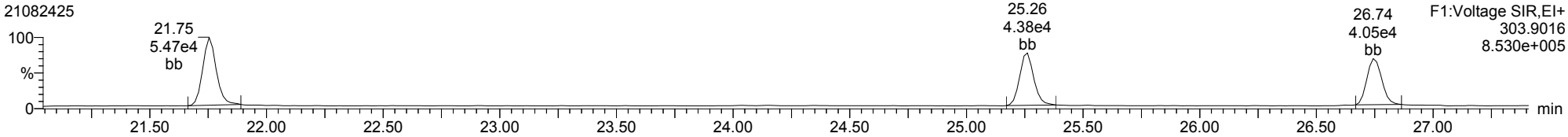
Total-tetrafurans



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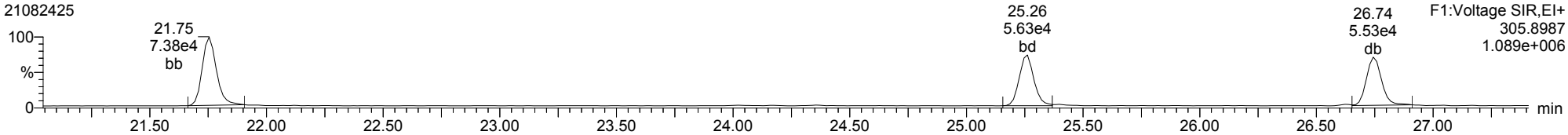

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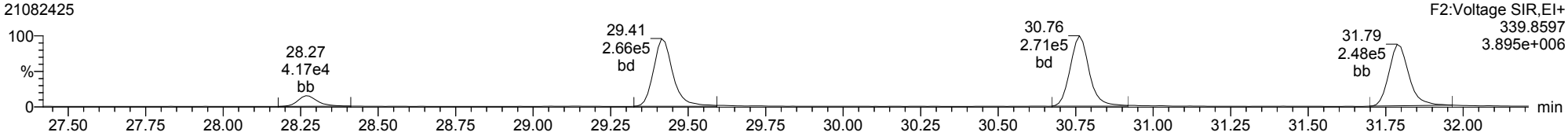

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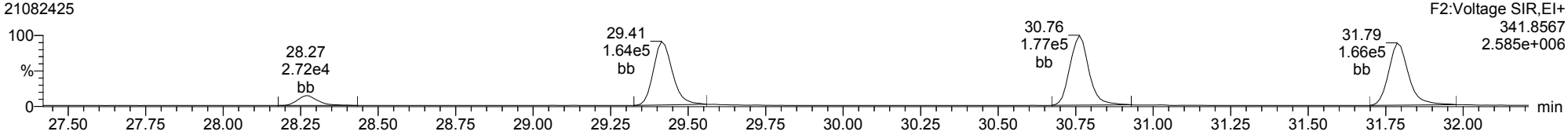

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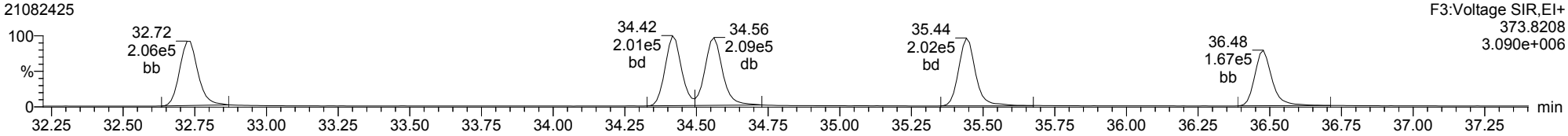

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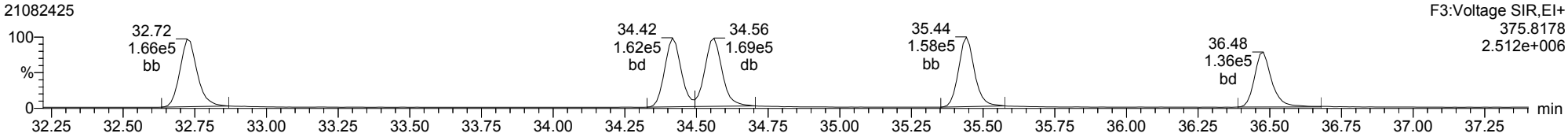

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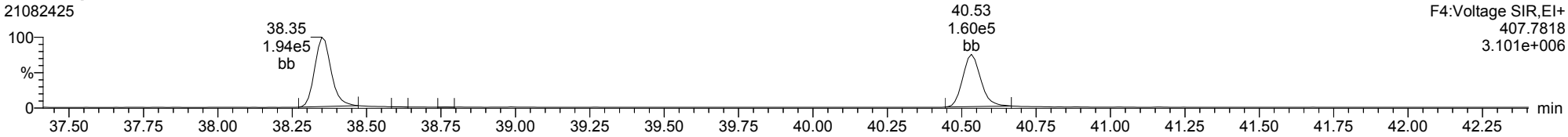

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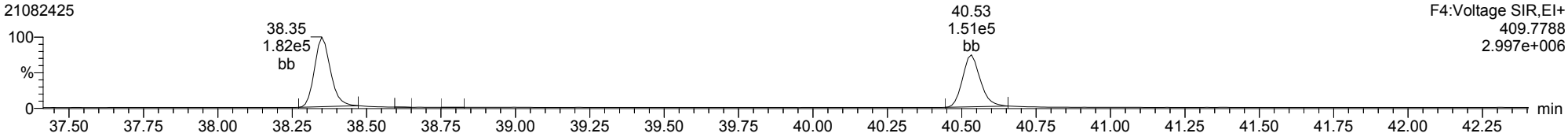

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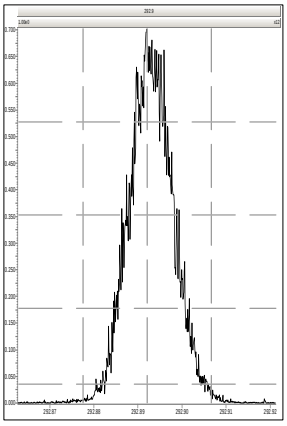

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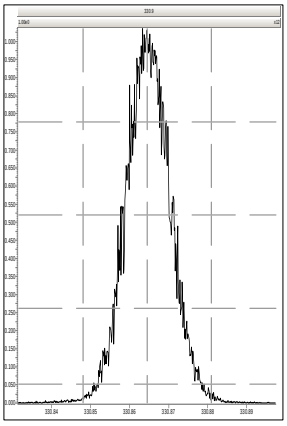

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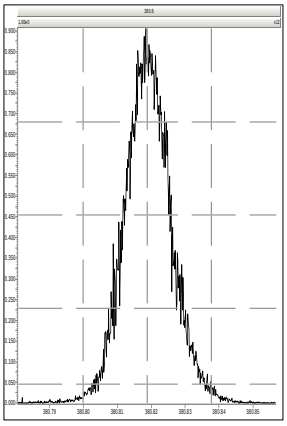

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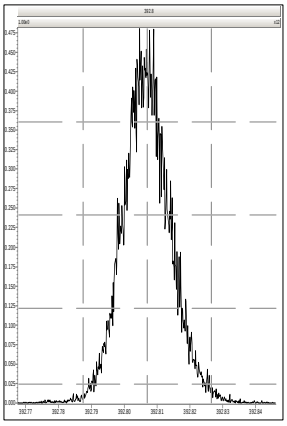
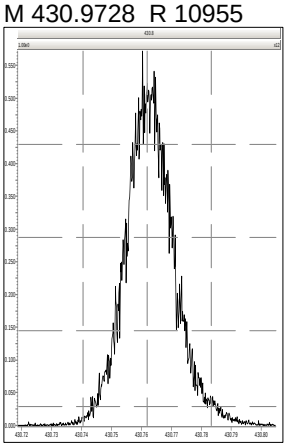
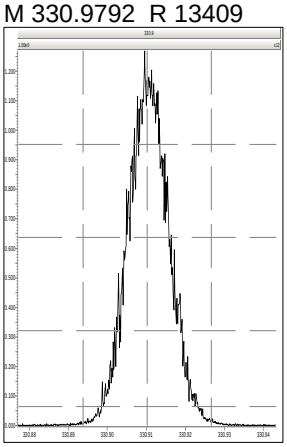


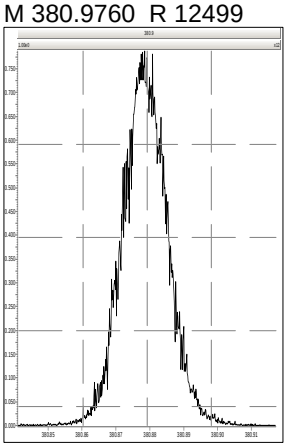
M 430.9728 R 10955



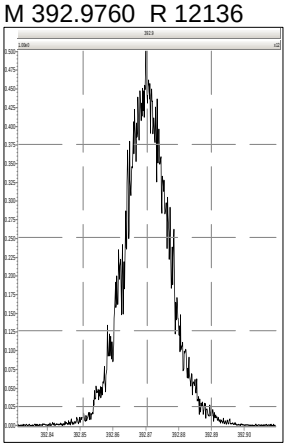
M 330.9792 R 13409



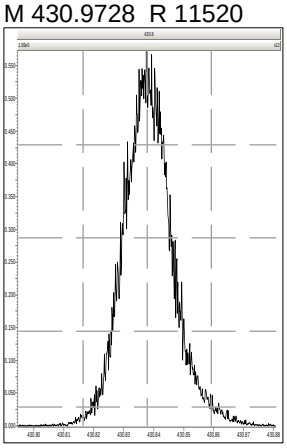
M 380.9760 R 12499



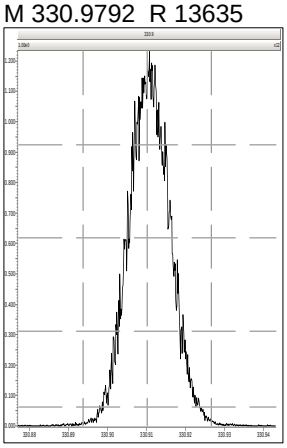
M 392.9760 R 12136



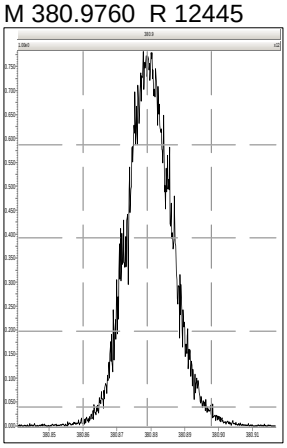
M 430.9728 R 11520



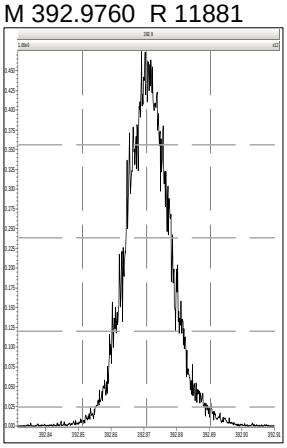
M 330.9792 R 13635



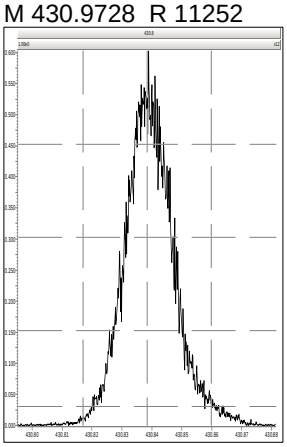
M 380.9760 R 12445



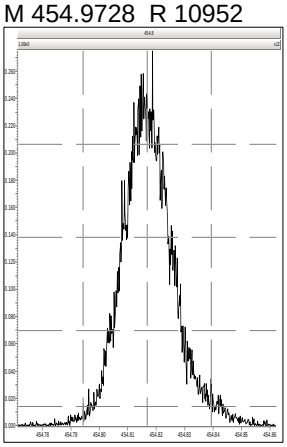
M 392.9760 R 11881



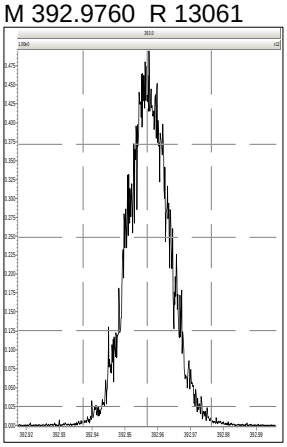
M 430.9728 R 11252



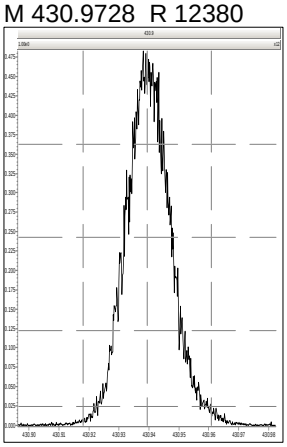
M 454.9728 R 10952



M 392.9760 R 13061

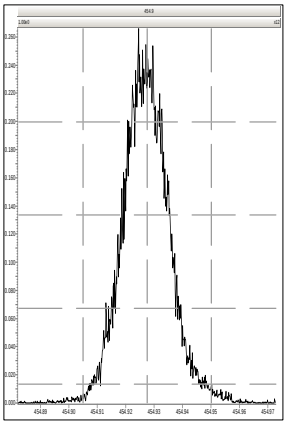


M 430.9728 R 12380

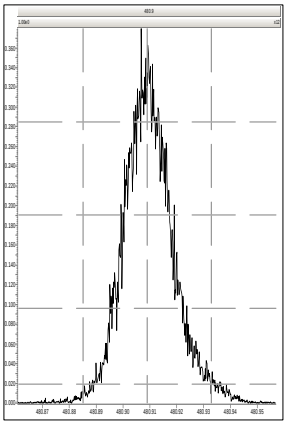


Printed: Wednesday, August 25, 2021 08:43:45 Pacific Daylight Time

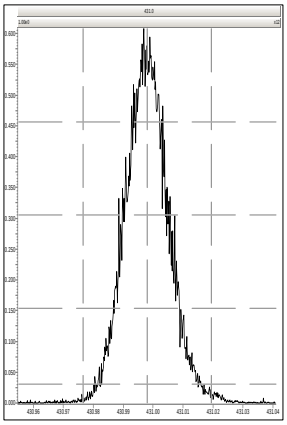
M 454.9728 R 11737



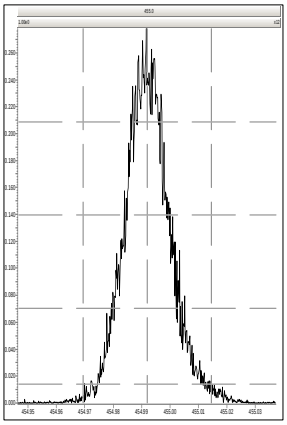
M 480.9696 R 10988



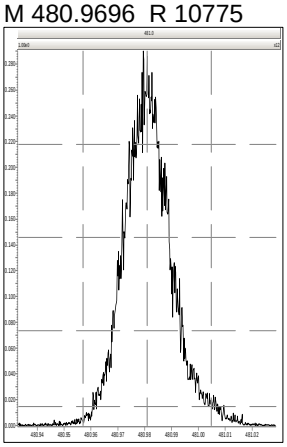
M 430.9728 R 12820



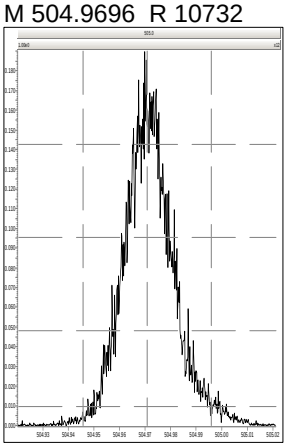
M 454.9728 R 12021



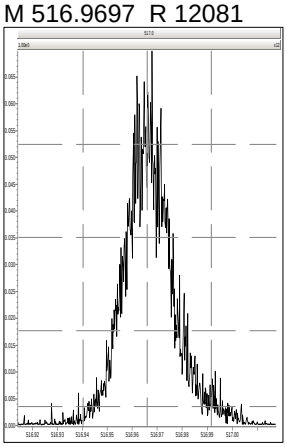
M 480.9696 R 10775

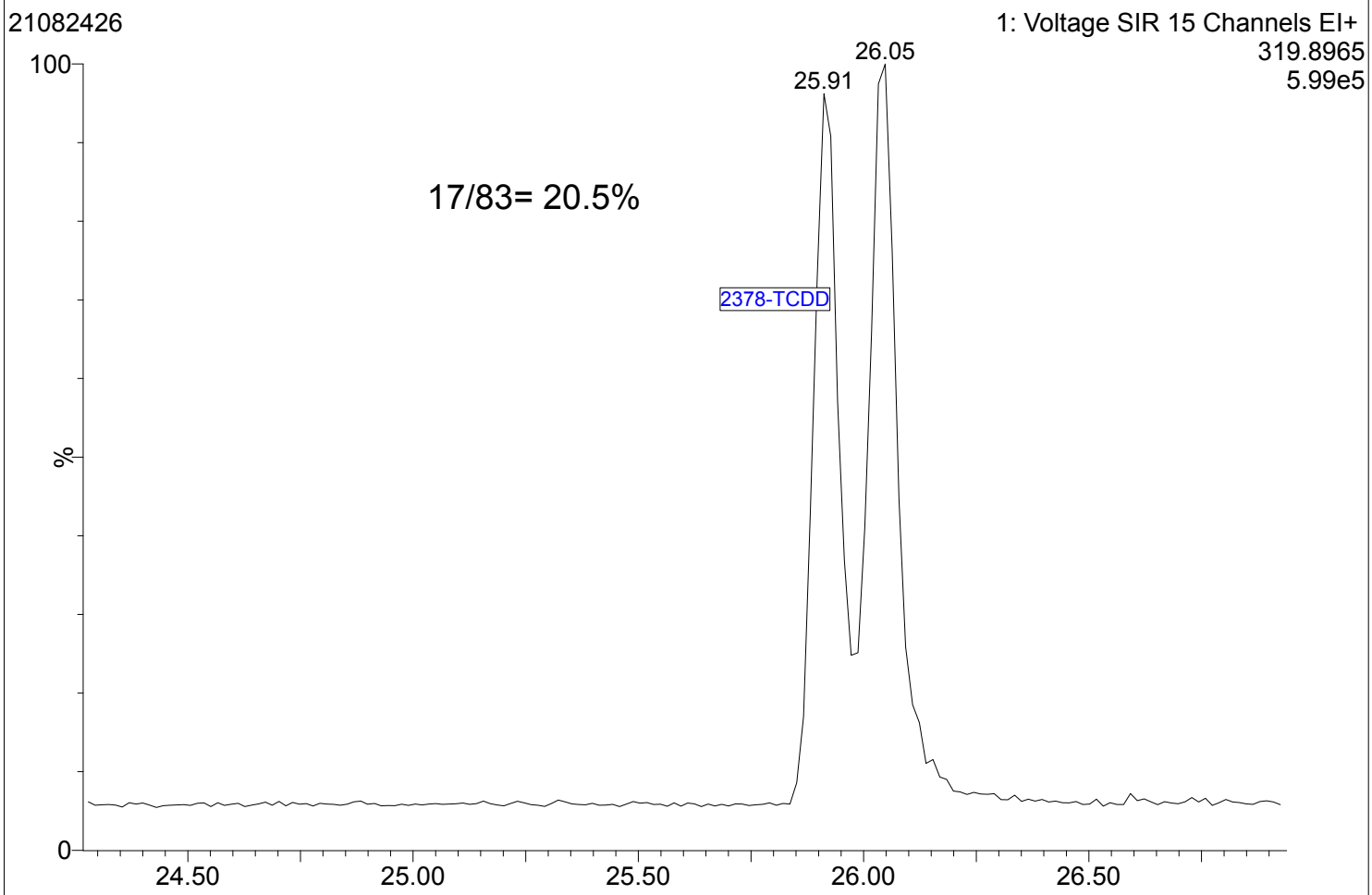


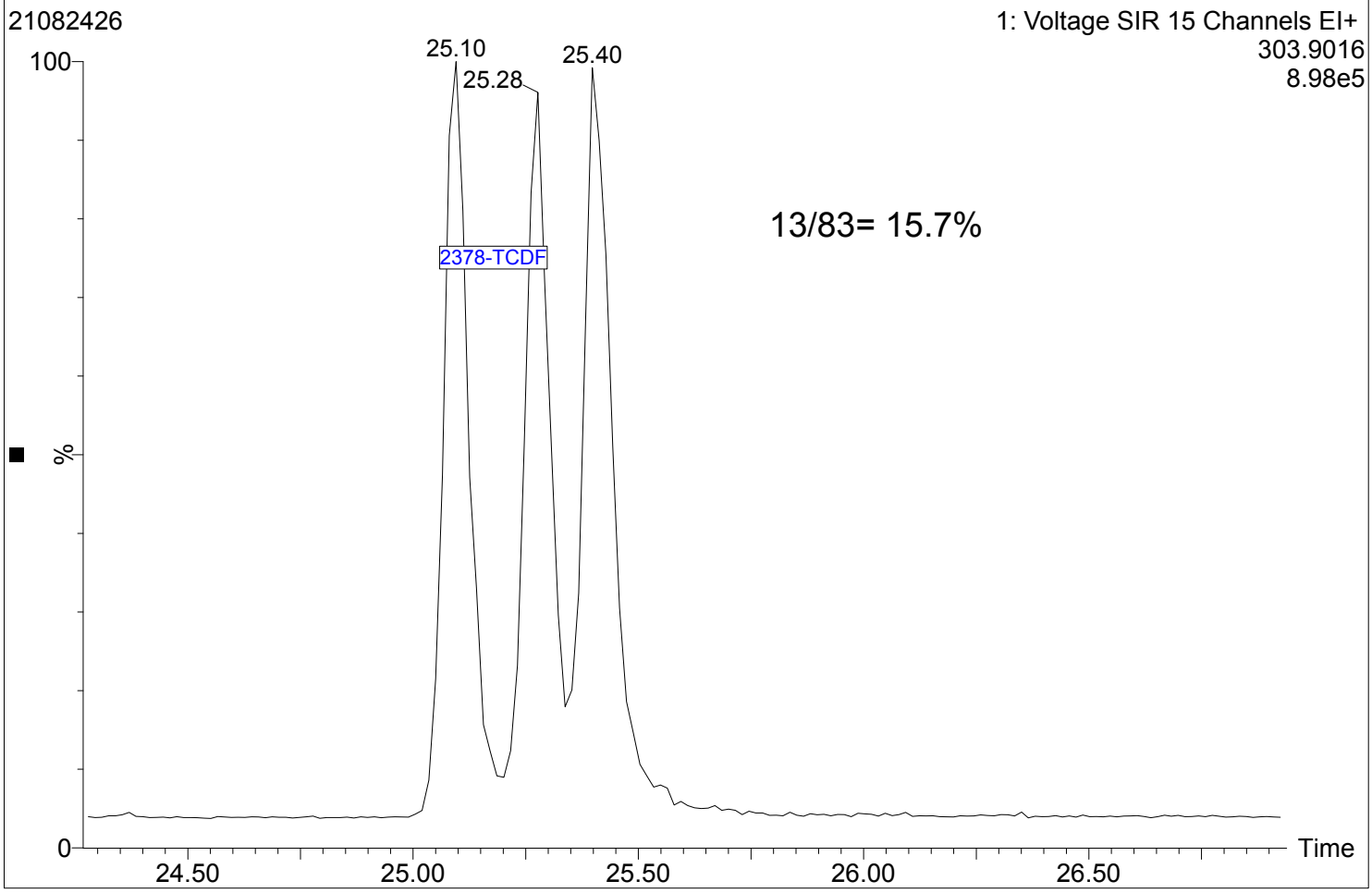
M 504.9696 R 10732



M 516.9697 R 12081




21082426
1: Voltage SIR 15 Channels EI+
319.8965
5.99e5
100
%
0
25.91
26.05
17/83= 20.5%
2378-TCDD
24.50
25.00
25.50
26.00
26.50


21082426
1: Voltage SIR 15 Channels EI+
303.9016
8.98e5
100
%
0
25.10
25.28
25.40
13/83= 15.7%
2378-TCDF
24.50
25.00
25.50
26.00
26.50
Time

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21030103
Date Analyzed: 03/01/21
Time Analyzed: 12:05
Lab Sample ID: SJC0004-RES1
Sequence: SJC0004

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 13

3467-TCDF/2378-TCDF: 11.6

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJC0004-ICV1	CS3V2	21030102A	03/01/2021	11:16
SJC0004-RES1	ISCV2	21030103	03/01/2021	12:05
SJC0004-CAL1	CSLCV	21030104	03/01/2021	12:54
SJC0004-CAL2	CS1CV	21030105A	03/01/2021	13:49
SJC0004-CAL3	CS2CV	21030106A	03/01/2021	15:09
SJC0004-CAL4	CS3CV	21030107A	03/01/2021	15:57
SJC0004-CAL5	CS4CV	21030108A	03/01/2021	16:46
SJC0004-CAL6	CS5CV	21030109A	03/01/2021	17:35
SJC0004-SCV1	ICVCV	21030110A	03/01/2021	18:24
SJC0004-CCV1	CS3V2	21030111A	03/01/2021	19:13
SJC0004-RES2	ISCV2	21030112	03/01/2021	20:07

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21030112
Date Analyzed: 03/01/21
Time Analyzed: 20:07
Lab Sample ID: SJC0004-RES2
Sequence: SJC0004

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 15

3467-TCDF/2378-TCDF: 15.4

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJC0004-ICV1	CS3V2	21030102A	03/01/2021	11:16
SJC0004-RES1	ISCV2	21030103	03/01/2021	12:05
SJC0004-CAL1	CSLCV	21030104	03/01/2021	12:54
SJC0004-CAL2	CS1CV	21030105A	03/01/2021	13:49
SJC0004-CAL3	CS2CV	21030106A	03/01/2021	15:09
SJC0004-CAL4	CS3CV	21030107A	03/01/2021	15:57
SJC0004-CAL5	CS4CV	21030108A	03/01/2021	16:46
SJC0004-CAL6	CS5CV	21030109A	03/01/2021	17:35
SJC0004-SCV1	ICVCV	21030110A	03/01/2021	18:24
SJC0004-CCV1	CS3V2	21030111A	03/01/2021	19:13
SJC0004-RES2	ISCV2	21030112	03/01/2021	20:07

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21071903
Date Analyzed: 07/19/21
Time Analyzed: 12:06
Lab Sample ID: SJG0248-RES1
Sequence: SJG0248

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 10

3467-TCDF/2378-TCDF: 9.1

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJG0248-ICV1	CS3E1	21071902	07/19/2021	11:08
SJG0248-RES1	ISCE1	21071903	07/19/2021	12:06
BJG0187-BLK1	Blank	21071904	07/19/2021	12:54
BJG0187-BS1	LCS	21071905	07/19/2021	13:43
BJG0187-SRM1	Reference	21071906	07/19/2021	14:32
BJG0187-DUP1	Duplicate	21071907	07/19/2021	15:21
SJG0248-CCV1	CS3E2	21071911	07/19/2021	18:37
SJG0248-RES2	ISCE2	21071912	07/19/2021	19:31
21F0442-01	LDW21-SC564A	21071913	07/19/2021	20:22
21F0442-02	LDW21-SC564B	21071914	07/19/2021	21:11
21F0442-03	LDW21-SC564C	21071915	07/19/2021	22:00
21F0442-04	LDW21-SC564D	21071916	07/19/2021	22:49
21F0442-05	LDW21-SC564E	21071917	07/19/2021	23:38
21F0442-06	LDW21-SC564G	21071918	07/20/2021	00:27
21F0442-07	LDW21-SC564I	21071919	07/20/2021	01:16
21F0442-08	LDW21-SC564K	21071920	07/20/2021	02:05
SJG0248-CCV2	CS3E3	21071921	07/20/2021	02:54
SJG0248-RES3	ISCE3	21071922	07/20/2021	03:47

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21071912
Date Analyzed: 07/19/21
Time Analyzed: 19:31
Lab Sample ID: SJG0248-RES2
Sequence: SJG0248

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 8

3467-TCDF/2378-TCDF: 6.2

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJG0248-ICV1	CS3E1	21071902	07/19/2021	11:08
SJG0248-RES1	ISCE1	21071903	07/19/2021	12:06
BJG0187-BLK1	Blank	21071904	07/19/2021	12:54
BJG0187-BS1	LCS	21071905	07/19/2021	13:43
BJG0187-SRM1	Reference	21071906	07/19/2021	14:32
BJG0187-DUP1	Duplicate	21071907	07/19/2021	15:21
SJG0248-CCV1	CS3E2	21071911	07/19/2021	18:37
SJG0248-RES2	ISCE2	21071912	07/19/2021	19:31
21F0442-01	LDW21-SC564A	21071913	07/19/2021	20:22
21F0442-02	LDW21-SC564B	21071914	07/19/2021	21:11
21F0442-03	LDW21-SC564C	21071915	07/19/2021	22:00
21F0442-04	LDW21-SC564D	21071916	07/19/2021	22:49
21F0442-05	LDW21-SC564E	21071917	07/19/2021	23:38
21F0442-06	LDW21-SC564G	21071918	07/20/2021	00:27
21F0442-07	LDW21-SC564I	21071919	07/20/2021	01:16
21F0442-08	LDW21-SC564K	21071920	07/20/2021	02:05
SJG0248-CCV2	CS3E3	21071921	07/20/2021	02:54
SJG0248-RES3	ISCE3	21071922	07/20/2021	03:47

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21071922
Date Analyzed: 07/20/21
Time Analyzed: 03:47
Lab Sample ID: SJG0248-RES3
Sequence: SJG0248

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 11.5

3467-TCDF/2378-TCDF: 7.6

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJG0248-ICV1	CS3E1	21071902	07/19/2021	11:08
SJG0248-RES1	ISCE1	21071903	07/19/2021	12:06
BJG0187-BLK1	Blank	21071904	07/19/2021	12:54
BJG0187-BS1	LCS	21071905	07/19/2021	13:43
BJG0187-SRM1	Reference	21071906	07/19/2021	14:32
BJG0187-DUP1	Duplicate	21071907	07/19/2021	15:21
SJG0248-CCV1	CS3E2	21071911	07/19/2021	18:37
SJG0248-RES2	ISCE2	21071912	07/19/2021	19:31
21F0442-01	LDW21-SC564A	21071913	07/19/2021	20:22
21F0442-02	LDW21-SC564B	21071914	07/19/2021	21:11
21F0442-03	LDW21-SC564C	21071915	07/19/2021	22:00
21F0442-04	LDW21-SC564D	21071916	07/19/2021	22:49
21F0442-05	LDW21-SC564E	21071917	07/19/2021	23:38
21F0442-06	LDW21-SC564G	21071918	07/20/2021	00:27
21F0442-07	LDW21-SC564I	21071919	07/20/2021	01:16
21F0442-08	LDW21-SC564K	21071920	07/20/2021	02:05
SJG0248-CCV2	CS3E3	21071921	07/20/2021	02:54
SJG0248-RES3	ISCE3	21071922	07/20/2021	03:47

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
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

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
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

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CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21082403
Date Analyzed: 08/24/21
Time Analyzed: 13:45
Lab Sample ID: SJH0304-RES1
Sequence: SJH0304

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 16.7

3467-TCDF/2378-TCDF: 13.2

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJH0304-ICV1	CS3L3	21082402	08/24/2021	12:52
SJH0304-RES1	ISCL3	21082403	08/24/2021	13:45
BJH0186-BLK1	Blank	21082409	08/24/2021	18:40
BJH0186-BS1	LCS	21082410	08/24/2021	19:29
BJH0186-SRM1	Reference	21082411	08/24/2021	20:18
21F0442-07RE1	LDW21-SC564I	21082414	08/24/2021	22:45
SJH0304-CCV1	CS3L4	21082415	08/24/2021	23:34
SJH0304-RES2	ISCL4	21082416	08/25/2021	00:27
SJH0304-CCV2	CS3L5	21082425	08/25/2021	07:50
SJH0304-RES3	ISCL5	21082426	08/25/2021	08:43

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21082416
Date Analyzed: 08/25/21
Time Analyzed: 00:27
Lab Sample ID: SJH0304-RES2
Sequence: SJH0304

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 16.5

3467-TCDF/2378-TCDF: 16

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJH0304-ICV1	CS3L3	21082402	08/24/2021	12:52
SJH0304-RES1	ISCL3	21082403	08/24/2021	13:45
BJH0186-BLK1	Blank	21082409	08/24/2021	18:40
BJH0186-BS1	LCS	21082410	08/24/2021	19:29
BJH0186-SRM1	Reference	21082411	08/24/2021	20:18
21F0442-07RE1	LDW21-SC564I	21082414	08/24/2021	22:45
SJH0304-CCV1	CS3L4	21082415	08/24/2021	23:34
SJH0304-RES2	ISCL4	21082416	08/25/2021	00:27
SJH0304-CCV2	CS3L5	21082425	08/25/2021	07:50
SJH0304-RES3	ISCL5	21082426	08/25/2021	08:43

Analytical Resources, Incorporated
Analytical Chemists and Consultants

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY
EPA 1613B

Lab Name: Analytical Resources, Inc.
SDG: 21F0442
Instrument .ID: AUTOSPEC01
Lab File ID: 21082426
Date Analyzed: 08/25/21
Time Analyzed: 08:43
Lab Sample ID: SJH0304-RES3
Sequence: SJH0304

Percent Valley Determination for Column: RTX-Dioxin2 ID: 0.25 (mm)

1278-TCDD/2378-TCDD: 20.5

3467-TCDF/2378-TCDF: 15.7

Quality Control (QC) Limits: ≤ 25%

Lab Sample ID	Sample Name	Lab File ID	Data Analyzed	Time Analyzed
SJH0304-ICV1	CS3L3	21082402	08/24/2021	12:52
SJH0304-RES1	ISCL3	21082403	08/24/2021	13:45
BJH0186-BLK1	Blank	21082409	08/24/2021	18:40
BJH0186-BS1	LCS	21082410	08/24/2021	19:29
BJH0186-SRM1	Reference	21082411	08/24/2021	20:18
21F0442-07RE1	LDW21-SC564I	21082414	08/24/2021	22:45
SJH0304-CCV1	CS3L4	21082415	08/24/2021	23:34
SJH0304-RES2	ISCL4	21082416	08/25/2021	00:27
SJH0304-CCV2	CS3L5	21082425	08/25/2021	07:50
SJH0304-RES3	ISCL5	21082426	08/25/2021	08:43

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJC0004	Instrument:	AUTOSPEC01
		Calibration:	EC00006

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3V2	SJC0004-ICV1	21030102A	NA	03/01/21 11:16
ISCV2	SJC0004-RES1	21030103	NA	03/01/21 12:05
CSLCV	SJC0004-CAL1	21030104	NA	03/01/21 12:54
CS1CV	SJC0004-CAL2	21030105A	NA	03/01/21 13:49
CS2CV	SJC0004-CAL3	21030106A	NA	03/01/21 15:09
CS3CV	SJC0004-CAL4	21030107A	NA	03/01/21 15:57
CS4CV	SJC0004-CAL5	21030108A	NA	03/01/21 16:46
CS5CV	SJC0004-CAL6	21030109A	NA	03/01/21 17:35
ICVCV	SJC0004-SCV1	21030110A	NA	03/01/21 18:24
CS3V2	SJC0004-CCV1	21030111A	NA	03/01/21 19:13
ISCV2	SJC0004-RES2	21030112	NA	03/01/21 20:07

Analytical Resources, Incorporated
Analytical Chemists and Consultants

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
		Calibration:	EC00006

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3E1	SJG0248-ICV1	21071902	NA	07/19/21 11:08
ISCE1	SJG0248-RES1	21071903	NA	07/19/21 12:06
Blank	BJG0187-BLK1	21071904	Solid	07/19/21 12:54
LCS	BJG0187-BS1	21071905	Solid	07/19/21 13:43
Reference	BJG0187-SRM1	21071906	Solid	07/19/21 14:32
LDW21-SC564A	BJG0187-DUP1	21071907	Solid	07/19/21 15:21
CS3E2	SJG0248-CCV1	21071911	NA	07/19/21 18:37
ISCE2	SJG0248-RES2	21071912	NA	07/19/21 19:31
LDW21-SC564A	21F0442-01	21071913	Solid	07/19/21 20:22
LDW21-SC564B	21F0442-02	21071914	Solid	07/19/21 21:11
LDW21-SC564C	21F0442-03	21071915	Solid	07/19/21 22:00
LDW21-SC564D	21F0442-04	21071916	Solid	07/19/21 22:49
LDW21-SC564E	21F0442-05	21071917	Solid	07/19/21 23:38
LDW21-SC564G	21F0442-06	21071918	Solid	07/20/21 00:27
LDW21-SC564I	21F0442-07	21071919	Solid	07/20/21 01:16
LDW21-SC564K	21F0442-08	21071920	Solid	07/20/21 02:05
CS3E3	SJG0248-CCV2	21071921	NA	07/20/21 02:54
ISCE3	SJG0248-RES3	21071922	NA	07/20/21 03:47

Analytical Resources, Incorporated
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ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
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

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ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
		Calibration:	EH00030

Sample Name	Lab Sample ID	Lab File ID	Matrix	Analysis Date/Time
CS3L3	SJH0304-ICV1	21082402	NA	08/24/21 12:52
ISCL3	SJH0304-RES1	21082403	NA	08/24/21 13:45
Blank	BJH0186-BLK1	21082409	Solid	08/24/21 18:40
LCS	BJH0186-BS1	21082410	Solid	08/24/21 19:29
Reference	BJH0186-SRM1	21082411	Solid	08/24/21 20:18
LDW21-SC564I	21F0442-07RE1	21082414	Solid	08/24/21 22:45
CS3L4	SJH0304-CCV1	21082415	NA	08/24/21 23:34
ISCL4	SJH0304-RES2	21082416	NA	08/25/21 00:27
CS3L5	SJH0304-CCV2	21082425	NA	08/25/21 07:50
ISCL5	SJH0304-RES3	21082426	NA	08/25/21 08:43

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Printed: 8/25/2021 12:56:00PM

ANALYSIS SEQUENCE

SJH0304

Instrument: AUTOSPEC01 Element Column ID: J6459
Calibration ID: EH00030 Tune File: AUG2021_1
EM Voltage: 370 Resolution check times : 12:51, 00:27, 08:43

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SJH0304-ICV1	CS3L3	QC		1	J001522		08/24/2021 12:52	21082402	PK	
SJH0304-RES1	ISCL3	QC		2	J005595		08/24/2021 13:45	21082403	PK	
21G0082-13	LDW21-IT647-FD	1613B Dioxin	C 01	3		J005741	08/24/2021 14:36	21082404	PK	
21G0094-07	LDW21-IT651	1613B Dioxin	C 01	4		J005741	08/24/2021 15:24	21082405	PK	
21G0094-08	LDW21-IT651-FD	1613B Dioxin	C 01	5		J005741	08/24/2021 16:13	21082406	PK	
21G0094-10	LDW21-IT656	1613B Dioxin	C 01	6		J005741	08/24/2021 17:02	21082407	PK	
21G0094-15	LDW21-IT668	1613B Dioxin	C 01	7		J005741	08/24/2021 17:51	21082408	PK	
BJH0186-BLK1	Blank	QC		8		J005741	08/24/2021 18:40	21082409	PK	
BJH0186-BS1	LCS	QC		9		J005741	08/24/2021 19:29	21082410	PK	
BJH0186-SRM1	Reference	QC		10		J005741	08/24/2021 20:18	21082411	PK	
BJH0186-DUP1	Duplicate	QC		11		J005741	08/24/2021 21:07	21082412	PK	
21F0392-25RE1	T91-R1-ITESSComp2	1613B Dioxin	A 02	12		J005741	08/24/2021 21:56	21082413	PK	From BJG0187 by VTS on 06-Aug-2021
21F0442-07RE1	LDW21-SC564I	1613B Dioxin	B 03	13		J005741	08/24/2021 22:45	21082414	PK	From BJG0187 by VTS on 06-Aug-2021
SJH0304-CCV1	CS3L4	QC		14	J001522		08/24/2021 23:34	21082415	PK	
SJH0304-RES2	ISCL4	QC		15	J005595		08/25/2021 00:27	21082416	PK	
21G0127-01	LDW21-SS668	1613B Dioxin	A 01	16		J005741	08/25/2021 01:18	21082417	PK	
21G0127-02	LDW21-SS667	1613B Dioxin	A 01	17		J005741	08/25/2021 02:08	21082418	PK	
21G0127-03	LDW21-SS651	1613B Dioxin	A 01	18		J005741	08/25/2021 02:56	21082419	PK	
21G0127-05	LDW21-SS633	1613B Dioxin	A 01	19		J005741	08/25/2021 03:45	21082420	PK	
21G0127-08	LDW21-SS645	1613B Dioxin	A 01	20		J005741	08/25/2021 04:34	21082421	PK	
21G0127-10	LDW21-SS656	1613B Dioxin	A 01	21		J005741	08/25/2021 05:23	21082422	PK	
SJH0304-CCV2	CS3L5	QC		22	J001522		08/25/2021 07:50	21082425	PK	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Printed: 8/25/2021 12:56:00PM

ANALYSIS SEQUENCE

SJH0304

Instrument:	AUTOSPEC01	Element Column ID:	J6459
Calibration ID:	EH00030	Tune File:	AUG2021_1
EM Voltage:	370	Resolution check times :	12:51, 00:27, 08:43

Lab Number	Sample Name	Analysis	Container	Order	STD ID	ISTD ID	Analyzed	File ID	Analyst	Comments
SJH0304-RES3	ISCL5	QC		23	J005595		08/25/2021 08:43	21082426	PK	

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:02:25 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:04:45 Pacific Daylight Time 8/25/21 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Peak deleted	Sample:21082404, Compound:HPF, RT:39.273	1
Pre modification peak	Sample:21082404, Compound:PD, RT:31.007	1
Peak modified	Sample:21082404, Compound:PD, RT:31.007	1
Peak deleted	Sample:21082404, Compound:PF, RT:28.010	1
Pre modification peak	Sample:21082404, Compound:PF, RT:30.762	1
Peak modified	Sample:21082404, Compound:PF, RT:30.762	1
Peak deleted	Sample:21082404, Compound:TD, RT:24.899	1
Peak deleted	Sample:21082404, Compound:TD, RT:25.912	1
Peak deleted	Sample:21082404, Compound:TF, RT:22.752	1
Pre modification peak	Sample:21082404, Compound:TF, RT:25.277	1
Peak modified	Sample:21082404, Compound:TF, RT:25.277	1
Peak modified	Sample:21082404, Compound:TF, RT:25.277	1
Peak deleted	Sample:21082405, Compound:HD, RT:33.269	2
Pre modification peak	Sample:21082405, Compound:PF, RT:29.448	2
Peak modified	Sample:21082405, Compound:PF, RT:29.448	2
Peak deleted	Sample:21082405, Compound:TD, RT:25.096	2
Peak deleted	Sample:21082405, Compound:TD, RT:25.715	2
Peak deleted	Sample:21082405, Compound:TD, RT:25.927	2
Peak deleted	Sample:21082405, Compound:TF, RT:21.799	2
Peak deleted	Sample:21082405, Compound:TF, RT:22.722	2
Peak deleted	Sample:21082405, Compound:TF, RT:23.024	2
Peak deleted	Sample:21082405, Compound:TF, RT:23.281	2
Peak deleted	Sample:21082405, Compound:TF, RT:23.689	2
Peak deleted	Sample:21082405, Compound:TF, RT:24.370	2
Peak deleted	Sample:21082405, Compound:TF, RT:24.899	2
Peak deleted	Sample:21082405, Compound:TF, RT:25.398	2
Peak deleted	Sample:21082406, Compound:HD, RT:33.269	3
Pre modification peak	Sample:21082406, Compound:HF, RT:35.475	3
Peak modified	Sample:21082406, Compound:HF, RT:35.475	3
Pre modification peak	Sample:21082406, Compound:HF, RT:35.486	3
Peak modified	Sample:21082406, Compound:HF, RT:35.486	3
Pre modification peak	Sample:21082406, Compound:HF, RT:36.489	3
Peak modified	Sample:21082406, Compound:HF, RT:36.489	3
Pre modification peak	Sample:21082406, Compound:PF, RT:29.436	3
Peak modified	Sample:21082406, Compound:PF, RT:29.436	3
Peak deleted	Sample:21082406, Compound:PF, RT:29.748	3
Peak deleted	Sample:21082406, Compound:TD, RT:24.551	3
Peak deleted	Sample:21082406, Compound:TF, RT:21.951	3
Pre modification peak	Sample:21082407, Compound:HF, RT:34.594	4
Peak modified	Sample:21082407, Compound:HF, RT:34.594	4
Peak deleted	Sample:21082407, Compound:HF, RT:35.140	4
Peak deleted	Sample:21082407, Compound:PD, RT:31.441	4
Pre modification peak	Sample:21082407, Compound:PF, RT:30.773	4
Peak modified	Sample:21082407, Compound:PF, RT:30.773	4
Peak deleted	Sample:21082407, Compound:TD, RT:24.566	4
Peak deleted	Sample:21082407, Compound:TD, RT:24.868	4
Peak deleted	Sample:21082407, Compound:TD, RT:25.609	4
Peak deleted	Sample:21082407, Compound:TD, RT:26.380	4
Peak deleted	Sample:21082407, Compound:TF, RT:24.052	4
Peak deleted	Sample:21082407, Compound:TF, RT:24.793	4
Pre modification peak	Sample:21082407, Compound:TF, RT:25.292	4

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:02:25 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:04:45 Pacific Daylight Time

Event	Details	Sample ID
Peak modified	Sample:21082407, Compound:TF, RT:25.292	4
Pre modification peak	Sample:21082408, Compound:HF, RT:34.595	5
Peak modified	Sample:21082408, Compound:HF, RT:34.595	5
Pre modification peak	Sample:21082408, Compound:PD, RT:31.030	5
Peak modified	Sample:21082408, Compound:PD, RT:31.030	5
Pre modification peak	Sample:21082408, Compound:PD, RT:31.052	5
Peak modified	Sample:21082408, Compound:PD, RT:31.052	5
Pre modification peak	Sample:21082408, Compound:PF, RT:28.378	5
Peak modified	Sample:21082408, Compound:PF, RT:28.378	5
Pre modification peak	Sample:21082408, Compound:PF, RT:28.389	5
Peak modified	Sample:21082408, Compound:PF, RT:28.389	5
Pre modification peak	Sample:21082408, Compound:TF, RT:25.050	5
Peak modified	Sample:21082408, Compound:TF, RT:25.050	5
Peak added	Sample:21082408, Compound:TF, RT:25.050	5
Peak added	Sample:21082408, Compound:TF, RT:25.050	5
Peak added	Sample:21082408, Compound:TF, RT:25.096	5
Peak added	Sample:21082408, Compound:TF, RT:25.111	5
Peak added	Sample:21082408, Compound:TF, RT:25.519	5
Peak added	Sample:21082408, Compound:TF, RT:25.519	5
Peak deleted	Sample:21082409, Compound:HPF, RT:38.361	6
Peak deleted	Sample:21082409, Compound:HPF, RT:40.522	6
Pre modification peak	Sample:21082409, Compound:OD, RT:44.456	6
Peak modified	Sample:21082409, Compound:OD, RT:44.456	6
Peak deleted	Sample:21082409, Compound:PD, RT:30.751	6
Peak deleted	Sample:21082409, Compound:TD, RT:25.912	6
Peak deleted	Sample:21082410, Compound:PF, RT:30.517	7
Peak deleted	Sample:21082411, Compound:HD, RT:33.280	8
Pre modification peak	Sample:21082411, Compound:HD, RT:36.099	8
Peak modified	Sample:21082411, Compound:HD, RT:36.099	8
Pre modification peak	Sample:21082411, Compound:HF, RT:35.453	8
Peak modified	Sample:21082411, Compound:HF, RT:35.453	8
Pre modification peak	Sample:21082411, Compound:PF, RT:30.774	8
Peak modified	Sample:21082411, Compound:PF, RT:30.774	8
Peak deleted	Sample:21082411, Compound:TF, RT:21.951	8
Peak deleted	Sample:21082411, Compound:TF, RT:22.797	8
Pre modification peak	Sample:21082412, Compound:HD, RT:36.098	9
Peak modified	Sample:21082412, Compound:HD, RT:36.098	9
Pre modification peak	Sample:21082412, Compound:HD, RT:36.110	9
Peak modified	Sample:21082412, Compound:HD, RT:36.110	9
Pre modification peak	Sample:21082412, Compound:HF, RT:35.464	9
Peak modified	Sample:21082412, Compound:HF, RT:35.464	9
Peak deleted	Sample:21082412, Compound:HPF, RT:40.354	9
Pre modification peak	Sample:21082412, Compound:PD, RT:31.018	9
Peak modified	Sample:21082412, Compound:PD, RT:31.018	9
Peak deleted	Sample:21082412, Compound:PF, RT:28.979	9
Pre modification peak	Sample:21082412, Compound:PF, RT:29.436	9
Peak modified	Sample:21082412, Compound:PF, RT:29.436	9
Pre modification peak	Sample:21082412, Compound:PF, RT:30.784	9
Peak modified	Sample:21082412, Compound:PF, RT:30.784	9
Peak deleted	Sample:21082412, Compound:TD, RT:24.233	9
Peak deleted	Sample:21082412, Compound:TF, RT:26.547	9
Peak added	Sample:21082413, Compound:HD, RT:35.675	10
Peak added	Sample:21082413, Compound:HD, RT:35.697	10
Pre modification peak	Sample:21082413, Compound:HD, RT:35.709	10
Peak modified	Sample:21082413, Compound:HD, RT:35.709	10

Dataset: T:\Autospec\Processed Data Batch\210824D1.qld
Last Altered: Wednesday, August 25, 2021 09:02:25 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 09:04:45 Pacific Daylight Time

Event	Details	Sample ID
Pre modification peak	Sample:21082413, Compound:HF, RT:35.430	10
Peak modified	Sample:21082413, Compound:HF, RT:35.430	10
Peak deleted	Sample:21082413, Compound:PD, RT:29.793	10
Peak deleted	Sample:21082413, Compound:PD, RT:31.018	10
Pre modification peak	Sample:21082413, Compound:PF, RT:29.414	10
Peak modified	Sample:21082413, Compound:PF, RT:29.414	10
Pre modification peak	Sample:21082413, Compound:PF, RT:30.773	10
Peak modified	Sample:21082413, Compound:PF, RT:30.773	10
Peak deleted	Sample:21082413, Compound:TD, RT:25.912	10
Peak deleted	Sample:21082413, Compound:TF, RT:23.372	10
Pre modification peak	Sample:21082413, Compound:TF, RT:25.065	10
Peak modified	Sample:21082413, Compound:TF, RT:25.065	10
Pre modification peak	Sample:21082413, Compound:TF, RT:25.080	10
Peak modified	Sample:21082413, Compound:TF, RT:25.080	10
Peak deleted	Sample:21082413, Compound:TF, RT:26.850	10
Pre modification peak	Sample:21082414, Compound:HF, RT:35.442	11
Peak modified	Sample:21082414, Compound:HF, RT:35.442	11
Peak added	Sample:21082414, Compound:PF, RT:28.378	11
Peak added	Sample:21082414, Compound:PF, RT:28.378	11
Pre modification peak	Sample:21082414, Compound:PF, RT:29.436	11
Peak modified	Sample:21082414, Compound:PF, RT:29.436	11
Pre modification peak	Sample:21082414, Compound:PF, RT:30.795	11
Peak modified	Sample:21082414, Compound:PF, RT:30.795	11
Peak added	Sample:21082414, Compound:TF, RT:23.946	11
Peak added	Sample:21082414, Compound:TF, RT:23.946	11
Peak deleted	Sample:21082416, Compound:13C-1234-TCDD, RT:25.080	13
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210824D1.qld'	
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210824D1.qld'	

Dataset: T:\Autospec\Processed Data Batch\210824D2.qld
Last Altered: Wednesday, August 25, 2021 12:19:48 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 12:37:15 Pacific Daylight Time 8/25/21 pk

Event	Details	Sample ID
Process Extract		
Process Integrate		
Process Quantify		
Dataset Created		
Pre modification peak	Sample:21082417, Compound:PD, RT:31.007	1
Peak modified	Sample:21082417, Compound:PD, RT:31.007	1
Peak modified	Sample:21082417, Compound:PF, RT:30.774	1
Pre modification peak	Sample:21082417, Compound:PF, RT:30.796	1
Peak modified	Sample:21082417, Compound:PF, RT:30.796	1
Peak deleted	Sample:21082417, Compound:TD, RT:25.080	1
Peak deleted	Sample:21082417, Compound:TF, RT:24.763	1
Peak deleted	Sample:21082417, Compound:TF, RT:24.975	1
Pre modification peak	Sample:21082418, Compound:HF, RT:35.475	2
Peak modified	Sample:21082418, Compound:HF, RT:35.475	2
Pre modification peak	Sample:21082418, Compound:PD, RT:29.949	2
Peak modified	Sample:21082418, Compound:PD, RT:29.949	2
Pre modification peak	Sample:21082418, Compound:PD, RT:29.971	2
Peak modified	Sample:21082418, Compound:PD, RT:29.971	2
Pre modification peak	Sample:21082418, Compound:PD, RT:31.018	2
Peak modified	Sample:21082418, Compound:PD, RT:31.018	2
Pre modification peak	Sample:21082418, Compound:PD, RT:31.041	2
Peak modified	Sample:21082418, Compound:PD, RT:31.041	2
Pre modification peak	Sample:21082418, Compound:PD, RT:31.041	2
Peak modified	Sample:21082418, Compound:PD, RT:31.041	2
Peak deleted	Sample:21082418, Compound:TD, RT:25.927	2
Peak deleted	Sample:21082418, Compound:TD, RT:26.502	2
Peak deleted	Sample:21082418, Compound:TF, RT:22.918	2
Peak deleted	Sample:21082418, Compound:TF, RT:24.763	2
Pre modification peak	Sample:21082419, Compound:HF, RT:36.433	3
Peak modified	Sample:21082419, Compound:HF, RT:36.433	3
Pre modification peak	Sample:21082419, Compound:PF, RT:30.751	3
Peak modified	Sample:21082419, Compound:PF, RT:30.751	3
Peak deleted	Sample:21082419, Compound:TD, RT:23.508	3
Peak deleted	Sample:21082419, Compound:TD, RT:25.504	3
Peak deleted	Sample:21082419, Compound:TF, RT:26.532	3
Peak added	Sample:21082420, Compound:HF, RT:35.419	4
Pre modification peak	Sample:21082420, Compound:HF, RT:35.442	4
Peak modified	Sample:21082420, Compound:HF, RT:35.442	4
Peak added	Sample:21082420, Compound:HF, RT:35.442	4
Pre modification peak	Sample:21082420, Compound:HF, RT:36.455	4
Peak modified	Sample:21082420, Compound:HF, RT:36.455	4
Pre modification peak	Sample:21082420, Compound:PF, RT:29.403	4
Peak modified	Sample:21082420, Compound:PF, RT:29.403	4
Peak deleted	Sample:21082420, Compound:TF, RT:26.411	4
Pre modification peak	Sample:21082421, Compound:PD, RT:28.333	5
Peak modified	Sample:21082421, Compound:PD, RT:28.333	5
Pre modification peak	Sample:21082421, Compound:PD, RT:28.345	5
Peak modified	Sample:21082421, Compound:PD, RT:28.345	5
Peak deleted	Sample:21082421, Compound:TD, RT:23.946	5
Peak deleted	Sample:21082421, Compound:TD, RT:24.415	5
Peak deleted	Sample:21082421, Compound:TF, RT:22.344	5
Peak deleted	Sample:21082421, Compound:TF, RT:23.084	5
Peak deleted	Sample:21082421, Compound:TF, RT:24.778	5
Pre modification peak	Sample:21082422, Compound:HF, RT:36.467	6
Peak modified	Sample:21082422, Compound:HF, RT:36.467	6

Dataset: T:\Autospec\Processed Data Batch\210824D2.qld
Last Altered: Wednesday, August 25, 2021 12:19:48 Pacific Daylight Time
Printed: Wednesday, August 25, 2021 12:37:15 Pacific Daylight Time

Event	Details	Sample ID
Pre modification peak	Sample:21082422, Compound:HPF, RT:40.544	6
Peak modified	Sample:21082422, Compound:HPF, RT:40.544	6
Peak deleted	Sample:21082422, Compound:PD, RT:30.361	6
Peak deleted	Sample:21082422, Compound:PD, RT:31.386	6
Peak deleted	Sample:21082422, Compound:PD, RT:31.431	6
Pre modification peak	Sample:21082422, Compound:PF, RT:29.437	6
Peak modified	Sample:21082422, Compound:PF, RT:29.437	6
Peak deleted	Sample:21082422, Compound:PF, RT:29.826	6
Peak deleted	Sample:21082422, Compound:TD, RT:24.763	6
Peak deleted	Sample:21082422, Compound:TD, RT:25.912	6
Peak deleted	Sample:21082423, Compound:HF, RT:32.601	7
Pre modification peak	Sample:21082423, Compound:HF, RT:35.419	7
Peak modified	Sample:21082423, Compound:HF, RT:35.419	7
Pre modification peak	Sample:21082423, Compound:HF, RT:35.442	7
Peak modified	Sample:21082423, Compound:HF, RT:35.442	7
Pre modification peak	Sample:21082423, Compound:PD, RT:31.019	7
Peak modified	Sample:21082423, Compound:PD, RT:31.019	7
Pre modification peak	Sample:21082423, Compound:PD, RT:31.030	7
Peak modified	Sample:21082423, Compound:PD, RT:31.030	7
Peak deleted	Sample:21082423, Compound:PF, RT:29.403	7
Peak deleted	Sample:21082423, Compound:PF, RT:30.618	7
Pre modification peak	Sample:21082423, Compound:PF, RT:30.740	7
Peak modified	Sample:21082423, Compound:PF, RT:30.740	7
Pre modification peak	Sample:21082423, Compound:PF, RT:30.774	7
Peak modified	Sample:21082423, Compound:PF, RT:30.774	7
Peak deleted	Sample:21082423, Compound:TD, RT:23.296	7
Peak deleted	Sample:21082423, Compound:TD, RT:24.022	7
Peak deleted	Sample:21082423, Compound:TD, RT:25.912	7
Peak deleted	Sample:21082423, Compound:TF, RT:23.372	7
Peak deleted	Sample:21082423, Compound:TF, RT:25.504	7
Pre modification peak	Sample:21082424, Compound:HD, RT:36.077	8
Peak modified	Sample:21082424, Compound:HD, RT:36.077	8
Pre modification peak	Sample:21082424, Compound:HF, RT:34.561	8
Peak modified	Sample:21082424, Compound:HF, RT:34.561	8
Pre modification peak	Sample:21082424, Compound:HPF, RT:40.533	8
Peak modified	Sample:21082424, Compound:HPF, RT:40.533	8
Peak deleted	Sample:21082424, Compound:PD, RT:31.018	8
Peak deleted	Sample:21082424, Compound:PF, RT:28.333	8
Peak deleted	Sample:21082424, Compound:TF, RT:22.737	8
Peak deleted	Sample:21082424, Compound:TF, RT:22.979	8
Peak deleted	Sample:21082424, Compound:TF, RT:23.266	8
Peak deleted	Sample:21082424, Compound:TF, RT:25.277	8
Peak deleted	Sample:21082426, Compound:13C-1234-TCDD, RT:25.065	10
Peak deleted	Sample:21082426, Compound:13C-123789-HxCDD, RT:36.055	10
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210824D2.qld'	
Dataset Saved	Saved to 'T:\Autospec\Processed Data Batch\210824D2.qld'	

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SURROGATE RECOVERY AND RT SUMMARY

EPA 1613B

Laboratory:	Analytical Resources, Inc.	SDG:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJC0004	Instrument:	AUTOSPEC01
Sample ID:	SJC0004-ICV1	Calibration:	EC00006
File ID:	21030102A	Analyzed:	03/01/21 11:16

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	99.0	71 - 129	25.4735	25.4532	0.0203	N/A	
13C12-2,3,7,8-TCDD	100.00	99.3	82 - 118	26.1085	26.0882	0.0203	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	97.2	76 - 124	29.6053	29.59205	0.0132	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	98.2	77 - 123	30.9533	30.93272	0.0206	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	101	62 - 138	31.1985	31.1852	0.0133	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	99.8	76 - 124	34.5743	34.55915	0.0151	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	98.0	70 - 130	34.7192	34.70027	0.0189	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	99.6	73 - 127	35.588	35.57105	0.0170	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	100	74 - 126	36.613	36.6072	0.0058	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	101	85 - 115	35.6995	35.69363	0.0059	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	94.2	85 - 115	35.822	35.8069	0.0151	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	103	78 - 122	38.4625	38.44928	0.0132	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	104	77 - 123	40.6685	40.65702	0.0115	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	104	82 - 118	39.933	39.9273	0.0057	N/A	
13C12-OCDD	200.00	107	48 - 152	44.564	44.55902	0.0050	N/A	
37Cl4-2,3,7,8-TCDD	10.000	98.7	79 - 121	26.1237	26.10587	0.0178	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJC0004	Instrument:	AUTOSPEC01
Sample ID:	SJC0004-SCV1	Calibration:	EC00006
File ID:	21030110A	Analyzed:	03/01/21 18:24

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	97.8	80 - 120	25.4582	25.4532	0.0050	N/A	
13C12-2,3,7,8-TCDD	100.00	80.8	80 - 120	26.0933	26.0882	0.0051	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	98.4	80 - 120	29.5938	29.59205	0.0018	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	102	80 - 120	30.942	30.93272	0.0093	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	95.4	80 - 120	31.1872	31.1852	0.0020	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	112	80 - 120	34.5628	34.55915	0.0037	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	115	80 - 120	34.7077	34.70027	0.0074	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	110	80 - 120	35.5767	35.57105	0.0057	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	114	80 - 120	36.6128	36.6072	0.0056	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	115	80 - 120	35.6992	35.69363	0.0056	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	114	80 - 120	35.8107	35.8069	0.0038	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	111	80 - 120	38.451	38.44928	0.0017	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	103	80 - 120	40.657	40.65702	0.0000	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	106	80 - 120	39.9328	39.9273	0.0055	N/A	
13C12-OCDD	200.00	102	80 - 120	44.5543	44.55902	-0.0047	N/A	
37Cl4-2,3,7,8-TCDD	10.000	105	80 - 120	26.1083	26.10587	0.0024	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJC0004	Instrument:	AUTOSPEC01
Sample ID:	SJC0004-CCV1	Calibration:	EC00006
File ID:	21030111A	Analyzed:	03/01/21 19:13

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	101	71 - 129	25.4432	25.4532	-0.0100	N/A	
13C12-2,3,7,8-TCDD	100.00	101	82 - 118	26.0782	26.0882	-0.0100	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	98.5	76 - 124	29.5828	29.59205	-0.0093	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	97.5	77 - 123	30.9308	30.93272	-0.0019	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	98.3	62 - 138	31.1872	31.1852	0.0020	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	97.4	76 - 124	34.5517	34.55915	-0.0075	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	96.3	70 - 130	34.6963	34.70027	-0.0040	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	96.7	73 - 127	35.5653	35.57105	-0.0057	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	99.4	74 - 126	36.6015	36.6072	-0.0057	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	97.5	85 - 115	35.6878	35.69363	-0.0058	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	97.7	85 - 115	35.7993	35.8069	-0.0076	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	94.7	78 - 122	38.4508	38.44928	0.0015	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	94.5	77 - 123	40.6567	40.65702	-0.0003	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	99.7	82 - 118	39.9213	39.9273	-0.0060	N/A	
13C12-OCDD	200.00	92.7	48 - 152	44.5537	44.55902	-0.0053	N/A	
37Cl4-2,3,7,8-TCDD	10.000	94.6	79 - 121	26.1085	26.10587	0.0026	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	SJG0248-ICV1	Calibration:	EC00006
File ID:	21071902	Analyzed:	07/19/21 11:08

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	106	71 - 129	25.6698	25.4532	0.2166	N/A	
13C12-2,3,7,8-TCDD	100.00	103	82 - 118	26.32	26.0882	0.2318	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	111	76 - 124	29.8278	29.59205	0.2357	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	108	77 - 123	31.1757	30.93272	0.2430	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	104	62 - 138	31.432	31.1852	0.2468	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	96.4	76 - 124	34.7967	34.55915	0.2375	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	93.1	70 - 130	34.9415	34.70027	0.2412	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	97.4	73 - 127	35.8103	35.57105	0.2392	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	93.3	74 - 126	36.8353	36.6072	0.2281	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	103	85 - 115	35.933	35.69363	0.2394	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	99.4	85 - 115	36.0443	35.8069	0.2374	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	101	78 - 122	38.6848	38.44928	0.2355	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	109	77 - 123	40.913	40.65702	0.2560	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	94.4	72 - 128	40.1777	39.9273	0.2504	N/A	
13C12-OCDD	200.00	108	48 - 152	44.8935	44.55902	0.3345	N/A	
37Cl4-2,3,7,8-TCDD	10.000	103	0 - 200	26.3352	26.10587	0.2293	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	BJG0187-BLK1	Calibration:	EC00006
File ID:	21071904	Analyzed:	07/19/21 12:54

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	34.8	24 - 169	25.67	25.4532	0.2168	N/A	
13C12-2,3,7,8-TCDD	200.00	43.8	25 - 164	26.305	26.0882	0.2168	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	79.6	24 - 185	29.817	29.59205	0.2250	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	79.2	21 - 178	31.165	30.93272	0.2323	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	79.6	25 - 181	31.4212	31.1852	0.2360	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	81.8	26 - 152	34.797	34.55915	0.2378	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	81.3	26 - 123	34.9308	34.70027	0.2305	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	88.2	28 - 136	35.7998	35.57105	0.2287	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	80.7	29 - 147	36.8358	36.6072	0.2286	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	90.8	32 - 141	35.9223	35.69363	0.2287	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	83.3	28 - 130	36.0448	35.8069	0.2379	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	92.9	28 - 143	38.6743	38.44928	0.2250	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	88.7	26 - 138	40.9137	40.65702	0.2567	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	86.3	23 - 140	40.1783	39.9273	0.2510	N/A	
13C12-OCDD	400.00	94.6	17 - 157	44.8942	44.55902	0.3352	N/A	
37Cl4-2,3,7,8-TCDD	80.000	44.6	35 - 197	26.3353	26.10587	0.2294	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	BJG0187-BS1	Calibration:	EC00006
File ID:	21071905	Analyzed:	07/19/21 13:43

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	21.6	24 - 169	25.655	25.4532	0.2018	N/A	*
13C12-2,3,7,8-TCDD	200.00	29.6	25 - 164	26.3052	26.0882	0.2170	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	61.7	24 - 185	29.817	29.59205	0.2250	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	58.9	21 - 178	31.165	30.93272	0.2323	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	63.5	25 - 181	31.4212	31.1852	0.2360	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	69.6	26 - 152	34.7858	34.55915	0.2266	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	71.3	26 - 123	34.9307	34.70027	0.2304	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	80.1	28 - 136	35.7997	35.57105	0.2287	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	74.8	29 - 147	36.8247	36.6072	0.2175	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	75.9	32 - 141	35.9222	35.69363	0.2286	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	72.9	28 - 130	36.0337	35.8069	0.2268	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	84.4	28 - 143	38.6742	38.44928	0.2249	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	83.3	26 - 138	40.9023	40.65702	0.2453	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	80.9	23 - 140	40.167	39.9273	0.2397	N/A	
13C12-OCDD	400.00	92.1	17 - 157	44.8848	44.55902	0.3258	N/A	
37Cl4-2,3,7,8-TCDD	80.000	29.5	35 - 197	26.3203	26.10587	0.2144	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	BJG0187-SRM1	Calibration:	EC00006
File ID:	21071906	Analyzed:	07/19/21 14:32

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	400.00	33.8	24 - 169	25.655	25.4532	0.2018	N/A	
13C12-2,3,7,8-TCDD	400.00	44.2	25 - 164	26.29	26.0882	0.2018	N/A	
13C12-1,2,3,7,8-PeCDF	400.00	79.7	24 - 185	29.8168	29.59205	0.2248	N/A	
13C12-2,3,4,7,8-PeCDF	400.00	83.4	21 - 178	31.1535	30.93272	0.2208	N/A	
13C12-1,2,3,7,8-PeCDD	400.00	79.1	25 - 181	31.4098	31.1852	0.2246	N/A	
13C12-1,2,3,4,7,8-HxCDF	400.00	80.7	26 - 152	34.7855	34.55915	0.2263	N/A	
13C12-1,2,3,6,7,8-HxCDF	400.00	76.4	26 - 123	34.9303	34.70027	0.2300	N/A	
13C12-2,3,4,6,7,8-HxCDF	400.00	82.5	28 - 136	35.8103	35.57105	0.2392	N/A	
13C12-1,2,3,7,8,9-HxCDF	400.00	87.5	29 - 147	36.8243	36.6072	0.2171	N/A	
13C12-1,2,3,4,7,8-HxCDD	400.00	87.4	32 - 141	35.933	35.69363	0.2394	N/A	
13C12-1,2,3,6,7,8-HxCDD	400.00	81.1	28 - 130	36.0443	35.8069	0.2374	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	400.00	85.8	28 - 143	38.6737	38.44928	0.2244	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	400.00	87.1	26 - 138	40.902	40.65702	0.2450	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	400.00	79.6	23 - 140	40.1665	39.9273	0.2392	N/A	
13C12-OCDD	800.00	87.5	17 - 157	44.8845	44.55902	0.3255	N/A	
37Cl4-2,3,7,8-TCDD	160.00	47.4	35 - 197	26.3202	26.10587	0.2143	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	BJG0187-DUP1	Calibration:	EC00006
File ID:	21071907	Analyzed:	07/19/21 15:21

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	199.84	47.8	24 - 169	25.655	25.4532	0.2018	N/A	
13C12-2,3,7,8-TCDD	199.84	62.7	25 - 164	26.305	26.0882	0.2168	N/A	
13C12-1,2,3,7,8-PeCDF	199.84	80.1	24 - 185	29.8167	29.59205	0.2247	N/A	
13C12-2,3,4,7,8-PeCDF	199.84	83.7	21 - 178	31.1758	30.93272	0.2431	N/A	
13C12-1,2,3,7,8-PeCDD	199.84	76.4	25 - 181	31.4208	31.1852	0.2356	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.84	71.9	26 - 152	34.7965	34.55915	0.2373	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.84	67.6	26 - 123	34.9413	34.70027	0.2410	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.84	74.4	28 - 136	35.8102	35.57105	0.2392	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.84	72.5	29 - 147	36.824	36.6072	0.2168	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.84	80.6	32 - 141	35.9438	35.69363	0.2502	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.84	72.5	28 - 130	36.0552	35.8069	0.2483	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.84	73.6	28 - 143	38.6845	38.44928	0.2352	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.84	72.5	26 - 138	40.9127	40.65702	0.2557	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.84	69.9	23 - 140	40.1773	39.9273	0.2500	N/A	
13C12-OCDD	399.67	78.3	17 - 157	44.9023	44.55902	0.3433	N/A	
37Cl4-2,3,7,8-TCDD	79.934	69.0	35 - 197	26.3202	26.10587	0.2143	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	SJG0248-CCV1	Calibration:	EC00006
File ID:	21071911	Analyzed:	07/19/21 18:37

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	105	71 - 129	25.6398	25.4532	0.1866	N/A	
13C12-2,3,7,8-TCDD	100.00	104	82 - 118	26.29	26.0882	0.2018	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	106	76 - 124	29.8057	29.59205	0.2137	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	105	77 - 123	31.1425	30.93272	0.2098	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	96.2	62 - 138	31.3988	31.1852	0.2136	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	97.0	76 - 124	34.7747	34.55915	0.2156	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	90.4	70 - 130	34.9195	34.70027	0.2192	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	94.2	73 - 127	35.7885	35.57105	0.2174	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	93.6	74 - 126	36.8135	36.6072	0.2063	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	103	85 - 115	35.911	35.69363	0.2174	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	91.7	85 - 115	36.0225	35.8069	0.2156	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	100	78 - 122	38.663	38.44928	0.2137	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	101	77 - 123	40.9023	40.65702	0.2453	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	92.8	72 - 128	40.1558	39.9273	0.2285	N/A	
13C12-OCDD	200.00	109	48 - 152	44.8758	44.55902	0.3168	N/A	
37Cl4-2,3,7,8-TCDD	10.000	101	0 - 200	26.305	26.10587	0.1991	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-01	Calibration:	EC00006
File ID:	21071913	Analyzed:	07/19/21 20:22

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	199.84	29.6	24 - 169	25.655	25.4532	0.2018	N/A	
13C12-2,3,7,8-TCDD	199.84	39.8	25 - 164	26.29	26.0882	0.2018	N/A	
13C12-1,2,3,7,8-PeCDF	199.84	64.3	24 - 185	29.8057	29.59205	0.2137	N/A	
13C12-2,3,4,7,8-PeCDF	199.84	65.5	21 - 178	31.165	30.93272	0.2323	N/A	
13C12-1,2,3,7,8-PeCDD	199.84	64.1	25 - 181	31.4212	31.1852	0.2360	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.84	68.0	26 - 152	34.7968	34.55915	0.2376	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.84	62.9	26 - 123	34.9305	34.70027	0.2302	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.84	70.6	28 - 136	35.8107	35.57105	0.2396	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.84	70.8	29 - 147	36.8243	36.6072	0.2171	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.84	72.9	32 - 141	35.9332	35.69363	0.2396	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.84	68.1	28 - 130	36.0445	35.8069	0.2376	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.84	70.2	28 - 143	38.685	38.44928	0.2357	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.84	69.0	26 - 138	40.902	40.65702	0.2450	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.84	67.0	23 - 140	40.1668	39.9273	0.2395	N/A	
13C12-OCDD	399.67	70.2	17 - 157	44.8938	44.55902	0.3348	N/A	
37Cl4-2,3,7,8-TCDD	79.934	43.4	35 - 197	26.3203	26.10587	0.2144	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-02	Calibration:	EC00006
File ID:	21071914	Analyzed:	07/19/21 21:11

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	199.73	45.9	24 - 169	25.6698	25.4532	0.2166	N/A	
13C12-2,3,7,8-TCDD	199.73	58.3	25 - 164	26.3048	26.0882	0.2166	N/A	
13C12-1,2,3,7,8-PeCDF	199.73	82.3	24 - 185	29.8278	29.59205	0.2357	N/A	
13C12-2,3,4,7,8-PeCDF	199.73	82.5	21 - 178	31.1872	30.93272	0.2545	N/A	
13C12-1,2,3,7,8-PeCDD	199.73	78.2	25 - 181	31.4433	31.1852	0.2581	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.73	81.5	26 - 152	34.808	34.55915	0.2488	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.73	75.0	26 - 123	34.9417	34.70027	0.2414	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.73	82.3	28 - 136	35.8218	35.57105	0.2508	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.73	82.5	29 - 147	36.8357	36.6072	0.2285	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.73	88.4	32 - 141	35.9443	35.69363	0.2507	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.73	80.3	28 - 130	36.0557	35.8069	0.2488	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.73	79.8	28 - 143	38.685	38.44928	0.2357	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.73	79.5	26 - 138	40.9132	40.65702	0.2562	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.73	74.5	23 - 140	40.1778	39.9273	0.2505	N/A	
13C12-OCDD	399.46	79.4	17 - 157	44.9028	44.55902	0.3438	N/A	
37Cl4-2,3,7,8-TCDD	79.892	59.6	35 - 197	26.32	26.10587	0.2141	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-03	Calibration:	EC00006
File ID:	21071915	Analyzed:	07/19/21 22:00

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	200.01	44.1	24 - 169	25.6548	25.4532	0.2016	N/A	
13C12-2,3,7,8-TCDD	200.01	55.0	25 - 164	26.2898	26.0882	0.2016	N/A	
13C12-1,2,3,7,8-PeCDF	200.01	75.4	24 - 185	29.8055	29.59205	0.2134	N/A	
13C12-2,3,4,7,8-PeCDF	200.01	76.2	21 - 178	31.1535	30.93272	0.2208	N/A	
13C12-1,2,3,7,8-PeCDD	200.01	69.5	25 - 181	31.4097	31.1852	0.2245	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.01	66.3	26 - 152	34.7855	34.55915	0.2263	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.01	62.2	26 - 123	34.9303	34.70027	0.2300	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.01	66.9	28 - 136	35.8103	35.57105	0.2392	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.01	63.8	29 - 147	36.8242	36.6072	0.2170	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.01	72.1	32 - 141	35.933	35.69363	0.2394	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.01	64.7	28 - 130	36.0555	35.8069	0.2486	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.01	66.4	28 - 143	38.6625	38.44928	0.2132	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.01	66.2	26 - 138	40.9017	40.65702	0.2447	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.01	60.4	23 - 140	40.1552	39.9273	0.2279	N/A	
13C12-OCDD	400.01	65.3	17 - 157	44.884	44.55902	0.3250	N/A	
37Cl4-2,3,7,8-TCDD	80.002	65.1	35 - 197	26.3048	26.10587	0.1989	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-04	Calibration:	EC00006
File ID:	21071916	Analyzed:	07/19/21 22:49

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	199.91	28.4	24 - 169	25.6548	25.4532	0.2016	N/A	
13C12-2,3,7,8-TCDD	199.91	39.2	25 - 164	26.305	26.0882	0.2168	N/A	
13C12-1,2,3,7,8-PeCDF	199.91	70.9	24 - 185	29.828	29.59205	0.2359	N/A	
13C12-2,3,4,7,8-PeCDF	199.91	71.5	21 - 178	31.187	30.93272	0.2543	N/A	
13C12-1,2,3,7,8-PeCDD	199.91	72.1	25 - 181	31.4433	31.1852	0.2581	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.91	78.0	26 - 152	34.808	34.55915	0.2488	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.91	74.6	26 - 123	34.9528	34.70027	0.2525	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.91	84.4	28 - 136	35.844	35.57105	0.2730	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.91	70.6	29 - 147	36.8468	36.6072	0.2396	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.91	83.8	32 - 141	35.9665	35.69363	0.2729	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.91	78.5	28 - 130	36.078	35.8069	0.2711	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.91	80.6	28 - 143	38.6962	38.44928	0.2469	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.91	82.4	26 - 138	40.9243	40.65702	0.2673	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.91	77.6	23 - 140	40.1778	39.9273	0.2505	N/A	
13C12-OCDD	399.81	75.8	17 - 157	44.9212	44.55902	0.3622	N/A	
37Cl4-2,3,7,8-TCDD	79.962	40.5	35 - 197	26.3202	26.10587	0.2143	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-05	Calibration:	EC00006
File ID:	21071917	Analyzed:	07/19/21 23:38

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	199.96	41.2	24 - 169	25.6548	25.4532	0.2016	N/A	
13C12-2,3,7,8-TCDD	199.96	59.7	25 - 164	26.2898	26.0882	0.2016	N/A	
13C12-1,2,3,7,8-PeCDF	199.96	87.0	24 - 185	29.8168	29.59205	0.2248	N/A	
13C12-2,3,4,7,8-PeCDF	199.96	86.9	21 - 178	31.165	30.93272	0.2323	N/A	
13C12-1,2,3,7,8-PeCDD	199.96	81.8	25 - 181	31.4102	31.1852	0.2250	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.96	88.8	26 - 152	34.7968	34.55915	0.2376	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.96	78.3	26 - 123	34.9305	34.70027	0.2302	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.96	88.6	28 - 136	35.8107	35.57105	0.2396	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.96	82.9	29 - 147	36.8247	36.6072	0.2175	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.96	95.7	32 - 141	35.9443	35.69363	0.2507	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.96	84.3	28 - 130	36.0558	35.8069	0.2489	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.96	83.7	28 - 143	38.674	38.44928	0.2247	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.96	84.3	26 - 138	40.9022	40.65702	0.2452	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.96	78.7	23 - 140	40.1668	39.9273	0.2395	N/A	
13C12-OCDD	399.92	82.1	17 - 157	44.8938	44.55902	0.3348	N/A	
37Cl4-2,3,7,8-TCDD	79.984	59.2	35 - 197	26.3202	26.10587	0.2143	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-06	Calibration:	EC00006
File ID:	21071918	Analyzed:	07/20/21 00:27

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	199.89	24.1	24 - 169	25.6398	25.4532	0.1866	N/A	
13C12-2,3,7,8-TCDD	199.89	35.9	25 - 164	26.29	26.0882	0.2018	N/A	
13C12-1,2,3,7,8-PeCDF	199.89	59.7	24 - 185	29.8058	29.59205	0.2138	N/A	
13C12-2,3,4,7,8-PeCDF	199.89	59.8	21 - 178	31.1537	30.93272	0.2210	N/A	
13C12-1,2,3,7,8-PeCDD	199.89	57.4	25 - 181	31.41	31.1852	0.2248	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.89	63.9	26 - 152	34.7858	34.55915	0.2266	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.89	59.6	26 - 123	34.9195	34.70027	0.2192	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.89	62.7	28 - 136	35.7997	35.57105	0.2287	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.89	60.1	29 - 147	36.8247	36.6072	0.2175	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.89	68.2	32 - 141	35.9222	35.69363	0.2286	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.89	60.9	28 - 130	36.0337	35.8069	0.2268	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.89	61.1	28 - 143	38.663	38.44928	0.2137	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.89	59.9	26 - 138	40.9025	40.65702	0.2455	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.89	58.4	23 - 140	40.1558	39.9273	0.2285	N/A	
13C12-OCDD	399.77	61.5	17 - 157	44.885	44.55902	0.3260	N/A	
37Cl4-2,3,7,8-TCDD	79.955	45.3	35 - 197	26.305	26.10587	0.1991	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-07	Calibration:	EC00006
File ID:	21071919	Analyzed:	07/20/21 01:16

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	199.88	13.2	24 - 169	25.67	25.4532	0.2168	N/A	*
13C12-2,3,7,8-TCDD	199.88	23.1	25 - 164	26.305	26.0882	0.2168	N/A	*
13C12-1,2,3,7,8-PeCDF	199.88	56.8	24 - 185	29.828	29.59205	0.2359	N/A	
13C12-2,3,4,7,8-PeCDF	199.88	57.1	21 - 178	31.176	30.93272	0.2433	N/A	
13C12-1,2,3,7,8-PeCDD	199.88	62.2	25 - 181	31.4322	31.1852	0.2470	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.88	72.5	26 - 152	34.8192	34.55915	0.2601	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.88	71.1	26 - 123	34.9528	34.70027	0.2525	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.88	82.8	28 - 136	35.844	35.57105	0.2730	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.88	69.5	29 - 147	36.8468	36.6072	0.2396	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.88	78.4	32 - 141	35.9667	35.69363	0.2731	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.88	73.4	28 - 130	36.078	35.8069	0.2711	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.88	78.7	28 - 143	38.6962	38.44928	0.2469	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.88	77.8	26 - 138	40.9243	40.65702	0.2673	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.88	75.9	23 - 140	40.189	39.9273	0.2617	N/A	
13C12-OCDD	399.76	77.1	17 - 157	44.921	44.55902	0.3620	N/A	
37Cl4-2,3,7,8-TCDD	79.953	23.2	35 - 197	26.3202	26.10587	0.2143	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	21F0442-08	Calibration:	EC00006
File ID:	21071920	Analyzed:	07/20/21 02:05

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	199.92	25.9	24 - 169	25.6698	25.4532	0.2166	N/A	
13C12-2,3,7,8-TCDD	199.92	36.1	25 - 164	26.3048	26.0882	0.2166	N/A	
13C12-1,2,3,7,8-PeCDF	199.92	65.0	24 - 185	29.828	29.59205	0.2359	N/A	
13C12-2,3,4,7,8-PeCDF	199.92	63.7	21 - 178	31.1762	30.93272	0.2435	N/A	
13C12-1,2,3,7,8-PeCDD	199.92	67.1	25 - 181	31.4323	31.1852	0.2471	N/A	
13C12-1,2,3,4,7,8-HxCDF	199.92	74.2	26 - 152	34.797	34.55915	0.2378	N/A	
13C12-1,2,3,6,7,8-HxCDF	199.92	69.8	26 - 123	34.9418	34.70027	0.2415	N/A	
13C12-2,3,4,6,7,8-HxCDF	199.92	78.7	28 - 136	35.8107	35.57105	0.2396	N/A	
13C12-1,2,3,7,8,9-HxCDF	199.92	75.5	29 - 147	36.8357	36.6072	0.2285	N/A	
13C12-1,2,3,4,7,8-HxCDD	199.92	79.6	32 - 141	35.9333	35.69363	0.2397	N/A	
13C12-1,2,3,6,7,8-HxCDD	199.92	72.5	28 - 130	36.0558	35.8069	0.2489	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	199.92	75.8	28 - 143	38.6852	38.44928	0.2359	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	199.92	75.7	26 - 138	40.9135	40.65702	0.2565	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	199.92	70.8	23 - 140	40.1782	39.9273	0.2509	N/A	
13C12-OCDD	399.85	70.8	17 - 157	44.9033	44.55902	0.3443	N/A	
37Cl4-2,3,7,8-TCDD	79.969	35.3	35 - 197	26.32	26.10587	0.2141	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJG0248	Instrument:	AUTOSPEC01
Sample ID:	SJG0248-CCV2	Calibration:	EC00006
File ID:	21071921	Analyzed:	07/20/21 02:54

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	102	71 - 129	25.6548	25.4532	0.2016	N/A	
13C12-2,3,7,8-TCDD	100.00	101	82 - 118	26.2898	26.0882	0.2016	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	103	76 - 124	29.8057	29.59205	0.2137	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	102	77 - 123	31.1538	30.93272	0.2211	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	93.5	62 - 138	31.41	31.1852	0.2248	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	94.0	76 - 124	34.786	34.55915	0.2268	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	85.9	70 - 130	34.9197	34.70027	0.2194	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	93.1	73 - 127	35.7887	35.57105	0.2176	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	93.0	74 - 126	36.8248	36.6072	0.2176	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	98.8	85 - 115	35.9112	35.69363	0.2176	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	89.8	85 - 115	36.0337	35.8069	0.2268	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	98.3	78 - 122	38.6742	38.44928	0.2249	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	100	77 - 123	40.9023	40.65702	0.2453	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	92.0	72 - 128	40.1672	39.9273	0.2399	N/A	
13C12-OCDD	200.00	101	48 - 152	44.8758	44.55902	0.3168	N/A	
37Cl4-2,3,7,8-TCDD	10.000	99.0	0 - 200	26.305	26.10587	0.1991	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:	21F0442
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:	21F0442
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:	21F0442
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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	SJH0304-ICV1	Calibration:	EH00030
File ID:	21082402	Analyzed:	08/24/21 12:52

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	105	71 - 129	25.2467	25.63973	-0.3930	N/A	
13C12-2,3,7,8-TCDD	100.00	99.3	82 - 118	25.8817	26.27478	-0.3931	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	107	76 - 124	29.403	29.80383	-0.4008	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	105	77 - 123	30.751	31.14815	-0.3972	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	105	62 - 138	30.9962	31.40067	-0.4045	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	91.2	76 - 124	34.4053	34.782	-0.3767	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	90.9	70 - 130	34.5392	34.91943	-0.3802	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	90.3	73 - 127	35.4303	35.7884	-0.3581	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	90.7	74 - 126	36.4553	36.8227	-0.3674	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	99.8	85 - 115	35.5417	35.90912	-0.3674	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	98.9	85 - 115	35.6532	36.0242	-0.3710	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	102	78 - 122	38.3383	38.67025	-0.3320	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	102	77 - 123	40.522	40.90587	-0.3839	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	103	72 - 128	39.7978	40.16678	-0.3690	N/A	
13C12-OCDD	200.00	115	48 - 152	44.4183	44.88763	-0.4693	N/A	
37Cl4-2,3,7,8-TCDD	10.000	92.9	0 - 200	25.9118	26.30253	-0.3907	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	BJH0186-BLK1	Calibration:	EH00030
File ID:	21082409	Analyzed:	08/24/21 18:40

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	91.6	24 - 169	25.2467	25.63973	-0.3930	N/A	
13C12-2,3,7,8-TCDD	200.00	96.3	25 - 164	25.8968	26.27478	-0.3780	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	103	24 - 185	29.4143	29.80383	-0.3895	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	101	21 - 178	30.7515	31.14815	-0.3967	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	101	25 - 181	31.0077	31.40067	-0.3930	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	87.1	26 - 152	34.417	34.782	-0.3650	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	81.8	26 - 123	34.5507	34.91943	-0.3687	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	83.2	28 - 136	35.4308	35.7884	-0.3576	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	88.2	29 - 147	36.467	36.8227	-0.3557	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	95.1	32 - 141	35.5533	35.90912	-0.3558	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	91.2	28 - 130	35.6647	36.0242	-0.3595	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	93.7	28 - 143	38.35	38.67025	-0.3203	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	96.9	26 - 138	40.5225	40.90587	-0.3834	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	97.7	23 - 140	39.8095	40.16678	-0.3573	N/A	
13C12-OCDD	400.00	115	17 - 157	44.4373	44.88763	-0.4503	N/A	
37Cl4-2,3,7,8-TCDD	80.000	96.1	35 - 197	25.912	26.30253	-0.3905	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	BJH0186-BS1	Calibration:	EH00030
File ID:	21082410	Analyzed:	08/24/21 19:29

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	74.4	24 - 169	25.2617	25.63973	-0.3780	N/A	
13C12-2,3,7,8-TCDD	200.00	77.3	25 - 164	25.8967	26.27478	-0.3781	N/A	
13C12-1,2,3,7,8-PeCDF	200.00	91.9	24 - 185	29.4142	29.80383	-0.3896	N/A	
13C12-2,3,4,7,8-PeCDF	200.00	91.1	21 - 178	30.7623	31.14815	-0.3859	N/A	
13C12-1,2,3,7,8-PeCDD	200.00	90.5	25 - 181	31.0075	31.40067	-0.3932	N/A	
13C12-1,2,3,4,7,8-HxCDF	200.00	82.2	26 - 152	34.4167	34.782	-0.3653	N/A	
13C12-1,2,3,6,7,8-HxCDF	200.00	78.1	26 - 123	34.5503	34.91943	-0.3691	N/A	
13C12-2,3,4,6,7,8-HxCDF	200.00	79.4	28 - 136	35.4417	35.7884	-0.3467	N/A	
13C12-1,2,3,7,8,9-HxCDF	200.00	84.2	29 - 147	36.4777	36.8227	-0.3450	N/A	
13C12-1,2,3,4,7,8-HxCDD	200.00	89.6	32 - 141	35.553	35.90912	-0.3561	N/A	
13C12-1,2,3,6,7,8-HxCDD	200.00	87.1	28 - 130	35.6755	36.0242	-0.3487	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	200.00	90.3	28 - 143	38.3493	38.67025	-0.3210	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	200.00	90.9	26 - 138	40.533	40.90587	-0.3729	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	200.00	92.2	23 - 140	39.82	40.16678	-0.3468	N/A	
13C12-OCDD	400.00	106	17 - 157	44.4365	44.88763	-0.4511	N/A	
37Cl4-2,3,7,8-TCDD	80.000	73.6	35 - 197	25.9118	26.30253	-0.3907	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	BJH0186-SRM1	Calibration:	EH00030
File ID:	21082411	Analyzed:	08/24/21 20:18

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	396.04	69.9	24 - 169	25.2618	25.63973	-0.3779	N/A	
13C12-2,3,7,8-TCDD	396.04	75.8	25 - 164	25.8968	26.27478	-0.3780	N/A	
13C12-1,2,3,7,8-PeCDF	396.04	87.4	24 - 185	29.4255	29.80383	-0.3783	N/A	
13C12-2,3,4,7,8-PeCDF	396.04	89.5	21 - 178	30.7623	31.14815	-0.3859	N/A	
13C12-1,2,3,7,8-PeCDD	396.04	87.7	25 - 181	31.0187	31.40067	-0.3820	N/A	
13C12-1,2,3,4,7,8-HxCDF	396.04	77.2	26 - 152	34.428	34.782	-0.3540	N/A	
13C12-1,2,3,6,7,8-HxCDF	396.04	73.2	26 - 123	34.5617	34.91943	-0.3577	N/A	
13C12-2,3,4,6,7,8-HxCDF	396.04	77.1	28 - 136	35.453	35.7884	-0.3354	N/A	
13C12-1,2,3,7,8,9-HxCDF	396.04	83.4	29 - 147	36.478	36.8227	-0.3447	N/A	
13C12-1,2,3,4,7,8-HxCDD	396.04	85.7	32 - 141	35.5755	35.90912	-0.3336	N/A	
13C12-1,2,3,6,7,8-HxCDD	396.04	80.3	28 - 130	35.687	36.0242	-0.3372	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	396.04	82.3	28 - 143	38.361	38.67025	-0.3093	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	396.04	85.8	26 - 138	40.5447	40.90587	-0.3612	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	396.04	85.0	23 - 140	39.8205	40.16678	-0.3463	N/A	
13C12-OCDD	792.08	95.2	17 - 157	44.4463	44.88763	-0.4413	N/A	
37Cl4-2,3,7,8-TCDD	158.42	72.6	35 - 197	25.927	26.30253	-0.3755	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	21F0442-07RE1	Calibration:	EH00030
File ID:	21082414	Analyzed:	08/24/21 22:45

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	197.99	70.5	24 - 169	25.2617	25.63973	-0.3780	N/A	
13C12-2,3,7,8-TCDD	197.99	78.9	25 - 164	25.8967	26.27478	-0.3781	N/A	
13C12-1,2,3,7,8-PeCDF	197.99	85.3	24 - 185	29.4252	29.80383	-0.3786	N/A	
13C12-2,3,4,7,8-PeCDF	197.99	83.7	21 - 178	30.7622	31.14815	-0.3860	N/A	
13C12-1,2,3,7,8-PeCDD	197.99	83.9	25 - 181	31.0183	31.40067	-0.3824	N/A	
13C12-1,2,3,4,7,8-HxCDF	197.99	72.7	26 - 152	34.4275	34.782	-0.3545	N/A	
13C12-1,2,3,6,7,8-HxCDF	197.99	69.6	26 - 123	34.5612	34.91943	-0.3582	N/A	
13C12-2,3,4,6,7,8-HxCDF	197.99	70.6	28 - 136	35.4527	35.7884	-0.3357	N/A	
13C12-1,2,3,7,8,9-HxCDF	197.99	77.3	29 - 147	36.4775	36.8227	-0.3452	N/A	
13C12-1,2,3,4,7,8-HxCDD	197.99	78.9	32 - 141	35.5752	35.90912	-0.3339	N/A	
13C12-1,2,3,6,7,8-HxCDD	197.99	75.5	28 - 130	35.6865	36.0242	-0.3377	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	197.99	74.5	28 - 143	38.3603	38.67025	-0.3100	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	197.99	78.0	26 - 138	40.5438	40.90587	-0.3621	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	197.99	78.4	23 - 140	39.8198	40.16678	-0.3470	N/A	
13C12-OCDD	395.99	89.8	17 - 157	44.4543	44.88763	-0.4333	N/A	
37Cl4-2,3,7,8-TCDD	79.198	80.7	35 - 197	25.927	26.30253	-0.3755	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	SJH0304-CCV1	Calibration:	EH00030
File ID:	21082415	Analyzed:	08/24/21 23:34

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	108	71 - 129	25.2465	25.63973	-0.3932	N/A	
13C12-2,3,7,8-TCDD	100.00	105	82 - 118	25.8817	26.27478	-0.3931	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	110	76 - 124	29.4028	29.80383	-0.4010	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	110	77 - 123	30.7398	31.14815	-0.4084	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	106	62 - 138	30.9962	31.40067	-0.4045	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	89.7	76 - 124	34.4052	34.782	-0.3768	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	86.1	70 - 130	34.539	34.91943	-0.3804	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	88.4	73 - 127	35.4192	35.7884	-0.3692	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	93.4	74 - 126	36.4552	36.8227	-0.3675	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	98.2	85 - 115	35.5417	35.90912	-0.3674	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	95.0	85 - 115	35.6642	36.0242	-0.3600	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	103	78 - 122	38.338	38.67025	-0.3323	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	104	77 - 123	40.5217	40.90587	-0.3842	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	106	72 - 128	39.8087	40.16678	-0.3581	N/A	
13C12-OCDD	200.00	123	48 - 152	44.4272	44.88763	-0.4604	N/A	
37Cl4-2,3,7,8-TCDD	10.000	100	0 - 200	25.8967	26.30253	-0.4058	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:	21F0442
Client:	Anchor QEA, LLC	Project:	Lower Duwamish AOC4
Sequence:	SJH0304	Instrument:	AUTOSPEC01
Sample ID:	SJH0304-CCV2	Calibration:	EH00030
File ID:	21082425	Analyzed:	08/25/21 07:50

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	105	71 - 129	25.2315	25.63973	-0.4082	N/A	
13C12-2,3,7,8-TCDD	100.00	102	82 - 118	25.8817	26.27478	-0.3931	N/A	
13C12-1,2,3,7,8-PeCDF	100.00	108	76 - 124	29.403	29.80383	-0.4008	N/A	
13C12-2,3,4,7,8-PeCDF	100.00	106	77 - 123	30.7397	31.14815	-0.4085	N/A	
13C12-1,2,3,7,8-PeCDD	100.00	102	62 - 138	30.996	31.40067	-0.4047	N/A	
13C12-1,2,3,4,7,8-HxCDF	100.00	89.3	76 - 124	34.4052	34.782	-0.3768	N/A	
13C12-1,2,3,6,7,8-HxCDF	100.00	87.5	70 - 130	34.5388	34.91943	-0.3806	N/A	
13C12-2,3,4,6,7,8-HxCDF	100.00	89.3	73 - 127	35.4302	35.7884	-0.3582	N/A	
13C12-1,2,3,7,8,9-HxCDF	100.00	91.9	74 - 126	36.455	36.8227	-0.3677	N/A	
13C12-1,2,3,4,7,8-HxCDD	100.00	98.5	85 - 115	35.5415	35.90912	-0.3676	N/A	
13C12-1,2,3,6,7,8-HxCDD	100.00	96.0	85 - 115	35.653	36.0242	-0.3712	N/A	
13C12-1,2,3,4,6,7,8-HpCDF	100.00	104	78 - 122	38.338	38.67025	-0.3323	N/A	
13C12-1,2,3,4,7,8,9-HpCDF	100.00	105	77 - 123	40.5217	40.90587	-0.3842	N/A	
13C12-1,2,3,4,6,7,8-HpCDD	100.00	103	72 - 128	39.7975	40.16678	-0.3693	N/A	
13C12-OCDD	200.00	122	48 - 152	44.427	44.88763	-0.4606	N/A	
37Cl4-2,3,7,8-TCDD	10.000	97.0	0 - 200	25.8968	26.30253	-0.4057	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: 21F0442

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-SC564A 21F0442-01	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/19/21 20:22	11	365	
LDW21-SC564B 21F0442-02	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/19/21 21:11	11	365	
LDW21-SC564C 21F0442-03	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/19/21 22:00	11	365	
LDW21-SC564D 21F0442-04	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/19/21 22:49	11	365	
LDW21-SC564E 21F0442-05	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/19/21 23:38	11	365	
LDW21-SC564G 21F0442-06	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/20/21 00:27	11	365	
LDW21-SC564I 21F0442-07	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/20/21 01:16	11	365	
LDW21-SC564I 21F0442-07RE1	06/29/21 13:24	06/30/21 09:10	08/09/21 16:30	41	14	08/24/21 22:45	15	365	*
LDW21-SC564K 21F0442-08	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/20/21 02:05	11	365	
Duplicate BJG0187-DUP1	06/29/21 13:24	06/30/21 09:10	07/08/21 18:05	9	14	07/19/21 15:21	11	365	

* Indicates hold time exceedance.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

METHOD DETECTION AND REPORTING LIMITS

EPA 1613B

Laboratory: Analytical Resources, Inc.
SDG: 21F0442
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: 21F0442
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)**

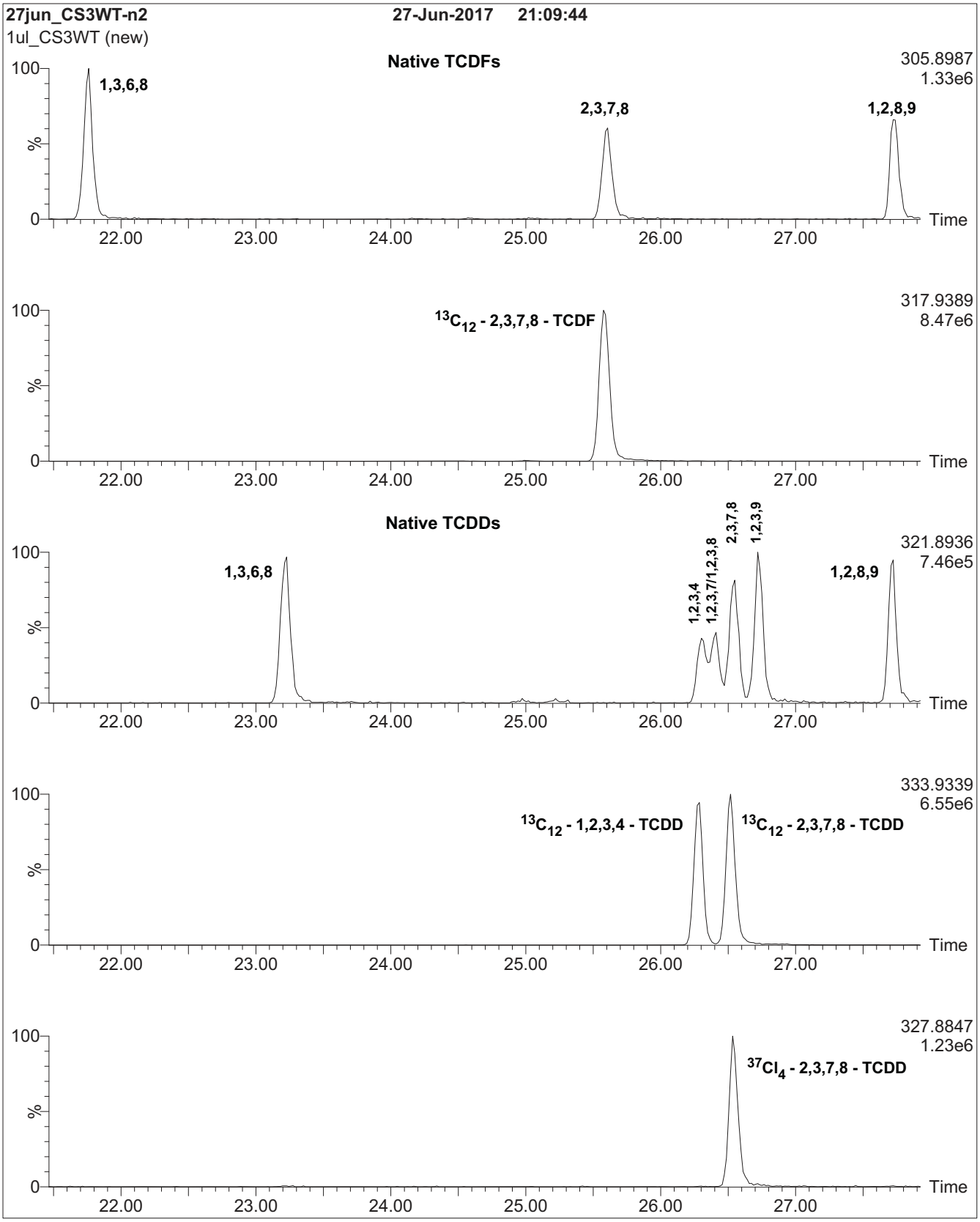


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

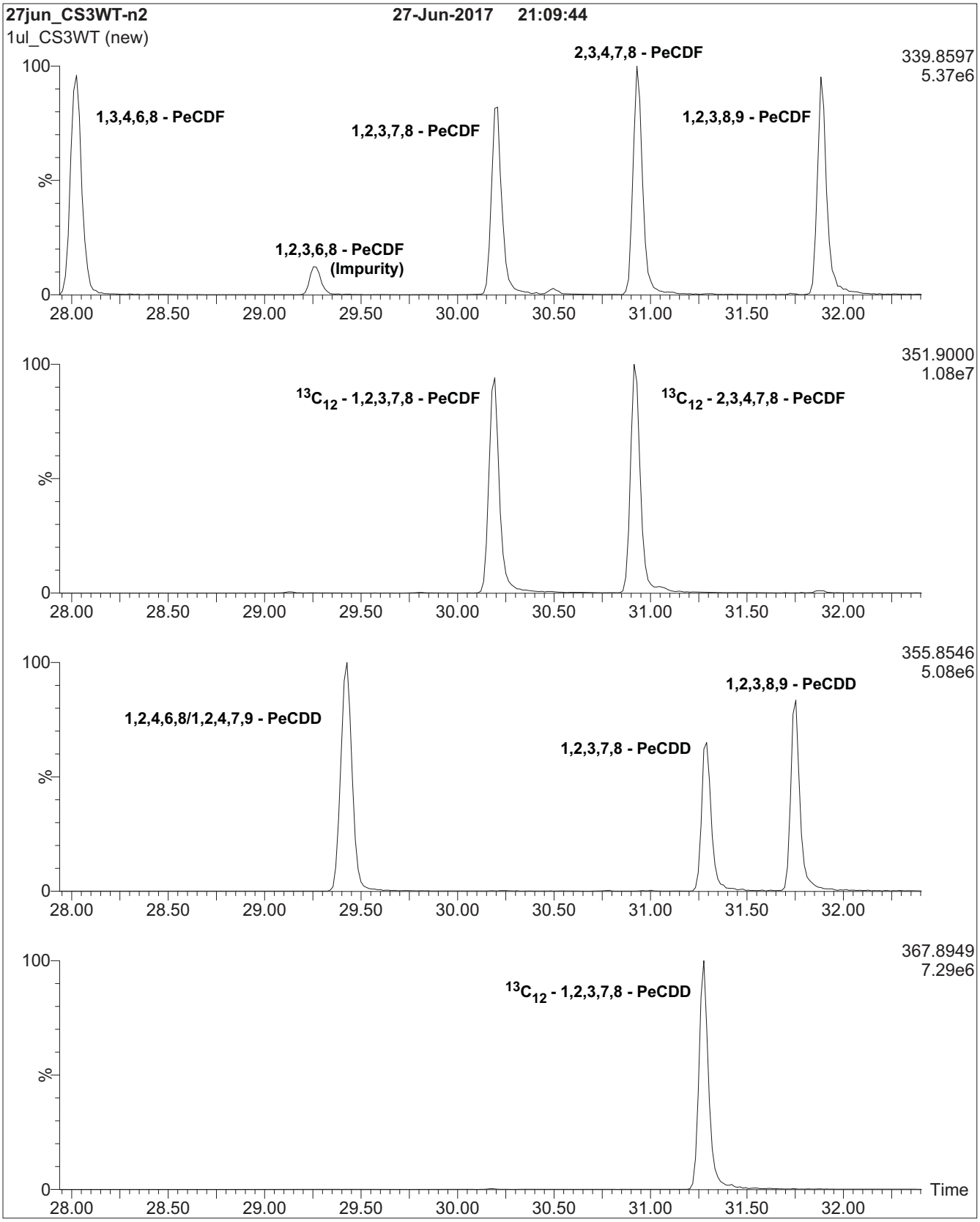


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

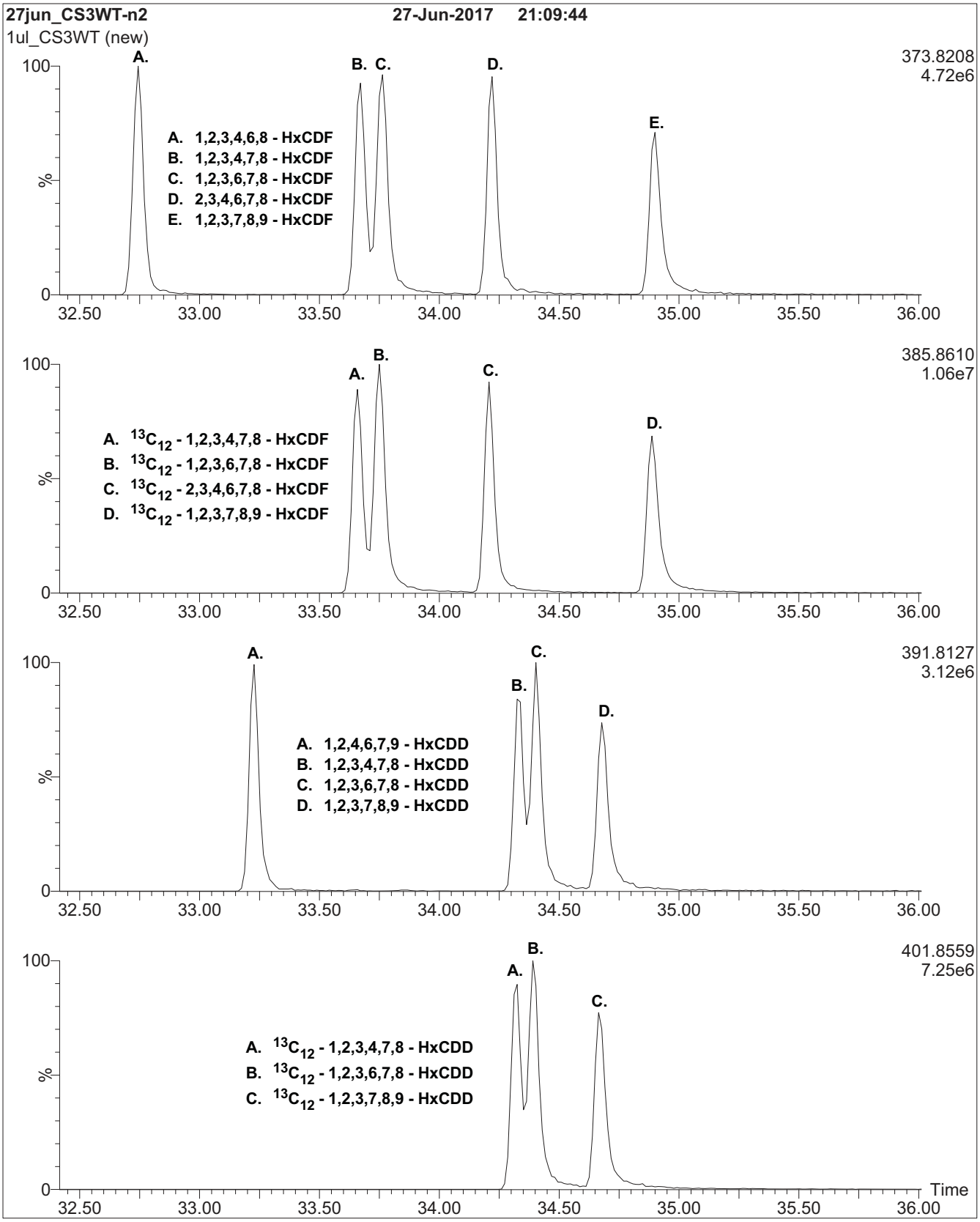


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

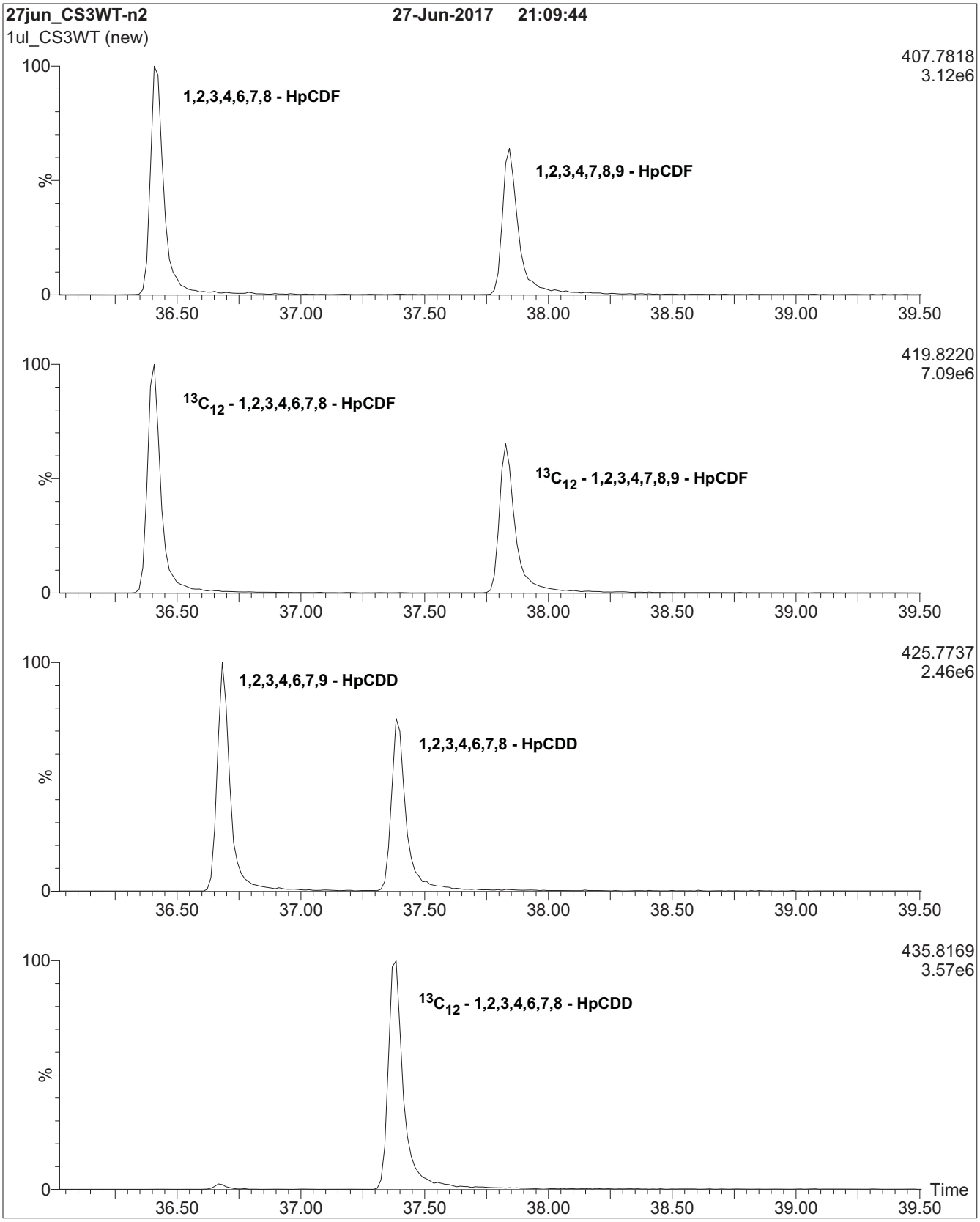
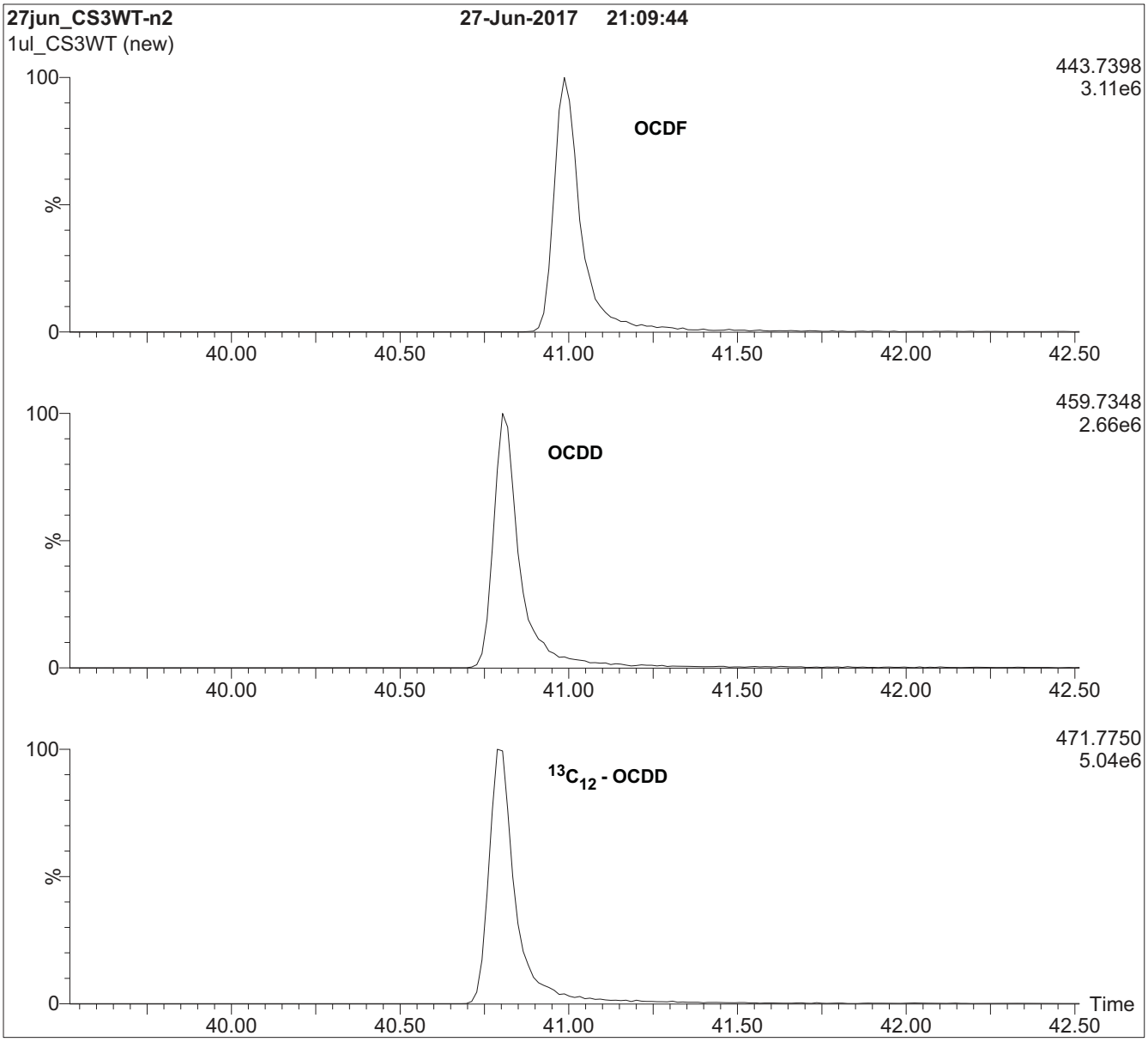


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



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

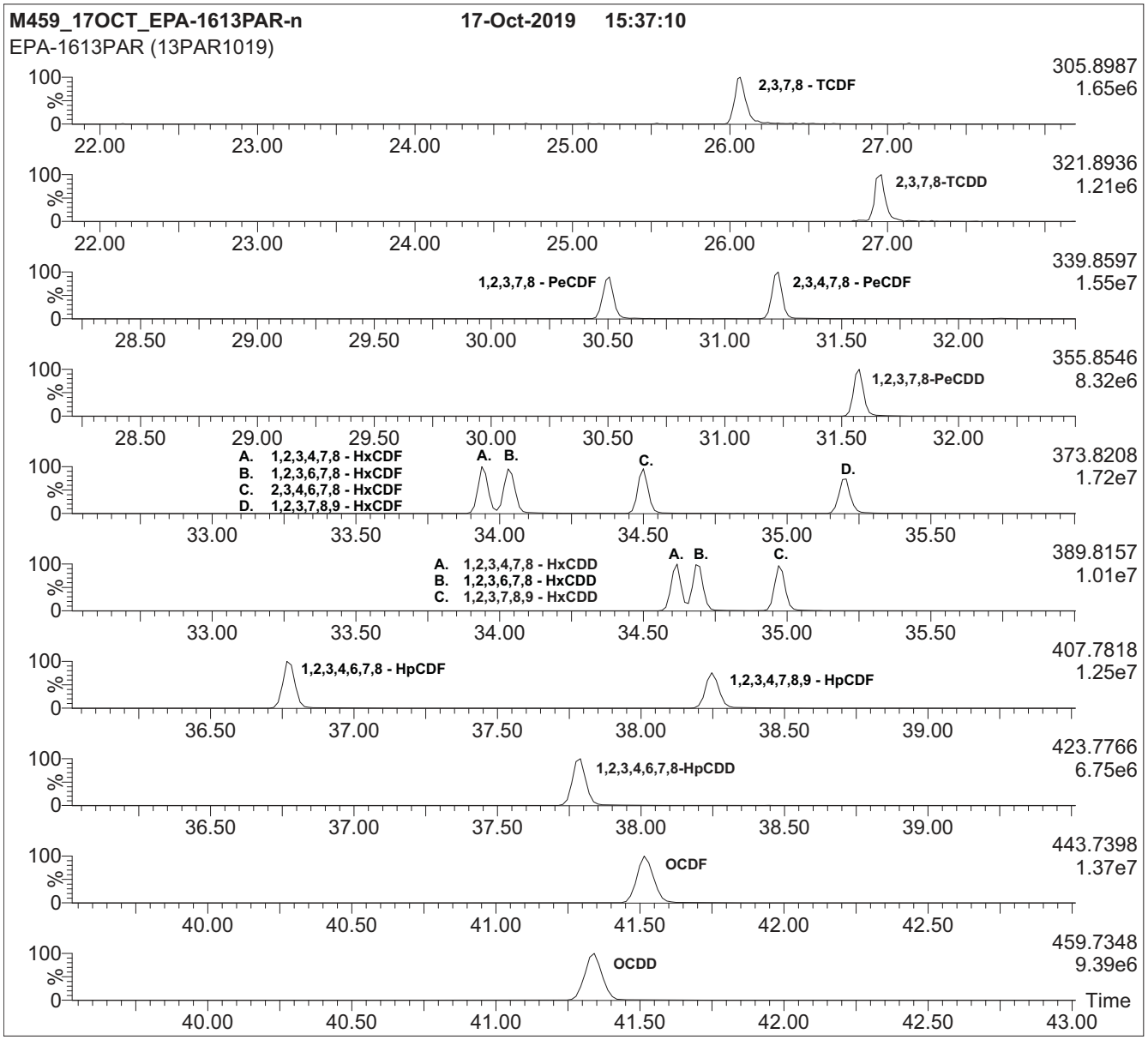
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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

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:	CS3WT1019
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/30/2019
LAST TESTED: (mm/dd/yyyy)	10/31/2019
EXPIRY DATE: (mm/dd/yyyy)	10/31/2026
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

I005452

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: 13CS31019). 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 is to be used with the 1613 calibration solutions having the following lot numbers:

PRODUCT CODE	LOT NUMBER
EPA-1613CS1	13CS11019
EPA-1613CS2	13CS21019
EPA-1613CS3	13CS31019
EPA-1613CS4	13CS41019
EPA-1613CS5	13CS51019
EPA-1613CSL	13CSL1019
EPA-1613CS0.5	13CS0.51019

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.

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: **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: B.G. Chittim, General Manager **Date:** 11/07/2019 (mm/dd/yyyy)

Figure 1: CS3WT; HRGC/HRMS Data (60 m DB-5 Column)

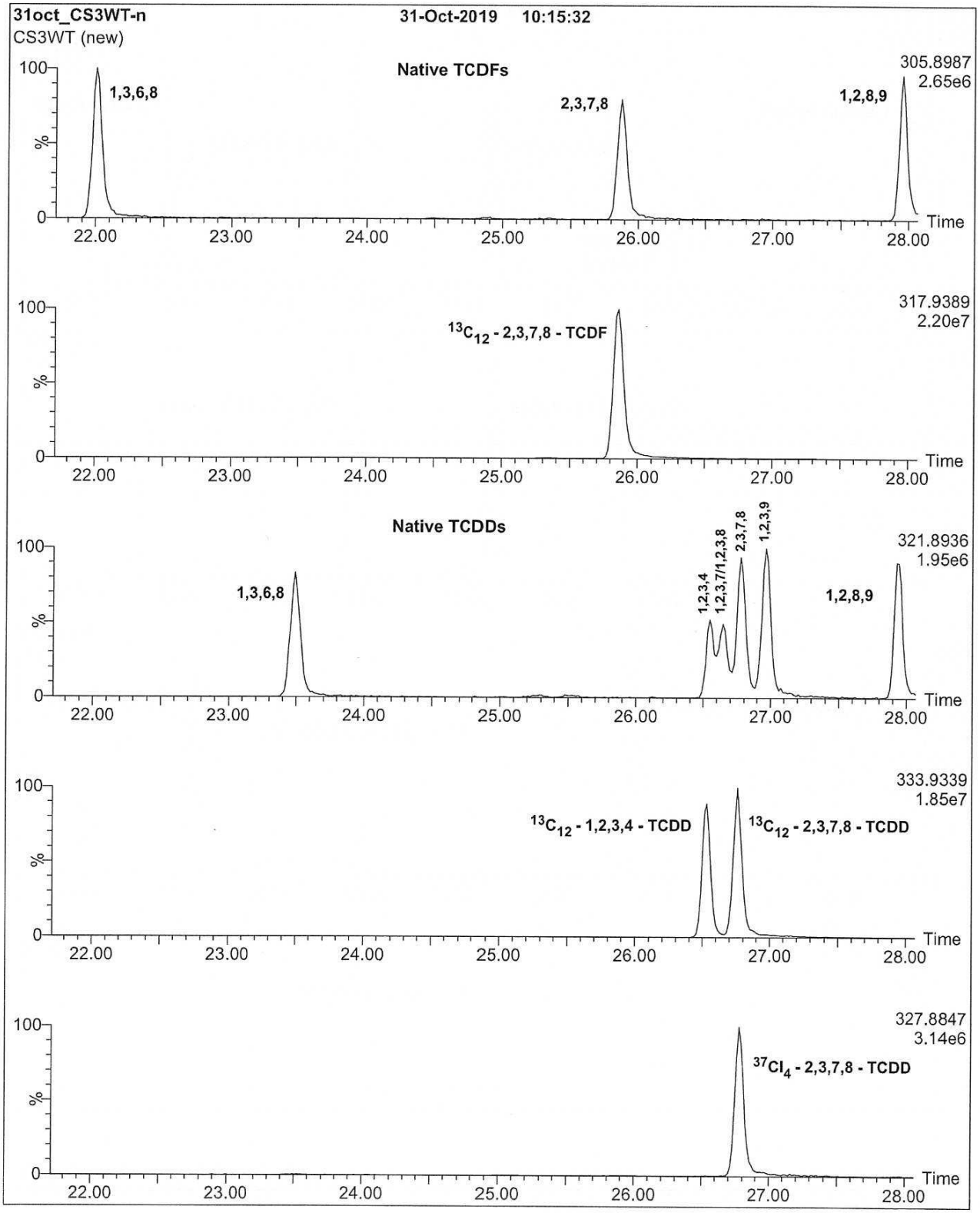


Figure 1: CS3WT; HRGC/HRMS Data (60 m DB-5 Column)

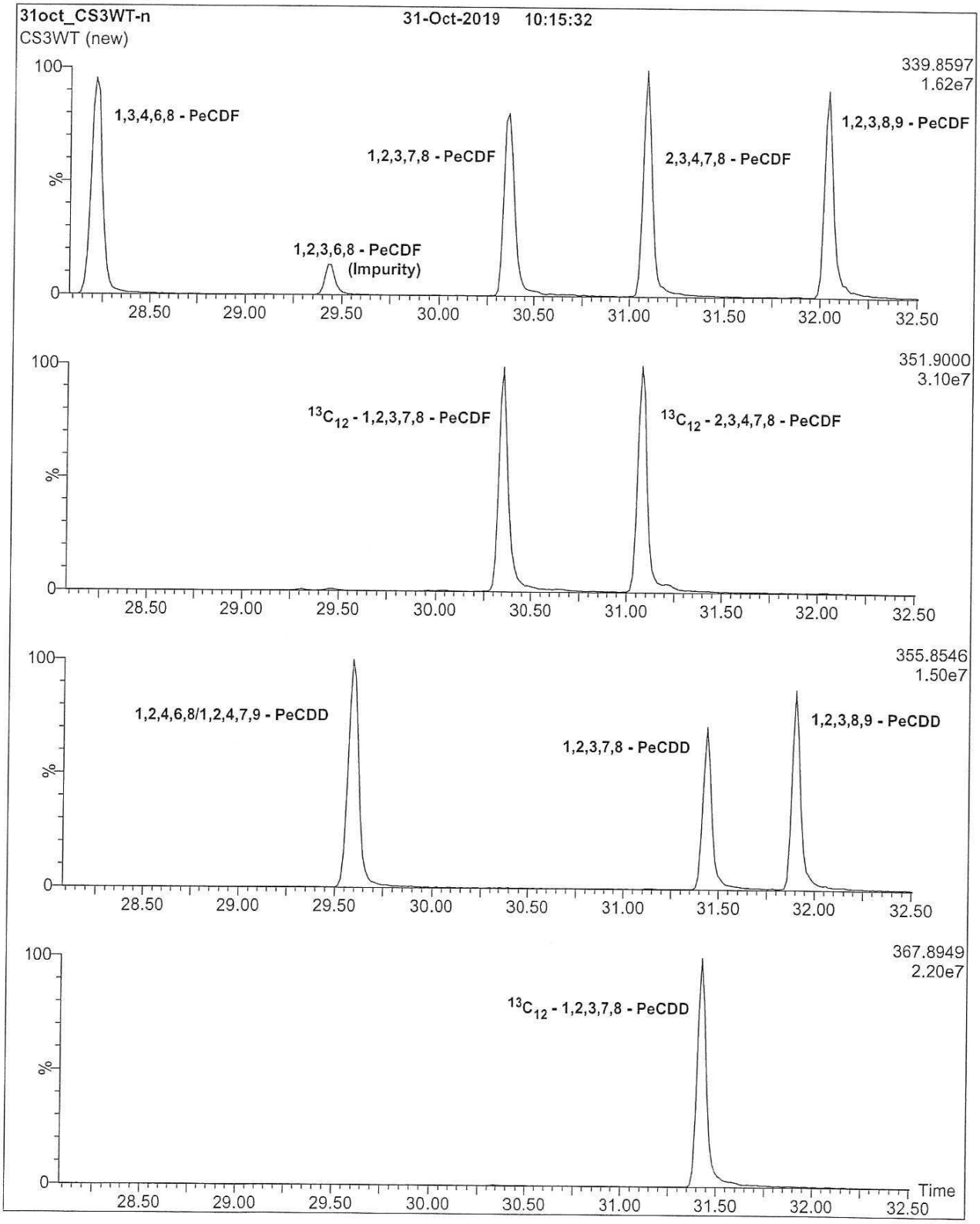


Figure 1: CS3WT; HRGC/HRMS Data (60 m DB-5 Column)

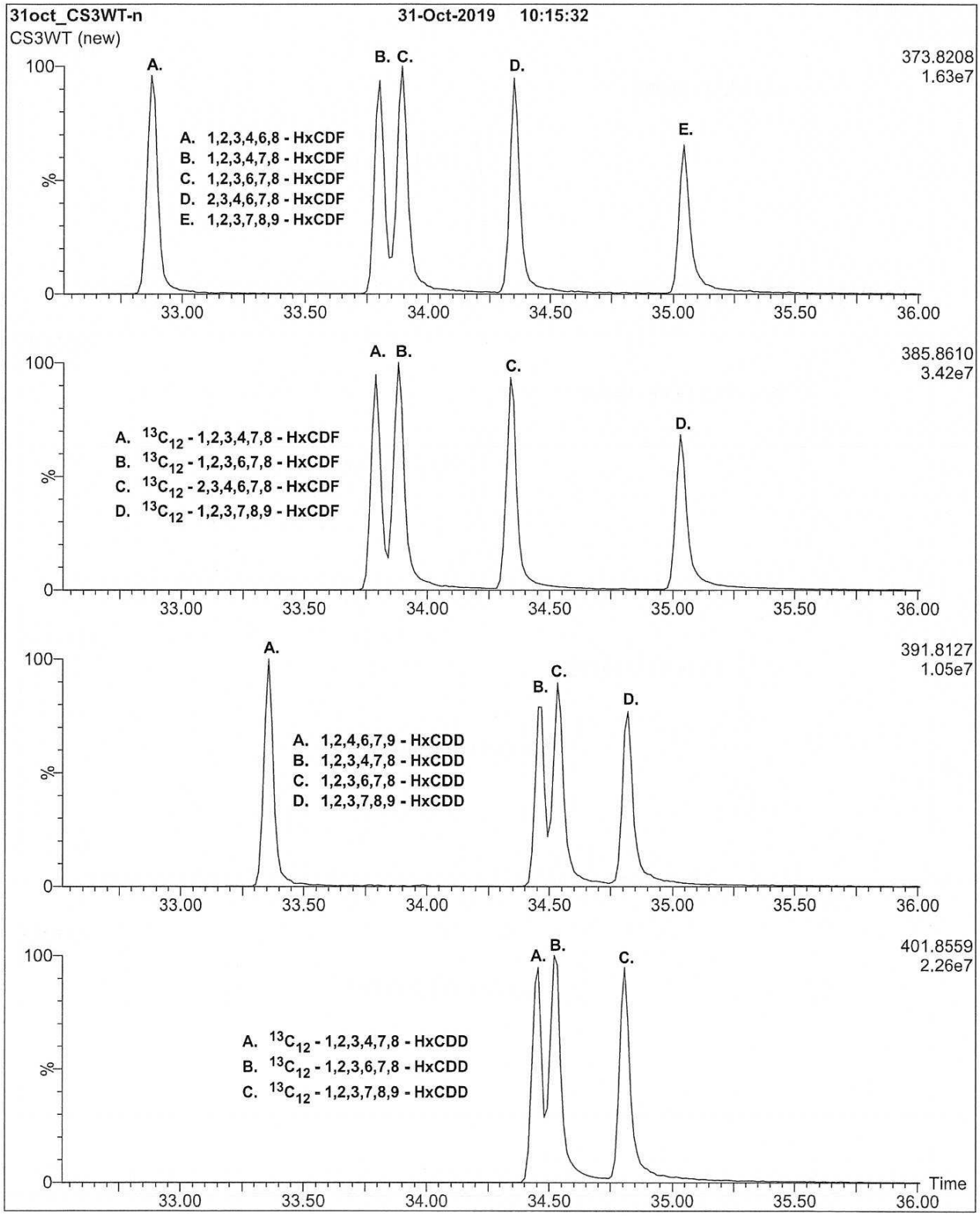


Figure 1: CS3WT; HRGC/HRMS Data (60 m DB-5 Column)

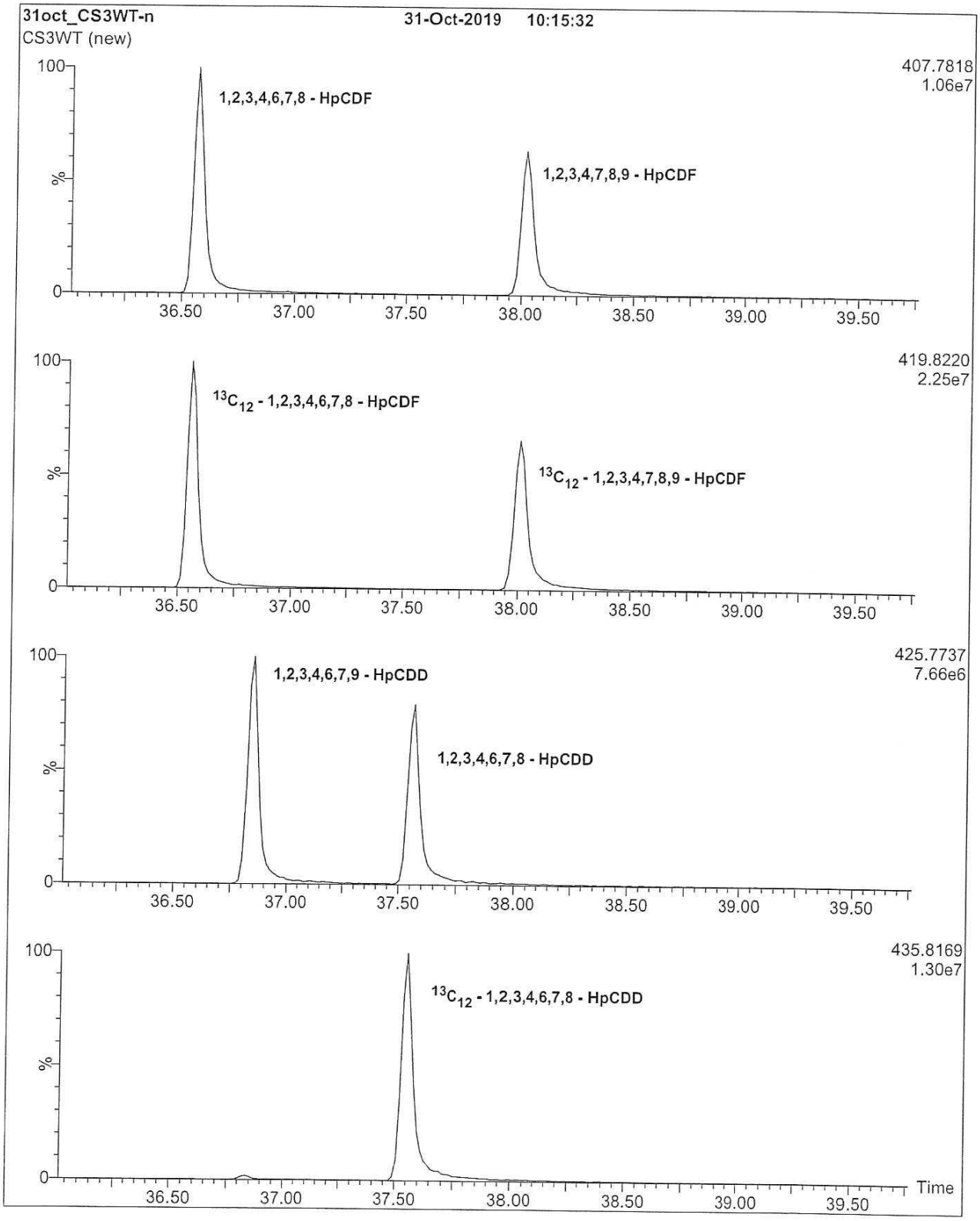
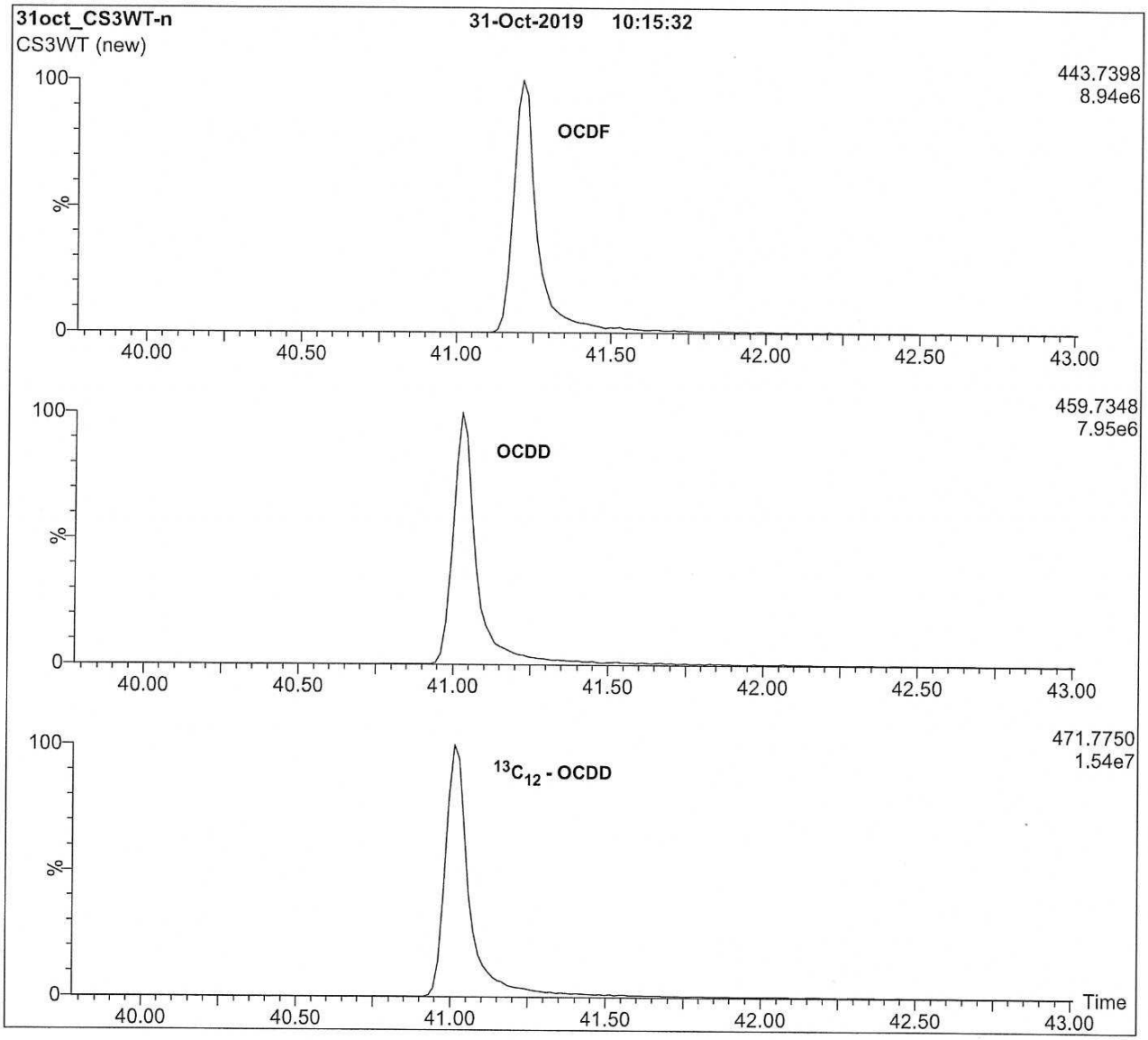


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



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
Injector: 280 °C (Splitless Injection)
Ionization: EI+
Detector: 280 °C
SIR at 10,000 mass resolving power

Oven: 150 °C (1 min)
12 °C/min to 200 °C
3 °C/min to 235 °C
235 °C (8 min)
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)**

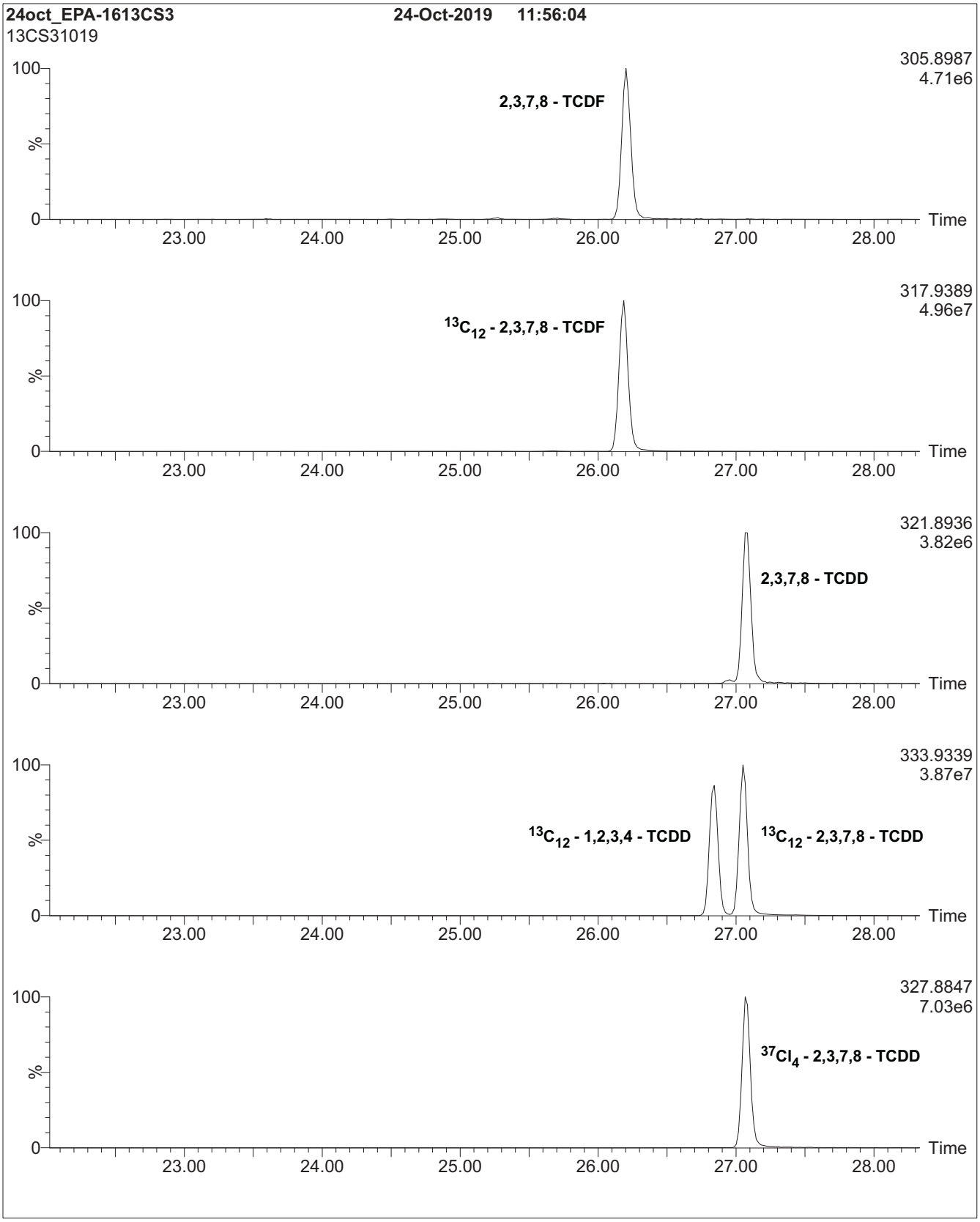


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

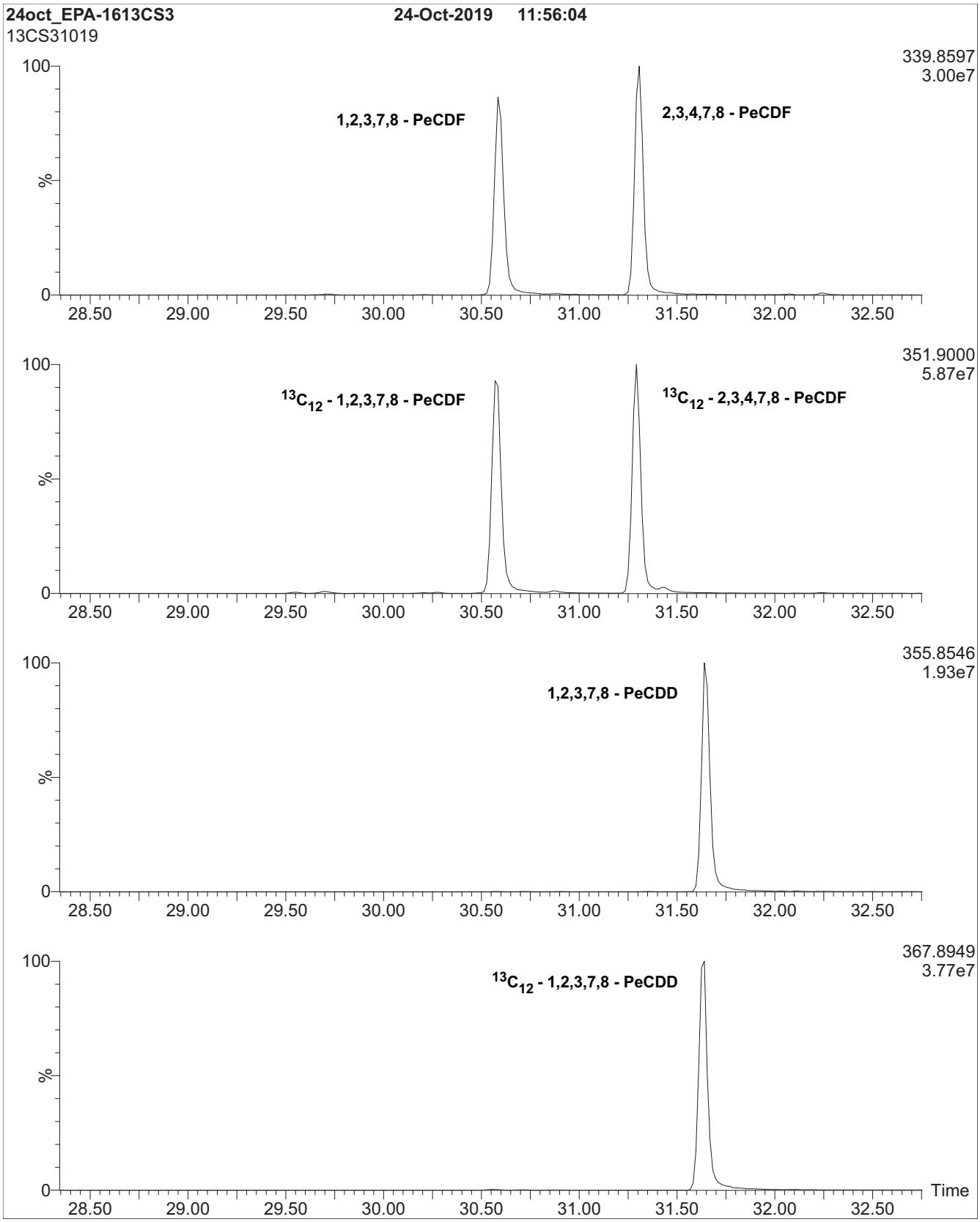


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

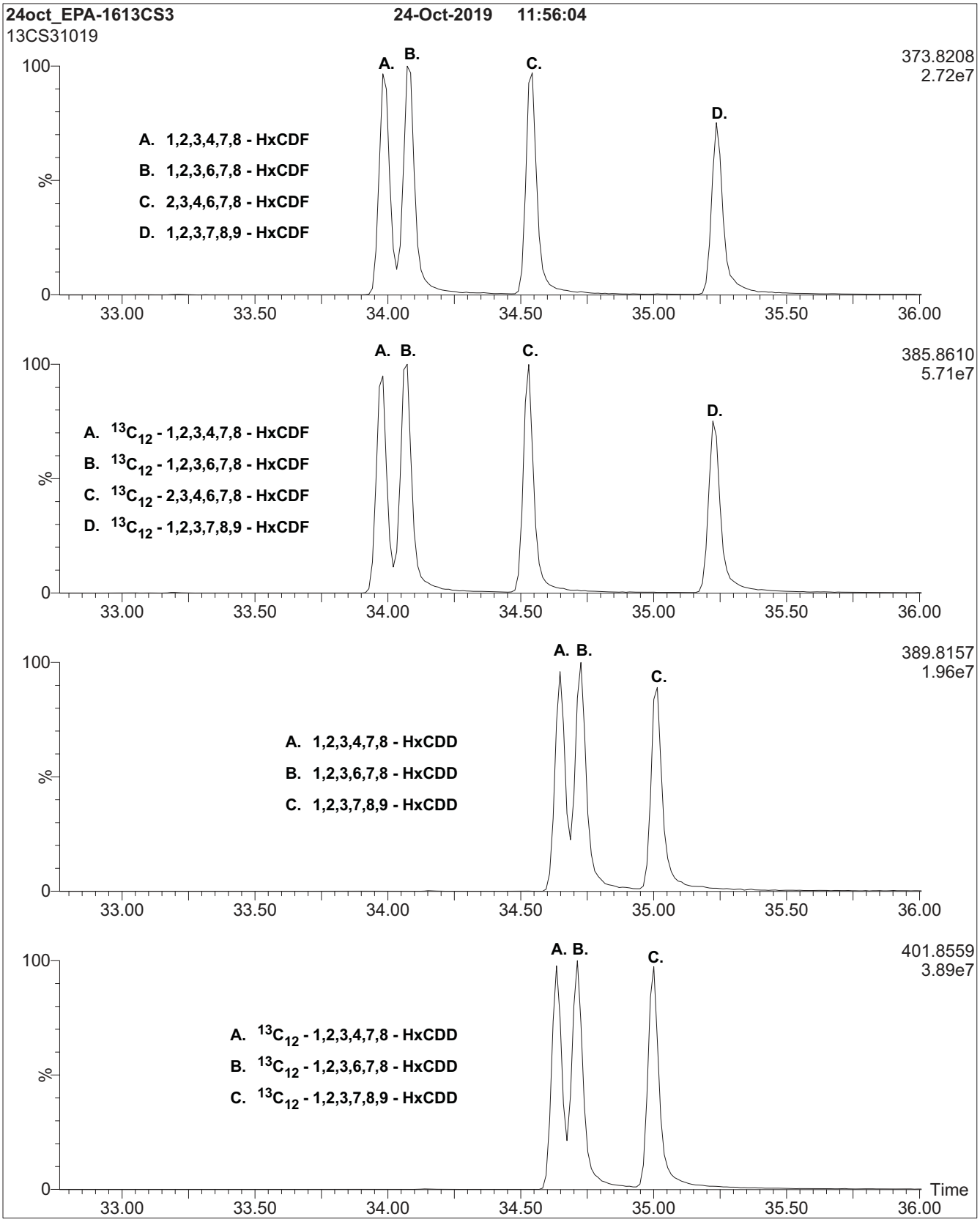


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

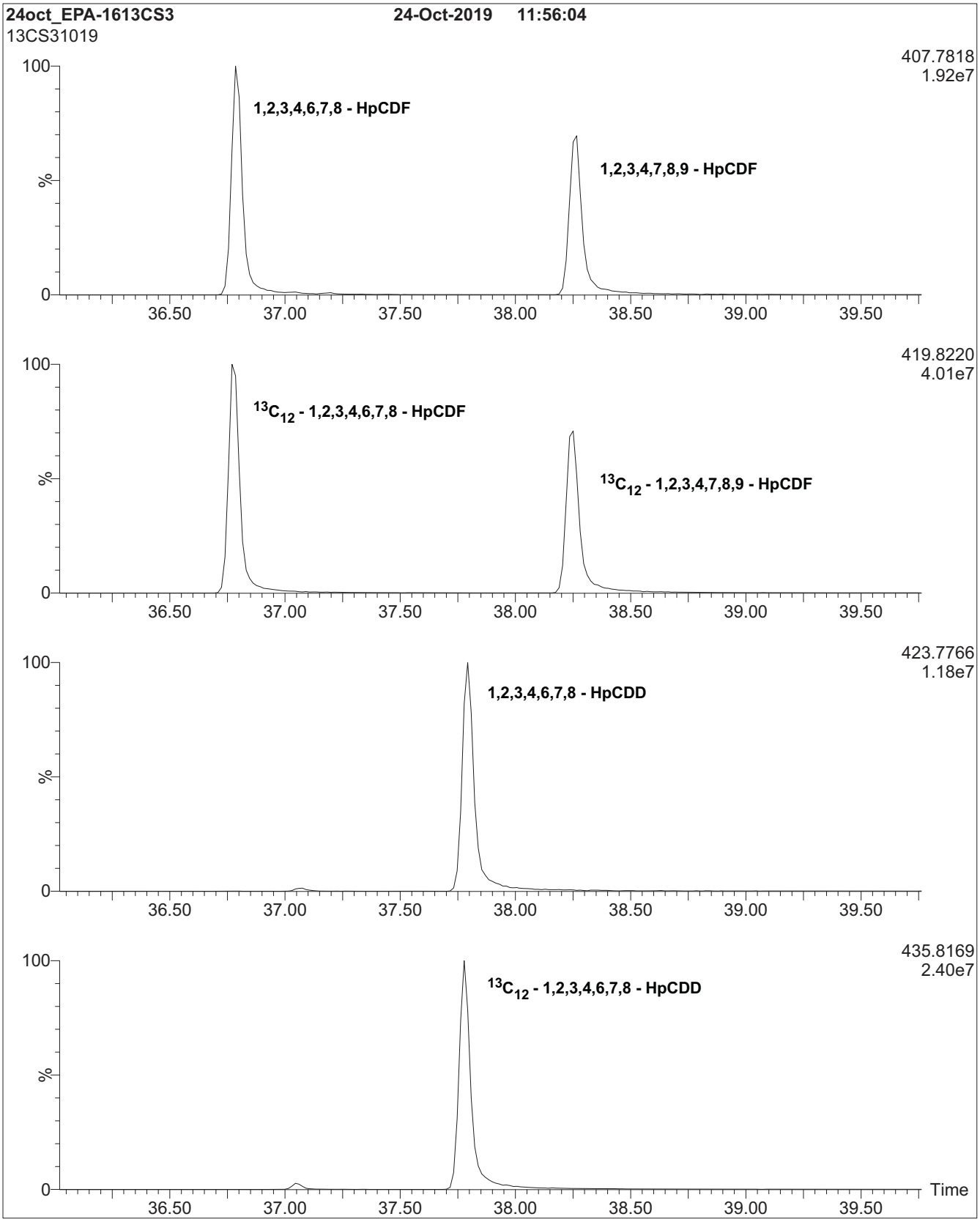
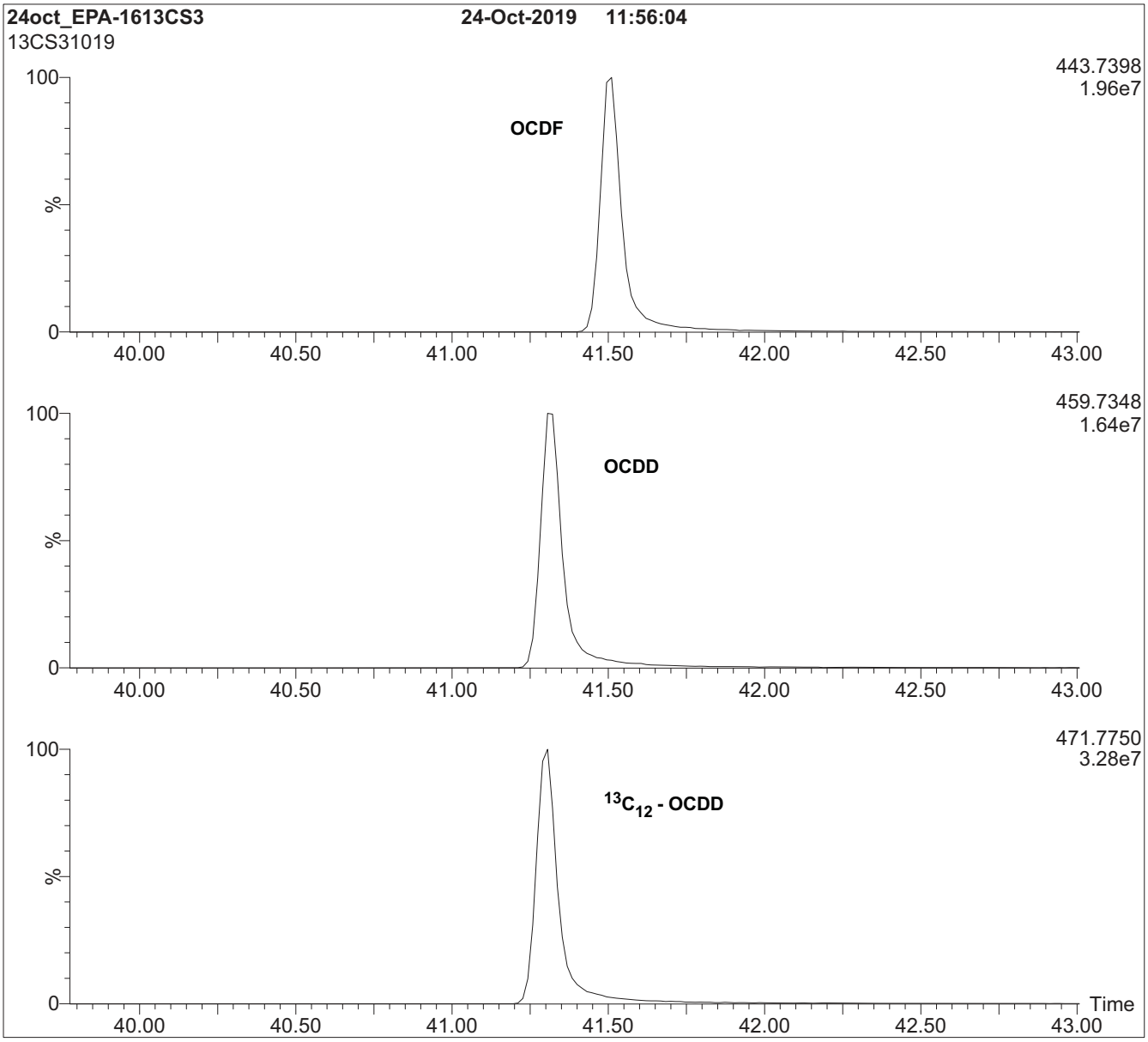


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



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)**

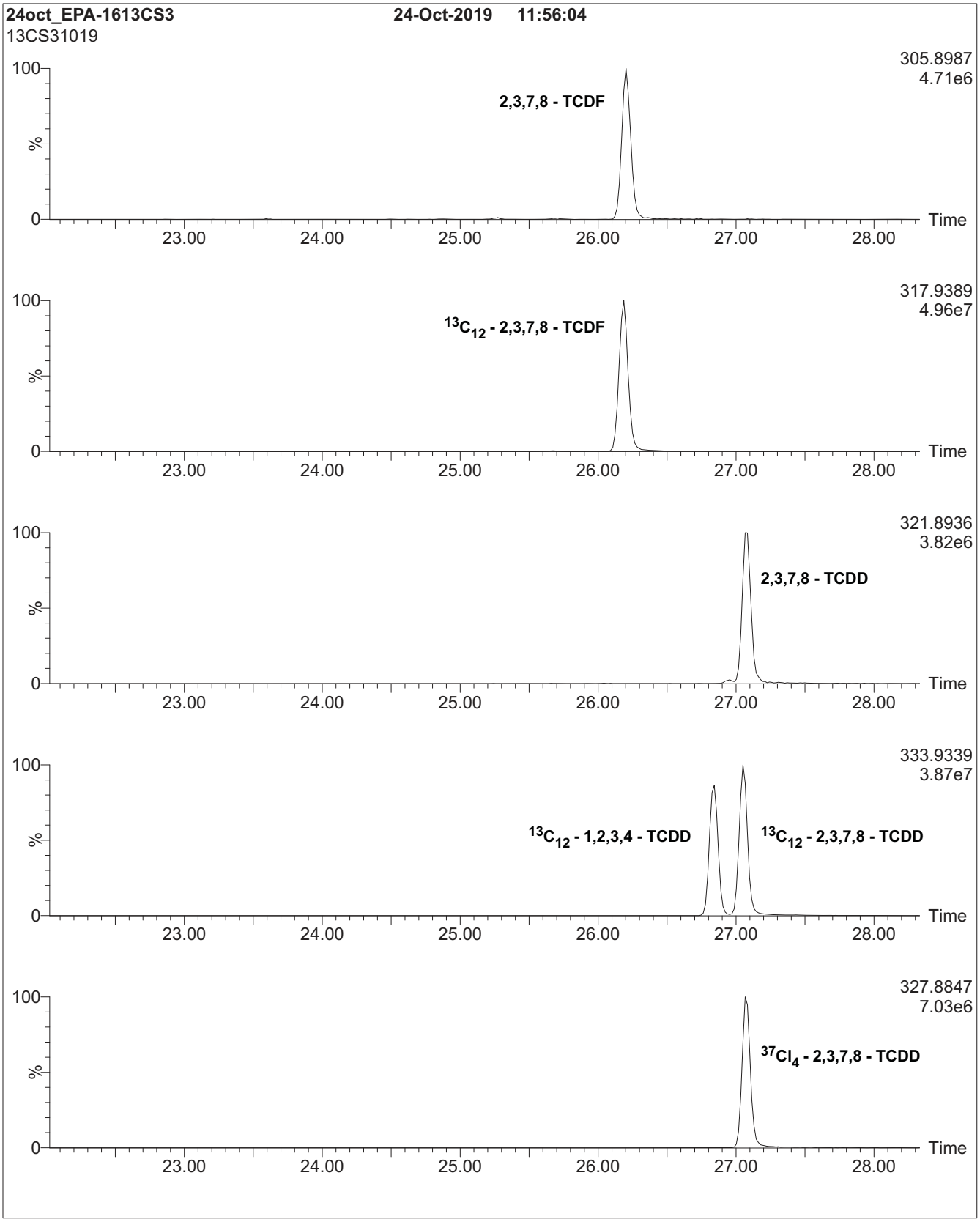


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

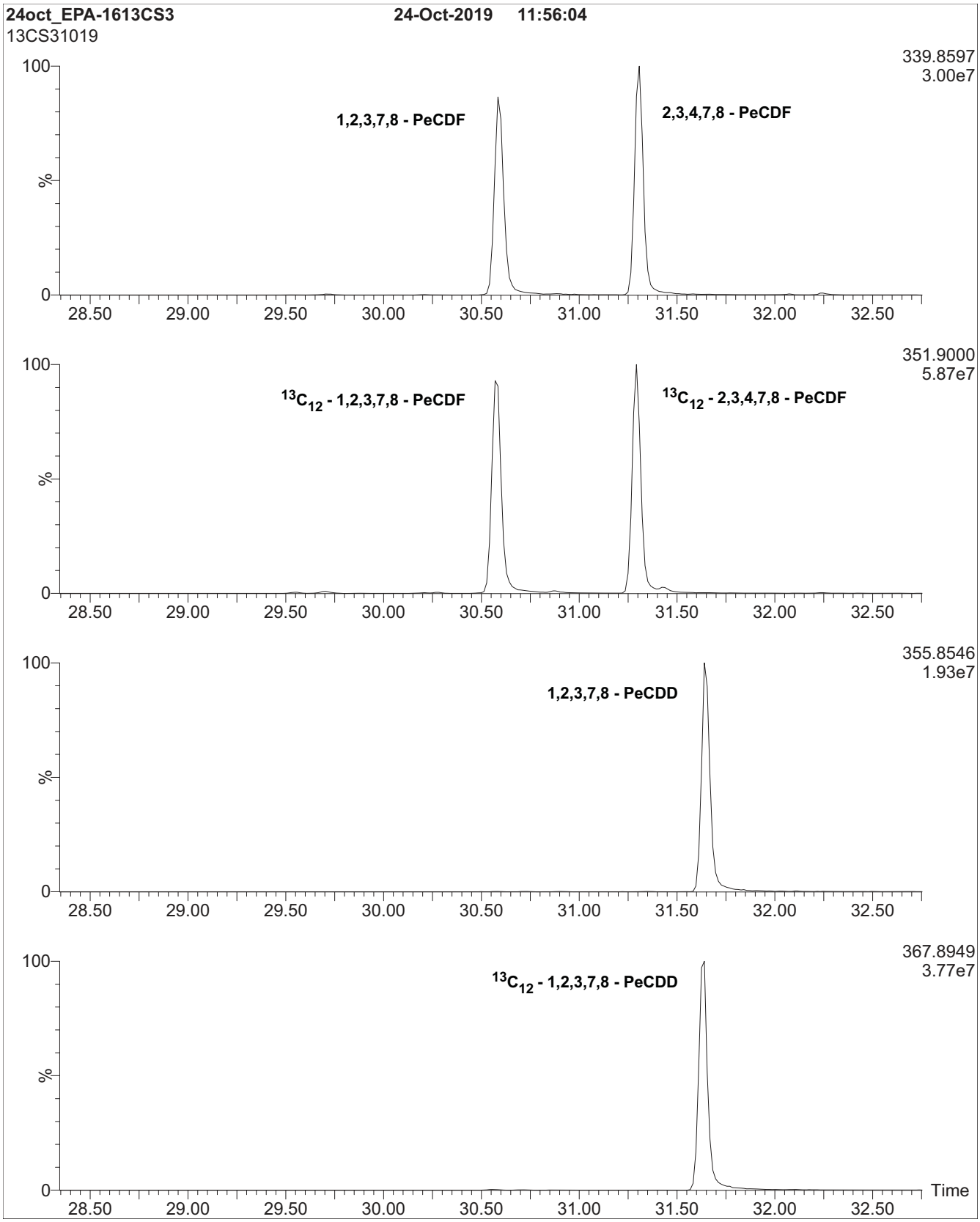


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

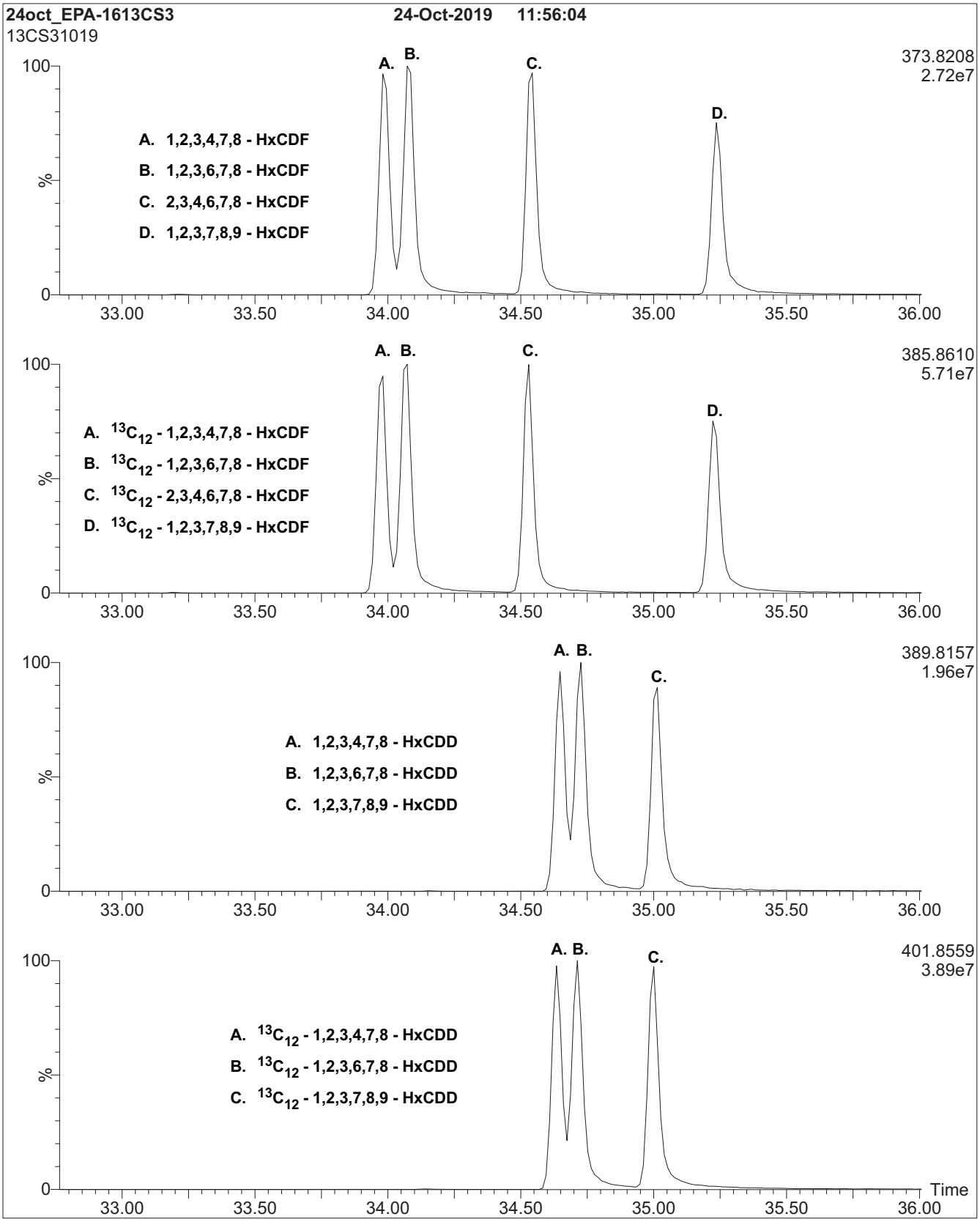


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

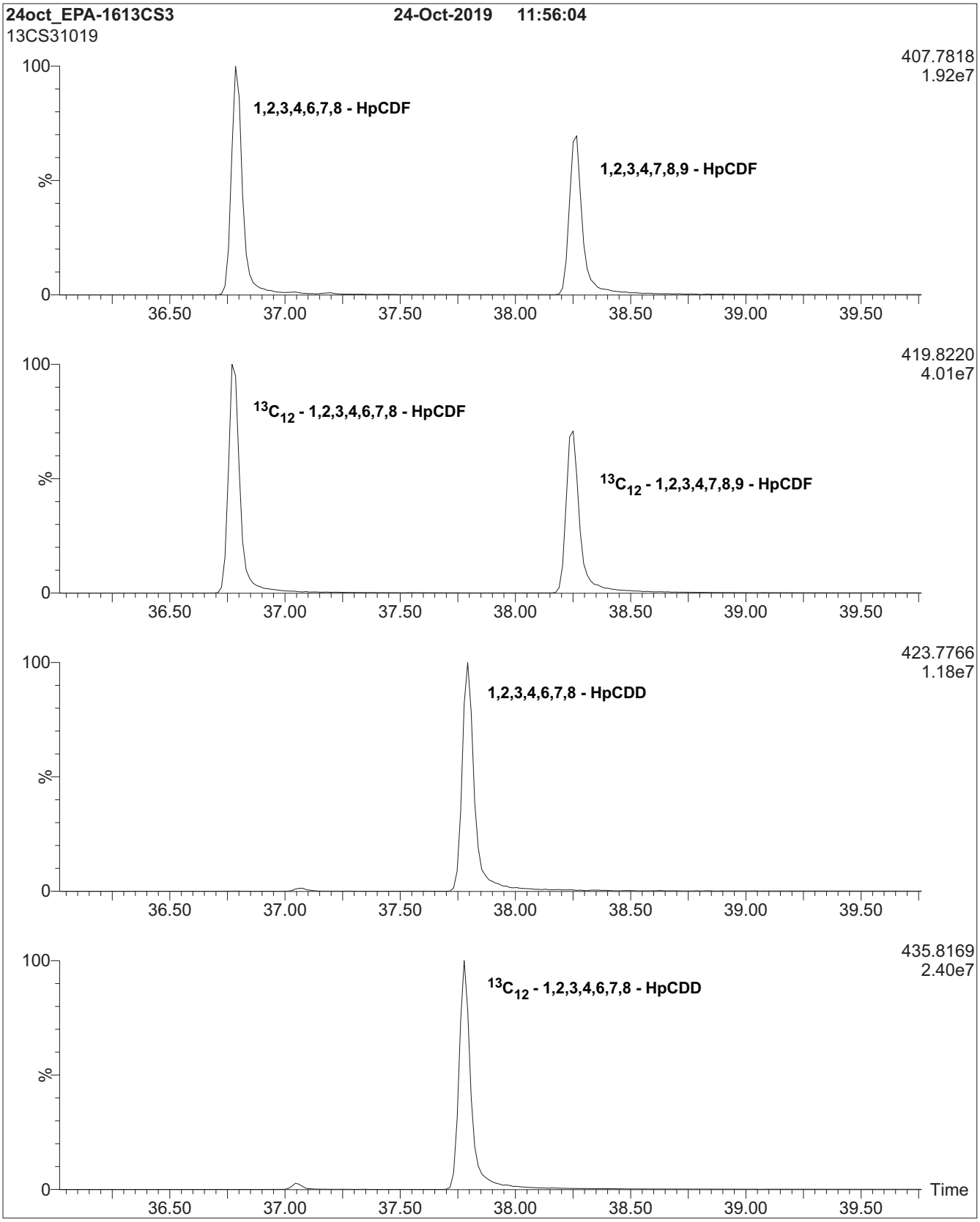
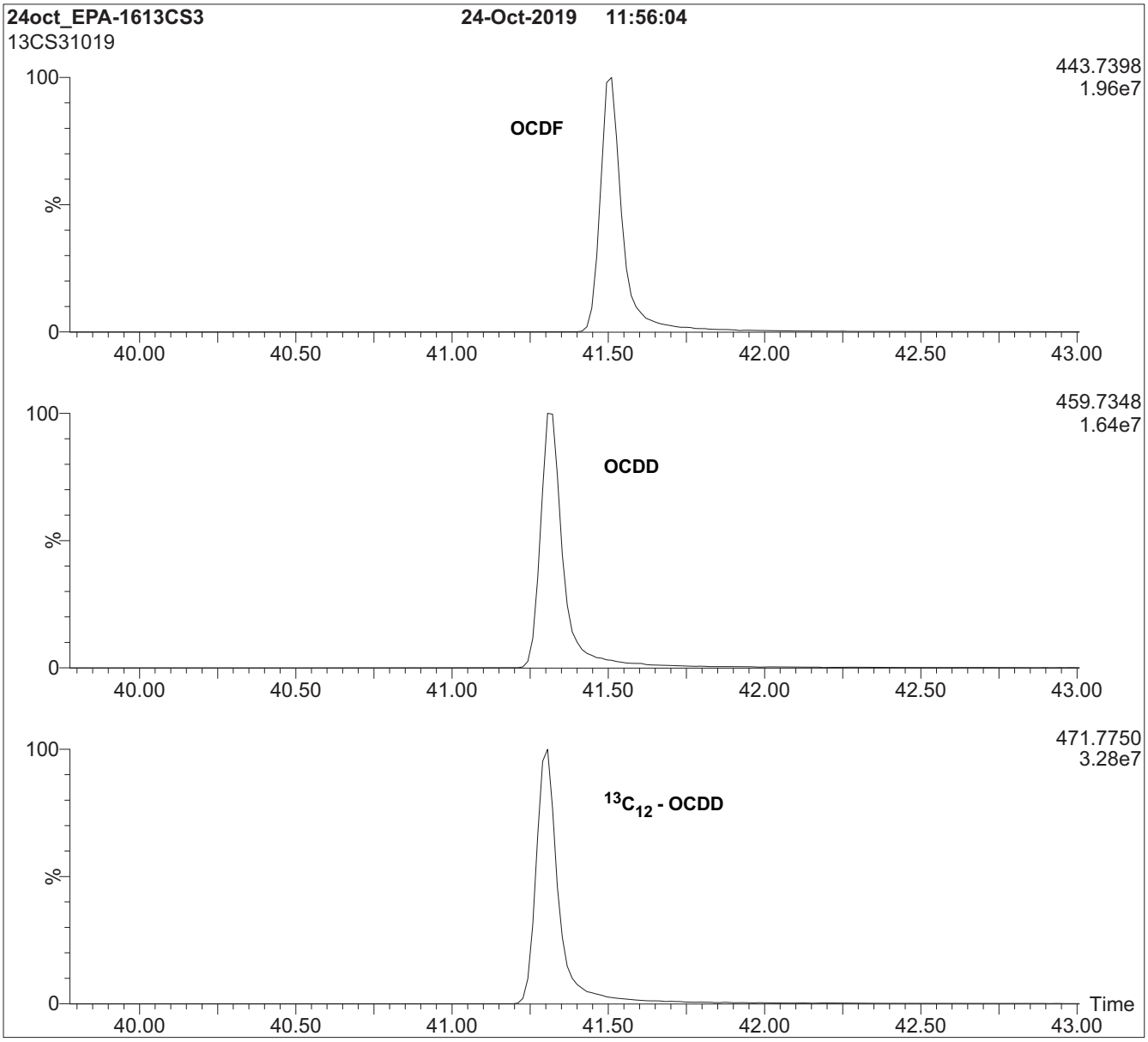


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



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 $x_1, x_2, \ldots x_n$ 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)**

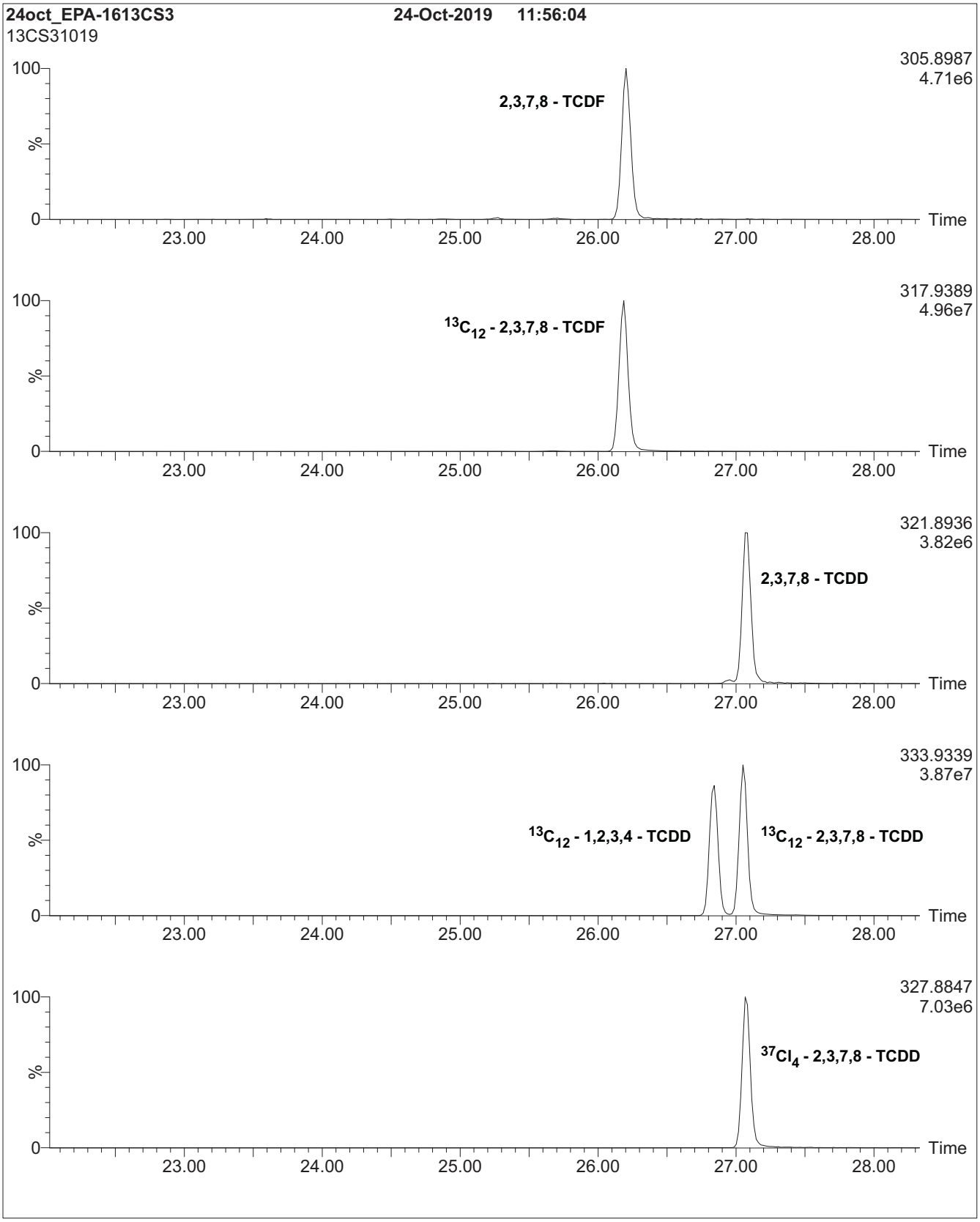


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

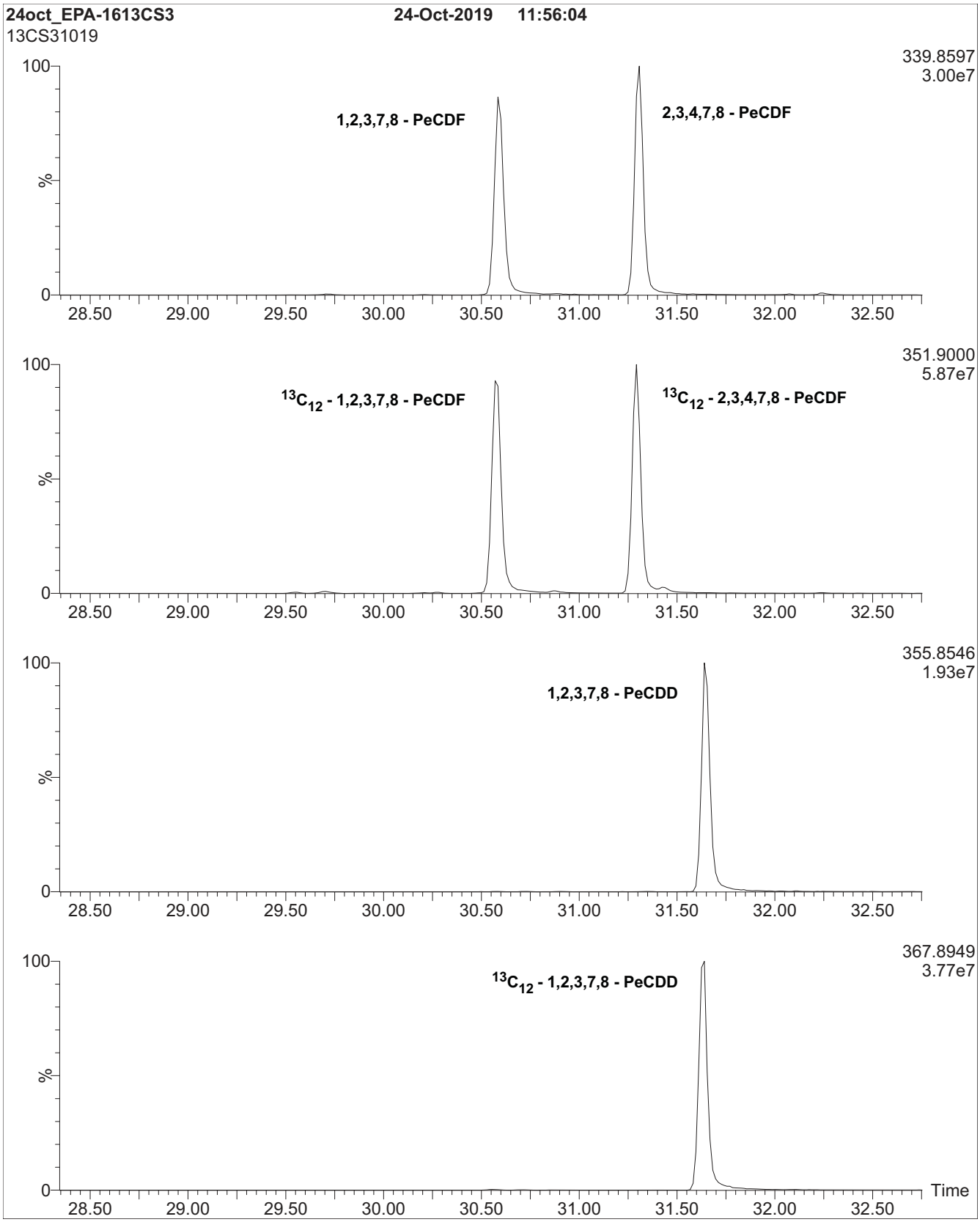


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

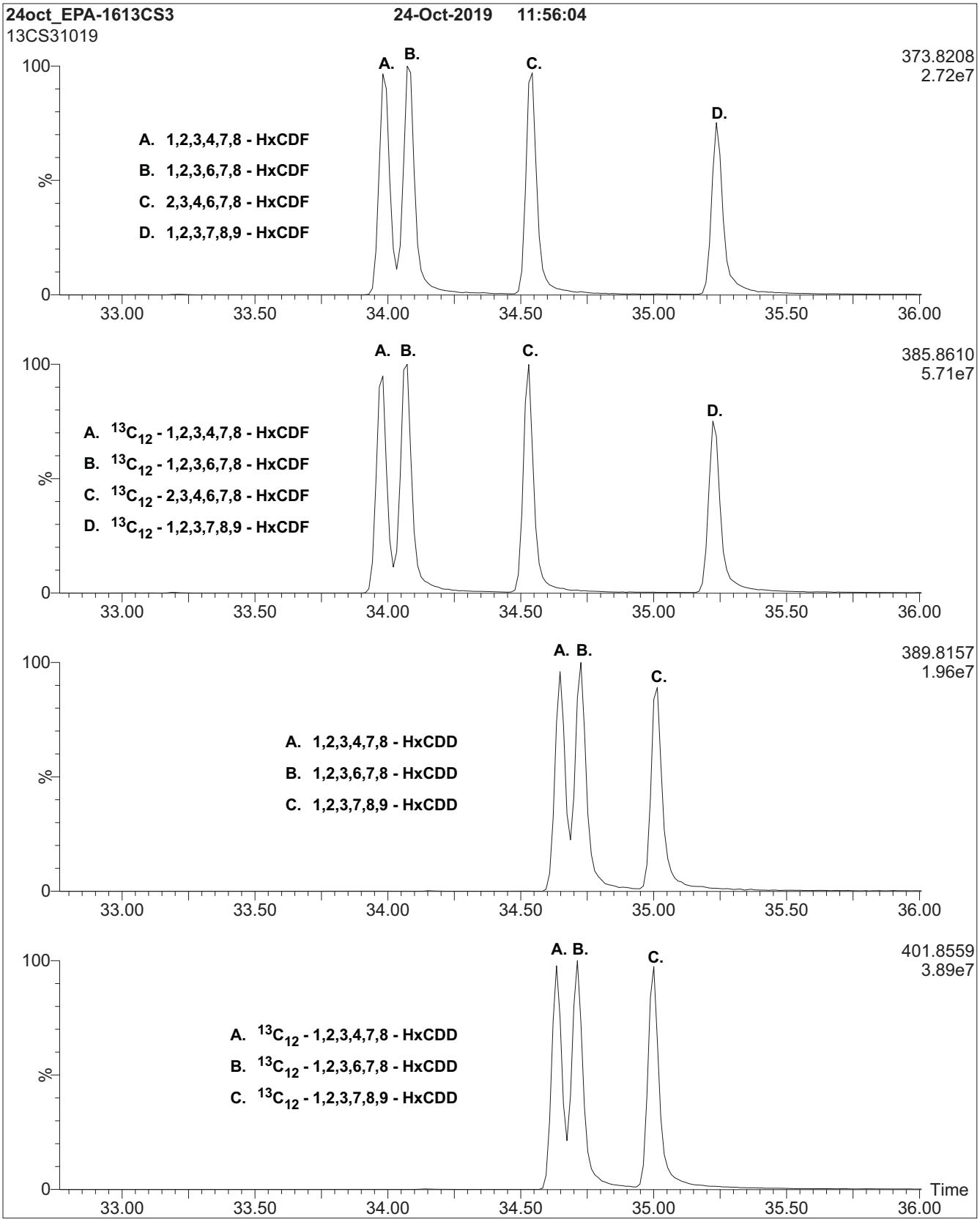


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

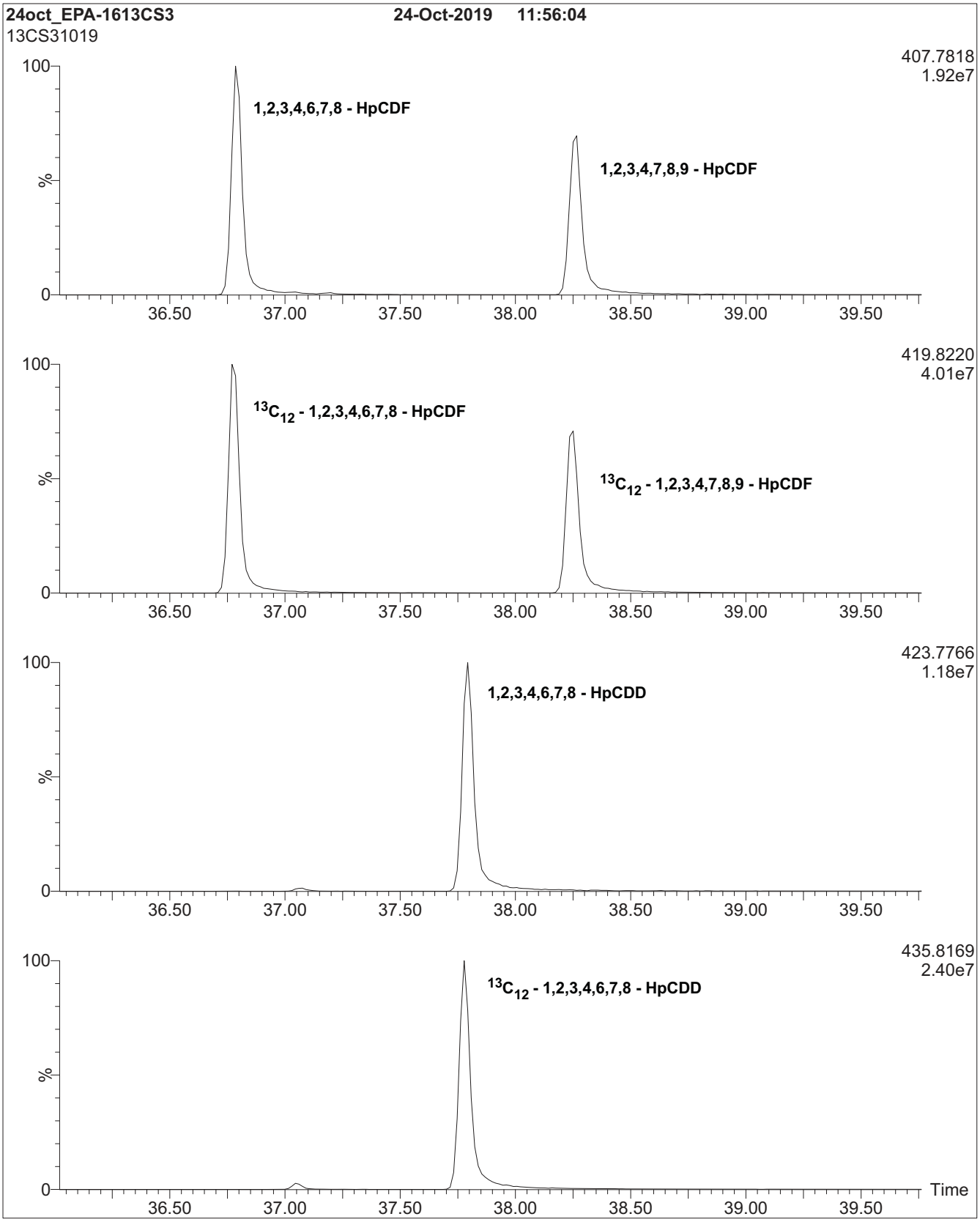
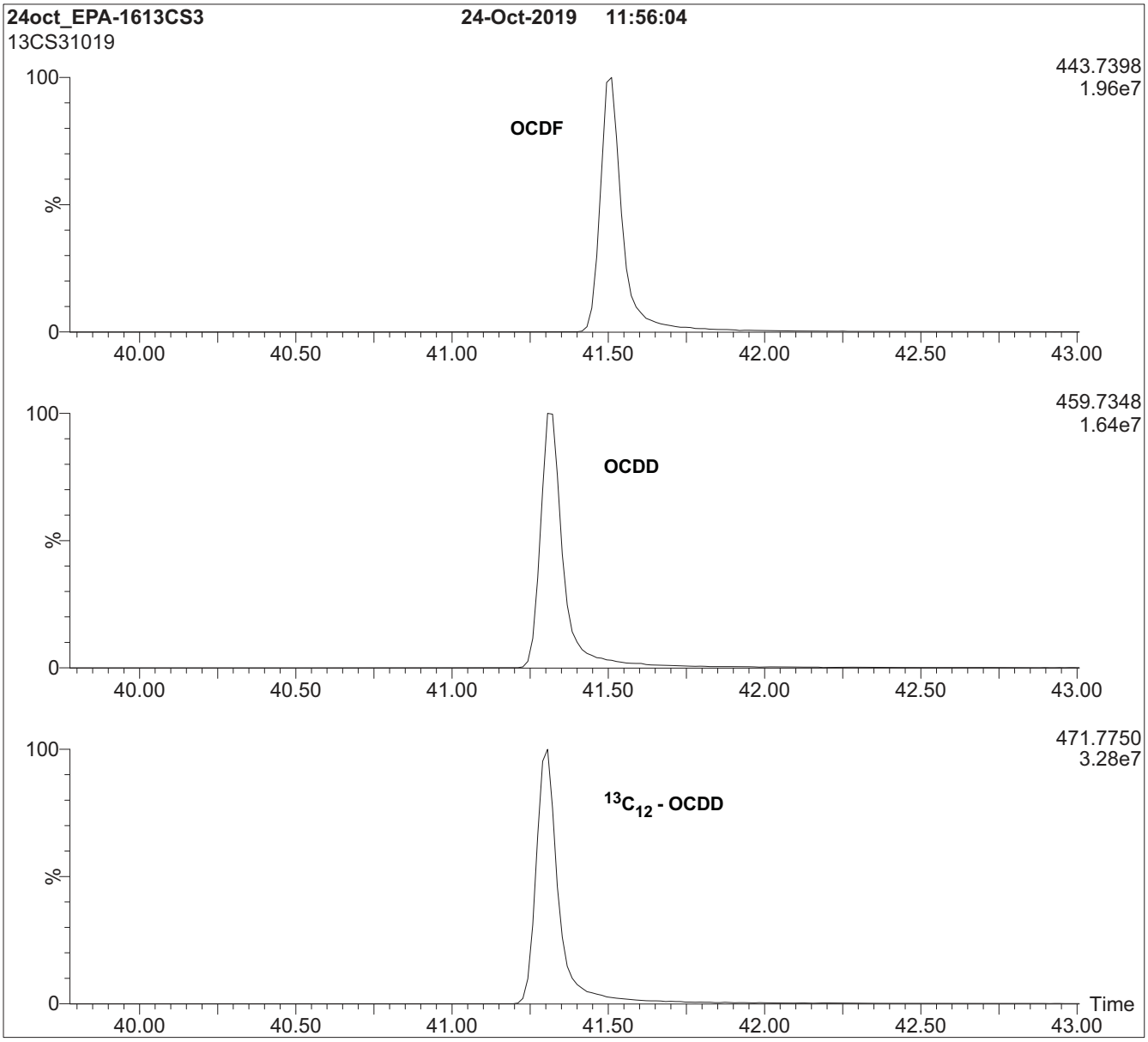


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



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

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)**

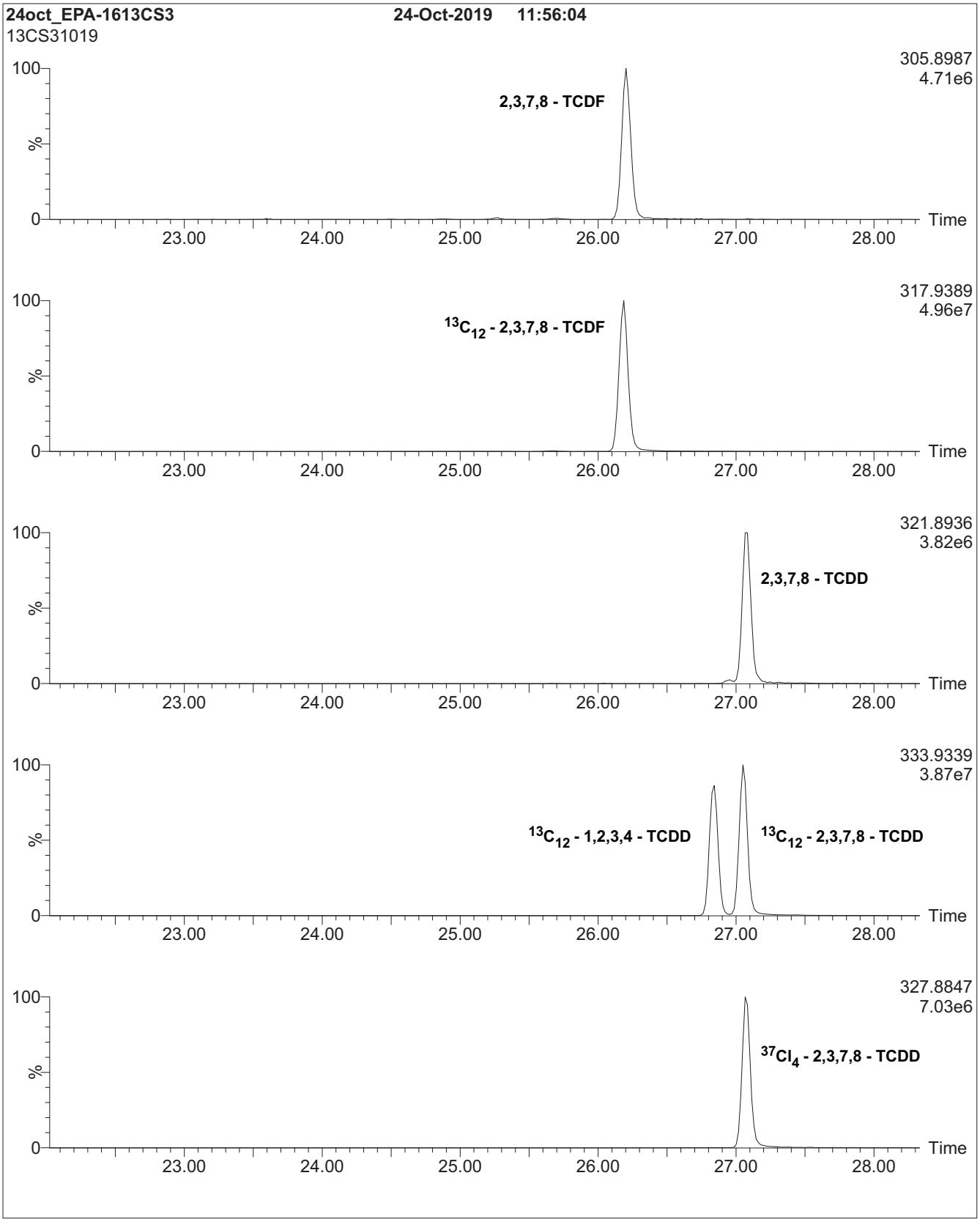


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

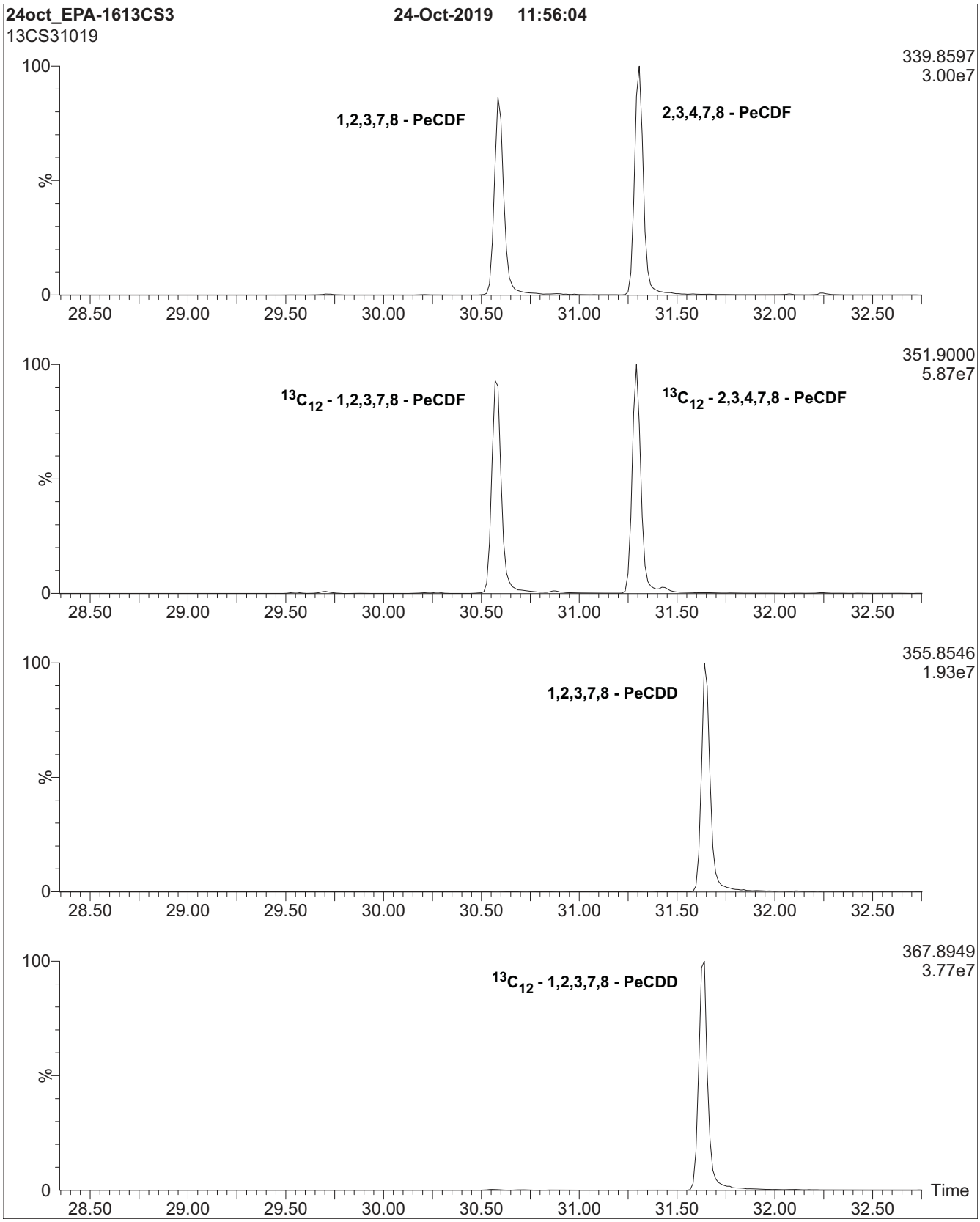


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

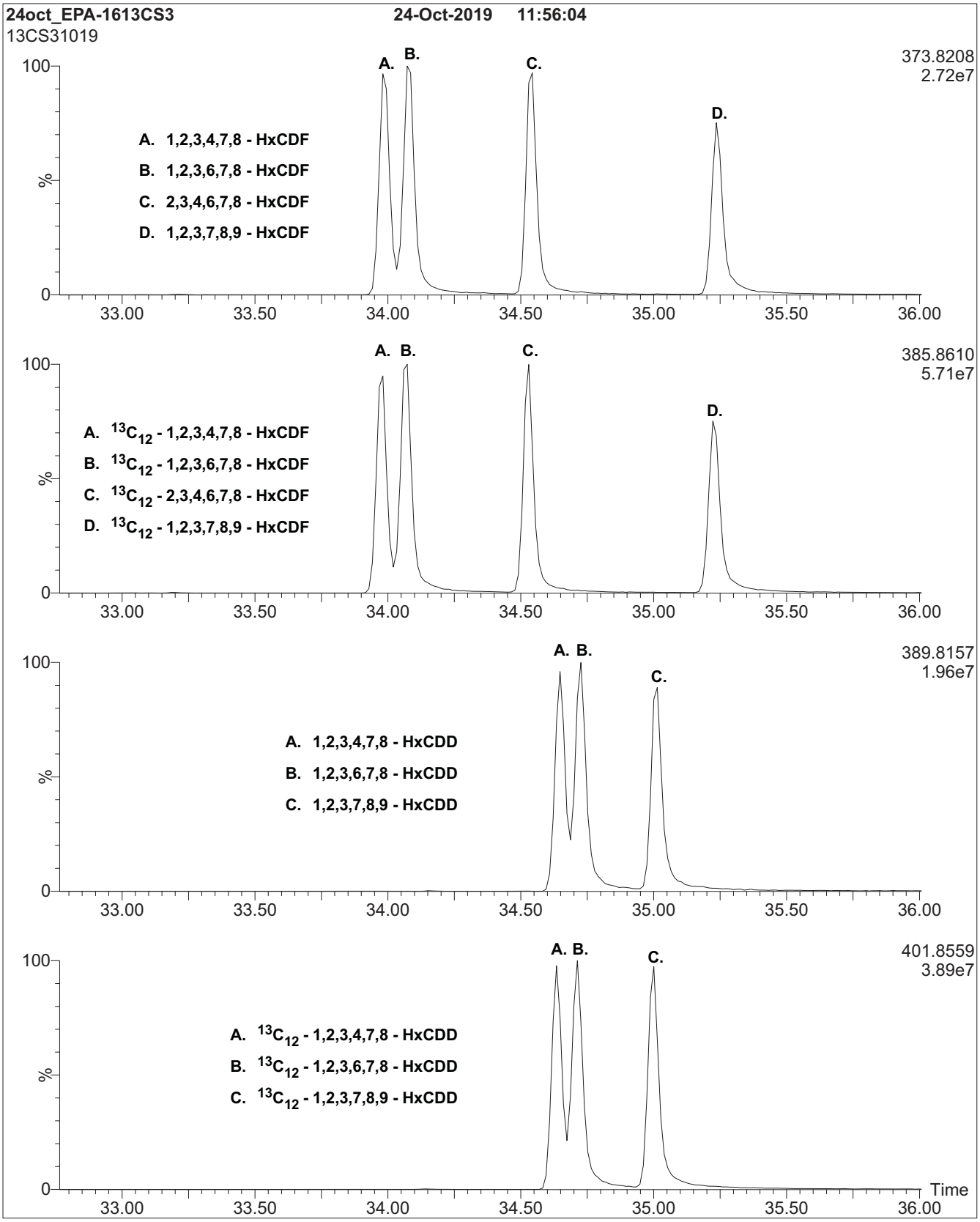


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

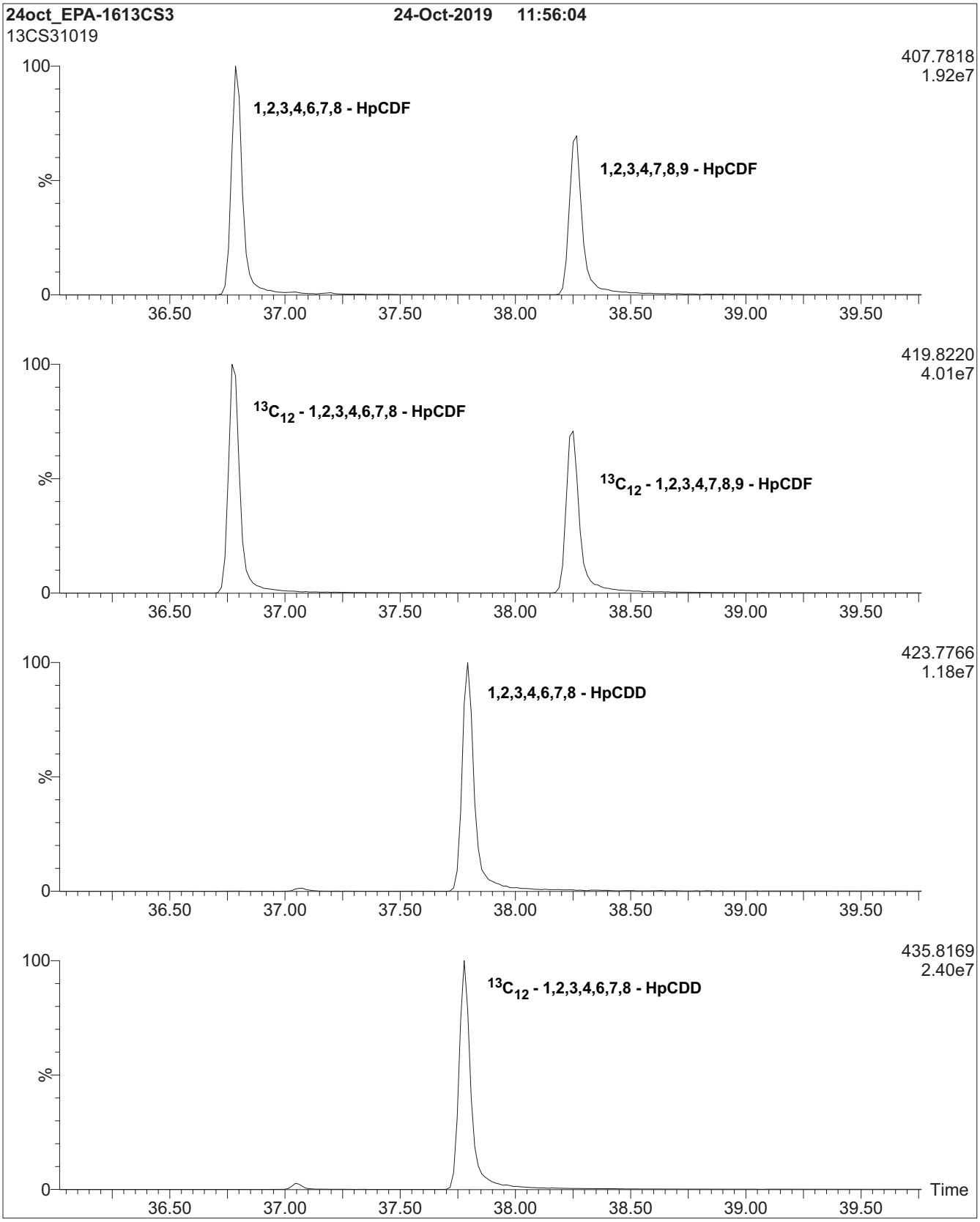
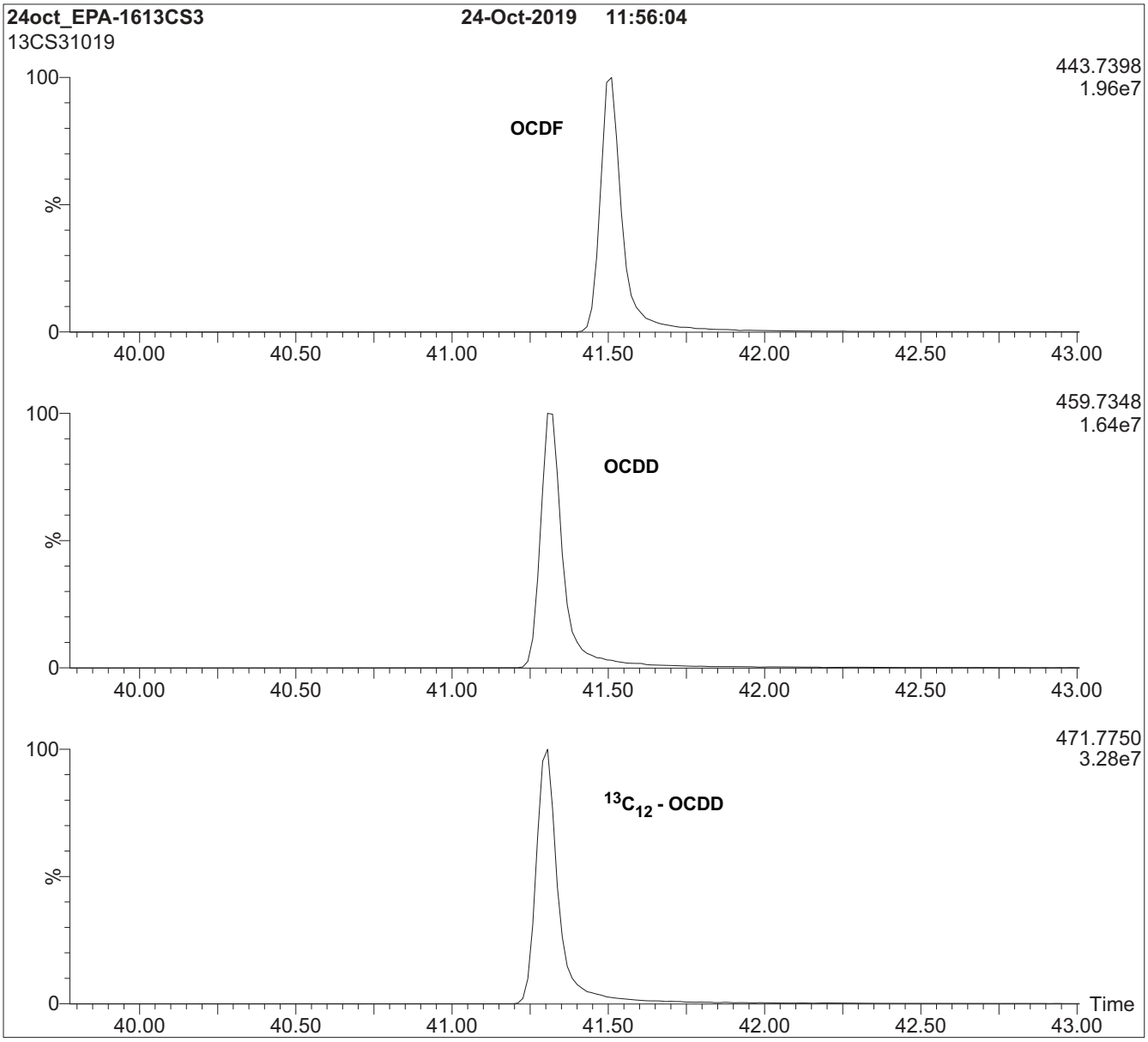


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



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,...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)**

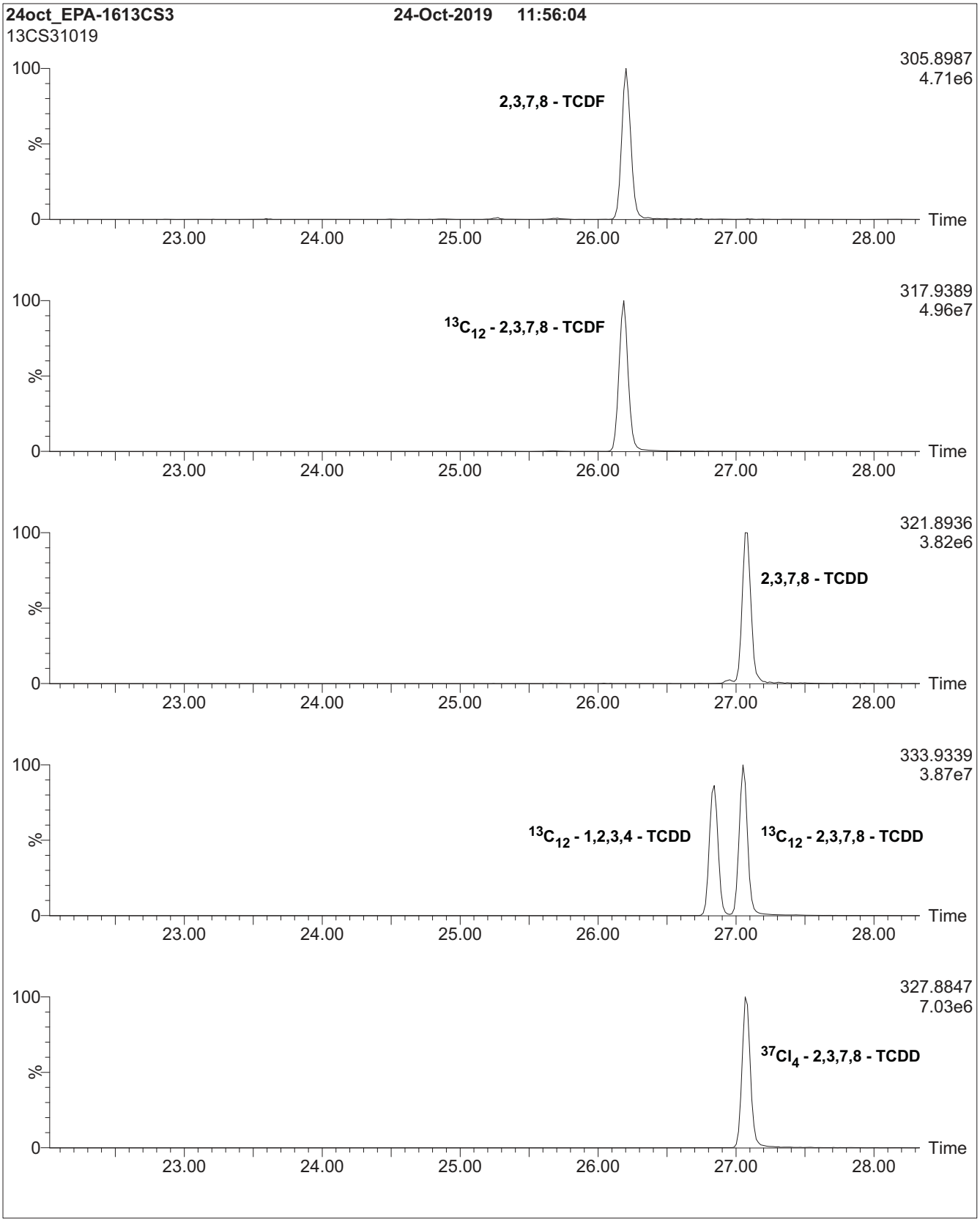


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

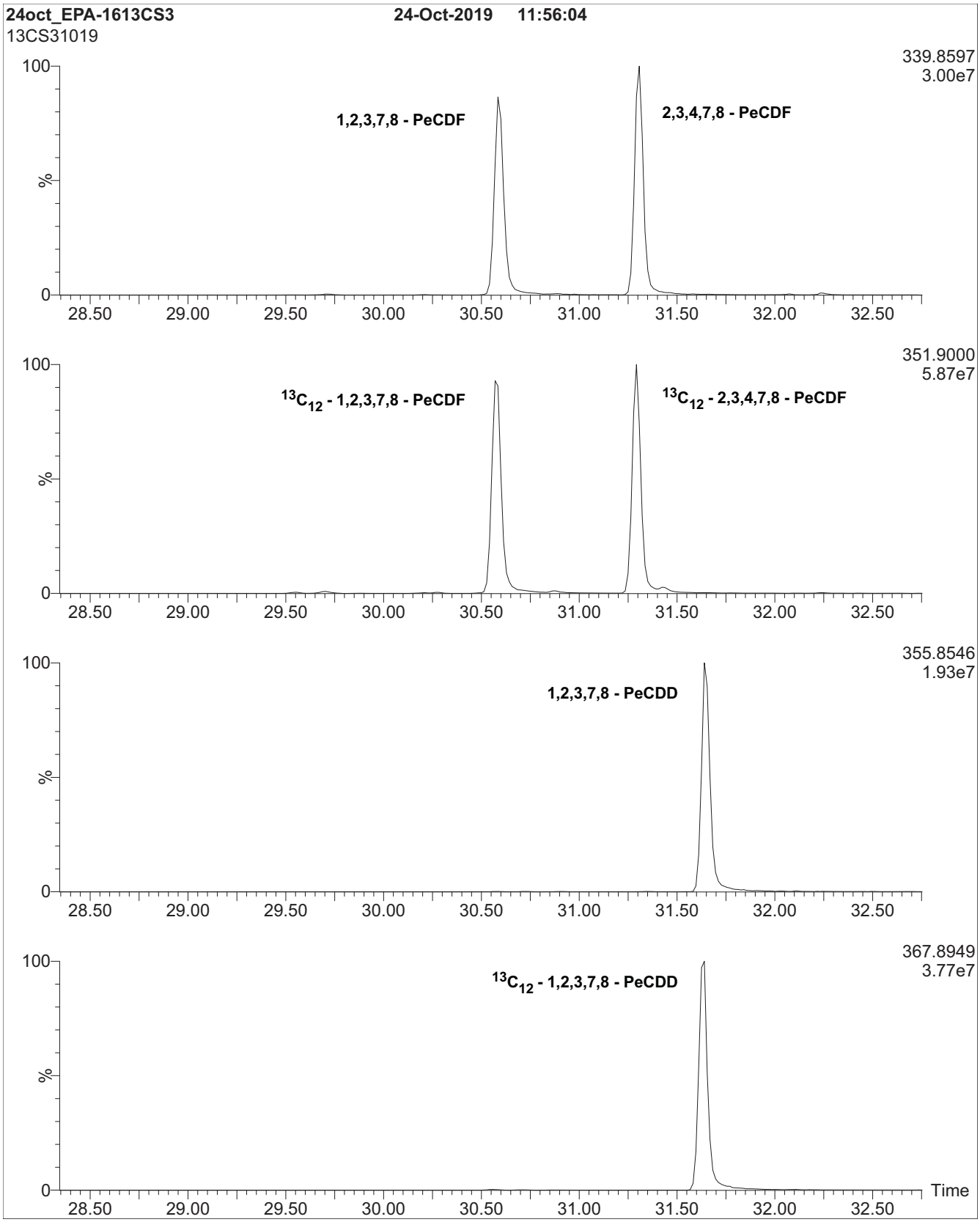


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

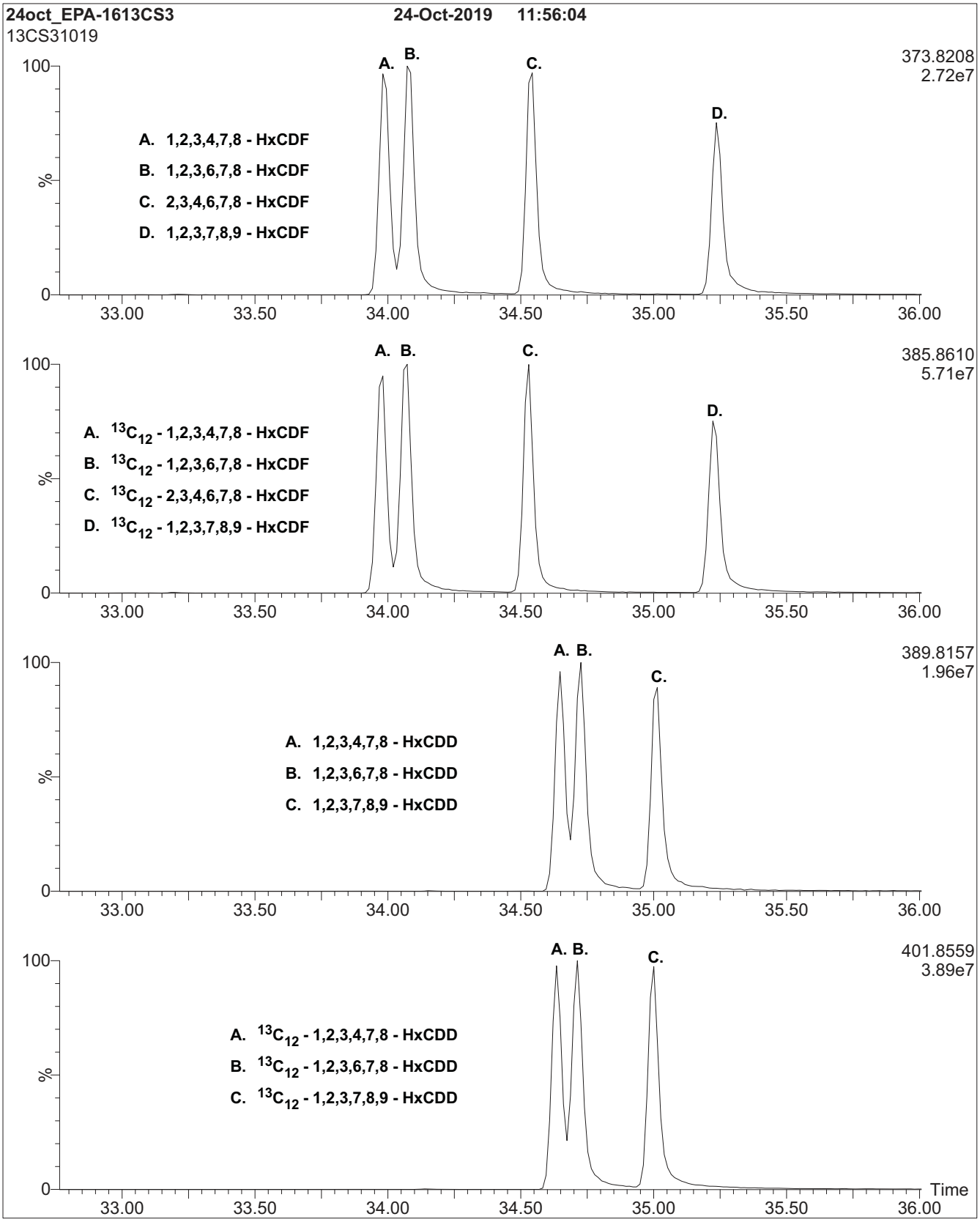


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**

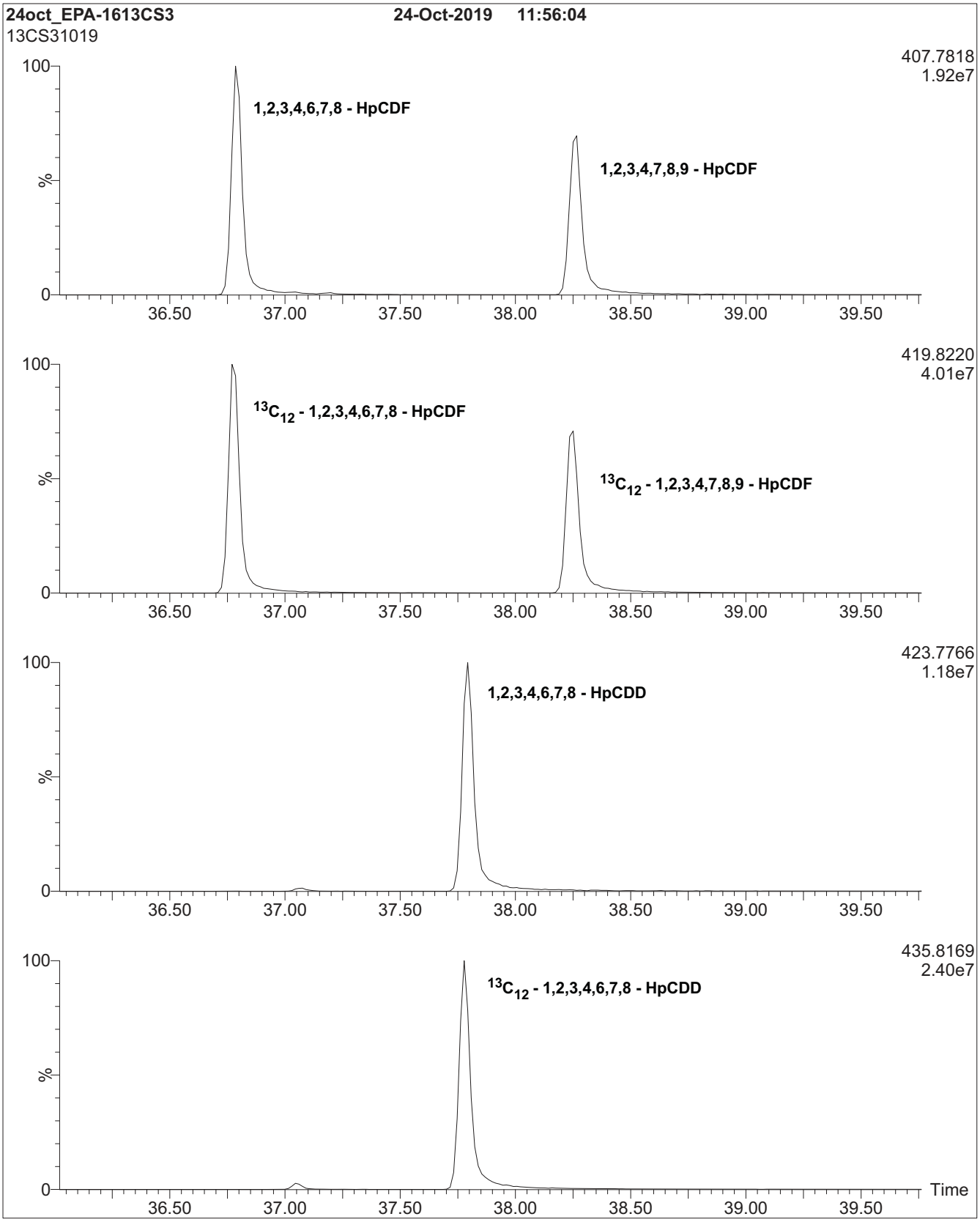
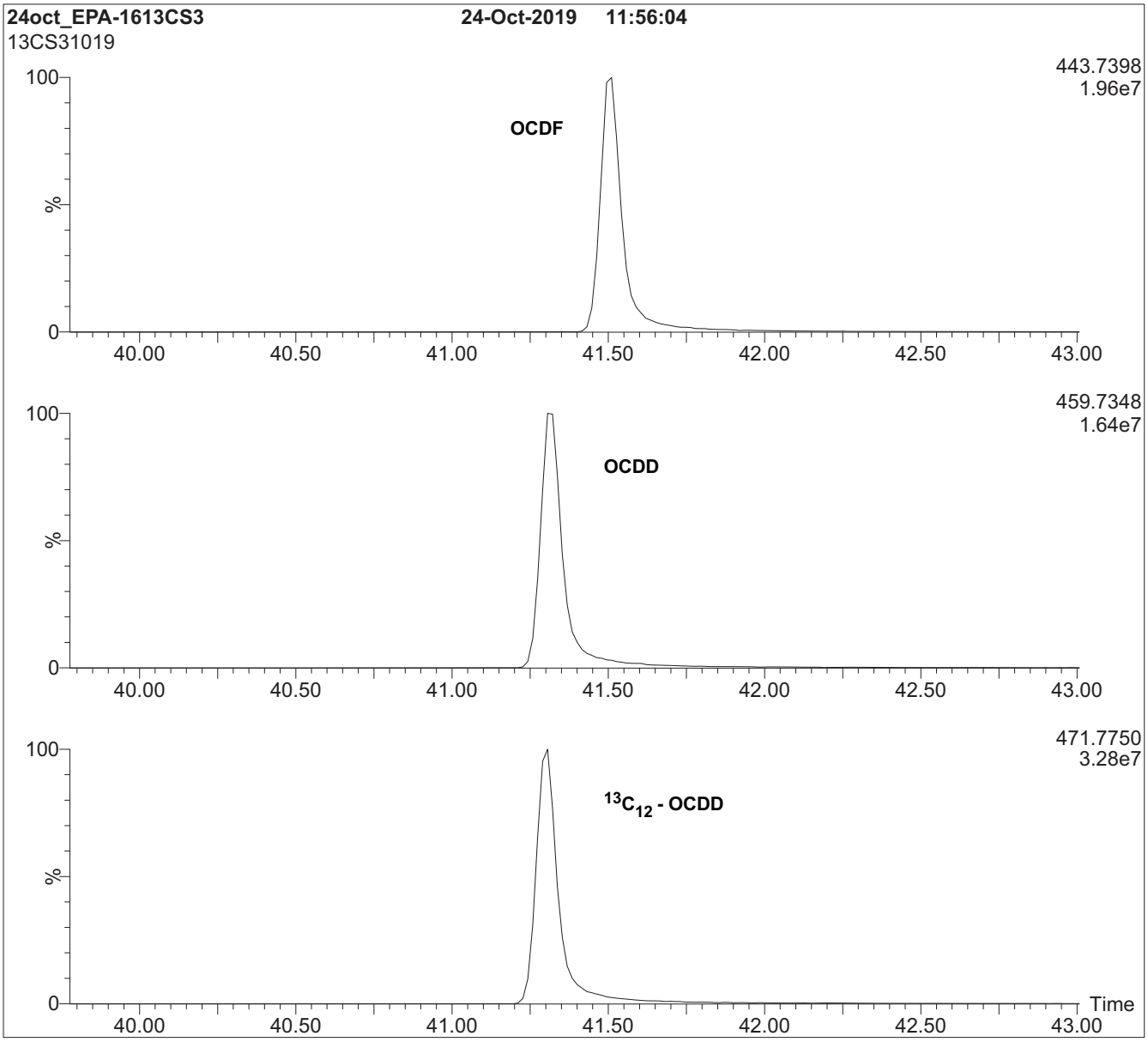


Figure 1: **EPA-1613CS3; HRGC/HRMS Data (60 m DB-5 Column)**



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-1613LCS

U.S. EPA Method 1613
Labelled Compound Stock Solution

PRODUCT CODE:	EPA-1613LCS
LOT NUMBER:	13LCS1019
SOLVENT(S):	Nonane/Toluene
DATE PREPARED: (mm/dd/yyyy)	10/11/2019
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

I 8324

DESCRIPTION:

EPA-1613LCS is a solution/mixture of $^{13}C_{12}$-labelled chlorinated dibenzo-p-dioxins ($^{13}C_{12}$-PCDDs) and dibenzofurans ($^{13}C_{12}$-PCDFs). The components and their concentrations are given in Table A.

EPA-1613LCS was designed for, and prepared to be used according to, U.S. EPA Method 1613 (Revision B).

The individual $^{13}C_{12}$-PCDDs and $^{13}C_{12}$-PCDFs all have chemical purities of >98% and isotopic purities of ≥99%.

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. A1226

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-1613LCS; Components and Concentrations (ng/ml, ± 5% in nonane/ 3.2% toluene)**

$^{13}C_{12}$-PCDDs	Concentration (ng/ml)	$^{13}C_{12}$-PCDFs	Concentration (ng/ml)
$^{13}C_{12}$-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
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	100	$^{13}C_{12}$-2,3,4,7,8-PeCDF	100
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	100	$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	100	$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	100
$^{13}C_{12}$-OCDD	200	$^{13}C_{12}$-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-HpCDF	100
		$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	100

Certified By: _____ **Date:** 10/22/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)

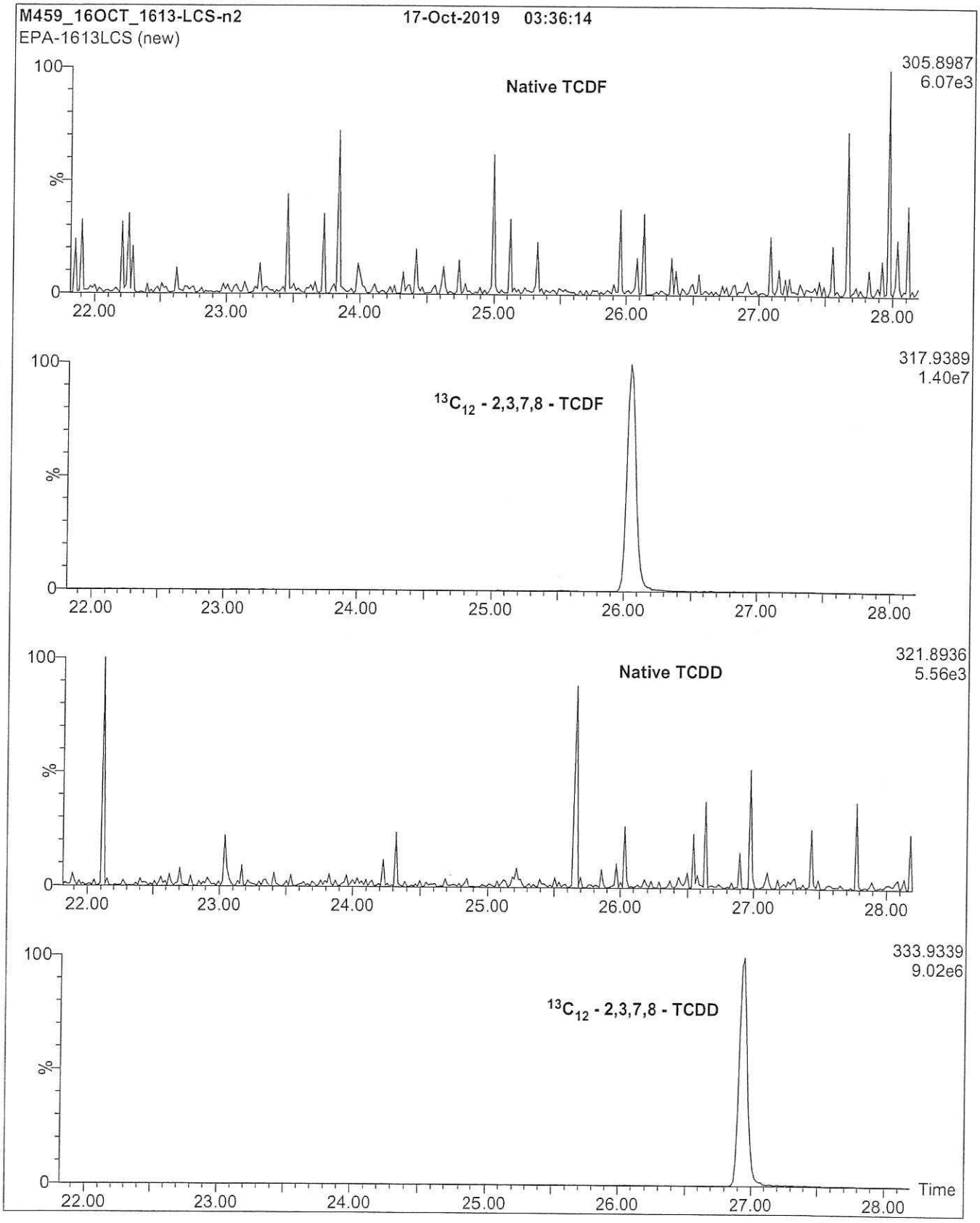


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

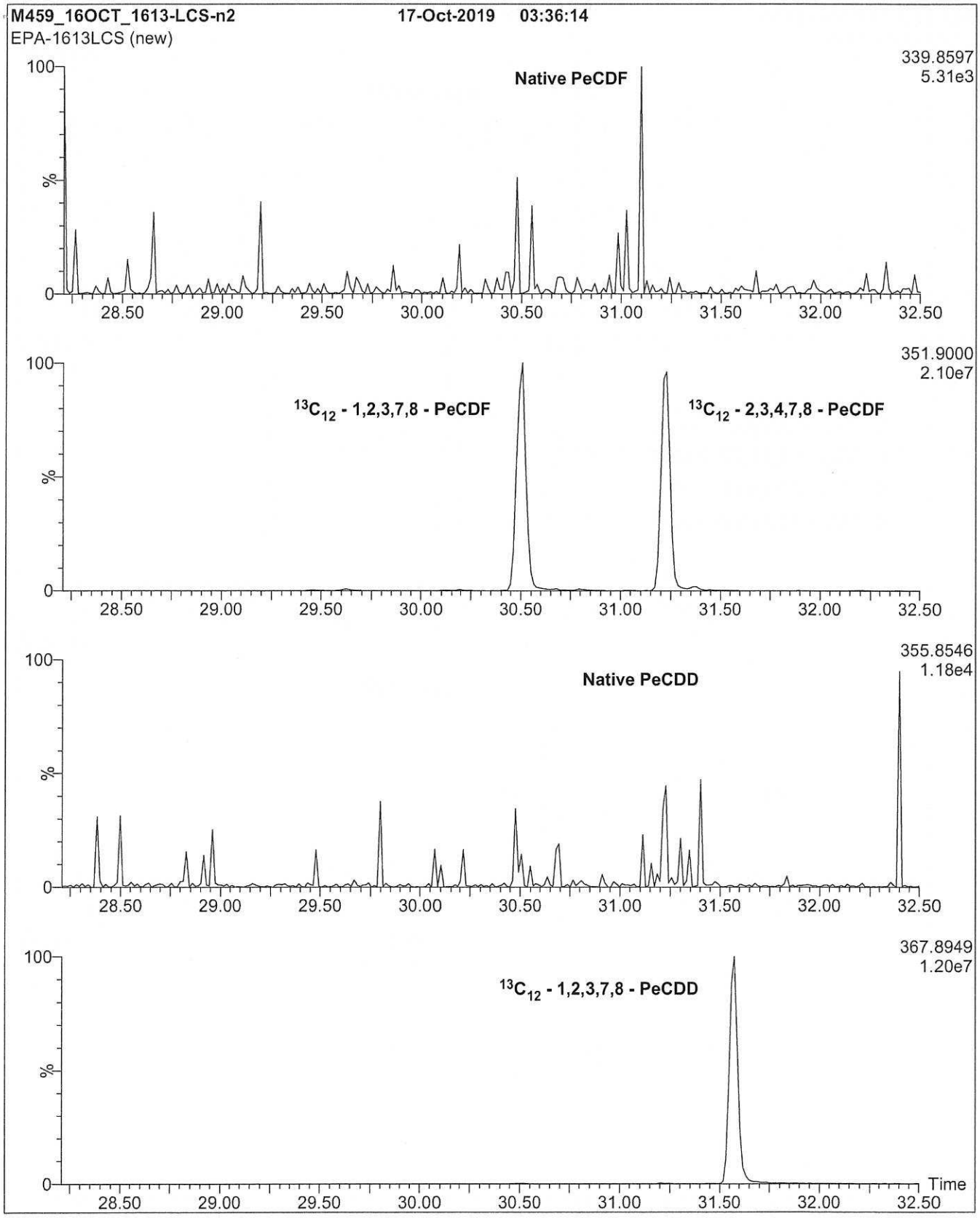


Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)

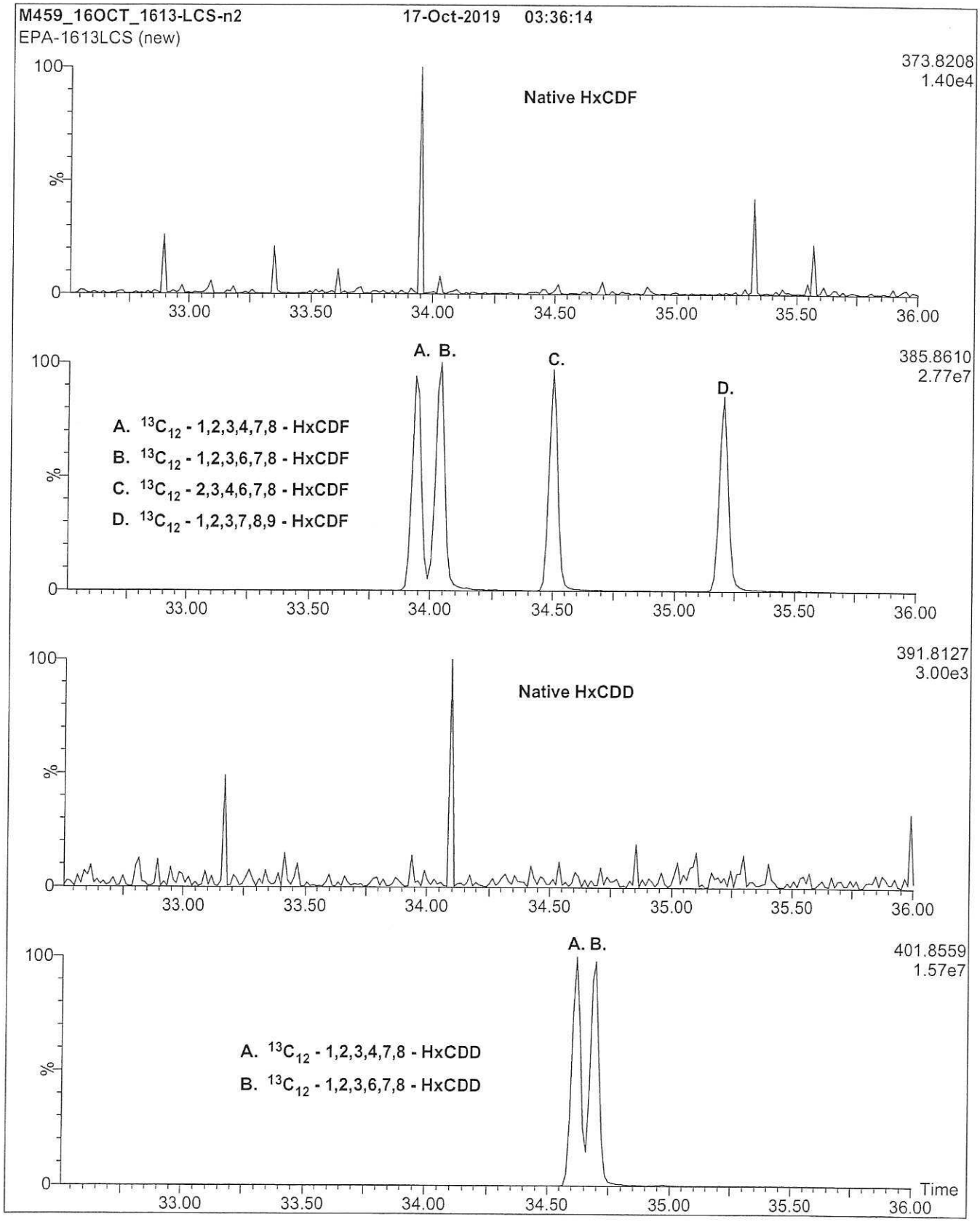


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

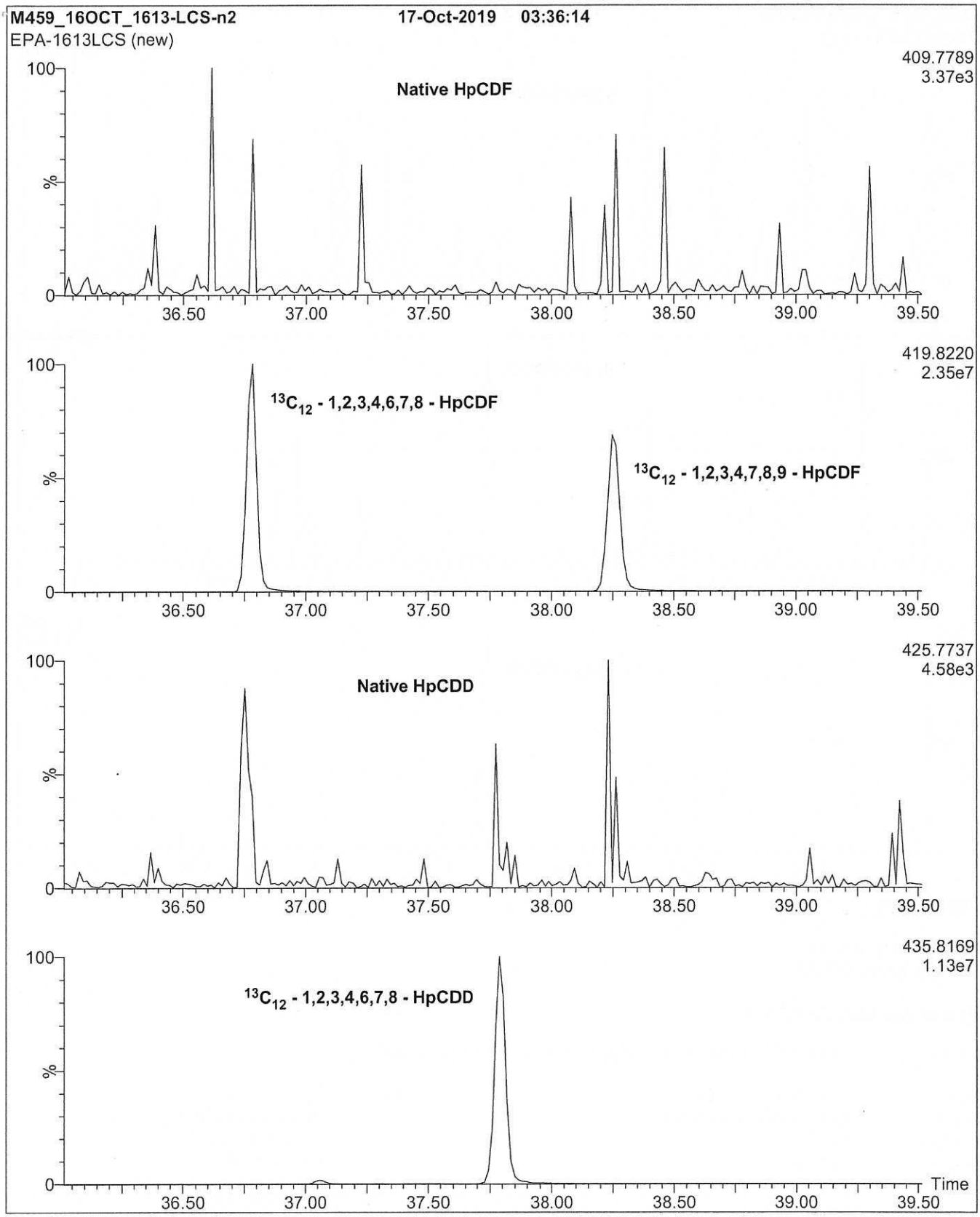
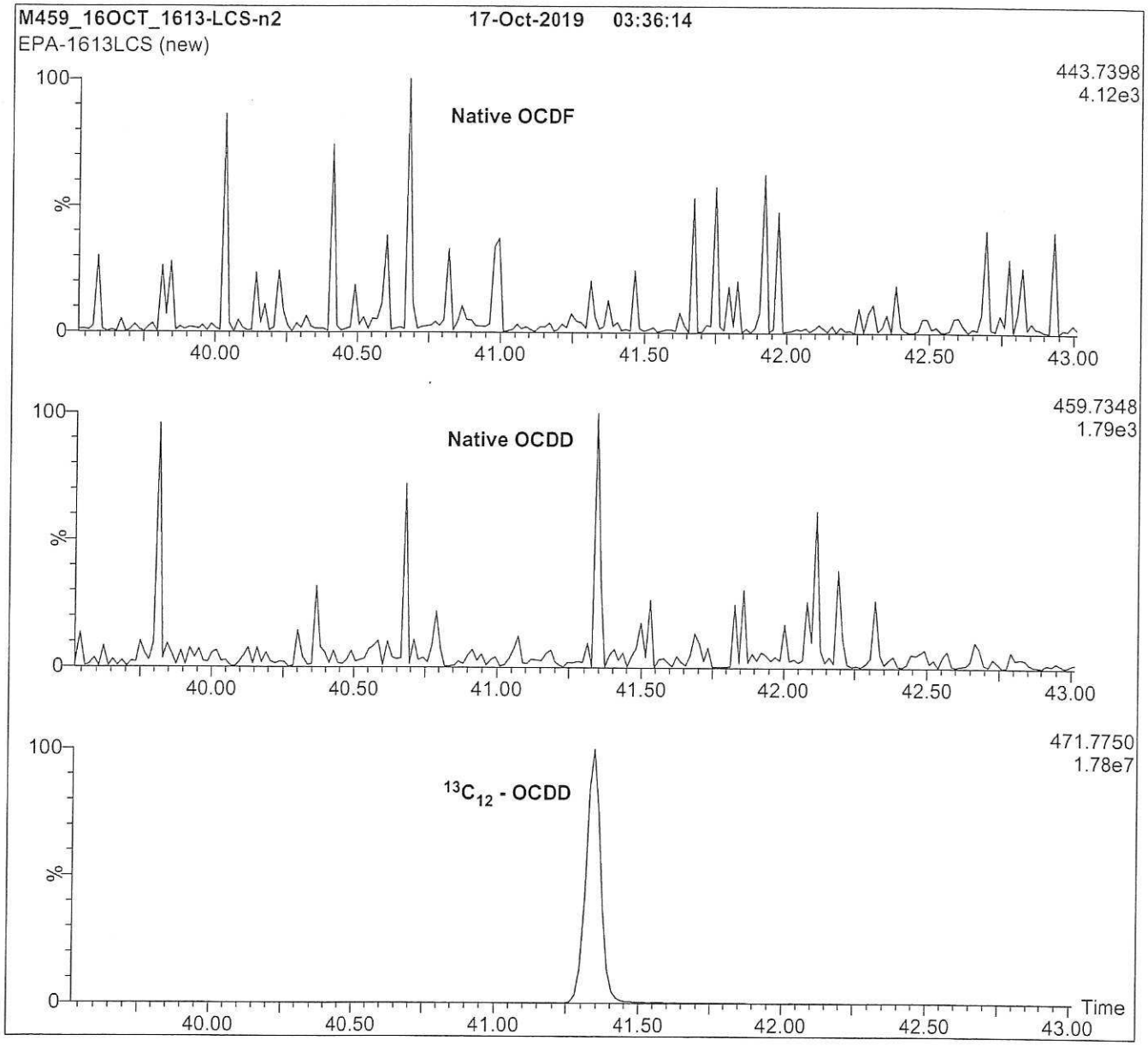


Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)



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-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

I011575

1613B Stock Cleanup Std
Expires 11/19/2027
Prepared By Joshua Rains 12/15/2020

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:

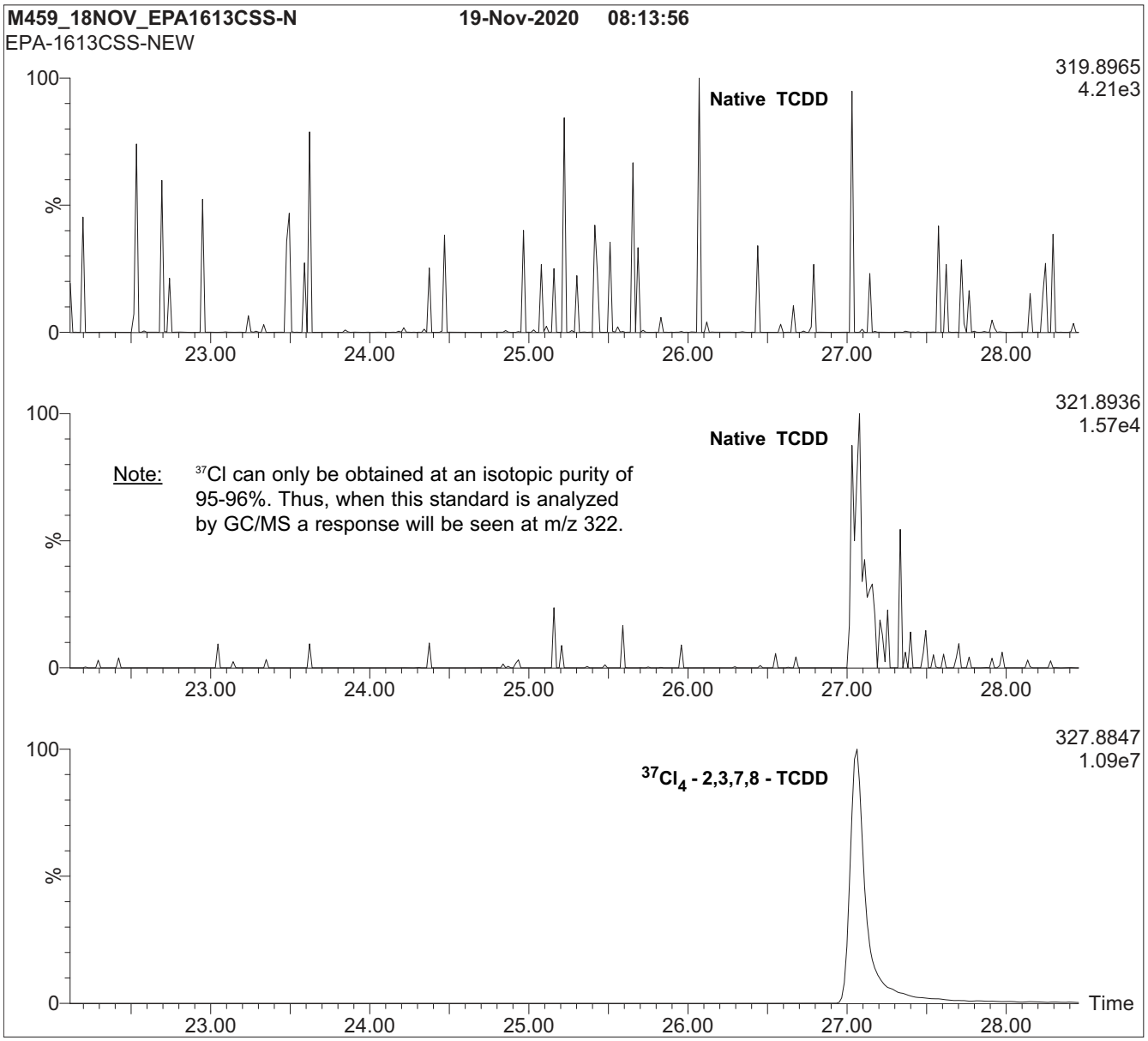
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

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)	10/21/2020
EXPIRY DATE: (mm/dd/yyyy)	10/21/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

I 11 576

DESCRIPTION:

EPA-1613LCS is a solution/mixture of mass-labelled ($^{13}C_{12}$) chlorinated 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.

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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:** 11/09/2020 (mm/dd/yyyy)

B.G. Chittim, General Manager

Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)

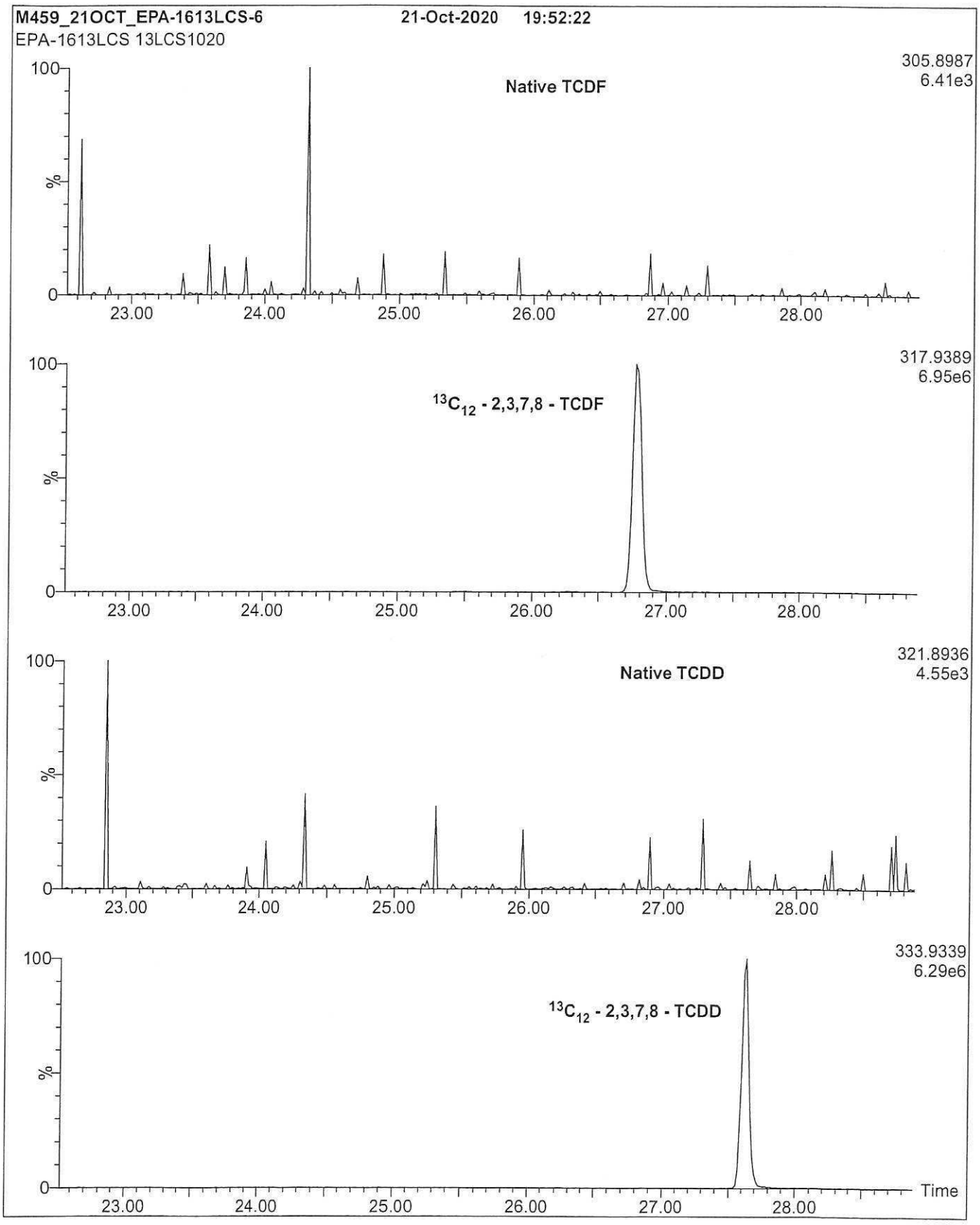


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

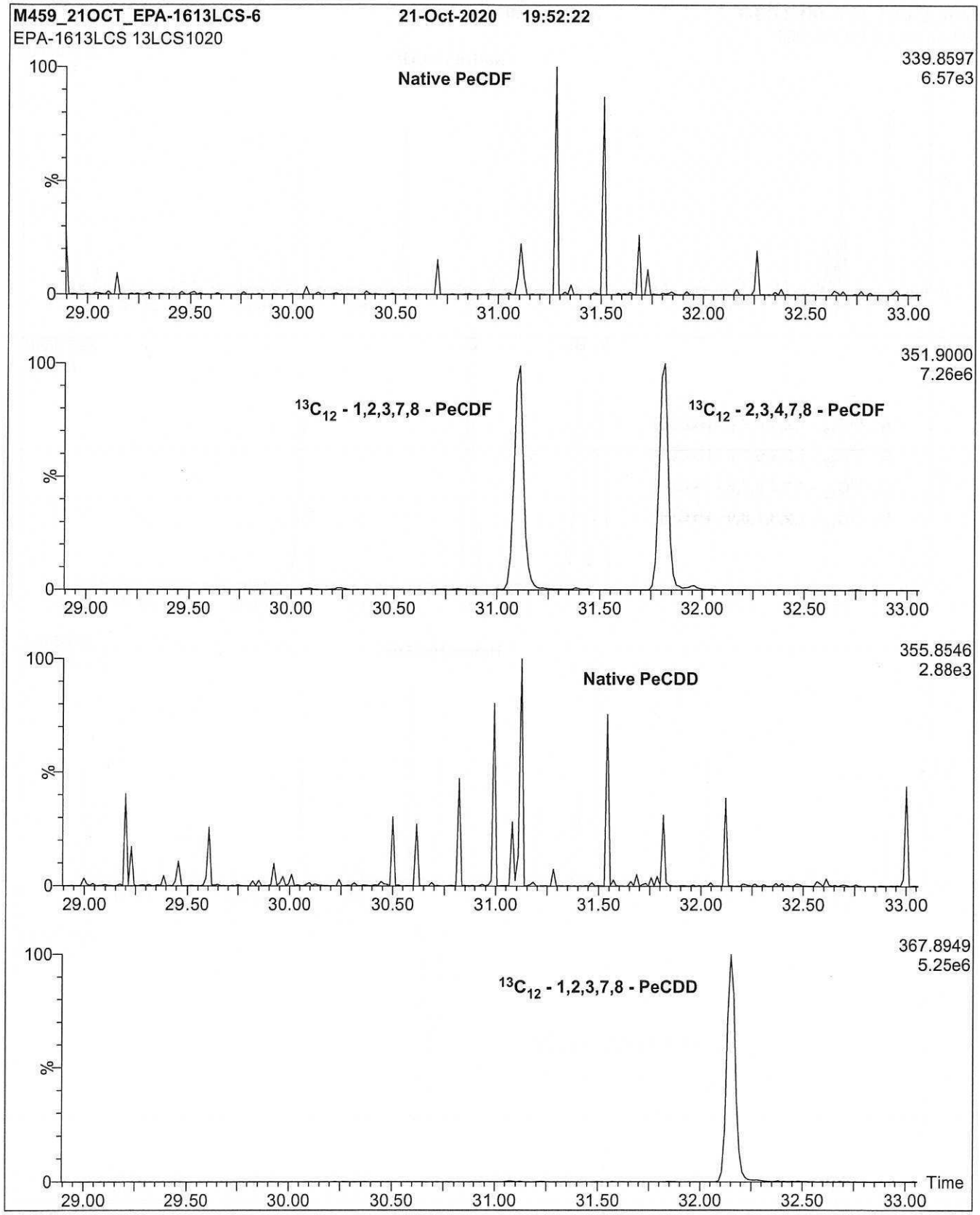


Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)

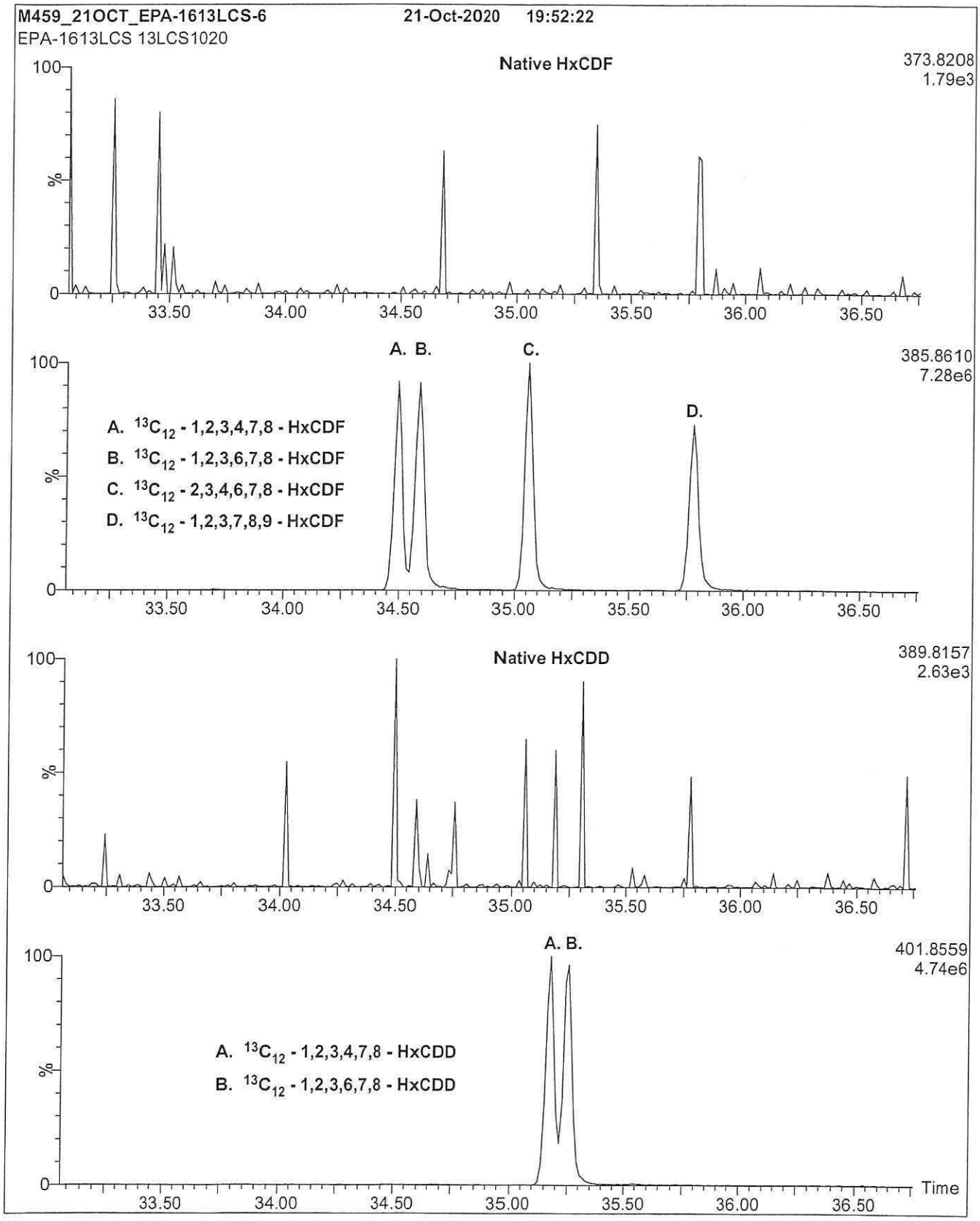


Figure 1: **EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)**

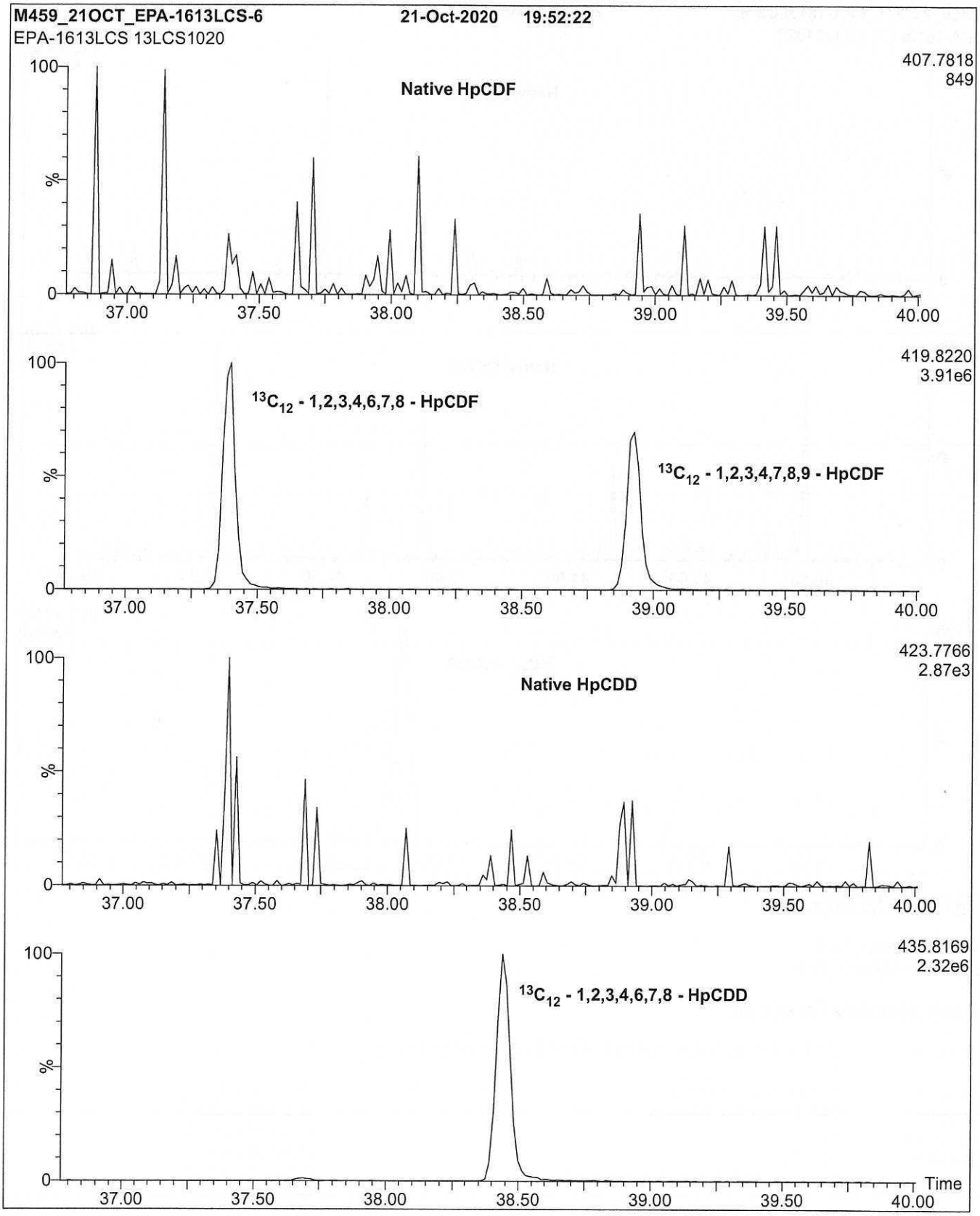
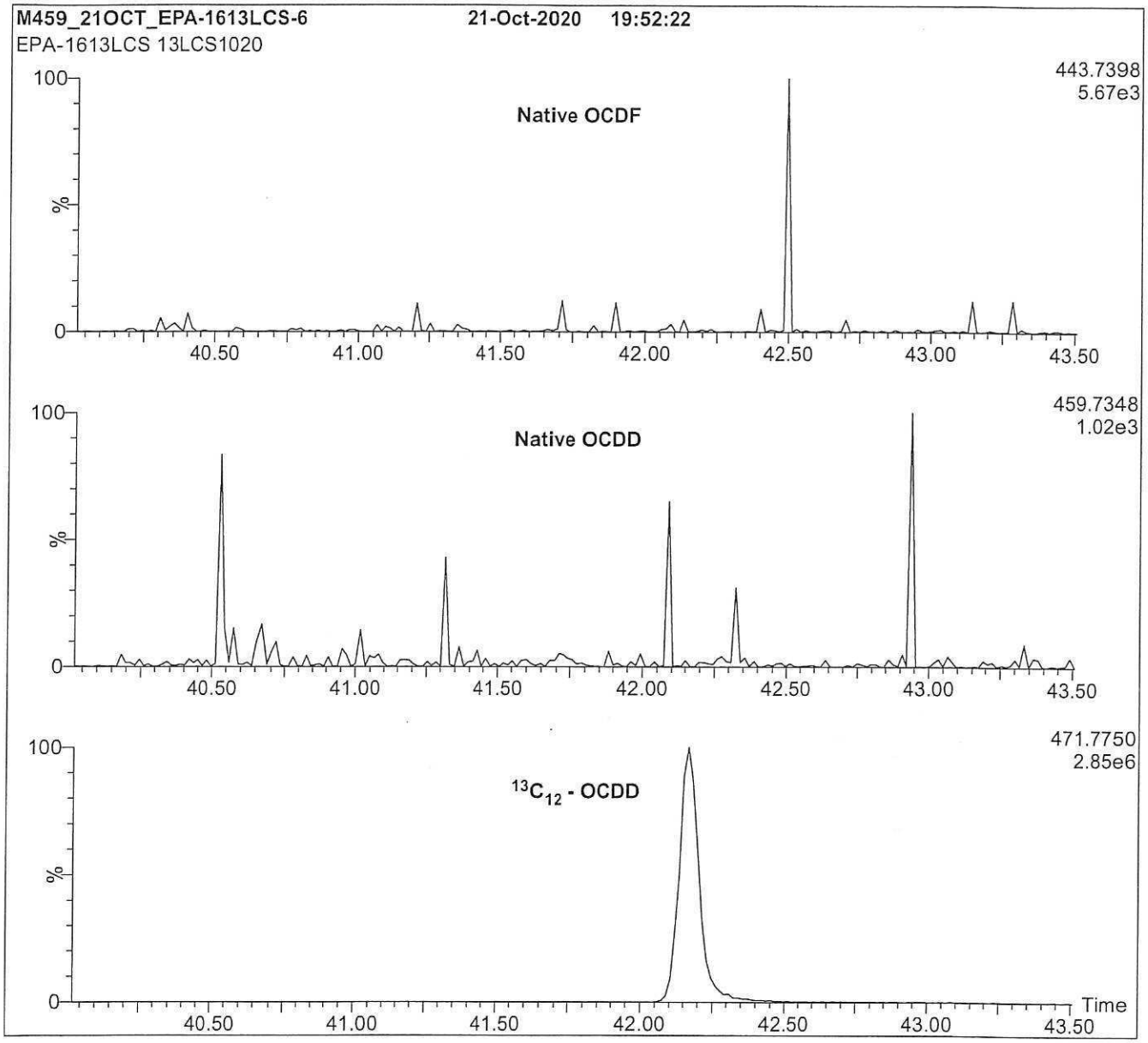


Figure 1: EPA-1613LCS; HRGC/HRMS Data (60 m DB-5 Column)



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)

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

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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)**

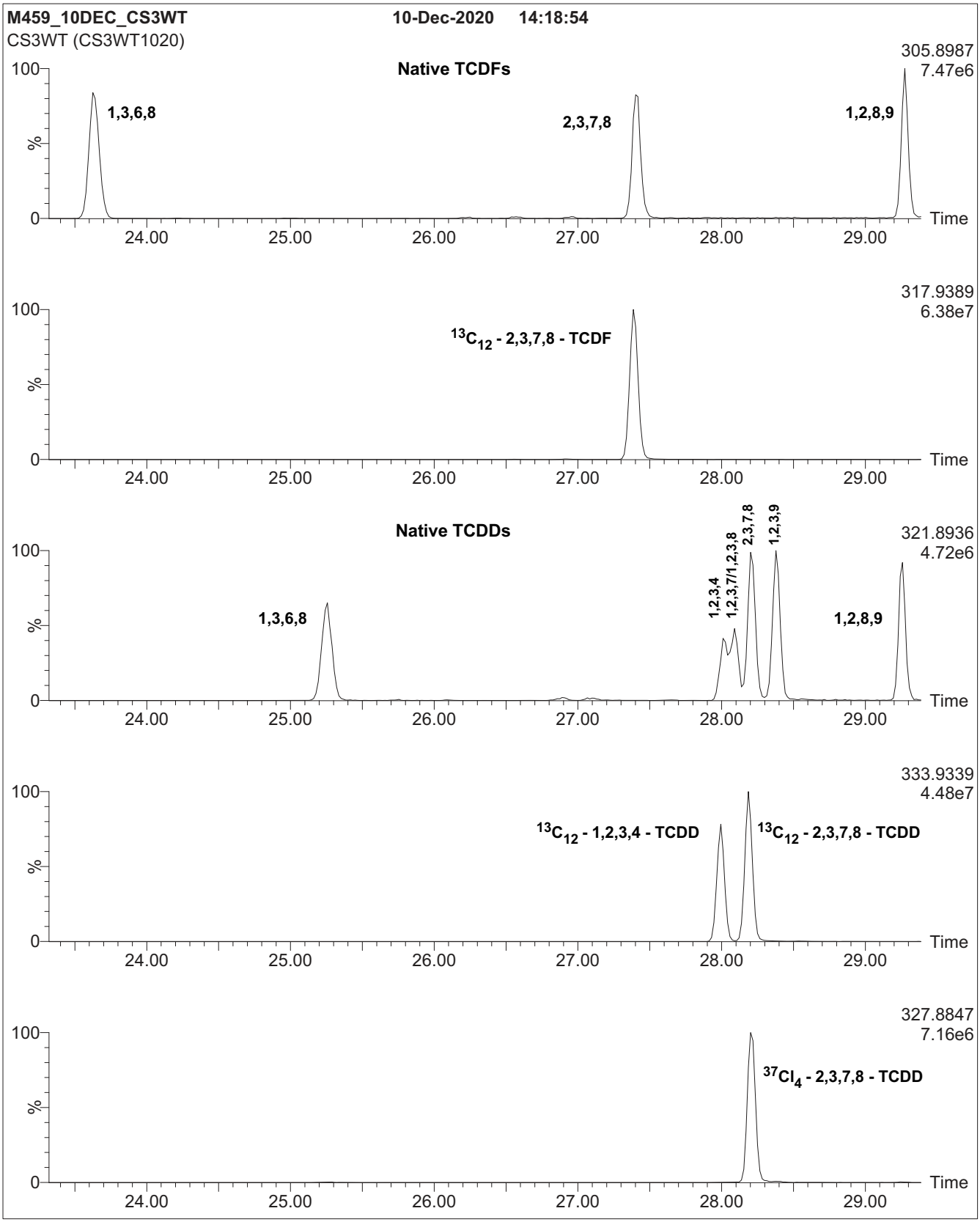


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

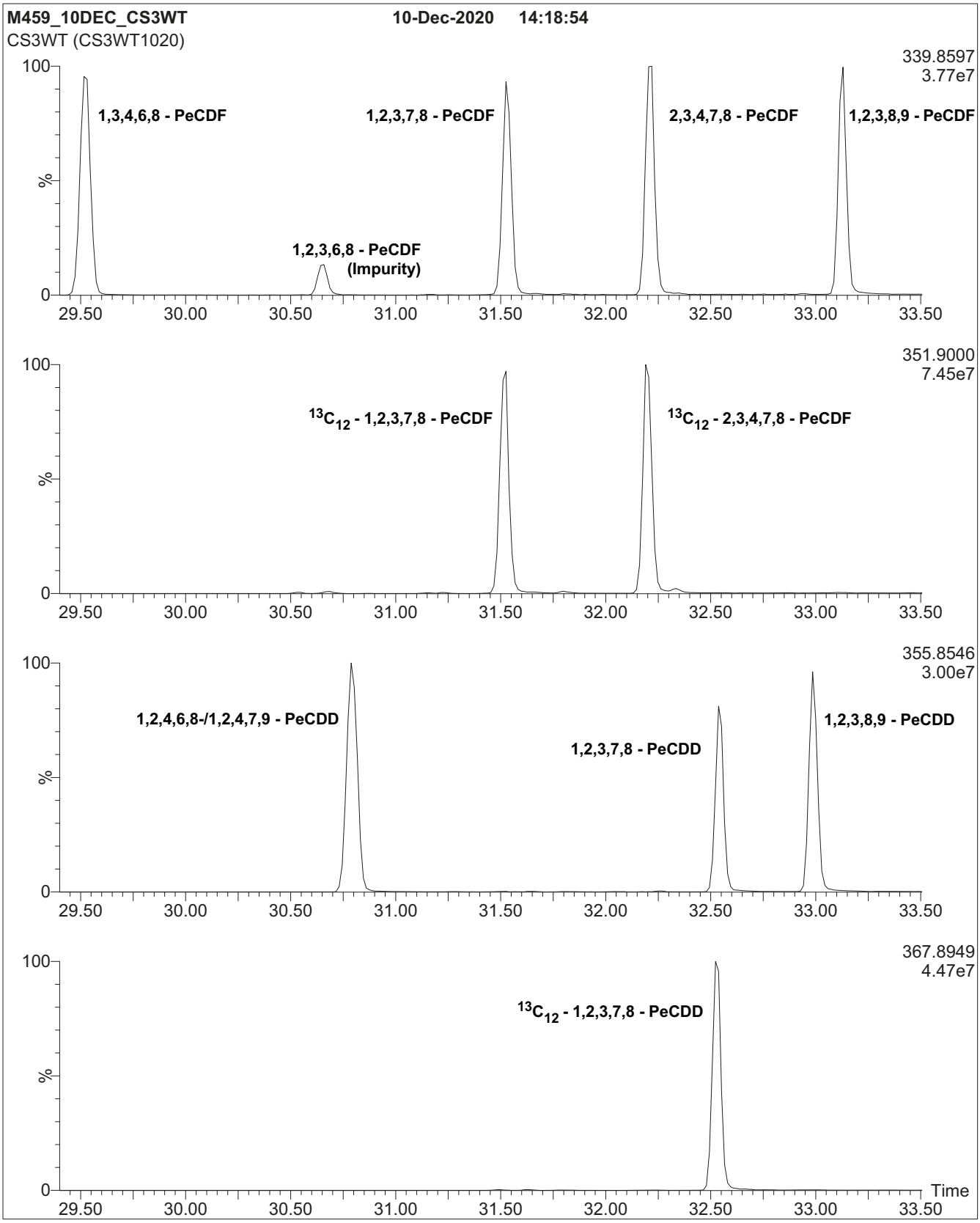


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

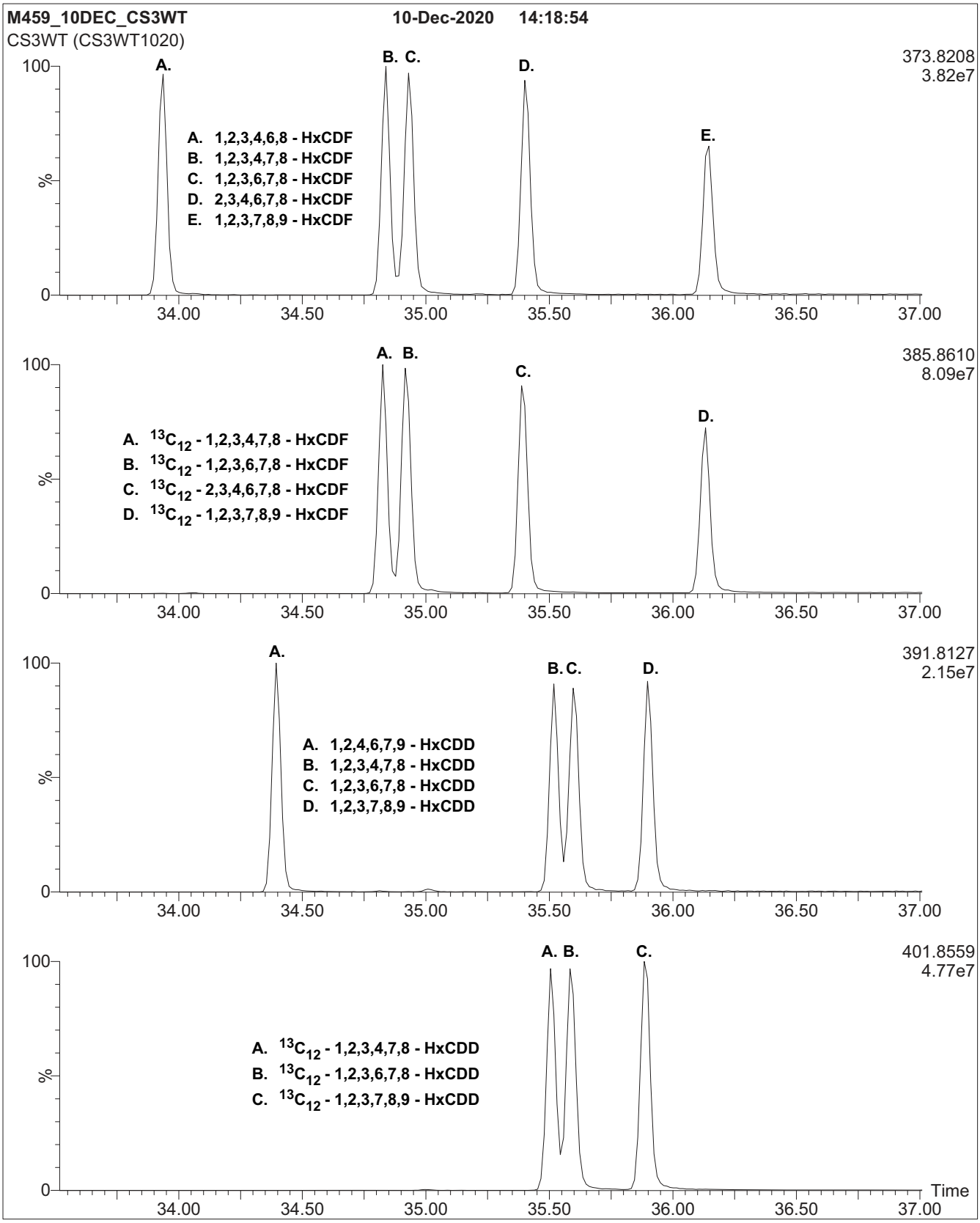


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**

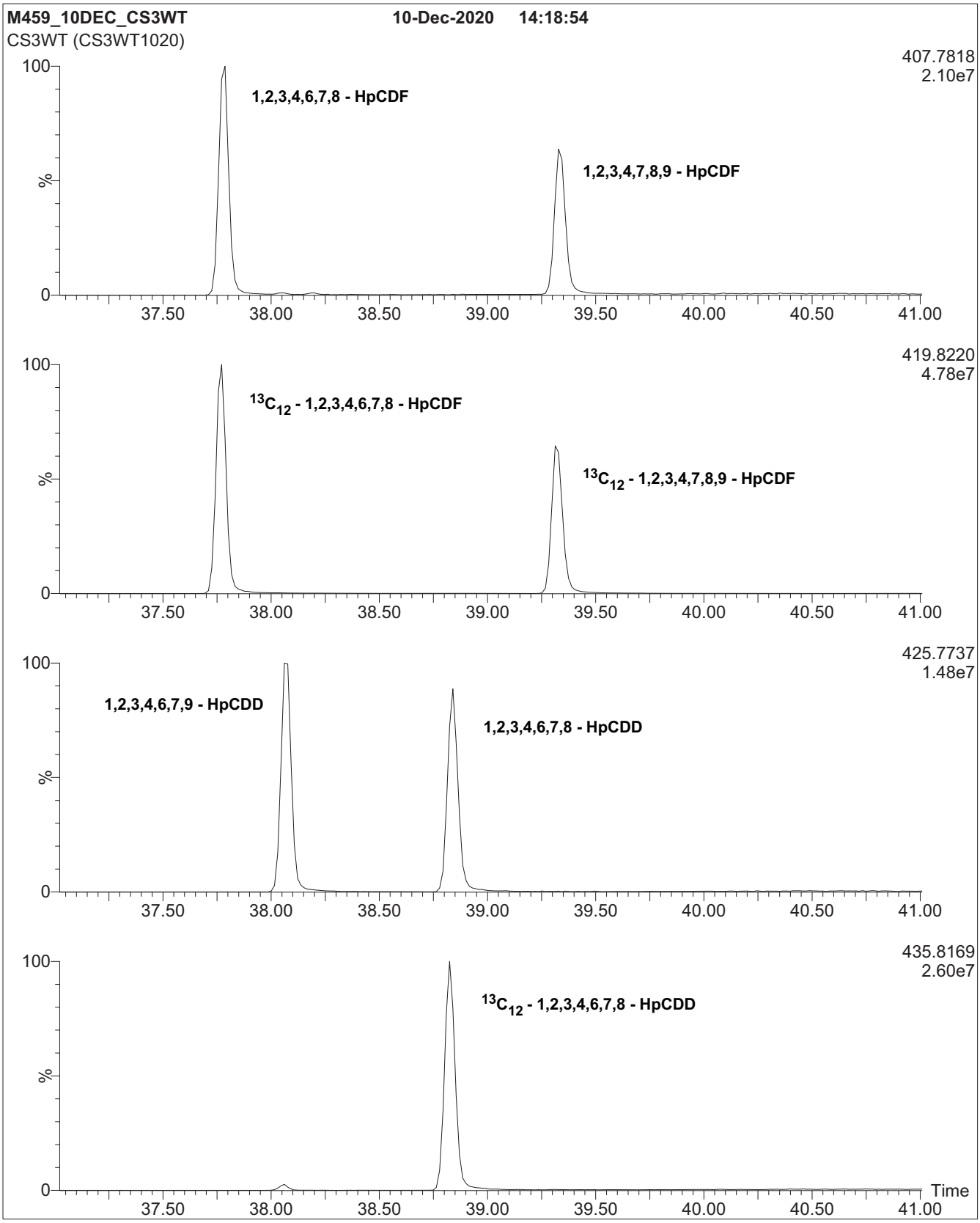
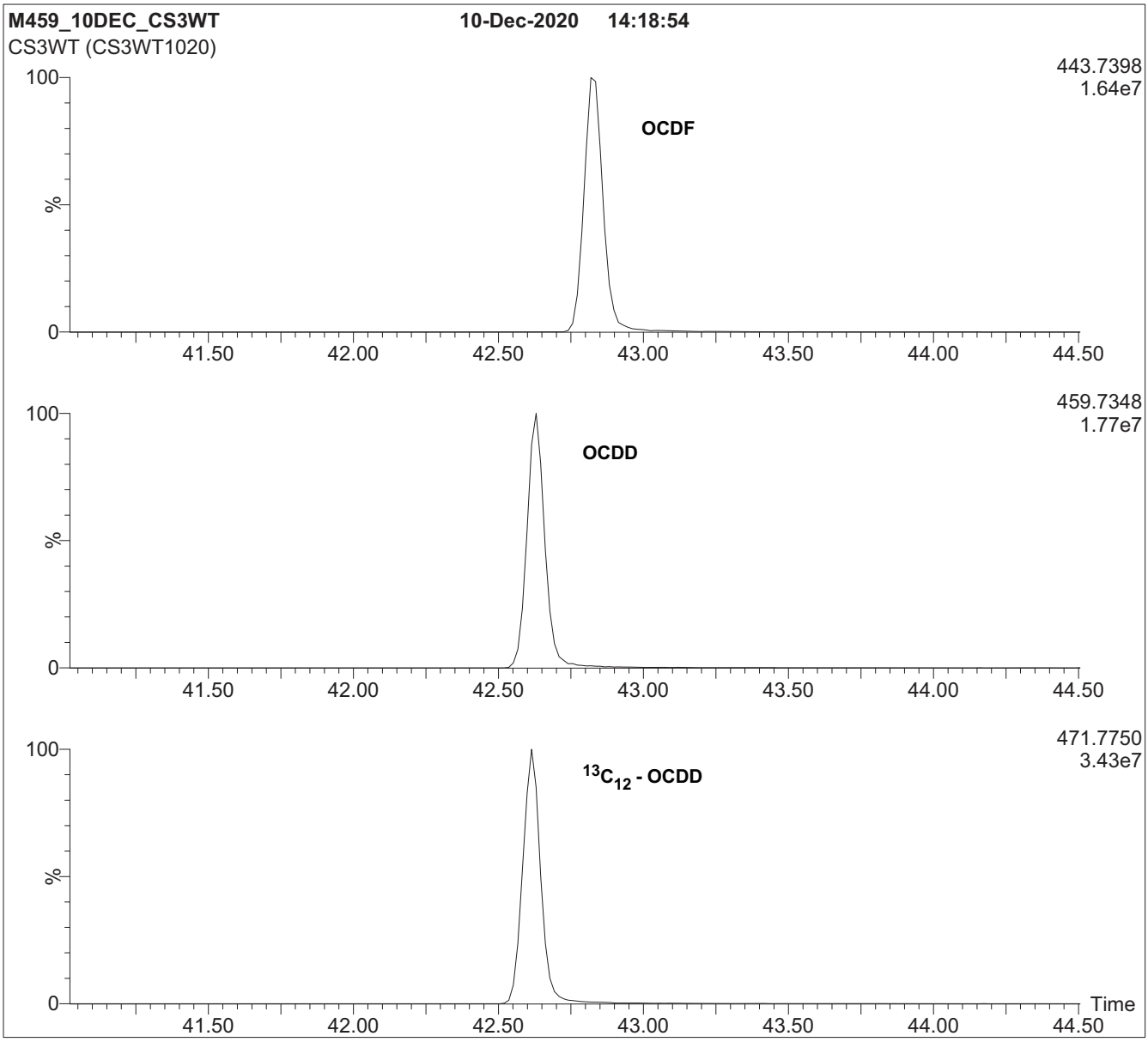


Figure 1: **CS3WT; HRGC/HRMS Data (60 m DB-5 Column)**



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:

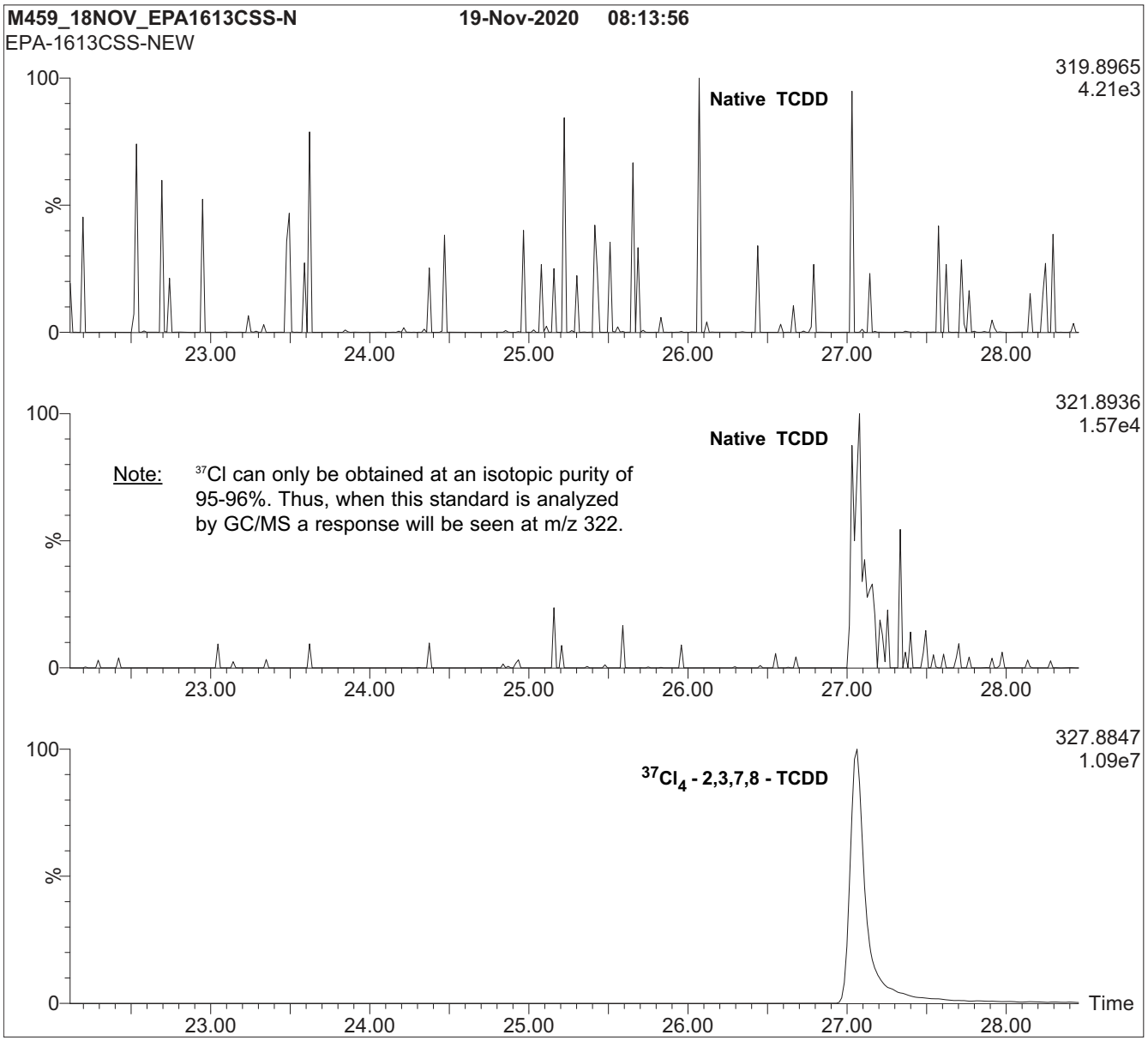
This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A1226), and ISO 17034 by ANSI National Accreditation Board (ANAB; AR-1523).

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:

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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

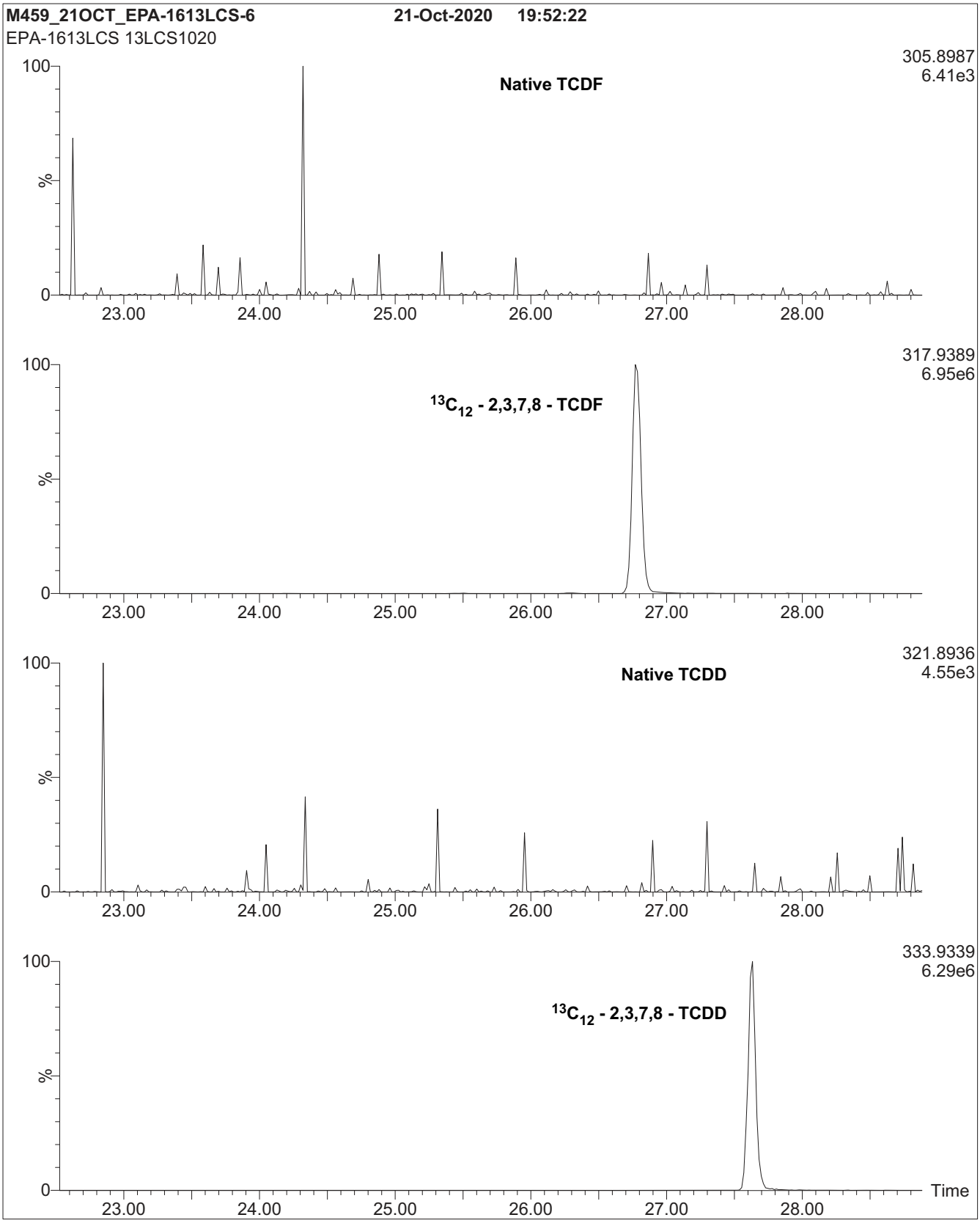
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

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)**



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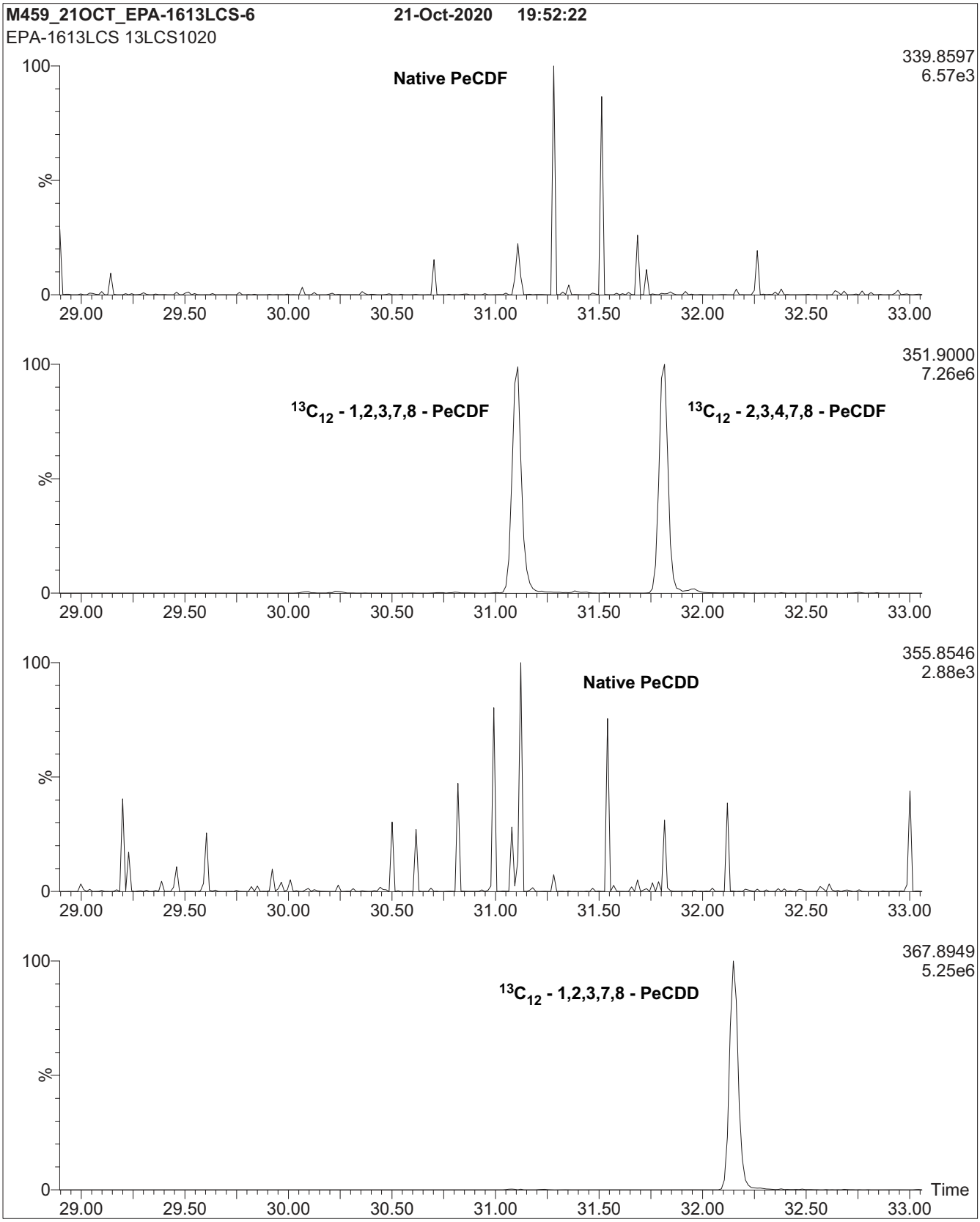

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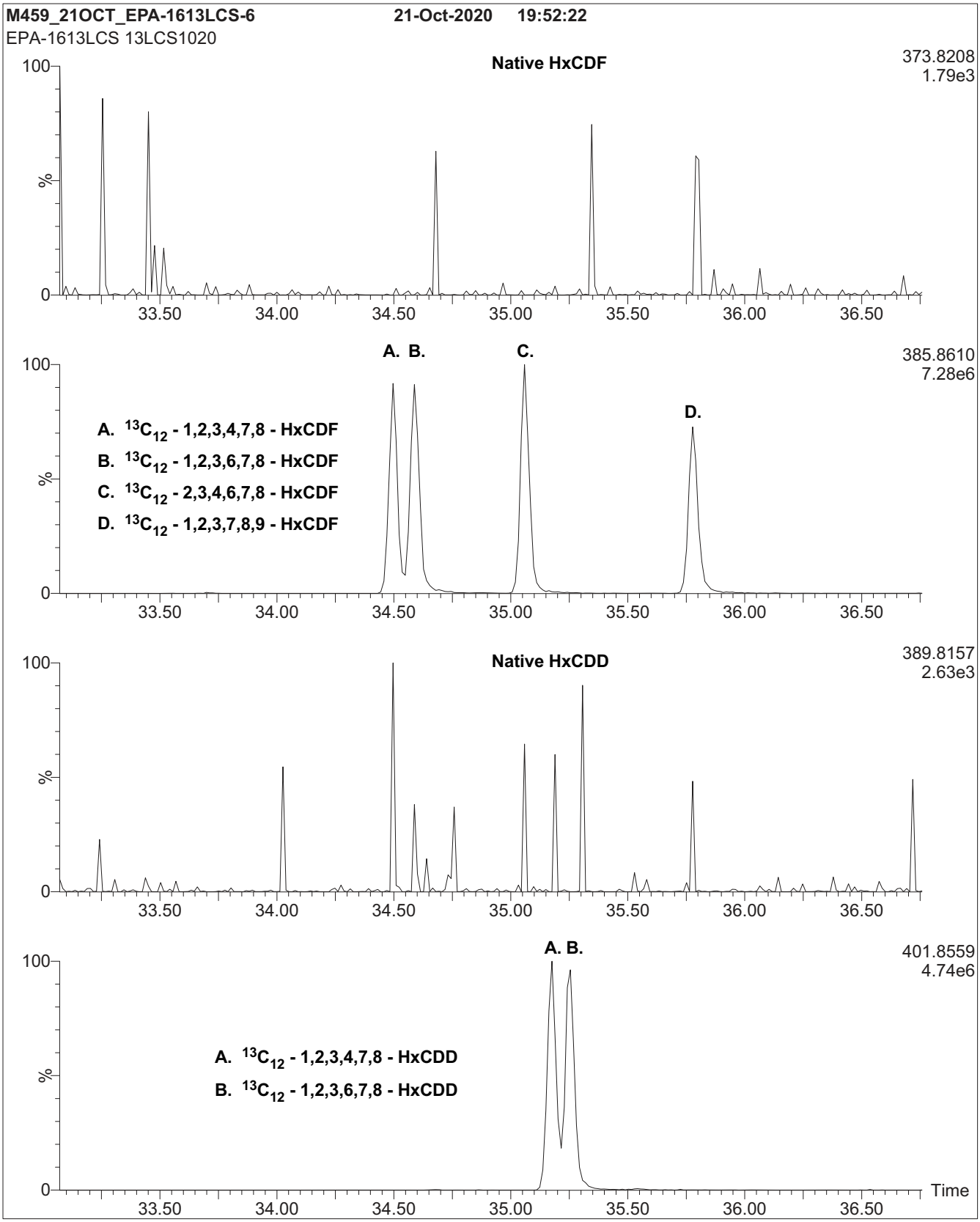

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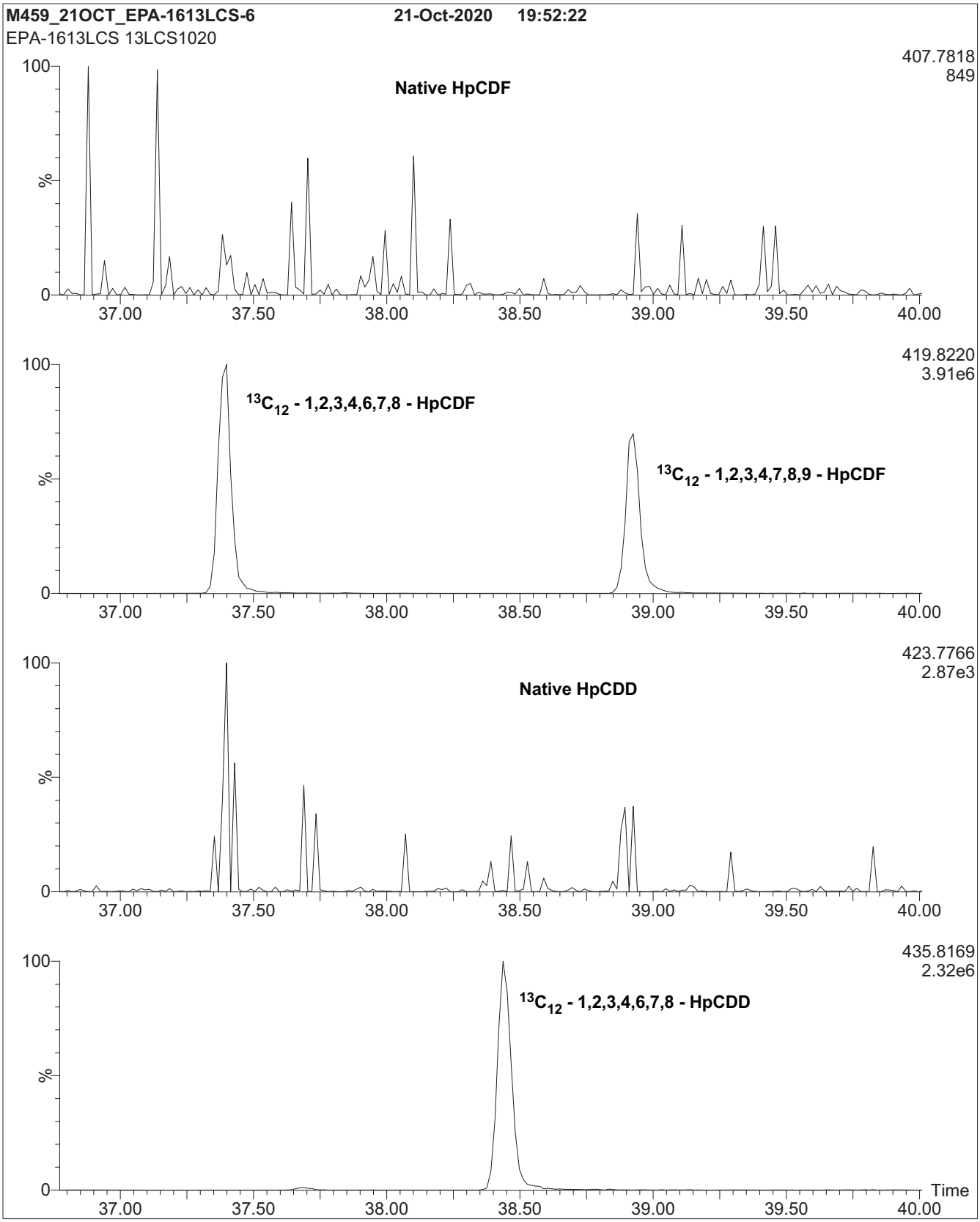

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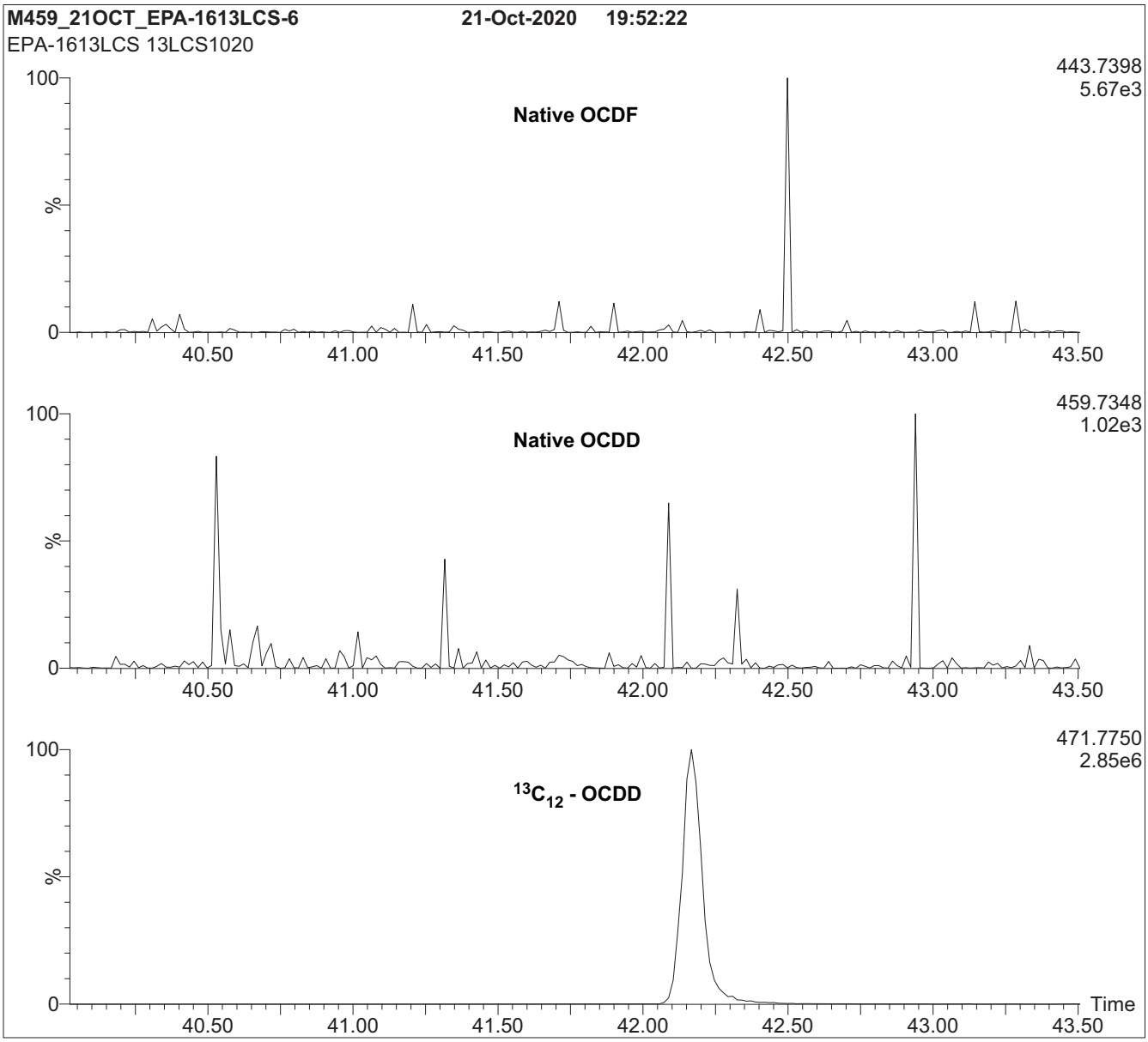

Conditions for Figure 1:

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. 15130

Order Number: CB014550

Date Shipped: 6/30/2021

AirBill No(s): 460843969796

From: QATS LABORATORY
2700 CHANDLER AVENUE, BLDG. C
LAS VEGAS, NV 89120
PHONE: 1-702-895-8712
FAX: 1-702-795-8210

To: SUE DUNNIHOO
ANALYTICAL RESOURCES INC.
4611 S. 134TH PLACE SUITE 100
TUKWILA WA 98168
250-695-6207

Sample ID	Qty	Description/Remarks	→ Catalogue Number
PSRM0134 - J006840	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0135 - J006841	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0136 - J006842	1	PUGET SOUND SEDIMENT RM	PS-SRM
PSRM0137 - J006843	1	PUGET SOUND SEDIMENT RM	PS-SRM
		6/30/2021	
		DUWAMISH AOC4	

Please use the enclosed Sample Preparation Instructions. If catalogue number(s) are listed at the top of the Sample Preparation Instructions use the Sample Preparation Instructions with catalogue number(s) matching the catalogue number(s) of each of the samples listed above.

Relinquished by: (Signature)	Date/Time 1400 6/30/2021	Received by: (Signature)	Date/Time 07/01/2021 1042
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Report No. 00, 9/11/2014

SMP Version 3.3

Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 15130

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From: QATS LABORATORY
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		6/30/2021	
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Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

Report No. 00, 9/11/2014

SMP Version 3.3